CONSTRUCTION COMPLETION REPORT
SA-6 NORTH CHROMIUM REMEDY

STUDY AREA 6 NORTH
NJDEP SITES 087 AND 088
NJDEP PI #G000008710 AND #G000008711

JERSEY CITY, NEW JERSEY

Prepared for

Honeywell

115 Tabor Road
Morris Plains, New Jersey 07950

Prepared by:

amec foster wheeler

Amec Foster Wheeler Environment & Infrastructure, Inc.
200 American Metro Boulevard, Suite 113
Hamilton, New Jersey 08619
Project No. 3480160515

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EXECUTIVE SUMMARY

Honeywell is submitting this Construction Completion Report (CCR) pursuant to the First Amended Consent Decree regarding the Remediation and Redevelopment of Study Area 6 North, ECF No. 435, entered by the United States Court, District of New Jersey on August 2, 2012, in Civil No. 05-05955, later consolidated with Civ. No. 95-2097 ("SA-6 North Consent Decree") in order to document the Chromium Remedy implemented to address chromium-impacted soil site-wide and groundwater for the Open Space Area (also referred to as "AOC-1 Open Space Area" in the SA-6 North Consent Decree) at Study Area 6 North (SA-6 North), located in Jersey City, Hudson County, New Jersey.[1] The remedial activities were initiated in May 2013 and were completed in December 2016. A Remedial Action Report (RAR) was prepared by Honeywell and submitted to New Jersey Department of Environmental Protection (NJDEP). NJDEP approved the RAR on June 1, 2017. The Chromium Remedy was implemented successfully in accordance with the following documents:

- NJDEP-approved Remedial Action Work Plan (RAWP);
- SA-6 North Consent Decree, In-situ Work Plans, the SA-6 North 100% Design Report and Design Change Bulletins;
- NJDEP's Technical Requirements for Site Remediation; and
- NJDEP's Administrative Requirements for the Remediation of Contaminated Sites.

SA-6 North encompasses approximately 42 acres north of the SA-7 Site and is bounded by Route 440 and the Hackensack River on the east and west sides, respectively. For this CCR, the contaminant of concern (COC) in soils at SA-6 North is hexavalent chromium and the COC for shallow groundwater is total chromium per the NJDEP-approved RAWP. Deep overburden and bedrock groundwater zones are being addressed by the Study Area 7 (SA-7) regional groundwater remedy. With respect to chromium-impacted soil and groundwater, the RAWP identified one area of concern (AOC) at the Site, AOC-1. AOC-1 is further divided into three sub-areas

[1] Throughout this CCR reference to chromium-impacted soils shall mean soils containing hexavalent chromium above the NJDEP soil criteria of 20 mg/kg, and reference to chromium-impacted groundwater shall mean groundwater with total chromium above the NJDEP groundwater standard of 70 µg/L.

in the SA-6 North Consent Decree with respect to future land use: the "Open Space Area," the "Residential Area," and the "Additional Excavation Areas" as shown on Figure 2.

The Open Space Area was defined as containing soil with hexavalent chromium concentrations above 20 milligrams per kilogram (mg/kg) and with shallow groundwater concentrations of total chromium above 70 micrograms per liter (µg/L). Pursuant to the SA-6 North Consent Decree, the Open Space Area Chromium Remedy includes in-place containment of contaminated soils and groundwater via a RCRA-equivalent cap and hydraulic barrier walls. The Residential Area was defined as containing soil with hexavalent chromium concentrations above 20 mg/kg, but with shallow groundwater concentrations of total chromium below 70 µg/L. The Additional Excavation Areas are those portions of SA-6 North that are not contiguous to AOC-1 that were defined as containing soil with hexavalent chromium concentrations above 20 mg/kg, but with shallow groundwater concentrations of total chromium below 70 µg/L. Pursuant to the SA-6 North Consent Decree, the Chromium Remedy for the Residential Area and the Additional Excavation Areas requires excavation of soils containing hexavalent chromium at concentrations greater than 20 mg/kg to 20 feet below ground surface.

The Remedial Action Objectives (RAOs) established in the NJDEP-approved RAWP for SA-6 North AOC-1 are as follows:

The RAOs for soils include:

- Prevent exposure to chromium-impacted soils containing hexavalent chromium above the NJDEP soil criteria of 20 milligrams per kilogram (mg/kg) to a depth of 20 feet, consistent with NJDEP policy.
- Remove and consolidate chromium-impacted soils that may be disturbed by future Site redevelopment activities; and reuse soils containing hexavalent chromium below 240 mg/kg beneath the area to be capped, to the extent feasible.
- Coordinate remedial actions for chromium with remedial actions for non-chromium contaminants and Site redevelopment, to the extent feasible.

Specific RAOs for groundwater include:

- Mitigate the potential for surface water infiltration and leaching of contaminants (total and hexavalent chromium) from fill soils (vadose zone) to groundwater.
- Mitigate offsite migration of chromium in groundwater above the NJDEP Groundwater Quality Standard (GWQS). [2]
- Reduce chromium concentrations in groundwater.
- Prevent exposure to groundwater chromium concentrations above the NJDEP GWQS.

Remediation was completed across SA-6 North in order to meet the RAOs, with the exception of three areas where remediation has been deferred ("Deferred Areas") as shown on **Figure 16**, due to circumstances further detailed below:

- Two narrow portions of SA-6 North adjacent to the Route 440 right-of-way (ROW) along the eastern perimeter of the Site (Route 440 ROW Deferred Areas) (DN#6 and DN#9 on Figure 16); and
- In-situ treatment area 7 (TA-7) located within the Jersey City Municipal Utility Authority (JCMUA) property (TA-7 Deferred Area) (DN#10 on Figure 16).

Additionally, three areas (TA-7, TA-8, and TA-10) within the Residential Area at SA-6 North were identified where excavation was determined to be technically impracticable (TI) due to depths of contamination and/or proximity to sewer lines and other critical structures. Thus, instead of excavation, in-situ chemical treatment of hexavalent chromium by injection of a chemical reductant was implemented in these three areas to meet the RAOs for soils in the Residential Area.

TA-10 has been sub-divided into two areas. The first area is a portion of TA-10 that is located north of the SA-6 northern hydraulic barrier wall and south of the northern curbline of the future Stegman Boulevard. This area could not be

[2] The SA 6 North Consent Decree requires Honeywell to isolate chromium-impacted shallow groundwater and to intercept and treat shallow groundwater flowing above the meadow mat in the AOC 1 Open Space Area. The Study Area 6 North Consent Decree also requires Honeywell to maintain an outward gradient of shallow groundwater from Study Area 7.

effectively treated in-situ due to the presence of underground utilities, including a 72-inch water force main. This area will be included in the Open Space Area deed notice and conservation restriction, as shown on **Figure 16**.

The second TA-10 area is designated TA-10-1 and is located north of the northern curbline of the future Stegman Boulevard, as shown in Figure 11B. In-situ treatment was implemented in TA-10-1. Initial post-treatment soil sampling has been performed in this area. Validated analytical results for the initial post-treatment sampling were submitted to all Parties in the March 2017 monthly progress report included in Attachment T to this CCR. On June 21, 2017, Honeywell submitted to all Parties a proposal to collect final confirmatory post-treatment soil samples in TA-10-1 in Spring 2018 in order to confirm that hexavalent chromium concentrations have been reduced to less than 20 mg/kg. Honeywell will establish a deed notice (DN#7) on TA-10-1 until results indicate that hexavalent chromium concentrations in soils have been reduced to less than 20 mg/kg.

Therefore, no further remedial actions are required for SA-6 North other than remediation in the identified Deferred Areas and actions to support the long-term maintenance and operation requirements for shallow groundwater and the deed noticed areas where chromium-impacts remain, including the Open Space Area. Remediation of the Deferred Areas will be coordinated with the widening of Route 440 and relocation of a fuel station in the TA-7 Deferred Area.

Since total chromium concentrations in shallow groundwater in the Residential Area and Additional Excavation Areas of AOC-1 were identified as <70 µg/L, remediation of shallow groundwater outside of the SA-6 North Open Space Area (capped area) was not necessary. Deeper groundwater zones are being addressed by the Study Area 7 (SA-7) regional groundwater remedy.

Major activities associated with the Chromium Remedy included:

- Excavation and offsite disposal of approximately 8,500 cubic yards (CYs) of chromium-impacted soil from the Residential Area and Additional Excavation Areas;

- Excavation of approximately 9,500 CYs of chromium-impacted soil from the Residential Area and Additional Excavation Areas and consolidation of this material in the Open Space Area;
- Reuse of approximately 28,000 CYs of confirmed non-chromium-impacted historic fill soils as backfill in excavations;
- Placement of approximately 41,000 CYs of structural fill material and horizon soils for the cap;
- Implementation of in-situ injections of a chemical reductant to treat chromium-impacted soils at Treatment Areas (TA) TA-7, TA-8, and TA-10-1 within the Residential Area and Additional Excavation Areas;
- Surcharge of the Open Space Area to consolidate underlying compressible strata;
- Construction of approximately 2,400 feet of hydraulic barrier wall around the Open Space Area;
- Construction of an approximately 10-acre Resource Conservation and Recovery Act (RCRA)-equivalent cap in the Open Space Area; and
- Construction of a contingent groundwater extraction system within the Open Space Area consisting of two runs 660 feet and 950 feet long.

Prior to and during the development of the 100% Design, Pre-Design Investigation (PDI) sampling and analytical activities were completed to delineate the lateral and vertical limits of hexavalent chromium concentrations to 20 mg/kg in soils at SA-6 North. The PDI samples were considered post-excavation equivalent samples that precluded the need for collection of traditional post-excavation confirmatory samples at the completion of excavation activities for most of the site. Sidewall confirmation samples were not required where the excavation area abutted property boundaries or the hydraulic barrier.

As indicated in the 100% Design Report, the steep slope along the bulkhead in the vicinity of Excavation Area 8 (EA-8) prevented the full delineation of chromium-impacted soil in this area during the PDI. Therefore, additional post-excavation sampling was required to confirm excavation limits as the excavation at EA-8 progressed.

Other than EA-8 and one isolated location at EA-2 (as explained in Section 5.6.1), the PDI sampling at all other excavation areas allowed the remedial action to be more definitively designed and implemented in the field and is a process that has been accepted by the NJDEP in the RAWP and has been implemented successfully by Honeywell at other sites. The results of the PDI sampling are contained in the Pre-Design Investigation Results and Mapping (PDI Report), which was Appendix B of the SA-6 North Chromium Remedy 100% Design Report.

With the exception of the Deferred Areas along the Route 440 ROW and the TA-7 Deferred Area as described above, the RAO for soils in the SA-6 North Residential Area and Additional Excavation Areas and the RAOs for soils and groundwater in the SA-6 North Open Space Area are being met by implementation of the Chromium Remedy and establishment of the necessary institutional controls. The Deferred Areas along the Route 440 ROW will be temporarily deed noticed until a public utility-owned gas main adjacent to the eastern boundary of the Site is relocated as part of a future road-widening project of Route 440. Likewise, the TA-7 Deferred Area will be temporarily deed noticed until JCMUA relocates the adjacent fuel station. A supplemental CCR will be submitted upon completion of remediation in the Deferred Areas.

The RAO for soils was achieved with in-situ chemical treatment in TA-8. The RAO for soils was achieved for nearly all of TA-7, except for one limited, recalcitrant location. In TA-7, the one recalcitrant soil location is shallow and will be excavated to achieve the RAO after JCMUA moves the fuel station adjacent to this area. In TA-10-1, final confirmatory post-treatment soil samples will be collected in spring 2018 in order to confirm whether hexavalent chromium concentrations in soils have been reduced to less than 20 mg/kg. In the interim, both the TA-7 and the TA-10-1 area will be subject to deed notices, which will remain in place until results demonstrate hexavalent chromium concentrations in soils have been reduced to less than 20 mg/kg for these areas. Final results for these areas will be submitted in a supplemental CCR.

The Long Term Monitoring Plan (LTMP) establishes procedures and schedules for long-term monitoring of shallow groundwater in the Open Space Area to evaluate hydraulic control and determine the need for operation of the contingent groundwater extraction system based on trigger criteria. The LTMP also establishes

the inspection, maintenance, and operation of critical features of the Chromium Remedy at areas where engineering and institutional controls are necessary.

Honeywell will establish appropriate institutional controls at SA-6 North that supplement the remedial actions, including deed notices and remedial action permits for soils for the Open Space Area and each of the deed notice areas. A classification exception area (CEA) has already been established with the NJDEP for the regional shallow groundwater which adequately covers shallow groundwater >70 µg/L in the Open Space Area at SA-6 North. In addition, the existing Conservation Restriction for the SA-6 North Open Space Area will be adjusted as needed to conform to the as-built remedy for Study Area 6 North.

This document will close out remediation of chromium-impacted soil and groundwater at SA-6 North with the exception of the implementation of the institutional controls and remediation of the Deferred Areas. As remediation at each Deferred Area is completed, documentation will be submitted to the Special Master and Parties, and the remedial action permit and deed notice for each area will be terminated by submitting documentation to NJDEP and All Parties. Termination of any deed notice requires the prior approval of the Special Master, Parties and Court.

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

Honeywell International Inc. (Honeywell) is submitting this Construction Completion Report (CCR) prepared by Amec Foster Wheeler Environment and Infrastructure, Inc. (Amec Foster Wheeler) to document completion of remedial activities associated with the Chromium Remedy at Study Area 6 North (SA-6 North or Site), located in Jersey City, Hudson County, New Jersey. A Site Location Map is included as **Figure 1**. This CCR was prepared for and is submitted solely to the Special Master, the Parties, and the Court pursuant to the First Amended Consent Decree regarding the Remediation and Redevelopment of Study Area 6 North, ECF No. 435, entered by the United States Court, District of New Jersey on August 2, 2012, in Civil No. 05-05955, later consolidated with Civ. No. 95-2097 ("SA-6 North Consent Decree"). [3]

A Remedial Action Report (RAR) was prepared by Honeywell and submitted to the New Jersey Department of Environmental Protection (NJDEP) in accordance with the remedial action reporting requirements specified in the Technical Requirements for Site Remediation (TRSR), (New Jersey Administrative Code [N.J.A.C.] 7:26E-5.7). Since NJDEP's Site Remediation Program Case Management Team retained direct oversight of the Chromium Remedy, Honeywell requested NJDEP review and approval of the RAR in accordance with paragraph 23G of the Consent Judgment between Honeywell and the NJDEP dated September 7, 2011 ("Consent Judgment"). The NJDEP approved the RAR on June 1, 2017.

This CCR is based largely on the RAR, but contains additional attachments and other information not required by NJDEP that were not included in the RAR. The purpose of this CCR is to provide documentation of the successful implementation of

[3] The "Parties" referenced in this CCR are the signatories to the SA-6 North Consent Decree: The City of Jersey City, Hackensack Riverkeeper, and Honeywell. In addition, the "Special Master" referenced in this CCR is the Honorable Senator Robert Torricelli, who was appointed pursuant to the SA-6 North Consent Decree, paragraph 71, to oversee and enforce the implementation and long-term monitoring of the Chromium Remedy within SA-6 North, and the Initial Development Period related to the Open Space Area.

the Chromium Remedy at SA-6 North and achievement of designated remedial action objectives (RAOs) at the Site to address chromium-impacted soil and groundwater[4]. The Chromium Remedy was implemented in three sub-areas within the defined Area of Concern-1 (AOC-1) as shown on **Figure 2**:

- Open Space Area
- Residential Area and
- Additional Excavation Areas.

The Chromium Remedy was implemented at SA-6 North in accordance with the following documents:

- An Administrative Consent Order ("ACO") between Honeywell, formerly Allied Signal, Inc., and the NJDEP (NJDEP, 1993), modified pursuant to the Consent Judgment;
- SA-6 North Consent Decree;
- July 1, 2013: Technical Requirements for Site Remediation N.J.A.C. 7:26E-1-5 adopted May 7, 2012, revised 2013;
- NJDEP, 2012. New Jersey Administrative Code, Chapter 26C Administrative Requirements for the Remediation of Contaminated Sites (ARRCS); last revised May 7, 2012, Trenton, New Jersey.
- January 4, 2008 (amended February 2008): *Remedial Action Selection Report and Remedial Action Work Plan for Chromium* to address chromium contamination at SA-6 North (SA-6 North Chromium RASR/RAWP). This document was approved by the NJDEP in a letter dated February 19, 2009.
- February 2013: *Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil* for three treatment areas (TA) at SA-6 North where excavation is technically impracticable and the *Updated Work Plan for In-Situ*

[4] Throughout this CCR, reference to chromium-impacted soils shall mean soils containing hexavalent chromium above the NJDEP soil criteria of 20 mg/kg, and reference to chromium-impacted groundwater shall mean groundwater total chromium above the NJDEP groundwater standard of 70 µg/L.

Treatment of Chromium-Impacted Soils at the Northern Area Section of Treatment Area 10 dated August 2015.

- June 28, 2013: *Chromium Remedy 100% Design Report - Issued for Construction* for SA-6 North, ECF Nos. 1176 and 1180, entered by the United States District Court, District of New Jersey on July 10, 2013, in Civ. No. 05-05955, later consolidated with Civ. No. 95-2097 ("SA-6 North 100% Chromium Remedial Design"). Portions of this document were reviewed and approved by the NJDEP in an email on May 15, 2013. The Design Report for SA-6 South was issued at the same time. Unless otherwise noted, the design reports, drawings, and specifications are collectively referred to herein as the 100% Design Report.
- Design Change Bulletins (DCs) to SA-6 North 100% Design Report as indicated in Section 3 below.

As the Chromium Remedy progressed at both SA-6 North and SA-6 South, Honeywell prepared a series of five Declarations which were periodically submitted to the Parties to memorialize completion of specific remedial elements of the Chromium Remedy in accordance with the above documents. There are three individual Declarations related to SA-6 North (Declarations Nos. 3,4, and 5), and five in total for SA-6 South and SA-6 North. In general accordance with Honeywell correspondence dated June 19, 2014 and February 4, 2016 submitted to all Parties, the elements of each Declaration were as follows:

- Declaration No. 1: Excavation and backfilling, hydraulic barrier wall construction, and soil management and disposition at SA-6 South;
- Declaration No. 2: Open space cap subgrade, geosynthetic components, contingent groundwater extraction system trench construction, and trimming of the hydraulic barrier wall sheet pile to final elevation at SA-6 South;
- Declaration No. 3: Excavation and backfilling, hydraulic barrier wall construction, and soil management and disposition at SA-6 North;
- Declaration No. 4: Open space cap subgrade, geosynthetic components and contingent groundwater extraction system trench construction at SA-6 North; and

- Declaration No. 5: All Remaining construction activities including: additional miscellaneous excavations at SA-6 South within 60 Kellogg and Site 163; installation of gas vent system, cover soil placement, final contingent groundwater extraction system infrastructure installation, discussion of deferred areas and pending institutional controls required, in-situ treatment, soil erosion and sediment control at SA-6 South and SA-6 North; monitoring well installation and abandonment, final grading and historic fill cap installation at SA-6 South; and meadow mat (Stratum D) repair at SA-6 North .

In addition, each Declaration is signed by Honeywell and a New Jersey-licensed professional engineer and all five Declarations have been entered with the United States District Court for the District of New Jersey in Civil No. 95-2097 (see ECF Nos. 1403-1, 1464-1, 1484, 1487, and 1515, for Declarations 1 through 5, respectively). While the Declarations are not required by the TRSR for RARs, the Special Master and Parties have agreed that the Declarations will be included in the CCR. Declarations 3, 4, and 5 are attached to this CCR (**Appendix T**). The CCR will be filed with the Court in accordance with paragraph 5 of the Consent Order Entering Consolidated 100% Design for Study Area 6 North and Study Area 6 South, *Jersey City Municipal Utilities Auth. v. Honeywell*, D.N.J., Consol. Cases, Civ. No. 95-2097, July 9, 2013, ECF No. 1180, along with a Consent Order explaining that the CCR supersedes the 100% Design.

For the purpose of this CCR, the contaminant of concern (COC) in soils at SA-6 North is hexavalent chromium and the COC for shallow groundwater is total chromium per the NJDEP-approved RAWP. Chromium-impacted soil and groundwater was delineated during multiple phases of remedial investigations (RI) and subsequent pre-design investigations. With respect to chromium-impacted soil and groundwater, the RAWP identified one area of concern (AOC) at the Site, AOC-1. AOC-1 is further divided into three sub-areas with respect to future land use: the "Open Space Area," the "Residential Area," and the "Additional Excavation Areas" as shown on **Figure 2**. AOC-2 is defined in the SA-6 North Consent Decree as the entirety of the Site (including AOC-1) where historic fill exists. A separate historic fill remedy is being implemented in AOC-2 which will be documented in a separate non-chromium RAR submittal by Honeywell's Licensed Site Remediation Professional (LSRP); therefore, AOC-2 is not the subject of this CCR.

The Open Space Area was defined as containing soil with hexavalent chromium concentrations above 20 milligrams per kilogram (mg/kg) and with shallow groundwater concentrations of total chromium above 70 micrograms per liter (µg/L). Pursuant to the SA-6 North Consent Decree, the Open Space Area Chromium Remedy includes in-place containment of contaminated soils and groundwater via a RCRA-equivalent cap and hydraulic barrier walls. The Residential Area was defined as containing soil with hexavalent chromium concentrations above 20 mg/kg, but with shallow groundwater concentrations of total chromium below 70 µg/L. The Additional Excavation Areas are those portions of SA-6 North that are not contiguous to AOC-1 that were defined as containing soil with hexavalent chromium concentrations above 20 mg/kg, but with shallow groundwater concentrations of total chromium below 70 µg/L. Pursuant to the SA-6 North Consent Decree, the Chromium Remedy for the Residential Area and Additional Excavation Areas requires excavation of soils containing hexavalent chromium at concentrations greater than 20 mg/kg to 20 feet below ground surface.

The SA-6 Chromium Remedy 100% Design was prepared by Honeywell as one integrated project for both SA-6 North and SA-6 South. The 100% Design Report was used to obtain bids from and select a remedial contractor to implement the Chromium Remedy at both sites concurrently with the same project team under one contract. Although two 100% Design Reports were prepared for SA-6 North and SA-6 South, remedial activities or elements that were common to each were combined to the extent possible. Project execution followed the integrated approach with certain elements of the SA-6 Chromium Remedy common to both sites, such as project support systems and infrastructure, construction water treatment, decontamination pads, site security and preparation, etc.

The Chromium Remedy at SA-6 North, with the exception of the deferred areas, was completed in December 2016. Remediation of non-chromium COC in AOC-2 at SA-6 North was completed in March 2017 separately from the implementation of the Chromium Remedy at SA-6 North. This CCR does not address SA-6 North non-chromium COC. A separate RAR addressing the SA-6 North non-chromium COC will be prepared and submitted to NJDEP by Honeywell's LSRP in the third quarter 2017.

The Chromium Remedy at SA-6 South was completed in November 2016. Remediation of non-chromium COC at SA-6 South was completed concurrent with the Chromium Remedy. The NJDEP approved the SA-6 South RAR on March 30, 2017. A CCR for SA-6 South has been prepared and submitted solely to the Special Master and the Parties. The Non-Chromium RAR for SA 6 South was submitted to NJDEP in October 2016.

1.2 SITE SETTING AND SITE HISTORY

SA-6 North and SA-6 South are located on the west side of Jersey City. SA-6 North and SA-6 South are separated by Study Area 7 (SA-7). SA-6 North, SA-6 South, and SA-7 lie between Route 440 to the east and the Hackensack River to the west. A Site Layout Map of SA-6 North is included as **Figure 2.** SA-6 North is bordered by a car dealership to the north and SA-7 to the south. SA-6 South is bordered by SA-7 to the north and Droyer's Cove, Kellogg Street and Droyers Point Society Hill developments to the south. Adjacent commercial properties, including New Jersey City University (NJCU) and a Home Depot, are located east of Route 440.

Collectively, SA-6 North, SA-7, and SA-6 South comprise approximately 100 acres (see **Illustration 1**). Bayfront Redevelopment LLC, a wholly owned subsidiary of Honeywell, owns both the SA-6 North and SA-6 South properties with the exception of Block 6 on SA-6 North, representing a 6.25-acre lot occupied by the Jersey City Municipal Utilities Authority (JCMUA) and is jointly owned by the City of Jersey City (Jersey City) and the Jersey City Redevelopment Agency (JCRA). All the other Lots and Blocks on SA-6 North are owned by Bayfront Redevelopment LLC. SA-6 North has an overall area of just over 42 acres as indicated below.

SA-6 North consists of Hudson County Chromate Sites 087 and 088 as follows:

NJDEP Site No.	NJDEP Site Name	Program Interest Number for Chromium	Block 21901 Lot No.	Address	Acres
087	Jersey City Incinerator Authority (JCIA) Site	G000008710	9 & 10	555 & 575 Route 440	35.76
088	JCIA Well Site	G000008711	5	501 Route 440	6.48
Total Acres					42.24

Detailed site histories have been provided in previous regulatory submittals. Recent operations at the SA-6 North and SA-6 South are summarized as follows:

- SA-6 North is also referred to as the "Jersey City Properties." Since approximately the mid-1950s, the Site was owned by Jersey City and occupied by "Jersey City Entities" including the Jersey City Department of Public Works (JCDPW), Jersey City Incinerator Authority (JCIA), and JCMUA. JCDPW and JCIA vacated the SA-6 North in 2014 during the implementation of the Chromium Remedy and some of the associated structures formerly utilized by the JCIA were demolished. JCMUA continues operations on Block 6 including primary wastewater treatment (grit removal) and sanitary conveyance to the regional Passaic Valley Sewerage Commission (PVSC) wastewater treatment facility located in Kearny, New Jersey. JCMUA also performs vehicle maintenance and material storage and maintains administrative operations on Block 6. Bayfront took ownership of the SA-6 North properties June 5, 2008.
- SA-6 South is also referred to as the "Kellogg Street Properties." SA-6 South was the location of historic industrial and commercial operations. Recent operations included a bowling alley, freight trucking terminals, chemical production, concrete mixing and distribution, boat repair, and light retail and office space. Honeywell purchased the SA-6 South properties between 2005 and 2010.

Historical maps and aerial photographs indicate that, prior to development, SA-6 North and the surrounding area consisted of marshland, which extended to the edge of the former Morris Canal (approximately the eastern edge of Route 440). Filling activities occurred from approximately the 1920s to the 1950s. The aerial photographs indicate that the area comprising the SA-6 and SA-7 sites has been filled over the years to build up the grade to approximately current levels. No detailed information is available on the placement of chromite ore processing residue (COPR) for the properties comprising SA-6 North. However, it is believed that COPR deposited on SA-7 likely spilled over and was co-mingled with other types of fill, spreading the COPR material onto the adjacent portions of the SA-6 North and South properties. The deposition of COPR is believed to have resulted from operations at a former sodium dichromate plant that operated on the east side of Route 440.

Visual observations of soil borings and sample analytical results from soil borings conducted on SA-6 North and SA-6 South indicate the presence of other types of fill consistent with the NJDEP's definition of "historic" fill in the TRSR. The historic fill map of the Jersey City quadrangle (NJDEP, 2004) was obtained from the NJDEP's website and was reviewed. This map confirms that SA-6 North, SA-6 South, and SA-7 were identified as containing historic fill as mapped by the NJDEP. The resulting material on the SA-6 properties is thus a mixture of COPR and indigenous historic fills and soils.

1.3 PROJECT BACKGROUND AND LAND DEVELOPMENT

A redevelopment plan, known as the Bayfront Redevelopment Plan, encompasses the entire 100-acre parcel designated as SA-6 North, SA-7 and SA-6 South (see **Illustrations 1 and 2**) and was approved by the City of Jersey City on March 12, 2008. Remediation of chromium-impacted soils and groundwater was conducted consistent with the planned future use and redevelopment of SA-6 South as set forth in the Bayfront Redevelopment Plan. Remediation of chromium-impacted soils at SA-7 was completed in September 2009. Honeywell remediated SA-6 North from March 2013 to December 2016 so that implementation of the Bayfront Redevelopment Plan may now proceed. Remediation at SA-6 South was completed in November 2016 and has been reported under a separate chromium RAR and a CCR and a non-chromium RAR.

Illustration 1: SA-6, SA-7, and Surrounding Area

The Bayfront Redevelopment Plan lays out the redevelopment of the nominal 100-acre site that is owned by Bayfront Redevelopment LLC (Bayfront, a subsidiary of Honeywell) and is being developed in partnership with the City of Jersey City into a residential, commercial and retail complex. The Bayfront Redevelopment Plan represents a major opportunity to revitalize the west side of Jersey City; it meets the objectives of Jersey City's master plan for the broader west side area designated as the Bayside Redevelopment Area (see **Illustration 2**).

The Chromium Remedy and Non-Chromium Remedies at both SA-6 North and SA-6 South integrate the requirements of the future Bayfront Redevelopment Plan.

To be consistent with future planned use and the Bayfront Redevelopment Plan, SA-6 North and SA-6 South are divided into Open Space and Development Areas. The designation of these areas is contained in the SA-6 North and SA-6 South Consent Decrees, and is designated as follows:

Illustration 2: Bayside Redevelopment Area

- SA-6 North Consent Decree: "Open Space Area" and "Residential Area" and "Additional Excavation Areas." The Residential Area and Additional Excavation Areas are development areas.
- SA-6 South Consent Decree: "Open Space AOC" and "Development AOC." The "Development AOC" consists of two parts: the Kellogg Street Development AOC and the Site 163 Development AOC.

The Bayfront Redevelopment Plan designates the SA-6 North and SA-6 South Development Areas for future residential and commercial/retail use redevelopment, and designates the Open Space Areas for future redevelopment as linear parks and recreational use areas currently known as "Central Park" on SA-6 North and the "Promenade" on SA-6 South. The as-built grades of the cap associated with the Chromium Remedy in the SA-6 North Open Space Area are interim grades. During redevelopment, the cap grades will be raised and made consistent with the Bayfront Redevelopment Plan grades, with smoothing as needed to facilitate drainage pending development, and associated installation of roadways and stormwater

management. Development in the SA-6 North Open Space Area is restricted via a recorded conservation restriction. **Illustration 3** depicts the conceptual Chromium Remedy related to future redevelopment areas.

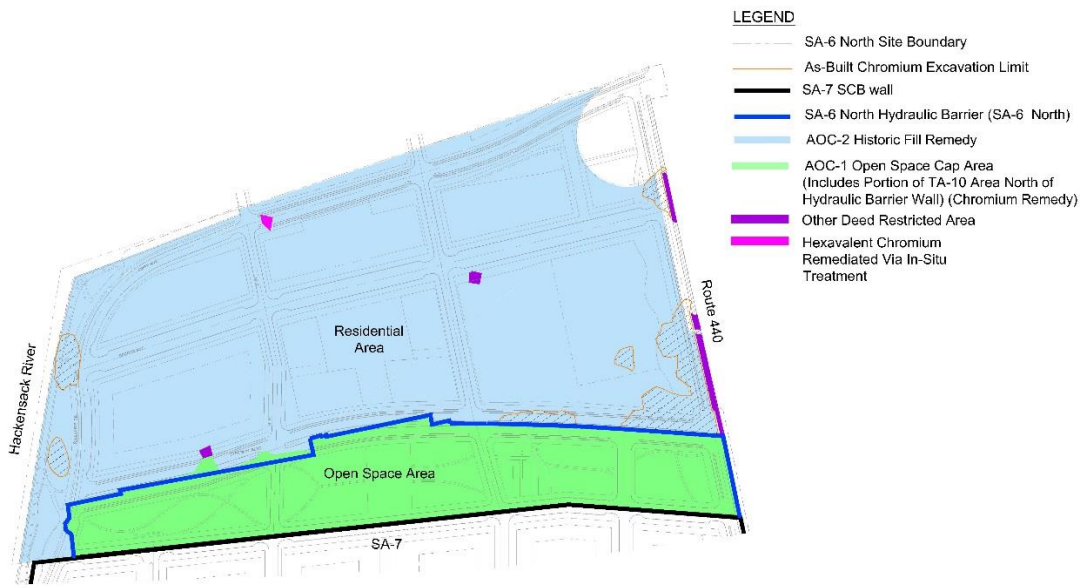

Illustration 3: SA-6 North Chromium Remedy and Redevelopment Plans

1.4 CONTAMINANTS OF CONCERN AND REMEDIAL ACTION OBJECTIVES

For the purpose of this CCR, the contaminant of concern (COC) in soils at SA-6 North is hexavalent chromium and the COC for shallow groundwater is total chromium per the NJDEP-approved RAWP. The NJDEP-approved RAWP identified specific remedial action objectives for soil and groundwater as follows:

Specific RAOs for soils include:

- Prevent exposure to chromium-impacted soils containing hexavalent chromium above the NJDEP soil criteria of 20 milligrams per kilogram (mg/kg) to a depth of 20 feet, consistent with NJDEP policy.
- Remove and consolidate chromium-impacted soils that may be disturbed by future Site redevelopment activities; and reuse soils beneath the area to be capped, to the extent feasible.

- Coordinate remedial actions for chromium-impacted soils with remedial actions for non-chromium contaminants and Site redevelopment, to the extent feasible.

Specific RAOs for groundwater include:

- Mitigate the potential for surface water infiltration and leaching of contaminants (total and hexavalent chromium) from fill soils (vadose zone) to groundwater.
- Mitigate offsite migration of chromium-impacted groundwater above the NJDEP Groundwater Quality Standard (GWQS).[5]
- Reduce chromium concentrations in groundwater.
- Prevent exposure to groundwater chromium concentrations above the NJDEP GWQS.

To achieve the RAOs for SA-6 North soils and groundwater, the NJDEP-approved RAWP proposed the following remedial actions:

- Excavation of soil impacted with hexavalent chromium >20 mg/kg to a depth of 20 feet below ground surface (bgs) or 20 mg/kg, in the Residential Area and Additional Excavation Areas;
- Consolidate lower concentration chromium-impacted soil from the Residential Area and Additional Excavation Areas in the Open Space Area prior to cap construction;
- Capping and containment of chromium-impacted soil in the Open Space Area;
- In-situ permeable reactive barrier (PRB) treatment remedy using a reductant medium along the north side and vertical hydraulic barriers along the east and west sides of the Open Space Area;

[5] The SA 6 North Consent Decree requires Honeywell to isolate chromium-impacted shallow groundwater and to intercept and treat shallow groundwater flowing above the meadow mat in the AOC 1 Open Space Area. The Study Area 6 North Consent Decree also requires Honeywell to maintain an outward gradient of shallow groundwater from Study Area 7.

- Post-remediation groundwater monitoring to evaluate groundwater chromium concentrations with respect to the NJDEP GWQS; and
- Establishment of institutional controls.

Following submission of the RAWP, Honeywell continued to work with NJDEP to develop and refine the Chromium Remedy to achieve the RAOs stated in the NJDEP-approved RAWP. Eventually, Honeywell proposed to eliminate the PRB concept and fully contain the Open Space Area with a vertical hydraulic barrier consisting of sealed sheetpile. The implemented Chromium Remedy did not include a PRB.

In addition, following submission of the RAWP, Honeywell identified several isolated locations where chromium-impacted soil existed in areas within the Residential Area and Additional Excavation Areas where excavation was technically impracticable (TI) due to depths of the chromium-impacted soil and proximity to sewer lines and other critical structures. Instead of excavation in these isolated TI areas, in-situ chemical treatment of hexavalent chromium by injection of a chemical reductant was proposed to meet the RAOs for the Residential Area and Additional Excavation Areas. These areas were identified as in-situ chemical treatment areas TA-7, TA-8, and TA-10. These areas are isolated from the identified areas in the Residential Area and Additional Excavation Areas where excavation could be conducted. Thus, instead of excavation, in-situ chemical treatment of hexavalent chromium by injection of a chemical reductant was implemented in these isolated TI areas to meet the same RAO for soils in the Residential Area and Additional Excavation Areas as that stated above.[6] Additional details pertaining to the implementation of the in-situ chemical reduction in the TI areas of the Residential Area and Additional Excavation Areas are provided in Section 12.0.

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[6] TA-10 was sub-divided into two areas. The first area is a portion of TA-10 that is located north of the SA-6 northern hydraulic barrier wall and south of the northern curbline of the future Stegman Boulevard. This area could not be treated in-situ due to the presence of underground utilities, including a 72-inch water force main. This area will be included in the Open Space Area deed notice and conservation restriction, as shown on Figure 16. The second TA-10 area is designated TA-10-1 and is located north of the northern curbline of the future Stegman Boulevard, as shown in Figure 11B. In-situ treatment was implemented in TA-10-1.

In addition, there are three areas located within the Residential Area and Additional Excavation Areas where remediation has been deferred ("Deferred Areas") as shown on **Figure 16**, and discussed in more detail in Section 4:

- Two narrow portions adjacent to the Route 440 right-of-way (ROW) along the eastern perimeter of the SA-6 North (Route 440 ROW Deferred Areas) (DN#6 and DN#9 on Figure 16); and
- In-situ treatment area 7 (TA-7) located within the Jersey City Municipal Utility Authority (JCMUA) property (TA-7 Deferred Area) (DN#10 on Figure 16).

Therefore, to achieve the soil RAOs in the Residential Area and Additional Excavation Areas, with the exception of the Deferred Areas and TI areas, Honeywell excavated soil impacted with hexavalent chromium >20 mg/kg to a maximum depth of 20 feet bgs. Excavated material containing hexavalent chromium between 20 and 240 mg/kg was consolidated in the Open Space Area. Excavated material containing hexavalent chromium >240 mg/kg was disposed of offsite. In lieu of excavation in TI areas TA-7, TA-8 and TA-10-1, Honeywell implemented in-situ chemical treatment of hexavalent chromium by injection of a reductant as shown on Figure 11B. . In lieu of excavation in the non-TA-10-1 portion of TA-10 (*i.e.*, the portion of TA-10 located to the south of the northern curbline of the future Stegman Boulevard) Honeywell will deed notice and conservation restrict the area as part of the Open Space Area, and the area will be capped by roadway and/or sidewalk during the redevelopment.

To achieve the soil RAOs in the Open Space Area, engineering controls (vertical hydraulic barrier and RCRA-equivalent cap) were constructed around and over existing and consolidated chromium-impacted soil within the Open Space Area.

The soil RAOs were met in AOC-1 with the exception of the three "Deferred Areas" and portions of the TI areas within the Residential Area and Additional Excavation Areas as discussed in Sections 4.0 and 12.

Concentrations of total chromium in shallow groundwater within the Residential Area and Additional Excavation Areas were below the NJDEP GWQS for groundwater of 70 µg/L prior to implementation of the Chromium Remedy.

Therefore, remediation of shallow groundwater is not necessary in the Residential Area and Additional Excavation Areas.

To achieve groundwater RAOs in the Open Space Area, Honeywell constructed a vertical barrier and a cap which fully contains groundwater in the Open Space Area. Further, a contingent groundwater extraction system (GWET) was installed within the Open Space Area to assist in maintaining an inward hydraulic gradient relative to groundwater outside the Open Space Area. The GWET and the hydraulic barriers are designed to isolate shallow groundwater and to intercept and treat chromium-impacted shallow groundwater flowing above the meadow mat in the AOC-1 Open Space as required by the SA-6 North Consent Decree. Groundwater level measurements will be monitored in accordance with the Long Term Monitoring Plan (LTMP), dated July 2017 (latest Revised Draft), prepared for both SA-6 North and SA-6 South, to monitor hydraulic conditions in both the Residential Development and Open Space Areas.

To achieve both soil and groundwater RAOs, Honeywell will establish appropriate institutional controls for the Open Space Area, Deferred Areas, TA-10, and groundwater at SA-6 North including:

- Deed notices for each area of the Site where hexavalent chromium concentrations in soils remain >20 mg/kg;
- Remedial action permits for soils for all areas where hexavalent chromium concentrations in soils remain >20 mg/kg;
- A remedial action permit for groundwater in the Open Space Area;
- A classification exception area (CEA) has already been established with NJDEP for the chromium-impacted regional shallow groundwater which adequately covers shallow groundwater at SA-6 North; and
- A conservation restriction has already been established for the Open Space Area at SA-6 North. The Conservation Restriction will be amended to include the portion of TA-10 that is located to the south of the northern curbline of the future Stegman Boulevard. See Figure 2. Honeywell will maintain the conservation restriction.

The deed notice areas are shown on Figure 16. A summary of the five deed notice areas at SA-6 North are:

- Deed Notice Area No. 5: Open Space Area and the portion of TA-10 that is located to the south of the northern curbline of the future Stegman Boulevard,
- Deed Notice Area No. 6: Route 440 Right-of-Way (ROW) Deferred Area,
- Deed Notice Area No. 7: TA-10-1,
- Deed Notice Area No. 9: Route 440 ROW Deferred Area, and
- Deed Notice Area No. 10: TA-7 Deferred Area.

Draft deed notices, draft remedial action permit applications, and the NJDEP-approved CEA are appended to this CCR. Section 4.0 more fully describes the three Deferred Areas that will be subject to deed notices until remediated. Additional details concerning the institutional controls are provided in Section 18.

1.5 CONSTRUCTION OVERVIEW

The Chromium Remedy for the Residential Area and Additional Excavation Areas at SA-6 North consisted of excavation of soils exceeding 20 mg/kg for hexavalent chromium to the elevations established in the SA-6 North 100% Design Report DC 2015-09-04, DC 2015-11-18, DC 2015-11-30 based either upon pre-design investigation (PDI) sample data or encountering Stratum D. Excavated soil containing hexavalent chromium concentrations between 20 and 240 mg/kg for hexavalent chromium was consolidated in the SA-6 North Open Space Area; whereas excavated soil containing hexavalent chromium concentrations >240 mg/kg was disposed of offsite.

Unlike SA-6 South, the chromium-impacted soils at SA-6 North were less wide-spread and were identified in specific areas. These distinct areas were previously delineated to 20 mg/kg during the RI and/or PDI sampling and were given the term Excavation Area (EA) and were numbered (1, 2/3, 4, 5, 7 and 8) for reference purposes. The originally defined EA-6 area was included in the Open Space Area by realignment of the hydraulic barrier once the design was completed.

Hydraulic barriers keyed into the Stratum D were installed on the east, north and west sides of the Open Space Area. The SA-7 Soil-Cement Bentonite (SCB) Wall forms the southern side of the hydraulic barrier. The northern hydraulic barrier also served as temporary excavation support for excavation of EA-5 and EA-2/3 in the Residential Area. A Resource Conservation and Recovery Act (RCRA)-equivalent cap was constructed over the Open Space Area to isolate chromium-impacted soils.

More specifically, the Chromium Remedy included the following main work elements:

- Site preparation (utility mark out, temporary fencing, and erosion controls);
- Remedial Contractor mobilization and installation of site support facilities including construction trailers, decontamination stations, utility abandonment and bypassing, soil erosion controls, construction dewatering and stormwater control, and treatment infrastructure;
- Abandonment/demolition/removal/relocation of existing structures, select monitoring wells, and utilities as necessary to remediate chromium-impacted areas;
- Construction water management;
- Installation of temporary sheetpile for excavation support;
- Excavation within the designated Residential Area and Additional Excavation Areas of chromium-impacted soils exceeding 20 mg/kg hexavalent chromium to a maximum depth of 20 feet or shallower if meadow mat (Stratum D) was reached;
- Consolidation of excavated material exhibiting hexavalent chromium concentrations between 20 and 240 mg/kg within the Open Space Area;
- Offsite disposal and transportation of excavated material exhibiting hexavalent chromium concentrations exceeding 240 mg/kg;
- Installation of a hydraulic barrier along the perimeter of the designated Open Space Area that was embedded approximately 2 feet (minimum) into the underlying Stratum D and was tied into the existing hydraulic barrier associated with the SA-7 remedy along the common SA-6 North and SA-7 Site boundaries. Embedment of the hydraulic barrier into the underlying

Stratum D established the integrity of the seal between the vertical wall and the horizontal Stratum D confining layer.

- Installation within the Open Space Area of a contingent groundwater extraction system which will be operated as needed to maintain an inward hydraulic gradient as specified in the Consent Decree, the 100% Design Report, and the SA-6 LTMP that is currently being developed.
- Soil surcharging in the Open Space Area to consolidate underlying compressible strata;
- Grading of soil consolidated from other areas in the Open Space Area and compaction of existing material/subgrade fill;
- Installation of the RCRA-equivalent geosynthetic cap system, including a methane venting layer to address naturally occurring methane;
- Installation of surface drainage and erosion control structures;
- Installation of a cap drainage system to collect stormwater infiltration and discharge to surface water;
- Installation of utility corridors for future site redevelopment;
- Installation of paired piezometers along the barrier wall to allow for groundwater level monitoring to demonstrate compliance with the inward hydraulic gradient requirement.
- Restoration of site and planting of grass or placement of clean crushed stone cover;
- Recording of institutional controls and initiation of future monitoring; and
- In-situ treatment of soils exhibiting hexavalent chromium concentrations exceeding 20 mg/kg by injecting a chemical reductant solution into the subsurface at TA-7, TA-8, and TA-10-1.

Table 9 provides a cross-reference table of major construction elements referenced to particular components of the SA-6 North 100% Design (100% Design Report, Specifications, and Drawings), DCs, and the Declarations which were periodically sent to all Parties documenting completion of specified portions of the Chromium Remedy.

The Chromium Remedy activities included the following major categories, and corresponding approximate quantities for SA-6 North (quantities that are combined for SA-6 North and SA-6 South are noted):

Item	Units	Quantity
Construction Water Discharged (North and South)	Gallons	41,257,040
Abandoned Existing Monitoring Wells/Piezometers	Each	41
Dewatering Wells		
Shallow	Each	44
Deep	Each	2
New Monitoring Wells		
Piezometers	Each	10
Material Handling		
Concrete	Cubic Yards (CY)	5,740
Excavated Soils		
Open Space Area 1N <20 mg/kg	CY	14,000
<20 mg/kg	CY	11,300
20-240	CY	9,500
>240 (Non-hazardous)	CY	2,500
>240 (Hazardous)	CY	6,000
Consolidated Materials		
20-240 (South)	CY	35,000
20-240 (North)	CY	9,500
Asphalt	CY	100
Hydraulic Barrier	LF	2381
Cap Materials		
Subgrade Fill	CY	66,000
Geosynthetic Venting Layer (GVL)	Square Feet (SF)	361,300
Geosynthetic Composite Layer (GCL)	SF	29,500
Geotextile Layer	SF	59,000
Geosynthetic Drainage Layer (GDL)	SF	440,970

Item	Units	Quantity
Liner	SF	440,970
GDL Soil	CY	17,700
Root Barrier	SF	440,970
Clean Cover Soils	CY	41,000
Backfill		
<20 mg/kg within excavation areas	CY	21,900
Imported Fill (Summit, NJ, "Celgene" fill)	CY	6,000
Surcharge		
Soil	CY	130,800
Monitoring Points	Each	11 Half Stations 13 Full Stations 15 Settlement Platforms
Disposal		
Recycled Asphalt (North and South)	Tons	3,700
>240 (Non-Hazardous)	Tons	4,000
>240 (Hazardous)	Tons	10,000
Frac Tank	Tons	120
In-Situ Injections (CAPS Injected)		
TA-7	Gals	324
TA-8	Gals	168
TA-10	Gals	1,155

The following entities were involved in the construction of the SA-6 North remediation (see also **Figure 3,** Project Team Organization Chart):

Party	Responsibility
Honeywell	Overall compliance with court-ordered remediation
Amec Foster Wheeler	Engineer of Record (EOR), Design, Contract Documents, Construction Inspection, Health and Safety Oversight, and Overall Site Construction Management

Party	Responsibility
Entact	Excavation of chromium-impacted soil, imported backfill purchase and placement, and Dewatering and Groundwater Extraction
Gramercy[7]	Demolition of JCIA buildings
Entact Subcontractors: **B&B Drilling, Inc.** **Maser Consulting P.A.** **Chemtech** **Eurofins** **Vertical V-Northeast** **ESI**	 Install and abandon monitoring wells and piezometers Surveying Analytical Laboratory for Imported Fill Samples (non-chromium) Analytical Laboratory for Imported Fill Samples (chromium) Compaction Testing Installation of all geosynthetic materials for the RCRA-equivalent cap
Emilcott Associates	Air Monitoring
Arecon	Manifests, and Management of Excavated Soil Disposal
Mueser Rutledge Consulting Engineers (MRCE)	3rd Party Structural and Geotechnical Engineering Peer Review
Langan	3rd Party Liner QA
SGS Accutest Laboratories Inc. (Accutest)	Analytical Laboratory for samples collected by Amec Foster Wheeler
Travelers Industrial Hygiene Laboratory	Analytical Laboratory for Perimeter Air Monitoring Plan (PAMP) samples
Analytical & Environmental Services, Inc. (AESI)	3rd Party Analytical QA/QC
Validata, LLC	3rd Party Analytical Data Validation
Cornerstone	Groundwater Modeling
Geocomp Engineering	Prepared Vibration Monitoring Reports
Isotec/ERFS	In-Situ Injections

Mobilization to both SA-6 North and SA-6 South commenced on March 1, 2013 and was completed on June 28, 2013. The Chromium Remedy on SA-6 North was

[7] Not included in Figure 3 as they were a direct contract to JCRA.

substantially complete by December 2016. Work on SA-6 South was also substantially completed by November 2016. Representative photographs of major components of the work are included in **Appendix A.**

1.6 DATA VALIDATION AND DATA USABILITY EVALUATION

Unless otherwise indicated for specific sample types, Accutest analyzed soil and groundwater samples collected during the Chromium Remedy implementation. Hexavalent chromium analysis was performed using United States Environmental Protection Agency (USEPA) Method 7199. Data validation was performed by a third-party data validation specialist with Validata, LLC (Validata) of Seattle, Washington. Additionally, Honeywell employs Dr. Rene Surgi of Analytical & Environmental Services, Inc. (AESI) of Glencoe, Illinois, to provide third-party analytical quality assurance/quality control (QA/QC).

Honeywell's protocol is to have Dr. Surgi review 100% of the soil sample hexavalent chromium soil analytical data and work with Accutest on any QA/QC matters prior to issuance of the final analytical data packages. Soil samples that do not meet the laboratory's strict internal QA/QC criteria are re-logged by the laboratory and re-analyzed. Once the data packages are issued by Accutest to Validata, the hexavalent chromium (and total chromium, if performed) data are validated. Employing such a protocol provides a high degree of confidence that the hexavalent chromium analytical data that has passed the internal laboratory QA/QC standards and was not rejected by the validator is accurate, precise, representative and, thus, usable. Rejected data, although reported, is flagged with an "R" and is not used for the intended purpose of the associated sampling.

The Data Management Plan (DMP) contained in the SA-6 North 100% Design Report outlined, among other things, the specific data validation objectives and procedures involved in producing quality, usable analytical data during implementation of the Chromium Remedy. Honeywell revised the DMP in August 2014 to clarify data validation level and frequency based upon the purpose of the sampling and end use of the data. This revised DMP was submitted to NJDEP and all Parties on August 22, 2014. A summary of the data validation level and frequency for soil samples analyzed for total and hexavalent chromium collected during the SA-6 Chromium Remedy and based upon the revised DMP was as follows:

- Level IV data validation 100% of samples analyzed that were used for compliance purposes (i.e. post-excavation soil samples and those collected for re-use applicability of excavated material and quarterly groundwater samples); and
- Level II data validation of approximately 25% on samples that were used for non-compliance purposes (i.e. samples for soils consolidated in the Open Space Area and those collected from soils being disposed of offsite).

Additionally, and in accordance with the DMP, data validation was also conducted on the following samples that included analysis of parameters other than total and hexavalent chromium:

- Level IV data validation on 100% of the monthly effluent water samples for tested parameters;
- Level IV data validation on 10% of soil samples for other (non-chromium) tested parameters; and
- Level IV data validation of approximately 10% of the PAMP air samples analyzed for hexavalent chromium for other (non-chromium) tested parameters. Those samples for which data validation was conducted only on a 10% frequency are indicated as **Tables 1A and 1B**.

The NJDEP issued guidance for the Data of Known Quality Protocols (DKQPs) in April 2014, approximately 1 year after the start of the SA-6 Chromium Remedy. The NJDEP was consulted regarding whether the questionnaire that is part of the DKQP process needed to be filled out for samples collected during the implementation of the Chromium Remedy. NJDEP concluded that the DKQP questionnaires were not required for the Chromium Remedy since the laboratory follows rigorous QA/QC protocols specifically developed for the chromium program in Jersey City which results in the generation of data of known quality and because the third-party validation process covers the data assessment and usability evaluation promoted in the DKQP guidance. We note that the validation process essentially asks the same questions as those on the questionnaire. As indicated above, 100% of samples analyzed for hexavalent chromium were validated by Validata, whereas validation of all other analytical parameters was conducted on 10% of the samples. Any rejected data was not used.

Given the high level of internal and external QA/QC that is conducted, the 100% data validation that Honeywell employs for hexavalent chromium, and validation of 10% of samples for analytical parameters other than hexavalent chromium, the analytical data meets NJDEP's standards of precision, accuracy, and usability.

Copies of the laboratory analytical reports and the data validation reports are available upon request. Electronic Data Deliverable (EDD) documentation is included in **Appendix B**.

1.7 REPORT ORGANIZATION

This document has been prepared to meet the provisions specified in Sections 1.6 and 5.7 of the TRSR and contains the following sections:

- *Introduction.* This section contains information on the purpose and scope of the document, pertinent site setting information, project background and relationship between the Bayside Redevelopment Area and Bayfront, COCs, and RAOs, overview of the Chromium Remedy construction elements, and report organization.
- *Preparatory Construction Activities.* This section describes the activities implemented that were in support of the main elements of the Chromium Remedy.
- *Modifications and field changes to SA-6 North 100% Design Report.* Changes to what was proposed in the SA-6 North 100% Design reports are summarized in this section.
- *Deferred Areas and Unanticipated Items Encountered During Remedial Activities.* These sections summarize uncompleted, unexpected or unanticipated site conditions encountered during implementation of the Chromium Remedy.
- *Dewatering and Construction Water Treatment* (Section 6) through *Site Restoration* (Section 14). Detailed descriptions of the main elements of the Chromium Remedy are provided in these sections. Tables and figures are used to graphically communicate the information.
- *Construction Permits.* This section presents a description of the permits obtained to implement the Chromium Remedy.

- *Sustainability Efforts During Construction*. Sustainable elements of the Chromium Remedy implementation are presented in this section.
- *Post-Remedy Operation & Maintenance*. This section describes the activities to inspect, monitor, and maintain elements of the Chromium Remedy that remain. In addition, groundwater monitoring and sampling is described.
- *Institutional Controls*. The implementation of deed notices, soil and groundwater remedial action permit(s), and a classification exception area are presented in this section.
- *Record Drawings*. Record drawings are discussed and provided.
- *Remedial Action Costs*. A summary of the costs to complete the project are provided.
- *Remediation Close Out Summary*. This section contains the conclusions and recommendations.
- *References*. References used in preparing this document are listed in this section.
- *List of Acronyms and Abbreviations*. This section contains a list of acronyms and abbreviations used in this document.

2.0 PREPARATORY CONSTRUCTION ACTIVITIES

On behalf of Honeywell, Amec Foster Wheeler managed and oversaw the bidding and contractor selection process for the SA-6 North Chromium Remedy. The selected contractor was Entact LLC (Entact) of Pittsburgh, Pennsylvania. Prior to mobilization, Entact prepared and submitted to Amec Foster Wheeler and Honeywell various work plans and submittals and acquired certain construction permits and approvals required by the SA-6 North 100% Design Report for implementation of the SA-6 North Chromium Remedy.

In addition, several other permits were obtained by Amec Foster Wheeler for execution of the SA-6 North Chromium Remedy during the design process. Other additional permits were obtained after the design process as detailed designs prepared by Entact were needed to obtain certain permits. Permits acquired for implementation of the SA-6 North Chromium Remedy are listed in Section 15.

2.1 MOBILIZATION AND SITE PREPARATION

Amec Foster Wheeler and Entact mobilized equipment and labor forces to the SA-6 North between March 1, 2013 and June 28, 2013. Mobilization and site preparation included the following key activities:

- Re-establishment of Amec Foster Wheeler and Honeywell office space in the southern portion of the building located at 60 Kellogg Street;
- Mobilization and set-up of office trailers at SA-6 South for Entact operations. The trailers were outfitted with temporary electrical, internet, and telephone infrastructure;
- Establishment of a global positioning system (GPS) base station for use with construction layout and surveying;
- Mark-out of excavation, capping, staging and lay down areas;
- Geophysical surveys to locate unknown utilities, utility mark-outs, onsite utilities to be maintained, relocated or abandoned;
- Establishment of vehicular traffic pathways and staging areas;
- Installation of soil and erosion controls;

- Setup of the temporary construction water treatment plant (CWTP) at SA-6 North. The CWTP was utilized for SA-6 North and SA-6 South;
- Relocation of electrical feed for SA-7 regional groundwater extraction wells;
- Construction of decontamination facilities; and
- Installation of fencing, and establishment of initial exclusion zones, contaminant reduction zones and support zones. Such zones were maintained and modified as needed throughout the execution of remediation activities.

Other preparatory activities that occurred either just prior to or during initial stages of the construction activities are described in the sections that follow.

The Chromium Remedial Contractor could not fully engage in site preparation activities until the Jersey City Entities vacated the Site. While the Chromium Remedial Contractor did what they could to prepare the Site and begin the Remedy, the delay in the Jersey City Entities vacating the Site delayed and hampered progress and work sequencing.

2.2 HEALTH AND SAFETY

Health and Safety on the SA-6 North Chromium Remedy was controlled by a Master Health and Safety Plan (HASP). The Master HASP was included as Appendix D of the SA-6 North Chromium Remedy 100% Design Report. Each site contractor was required to prepare and submit a HASP for their specific work requirements in conformance with the Master HASP. Direct responsibility for employee safety was retained by each contractor as outlined in the contractor's respective HASP.

The minimum personal protective equipment (PPE) for personnel within the fenced-in portion of the SA-6 North included hardhats, high visibility vests, gloves, safety glasses, and steel-toed boots. Minimum worker PPE within exclusion zones at the Site consisted of hardhat, safety glasses, high visibility vests, Tyvek™ suits, gloves, and steel-toed boots. Upon leaving the exclusion zone, disposable PPE was placed into containers staged within the contamination reduction zone. Non-disposable PPE was decontaminated in the same area. Disposable PPE was combined with other chromium-impacted waste and transported and disposed of offsite.

Decontamination fluids were processed through the onsite CWTP and subsequently discharged via JCMUA and PVSC discharge permits and agreements.

During the course of the project, 386,624 man-hours were worked on site. This number represents the combined total with SA-6 South as this was conducted as an integrated project. Of that total, approximately 40% of the total hours worked could be allocated to SA-6 North. There were no Occupational Safety and Health Administration (OSHA) recordable incidents for the SA-6 North Chromium Remedy. Annual details are summarized in the table below:

Year	Man-Hours*
2013	60,928
2014	132,272
2015	104,384
2016	89,040
Project Total	**390,624**

*The man-hours include all hours on both SA-6 North and SA-6 South from mobilization through December 9, 2016.

A perimeter air monitoring program was carried out to document protection of human health outside of the remediation zone(s) to airborne COCs. The perimeter air monitoring program is discussed in detail in Section 11, but background and baseline monitoring activities are presented briefly below in Section 2.3 as they were part of the preparatory construction activities. In the course of the project, there were no exceedances of the perimeter air action levels.

2.3 BACKGROUND AND BASELINE PERIMETER AIR MONITORING

A perimeter air monitoring program (PAMP) was implemented and maintained whenever ground intrusive activities were occurring throughout the course of the SA-6 Chromium Remedy. The PAMPs were provided in the 100% Design Report. Separate PAMPs were prepared for SA-6 North and SA-6 South to account for the disparate durations of ground intrusive activities between SA-6 North and SA-6 South. The PAMP for SA-6 North was Appendix E of the SA-6 North Chromium Remedy 100% Design Report. More details of the overall perimeter air monitoring program are provided in Section 11.

During the mobilization phase and prior to ground intrusive activities, background perimeter air monitoring was performed to establish baseline air conditions that could be used for comparison to those measured during ground intrusive activities as shown on **Table 1A**. The background sampling was conducted for a minimum of 10 days during fair weather conditions (i.e., not during rain, snow, or high humidity) from July 15, 2013 to August 6, 2013.

Upon completion of the baseline sampling activities, the laboratory analytical data, real-time volatile organic compounds (VOC) [if applicable] and particulate matter dust monitoring data, and meteorological data was tabulated and presented to Honeywell. **Table 1A** summarizes the baseline perimeter air monitoring sample analytical data collected. **Figure 4** indicates the locations of the PAMP stations.

2.4 SITE SECURITY

Site security was established during the mobilization phase. Site security focused on perimeter security and access. The primary feature of Site Perimeter security was the perimeter fence line. SA-6 North was already surrounded by a perimeter fence due to the presence of the Jersey City Entities. The existing chain link fence along the exterior borders of SA-7 and SA-6 South previously installed during the remediation of SA-7 was repaired and replaced, as needed. Where new fence was required, 8-foot chain link fence was installed (equivalent to that installed on SA-7). For approximately one year, under a New Jersey Department of Transportation (NJDOT) issued Highway Occupancy Permit, the eastern end of the area fencing and sidewalk were relocated into the shoulder of Route 440 to facilitate construction of the hydraulic barrier and capping remedy and to maintain site security within that area.

Access to SA-6 North was limited by the security manned gate off of Culver Circle previously established by the Jersey City Entities at the JCDPW portion of the Site. Once JCDPW vacated the Site, site access was maintained strictly through this gate and Honeywell provided the security forces at the gate. Security forces were maintained on a 24-hour basis and patrolled SA-6 North, SA-6 South, and SA-7 in vehicles.

Installation of the hydraulic barrier and capping remedy, along the eastern cap boundary, did require access to Route 440 from JCIA gate locations. Two excavation

areas did encroach onto the driveway entrances to the JCMUA. The JCMUA operations on Block 6 were fenced off as needed during the remediation activities; however, during the excavation on the JCMUA portion of the property, exclusion zones around the hot-spot excavation areas were established.

2.5 SUPPORT FACILITIES AND TEMPORARY SITE UTILITIES

Support facilities for the Honeywell and Amec Foster Wheeler construction management and Entact teams were also established during mobilization. Honeywell and Amec Foster Wheeler shared office space in the southern portion of the existing building at SA-6 South Site 125 (60 Kellogg Street) from the beginning of mobilization in March 2013 until February 2016. Once Honeywell and Amec Foster Wheeler moved out of the office space at Site 125, a set of permanent office trailers was established in the northeast corner of SA-6 North.

Water for construction and dust suppression activities was obtained from a JCMUA fire hydrant located on SA-6 North.

Additionally, the CWTP was constructed between the former JCMUA Sludge Digesters and the JCDPW "H" building. The construction of the CWTP is described in more detail in Section 6. SA-7 was used for the staging of incoming clean materials including surcharge fill and geosynthetic materials. Equipment staging, parking, truck staging, and other storage was located in available areas.

2.6 TRAFFIC CONTROL

Onsite traffic associated with remedial activities was controlled by using designated routes established in the SA-6 North 100% Design Drawings. A paved perimeter-road was established on SA-7, which provided access from both SA-6 North and SA-6 South. Temporary ramps were built out of clean fill for transport between elevation changes on both SA-6 South and SA-6 North. These routes were marked using orange construction fence, traffic barricades, jersey barriers, signage and/or other types of traffic control devices.

Offsite truck traffic routes were consistent with routes previously approved for SA-7 and SA-5 remediation projects. The offsite truck routes used are indicated on **Figure 5**.

2.7 DEMOLITION

In accordance with a Site Preparation Plan prepared for SA-6 North dated October 2008, five major structures were either totally or partially demolished as necessary to facilitate implementation of the chromium remedy: The Former Sedimentation Basin, JCIA Incinerator Building, Former Waste Management, Inc. Leased Garage, JCIA Maintenance Garage and the Salt Dome. The demolition of these structures was contracted by the JCRA to Gramercy Group, Inc. Procurement and Specification Documents for the demolition scope and engineering oversight were provided to JCRA by Amec Foster Wheeler.

The former JCIA facility was located at 501 Route 440 in Jersey City, New Jersey. After JCIA relocated to a new Municipal Services Complex on Linden Avenue, Jersey City, New Jersey in September of 2014, the structures were demolished as detailed in **Appendix J**. A Structures Demolition Closeout Report was submitted to JCRA dated October 2015.

2.8 UTILITY ABANDONMENT

Utilities at SA-6 North included gas, electric, telephone/internet, water, storm and sanitary sewer which serviced both the Site and adjacent properties. Utilities that crossed into the excavation areas were abandoned in full compliance with Jersey City's Utility Abandonment Regulation, New Jersey's Underground Facility Protection Act and only after giving advanced notification via New Jersey's One Call system. Underground water, sewer, gas, and electric utilities in the JCIA area, which were in the vicinity of EA-2/3, were abandoned during the demolition activities discussed in Section 2.7 and **Appendix J**. **Appendix C** includes the Utility Abandonment As-Built Record Drawing. Compliance requirements were completed prior to the inception of excavation activities.

2.9 GROUNDWATER TESTING FOR pH

During the mobilization phase and early stages of the Chromium Remedy implementation and prior to ground intrusive activities, Amec Foster Wheeler collected groundwater pH readings from five different locations along the proposed hydraulic barrier wall alignments at SA-6 North. The groundwater pH measurements were necessary to determine the type of sealant material that was suitable for the hydraulic barrier (sheetpile) joints.

The 100% Design required a cement-bentonite grouted seal on the sheetpile interlocks where the groundwater pH values were greater than 11.5 standard units. **Figure 6** shows the measured pH values at each SA-6 North and SA-6 South location and stationing along the hydraulic barrier wall alignments. Section 10 details the installation of the hydraulic barrier and sealing of its joints.

The pH monitoring was performed in accordance with the methodology documented in a technical memorandum, dated August 12, 2013 and submitted by Honeywell to All Parties. All pH monitoring was performed in the fill above the meadow mat (Stratum D). Groundwater measurements were collected by Amec Foster Wheeler personnel certified with the NJDEP Office of Quality Assurance to perform field analysis of non-potable water for specific conductance, turbidity, dissolved oxygen, pH and temperature.

2.10 WASTE CLASSIFICATION

The *Proposed In Situ Waste Classification and Disposal Facility Approval Sampling Plan* (Amec, 2013) established a protocol for the sampling and analysis of the estimated 25,120 CYs of potentially chromium-impacted material that was planned to be disposed offsite from both SA-6 North and SA-6 South. Soil boring logs can be found in **Appendix H.** Materials containing hexavalent chromium concentration >240 mg/kg at SA-6 North or >1,000 mg/kg at SA-6 South were designated for offsite disposal as shown on **Figures 7A through 7G**.

In order to properly classify the material for offsite disposal, the NJDEP *Waste Classification Request Form and Instructions* dated June 22, 2009 were used as a reference for the specific sampling frequency and analysis for the waste classification protocol in addition to any receiving disposal facilities' acceptance criteria. Results of the waste classification sampling are contained in **Appendix K**.

3.0 MODIFICATIONS AND FIELD CHANGES TO SA-6 NORTH 100% DESIGN REPORT

Throughout the course of the implementation of the SA-6 Chromium Remedy, it was occasionally necessary to make modifications to the SA-6 North 100% Design Report based upon differing or unforeseen field conditions and/or provide further detail to conceptual design items. Design changes were documented in DCs. Design changes are classified as either major or minor, where major DCs were defined as those that could significantly impact cost and schedule and minor DCs as those having minimal to no impact to cost and schedule.

DCs were issued using sequential numbering starting with DC 000. A single combined DC log was maintained for SA-6 North and SA-6 South (see **Appendix D**). Some DCs applied to both sites. For purposes of the Special Master process, a separate numbering system was maintained. The DC Log provides a cross reference to the Special Master numbering.

During the course of the project a number of requests for information (RFIs) were received from the contractor. These RFIs sought clarification on specific areas of the SA-6 North 100% Design Report. Responses to all requests were provided. In the cases where an RFI resulted in a design change, an associated DC was prepared and issued.

4.0 DEFERRED AREAS

As discussed in the Executive Summary, and Sections 1.4 and 2.8, there are three areas within the Residential Area and Additional Excavation Areas where excavation was technically impracticable during the implementation of the SA-6 Chromium Remedy. Remediation of these areas will be deferred until a later time[8] and will be subject to deed notices which Honeywell will establish and maintain until remediation can be completed. As remediation at each Deferred Area is completed, documentation will be submitted to the Special Master and Parties, and the remedial action permit and deed notice will be terminated by submitting documentation to NJDEP and All Parties. Termination of any deed notice will require approval of the Special Master, Parties and Court. Honeywell will document the remediation of each Deferred Area with a supplement to this CCR after the completion of the remedial work in each Deferred Area.

The Deferred Areas are shown on **Figure 16** and are generally referred to as the Route 440 ROW Deferred Areas (corresponding to Deed Notice Area #6 and Deed Notice Area #9), and the TA-7 Deferred Area (corresponding to Deed Notice Area #10). The Open Space Area, including the portion of TA-10 located to the south of the northern curbline of the future Stegman Boulevard, (Deed Notice Area #5) is also subject to a Conservation Restriction and is not considered a deferred area. Similarly, as discussed in Section 12, TA-10-1 (Deed Notice Area #7) is not considered a Deferred Area.

During the preparation of the SA-6 North 100% Design Report, Honeywell determined that a 24-inch ductile iron gas main owned by Public Service Electric & Gas (PSE&G) exists north of the Open Space Area adjacent to the Route 440 ROW. A section of the gas line had been relocated to the east into Route 440 to facilitate construction of the SA-7 Remedy. At that time, the section of gas main adjacent to

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[8] The deferral of the remediation of the Route 440 ROW Deferred Areas is authorized in the Consent Order Entering Consolidated 100% Design for Study Area 6 North and South (ECF 1180) ("100% Design Order"). In the event that the Route 440 road widening project is not completed by the end of 2021 (five years after completion of the SA-6 Chromium Remedy), the Parties will confer regarding appropriate action for the Route 440 ROW Deferred Areas. *See* 100% Design Order at page 4.

the SA-6 North Open Space Area was also relocated in anticipation of the SA-6 North Chromium Remedy. The relocation scope did not, however, anticipate the northern and eastern limits of the EA-1, and EA-2/3. This resulted in a conflict between the gas main and the eastern edge of these excavation areas adjacent to Route 440. Honeywell inquired of PSE&G and NJDOT about the potential relocation of a portion of this gas main and determined, based on their input, that utility relocation should be deferred pending the comprehensive Route 440 Road Widening Project which is currently in the design phase. Consequently, a portion of excavations in EA-1 and EA-2/3 are deferred until the gas main is relocated in association with the Route 440 Road Widening Project. Honeywell will establish deed notices for these Route 440 ROW Deferred Areas (Deed Notices #6 and #9). Honeywell will continue to monitor NJDOT and PSE&G progress on the Route 440 Road Widening Project and will address residual chromium contamination proximate to the gas line when relocated in the future for the Route 440 improvements. Upon completion of the remedial work and full implementation of the Chromium Remedy the deed notices will be withdrawn.

Deed Notice Area #6 is an approximately 4,000 square foot strip of land on SA-6 North adjacent to the Route 440 ROW where the PSE&G gas main is located north of the SA-6 North Open Space Area. Excavation of residual chromium-impacted soil between the eastern edge of EA-2/3 and the SA-6 North property line in this Deed Notice Area #6 will be coordinated with the relocation of the gas main during the Route 440 Road Widening Project. A draft of the deed notice is contained in **Appendix S**.

Deed Notice Area #9 is comprised of two tracts of land; Tract 1 is near Culver Circle at the Route 440 ROW and Tract 2 is further south along the Route 440 ROW. (The ownership of the Deferred Areas within Deed Notice Area #9 differs from that of the Deferred Area of Deed Notice Area #6.) Tract 1 is an approximately 1,400 square foot area. Tract 2 is an approximately 970 square foot area. Excavation of residual chromium-impacted soil between the eastern edge of EA-1 and EA-2/3 and the SA-6 North property line in this Deed Notice Area #9 will be coordinated with the relocation of the gas main during the Route 440 Road Widening Project. A draft of the deed notice is contained in **Appendix S**.

It is not anticipated that implementation of the Bayfront Redevelopment Plan will impact Deed Notice Area #6 or Deed Notice Area #9. Because this area is so narrow,

is proximate to the Route 440 ROW, and the gas main is located within the area, any planned development of this area will also need to be deferred until the gas main is relocated.

Deed Notice #10 is the in-situ treatment area TA-7 on the JCMUA property. This area is within the area of the JCMUA fuel station. This area consists of aboveground storage tanks connected by underground piping to a pump island with fuel-dispensing cabinets/pumps. To prevent disruption to the JCMUA fuel station and due to the depth of chromium-impacted soil and the proximity of the nearby 72-inch forcemain, in-situ treatment was implemented in this area in lieu of excavation. As described in Section 12, in-situ treatment reduced the chromium-impacted soils to below 20 mg/kg for hexavalent chromium throughout the area except for one recalcitrant area of approximately 560 square feet. As part of facility upgrades, JCMUA plans on relocating their fueling system. Once this system is relocated, the limited area where hexavalent chromium soil remains >20 mg/kg will be excavated and the deed notice terminated. This area will not be impacted by Open Space Development.

5.0 UNANTICIPATED ITEMS ENCOUNTERED DURING REMEDIAL ACTIVITIES

During excavation activities at SA-6 North several unknown subsurface features and conditions were encountered requiring actions not included as part of the SA-6 North 100% Design including.

- Anomalous material[9] was identified in excavation area EA-1 near Culver Circle (see Section 5.1), EA-5 (see Section 5.6.2), and EA-8 (see Section 8.6);
- The 72-inch force main was found to be approximately 4 feet east of its recorded (as-built) location on the section of line east of the JCDPW "H Building" as shown in **Figure 12**;
- The location of the 72-inch force main caused a change in the alignment of the western section of the hydraulic barrier wall;
- The location of piles supporting the Sedimentation Basin caused a change in the alignment of the hydraulic barrier wall;
- Two unregistered underground storage tanks (USTs) were identified; and

[9] The SA-6 North 100% Design Report indicated that additional post-excavation sampling may be required if certain field conditions indicated the need to extend excavation beyond the identified limits, as determined by the onsite Construction Manager, or designee, or Honeywell's Remediation Manager. Conditions specified in the 100% Design Report that would trigger the need for additional post-excavation sampling included:

- Field observations indicating that an area previously defined as clean shows evidence of contamination. In that event, sampling may be conducted to help identify the source and assess the impact;
- Observations that were not consistent with soil conditions characterized by the samples that were collected during the RI and PDI;
- Observations of chromium blooms on the surface of soils previously thought to be clean; and
- Other field conditions which suggest chromium impacts may extend outside of the previously defined limits.

Material meeting one or more of the trigger criteria is referred to as anomalous material in this CCR.

- The presence of piles within the EA-5 excavation limits caused a change in the alignment of the eastern section of the hydraulic barrier wall.

Additional soil sampling was conducted that included post-excavation soil boring and sampling following excavation at excavation EA-2 (see Section 5.6.1), where the previous JCIA building prohibited full horizontal delineation of EA-2 during the PDI.

Further descriptions of the unanticipated items encountered are provided in the sections below.

As indicated in the SA-6 North 100% Design Report, due to the severity of the river bank slope along the western side of the Site, post excavation sampling at EA-8 was necessary following completion of excavation of this area to the design limits. The results of the post excavation sampling at EA-8 indicated a slight expansion of the original EA-8 area vertically and horizontally. The additional sampling and excavation activities are detailed in Section 8.6.

5.1 ANOMALOUS MATERIAL AT EA-1

During visual inspection of the excavation EA-1 sidewall, a small lens of potentially chromium-impacted soil was identified on the north face of the excavation adjacent to the NJDOT Culver Circle ROW. Field kits positively identified the material as hexavalent chromium. The excavation was extended to the SA-6 North and NJDOT property line as shown on **Figure 8A**. Since the material was located outside of the SA-6 North property boundary, no samples were collected. Honeywell notified the NJDOT of the visibly suspect material extending into NJDOT property via e-mail on May 18, 2016 (the email is attached after Declaration #3 in Part 17 of 22 in **Appendix T**).

5.2 HYDRAULIC BARRIER WALL PARALLEL TO THE 72-INCH FORCE MAIN

The SA-6 North 100% Design required “soft dig” to confirm the 72-inch force main location prior to initiating the Chromium Remedy near the force main. As the result of those investigations it was determined that the north-south run of the force main east of the “H Building” was approximately 4 feet east of the documented as-built location. To comply with separation distances between the hydraulic barrier and the force main memorialized in a Memorandum of Understanding (MOU) entered in to

by Honeywell and PVSC, it was necessary to move a run of approximately 240 linear feet of the north-south aligned hydraulic barrier approximately 4 feet east (see **Illustration 4**). This change was documented in DC 2014-09-02.

Additionally, after a series of discussions and meetings between NJDEP, PVSC and Honeywell following issuance of the SA-6 North 100% Design, the western-most section of the east-west aligned hydraulic barrier was moved approximately 15 feet to the south to increase the separation between the force main and hydraulic barrier (see **Illustration 4**). These hydraulic barrier relocations were documented in DC 2013-08-14 and in documentation to the NJDEP dated August 7, 2013. Record drawings contained in **Appendix C** show the re-aligned positions of the hydraulic barrier.

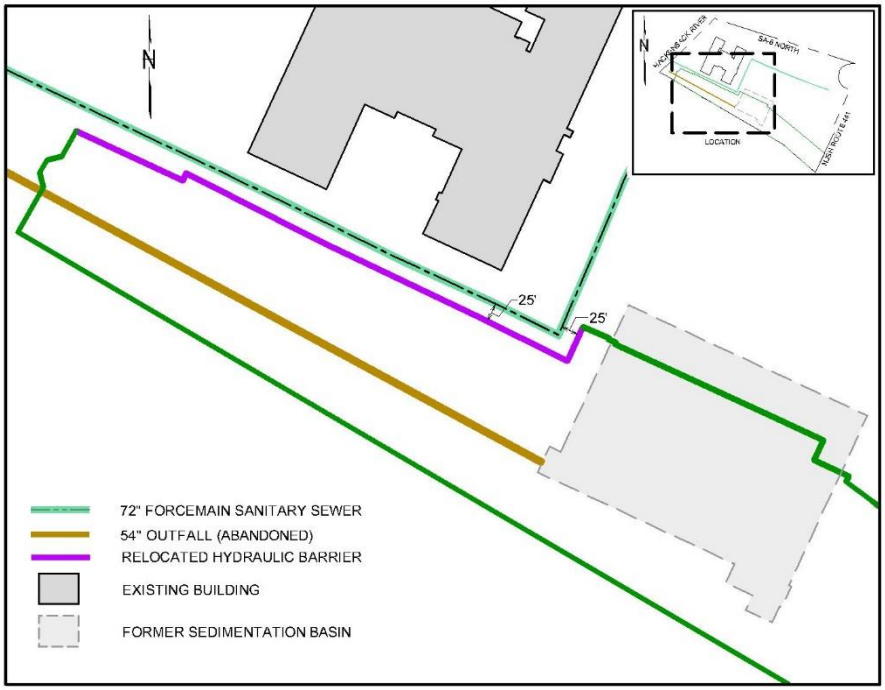

Illustration 4: Revised Hydraulic Barrier Location

The realignment of the northern barrier wall due to the 72-inch force main resulted in a decrease in the Open Space Area containment cell and RCRA-equivalent cap area. Along most of the realigned hydraulic barrier sections, moving the barrier did not result in leaving chromium-impacted soils outside of the new alignment of the Open Space Area boundary. However, some chromium-impacted soils at a depth from approximately 12 to 14 feet bgs were left outside of the new alignment along the east-west section and became part of TA-10. To the extent that these soils could

not be effectively treated in-situ, Honeywell agreed to incorporate the area into the Open Space Area institutional controls. During development, Stegman Boulevard will be constructed over this area and will effectively cap the underlying chromium-impacted soil, limiting the potential for contact with the soil. Honeywell will deed notice and conservation restrict, as part of the Open Space area, the portion of TA-10 located to the south of the northern curbline of the future Stegman Boulevard. In addition, Honeywell will establish a deed notice (Deed Notice #7) on the TA-10-1 in-situ treatment area as discussed more fully in Section 12.

Honeywell and PVSC entered into an MOU regarding implementation of the surcharge, hydraulic barrier installation, and construction of the RCRA-equivalent cap along the 72-inch force main in this area. The MOU required monitoring to be performed during those activities. Monitoring included installation of geophones on the 72-inch force main to allow for acoustical monitoring in addition to installation of inclinometers between the barrier wall and force main, and installation of survey monuments on the force main as shown in **Figure 12**. The acoustical monitoring program was conducted by Pure Technologies under contract to PVSC. The geotechnical, survey, and vibration monitoring plans were prepared by Amec Foster Wheeler and included in the First Amendment to the MOU dated October 10, 2013. The plans were submitted to PVSC for approval prior to commencing construction activities adjacent to the force main. The plans were reviewed and approved by Hatch Mott MacDonald on behalf of PVSC. Periodic reports were submitted to PVSC by Amec Foster Wheeler throughout the construction progress.

5.3 HYDRAULIC BARRIER WALL AT SEDIMENTATION BASIN

The SA-6 North 100% Design Report indicated that the hydraulic barrier would be subject to further minor changes pending the pre-trenching and verification of the pile locations along the alignment of the hydraulic barrier through the former JCMUA Sedimentation Basin. One objective of the SA-6 North 100% Design was to avoid removal of piles that penetrate the Stratum D. DC 2014-08-13 was submitted to document minor modifications to the hydraulic barrier alignment due to the located piles that support the Sedimentation Basin. This modification also reduced the number of corners of the hydraulic barrier wall. These changes also provided a wider utility corridor for the future Stegman Boulevard and allow for additional clearance between the cap geosynthetic materials and future Bayfront utilities.

5.4 USTS ENCOUNTERED

During the course of chromium-impacted soil excavation activities in September 2015 at EA-5 on Site 088 (former JCIA area) an unknown UST was discovered. A second unknown UST was encountered on Site 088 while doing subgrade preparation in May 2016 in the Open Space Area. In both instances upon discovery, Honeywell immediately notified their LSRP, Mr. Peter Jaran, P.E. of Equity Environmental Engineering, LLC (Equity), who is overseeing remediation of the non-chromium AOCs. Additional discussion of the USTs is contained in **Appendix J**.

5.5 EASTERN SECTION OF HYDRAULIC BARRIER WALL REALIGNMENT

Pre-trenching along an eastern section of the hydraulic barrier alignment south of the EA-5 excavation area revealed the presence of a cluster of piles. To avoid the piles, the hydraulic barrier alignment was moved approximately 3 feet to the north of the design alignment. This resulted in a slight increase in the Open Space Area cap area and an equivalent decrease in the area of EA-5. This change was documented in DC 2015-03-30.

5.6 ADDITIONAL SAMPLING CONDUCTED AT SA-6 NORTH

In accordance with the SA-6 North 100% Design Report, additional post-excavation sampling was conducted at EA-2 and EA-5.

5.6.1 Additional Sampling at EA-2

One supplemental post-excavation sidewall confirmation sample, 088-SB-190, was required at EA-2/3 to verify that the excavation was terminated in <20 mg/kg material. A soil sample could not be collected at this location at the required depth during the PDI since this corner of EA-2/3 was slightly under the JCIA building. Soil boring 088-SB-190 was performed on February 10, 2016 (see **Appendix H** for boring logs) and the soil sample collected at elevation 1.9 feet based on the National Geodetic Vertical Datum 1929 (NGVD29) and analyzed for hexavalent chromium as shown on **Table 2A**. Honeywell submitted the standard certification email, including an as-built survey and tabulated coordinates of the finished excavation at the bottom and sidewall sample locations, on April 3, 2016. The final excavation limits and sample locations are shown on **Figure 8B.** A Record Drawing of the final excavation limits is included in **Appendix C**.

5.6.2 Additional Sampling at EA-5

The excavation of EA-5 was conducted from August 27, 2015 through September 24, 2015. A single post-excavation sample, 087-EA-5-SW-092915, was taken of anomalous material observed approximately 6-8 feet above the bottom of the excavation (Stratum D) from the sidewall at EA-5 on September 29, 2015 as shown on **Figure 8B**. The 087-EA-5-SW-092915 sample results indicated that the hexavalent chromium level was <20 mg/kg as shown on **Table 2A**.

Once the preliminary analytical results of the post-excavation soil samples were obtained by Amec Foster Wheeler and reviewed with Honeywell, Honeywell submitted the results and a summary of the excavation effort to All Parties. Subsequently, Honeywell submitted the standard certification email, including an as-built survey and tabulated coordinates of the finished excavation at the bottom and sidewall sample locations, on October 12, 2016, after the analytical results were validated. Once the analytical results confirmed that the hexavalent chromium concentrations were <20 mg/kg in post-excavation samples, the excavation was backfilled with clean imported fill material.

In addition, at EA-5 less than 100 CY of asphalt was removed and sampled. The asphalt sample results indicated that low levels of arsenic were present above the Impact to Groundwater (IGW) and the residential direct contact soil remediation standards as shown on **Table 2B**. The arsenic-impacted asphalt was sampled, analyzed, evaluated, and handled in accordance with the NJDEP-approved Soil Management Plan (SMP), which was part of the 100% Design Report, and the *Proposed Concrete and Asphalt Sampling Plan* (CASP), dated September 2013, which was submitted to the NJDEP on October 28, 2013. The arsenic-impacted asphalt was placed in the Open Space Area.

6.0 DEWATERING AND CONSTRUCTION WATER TREATMENT

6.1 GENERAL

Dewatering was conducted to remove groundwater and stormwater from within the excavation areas and to minimize the moisture content of excavated soils. Capture, collection, and treatment of stormwater/surface water that came in contact with impacted soils was also completed. Collected groundwater, stormwater, and surface water from both SA-6 North and SA-6 South was pumped to the CWTP installed on SA-6 North.

For management of stormwater, diversion berms were installed upgradient of excavation areas and within large excavation areas as needed to divert the flow of surface water away from open excavation areas. Additional controls used to minimize the volume of water requiring treatment included extending sheetpile used for temporary excavation support, sealed jersey barriers, and minimizing the open excavation between the excavation face and the backfill.

Wastewater collected at designated decontamination pads was also collected and pumped to the CWTP for treatment.

6.2 EXCAVATION DEWATERING/PUMPING

Excavation dewatering in the Residential Area and Additional Excavation Areas was accomplished with a combination of shallow well points, and localized sumps and pumps installed above Stratum D and deep wells installed below Stratum D.

6.2.1 Well Installation

Shallow well points and deep wells for dewatering above and below Stratum D in the Residential Area were drilled and installed by B&B Drilling, Inc. (B&B Drilling), a licensed New Jersey well driller, in accordance with N.J.A.C. 7:9D. The shallow well points and deep dewatering wells are shown on the Excavation De-Watering Layout 03/15/16 figure provided by Entact contained in **Appendix I**. Deep dewatering wells within the main SA-6 North excavation area were given the designations DW-6 and DW-7. Because only EA-2/3 and EA-5 were deep enough to encounter groundwater, these were the only excavations that required dewatering wells. Any

other localized water intrusion in the other EAs was handled with intermittent sump pumping as needed.

The deep dewatering wells were drilled and installed by B&B Drilling using a hollow stem auger rig. Each was drilled through the Stratum O/D layer to a total depth of up to 48 feet bgs, 30 to 32.5 feet below the top of the Stratum O/D layer. A 6-inch diameter screen and riser pipe were used in the construction of each deep dewatering well. Screen lengths were 25 feet long in each. A 10-inch diameter steel conductor casing was set 1 to 2 feet into the top of the Stratum O/D layer to isolate water above the Stratum O/D layer from that below.

Well component specifications were submitted by Entact to Amec Foster Wheeler for review and approval prior to installation. Shallow well points within the excavation areas were removed with the excavated soils. Deep dewatering wells were abandoned by B &B Drilling's licensed driller once an adequate amount of backfill placement and compaction within an area was complete. After consultation with representatives of the NJDEP, Bureau of Water Allocation and Well Permitting, B&B Drilling determined that individual permitting of the shallow well points was not necessary, but that the shallow well points were covered under the Temporary Dewatering Permit that was obtained from NJDEP. However, because the deep dewatering wells were constructed through Stratum D (confining layer), B&B Drilling obtained permits for the deep wells. Well records for the deep wells are included in **Appendix E**. Abandonment reports are included in **Appendix E**.

Three well point header systems (H-19 to H-21) were installed within the excavation footprints prior to excavation as shown in the figure contained in **Appendix I**. H-19 was installed in EA-5, whereas H-20 and H-21 were installed in EA-2/3.

Shallow well points were installed by B&B Drilling. Shallow well points consisted of a 2.5" slotted polyvinyl chloride (PVC) well casing with filter pack placed around the slotted screen and a 1.5" PVC interior drop tube. The well casing was advanced to 2 feet below the anticipated bottom of the excavation or to the top of the Stratum D layer using hollow stem auger drilling methods. Each well point was equipped with a control valve and was connected to a header pipe (H-19 to H-21) via flexible hoses which connected to the electrically driven vacuum stations.

To determine the depth of the Stratum D prior to well installations, B&B Drilling drilled three investigatory boreholes per excavation for EA-2/3 and EA-5 along the dewatering header pipe as shown on the Excavation Dewatering Layout record drawing in **Appendix I** and collected core samples from each to determine the actual bgs depth of the Stratum D layer prior to installing interior and perimeter well points. Boreholes were offset approximately 10 feet from the well point location to protect the integrity of the well point. The boreholes were advanced with the drill rig to the within 4 feet of the assumed Stratum D layer. The remaining 4 feet were advanced using a 2-foot-long split spoon sampler to retrieve core samples. The core samples were evaluated by Amec Foster Wheeler to determine if the Stratum D layer was encountered. Soil boring logs are included in **Appendix H**. At the completion of sample collection, the depth of the observed Stratum D layer or termination point of the borehole was recorded and the borehole was grouted. The data collected during the split spoon sampling event was evaluated to determine the depth at which the dewatering well points would be driven to effectively dewater excavation areas within breaching the Stratum D layer.

6.2.2 SA-6 North Dewatering/Pumping System

The general process for managing water was to prevent water from contacting chromium-impacted fill materials. However, this was not possible for activities performed below the groundwater table and where surface water/stormwater and incidental precipitation fell on active excavation areas, backfill areas, exclusion zones and contaminant reduction zones. Construction water was removed from remediation and support areas, and stormwater that contacted chromium-impacted soils was removed. Dewatering with shallow well points and deep wells began in an excavation area and/or phase to achieve drawdown in advance of excavation activities. Thus, shallow well points and deep wells were installed prior to the start of excavation activities to allow adequate time for groundwater removal. Site dewatering data is included in **Appendix I**.

Localized sumps and pumps were used to remove stormwater and surface water that migrated into open excavations. Sumps were installed at the low point within an excavation area and consisted of submersible pumps placed inside perforated pipe wrapped in geotextile liner and embedded in stone. Sumps were not installed below and did not penetrate the Stratum D layer and were constructed and relocated as needed as excavations proceeded. Stormwater and surface water collected in sumps

were pumped to 21,000-gallon storage tanks for equalization prior to pumping through the treatment (filtering) portion of the CWTP as described in Section 6.3.

6.3 CONSTRUCTION WATER TREATMENT PLANT

The CWTP for SA-6 North and SA-6 South was constructed west of the JCMUA Digestion Tanks as shown on **Figure 2**. The CWTP was constructed within a secondary containment system for spill prevention. The secondary containment consisted of a 40-mil high-density polyethylene (HDPE) geomembrane overlain with a 6-inch layer of 1½-inch crushed stone. Class A geotextile liner was placed above and below the geomembrane. The 40 mil geomembrane panels were welded in the field. The secondary containment area had a perimeter berm constructed out of geotextile-covered jersey barriers. The CWTP consisted of approximately 300,000 gallons of untreated (influent) storage made up of eight 21,000-gallon "frac" tanks manifolded together by flexible hoses. Up to six additional frac tanks were positioned on SA-6 South during the peak of excavation activities.

The CWTP had a dual treatment train composed of 50-micron and 5-micron bag filters with a maximum throughput capacity of 500 gallons per minute (gpm). Treated effluent water was pumped into the unused JCMUA South Sludge Digestion tank. The digestion tank was fitted with a gate valve to regulate discharge. The tank normally operated in a flow through condition. During precipitation events, the valve was closed and the digester used to provide an excess of 1 million gallons of temporary effluent storage. The effluent was discharged by gravity to the JCMUA wet well. The CWTP base components are shown in **Figure 9**.

The PVSC-required MR-1 and MR-2 self-reporting documents for the CWTP were completed and sent to PVSC each month, reporting for the prior month. The effluent sample analytical results for the monthly samples are summarized on **Tables 3A, 3B, and 3C**. **Table 3B** also shows the chromium analytical results in each effluent sample. The total chromium load discharge limit permitted by PVSC is 11 pounds per day. The discharge limit was not exceeded during implementation of the Chromium Remedy. Chemical treatment to remove chromium from the construction water was not required.

Commissioning and startup test procedures specified in the SA-6 North 100% Design Report were performed prior to initial discharge from the effluent tank.

Entact oversaw operations and maintenance of the system during normal work hours.

Upon completion of the SA-6 North and South Chromium Remedies, the CWTP system was decontaminated, disassembled, and demobilized and residual solids and spent media generated as a result of the operation of the CWTP were sent offsite for disposal. Waste classification sample results of this material are included in **Appendix K**. The final wastewater discharge occurred on November 1, 2016 and involved the final rinse-out after cleaning of the interiors of the CWTP storage tanks and treatment components. Several of the frac tanks remained onsite for use in the SA-6 North Non-Chromium Remedy.

6.4 GROUNDWATER LEVEL AND BASELINE GRADIENT MONITORING

The SA-6 North 100% Design Report requires that the groundwater levels within the SA-6 North Open Space Area be maintained at lower levels than both SA-7 to the south and the Residential Area to the north in the post-Remedy condition. If monitoring indicates that this inward gradient is not being maintained, contingent dewatering is to be conducted within the Open Space Area to maintain compliance with the gradient requirements. The LTMP details the specific post-Remedy monitoring requirements, frequencies, and action steps depending on water level measurements.

Shallow groundwater levels were monitored within the SA-6 North Open Space Area along the border with SA-7 SCB using piezometers installed during the SA-7 remedy along the northern side of the SA-7 SCB wall as shown on **Figure 10**:

- 115-W6-SO;
- 115-W1-SO;
- 115-E5-SO; and
- 115-E4-SO.

Along the south side of the northern SA-7 SCB wall (adjacent to SA-6 North Open Space Area), the standpipes that monitor perimeter pools N1 through N4 were utilized to determine the head against the north side of the SA-7 SCB wall. An elevation of 4.0 feet above mean sea level, based on NGVD29, is the lowest elevation within the SA-7 site-wide underdrain system. Honeywell has installed water-level

monitoring points within SA-7, which will be used in the determination of whether there is an outward gradient from SA-7 towards SA-6 North.

The SA-6 North 100% Design Report detailed the installation of 5 pairs of new piezometers along the SA-6 North hydraulic barrier. These piezometers allow long-term monitoring of the hydraulic gradient within the shallow groundwater zone between the Open Space Area and the SA-6 North Residential Area. The 10 piezometers are:

Piezometers Installed Outside the Hydraulic Barrier:	**Paired Piezometer Installed Inside the Hydraulic Barrier:**
087-PZ-1	087-PZ-2
087-PZ-3	087-PZ-4
087-PZ-5	087-PZ-6
087-PZ-7	087-PZ-8
087-PZ-9	087-PZ-10

The locations of the 10 piezometers are shown on **Figure 10**. At each piezometer pair location, one piezometer is located inside of the SA-6 North hydraulic barrier and the other on the outside of the hydraulic barrier. The piezometers are constructed of 4-inch diameter stainless steel casing with a 5-foot-long screen set just above Stratum D. Record Drawing construction diagrams for the piezometers are contained in **Appendix E**.

Following installation of the geomembrane portion of the cap and initial drawdown of the contingent groundwater system, Amec Foster Wheeler conducted initial interim groundwater level monitoring on a bi-monthly basis. In accordance with the LTMP and GWLMP, Honeywell initiated long-term groundwater monitoring activities at SA-6 North in Spring 2017 per correspondence dated November 7, 2016 (see **Appendix G**). To supplement the manual groundwater measurements, groundwater level data loggers have been installed in each of the 10 piezometers and monitoring well 088-MW-112 located outside of the Open Space Area. The results of the manual readings taken during the first event per month of the initial interim groundwater level monitoring are provided in **Table 4**. The results indicate that an inward gradient has been maintained without active pumping of the contingent groundwater system. However, measurements at the 087-PZ-03 (exterior) and 087-PZ-04 (interior) piezometer pair have recently indicated an

outward gradient. The groundwater levels at 087-PZ-03 and nearby monitoring wells 088-MW-111 and 088-MW-112 installed in a former UST AOC also showed lower groundwater elevations than other wells in the SA-6 North Residential Area. This depression in groundwater levels may be attributed to the nearby breach in Stratum D at the former JCIA Incinerator Building/Trash Pit. Due to subsequent non-chromium remedy activities during the Spring of 2017 in the former JCIA former UST AOC resulting in abandonment and relocation of monitoring wells 088-MW-111 and 088-MW-112, data loggers are no longer in monitoring well 088-MW-112 and manual groundwater monitoring is no longer conducted in 088-MW-111 and 088-MW-112.

In response to Plaintiffs' request to establish baseline groundwater quality conditions inside the Open Space Areas, filtered and unfiltered groundwater samples were collected from each cap interior piezometer of both SA-6 North and SA-6 South. The samples were analyzed for total and hexavalent chromium. A summary of this data was included in the November 7, 2016 correspondence (see **Appendix G**) mentioned above and submitted to the Parties by Honeywell. The analytical results indicate that the filtered and unfiltered groundwater samples from the five inside piezometers (087-PZ-2, 087-PZ-4, 087-PZ-6, 087-PZ-8, and 087-PZ-10) were non-detect for hexavalent chromium and were below the NJDEP GWQS for total chromium.

Subsequent groundwater level monitoring and sampling activities and results conducted since the completion of the SA-6 Chromium Remedy have been provided by Honeywell either in separate memoranda or in monthly progress reports (See Appendix T). These groundwater level monitoring and sampling activities and results will also be included in the appropriate annual Integrated Groundwater Monitoring Reports.[10]

[10] The annual Integrated Groundwater Monitoring Reports are available at the following website: http://www.jerseycitychromiumcleanup.com/.

7.0 MONITORING WELL ABANDONMENT AND INSTALLATION

Selected monitoring wells at SA-6 North and SA-6 South were abandoned during implementation of the SA-6 Chromium Remedy in accordance with the Updated Monitoring Well Abandonment Plan which was submitted to NJDEP on April 20, 2017, which amended Appendix A-2 of the SA-6 North Chromium Remedy 100% Design Report. A minor DC 2014-06-06 provided clarification as to the wells requiring abandonment.

As discussed in Section 6.4, five pairs of new shallow piezometers were installed on either side of the SA-6 North hydraulic barrier to monitor hydraulic gradients across the barrier as shown on **Figure 10** and detailed on **Table 5**. As detailed in Section 12, three monitoring wells were installed within the TA-10-1 area. The logs are included in **Appendix H**.

Existing monitoring wells which are to be maintained in the Open Space Area will be raised to meet proposed grade and re-surveyed with revised Form B certifications. These monitoring wells are shown on **Figure 10** and are the following:

- 115-W6-SO;
- 115-E5-SO;
- 115-W1-SO; and
- 115-E4-SO.

In addition, as indicated in Section 6.4, five pairs of new shallow piezometers were installed on either side of the SA-6 North hydraulic barrier to allow monitoring of the hydraulic gradient of the shallow groundwater zone between the Open Space Area and the SA-6 North Residential Area. See **Appendix E** for details of construction.

All well abandonment activities were performed in accordance with N.J.A.C. 7:9D by a New Jersey licensed driller from B&B. Well abandonment records are included in Appendix E. Permits for new wells were obtained from the NJDEP by B&B. New

piezometer/well permits, Form A & B wells records, and new well construction diagrams are included in **Appendix E**.

8.0 EXCAVATION

Excavation of chromium-impacted soil was performed consistent with the NJDEP-approved RAWP, SA-6 North 100% Design Report, and subsequent DCs applicable to excavation. The excavation at SA-6 North was implemented only in the Residential Development portion of AOC-1. Excavation was performed at SA-6 North from June 16, 2015 to March 9, 2016. More details concerning the excavation sequence and schedule are provided in Section 8.3. A progression chart was maintained throughout the project that tracked excavation and backfilling operations showing zones for work sequence and quality control and was reviewed with all Parties at routine progress meetings/conference calls and was provided in the Monthly Progress Reports (**Appendix T**). As excavation progressed, Honeywell periodically submitted to all Parties documentation of completion of portions of the excavation operations in accordance with the SA-6 South Standard Operating Procedure - Confirmation of Excavation Limits, dated March 3, 2014 (and including Honeywell's April 24, 2014 letter and attachments). The excavation completion correspondence is included in Attachment F to Declaration No. 3 in **Appendix T**. Record Drawings for excavation and backfill work are included in **Appendix C**.

8.1 TEMPORARY EXCAVATION SUPPORT ALONG ROUTE 440 EA-1, EA-2/3

Temporary excavation support consisting of sheetpile and soldier pile was installed at the locations shown on SA-6 North Temporary Support of Excavation Plans (SN-501 to SN-505) as prepared by Honeywell's geotechnical consultant, MRCE. The original SA-6 North 100% Design Report details were modified based on the Remedial Contractor's specialty subcontractor input (Linde Griffin) provided through the RFI process and as approved by MRCE. Hatch Mott MacDonald also reviewed the design of temporary excavation support proposed along critical infrastructure adjacent to Route 440 on behalf of JCMUA and Bayonne Municipal Utility Authority (BMUA). The temporary excavation support was removed.

The temporary excavation support systems consisted of a combination of 2807 Hoesch Larssen Z sheetpile and a system of drilled soldier piles (H Piles), whalers and steel road plate lagging. The final field installation details were adjusted to reflect the field verified locations of the 36-inch BMUA forcemain and 48-inch reinforced concrete pipe (RCP) JCMUA sewer line. The depth of excavation and set

back distance at EA-1 allowed for excavation by sloping without the need for shoring or other temporary excavation support.

The Entact Quality Control Engineer monitored the temporary excavation supports for horizontal deflection during excavation. The 100% Design Report also mandated the need for vibration monitoring when sheeting was being driven in close proximity to underground utilities. Vibration monitoring is discussed further in Section 10.3.

8.2 EXCAVATED SOIL MANAGEMENT

Excavated soil was managed onsite in accordance with the NJDEP-approved SMP and the approved soil erosion and sediment control plan. Prior to the start of the Chromium Remedy, as part of the PDI, post-excavation equivalent samples were collected and boring locations were surveyed (see the PDI Results and Mapping Report in Appendix B of SA-6 North 100% Design Report). The post-excavation equivalent samples established the horizontal and vertical limits of the chromium-impacted soils and, thus, defined the extent of the excavations for most of the site. Sidewall confirmation samples were not required where the excavation area abutted property boundaries or the hydraulic barrier.

As indicated in the 100% Design Report, the steep slope along the bulkhead in the vicinity of EA-8 prevented the full delineation of chromium-impacted soil in this area during the PDI. Additional post-excavation sampling was required to confirm excavation limits as the excavation at EA-8 progressed.

Other than EA-8 and one isolated location at EA-2 (as explained in Section 5.6.1), the PDI sampling at all other excavation areas allowed the remedial action to be more definitively designed and implemented in the field and is a process that has been accepted by the NJDEP in the RAWP and has been implemented successfully by Honeywell at other sites.

The PDI sample hexavalent chromium results also established the designation and final disposition of the excavated material. Entact adopted three designations for SA-6 North for tracking and management purposes based upon their hexavalent chromium concentrations as follows:

- **A Material**: <20 mg/kg hexavalent chromium;

- **B Material**: 20 to 240 mg/kg hexavalent chromium;
- **C Material**: >240 mg/kg hexavalent chromium.

As provided in the SMP and SA-6 North 100% Design Report:

- **A Material** was stockpiled and tested to confirm its designation and, if confirmed, reused as backfill. If sample results of the A Material stockpiles, or portions of stockpiles, indicated that the material corresponded to one of the other designations, then the material represented by such samples was managed accordingly. **Table 6A** is the Stockpile Tracking Table. **Table 6B** presents the analytical data related to the stockpiles.
- **B Material** from SA-6 North was consolidated in the SA-6 North Open Space Area.
- **C Material** was shipped offsite for disposal. The material for offsite disposal was characterized as non-hazardous or hazardous waste depending on waste classification results (see Section 8.7)

The PDI sample results established the elevations to which excavation was to be performed for an excavation area, with the understanding that if Stratum D (i.e., "meadow mat") was encountered the excavation could be halted at a shallower depth. As discussed in Section 10.7, to maintain the integrity of Stratum D as a confining layer in the Residential Area, the excavations did not extend vertically below Stratum D.

Excavation was performed using hydraulic excavators directly loading into off-road articulated dump trucks (end dumps) to transport to designated on-site stockpiling areas. The end dumps did not leave SA-6 North, and were decontaminated if they were travelling out of an exclusion zone. The excavators were equipped with GPS equipment manufactured by Trimble®. Entact loaded X, Y, Z coordinates of the designed excavation limits into the GPS system and a transponder was attached to the bucket of the machine enabling the operator to precisely excavate in real-time to the design limits. Additionally, using the GPS and known coordinates differentiated the extents of the designation of various soils as shown on Design Drawings CN-116 to CN-122 based upon the concentration of hexavalent chromium. A summary of the

total excavated volume of each waste material is provided in the quantity summary table in Section 1.6.

Stockpiles of hazardous C Material (when not direct loaded) were covered with plastic sheeting to minimize air-borne dust and stormwater runoff. As provided in the SA-6 North 100% Design Report, excavations and soil stockpiles were protected from flooding to the 100-year flood elevation (10.2 feet) based on the NGVD29 datum by one or more of the options provided in the NJDEP Coastal Area Facilities Act (CAFRA)/Flood Hazard Area (FHA) permit (see Section 15 for more details). Daily inspections of the liners and plastic sheeting were performed to minimize migration of chromium-impacted soils beyond the designated stockpile area.

8.3 EXCAVATION SEQUENCING AND SCHEDULE

The EAs were each geographically distinct areas and were completed in sequence. Excavation began at EA-7 on the western portion of the Site and proceeded to EA-8 north of EA-7. Excavation of EA-4, then EA-5 were completed. The excavations along the Route 440 area were completed last with EA-2/3 conducted prior to EA-1.

A summary of the excavation schedule is provided in the table below.

Area Excavated	Start Date	End Date
EA-1	February 8, 2016	March 9, 2016
EA-2/3	November 5, 2015	January 6, 2016
EA-4	August 20, 2015	August 26, 2015
EA-5	August 24, 2015	September 8, 2015
EA-7	June 16, 2015	June 26, 2015
EA-8	June 18, 2015	December 9, 2015

8.4 EXCAVATED MATERIAL (STOCKPILE) TESTING

During the Chromium Remedy implementation, overburden soils (A Material or <20 mg/kg for hexavalent chromium) were excavated and set aside to allow for the excavation of chromium-impacted B (>20 mg/kg for hexavalent chromium) or C (>240 mg/kg for hexavalent chromium) below. In accordance with the SMP, stockpiles of A Material were managed onsite and sampled to confirm that the soil was <20 mg/kg for hexavalent chromium. The size of such A Material stockpiles

ranged from 50 to 5,200 CY. The volumes within individual stockpiles differed based upon site layout constraints and the contractor's preferences for advancing excavation and overall soil management. Once a stockpile was deemed completed, sampling commenced. Grab samples were collected from each stockpile for hexavalent chromium analysis at a maximum sampling frequency of 1 sample per 250 CYs. If the hexavalent chromium concentration in any sample from a portion of a stockpile was equal to or greater than 20 mg/kg, but below 240 mg/kg that portion of the stockpile was isolated from the remainder of the stockpile and consolidated in the SA-6 North Open Space Area. Stockpiled soil that was verified to contain <20 mg/kg hexavalent chromium was then approved for re-use as backfill in excavations. This approved-for-reuse A Material is still considered historic fill. At least 6 inches of imported clean backfill was placed over the reused A Material as needed to achieve the design grades. An institutional control (Restricted Area/Deed Notice) for the remaining site-wide historic fill soil will be filed in accordance with the NJDEP-approved RAWP as part of an RAR for non-chromium impacts to be submitted by Honeywell's LSRP.

Following surcharge, approximately 2 feet of <20 mg/kg of overburden soils (14,000 CY of historic fill) were stripped from Area 1N in accordance with SA-6 North Consent Decree paragraph 56(d) and DC 2015-09-02 to create additional capacity for the consolidation of 20-240 mg/kg chromium-impacted soils within the SA-6 North Open Space Area. This material had been pre-characterized as non-chromium-impacted soil with RI/PDI sample results. In accordance with the SMP, following excavation, the stockpiles of this historic fill soil were sampled before reusing as backfill in the SA-6 North excavations. Results confirmed that hexavalent chromium concentrations were below 20 mg/kg. Following removal of the Area 1N overburden soils, the cap subgrade was graded and compacted in accordance with the lines, grades and compaction requirements indicated in the Final 100% Design and DC 054.6 dated September 2016.

8.5 EXCAVATION EXTENT SURVEYING AND EXCAVATION COMPLETION CONFIRMATION

As discussed in Section 8.2, post-excavation equivalent samples collected during the RI and PDI established the horizontal and vertical limits of the chromium-impacted soils for most of the site and, thus, defined the extent of the excavations at SA-6 North. On January 30, 2012, Honeywell submitted a request and justification for a

variance in post-excavation sidewall (1 per 30 linear feet) and bottom sample (1 per 900 square feet) frequencies for SA-6 North to the default frequency mandated in the TRSR. While most excavation sidewall and bottom sample frequencies met these default criteria, there were a few locations where the frequencies did not meet the criteria. However, Honeywell showed in the variance request that, taken as a whole, the average sample spacing met the criteria. Further, Honeywell supported the variance request in the January 30, 2012 submittal with the following justification:

- The remedy is focused on a single contaminant, hexavalent chromium. This eliminates the possibility that another contaminant that could potentially have been present would be missed by applying the proposed sampling frequency.
- Soils impacted by hexavalent chromium can easily be identified based on color and texture, and therefore, can be managed appropriately should any such soils be encountered in the area characterized using the proposed spacing.
- Because the remediation areas will be dewatered prior to excavation, visual examination of the sidewalls and excavation bottoms will be feasible and the presence of any hexavalent chromium impacted materials will be easily identified. If necessary, additional sampling and/or remediation will be conducted, should any such materials be identified.

NJDEP approved the alternative post-excavation sidewall and bottom sample frequencies in a letter, dated February 16, 2012. Section 5.0 documents supplemental sampling conducted in excavations EA-1 and EA-5 due to the observance of anomalous material in isolated sidewall locations in those areas and at EA-2 where PDI sampling could not be fully completed due to a previous building interference in an isolated portion of that area. Section 8.6 documents additional sampling conducted in excavation EA-8 where the excavation limits could not be fully defined during the PDI due to the steepness of the slope along the Hackensack River embankment. Additionally, post-excavation samples were collected in EA-8 due to visual identification of anomalous material requiring additional horizontal and vertical delineation samples to define the excavation limits of this expanded area. The PDI sample data are included as Appendix B to the SA-6 North 100% Design and the location of the PDI samples are shown on drawings C-111,

Excavation Plan for Excavations Areas 1, 2/3, 4 and 5 and C-112, Excavation Plan for Excavations Areas 7 and 8, in **Appendix C** to this CCR.

Following the excavation in each excavation area, the horizontal and vertical extents of the completed excavations were surveyed and Honeywell periodically submitted excavation completion documentation to the Special Master and Plaintiffs prior to commencing backfilling. See Attachment F to Declaration No. 3 in **Appendix T**. The submittals summarized the activities undertaken to complete the excavation and included the following Engineer's certification:

> "Amec inspectors certify to the best of our technical ability that impacted soils as defined in the 100% Design Report have been removed and that the requirements to allow backfilling had been met."

Honeywell also noted, where applicable/appropriate, that the excavation terminated [by depth] in the Stratum D and provided an Excavation Bottom Map that included the surveyed post-excavation bottom elevations for each excavation area. Honeywell further stated that the contractor was ready to backfill the respective excavations. During the course of the excavation, the Special Master acknowledged receipt of Honeywell's submittals and the notification that the contractor was ready to backfill.

Surveying of the final "as-built" horizontal and vertical extent of the excavations was conducted by Maser Consulting P.A. (Maser) of Marmora, New Jersey. R. Thomas Hugg, a New Jersey Professional Land Surveyor, certified record drawings surveyed by Maser. Record Drawings are discussed and presented in Section 19.

Maser also surveyed the position and elevation of each PDI post-excavation equivalent soil sample to verify that the excavation was carried to or beyond the confirmatory points and tabulated the survey information. The table is provided in **Appendix C**.

For each excavation area, the table provides:

- The coordinates of the PDI bottom samples and a comparison of the actual excavation elevation to the targeted (design) elevation at the established PDI bottom sample locations; and

- The coordinates of the PDI sidewall samples and a comparison of the actual excavation elevation to the targeted (design) elevation at the established PDI sidewall sample locations.

8.6 ADDITIONAL SAMPLING AT EXCAVATION EA-8

The PDI investigation at EA-8 that was submitted in the SA-6 North 100% Design Report indicated the area boundaries, but not the final depths of the excavation. The geoprobe access to this area during the PDI had been limited due to a steep slope to the Hackensack River and active operations and storage by JCDPW. Therefore, the SA-6 North 100% Design Report detailed that additional vertical sampling be performed once the excavation footprint was advanced to elevation 7 feet based on the NGVD29 datum. Once that elevation was reached, nine post-excavation soil samples were collected on June 25-26, 2015 throughout the footprint of the excavation to establish the limits of excavation below elevation 7 based on the NGVD29 datum. As shown on **Table 7A**, hexavalent chromium was detected >20 mg/kg in some of the soil samples. Therefore, additional excavation was conducted to elevations 3.7 feet and 2.0 feet based on the NGVD29 datum in sub-areas designated EA-8 Area 1 and EA-8 Area 2 as shown on **Figure 11A**. Confirmation samples were collected on July 23, 2015.

During the inspection of the EA-8 Area 1 limits, an area of anomalous material was identified in the southern sidewall. Therefore, additional soil sampling and excavation was conducted in sub-areas designated EA-8 Areas 3 and 4 to elevation 1.6 feet based on the NGVD29 datum. Additional confirmation samples were collected on August 12, 2015, October 21, 2015, and November 12, 2015. The analytical results are included in **Table 7A**. The final vertical and horizontal excavation limits of EA-8 were documented in DC 2015-11-30.

Additional anomalous material was visually identified in the southwestern sidewall near 087-SB-102, which required sub-area EA-8 Area 5 to be expanded approximately 8-10 feet to the southwest as documented in DC 2015-9-04 and DC 2015-11-18.

All sampling and analysis of samples was performed in accordance with the Data Management Plan combined for both the SA-6 South and SA-6 North Chromium Remedies which was included as Appendix H of the SA-6 North Chromium Remedy

100% Design Report. EDDs for final (<20 mg/kg for hexavalent chromium) post-excavation samples were submitted to the NJDEP as documented in **Appendix B**.

8.7 OFFSITE TRANSPORTATION AND DISPOSAL

C Material classified as hazardous waste from SA-6 North and a limited amount of excess material from SA-6 South Open Space AOC that was confirmed >1,000 mg/kg for hexavalent chromium (see Section 8.4) was loaded into tri-axle dump trucks and shipped offsite to a rail transfer station, owned by Horwith Leasing Company LLC., in Northampton, PA. The material was then subsequently trans-loaded into gondola railroad cars and transported to the contracted disposal facilities as indicated below. Gondola cars were lined with synthetic liners to contain the chromium-impacted waste during rail transport. C Material classified as non-hazardous waste from SA-6 was shipped in tri-axle dump trucks directly to Middlesex County Landfill. Approximately 10,000 tons of hazardous soils were disposed of offsite. Waste manifests are included as **Appendix K**.

Trucks were lined with synthetic liners which closed over the loads near the truck scales before leaving the work zone. Dump truck bodies were equipped with road covers which were closed over the liners before leaving the project site. Initially, trucks were decontaminated at the contamination reduction zone, and washed in a designated truck wash zone before leaving the site and entering the public roadways.

The offsite disposal facilities for chromium-impacted material were:

Disposal Facility	Material Type	Waste Classification	Weight (Tons)
Heritage/US Ecology	Chromium-Impacted C Material Excavated from the Residential Development portion of AOC-1 at SA-6 North and excess D Material (>1,000 mg/kg) from SA-6 South Open Space Area	Hazardous	10,000
Middlesex County Landfill	Chromium-Impacted C Material Excavated from the Residential Development portion of AOC-1 at SA-6 North	Non-hazardous	4,000
Bayshore Soil Management	Frac Tank Sediment & Soil	Non-hazardous	120
Clean Earth	Personal Protective Equipment	Non-hazardous	40 CYs

9.0 EXCAVATION BACKFILLING, BACKFILL COMPACTION, AND BACKFILL COMPACTION TESTING

Backfilling within the excavations in the Residential Area and the Additional Excavation Areas included the spreading/placing, compacting, and grading of backfill materials that met the Specifications 02315 and were approved by the EOR.

9.1 BACKFILL SOURCES

The majority of the SA-6 North Residential Area and the Additional Excavation Areas was backfilled with historic fill soils that were sampled and confirmed <20 mg/kg for hexavalent chromium. Approximately, 21,900 CY of historic fill were placed in the Residential Area and the Additional Excavation Areas and compacted in accordance with Specification 02315-3.12.B.5. Imported clean backfill (referred to as "Celgene material") from a construction site in Summit, New Jersey was placed as bridge lift underneath the historic fill in portions of the SA-6 North Excavation Areas. Sources of imported backfill from offsite locations were tested and analyzed to confirm the material met the NJDEP's definition of clean fill in accordance with the TRSR and did not contain hexavalent chromium above 1 mg/kg. Approximately 6,000 CY of the Celgene material were placed as bridge lift and compacted in accordance with the Specifications.

These quantities have been updated to reflect the combined imported fill from SA-6 North and SA-6 South from those reported in the Draft SA-6 South Chromium RAR that was submitted to NJDEP and all Parties in December 2016 and in the Revised Draft SA-6 South Chromium RAR that was submitted to NJDEP and all Parties in February 2017.

Source	Quarry	Material Type	Approximate Volume Imported (CYs)
Weldon	Watchung	Screenings	83,500
Weldon	Watchung	Quarry Process	9,300
Weldon	Watchung	DGA	300
Weldon	Lake Hopatcong	Screenings	5,300
Tilcon	Mount Hope	DGA	18,800
Tilcon	Mount Hope	1.5" Stone	4,200
Tilcon	Mount Hope	3/8" Stone	800

Source	Quarry	Material Type	Approximate Volume Imported (CYs)
Tilcon	Mount Hope	6"-18" Riprap	100
Tilcon	Mount Hope	2.5 Stone	500
Liberty Aggregates	Liberty	I-5 Structural Fill	5,000
Tilcon	Mount Hope	I-8 Structural Fill	27,000
Tilcon	Mount Hope	#57 Stone	12,300

9.2 BACKFILL TESTING

Backfill quality control testing was performed as indicated in the SA-6 North 100% Design Report. One sample for chemical analytical testing was required for each 5,000 cubic yards brought onsite to confirm the imported backfill material met the definition of clean fill in the TRSR. Analytical results for imported backfill used in the Residential Area and the Additional Excavation Areas were compared to the Residential Direct Contact Soil Remediation Standards. In addition, the SA-6 North 100% Design Report required imported fill to have a hexavalent chromium concentration of ≤1 mg/kg.

Entact collected samples of imported fill material for analysis, other than hexavalent chromium, by their subcontracted analytical laboratory, ChemTech Laboratories of Mountainside, New Jersey. Samples were submitted to Eurofins (a.k.a. Lancaster Laboratories) of Lancaster, Pennsylvania for analysis of hexavalent chromium by USEPA Method 7199.

In accordance with the SA-6 North 100% Design Report imported fill samples were analyzed for (see **Appendix L**):

- Target Compound List (TCL) VOCs by SW8260
- TCL Semivolatiles by SW8270
- Extractable Petroleum Hydrocarbons (EPH) by New Jersey extractable petroleum hydrocarbons (NJEPH) 10/08
- Target Analyte List (TAL) Metals by SW6010B/7471
- Pesticides by SW8081
- Herbicides by SW846 8151
- Polychlorinated Biphenols by SW8082

- Cyanide SW846 9012
- Hexavalent Chromium by USEPA 7199
- Synthetic Precipitation Leaching Procedure (SPLP) Metals by SW6010B/7471 only for those contaminants that exceed IGW standards.

Clean fill certifications, certifying that the soil material was virgin and free of hazardous material and contaminants were obtained from the suppliers of the imported source location and are included in **Appendix L**. Specification 02315 also required one sample of each source of imported fill to be tested for maximum dry density and optimum moisture content as determined by American Society of Testing Materials (ASTM) D 698 (Standard Proctor). The Proctor results were used by the technician conducting the compaction testing in the field to determine the degree of compaction based upon a percentage of the Proctor as specified (see Specification 02315.3.12 and **Table 9**) in the SA-6 North 100% Design Report.

9.3 CONCRETE TESTING

Onsite sources of recycled concrete from SA-6 North included:

- approximately 5,000 CYs of crushed concrete generated from demolition of the Sedimentation Basin as reported in the SA-6 South Chromium RAR; and
- approximately 5,740 CY of crushed concrete generated from various excavations as discussed below.

All concrete materials were evaluated for suitability for onsite reuse through sampling and analysis. The SMP allowed concrete meeting NJDEP reuse parameters to be reused onsite as backfill in excavations or placed in the Open Space Area with consolidated chromium-impacted soil.

Concrete sampling and analysis was conducted in accordance with the September 2013 CASP. The procedures outlined in the CASP were in accordance with the NJDEP guidance document titled *Guidance for Characterization of Concrete and Clean Material Certification for Recycling*, dated January 12, 2010 and the NJDEP guidance document titled *Alternative and Clean Fill Guidance for SRP Sites*, dated December 29, 2011 – Version 2.

Concrete samples were collected at a maximum sampling frequency of one sample for every 250 CYs of concrete. Representative samples were obtained from the concrete cross-section (including the exposed surfaces) and crushed to fit into laboratory-supplied sample containers. A total of 18 concrete samples were collected from the crushed concrete generated from demolition of the sedimentation basin and the data was reported in the SA-6 South Chromium RAR. A total of 19 concrete samples were collected from the remaining sources of recycled concrete from SA-6 North. An additional 18 concrete samples were collected for synthetic precipitation leaching procedure analysis for those instances when the IGW standards were exceeded. Concrete that met the reuse criteria was sized to 3-inch minus for reuse by Entact in accordance with the SA-6 North 100% Design Report.

Concrete samples were field screened with a photo-ionization detector (PID) and collected with a bias towards any instrument reading or visual contamination. Sample collection, preservation and handling was performed in accordance the NJDEP Field Sampling Procedures Manual, August 2005, updated 2011 (NJDEP, 2005) and the Quality Assurance Project Plan provided in Appendix H-1 of the SA-6 North Chromium Remedy 100% Design Report.

In accordance with the CASP, concrete samples were analyzed for the same parameters as those tested on imported fill materials. The concrete sample results are included in **Tables 8A through 8H**.

9.4 BACKFILLING AND COMPACTION

The SA-6 North 100% Design Specification 02201.1.01.C allowed for the use of crushed recycled concrete as bridge lift where necessary to stabilize soft or wet subgrade materials at the bottom of excavations. A Material re-use soil or the offsite sources of clean backfill indicated above in Section 9.1 were placed over the bridge lift to bring the backfill to the appropriate design grades.

Bridge lifts were initially placed in nominal 12-inch lifts and compacted with a minimum of three passes of a static steel drum roller as specified in Specification 02201.3.03 and **Table 9**. Vibratory compaction equipment was not used in the bridging lift. Based on the observation of the stability of the lift the EOR permitted increasing the lift to 18 inches using dozer placement. If the lift was stable, static rolling was initiated. In some locations, it was necessary to defer rolling until up to a 3-foot-thick bridging lift was placed due to excessive dewatering. In other

locations geotextile fabric was added between bridge lift layers or on top of the bridge lift to add additional reinforcing and material separation. Subsequent lifts of non-bridge-lift backfill materials were placed at a maximum of 12 inches thick loose lift and compacted using vibratory smooth-drum rollers to at least 95% of the maximum dry density in accordance with the Specifications 02315.3.11 and 02315.3.12 (see **Table 9)**.

Approved-for-reuse A Material (historic fill) was placed and compacted at the bottom of the excavations and buried to the maximum extent possible with at least 6 inches of imported clean backfill as needed to achieve the design grades. The variable nature of approved historic fill reuse material precluded testing for compaction using the Proctor density methods. The condition of the material was observed, unsuitable materials removed, and compaction conducted in accordance with the specified methodology using 2 to 3 passes of a vibratory roller.

9.5 IN-PLACE BACKFILL DENSITY TESTING

The in-place density of the compacted imported backfill materials was verified in the field using a nuclear surface moisture-density gauge in accordance with American Society of Testing Materials (ASTM) D 8938. Vertical V-Northeast, Inc. of Rahway, New Jersey, was subcontracted to Entact and performed compaction testing in the SA-6 North Open Space Area. Bridge lift and historic fill in the SA-6 North Residential Area and the Additional Excavation Areas were not tested for compaction. Figures showing the in-place density testing locations in the Open Space Area and tables ("Field Density Test Summary Log") summarizing the in-field density test results for each lift at these testing locations are provided in **Appendix M.** The coordinates of the testing locations and elevations of each associated lift are also provided on the Field Density Test Summary Logs. Test locations where test results showed the in-place density of the backfill material of that lift was less than 95% of the maximum dry density are also shown highlighted on the Field Density Test Summary Logs. Such lifts were re-compacted and retested until the in-field density results met the criterion.

10.0 CONTAINMENT SYSTEM CONSTRUCTION

In accordance with the SA-6 North Consent Decree and the SA-6 North 100% Design Report, the Chromium Remedy for the Open Space Area includes a containment system consisting of a hydraulic barrier, a RCRA-equivalent cap (Cap), and a contingent groundwater extraction system to provide hydraulic control of shallow groundwater. The objectives of the containment system are to physically separate chromium-impacted soils within the Open Space Area from the adjacent Residential Area and SA-7; to prevent the horizontal migration of contaminated groundwater out of the Open Space Area; and to limit infiltration of precipitation into the chromium-impacted soil within the Open Space Area.

Major containment system construction activities included:

- Installation of Hydraulic Barrier along Open Space Area and Trash Pit;
- Vibration Monitoring;
- Consolidation of Chromium-Impacted Soil Excavated from the Residential Area and the Additional Excavation Areas;
- Construction of the Contingent Groundwater Extraction System Construction;
- Surcharging of soils in the Open Space Cap Area;
- Stratum D Repair in Open Space Area and Trash Pit; and
- Construction of the RCRA-equivalent Cap in the Open Space Area.

10.1 HYDRAULIC BARRIER INSTALLATION ALONG OPEN SPACE AREA

The hydraulic barrier at SA-6 North consisting of steel sheetpile with sealed joints was installed around the eastern, northern, and western perimeters of the Open Space Area in accordance with the SA-6 North 100% Design, Technical Specification Section 02170, and DCs 2013-8-14 (HB Wall), 2014-8-13, 2014-9-2, and 2015-03-30. The hydraulic barrier is connected to the existing SA-7 SCB on the southern boundary of SA-6 North and keyed into the Meadow Mat (Stratum D) or Stratum O to establish the integrity of the seal between the vertical wall and the underlying Stratum D confining layer. The western hydraulic barrier was installed

approximately 100 feet inboard of the bulkhead at the chromium delineation boundary.

The sheetpile for the hydraulic barrier was installed using an ABI Mobilram with a high frequency vibratory driver. Prior to driving the sheets, pre-trenching was conducted to approximately 4 to 5 feet bgs along the hydraulic barrier alignment to remove debris that could inhibit sheetpile driving. Material removed during the pre-trenching was consolidated in the Open Space Area.

An abandoned 54-inch RCP ran from the southwest corner of the former JCMUA sedimentation basin to an outfall structure at the Hackensack River. During the pre-trench excavation, the sections of pipe that crossed the western section of hydraulic barrier alignment were removed. A flowable fill concrete plug was installed in the down gradient side between the hydraulic barrier alignment and outfall structure. The 54-inch pipe within the Open Space Area was crushed in place and then backfilled with granular fill. This fill was used as a "French drain" for groundwater control west of the sedimentation basin pending installation of the contingent groundwater system collection trench west of the sedimentation basin.

The sheet piling was 1907 Hoesch Larssen Z Series sheetpile. The length of sheets varied along the alignment subject to the final design top elevation, the depth to Stratum D, and temporary support stability requirements. Sheets were fabricated and supplied to the site at specific lengths based upon the design profiles. The majority of sheetpile was delivered to the site in welded pairs. Single sheets and fabricated special sheets were used at specific locations. Sheet welding and epoxy coating was conducted by Durabond at their Steelton, Pennsylvania facility. Specifications 02170.1.01. and 02180.6.1.01.A (see **Table 9)** required application of an epoxy coating from the top of the sheet to a length equivalent of 2 feet into the Stratum D. Where longer sheets were used for structural purposes (i.e. to facilitate temporary excavation) the section of sheet below the 2 feet key did not require coating. The intent of the epoxy coating is to extend the life of the hydraulic barrier. Independent QA was performed at the Durabond facility to verify conformance with the specified requirements.

To meet the permeability objectives of the hydraulic barrier, the joints between the welded pairs were sealed with either a hydrophilic sealant or a cement bentonite grout between Station 0+00 and Station 5+00 (east wall and eastern portion of north

wall) and with hydrophilic sealant between Station 5+00 and Station 23+38. The type of sealant was based on the pH in the groundwater along the alignment. Record drawings of the sheetpile plan and profile are included in **Appendix N**.

As indicated in Section 2.9, supplemental pH testing of groundwater was conducted as part of the site preparation activities along limited sections of the hydraulic barrier alignment that were accessible outside of existing buildings and associated structures as shown on **Figure 6**. In accordance with the SA-6 North 100% Design Report either a bentonite grout mix or hydrophilic seal was utilized on the sheetpile depending on the pH of the groundwater.

To achieve a continuous barrier around the Open Space Area, the hydraulic barrier was connected to the northeast and northwest corners of the SA-7 SCB wall using a grouted connection. These connections were made by drilling a series of 6-inch diameter boreholes at the connection point using a track mounted drill rig fitted with a continuous flight hollow stem auger. The auger was advanced into the Stratum D and a Cement Bentonite grout was pumped from the bottom of the auger to fill the void. The closure section of the sheetpile barrier was then installed prior to the grout setting.

The toe of the wall was designed to key a minimum of 2 feet into the Stratum D. Embedment of the hydraulic barrier into the underlying Stratum D established the integrity of the seal between the vertical wall and the horizontal Stratum D confining layer. The Geotechnical Investigation Report from Appendix C of the SA-6 North 100% Design Report was used to develop an elevation profile of the top of Stratum D along the barrier wall. As noted above the sheets were fabricated and installed based on that design profile. Knowing the elevation of the top of Stratum D from the profile and the length of the sheet at any given location along the barrier wall alignment, the sheets were driven to the prescribed depth bgs (or elevation) so that the bottom of the sheets were keyed at least 2 feet into Stratum D. In EA-2/3 and EA-5 in the SA-6 North Residential Area, the excavation was carried down to Stratum D. These areas provided corroboration of the accuracy of the design Stratum D profile, and therefore confirmed that the sheet length/key and coating length were correct.

For the majority of SA-6 North, the cap to barrier wall profile is above the water table. In some utility corridors, the connection is submerged. Langan Engineering,

Inc. (Langan) of Lawrenceville, New Jersey was retained by Amec Foster Wheeler to provide third party QA on the construction of the cap components. In submerged areas, GCL was placed under the geomembrane in lieu of the gas vent layer and a sand bentonite plug was installed against the top of the sheetpile to provide for a low permeability connection. The installation of the connection detail for these areas is discussed in the Geosynthetics Quality Assurance Report prepared by Langan in **Appendix Q**.

10.2 HYDRAULIC BARRIER CONSTRUCTION ALONG TRASH PIT

The alignment of the hydraulic barrier is critically coordinated with the established northern boundary of the Open Space Area and the boundaries of the Redevelopment Area and the alignment of the future Stegman Boulevard. Thus, the alignment of the hydraulic barrier could not be altered at the Trash Pit without significant consequences to the future redevelopment configuration. Since the Trash Pit intersected the alignment of the hydraulic barrier and the hydraulic barrier alignment could not be altered in this area, the hydraulic barrier had to cut through the Trash Pit at the location prescribed in the 100% Design.

Prior to installation of the hydraulic barrier wall in the Trash Pit area, the Trash Pit was dewatered by pumping of all free liquids. The remaining debris was removed from the Trash Pit with the excavator and stockpiled within the footprint of the former JCIA basement where additional liquids could gravity drain back into the Trash Pit and continue to be pumped out. The remaining solid wastes were trucked offsite for disposal. The concrete walls of the trash pit were scraped clean to allow for the sealing of the hydraulic barrier to the walls. The top of the trash pit walls was demolished to 2 feet below the geomembrane elevation.

The bottom of the Trash Pit was pressure washed and a cofferdam consisting of "super sacks" filled with fine granular clean imported soil was installed along the north and south sides of the proposed hydraulic barrier location. A low permeability plug of AquaBlok® was installed within the cofferdam walls. The toe of the steel sheetpiles was placed into the low permeability plug and the tops were tack welded to two steel guide beams for interim support as shown on the Entact figure entitled "JCIA Trash Pit As Built Vinyl Sheetpile and Meadow Mat Repair" in **Appendix C.** The interlocks between the sheets were sealed with Swellseal WA hydrophilic sealant. The hydraulic barrier was sealed to the concrete wall on the interior of the Trash Pit with cement bentonite grout columns.

The connections at the exterior walls of the Trash Pit were sealed with a specially fabricated sheetpile inserted into overlapping cement bentonite grouted columns prior to the grout setting. Prior to backfilling the Trash Pit, the concrete walls south of the barrier wall (under the cap and inside the containment) were penetrated below the groundwater table to reduce the potential for perched groundwater in the pit under the cap. The Trash Pit was backfilled in 1-foot lifts and tamped with the bucket until the elevation of the backfill reached a point where heavy compaction equipment could be utilized. Imported clean fill was placed 2 feet directly above the AquaBlok®.

Stratum D repair near the Trash Pit was conducted as described in Section 10.8.

10.3 VIBRATION AND ACOUSTICAL MONITORING

The SA-6 North 100% Design Report mandated vibration monitoring when sheeting was being driven proximate to critical subsurface infrastructure or other features that could be damaged due to vibration. Such areas at SA-6 North are shown on **Figure 12** for acoustical monitoring or in **Appendix O** for vibration monitoring and included:

- Acoustical monitoring during hydraulic barrier wall installation adjacent to the 72-inch Force Main (**Figure 12**);
- Vibration monitoring during temporary excavation support installation near the utilities along Route 440 and EA-1, and EA-2/EA-3 (**Appendix O**);
- Vibration monitoring during barrier wall installation for the containment along Route 440 (**Appendix O**); and
- Vibration monitoring during hydraulic barrier wall installation adjacent to the 72-inch Force Main (**Appendix O**).

Honeywell's geotechnical engineering consultant, MRCE, developed the vibration limits for these sensitive areas. Seismographs were placed in proximity to the ABI Mobilram and the utility of concern. The seismographs were progressively relocated in unison with the movement of the progress of the driving. The accelerations were measured "real time." The accelerations were well below the trigger levels in the vicinity of the 72-inch Force Main.

The ABI Mobilram operator had the ability to adjust the vibration frequency and total applied energy during driving. If the trigger levels were approached, the operator adjusted the driving parameters to keep the seismograph reading below the vibration limits.

There were a number of locations along the eastern Barrier Wall adjacent to Route 440 where vibrations exceeded the trigger levels for short periods of time. In these cases, driving was immediately stopped and options evaluated. These sheets were only 15 feet in length and hence driving times typically short. The 24-inch ductile iron gas main had also been replaced and relocated to the east as part of the SA-7 remediation. Therefore, while the same trigger level was followed when driving, the risk associated with higher vibration levels was less in this area due to the gas main relocation. The exceedances were along the southern section of the Route 440 Barrier Wall closer to SA-7. With two exceptions, the sheets were successfully driven by either frequency modification or adding water to the pretrench. In one location one pair of sheets reached practical refusal slightly above the design depth. Review of the geologic profile indicated that an adequate 2 feet key had been achieved and the sheets were left high. This change was documented in DC 2015-07-31. At a second location, practical refusal was encountered at a shallower depth. At this location, further investigation identified a piece of concrete slab below the pre-trench level. The concrete was removed and the barrier wall installation completed without any further exceedances. Vibration monitoring results are provided in **Appendix O**.

10.4 SOILS CONSOLIDATED IN OPEN SPACE AREA

The Chromium Remedy allowed for the consolidation of soil excavated from the SA-6 North Residential Area, the Additional Excavation Areas, and SA-6 South Development AOC with hexavalent chromium concentrations of 20 to 240 mg/kg (B Material) as shown on **Table 6C** to be placed in the SA-6 North Open Space Area below the cap. The total volume of soils excavated from the SA-6 South Development AOC placed in the SA-6 North Open Space Area was approximately 35,000 CYs.

Soils placed within the SA-6 North Open Space Area were compacted as required by Specification 01600 (see **Table 9**) to create a stable subgrade for the capping system. In accordance with Paragraph 56(d) of the SA-6 North Consent Decree, debris, or deleterious materials that could interfere with compaction was not placed under the cap. Compaction was typically performed using a vibratory steel drum roller. The

subgrade was proof rolled with the roller operating in static mode loaded to provide a 1 ton per square foot (2,000 pounds per square foot), or equivalent, loading to the subgrade. The roller traversed over the subgrade materials until no further significant rutting or deformation of the subgrade was evident. In smaller areas where the roller would not fit (such as adjacent to the hydraulic barrier wall or adjacent to wells or surcharge monitoring instrumentation), a plate compactor was utilized to provide compaction. Subgrade compaction was subject to engineer's approval. Soils that were too wet to compact were either dried or treated with Calciment® to reduce moisture content and increase strength to meet the specified criteria. The grading of the consolidated soils met the grading requirements in the SA-6 North 100% Design Report.

10.5 CONTINGENT GROUNDWATER EXTRACTION SYSTEM CONSTRUCTION

The SA-6 North 100% Design Report included a conceptual groundwater extraction design based on vertically-installed wells. The SA-6 North 100% Design Report also indicated that the conceptual design would be subject to further evaluation and possible change. Based on that further evaluation it was determined that a trench system would be more effective in the variable fill above the Stratum D. DC 2014-3-25 documents the change to the trench design. The collection trench was installed prior to surcharging. The contingent groundwater extraction trench is shown on **Figure 10**. A Record Drawing is also contained in **Appendix C**. The system will only operate as necessary to comply with the groundwater capture and gradient requirements noted in Paragraph 58 of the SA-6 North Consent Decree.

Specification 02140.3.01 required that the water table be controlled during construction of the cap to maintain an inward gradient from SA-7 to the south and the Residential Area to the north (see **Table 9**). Pumping from the collection trench and other temporary trenches within the Open Space Area was initiated prior to cap placement to control groundwater levels and terminated in October 2016 after all Open Space Area cap work was completed. Evaluation of preliminary groundwater level monitoring results was discussed in Section 6.4.

The North contingent groundwater system consists of two trenches with 8-inch perforated HDPE conveyance pipe. One trench is east of the Sedimentation Basin. It consists of two "legs." One leg runs approximately 150 feet west from Pump Station #2. The second leg runs approximately 500 feet to the east of Pump Station #2.

The second trench in the western portion of the site also has two "legs." One leg runs from the Pump Station #1 west 650 feet towards the Hackensack River end of the Open Space Area. The second leg extends south from the Pump Station and then runs east between the south edge of the sedimentation basin and the SA-7 SCB wall. The second leg is approximately 350 feet long.

The HDPE pipe was placed on top of 6 inches (nominally) of clean crushed stone and was covered with additional stone to depths in accordance with the above-referenced DC. Geotextile fabric was placed across the top of the trench to prevent vertical migration of fines into the trench. As shown on the Record Drawing in **Appendix C**, the perforated piping is connected to an extraction manhole located in each trench. Access structures are installed at the end of each trench to provide access for maintenance, if required. A double walled conveyance force main runs from each extraction manhole to the GWTP. The force main discharge point was changed from the JCMUA grit chamber to the GWTP, as indicated in DC 2016-12-20. Electrical and instrumentation conduits were also installed between each pump station and the GWTP as shown on the drawing Contingent Groundwater Extraction System, North Cap in **Appendix C**.

The groundwater model predicts that the inward gradient can be maintained by passive means (i.e. without active pumping). In the event it is necessary to implement active pumping, pumps along with the requisite electrical and instrumentation wiring and controls have been installed in the two extraction manholes in the two separate extraction trenches.

10.6 SURCHARGE PROGRAM

The existing surface grade of the Open Space Area generally varied between elevation 12 and elevation 16 based on the NGVD29 datum. The maximum "redevelopment grade" at the Open Space Area is elevation 23 based on the NGVD29 datum. Engineering calculations indicated that up to approximately 10 inches of settlement could result due to the increased load resulting from the increase in grade. That settlement was estimated to be primarily through consolidation of the underlying compressible Stratum O and Stratum D Soils. A decision was made based on this potential settlement, to surcharge the site to remove 100% of the primary consolidation attributable to the Development Area grade loading, prior to placement of the cap.

The surcharge program was designed to be completed in a sequenced manner starting from 1N and moving east to 4N (see **Illustration 5**).

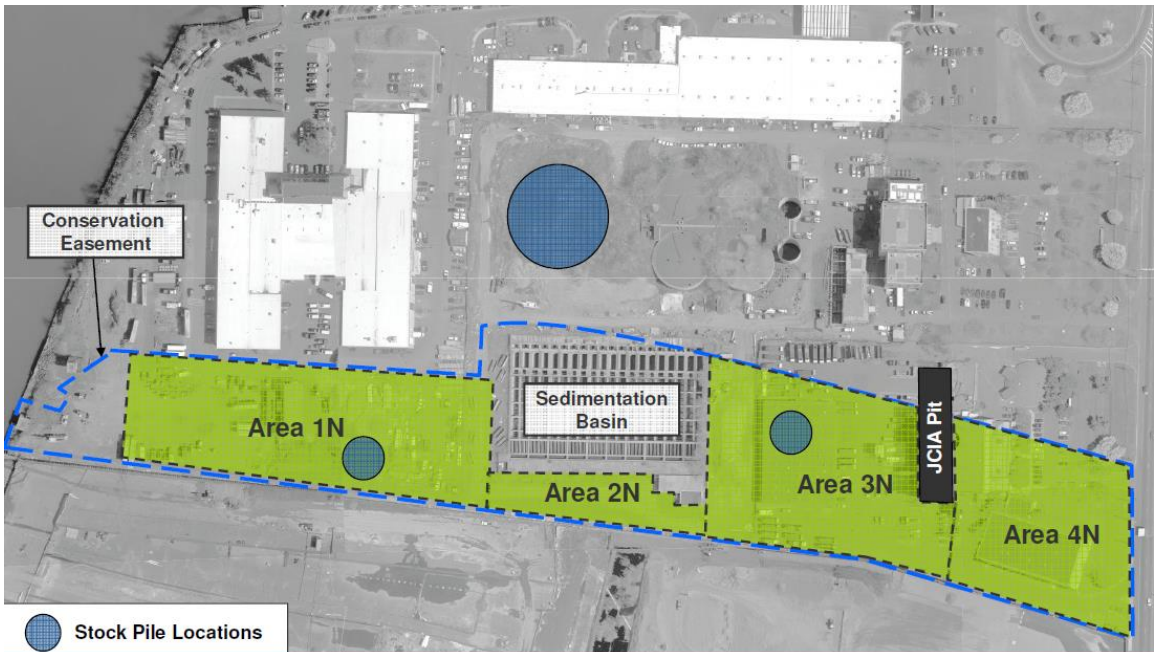

Illustration 5: Surcharge Loading Plan

The surcharge loads pile geometry was designed to achieve settlement as a result of primary consolidation in a period of approximately 6 months. Surcharge pile geometry was included in the SA-6 North 100% Design Report. The actual time required for the individual areas was determined by the results of the Surcharge Monitoring Plan. The Surcharge Monitoring Plan was provided in Appendix N of the SA-6 North 100% Design Report.

A Surcharge Monitoring report summarizing the results of the surcharge program for SA-6 North and SA-6 South was generated on a monthly basis during active surcharging. The Surcharge Monitoring Report included in **Appendix P** indicates that 100% of primary consolidation was achieved at the monitoring locations.

Upon completion of the analysis and verification by Amec Foster Wheeler that surcharge objectives were met, data packages were sent to MRCE for third party review. The dates of surcharging and third party agreement of completion are:

Surcharge Area	Initiation Date	Completion Date	MRCE Agreement
1N	April 2014	July 2014	August 8, 2014
2N	September 2014	November 2014	November 21, 2014
3N	November 2015	January 2016	March 29, 2016
4N	January 2016	January 2016	March 29, 2016

Following completion of the Surcharge Program, excess surcharge material was removed and the subgrade prepared for deployment of the cap geosynthetics.

10.7 STRATUM D REPAIR

During the development of the 100% Design, a geotechnical investigation was conducted to determine the elevation and thickness of the meadow mat (Stratum D) that underlies SA-6 North. A Geotechnical Investigation Report (Geotechnical Report) was included as Appendix C of the SA-6 North Chromium Remedy 100% Design Report and provided the details of the characteristics and incidence of Stratum D. In summary, Stratum D is a native marsh deposit consisting of organic silt/clay and peat with a range of measured permeability on the order of 1×10^{-7} to 1×10^{-8} cm/sec (as reported in the Geotechnical Report). Due to its low permeability, Stratum D plays an important role in preventing vertical migration of contaminants from the fill material overlying Stratum D in the Residential Area to the native material aquifer below and establishing hydrogeologic flow characteristics of the shallow groundwater perched atop the Stratum D. Therefore, the repair of Stratum D at any breaches or discontinuities in the Stratum D in the Residential Area, as described below and in Section 10.8, was necessary to maintain integrity of the Stratum D as a confining layer in the Residential Area.

The SA-6 North Geotechnical Report documented breaches of the Stratum D. As a result, the SA-6 North 100% Design required repair of the Stratum D in accordance with Specification Section 02180.8 Special Instructions – Repair of Stratum D on SA-6 North. During the course of chromium-impacted soil excavation activities at SA-6 North, repairs to Stratum D were necessary in the following situations:

- On several occasions pilings that penetrated the Stratum D were removed inadvertently in the excavation process, and

- In several locations, vertical cracks were observed in the Stratum D.

In each Stratum D repair location, GCL was placed over, and extended at least 3 feet beyond the repair area to provide continuity to the Stratum D layer. The locations of the repairs were noted on the Entact figure titled SA6 North Cap Panel Layout 60 mil Textured LLDPE Geomembrane in **Appendix C**.

Prior to installation of the GCL outside of the Trash Pit area, overburden soils were excavated and vinyl sheeting was driven into the existing Stratum D. The vinyl sheeting interlock abuts the hydraulic barrier wall and is connected to the hydraulic barrier wall by Swell Seal and 1-inch grouted column driven to a depth of 11 feet.

10.8 STRATUM D REPAIR JCIA TRASH PIT AREA

As indicated in Section 10.1.8 of the SA-6 North 100% Design Report it had been determined that the Stratum D layer was absent in a 25-30 feet halo around the JCIA Trash Pit. It is believed that portions of the Stratum D were removed during the construction of the Trash Pit. The SA-6 North 100% Design Report required development of means and methods for restoring the layer following Contractor selection, and inclusion of those details in the Issued for Construction design (IFC). As a result of development of contractor means and methods, a modified repair scope was developed and shown on Drawing SN-302 of the IFC drawings. The modified IFC design was based on not conducting any repairs on the south side of the barrier wall (i.e. within the Open Space Area). The IFC design called for repair of the Stratum D North of the barrier wall. The repair consisted of three major steps:

- Excavation of the area to elevation 4 based on the NGVD29 datum.
- Installation of sealed vinyl sheetpile from elevation 4 based on the NGVD29 datum and keyed into the Stratum D. The alignment was selected based on boring data and the interpreted limits of Stratum D.
- Placement of a GCL cap at elevation 4 based on the NGVD29 datum. The GCL extended from the concrete Trash Pit structure to the vinyl sheetpile. The GCL was connected to the sheetpile by means of a sand bentonite plug.

During installation of the vinyl sheetpile, a significant number of timber piles were encountered on the proposed alignment. To avoid removal of these piles the

sheetpile was realigned to avoid the piles. DC 2015-10-22, was issued to document the location of the piles and the final alignment. These conditions are also documented in the Entact figure titled JCIA Trash Pit As Built Vinyl Sheetpile and Meadow Mat Repair (**Appendix C**).

10.9 CAP CONSTRUCTION

As stated in Section 10.1 above, Langan was retained by Amec Foster Wheeler to provide third party QA on the construction of the cap components. This Section provides a summary of the cap construction and third party QA testing performed. A full detailed explanation, including step-by-step construction sequencing and procedures, photographs of cap elements, and a full description of QA testing procedures and results is contained in the Langan Cap Geosynthetic Quality Assurance (QA) Report for Study Area 6 North ("Langan Report"), (**Appendix Q**).

The Chromium Remedy included a RCRA-equivalent geosynthetic cap system including; a methane GVL to address the potential release of naturally occurring methane, 60 mil Linear Low Density Polyethylene (LLDPE) geomembrane, GDL and cover soils to protect the geosynthetic components and support plant growth. Cap construction proceeded from west to east at SA-6 North, starting on June 22, 2016. The construction of the geosynthetic cap system was completed on August 19, 2016.

The licensed surveyor (Maser) provided survey of the construction control grid and verification that the subgrade was graded in accordance with the SA-6 North 100% Design. Amec Foster Wheeler conducted QA review of the geosynthetics manufacturer submittals, prepared the receiving records for geosynthetics delivered to the site, and provided QA approval of spark testing for all cap penetrations.

Langan provided third party QA on the construction of the geosynthetic cap components. Langan provided a final report of their QA inspection and evaluation of the cap construction which is contained in **Appendix Q**.

The following process was utilized for construction of the cap within the Open Space Area:

- Verification survey by Maser of the cap subgrade;

- Certification by the installation contractor (ESI) and Langan that the subgrade surface was suitable for geosynthetic deployment;
- Install cap geosynthetics (gas venting layer, geomembrane liner, geocomposite drainage layer) in the Open Space Area;
- QA/QC of placed geosynthetics;
- Spark testing of cap penetrations. Spark testing was conducted in accordance with DC 2015-12-14;
- Install Warning Layer;
- Placement of protective cover soil;
- Placement of root barrier and additional warning tape installed above the root barrier in accordance with DC 2015-10-02;
- Placement of imported clean soil of the type required to the design thicknesses and grades; and
- Seeding and or gravel placement to serve as final cover pending redevelopment.

Figures 13 and 14 graphically portray the chromium remedy components including the cap details.

The final design of the Bayfront Redevelopment includes roadways that traverse the Open Space Area in a North-South alignment. The geosynthetic cap system was designed to accommodate future utilities in the roadways traversing the SA-6 North Open Space Area. The locations and design of the utility corridors were coordinated with the future Bayfront Redevelopment design and were in accordance with the SA-6 North Consent Decree. The locations of utility corridors are shown on **Figure 15**. The liner grades provide a minimum of 3 feet between the Bayfront Redevelopment road surface and the liner. The 3-feet criterion was established by Amec Foster Wheeler based on a conservative approach utilizing Bayfront Redevelopment planned traffic flows and a typical Municipal pavement design that was consistent with the road designation/traffic loadings. In areas designated as future roadways either imported NJ I-5 or NJ I-8 was placed as "Structural Fill under Roadways" above the cap components per Specification 02315.2.05 (see **Table 9)**.

Following surcharge, approximately 2 feet of less than 20 mg/kg hexavalent chromium overburden soils were stripped from Area 1N in accordance with SA-6 North Consent Decree paragraph 56(d) and DC 2015-9-02, to create additional capacity for the consolidation of 20-240 mg/kg hexavalent chromium-impacted soils within the SA-6 North Open Space Area. The excavated overburden soils were reused as backfill in the SA-6 North Additional Excavation Areas, as documented in Declaration #3. Following removal of the Area 1N overburden soils, the cap area was graded and compacted in accordance with the lines, grades and compaction requirements indicated in the Final SA-6 North 100% Design and Design Change DC 2016-7-14. Subgrade preparation was performed between April 20, 2016 and August 13, 2016. To document compliance with the grading requirements, a Construction Control Grid was established consistent with Specification 01460.1.04 (see **Table 9)**. The Construction Control Grid is included in **Appendix C**. Also included are summary tables prepared by Maser Consulting PA (NJ licensed surveyor) comparing the design grades and actual grades at the Construction Control Grid nodes are included in Appendix C confirming that all nodes were within tolerance. A topographic survey of the SA-6 North subgrade to show as-built geomembrane grading elevations within the SA-6 North Cap Area was prepared by Maser (C-123 and 124, **Appendix C**).

Installation of the cap geosynthetics followed Maser certification that the subgrade surface conformed to the specified Construction Control Grid. Amec Foster Wheeler provided quality assurance ("QA") approval of Maser's documented subgrade elevations prior to issuing to Langan for approval for geosynthetics deployment. In addition, as part of the subgrade approvals, Amec Foster Wheeler provided QA approval of the sand bentonite Geosynthetic Clay Liner ("GCL") to barrier wall connections (signed GCL to barrier wall logs are included in Appendix F of the Langan Report. Amec Foster Wheeler also provided QA approval of spark testing for all cap penetrations. Signed spark test logs are included as Appendix O in the Langan Report. Spark testing in the SA-6 North cap area was conducted in accordance with DC 2015-12-14. The Langan Report is included as **Appendix Q**.

The cap geosynthetics were placed between June 22, 2016 and August 19, 2016. The cap geosynthetics included components that were designed to meet the technical requirements of Section 56(a) of the SA-6 North Consent Decree. The gap geosynthetics scope included the following key tasks:

- Subgrade inspection for acceptability prior to geosynthetics deployment,
- Gas Vent/Geotextile and GCL installation over the subgrade and under the geomembrane,
- Geomembrane Installation-60 mil LLDPE,
- Spark testing of cap penetrations,
- Geocomposite drainage/warning layer installation, and
- Warning tape installation.

The top component of the GDL is comprised of a high visibility orange non-woven geotextile liner that met the visibility requirements of the SA-6 North Consent Decree. Yellow polyethylene, direct burial tape, with black lettered warning language, was installed every 5 feet on center on top of the GDL and also on top of the root barrier perpendicular to the lower elevation installed tape.

Honeywell contracted with Langan to provide Independent QA for the SA-6 cap geosynthetics installation. As the Independent QA Engineer, Langan performed the QA activities specified in the Langan Report, including monitoring, field oversight, and documentation. The Langan Report documents the results of the QA Geosynthetic activities conducted during the construction of the cap at SA-6 North by both Langan and Amec Foster Wheeler field personnel. Refer to the Construction Quality Assurance (CQA) Plan prepared by Langan in June 2015 (attached as Appendix B to the Langan Report) for a description of the scope of work conducted by Langan, as well as the roles and responsibilities of the owner, EOR, earthwork contractor, and liner contractor. DCBs and RFIs which were generated subsequent to the 100% Design, and relevant to the QA scope of work were reviewed and approved by the EOR, and are further summarized in this CCR.

The Langan Report specifically included the following documentation of the cap construction activities:

- Relevant Record Drawings;
- Summary of the various phases of the work observed as part of the QA program;

- Daily QA Reports indicating the work activities completed each day and other pertinent information;
- Daily cap construction forms submitted by the Geosynthetic Installer which included:
    - Repair Reports, Trial Weld Logs, Panel Placement Forms, Seam Control Forms, Destructive & Non-Destructive Test Forms, and Subgrade Approval Forms;
    - Field testing results for fusion welds and extrusion welds;
    - Laboratory testing results for the destructive samples collected (i.e., fusion & extrusion welds); and
    - Photographs depicting daily work activities and the various phases of the capping activities.

The Langan Report certifies that placement of the SA-6 North cap geosynthetics was completed in compliance with the construction design documents (**Appendix Q**).

Acceptance of the geosynthetic materials used for the SA-6 North Cap Construction was completed by Amec Foster Wheeler based on the results of the manufacturer's production quality testing (AGRU America, Inc. and their subcontracted companies). The Amec Foster Wheeler Engineer of Record provided a full-time site Geosynthetics Inspector to inspect materials deployment, installation and documentation for compliance with the Final SA-6 North 100% Design of the capping system. The Geosynthetics Inspector observed the placement of the GDL cover soil to verify that the soil was placed in accordance with the Earthwork and GDL Specifications (02315 and 02374, respectively) and that the GDL was not damaged or unnecessarily stressed. The GDL cover soil is included in Declaration No. 5 which is included as a draft in this CCR (see **Appendix T**). The Geosynthetics Inspector also observed the fabrication, spark testing, installation and extrusion welding and vacuum testing of all boots.

QC for geosynthetics installation was provided by Entact and their specialty installer ESI. Entact also contracted with Geotechnics, Inc. to conduct the specified offsite laboratory testing required as part of the capping project, such as destructive seam testing. All ESI field QC and Geotechnics laboratory tests are incorporated into the Langan Report and are the subject of the Langan QA Certification. Langan

offsite QA laboratory testing was completed by TRI Environmental, Inc. The Langan Report and the Langan engineer certification are included in **Appendix Q**. As-built drawings of the cap geosynthetics (i.e., 60 mil Textured LLDPE Geomembrane, Gas vent Layer/Geosynthetic Clay Liner (GVL/GCL) Layout, Geocomposite Drainage Layer (GDL) Layout) are included as **Appendix C**. In accordance with the SA-6 North Consent Decree, a minimum thickness of 1 foot of clean soil (in areas to be paved) and 2 feet of clean soils (in other unpaved areas) were placed above the geomembrane liner. More clean soils may have actually been placed depending on the final surface grade features. The SA-6 North Consent Decree required an average thickness of clean cover soil above the geomembrane of 3 feet. The actual average thickness is 4.4 feet.

A woven geotextile root barrier was installed within the Open Space Area. At least 6 inches of Horizon C soil was placed immediately above the root barrier and compacted to 90% of the maximum dry density as measured by ASTM D-698 (Standard Proctor). Additional Horizon C, and 6 inches of topsoil (Horizon A) were placed to complete the cover soil build up. Analytical sample results of the Horizon soils are also included in the Backfill Sample Comparison to NJDEP Standards table in **Appendix L**. The approximate volumes of cap cover soils imported and placed above the cap components were as follows:

Material Layer	Vendor/Source	Approximate Volume Imported (CYs)
GDL Cover Soil	Celgene	17,700
Structural Fill under Roadways	Tilcon Mount Hope	16,200
Horizon A - Topsoil	Nature's Choice	800
Horizon A - Topsoil	Excavating Materials & Equipment, Inc. (EME)	9,000
Horizon C	Nature's Choice	15,000

The average and minimum thickness of the cap cover soils meet the requirements of Section 56 (c) of the SA-6 North Consent Decree. The root barrier was installed over the entire cap area. Structural fill under roadways was placed in roadways above the protective cover soil. The placement of the root barrier, warning tape and Structural fill under Roadways meets the provisions of the OSDS, Appendix L of the SA-6 North 100% Design Report. As-built surveys of the top of the root barrier and structural fill as-built drawings are included in **Appendix C**.

Throughout the work, the amount of cover soil varied. As work advanced in some places the LLDPE required repairs. All repairs were completed by the end of August 2016. All repairs are detailed in the Langan Report (**Appendix Q)**, including Section 2.4.4.4.

The cap was designed with consideration of grading, drainage, and groundwater management provisions of the adjacent SA-7 site.

The methane vents extend from the geocomposite drainage, gas collection layer below the geomembrane liner through the cover soils to the atmosphere. See the Gas Vent Detail figure in **Appendix C** for details of construction.

11.0 PERIMETER AIR MONITORING

As part of the Health and Safety monitoring conducted during remediation, air monitoring around the perimeter of SA-6 North was implemented by Emilcott Associates, Inc., on behalf of Honeywell, to assess in an ongoing manner that COCs did not result in potential exposures to the surrounding public. Honeywell maintains a website at the following URL: www.jerseycitychromiumcleanup.com, which provided daily updates with perimeter air data and other information during the implementation of the SA-6 Chromium Remedy. Any changes to the website or url will be addressed as part of Long Term Monitoring activities pursuant to the LTMP. **Tables 1A and 1B** contain the baseline and project data.

The primary COC, potentially found in dust from activities occurring at Sa-6 North, was hexavalent chromium. Action levels determined for the SA-6 North project included 221.0 micrograms per cubic meter ($\mu g/m^3$) for air-borne dust. The air monitoring level was based on the potential for encountering lead dust in discrete areas of SA-6 North. Preventative measures taken to control the generation of dust were conducted per the PAMP and HASPs. In order to assess the potential presence of hexavalent chromium in dust, the perimeter air monitoring stations were located throughout the multi-phase excavation activities using a grid system as shown on **Figure 4**. The points were determined by the PAMP and the Honeywell onsite representative based on the location of soil disturbance activities, prevailing wind direction, and field conditions.

PAMP data is included on **Tables 1A and 1B**. Baseline PAMP data was discussed and presented in Section 2.3. In the course of the project, there were no recorded employee exposures above the OSHA Permissible Exposure Limit. The highest total particulate detection at SA-6 North was on July 22, 2016 at 180 $\mu g/m^3$ (below operative action level of 221 $\mu g/m^3$) where the corresponding hexavalent chromium sample was not detected. The highest hexavalent chromium detection was on August 8, 2016 at 36 nanograms per cubic meter where the corresponding particulate detection was 79 $\mu g/m^3$.

12.0 IN-SITU TREATMENT

Although not specifically proposed in the NJDEP-approved RAWP, the RAWP indicated that in-situ treatment of chromium-impacted soils would be further evaluated as an option to address chromium-impacted soil in the Residential Area and the Additional Excavation Areas, where excavation was technically impracticable. This included areas adjacent to active pipelines and utilities. Three such areas, called treatment areas (TA), were subsequently identified upon further evaluation of the data and discussions with the Jersey City Entities about the need to maintain critical infrastructure for their ongoing operations at SA-6 North. These areas were identified as Treatment Areas (TA) TA-7, TA-8, and TA-10-1 and are shown on **Figure 11B**. TA-7 is located immediately adjacent to two in-service above ground storage tanks on the JCMUA property and near the active 72-inch force main. TA-8 is located in the area of JCDPW and within 7 feet of a 96-inch combined sewer overflow line. TA-10-1 is located north of the northern curbline of the future Stegman Boulevard, and is adjacent to the 72-inch force main. The depth of the chromium-impacted soil and the nearby infrastructure made potential damage to the critical infrastructure during excavation a concern. Additionally, each of these areas is suitable for in-situ chemical treatment because they are geographically isolated locations, relatively small size, and exhibit lower hexavalent chromium concentrations (generally <100 mg/kg).

12.1 TA-7 AND TA-8

Honeywell implemented an initial injection program in the TA-7 and TA-8 areas in June 2013. Amec Foster Wheeler retained In-Situ Oxidative Technologies, Inc. (Isotec) of Lawrenceville, New Jersey to implement the in-situ injection of CAPS on behalf of Honeywell. The TA-7 and TA-8 in-situ injection program was implemented in accordance with the following documents:

- NJDEP Permit-by-Rule, Discharge to Groundwater Authorization, dated April 30, 2012;
- Amec's Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 2013 (Amec Revised WP); and
- Isotec's Chromium Treatment Program Operations Plan, dated April 8, 2013 (Isotec WP).

A total of 324 gallons of 29% stock CAPS was injected in TA-7 and a total of 168 gallons of 29% stock CAPS was injected in TA-8. TA-7 was approximately 560 square feet in area and 12 temporary injection points (IPs) were used to deliver the CAPs to the targeted shallow subsurface zone (2 to 4 ft bgs) and 9 temporary IPs were used to deliver the CAPs to the targeted deeper subsurface zone (16 to 18 ft bgs). TA-8 was approximately 380 square feet in area and 6 temporary IPs were used to deliver the CAPs to both subsurface zones at TA-8 (10 to 12 and 18 to 20 ft bgs).

In June 2014, Honeywell authorized Amec to collect interim performance assessment soil samples in TA-7 and TA-8. These samples were collected in accordance with the Amec Revised WP. The TA-7 and TA-8 in-situ injection program and interim soil sampling program was summarized in a technical memorandum, dated September 12, 2014, submitted by Honeywell to all Parties (see **Appendix R**). In accordance with the Consent Order requirements Honeywell implemented the 3-year post-treatment performance assessment soil sampling in TA-7 and TA-8 on June 27, 2016. The results are included on **Table 7B**. As indicated in the Amec Revised WP, all soil samples from both TA-7 and TA-8 were analyzed for hexavalent chromium, total chromium, and sulfide. All soil boring logs can be found in **Appendix H.** The TA-7 and TA-8 3-year post-treatment performance assessment soil sample results were summarized in a technical memorandum, dated August 10, 2016, submitted by Honeywell to all Parties (see **Appendix R**).

The 3-year post-treatment final performance assessment soil sampling analytical results indicated that all soil samples collected in TA-8 were <20 mg/kg for hexavalent chromium. The 3-year post-treatment final performance assessment indicated that all soil samples collected in TA-7 were <20 mg/kg for hexavalent chromium, except for one isolated location in TA-7 at a depth of 2 to 3 feet bgs which exhibited a hexavalent chromium concentration of 26.3 mg/kg. Demonstrating <20 mg/kg for hexavalent chromium in post-treatment performance assessment soil sampling conducted 3 years after injections of CAPS substantiates that return of concentrations in soils that are >20 mg/kg for hexavalent chromium, is not occurring in these treated zones.

Thus, the RAO for soils was achieved in the TA-8 area and most of the TA-7 area. Honeywell will establish a temporary deed notice for the TA-7 area until such time that the remaining chromium-impacted soils are excavated.

12.2 TA-10-1

In the *Work Plan for In-Situ Treatment of Chromium-Impacted Soils* (Appendix F of the SA-6 North 100% Design Report), the TA-10 area was originally identified as an area delineated to 20 mg/kg for hexavalent chromium covering an approximately 2,000 square foot area north of the hydraulic barrier. This proposed TA-10 injection area included both sides of the adjacent 72-inch force main which has a concrete outer shell. Due to concerns about impacts to the force main from sulfate, Honeywell reviewed the proposed injection program with NJDEP and PVSC. NJDEP and PVSC requested Honeywell to investigate alternatives to CAPS injection in TA-10. Therefore, Honeywell authorized Amec Foster Wheeler and Mutch Associates to implement a bench scale test to test the efficacy of an organic substrate in treating chromium-impacted soils in TA-10.

The bench scale test concluded that the organic substrate did not offer any significant benefit in reducing hexavalent chromium concentrations in soils. Ultimately, Honeywell and all Parties agreed that CAPS injections would be implemented only in a sub-area (called TA-10-1) located north of the northern curbline for the future Stegman Boulevard to be constructed during implementation of the Bayfront Redevelopment Plan which is approximately 25 feet north of the 72-inch force main (**Figure 11B**). This subarea is approximately 800 square feet. Honeywell and all Parties agreed that the remaining area between the Stegman Boulevard northern curbline and the northern barrier wall where chromium-impacted soils exist >20 mg/kg will be permanently deed noticed and conservation restricted as part of the Open Space Area since the soils in this remaining portion of TA-10 would not be treated, cannot be excavated, and the future Stegman Boulevard footprint will effectively cap this area.

To allay concerns for impact on the 72-inch force main due to CAPS injections in subarea TA-10-1, Honeywell agreed to monitor sulfate conditions in shallow groundwater. Honeywell installed two permanent monitoring wells (087-MW-133 and 087-MW-134) between subarea TA-10-1 and the force main. As a contingency, Honeywell further proposed that if the sulfate concentrations in either one or both of 087-MW-133 and 087-MW-134 reached a threshold level of 150 mg/L, that clean

potable water will be injected into both wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the force main. Both NJDEP and PVSC agreed that these proposed measures address their concerns about the sulfate in shallow groundwater in the vicinity of the force main. As shown in **Table 7D**, these levels were never reached.

Honeywell implemented an initial injection program in subarea TA-10-1 between August and September 2015. Amec Foster Wheeler retained ERFS of Lakewood, New Jersey to implement the in-situ injection of CAPS on behalf of Honeywell. The initial in-situ injection program was implemented in accordance with the following documents:

- NJDEP Permit-by-Rule Discharge to Groundwater Authorization, dated July 14, 2015;
- Amec Foster Wheeler's Updated Work Plan for In-Situ Treatment of Chromium Impacted Soils, dated August 2015 (Updated Work Plan); and
- ERFS' In-Situ Chemical Reduction Implementation Work Plan, dated September 2013.

This initial injection program was summarized in an October 12, 2015 technical memorandum submitted by Honeywell to all Parties (see **Appendix R**). A total of 165 gallons of 29% stock CAPS was injected in TA-10-1 during the initial injection program. TA-10-1 was approximately 800 square feet in area. Five temporary IPs were used to deliver the CAPs to the targeted shallow subsurface zone (12 to 14 ft bgs) in TA-10-1 during the initial injection program.

Following this initial injection program, post-treatment soil samples were collected in March 2016 (approximately six months after the initial injection) to provide an early indication of the efficacy of this treatment. All soil boring logs can be found in **Appendix H.** All soil samples collected from TA-10-1 were analyzed for hexavalent chromium, total chromium, and sulfide as shown on **Table 7C**. As detailed in a May 5, 2016 technical memorandum submitted to all Parties, post in-situ analytical results showed that a portion of treated were now below the 20 milligrams per kilogram (mg/kg) standard for hexavalent chromium in soil (see **Appendix R**). However, 5 out of 20 sample points continued to exceed the 20 mg/kg hexavalent chromium standard. Based on these results, Honeywell proposed a supplemental CAPS injection program to further remediate soils in these areas in the *Additional*

In-Situ Injection of Calcium Polysulfide for Treatment of Hexavalent Chromium Impacted Soils, dated July 11, 2016 (Proposed Implementation Plan) submitted by Honeywell to all Parties (see **Appendix R**). As requested in a May 23, 2016 letter from Plaintiffs, Honeywell agreed to re-inject CAPS within all five original treatment points (IPs), not just the remaining areas of soil exceedances. Modifications were made to the initial approach which included a slower and prolonged injection delivery approach over the course of several weeks through injection wells installed in the area. In contrast, the initial injection program utilized a direct-injection approach where the entire volume of CAPS solution was injected over the course of two days.

On July 28, 2016, Honeywell submitted a new NJDEP Permit-by-Rule Discharge to Groundwater (PBR-DGW) Authorization request to NJDEP to implement the proposed re-injection program based on the July 11, 2016 Proposed Implementation Plan. NJDEP issued the requested PBR-DGW on August 4, 2016.

Amec Foster Wheeler again retained ERFS to implement the additional injections. The Amec Foster Wheeler/ERFS team implemented the prolonged injection delivery program at the Site in five events separated by at least one week between September 7, 2016 and October 26, 2016. The Amec Foster Wheeler/ERFS team implemented the in-situ program in accordance with the following documents:

- Honeywell's July 11, 2016 Proposed Implementation Plan; and
- NJDEP August 4, 2016 PBR-DGW;

In addition, although not revised specifically for the 2016 re-injection program, the 2016 re-injection program followed provisions of documents previously prepared for the initial injection program since the means and methods were essentially similar.

The Proposed Implementation Plan detailed a delivery approach for the re-injection program where CAPS would be injected in specified dosages through 5 IPs in five separate events over a period of time. Thus, the IPs were installed first to facilitate the proposed dosage injections. Following installation of the IPs, the 2016 re-injection program was implemented in five injection events separated by at least a week between September 7, 2016 and October 26, 2016. A total of 825 gallons of

29% stock CAPS was injected in specified dosages during the five-event injection program.

Approximately six weeks after the final injection, Honeywell directed Amec Foster Wheeler to conduct an interim soil sampling program in the TA-10-1 area. The soil sampling program was implemented on December 5, 2016 using the same protocol as the post-treatment soil samples collected in March 2016 following the initial injection program. All soil samples were again analyzed for hexavalent chromium, total chromium, and sulfide. The interim soils data indicates successful reduction of hexavalent chromium concentrations in soils < 20 mg/kg in all but one recalcitrant location which exhibited a hexavalent chromium concentration of 33.3 mg/kg. The 2016 re-injection program, soil sample results, and the specific procedures for a supplemental re-injection program was summarized in a January 12, 2017 technical memorandum submitted by Honeywell to all Parties (see **Appendix R**).

The additional limited re-injection program proposed to address the area of hexavalent chromium exceedance was implemented by injecting a prescribed volume of CAPS into the closest IP to the one recalcitrant location in accordance with the January 12, 2017 correspondence in two events on January 26, 2017 and February 2, 2017. The resampling of the limited area of hexavalent chromium exceedance was conducted on March 13, 2017 in accordance with the January 12, 2017 correspondence. Validated analytical results were submitted to all Parties in the March 2017 monthly progress report included in Appendix T, Part 15, to this CCR. On June 21, 2017, Honeywell submitted to all Parties a proposal to collect final confirmatory soil samples in the TA-10-1 area in Spring 2018.

Honeywell will establish a deed notice for the TA-10-1 area. The TA-10-1 deed notice is identified as Deed Notice #7. Upon confirmation that hexavalent soil concentrations in TA-10-1 have been reduced to <20 mg/ Deed Notice #7 can be withdrawn.

Because of its proximity to the SA-6 North Open Space Area, the portion of TA-10 located south of the northern curbline of the future Stegman Boulevard could be incidentally impacted by Open Space Development. Therefore, this area will be incorporated into the Open Space Area deed notice and conservation restriction and shall be subject to the requirements and restrictions of the Open Space Area, including the Open Space Design Standards and the LTMP.

13.0 GWTP RELOCATION AND CONSTRUCTION

While not necessarily a direct part of the implementation of the Chromium Remedy at SA-6 North, Honeywell constructed a new GWTP on SA-6 North. The GWTP is designed to handle and treat groundwater recovered as part of the SA-7 deep overburden and bedrock groundwater remedy and will handle and treat shallow groundwater from the activation of the contingent groundwater extraction system installed within the Open Space Area. The former GWTP previously located at Site 140 on SA-6 South in the former ABR Trucking warehouse and office building was demolished to implement the SA-6 South Chromium Remedy. The former GWTP was initially built to handle and treat construction water during the SA-7 chromium remedy, but following the completion of the remediation of SA-7, had been treating recovered regional deep and overburden groundwater since December 2008. Once the new GWTP was built and started accepting flows on February 14, 2014, the former GWTP at SA-6 South was decommissioned, dismantled and removed from the Site 140 building.

AMEC Foster Wheeler designed, permitted and managed the construction of the 65 gpm GWTP beginning in March 2013. The GWTP pre-treats hexavalent chromium contaminated groundwater for discharge to the PVSC. The $4.5M GWTP design/build project also involved re-configuration of the existing three well groundwater extraction system, controls, and double wall conveyance system to allow for transition of flow from the old plant to the new plant and as required for GWTP commissioning activities.

The new GWTP incorporates chemical reduction, precipitation, flocculation, clarification and filter press processes which generate significantly less filter cake than the microfiltration system used in the original plant. The GWTP is housed in a 4,800-square foot pre-engineered metal building which also accommodates an office, equipment repair shop and state of the art chemical storage rooms and tanker offloading facilities.

Such facilities incorporate secondary containment, automatic leak and vapor detection systems, and an interface control system with remote monitoring capability, a closed-circuit television monitoring system as well as a card swipe access control and burglar alarm system. An innovative hydraulic pusher system

was also custom designed and installed to allow for more efficient filling of the 30 CY waste filter cake roll-off. Local permitting included development of site plan approval applications and testimony as required for both existing conditions and post redevelopment conditions. Interaction with the Jersey City building department and JCMUA at the preliminary design phase also led to a more streamlined building permitting process and local cooperation during the construction phase.

14.0 SITE RESTORATION

Site restoration activities were performed during the demobilization phase of the project. Site restoration activities included the following:

- Decontamination and demobilization of construction equipment and surplus materials;
- Decontamination, decommissioning and dismantling of the construction wastewater treatment system and piping;
- Relocation or removal of the jersey barriers and chain-link fence to the property line boundary;
- Removal of contractor temporary office trailers and power/phone service;
- Removal of traffic control features;
- Removal of construction debris;
- Disposal of other non-regulated waste; and
- Stabilization of the Open Space Area cover soils, including seeding and other erosion control measures.

15.0 CONSTRUCTION PERMITS

The following construction permits were obtained to complete the onsite work. Applications for renewals were submitted as needed. Permits that were no longer required were allowed to expire.

Permit	Site	Status	Expiration Date
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	6/23/2015*
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	4/22/2013 (no extension necessary)
HEPSCD Soil Erosion and Sedimentation Control Plan (SESCP)	GWTP	Obtained 8/27/2012	2/27/2016 (no extension necessary)
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	6/23/2015 (no extension necessary)
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	4/23/2013 (no extension necessary)
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	6/23/2019
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision 12/02/15	6/30/2018

Permit	Site	Status	Expiration Date
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	8/31/2018
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	11/16/2016
Request for Authorization (RFA)	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	5/31/2018
NJDEP – Treatment Works Approval (TWA)	SA-6 Chromium Remedy	Obtained 7/8/2013	6/30/2016 (no extension necessary)
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	6/30/2016
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North	Obtained 4/30/2012 Revised 7/14/2015	Not Specified
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 North	Obtained 8/4/2016	Not Specified

Permit	Site	Status	Expiration Date
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte. 440 ROW	SA-6 Chromium Remedy	Final Executed Permit Issued 12/2/14 Extension Obtained 12/24/2015	12/3/2016

*Note: Because the work was initiated before the expiration date of the NJDEP Waterfront Development permit, NJDEP did not require extension of this permit.

16.0 SUSTAINABILITY EFFORTS DURING CONSTRUCTION

Under Honeywell's stewardship the construction process was integrated into the overall vision for the Jersey City west side redevelopment by incorporating a sustainable design approach which focused on conservation of natural resources through beneficial reuse, recycling, minimization of ongoing energy consumption and reduction in carbon footprint. Specifically, Honeywell's sustainable construction efforts integrated:

- Use of renewable B-20 Biodiesel in lieu of conventional fossil fuel based petro-diesel in construction equipment;
- Consolidation of soils in the Open Space Area eliminating the fuel and traffic associated with off-site disposal; and,
- Crushing and recycling of demolition generated clean concrete to be reused as clean fill material on site.

17.0 POST-REMEDY OPERATION & MAINTENANCE

Following completion of the remedial actions, including installation of the groundwater extraction system which is to be operated on a contingent basis, a post-remediation long-term monitoring program will be implemented in accordance with the pending LTMP. The LTMP was developed and submitted to NJDEP and all Parties in October 2015 to address the monitoring requirements specified in the SA-6 North Consent Decree Paragraph 64. As of the writing of this CCR, Honeywell and the Parties are in final negotiations regarding the terms of the LTMP. Honeywell will be implementing the uncontested LTMP activities until the LTMP is finalized. The LTMP satisfies the Consent Decree requirements for long-term monitoring, maintenance, and protection of engineering and institutional controls by establishing procedures and schedules for the following activities required by the Consent Decree:

- Quarterly visual inspections to ensure only permitted land usage is occurring and verify no usage compromises the integrity of the Chromium Remedy;
- Quarterly visual inspection monitoring of the grade and slope to identify whether erosion has occurred or is occurring;
- Quarterly visual inspection monitoring to determine if noticeable differential settlement or subsidence has occurred that could impair the integrity of the Chromium Remedy;
- Baseline topographic survey at completion of the Chromium Remedy and additional surveys annually for the first 5 years, then every 5 years for an additional 10 years;
- Quarterly visual inspection monitoring to determine if disturbance of the Chromium Remedy in the Open Space Area has occurred;
- Quarterly visual inspection monitoring to ensure that burrowing animals are not materially impairing the integrity of the Chromium Remedy;
- Quarterly visual inspection monitoring of the vegetative cover to ensure that vegetative cover in the Open Space Area is in conformance with the landscaping provisions of the SA-6 North 100% Design, including the OSDS, and the Redevelopment Plan and will not materially impair the integrity of the Chromium Remedy;

- Maintenance of the vegetative cover to include mowing to ensure tree species cannot become established except in designated areas and removal of any vegetation not permitted by the OSDS that would impair the integrity of the Chromium Remedy;
- Quarterly groundwater elevation monitoring to ensure specified hydraulic gradients across the hydraulic barriers;
- Monthly monitoring of vented gases and the gas venting system for 1 year. Frequency will be reduced to quarterly after 1 year if data are stable; and
- Any additional monitoring required by the specific design details.

The draft LTMP was submitted to all Parties, including NJDEP, in October 2015. Revised drafts of the LTMP were submitted to all Parties, including NJDEP, in September 2016, February of 2017, and June 2017. The LTMP, once finalized after review by the NJDEP, Plaintiffs and the Special Master, will be the governing document for the operation, maintenance, and inspection of the Chromium Remedy components, including the contingent operation of the groundwater extraction system.

The relationship between long-term monitoring and institutional controls that are required by the SA-6 North Chromium Remedy is discussed in Section 17.

18.0 INSTITUTIONAL CONTROLS

Institutional controls are integral to the Chromium Remedy at SA-6 North and were made a part of the RAOs. The institutional controls are applied in accordance with Subchapter 7 of NJDEP's ARRCS (N.J.A.C. 7:26C).

Institutional controls include deed notices and remedial action permits at specific areas where chromium-impacted soils or groundwater remain and a CEA for residual chromium-impacted groundwater. Additional institutional controls for the Open Space Area pursuant to the SA-6 North consent decree includes transferring ownership to Jersey City after construction of roads and utility corridors and the granting of a conservation restriction.

18.1 DEED NOTICES

To meet Honeywell's and Bayfront's objectives for SA-6 North and coordinate with the objectives of the Development, five deed notices are required for the chromium impacts at SA-6 North. The areas to which each of the five deed notices apply are shown on **Figure 16**. Draft deed notices are contained in **Appendix S**. After the deed notices have been reviewed and approved by the NJDEP and finalized, they will be recorded at the office of the Hudson County Register.

The deed notices have been prepared in general accordance with NJDEP's ARRCS; however, model deed notice language from the SA-6 North Consent Decree was used as the model text. Each deed notice specifies conditions for alteration, improvement, and/or disturbance of the engineering controls, and provide monitoring, maintenance, notification and reporting requirements. These requirements include documentation that applicable worker health and safety laws and regulations are followed during the disturbance and restoration of those controls. The deed notices contain figures and cross-sections showing the engineering controls and details regarding notification and reporting requirements.

18.2 SOIL REMEDIAL ACTION PERMITS

Honeywell has prepared draft Remedial Action Permit (RAP) Applications for Soil for the SA-6 North Open Space Area, three Deferred Areas, and one Treatment Area for NJDEP review. The draft RAP applications are attached to this CCR document. Once the deed notices are filed, the RAP applications will be finalized and submitted

to the NJDEP. The permit applications contain requirements for monitoring, maintenance and reporting to document the protectiveness of the remedial actions and engineering controls for each of the areas on which the deed notices have been established until such time the deed notice is no longer required. The permit also includes a schedule for submittal of Biennial Certification Reports to the NJDEP, and requirements pertaining to financial assurance (see Section 20) and permit transfer, modification and termination.

As remediation at each Deferred Area is completed, the remedial action permit and deed notice will be terminated by submitting documentation to NJDEP and All Parties.

18.3 GROUNDWATER REMEDIAL ACTION PERMITS

Honeywell has prepared a draft RAP Application for Groundwater for the SA-6 North Open Space Area. The draft RAP application was attached to the RAR approved by NJDEP on June 1, 2017 and now that the RAR is approved by NJDEP, the RAP application will be finalized and submitted to the NJDEP.

The permit applications contain requirements for monitoring, maintenance and reporting to document the protectiveness of the remedial actions and engineering controls for each of the areas on which the deed notices have been established until such time the deed notice is no longer required. The permits also include a schedule for submittal of Biennial Certification Reports to the NJDEP, and requirements pertaining to financial assurance (see Section 20) and permit transfer, modification and termination.

18.4 CLASSIFICATION EXCEPTION AREA (EXISTING SHALLOW GW RA PERMIT)

A regional CEA for groundwater has been established by NJDEP on February 16, 2012 for the SA-5/6/7 sites as an institutional control to identify chromium-impacted groundwater above the NJDEP GWQS and prevent the use of groundwater within the designated CEA areas (see **Appendix F**). The CEAs address the shallow fill, deep overburden, and bedrock zones. The shallow zone refers to groundwater within fill material (above the Stratum D and underlying native soils), generally to a depth of 20 feet bgs. The deep overburden zone refers to groundwater below the fill and Stratum D down to bedrock, generally from approximately 20 feet to 90 feet bgs.

The bedrock zone refers to groundwater within the upper 20 to 40 feet of fractured bedrock. The shallow groundwater CEA may be modified in the future following one year of post-remedial action groundwater elevation monitoring.

A RAP application for shallow groundwater that matches the existing shallow groundwater CEA boundary will be submitted to the NJDEP. Separate RAPs for the Regional Groundwater are being prepared for the deep overburden and bedrock zones and will be submitted to NJDEP separately.

18.5 CONSERVATION RESTRICTIONS

Conservation Restrictions were prepared for both Open Space Areas at SA-6 North and SA-6 South at the time of property transfer from Jersey City Redevelopment Agency to Bayfront Redevelopment LLC per Paragraph 60(b) of the SA-6 North Consent Decree and at the time of the granting of the option to buy per Paragraph 74(b) of the SA-6 South Consent Decree. These conservation restrictions were recorded on March 25, 2010. The existing conservation restriction placed on the SA-6 North Open Space Area will be amended to include the as-built hydraulic barrier walls. Additionally, the amended conservation restriction will be modified to include the portion of TA-10 that lies south of the northern curbline of the future Stegman Boulevard which will be capped by Stegman Boulevard. Hackensack River Watershed Land Trust shall be the primary holder of the conservation restrictions once amended.

19.0 RECORD DRAWINGS

In accordance with Section 60(j)(viii) of the SA-6 North Consent Decree and the TRSR, Record Drawings were prepared and are included in **Appendix C**. Maser completed surveys by a NJ licensed surveyor and Mr. Thomas Hugg sealed drawings prepared by Maser. Amec Foster Wheeler engineer of record for SA-6 North, Mr. Samuel G. Shallard, PE, sealed Record Drawings prepared by Amec Foster Wheeler.

The Record Drawings and the SA-6 North 100% Design Report set the standard for future repair or replacement of the Chromium Remedy under the SA-6 North Consent Decree.

20.0 REMEDIAL ACTION COSTS

Remediation costs are summarized in the table below:

Activity	Cost ($1MM)
Construction Costs	$26
Soil Disposal	$2
Oversight/Construction Management	$2.4
Total	**$30.4**

20.1 FINANCIAL ASSURANCES

Long term monitoring for SA 6 North and South is part of the overall financial assurance letter of credit for chromium remediation at SA-5, SA-6 North, SA-6 South and SA-7 that are subject to the oversight of the Special Master. This letter of credit is issued by the MUFG Union Bank, N.A. in the amount of $46,915,000 to cover all remediation and long term monitoring activities at these sites.

21.0 REMEDIATION CLOSE OUT SUMMARY

The Chromium Remedy at SA-6 North commenced on March 2013 and was substantially complete by November 2016. The Chromium Remedy was implemented in accordance with the TRSR, the ACO, the SA-6 North Consent Decree, the SA-6 North 100% Design Report and subsequent DCs, and other clarifying correspondence between Honeywell and NJDEP and/or Honeywell, the Special Master, and Plaintiffs. Therefore, other than remediation of the Deferred Areas, no further remedial actions are required for either the Residential Development or Open Space Areas at SA-6 North. Remediation of Deferred Areas will be coordinated with the implementation of the Bayfront Redevelopment Plan, the widening of Route 440, JCMUA relocation of the fuel island, and the completion of the in-situ treatment activities.

The RAOs for SA-6 North soils and groundwater, except in the Deferred Areas, will be met by the Chromium Remedy implemented in all AOCs and the establishment of institutional controls. The hydraulic barrier is designed to restrict potential offsite migration of chromium-impacted groundwater. Further, the LTMP establishes procedures and schedules for long-term monitoring of groundwater levels in the Open Space Area to determine the potential operation of the contingent groundwater extraction system based on trigger criteria. The LTMP also establishes the inspection, maintenance, and operation of critical features of the Chromium Remedy.

Honeywell will establish appropriate institutional controls at SA-6 North that supplement the physical remedial actions including deed notices for five distinct areas, conservation restrictions for the Open Space Area and the other chromium deed notice areas of SA-6 North, and remedial action permits for soils and a remedial action permit for groundwater in the Open Space Area. A classification exception area has already been established with NJDEP for the regional shallow groundwater and adequately covers SA-6 North. Final soil and groundwater Remedial Action Permit applications will be submitted to NJDEP.

It is Honeywell's intention that this CCR will close out remediation of chromium-impacted soil, except for the Deferred Areas, and chromium-impacted groundwater for SA-6 North. Honeywell will document additional soil remediation in the

Deferred Areas by filing supplements to this CCR. NJDEP has reviewed and approved the RAR submitted separately from this CCR.

In accordance with paragraph 5 of the Consent Order Entering Consolidated 100% Design for Study Area 6 North and Study Area 6 South, *Jersey City Municipal Utilities Auth. v. Honeywell,* No. 2:05-cv-05955-DMC-JAD (D. N.J. July 9, 2013), ECF No. 448, Honeywell will submit a Consent Order which has appended to it (i) the 100% Design except the drawings and (ii) this Final CCR for entry with the Federal Court. The Consent Order will explain that the CCR supersedes the 100% Design. The supplements to this CCR for the deferred areas will be subject to the Special Master review and approval requirements of the SA-6 North Consent Decree, and will be filed with the Court as a supplement to the Consent Order filed in accordance with paragraph 5 of the Consent Order Entering Consolidated 100% Design for Study Area 6 North and Study Area 6 South.

As remediation at each Deferred Area is completed, the remedial action permit and deed notice will be terminated by submitting documentation to NJDEP and All Parties.

22.0 REFERENCES

AMEC Environment and Infrastructure, Inc., 2013. Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil Study Area 6 North, Jersey City, New Jersey. February 2013.

AMEC Environment and Infrastructure, Inc., 2013. Chromium Remedy 100% Design Report – Issued for Construction, Study Area 6 North, Sites 087 and 088, Jersey City, New Jersey. June 2013.

AMEC Environment and Infrastructure, Inc., 2013. Chromium Remedy 100% Design Report – Issued for Construction, Study Area 6 South (Sites 073, 124, 125, 134, 140, and 163), Jersey City, New Jersey. June 2013.

AMEC Environment and Infrastructure, Inc., 2015. Long Term Monitoring Plan, Study Area 6 North (Sites 087 and 088) and Study Area 6 South (Sites 073, 124, 125, 134, 140, and 163), Jersey City, New Jersey. June 2013. Last Revision February 2017.

AMEC Environment and Infrastructure, Inc., 2015. *Updated Work Plan for In-Situ Treatment of Chromium-Impacted Soils at the Northern Area Section of Treatment Area 10*. August 2015.

Administrative Consent Order (ACO) between Honeywell, formerly Allied Signal, Inc., and the New Jersey Department of Environmental Protection, 1993.

Consent Decree Regarding Remediation and Redevelopment of Study Area 6 North, entered August 2, 2012.

Consent Judgment between Honeywell and the NJDEP dated September 7, 2011.

HydroQual, Inc., 2005. HydroQual, Inc., 2005. Preliminary Deep Overburden Groundwater Report, Honeywell Study Area 7. March 31, 2005, HWEL.002.001.11.

HydroQual, Inc., 2006. Deep Overburden Groundwater Remedial Alternatives (DORAA) Report Honeywell Study Area 7. June 2006. HWEL.002.001.11.

HydroQual, Inc., 2007. Final Groundwater Investigation Report, Honeywell Study Area 7. February 2, 2007. HWEL 002.001.11

MACTEC Engineering and Consulting, Inc., 2008. Remedial Action Selection Report/Remedial Action Work Plan for Chromium, Study Area 6 North, Jersey City, New Jersey. January 2008. Amended February 2008.

NJDEP, 2004; Historic Fill of the Jersey City Quadrangle (HFM-53)

NJDEP, 2005; Field Sampling Procedures Manual dated August 2005; last updated April 11, 2011. Available at http://www.nj.gov/dep/srp/guidance/fspm/

NJDEP, 2007; Chromium Policy Memorandum dated February 8, 2007

NJDEP, 2012. New Jersey Administrative Code, Chapter 26C Administrative Requirements for the Remediation of Contaminated Sites; last revised May 7, 2012, Trenton, New Jersey.

NJDEP, 2013. New Jersey Administrative Code, Chapter 26E Technical Requirements for Site Remediation May 7, 2012; last revised July 1, 2013, Trenton, New Jersey.

Settlement Consent Order by and between the Jersey City Entities and Honeywell International Inc., entered April 21, 2008.

TetraTech, Inc., July 2000. Draft Remedial Investigation Report Addendum, Study Area 6 NJDEP Site No. 073, 087, 088, 124, 125, 134, 140, and 163, Jersey City, New Jersey. July 2000.

23.0 LIST OF ACRONYMS AND ABBREVIATIONS

ACO	Administrative Consent Order
AOC	Area of Concern
ARRCS	Administrative Requirements for Remediation of Contaminated Sites
ASTM	American Society of Testing Materials
bgs	Below ground surface
BMUA	Bayonne Municipal Utility Authority
CAFRA	Coastal Area Facilities Act
CAPS	Calcium Polysulfide
CASP	Concrete and Asphalt Sampling Plan
CCR	Construction Completion Report
CEA	Classification Exception Area
COC	Contaminants of Concern
COPR	Chromite Ore Processing Residue
CWTP	Construction Water Treatment Plant
CY	Cubic Yards
DC	Design Change Bulletins
DGW-PBR	Discharge to Groundwater Permit By Rule
DMP	Data Management Plan
EA	Excavation Area
EDD	Electronic Data Deliverables
EOR	Engineer of Record
EPH	Extractable Petroleum Hydrocarbons
FHA	Flood Hazard Area
GCL	Geosynthetic Composite Layer
GDL	Geosynthetic Drainage Layer
gpm	gallons per minute
GPS	Global Positioning System
GWLMP	Groundwater Level Monitoring Plan
GWTP	Groundwater Treatment Plant
GWQS	Groundwater Quality Standards
GVL	Geosynthetic Venting Layer
HASP	Health and Safety Plan
HDPE	High-density polyethylene
IP	Injection Point
IFC	Issued for Construction
IGW	Impact to Groundwater

JCDPW	Jersey City Department of Public Works
JCIA	Jersey City Incinerator Authority
JCMUA	Jersey City Municipal Utilities Authority
JCRA	Jersey City Redevelopment Authority
LF	Linear Feet
LLDPE	Liner Low Density Polyethylene
LSRP	Licensed Site Remediation Professional
LTMP	Long Term Monitoring Plan
µg/L	micrograms per liter
µg/m^3	micrograms per cubic meter
mg/kg	milligrams per kilogram
MOU	Memorandum of Understanding
MRCE	Mueser Rutledge Consulting Engineers
NGVD29	National Geodetic Vertical Datum 1929
N.J.A.C.	New Jersey Administrative Code
NJCU	New Jersey City University
NJDEP	New Jersey Department of Environmental Protection
NJDOT	New Jersey Department of Transportation
OSHA	Occupational Safety and Health Administration
PAMP	Perimeter Air Monitoring Plan
PDI	Pre-Design Investigation
PID	Photo-ionization Detector
PPE	Personal Protective Equipment
PSE&G	Public Service Electric & Gas
PVC	Polyvinyl Chloride
PVSC	Passaic Valley Sewerage Commission
QA/QC	Quality Assurance/Quality Control
RAOs	Remedial Action Objectives
RAR	Remedial Action Report
RAP	Remedial Action Permit
RAWP	Remedial Action Work Plan
RCP	Reinforced Concrete Pipe
RCRA	Resource Conservation and Recovery Act
RFI	Request for Information
RI	Remedial Investigation
RIR	Remedial Investigation Report
ROW	Right of Way

SA	Study Area
SCB	Soil-Cement Bentonite
SESCP	Soil Erosion Sediment Control Plan
SF	Square Feet
SMP	Soil Management Plan
SPLP	Synthetic Precipitation Leaching Procedure
SRIR	Supplemental Remedial Investigation Report
TAL	Target Analyte List
TCL	Target Compound List
TI	Technically Impracticable
TRSR	Technical Regulations for Site Remediation
TWP	Temporary Well Point
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VMP	Vibration Monitoring Plan
VOC	Volatile Organic Compound

TABLES

TABLE 1A
Baseline PAMP Data
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume	Analytical Results for Particulate (ug/m^3)		Analytical Results for CrVI (ng/m^3)	
2	Monday, July 15, 2013	**N1CrD071513***	N1	7:31	15:55	504	1110.0	<	90.0	<	18.0
4	Tuesday, July 16, 2013	N1CrD071613	N1	7:25	15:41	496	1093.0	<	91.0	<	18.0
6	Wednesday, July 17, 2013	N1CrD071713	N1	7:20	15:32	492	1041.0	<	96.0	<	19.0
8	Monday, July 22, 2013	N1CrD072213	N1	7:22	15:40	498	1024.0	<	98.0	<	20.0
10	Wednesday, July 24, 2013	N1CrD072413	N1	7:12	15:39	507	1033.0	<	97.0	<	20.0
12	Thursday, July 25, 2013	N1CrD072513	N1	6:05	14:11	486	985.0	<	100.0	<	20.0
14	Tuesday, July 30, 2013	**N1CrD073013***	N1	7:27	15:45	498	999.6	<	100.0	<	20.0
16	Wednesday, July 31, 2013	N1CrD073113	N1	7:15	15:41	506	997.1	<	100.0	<	20.0
18	Monday, August 05, 2013	N1CrD080513	N1	7:15	15:35	500	999.0	<	100.0	<	20.0
20	Tuesday, August 06, 2013	N1CrD080613	N1	6:55	15:25	510	1037.1	<	96.0	<	19.0

Notes:	Action Levels	
Detectable Results Below Action Level	Hexavalent Chromium	221 ng/m^3
ng/m^3: nanograms per cubic meter	***Validated by 3rd Party**	
ug/m^3: microgram per cubic meter		

Prepared by: NW 12/13/2016
Reviewed by: JLD 12/15/2016

TABLE 1A
Baseline PAMP Data
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume	Analytical Results for As (ng/m^3)		Analytical Results for Pb(ng/m^3)		Analytical Results for V (ng/m^3)		Analytical Results for Zn (ng/m^3)	
2	Monday, July 15, 2013	**N1Met071513***	N1	7:31	15:55	504	1090.0	<	47	<	47	<	2800	<	920
4	Tuesday, July 16, 2013	N1Met071613	N1	7:25	15:41	496	1073.0	<	47		76	<	2800	<	930
6	Wednesday, July 17, 2013	N1Met071713	N1	7:20	15:32	492	1039.0	<	49	<	50	<	2900	<	960
8	Monday, July 22, 2013	N1Met072213	N1	7:22	15:40	498	1027.0	<	49	<	50	<	2900	<	970
10	Wednesday, July 24, 2013	N1Met072413	N1	7:12	15:39	507	1037.0	<	49	<	50	<	2900	<	960
12	Thursday, July 25, 2013	N1Met072513	N1	6:05	14:11	486	997.0	<	51	<	52	<	3000	<	1000
14	Tuesday, July 30, 2013	**N1Met073013***	N1	7:27	15:45	498	1012.7	<	50	<	3000	<	3000	<	990
16	Wednesday, July 31, 2013	N1Met073113	N1	7:15	15:41	506	1031.1	<	49	<	2900	<	2900		2400
18	Monday, August 05, 2013	N1Met080513	N1	7:15	15:35	500	1029.3	<	49	<	250	<	2900	<	970
20	Tuesday, August 06, 2013	N1Met080613	N1	6:55	15:25	510	1034.5	<	49	<	250	<	2900	<	970

Notes:	Action Levels	
Detectable Results Below Action Level	Arsenic (As)	200 ng/m³
***Validated by 3rd Party**	Lead (Pb)	300 ng/m³
ng/m³: nanograms per cubic meter	Vanadium (V)	300 ng/m³
	Zinc (Zn)	Not Applicable

Prepared by: NW 12/13/2016
Reviewed by: JLD 12/15/2016

TABLE 1B
Tracking Log
Hexavalent Chromium Air Samples
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume	Analytical Results for Particulate (ug/m^3)		Analytical Results for CrVI (ng/m^3)	
1	Friday, October 09, 2015	**MN1100915***	MN1	7:10	15:50	520	1,773	<	56.0	<	5.8
2	Tuesday, October 13, 2015	N1101315	N1	6:50	15:11	501	1,623	<	62.0	<	6.3
3	Wednesday, October 14, 2015	N1101415	N1	7:06	15:30	504	1,641	<	61.0	<	6.2
4	Thursday, October 15, 2015	MN1101515	MN1	7:03	15:18	495	1,690	<	59.0	<	6.1
5	Friday, October 16, 2015	MN1101615	MN1	6:48	15:23	515	1,697	<	59.0	<	6.0
6	Monday, October 19, 2015	MN1101915	MN1	7:02	15:30	508	1,633	<	61.0	<	6.2
7	Tuesday, October 20, 2015	N1102015	N1	7:38	15:22	464	1,482	<	67.0	<	6.9
8	Wednesday, October 21, 2015	MN1102115	MN1	7:08	15:30	502	1,689		78.0	<	6.0
9	Thursday, October 22, 2015	MN1102215	MN1	6:45	15:00	495	1,661		120.0	<	6.1
10	Friday, October 23, 2015	N3102315	N3	6:50	15:18	508	1,717	<	58.0	<	5.9
11	Monday, October 26, 2015	N3102615	N3	6:55	15:40	525	1,777	<	56.0	<	5.7
12	Tuesday, October 27, 2015	MN1102715	MN1	7:25	15:05	460	1,564	<	64.0	<	6.5
13	Wednesday, October 28, 2015	**MN1102815***	MN1	6:57	15:10	493	1,664	<	60.0	<	6.1
14	Thursday, October 29, 2015	MN1102915	MN1	6:59	15:00	481	1,628	<	61.0	<	6.2
15	Friday, October 30, 2015	N3103015	N3	6:57	15:08	491	1,677	<	60.0	<	6.1
16	Monday, November 02, 2015	N3110215	N3	6:50	15:38	528	1,782	<	56.0	<	5.7
17	Tuesday, November 03, 2015	**N1110315***	N1	6:55	15:10	495	1,685	<	59.0	<	6.0
18	Wednesday, November 04, 2015	MN1110415	MN1	7:10	15:25	495	1,661		62.0	<	6.1
19	Thursday, November 05, 2015	MN1110515	MN1	6:50	15:05	495	1,676	<	60.0	<	6.0
20	Friday, November 06, 2015	MN1110615	MN1	7:05	15:13	488	1,637		79.0	<	6.2
21	Monday, November 09, 2015	MN1110615	MN1	6:55	14:55	480	1,618	<	62.0	<	6.2
22	Tuesday, November 10, 2015	N3111015	N3	6:55	15:15	500	1,695	<	59.0	<	6.0
23	Wednesday, November 11, 2015	N3111115	N3	6:55	15:00	485	1,634	<	61.0	<	6.2
24	Thursday, November 12, 2015	MN1111215	MN1	6:55	15:00	485	1,647	<	61.0	<	6.1
25	Friday, November 13, 2015	N3111315	N3	7:02	15:08	486	1,648	<	61.0	<	6.1
26	Monday, November 16, 2015	N3111615	N3	7:00	15:35	515	1,741	<	57.0	<	5.8
27	Tuesday, November 17, 2015	N3111715	N3	7:05	15:25	500	1,702	<	59.0	<	5.9
28	Wednesday, November 18, 2015	MN1111815	MN1	7:00	15:21	501	1,701	<	59.0	<	5.9
29	Thursday, November 19, 2015	MN1111915	MN1	7:05	15:15	490	1,651	<	61.0	<	6.1
30	Friday, November 20, 2015	N3112015	N3	7:17	15:22	485	1,649	<	61.0	<	6.1
31	Monday, November 23, 2015	**N3112315***	N3	7:00	15:40	520	1,760	<	57.0	<	5.7
32	Tuesday, November 24, 2015	MN2112415	MN2	7:03	15:19	496	1,676		65.0	<	6.0
33	Wednesday, November 25, 2015	N3112515	N3	6:53	14:03	430	1,456	<	69.0	<	6.9
34	Monday, November 30, 2015	N3113015	N3	6:55	15:29	514	1,732	<	58.0	<	5.8
35	Tuesday, December 01, 2015	MN1120115	MN1	7:03	15:28	505	1,712	<	58.0	<	5.9
36	Wednesday, December 02, 2015	MN2120215	MN2	6:54	15:21	507	1,714	<	58.0	<	5.9
37	Thursday, December 03, 2015	MN2120315	MN2	6:50	15:19	509	1,731	<	58.0	<	5.8
38	Friday, December 04, 2015	N3120415	N3	6:55	15:23	508	1,712	<	58.0	<	5.9
39	Monday, December 07, 2015	MN2120715	MN2	6:57	15:42	525	1,775	<	56.0	<	5.6

Prepared by: NW 12/13/2016
Reviewed by: JLD 12/15/2016

TABLE 1B
Tracking Log
Hexavalent Chromium Air Samples
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume	Analytical Results for Particulate (ug/m^3)		Analytical Results for CrVI (ng/m^3)	
40	Tuesday, December 08, 2015	N3120815	N3	6:53	15:17	504	1,698	<	59.0	<	5.9
41	Wednesday, December 09, 2015	MN1120915	MN1	7:03	15:28	505	1,720		67.0	<	5.8
42	Thursday, December 10, 2015	**MN1121015***	MN1	6:43	15:30	527	1,784	<	56.0	<	5.6
43	Friday, December 11, 2015	N1121115	N1	6:51	15:15	504	1,701		64.0	<	5.9
44	Monday, December 14, 2015	MN1121415	MN1	6:57	15:18	501	1,691		120.0	<	5.9
45	Tuesday, December 15, 2015	MN2121515	MN2	7:00	15:25	505	1,717	<	58.0	<	5.8
46	Wednesday, December 16, 2015	MN1121615	MN1	6:58	15:15	497	1,690	<	59.0	<	5.9
47	Thursday, December 17, 2015	MN1121715	MN1	6:58	15:42	524	1,776	<	56.0	<	5.6
48	Friday, December 18, 2015	N3121815	N3	6:53	15:23	510	1,729	<	58.0	<	5.8
49	Monday, December 21, 2015	N1122115	N1	6:57	15:43	526	1,775	<	56.0	<	5.6
50	Tuesday, December 22, 2015	MN1122215	MN1	6:43	15:30	527	1,792	<	56.0	<	5.6
51	Wednesday, December 23, 2015	N3122315	N3	6:53	14:07	434	1,476	<	68.0	<	6.8
52	Monday, December 28, 2015	**MN1122815***	MN1	6:45	15:28	523	1,765	<	57.0	<	5.7
53	Tuesday, December 29, 2015	MN1122915	MN1	7:08	15:28	500	1,702		350.0	<	5.9
54	Wednesday, December 30, 2015	MN1123015	MN1	6:56	15:15	499	1,669	<	60.0	<	6.0
55	Thursday, December 31, 2015	N3123115	N3	8:50	14:10	320	1,082	<	92.0	<	9.2
56	Monday, January 04, 2016	N3010416	N3	6:55	15:38	523	1,770		130.0	<	5.6
57	Tuesday, January 05, 2016	N3010516	N3	7:03	15:23	500	1,690	<	59.0	<	5.9
58	Wednesday, January 06, 2016	N1010616	N1	7:00	15:25	505	1,712	<	58.0	<	5.8
59	Thursday, January 07, 2016	MN2010716	MN2	7:07	15:30	503	1,698		100.0	<	5.9
60	Friday, January 08, 2016	N1010816	N1	7:03	15:13	490	1,666	<	60.0	<	6.0
61	Monday, January 11, 2016	N3011116	N3	6:47	15:37	530	1,844		74.0	<	5.4
62	Tuesday, January 12, 2016	MN1011216	MN1	7:12	15:28	496	1,724	<	58.0	<	5.8
63	Wednesday, January 13, 2016	N3011316	N3	6:45	15:25	520	1,781		100.0	<	5.6
64	Thursday, January 14, 2016	MN2011416	MN2	7:16	15:37	501	1,811	<	55.0	<	5.5
65	Friday, January 15, 2016	N3011516	N3	6:33	15:38	545	1,883	<	53.0	<	5.3
66	Monday, January 18, 2016	**N3011816***	N3	6:39	15:32	533	1,945	<	51.0	<	5.1
67	Tuesday, January 19, 2016	**N3011916***	N3	6:37	15:20	523	1,838		140.0	<	5.4
68	Wednesday, January 20, 2016	N3012016	N3	6:41	15:11	510	1,780	<	56.0	<	5.6
69	Thursday, January 21, 2016	N3012116	N3	6:34	15:23	529	1,828		77.0	<	5.5
70	Friday, January 22, 2016	N3012216	N3	6:49	15:21	512	1,856	<	54.0	<	5.4
71	Tuesday, January 26, 2016	MN1012616	MN1	6:51	15:16	505	1,783	<	56.0	<	5.6
72	Wednesday, January 27, 2016	N3012716	N3	6:41	15:13	512	1,782	<	56.0	<	5.6
73	Thursday, January 28, 2016	N3012816	N3	7:29	15:19	470	1,610	<	62.0	<	6.2
74	Friday, January 29, 2016	MN1012916	MN1	6:41	15:19	518	1,800	<	56.0	<	5.6
75	Monday, February 01, 2016	MN1020116	MN1	7:18	15:29	491	1,733	<	58.0	<	5.8
76	Tuesday, February 02, 2016	N3020216	N3	7:12	15:24	492	1,724	<	58.0	<	5.8
77	Wednesday, February 03, 2016	MN1020316	MN1	7:26	15:19	473	1,611	<	62.0	<	6.2
78	Thursday, February 04, 2016	N3020416	N3	7:30	15:43	493	1,696	<	59.0	<	5.9

Prepared by: NW 12/13/2016
Reviewed by: JLD 12/15/2016

TABLE 1B
Tracking Log
Hexavalent Chromium Air Samples
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume	Analytical Results for Particulate (ug/m^3)		Analytical Results for CrVI (ng/m^3)	
79	Friday, February 05, 2016	N3020516	N3	7:07	15:42	515	1,733	<	58.0	<	5.8
80	Monday, February 08, 2016	N3020816	N3	6:50	15:44	534	1,837	<	54.0	<	5.5
81	Tuesday, February 09, 2016	MN1020916	MN1	7:23	15:17	474	1,619	<	62.0	<	6.2
82	Wednesday, February 10, 2016	MN2021016	MN2	7:20	15:10	470	1,622	<	62.0	<	6.2
83	Thursday, February 11, 2016	N3021116	N3	7:19	15:19	480	1,661		65.0	<	6.0
84	Friday, February 12, 2016	N3021216	N3	7:23	15:12	469	1,623	<	62.0	<	6.2
85	Tuesday, February 16, 2016	MN1021616	MN1	9:21	15:24	363	1,218	<	82.0	<	8.3
86	Wednesday, February 17, 2016	MN2021716	MN2	6:47	15:14	507	1,734	<	58.0	<	5.8
87	Thursday, February 18, 2016	N3021816	N3	7:22	15:28	486	1,645	<	61.0	<	6.1
88	Friday, February 19, 2016	N3021916	N3	7:13	15:19	486	1,643	<	61.0	<	6.1
89	Monday, February 22, 2016	**N3022216***	N3	7:22	16:19	537	1,837	<	54.0	<	5.5
90	Tuesday, February 23, 2016	**MN1022316***	MN1	7:35	12:13	278	954	<	100.0	<	11.0
91	Wednesday, February 24, 2016	**N3022416***	N3	7:13	15:19	486	1,660	<	60.0	<	6.1
92	Thursday, February 25, 2016	MN1022516	MN1	6:42	15:14	512	1,733	<	58.0	<	5.8
93	Friday, February 26, 2016	N3022616	N3	7:24	15:15	471	1,590	<	63.0	<	6.4
94	Monday, February 29, 2016	MN1022916	MN1	7:13	15:36	503	1,708	<	59.0	<	5.9
95	Tuesday, March 01, 2016	N3030116	N3	6:51	15:04	493	1,693	<	59.0	<	6.0
96	Wednesday, March 02, 2016	MN2030216	MN2	7:23	15:27	484	1,665	<	60.0	<	6.1
97	Thursday, March 03, 2016	N3030316	N3	6:49	15:16	507	1,714	<	58.0	<	5.9
98	Friday, March 04, 2016	MN1030416	MN1	8:19	15:21	422	1,458	<	69.0	<	6.9
99	Monday, March 07, 2016	MN1030716	MN1	6:41	15:16	515	1,769	<	57.0	<	5.7
100	Tuesday, March 08, 2016	N3030816	N3	8:07	15:23	436	1,491	<	67.0	<	6.8
101	Wednesday, March 09, 2016	N3030916	N3	7:22	15:12	470	1,622		110.0	<	6.2
102	Thursday, March 10, 2016	MN1031016	MN1	6:41	15:35	534	1,842		68.0	<	5.5
103	Friday, March 11, 2016	N3031116	N3	7:10	15:12	482	1,648	<	61.0	<	6.1
104	Monday, March 14, 2016	**N3031416***	N3	6:48	15:37	529	1,833	<	55.0	<	5.5
105	Tuesday, March 15, 2016	**N3031516***	N3	7:15	15:30	495	1,683	<	59.0	<	6.0
106	Wednesday, March 16, 2016	**MN1031616***	MN1	6:45	15:35	530	1,810	<	55.0	<	5.6
107	Thursday, March 17, 2016	N1031716	N1	6:49	15:31	522	1,814	<	55.0	<	5.6
108	Friday, March 18, 2016	N3031816	N3	6:46	15:32	526	1,815		83.0	<	5.6
109	Monday, March 21, 2016	N3032116	N3	7:09	15:32	503	1,720	<	58.0	<	5.9
110	Tuesday, March 22, 2016	MN2032216	MN2	6:42	15:35	533	1,826	<	55.0	<	5.5
111	Wednesday, March 23, 2016	N1032316	N1	7:10	15:28	498	1,711	<	58.0	<	5.9
112	Thursday, March 24, 2016	N3032416	N3	6:45	15:32	527	1,813		63.0	<	5.6
113	Friday, March 25, 2016	N3032516	N3	6:50	15:37	527	1,789		86.0	<	5.7
114	Monday, March 28, 2016	N3032816	N3	6:30	15:45	555	1,912	<	52.0	<	5.3
115	Tuesday, March 29, 2016	N3032916	N3	6:40	16:09	569	1,974		87.0	<	5.1
116	Wednesday, March 30, 2016	MN2033016	MN2	6:40	15:40	540	1,863	<	54.0	<	5.4
117	Thursday, March 31, 2016	MN2033116	MN2	6:37	15:33	536	1,833	<	55.0	<	5.5

Prepared by: NW 12/13/2016
Reviewed by: JLD 12/15/2016

TABLE 1B
Tracking Log
Hexavalent Chromium Air Samples
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume	Analytical Results for Particulate (ug/m^3)		Analytical Results for CrVI (ng/m^3)	
118	Friday, April 01, 2016	N1040116	N1	6:40	15:17	517	1,768	<	57.0	<	5.7
119	Monday, April 04, 2016	N3040416	N3	6:30	15:40	550	1,884	<	53.0	<	5.4
120	Tuesday, April 05, 2016	N3040516	N3	6:41	15:23	522	1,764	<	57.0	<	5.8
121	Wednesday, April 06, 2016	MN1040616	MN1	6:40	15:21	521	1,792	<	56.0	<	5.7
122	Thursday, April 07, 2016	MN1040716	MN1	6:38	15:30	532	1,830	<	55.0	<	5.6
123	Friday, April 08, 2016	MN2040816	MN2	6:35	15:20	525	1,801	<	56.0	<	5.6
124	Monday, April 11, 2016	MN1041116	MN1	6:35	15:13	518	1,772	<	56.0	<	5.7
125	Tuesday, April 12, 2016	**N3041216***	N3	6:45	15:26	521	1,779	<	56.0	<	5.7
126	Wednesday, April 13, 2016	**N3041316***	N3	6:35	15:13	518	1,795	<	56.0	<	5.7
127	Thursday, April 14, 2016	N3041416	N3	6:41	15:13	512	1,759	<	57.0	<	5.8
128	Friday, April 15, 2016	N3041516	N3	6:45	15:14	509	1,741	<	57.0	<	5.9
129	Monday, April 18, 2016	N3041816	N3	6:35	15:15	520	1,797	<	56.0	<	5.7
130	Tuesday, April 19, 2016	N3041916	N3	6:27	15:20	533	1,820	<	55.0	<	5.6
131	Wednesday, April 20, 2016	N3042016	N3	6:30	15:15	525	1,806	<	55.0	<	5.6
132	Thursday, April 21, 2016	MN1042116	MN1	7:10	15:45	515	1,764	<	57.0	<	5.8
133	Friday, April 22, 2016	MN1042216	MN1	6:30	15:15	525	1,809	<	55.0	<	5.6
134	Monday, April 25, 2016	MN1042516	MN1	6:30	15:35	545	1,869	<	54.0	<	5.5
135	Tuesday, April 26, 2016	N3042616	N3	6:30	15:10	520	1,797	<	56.0	<	5.7
136	Wednesday, April 27, 2016	N3042716	N3	6:42	15:17	515	1,769	<	57.0	<	5.8
137	Thursday, April 28, 2016	N3042816	N3	6:42	15:20	518	1,785	<	56.0	<	5.7
138	Friday, April 29, 2016	MN1042916	MN1	6:30	15:20	530	1,823	<	55.0	<	5.6
139	Monday, May 02, 2016	N1050216	N1	6:30	15:37	547	1,887	<	53.0	<	5.4
140	Tuesday, May 03, 2016	MN1050316	MN1	7:20	15:27	487	1,687	<	59.0	<	6.1
141	Wednesday, May 04, 2016	N3050416	N3	7:30	15:10	460	1,585	<	63.0	<	6.4
142	Thursday, May 05, 2016	N3050516	N3	6:37	15:35	538	1,848	<	54.0	<	5.5
143	Friday, May 06, 2016	N3050616	N3	6:40	15:20	520	1,784		130.0	<	5.7
144	Monday, May 09, 2016	N3050916	N3	6:35	15:34	539	1,843	<	54.0	<	5.5
145	Tuesday, May 10, 2016	N3051016	N3	6:40	15:22	522	1,793	<	56.0	<	5.7
146	Wednesday, May 11, 2016	N3051116	N3	6:38	15:35	537	1,853	<	54.0	<	5.5
147	Thursday, May 12, 2016	MN1051216	MN1	6:20	15:37	557	1,919	<	52.0	<	5.3
148	Friday, May 13, 2016	MN1051316	MN1	6:25	15:20	535	1,835	<	54.0	<	5.6
149	Monday, May 16, 2016	N3051616	N3	6:35	15:33	538	1,848	<	54.0	<	5.5
150	Tuesday, May 17, 2016	N1051716	N1	6:30	15:12	522	1,790	<	56.0	<	5.7
151	Wednesday, May 18, 2016	N3051816	N3	6:30	15:10	520	1,781	<	56.0	<	5.7
152	Thursday, May 19, 2016	N1051916	N1	6:25	15:40	555	1,901	<	53.0	<	5.4
153	Friday, May 20, 2016	N3052016	N3	6:35	15:22	527	1,810	<	55.0	<	5.7
154	Monday, May 23, 2016	MN1052316	MN1	6:30	15:35	545	1,869		75.0	<	5.5
155	Tuesday, May 24, 2016	**N3052416***	N3	6:45	15:15	510	1,752	<	57.0	<	5.8
156	Wednesday, May 25, 2016	**MN1052516***	MN1	6:55	15:30	515	1,779		58.0	<	5.8

Prepared by: NW 12/13/2016
Reviewed by: JLD 12/15/2016

TABLE 1B
Tracking Log
Hexavalent Chromium Air Samples
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume		Analytical Results for Particulate (ug/m^3)		Analytical Results for CrVI (ng/m^3)
157	Thursday, May 26, 2016	MN1052616	MN1	6:55	15:29	514	1,773		69.0	<	5.8
158	Friday, May 27, 2016	MN1052716	MN1	6:34	14:31	477	1,646	<	61.0	<	6.2
159	Tuesday, May 31, 2016	N3053116	N3	5:30	14:20	530	1,813	<	55.0	<	5.7
160	Wednesday, June 01, 2016	N3060116	N3	5:40	14:25	525	1,806	<	55.0	<	5.7
161	Thursday, June 02, 2016	MN1060216	MN1	5:45	14:28	523	1,797	<	56.0	<	5.7
162	Friday, June 03, 2016	MN1060316	MN1	5:30	14:15	525	1,803	<	55.0	<	5.7
163	Monday, June 06, 2016	N3060616	N3	5:40	16:02	622	2,130	<	47.0	<	4.8
164	Tuesday, June 07, 2016	N3060716	N3	5:30	16:12	642	2,199		53.0	<	4.7
165	Wednesday, June 08, 2016	N3060816	N3	7:20	13:00	340	1,173	<	85.0	<	8.8
166	Thursday, June 09, 2016	N3 060916	N3	5:33	16:15	642	2,196		57.0		8.5
167	Friday, June 10, 2016	N3 061016	N3	5:40	16:03	623	2,118		76.0		7.3
168	Monday, June 13, 2016	N3 061316	N3	5:45	16:15	630	2,161		55.0	<	4.7
169	Tuesday, June 14, 2016	N3 061416	N3	5:40	16:05	625	2,128	<	47.0	<	4.8
170	Wednesday, June 15, 2016	N3 061516	N3	6:15	15:55	580	1,981	<	50.0	<	5.2
171	Thursday, June 16, 2016	MN1 061616	MN1	5:35	16:10	635	2,184	<	46.0	<	4.7
172	Friday, June 17, 2016	N2 061716	N2	5:48	16:15	627	2,154	<	46.0	<	4.8
173	Monday, June 20, 2016	MN2 062016	MN2	5:12	16:15	663	2,267		47.0	<	4.5
174	Tuesday, June 21, 2016	**N3 062116***	N3	5:40	16:00	620	2,127	<	47.0	<	4.8
175	Wednesday, June 22, 2016	**N3 062216&**	N3	5:45	16:13	628	2,151		120.0		8.4
176	Thursday, June 23, 2016	N3 062316	N3	5:47	16:13	626	2,197		66.0	<	4.7
177	Friday, June 24, 2016	N3 062416	N3	5:40	16:20	640	2,227	<	45.0	<	4.6
178	Saturday, June 25, 2016	MN3 062516	MN3	5:40	14:11	511	1,778	<	56.0	<	5.8
179	Monday, June 27, 2016	MN1 062716	MN1	6:15	19:02	767	2,665		43.0	<	3.9
180	Tuesday, June 28, 2016	MN1 062816	MN1	5:48	16:13	625	2,166	<	46.0	<	4.8
181	Wednesday, June 29, 2016	N3 062916	N3	5:50	15:40	590	2,044	<	49.0	<	5.0
182	Thursday, June 30, 2016	N3 063016	N3	5:48	16:24	636	2,207	<	45.0	<	4.7
183	Friday, July 01, 2016	MN1 070116	MN1	5:48	14:13	505	1,755	<	57.0	<	5.9
184	Tuesday, July 05, 2016	N3 070516	N3	6:15	15:30	555	1,923	<	52.0	<	5.4
185	Wednesday, July 06, 2016	N3 070616	N3	5:50	16:05	615	2,131	<	47.0	<	4.8
186	Thursday, July 07, 2016	MN2 070716	MN2	5:48	16:15	627	2,176	<	46.0		5.2
187	Friday, July 08, 2016	N1 070816	N1	5:48	15:25	577	2,005	<	50.0	<	5.1
188	Monday, July 11, 2016	N3 071116	N3	5:50	16:05	615	2,137	<	47.0	<	4.8
189	Tuesday, July 12, 2016	N1 071216	N1	5:48	16:10	622	2,155	<	46.0	<	4.8
190	Wednesday, July 13, 2016	MN1 071316	MN1	5:50	16:15	625	2,169	<	46.0	<	4.8
191	Thursday, July 14, 2016	MN2 071416	MN2	5:51	16:15	624	2,172	<	46.0	<	4.7
192	Friday, July 15, 2016	N3 071516	N3	5:47	16:11	624	2,168	<	46.0	<	4.8
193	Saturday, July 16, 2016	N3 071616	N3	5:20	13:20	480	1,668	<	60.0	<	6.2
194	Monday, July 18, 2016	N1 071816	N1	5:43	16:05	622	2,155		49.0	<	4.8
195	Tuesday, July 19, 2016	N3 071916	N3	5:40	16:10	630	2,196		130.0	<	4.7

Prepared by: NW 12/13/2016
Reviewed by: JLD 12/15/2016

TABLE 1B
Tracking Log
Hexavalent Chromium Air Samples
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume	Analytical Results for Particulate (ug/m^3)		Analytical Results for CrVI (ng/m^3)	
196	Wednesday, July 20, 2016	N3 072016	N3	5:30	16:05	635	2,223		55.0	<	4.6
197	Thursday, July 21, 2016	N3 072116	N3	5:35	16:05	630	2,196		110.0	<	4.7
198	Friday, July 22, 2016	N3 072216	N3	5:40	16:07	627	2,179		180.0	<	4.7
199	Monday, July 25, 2016	N1 072516	N1	5:32	16:05	633	2,219	<	45.0	<	4.7
200	Tuesday, July 26, 2016	N3 072616	N3	5:35	16:10	635	2,219	<	45.0	<	4.7
201	Wednesday, July 27, 2016	N3 072716	N3	5:45	16:12	627	2,195	<	50.0	<	4.7
202	Thursday, July 28, 2016	**N1 072816***	N1	5:40	16:05	625	2,178		46.0	<	4.8
203	Friday, July 29, 2016	N3 072916	N3	5:45	14:20	515	1,795	<	56.0	<	5.8
204	Monday, August 01, 2016	N1 080116	N1	5:25	16:10	645	2,238	<	45.0	<	4.6
205	Tuesday, August 02, 2016	N3 080216	N3	5:30	16:10	640	2,237	<	45.0	<	4.6
206	Wednesday, August 03, 2016	N3 080316	N3	5:42	16:05	623	2,187	<	46.0	<	4.7
207	Thursday, August 04, 2016	N3 080416	N3	6:13	16:05	592	2,057	<	49.0	<	5.0
208	Friday, August 05, 2016	N3 080516	N3	6:15	16:10	595	2,074	<	48.0	<	5.0
209	Monday, August 08, 2016	N3 080816	N3	6:10	16:10	600	2,079		79.0		36.0
210	Tuesday, August 09, 2016	N3 080916	N3	5:35	16:15	640	2,234		78.0		9.8
211	Wednesday, August 10, 2016	N1 081016	N1	5:45	17:05	680	2,383	<	42.0	<	4.3
212	Thursday, August 11, 2016	N1 081116	N1	6:13	17:05	652	2,282	<	44.0	<	4.5
213	Friday, August 12, 2016	N1 081216	N1	6:15	17:05	650	2,265	<	44.0	<	4.6
214	Saturday, August 13, 2016	N1 081316	N1	6:15	16:05	590	2,068	<	48.0	<	5.0
215	Monday, August 15, 2016	N3 081516	N3	6:10	14:10	480	1,682		73.0	<	6.1
216	Tuesday, August 16, 2016	N3 081616	N3	6:15	14:00	465	1,623	<	62.0	<	6.4

Notes:	**Action Levels**	
Detectable Results Below Action Level	Hexavalent Chromium	221 ng/m^3
ng/m^3: nanograms per cubic meter	***Validated by 3rd Party**	
ug/m^3: microgram per cubic meter		

Prepared by: NW 12/13/2016
Reviewed by: JLD 12/15/2016

TABLE 1B
Tracking Log
Metals
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume	Analytical Results for As (ng/m^3)		Analytical Results for Pb (ng/m^3)		Analytical Results for V (ng/m^3)		Analytical Results for Zn (ng/m^3)	
1	Friday, October 16, 2015	MN1MET101615	MN1	6:53	15:30	517	1,678	<	30	<	30	<	30	<	300
2	Friday, October 23, 2015	N3MET102315	N3	6:50	15:18	508	1,722	<	29	<	29	<	30	<	290
3	Thursday, October 29, 2015	MN1MET102915	MN1	6:59	15:00	481	1,631	<	31	<	31	<	31	<	310
4	Wednesday, November 04, 2015	MN1MET110415	MN1	7:10	15:25	495	1,681	<	30		40	<	30	<	300
5	Wednesday, November 11, 2015	**N3MET111115***	N3	7:05	15:03	478	1,620	<	31	<	31	<	32	<	310
6	Wednesday, November 18, 2015	MN1MET111815	MN1	7:00	15:21	501	1,698	<	30	<	30	<	30	<	290
7	Tuesday, November 24, 2015	MN2MET112415	MN2	7:03	15:19	496	1,689	<	30	<	30	<	30	<	300
8	Thursday, December 03, 2015	MN2MET120315	MN2	6:50	15:19	509	1,664	<	30	<	30	<	31	<	300
9	Thursday, December 10, 2015	**MN1MET121015***	MN1	6:43	15:30	527	1,747	<	29	<	29	<	29	<	290
10	Wednesday, December 16, 2015	MN1MET121615	MN1	6:58	15:15	497	1,675	<	30	<	30	<	31	<	300
11	Tuesday, December 22, 2015	MN1MET122215	MN1	6:43	15:30	527	1,779	<	29	<	28	<	29	<	280
12	Wednesday, January 06, 2016	N1MET010616	N1	7:00	15:25	505	1,720	<	29	<	29	<	30	<	290
13	Wednesday, January 13, 2016	**N3MET011316***	N3	6:45	15:25	520	1,750	<	29	<	29	<	29	<	290
14	Wednesday, January 20, 2016	N3MET012016	N3	6:41	15:11	510	1,703	<	30	<	29	<	30	<	290
15	Wednesday, January 27, 2016	N3MET012716	N3	6:41	15:13	512	1,738	<	29	<	29	<	30	<	290
16	Wednesday, February 03, 2016	**MN1MET020316***	MN1	7:26	15:19	473	1,632	<	31	<	31	<	31	<	310
17	Wednesday, February 10, 2016	MN2MET021016	MN2	7:20	15:10	470	1,622	<	31	<	31	<	32	<	310
18	Wednesday, February 17, 2016	MN2MET021716	MN2	6:47	15:14	507	1,739	<	29	<	29	<	29	<	290
19	Thursday, February 25, 2016	**MN1MET022516***	MN1	6:42	15:24	522	1,798	<	28	<	28	<	28	<	280
20	Wednesday, March 02, 2016	MN2MET030216	MN2	7:23	15:27	484	1,626	<	31	<	31	<	31	<	310
21	Wednesday, March 09, 2016	MN1MET030916	MN1	7:20	15:12	472	1,612	<	31	<	31	<	32	<	310
22	Thursday, March 17, 2016	N1031716MET	N1	6:49	15:31	522	1,790	<	28		32	<	28	<	280
23	Tuesday, March 22, 2016	MN2MET032216	MN2	6:42	15:35	533	1,826	<	28	<	27	<	28	<	270
24	Wednesday, March 30, 2016	MN2MET033016	MN2	6:40	15:40	540	1,836	<	27	<	27	<	28	<	270
25	Wednesday, April 06, 2016	MN1MET040616	MN1	6:40	15:21	521	1,766	<	28	<	28	<	29	<	280
26	Wednesday, April 13, 2016	N3MET041316	N3	6:35	15:13	518	1,774	<	28	<	28	<	29	<	280
27	Wednesday, April 20, 2016	N3MET042016	N3	6:30	15:15	525	1,798	<	28		44	<	28	<	280
28	Wednesday, April 27, 2016	N3MET042716	N3	6:42	15:17	515	1,766	<	28	<	28	<	29	<	280
29	Wednesday, May 04, 2016	N3MET050416	N3	7:30	15:10	460	1,587	<	32	<	32	<	32	<	320
30	Wednesday, May 11, 2016	N3MET051116	N3	6:38	15:35	537	1,834	<	27	<	27	<	28	<	270
31	Wednesday, May 18, 2016	N3MET051816	N3	6:30	15:10	520	1,794	<	28	<	28	<	28	<	280
32	Wednesday, May 25, 2016	MN1MET052516	MN1	6:55	15:30	515	1,769	<	28	<	28	<	29	<	280
33	Wednesday, June 01, 2016	N3MET060116	N3	5:40	14:25	525	1,801	<	28	<	28	<	28	<	280
34	Wednesday, June 08, 2016	N3MET060816	N3	7:20	13:00	340	1,170	<	43	<	43	<	43	<	430
35	Wednesday, June 15, 2016	N3MET061516	N3	6:15	15:55	580	1,981	<	25	<	25	<	25	<	250
36	Wednesday, June 22, 2016	N3MET062216	N3	5:45	16:13	628	2,151	<	23		140		33		260
37	Wednesday, June 29, 2016	N3MET062916	N3	5:50	15:40	590	2,044	<	24	<	24	<	25	<	240
38	Thursday, June 30, 2016	N3MET 063016	N3	5:47	15:24	577	2,207	<	25	<	25	<	25	<	250
39	Wednesday, July 06, 2016	N3MET 070616	N3	5:50	16:05	615	2,131	<	23		33	<	24	<	230

Prepared by: NW 12/13/2016
Reviewed by: JLD 12/15/2016

TABLE 1B
Tracking Log
Metals
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume	Analytical Results for As (ng/m^3)		Analytical Results for Pb (ng/m^3)		Analytical Results for V (ng/m^3)		Analytical Results for Zn (ng/m^3)	
40	Tuesday, July 12, 2016	N1 MET 071216	N1	5:48	16:10	622	2,155	<	23	<	23	<	23	<	230
41	Thursday, July 21, 2016	N3 MET 072116	N3	5:35	16:05	630	2,196	<	23	<	23	<	23	<	230
42	Thursday, July 28, 2016	N1 MET 072816	N1	5:40	16:05	625	2,178	<	23	<	23	<	23	<	230
43	Tuesday, August 02, 2016	N3 MET 080216	N3	5:30	16:10	640	2,237	<	22	<	22	<	23	<	220
44	Thursday, August 11, 2016	N1 MET 081116	N1	6:13	17:05	652	2,282	<	22	<	22	<	22	<	220
45	Tuesday, August 16, 2016	N3 MET081616	N3	6:15	14:00	465	1,623	<	30	<	30	<	30	<	300

Notes:	Action Levels	
Detectable Results Below Action Level	Arsenic (As)	200 ng/m^3
***Validated by 3rd Party**	Lead (Pb)	300 ng/m^3
ng/m^3: nanograms per cubic meter	Vanadium (V)	300 ng/m^3
	Zinc (Zn)	Not Applicable

Prepared by: NW 12/13/2016
Reviewed by: JLD 12/15/2016

TABLE 2A

EA2 Soil Boring and EA-5 Sidewall Soil Samples

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

	Client Sample ID			**087-EA5-SW-092915**		**088-SB-190-0201**	
	Lab Sample ID			JC4911-1R		JC14037-1	
	Date Sampled			09/29/2015		02/10/2016	
	Sample Purpose	**NJ 2012 MOST**		REG		REG	
Parameter Name	**Units**	**STRINGENT SRS**	**NJ 2013 IGW SOIL**	**CONC**	**Q**	**CONC**	**Q**
HEXAVALENT CHROMIUM	mg/kg	20	NC	0.65		0.94	U

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016

Reviewed by: JLD 12/15/2016

TABLE 2B

Site 087 Misc 087-EA5-Asphalt Solid Samples

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

		Location ID			087-EA5-Asphalt	
		Client Sample ID			087-EA5-Asphalt-092815	
		Lab Sample ID			JC4878-1	
		Date Sampled			09/28/2015	
		Sample Purpose			REG	
Parameter Group Name	**Parameter Name**	**Units**	**NJ 2012 MOST STRINGENT SRS**	**NJ 2013 IGW SOIL**	**CONC**	**Q**
SA-6 TAL Metals	ALUMINUM	mg/kg	78000	6000	4110	J
SA-6 TAL Metals	ANTIMONY	mg/kg	31	6	2	UJ
SA-6 TAL Metals	ARSENIC	mg/kg	19	19	**22.8**	
SA-6 TAL Metals	BARIUM	mg/kg	16000	2100	36	
SA-6 TAL Metals	BERYLLIUM	mg/kg	16	0.7	0.24	
SA-6 TAL Metals	CADMIUM	mg/kg	78	2	0.51	U
SA-6 TAL Metals	CALCIUM	mg/kg	NC	NC	5810	
SA-6 TAL Metals	CHROMIUM	mg/kg	NC	NC	5	
SA-6 TAL Metals	COBALT	mg/kg	590	90	7.5	
SA-6 TAL Metals	COPPER	mg/kg	3100	11000	9.6	
SA-6 TAL Metals	IRON	mg/kg	NC	NC	13800	
SA-6 TAL Metals	LEAD	mg/kg	400	90	4.2	
SA-6 TAL Metals	MAGNESIUM	mg/kg	NC	NC	2590	
SA-6 TAL Metals	MANGANESE	mg/kg	11000	65	**198**	
SA-6 TAL Metals	MERCURY	mg/kg	23	0.1	0.034	U
SA-6 TAL Metals	NICKEL	mg/kg	1600	48	10.3	
SA-6 TAL Metals	POTASSIUM	mg/kg	NC	NC	1450	
SA-6 TAL Metals	SELENIUM	mg/kg	390	11	2	U
SA-6 TAL Metals	SILVER	mg/kg	390	1	0.51	U
SA-6 TAL Metals	SODIUM	mg/kg	NC	NC	1000	U
SA-6 TAL Metals	THALLIUM	mg/kg	5	3	1	U
SA-6 TAL Metals	VANADIUM	mg/kg	78	NC	41.1	
SA-6 TAL Metals	ZINC	mg/kg	23000	930	26.4	
SA-6 PCB/Pesticide/Herbicide	AROCLOR-1016	mg/kg	NC	NC	0.073	U
SA-6 PCB/Pesticide/Herbicide	AROCLOR-1221	mg/kg	NC	NC	0.073	U
SA-6 PCB/Pesticide/Herbicide	AROCLOR-1232	mg/kg	NC	NC	0.073	U
SA-6 PCB/Pesticide/Herbicide	AROCLOR-1242	mg/kg	NC	NC	0.073	U
SA-6 PCB/Pesticide/Herbicide	AROCLOR-1248	mg/kg	NC	NC	0.073	U
SA-6 PCB/Pesticide/Herbicide	AROCLOR-1254	mg/kg	NC	NC	0.073	U
SA-6 PCB/Pesticide/Herbicide	AROCLOR-1260	mg/kg	NC	NC	0.073	U
SA-6 PCB/Pesticide/Herbicide	AROCLOR-1262	mg/kg	NC	NC	0.073	U
SA-6 PCB/Pesticide/Herbicide	AROCLOR-1268	mg/kg	NC	NC	0.073	U
	Total PCBs	mg/kg	0.2	0.2	0.073	U
SA-6 General Chemistry	HEXAVALENT CHROMIUM	mg/kg	20	NC	0.41	U
SA-6 General Chemistry	OXIDATION-REDUCTION POTENTIAL	mV	NC	NC	279	
SA-6 General Chemistry	pH	S.U.	NC	NC	8.64	

Notes:

TAL: Target Analyte List; hexavalent chromium results included for comparison (see Table 1 for full results)

NJ 2013 IGW SOIL

NJ 2012 MOST STRINGENT SRS

NC: No criterion established

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016

Reviewed by: JLD 12/15/2016

TABLE 2B

Site 087 Misc 087-EA5-Asphalt Solid Samples - TCLP

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

		Client Sample ID		087-EA5-Asphalt-092815	
		Lab Sample ID		JC4878-1A	
		Date Sampled		09/28/2015	
		Sample Purpose		REG	
Parameter Group Name	Parameter Name	Units	RCRA Toxicity Characteristics (40 CFR261.24)	CONC	Q
SA-6 TAL Metals	ARSENIC	mg/L	5	0.5	U
SA-6 TAL Metals	BARIUM	mg/L	100	1	U
SA-6 TAL Metals	CADMIUM	mg/L	1	0.025	U
SA-6 TAL Metals	CHROMIUM	mg/L	5	0.05	U
SA-6 TAL Metals	LEAD	mg/L	5	0.5	U
SA-6 TAL Metals	MERCURY	mg/L	0.2	0.0002	U
SA-6 TAL Metals	SELENIUM	mg/L	1	0.5	U
SA-6 TAL Metals	SILVER	mg/L	5	0.05	U

Notes:

TAL: Target Analyte List; hexavalent chromium results included for comparison (see Table 1 for full results)

RCRA Toxicity Characteristics (40 CFR261.24)

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per liter (mg/L)

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016

Reviewed by: JLD 12/15/2016

TABLE 3A
CWTP Effluent Results - VOCs

Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

	SAMPLE LOCATION		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01	
	FIELD SAMPLE ID		087-TW-01-031016		087-TW-01-040816		087-TW-01-050616		087-TW-01-060816		087-TW-01-070716		087-TW-01-080116		087-TW-01-090816		087-TW-01-100516			
	SAMPLING DATE		03/10/2016		04/08/2016		05/06/2016		06/08/2016		07/07/2016		08/01/2016		09/08/2016		10/05/2016			
	LAB SAMPLE ID		JC15961-1		JC17922-1		JC19783-1		JC21786-1		JC23594-1		JC24999-1		JC27228-1		JC29071-1			
	Sample Purpose		REG		REG		REG		REG		REG		REG		REG		REG			
	Filtered	SA-6 CWTP Effluent	N		N		N		N		N		N		N		N			
PARAMETER	Report Units	Criteria	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q		
1,1,1-TRICHLOROETHANE	ug/l	NC	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,1,2,2-TETRACHLOROETHANE	ug/l	NC	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,1,2-TRICHLOROETHANE	ug/l	NC	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,1-DICHLOROETHANE	ug/l	NC	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,1-DICHLOROETHENE	ug/l	NC	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,2-DICHLOROBENZENE	ug/l	NC	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,2-DICHLOROETHANE	ug/l	NC	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,2-DICHLOROPROPANE	ug/l	NC	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,3-DICHLOROBENZENE	ug/l	NC	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,4-DICHLOROBENZENE	ug/l	NC	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
2-CHLOROETHYL VINYL ETHER	ug/l	NC	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U		
ACROLEIN	ug/l	NC	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U		
ACRYLONITRILE	ug/l	NC	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U		
BENZENE	ug/l	NC	0.48	J	0.24	J	0.31	J	0.18	J	0.16	J	1.0	U	1.0	U	1.0	U		
BROMODICHLOROMETHANE	ug/l	NC	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
BROMOFORM	ug/l	NC	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
BROMOMETHANE	ug/l	NC	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U		
CARBON TETRACHLORIDE	ug/l	NC	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
CHLOROBENZENE	ug/l	NC	0.22	J	0.14	J	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
CHLOROETHANE	ug/l	NC	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
CHLOROFORM	ug/l	NC	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
CHLOROMETHANE	ug/l	NC	1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U	1.0	U	1.0	U	1.0	U		
CIS-1,2-DICHLOROETHENE	ug/l	NC	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
CIS-1,3-DICHLOROPROPENE	ug/l	NC	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
Dibromochloromethane	ug/l	NC	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
DICHLORODIFLUOROMETHANE	ug/l	NC	2.0	U	2.0	U	2.0	U	2.0	UJ	2.0	U	2.0	U	2.0	U	2.0	U		
ETHYLBENZENE	ug/l	NC	1.0	U	0.39	J	0.22	J	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
METHYLENE CHLORIDE	ug/l	NC	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
TETRACHLOROETHENE	ug/l	NC	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
TOLUENE	ug/l	NC	0.32	J	0.50	J	0.36	J	0.22	J	0.23	J	1.0	U	1.0	U	1.0	U		
TRANS-1,2-DICHLOROETHENE	ug/l	NC	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
TRANS-1,3-DICHLOROPROPENE	ug/l	NC	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
TRICHLOROETHENE	ug/l	NC	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
TRICHLOROFLUOROMETHANE	ug/l	NC	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U		
VINYL CHLORIDE	ug/l	NC	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
XYLENES, TOTAL	ug/l	NC	0.42	J	2.8		1.4		1.0	U	0.4	J	1.0	U	1.0	U	1.0	U		
Total VOCs	ug/l	2130	1.44		4.07		2.3		0.4		0.8		0.0		0.0		0.0			

Notes:
SA-6 CWTP Effluent Criteria is the discharge limitation criteria from Sewer Use Permit #31630019
NC: No criterion established
CONC: Concentration reported in micrograms per liter (ug/l)
J: Estimated concentration
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DMP 12/14/2016
Checked by: JLD 12/21/2016

TABLE 3B
CWTP Effluent Results - Metals
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

	SAMPLE LOCATION		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01	
	FIELD SAMPLE ID		087-TW-01-031016C		087-TW-01-040816C		087-TW-01-050616C		087-TW-01-060816C		087-TW-01-070716C		087-TW-01-080116C		087-TW-01-090816C		087-TW-01-100516C	
	SAMPLING DATE		03/10/2016		04/08/2016		05/06/2016		06/08/2016		07/07/2016		08/01/2016		09/08/2016		10/05/2016	
	LAB SAMPLE ID		JC15961-2		JC17922-2		JC19783-2		JC21786-2		JC23594-2		JC24999-2		JC27228-2		JC29071-2	
	Sample Purpose		REG		REG		REG		REG		REG		REG		REG		REG	
	Filtered	SA-6 CWTP Effluent	N		N		N		N		N		N		N		N	
PARAMETER	Report Units	Criteria	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
CHROMIUM	mg/L	NC	7.83		6.19		8.7		5.27		6.14		3.68		1.68		3.07	
COPPER	mg/L	3.6	0.0105		0.0202		0.0128		0.0106		0.01	U	0.0155		0.01	U	0.01	U
LEAD	mg/L	1	0.0064		0.0087		0.0110		0.0045		0.0030	U	0.0231		0.0052		0.0030	U
MERCURY	mg/L	0.08	0.00020	U	0.00020	U	0.00020	U	0.00020	U	0.00020	U	0.00020	U	0.00020	U	0.00020	U
NICKEL	mg/L	3.9	0.0178		0.0167		0.0187		0.0130		0.0181		0.01	U	0.0172		0.0153	J
ZINC	mg/L	4.2	0.771		0.196		0.02	U	0.0568		0.0288		0.151		0.0214		0.0307	

Notes:

SA-6 CWTP Effluent Criteria is the discharge limitation criteria from Sewer Use Permit #31630019

NC: No criterion established

CONC: Concentration reported in milligrams per liter (mg/L)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DMP 12/14/2016
Checked by: NAW 05/08/2017

TABLE 3C
CWTP Effluent Results - General Chemistry
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

SAMPLE LOCATION			087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01	
FIELD SAMPLE ID			087-TW-01-031016		087-TW-01-031016C		087-TW-01-040816		087-TW-01-040816C		087-TW-01-050616		087-TW-01-050616C		087-TW-01-060816		087-TW-01-060816C		087-TW-01-070716		087-TW-01-070716C		087-TW-01-080116		087-TW-01-080116C		087-TW-01-090816		087-TW-01-090816C		087-TW-01-100516		087-TW-01-100516C	
SAMPLING DATE			03/10/2016		03/10/2016		04/08/2016		04/08/2016		05/06/2016		05/06/2016		06/08/2016		06/08/2016		07/07/2016		07/07/2016		08/01/2016		08/01/2016		09/08/2016		09/08/2016		10/05/2016		10/05/2016	
LAB SAMPLE ID			JC15961-1		JC15961-2		JC17922-1		JC17922-2		JC19783-1		JC19783-2		JC21786-1		JC21786-2		JC23594-1		JC23594-2		JC24999-1		JC24999-2		JC27228-1		JC27228-2		JC29071-1		JC29071-2	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Filtered		SA-6 CWTP	N		N		N		N		N		N		N		N		N		N		N		N		N		N		N		N	
PARAMETER	Report Units	Effluent Criteria	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
BIOCHEMICAL OXYGEN DEMAND, FIVE DAY	mg/L	NC			13.7				6.9				3.7				3.4	U			5.0	U			5.0	U			4.1				15.0	
HEXANE EXT MATERIAL SILICA GEL TREATED	mg/L	100	5.1	U			5.1	UJ			5.1	U			5.0	U			5.0	U			5.0	UJ			5.0	U			5.1	U		
pH	S.U.	5-10.5	6.15				8.84				9.12				8.86				8.16				7.43				8.66				9.05			

Notes:
SA-6 CWTP Effluent Criteria is the discharge limitation criteria from Sewer Use Permit #31630019
NC: No criterion established
CONC: Concentration reported in milligrams per liter (mg/L)
J: Estimated concentration
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DMP 12/14/2016
Checked by: JLD 12/21/2016

TABLE 4

Groundwater Elevation Monitoring

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

	SA-6 North Cap Contingent Groundwater System Water Elevations			
	Access MH#1 STA 1+50	Extraction Pump Station #1	Extraction Pump Station #2	Access MH#2 STA 18+00
10/1/2015	Temp. Unavailable	4.60	2.74	2.81
10/28/2015	Temp. Unavailable	4.65	2.97	3.06
12/1/2015	Temp. Unavailable	4.58	2.05	2.22
12/30/2015	Temp. Unavailable	5.40	1.54	4.34
2/1/2016	Temp. Unavailable	7.73	2.45	6.24
3/1/2016	0.80	0.90	0.60	3.34
4/1/2016	1.00	1.70	0.72	2.19
5/2/2016	0.79	1.30	1.09	2.00
6/1/2016	1.10	1.21	1.43	2.14
6/28/2016	1.25	1.45	1.80	2.27
7/27/2016	1.25	1.45	1.80	2.27
8/29/2016	2.63	2.77	2.89	3.02
9/29/2016	1.54	1.53	3.25	3.32
11/4/2016	2.25	2.47	3.32	3.19
12/1/2016	2.64	2.86	3.46	3.36
1/17/2017	Temp. Unavailable	3.16	3.51	3.36

	SA-6 North Monitoring Wells								
	087-MW-132	087-MW-133	087-MW-134	115-W6-SO	115-W1-SO	115-E4-SO	115-E5-SO	088-MW-112	088-MW-111
10/1/2015	5.16	5.08	5.07	5.76	NR	3.24	3.65	NR	NR
10/28/2015	5.48	5.52	5.56	6.06	6.92	3.94	4.05	NR	NR
12/1/2015	5.26	5.23	5.37	5.56	6.22	3.64	3.85	2.18	2.25
12/30/2015	5.75	5.80	5.83	6.85	7.55	4.93	4.75	Temp. Unavailable	Temp. Unavailable
2/1/2016	5.94	Temp. Unavailable	6.06	7.52	7.72	6.18	Temp. Unavailable	2.73	3.02
3/1/2016	6.23	3.60	6.28	3.96	5.12	4.94	5.37	3.63	3.72
4/1/2016	5.89	5.89	5.88	2.51	3.52	2.69	4.27	3.12	3.17
5/2/2016	5.71	5.74	5.70	2.10	Temp. Unavailable	2.63	4.10	2.89	3.02
6/1/2016	5.60	5.70	5.68	1.66	2.48	2.55	3.02	2.79	2.89
6/28/2016	5.72	5.74	5.70	1.73	2.35	2.42	3.23	2.60	2.69
7/27/2016	5.98	6.22	6.05	2.00	2.34	2.62	3.25	2.93	3.00
8/29/2016	5.40	5.43	5.46	2.65	2.77	3.16	2.56	3.05	3.10
9/29/2016	5.16	5.18	5.22	1.71	2.99	3.27	3.32	2.80	2.90
11/4/2016	5.63	5.71	5.71	2.43	2.39	3.37	3.29	2.74	Abandoned
12/1/2016	6.44	6.71	6.57	2.84	2.47	3.54	4.13	2.96	Abandoned
1/17/2017	6.71	6.78	6.80	3.16	2.75	3.60	4.18	3.42	Abandoned

Prepared by: JLD 02/09/2017
Reviewed by: DEN 02/09/2017

TABLE 4

Groundwater Elevation Monitoring

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

	SA-6 North Piezometers									
	087-PZ-1	087-PZ-2	087-PZ-3	087-PZ-4	087-PZ-5	087-PZ-6	087-PZ-7	087-PZ-8	087-PZ-9	087-PZ-10
10/1/2015	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
10/28/2015	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
12/1/2015	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
12/30/2015	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
2/1/2016	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
3/1/2016	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
4/1/2016	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
5/2/2016	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
6/1/2016	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
6/28/2016	3.47	2.66	2.73	3.05	Temp. Unavailable	Temp. Unavailable	5.48	1.44	2.12	1.72
7/27/2016	3.54	2.68	2.85	3.22	Temp. Unavailable	Temp. Unavailable	5.63	1.52	2.11	1.86
8/29/2016	3.35	3.21	3.11	3.18	Temp. Unavailable	Temp. Unavailable	5.22	2.50	2.50	2.58
9/29/2016	3.21	3.21	2.80	3.27	Temp. Unavailable	Temp. Unavailable	4.96	1.50	3.03	1.48
11/4/2016	3.53	3.31	2.76	3.38	3.70	3.25	5.36	2.32	2.51	2.37
12/1/2016	4.96	3.27	3.00	3.46	5.82	3.39	6.39	2.64	2.77	2.99
1/17/2017	4.59	3.60	3.45	3.51	5.30	3.50	6.41	2.97	2.07	3.18

Notes:

NI : Not Installed at time of measurement

Temp. Unavailable: Could not be accessed

NR: Not Recorded

Elev.: Groundwater Elevation, feet

Prepared by: JLD 02/09/2017

Reviewed by: DEN 02/09/2017

TABLE 5

SHALLOW MONITORING WELL LIST

Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Study Area	Site	Well	Easting	Northing	Permit Number	Well Depth (feet below TOC)	Well Diam (in)	Well Construction
SA-7	115	115-E4-SO	603480.0	685090.0	2600076844	13.45	2.0	PVC
SA-7	115	115-E5-SO	603099.3	685381.4	2600078862	19.80	2.0	PVC
SA-7	115	115-W1-SO	602463.9	685748.8	-	24.66	2.0	PVC
SA-7	115	115-W6-SO	602121.0	685951.0	-	18.15	2.0	PVC
SA-6 North	87	087-PZ-1	603719.0	685108.0	E201606638	10.81	4.0	SS
SA-6 North	87	087-PZ-2	603710.2	685111.3	E201606639	15.21	4.0	SS
SA-6 North	87	087-PZ-3	603365.3	685484.2	E201606641	16.87	4.0	SS
SA-6 North	87	087-PZ-4	603361.6	685478.8	E201606642	20.26	4.0	SS
SA-6 North	87	087-PZ-5	602959.3	685779.8	E201606645	23.07	4.0	SS
SA-6 North	87	087-PZ-6	602956.0	685773.1	E201606646	25.25	4.0	SS
SA-6 North	87	087-PZ-7	602442.3	685973.9	E201606650	25.19	4.0	SS
SA-6 North	87	087-PZ-8	602430.4	685947.7	E201606651	20.27	4.0	SS
SA-6 North	87	087-PZ-9	602087.3	686064.8	E201606647	20.04	4.0	SS
SA-6 North	87	087-PZ-10	602101.8	686066.4	E201606648	20.03	4.0	SS

Notes:
1. New Jersey State Plane Coordinates relative to North American Datum (NAD) of 1983.
2. Diam (in) = Well diameter in inches
3. PVC = Polyvinyl Chloride
4. SS = Stainless Steel
5. SA-7 wells included are within the SA-6 North Open Space AOC.
6. Well depth is feet below top of casing (April 2016).
7. NM = not measured.

Prepared by JLD 01/19/2017
Reviewed by NW 01/19/2017

TABLE 6A

Stockpile Tracking Table

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Hexavalent Chromium Result (mg/kg)	FINAL PLACEMENT OF MATERIAL*		
							<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz or Non Haz
EA8	<20	087-EA8-20-a,b	1500	087-EA8-20-a1	6/24/2015	<2.3	Yes (Placed in EA7)		
				087-EA8-20-a2	6/24/2015	<2.3	Yes (Placed in EA7)		
				087-EA8-20-a3	6/24/2015	<1.9	Yes (Placed in EA7)		
				087-EA8-20-a4	6/24/2015	<1.9	Yes (Placed in EA7)		
				087-EA8-20-b1	6/24/2015	<2.1	Yes (Placed in EA7)		
				087-EA8-20-b2	6/24/2015	0.78	Yes (Placed in EA7)		
				087-EA8-20-b3	6/24/2015	2.10	Yes (Placed in EA7)		
				087-EA8-20-b4	6/24/2015	<2.0	Yes (Placed in EA7)		
EA8	<20	087-EA8-20-c (bermed/trench material)	250	087-EA8-20-c1	6/24/2015	<1.9	Yes (Placed in EA8)		
				087-EA8-20-c2	6/24/2015	<2.1	Yes (Placed in EA8)		
				087-EA8-20-c3	6/24/2015	<2.1	Yes (Placed in EA8)		
				087-EA8-20-c4	6/24/2015	<1.9	Yes (Placed in EA8)		
EA7	<20	087-EA7-20-a (bermed/trench material)	900	087-EA7-20-a1	6/26/2015	<1.8	Yes (Placed in EA7)		
				087-EA7-20-a2	6/26/2015	<1.4	Yes (Placed in EA7)		
				087-EA7-20-a3	6/26/2015	<1.4	Yes (Placed in EA7)		
				087-EA7-20-a4	6/26/2015	5.5	Yes (Placed in EA7)		
EA7	<20	087-EA7-20-b West Pile	600	087-EA7-20-b1	7/14/2015	5.2	Yes (Placed in EA7)		
				087-EA7-20-b2	7/14/2015	2.6	Yes (Placed in EA7)		
				087-EA7-20-b3	7/14/2015	4.3	Yes (Placed in EA7)		
				087-EA7-20-b4	7/14/2015	2.8	Yes (Placed in EA7)		
EA7	<20	087-EA7-20-c East Pile	200	087-EA7-20-c1	7/14/2015	<.47	Yes (Placed in EA7)		
				087-EA7-20-c2	7/14/2015	<1.6	Yes (Placed in EA7)		
3S cap material	<240	124-3S-EX-a,b,c,d (Excess 3S material)	3500	124-3S-EX-a1	8/10/2015	51.6		Yes	
				124-3S-EX-a2	8/10/2015	18.6	Yes (Placed in EA2/EA3)		
				124-3S-EX-a3	8/10/2015	37.1		Yes	
				124-3S-EX-a4	8/10/2015	18.9	Yes (Placed in EA2/EA3)		
				124-3S-EX-b1	8/10/2015	24.8		Yes	
				124-3S-EX-b2	8/10/2015	49.3		Yes	
				124-3S-EX-b3	8/10/2015	37.9		Yes	
				124-3S-EX-b4	8/10/2015	40.4		Yes	
				124-3S-EX-c1	8/10/2015	24.7		Yes	
				124-3S-EX-c2	8/10/2015	36.3		Yes	
				124-3S-EX-c3	8/10/2015	46.7		Yes	
				124-3S-EX-c4	8/10/2015	8.1	Yes (Placed in EA2/EA3)		
				124-3S-EX-d1	8/10/2015	25.6		Yes	
				124-3S-EX-d2	8/10/2015	32.1		Yes	
				124-3S-EX-d3	8/10/2015	74.6		Yes	
				124-3S-EX-d4	8/10/2015	34.7		Yes	
EA4	<20	087-EA4-20-a (bermed/trench material)	225	087-EA4-20-a1	9/11/2015	2	Yes (Placed in EA-4)		
				087-EA4-20-a2	9/11/2015	<1.4	Yes (Placed in EA-4)		
				087-EA4-20-a3	9/11/2015	<1.8	Yes (Placed in EA-4)		
				087-EA4-20-a4	9/11/2015	5.0	Yes (Placed in EA-4)		
EA-5	<20	087-EA5-20-a1:b4 (benched of A material)	1300	087-EA5-20-a1	9/11/2015	0.7	Yes (Placed in EA-5)		
				087-EA5-20-a2	9/11/2015	<1.7	Yes (Placed in EA-5)		
				087-EA5-20-a3	9/11/2015	<.46	Yes (Placed in EA-5)		
				087-EA5-20-a4	9/11/2015	<1.1	Yes (Placed in EA-5)		
				087-EA5-20-b1	9/11/2015	<2.0	Yes (Placed in EA-5)		
				087-EA5-20-b2	9/11/2015	6.8	Yes (Placed in EA-5)		
				087-EA5-20-b3	9/11/2015	8.3	Yes (Placed in EA-5)		
				087-EA5-20-b4	9/11/2015	<.55	Yes (Placed in EA-5)		

Prepared by JD 05/01/2016
Reviewed by NW 05/15/2016

TABLE 6A

Stockpile Tracking Table

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Hexavalent Chromium Result (mg/kg)	FINAL PLACEMENT OF MATERIAL*		
							<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz or Non Haz
EA-5	<20	087-EA5-20-c1:d4 (stockpile of A material)	2000	087-EA5-20-c1	9/11/2015	<1.8	Yes (Placed in EA2/EA3)		
				087-EA5-20-c2	9/11/2015	<1.9	Yes (Placed in EA2/EA3)		
				087-EA5-20-c3	9/11/2015	<.56	Yes (Placed in EA2/EA3)		
				087-EA5-20-c4	9/11/2015	<.60	Yes (Placed in EA2/EA3)		
				087-EA5-20-d1	9/11/2015	<.56	Yes (Placed in EA2/EA3)		
				087-EA5-20-d2	9/11/2015	<.44	Yes (Placed in EA2/EA3)		
				087-EA5-20-d3	9/11/2015	<.5	Yes (Placed in EA2/EA3)		
				087-EA5-20-d4	9/11/2015	9.6	Yes (Placed in EA2/EA3)		
EA-5 UST	WC	087-EA5-UST-WC	50	087-EA5-UST-WC	9/25/2015	<1.9			Yes
3S cap material	<240	124-3S-EX2-a	780	124-3S-EX2-a1	9/28/2015	50		Yes	
				124-3S-EX2-a2	9/28/2015	48.5		Yes	
				124-3S-EX2-a3	9/28/2015	82.3		Yes	
				124-3S-EX2-a4	9/28/2015	785			Yes
Material from under 3S asphalt roadway	<240	124-3S-Roadway-a	525	124-3S-Roadway-a1	9/28/2015	327			Yes
				124-3S-Roadway-a2	9/28/2015	2100			Yes
				124-3S-Roadway-a3	9/28/2015	1970			Yes
				124-3S-Roadway-a4	9/28/2015	5900			Yes
EA-5 Asphalt	<240	087-EA5-Asphalt	100	087-EA5-Asphalt-092815	9/28/2015	<.41		Yes	
Utility material (waterline break; excavated material)	<20	087-EA2-waterline	50	087-EA2-waterline-092815	9/28/2015	13.5	Yes (Placed in EA2/EA3)		
3S cap material	<240	124-3S-EX3-a	1000	124-3S-EX3-a1	10/21/2015	3120			Yes
				124-3S-EX3-a2	10/21/2015	6820			Yes
				124-3S-EX3-a3	10/21/2015	5690			Yes
				124-3S-EX3-a4	10/21/2015	4300			Yes
1N (2 foot cut material)	<20	087-1N-20-a, b, c	3000	087-1N-20-a1	10/28/2015	<.5	Yes (Placed in SA-6 South)		
				087-1N-20-a2	10/28/2015	2.1	Yes (Placed in SA-6 South)		
				087-1N-20-a3	10/28/2015	<.48	Yes (Placed in SA-6 South)		
				087-1N-20-a4	10/28/2015	5.4	Yes (Placed in SA-6 South)		
				087-1N-20-b1	10/28/2015	1.0	Yes (Placed in SA-6 South)		
				087-1N-20-b2	10/28/2015	<2.0	Yes (Placed in SA-6 South)		
				087-1N-20-b3	10/28/2015	0.65	Yes (Placed in SA-6 South)		
				087-1N-20-b4	10/28/2015	<1.9	Yes (Placed in SA-6 South)		
				087-1N-20-c1	10/28/2015	<2.0	Yes (Placed in SA-6 South)		
				087-1N-20-c2	10/28/2015	<1.8	Yes (Placed in SA-6 South)		
				087-1N-20-c3	10/28/2015	<1.8	Yes (Placed in SA-6 South)		
				087-1N-20-c4	10/28/2015	<.51	Yes (Placed in SA-6 South)		

Prepared by JD 05/01/2016
Reviewed by NW 05/15/2016

TABLE 6A

Stockpile Tracking Table

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Hexavalent Chromium Result (mg/kg)	FINAL PLACEMENT OF MATERIAL*		
							<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz or Non Haz
1 N (2 foot cut material)	<20	087-1N-20-d1:n4	11,160	087-1N-20-d1	11/17/2015	<1.4	Yes (Placed in SA-6 South)		
				087-1N-20-d2	11/17/2015	9.5	Yes (Placed in SA-6 South)		
				087-1N-20-d3	11/17/2015	19.9	Yes (Placed in SA-6 South)		
				087-1N-20-d4	11/17/2015	<1.5	Yes (Placed in SA-6 South)		
				087-1N-20-e1	11/17/2015	<1.3	Yes (Placed in SA-6 South)		
				087-1N-20-e2	11/17/2015	<1.4	Yes (Placed in SA-6 South)		
				087-1N-20-e3	11/17/2015	<1.4	Yes (Placed in SA-6 South)		
				087-1N-20-e4	11/17/2015	<1.4	Yes (Placed in SA-6 South)		
				087-1N-20-f1	11/17/2015	<1.5	Yes (Placed in SA-6 South)		
				087-1N-20-f2	11/17/2015	<.93	Yes (Placed in SA-6 South)		
				087-1N-20-f3	11/17/2015	<.90	Yes (Placed in SA-6 South)		
				087-1N-20-f4	11/17/2015	<1.5	Yes (Placed in SA-6 South)		
				087-1N-20-g1	11/17/2015	<.95	Yes (Placed in SA-6 South)		
				087-1N-20-g2	11/17/2015	<.86	Yes (Placed in SA-6 South)		
				087-1N-20-g3	11/17/2015	<.96	Yes (Placed in SA-6 South)		
				087-1N-20-g4	11/17/2015	<1.3	Yes (Placed in SA-6 South)		
				087-1N-20-h1	11/17/2015	1.9	Yes (Placed in EA2/EA3)		
				087-1N-20-h2	11/17/2015	<.92	Yes (Placed in EA2/EA3)		
				087-1N-20-h3	11/17/2015	<1.4	Yes (Placed in EA2/EA3)		
				087-1N-20-h4	11/17/2015	<.92	Yes (Placed in EA2/EA3)		
				087-1N-20-i1	11/17/2015	<1.3	Yes (Placed in EA2/EA3)		
				087-1N-20-i2	11/17/2015	<2.0	Yes (Placed in EA2/EA3)		
				087-1N-20-i3	11/17/2015	<1.9	Yes (Placed in EA2/EA3)		
				087-1N-20-i4	11/17/2015	<2.1	Yes (Placed in EA2/EA3)		
				087-1N-20-j1	11/17/2015	<1.8	Yes (Placed in EA2/EA3)		
				087-1N-20-j2	11/17/2015	<1.4	Yes (Placed in EA2/EA3)		
				087-1N-20-j3	11/17/2015	<1.9	Yes (Placed in EA2/EA3)		
				087-1N-20-j4	11/17/2015	<1.8	Yes (Placed in EA2/EA3)		
				087-1N-20-k1	11/17/2015	<1.6	Yes (Placed in EA2/EA3)		
				087-1N-20-k2	11/17/2015	<2.0	Yes (Placed in EA2/EA3)		
				087-1N-20-k3	11/17/2015	<2.1	Yes (Placed in EA2/EA3)		
				087-1N-20-k4	11/17/2015	<1.4	Yes (Placed in EA2/EA3)		
				087-1N-20-l1	11/17/2015	<1.4	Yes (Placed in EA2/EA3)		
				087-1N-20-l2	11/17/2015	<1.9	Yes (Placed in EA2/EA3)		
				087-1N-20-l3	11/17/2015	<2.0	Yes (Placed in EA2/EA3)		
				087-1N-20-l4	11/17/2015	<2.1	Yes (Placed in EA2/EA3)		
				087-1N-20-m1	11/17/2015	<1.9	Yes (Placed in EA2/EA3)		
				087-1N-20-m2	11/17/2015	<1.9	Yes (Placed in EA2/EA3)		
				087-1N-20-m3	11/17/2015	<1.4	Yes (Placed in EA2/EA3)		
				087-1N-20-m4	11/17/2015	<1.4	Yes (Placed in EA2/EA3)		
				087-1N-20-n1	11/17/2015	<1.4	Yes (Placed in EA2/EA3)		
				087-1N-20-n2	11/17/2015	<1.4	Yes (Placed in EA2/EA3)		
				087-1N-20-n3	11/17/2015	<1.3	Yes (Placed in EA2/EA3)		
				087-1N-20-n4	11/17/2015	<1.5	Yes (Placed in EA2/EA3)		
EA2/EA3	<20	087-EA2-20-a (bermed/trench material)	400	087-EA2-20-a1	12/11/2015	<1.8	Yes (Placed in EA2/EA3)		
				087-EA2-20-a2	12/11/2015	6.7	Yes (Placed in EA2/EA3)		
				087-EA2-20-a3	12/11/2015	<1.9	Yes (Placed in EA2/EA3)		
				087-EA2-20-a4	12/11/2015	3.8	Yes (Placed in EA2/EA3)		

Prepared by JD 05/01/2016
Reviewed by NW 05/15/2016

TABLE 6A

Stockpile Tracking Table

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Hexavalent Chromium Result (mg/kg)	FINAL PLACEMENT OF MATERIAL*		
							<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz or Non Haz
EA2/EA3	<20	087-EA2-20-b1:g1 (A material)	5200 cy	087-EA2-20-b1	12/30/2015	3.0	Yes (Placed in EA2/EA3)		
				087-EA2-20-b2	12/30/2015	3.0	Yes (Placed in EA2/EA3)		
				087-EA2-20-b3	12/30/2015	0.55	Yes (Placed in EA2/EA3)		
				087-EA2-20-b4	12/30/2015	0.97	Yes (Placed in EA2/EA3)		
				087-EA2-20-c1	12/30/2015	4.3	Yes (Placed in EA2/EA3)		
				087-EA2-20-c2	12/30/2015	1.5	Yes (Placed in EA2/EA3)		
				087-EA2-20-c3	12/30/2015	1.6	Yes (Placed in EA2/EA3)		
				087-EA2-20-c4	12/30/2015	0.53	Yes (Placed in EA2/EA3)		
				087-EA2-20-d1	12/30/2015	0.60	Yes (Placed in EA2/EA3)		
				087-EA2-20-d2	12/30/2015	15.9	Yes (Placed in EA2/EA3)		
				087-EA2-20-d3	12/30/2015	5.4	Yes (Placed in EA2/EA3)		
				087-EA2-20-d4	12/30/2015	1.7	Yes (Placed in EA2/EA3)		
				087-EA2-20-e1	12/30/2015	0.53	Yes (Placed in EA2/EA3)		
				087-EA2-20-e2	12/30/2015	12.3	Yes (Placed in EA2/EA3)		
				087-EA2-20-e3	12/30/2015	3.1	Yes (Placed in EA2/EA3)		
				087-EA2-20-e4	12/30/2015	0.57	Yes (Placed in EA2/EA3)		
				087-EA2-20-f1	12/30/2015	0.52	Yes (Placed in EA2/EA3)		
				087-EA2-20-f2	12/30/2015	0.53	Yes (Placed in EA2/EA3)		
				087-EA2-20-f3	12/30/2015	0.57	Yes (Placed in EA2/EA3)		
				087-EA2-20-f4	12/30/2015	0.54	Yes (Placed in EA2/EA3)		
				087-EA2-20-g1	12/30/2015	0.53	Yes (Placed in EA2/EA3)		
EA2/EA3	<20	087-EA2-20-h1 (overburden)	150 cy	087-EA2-20-h1	12/30/2015	0.7	Yes (Placed in EA2/EA3)		
EA2/EA3	<20	087-EA2-20-i1 (overburden)	200 cy	087-EA2-20-i1	12/30/2015	0.54	Yes (Placed in EA2/EA3)		
EA2/EA3	<20	087-EA2-20-h2:j3 (overburden)	2200 cy	087-EA2-20-h2	1/8/2016	24.1		Yes	
				087-EA2-20-h3	1/8/2016	<1.4	Yes (Placed in EA2/EA3)		
				087-EA2-20-h4	1/8/2016	19	Yes (Placed in EA2/EA3)		
				087-EA2-20-i2	1/8/2016	0.66	Yes (Placed in EA2/EA3)		
				087-EA2-20-i3	1/8/2016	<1.9	Yes (Placed in EA2/EA3)		
				087-EA2-20-i4	1/8/2016	<1.4	Yes (Placed in EA2/EA3)		
				087-EA2-20-j1	1/8/2016	<2.0	Yes (Placed in EA2/EA3)		
				087-EA2-20-j2	1/8/2016	8.9	Yes (Placed in EA2/EA3)		
				087-EA2-20-j3	1/8/2016	<1.9	Yes (Placed in EA2/EA3)		
EA2/EA3	<20	087-EA2-20-k1:k4	1000 cy	087-EA2-20-k1	1/8/2016	7	Yes (Placed in EA2/EA3)		
				087-EA2-20-k2	1/8/2016	10	Yes (Placed in EA2/EA3)		
				087-EA2-20-k3	1/8/2016	8	Yes (Placed in EA2/EA3)		
				087-EA2-20-k4	1/8/2016	<1.9	Yes (Placed in EA2/EA3)		
EA1	<20	087-EA1-20-a1:a4	210 cy	087-EA1-20-a1	2/29/2016	0.89	Yes (Placed in EA2/EA3)		
				087-EA1-20-a2	2/29/2016	3.2	Yes (Placed in EA2/EA3)		
				087-EA1-20-a3	2/29/2016	29		Yes	
				087-EA1-20-a4	2/29/2016	2.3	Yes (Placed in EA2/EA3)		

mg/kg = milligrams per kilogram

*Material placement locations are approximate and based on concentrations in mg/kg.

Prepared by JD 05/01/2016

Reviewed by NW 05/15/2016

TABLE 6B

Stockpile Soil Results <20 mg/kg

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

				087-EA8-20-a								087-EA8-20-b							
Client Sample ID				087-EA8-20-a1		087-EA8-20-a2		087-EA8-20-a3		087-EA8-20-a4		087-EA8-20-b1		087-EA8-20-b2		087-EA8-20-b3		087-EA8-20-b4	
Lab Sample ID				JB97778-1		JB97778-2		JB97778-3		JB97778-4		JB97778-5		JB97778-6R		JB97778-7R		JB97778-8	
Date Sampled				06/24/2015		06/24/2015		06/24/2015		06/24/2015		06/24/2015		06/24/2015		06/24/2015		06/24/2015	
Sample Purpose		NJ 2012 MOST		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	STRINGENT SRS	NJ 2013 IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
HEXAVALENT CHROMIUM	mg/kg	20	NC	2.3	U	2.3	U	1.9	U	1.9	U	2.1	U	0.78		2.1		2	U

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012]

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016
Reviewed by: NAW 05/08/17

TABLE 6B

Stockpile Soil Results <20 mg/kg

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

				087-EA8-20-c								087-EA7-20-a							
Client Sample ID				087-EA8-20-c1		087-EA8-20-c2		087-EA8-20-c3		087-EA8-20-c4		087-EA7-20-a1		087-EA7-20-a2		087-EA7-20-a3		087-EA7-20-a4	
Lab Sample ID				JB97778-9		JB97778-10		JB97778-11R		JB97778-12		JB97995-1RT		JB97995-2R		JB97995-3R		JB97995-4R	
Date Sampled				06/24/2015		06/24/2015		06/24/2015		06/24/2015		06/26/2015		06/26/2015		06/26/2015		06/26/2015	
Sample Purpose		NJ 2012 MOST		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	STRINGENT SRS	NJ 2013 IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
HEXAVALENT CHROMIUM	mg/kg	20	NC	1.9	U	2.1	U	0.54		1.9	U	1.8		1.4	U	1.4	U	5.5	

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012]

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016
Reviewed by: NAW 05/08/17

TABLE 6B

Stockpile Soil Results <20 mg/kg

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

				087-EA7-20-c				087-EA7-20-b								087-EA4-20-a							
Client Sample ID				087-EA7-20-c1		087-EA7-20-c2		087-EA7-20-b1		087-EA7-20-b2		087-EA7-20-b3		087-EA7-20-b4		087-EA4-20-a1		087-EA4-20-a2		087-EA4-20-a3		087-EA4-20-a4	
Lab Sample ID				JB99075-1		JB99075-2		JB99075-3R		JB99075-4R		JB99075-5		JB99075-6		JC3673-1T		JC3673-2		JC3673-3T		JC3673-4	
Date Sampled				07/14/2015		07/14/2015		07/14/2015		07/14/2015		07/14/2015		07/14/2015		09/11/2015		09/11/2015		09/11/2015		09/11/2015	
Sample Purpose		NJ 2012 MOST		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	STRINGENT SRS	NJ 2013 IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
HEXAVALENT CHROMIUM	mg/kg	20	NC	0.47	UJ	1.6	UJ	5.2		2.6		4.3		2.8	J	0.47	UJ	1.4	UJ	0.46	UJ	5	J

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012]

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016
Reviewed by: NAW 05/08/17

TABLE 6B

Stockpile Soil Results <20 mg/kg

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

				087-EA5-20-a								087-EA5-20-b							
Client Sample ID				087-EA5-20-a1		087-EA5-20-a2		087-EA5-20-a3		087-EA5-20-a4		087-EA5-20-b1		087-EA5-20-b2		087-EA5-20-b3		087-EA5-20-b4	
Lab Sample ID				JC3673-5		JC3673-6T		JC3673-7T		JC3673-8		JC3673-9T		JC3673-10T		JC3673-11T		JC3673-12T	
Date Sampled				09/11/2015		09/11/2015		09/11/2015		09/11/2015		09/11/2015		09/11/2015		09/11/2015		09/11/2015	
Sample Purpose		NJ 2012 MOST		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	STRINGENT SRS	NJ 2013 IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
HEXAVALENT CHROMIUM	mg/kg	20	NC	0.7	J	0.57	UJ	0.45	UJ	1.1	UJ	0.49	UJ	6.8	J	0.57	UJ	0.55	UJ

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012]

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016
Reviewed by: NAW 05/08/17

TABLE 6B

Stockpile Soil Results <20 mg/kg

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

				087-EA5-20-c								087-EA5-20-d								087-EA2-WATERLINE-092815	
Client Sample ID				087-EA5-20-c1		087-EA5-20-c2		087-EA5-20-c3		087-EA5-20-c4		087-EA5-20-d1		087-EA5-20-d2		087-EA5-20-d3		087-EA5-20-d4		087-EA2-WATERLINE-092815	
Lab Sample ID				JC3673-13		JC3673-14		JC3673-15		JC3673-16R		JC3673-17T		JC3673-18		JC3673-19		JC3673-20T		JC4875-1R	
Date Sampled				09/11/2015		09/11/2015		09/11/2015		09/11/2015		09/11/2015		09/11/2015		09/11/2015		09/11/2015		09/28/2015	
Sample Purpose		NJ 2012 MOST		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	STRINGENT SRS	NJ 2013 IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
HEXAVALENT CHROMIUM	mg/kg	20	NC	1.8	UJ	1.9	UJ	0.56	UJ	0.6	UJ	0.53	UJ	0.44	UJ	0.5	UJ	0.51	UJ	13.5	J

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012]

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016
Reviewed by: NAW 05/08/17

TABLE 6B

Stockpile Soil Results <20 mg/kg

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

				087-1N-20-a								087-1N-20-b							
Client Sample ID				087-1N-20-a1		087-1N-20-a2		087-1N-20-a3		087-1N-20-a4		087-1N-20-b1		087-1N-20-b2		087-1N-20-b3		087-1N-20-b4	
Lab Sample ID				JC7275-1		JC7275-2R		JC7275-3R		JC7275-4R		JC7275-5R		JC7275-6R		JC7275-7		JC7275-8R	
Date Sampled				10/28/2015		10/28/2015		10/28/2015		10/28/2015		10/28/2015		10/28/2015		10/28/2015		10/28/2015	
Sample Purpose		NJ 2012 MOST		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	STRINGENT SRS	NJ 2013 IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
HEXAVALENT CHROMIUM	mg/kg	20	NC	0.5	UJ	2.1		0.48	U	5.4		0.98		2	U	0.65	J	1.9	U

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012]

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016
Reviewed by: NAW 05/08/17

TABLE 6B

Stockpile Soil Results <20 mg/kg

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

				087-1N-20-c								087-1N-20-d							
Client Sample ID				087-1N-20-c1		087-1N-20-c2		087-1N-20-c3		087-1N-20-c4		087-1N-20-d1		087-1N-20-d2		087-1N-20-d3		087-1N-20-d4	
Lab Sample ID				JC7275-9R		JC7275-10		JC7275-11R		JC7275-12R		JC8711-1		JC8711-2		JC8711-3R		JC8711-4	
Date Sampled				10/28/2015		10/28/2015		10/28/2015		10/28/2015		11/17/2015		11/17/2015		11/17/2015		11/17/2015	
Sample Purpose		NJ 2012 MOST		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	STRINGENT SRS	NJ 2013 IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
HEXAVALENT CHROMIUM	mg/kg	20	NC	2	U	0.76	J	1.8	U	0.51	U	1.4	U	9.5		19.9		1.5	U

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012]

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016
Reviewed by: NAW 05/08/17

TABLE 6B

Stockpile Soil Results <20 mg/kg

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

				087-1N-20-e								087-1N-20-f							
Client Sample ID				087-1N-20-e1		087-1N-20-e2		087-1N-20-e3		087-1N-20-e4		087-1N-20-f1		087-1N-20-f2		087-1N-20-f3		087-1N-20-f4	
Lab Sample ID				JC8711-5		JC8711-6R		JC8711-7		JC8711-8		JC8711-9R		JC8711-10		JC8711-11		JC8711-12	
Date Sampled				11/17/2015		11/17/2015		11/17/2015		11/17/2015		11/17/2015		11/17/2015		11/17/2015		11/17/2015	
Sample Purpose		NJ 2012 MOST		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	STRINGENT SRS	NJ 2013 IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
HEXAVALENT CHROMIUM	mg/kg	20	NC	1.5	U	1.3	U	1.4	U	1.4	U	1.5	U	0.93	U	0.9	U	1.5	U

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012]

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016
Reviewed by: NAW 05/08/17

TABLE 6B

Stockpile Soil Results <20 mg/kg

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

				087-1N-20-g								087-1N-20-h							
Client Sample ID				087-1N-20-g1		087-1N-20-g2		087-1N-20-g3		087-1N-20-g4		087-1N-20-h1		087-1N-20-h2		087-1N-20-h3		087-1N-20-h4	
Lab Sample ID				JC8711-13		JC8711-14		JC8711-15		JC8711-16R		JC8711-17		JC8711-18R		JC8711-19R		JC8711-20	
Date Sampled				11/17/2015		11/17/2015		11/17/2015		11/17/2015		11/17/2015		11/17/2015		11/17/2015		11/17/2015	
Sample Purpose		NJ 2012 MOST		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	STRINGENT SRS	NJ 2013 IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
HEXAVALENT CHROMIUM	mg/kg	20	NC	0.95	U	0.86	U	0.96	U	1.3	U	1.9		0.92	U	1.4	U	0.92	U

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012]

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016
Reviewed by: NAW 05/08/17

TABLE 6B

Stockpile Soil Results <20 mg/kg

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

				087-1N-20-i								087-1N-20-j							
Client Sample ID				087-1N-20-i1		087-1N-20-i2		087-1N-20-i3		087-1N-20-i4		087-1N-20-j1		087-1N-20-j2		087-1N-20-j3		087-1N-20-j4	
Lab Sample ID				JC8711-21		JC8711-22		JC8711-23		JC8711-24		JC8711-25		JC8711-26		JC8711-27		JC8711-28	
Date Sampled				11/17/2015		11/17/2015		11/17/2015		11/17/2015		11/17/2015		11/17/2015		11/17/2015		11/17/2015	
Sample Purpose		NJ 2012 MOST		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	STRINGENT SRS	NJ 2013 IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
HEXAVALENT CHROMIUM	mg/kg	20	NC	1.3	U	2	U	1.9	U	2.1	U	1.8	U	1.4	U	1.9	U	1.8	U

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012]

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016
Reviewed by: NAW 05/08/17

TABLE 6B

Stockpile Soil Results <20 mg/kg

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

				087-1N-20-k								087-1N-20-L							
Client Sample ID				087-1N-20-k1		087-1N-20-k2		087-1N-20-k3		087-1N-20-k4		087-1N-20-L1		087-1N-20-L2		087-1N-20-L3		087-1N-20-L4	
Lab Sample ID				JC8711-29		JC8711-30		JC8711-31		JC8711-32		JC8711-33		JC8711-34		JC8711-35		JC8711-36	
Date Sampled				11/17/2015		11/17/2015		11/17/2015		11/17/2015		11/17/2015		11/17/2015		11/17/2015		11/17/2015	
Sample Purpose		NJ 2012 MOST		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	STRINGENT SRS	NJ 2013 IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
HEXAVALENT CHROMIUM	mg/kg	20	NC	1.6	U	2	U	2.1	U	1.4	U	1.4	U	1.9	U	2	U	2.1	U

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012]

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016

Reviewed by: NAW 05/08/17

TABLE 6B

Stockpile Soil Results <20 mg/kg

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

				087-1N-20-m								087-1N-20-n							
Client Sample ID				087-1N-20-m1		087-1N-20-m2		087-1N-20-m3		087-1N-20-m4		087-1N-20-n1		087-1N-20-n2		087-1N-20-n3		087-1N-20-n4	
Lab Sample ID				JC8711-37		JC8711-38		JC8711-39		JC8711-40		JC8711-41		JC8711-42		JC8711-43		JC8711-44R	
Date Sampled				11/17/2015		11/17/2015		11/17/2015		11/17/2015		11/17/2015		11/17/2015		11/17/2015		11/17/2015	
Sample Purpose		NJ 2012 MOST		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	STRINGENT SRS	NJ 2013 IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
HEXAVALENT CHROMIUM	mg/kg	20	NC	1.9	U	1.9	U	1.4	U	1.4	U	1.4	U	1.4	U	1.3	U	1.5	U

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012]

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016
Reviewed by: NAW 05/08/17

TABLE 6B

Stockpile Soil Results <20 mg/kg

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

				087-EA2-20-a								087-EA2-20-B							
Client Sample ID				087-EA2-20-a1		087-EA2-20-a2		087-EA2-20-a3		087-EA2-20-a4		087-EA2-20-B1		087-EA2-20-B2		087-EA2-20-B3		087-EA2-20-B4	
Lab Sample ID				JC10492-1R		JC10492-2R		JC10492-3R		JC10492-4R		JC11783-1R		JC11783-2R		JC11783-3		JC11783-4	
Date Sampled				12/11/2015		12/11/2015		12/11/2015		12/11/2015		12/30/2015		12/30/2015		12/30/2015		12/30/2015	
Sample Purpose		NJ 2012 MOST		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	STRINGENT SRS	NJ 2013 IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
HEXAVALENT CHROMIUM	mg/kg	20	NC	1.8	U	6.7		1.9	U	3.8		3	J	3	J	0.55		0.97	

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012]

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016
Reviewed by: NAW 05/08/17

TABLE 6B

Stockpile Soil Results <20 mg/kg

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

				087-EA2-20-C								087-EA2-20-D							
Client Sample ID				087-EA2-20-C1		087-EA2-20-C2		087-EA2-20-C3		087-EA2-20-C4		087-EA2-20-D1		087-EA2-20-D2		087-EA2-20-D3		087-EA2-20-D4	
Lab Sample ID				JC11783-5R		JC11783-6R		JC11783-7R		JC11783-8R		JC11783-9		JC11783-10		JC11783-11R		JC11783-12	
Date Sampled				12/30/2015		12/30/2015		12/30/2015		12/30/2015		12/30/2015		12/30/2015		12/30/2015		12/30/2015	
Sample Purpose		NJ 2012 MOST		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	STRINGENT SRS	NJ 2013 IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
HEXAVALENT CHROMIUM	mg/kg	20	NC	4.3	J	1.5	J	1.6	J	0.53	UJ	0.6		15.9		5.4	J	1.7	

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012]

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016
Reviewed by: NAW 05/08/17

TABLE 6B

Stockpile Soil Results <20 mg/kg

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

				087-EA2-20-E								087-EA2-20-F								087-EA2-20-G		087-EA2-20-H	
Client Sample ID				087-EA2-20-E1		087-EA2-20-E2		087-EA2-20-E3		087-EA2-20-E4		087-EA2-20-F1		087-EA2-20-F2		087-EA2-20-F3		087-EA2-20-F4		087-EA2-20-G1		087-EA2-20-H1	
Lab Sample ID				JC11783-13		JC11783-14R		JC11783-15R		JC11783-16		JC11783-17		JC11783-18R		JC11783-19R		JC11783-20		JC11783-21		JC11783-22	
Date Sampled				12/30/2015		12/30/2015		12/30/2015		12/30/2015		12/30/2015		12/30/2015		12/30/2015		12/30/2015		12/30/2015		12/30/2015	
Sample Purpose		NJ 2012 MOST		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	STRINGENT SRS	NJ 2013 IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
HEXAVALENT CHROMIUM	mg/kg	20	NC	0.53	U	12.3		3.1		0.57		0.52	U	0.53	U	0.57		0.54	U	0.53	U	0.7	

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012]

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016
Reviewed by: NAW 05/08/17

TABLE 6B

Stockpile Soil Results <20 mg/kg

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

				087-EA2-20-I		087-EA2-20-H						087-EA2-20-I						087-EA2-20-J					
Client Sample ID				087-EA2-20-I1		087-EA2-20-H2		087-EA2-20-H3		087-EA2-20-H4		087-EA2-20-I2		087-EA2-20-I3		087-EA2-20-I4		087-EA2-20-J1		087-EA2-20-J2		087-EA2-20-J3	
Lab Sample ID				JC11783-23R		JC12267-1		JC12267-2		JC12267-3R		JC12267-4R		JC12267-5R		JC12267-6		JC12267-7		JC12267-8R		JC12267-9	
Date Sampled				12/30/2015		01/08/2016		01/08/2016		01/08/2016		01/08/2016		01/08/2016		01/08/2016		01/08/2016		01/08/2016		01/08/2016	
Sample Purpose		NJ 2012 MOST		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	STRINGENT SRS	NJ 2013 IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
HEXAVALENT CHROMIUM	mg/kg	20	NC	0.54	U	**24.1**		1.4	U	19	J	0.66	J	0.55	J	1.4	U	2	U	8.9		1.9	U

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012]

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016
Reviewed by: NAW 05/08/17

TABLE 6B

Stockpile Soil Results <20 mg/kg

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

				087-EA2-20-K								087-EA1-20-a							
Client Sample ID				087-EA2-20-K1		087-EA2-20-K2		087-EA2-20-K3		087-EA2-20-K4		087-EA1-20-a1		087-EA1-20-a2		087-EA1-20-a3		087-EA1-20-a4	
Lab Sample ID				JC12267-10R		JC12267-11		JC12267-12		JC12267-13R		JC15059-1		JC15059-2R		JC15059-3R		JC15059-4R	
Date Sampled				01/08/2016		01/08/2016		01/08/2016		01/08/2016		02/29/2016		02/29/2016		02/29/2016		02/29/2016	
Sample Purpose		NJ 2012 MOST		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	STRINGENT SRS	NJ 2013 IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
HEXAVALENT CHROMIUM	mg/kg	20	NC	7	J	9.5		7.5		0.55		0.89	J	3.2	J	**29**	**J**	2.3	J

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012]

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016

Reviewed by: NAW 05/08/17

TABLE 6C
Stockpile Soil Results <240 mg/kg
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

				124-3S-EX-A								124-3S-EX-B								124-3S-EX-C								124-3S-EX-D							
Client Sample ID				**124-3S-EX-A1**		**124-3S-EX-A2**		**124-3S-EX-A3**		**124-3S-EX-A4**		**124-3S-EX-B1**		**124-3S-EX-B2**		**124-3S-EX-B3**		**124-3S-EX-B4**		**124-3S-EX-C1**		**124-3S-EX-C2**		**124-3S-EX-C3**		**124-3S-EX-C4**		**124-3S-EX-D1**		**124-3S-EX-D2**		**124-3S-EX-D3**		**124-3S-EX-D4**	
Lab Sample ID				JC1124-1R		JC1124-2/2R		JC1124-3/3R		JC1124-4/4R		JC1124-5		JC1124-6/6R		JC1124-7		JC1124-8		JC1124-9/9R		JC1124-10/10R		JC1124-11/11R		JC1124-12		JC1124-13		JC1124-14		JC1124-15/15R		JC1124-16	
Date Sampled				08/10/2015		08/10/2015		08/10/2015		08/10/2015		08/10/2015		08/10/2015		08/10/2015		08/10/2015		08/10/2015		08/10/2015		08/10/2015		08/10/2015		08/10/2015		08/10/2015		08/10/2015		08/10/2015	
Sample Purpose				REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	**Units**	**NJ 2012 MOST STRINGENT SRS**	**NJ 2013 IGW SOIL**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
HEXAVALENT CHROMIUM	mg/kg	20	NC	**51.6**	J	18.6	J	**37.1**	J	18.9	J	**24.8**	J	**49.3**	J	**37.9**	J	**40.4**	J	**24.7**	J	**36.3**	J	**46.7**	J	8.1	J	**25.6**	J	**32.1**	J	**74.6**	J	**34.7**	J

Notes:
NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].
NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]
Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS
Bold, shaded and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS
CONC: Concentration reported in milligrams per kilogram (mg/kg)
J: Estimated concentration
Q: Data qualifier assigned by laboratory or data validator

Prepared by: DMP 12/14/2016
Checked by: NAW 05/08/2017

TABLE 6C
Stockpile Soil Results <240 mg/kg
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

				124-3S-EX2-a								124-3S-EX-Roadway-a								124-3S-EX3-a							
Client Sample ID				124-3S-EX2-a1		124-3S-EX2-a2		124-3S-EX2-a3		124-3S-EX2-a4		124-3S-Roadway-a1		124-3S-Roadway-a2		124-3S-Roadway-a3		124-3S-Roadway-a4		124-3S-EX3-a1		124-3S-EX3-a2		124-3S-EX3-a3		124-3S-EX3-a4	
Lab Sample ID				JC4876-1/1U		JC4876-2/2U		JC4876-3/3U		JC4876-4		JC4877-1		JC4877-2		JC4877-3		JC4877-4		JC6745-1		JC6745-2		JC6745-3		JC6745-4	
Date Sampled				09/28/2015		09/28/2015		09/28/2015		09/28/2015		09/28/2015		09/28/2015		09/28/2015		09/28/2015		10/21/2015		10/21/2015		10/21/2015		10/21/2015	
Sample Purpose		NJ 2012 MOST		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	STRINGENT SRS	NJ 2013 IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
HEXAVALENT CHROMIUM	mg/kg	20	NC	**50.0**		**48.5**		**82.3**		**785**	J	**327**		**2100**		**1970**		**5900**		**3120**		**6820**		**5690**		**4300**	

Notes:
NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].
NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]
Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS
Bold, shaded and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS
CONC: Concentration reported in milligrams per kilogram (mg/kg)
J: Estimated concentration
Q: Data qualifier assigned by laboratory or data validator

Prepared by: DMP 12/14/2016
Checked by: NAW 05/08/2017

TABLE 7A
Excavation EA-8 Soil Sample Results
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

				Location ID		087-SB-630		087-SB-631		087-SB-632		087-SB-632		087-SB-633		087-SB-634		087-SB-635		087-SB-636		087-SB-637		087-SB-638		087-SB-639		087-SB-639	
				Client Sample ID		087-SB-630-0807		087-SB-631-0504		087-SB-632-0504		087-SB-632-0302		087-SB-633-0807		087-SB-634-0706		087-SB-635-0402		087-SB-636-0302		087-SB-637-0504		087-SB-638-0706		087-SB-639-0504		087-SB-639-0302	
				Lab Sample ID		JB97871-1/1RTU		JB97873-1		JB97871-2/2RTU		JB97871-3		JB97871-4/4RTU		JB97873-2/2R		JB97996-1/1R		JB97996-2		JB97996-3/3R		JB97996-4		JB99800-1/1RU		JB99800-2/2RU	
				Date Sampled		06/25/2015		06/25/2015		06/25/2015		06/25/2015		06/25/2015		06/25/2015		06/26/2015		06/26/2015		06/26/2015		06/26/2015		07/23/2015		07/23/2015	
				Sample Purpose	NJ 2012 MOST	REG		Reg		REG		REG		REG		Reg		REG		REG		REG		REG		REG		REG	
Analytical Method	**Parameter Name**	**Units**	**NJ 2012 MOST STRINGENT SRS**	**NJ 2013 IGW SOIL**		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
SW7199	HEXAVALENT CHROMIUM	mg/kg	20	NC		**23.9**	J	**283**	J	**95.3**	J	**51.4**	J	9.2	J	**53.4**		**80.5**	J	**36.8**		2.7		2.3		1.4	UJ	**97.8**	J

Notes:
NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012]
NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]
NC: No criterion established
Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS
Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS
Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per kilogram (mg/kg)
J: Estimated concentration
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DP 05/26/2016
Reviewed by: JLD 12/15/2016

TABLE 7A
Excavation EA-8 Soil Sample Results
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

		Location ID			**087-SB-640**		**087-SB-641**		**087-SB-642**		**087-SB-643**		**087-SB-644**		**087-SB-645**		**087-SB-646**	
		Client Sample ID			087-SB-640-0504		087-SB-641-0807		087-SB-642-0201		087-SB-643-102115		087-SB-644-102115		087-SB-645-102115		087-SB-646-0302	
		Lab Sample ID			JB99800-3/3RU		JB99800-4/4RU		JC1382-1		JC6736-1		JC6736-2		JC6736-3		JC8424-1	
		Date Sampled			07/23/2015		07/23/2015		08/12/2015		10/21/2015		10/21/2015		10/21/2015		11/12/2015	
		Sample Purpose	**NJ 2012 MOST**	**NJ 2013 IGW**	REG		REG		REG		REG		REG		REG		REG	
Analytical Method	**Parameter Name**	**Units**	**STRINGENT SRS**	**SOIL**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
SW7199	HEXAVALENT CHROMIUM	mg/kg	20	NC	5.2	J	6.1	J	0.52	U	5.4	J	5	J	**104**	J	2.5	U

Notes:
NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012]
NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]
NC: No criterion established
Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS
Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS
Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per kilogram (mg/kg)
J: Estimated concentration
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DP 05/26/2016
Reviewed by: JLD 12/15/2016

TABLE 7B
TA-7 and TA-8 Soil Samples
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Location ID			087-SB-657A		087-SB-657A		087-SB-657B		087-SB-657B		087-SB-658		087-SB-658		087-SB-659		087-SB-659		087-SB-660		087-SB-660		087-SB-661		087-SB-661		087-SB-662		087-SB-662		087-SB-663		087-SB-663	
Client Sample ID			087-SB-657A-1011		087-SB-657A-1112		087-SB-657B-1516		087-SB-657B-1617		087-SB-658-1011		087-SB-658-1112		087-SB-659-0203		087-SB-659-0304		087-SB-660-0203		087-SB-660-0304		087-SB-661-1617		087-SB-661-1718A		087-SB-662-1617		087-SB-662-1718A		087-SB-663-1516		087-SB-663-1617	
Lab Sample ID			JC23027-1		JC23027-2		JC23027-3/3R		JC23027-4		JC23027-5/5R		JC23027-6		JC23027-9/9R		JC23027-10		JC23027-11/11T		JC23027-12		JC23027-13		JC23027-14		JC23027-16/16R		JC23027-17		JC23027-7/7R		JC23027-8	
Date Sampled		NJ 2012 MOST	06/27/2016		06/27/2016		06/27/2016		06/27/2016		06/27/2016		06/27/2016		06/27/2016		06/27/2016		06/27/2016		06/27/2016		06/27/2016		06/27/2016		06/27/2016		06/27/2016		06/27/2016		06/27/2016	
Parameter Name	**Units**	**STRINGENT SRS**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
CHROMIUM	mg/kg	NC	21.7	J	11.0	J	1980	J	64.6	J	102	J	17.8	J	598	J	196	J	382	J	19.4	J	5050	J	168		6450	J	142		719	J	63.8	J
HEXAVALENT CHROMIUM	mg/kg	20	0.49	U	0.61		0.81	U	0.82		0.74		0.49	U	0.54	U	0.55	U	**26.3**	J	1.3		0.77	U	1.7		0.92	U	1.7		0.92		0.69	U
SULFIDE	mg/kg	NC	4.8	J	4.8	J	15.1	J	6.6	J	7.3	J	4.9	UJ	5.2	UJ	5.5	UJ	4.9	UJ	5.2	UJ	26.2	J	31.7		26.2	J	23.0		18.5	J	6.6	J

Notes:
NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].
NC: No criterion established
Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS
Italicized values not detected; reporting limit exceeds criteria
Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per kilogram (mg/kg)
J: Estimated concentration
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DMP 12/9/2016
Checked by: JLD 12/15/2016

TABLE 7C

TA-10 In-Situ Soil Samples

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

Location ID			087-SB-647		087-SB-647		087-SB-648		087-SB-648		087-SB-649		087-SB-649		087-SB-650		087-SB-650		087-SB-651		087-SB-651		087-SB-652		087-SB-652		087-SB-653		087-SB-653	
Client Sample ID			087-SB-647-1213		087-SB-647-1314		087-SB-648-1213		087-SB-648-1314		087-SB-649-1213		087-SB-649-1314		087-SB-650-1213		087-SB-650-1314		087-SB-651-1213		087-SB-651-1314		087-SB-652-1213		087-SB-652-1314		087-SB-653-1213		087-SB-653-1314	
Lab Sample ID			JC16343-1		JC16343-2		JC16343-3		JC16343-4/4R		JC16343-5		JC16343-6		JC16343-7		JC16343-8/8R		JC16343-9		JC16343-10/10R		JC16343-11/11R		JC16343-12		JC16343-13/13R		JC16343-14	
Date Sampled			03/15/2016		03/15/2016		03/15/2016		03/15/2016		03/15/2016		03/15/2016		03/15/2016		03/15/2016		03/15/2016		03/15/2016		03/15/2016		03/15/2016		03/15/2016		03/15/2016	
Sample Purpose		NJ 2012 MOST	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	STRINGENT SRS	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
CHROMIUM	mg/kg	NC	1340	J	204	J	2080	J	309	J	3250	J	73.5	J	776	J	1980	J	159	J	72.9	J	160	J	66.0	J	412	J	143	J
HEXAVALENT CHROMIUM	mg/kg	20	4.0	J	1.1	J	1.3	J	**128**		2.3	J	1.5	J	**42.2**	**J**	**87.7**		0.63	J	1.7		1.8		0.55	UJ	1.6		6.2	J
SULFIDE	mg/kg	NC	6.1	U	5.1	U	5.2	U	5.2	U	5.1	U	5.4	U	5.0		5.0		5.3	U	5.2	U	4.9	U	5.3	U	5.0	U	4.9	U

Notes:

NJ 2012 MOST STRINGENT SRS

NC: No criterion established

Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

**JC32905-1, 6 and 7 plotted on the line that separates the Cr(III) and Cr(VI) stability fields. Statistical examination of the laboratory Eh QC data indicates these samples are not oxidizing with the preferred level of certainty of p = 0.95 or greater (0.85 for these samples). This result coupled with the extremely low recovery of the soluble (-0.3%) and insoluble (9.4%) Cr(VI) spike for QC sample JC3205-1gives the appearance of a reducing character. Additional spikes as high as 3500 mg/kg for this sample failed to recover more than 10% of the Cr(VI) spike

Prepared by: DP 05/31/2016
Reviewed by: JLD 12/15/2016

TABLE 7C

TA-10 In-Situ Soil Samples

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

Location ID			087-SB-654		087-SB-654		087-SB-655		087-SB-655		087-SB-656		087-SB-656		087-SB-710-1213		087-SB-710-1314		087-SB-711-1213		087-SB-711-1314		087-SB-712-1213		087-SB-712-1314		087-SB-713-1213		087-SB-713-1314		087-SB-714-1213		087-SB-714-1314	
Client Sample ID			087-SB-654-1213		087-SB-654-1314		087-SB-655-1213		087-SB-655-1314		087-SB-656-1213		087-SB-656-1314		12 - 13		13 - 14		12 - 13		13 - 14		12 - 13		13 - 14		12 - 13		13 - 14		12 - 13		13 - 14	
Lab Sample ID			JC16343-15		JC16343-16		JC16343-17		JC16343-18		JC16343-19		JC16343-20/20R		JC32905-1/1R/1T		JC32905-2		JC32905-3/3R		JC32905-4		JC32905-5		JC32905-6/6T/6TA		JC32905-7/7T/7TA		JC32905-8/8R		JC32905-9/9R		JC32905-10/10R	
Date Sampled			03/15/2016		03/15/2016		03/16/2016		03/16/2016		03/16/2016		03/16/2016		12/05/2016		12/05/2016		12/05/2016		12/05/2016		12/05/2016		12/05/2016		12/05/2016		12/05/2016		12/05/2016		12/05/2016	
Sample Purpose		NJ 2012 MOST	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	STRINGENT SRS	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
CHROMIUM	mg/kg	NC	674	J	174	J	580	J	1930	J	7310	J	113	J	582	J	5120	J	9150	J	1660	J	1930	J	1030	J	6180	J	1460	J	137	J	288	J
HEXAVALENT CHROMIUM	mg/kg	20	1.7	J	1.1	J	2.7	J	**21.5**	J	10.9	J	**90.9**		1.8		0.56	U	0.57	U	0.56	U	1.9		**33.3**	J	2.2	J	0.53	U	0.57		0.56	U
SULFIDE	mg/kg	NC	5.4	U	4.7	U	4.5	U	5.3	U	7.5	U	4.0	U	5.3	U	684.0		5.6	U	662.0		5.7	U	161.0		279.0		558.0		5.3	U	284.0	

Notes:

NJ 2012 MOST STRINGENT SRS

NC: No criterion established

Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

**JC32905-1, 6 and 7 plotted on the line that separates the Cr(III) and Cr(VI) stability fields. Statistical examination of the laboratory Eh QC data indicates these samples are not oxidizing with the preferred level of certainty of p = 0.95 or greater (0.85 for these samples). This result coupled with the extremely low recovery of the soluble (-0.3%) and insoluble (9.4%) Cr(VI) spike for QC sample JC3205-1gives the appearance of a reducing character. Additional spikes as high as 3500 mg/kg for this sample failed to recover more than 10% of the Cr(VI) spike

Prepared by: DP 05/31/2016
Reviewed by: JLD 12/15/2016

TABLE 7C

TA-10 In-Situ Soil Samples

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

Location ID			087-SB-715-1213		087-SB-715-1314		087-SB-716-1213		087-SB-716-1314		087-SB-717-1213		087-SB-717-1314		087-SB-718-1213		087-SB-718-1314		087-SB-719-1213		087-SB-719-1314	
Client Sample ID			12 - 13		13 - 14		12 - 13		13 - 14		12 - 13		13 - 14		12 - 13		13 - 14		12 - 13		13 - 14	
Lab Sample ID			JC32905-11		JC32905-12		JC32905-13		JC32905-14		JC32905-15/15R		JC32905-16/16R		JC32905-17		JC32905-18		JC32905-19		JC32905-20	
Date Sampled			12/05/2016		12/05/2016		12/05/2016		12/05/2016		12/05/2016		12/05/2016		12/05/2016		12/05/2016		12/05/2016		12/05/2016	
Sample Purpose		NJ 2012 MOST	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	STRINGENT SRS	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
CHROMIUM	mg/kg	NC	321	J	701	J	75.9	J	1020	J	168	J	722	J	820	J	3130	J	104	J	3470	J
HEXAVALENT CHROMIUM	mg/kg	20	0.57	U	0.55	U	1	U	0.54	U	0.83	U	0.5	U	0.66	U	0.58	U	0.71	U	0.54	U
SULFIDE	mg/kg	NC	5.5	U	439.0		359.0		897.0		8.0	U	77.0		67.2		287.0		318.0		419.0	

Notes:

NJ 2012 MOST STRINGENT SRS

NC: No criterion established

Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

**JC32905-1, 6 and 7 plotted on the line that separates the Cr(III) and Cr(VI) stability fields. Statistical examination of the laboratory Eh QC data indicates these samples are not oxidizing with the preferred level of certainty of p = 0.95 or greater (0.85 for these samples). This result coupled with the extremely low recovery of the soluble (-0.3%) and insoluble (9.4%) Cr(VI) spike for QC sample JC3205-1gives the appearance of a reducing character. Additional spikes as high as 3500 mg/kg for this sample failed to recover more than 10% of the Cr(VI) spike

Prepared by: DP 05/31/2016
Reviewed by: JLD 12/15/2016

TABLE 7D
TA-10 In-Situ Groundwater Samples
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Location ID			087-TWP-37		087-TWP-38		087-TWP-39		087-TWP-40		087-TWP-41		087-MW-132		087-MW-133		087-MW-134		087-TWP-37		087-TWP-38		087-TWP-39		087-TWP-40		087-TWP-41		087-MW-132		087-MW-133	
Client Sample ID			087-TWP-37-081415		087-TWP-38-081415		087-TWP-39-081415		087-TWP-40-081415		087-TWP-41-081415		087-MW-132-081415		087-MW-133-081415		087-MW-134-081415		087-TWP-37-081915		087-TWP-38-081915		087-TWP-39-081915		087-TWP-40-081915		087-TWP-41-081915		087-MW-132-081915		087-MW-133-081915	
Lab Sample ID			JC1623-1		JC1623-2		JC1623-3		JC1623-4		JC1623-5		JC1623-6		JC1623-7		JC1623-8		JC1875-1		JC1875-2		JC1875-3		JC1875-4		JC1875-5		JC1875-6		JC1875-7	
Date Sampled			08/14/2015		08/14/2015		08/14/2015		08/14/2015		08/14/2015		08/14/2015		08/14/2015		08/14/2015		08/19/2015		08/19/2015		08/19/2015		08/19/2015		08/19/2015		08/19/2015		08/19/2015	
Sample Purpose		NJDEP GW Criteria	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	Highest	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SULFATE	mg/L	250	10	U	15.2		10	U	10	U	10	U	10	U	16.0		10	U	10.1		10	U	10	U	10	U	10	U	10	U	10.0	
SULFIDE	mg/L	NC	204		54.0		12.0		2.0	U	4.3		2.0	U	2.0	U	2.0	U	524		98.0		90.0		44.0		23.3		20.0		2.6	

Notes:
NJDEP GW CRITERIA HIGHEST
NC: No criterion established
Bold and shaded concentrations exceed the NJDEP GW CRITERIA HIGHEST
Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per liter (mg/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DP 06/21/2016
Reviewed by: JLD 12/15/2016

TABLE 7D
TA-10 In-Situ Groundwater Samples
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Location ID			087-MW-134		087-TWP-37		087-TWP-38		087-TWP-39		087-TWP-40		087-TWP-41		087-MW-132		087-MW-133		087-MW-134		087-TWP-37		087-TWP-38		087-TWP-39		087-TWP-40		087-TWP-41		087-MW-132	
Client Sample ID			087-MW-134-081915		087-TWP-37-091115		087-TWP-38-091115		087-TWP-39-091115		087-TWP-40-091115		087-TWP-41-091115		087-MW-132-091115		087-MW-133-091115		087-MW-134-091115		087-TWP-37-091815		087-TWP-38-091815		087-TWP-39-091815		087-TWP-40-091815		087-TWP-41-091815		087-MW-132-091815	
Lab Sample ID			JC1875-8		JC3675-1		JC3675-2		JC3675-3		JC3675-4		JC3675-5		JC3675-6		JC3675-7		JC3675-8		JC4291-1		JC4291-2		JC4291-3		JC4291-4		JC4291-5		JC4291-6	
Date Sampled			08/19/2015		09/11/2015		09/11/2015		09/11/2015		09/11/2015		09/11/2015		09/11/2015		09/11/2015		09/11/2015		09/18/2015		09/18/2015		09/18/2015		09/18/2015		09/18/2015		09/18/2015	
Sample Purpose		NJDEP GW Criteria	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	Highest	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SULFATE	mg/L	250	10	U	35.5		31.6		48.3		10	U	81.4		22.4		10	U	26.5		55.0		164		144		82.7		21.9		85.3	
SULFIDE	mg/L	NC	16.0		123		70.0		180		75.0		681		30.0		10.0		10.0		690		190		76.0		84.0		452		56.0	

Notes:
NJDEP GW CRITERIA HIGHEST
NC: No criterion established
Bold and shaded concentrations exceed the NJDEP GW CRITERIA HIGHEST
Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per liter (mg/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DP 06/21/2016
Reviewed by: JLD 12/15/2016

TABLE 7D
TA-10 In-Situ Groundwater Samples
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Location ID			087-MW-133		087-MW-134		087-TWP-37		087-TWP-38		087-TWP-39		087-TWP-40		087-TWP-41		087-MW-132		087-MW-133		087-MW-134		087-TWP-37		087-TWP-38		087-TWP-39		087-TWP-40		087-TWP-41	
Client Sample ID			087-MW-133-091815		087-MW-134-091815		087-TWP-37-092515		087-TWP-38-092515		087-TWP-39-092515		087-TWP-40-092515		087-TWP-41-092515		087-MW-132-092515		087-MW-133-092515		087-MW-134-092515		087-TWP-37-100115		087-TWP-38-100115		087-TWP-39-100115		087-TWP-40-100115		087-TWP-41-100115	
Lab Sample ID			JC4291-7		JC4291-8		JC4761-1		JC4761-2		JC4761-3		JC4761-4		JC4761-5		JC4761-6		JC4761-7		JC4761-8		JC5247-1		JC5247-2		JC5247-3		JC5247-4		JC5247-5	
Date Sampled			09/18/2015		09/18/2015		09/25/2015		09/25/2015		09/25/2015		09/25/2015		09/25/2015		09/25/2015		09/25/2015		09/25/2015		10/01/2015		10/01/2015		10/01/2015		10/01/2015		10/01/2015	
Sample Purpose		NJDEP GW Criteria	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	Highest	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SULFATE	mg/L	250	10		10		103		114		52.2		61.6		21.6		82.1		10	U	10	U	169		175		47.0		92.7		33.4	
SULFIDE	mg/L	NC	32.0		28.0		101		39.8		45.8		30.9		158		22.9		3.0		11.0		77.7		47.8		32.9		24.6		101	

Notes:
NJDEP GW CRITERIA HIGHEST
NC: No criterion established
Bold and shaded concentrations exceed the NJDEP GW CRITERIA HIGHEST
Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per liter (mg/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DP 06/21/2016
Reviewed by: JLD 12/15/2016

TABLE 7D
TA-10 In-Situ Groundwater Samples
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Location ID			087-MW-132		087-MW-133		087-MW-134		087-TWP-37		087-TWP-38		087-TWP-39		087-TWP-40		087-TWP-41		087-MW-132		087-MW-133		087-MW-134		087-TWP-37		087-TWP-38		087-TWP-39		087-TWP-40	
Client Sample ID			087-MW-132-100115		087-MW-133-100115		087-MW-134-100115		087-TWP-37-100915		087-TWP-38-100915		087-TWP-39-100915		087-TWP-40-100915		087-TWP-41-100915		087-MW-132-100915		087-MW-133-100915		087-MW-134-100915		087-TWP-37-101615		087-TWP-38-101615		087-TWP-39-101615		087-TWP-40-101615	
Lab Sample ID			JC5247-6		JC5247-7		JC5247-8		JC5899-1		JC5899-2		JC5899-3		JC5899-4		JC5899-5		JC5899-6		JC5899-7		JC5899-8		JC6517-1		JC6517-2		JC6517-3		JC6517-4	
Date Sampled			10/01/2015		10/01/2015		10/01/2015		10/09/2015		10/09/2015		10/09/2015		10/09/2015		10/09/2015		10/09/2015		10/09/2015		10/09/2015		10/16/2015		10/16/2015		10/16/2015		10/16/2015	
Sample Purpose		NJDEP GW Criteria	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	Highest	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SULFATE	mg/L	250	120		10	U	10	U	218		145		81.1		89.9		85.8		129		10	U	10	U	226		175		41.3		69.7	
SULFIDE	mg/L	NC	25.2		4.5		11.3		41.6		40.4		29.9		57.8		124		27.9		7.3		49.8		131		23.9		13.3		42.5	

Notes:
NJDEP GW CRITERIA HIGHEST
NC: No criterion established
Bold and shaded concentrations exceed the NJDEP GW CRITERIA HIGHEST
Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per liter (mg/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DP 06/21/2016
Reviewed by: JLD 12/15/2016

TABLE 7D
TA-10 In-Situ Groundwater Samples
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Location ID			**087-TWP-41**		**087-MW-132**		**087-MW-133**		**087-MW-134**		**087-TWP-37**		**087-TWP-38**		**087-TWP-39**		**087-TWP-40**		**087-TWP-41**		**087-MW-132**		**087-MW-133**		**087-MW-134**		**087-TWP-37**		**087-TWP-38**		**087-TWP-39**	
Client Sample ID			087-TWP-41-101615		087-MW-132-101615		087-MW-133-101615		087-MW-134-101615		087-TWP-37-102315		087-TWP-38-102315		087-TWP-39-102315		087-TWP-40-102315		087-TWP-41-102315		087-MW-132-102315		087-MW-133-102315		087-MW-134-102315		087-TWP-37-103015		087-TWP-38-103015		087-TWP-39-103015	
Lab Sample ID			JC6517-5		JC6517-6		JC6517-7		JC6517-8		JC6985-1		JC6985-2		JC6985-3		JC6985-4		JC6985-5		JC6985-6		JC6985-7		JC6985-8		JC7505-1		JC7505-2		JC7505-3	
Date Sampled			10/16/2015		10/16/2015		10/16/2015		10/16/2015		10/23/2015		10/23/2015		10/23/2015		10/23/2015		10/23/2015		10/23/2015		10/23/2015		10/23/2015		10/30/2015		10/30/2015		10/30/2015	
Sample Purpose		**NJDEP GW Criteria**	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	**Units**	**Highest**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
SULFATE	mg/L	250	201		120		10		10		227		231		55.1		29.8		**335**		127		10		10		213		**271**		58.3	
SULFIDE	mg/L	NC	70.7		16.9		5.0		6.6		43.3		39.8		21.9		39.8		45.8		16.6		10		2.0		44.5		37.2		21.2	

Notes:
NJDEP GW CRITERIA HIGHEST
NC: No criterion established
Bold and shaded concentrations exceed the NJDEP GW CRITERIA HIGHEST
Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per liter (mg/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DP 06/21/2016
Reviewed by: JLD 12/15/2016

TABLE 7D
TA-10 In-Situ Groundwater Samples
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Location ID			087-TWP-40		087-TWP-41		087-MW-132		087-MW-133		087-MW-134		087-TWP-37		087-TWP-38		087-TWP-39		087-TWP-40		087-TWP-41		087-MW-132		087-MW-133		087-MW-134		087-TWP-37		087-TWP-38	
Client Sample ID			087-TWP-40-103015		087-TWP-41-103015		087-MW-132-103015		087-MW-133-103015		087-MW-134-103015		087-TWP-37-110615		087-TWP-38-110615		087-TWP-39-110615		087-TWP-40-110615		087-TWP-41-110615		087-MW-132-110615		087-MW-133-110615		087-MW-134-110615		087-TWP-37-111315		087-TWP-38-111315	
Lab Sample ID			JC7505-4		JC7505-5		JC7505-6		JC7505-7		JC7505-8		JC8009-1		JC8009-2		JC8009-3		JC8009-4		JC8009-5		JC8009-6		JC8009-7		JC8009-8		JC8523-1		JC8523-2	
Date Sampled			10/30/2015		10/30/2015		10/30/2015		10/30/2015		10/30/2015		11/06/2015		11/06/2015		11/06/2015		11/06/2015		11/06/2015		11/06/2015		11/06/2015		11/06/2015		11/13/2015		11/13/2015	
Sample Purpose		NJDEP GW Criteria	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	Highest	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SULFATE	mg/L	250	37.0		**439**		133		10.5		10	U	174		206		61.3		25.2		**483**		118		10	U	10	U	167		226	
SULFIDE	mg/L	NC	42.5		26.9		22.4		2.5		2.0	U	2.0		2.0	U	2.0	U	2.0	U	4.5		3.0		2.0	U	2.0		39.3		28.7	

Notes:
NJDEP GW CRITERIA HIGHEST
NC: No criterion established
Bold and shaded concentrations exceed the NJDEP GW CRITERIA HIGHEST
Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per liter (mg/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DP 06/21/2016
Reviewed by: JLD 12/15/2016

TABLE 7D
TA-10 In-Situ Groundwater Samples
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Location ID			087-TWP-39		087-TWP-40		087-TWP-41		087-MW-132		087-MW-133		087-MW-134		087-TWP-37		087-TWP-38		087-TWP-39		087-TWP-40		087-TWP-41		087-MW-132		087-MW-133		087-MW-134		087-MW-132	
Client Sample ID			087-TWP-39-111315		087-TWP-40-111315		087-TWP-41-111315		087-MW-132-111315		087-MW-133-111315		087-MW-134-111315		087-TWP-37-031616		087-TWP-38-031616		087-TWP-39-031616		087-TWP-40-031616		087-TWP-41-031616		087-MW-132-031616		087-MW-133-031616		087-MW-134-031616		087-MW-132-082316	
Lab Sample ID			JC8523-3		JC8523-4		JC8523-5		JC8523-6		JC8523-7		JC8523-8		JC16342-1		JC16342-2		JC16342-3		JC16342-4		JC16342-5		JC16342-6		JC16342-7		JC16342-8		JC26324-6	
Date Sampled			11/13/2015		11/13/2015		11/13/2015		11/13/2015		11/13/2015		11/13/2015		03/16/2016		03/16/2016		03/16/2016		03/16/2016		03/16/2016		03/16/2016		03/16/2016		03/16/2016		08/23/2016	
Sample Purpose		NJDEP GW Criteria	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	Highest	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SULFATE	mg/L	250	47.2		22.5		**561**		143		10	U	10	U	10	U	13.2		16.7		10	U	**386**		13.0		10.7		46.6		10	U
SULFIDE	mg/L	NC	15.3		55.3		44.0		19.3		2.0	U	3.3		4.9		5.4		4.1		5.4		6.3		2.0	U	2.0	U	2.0	U	2.3	

Notes:
NJDEP GW CRITERIA HIGHEST
NC: No criterion established
Bold and shaded concentrations exceed the NJDEP GW CRITERIA HIGHEST
Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per liter (mg/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DP 06/21/2016
Reviewed by: JLD 12/15/2016

TABLE 7D
TA-10 In-Situ Groundwater Samples
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Location ID			087-MW-133		087-MW-134		087-TWP-37		087-TWP-38		087-TWP-39		087-TWP-40		087-TWP-41		087-MW-132		087-MW-133		087-MW-134		087-TWP-37		087-TWP-38		087-TWP-39		087-TWP-40		087-TWP-41	
Client Sample ID			087-MW-133-082316		087-MW-134-082316		087-TWP-37-082316		087-TWP-38-082316		087-TWP-39-082316		087-TWP-40-082316		087-TWP-41-082316		087-MW-132-091216		087-MW-133-091216		087-MW-134-091216		087-TWP-37-091216		087-TWP-38-091216		087-TWP-39-091216		087-TWP-40-091216		087-TWP-41-091216	
Lab Sample ID			JC26324-7		JC26324-8		JC26324-1		JC26324-2		JC26324-3		JC26324-4		JC26324-5		JC27421-6		JC27421-7		JC27421-8		JC27421-1		JC27421-2		JC27421-3		JC27421-4		JC27421-5	
Date Sampled			08/23/2016		08/23/2016		08/23/2016		08/23/2016		08/23/2016		08/23/2016		08/23/2016		09/12/2016		09/12/2016		09/12/2016		09/12/2016		09/12/2016		09/12/2016		09/12/2016		09/12/2016	
Sample Purpose		NJDEP GW Criteria	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	Highest	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SULFATE	mg/L	250	10	U	10	U	10	U	10	U	10	U	10	U	81.7		28.8		10	U	10	U	10	U	10	U	10	U	10	U	115	
SULFIDE	mg/L	NC	2.0	U	2.0	U	5.6		6.3		5.2		4.4		18.9		154		2.0	U	2.0	U	23.1		2.7		2.4		3.6		800	

Notes:
NJDEP GW CRITERIA HIGHEST
NC: No criterion established
Bold and shaded concentrations exceed the NJDEP GW CRITERIA HIGHEST
Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per liter (mg/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DP 06/21/2016
Reviewed by: JLD 12/15/2016

TABLE 7D
TA-10 In-Situ Groundwater Samples
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Location ID			087-MW-132		087-MW-133		087-MW-134		087-TWP-37		087-TWP-38		087-TWP-39		087-TWP-40		087-TWP-41		087-MW-132		087-MW-133		087-MW-134		087-TWP-37		087-TWP-38		087-TWP-39		087-TWP-40	
Client Sample ID			087-MW-132-091916		087-MW-133-091916		087-MW-134-091916		087-TWP-37-091916		087-TWP-38-091916		087-TWP-39-091916		087-TWP-40-091916		087-TWP-41-091916		087-MW-132-092616		087-MW-133-092616		087-MW-134-092616		087-TWP-37-092616		087-TWP-38-092616		087-TWP-39-092616		087-TWP-40-092616	
Lab Sample ID			JC27906-6		JC27906-7		JC27906-8		JC27906-1		JC27906-2		JC27906-3		JC27906-4		JC27906-5		JC28401-6		JC28401-7		JC28401-8		JC28401-1		JC28401-2		JC28401-3		JC28401-4	
Date Sampled			09/19/2016		09/19/2016		09/19/2016		09/19/2016		09/19/2016		09/19/2016		09/19/2016		09/19/2016		09/26/2016		09/26/2016		09/26/2016		09/26/2016		09/26/2016		09/26/2016		09/26/2016	
Sample Purpose		NJDEP GW Criteria	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	Highest	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SULFATE	mg/L	250	239		12.4		20	U	57.4		10	U	53.4		10	U	**295**		**459**		10	U	10	U	74.4		10	U	34.9		10	U
SULFIDE	mg/L	NC	1140		2.0	U	2.0	U	4.1		3.1		3.0		3.9		2560		1140		2.0	U	12.1		114		73.6		6.0	U	12.4	

Notes:
NJDEP GW CRITERIA HIGHEST
NC: No criterion established
Bold and shaded concentrations exceed the NJDEP GW CRITERIA HIGHEST
Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per liter (mg/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DP 06/21/2016
Reviewed by: JLD 12/15/2016

TABLE 7D
TA-10 In-Situ Groundwater Samples
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Location ID			087-TWP-41		087-MW-132		087-MW-133		087-MW-134		087-TWP-37		087-TWP-38		087-TWP-39		087-TWP-40		087-TWP-41		087-MW-132		087-MW-133		087-MW-134		087-TWP-37		087-TWP-38		087-TWP-39	
Client Sample ID			087-TWP-41-092616		087-MW-132-100316		087-MW-133-100316		087-MW-134-100316		087-TWP-37-100316		087-TWP-38-100316		087-TWP-39-100316		087-TWP-40-100316		087-TWP-41-100316		087-MW-132-101016		087-MW-133-101016		087-MW-134-101016		087-TWP-37-101016		087-TWP-38-101016		087-TWP-39-101016	
Lab Sample ID			JC28401-5		JC28833-6		JC28833-7		JC28833-8		JC28833-1		JC28833-2		JC28833-3		JC28833-4		JC28833-5		JC29329-6		JC29329-7		JC29329-8		JC29329-1		JC29329-2		JC29329-3	
Date Sampled			09/26/2016		10/03/2016		10/03/2016		10/03/2016		10/03/2016		10/03/2016		10/03/2016		10/03/2016		10/03/2016		10/10/2016		10/10/2016		10/10/2016		10/10/2016		10/10/2016		10/10/2016	
Sample Purpose		NJDEP GW Criteria	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	Highest	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SULFATE	mg/L	250	**437**		**359**		10.3		10	U	92.8		10	U	36.0		10	U	**372**		**368**		18.8		10	U	100		31.0		50.3	
SULFIDE	mg/L	NC	1160		680		2.0	U	4.0	U	8.0	U	4.0	U	4.0	U	4.0	U	1080		2000		2.0	U	3.9		186		26.8		2.0	U

Notes:
NJDEP GW CRITERIA HIGHEST
NC: No criterion established
Bold and shaded concentrations exceed the NJDEP GW CRITERIA HIGHEST
Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per liter (mg/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DP 06/21/2016
Reviewed by: JLD 12/15/2016

TABLE 7D
TA-10 In-Situ Groundwater Samples
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Location ID			087-TWP-40		087-TWP-41		087-MW-132		087-MW-133		087-MW-134		087-TWP-37		087-TWP-38		087-TWP-39		087-TWP-40		087-TWP-41		087-MW-132		087-MW-133		087-MW-134		087-TWP-37		087-TWP-38	
Client Sample ID			087-TWP-40-101016		087-TWP-41-101016		087-MW-132-102416		087-MW-133-102416		087-MW-134-102416		087-TWP-37-102416		087-TWP-38-102416		087-TWP-39-102416		087-TWP-40-102416		087-TWP-41-102416		087-MW-132-103116		087-MW-133-103116		087-MW-134-103116		087-TWP-37-103116		087-TWP-38-103116	
Lab Sample ID			JC29329-4		JC29329-5		JC30348-6		JC30348-7		JC30348-8		JC30348-1		JC30348-2		JC30348-3		JC30348-4		JC30348-5		JC30800-6		JC30800-7		JC30800-8		JC30800-1		JC30800-2	
Date Sampled			10/10/2016		10/10/2016		10/24/2016		10/24/2016		10/24/2016		10/24/2016		10/24/2016		10/24/2016		10/24/2016		10/24/2016		10/31/2016		10/31/2016		10/31/2016		10/31/2016		10/31/2016	
Sample Purpose		NJDEP GW Criteria	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	Highest	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SULFATE	mg/L	250	10	U	**469**		**1090**		10	U	10	U	120		157		86.3		10	U	**607**		**766**		20.2		23.5		196		247	
SULFIDE	mg/L	NC	18.8		1590		2700		2.0	U	2.0	U	12.4		3.1		2.0	U	2.0	U	832		3210		2.0	U	2.0	U	6.5		150	

Notes:
NJDEP GW CRITERIA HIGHEST
NC: No criterion established
Bold and shaded concentrations exceed the NJDEP GW CRITERIA HIGHEST
Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per liter (mg/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DP 06/21/2016
Reviewed by: JLD 12/15/2016

TABLE 7D
TA-10 In-Situ Groundwater Samples
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Location ID			087-TWP-39		087-TWP-40		087-TWP-41		087-MW-132		087-MW-133		087-MW-134		087-TWP-37		087-TWP-38		087-TWP-39		087-TWP-40		087-TWP-41		087-MW-132		087-MW-133		087-MW-134		087-TWP-37	
Client Sample ID			087-TWP-39-103116		087-TWP-40-103116		087-TWP-41-103116		087-MW-132-110716		087-MW-133-110716		087-MW-134-110716		087-TWP-37-110716		087-TWP-38-110716		087-TWP-39-110716		087-TWP-40-110716		087-TWP-41-110716		087-MW-132-120716		087-MW-133-120716		087-MW-134-120716		087-TWP-37-120716	
Lab Sample ID			JC30800-3		JC30800-4		JC30800-5		JC31312-6		JC31312-7		JC31312-8		JC31312-1		JC31312-2		JC31312-3		JC31312-4		JC31312-5		JC33092-6		JC33092-7		JC33092-8		JC33092-1	
Date Sampled			10/31/2016		10/31/2016		10/31/2016		11/07/2016		11/07/2016		11/07/2016		11/07/2016		11/07/2016		11/07/2016		11/07/2016		11/07/2016		12/07/2016		12/07/2016		12/07/2016		12/07/2016	
Sample Purpose		NJDEP GW Criteria	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Name	Units	Highest	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SULFATE	mg/L	250	111		10	U	**739**		**413**		10		23.4		214		176		110		10	U	**978**		**1340**		54.1		19.7		185	
SULFIDE	mg/L	NC	2.0	U	16.5		1380		1700		2.0	U	2.0	U	15.4		256		2.3		7.1		574		760		2.0	U	2.0	U	4.0	U

Notes:
NJDEP GW CRITERIA HIGHEST
NC: No criterion established
Bold and shaded concentrations exceed the NJDEP GW CRITERIA HIGHEST
Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per liter (mg/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DP 06/21/2016
Reviewed by: JLD 12/15/2016

TABLE 7D
TA-10 In-Situ Groundwater Samples
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Location ID			087-TWP-38		087-TWP-39		087-TWP-40		087-TWP-41		087-MW-133		087-MW-134	
Client Sample ID			087-TWP-38-120716		087-TWP-39-120716		087-TWP-40-120716		087-TWP-41-120716		087-MW-133-122116		087-MW-134-122116	
Lab Sample ID			JC33092-2		JC33092-3		JC33092-4		JC33092-5		JC34135-1		JC34135-2	
Date Sampled			12/07/2016		12/07/2016		12/07/2016		12/07/2016		12/21/2016		12/21/2016	
Sample Purpose		NJDEP GW Criteria	REG		REG		REG		REG		REG		REG	
Parameter Name	Units	Highest	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SULFATE	mg/L	250	**324**		**278**		10	U	**1120**		56.6		10	U
SULFIDE	mg/L	NC	72.6		2.0	U	4.0	U	282		2.0	U	2.0	U

Notes:
NJDEP GW CRITERIA HIGHEST
NC: No criterion established
Bold and shaded concentrations exceed the NJDEP GW CRITERIA HIGHEST
Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per liter (mg/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DP 06/21/2016
Reviewed by: JLD 12/15/2016

TABLE 8A

Concrete Sample Results - VOCs

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

			Client Sample ID			088-WC-C01-051315		088-WC-C02-051315		088-WC-C03-112015		088-WC-C04-011416		088-WC-C05-011416		088-WC-C06-011416		088-WC-C07-011416		088-WC-C08-032316		088-WC-C09-032316		088-WC-C10-032316		087-WC-C19-021814		087-WC-C20-021814	
			Lab Sample ID			JB94630-1		JB94630-2		JC9030-1		JC12656-1		JC12656-2		JC12656-3		JC12656-4		JC16819-1		JC16819-2		JC16819-3		JB60011-1		JB60011-2	
			Date Sampled			05/13/2015		05/13/2015		11/20/2015		01/14/2016		01/14/2016		01/14/2016		01/14/2016		03/23/2016		03/23/2016		03/23/2016		02/18/2014		02/18/2014	
			Sample Purpose	NJ 2012 MOST	NJ 2013 IGW	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Group Name	Analytical Method	Parameter Name	Units	STRINGENT SRS	SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SA-6 GC/MS Volatiles	SW8260	1,1,1-TRICHLOROETHANE	mg/kg	290	0.3	0.0022	U	0.0018	U	0.002	U	0.0019	U	0.0019	U	0.0018	U	0.0019	U	0.0021	U	0.0014	U	0.0016	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	1,1,2,2-TETRACHLOROETHANE	mg/kg	1	0.007	0.0022	U	0.0018	U	0.002	U	0.0019	U	0.0019	U	0.0018	U	0.0019	U	0.0021	U	0.0014	U	0.0016	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	1,1,2-Trichloro-1,2,2-Trifluoroethane	mg/kg	NC	NC	0.0054	U	0.0046	U	0.005	U	0.0049	U	0.0047	U	0.0046	U	0.0046	U	0.0053	U	0.0036	U	0.0041	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	1,1,2-TRICHLOROETHANE	mg/kg	2	0.02	0.0022	U	0.0018	U	0.002	U	0.0019	U	0.0019	U	0.0018	U	0.0019	U	0.0021	U	0.0014	U	0.0016	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	1,1-DICHLOROETHANE	mg/kg	8	0.2	0.0011	U	0.00092	U	0.001	U	0.00097	U	0.00094	U	0.00091	U	0.00093	U	0.0011	U	0.00072	U	0.00082	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	1,1-DICHLOROETHENE	mg/kg	11	0.008	0.0011	U	0.00092	U	0.001	U	0.00097	U	0.00094	U	0.00091	U	0.00093	U	0.0011	U	0.00072	U	0.00082	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	1,2,3-TRICHLOROBENZENE	mg/kg	NC	NC	0.0054	U	0.0046	U	0.005	U	0.0049	U	0.0047	U	0.0046	U	0.0046	U	0.0053	U	0.0036	U	0.0041	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	1,2,4-TRICHLOROBENZENE	mg/kg	73	0.7	0.0054	U	0.0046	U	0.005	U	0.0049	U	0.0047	U	0.0046	U	0.0046	U	0.0053	U	0.0036	U	0.0041	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	1,2-DIBROMO-3-CHLOROPROPANE	mg/kg	0.08	0.005	0.0022	U	0.0018	U	0.002	U	0.0019	U	0.0019	U	0.0018	U	0.0019	U	0.0021	U	0.0014	U	0.0016	U	*0.0094*	*UJ*	*0.01*	*U*
SA-6 GC/MS Volatiles	SW8260	1,2-DIBROMOETHANE	mg/kg	0.008	0.005	0.0011	U	0.00092	U	0.001	U	0.00097	U	0.00094	U	0.00091	U	0.00093	U	0.0011	U	0.00072	U	0.00082	U	0.00094	UJ	0.001	U
SA-6 GC/MS Volatiles	SW8260	1,2-DICHLOROBENZENE	mg/kg	5300	17	0.0011	U	0.00092	U	0.001	U	0.00097	U	0.00094	U	0.00091	U	0.00093	U	0.0011	U	0.00072	U	0.00082	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	1,2-DICHLOROETHANE	mg/kg	0.9	0.005	0.0011	U	0.00092	U	0.001	U	0.00097	U	0.00094	U	0.00091	U	0.00093	U	0.0011	U	0.00072	U	0.00082	U	0.00094	UJ	0.001	U
SA-6 GC/MS Volatiles	SW8260	1,2-DICHLOROPROPANE	mg/kg	2	0.005	0.0022	U	0.0018	U	0.002	U	0.0019	U	0.0019	U	0.0018	U	0.0019	U	0.0021	U	0.0014	U	0.0016	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	1,3-DICHLOROBENZENE	mg/kg	5300	19	0.0011	U	0.00092	U	0.001	U	0.00097	U	0.00094	U	0.00091	U	0.00093	U	0.0011	U	0.00072	U	0.00082	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	1,4-DICHLOROBENZENE	mg/kg	5	2	0.0011	U	0.00092	U	0.001	U	0.00097	U	0.00094	U	0.00091	U	0.00093	U	0.0011	U	0.00072	U	0.00082	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	2-BUTANONE	mg/kg	3100	0.9	0.011	U	0.0092	U	0.01	U	0.0097	U	0.0094	U	0.0091	U	0.0093	U	0.011	U	0.0072	U	0.0067	J	0.0094	R	0.01	U
SA-6 GC/MS Volatiles	SW8260	2-HEXANONE	mg/kg	NC	NC	0.0054	U	0.0046	U	0.005	U	0.0049	U	0.0047	U	0.0046	U	0.0046	U	0.0053	U	0.0036	U	0.0041	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	4-METHYL-2-PENTANONE	mg/kg	NC	NC	0.0054	U	0.0046	U	0.005	U	0.0049	U	0.0047	U	0.0046	U	0.0046	U	0.0053	U	0.0036	U	0.0041	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	ACETONE	mg/kg	70000	19	0.009	J	0.01560		0.009	J	0.02770		0.02440		0.01050		0.0057	J	0.01200		0.0056	J	0.02500		0.0179	R	0.01250	
SA-6 GC/MS Volatiles	SW8260	BENZENE	mg/kg	2	0.005	0.00054	U	0.00046	U	0.0002	J	0.00049	U	0.00047	U	0.00046	U	0.00046	U	0.00053	U	0.00036	U	0.00041	U	0.00094	UJ	0.001	U
SA-6 GC/MS Volatiles	SW8260	BROMOCHLOROMETHANE	mg/kg	NC	NC	0.0054	U	0.0046	U	0.005	U	0.0049	U	0.0047	U	0.0046	U	0.0046	U	0.0053	U	0.0036	U	0.0041	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	BROMODICHLOROMETHANE	mg/kg	1	0.005	0.0022	U	0.0018	U	0.002	U	0.0019	U	0.0019	U	0.0018	U	0.0019	U	0.0021	U	0.0014	U	0.0016	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	BROMOFORM	mg/kg	81	0.03	0.0054	U	0.0046	U	0.005	U	0.0049	U	0.0047	U	0.0046	U	0.0046	U	0.0053	U	0.0036	U	0.0041	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	BROMOMETHANE	mg/kg	25	0.04	0.0054	U	0.0046	U	0.005	U	0.0049	U	0.0047	U	0.0046	U	0.0046	U	0.0053	U	0.0036	U	0.0041	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	CARBON DISULFIDE	mg/kg	7800	6	0.0022	U	0.00240		0.00029	J	0.0017	J	0.00033	J	0.0018	U	0.00027	J	0.0021	U	0.0014	U	0.00200		0.0047	UJ	0.00500	U
SA-6 GC/MS Volatiles	SW8260	CARBON TETRACHLORIDE	mg/kg	0.6	0.005	0.0022	U	0.0018	U	0.002	U	0.0019	U	0.0019	U	0.0018	U	0.0019	U	0.0021	U	0.0014	U	0.0016	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	CHLOROBENZENE	mg/kg	510	0.6	0.0022	U	0.0018	U	0.002	U	0.0019	U	0.0019	U	0.0018	U	0.0019	U	0.0021	U	0.0014	U	0.0016	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	CHLOROETHANE	mg/kg	220	NC	0.0054	U	0.0046	U	0.005	U	0.0049	U	0.0047	U	0.0046	U	0.0046	U	0.0053	U	0.0036	U	0.0041	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	CHLOROFORM	mg/kg	0.6	0.4	0.0022	U	0.0018	U	0.002	U	0.0019	U	0.0019	U	0.0018	U	0.0019	U	0.0021	U	0.0014	U	0.0016	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	CHLOROMETHANE	mg/kg	4	NC	0.0054	U	0.0046	U	0.005	U	0.0049	U	0.0047	U	0.0046	U	0.0046	U	0.0053	U	0.0036	U	0.0041	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	CIS-1,2-DICHLOROETHENE	mg/kg	230	0.3	0.0011	U	0.00092	U	0.001	U	0.00097	U	0.00094	U	0.00091	U	0.00093	U	0.0011	U	0.00072	U	0.00082	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	CIS-1,3-DICHLOROPROPENE	mg/kg	NC	NC	0.0022	U	0.0018	U	0.002	U	0.0019	U	0.0019	U	0.0018	U	0.0019	U	0.0021	U	0.0014	U	0.0016	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	CYCLOHEXANE	mg/kg	NC	NC	0.0022	U	0.0018	U	0.002	U	0.0019	U	0.0019	U	0.0018	U	0.0019	U	0.0021	U	0.0014	U	0.0016	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	Dibromochloromethane	mg/kg	3	0.005	0.0022	U	0.0018	U	0.002	U	0.0019	U	0.0019	U	0.0018	U	0.0019	U	0.0021	U	0.0014	U	0.0016	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	DICHLORODIFLUOROMETHANE	mg/kg	490	39	0.0054	U	0.0046	U	0.005	U	0.0049	U	0.0047	U	0.0046	U	0.0046	U	0.0053	U	0.0036	U	0.0041	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	ETHYLBENZENE	mg/kg	7800	13	0.0011	U	0.00092	U	0.001	U	0.00097	U	0.00094	U	0.00091	U	0.00093	U	0.0011	U	0.00072	U	0.00082	U	0.00094	UJ	0.001	U
SA-6 GC/MS Volatiles	SW8260	ISOPROPYLBENZENE	mg/kg	NC	NC	0.0022	U	0.0018	U	0.002	U	0.0019	U	0.0019	U	0.0018	U	0.0019	U	0.0021	U	0.0014	U	0.0016	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	METHYL ACETATE	mg/kg	78000	22	0.0054	U	0.0046	U	0.005	U	0.0049	U	0.0047	U	0.0046	U	0.0046	U	0.0053	U	0.0036	U	0.0041	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	METHYL TERT-BUTYL ETHER	mg/kg	110	0.2	0.0011	U	0.00092	U	0.001	U	0.00097	U	0.00094	U	0.00091	U	0.00093	U	0.0011	U	0.00072	U	0.00082	U	0.00094	UJ	0.001	U
SA-6 GC/MS Volatiles	SW8260	METHYLCYCLOHEXANE	mg/kg	NC	NC	0.0022	U	0.0018	U	0.002	U	0.0019	U	0.0019	U	0.0018	U	0.0019	U	0.0021	U	0.0014	U	0.0016	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	METHYLENE CHLORIDE	mg/kg	34	0.01	0.0054	U	0.0046	U	0.005	U	0.0049	U	0.0047	U	0.0046	U	0.0046	U	0.0012	J	0.0019	J	0.0016	J	0.0016	JJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	O-XYLENE	mg/kg	NC	NC	0.0011	U	0.00092	U	0.001	U	0.00097	U	0.00094	U	0.00091	U	0.00093	U	0.0011	U	0.00072	U	0.00082	U	0.00094	UJ	0.001	U
SA-6 GC/MS Volatiles	SW8260	STYRENE	mg/kg	90	3	0.0022	U	0.0018	U	0.002	U	0.0019	U	0.0019	U	0.0018	U	0.0019	U	0.0021	U	0.0014	U	0.0016	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	TETRACHLOROETHENE	mg/kg	2	0.005	0.0022	U	0.0018	U	0.002	U	0.0019	U	0.0019	U	0.0018	U	0.0019	U	0.0021	U	0.0014	U	0.0016	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	TOLUENE	mg/kg	6300	7	0.0011	U	0.00092	U	0.001	U	0.00097	U	0.00094	U	0.00091	U	0.00093	U	0.0011	U	0.00072	U	0.00082	U	0.00094	UJ	0.001	U
SA-6 GC/MS Volatiles	SW8260	TRANS-1,2-DICHLOROETHENE	mg/kg	300	0.6	0.0011	U	0.00092	U	0.001	U	0.00097	U	0.00094	U	0.00091	U	0.00093	U	0.0011	U	0.00072	U	0.00082	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	TRANS-1,3-DICHLOROPROPENE	mg/kg	NC	NC	0.0022	U	0.0018	U	0.002	U	0.0019	U	0.0019	U	0.0018	U	0.0019	U	0.0021	U	0.0014	U	0.0016	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	TRICHLOROETHENE	mg/kg	7	0.01	0.0011	U	0.00092	U	0.001	U	0.00097	U	0.00094	U	0.00091	U	0.00093	U	0.0011	U	0.00072	U	0.00082	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	TRICHLOROFLUOROMETHANE	mg/kg	23000	34	0.0054	U	0.0046	U	0.005	U	0.0049	U	0.0047	U	0.0046	U	0.0046	U	0.0053	U	0.0036	U	0.0041	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	VINYL CHLORIDE	mg/kg	0.7	0.005	0.0022	U	0.0018	U	0.002	U	0.0019	U	0.0019	U	0.0018	U	0.0019	U	0.0021	U	0.0014	U	0.0016	U	0.0047	UJ	0.005	U
SA-6 GC/MS Volatiles	SW8260	XYLENES, TOTAL	mg/kg	12000	19	0.0011	U	0.00092	U	0.001	U	0.00041	J	0.00094	U	0.00091	U	0.00093	U	0.0011	U	0.00072	U	0.00082	U	0.00094	UJ	0.001	U
SA-6 GC/MS Volatiles	SW8260	TOTAL TICS, ALKANES	mg/kg	NC	NC							0		0.0063	J	0		0		0		0		0		0		0	
SA-6 GC/MS Volatiles	SW8260	TOTAL TICS, VOLATILES	mg/kg	NC	NC							0.0161	J	0.1614	J	0		0.0049	J	0		0		0		0	J	0	

Notes:

NJ 2012 MOST STRINGENT SRS – NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Results with a value of "0" indicates no TICs were detected

Prepared by: DP 05/25/2016

Reviewed by: JLD 12/15/2016

TABLE 8A

Concrete Sample Results - VOCs

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

			Client Sample ID			087-WC-C21-021814		087-WC-C22-021814		087-WC-C23-021814		087-WC-C24-021814		087-WC-C25-021814		087-WC-C26-021814		087-WC-C27-021814	
			Lab Sample ID			JB60011-3		JB60011-4		JB60011-5		JB60011-6		JB60011-7		JB60011-8		JB60011-9	
			Date Sampled			02/18/2014		02/18/2014		02/18/2014		02/18/2014		02/18/2014		02/18/2014		02/18/2014	
			Sample Purpose	NJ 2012 MOST	NJ 2013 IGW	REG		REG		REG		REG		REG		REG		REG	
Parameter Group Name	Analytical Method	Parameter Name	Units	STRINGENT SRS	SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SA-6 GC/MS Volatiles	SW8260	1,1,1-TRICHLOROETHANE	mg/kg	290	0.3	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	1,1,2,2-TETRACHLOROETHANE	mg/kg	1	0.007	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	1,1,2-Trichloro-1,2,2-Trifluoroethane	mg/kg	NC	NC	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	1,1,2-TRICHLOROETHANE	mg/kg	2	0.02	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	1,1-DICHLOROETHANE	mg/kg	8	0.2	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	1,1-DICHLOROETHENE	mg/kg	11	0.008	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	1,2,3-TRICHLOROBENZENE	mg/kg	NC	NC	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	1,2,4-TRICHLOROBENZENE	mg/kg	73	0.7	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	1,2-DIBROMO-3-CHLOROPROPANE	mg/kg	0.08	0.005	*0.011*	*U*	*0.0092*	*U*	*0.0092*	*U*	*0.01*	*U*	*0.012*	*U*	*0.011*	*U*	*0.01*	*U*
SA-6 GC/MS Volatiles	SW8260	1,2-DIBROMOETHANE	mg/kg	0.008	0.005	0.0011	U	0.00092	U	0.00092	U	0.001	U	0.0012	U	0.0011	U	0.001	U
SA-6 GC/MS Volatiles	SW8260	1,2-DICHLOROBENZENE	mg/kg	5300	17	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	1,2-DICHLOROETHANE	mg/kg	0.9	0.005	0.0011	U	0.00092	U	0.00092	U	0.001	U	0.0012	U	0.0011	U	0.001	U
SA-6 GC/MS Volatiles	SW8260	1,2-DICHLOROPROPANE	mg/kg	2	0.005	*0.0054*	*U*	0.0046	U	0.0046	U	0.005	U	*0.0059*	*U*	*0.0056*	*U*	*0.0051*	*U*
SA-6 GC/MS Volatiles	SW8260	1,3-DICHLOROBENZENE	mg/kg	5300	19	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	1,4-DICHLOROBENZENE	mg/kg	5	2	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	2-BUTANONE	mg/kg	3100	0.9	0.011	U	0.0092	U	0.0092	U	0.01	U	0.012	U	0.011	U	0.01	U
SA-6 GC/MS Volatiles	SW8260	2-HEXANONE	mg/kg	NC	NC	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	4-METHYL-2-PENTANONE	mg/kg	NC	NC	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	ACETONE	mg/kg	70000	19	0.01510		0.01030		0.01170		0.01310		0.01580		0.02960		0.01970	
SA-6 GC/MS Volatiles	SW8260	BENZENE	mg/kg	2	0.005	0.0011	U	0.00092	U	0.00092	U	0.001	U	0.0012	U	0.0011	U	0.001	U
SA-6 GC/MS Volatiles	SW8260	BROMOCHLOROMETHANE	mg/kg	NC	NC	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	BROMODICHLOROMETHANE	mg/kg	1	0.005	*0.0054*	*U*	0.0046	U	0.0046	U	0.005	U	*0.0059*	*U*	*0.0056*	*U*	*0.0051*	*U*
SA-6 GC/MS Volatiles	SW8260	BROMOFORM	mg/kg	81	0.03	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	BROMOMETHANE	mg/kg	25	0.04	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	CARBON DISULFIDE	mg/kg	7800	6	0.00540	U	0.00460	U	0.00160	J	0.00500	U	0.00590	U	0.00560	U	0.00510	U
SA-6 GC/MS Volatiles	SW8260	CARBON TETRACHLORIDE	mg/kg	0.6	0.005	*0.0054*	*U*	0.0046	U	0.0046	U	0.005	U	*0.0059*	*U*	*0.0056*	*U*	*0.0051*	*U*
SA-6 GC/MS Volatiles	SW8260	CHLOROBENZENE	mg/kg	510	0.6	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	CHLOROETHANE	mg/kg	220	NC	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	CHLOROFORM	mg/kg	0.6	0.4	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	CHLOROMETHANE	mg/kg	4	NC	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	CIS-1,2-DICHLOROETHENE	mg/kg	230	0.3	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	CIS-1,3-DICHLOROPROPENE	mg/kg	NC	NC	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	CYCLOHEXANE	mg/kg	NC	NC	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	Dibromochloromethane	mg/kg	3	0.005	*0.0054*	*U*	0.0046	U	0.0046	U	0.005	U	*0.0059*	*U*	*0.0056*	*U*	*0.0051*	*U*
SA-6 GC/MS Volatiles	SW8260	DICHLORODIFLUOROMETHANE	mg/kg	490	39	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	ETHYLBENZENE	mg/kg	7800	13	0.0011	U	0.00092	U	0.00092	U	0.001	U	0.0012	U	0.0011	U	0.001	U
SA-6 GC/MS Volatiles	SW8260	ISOPROPYLBENZENE	mg/kg	NC	NC	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	METHYL ACETATE	mg/kg	78000	22	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	METHYL TERT-BUTYL ETHER	mg/kg	110	0.2	0.0011	U	0.00092	U	0.00092	U	0.001	U	0.0012	U	0.0011	U	0.001	U
SA-6 GC/MS Volatiles	SW8260	METHYLCYCLOHEXANE	mg/kg	NC	NC	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	METHYLENE CHLORIDE	mg/kg	34	0.01	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	O-XYLENE	mg/kg	NC	NC	0.0011	U	0.00092	U	0.00023	J	0.001	U	0.0012	U	0.0011	U	0.001	U
SA-6 GC/MS Volatiles	SW8260	STYRENE	mg/kg	90	3	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	TETRACHLOROETHENE	mg/kg	2	0.005	*0.0054*	*U*	0.0046	U	0.0046	U	0.005	U	*0.0059*	*U*	*0.0056*	*U*	*0.0051*	*U*
SA-6 GC/MS Volatiles	SW8260	TOLUENE	mg/kg	6300	7	0.0011	U	0.00092	U	0.00092	U	0.001	U	0.0012	U	0.0011	U	0.001	U
SA-6 GC/MS Volatiles	SW8260	TRANS-1,2-DICHLOROETHENE	mg/kg	300	0.6	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	TRANS-1,3-DICHLOROPROPENE	mg/kg	NC	NC	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	TRICHLOROETHENE	mg/kg	7	0.01	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	TRICHLOROFLUOROMETHANE	mg/kg	23000	34	0.0054	U	0.0046	U	0.0046	U	0.005	U	0.0059	U	0.0056	U	0.0051	U
SA-6 GC/MS Volatiles	SW8260	VINYL CHLORIDE	mg/kg	0.7	0.005	*0.0054*	*U*	0.0046	U	0.0046	U	0.005	U	*0.0059*	*U*	*0.0056*	*U*	*0.0051*	*U*
SA-6 GC/MS Volatiles	SW8260	XYLENES, TOTAL	mg/kg	12000	19	0.0011	U	0.00092	U	0.00023	J	0.001	U	0.0012	U	0.0011	U	0.001	U
SA-6 GC/MS Volatiles	SW8260	TOTAL TICS, ALKANES	mg/kg	NC	NC	0		0		0		0		0		0		0	
SA-6 GC/MS Volatiles	SW8260	TOTAL TICS, VOLATILES	mg/kg	NC	NC	0		0		0		0		0		0		0	

Notes:

NJ 2012 MOST STRINGENT SRS – NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Results with a value of "0" indicates no TICs were detected

Prepared by: DP 05/25/2016

Reviewed by: JLD 12/15/2016

TABLE 8B

Concrete Sample Results - SVOCs

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

					Client Sample ID			088-WC-C01-051315		088-WC-C02-051315		088-WC-C03-112015		088-WC-C04-011416		088-WC-C05-011416		088-WC-C06-011416		088-WC-C07-011416		088-WC-C08-032316		088-WC-C09-032316		088-WC-C10-032316		087-WC-C19-021814		087-WC-C20-021814		087-WC-C21-021814	
					Lab Sample ID			JB94630-1		JB94630-2		JC9030-1		JC12656-1		JC12656-2		JC12656-3		JC12656-4		JC16819-1		JC16819-2		JC16819-3		JB60011-1		JB60011-2		JB60011-3	
					Date Sampled			05/13/2015		05/13/2015		11/20/2015		01/14/2016		01/14/2016		01/14/2016		01/14/2016		03/23/2016		03/23/2016		03/23/2016		02/18/2014		02/18/2014		02/18/2014	
				NJ 2012 MOST	Sample Purpose	NJ 2013 IGW		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Group Name	Analytical Method	Parameter Name	Units	STRINGENT SRS		SOIL		CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SA-6 GC/MS Semi-Volatiles	SW8270	1,1'-BIPHENYL	mg/kg	3100		140		0.068	U	0.066	U	0.07	U	0.068	U	0.069	U	0.069	U	0.069	U	0.068	U	0.069	U	0.068	U	0.072	U	0.075	U	0.07	U
SA-6 GC/MS Semi-Volatiles	SW8270	1,2,4,5-TETRACHLOROBENZENE	mg/kg	NC		NC		0.17	U	0.16	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.18	U	0.19	U	0.18	U
SA-6 GC/MS Semi-Volatiles	SW8270	1,4-DIOXANE	mg/kg	NC		NC		0.034	U	0.033	U	0.035	U	0.034	U	0.034	U	0.035	U	0.034	U	0.034	U	0.035	U	0.034	U	0.036	U	0.037	U	0.035	U
SA-6 GC/MS Semi-Volatiles	SW8270	2,2'-OXYBIS(1-CHLOROPROPANE)	mg/kg	23		5		0.068	U	0.066	U	0.07	U	0.068	U	0.069	U	0.069	U	0.069	U	0.068	U	0.069	U	0.068	U	0.072	U	0.075	U	0.07	U
SA-6 GC/MS Semi-Volatiles	SW8270	2,3,4,6-TETRACHLOROPHENOL	mg/kg	NC		NC		0.17	U	0.16	U	0.17	UJ	0.17	U	0.17	U	0.17	U	0.17	U	NT		0.17	U	0.17	U	0.18	U	0.19	U	0.18	U
SA-6 GC/MS Semi-Volatiles	SW8270	2,4,5-TRICHLOROPHENOL	mg/kg	6100		68		0.17	U	0.16	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	NT		0.17	U	0.17	U	0.18	U	0.19	U	0.18	U
SA-6 GC/MS Semi-Volatiles	SW8270	2,4,6-TRICHLOROPHENOL	mg/kg	19		0.2		0.17	U	0.16	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	NT		0.17	U	0.17	U	0.18	U	0.19	U	0.18	U
SA-6 GC/MS Semi-Volatiles	SW8270	2,4-DICHLOROPHENOL	mg/kg	180		0.2		0.17	U	0.16	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	NT		0.17	U	0.17	U	0.18	U	0.19	U	0.18	U
SA-6 GC/MS Semi-Volatiles	SW8270	2,4-DIMETHYLPHENOL	mg/kg	1200		1		0.17	U	0.16	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	NT		0.17	U	0.17	U	0.18	U	0.19	U	0.18	U
SA-6 GC/MS Semi-Volatiles	SW8270	2,4-DINITROPHENOL	mg/kg	120		0.3		0.17	U	0.16	U	0.17	UJ	0.17	U	0.17	U	0.17	U	0.17	U	NT		0.17	U	0.17	U	*0.72*	*U*	*0.75*	*U*	*0.7*	*U*
SA-6 GC/MS Semi-Volatiles	SW8270	2,4-DINITROTOLUENE	mg/kg	0.7		NC		0.034	U	0.033	U	0.035	UJ	0.034	U	0.034	U	0.035	U	0.034	U	0.034	U	0.035	U	0.034	U	0.036	U	0.037	U	0.035	U
SA-6 GC/MS Semi-Volatiles	SW8270	2,6-DINITROTOLUENE	mg/kg	0.7		NC		0.034	U	0.033	U	0.035	U	0.034	U	0.034	U	0.035	U	0.034	U	0.034	U	0.035	U	0.034	U	0.036	U	0.037	U	0.035	U
SA-6 GC/MS Semi-Volatiles	SW8270	2-CHLORONAPHTHALENE	mg/kg	NC		NC		0.068	U	0.066	U	0.07	U	0.068	U	0.069	U	0.069	U	0.069	U	0.068	U	0.069	U	0.068	U	0.072	U	0.075	U	0.07	U
SA-6 GC/MS Semi-Volatiles	SW8270	2-CHLOROPHENOL	mg/kg	310		0.8		0.068	U	0.066	U	0.07	U	0.068	U	0.069	U	0.069	U	0.069	U	NT		0.069	U	0.068	U	0.072	U	0.075	U	0.07	U
SA-6 GC/MS Semi-Volatiles	SW8270	2-METHYLNAPHTHALENE	mg/kg	230		8		0.068	U	0.066	U	0.07	U	0.068	U	0.069	U	0.069	U	0.069	U	0.068	U	0.069	U	0.068	U	0.072	U	0.075	U	0.07	U
SA-6 GC/MS Semi-Volatiles	SW8270	2-METHYLPHENOL	mg/kg	310		NC		0.068	U	0.066	U	0.07	U	0.068	U	0.069	U	0.069	U	0.069	U	NT		0.069	U	0.068	U	0.072	U	0.075	U	0.07	U
SA-6 GC/MS Semi-Volatiles	SW8270	2-NITROANILINE	mg/kg	39		NC		0.17	UJ	0.16	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.18	UJ	0.19	U	0.18	U
SA-6 GC/MS Semi-Volatiles	SW8270	2-NITROPHENOL	mg/kg	NC		NC		0.17	U	0.16	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	NT		0.17	U	0.17	U	0.18	U	0.19	U	0.18	U
SA-6 GC/MS Semi-Volatiles	SW8270	3&4-METHYLPHENOL	mg/kg	NC		NC		0.068	U	0.066	U	0.07	U	0.068	U	0.069	U	0.069	U	0.069	U	NT		0.069	U	0.068	U	0.072	U	0.075	U	0.07	U
SA-6 GC/MS Semi-Volatiles	SW8270	3,3'-DICHLOROBENZIDINE	mg/kg	1		0.2		0.068	U	0.066	U	0.07	U	0.068	U	0.069	U	0.069	U	0.069	U	0.068	U	0.069	U	0.068	U	0.072	U	0.075	U	0.07	U
SA-6 GC/MS Semi-Volatiles	SW8270	3-NITROANILINE	mg/kg	NC		NC		0.17	U	0.16	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.18	U	0.19	U	0.18	U
SA-6 GC/MS Semi-Volatiles	SW8270	4,6-DINITRO-2-METHYLPHENOL	mg/kg	6		0.3		0.17	U	0.16	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	NT		0.17	U	0.17	U	*0.72*	*U*	*0.75*	*U*	*0.7*	*U*
SA-6 GC/MS Semi-Volatiles	SW8270	4-BROMOPHENYL PHENYL ETHER	mg/kg	NC		NC		0.068	U	0.066	U	0.07	U	0.068	U	0.069	U	0.069	U	0.069	U	0.068	U	0.069	U	0.068	U	0.072	U	0.075	U	0.07	U
SA-6 GC/MS Semi-Volatiles	SW8270	4-CHLORO-3-METHYLPHENOL	mg/kg	NC		NC		0.17	U	0.16	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	NT		0.17	U	0.17	U	0.18	U	0.19	U	0.18	U
SA-6 GC/MS Semi-Volatiles	SW8270	4-CHLOROANILINE	mg/kg	NC		NC		0.17	U	0.16	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.18	U	0.19	U	0.18	U
SA-6 GC/MS Semi-Volatiles	SW8270	4-CHLOROPHENYL PHENYL ETHER	mg/kg	NC		NC		0.068	U	0.066	U	0.07	U	0.068	U	0.069	U	0.069	U	0.069	U	0.068	U	0.069	U	0.068	U	0.072	U	0.075	U	0.07	U
SA-6 GC/MS Semi-Volatiles	SW8270	4-NITROANILINE	mg/kg	NC		NC		0.17	U	0.16	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.18	U	0.19	U	0.18	U
SA-6 GC/MS Semi-Volatiles	SW8270	4-NITROPHENOL	mg/kg	NC		NC		0.34	UJ	0.33	U	0.35	UJ	0.34	U	0.34	U	0.35	U	0.34	U	NT		0.35	U	0.34	U	0.36	UJ	0.37	U	0.35	U
SA-6 GC/MS Semi-Volatiles	SW8270	ACENAPHTHENE	mg/kg	3400		110		0.034	U	0.033	U	0.035	U	0.034	U	0.034	U	0.035	U	0.034	U	0.034	U	0.035	U	0.034	U	0.036	U	0.037	U	0.035	U
SA-6 GC/MS Semi-Volatiles	SW8270	ACENAPHTHYLENE	mg/kg	300000		NC		0.034	U	0.033	U	0.035	U	0.034	U	0.034	U	0.035	U	0.034	U	0.034	U	0.035	U	0.034	U	0.036	U	0.037	U	0.035	U
SA-6 GC/MS Semi-Volatiles	SW8270	ACETOPHENONE	mg/kg	2		3		0.17	U	0.16	U	NT		NT		NT		NT		NT		NT		NT		NT		0.18	U	0.19	U	0.18	U
SA-6 GC/MS Semi-Volatiles	SW8270	ANTHRACENE	mg/kg	17000		2400		0.034	U	0.033	U	0.035	U	0.034	U	0.034	U	0.035	U	0.034	U	0.034	U	0.035	U	0.034	U	0.036	U	0.037	U	0.035	U
SA-6 GC/MS Semi-Volatiles	SW8270	ATRAZINE	mg/kg	210		0.2		0.068	U	0.066	U	0.07	UJ	0.068	U	0.069	U	0.069	U	0.069	U	0.068	U	0.069	U	0.068	U	0.072	U	0.075	U	0.07	U
SA-6 GC/MS Semi-Volatiles	SW8270	BENZALDEHYDE	mg/kg	6100		NC		0.17	U	0.16	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.18	U	0.19	U	0.18	U
SA-6 GC/MS Semi-Volatiles	SW8270	BENZO(A)ANTHRACENE	mg/kg	0.6		0.8		0.034	U	0.033	U	0.035	U	0.034	U	0.034	U	0.035	U	0.034	U	0.034	U	0.0193	J	0.0226	J	0.036	U	0.037	U	0.035	U
SA-6 GC/MS Semi-Volatiles	SW8270	BENZO(A)PYRENE	mg/kg	0.2		0.2		0.034	U	0.033	U	0.035	U	0.034	U	0.034	U	0.035	U	0.034	U	0.034	U	0.0173	J	0.0246	J	0.036	U	0.037	U	0.035	U
SA-6 GC/MS Semi-Volatiles	SW8270	BENZO(B)FLUORANTHENE	mg/kg	0.6		2		0.034	U	0.033	U	0.035	U	0.034	U	0.034	U	0.035	U	0.034	U	0.034	U	0.0267	J	0.0386		0.036	U	0.037	U	0.035	U
SA-6 GC/MS Semi-Volatiles	SW8270	BENZO(G,H,I)PERYLENE	mg/kg	30000		NC		0.034	U	0.033	U	0.035	U	0.034	U	0.034	U	0.035	U	0.034	U	0.034	U	0.035	U	0.0187	J	0.036	U	0.037	U	0.035	U
SA-6 GC/MS Semi-Volatiles	SW8270	BENZO(K)FLUORANTHENE	mg/kg	6		25		0.034	U	0.033	U	0.035	U	0.034	U	0.034	U	0.035	U	0.034	U	0.034	U	0.035	U	0.0157	J	0.036	U	0.037	U	0.035	U
SA-6 GC/MS Semi-Volatiles	SW8270	BIS(2-CHLOROETHOXY)METHANE	mg/kg	NC		NC		0.068	U	0.066	U	0.07	U	0.068	U	0.069	U	0.069	U	0.069	U	0.068	U	0.069	U	0.068	U	0.072	U	0.075	U	0.07	U
SA-6 GC/MS Semi-Volatiles	SW8270	BIS(2-CHLOROETHYL)ETHER	mg/kg	0.4		0.2		0.068	U	0.066	U	0.07	U	0.068	U	0.069	U	0.069	U	0.069	U	0.068	U	0.069	U	0.068	U	0.072	U	0.075	U	0.07	U
SA-6 GC/MS Semi-Volatiles	SW8270	BIS(2-ETHYLHEXYL)PHTHALATE	mg/kg	35		1200		0.0348	J	0.0421	J	0.07	U	0.068	U	0.069	U	0.069	U	0.069	U	0.068	U	0.069	U	0.068	U	0.0636	J	0.102		0.0856	
SA-6 GC/MS Semi-Volatiles	SW8270	BUTYLBENZYL PHTHALATE	mg/kg	1200		230		0.068	U	0.066	U	0.07	U	0.068	U	0.069	U	0.069	U	0.069	U	0.068	UJ	0.069	U	0.068	U	0.072	U	0.075	U	0.07	U
SA-6 GC/MS Semi-Volatiles	SW8270	CAPROLACTAM	mg/kg	31000		12		0.068	U	0.066	U	0.07	U	0.068	U	0.069	U	0.069	U	0.069	U	0.068	U	0.069	U	0.068	U	0.072	U	0.075	U	0.07	U
SA-6 GC/MS Semi-Volatiles	SW8270	CARBAZOLE	mg/kg	24		NC		0.068	U	0.066	U	0.07	U	0.068	U	0.069	U	0.069	U	0.069	U	0.068	U	0.069	U	0.068	U	0.072	U	0.075	U	0.07	U
SA-6 GC/MS Semi-Volatiles	SW8270	CHRYSENE	mg/kg	62		80		0.034	U	0.033	U	0.035	U	0.034	U	0.034	U	0.035	U	0.034	U	0.034	U	0.0199	J	0.0254	J	0.036	U	0.037	U	0.035	U
SA-6 GC/MS Semi-Volatiles	SW8270	DI-N-BUTYL PHTHALATE	mg/kg	6100		760		0.068	U	0.11		0.07	U	0.068	U	0.069	U	0.069	U	0.069	U	0.068	U	0.069	U	0.068	U	0.072	U	0.075	U	0.07	U
SA-6 GC/MS Semi-Volatiles	SW8270	DI-N-OCTYL PHTHALATE	mg/kg	2400		3300		0.068	U	0.066	U	0.07	U	0.068	U	0.069	U	0.069	U	0.069	U	0.068	UJ	0.069	U	0.068	U	0.072	U	0.075	U	0.07	U
SA-6 GC/MS Semi-Volatiles	SW8270	DIBENZO(A,H)ANTHRACENE	mg/kg	0.2		0.8		0.034	U	0.033	U	0.035	U	0.034	U	0.034	U	0.035	U	0.034	U	0.034	U	0.035	U	0.034	U	0.036	U	0.037	U	0.035	U
SA-6 GC/MS Semi-Volatiles	SW8270	DIBENZOFURAN	mg/kg	NC		NC		0.068	U	0.066	U	0.07	U	0.068	U	0.069	U	0.069	U	0.069	U	0.068	U	0.069	U	0.068	U	0.072	U	0.075	U	0.07	U
SA-6 GC/MS Semi-Volatiles	SW8270	DIETHYL PHTHALATE	mg/kg	49000		88		0.068	U	0.066	U	0.07	U	0.068	U	0.069	U	0.069	U	0.069	U	0.068	U	0.069	U	0.068	U	0.072	U	0.075	U	0.07	U
SA-6 GC/MS Semi-Volatiles	SW8270	DIMETHYL PHTHALATE	mg/kg	NC		NC		0.068	U	0.066	U	0.07	U	0.068	U	0.069	U	0.069	U	0.069	U	0.068	U	0.069	U	0.068	U	0.072	U	0.075	U	0.07	U
SA-6 GC/MS Semi-Volatiles	SW8270	FLUORANTHENE	mg/kg	2300		1300		0.034	U	0.033	U	0.035	U	0.034	U	0.034	U	0.014	J	0.034	U	0.034	U	0.0395		0.04		0.036	U	0.0181	J	0.035	U
SA-6 GC/MS Semi-Volatiles	SW8270	FLUORENE	mg/kg	2300		170		0.034	U	0.033	U	0.035	U	0.034	U	0.034	U	0.035	U	0.034	U	0.034	U	0.035	U	0.034	U	0.036	U	0.037	U	0.035	U
SA-6 GC/MS Semi-Volatiles	SW8270	HEXACHLOROBENZENE	mg/kg	0.3		0.2		0.068	U	0.066	U	0.07	U	0.068	U	0.069	U	0.069	U	0.069	U	0.068	U	0.069	U	0.068	U	0.072	U	0.075	U	0.07	U
SA-6 GC/MS Semi-Volatiles	SW8270	HEXACHLOROBUTADIENE	mg/kg	6		0.9		0.034	UJ	0.033	U	0.035	UJ	0.034	U	0.034	U	0.035	U	0.034	U	0.034	U	0.035	U	0.034	U	0.036	U	0.037	U	0.035	U
SA-6 GC/MS Semi-Volatiles	SW8270	HEXACHLOROCYCLOPENTADIENE	mg/kg	45		320		0.34	UJ	0.33	U	0.35	UJ	0.34	U	0.34	U	0.35	U	0.34	U	0.34	U	0.35	U	0.34	U	0.36	UJ	0.37	U	0.35	U
SA-6 GC/MS Semi-Volatiles	SW8270	HEXACHLOROETHANE	mg/kg	35		0.2		0.17	U	0.16	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.18	U	0.19	U	0.18	U
SA-6 GC/MS Semi-Volatiles	SW8270	INDENO(1,2,3-CD)PYRENE	mg/kg	0.6		7		0.034	U	0.033	U	0.035	U	0.034	U	0.034	U	0.035	U	0.034	U	0.034	U	0.035	U	0.0183	J	0.036	U	0.037	U	0.035	U
SA-6 GC/MS Semi-Volatiles	SW8270	ISOPHORONE	mg/kg	510		0.2		0.068	U	0.066	U	**9.35**		0.0434	J	0.0464	J	0.117		0.0388	J	**0.477**		**1.07**		0.0752		0.072	U	0.075	U	0.07	U
SA-6 GC/MS Semi-Volatiles	SW8270	N-NITROSO-DI-N-PROPYLAMINE	mg/kg	0.2		0.2		0.068	U	0.066	U	0.07	U	0.068	U	0.069	U	0.069	U	0.069	U	0.068	U	0.069	U	0.068	U	0.072	U	0.075	U	0.07	U
SA-6 GC/MS Semi-Volatiles	SW8270	N-NITROSODIPHENYLAMINE	mg/kg	99		0.4		0.17	U	0.16	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.18	U	0.19	U	0.18	U
SA-6 GC/MS Semi-Volatiles	SW8270	NAPHTHALENE	mg/kg	6		25		0.034	U	0.033	U	0.035	U	0.034	U	0.034	U	0.035	U	0.034	U	0.034	U	0.035	U	0.034	U	0.036	U	0.037	U	0.035	U
SA-6 GC/MS Semi-Volatiles	SW8270	NITROBENZENE	mg/kg	31		0.2		0.068	U	0.066	U	0.07	U	0.068	U	0.069	U	0.069	U	0.069	U	0.068	U	0.069	U	0.068	U	0.072	U	0.075	U	0.07	U
SA-6 GC/MS Semi-Volatiles	SW8270	PHENANTHRENE	mg/kg	300000		NC		0.0204	J	0.033	U	0.0138	J	0.034	U	0.034	U	0.0161	J	0.034	U	0.034	U	0.0402		0.0219	J	0.036	U	0.037	U	0.035	U
SA-6 GC/MS Semi-Volatiles	SW8270	PHENOL	mg/kg	18000		8		0.068	U	0.066	U	0.07	U	0.068	U	0.069	U	0.069	U	0.069	U	NT		0.069	U	0.068	U	0.072	U	0.075	U	0.07	U
SA-6 GC/MS Semi-Volatiles	SW8270	PYRENE	mg/kg	1700		840		0.015	J	0.033	U	0.035	U	0.034	U	0.034	U	0.035	U	0.034	U	0.034	U	0.0369		0.0403		0.036	U	0.0159	J	0.035	U
SA-6 GC/MS Semi-Volatiles	SW8270	TOTAL TICS, ALKANES	mg/kg	NC		NC								0		0		0		0		0		0		0		0		0		0	
SA-6 GC/MS Semi-Volatiles	SW8270	TOTAL TICS, SEMI-VOLATILES	mg/kg	NC		NC								0.71	J	0.68	J	2.87	J	0.26	J	6.34	J	7.02	J	3.02	J	0.25	J	0.53	J	0.18	J

Notes:

NJ 2012 MOST STRINGENT SRS – NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

NT: Not tested

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Results with a value of "0" indicates no TICs were detected

Prepared by: DP 05/25/2016

Reviewed by: JLD 12/15/2016

TABLE 8B

Concrete Sample Results - SVOCs

Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

					Client Sample ID		087-WC-C22-021814		087-WC-C23-021814		087-WC-C24-021814		087-WC-C25-021814		087-WC-C26-021814		087-WC-C27-021814	
					Lab Sample ID		JB60011-4		JB60011-5		JB60011-6		JB60011-7		JB60011-8		JB60011-9	
					Date Sampled		02/18/2014		02/18/2014		02/18/2014		02/18/2014		02/18/2014		02/18/2014	
					Sample Purpose	NJ 2012 MOST	REG		REG		REG		REG		REG		REG	
Parameter Group Name	Analytical Method	Parameter Name	Units	STRINGENT SRS	NJ 2013 IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SA-6 GC/MS Semi-Volatiles	SW8270	1,1'-BIPHENYL	mg/kg	3100	140	0.076	U	0.071	U	0.073	U	0.068	U	0.072	U	0.078	U
SA-6 GC/MS Semi-Volatiles	SW8270	1,2,4,5-TETRACHLOROBENZENE	mg/kg	NC	NC	0.19	U	0.18	U	0.18	U	0.17	U	0.18	U	0.2	U
SA-6 GC/MS Semi-Volatiles	SW8270	1,4-DIOXANE	mg/kg	NC	NC	0.038	U	0.035	U	0.037	U	0.034	U	0.036	U	0.039	U
SA-6 GC/MS Semi-Volatiles	SW8270	2,2'-OXYBIS(1-CHLOROPROPANE)	mg/kg	23	5	0.076	U	0.071	U	0.073	U	0.068	U	0.072	U	0.078	U
SA-6 GC/MS Semi-Volatiles	SW8270	2,3,4,6-TETRACHLOROPHENOL	mg/kg	NC	NC	0.19	U	0.18	U	0.18	U	0.17	U	0.18	U	0.2	U
SA-6 GC/MS Semi-Volatiles	SW8270	2,4,5-TRICHLOROPHENOL	mg/kg	6100	68	0.19	U	0.18	U	0.18	U	0.17	U	0.18	U	0.2	U
SA-6 GC/MS Semi-Volatiles	SW8270	2,4,6-TRICHLOROPHENOL	mg/kg	19	0.2	0.19	U	0.18	U	0.18	U	0.17	U	0.18	U	0.2	U
SA-6 GC/MS Semi-Volatiles	SW8270	2,4-DICHLOROPHENOL	mg/kg	180	0.2	0.19	U	0.18	U	0.18	U	0.17	U	0.18	U	0.2	U
SA-6 GC/MS Semi-Volatiles	SW8270	2,4-DIMETHYLPHENOL	mg/kg	1200	1	0.19	U	0.18	U	0.18	U	0.17	U	0.18	U	0.2	U
SA-6 GC/MS Semi-Volatiles	SW8270	2,4-DINITROPHENOL	mg/kg	120	0.3	*0.76*	*U*	*0.71*	*U*	*0.73*	*U*	*0.68*	*U*	*0.72*	*U*	*0.78*	*U*
SA-6 GC/MS Semi-Volatiles	SW8270	2,4-DINITROTOLUENE	mg/kg	0.7	NC	0.038	U	0.035	U	0.037	U	0.034	U	0.036	U	0.039	U
SA-6 GC/MS Semi-Volatiles	SW8270	2,6-DINITROTOLUENE	mg/kg	0.7	NC	0.038	U	0.035	U	0.037	U	0.034	U	0.036	U	0.039	U
SA-6 GC/MS Semi-Volatiles	SW8270	2-CHLORONAPHTHALENE	mg/kg	NC	NC	0.076	U	0.071	U	0.073	U	0.068	U	0.072	U	0.078	U
SA-6 GC/MS Semi-Volatiles	SW8270	2-CHLOROPHENOL	mg/kg	310	0.8	0.076	U	0.071	U	0.073	U	0.068	U	0.072	U	0.078	U
SA-6 GC/MS Semi-Volatiles	SW8270	2-METHYLNAPHTHALENE	mg/kg	230	8	0.076	U	0.071	U	0.073	U	0.068	U	0.072	U	0.078	U
SA-6 GC/MS Semi-Volatiles	SW8270	2-METHYLPHENOL	mg/kg	310	NC	0.076	U	0.071	U	0.073	U	0.068	U	0.072	U	0.078	U
SA-6 GC/MS Semi-Volatiles	SW8270	2-NITROANILINE	mg/kg	39	NC	0.19	U	0.18	U	0.18	U	0.17	U	0.18	U	0.2	U
SA-6 GC/MS Semi-Volatiles	SW8270	2-NITROPHENOL	mg/kg	NC	NC	0.19	U	0.18	U	0.18	U	0.17	U	0.18	U	0.2	U
SA-6 GC/MS Semi-Volatiles	SW8270	3&4-METHYLPHENOL	mg/kg	NC	NC	0.076	U	0.071	U	0.073	U	0.068	U	0.072	U	0.078	U
SA-6 GC/MS Semi-Volatiles	SW8270	3,3'-DICHLOROBENZIDINE	mg/kg	1	0.2	0.076	U	0.071	U	0.073	U	0.068	U	0.072	U	0.078	U
SA-6 GC/MS Semi-Volatiles	SW8270	3-NITROANILINE	mg/kg	NC	NC	0.19	U	0.18	U	0.18	U	0.17	U	0.18	U	0.2	U
SA-6 GC/MS Semi-Volatiles	SW8270	4,6-DINITRO-2-METHYLPHENOL	mg/kg	6	0.3	*0.76*	*U*	*0.71*	*U*	*0.73*	*U*	*0.68*	*U*	*0.72*	*U*	*0.78*	*U*
SA-6 GC/MS Semi-Volatiles	SW8270	4-BROMOPHENYL PHENYL ETHER	mg/kg	NC	NC	0.076	U	0.071	U	0.073	U	0.068	U	0.072	U	0.078	U
SA-6 GC/MS Semi-Volatiles	SW8270	4-CHLORO-3-METHYLPHENOL	mg/kg	NC	NC	0.19	U	0.18	U	0.18	U	0.17	U	0.18	U	0.2	U
SA-6 GC/MS Semi-Volatiles	SW8270	4-CHLOROANILINE	mg/kg	NC	NC	0.19	U	0.18	U	0.18	U	0.17	U	0.18	U	0.2	U
SA-6 GC/MS Semi-Volatiles	SW8270	4-CHLOROPHENYL PHENYL ETHER	mg/kg	NC	NC	0.076	U	0.071	U	0.073	U	0.068	U	0.072	U	0.078	U
SA-6 GC/MS Semi-Volatiles	SW8270	4-NITROANILINE	mg/kg	NC	NC	0.19	U	0.18	U	0.18	U	0.17	U	0.18	U	0.2	U
SA-6 GC/MS Semi-Volatiles	SW8270	4-NITROPHENOL	mg/kg	NC	NC	0.38	U	0.35	U	0.37	U	0.34	U	0.36	U	0.39	U
SA-6 GC/MS Semi-Volatiles	SW8270	ACENAPHTHENE	mg/kg	3400	110	0.038	U	0.035	U	0.037	U	0.034	U	0.036	U	0.039	U
SA-6 GC/MS Semi-Volatiles	SW8270	ACENAPHTHYLENE	mg/kg	300000	NC	0.038	U	0.035	U	0.037	U	0.034	U	0.036	U	0.039	U
SA-6 GC/MS Semi-Volatiles	SW8270	ACETOPHENONE	mg/kg	2	3	0.19	U	0.18	U	0.18	U	0.17	U	0.18	U	0.2	U
SA-6 GC/MS Semi-Volatiles	SW8270	ANTHRACENE	mg/kg	17000	2400	0.038	U	0.035	U	0.037	U	0.034	U	0.036	U	0.039	U
SA-6 GC/MS Semi-Volatiles	SW8270	ATRAZINE	mg/kg	210	0.2	0.076	U	0.071	U	0.073	U	0.068	U	0.072	U	0.078	U
SA-6 GC/MS Semi-Volatiles	SW8270	BENZALDEHYDE	mg/kg	6100	NC	0.19	U	0.18	U	0.18	U	0.17	U	0.18	U	0.2	U
SA-6 GC/MS Semi-Volatiles	SW8270	BENZO(A)ANTHRACENE	mg/kg	0.6	0.8	0.038	U	0.035	U	0.037	U	0.034	U	0.036	U	0.039	U
SA-6 GC/MS Semi-Volatiles	SW8270	BENZO(A)PYRENE	mg/kg	0.2	0.2	0.038	U	0.035	U	0.037	U	0.034	U	0.036	U	0.039	U
SA-6 GC/MS Semi-Volatiles	SW8270	BENZO(B)FLUORANTHENE	mg/kg	0.6	2	0.038	U	0.035	U	0.037	U	0.034	U	0.036	U	0.039	U
SA-6 GC/MS Semi-Volatiles	SW8270	BENZO(G,H,I)PERYLENE	mg/kg	30000	NC	0.038	U	0.035	U	0.037	U	0.034	U	0.036	U	0.039	U
SA-6 GC/MS Semi-Volatiles	SW8270	BENZO(K)FLUORANTHENE	mg/kg	6	25	0.038	U	0.035	U	0.037	U	0.034	U	0.036	U	0.039	U
SA-6 GC/MS Semi-Volatiles	SW8270	BIS(2-CHLOROETHOXY)METHANE	mg/kg	NC	NC	0.076	U	0.071	U	0.073	U	0.068	U	0.072	U	0.078	U
SA-6 GC/MS Semi-Volatiles	SW8270	BIS(2-CHLOROETHYL)ETHER	mg/kg	0.4	0.2	0.076	U	0.071	U	0.073	U	0.068	U	0.072	U	0.078	U
SA-6 GC/MS Semi-Volatiles	SW8270	BIS(2-ETHYLHEXYL)PHTHALATE	mg/kg	35	1200	0.221		0.133		0.182		0.283		0.154		0.254	
SA-6 GC/MS Semi-Volatiles	SW8270	BUTYLBENZYL PHTHALATE	mg/kg	1200	230	0.076	U	0.071	U	0.073	U	0.068	U	0.072	U	0.078	U
SA-6 GC/MS Semi-Volatiles	SW8270	CAPROLACTAM	mg/kg	31000	12	0.076	U	0.071	U	0.073	U	0.068	U	0.072	U	0.078	U
SA-6 GC/MS Semi-Volatiles	SW8270	CARBAZOLE	mg/kg	24	NC	0.076	U	0.071	U	0.073	U	0.068	U	0.072	U	0.078	U
SA-6 GC/MS Semi-Volatiles	SW8270	CHRYSENE	mg/kg	62	80	0.038	U	0.035	U	0.037	U	0.034	U	0.036	U	0.039	U
SA-6 GC/MS Semi-Volatiles	SW8270	DI-N-BUTYL PHTHALATE	mg/kg	6100	760	0.076	U	0.071	U	0.073	U	0.068	U	0.072	U	0.078	U
SA-6 GC/MS Semi-Volatiles	SW8270	DI-N-OCTYL PHTHALATE	mg/kg	2400	3300	0.076	U	0.071	U	0.073	U	0.068	U	0.072	U	0.078	U
SA-6 GC/MS Semi-Volatiles	SW8270	DIBENZO(A,H)ANTHRACENE	mg/kg	0.2	0.8	0.038	U	0.035	U	0.037	U	0.034	U	0.036	U	0.039	U
SA-6 GC/MS Semi-Volatiles	SW8270	DIBENZOFURAN	mg/kg	NC	NC	0.076	U	0.071	U	0.073	U	0.068	U	0.072	U	0.078	U
SA-6 GC/MS Semi-Volatiles	SW8270	DIETHYL PHTHALATE	mg/kg	49000	88	0.076	U	0.071	U	0.073	U	0.068	U	0.072	U	0.078	U
SA-6 GC/MS Semi-Volatiles	SW8270	DIMETHYL PHTHALATE	mg/kg	NC	NC	0.076	U	0.071	U	0.073	U	0.068	U	0.072	U	0.078	U
SA-6 GC/MS Semi-Volatiles	SW8270	FLUORANTHENE	mg/kg	2300	1300	0.038	U	0.035	U	0.037	U	0.0203	J	0.036	U	0.039	U
SA-6 GC/MS Semi-Volatiles	SW8270	FLUORENE	mg/kg	2300	170	0.038	U	0.035	U	0.037	U	0.034	U	0.036	U	0.039	U
SA-6 GC/MS Semi-Volatiles	SW8270	HEXACHLOROBENZENE	mg/kg	0.3	0.2	0.076	U	0.071	U	0.073	U	0.068	U	0.072	U	0.078	U
SA-6 GC/MS Semi-Volatiles	SW8270	HEXACHLOROBUTADIENE	mg/kg	6	0.9	0.038	U	0.035	U	0.037	U	0.034	U	0.036	U	0.039	U
SA-6 GC/MS Semi-Volatiles	SW8270	HEXACHLOROCYCLOPENTADIENE	mg/kg	45	320	0.38	U	0.35	U	0.37	U	0.34	U	0.36	U	0.39	U
SA-6 GC/MS Semi-Volatiles	SW8270	HEXACHLOROETHANE	mg/kg	35	0.2	0.19	U	0.18	U	0.18	U	0.17	U	0.18	U	0.2	U
SA-6 GC/MS Semi-Volatiles	SW8270	INDENO(1,2,3-CD)PYRENE	mg/kg	0.6	7	0.038	U	0.035	U	0.037	U	0.034	U	0.036	U	0.039	U
SA-6 GC/MS Semi-Volatiles	SW8270	ISOPHORONE	mg/kg	510	0.2	0.076	U	0.071	U	0.073	U	0.068	U	0.072	U	0.078	U
SA-6 GC/MS Semi-Volatiles	SW8270	N-NITROSO-DI-N-PROPYLAMINE	mg/kg	0.2	0.2	0.076	U	0.071	U	0.073	U	0.068	U	0.072	U	0.078	U
SA-6 GC/MS Semi-Volatiles	SW8270	N-NITROSODIPHENYLAMINE	mg/kg	99	0.4	0.19	U	0.18	U	0.18	U	0.17	U	0.18	U	0.2	U
SA-6 GC/MS Semi-Volatiles	SW8270	NAPHTHALENE	mg/kg	6	25	0.038	U	0.035	U	0.037	U	0.034	U	0.036	U	0.039	U
SA-6 GC/MS Semi-Volatiles	SW8270	NITROBENZENE	mg/kg	31	0.2	0.076	U	0.071	U	0.073	U	0.068	U	0.072	U	0.078	U
SA-6 GC/MS Semi-Volatiles	SW8270	PHENANTHRENE	mg/kg	300000	NC	0.038	U	0.035	U	0.037	U	0.027	J	0.036	U	0.0207	J
SA-6 GC/MS Semi-Volatiles	SW8270	PHENOL	mg/kg	18000	8	0.076	U	0.071	U	0.073	U	0.068	U	0.072	U	0.078	U
SA-6 GC/MS Semi-Volatiles	SW8270	PYRENE	mg/kg	1700	840	0.038	U	0.035	U	0.037	U	0.0259	J	0.036	U	0.039	U
SA-6 GC/MS Semi-Volatiles	SW8270	TOTAL TICS, ALKANES	mg/kg	NC	NC	0		0		0		0.31	J	0		0.91	J
SA-6 GC/MS Semi-Volatiles	SW8270	TOTAL TICS, SEMI-VOLATILES	mg/kg	NC	NC	1.25	J	0.45	J	0.89	J	2.19	J	0.37	J	2.55	J

Notes:
NJ 2012 MOST STRINGENT SRS – NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].
NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]
NC: No criterion established
Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS
Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS
Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per kilogram (mg/kg)
J: Estimated concentration
NT: Not tested
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit
Results with a value of "0" indicates no TICs were detected

Prepared by: DP 05/25/2016
Reviewed by: JLD 12/15/2016

TABLE 8C

Concrete Sample Results - Metals

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

			Client Sample ID			088-WC-C01-051315		088-WC-C02-051315		088-WC-C03-112015		088-WC-C04-011416		088-WC-C05-011416		088-WC-C06-011416		088-WC-C07-011416		088-WC-C08-032316		088-WC-C09-032316		088-WC-C10-032316		087-WC-C19-021814		087-WC-C20-021814	
			Lab Sample ID			JB94630-1		JB94630-2		JC9030-1		JC12656-1		JC12656-2		JC12656-3		JC12656-4		JC16819-1		JC16819-2		JC16819-3		JB60011-1		JB60011-2	
			Date Sampled			05/13/2015		05/13/2015		11/20/2015		01/14/2016		01/14/2016		01/14/2016		01/14/2016		03/23/2016		03/23/2016		03/23/2016		02/18/2014		02/18/2014	
			Sample Purpose	NJ 2012 MOST	NJ 2013 IGW	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Group Name	Analytical Method	Parameter Name	Units	STRINGENT SRS	SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SA-6 TAL Metals	SW6010	ALUMINUM	mg/kg	78000	6000	**7120**		**7940**		**7720**		3570		5030		**7020**		3850		**8660**		**8380**		**8500**		**7050**	J	**6860**	
SA-6 TAL Metals	SW6010	ANTIMONY	mg/kg	31	6	2	U	2	U	2.1	U	2.1	U	2.1	U	2.1	U	2.1	U	2	U	2	U	2	U	2.3	UJ	2.2	U
SA-6 TAL Metals	SW6010	ARSENIC	mg/kg	19	19	2.3		2.1		3.3		2.1	U	2.1	U	2.5		2.1	U	2	U	2.8		2.8		3.9		12.7	
SA-6 TAL Metals	SW6010	BARIUM	mg/kg	16000	2100	54.3		57.6		36.6		34.6		30.3		34		33.3		54.7		49.7		64.7		43.1		38.7	
SA-6 TAL Metals	SW6010	BERYLLIUM	mg/kg	16	0.7	0.29		0.45		0.28		0.24		0.22		0.29		0.23		0.29		0.34		0.34		0.23	U	0.22	U
SA-6 TAL Metals	SW6010	CADMIUM	mg/kg	78	2	0.51	U	0.51	U	0.52	U	0.53	U	0.53	U	0.53	U	0.52	U	0.5	U	0.5	U	0.49	U	0.58	U	0.56	U
SA-6 TAL Metals	SW6010	CALCIUM	mg/kg	NC	NC	91300		85100		70400		26300		54500		70000		46700		73500		78000		75600		71200		67000	
SA-6 TAL Metals	SW6010	CHROMIUM	mg/kg	NC	NC	12.6		16.8		14.7		8.9		8		43.5		9.7		16.4		110		141		10.8	J	8.8	J
SA-6 TAL Metals	SW6010	COBALT	mg/kg	590	90	5.1	U	5.4		13.5		5.3	U	5.3	U	5.3	U	5.2	U	14.5		8.4		15.3		5.8	U	5.6	U
SA-6 TAL Metals	SW6010	COPPER	mg/kg	3100	11000	11.7		38.8		52.1		9.3		9.2		11.4		15		6.8		10.7		24.5		6.7	J	5.8	
SA-6 TAL Metals	SW6010	IRON	mg/kg	NC	NC	5290		7720		15100		3790		4970		6400		3230		8980		10700		11000		8010	J	6390	
SA-6 TAL Metals	SW6010	LEAD	mg/kg	400	90	22.9		29.5		10.9		9.3		9.5		10.6		9.7		6.6		16.6		45.1		3		2.7	
SA-6 TAL Metals	SW6010	MAGNESIUM	mg/kg	NC	NC	3850		4910		6440		2190		2570		3080		2020		4360		4620		4820		4590	J	4210	
SA-6 TAL Metals	SW6010	MANGANESE	mg/kg	11000	65	**137**		**190**		**190**		**86.3**		**116**		**147**		**87.2**		**196**		**215**		**202**		**140**	J	**126**	
SA-6 TAL Metals	SW7471	MERCURY	mg/kg	23	0.1	0.033	U	0.032	U	0.034	U	0.032	U	0.032	U	0.031	U	0.035		0.035	U	**0.25**		**0.31**		0.036	U	0.038	U
SA-6 TAL Metals	SW6010	NICKEL	mg/kg	1600	48	5.8		10.5		38.8		4.2	U	5.3		21.9		6.3		8.6		20.6		**48.8**		5.9	J	5.8	
SA-6 TAL Metals	SW6010	POTASSIUM	mg/kg	NC	NC	1000	U	1100		1240		1100	U	1100	U	1100	U	1000	U	1220		1010		1250		1200	UJ	1100	U
SA-6 TAL Metals	SW6010	SELENIUM	mg/kg	390	11	2	U	2	U	2.1	U	2.1	U	2.1	U	2.1	U	2.1	U	2	U	2	U	2	U	2.3	U	2.2	U
SA-6 TAL Metals	SW6010	SILVER	mg/kg	390	1	1	U	1	U	*2.6*	*U*	0.53	U	0.53	U	0.53	U	0.52	U	*2.5*	*U*	*2.5*	*U*	*2.5*	*U*	0.58		0.56	U
SA-6 TAL Metals	SW6010	SODIUM	mg/kg	NC	NC	1000	U	1000	U	1460		1100	U	1100	U	1100	U	1000	U	1000	U	1000	U	990	U	1200	U	1100	U
SA-6 TAL Metals	SW6010	THALLIUM	mg/kg	5	3	1	U	1	U	1	U	1.1	U	1.1	U	1.1	U	1	U	1	U	1	U	0.99	U	1.2	U	1.1	U
SA-6 TAL Metals	SW6010	VANADIUM	mg/kg	78	NC	11.2		12.5		45.3		6.5		7.5		9.7		5.5		15.1		15.4		19.4		9.6		8.8	
SA-6 TAL Metals	SW6010	ZINC	mg/kg	23000	930	53		132		36.9		30.9		34.4		35.6		74.7		40.1		80.8		280		32.9	J	19.6	

Notes:

TAL: Target Analyte List; hexavalent chromium results included for comparison (see Table 1 for full results)

NJ 2012 MOST STRINGENT SRS – NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016

Reviewed by: JLD 12/15/2016

TABLE 8C

Concrete Sample Results - Metals

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

			Client Sample ID			087-WC-C21-021814		087-WC-C22-021814		087-WC-C23-021814		087-WC-C24-021814		087-WC-C25-021814		087-WC-C26-021814		087-WC-C27-021814	
			Lab Sample ID			JB60011-3		JB60011-4		JB60011-5		JB60011-6		JB60011-7		JB60011-8		JB60011-9	
			Date Sampled			02/18/2014		02/18/2014		02/18/2014		02/18/2014		02/18/2014		02/18/2014		02/18/2014	
			Sample Purpose	NJ 2012 MOST	NJ 2013 IGW	REG		REG		REG		REG		REG		REG		REG	
Parameter Group Name	Analytical Method	Parameter Name	Units	STRINGENT SRS	SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SA-6 TAL Metals	SW6010	ALUMINUM	mg/kg	78000	6000	**6430**		**7090**		**6740**		**7110**		**7200**		**7290**		**8600**	
SA-6 TAL Metals	SW6010	ANTIMONY	mg/kg	31	6	2.1	U	2.3	U	2.2	U	2.3	U	2.3	U	2.2	U	2.4	U
SA-6 TAL Metals	SW6010	ARSENIC	mg/kg	19	19	2.1	U	2.3	U	2.2	U	2.3	U	2.5		2.2	U	2.6	
SA-6 TAL Metals	SW6010	BARIUM	mg/kg	16000	2100	34.8		39.4		37.8		40.9		51.8		37.8		47.9	
SA-6 TAL Metals	SW6010	BERYLLIUM	mg/kg	16	0.7	0.21	U	0.23	U	0.22	U	0.23	U	0.23	U	0.22	U	0.24	U
SA-6 TAL Metals	SW6010	CADMIUM	mg/kg	78	2	0.54	U	0.57	U	0.55	U	0.57	U	0.59	U	0.54	U	0.61	U
SA-6 TAL Metals	SW6010	CALCIUM	mg/kg	NC	NC	61700		75200		71700		76700		69500		72700		79800	
SA-6 TAL Metals	SW6010	CHROMIUM	mg/kg	NC	NC	9.4	J	8.8	J	8.1	J	9.1	J	27.4	J	13.5	J	19.3	J
SA-6 TAL Metals	SW6010	COBALT	mg/kg	590	90	5.4	U	5.7	U	5.5	U	5.7	U	5.9	U	5.4	U	6.1	U
SA-6 TAL Metals	SW6010	COPPER	mg/kg	3100	11000	6.7		5.3		5.3		5.9		14.9		14.7		19.9	
SA-6 TAL Metals	SW6010	IRON	mg/kg	NC	NC	9340		5970		5240		5480		7820		7750		10600	
SA-6 TAL Metals	SW6010	LEAD	mg/kg	400	90	2.1	U	2.7		2.5		3.5		6.1		4.8		6	
SA-6 TAL Metals	SW6010	MAGNESIUM	mg/kg	NC	NC	4070		5010		4430		4730		4970		5180		6660	
SA-6 TAL Metals	SW6010	MANGANESE	mg/kg	11000	65	**132**		**120**		**102**		**118**		**116**		**120**		**140**	
SA-6 TAL Metals	SW7471	MERCURY	mg/kg	23	0.1	0.036	U	0.055		**0.41**		0.036	U	0.035	U	0.038	U	0.036	U
SA-6 TAL Metals	SW6010	NICKEL	mg/kg	1600	48	5.8		5.9		5		5.2		7.6		7.4		8.8	
SA-6 TAL Metals	SW6010	POTASSIUM	mg/kg	NC	NC	1100	U	1100	U	1100	U	1100	U	1200	U	1100	U	1200	U
SA-6 TAL Metals	SW6010	SELENIUM	mg/kg	390	11	2.1	U	2.3	U	2.2	U	2.3	U	2.3	U	2.2	U	2.4	U
SA-6 TAL Metals	SW6010	SILVER	mg/kg	390	1	0.58		0.57	U	0.58		0.63		0.59		0.54	U	0.61	U
SA-6 TAL Metals	SW6010	SODIUM	mg/kg	NC	NC	1100	U	1100	U	1100	U	1100	U	1200	U	1100	U	1200	U
SA-6 TAL Metals	SW6010	THALLIUM	mg/kg	5	3	1.1	U	1.1	U	1.1	U	1.1	U	1.2	U	1.1	U	1.2	U
SA-6 TAL Metals	SW6010	VANADIUM	mg/kg	78	NC	8.5		9		7.8		8.6		16		16		25.1	
SA-6 TAL Metals	SW6010	ZINC	mg/kg	23000	930	17.1		15.3		13.4		17.1		39.2		25.9		43.7	

Notes:

TAL: Target Analyte List; hexavalent chromium results included for comparison (see Table 1 for full results)

NJ 2012 MOST STRINGENT SRS – NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016

Reviewed by: JLD 12/15/2016

TABLE 8D

Concrete Sample Results - Pesticides and PCBs

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

			Client Sample ID			088-WC-C01-051315		088-WC-C02-051315		088-WC-C03-112015		088-WC-C04-011416		088-WC-C05-011416		088-WC-C06-011416		088-WC-C07-011416		088-WC-C08-032316		088-WC-C09-032316		088-WC-C10-032316		087-WC-C19-021814		087-WC-C20-021814	
			Lab Sample ID			JB94630-1		JB94630-2		JC9030-1		JC12656-1		JC12656-2		JC12656-3		JC12656-4		JC16819-1		JC16819-2		JC16819-3		JB60011-1		JB60011-2	
			Date Sampled			05/13/2015		05/13/2015		11/20/2015		01/14/2016		01/14/2016		01/14/2016		01/14/2016		03/23/2016		03/23/2016		03/23/2016		02/18/2014		02/18/2014	
			Sample Purpose	NJ 2012 MOST	NJ 2013 IGW	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Group Name	Analytical Method	Parameter Name	Units	STRINGENT SRS	SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SA-6 PCB/Pesticide/Herbicide	SW8081	4,4'-DDD	mg/kg	3	4	0.0007	U	0.00069	U	0.00069	U	0.00067	U	0.00068	U	0.00061	U	0.00068	U	0.00065	U	0.00063	U	0.0069		0.00071	U	0.00068	U
SA-6 PCB/Pesticide/Herbicide	SW8081	4,4'-DDE	mg/kg	2	18	0.0012	NJ	0.0011		0.00069	U	0.00067	U	0.00068	U	0.00061	U	0.00068	U	0.00065	U	0.00063	U	0.0024		0.00071	U	0.00068	U
SA-6 PCB/Pesticide/Herbicide	SW8081	4,4'-DDT	mg/kg	2	11	0.0007	U	0.00069	U	0.00069	U	0.00067	U	0.00068	U	0.00061	U	0.00068	U	0.00075		0.0012		0.008		0.00071	U	0.00068	U
SA-6 PCB/Pesticide/Herbicide	SW8081	ALDRIN	mg/kg	0.04	0.2	0.0007	U	0.00069	U	0.00069	U	0.00067	U	0.00068	U	0.00061	U	0.00068	U	0.00065	U	0.00063	U	0.00063	U	0.00071	U	0.00068	U
SA-6 PCB/Pesticide/Herbicide	SW8081	ALPHA-BHC	mg/kg	0.1	0.002	0.0007	U	0.00069	U	0.00069	U	0.00067	U	0.00068	U	0.00061	U	0.00068	U	0.00065	U	0.00063	U	0.00063	U	0.00071	U	0.00068	U
SA-6 PCB/Pesticide/Herbicide	SW8081	ALPHA-CHLORDANE	mg/kg	NC	NC	0.0007	U	0.00069	U	0.00069	U	0.00067	U	0.00068	U	0.00061	U	0.00068	U	0.00065	U	0.00063	U	0.00063	U	0.00071	U	0.00068	U
SA-6 PCB/Pesticide/Herbicide	SW8081	BETA-BHC	mg/kg	0.4	0.002	0.0007	U	0.00069	U	0.00069	U	0.00067	U	0.00068	U	0.00061	U	0.00068	U	0.00065	U	0.00063	U	0.00063	U	0.00071	U	0.00068	U
SA-6 PCB/Pesticide/Herbicide	SW8081	BETA-CHLORDANE	mg/kg	NC	NC	0.0007	U	0.00069	U	0.00069	U	0.00067	U	0.00068	U	0.00061	U	0.00068	U	0.00065	U	0.00063	U	0.00063	U	0.00071	U	0.00068	U
SA-6 PCB/Pesticide/Herbicide	SW8081	CHLORDANE	mg/kg	0.2	0.05	0.0007	U	0.00069	U	0.00069	U	0.00067	U	0.00068	U	0.00061	U	0.00068	U	0.00065	U	0.00063	U	0.00063	U	0.00071	U	0.00068	U
SA-6 PCB/Pesticide/Herbicide	SW8081	DELTA-BHC	mg/kg	NC	NC	0.0007	U	0.00069	U	0.00069	U	0.00067	U	0.00068	U	0.00061	U	0.00068	U	0.00065	U	0.00063	U	0.00063	U	0.00071	U	0.00068	U
SA-6 PCB/Pesticide/Herbicide	SW8081	DIELDRIN	mg/kg	0.04	0.003	0.0007	U	0.00069	U	0.00069	U	0.00067	U	0.00068	U	0.00061	U	0.00068	U	0.00065	U	0.00063	U	0.00063	U	0.00071	U	0.00068	U
SA-6 PCB/Pesticide/Herbicide	SW8081	ENDOSULFAN I	mg/kg	NC	NC	0.0007	U	0.00069	U	0.00069	U	0.00067	U	0.00068	U	0.00061	U	0.00068	U	0.00065	U	0.00063	U	0.00063	U	0.00071	U	0.00068	U
SA-6 PCB/Pesticide/Herbicide	SW8081	ENDOSULFAN II	mg/kg	NC	NC	0.0007	U	0.00069	U	0.00069	U	0.00067	U	0.00068	U	0.00061	U	0.00068	U	0.00065	U	0.00063	U	0.00063	U	0.00071	U	0.00068	U
SA-6 PCB/Pesticide/Herbicide	SW8081	ENDOSULFAN SULFATE	mg/kg	470	2	0.0007	U	0.00069	U	0.00069	U	0.00067	U	0.00068	U	0.00061	U	0.00068	U	0.00065	U	0.00063	U	0.00063	U	0.00071	U	0.00068	U
SA-6 PCB/Pesticide/Herbicide	SW8081	ENDRIN	mg/kg	23	1	0.0007	U	0.00069	U	0.00069	U	0.00067	U	0.00068	U	0.00061	U	0.00068	U	0.00065	U	0.00063	U	0.00063	U	0.00071	U	0.00068	U
SA-6 PCB/Pesticide/Herbicide	SW8081	ENDRIN ALDEHYDE	mg/kg	NC	NC	0.0007	U	0.00069	U	0.00069	U	0.00067	U	0.00068	U	0.00061	U	0.00068	U	0.00065	U	0.00063	U	0.00063	U	0.00071	U	0.00068	U
SA-6 PCB/Pesticide/Herbicide	SW8081	ENDRIN KETONE	mg/kg	NC	NC	0.0007	U	0.00069	U	0.00069	U	0.00067	U	0.00068	U	0.00061	U	0.00068	U	0.00065	U	0.00063	U	0.00063	U	0.00071	U	0.00068	U
SA-6 PCB/Pesticide/Herbicide	SW8081	GAMMA-BHC (LINDANE)	mg/kg	0.4	0.002	0.0007	U	0.00069	U	0.00069	U	0.00067	U	0.00068	U	0.00061	U	0.00068	U	0.00065	U	0.00063	U	0.00063	U	0.00071	U	0.00068	U
SA-6 PCB/Pesticide/Herbicide	SW8081	HEPTACHLOR	mg/kg	0.1	0.5	0.0007	U	0.00069	U	0.00069	U	0.00067	U	0.00068	U	0.00061	U	0.00068	U	0.00065	U	0.00063	U	0.00063	U	0.00071	U	0.00068	U
SA-6 PCB/Pesticide/Herbicide	SW8081	HEPTACHLOR EPOXIDE	mg/kg	0.07	0.01	0.0007	U	0.00069	U	0.00069	U	0.00067	U	0.00068	U	0.00061	U	0.00068	U	0.00065	U	0.00063	U	0.00063	U	0.00071	U	0.00068	U
SA-6 PCB/Pesticide/Herbicide	SW8081	METHOXYCHLOR	mg/kg	390	160	0.0014	U	0.0014	U	0.0014	U	0.0013	U	0.0014	U	0.0012	U	0.0014	U	0.0013	U	0.0013	U	0.0013	U	0.0014	U	0.0014	U
SA-6 PCB/Pesticide/Herbicide	SW8270	PENTACHLOROPHENOL	mg/kg	3	0.3	0.17	U	0.16	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U			0.17	U	0.17	U	*0.36*	*U*	*0.37*	*U*
SA-6 PCB/Pesticide/Herbicide	SW8081	TOXAPHENE	mg/kg	0.6	0.3	0.017	U	0.017	U	0.017	U	0.017	U	0.017	U	0.015	U	0.017	U	0.016	U	0.016	U	0.016	U	0.018	U	0.017	U
SA-6 PCB/Pesticide/Herbicide	SW8082	AROCLOR-1016	mg/kg	NC	NC	0.035	U	0.034	U	0.035	U	0.034	U	0.034	U	0.031	U	0.034	U	0.033	U	0.031	U	0.031	U	0.035	U	0.034	U
SA-6 PCB/Pesticide/Herbicide	SW8082	AROCLOR-1221	mg/kg	NC	NC	0.035	U	0.034	U	0.035	U	0.034	U	0.034	U	0.031	U	0.034	U	0.033	U	0.031	U	0.031	U	0.035	U	0.034	U
SA-6 PCB/Pesticide/Herbicide	SW8082	AROCLOR-1232	mg/kg	NC	NC	0.035	U	0.034	U	0.035	U	0.034	U	0.034	U	0.031	U	0.034	U	0.033	U	0.031	U	0.031	U	0.035	U	0.034	U
SA-6 PCB/Pesticide/Herbicide	SW8082	AROCLOR-1242	mg/kg	NC	NC	0.035	U	0.034	U	0.035	U	0.034	U	0.034	U	0.031	U	0.034	U	0.0747		0.031	U	0.031	U	0.035	U	0.034	U
SA-6 PCB/Pesticide/Herbicide	SW8082	AROCLOR-1248	mg/kg	NC	NC	0.035	U	0.034	U	0.035	U	0.034	U	0.034	U	0.031	U	0.034	U	0.033	U	0.031	U	0.031	U	0.035	U	0.034	U
SA-6 PCB/Pesticide/Herbicide	SW8082	AROCLOR-1254	mg/kg	NC	NC	0.0526		0.034	U	0.035	U	0.034	U	0.034	U	0.031	U	0.034	U	0.033	U	0.031	U	0.031	U	0.035	U	0.034	U
SA-6 PCB/Pesticide/Herbicide	SW8082	AROCLOR-1260	mg/kg	NC	NC	0.035	U	0.034	U	0.035	U	0.034	U	0.034	U	0.031	U	0.034	U	0.033	U	0.031	U	0.031	U	0.035	U	0.034	U
SA-6 PCB/Pesticide/Herbicide	SW8082	AROCLOR-1262	mg/kg	NC	NC	0.035	U	0.034	U	0.035	U	0.034	U	0.034	U	0.031	U	0.034	U	0.033	U	0.031	U	0.0676		0.035	U	0.034	U
SA-6 PCB/Pesticide/Herbicide	SW8082	AROCLOR-1268	mg/kg	NC	NC	0.035	U	0.034	U	0.035	U	0.034	U	0.034	U	0.031	U	0.034	U	0.033	U	0.031	U	0.031	U	0.035	U	0.034	U
		TOTAL PCBs		0.2	0.2	0.0526		0.034	U	0.035	U	0.034	U	0.034	U	0.031	U	0.034	U	0.0747		0.031	U	0.0676		0		0	

Notes:

NJ 2012 MOST STRINGENT SRS – NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

Q: Data qualifier assigned by laboratory or data validator

J: Estimated concentration

N: Negated by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016

Reviewed by: JLD 03/09/2017

TABLE 8D

Concrete Sample Results - Pesticides and PCBs

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

			Client Sample ID			087-WC-C21-021814		087-WC-C22-021814		087-WC-C23-021814		087-WC-C24-021814		087-WC-C25-021814		087-WC-C26-021814		087-WC-C27-021814	
			Lab Sample ID			JB60011-3		JB60011-4		JB60011-5		JB60011-6		JB60011-7		JB60011-8		JB60011-9	
			Date Sampled			02/18/2014		02/18/2014		02/18/2014		02/18/2014		02/18/2014		02/18/2014		02/18/2014	
			Sample Purpose	NJ 2012 MOST	NJ 2013 IGW	REG		REG		REG		REG		REG		REG		REG	
Parameter Group Name	Analytical Method	Parameter Name	Units	STRINGENT SRS	SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SA-6 PCB/Pesticide/Herbicide	SW8081	4,4'-DDD	mg/kg	3	4	0.00073	U	0.001		0.0012		0.00078	U	0.00076	U	0.0011		0.00077	U
SA-6 PCB/Pesticide/Herbicide	SW8081	4,4'-DDE	mg/kg	2	18	0.00073	U	0.0013		0.001		0.00078	U	0.001		0.0043		0.0063	
SA-6 PCB/Pesticide/Herbicide	SW8081	4,4'-DDT	mg/kg	2	11	0.00073	U	0.00077	U	0.00075	U	0.00078	U	0.00076	U	0.00072	U	0.00077	U
SA-6 PCB/Pesticide/Herbicide	SW8081	ALDRIN	mg/kg	0.04	0.2	0.00073	U	0.00077	U	0.00075	U	0.00078	U	0.00076	U	0.00072	U	0.00077	U
SA-6 PCB/Pesticide/Herbicide	SW8081	ALPHA-BHC	mg/kg	0.1	0.002	0.00073	U	0.00077	U	0.00075	U	0.00078	U	0.00076	U	0.00072	U	0.00077	U
SA-6 PCB/Pesticide/Herbicide	SW8081	ALPHA-CHLORDANE	mg/kg	NC	NC	0.00073	U	0.00077	U	0.00075	U	0.00078	U	0.00076	U	0.00072	U	0.00077	U
SA-6 PCB/Pesticide/Herbicide	SW8081	BETA-BHC	mg/kg	0.4	0.002	0.00073	U	0.00077	U	0.00075	U	0.00078	U	0.00076	U	0.00072	U	0.00077	U
SA-6 PCB/Pesticide/Herbicide	SW8081	BETA-CHLORDANE	mg/kg	NC	NC	0.00073	U	0.00077	U	0.00075	U	0.00078	U	0.00076	U	0.001		0.0012	
SA-6 PCB/Pesticide/Herbicide	SW8081	CHLORDANE	mg/kg	0.2	0.05	0.00073	U	0.00077	U	0.00075	U	0.00078	U	0.00076	U	0.001		0.0012	
SA-6 PCB/Pesticide/Herbicide	SW8081	DELTA-BHC	mg/kg	NC	NC	0.00073	U	0.00077	U	0.00075	U	0.00078	U	0.00076	U	0.00072	U	0.00077	U
SA-6 PCB/Pesticide/Herbicide	SW8081	DIELDRIN	mg/kg	0.04	0.003	0.00073	U	0.00077	U	0.00088		0.00078	U	0.00076	U	0.0025		**0.0037**	
SA-6 PCB/Pesticide/Herbicide	SW8081	ENDOSULFAN I	mg/kg	NC	NC	0.00073	U	0.00077	U	0.00075	U	0.00078	U	0.00076	U	0.00072	U	0.00077	U
SA-6 PCB/Pesticide/Herbicide	SW8081	ENDOSULFAN II	mg/kg	NC	NC	0.00073	U	0.00077	U	0.00075	U	0.00078	U	0.00076	U	0.00072	U	0.00077	U
SA-6 PCB/Pesticide/Herbicide	SW8081	ENDOSULFAN SULFATE	mg/kg	470	2	0.00073	U	0.00077	U	0.00075	U	0.00078	U	0.00076	U	0.00072	U	0.00077	U
SA-6 PCB/Pesticide/Herbicide	SW8081	ENDRIN	mg/kg	23	1	0.00073	U	0.00077	U	0.00075	U	0.00078	U	0.00076	U	0.00072	U	0.00077	U
SA-6 PCB/Pesticide/Herbicide	SW8081	ENDRIN ALDEHYDE	mg/kg	NC	NC	0.00073	U	0.00077	U	0.00075	U	0.00078	U	0.00076	U	0.00072	U	0.00077	U
SA-6 PCB/Pesticide/Herbicide	SW8081	ENDRIN KETONE	mg/kg	NC	NC	0.00073	U	0.00077	U	0.00075	U	0.00078	U	0.00076	U	0.00072	U	0.00077	U
SA-6 PCB/Pesticide/Herbicide	SW8081	GAMMA-BHC (LINDANE)	mg/kg	0.4	0.002	0.00073	U	0.00077	U	0.00075	U	0.00078	U	0.00076	U	0.00072	U	0.00077	U
SA-6 PCB/Pesticide/Herbicide	SW8081	HEPTACHLOR	mg/kg	0.1	0.5	0.00073	U	0.00077	U	0.00075	U	0.00078	U	0.00076	U	0.00072	U	0.00077	U
SA-6 PCB/Pesticide/Herbicide	SW8081	HEPTACHLOR EPOXIDE	mg/kg	0.07	0.01	0.00073	U	0.00077	U	0.00075	U	0.00078	U	0.00076	U	0.00089		0.001	
SA-6 PCB/Pesticide/Herbicide	SW8081	METHOXYCHLOR	mg/kg	390	160	0.0015	U	0.0015	U	0.0015	U	0.0016	U	0.0015	U	0.0014	U	0.0015	U
SA-6 PCB/Pesticide/Herbicide	SW8270	PENTACHLOROPHENOL	mg/kg	3	0.3	*0.35*	*U*	*0.38*	*U*	*0.35*	*U*	*0.37*	*U*	*0.34*	*U*	*0.36*	*U*	*0.39*	*U*
SA-6 PCB/Pesticide/Herbicide	SW8081	TOXAPHENE	mg/kg	0.6	0.3	0.018	U	0.019	U	0.019	U	0.019	U	0.019	U	0.018	U	0.019	U
SA-6 PCB/Pesticide/Herbicide	SW8082	AROCLOR-1016	mg/kg	NC	NC	0.036	U	0.039	U	0.038	U	0.039	U	0.038	U	0.036	U	0.039	U
SA-6 PCB/Pesticide/Herbicide	SW8082	AROCLOR-1221	mg/kg	NC	NC	0.036	U	0.039	U	0.038	U	0.039	U	0.038	U	0.036	U	0.039	U
SA-6 PCB/Pesticide/Herbicide	SW8082	AROCLOR-1232	mg/kg	NC	NC	0.036	U	0.039	U	0.038	U	0.039	U	0.038	U	0.036	U	0.039	U
SA-6 PCB/Pesticide/Herbicide	SW8082	AROCLOR-1242	mg/kg	NC	NC	0.036	U	0.039	U	0.038	U	0.039	U	0.038	U	0.036	U	0.039	U
SA-6 PCB/Pesticide/Herbicide	SW8082	AROCLOR-1248	mg/kg	NC	NC	0.036	U	0.039	U	0.038	U	0.039	U	0.038	U	0.036	U	0.039	U
SA-6 PCB/Pesticide/Herbicide	SW8082	AROCLOR-1254	mg/kg	NC	NC	0.036	U	0.039	U	0.038	U	0.039	U	0.038	U	0.036	U	0.039	U
SA-6 PCB/Pesticide/Herbicide	SW8082	AROCLOR-1260	mg/kg	NC	NC	0.036	U	0.039	U	0.038	U	0.039	U	0.038	U	0.036	U	0.039	U
SA-6 PCB/Pesticide/Herbicide	SW8082	AROCLOR-1262	mg/kg	NC	NC	0.036	U	0.039	U	0.038	U	0.039	U	0.038	U	0.036	U	0.039	U
SA-6 PCB/Pesticide/Herbicide	SW8082	AROCLOR-1268	mg/kg	NC	NC	0.036	U	0.039	U	0.038	U	0.039	U	0.038	U	0.036	U	0.039	U
		TOTAL PCBs		0.2	0.2	0		0		0		0		0		0		0	

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Notes:

NJ 2012 MOST STRINGENT SRS – NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

Q: Data qualifier assigned by laboratory or data validator

J: Estimated concentration

N: Negated by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016

Reviewed by: JLD 03/09/2017

TABLE 8E

Concrete Sample Results - EPH/Petroleum Hydrocarbons

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

			Client Sample ID			088-WC-C01-051315		088-WC-C02-051315		088-WC-C03-112015		088-WC-C04-011416		088-WC-C05-011416		088-WC-C06-011416		088-WC-C07-011416		088-WC-C08-032316		088-WC-C09-032316		088-WC-C10-032316	
			Lab Sample ID			JB94630-1		JB94630-2		JC9030-1		JC12656-1		JC12656-2		JC12656-3		JC12656-4		JC16819-1		JC16819-2		JC16819-3	
			Date Sampled			05/13/2015		05/13/2015		11/20/2015		01/14/2016		01/14/2016		01/14/2016		01/14/2016		03/23/2016		03/23/2016		03/23/2016	
			Sample Purpose	NJ 2012 MOST	NJ 2013 IGW	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Group Name	Analytical Method	Parameter Name	Units	STRINGENT SRS	SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SA-6 Fractionated Extractable	NJDEP EPH	C10-C12 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	NC	NC	5.5	U	5.1	U	5.3	U	NT		NT		NT		NT		NT		NT		NT	
SA-6 Fractionated Extractable	NJDEP EPH	C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	NC	NC	5.5	U	5.1	U	5.3	U	NT		NT		NT		NT		NT		NT		NT	
SA-6 Fractionated Extractable	NJDEP EPH	C12-C16 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	NC	NC	5.5	U	5.1	U	5.3	U	NT		NT		NT		NT		NT		NT		NT	
SA-6 Fractionated Extractable	NJDEP EPH	C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	NC	NC	5.5	U	5.1	U	20.2		NT		NT		NT		NT		NT		NT		NT	
SA-6 Fractionated Extractable	NJDEP EPH	C16-C21 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	NC	NC	5.5	U	5.1	U	5.3	U	NT		NT		NT		NT		NT		NT		NT	
SA-6 Fractionated Extractable	NJDEP EPH	C21-C36 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	NC	NC	5.5	U	5.1	U	36.5		NT		NT		NT		NT		NT		NT		NT	
SA-6 Fractionated Extractable	NJDEP EPH	C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	NC	NC	9.98		13.1		330		NT		NT		NT		NT		NT		NT		NT	
SA-6 Fractionated Extractable	NJDEP EPH	EPH (C9-C28)	mg/kg	NC	NC	NT		NT		NT		34.6		159		21.7		28.6		19		24.1		28	
SA-6 Fractionated Extractable	NJDEP EPH	EXTRACTABLE PETROLEUM HYDROCARBONS (>C28-C40)	mg/kg	NC	NC	NT		NT		NT		6.3	U	68		6.8	U	6.8	U	6.8	U	6.6	U	24.1	
SA-6 Fractionated Extractable	NJDEP EPH	PETROLEUM HYDROCARBONS	mg/kg	NC	NC	9.98		13.1		387		NT		NT		NT		NT		NT		NT		NT	
		Residual Range Organics C28-C40	mg/kg	NC	NC	NT		NT		NT		NT		NT		NT		NT		NT		NT		NT	
SA-6 Fractionated Extractable	NJDEP EPH	Residual Range Organics, Aliphatic	mg/kg	NC	NC	9.98		13.1		350		NT		NT		NT		NT		NT		NT		NT	
SA-6 Fractionated Extractable	NJDEP EPH	Residual Range Organics, Aromatic	mg/kg	NC	NC	5.5	U	5.1	U	36.5		NT		NT		NT		NT		NT		NT		NT	
		Total EPH (C9-C40)	mg/kg	NC	NC	NT		NT		NT		NT		NT		NT		NT		NT		NT		NT	
SA-6 Fractionated Extractable	NJDEP EPH	VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC	mg/kg	NC	NC	5.5	U	5.1	U	5.3	U	NT		NT		NT		NT		NT		NT		NT	

Notes:

NJ 2012 MOST STRINGENT SRS – NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

Criterion for total petroleum hydrocarbons based on 10,000 mg/kg cap value for total organic contaminants in the Soil Cleanup Criteria Table; last amended 5/12/1999

NC: No criterion established

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

NT: Not tested

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016
Reviewed by: JLD 12/15/2016

TABLE 8E

Concrete Sample Results - EPH/Petroleum Hydrocarbons

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

			Client Sample ID			087-WC-C19-021814		087-WC-C20-021814		087-WC-C21-021814		087-WC-C22-021814		087-WC-C23-021814		087-WC-C24-021814		087-WC-C25-021814		087-WC-C26-021814		087-WC-C27-021814	
			Lab Sample ID			JB60011-1		JB60011-2		JB60011-3		JB60011-4		JB60011-5		JB60011-6		JB60011-7		JB60011-8		JB60011-9	
			Date Sampled			02/18/2014		02/18/2014		02/18/2014		02/18/2014		02/18/2014		02/18/2014		02/18/2014		02/18/2014		02/18/2014	
			Sample Purpose		NJ 2012 MOST	NJ 2013 IGW	REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Group Name	Analytical Method	Parameter Name		Units	STRINGENT SRS	SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SA-6 Fractionated Extractable	NJDEP EPH	C10-C12 PETROLEUM HYDROCARBONS, AROMATIC		mg/kg	NC	NC	NT		NT		NT		NT		NT		NT		NT		NT		NT	
SA-6 Fractionated Extractable	NJDEP EPH	C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC		mg/kg	NC	NC	NT		NT		NT		NT		NT		NT		NT		NT		NT	
SA-6 Fractionated Extractable	NJDEP EPH	C12-C16 PETROLEUM HYDROCARBONS, AROMATIC		mg/kg	NC	NC	NT		NT		NT		NT		NT		NT		NT		NT		NT	
SA-6 Fractionated Extractable	NJDEP EPH	C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC		mg/kg	NC	NC	NT		NT		NT		NT		NT		NT		NT		NT		NT	
SA-6 Fractionated Extractable	NJDEP EPH	C16-C21 PETROLEUM HYDROCARBONS, AROMATIC		mg/kg	NC	NC	NT		NT		NT		NT		NT		NT		NT		NT		NT	
SA-6 Fractionated Extractable	NJDEP EPH	C21-C36 PETROLEUM HYDROCARBONS, AROMATIC		mg/kg	NC	NC	NT		NT		NT		NT		NT		NT		NT		NT		NT	
SA-6 Fractionated Extractable	NJDEP EPH	C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC		mg/kg	NC	NC	NT		NT		NT		NT		NT		NT		NT		NT		NT	
SA-6 Fractionated Extractable	NJDEP EPH	EPH (C9-C28)		mg/kg	NC	NC	758		757		1350		1080		860		953		1270		1140		1280	
SA-6 Fractionated Extractable	NJDEP EPH	EXTRACTABLE PETROLEUM HYDROCARBONS (>C28-C40)		mg/kg	NC	NC	NT		NT		NT		NT		NT		NT		NT		NT		NT	
SA-6 Fractionated Extractable	NJDEP EPH	PETROLEUM HYDROCARBONS		mg/kg	NC	NC	NT		NT		NT		NT		NT		NT		NT		NT		NT	
		Residual Range Organics C28-C40		mg/kg	NC	NC	20.2		24.3		48.9		152		54.7		109	E	321	E	310		441	
SA-6 Fractionated Extractable	NJDEP EPH	Residual Range Organics, Aliphatic		mg/kg	NC	NC	NT		NT		NT		NT		NT		NT		NT		NT		NT	
SA-6 Fractionated Extractable	NJDEP EPH	Residual Range Organics, Aromatic		mg/kg	NC	NC	NT		NT		NT		NT		NT		NT		NT		NT		NT	
		Total EPH (C9-C40)		mg/kg	NC	NC	778		781		1400		1240		915		1060		1590		1450		1720	
SA-6 Fractionated Extractable	NJDEP EPH	VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC		mg/kg	NC	NC	NT		NT		NT		NT		NT		NT		NT		NT		NT	

Notes:

NJ 2012 MOST STRINGENT SRS – NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

Criterion for total petroleum hydrocarbons based on 10,000 mg/kg cap value for total organic contaminants in the Soil Cleanup Criteria Table; last amended 5/12/1999

NC: No criterion established

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

NT: Not tested

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016
Reviewed by: JLD 12/15/2016

TABLE 8F

Concrete Sample Results - General Chemistry

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

			Client Sample ID			088-WC-C01-051315		088-WC-C02-051315		088-WC-C03-112015		088-WC-C04-011416		088-WC-C05-011416		088-WC-C06-011416		088-WC-C07-011416		088-WC-C08-032316		088-WC-C09-032316		088-WC-C10-032316		087-WC-C19-021814		087-WC-C20-021814	
			Lab Sample ID			JB94630-1		JB94630-2		JC9030-1		JC12656-1		JC12656-2		JC12656-3		JC12656-4		JC16819-1R		JC16819-2R		JC16819-3R		JB60011-1		JB60011-2	
			Date Sampled			05/13/2015		05/13/2015		11/20/2015		01/14/2016		01/14/2016		01/14/2016		01/14/2016		03/23/2016		03/23/2016		03/23/2016		02/18/2014		02/18/2014	
			Sample Purpose	NJ 2012 MOST	NJ 2013 IGW	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Group Name	Analytical Method	Parameter Name	Units	STRINGENT SRS	SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SA-6 General Chemistry	SW7199	HEXAVALENT CHROMIUM	mg/kg	20	NC	1.1		2.3		2.1	J	2.4		1.5		1.2		3.6		0.76	J	3	J	4.5	J	0.56		0.46	U

Notes:

NJ 2012 MOST STRINGENT SRS – NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

Prepared by: DP 05/25/2016
Reviewed by: JLD 12/15/2016

TABLE 8F

Concrete Sample Results - General Chemistry

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

			Client Sample ID			**087-WC-C21-021814**		**087-WC-C22-021814**		**087-WC-C23-021814**		**087-WC-C24-021814**		**087-WC-C25-021814**		**087-WC-C26-021814**		**087-WC-C27-021814**	
			Lab Sample ID			JB60011-3		JB60011-4		JB60011-5		JB60011-6		JB60011-7		JB60011-8		JB60011-9	
			Date Sampled			02/18/2014		02/18/2014		02/18/2014		02/18/2014		02/18/2014		02/18/2014		02/18/2014	
			Sample Purpose	**NJ 2012 MOST**	**NJ 2013 IGW**	REG		REG		REG		REG		REG		REG		REG	
Parameter Group Name	**Analytical Method**	**Parameter Name**	**Units**	**STRINGENT SRS**	**SOIL**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
SA-6 General Chemistry	**SW7199**	HEXAVALENT CHROMIUM	mg/kg	20	NC	0.46	U	0.47	U	0.46	U	0.59		1.5		3.1		3.3	

Notes:

NJ 2012 MOST STRINGENT SRS – NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

Prepared by: DP 05/25/2016

Reviewed by: JLD 12/15/2016

TABLE 8G

Concrete Sample Results - TCLP

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

		Client Sample ID	RCRA Toxicity Characteristics (40 CFR261.24)	088-WC-C01-051315		088-WC-C02-051315		088-WC-C03-112015		088-WC-C04-011416		088-WC-C05-011416		088-WC-C06-011416		088-WC-C07-011416		088-WC-C08-032316		088-WC-C09-032316		088-WC-C10-032316		087-WC-C19-021814		087-WC-C20-021814		087-WC-C21-021814	
		Lab Sample ID		JB94630-1A		JB94630-2A		JC9030-1A		JC12656-1A		JC12656-2A		JC12656-3A		JC12656-4A		JC16819-1A		JC16819-2A		JC16819-3A		JB60011-1A		JB60011-2A		JB60011-3A	
		Date Sampled		05/13/2015		05/13/2015		11/20/2015		01/14/2016		01/14/2016		01/14/2016		01/14/2016		03/23/2016		03/23/2016		03/23/2016		02/18/2014		02/18/2014		02/18/2014	
		Sample Purpose		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Group Name	Parameter Name	Units		CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SA-6 TAL Metals	ARSENIC	mg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
SA-6 TAL Metals	BARIUM	mg/L	100	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
SA-6 TAL Metals	CADMIUM	mg/L	1	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.005	U	0.005	U	0.005	U
SA-6 TAL Metals	CHROMIUM	mg/L	5	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.095		0.030	U	0.030	U	0.030	U
SA-6 TAL Metals	LEAD	mg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
SA-6 TAL Metals	MERCURY	mg/L	0.2	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U
SA-6 TAL Metals	SELENIUM	mg/L	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
SA-6 TAL Metals	SILVER	mg/L	5	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.01	U	0.01	U	0.01	U

Notes:

TAL: Target Analyte List; hexavalent chromium results included for comparison (see Table 1 for full results)

RCRA Toxicity Characteristics (40 CFR261.24)

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per liter (mg/L)

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016

Reviewed by: JLD 12/15/2016

TABLE 8G

Concrete Sample Results - TCLP

Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

			Client Sample ID	087-WC-C22-021814		087-WC-C23-021814		087-WC-C24-021814		087-WC-C25-021814		087-WC-C26-021814		087-WC-C27-021814	
			Lab Sample ID	JB60011-4A		JB60011-5A		JB60011-6A		JB60011-7A		JB60011-8A		JB60011-9A	
			Date Sampled	02/18/2014		02/18/2014		02/18/2014		02/18/2014		02/18/2014		02/18/2014	
			Sample Purpose	REG		REG		REG		REG		REG		REG	
Parameter Group Name	Parameter Name	Units	RCRA Toxicity Characteristics (40 CFR261.24)	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SA-6 TAL Metals	ARSENIC	mg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
SA-6 TAL Metals	BARIUM	mg/L	100	1	U	1	U	1	U	1	U	1	U	1	U
SA-6 TAL Metals	CADMIUM	mg/L	1	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
SA-6 TAL Metals	CHROMIUM	mg/L	5	0.030	U	0.030	U	0.030	U	0.030	U	0.054		0.056	
SA-6 TAL Metals	LEAD	mg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
SA-6 TAL Metals	MERCURY	mg/L	0.2	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U
SA-6 TAL Metals	SELENIUM	mg/L	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
SA-6 TAL Metals	SILVER	mg/L	5	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U

Notes:
TAL: Target Analyte List; hexavalent chromium results included for comparison (see Table 1 for full results)
RCRA Toxicity Characteristics (40 CFR261.24)
Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS
Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS
Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per liter (mg/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DP 05/25/2016
Reviewed by: JLD 12/15/2016

TABLE 8H

Concrete Sample Results - SPLP

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

		Client Sample ID		**088-WC-C03a-120215**		**088-WC-C03b-120215**		**088-WC-C03c-120215**		**088-WC-C08A-041416**		**088-WC-C08B-041416**		**088-WC-C08C-041416**		**088-WC-C09A-041416**		**088-WC-C09B-041416**		**088-WC-C09C-041416**		**088-WC-C10A-041416**		**088-WC-C10B-041416**		**088-WC-C10C-041416**		**087-WC-C23A-022514**	
		Lab Sample ID		JC9659-1		JC9659-2		JC9659-3		JC18378-1		JC18378-2		JC18378-3		JC18378-4		JC18378-5		JC18378-6		JC18378-7		JC18378-8		JC18378-9		JB60525-1	
		Date Sampled		12/02/2015		12/02/2015		12/02/2015		04/14/2016		04/14/2016		04/14/2016		04/14/2016		04/14/2016		04/14/2016		04/14/2016		04/14/2016		04/14/2016		02/25/2014	
		Sample Purpose	**NJ_Default Leachate**	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Group Name	**Parameter Name**	**Units**	**Criteria for Class II GW**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
SA-6 TAL Metals	MERCURY	µg/L	40	NT		NT		NT		NT		NT		NT		0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
SA-6 TAL Metals	NICKEL	µg/L	2000	NT		NT		NT		NT		NT		NT		NT		NT		NT		10	U	10	U	10	U	NT	
SA-6 GC/MS Semi-Volatiles	ISOPHORONE	µg/L	800	2	U	2.1	U	2.2	U	2.2	U	2.5	U	2.1	U	2.1	U	2.5	U	2.4	U	NT		NT		NT		NT	
SA-6 PCB/Pesticide/Herbicide	DIELDRIN	µg/L	0.04	NT		NT		NT		NT		NT		NT		NT		NT		NT		NT		NT		NT		NT	

Notes:

TAL: Target Analyte List; hexavalent chromium results included for comparison (see Table 1 for full results)

NJ_Default Leachate Criteria for Class II GW

Bold and underlined concentrations exceed the criteria

Depths reported in feet below ground surface

CONC: Concentration reported in micrograms per liter (µg/L)

NT: Not tested

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/25/2016
Reviewed by: JLD 12/15/2016

TABLE 8H

Concrete Sample Results - SPLP

Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

		Client Sample ID		**087-WC-C23B-022514**		**087-WC-C23C-022514**		**087-WC-C27A-022514**		**087-WC-C27B-022514**		**087-WC-C27C-022514**	
		Lab Sample ID		JB60525-2		JB60525-3		JB60525-4		JB60525-5		JB60525-6	
		Date Sampled		02/25/2014		02/25/2014		02/25/2014		02/25/2014		02/25/2014	
		Sample Purpose	**NJ_Default Leachate**	REG		REG		REG		REG		REG	
Parameter Group Name	**Parameter Name**	**Units**	**Criteria for Class II GW**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
SA-6 TAL Metals	MERCURY	µg/L	40	0.2	U	0.2		NT		NT		NT	
SA-6 TAL Metals	NICKEL	µg/L	2000	NT		NT		NT		NT		NT	
SA-6 GC/MS Semi-Volatiles	ISOPHORONE	µg/L	800	NT		NT		NT		NT		NT	
SA-6 PCB/Pesticide/Herbicide	DIELDRIN	µg/L	0.04	NT		NT		0.01	U	0.01	U	0.01	U

Notes:
TAL: Target Analyte List; hexavalent chromium results included for comparison (see Table 1 for full results)
NJ_Default Leachate Criteria for Class II GW
Bold and underlined concentrations exceed the criteria
Depths reported in feet below ground surface
CONC: Concentration reported in micrograms per liter (µg/L)
NT: Not tested
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DP 05/25/2016
Reviewed by: JLD 12/15/2016

TABLE 9
Study Area 6 North Chromium Construction Completion Report (CCR)
Chromium Remedy Elements Referenced to Previous Relevant Documents

SA-6 N Chromium Remedy Element	Declaration No.	100% Design Report Location/ Section/Work Plan	100% Design Drawing	100% Design Specification	Design Change (DC)	Section in SA-6 N Cr CCR
Mobilization and Site Prep	NA	100% DR, 3.2	GN-005, CN-105	01100	NA	2.1
Health & Safety	NA	100% DR, Appendix D - HASP	NA	01620	NA	2.2
Perimeter Air Monitoring	NA	100% DR, 3.3, Appendix E - PAMP	NA	01560	NA	2.3, 11
Site Security	NA	100% DR, 4.0	NA	01100	NA	2.4
Support Facilities	NA	100% DR, 4.3	CN-105	01100	NA	2.5
Temporary Site Utilities	NA	100% DR, 4.4	CN-105	01100	NA	2.5
Traffic Control	NA	100% DR, 4.5	CN-105	Summary of Work, 7.1.1.1 02332, Part 3	NA	2.6
Utility Abandonment	NA	100% DR, 5.3	NA	02216	NA	2.8
Utility Relocations along Route 440	NA	100% DR, 5.3	NA	02216	DC 2015-03-09	2.8
Erosion Controls	5	100% DR, 19.8	GN-005, CN-113 to CN-115; CN-125 and CN-127; CN-308	02370	DC September-16 (North)	2.1
Demolition of Existing Structures	NA	100% DR, 5.0	CN-104	02220	NA	2.7
Groundwater Testing for pH	NA	100% DR, 10.1.2	NA	02180.5	NA	2.9
Waste Classification	NA	100% DR, 4.7	NA	NA	NA	2.10
CWTP Construction	NA	100% DR, 6.3 and 6.4, Appendix I	NA	NA	NA	6.3
Monitoring Well Abandonment	5	100% DR, Appendix A-2	NA	NA	DC 2014-7-28	7.0
Monitoring Well/Piezometer Installation	4 / 5	100% DR, Appendix A-2	CN-201 to CN-203	16961, 02670	DC 2014-7-28	7.0
Dewatering/Pumping	NA	100% DR, 6.1 and 6.2	NA	02140	NA	6
GW Level Monitoring	NA	100% DR, 16.0, Appendix J	NA	16961	NA	6.4
Temporary Excavation Support	NA	100% DR, 11.0	CN-116 to CN-122; SN-501 to SN-505	02150, 02180.10	DC 2015-03-03	8.1
Excavation Extent Survey/Confirmation	3	100% DR, 11.0	NA	04160	NA	8.5

TABLE 9
Study Area 6 North Chromium Construction Completion Report (CCR)
Chromium Remedy Elements Referenced to Previous Relevant Documents

SA-6 N Chromium Remedy Element	Declaration No.	100% Design Report Location/ Section/Work Plan	100% Design Drawing	100% Design Specification	Design Change (DC)	Section in SA-6 N Cr CCR
Excavation	3	100% DR, 11.0	GN-004, CN-103, CN-116 to CN-122	02135	DC 2015-9-04 DC 2015-11-18 DC 2015-11-30	8.0-8.7; 1.4,1.5, 5.1, 5.6
Excavation Material (Stockpile) Test/Soil Reuse	3	100% DR, 4.7, Appendix G	NA	NA	DC 2014-10-31 DC 2015-01-22 DC 2015-9-02	8.2, 8.4
Offsite Transportation & Disposal	3	100% DR, 12.1 to 12.5	CN-116 to CN-122	01600, 02332	NA	8.7
Backfill Source Testing	3	100% DR, 13.0	NA	02315	DC 2013-9-24	9.2
Concrete Testing	3	100% DR, 5.0, Appendix G	NA	02201	DC 2014-10-31	9.3
Backfilling and Compaction	3	100% DR, 13.0	NA	02315	NA	9.4
In-Place Compaction Testing	3	100% DR, 13.0 and 13.2	NA	02315	NA	9.5
Hydraulic Barrier Installation	3	100% DR, 10.0	SN-201 to SN-203; SN-301	02170, 02180	DC 2013-8-14 (HB Wall) DC 2014-8-13 DC 2014-9-2 DC 2015-03-30 DC 2015-04-30 DC 2015-07-31	10.1, 10.2
Vibration Monitoring	NA	100% DR, 10.1.5	NA	02150, 02180	NA	10.3
Sheet Pile Fab & Delivery	NA	100% DR, 10.1.2	NA	02180.3	NA	10.1
Epoxy Coating	NA	100% DR, 10.1.5	NA	02180.6	NA	10.1
Joint Grouting	NA	100% DR, 10.1.2 and 10.1.5	S-203	02180.5	NA	10.1
HB Wall Installation in / adjacent Trash Pit	NA	100% DR, 10.1.8	SN-302	NA	DC 2015-04-30	10.2
Stratum D Repair near Trash Pit	5	100% DR, 10.1.8	SN-302	02180.8	DC 2015-10-22	10.7, 10.8
Consolidation of Soils in Open Space Area	3 / 4	100% DR, 11.1, Appendix G	NA	01600	DC 2014-10-31 DC 2015-01-22 DC 2015-9-02	10.4
Surcharge & Surcharge Monitoring	4	100% DR, Appendix N	CN-108 to CN-112	Refer to Appendix N	DC 2013-7-29	10.6

TABLE 9
Study Area 6 North Chromium Construction Completion Report (CCR)
Chromium Remedy Elements Referenced to Previous Relevant Documents

SA-6 N Chromium Remedy Element	Declaration No.	100% Design Report Location/ Section/Work Plan	100% Design Drawing	100% Design Specification	Design Change (DC)	Section in SA-6 N Cr CCR
				(North DR)		
Cap Construction	4	100% DR, 14.0	CN-123 and CN-124, CN-301, CN-309, CN-501 to CN-506	02372, 02373, 02374, 02375	DC 2015-08-19 DC 2015-08-21 DC 2015-10-02 DC 2015-12-14 DC 2016-02-02 DC 2016-02-22 DC 2016-02-25 DC 2016-5-11 DC 2016-7-12	10.9
Gas Venting System	5	100% DR, 14.2, Appendix M	CN-516	02380	NA	10.9
Spark Testing	4	NA	NA	NA	DC 2015-12-14	10.9
Utility Corridors	NA	100% DR, 14.3	CN-515	NA	DC 2015-10-02	10.9
Final Cap Cover Soils	5	100% DR, Appendix L OSDS	NA	02315, 02900	DC 2015-9-17 DC 2016-03-21 DC 2016-04-20	10.9
Final Cap Grading	5	100% DR, 14.4	CN-125 and CN-127	NA	DC 2016-5-20 DC 2016-7-14 September 2016-(North) DC 2016-05-03	10.9, App C
Contingent GW Extraction System Installation	4 / 5	100% DR, 10.2	CN-201 to CN-203, CN-305 to CN-307	NA	DC 2014-3-25 DC 2014-11-20 DC 2016-6-6 DC 2016-12-20 DC 2015-2-24 DC 2015-05-19	10.5
Contingent GW Extraction System Connection to GWTP	5	NA	NA	NA	DC 2016-6-6	10.5
Deferred Areas	5	100% DR, 11.0	GN-004 (Note EXC6), CN-104	NA	NA	1.4, 2.8, 4.0, 18.2, 21
In-Situ Treatment	5	Work Plan for In-Situ	CN-103	NA	DC 2015-06-18	12

TABLE 9
Study Area 6 North Chromium Construction Completion Report (CCR)
Chromium Remedy Elements Referenced to Previous Relevant Documents

SA-6 N Chromium Remedy Element	Declaration No.	100% Design Report Location/ Section/Work Plan	100% Design Drawing	100% Design Specification	Design Change (DC)	Section in SA-6 N Cr CCR
		Treatment of Chromium Impacted Soil, dated September 2012			(North)	
Site Restoration	5	100% DR, 17.0, Appendix L OSDS	CN-127	02900	September 2016- (North) DC 2016-11-09	14

FIGURES

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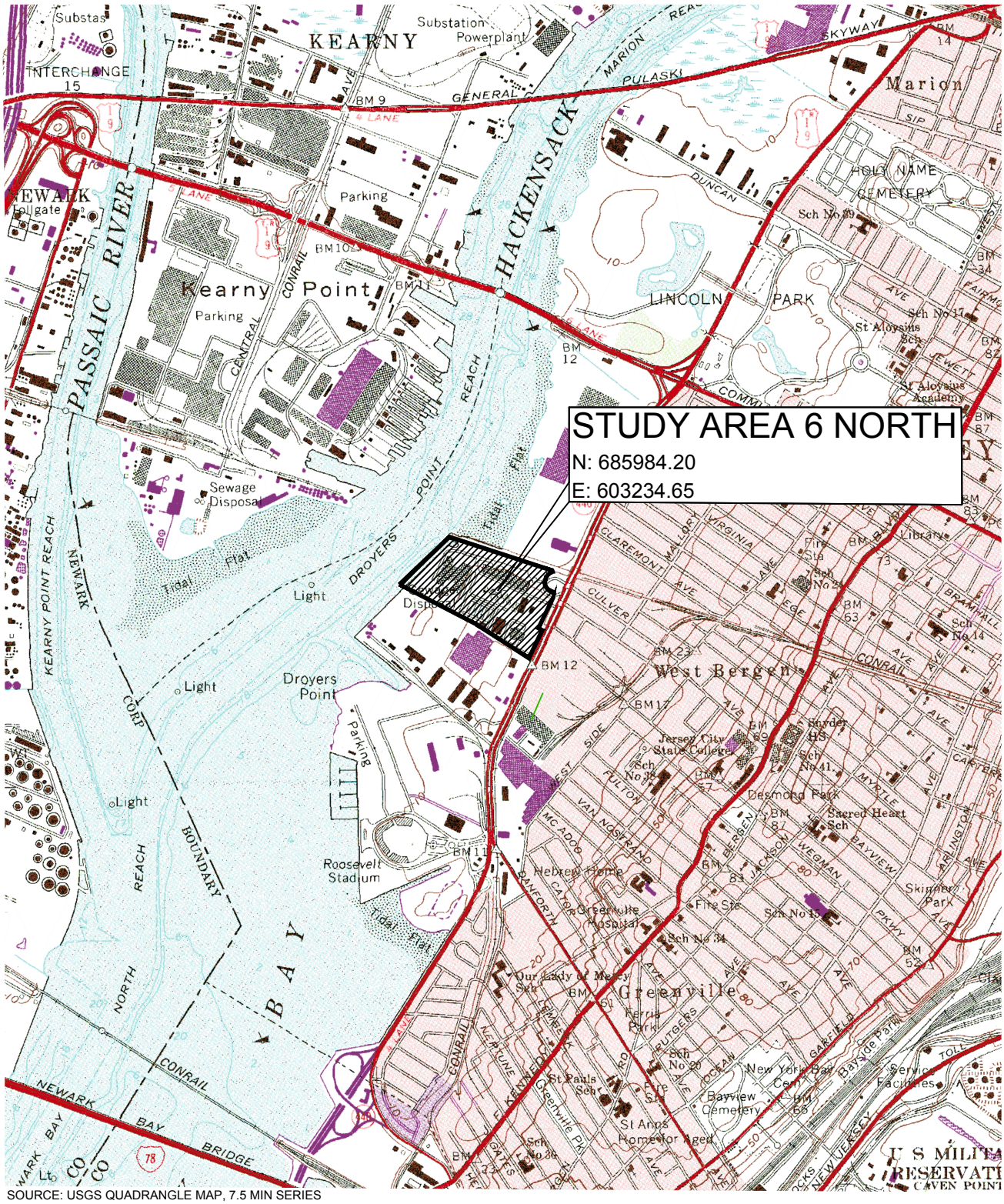

SOURCE: USGS QUADRANGLE MAP, 7.5 MIN SERIES
JERSEY CITY, NJ-NY 1967, PHOTO REVISED 1981

0 1000 2000 4000
SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480160492 *DRAWING:* FIGURE 1 SITE LOCATION MAP		amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619
PREPARED/DATE: STR 01/26/17	*CHECKED/DATE:* DN 01/26/17	

FIGURE 1
SITE LOCATION MAP
STUDY AREA 6 NORTH - SITES 087 & 088
JERSEY CITY, NEW JERSEY

P:\CADD\HONEYWELL\JERSEY CITY\SA 6 NORTH\REPORT\FIGURE 1 SITE LOCATION MAP.dwg Wed, 22 Feb 2017 – 10:24am scott.rudkin

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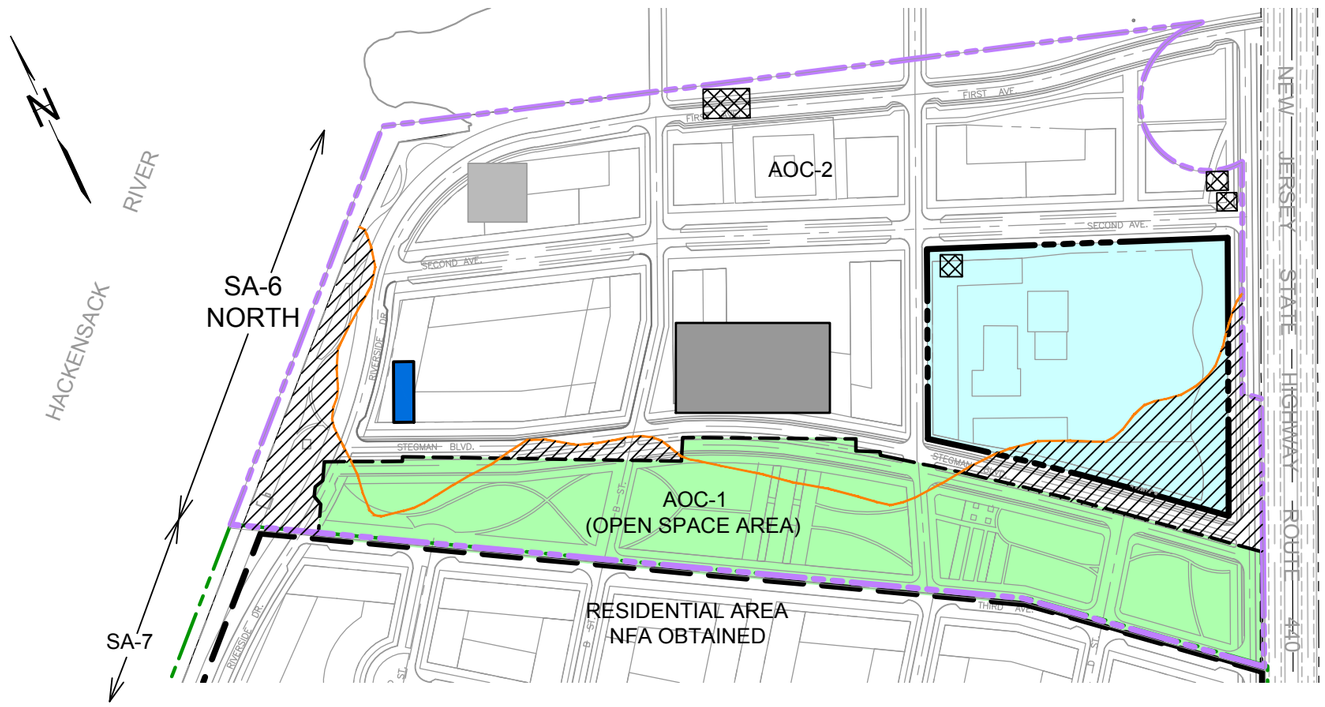

LEGEND

- SA-7 PROPERTY LINE
- AOC-1 - CHROMIUM IMPACTED SOIL AND GROUNDWATER
- AOC-2 HISTORIC FILL AREA
- SA-7 SOIL/CEMENT BENTONITE BARRIER
- AOC-1 OPEN SPACE AREA WITH DEED NOTICE
- BLOCK 6: JCMUA PROPERTY
- BAYFRONT TRAILERS
- GROUNDWATER TREATMENT PLANT
- AOC-1 RESIDENTIAL AREA
- AOC-1 ADDITIONAL EXCAVATION AREAS
- CONSTRUCTION WATER TREATMENT PLANT

0 150 300 600
SCALE IN FEET

REV.	DATE	STATUS	PRPD BY	CHKD BY

Amec Foster Wheeler PROJECT No. 3480150488
DRAWING: 3480150488–6100–DRA0–0001

PREPARED/DATE: STR 05/03/17

CHECKED/DATE: DEN 05/05/17

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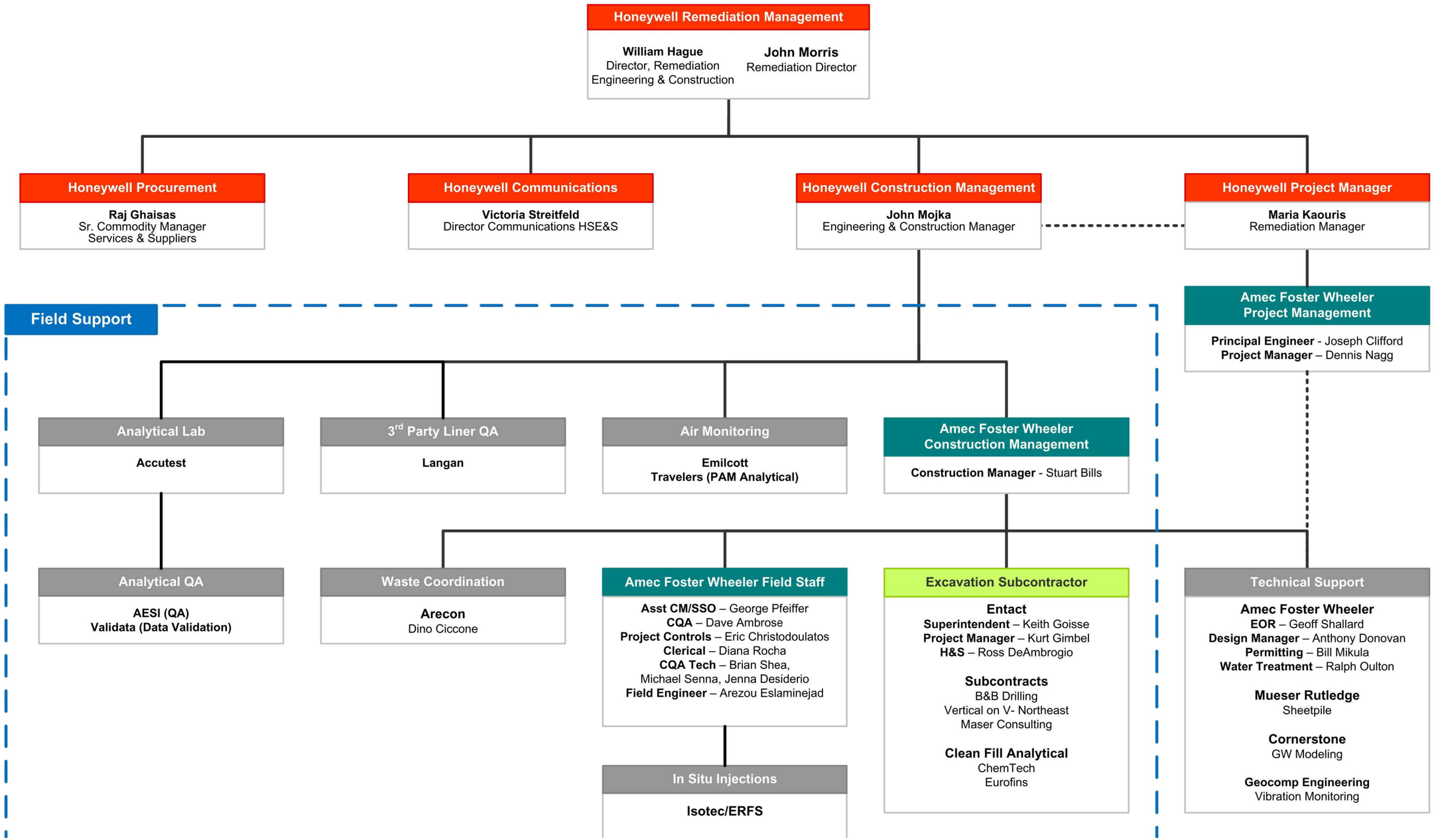
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 2
SITE LAYOUT
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY

P:\CADD\HONEYWELL\JERSEY CITY\SA 6 NORTH\3480150487\6100\610001\DEED NOTICE\3480150488-6100-DRA0-0001.dwg Thu, 17 Aug 2017 - 10:52am scott.rudkin Layout: Layout1

SA-6 North Project Team Organizational Chart



REV.	DATE	STATUS	PRPD BY	CHKD BY

Amec Foster Wheeler PROJECT No. 3480150488
DRAWING: 3480150488-5710-ORGO-F3CR

PREPARED/DATE: STR 05/02/17

CHECKED/DATE: DEN 05/03/17

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FIGURE 3
SA-6 PROJECT TEAM ORGANIZATION CHART
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY

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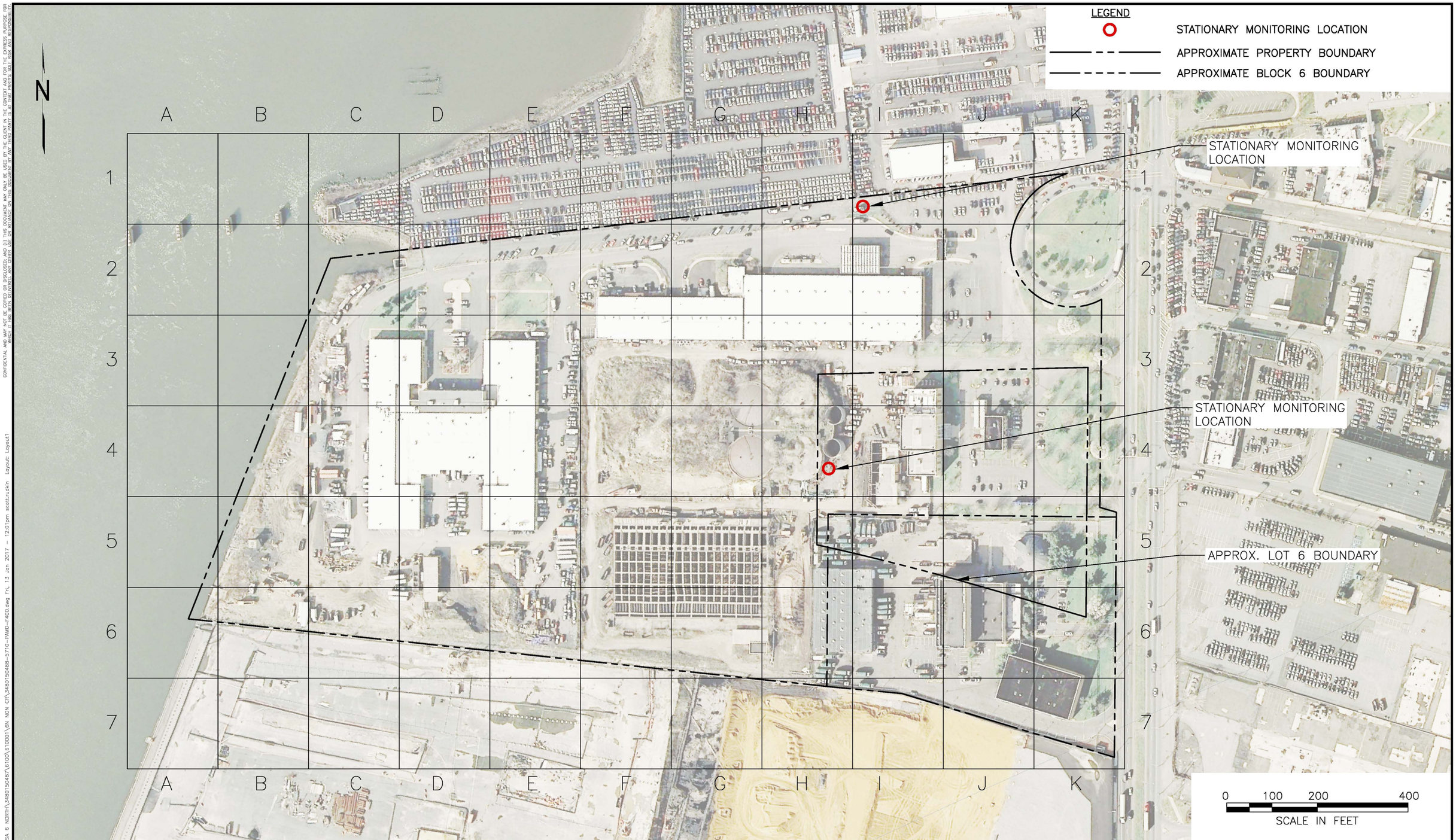

REV.	DATE	STATUS	PRPD BY	CHKD BY

Amec Foster Wheeler PROJECT No. 3480150488
DRAWING: 3480150488-5710-PAMO-F400

PREPARED/DATE: STR 01/11/17

CHECKED/DATE: DEN 01/13/17

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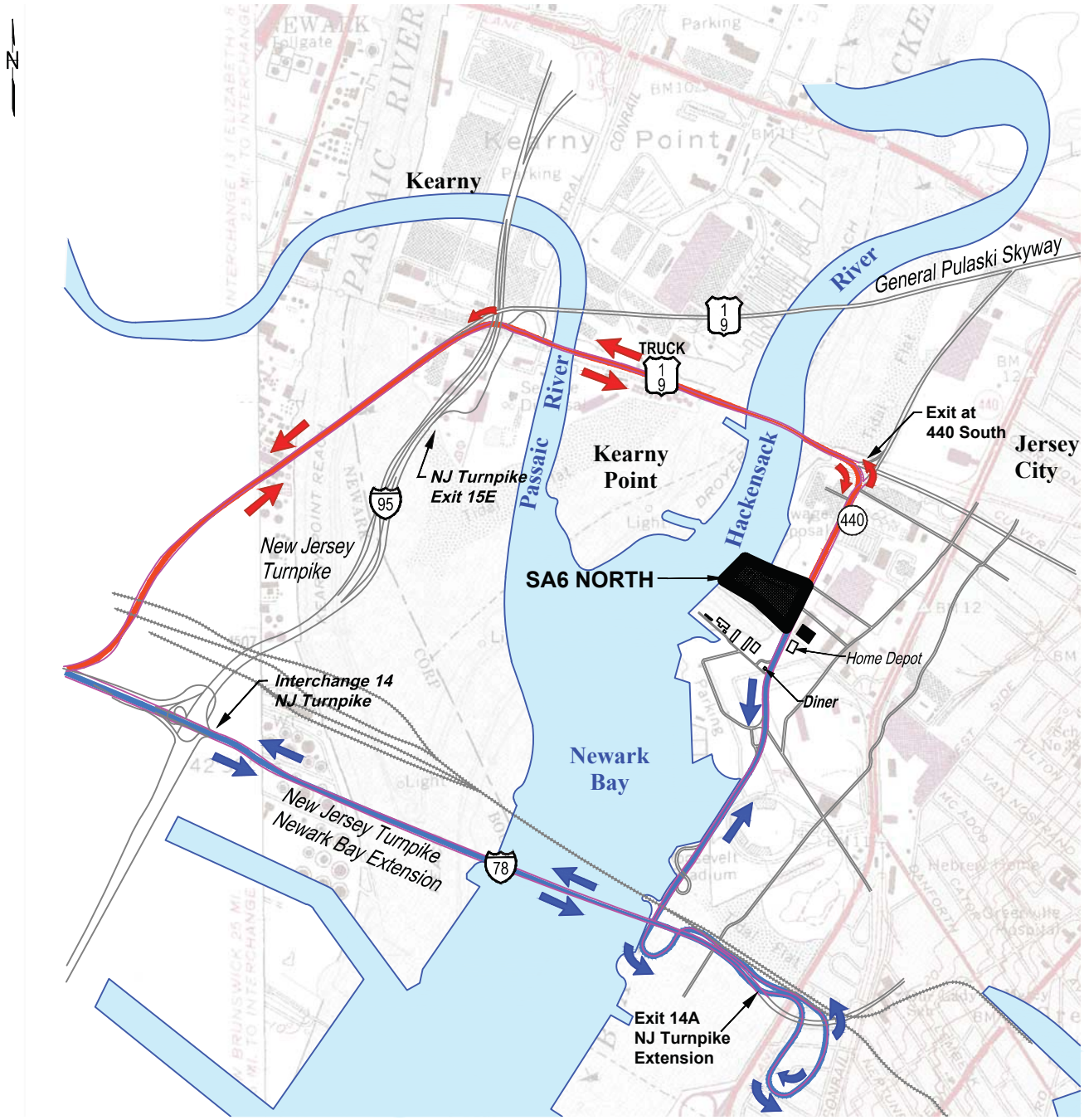
FIGURE 4
SITE MAP
PERIMETER AIR MONITORING
STATION LOCATIONS
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY

Honeywell Study Area 6
Transportation Local Routes



Primary Truck Route

Emergency/Backup Truck Route

0 50 100 200
SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150488 DRAWING: 3480150488-5710-OTR0-F500	amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**FIGURE 5** TRUCK ROUTE MAP STUDY AREA 6 NORTH JERSEY CITY, NEW JERSEY
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Legend

Station Point

Station Label
0+00 - Station Location
088-TWP-01 - Sample Name
7.0 - pH Sample Result

Proposed Hydraulic Barrier Wall (at the time of pH monitoring)

Study Area Boundary

0 75 150 300
SCALE IN FEET

REV.	DATE	STATUS	PRPD BY	CHKD BY

Amec Foster Wheeler PROJECT No. 3480150488
DRAWING: 3480150488-5710-GWSR-F500

PREPARED/DATE: STR 03/11/16

CHECKED/DATE: DEN 03/11/16

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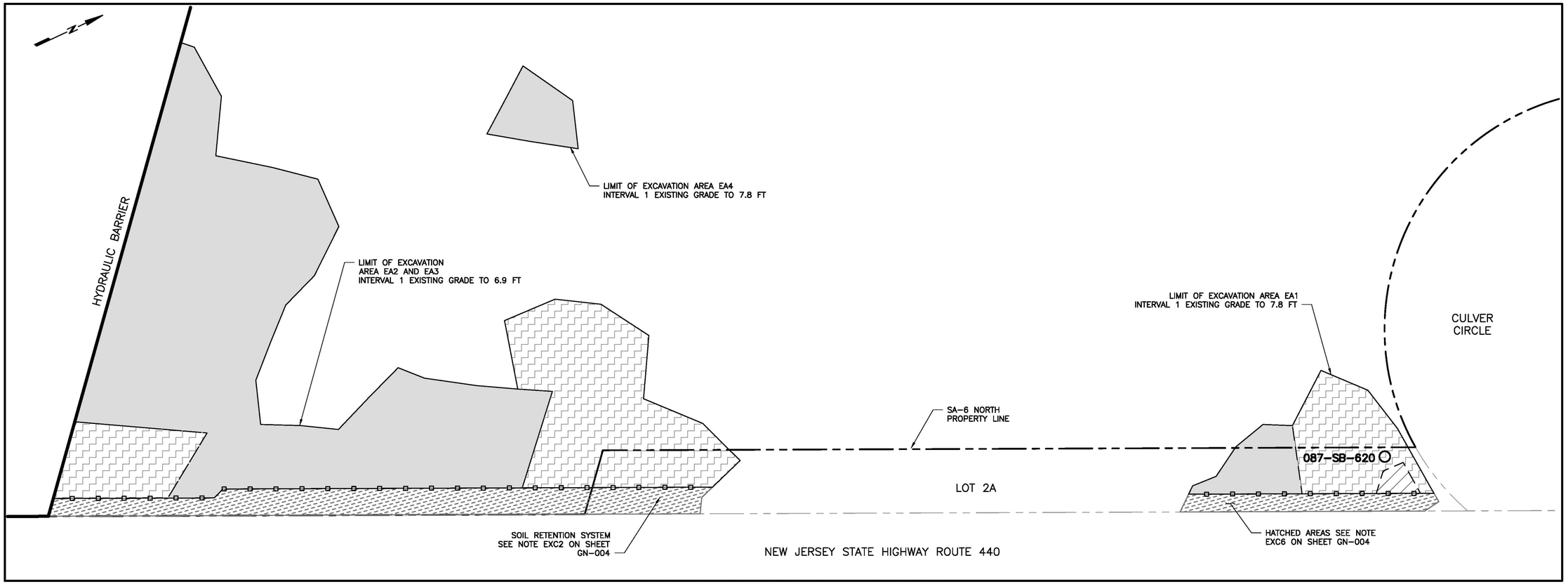
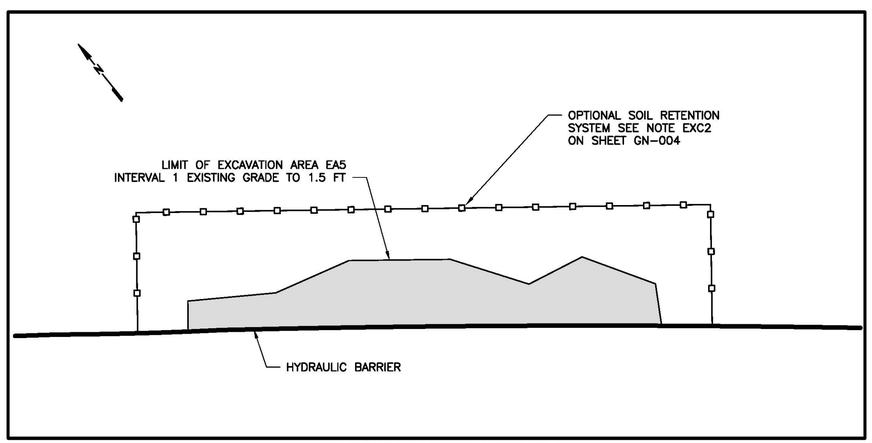
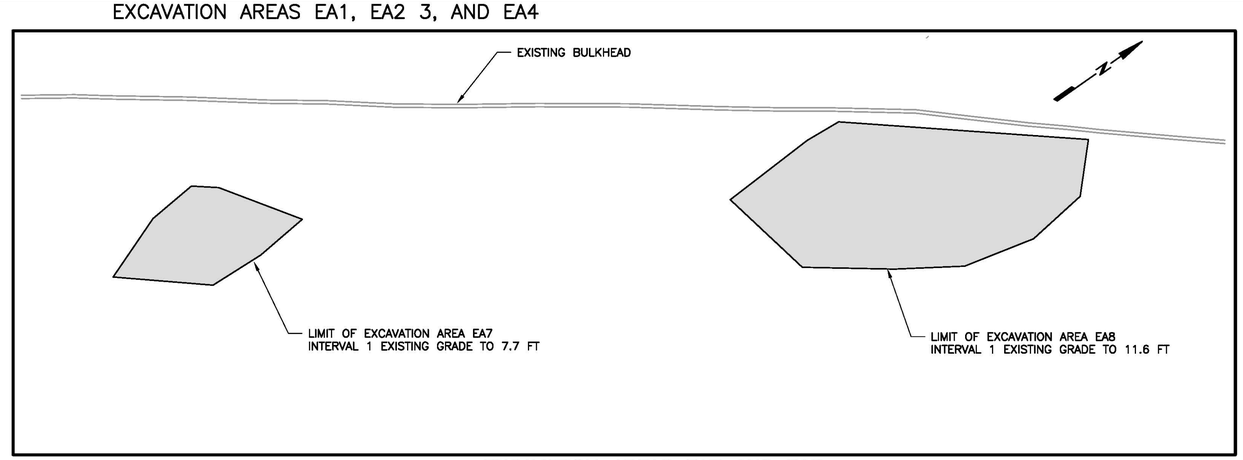
FIGURE 6
GROUNDWATER SAMPLE RESULTS (pH)
STUDY AREA SA-6 NORTH AND SOUTH
JERSEY CITY, NEW JERSEY



EXCAVATION AREAS EA1, EA2 3, AND EA4



EXCAVATION AREA EA5



EXCAVATION AREAS EA7 AND EA8

LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20–240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (HAZARDOUS OFF SITE DIPSOSAL)
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (NON HAZARDOUS OFF SITE DIPSOSAL)
- NO EXCAVATION REQUIRED
- ○ DISCRETE SAMPLE
- ● COMPOSITE SAMPLE

NOTES:

1. REFER TO SHEET GN–003 AND GN–004 FOR GENERAL NOTES.
2. REFER TO SHEET GN–002 FOR LEGEND AND ABBREVIATIONS.
3. IT HAS BEEN ASSUMED THAT 0–4 FOOT EXCAVATION CAN BE IMPLEMENTED WITH VERTICAL SIDE SLOPE SUBJECT TO ASSESSMENT OF SUPPORT OF UTILITIES AND ADJACENT STRUCTURES.

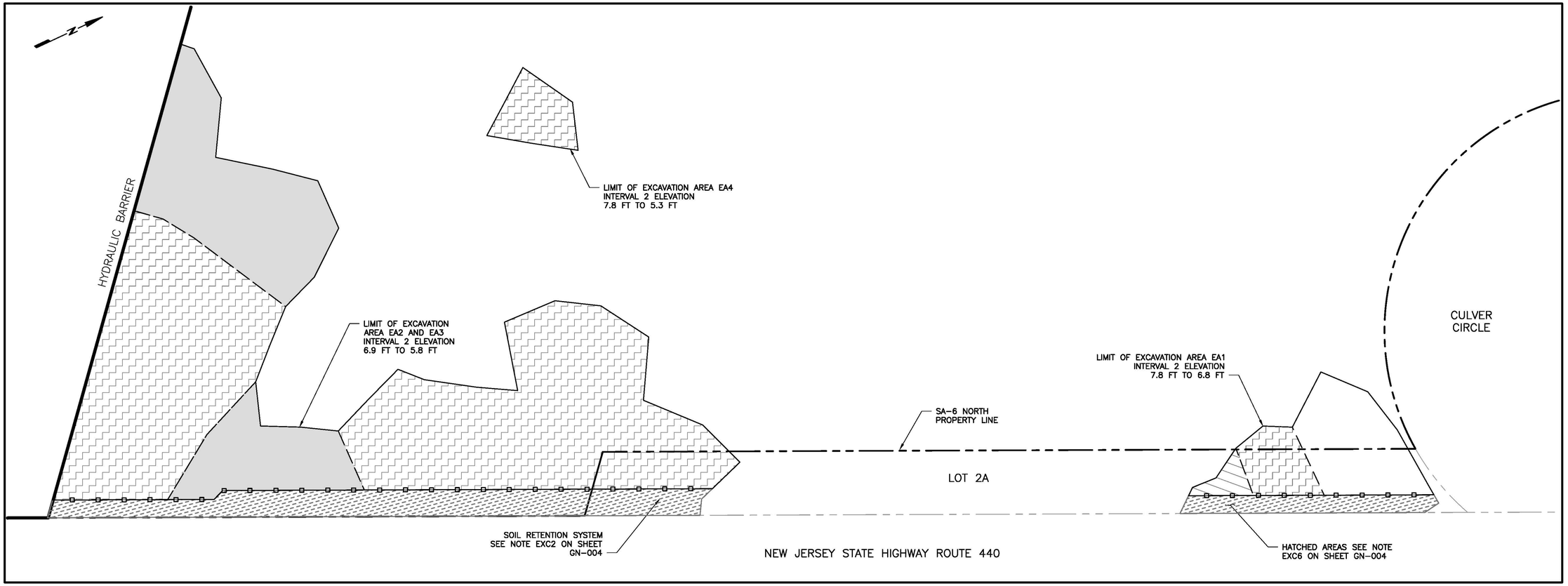
NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6–INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

0 15 30 60
SCALE IN FEET

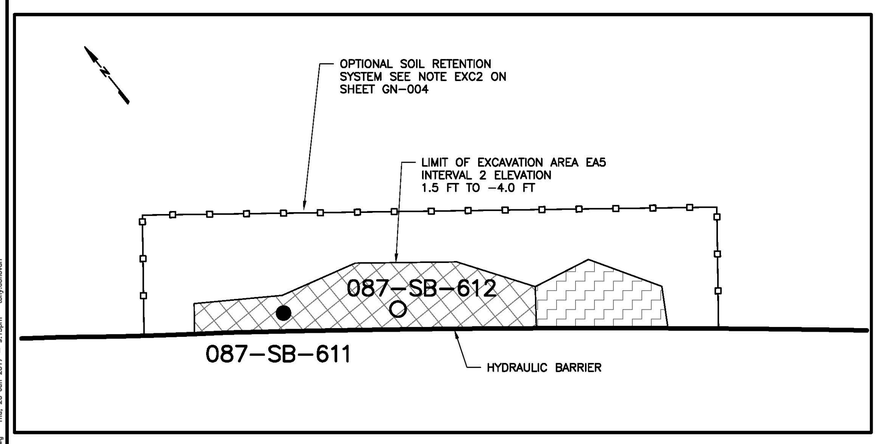
Prepared/Date: JVM 07/26/13
Checked/Date: TDD 07/29/13
Revised/Date: TDD 1/20/17

STUDY AREA 6 NORTH JERSEY CITY, NEW JERSEY HONEYWELL SITE ID - 35146	amec	WASTE CLASS SOIL SAMPLES SA-6 NORTH CHROMIUM REMEDY Project 3480-13-0354 FIGURE 7A

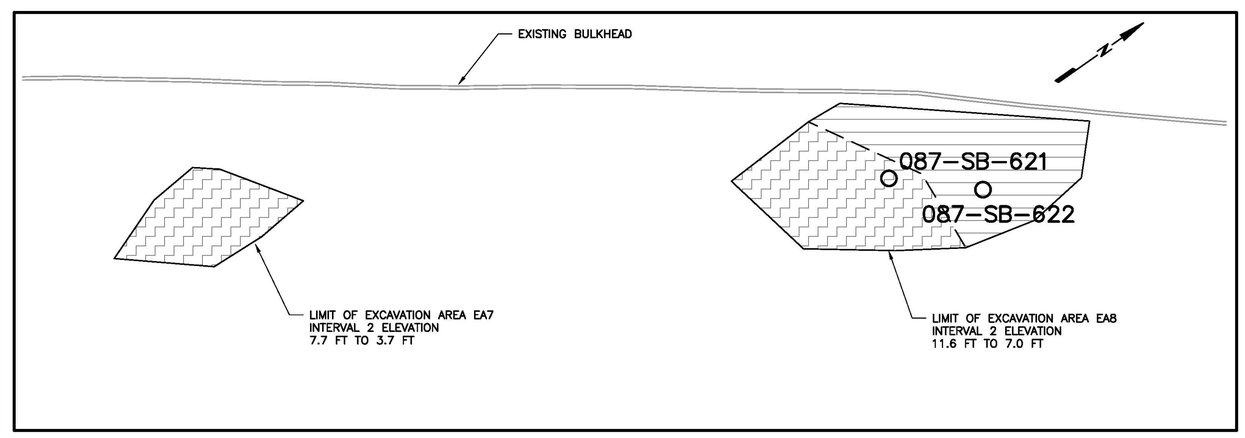
C:\Donovan\SA-6 North\2013 Excavation Surfaces\CHR SAMPLE FIG 1.dwg Thu, 26 Jan 2017 – 8:47pm tony.donovan



EXCAVATION AREAS EA1, EA2 3, AND EA4



EXCAVATION AREA EA5



EXCAVATION AREAS EA7 AND EA8

LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20–240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (HAZARDOUS OFF SITE DIPSOSAL)
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (NON HAZARDOUS OFF SITE DIPSOSAL)
- NO EXCAVATION REQUIRED
- ○ DISCRETE SAMPLE
- ● COMPOSITE SAMPLE

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. IT HAS BEEN ASSUMED THAT 0–4 FOOT EXCAVATION CAN BE IMPLEMENTED WITH VERTICAL SIDE SLOPE SUBJECT TO ASSESSMENT OF SUPPORT OF UTILITIES AND ADJACENT STRUCTURES.

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6-INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

0 15 30 60
SCALE IN FEET

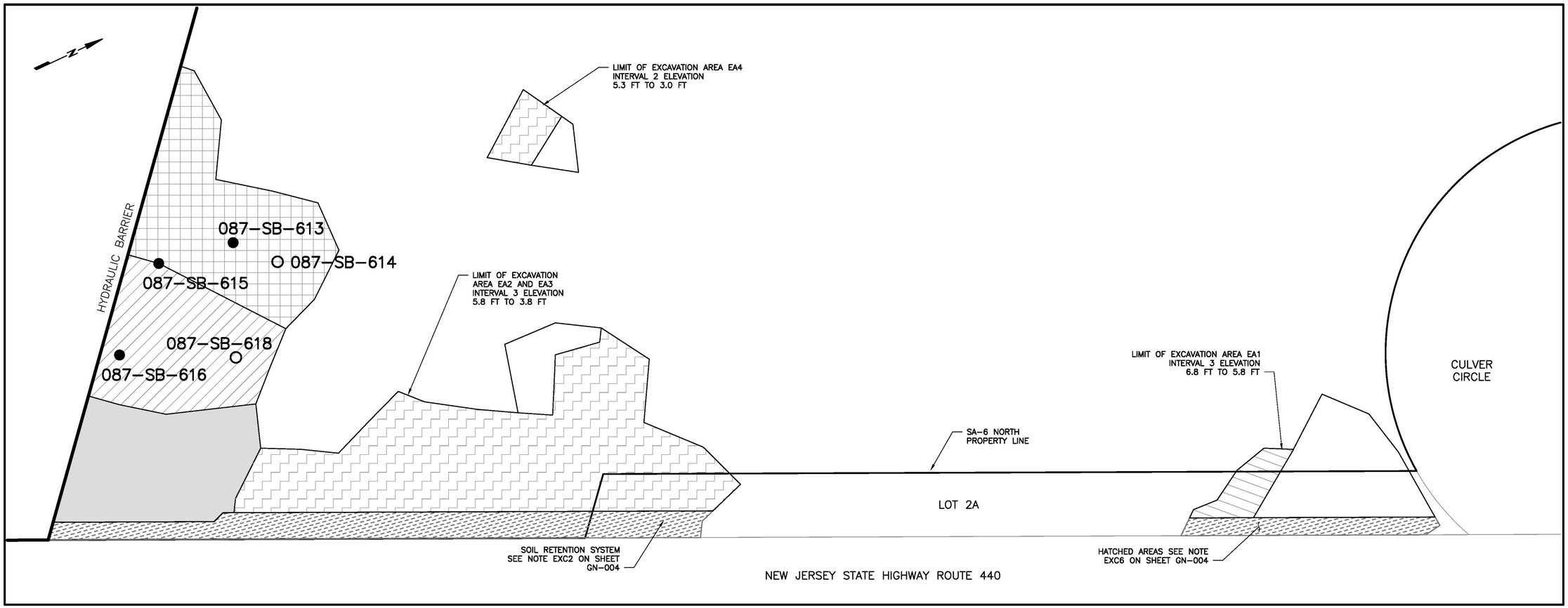
Prepared/Date: JVM 07/26/13
Checked/Date: TDD 07/29/13
Revised/Date: TDD 1/20/17

STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 35146

amec

WASTE CLASS SOIL SAMPLES
SA-6 NORTH CHROMIUM REMEDY
Project 3480-13-0354
FIGURE 7B

G:\Donovan\SA-6 North\2013 Excavation Surfaces\CHR SAMPLE FIG 2.dwg Thu, 26 Jan 2017 - 9:15pm tony.donovan



EXCAVATION AREAS EA1, EA2 3, AND EA4

LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20-240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (HAZARDOUS OFF SITE DIPSOSAL)
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (NON HAZARDOUS OFF SITE DIPSOSAL)
- NO EXCAVATION REQUIRED
- ○ DISCRETE SAMPLE
- ● COMPOSITE SAMPLE

NOTES:

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NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6-INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

0 15 30 60
SCALE IN FEET

Prepared/Date: JVM 07/26/13
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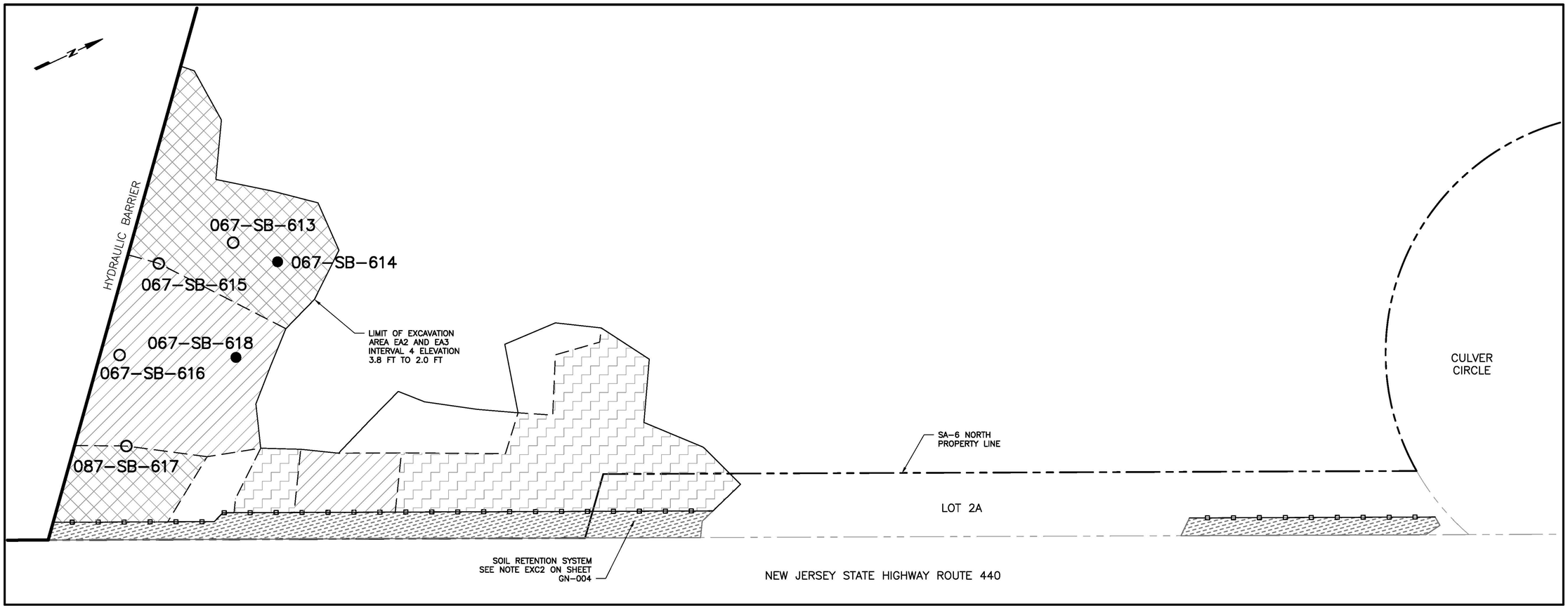
STUDY AREA 6 NORTH JERSEY CITY, NEW JERSEY HONEYWELL SITE ID - 35146	amec	WASTE CLASS SOIL SAMPLES SA-6 NORTH CHROMIUM REMEDY Project 3480-13-0354 FIGURE 7C

c:\Donovan\SA-6 North\2013 Excavation Surfaces\CHR SAMPLE FIG 3.dwg Thu, 26 Jan 2017 - 9:20pm tony.donovan



EXCAVATION AREA EA2 3

LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20-240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (HAZARDOUS OFF SITE DIPSOSAL)
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (NON HAZARDOUS OFF SITE DIPSOSAL)
- NO EXCAVATION REQUIRED
- ○ DISCRETE SAMPLE
- ● COMPOSITE SAMPLE

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. IT HAS BEEN ASSUMED THAT 0-4 FOOT EXCAVATION CAN BE IMPLEMENTED WITH VERTICAL SIDE SLOPE SUBJECT TO ASSESSMENT OF SUPPORT OF UTILITIES AND ADJACENT STRUCTURES.

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0 15 30 60
SCALE IN FEET

Prepared/Date: JVM 07/26/13
Checked/Date: TDD 07/29/13
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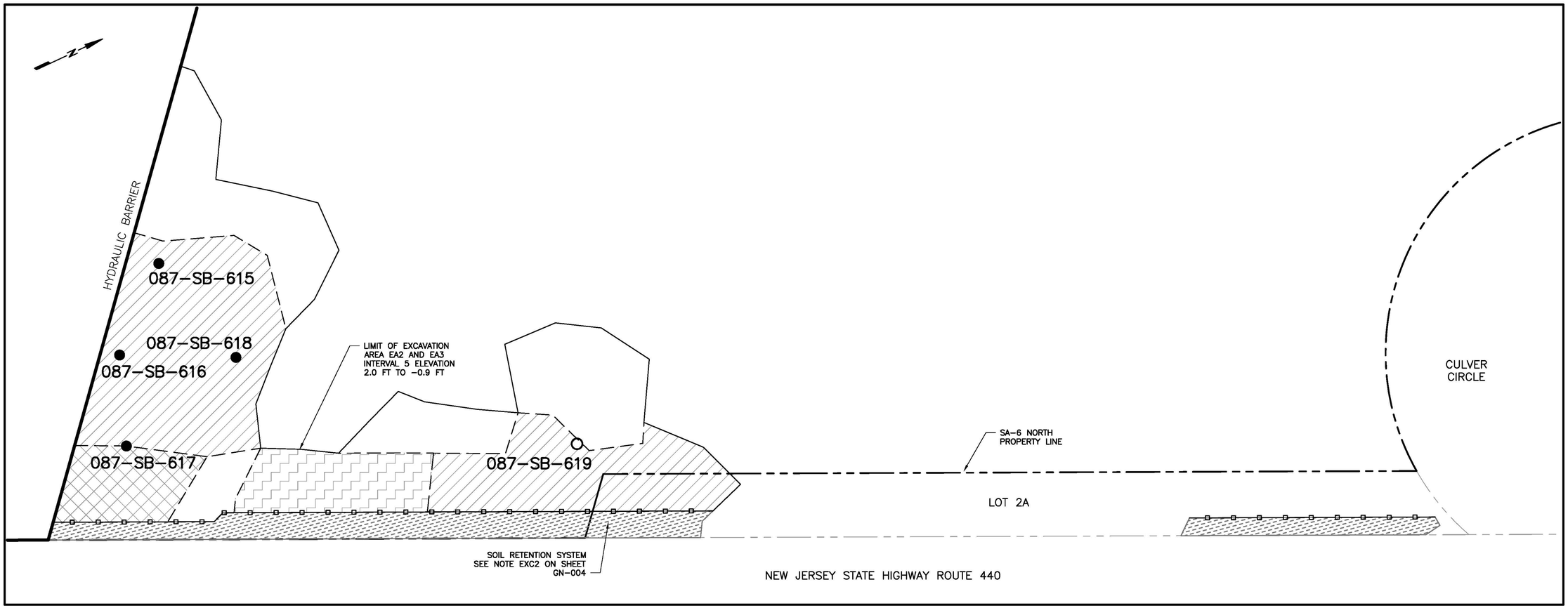
STUDY AREA 6 NORTH JERSEY CITY, NEW JERSEY HONEYWELL SITE ID - 35146	amec	WASTE CLASS SOIL SAMPLES SA-6 NORTH CHROMIUM REMEDY Project 3480-13-0354 FIGURE 7D

G:\Donovan\SA-6 North\2013 Excavation Surfaces\CHR SAMPLE FIG 4.dwg Wed, 01 Feb 2017 - 4:33pm tony.donovan



EXCAVATION AREAS EA2 3

LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20–240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (HAZARDOUS OFF SITE DIPSOSAL)
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (NON HAZARDOUS OFF SITE DIPSOSAL)
- NO EXCAVATION REQUIRED
- ○ DISCRETE SAMPLE
- ● COMPOSITE SAMPLE

NOTES:

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2. REFER TO SHEET GN–002 FOR LEGEND AND ABBREVIATIONS.
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0 15 30 60
SCALE IN FEET

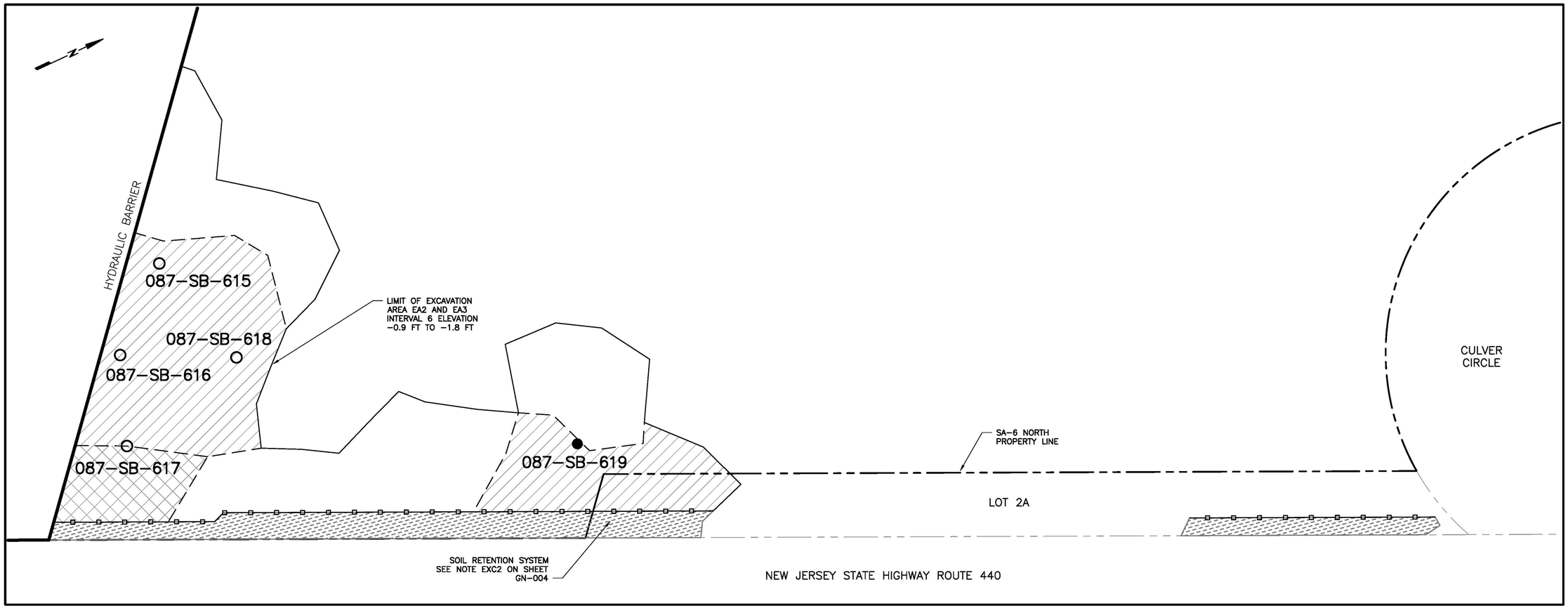
Prepared/Date: JVM 07/26/13
Checked/Date: TDD 07/29/13
Revised/Date: TDD 1/20/17

STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 35146

amec

WASTE CLASS SOIL SAMPLES
SA-6 NORTH CHROMIUM REMEDY
Project 3480-13-0354
FIGURE 7E

c:\Donovan\SA-6 North\2013 Excavation Surfaces\CHR SAMPLE F92 5.dwg Sat, 28 Jan 2017 - 12:04pm tony.donovan



EXCAVATION AREAS EA2 3

LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20-240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (HAZARDOUS OFF SITE DIPSOSAL)
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (NON HAZARDOUS OFF SITE DIPSOSAL)
- NO EXCAVATION REQUIRED
- ○ DISCRETE SAMPLE
- ● COMPOSITE SAMPLE

NOTES:

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0 15 30 60
SCALE IN FEET

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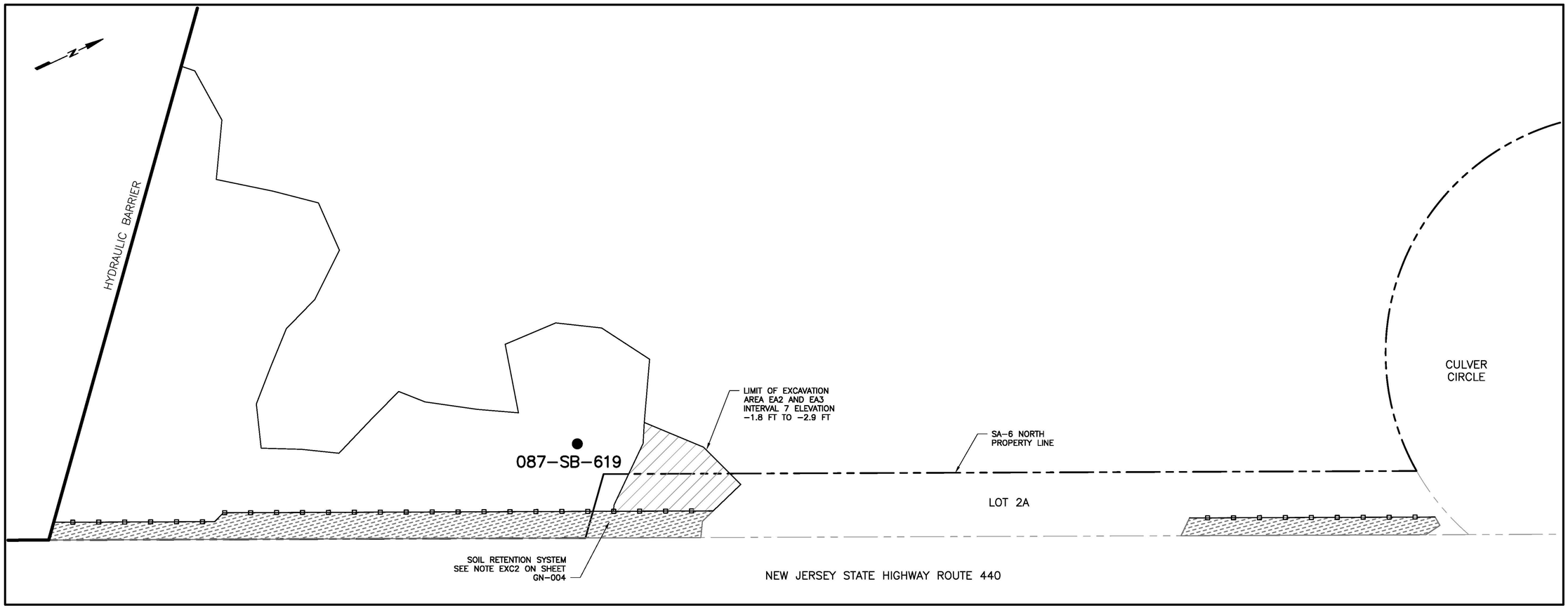
Revised/Date: TDD 1/20/17

STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 35146

amec

WASTE CLASS SOIL SAMPLES
SA-6 NORTH CHROMIUM REMEDY
Project 3480-13-0354
FIGURE 7F

C:\Donovan\SA-6 North\2013 Excavation Surfaces\CHR SAMPLE FIG 6.dwg Mon, 30 Jan 2017 - 2:48pm tony.donovan



EXCAVATION AREAS EA2 3

LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20-240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (HAZARDOUS OFF SITE DIPSOSAL)
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (NON HAZARDOUS OFF SITE DIPSOSAL)
- NO EXCAVATION REQUIRED
- ○ DISCRETE SAMPLE
- ● COMPOSITE SAMPLE

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. IT HAS BEEN ASSUMED THAT 0-4 FOOT EXCAVATION CAN BE IMPLEMENTED WITH VERTICAL SIDE SLOPE SUBJECT TO ASSESSMENT OF SUPPORT OF UTILITIES AND ADJACENT STRUCTURES.

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6-INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

0 15 30 60
SCALE IN FEET

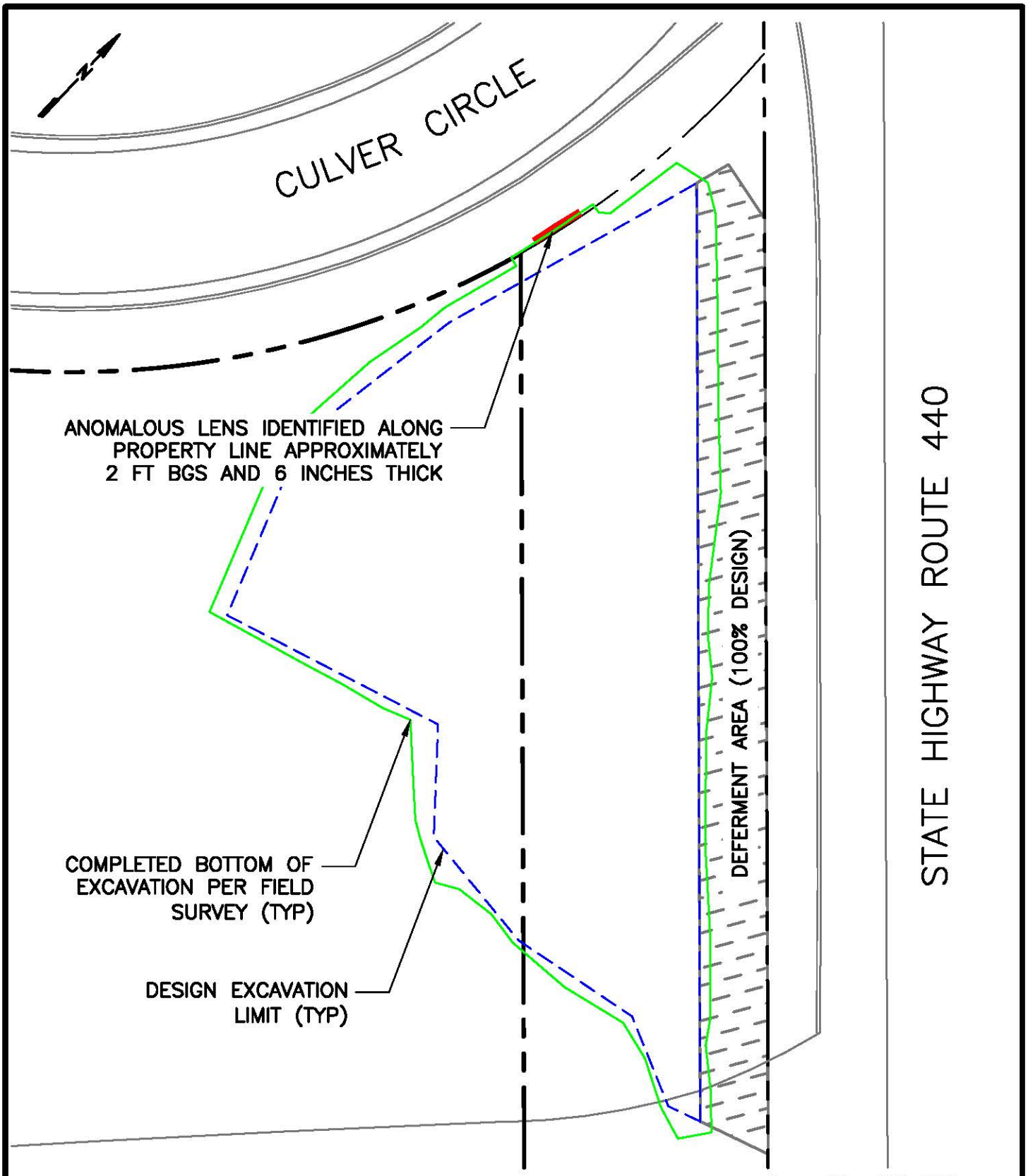
Prepared/Date: JVM 07/26/13
Checked/Date: TDD 07/29/13
Revised/Date: TDD 1/20/17

STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 35146

amec

WASTE CLASS SOIL SAMPLES
SA-6 NORTH CHROMIUM REMEDY
Project 3480-13-0354
FIGURE 7G

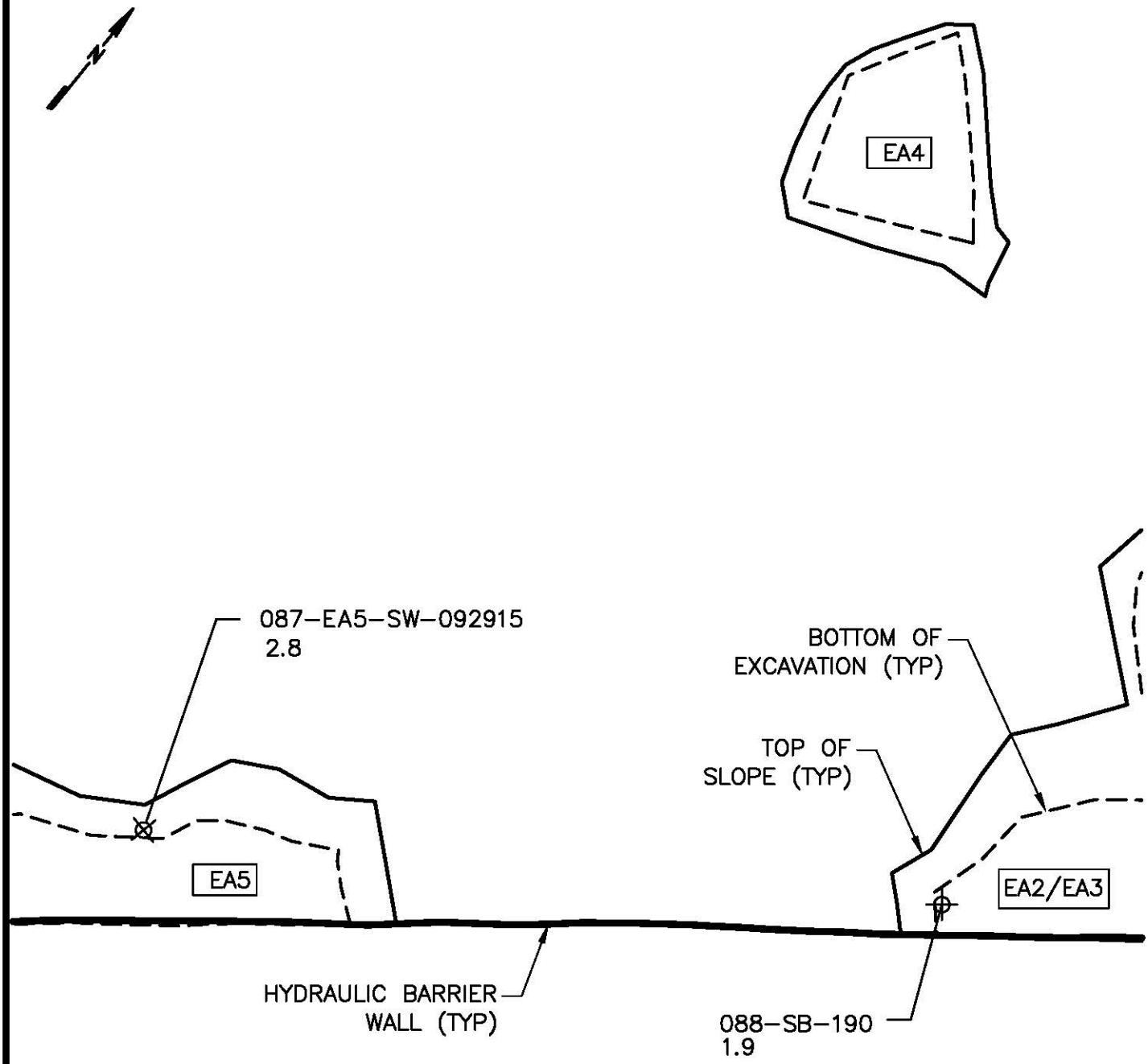
C:\Donovan\SA-6 North\2013 Excavation Surfaces\CHR SAMPLE FIG 7.dwg Wed, 01 Feb 2017 - 5:49pm tony.donovan



SCALE: 1 INCH = 20 FEET

Prepared/Date: TDD 2/16/17
Checked/Date: NAW 2/16/17

CHROMIUM REMEDY STUDY AREA 6 NORTH JERSEY CITY, NEW JERSEY	amec foster wheeler Environment & Infrastructure, Inc. 200 American Metro Blvd, Suite 113 Hamilton, NJ, 08619, (609) 689-2829 NJ Certificate of Authorization Number 24GA28010900	SA-6 NORTH EA1 ANOMALOUS LENS LOCATION Project 3480-10-0027 FIGURE 8A



LEGEND

⊗	SAMPLE LOCATION
088–SB–190	SAMPLE ID
1.9	SAMPLE ELEVATION (NGVD 29)

SCALE: 1 INCH = 40 FEET

Prepared/Date: TDD 5/5/17
Checked/Date: NAW 5/5/17

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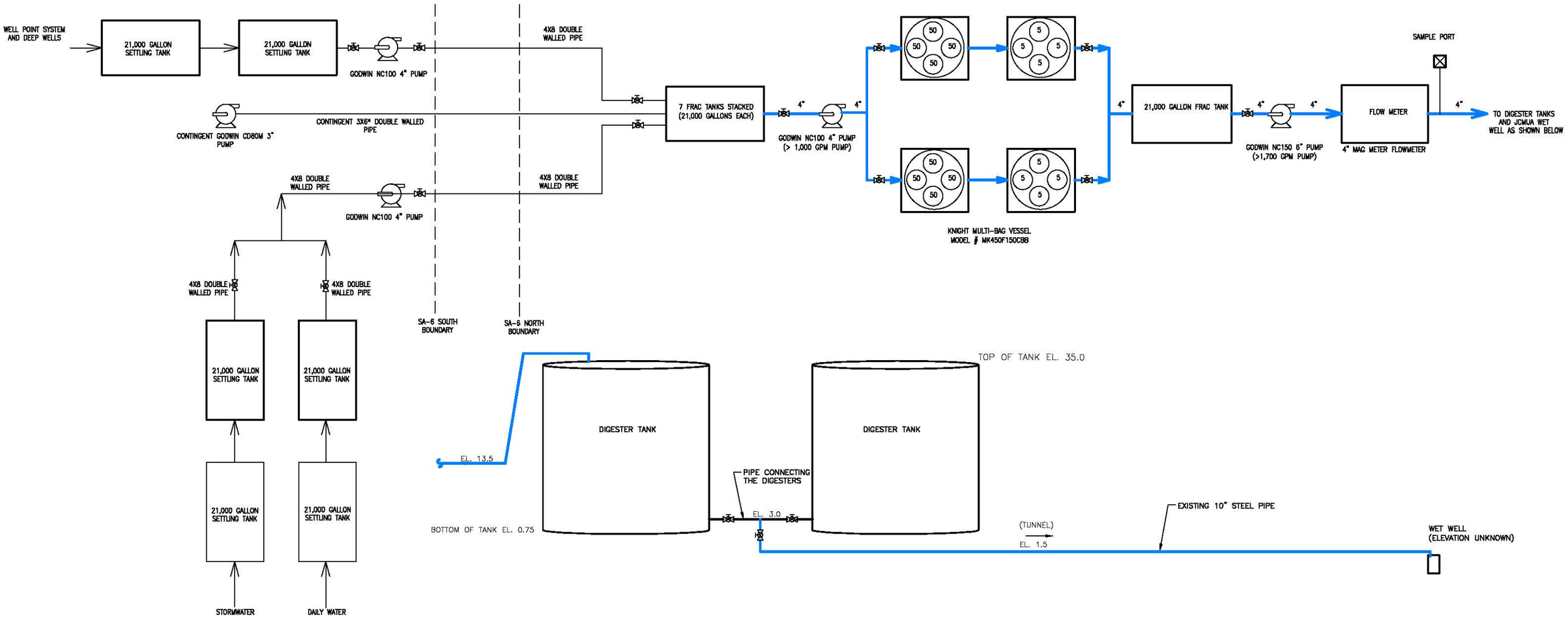


SOURCE REFERENCE:

DRAWING TITLE: "WASTEWATER MANAGEMENT PROCESS FLOW DIAGRAM" PREPARED BY ENTACT, 699 SOUTH FRIENDSWOOD DRIVE, FRIENDSWOOD, TEXAS 77546. SHEET 1 OF 1, DATED 03/15/13, REVISION A.

REV.	DATE	STATUS	PRPD BY	CHKD BY

Amec Foster Wheeler PROJECT No. 3480150488
DRAWING: 3480150488-5710-CWTS-F100

PREPARED/DATE: STR 03/11/16

CHECKED/DATE: DEN 03/11/16

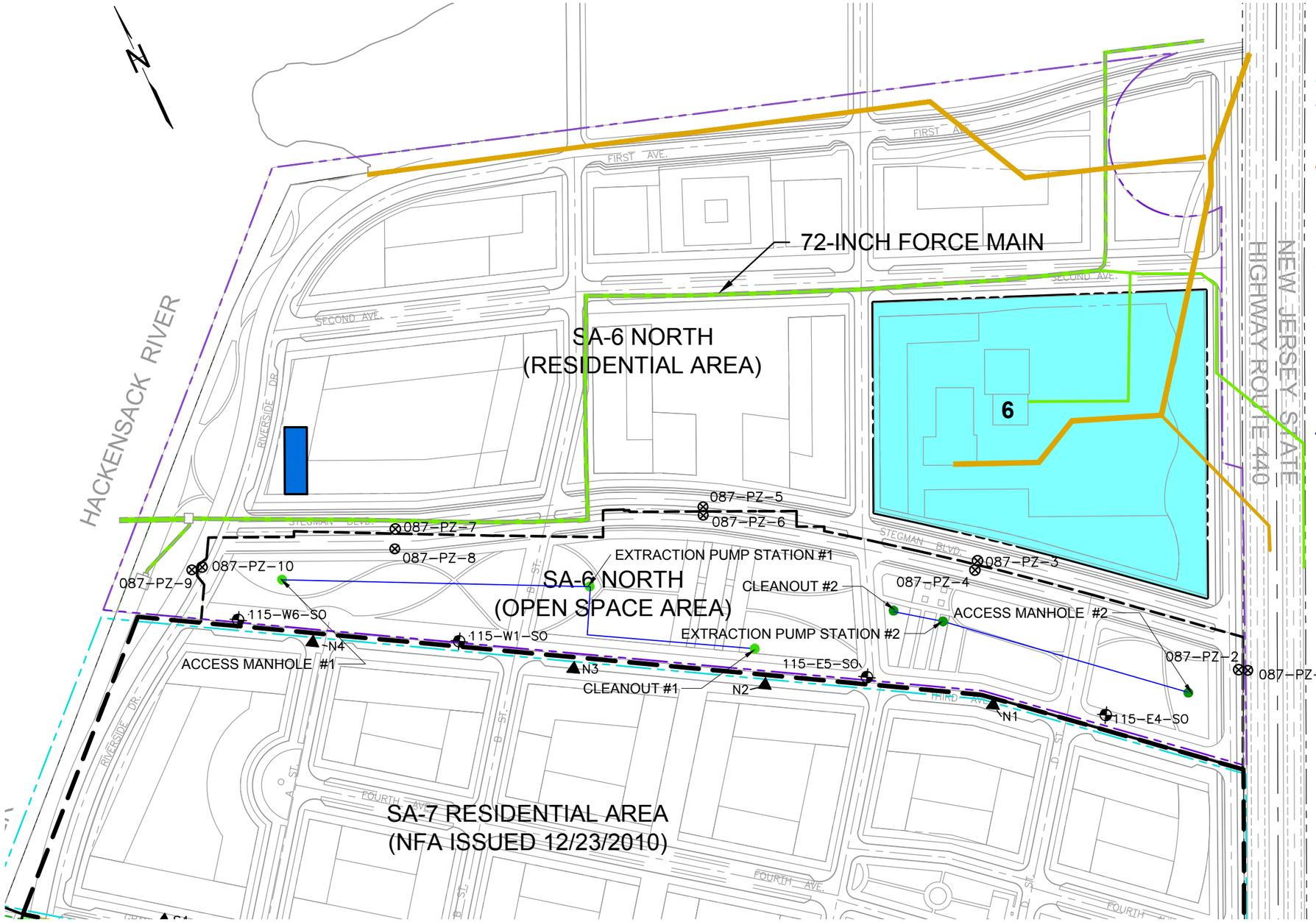
SEAL:
BRENT C. O'DELL

NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE3801700

amec foster wheeler

ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 9
CONSTRUCTION WATER
TREATMENT SYSTEM LAYOUT
STUDY AREA 6 NORTH & STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY



LEGEND

- EXISTING SHALLOW MONITORING WELL LOCATION
- PIEZOMETER (NEW)
- SA-7 PERIMETER POOL STANDPIPES
- PROPERTY LINE SA-7
- PROPERTY LINE SA-6 NORTH
- 72-INCH FORCE MAIN
- STORMWATER / 96-INCH CSO
- SA-7 SOIL/CEMENT BENTONITE BARRIER
- SA-6 NORTH VERTICAL HYDRAULIC BARRIER (STEEL SHEETPILE)
- BLOCK 6
- GROUNDWATER TREATMENT PLANT
- GROUNDWATER EXTRACTION PIPING

NOTES:

1. NFA = NO FURTHER ACTION
2. SITE-WIDE SHALLOW GROUNDWATER WILL BE SUBJECT TO A CLASSIFICATION EXCEPTION AREA (CEA) FOR BOTH CHROMIUM & NON-CHROMIUM CONTAMINANTS

0 150 300 600
SCALE IN FEET

REV.	DATE	STATUS	PRPD BY	CHKD BY

Amec Foster Wheeler PROJECT No. 3480150438
DRAWING: 3480150488-6100-BF6N-F400

PREPARED/DATE: STR 01/11/17
CHECKED/DATE: DEN 01/13/17

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 10
SHALLOW GROUNDWATER MONITORING WELL LOCATION MAP
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY

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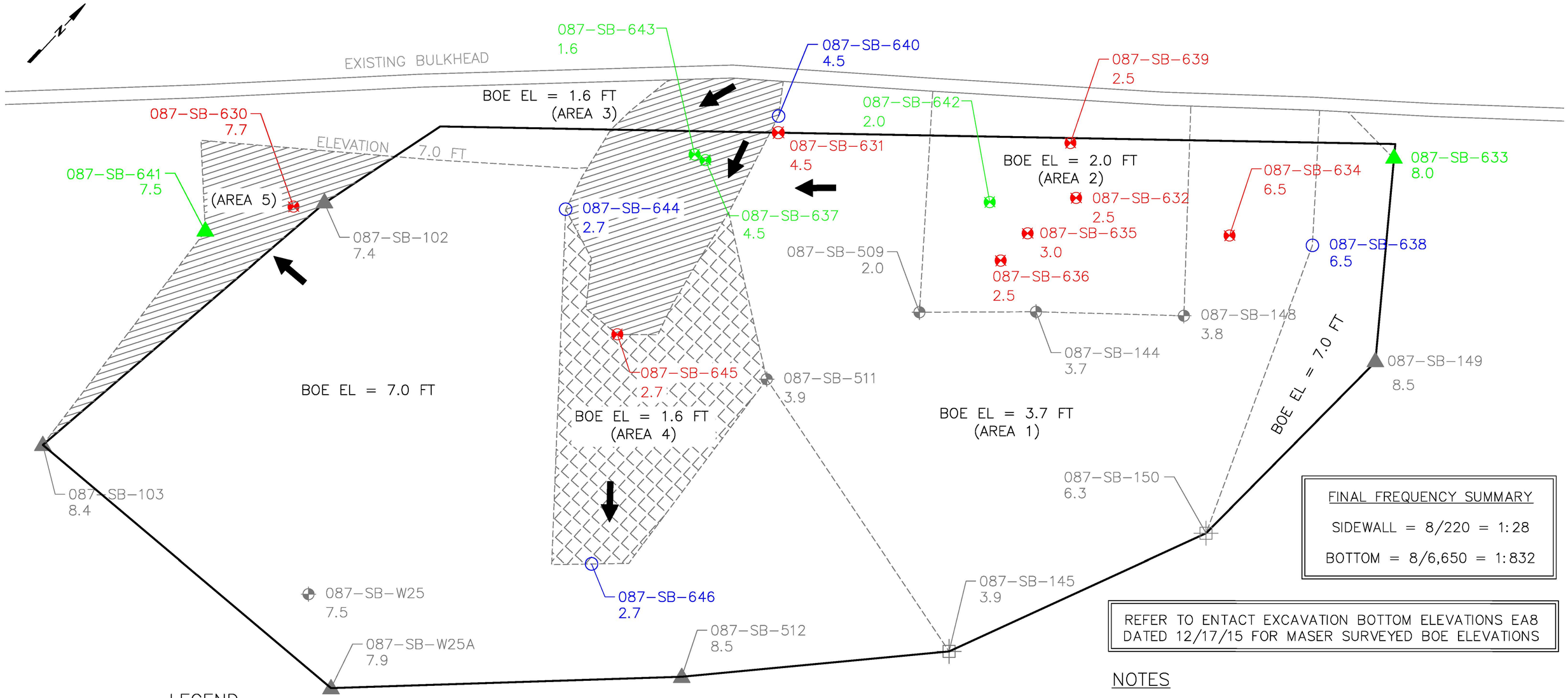
P:\CADD\HONEYWELL\JERSEY CITY\SA 6 NORTH\3480150487\6100\610001\6N NON CER\3480150488-6100-BF6N-F400.dwg Mon, 14 Aug 2017 - 3:24pm scott.rodkin Layout: Layout1



FINAL FREQUENCY SUMMARY
SIDEWALL = 8/220 = 1:28
BOTTOM = 8/6,650 = 1:832

REFER TO ENTACT EXCAVATION BOTTOM ELEVATIONS EA8 DATED 12/17/15 FOR MASER SURVEYED BOE ELEVATIONS

LEGEND

- PDI BOTTOM SAMPLE LOCATION (<20 PPM HEX CR)
- PDI SIDEWALL SAMPLE LOCATION (<20 PPM HEX CR)
- PDI BOTTOM AND SIDEWALL SAMPLE LOCATION (<20 PPM HEX CR)
- POST EXCAVATION PERIMETER SIDEWALL SAMPLE (<20 PPM HEX CR)
- POST EXCAVATION BOTTOM SAMPLE (<20 PPM HEX CR)
- POST EXCAVATION INTERIOR SIDEWALL SAMPLE (<20 PPM HEX CR)
- POST EXCAVATION SAMPLE (>20 PPM HEX CR)
- BOE EL — DESIGN BOTTOM OF EXCAVATION ELEVATION
- 087-SB-511 / 3.9 — SAMPLE ID / SAMPLE ELEVATION (NGVD 1929 MSL)
- 100% DESIGN LIMITS
- FINAL DESIGN LIMITS
- EXCAVATION BEYOND FINAL DESIGN
- EXCAVATION PROGRESSION

NOTES

1. THE 100% DESIGN REQUIRED EXCAVATION IN EA8 TO ELEVATION 7.0 FT PRIOR TO OBTAINING SUPPLEMENTAL SAMPLES AND ESTABLISHING FINAL EXCAVATION LIMITS.
2. EXCAVATION AREA 1 AND 2 WERE ESTABLISHED BASED ON SUPPLEMENTAL EXCAVATION SAMPLE RESULTS AND PREVIOUSLY OBTAINED PDI DATA. SAMPLES WERE COLLECTED UPON REMOVAL OF EXISTING MATERIAL TO ELEVATION 7.0 FT.
3. AREA 3 WAS EXCAVATED BASED ON VISUAL IDENTIFICATION OF POTENTIALLY IMPACTED MATERIAL ALONG THE SIDEWALL OF AREA 1. THE SUSPECT MATERIAL EXTENDED IN TWO SMALL SEAMS AND PITCHED DOWN TO ELEVATIONS ABOVE 1.6 FT. UPON REMOVAL OF THE SUSPECT MATERIAL ADDITIONAL SAMPLES WERE COLLECTED (643, 644, AND 645).
4. ANALYTICAL RESULTS INDICATED SAMPLE 087-SB-645 EXCEEDED 20 PPM HEXAVALENT CHROMIUM. SEVERAL TEST TRENCHES WERE THEN EXCAVATED AND A SIDEWALL SAMPLE COLLECTED AT 087-SB-646. ANALYTICAL TESTING INDICATED <20 PPM HEXAVALENT CHROMIUM AND FINAL EXCAVATION OF AREA 4 WAS COMPLETED.
5. A SMALL POCKET OF ANOMALOUS MATERIAL WAS OBSERVED NEAR PDI BORING 087-SB-102. VISUALLY IMPACTED MATERIAL WAS REMOVED AND SIDEWALL SAMPLE (087-SB-630) WAS COLLECTED. ANALYTICAL RESULTS INDICATED THIS SAMPLE EXCEEDED 20 PPM HEXAVALENT CHROMIUM SO ADDITIONAL EXCAVATION WAS COMPLETED AND A NEW SIDEWALL SAMPLE COLLECTED AT 087-SB-641 WHICH TESTED <20 PPM HEXAVALENT CHROMIUM AND USED TO DEFINE THE FINAL LIMITS OF EXCAVATION AREA 5.

0 5 10
SCALE IN FEET

Prepared/Date: TDD 1/9/15
Checked/Date:
Revised/Date: TDD 1/5/17

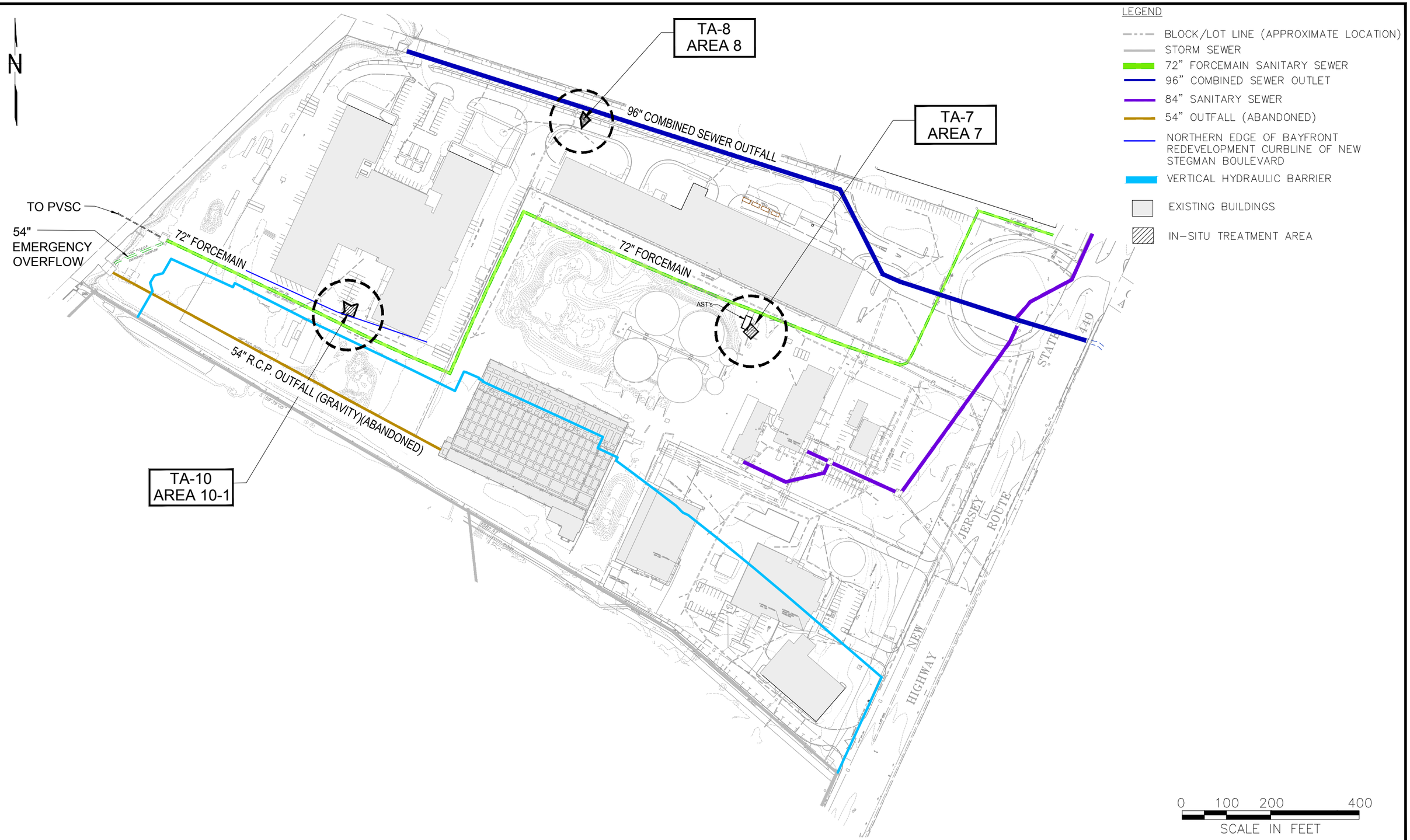
Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 889 - 2829
NJ Certificate of Authorization Number 24GA28016900

EXCAVATION AREA 8 (EA8)
FINAL SAMPLING AND EXCAVATION LIMITS
Project 3480-13-0377
FIGURE 11A

C:\Donovan\SA-8 North\2013 Excavation Surfaces\SA-8 North Excavation\Figure 1 EA8 Final Confirmation Points and Excavation Limits.dwg Wed, 01 Feb 2017 - 12:39pm tony.donovan



UTILITY LOCATIONS BASED ON ALTA/ASCM LAND TITLE SURVEY FOR BLOCK 1290.1 – LOTS 2D,2E,15D, 15B & 16A, DATED 5/23/08

REV.	DATE	STATUS	PRPD BY	CHKD BY

Amec Foster Wheeler PROJECT No. 3480150438
DRAWING: 3480150488–6100–TIA0–0000

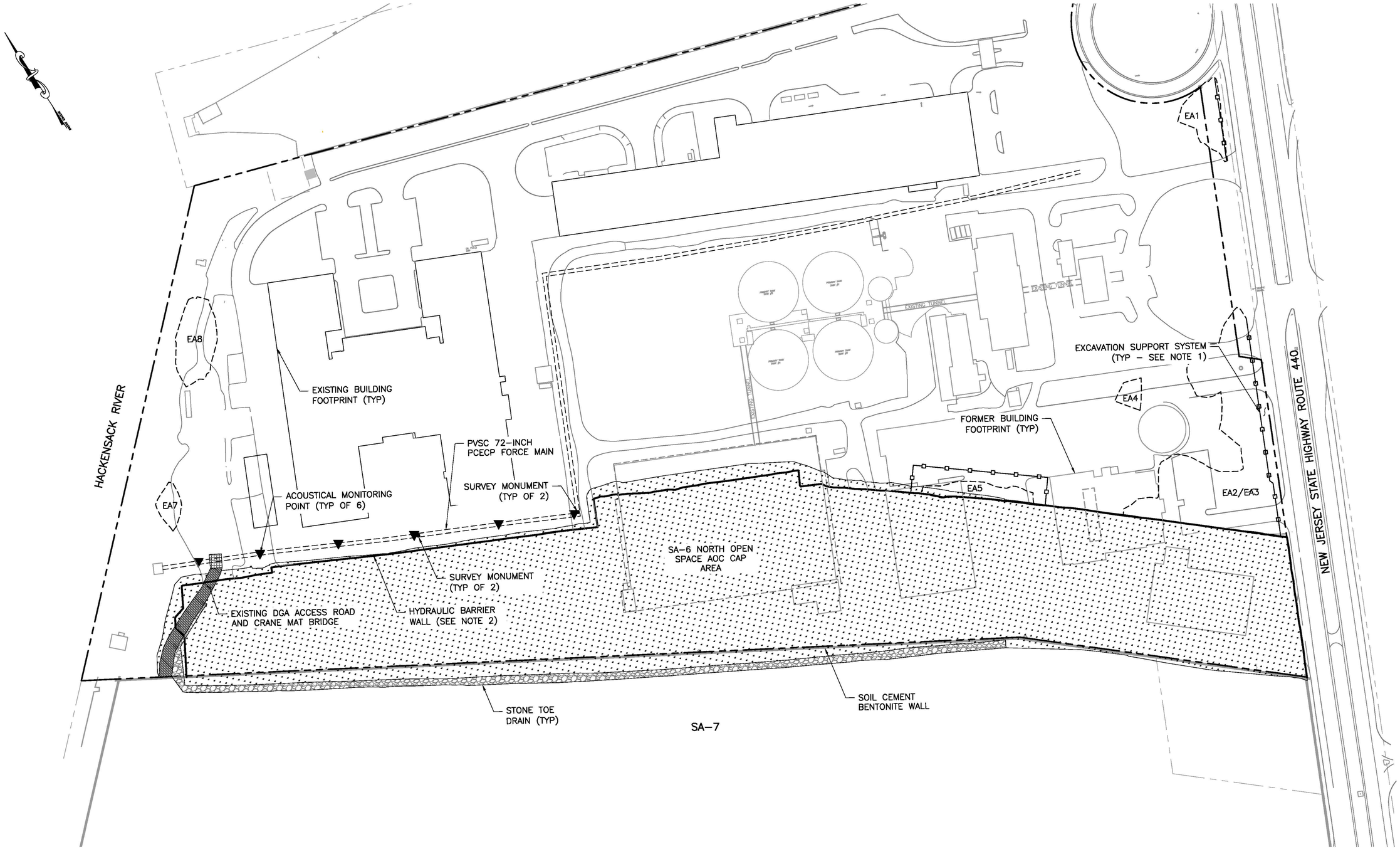
PREPARED/DATE: STR 05/03/17

CHECKED/DATE: DEN 05/05/17

amec foster wheeler

ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 11B
TARGETED IN-SITU TREATMENT AREAS
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY



NOTES:

1. VIBRATION MONITORING (SEE APPENDIX O OF THE SA-6 NORTH CHROMIUM CONSTRUCTION COMPLETION REPORT) WAS CONDUCTED BY GEOCOMP DURING SHEET PILE DRIVING UTILIZING A MOBILE INSTANTEL MICROMATE WITH GEOPHONE PLACED ON THE GROUND SURFACE IN THE VICINITY OF ACTIVITIES. TRIGGER LEVELS WERE ESTABLISHED AT 0.5 IN/SEC AND ALERT LEVELS AT 2.0 IN/SEC.

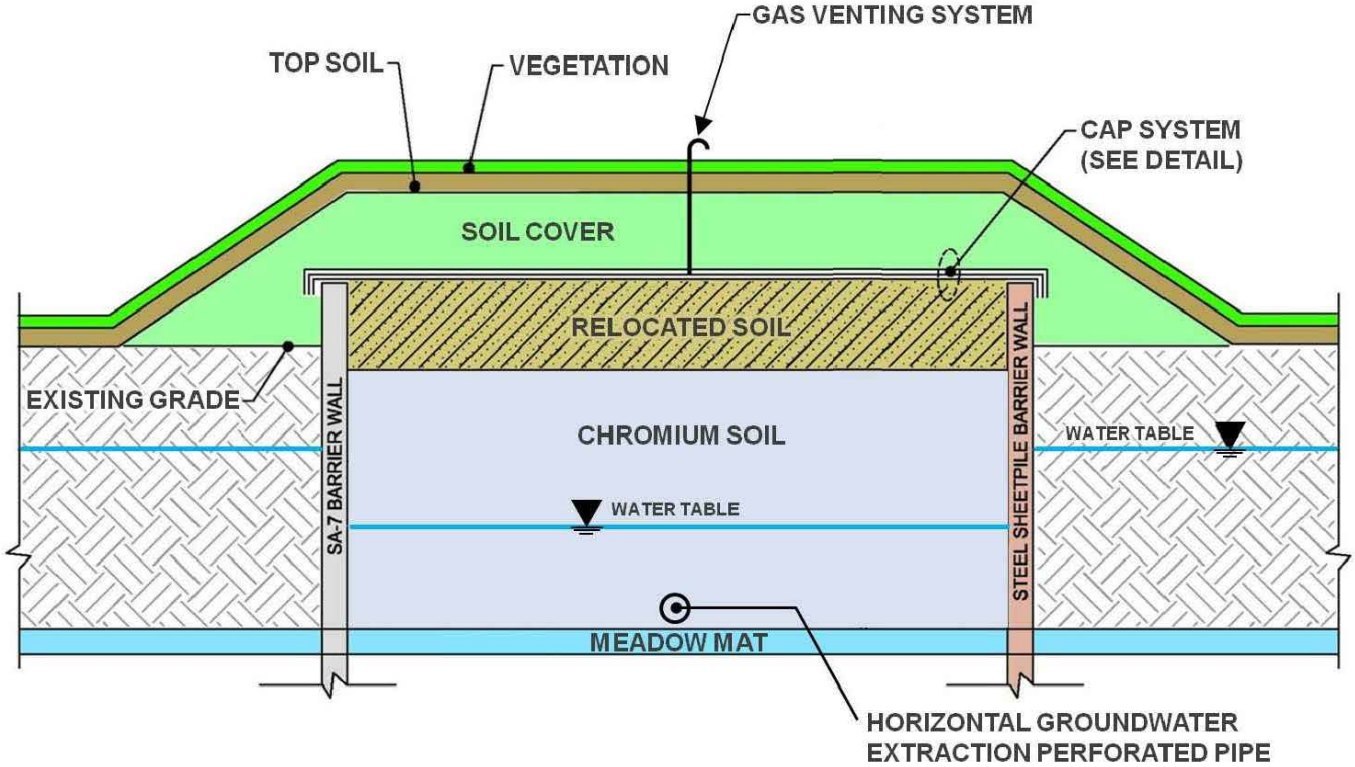
2. ACOUSTICAL MONITORING AND SURVEY POINTS WERE INSTALLED ALONG THE SECTION OF 72-INCH FORCE MAIN THAT RUNS PARALLEL TO THE HYDRAULIC BARRIER WALL. THESE MONITORING POINTS WERE UTILIZED DURING THE SURCHARGE PROGRAM TO EVALUATE ANY UNANTICIPATED STRESS IMPACTS.

0 40 80 160
SCALE IN FEET

Revised/Date: TDD 8/18/17
Checked/Date: NAW 8/18/17

Honeywell 115 TABOR ROAD MORRIS PLAINS, NJ 07950	CHROMIUM REMEDY STUDY AREA 6 NORTH JERSEY CITY, NEW JERSEY HONEYWELL SITE ID - 37472	amec foster wheeler Environment & Infrastructure, Inc. 511 Congress Street, Suite 200 Portland, Maine 04104 (207) 775-5401	72-INCH FORCE MAIN SURVEY AND ACOUSTICAL MONITORING PROJECT 3480-13-0354 FIGURE 12

C:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North RAR\SA-6 North Vibration Monitoring.dwg Fri, 18 Aug 2017 - 7:37am tony.donovan



CHROMIUM REMEDY COMPONENTS

NTS

Amec Foster Wheeler PROJECT No. 3480150488 DRAWING: 3480150488-5710-CRCO-F140	amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**FIGURE 13** CHROMIUM REMEDY COMPONENTS STUDY AREA SA-6 NORTH JERSEY CITY, NEW JERSEY
PREPARED/DATE: STR 01/11/17 | CHECKED/DATE: DEN 01/13/17		

P:\CADD\HONEYWELL\JERSEY CITY\SA 6 NORTH\3480150487\6100\610001\BN NON CR\3480150488-5710-CRCO-F140.dwg Fri, 13 Jan 2017 - 11:55am scott.rudkin
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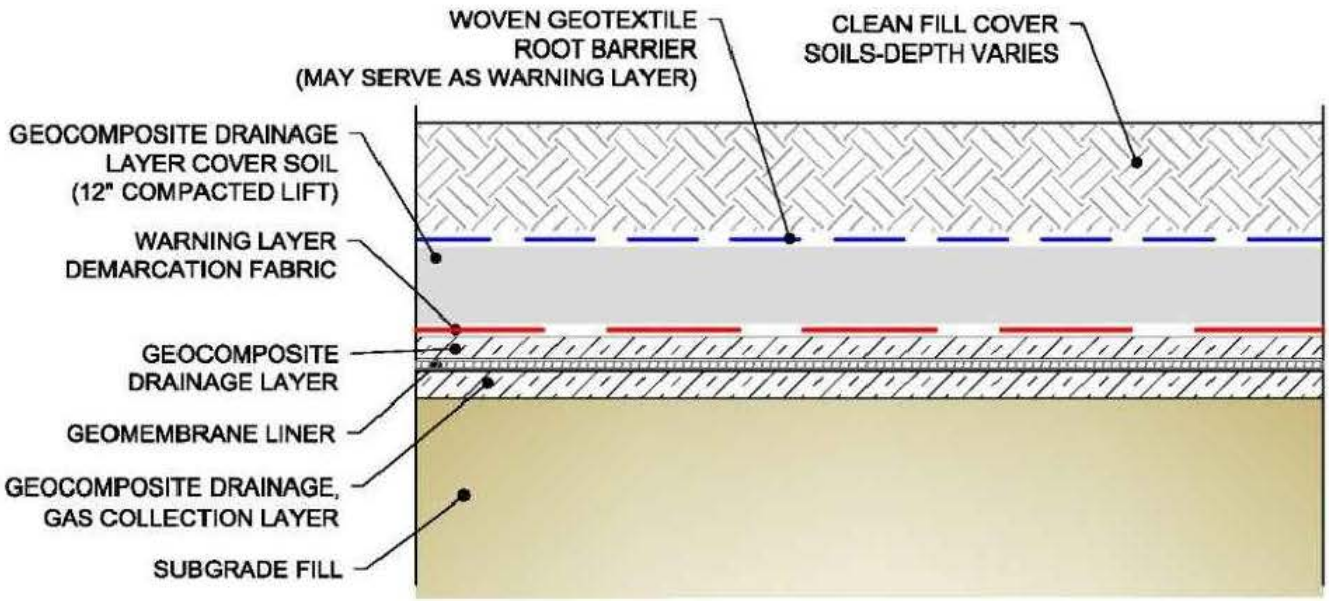


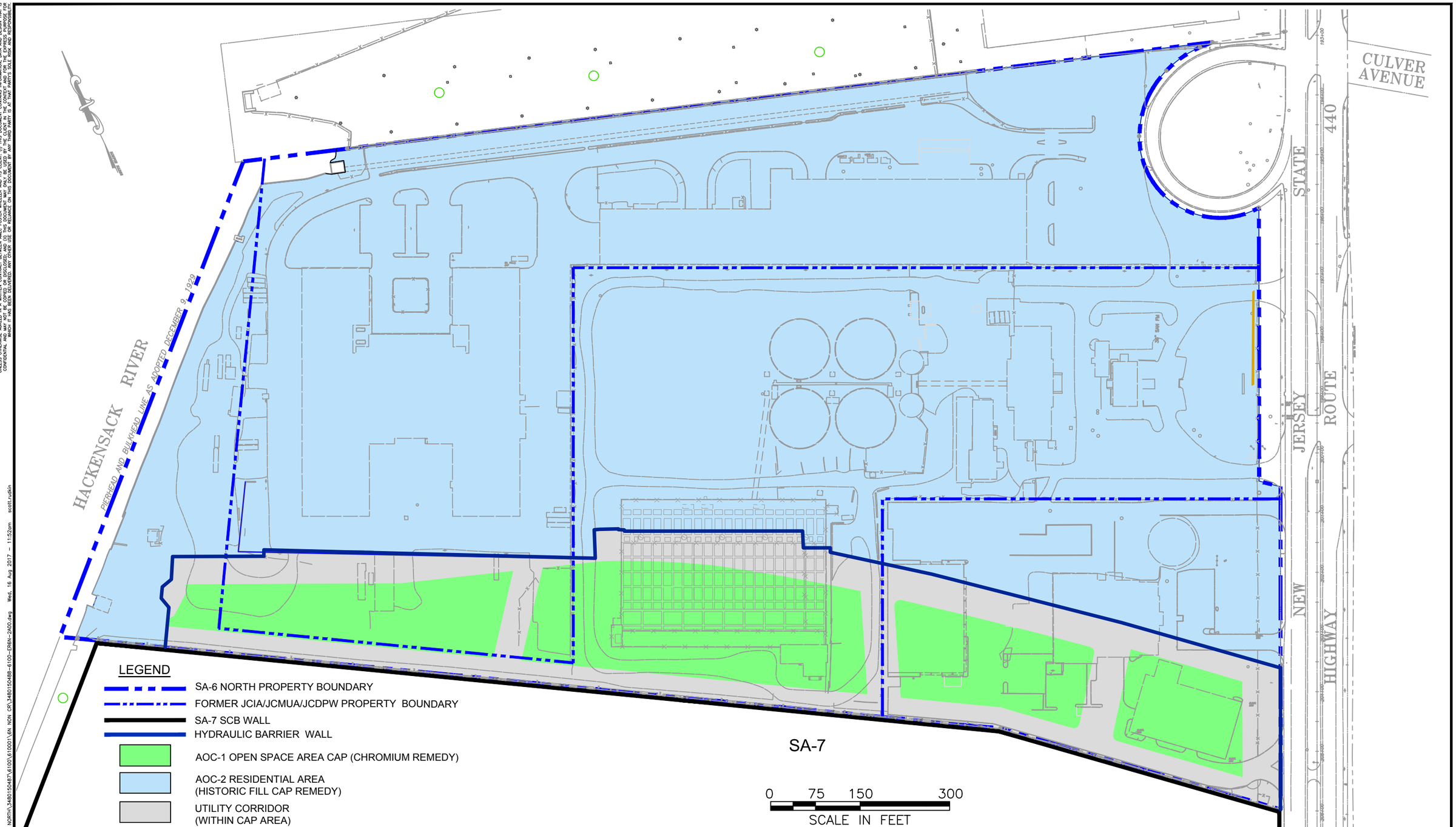
CAP SYSTEM DETAIL

NTS

Amec Foster Wheeler PROJECT No. 348015048B DRAWING: 348015048B-5710-CAPO-F15D		amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619
PREPARED/DATE: STR 01/11/17	CHECKED/DATE: DEN 01/13/17	

FIGURE 14
CAP SYSTEM DETAIL
STUDY AREA SA-6 NORTH
JERSEY CITY, NEW JERSEY

P:\CADD\HONEYWELL\JERSEY CITY\SA 6 NORTH\348015048B\6100\610001\BR RIDH CR\348015048B-5710-CAPO-F15D.dwg Fri, 13 Jan 2017 - 11:34am scott_rudkin



REV.	DATE	STATUS	BY

Amec Foster Wheeler PROJECT No. 3480150488
DRAWING: 3480150488-6100-ER6N-2A00

PREPARED/DATE: STR 01/25/17

CHECKED/DATE: DN 01/31/17

amec foster wheeler

ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 15
UTILITY CORRIDORS
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY

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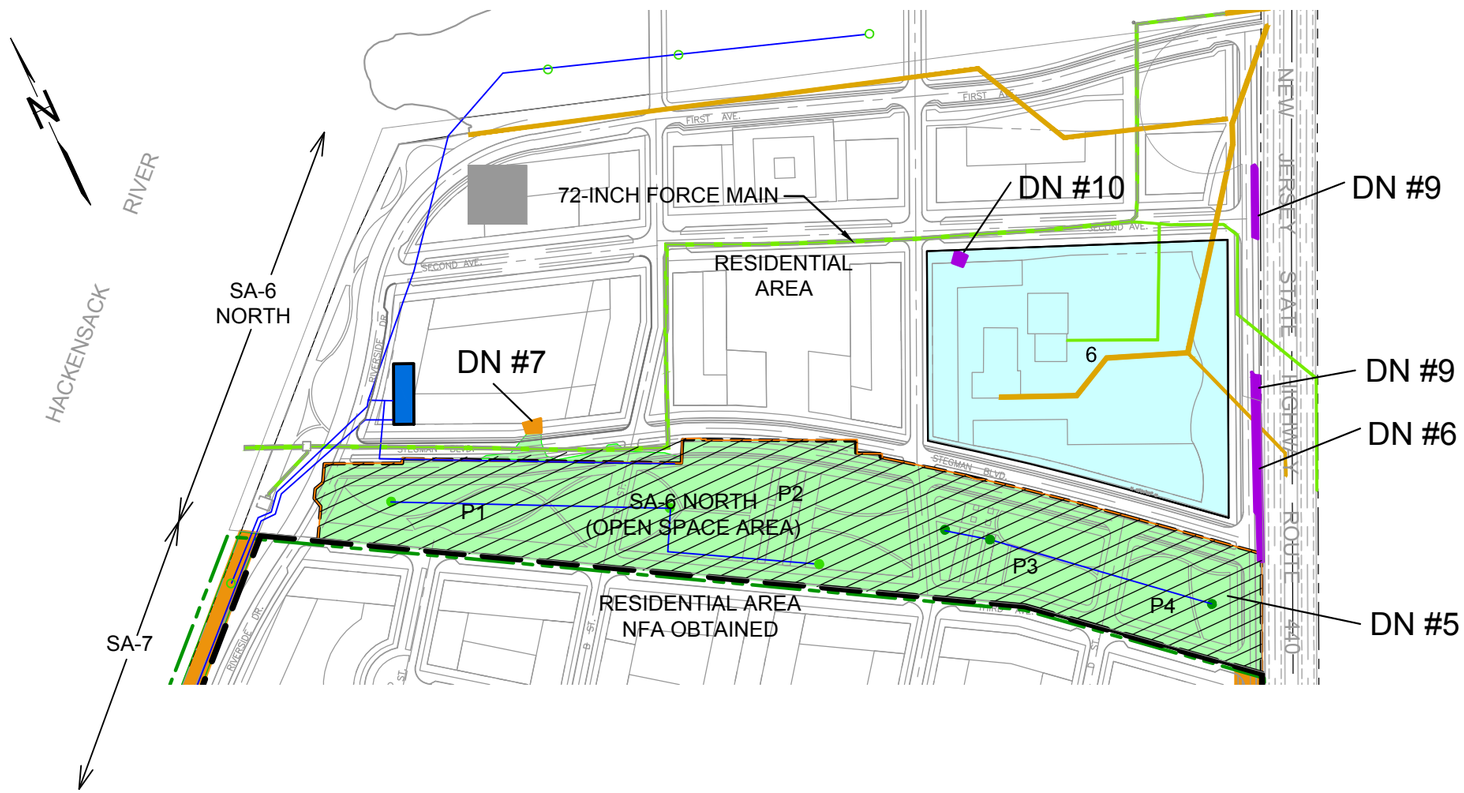

LEGEND

- SA-7 PROPERTY LINE
- 72-INCH FORCE MAIN
- STORMWATER / 96-INCH CSO
- GROUNDWATER COLLECTION PIPING / TEMPORARY TREATMENT PLANT LOCATION (● ACCESS MANHOLE, EXTRACTION PUMP STATION OR CLEANOUT)
- SA-7 SOIL/CEMENT BENTONITE BARRIER
- OPEN SPACE AREA WITH DEED NOTICE AND CONSERVATION RESTRICTION (INCLUDES PORTION OF TA-10 AREA NORTH OF HYDRAULIC BARRIER WALL)
- BLOCK 6: JCMUA PROPERTY
- BAYFRONT TRAILERS
- GROUNDWATER TREATMENT PLANT
- DEFERRED AREAS SUBJECT TO DEED NOTICE-REMEDIATION TO BE COMPLETED AFTER BULKHEAD REPLACEMENT / ROAD WIDENING/ JCMUA FUEL ISLAND RELOCATION
- RESTRICTED AREA SUBJECT TO DEED NOTICE
- AREA GETS CONSERVATION RESTRICTION

NOTES:

1. NFA = NO FURTHER ACTION
2. SITE-WIDE SHALLOW GROUNDWATER WILL BE SUBJECT TO A CLASSIFICATION EXCEPTION AREA (CEA) FOR BOTH CHROMIUM & NON-CHROMIUM CONTAMINANTS

0 150 300 600
SCALE IN FEET

REV.	DATE	STATUS	PRPD BY	CHKD BY

Amec Foster Wheeler PROJECT No. 3480150488
DRAWING: 3480150488-6100-DRA0-0001

PREPARED/DATE: STR 05/03/17
CHECKED/DATE: DEN 05/05/17

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 16
DEED RESTRICTION AREAS AND CONSERVATION RESTRICTION AREAS
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY

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P:\CADD\HONEYWELL\JERSEY CITY\SA 6 NORTH\3480150487\6100\610001\EN NON CR\3480150488-6100-DRA0-0001.dwg Thu, 17 Aug 2017 - 11:14am scott.rudkin Layout: Layout1

APPENDIX A

REPRESENTATIVE PHOTOGRAPHS

SA-6 North Chromium Remedy

001. Excavation of EA-2 EA-3

002. Excavation of EA-2 EA-3

003. Excavation of EA-2 and EA-3

004. EA2 & EA3 Backfill

SA-6 North Chromium Remedy

005. Driving sheet pile in the JCIA basement

006. Driving the first sheet pile east of the JCIA trash pit

007. Fine-grading the utility corridoor at Sta. (18+50)

008. Sheet pile delivery

SA-6 North Chromium Remedy

009. Sheet pile staging

010. Southern slope of 1N

011. Loading EA8 Interval 2 soil into trucks for transfer to the Sedimentation Basin

012. Loading soil from EA8 Interval 1 into a truck

SA-6 North Chromium Remedy

013. Trash pit area

014. Barrier for 440 work

015. HB wall section 54P-35 within EA5

016. EA5 with UST

SA-6 North Chromium Remedy

017. Backfill rolling in EA-5

018. EA5 excavation

019. EA5 excavation

020. EA5 excavation

SA-6 North Chromium Remedy

021. EA-5 Sidewall

022. EA5 excavation

023. Location of UST in EA5

024. EA-5 UST removal

SA-6 North Chromium Remedy

025. EA-5 backfill

026. Spreading material in EA-5

027. Epoxy repair in EA-5

028. Began excavating the northern portion of EA7

SA-6 North Chromium Remedy

029. Surcharge pile 2N

030. Compacting surcharge area 2N

031. JCIA Incinerator Demolition

032. Driving sheetpile along the west side of 1N

SA-6 North Chromium Remedy

033. Fence Installation on 440

034. JCIA Buildings

035. JCIA Garage

036. JCIA Demo of waste management garage

SA-6 North Chromium Remedy

037. Backfill trashpit area

038. 2 foot cut excavation

039. Loading material for offsite disposal

040. Driving sheetpile on 1N

SA-6 North Chromium Remedy

041. North hydraulic barrier wall

042. North hydraulic barrier wall

043. Driving sheetpile in 1N

044. Sheetpile

SA-6 North Chromium Remedy

045. Hydraulic barrier wall

046. Driving sheetpile

047. Hydraulic barrier wall with overlayed material

048. EA-8 protective backfill

SA-6 North Chromium Remedy

049. Discharge line in EA-8

050. EA-8 - Backfill

051. EA7 excavation

052. Hydraulic barrier wall in sed basin

SA-6 North Chromium Remedy

053. EA7 excavation

054. EA7 excavation

055. Rolling EA7 excavation

056. Backfilling EA7 excavation

SA-6 North Chromium Remedy

057. Hydraulic barrier wall in sed basin

058. Hydraulic barrier wall in sed basin

059. Hydraulic barrier wall in sed basin

060. Installing HB wall

SA-6 North Chromium Remedy

061. Installing HB wall

062. Hydraulic barrier wall in sed basin

063. Driving sheetpile in sed basin

064. Hydraulic barrier wall in sed basin

SA-6 North Chromium Remedy

065. Excavating in JCIA area for hydraulic barrier wall

066. Hydraulic barrier wall in JCIA area

067. Timber piles in JCIA area

068. Driving sheetpile in SA6 North

SA-6 North Chromium Remedy

069. Excavating in 1N for hydraulic barrier wall installation

070. 1N surcharge area

071. 1N surcharge pile

072. Driving sheetpile in 1N

SA-6 North Chromium Remedy

073. Ultilty relocation on route 440

074. Cutting sidewalk on route 440

075. Cutting sidewalk on route 440

076. Removing concrete sidewalk on route 440

SA-6 North Chromium Remedy

077. Hand digging material under sidewalk on route 440

078. EA-4 backfill

079. SA-6 North EA-4

080. SA-6 North EA-4

SA-6 North Chromium Remedy

081. TA-10 Storage Containment Area

082. TA-10 Injection

083. TA-10 Treatment Area

084. SA-6 North Cap Area Material Stockpiled

SA-6 North Chromium Remedy

085. SA6 North EA1

086. SA6 North EA1

087. SA-6 North EA1 Excavation

088. Backfilling EA1

SA-6 North Chromium Remedy

089. Backfilling EA1

090. Compacting EA1

091. Contingent Groundwater System

092. Contingent Groundwater System

SA-6 North Chromium Remedy

093. EA2&EA3 Excavation

094. EA2&EA3 Excavation

095. Offloading historic fill material for approved backfill

096. Preparing backfill of trashpit area

SA-6 North Chromium Remedy

097. Preparing subgrade for liner Installation

098. Placing cover soils over the SA-6 North warning layer

099. SA-6 North Liner Installation and Cover soil placement

100. SA-6 North Liner Installation

SA-6 North Chromium Remedy

101. Rolling out Geotextile over cap subgrade, accounting for utility corridors

102. SA-6 North Warning Layer in the Open Space Area

103. SA-6 North Cap Area Erosion Mat Placement

104. SA-6 North Cap Area Preparing Subgrade

SA-6 North Chromium Remedy

105. SA-6 North Cap subgrade grading

106. SA-6 North Cap Area Final Grade

107. SA-6 North Cap Area Final Grade

108. SA-6 North Cap Area Horizon Soils Placement

SA-6 North Chromium Remedy

109. SA-6 North Cover Soil Placement

110. SA-6 North Cover Soils in the Open Space Area

111. Protected Wells SA6 N

APPENDIX B

ELECTRONIC DATA DELIVERABLE SUBMITTAL CONFIRMATION

Warner, Natalie A

From: srpedd@dep.nj.gov
Sent: Monday, January 23, 2017 2:36 PM
To: Patel, Dakshesh
Cc: hazsite@dep.nj.gov
Subject: G000008711, HCC88, HB202121 Passed
Attachments: erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; rstp-7-1-8.txt; DTST.TXT; EDSA_Error_Log.html; HCC88_20160210_20160210.KML; HZRESULT.TXT; HZSAMPLE.TXT

The EDD submission shown below was processed 01/23/2017. This submission has passed and is cataloged in our system.
The email containing your EDD had the subject line of: RE: Site 088 - JCMUA: 6000008711, 66613, RPC050001 it was sent on:

Your submission has been issued an SRP Catalog ID: HB202121 Thank You

The following identifiers were in the DTST file:
Directory: 012017e
DESC: Honeywell SA-6 North
SRPID: HCC88
Submit Date: 1/20/2017

If you are using the email to process your EDD with your key document, include a copy of this email with your key document package.
This is an automated message.

Warner, Natalie A

From: srpedd@dep.nj.gov
Sent: Monday, January 23, 2017 2:36 PM
To: Patel, Dakshesh
Cc: hazsite@dep.nj.gov
Subject: G000008710, HCC87, HB202116 Passed
Attachments: erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; rstp-7-1-8.txt; DTST.TXT; EDSA_Error_Log.html; HCC87_20160902_20161014.KML; HZRESULT.TXT; HZSAMPLE.TXT

The EDD submission shown below was processed 01/23/2017. This submission has passed and is cataloged in our system.
The email containing your EDD had the subject line of: RE: Site 087-JCIA: 6000008710, 64066, RPC940001 it was sent on:

Your submission has been issued an SRP Catalog ID: HB202116 Thank You

The following identifiers were in the DTST file:
Directory: PZ871016
DESC: Honeywell SA-6
SRPID: HCC87
Submit Date: 1/20/2017

If you are using the email to process your EDD with your key document, include a copy of this email with your key document package.
This is an automated message.

Warner, Natalie A

From: srpedd@dep.nj.gov
Sent: Monday, January 23, 2017 2:36 PM
To: Patel, Dakshesh
Cc: hazsite@dep.nj.gov
Subject: G000008710, HCC87, HB202118 Passed
Attachments: erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; rstp-7-1-8.txt; DTST.TXT; EDSA_Error_Log.html; HCC87_20150812_20151021.KML; HZRESULT.TXT; HZSAMPLE.TXT

The EDD submission shown below was processed 01/23/2017. This submission has passed and is cataloged in our system.
The email containing your EDD had the subject line of: RE: Site 087-JCIA: 6000008710, 64066, RPC940001 it was sent on:

Your submission has been issued an SRP Catalog ID: HB202118 Thank You

The following identifiers were in the DTST file:
Directory: 012017c
DESC: Honeywell SA-6 North
SRPID: HCC87
Submit Date: 1/20/2017

If you are using the email to process your EDD with your key document, include a copy of this email with your key document package.
This is an automated message.

Warner, Natalie A

From: srpedd@dep.nj.gov
Sent: Monday, January 23, 2017 2:36 PM
To: Patel, Dakshesh
Cc: hazsite@dep.nj.gov
Subject: G000008710, HCC87, HB202119 Passed
Attachments: erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; rstp-7-1-8.txt; DTST.TXT; EDSA_Error_Log.html; HCC87_20151112_20151112.KML; HZRESULT.TXT; HZSAMPLE.TXT

The EDD submission shown below was processed 01/23/2017. This submission has passed and is cataloged in our system.
The email containing your EDD had the subject line of: RE: Site 087-JCIA: 6000008710, 64066, RPC940001 it was sent on:

Your submission has been issued an SRP Catalog ID: HB202119 Thank You

The following identifiers were in the DTST file:
Directory: 012017d
DESC: Honeywell SA-6 North
SRPID: HCC87
Submit Date: 1/20/2017

If you are using the email to process your EDD with your key document, include a copy of this email with your key document package.
This is an automated message.

Warner, Natalie A

From: Patel, Dakshesh
Sent: Monday, January 23, 2017 4:30 PM
To: Warner, Natalie A
Subject: SA-6N - NJDEP EDD Submissions
Attachments: G000008711, HCC88, HB202121 Passed; G000008710, HCC87, HB202118 Passed; G000008710, HCC87, HB202117 Passed; G000008710, HCC87, HB202120 Passed; G000008710, HCC87, HB202116 Passed; G000008710, HCC87, HB202119 Passed

Importance: High

Natalie – Henry @ DEP had to change the PI #'s and SRPIDs for the site we submitted. But here are the revised conformations. I had submitted 7 total, so waiting for 1 more. I have asked DEP as to when I might receive that.

Dak Patel
Sr. Database Analyst
Amec Foster Wheeler plc
Environment and Infrastructure
200 American Metro Blvd, Suite 113, Hamilton, NJ 08619, USA
Tel +1 (609) 689-2829 x2830, Direct +1 (609) 689-2830
fax +1 (609) 689-2838, mobile/cell +1 (484) 889-7125
VoIP #747-2830
Dakshesh.Patel@amec.com

Dak

Warner, Natalie A

From: srpedd@dep.nj.gov
Sent: Monday, January 23, 2017 2:36 PM
To: Patel, Dakshesh
Cc: hazsite@dep.nj.gov
Subject: G000008710, HCC87, HB202120 Passed
Attachments: erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; rstp-7-1-8.txt; DTST.TXT; EDSA_Error_Log.html; HCC87_20161205_20161205.KML; HZRESULT.TXT; HZSAMPLE.TXT

The EDD submission shown below was processed 01/23/2017. This submission has passed and is cataloged in our system.
The email containing your EDD had the subject line of: RE: Site 087-JCIA: 6000008710, 64066, RPC940001 it was sent on:

Your submission has been issued an SRP Catalog ID: HB202120 Thank You

The following identifiers were in the DTST file:
Directory: JC32905
DESC: Honeywell SA-6
SRPID: HCC87
Submit Date: 1/20/2017

If you are using the email to process your EDD with your key document, include a copy of this email with your key document package.
This is an automated message.

Warner, Natalie A

From: Patel, Dakshesh
Sent: Tuesday, January 24, 2017 10:16 AM
To: Warner, Natalie A
Subject: FW: G000008710, HCC87, HB202154 Passed
Attachments: erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; rstp-7-1-8.txt; DTST.TXT; EDSA_Error_Log.html; HCC87_20150625_20150625.KML; HZRESULT.TXT; HZSAMPLE.TXT

Natalie - Here's a copy of the last one that passed.

Dak Patel
Sr. Database Analyst
Amec Foster Wheeler plc
Environment and Infrastructure
200 American Metro Blvd, Suite 113, Hamilton, NJ 08619, USA Tel +1 (609) 689-2829 x2830, Direct +1 (609) 689-2830 fax +1 (609) 689-2838, mobile/cell +1 (484) 889-7125 VoIP #747-2830 Dakshesh.Patel@amec.com

-----Original Message-----
From: srpedd@dep.nj.gov [mailto:srpedd@dep.nj.gov]
Sent: Tuesday, January 24, 2017 9:49 AM
To: Patel, Dakshesh <dakshesh.patel@amecfw.com>
Cc: hazsite@dep.nj.gov
Subject: G000008710, HCC87, HB202154 Passed

The EDD submission shown below was processed 01/24/2017. This submission has passed and is cataloged in our system.
The email containing your EDD had the subject line of: Site 087-JCIA: 6000008710, 64066, RPC940001 it was sent on:

Your submission has been issued an SRP Catalog ID: HB202154 Thank You

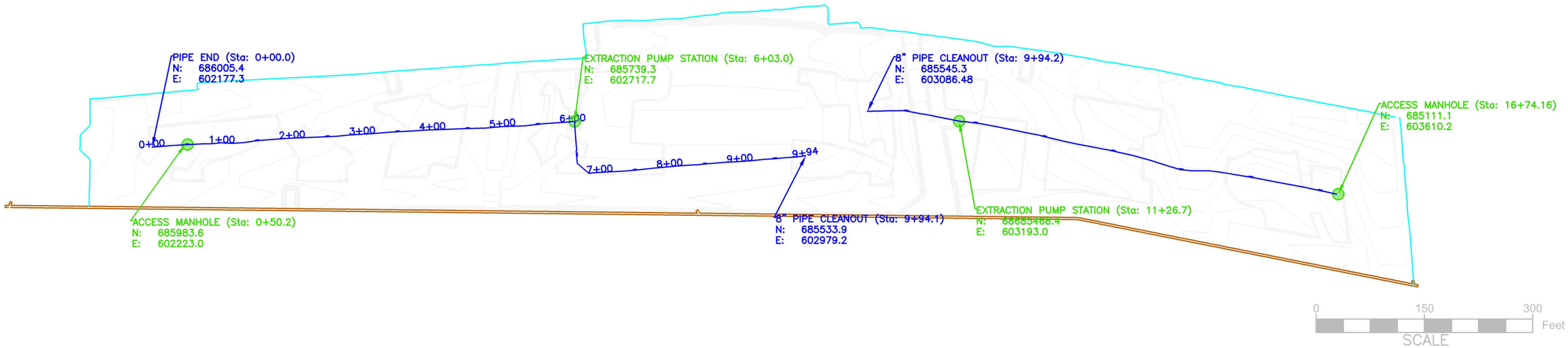
The following identifiers were in the DTST file:
Directory: 012017a
DESC: Honeywell SA-6 North
SRPID: HCC87
Submit Date: 1/20/2017

If you are using the email to process your EDD with your key document, include a copy of this email with your key document package.
This is an automated message.

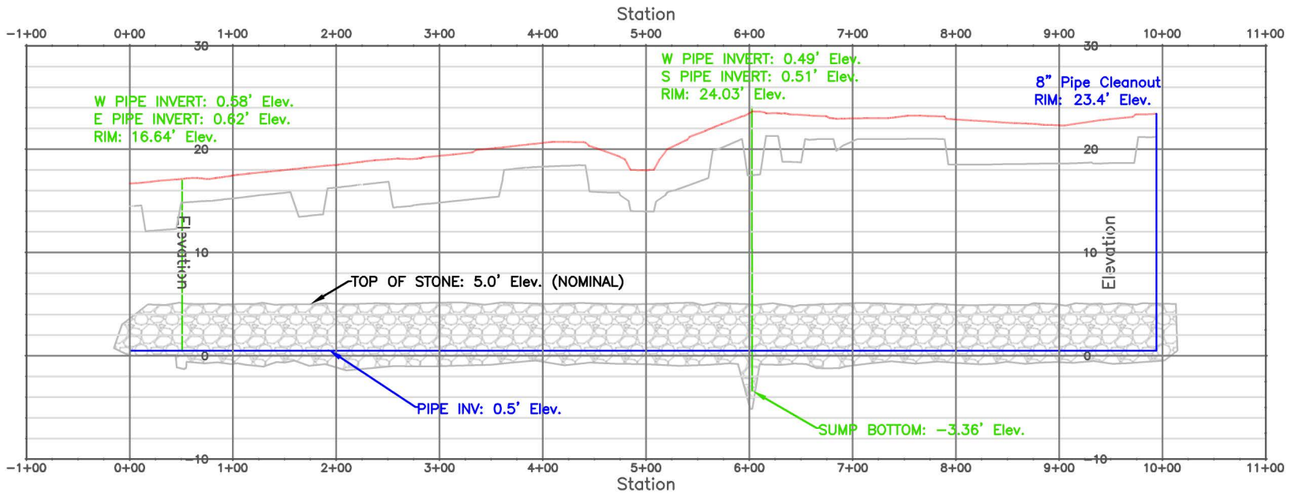
APPENDIX C

RECORD DRAWINGS AND FINAL DOCUMENTATION
(CD ONLY)

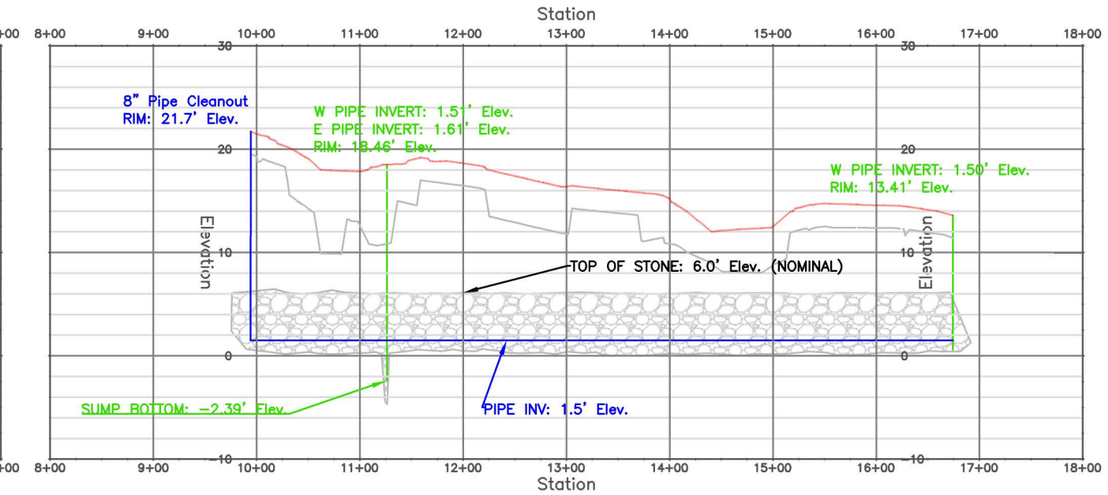
PLAN VIEW



PROFILE VIEW



PROFILE VIEW



LEGEND

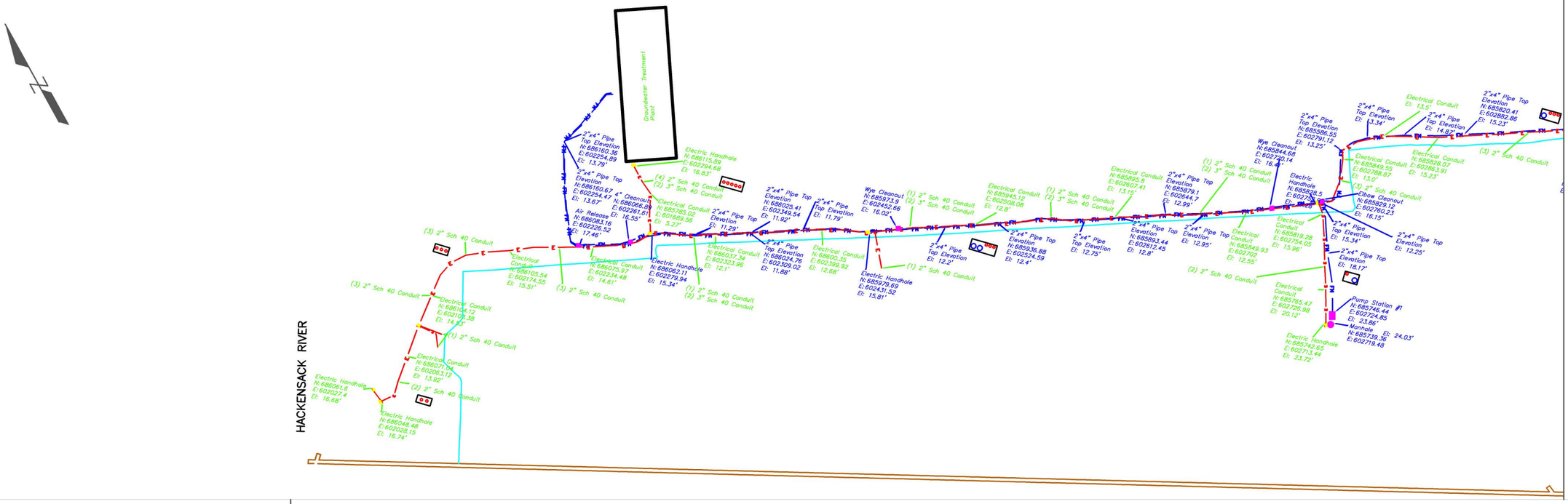
- 8" PERFORATED HDPE PIPE INVER (ELEV. TYPICAL)
- 4FT DIA. MANHOLE RISER PROFILE
- SCB WALL
- HYDRAULIC BARRIER WALL
- CAP SUBGRADE (DESIGN)
- CAP FINAL GRADE (DESIGN)
- 4FT DIA. MANHOLE
- 1.5" STONE TRENCH (WIDTH VARIES 3' MIN.)

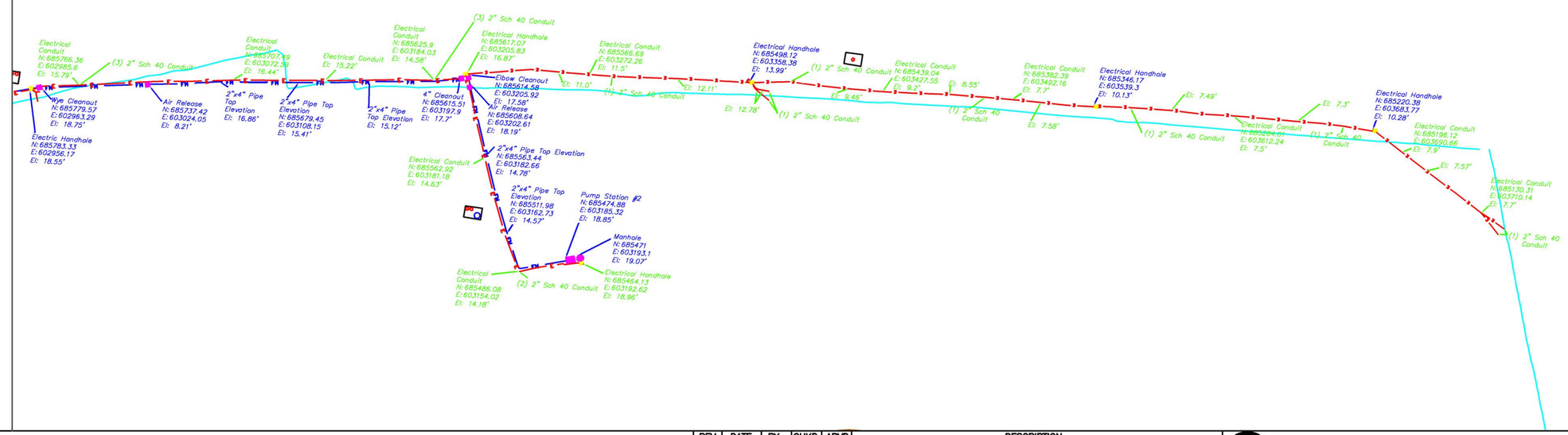
REV	DATE	BY	CHK'D	APPR'VD	DESCRIPTION
0	5/6/16	CDC	AE	AE	RECORD DRAWING
1	10/03/16	EJP	CP	CP	RECORD DRAWING
2	11/04/16	EJP	CP	CP	RECORD DRAWING

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 NORTH CAP
CONTINGENT GROUNDWATER COLLECTION TRENCH
RECORD DRAWING 11/04/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ





RECORD DRAWING - 01/06/17

LEGEND

- FORCEMAIN STATIONS
- ELECTRIC HANDHOLE
- SCB WALL
- HB WALL (Inner Edge)
- ELECTRICAL CONDUIT
- FORCEMAIN
- TEXT ELECTRICAL DESCRIPTION
- TEXT FORCEMAIN DESCRIPTION

0 80 160 Feet

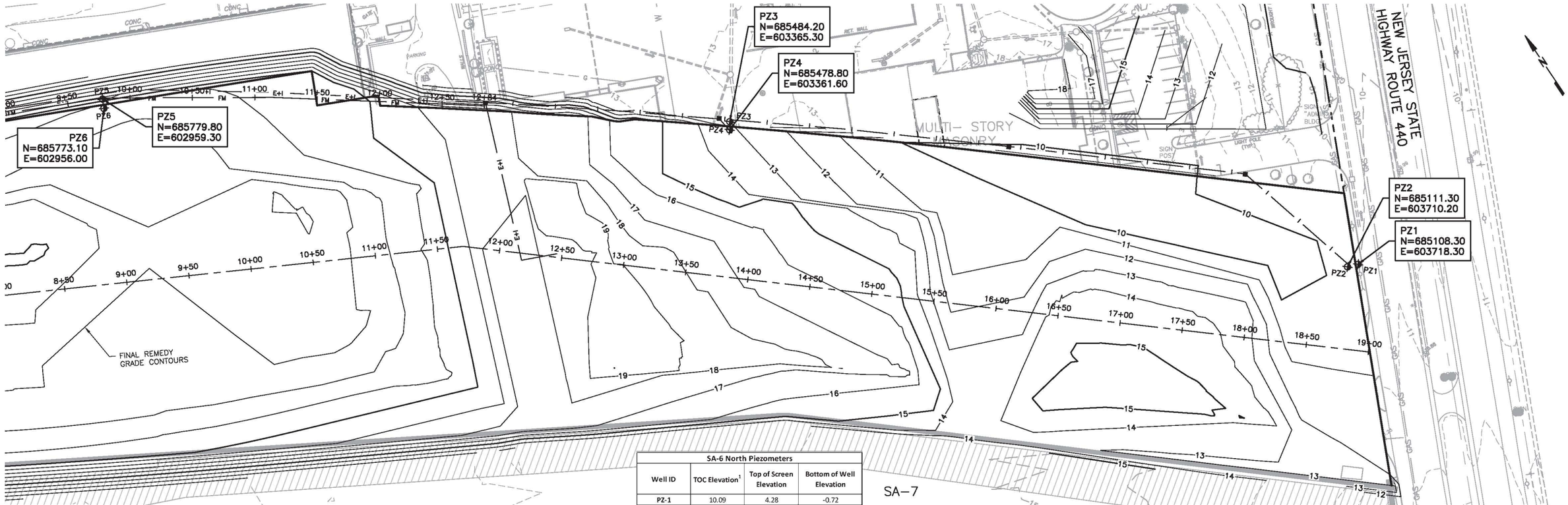
SCALE

REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	12/12/16	EJP	AE	AE	Contingent Groundwater Extraction System – NORTH CAP
1	01/06/17	EJP	AE	AE	ADDED FORCEMAIN AND CONDUIT CROSS SECTION

ENTACT 302 Unity Plaza Latrobe, PA 15650

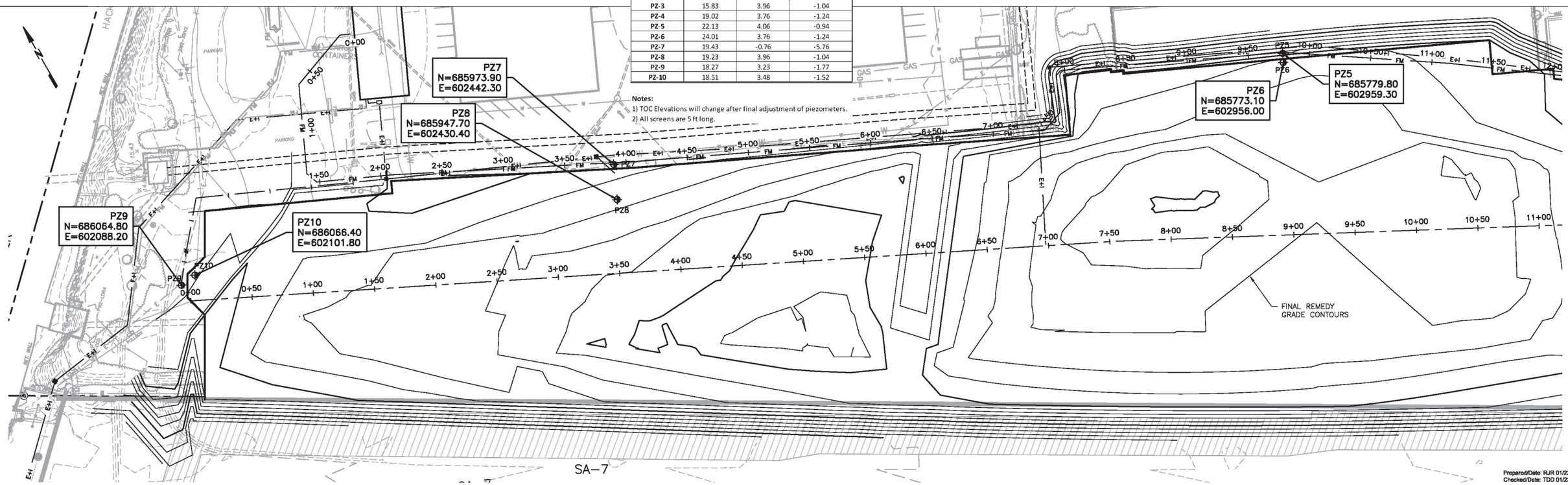
DRAWING NAME: Contingent Groundwater Extraction System NORTH CAP 01/06/17

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



SA-6 North Piezometers			
Well ID	TOC Elevation[1]	Top of Screen Elevation	Bottom of Well Elevation
PZ-1	10.09	4.28	-0.72
PZ-2	13.68	3.47	-1.53
PZ-3	15.83	3.96	-1.04
PZ-4	19.02	3.76	-1.24
PZ-5	22.13	4.06	-0.94
PZ-6	24.01	3.76	-1.24
PZ-7	19.43	-0.76	-5.76
PZ-8	19.23	3.96	-1.04
PZ-9	18.27	3.23	-1.77
PZ-10	18.51	3.48	-1.52

Notes:
1) TOC Elevations will change after final adjustment of piezometers.
2) All screens are 5 ft long.



Prepared/Date: RJR 01/23/17
Checked/Date: TDD 01/23/17

RECORD DRAWING - 01/23/17

0 20 40 80
SCALE IN FEET
HORIZONTAL SCALE

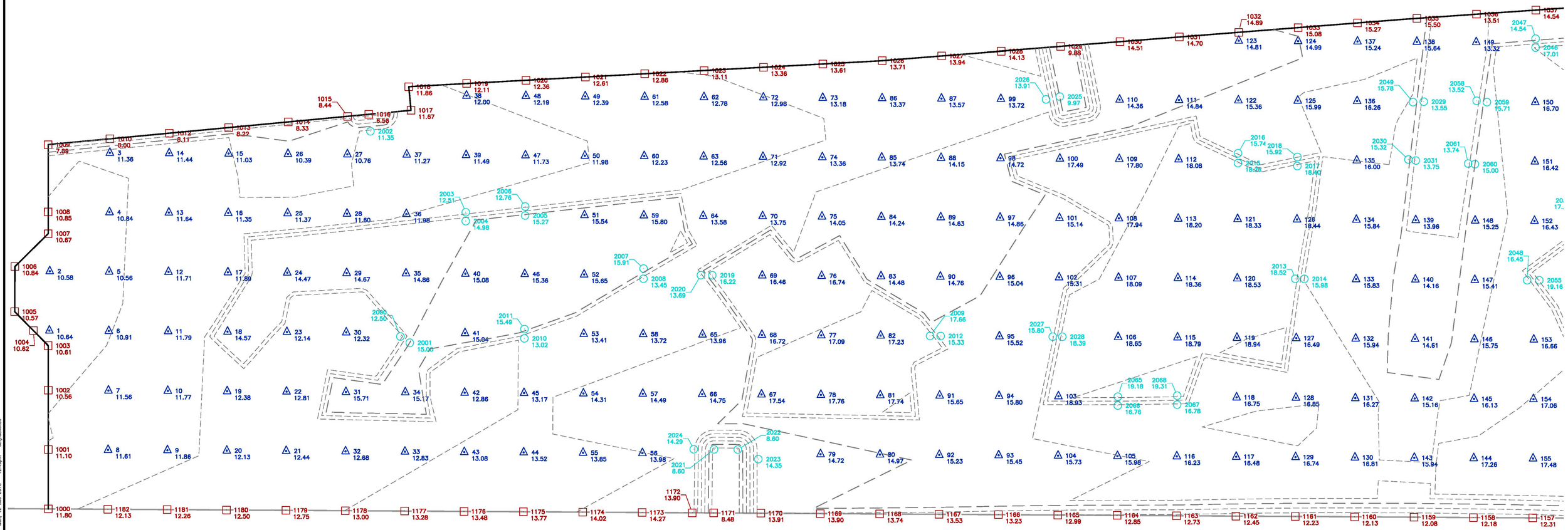
Honeywell
115 TARBOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 889 - 2929
NJ Certificate of Authorization Number 24GA28019000

Piezometer As Built Location
Project 3480-13-0377
Figure 1

Z:\Projects\HONEYWELL\JERSEY CITY\Dwg Design-SAB-CDR\DAN\SA6-North-South-DR_Excavation_Trench\Figure - Piezometer Location.dwg Tue, 14 Feb 2017 - 2:19pm roger.ripular



153 16.66 GRID POINT

2054 17.00 BREAK POINT

1157 12.31 BOUND POINT

0 10 20 40
SCALE IN FEET

DCB 054.5 – REVISED CONTROL GRID ELEVATIONS 12/12/16

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

NOTE: REFER TO FIGURE 1.3 FOR REVISED GRID POINT ELEVATION SUMMARY TABLE.

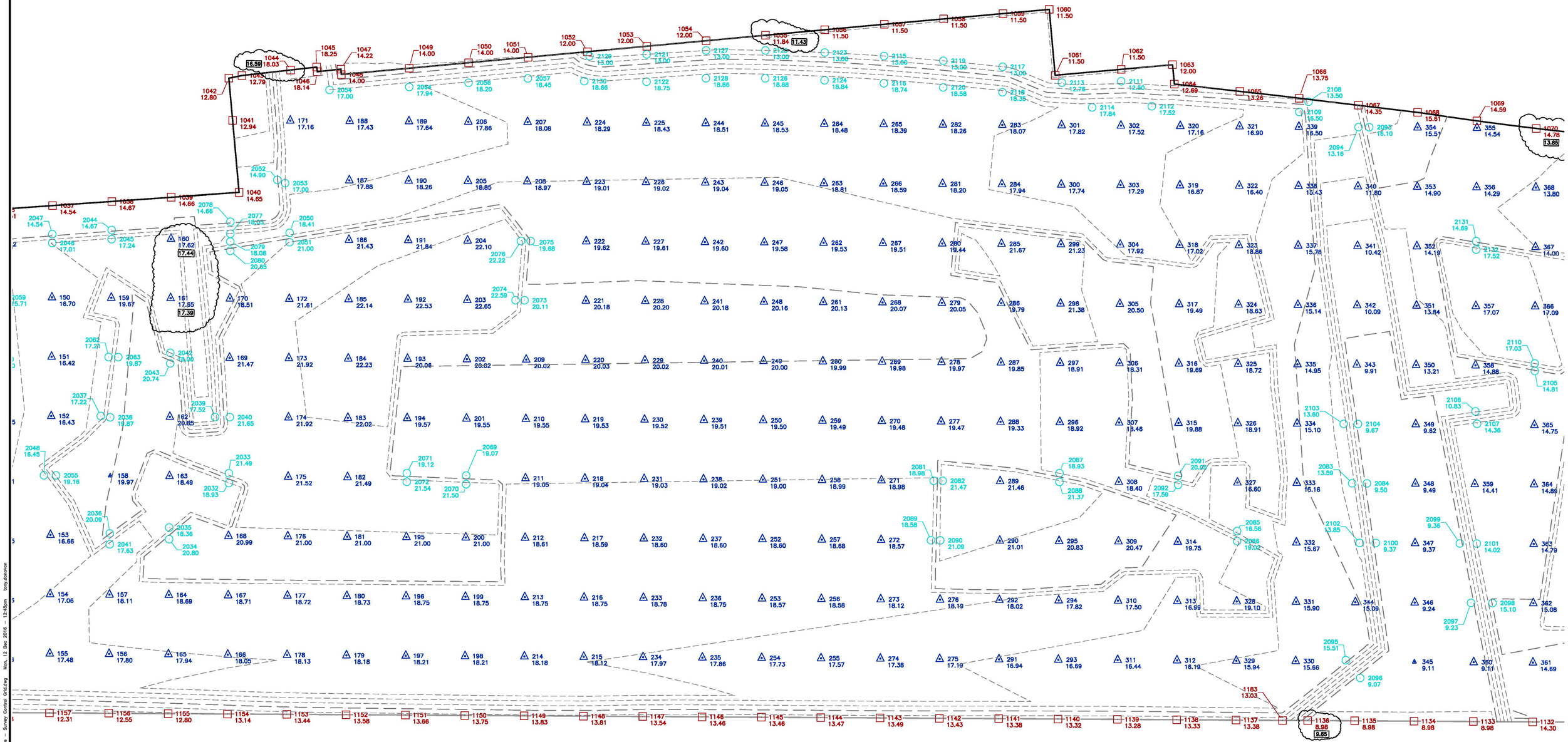
Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28001900

SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 1 OF 3
Project 3480-13-0377
Figure 1.1

C:\Donovan\SA- 6 North\2013 Excavation Surfaces\SA- 6 North Cap Surveys\Figure - Survey Control Grid.dwg Mon, 12 Dec 2016 - 12:46pm tony.donovan



GRID POINT

BREAK POINT

BOUND POINT

NOTE: REFER TO FIGURE 1.3 FOR REVISED GRID POINT ELEVATION SUMMARY TABLE.

0 10 20 40
SCALE IN FEET

DCB 054.5 – REVISED CONTROL GRID ELEVATIONS 12/12/16

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

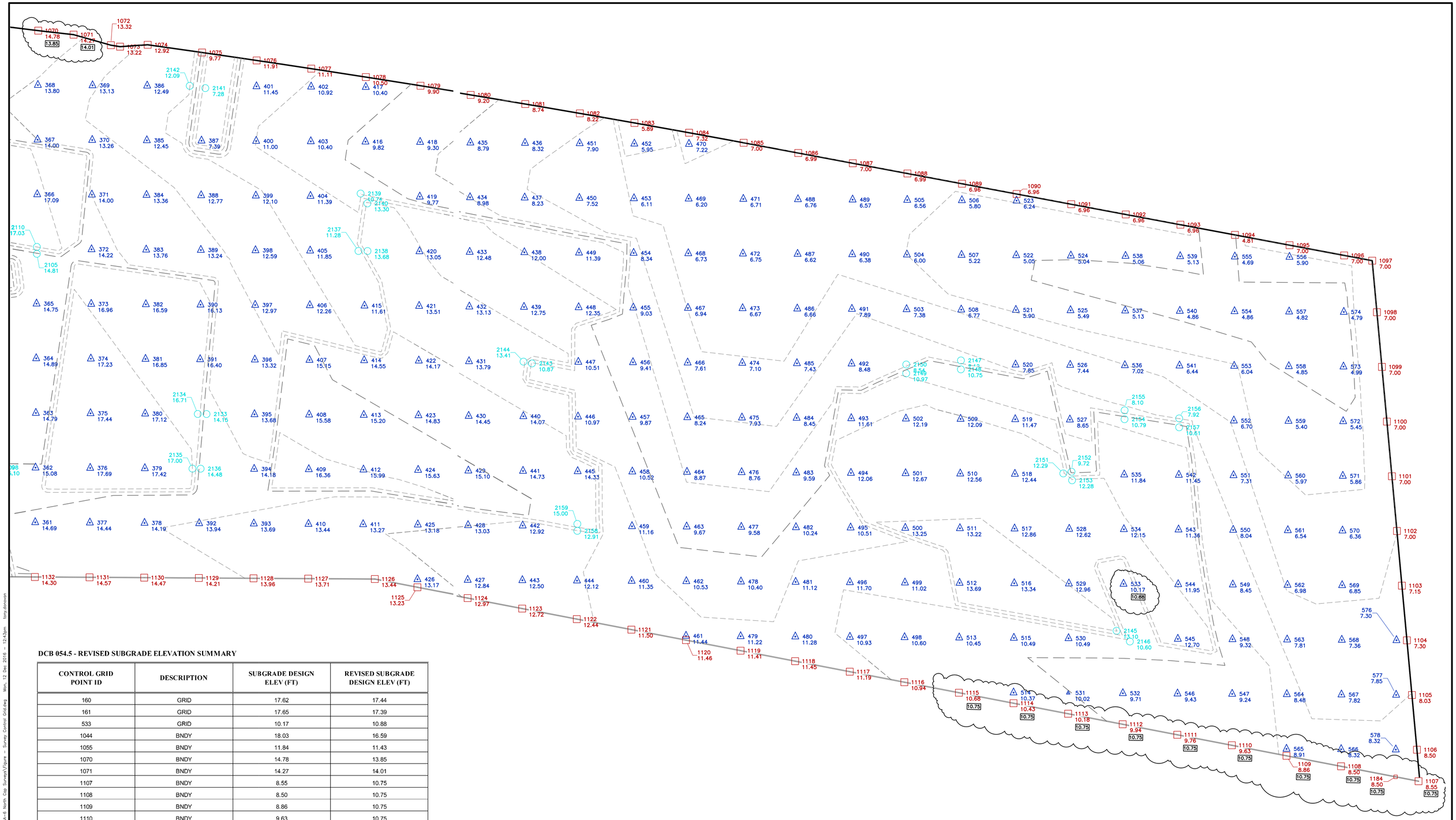
Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28019900

SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 2 OF 3
Project 3480-13-0377
Figure 1.2

C:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North Cap Surveys\Figure - Survey Control G06.dwg Mon, 12 Dec 2016 - 12:45pm tony.donovan



DCB 054.5 - REVISED SUBGRADE ELEVATION SUMMARY

CONTROL GRID POINT ID	DESCRIPTION	SUBGRADE DESIGN ELEV (FT)	REVISED SUBGRADE DESIGN ELEV (FT)
160	GRID	17.62	17.44
161	GRID	17.65	17.39
533	GRID	10.17	10.88
1044	BNDY	18.03	16.59
1055	BNDY	11.84	11.43
1070	BNDY	14.78	13.85
1071	BNDY	14.27	14.01
1107	BNDY	8.55	10.75
1108	BNDY	8.50	10.75
1109	BNDY	8.86	10.75
1110	BNDY	9.63	10.75
1111	BNDY	9.76	10.75
1112	BNDY	9.94	10.75
1113	BNDY	10.18	10.75
1114	BNDY	10.43	10.75
1115	BNDY	10.68	10.75
1136	BNDY	8.98	9.65
1184	BNDY	8.50	10.75

153 16.66 GRID POINT

2054 17.00 BREAK POINT

1157 12.31 BOUND POINT

0 10 20 40
SCALE IN FEET

DCB 054.5 – REVISED CONTROL GRID ELEVATIONS 12/12/16

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 3 OF 3
Project 3480-13-0377
Figure 1.3

O:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North Cap Surveys\Figure - Survey Control Grid.dwg Mon, 12 Dec 2016 - 12:43pm tony.donovan

LEGEND:

5 MAJOR CONTOUR
4 MINOR CONTOUR

0 20 40 80
SCALE IN FEET

GENERAL NOTES

1. *THE SOLE PURPOSE OF THIS PLAN IS TO SHOW AS-BUILT GDL COVER SOIL GRADING ELEVATIONS WITHIN THE SA6 NORTH CAP AREA AT THE PROJECT SITE.*
2. *AS-BUILT GDL COVER SOIL GRADING LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS FROM JULY 2016 THROUGH SEPT. 2016*
3. *HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.*

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS38737

NO.	DATE	REVISION	BY	APVD
DSGN	DR	CHK	APVD	

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 NORTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
NORTH CAP GDL COVER
SOIL GRADING PLAN

FILE NUMBER
12001511A

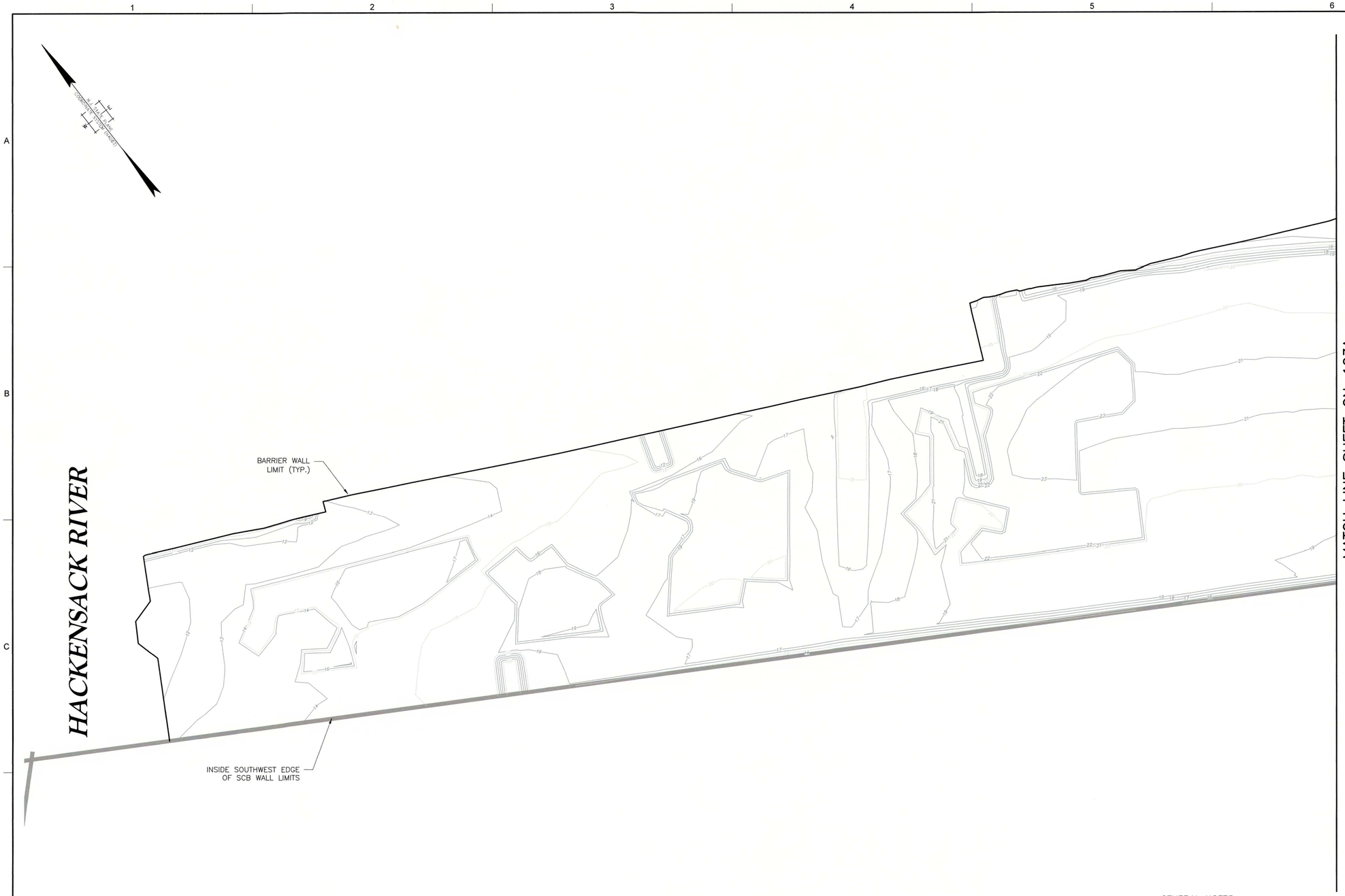
amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 3825

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 159 STAGECOACH ROAD - MARMORA, NJ 08223

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	11/16/16
PROJ	3480-10-0027
DWG	CN-123A
SHEET	1 OF 2

FILE NAME: C:\Civil 3D Projects\2012\12001511A\Survey\NORTH CAP GDL COVER SOIL SURVEY-11-16-16.dwg PLOT DATE: Tue, 31 Jan 2017 PLOT TIME: 12:10 PM



LEGEND:

5 MAJOR CONTOUR
4 MINOR CONTOUR

0 20 40 80
SCALE IN FEET

GENERAL NOTES

1. *THE SOLE PURPOSE OF THIS PLAN IS TO SHOW AS-BUILT GDL COVER SOIL GRADING ELEVATIONS WITHIN THE SA6 NORTH CAP AREA AT THE PROJECT SITE.*
2. *AS-BUILT GDL COVER SOIL GRADING LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS FROM JULY 2016 THROUGH SEPT. 2016*
3. *HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.*

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 080223

FILE NUMBER 12001511A

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
NORTH CAP GDL COVER
SOIL GRADING PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 Horizon Center Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	11/16/16
PROJ	3480-10-0027
DWG	CN-124A
SHEET	2 OF 2

Honeywell
101 COLUMBIA RD., BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 NORTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

NO.	DATE	REVISION	BY	APVD
DSGN	DR	CHK	APVD	

R. THOMAS HUGG

N.J PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS38737

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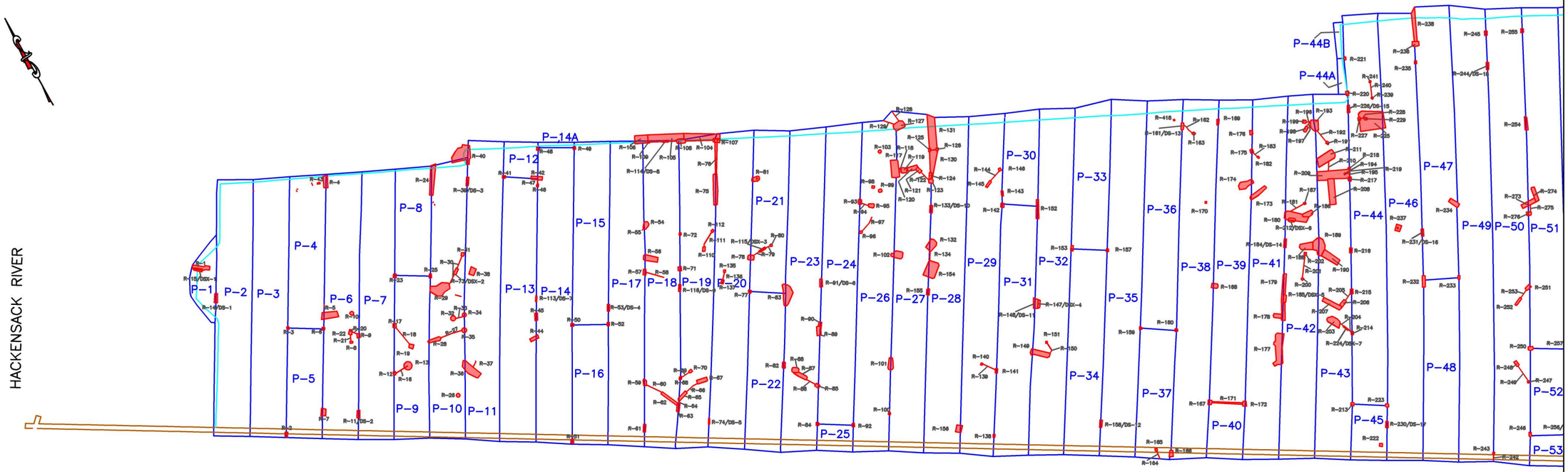
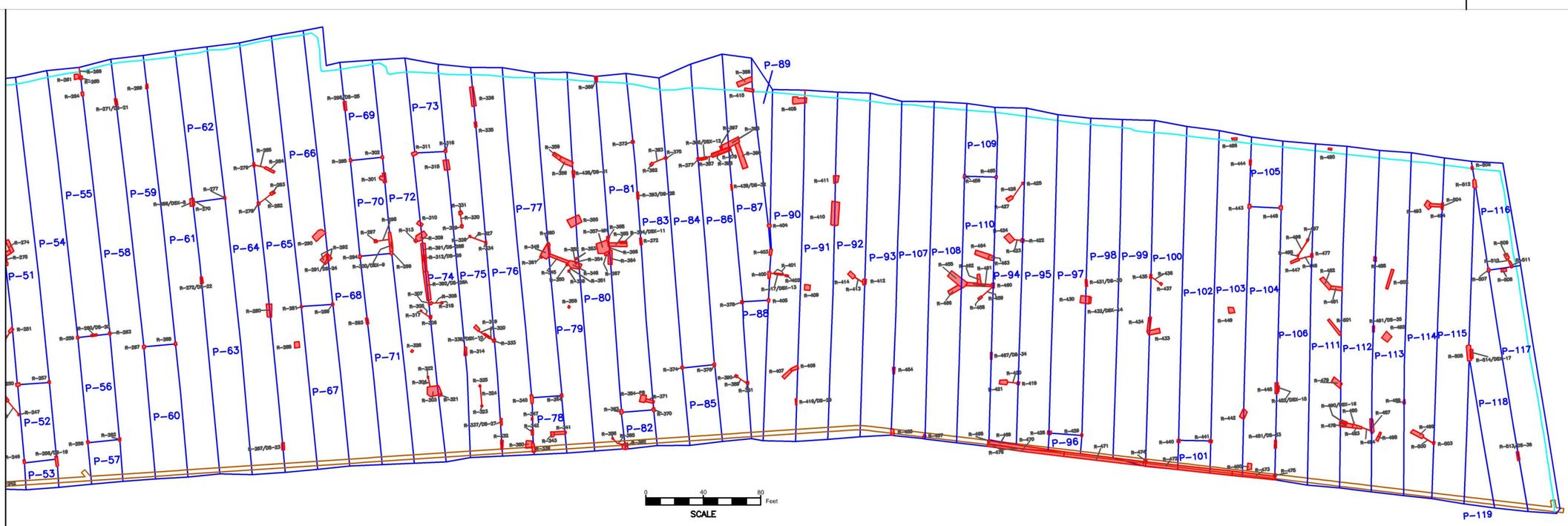
FILE NAME: C:\Civil 3D Projects\2012\12001511A\Survey\NORTH CAP GDL COVER SOIL SURVEY-11-16-16.dwg PLOT DATE: Tue, 31 Jan 2017 PLOT TIME: 1:27 PM





LEGEND

- R-1 (Repair Number)
- LINER SEAM/EDGE
- SCB WALL
- HB WALL (Inner Edge)

R: Repair
DSX: Destructive Extrusion Weld Test
DS: Destructive Fusion Weld Test
P: Panel

NOTE: Drawing details are schematic in nature. Actual seam locations and repair dimensions may vary due to the geomembrane grading. Repair locations are recorded in the repair logs.

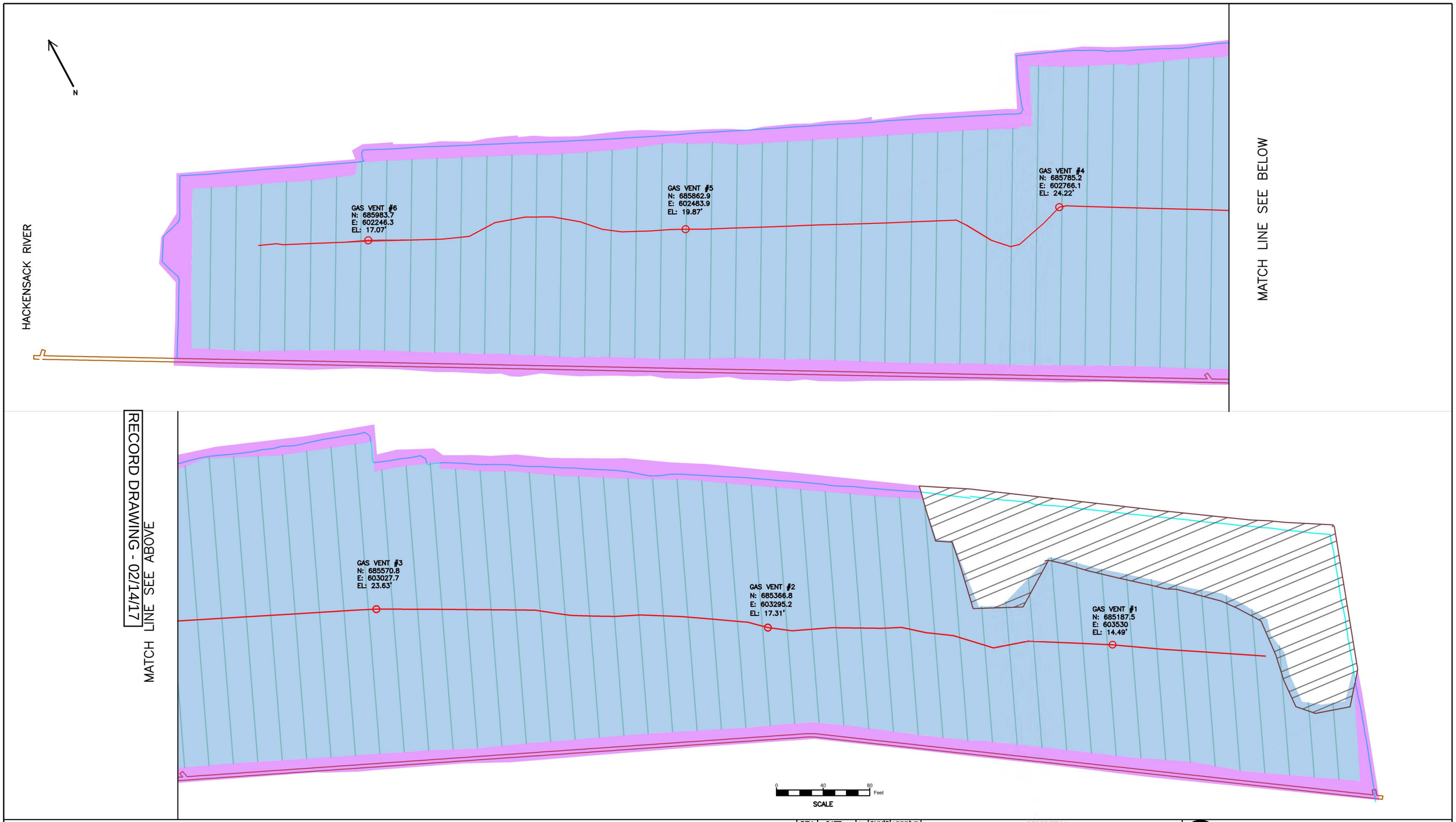
NOTE: Refer to ESI Repair Report for repair details

REV	DATE	BY	CHK'D	APPRV'D	DESCRIPTION
0	10/27/16	EP	CP	CP	RECORD DRAWING
1	11/04/16	EP	CP	CP	RECORD DRAWING
2	11/18/16	EP	CP	CP	RECORD DRAWING

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 NORTH CAP PANEL LAYOUT
60 mil Textured LLDPE Geomembrane
11/18/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



LEGEND

- CLASS A/16 OZ GEOTEXTILE
- GEOCOMPOSITE GAS VENT LAYER (GVL)
- GEOSYNTHETIC CLAY LINER (GCL)
- GAS VENT (NOT TO SCALE)
- GAS VENT PIPE
- SCB WALL
- HB WALL (Inner Edge)

NOTE: Drawing is schematic in nature. Actual seam locations may vary due to the geomembrane grading.

REV	DATE	BY	CHK'D	APPR'VD	DESCRIPTION
0	10/27/16	EP	CP	CP	RECORD DRAWING
1	11/04/16	EP	CP	CP	RECORD DRAWING
2	11/21/16	EP	CP	CP	RECORD DRAWING
3	11/29/16	EP	CP	CP	RECORD DRAWING
4	02/14/16	EP	CP	CP	RECORD DRAWING

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 NORTH CAP GVL/GCL Layout
Class A Geotextile/Gas Vent Layer/Geosynthetic Clay Liner
02/14/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

LEGEND

- GEOCOMPOSITE DRAINAGE LAYER (GDL)
- CAP SUBGRADE CONTOUR
- SCB WALL
- HB WALL (Inner Edge)

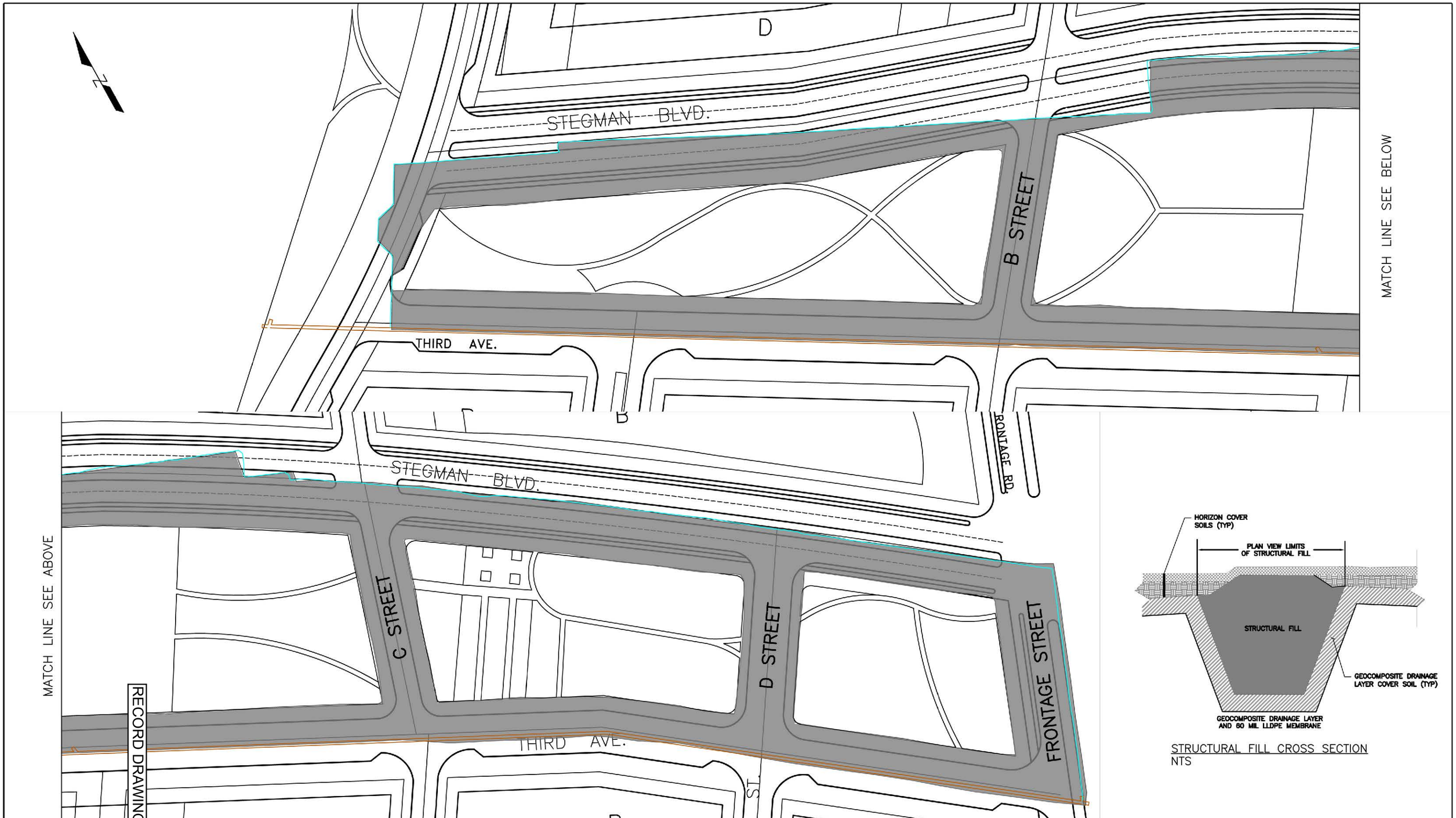
NOTE: Drawing is schematic in nature. Actual seam locations may vary due to geomembrane grading.

REV	DATE	BY	CHK'D	APPR'VD	DESCRIPTION
0	10/27/16	EP	CP	CP	RECORD DRAWING
1	11/04/16	EP	CP	CP	RECORD DRAWING

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SA6 NORTH CAP PANEL LAYOUT GEOCOMPOSITE DRAINAGE LAYER 11/04/16

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



STRUCTURAL FILL CROSS SECTION
NTS

LEGEND

- Structural Fill Under Roadways
- SCREEN WALL
- HB WALL (Inner Edge)

0 80 160 Feet
SCALE

REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	12/7/16	EJP	AE	AE	STRUCTURAL FILL UNDER ROADWAYS – NORTH CAP
1	12/15/16	EJP	AE	AE	ADDED FUTURE DEVELOPMENT LAYOUT & STRUCTURAL FILL X-SECTION

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: Structural Fill Under Roadways NORTH CAP 12/15/16

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

LEGEND:

5 MAJOR CONTOUR
4 MINOR CONTOUR

0 20 40 80
SCALE IN FEET

GENERAL NOTES

1. *THE SOLE PURPOSE OF THIS PLAN IS TO SHOW AS-BUILT GDL COVER SOIL GRADING ELEVATIONS WITHIN THE SA6 NORTH CAP AREA AT THE PROJECT SITE.*
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3. *HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.*

NOTE: ROOT BARRIER INSTALLED DIRECTLY ON THE AS-BUILT GDL COVER SOIL CONTOURS SHOWN ON THIS DRAWING

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 159 STAGECOACH ROAD - MARMORA, NJ 08223

FILE NUMBER 12001511A

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
NORTH CAP GDL COVER
SOIL GRADING PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ. 08619
(609) 587 - 2829

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	11/16/16
PROJ	3480-10-0027
DWG	CN-123A
SHEET	1 OF 2

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 NORTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

NO.	DATE	REVISION	BY	APVD
DSGN	DR	CHK	APVD	

R. THOMAS HUGG
N.J. PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS38737

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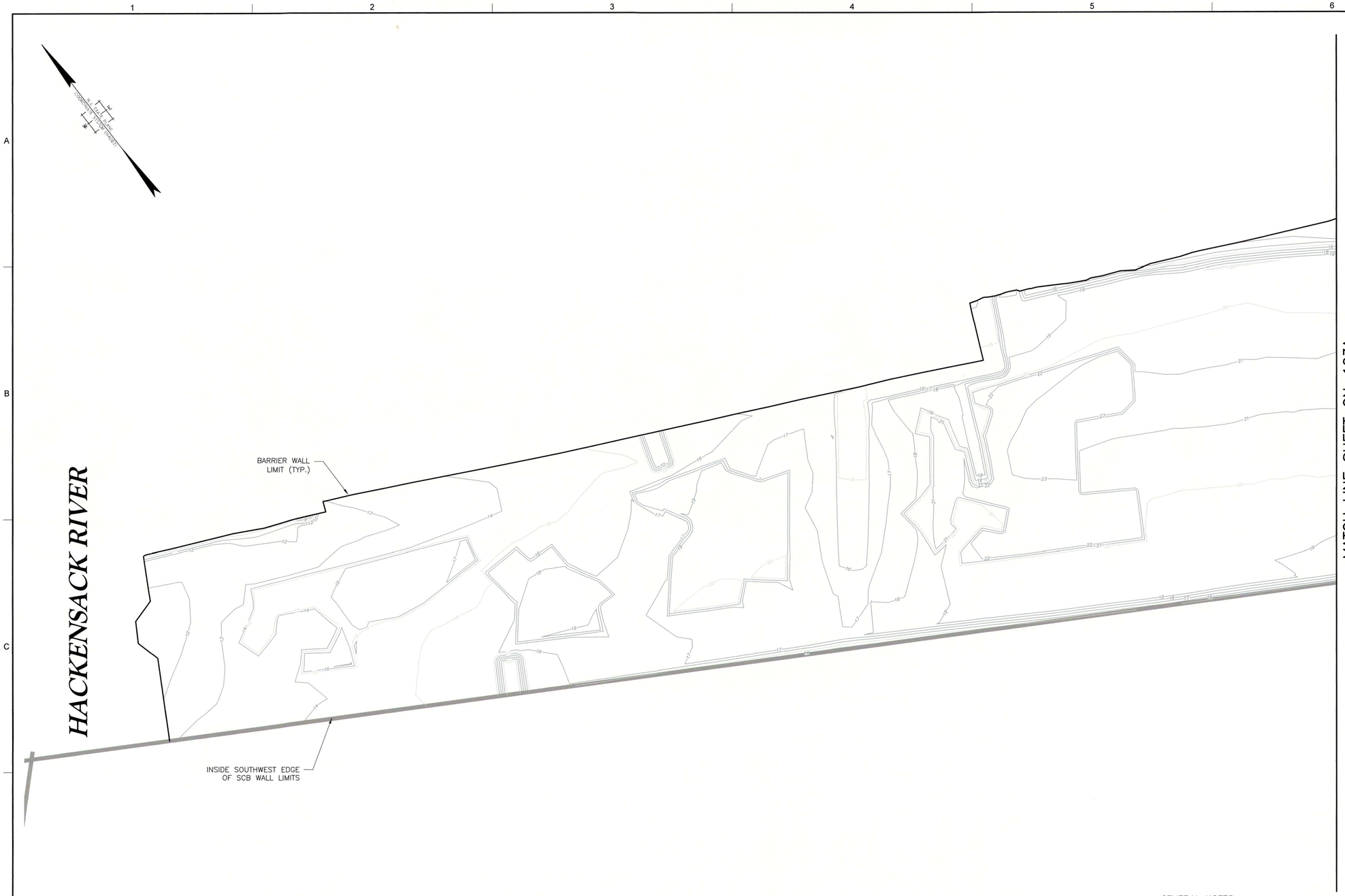

LEGEND:

5 — MAJOR CONTOUR
4 — MINOR CONTOUR

0 20 40 80
SCALE IN FEET

GENERAL NOTES

1. *THE SOLE PURPOSE OF THIS PLAN IS TO SHOW AS-BUILT GDL COVER SOIL GRADING ELEVATIONS WITHIN THE SA6 NORTH CAP AREA AT THE PROJECT SITE.*
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FILE NUMBER 12001511A

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
NORTH CAP GDL COVER
SOIL GRADING PLAN

amec foster wheeler
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200 Horizon Center Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2929

VERIFY SCALE
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0 1"

DATE	11/16/16
PROJ	3480-10-0027
DWG	CN-124A
SHEET	2 OF 2

Honeywell
101 COLUMBIA RD., BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 NORTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

NO.	DATE	REVISION	BY	APVD

DSGN DR CHK APVD

R. THOMAS HUGG

NJ PROFESSIONAL LAND SURVEYOR LICENSE NUMBER GS38737

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FILE NAME: C:\Civil 3D Projects\2012\12001511A\Survey\NORTH CAP GDL COVER SOIL SURVEY-11-16-16.dwg PLOT DATE: Tue, 31 Jan 2017 PLOT TIME: 1:27 PM

1.0 Field Density Test Summary Log

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-01-1	7/13/2016	686056.7	602102.5	11.70	107.6	7.8	117	8.6	92.0	90	1	GDL Cover Soil		V5N
1	CS-02-1	7/13/2016	686078.8	602160.6	12.30	111.1	7.5	117	8.6	95.0	90	1	GDL Cover Soil		V5N
1	CS-03-1	7/13/2016	686035.6	602132.4	12.50	107.5	7.8	117	8.6	92.0	90	1	GDL Cover Soil		V5N
1	CS-04-1	7/13/2016	685983.2	602018.1	12.90	111.1	7.5	117	8.6	95.0	90	1	GDL Cover Soil		V5N
1	CS-05-1	7/13/2016	685959.4	602142.7	13.50	110	7.5	117	8.6	94.0	90	1	GDL Cover Soil		V5N
1	CS-06-1	7/13/2016	685999.9	602165.7	15.70	112.15	7	117	8.6	96.0	90	1	GDL Cover Soil		V5N
1	CS-07-1	7/13/2016	686052.5	602190.6	12.30	110	8.4	117	8.6	94.0	90	1	GDL Cover Soil		V5N
1	CS-08-1	7/13/2016	685932.8	602188.2	14.00	107.5	7.8	117	8.6	91.9	90	2	GDL Cover Soil		V5N
1	CS-09-1	7/13/2016	685996.5	602222	15.90	108.16	8.3	117	8.6	93.0	90	2	GDL Cover Soil		V5N
1	CS-10-1	7/13/2016	686031.2	602252.7	12.40	111.1	7.2	117	8.6	95.0	90	2	GDL Cover Soil		V5N
1	CS-11-1	7/18/2016	686019.3	602311.2	13.10	121.1	5.2	117	8.6	103.5	90	3	GDL Cover Soil		V5N
1	CS-12-1	7/18/2016	686002.8	602277.9	13.00	116.6	5.3	117	8.6	99.7	90	3	GDL Cover Soil		V5N
1	CS-13-1	7/18/2016	685956.2	602253.6	16.30	115.9	5.1	117	8.6	99.1	90	3	GDL Cover Soil		V5N
1	CS-14-1	7/18/2016	685902.6	602234.8	14.50	117.2	7.9	117	8.6	100.2	90	3	GDL Cover Soil		V5N
1	SF-01-1	7/18/2016	686054.2	602111.9	13.40	117.5	3.9	112.2	9.7	104.7	95	1	Structural Fill	Final Elevation	V5N
1	SF-02-1	7/18/2016	686072.1	602155.3	13.41	118.1	1.8	112.2	9.7	105.3	95	1	Structural Fill		V5N
2	SF-02-2	7/18/2016	686067.9	602166.2	13.80	113.1	2.5	112.2	9.7	100.8	95	1	Structural Fill	Final Elevation	V5N
1	SF-03-1	7/18/2016	686058.0	602202.1	13.40	114.9	1.6	112.2	9.7	102.4	95	1	Structural Fill		V5N
1	SF-04-1	7/18/2016	686035.3	602247.1	13.30	115.0	2.2	112.2	9.7	102.5	95	2	Structural Fill		V5N
1	HC-24-1	8/29/2016	685713.6	602653.3	21.60	115.4	8.5	126	9.5	91.6	90	6	Horizon C	Back Scatter	V5N
1	HC-25-1	8/29/2016	685766.9	602684.5	18.80	116.7	8.8	126	9.5	92.6	90	6	Horizon C	Back Scatter	V5N
1	HC-26-1	8/29/2016	685809.6	602705.3	18.70	118.9	8.4	126	9.5	94.4	90	6	Horizon C	Back Scatter	V5N
1	HC-92-1	9/16/2016	685103.9	603560.3	13.90	105.7	7.5	126	9.5	83.9	90	12	Horizon C	HC-92-1R (Page 8)	V5N
1	HC-01-1	7/20/2016	686011.1	602089.8	12.90	120.5	5.2	126	9.5	95.6	90	1	Horizon C	Back Scatter	V5N
1	SF-12-1	7/20/2016	685987.4	602075.7	13.50	107.0	3.8	112.2	9.7	95.4	95	1	Structural Fill		V5N
1	SF-13-1	7/20/2016	685963.8	602121.8	14.20	107.6	3.7	112.2	9.7	95.9	95	1	Structural Fill		V5N
1	SF-14-1	7/20/2016	685931.2	602176.8	14.90	108.5	3.5	112.2	9.7	96.7	95	2	Structural Fill		V5N
1	CS-15-1	7/22/2016	685859.2	602274.7	15.30	113.6	5.3	117	8.6	97.1	90	3	GDL Cover Soil		V5N
1	CS-16-1	7/22/2016	685889.8	602275.9	15.50	115.1	7.5	117	8.6	98.4	90	3	GDL Cover Soil		V5N
1	CS-17-1	7/22/2016	685930.0	602308.4	16.90	114.7	5.2	117	8.6	98.0	90	3	GDL Cover Soil		V5N
1	CS-18-1	7/22/2016	685978.5	602322.4	13.70	115.2	6.3	117	8.6	98.5	90	3	GDL Cover Soil		V5N
1	CS-19-1	7/22/2016	685995.4	602358.6	13.60	112.3	7.3	117	8.6	96.0	90	3	GDL Cover Soil		V5N
1	CS-20-1	7/22/2016	685974.2	602407.6	14.20	110.5	8.5	117	8.6	94.4	90	3	GDL Cover Soil		V5N
1	CS-21-1	7/22/2016	685955.3	602367.3	14.20	115.2	4.6	117	8.6	98.5	90	3	GDL Cover Soil		V5N
1	CS-22-1	7/22/2016	685908.8	602343.5	15.00	121.8	9.2	117	8.6	104.1	90	3	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-23-1	7/22/2016	685867.1	602319.4	16.10	113.1	5.3	117	8.6	96.7	90	3	GDL Cover Soil		V5N
1	HC-02-1	7/20/2016	685997.1	602121.8	13.40	120.0	5.0	126	9.5	95.2	90	1	Horizon C	Back Scatter	V5N
1	HC-03-1	7/20/2016	686032.1	602156.7	12.40	119.3	5.6	126	9.5	94.7	90	1	Horizon C	Back Scatter	V5N
2	SF-03-2	7/22/2016	686050.7	602208.4	14.20	114.8	1.7	112.2	9.7	102.3	95	1	Structural Fill	Final Elevation	V5N
2	SF-04-2	7/22/2016	686035.2	602238.3	14.20	115.6	1.4	112.2	9.7	103.0	95	1	Structural Fill	Final Elevation	V5N
1	HC-04-1	7/20/2016	686008.8	602201.9	16.20	122.0	5.4	126	9.5	96.8	90	1	Horizon C	Back Scatter	V5N
1	HC-05-1	7/20/2016	685970.9	602168.3	14.40	119.5	5.6	126	9.5	94.8	90	1	Horizon C	Back Scatter	V5N
1	SF-05-1	7/28/2016	686021.4	602296.2	14.40	107.5	8.2	112.2	9.7	95.8	95	3	Structural Fill	Final Elevation	V5N
2	SF-12-2	7/28/2016	685986.7	602075.0	14.00	108.8	7.5	112.2	9.7	97.0	95	1	Structural Fill	Final Elevation	V5N
2	SF-13-2	7/28/2016	685958.4	602125.9	15.00	107.6	8.0	112.2	9.7	95.9	95	1	Structural Fill	Final Elevation	V5N
1	SF-15-1	7/28/2016	685894.5	602235.3	15.80	106.7	8.3	112.2	9.7	95.1	95	3	Structural Fill		V5N
1	CS-24-1	8/3/2016	685812.8	602367.6	16.10	108.1	8.3	117	8.6	92.4	90	4	GDL Cover Soil		V5N
1	CS-25-1	8/3/2016	685841.8	602355.4	16.40	107.6	8.9	117	8.6	92.0	90	4	GDL Cover Soil		V5N
1	CS-26-1	8/3/2016	685887.8	602387.1	18.10	108.9	8.8	117	8.6	93.1	90	4	GDL Cover Soil		V5N
1	CS-27-1	8/3/2016	685931.8	602410.4	15.10	107.6	9.5	117	8.6	92.0	90	4	GDL Cover Soil		V5N
1	CS-28-1	8/3/2016	685951.7	602456.4	14.70	108.9	8.5	117	8.6	93.1	90	4	GDL Cover Soil		V5N
1	CS-29-1	8/3/2016	685908.7	602454.7	15.80	110.0	6.5	117	8.6	94.0	90	4	GDL Cover Soil		V5N
1	CS-30-1	8/3/2016	685864.2	602431.3	16.00	107.6	8.8	117	8.6	92.0	90	4	GDL Cover Soil		V5N
1	CS-31-1	8/3/2016	685820.3	602408.9	16.90	110.0	6.1	117	8.6	94.0	90	4	GDL Cover Soil		V5N
1	HC-06-1	7/22/2016	685943.5	602217.1	16.60	121.2	8.2	126	9.5	96.2	90	1	Horizon C	Back Scatter	V5N
1	HC-07-1	7/22/2016	685985.9	602241.3	16.50	123.9	10.2	126	9.5	98.3	90	1	Horizon C	Back Scatter	V5N
1	HC-08-1	7/28/2016	685953.9	602285.9	17.12	114.2	8.9	126	9.5	90.6	90	2	Horizon C	Back Scatter	V5N
1	HC-09-1	7/28/2016	685921.7	602262.1	15.00	113.5	9.2	126	9.5	90.1	90	2	Horizon C	Back Scatter	V5N
1	HC-10-1	8/5/2016	685897.1	602316.3	15.80	117.5	8.2	126	9.5	93.3	90	2	Horizon C	Back Scatter	V5N
1	HC-11-1	8/5/2016	685939.6	602343.2	17.70	119.5	7.1	126	9.5	94.8	90	3	Horizon C	Back Scatter	V5N
1	SF-06-1	8/5/2016	686001.6	602337.9	14.70	110.0	2.3	112.2	9.7	98.0	95	3	Structural Fill	Final Elevation	V5N
1	SF-07-1	8/5/2016	685981.7	602383.3	15.20	111.0	1.1	112.2	9.7	98.9	95	3	Structural Fill	Final Elevation	V5N
2	SF-14-2	8/5/2016	685921.2	602172.6	15.20	110.0	1.8	112.2	9.7	98.0	95	2	Structural Fill	Final Elevation	V5N
2	SF-15-2	8/5/2016	685896.6	602231.8	16.40	110.0	1.8	112.2	9.7	98.0	95	3	Structural Fill	Final Elevation	V5N
1	SF-16-1	8/5/2016	685843.1	602309.5	16.40	111.0	1.1	112.2	9.7	98.9	95	3	Structural Fill	Final Elevation	V5N
1	CS-32-1	8/10/2016	685796.3	602441.1	17.30	106.1	8.8	117	8.6	90.7	90	4	GDL Cover Soil		V5N
1	CS-33-1	8/10/2016	685845.9	602479.3	16.50	105.6	10.0	117	8.6	90.3	90	5	GDL Cover Soil		V5N
1	CS-34-1	8/10/2016	685890.1	602491.3	18.50	105.9	7.2	117	8.6	90.5	90	5	GDL Cover Soil		V5N
1	CS-35-1	8/10/2016	685926.5	602522.2	11.00	108.3	9.6	117	8.6	92.6	90	5	GDL Cover Soil		V5N
1	CS-36-1	8/10/2016	685910.8	602551.9	15.70	105.9	9.8	117	8.6	90.5	90	5	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-37-1	8/10/2016	685859.0	602544.1	19.20	110.0	7.8	117	8.6	94.0	90	5	GDL Cover Soil		V5N
1	CS-38-1	8/10/2016	685818.5	602520.0	19.60	106.0	10.2	117	8.6	90.6	90	5	GDL Cover Soil		V5N
1	CS-39-1	8/10/2016	685771.2	602499.5	17.90	106.0	10.2	117	8.6	90.6	90	5	GDL Cover Soil		V5N
1	CS-40-1	8/10/2016	685761.7	602455.7	17.10	112.2	7.8	117	8.6	95.9	90	5	GDL Cover Soil		V5N
1	CS-41-1	8/10/2016	685727.7	602509.9	17.80	105.6	9.2	117	8.6	90.3	90	5	GDL Cover Soil		V5N
1	CS-42-1	8/10/2016	685750.8	602543.2	17.90	105.6	8.9	117	8.6	90.3	90	5	GDL Cover Soil		V5N
1	CS-43-1	8/10/2016	685790.6	602568.0	17.10	106.0	8.9	117	8.6	90.6	90	5	GDL Cover Soil		V5N
1	CS-44-1	8/10/2016	685829.9	602580.0	19.50	112.5	7.8	117	8.6	96.2	90	5	GDL Cover Soil		V5N
1	CS-45-1	8/10/2016	685883.5	602613.3	16.10	105.5	9.2	117	8.6	90.2	90	5	GDL Cover Soil		V5N
1	SF-08-1	8/10/2016	685947.6	602444.5	15.50	107.6	5.6	112.2	9.7	95.9	95	4	Structural Fill	Final Elevation	V5N
1	HC-12-1	8/5/2016	685923.2	602385.8	15.60	118.5	9.6	126	9.5	94.0	90	3	Horizon C	Back Scatter	V5N
1	HC-13-1	8/5/2016	685878.4	602355.3	18.70	116.5	11.6	126	9.5	92.5	90	3	Horizon C	Back Scatter	V5N
1	HC-14-1	8/5/2016	685857.5	602397.8	19.00	116.5	10.6	126	9.5	92.5	90	3	Horizon C	Back Scatter	V5N
1	HC-15-1	8/5/2016	685901.5	602426.6	16.00	117.5	8.9	126	9.5	93.3	90	3	Horizon C	Back Scatter	V5N
1	HC-16-1	8/11/2016	685877.5	602467.2	16.50	119.8	4.5	126	9.5	95.1	90	3	Horizon C	Back Scatter	V5N
1	SF-09-1	8/11/2016	685919.3	602481.2	16.30	107.8	5.2	112.2	9.7	96.1	95	4	Structural Fill	Final Elevation	V5N
1	SF-18-1	8/11/2016	685796.5	602421.3	18.00	107.8	5.0	112.2	9.7	96.1	95	4	Structural Fill		V5N
1	SF-19-1	8/11/2016	685765.4	602477.7	18.70	108.5	5.2	112.2	9.7	96.7	95	5	Structural Fill		V5N
1	CS-46-1	8/16/2016	685858.5	602654.7	16.70	106.7	5.4	117	8.6	91.2	90	6	GDL Cover Soil		V5N
1	CS-47-1	8/16/2016	685816.0	602640.9	14.90	117.6	6.3	117	8.6	100.5	90	6	GDL Cover Soil	Start Reduced Frequency	V5N
1	CS-48-1	8/16/2016	685772.5	602607.5	15.30	118.0	7.6	117	8.6	100.9	90	6	GDL Cover Soil		V5N
1	CS-49-1	8/16/2016	685725.8	602586.9	16.30	115.6	7.1	117	8.6	98.8	90	6	GDL Cover Soil		V5N
1	CS-50-1	8/16/2016	685696.7	602558.7	17.20	116.2	5.8	117	8.6	99.3	90	6	GDL Cover Soil		V5N
1	CS-51-1	8/16/2016	685666.9	602613.2	18.90	112.5	4.4	117	8.6	96.2	90	6	GDL Cover Soil		V5N
1	CS-52-1	8/16/2016	685706.9	602626.6	18.00	118.2	5.7	117	8.6	101.0	90	6	GDL Cover Soil		V5N
1	CS-53-1	8/16/2016	685738.4	602639.4	17.60	114.5	6.7	117	8.6	97.9	90	6	GDL Cover Soil		V5N
1	CS-54-1	8/16/2016	685793.1	602675.7	17.50	113.7	6.0	117	8.6	97.2	90	6	GDL Cover Soil		V5N
1	CS-55-1	8/16/2016	685830.0	602699.4	15.70	113.0	8.9	117	8.6	96.6	90	6	GDL Cover Soil		V5N
1	CS-94-1	8/19/2016	685064.3	603656.9	7.50	109.8	5.4	117	8.6	93.8	90	7	GDL Cover Soil		V5N
1	CS-95-1	8/19/2016	685177.8	603698.4	6.20	113.7	7.9	117	8.6	97.2	90	7	GDL Cover Soil		V5N
1	HC-17-1	8/11/2016	685824.6	602442.2	17.50	122.7	6.4	126	9.5	97.4	90	3	Horizon C	Back Scatter	V5N
1	HC-18-1	8/11/2016	685791.3	602476.8	20.80	118.5	5.8	126	9.5	94.0	90	3	Horizon C	Back Scatter	V5N
1	HC-19-1	8/11/2016	685833.9	602502.6	19.80	124.1	5.3	126	9.5	98.5	90	3	Horizon C	Back Scatter	V5N
1	SF-10-1	8/19/2016	685907.4	602542.6	16.80	120.0	2.4	112.2	9.7	107.0	95	5	Structural Fill		V5N
1	SF-17-1	8/19/2016	685816.7	602355.7	17.40	119.0	1.2	112.2	9.7	106.1	95	4	Structural Fill	Final Elevation	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
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JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	SF-20-1	8/19/2016	685723.9	602524.1	19.30	115.8	2.8	112.2	9.7	103.2	95	5	Structural Fill	Final Elevation	V5N
1	CS-57-1	8/24/2016	685725.4	602744.3	23.00	119.0	6.2	117	8.6	101.7	90	8	GDL Cover Soil		V5N
1	CS-58-1	8/24/2016	685648.5	602672.7	19.40	114.0	7.6	117	8.6	97.4	90	8	GDL Cover Soil		V5N
1	CS-59-1	8/24/2016	685678.3	602742.7	22.60	120.3	5.3	117	8.6	102.8	90	9	GDL Cover Soil		V5N
1	CS-60-1	8/24/2016	685783.3	602811.9	19.60	114.3	8.3	117	8.6	97.7	90	9	GDL Cover Soil		V5N
1	CS-61-1	8/24/2016	685983.1	602881.8	19.10	118.6	6.6	117	8.6	101.4	90	9	GDL Cover Soil		V5N
1	CS-62-1	8/24/2016	685690.9	602859.0	21.30	115.6	4.5	117	8.6	98.8	90	9	GDL Cover Soil		V5N
1	CS-63-1	8/24/2016	685600.9	602803.9	19.90	116.4	6.2	117	8.6	99.5	90	9	GDL Cover Soil		V5N
1	CS-64-1	8/24/2016	685711.9	602937.4	20.40	108.3	3.9	117	8.6	92.6	90	9	GDL Cover Soil		V5N
1	CS-65-1	8/24/2016	685611.8	602885.6	20.30	110.2	4.8	117	8.6	94.2	90	9	GDL Cover Soil		V5N
1	CS-66-1	8/24/2016	685705.6	603007.6	19.70	117.8	7.7	117	8.6	100.7	90	9	GDL Cover Soil		V5N
1	CS-67-1	8/24/2016	685615.9	602991.2	21.40	113.1	6.6	117	8.6	96.7	90	9	GDL Cover Soil		V5N
1	CS-68-1`	8/24/2016	685536.6	602916.2	19.40	112.3	6.2	117	8.6	96.0	90	9	GDL Cover Soil		V5N
1	SF-11-1	8/24/2016	685873.3	602605.8	17.50	115.1	2.4	112.2	9.7	103.7	95	5	Structural Fill		V5N
1	SF-24-1	8/24/2016	685854.9	602653.8	17.90	112.2	1.9	112.2	9.7	100.0	95	5	Structural Fill	Final Elevation	V5N
1	CS-56-1	8/29/2016	685809.2	602783.8	15.90	111.2	6.3	117	8.6	95.0	90	9	GDL Cover Soil	Moved point to Area 9	V5N
1	CS-69-1	8/29/2016	685642.2	603080.6	18.90	110.3	3.9	117	8.6	94.3	90	10W	GDL Cover Soil		V5N
1	CS-73-1	8/29/2016	685596.9	603156.9	17.20	113.3	5.7	117	8.6	96.8	90	10W	GDL Cover Soil		V5N
1	CS-75-1	8/29/2016	685451.4	603140.5	10.70	119.1	5.6	117	8.6	101.8	90	10	GDL Cover Soil	Corridor	V5N
1	DGA-1-1	8/29/2016	685498.1	603803.2	9.10	129.1	1.7	135.9	9.5	95.0	95	MUA	DGA	Driveway	V5N
1	DGA-2-1	8/29/2016	685479.7	603838.2	8.70	129.4	1.6	135.9	9.5	95.2	95	MUA	DGA	Driveway	V5N
1	DGA-3-1	8/29/2016	685462.6	603871.9	8.40	131.0	1.5	135.9	9.5	96.4	95	MUA	DGA	Driveway	V5N
1	HC-23-1	8/19/2016	685768.3	602522.6	18.50	116.8	9.7	126	9.5	92.7	90	5	Horizon C	Back Scatter	V5N
1	HC-28-1	8/31/2016	685753.3	602747.5	23.20	115.2	8.3	126	9.5	91.4	90	8	Horizon C	Back Scatter	V5N
1	HC-29-1	8/31/2016	685711.3	602718.5	23.00	113.4	10.9	126	9.5	90.0	90	8	Horizon C	Back Scatter	V5N
2	SF-10-2	8/29/2016	685907.0	602542.6	16.90	115.8	0.9	112.2	9.7	103.2	95	5	Structural Fill	Final Elevation	V5N
2	SF-11-2	8/29/2016	685878.3	602607.5	17.60	116.2	1.1	112.2	9.7	103.6	95	5	Structural Fill	Final Elevation	V5N
2	SF-18-2	8/29/2016	685782.4	602413.8	18.10	119.7	0.9	112.2	9.7	106.7	95	4	Structural Fill	Final Elevation	V5N
2	SF-19-2	8/29/2016	685755.2	602456.9	18.80	118.4	0.7	112.2	9.7	105.5	95	5	Structural Fill	Final Elevation	V5N
1	SF-21-1	8/29/2016	685788.0	602599.6	17.50	112.7	1.2	112.2	9.7	100.4	95	6	Structural Fill		V5N
2	SF-21-2	8/29/2016	685735.3	602583.2	18.40	117.9	1.0	112.2	9.7	105.1	95	6	Structural Fill	Final Elevation	V5N
1	SF-22-1	8/29/2016	685788.0	602599.6	16.40	115.8	1.3	112.2	9.7	103.2	95	6	Structural Fill		V5N
2	SF-22-2	8/29/2016	685777.9	602614.3	17.40	113.0	1.0	112.2	9.7	100.7	95	6	Structural Fill	Final Elevation	V5N
1	SF-23-1	8/29/2016	685822.7	602629.9	16.50	111.7	1.4	112.2	9.7	99.6	95	6	Structural Fill		V5N
2	SF-23-2	8/29/2016	685825.2	602646.2	17.50	121.4	1.0	112.2	9.7	108.2	95	6	Structural Fill	Final Elevation	V5N

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1	SF-35-1	8/29/2016	685689.1	602585.9	19.30	117.3	0.9	112.2	9.7	104.5	95	6	Structural Fill		V5N
1	SF-36-1	8/29/2016	685656.5	602646.9	20.20	117.3	1.6	112.2	9.7	104.5	95	8	Structural Fill	Final Elevation	V5N
1	SF-37-1	8/29/2016	685618.4	602697.5	20.70	108.6	2.7	112.2	9.7	96.8	95	9	Structural Fill	Final Elevation	V5N
1	HC-30-1	8/31/2016	686686.8	602719.5	22.90	125.9	8.7	126	9.5	99.9	90	8	Horizon C	Back Scatter	V5N
1	HC-31-1	8/31/2016	685632.8	602740.5	20.40	123.4	10.8	126	9.5	97.9	90	9	Horizon C	Back Scatter	V5N
1	HC-32-1	8/31/2016	685685.6	602764.1	23.40	113.4	7.4	126	9.5	90.0	90	9	Horizon C	Back Scatter	V5N
1	HC-33-1	8/31/2016	685727.2	602785.9	24.00	113.4	7.8	126	9.5	90.0	90	9	Horizon C	Back Scatter	V5N
1	HC-34-1	8/31/2016	685766.6	602816.6	23.10	114.4	6.6	126	9.5	90.8	90	9	Horizon C	Back Scatter	V5N
1	HC-35-1	8/31/2016	685741.4	602861.8	23.70	115.8	6.9	126	9.5	91.9	90	9	Horizon C	Back Scatter	V5N
1	HC-36-1	8/31/2016	685690.7	602833.7	21.70	117.7	7.6	126	9.5	93.4	90	9	Horizon C	Back Scatter	V5N
1	HC-37-1	8/31/2016	685656.1	602815.9	20.80	113.4	8.1	126	9.5	90.0	90	9	Horizon C	Back Scatter	V5N
1	HC-38-1	8/31/2016	685609.9	602779.5	20.40	115.1	9.2	126	9.5	91.3	90	9	Horizon C	Back Scatter	V5N
1	HC-39-1	8/31/2016	685592.8	602825.4	20.30	118.1	10.2	126	9.5	93.7	90	9	Horizon C	Back Scatter	V5N
1	HC-40-1	8/31/2016	685635.7	602852.3	20.90	116.1	9.9	126	9.5	92.1	90	9	Horizon C	Back Scatter	V5N
1	HC-41-1	8/31/2016	685681.5	602878.3	21.90	121.1	8.2	126	9.5	96.1	90	9	Horizon C	Back Scatter	V5N
1	HC-42-1	8/31/2016	685732.8	602895.5	20.90	117.1	7.8	126	9.5	92.9	90	9	Horizon C	Back Scatter	V5N
1	HC-27-1	9/1/2016	685785.7	602767.0	22.40	115.4	8.6	126	9.5	91.6	90	8	Horizon C	Back Scatter	V5N
1	HC-43-1	9/2/2016	685692.1	602950.2	21.10	127.0	9.9	126	9.5	100.8	90	9	Horizon C	Back Scatter	V5N
2	SF-35-2	8/31/2016	685677.8	602581.4	19.50	110.5	0.9	112.2	9.7	98.5	95	6	Structural Fill	Final Elevation	V5N
1	SF-38-1	8/31/2016	685584.9	602752.8	20.80	110.9	1.7	112.2	9.7	98.8	95	9	Structural Fill	Final Elevation	V5N
1	SF-39-1	8/31/2016	685552.4	602813.4	20.90	109.0	1.4	112.2	9.7	97.1	95	9	Structural Fill	Final Elevation	V5N
1	SF-44-1	8/31/2016	685384.5	603107.9	11.70	109.1	1.7	112.2	9.7	97.2	95	10	Structural Fill	Corridor	V5N
1	SF-45-1	8/31/2016	685416.7	603122.6	11.40	114.9	2.3	112.2	9.7	102.4	95	10	Structural Fill	Corridor	V5N
1	SF-46-1	8/31/2016	685463.1	603138.2	11.50	117.0	2.6	112.2	9.7	104.3	95	10	Structural Fill	Corridor	V5N
1	SF-47-1	8/31/2016	685499.8	603155.4	11.80	113.5	1.5	112.2	9.7	101.2	95	10	Structural Fill	Corridor	V5N
1	SF-48-1	8/31/2016	685543.0	603169.7	12.40	122.2	1.8	112.2	9.7	108.9	95	10	Structural Fill	Corridor	V5N
1	SF-49-1	8/31/2016	685580.7	603190.4	14.10	114.0	2.4	112.2	9.7	101.6	95	10	Structural Fill	Corridor	V5N
1	CS-70-1	9/1/2016	685518.2	603005.1	22.20	107.7	3.9	117	8.6	92.1	90	10W	GDL Cover Soil		V5N
1	CS-71-1	9/1/2016	685425.6	603080.3	17.00	112.9	6.5	117	8.6	96.5	90	10W	GDL Cover Soil		V5N
1	CS-72-1	9/1/2016	685558.2	603808.0	21.10	106.3	4.7	117	8.6	91.3	90	10W	GDL Cover Soil		V5N
1	CS-74-1	9/1/2016	685553.7	603203.7	15.60	111.6	4.5	117	8.6	95.4	90	11	GDL Cover Soil		V5N
1	CS-76-1	9/1/2016	685407.5	603198.1	18.50	119.5	5.3	117	8.6	102.1	90	11	GDL Cover Soil		V5N
1	CS-77-1	9/1/2016	685455.1	603251.1	15.10	113.9	4.3	117	8.6	97.3	90	11	GDL Cover Soil		V5N
1	CS-78-1	9/1/2016	685525.3	603246.0	14.70	117.4	6.8	117	8.6	100.3	90	11	GDL Cover Soil		V5N
1	HC-44-1	9/2/2016	685685.5	602922.7	22.00	114.5	11.1	126	9.5	90.9	90	9	Horizon C	Back Scatter	V5N

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LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
2	SF-44-2	9/1/2016	685376.0	603128.1	12.90	113.7	2.3	112.2	9.7	101.3	95	10	Structural Fill	Corridor	V5N
2	SF-45-2	9/1/2016	685427.3	603121.1	12.40	111.6	0.7	112.2	9.7	99.5	95	10	Structural Fill	Corridor	V5N
2	SF-46-2	9/1/2016	685470.5	603140.4	12.50	112.4	2.3	112.2	9.7	100.2	95	10	Structural Fill	Corridor	V5N
2	SF-47-2	9/1/2016	685511.7	603155.8	12.90	109.0	2.8	112.2	9.7	97.1	95	10	Structural Fill	Corridor	V5N
3	SF-47-3	9/1/2016	685497.9	603142.1	13.70	106.8	1.9	112.2	9.7	95.2	95	10	Structural Fill	Corridor	V5N
2	SF-48-2	9/1/2016	685556.8	603171.4	13.80	115.0	2.6	112.2	9.7	102.5	95	10	Structural Fill	Corridor	V5N
3	SF-48-3	9/1/2016	685539.6	603160.2	14.50	110.6	1.7	112.2	9.7	98.6	95	10	Structural Fill	Corridor	V5N
2	SF-49-2	9/1/2016	685586.0	603189.3	15.50	113.9	2.1	112.2	9.7	101.5	95	10	Structural Fill	Corridor	V5N
3	SF-49-3	9/1/2016	685587.9	603182.3	16.70	110.4	2.3	112.2	9.7	98.4	95	10	Structural Fill	Corridor	V5N
1	HC-45-1	9/2/2016	685613.1	602897.6	20.90	120.4	11.2	126	9.5	95.6	90	9	Horizon C	Back Scatter	V5N
1	HC-46-1	9/2/2016	685561.8	602872.7	20.30	121.0	9.3	126	9.5	96.0	90	9	Horizon C	Back Scatter	V5N
1	HC-47-1	9/9/2016	685537.9	602916.9	20.00	118.8	8.4	126	9.5	94.3	90	9	Horizon C	Back Scatter	V5N
1	HC-48-1	9/9/2016	685583.8	602941.4	20.80	113.6	7.6	126	9.5	90.2	90	9	Horizon C	Back Scatter	V5N
3	SF-44-3	9/2/2016	685386.8	603098.2	13.50	114.6	1.5	112.2	9.7	102.1	95	10	Structural Fill	Corridor	V5N
4	SF-44-4	9/2/2016	685379.0	603091.5	14.30	112.2	1.4	112.2	9.7	100.0	95	10	Structural Fill	Corridor	V5N
3	SF-45-3	9/2/2016	685416.0	603110.5	13.40	112.0	1.4	112.2	9.7	99.8	95	10	Structural Fill	Corridor	V5N
4	SF-45-4	9/2/2016	685414.5	603134.8	14.60	117.7	2.4	112.2	9.7	104.9	95	10	Structural Fill	Corridor	V5N
3	SF-46-3	9/2/2016	685468.8	603132.3	13.60	109.4	2.3	112.2	9.7	97.5	95	10	Structural Fill	Corridor	V5N
4	SF-46-4	9/2/2016	685459.8	603149.2	14.20	115.6	4.5	112.2	9.7	103.0	95	10	Structural Fill	Corridor	V5N
4	SF-47-4	9/2/2016	685504.7	603162.0	15.00	111.7	1.9	112.2	9.7	99.6	95	10	Structural Fill	Corridor	V5N
4	SF-48-4	9/2/2016	685553.1	603160.5	15.90	115.6	1.9	112.2	9.7	103.0	95	10	Structural Fill	Corridor	V5N
4	SF-49-4	9/2/2016	685598.7	603192.5	17.10	115.0	1.5	112.2	9.7	102.5	95	10	Structural Fill	Corridor	V5N
5	SF-44-5	9/6/2016	685384.8	603100.8	15.70	112.6	1.3	112.2	9.7	100.4	95	10	Structural Fill	Corridor	V5N
5	SF-45-5	9/6/2016	685421.0	603123.8	15.50	111.2	0.6	112.2	9.7	99.1	95	10	Structural Fill	Corridor	V5N
5	SF-46-5	9/6/2016	685468.8	603153.0	15.50	114.8	1.6	112.2	9.7	102.3	95	10	Structural Fill	Corridor	V5N
5	SF-47-5	9/6/2016	685504.2	603163.1	16.00	112.2	2.0	112.2	9.7	100.0	95	10	Structural Fill	Corridor	V5N
5	SF-48-5	9/6/2016	685545.7	603167.0	17.00	114.0	1.0	112.2	9.7	101.6	95	10	Structural Fill	Corridor	V5N
5	SF-49-5	9/6/2016	685589.2	603187.0	17.70	115.4	0.7	112.2	9.7	102.9	95	10	Structural Fill	Corridor	V5N
1	SF-74-1	9/6/2016	684991.4	603626.7	10.00	110.1	2.2	112.2	9.7	98.1	95	7	Structural Fill		V5N
1	SF-75-1	9/6/2016	685034.3	603648.9	9.00	115.2	1.3	112.2	9.7	102.7	95	7	Structural Fill		V5N
1	SF-76-1	9/6/2016	685079.9	603671.0	8.10	116.6	1.1	112.2	9.7	103.9	95	7	Structural Fill		V5N
1	SF-77-1	9/6/2016	685125.3	603689.7	7.30	112.0	1.5	112.2	9.7	99.8	95	7	Structural Fill		V5N
1	SF-78-1	9/6/2016	685172.3	603710.2	7.70	108.3	1.5	112.2	9.7	96.5	95	7	Structural Fill		V5N
1	CS-88-1	9/9/2016	685132.1	603471.8	12.00	112.8	12.6	117	8.6	96.4	90	12	GDL Cover Soil		V5N
1	CS-89-1	9/9/2016	685169.3	603521.9	13.90	110.0	12.5	117	8.6	94.0	90	12	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-90-1	9/9/2016	685268.8	603557.9	7.20	125.5	5.3	117	8.6	107.3	90	12	GDL Cover Soil		V5N
1	CS-91-1	9/9/2016	685224.0	603612.4	6.10	123.9	4.4	117	8.6	105.9	90	12	GDL Cover Soil		V5N
1	CS-92-1	9/9/2016	685120.8	603577.5	13.30	117.7	12.5	117	8.6	100.6	90	12	GDL Cover Soil		V5N
1	CS-93-1	9/9/2016	685042.5	603563.7	10.70	112.8	12.6	117	8.6	96.4	90	12	GDL Cover Soil		V5N
1	HC-49-1	9/9/2016	685632.4	602967.4	22.10	120.9	8.3	126	9.5	96.0	90	9	Horizon C	Back Scatter	V5N
1	HC-50-1	9/9/2016	685653.4	602989.2	21.40	114.6	7.8	126	9.5	91.0	90	9	Horizon C	Back Scatter	V5N
1	HC-51-1	9/12/2016	685642.6	603022.5	21.10	117.7	7.3	126	9.5	93.4	90	10W	Horizon C	Back Scatter	V5N
1	HC-52-1	9/12/2016	685608.9	603003.9	21.90	114.8	7.7	126	9.5	91.1	90	10W	Horizon C	Back Scatter	V5N
1	SF-25-1	9/9/2016	685816.9	602808.8	19.70	107.9	0.7	112.2	9.7	96.2	95	9	Structural Fill		V5N
1	SF-26-1	9/9/2016	685807.0	602858.9	19.90	107.2	0.9	112.2	9.7	95.5	95	9	Structural Fill		V5N
1	SF-27-1	9/9/2016	685764.8	602882.0	20.30	112.2	1.0	112.2	9.7	100.0	95	9	Structural Fill		V5N
1	SF-28-1	9/9/2016	685759.8	602946.2	20.90	107.7	1.0	112.2	9.7	96.0	95	9	Structural Fill		V5N
1	SF-29-1	9/9/2016	685724.7	602967.2	20.90	109.8	0.7	112.2	9.7	97.9	95	9	Structural Fill		V5N
1	SF-34-1	9/9/2016	685609.4	603156.3	18.80	107.3	1.4	112.2	9.7	95.6	95	10	Structural Fill	Final Elevation	V5N
1	SF-40-1	9/9/2016	685511.6	602875.5	20.20	116.1	1.3	112.2	9.7	103.5	95	9	Structural Fill	Final Elevation	V5N
6	SF-44-6	9/9/2016	685379.5	603113.0	16.70	119.9	1.2	112.2	9.7	106.9	95	10	Structural Fill	Corridor - Final Elevation	V5N
6	SF-45-6	9/9/2016	685417.8	603125.7	17.70	111.4	1.3	112.2	9.7	99.3	95	10	Structural Fill	Corridor - Final Elevation	V5N
6	SF-46-6	9/9/2016	685459.9	603141.3	17.20	118.2	1.2	112.2	9.7	105.3	95	10	Structural Fill	Corridor - Final Elevation	V5N
6	SF-47-6	9/9/2016	685503.4	603156.5	17.40	111.4	1.3	112.2	9.7	99.3	95	10	Structural Fill	Corridor - Final Elevation	V5N
6	SF-48-6	9/9/2016	685542.9	603167.8	18.00	109.7	0.5	112.2	9.7	97.8	95	10	Structural Fill	Corridor - Final Elevation	V5N
6	SF-49-6	9/9/2016	685585.9	603190.5	18.10	117.2	1.1	112.2	9.7	104.5	95	10	Structural Fill	Corridor - Final Elevation	V5N
1	HC-53-1	9/12/2016	685562.7	602969.1	20.70	113.7	5.2	126	9.5	90.2	90	10W	Horizon C	Back Scatter	V5N
1	HC-54-1	9/12/2016	685924.9	602941.0	20.00	118.7	7.4	126	9.5	94.2	90	10W	Horizon C	Back Scatter	V5N
1	HC-55-1	9/12/2016	685496.4	603002.0	22.20	121.1	7.0	126	9.5	96.1	90	10W	Horizon C	Back Scatter	V5N
1	HC-56-1	9/12/2016	685541.3	603022.2	20.60	117.7	6.4	126	9.5	93.4	90	10W	Horizon C	Back Scatter	V5N
1	HC-57-1	9/12/2016	685582.8	603050.8	23.00	117.1	7.1	126	9.5	92.9	90	10W	Horizon C	Back Scatter	V5N
1	HC-58-1	9/12/2016	685623.4	603079.4	19.70	118.5	7.6	126	9.5	94.0	90	10W	Horizon C	Back Scatter	V5N
1	HC-59-1	9/12/2016	685595.3	603109.6	18.70	113.4	7.2	126	9.5	90.0	90	10W	Horizon C	Back Scatter	V5N
1	HC-60-1	9/12/2016	685558.4	603089.5	21.30	114.9	10.0	126	9.5	91.2	90	10W	Horizon C	Back Scatter	V5N
1	HC-61-1	9/12/2016	685513.2	603080.7	21.00	120.7	9.0	126	9.5	95.8	90	10W	Horizon C	Back Scatter	V5N
1	HC-62-1	9/12/2016	685479.1	603082.3	20.10	115.2	9.0	126	9.5	91.4	90	10W	Horizon C	Back Scatter	V5N
1	HC-63-1	9/12/2016	685464.5	603107.4	16.30	127.2	8.2	126	9.5	101.0	90	10W	Horizon C	Back Scatter	V5N
1	HC-64-1	9/12/2016	685549.8	603137.7	17.10	119.2	9.1	126	9.5	94.6	90	10W	Horizon C	Back Scatter	V5N
1	HC-84-1	9/16/2016	685149.3	603473.7	12.90	140.0	6.5	126	9.5	111.1	90	12	Horizon C	Back Scatter	V5N
1	HC-85-1	9/16/2016	685181.9	603500.3	14.50	132.8	7.4	126	9.5	105.4	90	12	Horizon C	Back Scatter	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	SF-31-1	9/12/2016	685698.8	603047.0	20.60	104.8	2.1	112.2	9.7	93.4	95	10W	Structural Fill	SF-31-1R (Page 10)	V5N
1	SF-32-1	9/12/2016	685674.9	603084.1	20.10	114.3	2.2	112.2	9.7	101.9	95	10W	Structural Fill	Final Elevation	V5N
1	SF-33-1	9/12/2016	685636.1	603109.1	19.80	116.7	1.4	112.2	9.7	104.0	95	10W	Structural Fill	Final Elevation	V5N
1	SF-41-1	9/12/2016	685488.9	602934.6	20.10	117.4	1.3	112.2	9.7	104.6	95	10W	Structural Fill	Final Elevation	V5N
1	SF-42-1	9/12/2016	685453.4	602993.1	18.80	113.6	1.3	112.2	9.7	101.2	95	10W	Structural Fill		V5N
1	SF-43-1	9/12/2016	685417.9	603050.3	18.00	120.5	1.6	112.2	9.7	107.4	95	10W	Structural Fill		V5N
2	SF-74-2	9/12/2016	685922.0	603639.7	11.10	107.4	1.4	112.2	9.7	95.7	95	7	Structural Fill	Final Elevation	V5N
2	SF-75-2	9/12/2016	685032.9	603647.8	10.20	111.3	1.9	112.2	9.7	99.2	95	7	Structural Fill		V5N
2	SF-76-2	9/12/2016	685078.6	603666.6	9.40	107.8	1.0	112.2	9.7	96.1	95	7	Structural Fill		V5N
2	SF-77-2	9/12/2016	685124.8	603686.5	8.30	122.6	0.4	112.2	9.7	109.3	95	7	Structural Fill		V5N
2	SF-78-2	9/12/2016	685171.5	603702.0	8.50	120.9	1.0	112.2	9.7	107.8	95	7	Structural Fill		V5N
1	CS-79-1	9/14/2016	685460.8	603320.9	12.30	108.4	4.4	117	8.6	92.6	90	13	GDL Cover Soil		V5N
1	CS-80-1	9/14/2016	685363.7	603260.3	14.80	112.2	4.0	117	8.6	95.9	90	13	GDL Cover Soil		V5N
1	CS-81-1	9/14/2016	685314.2	603305.3	16.60	111.4	2.4	117	8.6	95.2	90	13	GDL Cover Soil		V5N
1	CS-82-1	9/14/2016	685340.0	603361.1	14.60	109.4	3.6	117	8.6	93.5	90	13	GDL Cover Soil		V5N
1	CS-83-1	9/14/2016	685428.3	603400.0	10.40	105.4	3.7	117	8.6	90.1	90	13	GDL Cover Soil		V5N
1	CS-84-1	9/14/2016	685372.9	603440.9	8.70	112.6	4.6	117	8.6	96.2	90	13	GDL Cover Soil		V5N
1	CS-85-1	9/14/2016	685225.6	603341.5	13.50	107.2	4.5	117	8.6	91.6	90	13	GDL Cover Soil		V5N
1	CS-86-1	9/14/2016	685194.1	603420.0	11.10	108.7	4.3	117	8.6	92.9	90	13	GDL Cover Soil		V5N
1	CS-87-1	9/14/2016	685379.7	603494.2	7.80	114.4	4.7	117	8.6	97.8	90	13	GDL Cover Soil		V5N
1	SF-30-1	9/14/2016	685715.6	603030.6	20.40	109.0	2.5	112.2	9.7	97.1	95	9	Structural Fill		V5N
1	HC-86-1	9/16/2016	685218.9	603514.8	13.40	125.6	6.5	126	9.5	99.7	90	12	Horizon C	Back Scatter	V5N
1	HC-87-1	9/16/2016	685257.0	603523.4	9.70	137.8	8.5	126	9.5	109.4	90	12	Horizon C	Back Scatter	V5N
1	HC-88-1	9/16/2016	685222.5	603581.8	8.20	135.3	8.3	126	9.5	107.4	90	12	Horizon C	Back Scatter	V5N
1	HC-89-1	9/16/2016	685193.5	603514.6	12.40	121.4	7.5	126	9.5	96.3	90	12	Horizon C	Back Scatter	V5N
1	HC-90-1	9/16/2016	685154.9	603541.7	14.40	130.7	8.2	126	9.5	103.7	90	12	Horizon C	Back Scatter	V5N
1	HC-91-1	9/16/2016	685130.5	603507.9	15.30	126.3	6.2	126	9.5	100.2	90	12	Horizon C	Back Scatter	V5N
1	HC-92-1R	9/16/2016	685103.9	603560.3	13.90	131.2	7.8	126	9.5	104.1	90	12	Horizon C	Back Scatter; re-test	V5N
1	HC-93-1	9/16/2016	685158.5	603571.5	13.70	129.0	7.8	126	9.5	102.4	90	12	Horizon C	Back Scatter	V5N
1	HC-94-1	9/16/2016	685188.9	603612.2	8.60	135.5	7.0	126	9.5	107.5	90	12	Horizon C	Back Scatter	V5N
1	HC-95-1	9/16/2016	685154.8	603655.0	7.80	117.6	9.6	126	9.5	93.3	90	12	Horizon C	Back Scatter	V5N
1	HC-96-1	9/16/2016	685118.9	603631.3	9.50	113.4	9.5	126	9.5	90.0	90	12	Horizon C	Back Scatter	V5N
1	HC-97-1	9/16/2016	685068.2	603614.3	10.00	115.0	6.3	126	9.5	91.3	90	12	Horizon C	Back Scatter	V5N
1	HC-65-1	9/21/2016	685396.8	603159.5	16.50	122.8	12.4	126	9.5	97.5	90	13	Horizon C	Back Scatter	V5N
1	HC-66-1	9/21/2016	685443.4	603171.9	15.90	124.1	12.2	126	9.5	98.5	90	13	Horizon C	Back Scatter	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	HC-67-1	9/21/2016	685504.6	603210.9	18.70	130.8	13.2	126	9.5	103.8	90	13	Horizon C	Back Scatter	V5N
1	SF-61-1	9/16/2016	685187.4	603409.9	12.30	115.1	1.1	112.2	9.7	102.6	95	12	Structural Fill		V5N
1	SF-62-1	9/16/2016	685220.9	603427.0	11.50	114.8	1.8	112.2	9.7	102.3	95	12	Structural Fill		V5N
1	SF-63-1	9/16/2016	685258.9	603458.9	9.70	116.0	1.8	112.2	9.7	103.4	95	12	Structural Fill		V5N
1	SF-64-1	9/16/2016	685298.0	603490.9	9.00	117.8	1.0	112.2	9.7	105.0	95	12	Structural Fill		V5N
1	SF-65-1	9/16/2016	685327.5	603571.4	8.70	118.9	1.4	112.2	9.7	106.0	95	12	Structural Fill		V5N
1	SF-66-1	9/16/2016	685294.2	603549.0	8.50	115.0	1.4	112.2	9.7	102.5	95	12	Structural Fill		V5N
1	SF-67-1	9/16/2016	685264.5	603588.1	7.50	114.9	1.3	112.2	9.7	102.4	95	12	Structural Fill	Final Elevation	V5N
1	SF-68-1	9/16/2016	685234.2	603626.7	7.10	120.5	1.7	112.2	9.7	107.4	95	12	Structural Fill		V5N
1	SF-69-1	9/16/2016	685202.1	603666.6	7.40	115.5	1.5	112.2	9.7	102.9	95	12	Structural Fill		V5N
1	SF-70-1	9/16/2016	685149.2	603437.2	13.00	117.3	1.1	112.2	9.7	104.5	95	12	Structural Fill		V5N
1	SF-71-1	9/16/2016	685105.7	603488.2	12.90	117.5	1.1	112.2	9.7	104.7	95	12	Structural Fill		V5N
1	SF-72-1	9/16/2016	685061.4	603541.1	12.10	119.4	1.5	112.2	9.7	106.4	95	12	Structural Fill		V5N
1	SF-73-1	9/16/2016	685019.3	603590.9	11.10	109.6	1.5	112.2	9.7	97.7	95	12	Structural Fill		V5N
3	SF-75-3	9/16/2016	685048.3	603631.9	10.80	112.4	1.1	112.2	9.7	100.2	95	7	Structural Fill	Final Elevation	V5N
1	HC-68-1	9/21/2016	685468.1	603245.9	15.60	126.8	12.5	126	9.5	100.6	90	13	Horizon C	Back Scatter	V5N
1	HC-69-1	9/21/2016	685415.3	603236.1	18.50	120.0	11.5	126	9.5	95.2	90	13	Horizon C	Back Scatter	V5N
1	HC-70-1	9/21/2016	685377.4	603205.9	19.00	120.2	12.5	126	9.5	95.4	90	13	Horizon C	Back Scatter	V5N
1	HC-71-1	9/21/2016	685343.8	603244.9	15.80	136.7	11.6	126	9.5	108.5	90	13	Horizon C	Back Scatter	V5N
1	HC-72-1	9/21/2016	685385.8	603275.1	15.00	125.8	12.5	126	9.5	99.8	90	13	Horizon C	Back Scatter	V5N
1	HC-73-1	9/21/2016	685455.7	603281.1	14.80	125.9	12.7	126	9.5	99.9	90	13	Horizon C	Back Scatter	V5N
1	HC-74-1	9/21/2016	685420.3	603319.5	13.60	133.3	13.8	126	9.5	105.8	90	13	Horizon C	Back Scatter	V5N
1	HC-75-1	9/21/2016	685356.5	603338.7	15.60	118.7	9.8	126	9.5	94.2	90	13	Horizon C	Back Scatter	V5N
1	HC-76-1	9/21/2016	685317.1	603293.5	17.40	114.0	10.5	126	9.5	90.5	90	13	Horizon C	Back Scatter	V5N
1	HC-77-1	9/21/2016	685280.8	603340.2	16.70	120.3	8.9	126	9.5	95.5	90	13	Horizon C	Back Scatter	V5N
1	HC-78-1	9/21/2016	685319.9	603353.4	15.80	128.0	8.9	126	9.5	101.6	90	13	Horizon C	Back Scatter	V5N
1	HC-79-1	9/21/2016	685392.9	603361.5	14.80	113.6	11.0	126	9.5	90.2	90	13	Horizon C	Back Scatter	V5N
1	HC-80-1	9/21/2016	685366.5	603390.4	14.10	113.4	11.0	126	9.5	90.0	90	13	Horizon C	Back Scatter	V5N
1	HC-81-1	9/21/2016	685330.2	603424.2	18.60	114.0	9.9	126	9.5	90.5	90	13	Horizon C	Back Scatter	V5N
1	HC-82-1	9/21/2016	685315.5	603390.5	14.90	118.9	9.6	126	9.5	94.4	90	13	Horizon C	Back Scatter	V5N
1	HC-83-1	9/21/2016	685251.5	603374.3	16.20	117.5	9.2	126	9.5	93.3	90	13	Horizon C	Back Scatter	V5N
1	HC-20-1	8/11/2016	685874.8	602528.7	19.50	117.0	5.2	126	9.5	92.9	90	3	Horizon C	Back Scatter	V5N
1	HC-21-1	8/19/2016	685852.9	602578.1	17.60	117.1	9.1	126	9.5	92.9	90	5	Horizon C	Back Scatter	V5N
1	HC-22-1	8/19/2016	685815.3	602550.0	20.10	118.5	8.9	126	9.5	94.0	90	5	Horizon C	Back Scatter	V5N
2	SF-25-2	9/21/2016	685815.2	602802.2	20.30	107.3	1.2	112.2	9.7	95.6	95	9	Structural Fill	Final Elevation	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
2	SF-26-2	9/21/2016	685805.7	602859.6	20.20	109.0	1.2	112.2	9.7	97.1	95	9	Structural Fill	Final Elevation	V5N
2	SF-27-2	9/21/2016	685764.4	602879.3	21.60	111.9	1.1	112.2	9.7	99.7	95	9	Structural Fill	Final Elevation	V5N
2	SF-28-2	9/21/2016	685759.9	602945.9	21.30	105.1	0.9	112.2	9.7	93.7	95	9	Structural Fill	SF-28-2R (Page 10)	V5N
1	SF-31-1R	9/21/2016	685674.0	603030.0	20.60	106.6	1.9	112.2	9.7	95.0	95	10W	Structural Fill	Re-test from 9/12/16	V5N
1	SF-50-1	9/21/2016	685544.9	603236.4	16.10	116.3	3.7	112.2	9.7	103.7	95	11	Structural Fill		V5N
1	SF-51-1	9/21/2016	685512.5	603275.8	14.90	109.0	2.7	112.2	9.7	97.1	95	11	Structural Fill		V5N
1	SF-52-1	9/21/2016	685474.8	603320.8	13.50	111.2	2.0	112.2	9.7	99.1	95	13	Structural Fill		V5N
1	SF-53-1	9/21/2016	685451.1	603352.7	12.30	112.6	2.5	112.2	9.7	100.4	95	13	Structural Fill		V5N
1	SF-54-1	9/21/2016	685418.6	603393.2	11.20	112.2	1.8	112.2	9.7	100.0	95	13	Structural Fill		V5N
1	SF-55-1	9/21/2016	685388.8	603432.7	10.00	116.4	1.2	112.2	9.7	103.7	95	13	Structural Fill		V5N
1	SF-56-1	9/21/2016	685357.4	603473.3	9.20	109.9	1.1	112.2	9.7	98.0	95	13	Structural Fill		V5N
1	SF-57-1	9/21/2016	685345.4	603162.0	16.80	109.2	2.7	112.2	9.7	97.3	95	13	Structural Fill	Final Elevation	V5N
1	SF-58-1	9/21/2016	685313.8	603223.0	16.40	108.7	1.7	112.2	9.7	96.9	95	13	Structural Fill	Final Elevation	V5N
1	SF-59-1	9/21/2016	685280.5	603280.7	15.70	117.8	1.6	112.2	9.7	105.0	95	11	Structural Fill	Final Elevation	V5N
1	SF-60-1	9/21/2016	685237.1	603333.1	15.10	110.0	1.6	112.2	9.7	98.0	95	13	Structural Fill	Final Elevation	V5N
2	SF-65-2	9/21/2016	685327.5	603511.4	9.50	106.2	1.2	112.2	9.7	94.7	95	12	Structural Fill	SF-65-2R (Page 11)	V5N
2	SF-67-2	9/21/2016	685261.2	603594.2	8.50	110.8	1.4	112.2	9.7	98.8	95	12	Structural Fill		V5N
2	SF-68-2	9/21/2016	685235.2	603625.3	8.10	106.6	1.3	112.2	9.7	95.0	95	12	Structural Fill		V5N
2	SF-69-2	9/21/2016	685200.6	603661.2	8.40	111.1	2.1	112.2	9.7	99.0	95	12	Structural Fill		V5N
3	SF-76-3	9/21/2016	685079.7	603667.9	10.20	113.9	1.4	112.2	9.7	101.5	95	7	Structural Fill	Final Elevation	V5N
3	SF-77-3	9/21/2016	685126.3	603688.7	9.30	115.5	1.4	112.2	9.7	102.9	95	7	Structural Fill	Final Elevation	V5N
3	SF-78-3	9/21/2016	685171.1	603708.0	9.80	107.5	2.0	112.2	9.7	95.8	95	7	Structural Fill	Final Elevation	V5N
2	SF-28-2R	9/28/2016	685759.9	602945.9	21.30	110.0	1.3	112.2	9.7	98.0	95	9	Structural Fill	Re-test from 9/21/16	V5N
2	SF-29-2	9/28/2016	685724.2	602963.6	22.10	116.1	1.4	112.2	9.7	103.5	95	9	Structural Fill	Final Elevation	V5N
2	SF-30-2	9/28/2016	685721.9	603032.1	20.80	108.6	1.0	112.2	9.7	96.8	95	10W	Structural Fill	Final Elevation	V5N
2	SF-31-2	9/28/2016	685681.0	603029.6	21.10	107.2	1.3	112.2	9.7	95.5	95	10W	Structural Fill	Final Elevation	V5N
2	SF-42-2	9/28/2016	685452.8	602991.9	19.50	110.7	2.8	112.2	9.7	98.7	95	10W	Structural Fill	Final Elevation	V5N
2	SF-43-2	9/28/2016	685420.1	603045.0	18.80	107.3	2.4	112.2	9.7	95.6	95	10W	Structural Fill	Final Elevation	V5N
2	SF-50-2	9/28/2016	685545.7	603239.7	17.30	116.2	2.0	112.2	9.7	103.6	95	11	Structural Fill	Final Elevation	V5N
2	SF-51-2	9/28/2016	685573.3	603275.6	15.50	111.4	1.3	112.2	9.7	99.3	95	11	Structural Fill	Final Elevation	V5N
2	SF-52-2	9/28/2016	685477.1	603319.6	14.10	114.7	1.5	112.2	9.7	102.2	95	13	Structural Fill	Final Elevation	V5N
2	SF-53-2	9/28/2016	685450.4	603352.9	13.10	113.3	1.6	112.2	9.7	101.0	95	13	Structural Fill	Final Elevation	V5N
2	SF-54-2	9/28/2016	685422.3	603390.4	12.00	114.2	1.2	112.2	9.7	101.8	95	13	Structural Fill	Final Elevation	V5N
2	SF-55-2	9/28/2016	685390.8	603429.9	10.80	115.1	1.0	112.2	9.7	102.6	95	13	Structural Fill	Final Elevation	V5N
2	SF-56-2	9/28/2016	685358.3	603469.2	10.00	120.1	1.1	112.2	9.7	107.0	95	13	Structural Fill	Final Elevation	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

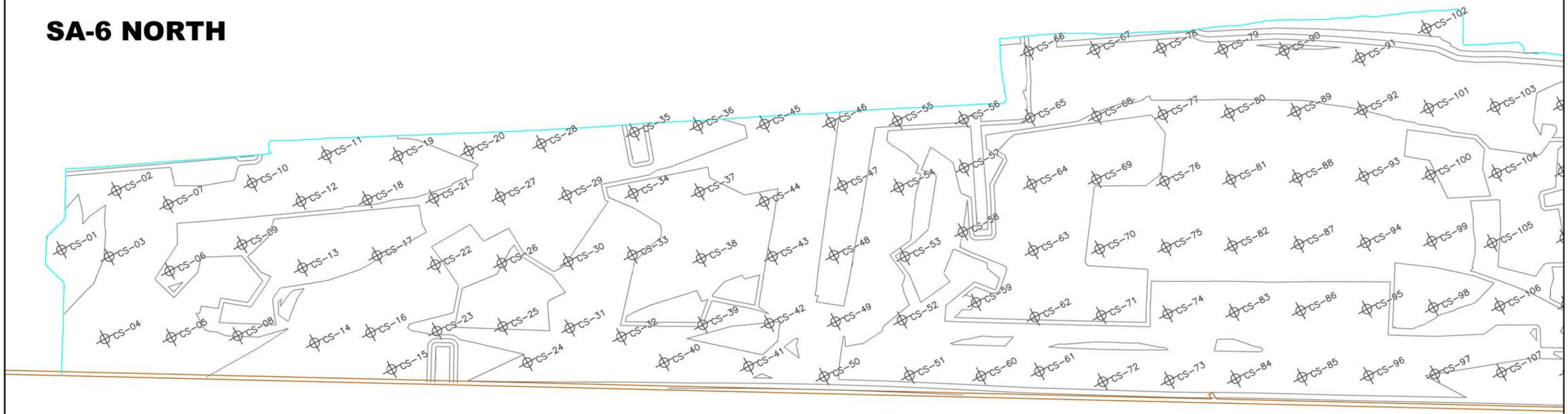
LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
2	SF-61-2	9/28/2016	685193.4	603386.6	13.30	122.8	2.2	112.2	9.7	109.4	95	13	Structural Fill	Final Elevation	V5N
2	SF-62-2	9/28/2016	685223.2	603428.2	12.50	110.4	1.0	112.2	9.7	98.4	95	13	Structural Fill	Final Elevation	V5N
2	SF-63-2	9/28/2016	685259.7	603460.0	11.10	113.6	1.4	112.2	9.7	101.2	95	13	Structural Fill	Final Elevation	V5N
2	SF-64-2	9/28/2016	685299.4	603486.9	9.80	114.6	1.6	112.2	9.7	102.1	95	13	Structural Fill	Final Elevation	V5N
2	SF-65-2R	9/28/2016	685327.5	603511.4	9.50	119.8	1.1	112.2	9.7	106.8	95	13	Structural Fill	Re-test from 9/21	V5N
2	SF-66-2	9/28/2016	685298.5	603550.4	9.50	118.1	1.2	112.2	9.7	105.3	95	12	Structural Fill	Final Elevation	V5N
3	SF-67-3	9/28/2016	685263.1	603589.9	9.50	113.2	1.1	112.2	9.7	100.9	95	12	Structural Fill	Final Elevation	V5N
3	SF-68-3	9/28/2016	685233.3	603627.8	9.40	112.8	1.4	112.2	9.7	100.5	95	12	Structural Fill	Final Elevation	V5N
3	SF-69-3	9/28/2016	685201.4	603664.6	9.60	113.8	1.6	112.2	9.7	101.4	95	12	Structural Fill	Final Elevation	V5N
2	SF-70-2	9/28/2016	685149.5	603436.1	14.00	116.6	1.2	112.2	9.7	103.9	95	12	Structural Fill	Final Elevation	V5N
2	SF-71-2	9/28/2016	685102.8	603489.6	13.40	111.7	1.4	112.2	9.7	99.6	95	12	Structural Fill	Final Elevation	V5N
2	SF-72-2	9/28/2016	685058.3	603539.5	12.90	110.4	1.8	112.2	9.7	98.4	95	12	Structural Fill	Final Elevation	V5N
2	SF-73-2	9/28/2016	685017.1	603590.8	12.20	111.8	1.2	112.2	9.7	99.6	95	12	Structural Fill	Final Elevation	V5N

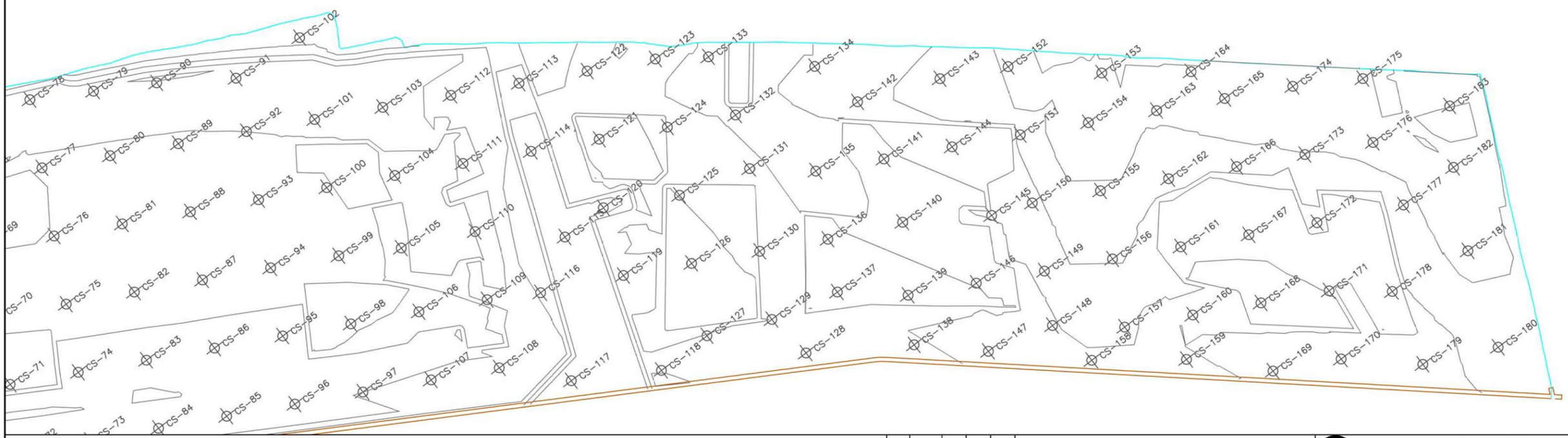
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again

2.0 Test Location Drawings

- **GDL Cover Soil (Initial and Reduced Frequency)**
- **Horizon C**
- **Structural Fill**

SA-6 NORTH





NOTES:

1) Testing locations are based on testing frequency specified in 012315 3.13 A. 2. a.

LEGEND:

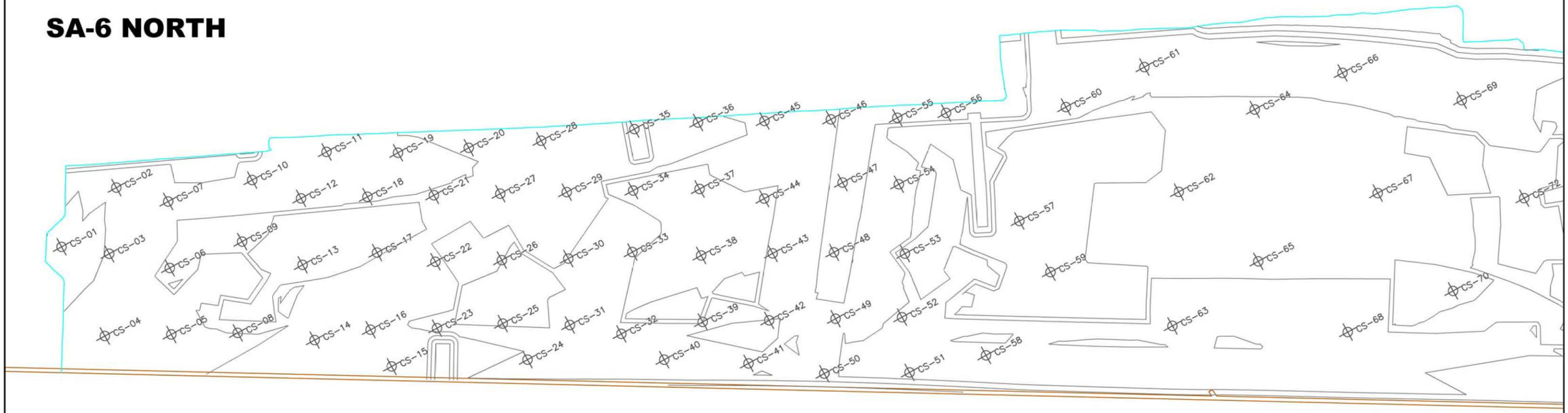
COMPACTION TEST LOCATION — CS-XX

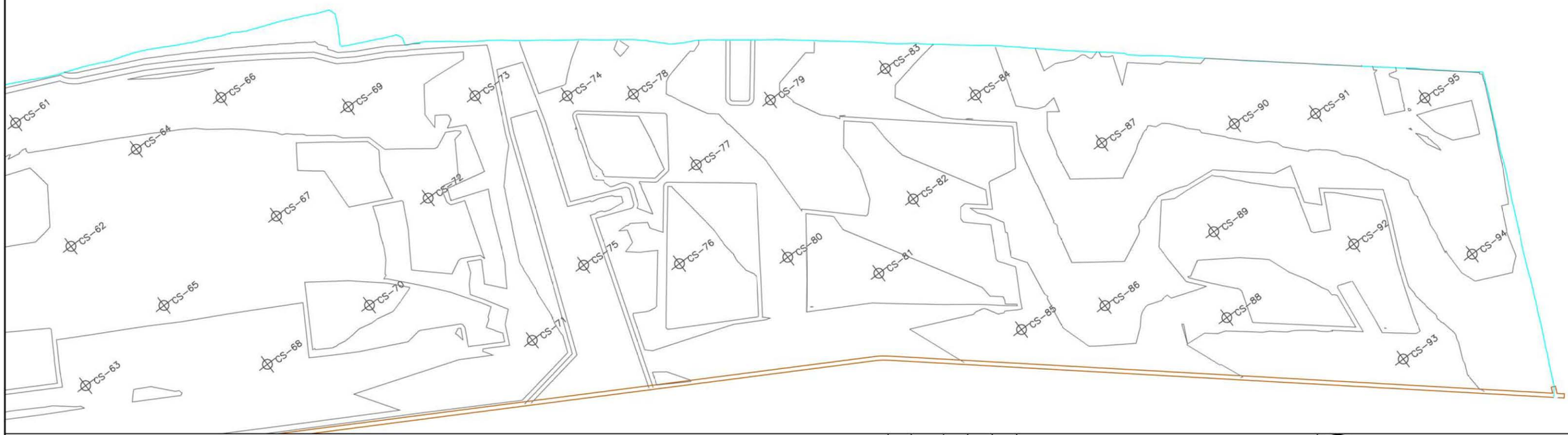
GDL COVER SOIL ELEVATION CONTOURS

ENTACT
302 Unity Plaza
Latrobe, PA 15650
412-357-1102

DRAWING NAME	GDL COVER SOIL COMPACTION LOCATIONS				
PROJECT NAME & LOCATION	HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ				
DRAWN BY	T. COLLIER	APPROVED BY			
DATE	7/12/16	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

SA-6 NORTH





NOTES:

1) Testing locations are based on testing frequency specified by approval of RFI-076

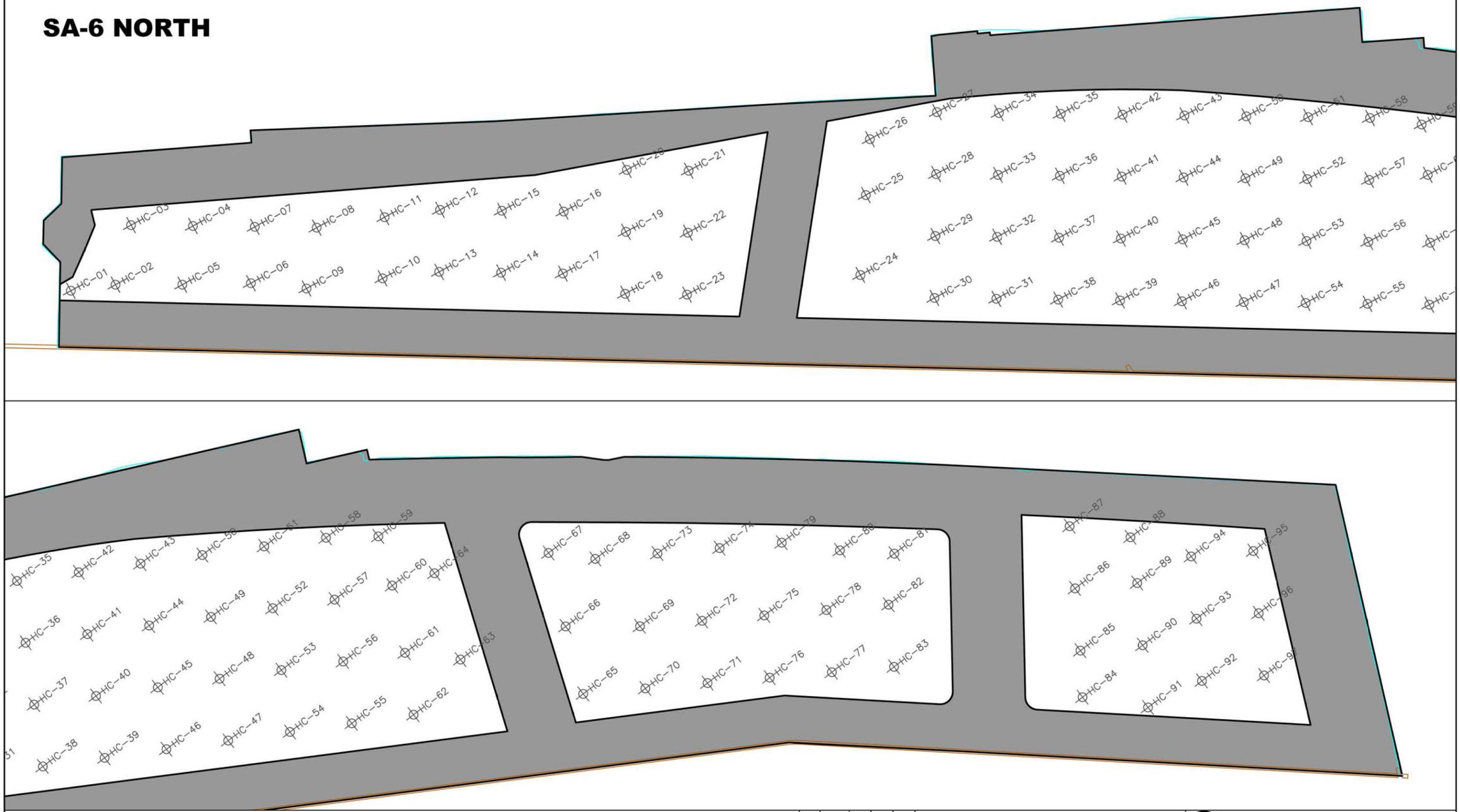
LEGEND:

COMPACTION TEST LOCATION — CS-XX

GDL COVER SOIL ELEVATION CONTOURS

ENTACT 302 Unity Plaza Latrobe, PA 15650 412-357-1102					
DRAWING NAME	GDL COVER SOIL REDUCED FREQUENCY COMPACTION LOCATIONS				
PROJECT NAME & LOCATION	HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ				
DRAWN BY	T. COLLIER	APPROVED BY			
DATE	8/18/16	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

SA-6 NORTH



NOTES:

1) Testing locations are based on testing frequency specified in 012315 3.13 A. 2. a.

LEGEND:

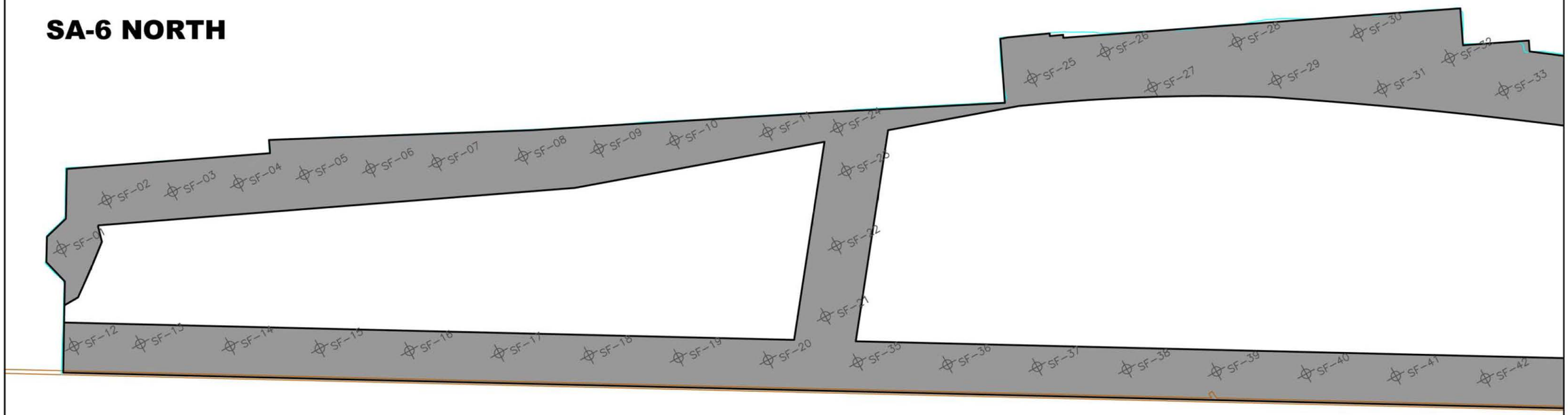
COMPACTION TEST LOCATION — HC-XX

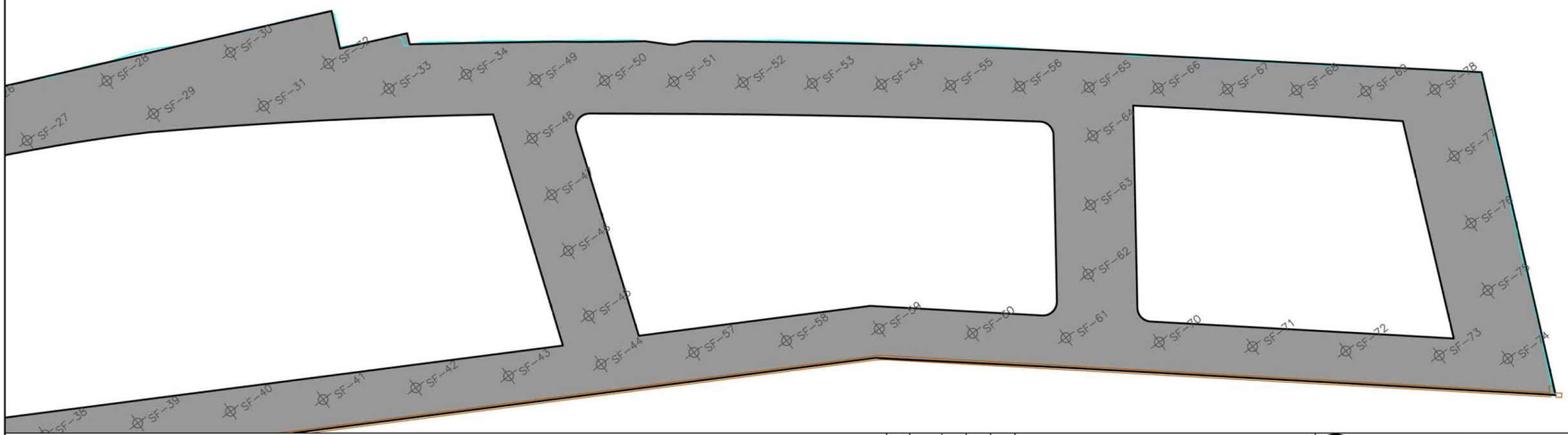
STRUCTURAL FILL LIMITS

ENTACT
302 Unity Plaza
Latrobe, PA 15650
412-357-1102

DRAWING NAME	HORIZON C COMPACTION LOCATIONS				
PROJECT NAME & LOCATION	HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ				
DRAWN BY	T. COLLIER	APPROVED BY			
DATE	7/15/16	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

SA-6 NORTH





NOTES:

1) Testing locations are based on testing frequency specified in 012315 3.13 A. 2. a.

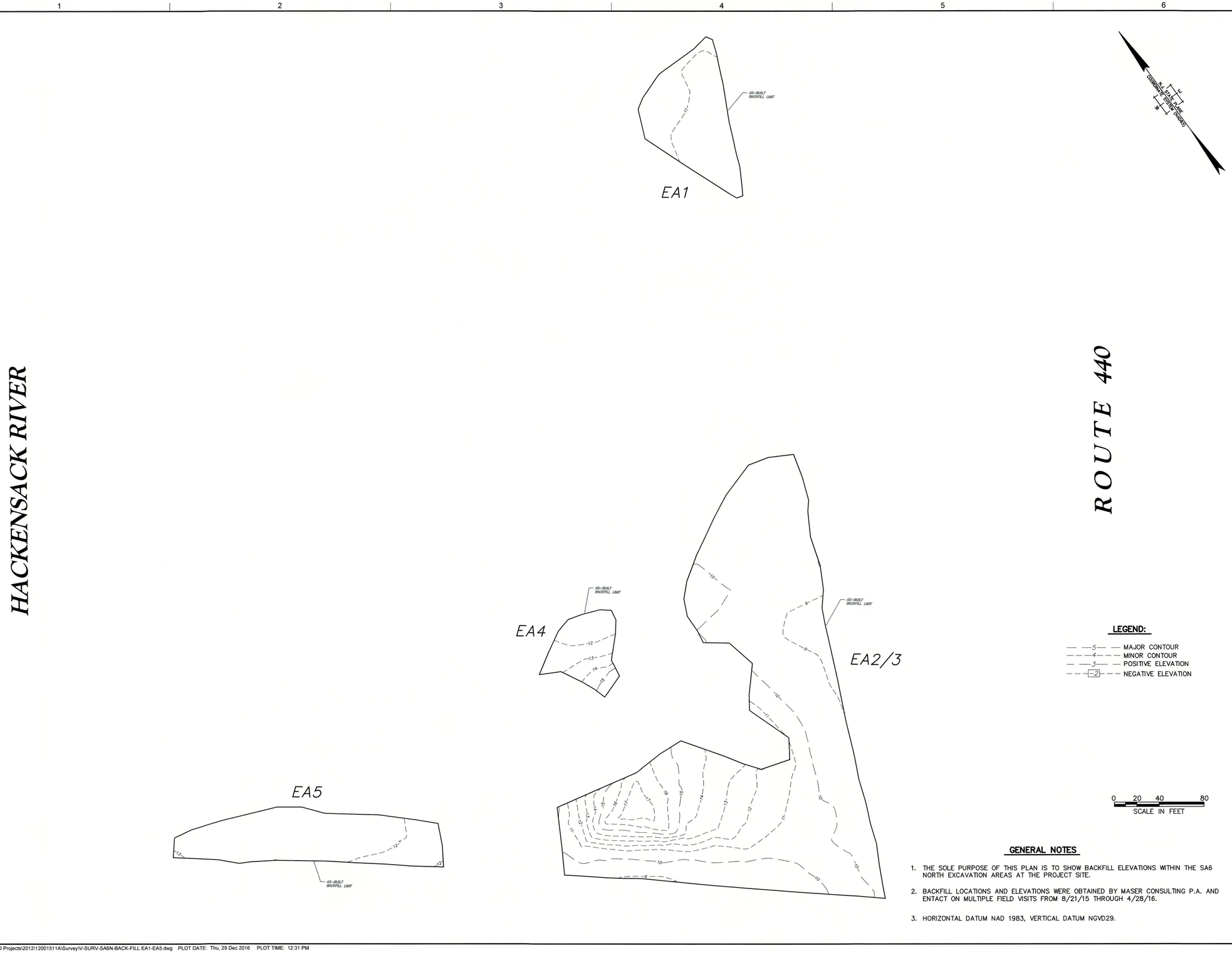
LEGEND:

COMPACTION TEST LOCATION — SF-XX

STRUCTURAL FILL LIMITS

ENTACT
302 Unity Plaza
Latrobe, PA 15650
412-357-1102

DRAWING NAME	STRUCTURAL FILL COMPACTION LOCATIONS				
PROJECT NAME & LOCATION	HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ				
DRAWN BY	T. COLLIER	APPROVED BY			
DATE	7/15/16	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	



GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW BACKFILL ELEVATIONS WITHIN THE SA6 NORTH EXCAVATION AREAS AT THE PROJECT SITE.
2. BACKFILL LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. AND ENTACT ON MULTIPLE FIELD VISITS FROM 8/21/15 THROUGH 4/28/16.
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

NO.	DATE	GENERAL REVISIONS	BSB	RTH
1	12/28/16	REVISION	BY	APVD
DSGN	GE	DR	CHK	RTH

BSB

R. THOMAS HUGG

N.J. PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 08223

FILE NUMBER 12001511A

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
BACKFILL PLAN FOR EXCAVATION
AREAS 1, 2/3, 4 AND 5

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 NORTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2229

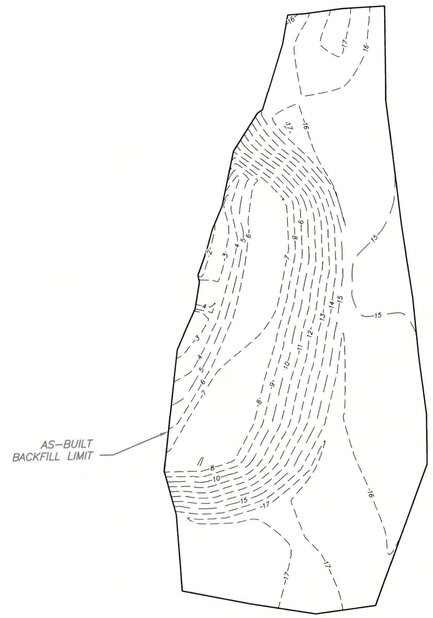
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	8/23/16
PROJ	3480-10-0027
DWG	C-111A
SHEET	1 OF 2

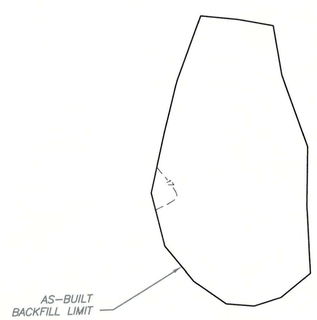
THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION, AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: C:\Civil 3D Projects\2012\12001511A\Survey\V-SURV-SA6N-BACK-FILL EA1-EA5.dwg PLOT DATE: Thu, 29 Dec 2016 PLOT TIME: 12:31 PM

HACKENSACK RIVER



EA8



EA7

ROUTE 440

LEGEND:

- MAJOR CONTOUR
- MINOR CONTOUR
- POSITIVE ELEVATION
- NEGATIVE ELEVATION

0 15 30 60
SCALE IN FEET

GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW BACKFILL ELEVATIONS WITHIN THE SA6 NORTH EXCAVATION AREAS AT THE PROJECT SITE.
2. BACKFILL LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. AND ENTACT ON MULTIPLE FIELD VISITS FROM 8/21/15 THROUGH 4/28/16.
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 080223

FILE NUMBER 12001511A

NO.	DATE	REVISION	BY	APVD
1	12/28/16	GENERAL REVISIONS	BSB	RTH

DSGN GE | DR | CHK BSB | APVD RTH

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS38737

Honeywell
101 COLUMBIA RD. BOX 2108, MORRISTOWN, NJ 07962

STUDY AREA 6 NORTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
BACKFILL PLAN FOR EXCAVATION
AREAS 7 AND 8

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2629

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	8/23/16
PROJ	3480-10-0027
DWG	C-112A
SHEET	2 OF 2

MASER CONSULTING P.A.

Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

156 Stagecoach Road
Marmora, NJ 08223
T: 609.390.1927
F: 609.390.0040
www.maserconsulting.com

SA-6 North Excavation: Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Excavation Area	Date Obtained	Elevation	Comments
686226.6	602197.5	3.7	087-SB-043	EA7	6/26/2015	3.4	Target Elevation Reached
686242.4	602173.1	7.8	087-SB-107	EA7	6/26/2015	3.5	Target Elevation Reached
685477.1	603650.1	8.4	088-SB-126	EA4	8/26/2015	3.0	Target Elevation Reached
685505.3	603645.5	3.0	088-SB-011	EA4	8/26/2015	2.8	Target Elevation Reached
685521.0	603649.4	5.3	088-SB-186	EA4	8/26/2015	2.8	Target Elevation Reached
685474.0	603398.6	-6.2	088-SB-153	EA5	8/31/2015	-4.8	Stratum D Reached
685486.7	603382.3	-4.0	088-SB-155	EA5	9/3/2015	-5.2	Stratum D Reached
685506.6	603356.6	-6.0	088-SB-156	EA5	9/3/2015	-5.1	Stratum D Reached
685534.2	603299.6	-6.2	088-SB-158	EA5	9/9/2015	-6.3	Stratum D Reached
685291.6	603615.5	-2.6	088-SB-177	EA2/3	11/23/2015	-1.7	Stratum D Reached
685359.5	603616.1	3.9	088-SB-179[2]	EA2/3	11/23/2015	1.7	Target Elevation Reached
685302.9	603632.4	-4.9	088-SB-C19	EA2/3	11/23/2015	-1.5	Stratum D Reached
685329.2	603629.5	2.0	088-SB-106	EA2/3	11/23/2015	-1.8	Stratum D Reached
685271.5	603641.2	-1.9	088-SB-175	EA2/3	12/3/2015	-1.4	Stratum D Reached
685301.3	603684.1	-2.0	088-SB-108	EA2/3	12/3/2015	-1.4	Stratum D Reached
685341.4	603647.7	-1.0	088-SB-134	EA2/3	12/3/2015	-1.9	Stratum D Reached
685250.2	603664.4	-2.3	088-SB-174	EA2/3	12/8/2015	-1.7	Stratum D Reached
685285.8	603689.8	-4.2	088-SB-189	EA2/3	12/8/2015	-1.6	Stratum D Reached
685316.8	603704.9	2.0	088-SB-420[2]	EA2/3	12/8/2015	-1.5	Stratum D Reached
686418.4	602378.4	2.7	087-SB-646	EA8	12/9/2015	1.1	Target Elevation Reached
686465.8	602361.7	4.5	087-SB-640	EA8	10/21/2015	2.2	Target Elevation Reached
686457.4	602359.1	1.6	087-SB-643	EA8	10/21/2015	1.6	Target Elevation Reached
686444.8	602379.1	3.9	087-SB-511	EA8	10/21/2015	3.3	Target Elevation Reached
686492.9	602411.9	6.5	087-SB-638	EA8	10/21/2015	3.3	Target Elevation Reached
686473.9	602384.0	2.0	087-SB-642	EA8	10/21/2015	1.8	Target Elevation Reached
686460.5	602386.2	2.0	087-SB-509	EA8	10/21/2015	1.4	Target Elevation Reached
686468.7	602395.1	3.7	087-SB-144	EA8	10/21/2015	1.6	Target Elevation Reached
686478.6	602406.8	3.8	087-SB-148	EA8	10/21/2015	1.6	Target Elevation Reached
686396.4	602358.6	7.5	087-SB-W25	EA8	10/21/2015	6.9	Target Elevation Reached
686427.6	602332.7	7.4	087-SB-102	EA8	6/26/2015	6.7	Target Elevation Reached

686443.9	602351.8	2.7	087-SB-644	EA8	12/9/2015	1.6	Target Elevation Reached
685488.8	603862.2	-1.7	087-SB-125	EA2/3	12/10/2015	-1.7	Stratum D Reached
685528.7	603877.3	-0.8	087-SB-127[2]	EA2/3	12/10/2015	-1.4	Stratum D Reached
685518.5	603849.4	-0.4	087-SB-128[2]	EA2/3	12/10/2015	-1.1	Stratum D Reached
685507.5	603867.4	-4.5	087-SB-A22	EA2/3	12/10/2015	-1.3	Stratum D Reached
685434.5	603843.6	-1.2	088-SB-162	EA2/3	12/17/2015	-1.4	Stratum D Reached
685245.4	603715.8	-4.1	088-SB-166	EA2/3	12/17/2015	-0.6	Stratum D Reached
685230.4	603688.7	-3.5	088-SB-173	EA2/3	12/17/2015	-1.6	Stratum D Reached
685262.8	603736.1	-0.1	088-SB-110	EA2/3	12/17/2015	-1.9	Stratum D Reached
685459.1	603857.6	-1.4	088-SB-117	EA2/3	12/17/2015	-1.2	Stratum D Reached
685459.4	603824.1	-1.2	088-SB-118	EA2/3	12/17/2015	-0.9	Stratum D Reached
685488.5	603833.2	-0.5	088-SB-161	EA2/3	12/17/2015	-0.7	Stratum D Reached
685497.0	603784.2	5.8	087-SB-603	EA2/3	12/17/2015	1.4	Target Elevation Reached
685472.5	603810.7	2.6	087-SB-584	EA2/3	12/17/2015	1.3	Target Elevation Reached
685292.2	603744.5	-1.5	088-SB-167[2]	EA2/3	12/22/2015	-0.6	Stratum D Reached
685200.1	603727.7	-8.1	088-SB-004	EA2/3	12/22/2015	-2.6	Stratum D Reached
685267.3	603764.3	0.1	088-SB-131	EA2/3	12/28/2015	-0.5	Stratum D Reached
685291.5	603775.8	-1.3	088-SB-164	EA2/3	12/30/2015	-0.9	Stratum D Reached
685330.7	603765.7	-0.2	088-SB-111[2]	EA2/3	12/30/2015	-0.6	Stratum D Reached
685354.3	603756.4	4.1	088-SB-422[2]	EA2/3	12/30/2015	3.0	Target Elevation Reached
685406.1	603785.8	3.6	088-SB-170	EA2/3	1/5/2016	3.5	Target Elevation Reached
685386.9	603759.9	4.4	088-SB-169[2]	EA2/3	1/5/2016	3.4	Target Elevation Reached
685362.9	603780.5	3.7	088-SB-113	EA2/3	1/5/2016	-0.6	Stratum D Reached
685449.2	603797.2	-0.6	088-SB-172	EA2/3	1/6/2016	-1.2	Stratum D Reached
685415.9	603805.7	-1.2	088-SB-115	EA2/3	1/6/2016	-0.2	Stratum D Reached
685445.5	603757.3	8.9	088-SB-425	EA2/3	1/6/2016	5.4	Target Elevation Reached
685465.0	603767.1	5.8	087-SB-604	EA2/3	1/6/2016	1.1	Target Elevation Reached
685432.1	603787.8	4.3	088-SB-423[2]	EA2/3	1/6/2016	-0.7	Stratum D Reached
685864.7	604018.0	5.8	087-SB-030	EA1	2/26/2016	5.4	Target Elevation Reached
685783.3	604016.3	8.0	087-SB-129	EA1	2/23/2016	5.7	Target Elevation Reached
685819.4	603991.1	9.1	087-SB-131[4]	EA1	2/23/2016	5.3	Target Elevation Reached
685849.3	604024.9	8.0	087-SB-132	EA1	2/26/2016	5.3	Target Elevation Reached
685866.4	603991.0	8.6	087-SB-133[4]	EA1	2/26/2016	5.1	Target Elevation Reached
685872.4	604017.6	9.2	087-SB-143[4]	EA1	2/26/2016	5.5	Target Elevation Reached
685804.7	603983.5	8.3	087-SB-153[4]	EA1	2/23/2016	5.8	Target Elevation Reached
685842.3	604022.2	8.5	087-SB-520	EA1	2/26/2016	5.4	Target Elevation Reached
685768.3	603998.9	6.3	087-SB-522[4]	EA1	2/19/2016	5.3	Target Elevation Reached
685754.1	603998.1	6.2	087-SB-523	EA1	2/19/2016	5.7	Target Elevation Reached
685809.6	604023.4	6.9	087-SB-A26	EA1	2/23/2016	6.5	Target Elevation Reached
685785.5	603988.4	7.0	087-SB-521[4]	EA1	2/19/2016	5.2	Target Elevation Reached

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

SA-6 North Excavation: Sidewall Confirmatory Points (Table 2.0)							
Sidewall Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Excavation Area	Date Obtained	Elevation	Comments
686220.7	602206.9	8.2	087-SB-043A	EA7	6/26/2015	3.4	Target Elevation Reached
686264.1	602213.4	8.5	087-SB-106	EA7	6/26/2015	3.3	Target Elevation Reached
686195.0	602176.6	8.3	087-SB-108	EA7	6/26/2015	3.2	Target Elevation Reached
686242.4	602211.8	8.4	087-SB-514	EA7	6/26/2015	3.4	Target Elevation Reached
686249.6	602181.1	8.8	087-SB-515	EA7	6/26/2015	3.3	Target Elevation Reached
686222.5	602171.4	8.6	087-SB-516	EA7	6/26/2015	3.4	Target Elevation Reached
685520.2	603679.3	6.4	087-SB-134	EA4	8/26/2015	5.3	Target Elevation Reached
685511.7	603623.9	8.5	088-SB-125	EA4	8/26/2015	2.8	Target Elevation Reached
685477.1	603650.1	10.3	088-SB-126	EA4	8/26/2015	3.0	Target Elevation Reached
685497.9	603664.5	8.3	088-SB-185	EA4	8/26/2015	2.8	Target Elevation Reached
685528.9	603653.4	7.6	088-SB-193	EA4	8/26/2015	5.2	Target Elevation Reached
685495.6	603636.2	8.3	088-SB-424	EA4	8/26/2015	2.7	Target Elevation Reached
685455.3	603421.3	-1.0	088-SB-152	EA5	8/31/2015	-4.6	Stratum D Reached
685486.7	603382.3	-2.0	088-SB-155	EA5	9/3/2015	-5.2	Stratum D Reached
685547.1	603302.2	-3.6	088-SB-159	EA5	9/10/2015	-5.6	Stratum D Reached
685566.5	603273.1	-4.1	088-SB-160	EA5	9/10/2015	-5.6	Stratum D Reached
685538.8	603332.8	-4.3	088-SB-182	EA5	9/9/2015	-5.9	Stratum D Reached
685513.9	603364.3	-4.8	088-SB-183	EA5	9/3/2015	-4.8	Stratum D Reached
685481.8	603405.4	-4.4	088-SB-184	EA5	8/31/2015	-4.8	Stratum D Reached
685333.3	603596.6	3.5	088-SB-105	EA2/3	11/18/2015	1.7	Target Elevation Reached
685350.3	603567.5	2.9	088-SB-132	EA2/3	11/18/2015	1.8	Target Elevation Reached
685348.1	603535.9	1.9	088-SB-190[3]	EA2/3	11/18/2015	1.9	Target Elevation Reached
685379.9	603632.8	6.5	088-SB-120	EA2/3	11/23/2015	1.3	Target Elevation Reached
685359.5	603616.1	7.9	088-SB-179[2]	EA2/3	11/23/2015	1.7	Target Elevation Reached
685333.5	603689.5	3.6	088-SB-129	EA2/3	12/3/2015	-1.3	Stratum D Reached
685379.3	603662.1	5.4	088-SB-180	EA2/3	12/3/2015	1.4	Target Elevation Reached
685355.1	603681.3	3.9	088-SB-181	EA2/3	12/3/2015	1.7	Target Elevation Reached
685316.8	603704.9	3.5	088-SB-420[2]	EA2/3	12/8/2015	-1.5	Stratum D Reached
686463.4	602423.6	6.3	087-SB-150	EA8	10/21/2015	3.4	Target Elevation Reached
686417.1	602325.5	7.5	087-SB-641	EA8	10/21/2015	6.7	Target Elevation Reached
686436.4	602412.0	3.9	087-SB-145	EA8	10/21/2015	3.3	Target Elevation Reached
686505.3	602412.1	7.5	087-SB-633	EA8	10/21/2015	6.9	Target Elevation Reached
686389.4	602327.8	8.4	087-SB-103	EA8	6/26/2015	7.0	Target Elevation Reached
686488.3	602424.8	8.5	087-SB-149	EA8	6/26/2015	6.5	Target Elevation Reached
686415.9	602393.1	8.5	087-SB-512	EA8	6/26/2015	6.6	Target Elevation Reached
686390.7	602366.9	7.9	087-SB-W25A	EA8	6/26/2015	6.7	Target Elevation Reached
685528.7	603877.3	4.7	087-SB-127[2]	EA2/3	12/10/2015	-1.4	Stratum D Reached

685518.5	603849.4	3.1	087-SB-128[2]	EA2/3	12/10/2015	-1.1	Stratum D Reached
685494.1	603822.7	8.4	088-SB-187	EA2/3	12/17/2015	-0.8	Stratum D Reached
685511.9	603791.7	8.3	087-SB-605	EA2/3	12/17/2015	1.4	Target Elevation Reached
685494.8	603764.3	9.3	087-SB-606	EA2/3	12/17/2015	1.3	Target Elevation Reached
685472.6	603750.7	8.2	087-SB-607	EA2/3	12/17/2015	5.1	Target Elevation Reached
685300.2	603720.8	3.0	088-SB-145	EA2/3	12/22/2015	-1.1	Stratum D Reached
685292.2	603744.5	1.0	088-SB-167[2]	EA2/3	12/22/2015	-0.6	Stratum D Reached
685330.7	603765.7	3.8	088-SB-111[2]	EA2/3	12/30/2015	-0.6	Stratum D Reached
685354.3	603756.4	8.6	088-SB-422[2]	EA2/3	12/30/2015	3.0	Target Elevation Reached
685312.4	603754.6	4.6	088-SB-421	EA2/3	12/30/2015	-0.9	Stratum D Reached
685376.0	603748.3	8.7	088-SB-146	EA2/3	1/5/2016	3.5	Target Elevation Reached
685386.9	603759.9	8.4	088-SB-169[2]	EA2/3	1/5/2016	3.4	Target Elevation Reached
685411.9	603776.3	7.9	088-SB-188	EA2/3	1/5/2016	3.5	Target Elevation Reached
685441.6	603749.6	8.0	088-SB-426	EA2/3	1/6/2016	5.3	Target Elevation Reached
685432.1	603787.8	6.3	088-SB-423[2]	EA2/3	1/6/2016	-0.7	Stratum D Reached
685819.4	603991.1	10.1	087-SB-131[4]	EA1	2/23/2016	5.3	Target Elevation Reached
685866.4	603991.0	10.1	087-SB-133[4]	EA1	2/26/2016	5.1	Target Elevation Reached
685872.4	604017.6	11.2	087-SB-143[4]	EA1	2/26/2016	5.5	Target Elevation Reached
685804.7	603983.5	10.3	087-SB-153[4]	EA1	2/23/2016	5.8	Target Elevation Reached
685768.3	603998.9	8.8	087-SB-522[4]	EA1	2/19/2016	5.3	Target Elevation Reached
685754.1	603998.1	7.7	087-SB-166	EA1	2/19/2016	5.7	Target Elevation Reached
685785.5	603988.4	8.5	087-SB-521[4]	EA1	2/19/2016	5.2	Target Elevation Reached
685875.2	604054.3	10.5	087-SB-542	EA1	2/25/2016	7.2	Target Elevation Reached
685847.2	603969.7	10.4	087-SB-585	EA1	2/25/2016	7.3	Target Elevation Reached

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

2 The IFC 100% Design for EA 2&3 included 9 perimeter borings that delineated both horizontal and vertical excavation limits. Sidewall and bottom confirmatory samples at these locations were collected from two separate elevation intervals. All sample results in these borings were <20ppm Hex Cr. The locations are color coded on the Excavation Bottom figure in green as Bottom Samples.

3 088-SB-190 was located in the earthen basement of the JCIA incinerator building in close proximity to the JCIA Pit. The boring log indicates that the materials appeared to be clean backfill. The western portion of the EA-2 excavation was observed to be a visibly clean imported sand backfill consistent with what was observed in the boring. Boring 088-SB-190 included <20 sample results below the design bottom elevation. A supplemental sample was taken post excavation to verify that the excavation was terminated in <20 PPM material. The result was <1 mg/Kg.

4 The IFC 100% Design for EA 1 included 6 perimeter borings that delineated both horizontal and vertical excavation limits. Sidewall and bottom confirmatory samples at these locations were collected from two separate elevation intervals. All sample results in these borings were <20ppm Hex Cr. The locations are color coded on the Excavation Bottom figure in green as Bottom Samples.

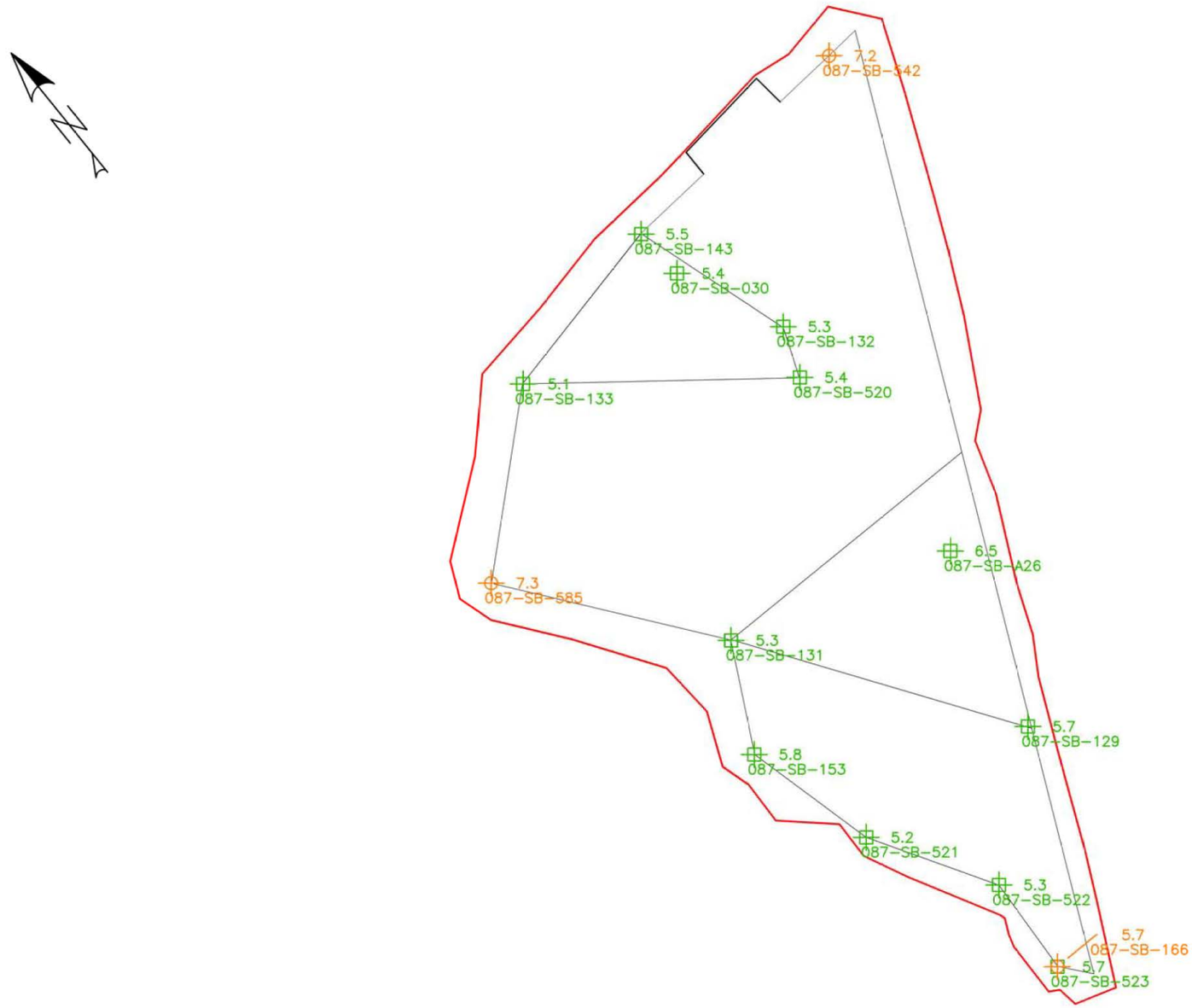
Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Sidewall Confirmatory Sidewall Points in Table 2 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation areas.

R. Thomas Hugg 3/16/16

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR

LICENSE NO. 36737



LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- PREVIOUSLY SUBMITTED DATA
- EXCAVATION TO STRATUM D
- LIMIT OF GCL INSTALLATION
- LIMIT OF EXCAVATION AREA
- TOP OF EXCAVATION SLOPE

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS EA1
03-15-16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

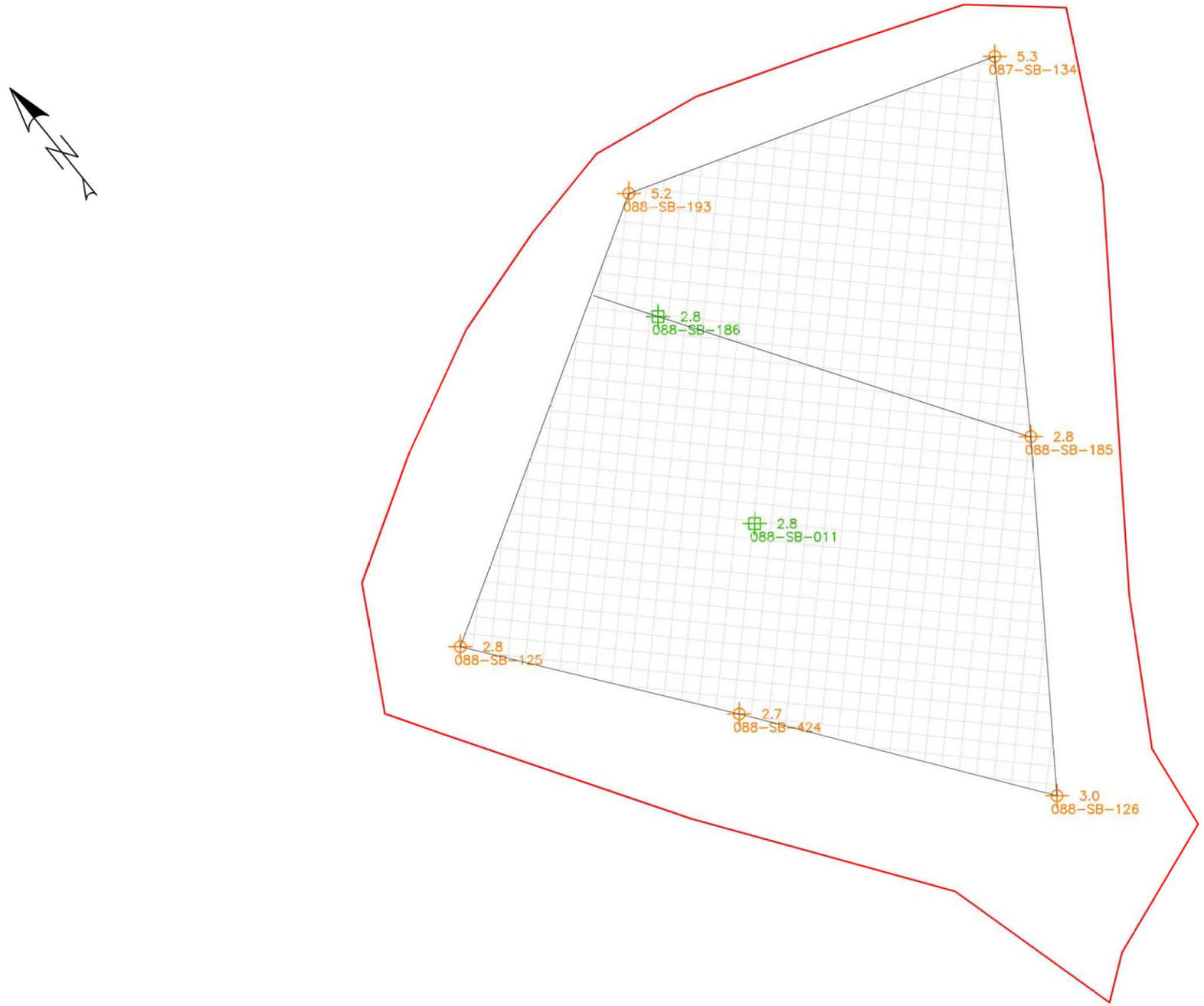
LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- PREVIOUSLY SUBMITTED DATA
- EXCAVATION TO STRATUM D
- LIMIT OF GCL INSTALLATION
- LIMIT OF EXCAVATION AREA
- TOP OF EXCAVATION SLOPE

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS EA2/3
03-03-16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



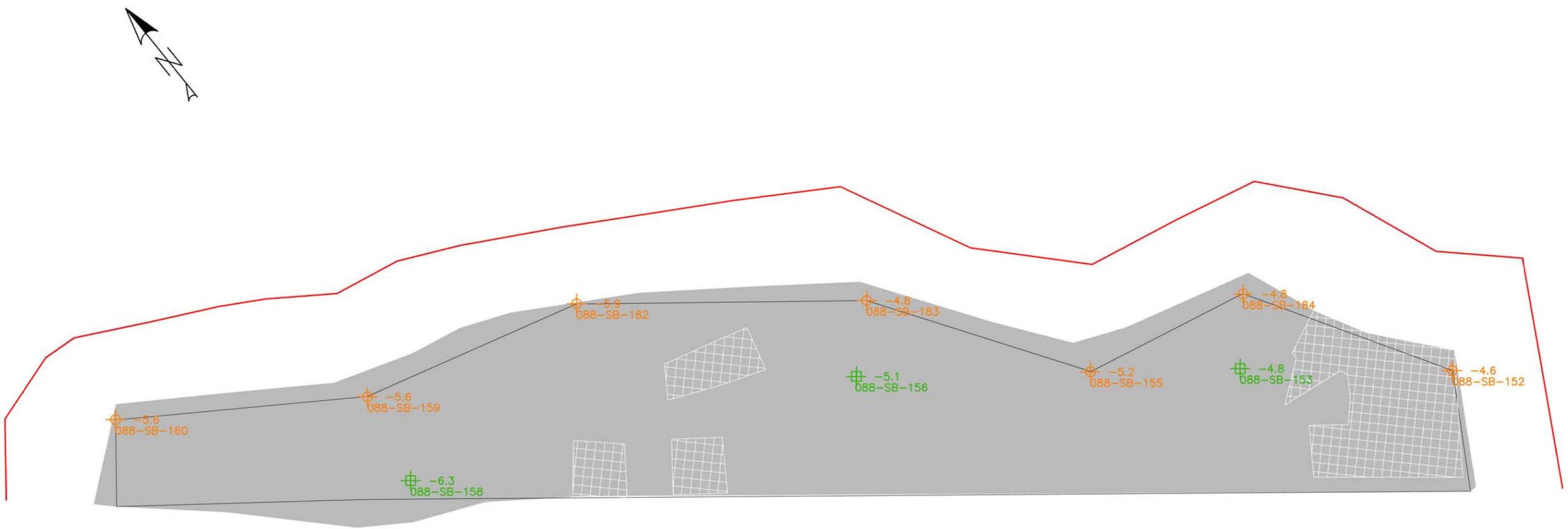
LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- CURRENT EXCAVATION TO <20 PPM
- LIMIT OF EXCAVATION AREA
- TOP OF EXCAVATION SLOPE

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS EA4
08-26-15

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- LIMIT OF GCL INSTALLATION
- LIMIT OF EXCAVATION AREA
- TOP OF EXCAVATION SLOPE

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS EA5
09-24-15

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- CURRENT EXCAVATION TO <20 PPM
- LIMIT OF EXCAVATION AREA
- TOP OF EXCAVATION SLOPE

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS EA7
06-30-15

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- LIMIT OF GCL INSTALLATION
- LIMIT OF EXCAVATION AREA
- TOP OF EXCAVATION SLOPE

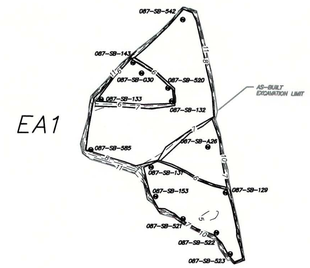
ENTACT 302 Unity Plaza Latrobe, PA 15650

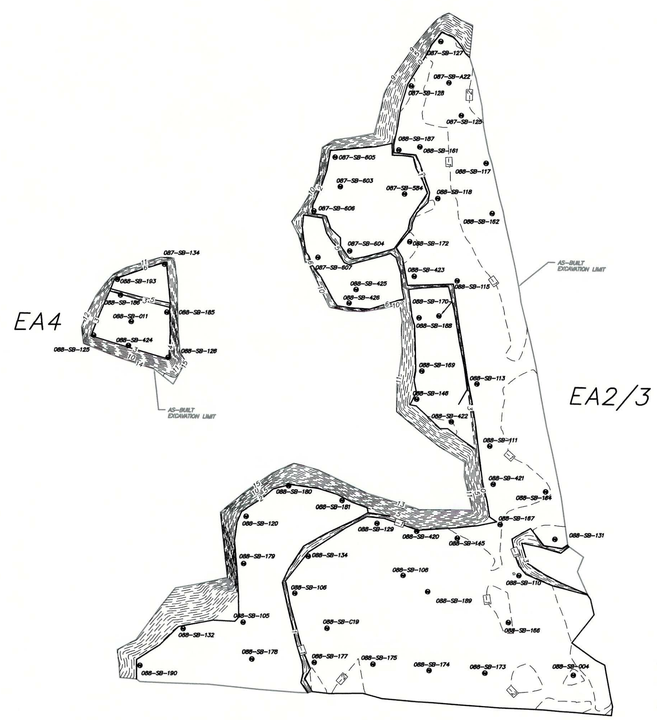
DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS EA8
12-17-15

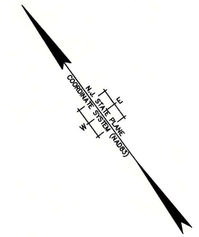
PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

HACKENSACK RIVER

ROUTE 440







LEGEND:

- 5 — MAJOR CONTOUR
- 4 — MINOR CONTOUR
- 3 — POSITIVE ELEVATION
- 2 — NEGATIVE ELEVATION

0 20 40 80
SCALE IN FEET

GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW POST-EXCAVATION ELEVATIONS WITHIN THE SA6 NORTH EXCAVATION AREAS AT THE PROJECT SITE.
2. POST-EXCAVATION LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. AND ENTACT ON MULTIPLE FIELD VISITS FROM 6/26/15 THROUGH 3/9/16.
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

R. THOMAS HUGG

NO.	DATE	REVISION	BY	APVD
1	12/28/16	GENERAL REVISIONS	BSB	RTH

DSGN GE | DR | CHK BSB | RTH

NJ PROFESSIONAL LAND SURVEYOR LICENSE NUMBER GS36737

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101 COLUMBIA RD. BOX 2165, MORRISTOWN, NJ 07962

STUDY AREA 6 NORTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
EXCAVATION PLAN FOR EXCAVATION
AREAS 1, 2/3, 4 AND 5

FILE NUMBER
12001511A

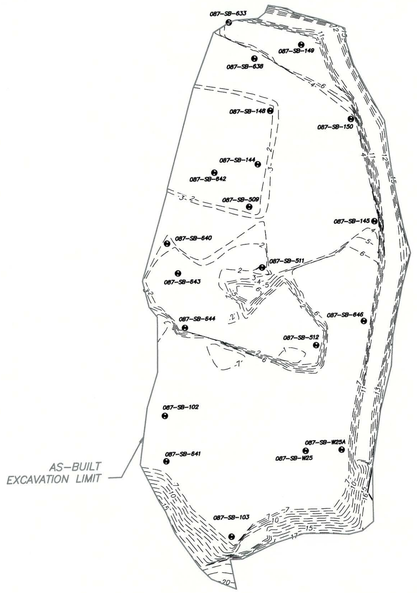
MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 158 STAGECOACH ROAD - MARMORA, NJ 08223

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829

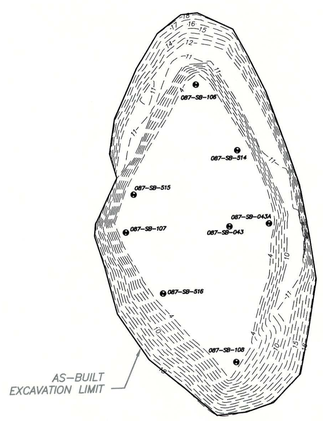
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	8/19/16
PROJ	3480-10-0027
DWG	C-111
SHEET	1 OF 2

HACKENSACK RIVER

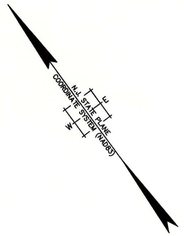


EA8



EA7

ROUTE 440



LEGEND:

- —5— MAJOR CONTOUR
- —4— MINOR CONTOUR
- —3— POSITIVE ELEVATION
- —2— NEGATIVE ELEVATION

0 15 20 40
SCALE IN FEET

GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW POST-EXCAVATION ELEVATIONS WITHIN THE SA6 NORTH EXCAVATION AREAS AT THE PROJECT SITE.
2. POST-EXCAVATION LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. AND ENTACT ON MULTIPLE FIELD VISITS FROM 6/26/15 THROUGH 3/9/16.
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

R. THOMAS HUGG

NO.	DATE	REVISION	BY	APVD
1	12/28/16	GENERAL REVISIONS	BSB	RTH

DSGN GE | DR | CHK | APVD BSB | RTH

NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 08223

FILE NUMBER 12001511A

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 NORTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

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DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
EXCAVATION PLAN FOR EXCAVATION
AREAS 7 AND 8

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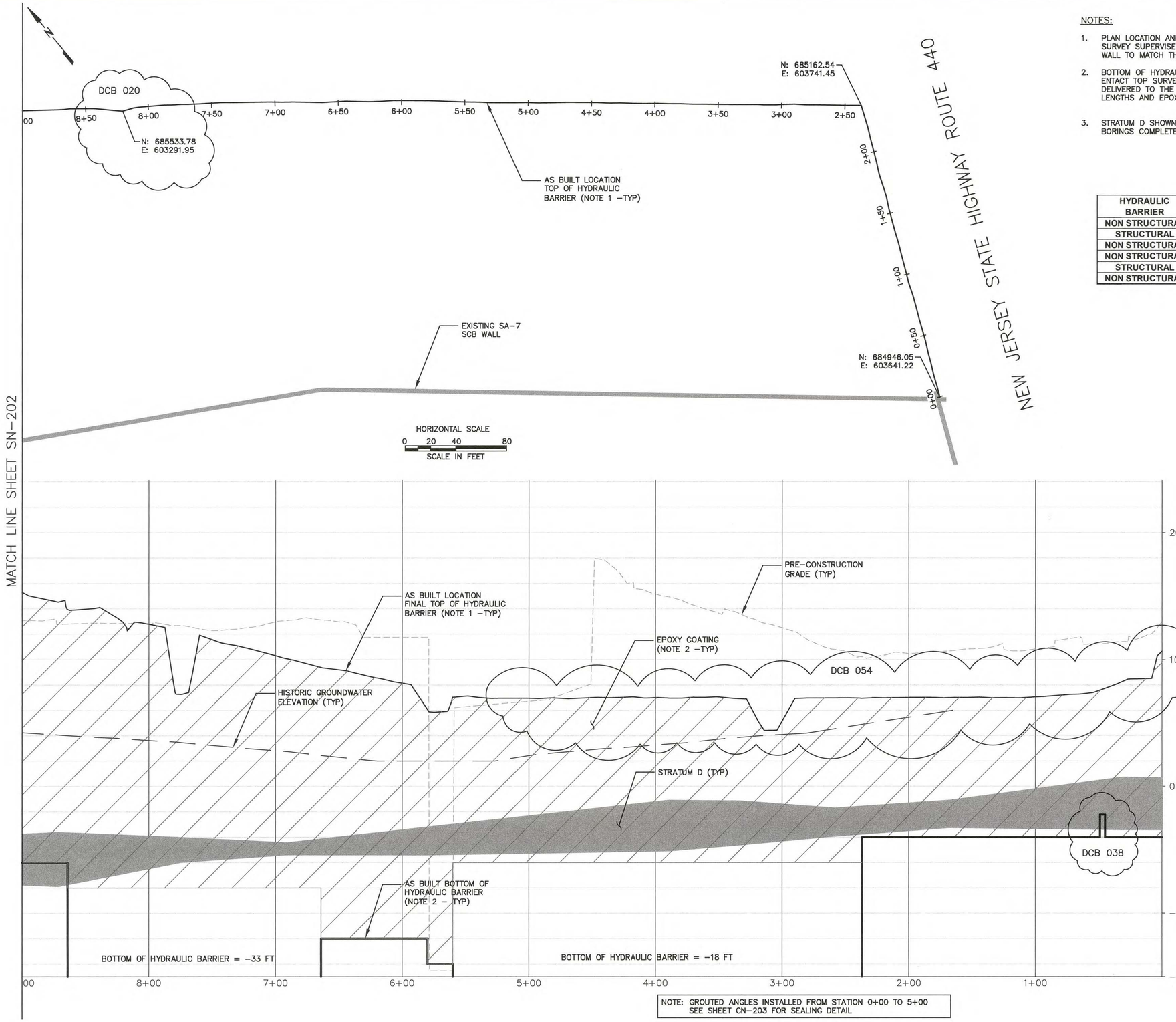
(609) 689 - 2829

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	8/19/16
PROJ	3480-10-0027
DWG	C-112
SHEET	2 OF 2



NOTE: GROUTED ANGLES INSTALLED FROM STATION 0+00 TO 5+00
SEE SHEET CN–203 FOR SEALING DETAIL

NOTES:

1. PLAN LOCATION AND TOP ELEVATION OF HYDRAULIC BARRIER BASED ON SURVEY SUPERVISED BY MASER CONSULTING AND UPON CUTTING OF THE WALL TO MATCH THE INSTALLED LINER GRADE.
2. BOTTOM OF HYDRAULIC BARRIER AND EXTENT OF EPOXY COATING BASED ON ENTACT TOP SURVEY AND SHEET PILE FABRICATION DRAWINGS. ALL SHEETS DELIVERED TO THE SITE WERE INSPECTED BY AMEC PERSONNEL TO VERIFY LENGTHS AND EPOXY COATING.
3. STRATUM D SHOWN FOR REFERENCE ONLY AND IS BASED ON GEOTECHNICAL BORINGS COMPLETED DURING THE PRELIMINARY DESIGN INVESTIGATION.

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	0+00	2+37	-4	AZ 19-700
STRUCTURAL	2+37	5+60	-18	AZ 19-700
NON STRUCTURAL	5+60	5+80	-14	AZ 19-700
NON STRUCTURAL	5+80	6+64	-12	AZ 19-700
STRUCTURAL	6+64	8+64	-33	AZ 38-700N
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	DSGN	DR	CHK	APVD
2	12/8/16	DECLARATION NO 3 - SA-6 NORTH VHB AS BUILT	TDD	SGS		SGS
2	8/25/16	DECLARATION NO 3 - ISSUED FOR CLIENT REVIEW	TDD	SGS		APVD
1			BY	APVD		
			TDD	RJR	TDD	

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CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
AS BUILT DRAWINGS

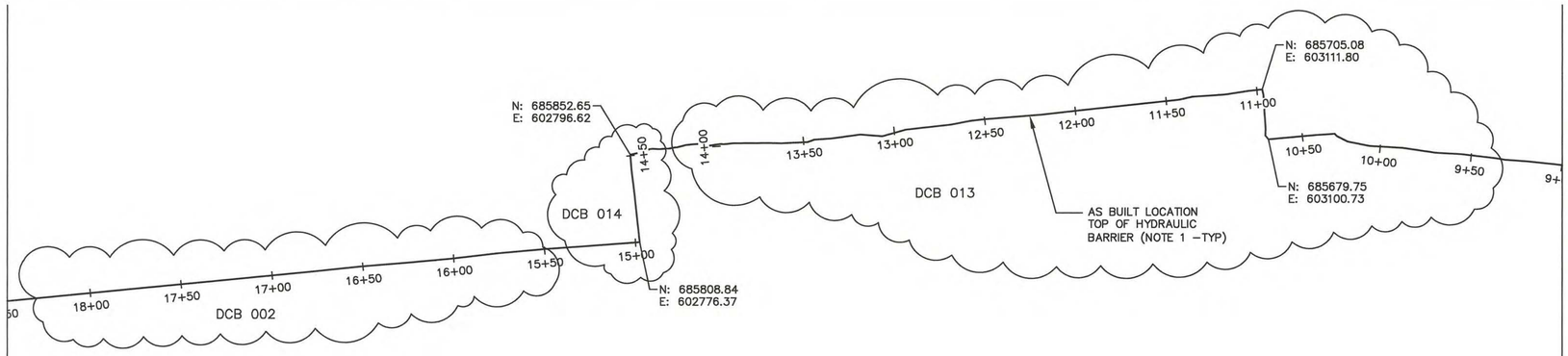
HYDRAULIC BARRIER
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	6/7/13
PROJ	3480-12-0317
DWG	SN-201
SHEET	54 OF 70

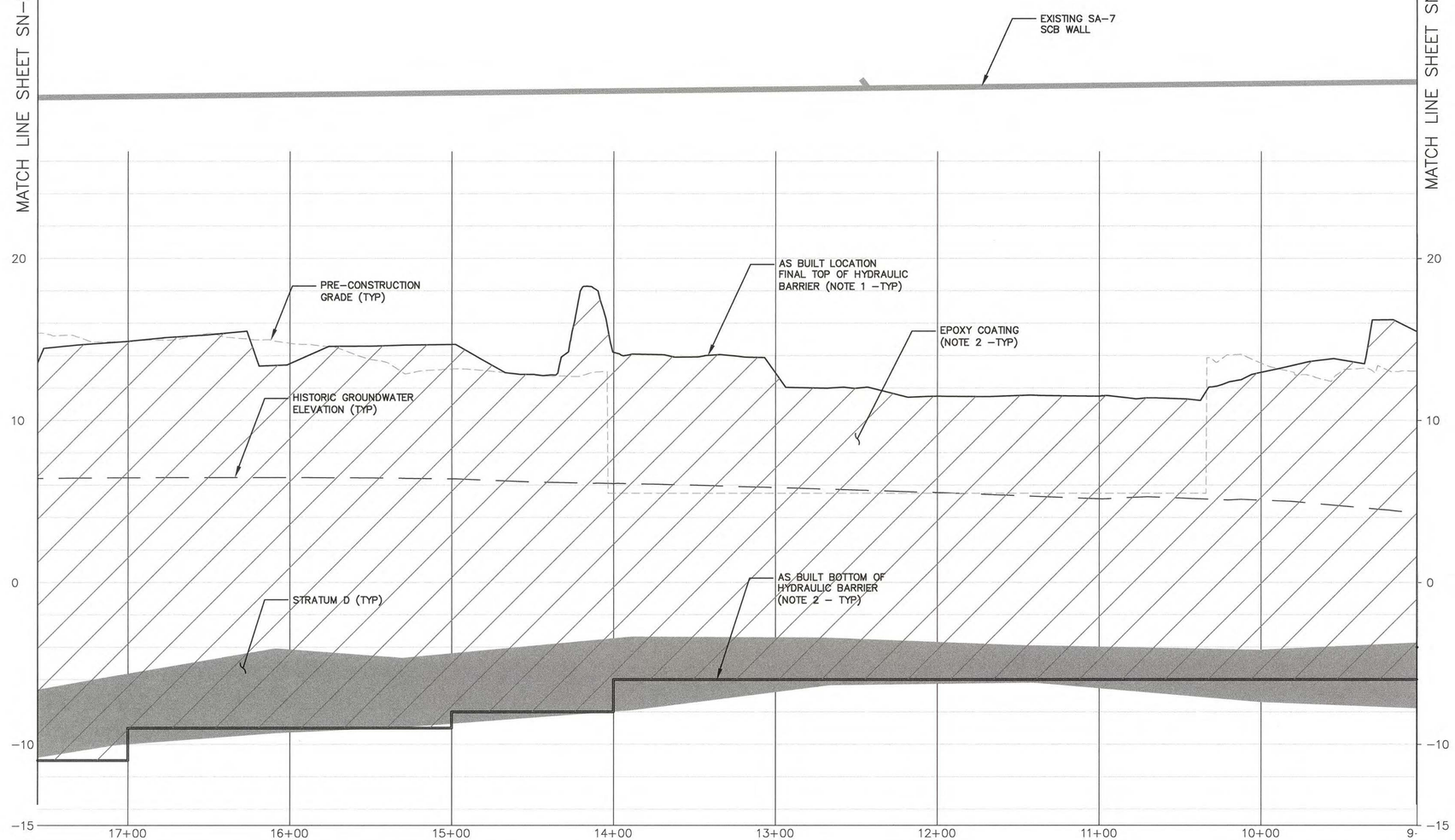
FILE NAME: C:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North VHB\SA-6 North VHB As Built.dwg PLOT DATE: Wed, 28 Dec 2016 PLOT TIME: 9:36 AM



NOTES:

1. REFER TO NOTES 1 THRU 3 ON SHEET SN–201

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700
NON STRUCTURAL	9+85	14+00	-6	AZ 19-700
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700



HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

SAMUEL G. SHALLARD

NO.	DATE	DESCRIPTION	BY	APV'D
2	12/8/16	DECLARATION NO 3 - SA-6 NORTH VHB AS BUILT	TDD	SGS
1	8/25/16	DECLARATION NO 3 - ISSUED FOR CLIENT REVIEW	TDD	SGS

DSGN TDD DR RJR CHK TDD APV'D SGS

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

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CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
AS BUILT DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 989 - 2029
NJ Cert of Authorization 24GA28011900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	6/7/13
PROJ	3480-12-0317
DWG	SN-202
SHEET	55 OF 70

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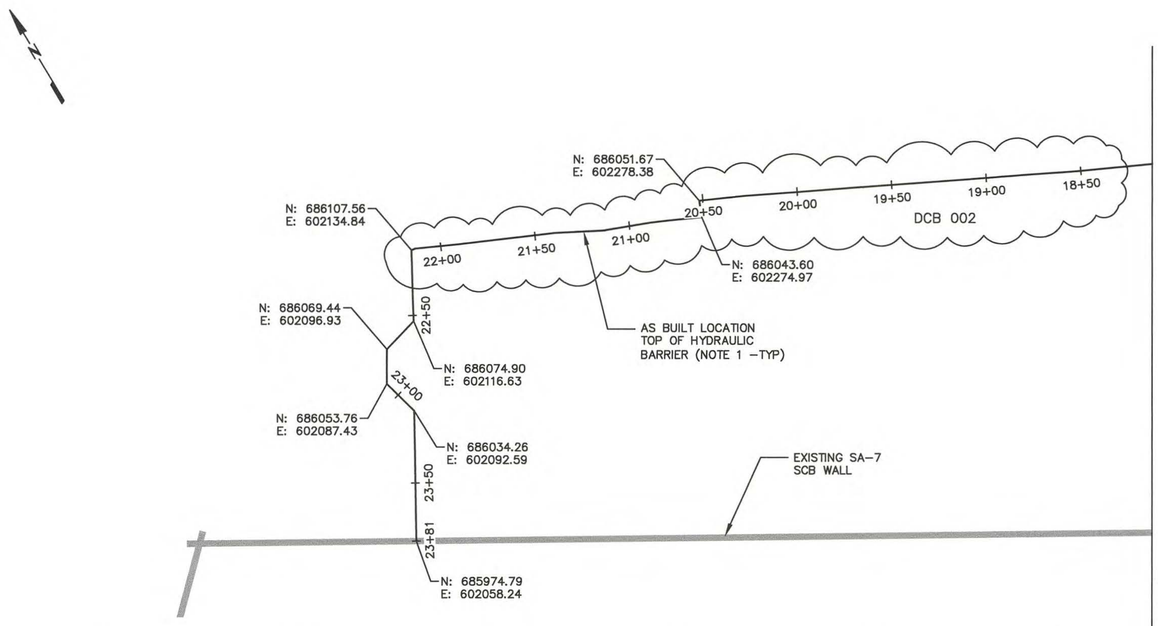
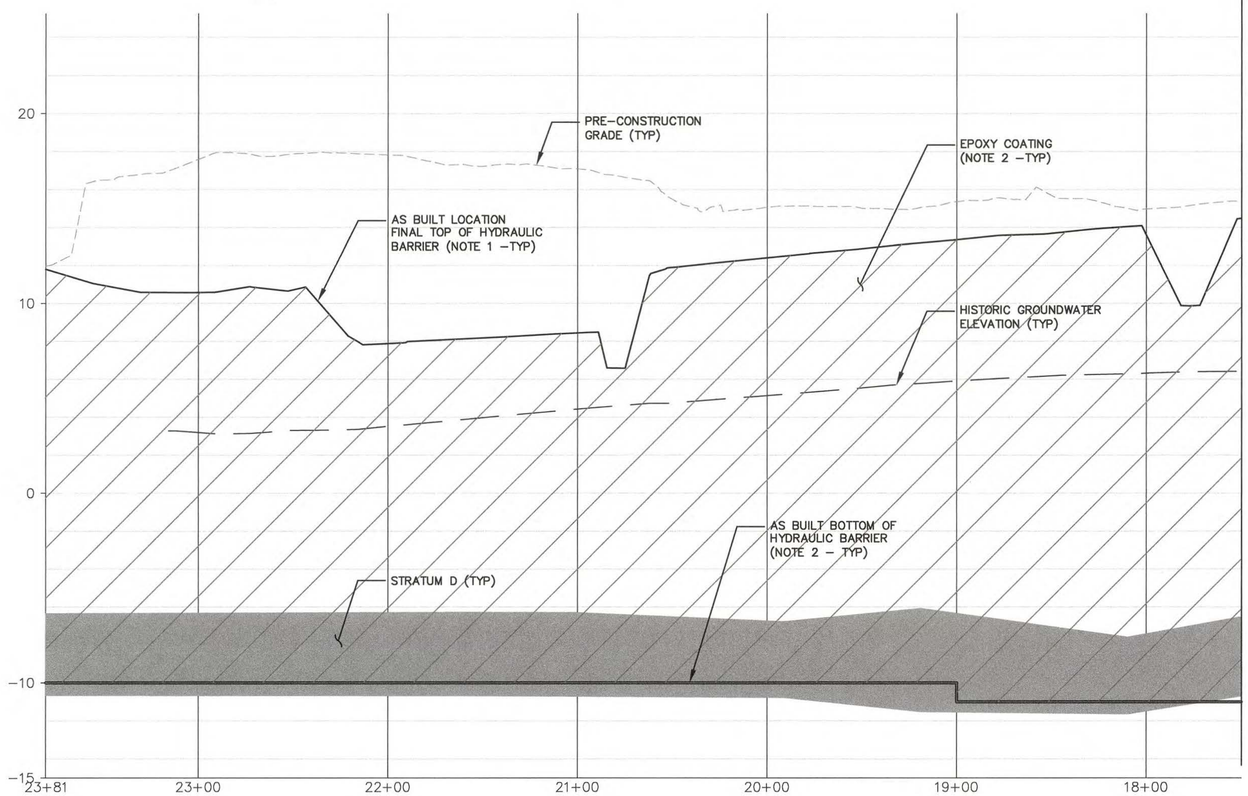
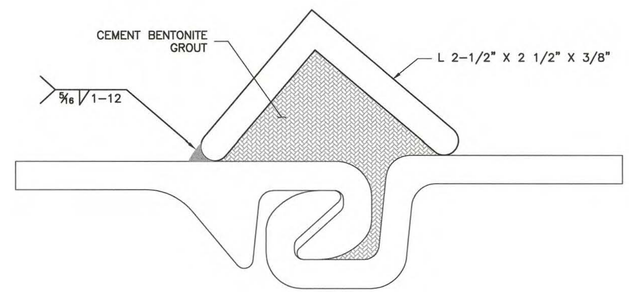




NOTES:

1. REFER TO NOTES 1 THRU 3 ON SHEET SN–201.

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700
NON STRUCTURAL	19+00	23+38	-10	AZ 19-700



SEE NOTE HB19 ON SHEET GN–003

SHEET SEALING DETAIL (F)
NTS
SN–201 | CN–301

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
2	12/8/16	DECLARATION NO 3 - SA-6 NORTH VHB AS BUILT	TDD	SGS
1	8/25/16	DECLARATION NO 3 - ISSUED FOR CLIENT REVIEW	TDD	SGS

DSGN TDD | DR RJR | CHK TDD | APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
AS BUILT DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
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Hamilton, NJ, 08619, (609) 689 - 2929
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	6/7/13
PROJ	3480-12-0317
DWG	SN-203
SHEET	56 OF 70

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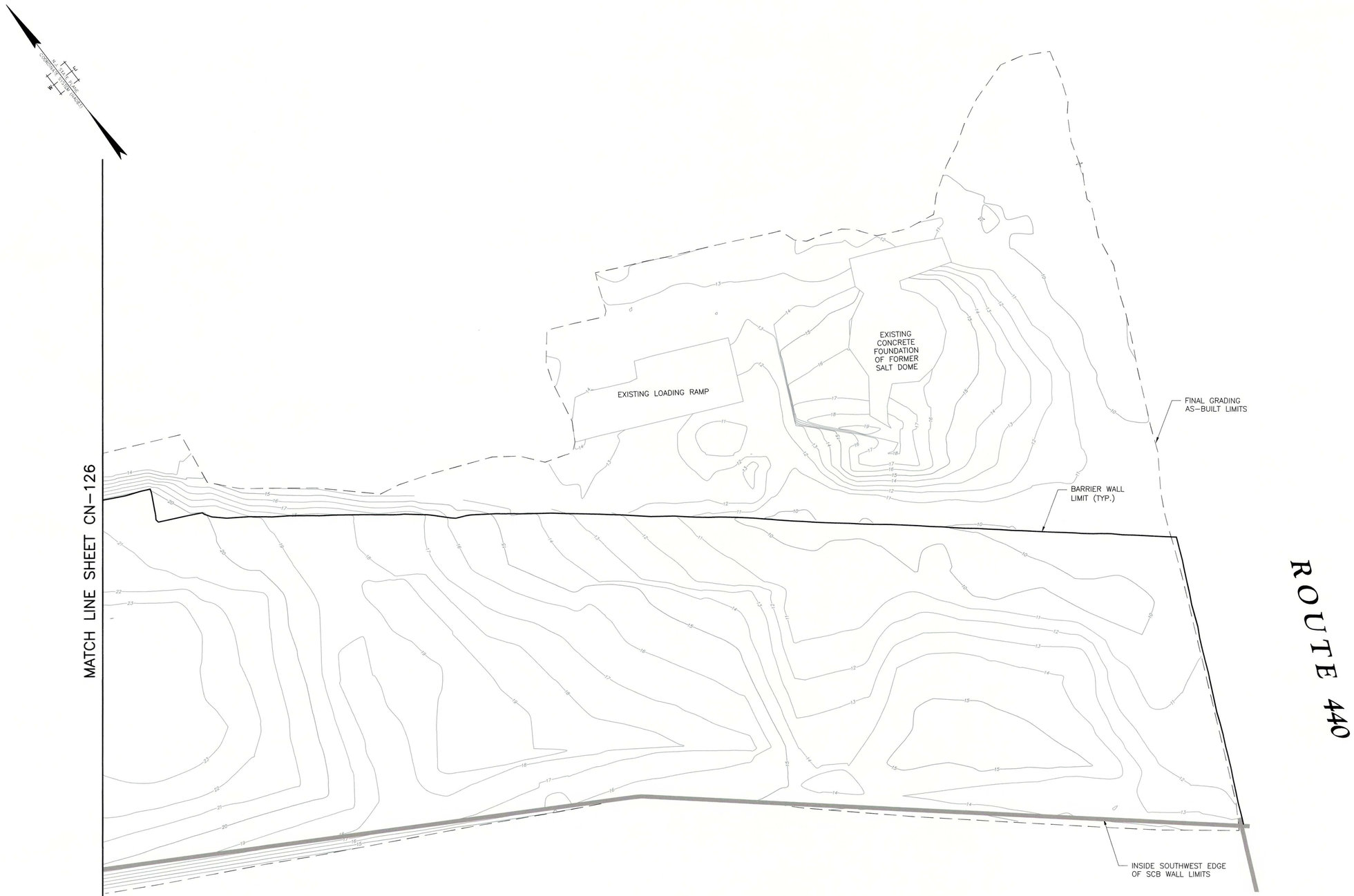

LEGEND:

5 MAJOR CONTOUR
4 MINOR CONTOUR

0 20 40 80
SCALE IN FEET

GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW FINAL GRADING ELEVATIONS WITHIN THE SA6 NORTH CAP AREA AT THE PROJECT SITE.
2. FINAL GRADING LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS FROM NOV. 4, 2016 THROUGH NOV. 28, 2016
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

R. THOMAS HUGG

NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER: GS35737

NO.	DATE	REVISION	BY	APVD
0.	1/24/17	SA-6 NORTH FINAL GRADING	DMS	RTH
DSGN		DR	CHK	APVD

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 NORTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

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DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
NORTH CAP FINAL GRADING PLAN

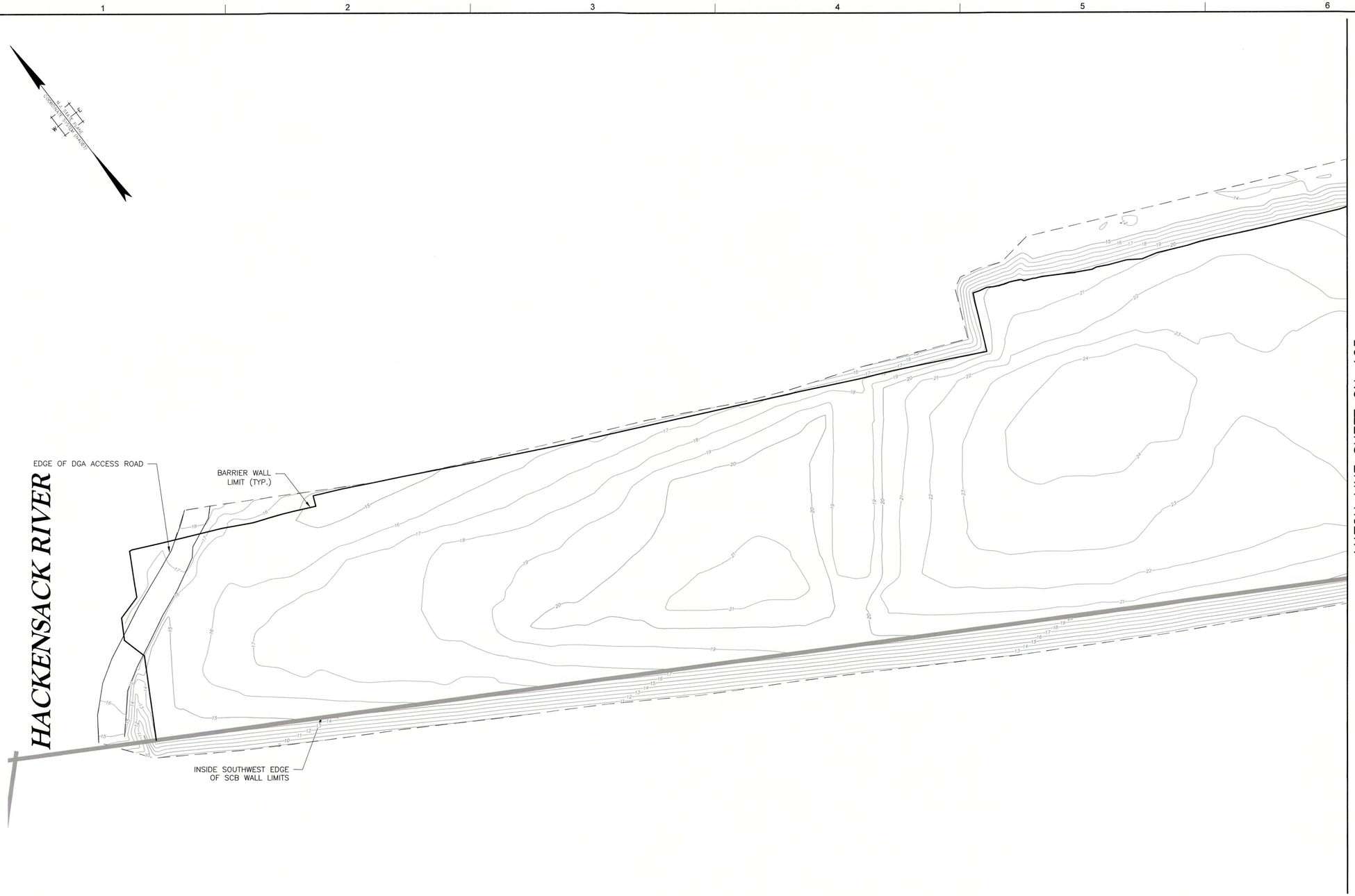
FILE NUMBER
12001511A

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 08223

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	12/22/16
PROJ	3480-10-0027
DWG	CN-125
SHEET	1 OF 2



LEGEND:

5 MAJOR CONTOUR
4 MINOR CONTOUR

0 20 40 80
SCALE IN FEET

GENERAL NOTES

1. *THE SOLE PURPOSE OF THIS PLAN IS TO SHOW FINAL GRADING ELEVATIONS WITHIN THE SA6 NORTH CAP AREA AT THE PROJECT SITE.*
2. *FINAL GRADING LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS FROM NOV. 4, 2016 THROUGH NOV. 28, 2016*
3. *HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.*

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
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MARMORA OFFICE - 196 STAGECOACH ROAD - MARMORA, NJ 08223

FILE NUMBER
12001511A

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
NORTH CAP FINAL GRADING PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689-2923

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	12/22/16
PROJ	3480-10-0027
DWG	CN-126
SHEET	2 OF 2

R. THOMAS HUGG

NO.	DATE		BY	
0	1/24/17	SA-6 NORTH FINAL GRADING	DMS	RTH
		REVISION	BY	APVD
DSGN		DR	CHK	APVD

NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 NORTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

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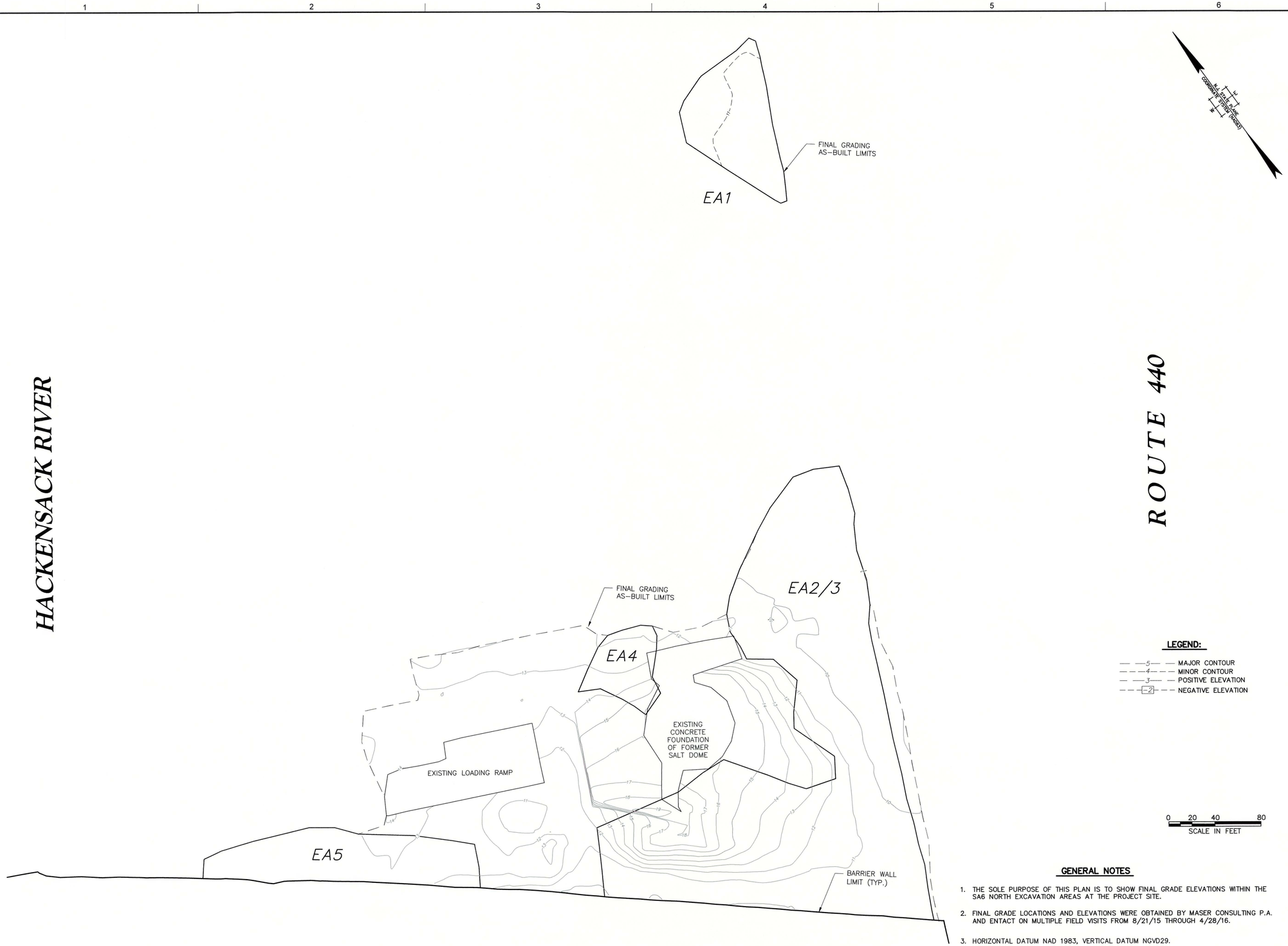

LEGEND:

- —5— MAJOR CONTOUR
- —4— MINOR CONTOUR
- —3— POSITIVE ELEVATION
- —-2— NEGATIVE ELEVATION

GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW FINAL GRADE ELEVATIONS WITHIN THE SA6 NORTH EXCAVATION AREAS AT THE PROJECT SITE.
2. FINAL GRADE LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. AND ENTACT ON MULTIPLE FIELD VISITS FROM 8/21/15 THROUGH 4/28/16.
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

NO.	DATE	REVISION	BY	APV'D
0	01/26/17	SA-6 NORTH FINAL GRADING	BSB	RTH

DSGN GE DR BSB CHK RTH

R. THOMAS HUGG
N.J. PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS38737

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STUDY AREA 6 NORTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
FINAL GRADING PLAN
FOR EXCAVATION
AREAS 1, 2/3, 4 AND 5

FILE NUMBER
12001511A

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 158 STAGECOACH ROAD - MARMORA, NJ 08223

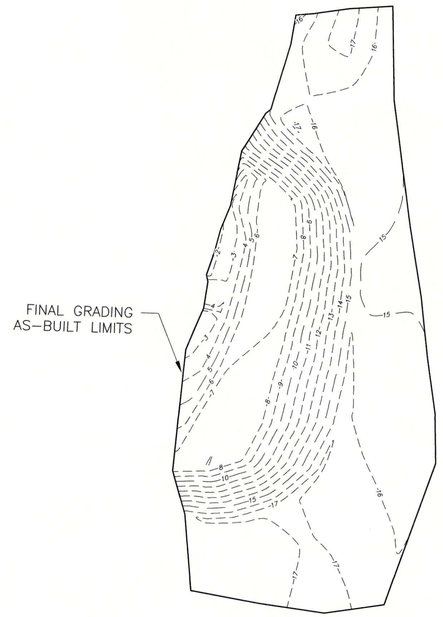
amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ. 08619
(609) 689 - 2029

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	8/23/16
PROJ	3480-10-0027
DWG	CN-114A
SHEET	1 OF 2

FILE NAME: C:\Civil 3D Projects\2012\12001511A\Survey\V-SURV-SA6N-BACK-FILL EA1-EA5.dwg PLOT DATE: Tue, 31 Jan 2017 PLOT TIME: 1:02 PM

HACKENSACK RIVER



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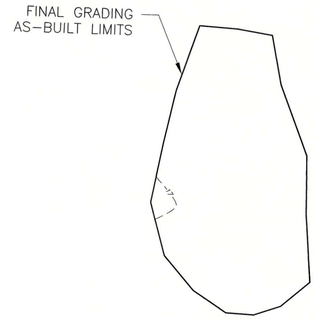
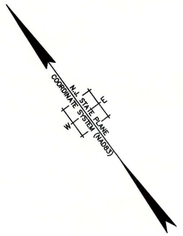


EA7

ROUTE 440



LEGEND:

- 5 — MAJOR CONTOUR
- 4 — MINOR CONTOUR
- 3 — POSITIVE ELEVATION
- -2 — NEGATIVE ELEVATION

0 15 30 60
SCALE IN FEET

GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW FINAL GRADE ELEVATIONS WITHIN THE SA6 NORTH EXCAVATION AREAS AT THE PROJECT SITE.
2. FINAL GRADE LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. AND ENTACT ON MULTIPLE FIELD VISITS FROM 8/21/15 THROUGH 4/28/16.
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 08223

FILE NUMBER 12001511A

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
FINAL GRADING PLAN
FOR EXCAVATION
AREAS 7 AND 8

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2929

VERIFY SCALE
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DWG	CN-115A
SHEET	2 OF 2

Honeywell
101 COLUMBIA RD. BOX 2108, MORRISTOWN, NJ 07962

STUDY AREA 6 NORTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

NO.	DATE	REVISION	BY	APVD
0	01/26/17	SA-6 NORTH FINAL GRADING	BSB	RTH

DSGN GE | DR | CHK BSB | APVD RTH

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

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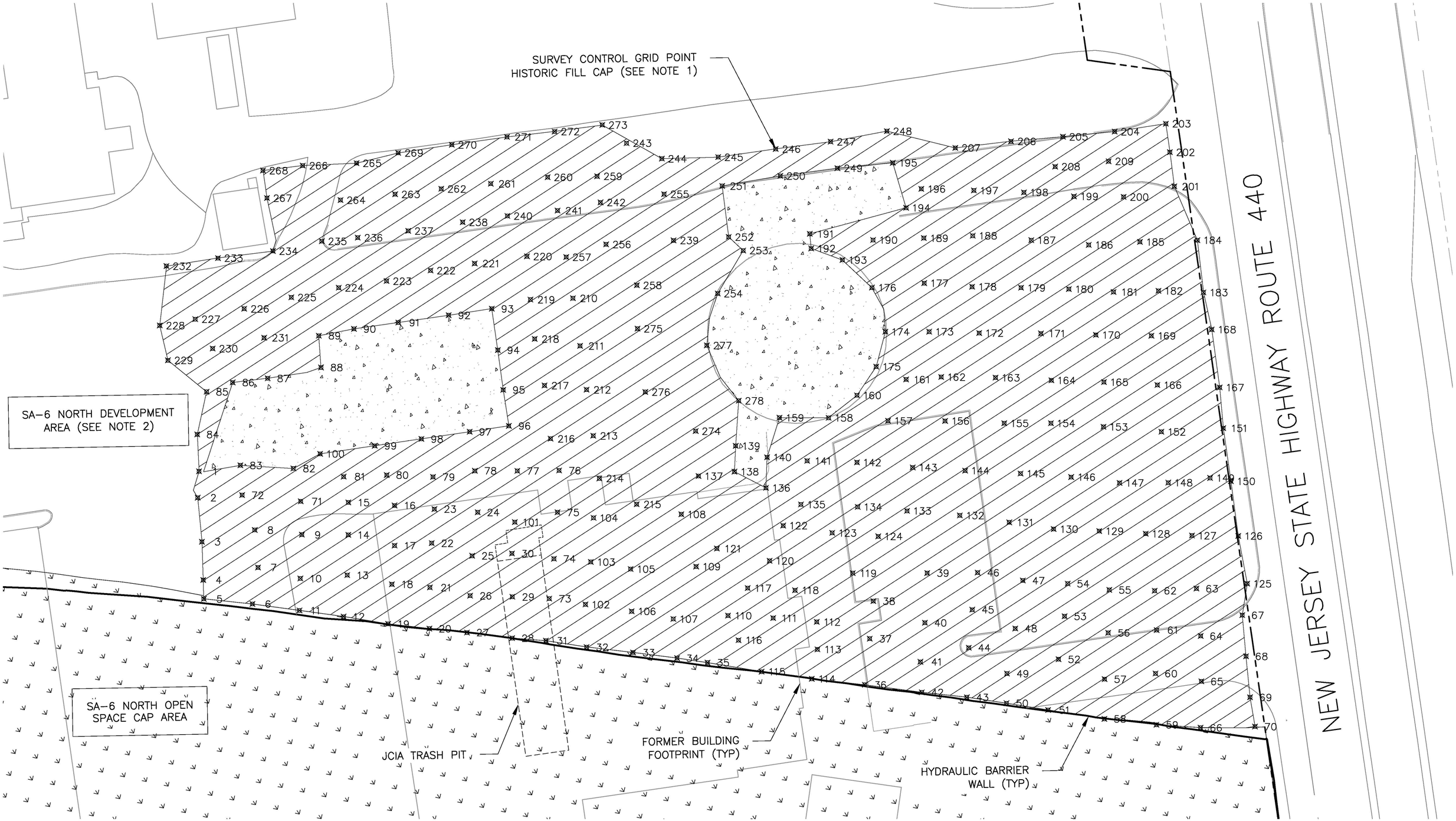


NOTES:

1. REFER TO TABLE 1 – STONE COVER THICKNESS SUMMARY FOR SURVEY DOCUMENTATION OF 6 INCH HISTORIC FILL CAP INSTALLATION. TABLE PROVIDES SURVEYED SUBGRADE PRIOR TO DEPLOYMENT OF DEMARCATION LAYER AND FINAL TOP OF STONE ELEVATIONS.

2. HISTORIC FILL CAP OVER REMAINDER OF SA-6 NORTH DEVELOPMENT AREA TO BE INSTALLED BY OTHERS AS PART OF THE NON CHROMIUM REMEDIATION ACTIVITIES.

LEGEND

- HISTORIC FILL CAP – AASHTO #57 STONE
- EXISTING CONCRETE
- VEGETATIVE CAP AREA

0 40 80 160
SCALE IN FEET

Prepared/Date: TDD 2/23/17
Checked/Date: NAW 2/27/17

Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 889 - 2829
NJ Certificate of Authorization Number 24GA28016300

SURVEY CONTROL GRID
HISTORIC FILL STONE CAP
Project 3480-13-0354
FIGURE 1

C:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North RAR\SA-6 North HF Stone Cap Control Grid.dwg Mon, 27 Feb 2017 - 4:21pm tony.donovan

Honeywell SA-6 North
Devlopment Area Historic Fill Cap - JCIA Stone Area
Jersey City, New Jersey

Prepared By: T. Donovan 2/21/17
Checked By:

TABLE 1 - STONE COVER THICKNESS SUMMARY

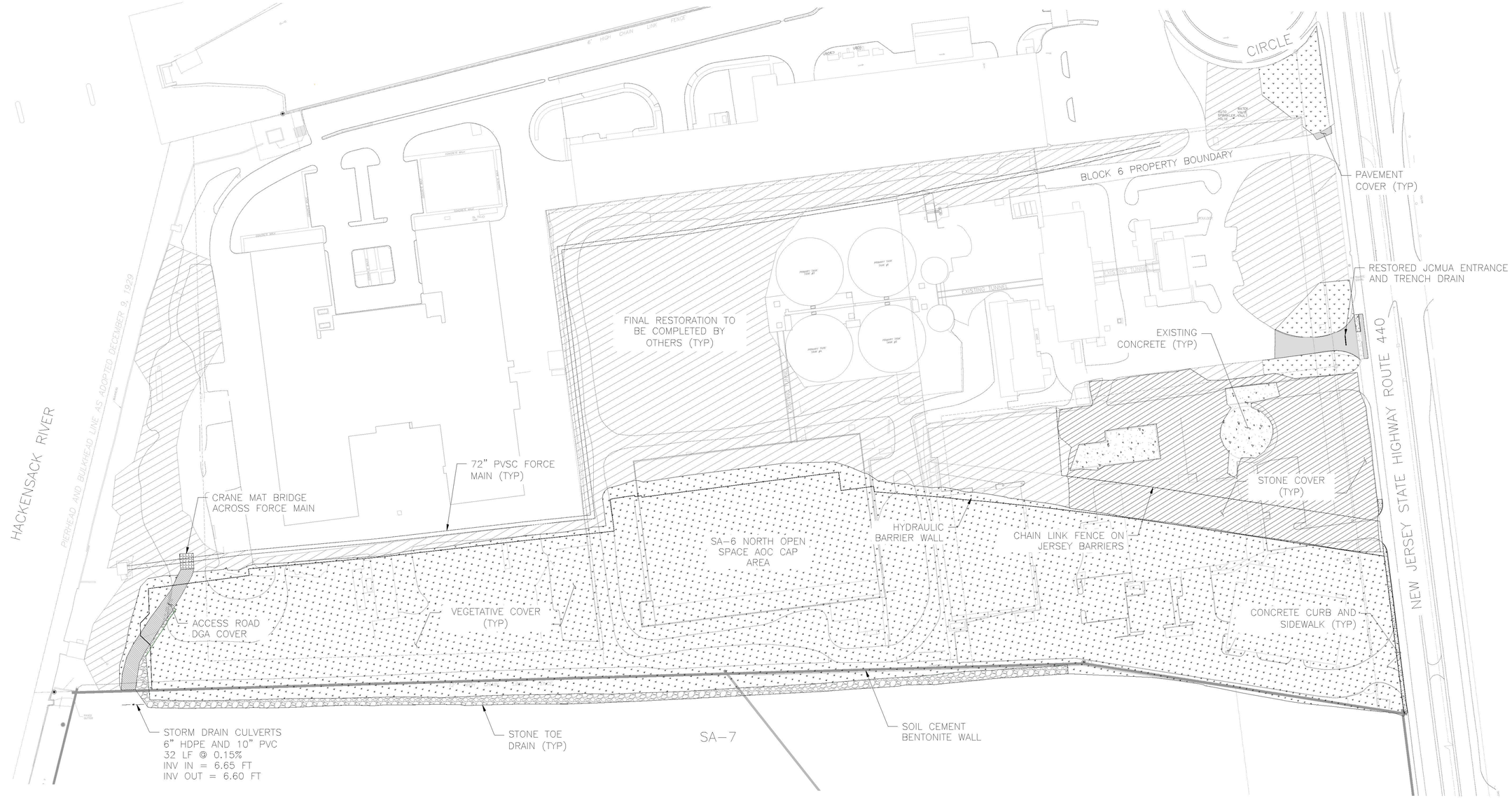
Point	Northing	Easting	Surveyed Subgrade	Surveyd Final Grade	Installed Stone Thickness
1	685523.28	603405.93	13.40	13.93	0.53
2	685513.73	603399.02	13.18	13.79	0.61
3	685496.18	603389.85	12.79	13.32	0.53
4	685481.52	603381.02	12.44	12.96	0.52
5	685474.27	603376.65	12.22	12.78	0.56
6	685460.54	603393.63	11.78	12.33	0.55
7	685472.85	603404.64	12.25	12.76	0.52
8	685487.69	603412.55	12.17	12.74	0.57
9	685474.43	603429.07	12.00	12.73	0.72
10	685458.39	603417.84	11.98	12.52	0.54
11	685446.63	603409.72	11.32	11.84	0.52
12	685433.57	603424.77	10.72	11.35	0.63
13	685448.21	603436.25	12.08	12.63	0.55
14	685463.05	603446.44	11.72	12.66	0.94
15	685475.20	603454.36	11.89	12.55	0.67
16	685462.84	603470.96	11.02	11.69	0.67
17	685447.76	603461.24	11.71	12.28	0.58
18	685433.94	603450.78	11.97	12.53	0.56
19	685419.97	603439.68	10.56	11.08	0.53
20	685408.16	603454.03	10.12	10.66	0.54
21	685423.48	603464.23	11.91	12.45	0.54
22	685439.65	603475.75	11.10	11.64	0.55
23	685451.75	603485.07	10.30	10.83	0.53
24	685439.98	603500.51	10.17	10.74	0.56
25	685425.05	603487.84	11.95	12.50	0.55
26	685410.56	603477.32	12.19	12.72	0.53
27	685397.54	603467.19	9.67	10.36	0.68
28	685384.42	603482.80	9.58	10.13	0.55
29	685399.85	603492.96	12.37	12.89	0.52
30	685416.20	603503.33	12.77	13.29	0.53
31	685375.27	603494.81	9.31	9.87	0.56
32	685362.92	603508.54	8.95	9.81	0.86
33	685349.54	603524.64	9.29	10.07	0.78
34	685336.73	603539.80	9.41	10.19	0.78
35	685327.61	603550.13	9.40	9.92	0.52
36	685281.01	603603.74	9.37	9.97	0.60
37	685297.06	603616.87	9.99	10.86	0.86
38	685310.26	603627.35	12.43	13.39	0.96
39	685307.69	603654.40	13.06	13.61	0.56
40	685289.59	603641.42	10.44	12.02	1.59
41	685276.06	603630.23	9.72	10.23	0.52
42	685264.24	603623.31	9.41	9.93	0.53
43	685251.42	603639.00	9.41	9.97	0.56
44	685269.54	603651.81	10.00	10.67	0.67
45	685282.97	603662.38	11.65	12.21	0.56
46	685295.57	603673.40	12.02	12.60	0.59
47	685281.54	603688.46	11.24	11.76	0.53
48	685265.41	603673.94	10.38	10.92	0.54
49	685250.53	603659.83	9.63	10.18	0.55
50	685239.56	603652.46	9.51	10.07	0.56
51	685226.86	603666.40	9.69	10.28	0.59
52	685243.34	603682.70	9.97	10.56	0.59
53	685257.98	603695.42	10.53	11.07	0.54
54	685269.45	603704.51	10.76	11.30	0.53

Point	Northing	Easting	Surveyed Subgrade	Surveyd Final Grade	Installed Stone Thickness
55	685256.97	603718.61	10.55	11.09	0.53
56	685241.17	603707.77	10.38	10.94	0.56
57	685224.67	603695.14	10.22	10.74	0.52
58	685209.82	603685.37	10.11	10.68	0.57
59	685194.95	603703.46	10.22	10.76	0.55
60	685214.38	603715.59	10.41	10.95	0.54
61	685230.39	603726.61	10.24	10.74	0.50
62	685245.62	603735.46	10.16	10.71	0.55
63	685236.23	603751.65	9.73	10.27	0.53
64	685217.43	603741.69	9.76	10.35	0.59
65	685200.22	603730.88	10.20	10.74	0.54
66	685183.06	603719.28	10.07	10.62	0.55
67	685215.11	603762.34	9.51	10.04	0.53
68	685198.78	603753.76	9.67	10.19	0.53
69	685182.41	603745.26	9.93	10.46	0.53
70	685170.23	603740.01	9.86	10.40	0.54
71	685487.22	603436.76	12.20	13.00	0.80
72	685503.86	603416.27	12.84	13.46	0.63
73	685390.17	603506.35	10.58	11.11	0.54
74	685403.99	603517.82	10.57	11.38	0.82
75	685420.55	603530.44	10.62	11.15	0.53
76	685435.83	603541.23	10.96	11.50	0.54
77	685445.86	603525.47	10.53	11.05	0.53
78	685456.27	603509.54	10.15	10.73	0.58
79	685464.15	603492.32	10.00	10.57	0.56
80	685476.15	603475.42	11.16	11.95	0.79
81	685486.05	603458.89	11.72	12.25	0.54
82	685501.34	603442.04	12.18	12.71	0.54
83	685515.44	603422.88	12.98	13.65	0.67
84	685537.55	603414.23	13.51	14.07	0.55
85	685551.27	603428.10	13.13	13.66	0.52
86	685548.41	603440.18	13.49	14.03	0.54
87	685541.41	603454.32	13.35	13.91	0.57
88	685532.50	603476.98	12.70	13.34	0.64
89	685544.94	603483.88	12.71	13.59	0.88
90	685538.89	603498.74	12.66	13.60	0.94
91	685530.51	603516.92	12.74	13.39	0.66
92	685520.97	603537.61	12.38	13.27	0.89
93	685512.89	603555.37	12.23	13.27	1.04
94	685495.92	603547.56	11.67	12.44	0.76
95	685479.71	603539.89	11.10	11.83	0.73
96	685464.81	603533.26	10.74	11.38	0.64
97	685472.16	603517.09	11.08	11.61	0.54
98	685481.21	603497.24	11.35	11.94	0.60
99	685490.04	603478.09	11.85	12.51	0.66
100	685500.34	603455.60	11.92	12.64	0.72
101	685427.26	603512.07	10.33	10.99	0.66
102	685379.17	603518.49	9.78	10.34	0.56
103	685393.80	603530.86	10.18	10.88	0.70
104	685409.67	603542.63	10.99	11.58	0.60
105	685381.45	603544.08	10.36	11.34	0.98
106	685365.37	603534.17	9.71	10.25	0.54
107	685352.32	603547.96	9.81	10.43	0.63
108	685389.63	603576.42	14.44	15.20	0.77
109	685366.42	603569.28	15.75	16.27	0.52
110	685340.26	603569.27	10.00	10.92	0.93
111	685328.33	603585.65	9.98	11.34	1.36
112	685316.29	603601.04	10.17	11.67	1.50
113	685305.80	603594.64	9.69	10.44	0.75

Point	Northing	Easting	Surveyed Subgrade	Surveyd Final Grade	Installed Stone Thickness
114	685296.15	603585.30	9.59	10.11	0.52
115	685311.07	603568.24	9.65	10.19	0.53
116	685328.51	603567.24	9.61	10.24	0.63
117	685345.79	603583.34	13.54	14.27	0.73
118	685333.45	603600.60	13.43	14.58	1.14
119	685325.77	603626.43	14.91	15.43	0.52
120	685350.68	603598.21	16.53	17.10	0.58
121	685368.10	603581.44	16.64	17.55	0.91
122	685360.58	603611.90	17.22	18.06	0.84
123	685345.88	603628.53	15.60	16.15	0.55
124	685333.37	603644.98	14.14	14.69	0.56
125	685225.73	603771.87	9.55	10.09	0.54
126	685245.80	603780.16	9.48	10.07	0.59
127	685257.19	603762.86	9.46	10.12	0.66
128	685269.18	603745.93	9.68	10.39	0.70
129	685281.52	603729.15	10.50	11.13	0.63
130	685293.33	603712.58	11.00	11.62	0.62
131	685306.67	603697.52	11.76	12.43	0.68
132	685321.33	603680.67	12.75	13.30	0.55
133	685335.92	603661.97	13.65	14.42	0.77
134	685349.41	603644.44	14.73	15.33	0.60
135	685364.16	603623.73	16.79	17.31	0.51
136	685378.92	603614.62	18.62	19.18	0.56
137	685399.77	603592.18	17.89	18.41	0.52
138	685392.67	603606.73	17.60	18.12	0.52
139	685402.01	603613.49	16.49	17.03	0.53
140	685390.10	603622.47	16.99	17.53	0.54
141	685378.98	603636.66	16.21	16.85	0.64
142	685366.30	603654.95	15.01	15.57	0.56
143	685350.79	603674.67	14.05	14.65	0.60
144	685336.85	603693.57	13.41	14.14	0.73
145	685322.26	603713.63	12.60	13.14	0.54
146	685308.59	603731.80	11.28	11.81	0.52
147	685294.62	603748.51	9.81	10.57	0.76
148	685282.83	603766.87	9.34	9.89	0.55
149	685274.40	603783.71	9.06	9.62	0.56
150	685268.12	603790.72	9.42	9.94	0.53
151	685289.85	603800.78	9.35	9.89	0.54
152	685303.57	603776.68	9.19	9.75	0.57
153	685319.57	603756.13	10.34	10.91	0.57
154	685333.72	603737.28	11.95	12.47	0.53
155	685345.08	603719.79	13.05	13.59	0.54
156	685360.35	603698.16	14.23	14.76	0.53
157	685374.32	603676.80	15.12	15.65	0.53
158	685389.93	603655.19	15.62	16.16	0.53
159	685401.91	603636.79	15.63	16.18	0.55
160	685391.44	603671.29	15.47	15.99	0.52
161	685385.41	603693.60	15.28	15.80	0.52
162	685377.78	603707.36	14.43	14.98	0.55
163	685364.28	603727.60	12.72	13.26	0.55
164	685349.70	603747.91	10.91	11.53	0.61
165	685336.19	603767.24	9.87	10.42	0.55
166	685322.07	603786.53	9.07	9.61	0.54
167	685305.98	603809.37	9.65	10.17	0.52
168	685329.67	603820.48	9.47	9.98	0.51
169	685342.02	603796.31	9.07	9.63	0.56
170	685355.84	603775.69	9.72	10.27	0.55
171	685369.79	603755.44	10.37	10.99	0.61
172	685385.02	603732.34	12.49	13.15	0.66

Point	Northing	Easting	Surveyed Subgrade	Surveyd Final Grade	Installed Stone Thickness
173	685397.71	603713.91	14.76	15.30	0.54
174	685408.35	603697.47	15.32	15.86	0.53
175	685397.48	603685.54	15.35	15.88	0.53
176	685428.19	603703.15	15.28	15.79	0.51
177	685417.14	603723.85	14.22	14.75	0.54
178	685404.09	603740.98	11.84	12.38	0.55
179	685391.77	603759.07	10.06	10.93	0.87
180	685379.63	603776.72	9.57	10.13	0.56
181	685367.64	603792.79	9.03	9.68	0.64
182	685357.17	603809.89	8.94	9.45	0.51
183	685345.58	603826.40	9.33	9.86	0.53
184	685366.65	603836.85	9.33	9.86	0.53
185	685379.98	603814.87	9.03	9.59	0.56
186	685391.37	603794.93	9.01	9.74	0.73
187	685407.13	603774.52	9.48	10.41	0.93
188	685423.08	603753.63	10.55	11.15	0.60
189	685434.08	603734.68	12.31	13.00	0.70
190	685445.77	603715.19	14.85	15.39	0.53
191	685463.49	603692.91	15.29	15.82	0.53
192	685457.66	603689.90	15.26	15.78	0.52
193	685445.74	603698.83	15.27	15.83	0.56
194	685449.80	603735.42	10.28	10.86	0.58
195	685469.91	603741.38	10.24	10.77	0.53
196	685453.16	603745.70	9.87	10.66	0.79
197	685439.76	603765.07	9.59	10.31	0.72
198	685426.86	603783.39	9.21	9.92	0.71
199	685413.18	603801.19	8.97	9.89	0.91
200	685400.85	603819.70	8.61	9.55	0.94
201	685392.46	603841.26	8.58	9.41	0.83
202	685406.36	603847.95	8.60	9.35	0.75
203	685418.02	603853.38	8.77	9.45	0.68
204	685427.53	603832.24	9.21	9.87	0.66
205	685438.23	603811.58	9.26	9.97	0.72
206	685449.14	603790.99	9.32	10.09	0.77
207	685460.27	603768.49	9.57	10.32	0.75
208	685428.91	603801.39	9.20	10.01	0.81
209	685417.88	603822.74	9.09	9.67	0.58
210	685497.04	603588.38	12.31	13.18	0.87
211	685477.45	603579.45	11.74	12.65	0.91
212	685459.42	603571.21	11.61	12.36	0.76
213	685440.57	603562.49	11.56	12.45	0.89
214	685423.05	603554.41	11.60	12.53	0.94
215	685404.25	603562.11	12.72	13.53	0.81
216	685449.84	603545.77	10.80	11.38	0.58
217	685471.28	603556.45	11.16	11.67	0.52
218	685491.10	603564.10	11.68	12.25	0.56
219	685506.90	603572.07	11.95	12.76	0.81
220	685523.96	603581.32	12.73	13.26	0.53
221	685534.03	603559.97	12.14	12.99	0.85
222	685542.20	603541.68	12.37	13.14	0.77
223	685548.91	603522.61	12.67	13.34	0.67
224	685558.06	603503.06	12.65	13.20	0.55
225	685566.03	603482.88	12.58	13.14	0.57
226	685573.22	603462.46	12.67	13.18	0.51
227	685581.27	603441.54	12.44	13.09	0.65
228	685587.54	603426.70	12.30	12.84	0.54
229	685572.50	603421.26	12.31	12.86	0.54
230	685565.98	603440.95	12.68	13.48	0.80
231	685557.49	603462.88	12.83	13.42	0.59

Point	Northing	Easting	Surveyed Subgrade	Surveyd Final Grade	Installed Stone Thickness
232	685608.18	603443.66	13.01	13.59	0.58
233	685598.62	603464.93	12.90	13.48	0.58
234	685587.85	603487.26	12.48	13.15	0.67
235	685579.62	603508.01	12.24	12.99	0.75
236	685572.20	603522.38	12.66	13.41	0.76
237	685562.43	603542.98	13.26	13.88	0.62
238	685552.43	603565.49	12.64	13.18	0.54
239	685494.23	603640.21	12.90	13.44	0.54
240	685543.89	603583.80	12.58	13.15	0.58
241	685533.66	603603.95	12.49	13.04	0.56
242	685526.28	603622.07	12.35	13.03	0.68
243	685542.16	603646.27	11.45	12.06	0.60
244	685527.72	603655.76	11.54	12.08	0.54
245	685514.57	603677.21	11.59	12.12	0.53
246	685503.62	603700.80	11.20	11.97	0.78
247	685492.98	603723.16	10.86	11.39	0.54
248	685483.20	603746.84	10.66	11.18	0.52
249	685481.37	603719.29	11.13	11.65	0.52
250	685492.42	603695.95	11.81	12.34	0.53
251	685502.78	603671.70	11.97	12.52	0.54
252	685482.06	603661.74	13.49	14.01	0.53
253	685473.47	603663.87	15.37	15.90	0.54
254	685463.53	603643.83	15.47	16.01	0.54
255	685513.89	603647.90	11.79	12.36	0.57
256	685509.17	603613.94	12.81	13.68	0.87
257	685514.16	603595.86	13.08	13.61	0.54
258	685486.38	603615.52	13.80	14.41	0.61
259	685536.92	603627.15	11.68	12.20	0.52
260	685548.62	603608.36	11.64	12.21	0.57
261	685560.01	603585.43	11.85	12.54	0.68
262	685570.20	603565.58	11.95	12.48	0.53
263	685579.38	603546.97	12.06	12.58	0.52
264	685590.49	603525.08	11.82	12.37	0.55
265	685600.46	603540.04	11.90	12.41	0.52
266	685612.62	603519.30	11.06	11.68	0.62
267	685609.19	603497.93	12.03	12.66	0.63
268	685620.49	603503.16	11.38	11.94	0.57
269	685594.15	603558.21	11.20	11.95	0.75
270	685584.11	603580.26	11.38	12.00	0.62
271	685573.64	603602.92	11.34	12.04	0.70
272	685564.04	603622.10	11.70	12.25	0.55
273	685554.89	603641.58	11.65	12.19	0.55
274	685417.33	603602.10	16.31	16.85	0.54
275	685469.91	603605.18	14.84	15.38	0.54
276	685444.27	603592.66	15.68	16.21	0.53
277	685446.73	603627.16	15.45	15.99	0.54
278	685418.24	603625.60	15.55	16.09	0.54



NOTE:

1. REFER TO CONSTRUCTION CONTROL GRID FIGURE AND ATTACHED TABLES FOR SURVEY DOCUMENTATION OF 6 INCH GRAVEL HISTORIC FILL CAP INSTALLATION.
2. OPEN SPACE CAP AREA WITHIN LIMITS OF THE BARRIER WALLS IS COVERED WITH CLEAN IMPORTED SOILS TO THE DEPTHS IDENTIFIED IN THE DESIGN. THE VEGETATED SLOPE WITHIN THE DEVELOPMENT AREA IS COVERED WITH A MINIMUM OF 12 INCHES OF CLEAN IMPORTED FILL. THE VEGETATED SLOPE ALONG SA-7 WAS CONSTRUCTED ENTIRELY FROM CLEAN IMPORTED FILL.
3. REMAINING RESTORATION AREAS IDENTIFIED ON THE CHROMIUM REMEDY 100% DESIGN DRAWINGS WILL BE ADDRESSED AS PART OF THE NON CHROMIUM REMEDIATION WORK CURRENTLY BEING COMPLETED. FINAL RESTORATION OF ALL AREAS IS SCHEDULED TO BE COMPLETE IN MARCH 2017.

STONE COVER
DGA COVER
VEGETATED COVER
RESTORATION BY OTHERS
PAVEMENT COVER
STONE TOE DRAIN
CONCRETE COVER
SD — STORM DRAIN PIPE

0 80 160 FEET
SCALE

REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	1/7/17	EJP	AE	AE	AS BUILT RESTORATION PLAN

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
AS BUILT RESTORATION PLAN
SA-6 NORTH – SHEET 001
1/6/17

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Mueser Rutledge
Consulting Engineers
14 Penn Plaza · 225 West 34th Street · New York, NY 10122
Tel: (917) 339-9300 · Fax: (917) 339-9400
www.mrce.com

Alfred H. Brand
David M. Cacoilo
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Roderic A. Ellman, Jr.
Francis J. Arland
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Joel L. Volterra
Tony D. Canale
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Frederick C. Rhyner
Sitotaw Y. Fantaye
Senior Associates

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Gregg V. Piazza
Pablo V. Lopez
Steven R. Lowe
James M. Tantalla
Andrew R. Tognon
T. C. Michael Law
Andrew Pontecorvo
Renzo D. Verastegui
Associates

Joseph N. Courtade
Director of Finance and Administration

Martha J. Huguet
Director of Marketing

August 8, 2014

Geoff Shallard
AMEC Environment & Infrastructure
511 Congress Street
Portland Me 04101

Re: SA-6 North Surcharge Monitoring
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

Mueser Rutledge Consulting Engineers (MRCE) reviewed the settlement and piezometer monitoring data related to Area 1N provided by AMEC, on July 18th 2014. MRCE's review of the available data is summarized below:

1. AMEC indicated boring sampling performed was to define the compressible layer stratification and the Vibrating Wire Piezometers (VWP) were set at the center of the layers. Center of the layer provide the most conservative pore water pressure reading for the effective stress evaluation. MRCE effective stress calculations were made at the center of the layers.

2. MRCE obtained the 06/16/14 measured fill thickness from the "Settlement Platform – Data Report". MRCE calculated the total stress as of 06/16/14 based on the 06/16/14 fill thickness and the "Historic Pre-Construction Conditions" total stresses provided by AMEC. MRCE calculated the pore water pressures based from 06/16/14 piezometer readings on "Vibrating Wire Piezometer – Data Report" and calculated the 06/16/14 effective stresses, as presented in Table 1.

3. MRCE compared calculated 06/16/14 effective stresses with the effective stresses provided by AMEC for "Final Post-Development Conditions". The defined goal of surcharge program was to achieve an equal or greater effective stress than the "Final Post-Development Conditions" effective stress. Accordingly, MRCE evaluated 06/16/14 percentage completion, shown as "MRCE % Completion (06/16/14)" in Table 1. Table 1 also presents 06/30/14 percent completion evaluation of AMEC, "AMEC % Completion (06/30/14)", for comparison.

4. Two settlement monitoring locations, N_FS-04 and N_HS-04 (highlighted in Table 1), had percentage completion less than 100%. These monitoring points did not meet the defined goal of the surcharge program as of 06/16/14.

5. AMEC provided updated settlement and piezometer monitoring data on August 6th 2014. MRCE calculated effective stresses and the percent completion for N_FS-04 and N_HS-04 based on the updated monitoring data, as shown in Table 2.

6. MRCE agrees that the defined goal of the surcharge program of achieving an equal or greater effective stress than the "Final Post-Development Conditions" effective stress is met in all settlement monitoring locations.

Very truly yours,

MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, P.E.

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Table 1. MRCE SA-6 Surcharge Monitoring Review (06/16/14)

Source:		AMEC			Settlement Monitoring Data	VWP Monitoring Data	MRCE				AMEC
Settlement Monitoring Point	Layer	Center of the Layer EL. (ft)	Historic Pre-Construction Conditions Total Stress (psf)	Final Post-Development Conditions Effective Stress (psf)	Fill Thickness (ft)	Elevation Head (ft)	Total Stress 06/16/14 (psf)	Pore Water Pressure 06/16/14 (psf)	Effective Stress 06/16/14 (psf)	% Completion 06/16/14	% Completion 06/30/14
N_FS-01	Center D	-10.8	3073	2308	2.6	6.1	3393	1058	2335	101%	103%
N_FS-02	Center O	-4.6	2262	2279	11.2	11.6	4048	1242	2418	106%	-
N_FS-02	Center D	-8.3	2647	2414	11.2	15.4	3663	1245	2807	116%	117%
N_FS-03	Center O	-2.9	2118	2431	9.8	9.9	3628	1065	2443	100%	-
N_FS-03	Center D	-7.2	2400	2529	9.8	11.5	3346	904	2563	101%	105%
N_FS-04	Center O	-2.2	1830	2598	10.9	12.9	3624	1206	2417	**93%**	-
N_FS-04	Center D	-6.5	2266	2764	10.9	10.1	3189	771	2418	**87%**	92%
N_FS-04	RC	-43.2	6777	4984	10.9	2.7	8135	2866	5269	106%	-
N_HS-01	Center D	-9.6	2886	2287	5.3	5.8	3552	959	2593	113%	110%
N_HS-02	Center D	-9.2	2723	2324	8.7	9.0	3813	1133	2680	115%	115%
N_HS-03	Center D	-8.7	2700	2427	10.9	5.6	4065	894	3171	131%	130%
N_HS-04	Center D	-8.6	2702	2303	3.7	5.7	3163	892	2271	**99%**	96%
N_HS-05	Center D	-9.9	2654	2562	16.7	7.8	4746	1109	3637	142%	145%
N_HS-05	RC	-54.7	7323	4843	16.7	-0.9	9415	3354	6061	125%	-
N_HS-07	Center D	-7.6	2214	2668	12.0	12.0	4374	1224	3149	118%	121%
N_HS-09	Center D	-7.3	2428	2748	12.5	12.5	4429	1235	3194	116%	119%

Table 2. MRCE Surcharge Monitoring Review (August 2014)

Source:		Settlement Monitoring Data	VWP Monitoring Data	MRCE				AMEC
Settlement Monitoring Point	Layer	Fill Thickness (ft)	Elevation Head (ft)	Total Stress 06/16/14 (psf)	Pore Water Pressure 06/16/14 (psf)	Effective Stress 06/16/14 (psf)	% Completion August 14	% Completion August 14
N_FS-04	Center O	16.3	9.6	3867	738	3130	**120%**	-
N_FS-04	Center D	16.3	9.6	4303	1003	3300	**119%**	118%
N_HS-04	Center D	9.4	5.0	3877	847	3030	**132%**	99%

Mueser Rutledge
Consulting Engineers
14 Penn Plaza · 225 West 34th Street · New York, NY 10122
Tel: (917) 339-9300 · Fax: (917) 339-9400
www.mrce.com

Alfred H. Brand
David M. Cacoilo
Peter W. Deming
Roderic A. Ellman, Jr.
Francis J. Arland
Partners

David R. Good
Walter E. Kaeck
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Domenic D'Argenzio
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Joel L. Volterra
Tony D. Canale
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Senior Associates

Michael J. Chow
Douglas W. Christie
Gregg V. Piazza
Pablo V. Lopez
Steven R. Lowe
James M. Tantalla
Andrew R. Tognon
T. C. Michael Law
Andrew Pontecorvo
Renzo D. Verastegui
Associates

Joseph N. Courtade
Director of Finance and Administration

Martha J. Huguet
Director of Marketing

November 21, 2014

AMEC Environment & Infrastructure
511 Congress Street
Portland Me 04101

Attention: Mr. Geoff Shallard

Re: Area 2N Surcharge Review
SA-6 North
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

The Mueser Rutledge Consulting Engineers (MRCE) review of November 17, 2014 AMEC settlement and piezometer monitoring data for Area 2N is summarized below:

AMEC indicated from borings and sampling the Vibrating Wire Piezometers (VWP) were set at the center of the compressible clay layer, which provides the most conservative pore water pressure reading for the effective stress evaluation. All the stress calculations are at the center of the compressible layers.

MRCE used measured fill thickness dated 10/28/14 from "Settlement Platform – Data Report" to calculate the total stress. Pore water was taken from the 10/28/14 "Vibrating Wire Piezometer – Data Report." Effective stress computed for 10/28/14, is presented in Table 1. MRCE compared the 10/28/14 calculated effective stress with the "Final Post-Development Conditions" effective stress estimates provided by AMEC. The defined goal of surcharge program was to achieve an effective stress greater than the "Final Post-Development Conditions."

This review finds all Area 2N monitoring locations have met the surcharge program goal as of 10/28/14.

Very truly yours,
MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, P.E.

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Table 1. MRCE SA-6 Surcharge Monitoring Review for Area 2N (10/28/14)

Source:		AMEC				Settlement Monitoring Data	VWP Monitoring Data	MRCE			MRCE	AMEC
Settlement Monitoring Point	Layer	Center of the Layer EL. (ft)	Pre-Surcharge Conditions Total Stress (psf)	Final Development Condition Effective Stress (psf)	Surcharge Conditions Effective Stress (psf)	Fill Thickness (ft)	Elevation Head (ft)	Total Stress 10/28/14 (psf)	Pore Water Pressure 10/28/14 (psf)	Effective Stress 10/28/14 (psf)	% Completion 10/28/14	% Completion 10/28/14
N_FS-05	Center O			2603.1		14.29	7.12	3750.0	812.4	2937.6	113%	-
N_FS-05	Center D	-7.3	2360.6	2765.9	3343.5	14.29	5.41	4146.9	799.3	3347.5	121%	121%
N_FS-06	Center O			2685.9		15.06	6.47	3837.5	640.8	3196.7	119%	-
N_FS-06	Center D	-7.6	2360.6	2833.1	3387.6	15.06	5.96	4218.8	827.4	3391.3	120%	120%
N_FS-06	RC			6075.3		15.06	2.94	10752.5	3135.0	7617.5	125%	-
N_FS-07	Center O			2523.5		10.69	6.61	3486.3	674.5	2811.7	111%	-
N_FS-07	Center D	-6.7	2360.6	2588.0	2972.4	10.69	4.87	3660.0	740.7	2919.3	113%	115%

Notes:

1. % Completion is the ratio of measured effective stress under surcharge with respect to final effective stress in development condition.

Mueser Rutledge Consulting Engineers

14 Penn Plaza · 225 West 34th Street · New York, NY 10122
Tel: (917) 339-9300 · Fax: (917) 339-9400
www.mrce.com

Peter W. Deming
Roderic A. Ellman, Jr.
Francis J. Arland
David R. Good
Walter E. Kaeck
Partners

Tony D. Canale
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Sitotaw Y. Fantaye
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Senior Associates

Douglas W. Christie
Gregg V. Piazza
Pablo V. Lopez
James M. Tantalla
T. C. Michael Law
Andrew Pontecorvo
Renzo D. Verastegui
Alex Krutovskiy
Srinivas Yenamandra
Farid F. Vastani
Jesse L. Richins
Associates

Joseph N. Courtade
Director of Finance and Administration

Martha J. Huguet
Director of Marketing

March 29, 2016

AMEC Environment & Infrastructure
511 Congress Street
Portland Me 04101

Attn: Mr. Geoff Shallard

Re: Updated Area 3N and 4N Surcharge Review
SA-6 North
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

The Mueser Rutledge Consulting Engineers (MRCE) review of March 15th, 2016 AMEC settlement and piezometer monitoring data for Area 3N and 4N is summarized below:

AMEC indicated boring sampling was performed to define the soil profile and the Vibrating Wire Piezometer (VWP) was set at the center of the compressible layer, so that the pore water pressure reading is the most conservative for effective stress evaluation. All the effective stress calculations were made at the center of the layers.

MRCE used the latest measured elevation head dated March 15th, 2016 from "Vibrating Wire Piezometer – Data Report" to calculate the post-surcharge pore water pressures. Post-surcharge total stresses were calculated using fill thickness measurements from the "Settlement Platform – Data Report" taken on March 9th, 2016. Calculated post-surcharge effective stresses are presented in Table 1 and Table 2. MRCE compared the calculated post-surcharge effective stresses with the "Final Post-Development Conditions" effective stress estimates provided by AMEC. The defined goal of the surcharge program was to achieve an effective stress greater than "Final Post-Development Conditions."

This review finds that with the March 15, 2016 readings all settlement monitoring locations, including the two settlement locations, N_HS-11 in Area 3N (Table 1) and N_FS-12 in Area 4N (Table 2), have met the surcharge program goal. This finding is in agreement with the AMEC data review and interpretation.

Very truly yours,

MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, P.E.

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FOR: SA-6 North Surcharge Monitoring Review

Table 1. Area 3N Surcharge Review

Settlement Monitoring Point	Layer	Existing EL. (ft)	Pre-Surcharge Conditions	Proposed Final Development Conditions	Date of Recording used in calculations		Fill Thickness (ft)	Elevation Head (ft)	Post-Surcharge Conditions			**MRCE**	**AMEC**
			Total Stress (psf)	Effective Stress (psf)	Fill Thickness	VWP Elevation			Total Stress (psf)	Pore Water Pressure (psf)	Effective Stress (psf)	**% Completion**	**% Completion**
N_FS-08	Center D	-7.0	2226.3	2400.5	2/9/2016	2/22/2016	11.8	7.0	3697.5	876.1	2821.4	**118%**	**114%**
N_FS-09	Center D	-4.9	2151.3	2217.8	2/9/2016	2/22/2016	12.0	6.4	3648.8	699.4	2949.4	**133%**	**127%**
N_FS-10	Center O	-3.5	1937.5	2525.6	2/9/2016	2/22/2016	12.4	8.6	3485.0	756.7	2728.3	**108%**	**109%**
	Center D	-6.0	2202.5	2619.0	2/9/2016	2/22/2016	12.4	6.7	3750.0	794.8	2955.2	**113%**	
N_FS-11	Center D	-5.1	2032.5	1919.6	2/9/2016	2/22/2016	6.4	4.2	2837.5	579.8	2257.7	**118%**	**118%**
N_HS-10	Center D	-5.2	2083.8	2216.4	2/9/2016	2/22/2016	7.5	6.4	3026.3	721.5	2304.7	**104%**	**101%**
N_HS-11	Center D	-5.7	2147.5	2280.4	3/9/2016	3/15/2016	6.6	4.2	2975.0	617.3	2357.7	**103%**	**102%**
N_HS-12	Center D	-4.4	2042.5	1931.7	2/9/2016	2/22/2016	5.5	4.5	2730.0	551.0	2179.0	**113%**	**111%**
N_HS-13	Center D	-4.4	1991.3	2050.1	2/9/2016	2/22/2016	5.8	4.3	2711.3	539.3	2172.0	**106%**	**107%**

FOR: SA-6 North Surcharge Monitoring Review

Table 2. Area 4N Surcharge Review

Settlement Monitoring Point	Layer	Existing EL. (ft)	Pre-Surcharge Conditions	Proposed Final Development Conditions	Date of Recording used in calculations		Fill Thickness (ft)	Elevation Head (ft)	Post-Surcharge Conditions			**MRCE**	**AMEC**
			Total Stress (psf)	Effective Stress (psf)	Fill Thickness	VWP Elevation			Total Stress (psf)	Pore Water Pressure (psf)	Effective Stress (psf)	**% Completion**	**% Completion**
N_FS-12	Center D	-4.1	1927.5	1869.2	3/9/2016	3/15/2016	3.4	3.5	2348.8	473.9	1874.9	**100%**	**101%**
N_FS-13	Center D	-4.6	2248.8	2063.8	1/28/2016	2/22/2016	3.1	-0.9	2640.0	232.2	2407.8	**117%**	**119%**

TABLE 1N-1
SURCHARGE COMPLETION EVALUATION
SUMMARY OF EFFECTIVE STRESS

SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
N_FS-01	2308	2605	**113%**	Data as of August 2014
N_FS-02	2414	3186	**132%**	Data as of August 2014
N_FS-03	2529	2810	**111%**	Data as of August 2014
N_FS-04	2764	3076	**111%**	Data as of August 2014
N_HS-01	2287	2772	**121%**	Data as of August 2014
N_HS-02	2324	2824	**122%**	Data as of August 2014
N_HS-03	2427	3161	**130%**	Data as of August 2014
N_HS-04	2303	2522	**109%**	Data as of August 2014
N_HS-05	2562	3911	**153%**	Data as of August 2014
N_HS-07	2668	3577	**134%**	Data as of August 2014
N_HS-09	2748	3521	**128%**	Data as of August 2014

TABLE 2N-1
SURCHARGE COMPLETION EVALUATION
SUMMARY OF EFFECTIVE STRESS

SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
N_FS-05	2766	2970	**107%**	Data as of November 2014; Pore pressure elevated 9.2 ft. (Stratum D).
N_FS-06	2833	3497	**123%**	Data as of November 2014
N_FS-07	2588	3389	**131%**	Data as of November 2014

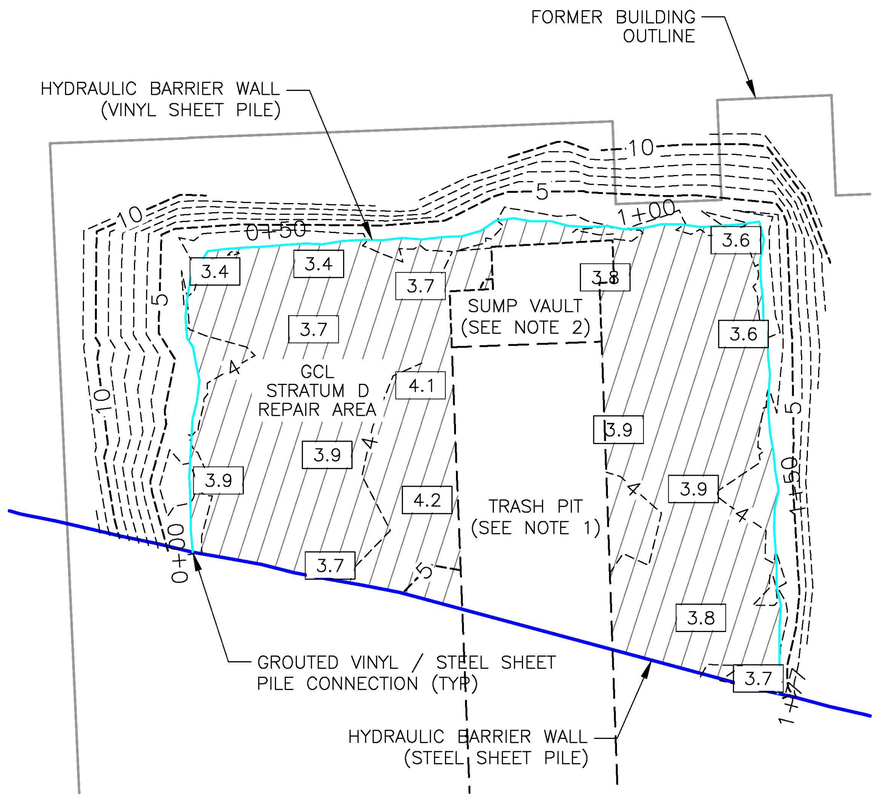
Honeywell

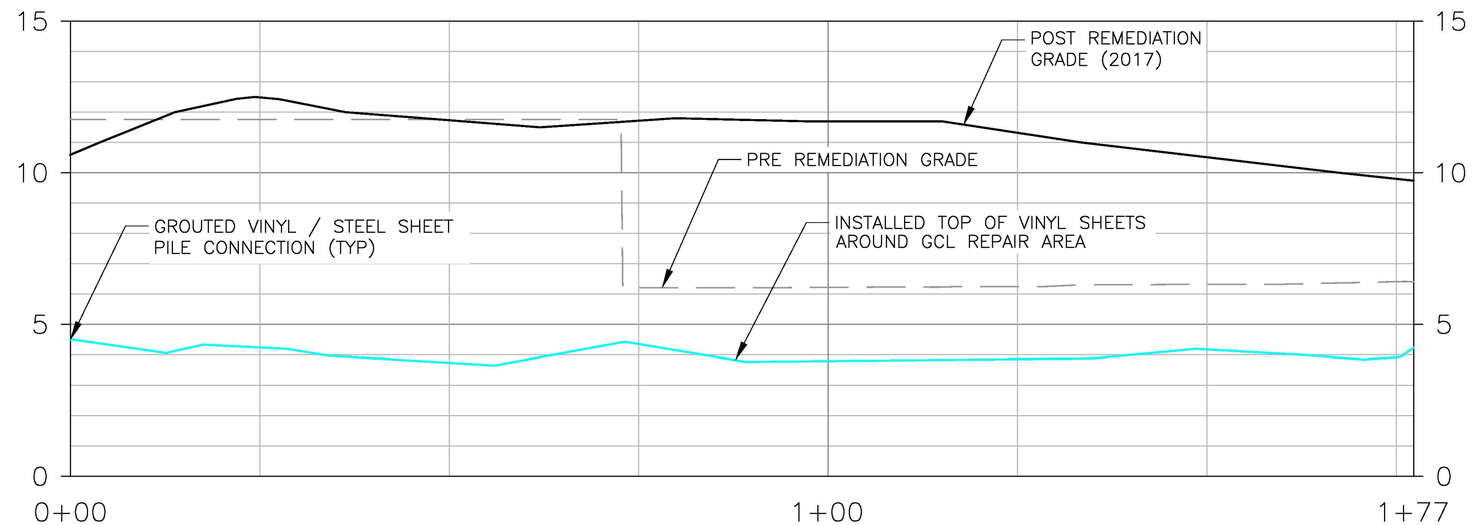
TABLE 3N-1
SURCHARGE COMPLETION EVALUATION
SUMMARY OF EFFECTIVE STRESS

SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
N_FS-08	2401	2832	**118%**	SP and VWP data through 3/9/16.
N_FS-09	2218	2909	**131%**	SP and VWP data through 3/9/16.
N_FS-10	2619	2964	**113%**	SP data through 3/9/16. VWP data through 3/15/16.
N_FS-11	1920	2273	**118%**	SP and VWP data through 3/9/16.
N_HS-10	2216	2313	**104%**	SP and VWP data through 3/9/16.
N_HS-11	2280	2335	**102%**	SP data through 3/9/16. VWP data through 3/24/16.
N_HS-12	1932	2198	**114%**	SP and VWP data through 3/9/16.
N_HS-13	2050	2214	**108%**	SP and VWP data through 3/9/16.

TABLE 4N-1
SURCHARGE COMPLETION EVALUATION
SUMMARY OF EFFECTIVE STRESS

SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
N_FS-12	1869	1897	**101%**	SP data through 3/9/16. VWP data through 3/24/16.
N_FS-13	2064	2433	**118%**	SP and VWP data through 3/9/16.

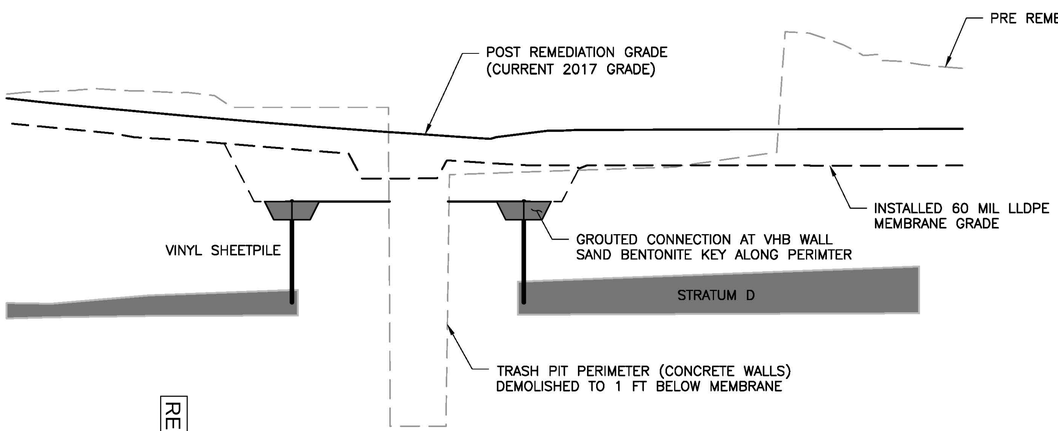




TOP OF VINYL SHEET PILE PROFILE

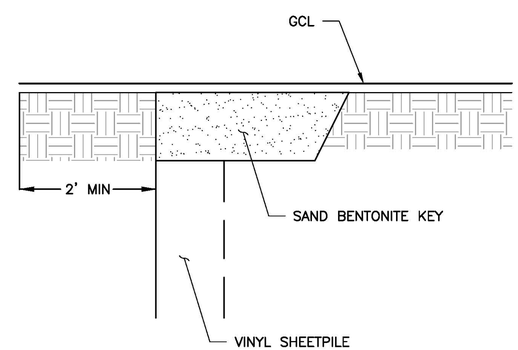
HORIZONTAL SCALE: 1"=20'

VERTICAL SCALE: 1"=5'



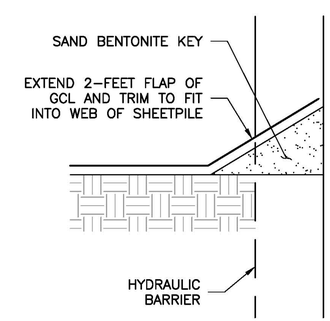
TYPICAL REPAIR SECTION ALONG HYDRAULIC BARRIER

NTS



SAND BENTONITE KEY DETAIL

NTS



GCL CONNECTION TO HYDRAULIC BARRIER

NTS

LEGEND

- VINYL SHEET PILE AS BUILT
- HYDRAULIC BARRIER AS BUILT
- EXCAVATION CONTOURS
- GEOSYNTHETIC CLAY LINER (GCL)
- 3.7 — GCL SPOT ELEVATION

RECORD DRAWING - 12/08/16

NOTES

1. TRASH PIT WAS BACKFILLED WITH SOIL TO THE TOP OF THE CONCRETE WALLS WHICH WERE DEMOLISHED TO AN APPROXIMATE ELEVATION OF 7.0 FT TO 10.0 FT.
2. SUMP VAULT WAS BACKFILLED WITH FLOWABLE FILL TO AN APPROXIMATE ELEVATION OF 5.0 FT AND THEN SOIL BACKFILL WAS PLACED TO THE TOP OF THE VAULT AT AN ELEVATION OF APPROXIMATELY 12.0 FT.

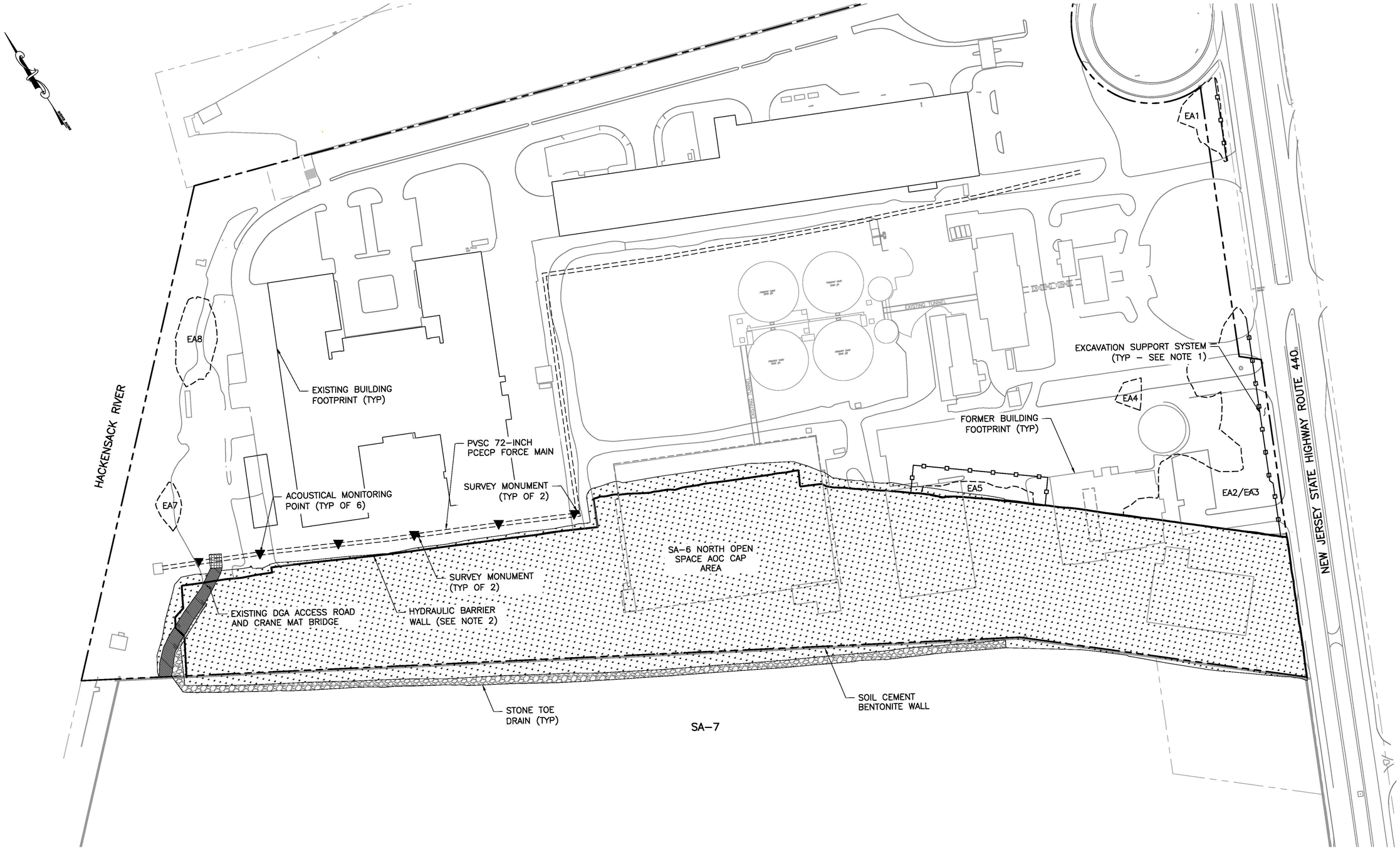
0 20 40 FEET
SCALE

REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	12/8/16	EJP	AE	AE	AB-JCIA Trash Pit Meadow Mat Repair

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: JCIA Trash Pit As Built Vinyl Sheetpile and Meadow Mat Repair 12/08/16

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTES:

1. VIBRATION MONITORING (SEE APPENDIX O OF THE SA-6 NORTH CHROMIUM CONSTRUCTION COMPLETION REPORT) WAS CONDUCTED BY GEOCOMP DURING SHEET PILE DRIVING UTILIZING A MOBILE INSTANTEL MICROMATE WITH GEOPHONE PLACED ON THE GROUND SURFACE IN THE VICINITY OF ACTIVITIES. TRIGGER LEVELS WERE ESTABLISHED AT 0.5 IN/SEC AND ALERT LEVELS AT 2.0 IN/SEC.

2. ACOUSTICAL MONITORING AND SURVEY POINTS WERE INSTALLED ALONG THE SECTION OF 72-INCH FORCE MAIN THAT RUNS PARALLEL TO THE HYDRAULIC BARRIER WALL. THESE MONITORING POINTS WERE UTILIZED DURING THE SURCHARGE PROGRAM TO EVALUATE ANY UNANTICIPATED STRESS IMPACTS.

0 40 80 160
SCALE IN FEET

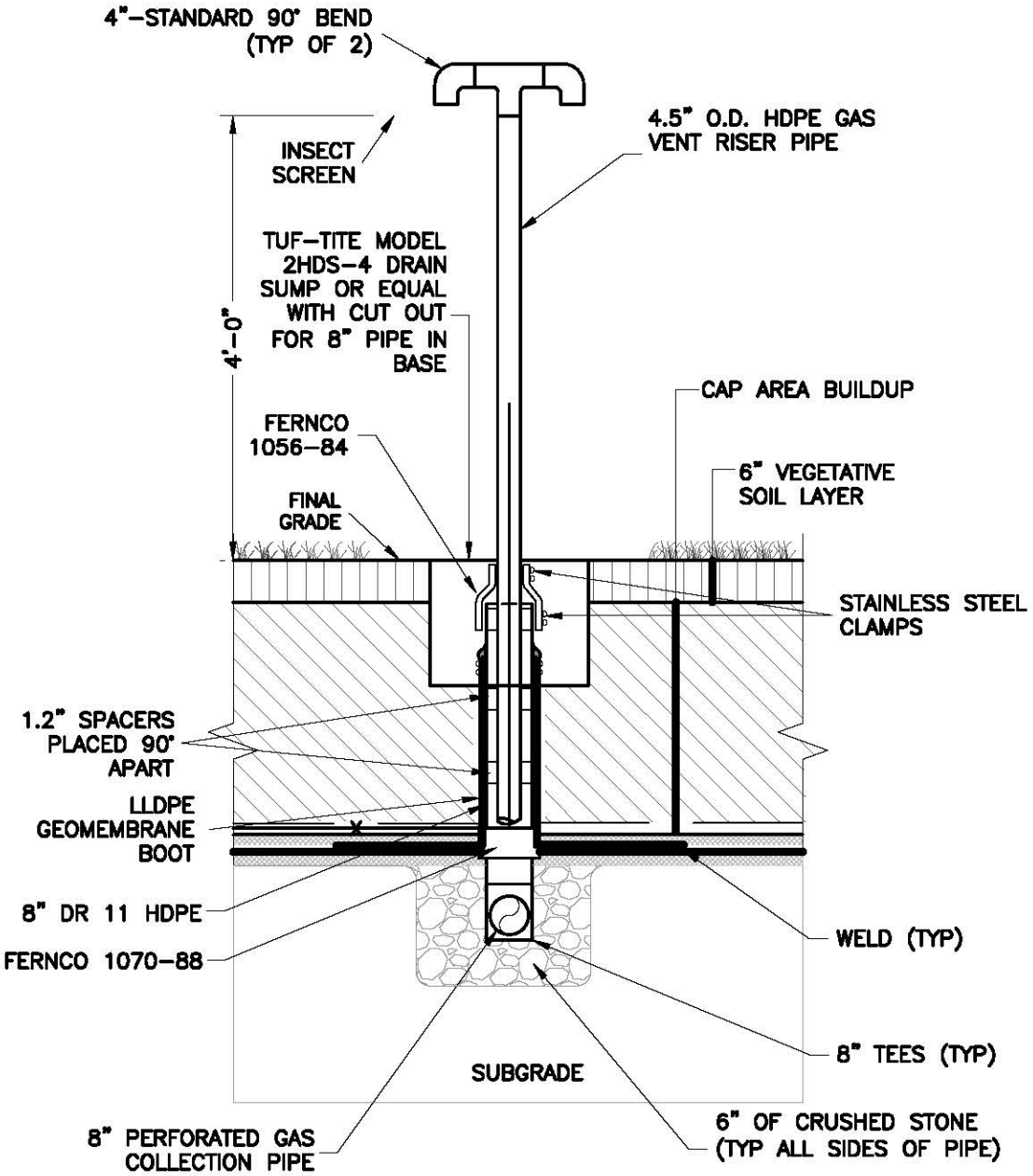
Revised/Date: TDD 8/18/17
Checked/Date: NAW 8/18/17

Honeywell 115 TABOR ROAD MORRIS PLAINS, NJ 07950	CHROMIUM REMEDY STUDY AREA 6 NORTH JERSEY CITY, NEW JERSEY HONEYWELL SITE ID - 37472	amec foster wheeler Environment & Infrastructure, Inc. 511 Congress Street, Suite 200 Portland, Maine 04104 (207) 775-5401	72-INCH FORCE MAIN SURVEY AND ACOUSTICAL MONITORING PROJECT 3480-13-0354 FIGURE 12

C:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North RAR\SA-6 North Vibration Monitoring.dwg Fri, 18 Aug 2017 - 7:37am tony.donovan

UNLESS OTHERWISE AGREED IN A WRITTEN CONTRACT BETWEEN AMEC FOSTER WHEELER AND ITS CLIENT: (I) THIS DOCUMENT CONTAINS INFORMATION, DATA AND DESIGN THAT IS CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (II) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN DELIVERED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.

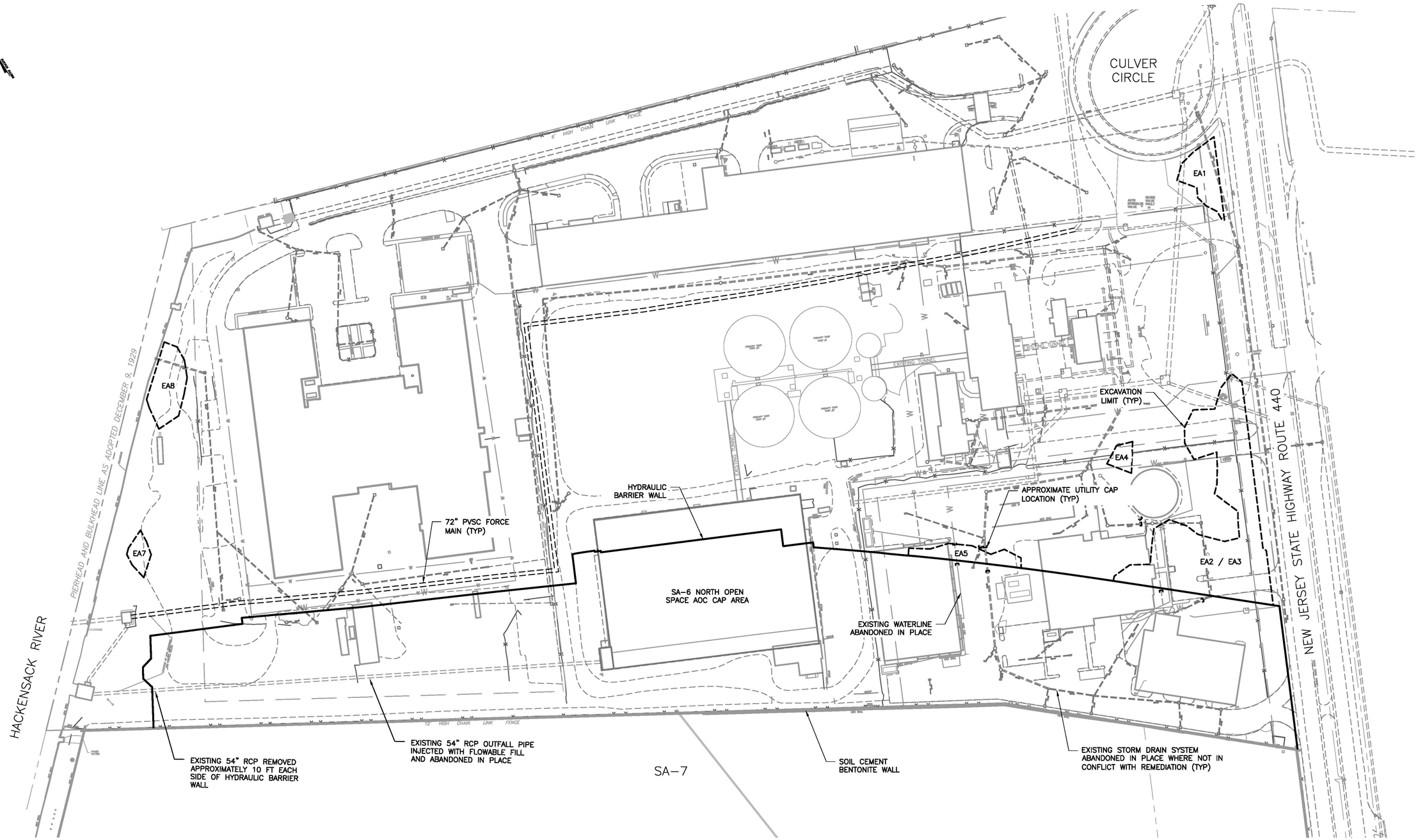
P:\CADD\HONEYWELL\JERSEY CITY\SA 6 NORTH\3480150487\6100\510001\6N NON CPR\3480150488-6100-GVD0-0000.dwg Wed, 10 May 2017 - 11:03am charles.wingfield



GAS VENT DETAIL

NTS

Amec Foster Wheeler PROJECT No. 3480160544 DRAWING: 3480150488-6100-GVD0-0000	amec foster wheeler ENVIRONMENT & INFRASTRUCTURE, Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	SA-6 GAS VENT DETAIL STUDY AREA 6 NORTH JERSEY CITY, NEW JERSEY
PREPARED/DATE: STR 04/20/17 | CHECKED/DATE: NW 05/10/17		



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SCALE IN FEET

Prepared/Date: TDD 5/8/17
Checked/Date: NAW 5/8/17

Honeywell 101 COLUMBIA RD. BOX 2105 MORRISTOWN, NJ 07962	CHROMIUM REMEDY STUDY AREA 6 NORTH JERSEY CITY, NEW JERSEY HONEYWELL SITE ID - 37472	amec foster wheeler Environment & Infrastructure, Inc. 511 Congress Street, Suite 200 Portland, Maine 04104 (207) 775-5401	UTILITY ABANDONMENT AS-BUILT RECORD DRAWING

C:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North IWR\SA-6 North Utility Abandonment AB.dwg Tue, 09 May 2017 - 3:00pm tony.donovan

APPENDIX D

DESIGN CHANGE BULLETIN LOG

SA-6 North/South Field Change Log					
AmecFW ID	**Changed Item Identifier**	**Description of Change**	**Comments**	**Site**	**AOC Designation[1]**
1	**DC 2013-7-29**	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentation Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.	SA-6 North & SA-6 South	A, C
2	**DC 2013-8-14 (HB Wall)**	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.	North	A
3	**DC 2013-8-14 (Grouted Angles)**	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only as clarification or response to RFI.	South	C
4	**DC 2013-9-12**	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only as clarification or response to RFI.	South	C
5	**DC 2013-9-24**	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only as clarification or response to RFI.	SA-6 North & SA-6 South	A, B, C, D, E
6	**DC 2013-12-12**	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.	South	D, E
7	**DC 2014-3-25**	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.	SA-6 North & SA-6 South	A, C
7.1	**DC 2014-6-10**	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-6-10 includes the french drain installation, as well as pump and access station manholes for SA-6 South. Some design details, including the electrical design, will be finalized based field observations and constructability review.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016	South	C
7.2	**DC 2014-11-20**	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-11-20 includes the french drain installation, electrical supply and discharge piping for SA-6 North.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.	North	A
7.22	**DC 2016-6-6**	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-6-10 includes the revised electrical supply and discharge piping for SA-6 North.	Submitted to Parties as Attachment to Declaration 004. (Design Change ID changed from DC 2016-6-10 to DC 2016-6-6 to reflect actual date on Design Change form).	North	A
7.3	**DC 2015-2-12**	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-2-24 is a follow up to DC 2014-6-10, the SA-6 South CGWES trench design. DC 2015-2-24 includes details for electrical supply and discharge piping.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016	South	C
7.4	**DC 2015-9-03**	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-9-03 is a follow up to DC 2015-2-24, the SA-6 South CGWES electrical supply. DC 2015-9-03 provides a revised electrical plan.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016	South	C
7.4.1	**DC 2016-5-24**	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to address the elimination of a drop structure, the elimination of a flow meter, conduit sizing changes, and to clarify Entact's scope.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016	South	C
7.4.2	**DC 2016-12-20**	This DCB documents a number of minor field changes that have been conveyed by the EOR to Entact during the course of the work and also includes revisions to the (E series) electrical drawings for both SA-6N and SA-6S.	Included as an attachment to Declaration 005.	SA-6 North & SA-6 South	A, C
7.5	**DC 2015-2-24**	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to document the changes in the SA-6 North and South cap subgrades that resulted from the change to a trench system.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016	SA-6 North & SA-6 South	A, C
8.1	**DC 2013-8-14 (Surcharge)**	Modify surcharge pile toe of slope to reduce load on the bulkhead.	Submitted to all Parties on July 10, 2014.	South	C, D
9	**DC 2014-5-6**	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS Site Vision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.	South	E
10	**DC 2014-5-19**	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.	South	D, E
11	**DC 2014-7-28**	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.	SA-6 North & SA-6 South	A, B, C, D, E
12	**DC 2014-10-28**	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.	South	C, D
13	**DC 2014-8-13**	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.	North	A
14	**DC 2014-9-2**	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.	North	A

SA-6 North/South Field Change Log					
AmecFW ID	**Changed Item Identifier**	**Description of Change**	**Comments**	**Site**	**AOC Designation[1]**
15	**DC 2014-10-31**	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only as clarification or response to RFI.	SA-6 North & SA-6 South	A, B, C, D, E
16	**DC 2014-12-01**	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only as clarification or response to RFI.	South	E
17	**DC 2015-01-22**	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA-6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Parties as Attachment to Declaration 004.	SA-6 North & SA-6 South	A, B, C, D, E
18	**DC 2014-12-23**	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.	South	E
19	**DC 2015-03-03**	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.	North	A, B
20	**DC 2015-03-30**	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.	North	A
21	**DC 2015-03-04**	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Parties on July 2, 2015.	South	C
22	**DC 2015-03-09**	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only as clarification or response to RFI.	North	B
23	**DC 2015-04-30**	A concrete protuberance was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only as clarification or response to RFI.	North	A
26.1	**DC 2015-05-19**	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groundwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016	SA-6 North & SA-6 South	A, C
27	**DC 2015-06-18**	Bayfront Redevelopment Civil Designer has eliminated one utility corridor along the eastern portion of SA-6 South (water main and sewer line were relocated to another utility corridor). In addition, it was identified that minor increases in the Bayfront final grades of up to 0.25 feet may be made in the landscaped areas (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 South Consent Decree and the 100% Design.	Submitted to all Parties on June 18, 2015.	South	C
28	**DC 2015-05-29**	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.	South	C
29	**DC 2015-06-05**	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.	South	C, D
30	**DC 2015-11-12**	Amec Foster Wheeler has provided Final Cap Grades (in CAD) to Entact. Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.	Included as an attachment to Declaration 005.	South	C, D, E
30.1	**DC 2016-04-15**	Amec Foster Wheeler has provided final restoration grades for SA-6 South Development Area. The DCB also includes the final cover types in revised Drawing C-128.	Included as an attachment to Declaration 005.	South	C, D, E

SA-6 North/South Field Change Log					
AmecFW ID	**Changed Item Identifier**	**Description of Change**	**Comments**	**Site**	**AOC Designation[1]**
30.2	**September 2016-South**	The design change documents revisions to the final grading and SESCP drawings on the SA-6 South Chromium Remedy. Minor grading changes were performed in the field to improve surface drainage. In addition, the extent of demarcation fabric, crushed stone and DGA placed over the Development Area was increased to meet historic fill regulations. SESCP changes included installation of crushed stone toe drain along SA-7, installation of erosion mat, installation of supplemental diversion berms, and installation of stone check dams.	Included as an attachment to Declaration 005.	South	C, D, E
32	**DC 2015-06-18 (South)**	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on 6/22/15.	South	E
33	**DC 2015-06-18 (North)**	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.	North	B
34	**DC 2015-06-15**	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.	South	C
35	**DC 2015-07-16**	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.	South	C
35.2	**DC 2015-08-18**	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.	South	C
35.3	**DC 2015-10-06**	GCL is required to be installed over the SCB wall and Barrier Wall at the locations shown in the annotated PDF of C-121 (rev 4, 8/13/15).	Submitted to Contractor only as clarification or response to RFI.	South	C
36	**DC 2015-07-22**	Detail BN has been modified to extend the LLDPE up and over the SCB Wall. The prior detail showed both the GDL and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.	South	C
37	**DC 2015-07-28**	Drawing 304, Detail CE and associated notes regarding the "Liner Anchor to Concrete Structure" have been modified.	Submitted to Contractor only as clarification or response to RFI.	South	C
37.2	**DC 2015-08-07**	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only as clarification or response to RFI.	South	C
38	**DC 2015-07-31**	The sheet pile pair is located at Sta. 0+50. Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.	Submitted to Contractor only as clarification or response to RFI.	North	A
39	**DC 2015-07-30**	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only as clarification or response to RFI.	South	C
41	**DC 2015-08-19**	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.	SA-6 North & SA-6 South	A, C
42	**DC 2015-08-21**	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA-6S Caps. As such, Paragraph 3.02 is no longer required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.	SA-6 North & SA-6 South	A, C
43	**DC 2015-08-20**	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.	South	C
45	**DC 2015-9-02**	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	Submitted to Parties as Attachment to Declaration 004.	North	A

SA-6 North/South Field Change Log					
AmecFW ID	**Changed Item Identifier**	**Description of Change**	**Comments**	**Site**	**AOC Designation[1]**
46	**DC 2015-9-17**	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.	SA-6 North & SA-6 South	A, C
47	**DC 2015-9-04**	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	Submitted to Parties as Attachment to Declaration 003.	North	B
47.1	**DC 2015-11-18**	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	Submitted to Parties as Attachment to Declaration 003.	North	B
48	**DC 2015-09-28**	Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling.	Submitted to Parties on October 1, 2015.	South	E
48.1	**DC 2015-12-21**	Amec Foster Wheeler (AmecFW), Entact and Maser Consulting have developed alternative methods for documentation/survey of the excavation bottom in Site 163. The alternative methods were developed in light of safety considerations for surveyor access into a sheet piled excavation to elevation –8.0. The bottom of the excavation will be in very low strength Stratum O soils. These alternative survey control methods are different from those previously used in the SA-6 South Development Area.	Submitted to Contractor only as clarification or response to RFI.	South	E
50	**DC 2015-10-02**	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.	SA-6 North & SA-6 South	A, C
51	**DC 2015-10-22**	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only as clarification or response to RFI.	North	B
52	**DC 2015-12-14**	Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds that cannot be tested by other means. Spark testing will be performed in accordance with ASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative. Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	Submitted to Parties on January 14, 2016.	North	A
53	**DC 2015-11-30**	EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation. A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals. EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits. A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.	Submitted to Parties as Attachment to Declaration 003.	North	B
54	**DC 2016-02-02**	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design.	Submitted to Parties as Attachment to Declaration 004. (Design Change ID changed from DC 2016-02-03 to DC 2016-02-02 to reflect actual date on Design Change form).	North	A
54.1	**DC 2016-02-22**	AmecFW revised the SA-6 North cap subgrade in a single localized area in order to accommodate Entact's request to relocate Pump Station #1 (RFI 64). The subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location. In addition, for grading purposes, any hydraulic barrier sheets within the Sedimentation Basin that have sections below elevation 12.0 will be trimmed to a uniform elevation of 11.5.	Submitted to Parties as Attachment to Declaration 004.	North	A
54.2	**DC 2016-02-25**	This DCB has been issued to provide Entact with the latest SA-6 North HB Wall and SCB wall plan and profile drawings (SN-201 thru SN-205), which were modified to reflect changes made in DC 2016-02-22.	Submitted to Parties as Attachment to Declaration 004.	North	A
54.3	**DC 2016-5-11**	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design. As part of DC 2016-5-11, AmecFW issued SA-6 North Interim Grades to Entact.	Submitted to Parties as Attachment to Declaration 004.	North	A

SA-6 North/South Field Change Log					
AmecFW ID	**Changed Item Identifier**	**Description of Change**	**Comments**	**Site**	**AOC Designation[1]**
54.4	**DC 2016-5-20**	After further review, AmecFW lowered the geomembrane Pump Station #1 on the SA-6 North cap in order to provide additional separation between the geomembrane and the bottom of the vault. (Refer to DC 2016-02-22).	Submitted to Parties on June 15, 2016.	North	A
54.5	**DC 2016-7-14**	Design change documenting minor field changes needed to achieve positive drainage in the cap area.	Included as an attachment to November 2016 monthly progress report and included in the finalized Declaration 004.	North	A
54.6	**September 2016-North**	The design change documents revisions to the interim/final grading and SESCP drawings on the SA-6 North Chromium Remedy. Minor grading changes were performed in the field to improve surface drainage pending redevelopment. SESCP changes included installation of crushed stone toe drain along SA-7, installation of erosion mat, installation of supplemental diversion berms, and installation of stone check dams.	Included as an attachment to Declaration 005.	North	A
55	**DC 2016-05-03**	The laboratory results of all gradations for planting soils shall be presented in terms of the USDA classification system rather than the USCS classification system.	Submitted to Contractor only as clarification or response to RFI.	SA-6 North & SA-6 South	A, C
56	**DC 2016-03-18**	This DC 2016-03-18 documents the revised acceptable ranges of physical parameters and provides an updated specification made in consultation with Dr. Grabosky of Rutgers University. Dr. Grabosky provided his recommendations in correspondence dated 3/17/2016.	Submitted to Parties on March 22, 2016. Plaintiffs responded in a letter dated April 15, 2016. The Parties did not agree to implement this DCB as drafted. However, Plaintiffs and Honeywell subsequently held discussions and DCB 2016-4-20 was developed to document an agreement reached by all parties on the Special Master All-Hands monthly call on April 19, 2016.	SA-6 North & SA-6 South	A, C
57	**DC 2016-03-21**	Nature's Choice was identified as the source that best met the physical requirements for Horizon C soils by Dr. Grabosky; however, several samples of Nature's Choice Horizon C soils have hexavalent chromium concentration >1.0 mg/kg. Consequently, Honeywell is proposing a design change to allow the hexavalent chromium concentration in Nature's Choice Horizon C soils to be less than 1.8 mg/kg, as agreed to by the parties, as documented in the attached emails. For future sampling, hexavalent chromium soil samples will be composited from 10 grab sample locations per 5,000 CY (maximum). There are additional conditions in Attachment A that are part of this DCB and specific to Nature's Choice Horizon C soil. All other requirements specified in the 100% Design for imported soils will be met by the Nature's Choice Horizon C soils as amended in previous DC 2015-09-17.	Submitted to Parties on March 22, 2016.	SA-6 North & SA-6 South	A, C
58	**DC 2016-05-06**	To allow for traffic flow within the project site following completion of the SA-6S Cap, a road will be installed within the "B Street" corridor. The road will be constructed by continuing the "Structural Fill under Roadways to within 6 inches of final grade"	Submitted to Parties on June 30, 2016.	South	C
59	**DC 2016-04-20**	This DCB documents the approved sources of Horizon B and Horizon C materials, as agreed to by all parties on the Special Master All-Hands monthly call on April 19, 2016.	Submitted to Parties on April 21, 2016.	SA-6 North & SA-6 South	A, C
60	**DC 2016-05-31**	This DCB documents the vault sketch Drawing C-310 (Rev 5, 5/31/16)	Submitted to Contractor only as clarification or response to RFI.	South	C
61	**DC 2016-11-09**	The limits and the type of restoration north of the SA-6N cap has been modified to be integrated with the SA-6N Non Chrome Remedy.	Included as an attachment to Declaration 005.	North	B
62	**DC 2016-7-12**	DC 2016-7-12 clarifies the limit of GCL deployment and the location of the sand bentonite plug in the SA-6 North cap.	Included as an attachment to July 2016 Monthly Progress Report.	North	A

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

1) Area of Concern (AOC) Designations:
   A = SA-6 North Open Space Area
   B = SA-6 North Development Area
   C = SA-6 South Open Space AOC
   D = SA-6 South Kellogg Street Development AOC
   E = SA-6 South Site 163 Development AOC

APPENDIX E

WELL INSTALLATION/RECORDS/ ABANDONMENT REPORTS

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606638

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: Rt. 440 Infront of 501 Rote 440

County: Hudson Municipality: Jersey City Lot: ROW Block: ROW

Easting (X): 603719 Northing (Y): 685108
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 17, 2016
DATE WELL COMPLETED: June 17, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-1

WELL CONSTRUCTION

Total Depth Drilled (ft.): 11.5 Finished Well Depth (ft.): 11.5 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	11.5	9		
Casing	0	6.5	4	Stainless Steel	type 304
Screen	6.5	11.5	4	Stainless Steel	0.030-inch

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3.5	9	4	0	70	4
Gravel Pack	3.5	11.5	9	4	no. 1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 7 ft. below land surface
Water Level Measure Tool: m-scope
Well Development Period: 1 hrs.
Method of Development: air lift
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Gus Pech Brat
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 5: brown OT - Other historic fill/debris
5 - 8: brown SM - Silty sands, sand-silt mixtures
8 - 11.5: brown SP - Poorly graded sands and gravelly sands, little or no fines

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606638

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: Rt. 440 Infront of 501 Rote 440

County: Hudson Municipality: Jersey City Lot: ROW Block: ROW

Easting (X): 603719 Northing (Y): 685108
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: PZ-1

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: June 8, 2016
Expiration Date: June 8, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606638

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606639

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: Rt. 440 Infront of 501 Rote 440

County: Hudson Municipality: Jersey City Lot: ROW Block: ROW

Easting (X): 603711 Northing (Y): 685111
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 20, 2016

DATE WELL COMPLETED: June 20, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-2

WELL CONSTRUCTION

Total Depth Drilled (ft.): 8 Finished Well Depth (ft.): 8 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	8	9		
Casing	0	3	4	Stainless Steel	type 304
Screen	3	8	4	Stainless Steel	0.030-inch

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	1	9	4	0	20	1
Gravel Pack	1	8	9	4	no. 1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 4 ft. below land surface
Water Level Measure Tool: m-scope
Well Development Period: 1 hrs.
Method of Development: air lift
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Gus Pech Brat
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 5: brown OT - Other historic fill/debris
5 - 8: brown SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606639

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: Rt. 440 Infront of 501 Rote 440

County: Hudson Municipality: Jersey City Lot: ROW Block: ROW

Easting (X): 603710 Northing (Y): 685111
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: PZ-2

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: June 8, 2016
Expiration Date: June 8, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606639

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606641

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 501 Rt 440

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603365 Northing (Y): 685484
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 16, 2016

DATE WELL COMPLETED: June 16, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-3

WELL CONSTRUCTION

Total Depth Drilled (ft.): 13 Finished Well Depth (ft.): 13 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	13	9		
Casing	0	8	4	Stainless Steel	type 304
Screen	8	13	4	Stainless Steel	0.030-inch

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	6	9	4	0	120	7
Gravel Pack	6	13	9	4	no. 1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 8 ft. below land surface
Water Level Measure Tool: m-scope
Well Development Period: 1 hrs.
Method of Development: air lift
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Gus Pech Brat
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 5: brown OT - Other historic fill/debris
5 - 8: brown SM - Silty sands, sand-silt mixtures
8 - 13: dark grey OL - Organic silts and organic silty clays of low plasticity

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606641

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 501 Rt 440

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603365 Northing (Y): 685484
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: PZ-3

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: June 8, 2016
Expiration Date: June 8, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606641

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
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This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606642

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 501 Rt 440

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603361 Northing (Y): 685479
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 16, 2016

DATE WELL COMPLETED: June 17, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-4

WELL CONSTRUCTION

Total Depth Drilled (ft.): 12 Finished Well Depth (ft.): 12 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	12	9		
Casing	0	7	4	Stainless Steel	type 304
Screen	7	12	4	Stainless Steel	0.030-inch

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	5	9	4	0	100	6
Gravel Pack	5	12	9	4	no. 1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 7 ft. below land surface
Water Level Measure Tool: m-scope
Well Development Period: 1 hrs.
Method of Development: air lift
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Gus Pech Brat
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 5: brown OT - Other historic fill/debris
5 - 8: brown SM - Silty sands, sand-silt mixtures
8 - 12: brown OL - Organic silts and organic silty clays of low plasticity

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606642

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 501 Rt 440

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603661 Northing (Y): 685479
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: PZ-4

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: June 7, 2016
Expiration Date: June 7, 2017

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606642

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
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This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606645

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 525 Rt 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602959 Northing (Y): 685778
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 20, 2016
DATE WELL COMPLETED: June 20, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-5

WELL CONSTRUCTION

Total Depth Drilled (ft.): 13 Finished Well Depth (ft.): 13 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	13	9		
Casing	0	8	4	Stainless Steel	type 304
Screen	8	13	9	4	0.030-inch

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	5	9	4	0	100	6
Gravel Pack	5	13	9	4	no. 1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 9 ft. below land surface
Water Level Measure Tool: m-scope
Well Development Period: 1 hrs.
Method of Development: air
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Gus Pech Brat
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 5: brown OT - Other historic fill/debris
5 - 10: brown SM - Silty sands, sand-silt mixtures
10 - 13: dark brown SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606645

WELL PERMIT

New Well

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Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 525 Rt 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602959 Northing (Y): 685778
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: PZ-5

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: June 7, 2016
Expiration Date: June 7, 2017

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606645

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606646

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 525 Rt 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602956 Northing (Y): 685773
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 20, 2016
DATE WELL COMPLETED: June 20, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-6

WELL CONSTRUCTION

Total Depth Drilled (ft.): 13 Finished Well Depth (ft.): 13 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	13	9		
Casing	0	8	4	Stainless Steel	type 304
Screen	8	13	4	Stainless Steel	0.030-inch

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	5	9	4	0	100	6
Gravel Pack	5	13	9	4	no. 1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 6 ft. below land surface
Water Level Measure Tool: m-scope
Well Development Period: 1 hrs.
Method of Development: air
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Gus Pech Brat
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 5: brown OT - Other historic fill/debris
5 - 10: brown SM - Silty sands, sand-silt mixtures
10 - 13: dark brown SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606646

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 525 Rt 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602956 Northing (Y): 685773
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: PZ-6

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: June 7, 2016
Expiration Date: June 7, 2017

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606646

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606647

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 525 Rt 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602088 Northing (Y): 686065
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 15, 2016

DATE WELL COMPLETED: June 16, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-9

WELL CONSTRUCTION

Total Depth Drilled (ft.): 12 Finished Well Depth (ft.): 12 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	12	9		
Casing	0	7	4	Stainless Steel	type 304
Screen	7	12	4	Stainless Steel	0.030-inch

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	5	9	4	0	100	6
Gravel Pack	5	12	9	4	no. 1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 8 ft. below land surface
Water Level Measure Tool: m-scope
Well Development Period: 1 hrs.
Method of Development: air lift
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Gus Pech Brat
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 5: brown OT - Other historic fill/debris
5 - 8: brown SM - Silty sands, sand-silt mixtures
8 - 12: brown OH - Organic clays of medium to high plasticity

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606647

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 525 Rt 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602088 Northing (Y): 686065
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: PZ-9

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: June 7, 2016
Expiration Date: June 7, 2017

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606647

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606648

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 525 Rt 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602101 Northing (Y): 686066
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: PZ-10

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: June 7, 2016
Expiration Date: June 7, 2017

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606648

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606648

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 525 Rt 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602101 Northing (Y): 686066
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 15, 2016

DATE WELL COMPLETED: June 15, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-10

WELL CONSTRUCTION

Total Depth Drilled (ft.): 12 Finished Well Depth (ft.): 12 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	12	9		
Casing	0	7	4	Stainless Steel	type 304
Screen	7	12	4	Stainless Steel	0.030-inch

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	5	9	4	0	100	6
Gravel Pack	5	12	9	4	no. 1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 8 ft. below land surface
Water Level Measure Tool: m-scope
Well Development Period: 1 hrs.
Method of Development: air lift
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Gus Pech Brat
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 5: brown OT - Other historic fill/debris
5 - 8: brown SM - Silty sands, sand-silt mixtures
8 - 12: brown OH - Organic clays of medium to high plasticity

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606650

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 575 Rt 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602442 Northing (Y): 685973
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 13, 2016

DATE WELL COMPLETED: June 14, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-7

WELL CONSTRUCTION

Total Depth Drilled (ft.): 26 Finished Well Depth (ft.): 20 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	26	9		
Casing	0	15	4	Stainless Steel	type 304
Screen	15	20	4	Stainless Steel	0.030-inch

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	12	9	4	0	240	14
Gravel Pack	12	26	9	4	no. 1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 10 ft. below land surface
Water Level Measure Tool: m-scope
Well Development Period: 1 hrs.
Method of Development: air lift
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Gus Pech Brat
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 5: brown OT - Other historic fill/debris
5 - 8: red/brown SM - Silty sands, sand-silt mixtures
8 - 15: brown SM - Silty sands, sand-silt mixtures
15 - 25: red/brown SP - Poorly graded sands and gravelly sands, little or no fines
25 - 26: gray PT - Peat, muck, and other highly organic soils gray silt to peat

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606650

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 575 Rt 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602442 Northing (Y): 685973
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: PZ-7

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: June 7, 2016
Expiration Date: June 7, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606650

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
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This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606651

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 575 Rt 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602430 Northing (Y): 685948
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 15, 2016

DATE WELL COMPLETED: June 15, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-8

WELL CONSTRUCTION

Total Depth Drilled (ft.): 14 Finished Well Depth (ft.): 14 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	14	9		
Casing	0	9	4	Stainless Steel	type 304
Screen	9	14	4	Stainless Steel	0.030-inch

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	7	9	4	0	140	8
Gravel Pack	7	14	9	4	no. 1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 12 ft. below land surface
Water Level Measure Tool: m-scope
Well Development Period: 1 hrs.
Method of Development: air lift
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Gus Pech Brat
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 5: brown OT - Other historic fill/debris
5 - 8: red/brown SM - Silty sands, sand-silt mixtures
8 - 14: brown SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606651

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 575 Rt 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602430 Northing (Y): 685948
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: PZ-8

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: June 7, 2016
Expiration Date: June 7, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201606651

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201510925

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Honeywell SA-6 North

Address: ROUTE 440 (SOUTH) Well discharged to on site treatment

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603700 Northing (Y): 685320
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: DW-6N

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: DEWATERING

Other Use(s):

Diameter (in.): 6

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 50

Case ID Number:

Pump Capacity (gpm): 20

Deviation Requested: N

Drilling Method: Mud Rotary

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: September 14, 2015
Expiration Date: September 13, 2016

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201510925

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
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This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201510925

WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Honeywell SA-6 North

Address: ROUTE 440 (SOUTH) Well discharged to on site treatment

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603700 Northing (Y): 685320
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: September 21, 2015
DATE WELL COMPLETED: October 28, 2015

WELL USE: DEWATERING

Other Use(s):

Local ID: DW-6N

WELL CONSTRUCTION

Total Depth Drilled (ft.): 43 Finished Well Depth (ft.): 43 Well Surface: 2.5 ft. Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	12	14		
Borehole	12	43	10		
Casing	0	18	6	PVC	sch 40
Casing	0	12	10	Steel	sch 40
Screen	18	43	6	PVC	0.020-inch

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	17	10	6	0	515	29
Grout	0	12	14	10	0	485	27
Gravel Pack	17	43	10	6	no. 2 WG		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

RECORD OF TEST
Test Date: September 28, 2015
Pump Equipment: air lift
Well Yield: 10 gpm
Static Water Level: 5.7 ft. below land surface
Pumping Water Level: 15 ft. below land surface

ATTACHMENTS

PUMPING EQUIPMENT
Installed: Installed by Others
Installer's Name: ,
Pump Type:
Depth to Pump: _ ft. below land surface
Pump Capacity: _ gpm
Total Design Head: _ ft.
Pump Horsepower: _ hp
If pump tested Discharge Rate: _ gpm
Duration of Test: _ hours

GEOLOGIC LOG
0 - 5: brown SM - Silty sands, sand-silt mixtures some gravel
5 - 9: brown SM - Silty sands, sand-silt mixtures
9 - 11: black OL - Organic silts and organic silty clays of low plasticity
11 - 14: black/brown PT - Peat, muck, and other highly organic soils
14 - 16: grey SP - Poorly graded sands and gravelly sands, little or no fines m,f sand
16 - 40: red SM - Silty sands, sand-silt mixtures f sand with silt
40 - 42: tan OT - Other cobbles
42 - 43: red SW - Well-graded sands and gravelly sands, little or no fines f sand

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201510930

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: HONEYWELL SA-6 NORTH

Address: ROUTE 440 Well discharge to on-site treatment

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603810 Northing (Y): 685450
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: DW-7N

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: DEWATERING

Other Use(s):

Diameter (in.): 6

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 50

Case ID Number:

Pump Capacity (gpm): 20

Deviation Requested: N

Drilling Method: Mud Rotary

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: September 14, 2015
Expiration Date: September 13, 2016

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201510930

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
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This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201510930

WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: ROUTE 440 Well discharge to on-site treatment

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603810 Northing (Y): 685450
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: September 24, 2015
DATE WELL COMPLETED: October 28, 2015

WELL USE: DEWATERING

Other Use(s):

Local ID: DW-7N

WELL CONSTRUCTION

Total Depth Drilled (ft.): 48 Finished Well Depth (ft.): 48 Well Surface: 2.5 ft. Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	17	14		
Borehole	17	48	10		
Casing	0	17	10	Steel	sch 40
Casing	0	23	6	PVC	sch 40
Screen	23	48	6	PVC	0.020-inch

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	22	10	6	0	515	29
Grout	0	17	14	10	0	630	36
Gravel Pack	22	48	10	6	no. 1 WG		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

RECORD OF TEST
Test Date: September 28, 2015
Pump Equipment: air lift
Well Yield: 10 gpm
Static Water Level: 4.7 ft. below land surface
Pumping Water Level: 15 ft. below land surface

ATTACHMENTS

PUMPING EQUIPMENT
Installed: Installed by Others
Installer's Name: ,
Pump Type:
Depth to Pump: _ ft. below land surface
Pump Capacity: _ gpm
Total Design Head: _ ft.
Pump Horsepower: _ hp
If pump tested Discharge Rate: _ gpm
Duration of Test: _ hours

GEOLOGIC LOG
0 - 8: brown SM - Silty sands, sand-silt mixtures silt with sand and gravels
8 - 10: brown OT - Other wood
10 - 15: black OT - Other COPR
15 - 18: black PT - Peat, muck, and other highly organic soils
18 - 22: grey SW - Well-graded sands and gravelly sands, little or no fines f,m sand
22 - 48: red SM - Silty sands, sand-silt mixtures f sand and silt

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201508938

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: ROGER LOGEL, MASTER LICENSE # 0001590

Permit Issued to: SUMMIT DRILLING CO INC

Company Address: 81 CHIMNEY ROCK RD BRIDGEWATER TWP, NJ 08807

PROPERTY OWNER

Name: N/A BAYFRONT REDEVELOPMENT % THOMAS REU

Organization: Bayfront Redevelopment % Thomas Reu

Address: PO Box 4900 Dept 356

City: Scottsdale State: Arizona Zip Code: 85261

PROPOSED WELL LOCATION

Facility Name: Jersey City site 087

Address: 575 Rt 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602517 Northing (Y): 685995
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 087-TWP-37

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 16

Case ID Number: ERFS Jersey City

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Direct Push Probe

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: August 6, 2015
Expiration Date: August 5, 2016

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201508938

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
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If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
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In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201508939

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: ROGER LOGEL, MASTER LICENSE # 0001590

Permit Issued to: SUMMIT DRILLING CO INC

Company Address: 81 CHIMNEY ROCK RD BRIDGEWATER TWP, NJ 08807

PROPERTY OWNER

Name: N/A BAYFRONT REDEVELOPMENT % THOMAS REU

Organization: Bayfront Redevelopment % Thomas Reu

Address: PO Box 4900 Dept 356

City: Scottsdale State: Arizona Zip Code: 85261

PROPOSED WELL LOCATION

Facility Name: Jersey City site 087

Address: 575 Rt 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602519 Northing (Y): 686014
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 087-TWP-38

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 16

Case ID Number: ERFS Jersey City

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Direct Push Probe

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: August 6, 2015
Expiration Date: August 5, 2016

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201508939

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201508940

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: ROGER LOGEL, MASTER LICENSE # 0001590

Permit Issued to: SUMMIT DRILLING CO INC

Company Address: 81 CHIMNEY ROCK RD BRIDGEWATER TWP, NJ 08807

PROPERTY OWNER

Name: N/A BAYFRONT REDEVELOPMENT % THOMAS REU

Organization: Bayfront Redevelopment % Thomas Reu

Address: PO Box 4900 Dept 356

City: Scottsdale State: Arizona Zip Code: 85261

PROPOSED WELL LOCATION

Facility Name: Jersey City site 087

Address: 575 Rt 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602543 Northing (Y): 686010
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 087-TWP-39

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 16

Case ID Number: ERFS Jersey City

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Direct Push Probe

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: August 6, 2015
Expiration Date: August 5, 2016

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201508940

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201508941

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: ROGER LOGEL, MASTER LICENSE # 0001590

Permit Issued to: SUMMIT DRILLING CO INC

Company Address: 81 CHIMNEY ROCK RD BRIDGEWATER TWP, NJ 08807

PROPERTY OWNER

Name: N/A BAYFRONT REDEVELOPMENT % THOMAS REU

Organization: Bayfront Redevelopment % Thomas Reu

Address: PO Box 4900 Dept 356

City: Scottsdale State: Arizona Zip Code: 85261

PROPOSED WELL LOCATION

Facility Name: Jersey City site 087

Address: 575 Rt 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602562 Northing (Y): 686006
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 087-TWP-40

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 16

Case ID Number: ERFS Jersey City

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Direct Push Probe

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: August 6, 2015
Expiration Date: August 5, 2016

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Well Permit Number
E201508941

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
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The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201508942

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: ROGER LOGEL, MASTER LICENSE # 0001590

Permit Issued to: SUMMIT DRILLING CO INC

Company Address: 81 CHIMNEY ROCK RD BRIDGEWATER TWP, NJ 08807

PROPERTY OWNER

Name: N/A BAYFRONT REDEVELOPMENT % THOMAS REU

Organization: Bayfront Redevelopment % Thomas Reu

Address: PO Box 4900 Dept 356

City: Scottsdale State: Arizona Zip Code: 85261

PROPOSED WELL LOCATION

Facility Name: Jersey City site 087

Address: 575 Rt 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602552 Northing (Y): 685980
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 087-TWP-41

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 16

Case ID Number: ERFS Jersey City

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Direct Push Probe

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: August 6, 2015
Expiration Date: August 5, 2016

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201508942

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
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This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201508943

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: ROGER LOGEL, MASTER LICENSE # 0001590

Permit Issued to: SUMMIT DRILLING CO INC

Company Address: 81 CHIMNEY ROCK RD BRIDGEWATER TWP, NJ 08807

PROPERTY OWNER

Name: N/A BAYFRONT REDEVELOPMENT % THOMAS REU

Organization: Bayfront Redevelopment % Thomas Reu

Address: PO Box 4900 Dept 356

City: Scottsdale State: Arizona Zip Code: 85261

PROPOSED WELL LOCATION

Facility Name: Jersey City site 087

Address: 575 Rt 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602539 Northing (Y): 685991
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 087-MW-132

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s):

Diameter (in.): 2

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 16

Case ID Number: ERFS Jersey City

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: August 6, 2015
Expiration Date: August 5, 2016

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201508943

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
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This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201508943

MONITORING WELL RECORD

PROPERTY OWNER: N/A BAYFRONT REDEVELOPMENT % THOMAS REU

Company/Organization: Bayfront Redevelopment % Thomas Reu

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: Jersey City site 087

Address: 575 Rt 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602536 Northing (Y): 685989
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: August 10, 2015
DATE WELL COMPLETED: August 10, 2015

WELL USE: MONITORING

Other Use(s):

Local ID: 087-MW-132

WELL CONSTRUCTION

Total Depth Drilled (ft.): 16 Finished Well Depth (ft.): 16 Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	16	8		
Casing	0	6	2	PVC	sch 40
Screen	6	16	2	PVC	.010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	4	8	2	0	188	12
Gravel Pack	4	16	8	2	#1 Morie		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 8 ft. below land surface
Water Level Measure Tool: Water Level Indicator
Well Development Period: 1 hrs.
Method of Development: Pump
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Geoprobe 6600
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 4: Black Brown SW - Well-graded sands and gravelly sands, little or no fines Asphalt and Fill
4 - 14: Black SM - Silty sands, sand-silt mixtures Fill
14 - 16: Brown SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Kevin Barber, MONITORING LICENSE # 519390 Company: SUMMIT DRILLING CO INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201508944

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: ROGER LOGEL, MASTER LICENSE # 0001590

Permit Issued to: SUMMIT DRILLING CO INC

Company Address: 81 CHIMNEY ROCK RD BRIDGEWATER TWP, NJ 08807

PROPERTY OWNER

Name: N/A BAYFRONT REDEVELOPMENT % THOMAS REU

Organization: Bayfront Redevelopment % Thomas Reu

Address: PO Box 4900 Dept 356

City: Scottsdale State: Arizona Zip Code: 85261

PROPOSED WELL LOCATION

Facility Name: Jersey City site 087

Address: 575 Rt 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602514 Northing (Y): 685974
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 087-MW-133

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s):

Diameter (in.): 2

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 16

Case ID Number: ERFS Jersey City

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: August 6, 2015
Expiration Date: August 5, 2016

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201508944

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
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This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201508944

MONITORING WELL RECORD

PROPERTY OWNER: N/A BAYFRONT REDEVELOPMENT % THOMAS REU

Company/Organization: Bayfront Redevelopment % Thomas Reu

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: Jersey City site 087

Address: 575 Rt 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602515 Northing (Y): 685974
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: August 10, 2015
DATE WELL COMPLETED: August 10, 2015

WELL USE: MONITORING

Other Use(s):

Local ID: 087-MW-133

WELL CONSTRUCTION

Total Depth Drilled (ft.): 16 Finished Well Depth (ft.): 16 Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	16	8		
Casing	0	6	2	PVC	sch 40
Screen	6	16	2	PVC	.010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	4	8	2	0	188	12
Gravel Pack	4	16	8	2	#1 Morie		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 8 ft. below land surface
Water Level Measure Tool: Water Level Indicator
Well Development Period: 1 hrs.
Method of Development: Pump
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Geoprobe 6600
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 4: Black Brown SW - Well-graded sands and gravelly sands, little or no fines Asphalt and Fill
4 - 14: Black SM - Silty sands, sand-silt mixtures fill
14 - 16: Brown SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Kevin Barber, MONITORING LICENSE # 519390 Company: SUMMIT DRILLING CO INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201508945

WELL PERMIT

New Well

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Certifying Driller: ROGER LOGEL, MASTER LICENSE # 0001590

Permit Issued to: SUMMIT DRILLING CO INC

Company Address: 81 CHIMNEY ROCK RD BRIDGEWATER TWP, NJ 08807

PROPERTY OWNER

Name: N/A BAYFRONT REDEVELOPMENT % THOMAS REU

Organization: Bayfront Redevelopment % Thomas Reu

Address: PO Box 4900 Dept 356

City: Scottsdale State: Arizona Zip Code: 85261

PROPOSED WELL LOCATION

Facility Name: Jersey City site 087

Address: 575 Rt 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602530 Northing (Y): 685966
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 087-MW-134

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s):

Diameter (in.): 2

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 16

Case ID Number: ERFS Jersey City

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: August 6, 2015
Expiration Date: August 5, 2016

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201508945

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201508945

MONITORING WELL RECORD

PROPERTY OWNER: N/A BAYFRONT REDEVELOPMENT % THOMAS REU

Company/Organization: Bayfront Redevelopment % Thomas Reu

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: Jersey City site 087

Address: 575 Rt 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602530 Northing (Y): 685966
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: August 10, 2015
DATE WELL COMPLETED: August 10, 2015

WELL USE: MONITORING

Other Use(s):

Local ID: 087-MW-134

WELL CONSTRUCTION

Total Depth Drilled (ft.): 16 Finished Well Depth (ft.): 16 Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	16	8		
Casing	0	6	2	PVC	sch 40
Screen	6	16	2	PVC	.010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	4	8	2	0	188	12
Gravel Pack	4	16	8	2	#1 Morie		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 8 ft. below land surface
Water Level Measure Tool: Water Level Indicator
Well Development Period: 1 hrs.
Method of Development: Pump
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Geoprobe 6600
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 4: Black Brown SW - Well-graded sands and gravelly sands, little or no fines Asphalt and Fill
4 - 14: Black SM - Silty sands, sand-silt mixtures
14 - 16: Brown SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Kevin Barber, MONITORING LICENSE # 519390 Company: SUMMIT DRILLING CO INC

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Jersey City Site 087

List all AKAs: Honeywell SA6-North

Street Address: 575 Rte 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): Case Tracking Number(s): ERFS Jersey City

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Honeywell
2. Well Location (Street Address) Rte 440, Jersey City, Hudson County, NJ
3. Well Location (Municipal Block and Lot) Block# 21901 Lot # 9

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201508938
2. Site Well Number (As shown on application or plans): 087-MW-132
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 074-06-06.0 Longitude: West 40-42-57.6
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 685989 East 602536
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 14.63'
   Elevation Top of Outer casing: 15.00' Elevation of ground: 15.01'
   Check one: ☐ NAVD 88 ☒ NVGD29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

SEAL

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

Professional Land Surveyor's Signature: Date: 8/21/15

Surveyor's Name: Glen J. Lloyd License Number: GS37598

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 24GA27986500

Mailing Address 331 Newman Springs Road Suite 203

City/Town: Red Bank State New Jersey Zip Code: 07710

Phone Number 732-383-1950 Ext.: 3466 Fax: 732-383-1984

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Jersey City Site 087

List all AKAs: Honeywell SA6-North

Street Address: 575 Rte 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): Case Tracking Number(s): ERFS Jersey City

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Honeywell
2. Well Location (Street Address) Rte 440, Jersey City, Hudson County, NJ
3. Well Location (Municipal Block and Lot) Block# 21901 Lot # 9

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201508938
2. Site Well Number (As shown on application or plans): 087-MW-133
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 074-06-06.3 Longitude: West 40-42-57.5
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 685974 East 602515
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 14.60'
   Elevation Top of Outer casing: 14.90' Elevation of ground: 14.91'
   Check one: ☐ NAVD 88 ☒ NVGD29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

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Professional Land Surveyor's Signature: Date: 8/21/15

Surveyor's Name: Glen J. Lloyd License Number: GS37598

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 24GA27986500

Mailing Address 331 Newman Springs Road Suite 203

City/Town: Red Bank State New Jersey Zip Code: 07710

Phone Number 732-383-1950 Ext.: 3466 Fax: 732-383-1984

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Jersey City Site 087

List all AKAs: Honeywell SA6-North

Street Address: 575 Rte 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): Case Tracking Number(s): ERFS Jersey City

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Honeywell
2. Well Location (Street Address) Rte 440, Jersey City, Hudson County, NJ
3. Well Location (Municipal Block and Lot) Block# 21901 Lot # 9

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201508938
2. Site Well Number (As shown on application or plans): 087-MW-134
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 074-06-06.1 Longitude: West 40-42-57.4
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 685966 East 602530
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 14.68'
   Elevation Top of Outer casing: 15.04' Elevation of ground: 15.05'
   Check one: ☐ NAVD 88 ☒ NVGD29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

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Professional Land Surveyor's Signature: Date 8/21/15

Surveyor's Name: Glen J. Lloyd License Number: GS37598

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 24GA27986500

Mailing Address 331 Newman Springs Road Suite 203

City/Town: Red Bank State New Jersey Zip Code: 07710

Phone Number 732-383-1950 Ext.: 3466 Fax: 732-383-1984

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Jersey City Site 087

List all AKAs: Honeywell SA6-North

Street Address: 575 Rte 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): Case Tracking Number(s): ERFS Jersey City

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Honeywell
2. Well Location (Street Address) Rte 440, Jersey City, Hudson County, NJ
3. Well Location (Municipal Block and Lot) Block# 21901 Lot # 9

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201508938
2. Site Well Number (As shown on application or plans): 087-TWP-37
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 074-06-06.3 Longitude: West 40-42-57.7
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 685996 East 602518
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 16.16'
   Elevation Top of Outer casing: NO CASING Elevation of ground: 15.13'
   Check one: ☐ NAVD 88 ☒ NVGD29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

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Professional Land Surveyor's Signature: Date 8/21/15

Surveyor's Name: Glen J. Lloyd License Number: GS37598

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 24GA27986500

Mailing Address 331 Newman Springs Road Suite 203

City/Town: Red Bank State New Jersey Zip Code: 07710

Phone Number 732-383-1950 Ext.: 3466 Fax: 732-383-1984

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Jersey City Site 087

List all AKAs: Honeywell SA6-North

Street Address: 575 Rte 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): Case Tracking Number(s): ERFS Jersey City

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Honeywell
2. Well Location (Street Address) Rte 440, Jersey City, Hudson County, NJ
3. Well Location (Municipal Block and Lot) Block# 21901 Lot # 9

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201508938
2. Site Well Number (As shown on application or plans): 087-TWP-38
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 074-06-06.2 Longitude: West 40-42-57.9
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 686014 East 602520
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 16.09'
   Elevation Top of Outer casing: NO CASING Elevation of ground: 14.90'
   Check one: ☐ NAVD 88 ☒ NVGD29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

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Professional Land Surveyor's Signature: Date 8/21/15

Surveyor's Name: Glen J. Lloyd License Number: GS37598

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 24GA27986500

Mailing Address 331 Newman Springs Road Suite 203

City/Town: Red Bank State New Jersey Zip Code: 07710

Phone Number 732-383-1950 Ext.: 3466 Fax: 732-383-1984

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Jersey City Site 087

List all AKAs: Honeywell SA6-North

Street Address: 575 Rte 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): Case Tracking Number(s): ERFS Jersey City

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Honeywell
2. Well Location (Street Address) Rte 440, Jersey City, Hudson County, NJ
3. Well Location (Municipal Block and Lot) Block# 21901 Lot # 9

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201508938
2. Site Well Number (As shown on application or plans): 087-TWP-39
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 074-06-05.9 Longitude: West 40-42-57.9
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 686010 East 602543
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 15.73'
   Elevation Top of Outer casing: NO CASING Elevation of ground: 14.73'
   Check one: ☐ NAVD 88 ☒ NVGD29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

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Firm Name: Maser Consulting P.A. Certificate of Authorization #: 24GA27986500

Mailing Address 331 Newman Springs Road Suite 203

City/Town: Red Bank State New Jersey Zip Code: 07710

Phone Number 732-383-1950 Ext.: 3466 Fax: 732-383-1984

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Jersey City Site 087

List all AKAs: Honeywell SA6-North

Street Address: 575 Rte 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): Case Tracking Number(s): ERFS Jersey City

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Honeywell
2. Well Location (Street Address) Rte 440, Jersey City, Hudson County, NJ
3. Well Location (Municipal Block and Lot) Block# 21901 Lot # 9

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201508938
2. Site Well Number (As shown on application or plans): 087-TWP-40
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 074-06-05.7 Longitude: West 40-42-57.8
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 686006 East 602563
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 15.67'
   Elevation Top of Outer casing: NO CASING Elevation of ground: 14.75'
   Check one: ☐ NAVD 88 ☒ NVGD29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
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Professional Land Surveyor's Signature: Glen J. Lloyd Date 8/21/15

Surveyor's Name: Glen J. Lloyd License Number: GS37598

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 24GA27986500

Mailing Address 331 Newman Springs Road Suite 203

City/Town: Red Bank State New Jersey Zip Code: 07710

Phone Number 732-383-1950 Ext.: 3466 Fax: 732-383-1984

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Jersey City Site 087

List all AKAs: Honeywell SA6-North

Street Address: 575 Rte 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): Case Tracking Number(s): ERFS Jersey City

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Honeywell
2. Well Location (Street Address) Rte 440, Jersey City, Hudson County, NJ
3. Well Location (Municipal Block and Lot) Block# 21901 Lot # 9

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201508938
2. Site Well Number (As shown on application or plans): 087-TWP-41
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 074-06-05.8 Longitude: West 40-42-57.6
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 685981 East 602553
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 16.09'
   Elevation Top of Outer casing: NO CASING Elevation of ground: 15.13'
   Check one: ☐ NAVD 88 ☒ NVGD29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

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Mailing Address 331 Newman Springs Road Suite 203

City/Town: Red Bank State New Jersey Zip Code: 07710

Phone Number 732-383-1950 Ext.: 3466 Fax: 732-383-1984

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201609973

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900, Dept 356

City: Scottsdale State: Arizona Zip Code: 05261

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 575 Route 440 nested w/087-IP-10-1S in 6" hole

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602529 Northing (Y): 686004
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 087-IP-10-1D

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: INJECTION

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments: 619614_Site 087 IW diagram ERFS Aug 11 2016.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: August 19, 2016
Expiration Date: August 19, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201609973

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201609974

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900, Dept 356

City: Scottsdale State: Arizona Zip Code: 05261

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 575 Route 440 nested w/087-IP-10-1D in 6" hole

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602529 Northing (Y): 686004
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 087-IP-10-1S

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: INJECTION

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments: 619614_Site 087 IW diagram ERFS Aug 11 2016.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: August 19, 2016
Expiration Date: August 19, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201609974

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201609975

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900, Dept 356

City: Scottsdale State: Arizona Zip Code: 05261

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 575 Route 440 nested w/087-IP-10-2S in 6" hole

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602538 Northing (Y): 685992
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 087-IP-10-2D

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: INJECTION

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments: 619614_Site 087 IW diagram ERFS Aug 11 2016.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: August 19, 2016
Expiration Date: August 19, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201609975

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
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New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201609976

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900, Dept 356

City: Scottsdale State: Arizona Zip Code: 05261

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 575 Route 440 nested w/087-IP-10-2D in 6" hole

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602538 Northing (Y): 685992
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 087-IP-10-2S

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: INJECTION

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments: 619614_Site 087 IW diagram ERFS Aug 11 2016.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: August 19, 2016
Expiration Date: August 19, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201609976

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
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New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201609977

WELL PERMIT

New Well

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Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900, Dept 356

City: Scottsdale State: Arizona Zip Code: 05261

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 575 Route 440 nested w/087-IP-10-3S in 6" hole

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602548 Northing (Y): 685997
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 087-IP-10-3D

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: INJECTION

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments: 619614_Site 087 IW diagram ERFS Aug 11 2016.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: August 19, 2016
Expiration Date: August 19, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201609977

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
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New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201609978

WELL PERMIT

New Well

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Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900, Dept 356

City: Scottsdale State: Arizona Zip Code: 05261

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 575 Route 440 nested w/087-IP-10-3D in 6" hole

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602548 Northing (Y): 685997
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 087-IP-10-3S

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: INJECTION

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments: 619614_Site 087 IW diagram ERFS Aug 11 2016.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: August 19, 2016
Expiration Date: August 19, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201609978

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

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New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201609979

WELL PERMIT

New Well

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Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

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Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900, Dept 356

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PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

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Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 087-IP-10-4D

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: INJECTION

Other Use(s):

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Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments: 619614_Site 087 IW diagram ERFS Aug 11 2016.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: August 19, 2016
Expiration Date: August 19, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Well Permit Number
E201609979

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201609980

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900, Dept 356

City: Scottsdale State: Arizona Zip Code: 05261

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 575 Route 440 nested w/087-IP-10-4D in 6" hole

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602531 Northing (Y): 685989
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 087-IP-10-4S

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: INJECTION

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments: 619614_Site 087 IW diagram ERFS Aug 11 2016.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: August 19, 2016
Expiration Date: August 19, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201609980

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201609981

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900, Dept 356

City: Scottsdale State: Arizona Zip Code: 05261

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 575 Route 440 nested w/087-IP-10-5S in 6" hole

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602542 Northing (Y): 685983
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 087-IP-10-5D

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: INJECTION

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments: 619614_Site 087 IW diagram ERFS Aug 11 2016.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: August 19, 2016
Expiration Date: August 19, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201609981

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
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If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
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The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
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This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201609982

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900, Dept 356

City: Scottsdale State: Arizona Zip Code: 05261

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 575 Route 440 nested w/087-IP-10-5D in 6" hole

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602542 Northing (Y): 685983
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 087-IP-10-5S

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: INJECTION

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments: 619614_Site 087 IW diagram ERFS Aug 11 2016.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: August 19, 2016
Expiration Date: August 19, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Well Permit Number
E201609982

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600074971

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: MI HOLDINGS

Company/Organization: MI Holdings

Address: Rt. 440 & Carbon Place C/O Honeywell Jersey City, New Jersey 07303

WELL LOCATION: Honeywell Redevelopment Project

Address: RT. 440 & CARBON PLACE STUDY AREA 6

County: Hudson Municipality: Jersey City Lot: 2D Block: 1290.1

Easting (X): 602974 Northing (Y): 685537
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: February 26, 2014

WELL USE: MONITORING

Other Use(s):

Local ID: 087-MW-001

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 15

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	2	2	PVC	sch 40
Screen	2	15	2	PVC	.010

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	15	2	0	0	27	1.5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Mark Christman
JOURNEYMAN
LICENSE # 0021241

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600066472

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: JERSEY CITY SEWAGE AUTHOR

Company/Organization: Jersey City Sewage Author

Address: 575 State Highway 440 Jersey City, New Jersey 07303

WELL LOCATION: Honeywell Redevelopment Project

Address: STATE HIGHWAY RT. 440

County: Hudson Municipality: Jersey City Lot: 2.D Block: 1290.A

Easting (X): 602722 Northing (Y): 685825
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 1, 2014

WELL USE: MONITORING

Other Use(s):

Local ID: 087-MW03

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 95

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	85	2	PVC	sch 40
Screen	85	95	2	PVC	.010

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	95	2	0	0	172.7	9.5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Brian Buttari

Obstruction Type:

Authorization Number: A1402036

Alternative Decomm. Method? No

Authorization Date: February 25, 2014

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600066475

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMSON REUTERS

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Scottsdale, Arizona 85261

WELL LOCATION: Honeywell

Address: STATE HIGHWAY RT. 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 603609 Northing (Y): 686287
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 20, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 087-MW14

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 97

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	87	2	PVC	
Screen	87	97	2	PVC	

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	97	2	0	0	175	10
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Brian Buttari

Obstruction Type:

Authorization Number: A1402037

Alternative Decomm. Method? No

Authorization Date: February 25, 2014

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number _____

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Bayfront Redevelopment

Address: Rt 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602354 Northing (Y): 686405
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 9, 2015

WELL USE: MONITORING

Other Use(s):

Local ID: 087-MW-35

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.):

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	32	2	PVC	Sh40
Screen	32	42	2	PVC	Unknown

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	42	2	0	0	75	4.25
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1405110

Alternative Decomm. Method? No

Authorization Date: May 23, 2014

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600054692

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMSON REUTERS

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Scottsdale, Arizona 85261

WELL LOCATION: Honeywell

Address: HIGHWAY 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 603613 Northing (Y): 686301
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 20, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 087-MW-I30T

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 81

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	65.5	2	PVC	
Casing	0	19	6	Steel	
Screen	65.5	80.5	2	PVC	

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	80.5	2	0	0	145	8.5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Brian Buttari

Obstruction Type:

Authorization Number: A1402038

Alternative Decomm. Method? No

Authorization Date: February 25, 2014

Method Used

ATTACHMENTS:

Sealing Driller: Douglas Myerchin
MASTER
LICENSE # 0001612

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600047478

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: JERSEY CITY

Company/Organization: Jersey City

Address: 280 Grove St. Jersey City, New Jersey 07305

WELL LOCATION: Honeywell Redevelopment Project

Address: HIGHWAY 440

County: Hudson Municipality: Jersey City Lot: 2.E,2.D Block: 1290.A

Easting (X): 602739 Northing (Y): 685689
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: February 26, 2014

WELL USE: MONITORING

Other Use(s):

Local ID: 087MW01

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 13

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	3	2	PVC	sch 40
Screen	3	13	2	PVC	.010

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	13	2	0	0	23	1.3
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600054745

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900, Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: Honeywell

Address: HWY. 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 603026 Northing (Y): 686439
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 22, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 087-MW-O29T

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 102

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	18	6	Steel	
Casing	0	87	2	PVC	sch 40
Screen	87	102	2	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	102	2	0	0	215	12
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Brian Buttari

Obstruction Type:

Authorization Number: A1402040

Alternative Decomm. Method? No

Authorization Date: February 25, 2014

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600047477

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: JERSEY CITY

Company/Organization: Jersey City

Address: 280 Grove St. Jersey City, New Jersey 07305

WELL LOCATION: Honeywell Redevelopment Project

Address: HIGHWAY 440

County: Hudson Municipality: Jersey City Lot: 2.E,2.D Block: 1290.A

Easting (X): 602464 Northing (Y): 685860
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: February 26, 2014

WELL USE: MONITORING

Other Use(s):

Local ID: 087MWS1

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 14

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	4	2	PVC	sch 40
Screen	4	14	2	PVC	.010

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	14	2	0	0	25	1.4
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600047482

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Bayfront Redevelopment

Address: HIGHWAY 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602536 Northing (Y): 685535
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 9, 2015

WELL USE: MONITORING

Other Use(s):

Local ID: 087-MW-U28

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 16

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	6	2	PVC	Sh40
Screen	6	16	2	PVC	0.020"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	16	2	0	0	28	1.6
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600047481

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Byafront Redevelopment

Address: HIGHWAY 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602537 Northing (Y): 686413
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 9, 2015

WELL USE: MONITORING

Other Use(s):

Local ID: 087-MW-W25

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 18

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	8	2	PVC	Sh40
Screen	8	18	2	PVC	0.020"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	18	2	0	0	32	1.8
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

H. Robert Seybold
JOURNEYMAN
Sealing Driller: LICENSE # 0001348

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600047476

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: JERSEY CITY INCINERATION

Company/Organization: Jersey City Incineration

Address: US Highway 1 Jersey City, New Jersey 07305

WELL LOCATION: Honeywell Redevelopment Project

Address: 501 HIGHWAY 440

County: Hudson Municipality: Jersey City Lot: 15D Block: 1290.A

Easting (X): 602092 Northing (Y): 686119
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: February 26, 2014

WELL USE: MONITORING

Other Use(s):

Local ID: 087-MW-Y20

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 13

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	3	2	PVC	sch 40
Screen	3	13	2	PVC	.020

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	13	2	0	0	23	1.3
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Mark Christman
JOURNEYMAN
LICENSE # 0021241

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMSON REUTERS

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Scottsdale, Arizona 85261

WELL LOCATION: Honeywell

Address: 525 Route 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603523 Northing (Y): 685657
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 20, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 087-OBS-6D

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.):

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	20	2	PVC	
Screen	20	30	2		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	30	2	0	0	54	3
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1405111

Alternative Decomm. Method? No

Authorization Date: May 23, 2014

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P200801593

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: HONEYWELL, INC.

Company/Organization: Honeywell, Inc.

Address: 101 Columbia Rd. Morristown, New Jersey 07962

WELL LOCATION: Honeywell Redevelopment Project

Address: 575, 555 & 501 RT 440 087-PZ-001

County: Hudson Municipality: Jersey City Lot: 2E / 2D Block: 1290.1

Easting (X): 602158 Northing (Y): 686104
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: February 26, 2014

WELL USE: MONITORING

Other Use(s):

Local ID: 087-PZ-001 SHALLOW

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 22

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	17	2	PVC	sch 40
Screen	17	22	2	PVC	.010

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	22	2	0	0	39	2.2
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Mark Christman
JOURNEYMAN
LICENSE # 0021241

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P200801594

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: HONEYWELL, INC.

Company/Organization: Honeywell, Inc.

Address: 101 Columbia Rd. Morristown, New Jersey 07962

WELL LOCATION: Honeywell Redevelopment Project

Address: 575, 555 & 501 RT 440 087-PZ-002

County: Hudson Municipality: Jersey City Lot: 2E / 2D Block: 1290.1

Easting (X): 602152 Northing (Y): 686108
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: February 26, 2014

WELL USE: MONITORING

Other Use(s):

Local ID: 087-PZ-002 DEEP

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 36

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0.5	36	2	PVC	sch 40
Screen	31	36	2	PVC	.010

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	36	2	0	0	64	3.6
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Mark Christman
JOURNEYMAN
LICENSE # 0021241

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P200801595

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Honeywell

Address: 575, 555 & 501 RT 440 087-PZ-003

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603161 Northing (Y): 685659
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 9, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: 087-PZ-003 SHALLOW

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 18

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	13	2	PVC	
Screen	13	18	2		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	18	2	0	0	33	2
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Gordon Blewett
JOURNEYMAN
LICENSE # 0021852

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P200801596

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Bayfront Redevelopment

Address: 575, 555 & 501 RT 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603159 Northing (Y): 685665
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 1, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: 087-PZ-004

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 29

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	20	6	PVC	Sh40
Casing	0	24	2	PVC	Sh40
Screen	24	29	2	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	29	2	0	0	50	3
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1503097

Alternative Decomm. Method? No

Authorization Date: March 31, 2015

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P200801597

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: HONEYWELL, INC.

Company/Organization: Honeywell, Inc.

Address: 101 Columbia Rd. Morristown, New Jersey 07962

WELL LOCATION: Honeywell Redevelopment Project

Address: 575, 555 & 501 RT 440 087-PZ-005

County: Hudson Municipality: Jersey City Lot: 2E / 2D Block: 1290.1

Easting (X): 602445 Northing (Y): 685877
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: February 26, 2014

WELL USE: MONITORING

Other Use(s):

Local ID: 087-PZ-005 SHALLOW

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 20.5

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0.5	20.5	2	PVC	sch 40
Screen	15.5	20.5	2	PVC	.010

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	20.5	2	0	0	37	2.1
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Mark Christman
JOURNEYMAN
LICENSE # 0021241

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P200801598

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: HONEYWELL, INC.

Company/Organization: Honeywell, Inc.

Address: 101 Columbia Rd. Morristown, New Jersey 07962

WELL LOCATION: Honeywell Redevelopment Project

Address: 575, 555 & 501 RT 440 087-PZ-006

County: Hudson Municipality: Jersey City Lot: 2E / 2D Block: 1290.1

Easting (X): 602442 Northing (Y): 685874
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: February 26, 2014

WELL USE: MONITORING

Other Use(s):

Local ID: 087-PZ-006 DEEP

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 36

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0.5	36	2	PVC	sch 40
Screen	31	36	2	PVC	.010

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	36	2	0	0	64	3.6
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Mark Christman
JOURNEYMAN
LICENSE # 0021241

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201402168

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: JERSEY CITY JCDPW

Company/Organization: JCDPW

Address: 575 Route 440 Jersey City, New Jersey 07305

WELL LOCATION: JCMUA Building

Address: 555 Rt. 440 per Roger Logel

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 603490 Northing (Y): 686277
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: October 27, 2016

WELL USE: INJECTION

Other Use(s):

Local ID: 087-IW-1

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 10

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	3	4	PVC	
Screen	3	10	4		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	10	4	0	0	71	4
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201402169

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: JERSEY CITY JCDPW

Company/Organization: JCDPW

Address: 575 Route 440 Jersey City, New Jersey 07305

WELL LOCATION: JCMUA Building

Address: 555 Rt. 440 per Roger Logel

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 603520 Northing (Y): 686267
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: October 27, 2016

WELL USE: INJECTION

Other Use(s):

Local ID: 087-IW-2

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 10

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	3	4	PVC	
Screen	3	10	4		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	10	4	0	0	71	4
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201402170

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: JERSEY CITY JCDPW

Company/Organization: JCDPW

Address: 575 Route 440 Jersey City, New Jersey 07305

WELL LOCATION: JCMUA Building

Address: 555 Rt. 440 per Roger Logel

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 603549 Northing (Y): 686254
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: October 27, 2016

WELL USE: INJECTION

Other Use(s):

Local ID: 087-IW-3

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 10

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	3	4	PVC	
Screen	3	10	4		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	10	4	0	0	71	4
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201402171

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: JERSEY CITY JCDPW

Company/Organization: JCDPW

Address: 575 Route 440 Jersey City, New Jersey 07305

WELL LOCATION: JCMUA Building

Address: 555 Rt. 440 per Roger Logel

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 603580 Northing (Y): 686201
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: October 27, 2016

WELL USE: INJECTION

Other Use(s):

Local ID: 087-IW-4

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 10

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	3	4	PVC	
Screen	3	10	4		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	10	4	0	0	71	4
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201402172

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: JERSEY CITY JCDPW

Company/Organization: JCDPW

Address: 575 Route 440 Jersey City, New Jersey 07305

WELL LOCATION: JCMUA Building

Address: 555 Rt. 440 remain as is per Roger Logel

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 603607 Northing (Y): 686226
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: October 27, 2016

WELL USE: INJECTION

Other Use(s):

Local ID: 087-IW-5

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 10

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	3	4	PVC	
Screen	3	10	4		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	10	4	0	0	71	4
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201402173

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: JERSEY CITY JCDPW

Company/Organization: JCDPW

Address: 575 Route 440 Jersey City, New Jersey 07305

WELL LOCATION: JCMUA Building

Address: 555 Rt. 440 per Roger Logel

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 603576 Northing (Y): 686241
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: October 27, 2016

WELL USE: INJECTION

Other Use(s):

Local ID: 087-IW-6

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 10

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	3	4	PVC	
Screen	3	10	4		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	10	4	0	0	71	4
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201402174

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: JERSEY CITY JCDPW

Company/Organization: JCDPW

Address: 575 Route 440 Jersey City, New Jersey 07305

WELL LOCATION: JCMUA Building

Address: 555 Rt. 440 per Roger Logel

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 603560 Northing (Y): 686224
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: October 27, 2016

WELL USE: INJECTION

Other Use(s):

Local ID: 087-IW-7

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 10

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	3	4	PVC	
Screen	3	10	4		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	10	4	0	0	71	4
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201402175

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: JERSEY CITY JCDPW

Company/Organization: JCDPW

Address: 575 Route 440 Jersey City, New Jersey 07305

WELL LOCATION: JCMUA Building

Address: 555 Rt. 440 per Roger Logel

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 603640 Northing (Y): 686213
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: October 27, 2016

WELL USE: INJECTION

Other Use(s):

Local ID: 087-IW-8

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 10

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	3	4	PVC	
Screen	3	10	4		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	10	4	0	0	71	4
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201402176

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: JERSEY CITY JCDPW

Company/Organization: JCDPW

Address: 575 Route 440 Jersey City, New Jersey 07305

WELL LOCATION: JCMUA Building

Address: 555 Rt. 440 per Roger Logel

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 603680 Northing (Y): 686204
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: October 27, 2016

WELL USE: INJECTION

Other Use(s):

Local ID: 087-IW-9

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 10

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	3	4	PVC	
Screen	3	10	4		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	10	4	0	0	71	4
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: JERSEY CITY JCDPW

Company/Organization: JCDPW

Address: 575 Route 440 Jersey City, New Jersey 07305

WELL LOCATION: JCDPW

Address: 575 Rt. 575

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 603522 Northing (Y): 685809
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: October 28, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 087-MW-106

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.):

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	19.95	4	PVC	
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	19.95	4	0	0	142	8
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number: A1610090

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: JERSEY CITY JCDPW

Company/Organization: JCDPW

Address: 575 Route 440 Jersey City, New Jersey 07305

WELL LOCATION: JCDPW

Address: 575 Route 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 603558 Northing (Y): 686232
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: October 28, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 087-MW-107

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.):

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	19.6	4	PVC	
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	19.6	4	0	0	140	8
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number: A1610091

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: JERSEY CITY JCDPW

Company/Organization: JCDPW

Address: 575 Route 440 Jersey City, New Jersey 07305

WELL LOCATION: JCDPW

Address: 575 Route 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 603629 Northing (Y): 686211
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: October 28, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 087-MW-108

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.):

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	19.44	4	PVC	
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	19.44	4	0	0	139	8
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number: A1610092

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: JERSEY CITY JCDPW

Company/Organization: JCDPW

Address: 575 Route 440 Jersey City, New Jersey 07305

WELL LOCATION: JCDPW

Address: 575 Route 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 603608 Northing (Y): 686248
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: October 28, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 087-MW-109

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.):

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	20.79	4	PVC	
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	20.79	4	0	0	148	8
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number: A1610093

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: JERSEY CITY JCDPW

Company/Organization: JCDPW

Address: 575 Route 440 Jersey City, New Jersey 07305

WELL LOCATION: JCDPW

Address: 575 Route 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 603570 Northing (Y): 686259
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: October 28, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 087-MW-110

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.):

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	20.7	4	PVC	
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	29.7	4	0	0	148	8
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Mark Ortega

Obstruction Type:

Authorization Number: A1610094

Alternative Decomm. Method? No

Authorization Date: October 27, 2016

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: JERSEY CITY JCDPW

Company/Organization: JCDPW

Address: 575 Route 440 Jersey City, New Jersey 07305

WELL LOCATION: JCDPW

Address: 575 Route 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 603524 Northing (Y): 686286
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: October 28, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 087-MW-111

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.):

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	19.54	4	PVC	
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	19.54	4	0	0	140	8
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Mark Ortega

Obstruction Type:

Authorization Number: A1610095

Alternative Decomm. Method? No

Authorization Date: October 27, 2016

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: JERSEY CITY JCDPW

Company/Organization: JCDPW

Address: 575 Route 440 Jersey City, New Jersey 07305

WELL LOCATION: JCDPW

Address: 575 Route 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 603495 Northing (Y): 686295
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: October 28, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 087-MW-112

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.):

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	20.64	4	PVC	
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	20.64	4	0	0	147	8
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Mark Ortega

Obstruction Type:

Authorization Number: A1610096

Alternative Decomm. Method? No

Authorization Date: October 27, 2016

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: JERSEY CITY JCDPW

Company/Organization: JCDPW

Address: 575 Route 440 Jersey City, New Jersey 07305

WELL LOCATION: JCDPW

Address: 575 Route 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 603598 Northing (Y): 686207
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: October 28, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 087-MW-113

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.):

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	20.27	4	PVC	
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	20.27	4	0	0	145	8
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Mark Ortega

Obstruction Type:

Authorization Number: A1610097

Alternative Decomm. Method? No

Authorization Date: October 27, 2016

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: JERSEY CITY JCDPW

Company/Organization: JCDPW

Address: 575 Route 440 Jersey City, New Jersey 07305

WELL LOCATION: JCDPW

Address: 575 Route 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 603612 Northing (Y): 686221
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: October 28, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 087-MW-114

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.):

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	10.45	2	PVC	
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	10.45	2	0	0	19	1
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Mark Ortega

Obstruction Type:

Authorization Number: A1610098

Alternative Decomm. Method? No

Authorization Date: October 27, 2016

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: JERSEY CITY JCDPW

Company/Organization: JCDPW

Address: 575 Route 440 Jersey City, New Jersey 07305

WELL LOCATION: JCDPW

Address: 575 Route 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 603501 Northing (Y): 686281
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: October 28, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 087-MW-115

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.):

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	12	4	PVC	
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	12	4	0	0	86	5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Julia Altieri

Obstruction Type:

Authorization Number: A1610100

Alternative Decomm. Method? No

Authorization Date: October 28, 2016

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600088451

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: JCDPW

Address: 575 RT 440 (MW1) JERSEY CITY DEPT. OF PUBLIC WORKS

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602868 Northing (Y): 686322
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: October 27, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: (087 MW 118) OLD AKA-MW1

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 13

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	13	4	HDPE	
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	13	4	0	0	93	5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600088452

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: JCDPW

Address: 575 RT 440 (MW2) JERSEY CITY DEPT. OF PUBLIC WORKS

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602888 Northing (Y): 686346
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: October 27, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: (087 MW 119) OLD AKA-MW2

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 11

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	11	2	PVC	
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	11	2	0	0	20	1
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201117826

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: JCDPW

Address: 575 Route 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 603600 Northing (Y): 686270
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: October 27, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 087-MW-124

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 14

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	4	2	PVC	
Screen	4	14	2		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	14	2	0	0	25	1.5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201117828

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: JCDPW

Address: 575 Route 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 603610 Northing (Y): 686260
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: October 27, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 087-MW-126

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 10

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	6	4	PVC	
Screen	6	10	4		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	10	4	0	0	71	4
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201117829

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: JCDPW

Address: 575 Route 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 603600 Northing (Y): 686250
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: October 27, 2016

WELL USE: INJECTION

Other Use(s):

Local ID: 087-MW-127

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 10

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	6	4	PVC	
Screen	6	10	4		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	10	4	0	0	71	4
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201117830

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: JCDPW

Address: 575 Route 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 603620 Northing (Y): 686240
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: October 27, 2016

WELL USE: INJECTION

Other Use(s):

Local ID: 087-MW-128

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 10

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	6	4	PVC	
Screen	6	10	4		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	10	4	0	0	71	4
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P200913635

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: JERSEY CITY INCINERATOR AT

Address: 501 ROUTE 440 MW-111

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603314 Northing (Y): 685561
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: October 27, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 088-OW-5 AKA MW-111

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 18

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	8	2	PVC	
Screen	8	18	2		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	18	2	0	0	32	2
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600074969

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Batfront Redevelopment

Address: RT. 440 & CARBON PLACE STUDY AREA 6

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603598 Northing (Y): 685046
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: August 10, 2015

WELL USE: MONITORING

Other Use(s):

Local ID: 088-MW-002

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 15

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	2	2	PVC	Sh40
Screen	2	15	2	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	15	2	0	0	27	1.5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: H. Robert Seybold
JOURNEYMAN
LICENSE # 0001348

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600049802

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Bayfront Redevelopment

Address: 501 ROUTE 440

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603442 Northing (Y): 685314
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 24, 2015

WELL USE: MONITORING

Other Use(s):

Local ID: 088-MW-101

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 14

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	4	4	PVC	Sh40
Screen	4	14	4	PVC	0.020"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	14	4	0	0	94	4.25
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number _____

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Honeywell

Address: 501 Rt 440

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603411 Northing (Y): 685299
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 30, 2016

WELL USE: MONITORING

Other Use(s): _____ **Local ID:** 088-MW-102

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): _____ Was a New Well Drilled? N

Formation Type: Unconsolidated New Well Permit Number: _____

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	8.9	4	PVC	
Screen	8.9	18.9	4		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	18.9	4	0	0	135	7.5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No Authorization Official: Lynn Stout

Obstruction Type: _____ Authorization Number: A1603084

Alternative Decomm. Method? No Authorization Date: March 26, 2016

Method Used _____

ATTACHMENTS: _____

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600049801

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Bayfront Redevelopment

Address: 501 ROUTE 440

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603415 Northing (Y): 685483
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: August 10, 2015

WELL USE: MONITORING

Other Use(s):

Local ID: 088-MW-103

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 20

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	5	4	PVC	Sh40
Screen	5	20	4	PVC	0.020"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	20	4	0	0	145	8
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P200913629

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: JERSEY CITY INCINERATOR AT

Address: 501 ROUTE 440 MW-105

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603411 Northing (Y): 685379
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 30, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 088-OW-1 AKA MW-105

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 18

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	6	4	PVC	
Screen	6	11	4		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	11	4	0	0	80	4.5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1603085

Alternative Decomm. Method? No

Authorization Date: March 29, 2016

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P200913630

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: JERSEY CITY INCINERATOR AT

Address: 501 ROUTE 440

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603457 Northing (Y): 685345
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 24, 2015

WELL USE: MONITORING

Other Use(s):

Local ID: 088-MW-106/OW-2

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 18

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	8	2	PVC	Sh40
Screen	8	18	2	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	18	2	0	0	32	1.8
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P200913631

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: JERSEY CITY INCINERATOR AT

Address: 501 ROUTE 440

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603467 Northing (Y): 685388
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 24, 2015

WELL USE: MONITORING

Other Use(s):

Local ID: 088-MW-107/EW-1

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 18

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	8	4	PVC	Sh40
Screen	8	18	4	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	18	4	0	0	130	7.25
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P200913632

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: JERSEY CITY INCINERATOR AT

Address: 501 ROUTE 440

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603424 Northing (Y): 685276
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 24, 2015

WELL USE: MONITORING

Other Use(s):

Local ID: 088-MW-108/OW-3

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 18

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	8	2	PVC	Sh40
Screen	8	18	2	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	18	2	0	0	32	1.8
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P200913633

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: JERSEY CITY INCINERATOR AT

Address: 501 ROUTE 440

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603438 Northing (Y): 685285
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 24, 2015

WELL USE: MONITORING

Other Use(s):

Local ID: 088- MW-109/OW-4

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 18

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	8	2	PVC	Sh40
Screen	8	18	2	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	18	2	0	0	32	1.8
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P200913634

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Bayfront Redevelopment

Address: 501 ROUTE 440

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603416 Northing (Y): 685269
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 24, 2015

WELL USE: MONITORING

Other Use(s):

Local ID: 088-MW-110/EW-2

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 18

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	8	4	PVC	Sc40
Screen	8	18	4	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	18	4	0	0	128	7
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P200913628

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: JERSEY CITY INCINERATOR

Address: 501 ROUTE 440 SVE-114

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603318 Northing (Y): 685550
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: February 12, 2016

WELL USE: SOIL VAPOR EXTRACTION

Other Use(s): Monitoring **Local ID:** 88-EW-3 AKA MW-113

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 18 Was a New Well Drilled? N

Formation Type: Unconsolidated New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	8	4	PVC	
Screen	8	18	4	PVC	

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	18	4	0	0	128	7.25
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No Authorization Official:

Obstruction Type: Authorization Number:

Alternative Decomm. Method? No Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201117831

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: JCIA

Address: 501 Route 440

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603410 Northing (Y): 685378
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 30, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 088-MW-114

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 11

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	7	4	PVC	
Screen	7	11	4		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	11	4	0	0	80	4.5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1603086

Alternative Decomm. Method? No

Authorization Date: March 29, 2016

Method Used

ATTACHMENTS:

Sealing Driller: Gordon Blewett
JOURNEYMAN
LICENSE # 0021852

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number _____

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Bayfront Redevelopment

Address: State Route 440

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603472 Northing (Y): 685380
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: August 12, 2015

WELL USE: MONITORING

Other Use(s):

Local ID: 088-MW-115

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.):

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	3.5	4	PVC	Sc40
Screen	3.5	13.5	4	PVC	Unknown

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	13.5	4	0	0	94	5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Obstruction Type:

Alternative Decomm. Method? No

Method Used

Authorization Official: Julia Altieri

Authorization Number: A1508027

Authorization Date: August 11, 2015

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600047476

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: JERSEY CITY INCINERATION

Company/Organization: Jersey City Incineration

Address: US Highway 1 Jersey City, New Jersey 07305

WELL LOCATION: Honeywell Redevelopment Project

Address: 501 HIGHWAY 440

County: Hudson Municipality: Jersey City Lot: 15D Block: 1290.A

Easting (X): 602092 Northing (Y): 686119
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: February 26, 2014

WELL USE: MONITORING

Other Use(s):

Local ID: 088MWG1

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 13

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	3	2	PVC	sch 40
Screen	3	13	2	PVC	.020

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	13	2	0	0	23	1.3
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Mark Christman
JOURNEYMAN
LICENSE # 0021241

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P200801589

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Bayfront Redevelopment

Address: 575, 555 & 501 RT 440

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603710 Northing (Y): 685154
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: August 10, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: 088-PZ-001

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 12

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	7	2	PVC	Sh40
Screen	7	12	2	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	12	2	0	0	22	1.25
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P200801590

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Bayfront Redevelopment

Address: 575, 555 & 501 RT 440

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603713 Northing (Y): 685161
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: August 10, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: 088-PZ-002

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 25

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	20	2	PVC	SH40
Casing	0	14	6	PVC	Sh40
Screen	20	25	2	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	25	2	0	0	45	2.5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1503098

Alternative Decomm. Method? No

Authorization Date: March 31, 2015

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P200801591

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Bayfront Redevelopment

Address: 575, 555 & 501 RT 440

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603349 Northing (Y): 685392
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 25, 2014

WELL USE: PIEZOMETER

Other Use(s):

Local ID: 088-PZ-003

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 15.5

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	10.5	2	PVC	Sh40
Screen	10.5	15.5	2	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	15.5	2	0	0	27	1.5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P200801592

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Bay Front Redevelopment

Address: 575, 555 & 501 RT 440

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603343 Northing (Y): 685394
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 2, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: 088-PZ-004

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 27.5

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	18	6	PVC	SH40
Casing	0	22	2	PVC	SH40
Screen	22	27	2	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	27	2	0	0	50	2.75
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1503096

Alternative Decomm. Method? No

Authorization Date: March 31, 2015

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201510925

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: Honeywell SA-6 North

Address: ROUTE 440 (SOUTH) Well discharged to on site treatment

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603700 Northing (Y): 685320
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 29, 2016

WELL USE: DEWATERING

Other Use(s):

Local ID: DW-6N

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 43

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	12	10	Steel	
Casing	0	18	6	PVC	
Screen	18	43	6	PVC	

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	43	6	0	0	690	39
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1603064

Alternative Decomm. Method? No

Authorization Date: March 21, 2016

Method Used

ATTACHMENTS:

Sealing Driller: Gordon Blewett
JOURNEYMAN
LICENSE # 0021852

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201510930

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: ROUTE 440 Well discharge to on-site treatment

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603810 Northing (Y): 685450
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 29, 2016

WELL USE: DEWATERING

Other Use(s):

Local ID: DW-7N

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 48

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	23	6	PVC	
Casing	0	17	10	Steel	
Screen	23	48	6	PVC	

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	48	6	0	0	770	44
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1603065

Alternative Decomm. Method? No

Authorization Date: March 21, 2016

Method Used

ATTACHMENTS:

Sealing Driller: Gordon Blewett
JOURNEYMAN
LICENSE # 0021852

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600076860

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Bayfront Redevelopment

Address: STATE RT. 440 STUDY AREA 7

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603459 Northing (Y): 685139
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: August 12, 2015

WELL USE: MONITORING

Other Use(s):

Local ID: 115-E4-DO

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 44.5

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	24.5	4	PVC	SH40
Casing	0	20.5	8	Steel	SH40
Screen	24.5	44.5	4	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	44.5	4	0	0	320	18
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Julia Altieri

Obstruction Type:

Authorization Number: A1508030

Alternative Decomm. Method? No

Authorization Date: August 11, 2015

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Bayfront Redevelopment

Address: 60 Kellogg St & Rt. 440

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603099 Northing (Y): 685381
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: May 26, 2014

WELL USE: MONITORING

Other Use(s):

Local ID: 115-ES-DO

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.):

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	26.9	4	PVC	SH40
Casing	0	20	4	Steel	SH40 - Approximate Depth
Screen	26.9	46.9	4	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	46.9	4	0	0	335	19
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1405115

Alternative Decomm. Method? No

Authorization Date: May 23, 2014

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600078834

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: HONEYWELL INTERNATIONAL

Company/Organization: HONEYWELL INTERNATIONAL

Address: 101 COLUMBIA ROAD Morristown Town, New Jersey 07962

WELL LOCATION: Honeywell Redevelopment Project

Address: STATE ROUTE 440 SA-7

County: Hudson Municipality: Jersey City Lot: 14J, H Block: 1290.1

Easting (X): 602449 Northing (Y): 685758
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 25, 2014

WELL USE: MONITORING

Other Use(s):

Local ID: 115-W1-DO

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.):

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	36.9	4	PVC	SCH40
Screen	36.9	46.9	4	PVCX	.020

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	46.9	4	0	0	334	19
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

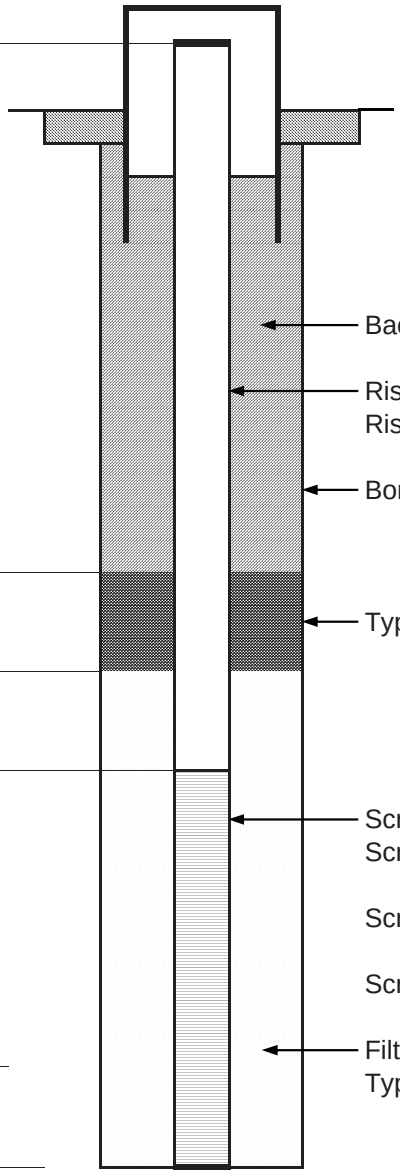
ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

Amec Foster Wheeler Environment & Infrastructure		STICKUP OVERBURDEN WELL/PIEZOMETER
Project: Honeywell Jersey City SA-6 North	**Number:** 3480130377	087-PZ-7
Client: Honeywell	**Date:** 6/14/2016	**Subcontractor:** B&B Drilling
Drilling Method: Hollow Stem Auger		**Measuring Point**
Development Method: Submersible		**Type:** Top Of Riser
Bucking Posts:		**Elevation (ft):** 16.24

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Riser Pipe	0	16.24
Top of Seal	14	2.24
Top of Filter Pack	16	0.24
Top of Screen	17	-0.76
Drilled Depth	22	-5.76
Total Depth	22	-5.76



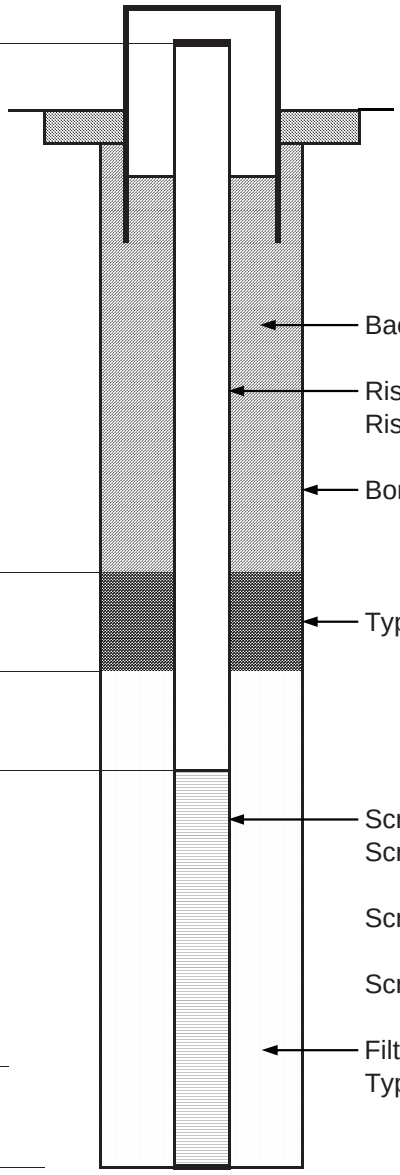
Description

Backfill/Grout Type:	Bentonite Grout
Riser Pipe Type:	Stainless Steel
Riser Pipe ID:	4"
Borehole Diameter:	9"
Type of Seal:	#00 Sand
Screen Type:	Stainless Steel
Screen ID:	4"
Screen Slot Size:	0.03"
Screen Length:	5
Filter/Sand Pack Type:	#1 Sand

Notes:

Amec Foster Wheeler Environment & Infrastructure		STICKUP OVERBURDEN WELL/PIEZOMETER
Project: Honeywell Jersey City SA-6 North	**Number:** 3480130377	087-PZ-5
Client: Honeywell	**Date:** 6/20/2016	**Subcontractor:** B&B Drilling
Drilling Method: Hollow Stem Auger		**Measuring Point**
Development Method: Submersible		**Type:** Top Of Riser
Bucking Posts:		**Elevation (ft):** 19.49

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Riser Pipe	0	19.49
Top of Seal	12.43	7.06
Top of Filter Pack	14.43	5.06
Top of Screen	15.43	4.06
Drilled Depth	20.43	-0.94
Total Depth	20.43	-0.94



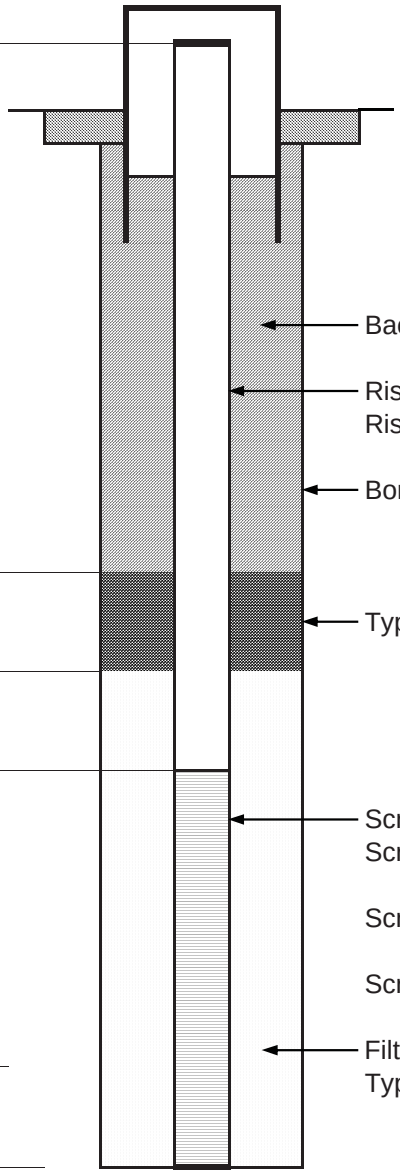
Description

Backfill/Grout Type:	Bentonite Grout
Riser Pipe Type:	Stainless Steel
Riser Pipe ID:	4"
Borehole Diameter:	9"
Type of Seal:	#00 Sand
Screen Type:	Stainless Steel
Screen ID:	4"
Screen Slot Size:	0.03"
Screen Length:	5
Filter/Sand Pack Type:	#1 Sand

Notes: Install location moved north 2' to facilitate cap construction. Location checked with RJR to verify no no conflict with future roadways or utilities.

Amec Foster Wheeler Environment & Infrastructure		STICKUP OVERBURDEN WELL/PIEZOMETER
Project: Honeywell Jersey City SA-6 North	**Number:** 3480130377	087-PZ-2
Client: Honeywell	**Date:** 6/17/2016	**Subcontractor:** B&B Drilling
Drilling Method: Hollow Stem Auger		**Measuring Point**
Development Method: Submersible		**Type:** Top Of Riser
Bucking Posts:		**Elevation (ft):** 10.35

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Riser Pipe	0	10.35
Top of Seal	3.78	6.57
Top of Filter Pack	5.78	4.57
Top of Screen	6.88	3.47
Drilled Depth	11.88	-1.53
Total Depth	11.88	-1.53



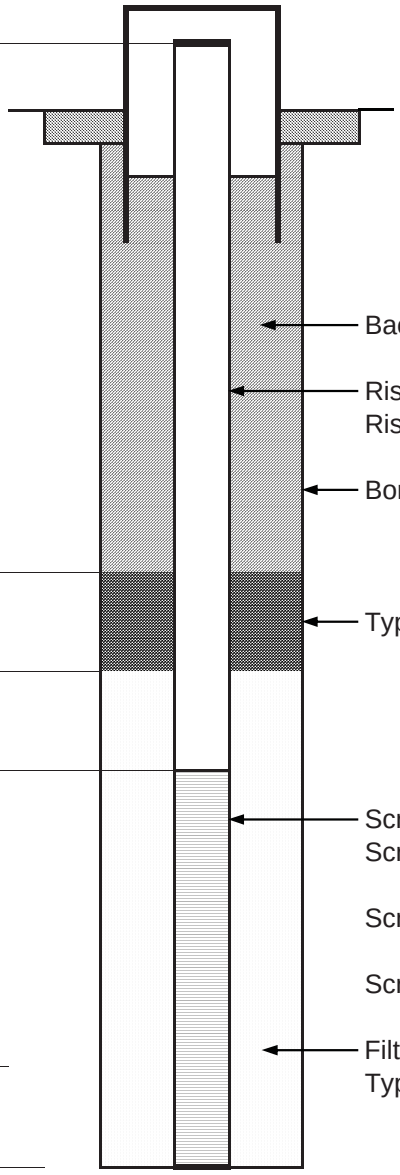
Description

Backfill/Grout Type:	Bentonite Grout
Riser Pipe Type:	Stainless Steel
Riser Pipe ID:	4"
Borehole Diameter:	9"
Type of Seal:	#00 Sand
Screen Type:	Stainless Steel
Screen ID:	4"
Screen Slot Size:	0.03"
Screen Length:	5
Filter/Sand Pack Type:	#1 Sand

Notes:

Amec Foster Wheeler Environment & Infrastructure		STICKUP OVERBURDEN WELL/PIEZOMETER
Project: Honeywell Jersey City SA-6 North	**Number:** 3480130377	087-PZ-1
Client: Honeywell	**Date:** 6/20/2016	**Subcontractor:** B&B Drilling
Drilling Method: Hollow Stem Auger		**Measuring Point**
Development Method: Submersible		**Type:** Top Of Riser
Bucking Posts:		**Elevation (ft):** 10.04

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Riser Pipe	0	10.04
Top of Seal	3.76	6.28
Top of Filter Pack	4.76	5.28
Top of Screen	5.76	4.28
Drilled Depth	10.76	-0.72
Total Depth	10.76	-0.72



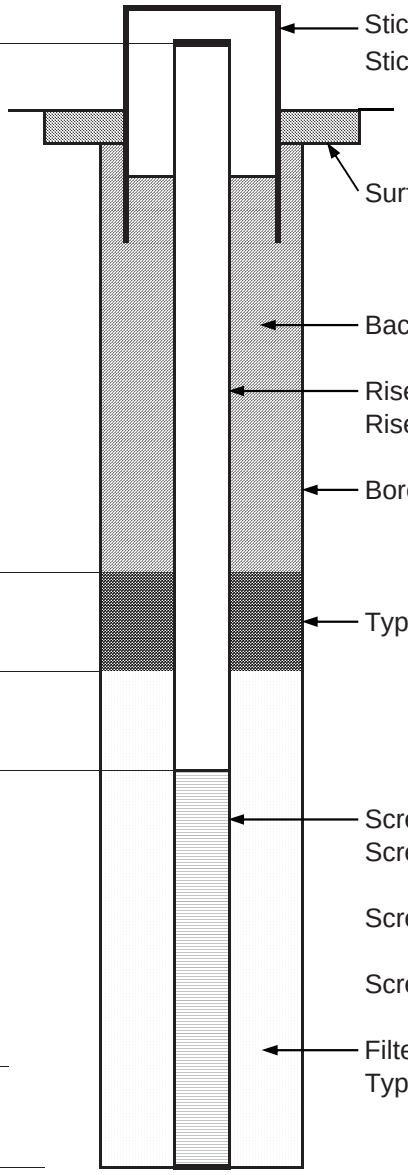
Description

Backfill/Grout Type:	Bentonite Grout
Riser Pipe Type:	Stainless Steel
Riser Pipe ID:	4"
Borehole Diameter:	9"
Type of Seal:	#00 Sand
Screen Type:	Stainless Steel
Screen ID:	4"
Screen Slot Size:	0.03"
Screen Length:	5
Filter/Sand Pack Type:	#1 Sand

Notes:

Amec Foster Wheeler Environment & Infrastructure		STICKUP OVERBURDEN WELL/PIEZOMETER
Project: Honeywell Jersey City SA-6 North	**Number:** 3480130377	087-PZ-3
Client: Honeywell	**Date:** 6/16/2016	**Subcontractor:** B&B Drilling
Drilling Method: Hollow Stem Auger		**Measuring Point**
Development Method: Submersible		**Type:** Top Of Riser
Bucking Posts:		**Elevation (ft):** 13.28

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Riser Pipe	0	13.28
Top of Seal	6.32	6.96
Top of Filter Pack	8.32	4.96
Top of Screen	9.32	3.96
Drilled Depth	14.32	-1.04
Total Depth	14.32	-1.04



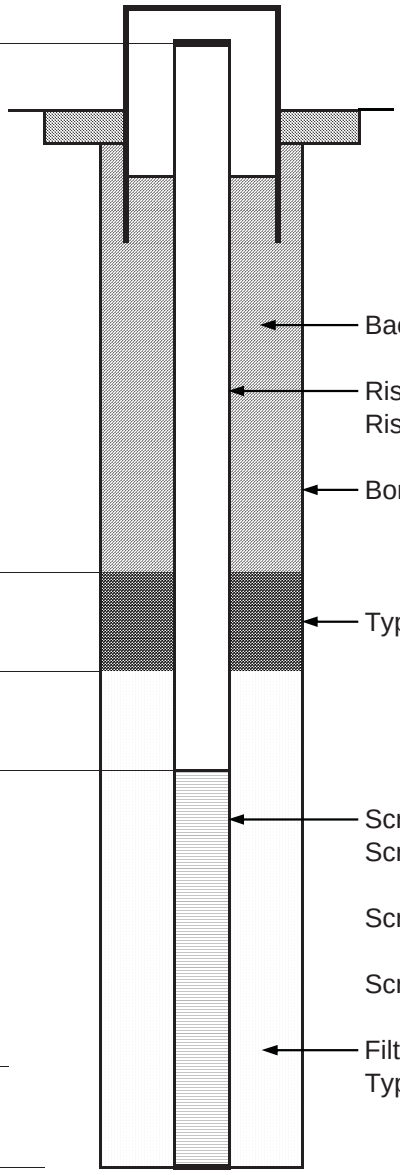
Description

Stickup Type:	
Stickup Diameter:	
Surface Seal Type:	
Backfill/Grout Type:	Bentonite Grout
Riser Pipe Type:	Stainless Steel
Riser Pipe ID:	4"
Borehole Diameter:	9"
Type of Seal:	#00 Sand
Screen Type:	Stainless Steel
Screen ID:	4"
Screen Slot Size:	0.03"
Screen Length:	5
Filter/Sand Pack Type:	#1 Sand

Notes:

Amec Foster Wheeler Environment & Infrastructure		STICKUP OVERBURDEN WELL/PIEZOMETER
Project: Honeywell Jersey City SA-6 North	**Number:** 3480130377	087-PZ-4
Client: Honeywell	**Date:** 6/16/2016	**Subcontractor:** B&B Drilling
Drilling Method: Hollow Stem Auger		**Measuring Point**
Development Method: Submersible		**Type:** Top Of Riser
Bucking Posts:		**Elevation (ft):** 13.65

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Riser Pipe	0	13.65
Top of Seal	6.89	6.76
Top of Filter Pack	8.89	4.76
Top of Screen	9.89	3.76
Drilled Depth	14.89	-1.24
Total Depth	14.89	-1.24



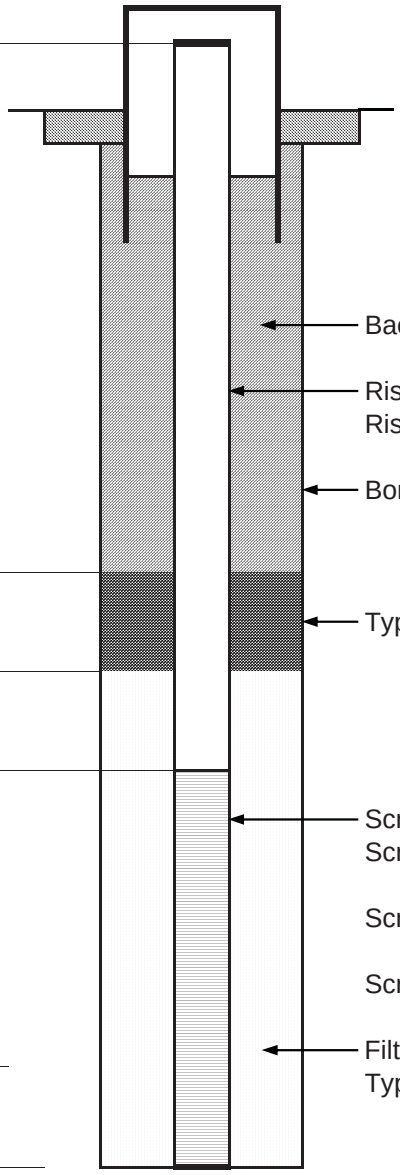
Description

Backfill/Grout Type:	Bentonite Grout
Riser Pipe Type:	Stainless Steel
Riser Pipe ID:	4"
Borehole Diameter:	9"
Type of Seal:	#00 Sand
Screen Type:	Stainless Steel
Screen ID:	4"
Screen Slot Size:	0.03"
Screen Length:	5
Filter/Sand Pack Type:	#1 Sand

Notes:

Amec Foster Wheeler Environment & Infrastructure		STICKUP OVERBURDEN WELL/PIEZOMETER
Project: Honeywell Jersey City SA-6 North	**Number:** 3480130377	087-PZ-6
Client: Honeywell	**Date:** 6/20/2016	**Subcontractor:** B&B Drilling
Drilling Method: Hollow Stem Auger		**Measuring Point**
Development Method: Submersible		**Type:** Top Of Riser
Bucking Posts:		**Elevation (ft):** 21.04

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Riser Pipe	0	21.04
Top of Seal	14.28	6.76
Top of Filter Pack	16.28	4.76
Top of Screen	17.28	3.76
Drilled Depth	22.28	-1.24
Total Depth	22.28	-1.24



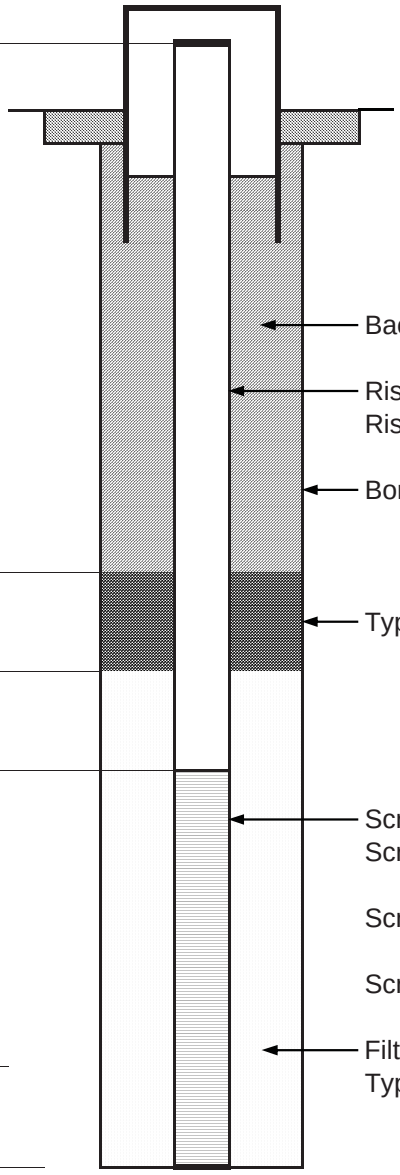
Description

Backfill/Grout Type:	Bentonite Grout
Riser Pipe Type:	Stainless Steel
Riser Pipe ID:	4"
Borehole Diameter:	9"
Type of Seal:	#00 Sand
Screen Type:	Stainless Steel
Screen ID:	4"
Screen Slot Size:	0.03"
Screen Length:	5
Filter/Sand Pack Type:	#1 Sand

Notes:

Amec Foster Wheeler Environment & Infrastructure		STICKUP OVERBURDEN WELL/PIEZOMETER
Project: Honeywell Jersey City SA-6 North	**Number:** 3480130377	087-PZ-8
Client: Honeywell	**Date:** 6/15/2016	**Subcontractor:** B&B Drilling
Drilling Method: Hollow Stem Auger		**Measuring Point**
Development Method: Submersible		**Type:** Top Of Riser
Bucking Posts:		**Elevation (ft):** 16.54

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Riser Pipe	0	16.54
Top of Seal	9.58	6.96
Top of Filter Pack	11.58	4.96
Top of Screen	12.58	3.96
Drilled Depth	17.58	-1.04
Total Depth	17.58	-1.04



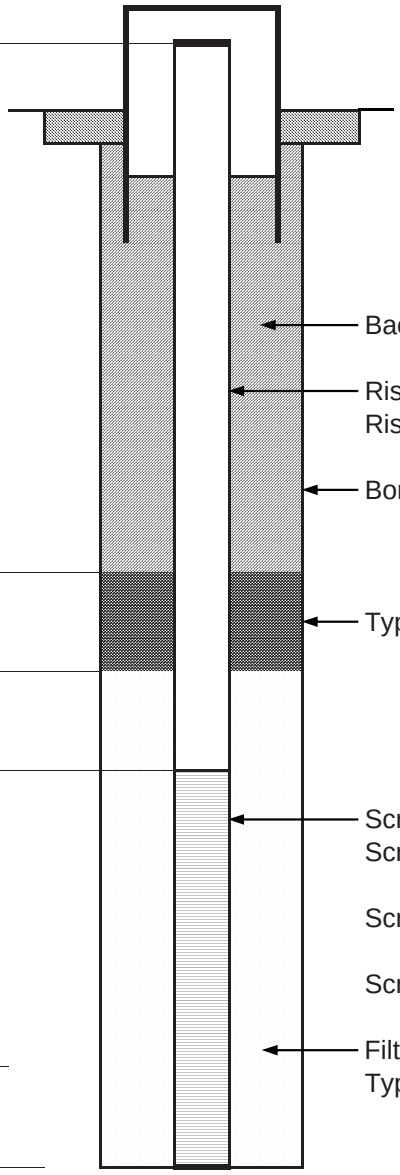
Description

Backfill/Grout Type:	Bentonite Grout
Riser Pipe Type:	Stainless Steel
Riser Pipe ID:	4"
Borehole Diameter:	9"
Type of Seal:	#00 Sand
Screen Type:	Stainless Steel
Screen ID:	4"
Screen Slot Size:	0.03"
Screen Length:	5
Filter/Sand Pack Type:	#1 Sand

Notes:

Amec Foster Wheeler Environment & Infrastructure		STICKUP OVERBURDEN WELL/PIEZOMETER
Project: Honeywell Jersey City SA-6 North	**Number:** 3480130377	087-PZ-9
Client: Honeywell	**Date:** 6/15/2016	**Subcontractor:** B&B Drilling
Drilling Method: Hollow Stem Auger		**Measuring Point**
Development Method: Submersible		**Type:** Top Of Riser
Bucking Posts:		**Elevation (ft):** 17.19

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Riser Pipe	0	17.19
Top of Seal	10.96	6.23
Top of Filter Pack	12.96	4.23
Top of Screen	13.96	3.23
Drilled Depth	18.96	-1.77
Total Depth	18.96	-1.77



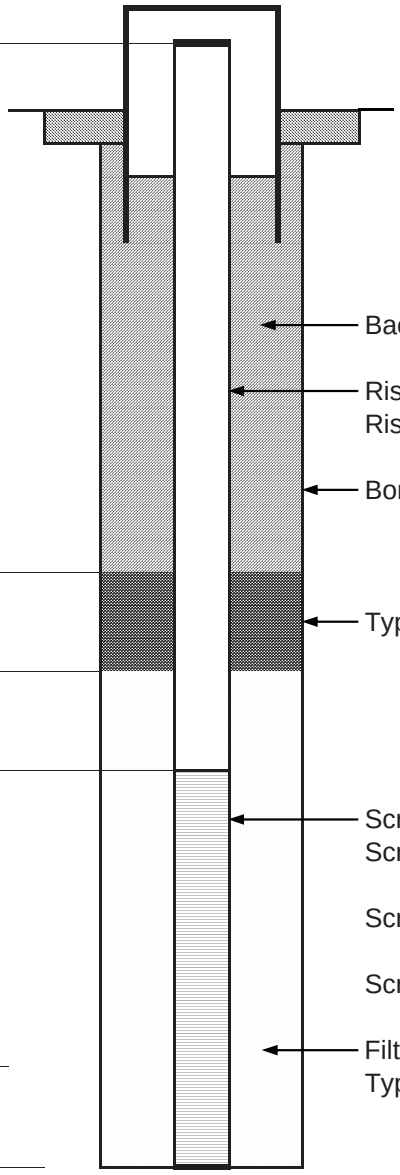
Description

Backfill/Grout Type:	Bentonite Grout
Riser Pipe Type:	Stainless Steel
Riser Pipe ID:	4"
Borehole Diameter:	9"
Type of Seal:	#00 Sand
Screen Type:	Stainless Steel
Screen ID:	4"
Screen Slot Size:	0.03"
Screen Length:	5
Filter/Sand Pack Type:	#1 Sand

Notes:

Amec Foster Wheeler Environment & Infrastructure		STICKUP OVERBURDEN WELL/PIEZOMETER
Project: Honeywell Jersey City SA-6 North	**Number:** 3480130377	087-PZ-10
Client: Honeywell	**Date:** 6/15/2016	**Subcontractor:** B&B Drilling
Drilling Method: Hollow Stem Auger		**Measuring Point**
Development Method: Submersible		**Type:** Top Of Riser
Bucking Posts:		**Elevation (ft):** 17.06

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Riser Pipe	0	17.06
Top of Seal	10.58	6.48
Top of Filter Pack	12.58	4.48
Top of Screen	13.58	3.48
Drilled Depth	18.58	-1.52
Total Depth	18.58	-1.52



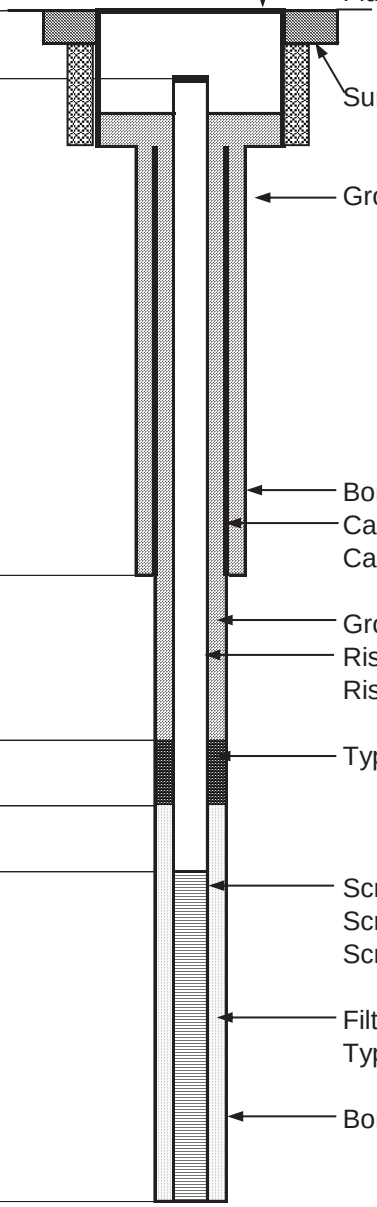
Description

Backfill/Grout Type:	Bentonite Grout
Riser Pipe Type:	Stainless Steel
Riser Pipe ID:	4"
Borehole Diameter:	9"
Type of Seal:	#00 Sand
Screen Type:	Stainless Steel
Screen ID:	4"
Screen Slot Size:	0.03"
Screen Length:	5
Filter/Sand Pack Type:	#1 Sand

Notes:

Amec Foster Wheeler Environment & Infrastructure			FLUSHMOUNT OVERBURDEN MULTICASED WELL/PIEZOMETER DW-6
Project:	Honeywell Jersey City SA-6 North	**Number:** 3480160527	
Client:	Honeywell	**Date:** 10/28/2015	**Subcontractor:** B&B Drilling
Drilling Method:	Mud Rotary		**Measuring Point**
Development Method:	Air Lift		**Type:** Top Of Riser
Bucking Posts:			**Elevation (ft):** xxx

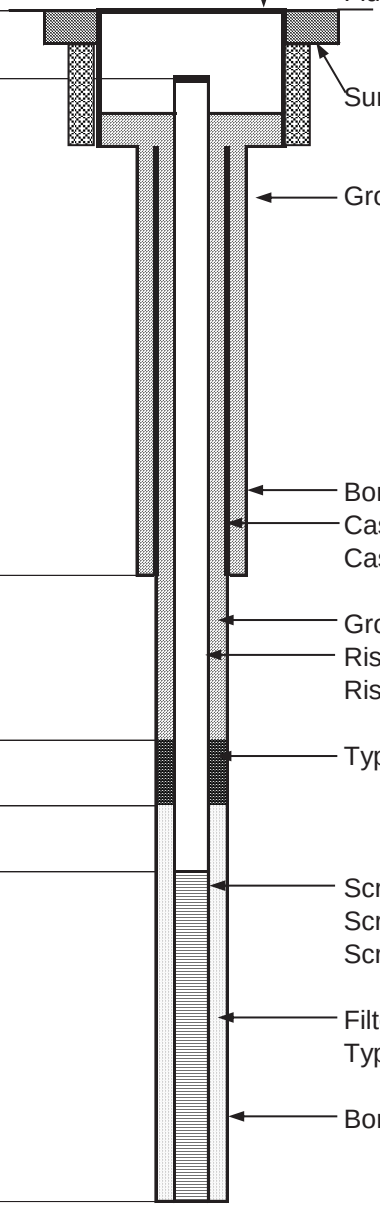
Item	Depth, below Measuring Point (ft)	Elevation (ft)	Description	
Grade	xxx		Flushmount Diameter:	
Riser Pipe	xxx		Surface Seal Type:	Concrete
			Grout Type:	Bentonite Grout
			Borehole Diameter:	14 inch
			Casing Type:	Steel
Base of Casing	12		Casing ID:	10 inch
			Grout Type:	Bentonite Grout
			Riser Pipe Type:	Schedule 40 PVC
			Riser Pipe ID:	6 inch
Top of Seal.	16		Type of Seal:	#00 Sand
Top of Filter Pack.	18			
Top of Screen.	20		Screen Type:	Schedule 40 PVC
			Screen ID:	6 inch
			Screen Slot Size:	.020"
			Filter/Sand Pack Type:	# 1 Sand
			Borehole Diameter:	10 inch
Base of Screen/ Drilled Depth	45			



Notes: Date Well Started- 9/21/2015
Date Well Finished- 10/28/2015

Amec Foster Wheeler Environment & Infrastructure			FLUSHMOUNT OVERBURDEN MULTICASED WELL/PIEZOMETER DW-7
Project:	Honeywell Jersey City SA-6 North	**Number:** 3480160527	
Client:	Honeywell	**Date:** 10/28/2015	**Subcontractor:** B&B Drilling
Drilling Method:	Mud Rotary		**Measuring Point**
Development Method:	Air Lift		**Type:** Top Of Riser
Bucking Posts:			**Elevation (ft):** xxx

Item	Depth, below Measuring Point (ft)	Elevation (ft)	Description	
Grade	xxx		Flushmount Diameter:	
Riser Pipe	xxx		Surface Seal Type:	Concrete
			Grout Type:	Bentonite Grout
			Borehole Diameter:	14 inch
			Casing Type:	Steel
Base of Casing	17		Casing ID:	10 inch
			Grout Type:	Bentonite Grout
			Riser Pipe Type:	Schedule 40 PVC
			Riser Pipe ID:	6 inch
Top of Seal.	20		Type of Seal:	#00 Sand
Top of Filter Pack.	22			
Top of Screen.	23		Screen Type:	Schedule 40 PVC
			Screen ID:	6 inch
			Screen Slot Size:	.020"
			Filter/Sand Pack Type:	# 1 Sand
			Borehole Diameter:	10 inch
Base of Screen/ Drilled Depth	48			



Notes: Date Well Started- 9/24/2015
Date Well Finsihed- 10/28/2015

FORM A's

New Jersey Department of Environmental Protection
Site Remediation Program

MONITORING WELL CERTIFICATION FORM A - AS-BUILT CERTIFICATION

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 North Chromium Remedy

List all AKAs: JCIA Well Site (Site 088)

Street Address: 555 & 575 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G000008711 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) Rt. 440 In Front of 501 Route 440
3. Well Location (Municipal Block and Lot) Block# ROW Lot # ROW

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing):.. E201606638
2. Site Well Number as shown on application or plans): ..... 087-PZ-01 (PZ-1 on record)
3. Well Completion Date: 6/17/2016
4. Distance from Top of Casing (cap off) to ground surface (nearest 0.01'): ..... -0.50
5. Total Depth of Well to the nearest ½ foot: 11.5
6. Depth to Top of Screen (or top of open hole) from top of casing (nearest 0.01'):..... 6.50
7. Screen Length (or length of open hole) in feet: 5
8. Screen or Slot Size: 0.030-inch
9. Screen or Slot Material: ..... Stainless Steel
10. Casing Material (PVC, steel, or other – specify): ..... Stainless Steel
11. Casing Diameter (inches): 4
12. Static Water Level from top of casing at the time of installation (nearest 0.01'): 7.00
13. Yield (gallons per minute): ..... n/a
14. Development Techinque (specify): ..... air lift
15. Length of Time well is developed/pumped or bailed (hours and minutes): 1:00

New Jersey Department of Environmental Protection
Site Remediation Program

MONITORING WELL CERTIFICATION FORM A - AS-BUILT CERTIFICATION

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 North Chromium Remedy

List all AKAs: JCIA Well Site (Site 088)

Street Address: 501 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G000008711 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 501 Route 440
3. Well Location (Municipal Block and Lot) Block# 21901 Lot # 5

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing):.. E201606639
2. Site Well Number as shown on application or plans): ..... 087-PZ-02 (PZ-2 on record)
3. Well Completion Date: 6/20/2016
4. Distance from Top of Casing (cap off) to ground surface (nearest 0.01'): ..... -0.04
5. Total Depth of Well to the nearest ½ foot: 8.0
6. Depth to Top of Screen (or top of open hole) from top of casing (nearest 0.01'):..... 3.00
7. Screen Length (or length of open hole) in feet: 5
8. Screen or Slot Size: 0.030-inch
9. Screen or Slot Material: ..... Stainless Steel
10. Casing Material (PVC, steel, or other – specify): ..... Stainless Steel
11. Casing Diameter (inches): 4
12. Static Water Level from top of casing at the time of installation (nearest 0.01'): 4.00
13. Yield (gallons per minute): ..... n/a
14. Development Techinque (specify): ..... air lift
15. Length of Time well is developed/pumped or bailed (hours and minutes): 1:00

New Jersey Department of Environmental Protection
Site Remediation Program

MONITORING WELL CERTIFICATION FORM A - AS-BUILT CERTIFICATION

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 North Chromium Remedy

List all AKAs: JCIA Well Site (Site 088)

Street Address: 501 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G000008711 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 501 Route 440
3. Well Location (Municipal Block and Lot) Block# 21901 Lot # 5

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing):.. E201606641
2. Site Well Number as shown on application or plans): ..... 087-PZ-03 (PZ-3 on record)
3. Well Completion Date: 6/16/2016
4. Distance from Top of Casing (cap off) to ground surface (nearest 0.01'): ..... +0.34
5. Total Depth of Well to the nearest ½ foot: 13.0
6. Depth to Top of Screen (or top of open hole) from top of casing (nearest 0.01'):..... 8.00
7. Screen Length (or length of open hole) in feet: 5
8. Screen or Slot Size: 0.030-inch
9. Screen or Slot Material: ..... Stainless Steel
10. Casing Material (PVC, steel, or other – specify): ..... Stainless Steel
11. Casing Diameter (inches): 4
12. Static Water Level from top of casing at the time of installation (nearest 0.01'): 8.00
13. Yield (gallons per minute): ..... n/a
14. Development Techinque (specify): ..... air lift
15. Length of Time well is developed/pumped or bailed (hours and minutes): 1:00

New Jersey Department of Environmental Protection
Site Remediation Program

MONITORING WELL CERTIFICATION FORM A - AS-BUILT CERTIFICATION

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 North Chromium Remedy

List all AKAs: JCIA Well Site (Site 088)

Street Address: 501 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G000008711 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 575 Route 440
3. Well Location (Municipal Block and Lot) Block# 21901 Lot # 5

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing):.. E201606642
2. Site Well Number as shown on application or plans): ..... 087-PZ-04 (PZ-4 on record)
3. Well Completion Date: 6/17/2016
4. Distance from Top of Casing (cap off) to ground surface (nearest 0.01'): ..... +0.62
5. Total Depth of Well to the nearest ½ foot: 12.0
6. Depth to Top of Screen (or top of open hole) from top of casing (nearest 0.01'):..... 7.00
7. Screen Length (or length of open hole) in feet: 5
8. Screen or Slot Size: 0.030-inch
9. Screen or Slot Material: ..... Stainless Steel
10. Casing Material (PVC, steel, or other – specify): ..... Stainless Steel
11. Casing Diameter (inches): 4
12. Static Water Level from top of casing at the time of installation (nearest 0.01'): 7.00
13. Yield (gallons per minute): ..... n/a
14. Development Techinque (specify): ..... air lift
15. Length of Time well is developed/pumped or bailed (hours and minutes): 1:00

New Jersey Department of Environmental Protection
Site Remediation Program

MONITORING WELL CERTIFICATION FORM A - AS-BUILT CERTIFICATION

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 North Chromium Remedy

List all AKAs: JCIA Well Site (Site 087)

Street Address: 555 & 575 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G000008710 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 555 Route 440
3. Well Location (Municipal Block and Lot) Block# 21901 Lot # 10

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing):.. E201606645
2. Site Well Number as shown on application or plans): ..... 087-PZ-05 (PZ-5 on record)
3. Well Completion Date: 6/20/2016
4. Distance from Top of Casing (cap off) to ground surface (nearest 0.01'): ..... +0.04
5. Total Depth of Well to the nearest ½ foot: 13.0
6. Depth to Top of Screen (or top of open hole) from top of casing (nearest 0.01'):..... 8.00
7. Screen Length (or length of open hole) in feet: 5
8. Screen or Slot Size: 0.030-inch
9. Screen or Slot Material: ..... Stainless Steel
10. Casing Material (PVC, steel, or other – specify): ..... Stainless Steel
11. Casing Diameter (inches): 4
12. Static Water Level from top of casing at the time of installation (nearest 0.01'): 9.00
13. Yield (gallons per minute): ..... n/a
14. Development Techinque (specify): ..... air lift
15. Length of Time well is developed/pumped or bailed (hours and minutes): 1:00

New Jersey Department of Environmental Protection
Site Remediation Program

MONITORING WELL CERTIFICATION FORM A - AS-BUILT CERTIFICATION

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 North Chromium Remedy

List all AKAs: JCIA Well Site (Site 087)

Street Address: 555 & 575 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G000008710 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 555 Route 440
3. Well Location (Municipal Block and Lot) Block# 21901 Lot # 10

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing):.. E201606646
2. Site Well Number as shown on application or plans): ..... 087-PZ-06 (PZ-6 on record)
3. Well Completion Date: 6/20/2016
4. Distance from Top of Casing (cap off) to ground surface (nearest 0.01'): ..... +0.01
5. Total Depth of Well to the nearest ½ foot: 13.0
6. Depth to Top of Screen (or top of open hole) from top of casing (nearest 0.01'):..... 8.00
7. Screen Length (or length of open hole) in feet: 5
8. Screen or Slot Size: 0.030-inch
9. Screen or Slot Material: ..... Stainless Steel
10. Casing Material (PVC, steel, or other – specify): ..... Stainless Steel
11. Casing Diameter (inches): 4
12. Static Water Level from top of casing at the time of installation (nearest 0.01'): 6.00
13. Yield (gallons per minute): ..... n/a
14. Development Techinque (specify): ..... air lift
15. Length of Time well is developed/pumped or bailed (hours and minutes): 1:00

New Jersey Department of Environmental Protection
Site Remediation Program

MONITORING WELL CERTIFICATION FORM A - AS-BUILT CERTIFICATION

Date Stamp
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SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 North Chromium Remedy

List all AKAs: JCIA Well Site (Site 087)

Street Address: 555 & 575 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): 745719 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 575 Route 440
3. Well Location (Municipal Block and Lot) Block# 21901 Lot # 9

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing):.. E201606650
2. Site Well Number as shown on application or plans): ..... 087-PZ-07 (PZ-7 on record)
3. Well Completion Date: 6/14/2016
4. Distance from Top of Casing (cap off) to ground surface (nearest 0.01'): ..... +0.09
5. Total Depth of Well to the nearest ½ foot: 20.0
6. Depth to Top of Screen (or top of open hole) from top of casing (nearest 0.01'):..... 15.00
7. Screen Length (or length of open hole) in feet: 5
8. Screen or Slot Size: 0.030-inch
9. Screen or Slot Material: ..... Stainless Steel
10. Casing Material (PVC, steel, or other – specify): ..... Stainless Steel
11. Casing Diameter (inches): 4
12. Static Water Level from top of casing at the time of installation (nearest 0.01'): 10.00
13. Yield (gallons per minute): ..... n/a
14. Development Techinque (specify): ..... air lift
15. Length of Time well is developed/pumped or bailed (hours and minutes): 1:00

New Jersey Department of Environmental Protection
Site Remediation Program

MONITORING WELL CERTIFICATION FORM A - AS-BUILT CERTIFICATION

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 North Chromium Remedy

List all AKAs: JCIA Well Site (Site 087)

Street Address: 555 & 575 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): 745719 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 575 Route 440
3. Well Location (Municipal Block and Lot) Block# 21901 Lot # 9

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing):.. E201606651
2. Site Well Number as shown on application or plans): ..... 087-PZ-08 (PZ-8 on record)
3. Well Completion Date: 6/15/2016
4. Distance from Top of Casing (cap off) to ground surface (nearest 0.01'): ..... -0.01
5. Total Depth of Well to the nearest ½ foot: 14.0
6. Depth to Top of Screen (or top of open hole) from top of casing (nearest 0.01'):..... 9.00
7. Screen Length (or length of open hole) in feet: 5
8. Screen or Slot Size: 0.030-inch
9. Screen or Slot Material: ..... Stainless Steel
10. Casing Material (PVC, steel, or other – specify): ..... Stainless Steel
11. Casing Diameter (inches): 4
12. Static Water Level from top of casing at the time of installation (nearest 0.01'): 12.00
13. Yield (gallons per minute): ..... n/a
14. Development Techinque (specify): ..... air lift
15. Length of Time well is developed/pumped or bailed (hours and minutes): 1:00

New Jersey Department of Environmental Protection
Site Remediation Program

MONITORING WELL CERTIFICATION FORM A - AS-BUILT CERTIFICATION

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 North Chromium Remedy

List all AKAs: JCIA Well Site (Site 087)

Street Address: 555 & 575 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G000008710 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 555 Route 440
3. Well Location (Municipal Block and Lot) Block# 21901 Lot # 10

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing):.. E201606647
2. Site Well Number as shown on application or plans): ..... 087-PZ-09 (PZ-9 on record)
3. Well Completion Date: 6/16/2016
4. Distance from Top of Casing (cap off) to ground surface (nearest 0.01'): ..... +0.17
5. Total Depth of Well to the nearest ½ foot: 12.0
6. Depth to Top of Screen (or top of open hole) from top of casing (nearest 0.01'):..... 7.00
7. Screen Length (or length of open hole) in feet: 5
8. Screen or Slot Size: 0.030-inch
9. Screen or Slot Material: ..... Stainless Steel
10. Casing Material (PVC, steel, or other – specify): ..... Stainless Steel
11. Casing Diameter (inches): 4
12. Static Water Level from top of casing at the time of installation (nearest 0.01'): 8.00
13. Yield (gallons per minute): ..... n/a
14. Development Techinque (specify): ..... air lift
15. Length of Time well is developed/pumped or bailed (hours and minutes): 1:00

New Jersey Department of Environmental Protection
Site Remediation Program

MONITORING WELL CERTIFICATION FORM A - AS-BUILT CERTIFICATION

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 North Chromium Remedy

List all AKAs: JCIA Well Site (Site 087)

Street Address: 555 & 575 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G000008710 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 555 Route 440
3. Well Location (Municipal Block and Lot) Block# 21901 Lot # 10

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing):.. E201606648
2. Site Well Number as shown on application or plans): ..... 087-PZ-10 (PZ-10 on record)
3. Well Completion Date: 6/15/2016
4. Distance from Top of Casing (cap off) to ground surface (nearest 0.01'): ..... +0.16
5. Total Depth of Well to the nearest ½ foot: 12.0
6. Depth to Top of Screen (or top of open hole) from top of casing (nearest 0.01'):..... 7.00
7. Screen Length (or length of open hole) in feet: 5
8. Screen or Slot Size: 0.030-inch
9. Screen or Slot Material: ..... Stainless Steel
10. Casing Material (PVC, steel, or other – specify): ..... Stainless Steel
11. Casing Diameter (inches): 4
12. Static Water Level from top of casing at the time of installation (nearest 0.01'): 8.00
13. Yield (gallons per minute): ..... n/a
14. Development Techinque (specify): ..... air lift
15. Length of Time well is developed/pumped or bailed (hours and minutes): 1:00

FORM B's

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 North Chromium Remedy

List all AKAs: JCIA Well Site (Site 088)

Street Address: 555 & 575 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G000008711 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) Rt. 440 In Front of 501 Route 440
3. Well Location (Municipal Block and Lot) Block# ROW Lot # ROW

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201606638
2. Site Well Number (As shown on application or plans): 087-PZ-01
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-48.89 Longitude: West 074-05-50.73
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 685109 East 603718
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 10.04'
   Elevation Top of Outer casing: 10.53' Elevation of ground: 10.54'
   Check one: ☐ NAVD 88 ☒ NGVD 29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

Professional Land Surveyor's Signature: Jeffrey D. Bunce Date 4/7/17

Surveyor's Name: Jeffrey D. Bunce License Number: GS41045

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 24GA27986500

Mailing Address 400 Valley Road Road Suite 304

City/Town: Mt. Arlington State New Jersey Zip Code: 07856

Phone Number 973-398-3110 Ext.: 4544 Fax: 973-398-3199

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 North Chromium Remedy

List all AKAs: JCIA Well Site (Site 088)

Street Address: 501 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G000008711 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 501 Route 440
3. Well Location (Municipal Block and Lot) Block# 21901 Lot # 5

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201606639
2. Site Well Number (As shown on application or plans): 087-PZ-02
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-48.92 Longitude: West 074-05-50.83
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 685111 East 603710
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 10.35'
   Elevation Top of Outer casing: 10.66' Elevation of ground: 10.39'
   Check one: ☐ NAVD 88 ☒ NGVD 29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

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New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
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SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 North Chromium Remedy

List all AKAs: JCIA Well Site (Site 088)

Street Address: 501 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G000008711 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 501 Route 440
3. Well Location (Municipal Block and Lot) Block# 21901 Lot # 5

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201606641
2. Site Well Number (As shown on application or plans): 087-PZ-03
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-52.62 Longitude: West 074-05-55.28
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 685484 East 603365
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 13.28'
   Elevation Top of Outer casing: 13.60' Elevation of ground: 12.94'
   Check one: ☐ NAVD 88 ☒ NGVD 29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
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New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

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SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 North Chromium Remedy

List all AKAs: JCIA Well Site (Site 088)

Street Address: 501 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G000008711 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 575 Route 440
3. Well Location (Municipal Block and Lot) Block# 21901 Lot # 5

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201606642
2. Site Well Number (As shown on application or plans): 087-PZ-04
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-52.57 Longitude: West 074-05-55.33
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 685479 East 603362
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 13.65'
   Elevation Top of Outer casing: 14.01' Elevation of ground: 13.03'
   Check one: ☐ NAVD 88 ☒ NGVD 29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

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New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
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SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 North Chromium Remedy

List all AKAs: JCIA Well Site (Site 087)

Street Address: 555 & 575 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G000008710 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 555 Route 440
3. Well Location (Municipal Block and Lot) Block# 21901 Lot # 10

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201606645
2. Site Well Number (As shown on application or plans): 087-PZ-05
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-55.56 Longitude: West 074-06-00.54
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 685780 East 602959
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 19.49'
   Elevation Top of Outer casing: 19.85' Elevation of ground: 19.45'
   Check one: ☐ NAVD 88 ☒ NGVD 29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

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New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
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SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 North Chromium Remedy

List all AKAs: JCIA Well Site (Site 087)

Street Address: 555 & 575 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G000008710 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 555 Route 440
3. Well Location (Municipal Block and Lot) Block# 21901 Lot # 10

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201606646
2. Site Well Number (As shown on application or plans): 087-PZ-06
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-55.49 Longitude: West 074-06-00.58
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 685773 East 602956
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 21.04'
   Elevation Top of Outer casing: 21.40' Elevation of ground: 21.03'
   Check one: ☐ NAVD 88 ☒ NGVD 29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

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New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 North Chromium Remedy

List all AKAs: JCIA Well Site (Site 087)

Street Address: 555 & 575 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): 745719 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 575 Route 440
3. Well Location (Municipal Block and Lot) Block# 21901 Lot # 9

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201606650
2. Site Well Number (As shown on application or plans): 087-PZ-07
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-57.50 Longitude: West 074-06-07.24
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 685974 East 602442
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 16.24'
   Elevation Top of Outer casing: 16.49' Elevation of ground: 16.15'
   Check one: ☐ NAVD 88 ☒ NGVD 29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

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Professional Land Surveyor's Signature: Jeffrey D. Bunce Date 4/7/17

Surveyor's Name: Jeffrey D. Bunce License Number: GS41045

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New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
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SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 North Chromium Remedy

List all AKAs: JCIA Well Site (Site 087)

Street Address: 555 & 575 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): 745719 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 575 Rt. 440
3. Well Location (Municipal Block and Lot) Block# 21901 Lot # 9

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201600651
2. Site Well Number (As shown on application or plans): 087-PZ-08
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-57.24 Longitude: West 074-06--07.40
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 685948 East 602430
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 16.54'
   Elevation Top of Outer casing: 16.82' Elevation of ground: 16.55'
   Check one: ☐ NAVD 88 ☒ NGVD 29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
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SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 North Chromium Remedy

List all AKAs: JCIA Well Site (Site 087)

Street Address: 555 & 575 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G000008710 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 555 Route 440
3. Well Location (Municipal Block and Lot) Block# 21901 Lot # 10

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201606647
2. Site Well Number (As shown on application or plans): 087-PZ-09
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-58.41 Longitude: West 074-06-11.85
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 686065 East 602088
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 17.19'
   Elevation Top of Outer casing: 17.48' Elevation of ground: 17.02'
   Check one: ☐ NAVD 88 ☒ NGVD 29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
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SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 North Chromium Remedy

List all AKAs: JCIA Well Site (Site 087)

Street Address: 555 & 575 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G000008710 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 555 Route 440
3. Well Location (Municipal Block and Lot) Block# 21901 Lot # 10

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201606648
2. Site Well Number (As shown on application or plans): 087-PZ-10
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-58.43 Longitude: West 074-06-11.66
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 686067 East 602102
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 17.06'
   Elevation Top of Outer casing: 17.39' Elevation of ground: 16.90'
   Check one: ☐ NAVD 88 ☒ NGVD 29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
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Surveyor's Name: Jeffrey D. Bunce License Number: GS41045

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 24GA27986500

Mailing Address 400 Valley Road Road Suite 304

City/Town: Mt. Arlington State New Jersey Zip Code: 07856

Phone Number 973-398-3110 Ext.: 4544 Fax: 973-398-3199

MW 132, 133, AND 134

Drilling Method

- [x] - Geoprobe _8_ Inch Borehole
- [ ] - Little Beaver
- [ ] - Hand Auger

Well Access

- [x] - Steel Roadbox _8_ inch Dimension
- [ ] - Irrigation Box ___ inch Dimension
- [ ] - Stick Up

Well # MW-122, MW-123 and MW-124

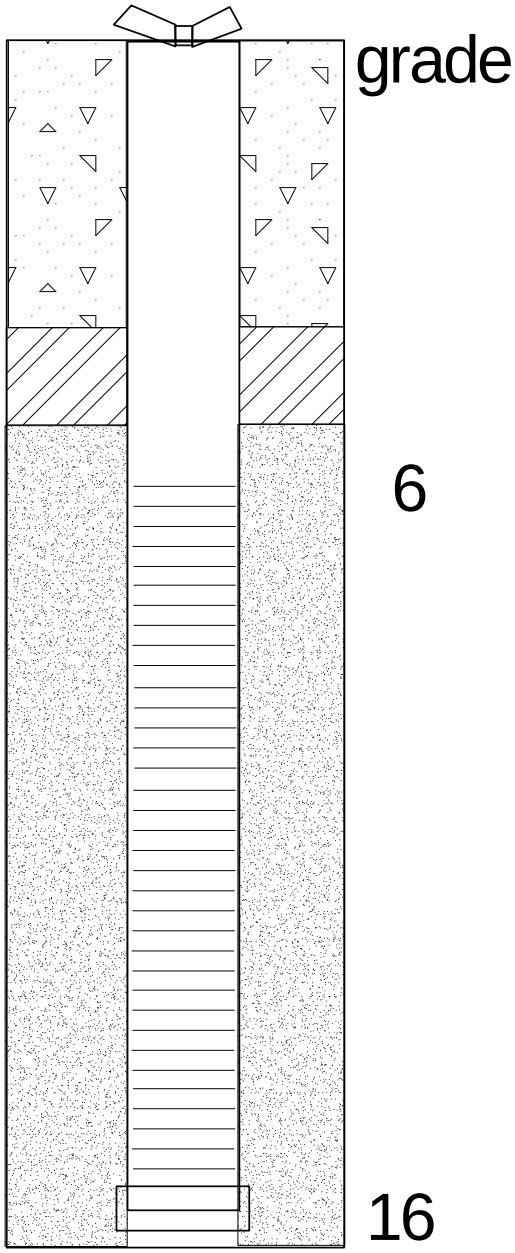
6 - 16 2" Screen Interval (ft bgs)

0 - 6 - 2" Solid PVC Casing (Interval feet bgs)

6 - 16 - 2" PVC Screen (Interval feet bgs)

Backfill Interval (feet bgs)

SAND	16-5
BENTONITE 3/4 " or Granular Circle One	5 - 4
Concrete / **Grout** Circle One	4-grade
Native	NA



Boring Summary

Contaminated Interval NA feet bgs

Groundwater Encountered NA feet bgs

Soil Discription

0-4 Gravely Fill Material

4-12 Historic Fill Material

(Black silty sand w debris/trash/ash)

12-16 Black silty sand (very wet/soupy)

Monitoring Well Install Form

Site Name: Honeywell Jersey City SA-6 North

Date: 8/10/2015

Prepared By:

Environmental Remediation and Financial Services, LLC

ERFS

Pay-for-Performance Remediation Services

999 Airport Road, Unit 4
Lakewood, NJ 08701

Date: 8-10-2015	Scale: 1" = 10'	Draftsperson: SV

APPENDIX F

CLASSIFICATION EXCEPTION AREA

State of New Jersey
Department of Environmental Protection
Site Remediation Program
Mailcode 401-06
P.O. Box 420
Trenton, NJ 08625-0420

CHRIS CHRISTIE
Governor
KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

Maria Kaouris, Remediation Manager
Honeywell International, Inc.
101 Columbia Road
Morristown, New Jersey 07962

Date: February 16, 2012

Approval

Re: Classification Exception Area
Study Areas 5, 6 and 7
Hudson County Chromate Sites 73, 87, 88, 90, 115, 117, 120, 124, 125, 134, 140, 153, 157, and 184
Jersey City, Hudson County
NJDEP PI # G000008789

Dear Ms. Kaouris:

The New Jersey Department of Environmental Protection (NJDEP) has reviewed the Groundwater Classification Exception Area (CEA) application dated 8 June 2009, prepared by HydroQual, Inc. The NJDEP has determined that the referenced document is in compliance with Section 7:26E-8.3 of the New Jersey Technical Requirements for Site Remediation, and the CEA Guidance Document (revised November 1998). NJDEP hereby approves the CEA request effective the date of this letter.

Honeywell is advised that the CEA does not specify monitoring requirements since it functions as a notification mechanism, not as a "stand alone" enforcement or regulatory document. The need and the extent of ground water monitoring required during the duration of the CEA will be determined as part of the Comprehensive Ground Water Monitoring Program. As specified in NJAC 7:26E-8.3(b)5, the Department will require Honeywell to notify external agencies/affected parties of the CEA designations according to the guidelines established in the CEA Guidance Document (11/98) which can be located at: http://www.nj.gov/dep/srp/guidance/cea/ceaguid2.pdf. Note that all property owners within the plume do not need to be notified as long as they are on public water. Honeywell must also comply with the Biennial Certification requirements at NJAC 7:26E-8.6.

The CEAs are for the ground water contamination in three distinct water bearing zones (Shallow, Deep Overburden, and Bedrock). Since the aerial extent of contamination is different for each of the three zones, three separate CEAs were prepared. Note that these

CEAs are only for total and hexavalent chromium. Any other ground water contamination areas within or nearby (e.g. organic compounds in Study Area 6 – North) will require a separate CEA.

If you have any questions, please contact Thomas J. Cozzi of the Site Remediation Program at (609) 984-2905.

Sincerely,

Thomas J. Cozzi, Assistant Director
NJDEP Site Remediation

C: Barbara A. Netchert, Hudson County Clerk
Hudson County Regional Health Commission (CEHA)
Robert Byrne, RMC, Jersey City Clerk
Robert Vogt, Jersey City Division of Health
Carol Ann Wilson, Hudson County Department of Health & Human Services
Stephen D. Marks PP, AICP, Hudson County Division of Planning
Bureau Chief, NJDEP Bureau of Safe Drinking Water
Bureau Chief, NJDEP Bureau of Water Systems and Well Permitting
David Doyle, NJDEP-SRP
David Van Eck, NJDEP-BGWPA

JUNE 2009 CEA APPLICATION

Ground Water Classification Exception Area Fact Sheet

A. SITE INFORMATION

1. Program's Site Identification Number: 64070

2. Program Interest Number (Preferred ID): G000002548

3. Program Interest Name: Roosevelt Drive In (Site 115)

4. Street address: 425, 445 & 465 Route 440

5. City: Jersey City

6. County: Hudson

7. Block and Lots of the site (duplicate if the site is located in more than one municipality):

   a. Name of the municipality in which the site is located: Jersey City

   b. Block and Lots: Block: 1290.A Lots: 11W, 9L, 11H, 11J, 11K, 11L, 11Y, 11M, 11N, 11O, 11P, 11Q, 11R, 12B, 12A, 10Z, 10E, 10H, 10Y, 11T, 11U, 2D, 2E, 15D

   c. Year of tax map: 1977

8. United States Geological Survey Quadrangle map, indicating the location of the site, presented as Exhibit A.

9. Site Contact:

   a. Name of contact person: John J. Morris, P.E.

   b. Company name: Honeywell International Inc.

   c. Mailing address: 101 Columbia Road Morristown, NJ 07962

   d. Phone number: (973) 455 - 4003

B. PROPOSED CLASSIFICATION EXCEPTION AREA INFORMATION

1. Narrative description of proposed classification exception area:

The proposed CEA boundary represents the maximum extent to which groundwater in the shallow water-bearing zone (fill material) contains total chromium in excess of the NJDEP Class II-A Ground Water Quality Standards (GWQS). With one exception, this delineation is based on prior subsurface investigations conducted in the vicinity of Hudson County Chromate Site 115 (Study Area 7). The basis for this delineation has been documented in Section 4 of the Final Groundwater Investigation Report (FGIR) prepared by HydroQual on behalf of Honeywell (HydroQual, February 2, 2007). The proposed CEA boundary therefore has been developed based on the extent of total chromium in the shallow zone as depicted on Figure 4.2-3 of the FGIR. The exception is that there is no longer groundwater present above the meadow mat within the boundary of Site 115, and thus this portion of the Study Area has been carved out of the CEA. The majority of this area has been excavated and replaced with clean fill. The remaining portion of Site 115 is currently being excavated and has been dewatered through pumping from headers installed within the COPR. Based on multiple lines of evidence (as further discussed in the FGIR), it is concluded that this plume has reached steady-state conditions and thus no further lateral expansion of the plume is expected.

2. Location of proposed classification exception area (duplicate if the site is located in more than one municipality):

a. Name of the municipality in which the site is located: Jersey City

b. Block and Lots: Block: 1290.A Lots: 9H, 11W, 9L, 11H, 11J, 11K, 11L, 11Y, 11M, 11N, 11O, 11P, 11Q, 11R, 12B, 12A, 10Z, 10E, 10H, 10Y, 11T, 11U, 2D, 2E, 15D; Block: 1290.B Lots: 9E, 10F, 10G; Block: 1288.2 Lot: C1; Block: 1275 Lot: 4; Block: 1285.5 Lot: 1; Block 1286 Lot: 5; Block: 1286.5 Lot: 1; Blocks: 1291 – 1292 Lot: 76

c. Year of tax map: 1977

3. Affected aquifer(s):

Aquifer Name	Vertical Depth	Ground Water Classification
Fill	0 - 20 ft	Class II-A

4. Contaminant concentrations:

Contaminant	Concentration[1]	GWQS[2]	SWQS[3]
Chromium (Total)	229,000 ug/L	70 ug/L	750 ug/L
Chromium (Hexavalent)	115,000 ug/L	-------	50 ug/L

5. Proposed classification exception area boundaries:

Horizontal: Scaled map indicating projected areal extent of proposed classification exception area, as well as location of site, presented as Exhibit B.

Vertical: As stated in B.3., above.
Locational coordinates of boundary of proposed classification exception area as New Jersey State Plane Coordinates. A minimum of four coordinates shall be submitted, in a format compatible with Department's geographic information system:

Northing	Easting	(New Jersey State Plane Coordinates)
683438	603172	
683814	603807	
684547	604214	
685701	604234	
685353	603400	
686111	602154	
685441	601413	
684256	602709	

Latitude	Longitude
40.7090	-74.0994
40.7100	-74.0971
40.7120	-74.0956
40.7152	-74.0956
40.7143	-74.0986
40.7164	-74.1031
40.7145	-74.1057
40.7113	-74.1011

6. Estimated size of the proposed ground water classification exception area:

45.35 Acres

7. Projected duration and expiration date of the proposed classification exception area:

a. Duration (in years and or days): Indeterminate

Data from prior investigations indicates that the presence of elevated chromium in the shallow groundwater is limited to the extent of COPR and COPR-impacted soils. This indicates that the plume will not expand beyond its current extent, and that concentrations will remain above the NJ GWQS as long as the COPR remains in place. Thus, with the following exceptions, the duration of the proposed CEA is indeterminate.

The exceptions include ongoing and planned remedial actions which will reduce the concentrations and/or footprint of the shallow groundwater plume. For example, hot spot soil excavation with off-site disposal, soil containment, capping, and the installation of subsurface barrier walls are planned for SA-5, SA-6 north and SA-6 south. Remedial action work plans that provide a description of these activities have been approved by NJDEP. Upon completion of these remedial activities, proposals will be made to modify the CEA accordingly.

b. Expiration date (as calendar date): N/A

Footnotes

1 Maximum concentration detected at the time Classification Exception Area information submitted to the Department. For a complete list of sampling points in which chromium was detected above applicable standards, refer to the Final Groundwater Investigation Report-Honeywell Study Area 7 Site (HydroQual, February 2007).

2 New Jersey Ground Water Quality Standards, N.J.A.C. 7:9-6.

3 New Jersey Surface Water Quality Standards, N.J.A.C. 7:9B.

EVALUATION OF CURRENT AND FUTURE GROUNDWATER USE (RESULTS OF THE 25-YEAR WATER USE PLANNING REVIEW)

EVALUATION OF CURRENT AND FUTURE GROUNDWATER USE
(RESULTS OF THE 25-YEAR WATER USE PLANNING REVIEW)
(per 7:26E-8.3(b)4(ii) of the NJ Technical Requirements)

No.	Required Contact	Results of Inquiry	Influence On CEA
1	New Jersey Water Supply Master Plan	Contacted Ian Snook, DEP Division of Water Supply – no need for reviewing the NJ Water Supply Master Plan (e-mail dated 02/06/2008).	None
2	DEP Bureau of Water Allocation	Completed well search indicated 5 water supply wells within 1-mile radius – for details see Table 1.	None
3	Municipal Master Plans – Hudson County	Contacted Barbara A. Netchert, County Clerk's Office – was transferred to Neil Carroll, County Counsel's office and to Willie J. Flood, Register's office – no plans that would affect the groundwater	None
	Municipal Master Plans – Jersey City	Contacted Robert Byrne, City Clerk's Office and Bob Cotter, Director of Planning – Master Plan does not affect the groundwater.	None
4	Zoning Plans – Hudson County	Contacted Neil Carroll, County Counsel's office – no plans that would affect the groundwater	None
	Zoning Plans – Jersey City	Contacted Robert Byrne, City Clerk's Office and Bob Cotter, Director of Planning – no Zoning Plans that would affect the groundwater.	None
5	Local Water Purveyor	Contacted Richard Henning, United Water NJ and Keh Liu, Jersey City Municipal Utilities Authority – no plans pertaining to installation of water lines that would affect the groundwater.	None
6	Planning Officials – Hudson County	Contacted Stephen Marks, County Director of Planning and Mariano Vega, County Dept. of Parks, Engineering and Planning – was transferred to Bob Jasek, County Engineer – no plans that would affect the groundwater	None
	Planning Officials – Jersey City	Contacted Bob Cotter, City Director of Planning and Brian O'Reilly, City Business Administrator – no plans that would affect the groundwater.	None

EVALUATION OF CURRENT AND FUTURE GROUNDWATER USE
(RESULTS OF THE 25-YEAR WATER USE PLANNING REVIEW)
(per 7:26E-8.3(b)4(ii) of the NJ Technical Requirements)

No.	Required Contact	Results of Inquiry	Influence On CEA
7	Board of Health – Hudson County	Contacted Carol Ann Wilson, County Dept. of Health & Human Services – was transferred to Michael Walker, County Regional Health Comission – no plans that would affect the groundwater.	None
	Board of Health – Jersey City	Contacted Harry Melendez, City Dept. of Health & Human Services – was transferred to Joseph Castagna, County Health Officer – nothing that would affect the groundwater.	None
8	Ordinances Restricting Installation of Potable Wells – Hudson County	Contacted Barbara A. Netchert, County Clerk, Neil Carroll, County Counsel's office, Stephen Marks, County Director of Planning, Mariano Vega, County Dept. of Parks, Engineering and Planning, Bob Jasek, County Engineer, and Michael Walker, County Regional Health Comission – no ordinances restricting installation of potable wells (no potable wells in Jersey City area).	None
	Ordinances Restricting Installation of Potable Wells – Jersey City	Contacted Robert Byrne, City Clerk, Bob Cotter, City Director of Planning, Brian O'Reilly, City Business Administrator, and Joseph Castagna, County Health Officer – no ordinances restricting installation of potable wells (no potable wells in Jersey City area).	None

Table 1
Water Supply Wells
Well Search Summary

The results of the well search found five (5) water supply wells within a 1-mile radius of the site. Three (3) of these wells are listed as industrial water supply wells and the other two as domestic and non-public. Although their current operational status is unknown, all five wells are completed in the bedrock rather than the Shallow zone. None of the wells are located within the proposed CEA boundary, and potable water is provided to all locations within a 1-mile radius of the site.

Permit No.	Owner Name	Well Depth	Capacity	Well Use	Permit Date
		feet	gpm		MM-YY-DD
2600004975	CELANESE CHEMICAL CO	200	20	Domestic	FEB-81-25
2600001731	SPEEDWAY AUTO LAUNDR	150	40	Industrial	OCT-57-11
2600040387	FOWLER EQUIPT. CO. I	300	40	Industrial	APR-95-18
2600043694	PARK, HEE	150	35	Industrial	FEB-96-26
2600002429	GAS INC	150	10	Non Public	JUN-61-20

NAME AND ADDRESS COPY LIST

NAME AND ADDRESS COPY LIST

Barbara A. Netchert
Hudson County Clerk's Office
Brennan Court House
583 Newark Ave.
Jersey City, NJ 07306
Tel (201) 795-6112

Robert Byrne, RMC
Jersey City Clerk's Office
280 Grove Street
Jersey City, NJ 07302
Tel (201) 547-5150

Carol Ann Wilson
Hudson County Department of Health & Human Services
Meadowview Campus
595 County Road
Secaucus, NJ 07094
Tel (201) 271-4310

Harry Melendez
Jersey City Department of Health & Human Services
201 Cornelison Avenue
Jersey City, NJ 07304
Tel 201-547-6800

County Environmental Health Act
Hudson County Regional Health Commission
Meadowview Campus, Building 1
595 County Avenue
Secaucus, NJ 07094
(201) 223-1133 - Environmental Coordinator

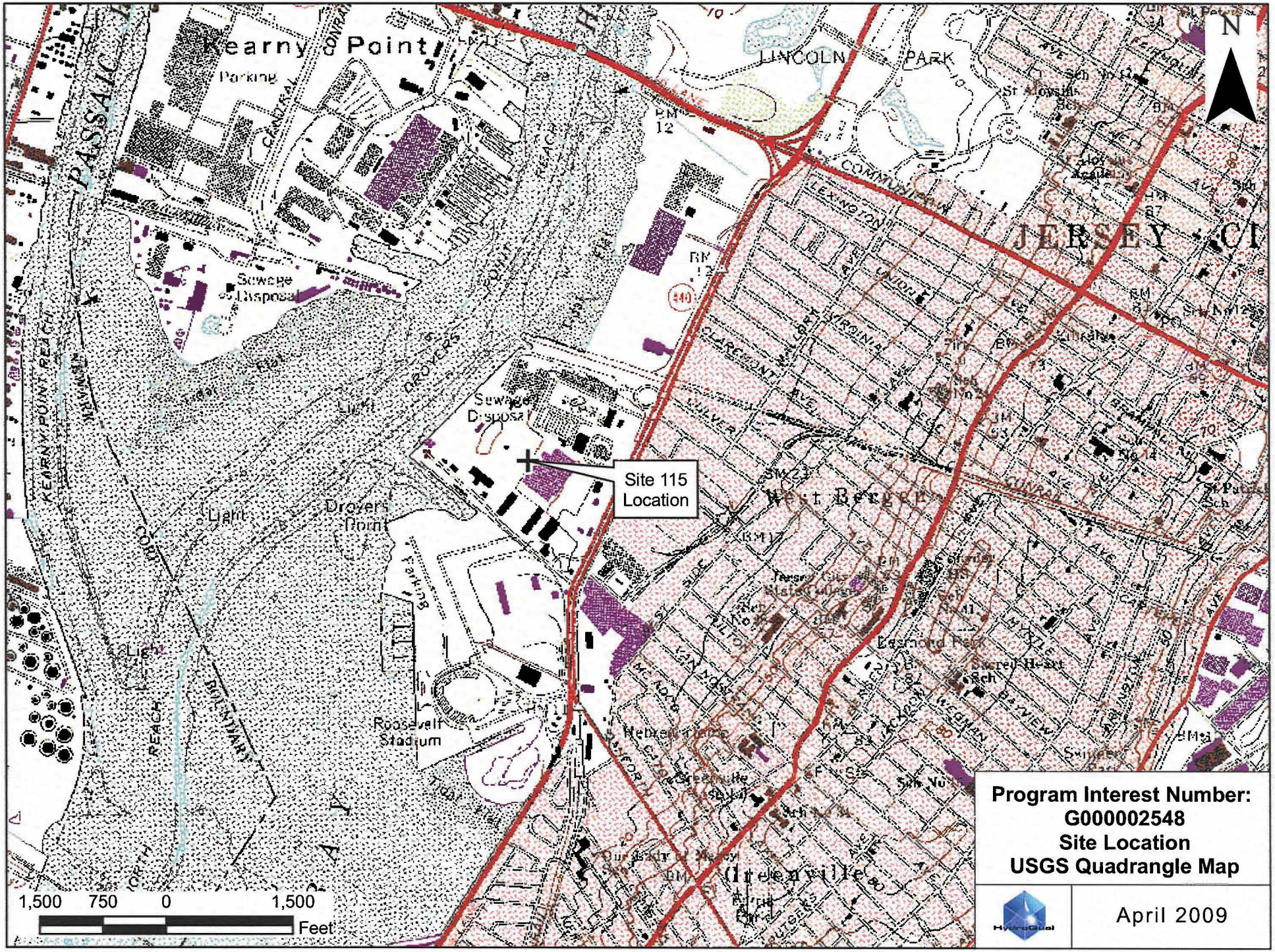
Stephen D. Marks PP, AICP
Hudson County Division of Planning
Brennan Court House
583 Newark Avenue
Jersey City, NJ 07306
Tel (201) 217-5137

Bureau Chief
Department of Environmental Protection
Bureau of Safe Drinking Water
401 E. State Street
P.O. Box 426
Trenton, NJ 08625-0426
(609) 292-5550

Diane Zalaskus
Department of Environmental Protection
Bureau of Water Allocation
401 E. State Street
P.O. Box 426
Trenton, NJ 08625-0426
(609) 292-2957

EXHIBIT A:

USGS QUADRANGLE MAP



Program Interest Number: G000002548
Site Location
USGS Quadrangle Map

April 2009

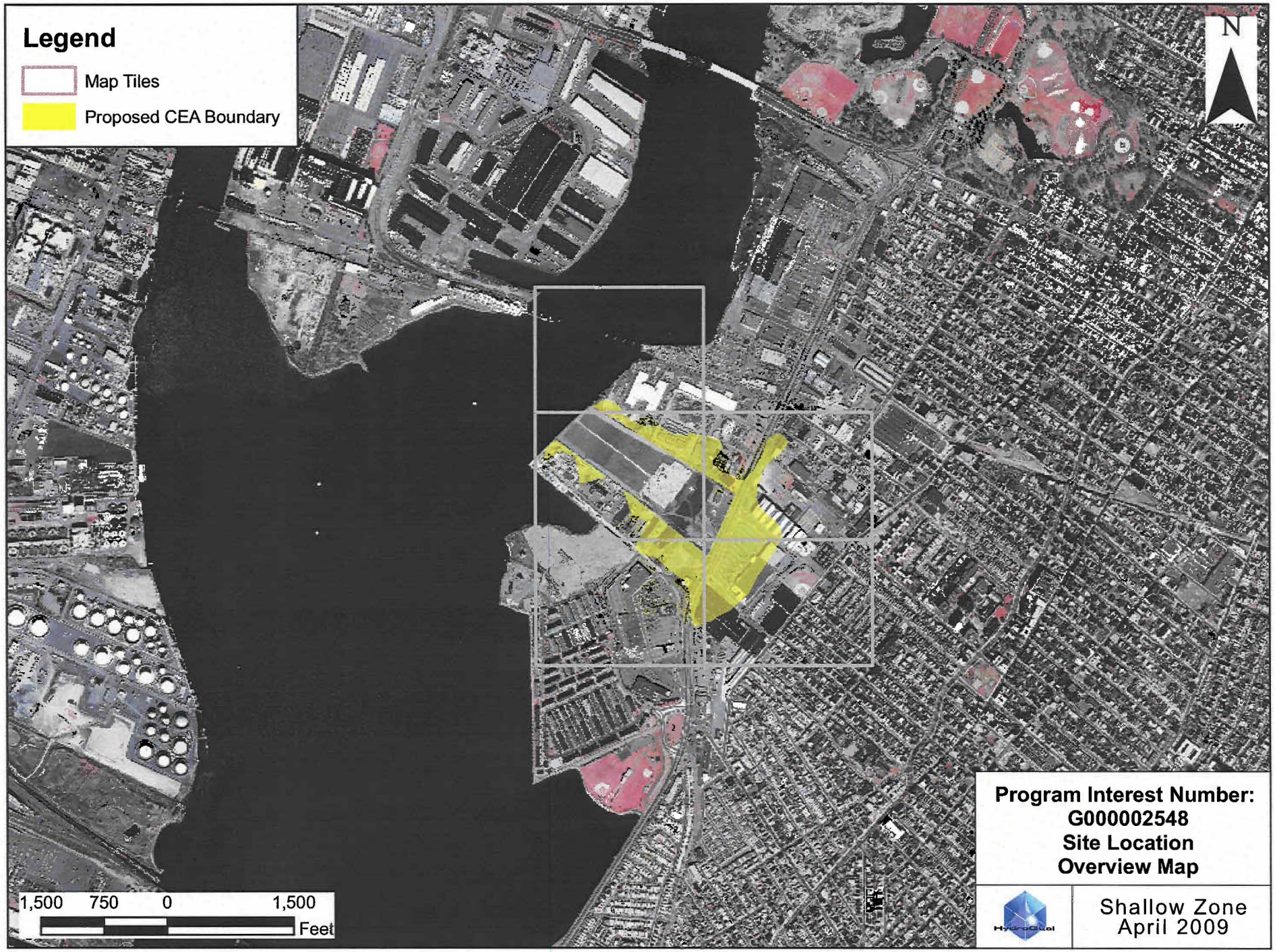
Data Source: USGS Digital Raster Graphic, Jersey City

EXHIBIT B:

AERIAL EXTENT OF PROPOSED CEA AND SITE LOCATION MAPS

CEA BOUNDARY

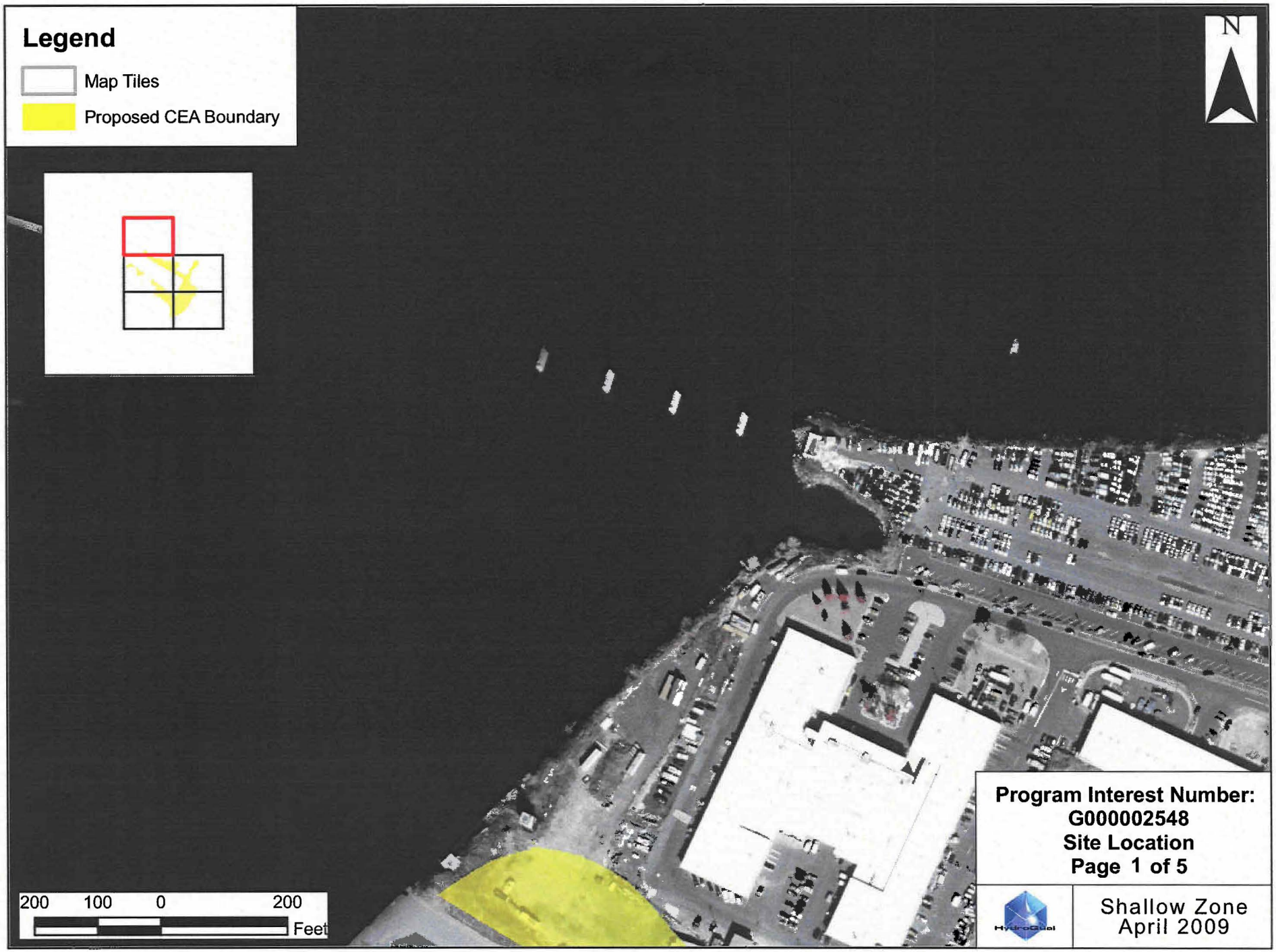
EXTENT OF TOTAL CHROMIUM ABOVE THE NJDEP GROUNDWATER QUALITY STANDARDS (70 ppb)



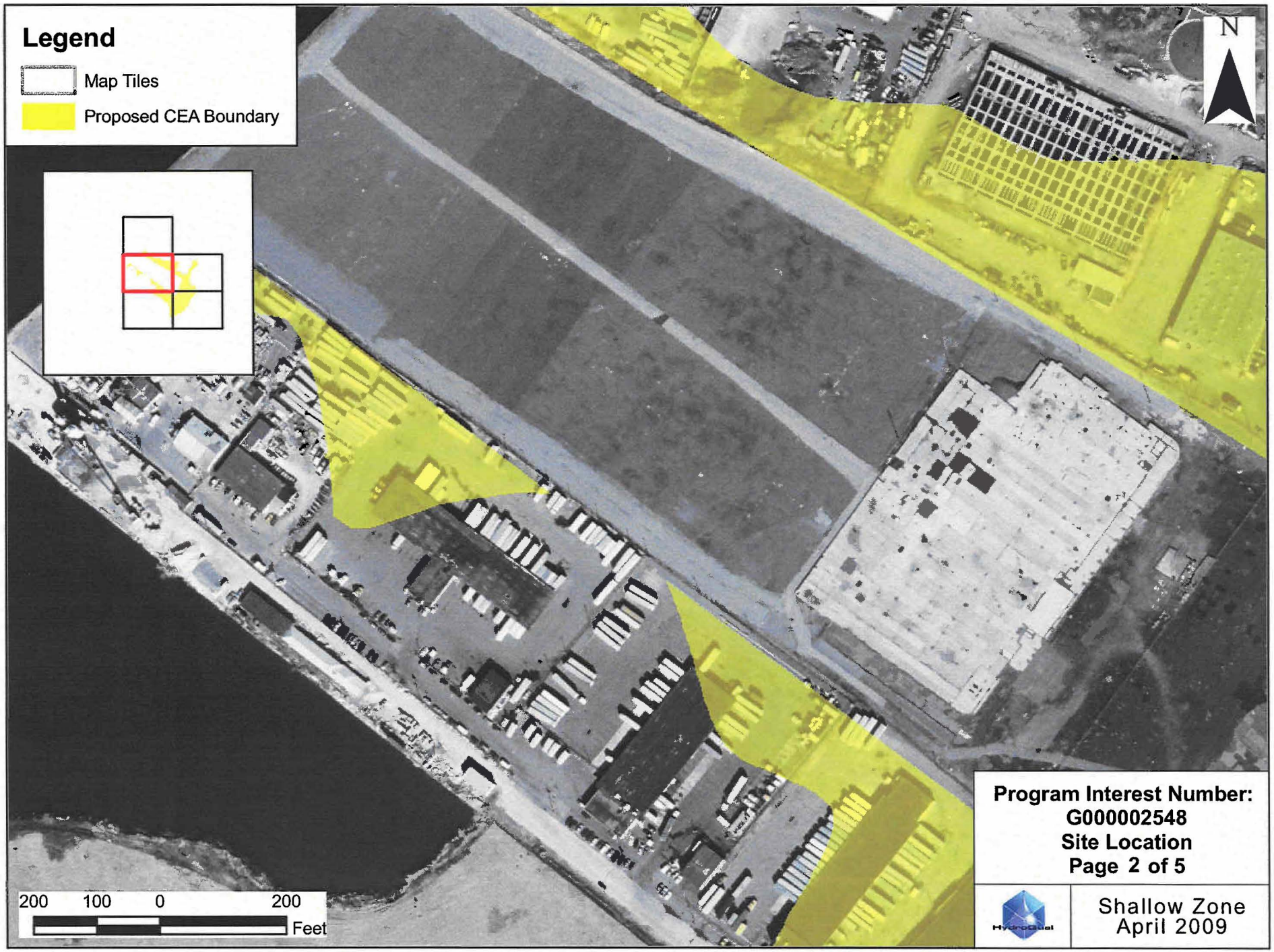
Program Interest Number: G000002548
Site Location Overview Map

Shallow Zone
April 2009

Aerial Source: State of New Jersey Office of Information Technology, Office of Geographic Information Systems, 2002



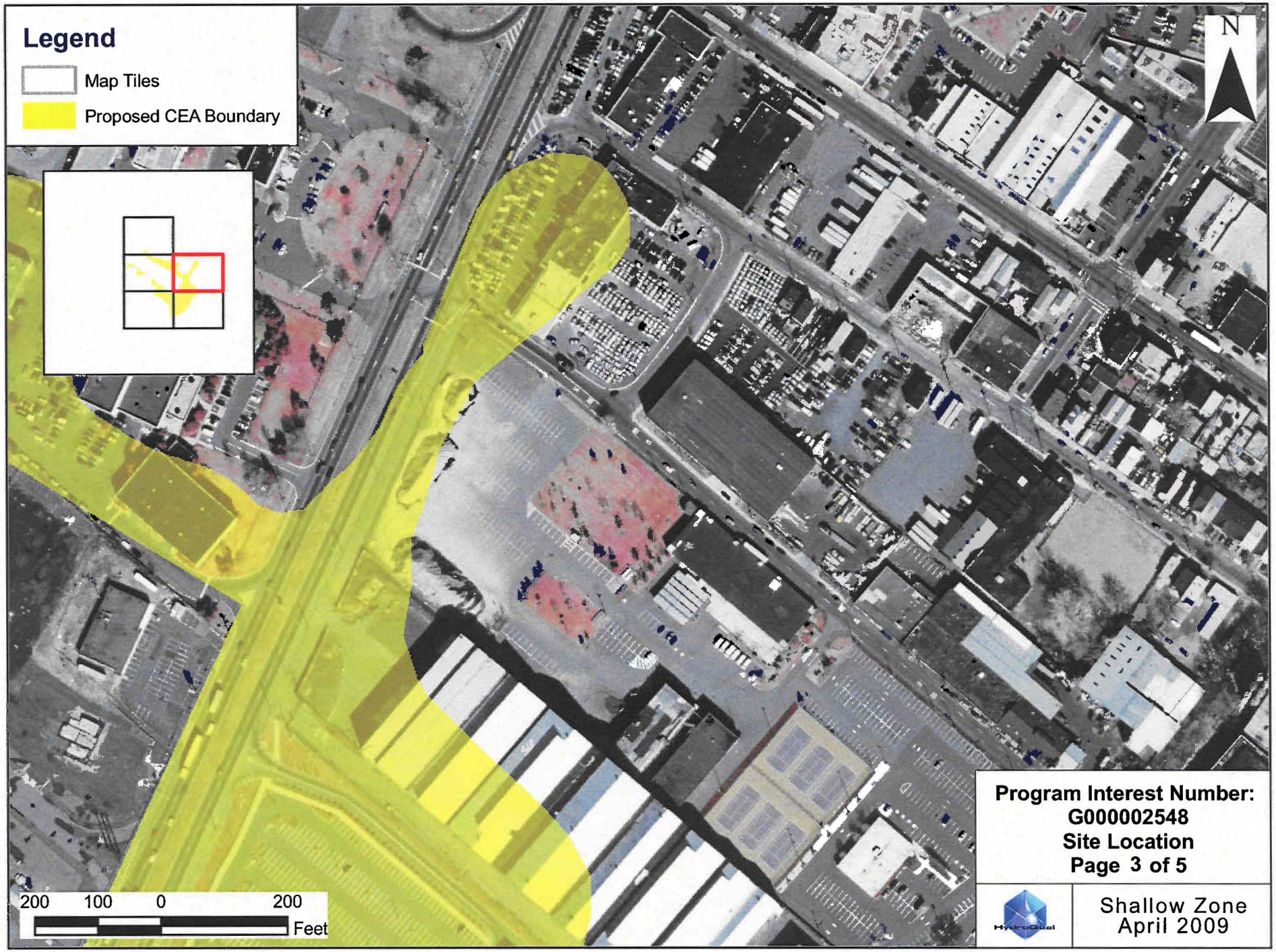
Aerial Source: State of New Jersey Office of Information Technology, Office of Geographic Information Systems, 2002



Program Interest Number:
G000002548
Site Location
Page 2 of 5

Shallow Zone
April 2009

Aerial Source: State of New Jersey Office of Information Technology, Office of Geographic Information Systems, 2002

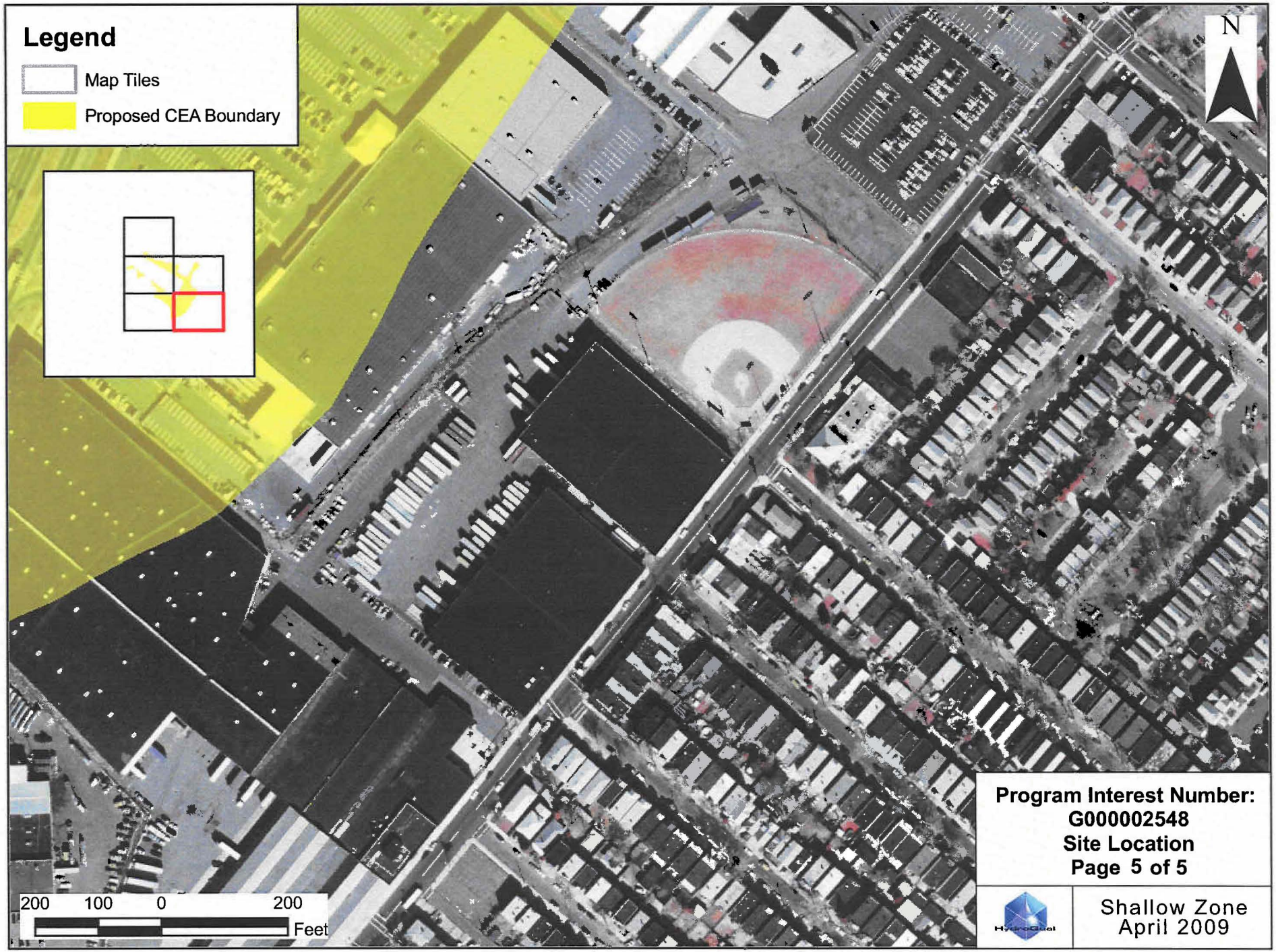


Aerial Source: State of New Jersey Office of Information Technology, Office of Geographic Information Systems, 2002

Program Interest Number: G000002548
Site Location
Page 4 of 5

Shallow Zone
April 2009

Aerial Source: State of New Jersey Office of Information Technology, Office of Geographic Information Systems, 2002



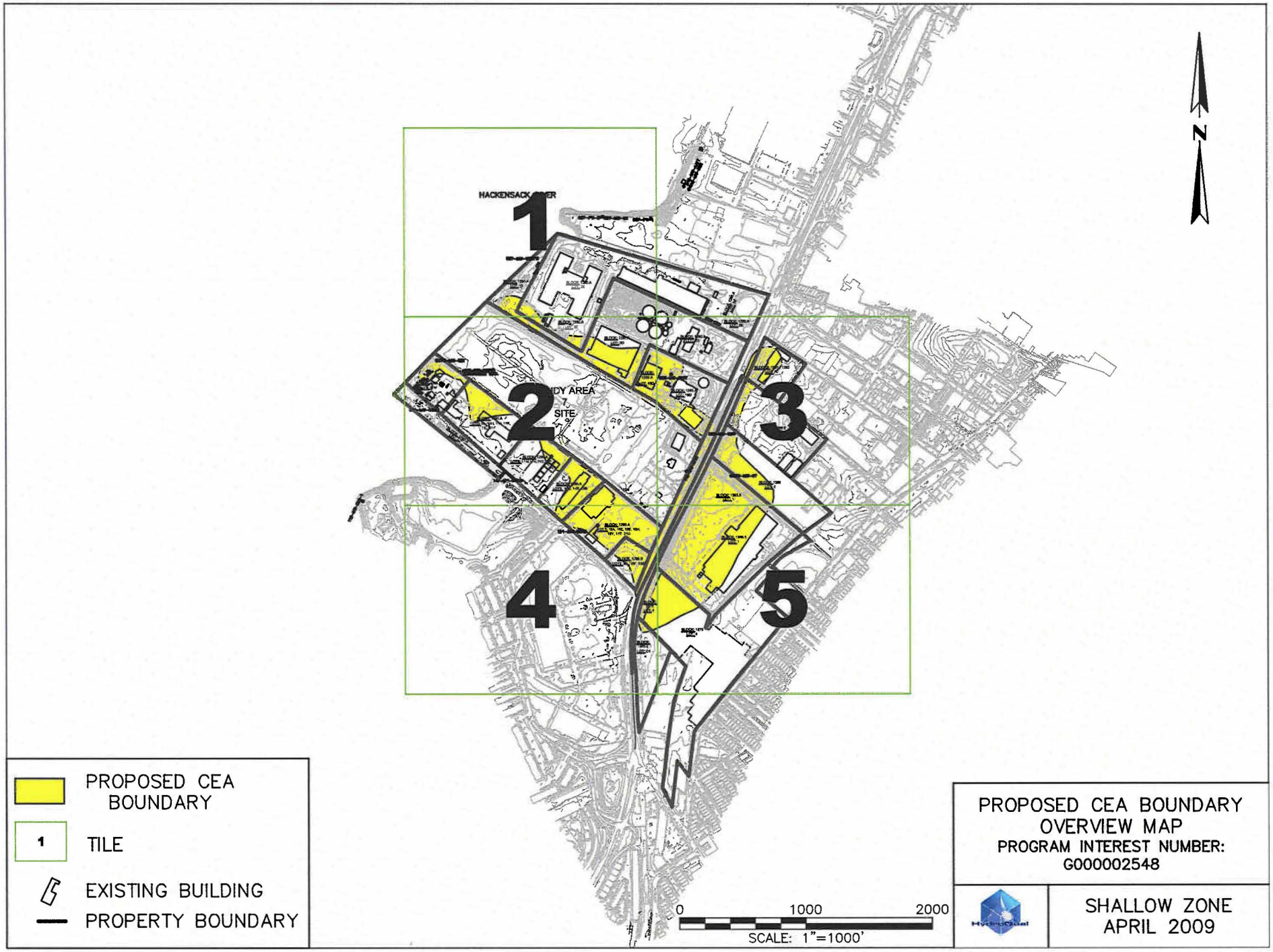
Program Interest Number: G000002548
Site Location
Page 5 of 5

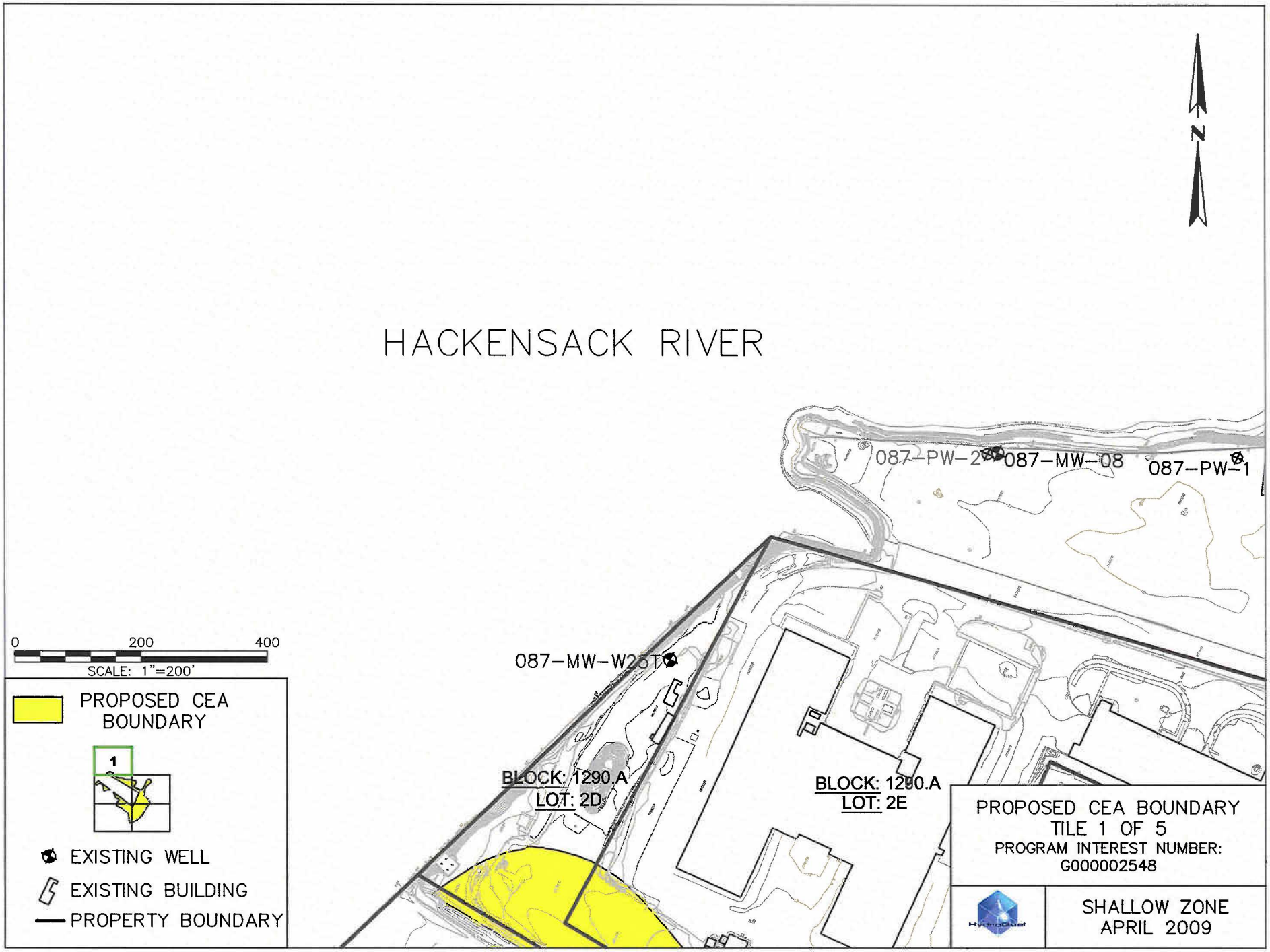
Shallow Zone
April 2009

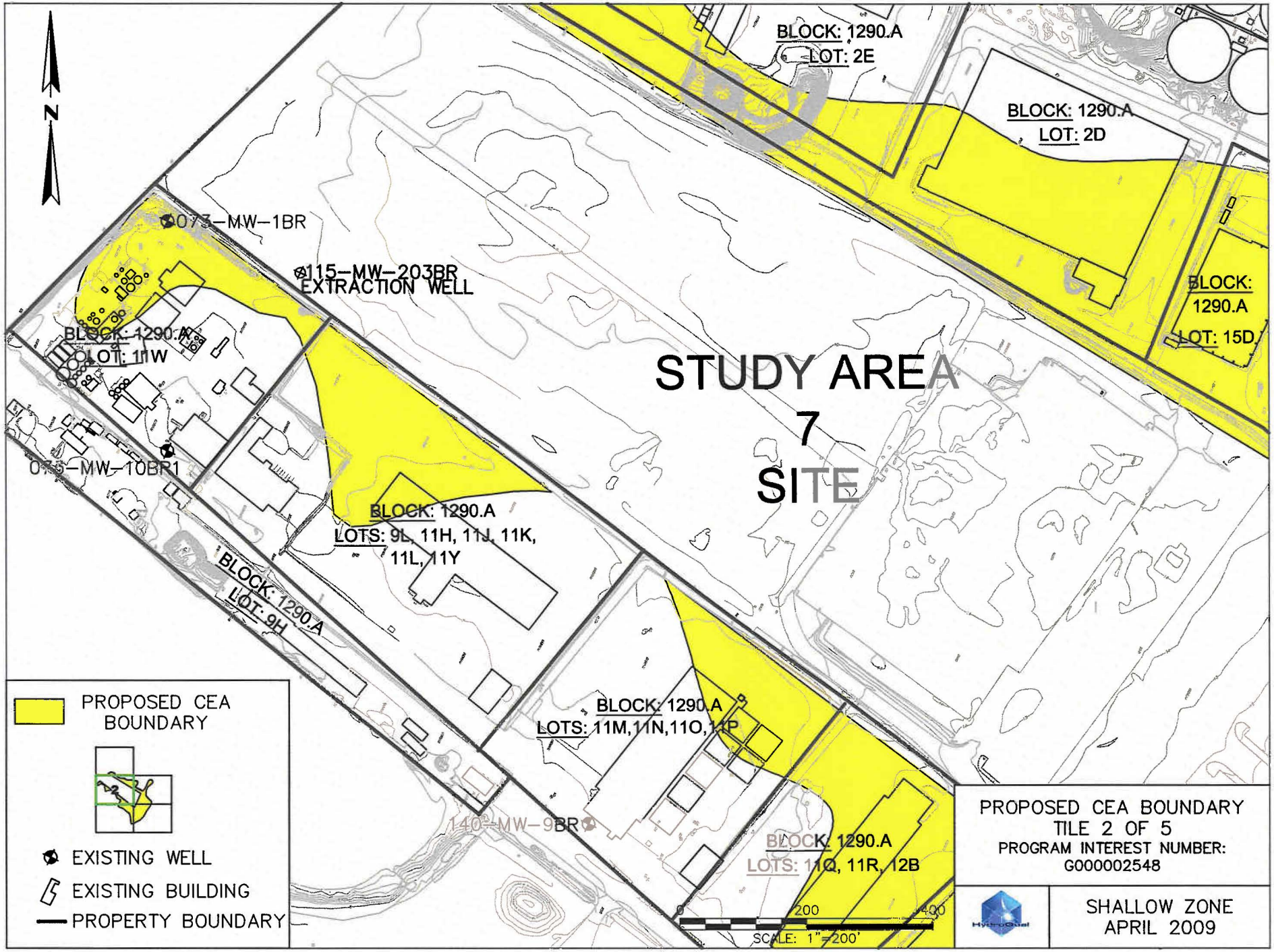
Aerial Source: State of New Jersey Office of Information Technology, Office of Geographic Information Systems, 2002

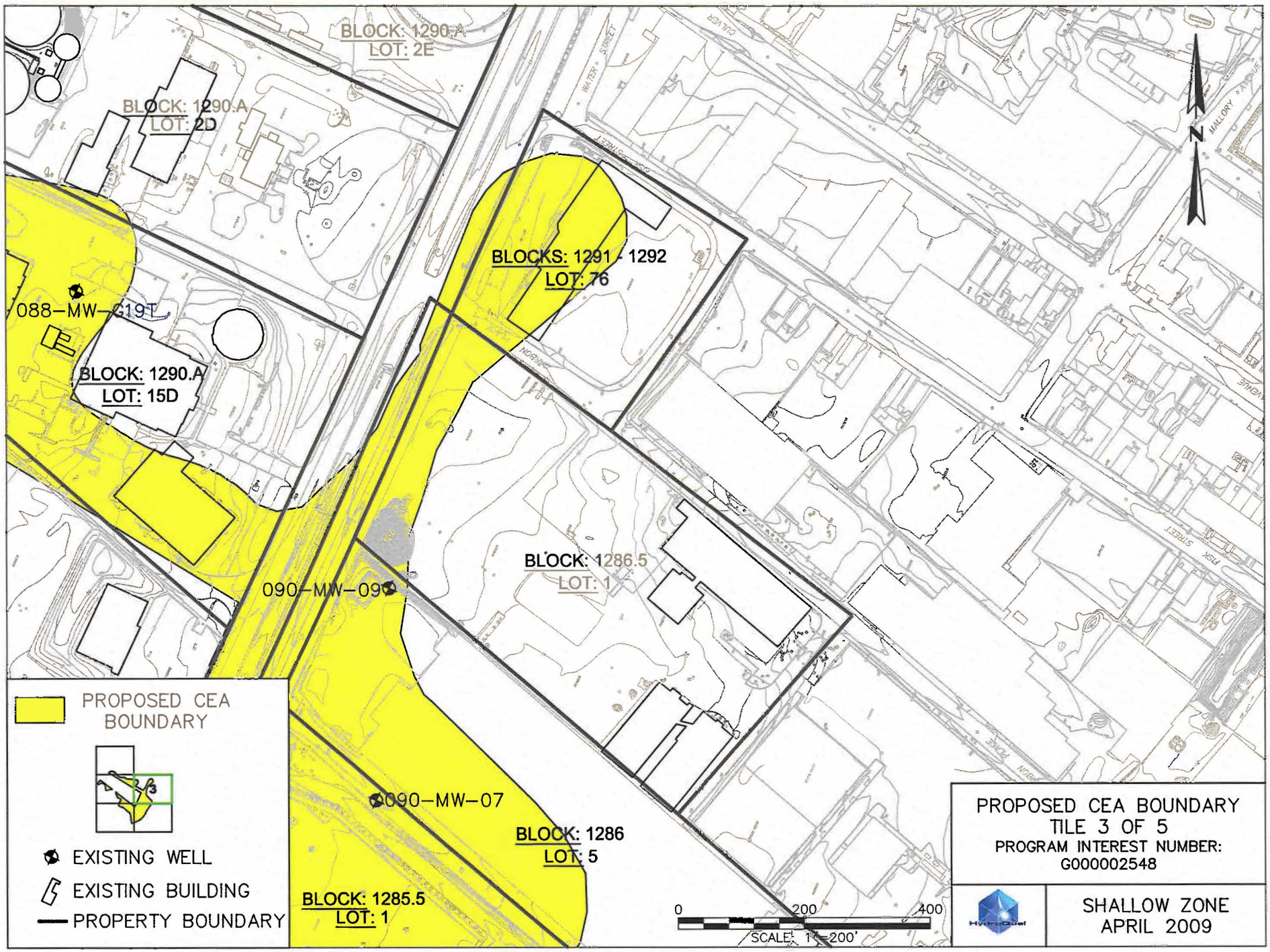
CEA BOUNDARY

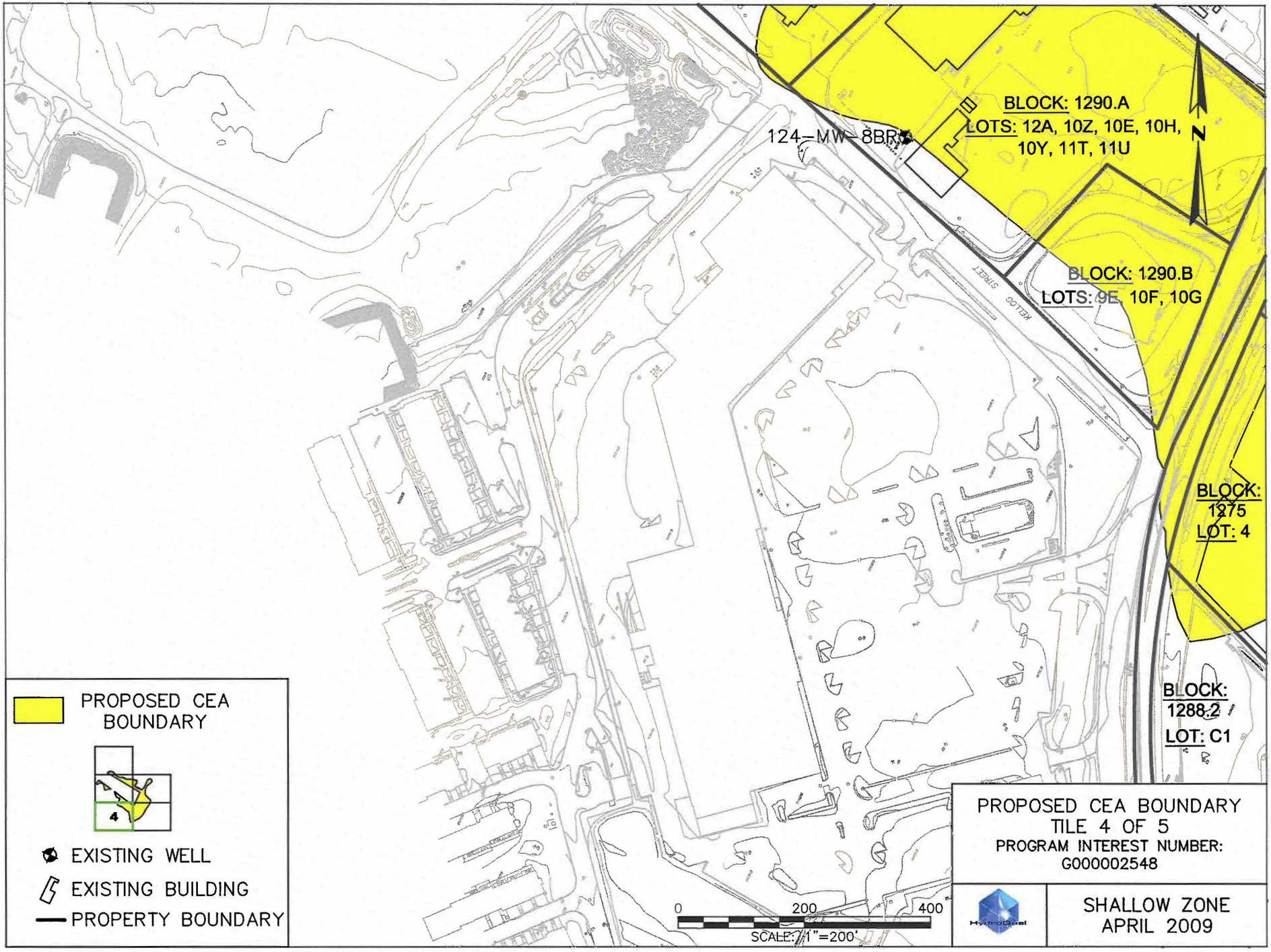
EXISTING CONDITIONS AND BLOCK & LOT INFORMATION MAPS


HACKENSACK RIVER
1
2
3
4
5
SITE
N
PROPOSED CEA BOUNDARY
1
TILE
EXISTING BUILDING
PROPERTY BOUNDARY
0
1000
2000
SCALE: 1"=1000'
PROPOSED CEA BOUNDARY OVERVIEW MAP
PROGRAM INTEREST NUMBER: G000002548
SHALLOW ZONE
APRIL 2009


N
HACKENSACK RIVER
087-PW-2
087-MW-08
087-PW-1
087-MW-W25T
BLOCK: 1290.A
LOT: 2D
BLOCK: 1290.A
LOT: 2E
0
200
400
SCALE: 1"=200'
PROPOSED CEA BOUNDARY
1
EXISTING WELL
EXISTING BUILDING
PROPERTY BOUNDARY
PROPOSED CEA BOUNDARY
TILE 1 OF 5
PROGRAM INTEREST NUMBER:
G000002548
SHALLOW ZONE
APRIL 2009

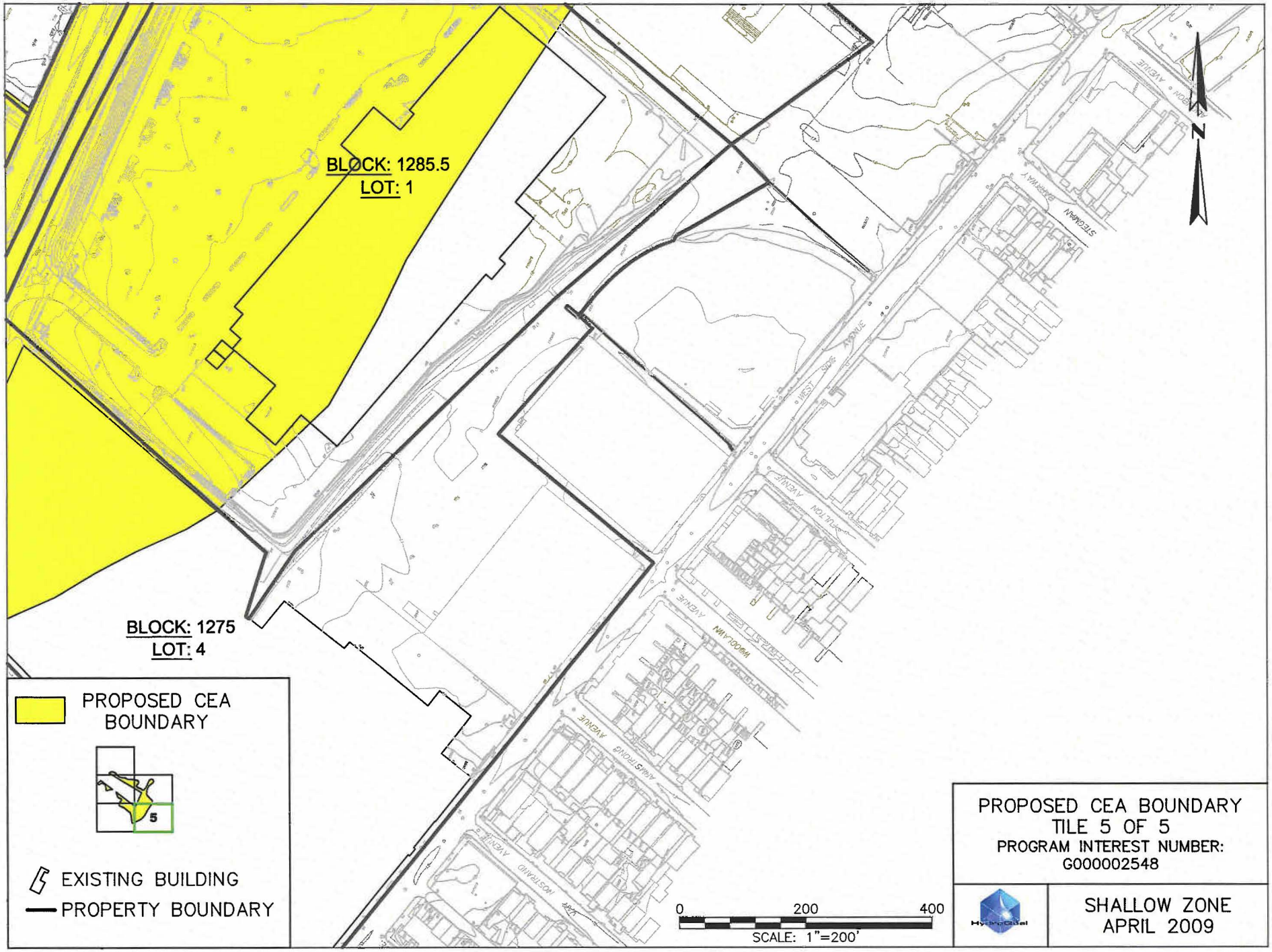

N
BLOCK: 1290.A
LOT: 2E
BLOCK: 1290.A
LOT: 2D
BLOCK: 1290.A
LOT: 15D
073-MW-1BR
115-MW-203BR
EXTRACTION WELL
BLOCK: 1290.A
LOT: 11W
075-MW-10BR1
STUDY AREA
7
SITE
BLOCK: 1290.A
LOTS: 9L, 11H, 11J, 11K,
11L, 11Y
BLOCK: 1290.A
LOT: 9H
BLOCK: 1290.A
LOTS: 11M,11N,11O,11P
140-MW-9BR
BLOCK: 1290.A
LOTS: 11Q, 11R, 12B
200
400
SCALE: 1"=200'
PROPOSED CEA
BOUNDARY
EXISTING WELL
EXISTING BUILDING
PROPERTY BOUNDARY
PROPOSED CEA BOUNDARY
TILE 2 OF 5
PROGRAM INTEREST NUMBER:
G000002548
SHALLOW ZONE
APRIL 2009


BLOCK: 1290.A
LOT: 2E
BLOCK: 1290.A
LOT: 2D
088-MW-019T
BLOCK: 1290.A
LOT: 15D
BLOCKS: 1291 - 1292
LOT: 76
BLOCK: 1286.5
LOT: 1
090-MW-09
090-MW-07
BLOCK: 1286
LOT: 5
BLOCK: 1285.5
LOT: 1
WATER STREET
MALLORY AVENUE
PARK STREET
N
PROPOSED CEA BOUNDARY
EXISTING WELL
EXISTING BUILDING
PROPERTY BOUNDARY
0
200
400
SCALE: 1"=200'
PROPOSED CEA BOUNDARY
TILE 3 OF 5
PROGRAM INTEREST NUMBER:
G000002548
SHALLOW ZONE
APRIL 2009



PROPOSED CEA BOUNDARY
TILE 4 OF 5
PROGRAM INTEREST NUMBER:
G000002548

SHALLOW ZONE
APRIL 2009


BLOCK: 1285.5
LOT: 1
BLOCK: 1275
LOT: 4
PROPOSED CEA BOUNDARY
5
EXISTING BUILDING
PROPERTY BOUNDARY
0
200
400
SCALE: 1"=200'
N
PROPOSED CEA BOUNDARY
TILE 5 OF 5
PROGRAM INTEREST NUMBER:
G000002548
SHALLOW ZONE
APRIL 2009

STREET MAP

© 2008 MapQuest, Inc.
Map Data © 2008NAVTEQ or TeleAtlas

HydroQual

HYDROQUAL, INC.
1200 MACARTHUR BOULEVARD
MAHWAH, NEW JERSEY 07430
(201) 529-5151 F: 529-5728

STREET MAP
VICINITY OF SITE 115 CEA

Program Interest Number: G000002548

HONEYWELL STUDY AREA 7
JERSEY CITY, NJ

DIGITAL MAP SUBMISSIONS
SITE INFO FILE
AND METADATA FILE

Site Info File:
Site Name – Roosevelt Drive In (Site 115)
CSL ID# - G000002548
Lead Program ID# -
Lead Program – BCM
Street Address – 425, 445 & 465 Route 440
Municipality – Jersey City
County – Hudson
Start Date – 6/1/09
Duration – Indeterminate
Contaminants –Chromium (Total), Chromium (Hexavalent)
CEA Depth – 20 feet

Metadata Information for Groundwater CEA (Shallow Fill)
Program Interest Number: G000002548
Jersey City, New Jersey

1. IDENTIFICATION INFORMATION

1.1. DESCRIPTION

The maps represent the area on and adjacent to the Roosevelt Drive In (Site 115) in Jersey City, New Jersey for which a groundwater Classification Exception Area (CEA) has been proposed for the shallow fill aquifer. The site location and CEA boundary for shallow groundwater is illustrated on the identified maps.

CSL#: G000008742 (from KCSNJ)
Site Name (from KCSNJ): Roosevelt Drive In (Site 115); 425, 445 & 465 Route 440, Jersey City, New Jersey.

1.1.1. ABSTRACT

The "CEA_shallow.xxx" are a set of four (4) ESRI Shapefiles that illustrate the boundaries of the Classification Exception Area (CEA) at Site 115 in Jersey City, New Jersey. The files contain the polygon shapefile and associated files showing the extent of the CEA boundary for groundwater in the shallow water-bearing zone (fill material) that contains total chromium in excess of the NJDEP Class II-A Ground Water Quality Standards (GWQS).

1.1.2. PURPOSE/BRIEF DESCRIPTION

The four (4) ESRI Shapefiles, "CEA_shallow.xxx", illustrate the boundaries of the Classification Exception Area (CEA) for the shallow fill at Site 115 in Jersey City, New Jersey.

1.1.3. SUPPLEMENTAL INFORMATION

The following files are provided on the diskette:

CEA_shallow.shp – ArcView shapefile
CEA_shallow.dbf – ArcView attribute table
CEA_shallow.prj – ArcView projection file
CEA_shallow.shx – ArcView index file

cea_metafile_shallow_final.doc – metadata information for GIS maps.

cea_site_info_file_shallow.doc – support information for CEA

1.1.4. CURRENTNESS REFERENCE

The maps are representative of current conditions as of June 2008.

---

2. DATA QUALITY INFORMATION

2.1. ATTRIBUTE ACCURACY

The shapefile CEA_shallow.shp was digitized using the 2002 orthophotography available from the State of New Jersey Office of Information Technology. The orthophotos and resulting CEA boundary are georeferenced to NJ State Plane, NAD 1983, Feet.

2.2. QUANTITATIVE ATTRIBUTE ACCURACY ASSESSMENT

The CEA boundary has been plotted on the georeferenced USGS topographic map to assess the positional accuracy of the files.

2.3. COMPLETENESS REPORT

There were no known omissions in the construction of the data sets.

2.4. LINEAGE

ESRI ArcGIS was used to view the orthophotos and digitize the CEA boundary based on measured values at sampling wells.

2.5. SOURCE SCALE DENOMINATOR

2400

2.6. TYPE OF SOURCE MEDIA

Online

SOURCE CURRENTNESS REFERENCE

2002

2.7. PROCESS DATE

April 2009

---

3. SPATIAL DATA ORGANIZATION INFORMATION

3.1. DIRECT SPATIAL REFERENCE METHOD

Vector data, with polygons.

---

4. SPATIAL REFERENCE INFORMATION

4.1. GRID COORDINATE SYSTEM

NJ State Plane

4.2. HORIZONTAL DATUM NAME

NAD 83

---

5. ATTRIBUTE INFORMATION

5.1. ATTRIBUTE LABEL: CEA_shallow.shp

---

6. METADATA REFERENCE INFORMATION

6.1. METADATA DATE: 4/20/09

6.2. METADATA CONTACT: William G. Soukup P.G.

---

7. CITATION INFORMATION

7.1. ORIGINATOR

HydroQual Inc. – William G. Soukup P.G.

7.2. TITLE

CEA Boundary for Shallow Fill, Site 115, Jersey City, New Jersey

7.3. AUTHOR'S NOTES

8. CONTACT INFORMATION

8.1. CONTACT PERSON (PRIMARY)

John J. Morris, P.E.

8.2. CONTACT ORGANIZATION

Honeywell International Inc.

8.3. CONTACT ADDRESS

101 Columbia Road
Morristown, NJ 07962

8.4. CONTACT VOICE TELEPHONE

(973) 455-4003
john.morris@honeywell.com

8.5. CONTACT PERSON (SECONDARY)

Brian George
HydroQual, Inc.
1200 MacArthur Boulevard
Mahwah, NJ 07430
(201) 529-5151 x 7203

APPENDIX G

PREVIOUS PIEZOMETER SAMPLING RESULTS

Honeywell

115 Tabor Road
Morris Plains, NJ 07950

November 7, 2016 ***via Electronic Mail***

The Honorable Robert G. Torricelli
Office of the Special Master
RGTSpecialMaster@aol.com

Re: Initiation of Long Term Groundwater Monitoring
Study Area 6 (SA-6) South
Jersey City, New Jersey

Dear Senator Torricelli:

In accordance with the September 1, 2016 Revised Draft SA-6 Long Term Monitoring Plan (LTMP) and the Groundwater Level Monitoring Plan (GWLMP) which was Appendix J of the SA-6 North Chromium Remedy 100% Design Report, Honeywell is hereby providing notice to the Parties that we will initiate long-term groundwater monitoring activities at SA-6 South the week of November 14, 2016. While Honeywell acknowledges the LTMP has not been approved as final by the parties, Honeywell will act to meet the requirements of the current draft to move site activities forward. Since the Chromium Remedy at SA-6 South was substantially complete when the geomembrane liner was installed in October 2015, the 12-month "transition period" for groundwater specified in the LTMP and GWLMP ended in October 2016. We have authorized our environmental consultants, Amec Foster Wheeler and Cornerstone, to implement the following general activities at SA-6 South:

- Install data loggers in piezometers,
- Conduct manual water level gauging, and
- Implement quarterly groundwater sampling of the twelve specified monitoring wells in the Development AOC.

Similarly for SA-6 North, we are monitoring the groundwater level recovery following completion of excavation and geomembrane liner installation, and anticipate that the "transition period" will be complete in Spring 2017. At that time, we will initiate long-term monitoring at SA-6 North. The Spring 2017 monitoring will include the inspections associated with the cap vegetation.

In response to Plaintiffs' request to establish baseline groundwater quality conditions inside the Open Space Areas, Amec Foster Wheeler collected filtered and unfiltered groundwater samples from each piezometer on the interior of both Sites. The samples were analyzed for total and hexavalent chromium. A summary of this data is provided in the attached Table 1. The location of the piezometers is shown on the attached Figure 1.

Should the Parties wish to discuss this further, we will be prepared to discuss at the next All Parties meeting on November 15th. Should you have any questions in the meantime, please contact the undersigned at (973) 455-2175.

Sincerely,

William J. Hague
Global Director, Remediation
Design and Construction

WJH:dn/sgf

Encl: Table 1: Summary of SA-6 North and South Interior Piezometer Groundwater Sample Data
Figure 1: SA-6 North and South Contingent Groundwater Extraction Trenches and Sampled Monitoring Well Locations

cc: (electronic copy only)
Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall
Jason Watson – City Hall
Agnieszka Antonian - Connell Foley LLP
Kevin Coakley, Esq. - Connell Foley LLP
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP
Dr. Benjamin Ross - Disposal Safety, Inc.
Tom Byrne - Honeywell
Maria Kaouris - Honeywell
John Morris - Honeywell
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP
Steve Egnaczyk - The Louis Berger Group, Inc.
Thomas Lewis - The Louis Berger Group, Inc.
Mary Hogan - Walsh Pizzi O'Reilly Falanga LLP
Hector Ruiz - Walsh Pizzi O'Reilly Falanga LLP
Liza Walsh - Walsh Pizzi O'Reilly Falanga LLP

TABLE 1

SUMMARY OF SA-6 NORTH & SOUTH INTERIOR PIEZOMETER GROUNDWATER SAMPLE ANALYTICAL RESULTS
Study Area 6 North & South
Honeywell International Inc.
Honeywell International Inc.

Client Sample ID:	Ground Water Quality Standard (GWQS)	Units	Piezometer 087-PZ-02		Piezometer 087-PZ-04		Piezometer 087-PZ-06		Piezometer 087-PZ-08		Piezometer 087-PZ-10	
	Sample Type:		Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered
	Date Sampled:		09/06/2016	09/06/2016	09/06/2016	09/06/2016	10/14/2016	10/14/2016	09/02/2016	09/02/2016	09/02/2016	09/02/2016
Metals Analysis												
CHROMIUM	70	ug/L	**62.2**	<10	**10.2**	<10	**28.4**	<4	**<10**	<10	**29**	12.6
General Chemistry												
HEXAVALENT CHROMIUM	-	ug/L	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5

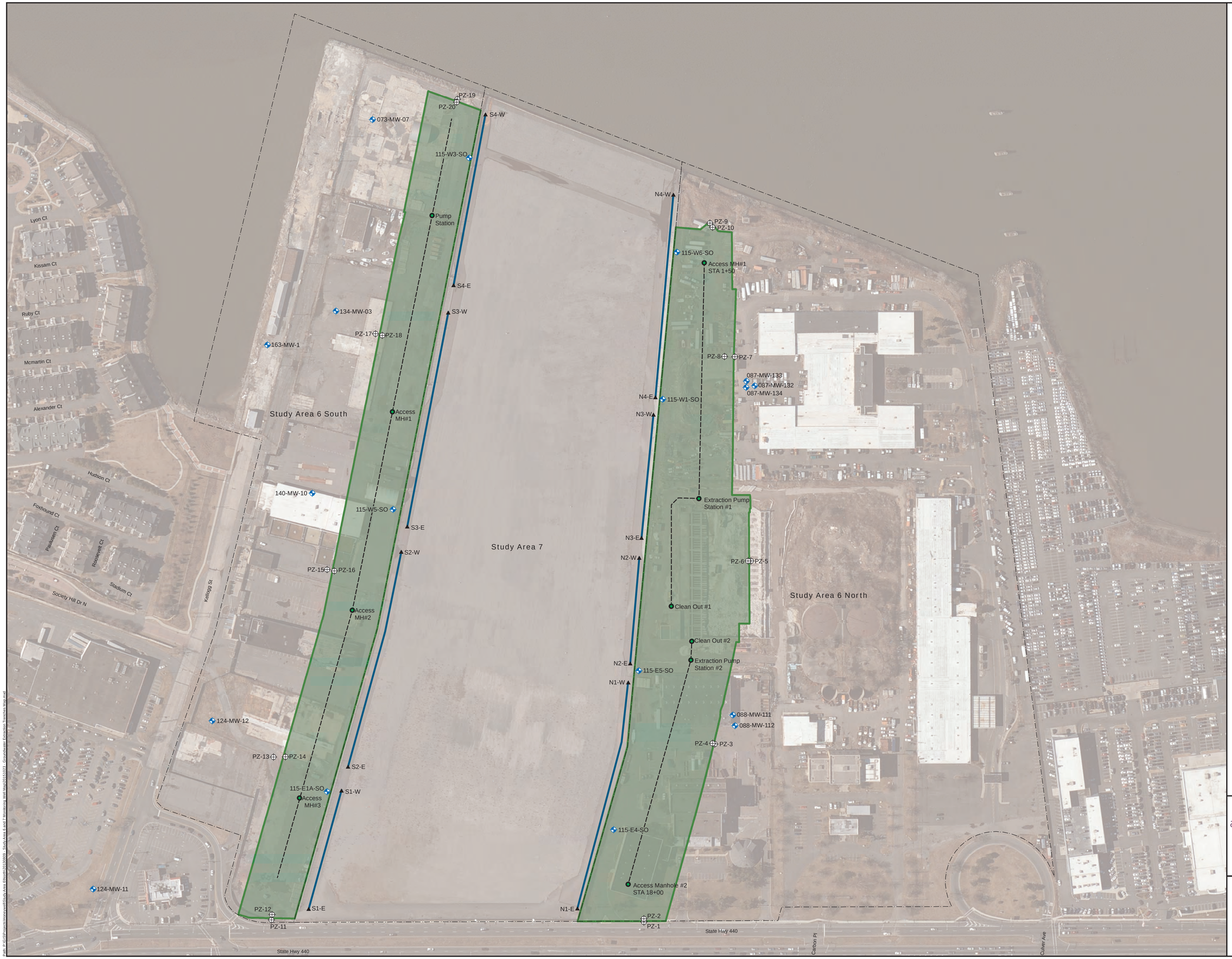
Notes:
GWQS: NJDEP Ground Water Quality Standards (GWQS)
N.J.A.C 7:9C; last amended 7/20/2010
DUP: Duplicate Sample
J: Estimated concentration

TABLE 1

SUMMARY OF SA-6 NORTH & SOUTH INTERIOR PIEZOMETER GROUNDWATER SAMPLE ANALYTICAL RESULTS
Study Area 6 North & South
Honeywell International Inc.
Honeywell International Inc.

Client Sample ID:	Ground Water Quality Standard (GWQS)	Units	Piezometer 124-PZ-12		Piezometer 124-PZ-14		Piezometer 124-PZ-16		Piezometer 124-PZ-18		Piezometer 124-PZ-20	
	Sample Type:		Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered
	Date Sampled:		09/06/2016	09/06/2016	09/02/2016	09/02/2016	09/01/2016	09/01/2016	09/01/2016	09/01/2016	09/01/2016	09/01/2016
Metals Analysis												
CHROMIUM	70	ug/L	**24,200**	**23,300**	**37.3**	<10	**1,720**	**1,690**	**83.7**	<4	<4	<4
General Chemistry												
HEXAVALENT CHROMIUM	-	ug/L	**24,500**	**24,500**	<5.5	<5.5	**1,700 J**	**1,900**	<5.5 J	<5.5	<5.5 J	<5.5

Notes:
GWQS: NJDEP Ground Water Quality Standards (GWQS)
N.J.A.C 7:9C; last amended 7/20/2010
DUP: Duplicate Sample
J: Estimated concentration



Legend

- Piezometer Location
- Existing Monitoring Well Location
- Groundwater Collection Manhole (approx.)
- Standpipe Location
- Perimeter Pool Location (approx.)
- Contingent Groundwater Trenches (approx.)
- Cap Area
- Study Area Boundary

Source:
New Jersey 2012 - 2013 High Resolution Orthophotography, NAD83 NJ State Plane Feet, MrSID Tile; NJ Office of Information Technology (NJOIT), Office of Geographic Information Systems (OGIS); Trenton, NJ; 2013/03.

120 60 0 120 240
SCALE IN FEET

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

Amec Project No.	3480130354
Prepared/Date	WSL 05/28/2014
Checked/Date	

Figure 1
SA-6 North & South Contingent Groundwater Extraction Trenches and Sampled Monitoring Well Locations
Study Area 6 & Study Area 7
Jersey City, New Jersey

Path: P:\GIS\Projects\Honeywell\Study Area 6\North\20130909_Study Area 6 and 7 Monitoring Well Map\20131023_Groundwater Extraction Trenches Map.mxd

APPENDIX H

BORING LOGS
AND WELL LOGS

CD ONLY

Honeywell Jersey City

LOCATION: SA-6 North
PROJECT NO:
BORING ID: 088-SB-190
DATE BEGAN: 2-10-16
DATE FINISHED: 2-10-16
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 13' bgs
GW DEPTH: Not available
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	9.0	S-1	NA	3.0		9.0 - 9.5' FILL: Reddish brown fine to coarse GRAVEL; loose, wet	NM	Starting elevation 12.0'. Target depth is elevation 1.9'. Will get 4' sleeve from 3' to -1' elevation. Push to 9' bgs. Sleeve from 9-13' bgs.
						9.5 - 12.0' FILL: Black fine to coarse SAND, some fine gravel, trace glass and rubber; loose, wet		
	10.0							Sample 088-SB-190-0201 (1.9-1.4) (Elevation) @ 9:15
	11.0							
	12.0					12.0 - 13.0' No recovery. End of boring at 13.0' bgs.		
	13.0							

PREPARED BY: CR
CHECKED BY: KK

Honeywell Jersey City

LOCATION: Site 087
PROJECT NO:
BORING ID: 087-SB-659
DATE BEGAN: 6-27-16
DATE FINISHED: 6-27-16
INSPECTOR: J. Desiderio
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 4' bgs
GW DEPTH: Not encountered
DRILLER: Gordon Blewett
NORTH: 685939.2
EAST: 603445.3

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 1.2' ASPHALT	NM	
	1.0					1.2 - 4.0' FILL: Dark brown/black SAND and GRAVEL, some plastic, glass, and wood. End of boring at 4.0' bgs.		
	2.0							
								Sample 087-SB-659-0203 (2.0-3.0') at 12:30
	3.0							
								Sample 087-SB-659-0304 (3.0-4.0') at 12:35
	4.0							

PREPARED BY: CR
CHECKED BY: EB

Honeywell Jersey City

LOCATION: Site 087
PROJECT NO:
BORING ID: 087-SB-660
DATE BEGAN: 6-27-16
DATE FINISHED: 6-27-16
INSPECTOR: J. Desiderio
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 4' bgs
GW DEPTH: Not encountered
DRILLER: Gordon Blewett
NORTH: 685945.5
EAST: 603447.3

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.5		0.0 - 1.2' No recovery	NM	
	1.0					1.2 - 4.0' FILL: Light brown SAND and GRAVEL, some glass; stiff, dry. End of boring at 4.0' bgs.		
	2.0							
								Sample 087-SB-660-0203 (2.0-3.0') at 12:15
	3.0							
								Sample 087-SB-660-0304 (3.0-4.0') at 12:20
	4.0							

PREPARED BY: CR
CHECKED BY: EB

Honeywell Jersey City

LOCATION: Site 087
PROJECT NO:
BORING ID: 087-SB-661
DATE BEGAN: 6-27-16
DATE FINISHED: 6-27-16
INSPECTOR: J. Desiderio
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 18' bgs
GW DEPTH: 10' bgs
DRILLER: Gordon Blewett
NORTH: 685945.7
EAST: 603439.7

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' No recovery	NM	
	1.0					0.5 - 1.2' ASPHALT		
	2.0					1.2 - 4.0' FILL: Dark brown SAND and GRAVEL, some glass and plastic; stiff, dry		
	3.0							
	4.0	S-2		3.0		4.0 - 5.0' No recovery		
	5.0					5.0 - 6.3' FILL: Brown SAND, some glass, plastic, and gravel; dry		
	6.0							
	7.0					6.3 - 8.0' FILL: Light brown SANDY SILT, some glass, plastic, and gravel; dry		
	8.0	S-3		2.0		8.0 - 10.0' No recovery		
	9.0							
	10.0					10.0 - 12.0' FILL: Black SILTY SAND; wet		
	11.0							
	12.0	S-4		3.0		12.0 - 13.0' No recovery		
	13.0					13.0 - 16.0' FILL: Dark brown/black SANDY SILT		
	14.0							
	15.0							
	16.0	S-5		2.0		16.0 - 17.5' OL: Black organic CLAY		Sample 087-SB-661-1617 (16.0-17.0') at 12:55
	17.0					17.5 - 18.0' PT: PEAT; End of boring at 18.0' bgs.		Sample 087-SB-661-1718A (17.0-17.5') at 13:00 Sample 087-SB-661-1718B (17.5-18.0') at 13:05
	18.0							

PREPARED BY: CR
CHECKED BY: EB

Honeywell Jersey City

LOCATION: Site 087
PROJECT NO:
BORING ID: 087-SB-662
DATE BEGAN: 6-27-16
DATE FINISHED: 6-27-16
INSPECTOR: J. Desiderio
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 18' bgs
GW DEPTH: 7' bgs
DRILLER: Gordon Blewett
NORTH: 685947.7
EAST: 603453.9

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.3		0.0 - 1.7' No recovery	NM	
	1.0							
						1.7 - 2.0' CONCRETE		
	2.0					2.0 - 3.0' FILL: Gray coarse SAND and GRAVEL, some glass; stiff, dry		
	3.0					3.0 - 4.0' FILL: Dark brown coarse SAND and GRAVEL, some glass; stiff, dry		
	4.0	S-2		2.5		4.0 - 5.5' No recovery		
	5.0					5.5 - 6.0' FILL: Dark brown coarse SAND and GRAVEL, some glass; stiff, dry		
	6.0					6.0 - 7.0' FILL: Light to dark brown medium to coarse SAND and GRAVEL; moist		
	7.0					7.0 - 8.0' FILL: Black medium to coarse SAND and GRAVEL; loose, wet		
	8.0	S-3		2.0		8.0 - 10.0' No recovery		
	9.0							
	10.0					10.0 - 11.0' FILL: Light gray medium to coarse SAND and GRAVEL; loose, wet		
	11.0					11.0 - 11.5' FILL: Black coarse gravel, some wood and glass		
	12.0	S-4		2.5		11.5 - 12.0' FILL: Black CLAY		
	13.0					12.0 - 13.5' No recovery		
	14.0					13.5 - 14.0' FILL: Black CLAY; loose, wet		
	15.0					14.0 - 15.0' FILL: Dark brown CLAY; wet		
						15.0 - 16.0' CL: Black SILTY CLAY; wet		
	16.0	S-5		2.0		16.0 - 17.5' OL: Black organic CLAY		Sample 087-SB-662-1617 (16.0-17.0') at 12:00
	17.0					17.5 - 18.0' PT: PEAT. End of boring at 18.0' bgs.		Sample 087-SB-662-1718A (17.0-17.5') at 12:05 Sample 087-SB-662-1718B (17.5-18.0') at 12:10
	18.0							

PREPARED BY: CR
CHECKED BY: EB

Honeywell Jersey City

LOCATION: Site 087
PROJECT NO:
BORING ID: 087-SB-657A
DATE BEGAN: 6-27-16
DATE FINISHED: 6-27-16
INSPECTOR: J. Desiderio
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 12' bgs
GW DEPTH: 9.4' bgs
DRILLER: Gordon Blewett
NORTH: 686421.9
EAST: 603064.7

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 2.0' ASPHALT	NM	Original boring 087-SB-657 decomissioned due to sample recovery issues. Stepouts 087-SB-657A and 087-SB-657B completed to produce required sample volume.
	1.0							
	2.0					2.0 - 3.0' FILL: Black SILT, some gravel and glass; dry		
	3.0					3.0 - 4.0' FILL: Dark gray SANDY SILT, some glass; dry		
	4.0	S-2		3.0		4.0 - 5.0' No recovery		
	5.0					5.0 - 8.0' FILL: Light brown SANDY SILT, some gravel; stiff, moist		
	6.0							
	7.0							
	8.0	S-3		2.6		8.0 - 9.4' No recovery		
	9.0							
						9.4 - 10.0' FILL: Brown SILTY CLAY; stiff, wet		
	10.0					10.0 - 11.0' FILL: Gray SILTY CLAY; stiff, wet		Sample 087-SB-657A-1011 (10.0-11.0') at 8:10
	11.0					11.0 - 12.0' FILL: Dark brown SAND; stiff, wet. End of boring at 12.0' bgs.		Sample 087-SB-657A-1112 (11.0-12.0') at 8:15
	12.0							

PREPARED BY: CR
CHECKED BY: EB

Honeywell Jersey City

LOCATION: Site 087
PROJECT NO:
BORING ID: 087-SB-657B
DATE BEGAN: 6-27-16
DATE FINISHED: 6-27-16
INSPECTOR: J. Desiderio
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 17.5' bgs
GW DEPTH: 9' bgs
DRILLER: Gordon Blewett
NORTH: 686421.3
EAST: 603064

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 2.0' ASPHALT	NM	Original boring 087-SB-657 decomissioned due to sample recovery issues. Stepouts 087-SB-657A and 087-SB-657B completed to produce required sample volume.
	1.0							
	2.0					2.0 - 3.0' FILL: Black SILT, some gravel and glass; dry		
	3.0					3.0 - 4.0' FILL: Dark gray SANDY SILT, some glass; dry		
	4.0	S-2		3.0		4.0 - 5.0' No recovery		
	5.0					5.0 - 8.0' FILL: Light brown SANDY SILT, some gravel; stiff, moist		
	6.0							
	7.0							
	8.0	S-3		1.0		8.0 - 9.0' No recovery		
	9.0					9.0 - 10.0' FILL: Black SILTY CLAY; stiff, wet		
	10.0					10.0 - 13.0' No recovery		
	11.0							
	12.0	S-4		3.0				
	13.0					13.0 - 15.0' FILL: Light brown fine SAND; loose, wet		
	14.0							
	15.0					15.0 - 15.5' ML: Black CLAYEY SILT		Sample 087-SB-657B-1516 (15.5-16.5') at 9:35
	16.0	S-5		1.5		15.5 - 16.5' CL: Black SILTY CLAY; moist		Sample 087-SB-657B-1617 (16.5-17.5') at 9:40
	17.0					16.5 - 17.5' CL: Gray SILTY CLAY; moist. Peat at 17.5'. End of boring at 17.5' bgs.		Peat at 17.5' bgs

PREPARED BY: CR
CHECKED BY: EB

Honeywell Jersey City

LOCATION: Site 087
PROJECT NO:
BORING ID: 087-SB-658
DATE BEGAN: 6-27-16
DATE FINISHED: 6-27-16
INSPECTOR: J. Desiderio
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 12' bgs
GW DEPTH: 10' bgs
DRILLER: Gordon Blewett
NORTH: 686426.5
EAST: 603068.5

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 1.0' No recovery	NM	
	1.0					1.0 - 2.0' CONCRETE		
	2.0					2.0 - 4.0' FILL: Black SILT, some gravel; stiff, dry		
	3.0							
	4.0	S-2		3.0		4.0 - 5.0' No recovery		
	5.0					5.0 - 8.0' FILL: Gray SANDY SILT, some gravel; stiff, moist		
	6.0							
	7.0							
	8.0	S-3		3.0		8.0 - 9.0' No recovery		
	9.0					9.0 - 10.0' FILL: Dark brown SAND; stiff, moist		
	10.0					10.0 - 11.0' FILL: Gray CLAYEY SILT; stiff, wet		Sample 087-SB-658-1011 (10.0-11.0') at 9:15
	11.0					11.0 - 12.0' FILL: Light brown CLAYEY SILT; stiff, wet. End of boring at 12.0' bgs.		Sample 087-SB-658-1112 (11.0-12.0') at 9:20
	12.0							

PREPARED BY: CR
CHECKED BY: EB

Honeywell Jersey City

LOCATION: Site 087
PROJECT NO:
BORING ID: 087-SB-663
DATE BEGAN: 6-27-16
DATE FINISHED: 6-27-16
INSPECTOR: J. Desiderio
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 17.5' bgs
GW DEPTH: 9' bgs
DRILLER: Gordon Blewett
NORTH: 686419.4
EAST: 603071.1

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 2.0' ASPHALT	NM	
	1.0							
	2.0					2.0 - 3.0' FILL: Black SILT, some gravel and glass; dry		
	3.0					3.0 - 4.0' FILL: Dark gray SANDY SILT, some glass; dry		
	4.0	S-2		3.0		4.0 - 5.0' No recovery		
	5.0					5.0 - 8.0' FILL: Light brown SANDY SILT, some gravel; stiff, moist		
	6.0							
	7.0							
	8.0	S-3		1.0		8.0 - 9.0' No recovery		
	9.0					9.0 - 10.0' FILL: Black SILTY CLAY; stiff, wet		
	10.0					10.0 - 13.0' No recovery		
	11.0							
	12.0	S-4		2.5				
	13.0					13.0 - 14.0' FILL: Light brown fine SAND; loose, wet		
	14.0					14.0 - 14.5' No recovery		
	15.0					14.5 - 16.5' OL: Black organic CLAY		
	16.0	S-5		1.5				Sample 087-SB-663-1516 (15.5-16.5') at 10:00
	17.0					16.5 - 17.5' CL: Dark gray SILTY CLAY. Peat at 17.5'. End of boring at 17.5' bgs.		Sample 087-SB-663-1617 (16.5-17.5') at 10:05 Peat at 17.5' bgs

PREPARED BY: CR
CHECKED BY: EB

Honeywell SA-6 North

LOCATION: Site 087 TA-10
PROJECT NO: 3480150488
BORING ID: 087-SB-647
DATE BEGAN: 3/15/16
DATE FINISHED: 3/15/16
INSPECTOR: M. Senna
DRILLING CO: B+B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 6.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 1.0' FILL: Dark gray ASPHALT, some fine to coarse sand and gravel; loose, dry	NM	
	1.0					1.0 - 3.0' FILL: Brown fine to coarse SAND, some fine gravel, coal ash; loose, moist		
	2.0							
	3.0					3.0 - 4.0' No recovery		
	4.0	S-2	NA	3.0		4.0 - 6.5' FILL: Brown fine to coarse SAND, some fine to coarse gravel, coal ash and glass; loose, moist to wet at 6.0' bgs.		
	5.0							
	6.0					6.5 - 7.0' FILL: Black fine to coarse SAND, some fine to coarse gravel, trace glass and plastic; medium dense, wet		
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	2.5		8.0 - 10.5' FILL: Black fine to coarse SAND and GRAVEL, some glass, trace plastic and tile; loose, wet		
	9.0							
	10.0							

PREPARED BY: JA
CHECKED BY: CR

Honeywell SA-6 North

LOCATION: Site 087 TA-10
PROJECT NO: 3480150488
BORING ID: 087-SB-647
DATE BEGAN: 3/15/16
DATE FINISHED: 3/15/16
INSPECTOR: M. Senna
DRILLING CO: B+B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 6.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0							
						10.5 - 12.0' No recovery		
	11.0							
						12.0 - 12.2' FILL: Black fine to coarse SAND and GRAVEL, some glass, trace plastic and tile; loose, wet		
	12.0	S-4	NA	2.0				087-SB-647-1213 (12.0-13.0) at 8:40
						12.2 - 13.7' OL: Reddish brown/black SILT, trace fine SAND; loose, wet		
	13.0							087-SB-647-1314 (13.0-14.0) at 8:45
						13.7 - 14.0' OL: Black SILT, trace fine gravel; loose, wet		
	14.0					14.0 - 16.0' No recovery. End of boring at 16.0' bgs.		
	15.0							
	16.0							

PREPARED BY: JA
CHECKED BY: CR

Honeywell SA-6 North

LOCATION: Site 087 TA-10
PROJECT NO: 3480150488
BORING ID: 087-SB-648
DATE BEGAN: 3/15/16
DATE FINISHED: 3/15/16
INSPECTOR: M. Senna
DRILLING CO: B+B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 8.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 1.5' FILL: Gray ASPHALT, some fine to coarse sand and gravel; loose, dry	NM	
	1.0							
	1.5					1.5 - 3.1' FILL: Brown fine to coarse SAND, some fine to coarse gravel and coal ash, trace glass; medium dense, dry		
	2.0							
	3.1					3.1 - 3.5' FILL: Dark gray/purple fine to medium SAND, trace fine gravel; medium dense, moist		
	3.0							
	3.5					3.5 - 4.0' No recovery		
	4.0	S-2	NA	3.0		4.0 - 6.0' FILL: Brown fine to coarse SAND and GRAVEL, some coal ash, wood and glass; medium dense, moist		
	5.0							
	6.0					6.0 - 7.0' FILL: Black fine to coarse SAND and GRAVEL, some coal ash, wood and glass; medium dense, moist		
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	2.5		8.0 - 10.5' FILL: Black fine to coarse SAND and GRAVEL, some plastic, wood, glass, rubber and newspaper; medium dense, wet		Hydrocarbon-like odor, sheen throughout
	9.0							
	10.0							

PREPARED BY: JA
CHECKED BY: CR

Honeywell SA-6 North

LOCATION: Site 087 TA-10
PROJECT NO: 3480150488
BORING ID: 087-SB-648
DATE BEGAN: 3/15/16
DATE FINISHED: 3/15/16
INSPECTOR: M. Senna
DRILLING CO: B+B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 8.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0							
						10.5 - 12.0' No recovery		
	11.0							
	12.0	S-4	NA	3.5		12.0 - 12.5' FILL: Black fine to coarse SAND and GRAVEL, some plastic, wood, glass, rubber and newspaper; medium dense, wet		087-SB-648-1213 (12.0-13.0) at 9:15
						12.5 - 14.5' SM: Reddish brown/black fine SAND and SILT; medium dense, wet		Sheen (12.5-15.5) 087-SB-648-1314 (13.0-14.0) at 9:20
	13.0							
	14.0							
						14.5 - 15.5' OL: Black CLAYEY SILT, some fine sand; medium dense, wet		
	15.0							
						15.5 - 16.0' No recovery. End of boring at 16.0' bgs.		
	16.0							

PREPARED BY: JA
CHECKED BY: CR

Honeywell SA-6 North

LOCATION: Site 087 TA-10
PROJECT NO: 3480150488
BORING ID: 087-SB-649
DATE BEGAN: 3/15/16
DATE FINISHED: 3/15/16
INSPECTOR: M. Senna
DRILLING CO: B+B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 6.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.8' FILL: Light gray ASPHALT, some fine to coarse sand and gravel; loose, dry	NM	
	1.0					0.8 - 3.5' FILL: Brown fine to coarse SAND and GRAVEL, some coal ash and glass, trace rubber, wood, and plastic; medium dense, moist		
	2.0							
	3.0							
						3.5 - 4.0' No recovery		
	4.0	S-2	NA	2.75		4.0 - 6.8' FILL: Brown fine to coarse SAND and GRAVEL, some coal ash and glass, trace rubber, wood, and plastic; medium dense, moist to wet at 6.5' bgs		
	5.0							
	6.0							
	7.0					6.8 - 8.0' No recovery		
	8.0	S-3	NA	1.5		8.0 - 9.5' FILL: Black fine to coarse SAND and GRAVEL, some coal ash, glass, plastic, fabric, and newspaper; loose, wet		
	9.0							
						9.5 - 12.0' No recovery		
	10.0							

PREPARED BY: JA
CHECKED BY: CR

Honeywell SA-6 North

LOCATION: Site 087 TA-10
PROJECT NO: 3480150488
BORING ID: 087-SB-649
DATE BEGAN: 3/15/16
DATE FINISHED: 3/15/16
INSPECTOR: M. Senna
DRILLING CO: B+B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 6.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0							
	11.0							
	12.0	S-4	NA	3.5		12.0 - 12.3' FILL: Black fine to coarse SAND and GRAVEL, some coal ash, glass, plastic, fabric, and newspaper; loose, wet		087-SB-649-1213 (12.0-13.0) at 9:50
	13.0					12.3 - 14.5' SM: Reddish brown fine SAND and SILT, medium dense, wet		Sheen (12.3-15.5) 087-SB-649-1314 (13.0-14.0) at 9:55
	14.0							
	15.0					14.5 - 15.5' OL: Black SILT, some fine sand, medium dense, wet		
	16.0					15.5 - 16.0' No recovery. End of boring at 16.0' bgs.		

PREPARED BY: JA
CHECKED BY: CR

Honeywell SA-6 North

LOCATION: Site 087 TA-10
PROJECT NO: 3480150488
BORING ID: 087-SB-650
DATE BEGAN: 3/15/16
DATE FINISHED: 3/15/16
INSPECTOR: M. Senna
DRILLING CO: B+B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 6.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.8' FILL: Light gray crushed ASPHALT, some fine to coarse sand and gravel; loose, wet	NM	
	1.0					0.8 - 3.5' FILL: Brown fine to coarse SAND and GRAVEL, some coal ash and glass, trace rubber, plastic, tile and wood; medium dense, moist		
	2.0							
	3.0							
						3.5 - 4.0' No recovery		
	4.0	S-2	NA	3.0		4.0 - 6.5' FILL: Brown fine to coarse SAND and GRAVEL, some coal ash and glass, trace rubber, plastic, tile and wood; medium dense, moist		
	5.0							
	6.0							
						6.5 - 7.0' FILL: Black fine to coarse SAND and GRAVEL, some glass, plastic and rubber; loose, wet		
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	2.0		8.0 - 10.0' FILL: Dark brown/black fine to coarse SAND and GRAVEL, some plastic, trace glass, rubber, and tile; loose, wet		
	9.0							
	10.0							

PREPARED BY: JA
CHECKED BY: CR

Honeywell SA-6 North

LOCATION: Site 087 TA-10
PROJECT NO: 3480150488
BORING ID: 087-SB-650
DATE BEGAN: 3/15/16
DATE FINISHED: 3/15/16
INSPECTOR: M. Senna
DRILLING CO: B+B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 6.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0					10.0 - 12.0' No recovery		
	11.0							
	12.0	S-4	NA	4.0		12.0 - 12.3' FILL: Dark brown/black fine to coarse SAND and GRAVEL, some plastic, trace glass, rubber, and tile; loose, wet		087-SB-650-1213 (12.0-13.0) at 10:15
						12.3 - 13.8' SM: Reddish brown fine SAND and SILT; medium dense, wet		087-SB-650-1314 (13.0-14.0) at 10:20
	13.0							
	14.0					13.8 - 15.0' OL: Very dark brown SILT; soft, wet		
	15.0					15.0 - 15.5' OL: Very dark brown CLAYEY SILT; soft, wet		
						15.5 - 16.0' OL: Black SILT, some fine sand; medium dense, wet. End of boring at 16.0' bgs.		
	16.0							

PREPARED BY: JA
CHECKED BY: CR

Honeywell SA-6 North

LOCATION: Site 087 TA-10
PROJECT NO: 3480150488
BORING ID: 087-SB-651
DATE BEGAN: 3/15/16
DATE FINISHED: 3/15/16
INSPECTOR: M. Senna
DRILLING CO: B+B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 8.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.5		0.0 - 0.8' FILL: Light gray crushed ASPHALT, some fine to coarse sand and gravel; loose, dry	NM	
	1.0					0.8 - 2.5' FILL: Dark brown fine to coarse SAND, some fine to coarse gravel and coal ash, trace glass, plastic, and rubber; medium dense, moist		
	2.0							
						2.5 - 4.0' No recovery		
	3.0							
	4.0	S-2	NA	2.75		4.0 - 6.0' FILL: Dark brown fine to coarse SAND, some fine to coarse gravel and coal ash, trace glass, plastic, and rubber; medium dense, moist		
	5.0							
	6.0					6.0 - 6.8' FILL: Black fine to coarse SAND, some fine to coarse gravel, trace glass and rubber; medium dense, moist		
						6.8 - 8.0' No recovery		
	7.0							
	8.0	S-3	NA	2.5		8.0 - 10.5' FILL: Black fine to coarse SAND and GRAVEL, some coal ash and crushed brick, trace glass, rubber, metal, and fabric; medium dense, wet		
	9.0							
	10.0							

PREPARED BY: JA
CHECKED BY: CR

Honeywell SA-6 North

LOCATION: Site 087 TA-10
PROJECT NO: 3480150488
BORING ID: 087-SB-651
DATE BEGAN: 3/15/16
DATE FINISHED: 3/15/16
INSPECTOR: M. Senna
DRILLING CO: B+B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 8.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0							
						10.5 - 12.0' No recovery		
	11.0							
						12.0 - 12.2' FILL: Black fine to coarse SAND and GRAVEL, some coal ash and crushed brick, trace glass, rubber, metal, and fabric; medium dense, wet		
	12.0	S-4	NA	3.0				087-SB-651-1213 (12.0-13.0) at 11:05
						12.2 - 13.4' SM: Reddish brown fine SAND, some silt; medium dense, wet		
	13.0							087-SB-651-1314 (13.0-14.0) at 11:10
						13.4 - 15.0' OL: Black SILT, some fine sand, trace clayey silt; medium dense, wet		
	14.0							
	15.0							
						15.0 - 16.0' No recovery. End of boring at 16.0' bgs.		
	16.0							

PREPARED BY: JA
CHECKED BY: CR

Honeywell SA-6 North

LOCATION: Site 087 TA-10
PROJECT NO: 3480150488
BORING ID: 087-SB-652
DATE BEGAN: 3/15/16
DATE FINISHED: 3/15/16
INSPECTOR: M. Senna
DRILLING CO: B+B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 8.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.75		0.0 - 0.8' FILL: Light brown crushed ASPHALT, some fine to coarse sand and gravel; loose, dry	NM	
	1.0					0.8 - 3.8' FILL: Brown fine to coarse SAND, some fine to coarse gravel and coal ash, trace glass, rubber, metal and tile; medium dense, moist		
	2.0							
	3.0							
						3.8 - 4.0' No recovery		
	4.0	S-2	NA	3.0		4.0 - 6.0' FILL: Brown fine to coarse SAND, some fine to coarse gravel and coal ash, trace glass, rubber, metal and tile; medium dense, moist		
	5.0							
	6.0					6.0 - 7.0' FILL: Black fine to coarse SAND, some fine gravel and crushed concrete, trace glass and rubber; medium dense, moist		
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	2.5		8.0 - 10.5' FILL: Black fine to coarse SAND and GRAVEL, some wood, trace glass and metal; medium dense, wet		
	9.0							
	10.0							

PREPARED BY: JA
CHECKED BY: CR

Honeywell SA-6 North

LOCATION: Site 087 TA-10
PROJECT NO: 3480150488
BORING ID: 087-SB-652
DATE BEGAN: 3/15/16
DATE FINISHED: 3/15/16
INSPECTOR: M. Senna
DRILLING CO: B+B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 8.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0							
						10.5 - 12.0' No recovery		
	11.0							
						12.0 - 12.2' FILL: Black fine to coarse SAND, some newspaper; medium dense, wet		
	12.0	S-4	NA	3.5				087-SB-652-1213 (12.0-13.0) at 12:50
						12.2 - 13.8' SM: Reddish brown fine SAND and SILT; medium dense, wet		
	13.0							087-SB-652-1314 (13.0-14.0) at 12:55
								Hydrocarbon-like odor and sheen (12.2-14.5' bgs)
	14.0					13.8 - 14.3' OL: Black CLAYEY SILT; soft, wet		
						14.3 - 14.5' OL: Black SILT; soft, wet		
	15.0					14.5 - 16.0' No recovery. End of boring at 16.0' bgs.		
	16.0							

PREPARED BY: JA
CHECKED BY: CR

Honeywell SA-6 North

LOCATION: Site 087 TA-10
PROJECT NO: 3480150488
BORING ID: 087-SB-653
DATE BEGAN: 3/15/16
DATE FINISHED: 3/15/16
INSPECTOR: M. Senna
DRILLING CO: B+B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 9.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 1.0' FILL: Light gray crushed ASPHALT, some fine to coarse sand and gravel, loose, dry	NM	
	1.0					1.0 - 6.0' FILL: Brown fine to coarse SAND, some fine to coarse gravel and coal ash, trace plastic, glass, and rubber; medium dense, moist		
	2.0							
	3.0							
	4.0	S-2	NA	3.0				
	5.0							
	6.0					6.0 - 7.0' FILL: Black fine to coarse SAND, some fine to coarse gravel, trace glass, rubber and newspaper; medium dense, moist		
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	2.75		8.0 - 10.8' FILL: Dark brown/black fine to coarse SAND and COAL ASH, some fine to coarse gravel, trace glass and plastic; medium dense, moist to wet at 9.0' bgs		
	9.0							
	10.0							

PREPARED BY: JA
CHECKED BY: CR

Honeywell SA-6 North

LOCATION: Site 087 TA-10
PROJECT NO: 3480150488
BORING ID: 087-SB-653
DATE BEGAN: 3/15/16
DATE FINISHED: 3/15/16
INSPECTOR: M. Senna
DRILLING CO: B+B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 9.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0							
	11.0					10.8 - 12.0' No recovery		
	12.0	S-4	NA	3.5		12.0 - 12.4' FILL: Black fine to coarse SAND, some newspaper and wood; medium dense, wet		087-SB-653-1213 (12.0-13.0) at 13:15
	13.0					12.4 - 15.0' SM: Reddish brown SILT and fine SAND; medium dense, wet		087-SB-653-1314 (13.0-14.0) at 13:20 Hydrocarbon-like odor and sheen (12.4-15.0' bgs)
	14.0							
	15.0					15.0 - 15.5' OL: Black SILT, some fine sand; medium dense, wet		
	16.0					15.5 - 16.0' No recovery. End of boring at 16.0' bgs.		

PREPARED BY: JA
CHECKED BY: CR

Honeywell SA-6 North

LOCATION: Site 087 TA-10
PROJECT NO: 3480150488
BORING ID: 087-SB-654
DATE BEGAN: 3/15/16
DATE FINISHED: 3/15/16
INSPECTOR: M. Senna
DRILLING CO: B+B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 9.25 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.8' FILL: Light gray crushed ASPHALT, some fine to coarse sand and gravel; loose, wet	NM	
	1.0					0.8 - 6.8' FILL: Brown fine to coarse SAND, some fine to coarse gravel and coal ash, little glass, trace rubber and plastic; medium dense, moist		
	2.0							
	3.0							
	4.0	S-2	NA	3.0				
	5.0							
	6.0					6.8 - 7.0' FILL: Black fine to coarse SAND, some newspaper and glass; medium dense, moist		
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	3.0		8.0 - 9.3' FILL: Brown fine to coarse SAND, some fine to coarse gravel and coal ash; medium dense, moist		
	9.0					9.3 - 11.0' FILL: Black fine to coarse SAND, some fine to coarse gravel and glass, trace newspaper; medium dense, wet		
	10.0							

PREPARED BY: JA
CHECKED BY: CR

Honeywell SA-6 North

LOCATION: Site 087 TA-10
PROJECT NO: 3480150488
BORING ID: 087-SB-654
DATE BEGAN: 3/15/16
DATE FINISHED: 3/15/16
INSPECTOR: M. Senna
DRILLING CO: B+B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 9.25 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0							
	11.0					11.0 - 12.0' No recovery		
	12.0	S-4	NA	2.75		12.0 - 12.2' FILL: Black fine to coarse SAND, some fine to coarse gravel and glass, trace newspaper; medium dense, wet		087-SB-654-1213 (12.0-13.0) at 14:15
						12.2 - 14.0' SM: Reddish brown fine SAND and SILT; medium dense, wet		Sheen (12.2-14.0' bgs) 087-SB-654-1314 (13.0-14.0) at 14:20
	13.0							
	14.0					14.0 - 14.7' OL: Black SILT, some fine sand; medium dense, wet		Hydrocarbon-like odor and sheen (14.0-14.7' bgs)
	15.0					14.7 - 16.0' No recovery. End of boring at 16.0' bgs.		
	16.0							

PREPARED BY: JA
CHECKED BY: CR

Honeywell SA-6 North

LOCATION: Site 087 TA-10
PROJECT NO: 3480150488
BORING ID: 087-SB-655
DATE BEGAN: 3/16/16
DATE FINISHED: 3/16/16
INSPECTOR: M. Senna
DRILLING CO: B+B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 9.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.25		0.0 - 0.8' FILL: Light gray crushed ASPHALT, some fine to coarse sand and gravel; loose, dry	NM	
	1.0					0.8 - 3.3' FILL: Dark brown fine to coarse SAND, some fine to coarse gravel and coal ash, trace glass, plastic, and newspaper; medium dense, moist		
	2.0							
	3.0							
						3.3 - 4.0' No recovery		
	4.0	S-2	NA	2.75		4.0 - 6.8' FILL: Dark brown fine to coarse SAND, some fine to coarse gravel and coal ash, trace glass, plastic, and newspaper; medium dense, moist		
	5.0							
	6.0							
	7.0					6.8 - 8.0' No recovery		
	8.0	S-3	NA	2.75		8.0 - 8.5' FILL: Dark brown fine to coarse SAND, some fine to coarse gravel and coal ash, trace glass, plastic, and newspaper; medium dense, moist		
	9.0					8.5 - 10.8' FILL: Black fine to coarse SAND, some fine to coarse gravel, trace glass, metal, and wood; loose, wet		
	10.0							

PREPARED BY: JA
CHECKED BY: CR

Honeywell SA-6 North

LOCATION: Site 087 TA-10
PROJECT NO: 3480150488
BORING ID: 087-SB-655
DATE BEGAN: 3/16/16
DATE FINISHED: 3/16/16
INSPECTOR: M. Senna
DRILLING CO: B+B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 9.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0							
	11.0					10.8 - 12.0' No recovery		
	12.0	S-4	NA	2.0		12.0 - 12.2' FILL: Black fine to coarse SAND, some fine to coarse gravel, trace glass, metal, and wood; loose, wet		
						12.2 - 14.0' SM: Reddish brown fine SAND and SILT; medium dense, wet		087-SB-655-1213 (12.0-13.0) at 8:40 087-SB-655-1314 (13.0-14.0) at 8:45
	13.0							
	14.0					14.0 - 16.0' No recovery. End of boring at 16.0' bgs.		
	15.0							
	16.0							

PREPARED BY: JA
CHECKED BY: CR

Honeywell SA-6 North

LOCATION: Site 087 TA-10
PROJECT NO: 3480150488
BORING ID: 087-SB-656
DATE BEGAN: 3/16/16
DATE FINISHED: 3/16/16
INSPECTOR: M. Senna
DRILLING CO: B+B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 9.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.8' FILL: Light gray crushed ASPHALT, some fine to coarse sand and gravel; loose, dry	NM	
	1.0					0.8 - 3.0' FILL: Dark brown fine to coarse SAND, some fine to coarse gravel and coal ash, trace wood, glass, and rubber; medium dense, moist		
	2.0							
	3.0					3.0 - 4.0' No recovery		
	4.0	S-2	NA	3.0		4.0 - 7.0' FILL: Dark brown fine to coarse SAND, some fine to coarse gravel and coal ash, trace rubber, glass, and wood; medium dense, moist		
	5.0							
	6.0							
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	3.0		8.0 - 9.2' FILL: Dark brown fine to coarse SAND, some fine to coarse gravel and coal ash, trace rubber, glass, and wood; medium dense, moist to wet at 9.0' bgs		
	9.0					9.2 - 11.0' FILL: Dark gray/black fine to coarse SAND and GRAVEL, some glass, trace plastic, metal, and rubber; loose, wet		
	10.0							

PREPARED BY: JA
CHECKED BY: CR

Honeywell SA-6 North

LOCATION: Site 087 TA-10
PROJECT NO: 3480150488
BORING ID: 087-SB-656
DATE BEGAN: 3/16/16
DATE FINISHED: 3/16/16
INSPECTOR: M. Senna
DRILLING CO: B+B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 9.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0							
	11.0					11.0 - 12.0' No recovery		
	12.0	S-4	NA	3.5		12.0 - 12.5' FILL: Dark gray/black fine to coarse SAND and GRAVEL, some glass, trace plastic, metal, and rubber; loose, wet		087-SB-655-1213 (12.0-13.0) at 9:25
	13.0					12.5 - 13.8' SM: Reddish brown fine SAND and SILT; medium dense, wet		087-SB-655-1314 (13.0-14.0) at 9:30
	14.0					13.8 - 15.0' OL: Dark gray CLAYEY SILT, some fine sand; medium dense, wet		
	15.0					15.0 - 15.5' OL: Black fine SAND and SILT; medium dense, wet		
	16.0					15.5 - 16.0' No recovery. End of boring at 16.0' bgs.		

PREPARED BY: JA
CHECKED BY: CR

Honeywell Jersey City

LOCATION: Site 087 (TA-10)
PROJECT NO: 3480160515
BORING ID: **087-SB-710**
DATE BEGAN: 12/5/2016
DATE FINISHED: 12/5/2016
INSPECTOR: J. Desiderio
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0' bgs
GW DEPTH: -
DRILLER: Ed Blewett
NORTH: 686000.3
EAST: 602527.5

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0	S-1	NA	2.0		12.0 - 13.5' FILL: Dark brown fine SAND and SILT, trace glass, metal, plastic, and wood; medium dense, wet	NM	Auger 0.0-12.0' bgs. Start logging at 12.0' bgs 087-SB-710 (12.0-13.0') at 8:56
	13.0							087-SB-710 (13.0-14.0') at 8:55
						13.5 - 14.0' FILL: Grayish brown fine SAND and SILT; medium dense, wet		Green staining and odor from CAPS at 13.5-14.0' bgs
	14.0					14.0 - 16.0' No recovery; End of boring at 16.0' bgs		
	15.0							
	16.0							

PREPARED BY: RO
CHECKED BY: EB

Honeywell Jersey City

LOCATION: Site 087 (TA-10)
PROJECT NO: 3480160515
BORING ID: **087-SB-711**
DATE BEGAN: 12/5/2016
DATE FINISHED: 12/5/2016
INSPECTOR: J. Desiderio
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0' bgs
GW DEPTH: -
DRILLER: Ed Blewett
NORTH: 686006.6
EAST: 602529.1

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0	S-1	NA	2.0		12.0 - 12.8' FILL: Black fine to medium SAND, some wood, trace glass and silt; medium dense, wet	NM	Auger 0.0-12.0' bgs. Start logging at 12.0' bgs 087-SB-711 (12.0-13.0') at 9:22
	13.0					12.8 - 14.0' FILL: Dark brown fine SAND and SILT, trace wood		087-SB-711 (13.0-14.0') at 9:24 Green staining and odor from CAPS at 13.5-14.0' bgs
	14.0					14.0 - 16.0' No recovery; End of boring at 16.0' bgs		
	15.0							
	16.0							

PREPARED BY: RO
CHECKED BY: EB

Honeywell Jersey City

LOCATION: Site 087 (TA-10)
PROJECT NO: 3480160515
BORING ID: 087-SB-712
DATE BEGAN: 12/8/2016
DATE FINISHED: 12/8/2016
INSPECTOR: J. Desiderio
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0' bgs
GW DEPTH: -
DRILLER: Ed Blewett
NORTH: 685999.3
EAST: 602535.8

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0	S-1	NA	2.5		12.0 - 12.5' FILL: Black fine to medium SAND, some paper, trace glass; loose, wet	NM	Auger 0.0-12.0' bgs. Start logging at 12.0' bgs 087-SB-712 (12.0-13.0') at 9:45
						12.5 - 14.5' FILL: Reddish brown fine SAND and SILT; medium dense, wet		
	13.0							087-SB-712 (13.0-14.0') at 9:47 Green staining and odor from CAPS at 13.0-13.5' bgs
	14.0							
						14.5 - 16.0' No recovery; End of boring at 16.0' bgs		
	15.0							
	16.0							

PREPARED BY: RO
CHECKED BY: EB

Honeywell Jersey City

LOCATION: Site 087 (TA-10)
PROJECT NO: 3480160515
BORING ID: **087-SB-713**
DATE BEGAN: 12/5/2016
DATE FINISHED: 12/5/2016
INSPECTOR: J. Desiderio
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0' bgs
GW DEPTH: -
DRILLER: Ed Blewett
NORTH: 685992.4
EAST: 602534.7

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0	S-1	NA	2.0		12.0 - 12.5' FILL: Black fine to medium SAND, some wood, trace glass and paper; medium dense, moist	NM	Auger 0.0-12.0' bgs. Start logging at 12.0' bgs 087-SB-713 (12.0-13.0') at 10:00 Hydrocarbon-like odor at 12.0-12.5' bgs
						12.5 - 14.0' FILL: Brown fine SAND and SILT; medium dense, wet		
	13.0							087-SB-713 (13.0-14.0') at 10:02 Green staining and odor from CAPS at 13.25-14.0' bgs
	14.0					14.0 - 16.0' No recovery; End of boring at 16.0' bgs		
	15.0							
	16.0							

PREPARED BY: RO
CHECKED BY: EB

Honeywell Jersey City

LOCATION: Site 087 (TA-10)
PROJECT NO: 3480160515
BORING ID: **087-SB-714**
DATE BEGAN: 12/5/2016
DATE FINISHED: 12/5/2016
INSPECTOR: J. Desiderio
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0' bgs
GW DEPTH: -
DRILLER: Ed Blewett
NORTH: 686002.4
EAST: 602551.9

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0	S-1	NA	2.0		12.0 - 12.5' FILL: Black fine to medium SAND, trace glass, paper, and wood; medium dense, moist	NM	Auger 0.0-12.0' bgs. Start logging at 12.0' bgs 087-SB-714 (12.0-13.0') at 10:16
						12.5 - 14.0' FILL: Brown fine SAND and SILT; medium dense, wet		
	13.0							087-SB-714 (13.0-14.0') at 10:18 Green staining and odor from CAPS at 13.5-14.0' bgs
	14.0					14.0 - 16.0' No recovery; End of boring at 16.0' bgs		
	15.0							
	16.0							

PREPARED BY: RO
CHECKED BY: EB

Honeywell Jersey City

LOCATION: Site 087 (TA-10)
PROJECT NO: 3480160515
BORING ID: **087-SB-715**
DATE BEGAN: 12/5/2016
DATE FINISHED: 12/5/2016
INSPECTOR: J. Desiderio
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0' bgs
GW DEPTH: -
DRILLER: Ed Blewett
NORTH: 685994.1
EAST: 602551.3

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0	S-1	NA	2.0		12.0 - 13.0' FILL: Black fine to medium SAND, some fine to coarse gravel, trace glass; medium dense, moist	NM	Auger 0.0-12.0' bgs. Start logging at 12.0' bgs 087-SB-715 (12.0-13.0') at 10:34
	13.0					13.0 - 14.0' FILL: Brown fine SAND and SILT; medium dense, wet		087-SB-715 (13.0-14.0') at 10:36 Green staining and odor from CAPS at 13.5-14.0' bgs
	14.0					14.0 - 16.0' No recovery; End of boring at 16.0' bgs		
	15.0							
	16.0							

PREPARED BY: RO
CHECKED BY: EB

Honeywell Jersey City

LOCATION: Site 087 (TA-10)
PROJECT NO: 3480160515
BORING ID: **087-SB-716**
DATE BEGAN: 12/5/2016
DATE FINISHED: 12/5/2016
INSPECTOR: J. Desiderio
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0' bgs
GW DEPTH: -
DRILLER: Ed Blewett
NORTH: 685993.2
EAST: 602541.4

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0	S-1	NA	2.5		12.0 - 12.5' FILL: Black fine to medium SAND, some fine to medium gravel, trace glass; loose, wet	NM	Auger 0.0-12.0' bgs. Start logging at 12.0' bgs 087-SB-716 (12.0-13.0') at 11:08
						12.5 - 14.0' FILL: Dark reddish brown fine SAND and SILT; medium dense, wet		
	13.0							087-SB-716 (13.0-14.0) at 11:10 Green staining and odor from CAPS at 13.5-14.0' bgs
	14.0					14.0 - 14.5' FILL: Gray fine SAND and SILT; medium dense, wet		
						14.5 - 16.0' No recovery; End of boring at 16.0' bgs		
	15.0							
	16.0							

PREPARED BY: RO
CHECKED BY: EB

Honeywell Jersey City

LOCATION: Site 087 (TA-10)
PROJECT NO: 3480160515
BORING ID: 087-SB-717
DATE BEGAN: 12/5/2016
DATE FINISHED: 12/5/2016
INSPECTOR: J. Desiderio
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0' bgs
GW DEPTH: -
DRILLER: Ed Blewett
NORTH: 685986.4
EAST: 602542.4

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0	S-1	NA	2.0		12.0 - 13.0' FILL: Black fine to coarse SAND, some glass, paper, and wood, trace fine gravel; loose, wet	NM	Auger 0.0-12.0' bgs. Start logging at 12.0' bgs 087-SB-717 (12.0-13.0') at 11:28
	13.0					13.0 - 14.0' FILL: Dark brown fine SAND and SILT; medium dense, wet		087-SB-717 (13.0-14.0') at 11:30 Green staining and odor from CAPS at 13.5-14.0' bgs
	14.0					14.0 - 16.0' No recovery; End of boring at 16.0' bgs		
	15.0							
	16.0							

PREPARED BY: RO
CHECKED BY: EB

Honeywell Jersey City

LOCATION: Site 087 (TA-10)
PROJECT NO: 3480160515
BORING ID: 087-SB-718
DATE BEGAN: 12/5/2016
DATE FINISHED: 12/5/2016
INSPECTOR: J. Desiderio
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0' bgs
GW DEPTH: -
DRILLER: Ed Blewett
NORTH: 685985.0
EAST: 602531.3

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0	S-1	NA	4.0		12.0 - 13.0' FILL: Black fine to coarse SAND, some fine gravel and glass; loose, wet	NM	Auger 0.0-12.0' bgs. Start logging at 12.0' bgs 087-SB-718 (12.0-13.0') at 11:46
	13.0					13.0 - 16.0' FILL: Dark grey fine SAND and SILT; medium dense, wet; End of boring at 16.0' bgs		087-SB-718 (13.0-14.0') at 11:48 Green staining and odor from CAPS at 13.75-15.0' bgs
	14.0							
	15.0							
	16.0							

PREPARED BY: RO
CHECKED BY: EB

Honeywell Jersey City

LOCATION: Site 087 (TA-10)
PROJECT NO: 3480160515
BORING ID: 087-SB-719
DATE BEGAN: 12/5/2016
DATE FINISHED: 12/5/2016
INSPECTOR: J. Desiderio
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0' bgs
GW DEPTH: -
DRILLER: Ed Blewett
NORTH: 685979.7
EAST: 602543.4

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0	S-1	NA	2.0		12.0 - 13.0' FILL: Black fine to medium SAND, some glass, paper, and wood, trace gravel; loose, wet	NM	Auger 0.0-12.0' bgs. Start logging at 12.0' bgs 087-SB-719 (12.0-13.0') at 12:06
	13.0					13.0 - 14.5' FILL: Gray fine SAND and SILT; medium dense, wet		087-SB-719 (13.0-14.0') at 12:08 Green staining and odor from CAPS at 13.0-14.5' bgs
	14.0					14.5 - 16.0' No recovery; End of boring at 16.0' bgs		
	15.0							
	16.0							

PREPARED BY: RO
CHECKED BY: EB

Honeywell SA-6 North

LOCATION: SA-6 North
PROJECT NO: 3480
BORING ID: 087-SB-611-B1
DATE BEGAN: 1/6/15
DATE FINISHED: 1/6/15
INSPECTOR: M. Senna
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16' bgs
GW DEPTH: -
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0							
		S-1	N/A	4.0		12.0 - 13.3' FILL: Light brown/black SILT, some fine sand; wet		Starting elevation: 12.80'; direct push to 12' bgs; begin sampling
							0	Sample 087-WC-B at 1030
	13.0						0	
						13.3 - 16.0' FILL: Brown CLAYEY SILT; wet; End of boring at 16' bgs		
							0	
	14.0						0	
							0	
	15.0						0	
							0	
	16.0							

PREPARED BY: KK
CHECKED BY: JA

Honeywell SA-6 North

LOCATION: SA-6 North
PROJECT NO: 3480
BORING ID: 087-SB-612-B2
DATE BEGAN: 1/6/15
DATE FINISHED: 1/6/15
INSPECTOR: M. Senna
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16' bgs
GW DEPTH: -
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0							
		S-1	N/A	4.0		12.0 - 16.0' FILL: Brown/black CLAYEY SILT; loose, wet; End of boring at 16' bgs	0	Starting elevation: 12.55'; direct push to 12' bgs; begin sampling
							0	Sample 087-SB-612-B2 from (14.0-14.5) at 1020
	13.0						0	
							2.5	
	14.0						3.1	
							2.1	
	15.0						0	
							0	
	16.0							

PREPARED BY: KK
CHECKED BY: JA

Honeywell SA-6 North

LOCATION: SA-6 North
PROJECT NO: 3480
BORING ID: 087-SB-613-D
DATE BEGAN: 1/6/15
DATE FINISHED: 1/6/15
INSPECTOR: M. Senna
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 14' bgs
GW DEPTH: -
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0							
		S-1	N/A	4.0		10.0 - 12.0' FILL: Light gray fine to coarse SAND, trace fine gravel, glass; loose, wet	0	Starting elevation" 15.75'; direct push to 10' bgs; begin sampling
							0	
	11.0						1.2	Sample 087-WC-D at 1145
							1.4	
	12.0					12.0 - 14.0' FILL: Dark gray fine to coarse SAND, trace fine gravel, glass; loose, wet; End of boring at 14' bgs	2.2	
							2.7	
	13.0						3.1	Sample 087-SB-613-D2 from (13.0-13.5) at 1150
							3.4	
	14.0							

PREPARED BY: KK
CHECKED BY: JA

Honeywell SA-6 North

LOCATION: SA-6 North
PROJECT NO: 3480
BORING ID: 087-SB-614
DATE BEGAN: 1/6/15
DATE FINISHED: 1/6/15
INSPECTOR: M. Senna
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 13' bgs
GW DEPTH: -
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	9.0	S-1	N/A	4.0		9.0 - 12.0' FILL: Gray fine to coarse SAND, trace fine gravel, glass, metal, and brick; loose, wet		Starting elevation: 14.8'; direct push to 9' bgs; begin sampling
	10.0						0	Sample 087-SB-614-E1 from (10.5-11.0) at 1300
							0	Sample 087-WC-E2 at 1310
	11.0						0.4	
							0.8	
	12.0					12.0 - 13.0' FILL: Black fine to coarse SAND, trace fine gravel, shell, and glass; loose, wet; End of boring at 13' bgs	0.1	
							0	
	13.0							

PREPARED BY: KK
CHECKED BY: JA

Honeywell SA-6 North

LOCATION: SA-6 North
PROJECT NO: 3480
BORING ID: 087-SB-615
DATE BEGAN: 1/6/15
DATE FINISHED: 1/6/15
INSPECTOR: M. Senna
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 18' bgs
GW DEPTH: -
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0	S-1	N/A	4.0		10.0 - 13.5' FILL: Black fine to medium SAND, trace fine to medium gravel, shells, glass, brick, and wood; loose, wet	0	Starting elevation: 15.2'; direct push to 10' bgs; begin sampling
							1.2	Sample 087-WC-F1 at 1400
	11.0						1.6	
							2.1	
	12.0						3.7	
							1.1	Sample 087-SB-615-F2 from (12.5-13.0) at 1350
	13.0						0.8	
						13.5 - 14.0' FILL: Reddish brown/black fine to medium SAND, trace fine to medium gravel, shells, glass, brick, and wood; loose, wet	1.4	
	14.0	S-2	N/A	4.0		14.0 - 16.0' FILL: Black fine to medium SAND, trace fine to medium gravel, shells, glass, brick, and wood; loose, wet	0.8	
							1.0	Sample 087-SB-615-K1 from (14.5-15.0) at 1425
	15.0						0.4	
							0.2	Sample 087-WC-K2 at 1430
	16.0					16.0 - 16.2' FILL: Tan/light yellow SILT (possible COPR)	0.8	
						16.2 - 16.8' FILL: Black/blue green SILT/COPR	1.0	
						16.8 - 16.9' FILL: Black SILT		
	17.0					16.9 - 18.0' PEAT: Dark brown PEAT; End of boring at 18' bgs	1.0	
							1.0	
	18.0							

PREPARED BY: KK
CHECKED BY: JA

Honeywell SA-6 North

LOCATION: SA-6 North
PROJECT NO: 3480
BORING ID: 087-SB-616
DATE BEGAN: 1/7/15
DATE FINISHED: 1/7/15
INSPECTOR: M. Senna
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16' bgs
GW DEPTH: -
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0							
		S-1	N/A	4.0		8.0 - 10.0' FILL: Dark gray fine to coarse SAND, trace fine gravel, brick, glass, and metal; loose, wet	0	Starting elevation: 13.5'; direct push to 8' bgs; begin sampling
							0	
	9.0						0	Sample 087-WC-G at 0850
							0	
	10.0						0	Sample 087-SB-616-G2 from (10.0-10.5) at 0840
						10.0 - 11.0' FILL: Dark brown/green fine SAND, COPR	0	
	11.0						0	
						11.0 - 12.5' FILL: Gray and white SILT, trace fine sand, possible COPR	0	
	12.0	S-2	N/A	4.0			0	Sample 087-WC-L at 0920
							0	
	13.0					12.5 - 13.7' FILL: Gray fine to coarse SAND, some fine gravel	1.2	Sample 087-SB-616-L1 from (13.0-13.5) at 0915
							0	
	14.0					13.7 - 14.6' FILL: Black fine to medium SAND, some silt	0	
							0	
						14.6 - 15.0' FILL: Black SILT		
	15.0					15.0 - 16.0' PEAT: Dark brown PEAT; End of boring at 16' bgs	1.0	
							1.0	
	16.0							

PREPARED BY: KK
CHECKED BY: JA

Honeywell SA-6 North

LOCATION: SA-6 North
PROJECT NO: 3480
BORING ID: 087-SB-617
DATE BEGAN: 1/7/15
DATE FINISHED: 1/7/15
INSPECTOR: M. Senna
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16' bgs
GW DEPTH: -
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0							
		S-1	N/A	4.0		8.0 - 12.5' FILL: Black fine to coarse SAND, trace fine to medium gravel, brick, glass, and shells; loose. wet	0	Starting elevation: 11.6'; direct push to 8' bgs; begin sampling
							2.1	Sample 087-SB-617-I1 from (8.5-9.0) at 0930
	9.0						2.0	
							1.3	Sample 087-WC-I at 0935
	10.0						1.0	
							0	
	11.0						0	
							1.1	
	12.0	S-2	N/A	3.0			1.0	Sample 087-WC-N at 0940
						12.5 - 13.0' FILL: Black SILT	1.2	
	13.0					13.0 - 15.0' PEAT: Dark brown PEAT	1.7	
							2.0	
	14.0						2.4	Sample 087-SB-617-N1 from (14.0-14.5) at 0945
							1.7	
	15.0					15.0 - 16.0' No Recovery; End of boring at 16' bgs	1.0	
							1.1	
	16.0							

PREPARED BY: KK
CHECKED BY: JA

Honeywell SA-6 North

LOCATION: SA-6 North
PROJECT NO: 3480
BORING ID: 087-SB-618
DATE BEGAN: 1/7/15
DATE FINISHED: 1/7/15
INSPECTOR: M. Senna
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 18' bgs
GW DEPTH: -
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0							
		S-1	N/A	4.0		8.0 - 13.0' FILL: Dark brown/black fine to coarse SAND, some glass, brick, and shells, trace fine gravel; loose, wet	0	Starting elevation: 14.325'; direct push to 8' bgs; begin sampling
							0	
	9.0						1.0	Sample 087-WC-H at 1015
							0	Sample 087-SB-618-H1 from (9.0-9.5) at 1005
	10.0						0	
							0	
	11.0						0	
							0	
	12.0	S-2	N/A	3.5			0	
							0	
	13.0						0	
						13.0 - 15.0' FILL: Light gray fine SAND, some fine gravel, silt, and green COPR	0	
	14.0						1.2	
							1.8	
	15.0						1.1	Sample 087-SB-618-M1 from (15.0-15.5) at 1030
						15.0 - 15.5' FILL: Dark brown fine SAND, some silt, trace glass		
						15.5 - 16.0' No Recovery	0	
	16.0							

PREPARED BY: KK
CHECKED BY: JA

Honeywell SA-6 North

LOCATION: SA-6 North
PROJECT NO: 3480
BORING ID: 087-SB-618
DATE BEGAN: 1/7/15
DATE FINISHED: 1/7/15
INSPECTOR: M. Senna
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 18' bgs
GW DEPTH: -
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	16.0	S-3	N/A	1.0		16.0 - 17.0' FILL: Dark brown fine SAND, some silt, trace glass	0	Sample 087-WC-M at 1035
	17.0					17.0 - 18.0' No Recovery; End of boring at 18' bgs		
	18.0							

PREPARED BY: KK
CHECKED BY: JA

Honeywell SA-6 North

LOCATION: SA-6 North
PROJECT NO: 3480
BORING ID: 087-SB-619
DATE BEGAN: 1/7/15
DATE FINISHED: 1/7/15
INSPECTOR: M. Senna
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 12' bgs
GW DEPTH: -
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0							
		S-1	N/A	3.0		8.0 - 9.5' FILL: Black fine to coarse SAND, trace fine to coarse gravel and glass	0	Starting elevation: 9.5'; direct push to 8' bgs; begin sampling
							1.0	
	9.0						0	Sample 087-SB-619-J1 from (8.5-9.0) at 1110
						9.5 - 10.0' FILL: Dark brown SILT, some organics	0	
	10.0					10.0 - 11.0' PEAT: Dark brown PEAT	0	Sample 087-WC-J2 at 1115
							0	
	11.0					11.0 - 12.0' No Recovery; End of boring at 12' bgs	0	The rest of WC-N composited from J2
							0	
	12.0							

PREPARED BY: KK
CHECKED BY: JA

Honeywell SA-6 North

LOCATION: SA-6 North
PROJECT NO: 3480
BORING ID: 087-SB-620
DATE BEGAN: 1/7/15
DATE FINISHED: 1/7/15
INSPECTOR: M. Senna
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: N/A
SAMPLING TOOL: Hand Auger
COMPLETION DEPTH: 4' bgs
GW DEPTH: Not Encountered
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	3.0		0.0 - 3.0' FILL: Dark brown fine to coarse SAND, some glass and brick, trace fine to coarse gravel; loose, dry	0	Starting elevation: 11.0'; Hand auger used
							0	
	1.0							Sample 087-SB-620-A from (1.0-1.5) at 1300
							0.8	Sample 087-WC-A at 1310
	2.0							
							0	
	3.0					3.0 - 4.0' No Revocery; End of boring at 4' bgs		
							0.4	
	4.0							

PREPARED BY: KK
CHECKED BY: JA

Honeywell SA-6 North

LOCATION: SA-6 North
PROJECT NO: 3480
BORING ID: 087-SB-621
DATE BEGAN: 1/7/15
DATE FINISHED: 1/7/15
INSPECTOR: M. Senna
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4' Macrocore
COMPLETION DEPTH: 8' bgs
GW DEPTH: Not Encountered
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	4.0	S-1	N/A	4.0		4.0 - 8.0' FILL: Dark brown fine to coarse SAND, trace fine to medium gravel, glass, brick, fabric, and wood; loose, dry; End of boring at 8'	0	Starting elevation: 16.0'; Direct push to 4', begin sampling
							0	
	5.0						0	Sample 087-SB-621-C1 from (2.5-3.0) at 1325
							0	
	6.0						1.0	
							1.2	
	7.0						0	
							0	
	8.0							

PREPARED BY: KK
CHECKED BY: JA

Honeywell SA-6 North

LOCATION: SA-6 North
PROJECT NO: 3480
BORING ID: 087-SB-622
DATE BEGAN: 1/7/15
DATE FINISHED: 1/7/15
INSPECTOR: M. Senna
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4' Macrocore
COMPLETION DEPTH: 8' bgs
GW DEPTH: Not Encountered
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	4.0	S-1	N/A	4.0		4.0 - 8.0' FILL: Dark brown fine to coarse SAND, trace fine to medium gravel, glass, brick, fabric, and wood; loose, dry; End of boring at 8'	0	Starting elevation: 16.5'; Direct push to 4', begin sampling
							0	
	5.0						0	Sample 087-WC-C taken at 1350
							0	
	6.0						0	
							0.2	Sample 087-SB-622-C2 from (6.5-7.0) at 1345
	7.0						0.4	
							0	
	8.0							

PREPARED BY: KK
CHECKED BY: JA

Honeywell Jersey City

LOCATION: SA-6 North
PROJECT NO: 3480160492
BORING ID: 087-PZ-2/1
DATE BEGAN: 6-17-16
DATE FINISHED: 6-17-16
INSPECTOR: Ari Eslaminejad
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: Guspech Bratt 21
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 11.5' bgs
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: 685107.5
EAST: 603718.6

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
		SS1	10	1.4		7.5 - 8.2' FILL: Light brown fine to medium SAND; medium dense, wet	NM	Ground + 10.5 ft Elevation Augered to 7.5' bgs
	8.0		14					
						8.2 - 8.9' FILL: Dark brown SILTY SAND, some fine to coarse gravel; wet		
			24					
	9.0		35			8.9 - 9.5' No recovery		
		SS2	17	0.5		9.5 - 10.0' FILL: Light brown fine to medium SAND; medium dense, moist		
	10.0		11			10.0 - 11.5' No recovery. End of boring at 11.5' bgs.		
			2					
	11.0		1					

PREPARED BY: CR
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 North
PROJECT NO: 3480160492
BORING ID: 087-PZ-4/3
DATE BEGAN: 6-16-16
DATE FINISHED: 6-16-16
INSPECTOR: Ari Eslaminejad
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: Guspech Bratt 21
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 12' bgs
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: 685478.9
EAST: 603361.2

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	3	0.7		8.0 - 8.7' FILL: Dark gray CLAYEY SILT, some sand, organic matter, and rock fragments	NM	Ground + 11 ft Elevation Augered to 8' bgs
			7					
						8.7 - 10.0' No recovery		
	9.0		9					
			9					
	10.0	SS2	3	0.5		10.0 - 10.5' FILL: Dark gray CLAYEY SILT, some sand, organic matter, and rock fragment		
			5			10.5 - 12.0' No recovery. End of boring at 12.0' bgs.		
	11.0		4					
			5					
	12.0							

PREPARED BY: CR
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 North
PROJECT NO: 3480160492
BORING ID: 087-PZ-6/5
DATE BEGAN: 6-20-16
DATE FINISHED: 6-20-16
INSPECTOR: Ari Eslaminejad
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: Guspech Bratt 21
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 13' bgs
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: 685772.8
EAST: 602956.3

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	9.0	SS1	5	0.5		9.0 - 9.5' FILL: Dark brown SANDY SILT, some clay and rock fragments; medium dense, moist	NM	Ground + 11.9 ft Elevation Augered to 9' bgs
			4			9.5 - 11.0' No recovery		
	10.0		4					
			5					
	11.0	SS2	5	0.75		11.0 - 11.8' FILL: Dark brown SANDY SILT, some clay; medium dense, wet		
			2					
						11.8 - 13.0' No recovery. End of boring at 12.0' bgs.		
	12.0		4					
			4					
	13.0							

PREPARED BY: CR
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 North
PROJECT NO: 3480160492
BORING ID: 087-PZ-10/9
DATE BEGAN: 6-15-16
DATE FINISHED: 6-15-16
INSPECTOR: Ari Eslaminejad
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: Guspech Bratt 21
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 12' bgs
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: 686066.2
EAST: 602101.0

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	21	0.0		8.0 - 10.0' No recovery (Something blocking the end pushing material down during drops)	NM	Augered to 8' bgs
			32					
	9.0		36					
			28					
	10.0	SS2	8	1.5		10.0 - 11.3' FILL: Brown fine to medium SAND; medium dense, wet		
			9					
	11.0		7					
						11.3 - 11.5' FILL: Brown SILTY CLAY, some fine sand; wet		
			6			11.5 - 12.0' No recovery. End of boring at 12.0' bgs.		
	12.0							

PREPARED BY: CR
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 N
PROJECT NO: 3480160492
BORING ID: 087-PZ-7
DATE BEGAN: 6-13-16
DATE FINISHED: 6-13-16
INSPECTOR: Ari Eslaminejad
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: Guspech Bratt 21
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 26' bgs
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: 685973.2
EAST: 602442.4

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	SS1	4, 6	2.0		0.0 - 1.0' SW: Brown SILT, some gravel and organic matter; loose, dry	NM	Ground + 14.5 ft Elevation
	1.0		9, 9			1.0 - 2.0' FILL: Brown SILT, some concrete; stiff, moist		
	2.0	SS2	29, 27	1.0		2.0 - 3.0' FILL: Brown SILT, some fine to coarse gravel; stiff, moist		
	3.0		16, 7			3.0 - 4.0' No recovery		
	4.0	SS3	10, 9	0.7		4.0 - 4.7' FILL: Reddish brown SANDY SILT, some fine to coarse gravel; stiff, moist (1" of asphalt/concrete in bottom plug)		Driller caught on a hard layer; eventually made it through
	5.0		11, 7			4.7 - 6.0' No recovery		
	6.0	SS4	12, 18	1.0		6.0 - 6.5' ML: Reddish brown/black SILTY SAND; stiff, moist		
	7.0		36, 29			6.5 - 7.0' ML: Reddish brown/black SILT, some sand; stiff, moist		
	8.0	SS5	20, 21	1.0		7.0 - 8.0' No recovery		
	9.0		14, 10			8.0 - 9.0' ML: Brown SILT, some organic material (wood) and fine to coarse gravel; stiff, moist		
	10.0	SS6	7	1.0		9.0 - 10.0' No recovery		

PREPARED BY: CR
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 N
PROJECT NO: 3480160492
BORING ID: 087-PZ-7
DATE BEGAN: 6-13-16
DATE FINISHED: 6-13-16
INSPECTOR: Ari Eslaminejad
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: Guspech Bratt 21
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 26' bgs
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: 685973.2
EAST: 602442.4

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0	SS6	7	1.0		10.0 - 11.0' ML: Dark brown SILT, few fine to medium sand, organic matter, and concrete fragments; stiff, moist		
			6					
	11.0		4			11.0 - 12.0' No recovery		
			5					
	12.0	SS7	6	1.5		12.0 - 12.5' ML: Dark brown SILT, few fine to medium sand; stiff, moist		
			6			12.5 - 13.5' ML: Brown SILT with black stratifications; moist		
	13.0		8					
			12			13.5 - 14.0' No recovery		
	14.0	SS8	2	2.0		14.0 - 15.0' ML: Brown SILT; stiff, wet		
			1					
	15.0		2			15.0 - 15.5' SM: Brown SILTY SAND; wet		
			4			15.5 - 15.8' ML: Black, brown and white stratified SILT (possible COPR)		
	16.0	SS9	2	2.0		15.8 - 16.0' SW: Reddish brown fine SAND; moist		
			13			16.0 - 17.0' SM: Brown fine SAND, some reddish brown silt; stiff, moist		
	17.0		17					
			21			17.0 - 17.3' ML: Brown SILT; wet		
	18.0	SS10	3	1.5		17.3 - 18.0' SW: Brown fine to medium SAND; stiff, wet		
			9			18.0 - 19.0' SW: Brown fine SAND; wet		
	19.0		7			19.0 - 19.5' ML: Brown CLAYEY SILT, some fine sand; wet		
			6			19.5 - 20.0' No recovery		
	20.0	SS11	4	1.5				

PREPARED BY: CR
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 N
PROJECT NO: 3480160492
BORING ID: 087-PZ-7
DATE BEGAN: 6-13-16
DATE FINISHED: 6-13-16
INSPECTOR: Ari Eslaminejad
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: Guspech Bratt 21
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 26' bgs
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: 685973.2
EAST: 602442.4

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	20.0	SS11	4	1.5		20.0 - 20.3' SM: Reddish brown SILTY SAND, some clay; wet		
			5			20.3 - 21.0' SW: Reddish brown fine SAND; wet		
	21.0		4			21.0 - 21.5' ML: Brown CLAYEY SILT; wet		
			3			21.5 - 22.0' No recovery		
	22.0	SS12	3	2.0		22.0 - 22.8' SW: Reddish brown fine SAND; stiff, wet		
			2			22.8 - 23.3' ML: Black SILT; stiff, moist		
	23.0		3			23.3 - 24.0' ML: Gray SILT; moist		
			4					
	24.0	SS13	5	2.0		24.0 - 25.0' SW: Reddish brown fine SAND; stiff, wet		
			5					
	25.0		5			25.0 - 25.3' ML: Gray SILT; stiff, moist		
			8			25.3 - 26.0' PT: Brown SILT with organic matter; moist (Peat)		
	26.0							

PREPARED BY: CR
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 North
PROJECT NO: 3480160492
BORING ID: 087-PZ-8
DATE BEGAN: 6-20-16
DATE FINISHED: 6-20-16
INSPECTOR: Ari Eslaminejad
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: Guspech Bratt 21
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 14' bgs
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: 685948.29
EAST: 602429.79

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0							
		SS1	7	2.0		12.0 - 12.3' ML: Dark brown SILT; moist	NM	Ground + 13 ft Elevation Augered to 12' bgs
			3			12.3 - 13.3' ML: Brown SILT; wet		Drillers encountered foundations that took 3-4 hours to get through. Drill bit was chewed up. Work stopped at 13:15 to fabricate or obtain a new piece.
	13.0		1					
			1			13.3 - 14.0' ML: Yellow brown SILT (COPR); wet. End of boring at 14.0' bgs.		
	14.0							

PREPARED BY: CR
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 North
PROJECT NO: 3480160492
BORING ID: 087-PZ-10/9
DATE BEGAN: 6-15-16
DATE FINISHED: 6-15-16
INSPECTOR: Ari Eslaminejad
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: Guspech Bratt 21
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 12' bgs
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: 686066.2
EAST: 602101.0

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	21	0.0		8.0 - 10.0' No recovery (Something blocking the end pushing material down during drops)	NM	Augered to 8' bgs
			32					
	9.0		36					
			28					
	10.0	SS2	8	1.5		10.0 - 11.3' FILL: Brown fine to medium SAND; medium dense, wet		
			9					
	11.0		7					
						11.3 - 11.5' FILL: Brown SILTY CLAY, some fine sand; wet		
			6			11.5 - 12.0' No recovery. End of boring at 12.0' bgs.		
	12.0							

PREPARED BY: CR
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 North (EA 2&3)
PROJECT NO: 3480160527
BORING ID: B-1
DATE BEGAN: 8-19-15
DATE FINISHED: 8-19-15
INSPECTOR: Ari Eslaminejad
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 12' bgs
GW DEPTH: Not available
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	10	1.25		8.0 - 9.3' FILL: Dark brown/black fine to medium SAND, some gravel	NM	Augered to 8' bgs. Starting elevation 9.08'
			13					
	9.0		10					
						9.3 - 10.0' No recovery		
			13					
	10.0	SS2	13	1.25		10.0 - 10.5' FILL: Dark brown/black fine to medium SAND, some gravel		
			8			10.5 - 12.0' PT: PEAT. End of boring at 12.0' bgs.		Elevation of Peat: -1.4'
	11.0		8					
			10					
	12.0							

PREPARED BY: CR
CHECKED BY: KK

Honeywell Jersey City

LOCATION: SA-6 North (EA 2&3)
PROJECT NO: 3480160527
BORING ID: B-2
DATE BEGAN: 8-19-15
DATE FINISHED: 8-19-15
INSPECTOR: Ari Eslaminejad
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 12' bgs
GW DEPTH: Not available
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	3	1.0		8.0 - 9.0' FILL: Dark brown/black fine to medium SAND, some gravel	NM	Augered to 8' bgs. Starting elevation 8.8'
			8					
	9.0		10			9.0 - 10.0' No recovery		
			9					
	10.0	SS2	5	2.0		10.0 - 10.5' FILL: Dark brown/black fine to medium SAND, some gravel		
			7			10.5 - 12.0' PT: PEAT. End of boring at 12.0' bgs.		Elevation of Peat: -1.7'
	11.0		7					
			5					
	12.0							

PREPARED BY: CR
CHECKED BY: KK

Honeywell Jersey City

LOCATION: SA-6 North (EA 2&3)
PROJECT NO: 3480160527
BORING ID: B-3
DATE BEGAN: 8-19-15
DATE FINISHED: 8-19-15
INSPECTOR: Ari Eslaminejad
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 10' bgs
GW DEPTH: Not available
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	4	2.0		8.0 - 9.0' FILL: Dark brown/black fine to medium SAND, some gravel	NM	Augered to 8' bgs. Starting elevation 9.1'
			7					
	9.0		3			9.0 - 10.0' PT: Black to brown PEAT. End of boring at 10.0' bgs.		Elevation of Peat: 0.1'
			2					
	10.0							

PREPARED BY: CR
CHECKED BY: KK

Honeywell Jersey City

LOCATION: SA-6 North
PROJECT NO: 3480160527
BORING ID: B-4
DATE BEGAN: 8-20-15
DATE FINISHED: 8-20-15
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 14' bgs
GW DEPTH: Not available
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	19	1.0		8.0 - 9.0' FILL: Black fine to coarse SAND, some fine to coarse gravel slag, trace crushed coal; loose, wet	NM	Augered to 8' bgs. Starting elevation 10.9'
			15					
	9.0		10			9.0 - 10.0' No recovery		
			10					
	10.0	SS2	15	0.75		10.0 - 10.8' FILL: Black fine SAND; medium dense, wet		
			12					
	11.0		15			10.8 - 12.0' No recovery		
			10					
	12.0	SS3	4	1.5		12.0 - 13.5' PT: Dark brown PEAT		Elevation of Peat: -1.1'
			2					
	13.0		2					
			3			13.5 - 14.0' No recovery. End of boring at 14.0' bgs.		
	14.0							

PREPARED BY: CR
CHECKED BY: KK

Honeywell Jersey City

LOCATION: SA-6 North
PROJECT NO: 3480160527
BORING ID: B-5
DATE BEGAN: 8-20-15
DATE FINISHED: 8-20-15
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 16' bgs
GW DEPTH: 14' bgs
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0	SS1	22	1.25		12.0 - 12.8' FILL: Gray and yellow fine to coarse SAND, some fine to coarse gravel; dense, moist	NM	Augered to 12' bgs. Starting elevation 14.0'
			30					
	13.0		33			12.8 - 13.3' FILL: Dark gray fine to coarse SAND, some fine to coarse gravel, some yellow fine to coarse sand, trace wood; dense, moist		
			33			13.3 - 14.0' No recovery		
	14.0	SS2	8	2.0		14.0 - 15.3' FILL: Dark gray fine to coarse SAND, some fine to coarse gravel, trace yellow nodules (possible COPR); loose, wet		
			13					
	15.0		6					
						15.3 - 15.5' OL: Dark gray SILT with organics		
			3			15.5 - 16.0' PT: Dark brown PEAT. End of boring at 16.0' bgs.		Elevation of Peat: -1.5'
	16.0							

PREPARED BY: CR
CHECKED BY: KK

Honeywell Jersey City

LOCATION: SA-6 North
PROJECT NO: 3480160527
BORING ID: B-6
DATE BEGAN: 8-20-15
DATE FINISHED: 8-20-15
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 18' bgs
GW DEPTH: 12' bgs
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0	SS1	3	1.5		10.0 - 11.5' FILL: Dark brown/gray fine to coarse SAND, some fine to coarse gravel, trace glass, plastic, and fiber (possible COPR); loose, moist	NM	Augered to 10' bgs. Starting elevation 15.1'
			5					
	11.0		6					
			6			11.5 - 12.0' No recovery		
	12.0	SS2	3	1.0		12.0 - 13.0' FILL: Dark brown/gray fine to coarse SAND, some fine to coarse gravel, trace glass, plastic, and fiber (possible COPR); loose, wet		
			4					
	13.0		4			13.0 - 14.0' No recovery		
			4					
	14.0	SS3	4	2.0		14.0 - 16.0' FILL: Dark brown/gray fine to coarse SAND, some fine to coarse gravel, trace glass, plastic, and fiber (possible COPR); loose, wet		
			3					
	15.0		1					
			1					
	16.0	SS4	2	2.0		16.0 - 16.2' ML: Black SILT		
			2			16.2 - 18.0' PT: Dark brown PEAT. End of boring at 18.0' bgs.		Elevation of Peat: -1.1'
	17.0		4					
			5					
	18.0							

PREPARED BY: CR
CHECKED BY: KK

Drilling Method

- [x] - Geoprobe _8_ Inch Borehole
- [ ] - Little Beaver
- [ ] - Hand Auger

Well Access

- [x] - Steel Roadbox _8_ inch Dimension
- [ ] - Irrigation Box ___ inch Dimension
- [ ] - Stick Up

Well # MW-122, MW-123 and MW-124

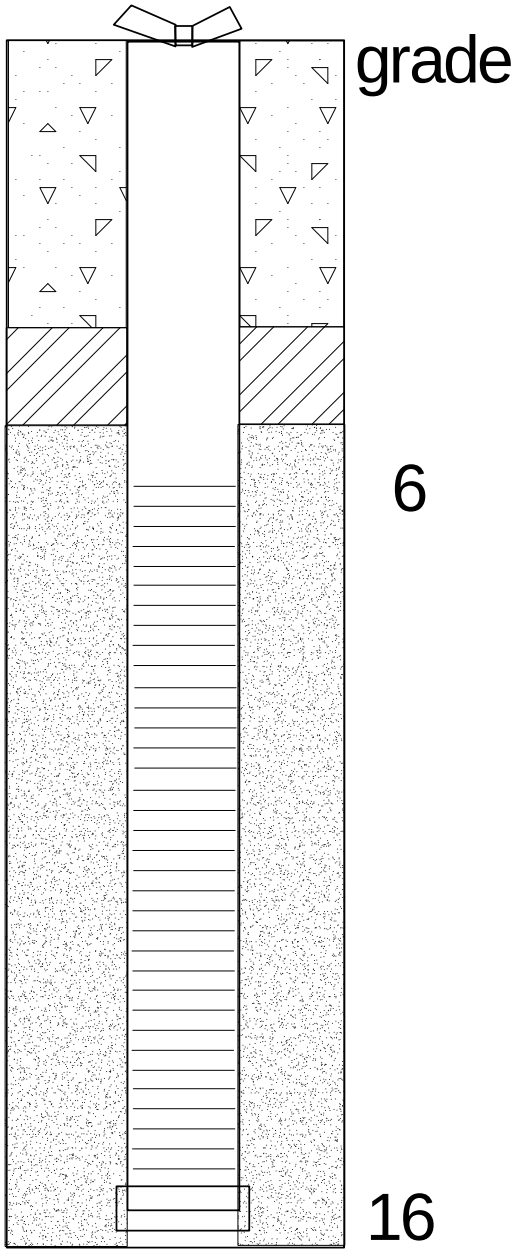
6 - 16 2" Screen Interval (ft bgs)

0 - 6 - 2" Solid PVC Casing (Interval feet bgs)

6 - 16 - 2" PVC Screen (Interval feet bgs)

Backfill Interval (feet bgs)

SAND	16-5
BENTONITE 3/4 " or Granular Circle One	5 - 4
Concrete / **Grout** Circle One	4-grade
Native	NA



Boring Summary

Contaminated Interval NA feet bgs

Groundwater Encountered NA feet bgs

Soil Discription

0-4 Gravely Fill Material

4-12 Historic Fill Material

(Black silty sand w debris/trash/ash)

12-16 Black silty sand (very wet/soupy)

Monitoring Well Install Form

Site Name: Honeywell Jersey City SA-6 North

Date: 8/10/2015

Prepared By:

Environmental Remediation and Financial Services, LLC

ERFS

Pay-for-Performance Remediation Services

999 Airport Road, Unit 4
Lakewood, NJ 08701

Date: 8-10-2015	Scale: 1" = 10'	Draftsperson: SV

APPENDIX I

DEWATERING LOGS

LEGEND

- EXCAVATION LIMITS
- DE-WATERING WELLPOINT LOCATION
- SPLIT SPOON SOIL BORING
- TEMPORARY SHEETPILE ALIGNMENT
- DEEP WELL LOCATION

REV	DATE	BY	CHK'D	APPR'VD	DESCRIPTION

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: HONEYWELL SA-6 EXCAVATION DE-WATERING LAYOUT 03/15/16

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

SA6 -SOUTH																			
		Design			Field Verified											Proposed Per Field Observation		Installation	
								Organic Silt/Clay				Peat (ft. bgs)		End of Boring					
Header #	Point #	Existing Grade at Point (ft. Elev)	Assumed Depth of Meadowmat (ft. bgs)	Split Spoon	Existing Grade at Point (ft. Elev)	Northing	Easting	Top (ft. bgs)	Top (ft. Elev)	Bottom (ft. bgs)	Bottom (ft. Elev)	Top (ft. bgs)	Top (ft. Elev.)	Bottom (ft. bgs)	Bottom (ft. Elev.)	Proposed Well Point Depth (ft. bgs)	Proposed Well Point Depth (ft. Elev.)	Date Installed	Well Point Depth Installed (ft. bgs)
H1	1	9.2	9.9		9.4	684167.4	603150.6									9.7	-0.3	9/3/13	9.7
	1-B	9.2	9.9	X	9.2	684169.0	603136.6	NE	NE	NE	NE	10.8	-1.6	12.0	-2.8	9.5	-0.3	N/A	N/A
	2	9.2	10.0		9.3	684182.4	603150.5									9.6	-0.3	9/3/13	9.6
	3	9.2	10.0		9.4	684194.8	603134.6									9.6	-0.3	9/3/13	9.6
	4	9.3	10.1		9.5	684206.4	603118.9									9.8	-0.3	9/3/13	9.8
	4-B	9.3	10.1	X	9.4	684200.5	603101.1	10.2	-0.8	10.4	-1.0	10.4	-1.0	12.0	-2.6	9.7	-0.3	N/A	N/A
	5	9.4	9.9		9.4	684219.6	603103.7									9.8	-0.3	9/3/13	9.8
	6	9.6	10.2		9.5	684232.5	603087.5									10.0	-0.3	9/3/13	10.0
	7	9.9	10.4		9.6	684245.5	603072.4									10.8	-0.3	9/3/13	10.0
	8	10.1	10.3		10.5	684234.5	603050.9									9.9	-0.3	9/4/13	9.9
	9	9.9	10.0		9.7	684221.6	603066.4									9.8	-0.3	9/4/13	9.8
	9-B	9.9	10.0	X	9.7	684227.1	603063.7	10.5	-0.8	10.7	-1.0	10.7	-1.0	12.0	-2.3	10.0	-0.3	N/A	N/A
	10	9.6	9.7		9.3	684209.1	603081.8									9.7	-0.3	9/4/13	9.7
	11	9.3	9.7		9.5	684195.8	603097.1									9.6	-0.3	9/4/13	9.6
	12	9.2	9.8		9.3	684183.5	603112.9									9.7	-0.3	9/4/13	9.7
	13	9.1	9.7		9.3	684171.1	603128.4									9.6	-0.3	9/3/13	9.6
H2	1	9.9	10.4		9.7	684262.9	603021.0									9.3	0.4	8/15/13	9.5
	2	9.9	10.1		10.0	684247.2	603008.2									9.6	0.4	8/15/13	9.6
	3	9.9	9.8		10.1	684232.2	602995.0									9.7	0.4	8/15/13	9.7
	3-B	9.9	9.8	X	10.3	684234.6	602983.3	10.8	-0.5	11.5	-1.2	11.5	-1.2	12.0	-1.7	9.9	0.4	N/A	N/A
	4	10.2	10.0		10.2	684216.6	602983.2									9.8	0.4	8/15/13	9.8
	5	10.4	10.2		10.5	684200.2	602970.9									10.1	0.4	9/4/13	10.1
	6	10.3	10.8		10.6	684213.5	602939.5									10.2	0.4	8/16/13	10.2
	6-B	10.3	10.8	X	10.4	684208.3	602964.1	10.5	-0.1	10.8	-0.4	10.8	-0.4	11.7	-1.3	10.0	0.4	N/A	N/A
	7	10.1	10.6		10.3	684228.9	602951.9									9.9	0.4	8/16/13	9.9
	8	9.9	10.4		9.9	684243.6	602964.4									9.5	0.4	8/16/13	9.5
	9	9.8	10.2		9.6	684259.8	602977.0									9.2	0.4	8/15/13	9.2
	10	9.7	10.2		9.7	684274.6	602989.3									9.3	0.4	8/15/13	9.3
	11	9.7	10.6		9.7	684290.5	603002.3									9.3	0.4	9/3/13	9.3
	11-B	9.7	10.6	X	9.7	684276.5	603001.0	11.0	-1.3	11.5	-1.8	11.5	-1.8	12.0	-2.3	9.3	0.4	N/A	N/A
H3	1	9.7	11.1		9.7	684321.0	602953.4									10.6	-0.9	8/15/13	10.6
	2	9.7	10.9		9.4	684305.2	602940.9									10.3	-0.9	8/15/13	10.3
	3	9.8	10.9		9.8	684289.9	602928.1									10.7	-0.9	8/14/13	10.7
	3-B	9.8	10.9	X	9.6	684298.8	602919.7	11.2	-1.6	12.0	-2.4	12.0	-2.4	14.0	-4.4	10.5	-0.9	N/A	N/A
	4	9.9	10.8		9.9	684274.3	602915.6									10.8	-0.9	8/14/13	10.9
	5	10.0	10.8		10.1	684258.6	602903.0									11.0	-0.9	8/14/13	11.0
	6	10.2	10.8		10.7	684243.0	602890.8									11.6	-0.9	8/13/13	11.0
	7	10.1	10.8		10.3	684270.9	602872.2									11.2	-0.9	8/13/13	11.3
	7-B	10.1	10.8	X	10.4	684256.3	602889.0	12.5	-2.1	12.8	-2.4	12.8	-2.4	14.0	-3.6	11.3	-0.9	N/A	N/A
	8	10.0	10.7		9.9	684287.0	602884.5									10.8	-0.9	8/14/13	10.9
	9	9.9	10.8		9.8	684302.4	602897.0									10.7	-0.9	8/14/13	10.8
	10	9.7	10.9		9.6	684317.9	602909.5									10.5	-0.9	8/14/13	10.7
	11	9.7	11.0		9.5	684333.4	602922.2									10.4	-0.9	8/15/13	10.4
	12	9.7	11.1		9.5	684349.1	602934.8									10.4	-0.9	9/3/13	10.4
	12-B	9.7	11.1	X	9.6	684335.6	602935.3	11.0	-1.4	11.6	-2.0	11.6	-2.0	12.0	-2.4	10.5	-0.9	N/A	N/A
H4	1	9.9	11.6		9.5	684380.2	602885.5									11.5	-2.0	8/15/13	11.5
	2	9.8	11.2		9.7	684365.0	602872.9									11.7	-2.0	8/15/13	11.7
	3	9.8	10.8		9.8	684348.9	602860.0									11.8	-2.0	8/14/13	11.9
	3-B	9.8	10.8	X	9.7	684355.8	602852.1	13.0	-3.3	13.2	-3.5	13.2	-3.5	14.0	-4.3	11.7	-2.0	N/A	N/A
	4	9.9	10.7		9.8	684334.1	602847.7									11.8	-2.0	8/14/13	11.9
	5	10.0	10.6		9.8	684317.8	602834.6									11.8	-2.0	8/14/13	11.7
	6	10.0	10.7		9.8	684346.1	602815.5									11.8	-2.0	8/14/13	11.8
	7	10.0	11.1		9.9	684361.9	602829.0									11.9	-2.0	8/14/13	11.8
	8	10.0	11.4		10.0	684377.6	602841.3									12.0	-2.0	8/14/13	12.0
	9	10.1	11.9		10.0	684392.9	602854.3									12.0	-2.0	8/15/13	12.0
	10	10.4	12.5		10.6	684408.2	602866.6									12.6	-2.0	9/3/13	12.6
	10-B	10.4	12.5	X	10.0	684395.1	602870.6	12.5	-2.5	12.7	-2.7	12.7	-2.7	14.0	-4.0	12.0	-2.0	N/A	N/A
H5	1	10.9	12.8		8.3	684439.8	602816.0									8.7	-0.4	8/22/13	8.7
	2	10.9	12.5		8.5	684423.7	602804.1									8.9	-0.4	8/22/13	8.9
	2-B	10.9	12.5	X	8.7	684433.6	602785.3	10.5	-1.8	11.4	-2.7	11.4	-2.7	12.0	-3.3	9.1	-0.4	N/A	N/A
	3	10.9	12.1		8.5	684408.2	602792.6									8.9	-0.4	8/23/13	8.9
	4	11.0	11.7		8.4	684392.8	602780.3									8.8	-0.4	8/23/13	8.8
	5	10.4	10.5		8.9	684403.8	602748.3									9.3	-0.4	8/23/13	9.3
	5-B	10.4	10.5	X	9.1	684398.8	602758.7	10.0	-0.9	10.5	-1.4	10.5	-1.4	12.0	-2.9	9.5	-0.4	N/A	N/A
	6	10.6	10.9		8.9	684420.5	602760.0									9.3	-0.4	8/23/13	9.3
	7	10.6	11.3		8.8	684436.4	602772.6									9.2	-0.4	8/22/13	9.2
	8	10.5	11.7		8.0	684450.8	602785.5									8.4	-0.4	8/22/13	8.4
	9	10.5	12.1		8.1	684467.2	602798.0									8.5	-0.4	8/22/13	8.5
H6	1	9.4	10.1		9.0	684498.0	602749.3									10.8	-1.8	8/19/13	10.8
	2	9.5	9.4		9.2	684482.4	602737.2									11.0	-1.8	8/16/13	11.0
	3	9.9	9.7		9.6	684467.0	602723.8									11.4	-1.8	8/16/13	11.4
	3-B	9.9	9.7	X	9.5	684475.5	602711.9	11.8	-2.3	13.0	-3.5	13.0	-3.5	14.0	-4.5	11.3	-1.8	N/A	N/A
	4	9.8	9.7		9.5	684451.6	602710.9									11.3	-1.8	8/16/13	11.3
	5	9.5	9.6		9.6	684447.6	602667.4									11.4	-1.8	8/16/13	11.4
	5-B	9.5	9.6	X	9.3	684447.5	602679.3	11.8	-2.5	12.3	-3.0	12.3	-3.0	14.0	-4.7	11.1	-1.8	N/A	N/A
	6	9.3	9.4		9.5	684464.4	602679.8									11.3	-1.8	8/16/13	11.3
	7	9.3	9.2		9.4	684479.2	602692.5									11.2	-1.8	8/16/13	11.2
	8	9.2	9.1		9.3	684494.5	602705.1									11.1	-1.8	8/16/13	11.1
	9	9.1	9.2		9.3	684509.9	602717.9									11.1	-1.8	8/16/13	11.1
	10	9.1	10.1		9.2	684525.5	602730.1									11.0	-1.8	9/4/13	11.0
	10-B	9.1	10.1	X	9.4	684512.6	602733.4	12.8	-3.4	13.0	-3.6	13.0	-3.6	14.0	-4.6	11.2	-1.8	N/A	N/A
H7	1	9.6	9.9		9.5	684556.9	602680.3									12.5	-3.0	12/12/13	12.5
	2	9.5	9.7		9.5	684542.1	602668.0									12.5	-3.0	12/12/13	12.5
	3	9.4	9.5		9.7	684526.1	602655.5									12.7	-3.0	12/12/13	12.7
	3-B	9.4	9.5	X	10.0	684531.9	602646.9	13.5	-3.5	14.5	-4.5	14.5	-4.5	16.0	-6.0	13.0	-3.0	N/A	N/A
	4	9.3	9.3		9.7	684510.1	602642.6									12.7	-3.0	12/12/13	12.7
	5	9.3	9.4		9.7	684494.7	602630.3									12.7	-3.0	12/11/13	12.7
	6	9.2	9.4		9.9	684494.3	602614.5									12.9	-3.0	12/11/13	12.9
	6-B	9.2	9.4	X	10.0	684499.8	602620.6	13.3	-3.3	13.6	-3.6	13.6	-3.6	14.0	-4.0	13.0	-3.0	N/A	N/A
	7	9.2	9.4		10.0	684510.3	602627.9									13.0	-3.0	12/11/13	13.0
	8	9.3	9.5		9.9	684526.6	602640.7									12.9	-3.0	12/12/13	12.9
	9	9.4	9.7		9.9	684542.0	602653.0									12.9	-3.0	12/12/13	12.9
	10	9.5	9.9		9.7	684557.4	602665.6									12.7	-3.0	12/12/13	12.7
	11	9.6	10.1		9.8	684573.1	602677.2									12.8	-3.0	12/1213	12.8
	11-B	9.6	10.1	X	9.8	684563.4	602671.6	NE	NE	NE	NE	13.5	-3.7	14.0	-4.2	12.8	-3.0	N/A	N/A
H8	1	9.5	10.2		9.5	684616.1	602612.4									11.0	-1.5	12/12/13	11.0
	2	9.3	10.0		9.5	684600.7	602600.4									11.0	-1.5	12/12/13	11.0
	3	9.2	9.8		9.3	648585.2	602587.6									10.8	-1.5	12/12/13	10.8
	3-B	9.2	9.8	X	9.2	684604.7	602571.2	11.7	-2.5	11.8	-2.6	11.8	-2.6	12.0	-2.8	10.7	-1.5	N/A	N/A
	4	9.1	9.6		9.3	684569.4	602575.9									10.8	-1.5	12/12/13	10.8
	5	9.1	9.5		9.3	684553.8	602563.3									10.8	-1.5	12/13/13	10.8
	6	9.1	9.6		9.2	684566.0	602530.5									10.7	-1.5	12/13/13	10.7
	6-B	9.1	9.6	X	9.3	684570.5	602540.5	NE	NE	NE	NE	12.0	-2.7	14.0	-4.7	10.8	-1.5	N/A	N/A
	7	9.1	9.7		9.1	684581.9	602544.6									10.6	-1.5	12/13/13	10.6
	8	9.1	9.8		9.1	684596.7	602556.0									10.6	-1.5	12/13/13	10.6
	9	9.2	10.0		9.2	684612.8	602569.6									10.7	-1.5	12/13/13	10.7

	10	9.3	10.2		9.2	684629.1	602581.5								10.7	-1.5	12/13/13	10.7
	11	9.4	10.4		9.2	684643.7	602594.7								10.7	-1.5	12/13/13	10.7
	11-B	9.4	10.4	X	9.2	684634.3	602592.9	11.2	-2.0	11.4	-2.2	11.4	-2.2	12.0	-2.8	10.7	-1.5	N/A	N/A
	1	9.2	10.4		9.1	684670.5	602541.2									11.6	-2.5	12/16/13	11.6
	2	9.1	10.2		9.1	684655.0	602528.8									11.6	-2.5	12/16/13	11.6
	3	9.0	10.0		9.1	684639.6	602516.2									11.6	-2.5	12/16/13	11.6
	3-B	9.0	10.0	X	9.2	684649.2	602515.2	12.5	-3.3	12.8	-3.6	12.8	-3.6	14.0	-4.8	11.7	-2.5	N/A	N/A
H9	4	9.0	10.1		9.0	684651.1	602484.1									11.5	-2.5	12/13/13	11.5
	5	9.0	10.2		9.3	684666.8	602496.1									11.8	-2.5	12/13/13	11.8
	6	9.0	10.3		9.2	684683.2	602510.0									11.7	-2.5	12/13/13	11.7
	7	9.1	10.8		9.3	684698.3	602521.9									11.8	-2.5	12/13/13	11.8
	7-B	9.1	10.8	X	9.1	684685.8	602530.0	12.1	-3.0	12.4	-3.3	12.4	-3.3	14.0	-4.9	11.6	-2.5	N/A	N/A
	1	11.0	13.1		8.5	684722.0	602469.3									11.0	-2.5	7/29/14	11.0
	2	8.9	10.7		8.5	684706.7	602456.8									11.0	-2.5	7/29/14	11.0
	3	8.1	9.6		8.4	684691.0	60244.9									10.9	-2.5	7/29/14	10.9
	4	8.1	9.4		8.2	684675.6	602432.6									10.7	-2.5	7/29/14	10.7
H10	5	9.0	10.4		8.4	684686.8	602400.3									10.9	-2.5	7/29/14	10.9
	6	9.0	10.7		8.5	684704.3	602413.7									11.0	-2.5	7/29/14	11.0
	7	9.0	11.1		8.5	684720.3	602427.5									11.0	-2.5	7/29/14	11.0
	8	9.2	11.0		8.5	684733.3	602444.5									11.0	-2.5	N/A	Not Installed
	9	10.5	11.7		8.5	684752.1	602451.5									11.0	-2.5	7/29/14	11.0
	1	8.7	10.9		12.1	684808.2	602374.2									14.6	-2.5	8/1/14	14.6
	2	8.8	10.8		12.3	684793.1	602359.5									14.8	-2.5	8/1/14	14.8
	3	8.8	10.8		12.2	684778.6	602344.6									14.7	-2.5	8/1/14	14.7
	4	8.8	10.6		12.2	684765.3	602332.4									14.7	-2.5	8/1/14	14.7
	5	8.7	10.6		12.2	684752.2	602321.9									14.7	-2.5	8/1/14	14.7
	6	9.0	10.6		12.2	684732.5	602308.6									14.7	-2.5	7/24/14	14.7
	7	9.0	10.3		12.2	684718.4	602296.7									14.7	-2.5	7/24/14	14.7
	8	9.0	10.3		12.1	684700.6	602284.3									14.6	-2.5	7/24/14	14.6
	9	8.8	10.1		12.1	684685.7	602271.6									14.6	-2.5	7/24/14	14.6
	10	8.4	9.7		12.1	684670.0	602258.7									14.6	-2.5	7/24/14	14.6
H11	11	8.2	9.5		12.1	684654.7	602246.1									17.3	-5.2	7/24/14	17.3
	12	8.5	9.8		12.1	684675.8	602236.7									17.3	-5.2	7/24/14	17.3
	13	8.8	10.1		12.1	684689.0	602247.8									17.3	-5.2	7/25/14	17.3
	14	8.8	10.4		12.2	684704.6	602262.4									17.4	-5.2	7/25/14	17.4
	15	8.9	10.6		12.2	684717.8	602273.1									17.4	-5.2	7/25/14	17.4
	16	9.0	10.7		12.2	684734.4	602287.9									17.4	-5.2	7/25/14	17.4
	17	8.8	10.7		12.3	684748.6	602299.6									17.5	-5.2	7/25/14	17.5
	18	8.9	10.8		12.2	684765.6	602314.9									17.4	-5.2	7/25/14	17.4
	19	9.0	11.0		12.2	684780.3	602328.2									17.4	-5.2	7/25/14	17.4
	20	9.0	11.1		12.2	684794.6	602338.8									17.4	-5.2	7/25/14	17.4
	21	9.2	11.3		12.3	684808.6	602348.7									17.5	-5.2	N/A	Not Installed
	1	10.2	12.9		10.0	684837.7	602314.1									15.2	-5.2	7/21/14	15.2
	2	8.9	11.5		9.2	684820.6	602301.4									14.4	-5.2	7/12/14	14.4
	3	8.8	11.4		8.7	684796.5	602287.9									13.9	-5.2	7/23/14	13.9
	3-B	8.8	11.4	X	8.8	684813.7	602286.6	14.5	-5.7	15.5	-6.7	15.5	-6.7	16.0	-7.2	14.0	-5.2	N/A	N/A
	4	8.8	11.2		8.8	684783.2	602282.0									14.0	-5.2	7/24/14	14.0
	5	9.1	11.4		8.9	684769.3	602271.5									14.1	-5.2	7/22/14	14.1
	6	10.0	12.1		8.7	684750.6	602257.6									13.9	-5.2	7/22/14	13.9
	7	9.0	11.0		8.7	684734.9	602245.6									13.9	-5.2	7/22/14	13.9
	8	8.6	10.5		8.8	684719.4	602234.6									14.0	-5.2	7/22/14	14.0
	8-B	8.6	10.5	X	8.8	684739.9	602213.1	NE	NE	NE	NE	14.5	-5.7	15.0	-6.2	14.0	-5.2	N/A	N/A
	9	8.1	9.9		8.5	684705.3	602221.9									13.7	-5.2	7/22/14	13.7
	10	7.8	9.4		7.8	684687.5	602208.9									13.0	-5.2	7/22/14	13.0
H12	11	7.8	9.7		7.7	68474.6	602161.4									12.9	-5.2	7/23/14	12.9
	12	7.9	10.1		8.0	684726.3	602172.8									13.2	-5.2	7/23/14	13.2
	13	8.2	10.6		8.1	684746.2	602186.3									13.5	-5.4	7/23/14	13.5
	14	8.8	11.3		8.7	684769.3	602194.0									14.1	-5.4	7/23/14	14.1
	15	9.0	11.7		8.6	684784.9	602201.4									14.0	-5.4	7/23/14	14.0
	16	9.0	11.9		8.7	684790.3	602228.6									14.1	-5.4	7/23/14	14.1
	16-B	9.0	11.9	X	8.6	684780.8	602237.7	NE	NE	NE	NE	14.5	-5.9	15.0	-6.4	14.0	-5.4	N/A	N/A
	17	8.6	11.6		8.6	684807.5	602238.0									14.0	-5.4	7/23/14	14.0
	18	8.8	11.9		8.6	684823.7	602250.2									14.0	-5.4	7/22/14	14.0
	19	8.7	11.9		8.7	684838.7	602261.1									14.1	-5.4	7/23/14	14.1
	20	9.9	13.4		10.0	684854.8	602273.8									16.1	-6.1	7/23/14	16.1
	21	10.6	13.7		10.5	684865.9	602280.3									16.6	-6.1	7/23/14	16.6
	21-B	10.6	13.7	X	10.4	684854.9	602295.1	NE	NE	NE	NE	17.0	-6.6	18.0	-7.6	16.5	-6.1	N/A	N/A
	1	9.3	13.1		9.1	684911.9	602222.7									15.2	-6.1	6/16/14	15.2
	2	9.0	12.9		9.1	684925.2	602209.1									15.2	-6.1	6/16/14	15.2
	3	8.8	12.9		8.8	684937.0	602191.6									15.8	-7.0	6/16/14	15.8
	3-B	8.8	12.9	X	8.5	684937.1	602184.7	NE	NE	NE	NE	16.0	-7.5	17.0	-8.5	15.5	-7.0	N/A	N/A
	4	8.7	12.8		8.5	684949.2	602176.1									15.5	-7.0	6/16/14	15.5
	5	8.5	12.7		8.3	684961.8	602160.4									15.3	-7.0	6/16/14	15.3
	6	8.8	13.1		8.5	684974.6	602144.1									15.5	-7.0	6/16/14	15.5
	7	9.0	13.4		12.3	684985.4	602129.8									17.7	-5.4	6/13/14	17.7
	8	9.0	13.6		12.4	684999.9	602114.5									17.8	-5.4	6/13/14	17.8
	8-B	9.0	13.6	X	8.6	684974.6	602134.2	14.5	-5.9	17.5	-8.9	17.5	-8.9	17.7	-9.1	14.0	-5.4	N/A	N/A
	9	9.0	13.7		12.3	685012.0	602097.8									17.7	-5.4	6/13/14	17.7
H13	10	9.0	13.8		12.0	685025.2	602082.7									17.4	-5.4	6/13/14	17.4
	11	9.0	14.0		8.9	685001.7	602076.0									14.3	-5.4	6/13/14	14.3
	12	9.0	13.9		8.8	684988.8	602092.5									14.2	-5.4	6/13/14	14.2
	13	9.0	13.8		8.7	684976.1	602106.8									14.2	-5.5	6/13/14	14.2
	14	9.0	13.6		8.7	684964.6	602123.0									14.2	-5.5	6/16/14	14.2
	15	8.7	13.2		8.6	684951.4	602138.0									14.1	-5.5	6/16/14	14.1
	15-B	8.7	13.2	X	8.5	684955.8	602151.2	14.5	-6.0	15.5	-7.0	15.5	-7.0	16.0	-7.5	14.0	-5.5	N/A	N/A
	16	8.5	12.9		8.5	684938.4	602154.7									14.0	-5.5	6/16/14	14.0
	17	8.7	12.9		8.5	684925.4	602170.0									14.0	-5.5	6/16/14	14.0
	18	8.8	12.9		8.7	684913.4	602185.0									14.9	-6.2	6/16/14	14.9
	19	8.9	12.9		8.9	684902.1	602200.9									15.1	-6.2	6/16/14	15.1
	20	8.7	12.7		8.8	684880.6	602209.4									15.0	-6.2	6/16/14	15.0
	20-B	8.7	12.7	X	8.8	684893.7	602213.0	NE	NE	NE	NE	15.5	-6.7	16.0	-7.2	15.0	-6.2	N/A	N/A
	1	8.6	14.3		8.5	685016.3	602002.3									16.7	-8.2	5/22/14	16.7
	2	8.9	14.2		8.7	685032.6	602015.2									20.0	-8.2	5/22/14	20.0
	3	9.0	14.0		11.8	685046.5	602027.6									20.0	-8.2	5/22/14	20.0
	3-B	9.0	14.0	X	11.8	685052.4	602029.9	NE	NE	NE	NE	20.5	-8.7	21.0	-9.2	20.0	-8.2	N/A	N/A
	4	9.0	13.8		11.8	685073.6	602015.0									20.0	-8.2	5/20/14	20.0
	5	9.0	13.9		12.1	685086.0	601998.5									19.4	-7.3	5/20/14	19.4
	6	9.0	14.0		12.1	685096.9	601982.6									19.4	-7.3	5/20/14	19.4
	6-B	9.0	14.0	X	12.0	685098.7	601983.3	19.0	-7.0	19.8	-7.8	19.8	-7.8	21.0	-9.0	19.3	-7.3	N/A	N/A
	7	9.0	14.1		12.4	685110.7	601967.6									19.7	-7.3	5/20/14	19.7
	8	9.0	14.3		12.5	685123.6	601952.4									19.8	-7.3	5/20/14	19.8
	9	9.0	14.6		12.6	685135.5	601935.5									19.9	-7.3	5/20/14	19.9
	10	9.0	15.0		12.5	685148.0	601920.6									19.9	-7.4	5/19/14	19.9
H14	11	9.0	15.3		12.4	685159.9	601904.5									19.8	-7.4	5/16/14	19.8
	11-B	9.0	15.3	X	12.1	685156.6	601907.7	19.0	-6.9	20.0	-7.8	20.0	-7.9	20.5	-8.4	19.5	-7.4	N/A	N/A
	12	9.0	16.0		12.2	685149.2	601884.6									19.6	-7.4	5/16/14	19.6
	13	9.0	15.6		12.0	685137.4	601900.4									19.4	-7.4	5/19/14	19.4
	14	9.0	15.1		12.3	685125.2	601915.9									20.0	-7.7	5/20/14	20.0
	15	9.0	14.7		12.3	685113.3	601932.9									20.0	-7.7	5/20/14	20.0
	15-B	9.0	14.7	X	12.3	685113.9	601932.0	NE	NE	NE	NE	20.5	-8.2	21.0	-8.7	20.0	-7.7	N/A	N/A
	16	9.0	14.6		12.2	685101.1	601948.4									19.9	-7.7	5/20/14	19.9
	17	9.0	14.4		12.3	685088.9	601965.0									20.0	-7.7	5/20/14	20.0
	18	9.0	14.3		12.3	685074.6	601976.4									20.0	-7.7	5/20/14	20.0

	19	9.0	14.1		12.1	685061.8	601992.1									18.5	-6.4	5/21/14	18.5
	20	9.0	14.6		12.2	685040.5	601980.4									18.6	-6.4	5/21/14	18.6
	21	9.0	14.9		12.2	685023.5	601967.1									18.6	-6.4	5/21/14	18.6
	21-B	9.0	14.9	X	8.6	685016.4	601991.0	15.5	-6.9	16.5	-7.9	16.5	-7.9	17.0	-8.4	15.0	-6.4	N/A	N/A
	1	7.3	14.9		8.1	685229.0	601776.9									19.1	-11.0	N/A	Not Installed
	2	7.7	15.5		8.0	685213.5	601764.3									19.0	-11.0	N/A	Not Installed
	3	8.0	16.0		8.0	685197.9	601751.7									19.0	-11.0	N/A	Not Installed
	4	8.0	16.2		8.0	685182.4	601739.1									19.0	-11.0	N/A	Not Installed
	5	8.0	16.4		7.8	685166.9	601726.5									18.8	-11.0	N/A	Not Installed
	6	8.0	16.6		7.6	685151.3	601713.9									18.6	-11.0	N/A	Not Installed
	7	7.6	16.3		7.6	685135.8	601701.3									18.6	-11.0	N/A	Not Installed
	8	7.4	16.0		7.6	685120.2	601688.8									18.6	-11.0	N/A	Not Installed
	9	7.4	16.0		7.6	685112.2	601700.3									18.6	-11.0	N/A	Not Installed
	10	7.4	15.9		7.6	685099.6	601715.8									18.6	-11.0	N/A	Not Installed
	11	7.7	16.2		7.6	685087.0	601731.3									18.6	-11.0	N/A	Not Installed
	12	7.7	16.0		7.6	685063.6	601725.3									18.6	-11.0	N/A	Not Installed
H15	13	7.6	16.0		7.6	685076.2	601709.7									18.6	-11.0	N/A	Not Installed
	14	7.6	16.0		7.6	685088.1	601693.8									18.6	-11.0	N/A	Not Installed
	15	7.2	15.7		7.6	685101.4	601678.6									18.6	-11.0	N/A	Not Installed
	16	7.4	16.0		7.7	685114.0	601663.1									18.7	-11.0	N/A	Not Installed
	17	7.2	15.7		7.7	685132.6	601657.6									18.7	-11.0	N/A	Not Installed
	18	7.3	15.6		7.8	685148.1	601670.2									18.8	-11.0	N/A	Not Installed
	19	7.6	15.8		7.8	685163.7	601682.8									18.8	-11.0	N/A	Not Installed
	20	7.9	15.9		8.0	685179.2	601695.3									19.0	-11.0	N/A	Not Installed
	21	8.1	15.9		8.0	685194.8	601707.9									19.0	-11.0	N/A	Not Installed
	22	8.1	15.8		8.0	685210.3	601720.5									19.0	-11.0	N/A	Not Installed
	23	8.0	15.6		8.1	685225.9	601733.1									19.1	-11.0	N/A	Not Installed
	24	7.6	15.1		8.1	685241.4	601745.7									19.1	-11.0	N/A	Not Installed
	25	7.2	14.5		8.1	685256.9	601758.3									19.1	-11.0	N/A	Not Installed
	1	7.2	15.1		6.7	685307.9	601688.2									17.7	-11.0	3/4/14	5.5
	2	7.6	15.6		6.8	685293.5	601677.5									17.8	-11.0	3/4/14	5.5
	3	8.0	16.0		6.8	685276.8	601664.7									17.8	-11.0	3/4/14	5.5
	3-B	8.0	16.0	X	7.5	685251.1	601632.0	15.0	-7.5	19.0	-11.5	19.0	-11.5	20.5	-13.0	18.5	-11.0	N/A	N/A
	4	8.1	16.2		7.0	685261.2	601650.6									18.0	-11.0	3/4/14	5.5
	5	8.0	16.2		7.5	685247.6	601637.4									18.5	-11.0	3/4/14	5.5
	6	7.8	16.0		7.5	685231.3	601623.8									18.5	-11.0	3/4/14	5.5
H16	7	7.6	15.9		7.3	685216.9	601613.2									18.3	-11.0	3/5/14	5.5
	8	7.9	16.4		7.1	685214.0	601586.6									18.1	-11.0	3/5/14	5.5
	9	7.6	16.0		7.6	685230.8	601600.4									18.6	-11.0	3/5/14	5.5
	10	7.6	15.9		7.5	685245.7	601614.1									18.5	-11.0	3/5/14	5.5
	11	7.7	15.9		7.7	685256.6	601623.7									18.7	-11.0	3/5/14	5.5
	12	7.1	15.3		7.4	685268.3	601632.6									18.4	-11.0	N/A	Not Installed
	13	7.0	15.2		6.7	685280.0	601641.5									17.7	-11.0	3/5/14	5.5
	14	7.0	15.1		6.5	685294.4	601652.2									17.5	-11.0	3/5/14	5.5
	15	6.9	14.9		6.9	685311.7	601668.2									17.9	-11.0	3/5/14	5.5
	1	6.4	14.6		6.6	685340.4	601639.9									17.6	-11.0	3/6/14	7.5
H17	2	6.2	14.5		6.3	685328.6	601629.5									17.3	-11.0	3/6/14	7.5
	3	6.4	14.7		6.5	685357.4	601607.6									17.5	-11.0	3/6/14	7.5
	4	6.6	14.8		6.6	685372.1	601619.8									17.6	-11.0	3/6/14	7.5
	1	6.6	15.3		6.3	685399.3	601574.3									15.0	-8.7	3/6/14	12.0
	2	6.5	15.2		6.2	685384.6	601561.2									14.9	-8.7	3/6/14	12.0
	3	6.1	14.9		6.1	685367.9	601548.5									14.8	-8.7	3/6/14	12.0
	4	6.7	15.5		6.6	685309.0	601530.9									15.3	-8.7	3/7/14	15.0
	5	7.0	16.0		7.0	685296.3	601511.6									15.7	-8.7	3/7/14	15.0
	6	7.2	16.2		7.2	685280.0	601499.5									15.9	-8.7	3/7/14	15.0
H18	7	7.8	16.8		7.2	685294.8	601469.5									15.9	-8.7	3/7/14	15.0
	7-B	7.8	16.8	X	7.1	685292.5	601471.1	NE	NE	NE	NE	16.3	-9.2	17.5	-10.4	15.8	-8.7	N/A	N/A
	8	7.6	16.6		7.6	685311.4	601482.9									16.3	-8.7	3/8/14	15.0
	9	7.4	16.4		7.3	685325.7	601496.0									16.0	-8.7	3/8/14	15.0
	10	6.1	15.1		6.1	685383.1	601517.8									14.8	-8.7	3/11/14	12.0
	11	6.2	15.2		6.2	685398.8	601530.2									14.9	-8.7	3/11/14	12.0
	12	6.8	15.7		6.4	685413.0	601542.3									15.1	-8.7	3/11/14	12.0
	1	10.5	10.0		10.6	684187.5	602983.1									10.7	-0.1	9/4/13	10.7
	2	10.5	10.2		10.7	684187.5	602968.4									10.8	-0.1	9/4/13	10.8
	3	10.6	10.5		10.5	684187.9	602953.0									10.6	-0.1	9/4/13	10.6
	4	10.8	10.8		10.6	684178.2	602940.4									10.7	-0.1	9/4/13	10.7
	4-B	10.8	10.8	X	11.1	684164.8	602936.6	12.0	-0.9	12.3	-1.2	12.3	-1.2	14.0	-2.9	11.2	-0.1	N/A	N/A
	5	11.0	10.8		10.8	684163.1	602940.1									10.9	-0.1	8/21/13	10.9
	6	11.1	11.0		11.1	684158.1	602925.6									11.2	-0.1	8/21/13	11.2
	7	11.0	11.0		11.0	684160.3	602911.0									11.1	-0.1	8/21/13	11.1
	7-B	11.0	11.2	X	11.4	684163.3	602903.6	12.0	-0.6	12.5	-1.1	12.5	-1.1	14.0	-2.6	11.5	-0.1	N/A	N/A
	8	11.0	11.2		11.1	684164.5	602895.3									11.2	-0.1	8/21/13	11.2
	9	10.9	11.1		11.0	684170.6	602881.8									12.2	-1.2	8/21/13	12.2
	10	10.8	10.0		10.7	684176.4	602867.8									11.9	-1.2	8/21/13	11.9
	10-B	10.8	10.9	X	10.8	684175.2	602872.8	12.5	-1.7	12.8	-2.0	12.8	-2.0	14.0	-3.2	12.0	-1.2	N/A	N/A
	11	10.7	10.8		10.8	684188.2	602858.3									12.0	-1.2	8/20/13	12.0
	12	10.7	10.9		10.9	684202.8	602853.6									11.5	-0.6	8/20/13	11.5
	13	10.7	10.9		10.9	684216.0	602850.5									11.5	-0.6	8/20/13	11.5
	13-B	10.7	10.9	X	11.1	684221.9	602848.5	12.2	-1.1	13.0	-1.9	13.0	-1.9	14.0	-2.9	11.7	-0.6	N/A	N/A
	14	10.7	10.9		10.8	684231.3	602846.8									11.4	-0.6	8/20/13	11.4
	15	10.7	11.0		10.9	684243.5	602835.4									11.1	-0.2	8/20/13	11.1
	16	10.7	11.0		11.0	684253.5	602825.7									11.2	-0.2	8/20/13	11.2
	16-B	10.7	11.0	X	11.1	684249.8	602831.0	11.8	-0.7	12.2	-1.1	12.2	-1.1	14.0	-2.9	11.3	-0.2	N/A	N/A
	17	10.6	10.8		11.5	684265.5	602815.6									11.7	-0.2	8/21/13	10.5
	18	10.3	10.6		11.0	684276.4	602805.5									11.2	-0.2	8/20/13	11.2
	19	10.0	10.3		10.1	684287.3	602794.8									10.3	-0.2	8/20/13	10.3
	19-B	10.0	10.3	X	10.5	684287.1	602797.5	NE	NE	NE	NE	14.0	-3.5	16.0	-5.5	10.7	-0.2	N/A	N/A
	20	10.0	10.4		10.1	684298.1	602785.0									10.3	-0.2	8/20/13	10.3
	21	10.0	10.4		10.5	684309.4	602774.4									10.7	-0.2	8/20/13	10.7
	22	10.1	10.5		10.6	684320.4	602764.5									12.0	-1.4	8/20/13	12.0
	23	10.4	10.7		10.5	684331.4	602754.5									11.9	-1.4	8/20/13	11.9
	23-B	10.4	10.7	X	10.7	684335.5	602751.7	12.6	-1.9	12.9	-2.2	12.9	-2.2	14.0	-3.3	12.1	-1.4	N/A	N/A
	24	10.0	10.2		10.2	684342.5	602744.6									11.6	-1.4	8/19/13	11.6
	25	9.9	10.1		9.7	684353.2	602734.4									10.7	-1.0	8/19/13	10.7
	26	9.8	9.9		9.4	684364.8	602724.0									10.4	-1.0	8/19/13	10.4
	26-B	9.8	9.9	X	9.5	684367.2	602722.4	11.0	-1.5	11.5	-2.0	11.5	-2.0	12.0	-2.5	10.5	-1.0	N/A	N/A
	27	9.7	9.8		9.4	684375.4	602713.8									10.4	-1.0	8/19/13	10.4
	28	9.6	9.7		9.3	684384.8	602701.7									10.3	-1.0	8/19/13	10.3
	29	9.2	9.4		9.0	684388.3	602686.7									10.0	-1.0	8/19/13	10.0
	30	9.2	9.4		9.4	684391.4	602672.4									10.4	-1.0	8/19/13	10.4
	30-B	9.2	9.4	X	9.3	684390.6	602674.7	NE	NE	NE	NE	12.6	-3.3	14.0	-4.7	10.3	-1.0	N/A	N/A
EPS	31	9.7	9.9		9.4	684393.6	602658.7									11.6	-2.2	8/19/13	11.6
	32	9.8	10.1		9.7	684401.7	602644.6									11.9	-2.2	8/19/13	11.9
	33	9.6	9.9		9.7	684412.3	602633.8									11.9	-2.2	8/19/13	11.9
	33-B	9.6	9.9	X	9.9	684414.8	602630.6	12.6	-2.7	12.8	-2.9	12.8	-2.9	14.0	-4.1	12.1	-2.2	N/A	N/A
	34	9.5	9.8		9.7	684422.7	602623.5									11.9	-2.2	12/11/13	11.9
	35	9.5	9.8		9.7	684433.6	602613.0									12.1	-2.4	N/A	Not Installed
	36	9.5	9.8		9.7	684443.5	602602.1									12.1	-2.4	12/13/13	12.1
	36-B	9.5	9.8	X	9.9	684449.9	602600.5	12.8	-2.9	12.9	-3.0	12.9	-3.0	14.0	-4.1	12.3	-2.4	N/A	N/A
	37	9.4	9.8		9.8	684454.3	602590.7									12.2	-2.4	12/11/13	12.2
	38	9.4	9.7		12.4	684465.7	602581.2									14.8	-2.4	12/17/13	14.8
	39	9.3	9.7		12.9	684475.5	602570.3									15.3	-2.4	12/17/13	15.3
	40	9.3	9.7		12.8	684486.6	602558.8									15.2	-2.4	12/17/13	15.2

	41	9.2	9.6		12.7	684496.2	6025487.6									15.1	-2.4	12/17/13	15.1
	42	9.2	9.6		9.6	684507.5	602537.8									13.2	-3.6	12/16/13	13.2
	43	9.1	9.5		9.5	684518.3	602527.0									13.1	-3.6	12/16/13	13.1
	43-B	9.1	9.5	X	9.4	684523.3	602521.6	NE	NE	NE	NE	13.5	-4.1	15.5	-6.1	13.0	-3.6	N/A	N/A
	44	9.0	9.5		9.4	684528.7	602516.9									13.0	-3.6	12/16/13	13.0
	45	9.0	9.4		9.1	684538.9	602505.2									12.7	-3.6	12/16/13	12.7
	46	9.0	9.4		8.9	684549.7	602494.9									12.2	-3.3	12/6/13	12.2
	46-B	9.0	9.4	X	8.9	684544.5	602499.1	12.7	-3.8	12.9	-4.0	12.9	-4.0	14.0	-5.1	12.2	-3.3	N/A	N/A
	47	8.9	9.5		8.9	684563.7	602491.4									12.2	-3.3	12/16/13	12.2
	48	8.9	9.6		9.0	684578.7	602487.2									12.3	-3.3	12/16/13	12.3
	49	8.9	9.7		9.0	684592.9	602483.0									13.1	-4.1	12/17/13	13.1
	49-B	8.9	9.7	X	8.9	684584.1	602485.2	NE	NE	NE	NE	13.5	-4.6	14.0	-5.1	13.0	-4.1	N/A	N/A
	50	8.9	9.7		9.0	684607.2	602478.6									13.1	-4.1	12/17/13	13.1
	51	9.0	9.9		8.9	684621.5	602473.9									13.0	-4.1	12/17/13	13.0
	52	9.0	10.0		9.3	684624.3	602460.0									11.7	-2.4	12/17/13	11.7
	53	9.0	10.0		8.9	684621.8	602445.2									11.3	-2.4	7/30/14	11.3
	53-B	9.0	10.0	X	9.1	684621.6	602450.7	12.0	-2.9	12.1	-3.0	12.1	-3.0	14.0	-4.9	11.5	-2.4	N/A	N/A
	54	8.7	9.7		8.6	684621.5	602431.0									11.0	-2.4	7/30/14	11.0
	55	8.6	9.5		8.5	684617.1	602415.3									10.9	-2.4	7/30/14	10.9
	56	8.4	9.4		8.5	684619.1	602397.9									10.9	-2.4	7/30/14	10.9
	57	8.3	9.3		8.5	684611.6	602387.4									10.9	-2.4	7/30/14	10.9
	58	8.2	9.2		8.4	684608.0	602363.6									10.8	-2.4	7/30/14	10.8
	59	8.2	9.1		8.4	684606.0	602353.6									10.8	-2.4	7/30/14	10.8
	60	8.3	9.2		8.2	684603.4	602342.4									10.6	-2.4	7/30/14	10.6
	61	8.0	8.9		7.9	684601.7	602327.7									10.3	-2.4	7/30/14	10.3
	62	7.9	8.9		7.8	684597.2	602311.6									10.2	-2.4	7/29/14	10.2
	63	8.0	9.0		7.8	684602.5	602298.2									10.2	-2.4	7/29/14	10.2
	64	8.0	9.0		7.8	684610.2	602288.3									10.2	-2.4	7/29/14	10.2
WPS-1	1	8.3	17.4		6.7	685472.8	601492.2									15.4	-8.7	3/11/14	15.0
	2	8.7	17.9		7.0	685461.1	601482.2									15.7	-8.7	3/11/14	15.0
	3	8.5	17.6		6.9	685445.9	601468.5									15.6	-8.7	3/11/14	15.0
	4	8.3	17.5		6.9	685435.1	601458.4									15.6	-8.7	3/11/14	15.0
	5	8.7	18.0		7.2	685422.7	601449.2									15.9	-8.7	3/11/14	15.0
	6	9.3	18.5		6.5	685410.0	601438.3									15.2	-8.7	3/11/14	15.0
	7	9.5	18.6		6.9	685396.6	601428.3									15.6	-8.7	3/11/14	15.0
	8	9.6	18.7		7.6	685381.0	601415.7									16.3	-8.7	3/11/14	15.0
	9	9.7	18.7		7.5	685363.1	601397.3									16.2	-8.7	3/11/14	15.0
	10	9.8	18.9		8.1	685350.1	601387.8									16.8	-8.7	3/11/14	15.0
WPS-2	1	7.3	9.7		8.2	685256.9	601758.3									15.5	-7.3	N/A	Not Installed
	2	7.6	10.1		8.2	684714.1	602126.4									15.5	-7.3	N/A	Not Installed
	3	7.9	10.6		8.3	684728.1	602131.8									15.6	-7.3	N/A	Not Installed
	4	9.0	11.9		8.3	684742.1	602137.3									15.6	-7.3	N/A	Not Installed
	5	8.9	12.0		8.2	684756.1	602142.7									15.5	-7.3	N/A	Not Installed
	6	8.7	12.0		8.2	684770.1	602148.1									15.5	-7.3	N/A	Not Installed
	7	8.5	12.0		8.2	684784.1	602153.5									15.5	-7.3	N/A	Not Installed
	8	8.3	12.0		8.2	684798.1	602158.9									15.5	-7.3	N/A	Not Installed
	9	8.5	12.4		8.2	684812.0	602164.3									15.5	-7.3	N/A	Not Installed
	10	8.4	12.6		8.2	684837.6	602150.4									15.5	-7.3	N/A	Not Installed
	11	8.4	12.9		8.2	684848.2	602139.7									15.5	-7.3	N/A	Not Installed
	12	8.4	13.2		8.2	684860.5	602128.0									15.5	-7.3	N/A	Not Installed
	12-B	8.5	13.2	X	8.2	684867.9	602129.2	NE	NE	NE	NE	16.0	-7.8	17.0	-8.8	15.5	-7.3	N/A	N/A
	13	8.5	13.4		8.2	684870.9	602118.9									15.5	-7.3	N/A	Not Installed
	14	8.5	13.7		7.9	684880.6	602106.9									13.6	-5.7	N/A	Not Installed
	15	8.5	13.9		8.2	684891.7	602096.6									13.9	-5.7	N/A	Not Installed
	15-B	8.6	13.9	X	8.3	684889.2	602102.4	14.5	-6.2	16.5	-8.2	16.5	-8.2	17.2	-8.9	14.0	-5.7	N/A	N/A
	16	8.6	14.0		8.2	684901.1	602086.0									13.9	-5.7	N/A	Not Installed
	17	8.6	14.1		8.2	684911.8	602076.0									13.9	-5.7	N/A	Not Installed
	18	8.3	13.9		8.1	684922.6	602065.3									14.3	-6.2	N/A	Not Installed
	19	8.2	13.8		8.1	684932.2	602055.2									14.3	-6.2	N/A	Not Installed
	19-B	8.2	13.8	X	8.3	684924.7	602062.4	15.0	-6.7	16.7	-8.4	16.7	-8.4	17.0	-8.7	14.5	-6.2	N/A	N/A
	20	8.1	13.9		8.0	684944.4	602044.5									14.2	-6.2	N/A	Not Installed
	21	8.1	13.9		8.0	684955.0	602033.9									15.1	-7.1	N/A	Not Installed
	22	8.0	14.0		7.9	684961.6	602019.7									15.0	-7.1	N/A	Not Installed
	22-B	7.9	14.0	X	8.1	684959.7	602015.7	15.7	-7.6	16.2	-8.1	16.2	-8.1	17.0	-8.9	15.2	-7.1	N/A	N/A
	23	7.9	14.0		7.8	684959.4	602006.6									14.9	-7.1	N/A	Not Installed
	24	7.8	14.2		7.6	684955.4	601990.0									15.2	-7.6	N/A	Not Installed
	25	7.7	14.2		7.6	684953.9	601976.2									15.2	-7.6	N/A	Not Installed
	25-B	7.6	14.2	X	7.5	684953.1	601967.8	15.6	-8.1	15.9	-8.4	15.9	-8.4	17.0	-9.5	15.1	-7.6	N/A	N/A
	26	7.6	14.3		8.1	684963.7	602039.7									15.7	-7.6	5/23/14	15.7
	27	7.6	14.5		8.0	684965.0	602024.3									15.6	-7.6	5/23/14	15.6
	28	7.6	14.7		7.9	684968.6	602010.0									15.4	-7.5	5/23/14	15.4
	29	7.7	14.8		8.2	684984.5	601964.0									15.7	-7.5	5/23/14	15.7
	29-B	7.8	14.8	X	7.5	684963.9	601919.6	NE	NE	NE	NE	15.5	-8.0	17.0	-9.5	15.0	-7.5	N/A	N/A
	30	7.8	14.9		8.4	684990.6	601950.9									15.9	-7.5	5/23/14	15.9
	31	7.8	14.9		8.6	685000.7	601938.1									15.5	-6.9	5/23/14	15.5
	32	7.9	14.9		8.4	685010.6	601927.2									15.3	-6.9	5/23/14	15.3
	32-B	8.0	14.8	X	7.8	684992.1	601908.4	NE	NE	NE	NE	15.2	-7.4	16.2	-8.4	14.7	-6.9	N/A	N/A
	33	8.0	14.9		8.3	685019.9	601915.6									15.2	-6.9	5/23/14	15.2
	34	8.0	14.9		8.2	685030.8	601904.2									15.4	-7.2	5/23/14	15.4
	35	8.0	14.9		8.1	685040.6	601893.3									15.2	-7.2	5/23/14	15.2
	35-B	7.9	14.9	X	8.1	685031.2	601888.1	NE	NE	NE	NE	15.8	-7.7	16.0	-7.9	15.3	-7.2	N/A	N/A
	36	7.9	15.0		8.1	685053.0	601880.5									15.2	-7.2	5/23/14	15.2
	37	7.9	15.2		8.0	685063.7	601874.3									15.2	-7.2	5/23/14	15.2
	38	7.9	15.4		7.9	685078.4	601864.5									15.7	-7.9	5/23/14	15.7
	39	8.0	15.7		7.8	685091.0	601857.2									15.6	-7.9	5/23/14	15.6
	39-B	8.1	15.7	X	7.9	685084.3	601861.4	NE	NE	NE	NE	16.3	-8.4	17.0	-9.1	15.8	-7.9	N/A	N/A
	40	8.1	16.0		7.8	685103.2	601852.8									15.7	-7.9	5/23/14	15.7
	41	8.1	16.2		8.1	685117.6	601847.3									16.0	-7.9	5/23/14	16.0
	42	8.1	16.4		8.3	685131.6	601840.3									16.1	-7.9	5/23/14	16.1
H22	1	8.8	18.0		8.8	685175.5	601493.4									8.3	0.5	12/10/15	14.0
	2	8.8	18.0		8.8	685189.1	601505.6									8.3	0.5	12/10/15	14.0
	2-B	8.4	18.0	X	8.4	685186.7	601518.6	18.0	-9.6	18.5	-10.1	18.5	-10.1	20.0	-11.6	7.9	0.5	N/A	N/A
	3	8.5	18.0		8.5	685209.9	601505.3									8.0	0.5	12/10/15	14.0
	4	7.9	18.0		7.9	685205.4	601497.8									7.4	0.5	12/10/15	14.0
	4-B	8.5	18.0	X	8.5	685218.5	601498.2	16.0	-7.5	16.5	-8.0	17.5	-9.0	20.0	-11.5	8.0	0.5	N/A	N/A
	5	8.6	18.0		8.6	685222.5	601490.0									8.1	0.5	12/10/15	14.0
	6	8.7	18.0		8.7	685234.6	601473.9									8.2	0.5	12/15/15	14.0
	7	8.8	18.0		8.8	685248.2	601458.7									8.3	0.5	12/15/15	14.0
	8	8.1	18.0		8.1	685249.5	601449.0									7.6	0.5	12/15/15	14.0
	9	8.6	18.0		8.6	685281.0	601449.7									8.1	0.5	12/15/15	14.0
	10	8.4	18.0		8.4	685262.5	601457.6									7.9	0.5	12/15/15	14.0
	11	8.0	18.0		8.0	685250.9	601474.9									7.5	0.5	12/16/15	14.0
	11-B	8.9	18.0	X	8.9	685241.3	601466.2	16.0	-7.1	16.5	-7.6	16.5	-7.6	20.0	-11.1	8.4	0.5	N/A	N/A
	12	7.8	18.0		7.8	685238.9	601491.2									7.3	0.5	12/16/15	14.0
	13	7.9	18.0		7.9	685226.1	601504.7									7.4	0.5	12/16/15	14.0
	14	7.9	18.0		7.9	685212.3	601519.0									7.4	0.5	12/16/15	14.0
	15	7.5	18.0		7.5	685198.9	601531.7									7.0	0.5	12/16/15	14.0
	16	8.1	18.0		8.1	685198.0	601521.7									7.6	0.5	12/16/15	14.0
	17	7.8	18.0		7.8	685187.7	601528.3									7.3	0.5	12/16/15	14.0
	18	8.3	18.0		8.3	685173.6	601516.2									7.8	0.5	12/16/15	14.0
	19	7.7	18.0		7.7	685154.2	601520.4									7.2	0.5	12/16/15	14.0
	1	7.0	18.0		7.0	685105.7	601588.0									6.5	0.5	12/17/15	13.5
	1-B	7.2	18.0	X	7.2	685118.2	601587.2	16.0	-8.8	17.4	-10.2	17.4	-10.2	20.0	-12.8	6.7	0.5	N/A	N/A

H23	2	6.9	18.0		6.9	685122.5	601577.2									6.4	0.5	12/17/15	13.5
	3	6.9	18.0		6.9	685139.3	601566.5									6.4	0.5	12/17/15	13.5
	4	8.1	18.0		8.1	685133.0	601558.7									7.6	0.5	12/18/15	13.5
	5	8.0	18.0		8.0	685136.8	601536.5									7.5	0.5	12/18/15	13.5
	6	7.0	18.0		7.0	685156.8	601557.9									6.5	0.5	12/18/15	13.5
	6-B	7.1	18.0	X	7.1	685160.7	601564.0	16.0	-8.9	16.1	-9.0	16.1	-9.0	20.0	-12.9	6.6	0.5	N/A	N/A
	7	8.0	18.0		8.0	685149.3	601544.6									7.5	0.5	12/18/15	13.5
	8	7.0	18.0		7.0	685173.0	601548.0									6.5	0.5	12/18/15	13.5
	9	8.2	18.0		8.2	685154.1	601527.1									7.7	0.5	12/18/15	13.5
	10	7.6	18.0		7.6	685185.7	601555.4									7.1	0.5	12/18/15	13.5
	11	7.3	18.0		7.3	685171.2	601563.6									6.8	0.5	12/18/15	13.5
	12	8.1	18.0		8.1	685167.5	601594.8									7.6	0.5	12/18/15	13.5
	13	6.6	18.0		6.6	685149.0	601571.5									6.1	0.5	12/18/15	13.5
	14	6.9	18.0		6.9	685120.1	601594.2									6.4	0.5	12/18/15	13.5
H24	1	7.2	18.0		7.2	685060.1	601648.2									6.7	0.5	12/18/15	10.0
	1-B	7.2	18.0	X	7.2	685072.0	601646.3	14.7	-7.5	15.8	-8.6	15.8	-8.6	20.0	-12.8	6.7	0.5	N/A	N/A
	2	7.8	18.0		7.8	685079.9	601644.6									7.3	0.5	12/18/15	10.0

SA6 NORTH																			
		Design			Field Verified											Proposed Per Field Observation		Installation	
								Organic Silt/Clay				Peat (ft. bgs)		End of Boring					
Header #	Point #	Existing Grade at Point (ft. Elev)	Assumed Depth of Meadowmat (ft. bgs)	Split Spoon	Existing Grade at Point (ft. Elev)	Northing	Easting	Top (ft. bgs)	Top (ft. Elev)	Bottom (ft. bgs)	Bottom (ft. Elev)	Top (ft. bgs)	Top (ft. Elev.)	Bottom (ft. bgs)	Bottom (ft. Elev.)	Proposed Well Point Depth (ft. bgs)	Proposed Well Point Depth (ft. Elev.)	Date Installed	Well Point Depth Installed (ft. bgs)
	1	11.8	14.5		11.8	685453.1	603410.1									14.7	-3.0	8/18/15	14.5
	2	11.9	14.5		11.9	685467.1	603394.5									14.8	-3.0	8/18/15	14.5
	3	12.2	14.5		12.2	685478.3	603381.3									15.2	-3.0	8/18/15	14.5
	4	12.2	14.5		12.2	685490.4	603366.8									15.2	-3.0	8/18/15	14.5
	5	12.1	14.5		12.1	685502.2	603349.5									15.1	-3.0	8/18/15	14.5
	6	12.8	14.5		12.8	685515.7	603334.7									15.9	-3.1	8/18/15	14.5
	7	12.4	14.5		12.4	685528.5	603318.2									15.5	-3.1	8/18/15	14.5
	8	12.6	14.5		12.6	685541.9	603302.5									15.7	-3.1	8/18/15	14.5
	9	12.4	14.5		12.4	685557.1	603283.2									15.6	-3.1	8/18/15	14.5
	10	12.6	14.5		12.6	685577.5	603293.4									15.7	-3.1	8/18/15	14.5
H19	10-B	12.5	14.5	X	12.4	685578.2	603290.5	16.0	-3.6	17.0	-4.6	17.5	-5.1	20.0	-7.6	15.5	-3.1	N/A	N/A
	11	12.2	14.5		12.2	685565.1	603309.5									15.4	-3.1	8/19/15	14.5
	12	12.5	14.5		12.5	685553.1	603326.2									15.7	-3.1	8/19/15	14.5
	13	12.6	14.5		12.6	685539.9	603341.5									14.6	-2.1	8/19/15	14.5
	14	12.9	14.5		12.9	685527.4	603359.8									15.0	-2.1	8/19/15	14.5
	14-B	12.8	14.5	X	12.9	685537.6	603359.9	15.5	-2.6	16.7	-3.8	17.1	-4.2	20.0	-7.1	15.0	-2.1	N/A	N/A
	15	12.7	14.5		12.7	685513.0	603372.6									15.0	-2.3	8/19/15	14.5
	16	12.6	14.5		12.6	685500.4	603386.1									15.0	-2.4	8/19/15	14.5
	17	12.5	14.5		12.5	685489.1	603401.7									15.6	-3.2	8/19/15	14.5
	18	12.3	14.5		12.3	685483.2	603419.7									15.6	-3.3	8/19/15	14.5
	18-B	12.3	14.5	X	12.6	685480.5	603418.2	16.1	-3.5	17.2	-4.6	17.5	-4.9	20.0	-7.4	15.6	-3.0	N/A	N/A
	1	9.3	10.5		9.3	685500.6	603863.0									10.0	-0.7	N/A	Not Installed
	2	9.3	10.5		9.3	685482.7	603854.2									10.0	-0.7	N/A	Not Installed
	3	9.3	10.5		9.3	685464.7	603845.4									9.9	-0.7	N/A	Not Installed
	4	9.3	10.5		9.3	685447.0	603836.7									9.9	-0.7	10/12/15	9.5
	4-B	9.3	10.5	X	9.1	685436.6	603837.4	10.3	-1.2	10.5	-1.4	10.5	-1.4	12.0	-2.9	9.8	-0.7	N/A	N/A
	5	9.1	10.5		9.1	685429.4	603827.2									9.7	-0.7	10/12/15	9.5
	6	8.9	10.5		8.9	685410.5	603819.1									9.6	-0.7	10/12/15	9.5
H20	7	9.0	10.5		9.0	685393.0	603810.0									9.6		10/12/15	9.5
	8	8.9	10.5		8.9	685374.9	603801.1									9.5	-0.6	10/12/15	9.5
	8-B	10.3	10.5	X	8.9	685363.8	603803.1	10.0	-1.1	10.5	-1.6	10.5	-1.6	12.0	-3.1	9.5	-0.6	N/A	N/A
	9	9.1	10.5		9.1	685356.1	603792.6									9.7	-0.6	10/12/15	9.5
	10	9.3	10.5		9.3	685339.7	603784.3									9.9	-0.6	10/12/15	8.0
	11	9.2	10.5		9.2	685322.2	603775.7									7.6	1.6	10/12/15	7.5
	11-B	9.7	10.5	X	9.1	685312.5	603776.6	8.0	1.1	9.0	0.1	9.0	0.1	10.0	-0.9	7.5	1.6	N/A	N/A
	12	8.9	10.5		8.9	685304.2	603767.3									7.3	1.6	10/12/15	7.5
	13	9.4	10.5		9.4	685286.8	603758.8									7.7	1.6	10/12/15	7.5
	1	10.5	12.0		10.5	685208.3	603734.4									12.0	-1.5	10/13/15	10.6
	2	11.2	12.0		11.2	685221.4	603719.2									12.7	-1.5	10/13/15	10.3
	2-B	9.8	12.0	X	10.9	685233.3	603720.0	10.0	0.9	12.0	-1.1	12.0	-1.1	14.0	-3.1	12.4	-1.5	N/A	N/A
	3	11.8	12.0		11.8	685235.5	603704.4									10.4	1.4	10/13/15	10.0
	4	12.6	12.0		12.6	685247.8	603688.9									11.2	1.4	10/13/15	10.5
	5	13.2	12.0		13.2	685260.8	603673.5									11.8	1.4	10/13/15	10.5
	6	14.1	12.0		14.1	685275.1	603659.4									13.8	0.3	10/13/15	10.5
	7	14.6	12.0		14.6	685288.4	603645.1									14.3	0.3	10/13/15	14.0
	8	14.9	12.0		14.9	685301.4	603630.2									14.6	0.3	10/13/15	14.0
H21	8-B	10.1	12.0	X	15.1	685309.3	603640.0	15.3	-0.2	15.5	-0.4	15.5	-0.4	16.0	-0.9	14.8	0.3	N/A	N/A
	9	15.0	12.0		15.0	685324.8	603638.1									14.7	0.3	10/13/15	14.0
	10	14.7	21.0		14.7	685311.2	603652.3									14.3	0.3	10/13/15	14.0
	11	14.3	12.0		14.3	685296.9	603667.0									15.8	-1.5	10/13/15	15.0
	12	14.1	12.0		14.1	685284.6	603682.7									15.6	-1.5	10/13/15	15.0
	12-B	9.7	12.0	X	14.0	685274.2	603681.9	16.0	-2.0	16.2	-2.2	16.2	-2.2	18.0	-4.0	15.5	-1.5	N/A	N/A
	13	13.6	12.0		13.6	685272.0	603695.8									15.1	-1.5	10/13/15	15.0
	14	12.7	12.0		12.7	685258.6	603711.4									14.2	-1.5	10/13/15	14.0
	15	11.0	12.0		11.0	685243.7	603726.4									12.5	-1.5	10/13/15	12.0
	16	10.1	12.0		10.1	685230.4	603741.2									11.6	-1.5	10/13/15	11.0

SA6 SPLIT SPOON																	
		Design			Field Verified											Proposed Per Field	
								Organic Silt/Clay				Peat (ft. bgs)		End of Boring			
Header #	Point #	Existing Grade at Point	Assumed Depth of Meadow	Split Spoon	Existing Grade at Point	Northing	Easting	Top (ft. bgs)	Top (ft. Elev)	Bottom (ft. bgs)	Bottom (ft. Elev)	Top (ft. bgs)	Top (ft. Elev.)	Bottom (ft. bgs)	Bottom (ft. Elev.)	Proposed Well Point	Proposed Well Point
H-1	1-B	9.2	9.9	X	9.2	684169.0	603136.6	NE	NE	NE	NE	10.8	-1.6	12.0	-2.8	10.3	-1.1
	4-B	9.3	10.1	X	9.4	684200.5	603101.1	10.2	-0.8	10.4	-1.0	10.4	-1.0	12.0	-2.6	9.7	-0.3
	9-B	9.9	10.0	X	9.7	684227.1	603063.7	10.5	-0.8	10.7	-1.0	10.7	-1.0	12.0	-2.3	10.0	-0.3
H-2	3-B	9.9	9.8	X	10.3	684234.6	602983.3	10.8	-0.5	11.5	-1.2	11.5	-1.2	12.0	-1.7	10.3	0.0
	6-B	10.3	10.8	X	10.4	684208.3	602964.1	10.5	-0.1	10.8	-0.4	10.8	-0.4	11.7	-1.3	10.0	0.4
	11-B	9.7	10.6	X	9.7	684276.5	603001.0	11.0	-1.3	11.5	-1.8	11.5	-1.8	12.0	-2.3	10.5	-0.8
H-3	3-B	9.8	10.9	X	9.6	684298.8	602919.7	11.2	-1.6	12.0	-2.4	12.0	-2.4	14.0	-4.4	10.7	-1.1
	7-B	10.1	10.8	X	10.4	684256.3	602889.0	12.5	-2.1	12.8	-2.4	12.8	-2.4	14.0	-3.6	12.0	-1.6
	12-B	9.7	11.1	X	9.6	684335.6	602935.3	11.0	-1.4	11.6	-2.0	11.6	-2.0	12.0	-2.4	10.5	-0.9
H-4	3-B	9.8	10.8	X	9.7	684355.8	602852.1	13.0	-3.3	13.2	-3.5	13.2	-3.5	14.0	-4.3	12.5	-2.8
	10-B	10.4	12.5	X	10.0	684395.1	602870.6	12.5	-2.5	12.7	-2.7	12.7	-2.7	14.0	-4.0	12.0	-2.0
H-5	2-B	10.9	12.5	X	8.7	684433.6	602785.3	10.5	-1.8	11.4	-2.7	11.4	-2.7	12.0	-3.3	10.0	-1.3
	5-B	10.4	10.5	X	9.1	684398.8	602758.7	10.0	-0.9	10.5	-1.4	10.5	-1.4	12.0	-2.9	9.5	-0.4
H-6	3-B	9.9	9.7	X	9.5	684475.5	602711.9	11.8	-2.3	13.0	-3.5	13.0	-3.5	14.0	-4.5	11.3	-1.8
	5-B	9.5	9.6	X	9.3	684447.5	602679.3	11.8	-2.5	12.3	-3.0	12.3	-3.0	14.0	-4.7	11.3	-2.0
	10-B	9.1	10.1	X	9.4	684512.6	602733.4	12.8	-3.4	13.0	-3.6	13.0	-3.6	14.0	-4.6	12.3	-2.9
H-7	3-B	9.4	9.5	X	10.0	684531.9	602646.9	13.5	-3.5	14.5	-4.5	14.5	-4.5	16.0	-6.0	9.5	0.5
	6-B	9.2	9.4	X	10.0	684499.8	602620.6	13.3	-3.3	13.6	-3.6	13.6	-3.6	14.0	-4.0	9.5	0.5
	11-B	9.6	10.1	X	9.8	684563.4	602671.6	NE	NE	NE	NE	13.5	-3.7	14.0	-4.2	9.3	0.5
H-8	3-B	9.2	9.8	X	9.2	684604.7	602571.2	11.7	-2.5	11.8	-2.6	11.8	-2.6	12.0	-2.8	11.2	-2.0
	6-B	9.1	9.6	X	9.3	684570.5	602540.5	NE	NE	NE	NE	12.0	-2.7	14.0	-4.7	8.8	0.5
	11-B	9.4	10.4	X	9.2	684634.3	602592.9	11.2	-2.0	11.4	-2.2	11.4	-2.2	12.0	-2.8	10.7	-1.5
H-9	3-B	9.0	10.0	X	9.2	684649.2	602515.2	12.5	-3.3	12.8	-3.6	12.8	-3.6	14.0	-4.8	12.0	-2.8
	7-B	9.1	10.8	X	9.1	684685.8	602530.0	12.1	-3.0	12.4	-3.3	12.4	-3.3	14.0	-4.9	11.6	-2.5
H-12	3-B	8.8	11.4	X	8.8	684813.7	602286.6	14.5	-5.7	15.5	-6.7	15.5	-6.7	16.0	-7.2	14.0	-5.2
	8-B	8.6	10.5	X	8.8	684739.9	602213.1	NE	NE	NE	NE	14.5	-5.7	15.0	-6.2	14.0	-5.2
	16-B	9.0	11.9	X	8.6	684780.8	602237.7	NE	NE	NE	NE	14.5	-5.9	15.0	-6.4	14.0	-5.4
	21-B	10.6	13.7	X	10.4	684854.9	602295.1	NE	NE	NE	NE	17.0	-6.6	18.0	-7.6	16.5	-6.1
H-13	3-B	8.8	12.9	X	8.5	684937.1	602184.7	NE	NE	NE	NE	16.0	-7.5	17.0	-8.5	15.5	-7.0
	8-B	9.0	13.6	X	8.6	684974.6	602134.2	14.5	-5.9	17.5	-8.9	17.5	-8.9	17.7	-9.1	14.0	-5.4
	15-B	8.7	13.2	X	8.5	684955.8	602151.2	14.5	-6.0	15.5	-7.0	15.5	-7.0	16.0	-7.5	14.0	-5.5
	20-B	8.7	12.7	X	8.8	684893.7	602213.0	NE	NE	NE	NE	15.5	-6.7	16.0	-7.2	15.0	-6.2
H-14	3-B	9.0	14.0	X	11.8	685052.4	602029.9	NE	NE	NE	NE	20.5	-8.7	21.0	-9.2	11.3	0.5
	6-B	9.0	14.0	X	12.0	685098.7	601983.3	19.0	-7.0	19.8	-7.8	19.8	-7.8	21.0	-9.0	11.5	0.5
	11-B	9.0	15.3	X	12.1	685156.6	601907.7	19.0	-6.9	20.0	-7.7	20.0	-7.9	20.5	-8.4	11.6	0.5
	15-B	9.0	14.7	X	12.3	685113.9	601932.0	NE	NE	NE	NE	20.5	-8.2	21.0	-8.7	11.8	0.5
	21-B	9.0	14.9	X	8.6	685016.4	601991.0	15.5	-6.9	16.5	-7.9	16.5	-7.9	17.0	-8.4	8.1	0.5
EPS	4-B	10.8	10.8	X	11.1	684164.8	602936.6	12.0	-0.9	12.3	-1.2	12.3	-1.2	14.0	-2.9	10.6	0.5
	7-B	11.0	11.2	X	11.4	684163.3	602903.6	12.0	-0.6	12.5	-1.1	12.5	-1.1	14.0	-2.6	10.9	0.5
	10-B	10.8	10.9	X	10.8	684175.2	602872.8	12.5	-1.7	12.8	-2.0	12.8	-2.0	14.0	-3.2	10.3	0.5
	13-B	10.7	10.9	X	11.1	684221.9	602848.5	12.2	-1.1	13.0	-1.9	13.0	-1.9	14.0	-2.9	10.6	0.5
	16-B	10.7	11.0	X	11.1	684249.8	602831.0	11.8	-0.7	12.2	-1.1	12.2	-1.1	14.0	-2.9	10.6	0.5
	19-B	10.0	10.3	X	10.5	684287.1	602797.5	NE	NE	NE	NE	14.0	-3.5	16.0	-5.5	10.0	0.5
	23-B	10.4	10.7	X	10.7	684335.5	602751.7	12.6	-1.9	12.9	-2.2	12.9	-2.2	14.0	-3.3	10.2	0.5
	26-B	9.8	9.9	X	9.5	684367.2	602722.4	11.0	-1.5	11.5	-2.0	11.5	-2.0	12.0	-2.5	9.0	0.5
	30-B	9.2	9.4	X	9.3	684390.6	602674.7	NE	NE	NE	NE	12.6	-3.3	14.0	-4.7	8.8	0.5
	33-B	9.6	9.9	X	9.9	684414.8	602630.6	12.6	-2.7	12.8	-2.9	12.8	-2.9	14.0	-4.1	9.4	0.5
	36-B	9.5	9.8	X	9.9	684449.9	602600.5	12.8	-2.9	12.9	-3.0	12.9	-3.0	14.0	-4.1	9.4	0.5
	43-B	9.1	9.5	X	9.4	684523.3	602521.6	NE	NE	NE	NE	13.5	-4.1	15.5	-6.1	8.9	0.5
	46-B	9.0	9.4	X	8.9	684544.5	602499.1	12.7	-3.8	12.9	-4.0	12.9	-4.0	14.0	-5.1	8.4	0.5
	49-B	8.9	9.7	X	8.9	684584.1	602485.2	NE	NE	NE	NE	13.5	-4.6	14.0	-5.1	8.4	0.5
	53-B	9.0	10.0	X	9.1	684621.6	602450.7	12.0	-2.9	12.1	-3.0	12.1	-3.0	14.0	-4.9	8.6	0.5
WPS-2	12-B	8.5	13.2	X	8.2	684867.9	602129.2	NE	NE	NE	NE	16.0	-7.8	17.0	-8.8	15.5	-7.3
	15-B	8.6	13.9	X	8.3	684889.2	602102.4	14.5	-6.2	16.5	-8.2	16.5	-8.2	17.2	-8.9	14.0	-5.7
	19-B	8.2	13.8	X	8.3	684924.7	602062.4	15.0	-6.7	16.7	-8.4	16.7	-8.4	17.0	-8.7	14.5	-6.2
	22-B	7.9	14.0	X	8.1	684959.7	602015.7	15.7	-7.6	16.2	-8.1	16.2	-8.1	17.0	-8.9	15.2	-7.1
	25-B	7.6	14.2	X	7.5	684953.1	601967.8	15.6	-8.1	15.9	-8.4	15.9	-8.4	17.0	-9.5	15.1	-7.6
	29-B	7.8	14.8	X	7.5	684963.9	601919.6	NE	NE	NE	NE	15.5	-8.0	17.0	-9.5	15.0	-7.5
	32-B	8.0	14.8	X	7.8	684992.1	601908.4	NE	NE	NE	NE	15.2	-7.4	16.2	-8.4	14.7	-6.9
	35-B	7.9	14.9	X	8.1	685031.2	601888.1	NE	NE	NE	NE	15.8	-7.7	16.0	-7.9	15.3	-7.2
	39-B	8.1	15.7	X	7.9	685084.3	601861.4	NE	NE	NE	NE	16.3	-8.4	17.0	-9.1	15.8	-7.9
H-19	10-B	12.5	14.5	X	12.4	685578.2	603290.5	16.0	-3.6	17.0	-4.6	17.5	-5.1	20.0	-7.6	15.5	-3.1
	14-B	12.8	14.5	X	12.9	685537.6	603359.9	15.5	-2.6	16.7	-3.8	17.1	-4.2	20.0	-7.1	15.0	-2.1
	18-B	12.3	14.5	X	12.6	685480.5	603418.2	16.1	-3.5	17.2	-4.6	17.5	-4.9	20.0	-7.4	15.6	-3.0
H-20	4-B	9.3	10.5	X	9.1	685436.6	603837.4	10.3	-1.2	10.5	-1.4	10.5	-1.4	12.0	-2.9	9.8	-0.7
	8-B	10.3	10.5	X	8.9	685363.8	603803.1	10.0	-1.1	10.5	-1.6	10.5	-1.6	12.0	-3.1	9.5	-0.6
	11-B	9.7	10.5	X	9.1	685312.5	603776.6	8.0	1.1	9.0	0.1	9.0	0.1	10.0	-0.9	7.5	1.6
H-21	2-B	9.8	12.0	X	10.9	685233.3	603720.0	10.0	0.9	12.0	-1.1	12.0	-1.1	14.0	-3.1	9.5	1.4
	8-B	10.1	12.0	X	15.1	685309.3	603640.0	15.3	-0.2	15.5	-0.4	15.5	-0.4	16.0	-0.9	14.8	0.3
	12-B	9.7	12.0	X	14.0	685274.2	603681.9	16.0	-2.0	16.2	-2.2	16.2	-2.2	18.0	-4.0	15.5	-1.5
H-22	2-B	8.4	18.0	X	8.4	685186.7	601518.6	18.0	-9.6	18.5	-10.1	18.5	-10.1	20.0	-11.6	17.5	-9.1
	4-B	8.5	18.0	X	8.5	685218.5	601498.2	16.0	-7.5	16.5	-8.0	17.5	-9.0	20.0	-11.5	15.5	-7.0
	11-B	8.9	18.0	X	8.9	685241.3	601466.2	16.0	-7.1	16.5	-7.6	16.5	-7.6	20.0	-11.1	15.5	-6.6
H-23	1-B	7.2	18.0	X	7.2	685118.2	601587.2	16.0	-8.8	17.4	-10.2	17.4	-10.2	20.0	-12.8	15.5	-8.3
	6-B	7.1	18.0	X	7.1	685160.7	601564.0	16.0	-8.9	16.1	-9.0	16.1	-9.0	20.0	-12.9	15.5	-8.4
H-24	1-B	7.2	18.0	X	7.2	685072.0	601646.3	14.7	-7.5	15.8	-8.6	15.8	-8.6	20.0	-12.8	14.2	-7.0

CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
03/01/16	7:00	15:30	8:30	41,400.89	41,493.59	92,700	41,493,140	
03/02/16	7:00	14:00	7:00	41,493.59	41,607.89	114,300	41,607,440	
03/03/16	7:30	12:15	4:45	41,607.89	41,671.38	63,490	41,670,930	
03/04/16	7:30	15:00	7:30	41,671.38	41,722.53	51,150	41,722,080	
03/05/16	9:00	15:00	6:00	41,722.53	41,782.88	60,350	41,782,430	
03/07/16	8:30	15:30	7:00	41,782.88	41,826.70	43,820	41,826,250	
03/10/16	9:00	15:00	6:00	41,826.70	41,955.66	128,960	41,955,210	
03/11/16	9:00	14:45	5:45	41,955.66	42,015.16	59,500	42,014,710	
03/15/16	8:00	16:00	8:00	42,015.16	42,113.22	98,060	42,112,770	
03/16/16	10:15	13:15	3:00	42,113.22	42,181.63	68,410	42,181,180	
03/17/16	7:30	15:00	7:30	42,181.63	42,268.80	87,170	42,268,350	
03/18/16	8:00	12:30	4:30	42,268.80	42,308.01	39,210	42,307,560	
03/21/16	7:30	13:00	5:30	42,308.01	42,352.43	44,420	42,351,980	
03/22/16	7:30	14:00	6:30	42,352.43	42,406.76	54,330	42,406,310	
03/23/16	12:00	15:15	3:15	42,406.76	42,437.75	30,990	42,437,300	
03/24/16	7:30	13:00	5:30	42,437.75	42,475.64	37,890	42,475,190	
03/28/16	7:30	15:30	8:00	42,475.64	42,517.63	41,990	42,517,180	
03/30/16	7:30	14:00	6:30	42,517.63	42,566.76	49,130	42,566,310	
03/31/16	10:00	13:30	3:30	42,566.76	42,598.54	31,780	42,598,090	
04/01/16	10:00	14:00	4:00	42,598.54	42,638.28	39,740	42,637,830	
04/08/16	8:00	12:00	4:00	42,638.28	42,688.87	50,590	42,688,420	
04/13/16	12:00	15:00	3:00	42,688.87	42,734.89	46,020	42,734,440	
04/19/16	8:00	13:00	5:00	42,734.89	42,802.71	67,820	42,802,260	
04/22/16	11:00	15:00	4:00	42,802.71	42,847.64	44,930	42,847,190	
04/29/16	10:00	14:15	4:15	42,847.64	42,912.90	65,260	42,912,450	
05/06/16	10:00	15:00	5:00	42,912.90	42,965.49	52,590	42,965,040	
05/13/16	11:00	15:00	4:00	42,965.49	43,019.78	54,290	43,019,330	
05/20/16	11:00	15:00	4:00	43,019.78	43,071.32	51,540	43,070,870	
05/27/16	10:00	14:00	4:00	43,071.32	43,130.78	59,460	43,130,330	
05/31/16	11:00	14:30	3:30	43,130.78	43,178.93	48,150	43,178,480	
06/01/16	6:30	13:30	7:00	43,178.93	43,268.97	90,040	43,268,520	
06/06/16	7:30	13:30	6:00	43,268.97	43,338.94	69,970	43,338,490	
06/08/16	7:30	12:00	4:30	43,338.94	43,402.10	63,160	43,401,650	
06/13/16	9:00	13:00	4:00	43,402.10	43,464.75	62,650	43,464,300	
06/21/16	8:00	14:00	6:00	43,464.75	43,543.94	79,190	43,543,490	
06/24/16	9:00	14:00	5:00	43,543.94	43,596.37	52,430	43,595,920	
07/07/16	7:30	12:00	4:30	43,596.37	43,642.93	46,560	43,642,480	
07/15/16	10:00	14:00	4:00	43,642.93	43,692.98	50,050	43,692,530	
07/26/16	9:00	14:00	5:00	43,692.98	43,794.27	101,290	43,793,820	
07/27/16	7:00	15:00	8:00	43,794.27	43,826.36	32,090	43,825,910	
07/28/16	9:00	15:00	6:00	43,826.36	43,860.98	34,620	43,860,530	
08/01/16	9:00	15:00	6:00	43,860.98	43,896.38	35,400	43,895,930	

CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
08/11/16	9:00	16:00	7:00	43,896.38	43,958.93	62,550	43,958,480	
08/12/16	9:30	13:45	4:15	43,958.93	43,998.63	39,700	43,998,180	
08/19/16	8:00	13:30	5:30	43,998.63	44,062.58	63,950	44,062,130	
09/08/16	7:00	13:00	6:00	44,062.58	44,120.80	58,220	44,120,350	
10/05/16	8:00	11:00	3:00	44,120.80	44,158.46	37,660	44,158,010	
11/01/16	8:00	10:00	2:00	44,158.46	44,204.91	46,450	44,204,460	Final reading; system disassembled 11/1/16

Notes:
Gal = gallons
KGal = thousands of gallons

APPENDIX J

ITEMS ENCOUNTERED DURING REMEDIAL ACTIVITIES

DEMOLITION

The former JCIA facility was located at 501 Route 440 in Jersey City, NJ. After JCIA relocated to a new Municipal Services Complex on Linden Avenue, Jersey City, New Jersey in September of 2014, the structures were readied for demolition.

Demolition included:

- mobilization and setup; work plans and submittal preparation;
- utility (water, sewer, gas, and electric) termination;
- asbestos containing material abatement and disposal;
- hazardous materials and universal waste removal and disposal;
- Waste Management Garage demolition and debris disposal;
- JCIA Garage demolition and debris disposal;
- Salt Dome demolition and debris disposal;
- JCIA Incinerator and Administrator Building demolition and debris disposal (including concrete and wood debris from inside building);
- management of stockpiles and testing of concrete and wood;
- demobilization and final submittals;
- a credit for recyclable materials;
- a performance and payment bond; and
- removal of miscellaneous items.

Gramercy, under contract to the JCRA, mobilized to the site and began setup activities on October 9, 2014. Asbestos abatement activities began on November 7, 2014 and were performed by Gramercy. The friable and non-friable asbestos waste was transported by Horwith Trucks, Inc. (Northampton, Pa.) to the Cumberland County Landfill in Shippensburg, PA. Gramercy removed a total of 113.49 tons of non-friable asbestos containing material, and 7.23 tons of friable asbestos containing material. Abatement was completed according to federal, state, local, EPA, and OSHA requirements. Gramercy collected ten 55 gallon drums of bird droppings from the third and fourth floors of the Incinerator Building and transported them offsite for disposal at Cycle Chem Facility in Elizabeth, NJ on March 16, 2015. Demolition activities were completed on March 18, 2015. Site cleanup and demobilization was completed on March 23, 2015.

UNDERGROUND STORAGE TANKS ENCOUNTERED

The UST discovered in EA-5 was approximately 6 feet in diameter and 16 feet long and was approximately 1 to 3 feet bgs. Based upon the measured tank dimensions, the estimated volume of the tank is nominally 3,500 gallons. This tank was encountered near the northeast corner of the former "Waste Management Garage" on the JCIA site and in the vicinity of previously abandoned-in-place USTs in that area. This area is AOC "JCIA-1B, Abandoned USTs" in the non-chromium RAWP.

The 550-gallon capacity second JCIA UST was found adjacent to and south of the southern wall of the former JCIA Maintenance Garage. Due to the location of an oil/water separator previously located within the JCIA Maintenance Garage proximate to the UST location, it was surmised that the UST was likely associated with the former oil/water separator system. This oil/water separator was identified as AOC "JCIA-9B Oil Water Separators" in the non-chromium RAWP.

Since both tanks were previously unregistered, the LSRP registered the tanks with NJDEP. Upon consultation and oversight by the LSRP, Honeywell authorized Entact to remove the USTs. Due to leakage of the EA-5 tank contents and the presence of a strong gasoline-type odor from the liquid, Amec Foster Wheeler contacted the NJDEP Spill Hot Line and NJDEP Case No. 15-09-03-1258-48 was assigned. Additional details concerning the USTs' removal and samples collected will be included in the SA-6 North Non-Chromium Remedy RAR report.

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 260
Disposal Date: 07/16/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000561439WAS	41,120	44,660
000561440WAS	45,580	44,660
000561443WAS	44,880	44,660
000561446WAS	41,720	44,660
000561447WAS	43,040	44,660
	216,340	223,300

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8510 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O><S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CAUX 260	00056144 7WAS	43040	S6N0009
	00056144 6WAS	41720	S6N0008
	00056144 3WAS	44880	S6N0005
	00056144 0WAS	45580	S6N0002
	00056143 9WAS	41120	S6N0001

GONDOLA TOTAL WEIGHT 216340

RAILCAR LOAD LIMIT 220100

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date: 6-24-15

Shipper Printed Name: Matthew

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 7-16-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver Jody Wadley

To: Plant C.B.W DF#2

From: Rail spur
Chur #260

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

16 Jul 2015 05:53:30 29320LB

16 Jul 2015 09:20:42 38700LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 7-16-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver Joey Hadley

To: Plant CBW DF#2

From: Rail spur
Chux #260

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

16 Jul 2015 05:53:16 29320LB

16 Jul 2015 08:43:41 79520LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 7-16-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver Joey Hadley

To: Plant C.B.W. DP#2

From: Rail spur
Chox # 260

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

16 Jul 2015 05:52:55 29320LB

16 Jul 2015 08:15:55 84700LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 7-16-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver Joey Hadley

To: Plant CBW. DF#2

From: Rail spur
Chux # 260

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

16 Jul 2015 05:52:25 29320LB

16 Jul 2015 07:25:00 85290LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 7-16-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver Joy Hadley

To: Plant C.B.W. DF#2

From: Rail spur
Chux #260

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

16 Jul 2015 05:53:45 29320LB

16 Jul 2015 06:55:35 81700LB

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 106
Disposal Date: 07/30/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000561441WAS	45,040	44,284
000561442WAS	45,800	44,284
000561449WAS	46,980	44,284
000561459WAS	39,120	44,284
000561458WAS	39,620	44,284
	216,560	221,420

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8510 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 106	00056144 1WAS	45040	S6N0003
	00056144 2WAS	45800	S6N0004
	00056144 9WAS	46980	S6N0011
	00056145 9WAS	39120	S6N0021
	00056145 8WAS	39620	S6N0020

GONDOLA TOTAL WEIGHT 216560

RAILCAR LOAD LIMIT 221100

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date: 6-29-15

Shipper Printed Name: Matt Cser

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 7-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver _____

To: CBU DFZ

From: Rail
CHOX106
load #1

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

30 Jul 2015 05:47:02 28460LB

30 Jul 2015 13:11:43 85200LB

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 7-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver _____

To: CBW DFZ

From: Rail
CHUX 106
load #8

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

30 Jul 2015 05:47:02 28460LB
30 Jul 2015 13:52:07 81800LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 7-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver _____

To: CBW DF2

From: Rail
CHUX106
load #3

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

30 Jul 2015 05:47:02 28460LB

30 Jul 2015 14:26:23 87860LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 7-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver _____

To: CBW DFZ

From: Rail
CHUX 106
load #4

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

30 Jul 2015 05:47:02 28490LB

30 Jul 2015 15:11:19 80400LB

Gross	Empty	Net Wt.
85200	28460	56740
81800	28460	53340
87860	28460	59400
80400	28460	51940
		0
		0
		0
		0
		0
		0
72744	28460	44284
		221420
335260	113840	221420

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 154
Disposal Date: 07/30/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000561450WAS	45,320	43,828
000561452WAS	44,860	43,828
000561456WAS	42,260	43,828
000561453WAS	43,500	43,828
000561461WAS	41,720	43,828
	217,660	219,140

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8510 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 154	00056145 0WAS	45 320	S6N0012
	00056145 2WAS	44860	S6N0014
	00056145 6 WAS	42 260	S6N0018
	00056145 3WAS	43 500	S6N0015
	00056146 1WAS	41720	S6N0023

GONDOLA TOTAL WEIGHT 217660

RAILCAR LOAD LIMIT 221100

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations.

Shippers Signature: [signature] Date: 6-29-15

Shipper Printed Name: Matt Gar

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 7-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DF#2

From: Rail spur
Chux# 154

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

30 Jul 2015 09:51:46 2962010

30 Jul 2015 08:40:40 9318010

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 7-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver _____

To: CBW DF2

From: Rail
CHUX 154
load #3

Arrival _____
Departure _____

Initialed _____

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Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

30 Jul 2015 05:47:02 28460LB

30 Jul 2015 07:08:47 6389LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 7-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DF#2

From: Rail spur
Chux # 159

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

30 Jul 2015 05:52:00 29520LB

30 Jul 2015 07:21:14 84300LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 7-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver _____

To: CBW DFZ

From: Rail
CHUX 154
load #1

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

30 Jul 2015 05:47:02 28460LB

30 Jul 2015 06:29:29 83740LB

HERITAGE ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 275
Disposal Date: 08/19/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000561455WAS	45,960	43,152
000561460WAS	34,880	43,152
000561454WAS	44,800	43,152
000561462WAS	46,240	43,152
000561463WAS	41,420	43,152
	213,300	215,760

Jeffery A. Laborsky, President

CHUX
275

EBRAK

TARE
WEIGH

18 Aug 2015 06:09:04 29040LB

loads

18 Aug 2015 06:35:27	79200LB
18 Aug 2015 07:18:31	82380LB
18 Aug 2015 08:06:16	80420LB
18 Aug 2015 08:57:59	89920LB

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC: 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, NOS,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NR-C-19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 275	00056145 5WAS	45960	S6N0017
	00056146 0WAS	34880	S6N0022
	00056145 4WAS	44800	S6N0076
	00056146 2WAS	46240	S6N0024
	00056146 3WAS	41420	S6N0025

GONDOLA TOTAL WEIGHT 213300

RAILCAR LOAD LIMIT 220200

Shipper Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable International and national governmental regulations."

Shipper Signature: [signature] Date: 6-30-15

Shipper Printed Name: Math Gar

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 318
Disposal Date: 07/30/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000561444WAS	45,280	44,256
000561445WAS	45,960	44,256
000561448WAS	42,020	44,256
000561457WAS	37,960	44,256
000561451WAS	46,480	44,256
	217,700	221,280

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Plunkton 800-274-1516
Emergency Phone:	800-510-8510 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 318	000561444 WAS	45280	S6N0006
	000561445 WAS	45960	S6N0007
	000561448 WAS	42020	S6N0010
	000561457 WAS	37960	S6N0019
	000561451 WAS	46480	S6N0013

GONDOLA TOTAL WEIGHT 217700

RAILCAR LOAD LIMIT 220100

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date 1-29-15

Shipper Printed Name: MATHEGER

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 7-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver _____

To: CBW DF1

From: Rail
CHUX 318
load #1

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

30 Jul 2015 05:47:02 28460LB

30 Jul 2015 09:59:51 83920LB

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 7-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver _____

To: CBW DF1

From: Rail
CHUX 318
load #2

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

30 Jul 2015 05:47:02 28460LB

30 Jul 2015 10:33:13 87300LB

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 7-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver _____

To: CBW DF 1

From: Rail
CHUX 318
load #3

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

30 Jul 2015 05:47:02 28460LB

30 Jul 2015 11:14:23 84760LB

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 7-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver _____

To: CBW DEI

From: Rail
CHOX 318
load #4

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

30 Jul 2015 05:47:02 28460LB
30 Jul 2015 11:49:25 79140LB

Gross	Empty	Net Wt.
83920	28460	55460
87300	28460	58840
84760	28460	56300
79140	28460	50680
		0
		0
		0
		0
		0
		0
72716	28460	44256
		221280
335120	113840	221280

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Rec 2/15/16

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 296
Disposal Date: 11/16/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000599690WAS	43,420	43,380
000599624WAS	42,320	43,380
000599693WAS	44,360	43,380
000599625WAS	43,420	43,380
000599628WAS	43,580	43,380
	217,100	216,900

Jeffery A. Laborsky, President

11/4/15

3

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-234-1516
Emergency Phone:	800-510-8516 Account 3366
STCC:	STCC 4869108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHLX 296	000599690WAS	43420	56N0063
	000599624WAS	42320	56N0067
	000599693WAS	44360	56N0066
	000599625WAS	43420	56N0070
	000599628WAS	43580	56N0073

GONDOLA TOTAL WEIGHT 217100

RAILCAR LOAD LIMIT 220100

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date: 11-04-15

Shipper Printed Name: Matt Gay

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date:_____

Transaction # _____ Stop #_____

Manifest # _____
Unit _____ Driver_____

To:_____ From:_____
_____ _____
_____ _____

Arrival_____ Initialed_____
Departure_____

_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

16 Nov 2015 09:20:08 28700LB

16 Nov 2015 10:45:55 91220LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date:_____

Transaction # _____ Stop #_____

Manifest # _____
Unit _____ Driver_____

To:_____ From:_____
_____ _____
_____ _____

Arrival_____ Initialed_____
Departure_____

_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

16 Nov 2015 09:19:55 28700LB

16 Nov 2015 11:26:10 86560L

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date:_____

Transaction # _____ Stop #_____

Manifest # _____
Unit _____ Driver_____

To:_____ From:_____
_____ _____
_____ _____

Arrival_____ Initialed_____
Departure_____

_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

16 Nov 2015 09:19:38 28700LB
16 Nov 2015 12:09:40 72540LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date:_____

Transaction # _____ Stop #_____

Manifest # _____
Unit _____ Driver_____

To:_____ From:_____
_____ _____
_____ _____

Arrival_____ Initialed_____
Departure_____

_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

16 Nov 2015 09:20:21 28700LB

16 Nov 2015 10:12:35 81380LB

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Rec 2/15/16

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 278
Disposal Date: 11/24/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000599642WAS	41,320	43,472
000599650WAS	39,880	43,472
000599656WAS	43,080	43,472
000599657WAS	42,900	43,472
000599660WAS	49,480	43,472
	216,660	217,360

Jeffery A. Laborsky, President

11/6

3

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services 7901 W. Morris St Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8510 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S., 9, PGIII, (CHROMIUM), (D007)
Contract Authority:	N3-C-19223
Freight:	Freight Prepaid – US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 278	000599642WAS	41320	56N0087
	000599650WAS	39880	56N0095
	000599656WAS	43080	56N0101
	000599657WAS	42900	56N0102
	000599660WAS	49480	56N0105

GONDOLA TOTAL WEIGHT 216660

RAILCAR LOAD LIMIT 220200

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable International and national governmental regulations."

Shippers Signature: [signature] Date: 11-6-15

Shipper Printed Name: Matt Gu

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date:_____

Transaction # _____ Stop #_____

Manifest # _____
Unit _____ Driver_____

To:_____ From:_____
_____ _____
_____ _____

Arrival_____ Initialed_____
Departure_____

_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

24 Nov 2015 12:59:04 70420LB

41,720

24 Nov 2015 13:21:47 28700LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date:_____

Transaction # _____ Stop #_____

Manifest # _____
Unit _____ Driver_____

To:_____ From:_____
_____ _____
_____ _____

Arrival_____ Initialed_____
Departure_____

_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

24 Nov 2015 11:48:07 66300LB

DF-1

37360

24 Nov 2015 06:01:49 28940LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date:_____

Transaction # _____ Stop #_____

Manifest # _____
Unit _____ Driver_____

To:_____ From:_____
_____ _____
_____ _____

Arrival_____ Initialed_____
Departure_____

_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

24 Nov 2015 12:26:27 74880LB

DF-1

45940

24 Nov 2015 06:01:29 28940LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date:_____

Transaction # _____ Stop #_____

Manifest # _____
Unit _____ Driver_____

To:_____ From:_____
_____ _____
_____ _____

Arrival_____ Initialed_____
Departure_____

_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

24 Nov 2015 10:06:46 75920LB

NF)

46980

24 Nov 2015 06:00:56 28940LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date:_____

Transaction # _____ Stop #_____

Manifest # _____
Unit _____ Driver_____

To:_____ From:_____
_____ _____
_____ _____

Arrival_____ Initialed_____
Departure_____

_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

24 Nov 2015 09:33:23 74300LB

DF-1

45360

24 Nov 2015 06:02:47 28940LB

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/15/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 207
Disposal Date: 11/25/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000599639WAS	45,940	43,072
000599641WAS	41,320	43,072
000599640WAS	42,220	43,072
000599645WAS	43,160	43,072
000599654WAS	45,300	43,072
	217,940	215,360

Jeffery A. Laborsky, President

11/10

1

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC 4869108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N.O.S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 207	000599639WAS	45940	56N0084
	00059964 1WAS	41320	56N0086
	00059964 0WAS	42220	56N0085
	00059964 5WAS	43160	56N0090
	00059965 4WAS	45300	56N0099

GONDOLA TOTAL WEIGHT 217940

RAILCAR LOAD LIMIT 221300

Shipper Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shipper Signature: _____ Date: 11-6-15

Shipper Printed Name: Matt Gar

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-25-15

Transaction # _____ Stop # _____

Manifest # _____

Unit 357 Driver KR

To: _____ From: Chux 207

Arrival _____ Initialed _____

Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____

This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#1

74420

29920

DF-2

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-25-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 332 Driver _____

To: _____ From: Chux 207

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#2

DF-2

78720

29100

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-25-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver _____

To: _____ From: Chux 207

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

3

73780

DF-2

29920

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-24-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver _____

To: _____ From: Chor 207

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

4

Df-2

72000
29100

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-25-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver KR

To: _____ From: Chux 207

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#5

64400

Df-2

29920

Gross	Empty	Net Wt.
74420	29920	44500
78720	29100	49620
73780	29920	43860
72000	29100	42900
64400	29920	34480
		0
		0
		0
		0
		0
72664	29592	43072
		215360
363320	147960	215360

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Rec 2/15/16

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 260
Disposal Date: 11/25/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000599647WAS	43,760	43,572
000599646WAS	42,080	43,572
000599648WAS	43,960	43,572
000599651WAS	44,060	43,572
000599652WAS	42,440	43,572
	216,300	217,860

Jeffery A. Laborsky, President

11/6

(1)

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services 7901 W. Morris St Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Flexelton 800-274-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S., 9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NB- C - 19723
Freight:	Freight Prepaid – US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 260	000599647WIAS	43760	56N0092
	000599646WIAS	42080	56N0091
	000599648WIAS	43960	56N0093
	000599651WIAS	44060	56N0096
	000599652WIAS	42140	56N0097

GONDOLA TOTAL WEIGHT 216300

RAILCAR LOAD LIMIT 220300

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date: 11-06-15

Shipper Printed Name: Matt Gs

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-25-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

66520

29100

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-25-15

Transaction # _____ Stop # _____

Manifest # _____

Unit 351 Driver KR

To: _____ From: _____

Arrival _____ Initialed _____

Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____

This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

4

DF-1

75280

29920

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-24-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

3

DF-1

71900

29100

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-24-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

2

Df-1

77060
29100

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-25-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 356 Driver KP

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

1

DF-1

74240
29920

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/15/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 167
Disposal Date: 11/25/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000599653WAS	41,920	44,152
000599649WAS	39,320	44,152
000599658WAS	46,480	44,152
000599659WAS	46,460	44,152
000599655WAS	43,960	44,152
	218,140	220,760

Jeffery A. Laborsky, President

11/6

2

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8510 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid—US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 167	000599653WAS	41920	56N0098
	000599649WAS	39320	56N0094
	000599658WAS	46480	56N0103
	000599659WAS	46460	56N0104
	000599655WAS	43960	56N0100

GONDOLA TOTAL WEIGHT 218140

RAILCAR LOAD LIMIT 221200

Shipper Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shipper Signature: [signature] Date: 11-06-15

Shipper Printed Name: Mather

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-25-15

Transaction # _____ Stop # _____

Manifest # _____

Unit 356 Driver KR

To: _____ From: _____

Arrival _____ Initialed _____

Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____

This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#2

72460

4254 <

29920

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date:_____

Transaction # _____ Stop #_____

Manifest #_____
Unit 352 Driver_____

To:_____ From:_____

Arrival_____ Initialed_____
Departure_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

#1

74200
45100 29100

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-25-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#3

41240 < 70340
29100

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-25-15

Transaction # _____ Stop # _____

Manifest # _____

Unit 356 Driver KR

To: _____ From: _____

Arrival _____ Initialed _____

Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____

This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#4

75980

46880 < 29100

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-24-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#5

45000 < 74100

29100

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Rec 2/15/16

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 258
Disposal Date: 11/29/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000599689WAS	40,800	43,980
000599691WAS	46,920	43,980
000599686WAS	40,600	43,980
000599685WAS	43,240	43,980
000599621WAS	45,360	43,980
	216,920	219,900

Jeffery A. Laborsky, President

11/4/15

(2)

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8516 Account 3364
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 258	000599689WAS	40800	56N0062
	000599691WAS	46920	56N0064
	000599686WAS	40600	56N0059
	000599685WAS	43240	56N0058
	000599621WAS	45360	56N0069

GONDOLA TOTAL WEIGHT 216920

RAILCAR LOAD LIMIT 220200

Shipper Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable International and national governmental regulations."

Shipper Signature: _____ Date 11-04-15

Shipper Printed Name: M. Gethler

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-29-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#7

29 Nov 2015 09:55:22 80340LB

Df-2

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-29-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

AF-2

78500
28960

#2

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-29-15

Transaction # _____ Stop # _____

Manifest # _____

Unit 351 Driver KR

To: _____ From: _____

Arrival _____ Initialed _____

Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____

This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#3

29 Nov 2015 10:22:40 69320LB

Df-2

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-29-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver CTT

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#4

29 Nov 2015 10:43:36 72900LB

DF2

28960

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-29-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#5

29 Nov 2015 11:06:25 63340LB

DF-2

28860

Gross	Empty	Net Wt.
80340	28860	51480
78500	28960	49540
69320	28860	40460
72900	28960	43940
63340	28860	34480
		0
		0
		0
		0
		0
72880	28900	43980
		219900
364400	144500	219900

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/15/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 297
Disposal Date: 11/29/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000599626WAS	42,140	43,932
000599623WAS	46,200	43,932
000599627WAS	43,020	43,932
000599631WAS	43,560	43,932
000599630WAS	43,020	43,932
	217,940	219,660

Jeffery A. Laborsky, President

11/5/15

(1)

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8510 Account 3144
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PG III, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 297	000599626WIJS	42140	56N0071
	000599623WIAS	46200	56N0068
	000599627WAS	43020	56N0072
	000599631WAS	43560	56N0076
	000599630WAJ	43020	56N0075

GONDOLA TOTAL WEIGHT 217940

RAILCAR LOAD LIMIT 220100

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date: 11/05/15

Shipper Printed Name: [illegible]

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-29-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

~~Stt~~ 1

70660
28960

Df-2

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-29-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#2

DF-2

77840

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-28-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF2
#3

78200
28960

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-29-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver KP

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#4

72820

Df-2

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-28-18

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF2

#5

65580
29800

Gross	Empty	Net Wt.
70660	28960	41700
77840	28860	48980
78200	28960	49240
72820	28860	43960
65580	29800	35780
		0
		0
		0
		0
		0
73020	29088	43932
		219660
365100	145440	219660

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Rec 2/15/16

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 210
Disposal Date: 11/30/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000599664WAS	45,600	43,736
000599539WAS	43,740	43,736
000599606WAS	42,680	43,736
000599607WAS	39,860	43,736
000599536WAS	44,560	43,736
	216,440	218,680

Jeffery A. Laborsky, President

1/9

1

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCT) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8510 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N.O.S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid -- US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 210	000599664WAS	45600	56N0109
	000599539WAS	43740	56N0119
	000599606WAS	42680	56N0121
	000599607WAS	39860	56N0122
	000599536WAS	44560	56N116

GONDOLA TOTAL WEIGHT 216440

RAILCAR LOAD LIMIT 221500

Shipper Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shipper Signature: [signature] Date: 11-04-15

Shipper Printed Name: [signature]

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#1
DF1

30 Nov 2015 13:46:04 70500LB

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver Ricky

To: CBW

From: Rail CHUX 210
load #2

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

Df-1

30 Nov 2015 09:11:35 28820LB

30 Nov 2015 13:50:49 73120LB

30 Nov 2015 13:51:01 73120LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KL

To: _____ From: Chuy 210

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#3

30 Nov 2015 14:02:12 65840LB

DF-1

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TZ

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#4
DF 1

30 Nov 2015 15:14:31 80140LB

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date:_____

Transaction # _____ Stop #_____

Manifest # _____
Unit 357 Driver Ricky

To: CBW _____ From: Rail CHUX210

Arrival_____ Initialed_____
Departure_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

28820

30 Nov 2015 15:29:15 73300LB

Gross	Empty	Net Wt.
70500	28860	41640
73120	28820	44300
65840	28860	36980
80140	28860	51280
73300	28820	44480
		0
		0
		0
		0
		0
72580	28844	43736
		218680
362900	144220	218680

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/15/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 164
Disposal Date: 11/30/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000599615WAS	41,920	43,992
000599614WAS	43,120	43,992
000599611WAS	43,220	43,992
000599617WAS	45,800	43,992
000561466WAS	43,720	43,992
	217,780	219,960

Jeffery A. Laborsky, President

11/10

1

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Flanaiton 800-274-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC 4969108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHLX 164	00059615 WAS	41970	56N0130
	00059614 WAS	43170	56N0129
	00059611 WAS	43770	56N0126
	00059617 WAS	45800	56N0132
	00059616 WAS	43770	56N0128

GONDOLA TOTAL WEIGHT 217780

RAILCAR LOAD LIMIT 221000

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date: 11-10-15

Shipper Printed Name: Matt Eaton

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#1

DFL

30 Nov 2015 06:13:13 83980LB

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KP

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF2 #2

30 Nov 2015 06:24:52 81580LB

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

NF2 #3

30 Nov 2015 06:42:00 71360LB

28860

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver KL

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

Df-2 # 4

30 Nov 2015 06:56:31 75660LB

28860

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TJ

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF2
#5

30 Nov 2015 07:03:06 51680LB

28860

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/15/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 157
Disposal Date: 11/30/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000599665WAS	44,380	43,580
000599668WAS	43,820	43,580
000599605WAS	41,920	43,580
000599638WAS	44,000	43,580
000599535WAS	43,780	43,580
	217,900	217,900

Jeffery A. Laborsky, President

1/4

2

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8518 Account 3364
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 157	000599665WAS	44380	56N0110
	000599668WAS	43820	56N0113
	000599605WAS	41920	56N0120
	000599638WAS	44000	56N0118
	000599535WAS	43780	56N0115

GONDOLA TOTAL WEIGHT 217900

RAILCAR LOAD LIMIT 221100

Shipper Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shipper Signature: [signature] Date: 11-09-15

Shipper Printed Name: Mather

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver Ricky

To: CBW

From: Rail CHUX 157
load #1

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

30 Nov 2015 09:11:15 28820LB

30 Nov 2015 10:49:10 70260LB

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TG

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF 2

30 Nov 2015 11:30:57 80430LB

#3

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver RL

To: _____ From: chux 157

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF-2 #2

30 Nov 2015 11:03:23 80480LB

28860

23220
14480

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver Ricky

To: CBW

From: Rail CHUX 157
load #4

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

30 Nov 2015 09:11:24 28820LB

36610

65430

load#5 28820
65430

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/15/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 142
Disposal Date: 11/30/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000599661WAS	48,200	44,008
000599666WAS	43,180	44,008
000599663WAS	42,520	44,008
000599662WAS	41,900	44,008
000599612WAS	42,320	44,008
	218,120	220,040

Jeffery A. Laborsky, President

11/10

(2)

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC 4869108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 142	000599661WAS	48200	56N0106
	000599666WAS	43180	56N0111
	000599663WAS	42520	56N0108
	000599662WAS	41900	56N0107
	000599612WAS	42320	56N0127

GONDOLA TOTAL WEIGHT 218120

RAILCAR LOAD LIMIT 221100

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable International and national governmental regulations.

Shippers Signature: [signature] Date: 11-06-15

Shipper Printed Name: Mattler

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KL

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

Df-2 #7

30 Nov 2015 07:57:22 77060LB

28860

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TJ

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

30 Nov 2015 08:10:33 79240LB

28860

#2

DF2

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: _____ From: chux 142

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

D F-2 #4

30 Nov 2015 10:01:21 75100LB

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver Ricky

To: CBW

From: Rail CHUX 142
load #3

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

30 Nov 2015 09:11:43 28820LB

30 Nov 2015 09:37:43 73600LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF 2

30 Nov 2015 10:08:21 59300LB

5

28860

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Dec 2/15/16

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 163
Disposal Date: 12/01/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000599674WAS	44,640	44,316
000599680WAS	43,100	44,316
000599677WAS	45,300	44,316
000599681WAS	41,740	44,316
000599682WAS	43,540	44,316
	218,320	221,580

Jeffery A. Laborsky, President

11/3/15

(4)

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Flanaffon 800-234-1516
Emergency Phone:	800-510-8516 Account 3366
STCC:	STCC 4869108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS-C-19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 163	000599674WAS	44640	56W0047
	000599680WAS	43100	56W0053
	000599677WAS	45300	56W0050
	000599681WAS	41740	56W0054
	000599682WAS	43540	56W0055

GONDOLA TOTAL WEIGHT 218320

RAILCAR LOAD LIMIT 221400

Shipper Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shipper Signature: [signature] Date: 11-03-15

Shipper Printed Name: Matt Gar

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-1-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver KR

To: DF-2

From: Chux 163
#1

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF. #2

01 Dec 2015 14:22:53 82160LB

28820

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-1-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 353 Driver NH

To: DF2 From: CHUX 163

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

of 2

01 Dec 2015 14:31:30 86160LB

2B 760

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-1-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KL

To: DF-2 From: Chux 163
#3

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF-2 #3

01 Dec 2015 15:01:58 82620LB

28820

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12/1/15

Transaction # _____ Stop # _____

Manifest # _____
Unit 353 Driver NH

To: DF2

From: CHqx 163
4

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF2 #

01 Dec 2015 15:21:52 8580CLB

~~01 Dec 2015 15:21:42~~

28760

Gross	Empty	Net Wt.
82160	28820	53340
86160	28760	57400
82620	28820	53800
85800	28760	57040
		0
		0
		0
		0
		0
		0
73106	28790	44316
		221580
336740	115160	221580

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Rec 2/15/16

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 190
Disposal Date: 12/01/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000599572WAS	45,640	44,172
000599601WAS	39,040	44,172
000599573WAS	44,240	44,172
000599574WAS	45,980	44,172
000599675WAS	42,760	44,172
	217,660	220,860

Jeffery A. Laborsky, President

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-1-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: Df-1 From: Chux 190
#1

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

Df-1 #1

01 Dec 2015 12:09:01 80540LB

28820

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-1-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 353 Driver NH

To: DFI

From: CHUX 190
IFI

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DFI
#2

01 Dec 2015 12:26:30 88200LB

01 Dec 2015 13:25:11 28760LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-1-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: Df-1 From: chux 190
#3

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF-1 #3

01 Dec 2015 12:56:53 81280LB

28820

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-1-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 353 Driver NH

To: DF 1 From: CHUK 190
#4

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

01 Dec 2015 13:17:18 86000LB

DF 1 #4

01 Dec 2015 13:24:57 28760LB

Gross	Empty	Net Wt.
80540	28820	51720
88200	28760	59440
81280	28820	52460
86000	28760	57240
		0
		0
		0
		0
		0
		0
72962	28790	44172
		220860
336020	115160	220860

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/15/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 114
Disposal Date: 12/01/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000599673WAS	43,480	44,140
000599676WAS	44,020	44,140
000599671WAS	44,080	44,140
000599679WAS	47,380	44,140
000599678WAS	39,200	44,140
	218,160	220,700

Jeffery A. Laborsky, President

11/3/15

(3)

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCIQ) PA
Destination:	Heritage Environmental Services 7901 W. Morris St Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8510 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S., 9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS-C-19223
Freight:	Freight Prepaid – US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 114	000599673 WAS	43480	56N0046
	000599676 WAS	44020	56N0049
	000599671 WAS	44080	56N0044
	000599679 WAS	47380	56N0052
	000599678 WAS	39200	56N0051

GONDOLA TOTAL WEIGHT 218160

RAILCAR LOAD LIMIT 221000

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: _____ Date 11-03-15

Shipper Printed Name: _____

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-1-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver _____

To: DF- _____ From: Chux 114
#1

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF-2 #1

01 Dec 2015 16:27:11 80700LB

#28820

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12/1/15

Transaction # _____ Stop # _____

Manifest # _____
Unit 353 Driver _____

To: DF

From: Chux 1/4 #2

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF-2

01 Dec 2015 16:41:41 88340LB

DF
28 780

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-1-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DF# _____ From: Rail spur
chux # 114

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#3

DF# ?

01 Dec 2015 13:14:56 29240LB

01 Dec 2015 17:07:42 84280LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

~~Date:~~ 12-1-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: DF- _____ From Chux 114
_____ #4
_____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF-2 #4

01 Dec 2015 17:24:15 83320LB

29100

Gross	Empty	Net Wt.
80700	28820	51880
88340	28780	59560
84280	29240	55040
83320	29100	54220
		0
		0
		0
		0
		0
		0
73125	28985	44140
		220700
336640	115940	220700

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/15/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 195
Disposal Date: 12/02/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000599596WAS	42,220	44,164
000599575WAS	43,460	44,164
000599604WAS	40,420	44,164
000599594WAS	42,000	44,164
000599571WAS	48,660	44,164
	216,760	220,820

Jeffery A. Laborsky, President

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-2-15

Transaction # _____ Stop # _____

Manifest # _____
Unit #352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#1

02 Dec 2015 06:42:31 85900LB

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-2-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver KR

To: _____

From: Chux 195
#2

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

Df-1 #2

02 Dec 2015 08:30:07 86020LB

28820

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-2-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

02 Dec 2015 09:38:58 82080LB

DF 1

28860

#3

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-2-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: Df-1 From: Chux 195
#4

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

Df-1 #4

02 Dec 2015 10:00:48 82180LB

28820

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/15/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 191
Disposal Date: 12/02/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000599632WAS	42,060	44,548
000599638WAS	43,900	44,548
000599637WAS	43,920	44,548
000599643WAS	45,380	44,548
000599644WAS	42,500	44,548
	217,760	222,740

Jeffery A. Laborsky, President

11/5

(3)

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8510 Account 3344
STCC:	STCC 4869108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PG III, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CIUX 191	CC059963 2 WAS	42060	56N0077
	CC059963 8 WAS	43900	56N0083
	CC059963 7 WAS	43900	56N0082
	CC059964 3 WAS	45380	56N0088
	CC059964 4 WAS	42500	56N0089

GONDOLA TOTAL WEIGHT 217760

RAILCAR LOAD LIMIT 220500

Shipper Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations.

Shipper Signature: [signature] Date: 11-05-15

Shipper Printed Name: [illegible]

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-2-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: chux 191

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#1

02 Dec 2015 12:36:40 82500LB

DF-1

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-2-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: _____ From: Chux 191
#2

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF-1 #2

02 Dec 2015 13:05:40 82160LB

28820

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-2-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TB

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#3
DF1

02 Dec 2015 14:44:03 S8280LB

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-2-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: _____

From: Chux 191
#4

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

Df-1 #4

02 Dec 2015 15:01:51 85160LB

28820

Gross	Empty	Net Wt.
82500	28860	53640
82160	28820	53340
88280	28860	59420
85160	28820	56340
		0
		0
		0
		0
		0
		0
73388	28840	44548
		222740
338100	115360	222740

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/15/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 224
Disposal Date: 12/02/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000599610WAS	40,180	44,172
000599609WAS	46,520	44,172
000599613WAS	40,080	44,172
000599619WAS	43,960	44,172
000599616WAS	47,380	44,172
	218,120	220,860

Jeffery A. Laborsky, President

11/10

3

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Nodinnapton, PA (NEDCO) PA
Destination:	Heritage Environmental Services
	7501 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8510 Account 3366
STCC:	STCC 4966108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N.O.S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS-C-19223
Freight:	Freight Prepaid—US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 224	000599 610 WAS	40180	56N0125
	000599 609 WAS	46520	56N0124
	000599 613 WAS	40080	56N0128
	000599 619 WAS	43960	56N 0134
	000599 616 WAS	47380	56N0131

GONDOLA TOTAL WEIGHT 218120

RAILCAR LOAD LIMIT 221200

Shipper Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shipper Signature: [signature] Date: 11-10-15

Shipper Printed Name: Mattler

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-2-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KK

To: _____

From Chux 224
#4

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

Df2 #4

02 Dec 2015 11:57:31 66280LB

28820

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-2-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#3
AF2

02 Dec 2015 11:34:58 83080LB

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-2-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: _____ From Chux 224
~~#~~ 2

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF-2 ~~#~~ 2

02 Dec 2015 11:11:47 99660LB

28820

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-2-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver 13

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF-2 #1

02 Dec 2015 10:53:11 87200LB

28860

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/15/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 319
Disposal Date: 12/03/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000599667WAS	44,260	43,832
000599534WAS	43,980	43,832
000599537WAS	44,220	43,832
000599608WAS	39,540	43,832
000561478WAS	43,420	43,832
	215,420	219,160

Jeffery A. Laborsky, President

11/12

5

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-234-1516
Emergency Phone:	800-510-8510 Account 3366
STCC:	STCC 4869108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PG III, (CHROMIUM), (D007)
Contract Authority:	NS - C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 314	000599667WAS	44260	56N0112
	000599534WAS	43980	56N0114
	000599537WAS	44220	56N0117
	000599608WAS	39540	56N0123
	000599428WAS	43420	56N0150

GONDOLA TOTAL WEIGHT 215420

RAILCAR LOAD LIMIT 220100

Shipper Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shipper Signature: [signature] Date: 11-09-15

Shipper Printed Name: [illegible]

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-3-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver 74

To: _____ From: Chux 319

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#1

03 Dec 2015 12:26:52 82280LB

DF 2

[redacted]
28860

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-3-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: _____

From: chux 3,9
#2

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

Df-2 #2

03 Dec 2015 12:59:32 78440LB

28820

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-3-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver Ricky

To: CBW

From: Rail CHUX 319

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

03 Dec 2015 13:19:12 80960LB

#3

28760

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-3-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#4

03 Dec 2015 14:34:18 92780LB

28860

Gross	Empty	Net Wt.
82280	28860	53420
78440	28820	49620
80960	28760	52200
92780	28860	63920
		0
		0
		0
		0
		0
		0
72657	28825	43832
		219160
334460	115300	219160

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Rec 2/15/16

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 121
Disposal Date: 12/03/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000599598WAS	45,940	44,288
000599603WAS	36,240	44,288
000599670WAS	45,460	44,288
000599672WAS	44,760	44,288
000599669WAS	44,160	44,288
	216,560	221,440

Jeffery A. Laborsky, President

11/3/15

(2)

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Flanigan 800-234-1516
Emergency Phone:	800-510-8510 Account 3366
STCC:	STCC 4866108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N.O.S.,
	9, PG III, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 121	000599598WAS	45940	56N0035
	000599603WAS	36240	56N0040
	000599670WAS	45460	56N0043
	000599672WAS	44760	56N0045
	000599669WAS	44160	56N0042

GONDOLA TOTAL WEIGHT 216560

RAILCAR LOAD LIMIT 220900

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date: 11-03-15

Shipper Printed Name: Matthew

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-2-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____

From: chux 121
#4

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

02 Dec 2015 17:01:44 93380LB

Df-1

#4

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-2-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver Ricky

To: CBW

From: Rail CHUX 121
#3

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF-1

#3

01 Dec 2015 13:12:33 28760LB

02 Dec 2015 16:37:46 76160LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-2-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver KR

To: _____ From: Chux 121
#2

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

Of 1 #2

02 Dec 2015 16:03:45 84520LB

28820

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-2-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: Chux 121

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#1

02 Dec 2015 15:45:28 82680LB

28560

DF

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/15/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 140
Disposal Date: 12/03/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000599595WAS	44,220	44,624
000599597WAS	43,660	44,624
000599599WAS	44,580	44,624
000599602WAS	42,100	44,624
000599600WAS	43,340	44,624
	217,900	223,120

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-234-1516
Emergency Phone:	800-510-8510 Account 3364
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS-C-19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CIIUX-140	000599595WAS	44220	56N0032
	000599597WAS	43660	56N0034
	000599599WAS	44580	56N0036
	000599602WAS	42100	56N0039
	000599600WAS	43340	56N0037

GONDOLA TOTAL WEIGHT 217900

RAILCAR LOAD LIMIT 224900

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: _____ Date: 11-02-15

Shipper Printed Name: _____

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-3-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver Ricky

To: CBW

From: Rail CHUX 140

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

01 Dec 2015 13:12:08 28760LB

03 Dec 2015 09:09:33 73920LB

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-3-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: DF-2 From: Chux 140
#5

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF - 2 #5

03 Dec 2015 09:16:55 55720LB

28820

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-3-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TJ

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

03 Dec 2015 08:53:19 76260LB

28860

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-3-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver [illegible]

To: _____

From: Chux 140
#2

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

Df. #2

03 Dec 2015 09:18:00 91100LB

28820

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-3-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver Ricky

To: CBW

From: Rail CHUX140

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

01 Dec 2015 13:11:52 28760LB

03 Dec 2015 08:00:42 70140LB

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Rec 2/15/16

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 185
Disposal Date: 12/03/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000599629WAS	40,880	44,776
000599635WAS	42,980	44,776
000599634WAS	42,840	44,776
000599633WAS	43,940	44,776
000599636WAS	47,560	44,776
	218,200	223,880

Jeffery A. Laborsky, President

11/5/15

(2)

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7301 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-234-1316
Emergency Phone:	800-510-8518 Account 3364
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N.O.S.,
	9, PGIII, (CHROMIUM), (DOO7)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 185	000599629WAS	40880	56W0074
	000599635WAS	42980	56W0080
	000599634WAS	42840	56W0079
	000599633WAS	43940	56W0078
	000599636WAS	47560	56W0081

GONDOLA TOTAL WEIGHT 218200

RAILCAR LOAD LIMIT 221200

Shipper Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shipper Signature: _____ Date 11-05-15

Shipper Printed Name: _____

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-3-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: _____ From: cdux 185
#4

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

Dfo 1 #4

03 Dec 2015 11:52:24 87660LB

28820

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-3-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: DF- _____ From: Chux 185
#3

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF-1 #3

03 Dec 2015 11:02:54 85100LB

28820

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-3-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver _____

To: CBW

From: Rail CHUX 185
#2

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DE-1 #2

01 Dec 2015 13:12:22 28760LB

03 Dec 2015 10:27:53 78040LB

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-3-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#1

03 Dec 2015 10:10:17 88340LB

DF3.1

28860

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Rec 2/15/16

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 211
Disposal Date: 12/04/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000561475WAS	40,020	44,576
000561470WAS	46,440	44,576
000561469WAS	41,920	44,576
000561468WAS	45,580	44,576
000561467WAS	44,420	44,576
	218,380	222,880

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC 4960108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS-C-19223
Freight:	Freight Prepaid—US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 211	000561475WIAS	40020	56N0147
	000561470WIAS	46440	56N0142
	000561469WIAS	41920	56N0141
	000561468WIAS	45580	56N0140
	000561467WIAS	44420	56N0139

GONDOLA TOTAL WEIGHT 218380

RAILCAR LOAD LIMIT 221400

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: _____ Date: 11-11-15

Shipper Printed Name: MATHGC

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-4-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TM

To: _____ From: Chux 211

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#1

04 Dec 2015 12:37:46 94540LB

28860

DF2

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-4-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver KC

To: _____ From: Chux - 211
#2

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#2

DF-2

04 Dec 2015 12:50:53 80340LB

28820

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-4-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#3

04 Dec 2015 13:53:04 89460LB

DF 2

28860

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date 12-4-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver _____

To: _____ From: Chux 211
#51

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF-2 #4

04 Dec 2015 14:06:49 73900LB

28820

Gross	Empty	Net Wt.
94540	28860	65680
80340	28820	51520
89460	28860	60600
73900	28820	45080
		0
		0
		0
		0
		0
		0
73416	28840	44576
		222880
338240	115360	222880

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Rec 2/15/16

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 143
Disposal Date: 12/04/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000561479WAS	40,420	43,912
000561480WAS	43,280	43,912
000561481WAS	46,000	43,912
000561476WAS	43,260	43,912
000561477WAS	41,740	43,912
	214,700	219,560

Jeffery A. Laborsky, President

11/12

3

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Chris Hamilton 800-234-1516
Emergency Phone:	800-510-8510 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (DOOT)
Contract Authority:	NS-C-19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 143	00056147 9WAS	40420	56N0151
	00056148 0WAS	43280	56N0152
	00056148 1WAS	46000	56N0153
	00056147 6WAS	43260	56N0148
	00056147 7WAS	41740	56N0149

GONDOLA TOTAL WEIGHT 214700

RAILCAR LOAD LIMIT 221000

Shipper Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shipper Signature: [signature] Date: 11-11-15

Shipper Printed Name: Mike Gee

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-4-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver _____

To: _____ From chuk 143

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#1

04 Dec 2015 09:36:49 96580LB

DF - 2

28860

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-4-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: _____ From: Chux-143
#2

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

Of-2 #2

04 Dec 2015 09:54:19 76920LB

28820

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-4-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver _____

To: _____ From: chur 143

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#3
DF2

04 Dec 2015 10:44:33 84560LB

28860

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-4-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: _____

From: Chux 143
#4

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF-2 #4

04 Dec 2015 10:58:25 76860LB

28820

Gross	Empty	Net Wt.
96580	28860	67720
76920	28820	48100
84560	28860	55700
76860	28820	48040
		0
		0
		0
		0
		0
		0
72752	28840	43912
		219560
334920	115360	219560

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 127
Disposal Date: 12/01/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000599683WAS	43,880	44,556
000599684WAS	44,040	44,556
000599692WAS	42,040	44,556
000599688WAS	42,660	44,556
000599687WAS	45,400	44,556
	218,020	222,780

Jeffery A. Laborsky, President

11/4/15

(1)

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-530-8518 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 127	000599683WAS	43850	56N0056
	000599684WAS	44040	56N0057
	000599692WAS	42040	56N0065
	000599688WAS	42660	56N0061
	000599687WAS	45400	56W0060

GONDOLA TOTAL WEIGHT 218020

RAILCAR LOAD LIMIT 221200

Shipper Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable International and national governmental regulations."

Shipper Signature: [signature] Date: 11-04-15

Shipper Printed Name: Matt Cox

HERITAGE

Load #2

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11/30/15

Transaction # _____ Stop # _____

Manifest # _____
Unit 353 Driver 39433

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF-2 #2

30 Nov 2015 17:10:07 78700LB

49520

01 Dec 2015 06:42:42 29180LB

C hux 127

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 355 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

3

DF-2

30 Nov 2015 17:24:05 82020LB

53080 < 28940

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

LOAD # 1

Date: 11-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 356 Driver 4775

To: _____ From: CHUX 127

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

Df-2 #1

30 Nov 2015 16:48:11 89500LB

59180

01 Dec 2015 06:32:59 30320LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 11-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KK

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#4

DE-2

30 Nov 2015 17:31:58 89860LB

61000

28860

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

dw 2/15/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 172
Disposal Date: 12/04/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000561471WAS	46,060	44,808
000561472WAS	46,340	44,808
000561473WAS	43,340	44,808
000561482WAS	42,420	44,808
000561483WAS	39,360	44,808
	217,520	224,040

Jeffery A. Laborsky, President

11/12

(4)

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O><S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 172	00056147 1WAS	46060	56N0143
	00056147 2WAS	46340	56N0144
	00056147 3WAS	43340	56N0145
	00056148 2WAS	42420	56N0154
	00056148 3WAS	39360	56N0155

GONDOLA TOTAL WEIGHT 217520

RAILCAR LOAD LIMIT 221100

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date: 11-11-15

Shipper Printed Name: [illegible]

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-4-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#1

04 Dec 2015 06:31:48 96720LB

DF-2

28860

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-4-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver _____

To: _____

From: Chux 122
~~#~~ 2

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF-2 #2

04 Dec 2015 06:46:06 85880LB

28820

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-4-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#3

04 Dec 2015 08:25:09 79740LB

NF - 2

28860

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-4-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver _____

To: _____

From: Chux 172
#4

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

Df-2 #4

04 Dec 2015 08:35:24 77060LB

28820

Gross	Empty	Net Wt.
96720	28860	67860
85880	28820	57060
79740	28860	50880
77060	28820	48240
		0
		0
		0
		0
		0
		0
73648	28840	44808
		224040
339400	115360	224040

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Dec 2/15/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 298
Disposal Date: 12/11/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000561465WAS	46,360	43,644
000561464WAS	46,400	43,644
000599620WAS	39,860	43,644
000599618WAS	46,080	43,644
000561474WAS	37,840	43,644
	216,540	218,220

Jeffery A. Laborsky, President

11/11

1

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NB-C-19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 298	00056 1465 WAS	46360	56N0137
	00056 1464 WAS	46400	56N0136
	00058 9620 WAS	39860	56N0135
	00059 9618 WAS	46080	56N0133
	00056 1474 WAS	37840	56N0146

GONDOLA TOTAL WEIGHT 216540

RAILCAR LOAD LIMIT 220100

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date: 11-10-15

Shipper Printed Name: Matt Ga

Gross	Empty	Net Wt.
95560	28860	66700
89900	28820	61080
99940	28860	71080
48180	28820	19360
		0
		0
		0
		0
		0
		0
72484	28840	43644
		218220
333580	115360	218220

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-11-2015

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver KR

To: _____ From: Chux 298
#4

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

Dfl #4

11 Dec 2015 07:38:48 48180LB

28820

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-11-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#3
DF1

11 Dec 2015 07:25:08 99940LB

28560

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-11-2015

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: _____ From: Chux 298
#2

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#2

Df-1

11 Dec 2015 06:28:55 89900LB

28820

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-11-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#1

11 Dec 2015 06:15:25 95560LB

28860

DF-1

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/15/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 308
Disposal Date: 12/14/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000701054WAS	45,040	43,868
000701056WAS	46,160	43,868
000701047WAS	42,940	43,868
000701043WAS	42,240	43,868
000701039WAS	39,580	43,868
	215,960	219,340

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS - C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CIIUX 308	000701054WAS	45040	56N0158
	000701056WAS	46160	56N0156
	000701047WAS	42940	56N0165
	000701043WAS	42240	56N0169
	000701039WAS	39580	56N0173

GONDOLA TOTAL WEIGHT 215960

RAILCAR LOAD LIMIT 220200

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: _____ Date: 11-25-15

Shipper Printed Name: _____

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-14-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

NF 1

14 Dec 2015 14:13:37 93440LB

28,860

#1

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-14-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver KR

To: _____ From: chux 308
DF-1 #2

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF-1 #2

14 Dec 2015 14:37:45 96380LB

28820

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-14-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF1

14 Dec 2015 14:44:53 94940LB

#3

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-14-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DFI

14 Dec 2015 15:06:39 49980LB

#4

28860

Gross	Empty	Net Wt.
93440	28860	64580
96380	28820	67560
94940	28860	66080
49980	28860	21120
		0
		0
		0
		0
		0
		0
72718	28850	43868
		219340
334740	115400	219340

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Dec 2/15/16

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 287
Disposal Date: 12/14/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000701053WAS	45,160	43,672
000701055WAS	46,140	43,672
000701049WAS	41,800	43,672
000701051WAS	40,200	43,672
000701050WAS	43,320	43,672
	216,620	218,360

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8516 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS-C-19223
Freight:	Freight Prepaid—US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 287	000701053WAS	45160	56N0159
	000701055WAS	46140	56N0157
	000701049WAS	41800	56N0163
	000701051WAS	40200	56N0161
	000701050WAS	43320	56N0162

GONDOLA TOTAL WEIGHT 216620

RAILCAR LOAD LIMIT 220300

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date: 11-24-15

Shipper Printed Name: [illegible]

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-14-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF1

14 Dec 2015 06:33:40 95640LB

#1

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-14-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: _____ From: Chux 287
DF-1 #2

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

Df-1 #2

14 Dec 2015 06:47:14 95460LB

28820

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-14-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF1

14 Dec 2015 07:44:09 89900LB

#3

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-14-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: _____

From Chux 287
#4 DF-1

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF-1 #4

14 Dec 2015 07:57:31 52720LB

2882

Gross	Empty	Net Wt.
95640	28860	66780
95460	28820	66640
89900	28860	61040
52720	28820	23900
		0
		0
		0
		0
		0
		0
72512	28840	43672
		218360
333720	115360	218360

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Rec 2/15/16

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 262
Disposal Date: 12/14/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000701052WAS	46,440	43,148
000701048WAS	44,960	43,148
000701046WAS	43,360	43,148
000701042WAS	42,180	43,148
000701041WAS	38,800	43,148
	215,740	215,740

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid -- US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 262	000701052 WAS	46440	56N0160
	000701048 WAS	44960	56N0164
	000701046 WAS	43360	56N0166
	000701042 WAS	42180	56N0170
	000701041 WAS	38800	56N071

GONDOLA TOTAL WEIGHT 215740

RAILCAR LOAD LIMIT 220100

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: _____ Date 11-25-15

Shipper Printed Name: Matthew

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-14-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF

14 Dec 2015 09:48:38 97700LB

#1

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-14-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: _____ From Chux 262
#2

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

Df- #2

14 Dec 2015 10:03:23 102260LB

28820

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-14-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF 1

14 Dec 2015 11:09:35 92160LB

#3

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-14-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 358 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF1

#4

NOT working N/A

28860

39,020

Gross	Empty	Net Wt.
97700	28860	68840
102260	28820	73440
92160	28860	63300
39020	28860	10160
		0
		0
		0
		0
		0
		0
71998	28850	43148
		215740
331140	115400	215740

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/15/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 318
Disposal Date: 12/15/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000701037WAS	47,180	43,340
000701038WAS	45,400	43,340
000701040WAS	37,400	43,340
000701044WAS	43,380	43,340
000701045WAS	42,500	43,340
	215,860	216,700

Jeffery A. Laborsky, President

HERITAGE Load # 1

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-15-15

Transaction # _____ Stop # _____

Manifest # _____
Unit ~~CHUX 318~~ 354 Driver 4775

To: CBW DF-2 From: CHUX 318

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

15 Dec 2015 07:18:08 29420LB

15 Dec 2015 06:43:52 98180LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-15-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver _____

To: CBW

From: Rail CHUX 318
load #2

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

15 Dec 2015 07:05:46 92600LB

15 Dec 2015 07:21:55 28980LB

HERITAGE

LOAD #3

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-15-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver 4775

To: CBW DF-2 From: CHUX 318

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

15 Dec 2015 07:20:19 29420LB

15 Dec 2015 07:42:05 96400LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-15-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver _____

To: CBW DF2

From: Rail CHOX 318
load #4

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

15 Dec 2015 07:22:54 28900LB

15 Dec 2015 07:49:18 46140LB

Gross	Empty	Net Wt.
98180	29420	68760
92600	28880	63720
96400	29420	66980
46140	28900	17240
		0
		0
		0
		0
		0
		0
72495	29155	43340
		216700
333320	116620	216700

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Rec 2/15/16

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 262
Disposal Date: 12/14/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000701052WAS	46,440	43,148
000701048WAS	44,960	43,148
000701046WAS	43,360	43,148
000701042WAS	42,180	43,148
000701041WAS	38,800	43,148
	215,740	215,740

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8518 Account 3346
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid -- US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 262	000701052 WAS	46440	56N0160
	000701048 WAS	44960	56N0164
	000701046 WAS	43360	56N0166
	000701042 WAS	42180	56N0170
	000701041 WAS	38800	56N071

GONDOLA TOTAL WEIGHT 215740

RAILCAR LOAD LIMIT 220100

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: _____ Date: 11-25-15

Shipper Printed Name: Matt Hess

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-14-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF

14 Dec 2015 09:48:38 97700LB

#1

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-14-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: _____ From Chux 262
#2

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

Df-

#2

14 Dec 2015 10:03:23 102260LB

28820

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-14-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF 1

14 Dec 2015 11:09:35 92160LB

#3

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-14-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 358 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DFI

#4

NOT working N/A

28860

39,020

Gross	Empty	Net Wt.
97700	28860	68840
102260	28820	73440
92160	28860	63300
39020	28860	10160
		0
		0
		0
		0
		0
		0
71998	28850	43148
		215740
331140	115400	215740

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/15/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 318
Disposal Date: 12/15/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000701037WAS	47,180	43,340
000701038WAS	45,400	43,340
000701040WAS	37,400	43,340
000701044WAS	43,380	43,340
000701045WAS	42,500	43,340
	215,860	216,700

Jeffery A. Laborsky, President

HERITAGE Load # 1

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-15-15

Transaction # _____ Stop # _____

Manifest # _____
Unit ~~CHUX 318~~ 354 Driver 4775

To: CBW DF-2 From: CHUX 318

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

15 Dec 2015 07:18:08 29420LB

15 Dec 2015 06:43:52 98180LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-15-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver _____

To: CBW

From: Rail CHUX 318
load #2

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

15 Dec 2015 07:05:46 92600LB

15 Dec 2015 07:21:55 28980LB

HERITAGE

LOAD #3

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-15-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver 4775

To: CBW DF-2 From: CHUX 318

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

15 Dec 2015 07:20:19 29420LB

15 Dec 2015 07:42:05 96400LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-15-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver _____

To: CBW DF2 From: Rail CHOX 318
load #4

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

15 Dec 2015 07:22:54 28900LB

15 Dec 2015 07:49:18 46140LB

Gross	Empty	Net Wt.
98180	29420	68760
92600	28880	63720
96400	29420	66980
46140	28900	17240
		0
		0
		0
		0
		0
		0
72495	29155	43340
		216700
333320	116620	216700

HERITAGE ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/12/14

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 191
Disposal Date: 12/30/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000566926WAS	40,520	42,888
000566934WAS	43,220	42,888
000566929WAS	39,520	42,888
000566941WAS	47,820	42,888
000566942WAS	43,020	42,888
	214,100	214,440

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-1518 Account 3366
STCC:	STCC 4869108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid—US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 191	00056926WIAS	40520	56W0191
	00056934WIAS	43220	56W0199
	00056929WIAS	39520	56W0194
	00056941WIAS	47820	56W0206
	00056942WIAS	43020	56W0207

GONDOLA TOTAL WEIGHT 214100

RAILCAR LOAD LIMIT 220800

Shipper Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shipper Signature: [signature] Date: 12-15-15

Shipper Printed Name: McHGr

353

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 353 Driver _____

To: _____ From: CHux 191

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

~~17~~ 4

30 Dec 2015 08:13:16 86820LB

DF1

30 Dec 2015 07:41:34 29120LB

351

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: _____

From: Chux 191
~~[illegible]~~ #3

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#3 DF-1

30 Dec 2015 07:53:19 84360LB

30 Dec 2015 07:41:40 29120LB

353

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 353 Driver _____

To: _____

From: chux 191
#2

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF1

30 Dec 2015 07:30:42 79320LB

30 Dec 2015 07:41:18 29120LB

351

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: _____ From: chux 191
_____ #1
_____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#1

DF-1

30 Dec 2015 07:13:37 80420LB

30 Dec 2015 07:41:03 29120LB

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 195
Disposal Date: 12/30/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000566928WAS	39,300	42,952
000566940WAS	42,320	42,952
000566938WAS	42,520	42,952
000566950WAS	48,680	42,952
000566946WAS	42,280	42,952
	215,100	214,760

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8510 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS-C-19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 195	00056928WAS	39300	56N0193
	00056940WAS	42320	56N0205
	00056938WAS	42520	56N0203
	00056950WAS	48080	56N0215
	00056946WAS	42280	56N0211

GONDOLA TOTAL WEIGHT 215100

RAILCAR LOAD LIMIT 221100

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date: 12-15-15

Shipper Printed Name: Matt Gar

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: _____ From: Chox 195
_____ #1
_____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#1 Df-1

30 Dec 2015 09:56:44 84940LB

29120

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TR

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

30 Dec 2015 10:10:44 81340LB

#2
DFI

28860

351

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: _____

From: chux 195
#3

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#3 Df-1

30 Dec 2015 10:31:22 85300LB

29120

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TM

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#4

30 Dec 2015 10:55:19 79140LB

DF1

28860

Gross	Empty	Net Wt.
84940	29120	55820
81340	28860	52480
85300	29120	56180
79140	28860	50280
		0
		0
		0
		0
		0
		0
71942	28990	42952
		214760
330720	115960	214760

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/12/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 164
Disposal Date: 12/30/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000566904WAS	44,140	43,236
000566901WAS	44,460	43,236
000566911WAS	42,240	43,236
000566909WAS	43,020	43,236
000566908WAS	42,500	43,236
	216,360	216,180

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC 4869108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid—US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 164	000566904WAS	44140	56N0219
	000566901WAS	44460	56N0216
	000566911WAS	42240	56N0226
	000566909WAS	43020	56N0224
	000566908WAS	42500	56N0223

GONDOLA TOTAL WEIGHT 216360

RAILCAR LOAD LIMIT 221000

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date: 12-16-15

Shipper Printed Name: Mitchell

351

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KS

To: _____ From Chux 164

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#1

30 Dec 2015 13:57:28 86060LB

Df-1

29120

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver 74

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF-1

30 Dec 2015 14:15:08 81520LB

#22

28860

35

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 35 Driver KL

To: _____ From: Chux 164
#3

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#3 Df-1

30 Dec 2015 14:50:05 89800LB

29120

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

30 Dec 2015 14:53:43 74760LB

DF1
#4

28860

Gross	Empty	Net Wt.
86060	29120	56940
81520	28860	52660
89800	29120	60680
74760	28860	45900
		0
		0
		0
		0
		0
		0
72226	28990	43236
		216180
332140	115960	216180

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/12/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 224
Disposal Date: 12/30/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000566933WAS	42,500	42,796
000566927WAS	39,520	42,796
000566939WAS	43,680	42,796
000566937WAS	42,880	42,796
000566943WAS	46,020	42,796
	214,600	213,980

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 224	000566933WAS	42500	56W0198
	000566927WAS	39520	56W0192
	000566939WAS	43680	56W0204
	000566937WAS	42880	56W0202
	000566943WAS	46020	56W0208

GONDOLA TOTAL WEIGHT 214600

RAILCAR LOAD LIMIT 221200

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations.

Shippers Signature: _____ Date 12-15-15

Shipper Printed Name: Matt Gar

351

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: _____ From: Chux 224
_____ #1
_____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#1 Df. 2

30 Dec 2015 12:17:24 87200LB

29120

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

30 Dec 2015 12:32:31 78800LB

#2

DFA

28860

351

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: _____ From: Chux 224
_____ #3
_____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#3 DF-2

30 Dec 2015 12:52:13 84060LB

29120

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-30-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver 74

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

30 Dec 2015 13:05:12 79880LB

#4
DF2

28860

Gross	Empty	Net Wt.
87200	29120	58080
78800	28860	49940
84060	29120	54940
79880	28860	51020
		0
		0
		0
		0
		0
		0
71786	28990	42796
		213980
329940	115960	213980

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Rec 2/12/16

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 185
Disposal Date: 12/31/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000561494WAS	44,480	43,098
000561489WAS	43,300	43,098
000561491WAS	44,960	43,098
000561492WAS	41,300	43,098
000566930WAS	41,240	43,098
	215,280	215,490

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8510 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	N3- C - 19223
Freight:	Freight Prepaid—US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 185	00056149WAS	44480	56N0186
	00056148 9WAS	43300	56N0181
	00056149 1WAS	44960	56N0183
	00056149 2WAS	41300	56N0184
	00056693 0WAS	41240	56N0195

GONDOLA TOTAL WEIGHT 215280

RAILCAR LOAD LIMIT 221200

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date 12-15-15

Shipper Printed Name: [signature]

357

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-31-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver KR

To: _____ From: Chux 185

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#4

31 Dec 2015 09:51:30 85140LB

DF-1

31 Dec 2015 10:20:44 28640LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-31-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 353 Driver _____

To: _____ From: chor 185

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#3

0 f - 1

31 Dec 2015 09:29:24 85020LB

29130

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-31-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: Chux 185

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#2

31 Dec 2015 08:40:57 81620LB

DF-1

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-31-15

Transaction # _____ Stop # _____

Manifest # _____
Unit _____ Driver _____

To: Plant DF#

From: Rail spur
Chuy 185

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#1

DF-1

31 Dec 2015 07:44:28 29440LB
31 Dec 2015 08:16:56 79780LB

HERITAGE ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/12/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 319
Disposal Date: 12/31/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000561493WAS	42,040	43,220
000561488WAS	41,600	43,220
000561486WAS	43,980	43,220
000561487WAS	42,740	43,220
000561484WAS	44,680	43,220
	215,040	216,100

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8510 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 319	00056149 3WAS	42040	56W0185
	00056148 8WAS	41600	56W0180
	00056148 6WAS	43980	56W0178
	00056148 7WAS	42740	56W0179
	00056148 4WAS	44680	56W0176

GONDOLA TOTAL WEIGHT 215040

RAILCAR LOAD LIMIT 220100

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date: 12-14-15

Shipper Printed Name: Matt Gar

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-31-15

Transaction # _____ Stop # _____

Manifest # _____
Unit _____ Driver _____

To: Plant DF#2

From: Rail spur
Chux # ~~[illegible]~~
319

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

31 Dec 2015 07:44:17 29440LB

31 Dec 2015 11:21:19 80200LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12/31/15

Transaction # _____ Stop # _____

Manifest # _____
Unit 353 Driver _____

To: _____ From: CNUX 319

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

31 Dec 2015 11:10:04 82940LB

28860

351

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date:_____

Transaction # _____ Stop #_____

Manifest # _____
Unit 351 Driver KR

To:_____ From: Chux 319
#2

Arrival_____ Initialed_____
Departure_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

#2

DF-

31 Dec 2015 10:56:11 85400LB

28640

HERITAGE LOAD # 1

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-31-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 356 Driver _____

To: DP - 2 From: CALIX 319

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

31 Dec 2015 10:46:42 83500LB

31 Dec 2015 10:13:53 29000LB

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Rec 2/12/16

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 121
Disposal Date: 12/31/15

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000561497WAS	39,940	43,140
000561496WAS	40,700	43,140
000566932WAS	44,660	43,140
000566935WAS	45,620	43,140
000566931WAS	44,900	43,140
	215,820	215,700

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services 7901 W. Morris St Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8510 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S., 9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid—US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 121	00056149 7WAS	39940	56W0189
	00056149 6WAS	40700	56W0188
	00056693 2WAS	44660	56W0197
	00056693 5WAS	45620	56W0200
	00056693 1WAS	44900	56W0196

GONDOLA TOTAL WEIGHT 215820

RAILCAR LOAD LIMIT 220900

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date 12-15-15

Shipper Printed Name: Matt Gu

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-31-15

Transaction # _____ Stop # _____

Manifest # 1

Unit _____ Driver _____

To: Plant DF#1

From: Rail spur
Chux #
121

Arrival _____ Initialed _____

Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____

This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

31 Dec 2015 07:44:07 29440LB

31 Dec 2015 13:28:40 85920LB

351

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-31-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: Df-1 From Chux 121

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#3

Df-1

31 Dec 2015 13:13:57 85640LB

28640

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-31-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TM

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DFI #2

31 Dec 2015 12:59:21 81540LB

28860

HERITAGE

LOAD # 1

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-31-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 356 Driver _____

To: DF-1 From: CHUX 121

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

31 Dec 2015 12:44:53 78540LB

31 Dec 2015 10:13:41 29000LB

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561439WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41,120	~~KG~~ P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERGH 171 1.W3_0864896_T#6398596
240 TO <1000 PPM CR6+
Man Doc. SGNB001
RAILCAR NO. CIW 260 TRUCK NO. 223 ERI:HERITAGE [3911060]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alan Idesias Behalf of Honeywell
Signature:
Month Day Year: 6 29 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: MATT TRACH
Signature:
Month Day Year: 6 29 15
Transporter 2 Printed/Typed Name: Norfolk Southern
Signature:
Month Day Year: 6 29 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month Day Year: 07 16 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000561439WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561440WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45580	~~N~~ P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG#171 1.W3 0864896_T#6398598
240 TO <1000 PPM CR6+
Man Doc: 56N0002
RAILCAR NO. CHUX 266 TRUCK NO. 248 ERI:HERITAGE [391106]1G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alan Iglesias Behalf of Honeywell
Signature:
Month Day Year: 6 29 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin Gilbert
Signature:
Month Day Year: 6 29 15
Transporter 2 Printed/Typed Name: Horwith on behalf of Norfolk Southern
Signature:
Month Day Year: 6 29 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month Day Year: 07 16 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000561440WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4906

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 00056144 1WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45,040	P	D007		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6398600
240 TO <1000 PPM CR6+
Man Doc: S6N0603
RAILCAR NO. CHUX 106 TRUCK NO. 224 ERI:HERITAGE [39110621G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alain Iglesias Behalf of Honeywell
Signature:
Month Day Year: 6 29 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: RAYMOND S BEAR
Signature:
Month Day Year: 6 29 15

Transporter 2 Printed/Typed Name: Mathew on Behalf of Norfolk Southern
Signature:
Month Day Year: 6 29 15

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Sarah Miller
Signature:
Month Day Year: 07 30 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000561441WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561442WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45800	K	D007		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6398602
240 TO <1000 PPM CR6+
Man Doc: S6N0004
RAILCAR NO. CHUX 106 TRUCK NO. 221 ERI:HERITAGE [3911063]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alain Iglesias Behalf of Honeywell
Signature:
Month Day Year: 6 29 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Wandi Torres
Signature:
Month Day Year: 6 29 15
Transporter 2 Printed/Typed Name: Matt Ser on Behalf of Norfolk Southern
Signature:
Month Day Year: 6 29 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature:
Month Day Year: 07 30 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000561442WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)926-1221
4. Manifest Tracking Number: 000561443WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4906
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44880	K P	D007		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_TN6898604
240 TO <1000 PPM CR6+
Man Doc SLN0005
RAILCAR NO. CHLX 260 TRUCK NO. 222 ERI:HERITAGE [3911064]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alan Iglesias Behalf of Honeywell
Signature:
Month 6 Day 29 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Carey Todd
Signature: Todd
Month 6 Day 29 Year 15

Transporter 2 Printed/Typed Name: Mattler on behalf of Norfolk Southern
Signature:
Month 6 Day 29 Year 15

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Ken Van
Signature:
Month 07 Day 16 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

GENERATOR

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986591437	2 of 2	000561443MAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058491114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561444WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45280	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3 0864896_T#6398606
240 TO <1000 PPM CR6+
Man Doc SGN0006
RAILCAR NO. CHUX 318 TRUCK NO. 245 ERI:HERITAGE [3911065]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alan Iglesias Behalf of Honeywell
Signature:
Month 6 Day 29 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Ken Kass
Signature:
Month 6 Day 29 Year 15
Transporter 2 Printed/Typed Name: Matthew on Behalf of Norfolk Southern
Signature:
Month 6 Day 29 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Said Miller
Signature:
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000561444WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058494114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561445WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4659
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 88415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45960	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERGN 171 1.W3 0864896_T#6398608
240 TO <1000 PPM CR6+
Man Doc. S6N0007
RAILCAR NO. CHUX 318 TRUCK NO. 34 ERI:HERITAGE [3911065]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alan Iglesias Behalf of Honeywell
Signature:
Month 6 Day 29 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rick Sowden
Signature:
Month 6 Day 29 Year 15
Transporter 2 Printed/Typed Name: Horwith on behalf of Norfolk Southern
Signature:
Month 6 Day 29 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature:
Month 07 Day 30 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000561445WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561446WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41720	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERGN 171 1.W3 0864896_TN6398610
240 TO <1000 PPM CR6+
Man Doc S6N0008
RAILCAR NO. CHLX 260 TRUCK NO. 292 ERI:HERITAGE [39110671G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alan Iglesias Behalf of Honeywell
Signature:
Month Day Year: 6 29 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Sal Cogliano
Signature:
Month Day Year: 6 29 15

Transporter 2 Printed/Typed Name: Walker on Behalf of Norfolk Southern
Signature:
Month Day Year: 6 29 15

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name:
Signature:
Month Day Year: 07 16 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000561446WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR

TRANSPORTER

DESIGNATED FACILITY

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986591437
2. Page 1 of: 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561447WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43040	KG P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6398612
240 TO <1000 PPM CR6+
Man Doc: SGN0009
RAILCAR NO. CHLX 260 TRUCK NO. 26 ERI:HERITAGE [3911068]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alan Iglesias Behalf of Honeywell
Signature:
Month Day Year: 6 29 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: MIKE LEDUC
Signature:
Month Day Year: 6 29 15

Transporter 2 Printed/Typed Name: Walker On Behalf of Norfolk Southern
Signature:
Month Day Year: 6 29 15

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name:
Signature:
Month Day Year: 07 16 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number	22. Page	23. Manifest Tracking Number
NJD986581437	2 of 2	000561447WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4808

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986581437	2	(800)326-1221	000561448WAS

GENERATOR

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000550909

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42020	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6398614
240 TO <1000 PPM CR6+
Man Doc: S6N0010
RAILCAR NO. CHUX 318 TRUCK NO. 295 ERI:HERITAGE [391106910

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alan Talesics Behalf of Honeywell — Signature: [signature] — Month 6 Day 29 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Heyer — Signature: [signature] — Month 6 Day 29 Year 15
Transporter 2 Printed/Typed Name: Matter On Behalf of Norfolk Southern — Signature: [signature] — Month 6 Day 29 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Said Miller — Signature: [signature] — Month 07 Day 30 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

GENERATOR

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986591437	2 of 2	000561448WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561449WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 46980	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6398616
240 TO <1000 PPM CR6+
Man Doc: S6N0011
RAILCAR NO. CHUX 106 TRUCK NO. 283 ERI:HERITAGE [3911070]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alain Iglesias Behalf of Honeywell — Signature: [signature] — Month 6 Day 29 Year 15

INT'L
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER
17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Jason Bradford — Signature: [signature] — Month 6 Day 29 Year 15
Transporter 2 Printed/Typed Name: Matt Sor on Behalf of Norfolk Southern — Signature: [signature] — Month 6 Day 29 Year 15

DESIGNATED FACILITY
18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller — Signature: [signature] — Month 07 Day 30 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000561449WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561450WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45320	KG P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_TH6398618
240 TO <1000 PPM CRS+
Man Doc: S6N0012
RAILCAR NO. CHLX 154 TRUCK NO. 240 ERI:HERITAGE [39110711G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alan Iglesias Behalf of Honeywell
Signature:
Month 6 Day 29 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Charles Berger on behalf of Horwith
Signature:
Month 6 Day 29 Year 15
Transporter 2 Printed/Typed Name: Norfolk Southern
Signature:
Month 6 Day 29 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ceri Parr
Signature:
Month 07 Day 30 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000561450WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJ0986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561451WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 46,480	~~X~~ P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6298620
240 TO <1000 PPM CR6+
Man Doc S6N0013
RAILCAR NO. CIUX 318 TRUCK NO. 223 ERI:HERITAGE [3911072]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alan Talesas Behalf of Honeywell
Signature:
Month 6 Day 29 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: MATT TRACH
Signature:
Month 6 Day 29 Year 15
Transporter 2 Printed/Typed Name: Matthew on behalf of Norfolk Southern
Signature:
Month 6 Day 29 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature:
Month 07 Day 30 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000561451WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)926-1221
4. Manifest Tracking Number: 000561452WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4805
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714879

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7301 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44860	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6398622
240 TO <1000 PPM CR6+
Man Doc: S6N0014
RAILCAR NO. CHLX 154 TRUCK NO. 248 ERI:HERITAGE [391107316

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alain Iglesias Behalf of Honeywell
Signature:
Month 6 Day 29 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin Gilbert
Signature:
Month 6 Day 29 Year 15
Transporter 2 Printed/Typed Name: Matthew on behalf of Norfolk Southern
Signature:
Month 6 Day 29 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ceri Parr
Signature:
Month 07 Day 30 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000561452WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561453WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43500	~~X~~ P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.WS_0864896_T#6398624
240 TO <1000 PPM CR6+
Man Doc: S6N0015
RAILCAR NO. CHUX 154 TRUCK NO. 221 ERI:HERITAGE [3911074]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alan Talesigs Behalf Of Honeywell
Signature:
Month Day Year: 6 29 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: David Torres
Signature:
Month Day Year: 6 29 15
Transporter 2 Printed/Typed Name: Walker on behalf of Norfolk Southern
Signature:
Month Day Year: 6 29 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Len Vart
Signature:
Month Day Year: 07 30 15

GENERATOR

INT'L

TRANSPORTER

DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000561453WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 2 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 9/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561454WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4808
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0611
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44800	P	D007		
	2.							
	3.							
	4.							

GENERATOR

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.WS_0864896_T#6398626
240 TO <1000 PPM CR6+
Man Doc: S6N0016
RAILCAR NO. CHUX 225 TRUCK NO. 224 ERI:HERITAGE [39110751G

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alan Iglesias Behalf of Honeywell
Signature:
Month 6 Day 29 Year 15

INT'L

16. International Shipments: ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: RAYmond SBear
Signature:
Month 6 Day 29 Year 15
Transporter 2 Printed/Typed Name: Matt Sa on Behalf of Norfolk Southern
Signature:
Month 6 Day 29 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space: ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Lee Fan
Signature:
Month 08 Day 19 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000561454WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 9/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986591437
2. Page 1 of: 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561455WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

Generator's Phone:

6. Transporter 1 Company Name: NORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45960	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3 Q864896_T#6398628
240 TO <1000 PPM CR6+
Man Doc: S6N0017
RAILCAR NO. CHOX 275 TRUCK NO. 222 ERI:HERITAGE [3911076]G

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alan Iglesias Behalf of Honeywell — Signature: [signature] — Month 6 Day 29 Year 15

16. International Shipments: ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Carce Tobel — Signature: [signature] — Month 6 Day 29 Year 15
Transporter 2 Printed/Typed Name: Mathser on Behalf of Norfolk Southern — Signature: [signature] — Month 6 Day 29 Year 15

18. Discrepancy
18a. Discrepancy Indication Space: ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Lei Pan — Signature: [signature] — Month 08 Day 19 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000561455WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561456WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: WAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3901
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42260	~~K~~ P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0964896_T#6398630
240 TO <1000 PPM CR6+
Man Doc: S6N0018
RAILCAR NO. CHGX154 TRUCK NO. 245 ERI:HERITAGE [39110771]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alan Iglesias Behalf of Honeywell
Signature:
Month 6 Day 29 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin Klass
Signature:
Month 6 Day 29 Year 15
Transporter 2 Printed/Typed Name: Mettler on Behalf of Norfolk Southern
Signature:
Month 6 Day 29 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Cui Yan
Signature:
Month 07 Day 30 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000561456WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561457WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORNITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-2301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 37960	KG P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#6398632
240 TO <1000 PPM CR6+
Man Doc: 56N0019
RAILCAR NO. CHLX 318 TRUCK NO. 292 ERI:HERITAGE I391107819

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alan Jalesias Behalf of Honeywell
Signature:
Month 6 Day 29 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Sal Gaglione
Signature:
Month 6 Day 29 Year 15
Transporter 2 Printed/Typed Name: Mattler on Behalf of Norfolk Southern
Signature:
Month 6 Day 29 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 07 Day 30 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000561457WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 2 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

8/24/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561458WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219212

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 39/020	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#6398534
240 TO <1000 PPM CRE+
Man Doc. S6N0020
RAILCAR NO: CHUX 106 TRUCK NO. 34 ERI:HERITAGE [39110791G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

GENERATOR

Generator's/Offeror's Printed/Typed Name: Alan Talesics Behalf of Honeywell
Signature:
Month 6 Day 29 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rick Sowdie
Signature:
Month 6 Day 29 Year 15
Transporter 2 Printed/Typed Name: Miller on behalf of Norfolk Southern
Signature:
Month 6 Day 29 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: J. Sandra Miller
Signature:
Month 07 Day 30 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000561458WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561459WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650809

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 39120	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#6398636
240 TO <1000 PPM CR6+
Man Doc: S6N0021
RAILCAR NO. CHUX 106 TRUCK NO. 26 ERI:HERITAGE [3911080]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alain Iglesias Behalf of Honeywell — Signature: [signature] — Month 6 Day 29 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: MIKE LEDUC — Signature: [signature] — Month 6 Day 29 Year 15

Transporter 2 Printed/Typed Name: Mathser on Behalf of Norfolk Southern — Signature: [signature] — Month 6 Day 29 Year 15

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Isaiah Miller — Signature: [signature] — Month 07 Day 30 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000561459WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 9/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561460WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 34880	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q8645936_T#E398638
240 TO <1000 PPM CR6+
Man Doc S6N0022
RAILCAR NO. CHOX 275 TRUCK NO. 295 ERI:HERITAGE I39110811G

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alain Iglesias Behalf of Honeywell — Signature: [signature] — Month 6 Day 29 Year 15

16. International Shipments: ☐ Import to U.S. ☐ Export from U.S. Port of Entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Heyer — Signature: [signature] — Month 6 Day 29 Year 15
Transporter 2 Printed/Typed Name: Matthew on Behalf of Norfolk Southern — Signature: [signature] — Month 6 Day 29 Year 15

18. Discrepancy
18a. Discrepancy Indication Space: ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible] — Signature: [signature] — Month 08 Day 19 Year 15

GENERATOR — TRANSPORTER — INTL — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000561460WAS

24. Generator's Name: HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR

TRANSPORTER

DESIGNATED FACILITY

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)328-1221
4. Manifest Tracking Number: 000561461WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4656
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41720	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_IN6398640
240 TO <1000 PPM CR6+
Man Doc 56N0023
RAILCAR NO. CHLX 154 TRUCK NO. 283 ERI:HERITAGE [89110821]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alan Iglesias Behalf of Honeywell
Signature:
Month 6 Day 29 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Jason Bradford
Signature:
Month 6 Day 29 Year 15
Transporter 2 Printed/Typed Name: Horwith on behalf of Norfolk Southern
Signature:
Month 6 Day 29 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Cem Ed
Signature:
Month 07 Day 30 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

8/21/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000561461WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4306

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

JUN. 30. 2015 4:20PM NO. 100 P. 20

Rec 9/21/15

Please Print or Type. (Form Designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number NJD986591497	2. Page 1 of 2	3. Emergency Response Phone (800)326-3321	4. Manifest Tracking Number 000561462WAS

5. Generator's Name and Mailing Address: HONEYWELL / DING CICCONE, 50 KELLOGG ST, JERSEY CITY, NJ 07305-4808

Generator's Site Address (if different than mailing address): HONEYWELL / DING CICCONE, 50 KELLOGG ST, JERSEY CITY, NJ 07305-4808, GEN: 89415

Generator's Phone: 973-455-2000

6. Transporter 1 Company Name: HARTT TRANSPORTERS INC — U.S. EPA ID Number: PAD147148383

7. Transporter 2 Company Name: CONRAIL RAILROAD — U.S. EPA ID Number: MAD980505035

8. Designated Facility Name and Site Address: HOLTON INDUSTRIAL SERVICES, 2204 W. MORRIS ST, INDIANAPOLIS, IN 46221-3201 — U.S. EPA ID Number: IND050243047

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	NON-DOT RCRA HAZARDOUS WASTE, SOLID, N.O.S., (D007)	1	DT	EST 4640	P	D007

14. Special Handling Instructions and Additional Information: 1 - 0564836_D16398643 — Man Doc SCM0021

247 — CHIX 375 — TRUCK NO. 247 — ERI JOB NO.

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I certify that I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Generator's/Offeror's Printed/Typed Name: Allan Iglesias on Behalf of Honeywell — Signature — Month 6, Day 30, Year 15

16. International Shipments: ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: Date leaving U.S.:

Transporter acknowledgment of receipt of materials

Transporter 1 Printed/Typed Name: Herbert T. Locke — Signature — Month 6, Day 30, Year 15

Transporter 2 Printed/Typed Name: Mike Southron on Behalf of Norfolk Southern — Signature — Month 6, Day 30, Year 15

17. Discrepancy Indication Space: ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Gil Lara — Signature — Month 7, Day 8, Year 15

EPA Form 8700-22 (Rev. 9-05) Previous editions are obsolete. DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986591437	22. Page 2 of 2	23. Manifest Tracking Number 000561462WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4808

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD008921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 9/21/15

NO. 100 P. 00

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-00

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number: NJD986581437	2. Page 1 of 2	3. Emergency Response Phone: (800)326-1221	4. Manifest Tracking Number: 000561463WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4505
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41420	P	D007		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3 0864896_T#6398546
240 TO <1000 PPM CR6+
Man Doc: S6N0025
RAILCAR NO. CHUX 275 TRUCK NO. 283 ERI:HERITAGE 13911064 1G

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alan Iglesias Behalf of Honeywell — Signature: — Month 6 Day 30 Year 15

16. International Shipments: ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Jason Bradford — Signature: — Month 6 Day 30 Year 15
Transporter 2 Printed/Typed Name: Matthew on Behalf of Norfolk Southern — Signature: — Month 6 Day 30 Year 15

18. Discrepancy
18a. Discrepancy Indication Space: ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ceri Parr — Signature: — Month 08 Day 19 Year 15

GENERATOR — INTL — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000561463WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43644

Please print or type. (Form designed for use on elite (12-pitch) typewriter) Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581487
2. Page 1 of
3. Emergency Response Phone: (800 132E-1221
4. Manifest Tracking Number: 000561464WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4257
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4805
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD145714675

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000551203

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7401 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219412

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	Type	11. Total Quantity	12. Unit Wt/Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 46400	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W4_0865233_TR~~255482~~ MANDOC # 56N0136
1.ERG# 171 1.~~NR OCCURRED THIS DOCK~~
~~240 TO 21000 PEM-CRG~~ (M) >1000ppm CRGt 8553138 EN 12-11-15 (4415584)6
RAILCAR NO. CHUX 298 TRUCK NO. 246 ERI:HERITAGE (M) ~~[illegible]~~

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 10 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Christian L. Smith — Signature: [signature] — Month 11 Day 10 Year 15
Transporter 2 Printed/Typed Name: Matt Gr on behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 10 Year 15

18. Discrepancy
18a Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone.

18c Signature of Alternate Facility (or Generator) — Month Day Year

19 Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H11 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller — Signature: [signature] — Month 12 Day 11 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986561437

22. Page 2 of 2

23. Manifest Tracking Number: 000561454WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
17 COLUMBIA RD
MORRISTOWN, NJ 07960-4[illegible]

HONEYWELL - DINO CICCONE
[illegible] WESTON ST
JERSEY CITY, NJ 07305-4[illegible]

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND053034114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 2 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e. codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43644

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD985814 7
2. Page 1 of: 2
3. Emergency Response Phone: ( ) 326-1211
4. Manifest Tracking Number: 000561465WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4853
(908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4308
GEN: 89415

Generator's Phone:

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD145714879

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-2301
(317)243-0811

Facility's Phone: — U.S. EPA ID Number: IND09121901

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 46360	M P	D007
	2.					
	3					
	4					

14. Special Handling Instructions and Additional Information W4-0865233 T# 7055498 8553136 Man Doc # SGN0137
1. ERG# 171 1. ~~[illegible]~~
~~[illegible] PPM CRC~~ (MU)
71000 PPM CRC+
RAILCAR NO. CHWX 248 TRUCK NO. 247 3a 12-11-15 ERI:HERITAGE (4415592)G ~~[illegible]~~

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 10 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Herbert J. Logan — Signature: [signature] — Month 11 Day 10 Year 15
Transporter 2 Printed/Typed Name: Matt Gr on Behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 10 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H11 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller — Signature: [signature] — Month 12 Day 11 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD[illegible]581437

22. Page [illegible] of [illegible]

23. Manifest Tracking Number: 00[illegible]

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUM[illegible]
MORRISTOWN, NJ 07[illegible]-46[illegible]

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4909

25. Transporter [illegible] Company Name: CEX TRANSPORTATION INC — U.S. EPA ID Number: FLD06[illegible]21740

26. Transporter [illegible] Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND05[illegible]4[illegible]114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter [illegible] Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter [illegible] Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

AB 4392

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800) 326-1221
4. Manifest Tracking Number: 000561466WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
1 1 COLUMBIA RD
MORRISTOWN, NJ 07960-4558
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 MELLON ST
JERSEY CITY, NJ 07305-4608
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD106714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: [illegible]

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND[illegible]

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1 RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(5007)	1	DT	EST 43720	P	D007
	2					
	3					
	4					

14. Special Handling Instructions and Additional Information W4_Q865233_T#7055498 Man Doc # SON0138
1.ERG# 171 1.W3 [illegible] THE[illegible]
[illegible] >1000ppm CR6+ MM
RAILCAR NO. CHUX 164 TRUCK NO. 242 ERI:HERITAGE (4415592)6 [illegible] MM

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Munoz As Agent on behalf of Honeywell
Signature:
Month 11 Day 10 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Sal Gaycard on Behalf of Norfolk Southern
Signature:
Month 11 Day 10 Year 15

Transporter 2 Printed/Typed Name: Mike
Signature:
Month 11 Day 10 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Carlos
Signature:
Month 11 Day 30 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD[illegible]

22. Page: 2 of 2

23. Manifest Tracking Number: 000[illegible]

24. Generator's Name: HONEYWELL / DINO CICCONE
101 COLEMAN ST
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4[illegible]

25. Transporter ____ Company Name: [illegible] TRANSPORTATION INC.
U.S. EPA ID Number: FLD[illegible]

26. Transporter ____ Company Name: HERITAGE TRANSPORT, LLC
U.S. EPA ID Number: IND[illegible]

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter ____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter ____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e. codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

44576

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD98658[illegible]437
2. Page 1 of: 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561467WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4656
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4[illegible]
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-2301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093119012

9a. HM	9b U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 44430	P	D007
	2.					
	3.					
	4					

14. Special Handling Instructions and Additional Information W4_0865733_T#7054448 8535691 manDoc #S6N0139
1. ERG# 171 1. ~~NA 0964000 MA~~ ~~240 TB~~ >1000 PPM CR6+ MM
RAILCAR NO. CHLX 211 TRUCK NO. 224 ERI:HERITAGE (4415592)G MM

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Michael Mundrins As Agent on behalf of Honeywell
Signature:
Month 11 Day 11 Year 15

16. International Shipments ☐ Import to U.S ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: RAymond S Bear
Signature:
Month 11 Day 11 Year 15
Transporter 2 Printed/Typed Name: Matt Sr on Behalf of Norfolk Southern
Signature:
Month 11 Day 11 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H[illegible] 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature:
Month 12 Day 04 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000551457WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RT
MORRISTOWN, NJ 07960-4659

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4306

25. Transporter 3 Company Name: CSY TRANSPORTATION INC — U.S. EPA ID Number: FLD006921949

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

445716

Please print or type (Form designed for use on elite (12-pitch) typewriter.) Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJ 0988F61487
2. Page 1 of: 1
3. Emergency Response Phone: (800) 325-1221
4. Manifest Tracking Number: 000561468WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 7960-4654
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
80 KELLOGG ST
JERSEY CITY, NJ 07305-4804
GEN: 89415

6. Transporter 1 Company Name: HOBWITH TRUCKS INC — U.S. EPA ID Number: PAD148714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000550303

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-8301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND098219612

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10 Containers No.	10 Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA8077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(F007)	1	DT	EST 45580	W P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information w4_Q805233_T ~~#9055498~~ 8535689 Man Doc #S6N0140
1.ERG# 171 1. ~~NO SHIPPING DESCRIPTION REQUIRED~~
~~DOT ID~~ >1000 PPM CR6+ (MM)
RAILCAR NO. CHUX 211 (MM) TRUCK NO. 218 ERI:HERITAGE (4415593)6 ~~[illegible]~~ (MM)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundras Honeywell — Signature: [signature] — Month 11 Day 11 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Arlington Meekes — Signature: [signature] — Month 11 Day 11 Year 15
Transporter 2 Printed/Typed Name: on behalf of Mettler Norfolk Southern — Signature: [signature] — Month 11 Day 11 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e. codes for hazardous waste treatment, disposal, and recycling systems)
1. H141 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible] — Signature: [signature] — Month 12 Day 04 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986561437

22. Page 2 of 2

23. Manifest Tracking Number: 000561468WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4853

HONEYWELL / DINO CICCONE
60 REDDOG ST
JERSEY CITY, NJ 7305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD008921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND053484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR

TRANSPORTER

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

dec 2/15/16

44576

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 1
3. Emergency Response Phone: (80[illegible] 325-1221
4. Manifest Tracking Number: 000561469WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4552
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4805
GEN: 99415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD145714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000850309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt/Vol	13. Waste Codes
X	1 RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41920	W P	D007
	2					
	3					
	4					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1. ~~[illegible]~~ ~~[illegible]~~ 8535687 Man Doc # S6N0141
~~[illegible]~~ 1000 PPM CR6+
RAILCAR NO. CHUX 211 TRUCK NO. 244 ERI:HERITAGE (4415592)G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Munderns Honeywell
Signature:
Month 11 Day 11 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Bill Pearson
Signature:
Month 11 Day 11 Year 15
Transporter 2 Printed/Typed Name: Matt Sar on Behalf of Norfolk Southern
Signature:
Month 11 Day 11 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sam Miller
Signature:
Month 12 Day 04 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000581482WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
80 KELLOGG ST
JERSEY CITY, NJ 07305-4208

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND054434114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

44576

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD 986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)929-1221
4. Manifest Tracking Number: 000561470WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4851
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4808
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND[illegible]

9a HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group (if any))	10. Containers No	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1 RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 4440	P	D007
	2					
	3					
	4					

14. Special Handling Instructions and Additional Information W4-Q 865233-T# 7055498 Man Doc # 56N0142
1.EPG# 171 1.W[illegible] 8535685
[illegible]0 >1000 PPM CR6+
RAILCAR NO. CHUX 211 TRUCK NO. 211 EPI:HERITAGE (4415592)G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Honeywell — Michael Mundras
Signature:
Month 11 Day 11 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Aaron Meckes
Signature:
Month 11 Day 11 Year 15

Transporter 2 Printed/Typed Name: Matthew on behalf of Norfolk Southern
Signature:
Month 11 Day 11 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1: H1[illegible] 2: 3: 4:

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Said Mill
Signature:
Month 12 Day 04 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD99858187

22. Page 2 of 2

23. Manifest Tracking Number: 005117OMB

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4653

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4706

25. Transporter 3 Company Name: CSX TRANSPORTATION INC
U.S. EPA ID Number: FLD000821810

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC
U.S. EPA ID Number: IND053454114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

44808

Please print or type (Form designed for use on elite (12-pitch) typewriter)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJI [illegible]

2. Page 1 of 1

3. Emergency Response Phone: (800)[illegible]-1221

4. Manifest Tracking Number: 000561471WAS

5. Generator's Name and Mailing Address
HONEYWELL / DIRO CIOCCHE
101 COLUMBIA RD
MORRISTOWN, NJ [illegible]
(973 [illegible]

Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DIRO CIOCCHE
80 KELLOGG ST
JERSEY CITY, NJ 07305-4808
GEN: 89415

6. Transporter 1 Company Name: HORVITH TRUCKS INC
U.S. EPA ID Number: PAD145714678

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093213012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt/Vol	13. Waste Codes
X	1. RQ, NA 3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 46060	P	D007
	2.					
	3					
	4					

14. Special Handling Instructions and Additional Information W4-Q865733 T# ~~7054448~~ 8535681 Man Doc #56N0143
1. ERGH 171 1. W [illegible]
[illegible] >1000 PPM CRS+
RAILCAR NO. CHUX 172 TRUCK NO. 217 ERI:HERITAGE (4415592)6

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mandras Honeywell
Signature:
Month 11 Day 11 Year 15

16. International Shipments ☐ Import to U.S ☐ Export from U.S Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Stan Sochenski
Signature:
Month 11 Day 11 Year 15
Transporter 2 Printed/Typed Name: Mike on behalf of Norfolk Southern
Signature:
Month 11 Day 11 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e. codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sarah Miller
Signature:
Month 12 Day 04 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: [illegible]

22. Page 2 of 2

23. Manifest Tracking Number: 00051471WKB

24. Generator's Name

HONEYWELL / DINO CICCONE
201 COLUMBIA RD
MORRISTOWN, NJ 07960-4656

HONEYWELL / DINO CICCONE
60 MELROSE ST
JERSEY CITY, NJ 07305-4206

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND053484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

44808

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD985591647
2. Page 1 of
3. Emergency Response Phone: (800) 126-1221
4. Manifest Tracking Number: 000561472WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4850
Generator's Phone: (908)455-4251

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
E. KELLOGG ST
JERSEY CITY, NJ 07305-4306
GEN.: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-1701
Facility's Phone: (317)243-0211
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
Y	1. NA 3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PG III, (CHROMIUM), (D007)	1	DT	EST 4634D	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W4_Q865233_T~~[illegible]~~ 8535673 Man Doc # S6N0144
1. ERG# 171 1. ~~[illegible]~~ ~~[illegible]~~ >1000 PPM CR6+ (M) (M)
RAILCAR NO. CHUX 172 TRUCK NO. 247 ERI: HERITAGE (445592) G ~~[illegible]~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundras Honeywell
Signature: [signature]
Month 11 Day 11 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: HERBERT J. LOGAN
Signature: [signature]
Month 11 Day 11 Year 15
Transporter 2 Printed/Typed Name: Mitchell on Behalf of Norfolk Southern
Signature: [signature]
Month 11 Day 11 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Said Mill
Signature: [signature]
Month 12 Day 04 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page: 2 of 2

23. Manifest Tracking Number: 000591472MAS

24. Generator's Name: HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4631

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: FOX TRANSPORTATION INC — U.S. EPA ID Number: FLD005921840

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND053494114

27a HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR

TRANSPORTER

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

44808

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986514[illegible]
2. Page 1 of [illegible]
3. Emergency Response Phone: (800)325-1221
4. Manifest Tracking Number: 000561473WAS

5. Generator's Name and Mailing Address:
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 0796[illegible]-4659
(908)455-1251
Generator's Phone:

Generator's Site Address (if different than mailing address):
HONEYWELL / DINO CICCONE
61 KELLOGG ST
JERSEY CITY, NJ 07305-4808
GEN: 33415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: FAD14871487[illegible]

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address:
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-2301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND069218012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10 Containers No	10 Containers Type	11. Total Quantity	12. Unit Wt/Vol	13 Waste Codes
X	1 RQ, NA3077, HAZARDOUS WASTE, SOLID, [illegible], 9, PG III, (CHROMIUM), (D007)	1	[illegible]	EST 4334D	P	D007
	2					
	3					
	4					

14. Special Handling Instructions and Additional Information: W4-Q865233-T[illegible] 8535675 Man Doc # SGN0145
1. EPGE 171 1. [illegible]
[illegible] >1000 PPM CR6+
RAILCAR NO. CHUX172 TRUCK NO. 245 ERI:HERITAGE (4415592)G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras — As Agent on behalf of Honeywell
Signature:
Month 11 Day 11 Year 15

16 International Shipments: ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17 Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Heyer
Signature:
Month 11 Day 11 Year 15

Transporter 2 Printed/Typed Name: Mathew — On Behalf of Norfolk Southern
Signature:
Month 11 Day 11 Year 15

18 Discrepancy
18a. Discrepancy Indication Space: ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19 Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20 Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 12 Day 04 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD[illegible]

22. Page [illegible]

23. Manifest Tracking Number: [illegible]

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4650

HONEYWELL / DINO CICCONE
60 HELLDOCK ST
JERSEY CITY, NJ 07305-4806

25. Transporter ____ Company Name: CSX TRANSPORTATION INC

U.S. EPA ID Number: FLD006921340

26. Transporter ____ Company Name: HERITAGE TRANSPORT, LLC

U.S. EPA ID Number: IND053884114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter ____ Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter ____ Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e. codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43644

Please print or type (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437

2. Page 1 of: 2

3. Emergency Response Phone: (800)326-1221

4. Manifest Tracking Number: 000561474WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4805
GEN: 89415

6. Transporter 1 Company Name: HOPWITH TRUCKS INC
U.S. EPA ID Number: PAD106714676

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-2301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt/Vol	13. Waste Codes
X	1 RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 37840	W P	D007
	2					
	3					
	4					

14. Special Handling Instructions and Additional Information W4-Q865233 T# ~~7055498~~ 8553144 Man Dck #S6N0146
1.ERG# 171 1. ~~NA 0~~ ~~T#~~
~~240 TE~~ >1000 PPM CR6+
RAILCAR NO. CHUX 298 TRUCK NO. 246 ERI:HERITAGE (4415592)G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 11 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Christian L. Smith
Signature:
Month 11 Day 11 Year 15
Transporter 2 Printed/Typed Name: Matt Sar as Agent for Norfolk Southern
Signature:
Month 11 Day 11 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature:
Month 12 Day 11 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: [illegible]

22. Page [illegible] of [illegible]

23. Manifest Tracking Number: [illegible]

24. Generator's Name: HONEYWELL / DINO CICCONE [illegible] COLUMBIA ST [illegible], NJ [illegible]

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ [illegible]

25. Transporter _____ Company Name: [illegible]

U.S. EPA ID Number: [illegible]

26. Transporter _____ Company Name: [illegible]

U.S. EPA ID Number: [illegible]

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter _____ Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

DESIGNATED FACILITY

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

44576

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581487

2. Page 1 of: 1

3. Emergency Response Phone: (800)326-1221

4. Manifest Tracking Number: 000561475WAS

5. Generator's Name and Mailing Address:
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4558
(908)455-4 57

Generator's Site Address (if different than mailing address):
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4805
CEN: 29415

Generator's Phone:

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address:
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND099219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1 RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 40020	(M) P	D007
	2					
	3					
	4					

14. Special Handling Instructions and Additional Information W4-Q865233_T~~8705548~~ 8535683 ManDoc #S6N0147
1.ERG# 171 1.~~[illegible]~~
240 TO >1000 PPM CRE+ (M)
RAILCAR NO. CHUX 211 TRUCK NO. 213 ERI:HERITAGE (4415592)6 ~~[illegible]~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 11 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Joe Dimbo
Signature:
Month 11 Day 11 Year 15

Transporter 2 Printed/Typed Name: Matt Sa on behalf of Norfolk Southern
Signature:
Month 11 Day 11 Year 15

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: I Said Miller
Signature:
Month 12 Day 04 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21 Generator ID Number: [illegible]

22 Page: 02 [illegible]

23. Manifest Tracking Number: [illegible]

24 Generator's Name: HONEYWELL / [illegible] / COLUMBIA MORRISTOWN, [illegible]

HONEYWELL / DIRC CIRCONE
60 HELLOSS ST
JERSEY CITY, NJ [illegible]

25 Transporter _____ Company Name: [illegible]

U.S EPA ID Number: [illegible]

26 Transporter _____ Company Name: [illegible]

U.S EPA ID Number: IND05[illegible]

27a. HM	27b U.S DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29 Total Quantity	30. Unit Wt./Vol	31 Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter _____ Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34 Transporter _____ Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35 Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43912

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (8 1 908-1201
4. Manifest Tracking Number: 000561476WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4558
Generator's Phone: (908)455-4152

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
80 WELLOCK ST
JERSEY CITY, NJ 07305-4[illegible]
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKING INC — U.S. EPA ID Number: PAD146714978

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000653819

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND079219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	[1]	EST 4320	(M) P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W4_Q865733_T# ~~7055498~~ 8535699 ManDoc#56N0148
1.ERG# 171 1.~~UN 0004000 TAG 000072~~
~~MAP TO~~ >10 PPM CRE+ (M)
RAILCAR NO. CHUX 143 TRUCK NO. 224 ERI:HERITAGE (4415592)G (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundras Honeywell — Signature: [signature] — Month 11 Day 11 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: RAymond S Bear — Signature: [signature] — Month 11 Day 11 Year 15
Transporter 2 Printed/Typed Name: Matt Sar OIW Behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 11 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H010 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller — Signature: [signature] — Month 12 Day 04 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21 Generator ID Number

22 Page

23. Manifest Tracking Number

24. Generator's Name

25. Transporter _____ Company Name

U.S. EPA ID Number

26. Transporter _____ Company Name

U.S. EPA ID Number

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28 Containers No.	28 Containers Type	29. Total Quantity	30 Unit Wt./Vol	31 Waste Codes

32 Special Handling Instructions and Additional Information

GENERATOR

33. Transporter _____ Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34 Transporter _____ Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35 Discrepancy

36 Hazardous Waste Report Management Method Codes (i.e. codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43912

Please print or type (Form designed for use on elite (12-pitch) typewriter)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD981581437
2. Page 1 of: 2
3. Emergency Response Phone: (800) [illegible] 1221
4. Manifest Tracking Number: 000561477WAS

5. Generator's Name and Mailing Address:
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4250
Generator's Phone:

Generator's Site Address (if different than mailing address):
HONEYWELL / DINO CICCONE
70 HELLOGG ST
JERSEY CITY, NJ 07305-[illegible]
DEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD148714879

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address:
HERITAGE ENVIRONMENTAL SERVICES
7301 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a HM	9b U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1 RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., -,PGIII,(CHROMIUM),(D007)	1	DT	41740	P	
	2					
	3					
	4					

14. Special Handling Instructions and Additional Information: W4-0805233 - TH 7055498 8535701 Man Doc #SGN0149
1 ERGT 1: 1.[illegible]
>1000 PPM CRS+
RAILCAR NO. CHUX143 TRUCK NO. 218 ERI:HERITAGE (4415592)6

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 11 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Arlington Meekes
Signature:
Month 11 Day 11 Year 15
Transporter 2 Printed/Typed Name: Mike Ca ON Behalf of Norfolk Southern
Signature:
Month 11 Day 11 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Said Mill
Signature:
Month 12 Day 04 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581477

22. Page: 2 of 2

23. Manifest Tracking Number: 000581477WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
1 PI COLUMBIA RD
MORRISTOWN, NJ 07960-4675

HONEYWELL / DINO CICCONE
51 KELDOON ST
JERSEY CITY, NJ 07305-4808

25. Transporter ____ Company Name: CSX TRANSPORTATION INC.

U.S. EPA ID Number: FLD005921240

26. Transporter ____ Company Name: HERITAGE TRANSPORT, LLC

U.S. EPA ID Number: IND052474114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter ____ Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter ____ Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e. codes for hazardous waste treatment, disposal and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16
43832

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD98[illegible]
2. Page 1 of: 2
3. Emergency Response Phone: (800)[illegible]
4. Manifest Tracking Number: 000561478WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4551
Generator's Phone: (908)455-4251

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 HELLOGG ST
JERSEY CITY, NJ 07305-4808
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD145714379

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650209

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0411
U.S. EPA ID Number: IND048219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(I[illegible]	1	[illegible]	EST 43420	M P	[illegible]
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W4_Q863733_T#~~7655498~~ 8534146 Man Doc #S6N0150
1. ERG# 171 1. ~~[illegible]~~ ~~[illegible]~~ >1000 PPM CR6+ (M)
RAILCAR NO. CHUX 319 TRUCK NO. 244 In 12-3-15 ERI:HERITAGE (4415592)6 ~~[illegible]~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 11 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: B. McPearson
Signature:
Month 11 Day 11 Year 15
Transporter 2 Printed/Typed Name: M. Kear on behalf of Norfolk Southern
Signature:
Month 11 Day 11 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sarah Miller
Signature:
Month 12 Day 03 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD[illegible]91417

22. Page: [illegible] of 2

23. Manifest Tracking Number: 000561475WAE

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4[illegible]

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-[illegible]

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD[illegible]21140

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND05[illegible]4114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Dec 2/15/16

43912

Please print or type (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD980 [illegible]
2. Page 1 of: 1
3. Emergency Response Phone: (800) [illegible]
4. Manifest Tracking Number: 000561479WAS

5. Generator's Name and Mailing Address: HONEYWELL / BINO CICCONE, 101 COLUMBIA RD, MORRISTOWN, NJ 07960-1505, (908) 455-4252

Generator's Site Address (if different than mailing address): HONEYWELL / BINO CICCONE, 80 KELLOGG ST, JERSEY CITY, NJ [illegible], GEN: [illegible]

Generator's Phone:

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: [illegible]

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: [illegible]

8. Designated Facility Name and Site Address: HERITAGE ENVIRONMENTAL SERVICES, 7901 W MORRIS ST, INDIANAPOLIS, IN 46231-3301, (317) 243-0811 — U.S. EPA ID Number: IND [illegible]

Facility's Phone:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt/Vol	13. Waste Codes
X	1 RQ, NA9077, HAZARDOUS WASTE, SOLID, N.O.S., (CHROMIUM), 9, PG III	1	[illegible]	EST 40420	M P	D007
	2					
	3					
	4					

14. Special Handling Instructions and Additional Information: W4_Q805233_T# ~~7055468~~ 8535693 Man Doc #56N0151 (4415592)6

1. ERG# 171 1. [illegible] PPR [illegible]

RAILCAR NO. CHWX 143 TRUCK NO. 213 ERI: HERITAGE

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged marked and labeled/placarded and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 11 Year 15

16. International Shipments: ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Jon Dino — Signature: [signature] — Month 11 Day 11 Year 15

Transporter 2 Printed/Typed Name: Matt Cer on Behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 11 Year 15

18. Discrepancy

18a. Discrepancy Indication Space: ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e. codes for hazardous waste treatment, disposal, and recycling systems)

1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Isaac Mills — Signature: [signature] — Month 12 Day 04 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: [illegible]

22. Page: [illegible]

23. Manifest Tracking Number: [illegible]

24. Generator's Name
HONEYWELL / DINO CIOCCHE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4656

HONEYWELL / DINO CIOCCHE
60 MEADOW ST
JERSEY CITY, NJ 07305-4806

25. Transporter ____ Company Name: [illegible] TRANSPORTATION INC
U.S. EPA ID Number: FLD[illegible]

26. Transporter ____ Company Name: HERITAGE TRANSPORT, LLC
U.S. EPA ID Number: IND[illegible]

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter ____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter ____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43912

Please print or type (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: N [illegible]

2. Page 1 of

3. Emergency Response Phone

4. Manifest Tracking Number: 000561480WAS

5. Generator's Name and Mailing Address: HONEYWELL [illegible] INC [illegible] 101 COLUMBIA RD [illegible] NJ [illegible] (908) 4[illegible]-4[illegible]

Generator's Site Address (if different than mailing address): [illegible]

Generator's Phone

6. Transporter 1 Company Name: [illegible] INC

U.S. EPA ID Number

7. Transporter 2 Company Name: [illegible] RAILROAD

U.S. EPA ID Number

8. Designated Facility Name and Site Address: [illegible] PROPERTIES SERVICES [illegible] IL [illegible]

U.S. EPA ID Number

Facility's Phone: (7[illegible]) [illegible]-0811

9a. HM	9b. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No	10. Containers Type	11. Total Quantity	12. Unit Wt/Vol	13. Waste Codes
	1. [illegible] 7, HAZARDOUS WASTE, SOLID, N.O.S., [illegible] CHROMIUM), (D007			EST 43280	M P	D007
	2.					
	3.					
	4					

14. Special Handling Instructions and Additional Information: W4_Q865933_T#~~7055448~~ 8535695 Man Doc#56N0152 (4415992)G

M

M

CARR NO. CHUX 143 TRUCK NO. 211 EXPIRATION DATE

M

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundras Honeywell — Signature: [signature] — Month 11 Day 11 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit

Transporter signature (for exports only) — Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Nikos Meeks — Signature: [signature] — Month 11 Day 11 Year 15

Transporter 2 Printed/Typed Name: Matthew On Behalf of Mantell's Southern — Signature: [signature] — Month 11 Day 11 Year 15

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e. codes for hazardous waste treatment, disposal, and recycling systems)

1	2	3.	4
[illegible]			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Isaiah Miller — Signature: [signature] — Month 12 Day 04 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD[illegible]	22. Page 2 of 2	23. Manifest Tracking Number [illegible]

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 1796[illegible]

HONEYWELL / DINO CICCONE
[illegible] MELLOWS ST
JERSEY CITY, NJ 07305-4309

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD[illegible]

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND[illegible]

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 2 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

lcc 2/15/16

43912

Please print or type (Form designed for use on elite (12-pitch) typewriter.) Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986551014
2. Page 1 of: 2
3. Emergency Response Phone: (800) 633-1221
4. Manifest Tracking Number: 000561481WAS

5. Generator's Name and Mailing Address: HONEYWELL / DINO CICCONE, 101 COLUMBIA RD, MORRISTOWN, NJ 07960-4853, (908)455-4 52
Generator's Site Address (if different than mailing address): HONEYWELL / DINO CICCONE, 60 KELLOGG ST, JERSEY CITY, NJ 07305-16 1, GEN: 99415
Generator's Phone:

6. Transporter 1 Company Name: NORWITH TRUCKS INC — U.S. EPA ID Number: PAD145714971

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650809

8. Designated Facility Name and Site Address: HERITAGE ENVIRONMENTAL SERVICES, 7901 W MORRIS ST, INDIANAPOLIS, IN 46231-9801 — U.S. EPA ID Number: IND093213012
Facility's Phone: (317)243-0811

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 46000	(M) P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information: W4_Q865233_T~~#7055448~~ 8535697 Man Doc #56N0153
1.ERG# 171 1.~~[illegible]~~ ~~[illegible]~~ >1000 PPM CRE+ (M)
RAILCAR NO. CNUX 143 TRUCK NO. 246 ERI:HERITAGE (4415592)G ~~[illegible]~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 11 Year 15

16. International Shipments: ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Christian L. Smith — Signature: [signature] — Month 11 Day 11 Year 15

Transporter 2 Printed/Typed Name: Miller ON Behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 11 Year 15

18. Discrepancy

18a. Discrepancy Indication Space: ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sarah Miller — Signature: [signature] — Month 12 Day 04 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD982581417

22. Page 2 of 2

23. Manifest Tracking Number: [illegible]

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4858

HONEYWELL / DINO CICCONE
80 HELLONS ST
JERSEY CITY, NJ 07305-4206

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD005321340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND059497114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Nu 2/15/16

44808

Please print or type (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJ[illegible]14
2. Page 1 of: 2
3. Emergency Response Phone: ([illegible])-[illegible]-1221
4. Manifest Tracking Number: 000561482WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4558
(906)455-4152
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: [illegible]

6. Transporter 1 Company Name: HOPWITH TRUCKS INC — U.S. EPA ID Number: PAD145714578

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000[illegible]

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46241-[illegible]01
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND[illegible]

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol	13. Waste Codes
X	1 [illegible]0,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., [illegible],III,(CHROMIUM),(D 07)	1	DT	EST 42420	(M) P	D007
	2					
	3					
	4					

14. Special Handling Instructions and Additional Information W4_Q865223_T#~~7055448~~ B535677 Man Doc # 56N0154
1.ERG: 171 1.[illegible]
[illegible] >1000 PPM CRE+
RAILCAR NO. CIUX 172 TRUCK NO. 245 ERI:HERITAGE (4415593)G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 11 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Heyer — Signature: [signature] — Month 11 Day 11 Year 15
Transporter 2 Printed/Typed Name: Matt Ger ON Behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 11 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H1 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sgt Miller — Signature: [signature] — Month 12 Day 04 Year 15

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)[1]

21. Generator ID Number: [illegible]

22. Page: [illegible]

23. Manifest Tracking Number: [illegible]

24. Generator's Name: HONEYWELL / DING [illegible]
101 COLUMBIA RD
MORRISTOWN, NJ [illegible]

25. Transporter ____ Company Name: LEX TRANSPORTATION INC
U.S. EPA ID Number: [illegible]

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC
U.S. EPA ID Number: [illegible]

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

44808

Please print or type (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJ 3 85 14
2. Page 1 of
3. Emergency Response Phone: (800) 828-1221
4. Manifest Tracking Number: 000561483WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-1 97
(973)4 5-4 4
Generator's Phone

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
80 WELLONS ST
JERSEY CITY, NJ 07305-4608
GEN: 99415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: FAD145714675

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD0[illegible]50303

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9801
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND09[illegible]19012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA2077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 39360	W P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W4 Q865733 T# ~~7055448~~ 8535679 Man Doc# 56N0155
1 ERG# 171 1. [illegible] >1000 PPM CR6+
RAILCAR NO. CHUX 172 TRUCK NO. 247 ERI: HERITAGE (4415592)6

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 11 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Herbert J. Locar — Signature: [signature] — Month 11 Day 11 Year 15
Transporter 2 Printed/Typed Name: Mattar on Behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 11 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sarah Miller — Signature: [signature] — Month 12 Day 04 Year 15

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD[illegible]17

22. Page: 2 of 2

23. Manifest Tracking Number: 000561[illegible]WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4659

HONEYWELL / DINO CICCONE
60 WELLONS ST
JERSEY CITY, NJ 07305-4306

25. Transporter 2 Company Name: CSX TRANSPORTATION INC

U.S. EPA ID Number: FLD000821340

26. Transporter 3 Company Name: HERITAGE TRANSPORT, LLC

U.S. EPA ID Number: IND054[illegible]4114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 1 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 2 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Rec 12/12/14

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 1 of 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561484WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD145714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3901
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44680	~~K~~ P (M)	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6398688 man doc # S6N0176
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 319 TRUCK NO. 219 ERI:HERITAGE [391110516

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 14 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: David Clapp on behalf of Norfolk Southern
Signature:
Month 12 Day 14 Year 15

Transporter 2 Printed/Typed Name: Mettler
Signature:
Month 12 Day 14 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Cam Pan
Signature:
Month 12 Day 31 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000561484WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4659

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561485WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. /RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 39940	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6398690 man Doc # 56N0177
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 140 TRUCK NO. 222 ERI:HERITAGE [291110]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras — As Agent on behalf of Honeywell
Signature:
Month 12 Day 14 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Carlo Tedd
Signature:
Month 12 Day 14 Year 15
Transporter 2 Printed/Typed Name: Whitfield — on behalf of Norfolk Southern
Signature:
Month 12 Day 14 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 1 Day 4 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

2/12/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000561485WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD005921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Dec 21 2015

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561486WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714879

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43980	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_TN6398692
240 TO <1000 PPM CR6+
Man Doc # SGN0178
RAILCAR NO. CHLX 319 TRUCK NO. 247 ERI:HERITAGE [3911107]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 14 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: HERBERT J. LOGAN
Signature:
Month 12 Day 14 Year 15
Transporter 2 Printed/Typed Name: Matthew on behalf of Norfolk Southern
Signature:
Month 12 Day 14 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 12 Day 21 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000561488WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4859

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Dec 2/12/14

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 1
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561487WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42740	~~P~~ M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6390694
240 TO <1000 PPM CR6+
Man Doc # 56N0179 13
RAILCAR NO. CIIX 319 TRUCK NO. 296 ERI:HERITAGE [391110816

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 14 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: CHRIS FARLEY
Signature:
Month 12 Day 14 Year 15
Transporter 2 Printed/Typed Name: CN is behalf of Norfolk Southern
Signature:
Month 12 Day 14 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 12 Day 31 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Dec 12/14/16 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000561487WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
						13

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 2/12/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561488WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD148714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41600	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6398696
240 TO <1000 PPM CR6+
Man Doc #56N0180
RAILCAR NO. CHUX 319 TRUCK NO. 286 ERI:HERITAGE [3911109]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell — Signature — Month 12 Day 14 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Heyer — Signature — Month 12 Day 14 Year 15
Transporter 2 Printed/Typed Name: Norfolk Southern — Signature — Month 12 Day 14 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name — Signature — Month 12 Day 31 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000561489WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561489WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4808
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43300	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6398698
240 TO <1000 PPM CR6+
Man Doc # SGN0181
RAILCAR NO. CHLX 185 TRUCK NO. 240 ERI:HERITAGE [39111110]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell
Signature:
Month 12 Day 14 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Charles Barger
Signature:
Month 12 Day 14 Year 15
Transporter 2 Printed/Typed Name: Walter on behalf of Norfolk Southern
Signature:
Month 12 Day 14 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 12 Day 31 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Nov 2/17/16

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000561489WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
80 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 2/12/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561490WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	65T 44640	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6398700
240 TO <1000 PPM CR6+
MAN DOC # 56N0182
RAILCAR NO. CHLX 140 TRUCK NO. 242 ERI:HERITAGE [3911111]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell
Signature:
Month 12 Day 14 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Sal Gagliano
Signature:
Month 12 Day 14 Year 15
Transporter 2 Printed/Typed Name: Horwith on behalf of Norfolk Southern
Signature:
Month 12 Day 14 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 1 Day 4 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000561490WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986581437	2	(800)326-1221	000561491WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44960	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6398702 Man Doc # S6N0183
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 185 TRUCK NO. 285 ERI:HERITAGE [39111112]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 14 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Bene Merchant — Signature: [signature] — Month 12 Day 14 Year 15
Transporter 2 Printed/Typed Name: [illegible] on behalf of Norfolk Southern — Signature: [signature] — Month 12 Day 14 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible] Signature: [signature] Month 12 Day 31 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Rec 2/12/16

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000561491WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 12/12/15

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561492WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CIOCCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CIOCCONE
80 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41300	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6398704 Man Doc # S6N0184
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 185 TRUCK NO. 34 ERI:HERITAGE [39111113]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell
Signature:
Month 12 Day 14 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rick Sandoe
Signature:
Month 12 Day 14 Year 15
Transporter 2 Printed/Typed Name: Matthew on behalf of Norfolk Southern
Signature:
Month 12 Day 14 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 12 Day 31 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/12

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	00056149 2WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986591437	2	(800)326-1221	000561493WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CIOCCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CIOCCONE
80 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42040	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERGH 171 1.W3_0864896_T#6398706 ManDoc # 56N0185
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 319 TRUCK NO. 28 ERI:HERITAGE [391114]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras — As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 14 Year 15

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Dan Cole — Signature: [signature] — Month 12 Day 14 Year 15
Transporter 2 Printed/Typed Name: Mueller — On behalf of Norfolk Southern — Signature: [signature] — Month 12 Day 14 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible] — Signature: [signature] — Month 12 Day 31 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581487	22. Page 2 of 2	23. Manifest Tracking Number 000561493WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561494WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4858
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD148714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44480	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6338708 Man Doc # S6NC186
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 185 TRUCK NO. 221 ERI:HERITAGE [3911115]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 14 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Wandi TORRES
Signature:
Month 12 Day 14 Year 15
Transporter 2 Printed/Typed Name: Walker ON Behalf of Norfolk Southern
Signature:
Month 12 Day 14 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 12 Day 31 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000561494WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484111

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				441		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561495WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4858
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44180	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6398710 Man Doc # S6N0187
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 140 TRUCK NO. 210 EPI:HERITAGE [3911116]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell
Signature:
Month 12 Day 14 Year 15

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: William Wisser
Signature: William Wisser
Month 12 Day 14 Year 15
Transporter 2 Printed/Typed Name: on behalf of Norfolk Southern
Signature:
Month 12 Day 14 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 1 Day 4 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000561495WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 2 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437

2. Page 1 of 2

3. Emergency Response Phone: (800)326-1221

4. Manifest Tracking Number: 000561496WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD145714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 40000	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_I#6398712
240 TO <1000 PPM CRE+
man Doc # SGN0188
RAILCAR NO. CLLX 121 TRUCK NO. 290 ERI:HERITAGE [391111710

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 14 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Luis Vazquez
Signature:
Month 12 Day 14 Year 15
Transporter 2 Printed/Typed Name: Mueller on behalf of Norfolk Southern
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 12 Day 31 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Nov 2/12/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000561496WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4659

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Dec 12/12/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 1 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561497WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-2301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 39940	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T86398714 Man Doc #56ND189
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 121 TRUCK NO. 292 ERI:HERITAGE [39111113]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 14 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: JASON Bradford
Signature:
Month 12 Day 14 Year 15
Transporter 2 Printed/Typed Name: Walter On behalf of Norfolk Southern
Signature:
Month 12 Day 14 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Cen Pan
Signature:
Month 12 Day 31 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000561497WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)326-1221
4. Manifest Tracking Number: 000561498WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43420	M P	D007		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3 0864896_T#6398716 Man Doc # S6N0190
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 140 TRUCK NO. 219 ERI:HERITAGE [3911119]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mawdras As Agent on behalf of Honeywell
Signature:
Month 12 Day 14 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: David Clappison
Signature:
Month 12 Day 14 Year 15
Transporter 2 Printed/Typed Name: Matthew on Behalf of Norfolk Southern
Signature:
Month 12 Day 14 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Levi Pa
Signature:
Month 1 Day 4 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000561498WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 2/12/16 43164

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566851WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41580	W P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433358 Man Doc # 56N0242
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 258 TRUCK NO. 28 ERI:US ECOLOGY [3935244]G.

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mendras As Agent on behalf of Honeywell
Signature:
Month 12 Day 16 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: DM CCIC
Signature:
Month 12 Day 16 Year 15
Transporter 2 Printed/Typed Name: Mattes on behalf of Norfolk Southern
Signature:
Month 12 Day 16 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature:
Month 01 Day 08 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000566851WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Nov 2/12/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 436552 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566852WAS

5. Generator's Name and Mailing Address
HONEYWELL X DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44400	(M) LB P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3 0864896_T#6433360 Man Doc # S6N0243
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 278 TRUCK NO. 270 ERI:US ECOLOGY [393524]G.

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras — As Agent for behalf of Honeywell
Signature: [signature]
Month 12 Day 16 Year 15

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Tom DeGroot
Signature: [signature]
Month 12 Day 16 Year 15

Transporter 2 Printed/Typed Name: Mike Sullivan — On behalf of Norfolk Southern
Signature: [signature]
Month 12 Day 16 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sid Miller
Signature: [signature]
Month 01 Day 08 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. **DESIGNATED FACILITY TO GENERATOR**

Rec 2/12/16 Rec 2/12/16 43652

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000566852WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

Rec 2/12/16 43272

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566853WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41700	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433362 Man Doc #56N0244
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 297 TRUCK NO. 292 ERI:US ECOLOGY [39352461G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell
Signature:
Month 12 Day 16 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: JASON C Bradford
Signature:
Month 12 Day 16 Year 15
Transporter 2 Printed/Typed Name: Mattlee on Behalf of Norfolk Southern
Signature:
Month 12 Day 16 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 1 Day 7 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 Rec 2/12/16 43272

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566853WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of
3. Emergency Response Phone: (800)51[illegible]-8510
4. Manifest Tracking Number: 000566854WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44760	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433364 Man Doc # S6N0245
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 278 TRUCK NO. 291 ERI:US ECOLOGY [39352471G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 16 Year 15

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: [illegible] — Signature: [signature] — Month 12 Day 16 Year 15
Transporter 2 Printed/Typed Name: [illegible] on behalf of Norfolk Southern — Signature: [signature] — Month 12 Day 16 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible] — Signature: [signature] — Month 01 Day 08 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 3 of 4	23. Manifest Tracking Number 000566854WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

43652

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437

2. Page 1 of 1

3. Emergency Response Phone: (800)510-8510

4. Manifest Tracking Number: 000566855WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 40720	(M) # P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433366 Man Doc # 56N0246
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 778 TRUCK NO. 34 ERI:US ECOLOGY [39352481G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell
Signature:
Month 12 Day 16 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rick Sanders
Signature:
Month 12 Day 16 Year 15
Transporter 2 Printed/Typed Name: Matt Cox on Behalf of Norfolk Southern
Signature:
Month 12 Day 16 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature:
Month 01 Day 08 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 2/12/16 43652 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566855WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 12/12/16 43164

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566856WAS

43652

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	ES7 42300	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3 0864896_T#6433368 Man Doc # SGN0247
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 258 TRUCK NO. 44 ERI:US ECOLOGY [39352491]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Honeywell Michael Mundrass — Signature: [signature] — Month 12 Day 16 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin McKechan — Signature: [signature] — Month 12 Day 16 Year 15
Transporter 2 Printed/Typed Name: Mettler on behalf of Norfolk Southern — Signature: [signature] — Month 12 Day 16 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller — Signature: [signature] — Month 01 Day 08 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 12/17/16 43164

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000566856WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

43164

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 1
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566857WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	CST 41760	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433370 man Doc #S6N0248
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 258 TRUCK NO. 290 ERI:US ECOLOGY [39352501G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 16 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Luis Vazquez
Signature:
Month 12 Day 16 Year 15
Transporter 2 Printed/Typed Name: Matthew on Behalf of Norfolk Southern
Signature:
Month 12 Day 16 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Jay Miller
Signature:
Month 01 Day 08 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566857WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 12/12/16 44568 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566858WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

43164

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41100	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#6433372 Man Doc# SGN0249
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 167 TRUCK NO. 248 ERI:US ECOLOGY [393525]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 16 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin Gilbert — Signature: [signature] — Month 12 Day 16 Year 15
Transporter 2 Printed/Typed Name: Matter on behalf Norfolk Southern — Signature: [signature] — Month 12 Day 16 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [signature] Signature: [signature] Month 1 Day 12 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 44568 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566858WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KEDLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR | TRANSPORTER | DESIGNATED FACILITY

Rec 3/12/13 43/64

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566859WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45340	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3 0864896_T#6433374 Man Doc# SGN0250
240 TO <1000 PPM CR6+
RAILCAR NO. CHLY 758 TRUCK NO. 220 ERI:US ECOLOGY (39352521G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 16 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: JIM MILLER
Signature:
Month 12 Day 16 Year 15
Transporter 2 Printed/Typed Name: Mike On Behalf of Norfolk Sullivan
Signature:
Month 12 Day 16 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 01 Day 08 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 3/12/13 43164

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000566859WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Rec 2/22/16 44568 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566860WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45500	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3 0864896_T#6433376 Man Doc # 56N0251
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 167 TRUCK NO. 285 ERI:US ECOLOGY [3935253]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras AS Agent on behalf of Honeywell
Signature:
Month 12 Day 17 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Bruce Meinhart
Signature:
Month 12 Day 17 Year 15
Transporter 2 Printed/Typed Name: J Mattson ON behalf of Norfolk Southern
Signature:
Month 12 Day 17 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Len Pen
Signature:
Month 1 Day 12 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Rec 7/12/16 44568 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566860WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

Rec 2/12/16 94356

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566861WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
607 HELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

Rec 2/12/16

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45760	(M) P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433378 Man Doc # SGN0252
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 207 TRUCK NO. 242 ERI:US ECOLOGY [39352541G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 17 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Sal Garland
Signature:
Month 12 Day 17 Year 15

Transporter 2 Printed/Typed Name: Mike on behalf of Norfolk Southern
Signature:
Month 12 Day 17 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: John Var
Signature:
Month 1 Day 12 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Dec 2/12/16 44356 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000566861WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

Dec 2/12/16

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name — Signature — Month Day Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 2/12/16 43564 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000566862WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Dec 21/12/16 414568 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566863WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42300	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433382 Man Doc # SGN 0253
240 TO <1000 PPM CR6+
RAILCAR NO. CLLX 167 TRUCK NO. 292 ERI:US ECOLOGY [39352561G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 17 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: JASON C. Bradford
Signature:
Month 12 Day 17 Year 15
Transporter 2 Printed/Typed Name: Walker on behalf of Norfolk Southern
Signature:
Month 12 Day 17 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Gus Pan
Signature:
Month 1 Day 12 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. **DESIGNATED FACILITY TO GENERATOR**

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

44568

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000566863WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
	CHx 167							

32. Special Handling Instructions and Additional Information

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR

TRANSPORTER

DESIGNATED FACILITY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000556864WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45580	(M) P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#6433384 Man Doc # S6NU254
240 TO <1000 PPM CR6+
RAILCAR NO. CILX 260 TRUCK NO. 294 ERI:US ECOLOGY [39352571G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 17 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Cameron Merkel
Signature:
Month 12 Day 17 Year 15
Transporter 2 Printed/Typed Name: Mueller on Behalf of Norfolk Southern
Signature:
Month 12 Day 17 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 1 Day 11 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566864WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Dec 2/12/16 44568

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566865WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43920	(M) P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433386 Man Doc # SGN0055
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 167 TRUCK NO. 28 ERI:US ECOLOGY [39352581G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 17 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kim Cole
Signature:
Month 12 Day 17 Year 15
Transporter 2 Printed/Typed Name: Walker on behalf of Norfolk Southern
Signature:
Month 12 Day 17 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Lee Parr
Signature:
Month 1 Day 12 Year 16

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 44568 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566865WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 2/12/16

43164

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566866WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44980	M # P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433388 Man Doc# S6N0256
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 258 TRUCK NO. 44 ERI:US ECOLOGY [3935259]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 17 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin McKechan
Signature:
Month 12 Day 17 Year 15
Transporter 2 Printed/Typed Name: Matthew on Behalf of Norfolk Southern
Signature:
Month 12 Day 17 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Hill
Signature:
Month 01 Day 08 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000566866WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Rec 2/12/16 43600 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)710-8510
4. Manifest Tracking Number: 000566867WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41520	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433390 Man Doc #SGN0257
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 260 TRUCK NO. 270 ERI:US ECOLOGY [393526010

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 17 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Tom Dobroat on Behalf of Norfolk Southern
Signature:
Month 12 Day 17 Year 15
Transporter 2 Printed/Typed Name: Mattler
Signature:
Month 12 Day 17 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ces Fer
Signature:
Month 1 Day 11 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566867WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
	CHEX 210					

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec'd 12/17/16 44356

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566868WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44200	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433392 Man Doc #SGN0258
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX207 TRUCK NO. 34 ERI:US ECOLOGY [393526]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 17 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rick Saunders
Signature:
Month 12 Day 17 Year 15
Transporter 2 Printed/Typed Name: Mattser ON Behalf of Norfolk Southern
Signature:
Month 12 Day 17 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 1 Day 12 Year 16

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Rec'd 12/17/06 44356 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566868WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
	CM#207							

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/14/16 43600

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-1510
4. Manifest Tracking Number: 000566869WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45340	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_I#6433394 Man Doc# S6N0259
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 760 TRUCK NO. 291 ERI:US ECOLOGY [3935262]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundors As Agent on behalf of Honeywell
Signature: [signature]
Month 12 Day 17 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Paul
Signature: [signature]
Month 12 Day 17 Year 15

Transporter 2 Printed/Typed Name: Matt Ver on behalf of Norfolk Southern
Signature: [signature]
Month 12 Day 17 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Cen Per
Signature: [signature]
Month 1 Day 11 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Rec 2/14/16 Rec 2/16/16 43600 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566869WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 43600

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000586870WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 4440	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#6433396 Man Doc #56N0260
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 260 TRUCK NO. 247 ERI:US ECOLOGY [393526]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 12 Day 17 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Herbert J. Logan
Signature: [signature]
Month 12 Day 17 Year 15
Transporter 2 Printed/Typed Name: Nathan on behalf of Norfolk Southern
Signature: [signature]
Month 12 Day 17 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ces Fox
Signature: [signature]
Month 1 Day 11 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566870WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 44356

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566871WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 39880	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3 0864896_T#6433398 Man Doc # S6N0261
240 TO <1000 PPM CR6+
RAILCAR NO. CLLX 207 TRUCK NO. 290 ERI:US ECOLOGY [393526410

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Honeywell — michael mundras
Signature:
Month 12 Day 17 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Luis Vazquez
Signature:
Month 12 Day 17 Year 15
Transporter 2 Printed/Typed Name: Matt On Behalf of Norfolk Southern
Signature:
Month 12 Day 17 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Cris Pan
Signature:
Month 1 Day 12 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986591437	22. Page 2 of 2	23. Manifest Tracking Number 000566871WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec'd 12/12/16 94356

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566872WAS

GENERATOR

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42940	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433400 Man Doc # S6N0262
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 207 TRUCK NO. 292 ERI:US ECOLOGY [3935265]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 17 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: JASON C Bradford
Signature:
Month 12 Day 17 Year 15
Transporter 2 Printed/Typed Name: Miller on behalf of Norfolk Southern
Signature:
Month 12 Day 17 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Len Fox
Signature:
Month 1 Day 12 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000566872WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
	CMX 207							

32. Special Handling Instructions and Additional Information

[illegible] no receipt of weight [illegible] 12-15-15

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 12/12/16 44356

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566873WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42940	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433402 man Doc# S6N0243
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 207 TRUCK NO. 285 ERI:US ECOLOGY [393526610

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 17 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Bruce Meinhart
Signature:
Month 12 Day 17 Year 15

Transporter 2 Printed/Typed Name: Walker on behalf of Norfolk Southern
Signature:
Month 12 Day 17 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ceci Pan
Signature:
Month 1 Day 12 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 44356 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566873WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
	CMX 207							

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Dec 21/12/16 42992

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)518-8510
4. Manifest Tracking Number: 000566874WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42860	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433404 Man Doc #SGN0264
240 TO <1000 PPM CR6+
RAILCAR NO. CHOX 142 TRUCK NO. 242 ERI:US ECOLOGY [393526710

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 17 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Sal Cagliano — Signature: [signature] — Month 12 Day 17 Year 15
Transporter 2 Printed/Typed Name: Hellfear on behalf of Norfolk Southern — Signature: [signature] — Month 12 Day 17 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Curtis — Signature: [signature] — Month 1 Day 12 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. **DESIGNATED FACILITY'S COPY**

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Dec 21/27/96 42992 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page of	23. Manifest Tracking Number 000566874WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 12/17/16

42992

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 42992 00566875WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7301 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42640	(M) E P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433406 Man Doc # 56N0265
240 TO <1000 PPM CR6+
RAILCAR NO. CHOX 142 TRUCK NO. 28 ERI:US ECOLOGY [39352680]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 17 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Signature: Month 12 Day 17 Year 15
Transporter 2 Printed/Typed Name: Hatter on behalf Norfolk Southern Signature: Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Curtis Signature: Month 1 Day 12 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY'S COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 42992 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581487	22. Page	23. Manifest Tracking Number 012996566875WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
	(MIX PHS)							

32. Special Handling Instructions and Additional Information

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR — TRANSPORTER — DESIGNATED FACILITY

Rec 2/12/16 44568

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566876WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43120	(M) P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#6433408 Man Doc #SGN0266
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 167 TRUCK NO. 294 ERI:US ECOLOGY [3935269]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundrus As Agent on behalf of Honeywell
Signature:
Month 12 Day 17 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Cameron Miller CN Railroad Norfolk Section
Signature:
Month 12 Day 17 Year 15
Transporter 2 Printed/Typed Name: Miller
Signature:
Month 12 Day 17 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ceri Parr
Signature:
Month 1 Day 12 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	of 2	000566876WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
	CMX 117							

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

43600

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566877WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42380	(M) P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433410 Man Doc # SGN0267
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 760 TRUCK NO. 44 ERI:US ECOLOGY [39352701G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 17 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin McKechan on behalf of Norfolk Southern — Signature: [signature] — Month 12 Day 17 Year 15
Transporter 2 Printed/Typed Name: Mathew — Signature: [signature] — Month 12 Day 17 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [signature] Signature: [signature] Month 1 Day 11 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566877WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 12/17/16 42992

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)51[illegible]2510
4. Manifest Tracking Number: 000566878WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42380	@ P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERGH 171 1.W3_0864896_T#6433412 Man Doc # S6N0268
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 142 TRUCK NO. 270 ERI:US ECOLOGY [393527]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundrus As Agent on behalf of Honeywell
Signature: [signature]
Month 12 Day 17 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Tom DeGroot
Signature: [signature]
Month 12 Day 17 Year 15
Transporter 2 Printed/Typed Name: [illegible] on behalf of Norfolk Southern
Signature: [signature]
Month 12 Day 17 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible]
Signature: [signature]
Month 1 Day 12 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY'S COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000566878WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 12/17/15 41612

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566879WAS

GENERATOR

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41120	(M) I P	D007		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433414 Man Dac# S6N0269
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 127 TRUCK NO. 34 ERI:US ECOLOGY [3935272]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 17 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rick Sanders
Signature:
Month 12 Day 17 Year 15
Transporter 2 Printed/Typed Name: Mathew on behalf of Norfolk Southern
Signature:
Month 12 Day 17 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 1 Day 15 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Dec 2/12/14 41612

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UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000566879WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 12/12/16

41612

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566880WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43240	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433416 Man Doc # SGN0270
240 TO <1000 PPM CR6+
RAILCAR NO. CHOX 127 TRUCK NO. 290 ERI:US ECOLOGY [3935273]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundrus As Agent on behalf of Honeywell
Signature:
Month 12 Day 17 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Luis Vazquez
Signature:
Month 12 Day 17 Year 15
Transporter 2 Printed/Typed Name: Matthew on Behalf of Norfolk Southern
Signature:
Month 12 Day 17 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ceri Parr
Signature:
Month 1 Day 15 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 12/12/06

41612

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000566880WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Dec 21/12/16 42992

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)51[illegible]510
4. Manifest Tracking Number: 000566881WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43040	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433418 Man Doc # SGN0271
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 142 TRUCK NO. 247 ERI:US ECOLOGY [39352741G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 17 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: HERBERT J. LOGAN
Signature:
Month 12 Day 17 Year 15

Transporter 2 Printed/Typed Name: Matthew on behalf of Norfolk Southern
Signature:
Month 12 Day 17 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 1 Day 12 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY'S COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Dec 2/12/16 42992 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566882WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 444(00)	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_TN6433420 Man Doc# S6N0272
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 142 TRUCK NO. 291 ERI:US ECOLOGY [3935275]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 12 Day 17 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: [illegible] Signature: [signature] Month 12 Day 17 Year 15
Transporter 2 Printed/Typed Name: Miller on behalf of Norfolk Southern Signature: [signature] Month 12 Day 17 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible] Signature: [signature] Month 1 Day 12 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. **DESIGNATED FACILITY'S COPY**

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 42992 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566882WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY'S COPY

Rec 2/12/16

41612

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566883WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 39820	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W8_Q864896_T#6433422 Man Doc#SGN 0273
240 TO <1000 PPM CR6+
RAILCAR NO. CIICX 127 TRUCK NO. 248 ERI:US ECOLOGY [3935276]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month Day Year: 12 17 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin Gilbert
Signature:
Month Day Year: 12 17 15
Transporter 2 Printed/Typed Name: J Walker on behalf of Norfolk Southern
Signature:
Month Day Year: 12 17 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Gen Rec
Signature:
Month Day Year: 1 15 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 41612

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566883WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 4/6/12

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566884WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 4178	(M) P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433424 Man Doc # 56N0274
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 127 TRUCK NO. 217 ERI:US ECOLOGY [3935277]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundrus As Agent on behalf of Honeywell
Signature:
Month 12 Day 17 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Stan Sochanski
Signature:
Month 12 Day 17 Year 15
Transporter 2 Printed/Typed Name: Matthew on Behalf of Norfolk Southern
Signature:
Month 12 Day 17 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Gen Per
Signature:
Month 1 Day 15 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566884WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Mc 2/12/16 44340

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566885WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42320	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#6433426 man Doc #56N0275
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 111 TRUCK NO. 285 ERI:US ECOLOGY [3935278]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 18 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Brian Meinert
Signature:
Month 12 Day 18 Year 15
Transporter 2 Printed/Typed Name: Mathew CN Rail for Norfolk Southern
Signature:
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature:
Month 01 Day 12 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000566885WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
	CHx 101							

32. Special Handling Instructions and Additional Information

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 144340

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566886WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD 566886
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42400	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#6433428 Man Doc # 56N0276
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 114 TRUCK NO. 28 ERI:US ECOLOGY [39352791Q

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundrus As Agent on behalf of Honeywell
Signature
Month 12 Day 18 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Dan Cole
Signature
Month 12 Day 18 Year 15
Transporter 2 Printed/Typed Name: M Keller on behalf of Norfolk Southern
Signature
Month 12 Day 18 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature
Month 01 Day 12 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec'd 2/12/16 444340

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566886WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND059484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Dec 2/12/16 41932

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566887WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42080	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#6433430 Man Doc # S6N0277
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 163 TRUCK NO. 270 ERI:US ECOLOGY [393528O]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 18 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Tom DeGroot
Signature:
Month 12 Day 18 Year 15
Transporter 2 Printed/Typed Name: Heather on Behalf of Norfolk Southern
Signature:
Month 12 Day 18 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 01 Day 15 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Dec 7/12/16 41932

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566887WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Nov 21/12/16 44340

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566888WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	GST 43160	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_I#6433432 Man Doc # SGN 0278
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 114 TRUCK NO. 411 ERI:US ECOLOGY [39352811]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 12 Day 18 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin McKechan
Signature: [signature]
Month 12 Day 18 Year 15

Transporter 2 Printed/Typed Name: McKesson on behalf of Norfolk Southern
Signature: [signature]
Month 12 Day 18 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature: [signature]
Month 01 Day 12 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000566888WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

Rec 2/12/16

44340

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566889WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE 43410
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44600	W P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433434 Man Doc # SGN0279
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 114 TRUCK NO. 294 ERI:US ECOLOGY [3935282]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 18 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Carslaw Wilkes
Signature:
Month 12 Day 18 Year 15
Transporter 2 Printed/Typed Name: Walker on behalf of Norfolk Southern
Signature:
Month 12 Day 18 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 01 Day 12 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 44340

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566889WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
	CHLX HY					

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 41784

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566890WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEH: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41720	(M) P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#~~6433436~~ man Doc # 56N0280
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 106 TRUCK NO. 34 ERI:US ECOLOGY [3935283]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundrus As Agent on behalf of Honeywell
Signature: [signature]
Month 12 Day 18 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rick Sourdeus
Signature: [signature]
Month 12 Day 18 Year 15
Transporter 2 Printed/Typed Name: Mettler on behalf of Norfolk Southern
Signature: [signature]
Month 12 Day 18 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Cen Pan
Signature: [signature]
Month 1 Day 15 Year 16

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 41784

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000566890WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

47932

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 417 8000566891WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43140	~~LB~~ P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_I#6433438 ManDoc #56N0281
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 163 TRUCK NO. 290 ERI:US ECOLOGY [39352841G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

GENERATOR

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 18 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Luis Vazquez
Signature:
Month 12 Day 18 Year 15
Transporter 2 Printed/Typed Name: on behalf of Norfolk Southern
Signature:
Month 12 Day 18 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 01 Day 15 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

41932

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		41 7 000566891WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 44340

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566892WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43180	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433440 Man Doc # S6N0282
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 114 TRUCK NO. 246 ERI:US ECOLOGY [3935285]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundrus As Agent on behalf of Honeywell
Signature:
Month 12 Day 18 Year 15

INT'L
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER
17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Christian L. Smith
Signature:
Month 12 Day 18 Year 15
Transporter 2 Printed/Typed Name: on behalf of N.S. Norfolk Southern
Signature:
Month 12 Day 18 Year 15

DESIGNATED FACILITY
18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 01 Day 12 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/14 443340

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000566892WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
	CHLY 114							

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 41932

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566893WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4868
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42960	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433442 Man Doc # S6N0283
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 163 TRUCK NO. 292 ERI:US ECOLOGY [39352861G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 18 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Jason C. Bradford — Signature: [signature] — Month 12 Day 18 Year 15
Transporter 2 Printed/Typed Name: Whatever on behalf of Norfolk Southern — Signature: [signature] — Month 12 Day 18 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller — Signature: [signature] — Month 01 Day 15 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/12/06 41932

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000566893WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4858

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 42680

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 4 100056689 4WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41720	M # P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#6433444 Man Doc # 56N0284
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 154 TRUCK NO. 247 ERI:US ECOLOGY [3935287]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 12 Day 18 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: HERBERT J. LOGAN
Signature: [signature]
Month 12 Day 18 Year 15
Transporter 2 Printed/Typed Name: [illegible] on behalf of Norfolk Southern
Signature: [signature]
Month 12 Day 18 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible]
Signature: [signature]
Month 1 Day 15 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 42680 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566894WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 12/14/16 41784

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510 42680
4. Manifest Tracking Number: 000566895WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42200	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#6433446 man Doc # SGN0285
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 106 TRUCK NO. 291 ERI:US ECOLOGY [3935288]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature] Month 12 Day 18 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: [signature] Signature: [signature] Month 12 Day 18 Year 15
Transporter 2 Printed/Typed Name: Matthew on behalf of Norfolk Southern Signature: [signature] Month 12 Day 18 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Gary Fox Signature: [signature] Month 1 Day 15 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec'd 12/11/14 41784

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000566895WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
	CMX 101							

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 2/12/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566896WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 49380	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#6433448 Man Doc # SGN0286
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 127 TRUCK NO. 28 ERI:US ECOLOGY [39352891G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 18 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Dan Cole
Signature:
Month 12 Day 18 Year 15
Transporter 2 Printed/Typed Name: Mcklear on behalf of Norfolk Southern
Signature:
Month 12 Day 18 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Len Pier
Signature:
Month 1 Day 15 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 7/12/16 11/7/16/2

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000566896WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR

TRANSPORTER

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 426820

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566897WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	25T 43660	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433450 Man Doc 56N0287
240 TO <1000 PPM CR6+
RAILCAR NO. CLUX 154 TRUCK NO. 44 ERI:US ECOLOGY [393529010

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 18 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin McKechan
Signature:
Month 12 Day 18 Year 15
Transporter 2 Printed/Typed Name: Matt Kea ON Behalf of Norfolk Southern
Signature:
Month 12 Day 18 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sarah Miller
Signature:
Month 01 Day 14 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566897WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 41937

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566898WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42420	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433452 Man Doc # SGN0288
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 163 TRUCK NO. 285 ERI:US ECOLOGY [39352911G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundras Honeywell
Signature:
Month 12 Day 18 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Bruce Meinert
Signature:
Month 12 Day 18 Year 15
Transporter 2 Printed/Typed Name: on Behalf of Norfolk Southern Matlger
Signature:
Month 12 Day 18 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 01 Day 15 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 41932

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000566898WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
	CHG 113							

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

46280

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566899WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4659
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44180	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T~~#6433454~~ 8619295 Man Doc # S6N0289
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 247 TRUCK NO. ~~270~~ 242 (M) ERI:US ECOLOGY [3935292]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 18 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Sal Cagliard
Signature:
Month 12 Day 18 Year 15

Transporter 2 Printed/Typed Name: Matthew ON Behalf of Norfolk Southern
Signature:
Month 12 Day 21 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sarah Signature:
Month 01 Day 14 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566899WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec Rel 2/22/16 43652

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566900WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41900 ~~42280~~	M ~~P~~ P	D007
	2.			M		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433456
240 TO <1000 PPM CR6+
Man Doc # SGN0241
RAILCAR NO. CHLX 278 TRUCK NO. ~~240~~ 294 ERI:US ECOLOGY [393529310

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 16 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Cameron Werkes
Signature:
Month 12 Day 16 Year 15
Transporter 2 Printed/Typed Name: Mathew on behalf of Norfolk Southern
Signature:
Month 12 Day 16 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature:
Month 01 Day 08 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000566900WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR

TRANSPORTER

DESIGNATED FACILITY

Dec 2/12/16 43236

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566901WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	ES7 44460	(M) I P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433458 Man Doc #5GN0216
240 TO <1000 PPM CR6+
RAILCAR NO. Chuxled TRUCK NO. 28 ERI:US ECOLOGY [3935294]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Honeywell — michael Munoras — Signature: [signature] — Month 12 Day 15 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: [signature] on behalf of Norfolk Southern — Signature: [signature] — Month 12 Day 15 Year 15
Transporter 2 Printed/Typed Name: Miller — Signature: [signature] — Month 12 Day 15 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller — Signature: [signature] — Month 12 Day 15 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 43,236

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000566901WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 12/12/16

43564

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566902WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 40000	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433460 Man Doc # S6N0217
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 157 TRUCK NO. 34 ERI:US ECOLOGY [3935295]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 12 Day 15 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rick Sanders
Signature: [signature]
Month 12 Day 15 Year 15
Transporter 2 Printed/Typed Name: Matter on behalf of Norfolk Southern
Signature: [signature]
Month 12 Day 15 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Gen Van
Signature: [signature]
Month 1 Day 7 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 10/12/16

43564

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000566902WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Dec 2/12/16 42 Lep 2

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000036903WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 4440	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433462 Man Doc # 56N0218
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 210 TRUCK NO. 22 ERI:US ECOLOGY [3935296]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Munoras As Agent on behalf of Honeywell
Signature:
Month 12 Day 15 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin McKechan
Signature:
Month 12 Day 15 Year 15
Transporter 2 Printed/Typed Name: Mattes on behalf of Norfolk Southern
Signature:
Month 12 Day 15 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Cen Ca
Signature:
Month 1 Day 7 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. **DESIGNATED FACILITY TO GENERATOR**

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000566903WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 2/12/16 43236

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566904WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44140	W P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#6433464 Man Doc # SGN0219
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 164 TRUCK NO. 290 ERI:US ECOLOGY [3935297]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 15 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Luis Vazquez
Signature:
Month 12 Day 15 Year 15
Transporter 2 Printed/Typed Name: Walker on behalf of Norfolk Southern
Signature:
Month 12 Day 15 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 12 Day 30 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566904WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
	CHUX 124							

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Dec 2/12/16 42612

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566905WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43080	(P) P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433466 Man Doc # S6N 0220
240 TO <1000 PPM CR6+
RAILCAR NO. CLUX 210 TRUCK NO. 292 ERI:US ECOLOGY [39352981]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 15 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: JASON C. Brad ford on behalf of Norfolk Southern
Signature:
Month 12 Day 15 Year 15

Transporter 2 Printed/Typed Name: Matthew
Signature:
Month 12 Day 15 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 1 Day 7 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Dec 2/18/16 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566905WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

43048

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986541437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566906WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45600	(M) P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#6433468
240 TO <1000 PPM CR6+
Man Doc # S6N0221
RAILCAR NO. CHLX 296 TRUCK NO. 247 ERI:US ECOLOGY [39352991G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundras Honeywell
Signature:
Month 12 Day 15 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Herbert J. Locar
Signature:
Month 12 Day 15 Year 15
Transporter 2 Printed/Typed Name: Walker on behalf of Norfolk Southern
Signature:
Month 12 Day 15 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sarah Miller
Signature:
Month 01 Day 08 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 43648 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566906WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058494114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 42612

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566907WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43820	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433470 Man Doc # 56210222
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 210 TRUCK NO. 217 ERI:US ECOLOGY [3935300]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 15 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Steve Sochenski
Signature:
Month 12 Day 15 Year 15
Transporter 2 Printed/Typed Name: Matthew on behalf of Norfolk Southern
Signature:
Month 12 Day 15 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Gen Pan
Signature:
Month 1 Day 7 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000566907WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Au 2/12/16 43236

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566908WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42500	(M) P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3 0864896 T#6433472
240 TO <1000 PPM CR6+
Man Doc #S6N0223
RAILCAR NO. CHUX 164 TRUCK NO. 221 ERI:US ECOLOGY [3935301]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 15 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Wandi Torres
Signature:
Month 12 Day 15 Year 15
Transporter 2 Printed/Typed Name: Miller on behalf of Norfolk Southern
Signature:
Month 12 Day 15 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 12 Day 30 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 43236

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000566908WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 43236

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566909WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

Rec 2/12/16

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43000	(M) I P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#6433474 Man Doc # SGN0224
240 TO <1000 PPM CR6+
RAILCAR NO. CIUX 164 TRUCK NO. 286 ERI:US ECOLOGY [3935302]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 15 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Heyer — Signature: [signature] — Month 12 Day 15 Year 15
Transporter 2 Printed/Typed Name: Michael on behalf of Norfolk Southern — Signature: [signature] — Month 12 Day 15 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller — Signature: [signature] — Month 12 Day 30 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Rec 7/12/16 43236 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566909WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

Rec 7/12/16

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4906

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Dec 12/12/16 43048 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986681437	2	(800)510-8510	000566910WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45120	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433476 Man Doc# S6NU225
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 296 TRUCK NO. 242 ERI:US ECOLOGY [3935303]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Munoras Honeywell — Signature: [signature] — Month 12 Day 15 Year 15

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Sal Cayciano — Signature: [signature] — Month 12 Day 15 Year 15
Transporter 2 Printed/Typed Name: [illegible] on behalf of Norfolk Southern — Signature: [signature] — Month 12 Day 15 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller — Signature: [signature] — Month 01 Day 08 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. **DESIGNATED FACILITY TO GENERATOR**

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

43048

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566910WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Nu 2/22/16 12/16

43236

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566911WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	~~ST~~ 42240	~~M~~ P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#6433478 Man Doc# S6N0226
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 164 TRUCK NO. 246 ERI:US ECOLOGY [3935304]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell
Signature:
Month 12 Day 15 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Christian L. Smith
Signature:
Month 12 Day 15 Year 15
Transporter 2 Printed/Typed Name: Matthew on behalf of Norfolk Southern
Signature:
Month 12 Day 15 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 12 Day 30 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 2/12/16

43236

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566911WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

43272

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437

2. Page 1 of

3. Emergency Response Phone: (800)510-8510

4. Manifest Tracking Number: 000566912WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 4644D	(M) P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#6433480
240 TO <1000 PPM CR6+
Man Doc# 56N0227
RAILCAR NO. CHUX297 TRUCK NO. 240 ERI:US ECOLOGY [3935305]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 15 Year 15

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Charles Barger
Signature:
Month 12 Day 15 Year 15
Transporter 2 Printed/Typed Name: Mather on behalf of Norfolk Southern
Signature:
Month 12 Day 15 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Len Ken
Signature:
Month 1 Day 7 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Rec 2/12/16 43272 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437 Rec 2/12/16	22. Page 2 of 2	23. Manifest Tracking Number 000566912WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 2/12/16 43048

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566913WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44140	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#6433482 Man Doc # SGNU228
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 296 TRUCK NO. 290 ERI:US ECOLOGY [39353061G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 15 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Luis Vazquez
Signature:
Month 12 Day 15 Year 15
Transporter 2 Printed/Typed Name: Mark Ewan on behalf of Norfolk Southern
Signature:
Month 12 Day 15 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 01 Day 08 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec'd 7/19/06 43048

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000566913WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 43272

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566914WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44320	(M) P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433484 Man Doc # S6N0229
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 297 TRUCK NO. 291 ERI:US ECOLOGY [3935307]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras (As Agent on behalf of Honeywell) Signature: [signature] Month 12 Day 15 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Paul Smith Signature: [signature] Month 12 Day 15 Year 15
Transporter 2 Printed/Typed Name: Matthew (on behalf of Norfolk Southern) Signature: [signature] Month 12 Day 15 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [signature] Signature: [signature] Month 1 Day 7 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 43272

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566914WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

Rec 12/12/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566915WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43720	(W) P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433486 Man Doc # SGN0230
240 TO <1000 PPM CR6+
RAILCAR NO. CHVX 190 TRUCK NO. 242 ERI:US ECOLOGY [3935308]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 16 Year 15

INT'L
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER
17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Sal Gagliardi — Signature: [signature] — Month 12 Day 16 Year 15
Transporter 2 Printed/Typed Name: Matt Gs on behalf of Norfolk Southern — Signature: [signature] — Month 12 Day 16 Year 15

DESIGNATED FACILITY
18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Said Miller — Signature: [signature] — Month 01 Day 08 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566915WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 413468

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566916WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44220	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433488 Man Doc # S6N0231
240 TO <1000 PPM CR6+
RAILCAR NO. CHX 190 TRUCK NO. 2941 ERI:US ECOLOGY [39353091G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Honeywell Michael Mundras
Signature:
Month 12 Day 16 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Cameron Wilkes
Signature:
Month 12 Day 16 Year 15
Transporter 2 Printed/Typed Name: Matthew on behalf of Norfolk Southern
Signature:
Month 12 Day 16 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 01 Day 08 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/17/16 4B4168

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566916WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of
3. Emergency Response Phone: 800-510-8510
4. Manifest Tracking Number: 000566917WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41820	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433490 Man Doc # S6N0232
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 297 TRUCK NO. 28 ERI:US ECOLOGY [3935310]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 16 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Dan Cox
Signature:
Month 12 Day 16 Year 15
Transporter 2 Printed/Typed Name: Matthew On behalf of Norfolk Southern
Signature:
Month 12 Day 16 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ceri Parr
Signature:
Month 1 Day 7 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Dec 2/12/10 43272 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437 Dec 2/12/10	2 of 2	000566917WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Dec 3/12/16 434488 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566918WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42560	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433492 Man Doc # S6N0233
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 190 TRUCK NO. 270 ERI:US ECOLOGY [3935311]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 12 Day 16 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Tom DeGroat
Signature: [signature]
Month 12 Day 16 Year 15
Transporter 2 Printed/Typed Name: Mellse on behalf of Norfolk Southern
Signature: [signature]
Month 12 Day 16 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature: [signature]
Month 01 Day 08 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Dec 2/12/16 434488 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566918WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Dec 2/12/16

43468

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566919WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42700	(M) # P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#6433494 Man Doc#SGN0234
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 190 TRUCK NO. 291 ERI:US ECOLOGY [393531210]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 16 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Paul Allen
Signature:
Month 12 Day 16 Year 15
Transporter 2 Printed/Typed Name: Wade Ea ON Behalf of Norfolk Southern
Signature:
Month 12 Day 16 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature:
Month 01 Day 08 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Dec 2/12/04 43468

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000566919WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
	CHEX 100					

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986581437	2	(800)510-8510	000366920WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41720	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3 Q864896_T#6433496 Man Doc# S6N 0235
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 297 TRUCK NO. 34 ERI:US ECOLOGY [3935313]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 16 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rick Sowden — Signature: [signature] — Month 12 Day 16 Year 15
Transporter 2 Printed/Typed Name: Matter on behalf of Norfolk Southern — Signature: [signature] — Month 12 Day 16 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Lee Rae — Signature: [signature] — Month 1 Day 7 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000566920WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR

TRANSPORTER

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 43048

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566921WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806 3272
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 38760	(M) P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433498 Man Doc # S6N0236
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 296 TRUCK NO. 441 ERI:US ECOLOGY [3935314]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundrus As Agent on behalf of Honeywell
Signature: [signature]
Month 12 Day 16 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin McKechan
Signature: [signature]
Month 12 Day 16 Year 15
Transporter 2 Printed/Typed Name: Matthew on Behalf of Norfolk Southern
Signature: [signature]
Month 12 Day 16 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature: [signature]
Month 01 Day 08 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/10 43048

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000566921WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4808

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
	CHGA 296							

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 11143e52

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566922WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43900	W P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896 (T#[illegible]) Man Doc # 56N0237
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 278 TRUCK NO. 247 ERI:US ECOLOGY [3935315]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 12 Day 16 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Herbert J. Logan
Signature: [signature]
Month 12 Day 16 Year 15
Transporter 2 Printed/Typed Name: Nelles on Behalf of Norfolk Southern
Signature: [signature]
Month 12 Day 16 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible]
Signature: [signature]
Month 12 Day 08 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566922WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

CHUX20

32. Special Handling Instructions and Additional Information

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec'd 12/12/16 4343048

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986631437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566923WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41900	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433502 Man Doc # SGN0238
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 298 TRUCK NO. 292 ERI:US ECOLOGY [3935316]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell
Signature:
Month 12 Day 16 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Jason C. Bradford
Signature:
Month 12 Day 16 Year 15
Transporter 2 Printed/Typed Name: Nelles on behalf of Norfolk Southern
Signature:
Month 12 Day 16 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature:
Month 01 Day 08 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec'd 12/16/16 4343048

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000566923WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
	CHA 56							

32. Special Handling Instructions and Additional Information

Profile continued [illegible] 12 16 15

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rev. 2/12/16 42612

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: MJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566924WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 39020	(M) P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_I#6433504
240 TO <1000 PPM CR6+
Man Doc # ~~S6N0239~~ S6N0239
RAILCAR NO. CHURZD TRUCK NO. 290 ERI:US ECOLOGY [39353317]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 16 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Luis Vazquez
Signature:
Month 12 Day 16 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 1 Day 7 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Rev 7/1/16 42612 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566924WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
	CHUX210					

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 12/12/16 43468 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566925WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42900	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433506 Man Doc # SGN0240
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 190 TRUCK NO. 242 ERI:US ECOLOGY [3935318]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in properly condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell
Signature:
Month 12 Day 16 Year 15

INT'L
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER
17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Gal Gaglione
Signature:
Month 12 Day 16 Year 15
Transporter 2 Printed/Typed Name: Matter ON Behalf of Norfolk Southern
Signature:
Month 12 Day 16 Year 15

DESIGNATED FACILITY
18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 01 Day 08 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 43468 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566925WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4659

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 12/12/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437

2. Page 1 of

3. Emergency Response Phone: (800)510-6210

4. Manifest Tracking Number: 000566926WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 40520	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433508
240 TO <1000 PPM CR6+
Man Doc # ~~S6~~ S6N0191
RAILCAR NO. CHUX 191 TRUCK NO. 296 ERI:US ECOLOGY [3935319]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell
Signature:
Month 12 Day 14 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: CHRIS FARLEY
Signature:
Month 12 Day 14 Year 15

Transporter 2 Printed/Typed Name: ON Behalf of Norfolk Southern
Signature:
Month 12 Day 14 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 12 Day 20 Year 15

GENERATOR

INT'L

TRANSPORTER

DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581427	22. Page 2 of 2	23. Manifest Tracking Number 000566926WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 12/17/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437

2. Page 1 of 2

3. Emergency Response Phone: (800)424-9300

4. Manifest Tracking Number: 000566927WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 39520	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433510
240 TO <1000 PPM CR6+
Man Doc# S6N0192 42796
RAILCAR NO. CHLX 224 TRUCK NO. 222 ERI:US ECOLOGY [3935320]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Munbras As Agent on behalf of Honeywell
Signature:
Month 12 Day 14 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Carey Todd
Signature:
Month 12 Day 14 Year 15
Transporter 2 Printed/Typed Name: Matt G. on behalf of Norfolk Southern
Signature:
Month 12 Day 14 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 12 Day 30 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

Rec 2/12/16

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 3 of 4	23. Manifest Tracking Number 000566927WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number ELD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
						42796
	Cmx DSM					

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Nec 2/12/16

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566928WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	ES7 39300	M P	D007 42796
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433512
240 TO <1000 PPM CR6+
Man Doc # S6N0193 42952
RAILCAR NO. CHLX 195 TRUCK NO. 247 ERI:US ECOLOGY [3935321]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 14 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Herbert J. Logan
Signature:
Month 12 Day 14 Year 15
Transporter 2 Printed/Typed Name: Matlis on behalf of Norfolk Southern
Signature:
Month 12 Day 14 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 12 Day 30 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

Dec 2/12/16

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000566928WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
						4-796
						42952

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/22/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566929WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 39520	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433514 Man Doc # S6N0194 42888
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 191 TRUCK NO. 221 ERI:US ECOLOGY [39353221]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell
Signature:
Month 12 Day 14 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Dandi Torres
Signature:
Month 12 Day 14 Year 15

Transporter 2 Printed/Typed Name: Wilkson on behalf of Norfolk Southern
Signature:
Month 12 Day 14 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ceri Parr
Signature:
Month 12 Day 30 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000566929WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
						42808

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 43098

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 1 2/12/16
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566930WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Rec 2/12/16

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41240	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#6433516 Man Doc # S6N0195
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 185 TRUCK NO. 286 ERI:US ECOLOGY [3935323]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 14 Year 15

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Heyer — Signature: [signature] — Month 12 Day 14 Year 15
Transporter 2 Printed/Typed Name: on behalf of Norfolk Southern — Signature: [signature] — Month 12 Day 14 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ceri Fox — Signature: [signature] — Month 12 Day 31 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. **DESIGNATED FACILITY TO GENERATOR**

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Dec 2/12/16 43098 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566930WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

Dec 2/17/16

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 2/12/16

Rec 2/12/16 43140078

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566931WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44900	(M) P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433518 Man Doc # SGN0196 AG-08585PA
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 121 TRUCK NO. 212 ERI:US ECOLOGY [39353241G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 14 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: DAVID A. GRUVER — Signature: [signature] — Month 12 Day 14 Year 15
Transporter 2 Printed/Typed Name: on behalf of Norfolk Southern — Signature: [signature] — Month 12 Day 14 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [signature] Signature: [signature] Month 12 Day 31 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 4314078

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000566931WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 Rec 2/12/16 433740

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566932WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44660	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433520 Man Doc # S6N0197
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 121 TRUCK NO. 242 ERI:US ECOLOGY [393532]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell
Signature:
Month 12 Day 14 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: SC Gaylord
Signature:
Month 12 Day 14 Year 15
Transporter 2 Printed/Typed Name: Hetler on behalf of Norfolk Southern
Signature:
Month 12 Day 14 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 12 Day 15 Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000566932WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986581487	2	(800)510-8510	000566933WAS

GENERATOR

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42500	(M) L P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433522 Man Doc # S6N0198
240 TO <1000 PPM CR6+
RAILCAR NO. CIUX 274 TRUCK NO. 240 ERI:US ECOLOGY [3935326]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 14 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Charles Berger — Signature: [signature] — Month 12 Day 14 Year 15

Transporter 2 Printed/Typed Name: Walker on behalf of Norfolk Southern — Signature: [signature] — Month 12 Day 14 Year 15

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Isaiah Miller — Signature: [signature] — Month 12 Day 30 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566933WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST.
JERSEY CITY, NJ 07305-4906

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566934WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43220	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_I#6433524 Man Doc # S6N0199
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 191 TRUCK NO. 285 ERI:US ECOLOGY [3935327]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 14 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Bruce Meinhart on behalf of Norfolk Southern
Signature:
Month 12 Day 14 Year 15

Transporter 2 Printed/Typed Name:
Signature:
Month 12 Day 14 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 12 Day 30 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000566934WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR

TRANSPORTER

DESIGNATED FACILITY

Rec 12/12/16 43140

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566935WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Rec 2

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 4560	(M) P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433526
240 TO <1000 PPM CR6+
Man Doc # SGN0200
RAILCAR NO. CHX 121 TRUCK NO. 34 ERI:US ECOLOGY [3935328]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 14 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rich Sandeen
Signature:
Month 12 Day 14 Year 15
Transporter 2 Printed/Typed Name: Matt Kerr on behalf of Norfolk Southern
Signature:
Month 12 Day 14 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 12 Day 31 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 43140

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566935WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

Rec 2/12/16

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

43160

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566936WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43620	(M) P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433528 Man Doc # 56N0201
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 140 TRUCK NO. 28 ERI:US ECOLOGY [3935329]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 14 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Dan Cole
Signature:
Month 12 Day 14 Year 15
Transporter 2 Printed/Typed Name: Horwith on behalf of Norfolk Sull.
Signature:
Month 12 Day 14 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 1 Day 4 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 43RDL Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566936WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566937WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
ELKEKELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42880	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#6433530 Man Doc #56N0202
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 204 TRUCK NO. 290 ERI:US ECOLOGY [3935330]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 14 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Luis Vazquez — Signature: [signature] — Month 12 Day 14 Year 15
Transporter 2 Printed/Typed Name: [illegible] on behalf of Norfolk Southern — Signature: [signature] — Month 12 Day 14 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller — Signature: [signature] — Month 12 Day 30 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 42796

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000566937WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

Rec HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Nea 2/12/16 42952 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566938WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42520	(M) P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#6433532 Man Doc # S6N0203
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 195 TRUCK NO. 292 ERI:US ECOLOGY [3935331]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 14 Year 15

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: JASON C. Bradford
Signature:
Month 12 Day 14 Year 15
Transporter 2 Printed/Typed Name: on behalf of Norfolk Southern
Signature:
Month 12 Day 14 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature:
Month 12 Day 30 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Mar 2/1/16 42952 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566938WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR

TRANSPORTER

DESIGNATED FACILITY

Rec 12/12/16 Rec 12/12/16 427966

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566939WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43680	W P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433534 Man Doc # 56N0204
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 214 TRUCK NO. 210 ERI:US ECOLOGY [3935332]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 14 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: William Wisser — Signature: William Wisser — Month 12 Day 14 Year 15
Transporter 2 Printed/Typed Name: Matthew Cirillo of Norfolk Southern — Signature: [signature] — Month 12 Day 14 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller — Signature: [signature] — Month 12 Day 30 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16
Rec 2/12/16 7/N/ 42796

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000566939WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986581437	2	(800)510-8510	000566940WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	85 T 42320	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433536 Man Doc # S6N0205
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 195 TRUCK NO. 217 ERI:US ECOLOGY [3935333]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 14 Year 15

INT'L
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER
17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Stan Sochanski — Signature: [signature] — Month 12 Day 14 Year 15
Transporter 2 Printed/Typed Name: Matter on behalf of Norfolk Southern — Signature: [signature] — Month 12 Day 14 Year 15

DESIGNATED FACILITY
18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller — Signature: [signature] — Month 12 Day 30 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. **DESIGNATED FACILITY TO GENERATOR**

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000566940WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 12/12/16 42888 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437 12/12/16
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566941WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 47820	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433538 Man Doc# SGN0206
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 191 TRUCK NO. 247 ERI:US ECOLOGY [3935334]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Munchas As Agent on behalf of Honeywell
Signature:
Month 12 Day 15 Year 15

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Herbert J. Logan
Signature:
Month 12 Day 15 Year 15
Transporter 2 Printed/Typed Name: Nathan on behalf of Norfolk Southern
Signature:
Month 12 Day 15 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 12 Day 20 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. **DESIGNATED FACILITY TO GENERATOR**

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) de 2/12/16 42888 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566941WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Dec 12/12/15 1 1428886

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566942WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43020 ~~44020~~ M	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0854896_T#6433540 Man Doc # S6N0207
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 191 TRUCK NO. 217 ERI:US ECOLOGY [3935335]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell
Signature: [signature]
Month 12 Day 15 Year 15

INT'L
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER
17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Stan Sochanski
Signature: [signature]
Month 12 Day 15 Year 15
Transporter 2 Printed/Typed Name: N Walker on behalf of Norfolk Southern
Signature: [signature]
Month 12 Day 15 Year 15

DESIGNATED FACILITY
18. Discrepancy
18a: Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [signature]
Signature: [signature]
Month 12 Day 30 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Ave 2/12/12 | 1/2/12 | 1/2/12 | 1/2

Rec 2/12/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566943WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 46020	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433542 Man Doc # SGNU208
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 224 TRUCK NO. 221 ERI:US ECOLOGY [3935336]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell
Signature:
Month 12 Day 15 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Wandi Torres
Signature:
Month 12 Day 15 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature:
Month 12 Day 30 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 43564

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000526944WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	257 44360	W P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#6433544 Man Doc # SGN0209
240 TO <1000 PPM CR6+ 157
RAILCAR NO. CHUX ~~7860~~ TRUCK NO. 286 ERI:US ECOLOGY [3935337]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 15 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Heyer
Signature:
Month 12 Day 15 Year 15
Transporter 2 Printed/Typed Name: Matt Geer on behalf of Norfolk Southern
Signature:
Month 12 Day 15 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 1 Day 7 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

43564

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000566944WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
	157							

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 12/12/16 43564

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566945WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41700	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433546 Man Doc # 56N0210
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 157 TRUCK NO. 246 ERI:US ECOLOGY [3935338]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 15 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Christian L. Smith
Signature:
Month 12 Day 15 Year 15
Transporter 2 Printed/Typed Name: Matt Cox on behalf of Norfolk Southern
Signature:
Month 12 Day 15 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 1 Day 7 Year 17

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 43564

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566945WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 42952

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566946WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42280	W P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#6433548 ManDoc#S6N0211
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 195 TRUCK NO. 240 ERI:US ECOLOGY [3935339]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 15 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Charles Barger — Signature: [signature] — Month 12 Day 15 Year 15
Transporter 2 Printed/Typed Name: Whitser on Behalf of Norfolk Southern — Signature: [signature] — Month 12 Day 15 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Jack Miller — Signature: [signature] — Month 12 Day 30 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Rec 2/12/14 42952 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000566946WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 2/12/16

43564

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566947WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45200	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433550 Man Doc # 56N0212
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 157 TRUCK NO. 242 ERI:US ECOLOGY [3935340]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundros As Agent on behalf of Honeywell
Signature:
Month 12 Day 15 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Sal Gaglione
Signature:
Month 12 Day 15 Year 15
Transporter 2 Printed/Typed Name: Matthew on behalf of Norfolk Southern
Signature:
Month 12 Day 15 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Lee Pin
Signature:
Month 1 Day 7 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec'd 6/12/06

43564

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000566947WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 2 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566948WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	ES7 47660	(M) # P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_I#6433552 Man Doc # S6N0213
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 210 TRUCK NO. 291 ERI:US ECOLOGY [3935341]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandros As Agent on behalf of Honeywell
Signature:
Month 12 Day 15 Year 15

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Paul Snyder
Signature: Paul Snyder
Month 12 Day 15 Year 15
Transporter 2 Printed/Typed Name: Whitten ON Behalf of Norfolk Southern
Signature:
Month 12 Day 15 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 1 Day 7 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000566948WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566950WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 48000	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6433556 Man Doc # S6N0215
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 195 TRUCK NO. 270 ERI:US ECOLOGY [39[illegible]5343]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Munoz As Agent on behalf of Honeywell
Signature:
Month 12 Day 15 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Tom DeGroat
Signature:
Month 12 Day 15 Year 15
Transporter 2 Printed/Typed Name: Matter on Behalf of Norfolk Southern
Signature:
Month 12 Day 15 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature:
Month 12 Day 30 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566950WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR

TRANSPORTER

DESIGNATED FACILITY

rec 2/45/16

43832

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599534WAS

5. Generator's Name and Mailing Address:
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address):
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4808
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address:
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-8301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43980	~~M~~ P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055334 Man Doc # S6N0114
>1000 PPM CR6+

RAILCAR NO. CHUX 319 TRUCK NO. 240 ERI:US ECOLOGY [441551010

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 09 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Charles Borgert — Signature: [signature] — Month 11 Day 09 Year 15
Transporter 2 Printed/Typed Name: Matt Kar on behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 09 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sarah Miller — Signature: [signature] — Month 12 Day 03 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599534WAS

24. Generator's Name: HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4306

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058494114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599534WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43980	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.#4_0865233_T#7055334 Man Doc # S6N0114
>1000 PPM CR6+
RAILCAR NO. _____ TRUCK NO. 240 ERI:US ECOLOGY [44155101]Q

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 11 Day 09 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Charles Longell
Signature: [signature]
Month 11 Day 09 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

GENERATOR

INT'L

TRANSPORTER

DESIGNATED FACILITY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599534WAS

24. Generator's Name: HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4650

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07303-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058494114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Rec 2/15/16

43580

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986581437	2	(800)510-8510	000599535WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43780	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_I#7055336 Man Doc # S6N0115
>1000 PPM CR6+

RAILCAR NO. CHUX 157 TRUCK NO. 219 ERI:US ECOLOGY [44155111]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundras Honeywell — Signature: [signature] — Month 11 Day 09 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: David Claggisons — Signature: [signature] — Month 11 Day 09 Year 15
Transporter 2 Printed/Typed Name: on Behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 09 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible] — Signature: [signature] — Month 11 Day 30 Year 15

GENERATOR | TRANSPORTER | INT'L | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599535WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD008921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000597535WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

Generator's Phone:

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7301 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
(317)243-0811
U.S. EPA ID Number: IND093219012

Facility's Phone:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43760	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0965233_IN7055336 Man Doc # SON0115
>1000 PPM CR6+

RAILCAR NO. _____ TRUCK NO. 219 ERI:US ECOLOGY [4415511]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mandras Honeywell
Signature:
Month 11 Day 09 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: David Chapman
Signature:
Month 11 Day 09 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
M110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599535WAS

24. Generator's Name: HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Rec 2/15/16 43736

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581487
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599536WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44560	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055338 Man Doc #56N0016
>1000 PPM CR6+
RAILCAR NO. CHOX 210 TRUCK NO. 217 ERI:US ECOLOGY [4415512]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 09 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Stan Sochanski — Signature: [signature] — Month 11 Day 09 Year 15
Transporter 2 Printed/Typed Name: Matt Csea on Behalf of Norfolk Southern — Signature: Matt Csea — Month 11 Day 09 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Jason Miller — Signature: [signature] — Month 11 Day 30 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599536WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND059484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986591437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599536WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
OEH: 89415

6. Transporter 1 Company Name: HORNITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
(317)243-0911
Facility's Phone:
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44560	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_TR7055338 Man Doc #56N0016
>1000 PPM CR6+
RAILCAR NO. _____ TRUCK NO. 217 ERI:US ECOLOGY [441551210

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 09 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Shim Sochoun
Signature:
Month 11 Day 09 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000589536VAS

24. Generator's Name: HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4906

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Rec 2/15/16

43832

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599537WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714678

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44220	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_I#7055340 Man Doc #56N0117
>1000 PPM CR6+

RAILCAR NO. CHUX 319 TRUCK NO. 210 ERI:US ECOLOGY [4415513]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell
Signature: [signature]
Month 11 Day 09 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: William Wisser
Signature: William Wisser
Month 11 Day 09 Year 15

Transporter 2 Printed/Typed Name: Matt Eer on Behalf of Norfolk Southern
Signature: [signature]
Month 11 Day 09 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature: [signature]
Month 12 Day 03 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599537WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-0510
4. Manifest Tracking Number: 000599537WAS

GENERATOR

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
OEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	55T 44220	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_TW7055340 Man Doc #56N0117
>1000 PPM CR6+
RAILCAR NO. TRUCK NO. 210 ERI:US ECOLOGY [4415513]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras — As Agent on behalf of Honeywell
Signature: [signature]
Month 11 Day 09 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: William Wisser
Signature: William Wisser
Month 11 Day 09 Year 15
Transporter 2 Printed/Typed Name: Signature: Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name Signature Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599537WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Rec 2/15/16

43580

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599538WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 4400	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_I#7055342 Man Doc # S6N0118
>1000 PPM CR6+
RAILCAR NO. CHUX 157 TRUCK NO. 248 ERI:US ECOLOGY [4415514]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Munoz As Agent on behalf of Honeywell
Signature:
Month 11 Day 09 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin Gilbert
Signature:
Month 11 Day 09 Year 15
Transporter 2 Printed/Typed Name: Mutter on behalf of Norfolk Southern
Signature:
Month 11 Day 09 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Chris Carr
Signature:
Month 11 Day 30 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 9-05) Previous editions are obsolete. DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581497

22. Page 2 of 2

23. Manifest Tracking Number: 000599538WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4558

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599538WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)458-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714678

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
(317)243-0811
Facility's Phone:
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44000	@ P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.N4_0965233_T#7055342 Man Doc # S6N0118
>1000 PPM CR6+
RAILCAR NO. _____ TRUCK NO. 248 ERI:US ECOLOGY [4415514]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on Behalf of Honeywell Michael Mundras
Signature:
Month 11 Day 09 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin Gilbert
Signature:
Month 11 Day 09 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599538WAS

24. Generator's Name: HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058184114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR

TRANSPORTER

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Rec 2/15/16

43736

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599539WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	25T 4374D	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055344 man Doc # S6N0119
>1000 PPM CR6+
RAILCAR NO. CHUX210 TRUCK NO. 247 ERI:US ECOLOGY [4415515]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundrus As Agent on behalf of Honeywell
Signature:
Month 11 Day 09 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Herbert J. Loche
Signature:
Month 11 Day 09 Year 15
Transporter 2 Printed/Typed Name: Nattler on behalf of Norfolk Southern
Signature:
Month 11 Day 09 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 11 Day 30 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599535WKS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ, 07960-4658

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921840

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND059434114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599539WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

Generator's Phone:

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
(317)243-0811

Facility's Phone:
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 4374D	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055344 Man Doc # S6N0119
>1000 PPM CRS+
RAILCAR NO. _____ TRUCK NO. 247 ERI:US ECOLOGY [4415515]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 09 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Herbert J. Lacoe
Signature:
Month 11 Day 09 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599539NAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058494114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Dec 2/15/16

44164

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437

2. Page 1 of: 2

3. Emergency Response Phone: (800)510-8510

4. Manifest Tracking Number: 000599571WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	25T 48660	# P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_I#7055408 Man Doc #56N0026
>1000 PPM CR6+

RAILCAR NO. CHUX 195 TRUCK NO. 224 ERI:US ECOLOGY [4415547]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mandras Honeywell
Signature:
Month 11 Day 02 Year 15

GENERATOR

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

INT'L

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Raymond S Bear
Signature:
Month 11 Day 02 Year 15

Transporter 2 Printed/Typed Name: on behalf of Norfolk Southern
Signature:
Month 11 Day 02 Year 15

TRANSPORTER

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name:
Signature:
Month 12 Day 02 Year 15

DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986591437	of 2	000599571WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND059434114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

...nt or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986581437	2	(800)510-8510	000599571WAS

GENERATOR

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name
HORWITH TRUCKS INC
U.S. EPA ID Number
PAD146714878

7. Transporter 2 Company Name
NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number
VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number
IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 48000	K	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERGW 171 1.W4_0865233_TR7055408 Man Doc #56N0026
>1000 PPM CR6+
RAILCAR NO. _____ TRUCK NO. 224 ERI:US ECOLOGY [4415547]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundras Honeywell
Signature: [signature]
Month 11 Day 02 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Raymond S Bear
Signature: [signature]
Month 11 Day 02 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599571WAS

24. Generator's Name:

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Rec 2/15/16

44172

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599572WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45640	L	D007
	2.				Em 12-1-15	
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055410 Man Doc # 5640037
>1000 PPM CR6+
RAILCAR NO. CHUX-190 TRUCK NO. 244 ERI:US ECOLOGY [4415548]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent for Honeywell — Michael Mundras Honeywell — Signature — Month 11 Day 02 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Bill Pierson on Behalf of Horwith — Signature — Month 11 Day 02 Year 15
Transporter 2 Printed/Typed Name: Matt Sor Norfolk Southern — Signature — Month 11 Day 02 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller — Signature — Month 12 Day 01 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581487

22. Page 2 of 2

23. Manifest Tracking Number: 000599572WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4659

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599572WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	657 43640	K	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055410 Man Doc # 56W0037
>1000 PPM CR6+
RAILCAR NO. _____ TRUCK NO. 244 ERI:US ECOLOGY [4415548]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras Honeywell
Signature: [signature]
Month 11 Day 02 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Bill Pierson
Signature: [signature]
Month 11 Day 2 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name Signature Month Day Year

GENERATOR

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599572WAS

24. Generator's Name: HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921040

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Rec 2/15/16

44172

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599573WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44740	K P	D007
	2.				12-01-15	
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_I#7055412 Man Doc # SGN0028
>1000 PPM CR6+
RAILCAR NO. CHW-190 TRUCK NO. 213 ERI:US ECOLOGY [4415549]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent for behalf of Michael Mandras Honeywell
Signature:
Month 11 Day 03 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Dinokowitz
Signature:
Month 11 Day 02 Year 15
Transporter 2 Printed/Typed Name: on Behalf of Norfolk Southern
Signature:
Month 11 Day 02 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 12 Day 01 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000589573WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — US EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — US EPA ID Number: IND053484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599573WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4805
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	657 44240	K	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055412 Man Doc # SGN0038
>1000 PPM CR6+
RAILCAR NO. _____ TRUCK NO. 213 ERI:US ECOLOGY [4415549]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundras Honeywell
Signature:
Month 11 Day 02 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Vinkakowitz
Signature:
Month 11 Day 02 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599573WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4659

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Rec 2/15/16

44172

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved, OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599574WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	25T 45980	X P	D007
	2.				In 12-1-15	
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055414 Man Doc # SGN0039
>1000 PPM CR6+

RAILCAR NO. CHUX 190 TRUCK NO. 211 ERI:US ECOLOGY [4415550]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Munoz As Agent on behalf of Honeywell
Signature:
Month 11 Day 02 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Aaron Mecker
Signature:
Month 11 Day 02 Year 15
Transporter 2 Printed/Typed Name: Matt Sr on Behalf of Norfolk Southern
Signature:
Month 11 Day 02 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 12 Day 01 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599574WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4859

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921840

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581487
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599574WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45980	K	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_TH7055414 MAN DOC # SGN0089
>1000 PPM CR6+
RAILCAR NO. TRUCK NO. 211 ERI:US ECOLOGY [4415550]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell
Signature: [signature]
Month 11 Day 02 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Aaron Mackie
Signature: [signature]
Month 11 Day 02 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599574WAS

24. Generator's Name: HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
80 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD056921840

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058494114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

DESIGNATED FACILITY

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Rec 2/15/14

44164

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599575WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	65 43460	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055416 Man Doc #56N0030
>1000 PPM CR6+

RAILCAR NO. CHUX-195 TRUCK NO. 219 ERI:US ECOLOGY [4415551]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 02 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: David Claggison
Signature:
Month 11 Day 02 Year 15

Transporter 2 Printed/Typed Name: Matt Sr on behalf of Norfolk Southern
Signature:
Month 11 Day 02 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ceri Parr
Signature:
Month 12 Day 02 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599575WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND050489114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599575WAS

GENERATOR

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	857 43460	K	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERGN 171 1.W4_0865233_IN7035416 MAN Doc #56N0030
>1000 PPM CR6+
RAILCAR NO. _____ TRUCK NO. 219 ERI:US ECOLOGY [4415551]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Munders As Agent on behalf of Honeywell
Signature: [signature]
Month 11 Day 02 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: David Clapson
Signature: [signature]
Month 11 Day 02 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599575WAS

24. Generator's Name: HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Rec 2/15/16

44164

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437

2. Page 1 of: 2

3. Emergency Response Phone: (800)510-8510

4. Manifest Tracking Number: 000599594WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	25 T 42000	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055454 MAN Doc # 5GN0031
>1000 PPM CR6+
RAILCAR NO. CHUX-195 TRUCK NO. 217 ERI:US ECOLOGY [4415570]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mendrys As Agent on behalf of Honeywell
Signature:
Month Day Year: 11 02 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Steve Sochanski On Behalf of Norfolk Southern
Signature:
Month Day Year: 11 02 15
Transporter 2 Printed/Typed Name: Matt Cor
Signature:
Month Day Year: 11 02 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Cen Cor
Signature:
Month Day Year: 12 02 15

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986591437	22. Page 2 of 2	23. Manifest Tracking Number 000599594WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4906

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599594WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORNITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42000	K	D007		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055454 MAN DOC # 56NU031
>1000 PPM CR6+
RAILCAR NO. _____ TRUCK NO. 217 ERI:US ECOLOGY (441557010

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Munoz As Agent on behalf of Honeywell
Signature:
Month 11 Day 02 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Steve Sochiarto
Signature:
Month 11 Day 02 Year
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name Signature Month Day Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986591437

22. Page 2 of 2

23. Manifest Tracking Number: 000599594WAS

24. Generator's Name: HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Rec 2/15/16

44624

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599595WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714879

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND082219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44320	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055456 Man Doc # SGN0032 AG-08585PA
>1000 PPM CR6+
RAILCAR NO. CHUX 140 TRUCK NO. 212 ERI:US ECOLOGY [4115571]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Munchow Honeywell
Signature:
Month 11 Day 02 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: DAVID A. GRUVER
Signature:
Month 11 Day 02 Year 15
Transporter 2 Printed/Typed Name: Matt Gser ON Behalf of Norfolk Southern
Signature:
Month 11 Day 02 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ceri Parr
Signature:
Month 12 Day 03 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581407

22. Page 2 of 2

23. Manifest Tracking Number: 000599595WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter ____ Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581497
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599595WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

Generator's Phone:

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
(317)243-0811

U.S. EPA ID Number: IND083219012

Facility's Phone:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44220	K	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERGH 171 1.W4_0865233_TH7055456 Man Doc # S6N0032 AG-0858PA
>1000 PPM CR6+
RAILCAR NO. _____ TRUCK NO. 212 ERI:US ECOLOGY [4415571]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Manders Honeywell
Signature:
Month 11 Day 02 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: DAVID A. GRUVER
Signature:
Month 11 Day 02 Year 15
Transporter 2 Printed/Typed Name: Signature: Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name Signature Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599595WAS

24. Generator's Name: HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD096921040

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND059484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Rec 2/15/16

44164

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599596WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	65T 42220	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055458 Man Doc # 56N0033 #210 AG 08583 A
>1000 PPM CR6+
RAILCAR NO. CHUX 195 TRUCK NO. 210 ERI:US ECOLOGY [4415572]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 02 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: William Wisser — Signature: William Wisser — Month 11 Day 02 Year 15
Transporter 2 Printed/Typed Name: Matt Ser on behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 02 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Lei Per — Signature: [signature] — Month 12 Day 02 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000599596WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599596WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	CST 42220	K	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0365233_TM7055458 Man Doc # S6N0033 #210 NG 08583 A
>1000 PPM CR6+
RAILCAR NO. _____ TRUCK NO. 210 ERI:US ECOLOGY [441557210

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 11 Day 02 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: _____
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: William Wisser
Signature: William Wisser
Month 11 Day 02 Year 15
Transporter 2 Printed/Typed Name: Signature: Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Signature: Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599596WAS

24. Generator's Name: HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4659

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 2 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

DESIGNATED FACILITY

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Rec 2/15/16

44624

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-6510
4. Manifest Tracking Number: 000599597WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	CST 43660	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055460 Man Doc# SGN0034
>1000 PPM CR6+
RAILCAR NO. CHUX 140 TRUCK NO. 224 ERI:US ECOLOGY [4415573]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent for Michael Mandras Honeywell
Signature: [signature]
Month 11 Day 02 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: RAYMOND S BEAR
Signature: [signature]
Month 11 Day 02 Year 15
Transporter 2 Printed/Typed Name: Matt Gar on Behalf of Norfolk Southern
Signature: [signature]
Month 11 Day 02 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ces Pcr
Signature: [signature]
Month 12 Day 03 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved, OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599597WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921840

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-9510
4. Manifest Tracking Number: 000599597WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

Generator's Phone:

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
(317)243-0811

Facility's Phone:
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	65T 43660	E	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERGH 171 1.W4_0965233_T#7055460 Man Doc # S6N0034
>1000 PPM CR6+
RAILCAR NO. TRUCK NO. 224 ERI:US ECOLOGY [441557310

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent For Michael Mundras Honeywell
Signature: [signature]
Month 11 Day 02 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Raymond S Bear
Signature: Raymond S Bear
Month 11 Day 02 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599597WAS

24. Generator's Name: HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Dec 2/15/16

44288

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599598WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45940	# P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q863233_T#7055462 Man Doc # SWN0035
>1000 PPM CR6+
RAILCAR NO. CHUX 121 TRUCK NO. 244 ERI:US ECOLOGY [4415574]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras as Agent on behalf of Honeywell
Signature:
Month 11 Day 02 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Bill Pearson
Signature:
Month 11 Day 02 Year 15
Transporter 2 Printed/Typed Name: Matt Gar on behalf of Norfolk Southern
Signature:
Month 11 Day 02 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Lori Per
Signature:
Month 12 Day 03 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000599598WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986591437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599598WMS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093215012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45940	K	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0965233_T#7055462 Man Doc # S6N0035
>1000 PPM CR6+
RAILCAR NO. TRUCK NO. 241 ERI:US ECOLOGY [44155574]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 02 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Bill Pearson
Signature:
Month 11 Day 02 Year 15
Transporter 2 Printed/Typed Name
Signature
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986591437

22. Page 2 of 2

23. Manifest Tracking Number: 000599598WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND059484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

Rec 2/15/16 44624

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599599WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650209

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7301 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	GST 44550	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055464 Man Doc # SGN0038
>1000 PPM CR6+
RAILCAR NO. CHUX 140 TRUCK NO. 213 ERI:US ECOLOGY [4415575]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundras Honeywell — Signature: [signature] — Month 11 Day 02 Year 15

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Dinto — Signature: [signature] — Month 11 Day 02 Year 15
Transporter 2 Printed/Typed Name: Matt Ser on behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 02 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ces Per — Signature: [signature] — Month 12 Day 03 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599599WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986591437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599599WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7301 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44580	K	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055464 Man Doc # S6N0036
>1000 PPM CR6+
RAILCAR NO. TRUCK NO. 213 ERI:US ECOLOGY [441557510

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 02 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Lindo
Signature:
Month 11 Day 02 Year 15
Transporter 2 Printed/Typed Name: Signature: Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Signature: Month Day Year

GENERATOR INT'L TRANSPORTER DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599599WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND059484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Rec 2/15/16 44624

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599600WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	ES T 43340	# P	D007
	2					
	3					
	4					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055456 Man Doc #SON0037
>1000 PPM CR6+
RAILCAR NO. CHUX 140 TRUCK NO. 211 ERI:US ECOLOGY [44155761]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As agent on behalf of Michael Mundras Honeywell
Signature:
Month 11 Day 02 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: AARON MOORE on behalf of Norfolk Southern
Signature:
Month 11 Day 02 Year 15
Transporter 2 Printed/Typed Name: Matt Gor
Signature:
Month 11 Day 02 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Carter
Signature:
Month 12 Day 03 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599600WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599600WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST. 43340	K	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.RRG# 171 1.W4_0865233_T#7055466 Man Doc #SGN0037
>1000 PPM CR6+

RAILCAR NO. TRUCK NO. 211 ERI:US ECOLOGY [441557610

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 02 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Aaron McKee
Signature:
Month 11 Day 02 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name Signature Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986591437	22. Page 2 of 2	23. Manifest Tracking Number 000599600WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4558

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

MC 2/15/16
44172

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599601WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 39040	P	D007		
	2.				EP 12-1-15			
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055468 Man Doc # SGN0038
>1000 PPM CR6+

RAILCAR NO. CHUX 190 TRUCK NO. 219 ERI:US ECOLOGY [4415577]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 02 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: David Clappison on Behalf of Horwith
Signature:
Month 11 Day 02 Year 15

Transporter 2 Printed/Typed Name: Matt Sr Norfolk Southern
Signature:
Month 11 Day 02 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature:
Month 12 Day 01 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000599601WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
80 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058434114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599601WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

Generator's Phone:

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
(317)243-0811
U.S. EPA ID Number: IND093219012

Facility's Phone:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 39040	K	D007		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1.ERGN 171 1.W4_0865233_T#7055468 Man Doc # S6N0038
>1000 PPM CR6+

RAILCAR NO. _____ TRUCK NO. 219 ERI:US ECOLOGY [441557710

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundros Honeywell
Signature:
Month 11 Day 04 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Darrell Clapson
Signature:
Month 11 Day 02 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599601WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4659

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Rec 2/15/16 44624

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599602WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4558
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	33 T 42100	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055470 Man Doc. # SWN0039
>1000 PPM CR6+

RAILCAR NO. CHUX 140 TRUCK NO. 217 ERI:US ECOLOGY [4415578]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundrea Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 02 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Stan Sachewski — Signature: [signature] — Month 11 Day 02 Year 15
Transporter 2 Printed/Typed Name: Matt Ger on behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 02 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [signature] — Signature: [signature] — Month 12 Day 03 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000599602WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4808

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599602WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND083219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	23T 42100	K	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055470 Man Doc # 56N0039
>1000 PPM CR6+
RAILCAR NO. _____ TRUCK NO. 217 ERI:US ECOLOGY [4415578]9

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundrus As agent on behalf of Honeywell
Signature: [signature]
Month 11 Day 02 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Stan Sochewski
Signature: [signature]
Month 11 Day 02 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Page 2

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599602WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058494114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Rec 2/5/16

44288

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437

2. Page 1 of 2

3. Emergency Response Phone: (800)510-8510

4. Manifest Tracking Number: 000599603WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4808
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650809

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-8301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	GT 3024D	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055472 Man Doc # SWN0040 AG-08585PA
>1000 PPM CR6+
RAILCAR NO. CHUX 121 TRUCK NO. 212 ERI:US ECOLOGY [4415579]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on Behalf of Honeywell
Signature:
Month 11 Day 02 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: DAVID A. GRUVER
Signature:
Month 11 Day 02 Year 15

Transporter 2 Printed/Typed Name: Matt Sar on Behalf of Norfolk Southern
Signature:
Month 11 Day 02 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Lee Pan
Signature:
Month 12 Day 03 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000599603WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581497
2. Page 1 of: 2
3. Emergency Response Phone: (800)310-8510
4. Manifest Tracking Number: 000599603WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 36240	K	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.N4_0965233_I#7055472 Man Doc # SONOOHD AG-08585 PA.
>1000 PPM CR6+
RAILCAR NO. _____ TRUCK NO. 212 ERI:US ECOLOGY [4415579]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on Behalf of Honeywell
Signature:
Month 11 Day 02 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: DAVID A. GRUVER
Signature:
Month 11 Day 02 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name Signature Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599603WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 2/15/16

44164

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581487
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599604WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD145714879

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 40450	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055474 Man Doc # SGN0041 #210
>1000 PPM CR6+ AG 08583 PA
RAILCAR NO. CHUX 195 TRUCK NO. 210 ERI:US ECOLOGY [4415580]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras — As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 02 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: William Wisser — Signature: William Wisser — Month 11 Day 02 Year 15
Transporter 2 Printed/Typed Name: Matt Cser — on Behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 02 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [signature] — Signature: [signature] — Month 12 Day 02 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599604WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4808

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006321340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599604WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

Generator's Phone:

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 40420	K	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055474 Man Doc # SGN0041
>1000 PPM CR6+
AG 68583 PA
RAILCAR NO. _____ TRUCK NO. 210 ERI:US ECOLOGY [441558010

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundrus As Agent on behalf of Honeywell
Signature: [signature]
Month 11 Day 02 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: William Wisser
Signature: William Wisser
Month 11 Day 02 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month Day Year

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986591437

22. Page 2 of 2

23. Manifest Tracking Number: 000599604WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND059404114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Rec 2/15/16

43580

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD988581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599605WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4808
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
(317)243-0811
Facility's Phone:
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41920	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055476 Man Doc # S6N0120
>1000 PPM CR6+

RAILCAR NO. CHUX 157 TRUCK NO. 245 ERI:US ECOLOGY [4415581]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month Day Year: 11 09 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Heyer
Signature:
Month Day Year: 11 09 15

Transporter 2 Printed/Typed Name: on Behalf of Norfolk Southern
Signature:
Month Day Year: 11 09 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month Day Year: 11 30 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599605WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
80 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599605WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4650
(908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
OEN: 89415

Generator's Phone:

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714870

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41920	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERGH 171 1.W4_0865233_IN7055476 Man Doc # S6N0120
>1000 PPM CR6+
RAILCAR NO. _____ TRUCK NO. 245 ERI:US ECOLOGY [441558]1G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 09 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Hayes
Signature:
Month 11 Day 09 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name Signature Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599605WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Rec 2/15/16

437360

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599606WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42680	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0955233_T#7055478 Man Doc # S6N0121
>1000 PPM CR6+
RAILCAR NO. CHUX 210 TRUCK NO. 246 ERI:US ECOLOGY [44155321G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 09 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Christian L. Smith
Signature:
Month 11 Day 09 Year 15
Transporter 2 Printed/Typed Name: Mullger on Behalf of Norfolk Southern
Signature:
Month 11 Day 09 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature:
Month 11 Day 30 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599606WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4953

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4906

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599606WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	~~ES~~ 42680	~~W~~ P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.N4_Q865233_I#7055479 Man Doc # S6N0121
>1000 PPM CR6+
RAILCAR NO. _____ TRUCK NO. 246 ERI:US ECOLOGY [441558216

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundras Honeywell
Signature: [signature]
Month 11 Day 09 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Christian L. Smith
Signature: [signature]
Month 11 Day 09 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599606WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4558

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY,, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Rec 2/15/16

43736

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986531437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-4510
4. Manifest Tracking Number: 000599607WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone.

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 99415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714378

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-8301
Facility's Phone (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 39860	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q365233_T#7055480 Man Doc # S6N0122
>1000 PPM CR6+

RAILCAR NO. CHUX 210 TRUCK NO. 240 ERI:US ECOLOGY [4415583]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras — As Agent on behalf of Honeywell
Signature:
Month 11 Day 09 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Charles Barger
Signature:
Month 11 Day 09 Year 15

Transporter 2 Printed/Typed Name: Matt Sw — on behalf of Norfolk Southern
Signature:
Month 11 Day 09 Year 15

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Isaac Miller
Signature:
Month 11 Day 30 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21 Generator ID Number: NJD986581437

22 Page 2 of 2

23. Manifest Tracking Number: 000599607WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4206

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND[illegible]4114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No	28. Containers Type	29 Total Quantity	30 Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e. codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJ0985501437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599607WAS

GENERATOR

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4858
(908)455-4292
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 99415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD066050309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),D007	1	DT	EST 39860	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W1_0863232_TR7055480 Man Doc # SGN0122
>1000 PPM CR6+
RAILCAR NO. _____ TRUCK NO. 240 ERIWS ECOLOGY [441558]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Munoz — As Agent on behalf of Honeywell
Signature:
Month 11 Day 09 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: _____
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Carlos Borges
Signature:
Month 11 Day 09 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD985581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599607MAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND059481114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Dec 2/15/16

43832

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986531437

2. Page 1 of 2

3. Emergency Response Phone: (800)510-8510

4. Manifest Tracking Number: 000599608WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650509

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt/Vol	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 39540	P	D007
	2.					
	3					
	4					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q365233_I#7055482 Man Doc# S6N0123
>1000 PPM CR6+
RAILCAR NO. CHUX 319 TRUCK NO. 244 ERI:US ECOLOGY [4415584]G

15 **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 10 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Bill Pearson
Signature:
Month 11 Day 10 Year 15

Transporter 2 Printed/Typed Name: Matt Sur ON Behalf of Norfolk Southern
Signature:
Month 11 Day 10 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 12 Day 03 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599608WAE

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4308

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058434114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986591437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599608WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4558
(908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEF: 89415

Generator's Phone:

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD142214879

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
(317)243-0811
U.S. EPA ID Number: IND093219012

Facility's Phone:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 39540	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_TR7055482 Man Doc # S6N0123
1000 PPM CR6+
RAILCAR NO. _____ TRUCK NO. 244 ERI:HS ECOLOGY [4415581]9

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundins As Agent on behalf of Honeywell
Signature: [signature]
Month 11 Day 10 Year 15

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: _____
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Eric Parker
Signature: [signature]
Month 11 Day 10 Year 15

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599608WAS

24. Generator's Name
HONEYWELL / DIRO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4858

HONEYWELL / DIRO CICCONE
60 MELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND059481114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Dec 2/15/16 44172

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD088581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599609WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 39415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND098219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10 Containers No.	10 Containers Type	11. Total Quantity	12 Unit Wt./Vol.	13 Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 46520	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055484 Man Doc #SGN0124
>1000 PPM CR6+
RAILCAR NO. CHUX 224 TRUCK NO. 217 ERI:US ECOLOGY [4415585]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundras Honeywell
Signature:
Month 11 Day 10 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Stan Sochanski
Signature:
Month 11 Day 10 Year 15
Transporter 2 Printed/Typed Name: On Behalf of Norfolk Southern Matt Ser
Signature:
Month 11 Day 10 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ceas Van
Signature:
Month 12 Day 02 Year 15

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page: of 2

23. Manifest Tracking Number: 000589609WA5

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
80 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006911340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31 Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599607WAS

5. Generator's Name and Mailing Address
HONEYWELL / BINO CHEMICAL
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4559
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / BINO CHEMICAL
80 KELLOGG ST
JERSEY CITY, NJ 07305-4605
GEN: 20415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714876

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219017

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	25-7 46520	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.EPGF 171 1.W4_0865233_TW7055494 Man Doc # SGN 0124
>1000 PPM CR6+
RAILCAR NO. _____ TRUCK NO. 217 EPI:US ECOLOGY [441559510

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Honeywell Michael Mandras
Signature:
Month 11 Day 10 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Jim Sachwari
Signature:
Month 11 Day 10 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000589609025

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4659

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD005921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058481114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Rec 2/15/16 44172

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986591437	2	(800)510-8510	00059961OWAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-8301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 40180	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055486 Man Doc#S6N0125
>1000 PPM CR6+
RAILCAR NO. CHUX 224 TRUCK NO. 248 ERI:US ECOLOGY [4415586]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 10 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin Gilbert — Signature: [signature] — Month 11 Day 10 Year 15
Transporter 2 Printed/Typed Name: Matt Gr on Behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 10 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ces Par — Signature: [signature] — Month 12 Day 02 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599610WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4558

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058434114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: N3D995581437

2. Page 1 of: 2

3. Emergency Response Phone: (800)510-9510

4. Manifest Tracking Number: 000599610WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4539
(908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

Generator's Phone:

6. Transporter 1 Company Name: NORNITH TRUCKS INC
U.S. EPA ID Number: PAD147714928

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219017

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),D007.	1	DT	EST 40180	@ P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.EPG# 171 1.W4_0865233_IH7055486 Man Doc # S6N0125
>1000 PPM CR6+

RAILCAR NO. _____ TRUCK NO. 248 EPLUS ECOLOGY [44155861]

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandros — Assistant Environmental Honeywell
Signature: [signature]
Month: 11 Day: 10 Year: 15

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: _____
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin Gilbert
Signature: [signature]
Month: 11 Day: 10 Year: 15

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month: Day: Year:

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986781437

22. Page 2 of 2

23. Manifest Tracking Number: 000595610MAS

24. Generator's Name: HONEYWELL / DINO CICCONE, 101 COLUMBIA RD, MORRISTOWN, NJ 07960-4558

HONEYWELL / DINO CICCONE, 60 KELLOGG ST, JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND059484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Re 2/15/14

43992

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 1
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599611WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CIOCONE
101 COLUMBIA RI
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CIOCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650209

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43320	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055498 Man Doc #56W0126
>1000 PPM CR6+
RAILCAR NO. CHUX 164 TRUCK NO. 247 ERI:US ECOLOGY [4415587]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundras Honeywell
Signature:
Month 11 Day 10 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Herbert J. Hogue
Signature:
Month 11 Day 10 Year 15
Transporter 2 Printed/Typed Name: Mattson on Behalf of Norfolk Southern
Signature:
Month 11 Day 10 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ceri Parr
Signature:
Month 11 Day 30 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599511WAE

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND059494114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599611WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-3658
(908)459-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4605
GER: 89415

6. Transporter 1 Company Name: MORVITE TRUCKS INC
U.S. EPA ID Number: PAD148714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650302

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43220	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.N4_0865233_TN7055488 Man Doc # 56N0126
>1000 PPM CBS+
RAILCAR NO. _____ TRUCK NO. 247 EPI:US ECOLOGY [4415597]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 11 Day 10 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: _____
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Gerard J. Lacey
Signature: [signature]
Month 11 Day 10 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599611WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 2/15/16

44008

Please print or type (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986511437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599612WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714879

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1 RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42370	P	D007
	2					
	3					
	4					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055490 Man Doc # S6N0127
>1000 PPM CR6+
RAILCAR NO. CHUX 142 TRUCK NO. 245 ERI:US ECOLOGY [4415588]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262 27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 10 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Heyer
Signature:
Month 11 Day 10 Year 15
Transporter 2 Printed/Typed Name: Matlsr on behalf of Norfolk Southern
Signature:
Month 11 Day 10 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 11 Day 30 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000539512WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599612WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4656
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 99415

6. Transporter 1 Company Name: MORNITH TRUCKS INC
U.S. EPA ID Number: PAD145714879

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650209

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46221-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093215012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	654 42380	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055490 Man Doc # 56N0187
>1000 PPM CN2+
RAILCAR NO. _____ TRUCK NO. 245 ERI:US ECOLOGY (4415588)G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent or behalf of Honeywell
Signature: [signature]
Month 11 Day 10 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: _____
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Meyer
Signature: [signature]
Month 11 Day 10 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599612WAS

24. Generator's Name: HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4653

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921360

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND059484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

Rec 2/15/16

44172

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-9510
4. Manifest Tracking Number: 000599613WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	65 T 40080	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055492 Man Doc # S6N0128
>1000 PPM CR6+

RAILCAR NO. CHUX 224 TRUCK NO. 246 ERI:US ECOLOGY [4415589]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundras Honeywell
Signature:
Month 11 Day 10 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Christian L. Smith on behalf of Norfolk Southern
Signature:
Month 11 Day 10 Year 15
Transporter 2 Printed/Typed Name: Matthew
Signature:
Month 11 Day 10 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 12 Day 02 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986591437

22. Page 2 of 2

23. Manifest Tracking Number: 000599613WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND059494114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986591437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599613WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-3558
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GRID: 88415

6. Transporter 1 Company Name: MORRITT TRUCKS INC
U.S. EPA ID Number: PAD146714879

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 4080	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.RPQ# 171 1.W4_0865233_IN7055492 Man Doc # SONU128
1000 PPM CR6+
RAILCAR NO. _____ TRUCK NO. 246 ERI:US ECOLOGY [4415589]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mandras Honeywell
Signature: [signature]
Month 11 Day 10 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: _____
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Christian L. Smith
Signature: [signature]
Month 11 Day 10 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599613WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006071340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 2 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Rec 2/15/16

43992

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986581437	2	(800)510-8510	000599614WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43120	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055494 Man Doc # S6N0129
>1000 PPM CR6+
RAILCAR NO. CHOX 164 TRUCK NO. 242 ERI:US ECOLOGY [44155901G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Murdras As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 10 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Sal Gaggiano — Signature: [signature] — Month 11 Day 10 Year 15
Transporter 2 Printed/Typed Name: Matt Gar on Behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 10 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ceri Carr — Signature: [signature] — Month 11 Day 30 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: HJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599614NAS

24. Generator's Name: HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4552

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY'S COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599614WAS

GENERATOR

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714879

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650809

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43120	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0965233_TM7055494 Man Doc # S6N0129
>1000 PPM CR6+
RAILCAR NO. TRUCK NO. 242 ERI:US ECOLOGY [4415590]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 11 Day 10 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Greg Cigno
Signature: [signature]
Month 11 Day 10 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599614WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4659

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

Rec 2/15/16

43992

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986591437

2. Page 1 of: 2

3. Emergency Response Phone: (800)510-8510

4. Manifest Tracking Number: 000599615WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41920	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0885233_T#7055496 Man Doc# SGN 0130
>1000 PPM CR6+
RAILCAR NO. CHUX 164 TRUCK NO. 210 ERI:US ECOLOGY [4415591]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Munroe As Agent on behalf of Honeywell
Signature: [signature]
Month Day Year: 11 10 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: William Wisser
Signature: William Wisser
Month Day Year: 11 10 15
Transporter 2 Printed/Typed Name: Matt Sr on behalf of Norfolk Southern
Signature: [signature]
Month Day Year: 11 10 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Les Par
Signature: [signature]
Month Day Year: 11 30 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000589615WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND053484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986591437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599615WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000659309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7301 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0911
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41920	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERGW 171 1.W4_0865233_T#7055496 Man Doc # S6N0130
>1000 PPM CR6+
RAILCAR NO. _____ TRUCK NO. 210 ERI:US ECOLOGY [4415591]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Munoz As Agent on behalf of Honeywell
Signature: [signature]
Month 11 Day 10 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: William Wisser
Signature: William Wisser
Month 11 Day 10 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name Signature Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. **GENERATOR'S INITIAL COPY**

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD996581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599615WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Rec 2/15/16

44172

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599616WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 47380	M # P	D007		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#~~7055438~~ 8532364 Man Doc # S6N 0131
>1000 PPM CR6+
RAILCAR NO. CHUX 224 TRUCK NO. 244 ERI:US ECOLOGY [44155921G

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 11 Day 10 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Eric Pearson
Signature: [signature]
Month 11 Day 10 Year 15

Transporter 2 Printed/Typed Name: Matthew on Behalf of Norfolk Southern
Signature: [signature]
Month 11 Day 10 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature: [signature]
Month 12 Day 02 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599616WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

HERITAGE ENVIRONMENTAL SERVICES

REC'D DEC - 9 2015

Stop Ticket

Stop#: **2042046-9000**

Trip#: 1647859

Site#: 89415

EPA ID#: NJD986581437
PO#: PENDING

Pick-up: 12/02/15 - 12/02/15

Miles: 1500

Internal Contact
KIRSTEN SHIELDS (317)381-6841

Mailing Address

JOHN MOJKA
HONEYWELL
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
UNITED STATES

Site Address (GEN)

HONEYWELL
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
UNITED STATES

Phone# (973)455-4252
SHIELDS, KIRSTEN - (317)381-6841

HERITAGE TRANSPORT, LLC (8000) (317)486-2973
IND058484114 US DOT#: 314460

Emergency Rate_____ Pickup Demurrage_____ Final Delivery Demurrage_____

Tractor#_____ Trailer#_____

Odometer: Start_____ End_____

Liner Qty_____ Pump/Hose_____ RO# TO HT_____ RO# TO HT_____

PICKUP TIME: 08:00 RO# TO GEN_____ RO# TO GEN_____

1) DELAYED AT A PRIOR STOP
2) RESCHEDULED (CUSTOMER OR HERITAGE)
3) CUSTOMER NOT AVAILABLE AT SCHEDULED TIME
4) TRUCK / EQUIPMENT BREAKDOWN OR UNAVAILABLE
5) PAPERWORK OR INCOMPATIBILITY ISSUE
6) TRAFFIC / WEATHER / CONSTRUCTION / DIRECTIONS
7) FULL TRUCK (REQUIRES RESCHEDULE)
8) DOT HOS / DRIVER ILLNESS
9) CUSTOMER ACCEPTED EARLY (SIGNATURE REQUIRED)

Driver#_____ Driver Name_____ Date_____

HERITAGE ENVIRONMENTAL SERVICES (9000) IND093219012
7901 W MORRIS ST, INDIANAPOLIS, IN 46231-3301 UNITED STATES (317)243-0811

P/U Items	Common Name	See Manifest	Transaction	Prod	Ref#	Ord	Type
1	SA6 CHROMIUM SOIL AND DEBRIS > 1000 PPM	000599616WAS	8532364	99	Y4N	1	DT

GET CLARIFICATION FROM SUPERVISION

Site Rep
Name_____ Signature_____ Date_____

154805: US ECOLOGY
Company\Loc: 48\45

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599616WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 47380	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#~~7055450~~ 8532364 Man Doc # SGN 0131
>1000 PPM CR6+
RAILCAR NO. CHUX 704 TRUCK NO. 244 ERI:US ECOLOGY [4415592]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 11 Day 10 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Eric Peterson
Signature: [signature]
Month 11 Day 10 Year 15

Transporter 2 Printed/Typed Name: J Mathes on Behalf of Norfolk Southern
Signature: [signature]
Month 11 Day 10 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature: [signature]
Month 12 Day 02 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599616WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION, INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986591437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000579616WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41780	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_I#7055498 Man Doc # SON0131
>1000 PPM CR6+
RAILCAR NO. _____ TRUCK NO. 244 ERI:US ECOLOGY (441559210

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundras Honeywell
Signature: [signature]
Month 11 Day 10 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Eric Peterson
Signature: [signature]
Month 11 Day 10 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599616WAS

24. Generator's Name: HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4906

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: ELD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Rec 2/15/16

43992

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599617WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45800	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055500 Man Doc# S6N0132
>1000 PPM CR6+

RAILCAR NO. CHUX 164 TRUCK NO. 217 ERI:US ECOLOGY [4415593]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundrns As Agent on behalf of Honeywell
Signature:
Month 11 Day 10 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Stan Sochanski
Signature:
Month 11 Day 10 Year 15
Transporter 2 Printed/Typed Name: Matthew on behalf of Norfolk Southern
Signature:
Month 11 Day 10 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ceri Parr
Signature:
Month 11 Day 30 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599617WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 00059961 7WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4858
(908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

Generator's Phone:

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7301 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
(317)243-0811
U.S. EPA ID Number: IND093219012

Facility's Phone:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45800	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERGH 171 1.W4_0865233_T#7055500 Man Doc # S6N0132
>1000 PPM CR6+
RAILCAR NO. _____ TRUCK NO. 217 ERI:US ECOLOGY [4415592]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell
Signature: [signature]
Month 11 Day 10 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Chris Lowe
Signature: [signature]
Month 11 Day 10 Year 15
Transporter 2 Printed/Typed Name: Signature: Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name Signature Month Day Year

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599617WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD005921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Rec 2/15/14

43644

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 00059961 8WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093218012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	GST 46080	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0885233_T#~~7055502~~ 8553142 Man Doc #S6N0133
>1000 PPM CR6+
RAILCAR NO. CHUX 298 TRUCK NO. 210 ERI:US ECOLOGY [4415594]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 11 Day 10 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: William Wisser
Signature: William Wisser
Month 11 Day 10 Year 15
Transporter 2 Printed/Typed Name: Matt Gar on behalf of Norfolk Southern
Signature: [signature]
Month 11 Day 10 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sarah Miller
Signature: [signature]
Month 12 Day 11 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000589618WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058434114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599618WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4850
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	654 46080	M P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055502 Man Doc #SGN0133
>1000 PPM CR6+
RAILCAR NO. _____ TRUCK NO. 210 ERI:US ECOLOGY [4415594]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundros Honeywell
Signature: [signature]
Month 11 Day 10 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: William Wisser
Signature: William Wisser
Month 11 Day 10 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000599618WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
80 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058494114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Rec 2/15/16

44172

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599619WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	65T 43960	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_I#7055504 Man Doc #86N0134
>1000 PPM CR6+
RAILCAR NO. CHUX 224 TRUCK NO. 248 ERI:US ECOLOGY [44155951]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 10 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Karin Gilbert
Signature:
Month 11 Day 10 Year 15
Transporter 2 Printed/Typed Name: Matt Sc on behalf of Norfolk Southern
Signature:
Month 11 Day 10 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 12 Day 02 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599619WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
SO KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000579619WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4659
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43960	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0985233_I#7055504 Man Doc #S6N0134
>1000 PPM CRS+
RAILCAR NO. TRUCK NO. 248 ERI:US ECOLOGY [4415595]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Honeywell Michael Mundras
Signature:
Month 11 Day 10 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin Gilbert
Signature:
Month 11 Day 10 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599619WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Rec 2/15/16

43644

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986561437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599620WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 39860	P (3)	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T~~[illegible]~~ 8553140 Man Doc # S6N0135
>1000 PPM CR6+
RAILCAR NO. CHUX 298 TRUCK NO. 245 ERI:US ECOLOGY [441559610

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in in respect in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 10 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Heyer
Signature:
Month 11 Day 10 Year 15

Transporter 2 Printed/Typed Name: Matt Gr On Behalf of Norfolk Southern
Signature:
Month 11 Day 10 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 12 Day 11 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599620WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4906

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND053484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599620WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 39860	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_I#7055506 Man Doc # 56N035
>1000 PPM CR6+
RAILCAR NO. _____ TRUCK NO. 245 ERI:US ECOLOGY [4415596]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras — Asst Manager Remediation Honeywell
Signature: [signature]
Month 11 Day 10 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Meyer
Signature: [signature]
Month 11 Day 10 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599620WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4659

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4905

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Rec 2/15/16

43980

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986584437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599621WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000550309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45360	P	D007
	2					
	3					
	4					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055508 manDoc #56N0069
>1000 PPM CR6+
RAILCAR NO. CHUX 258 TRUCK NO. 211 ERI:US ECOLOGY [4415597]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Michael Mundrus As Agent on behalf of Honeywell
Signature:
Month 11 Day 04 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Aaron Mecke
Signature:
Month 11 Day 04 Year 15
Transporter 2 Printed/Typed Name: Matthew on Behalf of Norfolk Southern
Signature:
Month 11 Day 04 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Jason Mill
Signature:
Month 11 Day 19 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599621WAS

24. Generator's Name

HONEYWELL / DINO CICCONE,
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4558

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

DESIGNATED FACILITY

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

43932

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-3510
4. Manifest Tracking Number: 000599623WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4291
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4308
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10 Containers No	10 Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 46200	P	D007
	2.					
	3					
	4					

14. Special Handling Instructions and Additional Information
1.EPG# 171 1.W4_0865233_T#7055512 Man Doc #0068
>1000 PPM CR6+

RAILCAR NO. CHUX 297 TRUCK NO. 244 ERI:US ECOLOGY [4415600]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras — As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 04 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Bill Pearson — Signature: [signature] — Month 11 Day 04 Year 15
Transporter 2 Printed/Typed Name: Matt Gar — on Behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 04 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller — Signature: [signature] — Month 11 Day 29 Year 15

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599623WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921940

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Dec 2/15/16

43380

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581487
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599624WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650809

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0911
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group (if any))	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42320	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055514 Man Doc # 56N0067
>1000 PPM CR6+
RAILCAR NO. CHUX 296 TRUCK NO. 218 ERI:US ECOLOGY [4415601]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 04 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Arlington Meekes
Signature:
Month 11 Day 04 Year 15
Transporter 2 Printed/Typed Name: Matt Sar on behalf of Norfolk Southern
Signature:
Month 11 Day 04 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 11 Day 16 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986591437		000599624WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4858

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

DESIGNATED FACILITY

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Dec 2/15/16 43380

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8511
4. Manifest Tracking Number: 000599625WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt/Vol	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	657 43420	P ~~K~~	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q365233_T#7055516 Man Doc #S6N0070 AG-08585 PA
>1000 PPM CRS
RAILCAR NO. CHUX 296 TRUCK NO. 212 ERI:US ECOLOGY [4415602]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 04 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: DAVID A. GRUVER
Signature:
Month 11 Day 04 Year 15
Transporter 2 Printed/Typed Name: Matt Gar on behalf of Norfolk Southern
Signature:
Month 11 Day 04 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e. codes for hazardous waste treatment, disposal and recycling systems)
1. H141 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 11 Day 16 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000599625WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4659

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND059484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

DESIGNATED FACILITY

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43932

Please print or type (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986581437	2	(800)510-8510	000599626WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD145714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-1301
Facility's Phone: (317)243-0811

U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No	10. Containers Type	11. Total Quantity	12. Unit Wt/Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	CST 42140	~~K~~ P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055513 Man Doc # S6N0071
>1000 PPM CR6+

RAILCAR NO. CNUX 297 TRUCK NO. 222 ERI:US ECOLOGY [4415603]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras — As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 04 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Carla Todd — Signature: [signature] — Month 11 Day 4 Year 15

Transporter 2 Printed/Typed Name: Matker — on behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 04 Year 15

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19 Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H11			

20 Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Sarah Miller — Signature: [signature] — Month 11 Day 29 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986591457

22. Page 2 of 2

23. Manifest Tracking Number: 000599625WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4551

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND059484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e. codes for hazardous waste treatment, disposal and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43932

Please print or type (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJI986531497

2. Page 1 of: 1

3. Emergency Response Phone: (800)510-8510

4. Manifest Tracking Number: 000599627WAS

5. Generator's Name and Mailing Address:
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252

Generator's Phone:

Generator's Site Address (if different than mailing address):
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 93415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address:
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
(317)243-0811

Facility's Phone:

U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol	13. Waste Codes
X	1 RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43020	~~K~~ P	D007
	2.					
	3					
	4					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055520 Man Doc#56N0072
>1000 PPM CR6+

RAILCAR NO. CHUX 297 TRUCK NO. 217 ERI:US ECOLOGY [44156041G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 04 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Stan Sochanski on Behalf of Norfolk Southern
Signature:
Month 11 Day 04 Year 15

Transporter 2 Printed/Typed Name:
Signature:
Month 11 Day 04 Year 15

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1	2.	3.	4
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Lisa Miller
Signature:
Month 11 Day 29 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581487

22. Page 2 of 2

23. Manifest Tracking Number: 000599627WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4659

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND[illegible]4114

27a HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Dec 2/15/16

43380

Please print or type (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 1
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 00059962 8WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43580	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ENG# 171 1.W4_Q365233_T#7055522
1000 PPM CR6+
Man Doc # S6N0073

RAILCAR NO. CHUX 296 TRUCK NO. 213 ERI:US ECOLOGY [4415605]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 04 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe DiPD — Signature: [signature] — Month 11 Day 04 Year 15
Transporter 2 Printed/Typed Name: Matlsr on behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 04 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H:10 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [signature] — Signature: [signature] — Month 11 Day 16 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD995581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599628KAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4653

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4808

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND059429114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR

TRANSPORTER

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

44776

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599629WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 40,880	K P	D007		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055524 Man Doc# S6ND074
>1000 PPM CR6+

RAILCAR NO. CHUX 185 TRUCK NO. 224 ERI:US ECOLOGY [4415606]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alan Iglesias As Agent on behalf of Honeywell
Signature: [signature]
Month 11 Day 5 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Raymond S Bear
Signature: Raymond S Bear
Month 11 Day 5 Year 15

Transporter 2 Printed/Typed Name: Mathew on behalf of Norfolk Southern
Signature: [signature]
Month 11 Day 05 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Carter
Signature: [signature]
Month 12 Day 03 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599629WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND053434114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43932

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437

2. Page 1 of 2

3. Emergency Response Phone: (800)510-8510

4. Manifest Tracking Number: 000599630WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 69415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650209

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43020	X P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055525 Man Doc # S6N0075
>1000 PPM CR6+

RAILCAR NO. CHUX 297 TRUCK NO. 218 ERI:US ECOLOGY [4415607]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Alain Iglesias As Agent on behalf of Honeywell
Signature
Month 11 Day 5 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit.
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Arthur Meckes
Signature
Month 11 Day 5 Year 15
Transporter 2 Printed/Typed Name: Mattler on behalf Norfolk Southern
Signature
Month 11 Day 05 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest ~~except as noted in Item 18a~~
Printed/Typed Name: Isaac Miller
Signature
Month 11 Day 29 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986591437

22. Page 2 of 2

23. Manifest Tracking Number: 000599630WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4808

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921240

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

2/15/16 43932

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599631WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219011

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group (if any))	10. Containers No	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA9077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),D007)	1	DT	EST 43560	N P	D007
	2					
	3.					
	4					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055528 Man Doc # S6N0076
>1000 PPM CR6+

RAILCAR NO. CHUX 297 TRUCK NO. 244 ERI:US ECOLOGY [4415E08]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Alan Iglesias As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 5 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: BILL PEARSON — Signature: [signature] — Month 11 Day 5 Year 15
Transporter 2 Printed/Typed Name: Matt Sur on behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 05 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e. codes for hazardous waste treatment, disposal, and recycling systems)
1. H111 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller — Signature: [signature] — Month 11 Day 29 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599631WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4808

25 Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921[illegible]

26 Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND[illegible]434114

27a. HM	27b U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28 Containers No	28 Containers Type	29 Total Quantity	30. Unit Wt./Vol.	31 Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

rec 2/15/16

44548

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581487
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-3510
4. Manifest Tracking Number: 000599632WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	65T 42060	P	D007
	2.					
	3.					
	4.					

GENERATOR

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q265233_I#7055530
-1000 PPM CR6+
Man Doc# 56N0077
RAILCAR NO. CHOX 191 TRUCK NO. 213 ERI:US ECOLOGY [4415609]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alain Iglesias As Agent on behalf of Honeywell
Signature:
Month 11 Day 5 Year 15

INT'L

16. International Shipments: ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Dinokowitz
Signature:
Month 11 Day 5 Year 15
Transporter 2 Printed/Typed Name: Matt Gr on behalf of Norfolk Southern
Signature:
Month 11 Day 05 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Jason Miller
Signature:
Month 12 Day 02 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599632WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4453

HONEYWELL / DINO CICCONE
90 KELLOGG ST
JERSEY CITY, NJ 07305-4306

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD008921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND053434114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Dec 2/15/16

44776

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599633WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit WT/Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	~~65T~~ 43940	~~X~~ P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055532 man Doc# S6N0078
>1000 PPM CR6+

RAILCAR NO. CHUX 185 TRUCK NO. 211 ERI:US ECOLOGY [4415610]G

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alain Iglesias As Agent on behalf of Honeywell
Signature:
Month 11 Day 5 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Aaron Meckes
Signature:
Month 11 Day 5 Year 15
Transporter 2 Printed/Typed Name: Matthew on behalf of Norfolk Southern
Signature:
Month 11 Day 05 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ceri Parr
Signature:
Month 12 Day 03 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986591437

22. Page 2 of 2

23. Manifest Tracking Number: 000599633WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
SO KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31 Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

44776

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581427
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599634WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42840	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055534 Man Doc # S6N0079
>1000 PPM CR6+

RAILCAR NO. CHUX 185 TRUCK NO. 217 ERI:US ECOLOGY [4415611]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alain Idesigs As Agent on behalf of Honeywell
Signature:
Month 11 Day 5 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Stan Sochewski
Signature:
Month 11 Day 5 Year 15
Transporter 2 Printed/Typed Name: Matthew on behalf of Norfolk Southern
Signature:
Month 11 Day 05 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ken Fair
Signature:
Month 12 Day 03 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000599634WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

due 2/15/16

44776

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599635WAS

5. Generator's Name and Mailing Address:
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252

Generator's Site Address (if different than mailing address):
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

Generator's Phone:

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address:
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811

U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42980	~~K~~ P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_I#7055536
>1000 PPM CR6+

man Doc # 56N0080 AG-0858 PA.

RAILCAR NO. CHUX 185 TRUCK NO. 212 ERI:US ECOLOGY [4415612]G

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alain Iglesias As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 5 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: DAVID A. GRUVER — Signature: [signature] — Month 11 Day 5 Year 15

Transporter 2 Printed/Typed Name: Matt Gr on behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 05 Year 15

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Carl Parr — Signature: [signature] — Month 12 Day 04 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986591437

22. Page 2 of 2

23. Manifest Tracking Number: 000599635WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058494114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Dec 2/15/16
44776

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599636WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 47560	~~K~~ P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055538
>1000 PPM CR6+
Man Doc # S6N0081

RAILCAR NO. CHUX 185 TRUCK NO. 210 ERI:US ECOLOGY [4415613]G

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alain Iglesias As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 5 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: William Wisser — Signature: William Wisser — Month 11 Day 5 Year 15
Transporter 2 Printed/Typed Name: Matthew on behalf Norfolk Southern — Signature: [signature] — Month 11 Day 05 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Len Pan — Signature: [signature] — Month 12 Day 03 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599636WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-1658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006321340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

44548

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986531437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599637WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND099219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43920	X P	D007
	2.					
	3.					
	4					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055540
>1000 PPM CR6+
Man Doc # S6N0082
RAILCAR NO. CHLX 191 TRUCK NO. 224 ERI:US ECOLOGY [4415614]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alain Iglesias As Agent on behalf of Honeywell
Signature:
Month 11 Day 5 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: RAYMOND S BEAR
Signature: Raymond S. Bear
Month 11 Day 5 Year 15

Transporter 2 Printed/Typed Name: on behalf of Norfolk Southern
Signature:
Month 11 Day 5 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e. codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature:
Month 12 Day 02 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD981581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599637WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
80 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD005921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND053494114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e. codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

dec 2/15/16

4454B

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599638WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE ,
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1 RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43900	X P	D007
	2.					
	3					
	4					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055542 Man Doc # 36N0083
>1000 PPM CR6+
RAILCAR NO. CHUX 191 TRUCK NO. 218 ERI:US ECOLOGY [4415615]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alain Iglesias As Agent on behalf of Honeywell
Signature:
Month 11 Day 5 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Arlington Meckes
Signature:
Month 11 Day 5 Year 15
Transporter 2 Printed/Typed Name: Mettler on behalf of Norfolk Southern
Signature:
Month 11 Day 5 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 12 Day 02 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986591407

22. Page 2 of 2

23. Manifest Tracking Number: 000599838WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4659

HONEYWELL / DINO CICCONE
SO KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND052484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Dec 2/15/16

43072

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599639WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-8301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45940	P	D007
	2.					
	3					
	4					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055544 Man Doc # S6N0084
>1000 PPM CR6+

RAILCAR NO. CHUX 207 TRUCK NO. 244 ERI:US ECOLOGY [4415E16]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alan Iglesias As Agent on behalf of Honeywell
Signature:
Month 11 Day 5 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Bill Pearson on Behalf of Norfolk Southern
Signature:
Month 11 Day 5 Year 15
Transporter 2 Printed/Typed Name: Matt Gor
Signature:
Month 11 Day 5 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sandra Miller
Signature:
Month 11 Day 25 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD985581437

22. Page 2 of 2

23. Manifest Tracking Number: 005798529WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4906

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND051434114

27a. HM	27b U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No	28. Containers Type	29 Total Quantity	30 Unit Wt./Vol	31 Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43072

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Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437

2. Page 1 of: 2

3. Emergency Response Phone: (800)510-8510

4. Manifest Tracking Number: 000599640WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650609

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND09 219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42220	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055546 Man Doc# S6N0085
>1000 PPM CR6+
RAILCAR NO. CHUX207 TRUCK NO. 213 ERI:US ECOLOGY [4415617]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alain Iglesias As Agent on behalf of Honeywell
Signature:
Month 11 Day 5 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Dinbokowitz
Signature:
Month 11 Day 5 Year 15

Transporter 2 Printed/Typed Name: Matt Eo on behalf of Norfolk Southern
Signature:
Month 11 Day 5 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sadie Miller
Signature:
Month 11 Day 25 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599640WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4859

HONEYWELL / DINO CICCONE
80 KELLOGG ST
JERSEY CITY, NJ 07305-4906

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006021340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND059484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e. codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43072

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986591437

2. Page 1 of: 2

3. Emergency Response Phone: (800)510-8510

4. Manifest Tracking Number: 000599641WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41320	~~K~~ P	D007		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_I#7055548 Man Doc # S6N0086
>1000 PPM CRE+

RAILCAR NO. CHUX 207 TRUCK NO. 211 ERI:US ECOLOGY [4415618]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alan Iglesias As Agent on behalf of Honeywell
Signature:
Month 11 Day 5 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Andrew Mecko
Signature:
Month 11 Day 5 Year 15
Transporter 2 Printed/Typed Name: Nestler on behalf of Norfolk Southern
Signature:
Month 11 Day 5 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sadie Miller
Signature:
Month 11 Day 25 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986591437

22. Page 2 of 2

23. Manifest Tracking Number: 000[illegible]41WAE

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4858

HONEYWELL / DINO CICCONE
PO KELLOGG ST
JERSEY CITY, NJ 07305-4805

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD066021340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND053494114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e. codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43472

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437

2. Page 1 of: 2

3. Emergency Response Phone: (800)510-8510

4. Manifest Tracking Number: 000599642WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 8941E

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD145714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7301 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41320	P	D007
	2.					
	3					
	4					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055550 man Doc # S6N6087
>1000 PPM CR6+
RAILCAR NO. CHUX 278 TRUCK NO. 217 ERI:US ECOLOGY [4415619]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alain Iglesias As agent on behalf of Honeywell
Signature:
Month 11 Day 5 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Stan Sochanski
Signature:
Month 11 Day 5 Year 15
Transporter 2 Printed/Typed Name: Mather on behalf of Norfolk Southern
Signature:
Month 11 Day 5 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Cem Pan
Signature:
Month 11 Day 24 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599642WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-1[illegible]

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR

TRANSPORTER

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Dec 2/15/16

44548

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD981581487

2. Page 1 of: 2

3. Emergency Response Phone: (800)510-8510

4. Manifest Tracking Number: 000599643WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4653
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714379

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000850309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
Y	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	65T 45380	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055552 Man Doc # S6N0088 AG-08585 PA
>1000 PPM CR6+
RAILCAR NO. CHUX 191 TRUCK NO. 212 ERI:US ECOLOGY [4415620]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alain Iglesias As Agent on behalf of Honeywell
Signature:
Month 11 Day 5 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: DAVID A. GRUVER
Signature:
Month 11 Day 5 Year 15

Transporter 2 Printed/Typed Name: On Behalf of Norfolk Southern
Signature:
Month 11 Day 5 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 12 Day 02 Year 15

GENERATOR — TRANSPORTER — INT'L — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000559643WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLDC06921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND[illegible]4114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/13/16

44548

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Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1 Generator ID Number: NJD986581437

2. Page 1 of: 2

3. Emergency Response Phone: (800)510-8510

4. Manifest Tracking Number: 000599644WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO,CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714876

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8 Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219011

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11 Total Quantity	12 Unit Wt./Vol.	13 Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42500	P	D007
	2					
	3					
	4					

14. Special Handling Instructions and Additional Information
1.ERGH 171 1.W4_Q365233_I#7055554 man Doc # S6N0089
.1000 PPM CRE+

RAILCAR NO. CHUX 191 TRUCK NO. 210 ERI:US ECOLOGY [4415E11]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alain Iglesias As Agent on behalf of Honeywell
Signature: [signature]
Month 11 Day 5 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S Port of entry/exit:
Transporter signature (for exports only) Date leaving U.S.:

17 Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: William Wisser
Signature: William Wisser
Month 11 Day 5 Year 15

Transporter 2 Printed/Typed Name: Matker on behalf of Norfolk Southern
Signature: [signature]
Month 11 Day 5 Year 15

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)

1.	2.	3	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest ~~except as noted in Item 18a~~

Printed/Typed Name: Said Nilin
Signature: [signature]
Month 12 Day 02 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599644WAS

24. Generator's Name

HONEYWELL / DINO'CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4906

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND053484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No	28. Containers Type	29 Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Dc 2/15/16

43072

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986[illegible]1487

2. Page 1 of: 1

3. Emergency Response Phone: (800)510-8510

4. Manifest Tracking Number: 000599645WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4306
GEN: 89415

6. Transporter 1 Company Name: HOFWITH TRUCKS INC
U.S. EPA ID Number: PAD146714873

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650202

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0211
U.S. EPA ID Number: IND09[illegible]12

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM, [illegible])	1	DT	EST 43160	~~X~~ P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055556
>1000 PPM CR6+
Man Doc # S6N0090
RAILCAR NO. CHUX 207 TRUCK NO. 247 EDI:US ECOLOGY [441[illegible]]

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Alain Iglesias Behalf of Honeywell
Signature:
Month 11 Day 5 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Christian L. Smith
Signature:
Month 11 Day 5 Year 15

Transporter 2 Printed/Typed Name: Matt Gr on Behalf of Norfolk Southern
Signature:
Month 11 Day 5 Year 15

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e. codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H1			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Isaiah Miller
Signature:
Month 11 Day 25 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD[illegible]591437

22. Page 2 of 2

23. Manifest Tracking Number: 000599545WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD005921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND059484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Dec 2/15/16 43572

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD982582147
2. Page 1 of: 1
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599646WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4653
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4306
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD167714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND098219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1 RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42050	KG P	D007
	2					
	3					
	4					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_I#7055559
>1000 PPM CR6+
Man Doc# S6N0091
RAILCAR NO. CHUX 260 TRUCK NO. 224 ERI:US ECOLOGY [4415623]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Michael Mundras Behalf of Honeywell
Signature:
Month 11 Day 06 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: RAYMOND S BEAR
Signature:
Month 11 Day 06 Year 15
Transporter 2 Printed/Typed Name: Matt Gr on behalf of Norfolk Southern
Signature:
Month 11 Day 06 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e. codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 11 Day 25 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599546WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058494114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR

TRANSPORTER

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 43572 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986511437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599647WAS

5. Generator's Name and Mailing Address:
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address):
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address:
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43760	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q965233_T#7055560
.1000 PPM CR6+
Man Doc# S6N0092
RAILCAR NO. CHUX 260 TRUCK NO. 218 ERI:US ECOLOGY [4415624]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Minnaras Behalf of Honeywell
Signature:
Month 11 Day 04 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Arlington Mecices
Signature:
Month 11 Day 06 Year 15
Transporter 2 Printed/Typed Name: Matt Gar on Behalf of Norfolk Southern
Signature:
Month 11 Day 06 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Cris Pan
Signature:
Month 11 Day 25 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986591437

22. Page 2 of 2

23. Manifest Tracking Number: 000599547WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IHI 53494114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43572

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986514987	2	(800)510-8510	000599648WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HOPWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650209

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43960	K P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055562
>1000 PPM CR6+
Man Doc# SLN0093

RAILCAR NO. CHUX 260 TRUCK NO. 244 ERI:US ECOLOGY [4415625]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras Behalf of Honeywell — Signature: [signature] — Month 11 Day 06 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Bill Pearson — Signature: [signature] — Month 11 Day 06 Year 15
Transporter 2 Printed/Typed Name: Matter on behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 06 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [signature] — Signature: [signature] — Month 11 Day 25 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986591437

22. Page 2 of 2

23. Manifest Tracking Number: 000599648WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4656

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4306

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e. codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

44152

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1 Generator ID Number: NJD986581437

2 Page 1 of: 2

3. Emergency Response Phone: (800)510-8510

4. Manifest Tracking Number: 000599649WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6 Transporter 1 Company Name: HOPWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7 Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	Type	11 Total Quantity	12. Unit Wt./Vol.	13 Waste Codes
X	1 RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 39320	NP P	D007
	2					
	3					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_QS65233_T#7058564
>1000 PPM CRE+

Man Doc# 56N0094

RAILCAR NO. CHUX 167 TRUCK NO. 223 ERI:US ECOLOGY [4415E2E]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras Behalf of Honeywell
Signature: [signature]
Month 11 Day 06 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: MATT TRACH Behalf of Norfolk Southern
Signature: Matt Trach
Month 11 Day 06 Year 15

Transporter 2 Printed/Typed Name: Matt Carr
Signature: [signature]
Month 11 Day 06 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Cari Pan
Signature: [signature]
Month 11 Day 25 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581497

22. Page 2 of 2

23. Manifest Tracking Number: 000599549WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4906

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921940

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND 58434114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group (if any))	28. Containers No	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43472

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581457
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599650WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4852
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1 RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 39880	X P	D007
	2					
	3					
	4					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0365233_T#7055566
1000 PPM CR6+
Man Doc# 36N0095

RAILCAR NO. CHUX 278 TRUCK NO. 213 ERI:US ECOLOGY [4415627]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras Behalf of Honeywell
Signature:
Month 11 Day 06 Year 15

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Dinhotowitz on Behalf of Norfolk Southern
Signature:
Month 11 Day 06 Year 15

Transporter 2 Printed/Typed Name: Matt Gar
Signature:
Month 11 Day 06 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Cesi Pan
Signature:
Month 11 Day 24 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: HJD986591437

22. Page 2 of 2

23. Manifest Tracking Number: 000599650WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-465-

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921240

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43572

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599651WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4906
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44000	N P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055568
>1000 PPM CR6+

Man Doc#56N0096

RAILCAR NO. CHLX 260 TRUCK NO. 211 ERI:US ECOLOGY [44156281]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras Behalf of Honeywell
Signature:
Month 11 Day 06 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Aaron McKee
Signature:
Month 11 Day 06 Year 15

Transporter 2 Printed/Typed Name: Matt Kerr on Behalf of Norfolk Southern
Signature:
Month 11 Day 06 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 11 Day 25 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986591437	2 of 2	000599651WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058424114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 2/15/16

43572

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986591437	2	(800)510-2510	000599652WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4805
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42440	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0965233_T#7055570
>1000 PPM CR6+

Man Doc #S6N0097

RAILCAR NO. CHOX 260 TRUCK NO. 217 ERI:US ECOLOGY [4415629]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras Behalf of Honeywell — Signature: [signature] — Month 11 Day 06 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Stan Sochanski — Signature: [signature] — Month 11 Day 06 Year 15

Transporter 2 Printed/Typed Name: Matt Ger on Behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 06 Year 15

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Ceri Parr — Signature: [signature] — Month 02 Day 25 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599652WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058494114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

44152

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437

2. Page 1 of: 1

3. Emergency Response Phone: (800)510-8510

4. Manifest Tracking Number: 000599653WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone (317)243-0811
U.S. EPA ID Number: IND093119012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit WT/Vol	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41920	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q965233_T#7055572
>1000 PPM CR6+

Man Doc#56N0098

RAILCAR NO. CHUX 167 TRUCK NO. 210 ERI:US ECOLOGY [44156[illegible]

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras Behalf of Honeywell
Signature: [signature]
Month 11 Day 06 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: William Wisser Behalf of
Signature: [signature]
Month 11 Day 06 Year 15

Transporter 2 Printed/Typed Name: Norfolk Southern
Signature: [signature]
Month 11 Day 06 Year 15

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: [signature]
Signature: [signature]
Month 11 Day 25 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000589653WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4910

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD[illegible]

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND[illegible]

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30 Unit Wt./Vol	31 Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16 43072

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599654WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714973

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650303

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 4500	P	D007
	2					
	3					
	4					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055574 Man Doc # S6N0099
1000 PPM CR6+

RAILCAR NO. CHUX 207 TRUCK NO. 218 ERI:US ECOLOGY [4415631]G

15 **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundras Honeywell
Signature: [signature]
Month 11 Day 06 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17 Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Arlington Mockes
Signature: [signature]
Month 11 Day 06 Year 15

Transporter 2 Printed/Typed Name: on Behalf of Norfolk Southern
Signature: [signature]
Month 11 Day 06 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c Signature of Alternate Facility (or Generator) Month Day Year

19 Hazardous Waste Report Management Method Codes (i.e. codes for hazardous waste treatment, disposal, and recycling systems)

1	2.	3.	4.
H110			

20 Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature: [signature]
Month 11 Day 25 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 00059654WAC

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4558

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

44152

Please print or type (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437

2. Page 1 of 2

3. Emergency Response Phone: (800)510-8510

4. Manifest Tracking Number: 000599655WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD145714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43960	P	D007
	2.					
	3.					
	4					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055576 Man Doc # SGAN0900
>1000 PPM CR6+

RAILCAR NO. CHUX 167 TRUCK NO. 224 ERI:US ECOLOGY [4415632]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundras Honeywell
Signature:
Month 11 Day 06 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only) Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Raymond S Bear
Signature: Raym S Bear
Month 11 Day 06 Year 15

Transporter 2 Printed/Typed Name: Mathew on behalf of Norfolk Southern
Signature:
Month 11 Day 06 Year 15

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 11 Day 25 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599655WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4805

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND[illegible]484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43472

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 1
3. Emergency Response Phone: (800)510-3510
4. Manifest Tracking Number: 000599656WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714578

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650209

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43080	P	D007
	2					
	3					
	4					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055578 Man Doc # S6N0101
>1000 PPM CR6+

RAILCAR NO. CHUX 228 TRUCK NO. 244 ERI:US ECOLOGY [4415633]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Munaras As Agent on behalf of Honeywell
Signature:
Month 11 Day 06 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U S

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Bill Pearson
Signature:
Month 11 Day 06 Year 15

Transporter 2 Printed/Typed Name: Matt Ser on Behalf of Norfolk Southern
Signature:
Month 11 Day 06 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U S EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Cesi Pen
Signature:
Month 11 Day 24 Year 15

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581417

22. Page 2 of 2

23. Manifest Tracking Number: 000599555EVA1

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

DESIGNATED FACILITY

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16 43472

Please print or type (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599657WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714879

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1 RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42900	# P	D007
	2.					
	3					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q365233_T#7055580 Man Doc# 56N0102
>1000 PPM CR6+

RAILCAR NO. CHUX 278 TRUCK NO. 223 ERI:US ECOLOGY [4415634]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 06 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: MATT TRACH — Signature: Matt Trach — Month 11 Day 06 Year 15

Transporter 2 Printed/Typed Name: Matt Esr On Behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 06 Year 15

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Carl Pont — Signature: [signature] — Month 11 Day 24 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599857WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD068911340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND059484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR

TRANSPORTER

DESIGNATED FACILITY

Rec 2/15/16

44152

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599658WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4206
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD145714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 46080	P	D007
	2.					
	3					
	4					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055582 Man Doc# 56N0103
>1000 PPM CR6+

RAILCAR NO. CHUX 167 TRUCK NO. 213 ERI:US ECOLOGY [4415635]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell
Signature:
Month 11 Day 06 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only) Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Dimbokowitz
Signature:
Month 11 Day 06 Year 15

Transporter 2 Printed/Typed Name: Matter on Behalf of Norfolk Southern
Signature:
Month 11 Day 06 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 11 Day 25 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 3 of 3

23. Manifest Tracking Number: 000599658WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4851

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/14 44152

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599659WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714678

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-8301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND[illegible]982190112

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 46460	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0265232_T#7055584 Man Doc # S6N0104
>1000 PPM CR6+
RAILCAR NO. CAUX 167 TRUCK NO. 217 211 (MM) ERI:US ECOLOGY [4415636]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 06 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Allow Meekes
Signature:
Month 11 Day 06 Year 15

Transporter 2 Printed/Typed Name: Mattser On Behalf of Norfolk Southern
Signature:
Month 11 Day 06 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 11 Day 25 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599559WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
80 KELLOGG ST
JERSEY CITY, NJ 07305-4808

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND053484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

nu 2/15/16

43472

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599660WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714978

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 49480	P	D007
	2					
	3					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q365233_T#7055586 Man Doc# S6N0105
>1000 PPM CR6+

RAILCAR NO. CHUX 278 TRUCK NO. 217 ERI:US ECOLOGY [441563716

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 06 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Stan Sochanski — Signature: [signature] — Month 11 Day 06 Year 15
Transporter 2 Printed/Typed Name: Mostler on Behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 06 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [signature] — Signature: [signature] — Month 11 Day 24 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581607

22. Page 2 of 2

23. Manifest Tracking Number: 000589550WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4558

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/14 44008

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD985814
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599661WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4306
GEN: 99415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND092219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 48200	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.EPG# 171 1.W4_Q365233_T#705558 Man Doc # 56N0106
>1000 PPM CR6+
RAILCAR NO. CHUX 142 TRUCK NO. 210 ERI:US ECOLOGY [4415638]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 11 Day 06 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: William Wisser
Signature: William Wisser
Month 11 Day 06 Year 15
Transporter 2 Printed/Typed Name: Matt Cer on Behalf of Norfolk Southern
Signature: Matt Cer
Month 11 Day 06 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ceri Carr
Signature: [signature]
Month 11 Day 30 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986591487

22. Page: of 2

23. Manifest Tracking Number: [illegible]

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
80 KELLOGG ST
JERSEY CITY, NJ 07305-4[illegible]

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FL[illegible]

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND[illegible]

27a. HM	27b. U S DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No	28. Containers Type	29. Total Quantity	30. Unit Wt./Vo	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/05/16

44008

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599662WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4805
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group (if any))	10 Containers No	10 Containers Type	11 Total Quantity	12. Unit Wt./Vol.	13 Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41900	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.WO_0965233_I#7055590 Man Doc# 56N0107
>1000 PPM CR6+
RAILCAR NO. CNUX 142 TRUCK NO. 219 ERI:US ECOLOGY [44156391]

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundras Honeywell
Signature:
Month 11 Day 09 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: David Claggerson
Signature:
Month 11 Day 09 Year 15
Transporter 2 Printed/Typed Name: on Behalf of Norfolk Southern
Signature:
Month 11 Day 09 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 11 Day 30 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986591427

22. Page 2 of 2

23. Manifest Tracking Number: 000599662WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4859

HONEYWELL / DINO CICCONE
80 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 1 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND053484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

44008

Please print or type (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 1
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599663WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-6658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4305
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAL000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 47520	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055592 Man Doc # S6N0108
>1000 PPM CR6+

RAILCAR NO. CHUX 142 TRUCK NO. 217 ERI:US ECOLOGY [4415640]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter. I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundras Honeywell
Signature:
Month 11 Day 09 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Stan Sochanski
Signature:
Month 11 Day 09 Year 15

Transporter 2 Printed/Typed Name: on Behalf of Norfolk Southern
Signature:
Month 11 Day 09 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 11 Day 30 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD[illegible]581437

22. Page 2 of 2

23. Manifest Tracking Number: 000[illegible]WAE

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4653

HONEYWELL / DINO CICCONE
80 KELLOGG ST
JERSEY CITY, NJ 07305-4906

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD008921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058494114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43736

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986561431
2. Page 1 of: 1
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599664WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-8301
Facility's Phone: (317)241-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45600	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0265230_T#7055594 Man Doc # S6N0109
>1000 PPM CR6+
RAILCAR NO. CHUX 210 TRUCK NO. 210 ERI:US ECOLOGY [4415641]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundras Honeywell — Signature: [signature] — Month 11 Day 09 Year 15

16. International Shipments: ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: William Wisser — Signature: [signature] — Month 11 Day 09 Year 15
Transporter 2 Printed/Typed Name: Matt Gar on behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 09 Year 15

18. Discrepancy
18a. Discrepancy Indication Space: ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H141 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Said Miller — Signature: [signature] — Month 11 Day 30 Year 15

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581137

22. Page 2 of 2

23. Manifest Tracking Number: 000599564WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4656

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4606

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD055921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058424114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28 Containers No.	28 Containers Type	29 Total Quantity	30. Unit Wt./Vol	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43580

Please print or type (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599665WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PG III,(CHROMIUM),(D007)	1	DT	EST 44380	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055596 Man Doc #SGN0110
>1000 PPM CR6+

RAILCAR NO. CHUX 157 TRUCK NO. 248 ERI:US ECOLOGY [4415642]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 09 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin Gilbert
Signature:
Month 11 Day 09 Year 15

Transporter 2 Printed/Typed Name: Matt Gar on Behalf of Norfolk Southern
Signature:
Month 11 Day 09 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Carl Parr
Signature:
Month 11 Day 30 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599665MAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
80 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLDOCF[illegible]

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058[illegible]114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR

TRANSPORTER

DESIGNATED FACILITY

Dec 2/15/16

44008

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599666WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	GST 43150	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERGH 171 1.W4_Q365233_T#7055598 Man Doc #SGN0111
>1000 PPM CR6+
RAILCAR NO. CHUX 142 TRUCK NO. 247 ERI:US ECOLOGY [4415643]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month Day Year: 11 09 15

16. International Shipments: ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Herbert J. Logan on Behalf of Horwith Trucking
Signature:
Month Day Year: 11 09 15
Transporter 2 Printed/Typed Name: Matt Gar
Signature:
Month Day Year: 11 09 15

18. Discrepancy
18a. Discrepancy Indication Space: ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e. codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month Day Year: 11 30 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599565NJS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4599

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25 Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006[illegible]

26 Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND0584[illegible]114

27a. HM	27b. U.S DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29 Total Quantity	30. Unit Wt./Vol.	31 Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43832

Please print or type (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 1
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599667WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 39415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44260	P	D007
	2					
	3					
	4					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0965233_T#7055600 Man Doc # S6N0112
>1000 PPM CR6+

RAILCAR NO. CHUX 319 TRUCK NO. 245 ERI:US ECOLOGY [4415644]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell
Signature:
Month 11 Day 09 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Heyer
Signature:
Month 11 Day 09 Year 15

Transporter 2 Printed/Typed Name: Matt Sh on Behalf of Norfolk Southern
Signature:
Month 11 Day 09 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 12 Day 03 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000589967WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43580

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986559147
2. Page 1 of: 2
3. Emergency Response Phone: (800)51[illegible]-8510
4. Manifest Tracking Number: 000599668WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 8941E

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650809

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-1301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43820	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055602 Man Doc #S6N0113
>1000 PPM CR6+

RAILCAR NO. CHUX 157 TRUCK NO. 246 ERI:US ECOLOGY [4415545]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Munoras As Agent on behalf of Honeywell
Signature:
Month 11 Day 09 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Christian L. Smith
Signature:
Month 11 Day 09 Year 15
Transporter 2 Printed/Typed Name: Matt Ger on behalf of Norfolk Southern
Signature:
Month 11 Day 09 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 11 Day 30 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: C005999[illegible]

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 MELLONG ST
JERSEY CITY, NJ 07305-4[illegible]6

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLI[illegible]

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND05[illegible]

27a. HM	27b. U.S DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol	31 Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

44288

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986551437
2. Page 1 of: 1
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599669WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4808
GEN: 99415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	65 44160	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055604 MANDOC # SUNOCO 2
>1000 PPM CR6+

RAILCAR NO. CHUX 121 TRUCK NO. 324 ERI:US ECOLOGY [4415646]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Minnotas As agent on behalf of Honeywell
Signature:
Month 11 Day 03 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Raymond S Bear
Signature: Raymond S Bear
Month 11 Day 03 Year 15

Transporter 2 Printed/Typed Name: Matt Eer on Behalf of Norfolk Southern
Signature:
Month 11 Day 03 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Levi Pan
Signature:
Month 12 Day 03 Year 15

GENERATOR — INTL — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986591457

22. Page 2 of 2

23. Manifest Tracking Number: 000599569WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4651

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058494114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/14 44288

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581477
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-9510
4. Manifest Tracking Number: 000599670WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD145714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAL000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a HM	9b U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10 Containers No	10 Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13 Waste Codes
X	1 RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45460	P	D007
	2					
	3					
	4					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055606 Man Doc #SGN00643
>1000 PPM CR6+
RAILCAR NO. CHUX 121 TRUCK NO. 244 ERI:US ECOLOGY [441564719

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mandras Honeywell — Signature: [signature] — Month 11 Day 03 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Bill Pearson — Signature: [signature] — Month 11 Day 03 Year 15
Transporter 2 Printed/Typed Name: Matt Sw on Behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 03 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e. codes for hazardous waste treatment, disposal, and recycling systems)
1: H110 2: 3: 4:

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Len Pen — Signature: [signature] — Month 12 Day 03 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986591437		000599670WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4906

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND053484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 2 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

44140

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599671WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4152
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAI146714873

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-8301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219011

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	CST 44050	L P	D007
	2.				12-1-15	
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055608 Man Doc # SGN00044
1000 PPM CR6+

RAILCAR NO. CHUX 114 TRUCK NO. 213 ERI:US ECOLOGY [4415648]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Muwdras As Agent on behalf of Honeywell
Signature:
Month 11 Day 03 Year 15

16. International Shipments: ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Dinbitowitz
Signature:
Month 11 Day 03 Year 15

Transporter 2 Printed/Typed Name: Matt Gr on behalf of Norfolk Southern
Signature:
Month 11 Day 03 Year 15

18. Discrepancy
18a. Discrepancy Indication Space: ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H010 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature:
Month 12 Day 01 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST
(Continuation Sheet)

21. Generator ID Number: NJD98[illegible]1437

22. Page 2 of 2

23. Manifest Tracking Number: 00059967 1WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4506

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

44288

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-9510
4. Manifest Tracking Number: 000599672WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44760	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055610 MAN DOC# BGN0043
>1000 PPM CR6+

RAILCAR NO. CHUX 121 TRUCK NO. 211 ERI:US ECOLOGY [4415649]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Manndras Honeywell
Signature:
Month 11 Day 03 Year 15

16. International Shipments ☐ Import to U.S ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Aaron Mellen
Signature:
Month 11 Day 03 Year 15

Transporter 2 Printed/Typed Name: Matthew on Behalf of Norfolk Southern
Signature:
Month 11 Day 03 Year 15

18. Discrepancy
18a. Discrepancy indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ceri Pear
Signature:
Month 12 Day 03 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page: of 2

23. Manifest Tracking Number: 000599572WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
90 KELLOGG ST
JERSEY CITY, NJ 07305-4808

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND059484114

27a. HM	27b U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment disposal and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Kc 2/15/16 44140

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-9510
4. Manifest Tracking Number: 000599673WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1 RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	25T 43480	P	D007
	2				IT 12-1-15	
	3					
	4					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865232_T#7055612 Man Doc# SGN0046
>1000 PPM CR6+

RAILCAR NO. CHUX 114 TRUCK NO. 217 ERI:US ECOLOGY [4415650]G

15 **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundras Honeywell — Signature: [signature] — Month 11 Day 03 Year 15

16. International Shipments ☐ Import to U.S ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only) Date leaving U.S.:

17 Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Stan Sochacki — Signature: [signature] — Month 11 Day 03 Year 15
Transporter 2 Printed/Typed Name: Matt Sr on behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 03 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone

18c Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sarah Miller — Signature: [signature] — Month 12 Day 01 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599673WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND052484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

443/LC

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986561437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-0510
4. Manifest Tracking Number: 000599674WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HOPWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46241-9501
Facility's Phone: (317)243-0311
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10 Containers No	10 Containers Type	11. Total Quantity	12. Unit Wt./Vol	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44640	P	D007
	2				IM 12-01-15	
	3					
	4					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055614 Man Doc # SLN0047
`1000 PPM CR6+ AG-08585PA.
RAILCAR NO. CHUX163 TRUCK NO. 212 ERI:US ECOLOGY [441565116

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 03 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: DAVID A. GRUVER — Signature: [signature] — Month 11 Day 03 Year 15
Transporter 2 Printed/Typed Name: Matt Gr on Behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 03 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sarah Miller — Signature: [signature] — Month 12 Day 01 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986561437

22. Page 2 of 2

23. Manifest Tracking Number: 000599574WAF

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND059484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

44172

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-6510
4. Manifest Tracking Number: 000599675WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD145714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	65T 42760	P	D007
	2.				LM 12-14	
	3					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055616 MAN DOC# SUN 0048
>1000 PPM CR6+

RAILCAR NO. CHUX 190 TRUCK NO. 222 ERI:US ECOLOGY [4415652]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Muadras As Agent on behalf of Honeywell
Signature:
Month 11 Day 03 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Lance Todd
Signature:
Month 11 Day 03 Year 15

Transporter 2 Printed/Typed Name: Matt Cox on Behalf of Norfolk Southern
Signature:
Month 11 Day 03 Year 15

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Isaac Miller
Signature:
Month 12 Day 01 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599675WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4305

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: INI055450114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16 44140

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986514112
2. Page 1 of: 1
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599676WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4650
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 83415

6. Transporter 1 Company Name: NORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714678

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD041050504

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9501
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1 RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	GT 44020	K P	D007
	2				LR R-01-K	
	3					
	4					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055618 Man Doc # 5GN0049
1000 PPM CR6+
RAILCAR NO. CHUX 114 TRUCK NO. 247 ERI:US ECOLOGY [4415653]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundras Honeywell — Signature: [signature] — Month 11 Day 03 Year 15

16. International Shipments: ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: HERBERT J. LOGAN — Signature: [signature] — Month 11 Day 03 Year 15
Transporter 2 Printed/Typed Name: on Behalf of Norfolk Southern Mathew — Signature: [signature] — Month 11 Day 03 Year 15

18. Discrepancy
18a. Discrepancy Indication Space: ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H120 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller — Signature: [signature] — Month 12 Day 01 Year 15

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000539576WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-48[illegible]5

25. Transporter 3 Company Name: CSX TRANSPORTATION INC
U.S. EPA ID Number: FLD006321340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC
U.S. EPA ID Number: IND052484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

443/6

Please print or type (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD3865:1437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599677WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE,
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4152
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-1301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45300	K P	D007
	2.				IM 12-1-14	
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_I#7055620 Man Doc# S6N0050
>1000 PPM CR6+

RAILCAR NO. CHUX 163 TRUCK NO. 224 ERI:US ECOLOGY [44156541]

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundras Honeywell — Signature: [signature] — Month 11 Day 03 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: RAymond SBeaR — Signature: Raymond S Bear — Month 11 Day 03 Year 15
Transporter 2 Printed/Typed Name: on Behalf of Norfolk Southern Matthew — Signature: [signature] — Month 11 Day 03 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. M040 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller — Signature: [signature] — Month 12 Day 01 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581497

22. Page 2 of 2

23. Manifest Tracking Number: [illegible]

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4[illegible]

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4808

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006321940

26. Transporter 2 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/14

44140

Please print or type (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986591417
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 00059967 8WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RI
MORRISTOWN, NJ 07960-4653
Generator's Phone: (908)455-4251

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEH: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 39200	X P	D007
	2.				IM 12-01-15	
	3.					
	4					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_I#7055622 man Doc # S6N0051
>1000 PPM CR6+
RAILCAR NO. CHUX 114 TRUCK NO. 217 ERI:US ECOLOGY [4415655]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundrus As Agent on behalf of Honeywell
Signature:
Month 12 Day 03 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Stan Sochenski
Signature:
Month 12 Day 03 Year 15
Transporter 2 Printed/Typed Name: Matt Sar on Behalf of Norfolk Southern
Signature:
Month 12 Day 03 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 12 Day 01 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599578WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD005921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND059484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

44140

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD985814[illegible]
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599679WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4656
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND[illegible]98219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	GT 47380	~~X~~ P	D007
	2.				12-1-15 Sm	
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0965233_T#7055624 . Man Doc # SLN0052
1000 PPM CR6+
RAILCAR NO. CNUX 114 TRUCK NO. 244 ERI:US ECOLOGY [4415656]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 11 Day 03 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Bill Peterson
Signature: [signature]
Month 11 Day 03 Year 15
Transporter 2 Printed/Typed Name: Matt Sc[illegible] On behalf of Norfolk Southern
Signature: [signature]
Month 11 Day 03 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sarah Miller
Signature: [signature]
Month 12 Day 01 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599679WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

443/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986591437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599680WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-[illegible]
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714873

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-1301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43100	P	D007
	2					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055816 Man Doc# 56N0053
>1000 PPM CR6+

RAILCAR NO. CHUX 163 TRUCK NO. 211 ERI:US ECOLOGY [441565716

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundrow As Agent on behalf of Honeywell
Signature:
Month Day Year: 11 03 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Aaron Meck
Signature:
Month Day Year: 11 03 15

Transporter 2 Printed/Typed Name: Matt Ca on behalf of Norfolk Southern
Signature:
Month Day Year: 11 03 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month Day Year: 11 01 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599680WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4659

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Dec 2/15/16

443/6

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986588407
2. Page 1 of: 1
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599681WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(80-)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
SEN: 69415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714872

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3311
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND072219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41740	X P	D007
	2.				IM 12-1-15	
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0365233_T#7055623 Man Doc # S6N0054
>1000 PPM CR6+

RAILCAR NO. CHUX 163 TRUCK NO. 222 ERI:US ECOLOGY [4415658]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundras Honeywell
Signature:
Month 11 Day 03 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Grace Tedd
Signature:
Month 11 Day 03 Year 15

Transporter 2 Printed/Typed Name: Matthew On Behalf of Norfolk Southern
Signature:
Month 11 Day 03 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature:
Month 12 Day 01 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599681WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921240

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND 053484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e. codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

443/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-2510
4. Manifest Tracking Number: 000599682WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4656
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4306
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714178

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650202

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10 Containers No.	10 Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13 Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43540	X P	D007
	2.				Sm 12-03-15	
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0965233_T#7055630 ManDoc# 56N0055
>1000 PPM CR6+
AG-08585 PA
RAILCAR NO. CHUX 163 TRUCK NO. 212 ERI:US ECOLOGY [4415659]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable International and national governmental regulations. If export shipment and I am the Primary Exporter I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell
Signature:
Month 11 Day 03 Year 15

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: DAVID A. GRUVER
Signature:
Month 11 Day 03 Year 15

Transporter 2 Printed/Typed Name: Matthew on Behalf of Norfolk Southern
Signature:
Month 11 Day 03 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H119 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature:
Month 12 Day 01 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000589682WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921346

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND056484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

44556

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986531437
2. Page 1 of: 1
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599683WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4558
(908)455-4052
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4205
GEN: 89415

6. Transporter 1 Company Name: HOPWITP TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000550409

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND005219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group (if any))	10 Containers No.	10 Containers Type	11 Total Quantity	12 Unit Wt./Vol.	13 Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	CST 43880	# P	D007
	2					
	3					
	4					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055631 Man Doc # S6N0056
>1000 PPM CR6+

RAILCAR NO. CHUX 127 TRUCK NO. 247 ERI:US ECOLOGY [44156501G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 03 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Herbert J. Logan
Signature:
Month 11 Day 03 Year 15
Transporter 2 Printed/Typed Name: Matt Sar on Behalf of Norfolk Southern
Signature:
Month 11 Day 03 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Lewis
Signature:
Month 12 Day 01 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 00059958[illegible]

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
80 KELLOGG ST
JERSEY CITY, NJ 07305-4805

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD06[illegible]1340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND05[illegible]4114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Dec 2/15/16 44556

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986591437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-3510
4. Manifest Tracking Number: 000599684WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4106
GEN: 89415

6. Transporter 1 Company Name: HORVITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: KAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)243-0311
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1 RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	~~EST~~ 44040	~~T~~ P	D007
	2					
	3					
	4					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q365233_T#7055534 Man Doc # S6N0057
>1000 PPM CR6+
RAILCAR NO. CHUX 127 TRUCK NO. 213 ERI:US ECOLOGY [4415661]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 03 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Vinokowitz — Signature: [signature] — Month 11 Day 03 Year 15
Transporter 2 Printed/Typed Name: Matt Gr On Behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 03 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H19 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Cen Pa — Signature: [signature] — Month 12 Day 01 Year 15

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986591437

22. Page 2 of 2

23 Manifest Tracking Number: 000559684WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
80 KELLOGG ST
JERSEY CITY, NJ 07305-4306

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058494114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e. codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16 43980

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599685WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4306
GEH: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD145714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650009

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7301 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
(317)243-0811
Facility's Phone:
U.S. EPA ID Number: IND093219612

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1 RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43240	Y P	D007
	2					
	3					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.WA_[illegible]_T#70E[illegible]
>100 PPM CRE+
Man Doc# S6N0058

RAILCAR NO. CHUX 258 TRUCK NO. 224 ERI:US ECOLOGY [441566]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mannarino — As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 04 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Raymond S Bear — Signature: [signature] — Month 11 Day 04 Year 15
Transporter 2 Printed/Typed Name: Matt Gar — On Behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 04 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. F116 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sandra Miller — Signature: [signature] — Month 11 Day 29 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: C[illegible]WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD[illegible]1340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IN[illegible]114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

DESIGNATED FACILITY

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

dec 2/15/16 43980

Please print or type (Form designed for use on elite (12-pitch) typewriter)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581487

2. Page 1 of: 1

3. Emergency Response Phone: (800) 310-8810

4. Manifest Tracking Number: 000599686WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4656,
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4906
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD145714373

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650209

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7301 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND098219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10 Containers No	10 Containers Type	11. Total Quantity	12. Unit Wt./Vol	13 Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 40000	~~K~~ P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q965233_T#7055638
>1000 PPM CRE+
Man Doc # 56N0059

RAILCAR NO. CHUX 258 TRUCK NO. 218 ERI:US ECOLOGY [4415663]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 11 Day 04 Year 15

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Arlington Meekes
Signature: [signature]
Month 11 Day 04 Year 15
Transporter 2 Printed/Typed Name: Matthew on behalf of Norfolk Southern
Signature: [signature]
Month 11 Day 04 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature: [signature]
Month 11 Day 29 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599985WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4659

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4805

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND053484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

44556

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437

2. Page 1 of: 1

3. Emergency Response Phone: (800)510-8510

4. Manifest Tracking Number: 000599687WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)243-0211
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45400	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055640 Man Doc # S6N0066
>1000 PPM CR6+

RAILCAR NO. CHUX 127 TRUCK NO. 244 ERI:US ECOLOGY [4415664]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month Day Year: 11 04 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Bill Pearson
Signature:
Month Day Year: 11 04 15
Transporter 2 Printed/Typed Name: Matt Gor on Behalf of Norfolk Southern
Signature:
Month Day Year: 11 04 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month Day Year: 12 01 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599687WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
80 KELLOGG ST
JERSEY CITY, NJ 07305-4808

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058494114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Dec 2/15/14 44556

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986591437
2. Page 1 of: 1
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599688WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650809

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3811
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND099219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10 Containers No.	10 Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13 Waste Codes
X	1 RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42660	# P	D007
	2					
	3					
	4					

14 Special Handling Instructions and Additional Information
man Doc # S6N0061
1.ERG# 171 1.W4_Q865233_I#7055642
>1000 PPM CR6+
RAILCAR NO. CHUX 127 TRUCK NO. 211 ERI:US ECOLOGY [4415665]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundras Honeywell
Signature:
Month 11 Day 04 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Aaron Meckes
Signature:
Month 11 Day 04 Year 15
Transporter 2 Printed/Typed Name: Mathew on behalf of Norfolk Southern
Signature:
Month 11 Day 04 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Chris Pace
Signature:
Month 12 Day 01 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21 Generator ID Number: NJI986581437

22 Page 2 of 2

23 Manifest Tracking Number: 000599598WAS

24 Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4836

HONEYWELL / DINO CICCONE
69 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25 Transporter 3 Company Name: CSX TRANSPORTATION INC — US EPA ID Number: FLD008921340

26 Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — US EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)

Rec 2/15/16

43980

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986591437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599689WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4652
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650209

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-1301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 40800	~~K~~ P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055644 man Doc # 56N0062
>1000 PPM CR6+

RAILCAR NO. CHUX 258 TRUCK NO. 217 ERI:US ECOLOGY [4415666]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month Day Year: 11 04 15

16. International Shipments ☐ Import to U.S ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Stan Sochanski
Signature:
Month Day Year: 11 04 15
Transporter 2 Printed/Typed Name: Matthew on behalf of Norfolk Southern
Signature:
Month Day Year: 11 04 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H120 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature:
Month Day Year: 11 29 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599659NAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4659

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND053484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR

TRANSPORTER

DESIGNATED FACILITY

Rec 2/15/16

43380

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986591437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599690WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND099219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group (if any))	10 Containers No	10 Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13 Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43420	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#7055646 Man Doc # 56N0063 AG-08585 PA
>1000 PPM CR6+
RAILCAR NO. CHUX 296 TRUCK NO. 212 ERI:US ECOLOGY [4415667]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262 27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mandras Honeywell — Signature: [signature] — Month 11 Day 04 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only) Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: DAVID A. GRUVER — Signature: [signature] — Month 11 Day 04 Year 15
Transporter 2 Printed/Typed Name: Matt on Behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 04 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [signature] Signature: [signature] Month 11 Day 16 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599690WAE

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
SQ KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43980

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986561427
2. Page 1 of: 1
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599691WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
1[illegible] COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEH: 99415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650609

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-8301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	CST 46920	~~Y~~ P	D007
	2.					
	3					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.WA_0965233_T#7055648 Man Doc #56N0064
>1000 PPM [illegible]

RAILCAR NO. CHUX 258 TRUCK NO. 222 ERI:US ECOLOGY [4415668]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 04 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only) Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Carse Todd
Signature:
Month 11 Day 04 Year 15
Transporter 2 Printed/Typed Name: Matt Sir on behalf of Norfolk Southern
Signature:
Month 11 Day 04 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Scott Miller
Signature:
Month 11 Day 29 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986521437

22. Page 2 of 2

23. Manifest Tracking Number: 000529551MAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RT
MORRISTOWN, NJ 07960-4651

HONEYWELL / DINO CICCONE
50 HELLOGG ST
JERSEY CITY, NJ 07305-4506

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND[illegible]4114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)

GENERATOR

TRANSPORTER

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Re 2/15/16

Please print or type (Form designed for use on elite (12-pitch) typewriter.) 4455 Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599692WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MOPRISTOWN, NJ 07960-4658
Generator's Phone (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD145714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650209

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND098219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM), D007)	1	DT	EST 42040	~~P~~ P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#7055650 Man Doc # S6N0065
1000 PPM CR6+
RAILCAR NO. CHUX 127 TRUCK NO. 213 ERI:US ECOLOGY [4415669]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 04 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Dinkowitz — Signature: [signature] — Month 11 Day 04 Year 15
Transporter 2 Printed/Typed Name: Matt Sar On Behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 04 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1: H110 2: 3: 4:

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Gary Poor — Signature: [signature] — Month 12 Day 01 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986721437

22. Page 2 of 2

23. Manifest Tracking Number: 009589632WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4558

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC

U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC

U.S. EPA ID Number: IND053434114

27a. HM	27b U.S DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol	31 Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i e , codes for hazardous waste treatment, disposal and recycling systems)

EPA Form 8700-22A (Rev 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Dec 2/15/16
43380

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000599693WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
(908)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
(317)243-0811
Facility's Phone:
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt/Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	GST 44360	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q965233_T#7055652 Man Doc #S6N0066
>1000 PPM CR6+
RAILCAR NO. CHUX 396 TRUCK NO. 224 ERI:US ECOLOGY [44156701G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Munoras As Agent on behalf of Honeywell
Signature:
Month 11 Day 04 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: RAYmond SBeaR
Signature:
Month 11 Day 04 Year 15
Transporter 2 Printed/Typed Name: Mthser on Behalf of Norfolk Southern
Signature:
Month 11 Day 04 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 11 Day 16 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000599692WK

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4908

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921140

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058434114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Dec 2/12/16 41784

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986561477
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700857WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOUKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 BELLOWS ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: MORWITH TRUCKS INC
U.S. EPA ID Number: FAD146714978

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: NSD000450309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND099217012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 45980	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
(W) W3_Q864896_~~FH~~ (M) man Doc # 56N0290
1. ERDM 171 1 ~~[illegible]~~
<1000 PPM CRS
(3935265)6
RAILCAR NO. CHLX 106 TRUCK NO. 292 ERI: US ECOLOGY ~~[illegible]~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: AS Agent on behalf of Michael Mundras Honeywell
Signature:
Month 12 Day 18 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: JASON C. Bradford
Signature:
Month 12 Day 18 Year 15
Transporter 2 Printed/Typed Name: Walker on behalf of Norfolk Sullivan
Signature:
Month 12 Day 18 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Luis Pan
Signature:
Month 1 Day 15 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 41784

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581007	22. Page 2 of 2	23. Manifest Tracking Number 000700857WAS

24. Generator's Name
HONEYWELL / JOHN MOUFA
101 COLUMBIA RD
MORRISTOWN NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CDT TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 2 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Dec 2/12/16 41784

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700858WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN 89415

6. Transporter 1 Company Name: HURWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650302

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 44380	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3_Q864896 man DOC# 56N0291
1 ERG# 171 1
<1000 PPM CRA
RAILCAR NO CHLY 106 TRUCK NO 290 ERI:US ECOLOGY (3935265)6

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 18 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Luis Vazquez
Signature:
Month 12 Day 18 Year 15
Transporter 2 Printed/Typed Name: Contracted Norfolk Southern
Signature:
Month 12 Day 18 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Len Parr
Signature:
Month 1 Day 15 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 41784

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD982558437	22. Page 2 of 2	23. Manifest Tracking Number 000700850WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4558

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4506

25. Transporter _____ Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD004921340

26. Transporter _____ Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 2/12/16 42680

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJ0986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700859WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4652
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HURWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650305

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)243-0611
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PG III,(CHROMIUM),(D007)	1	DT	~~57~~ 39860	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3-Q864896 man Doc # 56N0292
ERG# 171 ~~[illegible]~~
<1000 PPM CR6+ T# 8619705 (3935265)6
RAILCAR NO. CIUX 154 (M) TRUCK NO. 294 ERI: US ECOLOGY ~~[illegible]~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Honeywell Michael Mundras — Signature: [signature] — Month 12 Day 18 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: [illegible] — Signature: [signature] — Month 12 Day 18 Year 15
Transporter 2 Printed/Typed Name: [illegible] / CN Rail Norfolk Sulthern — Signature: [signature] — Month 12 Day 18 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible] — Signature: [signature] — Month 1 Day 15 Year 16

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 42680

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 3 of 3	23. Manifest Tracking Number 000700859WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter _____ Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter _____ Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Dec 7/12/16 41932

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700860WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CIGCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN 87415

6. Transporter 1 Company Name: MORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714879

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-2301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. RQ, NA3077, HAZARDOUS WASTE SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 45000	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3-Q864896 MAN DOC # 56N0293
1. ERG# 171 1000 PPM CRS+ (M) 862 0017
RAILCAR NO. CHLX 163 TRUCK NO. 246 ERI: US ECOLOGY (3935265)6 (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 18 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Christian L. Smith — Signature: [signature] — Month 12 Day 18 Year 15
Transporter 2 Printed/Typed Name: Matthew CN Rail at Norfolk Southern — Signature: [signature] — Month 12 Day 18 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible] — Signature: [signature] — Month 01 Day 15 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 12/12/16

41937

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000700080WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
40 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter _____ Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter _____ Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

41784

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986581437	2	(800)510-8510	000700861WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4655
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN 89415

6. Transporter 1 Company Name: HURWITH TRUCKS INC — U.S. EPA ID Number: PAD146714875

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: WAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093217012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41760	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3_Q864846 Man Doc # S6N0294
ERGW 171 I
<1000 PPM CR6+
(M) 3L (3935265)G
RA LCAB NO. CHLX 106 TRUCK NO. ERI:US ECOLOGY

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 18 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rick Sauder — Signature: [signature] — Month 12 Day 18 Year 15
Transporter 2 Printed/Typed Name: Walker (w/ Khalled Walker Sauder) — Signature: [signature] — Month 12 Day 18 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H010 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Cam Pa — Signature: [signature] — Month 1 Day 15 Year 16

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

41784

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000700861WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4650

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name USA TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 42680

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700862WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN SOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN 89415

6. Transporter 1 Company Name: HURWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000450309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-2301
Facility's Phone: (317)243-9011
U.S. EPA ID Number: IND093219018

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 41480	P	D007		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information W3_Q864896 Man Doc #56N0295
1 ERGH 171 1 ~~UN 3082 RQ TN(47000)~~
<1000 PPM CR6+ (M)
T# 8619703
RAILCAR NO. CHLX 154 TRUCK NO. 247 ERI:US ECOLOGY (3935265)6 ~~1544802535~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundrick As Agent on behalf of Honeywell
Signature:
Month 12 Day 18 Year 15

INT'L
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER
17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Herbert J. Hogan
Signature:
Month 12 Day 18 Year 15
Transporter 2 Printed/Typed Name: Walker CN Behalf of Norfolk Southern
Signature:
Month 12 Day 18 Year 15

DESIGNATED FACILITY
18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Can Parr
Signature:
Month 1 Day 15 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Dec 2/12/16 12680

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986587437	22. Page 2 of 2	23. Manifest Tracking Number 000700862WAS

24. Generator's Name
HONEYWELL / JOHN KOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-6659

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4906

25. Transporter 4 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name MERIDIAN TRANSPORT, LLC — U.S. EPA ID Number IND050424114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 2/12/16 42452

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJ0305581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700863WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN KUJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

GENERATOR

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 44240	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3-Q864896
1 ERGA 171 1 UN 9/6/2023 PG III
<1000 PPM CR6+ (M) 8619329 Man Doc # S6NU296
RAILCAR NO. CHLX 103 TRUCK NO. 285 ERI:US ECOLOGY (3935205)G E5448[illegible] (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 12 Day 21 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Doug Mundras
Signature: [signature]
Month 12 Day 21 Year 15
Transporter 2 Printed/Typed Name: Mattlear
Signature: [signature]
Month 12 Day 21 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Saich Miller
Signature: [signature]
Month 01 Day 14 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

42452

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986558437	22. Page 2 of 2	23. Manifest Tracking Number 000700963WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter _____ Company Name CSX TRANSPORTATION INC. U.S. EPA ID Number FLD008921340

26. Transporter _____ Company Name HERITAGE TRANSPORT, LLC U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

42452

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581497
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700864WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
40 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714879

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000450309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3901
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	44200	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3-Q864896 Man Doc # 56N0297
1 ERGW 171 1 ~~UN 9016 RQ, 7484 LBS~~
<1000 PPM CBZ
M 8619333
RAILCAR NO. CLUX 103 TRUCK NO. 270 ERI: US ECOLOGY (3935265)G ~~EE419827JG~~ M

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell
Signature:
Month 12 Day 21 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Tom DeGiorgi
Signature:
Month 12 Day 21 Year 15
Transporter 2 Printed/Typed Name: Matt Sear CN Rail Yard Metuchen Sullivan
Signature:
Month 12 Day 21 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sarah Miller
Signature:
Month 01 Day 14 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 42457

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581482	22. Page 2 of 2	23. Manifest Tracking Number 000700864WAS

24. Generator's Name
HONEYWELL / JOHN MOORA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CYCLONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter _____ Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter _____ Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484174

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 2/12/16

46280

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581487
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700865WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOLNA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HURWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9201
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219018

GENERATOR

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 44480	P	D007		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information W3-Q864896 Man Doc# S6N0298
1 FROM 171 L
0000 PPM CRA
(M) 8619301
RAILCAR NO. CHLX 247 TRUCK NO. 28 ERI: US ECOLOGY (3935265)G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 21 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: CN Railroad Norfolk Southern
Signature:
Month 12 Day 21 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 01 Day 14 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/12/10

46280

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986587437	22. Page 2 of 2	23. Manifest Tracking Number 000700865WAS

24. Generator's Name
HONEYWELL / JOHN HOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4650

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4506

25. Transporter _____ Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD004921340

26. Transporter _____ Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND059464114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 43752

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJ0088581437
2. Page 1 of 1
3. Emergency Response Phone: (800)510-8570
4. Manifest Tracking Number: 000700866WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: MURWITH TRUCKS INC
U.S. EPA ID Number: FAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 45920	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3-Q864896 Man Doc # 56N0299
1 ERG# 171 1 ~~[illegible]~~
<1000 PPM CR6+ (M) 86/9287 34 (3935265)G
RAILCAR NO. CHLX 211 TRUCK NO. EMI: US ECOLOGY ~~[illegible]~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 12 Day 21 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rich Sanders
Signature: [signature]
Month 12 Day 21 Year 15

Transporter 2 Printed/Typed Name: Matthew CN Railroad Norfolk Southern
Signature: [signature]
Month 12 Day 21 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: J Sarah Miller
Signature: [signature]
Month 01 Day 14 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

rec 2/12/16 43752

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 3 of 2	23. Manifest Tracking Number 000700866WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO/CICCONE
80 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter _____ Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter _____ Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND056484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 01/12/16

96280

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700867WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MUSKA
101 COLUMBIA RD
MORRISTOWN, NJ 07962-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000450509

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093217012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 4144D	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3_Q8649896 Man Doc # S6N300
1. ERG# 171 2. [illegible]
<1000 PPM CRS+ (M) 8619297
RAILCAR NO: CLCX 247 TRUCK NO: 441 ERI: US ECOLOGY (3935265)6 (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 21 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin McKechan
Signature:
Month 12 Day 21 Year 15
Transporter 2 Printed/Typed Name: Miller on behalf of Norfolk Southern
Signature:
Month 12 Day 21 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Ellis
Signature:
Month 01 Day 14 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 8/12/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 96280 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986559427	22. Page 2 of 2	23. Manifest Tracking Number 000700867WAS

24. Generator's Name
HONEYWELL / JOHN ROWKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4655

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD008921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 2/12/16

42452

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986601437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700868WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MUNDRA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4850
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
2901 W MORRIS ST
INDIANAPOLIS, IN 46241-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 41940	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
W3-Q 864896
Man Doc# SGN0301
1. ERG# 171 1. ~~[illegible]~~
2000 PPM CRA+
(M) 8619331
RAILCAR NO. CHLX 103 TRUCK NO. 292 ERI: US ECOLOGY (3935265)G ~~[illegible]~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras — As Agent on behalf of Honeywell
Signature:
Month 12 Day 21 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: JASON C Bradford — on behalf of Norfolk Southern
Signature:
Month 12 Day 21 Year 15

Transporter 2 Printed/Typed Name:
Signature:
Month 12 Day 21 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H130 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 01 Day 14 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 2/12/16 42452 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581487	22. Page 2 of 2	23. Manifest Tracking Number 000700863WAS

24. Generator's Name
HONEYWELL / JOHN DOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
40 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter _____ Company Name CSX TRANSPORTATION INC. U.S. EPA ID Number FLD006921340

26. Transporter _____ Company Name HERITAGE TRANSPORT, LLC U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

46280

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986581437	2	(800)510-8510	000700869WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MUNRA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4650
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: MURWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)243-0811

U.S. EPA ID Number: IND079219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 43980	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3-Q864896 ManDoc #SGN0302
1. ERG# 171 1 [illegible]
<1000 PPM CR&4 (M) 8619719
RAILCAR NO. CHIX 247 TRUCK NO. 246 ERI:US ECOLOGY (3935265)G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 21 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Christian L. Smith — Signature: [signature] — Month 12 Day 21 Year 15
Transporter 2 Printed/Typed Name: [illegible] — Signature: [signature] — Month 12 Day 21 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H100 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Mills — Signature: [signature] — Month 01 Day 14 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/14

46280

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

GENERATOR

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986281487	22. Page 2 of 2	23. Manifest Tracking Number 000700869WAS

24. Generator's Name
HONEYWELL / JOHN HOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter _____ Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter _____ Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 2/12/16

42452

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581487
2. Page 1 of
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700870WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN NJ 07960-4658
Generator's Phone: (973)455-4032

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: MURWITH TRUCKS INC — U.S. EPA ID Number: PAD146714879

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000450309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3701
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43660	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3-Q864896 Man Doc#S6N0303
1 EMGR 171 1 UN 9A,PG III
<1000 PPM CRS (M) 8619335
RAILCAR NO: CILX 103 TRUCK NO: 290 ERI: US ECOLOGY (3935265)G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 21 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Luis Vazquez — Signature: [signature] — Month 12 Day 21 Year 15
Transporter 2 Printed/Typed Name: Mike on behalf of Murwith Trucking — Signature: [signature] — Month 12 Day 21 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller — Signature: [signature] — Month 01 Day 14 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

42452

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000700070WAS

24. Generator's Name: HONEYWELL / JOHN MOUKA, 101 COLUMBIA RD, MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE, 60 KELLOGG ST, JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD003921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND056464114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

Rec 2/12/16 #42680

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJR000581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700871WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4858
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEH: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7991 W MORRIS ST
INDIANAPOLIS, IN 46231-3801
Facility's Phone: (317)242-8611
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 49840	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3-Q864896 Man Doc # S6NU304
T# 8619701
1000 PPM CRGO
RAILCAR NO. CHLX 154 TRUCK NO. 270 ERI US ECOLOGY (3935265)6

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 21 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Tom DeGroot — Signature: [signature] — Month 12 Day 21 Year 15
Transporter 2 Printed/Typed Name: [illegible] — Signature: [signature] — Month 12 Day 21 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible] — Signature: [signature] — Month 1 Day 15 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

#42680

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UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000700871WAS

24. Generator's Name
HONEYWELL / JOHN FOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter _____ Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD008721240

26. Transporter _____ Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Dec 2/12/16 42457

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700872WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HURWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7701 W MORRIS ST
INDIANAPOLIS, IN 46231-4301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 41340	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3_Q864896
1 ERGW 171 1 ~~UN 3082 RQ, PG III~~ 861927 IM Man Doc #SGN0305
<1000 PPM CAS-
RAILCAR NO CHLX 163 TRUCK NO 285 ERI: US ECOLOGY (3935265)6 ~~EE4883575~~

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Munoz Honeywell
Signature:
Month 12 Day 21 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Boyd Meinhart
Signature:
Month 12 Day 21 Year 15
Transporter 2 Printed/Typed Name: Norfolk Southern
Signature:
Month 12 Day 21 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H010 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 01 Day 14 Year 16

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/17/16

42452

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000700972WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN NJ 07960-4858

HONEYWELL / DINO CICCONE
40 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058404114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 2 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

Rec 2/12/16

43752

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD981581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700873WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MUNKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HUGWITH TRUCKS INC
U.S. EPA ID Number: FAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650709

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9001
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., PGIII, (CHROMIUM), (D007)	1	DT	~~EST~~ 40620	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
W3-Q864896 Man Doc # S6N0306
1. ERGM 171 1 ~~UN 3077, HAZARDOUS WASTE~~
<1000 PPM CRS
M 8619789
TRAILER NO. CIIUX 311 TRUCK NO. 292 ERI:US ECOLOGY (393 5265)6 ~~EE4408636~~ M

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Munoz As Agent on behalf of Honeywell
Signature:
Month 12 Day 21 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Jason C Bradford
Signature:
Month 12 Day 21 Year 15
Transporter 2 Printed/Typed Name: Norfolk Southern
Signature:
Month 12 Day 21 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H135 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Saidh Miller
Signature:
Month 01 Day 14 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

43752

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000700573WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4656

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter _____ Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD008921340

26. Transporter _____ Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter _____ Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 42324

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986581437	2	(800)510-8510	000700874WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
DEN 89415

6. Transporter 1 Company Name: HURWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000450309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 43480	P	~~D007~~		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information W3-Q864896
1. ERG# 171 1 ~~[illegible]~~ (M)
<900 PPM CRat
Man Doc# 56N0307
T# 8619693
(3935265)G
RAILCAR NO. CIIX 172 TRUCK NO. 28 ERI US ECOLOGY ~~[illegible]~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Honeywell Michael Mundrus — Signature: [signature] — Month 12 Day 21 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: [illegible] — Signature: [signature] — Month 12 Day 21 Year 15
Transporter 2 Printed/Typed Name: [illegible] (CN Rail of Norfolk Southern) — Signature: [signature] — Month 12 Day 21 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible] — Signature: [signature] — Month 1 Day 15 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 42324

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986681407	22. Page 2 of 2	23. Manifest Tracking Number 000700874WAS

24. Generator's Name
HONEYWELL / JOHN DOUWA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4650

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter _____ Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD066921340

26. Transporter _____ Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

Dec 2/12/16 42324

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700875WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MAJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4655
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
40 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HERRITH TRUCKS INC
U.S. EPA ID Number: PAD146714876

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000450309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ NA8077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 44280	P	D007		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
W3-Q864896 Man Doc# SN60308
1. ERG# 171 1 ~~[illegible]~~
<1000 PPM CR6+ (M) 341 T# 8619697 (3935265)6
RAILCAR NO. CLLX 172 TRUCK NO. ERI: US ECOLOGY ~~I5449837~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Munderus As Agent on behalf of Honeywell
Signature: [signature]
Month 12 Day 21 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rick Sanders
Signature: [signature]
Month 12 Day 21 Year 15
Transporter 2 Printed/Typed Name: Wheller
Signature: [signature]
Month 12 Day 21 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Lenter
Signature: [signature]
Month 1 Day 15 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 42324

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000700875WAS

24. Generator's Name

HONEYWELL / JOHN MOJRA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4006

25. Transporter 2 Company Name: TEX TRANSPORTATION INC — U.S. EPA ID Number: FLD006221340

26. Transporter 3 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 2 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Dec 2/12/16

43752

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700876WAS

GENERATOR

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HURWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650302

8. Designated Facility Name and Site Address
MERITAGE ENVIRONMENTAL SERVICES
7701 W DORRIE ST
INDIANAPOLIS, IN 46201-0301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 43740	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
W3-Q864896
Man Doc# S6NQ309
1. CRG# 171 1
<1000 PPM CRA
(M) 8619283
(3935265)6
RAILCAR NO. CHLX 211 TRUCK NO. 246 ERI: US ECOLOGY ~~LS4490859~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 12 Day 21 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Christian L. Smith
Signature: [signature]
Month 12 Day 21 Year 15
Transporter 2 Printed/Typed Name: [illegible] on behalf of Norfolk Southern
Signature: [signature]
Month 12 Day 21 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature: [signature]
Month 01 Day 14 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

43752

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000700876WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4656

HONEYWELL / DINO CICLONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4006

25. Transporter _____ Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter _____ Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 42324

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700877WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN ROJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HURWITH TRUCKS INC
U.S. EPA ID Number: PAD148714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000450302

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-2301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM, D007)	1	DT	EST 40780	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3_Q 8641896 Man Doc# 56NQ310
1 ERG# 171 1 NA 9F ERGO HAZARDOUS
<1000 PPM CRA* (M) T# 8619695 (3935265)6
RAILCAR NO: CHUX 172 TRUCK NO: 290 ERI:US ECOLOGY E5449841046 (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 12 Day 21 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Luis Vazquez
Signature: [signature]
Month 12 Day 21 Year 15
Transporter 2 Printed/Typed Name: [illegible]
Signature: [signature]
Month 12 Day 21 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H010 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible]
Signature: [signature]
Month 1 Day 15 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Ave 2/12/16 42324

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD078458143	22. Page 2 of 2	23. Manifest Tracking Number 000700877WAS

24. Generator's Name
HONEYWELL / JOHN MOUKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4656

HONEYWELL / DINO CICCONE
50 KELLOGG ST
JERSEY CITY, NJ 07305-4896

25. Transporter _____ Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter _____ Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

Rec 2/12/16 42324

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700878WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN ROJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4650
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN 89415

6. Transporter 1 Company Name: MORWITH TRUCKING INC — U.S. EPA ID Number: FAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
2901 W MORRIS ST
INDIANAPOLIS, IN 46241-3901
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219912

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 43140	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
W3-Q864896 MWM Doc # S6N0311
1. ERGA 171 1 ~~[illegible]~~
<1000 PPM Grat
L/L T# 8619699 (3935265)6
RAILCAR NO. CLLX172 TRUCK NO. ERI:US ECOLOGY ~~[illegible]~~

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundrus — As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 21 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin McKechan — Signature: [signature] — Month 12 Day 21 Year 15
Transporter 2 Printed/Typed Name: [illegible] — Signature: [signature] — Month 12 Day 21 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H130 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible] Signature: [signature] Month 1 Day 15 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 42324

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581497	22. Page 2 of 2	23. Manifest Tracking Number 000700878WAS

24. Generator's Name
HONEYWELL / JOHN ROJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4258

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4608

25. Transporter _____ Company Name CDT TRANSPORTATION INC — U.S. EPA ID Number FLD005721340

26. Transporter _____ Company Name HERITAGE TRANSPORT LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 43752

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986587487
2. Page 1 of: 2
3. Emergency Response Phone: (800)519-8519
4. Manifest Tracking Number: 000700879WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MONRA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 8941E

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: MAKER & SOUTHERN RELIGRAD
U.S. EPA ID Number: VAD000650202

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-6301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093217012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. RQ NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 4514D	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
W3-Q864896 Man Doc # 56N0312
ERGW 171 1 ~~NA 9077RQ IND093217012~~
>1000 PPM CR6+ (M) 8619785 (3935265)6
RAILCAR NO. CHLX 211 TRUCK NO. 242 ERI US ECOLOGY ~~CE4404830~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 12 Day 21 Year 15

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: SGL Gagliano
Signature: [signature]
Month 12 Day 21 Year 15
Transporter 2 Printed/Typed Name: Walter on behalf of Maker Southern
Signature: [signature]
Month 12 Day 21 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H130 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature: [signature]
Month 01 Day 14 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 43752

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581407	22. Page 2 of 2	23. Manifest Tracking Number 000700879WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4650

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name DSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Dec 2/12/16 42324

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700880WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 44680	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3-Q864896 Man Doc # S6N0313
1 ERG# 171 1 ~~UN-NA3077 INDA7282467~~
<1000 PPM CR6+ (M)
T# 8619691 (3935265)G
RAILCAR NO. CHUX 172 TRUCK NO. 214 ERI: US ECOLOGY ~~IEA4984436~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 21 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: LEE HETRICH — Signature: [signature] — Month 12 Day 21 Year 15
Transporter 2 Printed/Typed Name: Mike Gor on behalf of Norfolk Southern — Signature: [signature] — Month 12 Day 21 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Gen Carl — Signature: [signature] — Month 1 Day 13 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR STATE (IF REQUIRED)

Rec 2/12/16

42324

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581457	22. Page 2 of 2	23. Manifest Tracking Number 000700880WAS

GENERATOR

24. Generator's Name
HONEYWELL / JOHN NOJWA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4653

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name COX TRANSPORTATION INC — U.S. EPA ID Number FLD066921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND053484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 12/21/16 39116

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700881WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MUJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4855
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714078

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000450309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-6301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 45040	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3-Q864896
ERGH 171 1 ~~[illegible]~~
<1000 PPM CRA+ (M) 8619325
Man Doc # S6N0314
(3935265)G
BATLEAR NO. 11111X 504 TRUCK NO. 221 ERI:US ECOLOGY ~~[illegible]~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 21 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Wandi Torres
Signature:
Month 12 Day 21 Year 15
Transporter 2 Printed/Typed Name: [illegible] on behalf of Norfolk Southern
Signature:
Month 12 Day 21 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. W110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Jack Miller
Signature:
Month 01 Day 14 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 391/6 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581497	22. Page 2 of 2	23. Manifest Tracking Number 000700081WAS

24. Generator's Name
HONEYWELL / JOHN MOLKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4558

HONEYWELL / DINO CICCONE
40 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter _____ Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD005921340

26. Transporter _____ Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058404114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 2/12/16 43752

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581407
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700882WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOLNAR
101 COLUMBIA RD
MORRISTOWN NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000450309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)242-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (PGIII), (CHROMIUM), (D007)	1	DT	EST 40900	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
W3_Q 864896
1. ERG# 171 1 ~~[illegible]~~
<1000 PPM CRO4 (M) 8619291 2M 1-14-16
MunDoc#56N0315
(3935265)G
RAILCAR NO. CNWX 211 TRUCK NO. 220 ERI US ECOLOGY ~~IE4198463~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 21 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: TIM MILLER
Signature:
Month 12 Day 21 Year 15
Transporter 2 Printed/Typed Name: Mattler (on behalf of Norfolk Southern)
Signature:
Month 12 Day 21 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: I Sarah Miller
Signature:
Month 01 Day 14 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 43757

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000700882WAS

24. Generator's Name
HONEYWELL / JOHN NOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-6658

HONEYWELL / DINO CICLONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter _____ Company Name JEX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter _____ Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND055484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 2/12/16

46280

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986581632	2	(800)510-8510	000700883WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4858
Generator's Phone: (973)455-4852

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)349-8511

U.S. EPA ID Number: IND093217012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM, D007)	1	DT	EST 42820	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3_Q864896
1. ERG# 171 ~~[illegible]~~
<1000 PPM CR6+ (M) 8619293 IN 1-04-16 man Doc # S6N0316 (3435265)6
RAILCAR NO. CIUX747 TRUCK NO. 210 ERI:US ECOLOGY [illegible] (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: michael Munoras As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 21 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: William Wisser — Signature: William Wisser — Month 12 Day 21 Year 15
Transporter 2 Printed/Typed Name: [illegible] — Signature: [signature] — Month 12 Day 21 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H010 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller — Signature: [signature] — Month 01 Day 14 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

46280

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986521437

22. Page 2 of 2

23. Manifest Tracking Number: 000700883WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4650

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4606

25. Transporter _____ Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD008921340

26. Transporter _____ Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058464114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter _____ Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Dec 2/12/16 43584

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986581437	2	(800)510-8519	000700884WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MUKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4852

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811

U.S. EPA ID Number: IND099219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 45000	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
W3_Q864896
ERG# 171 ~~[illegible]~~
<1000 PPM CRG
(M) 8617710
Mun Doc #56N0317
(3935265)G
RAILCAR NO. CIUX 143 TRUCK NO. 285 ERI: US ECOLOGY ~~[illegible]~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras — As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 22 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Bruce Meinkens — Signature: [signature] — Month 12 Day 22 Year 15
Transporter 2 Printed/Typed Name: Walter — on behalf of Norfolk Southern — Signature: [signature] — Month 12 Day 22 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H010 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Jack Miller — Signature: [signature] — Month 10 Day 14 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Aug 2/12/16 43584

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581497	22. Page 2 of 2	23. Manifest Tracking Number 000700024WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4650

HONEYWELL / DINO CICCONE
60 BELLOCO ST
JERSEY CITY, NJ 07305-4806

25. Transporter _____ Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter _____ Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 45152

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986591437	1	(800)510-8510	000700885WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOURA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4858
Generator's Phone: (973)455-4852

Generator's Site Address (if different than mailing address)
HONEYWELL / DINOCHEM
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN. 89415

6. Transporter 1 Company Name: MORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: MORFELD SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9501
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 48020	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3_Q864896
ERGO 171 ; ~~[illegible]~~
<600 PPM CRG- (M) 8614397 Man Doc # SGN0318
RAILCAR NO. CILX298 TRUCK NO. 294 ERI-US ECOLOGY (3935265)G ~~E5448848~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 22 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Carrier w/ Fedex Invitational Norfolk Section — Signature: [signature] — Month 12 Day 22 Year 15
Transporter 2 Printed/Typed Name: [illegible] — Signature: [signature] — Month 12 Day 22 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H130 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sarah Miller — Signature: [signature] — Month 01 Day 12 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 45152

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986561437

22. Page 2 of 2

23. Manifest Tracking Number: 000700085WA6

24. Generator's Name: HONEYWELL / JOHN MILJKA, 101 COLUMBIA RD, MORRISTOWN, NJ 07960-4658 // HONEYWELL / DINO CIPCONE, 40 KELLOGG ST, JERSEY CITY, NJ 07305-4804

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 12/22/16 39116

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986891437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700886WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN DOLKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4539
Generator's Phone: (973)455-4852

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4906
GEN 69415

6. Transporter 1 Company Name: HUSWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650399

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-8811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 49180	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3-Q864896
ERGN 171 [illegible]
2000 PPM [illegible] (M) 861937 [illegible] 1-14-16
RAILCAR NO. EHMX 504 TRUCK NO 28 Man Doc # S6N0319 ERI: US ECOLOGY (3935265)6 (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell
Signature: [signature]
Month 12 Day 22 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: [illegible]
Signature: [signature]
Month 12 Day 22 Year 15

Transporter 2 Printed/Typed Name: [illegible] Civitarelli Hydelik Sullivan
Signature: [signature]
Month 12 Day 22 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H010 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature: [signature]
Month 01 Day 14 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	of 2	000700088eWAS

24. Generator's Name

HONEYWELL / JOHN MOLNA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4458

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4804

25. Transporter _____ Company Name TEX TRANSPORTATION INC — U.S. EPA ID Number FLD036921340

26. Transporter _____ Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND056484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter _____ Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

Dec 2/12/16 43584

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD982481437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700887WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4650
Generator's Phone: (973)455-4253

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 46960	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
W3-Q864896
1 ERGH 171 1 ~~[illegible]~~
>1000 PPM CRA (M) 8617708
manDoc #SGN0320
RAILCAR NO CLUX 143 TRUCK NO 34 ERI:US ECOLOGY (3935265)G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 12 Day 22 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rick Sandoval
Signature: [signature]
Month 12 Day 22 Year 15
Transporter 2 Printed/Typed Name: Miller on behalf of Heritage Solutions
Signature: [signature]
Month 12 Day 22 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. M160 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature: [signature]
Month 01 Day 14 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000700087WAS

24. Generator's Name
HONEYWELL - JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4206

25. Transporter 4 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND050484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Dec 12/16 39116

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986881437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700888WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOURA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4650
Generator's Phone: (973)455-4052

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN. 89415

6. Transporter 1 Company Name: HURWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000450309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-8811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 48620	P	D007		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information W3-Q864896 Man Doc # SGN0321
1. ERG# 171 1 ~~[illegible]~~
<1000 PPM CRA4 (M) 8619303
RAILCAR NO. EAMX 504 TRUCK NO. 270 ERI:US ECOLOGY (3935265)G ~~[illegible]~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 12 Day 22 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Tom DeGrant
Signature: [signature]
Month 12 Day 22 Year 15
Transporter 2 Printed/Typed Name: [illegible] Norfolk Southern
Signature: [signature]
Month 12 Day 22 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H010 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible]
Signature: [signature]
Month 01 Day 14 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	of 2	000700888WAS

24. Generator's Name

HONEYWELL / JOHN MUNA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4656

HONEYWELL / DINO CICCONE
80 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter _____ Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD004921340

26. Transporter _____ Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter _____ Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 43584

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700889WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN 89415

6. Transporter 1 Company Name: HURWITZ TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000450309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3291
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (LEAD, CHROMIUM), (D007)	1	DT	EST 43400	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3-Q864896
1. CRGO 171 1 UN 3077 PG III
1000 PER CRGO (M) 8617706 Man Doc #56NU322
RAILCAR NO. CLUX 143 TRUCK NO. 292 ERI:US ECOLOGY (3935265)G
E5449853736 (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 12 Day 22 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: JASON C. Bradford
Signature: [signature]
Month 12 Day 22 Year 15
Transporter 2 Printed/Typed Name: [illegible]
Signature: [signature]
Month 12 Day 22 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H010 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature: [signature]
Month 01 Day 14 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 43584

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000700BW9WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
40 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 2/12/16 45152

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581434
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700890WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4458
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN. 89415

6. Transporter 1 Company Name: HURWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650709

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-8811
U.S. EPA ID Number: IND099219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
	1. RQ, NA1993, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 43260	P	D007		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information W3-Q864896
1. ERG# 171) UN 9003 RQ HAZARDOUS WASTE
<1000 PPM CRA
(M) 8614399 In 12-16
Man Doc # 56N0323
RAILCAR NO. CHLX 298 TRUCK NO. 414 ERI: US ECOLOGY (3935265) G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 22 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin McKechan
Signature:
Month 12 Day 22 Year 15
Transporter 2 Printed/Typed Name: Mcallister
Signature:
Month 12 Day 22 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H010 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sarah Miller
Signature:
Month 01 Day 12 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 2/12/16 45152 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000700870045

24. Generator's Name
HONEYWELL / JOHN MUJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4850

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD008921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Dec 2/12/16 45152

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800) 510-8510
4. Manifest Tracking Number: 000700891WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN KOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000450909

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	~~5T~~ 43180	P	~~D007~~		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information W3_Q864896
1. ERG# 171 1 ~~[illegible]~~
1000 PPM CRG
(M) 2614391
Man Doc # 56N0324
RAILCAR NO. CHX 298 TRUCK NO. 285 ERI: US ECOLOGY (3935265)G ~~[illegible]~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras — As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 22 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Bruce Meinert — Signature: [signature] — Month 12 Day 22 Year 15
Transporter 2 Printed/Typed Name: [illegible] — Signature: [signature] — Month 12 Day 22 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H010 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible] Signature: [signature] Month 1 Day 12 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Ne 2/12/16 45152

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000700891WAS

24. Generator's Name
HONEYWELL / JOHN MOURA
101 COLUMBIA RD
MORRISTOWN NJ 07960-4558

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter _____ Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921040

26. Transporter _____ Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 2/12/16 43584

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986501432 Rec 2/12/16
2. Page 1 of 3
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700892WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MUJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 87415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: MORGAN SOLIDERS RAILROAD
U.S. EPA ID Number: VAD000450309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
2901 D MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 39420	P	~~D007~~		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information W3-Q864896 Man Doc #56N0325
1. ERGN 171 1 ~~[illegible]~~
<1000 PPM CRS- (M) 861704 (3935265)G
RAILCAR NO CHLX 143 TRUCK NO 28 ERI: US ECOLOGY ~~[illegible]~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 12 Day 22 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: [signature] Signature: [signature] Month 12 Day 22 Year 15
Transporter 2 Printed/Typed Name: [signature] on behalf of Metals Solutions Signature: [signature] Month 12 Day 22 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H010 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller Signature: [signature] Month 01 Day 14 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 43584

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581677	22. Page 2 of 2	23. Manifest Tracking Number 000700892WAS

24. Generator's Name
HONEYWELL / JOHN MORRA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4656

HONEYWELL / GIND CICCONE
40 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter _____ Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006221340

26. Transporter _____ Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 12/12/16 45152

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986681437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700893WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN NOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4650
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4606
GEN. 89415

6. Transporter 1 Company Name: HURWITH TRUCKS INC
U.S. EPA ID Number: PAD146714978

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: NAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
2901 W MORRIS ST
INDIANAPOLIS, IN 46221-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA 1077, HAZARDOUS WASTE, SOLID, N.O.S., (LEAD, CHROMIUM), 9, PG III	1	DT	~~ESY~~ 39440	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
W3_Q864896 Man Dat# S6N0326
ERG# 171 1
<1000 PPM CN64
3614395
(3935265)6
RAILCAR NO. CIUX 198 TRUCK NO. 34 ERI:US ECOLOGY

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell
Signature:
Month 12 Day 22 Year 15

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rick Saunders
Signature:
Month 12 Day 22 Year 15
Transporter 2 Printed/Typed Name: Mueller on behalf of Norfolk Southern
Signature:
Month 12 Day 22 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H010 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Nail
Signature:
Month 01 Day 12 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 45152

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000700895WAS

24. Generator's Name
HONEYWELL / JOHN MUJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 39116

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700894WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MUJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4958
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
40 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN. 8941U

6. Transporter 1 Company Name: NORWITH TRUCKING INC
U.S. EPA ID Number: PAD146714078

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD006650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7701 W MORRIS ST
INDIANAPOLIS, IN 46231-3201
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PG III,(CHROMIUM),(D007)	1	DT	EST 51280	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3-Q 864896
2 1 BOX 171 1 UN 3077 RQ, 9, III
1000 PER CRAT
8619309
Man Doc# SGN0327
RAILCAR NO. FMIX 504 TRUCK NO. 270 ERI-US ECOLOGY (393565)G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 22 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Tom DeGroat
Signature:
Month 12 Day 22 Year 15
Transporter 2 Printed/Typed Name: Walker CN 12 Norfolk Southern
Signature:
Month 12 Day 22 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sarah Mill
Signature:
Month 01 Day 14 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 2/14/14 39116 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000700894WAS

24. Generator's Name
HONEYWELL / JOHN MOJWA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4620

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY NJ 07305-4806

25. Transporter _____ Company Name TSI TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter _____ Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 45152

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986501437
2. Page 1 of: 8
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700895WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN SOUKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4656
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: [illegible]
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-2301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM, D007)	1	DT	EST 41220	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
W3-Q8648896
Man Doc #SGN0328
1. ERGN 171 1 UN 3077 PG III
<1000 PPM CR6+
(M) 861470
RAILCAR NO. CHUX 248 TRUCK NO. 294 FRT: US ECOLOGY (393526)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 22 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: [illegible]
Signature:
Month 12 Day 22 Year 15
Transporter 2 Printed/Typed Name: [illegible]
Signature:
Month 12 Day 22 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H010 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 01 Day 12 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 45152

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986501437	22. Page 2 of 2	23. Manifest Tracking Number 000700895WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4075

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4804

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

Rec 2/12/16

43584

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-0510
4. Manifest Tracking Number: 000700896WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOURA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Rec 2/12/16

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA9077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PG III, (CHROMIUM), (D007)	1	DT	EST 39180	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3-Q864896
1 ERGW 171 1 UN 9077 RQ
1000 PPM CRA
(M) 8617702 SM 1-14-16 44
MunDec#S6N0329
(3925265)6
RAILCAR NO. CHLX 143 TRUCK NO. CRL US ECOLOGY

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 22 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin McKechan
Signature:
Month 12 Day 22 Year 15
Transporter 2 Printed/Typed Name: Walter
Signature:
Month 12 Day 22 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H010 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sarah Miller
Signature:
Month 01 Day 14 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 43584

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986561487

22. Page 2 of 2

23. Manifest Tracking Number: 000700896WAS

24. Generator's Name: HONEYWELL / JOHN NOJKA, 101 COLUMBIA RD, MORRISTOWN, NJ 07960-4650 — Rec 2/12/16 — HONEYWELL / DINO CICCONE, 60 KELLOGG ST, JERSEY CITY, NJ 07305-4806

25. Transporter _____ Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter _____ Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND059484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Rec 2/12/16 38470 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986501487
2. Page 1 of: 2
3. Emergency Response Phone: (800) 510-9510
4. Manifest Tracking Number: 000700897WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973) 455 4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
66 KELLOGG ST
JERSEY CITY, NJ 07305-4608
GEN: B9415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714078

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000680202

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
2901 W MORRIS ST
INDIANAPOLIS, IN 46241-5301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PG III, (CHROMIUM), D007	1	DT	EST 4800	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3_Q864896 Man Doc# S6N0330
1 FROM 171 1 2000 PPM CRW (M) 862663 (3935265) G
RAILCAR NO. FMNX 501 TRUCK NO. 28 FRI: US ECOLOGY 7 E4489616

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundras Honeywell — Signature: [signature] — Month 12 Day 29 Year 15

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: [illegible] — Signature: [signature] — Month 12 Day 29 Year 15
Transporter 2 Printed/Typed Name: [illegible] Norfolk Southern — Signature: [signature] — Month 12 Day 29 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H010 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sarah Miller — Signature: [signature] — Month 01 Day 12 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. **DESIGNATED FACILITY TO GENERATOR**

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000700897UAS

24. Generator's Name
HONEYWELL / JOHN POLKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 1 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006721340

26. Transporter 2 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND050484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 1 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 2 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 12/12/16 38470

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986591427
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700898WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: GP415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650308

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
2701 W MORRIS ST
INDIANAPOLIS, IN 46241-3501
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, (BIT), (CHROMIUM), (D007)	1	DT	EST 48300	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3-Q 8641896
1. ERGB 171 1 [illegible]
<1000 PPM (B6) 862 6634 Man Doc # S6N0331
BALLCAR NO. [illegible] TRUCK NO. 270 ERI US ECOLOGY (3935265)6

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras — As Agent on behalf of Honeywell
Signature: [signature]
Month 12 Day 29 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Tom DeGroot
Signature: [signature]
Month 12 Day 29 Year 15
Transporter 2 Printed/Typed Name: Walter — on behalf of Norfolk Southern
Signature: [signature]
Month 12 Day 29 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H040 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Jack Miller
Signature: [signature]
Month 01 Day 18 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Au 3/12/16 38470 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986561437	22. Page 2 of 2	23. Manifest Tracking Number 000700898WAS

24. Generator's Name
HONEYWELL / JOHN MOJICA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4659

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006281340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986581437	2	(800)510-8510	000700899WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MUNRA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4650
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN. 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714876

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD066650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7201 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 47760	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3_Q864896 Man Doc #S6NU332
ERGW 171 1 UN NA3077 HAZARDOUS
<1000 PPM CRA (M) 8626636 I M 1.16
RAILCAR NO / UNIT S16 TRUCK NO. 224 ERI:US ECOLOGY (3935265)6 (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 29 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Herbert J. Hogan — Signature: [signature] — Month 12 Day 29 Year 15
Transporter 2 Printed/Typed Name: Walter Smith on behalf of Norfolk Southern — Signature: [signature] — Month 12 Day 16 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H010 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller — Signature: [signature] — Month 01 Day 18 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 006700899WAS

24. Generator's Name
HONEYWELL / JOHN ROJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter _____ Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter _____ Company Name MERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

Rec 2/22/16 52360

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700900WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4858
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4808
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-2301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,WA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 47660	P	~~D007~~
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3-Q 8641896
1. ERG# 171 1. [illegible]
1000 PPM CR6+ (M) 8626632 TN 1-12-16
RAILCAR NO. THLX 511 TRUCK NO. 34 Man Doc # SGN0333
ERI:US ECOLOGY (3435265)6 ~~[illegible]~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 29 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rick Saunders — Signature: [signature] — Month 12 Day 29 Year 15
Transporter 2 Printed/Typed Name: [illegible] on behalf of Norfolk Southern — Signature: [signature] — Month 12 Day 29 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H130 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Scott Miller — Signature: [signature] — Month 01 Day 18 Year 16

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/12/08 523600

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000700900WRS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter _____ Company Name MSX TRANSPORTATION INC — U.S. EPA ID Number EKD006921340

26. Transporter _____ Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 38470

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJ0986581407
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700901WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN BUJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4256
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
DEN. 8941S

6. Transporter 1 Company Name: MURWIN TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: MODERN SOUTHWEST RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 51860	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3-Q864896
Man Doc# SGN0834
862630
EM-1-12-16
(1000 PPM CR6+)
RAIL CAR NO. UTLX 506 TRUCK NO. 28
ERI-US ECOLOGY (335265)G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 12 Day 29 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: [illegible]
Signature:
Month 12 Day 29 Year 15

Transporter 2 Printed/Typed Name: [illegible]
Signature:
Month 12 Day 29 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H010			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Mills
Signature:
Month 01 Day 12 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec-d 12/12/06 38470

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000700901WAS

24. Generator's Name
HONEYWELL / JOHN RUJKA
101 COLUMBIA RD
MORRISTOWN NJ 07960-4558

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY NJ 07305-4806

25. Transporter 1 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006221340

26. Transporter 2 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 1 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 2 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 2/12/16 52360

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800) 710-9510
4. Manifest Tracking Number: 000700902WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4620
Generator's Phone: (973)455-6222

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806 470
GEN. 89415

6. Transporter 1 Company Name: HURWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)245-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM) (D007)	1	DT	EST 49240	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3-Q864896
ERGR 171 1
<1000 PPM CHG
(M) 8626640 TM 1-12-16
Man Doc #SGNU335
(3935265)G
RAILCAR NO. FWHX 516 TRUCK NO. 270 ERI US ECOLOGY

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Honeywell Michael Mundras
Signature:
Month 12 Day 29 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Tom DeGroot
Signature:
Month 12 Day 29 Year 15
Transporter 2 Printed/Typed Name: on behalf of Norfolk Southern
Signature:
Month 12 Day 29 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H120 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sarah Miller
Signature:
Month 01 Day 12 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/17/16 52360

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 6 of 6	23. Manifest Tracking Number 000700902WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter _____ Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter _____ Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND055484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

52360

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986581437	2	(800)510-8510	000700903WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-6650
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714078

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650202

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)245-0811
U.S. EPA ID Number: IND093217012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 49280	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
W3_Q864896
Man Doc # SGNU336
1. ERG# 171 1 UN 3077 HAZARDOUS WASTE, SOLID, N.O.S. (<1000 PPM CRS+)
(M) 8626642
JM1-12-16
(3935265)G
RAILCAR NO. FMNX 516 TRUCK NO. 224
ERI US ECOLOGY IE4495677G (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras — As Agent on behalf of Honeywell — Signature: [signature] — Month 12 Day 29 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Herbert J Logan — Signature: [signature] — Month 12 Day 29 Year 15
Transporter 2 Printed/Typed Name: [illegible] — on behalf of Norfolk Southern — Signature: [signature] — Month 12 Day 29 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H010 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible] Signature: [signature] Month 1 Day 18 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/19/16 52360

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986561437

22. Page 2 of 2

23. Manifest Tracking Number: 000706903WAS

24. Generator's Name
HONEYWELL / JOHN MOLNA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4608

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CHS TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Dec 2/12/16 38470 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986691437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700904WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO DELANO
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-9301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA9077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CADMIUM), (D007)	1	DT	EST 50960	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3-Q864846
MunDoc # S6N0337
(M) 8626623
RAILCAR NO. FHMX 504 TRUCK NO. 34 ERI US ECOLOGY (3935265) G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature
Month 12 Day 29 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rick Sanders
Signature
Month 12 Day 29 Year 15
Transporter 2 Printed/Typed Name: J Miller on behalf of Norfolk Southern
Signature
Month 12 Day 29 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H040 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature
Month 01 Day 18 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 38470

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page of 2	23. Manifest Tracking Number 000700904WAS

24. Generator's Name
HONEYWELL / JOHN MOUKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CIOCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter _____ Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006721340

26. Transporter _____ Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 2/15/16
43340

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000701037WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	GST 47180	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W4_0865233_T#8473681 MAN DOC # 56N0175
>1000 PPM CR6+
RAILCAR NO. CHUX 318 TRUCK NO. 290 ERI: US ECOLOGY C545000216

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras as Agent on behalf of Honeywell
Signature:
Month 11 Day 25 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Luis Vazquez
Signature:
Month 11 Day 25 Year 15

Transporter 2 Printed/Typed Name: Matlsa on behalf of Norfolk Southern
Signature:
Month 11 Day 25 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1	2.	3.	4
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 12 Day 15 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000701037WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43340

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986581437	2	(800)510-8510	000701038WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	GST 45400	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1 W4_0865233_T#8473683 Man Doc # SGN0174
>1000 PPM CR6+

RAILCAR NO. CHUX 318 TRUCK NO. 213 ERI: US ECOLOGY C545000313

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day ~~24~~ 25 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Joe Dinkokowitz — Signature: [signature] — Month 11 Day ~~24~~ 25 Year 15

Transporter 2 Printed/Typed Name: Matt Gr on behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 25 Year 15

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Leigh Miller — Signature: [signature] — Month 12 Day 15 Year 15

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000701038WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16
43868

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1 Generator ID Number	2 Page 1 of	3 Emergency Response Phone	4. Manifest Tracking Number
NJD986581437	2	(800)510-8510	000701039WAS

5 Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6 Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7 Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group (if any))	10 Containers No.	10 Containers Type	11 Total Quantity	12 Unit Wt./Vol.	13. Waste Codes
X	1 RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	GST 39580	P	D007
	2					
	3					
	4					

14. Special Handling Instructions and Additional Information
Man Doc # 56N 0173
1. ERG# 171 1. W4_0865233_T#8473685
>1000 PPM CR6+
RAILCAR NO. CHUX 308 TRUCK NO. 291 ERI: US ECOLOGY E54500043G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 25 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Paul Snyder AP-54621
Signature: 291
Month 11 Day 25 Year 15
Transporter 2 Printed/Typed Name: on Behalf of Norfolk Southern
Signature:
Month 11 Day 25 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 12 Day 14 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21 Generator ID Number NJD986581437	22 Page 2 of 2	23. Manifest Tracking Number 000701039WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28 Containers No	28 Containers Type	29. Total Quantity	30 Unit Wt./Vol	31 Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 2/15/16

43340

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000701040WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1 RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 37400	P	~~D007~~
	2.					
	3					
	4					

14. Special Handling Instructions and Additional Information
1 ERG# 171 1 W4_Q865233_T#8473687
31000 PPM CR6+
Man Doc # S6N0172
RAILCAR NO. CHUX 318 TRUCK NO. 219 ERI: US ECOLOGY C545000SJG

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras as Agent on behalf of Honeywell
Signature:
Month 11 Day 25 24 (M) Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: David Clapp
Signature:
Month 11 Day 25 24 Year 15

Transporter 2 Printed/Typed Name: Matt Sr on behalf of Norfolk Southern
Signature:
Month 11 Day 25 (M) Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 12 Day 15 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21 Generator ID Number NJD986581437	22 Page 2 of 2	23. Manifest Tracking Number 000701040WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25 Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD008921340

26 Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No	28. Containers Type	29. Total Quantity	30 Unit Wt./Vol	31 Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43148

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Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986581437	2	(800)510-8510	000701041WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811

U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 38800	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERGH 171 1. W4_Q865233_T#8473689 Man Doc # 56N0171
>1000 PPM CR6+
RAILCAR NO. QHGX262 TRUCK NO. 211 ERI-US ECOLOGY C545000610

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 25 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kelon Mecks — Signature: [signature] — Month 11 Day 25 Year 15
Transporter 2 Printed/Typed Name: Matthew on behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 25 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller — Signature: [signature] — Month 12 Day 19 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000701041WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

X

Rec 2/15/16

43148

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986581437	2	(800)510-8510	000701042WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: WAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10 Containers No	10 Containers Type	11 Total Quantity	12 Unit Wt./Vol.	13 Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 42180	P	D007
	2.					
	3.					
	4					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1 W4_0865233_T#8473691 Man Doc # S6N0170
>1000 PPM CR6+
RAILCAR NO. CHUX 262 TRUCK NO. 285 ERI: US ECOLOGY C545000716

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for behalf of Honeywell — Signature: [signature] — Month 11 Day 24 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Bruce Meinhart — Signature: [signature] — Month 11 Day 24 Year 15
Transporter 2 Printed/Typed Name: Matt Gr on Behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 24 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller — Signature: [signature] — Month 12 Day 14 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST
(Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000701042WAS

24. Generator's Name: HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC
U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC
U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16 43868

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986581437	2	(800)510-8510	000701043WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1 RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 42240	P	D007
	2.					
	3.					
	4					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W4_Q865233_TM8473693 Man Doc # SGN0169
>1000 PPM CR6+
RAILCAR NO. CHUX 308 TRUCK NO. 28 ERI: US ECOLOGY C5450008JG

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 24 Year 15

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: [signature] — Signature: [signature] — Month 11 Day 24 Year 15
Transporter 2 Printed/Typed Name: on behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 24 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1	2	3	4
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller — Signature: [signature] — Month 12 Day 14 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986561437

22. Page 2 of 2

23. Manifest Tracking Number: 000701043WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43340

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000701044WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43380	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERGH 171 1.W4_Q865233_T#8473695 Man Doc #S6N0168
>1000 PPM CR6+
RAILCAR NO. CHUX 318 TRUCK NO. 291 ERI:US ECOLOGY C5450009JG

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 24 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Paul Sigler AE 58421
Signature: Paul Sigler 291
Month 11 Day 24 Year 15

Transporter 2 Printed/Typed Name: Mathis on behalf of Norfolk Southern
Signature:
Month 11 Day 24 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sarah Miller
Signature:
Month 12 Day 15 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: WJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000701044WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

X.

Rec 2/15/16

43340

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986581437	2	(800)510-8510	000701045WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN NOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10 Containers No.	10 Containers Type	11 Total Quantity	12 Unit Wt./Vol.	13 Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	GST 42500	P	D007
	2					
	3					
	4					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_Q865233_T#8473697 Man Doc #SGN0167
51000 PPM CR6+
RAILCAR NO. CHUX 318 TRUCK NO. 242 ERI:US ECOLOGY E545001016

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: As Agent on behalf of Michael Mundrus Honeywell — Signature: [signature] — Month 11 Day 24 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

TRANSPORTER

17 Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: SAL Cavaliero — Signature: [signature] — Month 11 Day 24 Year 15

Transporter 2 Printed/Typed Name: on Behalf of Norfolk Southern Matthew — Signature: [signature] — Month 11 Day 24 Year 15

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19 Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4
H110			

20 Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Jason Miller — Signature: [signature] — Month 12 Day 15 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000701045WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30 Unit Wt./Vol	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16
43148

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000701046WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: FAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1 RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	~~GSY~~ 43360	P	D007
	2.					
	3					
	4.					

14. Special Handling Instructions and Additional Information
1. ERGH 171 1. W4_Q865233_T#8473699 Man Doc # S6NU166
>1000 PPM CR6+
RAILCAR NO. CHUX 262 TRUCK NO. 286 ERI: US ECOLOGY C5450011JG

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 24 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Dave Friedman
Signature:
Month 11 Day 24 Year 15
Transporter 2 Printed/Typed Name: Matt Sc On Behalf of Norfolk Southern
Signature:
Month 11 Day 24 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Said Mill
Signature:
Month 12 Day 19 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000701046WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit WT./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

DESIGNATED FACILITY

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43868

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000701047WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1 RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42940	P	D007
	2					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1 W4_Q865233_T#8473701 Man Doc #SBN0165
>1000 PPM CR6+
RAILCAR NO. CNUX 308 TRUCK NO. 290 ERI:US ECOLOGY C545001236

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 24 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Luis Vazquez
Signature:
Month 11 Day 24 Year 15
Transporter 2 Printed/Typed Name: Mistler on Behalf of Norfolk Southern
Signature:
Month 11 Day 24 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Jason Miller
Signature:
Month 12 Day 14 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type (Form designed for use on elite (12-pitch) typewriter.) Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000701047WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4653

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)

GENERATOR

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43148

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986581437	2	(800)510-8510	000701048WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 4496D	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W4_Q865233_T#8473703 Man Doc # SGN0164
>1000 PPM CR6+
RAILCAR NO. CHUX 262 TRUCK NO. 214 ERI: US ECOLOGY C545001 3IG

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Michael Mundrus — As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 24 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: LEE HETRICH — Signature: [signature] — Month 11 Day 24 Year 15
Transporter 2 Printed/Typed Name: Mathis — on Behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 24 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller — Signature: [signature] — Month 12 Day 14 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000701048WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol	31 Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43672

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000701049WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4656
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

GENERATOR

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1 RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 41800	P	D007
	2					
	3					
	4					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1 W4_Q865233_T#8473705
01000 PPM CR6+
MIM Doc # SGN0103
RAILCAR NO. CHUX 287 TRUCK NO. 212 A6-08385PA. ERI: US ECOLOGY CS45001536

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 24 Year 15

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: DAVID A. GRUVER
Signature:
Month 11 Day 24 Year 15
Transporter 2 Printed/Typed Name: Matter on Behalf of Norfolk Southern
Signature:
Month 11 Day 24 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sarah Miller
Signature:
Month 12 Day 14 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet) 1

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000701049WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28 Containers No	28 Containers Type	29 Total Quantity	30 Unit Wt./Vol.	31 Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

FACILITY

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16
43672

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986581437	2	(800)510-8510	000701050WAS

GENERATOR

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	~~57~~ 43320	P	D007		
	2.							
	3.							
	4							

14. Special Handling Instructions and Additional Information
1 ERGH 171 1 W4_0865233_TH8473707 ManDoc# S6N0162
>1000 PPM CR6+
RAILCAR NO. CNUX 287 TRUCK NO. 292 ERI: US ECOLOGY C545001636

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 24 Year 15

INT'L

16. International Shipments ☐ Import to U.S ☐ Export from U.S Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: JASON C Bradford — Signature: [signature] — Month 11 Day 24 Year 15
Transporter 2 Printed/Typed Name: Matt Sr on behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 24 Year 15

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller — Signature: [signature] — Month 12 Day 14 Year 15

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21 Generator ID Number NJD906581437	22 Page 2 of 2	23. Manifest Tracking Number 000701050WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD008921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b U.S DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28 Containers No	28 Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31 Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name — Signature — Month Day Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name — Signature — Month Day Year

TRANSPORTER

35. Discrepancy

DESIGNATED FACILITY

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43672

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD988581437	2	(800)510-8510	000701051WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811

U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 40700	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERGH 171 1. W4_Q865233_T#8473709 Man Doc # SGN 0161
21000 PPM CR6+
RAILCAR NO. CHUX 287 TRUCK NO. 270 ERI: US ECOLOGY C545001736

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 24 Year 15

16 International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17 Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Tom DeGroot — Signature: [signature] — Month 11 Day 24 Year 15
Transporter 2 Printed/Typed Name: Nortolk Southern On Behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 24 Year 15

18 Discrepancy
18a Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19 Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1	2.	3.	4
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller — Signature: [signature] — Month 12 Day 14 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 00070105 1WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT. LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

GENERATOR

TRANSPORTER

FACILITY

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

Dec 2/15/16

43148

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986581437	2	(800)510-8510	000701052WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10 Containers No	10 Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	ES7 46440	P	D007		
	2.							
	3.							
	4							

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W4_0865233_T#8473711
>1000 PPM CR6+ Man Doc # 56N0160
RAILCAR NO. CHUX 262 TRUCK NO. 34 ERI: US ECOLOGY C545001836

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 24 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rich Sorochka — Signature: [signature] — Month 11 Day 24 Year 15
Transporter 2 Printed/Typed Name: Ric Medlen On Behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 24 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller — Signature: [signature] — Month 12 Day 14 Year 15

GENERATOR — TRANSPORTER — INT'L — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000701052WAS

24. Generator's Name: HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD008921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43672

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000701053WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10 Containers No	10 Containers Type	11. Total Quantity	12 Unit Wt./Vol.	13 Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	65 45160	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1 ERG# 171 1.W4_Q865233_T#8473713 Man Doc # 56N0159
>1000 PPM CR6+
RAILCAR NO. CHUX 287 TRUCK NO. 28 ERI:US ECOLOGY C545001936

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Michael Mundras (As Agent on behalf of Honeywell) Signature: [signature] Month Day Year: 11 24 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Jim Cole Signature: [signature] Month Day Year: 11 24 15
Transporter 2 Printed/Typed Name: Matt Sa (on behalf of Norfolk Southern) Signature: [signature] Month Day Year: 11 24 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller Signature: [signature] Month Day Year: 12 14 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22 Page 2 of 2	23. Manifest Tracking Number 000701053WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA,
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group (if any))	28 Containers No	28 Containers Type	29. Total Quantity	30. Unit Wt./Vol	31 Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

FACILITY

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43868

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000701054WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group (if any))	10 Containers No	10 Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13 Waste Codes
X	1 RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	ES7 45040	P	D007
	2					
	3.					
	4					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W4_0865233_T#8473715 Man Doc #56N0158
>1000 PPM CR6+
RAILCAR NO. CHUX 308 TRUCK NO. 291 ERI:US ECOLOGY E54500203G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 11 Day 24 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Paul Snyder AF-5827H 291
Signature:
Month 11 Day 24 Year 15

Transporter 2 Printed/Typed Name: Matt Sec on behalf of Norfolk Southern
Signature:
Month 11 Day 24 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 12 Day 14 Year 15

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21 Generator ID Number: NJD986581437

22 Page 2 of 2

23. Manifest Tracking Number: 000701054WAS

24. Generator's Name: HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31 Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

X

Dec 2/15/16

43672

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD988581437	2	(800)510-8510	000701055WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	GST 46140	P	D007
	2.					
	3.					
	4					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W4_Q865233_T#8473717 Man Doc #56N 0157
>1000 PPM CR6+

RAILCAR NO. CHUX 287 TRUCK NO. 285 ERI: US ECOLOGY C545002136

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 24 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Bruce Meinhart — Signature: [signature] — Month 11 Day 24 Year 15

Transporter 2 Printed/Typed Name: Mitchell on Behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 24 Year 15

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1	2.	3.	4
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Isaiah Miller — Signature: [signature] — Month 12 Day 14 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000701055WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28 Containers No.	28 Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31 Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Rec 2/15/16

43868

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986581437	2	(800)510-8510	000701056WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 46160	P	D007		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
Man Doc # S6N0156
1. ERG# 171 1. W4_0865233_T#8473719
>1000 PPM CR6+
RAILCAR NO. CNUX 308 TRUCK NO. 242 ERI: US ECOLOGY C545002236

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundrus As Agent on behalf of Honeywell — Signature: [signature] — Month 11 Day 24 Year 15

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Sal Gagliano — Signature: [signature] — Month 11 Day 24 Year 15
Transporter 2 Printed/Typed Name: Matt Sr on behalf of Norfolk Southern — Signature: [signature] — Month 11 Day 24 Year 15

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller — Signature: [signature] — Month 12 Day 14 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000701056WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD008921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Date 9/21/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 914
~~AACL15001~~
SA6N001

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing ~~is true and~~ correct to the best of my knowledge.

Dino Ciccone — Signature — 9/21/15
Name (print) ON BEHALF OF Honeywell — Date

TRANSPORTER

Company Name HORWITH TRKS INC.

Address NORTHAMPTON PA TruckNo. 34

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Driver Name Print — Driver Signature — 9-21-15
Date

DESTINATION

Facility Middlesex County Landfill Gross 78800

Address 53 Edgeboro Road Tare 25800

City East Brunswick, N.J. Net 53000 (53100)

26.50

Signature Authorized Agent — Date

2015 SEP 21 AM 8:22
MIDD. CO. UTIL. AUTH.-
SOLID WASTE DIVISION

Date 9/21/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 915
SA6N002

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

Dino Ciccone ON BEHALF OF Honeywell — Signature — 9/21/15

Name (print) Signature Date

TRANSPORTER

Company Name HORWITH TRKS INC

Address NORTHAMPTON PA TruckNo. 26

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

MIKE LEDUC — Driver Signature — 9/21/15

Driver Name Print Driver Signature Date

DESTINATION

Facility Middlesex County Landfill Gross 77480

Address 53 Edgeboro Road Tare 25000

City East Brunswick, N.J. Net 52480

26.24

2015 SEP 21 AM 8:39

(52160)

Signature Authorized Agent Date

Date 9/21/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 916
SA6 N003

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

Dino Ciccone ON THE BEHALF OF Honeywell — Name (print) — Signature — Date 9/21/15

TRANSPORTER

Company Name Horwith Trks Inc.

Address Northampton PA — TruckNo. 28

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Dan Cole — Driver Name Print — Driver Signature — Date 9/21/15

2015 SEP 21 AM 8:38

DESTINATION

Facility	Middlesex County Landfill	Gross	75640
Address	53 Edgeboro Road	Tare	~~34~~ 600 (24600)
City	East Brunswick, N.J.	Net	51040 (50360)

25.52

Signature Authorized Agent — Date

Date 9/21/2015

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 917
SAGN004

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is ~~true and~~ correct to the best of my knowledge.

Dino Ciccone, ON THE BEHALF OF Honeywell — Name (print) — Signature — Date 9/21/15

TRANSPORTER

Company Name HORWITH TRKS Inc.

Address NORTHAMPTON PA TruckNo. 270

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Tom DeGroot — Driver Name Print — Driver Signature — Date 9/21/15

DESTINATION

Facility Middlesex County Landfill Gross 75900

Address 53 Edgeboro Road Tare 23500

City East Brunswick, N.J. Net 52400 (52.240)

26.20

2015 SEP 21 8:42

Signature Authorized Agent — Date

Date 9/21/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 918
SAGN065

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

DINO CICCONE ON THE BEHALF OF HONEY — Name (print) — Signature — Date 9/21/15

TRANSPORTER

Company Name HORWITH TRKS Inc

Address NORTHAMPTON PA — TruckNo. 42

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

K. HAMBKE — Driver Name Print — Driver Signature — Date 9/21/15

DESTINATION

Facility Middlesex County Landfill — Gross 76300

Address 53 Edgeboro Road — Tare 26840

City East Brunswick, N.J. — Net 49460 (49400)

24.73

2015 SEP 21 AM 9:02
MIDD. CO. UTIL. AUTH.
SOLID WASTE DIVISION

Signature Authorized Agent — Date

Date 9/21/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 919
SAGN 006

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

Dino Ciccone ON THE BEHALF OF Honeywell — Signature — 9/21/15

Name (print) Signature Date

TRANSPORTER

Company Name HORWITH TRKS INC

Address NORTHAMPTON PA TruckNo. 270

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Tom DeGroat — Driver Signature — 9/21/15

Driver Name Print Driver Signature Date

DESTINATION

Facility Middlesex County Landfill Gross 79860

Address 53 Edgeboro Road Tare 23580

City East Brunswick, N.J. Net 56280 (55960)

28.14

Signature Authorized Agent Date

2015 SEP 21 AM 11:02

Date 9/21/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 920
SAGN007

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

Dino Ciccone ON THE BEHALF OF Honeywell — 9/21/15

Name (print) Signature Date

TRANSPORTER

Company Name Horwith Trks Inc

Address Northampton PA TruckNo. 28

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Rich Sorder — 9-21-15

Driver Name Print Driver Signature Date

DESTINATION

Facility Middlesex County Landfill Gross 82260

Address 53 Edgeboro Road Tare 25640

City East Brunswick, N.J. Net 56,620 (55860)

28.31

2015 SEP 21 AM 11:31

MIDD. CO. UTIL. AUTH.
SOLID WASTE DIVISION

Signature Authorized Agent Date

Date 9/21/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 921
SAGN008

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

DINO CICCONE ON THE BEHALF OF Honeywell — Name (print) — Signature — Date 9/21/15

TRANSPORTER

Company Name HORWITH TRKS Inc.

Address NORTHAMPTON PA — TruckNo. 28

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

DAN COLE — Driver Name Print — Driver Signature — Date 9/21/15

2015 SEP 21 AM 11:49

DESTINATION

Facility Middlesex County Landfill — Gross 82980

Address 53 Edgeboro Road — Tare 25160

City East Brunswick, N.J. — Net 57820 — 28.91 — 5 (56640)

Signature Authorized Agent — Date 9/21/15

EW

Date 9/21/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

2015 SEP 21 AM 11:52

No. 922
SAGN009

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

DINO CICCONE ON THE BEHALF OF HONEYWELL — 9/21/15

Name (print) Signature Date

TRANSPORTER

Company Name HORWITH TRKG INC.

Address NORTHAMPTON PA TruckNo. 26

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

MIKE LEDUC — 9/21/15

Driver Name Print Driver Signature Date

DESTINATION

Facility Middlesex County Landfill Gross 78780

Address 53 Edgeboro Road Tare 25240

City East Brunswick, N.J. Net 53540 (53580)

26.77

Signature Authorized Agent Date

EN

Date 9/21/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 923
SA6N010

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

DINO CICCONE ON THE BEHALF OF Honeywell — 9/21/15

Name (print) Signature Date

TRANSPORTER

Company Name HORWITH TRKS Inc.

Address NORTHAMP TruckNo. 42

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Kevin Hamble — 9/21/15

Driver Name Print Driver Signature Date

DESTINATION

Facility Middlesex County Landfill Gross 73840

Address 53 Edgeboro Road Tare 26820

City East Brunswick, N.J. Net 47020 (47300)

2351

2015 SEP 21 PM 12:27

MIDD. CO. UTIL. AUTH.-
SOLID WASTE DIVISION

Signature Authorized Agent Date

Date 9/21/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 924
SAGN011

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

Dino Ciccone ON THE BEHALF OF Honeywell — 9/21/15

Name (print) Signature Date

TRANSPORTER

Company Name HORWITH TRKS INC.

Address NORTHAMPTON PA TruckNo. 270

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

x Tom DeGiorgi — x — x 9/21/15

Driver Name Print Driver Signature Date

2015 SEP 21 PM 1:50

DESTINATION

Facility Middlesex County Landfill Gross 75680

Address 53 Edgeboro Road Tare 23480

City East Brunswick, N.J. Net 52200 (52220)

26.10

Signature Authorized Agent Date

Date 9/21/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 925
SAGN 012

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

DINO CICIONE ON THE BEHALF OF HONEYWELL — 9/21/15

Name (print) Signature Date

TRANSPORTER

Company Name HORWITH TRKS Inc.

Address NORTHAMPTON PA TruckNo. 34

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Rick Sowicka — 9/21/15

Driver Name Print Driver Signature Date

DESTINATION

Facility	Middlesex County Landfill	Gross	75020
Address	53 Edgeboro Road	Tare	25560
City	East Brunswick, N.J.	Net	49460 (49440)
			24.73

2015 SEP 21 PM 1:55

Signature Authorized Agent Date

Date 9/21/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 926
SAGN013

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

DINO CICCONE ON THE BEHALF OF Honeywell — 9/21/15

Name (print) Signature Date

2015 SEP 21 PM 1:59

TRANSPORTER

Company Name HORWITH TRKS INC.

Address NORTHAMPTON TruckNo. 28

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

9/21/15

Driver Name Print Driver Signature Date

DESTINATION

Facility Middlesex County Landfill Gross 77680

Address 53 Edgeboro Road Tare 25080

City East Brunswick, N.J. Net 52600 (52600)

26.30

Signature Authorized Agent Date

Date 9/21/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 927
SAGN014

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

DINO CICCONE ON THE BEHALF OF Honeywell — Name (print) — Signature — 9/21/15 Date

TRANSPORTER

Company Name HORWITH TRKS INC.

Address NORTHAMPTON PA TruckNo. 26

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

MIKE LEDUC — Driver Name Print — Driver Signature — 9/21/15 Date

DESTINATION

Facility Middlesex County Landfill Gross 77820

Address 53 Edgeboro Road Tare 25140

City East Brunswick, N.J. Net 52680 (52680)

26.34

Signature Authorized Agent — Date

2015 SEP 21 PM 1:59
MIDD. CO. UTIL. AUTH.-
SOLID WASTE DIVISION

Date 9/21/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 928
SAGN015

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

Dino Ciccone ON THE BEHALF OF Honeywell — 9/21/15

Name (print) Signature Date

TRANSPORTER

Company Name HORWITH TRKS INC.

Address NORTHAMPTON PA TruckNo. 42

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Kevin Hamlin — 9/21/15

Driver Name Print Driver Signature Date

DESTINATION

Facility Middlesex County Landfill Gross 80180

Address 53 Edgeboro Road Tare 26740

City East Brunswick, N.J. Net 53440 (53380)

26.72

2015 SEP 21 PM 2:36
MIDD. CO. UTIL. AUTH.
SOLID WASTE DIVISION

Signature Authorized Agent Date

Date 9/22/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

2015 SEP 22 AM 7:59

No. 929
SAGN016

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

DINO CICCONE ON THE BEHALF OF Honeywell — 9/22/15

Name (print) Signature Date

TRANSPORTER

Company Name HORWITH TRKS INC.

Address NORTHAMPTON PA TruckNo. 28

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Driver Name Print Driver Signature 9/22/15 Date

DESTINATION

2015 SEP 22 AM 7:59

Facility	Middlesex County Landfill	Gross	81700
Address	53 Edgeboro Road	Tare	25260
City	East Brunswick, N.J.	Net	56440

(56440

28.22

Signature Authorized Agent Date

EN

Date 9/22/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 930
SAGN017

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

DINO CICONE ON THE BEHALF OF Honeywell — 9/22/15

Name (print) Signature Date

TRANSPORTER

Company Name HORWITH TRKS INC.

Address NORTHAMPTON PA. TruckNo. 26

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

MIKE LEDUC — 9/22/15

Driver Name Print Driver Signature Date

DESTINATION

Facility Middlesex County Landfill Gross 81560

Address 53 Edgeboro Road Tare 25340

City East Brunswick, N.J. Net 56220 (55980)

28.11

Signature Authorized Agent Date

2015 SEP 22 AM 8:09
MIDD. CO. UTIL. AUTH.-
SOLID WASTE DIVISION

Date 9/22/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 931
SAGN018

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

Dino Ciccone ON THE BEHALF OF Honeywell — Name (print) — Signature — Date 9/22/15

TRANSPORTER

Company Name Horwith Trucks Inc.

Address Northampton PA TruckNo. 42

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Kevin Hamble — Driver Name Print — Driver Signature — Date 9/22/15

DESTINATION

Facility	Middlesex County Landfill	Gross	79760
Address	53 Edgeboro Road	Tare	26860
City	East Brunswick, N.J.	Net	52900 (52840)

26.45

Signature Authorized Agent — Date

2015 SEP 22 AM 8:15
MIDD. CO. UTIL. AUTH.-
SOLID WASTE DIVISION

Date 9/22/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 932
SA6NO19

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

ON THE BEHALF OF HONEYWELL
DINO CICCARO
Name (print) Signature Date 9/22/15

TRANSPORTER

Company Name HORWITH TRKS INC.

Address NORTHAMPTON PA TruckNo. 34

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Rick Sowden
Driver Name Print Driver Signature Date 9/22/15

DESTINATION

Facility Middlesex County Landfill Gross 77420

Address 53 Edgeboro Road Tare 25700

City East Brunswick, N.J. Net 51720 (51700)

25.86

Signature Authorized Agent Date

2015 SEP 22 AM 9:02
MIDD. CO. UTIL. AUTH.
SOLID WASTE DIVISION

Date 9/22/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 933
SAGN020

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

DINO CICCONE ON THE BEHALF OF Honeywell — Name (print) — Signature — 9/22/15 Date

TRANSPORTER

Company Name HORWITH TRKS Inc.

Address NORTHAMPTON PA TruckNo. 270

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Tom DeGroot — Driver Name Print — Driver Signature — 9/22/15 Date

DESTINATION

Facility Middlesex County Landfill Gross 77820

Address 53 Edgeboro Road Tare 23640

City East Brunswick, N.J. Net 54180 (54180)

27.09

Signature Authorized Agent — Date

2015 SEP 22 AM 9:03
MIDD. CO. UTIL. AUTH.-
SOLID WASTE DIVISION

Date 9/22/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 934

2015 SEP 22 AM 10:18

SABN 021

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

ONTI Richard Alicco BEHALF of Honeywell — Name (print) — Signature — 9/22/15 Date

TRANSPORTER

Company Name HERWITH TRKS INC.

Address NORTHAMPTON PA. TruckNo. 42

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Kevin Hamblin — Driver Name Print — Driver Signature — 9/22/15 Date

2015 SEP 22 AM 10:18

DESTINATION

Facility	Middlesex County Landfill	Gross	79260
Address	53 Edgeboro Road	Tare	26820
City	East Brunswick, N.J.	Net	52440 (52.400)

26.22

Signature Authorized Agent — Date

EW

Date 9/22/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 935
SASN 022

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

Richard Oliveto
ON THE BEHALF OF Honeywell
Name (print) Signature Date 9/22/15

TRANSPORTER

Company Name HERWITH TRKS INC.

Address NORTHAMPTON PA. TruckNo. 28

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Driver Name Print Driver Signature Date 9/22/15

DESTINATION

Facility Middlesex County Landfill Gross 80860

Address 53 Edgeboro Road Tare 25160

City East Brunswick, N.J. Net 55700 (55760)

27.85

Signature Authorized Agent Date

2015 SEP 22 AM 10:27
MIDD. CO. UTIL. AUTH.-
SOLID WASTE DIVISION

Date 9/22/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

2015 SEP 22 AM 10: 35

No. 936
SAGN 023

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

Richard Avicco ON The Behalf of Honeywell — 9/22/15

Name (print) Signature Date

TRANSPORTER

Company Name HORWITH TRKS. INC.

Address NORT HAMPTON PA. TruckNo. 26

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

MIKE LEDUC — 9/22/15

Driver Name Print Driver Signature Date

2015 SEP 22 AM 10: 35

DESTINATION

Facility Middlesex County Landfill Gross 78780

Address 53 Edgeboro Road Tare 25220

City East Brunswick, N.J. Net 53560 (53540)

26.78

Signature Authorized Agent Date

EN

Date 9/22/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

2015 SEP 22 AM 11:13

No. 937
SAG NO 24

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

Richard Avicco ON THE BEHALF of Honeywell — Name (print)
Signature
9/22/15 — Date

TRANSPORTER

Company Name HERWITH Taks. Inc.

Address NORT HAMPTON PA. TruckNo. 270

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Tom DeBroet — Driver Name Print
Driver Signature
9/22/15 — Date

2015 SEP 22 AM 11:13

DESTINATION

Facility Middlesex County Landfill — Gross 75520

Address 53 Edgeboro Road — Tare 23560

City East Brunswick, N.J. — Net 51960 (51960)

25.98

Signature Authorized Agent
Date

EN

Date 9/22/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

2015 SEP 22 AM 11:16

No. 938
SA6NO 025

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

Richard Allicco on the behalf of Honeywell — 9/22/15

Name (print) Signature Date

TRANSPORTER

Company Name HERWITH TRKS INC.

Address NORT HAMPTON PA. TruckNo. 34

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Rick Sanders — 9-22-15

Driver Name Print Driver Signature Date

DESTINATION

Facility	Middlesex County Landfill	Gross	78340
Address	53 Edgeboro Road	Tare	25600
City	East Brunswick, N.J.	Net	52740

(52740)

26.37

Signature Authorized Agent Date

2015 SEP 22 AM 11:16

Date 9/22/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 939
SA6N026

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

DINO CICCONE ON THE BEHALF OF Honeywell — 9/22/15

Name (print) Signature Date

TRANSPORTER

Company Name HORWITH TRKS INC

Address NORTHAMPTON PA TruckNo. 42

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

KEVIN HAMBLE

Driver Name Print Driver Signature Date

DESTINATION

Facility Middlesex County Landfill Gross 79680

Address 53 Edgeboro Road Tare 26760

City East Brunswick, N.J. Net 52920 (52920)

26.46

Signature Authorized Agent Date

2015 SEP 22 PM 12:08

MIDD. CO. UTIL. AUTH.-
SOLID WASTE DIVISION

Date 9/22/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 940
SAGN027

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

Dino Ciccone ON THE BEHALF OF Honeywell — Name (print) — Signature — Date 9/22/15

TRANSPORTER

Company Name Horwith Trks Inc.

Address Northampton PA TruckNo. 28

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Driver Name Print — Driver Signature — Date 9/22/15

DESTINATION

Facility	Middlesex County Landfill	Gross	77740
Address	53 Edgeboro Road	Tare	25100
City	East Brunswick, N.J.	Net	52640

26.32

MIDD. CO. UTIL. AUTH.
SOLID WASTE DIVISION
2015 SEP 22 PM 12:56

Signature Authorized Agent — Date

Date 9/22/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 941
5A6N028

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

Dino Ciccone ON THE BEHALF OF Honeywell — 9/22/15

Name (print) Signature Date

TRANSPORTER

Company Name HORWITH TRKS Inc

Address NORTHAMPTON PA Truck No. 26

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

MIKE LEDUC — 9/22/15

Driver Name Print Driver Signature Date

2015 SEP 22 PM 12: 29

DESTINATION

Facility Middlesex County Landfill Gross 75000

Address 53 Edgeboro Road Tare ~~50020~~ 25180 (50020)

City East Brunswick, N.J. Net 49820

24.91

9/22/15

Signature Authorized Agent Date

EW

Date 9/22/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 942
SAGN 029

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

DINO CICCONE ON THE BEHALF OF Honeywell — 9/22/15

Name (print) Signature Date

TRANSPORTER

Company Name HORWITH TRKS INC

Address NORTHAMPTON PA TruckNo. 270

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Tom DeGroot — 9/22/15

Driver Name Print Driver Signature Date

DESTINATION

Facility Middlesex County Landfill Gross 73840

Address 53 Edgeboro Road Tare 23480

City East Brunswick, N.J. Net 50360 (50340)

25.18

Signature Authorized Agent Date

2015 SEP 22 PM 1:44

MIDD. CO. UTIL. AUTH-
SOLID WASTE DIVISION

Date 9/22/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 943
SAGN 030

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

DINO CICCONE ON THE BEHALF OF Honeywell — 9/22/15

Name (print) Signature Date

TRANSPORTER

Company Name HORWITH TRKS INC.

Address NORTHAMPTON PA TruckNo. 34

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Rick Sondre — 9/22/15

Driver Name Print Driver Signature Date

DESTINATION

Facility	Middlesex County Landfill	Gross	83440
Address	53 Edgeboro Road	Tare	25520
City	East Brunswick, N.J.	Net	57920 (28.96)

Signature Authorized Agent Date

MIDD. CO. SOLID WASTE DIVISION 2015 SEP 22 PM 2:01

Date 9/22/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 944
SA6N031

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

DINO CICCONE ON THE BEHALF OF Honeywell — Name (print) — Signature — 9/22/15 Date

TRANSPORTER

Company Name HORWITH TRKS Inc.

Address NORTHAMPTON PA TruckNo. 28

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Driver Name Print — Driver Signature — 9/22/15 Date

2015 SEP 22 PM 2:26

DESTINATION

Facility	Middlesex County Landfill	Gross	76380
Address	53 Edgeboro Road	Tare	25000
City	East Brunswick, N.J.	Net	51380 (51360)

25.69

Signature Authorized Agent — Date

EN

Date 9/22/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 945
SA6N032

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

DINO CICCONE
ON THE ~~BACK~~ BEHALF OF
Name (print) Honeywell Signature Date 9/22/15

TRANSPORTER

Company Name HORWITH TRKS

Address NORTHAMPTON PA TruckNo. 42

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

KEVIN HANDLE
Driver Name Print Driver Signature Date 9/22/15

DESTINATION

Facility Middlesex County Landfill Gross 71820

Address 53 Edgeboro Road Tare 26640

City East Brunswick, N.J. Net 45180 (45360)

22.59

Signature Authorized Agent Date

2015 SEP 22 PM 2:36
MIDD. CO. UTIL. AUTH.-
SOLID WASTE DIVISION

Date 9/23/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 946
SAGN 033

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kelloggs Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

DINO CICCONE ON THE BEHALF OF Honeywell — 9/23/15

Name (print) Signature Date

TRANSPORTER

Company Name HORWITH TRUCKS Inc.

Address NORTH AMPTON PA TruckNo. _____

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Kevin Hambke — 9/23/15

Driver Name Print Driver Signature Date

DESTINATION

Facility Middlesex County Landfill Gross 76420

Address 53 Edgeboro Road Tare 26880

City East Brunswick, N.J. Net 49540 (49620)

24.77

Signature Authorized Agent Date

2015 SEP 23 AM 8:19
MIDD. CO. UTIL. AUTH.-
SOLID WASTE DIVISION

Date 9/23/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 947
SACGN084

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

DINO CICCONE ON THE BEHALF OF Honeywell — Name (print) — Signature — Date 9/23/15

TRANSPORTER

Company Name HORWITH Trucks Inc.

Address NORTHAMPTON PA TruckNo. 28

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Driver Name Print — Driver Signature — Date 9/23/15

2015 SEP 23 AM 8:33

DESTINATION

Facility Middlesex County Landfill Gross 75440

Address 53 Edgeboro Road Tare 25220

City East Brunswick, N.J. Net 50220 (50220)

25.11

Signature Authorized Agent — Date

Date 9/23/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 948
SAGN035

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

DINO CICCONE ON THE BEHALF OF Honeywell — Name (print) — Signature — Date 9/23/15

TRANSPORTER

Company Name HORWITH TRUCKS INC.

Address NORTHAMPTON PA TruckNo. 26

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

MIKE LEDUC — Driver Name Print — Driver Signature — Date 9/23/15

DESTINATION

Facility Middlesex County Landfill Gross 77920

Address 53 Edgeboro Road Tare 25280

City East Brunswick, N.J. Net 52640 (52640)

26.32

Signature Authorized Agent — Date

2015 SEP 23 AM 8:33
MIDD. CO. UTIL. AUTH.-
SOLID WASTE DIVISION

Date 9/23/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 949
SA6N 036

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

DINO CICCONE ON THE BEHALF OF Honeywell — Name (print) — Signature — 9/23/15 Date

TRANSPORTER

Company Name HORWITH TRUCKS INC.

Address NORTHAMPTON PA TruckNo. 270

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Tom DeGiovt — Driver Name Print — Driver Signature — 9/23/15 Date

2015 SEP 23 AM 8:44

DESTINATION

Facility Middlesex County Landfill Gross 76020

Address 53 Edgeboro Road Tare 23720

City East Brunswick, N.J. Net 52300 (52280)

26.15

Signature Authorized Agent — Date

EW

Date 9/23/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 950
SAGN037

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

DINO CICCONE ON THE BEHALF OF Honeywell — Name (print) — Signature — 9/23/15 Date

TRANSPORTER

Company Name HORWITH TRUCKS INC.

Address NORTHAMPTON PA TruckNo. 37

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Rick Sondrus — Driver Name Print — Driver Signature — 9/23/15 Date

DESTINATION

Facility Middlesex County Landfill Gross 77980

Address 53 Edgeboro Road Tare 25700

City East Brunswick, N.J. Net 52280 (52300)

26.14

Signature Authorized Agent — Date

MIDD. CO. UTIL. AUTH.-
SOLID WASTE DIVISION
2015 SEP 23 AM 9:03

Date 9/23/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 951
SAGN 038

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

DINO CICCONE ON THE BEHALF OF Honeywell — 9/23/15

Name (print) Signature Date

TRANSPORTER

Company Name Horwith Trucks

Address Northampton PA TruckNo. 42

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Kevin Handke — 9/23/15

Driver Name Print Driver Signature Date

2015 SEP 23 AM 10:14

DESTINATION

Facility Middlesex County Landfill Gross 78260

Address 53 Edgeboro Road Tare 26780

City East Brunswick, N.J. Net 51480 (51480)

25.74

Signature Authorized Agent Date

EW

Date 9/23/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 952
SA6N039

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

DINO CICCONE ON THE BEHALF OF Honeywell — Name (print) — Signature — Date 9/23/15

TRANSPORTER

Company Name HORWITH TRUCKS INC.

Address NORTHAMPTON PA TruckNo. 26

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

MIKE LEDUC — Driver Name Print — Driver Signature — Date 9/23/15

2015 SEP 23 AM 10:29

DESTINATION

Facility Middlesex County Landfill Gross 80820

Address 53 Edgeboro Road Tare 25200

City East Brunswick, N.J. Net 55620 (55600)

27.81

Signature Authorized Agent — Date

EW

Date 9/23/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 953
SAGN040

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS: 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

DINO CICCONE ON THE BEHALF OF Honeywell — 9/23/15

Name (print) — Signature — Date

TRANSPORTER

Company Name: HORWITH TRUCKS Inc.

Address: NORTHAMPTON PA. — TruckNo. 270

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Tom DeGrant — 9/23/15

Driver Name Print — Driver Signature — Date

2015 SEP 23 AM 10:48

DESTINATION

Facility: Middlesex County Landfill — Gross 75980

Address: 53 Edgeboro Road — Tare 23560

City: East Brunswick, N.J. — Net 52420 (52420)

26.21

Signature Authorized Agent — Date

Date 9/23/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 954
SAGN041

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

DINO CICCONE ON THE BEHALF OF Honeywell — Name (print) — Signature — 9/23/15 Date

TRANSPORTER

Company Name HORWITH TRUCKS. INC.

Address NORTHAMPTON PA TruckNo. 28

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Driver Name Print — Driver Signature — 9/23/15 Date

DESTINATION

Facility Middlesex County Landfill Gross 81040

Address 53 Edgeboro Road Tare 25160

City East Brunswick, N.J. Net 55880 (55940)

27.94

Signature Authorized Agent — Date

EN

2015 SEP 23 AM 11:10

Date 9/23/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 955
SAGN042

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

Dino Ciccone ON THE BEHALF OF Honeywell — Name (print) — Signature — Date 9/23/15

TRANSPORTER

Company Name Honwith Trucking Inc.

Address Northampton PA TruckNo. 34

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

~~Dino Ciccone~~ Rich Sowden ~~ON THE BEHALF OF Honeywell~~ — Driver Name Print — Driver Signature — Date 9/23/15

DESTINATION

Facility Middlesex County Landfill Gross 73120

Address 53 Edgeboro Road Tare 25600

City East Brunswick, N.J. Net 47520 (47500)

23.76

Signature Authorized Agent — Date

2015 SEP 23 AM 11:17
MIDD. CO. UTIL. AUTH.-
SOLID WASTE DIVISION

Date 9/23/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 956
SA6N043

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

DINO CICCONE ON THE BEHALF OF Honeywell — 9/23/15

Name (print) Signature Date

TRANSPORTER

Company Name HORWITH TRUCKS INC.

Address NORTHAMPTON PA TruckNo. 42

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Kevin HAMBLE — 9/23/15

Driver Name Print Driver Signature Date

DESTINATION

Facility Middlesex County Landfill Gross 79780

Address 53 Edgeboro Road Tare 26720

City East Brunswick, N.J. Net 53060 (52980)

26.53

Signature Authorized Agent Date

2015 SEP 23 PM 12:09

MIDD. CO. UTIL. AUTH.-
SOLID WASTE DIVISION

Date 9/23/15

C.J. NESTI MATERIALS
2 BEDLE PLACE
HIGHLANDS, N.J. 07732

No. 957
SA6N044

NON-HAZARDOUS CONTAMINATED SOIL MANIFEST

GENERATOR: Honeywell International Inc., 101 Columbia Road, Morristown, NJ 07962

SITE ADDRESS 60 / 80 Kellogg Street, Jersey City, NJ

BROKER: C.J. Nesti Materials, 2 Bedle Place, Highlands, N.J. 07732

DESCRIPTION OF WASTE: Non Regulated Non Hazardous Soils Separated for Reuse/Cover Material

THIS IS TO CERTIFY that the above named soils are properly classified, packaged, marked and labeled and are in proper condition for transportation according to applicable state and federal law. The contaminated soil was consigned to the transporter named, and will be used on the lined landfill. I CERTIFY that the foregoing is true and correct to the best of my knowledge.

Dino Ciccone ON THE BEHALF OF Honeywell — Name (print) — Signature — Date 9/23/15

TRANSPORTER

Company Name Horwith Trucks Inc.

Address Northampton PA TruckNo. 28

The above described soils were picked up and hauled by the above to the disposal facility named below and were accepted.

Driver Name Print — Driver Signature — Date 9/23/15

2015 SEP 23 PM 1:49

DESTINATION

Facility Middlesex County Landfill Gross 76160

Address 53 Edgeboro Road Tare 24980

City East Brunswick, N.J. Net 51180 (51200)

25.59

Signature Authorized Agent — Date

EW

Rec 2/12/2016

HERITAGE ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 140
Disposal Date: 01/04/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000561485WAS	39,940	43,160
000561490WAS	44,640	43,160
000561495WAS	44,180	43,160
000566936WAS	43,620	43,160
000561498WAS	43,420	43,160
	215,800	215,800

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC 4966108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS-C-19223
Freight:	Freight Prepaid—US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 140	00056N85WAS	39940	56N0177
	00056N490WAS	44640	56N0182
	00056149 5WAS	44180	56N0187
	000566936WAS	43620	56N0201
	00056149 8WAS	43420	56N0190

GONDOLA TOTAL WEIGHT 215800

RAILCAR LOAD LIMIT 221100

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable International and national governmental regulations.

Shippers Signature: [signature] Date: 12-15-15

Shipper Printed Name: Michael Scott

HERITAGE

LOAD # 1

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-31-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 356 Driver _____

To: DF - _____ From: CHUX 140

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

31 Dec 2015 13:53:10 85540LB

31 Dec 2015 10:13:20 29000LB

357

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-31-15

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: DF- _____ From: Chux 140
_____ #2
_____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#2

DF-

31 Dec 2015 14:08:27 80020LB

28640

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 12-31-15

Transaction # _____ Stop # _____

Manifest # _____
Unit _____ Driver _____

To: Plant DF#2 _____ From: Rail spot _____
_____ Chux #140 _____
_____

Arrival _____ Initialed _____
Departure _____

_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

31 Dec 2015 07:43:50 29440LB

31 Dec 2015 14:45:38 83700LB

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/12/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 297
Disposal Date: 01/07/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000566914WAS	44,320	43,272
000566912WAS	46,440	43,272
000566920WAS	41,720	43,272
000566917WAS	41,820	43,272
000566853WAS	41,700	43,272
	216,000	216,360

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8510 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 297	000566914 WAS	44320	56N0229
	000566912WAS	46440	56N0227
	000566920WAS	41720	56N0235
	000566917WAS	41820	56N0232
	000566853WAS	41700	56N0244

GONDOLA TOTAL WEIGHT 216000

RAILCAR LOAD LIMIT 220160

Shipper Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shipper Signature: _____ Date: 12-17-16

Shipper Printed Name: Mathew

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-7-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DP#2

From: Rail spur
Chux #297

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,400 lb

07 Jan 2016 12:57:31 80920LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-7-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver 72

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

07 Jan 2016 12:45:22 82480LB

#3
DF2

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-7-16

Transaction # _____ Stop # _____

Manifest # _____
Unit _____ Driver _____

To: Plant DF# 2 From: Rail spur
Chox # 297

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,400 lb

07 Jan 2016 12:06:02 85340LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-7-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver 72

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#1

07 Jan 2016 11:56:25 84140LB

DFZ

28860

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/12/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 210
Disposal Date: 01/07/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000566903WAS	41,440	42,612
000566905WAS	43,080	42,612
000566948WAS	47,660	42,612
000566907WAS	43,820	42,612
000566924WAS	39,020	42,612
	215,020	213,060

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CNWX 210	000566903WAS	41440	56N0218
	000566905WAS	43080	56N0220
	000566948WAS	47660	56N0213
	000566907WAS	43820	56N0222
	000566924WAS	39020	56N0239

GONDOLA TOTAL WEIGHT 215020

RAILCAR LOAD LIMIT 221500

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations.

Shippers Signature: [signature] Date: 12-16-15

Shipper Printed Name: Matt Sc

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-7-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DP#1

From: Rail spur
Chux # 210

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,400 lb

07 Jan 2016 10:14:04 77000LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-7-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DFI

07 Jan 2016 10:11:39 86120LB

#3

25860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-7-16

Transaction # _____ Stop # _____

Manifest # _____
Unit _____ Driver _____

To: Plant DPH1

From: Rail spur
Chux # 210

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,410 lb

07 Jan 2016 07:34:53 84600LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-6-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TV

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF 1
#1

07 Jan 2016 07:31:10 81860LB

28860

HERITAGE ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/12/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 278
Disposal Date: 01/08/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000566922WAS	43,900	43,652
000566900WAS	41,900	43,652
000566855WAS	40,720	43,652
000566852WAS	44,400	43,652
000566854WAS	44,760	43,652
	215,680	218,260

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8510 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 278	00056692 2WAS	43900	56NO 237
	00056690 0WAS	41900	56NO 241
	00056855 5WAS	40720	56NO 246
	00056685 2WAS	44400	56NO 243
	00056685 4WAS	44760	56NO 245

GONDOLA TOTAL WEIGHT 215680

RAILCAR LOAD LIMIT 220200

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: _____ Date: 12-16-15

Shipper Printed Name: Nathan

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-8-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#1

08 Jan 2016 13:43:30 89360LB

DF 1

25860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-8-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DF#1

From: Rail spur
Chux #278

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,400 lb

08 Jan 2016 13:54:29 87020LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-8-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#3
DF1

08 Jan 2016 14:49:34 88700LB

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-8-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DP#1

From: Rail spur
Chux # 278

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,400lb

08 Jan 2016 14:54:46 69700LB

Gross	Empty	Net Wt.
69700	29400	40300
88700	28860	59840
87020	29400	57620
89360	28860	60500
		0
		0
		0
		0
		0
		0
72782	29130	43652
		218260
334780	116520	218260

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Rec 2/12/14

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 296
Disposal Date: 01/08/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000566913WAS	44,140	43,048
000566910WAS	45,120	43,048
000566906WAS	45,600	43,048
000566923WAS	41,900	43,048
000566921WAS	38,760	43,048
	215,520	215,240

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O><S.,
	9, PGIII, (CHROMIUM), (DOO7)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

DF-2

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 296	000566913WAS	44140	56N0228
	000566910WAS	45120	56N0225
	000566906WAS	45600	56N0221
	000566923WAS	41900	56N0238
	000566921WAS	38760	56N0236

GONDOLA TOTAL WEIGHT 215520

RAILCAR LOAD LIMIT 220100

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date: 12-16-15

Shipper Printed Name: Matthew

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-7-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#1

07 Jan 2016 14:00:11 88940LB

28860

DF

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-7-16

Transaction # _____ Stop # _____

Manifest # _____
Unit _____ Driver _____

To: Plant DPH

From: Rail spur
Chux # 296

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,400 lb

07 Jan 2016 14:13:50 91900LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-7-16

Transaction # _____ Stop # _____

Manifest # _____
Unit _____ Driver _____

To: Plant DFH

From: Rail spur CHUX #296

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#3

07 Jan 2016 15:47:11 84660LB

28,640

351

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-7-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: _____

From: chux 296
#4

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#4

07 Jan 2016 15:54:42 65280LB

Df-

28640

Gross	Empty	Net Wt.
88940	28860	60080
91900	29400	62500
84660	28640	56020
65280	28640	36640
		0
		0
		0
		0
		0
		0
71933	28885	43048
		215240
330780	115540	215240

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/12/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 190
Disposal Date: 01/08/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000566915WAS	43,720	43,468
000566916WAS	44,220	43,468
000566918WAS	42,560	43,468
000566919WAS	42,700	43,468
000566925WAS	42,900	43,468
	216,100	217,340

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services 7901 W. Morris St Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8510 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S., 9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS - C - 19223
Freight:	Freight Prepaid—US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 190	00056691 5WAS	43720	56N0230
	00056916WAS	44220	56N0231
	00056918WAS	42560	56N0233
	00056919WAS	42700	56N0234
	00056925WAS	42900	56N0240

GONDOLA TOTAL WEIGHT 216100

RAILCAR LOAD LIMIT 221000

Shipper Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shipper Signature: _____ Date: 12-17-15

Shipper Printed Name: Matt Gt

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-8-16

Transaction # _____ Stop # _____

Manifest # _____
Unit _____ Driver _____

To: Plant DP#2 _____ From: Rail spur
_____ Chux # 190
_____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

07 Jan 2016 06:59:06 29400LB

08 Jan 2016 11:05:00 86360LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-8-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

08 Jan 2016 11:16:43 87680LB

#2

DF

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-8-16

Transaction # _____ Stop # _____

Manifest # _____
Unit _____ Driver _____

To: Plant DF# #2 _____

From: Rail SPUR
Chux # 190

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,400 lb

08 Jan 2016 12:15:02 83380LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-8-16

Transaction # _____ Stop # _____

Manifest# _____
Unit 352 Driver 79

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#4

08 Jan 2016 12:21:16 76440LB

28860

Gross	Empty	Net Wt.
86360	29400	56960
87680	28860	58820
83380	29400	53980
76440	28860	47580
		0
		0
		0
		0
		0
		0
72598	29130	43468
		217340
333860	116520	217340

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Rec 2/12/16

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 258
Disposal Date: 01/08/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000566856WAS	42,300	43,164
000566859WAS	45,340	43,164
000566857WAS	41,760	43,164
000566851WAS	41,580	43,164
000566866WAS	44,980	43,164
	215,960	215,820

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services 7901 W. Morris St Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-1516 Account 3366
STCC:	STCC 4868108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S., 9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 258	000566856WAS	42300	56N0247
	000566859WAS	45340	56N0250
	000566857WAS	41760	56N0248
	000566851WAS	41580	56N0242
	000566866WAS	44980	56N0256

GONDOLA TOTAL WEIGHT 215960

RAILCAR LOAD LIMIT 220700

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: _____ Date: 12-17-16

Shipper Printed Name: _____

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-8-16

Transaction # _____ Stop # _____

Manifest # _____

Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____

Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____

This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

08 Jan 2016 07:52:00 90580LB

#1

BF

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-8-16

Transaction # _____ Stop # _____

Manifest # _____
Unit _____ Driver _____

To: Plant DPH

From: Rail spur
Chux # 258

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,400 LB

09 Jan 2016 08:02:52 90340LB

351

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-8-2016

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: _____ From: chux 258
#3

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

Df-1

#3

08 Jan 2016 08:26:23 86420LB

28640

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-8-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

08 Jan 2016 08:35:10 64240LB

#4
DFI

28860

Gross	Empty	Net Wt.
90580	28860	61720
90340	29400	60940
86420	28640	57780
64240	28860	35380
		0
		0
		0
		0
		0
		0
72104	28940	43164
		215820
331580	115760	215820

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/12/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 142
Disposal Date: 01/12/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000566881WAS	43,040	42,992
000566878WAS	42,380	42,992
000566875WAS	42,640	42,992
000566874WAS	42,860	42,992
000566882WAS	44,460	42,992
	215,380	214,960

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid—US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX142	000566881WAS	43040	56N0271
	00056687 8WAS	42380	56N0268
	00056687 5WAS	42640	56N0265
	00056687 4WAS	42860	56N0264
	00056688 2WAS	44460	56N0272

GONDOLA TOTAL WEIGHT 215380

RAILCAR LOAD LIMIT 221000

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date: 12-17-15

Shipper Printed Name: Matt Gor

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-12-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DP#2

From: Rail spur
chux # 142

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,400 lb

12 Jan 2016 07:25:54 75180LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-12-16

Transaction # _____ Stop # _____

Manifest # _____

Unit 352 Driver TB

To: _____ From: _____

Arrival _____ Initialed _____

Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____

This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#3

DF2

12 Jan 2016 07:17:45 84840LB

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-12-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 364 Driver _____

To: Plant DP#

From: Rail spur
Chux # 142

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,400 lb

12 Jan 2016 06:38:41 85260LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-12-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#1
DF

12 Jan 2016 06:23:48 86200LB

28860

HERITAGE ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/12/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 114
Disposal Date: 01/12/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000566886WAS	42,400	44,340
000566885WAS	42,320	44,340
000566888WAS	43,160	44,340
000566889WAS	44,600	44,340
000566892WAS	43,180	44,340
	215,660	221,700

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8510 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid—US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 114	000566886WAS	42400	56N0276
	000566885WAS	42320	56N0275
	000566888WAS	43160	56N0278
	000566889WAS	44600	56N0279
	000566892WAS	43180	56N0282

GONDOLA TOTAL WEIGHT 215660

RAILCAR LOAD LIMIT 221000

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date: 12-18-15

Shipper Printed Name: Matt Gen

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-12-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DF#2

From: Rail spur
Chux # 114

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,400 lb

12 Jan 2016 11:20:14 65280LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-12-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver 74

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#3
DF2

12 Jan 2016 11:08:22 83100LB

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-12-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant PF#2

From: Rail spur
chux #114

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,400 lb

12 Jan 2016 10:02:43 84460LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-12-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver 74

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#1

12 Jan 2016 09:53:17 85380LB

28860

AF.

Gross	Empty	Net Wt.
85280	29400	55880
83100	28860	54240
84460	29400	55060
85380	28860	56520
		0
		0
		0
		0
		0
		0
73470	29130	44340
		221700
338220	116520	221700

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/12/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 167
Disposal Date: 01/12/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000566858WAS	41,100	44,568
000566860WAS	45,500	44,568
000566863WAS	42,300	44,568
000566865WAS	43,920	44,568
000566876WAS	43,120	44,568
	215,940	222,840

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8510 Account 3366
STCC:	STCC 4869108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid—US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 167	000566858WAS	41100	56N0249
	000566860WAS	45500	56N0251
	000566863WAS	42300	56N0253
	000566865WAS	43920	56N0255
	000566876WAS	43120	56N0266

GONDOLA TOTAL WEIGHT 215940

RAILCAR LOAD LIMIT 221200

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: _____ Date: 12-17-15

Shipper Printed Name: Mather

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-11-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DF#1

From: Rail spur
Chux #167

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,400 lb

DF#1

11 Jan 2016 08:34:45 83380LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-11-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver 79

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#2

11 Jan 2016 08:14:58 85320LB

AFI

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-11-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DF#1

From: Rail spur
Chux # 167

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,400 lb

11 Jan 2016 07:36:57 85900LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-11-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#1

11 Jan 2016 07:22:41 84760LB

DF

28860

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/12/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 207
Disposal Date: 01/12/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000566868WAS	44,200	44,356
000566861WAS	45,760	44,356
000566871WAS	39,880	44,356
000566873WAS	42,940	44,356
000566872WAS	42,940	44,356
	215,720	221,780

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services 7901 W. Morris St Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8510 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S., 9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid—US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 207	000566868WAS	44200	56N0258
	000566861WAS	45760	56N0252
	000566871WAS	39880	56N0261
	000566873WAS	42940	56N0263
	000566872WAS	42940	56N0262

GONDOLA TOTAL WEIGHT 215720

RAILCAR LOAD LIMIT 221300

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: _____ Date: 12-17-15

Shipper Printed Name: Matthew

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-12-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 _____ Driver _____

To: Plant DP# 1 _____ From: Rail spur _____
_____ Chux # 207 _____
_____

Arrival _____ Initialed _____
Departure _____

_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,400 lb

12 Jan 2016 08:26:08 84920LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-12-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 558 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#3

12 Jan 2016 09:06:26 81760LB

28860

DFI

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-12-16

Transaction # _____ Stop # _____

Manifest # _____

Unit 32 Driver 73

To: _____ From: _____

Arrival _____ Initialed _____

Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____

This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#1

DF1

12 Jan 2016 08:16:37 83940LB

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-12-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DF#1

From: Rail spur
Chux # 207

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,400 lb

12 Jan 2016 09:18:36 87680LB

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/12/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: EAMX 504
Disposal Date: 01/12/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000700881WAS	45,040	39,116
000700888WAS	48,620	39,116
000700886WAS	49,180	39,116
000700894WAS	51,280	39,116
	194,120	156,464

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services 7901 W. Morris St Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S., 9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid—US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
EAMX 504	000700881WAS	45040	56N0314
	000700888WAS	48620	56N0321
only 4 loads	000700886WAS	49180	56N0319
	000700894WAS	51280	56N0327

GONDOLA TOTAL WEIGHT 194120

RAILCAR LOAD LIMIT 202800

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date: 12-22-15

Shipper Printed Name: Nather

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

BDL
4113

Date: 1-14-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DF#2

From: Rail spur
EAmx #504
Honeywell

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,840 lb

14 Jan 2016 09:07:41 86200LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-14-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TJ

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#3

14 Jan 2016 09:29:44 75500LB

DF

28560

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-14-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DFW Z

From: Rail spur
EAMX #504

Arrival _____
Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,240 lb

14 Jan 2016 10:04:42 80880LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-14-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#4

14 Jan 2016 10:19:37 69200LB

NF

28860

Gross	Empty	Net Wt.
86200	29240	56960
75500	28860	46640
80880	29240	51640
69200	28860	40340
		0
		0
		0
		0
		0
		0
68166	29050	39116
		195580
311780	116200	195580

HERITAGE ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/12/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX260
Disposal Date: 01/11/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000566864WAS	45,580	43,600
000566870WAS	41,400	43,600
000566869WAS	45,340	43,600
000566867WAS	41,520	43,600
000566877WAS	42,380	43,600
	216,220	218,000

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid—US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 260	000566864WKS	45580	56N0254
	000566870WKS	41400	56N0260
	000566869WKS	45340	56N0259
	000566867WKS	41520	56N0257
	000566877WKS	42380	56N0267

GONDOLA TOTAL WEIGHT 216220

RAILCAR LOAD LIMIT 220300

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date 12-17-15

Shipper Printed Name: Mathes

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-9-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DF#1

From: Rail spur
Chux #260

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,400 lb

09 Jan 2016 07:34:22 75520LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-9-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DP#1

From: Rail spur
Chux # 260

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,400 lb

09 Jan 2016 06:31:41 92040LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-9-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

09 Jan 2016 07:23:42 82120LB

#3
DF1

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-9-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver 41

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

09 Jan 2016 06:17:32 84840LB

#1
DF

28860

HERITAGE ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Rec 2/12/16

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 298
Disposal Date: 01/12/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000700885WAS	48,020	45,152
000700890WAS	43,260	45,152
000700891WAS	43,180	45,152
000700893WAS	39,440	45,152
000700895WAS	41,220	45,152
	215,120	225,760

Jeffery A. Laborsky, President

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-12-16

Transaction # _____ Stop # _____

Manifest # 3

Unit 352 Driver TJ

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

12 Jan 2016 13:35:10 79200LB

#1

DF

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-12-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DP#1

From: Rail spur
chux #298

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,400 lb

12 Jan 2016 13:42:09 87780LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-12-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TS

To: _____ From _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#3

DF1

12 Jan 2016 14:07:21 88040LB

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-12-16 [redacted]

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DPH1 From: Rail spur
Chux #298

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

[redacted] 29,400 lb

12 Jan 2016 14:18:21 87260LB

Gross	Empty	Net Wt.
87260	29400	57860
88040	28860	59180
87780	29400	58380
79200	28860	50340
		0
		0
		0
		0
		0
		0
74282	29130	45152
		225760
342280	116520	225760

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 211
Disposal Date: 01/14/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000700866WAS	45,920	43,752
000700876WAS	43,740	43,752
000700879WAS	45,140	43,752
000700873WAS	40,020	43,752
000700882WAS	40,900	43,752
	215,720	218,760

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC 4869108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid—US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 211	000700866WAS	45920	56W0299
	000700876WAS	43740	56W0309
	000700879WAS	45140	56W0312
	000700873WAS	40620	56W0306
	000700882WAS	40900	56W0315

GONDOLA TOTAL WEIGHT 216320

RAILCAR LOAD LIMIT 221400

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: _____ Date: 12-22-15

Shipper Printed Name: Matthew

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-14-16

Transaction # _____ Stop # _____

Manifest # _____

Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____

Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____

This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

14 Jan 2016 07:42:05 76240LB

#3

DF1

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-14-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DPTH

From: Rail spur
Chuy 211

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,240 lb

14 Jan 2016 07:02:52

74620

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-14-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TS

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#1

14 Jan 2016 06:46:18 78320LB

28860

DF

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-14-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#5
DF1

14 Jan 2016 08:24:14 54700LB

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-14-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DRH 1

From: Rail spur
Chux # 211

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29240 lb

14 Jan 2016 07:59:29 79940LB

Gross	Empty	Net Wt.
79940	29240	50700
54700	28860	25840
78320	28860	49460
74620	29240	45380
76240	28860	47380
		0
		0
		0
		0
		0
72764	29012	43752
		218760
363820	145060	218760

25840

Ave. Q. = 72,764

Ave. T. 29,012

363,820
145,060

218,760
÷ 5

43,752

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 143
Disposal Date: 01/14/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000700884WAS	45,900	43,584
000700887WAS	46,960	43,584
000700889WAS	43,400	43,584
000700892WAS	39,420	43,584
000700896WAS	39,180	43,584
	214,860	217,920

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8510 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 143	000700884WIAS	45900	56N0317
	000700887WIAS	46960	56N0320
	000700889WIAS	43400	56N0322
	000700892WIAS	39420	56N0325
	000700896WIAS	39180	56N0329

GONDOLA TOTAL WEIGHT 214860

RAILCAR LOAD LIMIT 221000

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date 12-22-15

Shipper Printed Name: Mathes

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-13-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DFK1

From: Rail spur
Chux #143

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,240 lb

13 Jan 2016 15:33:47 77420LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-13-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant BF#1 From: Rail spur
Chux # 1413

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,240 lb

13 Jan 2016 14:54:54 72040LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-13-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TB

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#

13 Jan 2016 15:45:17 59720LB

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-13-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver 77

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#3

13 Jan 2016 15:07:57 69780LB

28860

351

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-13-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: Df-1 From: Chux 143
#1

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

Df-1

13 Jan 2016 14:36:53 83980LB

#1

28640

Gross	Empty	Net Wt.
69780	28860	40920
59720	28860	30860
72040	29420	42620
77420	29240	48180
83980	28640	55340
		0
		0
		0
		0
		0
72588	29004	43584
		217920
362940	145020	217920

Rec 2/12/16

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 103
Disposal Date: 01/14/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000700870WAS	43,660	42,452
000700864WAS	44,200	42,452
000700868WAS	41,940	42,452
000700863WAS	44,340	42,452
000700872WAS	41,340	42,452
	215,480	212,260

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Flowlion 800-274-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CAUX 103	000800870WAS	43660	56N0303
	000700864WAS	44200	56N0297
	000700868WAS	41940	56N0301
	000700863WAS	44340	56N0296
	000700872WAS	41340	56N0305

GONDOLA TOTAL WEIGHT 215480

RAILCAR LOAD LIMIT 221000

Shipper Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shipper Signature: [signature] Date: 12-21-15

Shipper Printed Name: Mathew

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-14-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

14 Jan 2016 13:26:50 89660LB

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-14-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DF#2

From: Rail SJOF
Chux # 103

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,240 lb

14 Jan 2016 13:51:57 91560LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-14-16

Transaction # _____ Stop # _____

Manifest # _____
Unit _____ Driver _____

To: CBW DF _____ From: Rail CHUX 103 _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

14 Jan 2016 14:09:15 28020LB

14 Jan 2016 14:43:09 82360LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-14-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#4

14 Jan 2016 14:58:45 63660LB

28860

Gross	Empty	Net Wt.
89660	28860	60800
91560	29240	62320
82360	28020	54340
63660	28860	34800
		0
		0
		0
		0
		0
		0
71197	28745	42452
		212260
327240	114980	212260

Rec 2/12/16

HERITAGE ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 247
Disposal Date: 01/14/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000700865WAS	44,480	46,280
000700869WAS	43,980	46,280
000700867WAS	41,440	46,280
000566899WAS	44,180	46,280
000700883WAS	42,820	46,280
	216,900	231,400

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-234-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid—US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHOX 247	000700865WAS	44480	56N0298
	000700869WAS	43980	56N0302
	000700867WAS	41440	56N0300
	000566899WAS	44180	56N0289
	000700887WAS	42820	56N0316

GONDOLA TOTAL WEIGHT 216900

RAILCAR LOAD LIMIT 221100

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date: 12-22-15

Shipper Printed Name: Matt Esc

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-13-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DPH, _____ From: Rail spur
_____ Chux #247
_____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,240 lb

13 Jan 2016 07:25:08 79600LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-13-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#2

13 Jan 2016 07:43:09 87460LB

DF

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-13-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DF#1 From: Rail spur
CMUX # 247

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,240 lb

13 Jan 2016 08:42:56 87780LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-13-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver TM

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

13 Jan 2016 08:55:15 81900LB

#4
DF21

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-13-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DF#1

From: Rail spur
Chux #247

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,240 lb

13 Jan 2016 09:23:53 40100LB

Gross	Empty	Net Wt.
79600	29240	50360
87460	28860	58600
87780	29240	58540
81900	28860	53040
40100	29240	10860
		0
		0
		0
		0
		0
75368	29088	46280
		231400
376840	145440	231400

Rec 2/12/16

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 127
Disposal Date: 01/15/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000566879WAS	41,120	41,612
000566883WAS	39,820	41,612
000566880WAS	43,240	41,612
000566884WAS	41,780	41,612
000566896WAS	49,380	41,612
	215,340	208,060

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 127	00056679WAS	41120	56N0269
	00056683WAS	39820	56N0273
	00056680WAS	43240	56N0270
	00056684WAS	41780	56N0274
	00056896WAS	49380	56N0286

GONDOLA TOTAL WEIGHT 215340

RAILCAR LOAD LIMIT 221200

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: _____ Date: 12-18-15

Shipper Printed Name: Matt Eck

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-15-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF1

15 Jan 2016 11:34:15 73240LB

#4

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-15-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant D Pit 1 From: Rail spur
Chox # 127

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,240 lb

15 Jan 2016 11:22:20 81140LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-15-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#2
DF 1

15 Jan 2016 10:59:28 81660LB

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-15-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant Dff#1

From: Rail spur
CNW x# 127

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,240 lb

15 Jan 2016 10:46:24 88220LB

Rec 2/12/16

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 106
Disposal Date: 01/15/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000566890WAS	41,720	41,784
000566895WAS	42,200	41,784
000700858WAS	44,380	41,784
000700857WAS	45,980	41,784
000700861WAS	41,760	41,784
	216,040	208,920

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services 7901 W. Morris St Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Flanelton 800-274-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S., 9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid—US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 106	00056890WAS	41720	56N0280
	00056895WAS	42200	56N0285
	00700858WAS	44380	56N0291
	00700857WAS	45980	56N0290
	00070086 1WAS	41760	56N0294

GONDOLA TOTAL WEIGHT 216040

RAILCAR LOAD LIMIT 221100

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date 12-18-15

Shipper Printed Name: M. Hegar

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-15-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver 74

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#C1

15 Jan 2016 10:23:14 72080LB

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-15-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DFW

From: Rail spur
Chuy 106.

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,290 lb

15 Jan 2016 10:02:16 82680LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-15-16

Transaction # _____ Stop # _____

Manifest # _____

Unit 352 Driver TB

To: _____ From: _____

Arrival _____ Initialed _____

Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____

This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#2

15 Jan 2016 08:40:49 84020LB

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-15-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DF# 2 From: Rail spur
Chux # 106

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,240 lb

15 Jan 2016 08:24:35 86340LB

Rec 2/12/16

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 163
Disposal Date: 01/15/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000566893WAS	42,960	41,932
000566891WAS	43,140	41,932
000566887WAS	42,080	41,932
000700860WAS	45,060	41,932
000566898WAS	42,420	41,932
	215,660	209,660

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 163	00056693WAS	42960	56N0283
	00056691WAS	43140	56N0281
	00056687WAS	42080	56N0277
	00070086OWAS	45060	56N0293
	00056698WAS	42420	56N0288

GONDOLA TOTAL WEIGHT 215660

RAILCAR LOAD LIMIT 221400

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: _____ Date 12-18-15

Shipper Printed Name: Matt Eo

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-15-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

15 Jan 2016 14:11:29 88920LB

#1
DF2

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-15-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DFH 2 From: Rail spur
chux 163

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,240 lb

15 Jan 2016 14:22:40 81840LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-15-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver 79

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#3

15 Jan 2016 14:41:39 86560LB

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-15-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DP# 2 From: Rail spur
chux # 163

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,240 lb

15 Jan 2016 14:52:00 68540LB

Gross	Empty	Net Wt.
68540	29240	39300
86560	28860	57700
81840	29240	52600
88920	28860	60060
		0
		0
		0
		0
		0
		0
70982	29050	41932
		209660
325860	116200	209660

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/12/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 172
Disposal Date: 01/15/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000700878WAS	43,140	42,324
000700875WAS	44,280	42,324
000700877WAS	40,780	42,324
000700874WAS	43,480	42,324
000700880WAS	44,680	42,324
	216,360	211,620

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 172	000700878WAS.	43140	56N0311
	000700875WAS	44280	56N0308
	000700877WAS	40780	56N0310
	000700874WAS	43480	56N0307
	000700880WAS	44680	56N0313

GONDOLA TOTAL WEIGHT 216360

RAILCAR LOAD LIMIT 221100

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date: 12-22-15

Shipper Printed Name: Mark Gay

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-15-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DF#2

From: Rail spur
CNUX # 172

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,240 lb

15 Jan 2016 07:30:03 72240LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-15-16

Transaction # _____ Stop # _____

Manifest # _____

Unit 352 Driver TR

To: _____ From: _____

Arrival _____ Initialed _____

Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____

This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#3 OF 2

15 Jan 2016 07:19:53 83760LB

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-15-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 _____ Driver _____

To: Plant DP# 2 _____ From: Rail spur
Chux # 172

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,240 lb

15 Jan 2016 06:36:40 83100LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-15-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#1

15 Jan 2016 06:19:46 88720LB

28860

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 157
Disposal Date: 01/17/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000566944WAS	44,360	43,564
000566862WAS	47,440	43,564
000566902WAS	40,080	43,564
000566947WAS	45,200	43,564
000566945WAS	41,700	43,564
	218,780	217,820

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O><S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS-C-19223
Freight:	Freight Prepaid—US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 157	000566944WAS	44360	56N0209
	000566862WAS	47440	56N0214
	000566902WAS	40080	56N0217
	000566947WAS	45200	56N0212
	000566945WAS	41700	56N0210

GONDOLA TOTAL WEIGHT 218780

RAILCAR LOAD LIMIT 221100

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date: 12-15-15

Shipper Printed Name: Matt Gr

351

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-6-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: _____ From: Chux 157
#3

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

of 2

#3

06 Jan 2016 14:19:33 86660LB

28640

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-6-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DPH 1

From: Rail SPUR
Chux # 157

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29220LB

06 Jan 2016 14:20:57 83260LB

HERITAGE

Load #4

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-6-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 356 Driver _____

To: DF-2 From: CHUX 157

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

06 Jan 2016 14:03:41 81120LB

07 Jan 2016 07:06:12 28920LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-5-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 355 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

[redacted]

06 Jan 2016 14:17:49 82420LB
28860

DF
#1

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/12/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: EAMX 516
Disposal Date: 01/18/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000700899WAS	47,760	52,360
000700900WAS	47,660	52,360
000700902WAS	49,240	52,360
000700903WAS	49,280	52,360
	193,940	209,440

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8510 Account 3366
STCC:	STCC 4868108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
EAMX 516	000700899WAS	47760	56N0332
	000700900WAS	47660	56N0333
	000700902WAS	49240	56N0335
	000700903WAS	49280	56N0336

GONDOLA TOTAL WEIGHT 193940

RAILCAR LOAD LIMIT 192700

Shipper Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shipper Signature: [signature] Date: 12-29-15

Shipper Printed Name: [signature]

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-16-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DPHq 2

From: Rail spur
Chuy #516

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29 240 lb

16 Jan 2016 06:16:46 86040LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-16-16

Transaction # _____ Stop # _____

Manifest # _____
Unit _____ Driver _____

To: CBW DF2

From: Rail CHUX 516
load #4

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

14 Jan 2016 14:09:05 28020LB

16 Jan 2016 07:23:56 71200LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-16-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DF#2

From: Rail spur
Chuy # 516

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,240 lb

16 Jan 2016 07:10:37 81600LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-16-16

Transaction # _____ Stop # _____

Manifest # _____
Unit _____ Driver _____

To: CBW

From: Rail CHUX 516
load #2

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

14 Jan 2016 14:08:55 28020LB

16 Jan 2016 06:47:09 67320LB

Gross	Empty	Net Wt.
86040	29240	56800
71200	28020	43180
81600	29240	52360
67320	28020	39300
		0
		0
		0
		0
		0
		0
66958	28630	38328
		191640
306160	114520	191640

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/12/16

Certificate of Disposal of Hazardous Waste

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Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: EAMX 501
Disposal Date: 01/18/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000700898WAS	48,300	38,470
000700897WAS	48,200	38,470
000700901WAS	51,860	38,470
000700904WAS	50,960	38,470
	199,320	153,880

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services 7901 W. Morris St Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N.O.S., 9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid – US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
EAMX 50	000700898WAS	48300	56N0331
	000700897WAS	48200	56N0330
#4 loads	000700901WAS	51860	56N0334
	000700904WAS	50960	56N0337

GONDOLA TOTAL WEIGHT 199320

RAILCAR LOAD LIMIT 202700

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date: 12-29-15

Shipper Printed Name: N Little

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-16-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DP#2

From: Rail spur
[redacted] #
EAMX #501

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,240 lb

16 Jan 2016 08:01:16 79000LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-16-16

Transaction # _____ Stop # _____

Manifest # _____
Unit _____ Driver _____

To: CBW DF 2 From: Rail EAMY [redacted] 501
load #2

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

28020

16 Jan 2016 08:13:31 75800LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-16-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant #2 From: Rail spur
EAMY #501

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,240 lb

16 Jan 2016 10:29:28 79540LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-16-16

Transaction # _____ Stop # _____

Manifest # _____
Unit _____ Driver _____

To: CBW DF2 _____ From: Rail EAMY 501
load #4

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

28020

16 Jan 2016 10:44:01 75580LB

Miller, Isaiah

From: Glossop, Dawn
Sent: Monday, January 18, 2016 3:23 PM
To: Parr, Levi
Cc: HES Indy Plant Communications; Camarillo, Jamie
Subject: RE: Honeywell Transactions

Please see order #1248715

Thank you,

Dawn Glossop
Scheduling Department
Heritage Environmental Services
7901 W. Morris Street
Indianapolis, IN 46231
Phone: 317-390-3160
Fax: 317-486-4230
Dawn.glossop@heritage-enviro.com

---------- Visit our website ----------
HERITAGE
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From: Parr, Levi
Sent: Monday, January 18, 2016 2:19 PM
To: Glossop, Dawn
Cc: HES Indy Plant Communications; Camarillo, Jamie
Subject: RE: Honeywell Transactions

Hey Dawn, would you be able to make 8 new transactions for this WS? (89415-3)

Thank you,

Levi Parr
(317)486-2731

Gross	Empty	Net Wt.
79000	29240	49760
75800	28020	47780
79540	29240	50300
75580	28020	47560
		0
		0
		0
		0
		0
		0
67710	28630	39080
		195400
309920	114520	195400

Rec 2/12/16

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 154
Disposal Date: 01/15/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000566894WAS	41,720	42,680
000566897WAS	43,660	42,680
000700862WAS	41,480	42,680
000700859WAS	39,860	42,680
000700871WAS	49,840	42,680
	216,560	213,400

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

Generator:	Honeywell
Shipper:	US Ecology, Idaho, Inc.
Origin:	Northampton, PA (NDCR) PA
Destination:	Heritage Environmental Services
	7901 W. Morris St
	Indianapolis, IN 46231-3301
Routing:	NS, Indianapolis - CSXT
Notify Party:	Curtis Hamilton 800-274-1516
Emergency Phone:	800-510-8518 Account 3366
STCC:	STCC 4860108
Product Description:	RQ, NA3077, Hazardous Waste, Solid, N>O>S.,
	9, PGIII, (CHROMIUM), (D007)
Contract Authority:	NS- C - 19223
Freight:	Freight Prepaid—US Ecology
	251 E. Front St., Suite 400, Boise, Idaho 83702

Rail Car #:	Manifest Numbers	Weight	Doc#
CHUX 154	000566894WIAS	41720	56N0284
	000566897WAS	43660	56N0287
	000700862WAS	41480	56N0295
	000700859WAS	39860	56N0292
	000700871WAS	49840	56N0304

GONDOLA TOTAL WEIGHT 216560

RAILCAR LOAD LIMIT 221100

Shippers Certification:

"I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport and according to applicable international and national governmental regulations."

Shippers Signature: [signature] Date: 12-21-15

Shipper Printed Name: Matt Eser

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-14-16

Transaction # _____ Stop # _____

Manifest # _____

Unit 352 Driver TR

To: _____ From: _____

Arrival _____ Initialed _____

Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____

This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#4

14 Jan 2016 12:47:43 85940LB

28860

DF

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-14-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant pr#1 From: Rail spur
Chuy-H 154

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,240 lb

14 Jan 2016 12:27:58 66640LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-14-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver 79

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#2
DF

14 Jan 2016 12:00:21 83000LB

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-14-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DF#1

From: Rail spur
Chux #154

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,240 lb

14 Jan 2016 10:55:34 85660LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-14-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DPH1

From: Rail SPUR
Chux #154

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,240 lb

14 Jan 2016 13:03:12 37600LB

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/12/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 262
Disposal Date: 01/22/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000700905WAS	46,100	42,388
000700908WAS	44,280	42,388
000700909WAS	45,080	42,388
000700914WAS	41,380	42,388
000700913WAS	38,240	42,388
	215,080	211,940

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

GENERATOR:	Honeywell
SHIPPER:	US Ecology, Idaho, Inc.
ORIGIN:	Northampton, PA (NDCR) PA
DESTINATION:	Heritage Environmental Services 7901 . Morris St. Indianapolis, IN 46231-3301
ROUTING:	NS, Indianapolis - CSXT
NOTIFY PARTY:	Curtis Hamilton 800-274-1516
EMERGENCY PHONE:	800-510-8510 Account 3366
STCC:	STCC 4860108
PROJECT DESCRIPTION:	RQ, NA3077, Hazardous Waste , Solid, N.O.S. 9, PGIII, (CHROMIUM), (D007)
CONTRACT AUTHORITY:	NS-C-19223
FREIGHT:	Freight Prepaid - US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

RAIL CAR #:	Manifest Numbers	Weight	Doc #
CHUX 262	000700905WAS	46100	56W0338
	000700908WAS	44280	56W0341
	000700909WAS	45080	56W0342
	000700914WAS	41380	56W0347
	000700913WAS	38240	56W0346

GONDOLA TOTAL WEIGHT 215080

RAILCAR LOAD LIMIT 220100

Shipper's Certification:

"I herby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations"

Shipper's Signature: [signature] Date 1-4-16

Shipper's Printed Name: Matt Gor

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-22-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver KR

To: Df- From: Chux 262
#1

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

Df-2

#1

22 Jan 2016 12:32:42 84420LB

28640

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-22-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 355 Driver _____

To: DF 2 From: CHUX 262
#2

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

Df-2
#2

22 Jan 2016 13:02:31 80840LB

DF2

27900

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-22-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 551 Driver KR

To: ~~DF-2~~ DF-2 From: CHUX 262
~~#3~~

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF-2
#3

22 Jan 2016 13:30:06 78560LB

28640

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-22-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: Def-2 From: Chux 262
#4

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

Def-2
#4

22 Jan 2016 14:12:30 81940LB

28640

Gross	Empty	Net Wt.
84420	28640	55780
80840	27900	52940
78560	28640	49920
81940	28640	53300
		0
		0
		0
		0
		0
		0
70843	28455	42388
		211940
325760	113820	211940

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/12/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 287
Disposal Date: 01/22/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000700911WAS	39,200	42,432
000700912WAS	40,860	42,432
000700910WAS	44,180	42,432
000700907WAS	46,860	42,432
000700906WAS	44,520	42,432
	215,620	212,160

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

GENERATOR:	Honeywell
SHIPPER:	US Ecology, Idaho, Inc.
ORIGIN:	Northampton, PA (NDCR) PA
DESTINATION:	Heritage Environmental Services 7901 . Morris St. Indianapolis, IN 46231-3301
ROUTING:	NS, Indianapolis - CSXT
NOTIFY PARTY:	Curtis Hamilton 800-274-1516
EMERGENCY PHONE:	800-510-8510 Account 3366
STCC:	STCC 4860108
PROJECT DESCRIPTION:	RQ, NA3077, Hazardous Waste , Solid, N.O.S. 9, PGIII, (CHROMIUM), (D007)
CONTRACT AUTHORITY:	NS-C-19223
FREIGHT:	Freight Prepaid - US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

RAIL CAR #:	Manifest Numbers	Weight	Doc #
CHUX 287	000700911WAS	39200	56N0344
	000700912WAS	40860	56N0345
	000700910WAS	44180	56N0343
	000700907WAS	46860	56N0340
	000700906WAS	44520	56N0339

GONDOLA TOTAL WEIGHT 215620

RAILCAR LOAD LIMIT 220300

Shipper's Certification:

"I herby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations"

Shipper's Signature: [signature] Date 1-8-16

Shipper's Printed Name: Matt Gar

351

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-21-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: Df-2 From: chux
#3

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

Df-2
#3

21 Jan 2016 17:05:40 83840LB

28640

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-21-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 355 Driver _____

To: _____

From: CHux ~~287~~ 287

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#2

DF2

21 Jan 2016 16:35:15 76060LB

28640

351

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-21-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KK

To: Df-2 From: Chux 287
#1

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

Df-2
#1

21 Jan 2016 16:09:59 82300LB

28640

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date:_____

Transaction # _____ Stop #_____

Manifest # _____
Unit 355 Driver_____

To: DF2 From: CHUX 287

Arrival_____ Initialed_____
Departure_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

#4

21 Jan 2016 17:26:19 84520LB

DF2

28,640

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/12/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 308
Disposal Date: 01/22/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000700915WAS	40,340	42,284
000700921WAS	43,840	42,284
000700920WAS	42,040	42,284
000700919WAS	42,500	42,284
000700917WAS	46,100	42,284
	214,820	211,420

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

GENERATOR:	Honeywell
SHIPPER:	US Ecology, Idaho, Inc.
ORIGIN:	Northampton, PA (NDCR) PA
DESTINATION:	Heritage Environmental Services 7901 . Morris St. Indianapolis, IN 46231-3301
ROUTING:	NS, Indianapolis - CSXT
NOTIFY PARTY:	Curtis Hamilton 800-274-1516
EMERGENCY PHONE:	800-510-8510 Account 3366
STCC:	STCC 4860108
PROJECT DESCRIPTION:	RQ, NA3077, Hazardous Waste , Solid, N.O.S. 9, PGIII, (CHROMIUM), (D007)
CONTRACT AUTHORITY:	NS-C-19223
FREIGHT:	Freight Prepaid - US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

8642327
8642329
8642331
8642333
8642335

RAIL CAR #:	Manifest Numbers	Weight	Doc #
CHUX 308	000700915WAS	40340	56N0348
	000700921WAS	43840	56N0354
	000700920WAS	42040	56N0353
	000700919WAS	42500	56N0352
	000700917WAS	46100	56N0350

GONDOLA TOTAL WEIGHT 214820

RAILCAR LOAD LIMIT 220200

Shipper's Certification:

"I herby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations"

Shipper's Signature: _____ Date 1-4-16

Shipper's Printed Name: Matt Gear

351

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-22-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver _____

To: DF-2

From: Chux 308
~~#~~ 1

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

Df-2

#1

22 Jan 2016 07:35:45 84540LB

27,900

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1/2

Transaction # _____ Stop # _____

Manifest # _____
Unit 355 Driver _____

To: OF2 From: CHUY 308

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

OF2

#2

22 Jan 2016 08:10:21 82320LE

DF2

22 Jan 2016 09:32:21 27900LB

351

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-22-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 351 Driver KR

To: DF-2 From: Chux 308
#3

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF-2
#3

22 Jan 2016 08:40:55 79780LB

28640

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1/22/16

Transaction # _____ Stop # _____

Manifest # _____
Unit 355 Driver _____

To: DF2 From: CHUX 308
#3

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#4

22 Jan 2016 09:03:49 77120LB

DF2

22 Jan 2016 09:31:57 27900LB

Gross	Empty	Net Wt.
84540	27900	56640
82320	27900	54420
79780	28640	51140
77120	27900	49220
		0
		0
		0
		0
		0
		0
70369	28085	42284
		211420
323760	112340	211420

Miller, Isaiah

From: Shields, Kirsten
Sent: Friday, January 22, 2016 10:59 AM
To: Parr, Levi
Cc: Miller, Isaiah
Subject: RE: Need Transactions for CHUX287

See T# 8642305 through 8642343

Kirsten Shields
Sr. Corporate Account Coordinator
7901 W. Morris St.
Indianapolis, IN 46231
(317) 381-6841 Office
(317) 474-7606 Cell
(317) 390-3134 Fax
Kirsten.Shields@heritage-enviro.com

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From: Parr, Levi
Sent: Friday, January 22, 2016 10:41 AM
To: Shields, Kirsten
Cc: Miller, Isaiah
Subject: RE: Need Transactions for CHUX287

We also need 20 more.

Thank you,

Levi Parr

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Rec 2/12/16

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 318
Disposal Date: 01/22/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000700916WAS	40,280	41,964
000700922WAS	41,260	41,964
000700924WAS	42,620	41,964
000700923WAS	44,600	41,964
000700918WAS	43,300	41,964
	212,060	209,820

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

GENERATOR:	Honeywell
SHIPPER:	US Ecology, Idaho, Inc.
ORIGIN:	Northampton, PA (NDCR) PA
DESTINATION:	Heritage Environmental Services 7901 . Morris St. Indianapolis, IN 46231-3301
ROUTING:	NS, Indianapolis - CSXT
NOTIFY PARTY:	Curtis Hamilton 800-274-1516
EMERGENCY PHONE:	800-510-8510 Account 3366
STCC:	STCC 4860108
PROJECT DESCRIPTION:	RQ, NA3077, Hazardous Waste , Solid, N.O.S. 9, PGIII, (CHROMIUM), (D007)
CONTRACT AUTHORITY:	NS-C-19223
FREIGHT:	Freight Prepaid - US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

RAIL CAR #:	Manifest Numbers	Weight	Doc #
CHUX 318	000700916WAS	40280	56N0349
	000700922WAS	41260	56N0355
	000700924WAS	42620	56N0357
	000700923WAS	44600	56N0356
	000700918WAS	43300	56N0351

GONDOLA TOTAL WEIGHT 212060

RAILCAR LOAD LIMIT 220100

Shipper's Certification:

"I herby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations"

Shipper's Signature: [signature] Date 1-4-16

Shipper's Printed Name: Matt Gser

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-22-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 355 Driver _____

To: DFI _____ From: CH UX 318 _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

4

22 Jan 2016 10:55:54 75840LB

DFI

27900

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-22-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 355 Driver _____

To: DF 1 From: CHWX 318

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF
#
2

22 Jan 2016 10:03:50 78560LB

27900

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-22-16

Transaction # _____ Stop # _____

Manifest # _____
Unit _____ Driver KK

To: DF-1 From: Chux 318
#1

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF-

22 Jan 2016 09:39:15 84580LB

#1

28640

357

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 1-22-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver KR

To: DF-1 From: chux 318

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF-1

#3

22 Jan 2016 10:40:12 83920LB

28640

Rec: 2/24/16

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 278
Disposal Date: 02/17/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000728556WAS	42,080	43,712
000728551WAS	43,480	43,712
000726895WAS 726898	42,820	43,712
000728552WAS	42,060	43,712
000728560WAS	44,440	43,712
	214,880	218,560

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

GENERATOR:	Honeywell
SHIPPER:	US Ecology, Idaho, Inc.
ORIGIN:	Northampton, PA (NDCR) PA
DESTINATION:	Heritage Environmental Services 7901 . Morris St. Indianapolis, IN 46231-3301
ROUTING:	NS, Indianapolis - CSXT
NOTIFY PARTY:	Curtis Hamilton 800-274-1516
EMERGENCY PHONE:	800-510-8510 Account 3366
STCC:	STCC 4860108
PROJECT DESCRIPTION:	RQ, NA3077, Hazardous Waste , Solid, N.O.S. 9, PGIII, (CHROMIUM), (D007)
CONTRACT AUTHORITY:	NS-C-19223
FREIGHT:	Freight Prepaid - US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

RAIL CAR #:	Manifest Numbers	Weight	Doc #
CHUX 278	000728556WAS	42080	56W0364
	000728551WAS	43480	56W0359
	000728898WAS	42820	56W0358
	000728552WAS	42060	56W0360
	000728560WAS	44440	56W0368

GONDOLA TOTAL WEIGHT 214880

RAILCAR LOAD LIMIT 220200

Shipper's Certification:

"I herby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations"

Shipper's Signature: _____ Date 02-01-16

Shipper's Printed Name: Matt Gu

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-17-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF
#1

17 Feb 2016 12:31:42 81200LB

17 Feb 2016 06:27:30 29100LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-17-16

Transaction # _____ Stop # _____

Manifest # _____

Unit 352 Driver 79

To: _____ From: _____

Arrival _____ Initialed _____

Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____

This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

NF1

17 Feb 2016 13:48:10 85940LB

#2

17 Feb 2016 06:27:41 29100LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-17-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TR

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF 1

17 Feb 2016 14:21:39 86120LB

#3

17 Feb 2016 06:27:41 29100LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2/-17-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#4

17 Feb 2016 14:53:50 81700LB

DF1

29100

Gross	Empty	Net Wt.
81200	29100	52100
85940	29100	56840
86120	29100	57020
81700	29100	52600
		0
		0
		0
		0
		0
		0
72812	29100	43712
		218560
334960	116400	218560

Rec: 2/24/16

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 298
Disposal Date: 02/17/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000728558WAS	41,640	44,324
000728553WAS	42,000	44,324
000728554WAS	41,760	44,324
000728555WAS	43,960	44,324
000728563WAS	45,700	44,324
	215,060	221,620

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

GENERATOR:	Honeywell
SHIPPER:	US Ecology, Idaho, Inc.
ORIGIN:	Northampton, PA (NDCR) PA
DESTINATION:	Heritage Environmental Services 7901 . Morris St. Indianapolis, IN 46231-3301
ROUTING:	NS, Indianapolis - CSXT
NOTIFY PARTY:	Curtis Hamilton 800-274-1516
EMERGENCY PHONE:	800-510-8510 Account 3366
STCC:	STCC 4860108
PROJECT DESCRIPTION:	RQ, NA3077, Hazardous Waste , Solid, N.O.S. 9, PGIII, (CHROMIUM), (D007)
CONTRACT AUTHORITY:	NS-C-19223
FREIGHT:	Freight Prepaid - US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

RAIL CAR #:	Manifest Numbers	Weight	Doc #
CHUX 298	000728558WAS	41640	56N0366
	000728553 WAS	42000	56N0 361
	000728554 WAS	41760	56N0 362
	000728555 WAS	43960	56N0 363
	000728563 WAS	45700	56N0371

GONDOLA TOTAL WEIGHT 215060

RAILCAR LOAD LIMIT 220100

Shipper's Certification:

"I herby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations"

Shipper's Signature: _____ Date 02-01-16

Shipper's Printed Name: Matt Gs

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-17-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TS

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#5
DFR

17 Feb 2016 10:57:07 41980LB

17 Feb 2016 06:27:23 29100LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-17-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF2

17 Feb 2016 10:32:26 80160LB

TF4

17 Feb 2016 06:27:12 29100LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-17-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver 75

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF2

17 Feb 2016 10:03:36 81160LB

#3

17 Feb 2016 06:27:03 29100LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-17-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TG

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF2

17 Feb 2016 08:53:40 83340LB

#2

17 Feb 2016 06:26:53 29100LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-17-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver 74

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF 2

17 Feb 2016 08:06:44 80480LB

#1

17 Feb 2016 06:26:43 29100LB

Rec. 3/10/16

HERITAGE ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 207
Disposal Date: 02/26/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000728570WAS	43,220	43,892
000728572WAS	43,420	43,892
000728576WAS	43,160	43,892
000728568WAS	44,520	43,892
000728582WAS	41,380	43,892
	215,700	219,460

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

GENERATOR:	Honeywell
SHIPPER:	US Ecology, Idaho, Inc.
ORIGIN:	Northampton, PA (NDCR) PA
DESTINATION:	Heritage Environmental Services 7901 . Morris St. Indianapolis, IN 46231-3301
ROUTING:	NS, Indianapolis - CSXT
NOTIFY PARTY:	Curtis Hamilton 800-274-1516
EMERGENCY PHONE:	800-510-8510 Account 3366
STCC:	STCC 4860108
PROJECT DESCRIPTION:	RQ, NA3077, Hazardous Waste , Solid, N.O.S. 9, PGIII, (CHROMIUM), (D007)
CONTRACT AUTHORITY:	NS-C-19223
FREIGHT:	Freight Prepaid - US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

RAIL CAR #:	Manifest Numbers	Weight	Doc #
CHUX 207	000728570WAS	43220	56N0378
	000728572WAS	43420	56N0380
	000728576WAS	43160	56N0384
	000728568WAS	44520	56N0376
	000728582WAS	41380	56N0390

GONDOLA TOTAL WEIGHT 215700

RAILCAR LOAD LIMIT 221300

Shipper's Certification:

"I herby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations"

Shipper's Signature: _____ Date 02-02-16

Shipper's Printed Name: Matthew

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-26-16

Transaction # _____ Stop # _____

Manifest # _____

Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____

Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____

This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#4

26 Feb 2016 11:01:01 81520LB

DF2

288660

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2/26/16

Transaction # _____ Stop # _____

Manifest # _____
Unit 353 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

CHUX
207

26 Feb 2016 06:11:10 28880LB

DF2

Load
#3

26 Feb 2016 10:54:17 86160LB

26 Feb 2016 [illegible] 86160LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-26-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 353 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF 1

26 Feb 2016 06:12:49 28880LB

CH4X

207

Load #2

26 Feb 2016 08:47:59 83540LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-26-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF

26 Feb 2016 08:31:04 83720LB

#1

28860

Rec: 3/10/16

HERITAGE ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 167
Disposal Date: 02/29/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000728564WAS	45,840	44,064
000728565WAS	45,720	44,064
000728566WAS	41,820	44,064
000728579WAS	42,680	44,064
000728578WAS	40,300	44,064
	216,360	220,320

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

GENERATOR:	Honeywell
SHIPPER:	US Ecology, Idaho, Inc.
ORIGIN:	Northampton, PA (NDCR) PA
DESTINATION:	Heritage Environmental Services 7901 . Morris St. Indianapolis, IN 46231-3301
ROUTING:	NS, Indianapolis - CSXT
NOTIFY PARTY:	Curtis Hamilton 800-274-1516
EMERGENCY PHONE:	800-510-8510 Account 3366
STCC:	STCC 4860108
PROJECT DESCRIPTION:	RQ, NA3077, Hazardous Waste , Solid, N.O.S. 9, PGIII, (CHROMIUM), (D007)
CONTRACT AUTHORITY:	NS-C-19223
FREIGHT:	Freight Prepaid - US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

RAIL CAR #:	Manifest Numbers	Weight	Doc #
CHUX 167	000728564WAS	45840	56N0372
	000728565WAS	45720	56N0373
	000728566WAS	41820	56N0374
	000728579WAS	42680	56N0387
	000728578WAS	40300	56N0386

GONDOLA TOTAL WEIGHT 216360

RAILCAR LOAD LIMIT 221200

Shipper's Certification:

"I herby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations"

Shipper's Signature: _____ Date 02-02-16

Shipper's Printed Name: Matt Gar

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-29-16

Transaction # Chux 167 Stop # #1

Manifest #

Unit 353 Driver

To: From:

Arrival Initialed

Departure

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature Date

Transporter

This is to certify acceptance of the named material for transportation

Transporter's Signature Date

29 Feb 2016 07:33:27 29280LB

29 Feb 2016 08:43:35 90560LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-29-16

Transaction # Chux 197 Stop # #2

Manifest #

Unit # 353 Driver

To: From:

Arrival Initialed

Departure

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature Date

Transporter

This is to certify acceptance of the named material for transportation

Transporter's Signature Date

DF-2

29 Feb 2016 07:33:51 29280LB

29 Feb 2016 14:18:07 84120LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-29-16

Transaction # Chuy 167 Stop # #3

Manifest #

Unit 353 Driver

To: From:

Arrival Initialed

Departure

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature Date

Transporter

This is to certify acceptance of the named material for transportation

Transporter's Signature Date

29 Feb 2016 07:33:12 29280LB

DF-2

29 Feb 2016 14:50:07 88600LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-29-16

Transaction # Chux 167 Stop # #4

Manifest #

Unit 353 Driver

To: From:

Arrival Initialed

Departure

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature Date

Transporter

This is to certify acceptance of the named material for transportation

Transporter's Signature Date

OF-2

29280

29 Feb 2016 15:16:38 74160LB

Gross	Empty	Net Wt.
90560	29280	61280
84120	29280	54840
88600	29280	59320
74160	29280	44880
		0
		0
		0
		0
		0
		0
73344	29280	44064
		220320
337440	117120	220320

Rec: 3/10/16

HERITAGE ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 191
Disposal Date: 02/29/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000728584WAS	43,020	43,336
000728583WAS	45,780	43,336
000728581WAS	42,940	43,336
000728590WAS	40,540	43,336
000728592WAS	42,880	43,336
	215,160	216,680

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

GENERATOR:	Honeywell
SHIPPER:	US Ecology, Idaho, Inc.
ORIGIN:	Northampton, PA (NDCR) PA
DESTINATION:	Heritage Environmental Services 7901 . Morris St. Indianapolis, IN 46231-3301
ROUTING:	NS, Indianapolis - CSXT
NOTIFY PARTY:	Curtis Hamilton 800-274-1516
EMERGENCY PHONE:	800-510-8510 Account 3366
STCC:	STCC 4860108
PROJECT DESCRIPTION:	RQ, NA3077, Hazardous Waste , Solid, N.O.S. 9, PGIII, (CHROMIUM), (D007)
CONTRACT AUTHORITY:	NS-C-19223
FREIGHT:	Freight Prepaid - US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

RAIL CAR #:	Manifest Numbers	Weight	Doc #
CHUX 191	000728584WAS	43020	56N0392
	000728583WAS	45780	56N0391
	000728581WAS	42940	56N0389
	000728590WAS	40540	56N0398
	000728592WAS	42880	56N0400

GONDOLA TOTAL WEIGHT 215160

RAILCAR LOAD LIMIT 220800

Shipper's Certification:

"I herby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations"

Shipper's Signature: _____ Date 02-03-16

Shipper's Printed Name: _____

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-29-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

NF 2
#1

29 Feb 2016 06:56:28 82020LB

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-29-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF2

29 Feb 2016 07:42:21 83420LB

#2

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-29-16

Transaction # Chalx 191 Stop # #3

Manifest #
Unit 353 Driver

To: From:

Arrival Initialed
Departure

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature Date

Transporter
This is to certify acceptance of the named material for transportation

Transporter's Signature Date

29 Feb 2016 07:33:42 29280LB

29 Feb 2016 08:04:04 84220LB

#3

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-29-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29 Feb 2016 08:17:07 82880LB

DF2

#4

288660

Gross	Empty	Net Wt.
82020	28860	53160
83420	28860	54560
84220	29280	54940
82880	28860	54020
		0
		0
		0
		0
		0
		0
72301	28965	43336
		216680
332540	115860	216680

Rec: 3/10/16

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 142
Disposal Date: 02/26/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000728573WAS	43,300	44,252
000728575WAS	43,980	44,252
000728569WAS	44,340	44,252
000728577WAS	43,060	44,252
000728580WAS	41,400	44,252
	216,080	221,260

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

GENERATOR:	Honeywell
SHIPPER:	US Ecology, Idaho, Inc.
ORIGIN:	Northampton, PA (NDCR) PA
DESTINATION:	Heritage Environmental Services 7901 . Morris St. Indianapolis, IN 46231-3301
ROUTING:	NS, Indianapolis - CSXT
NOTIFY PARTY:	Curtis Hamilton 800-274-1516
EMERGENCY PHONE:	800-510-8510 Account 3366
STCC:	STCC 4860108
PROJECT DESCRIPTION:	RQ, NA3077, Hazardous Waste , Solid, N.O.S. 9, PGIII, (CHROMIUM), (D007)
CONTRACT AUTHORITY:	NS-C-19223
FREIGHT:	Freight Prepaid - US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

RAIL CAR #:	Manifest Numbers	Weight	Doc #
CHUX 142	000728573WAS	43300	56N0381
	000728575WAS	43980	56N0383
	000728569WAS	44340	56N0377
	000728577WAS	43060	56N0385
	000728580WAS	41400	56N0388

GONDOLA TOTAL WEIGHT 216080

RAILCAR LOAD LIMIT 221100

Shipper's Certification:

"I herby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations"

Shipper's Signature: [signature] Date 02-02-16

Shipper's Printed Name: Matt Gr

HERITAGE

CHUX 142

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-25-16

Transaction # _____ Stop # _____

Manifest # _____

Unit 353 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____

Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____

This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

26 Feb 2016 06:10:31 28880LB

#4

DF2

26 Feb 2016 08:04:18 84020LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-26-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver Ty

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF 2

26 Feb 2016 07:53:21 83040LB

288660

#3

HERITAGE

CHUX 142

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-26-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TM

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF2

26 Feb 2016 07:15:58 83180LB

29000

#1

HERITAGE

CHUX 142

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-26-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 353 Driver _____

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

#2

26 Feb 2016 06:10:45 28880LB

OF2

26 Feb 2016 07:26:58 86740LB

Rec: 3/10/16

HERITAGE ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 121
Disposal Date: 02/26/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000728589WAS	45,820	45,016
000728599WAS	38,040	45,016
000728596WAS	44,700	45,016
000728595WAS	42,900	45,016
000728594WAS	44,540	45,016
	216,000	225,080

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

GENERATOR:	Honeywell
SHIPPER:	US Ecology, Idaho, Inc.
ORIGIN:	Northampton, PA (NDCR) PA
DESTINATION:	Heritage Environmental Services 7901 . Morris St. Indianapolis, IN 46231-3301
ROUTING:	NS, Indianapolis - CSXT
NOTIFY PARTY:	Curtis Hamilton 800-274-1516
EMERGENCY PHONE:	800-510-8510 Account 3366
STCC:	STCC 4860108
PROJECT DESCRIPTION:	RQ, NA3077, Hazardous Waste , Solid, N.O.S. 9, PGIII, (CHROMIUM), (D007)
CONTRACT AUTHORITY:	NS-C-19223
FREIGHT:	Freight Prepaid - US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

RAIL CAR #:	Manifest Numbers	Weight	Doc #
CHUX 121	000728589WAS	45820	56N0397
	000728599WAS	38040	56N0407
	000728596WAS	44700	56N0404
	000728595WAS	42900	56N0403
	000728594WAS	44540	56N0402

GONDOLA TOTAL WEIGHT _____

RAILCAR LOAD LIMIT 220900

Shipper's Certification:

"I herby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations"

Shipper's Signature: _____ Date 02-03-16

Shipper's Printed Name: Matt Eor

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-26-16

Transaction # _____ Stop # _____

Manifest # _____

Unit 352 Driver TB

To: _____ From: _____

Arrival _____ Initialed _____

Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____

This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

NF2

26 Feb 2016 15:14:20 76780LB

#4

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-26-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver 75

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF2

26 Feb 2016 14:51:49 86860LB

#3

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-26-16

Transaction # _____ Stop # _____

Manifest # _____

Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____

Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____

This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF2

#2

26 Feb 2016 14:07:46 89340LB

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-26-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 32 Driver TB

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF2
#1

26 Feb 2016 13:25:59 87540LB

288660

Rec. 3/10/16

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 140
Disposal Date: 02/25/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000728591WAS	44,060	43,652
000728588WAS	44,940	43,652
000728593WAS	46,760	43,652
000728597WAS	42,940	43,652
000728598WAS	36,000	43,652
	214,700	218,260

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

GENERATOR:	Honeywell
SHIPPER:	US Ecology, Idaho, Inc.
ORIGIN:	Northampton, PA (NDCR) PA
DESTINATION:	Heritage Environmental Services 7901 . Morris St. Indianapolis, IN 46231-3301
ROUTING:	NS, Indianapolis - CSXT
NOTIFY PARTY:	Curtis Hamilton 800-274-1516
EMERGENCY PHONE:	800-510-8510 Account 3366
STCC:	STCC 4860108
PROJECT DESCRIPTION:	RQ, NA3077, Hazardous Waste , Solid, N.O.S. 9, PGIII, (CHROMIUM), (D007)
CONTRACT AUTHORITY:	NS-C-19223
FREIGHT:	Freight Prepaid - US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

RAIL CAR #:	Manifest Numbers	Weight	Doc #
CHUX 140	000728591WAS	44060	56N0399
	000728588WAS	44940	56N0396
	000728593WAS	46760	56N0401
	000728597WAS	42940	56N0405
	000728598WAS	36000	56N0406

GONDOLA TOTAL WEIGHT 214700

RAILCAR LOAD LIMIT 221100

Shipper's Certification:

"I herby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations"

Shipper's Signature: _____ Date 02-03-16

Shipper's Printed Name: Matthew

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-25-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver B

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

25 Feb 2016 13:47:53 85640LB

#1 DF2

29100

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-25-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

25 Feb 2016 14:22:03 86840LB

DF2

#2

29100

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 2-25-16

Transaction # _____ Stop # _____

Manifest # _____

Unit 352 Driver TT

To: _____ From: _____

Arrival _____ Initialed _____

Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____

This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF2

#3

25 Feb 2016 14:48:03 89440LB

29100

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date 2-25-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 355 Driver _____

To: Plant DF#2

From: Rail spur
Chox # 140

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

25 Feb 2016 14:34:21 29160LB

25 Feb 2016 14:58:10 72800LB

Gross	Empty	Net Wt.
85640	29100	56540
86840	29100	57740
89440	29100	60340
72800	29160	43640
		0
		0
		0
		0
		0
		0
72767	29115	43652
		218260
334720	116460	218260

Rec: 3/15/16

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 319
Disposal Date: 03/09/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000728601WAS	42,320	42,716
000728600WAS	37,860	42,716
000728603WAS	39,540	42,716
000728604WAS	44,900	42,716
000728602WAS	39,160	42,716
	203,780	213,580

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

GENERATOR:	Honeywell
SHIPPER:	US Ecology, Idaho, Inc.
ORIGIN:	Northampton, PA (NDCR) PA
DESTINATION:	Heritage Environmental Services 7901 . Morris St. Indianapolis, IN 46231-3301
ROUTING:	NS, Indianapolis - CSXT
NOTIFY PARTY:	Curtis Hamilton 800-274-1516
EMERGENCY PHONE:	800-510-8510 Account 3366
STCC:	STCC 4860108
PROJECT DESCRIPTION:	RQ, NA3077, Hazardous Waste , Solid, N.O.S. 9, PGIII, (CHROMIUM), (D007)
CONTRACT AUTHORITY:	NS-C-19223
FREIGHT:	Freight Prepaid - US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

RAIL CAR #:	Manifest Numbers	Weight	Doc #
CHUX 319	000728601WAS	42320	56N0409
	000728600WAS	37860	56N0408
	000728603WAS	39540	56N0411
	000728604WAS	44900	56N0412
	000728602WAS	39160	56N0410

GONDOLA TOTAL WEIGHT 203780

RAILCAR LOAD LIMIT 220100

Shipper's Certification:

"I herby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations"

Shipper's Signature: _____ Date 02-18-16

Shipper's Printed Name: _____

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-9-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver TY

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

DF2

09 Mar 2016 10:14:47 87140LB

#1

58280

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-9-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver _____

To: CBW

From: Rail CHUX 319
load #2

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

09 Mar 2016 10:08:25 28580LB

50,280

09 Mar 2016 10:30:43 78860LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-9-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 352 Driver 73

To: _____ From: _____

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

NF2

09 Mar 2016 11:13:37 85780LB

#3

56920

28860

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-9-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver _____

To: CBW

From: Rail CHUX 319
load #4

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

09 Mar 2016 10:08:35 28580LB

48100

09 Mar 2016 11:24:53 76680LB

Gross	Empty	Net Wt.
87140	28860	58280
78860	28580	50280
85780	28860	56920
76680	28580	48100
		0
		0
		0
		0
		0
		0
71436	28720	42716
		213580
328460	114880	213580

Rec: 3/23/16

HERITAGE ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 114
Disposal Date: 03/17/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000728557WAS	38,700	42,392
000728567WAS	44,800	42,392
000728561WAS	42,280	42,392
000728559WAS	43,380	42,392
000728562WAS	47,520	42,392
	216,680	211,960

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

GENERATOR:	Honeywell
SHIPPER:	US Ecology, Idaho, Inc.
ORIGIN:	Northampton, PA (NDCR) PA
DESTINATION:	Heritage Environmental Services 7901 . Morris St. Indianapolis, IN 46231-3301
ROUTING:	NS, Indianapolis - CSXT
NOTIFY PARTY:	Curtis Hamilton 800-274-1516
EMERGENCY PHONE:	800-510-8510 Account 3366
STCC:	STCC 4860108
PROJECT DESCRIPTION:	RQ, NA3077, Hazardous Waste , Solid, N.O.S. 9, PGIII, (CHROMIUM), (D007)
CONTRACT AUTHORITY:	NS-C-19223
FREIGHT:	Freight Prepaid - US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

RAIL CAR #:	Manifest Numbers	Weight	Doc #
CHUX 114	000728557WAS	38700	56N0365
	000728567WAS	44800	56N0375
	000728561WAS	42280	56N0369
	000728559WAS	43380	56N0367
	000728562WAS	47520	56N0370

GONDOLA TOTAL WEIGHT 216680

RAILCAR LOAD LIMIT 221000

Shipper's Certification:

"I herby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations"

Shipper's Signature: _____ Date 02-01-16

Shipper's Printed Name: Mathew

~~load~~
load #1

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-17-16

Transaction # _____ Stop # _____

Manifest # _____
Unit _____ Driver _____

To: Plant Pitz

From: Rail spur
Chev #114

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,200 lb

17 Mar 2016 12:36:18 84800LB

load #2

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-17-16

Transaction # _____ Stop # _____

Manifest # _____
Unit _____ Driver _____

To: Plant DFM 2 _____ From: Rail spur Chox #14

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,200 lb

17 Mar 2016 13:10:01 84480LB

load # 3

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-17-16

Transaction # _____ Stop # _____

Manifest # _____
Unit _____ Driver _____

To: Plant DF2 _____ From: Rail Spur _____
_____ Chux 114 _____
_____

Arrival _____ Initialed _____
Departure _____

_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

17 Mar 2016 13:48:05 83320LB

29000

load #4

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-17-16

Transaction # _____ Stop # _____

Manifest # _____
Unit _____ Driver _____

To: Plant Dr#02

From: Rail spur
Chor-th 1/4

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,200 lb

17 Mar 2016 13:53:17 75960LB

Gross	Empty	Net Wt.
84800	29200	55600
84480	29200	55280
83320	29000	54320
75960	29200	46760
		0
		0
		0
		0
		0
		0
71542	29150	42392
		211960
328560	116600	211960

Rec: 4/1/16

HERITAGE
ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 185
Disposal Date: 03/28/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000728612WAS	45,980	42,768
000728808WAS	41,700	42,768
000566030WAS	42,240	42,768
000566032WAS	42,000	42,768
000566031WAS	41,240	42,768
	213,160	213,840

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

GENERATOR:	Honeywell
SHIPPER:	US Ecology, Idaho, Inc.
ORIGIN:	Northampton, PA (NDCR) PA
DESTINATION:	Heritage Environmental Services 7901 . Morris St. Indianapolis, IN 46231-3301
ROUTING:	NS, Indianapolis - CSXT
NOTIFY PARTY:	Curtis Hamilton 800-274-1516
EMERGENCY PHONE:	800-510-8510 Account 3366
STCC:	STCC 4860108
PROJECT DESCRIPTION:	RQ, NA3077, Hazardous Waste , Solid, N.O.S. 9, PGIII, (CHROMIUM), (D007)
CONTRACT AUTHORITY:	NS-C-19223
FREIGHT:	Freight Prepaid - US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

RAIL CAR #:	Manifest Numbers	Weight	Doc #
CHUX 185	000728612WAS	45980	56N0420
	000728808WAS	41700	56N0429
	000566030WAS	42240	56N0433
	000566032WAS	42000	56N0435
	000566031WAS	41240	56N0434

Cr Cr = 168

ALK = 2384

GONDOLA TOTAL WEIGHT 213160

RAILCAR LOAD LIMIT 221200

Shipper's Certification:

"I herby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations"

Shipper's Signature: _____ Date 3-3-16

Shipper's Printed Name: _____

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-28-16

Transaction #_____ Stop #_____

Manifest # _____
Unit 357 Driver_____

To: CBW DF1

From: Rail CHUX185
load #4

Arrival_____
Departure_____

Initialed_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

28 Mar 2016 07:09:13 59060LB

28 Mar 2016 06:48:17 28760LB

load #7

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date 3-28-16

Transaction # _____ Stop # _____

Manifest # _____
Unit _____ Driver _____

To: Plant Bin #1

From: Rail Spur
CNUX #1185

Arrival _____ Initialed _____
Departure _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

28 Mar 2016 06:55:38 86520LB

29,200 LD

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-28-16

Transaction #_____ Stop #_____

Manifest # _____
Unit 355 Driver_____

To: CBW - 1

From: Rail car CHUX 185
load #2

Arrival_____
Departure_____

Initialed_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

28 Mar 2016 06:42:18 94860LB

28 Mar 2016 07:01:12 29060LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-28-16

Transaction #_____ Stop #_____

Manifest # _____
Unit 357 Driver_____

To: CBW 1 From: Rail CHUX 185
load #1

Arrival_____ Initialed_____
Departure_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

28 Mar 2016 06:20:12 89180LB

28 Mar 2016 06:47:04 28760LB

Rec: 4/1/16

HERITAGE ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 224
Disposal Date: 03/28/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000728804WAS	42,900	42,616
000728610WAS	40,060	42,616
000728606WAS	47,780	42,616
000566033WAS	44,380	42,616
000728809WAS	38,160	42,616
	213,280	213,080

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

GENERATOR:	Honeywell
SHIPPER:	US Ecology, Idaho, Inc.
ORIGIN:	Northampton, PA (NDCR) PA
DESTINATION:	Heritage Environmental Services 7901 . Morris St. Indianapolis, IN 46231-3301
ROUTING:	NS, Indianapolis - CSXT
NOTIFY PARTY:	Curtis Hamilton 800-274-1516
EMERGENCY PHONE:	800-510-8510 Account 3366
STCC:	STCC 4860108
PROJECT DESCRIPTION:	RQ, NA3077, Hazardous Waste , Solid, N.O.S. 9, PGIII, (CHROMIUM), (D007)
CONTRACT AUTHORITY:	NS-C-19223
FREIGHT:	Freight Prepaid - US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

RAIL CAR #:	Manifest Numbers	Weight	Doc #
CHUX 224	000728804WAS	42900	56N0425
	000728610WAS	40060	56N0418
	000728606WAS	47780	56N0414
	000566033WAS	44380	56N0436
	000728809WAS	38160	56N0430

GONDOLA TOTAL WEIGHT 213280

RAILCAR LOAD LIMIT 221200

Shipper's Certification:

"I herby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations"

Shipper's Signature: _____ Date 3-3-16

Shipper's Printed Name: Matt Gen

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-28-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver _____

To: CBW

From: Rail CHUX224
load #4

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

28 Mar 2016 14:17:21 59800LB

28 Mar 2016 06:47:33 28760LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-28-16

Transaction # _____ Stop # _____

Manifest # _____
Unit _____ Driver _____

To: Plant DF#1

From: Rail spot
CNUX # 224

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,200 lb

28 Mar 2016 12:59:30 93140LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-28-16

Transaction # _____ Stop # _____

Manifest # _____
Unit _____ Driver _____

To: Plant DP# 1

From: Rail spur
Chox # 224

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29,200 lb

28 Mar 2016 13:33:50 93120LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-28-16

Transaction #_____ Stop #_____

Manifest #_____
Unit 354 Driver_____

To: Plant DP#1 From: Rail spur
Chev # 224

Arrival_____ Initialed_____
Departure_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

29,200 lb

28 Mar 2016 14:13:21 83380LB

Rec: 4/1/16

HERITAGE ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 164
Disposal Date: 03/28/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000728616WAS	40,720	42,908
000728614WAS	41,680	42,908
000728608WAS	47,660	42,908
000728810WAS	41,120	42,908
000728811WAS	42,440	42,908
	213,620	214,540

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

GENERATOR:	Honeywell
SHIPPER:	US Ecology, Idaho, Inc.
ORIGIN:	Northampton, PA (NDCR) PA
DESTINATION:	Heritage Environmental Services 7901 . Morris St. Indianapolis, IN 46231-3301
ROUTING:	NS, Indianapolis - CSXT
NOTIFY PARTY:	Curtis Hamilton 800-274-1516
EMERGENCY PHONE:	800-510-8510 Account 3366
STCC:	STCC 4860108
PROJECT DESCRIPTION:	RQ, NA3077, Hazardous Waste , Solid, N.O.S. 9, PGIII, (CHROMIUM), (D007)
CONTRACT AUTHORITY:	NS-C-19223
FREIGHT:	Freight Prepaid - US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

RAIL CAR #:	Manifest Numbers	Weight	Doc #
CHUX 164	000728616WAS	40720	56N0424
	000728614WAS	41680	56N0422
	000728608WAS	47660	56N0416
	000728810WAS	41120	56N0431
	000728811WAS	42440	56N0432

GONDOLA TOTAL WEIGHT 213620

RAILCAR LOAD LIMIT 221000

Shipper's Certification:

"I herby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations"

Shipper's Signature: _____ Date 3-3-16

Shipper's Printed Name: Matt Ker

load #1

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-28-16

Transaction #_____ Stop #_____

Manifest # _____
Unit _____ Driver_____

To: Plant DF#2

From: Rail spur
Chux #164

Arrival_____
Departure_____

Initialed_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

29200 lb

28 Mar 2016 09:55:47 92640LB

load #2

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-28-16

Transaction #_____ Stop #_____

Manifest # _____
Unit _____ Driver_____

To: Plant DF#2

From: Rail spur
CNOX 1164

Arrival_____
Departure_____

Initialed_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

29,200 lb

28 Mar 2016 10:29:04 97260LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-28-16

Transaction #_____ Stop #_____

Manifest # _____
Unit _____ Driver_____

To: Plant DF#2 _____

From: Rail spur
CNW x-# 164

Arrival_____
Departure_____

Initialed_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

29,200 lb

28 Mar 2016 10:54:10 87100LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-28-16

Transaction #_____ Stop #_____

Manifest # _____
Unit _____ Driver_____

To: Plant DPH2 _____
_____
_____

From: Rail spur
CNOX # 164

Arrival_____
Departure_____

Initialed_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

29,200 lb

28 Mar 2016 11:18:30 54340LB

Gross	Empty	Net Wt.
92640	29200	63440
97260	29200	68060
87100	29200	57900
54340	29200	25140
		0
		0
		0
		0
		0
		0
72108	29200	42908
		214540
331340	116800	214540

Rec: 4/5/16

HERITAGE ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 260
Disposal Date: 03/29/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris	Manifested Lbs	Received Lbs
000728574WAS	44,080	43,900
000728571WAS	46,020	43,900
000728586WAS	41,240	43,900
000728585WAS	43,320	43,900
000728587WAS	40,320	43,900
	214,980	219,500

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

GENERATOR:	Honeywell
SHIPPER:	US Ecology, Idaho, Inc.
ORIGIN:	Northampton, PA (NDCR) PA
DESTINATION:	Heritage Environmental Services 7901 . Morris St. Indianapolis, IN 46231-3301
ROUTING:	NS, Indianapolis - CSXT
NOTIFY PARTY:	Curtis Hamilton 800-274-1516
EMERGENCY PHONE:	800-510-8510 Account 3366
STCC:	STCC 4860108
PROJECT DESCRIPTION:	RQ, NA3077, Hazardous Waste , Solid, N.O.S. 9, PGIII, (CHROMIUM), (D007)
CONTRACT AUTHORITY:	NS-C-19223
FREIGHT:	Freight Prepaid - US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

RAIL CAR #:	Manifest Numbers	Weight	Doc #
CHUX 260	000728574WIAS	44080	56N0382
	000728571WIAS	46020	56N0379
	000728586WIAS	41040	56N0394
	000728585WIAS	43320	56N0393
	000728587WIAS	40320	56N0395

GONDOLA TOTAL WEIGHT 214980

RAILCAR LOAD LIMIT 220300

Shipper's Certification:

"I herby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations"

Shipper's Signature: _____ Date 02-02-16

Shipper's Printed Name: Matt Geer

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-29-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 Driver _____

To: Plant DF#1

From: Rail spur
CNOX # 260

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29 Mar 2016 06:39:34 29600LB

29 Mar 2016 12:04:49 80840LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-29-16

Transaction #_____ Stop #_____

Manifest # _____
Unit 357 Driver_____

To: CBW

From: Rail CHUX 260
load #2

Arrival_____
Departure_____

Initialed_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

29 Mar 2016 12:15:06 82580LB

28 Mar 2016 06:48:51 28760LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-29-16

Transaction #_____ Stop #_____

Manifest #_____
Unit 354 Driver_____

To: Plant DP#1

From: Rail spur
Chux #260

Arrival_____
Departure_____

Initialed_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

29 Mar 2016 06:39:48 29580LB

29 Mar 2016 12:45:30 85760LB

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-29-16

Transaction #_____ Stop #_____

Manifest #_____
Unit 357 Driver_____

To: CBW

From: Rail CHUX260
load #4

Arrival_____
Departure_____

Initialed_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

28760

29 Mar 2016 13:00:46 87020LB

Rec: 4/5/16

HERITAGE ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 195
Disposal Date: 03/29/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000728613WAS	42,220	42,760
000728605WAS	43,700	42,760
000728607WAS	44,600	42,760
000728806WAS	39,080	42,760
000566034WAS	44,620	42,760
	214,220	213,800

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

GENERATOR:	Honeywell
SHIPPER:	US Ecology, Idaho, Inc.
ORIGIN:	Northampton, PA (NDCR) PA
DESTINATION:	Heritage Environmental Services 7901 . Morris St. Indianapolis, IN 46231-3301
ROUTING:	NS, Indianapolis - CSXT
NOTIFY PARTY:	Curtis Hamilton 800-274-1516
EMERGENCY PHONE:	800-510-8510 Account 3366
STCC:	STCC 4860108
PROJECT DESCRIPTION:	RQ, NA3077, Hazardous Waste , Solid, N.O.S. 9, PGIII, (CHROMIUM), (D007)
CONTRACT AUTHORITY:	NS-C-19223
FREIGHT:	Freight Prepaid - US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

RAIL CAR #:	Manifest Numbers	Weight	Doc #
CHUX 195	000728613WAS	42220	56N0421
	000728605WAS	43700	56N0413
	000728607WAS	44600	56N0415
	000728806WAS	39080	56N0427
	000728034WAS	44620	56N0437

GONDOLA TOTAL WEIGHT 214220

RAILCAR LOAD LIMIT 221100

Shipper's Certification:

"I herby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations"

Shipper's Signature: _____ Date 3-3-16

Shipper's Printed Name: Matt Gar

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-28-16

Transaction #_____ Stop #_____

Manifest #_____
Unit 356 Driver_____

To: CBW

From: Rail CHUX IGS

Arrival_____
Departure_____

Initialed_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

28 Mar 2016 14:47:34 28980LB

28 Mar 2016 15:24:22 92000LB

Pre load

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-29-16

Transaction #_____ Stop #_____

Manifest #_____
Unit 352 Driver_____

To: Plant DP#

From: Rail spur
Chux # 195

Arrival_____
Departure_____

Initialed_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

28 Mar 2016 12:49:53 28700LB

28 Mar 2016 15:35:02 85840LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-28-16

Transaction #_____ Stop #_____

Manifest # _____
Unit 41-20 Driver_____

To: CBW

From: Rail CHUX 195

Arrival_____
Departure_____

Initialed_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

28 Mar 2016 14:45:38 32060LB

28 Mar 2016 15:46:41 62240LB

Preloaded

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-29-16

Transaction #_____ Stop #_____

Manifest #_____
Unit 354 Driver_____

To: Plant DF#

From: Rail spur
Chux #195

Arrival_____
Departure_____

Initialed_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

29,200 lb

28 Mar 2016 15:05:58 92660LB

Rec: 4/5/16

HERITAGE ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 308
Disposal Date: 03/31/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000566035WAS	46,440	31,340
000566036WAS	46,840	61,420
	93,280	92,760

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

GENERATOR:	Honeywell
SHIPPER:	US Ecology, Idaho, Inc.
ORIGIN:	Northampton, PA (NDCR) PA
DESTINATION:	Heritage Environmental Services 7901 . Morris St. Indianapolis, IN 46231-3301
ROUTING:	NS, Indianapolis - CSXT
NOTIFY PARTY:	Curtis Hamilton 800-274-1516
EMERGENCY PHONE:	800-510-8510 Account 3366
STCC:	STCC 4860108
PROJECT DESCRIPTION:	RQ, NA3077, Hazardous Waste , Solid, N.O.S. 9, PGIII, (CHROMIUM), (D007)
CONTRACT AUTHORITY:	NS-C-19223
FREIGHT:	Freight Prepaid - US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

RAIL CAR #:	Manifest Numbers	Weight	Doc #
CHUX 308	000566035WAS	46440	56N0438
	00056603 6WAS	46840	56N0439

GONDOLA TOTAL WEIGHT 93280

RAILCAR LOAD LIMIT 220200

Shipper's Certification:

"I herby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations"

Shipper's Signature: _____ Date 3-4-16

Shipper's Printed Name: Matt Gr

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-31-16

Transaction #

~~Stop~~ Load #: 1

Manifest #

Unit: 356 Driver: 4775

To: ~~CHUX~~ DF-2

From: CHUX 308

Arrival

Departure

Initialed

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature Date

Transporter

This is to certify acceptance of the named material for transportation

Transporter's Signature Date

31 Mar 2016 07:14:43 90440LB

31 Mar 2016 06:31:09 29020LB

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-31-16

Transaction #_____ ~~Stop~~ LOAD #: 2

Manifest #_____
Unit 356 Driver 4775

To: DF-2

From: CHUX 308

Arrival_____
Departure_____

Initialed_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

31 Mar 2016 07:54:51 60360LB

31 Mar 2016 06:30:57 29020LB

Rec: 4/5/16

HERITAGE ENVIRONMENTAL SERVICES

Facility: Heritage Environmental Services
7901 W Morris Street
Indianapolis, IN 46231
317-243-0811
EPA ID # IND093219012

Generator Mailing Address:

Honeywell / Dino Ciccone
101 Columbia Rd
Morristown, NJ 07960

Certificate of Disposal of Hazardous Waste

Heritage Environmental Services, LLC certifies that the transaction described by the identifying information below has been conducted as described. Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.

Generator: Honeywell / Dino Ciccone
60 Kellogg St
Jersey City, NJ 07305

Gondola #: CHUX 287
Disposal Date: 03/29/16

Wastestream: 89415-4 SA6 Chromium Soil and Debris

	Manifested Lbs	Received Lbs
000728611WAS	44,120	42,968
000728609WAS	42,600	42,968
000728615WAS	43,960	42,968
000728807WAS	42,200	42,968
000728805WAS	42,660	42,968
	215,540	214,840

Jeffery A. Laborsky, President

BILL OF LADING/ROUTING INSTRUCTIONS

GENERATOR:	Honeywell
SHIPPER:	US Ecology, Idaho, Inc.
ORIGIN:	Northampton, PA (NDCR) PA
DESTINATION:	Heritage Environmental Services 7901 . Morris St. Indianapolis, IN 46231-3301
ROUTING:	NS, Indianapolis - CSXT
NOTIFY PARTY:	Curtis Hamilton 800-274-1516
EMERGENCY PHONE:	800-510-8510 Account 3366
STCC:	STCC 4860108
PROJECT DESCRIPTION:	RQ, NA3077, Hazardous Waste , Solid, N.O.S. 9, PGIII, (CHROMIUM), (D007)
CONTRACT AUTHORITY:	NS-C-19223
FREIGHT:	Freight Prepaid - US Ecology 251 E. Front St., Suite 400, Boise, Idaho 83702

RAIL CAR #:	Manifest Numbers	Weight	Doc #
CHUX 287	000728611WAS	44120	56N0419
	000728609WAS	42600	56N0417
	000728615WAS	43960	56N0423
	000728807WAS	42200	56N0428
	000728805WAS	42660	56N0426

GONDOLA TOTAL WEIGHT 215540

RAILCAR LOAD LIMIT 220300

Shipper's Certification:

"I herby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations"

Shipper's Signature: _____ Date 3-3-16

Shipper's Printed Name: _____

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-29-16

Transaction #_____ Stop #_____

Manifest # _____
Unit 357 Driver_____

To: CBW

From: Rail CHUX287
load #4

Arrival_____
Departure_____

Initialed_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

29 Mar 2016 10:39:08 63800LB

28 Mar 2016 06:48:05 28760LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-29-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 354 _____ Driver _____

To: Plant DF#2

From: Rail spur
Chux # 287

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29 Mar 2016 06:40:03 29580LB

29 Mar 2016 10:29:21 87860LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-29-16

Transaction # _____ Stop # _____

Manifest # _____
Unit 357 Driver _____

To: CBW

From: Rail CHUX 287
load #2

Arrival _____
Departure _____

Initialed _____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature _____ Date _____

Transporter _____
This is to certify acceptance of the named material for transportation

Transporter's Signature _____ Date _____

29 Mar 2016 10:08:17 91260LB

28 Mar 2016 06:47:44 28760LB

HERITAGE

Scale Ticket

7901 West Morris Street
Indianapolis, IN 46231
317-243-0811

Date: 3-29-16

Transaction #_____ Stop #_____

Manifest #_____
Unit 354 Driver_____

To: Plant DP# 2

From: Rail spur
CWX # 287

Arrival_____
Departure_____

Initialed_____

THIS IS TO CERTIFY I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

Shippers Signature_____ Date_____

Transporter_____
This is to certify acceptance of the named material for transportation

Transporter's Signature_____ Date_____

29 Mar 2016 06:39:21 29580LB

29 Mar 2016 09:52:28 88600LB

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566030WAS

5. Generator's Name and Mailing Address: HONEYWELL / DINO CICCONE ~~101 COLUMBIA RD MORRISTOWN, NJ 07960/660~~ 115 Tabor Rd Morris Plains, NJ 07950

Generator's Site Address (if different than mailing address): HONEYWELL / DINO CICCONE, 60 KELLOGG ST, JERSEY CITY, NJ 07305-4806, GEN: 89415

Generator's Phone: (908)455-4252

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address: HERITAGE ENVIRONMENTAL SERVICES, 7901 W MORRIS ST, INDIANAPOLIS, IN 46231-3301 — U.S. EPA ID Number: IND093219012

Facility's Phone: (317)243-0811

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42240	M P	~~D007~~
	2.			42,768		
	3.					
	4.					

14. Special Handling Instructions and Additional Information

1.ERG# 171 1.W3_0864896_T#6471792 Man Doc# S6N0433
240 TO <1000 PPM CR6+

RAILCAR NO. CHIX 185 TRUCK NO. 220 ERI:US ECOLOGY I39562191G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell — Signature: [signature] — Month 03 Day 03 Year 16

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: TIM MILLER — Signature: [signature] — Month 03 Day 03 Year 16

Transporter 2 Printed/Typed Name: [illegible] on behalf of Norfolk Southern — Signature: [signature] — Month 03 Day 03 Year 16

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: [illegible] — Signature: [signature] — Month 3 Day 28 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000566030WAS

24. Generator's Name: HONEYWELL / DINO CICCONE
~~101 COLUMBIA RD~~ 115 Tabor Rd
~~MORRISTOWN, NJ 07960-4558~~ Morris Plains, NJ 07950

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IMD058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				42,768		

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566031WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
~~101 COLUMBIA RD~~ 115 Tabor Rd.
~~MORRISTOWN, NJ 07960-4656~~ Morris Plains NJ 07950
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41240	M P	D007
	2.			42768		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6471794 Man Doc # S6N0434
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 185 TRUCK NO. 214 ERI:US ECOLOGY [39662201G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month 03 Day 03 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: LEE HETRICH
Signature:
Month 03 Day 03 Year 16

Transporter 2 Printed/Typed Name: OW Bunkoff of Norfolk Southern
Signature:
Month 03 Day 03 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Center
Signature:
Month 3 Day 28 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000566031WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				42,768		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566032WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
~~101 COLUMBIA RD~~ (M) 115 Tabor Rd
~~MORRISTOWN, NJ 07960-4658~~ Morris Plains NJ 07950
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42000	~~#~~ (M) P	~~D007~~
	2.			42,768		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3 0364896_T#6471796 Man Doc # S6N0435
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 185 TRUCK NO. 213 ERI:US ECOLOGY I396622110

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Munchrus As Agent for Honeywell
Signature:
Month 03 Day 03 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Dinbokowitz
Signature:
Month 03 Day 03 Year 16
Transporter 2 Printed/Typed Name: Michael Norfolk Southern
Signature:
Month 03 Day 03 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 03 Day 28 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000566032WAS

24. Generator's Name
HONEYWELL / DINO CICCONE
~~101 COLUMBIA RD~~
~~MORRISTOWN, NJ 07960-4658~~
115 Tabor Rd
Morris Plains NJ 07950

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				42768		
	CHY 185					

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566033WAS

5. Generator's Name and Mailing Address:
HONEYWELL / DINO CICCONE
~~101 COLUMBIA RD~~ (M) 115 Tabor Rd
~~MORRISTOWN NJ 07960-4658~~ Morris Plains, NJ 07950
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address):
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address:
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44380	(M) P	D007
	2.			42768 42,616		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3 0864896_T#6471798 Man Doc # S6N04436
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 224 TRUCK NO. 34 ERI:US ECOLOGY [39662221G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent For Honeywell
Signature: [signature]
Month 03 Day 03 Year 16

GENERATOR

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

INT'L

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rick Sanders
Signature: [signature]
Month 03 Day 03 Year 16
Transporter 2 Printed/Typed Name: [illegible] ON Behalf of Norfolk Southern
Signature: [signature]
Month 03 Day 03 Year 16

TRANSPORTER

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

DESIGNATED FACILITY

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Mills
Signature: [signature]
Month 03 Day 28 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page: 2 of 2

23. Manifest Tracking Number: 000566033WAS

24. Generator's Name: HONEYWELL / DINO CICCONE ~~101 COLUMBIA RD MORRISTOWN, NJ 07960-4658~~ 115 Tabor Rd Morris Plains, NJ 07950 HONEYWELL / DINO CICCONE 50 KELLOGG ST JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				42,616		
	Chx DM					

32. Special Handling Instructions and Additional Information

Consolidated Bulk Load

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec: 4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566034WAS

5. Generator's Name and Mailing Address:
HONEYWELL / DINO CICCONE
~~101 COLUMBIA RD~~ (M) 115 Tabor Rd
~~MORRISTOWN, NJ 07960-4550~~ Morris Plains, NJ 07950
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address):
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address:
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44620	(M) P	~~D007~~
	2.			42766		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#6471800
240 TO <1000 PPM CR6+
Man Doc # SGN0437
RAILCAR NO. CHWX 195 TRUCK NO. 421 ERI:US ECOLOGY [39662231G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature: [signature]
Month 03 Day 03 Year 16

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin McKechan
Signature: [signature]
Month 03 Day 03 Year 16
Transporter 2 Printed/Typed Name: Mother CN Bihall of Norfolk Southern
Signature: [signature]
Month 03 Day 03 Year 16

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Cesi Pan
Signature: [signature]
Month 03 Day 29 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec: 4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000566034WAS

24. Generator's Name

HONEYWELL / DINO CICCONE
~~101 COLUMBIA RD~~ 115 Tabor Rd
~~MORRISTOWN, NJ 07960-4658~~ Morris Plains NJ 07950

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				42766		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000566035WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
~~101 COLUMBIA RD~~ (M) 115 Tabor Rd.
~~MORRISTOWN, NJ 07962-1057~~ Morris Plains, NJ 07950
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 46440	(M) # P	D007
	2.			31,340		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#6471802 Man Doc # SGN0438 AG-0858PA.
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 308 TRUCK NO. 212 ERI:US ECOLOGY [3966224]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month 03 Day 04 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: DAVID A. GRUVER
Signature:
Month 03 Day 04 Year 16

Transporter 2 Printed/Typed Name: on behalf of Norfolk Southern
Signature:
Month 03 Day 04 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 03 Day 31 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000566035WAS

24. Generator's Name
HONEYWELL / DINO CICCONE 115 Tubor Rd
~~101 COLUMBIA RD~~ (M) Morris Plains, NJ 07950
~~MORRISTOWN, NJ 07960-4558~~
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				31,340		
	CNX 306 SV 212					

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986581437	2	(800)510-8510	000566036WAS

5. Generator's Name and Mailing Address
HONEYWELL / DINO CICCONE
~~101 COLUMBIA RD~~ 115 Tabor Rd
~~MORRISTOWN, NJ 07960-4658~~ Morris Plain, NJ 07950
Generator's Phone: (908)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 48840	M # P	~~D007~~
	2.			61,420		
	3.			31,340		
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#6471804 Man Doc # SGN0439
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 308 TRUCK NO. 212 ERI:US ECOLOGY [39662251G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent for Michael Mundras Honeywell — Signature: [signature] — Month 03 Day 04 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: DAVID A. GRUVER — Signature: [signature] — Month 03 Day 04 Year 16
Transporter 2 Printed/Typed Name: [illegible] — Signature: [signature] — Month 03 Day 04 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible] — Signature: [signature] — Month 03 Day 31 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 42388

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700905WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 46100	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3_Q864896
1. ERG# 171 1. ~~[illegible]~~
<1000 PPM CR&H (W) 8642325 FM 1-22-16 Man Doc# 56N0338 (3935265)
RAILCAR NO. CHUX 210 TRUCK NO. 285 ERI: US ECOLOGY C5448846875 (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras — As Agent on behalf of Honeywell — Signature: [signature] — Month 01 Day 04 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Dave Meighan — Signature: [signature] — Month 01 Day 04 Year 16
Transporter 2 Printed/Typed Name: [illegible] — on behalf of Norfolk Southern — Signature: [signature] — Month 01 Day 04 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sandra Mills — Signature: [signature] — Month 01 Day 22 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 42388

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000700905WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 42432

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)910-8510 42388
4. Manifest Tracking Number: 000700906WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44520	P	~~D007~~
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3_Q 864896
1.ERG# 171 1. ~~[illegible]~~
<1000 PPM CR6+ (M)
Man Doc# 56N0339 TH# 8692026
(3935265)6
RAILCAR NO. CHLX 287 TRUCK NO. 242 ERI: US ECOLOGY ~~[illegible]~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 01 Day 04 Year 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Sal Cogliano
Signature:
Month 01 Day 04 Year 16
Transporter 2 Printed/Typed Name: Walter on behalf of Nadette Sadhum
Signature:
Month 01 Day 04 Year 16

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ken Fan
Signature:
Month 1 Day 22 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Rec 2/12/16 42432 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000700906WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FL0006721340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND059484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rev 2/12/16

42432

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700907WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4656
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 46860	P	~~D007~~		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. ~~NA 0845333 TH#842028~~ W3_Q864896
<1000 PPM CR6+ (M)
man Doc #SGN0340 TH 864/2028
(3935265)6
RAILCAR NO CHUX 287 TRUCK NO. 28 ERI: US ECOLOGY ~~5543871 16~~

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 01 Day 04 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Signature: Month 01 Day 04 Year 16
Transporter 2 Printed/Typed Name: on behalf of Norfolk Southern Signature: Month 01 Day 04 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Carlos Signature: Month 1 Day 22 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 42432 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000700907WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 42388

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986591437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-9510
4. Manifest Tracking Number: 000700908WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 44280	P	~~D007~~
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3 Q864896
1 ERGN 171 1 ~~[illegible]~~
<1000 PPM CR6+ (M) ManDoc #SGN0341
RAILCAR NO. CNX 262 TRUCK NO. 224 ERI: US ECOLOGY (3935265)6 ~~[illegible]~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 01 Day 04 Year 16

INT'L
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER
17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Raymond S Bear
Signature: [signature]
Month 01 Day 04 Year 16
Transporter 2 Printed/Typed Name: Matt Gr on behalf Norfolk Southern
Signature: [signature]
Month 01 Day 04 Year 16

DESIGNATED FACILITY
18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature: [signature]
Month 01 Day 22 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Dec 2/12/16 42388 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 00070090BWAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

Rec 1/12/16 42388

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700909WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 45080	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3_Q 864896
1. ERGH 171 1. ~~UN 3077 HAZ WASTE~~ J.M. 1-12-16 Man Doc #56N0342
<1000 PPM CR6+ (M) ~~867~~ 8641232' (3935265)6
RAILCAR NO. CHLX 262 TRUCK NO. 284 ERI: US ECOLOGY ~~EE148673315~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 01 Day 04 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rafael Cintron
Signature:
Month 01 Day 04 Year 16
Transporter 2 Printed/Typed Name: Mallor on behalf of Norfolk Southern
Signature:
Month 01 Day 04 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Jason Miller
Signature:
Month 01 Day 12 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Rec 2/12/16 42388 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000700909WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Dec 2/12/16 42432 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700910WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 44180	P	~~D007~~
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3-Q864896 Man Doc # SGN0343 T# 8642030
1. ERG# 171 1. ~~[illegible]~~
<1000 PPM CR6+ (M)
RAILCAR NO. CHUX 287 TRUCK NO. 34 ERI: US ECOLOGY (3935265)6 ~~[illegible]~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 01 Day 04 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rich Soudeas
Signature: [signature]
Month 01 Day 04 Year 16
Transporter 2 Printed/Typed Name: [illegible] CWR&Ullet Norfolk Southern
Signature: [signature]
Month 01 Day 04 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible]
Signature: [signature]
Month 1 Day 22 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000700910WAS

24. Generator's Name
HONEYWELL / JOHN NOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec'd 1/21/16 42432

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700911WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 8941S

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 39200	P	~~D007~~
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
W3-Q864896
1. ERG# 171 1. ~~UN 0865233 TH847345~~
<1000 PPM CR6+
Man Doc# SGN0344
TH 8642034
(3935065)G
RAILCAR NO. CHUX 287 TRUCK NO. 282 ERI: US ECOLOGY ~~EE4087638~~

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundros As Agent on behalf of Honeywell
Signature:
Month 01 Day 04 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Paul
Signature:
Month 01 Day 04 Year 16
Transporter 2 Printed/Typed Name: Matthew on behalf of Norfolk Southern
Signature:
Month 01 Day 04 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Cory Ker
Signature:
Month 1 Day 22 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 42432 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000700911WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Dec 2/12/16 42437 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700912WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: FAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 40540	P	~~D007~~		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information W3—Q 864896
1. ERG# 171 1. ~~[illegible]~~ Man Doc # S6N0345 TR# 8642032
<1000 PPM CR6+ (M) (3935265)6
RAILCAR NO: CHUX287 TRUCK NO. 441 ERI: US ECOLOGY ~~CS4497638~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 01 Day 04 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Kevin McKechan
Signature: [signature]
Month 01 Day 04 Year 16

Transporter 2 Printed/Typed Name: Mallor on behalf of Norfolk Southern
Signature: [signature]
Month 01 Day 04 Year 16

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: [illegible]
Signature: [signature]
Month 1 Day 22 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 42432 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000700912WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Rec 2/10/16 42388 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
NJD986581437	2	(800)510-8510	000700913WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: FAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 38240	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3-Q864896 manDoc#56N0346
1. ERG# 171 1. ~~UN 3082 PG III~~
<1000 PPM CR6+ (M) 8642317 (3935265)G
RAILCAR NO. CHLX 262 TRUCK NO. 290 ERI: US ECOLOGY ~~CE4497770~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

GENERATOR — Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell — Signature: [signature] — Month 01 Day 04 Year 16

INT'L — 16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER — 17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Luis Vazquez — Signature: [signature] — Month 01 Day 04 Year 16
Transporter 2 Printed/Typed Name: Horwith on behalf of Norfolk Southern — Signature: [signature] — Month 01 Day 04 Year 16

DESIGNATED FACILITY — 18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sam Miller — Signature: [signature] — Month 01 Day 22 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 42386 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000700913WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 42388 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700914WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 4138	P	~~D007~~
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3_Q864896 Man Doc # 56N0347
E.ERG# 171 1. ~~W1_Q864896_TWO TANKS~~
<1000 PPM CR6+ (M) 8642319 Tm 1-22-16 (3935265) G
RAILCAR NO. CHLX 262 TRUCK NO. 246 ERI: US ECOLOGY ~~CS4487836~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundros As Agent on behalf of Honeywell
Signature: [signature]
Month 01 Day 04 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Christian L. Smith on behalf of Horwith Trucking
Signature: [signature]
Month 01 Day 04 Year 16
Transporter 2 Printed/Typed Name: Mueller
Signature: [signature]
Month 01 Day 04 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: T Saich Miller
Signature: [signature]
Month 01 Day 22 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec'd 12/12/166

42388

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000700914WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Rec 12/16 42284 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700915WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	CST 40340	P	D007		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information W3-Q864896
1. ERG# 171 1 ~~UN 3077~~
<1000 PPM CR6+ (M) 864 2335 Man Doc# SGN0348
RAILCAR NO. CHUX 308 TRUCK NO. 292 ERI: US ECOLOGY (3935265)G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent on behalf of Honeywell
Signature:
Month 01 Day 04 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: JASON C Bradford
Signature:
Month 01 Day 04 Year 16

Transporter 2 Printed/Typed Name: on behalf of Norfolk Southern
Signature:
Month 01 Day 04 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Seth Nill
Signature:
Month 01 Day 22 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Rec 7/12/16 42284 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000700915WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Rec 1/12/16 4/9964 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700916WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 40280	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3-Q864896 Man Doc #S6N0349 TM#8642313
1. ERGR 171 1. ~~UN 0846233 TW4479430~~ (3935265) G
<1000 PPM CR6+ (M)
RAILCAR NO. CHX 318 TRUCK NO. 285 ERI:US ECOLOGY ~~CC44BGR038~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras Assist on behalf of Honeywell
Signature:
Month 01 Day 04 Year 16

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Brian Meinhart
Signature:
Month 01 Day 04 Year 16
Transporter 2 Printed/Typed Name: Matker on behalf of Norfolk Southern
Signature:
Month 01 Day 04 Year 16

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Carlson
Signature:
Month 1 Day 22 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. **DESIGNATED FACILITY TO GENERATOR**

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Rec 1/12/16 419641 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000700916WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 42284

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700917WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL C/O DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 46100	P	~~D007~~
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
W3_Q864896 Man Doc #S6N0350
1. ERG# 171 1 ~~[illegible]~~
<1000 PPM CR6+ (M) 8641232 7
RAILCAR NO. CHUX 308 TRUCK NO. 242 ERI: US ECOLOGY (3935265)6 ~~[illegible]~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Munoz As Agent on behalf of Honeywell
Signature: [signature]
Month 01 Day 04 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Sal Gagliano
Signature: [signature]
Month 01 Day 04 Year 16
Transporter 2 Printed/Typed Name: on behalf of Norfolk Southern
Signature: [signature]
Month 01 Day 04 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible]
Signature: [signature]
Month 01 Day 22 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 12/12/16 42284

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000700917WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / V DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 41964

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700918WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 43300	P	~~D007~~
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3_Q864896
1. ERG# 171 1. ~~W4_[illegible]~~ Man Doc # S6N0351 T# 8642305
<1000 PPM CR6+ (M) (3935265)G
RAILCAR NO. CIUX 318 TRUCK NO. 28 ERI: US ECOLOGY ~~[illegible]~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 01 Day 04 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Signature: Month 01 Day 04 Year 16
Transporter 2 Printed/Typed Name: on behalf of Norfolk Southern Signature: Month 01 Day 04 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Cen Ken Signature: Month 1 Day 22 Year 16

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000700918WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4656

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) 42284 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700919WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 42500	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3-Q864846
1. ERG# 171 1 ~~[illegible]~~
<1000 PPM CR6+ (M) 8642329 Man Doc # S6N0352
RAILCAR NO. CHUX 308 TRUCK NO. 224 ERI: US ECOLOGY (3935265)G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras — As Agent on behalf of Honeywell
Signature:
Month 01 Day 04 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Raymond S Bear
Signature:
Month 01 Day 04 Year 16
Transporter 2 Printed/Typed Name: Norfolk Southern
Signature:
Month 01 Day 04 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Mills
Signature:
Month 01 Day 22 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Rec 24/02/1/66 1 96 442284 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000700919WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16

42284

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700920WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 42040	P	~~D007~~		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information W3_Q864846
1. ERG# 171 1 ~~[illegible]~~
<1000 PPM CR6+ (M) 86422331 Man Doc # SGN0353 (39352065)G
RAILCAR NO. CLNX 308 TRUCK NO. 284 ERI: US ECOLOGY ~~[illegible]~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 01 Day 04 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rafael Cintron on behalf of Horwith Trucks
Signature: [signature]
Month 01 Day 04 Year 16
Transporter 2 Printed/Typed Name: Mathew
Signature: [signature]
Month 01 Day 04 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sarah Miller
Signature: [signature]
Month 01 Day 22 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/22/1980 42284

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000700920WAB

24. Generator's Name

HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name MERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Rec 2/02/16 43284 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700921WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 43840	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1 ERG# 171 1. ~~W4-Q865877 INBOUND~~ W3-Q864896
<1000 PPM CR6+ (M) 8612333 Man Doc # S6N0354
RAILCAR NO. CHLX 308 TRUCK NO. 290 ERI: US ECOLOGY (3935265)6 ~~CE4400~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature: [signature]
Month 01 Day 04 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Luis Vazquez
Signature: [signature]
Month 01 Day 04 Year 16
Transporter 2 Printed/Typed Name: Matter on behalf of Norfolk Southern
Signature: [signature]
Month 01 Day 04 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature: [signature]
Month 01 Day 22 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number	22. Page	23. Manifest Tracking Number
NJD986581437	2 of 2	000700921WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec 2/12/16 41964 43 x 86

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700922WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4656
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 41260	P	~~D007~~
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
W3-Q8648896 ManDoc#S6N0355 T# 8642311
1. ERG# 171 1 ~~[illegible]~~ (M)
<1000 PPM CR6+ (3935205)G ~~[illegible]~~ (M)
RAILCAR NO. CHX 318 TRUCK NO. 246 ERI: US ECOLOGY

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras — As Agent on behalf of Honeywell
Signature: [signature]
Month 01 Day 04 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Christian L. Smith
Signature: [signature]
Month 01 Day 04 Year 16
Transporter 2 Printed/Typed Name: [illegible] on behalf of Norfolk Southern
Signature: [signature]
Month 01 Day 04 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Carter
Signature: [signature]
Month 1 Day 22 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 41964 43 84

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000700922WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

Please print or type. (Form designed for use on elite (12-pitch) typewriter) Dec 2/12/16 41964 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)51[illegible]-0516
4. Manifest Tracking Number: 000700923WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44000	P	D007
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
W3_Q864896
1 ERGH 171 1 ~~UN 2845233 [illegible]~~ (MA)
<1000 PPM CR6+
Man Doc # 0356 SGN
TH#8642307
(3935065)6
RAILCAR NO. CHLX 318 TRUCK NO. 282 ERI:US ECOLOGY ~~CS4488[illegible]~~ (MA)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras AS Agent on behalf of Honeywell
Signature: [signature]
Month 01 Day 04 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: [illegible] Signature: [signature] Month 01 Day 04 Year 16
Transporter 2 Printed/Typed Name: [illegible] on behalf of Norfolk Southern Signature: [signature] Month 01 Day 04 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. M110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible] Signature: [signature] Month 1 Day 22 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/17/16 41964

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 3 of 9

23. Manifest Tracking Number: 000700923WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IWD058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Rec 2/12/16 41964 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000700924WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650302

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 42630	P	~~D007~~
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information W3_Q864896
1 ERG# 171 1. ~~[illegible]~~ (M)
<1000 PPM CR6+ Man Doc # 56N0357 T#8642309 (3935265)G
RAILCAR NO. CHLX 318 TRUCK NO. 292 ERI: US ECOLOGY ~~[illegible]~~ (M)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent on behalf of Honeywell
Signature:
Month 01 Day 04 Year 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Jason C Bradford
Signature:
Month 01 Day 04 Year 16
Transporter 2 Printed/Typed Name: Medley on behalf of Norfolk Southern
Signature:
Month 01 Day 04 Year 16

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 1 Day 22 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 2/12/16 41964 4

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000700924WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
101 COLUMBIA RD
MORRISTOWN, NJ 07960-4658

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec: 2/24/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000726898WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4282

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 42800	P	D007
	2.			43,712		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1.W3 0864896_T#8652256 man Doc # S6N0358
240 TO <1000 PPM CR6+
RAILCAR NO. CNX 278 TRUCK NO. 247 ERI:US ECOLOGY CS630893TB

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundrys As Agent for Honeywell
Signature: [signature]
Month 02 Day 01 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Herbert J. Logan
Signature: [signature]
Month 02 Day 01 Year 16

Transporter 2 Printed/Typed Name: Norfolk Southern
Signature: [signature]
Month 02 Day 01 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature: [signature]
Month 02 Day 17 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec: 3/24/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000726898WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				43,712				

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec: 3/24/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728551WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 43480	P	D007
	2.			43712		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERGW 171 1. W3 Q864896_T#8652258 Man Doc #S6N0359
240 TO (1000 PPM CR6+
RAILCAR NO. CHUX 278 TRUCK NO. 290 ERI:US ECOLOGY E563089470

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell — Signature: [signature] — Month 02 Day 01 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Heyer — Signature: [signature] — Month 02 Day 01 Year 16
Transporter 2 Printed/Typed Name: Miller on behalf of Norfolk Southern — Signature: [signature] — Month 02 Day 01 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller — Signature: [signature] — Month 02 Day 17 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec 3/24/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728551WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				43712		

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec; 3/24/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728552WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7701 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	57 / 2060	P	~~D007~~
	2.			43,712		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W3 Q864896_T#8652260 Man Doc# S6N0360
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 278 TRUCK NO. 246 ERI: US ECOLOGY E6630895JG

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent for Honeywell — Signature: [signature] — Month 02 Day 01 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Christian L. Smith — Signature: [signature] — Month 02 Day 01 Year 16
Transporter 2 Printed/Typed Name: Miller on behalf of Norfolk Southern — Signature: [signature] — Month 02 Day 01 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac N. W. — Signature: [signature] — Month 02 Day 17 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec: 3/24/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728552WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				43,712				

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec. 3/24/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728553WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	~~EST~~ 42000	P	~~D007~~
	2.			44,324		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W3 Q864896 T#8652262
240 TO <1000 PPM CR6+
man Doc # SGN0361
RAILCAR NO. CHUX 298 TRUCK NO. 240 ERI: US ECOLOGY C563089676

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature: [signature]
Month 02 Day 01 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Charles Bogen
Signature: [signature]
Month 02 Day 01 Year 16

Transporter 2 Printed/Typed Name: Walther on behalf of Norfolk Southern
Signature: [signature]
Month 02 Day 01 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible]
Signature: [signature]
Month 2 Day 17 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec. 3/24/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

GENERATOR

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000728553WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
11E TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				44,324				

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec: 3/24/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728554WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
40 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41760	P	~~D007~~
	2.			44,324		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3 Q864896 T#8652264
240 TO <1000 PPM CR6+
Man Doc # SGN0362
RAILCAR NO. CIUX 298 TRUCK NO. 242 ERI:US ECOLOGY [5630B977G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundas As Agent for Honeywell
Signature:
Month 02 Day 01 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Sal Cosciano on behalf of Horwith
Signature:
Month 02 Day 01 Year 16
Transporter 2 Printed/Typed Name: Norfolk Southern
Signature:
Month 02 Day 01 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ces Parr
Signature:
Month 2 Day 17 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec: 3/24/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728554WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				44,324		

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec. 3/24/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728555WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219912

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43960	P	D007
	2.			44,324		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3 Q864896 T#8652266 Man Doc# S6N0363
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 298 TRUCK NO. 28 ERI:US ECOLOGY C563089836

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundas As Agent For Honeywell
Signature:
Month 02 Day 01 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Ken Cok
Signature:
Month 02 Day 01 Year 16

Transporter 2 Printed/Typed Name: Walker on behalf of Norfolk Southern
Signature:
Month 02 Day 01 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 2 Day 17 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec. 3/24/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728555WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				44 324				

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec: 3/24/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728556WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 42080	P	~~D007~~
	2.			43,712		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W3 0864896_T#8652268 Man Doc#S6N0364
240 TO <1000 PPM CR6+
RAILCAR NO. CHX 378 TRUCK NO. 296 ERI:US ECOLOGY E563089930

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent For Harywell
Signature:
Month 02 Day 01 Year 16

GENERATOR

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

INT'L

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: CHRIS FARLEY
Signature:
Month 02 Day 01 Year 16

Transporter 2 Printed/Typed Name: Walker contained of Norfolk Southern
Signature:
Month 02 Day 01 Year 16

TRANSPORTER

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 02 Day 17 Year 16

DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec: 3/24/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728556WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				42000				
				43,712				

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec: 3/23/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728557WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 38700	P	D007
	2.			42,392		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 , 1. W3_Q864896_T#8652270 Man Doc # S6N0365
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 114 TRUCK NO. 44 ERI: US ECOLOGY [563090076

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundas As Agent for Honeywell
Signature:
Month 03 Day 01 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin McKechan
Signature:
Month 03 Day 01 Year 16

Transporter 2 Printed/Typed Name: Owner/Agent of Norfolk Southern
Signature:
Month 03 Day 01 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 03 Day 17 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec: 3/23/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986561437

22. Page 2 of 2

23. Manifest Tracking Number: 000728557WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				42,392				

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec: 3/24/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986591437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728558WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 41640	P	~~D007~~
	2.			44,324		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W3 Q864896 T#8652272 Man Doc # S6N0366
240 TO <1000 PPM CR6+
RAILCAR NO. CHX 298 TRUCK NO. 34 ERI: US ECOLOGY [563090113G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell — Signature: [signature] — Month 02 Day 01 Year 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rick Sourdus — Signature: [signature] — Month 02 Day 01 Year 16
Transporter 2 Printed/Typed Name: N Miller on behalf of Norfolk Southern — Signature: [signature] — Month 02 Day 01 Year 16

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ces Tar — Signature: [signature] — Month 2 Day 17 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec. 3/24/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

GENERATOR

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000728558WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				44,324		

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Rec. 3/23/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728559WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000450309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 43380	P	D007
	2.			42,392		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3 0864896_T#8652274 Man Doc # 56N0367
240 TO C1000 PPM CR6+
RAILCAR NO. CHLX 114 TRUCK NO. 290 ERI:US ECOLOGY C5630902JG

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature: [signature]
Month 02 Day 01 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Joe Heyer
Signature: [signature]
Month 02 Day 01 Year 16
Transporter 2 Printed/Typed Name: [illegible] on behalf of Norfolk Southern
Signature: [signature]
Month 02 Day 01 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature: [signature]
Month 03 Day 17 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec. 3/23/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000728559WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
40 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name MERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				42,392				

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec: 3/24/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728560WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: MORWITH TRUCKS INC
U.S. EPA ID Number: FAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000450309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 44440	P	~~D007~~
	2.		42	43,712		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W3 Q864896_T#8652276 Man Doc # S6N0368
240 TO <1000 PPM CR6+
RAILCAR NO. CHOY 278 TRUCK NO. 246 ERI: US ECOLOGY * D563090370

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Munduras As Agent For Honeywell
Signature:
Month 02 Day 01 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Christian L. Smith
Signature:
Month 02 Day 01 Year 16
Transporter 2 Printed/Typed Name: Mike Sullivan on behalf of Norfolk Southern
Signature:
Month 02 Day 01 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac M. Hill
Signature:
Month 02 Day 17 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec. 3/24/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728560WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				43,712				

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec: 3/23/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728561WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
40 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42280	P	D007
	2.			42,392		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3 Q864896 T#8652278 Man Doc # S6N0369
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 114 TRUCK NO. 240 ERI:US ECOLOGY [563090470

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundrgo As Agent for Honeywell — Signature: [signature] — Month 02 Day 01 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Charles Rogers — Signature: [signature] — Month 02 Day 01 Year 16
Transporter 2 Printed/Typed Name: [illegible] ON BEHALF of Norfolk Southern — Signature: [signature] — Month 02 Day 01 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller — Signature: [signature] — Month 03 Day 17 Year 16

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec. 3/23/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728561WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				42.392				

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec: 3/23/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728562WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC — U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD — U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 47520	P	~~D007~~
	2.			42,392		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W3 Q864896_T#8652280 Man Doc # S6N0370
240 TO C1000 PPM CR6+
RAILCAR NO. CHUX 114 TRUCK NO. 242 ERI: US ECOLOGY C563090536

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell — Signature: [signature] — Month 02 Day 01 Year 16

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Sal Gagliano — Signature: [signature] — Month 02 Day 01 Year 16
Transporter 2 Printed/Typed Name: Norfolk on behalf of Norfolk Southern — Signature: [signature] — Month 02 Day 01 Year 16

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
2nd railcar CHUX 319 OK to be added to manifest per Dino Ciccone via email 2-19-16
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller — Signature: — Month 03 Day 17 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec. 3/23/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000728562WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
1/15 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305--4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				42392		

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec: 3/24/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728563WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 45700	P	D007
	2.			44,324		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W3 0864896_T#8652282 Man Doc #56N0371
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 248 TRUCK NO. 28 ERI: US ECOLOGY #563092670

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundrus As Agent for Honeywell
Signature:
Month Day Year: 02 01 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Dan Colt
Signature:
Month Day Year: 02 01 16
Transporter 2 Printed/Typed Name: Mike Owr Shift of Norfolk Southern
Signature:
Month Day Year: 02 01 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month Day Year: 2 17 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec: 3/24/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728563WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				44,324		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728564WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 45840	P	D007
	2.			44,064		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W3 0864896_T#8652284 Man Doc #S6N0372
240 TO <1000 PPM CR6+
RAILCAR NO. CHY 167 TRUCK NO. 247 ERI:US ECOLOGY E563090736

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month 02 Day 01 Year 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Herbert J. Logar
Signature:
Month 02 Day 01 Year 16
Transporter 2 Printed/Typed Name: Michael on behalf of Norfolk Southern
Signature:
Month 02 Day 01 Year 16

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 02 Day 29 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728564WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				44.064				

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728565WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 45720	P	D007
	2.			44,064		
	3.			44,064		
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W3 Q864896_T#8652286 Man Doc # S6N0373
240 TO <1000 PPM CR6+
RAILCAR NO. CLX 167 TRUCK NO. 44 ERI: US ECOLOGY E563090816

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature: [signature]
Month Day Year: 03 01 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin McKechan
Signature: [signature]
Month Day Year: 03 01 16
Transporter 2 Printed/Typed Name: on behalf of Norfolk Southern
Signature: [signature]
Month Day Year: 03 01 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Sarah Miller
Signature: [signature]
Month Day Year: 02 29 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

GENERATOR

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000728565WAS

24. Generator's Name

HONEYWELL / JOHN NOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				44.064				

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728566WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 41820	P	D007
	2.			44,064		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1 ERG# 171 1 W3 Q864896 T#8652289 Man Doc # S6N0374
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 167 TRUCK NO. 34 ERI: US ECOLOGY I563090936

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in properly condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature: [signature]
Month 02 Day 01 Year 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rick Sanders
Signature: [signature]
Month 02 Day 01 Year 16
Transporter 2 Printed/Typed Name: Mather on behalf of Norfolk Southern
Signature: [signature]
Month 02 Day 01 Year 16

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible]
Signature: [signature]
Month 02 Day 29 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728566WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				44,064		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec: 3/23/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728567WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 44800	P	D007
	2.			42,392		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1 W3_Q864896_T#8652291 Mgn Doc # S6N0375
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 114 TRUCK NO. 295 ERI:US ECOLOGY [56309103G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month Day Year: 02 01 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: CHRIS FARLEY
Signature:
Month Day Year: 02 01 16
Transporter 2 Printed/Typed Name: Mallor Contracted Norfolk Southern
Signature:
Month Day Year: 02 01 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac A. Hill
Signature:
Month Day Year: 03 17 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec. 3/23/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

GENERATOR

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728567WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				42,392				

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728568WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
(973)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44520	P	D007
	2. 42,392			43,892		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_Q864896_T#8652293 Man Doc# S6N0376
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 207 TRUCK NO. 285 ERI:US ECOLOGY C563091130

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent For Honeywell
Signature:
Month 02 Day 02 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Brian Meinhart
Signature:
Month 02 Day 02 Year 16

Transporter 2 Printed/Typed Name: Mathew Cristwell of Norfolk Southern
Signature:
Month 02 Day 02 Year 16

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Cen Pur
Signature:
Month 2 Day 26 Year 16

GENERATOR

INT'L

TRANSPORTER

DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

GENERATOR

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728568WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				43892				

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728569WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
(973)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 44340	P	D007
	2.			43892 44,252		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1 ERGW 171 1 W3 0864896 TW0652295 Man Doc # 56N0377
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 142 TRUCK NO. 295 ERI: US ECOLOGY C56309123G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent for Honeywell
Signature:
Month 02 Day 02 Year 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: John Nickerson
Signature:
Month 02 Day 02 Year 16
Transporter 2 Printed/Typed Name: Michael OW Rebulled Norfolk Southern
Signature:
Month 02 Day 02 Year 16

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. M110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Cen Par
Signature:
Month 2 Day 26 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728569WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				44,252				

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728570WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 43220	P	D007
	2.			43,892		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W3 0864896_T#8652297 Man Doc # S6N0378
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 200 TRUCK NO. 294 ERI: US ECOLOGY C563091330

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month 02 Day 02 Year 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Carrier Horwith
Signature:
Month 02 Day 02 Year 16
Transporter 2 Printed/Typed Name: Miller Norfolk Southern
Signature:
Month 02 Day 02 Year 16

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Gen Farr
Signature:
Month 2 Day 26 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728570WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				43,892				

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437

2. Page 1 of: 2

3. Emergency Response Phone: (800)510-8510

4. Manifest Tracking Number: 000728571WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
(973)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 44,000	P	D007
	2.			43,900		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W3 Q864896_T#8652299 Man Doc #S6N0379
240 TO C1000 PPM CR6+
RAILCAR NO. CHUX 260 TRUCK NO. 284 ERI: US ECOLOGY [563091413]

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundrus As Agent For Honeywell
Signature:
Month 02 Day 02 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rafael Contreras
Signature:
Month 02 Day 02 Year 16
Transporter 2 Printed/Typed Name: Michael Cuthrell
Signature:
Month 02 Day 02 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 03 Day 29 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000728571WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name MERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				43,900				

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728572WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 43420	P	D007
	2.			43,892		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W3_Q864896_T#8652301 Man Doc # S6N0380
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 207 TRUCK NO. 28 ERI:US ECOLOGY [563091530

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month Day Year: 02 02 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Dan Cole
Signature:
Month Day Year: 02 02 16
Transporter 2 Printed/Typed Name: on behalf of Norfolk Southern
Signature:
Month Day Year: 02 02 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Ceci Ker
Signature:
Month Day Year: 2 26 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728572WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				43,892		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728573WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
(973)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 43300	P	D007
	2.			44,252		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W3_QB64896_T#8652303 Man Doc #S6N0381
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 142 TRUCK NO. 296 ERI: US ECOLOGY E563091613

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month 02 Day 02 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: CHRIS FARLEY
Signature:
Month 02 Day 02 Year 16
Transporter 2 Printed/Typed Name: Michael on Behalf of Norfolk Southern
Signature:
Month 02 Day 02 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 2 Day 26 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728573WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				44,252		
	142					

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec: 4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728574WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714978

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 44080	P	D007
	2.			43,900		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W3 Q864896 T#8652305 Man Doc # S6N0382
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 260 TRUCK NO. 291 ERI: US ECOLOGY E563091730

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature: [signature]
Month 02 Day 02 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Paul Supell 291 Contracted Norfolk Southern
Signature: [signature]
Month 02 Day 02 Year 16

Transporter 2 Printed/Typed Name: Mueller
Signature: [signature]
Month 02 Day 02 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isa[illegible]
Signature: [signature]
Month 03 Day 29 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec: 4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728574WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				43900				

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728575WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
(973)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	ST 43980	P	D007
	2.			44,252 43,980		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1 ERGN 171 1.W3 Q864896_T#8652307 Man Doc # SGN0383
240 TO <1000 PPM CR6+
RAILCAR NO. Chx 142 TRUCK NO. 34 ERI:US ECOLOGY C563091830

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month 02 Day 02 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rick Saunders
Signature:
Month 02 Day 02 Year 16
Transporter 2 Printed/Typed Name: Walker on behalf of Norfolk Southern
Signature:
Month 02 Day 02 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 2 Day 26 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJ0986581437	22. Page 2 of 2	23. Manifest Tracking Number 000728575WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				44,252		
	NA					

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728576WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
(973)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0011
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 43160	P	D007
	2.			43892		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERGH 171 1. W3 0864896_T#8652309 Man Doc #S6N0384
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 207 TRUCK NO. 44 ERI:US ECOLOGY [563091930

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month Day Year: 02 02 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin McKeehan
Signature:
Month Day Year: 02 02 16
Transporter 2 Printed/Typed Name: Mellon on Behalf of Norfolk Southern
Signature:
Month Day Year: 02 02 16

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Cen Tan
Signature:
Month Day Year: 2 26 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728576WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND056484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				43892				

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728577WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: FAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 43000	P	D007
	2.			44,252		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1 ERG# 171 1 W3 9864896_T#8652311 Man Doc# 56NU385 AG-08585
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 142 TRUCK NO. 212 ERI: US ECOLOGY E563092030

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month 02 Day 02 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: DAVID A. GRUVER
Signature:
Month 02 Day 02 Year 16
Transporter 2 Printed/Typed Name: Matter on behalf of Norfolk Southern
Signature:
Month 02 Day 02 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Carter
Signature:
Month 2 Day 26 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000728577WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				44,252		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728578WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
(973)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 40300	P	D007
	2.			44,064		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W3 0864896_T#8652313
240 TO <1000 PPM CR6+
Man Doc # S6N0386
RAILCAR NO. CHUX 167 TRUCK NO. 222 ERI:US ECOLOGY C563092130

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month 02 Day 02 Year 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Lance Todd
Signature:
Month 02 Day 02 Year 16
Transporter 2 Printed/Typed Name: Miller on behalf of Norfolk Southern
Signature:
Month 02 Day 02 Year 16

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 02 Day 29 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD988581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728578WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				44064		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728579WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 42,680	P	D007
	2.			44,064		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W3 Q864896_IN8652315 Man Doc # S6N0387
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 167 TRUCK NO. 224 ERI: US ECOLOGY C563092236

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent For Honeywell
Signature: [signature]
Month 02 Day 02 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Raymond S. Bear
Signature: Raymond S Bear
Month 02 Day 02 Year 16

Transporter 2 Printed/Typed Name: [illegible] on behalf of Norfolk Southern
Signature: [signature]
Month 02 Day 02 Year 16

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: [illegible]
Signature: [signature]
Month 02 Day 29 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728579WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				44,064				

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728580WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
(973)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 41400	P	D007
	2.	14	cy	44,252		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W3_Q864896_T#8652317 Man Doc #56N0388
240 TO <1000 PPM CR6+
RAILCAR NO. Chux 142 TRUCK NO. 285 ERI: US ECOLOGY [563092330

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month 02 Day 02 Year 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Bowe Messick
Signature:
Month 02 Day 02 Year 16
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 2 Day 26 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728580WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
		44	4	44,252		
	Chux 142					

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728581WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
(973)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42940	P	D007
	2.			43,336		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Man Doc #S6NU389
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 191 TRUCK NO. 295 ERI:US ECOLOGY E56309243G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month 02 Day 02 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: John Nickerson
Signature:
Month 02 Day 02 Year 16
Transporter 2 Printed/Typed Name: Mattar on behalf of Norfolk Southern
Signature:
Month 02 Day 02 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Mills
Signature:
Month 02 Day 29 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728581WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: C&X TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				43,336		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728582WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 41380	P	D007
	2.			43,892		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_QS64896_T#8652321 Man Doc # S6N 0390
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 207 TRUCK NO. 294 ERI:US ECOLOGY [563092536

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent for Michael Mundras Honeywell
Signature: [signature]
Month 02 Day 02 Year 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Cameron Walker
Signature: [signature]
Month 02 Day 02 Year 16
Transporter 2 Printed/Typed Name: Mike Miller
Signature: [signature]
Month 02 Day 02 Year 16

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible]
Signature: [signature]
Month 2 Day 26 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000728582WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				43,892		

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728583WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	~~18~~ST 45780	P	D007
	2.			43,336		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1 W3 Q864896 T#8652323 Man Doc # S6NU391
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 191 TRUCK NO. 284 ERI: US ECOLOGY C563092630

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature: [signature]
Month 02 Day 02 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rafael Cintron
Signature: [signature]
Month 02 Day 02 Year 16
Transporter 2 Printed/Typed Name: Heller civ Staff of Norfolk Southern
Signature: [signature]
Month 02 Day 02 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature: [signature]
Month 02 Day 29 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728583WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				43,336				

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728584WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: MORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 43020	P	D007
	2.			43,336		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERGM 171 1 W3 Q864896 T#8652325 Man Doc #56N0392
240 TO <1000 PPM CR6+.
RAILCAR NO. CHWX 191 TRUCK NO. 28 ERI:US ECOLOGY E563092736

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent for Honeywell
Signature:
Month 02 Day 02 Year 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Pam Cole
Signature:
Month 02 Day 02 Year 16
Transporter 2 Printed/Typed Name: Mark Cox (on behalf of Norfolk Southern)
Signature:
Month 02 Day 02 Year 16

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Jason Miller
Signature:
Month 02 Day 29 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986591437		000728584WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058464114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				43,336		

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728585WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 43320	P	D007		
	2.			43,900				
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1. ERG# 171 1 W3 Q864896 T#8652327 Man Doc # SGN 0393
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 260 TRUCK NO. 34 ERI: US ECOLOGY E563092BJG

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month 02 Day 02 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rick Saunders
Signature:
Month 02 Day 02 Year 16
Transporter 2 Printed/Typed Name: Miller CN Shuttle at Norfolk Southern
Signature:
Month 02 Day 02 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 03 Day 29 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

GENERATOR

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000728585WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				43,900		

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728586WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 41240	P	D007
	2.			43,900		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERGH 171 1 W3 0864896 T#8652329 Man Doc # S6N0394
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 260 TRUCK NO. 44 ERI:US ECOLOGY [58309293]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature: [signature]
Month 02 Day 02 Year 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin McKechan
Signature: [signature]
Month 02 Day 02 Year 16
Transporter 2 Printed/Typed Name: Miller on behalf of Norfolk Southern
Signature: [signature]
Month 02 Day 02 Year 16

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible]
Signature: [signature]
Month 03 Day 29 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

GENERATOR

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000728586WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				43,900		

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728587WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 40320	P	D007
	2.			43,900		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1 ERG# 171 1 W3 0864896 T#8652331
240 TO <1000 PPM CR6+
Man Doc # 56N0395 AG-08585 PA.
RAILCAR NO. CHUX 260 TRUCK NO. 212 ERI: US ECOLOGY [563093030

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature: [signature]
Month 03 Day 02 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: DAVID A. GRUVER
Signature: [signature]
Month 03 Day 02 Year 16

Transporter 2 Printed/Typed Name: CW Bullet Norfolk Southern
Signature: [signature]
Month 03 Day 02 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature: [signature]
Month 03 Day 29 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number NJD986581437	22. Page 2 of 2	23. Manifest Tracking Number 000728587WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				43900		

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728588WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44940	P	D007
	2.			43,652		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1 ERG# 171 1 W3 Q864896 T#8652333 Man Doc # S6N0396
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 140 TRUCK NO. 220 ERI: US ECOLOGY E563093136

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent For Honeywell
Signature:
Month 02 Day 03 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Jim Miller
Signature:
Month 02 Day 03 Year 16

Transporter 2 Printed/Typed Name: On behalf of Norfolk Southern
Signature:
Month 02 Day 03 Year 16

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name:
Signature:
Month 02 Day 25 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728588WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				43,652		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728589WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
(973)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 45820	P	D007
	2.			45,016		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W3 Q864896 T#8652335 Man Doc # S6N0397
240 TO <1000 PPM CRA+
RAILCAR NO. CHUX 121 TRUCK NO. 214 ERI: US ECOLOGY [56309323]

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month 02 Day 03 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: LEE HUTMACH
Signature:
Month 02 Day 03 Year 16
Transporter 2 Printed/Typed Name: Miller CN Railroad Norfolk Southern
Signature:
Month 02 Day 03 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 2 Day 26 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type: (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728589WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				45,016		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728590WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC.
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 40540	P	D007
	2.			43,336		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W3_Q864876_T#8652337 Man Doc # 56N0398
240 TO <1000 PPM CR6+
RAILCAR NO. CIIUX 191 TRUCK NO 217 ERI: US ECOLOGY E563093JG

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent For Honeywell
Signature: [signature]
Month 02 Day 03 Year 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Stan Sochzynski
Signature: [signature]
Month 02 Day 03 Year 16
Transporter 2 Printed/Typed Name: Miller on behalf of Norfolk Southern
Signature: [signature]
Month 02 Day 03 Year 16

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature: [signature]
Month 02 Day 29 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728590WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				43.336		

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728591WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 44060	P	D007
	2.			43,652		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1 W3 Q864896 T#8652339 Man Doc # S6N0399 AG-0858SPA
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 140 TRUCK NO. 212 ERI: US ECOLOGY [563093413]

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras (As Agent for Honeywell) Signature: [signature] Month 02 Day 03 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: DAVID A. GRUVER Signature: [signature] Month 02 Day 03 Year 16
Transporter 2 Printed/Typed Name: (w/ Bulled Norfolk Southern) Signature: [signature] Month 02 Day 03 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Nillin Signature: [signature] Month 02 Day 25 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581487

22. Page 2 of 2

23. Manifest Tracking Number: 000728591WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				43,652		

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728592WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 42880	P	D007
	2.			43,336		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1 W3 0864896 T#8652341 Man Doc # SGN0400
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 191 TRUCK NO. 219 ERI: US ECOLOGY E563093536

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month 02 Day 03 Year 16

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: David Clapp
Signature:
Month 02 Day 03 Year 16
Transporter 2 Printed/Typed Name: Miller
Signature:
Month 02 Day 03 Year 16

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature:
Month 02 Day 29 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728592WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				43,336		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728593WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 46760	P	D007
	2.			43,652		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1 ERG# 171 1.W3 Q864896 T#8652343 Man Doc # 56N0401
240 TO C2000 PPM CR6+
RAILCAR NO. CHX 140 TRUCK NO. 220 ERI.US ECOLOGY [563093613

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent For Honeywell
Signature:
Month 02 Day 03 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Tim Miller
Signature:
Month 02 Day 03 Year 16

Transporter 2 Printed/Typed Name: Michael on behalf of Norfolk Southern
Signature:
Month 02 Day 03 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H010			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Tom Miller
Signature:
Month 02 Day 25 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728593WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				43,652		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728594WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	~~E~~T 44540	P	D007
	2.			45,016		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1 W3 QB64896_T#8652345 Man Doc# S6N0402
240 TO (1000 PPM CR6+
RAILCAR NO. CHX 121 TRUCK NO. 217 ERI: US ECOLOGY C563093730

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month 02 Day 03 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Stan Sochacki
Signature:
Month 02 Day 03 Year 16
Transporter 2 Printed/Typed Name: Chris Field of Norfolk Southern Miller
Signature:
Month 02 Day 03 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 2 Day 26 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728594WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				45016				

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728595WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42900	P	D007
	2.			45,016		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1: ERG# 171 1 W3 Q864896 T#8652347 Man Doc # SGN0403 AG-0858 PA
240 TO (1000 PPM CR6+
RAILCAR NO. CIUX 121 TRUCK NO 212 ERI: US ECOLOGY E563093030

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month 02 Day 03 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: DAVID A. GRUVER
Signature:
Month 02 Day 03 Year 16
Transporter 2 Printed/Typed Name: on behalf of Norfolk Southern
Signature:
Month 02 Day 03 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 2 Day 26 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728595WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				45,016		

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728596WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 44700	P	D007
	2.			45,016		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1 ERG# 171 1 W3 Q864896 T#8652349 Man Doc# SGN0404
240 TO <1000 PPM CR6+
RAILCAR NO. CIlux 121 TRUCK NO. 214 ERI:US ECOLOGY C563093930

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month 02 Day 03 Year 16

GENERATOR

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

INT'L

17. Transporter Acknowledgment of Receipt of Materials

TRANSPORTER

Transporter 1 Printed/Typed Name: LEE HETRICH
Signature:
Month 02 Day 03 Year 16

Transporter 2 Printed/Typed Name: Mattkar OW Rail Norfolk Southern
Signature:
Month 02 Day 03 Year 16

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

DESIGNATED FACILITY

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 2 Day 26 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

GENERATOR

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000728596WAB

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				45,016		

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728597WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 42940	P	D007
	2.			43,652		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W3 Q864896 T#8652351
240 TO <1000 PPM CR6+
Man Doc # SGNU405
RAILCAR NO. CHLX 140 TRUCK NO. 210 ERI: US ECOLOGY E563094030

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundreas As Agent for Honeywell
Signature:
Month 02 Day 03 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: William Wisser
Signature: William Wisser
Month 02 Day 03 Year 16

Transporter 2 Printed/Typed Name: Miller on behalf Norfolk Southern
Signature:
Month 02 Day 03 Year 16

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Isaac Miller
Signature:
Month 02 Day 25 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728597WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				43,652		

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728598WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
(973)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714678

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 36000	P	D007
	2.			43,652		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1 W3 Q864896_T#8652353 Man Doc # S6N0406
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 140 TRUCK NO. 248 ERI: US ECOLOGY E563094110

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent For Honeywell
Signature:
Month Day Year: 02 03 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin Gilbert
Signature:
Month Day Year: 02 03 16
Transporter 2 Printed/Typed Name: Matthew on behalf of Norfolk Southern
Signature:
Month Day Year: 02 03 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Mills
Signature:
Month Day Year: 02 25 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728598WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				43,652		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728599WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
(973)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 38040	P	D007
	2.			45,0TG		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1 W3 Q864896 T#8652355 Man Doc # 56N0407
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX121 TRUCK NO. 219 ERI: US ECOLOGY C563094236

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent For Honeywell
Signature:
Month Day Year: 02 03 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: David Chapman
Signature:
Month Day Year: 02 03 16

Transporter 2 Printed/Typed Name: Walker on behalf Norfolk Southern
Signature:
Month Day Year: 02 03 16

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name:
Signature:
Month Day Year: 2 26 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/10/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page 2 of 2	23. Manifest Tracking Number
	NJD986581437		000728599WAS

24. Generator's Name

HONEYWELL / JOHN NOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				45,016		

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/15/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728600WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN NOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: MORWITH TRUCKS INC
U.S. EPA ID Number: FAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 37860	P	D007
	2.			42,716		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1 ERG# 171 1.03 0864896 T#8652357 Man Doc # SGN0408
240 TD >1000 PPM CRo+
RAILCAR NO: CHLX 219 TRUCK NO: 224 ERI: US ECOLOGY [563094336

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundrus As Agent For Honeywell
Signature: [signature]
Month 02 Day 18 Year 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: RAYMOND S BEAR
Signature: Raymond S Bear
Month 02 Day 18 Year 16

Transporter 2 Printed/Typed Name: Miller on behalf of Norfolk Southern
Signature: [signature]
Month 02 Day 18 Year 16

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Isaac Miller
Signature: [signature]
Month 03 Day 09 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/18/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728600WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND059484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				42,716		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/15/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728601WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
(973)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714978

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 42320	P	D007
	2.			42716		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERGW 171 1.W3_Q864896_TN8652359 Man Doc # SGN0409 AG-0858SPA
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 319 TRUCK NO 212 ERI:US ECOLOGY E563094436

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent for Honeywell
Signature:
Month 02 Day 18 Year 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: DAVID A. GRUVER
Signature:
Month 02 Day 18 Year 16
Transporter 2 Printed/Typed Name: [illegible] City Place of Interchange
Signature:
Month 02 Day 18 Year 16

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature:
Month 03 Day 09 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/15/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728601WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				42,716		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

3/15/16

Please print or type. (Form designed for use on élite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728602WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST ~~38740~~ M	P	D007
	2.			~~39160~~ 42,716		
	3.			42,716		
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W3_Q864896_T#8652361 Man Doc# S6NU410
240 TO <1000 PPM CR6+
RAILCAR NO. CLLX 319 TRUCK NO. 224 ERI:US ECOLOGY [56309453G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Munders As Agent for Honeywell
Signature: [signature]
Month 02 Day 18 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: RAymond S Bear
Signature: Raymond S Bear
Month 02 Day 18 Year 16

Transporter 2 Printed/Typed Name: [illegible] Norfolk Southern
Signature: [signature]
Month 02 Day 18 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature: [signature]
Month 03 Day 09 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/15/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

GENERATOR

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000728602WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				42,716				

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

3/15/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728603WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
(973)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 39540	P	D007
	2.			42,716		
	3.			42,716		
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3 0864896_T#8652363 Man Doc # SGN0411 AG08585
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 314 TRUCK NO. 212 ERI:US ECOLOGY C563094636

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundrys As Agent for Honeywell
Signature:
Month 02 Day 18 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: DAVID A. GRUVER
Signature:
Month 02 Day 18 Year 16
Transporter 2 Printed/Typed Name: Norfolk Southern
Signature:
Month 02 Day 18 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature:
Month 03 Day 09 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/15/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728603WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				42,716		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/15/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728604WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
(973)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44900	P	D007
	2.			42716		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3 Q864896 T#8652365 Man Doc # SGN04112
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 319 TRUCK NO. 220 ER#: US ECOLOGY E563094736

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundrus As Agent For Honeywell
Signature:
Month Day Year: 02 18 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: TIM MILLER
Signature:
Month Day Year: 02 18 16
Transporter 2 Printed/Typed Name: Walter on behalf of Norfolk Southern
Signature:
Month Day Year: 02 18 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature:
Month Day Year: 03 09 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

3/15/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728604WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058464114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				42 Mo				

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec: 4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728605WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
(973)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORVITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 43700	P	D007
	2.			42,760		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W3 0864876 T#86652367 Man Doc # S6N 0413
240 TO <1000 PPM CR6+
RAILCAR NO. CIIX 195 TRUCK NO. 224 ERI: US ECOLOGY E563094078

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundrus As Agent for Honeywell
Signature:
Month 03 Day 03 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: RAYMOND S BEAR
Signature:
Month 03 Day 03 Year 16
Transporter 2 Printed/Typed Name: on behalf of Norfolk Southern
Signature:
Month 03 Day 03 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 03 Day 29 Year 16

GENERATOR | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec. 4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000728605WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				42,760				

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728606WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: B9415

6. Transporter 1 Company Name: NORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 47780	P	D007		
	2.			42,616				
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3 Q864896_T#8652369 Man Da # S6N0414
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 224 TRUCK NO. 218 ERI:US ECOLOGY [563094910

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: michael Mundras As Agent for Honeywell
Signature:
Month 03 Day 03 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Arlington Mercedes
Signature:
Month 03 Day 03 Year 16
Transporter 2 Printed/Typed Name: Norfolk Southern
Signature:
Month 03 Day 03 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 03 Day 28 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728606WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				42,016		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

Rec: 4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728607WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
(973)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 44600	P	D007
	2.			42,766		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W3 Q864896 T#8652371 Man Doc # SGN0415
240 TD <1000 PPM CR6+
RAILCAR NO. CHUX 195 TRUCK NO. 223 ERI: US ECOLOGY C563095030

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mandras As Agent for Honeywell
Signature: [signature]
Month 03 Day 03 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Scott M Nye
Signature: [signature]
Month 03 Day 03 Year 16

Transporter 2 Printed/Typed Name: Matthew on behalf of Norfolk Southern
Signature: [signature]
Month 03 Day 03 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: [illegible]
Signature: [signature]
Month 3 Day 25 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec 4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728607WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				42,766				

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728608WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 69415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 47660	P	D007
	2.			42,908		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERGW 171 1. W3_Q864896_T#8652373
240 TO <1000 PPM CR6+
Man Doc # S6N0416
RAILCAR NO. CIUX 164 TRUCK NO. 226 ERI: US ECOLOGY E563095130

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month 03 Day 03 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Bill Pessagno
Signature:
Month 03 Day 03 Year 16
Transporter 2 Printed/Typed Name: Michael on behalf of Norfolk Southern
Signature:
Month 03 Day 03 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 03 Day 28 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728608WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				42,908				

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728609WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
(973)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 42600	P	D007
	2.			42,968		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1 ERDM 171 1 W3 0864896 T#8652375 Man Doc # S6N0417
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 787 TRUCK NO. 225 ERI: US ECOLOGY C563095230

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month 03 Day 03 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Aaron Meeks
Signature:
Month 03 Day 03 Year 16
Transporter 2 Printed/Typed Name: Meeks CN Railroad of Norfolk Southern
Signature:
Month 03 Day 03 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 3 Day 29 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728609WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				42,968		

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728610WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 40,060	P	D007
	2.			42,616		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W3 0864896_T#8652377 Man Doc # 56N0418
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 204 TRUCK NO. 219 ERI: US ECOLOGY [563095331G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent For Honeywell
Signature:
Month 03 Day 03 Year 16

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: David Clapman
Signature:
Month 03 Day 03 Year 16
Transporter 2 Printed/Typed Name: Matt Gr on behalf of Norfolk Southern
Signature:
Month 03 Day 03 Year 16

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller
Signature:
Month 03 Day 25 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728610WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				42,616				

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728611WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 44120	P	D007
	2.			42,968		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3 QB64896_T#B652379 Man Doc # S6N0419
240 TO <1000 PPM CR6+
RAILCAR NO. CIIX 287 TRUCK NO. 220 ERI:US ECOLOGY [563095430

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent For Honeywell
Signature:
Month 03 Day 03 Year 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: JIM MILLER
Signature:
Month 03 Day 03 Year 16
Transporter 2 Printed/Typed Name: Matthew Sullivan
Signature:
Month 03 Day 03 Year 16

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 3 Day 05 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728611WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				42,968				

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

TX:

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437

2. Page 1 of: 2

3. Emergency Response Phone: (800)510-8510

4. Manifest Tracking Number: 000728612WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: MORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 45980	P	D007
	2.			42,768		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERGW 171 1.W3_0864896_T#8652381 Man Doc # S6N0420
240 TO <1000 PPM CR6+
RAILCAR NO. CHW 185 TRUCK NO. 28 ERI:US ECOLOGY E563095JG

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent For Honeywell
Signature:
Month 03 Day 03 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Morwith Signature: Month 03 Day 03 Year 16
Transporter 2 Printed/Typed Name: Norfolk Southern Signature: Month 03 Day 03 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Center Signature: Month 03 Day 28 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

GENERATOR

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000728612WAS

24. Generator's Name
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				42,768				

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

Rec: 4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728613WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
(973)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 42220	P	D007
	2.			42,766		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERGW 171 1. W3.Q864896_T#86523B3 Man Doc # SGN0421
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 195 TRUCK NO. 214 ERI: US ECOLOGY C563095638

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month 03 Day 03 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: LEE HETRICH
Signature:
Month 03 Day 03 Year 16
Transporter 2 Printed/Typed Name: Mullen on behalf of Norfolk Southern
Signature:
Month 03 Day 03 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 03 Day 29 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec: 4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	NJD986581437	2 of 2	000728613WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name CSX TRANSPORTATION INC — U.S. EPA ID Number FLD006921340

26. Transporter 4 Company Name HERITAGE TRANSPORT, LLC — U.S. EPA ID Number IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				42,766		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728614WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 41680	P	D007
	2.			42,908		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W3_Q864896_T#8652385 Man Doc #SGN0482
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 164 TRUCK NO. 44 ERI:US ECOLOGY [563095738

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature: [signature]
Month 03 Day 03 Year 16

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Kevin McKeh
Signature: [signature]
Month 03 Day 03 Year 16
Transporter 2 Printed/Typed Name: Walter On behalf of Norfolk Southern
Signature: [signature]
Month 03 Day 03 Year 16

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Nilles
Signature: [signature]
Month 03 Day 28 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728614WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				42,908		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728615WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: FAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 43960	P	D007
	2.			42,968		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. ERG# 171 1. W3 Q864896_T#86523387 Man Doc # S6N0423
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 287 TRUCK NO. 34 ERI: US ECOLOGY E563095816

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month 03 Day 03 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rick Saunders
Signature:
Month 03 Day 03 Year 16
Transporter 2 Printed/Typed Name: Mike consolidated Norfolk Southern
Signature:
Month 03 Day 03 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 3 Day 23 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728615WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				42,968				

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728616WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., 9, PGIII, (CHROMIUM), (D007)	1	DT	EST 40720	P	D007
	2.			42,908		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1 ERG# 171 1.W3_Q864896_T#8652389 Man Doc # S6N0424
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 164 TRUCK NO. 213 ERI: US ECOLOGY E563095930

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent for Michael Mundras Honeywell
Signature: [signature]
Month 03 Day 03 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Joe Dinbokewitz
Signature: [signature]
Month 03 Day 03 Year 16

Transporter 2 Printed/Typed Name: Norfolk Southern
Signature: [signature]
Month 03 Day 03 Year 16

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Isaac Allen
Signature: [signature]
Month 03 Day 28 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728616WAS

24. Generator's Name

HONEYWELL / JOHN MOUKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				42,908				

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728804WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
(973)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42900	P	D007
	2.			42,616		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3 0864896_T#8652391 Man Doc # S6N0425
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 224 TRUCK NO. 292 ERI:US ECOLOGY [5630960]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month 03 Day 03 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: JASON C Bedford
Signature:
Month 03 Day 03 Year 16
Transporter 2 Printed/Typed Name: Holler on behalf of Norfolk Southern
Signature:
Month 03 Day 03 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 03 Day 28 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728804WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				42,616		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728805WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
(973)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
(317)243-0811
Facility's Phone:
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	657 42660	P	D007		
	2.			42,968				
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3 0864896_T#8652393 Man Doc# SGN0426
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 287 TRUCK NO. 224 ERI:US ECOLOGY [5630961]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature: [signature]
Month 03 Day 03 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: RAymond SBeaR
Signature: Raymond S Bear
Month 03 Day 03 Year 16

Transporter 2 Printed/Typed Name: on behalf of Norfolk Southern
Signature: [signature]
Month 03 Day 03 Year 16

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Ceu Ker
Signature: [signature]
Month 3 Day 29 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

9/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728805WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				42,968				

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec: 4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728806WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
Generator's Phone: (973)455-4252

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 39080	P	D007
	2.			42,760		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#8652395 Man Doc # S6N0427
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 195 TRUCK NO. 223 ERI:US ECOLOGY [5630962]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

GENERATOR

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature: [signature]
Month 03 Day 03 Year 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Scott M Nye
Signature: [signature]
Month 03 Day 03 Year 16

Transporter 2 Printed/Typed Name: Mollen on behalf of Norfolk Southern
Signature: [signature]
Month 03 Day 03 Year 16

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Cen Por
Signature: [signature]
Month 03 Day 03 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Rec. 4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728806WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				42,766				

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/5/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728807WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
(973)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
(317)243-0811
Facility's Phone:
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42200	P	D007
	2.			42,968		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3 0864896_T#8652397 Man Doc # S6NU428
240 TO <1000 PPM CR6+
RAILCAR NO. CIUX 287 TRUCK NO. 218 ERI:US ECOLOGY [5630963]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundros As Agent For Honeywell
Signature:
Month 03 Day 03 Year 16

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Arlington Meekes
Signature:
Month 03 Day 03 Year 16
Transporter 2 Printed/Typed Name: Mathew on behalf of Norfolk Southern
Signature:
Month 03 Day 03 Year 16

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name:
Signature:
Month 3 Day 25 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/5/16

Please print or type: (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728807WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		
				42,968				

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728808WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
(973)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41700	P	D007
	2.			42,768		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#8652399 Man Doc#S6N0429
240 TO <1000 PPM CR6+
RAILCAR NO. CHX 185 TRUCK NO. 226 ERI:US ECOLOGY [5630964]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month 03 Day 03 Year 16

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Bill Pearson
Signature:
Month 03 Day 03 Year 16
Transporter 2 Printed/Typed Name: Walker On behalf of Norfolk Southern
Signature:
Month 03 Day 03 Year 16

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Center
Signature:
Month 3 Day 28 Year 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728808WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				42,768		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728809WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
(973)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 38160	P	D007
	2.			42,616		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_T#8652401 Man Doc # S6N0430
240 TO <1000 PPM CR6+
RAILCAR NO. CHLX 224 TRUCK NO. 225 ERI:US ECOLOGY [5630965]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Mundros As Agent for Honeywell
Signature:
Month 03 Day 03 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Aaron Mecks
Signature:
Month 03 Day 03 Year 16
Transporter 2 Printed/Typed Name: Western
Signature: On behalf of Norfolk Southern
Month 03 Day 03 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Miller
Signature:
Month 03 Day 28 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728809WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				42,616		

32. Special Handling Instructions and Additional Information

GENERATOR

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

DESIGNATED FACILITY

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of: 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728810WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
(973)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
Facility's Phone: (317)243-0811
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 41120	P	D007
	2.			42,908		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3_0864896_I#8652403 Man Doc # S6N0431
240 TO <1000 PPM CR6+
RAILCAR NO. CHX 164 TRUCK NO. 219 ERI:US ECOLOGY [5630966]G

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Michael Munoras As Agent for Honeywell
Signature:
Month Day Year: 03 03 16

GENERATOR

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: David Clapsison
Signature:
Month Day Year: 03 03 16
Transporter 2 Printed/Typed Name: Walker ON Behalf of Norfolk Southern
Signature:
Month Day Year: 03 03 16

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H110			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaac Hill
Signature:
Month Day Year: 03 28 16

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728819WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				42,908		

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NJD986581437
2. Page 1 of 2
3. Emergency Response Phone: (800)510-8510
4. Manifest Tracking Number: 000728811WAS

5. Generator's Name and Mailing Address
HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546
(973)455-4252
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806
GEN: 89415

6. Transporter 1 Company Name: HORWITH TRUCKS INC
U.S. EPA ID Number: PAD146714878

7. Transporter 2 Company Name: NORFOLK SOUTHERN RAILROAD
U.S. EPA ID Number: VAD000650309

8. Designated Facility Name and Site Address
HERITAGE ENVIRONMENTAL SERVICES
7901 W MORRIS ST
INDIANAPOLIS, IN 46231-3301
(317)243-0811
Facility's Phone:
U.S. EPA ID Number: IND093219012

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ,NA3077,HAZARDOUS WASTE, SOLID, N.O.S., 9,PGIII,(CHROMIUM),(D007)	1	DT	EST 42440	P	D007
	2.			42,908		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.ERG# 171 1.W3 0864896_T#8652405 Man Doc #S6N0432
240 TO <1000 PPM CR6+
RAILCAR NO. CHUX 164 TRUCK NO. 28 ERI:US ECOLOGY [5630967]0

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: As Agent for Michael Mundras Honeywell
Signature:
Month 03 Day 03 Year 16

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Signature: Month 03 Day 03 Year 16
Transporter 2 Printed/Typed Name: on behalf of Norfolk Southern Signature: Month 03 Day 03 Year 16

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H110 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Isaiah Miller Signature: Month 03 Day 28 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

4/1/16

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: NJD986581437

22. Page 2 of 2

23. Manifest Tracking Number: 000728811WAS

24. Generator's Name

HONEYWELL / JOHN MOJKA
115 TABOR RD
MORRIS PLAINS, NJ 07950-2546

HONEYWELL / DINO CICCONE
60 KELLOGG ST
JERSEY CITY, NJ 07305-4806

25. Transporter 3 Company Name: CSX TRANSPORTATION INC — U.S. EPA ID Number: FLD006921340

26. Transporter 4 Company Name: HERITAGE TRANSPORT, LLC — U.S. EPA ID Number: IND058484114

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
				42,908		

32. Special Handling Instructions and Additional Information

GENERATOR

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter 4 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16061

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/5/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print):
Vehicle License No./State:
Truck Number: 83

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2-5-16 — **Shipment Date**
Driver Signature
2/5/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 73560 (70820 rst)
TARE WEIGHT: 29520 (29520 rst)
NET WEIGHT (LBS): 44040 (41300 rst)
NET WEIGHT (TONS): 22.02 ~~20.65~~

Certification: I hereby certify that the above named material has been accepted for reuse.

☐ Alex Bastek
☐ Richard Maccie
☐ Ray Miara
☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

Manifest Number: MCL 16062

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras		2/5/16
Generator/Authorized Agent Name	**Signature of Authorized Agent**	**Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): CHRIS
Vehicle License No./State: AP-375-D
Truck Number: 117

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

	2/5/16		2/5/16
Driver Signature	**Shipment Date**	**Driver Signature**	**Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 69750 Est — 72260
TARE WEIGHT: 26520Est — 26520
NET WEIGHT (LBS): 43260 Est — 45740
NET WEIGHT (TONS): 21.63 — 22.87

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☐ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)	**Signature of Authorized MCUA Official**	**Receipt Date**

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

Manifest Number: MCL 16063

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/5/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Mike Coyte
Vehicle License No./State: 45653 J NJ
Truck Number: 112

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/5/16 — **Shipment Date**
Driver Signature
2/5/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 69960 est — 71660
TARE WEIGHT: 29220 est — 29220
NET WEIGHT (LBS): 40740 est — 42440
NET WEIGHT (TONS): 21.22

Certification: I hereby certify that the above named material has been accepted for reuse.

☐ Alex Bastek
☐ Richard Maccie
☐ Ray Miara
☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16064

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/5/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Richard Ivan
Vehicle License No./State: AS 641C
Truck Number: 125

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/5/16 — **Shipment Date**
Driver Signature
2/5/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 72460 est — 74740
TARE WEIGHT: 29820 Est — 29820
NET WEIGHT (LBS): 42640 Est — 44920
NET WEIGHT (TONS): 21.32 22.46

Certification: I hereby certify that the above named material has been accepted for reuse.

☐ Alex Bastek
☐ Richard Maccie
☐ Ray Miara
☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16065

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mandras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/5/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Kenson Villalta
Vehicle License No./State: AS898U-NJ
Truck Number: 92

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/5/16 — **Shipment Date**
Driver Signature
2/5/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 74400 (68300 EST)
TARE WEIGHT: 30340 (30340 EST)
NET WEIGHT (LBS): 44060 (37960 EST)
NET WEIGHT (TONS): 22.03

1898

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☑ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16066

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mandras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/5/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print):
Vehicle License No./State:
Truck Number: 83

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/5/16 — **Shipment Date**
Driver Signature
2/5/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 73220 (69700 est)
TARE WEIGHT: 30040 (30040 EST)
NET WEIGHT (LBS): 43180 (39660 EST)
NET WEIGHT (TONS): 21.59 (19.83)

Certification: I hereby certify that the above named material has been accepted for reuse.

☐ Alex Bastek
☐ Richard Maccie
☐ Ray Miara
☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

Manifest Number: MCL 16067

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Generator/Authorized Agent Name	Signature of Authorized Agent	Shipment Date
		2/5/16

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): CHRIS
Vehicle License No./State: AD.375-D
Truck Number: 117

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature	Shipment Date	Driver Signature	Delivery Date
	2/5/16		2/5/16

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 70580 EST — 73220
TARE WEIGHT: 26500 EST — 26500
NET WEIGHT (LBS): 44080 EST — 46720
NET WEIGHT (TONS): 23.36

2204

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☐ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)	Signature of Authorized MCUA Official	Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16068

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/5/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Mike Gaz
Vehicle License No./State: AS 653 J NJ
Truck Number: 112

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/5/16 — **Shipment Date**
Driver Signature
2/5/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 70580
69160 EST
TARE WEIGHT: 29340
29340 EST
NET WEIGHT (LBS): 41240
39820 EST
NET WEIGHT (TONS): 20.62

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☐ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16069

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mandras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/5/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Richard Leni
Vehicle License No./State: HS 741C
Truck Number: 125

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/5/16 — **Shipment Date**
Driver Signature
2/5/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 74480 (72400 EST)
TARE WEIGHT: 29060 (29060 EST)
NET WEIGHT (LBS): 45420 (43340 EST)
NET WEIGHT (TONS): 22.71 (21.67, 22.71)

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☒ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16070

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundrus — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/5/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Ramon Villalta
Vehicle License No./State: AS898U - NJ
Truck Number: 92

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/5/16 — **Shipment Date**
Driver Signature
2/5/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 74860 (72140 EST)
TARE WEIGHT: 29380 (29380 EST)
NET WEIGHT (LBS): 45480 (42760 EST)
NET WEIGHT (TONS): 22.74

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☑ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16071

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/5/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print):
Vehicle License No./State: AN563R
Truck Number: 83

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/5/16 — **Shipment Date**
Driver Signature
2/5/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 73660 EST — 76320
TARE WEIGHT: 30000 EST — 30000
NET WEIGHT (LBS): 43660 EST — 46320
NET WEIGHT (TONS): ~~21.83~~ 23.16

Certification: I hereby certify that the above named material has been accepted for reuse.

☐ Alex Bastek
☐ Richard Maccie
☒ Ray Miara
☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
2016 FEB -5 PM 1:53 — **Receipt Date**

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16072

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundrus — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/5/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): CHRIS
Vehicle License No./State: AP-375-D
Truck Number: 117

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/5/16 — **Shipment Date**
Driver Signature
2/5/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 73460 — 70460 EST
TARE WEIGHT: 26540 — 26540 EST
NET WEIGHT (LBS): 46920 — 43920 EST
NET WEIGHT (TONS): 23.46 — 21.96

2016 FEB -5 PM 1:54

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☒ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16073

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/5/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Mike Conte
Vehicle License No./State: A56535 N.J.
Truck Number: 112

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/5/16 — **Shipment Date**
Driver Signature
2/5/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 70740 EST — 73220
TARE WEIGHT: 29280 EST — 29280
NET WEIGHT (LBS): 41460 EST — 43940
NET WEIGHT (TONS): 21.97

2016 FEB -5 PM 2:01

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☑ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16074

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/5/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Ram Villalta
Vehicle License No./State: AS 898U - NJ
Truck Number: 92

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/5/16 — **Shipment Date**
Driver Signature
2/5/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 69900 EST — 76240
TARE WEIGHT: 29880 EST — 29880
NET WEIGHT (LBS): 40020 EST — 46360
NET WEIGHT (TONS): 20.01 — 23.18

Certification: I hereby certify that the above named material has been accepted for reuse.

☐ Alex Bastek
☐ Richard Maccie
☒ Ray Miara
☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

2016 FEB -5 PM 2:06

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16025

GENERATOR

Generator Name:	Honeywell International Inc.	**Source Location:**	Honeywell International Inc.
Address:	Aercon – Dino Ciccone 90 US Hwy 130, Bordentown, NJ	**Address:**	60/80 Kellogg Street Jersey City, New Jersey
Phone Number:	(609) 298-0770	**Project Name:**	Site: SA-6 North
		Disposal Contact:	Anthony Forlini (732) 389-1133 Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras		2/5/16
Generator/Authorized Agent Name	**Signature of Authorized Agent**	**Shipment Date**

TRANSPORTER

Transporter Name:	Veniero Trucking	**Driver Name (Print):**	RICHARD MENA
Address:	172-178 Passaic Avenue, Belleville, NJ		
State Permit No.:	N/A	**Vehicle License No./State:**	AS 641C
Expiration Date:	N/A		
		Truck Number:	125

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

	2/5/16		2/5/16
Driver Signature	**Shipment Date**	**Driver Signature**	**Delivery Date**

DESTINATION

Address:	Middlesex County Utilities Authority, Middlesex County Landfill 53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816	**GROSS WEIGHT:**	74460 72260 EST
Phone Number:	(732) 246-4313	**TARE WEIGHT:**	29300 29300 EST
State Permit No.:	LOP110001	**NET WEIGHT (LBS):**	45160 42960 EST
Expiration Date:	09/21/2017	**NET WEIGHT (TONS):**	21.48 22.58

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☑ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)	**Signature of Authorized MCUA Official**	**Receipt Date**

2016 FEB -5 PM 2:10

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16076

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): CHRIS
Vehicle License No./State: AP.375.D
Truck Number: 117

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/8/16 — **Shipment Date**
Driver Signature
2/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 74820 EST — 77040
TARE WEIGHT: 26420 EST — 26420
NET WEIGHT (LBS): 48400 EST — 50620
NET WEIGHT (TONS): ~~24.20~~ 25.31

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☒ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

2016 FEB -8 AM 8:32

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL ~~16076~~ 16077

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Generator/Authorized Agent Name	Signature of Authorized Agent	Shipment Date
Michael Mundras	[signature]	2/8/16

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): SPURR
Vehicle License No./State: AR 524D
Truck Number: ~~120~~ 104

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature	Shipment Date	Driver Signature	Delivery Date
[signature]	2/8/16	[signature]	2/8/16

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 75300 EST — 77460
TARE WEIGHT: 28000 EST — 28000
NET WEIGHT (LBS): 47300 EST — 49460
NET WEIGHT (TONS): 24.73

24.73

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☑ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)	Signature of Authorized MCUA Official	Receipt Date
	[signature]	

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16078

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Generator/Authorized Agent Name	Signature of Authorized Agent	Shipment Date
Michael Mundrus	[signature]	2/8/16

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Ramon Villalta
Vehicle License No./State: AP 763J - NJ
Truck Number: 121

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature	Shipment Date	Driver Signature	Delivery Date
Ramon Villalta	2/8/16	Ramon Villalta	2/8/16

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 77160 (72360 EST)
TARE WEIGHT: 27720 (27720 EST)
NET WEIGHT (LBS): 49440 (44640 EST)
NET WEIGHT (TONS): 24.72

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☒ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)	Signature of Authorized MCUA Official	Receipt Date
	[signature]	

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16079

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Munders — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Hector Castonda
Vehicle License No./State: AS 345L
Truck Number: 124

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/8/16 — **Shipment Date**
Driver Signature
2/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce
Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 69880 EST — 74660
TARE WEIGHT: 28280 EST — 28280
NET WEIGHT (LBS): 41600 EST — 46380
NET WEIGHT (TONS): 23.19

2016 FEB -8 AM 8:57

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☒ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16080

GENERATOR

Generator Name:	Honeywell International Inc.	**Source Location:**	Honeywell International Inc.
Address:	Aercon – Dino Ciccone 90 US Hwy 130, Bordentown, NJ	**Address:**	60/80 Kellogg Street Jersey City, New Jersey
Phone Number:	(609) 298-0770	**Project Name:**	Site: SA-6 North
		Disposal Contact:	Anthony Forlini (732) 389-1133 Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Generator/Authorized Agent Name	Signature of Authorized Agent	Shipment Date
Michael Mundras	[signature]	2/8/16

TRANSPORTER

Transporter Name:	Veniero Trucking	**Driver Name (Print):**	CHRIS VITALETTI
Address:	172-178 Passaic Avenue, Belleville, NJ	**Vehicle License No./State:**	AP 461 S NJ
State Permit No.:	N/A	**Truck Number:**	120
Expiration Date:	N/A		

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature	Shipment Date	Driver Signature	Delivery Date
[signature]	2/8/16	[signature]	2/8/16

DESTINATION

Address:	Middlesex County Utilities Authority, Middlesex County Landfill 53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816	**GROSS WEIGHT:** 73760 EST	75380
Phone Number:	(732) 246-4313	**TARE WEIGHT:** 28480 EST	28480
State Permit No.:	LOP110001	**NET WEIGHT (LBS):** 45280 EST	46900
Expiration Date:	09/21/2017	**NET WEIGHT (TONS):**	23.45

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☒ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)	Signature of Authorized MCUA Official	Receipt Date
	[signature]	

2016 FEB -9 AM 6:38

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16081

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): CHRIS
Vehicle License No./State: AP-375-A
Truck Number: 117

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/8/16 — **Shipment Date**
Driver Signature
2/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 70880 EST — 71820
TARE WEIGHT: 27240EST — 27240
NET WEIGHT (LBS): 43640 EST — 44580
NET WEIGHT (TONS): ~~21.82~~ 22.29

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☑ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16082

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras		2/8/16
Generator/Authorized Agent Name	**Signature of Authorized Agent**	**Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): SDURN
Vehicle License No./State: AR 524D
Truck Number: 104

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

	2/8/16		2/8/16
Driver Signature	**Shipment Date**	**Driver Signature**	**Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 74300 CST — 75240
TARE WEIGHT: 28420 CST — 28420
NET WEIGHT (LBS): 45880 CST — 46820
NET WEIGHT (TONS):

23.41

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☑ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name) | **Signature of Authorized MCUA Official** | **Receipt Date**

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16083

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
[signature] — **Signature of Authorized Agent**
2/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): CHRIS VITALETTI
Vehicle License No./State: AP461S NJ
Truck Number: 120

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

[signature] — **Driver Signature**
2/8/16 — **Shipment Date**
[signature] — **Driver Signature**
2/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 75940 EST — 76860
TARE WEIGHT: 29300 EST — 29300
NET WEIGHT (LBS): 46640 EST — 47560
NET WEIGHT (TONS): 23.78 — 23.78

Certification: I hereby certify that the above named material has been accepted for reuse.

☐ Alex Bastek
☐ Richard Maccie
☒ Ray Miara
☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
[signature] — **Signature of Authorized MCUA Official**
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16084

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Ramon Villalli
Vehicle License No./State: AP 763J – NJ
Truck Number: 121

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/8/16 — **Shipment Date**
Driver Signature
2/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 75980 EST — 76680
TARE WEIGHT: 28300 EST — 28300
NET WEIGHT (LBS): 47680 EST — 48380
NET WEIGHT (TONS): 24.19

Certification: I hereby certify that the above named material has been accepted for reuse.

☐ Alex Bastek
☐ Richard Maccie
☒ Ray Miara
☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
2016 FEB -8 AM 11:18 — **Receipt Date**

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16085

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Hector Castaneda
Vehicle License No./State: AS 345 L
Truck Number: 124

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/8/16 — **Shipment Date**
Driver Signature
2/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 77880 EST — 78560
TARE WEIGHT: 28800 EST — 28880
NET WEIGHT (LBS): 49080 EST — 49680
NET WEIGHT (TONS): 24.84

Certification: I hereby certify that the above named material has been accepted for reuse.

☐ Alex Bastek
☐ Richard Maccie
☒ Ray Miara
☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16061

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/5/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print):
Vehicle License No./State:
Truck Number: 83

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2-5-16 — **Shipment Date**
Driver Signature
2/5/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 73560 (70820 est)
TARE WEIGHT: 29500 (29520 est)
NET WEIGHT (LBS): 44040 (41300 est)
NET WEIGHT (TONS): 22.02 ~~20.65~~

Certification: I hereby certify that the above named material has been accepted for reuse.

☐ Alex Bastek
☐ Richard Maccie
☐ Ray Miara
☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

Manifest Number: MCL 16062

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name:	Honeywell International Inc.	**Source Location:**	Honeywell International Inc.
Address:	Aercon – Dino Ciccone 90 US Hwy 130, Bordentown, NJ	**Address:**	60/80 Kellogg Street Jersey City, New Jersey
Phone Number:	(609) 298-0770	**Project Name:**	Site: SA-6 North
		Disposal Contact:	Anthony Forlini (732) 389-1133 Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras		2/5/16
Generator/Authorized Agent Name	**Signature of Authorized Agent**	**Shipment Date**

TRANSPORTER

Transporter Name:	Veniero Trucking	**Driver Name (Print):**	CHRIS
Address:	172-178 Passaic Avenue, Belleville, NJ		
State Permit No.:	N/A	**Vehicle License No./State:**	AP-375-D
Expiration Date:	N/A		
		Truck Number:	117

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

	2/5/16		2/5/16
Driver Signature	**Shipment Date**	**Driver Signature**	**Delivery Date**

DESTINATION

Address:	Middlesex County Utilities Authority, Middlesex County Landfill 53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816	**GROSS WEIGHT:** 64750 Est	72260
		TARE WEIGHT: 26520 Est	26520
Phone Number:	(732) 246-4313		
State Permit No.:	LOP110001	**NET WEIGHT (LBS):** 43260 Est	45740 ✓
Expiration Date:	09/21/2017	**NET WEIGHT (TONS):**	22.87

21.63

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☐ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)	**Signature of Authorized MCUA Official**	**Receipt Date**

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

Manifest Number: MCL 16063

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/5/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Milo Gaite
Vehicle License No./State: A5653 J NJ
Truck Number: 112

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/5/16 — **Shipment Date**
Driver Signature
2/5/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 69960 est — 71660
TARE WEIGHT: 29220 est — 29220
NET WEIGHT (LBS): 40740 est — 42440
NET WEIGHT (TONS): 21.22

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☐ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16064

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras		2/5/16
Generator/Authorized Agent Name	**Signature of Authorized Agent**	**Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): RICHARD MIARA
Vehicle License No./State: AS 6416
Truck Number: 125

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

	2/5/16		2/5/16
Driver Signature	**Shipment Date**	**Driver Signature**	**Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 74740 (72460 est)
TARE WEIGHT: 29820 (29820 Est)
NET WEIGHT (LBS): 44920 (42640 Est)
NET WEIGHT (TONS): 22.46 (21.32)

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☐ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)	**Signature of Authorized MCUA Official**	**Receipt Date**

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16065

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mandras		2/5/16
Generator/Authorized Agent Name	**Signature of Authorized Agent**	**Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): [illegible]
Vehicle License No./State: AS898U-NJ
Truck Number: 92

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

	2/5/16		2/5/16
Driver Signature	**Shipment Date**	**Driver Signature**	**Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 74400 (68300 EST)
TARE WEIGHT: 30340 (30340 EST)
NET WEIGHT (LBS): 44060 (37960 EST)
NET WEIGHT (TONS): 22.03 (18.98)

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☑ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)	**Signature of Authorized MCUA Official**	**Receipt Date**

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16066

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mandras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/5/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print):
Vehicle License No./State:
Truck Number: 83

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/5/16 — **Shipment Date**
Driver Signature
2/5/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 73220
69700 est
TARE WEIGHT: 30040
30040 est
NET WEIGHT (LBS): 43180
39660 est
NET WEIGHT (TONS): 21.59
19.83

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☐ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

Manifest Number: MCL 16067

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Generator/Authorized Agent Name	Signature of Authorized Agent	Shipment Date
		2/5/16

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): CHRIS
Vehicle License No./State: AR-375-D
Truck Number: 117

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature	Shipment Date	Driver Signature	Delivery Date
	2/5/16		2/5/16

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 70580 EST — 73220
TARE WEIGHT: 26500 EST — 26500
NET WEIGHT (LBS): 44080 EST — 46720
NET WEIGHT (TONS): 23.36

2204

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☑ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)	Signature of Authorized MCUA Official	Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16068

GENERATOR

Generator Name:	Honeywell International Inc.	**Source Location:**	Honeywell International Inc.
Address:	Aercon – Dino Ciccone 90 US Hwy 130, Bordentown, NJ	**Address:**	60/80 Kellogg Street Jersey City, New Jersey
Phone Number:	(609) 298-0770	**Project Name:**	Site: SA-6 North
		Disposal Contact:	Anthony Forlini (732) 389-1133 Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras		2/5/16
Generator/Authorized Agent Name	**Signature of Authorized Agent**	**Shipment Date**

TRANSPORTER

Transporter Name:	Veniero Trucking	**Driver Name (Print):**	Mike Gaz
Address:	172-178 Passaic Avenue, Belleville, NJ		
State Permit No.:	N/A	**Vehicle License No./State:**	AS 653 J NJ
Expiration Date:	N/A	**Truck Number:**	112

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

	2/5/16		2/5/16
Driver Signature	**Shipment Date**	**Driver Signature**	**Delivery Date**

DESTINATION

Address:	Middlesex County Utilities Authority, Middlesex County Landfill 53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816	**GROSS WEIGHT:** 69160 EST	70580
		TARE WEIGHT: 29340 EST	29340
Phone Number:	(732) 246-4313		
State Permit No.:	LOP110001	**NET WEIGHT (LBS):** 39820 EST	41240
Expiration Date:	09/21/2017	**NET WEIGHT (TONS):**	20.62

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☐ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name) | **Signature of Authorized MCUA Official** | **Receipt Date**

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 160109

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mandras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/5/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print):
Vehicle License No./State:
Truck Number: 125

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/5/16 — **Shipment Date**
Driver Signature
2/5/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 74480
72400 EST
TARE WEIGHT: 29060
29060 EST
NET WEIGHT (LBS): 45420
43340 EST
NET WEIGHT (TONS): 22.71
21.67
22.71

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☒ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16070

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundrass — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/5/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Kamon V [illegible]
Vehicle License No./State: AS 278U - NJ
Truck Number: 92

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/5/16 — **Shipment Date**
Driver Signature
2/5/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 74860 (72140 EST)
TARE WEIGHT: 29380 (29380 EST)
NET WEIGHT (LBS): 45480 (42760 EST)
NET WEIGHT (TONS): 21.35 22.74

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☑ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16071

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/5/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print):
Vehicle License No./State: AN563R
Truck Number: 83

Certification: I hereby certify that the above named material was picked up at the generator/site listed above.

Driver Signature
2/5/16 — **Shipment Date**
Driver Signature
2/5/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 73660 EST — 76320
TARE WEIGHT: 30000 EST — 30000
NET WEIGHT (LBS): 43660 EST — 46320
NET WEIGHT (TONS): ~~21.83~~ 23.16

Certification: I hereby certify that the above named material has been accepted for reuse.

☐ Alex Bastek
☐ Richard Maccie
☒ Ray Miara
☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
2016 FEB -5 PM 1:55 — **Receipt Date**

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16072

GENERATOR

Generator Name:	Honeywell International Inc.	**Source Location:**	Honeywell International Inc.
Address:	Aercon – Dino Ciccone 90 US Hwy 130, Bordentown, NJ	**Address:**	60/80 Kellogg Street Jersey City, New Jersey
Phone Number:	(609) 298-0770	**Project Name:**	Site: SA-6 North
		Disposal Contact:	Anthony Forlini (732) 389-1133 Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mandras		2/5/16
Generator/Authorized Agent Name	**Signature of Authorized Agent**	**Shipment Date**

TRANSPORTER

Transporter Name:	Veniero Trucking	**Driver Name (Print):**	CHRIS
Address:	172-178 Passaic Avenue, Belleville, NJ		
State Permit No.:	N/A	**Vehicle License No./State:**	AP-375-D
Expiration Date:	N/A	**Truck Number:**	117

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

	2/5/16		2/5/16
Driver Signature	**Shipment Date**	**Driver Signature**	**Delivery Date**

DESTINATION

Address:	Middlesex County Utilities Authority, Middlesex County Landfill 53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816	**GROSS WEIGHT:** 70460 EST	73460
Phone Number:	(732) 246-4313	**TARE WEIGHT:** 26540 EST	26540
State Permit No.:	LOP110001	**NET WEIGHT (LBS):** 43920 EST	46920
Expiration Date:	09/21/2017	**NET WEIGHT (TONS):**	23.46 ✓

21.96

2016 FEB -5 PM 1:56

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☒ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name) **Signature of Authorized MCUA Official** **Receipt Date**

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16073

GENERATOR

Generator Name:	Honeywell International Inc.	**Source Location:**	Honeywell International Inc.
Address:	Aercon – Dino Ciccone 90 US Hwy 130, Bordentown, NJ	**Address:**	60/80 Kellogg Street Jersey City, New Jersey
Phone Number:	(609) 298-0770	**Project Name:**	Site: SA-6 North
		Disposal Contact:	Anthony Forlini (732) 389-1133 Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/5/16 — **Shipment Date**

TRANSPORTER

Transporter Name:	Veniero Trucking	**Driver Name (Print):**	Mike Conte
Address:	172-178 Passaic Avenue, Belleville, NJ	**Vehicle License No./State:**	A56535 N.J.
State Permit No.:	N/A	**Truck Number:**	112
Expiration Date:	N/A		

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/5/16 — **Shipment Date**
Driver Signature
2/5/16 — **Delivery Date**

DESTINATION

Address:	Middlesex County Utilities Authority, Middlesex County Landfill 53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816	**GROSS WEIGHT:**	73220 70740 EST
		TARE WEIGHT:	29280 29280 EST
Phone Number:	(732) 246-4313	**NET WEIGHT (LBS):**	43940 41460 EST
State Permit No.:	LOP110001	**NET WEIGHT (TONS):**	21.97
Expiration Date:	09/21/2017		

2016 FEB -5 PM 2:01

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☑ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16074

GENERATOR

Generator Name:	Honeywell International Inc.	**Source Location:**	Honeywell International Inc.
Address:	Aercon – Dino Ciccone 90 US Hwy 130, Bordentown, NJ	**Address:**	60/80 Kellogg Street Jersey City, New Jersey
Phone Number:	(609) 298-0770	**Project Name:**	Site: SA-6 North
		Disposal Contact:	Anthony Forlini (732) 389-1133 Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras	[signature]	2/5/16
Generator/Authorized Agent Name	**Signature of Authorized Agent**	**Shipment Date**

TRANSPORTER

Transporter Name:	Veniero Trucking	**Driver Name (Print):**	Ram Villalta
Address:	172-178 Passaic Avenue, Belleville, NJ		
State Permit No.:	N/A	**Vehicle License No./State:**	AS 898V - NJ
Expiration Date:	N/A	**Truck Number:**	92

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

[signature]	2/5/16	[signature]	2/5/16
Driver Signature	**Shipment Date**	**Driver Signature**	**Delivery Date**

DESTINATION

Address:	Middlesex County Utilities Authority, Middlesex County Landfill 53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816	**GROSS WEIGHT:**	76240 69900 EST
		TARE WEIGHT:	29880 29880 EST
Phone Number:	(732) 246-4313	**NET WEIGHT (LBS):**	46360 40020 EST
State Permit No.:	LOP110001	**NET WEIGHT (TONS):**	23.18 ✓
Expiration Date:	09/21/2017		

20.01

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☒ Ray Miara
- ☐ Carl Rubinno

	[signature]	2016 FEB -3 PM 2:04
Name of Authorized MCUA Official (Check Name)	**Signature of Authorized MCUA Official**	**Receipt Date**

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16075

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/5/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): RICHARD MENA
Vehicle License No./State: AS 641C
Truck Number: 125

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/5/16 — **Shipment Date**
Driver Signature
2/5/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 72260 EST — 74460
TARE WEIGHT: 29300 EST — 29300
NET WEIGHT (LBS): 42960 EST — 45160
NET WEIGHT (TONS): 21.48 — 22.58

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☑ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

2016 FEB -5 PM 2:10

Generator Copy (Pg.1) ● Disposal Facility Copy (Pg.2) ● Contractor Copy (Pg.3) ● Site Copy (Pg.4) ● Transporter Copy (Pg.5)

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16076

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): CHRIS
Vehicle License No./State: AP.375.D
Truck Number: 117

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/8/16 — **Shipment Date**
Driver Signature
2/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 74820 EST — 77040
TARE WEIGHT: 26420 EST — 26420
NET WEIGHT (LBS): 48400 EST — 50620
NET WEIGHT (TONS): 24.20 — 25.31

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☒ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL ~~16076~~ 16077

GENERATOR

Generator Name:	Honeywell International Inc.	**Source Location:**	Honeywell International Inc.
Address:	Aercon – Dino Ciccone 90 US Hwy 130, Bordentown, NJ	**Address:**	60/80 Kellogg Street Jersey City, New Jersey
Phone Number:	(609) 298-0770	**Project Name:**	Site: SA-6 North
		Disposal Contact:	Anthony Forlini (732) 389-1133 Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras		2/8/16
Generator/Authorized Agent Name	**Signature of Authorized Agent**	**Shipment Date**

TRANSPORTER

Transporter Name:	Veniero Trucking	**Driver Name (Print):**	SPURR
Address:	172-178 Passaic Avenue, Belleville, NJ		
State Permit No.:	N/A	**Vehicle License No./State:**	AR 524D
Expiration Date:	N/A		
		Truck Number:	~~120~~ 104

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature	2/8/16 **Shipment Date**	**Driver Signature**	2/8/16 **Delivery Date**

DESTINATION

Address:	Middlesex County Utilities Authority, Middlesex County Landfill 53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816	**GROSS WEIGHT:** 75300 EST	77460
		TARE WEIGHT: 28000 EST	28000
Phone Number:	(732) 246-4313		
State Permit No.:	LOP110001	**NET WEIGHT (LBS):** 47300 EST	49460
Expiration Date:	09/21/2017	**NET WEIGHT (TONS):**	24.73

24.73

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☑ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)	**Signature of Authorized MCUA Official**	**Receipt Date**

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16078

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundrus		2/8/16
Generator/Authorized Agent Name	**Signature of Authorized Agent**	**Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Ramon Villalta
Vehicle License No./State: AP 763J - NJ
Truck Number: 121

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Ramon Villalta	2/8/16	Ramon Villalta	2/8/16
Driver Signature	**Shipment Date**	**Driver Signature**	**Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 77160 (72360 EST)
TARE WEIGHT: 27720 (27720 EST)
NET WEIGHT (LBS): 49440 (44640 EST)
NET WEIGHT (TONS): 24.72

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☒ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name) | **Signature of Authorized MCUA Official** | **Receipt Date**

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16079

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundrns — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Hector Castanda
Vehicle License No./State: AS 345L
Truck Number: 124

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/8/16 — **Shipment Date**
Driver Signature
2/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 69880 EST — 74660
TARE WEIGHT: 28280 EST — 28280
NET WEIGHT (LBS): 41600 EST — 46380
NET WEIGHT (TONS): 23.19

2016 FEB -8 AM 8:57

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☒ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL16080

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Generator/Authorized Agent Name	Signature of Authorized Agent	Shipment Date
Michael Mundras	[signature]	2/8/16

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): CHRIS VITALETTI
Vehicle License No./State: AP461S NJ
Truck Number: 120

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature	Shipment Date	Driver Signature	Delivery Date
Chris Vitaletti	2/8/16	Chris Vitaletti	2/8/16

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 73760 EST — 75380
TARE WEIGHT: 28480 EST — 28480
NET WEIGHT (LBS): 45280 EST — 46900
NET WEIGHT (TONS): 23.45

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☒ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)	Signature of Authorized MCUA Official	Receipt Date
	[signature]	

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16081

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
[signature] — **Signature of Authorized Agent**
2/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): CHRIS
Vehicle License No./State: AP-375-A
Truck Number: 117

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

[signature] — **Driver Signature**
2/8/16 — **Shipment Date**
[signature] — **Driver Signature**
2/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 70880 EST — 71820
TARE WEIGHT: 27240EST — 27240
NET WEIGHT (LBS): 43640 EST — 44580
NET WEIGHT (TONS): ~~21.82~~ 22.29

Certification: I hereby certify that the above named material has been accepted for reuse.

☐ Alex Bastek
☐ Richard Maccie
☒ Ray Miara
☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
[signature] — **Signature of Authorized MCUA Official**
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16082

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras		2/8/16
Generator/Authorized Agent Name	**Signature of Authorized Agent**	**Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): SDURN
Vehicle License No./State: AR 524D
Truck Number: 104

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

	2/8/16		2/8/16
Driver Signature	**Shipment Date**	**Driver Signature**	**Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 74300 CST — 75240
TARE WEIGHT: 28420 CST — 28420
NET WEIGHT (LBS): 45880 CST — 46820
NET WEIGHT (TONS):

23 41

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☑ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name) **Signature of Authorized MCUA Official** **Receipt Date**

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16083

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): CHRIS VITALETTI
Vehicle License No./State: AP461S NJ
Truck Number: 120

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/8/16 — **Shipment Date**
Driver Signature
2/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 75940 EST — 76860
TARE WEIGHT: 29300 EST — 29300
NET WEIGHT (LBS): 46640 EST — 47560
NET WEIGHT (TONS): 23.78 — 23.78

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☒ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16084

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Ramon Villalli
Vehicle License No./State: AP 763J – NJ
Truck Number: 121

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/8/16 — **Shipment Date**
Driver Signature
2/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 75980 EST — 76680
TARE WEIGHT: 28300 EST — 28300
NET WEIGHT (LBS): 47680 EST — 48380
NET WEIGHT (TONS): 24.19

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☒ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16085

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Hector Castaneda
Vehicle License No./State: AS 345 L
Truck Number: 124

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/8/16 — **Shipment Date**
Driver Signature
2/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 77880 EST — 78560
TARE WEIGHT: 28800 EST — 28880
NET WEIGHT (LBS): 49080 EST — 49680
NET WEIGHT (TONS): 24.84

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☒ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16086

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): CHRIS
Vehicle License No./State: AP-375-D
Truck Number: 117

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/8/16 — **Shipment Date**
Driver Signature
2/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 80600 EST — 80480
TARE WEIGHT: 27440 EST — 27440
NET WEIGHT (LBS): 53160 EST — 53040
NET WEIGHT (TONS): 26 58

Certification: I hereby certify that the above named material has been accepted for reuse.

☐ Alex Bastek
☐ Richard Maccie
☑ Ray Miara
☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16087

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): AR524D
Vehicle License No./State:
Truck Number: 104

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/8/16 — **Shipment Date**
Driver Signature
2/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 78560 (78520 EST)
TARE WEIGHT: 28420 (28420 EST)
NET WEIGHT (LBS): 50140 (50100 EST)
NET WEIGHT (TONS): 25.07

Certification: I hereby certify that the above named material has been accepted for reuse.

☐ Alex Bastek
☐ Richard Maccie
☒ Ray Miara
☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

2016 FEB -8 PM 1:45

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16088

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundrons — **Generator/Authorized Agent Name**
[signature] — **Signature of Authorized Agent**
2/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): CHRIS VITALETTI
Vehicle License No./State: AP461 S NS
Truck Number: 120

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

[signature] — **Driver Signature**
2/8/16 — **Shipment Date**
[signature] — **Driver Signature**
2/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce
Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 78620 EST — 78560
TARE WEIGHT: 29340 EST — 29340
NET WEIGHT (LBS): 49280 EST — 49220
NET WEIGHT (TONS): 24.61

Certification: I hereby certify that the above named material has been accepted for reuse.

☐ Alex Bastek
☐ Richard Maccie
☒ Ray Miara
☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
[signature] — **Signature of Authorized MCUA Official**
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16089

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras		2/8/16
Generator/Authorized Agent Name	**Signature of Authorized Agent**	**Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Ramon Villalta
Vehicle License No./State: AP763J - NJ
Truck Number: 121

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

	2/8/16		2/8/16
Driver Signature	**Shipment Date**	**Driver Signature**	**Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 80760 — 80460 EST
TARE WEIGHT: 28840 — 28840 EST
NET WEIGHT (LBS): 51920 — 51620 EST
NET WEIGHT (TONS): 25.96

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☒ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name) | **Signature of Authorized MCUA Official** | **Receipt Date**

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16090

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Hector Castanda
Vehicle License No./State: AS 345L
Truck Number: 124

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/8/16 — **Shipment Date**
Driver Signature
2/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 75440 EST — 75580
TARE WEIGHT: 29440 EST — 29440
NET WEIGHT (LBS): 46000 EST — 46140
NET WEIGHT (TONS): 23.07

71.10

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☒ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

2016 FEB -9 PM 2:00

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16091

GENERATOR

Generator Name:	Honeywell International Inc.	**Source Location:**	Honeywell International Inc.
Address:	Aercon – Dino Ciccone 90 US Hwy 130, Bordentown, NJ	**Address:**	60/80 Kellogg Street Jersey City, New Jersey
Phone Number:	(609) 298-0770	**Project Name:**	Site: SA-6 North
		Disposal Contact:	Anthony Forlini (732) 389-1133 Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras		3/8/16
Generator/Authorized Agent Name	**Signature of Authorized Agent**	**Shipment Date**

TRANSPORTER

Transporter Name:	Munzo Trucking Corp.	**Driver Name (Print):**	Luiz Abreu
Address:	40-48 Porete Ave., North Arlington, NJ 07031		
State Permit No.:	N/A	**Vehicle License No./State:**	AP 519D
Expiration Date:	N/A	**Truck Number:**	# 59

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature	03/08/16 **Shipment Date**	**Driver Signature**	03/08/16 **Delivery Date**

DESTINATION

GROSS WEIGHT: 66620

Address: Middlesex County Utilities Authority Middlesex County Landfill

Signature of Authorized Agent	**Shipment Date**	**Generator/Authorized Agent Name**

TRANSPORTER

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

MIDD. CO. UTIL. AUTH.
SOLID WASTE DIVISION
2016 MAR -8 AM 9:02

Manifest Number: MCL 16092

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name:	Honeywell International Inc.	**Source Location:**	Honeywell International Inc.
Address:	Aercon – Dino Ciccone 90 US Hwy 130, Bordentown, NJ	**Address:**	60/80 Kellogg Street Jersey City, New Jersey
Phone Number:	(609) 298-0770	**Project Name:**	Site: SA-6 North
		Disposal Contact:	Anthony Forlini (732) 389-1133 Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — 3/8/16

Generator/Authorized Agent Name — Signature — Shipment Date

Dino Ciccone
y 130, Bordentown, NJ
-0770

Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Address: Aercon –
90 US Hw
Phone Number: (609) 298

:

Description of Material/Classificatior
NON-HAZARDOUS SOIL

aterial coming from the above named source location.

Certification: I hereby certify that the M

As Agent for Honeywell

dras — 3/8/16
ne — Signature of Authorized Agent — Shipment Date

Michael Mund
Generator/Authorized Agent Nar

TRANSPORTER

Cristian Sella

Transporter Name: Munzo Truckin

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

MIDD. CO. UTIL. AUTH.
SOLID WASTE DIVISION
2016 MAR -8 AM 9:10

Manifest Number: M CL 16093

GENERATOR

Generator Name: Honeywell International Inc.
Source Location: Honeywell International Inc.

Landfill

TARE WEIGHT: 30740
NET WEIGHT (LBS): 35880
NET WEIGHT (TONS): 17.94

Middlesex County Utilities Authority, Middlesex County
53 Edgeboro Road, East Brunswick, New Jersey 08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

euse.

2016 MAR -8 AM 8:58

MIDD. CO. UTIL. AUTH.
SOLID WASTE DIVISION

zed MCUA Official — Receipt Date

Certification: I hereby certify that the above named material has been accepted for r

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☐ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name) — Signature of Author

r Copy (Pg.3) ● Site Copy (Pg.4) ● Transporter Copy (Pg.5)

Generator Copy (Pg.1) ● Disposal Facility Copy (Pg.2) ● Contract

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16094

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
3/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Munzo Trucking Corp.
Address: 40-48 Porete Ave., North Arlington, NJ 07031
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Cristian Guaman
Vehicle License No./State: AN 464M
Truck Number: 06

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Cristian Guaman — **Driver Signature**
3/8/16 — **Shipment Date**
Cristian Guaman — **Driver Signature**
3/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey 08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 72560 — 72920
TARE WEIGHT: 31360 — 31360
NET WEIGHT (LBS): 41200 — 41560
NET WEIGHT (TONS): 20,78

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☒ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16095

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mandras — **Generator/Authorized Agent Name**
[signature] — **Signature of Authorized Agent**
3/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Munzo Trucking Corp.
Address: 40-48 Porete Ave., North Arlington, NJ 07031
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): MAURICIO RENZIFO
Vehicle License No./State: AS 249 U
Truck Number: 62

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Mauricio Renzifo — **Driver Signature**
3/8/16 — **Shipment Date**
Mauricio Renzifo — **Driver Signature**
3/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey 08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 75900 — 76480
TARE WEIGHT: 29480 — 29480
NET WEIGHT (LBS): 46420 — 47000
NET WEIGHT (TONS): 23,50

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☒ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

Manifest Number: MCL 16096

NON-HAZARDOUS MATERIAL MANIFEST

MIDD. CO. UTIL. AUTH.
SOLID WASTE DIVISION
2016 MAR -8 AM 9:14

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
3/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Munzo Trucking Corp.
Address: 40-48 Porete Ave., North Arlington, NJ 07031
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Julio Vintimilla
Vehicle License No./State: AN 129 2
Truck Number: 21

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
3-8-16 — **Shipment Date**
Julio Vintimilla — **Driver Signature**
3-8-16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey 08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 75680 (75420)
TARE WEIGHT: 31960 (31960)
NET WEIGHT (LBS): 43720 (43460)
NET WEIGHT (TONS): 21,86

Certification: I hereby certify that the above named material has been accepted for reuse.

☐ Alex Bastek
☐ Richard Maccie
☐ Ray Miara
☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16097

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
3/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Munzo Trucking Corp.
Address: 40-48 Porete Ave., North Arlington, NJ 07031
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): WASHINGTON DESOUZA
Vehicle License No./State: AN1312
Truck Number: 25

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
3/8/16 — **Shipment Date**
Driver Signature
3/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey 08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 82760 (82300)
TARE WEIGHT: 31720 (31720)
NET WEIGHT (LBS): 51040 (50780)
NET WEIGHT (TONS): 25.52

Certification: I hereby certify that the above named material has been accepted for reuse.

☐ Alex Bastek
☐ Richard Maccie
☒ Ray Miara
☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

2016 MAR -8 AM 9:17

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16098

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Generator/Authorized Agent Name	Signature of Authorized Agent	Shipment Date
Michael Mandras	[signature]	3/8/16

TRANSPORTER

Transporter Name: Munzo Trucking Corp.
Address: 40-48 Porete Ave., North Arlington, NJ 07031
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): JORGE ROSAIES
Vehicle License No./State: AN465M
Truck Number: 007

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature	Shipment Date	Driver Signature	Delivery Date
JORGE ROSAIES	3/8/16	JORGE ROSAIES	3/8/16

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey 08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 80660 (80470)
TARE WEIGHT: 30800 (30800)
NET WEIGHT (LBS): 49860 (49670)
NET WEIGHT (TONS): 24.93

2016 MAR -8 AM 9:26

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☒ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)	Signature of Authorized MCUA Official	Receipt Date
	[signature]	

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

MIDD. CO. UTIL. AUTH.
SOLID WASTE DIVISION
2016 MAR -8 AM 11: 13

Manifest Number: MCL 16099

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
3/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Munzo Trucking Corp.
Address: 40-48 Porete Ave., North Arlington, NJ 07031
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Luiz Abreu
Vehicle License No./State: AP 5197
Truck Number: 59

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
3/8/16 — **Shipment Date**
Driver Signature
3/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey 08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 81820 lbs — 82160
TARE WEIGHT: 30880 lbs — 30880
NET WEIGHT (LBS): 50940 — 51280
NET WEIGHT (TONS): 25.64

Certification: I hereby certify that the above named material has been accepted for reuse.

☐ Alex Bastek
☐ Richard Maccie
☐ Ray Miara
☐ Carl Rubinno

EN

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16086

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): CHRIS
Vehicle License No./State: AP-375-D
Truck Number: 117

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/8/16 — **Shipment Date**
Driver Signature
2/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 80600 EST — 80480
TARE WEIGHT: 27440 EST — 27440
NET WEIGHT (LBS): 53160 EST — 53040
NET WEIGHT (TONS): 26 58

Certification: I hereby certify that the above named material has been accepted for reuse.

☐ Alex Bastek
☐ Richard Maccie
☑ Ray Miara
☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
2016 FEB -8 PM 1:39 — **Receipt Date**

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16087

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): AR524D
Vehicle License No./State:
Truck Number: 104

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/8/16 — **Shipment Date**
Driver Signature
2/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 78560 (78520 EST)
TARE WEIGHT: 28420 (28420 EST)
NET WEIGHT (LBS): 50140 (50100 EST)
NET WEIGHT (TONS): 25.07

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☒ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
2016 FEB -8 PM 1:45 — **Receipt Date**

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16088

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundrons — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): CHRIS VITALETTI
Vehicle License No./State: AP461 S NS
Truck Number: 120

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/8/16 — **Shipment Date**
Driver Signature
2/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 78620 EST — 78560
TARE WEIGHT: 29340 EST — 29340
NET WEIGHT (LBS): 49280 EST — 49220
NET WEIGHT (TONS): 24.61

2016 FEB -8 PM 1:55

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☒ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16089

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras		2/8/16
Generator/Authorized Agent Name	**Signature of Authorized Agent**	**Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Ramon Villalta
Vehicle License No./State: AP763J - NJ
Truck Number: 121

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

	2/8/16		2/8/16
Driver Signature	**Shipment Date**	**Driver Signature**	**Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 80760 — 80460 EST
TARE WEIGHT: 28840 — 28840 EST
NET WEIGHT (LBS): 51920 — 51620 EST
NET WEIGHT (TONS): 25.96

2016 FEB -8 PM 1:59

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☑ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)	**Signature of Authorized MCUA Official**	**Receipt Date**

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16090

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
2/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Veniero Trucking
Address: 172-178 Passaic Avenue, Belleville, NJ
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Hector Castanada
Vehicle License No./State: AS 345L
Truck Number: 124

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
2/8/16 — **Shipment Date**
Driver Signature
2/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey Aforce Manifest .doc08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 75440 EST — 75580
TARE WEIGHT: 29440 EST — 29440
NET WEIGHT (LBS): 46000 EST — 46140
NET WEIGHT (TONS): 23.07

71.10

Certification: I hereby certify that the above named material has been accepted for reuse.

☐ Alex Bastek
☐ Richard Maccie
☒ Ray Miara
☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
2016 FEB -8 PM 2:00 — **Receipt Date**

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16091

GENERATOR

Generator Name:	Honeywell International Inc.	**Source Location:**	Honeywell International Inc.
Address:	Aercon – Dino Ciccone 90 US Hwy 130, Bordentown, NJ	**Address:**	60/80 Kellogg Street Jersey City, New Jersey
Phone Number:	(609) 298-0770	**Project Name:**	Site: SA-6 North
		Disposal Contact:	Anthony Forlini (732) 389-1133 Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras		3/8/16
Generator/Authorized Agent Name	**Signature of Authorized Agent**	**Shipment Date**

TRANSPORTER

Transporter Name:	Munzo Trucking Corp.	**Driver Name (Print):**	Luiz Abreu
Address:	40-48 Porete Ave., North Arlington, NJ 07031		
State Permit No.:	N/A	**Vehicle License No./State:**	AP 519D
Expiration Date:	N/A	**Truck Number:**	# 59

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature	03/08/16 **Shipment Date**	**Driver Signature**	03/08/16 **Delivery Date**

DESTINATION

GROSS WEIGHT: 66620

Address: Middlesex County Utilities Authority Middlesex County Landfill

Signature of Authorized Agent	**Shipment Date**	**Generator/Authorized Agent Name**

TRANSPORTER

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

MIDD. CO. UTIL. AUTH.
SOLID WASTE DIVISION
2016 MAR -8 AM 9:02

Manifest Number: MCL 16092

NON-HAZARDOUS MATERIAL MANIFEST

GENERATOR

Generator Name:	Honeywell International Inc.	**Source Location:**	Honeywell International Inc.
Address:	Aercon – Dino Ciccone 90 US Hwy 130, Bordentown, NJ	**Address:**	60/80 Kellogg Street Jersey City, New Jersey
Phone Number:	(609) 298-0770	**Project Name:**	Site: SA-6 North
		Disposal Contact:	Anthony Forlini (732) 389-1133 Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — 3/8/16

Generator/Authorized Agent Name — Signature — Shipment Date

Dino Ciccone
y 130, Bordentown, NJ
-0770

Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Address: Aercon –
90 US Hw
Phone Number: (609) 298

:

Description of Material/Classificatior
NON-HAZARDOUS SOIL

aterial coming from the above named source location.

Certification: I hereby certify that the M

As Agent for Honeywell

dras — 3/8/16
ne — Signature of Authorized Agent — Shipment Date

Michael Mund
Generator/Authorized Agent Nar

TRANSPORTER

Cristian Sella

Transporter Name: Munzo Truckin

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

MIDD. CO. UTIL. AUTH.
SOLID WASTE DIVISION
2016 MAR -8 AM 9:10

Manifest Number: M CL 16093

GENERATOR

Generator Name: Honeywell International Inc.
Source Location: Honeywell International Inc.

Landfill

TARE WEIGHT: 30740
NET WEIGHT (LBS): 35880
NET WEIGHT (TONS): 17.94

Middlesex County Utilities Authority, Middlesex County
53 Edgeboro Road, East Brunswick, New Jersey 08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

euse.

2016 MAR -8 AM 8:58

MIDD. CO. UTIL. AUTH.
SOLID WASTE DIVISION

zed MCUA Official — Receipt Date

Certification: I hereby certify that the above named material has been accepted for r

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☐ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name) — Signature of Author

r Copy (Pg.3) ● Site Copy (Pg.4) ● Transporter Copy (Pg.5)

Generator Copy (Pg.1) ● Disposal Facility Copy (Pg.2) ● Contract

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16094

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
3/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Munzo Trucking Corp.
Address: 40-48 Porete Ave., North Arlington, NJ 07031
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Cristian Guaman
Vehicle License No./State: AN 464M
Truck Number: 06

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Cristian Guaman — **Driver Signature**
3/8/16 — **Shipment Date**
Cristian Guaman — **Driver Signature**
3/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey 08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 72560 — 72920
TARE WEIGHT: 31360 — 31360
NET WEIGHT (LBS): 41200 — 41560
NET WEIGHT (TONS): 20,78

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☒ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16095

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mandras — **Generator/Authorized Agent Name**
[signature] — **Signature of Authorized Agent**
3/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Munzo Trucking Corp.
Address: 40-48 Porete Ave., North Arlington, NJ 07031
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): MAURICIO RENZIFO
Vehicle License No./State: AS 249 U
Truck Number: 62

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Mauricio Renzifo — **Driver Signature**
3/8/16 — **Shipment Date**
Mauricio Renzifo — **Driver Signature**
3/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey 08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 75900 — 76480
TARE WEIGHT: 29480 — 29480
NET WEIGHT (LBS): 46420 — 47000
NET WEIGHT (TONS): 23,50

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☒ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

Manifest Number: MCL 16096

NON-HAZARDOUS MATERIAL MANIFEST

MIDD. CO. UTIL. AUTH.
SOLID WASTE DIVISION
2016 MAR -8 AM 9:14

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
3/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Munzo Trucking Corp.
Address: 40-48 Porete Ave., North Arlington, NJ 07031
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Julio Vintimilla
Vehicle License No./State: AN 129 2
Truck Number: 21

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
3-8-16 — **Shipment Date**
Julio Vintimilla — **Driver Signature**
3-8-16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey 08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 75680 (75420)
TARE WEIGHT: 31960 (31960)
NET WEIGHT (LBS): 43720 (43460)
NET WEIGHT (TONS): 21,86

Certification: I hereby certify that the above named material has been accepted for reuse.

☐ Alex Bastek
☐ Richard Maccie
☐ Ray Miara
☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16097

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
3/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Munzo Trucking Corp.
Address: 40-48 Porete Ave., North Arlington, NJ 07031
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): WASHINGTON DESOUZA
Vehicle License No./State: AN1312
Truck Number: 25

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
3/8/16 — **Shipment Date**
Driver Signature
3/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey 08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 82760 (82300)
TARE WEIGHT: 31720 (31720)
NET WEIGHT (LBS): 51040 (50780)
NET WEIGHT (TONS): 25.52

Certification: I hereby certify that the above named material has been accepted for reuse.

☐ Alex Bastek
☐ Richard Maccie
☒ Ray Miara
☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

2016 MAR -8 AM 9:17

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

Manifest Number: MCL 16098

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Generator/Authorized Agent Name	Signature of Authorized Agent	Shipment Date
Michael Mandras	[signature]	3/8/16

TRANSPORTER

Transporter Name: Munzo Trucking Corp.
Address: 40-48 Porete Ave., North Arlington, NJ 07031
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): JORGE ROSAIES
Vehicle License No./State: AN465M
Truck Number: 007

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature	Shipment Date	Driver Signature	Delivery Date
JORGE ROSAIES	3/8/16	JORGE ROSAIES	3/8/16

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey 08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 80660 (80470)
TARE WEIGHT: 30800 (30800)
NET WEIGHT (LBS): 49860 (49670)
NET WEIGHT (TONS): 24.93

2016 MAR -8 AM 9:26

Certification: I hereby certify that the above named material has been accepted for reuse.

- ☐ Alex Bastek
- ☐ Richard Maccie
- ☒ Ray Miara
- ☐ Carl Rubinno

Name of Authorized MCUA Official (Check Name)	Signature of Authorized MCUA Official	Receipt Date
	[signature]	

AFORCE, INC.
6 Main Street, Oceanport, NJ 07757

NON-HAZARDOUS MATERIAL MANIFEST

MIDD. CO. UTIL. AUTH.
SOLID WASTE DIVISION
2016 MAR -8 AM 11: 13

Manifest Number: MCL 16099

GENERATOR

Generator Name: Honeywell International Inc.
Address: Aercon – Dino Ciccone
90 US Hwy 130, Bordentown, NJ
Phone Number: (609) 298-0770

Source Location: Honeywell International Inc.
Address: 60/80 Kellogg Street
Jersey City, New Jersey
Project Name: Site: SA-6 North
Disposal Contact: Anthony Forlini (732) 389-1133
Email: info@aforceinc.com

Description of Material/Classification:
NON-HAZARDOUS SOIL

Certification: I hereby certify that the Material coming from the above named source location.

As Agent for Honeywell

Michael Mundras — **Generator/Authorized Agent Name**
Signature of Authorized Agent
3/8/16 — **Shipment Date**

TRANSPORTER

Transporter Name: Munzo Trucking Corp.
Address: 40-48 Porete Ave., North Arlington, NJ 07031
State Permit No.: N/A
Expiration Date: N/A

Driver Name (Print): Luiz Abreu
Vehicle License No./State: AP 5197
Truck Number: 59

Certification: I hereby certify that the above named material was picked up at the generator site listed above.

Driver Signature
3/8/16 — **Shipment Date**
Driver Signature
3/8/16 — **Delivery Date**

DESTINATION

Address: Middlesex County Utilities Authority, Middlesex County Landfill
53 Edgeboro Road, East Brunswick, New Jersey 08816
Phone Number: (732) 246-4313
State Permit No.: LOP110001
Expiration Date: 09/21/2017

GROSS WEIGHT: 81820 lbs — 82160
TARE WEIGHT: 30880 lbs — 30880
NET WEIGHT (LBS): 50940 — 51280
NET WEIGHT (TONS): 25.64

Certification: I hereby certify that the above named material has been accepted for reuse.

☐ Alex Bastek
☐ Richard Maccie
☐ Ray Miara
☐ Carl Rubinno

EN

Name of Authorized MCUA Official (Check Name)
Signature of Authorized MCUA Official
Receipt Date

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number 27151598	2. Page 1 of 1	3. Emergency Response Phone 609-915-7388	4. Waste Tracking Number ED190037

GENERATOR

5. Generator's Name and Mailing Address
HONEYWELL
115 TABOR ROAD
MORRIS PLAINS, NJ 07960
Generator's Phone:

Generator's Site Address (if different than mailing address)
Honeywell
SA-6 NORTH
575 RT. 440
JERSEY CITY, NJ 07305

6. Transporter 1 Company Name MRS 189 AS 8215
U.S. EPA ID Number

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address BAYSHORE SOIL MANAGEMENT LLC
75 CROWS MILL ROAD
KEASBEY, NJ 08832
732-738-6000
Facility's Phone:
U.S. EPA ID Number NJ1225001522

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. NON-HAZARDOUS PC SOIL	01	DT	55T 48000	P	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information
Mon Ave - FTSP-01
BSM82715-1528
Truck #189
0727

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Michael Murdras As Agent for Honeywell
Signature:
Month 11 Day 23 Year 16

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Gerald A Aronello III
Signature:
Month 11 Day 23 Year 16
Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name
Signature
Month Day Year

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: 27151588

2. Page 1 of 1

3. Emergency Response Phone: 609-915-2388

4. Waste Tracking Number: E0190337

5. Generator's Name and Mailing Address
HONEYWELL
115 TABOR ROAD
MORRIS PLAINS, NJ 07950
Generator's Phone:

Generator's Site Address (if different than mailing address)
Honeywell
SA-6 NORTH
575 RT. 440
JERSEY CITY, NJ 07305

6. Transporter 1 Company Name: MPS 189 AS821S
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: BAYSHORE SOIL MANAGEMENT LLC
75 CROWS MILL ROAD
KEASBEY, NJ 08832
732-738-6000
Facility's Phone:
U.S. EPA ID Number: NJ1225001522

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. NON-HAZARDOUS PC SOIL	01	DT	~~BT~~ 48000	P	
	2.					
	3.					20-75 (+)
	4.					

13. Special Handing Instructions and Additional Information
Man Doc - FTSP-01
BSM#2715-1588
Truck #189
41500 lbs

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month 11 Day 23 Year 16

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Gerald Afecorelli III
Signature: Gerald Afecorelli
Month 11 Day 23 Year 16
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number: 747835

17b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name:
Signature:
Month 11 Day 23 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

Facility ID: 132397

Ticket: 747835
Date: 11/23/2016
Time: 08:09:32 - 08:09:38

Scale
Scale 3
P.T.

Gross: 68760 lb In
Tare: 27260 lb
Net: 41500 lb

Bayshore Recycling Corp.
75 Crows Mill Rd.
PO Box 290
Keasbey, NJ 08832

License: AS821G
Truck Type: TRIAXLE

CUYDs: 25

Manifest: E0190337
Remaining: 0.00 TN

Customer: HONEYWELL INTERNATIONAL INC/BSM0174
115 TABOR ROAD
ATT JOHN MOJKA
MORRIS PLAINS, NJ 07950-

Truck: AS821S

Carrier: MDS

Profile: 2716-1588/HONEYWELL SA-6 NORTH
Generator: HONEYWELL SA-6 NORTH
Comment: Materials & Services

Origin		Quantity	Unit
	1D27 PCS	20.75	Tons
	TRANSPORTATION	20.75	Tons

Keasbey City
Keasbey City

NON-HAZARDOUS TO THE BEST OF MY KNOWLEDGE

Weighmaster: Eamonn

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: 27151585
2. Page 1 of 1
3. Emergency Response Phone: 609-915-7388
4. Waste Tracking Number: EJ190338

5. Generator's Name and Mailing Address
HONEYWELL
115 TABOR ROAD
MORRIS PLAINS, NJ 07950
Generator's Phone:

Generator's Site Address (if different than mailing address)
Honeywell
SA-6 NORTH
575 RT. 440
JERSEY CITY, NJ 07305

6. Transporter 1 Company Name: Montecalvo Disposal
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: BAYSHORE SOIL MANAGEMENT LLC
75 CROWS MILL ROAD
KEASBEY, NJ 08832
732-738-6000
Facility's Phone:
U.S. EPA ID Number: NJ1225001522

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. NON-HAZARDOUS PC SOIL	01	DT	EST 48000	P	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information
BSM#2715-1558
Man Doc - FTSP-02
Truck #189 Lic. Plate - AS8215 0927

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: As Agent For Michael Mundeas Honeywell
Signature:
Month 11 Day 23 Year 16

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name:
Signature:
Month 11 Day 23 Year 16
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:
17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name:
Signature:
Month Day Year

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

GENERATOR'S/SHIPPER'S INITIAL COPY

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: 27161568
2. Page 1 of 1
3. Emergency Response Phone: 609-915-7388
4. Waste Tracking Number: E0190338

5. Generator's Name and Mailing Address
HONEYWELL
115 TABOR ROAD
MORRIS PLAINS, NJ 07960
Generator's Phone:

Generator's Site Address (if different than mailing address)
Honeywell
SA-6 NORTH
575 RT. 440
JERSEY CITY, NJ 07305

6. Transporter 1 Company Name: Montecalvo Disposal
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: BAYSHORE SOIL MANAGEMENT LLC
75 CROWS MILL ROAD
KEASBEY, NJ 08832
732-738-6000
Facility's Phone:
U.S. EPA ID Number: NJ1225001522

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1	NON-HAZARDOUS PC SOIL	01	DT	EST 48000	P	
2.						
3.						22.43(f)
4.						

13. Special Handling Instructions and Additional Information
BSM#2716-1568
Man Doc - FTSP-02
44860 lbs
Truck #189 Lic. Plate - AS 8215

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: As Agent For Michael Mandras Honeywell
Signature:
Month 11 Day 23 Year 16

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name:
Signature:
Month 11 Day 23 Year 16
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number: 748033
17b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:
17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name:
Signature:
Month 11 Day 23 Year 16

Bayshore Recycling Corp.
75 Crows Mill Rd
PO Box 280
Keasbey, NJ 08832

Facility ID: 132397

Ticket: 748033
Date: 11/23/2016
Time: 10:07:15 - 10:07:22

Customer: HONEYWELL INTERNATIONAL INC/BSM0174
115 TABOR ROAD
ATT JOHN MOJKA
MORRIS PLAINS, NJ 07950-

			Scale
Gross:	72120 lb	In	Scale 2
Tare:	27260 lb		P.T.
Net:	44860 lb		

Truck: AS821S

CUYDs: 25

License: AS821S
Truck Type: TRIAXLE

Carrier: MDS

Manifest: E0190338
Remaining: 0.00 TN

Profile: 2716-1588/HONEYWELL SA-6 NORTH
Generator: HONEYWELL SA-6 NORTH
Comment:

Origin	Materials & Services	Quantity	Unit
Jersey City	ID27 PCS	22.43	Tons
Jersey City	TRANSPORTATION	22.43	Tons

THE ABOVE IS CORRECT AND NON-HAZARDOUS TO THE BEST OF MY KNOWLEDGE

Driver: Jerry

Weighmaster: Rich

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: 27161588
2. Page 1 of: 1
3. Emergency Response Phone: 609-615-7358
4. Waste Tracking Number: E0190346

5. Generator's Name and Mailing Address
HONEYWELL
115 TABOR ROAD
MORRIS PLAINS, NJ 07950
Generator's Phone:

Generator's Site Address (if different than mailing address)
Honeywell
SA-5 NORTH
575 RT. 440
JERSEY CITY, NJ 07305

6. Transporter 1 Company Name: Montecalvo Disposal
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: SAYSHORE SOIL MANAGEMENT LLC
76 CROWS MILL ROAD
KEASBEY, NJ 08832
732-735-8000
Facility's Phone:
U.S. EPA ID Number: NJ1229001522

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	NON-HAZARDOUS PC SOIL	01	DT	CST 48000	P	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
ESM#2716-1588
Man Doc # FTSP-03
Truck # 189 Lic Plate A5821-5 1100

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Michael Murdas As Agent for Honeywell
Signature:
Month 11 Day 23 Year 16

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name:
Signature:
Month 11 Day 23 Year 16

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name
Signature
Month Day Year

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

GENERATOR'S/SHIPPER'S INITIAL COPY

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: 27161588
2. Page 1 of: 1
3. Emergency Response Phone: 609-915-7388
4. Waste Tracking Number: E0190346

5. Generator's Name and Mailing Address
HONEYWELL
115 TABOR ROAD
MORRIS PLAINS, NJ 07960
Generator's Phone:

Generator's Site Address (if different than mailing address)
Honeywell
SA-6 NORTH
575 RT. 440
JERSEY CITY, NJ 07305

6. Transporter 1 Company Name: Montecalvo Disposal
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: BAYSHORE SOIL MANAGEMENT LLC
75 CROWS MILL ROAD
KEASBEY, NJ 08832
732-738-6000
Facility's Phone:
U.S. EPA ID Number: NJ1225001522

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	NON-HAZARDOUS PC SOIL	01	DT	EST 48000	P	
	2.					
	3.					26.62 (+)
	4.					

13. Special Handling Instructions and Additional Information
BSM#2716-1588
man Doc # FTSP-Q3
53240 lbs
Track #189 Lic Plate AS821-S

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Michael Murdras As Agent for Honeywell
Signature:
Month 11 Day 23 Year 16

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Cecil Thrift
Signature:
Month 11 Day 23 Year 16

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number: 148169

17b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name:
Signature:
Month 11 Day 23 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

169-BLC-O 5 11977 (Rev. 9/09)

DESIGNATED FACILITY TO GENERATOR

Bayshore Recycling Corp.
75 Crows Mill Rd
PO Box 290
Keasbey, NJ 08832

Facility ID: 132397

Ticket: 748169
Date: 11/23/2016
Time: 11:37:50 - 11:37:53

			Scale
Gross:	80500 lb	In	Scale 1
Tare:	27260 lb		P.T.
Net:	53240 lb		

Customer: HONEYWELL INTERNATIONAL INC/BSM0174
115 TABOR ROAD
ATT JOHN MOJKA
MORRIS PLAINS, NJ 07950-

Truck: AS821S

CUYDs: 25

License: AS821S
Truck Type: TRIAXLE

Carrier: MDS

Manifest: E0190346
Remaining: 0.00 TN

Profile: 2716-1588/HONEYWELL SA-6 NORTH
Generator: HONEYWELL SA-6 NORTH
Comment:

Origin	Materials & Services	Quantity	Unit
Jersey City	ID27 PCS	26.62	Tons
Jersey City	TRANSPORTATION	26.62	Tons

THE ABOVE IS CORRECT AND NON-HAZARDOUS TO THE BEST OF MY KNOWLEDGE

Driver: _____

Weighmaster: Joe S

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: 27161568
2. Page 1 of: 1
3. Emergency Response Phone: 609-915-7358
4. Waste Tracking Number: E0190345

5. Generator's Name and Mailing Address
HONEYWELL
116 TABOR ROAD
MORRIS PLAINS, NJ 07960
Generator's Phone:

Generator's Site Address (if different than mailing address)
SA-6 NORTH
575 RT. 440
JERSEY CITY, NJ 07306

6. Transporter 1 Company Name: Monteculvo Disposal
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: BAYSHORE SOIL MANAGEMENT LLC
75 CROWS MILL ROAD
KEASBEY, NJ 08832
732-738-6000
Facility's Phone:
U.S. EPA ID Number: NJ1225001522

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	NON-HAZARDOUS PC SOIL	01	DT	EST 48000	P	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
Man Doc # FTSP-04
ESM#6715-1588
Truck #189 Lic. Plate AS-8215

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Michael Mundus As Agent for Honeywell
Signature:
Month: 11 Day: 23 Year: 16

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name:
Signature:
Month: Day: Year:
Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:
17c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name:
Signature:
Month: Day: Year:

GENERATOR'S/SHIPPER'S INITIAL COPY

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: 27161588
2. Page 1 of 1
3. Emergency Response Phone: 609-915-7388
4. Waste Tracking Number: E0190345

5. Generator's Name and Mailing Address
HONEYWELL
115 TABOR ROAD
MORRIS PLAINS, NJ 07960
Generator's Phone:

Generator's Site Address (if different than mailing address)
Honeywell
SA-5 NORTH
575 RT. 440
JERSEY CITY, NJ 07305

6. Transporter 1 Company Name: Montecalvo Disposal
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
BAYSHORE SOIL MANAGEMENT LLC
75 CROWS MILL ROAD
KEASBEY, NJ 08832
732-738-6000
Facility's Phone:
U.S. EPA ID Number: NJ1225001522

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. NON-HAZARDOUS PC SOIL	01	DT	EST 48000	P
2.				
3.				
4.				

23.99(f)

13. Special Handling Instructions and Additional Information
BSM#2716-1588
Man Doc# FTSP-04
479801 MS
Truck #189 Lic. Plate AS-8215

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month 11 Day 23 Year 16

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Cedric A Shuler
Signature:
Month 11 Day 23 Year 16

Transporter 2 Printed/Typed Name:
Signature:
Month 11 Day 23 Year 16

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number: 748425
17b. Alternate Facility (or Generator)
U.S. EPA ID Number: 748425
Facility's Phone:
17c. Signature of Alternate Facility (or Generator)
Month Day Year
11-23-16

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name:
Signature:
Month 11 Day 23 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

Bayshore Recycling Corp.
75 Crows Mill Rd
PO Box 290
Keasbey, NJ 08832

Facility ID: 132397

Ticket: 748425
Date: 11/23/2016
Time: 15:05:39 - 15:05:42

Customer: HONEYWELL INTERNATIONAL INC/BSM0174
115 TABOR ROAD
ATT JOHN MOJKA
MORRIS PLAINS, NJ 07950-

Gross: 75240 lb In Scale Scale 1
Tare: 27260 lb P.T.
Net: 47980 lb

Truck: AS821S

CUYDs: 25

License: AS821S
Truck Type: TRIAXLE

Carrier: MDS

Manifest: E[illegible]345
Remaining: 0.00 TN

Profile: 2716-1588/HONEYWELL SA-6 NORTH
Generator: HONEYWELL SA-6 NORTH
Comment:

Origin	Materials & Services	Quantity	Unit
Jersey City	ID27 PCS	23.99	Tons
Jersey City	TRANSPORTATION	23.99	Tons

THE ABOVE IS CORRECT AND NON-HAZARDOUS TO THE BEST OF MY KNOWLEDGE

Driver: _____

Weighmaster: Joe S

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: 27151588
2. Page 1 of: 1
3. Emergency Response Phone: 609-915-7388
4. Waste Tracking Number: E7190344

5. Generator's Name and Mailing Address
HONEYWELL
115 TABOR ROAD
MORRIS PLAINS, NJ 07360
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL
SA-6 NORTH
575 RT. 440
JERSEY CITY, NJ 07305

6. Transporter 1 Company Name: Montecalvo Recycling
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: BAYSHORE SOIL MANAGEMENT LLC
75 CROWS MILL ROAD
KEASBEY, NJ 08832
732-738-5000
Facility's Phone:
U.S. EPA ID Number: NJ1225001522

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. NON-HAZARDOUS PC SOIL	01	DT	EST 48000	P	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information
BSM#2716-1588
Man Doc # ETSP-05
Truck # 195

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent For Honeywell
Signature:
Month 12 Day 02 Year 16

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Tom Polanco
Signature:
Month 12 Day 02 Year 16
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:
17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name:
Signature:
Month Day Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

GENERATOR'S/SHIPPER'S INITIAL COPY

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: 27161588
2. Page 1 of 1
3. Emergency Response Phone: 609-915-7388
4. Waste Tracking Number: E0190344

5. Generator's Name and Mailing Address
HONEYWELL
115 TABOR ROAD
MORRIS PLAINS, NJ 07960
Generator's Phone:

Generator's Site Address (if different than mailing address)
Honeywell
SA-6 NORTH
575 RT. 440
JERSEY CITY, NJ 07305

6. Transporter 1 Company Name: Montecalvo Recycling
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: BAYSHORE SOIL MANAGEMENT LLC
75 CROWS MILL ROAD
KEASBEY, NJ 08832
732-738-6000
Facility's Phone:
U.S. EPA ID Number: NJ1225001522

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1	NON-HAZARDOUS PC SOIL	01	DT	EST 48000	P	
2.						
3.						24.31(+)
4.						

13. Special Handling Instructions and Additional Information
BSM#2716-1588
Man Doc # ETSP-05
Truck # 195

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month Day Year: 12 02 16

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Tom Palmer
Signature: Tom Palmer
Month Day Year: 12 02 16
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year:

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number: ~~752307~~
17b. Alternate Facility (or Generator)
U.S. EPA ID Number: 752307
Facility's Phone:
17c. Signature of Alternate Facility (or Generator)
Month Day Year:

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name:
Signature:
Month Day Year: 12 02 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

Bayshore Recycling Corp.
75 Crows Mill Rd
PO Box 290
Keasbey, NJ 08832

Facility ID: 132397

Ticket: 752307
Date: 12/2/2016
Time: 08:42:05 - 08:42:12

			Scale
Gross:	75920 lb	In	Scale 1
Tare:	27300 lb		P.T.
Net:	48620 lb		

Customer: HONEYWELL INTERNATIONAL INC/BSM0174
115 TABOR ROAD
ATT JOHN MOJKA
MORRIS PLAINS, NJ 07950-

Truck: AS823E

CUYDs: 25

License: AS823E
Truck Type: TRIAXLE

Carrier: MDS

Manifest: E0190344
Remaining: 0.00 TN

Profile: 2716-1588/HONEYWELL SA-6 NORTH
Generator: HONEYWELL SA-6 NORTH
Comment:

Origin	Materials & Services	Quantity	Unit
Jersey City	ID27 PCS	24.31	Tons
Jersey City	TRANSPORTATION	24.31	Tons

THE ABOVE IS CORRECT AND NON-HAZARDOUS TO THE BEST OF MY KNOWLEDGE

Driver: _____

Weighmaster: Joe S

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number 27151598	2. Page 1 of 1	3. Emergency Response Phone 609-915-7388	4. Waste Tracking Number ED190037

GENERATOR

5. Generator's Name and Mailing Address
HONEYWELL
115 TABOR ROAD
MORRIS PLAINS, NJ 07960
Generator's Phone:

Generator's Site Address (if different than mailing address)
Honeywell
SA-6 NORTH
575 RT. 440
JERSEY CITY, NJ 07305

6. Transporter 1 Company Name MRS 189 AS 8215
U.S. EPA ID Number

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address BAYSHORE SOIL MANAGEMENT LLC
75 CROWS MILL ROAD
KEASBEY, NJ 08832
732-738-6000
Facility's Phone:
U.S. EPA ID Number NJ1225001522

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. NON-HAZARDOUS PC SOIL	01	DT	55T 48000	P	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information
Mon Ave - FTSP-01
BSM82715-1528
Truck #189
0727

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Michael Murdras As Agent for Honeywell
Signature:
Month 11 Day 23 Year 16

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Gerald A Aronello III
Signature:
Month 11 Day 23 Year 16
Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name
Signature
Month Day Year

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: 27151588

2. Page 1 of 1

3. Emergency Response Phone: 609-915-2388

4. Waste Tracking Number: E0190337

5. Generator's Name and Mailing Address
HONEYWELL
115 TABOR ROAD
MORRIS PLAINS, NJ 07950
Generator's Phone:

Generator's Site Address (if different than mailing address)
Honeywell
SA-6 NORTH
575 RT. 440
JERSEY CITY, NJ 07305

6. Transporter 1 Company Name: MPS 189 AS821S
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: BAYSHORE SOIL MANAGEMENT LLC
75 CROWS MILL ROAD
KEASBEY, NJ 08832
732-738-6000
Facility's Phone:
U.S. EPA ID Number: NJ1225001522

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. NON-HAZARDOUS PC SOIL	01	DT	~~BT~~ 48000	P	
	2.					
	3.					20-75 (+)
	4.					

13. Special Handing Instructions and Additional Information
Man Doc - FTSP-01
BSM#2715-1588
Truck #189
41500 lbs

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month 11 Day 23 Year 16

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Gerald Afecorelli III
Signature: Gerald Afecorelli
Month 11 Day 23 Year 16
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number: 747835

17b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name:
Signature:
Month 11 Day 23 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

Facility ID: 132397

Ticket: 747835
Date: 11/23/2016
Time: 08:09:32 - 08:09:38

Scale
Scale 3
P.T.

Gross: 68760 lb In
Tare: 27260 lb
Net: 41500 lb

Bayshore Recycling Corp.
75 Crows Mill Rd.
PO Box 290
Keasbey, NJ 08832

License: AS821G
Truck Type: TRIAXLE

CUYDs: 25

Manifest: E0190337
Remaining: 0.00 TN

Customer: HONEYWELL INTERNATIONAL INC/BSM0174
115 TABOR ROAD
ATT JOHN MOJKA
MORRIS PLAINS, NJ 07950-

Truck: AS821S

Carrier: MDS

Profile: 2716-1588/HONEYWELL SA-6 NORTH
Generator: HONEYWELL SA-6 NORTH
Comment: Materials & Services

Origin		Quantity	Unit
	1D27 PCS	20.75	Tons
	TRANSPORTATION	20.75	Tons

Keasbey City
Keasbey City

NON-HAZARDOUS TO THE BEST OF MY KNOWLEDGE

Weighmaster: Eamonn

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: 27151585
2. Page 1 of 1
3. Emergency Response Phone: 609-915-7388
4. Waste Tracking Number: EJ190338

5. Generator's Name and Mailing Address
HONEYWELL
115 TABOR ROAD
MORRIS PLAINS, NJ 07950
Generator's Phone:

Generator's Site Address (if different than mailing address)
Honeywell
SA-6 NORTH
575 RT. 440
JERSEY CITY, NJ 07305

6. Transporter 1 Company Name: Montecalvo Disposal
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: BAYSHORE SOIL MANAGEMENT LLC
75 CROWS MILL ROAD
KEASBEY, NJ 08832
732-738-6000
Facility's Phone:
U.S. EPA ID Number: NJ1225001522

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. NON-HAZARDOUS PC SOIL	01	DT	EST 48000	P	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information
BSM#2715-1558
Man Doc - FTSP-02
Truck #189 Lic. Plate - AS8215 0927

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: As Agent For Michael Mundeas Honeywell
Signature:
Month 11 Day 23 Year 16

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name:
Signature:
Month 11 Day 23 Year 16
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:
17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name:
Signature:
Month Day Year

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

GENERATOR'S/SHIPPER'S INITIAL COPY

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: 27161568
2. Page 1 of 1
3. Emergency Response Phone: 609-915-7388
4. Waste Tracking Number: E0190338

5. Generator's Name and Mailing Address
HONEYWELL
115 TABOR ROAD
MORRIS PLAINS, NJ 07960
Generator's Phone:

Generator's Site Address (if different than mailing address)
Honeywell
SA-6 NORTH
575 RT. 440
JERSEY CITY, NJ 07305

6. Transporter 1 Company Name: Montecalvo Disposal
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: BAYSHORE SOIL MANAGEMENT LLC
75 CROWS MILL ROAD
KEASBEY, NJ 08832
732-738-6000
Facility's Phone:
U.S. EPA ID Number: NJ1225001522

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1	NON-HAZARDOUS PC SOIL	01	DT	EST 48000	P	
2.						
3.						22.43(f)
4.						

13. Special Handling Instructions and Additional Information
BSM#2716-1568
Man Doc - FTSP-02
44860 lbs
Truck #189 Lic. Plate - AS 8215

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: As Agent For Michael Mandras Honeywell
Signature:
Month 11 Day 23 Year 16

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name:
Signature:
Month 11 Day 23 Year 16
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number: 748033
17b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:
17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name:
Signature:
Month 11 Day 23 Year 16

Bayshore Recycling Corp.
75 Crows Mill Rd
PO Box 280
Keasbey, NJ 08832

Facility ID: 132397

Ticket: 748033
Date: 11/23/2016
Time: 10:07:15 - 10:07:22

Customer: HONEYWELL INTERNATIONAL INC/BSM0174
115 TABOR ROAD
ATT JOHN MOJKA
MORRIS PLAINS, NJ 07950-

			Scale
Gross:	72120 lb	In	Scale 2
Tare:	27260 lb		P.T.
Net:	44860 lb		

Truck: AS821S

CUYDs: 25

License: AS821S
Truck Type: TRIAXLE

Carrier: MDS

Manifest: E0190338
Remaining: 0.00 TN

Profile: 2716-1588/HONEYWELL SA-6 NORTH
Generator: HONEYWELL SA-6 NORTH
Comment:

Origin	Materials & Services	Quantity	Unit
Jersey City	ID27 PCS	22.43	Tons
Jersey City	TRANSPORTATION	22.43	Tons

THE ABOVE IS CORRECT AND NON-HAZARDOUS TO THE BEST OF MY KNOWLEDGE

Driver: Jerry

Weighmaster: Rich

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: 27161588
2. Page 1 of: 1
3. Emergency Response Phone: 609-615-7358
4. Waste Tracking Number: E0190346

5. Generator's Name and Mailing Address
HONEYWELL
115 TABOR ROAD
MORRIS PLAINS, NJ 07950
Generator's Phone:

Generator's Site Address (if different than mailing address)
Honeywell
SA-5 NORTH
575 RT. 440
JERSEY CITY, NJ 07305

6. Transporter 1 Company Name: Montecalvo Disposal
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: SAYSHORE SOIL MANAGEMENT LLC
76 CROWS MILL ROAD
KEASBEY, NJ 08832
732-735-8000
Facility's Phone:
U.S. EPA ID Number: NJ1229001522

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	NON-HAZARDOUS PC SOIL	01	DT	CST 48000	P	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
ESM#2716-1588
Man Doc # FTSP-03
Truck # 189 Lic Plate A5821-5 1100

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Michael Murdas As Agent for Honeywell
Signature:
Month 11 Day 23 Year 16

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name:
Signature:
Month 11 Day 23 Year 16

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name
Signature
Month Day Year

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

GENERATOR'S/SHIPPER'S INITIAL COPY

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: 27161588
2. Page 1 of: 1
3. Emergency Response Phone: 609-915-7388
4. Waste Tracking Number: E0190346

5. Generator's Name and Mailing Address
HONEYWELL
115 TABOR ROAD
MORRIS PLAINS, NJ 07960
Generator's Phone:

Generator's Site Address (if different than mailing address)
Honeywell
SA-6 NORTH
575 RT. 440
JERSEY CITY, NJ 07305

6. Transporter 1 Company Name: Montecalvo Disposal
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: BAYSHORE SOIL MANAGEMENT LLC
75 CROWS MILL ROAD
KEASBEY, NJ 08832
732-738-6000
Facility's Phone:
U.S. EPA ID Number: NJ1225001522

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	NON-HAZARDOUS PC SOIL	01	DT	EST 48000	P	
	2.					
	3.					26.62 (+)
	4.					

13. Special Handling Instructions and Additional Information
BSM#2716-1588
man Doc # FTSP-Q3
53240 lbs
Track #189 Lic Plate AS821-S

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Michael Murdras As Agent for Honeywell
Signature:
Month 11 Day 23 Year 16

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Cecil Thrift
Signature:
Month 11 Day 23 Year 16

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number: 148169

17b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name:
Signature:
Month 11 Day 23 Year 16

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

169-BLC-O 5 11977 (Rev. 9/09)

DESIGNATED FACILITY TO GENERATOR

Bayshore Recycling Corp.
75 Crows Mill Rd
PO Box 290
Keasbey, NJ 08832

Facility ID: 132397

Ticket: 748169
Date: 11/23/2016
Time: 11:37:50 - 11:37:53

			Scale
Gross:	80500 lb	In	Scale 1
Tare:	27260 lb		P.T.
Net:	53240 lb		

Customer: HONEYWELL INTERNATIONAL INC/BSM0174
115 TABOR ROAD
ATT JOHN MOJKA
MORRIS PLAINS, NJ 07950-

Truck: AS821S

CUYDs: 25

License: AS821S
Truck Type: TRIAXLE

Carrier: MDS

Manifest: E0190346
Remaining: 0.00 TN

Profile: 2716-1588/HONEYWELL SA-6 NORTH
Generator: HONEYWELL SA-6 NORTH
Comment:

Origin	Materials & Services	Quantity	Unit
Jersey City	ID27 PCS	26.62	Tons
Jersey City	TRANSPORTATION	26.62	Tons

THE ABOVE IS CORRECT AND NON-HAZARDOUS TO THE BEST OF MY KNOWLEDGE

Driver: _____

Weighmaster: Joe S

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: 27161568
2. Page 1 of: 1
3. Emergency Response Phone: 609-915-7358
4. Waste Tracking Number: E0190345

5. Generator's Name and Mailing Address
HONEYWELL
116 TABOR ROAD
MORRIS PLAINS, NJ 07960
Generator's Phone:

Generator's Site Address (if different than mailing address)
SA-6 NORTH
575 RT. 440
JERSEY CITY, NJ 07306

6. Transporter 1 Company Name: Monteculvo Disposal
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: BAYSHORE SOIL MANAGEMENT LLC
75 CROWS MILL ROAD
KEASBEY, NJ 08832
732-738-6000
Facility's Phone:
U.S. EPA ID Number: NJ1225001522

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	NON-HAZARDOUS PC SOIL	01	DT	EST 48000	P	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
Man Doc # FTSP-04
ESM#6715-1588
Truck #189 Lic. Plate AS-8215

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Michael Mundus As Agent for Honeywell
Signature:
Month: 11 Day: 23 Year: 16

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name:
Signature:
Month: Day: Year:
Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:
17c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name:
Signature:
Month: Day: Year:

GENERATOR'S/SHIPPER'S INITIAL COPY

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: 27161588
2. Page 1 of 1
3. Emergency Response Phone: 609-915-7388
4. Waste Tracking Number: E0190345

5. Generator's Name and Mailing Address
HONEYWELL
115 TABOR ROAD
MORRIS PLAINS, NJ 07960
Generator's Phone:

Generator's Site Address (if different than mailing address)
Honeywell
SA-5 NORTH
575 RT. 440
JERSEY CITY, NJ 07305

6. Transporter 1 Company Name: Montecalvo Disposal
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
BAYSHORE SOIL MANAGEMENT LLC
75 CROWS MILL ROAD
KEASBEY, NJ 08832
732-738-6000
Facility's Phone:
U.S. EPA ID Number: NJ1225001522

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. NON-HAZARDOUS PC SOIL	01	DT	EST 48000	P
2.				
3.				
4.				

23.99(f)

13. Special Handling Instructions and Additional Information
BSM#2716-1588
Man Doc# FTSP-04
479801 MS
Truck #189 Lic. Plate AS-8215

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month 11 Day 23 Year 16

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Cedric A Shuler
Signature:
Month 11 Day 23 Year 16

Transporter 2 Printed/Typed Name:
Signature:
Month 11 Day 23 Year 16

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number: 748425
17b. Alternate Facility (or Generator)
U.S. EPA ID Number: 748425
Facility's Phone:
17c. Signature of Alternate Facility (or Generator)
Month Day Year
11-23-16

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name:
Signature:
Month 11 Day 23 Year 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

Bayshore Recycling Corp.
75 Crows Mill Rd
PO Box 290
Keasbey, NJ 08832

Facility ID: 132397

Ticket: 748425
Date: 11/23/2016
Time: 15:05:39 - 15:05:42

Customer: HONEYWELL INTERNATIONAL INC/BSM0174
115 TABOR ROAD
ATT JOHN MOJKA
MORRIS PLAINS, NJ 07950-

Gross: 75240 lb In Scale Scale 1
Tare: 27260 lb P.T.
Net: 47980 lb

Truck: AS821S

CUYDs: 25

License: AS821S
Truck Type: TRIAXLE

Carrier: MDS

Manifest: E[illegible]345
Remaining: 0.00 TN

Profile: 2716-1588/HONEYWELL SA-6 NORTH
Generator: HONEYWELL SA-6 NORTH
Comment:

Origin	Materials & Services	Quantity	Unit
Jersey City	ID27 PCS	23.99	Tons
Jersey City	TRANSPORTATION	23.99	Tons

THE ABOVE IS CORRECT AND NON-HAZARDOUS TO THE BEST OF MY KNOWLEDGE

Driver: _____

Weighmaster: Joe S

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: 27151588
2. Page 1 of: 1
3. Emergency Response Phone: 609-915-7388
4. Waste Tracking Number: E7190344

5. Generator's Name and Mailing Address
HONEYWELL
115 TABOR ROAD
MORRIS PLAINS, NJ 07360
Generator's Phone:

Generator's Site Address (if different than mailing address)
HONEYWELL
SA-6 NORTH
575 RT. 440
JERSEY CITY, NJ 07305

6. Transporter 1 Company Name: Montecalvo Recycling
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: BAYSHORE SOIL MANAGEMENT LLC
75 CROWS MILL ROAD
KEASBEY, NJ 08832
732-738-5000
Facility's Phone:
U.S. EPA ID Number: NJ1225001522

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. NON-HAZARDOUS PC SOIL	01	DT	EST 48000	P	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information
BSM#2716-1588
Man Doc # ETSP-05
Truck # 195

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent For Honeywell
Signature:
Month 12 Day 02 Year 16

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Tom Polanco
Signature:
Month 12 Day 02 Year 16
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:
17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name:
Signature:
Month Day Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

GENERATOR'S/SHIPPER'S INITIAL COPY

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: 27161588
2. Page 1 of 1
3. Emergency Response Phone: 609-915-7388
4. Waste Tracking Number: E0190344

5. Generator's Name and Mailing Address
HONEYWELL
115 TABOR ROAD
MORRIS PLAINS, NJ 07960
Generator's Phone:

Generator's Site Address (if different than mailing address)
Honeywell
SA-6 NORTH
575 RT. 440
JERSEY CITY, NJ 07305

6. Transporter 1 Company Name: Montecalvo Recycling
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: BAYSHORE SOIL MANAGEMENT LLC
75 CROWS MILL ROAD
KEASBEY, NJ 08832
732-738-6000
Facility's Phone:
U.S. EPA ID Number: NJ1225001522

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1	NON-HAZARDOUS PC SOIL	01	DT	EST 48000	P	
2.						
3.						24.31(+)
4.						

13. Special Handling Instructions and Additional Information
BSM#2716-1588
Man Doc # ETSP-05
Truck # 195

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Michael Mundras As Agent for Honeywell
Signature:
Month Day Year: 12 02 16

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Tom Palmer
Signature: Tom Palmer
Month Day Year: 12 02 16
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year:

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number: ~~752307~~
17b. Alternate Facility (or Generator)
U.S. EPA ID Number: 752307
Facility's Phone:
17c. Signature of Alternate Facility (or Generator)
Month Day Year:

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name:
Signature:
Month Day Year: 12 02 16

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

Bayshore Recycling Corp.
75 Crows Mill Rd
PO Box 290
Keasbey, NJ 08832

Facility ID: 132397

Ticket: 752307
Date: 12/2/2016
Time: 08:42:05 - 08:42:12

			Scale
Gross:	75920 lb	In	Scale 1
Tare:	27300 lb		P.T.
Net:	48620 lb		

Customer: HONEYWELL INTERNATIONAL INC/BSM0174
115 TABOR ROAD
ATT JOHN MOJKA
MORRIS PLAINS, NJ 07950-

Truck: AS823E

CUYDs: 25

License: AS823E
Truck Type: TRIAXLE

Carrier: MDS

Manifest: E0190344
Remaining: 0.00 TN

Profile: 2716-1588/HONEYWELL SA-6 NORTH
Generator: HONEYWELL SA-6 NORTH
Comment:

Origin	Materials & Services	Quantity	Unit
Jersey City	ID27 PCS	24.31	Tons
Jersey City	TRANSPORTATION	24.31	Tons

THE ABOVE IS CORRECT AND NON-HAZARDOUS TO THE BEST OF MY KNOWLEDGE

Driver: _____

Weighmaster: Joe S

NON-HAZARDOUS NON-CHROME SOIL WASTE TRACKING (2015)
Middlesex County Landfill
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Date Shipped	Man. Doc #	Facilty Manifest Weight (lbs)	Estimated Weight (lbs)	Manifest - Estimate (lbs)	Manifest - Estimate (%)	Material	Transporter
9/21/2015	SA6N001	53,000	53,100	(100)	-0.2%	EA5 "C"	Horwith
9/21/2015	SA6N002	52,480	52,160	320	0.6%	EA5 "C"	Horwith
9/21/2015	SA6N003	51,040	50,360	680	1.3%	EA5 "C"	Horwith
9/21/2015	SA6N004	52,400	52,240	160	0.3%	EA5 "C"	Horwith
9/21/2015	SA6N005	49,460	49,400	60	0.1%	EA5 "C"	Horwith
9/21/2015	SA6N006	56,280	55,960	320	0.6%	EA5 "C"	Horwith
9/21/2015	SA6N007	56,620	55,860	760	1.3%	EA5 "C"	Horwith
9/21/2015	SA6N008	57,820	56,640	1,180	2.0%	EA5 "C"	Horwith
9/21/2015	SA6N009	53,540	53,580	(40)	-0.1%	EA5 "C"	Horwith
9/21/2015	SA6N010	47,020	47,300	(280)	-0.6%	EA5 "C"	Horwith
9/21/2015	SA6N011	52,200	52,220	(20)	0.0%	EA5 "C"	Horwith
9/21/2015	SA6N012	49,460	49,440	20	0.0%	EA5 "C"	Horwith
9/21/2015	SA6N013	52,600	52,600	0	0.0%	EA5 "C"	Horwith
9/21/2015	SA6N014	52,680	52,680	0	0.0%	EA5 "C"	Horwith
9/21/2015	SA6N015	53,440	53,380	60	0.1%	EA5 "C"	Horwith
9/22/2015	SA6N016	56,440	56,440	0	0.0%	EA5 "C"	Horwith
9/22/2015	SA6N017	56,220	55,980	240	0.4%	EA5 "C"	Horwith
9/22/2015	SA6N018	52,900	52,840	60	0.1%	EA5 "C"	Horwith
9/22/2015	SA6N019	51,720	51,700	20	0.0%	EA5 "C"	Horwith
9/22/2015	SA6N020	54,180	54,180	0	0.0%	EA5 "C"	Horwith
9/22/2015	SA6N021	52,440	52,400	40	0.1%	EA5 "C"	Horwith
9/22/2015	SA6N022	55,700	55,760	(60)	-0.1%	EA5 "C"	Horwith
9/22/2015	SA6N023	53,560	53,540	20	0.0%	EA5 "C"	Horwith
9/22/2015	SA6N024	51,960	51,960	0	0.0%	EA5 "C"	Horwith
9/22/2015	SA6N025	52,740	52,740	0	0.0%	EA5 "C"	Horwith
9/22/2015	SA6N026	52,920	52,920	0	0.0%	EA5 "C"	Horwith
9/22/2015	SA6N027	52,640	52,620	20	0.0%	EA5 "C"	Horwith
9/22/2015	SA6N028	49,820	50,020	(200)	-0.4%	EA5 "C"	Horwith
9/22/2015	SA6N029	50,360	50,340	20	0.0%	EA5 "C"	Horwith
9/22/2015	SA6N030	57,920	56,160	1,760	3.0%	EA5 "C"	Horwith
9/22/2015	SA6N031	51,380	51,360	20	0.0%	EA5 "C"	Horwith
9/22/2015	SA6N032	45,180	45,360	(180)	-0.4%	EA5 "C"	Horwith
9/23/2015	SA6N033	49,540	49,620	(80)	-0.2%	EA5 "C"	Horwith

NON-HAZARDOUS NON-CHROME SOIL WASTE TRACKING (2015)
Middlesex County Landfill
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Date Shipped	Man. Doc #	Facilty Manifest Weight (lbs)	Estimated Weight (lbs)	Manifest - Estimate (lbs)	Manifest - Estimate (%)	Material	Transporter
9/23/2015	SA6N034	50,220	50,220	0	0.0%	EA5 "C"	Horwith
9/23/2015	SA6N035	52,640	52,640	0	0.0%	EA5 "C"	Horwith
9/23/2015	SA6N036	52,300	52,280	20	0.0%	EA5 "C"	Horwith
9/23/2015	SA6N037	52,280	52,300	(20)	0.0%	EA5 "C"	Horwith
9/23/2015	SA6N038	51,480	51,480	0	0.0%	EA5 "C"	Horwith
9/23/2015	SA6N039	55,620	55,600	20	0.0%	EA5 "C"	Horwith
9/23/2015	SA6N040	52,420	52,420	0	0.0%	EA5 "C"	Horwith
9/23/2015	SA6N041	55,880	55,940	(60)	-0.1%	EA5 "C"	Horwith
9/23/2015	SA6N042	47,520	47,500	20	0.0%	EA5 "C"	Horwith
9/23/2015	SA6N043	53,060	52,980	80	0.2%	EA5 "C"	Horwith
9/23/2015	SA6N044	51,180	51,200	(20)	0.0%	EA5 "C"	Horwith
11/30/15	SA6N045	51,880	51,040	840	1.6%	EA5 "C"	Horwith
11/30/15	SA6N046	54,140	53,660	480	0.9%	EA5 "C"	Horwith
11/30/15	SA6N047	52,700	52,000	700	1.3%	EA5 "C"	Horwith
11/30/15	SA6N048	54,120	53,620	500	0.9%	EA5 "C"	Horwith
11/30/15	SA6N049	53,980	53,808	172	0.3%	EA5 "C"	Horwith
11/30/15	SA6N050	52,120	52,320	(200)	-0.4%	EA5 "C"	Horwith
11/30/15	SA6N051	56,180	55,500	680	1.2%	EA5 "C"	Horwith
11/30/15	SA6N052	51,400	51,060	340	0.7%	EA5 "C"	Horwith
11/30/15	SA6N053	51,060	51,080	(20)	0.0%	EA5 "C"	Horwith
11/30/15	SA6N054	51,560	51,440	120	0.2%	EA5 "C"	Horwith
11/30/15	SA6N055	51,360	50,120	1,240	2.4%	EA5 "C"	Horwith
11/30/15	SA6N056	53,780	53,600	180	0.3%	EA5 "C"	Horwith
11/30/15	SA6N057	54,600	53,800	800	1.5%	EA5 "C"	Horwith
11/30/15	SA6N058	53,080	52,720	360	0.7%	EA5 "C"	Horwith
11/30/15	SA6N059	52,100	51,900	200	0.4%	EA5 "C"	Horwith
11/30/15	SA6N060	53,740	52,980	760	1.4%	EA5 "C"	Horwith
11/30/15	SA6N061	52,560	52,880	(320)	-0.6%	EA5 "C"	Horwith
11/30/15	SA6N062	54,100	54,180	(80)	-0.1%	EA5 "C"	Horwith
11/30/15	SA6N063	53,460	53,000	460	0.9%	EA5 "C"	Horwith
11/30/15	SA6N064	57,020	56,940	80	0.1%	EA5 "C"	Horwith
11/30/15	SA6N065	51,520	51,620	(100)	-0.2%	EA5 "C"	Horwith
11/30/15	SA6N066	49,420	48,240	1,180	2.4%	EA5 "C"	Horwith

NON-HAZARDOUS NON-CHROME SOIL WASTE TRACKING (2015)
Middlesex County Landfill
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Date Shipped	Man. Doc #	Facilty Manifest Weight (lbs)	Estimated Weight (lbs)	Manifest - Estimate (lbs)	Manifest - Estimate (%)	Material	Transporter
11/30/15	SA6N067	53,260	52,580	680	1.3%	EA5 "C"	Horwith
11/30/15	SA6N068	54,780	54,720	60	0.1%	EA5 "C"	Horwith
11/30/15	SA6N069	55,360	55,080	280	0.5%	EA5 "C"	Horwith
11/30/15	SA6N070	49,760	49,760	0	0.0%	EA5 "C"	Horwith
11/30/15	SA6N071	56,940	56,280	660	1.2%	EA5 "C"	Horwith
11/30/15	SA6N072	55,560	54,800	760	1.4%	EA5 "C"	Horwith
11/30/15	SA6N073	54,800	55,220	(420)	-0.8%	EA5 "C"	Horwith
11/30/15	SA6N074	54,480	54,140	340	0.6%	EA5 "C"	Horwith
11/30/15	SA6N075	53,160	53,140	20	0.0%	EA5 "C"	Horwith
11/30/15	SA6N076	54,920	55,040	(120)	-0.2%	EA5 "C"	Horwith
11/30/15	SA6N077	56,060	55,500	560	1.0%	EA5 "C"	Horwith
11/30/15	SA6N078	52,560	51,420	1,140	2.2%	EA5 "C"	Horwith
11/30/15	SA6N079	54,260	54,300	(40)	-0.1%	EA5 "C"	Horwith
12/01/15	SA6N080	52,020	51,940	80	0.2%	EA5 "C"	Horwith
12/01/15	SA6N081	53,560	52,740	820	1.5%	EA5 "C"	Horwith
12/01/15	SA6N082	48,680	48,200	480	1.0%	EA5 "C"	Horwith
12/01/15	SA6N083	49,360	49,160	200	0.4%	EA5 "C"	Horwith
12/01/15	SA6N084	49,760	48,140	1,620	3.3%	EA5 "C"	Horwith
12/01/15	SA6N085	51,620	50,260	1,360	2.6%	EA5 "C"	Horwith
12/01/15	SA6N086	51,380	51,200	180	0.4%	EA5 "C"	Horwith
12/01/15	SA6N087	54,380	54,580	(200)	-0.4%	EA5 "C"	Horwith
12/01/15	SA6N088	49,680	49,540	140	0.3%	EA5 "C"	Horwith
12/01/15	SA6N089	53,540	53,520	20	0.0%	EA5 "C"	Horwith
12/01/15	SA6N090	53,880	53,000	880	1.6%	EA5 "C"	Horwith
12/01/15	SA6N091	53,760	53,720	40	0.1%	EA5 "C"	Horwith
12/01/15	SA6N092	55,880	55,160	720	1.3%	EA5 "C"	Horwith
12/01/15	SA6N093	50,160	49,860	300	0.6%	EA5 "C"	Horwith
12/01/15	SA6N094	51,420	51,360	60	0.1%	EA5 "C"	Horwith
12/01/15	SA6N095	54,000	54,060	(60)	-0.1%	EA5 "C"	Horwith
12/01/15	SA6N096	52,680	52,680	0	0.0%	EA5 "C"	Horwith
12/01/15	SA6N097	52,560	49,500	3,060	5.8%	EA5 "C"	Horwith
12/01/15	SA6N098	50,200	48,900	1,300	2.6%	EA5 "C"	Horwith
12/01/15	SA6N099	50,660	50,560	100	0.2%	EA5 "C"	Horwith

NON-HAZARDOUS NON-CHROME SOIL WASTE TRACKING (2015)
Middlesex County Landfill

Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Date Shipped	Man. Doc #	Facilty Manifest Weight (lbs)	Estimated Weight (lbs)	Manifest - Estimate (lbs)	Manifest - Estimate (%)	Material	Transporter
12/01/15	SA6N100	53,720	53,680	40	0.1%	EA5 "C"	Horwith
12/01/15	SA6N101	51,320	51,180	140	0.3%	EA5 "C"	Horwith
12/01/15	SA6N102	54,180	54,000	180	0.3%	EA5 "C"	Horwith
12/01/15	SA6N103	54,560	51,900	2,660	4.9%	EA5 "C"	Horwith
12/01/15	SA6N104	47,680	47,580	100	0.2%	EA5 "C"	Horwith
12/01/15	SA6N105	53,660	53,640	20	0.0%	EA5 "C"	Horwith
12/01/15	SA6N106	49,260	48,180	1,080	2.2%	EA5 "C"	Horwith
12/01/15	SA6N107	48,820	48,860	(40)	-0.1%	EA5 "C"	Horwith
12/01/15	SA6N108	54,060	53,580	480	0.9%	EA5 "C"	Horwith
12/01/15	SA6N109	52,260	51,940	320	0.6%	EA5 "C"	Horwith
12/02/15	SA6N110	52,560	52,120	440	0.8%	EA5 "C"	Horwith
12/02/15	SA6N111	52,840	52,600	240	0.5%	EA5 "C"	Horwith
12/02/15	SA6N112	52,040	52,040	0	0.0%	EA5 "C"	Horwith
12/02/15	SA6N113	53,200	53,200	0	0.0%	EA5 "C"	Horwith
12/02/15	SA6N114	51,380	51,380	0	0.0%	EA5 "C"	Horwith
12/02/15	SA6N115	54,180	54,180	0	0.0%	EA5 "C"	Horwith

3,012.52	**Site Tons**		6,025,048				
3,029.47	**Facility Tons**		6,058,940	-33,892		(0.01)	-0.56%

NON-HAZARDOUS NON-CHROME SOIL WASTE TRACKING (2016)
Middlesex County Landfill
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Date Shipped	Man. Doc #	Facilty Manifest Weight (lbs)	Estimated Weight (lbs)	Manifest - Estimate (lbs)	Manifest - Estimate (%)	Material	Transporter
2/5/2016	MCL16061	44,040	41,300	2,740	6.2%	SA6 North "C"	Veniero
2/5/2016	MCL16062	45,740	43,260	2,480	5.4%	SA6 North "C"	Veniero
2/5/2016	MCL16063	42,440	40,740	1,700	4.0%	SA6 North "C"	Veniero
2/5/2016	MCL16064	44,920	42,640	2,280	5.1%	SA6 North "C"	Veniero
2/5/2016	MCL16065	44,060	37,960	6,100	13.8%	SA6 North "C"	Veniero
2/5/2016	MCL16066	43,180	39,660	3,520	8.2%	SA6 North "C"	Veniero
2/5/2016	MCL16067	46,720	44,080	2,640	5.7%	SA6 North "C"	Veniero
2/5/2016	MCL16068	41,240	39,820	1,420	3.4%	SA6 North "C"	Veniero
2/5/2016	MCL16069	45,420	43,340	2,080	4.6%	SA6 North "C"	Veniero
2/5/2016	MCL16070	45,480	42,760	2,720	6.0%	SA6 North "C"	Veniero
2/5/2016	MCL16071	46,320	43,660	2,660	5.7%	SA6 North "C"	Veniero
2/5/2016	MCL16072	46,920	43,920	3,000	6.4%	SA6 North "C"	Veniero
2/5/2016	MCL16073	43,940	41,460	2,480	5.6%	SA6 North "C"	Veniero
2/5/2016	MCL16074	46,360	40,020	6,340	13.7%	SA6 North "C"	Veniero
2/5/2016	MCL16075	45,160	42,960	2,200	4.9%	SA6 North "C"	Veniero
2/8/2016	MCL16076	50,620	48,400	2,220	4.4%	SA6 North "C"	Veniero
2/8/2016	MCL16077	49,460	45,280	4,180	8.5%	SA6 North "C"	Veniero
2/8/2016	MCL16078	49,440	44,640	4,800	9.7%	SA6 North "C"	Veniero
2/8/2016	MCL16079	46,380	41,600	4,780	10.3%	SA6 North "C"	Veniero
2/8/2016	MCL16080	46,900	45,280	1,620	3.5%	SA6 North "C"	Veniero
2/8/2016	MCL16081	44,580	43,640	940	2.1%	SA6 North "C"	Veniero
2/8/2016	MCL16082	46,820	45,880	940	2.0%	SA6 North "C"	Veniero
2/8/2016	MCL16083	47,560	46,640	920	1.9%	SA6 North "C"	Veniero
2/8/2016	MCL16084	48,380	47,680	700	1.4%	SA6 North "C"	Veniero
2/8/2016	MCL16085	49,680	49,080	600	1.2%	SA6 North "C"	Veniero
2/8/2016	MCL16086	53,040	53,160	(120)	-0.2%	SA6 North "C"	Veniero
2/8/2016	MCL16087	50,100	50,140	(40)	-0.1%	SA6 North "C"	Veniero
2/8/2016	MCL16088	49,280	49,220	60	0.1%	SA6 North "C"	Veniero
2/8/2016	MCL16089	51,920	51,620	300	0.6%	SA6 North "C"	Veniero
2/8/2016	MCL16090	46,000	46,140	(140)	-0.3%	SA6 North "C"	Veniero
3/8/2016	MCL16091	35,880	35,560	320	0.9%	SA6 North "C"	Munoz
3/8/2016	MCL16092	34,400	34,320	80	0.2%	SA6 North "C"	Munoz
3/8/2016	MCL16093	42,160	42,080	80	0.2%	SA6 North "C"	Munoz
3/8/2016	MCL16094	41,560	41,200	360	0.9%	SA6 North "C"	Munoz
3/8/2016	MCL16095	47,000	46,420	580	1.2%	SA6 North "C"	Munoz
3/8/2016	MCL16096	43,720	43,460	260	0.6%	SA6 North "C"	Munoz

NON-HAZARDOUS NON-CHROME SOIL WASTE TRACKING (2016)
Middlesex County Landfill
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Date Shipped	Man. Doc #	Facilty Manifest Weight (lbs)	Estimated Weight (lbs)	Manifest - Estimate (lbs)	Manifest - Estimate (%)	Material	Transporter
3/8/2016	MCL16097	51,040	50,780	260	0.5%	SA6 North "C"	Munoz
3/8/2016	MCL16098	49,860	49,620	240	0.5%	SA6 North "C"	Munoz
3/8/2016	MCL16099	51,280	50,940	340	0.7%	SA6 North "C"	Munoz

865.18	**Site Tons**		1,730,360				
899.50	**Facility Tons**		1,799,000	-68,640		(0.04)	-3.97%

NON-HAZARDOUS FRAC TANK SEDIMENT & SOIL STOCKPILE WASTE TRACKING (2016)
Bayshore
Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Date Shipped	Man. Doc #	Facilty Manifest Weight (lbs)	Estimated Weight (lbs)	Manifest - Estimate (lbs)	Manifest - Estimate (%)	Material	Transporter
11/23/2016	FTSP-01	41,500	48,000	(6,500)	-15.7%	Frac Tank sediment / Soil from outboard side of the sheetpile at the Kellogg Street jug-handle	MDS
11/23/2016	FTSP-02	44,860	48,000	(3,140)	-7.0%	Frac Tank sediment / Soil from outboard side of the sheetpile at the Kellogg Street jug-handle	MDS
11/23/2016	FTSP-03	53,240	48,000	5,240	9.8%	Frac Tank sediment / Soil from outboard side of the sheetpile at the Kellogg Street jug-handle	MDS
11/23/2016	FTSP-04	47,980	48,000	(20)	0.0%	Frac Tank sediment / Soil from outboard side of the sheetpile at the Kellogg Street jug-handle	MDS
12/2/2016	FTSP-05	48,620	48,000	620	1.3%	Frac Tank sediment / Soil from outboard side of the sheetpile at the Kellogg Street jug-handle	MDS

120.00	**Site Tons**		240,000				
118.10	**Facility Tons**		236,200	3,800		0.02	1.58%

Waste Classification Table - VOCs

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

				Client Sample ID		087-SB-612-1416		087-SB-613-D2-1214		087-SB-614-E1		087-SB-615-F2-1214		087-SB-615-K1-1416		087-SB-616-G2-1012		087-SB-616-L1-1214		087-SB-617-I-0810		087-SB-617-N1-1012		087-SB-618-H-0810		087-SB-618-M1-1416		087-SB-619-J1-0810	
				Lab Sample ID		JB85847-2		JB85847-4		JB85847-6		JB85847-8		JB85847-10		JB85847-12		JB85847-14		JB85847-16		JB85847-18		JB85847-20		JB85847-22		JB85847-24	
				Date Sampled		01/06/2015		01/06/2015		01/06/2015		01/06/2015		01/06/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015	
				Sample Purpose	NJ 2012 MOST	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Analytical Method	Parameter Name	Units			STRINGENT SRS	SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SW8260	1,1,1-TRICHLOROETHANE	mg/kg			290	0.3	0.0034	U	0.003	U	0.0032	U	0.0037	U	0.003	U	0.0035	U	0.0036	U	0.0028	U	0.0051	U	0.0026	U	0.0039	U	0.0049	U
SW8260	1,1,2,2-TETRACHLOROETHANE	mg/kg			1	0.007	0.0034	U	0.003	U	0.0032	U	0.0037	U	0.003	U	0.0035	U	0.0036	U	0.0028	U	0.0051	U	0.0026	U	0.0039	U	0.0049	U
SW8260	1,1,2-Trichloro-1,2,2-Trifluoroethane	mg/kg			NC	NC	0.0084	U	0.0076	U	0.008	U	0.0092	U	0.0074	U	0.0087	U	0.0089	U	0.007	U	0.013	U	0.0066	U	0.0098	U	0.012	U
SW8260	1,1,2-TRICHLOROETHANE	mg/kg			2	0.02	0.0034	U	0.003	U	0.0032	U	0.0037	U	0.003	U	0.0035	U	0.0036	U	0.0028	U	0.0051	U	0.0026	U	0.0039	U	0.0049	U
SW8260	1,1-DICHLOROETHANE	mg/kg			8	0.2	0.0017	U	0.0015	U	0.0016	U	0.0018	U	0.0015	U	0.0017	U	0.0018	U	0.0014	U	0.0026	U	0.0013	U	0.002	U	0.0025	U
SW8260	1,1-DICHLOROETHENE	mg/kg			11	0.008	0.0017	U	0.0015	U	0.0016	U	0.0018	U	0.0015	U	0.0017	U	0.0018	U	0.0014	U	0.0026	U	0.0013	U	0.002	U	0.0025	U
SW8260	1,2,3-TRICHLOROBENZENE	mg/kg			NC	NC	0.0084	U	0.0076	U	0.008	U	0.0092	U	0.0074	U	0.0087	U	0.0089	U	0.007	U	0.013	U	0.0066	U	0.0098	U	0.012	U
SW8260	1,2,4-TRICHLOROBENZENE	mg/kg			73	0.7	0.0084	U	0.0076	U	0.008	U	0.0092	U	0.0074	U	0.0087	U	0.0089	U	0.007	U	0.013	U	0.0066	U	0.0098	U	0.012	U
SW8260	1,2-DIBROMO-3-CHLOROPROPANE	mg/kg			0.08	0.005	*0.0084*	*U*	*0.0076*	*U*	*0.008*	*U*	*0.0092*	*U*	*0.0074*	*U*	*0.0087*	*U*	*0.0089*	*U*	*0.007*	*U*	*0.013*	*U*	*0.0066*	*U*	*0.0098*	*U*	*0.012*	*U*
SW8260	1,2-DIBROMOETHANE	mg/kg			0.008	0.005	0.0017	U	0.0015	U	0.0016	U	0.0018	U	0.0015	U	0.0017	U	0.0018	U	0.0014	U	0.0026	U	0.0013	U	0.002	U	0.0025	U
SW8260	1,2-DICHLOROBENZENE	mg/kg			5300	17	0.0017	U	0.0015	U	0.0016	U	0.0018	U	0.0015	U	0.0017	U	0.0018	U	0.0014	U	0.0026	U	0.0013	U	0.002	U	0.0025	U
SW8260	1,2-DICHLOROETHANE	mg/kg			0.9	0.005	0.0017	U	0.0015	U	0.0016	U	0.0018	U	0.0015	U	0.0017	U	0.0018	U	0.0014	U	0.0026	U	0.0013	U	0.002	U	0.0025	U
SW8260	1,2-DICHLOROPROPANE	mg/kg			2	0.005	0.0034	U	0.003	U	0.0032	U	0.0037	U	0.003	U	0.0035	U	0.0036	U	0.0028	U	*0.0051*	*U*	0.0026	U	0.0039	U	0.0049	U
SW8260	1,3-DICHLOROBENZENE	mg/kg			5300	19	0.0017	U	0.0015	U	0.0016	U	0.0018	U	0.0015	U	0.0017	U	0.0018	U	0.0014	U	0.0026	U	0.0013	U	0.002	U	0.0025	U
SW8260	1,4-DICHLOROBENZENE	mg/kg			5	2	0.0017	U	0.0015	U	0.0016	U	0.0018	U	0.0015	U	0.0017	U	0.0018	U	0.0014	U	0.0026	U	0.0013	U	0.002	U	0.0025	U
SW8260	2-BUTANONE	mg/kg			3100	0.9	0.0066	J	0.015	U	0.0156	J	0.018	U	0.015	U	0.017	U	0.018	U	0.014	U	0.026	U	0.01400		0.02	U	0.03700	
SW8260	2-HEXANONE	mg/kg			NC	NC	0.0084	U	0.0076	U	0.008	U	0.0092	U	0.0074	U	0.0087	U	0.0089	U	0.007	U	0.013	U	0.0066	U	0.0098	U	0.012	U
SW8260	4-METHYL-2-PENTANONE	mg/kg			NC	NC	0.0084	U	0.0076	U	0.008	U	0.0092	U	0.0074	U	0.0087	U	0.0089	U	0.007	U	0.013	U	0.0066	U	0.0098	U	0.012	U
SW8260	ACETONE	mg/kg			70000	19	0.05280		0.0129	J	0.07060		0.0159	J	0.0109	J	0.05130		0.02180		0.01430		0.0198	J	0.06660		0.02	U	0.1350	
SW8260	BENZENE	mg/kg			2	0.005	0.00084	U	0.00043	J	0.0008	U	0.00092	U	0.00074	U	0.00087	U	0.00089	U	0.0007	U	0.0013	U	0.00066	U	0.00054	J	0.0012	U
SW8260	BROMOCHLOROMETHANE	mg/kg			NC	NC	0.0084	U	0.0076	U	0.008	U	0.0092	U	0.0074	U	0.0087	U	0.0089	U	0.007	U	0.013	U	0.0066	U	0.0098	U	0.012	U
SW8260	BROMODICHLOROMETHANE	mg/kg			1	0.005	0.0034	U	0.003	U	0.0032	U	0.0037	U	0.003	U	0.0035	U	0.0036	U	0.0028	U	*0.0051*	*U*	0.0026	U	0.0039	U	0.0049	U
SW8260	BROMOFORM	mg/kg			81	0.03	0.0084	U	0.0076	U	0.008	U	0.0092	U	0.0074	U	0.0087	U	0.0089	U	0.007	U	0.013	U	0.0066	U	0.0098	U	0.012	U
SW8260	BROMOMETHANE	mg/kg			25	0.04	0.0084	U	0.0076	U	0.008	U	0.0092	U	0.0074	U	0.0087	U	0.0089	U	0.007	U	0.013	U	0.0066	U	0.0098	U	0.012	U
SW8260	CARBON DISULFIDE	mg/kg			7800	6	0.00640		0.0011	J	0.0017	J	0.0013	J	0.003	U	0.0035	U	0.0036	U	0.0012	J	0.00990		0.0026	U	0.0011	J	0.0042	J
SW8260	CARBON TETRACHLORIDE	mg/kg			0.6	0.005	0.0034	U	0.003	U	0.0032	U	0.0037	U	0.003	U	0.0035	U	0.0036	U	0.0028	U	*0.0051*	*U*	0.0026	U	0.0039	U	0.0049	U
SW8260	CHLOROBENZENE	mg/kg			510	0.6	0.0034	U	0.003	U	0.0032	U	0.0037	U	0.003	U	0.0035	U	0.0036	U	0.0028	U	0.0051	U	0.0026	U	0.0039	U	0.0049	U
SW8260	CHLOROETHANE	mg/kg			220	NC	0.0084	U	0.0076	U	0.008	U	0.0092	U	0.0074	U	0.0087	U	0.0089	U	0.007	U	0.013	U	0.0066	U	0.0098	U	0.012	U
SW8260	CHLOROFORM	mg/kg			0.6	0.4	0.0034	U	0.003	U	0.0032	U	0.0037	U	0.003	U	0.0035	U	0.0036	U	0.0028	U	0.0051	U	0.0026	U	0.0039	U	0.0049	U
SW8260	CHLOROMETHANE	mg/kg			4	NC	0.0084	U	0.0076	U	0.008	U	0.0092	U	0.0074	U	0.0087	U	0.0089	U	0.007	U	0.013	U	0.0066	U	0.0098	U	0.012	U
SW8260	CIS-1,2-DICHLOROETHENE	mg/kg			230	0.3	0.0017	U	0.0015	U	0.0016	U	0.0018	U	0.0015	U	0.0017	U	0.0018	U	0.0014	U	0.0026	U	0.0013	U	0.002	U	0.0025	U
SW8260	CIS-1,3-DICHLOROPROPENE	mg/kg			NC	NC	0.0034	U	0.003	U	0.0032	U	0.0037	U	0.003	U	0.0035	U	0.0036	U	0.0028	U	0.0051	U	0.0026	U	0.0039	U	0.0049	U
SW8260	CYCLOHEXANE	mg/kg			NC	NC	0.0034	U	0.003	U	0.0032	U	0.0037	U	0.003	U	0.0035	U	0.0036	U	0.0028	U	0.0051	U	0.0026	U	0.0039	U	0.0049	U
SW8260	Dibromochloromethane	mg/kg			3	0.005	0.0034	U	0.003	U	0.0032	U	0.0037	U	0.003	U	0.0035	U	0.0036	U	0.0028	U	*0.0051*	*U*	0.0026	U	0.0039	U	0.0049	U
SW8260	DICHLORODIFLUOROMETHANE	mg/kg			490	39	0.0084	U	0.0076	U	0.008	U	0.0092	U	0.0074	U	0.0087	U	0.0089	U	0.007	U	0.013	U	0.0066	U	0.0098	U	0.012	U
SW8260	ETHYLBENZENE	mg/kg			7800	13	0.0017	U	0.0015	U	0.0016	U	0.0018	U	0.0015	U	0.0017	U	0.0018	U	0.0014	U	0.0026	U	0.0013	U	0.002	U	0.0025	U
SW8260	ISOPROPYLBENZENE	mg/kg			NC	NC	0.0084	U	0.0076	U	0.00041	J	0.0092	U	0.0074	U	0.0087	U	0.0089	U	0.007	U	0.013	U	0.0066	U	0.0098	U	0.012	U
SW8260	METHYL ACETATE	mg/kg			78000	22	0.0084	U	0.0076	U	0.008	U	0.0092	U	0.0074	U	0.0087	U	0.0089	U	0.007	U	0.013	U	0.0066	U	0.0098	U	0.012	U
SW8260	METHYL TERT-BUTYL ETHER	mg/kg			110	0.2	0.01200		0.0015	U	0.0016	U	0.0018	U	0.0015	U	0.0017	U	0.0018	U	0.0014	U	0.0026	U	0.0013	U	0.002	U	0.0025	U
SW8260	METHYLCYCLOHEXANE	mg/kg			NC	NC	0.00087	J	0.003	U	0.00099	J	0.0037	U	0.003	U	0.0035	U	0.0036	U	0.0028	U	0.0051	U	0.0026	U	0.0039	U	0.0049	U
SW8260	METHYLENE CHLORIDE	mg/kg			34	0.01	0.0084	U	0.0076	U	0.008	U	0.0092	U	0.0074	U	0.0087	U	0.0089	U	0.007	U	*0.013*	*U*	0.0066	U	0.0098	U	*0.012*	*U*
SW8260	O-XYLENE	mg/kg			NC	NC	0.0017	U	0.0015	U	0.0016	U	0.0018	U	0.0015	U	0.0017	U	0.0018	U	0.0014	U	0.0026	U	0.0013	U	0.002	U	0.0025	U
SW8260	STYRENE	mg/kg			90	3	0.0034	U	0.003	U	0.0032	U	0.0037	U	0.003	U	0.0035	U	0.0036	U	0.0028	U	0.0051	U	0.0026	U	0.0039	U	0.0049	U
SW8260	TETRACHLOROETHENE	mg/kg			2	0.005	0.0017	U	0.0015	U	0.0016	U	0.0018	U	0.0015	U	0.0017	U	0.0018	U	0.0014	U	0.0026	U	0.0013	U	0.002	U	0.0025	U
SW8260	TOLUENE	mg/kg			6300	7	0.0017	U	0.0015	U	0.0016	U	0.0018	U	0.0015	U	0.0017	U	0.0018	U	0.0014	U	0.0026	U	0.0013	U	0.00083	J	0.0025	U
SW8260	TRANS-1,2-DICHLOROETHENE	mg/kg			300	0.6	0.0017	U	0.0015	U	0.0016	U	0.0018	U	0.0015	U	0.0017	U	0.0018	U	0.0014	U	0.0026	U	0.0013	U	0.002	U	0.0025	U
SW8260	TRANS-1,3-DICHLOROPROPENE	mg/kg			NC	NC	0.0034	U	0.003	U	0.0032	U	0.0037	U	0.003	U	0.0035	U	0.0036	U	0.0028	U	0.0051	U	0.0026	U	0.0039	U	0.0049	U
SW8260	TRICHLOROETHENE	mg/kg			7	0.01	0.0017	U	0.0015	U	0.0016	U	0.0018	U	0.0015	U	0.0017	U	0.0018	U	0.0014	U	0.0026	U	0.0013	U	0.002	U	0.0025	U
SW8260	TRICHLOROFLUOROMETHANE	mg/kg			23000	34	0.0084	U	0.0076	U	0.008	U	0.0092	U	0.0074	U	0.0087	U	0.0089	U	0.007	U	0.013	U	0.0066	U	0.0098	U	0.012	U
SW8260	VINYL CHLORIDE	mg/kg			0.7	0.005	0.0034	U	0.003	U	0.0032	U	0.0037	U	0.003	U	0.0035	U	0.0036	U	0.0028	U	*0.0051*	*U*	0.0026	U	0.0039	U	0.0049	U
SW8260	XYLENES, M & P	mg/kg			NC	NC	0.0017	U	0.0015	U	0.0016	U	0.0018	U	0.0015	U	0.0017	U	0.0018	U	0.0014	U	0.0026	U	0.0013	U	0.002	U	0.0025	U
SW8260	XYLENES, TOTAL	mg/kg			12000	19	0.0017	U	0.0015	U	0.0016	U	0.0018	U	0.0015	U	0.0017	U	0.0018	U	0.0014	U	0.0026	U	0.0013	U	0.002	U	0.0025	U
SW8260	TOTAL TICS, ALKANES	mg/kg			NC	NC	0		0		0		0		0		0		0		0		0		0		0		0	
SW8260	TOTAL TICS, VOLATILES	mg/kg			NC	NC	0.011	J	0		0.0094	J	0		0		0		0		0		0		0		0.077	J	0	

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Results with a value of "0" indicates no TICs were detected

VOC: Volatile Organic Compounds

Prepared by: DP 05/25/2016

Reviewed by: JLD 12/15/2016

Waste Classification Table - VOCs

Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

		Client Sample ID			087-SB-620-A-0002		087-SB-621-C1-0204		087-SB-622-C2-0608		124-WC-100	
		Lab Sample ID			JB85847-26		JB85847-28		JB85847-29		JC29746-1R	
		Date Sampled			01/07/2015		01/07/2015		01/07/2015		10/14/2016	
		Sample Purpose	NJ 2012 MOST	NJ 2013 IGW	REG		REG		REG		REG	
Analytical Method	Parameter Name	Units	STRINGENT SRS	SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SW8260	1,1,1-TRICHLOROETHANE	mg/kg	290	0.3	0.0023	U	0.0032	U	0.0036	U	0.0018	U
SW8260	1,1,2,2-TETRACHLOROETHANE	mg/kg	1	0.007	0.0023	U	0.0032	U	0.0036	U	0.0018	U
SW8260	1,1,2-Trichloro-1,2,2-Trifluoroethane	mg/kg	NC	NC	0.0057	U	0.0079	U	0.009	U	0.0044	U
SW8260	1,1,2-TRICHLOROETHANE	mg/kg	2	0.02	0.0023	U	0.0032	U	0.0036	U	0.0018	U
SW8260	1,1-DICHLOROETHANE	mg/kg	8	0.2	0.0011	U	0.0016	U	0.0018	U	0.00089	U
SW8260	1,1-DICHLOROETHENE	mg/kg	11	0.008	0.0011	U	0.0016	U	0.0018	U	0.00089	U
SW8260	1,2,3-TRICHLOROBENZENE	mg/kg	NC	NC	0.0057	U	0.0079	U	0.009	U	0.0044	U
SW8260	1,2,4-TRICHLOROBENZENE	mg/kg	73	0.7	0.0057	U	0.0079	U	0.009	U	0.0044	U
SW8260	1,2-DIBROMO-3-CHLOROPROPANE	mg/kg	0.08	0.005	*0.0057*	*U*	*0.0079*	*U*	*0.009*	*U*	0.0018	U
SW8260	1,2-DIBROMOETHANE	mg/kg	0.008	0.005	0.0011	U	0.0016	U	0.0018	U	0.00089	U
SW8260	1,2-DICHLOROBENZENE	mg/kg	5300	17	0.0011	U	0.0016	U	0.0018	U	0.00089	U
SW8260	1,2-DICHLOROETHANE	mg/kg	0.9	0.005	0.0011	U	0.0016	U	0.0018	U	0.00089	U
SW8260	1,2-DICHLOROPROPANE	mg/kg	2	0.005	0.0023	U	0.0032	U	0.0036	U	0.0018	U
SW8260	1,3-DICHLOROBENZENE	mg/kg	5300	19	0.0011	U	0.0016	U	0.0018	U	0.00089	U
SW8260	1,4-DICHLOROBENZENE	mg/kg	5	2	0.0011	U	0.0016	U	0.0018	U	0.00089	U
SW8260	2-BUTANONE	mg/kg	3100	0.9	0.011	U	0.016	U	0.018	U	0.0089	U
SW8260	2-HEXANONE	mg/kg	NC	NC	0.0057	U	0.0079	U	0.009	U	0.0044	U
SW8260	4-METHYL-2-PENTANONE	mg/kg	NC	NC	0.0057	U	0.0079	U	0.009	U	0.0044	U
SW8260	ACETONE	mg/kg	70000	19	0.011	U	0.016	U	0.018	U	0.0089	U
SW8260	BENZENE	mg/kg	2	0.005	0.00057	U	0.00079	U	0.0009	U	0.00044	U
SW8260	BROMOCHLOROMETHANE	mg/kg	NC	NC	0.0057	U	0.0079	U	0.009	U	0.0044	U
SW8260	BROMODICHLOROMETHANE	mg/kg	1	0.005	0.0023	U	0.0032	U	0.0036	U	0.0018	U
SW8260	BROMOFORM	mg/kg	81	0.03	0.0057	U	0.0079	U	0.009	U	0.0044	U
SW8260	BROMOMETHANE	mg/kg	25	0.04	0.0057	U	0.0079	U	0.009	U	0.0044	U
SW8260	CARBON DISULFIDE	mg/kg	7800	6	0.0023	U	0.0032	U	0.0036	U	0.0018	U
SW8260	CARBON TETRACHLORIDE	mg/kg	0.6	0.005	0.0023	U	0.0032	U	0.0036	U	0.0018	U
SW8260	CHLOROBENZENE	mg/kg	510	0.6	0.0023	U	0.0032	U	0.0036	U	0.0018	U
SW8260	CHLOROETHANE	mg/kg	220	NC	0.0057	U	0.0079	U	0.009	U	0.0044	U
SW8260	CHLOROFORM	mg/kg	0.6	0.4	0.0023	U	0.0032	U	0.0036	U	0.0018	U
SW8260	CHLOROMETHANE	mg/kg	4	NC	0.0057	U	0.0079	U	0.009	U	0.0044	U
SW8260	CIS-1,2-DICHLOROETHENE	mg/kg	230	0.3	0.0011	U	0.0016	U	0.0018	U	0.00089	U
SW8260	CIS-1,3-DICHLOROPROPENE	mg/kg	NC	NC	0.0023	U	0.0032	U	0.0036	U	0.0018	U
SW8260	CYCLOHEXANE	mg/kg	NC	NC	0.0023	U	0.0032	U	0.0036	U	0.0018	U
SW8260	Dibromochloromethane	mg/kg	3	0.005	0.0023	U	0.0032	U	0.0036	U	0.0018	U
SW8260	DICHLORODIFLUOROMETHANE	mg/kg	490	39	0.0057	U	0.0079	U	0.009	U	0.0044	U
SW8260	ETHYLBENZENE	mg/kg	7800	13	0.0011	U	0.0016	U	0.0018	U	0.00089	U
SW8260	ISOPROPYLBENZENE	mg/kg	NC	NC	0.0057	U	0.0079	U	0.009	U	0.0018	U
SW8260	METHYL ACETATE	mg/kg	78000	22	0.0057	U	0.0079	U	0.009	U	0.0044	U
SW8260	METHYL TERT-BUTYL ETHER	mg/kg	110	0.2	0.0011	U	0.0016	U	0.0018	U	0.00089	U
SW8260	METHYLCYCLOHEXANE	mg/kg	NC	NC	0.0023	U	0.0032	U	0.0036	U	0.0018	U
SW8260	METHYLENE CHLORIDE	mg/kg	34	0.01	0.0057	U	0.0079	U	0.009	U	0.0044	U
SW8260	O-XYLENE	mg/kg	NC	NC	0.0011	U	0.0016	U	0.0018	U	0.00089	U
SW8260	STYRENE	mg/kg	90	3	0.0023	U	0.0032	U	0.0036	U	0.0018	U
SW8260	TETRACHLOROETHENE	mg/kg	2	0.005	0.0011	U	0.00250		0.001	J	0.0018	U
SW8260	TOLUENE	mg/kg	6300	7	0.0011	U	0.0016	U	0.0018	U	0.00089	U
SW8260	TRANS-1,2-DICHLOROETHENE	mg/kg	300	0.6	0.0011	U	0.0016	U	0.0018	U	0.00089	U
SW8260	TRANS-1,3-DICHLOROPROPENE	mg/kg	NC	NC	0.0023	U	0.0032	U	0.0036	U	0.0018	U
SW8260	TRICHLOROETHENE	mg/kg	7	0.01	0.0011	U	0.00210		0.0018	U	0.00089	U
SW8260	TRICHLOROFLUOROMETHANE	mg/kg	23000	34	0.0057	U	0.0079	U	0.009	U	0.0044	U
SW8260	VINYL CHLORIDE	mg/kg	0.7	0.005	0.0023	U	0.0032	U	0.0036	U	0.0018	U
SW8260	XYLENES, M & P	mg/kg	NC	NC	0.0011	U	0.0016	U	0.0018	U	0.00089	U
SW8260	XYLENES, TOTAL	mg/kg	12000	19	0.0011	U	0.0016	U	0.0018	U	0.00089	U
SW8260	TOTAL TICS, ALKANES	mg/kg	NC	NC	0		0		0		0	
SW8260	TOTAL TICS, VOLATILES	mg/kg	NC	NC	0		0		0		0	

Notes:
NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].
NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]
NC: No criterion established
Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS
Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS
Italicized values not detected; reporting limit exceeds criteria
Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per kilogram (mg/kg)
J: Estimated concentration
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit
Results with a value of "0" indicates no TICs were detected
VOC: Volatile Organic Compounds

Prepared by: DP 05/25/2016
Reviewed by: JLD 12/15/2016

Waste Classification Table - SVOCs

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

		Client Sample ID			087-WC-B-1016		087-WC-D-1014		087-WC-E-0913		087-WC-F-1014		087-WC-K-1418		087-WC-G-1012		087-WC-L-1216		087-WC-I-0812		087-WC-N-1216		087-WC-H-0812		087-WC-M-1318		087-WC-J-0812		087-WC-A-0004		087-WC-C-0408		124-087-WC-COMP	
		Lab Sample ID			JB85847-1		JB85847-3		JB85847-5		JB85847-7		JB85847-9		JB85847-11		JB85847-13		JB85847-15		JB85847-17		JB85847-19		JB85847-21		JB85847-23		JB85847-25		JB85847-27		JC29746-3	
		Date Sampled			01/06/2015		01/06/2015		01/06/2015		01/06/2015		01/06/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		10/14/2016	
		Sample Purpose	NJ 2012 MOST	NJ 2013 IGW	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Analytical Method	Parameter Name	Units	STRINGENT SRS	SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
SW8270	1,1'-BIPHENYL	mg/kg	3100	140	0.0373	J	0.09	U	0.11	U	0.085	U	0.12	U	0.099	U	0.13	U	0.09	U	0.14	U	0.098	U	0.0301	J	0.12	U	0.0291	J	0.33	U	0.11	U
SW8270	1,2,4,5-TETRACHLOROBENZENE	mg/kg	NC	NC	0.23	U	0.23	U	0.28	U	0.21	U	0.3	U	0.25	U	0.33	U	0.23	U	0.35	U	0.24	U	0.23	U	0.29	U	0.19	U	0.82	U	0.27	U
SW8270	1,4-DIOXANE	mg/kg	NC	NC	0.045	U	0.045	U	0.057	U	0.042	U	0.059	U	0.049	U	0.067	U	0.045	U	0.069	U	0.049	U	0.047	U	0.058	U	0.038	U	0.16	U	0.054	U
SW8270	2,2'-OXYBIS(1-CHLOROPROPANE)	mg/kg	23	5	0.09	U	0.09	U	0.11	U	0.085	U	0.12	U	0.099	U	0.13	U	0.09	U	0.14	U	0.098	U	0.093	U	0.12	U	0.076	U	0.33	U	0.11	U
SW8270	2,3,4,6-TETRACHLOROPHENOL	mg/kg	NC	NC	0.23	U	0.23	U	0.28	U	0.21	U	0.3	U	0.25	U	0.33	U	0.23	U	0.35	U	0.24	U	0.23	U	0.29	U	0.19	U	0.82	U	0.27	U
SW8270	2,4,5-TRICHLOROPHENOL	mg/kg	6100	68	0.23	U	0.23	U	0.28	U	0.21	U	0.3	U	0.25	U	0.33	U	0.23	U	0.35	U	0.24	U	0.23	U	0.29	U	0.19	U	0.82	U	0.27	U
SW8270	2,4,6-TRICHLOROPHENOL	mg/kg	19	0.2	0.23	U	0.23	U	0.28	U	0.21	U	0.3	U	0.25	U	0.33	U	0.23	U	0.35	U	0.24	U	0.23	U	0.29	U	0.19	U	0.82	U	0.27	U
SW8270	2,4-DICHLOROPHENOL	mg/kg	180	0.2	0.23	U	0.23	U	0.28	U	0.21	U	0.3	U	0.25	U	0.33	U	0.23	U	0.35	U	0.24	U	0.23	U	0.29	U	0.19	U	0.82	U	0.27	U
SW8270	2,4-DIMETHYLPHENOL	mg/kg	1200	1	0.23	U	0.23	U	0.28	U	0.21	U	0.3	U	0.25	U	0.33	U	0.23	U	0.35	U	0.24	U	0.23	U	0.29	U	0.19	U	0.82	U	0.27	U
SW8270	2,4-DINITROPHENOL	mg/kg	120	0.3	0.9	U	0.9	U	1.1	U	0.85	U	1.2	U	0.99	U	1.3	U	0.9	U	1.4	U	0.98	U	0.93	U	1.2	U	0.76	U	3.3	U	0.27	U
SW8270	2,4-DINITROTOLUENE	mg/kg	0.7	NC	0.045	U	0.045	U	0.057	U	0.042	U	0.059	U	0.049	U	0.067	U	0.045	U	0.069	U	0.049	U	0.047	U	0.058	U	0.038	U	0.16	U	0.054	U
SW8270	2,6-DINITROTOLUENE	mg/kg	0.7	NC	0.045	U	0.045	U	0.057	U	0.042	U	0.059	U	0.049	U	0.067	U	0.045	U	0.069	U	0.049	U	0.047	U	0.058	U	0.038	U	0.16	U	0.054	U
SW8270	2-CHLORONAPHTHALENE	mg/kg	NC	NC	0.09	U	0.09	U	0.11	U	0.085	U	0.12	U	0.099	U	0.13	U	0.09	U	0.14	U	0.098	U	0.093	U	0.12	U	0.076	U	0.33	U	0.11	U
SW8270	2-CHLOROPHENOL	mg/kg	310	0.8	0.09	U	0.09	U	0.11	U	0.085	U	0.12	U	0.099	U	0.13	U	0.09	U	0.14	U	0.098	U	0.093	U	0.12	U	0.076	U	0.33	U	0.11	U
SW8270	2-METHYLNAPHTHALENE	mg/kg	230	8	0.0904		0.0594	J	0.0997	J	0.085	U	0.0417	J	0.0383	J	0.13	U	0.0276	J	0.14	U	0.098	U	0.167		0.12	U	0.119		0.33	U	0.11	U
SW8270	2-METHYLPHENOL	mg/kg	310	NC	0.09	U	0.09	U	0.11	U	0.085	U	0.12	U	0.099	U	0.13	U	0.09	U	0.14	U	0.098	U	0.093	U	0.12	U	0.076	U	0.33	U	0.11	U
SW8270	2-NITROANILINE	mg/kg	39	NC	0.23	U	0.23	U	0.28	U	0.21	U	0.3	U	0.25	U	0.33	U	0.23	U	0.35	U	0.24	U	0.23	U	0.29	U	0.19	U	0.82	U	0.27	U
SW8270	2-NITROPHENOL	mg/kg	NC	NC	0.23	U	0.23	U	0.28	U	0.21	U	0.3	U	0.25	U	0.33	U	0.23	U	0.35	U	0.24	U	0.23	U	0.29	U	0.19	U	0.82	U	0.27	U
SW8270	3&4-METHYLPHENOL	mg/kg	NC	NC	0.0703	J	0.09	U	0.11	U	0.085	U	0.086	J	0.099	U	0.13	U	0.09	U	0.14	U	0.098	U	0.093	U	0.12	U	0.076	U	0.33	U	0.11	U
SW8270	3,3'-DICHLOROBENZIDINE	mg/kg	1	0.2	0.09	U	0.09	U	0.11	U	0.085	U	0.12	U	0.099	U	0.13	U	0.09	U	0.14	U	0.098	U	0.093	U	0.12	U	0.076	U	0.33	U	0.11	U
SW8270	3-NITROANILINE	mg/kg	NC	NC	0.23	U	0.23	U	0.28	U	0.21	U	0.3	U	0.25	U	0.33	U	0.23	U	0.35	U	0.24	U	0.23	U	0.29	U	0.19	U	0.82	U	0.27	U
SW8270	4,6-DINITRO-2-METHYLPHENOL	mg/kg	6	0.3	0.9	U	0.9	U	1.1	U	0.85	U	1.2	U	0.99	U	1.3	U	0.9	U	1.4	U	0.98	U	0.93	U	1.2	U	0.76	U	3.3	U	0.27	U
SW8270	4-BROMOPHENYL PHENYL ETHER	mg/kg	NC	NC	0.09	U	0.09	U	0.11	U	0.085	U	0.12	U	0.099	U	0.13	U	0.09	U	0.14	U	0.098	U	0.093	U	0.12	U	0.076	U	0.33	U	0.11	U
SW8270	4-CHLORO-3-METHYLPHENOL	mg/kg	NC	NC	0.23	U	0.23	U	0.28	U	0.21	U	0.3	U	0.25	U	0.33	U	0.23	U	0.35	U	0.24	U	0.23	U	0.29	U	0.19	U	0.82	U	0.27	U
SW8270	4-CHLOROANILINE	mg/kg	NC	NC	0.23	U	0.23	U	0.28	U	0.21	U	0.3	U	0.25	U	0.33	U	0.23	U	0.35	U	0.24	U	0.23	U	0.29	U	0.19	U	0.82	U	0.27	U
SW8270	4-CHLOROPHENYL PHENYL ETHER	mg/kg	NC	NC	0.09	U	0.09	U	0.11	U	0.085	U	0.12	U	0.099	U	0.13	U	0.09	U	0.14	U	0.098	U	0.093	U	0.12	U	0.076	U	0.33	U	0.11	U
SW8270	4-NITROANILINE	mg/kg	NC	NC	0.23	U	0.23	U	0.28	U	0.21	U	0.3	U	0.25	U	0.33	U	0.23	U	0.35	U	0.24	U	0.23	U	0.29	U	0.19	U	0.82	U	0.27	U
SW8270	4-NITROPHENOL	mg/kg	NC	NC	0.45	U	0.45	U	0.57	U	0.42	U	0.59	U	0.49	U	0.67	U	0.45	U	0.69	U	0.49	U	0.47	U	0.58	U	0.38	U	1.6	U	0.54	U
SW8270	ACENAPHTHENE	mg/kg	3400	110	0.13		0.055		0.158		0.0492		0.059	U	0.0231	J	0.067	U	0.045	U	0.069	U	0.0592		0.0658		0.058	U	0.251		0.16	U	0.054	U
SW8270	ACENAPHTHYLENE	mg/kg	300000	NC	0.0766		0.0197	J	0.122		0.042	U	0.0384	J	0.049	U	0.067	U	0.045	U	0.115		0.049	U	0.047	U	0.058	U	0.115		0.16	U	0.054	U
SW8270	ACETOPHENONE	mg/kg	2	3	0.23	U	0.23	U	0.28	U	0.21	U	0.3	U	0.25	U	0.33	U	0.23	U	0.35	U	0.24	U	0.23	U	0.29	U	0.19	U	0.82	U	0.27	U
SW8270	ANTHRACENE	mg/kg	17000	2400	0.319		0.214		0.32		0.149		0.0589	J	0.0484	J	0.0522	J	0.0708		0.115		0.195		0.0828		0.0442	J	0.708		0.16	U	0.054	U
SW8270	ATRAZINE	mg/kg	210	0.2	0.09	U	0.09	U	0.11	U	0.085	U	0.12	U	0.099	U	0.13	U	0.09	U	0.14	U	0.098	U	0.093	U	0.12	U	0.076	U	0.33	U	0.11	U
SW8270	BENZALDEHYDE	mg/kg	6100	NC	0.23	U	0.23	U	0.28	U	0.21	U	0.3	U	0.25	U	0.33	U	0.23	U	0.35	U	0.24	U	0.23	U	0.0513	J	0.19	U	0.82	U	0.27	U
SW8270	BENZO(A)ANTHRACENE	mg/kg	0.6	0.8	0.455		0.218		**1.05**		0.564		0.234		0.14		0.133		0.146		0.374		0.483		0.232		0.113		**2.24**		0.142	J	0.0331	J
SW8270	BENZO(A)PYRENE	mg/kg	0.2	0.2	**0.376**		0.169		**1.1**		**0.615**		**0.262**		0.126		0.124		0.156		**0.527**		**0.442**		**0.264**		0.11		**2.18**		0.182		0.0321	J
SW8270	BENZO(B)FLUORANTHENE	mg/kg	0.6	2	0.344		0.241		**1.21**		**0.662**		0.347		0.152		0.155		0.199		0.516		0.497		0.312		0.138		**2.49**		0.23		0.0464	J
SW8270	BENZO(G,H,I)PERYLENE	mg/kg	30000	NC	0.147		0.163		0.623		0.328		0.201		0.0789		0.0864		0.119		0.357		0.209		0.159		0.0627		1.16		0.213		0.054	U
SW8270	BENZO(K)FLUORANTHENE	mg/kg	6	25	0.132		0.08		0.481		0.234		0.12		0.0609		0.0549	J	0.0659		0.169		0.194		0.103		0.0497	J	0.88		0.0875	J	0.054	U
SW8270	BIS(2-CHLOROETHOXY)METHANE	mg/kg	NC	NC	0.09	U	0.09	U	0.11	U	0.085	U	0.12	U	0.099	U	0.13	U	0.09	U	0.14	U	0.098	U	0.093	U	0.12	U	0.076	U	0.33	U	0.11	U
SW8270	BIS(2-CHLOROETHYL)ETHER	mg/kg	0.4	0.2	0.09	U	0.09	U	0.11	U	0.085	U	0.12	U	0.099	U	0.13	U	0.09	U	0.14	U	0.098	U	0.093	U	0.12	U	0.076	U	0.33	U	0.11	U
SW8270	BIS(2-ETHYLHEXYL)PHTHALATE	mg/kg	35	1200	0.09	U	0.09	U	0.11	U	0.085	U	0.12	U	0.099	U	0.13	U	0.0482	J	0.14	U	0.098	U	0.093	U	0.12	U	0.127		0.413		0.249	
SW8270	BUTYLBENZYL PHTHALATE	mg/kg	1200	230	0.09	U	0.09	U	0.11	U	0.085	U	0.12	U	0.099	U	0.13	U	0.09	U	0.14	U	0.098	U	0.093	U	0.12	U	0.076	U	0.33	U	0.11	U
SW8270	CAPROLACTAM	mg/kg	31000	12	0.09	U	0.09	U	0.11	U	0.085	U	0.12	U	0.099	U	0.13	U	0.09	U	0.14	U	0.098	U	0.093	U	0.12	U	0.076	U	0.33	U	0.11	U
SW8270	CARBAZOLE	mg/kg	24	NC	0.0319	J	0.0307	J	0.177		0.0611	J	0.0309	J	0.099	U	0.13	U	0.09	U	0.14	U	0.102		0.0397	J	0.12	U	0.262		0.33	U	0.0395	J
SW8270	CHRYSENE	mg/kg	62	80	0.489		0.315		1.11		0.59		0.321		0.155		0.157		0.177		0.441		0.468		0.278		0.127		2.3		0.16		0.038	J
SW8270	DI-N-BUTYL PHTHALATE	mg/kg	6100	760	0.0522	J	0.09	U	0.11	U	0.085	U	0.12	U	0.099	U	0.13	U	0.09	U	0.14	U	0.098	U	0.093	U	0.12	U	0.076	U	0.33	U	0.11	U
SW8270	DI-N-OCTYL PHTHALATE	mg/kg	2400	3300	0.09	U	0.09	U	0.11	U	0.085	U	0.12	U	0.099	U	0.13	U	0.09	U	0.14	U	0.098	U	0.093	U	0.12	U	0.076	U	0.33	U	0.11	U
SW8270	DIBENZO(A,H)ANTHRACENE	mg/kg	0.2	0.8	0.0504		0.0337	J	0.158		0.091		0.0452	J	0.023	J	0.067	U	0.0301	J	0.0828		0.0619		0.0463	J	0.058	U	**0.336**		0.16	U	0.054	U
SW8270	DIBENZOFURAN	mg/kg	NC	NC	0.0393	J	0.0611	J	0.107	J	0.0219	J	0.0256	J	0.099	U	0.13	U	0.09	U	0.14	U	0.0393	J	0.0306	J	0.12	U	0.14		0.33	U	0.11	U
SW8270	DIETHYL PHTHALATE	mg/kg	49000	88	0.09	U	0.09	U	0.11	U	0.085	U	0.12	U	0.099	U	0.13	U	0.09	U	0.14	U	0.098	U	0.093	U	0.12	U	0.076	U	0.33	U	0.11	U
SW8270	DIMETHYL PHTHALATE	mg/kg	NC	NC	0.09	U	0.09	U	0.11	U	0.085	U	0.12	U	0.099	U	0.13	U	0.09	U	0.14	U	0.098	U	0.093	U	0.12	U	0.076	U	0.33	U	0.11	U
SW8270	FLUORANTHENE	mg/kg	2300	1300	0.685		0.607		1.71		0.738		0.382		0.218		0.241		0.221		0.373		0.788		0.367		0.194		3.54		0.133	J	0.111	
SW8270	FLUORENE	mg/kg	2300	170	0.152		0.0913		0.229		0.0579		0.0311	J	0.02	J	0.0273	J	0.045	U	0.0377	J	0.0861		0.0502		0.0265	J	0.264		0.16	U	0.054	U
SW8270	HEXACHLOROBENZENE	mg/kg	0.3	0.2	0.09	U	0.09	U	0.11	U	0.085	U	0.12	U	0.099	U	0.13	U	0.09	U	0.14	U	0.098	U	0.093	U	0.12	U	0.076	U	0.33	U	0.11	U
SW8270	HEXACHLOROBUTADIENE	mg/kg	6	0.9	0.045	U	0.045	U	0.057	U	0.042	U	0.059	U	0.049	U	0.067	U	0.045	U	0.069	U	0.049	U	0.047	U	0.058	U	0.038	U	0.16	U	0.054	U
SW8270	HEXACHLOROCYCLOPENTADIENE	mg/kg	45	320	0.45	U	0.45	U	0.57	U	0.42	U	0.59	U	0.49	U	0.67	U	0.45	U	0.69	U	0.49	U	0.47	U	0.58	U	0.38	U	1.6	U	0.54	U
SW8270	HEXACHLOROETHANE	mg/kg	35	0.2	0.23	U	0.23	U	0.28	U	0.21	U	0.3	U	0.25	U	0.33	U	0.23	U	0.35	U	0.24	U	0.23	U	0.29	U	0.19	U	0.82	U	0.27	U
SW8270	INDENO(1,2,3-CD)PYRENE	mg/kg	0.6	7	0.145		0.122		**0.67**		0.337		0.194		0.0811		0.088		0.112		0.316		0.229		0.16		0.0769		**1.26**		0.167		0.054	U
SW8270	ISOPHORONE	mg/kg	510	0.2	0.09	U	0.09	U	0.11	U	0.085	U	0.12	U	0.099	U	0.13	U	0.09	U	0.14	U	0.098	U	0.093	U	0.12	U	0.076	U	0.33	U	0.11	U
SW8270	N-NITROSO-DI-N-PROPYLAMINE	mg/kg	0.2	0.2	0.09	U	0.09	U	0.11	U	0.085	U	0.12	U	0.099	U	0.13	U	0.09	U	0.14	U	0.098	U	0.093	U	0.12	U	0.076	U	0.33	U	0.11	U
SW8270	N-NITROSODIPHENYLAMINE	mg/kg	99	0.4	0.23	U	0.23	U	0.28	U	0.21	U	0.3	U	0.25	U	0.33	U	0.23	U	0.35	U	0.24	U	0.23	U	0.29	U	0.19	U	0.82	U	0.27	U
SW8270	NAPHTHALENE	mg/kg	6	25	0.175		0.0796		0.222		0.072		0.075		0.0464	J	0.0461	J	0.0375	J	0.06	J	0.0236	J	0.151		0.0316	J	0.137		0.16	U	0.054	U
SW8270	NITROBENZENE	mg/kg	31	0.2	0.09	U	0.09	U	0.11	U	0.085	U	0.12	U	0.099	U	0.13	U	0.09	U	0.14	U	0.098	U	0.093	U	0.12	U	0.076	U	0.33	U	0.11	U
SW8270	PENTACHLOROPHENOL	mg/kg	3	0.3	0.45	U	0.45	U	0.57	U	0.42	U	0.59	U	0.49	U	0.67	U	0.45	U	0.69	U	0.49	U	0.47	U	0.58	U	0.38	U	1.6	U	0.22	U
SW8270	PHENANTHRENE	mg/kg	300000	NC	0.666		0.588		1.58		0.585		0.25		0.206		0.262		0.152		0.188		0.761		0.376		0.166		3.03		0.0876	J	0.0635	
SW8270	PHENOL	mg/kg	18000	8	0.0666	J	0.09	U	0.11	U	0.085	U	0.0821	J	0.099	U	0.122	J	0.09	U	0.14	U	0.098	U	0.093	U	0.12	U	0.076	U	0.33	U	0.186	
SW8270	PYRENE	mg/kg	1700	840	0.94		0.725		2.05		0.957		0.474		0.26		0.264		0.261		0.6		0.863		0.463		0.058	U	3.7		0.229		0.0833	
SW8270	TOTAL TICS, ALKANES	mg/kg	NC	NC	3.05	J	0.75	J	0.35	J	0.26	J	6.27	J	1.84	J	1.76	J	0		0		0		1.18	J	1.44	J	0		0		0	
SW8270	TOTAL TICS, SEMI-VOLATILES	mg/kg	NC	NC	17.11	J	16.05	J	38.31	J	12.56	J	43.09	J	1.45	J	29.54	J	21.28	J	30.13	J	9.3	J	5.37	J	17.65	J	13.3	J	22.83	J	0.25	J

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Results with a value of "0" indicates no TICs were detected

SVOC: Semi-Volatile Organic Compounds

Prepared by: DP 05/25/2016

Reviewed by: JLD 12/15/2016

Waste Classification Table - Metals

Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

					087-WC-B-1016		087-WC-D-1014		087-WC-E-0913		087-WC-F-1014		087-WC-K-1418		087-WC-G-1012		087-WC-L-1216		087-WC-I-0812		087-WC-N-1216		087-WC-H-0812		087-WC-M-1318		087-WC-J-0812		087-WC-A-0004		087-WC-C-0408		124-087-WC-COMP	
		Lab Sample ID			JB85847-1		JB85847-3		JB85847-5		JB85847-7		JB85847-9		JB85847-11		JB85847-13		JB85847-15		JB85847-17		JB85847-19		JB85847-21		JB85847-23		JB85847-25		JB85847-27		JC29746-3	
		Date Sampled			01/06/2015		01/06/2015		01/06/2015		01/06/2015		01/06/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		10/14/2016	
		Sample Purpose	NJ 2012 MOST	NJ 2013 IGW	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Analytical Method	**Parameter Name**	**Units**	**STRINGENT SRS**	**SOIL**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
SW6010	ARSENIC	mg/kg	19	19	10.1		16.1		**32.6**		14.8		**46.8**		9.9		**20.3**		12.6		**75.8**		**19.8**		14.4		13.9		**19.3**		17.3		1.8	
SW6010	BARIUM	mg/kg	16000	2100	68.3		806		578		880		234		100		130		69		207		863		167		243		341		**2230**		67.6	
SW6010	BERYLLIUM	mg/kg	16	0.7	**0.98**		0.46		0.69		0.32		**1**		**0.95**		**1.3**		0.45		**1.2**		0.49		**1.4**		0.53		0.68		*0.79*	*U*	0.45	U
SW6010	CADMIUM	mg/kg	78	2	0.66	U	1.6		**2.4**		**18**		0.86	U	*2.2*	*U*	*2.9*	*U*	0.67	U	1.1	U	**2.3**		*2.2*	*U*	0.91	U	2		**7.3**		0.37	U
SW6010	CHROMIUM	mg/kg	NC	NC	113		22.5		673		82.1		7180		11900		21300		169		1130		357		19100		303		1010		106		139	
SW6010	COPPER	mg/kg	3100	11000	41.8		427		106		113		187		31		36.6		24.1		248		185		40.4		337		215		1450		39.3	
SW6010	LEAD	mg/kg	400	90	38.8		**700**		**1150**		**787**		**447**		**96.3**		69.6		71.3		**516**		**1350**		**133**		**364**		**804**		**2750**		16.5	
SW7471	MERCURY	mg/kg	23	0.1	**3.1**		**0.49**		**1.6**		**0.69**		**3.7**		**1.6**		**0.74**		**0.58**		**19.1**		**2.3**		**0.44**		**32.1**		**0.96**		**17.2**		**0.13**	
SW6010	NICKEL	mg/kg	1600	48	29.5		40.8		26.2		15.5		**178**		**258**		**466**		15		**59**		26.6		**408**		12.4		**62.5**		**91.3**		24.4	
SW6010	SELENIUM	mg/kg	390	11	2.6	U	3.1	U	3.3	U	2.9	U	3.4	U	8.8	U	*12*	*U*	2.7	U	4.6	U	3.8		9	U	3.6	U	2.3	U	7.9	U	1.5	U
SW6010	SILVER	mg/kg	390	1	0.66	U	**1.1**		0.82	U	0.84		**1.9**		*2.2*	*U*	*2.9*	*U*	0.67	U	**1.6**		1		*2.2*	*U*	0.91	U	0.57	U	**6.8**		0.43	
SW6010	VANADIUM	mg/kg	78	NC	35.4		17.2		28.6		17.3		**104**		**196**		**242**		23.5		52.4		21.1		**212**		21.3		**86.2**		45.5		30	
SW6010	ZINC	mg/kg	23000	930	98.7		**933**		**1110**		**2650**		250		108		144		303		499		**1180**		218		703		**988**		**3060**		37.8	

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Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per kilogram (mg/kg)
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Prepared by: DP 05/25/2016
Reviewed by: JLD 12/15/2016

Waste Classification Table - EPH

Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

		Client Sample ID	087-WC-B-1016		087-WC-D-1014		087-WC-E-0913		087-WC-F-1014		087-WC-K-1418		087-WC-G-1012		087-WC-L-1216		087-WC-I-0812		087-WC-N-1216		087-WC-H-0812		087-WC-M-1318		087-WC-J-0812		087-WC-A-0004		087-WC-C-0408		124-WC-100		124-087-WC-COMP	
		Lab Sample ID	JB85847-1		JB85847-3		JB85847-5		JB85847-7		JB85847-9		JB85847-11		JB85847-13		JB85847-15		JB85847-17		JB85847-19		JB85847-21		JB85847-23		JB85847-25		JB85847-27		JC29746-1R		JC29746-3	
		Date Sampled	01/06/2015		01/06/2015		01/06/2015		01/06/2015		01/06/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		10/14/2016		10/14/2016	
		Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Analytical Method	**Parameter Name**	**Units**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
SW8015	PETROLEUM HYDROCARBONS C10-C28	mg/kg	215		141		1010		302		109		96.7		105		193		421		204		71.6		687		123		210		NS		15.3	
SW8015	PHC AS GASOLINE	mg/kg	18.1		21	U	24	U	18	U	26	U	20	U	30	U	17	U	42	U	20	U	19	U	25	U	13	U	17	U	9.8	U	NS	

Notes:
NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].
NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]
NC: No criterion established
Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS
Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS
Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per kilogram (mg/kg)
NS: Not sampled
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit
EPH: Extractable Petroleum Hydrocarons
PHC: Petroleum Hydrocarbons

Prepared by: DP 05/25/2016
Reviewed by: JLD 12/15/2016

Waste Classification Table - Pesticides and PCBs

Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

		Client Sample ID			087-WC-B-1016		087-WC-D-1014		087-WC-E-0913		087-WC-F-1014		087-WC-K-1418		087-WC-G-1012		087-WC-L-1216		087-WC-I-0812		087-WC-N-1216		087-WC-H-0812		087-WC-M-1318		087-WC-J-0812		087-WC-A-0004		087-WC-C-0408		124-087-WC-COMP	
		Lab Sample ID			JB85847-1		JB85847-3		JB85847-5		JB85847-7		JB85847-9		JB85847-11		JB85847-13		JB85847-15		JB85847-17		JB85847-19		JB85847-21		JB85847-23		JB85847-25		JB85847-27		JC29746-3	
		Date Sampled	NJ 2012 MOST	NJ 2013 IGW	01/06/2015		01/06/2015		01/06/2015		01/06/2015		01/06/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		10/14/2016	
		Sample Purpose	STRINGENT SRS	SOIL	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Analytical Method	**Parameter Name**	**Units**			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
SW8081	4,4'-DDD	mg/kg	3	4	0.00082	U	0.001	U	0.001	U	0.00092	U	0.0012	U	0.00097	U	0.0013	U	0.00091	U	0.0015	U	0.00087	U	0.00200		0.0011	U	0.01090		0.0009	U	0.0011	U
SW8081	4,4'-DDE	mg/kg	2	18	0.00082	U	0.001	U	0.001	U	0.00092	U	0.0012	U	0.00097	U	0.0013	U	0.00091	U	0.0015	U	0.00087	U	0.00093	U	0.0011	U	0.01170		0.0009	U	0.00064	J
SW8081	4,4'-DDT	mg/kg	2	11	0.00082	U	0.001	U	0.001	U	0.00092	U	0.0012	U	0.00097	U	0.0013	U	0.00091	U	0.0015	U	0.00087	U	0.00093	U	0.0011	U	0.02940		0.0009	U	0.0021	
SW8081	ALDRIN	mg/kg	0.04	0.2	0.00082	U	0.001	U	0.001	U	0.00092	U	0.0012	U	0.00097	U	0.0013	U	0.00091	U	0.0015	U	0.00087	U	0.00093	U	0.0011	U	0.00075	U	0.0009	U	0.0011	U
SW8081	ALPHA-BHC	mg/kg	0.1	0.002	0.00082	U	0.001	U	0.001	U	0.00092	U	0.0012	U	0.00097	U	0.0013	U	0.00091	U	0.0015	U	0.00087	U	0.00093	U	0.0011	U	0.00075	U	0.0009	U	0.0011	U
SW8081	ALPHA-CHLORDANE	mg/kg	NC	NC	0.00082	U	0.001	U	0.001	U	0.00092	U	0.0012	U	0.00097	U	0.0013	U	0.00091	U	0.0015	U	0.00087	U	0.00093	U	0.0011	U	0.00230		0.0009	U	0.0011	U
SW8081	BETA-BHC	mg/kg	0.4	0.002	0.00082	U	0.001	U	0.001	U	0.00092	U	0.0012	U	0.00097	U	0.0013	U	0.00091	U	0.0015	U	0.00087	U	0.00093	U	0.0011	U	0.00075	U	0.0009	U	0.0011	U
SW8081	BETA-CHLORDANE	mg/kg	NC	NC	0.00082	U	0.001	U	0.001	U	0.00092	U	0.0012	U	0.00097	U	0.0013	U	0.00091	U	0.0015	U	0.00087	U	0.00093	U	0.0011	U	0.00350		0.0009	U	0.0011	U
SW8081	CHLORDANE	mg/kg	0.2	0.05	0.00082	U	0.001	U	0.001	U	0.00092	U	0.0012	U	0.00097	U	0.0013	U	0.00091	U	0.0015	U	0.00087	U	0.00093	U	0.00200		0.00580		0.0009	U	NS	
SW8081	DELTA-BHC	mg/kg	NC	NC	0.00082	U	0.001	U	0.001	U	0.00092	U	0.0012	U	0.00097	U	0.0013	U	0.00091	U	0.0015	U	0.00087	U	0.00093	U	0.0011	U	0.00075	U	0.0009	U	0.0011	U
SW8081	DIELDRIN	mg/kg	0.04	0.003	0.00082	U	0.001	U	0.001	U	0.00092	U	0.0012	U	0.00097	U	0.0013	U	0.00091	U	0.0015	U	0.00087	U	0.00093	U	0.0011	U	0.00075	U	0.0009	U	0.0011	U
SW8081	ENDOSULFAN I	mg/kg	NC	NC	0.00082	U	0.001	U	0.001	U	0.00092	U	0.0012	U	0.00097	U	0.0013	U	0.00091	U	0.0015	U	0.00087	U	0.00093	U	0.0011	U	0.00075	U	0.0009	U	0.0011	U
SW8081	ENDOSULFAN II	mg/kg	NC	NC	0.00082	U	0.001	U	0.001	U	0.00092	U	0.0012	U	0.00097	U	0.0013	U	0.00091	U	0.0015	U	0.00087	U	0.00093	U	0.0011	U	0.00075	U	0.0009	U	0.0011	U
SW8081	ENDOSULFAN SULFATE	mg/kg	470	2	0.00082	U	0.001	U	0.001	U	0.00092	U	0.0012	U	0.00097	U	0.0013	U	0.00091	U	0.0015	U	0.00087	U	0.00093	U	0.0011	U	0.00075	U	0.0009	U	0.0011	U
SW8081	ENDRIN	mg/kg	23	1	0.00082	U	0.001	U	0.001	U	0.00092	U	0.0012	U	0.00097	U	0.0013	U	0.00091	U	0.0015	U	0.00087	U	0.00093	U	0.0011	U	0.00075	U	0.0009	U	0.0011	U
SW8081	ENDRIN ALDEHYDE	mg/kg	NC	NC	0.00082	U	0.001	U	0.001	U	0.00092	U	0.0012	U	0.00097	U	0.0013	U	0.00091	U	0.0015	U	0.00087	U	0.00093	U	0.0011	U	0.00075	U	0.0009	U	0.0011	U
SW8081	ENDRIN KETONE	mg/kg	NC	NC	0.00082	U	0.001	U	0.001	U	0.00092	U	0.0012	U	0.00097	U	0.0013	U	0.00091	U	0.0015	U	0.00087	U	0.00093	U	0.0011	U	0.00075	U	0.0009	U	0.0011	U
SW8081	GAMMA-BHC (LINDANE)	mg/kg	0.4	0.002	0.00082	U	0.001	U	0.001	U	0.00092	U	0.0012	U	0.00097	U	0.0013	U	0.00091	U	0.0015	U	0.00087	U	0.00093	U	0.0011	U	0.00075	U	0.0009	U	0.0011	U
SW8081	HEPTACHLOR	mg/kg	0.1	0.5	0.00082	U	0.001	U	0.001	U	0.00092	U	0.0012	U	0.00097	U	0.0013	U	0.00091	U	0.0015	U	0.00087	U	0.00093	U	0.0011	U	0.00075	U	0.0009	U	0.0011	U
SW8081	HEPTACHLOR EPOXIDE	mg/kg	0.07	0.01	0.00082	U	0.001	U	0.001	U	0.00092	U	0.0012	U	0.00097	U	0.0013	U	0.00091	U	0.0015	U	0.00087	U	0.00093	U	0.0011	U	0.00190		0.0009	U	0.0011	U
SW8081	METHOXYCHLOR	mg/kg	390	160	0.0016	U	0.002	U	0.0021	U	0.0018	U	0.0023	U	0.0019	U	0.0026	U	0.0018	U	0.0031	U	0.0017	U	0.0019	U	0.0022	U	0.0015	U	0.0018	U	0.0022	U
SW8081	TOXAPHENE	mg/kg	0.6	0.3	0.021	U	0.026	U	0.026	U	0.023	U	0.029	U	0.024	U	0.033	U	0.023	U	0.039	U	0.022	U	0.023	U	0.028	U	0.019	U	0.023	U	0.028	U
SW8082	AROCLOR-1016	mg/kg	NC	NC	0.041	U	0.051	U	0.052	U	0.046	U	0.058	U	0.048	U	0.066	U	0.045	U	0.077	U	0.044	U	0.047	U	0.055	U	0.038	U	0.045	U	0.056	U
SW8082	AROCLOR-1221	mg/kg	NC	NC	0.041	U	0.051	U	0.052	U	0.046	U	0.058	U	0.048	U	0.066	U	0.045	U	0.077	U	0.044	U	0.047	U	0.055	U	0.038	U	0.045	U	0.056	U
SW8082	AROCLOR-1232	mg/kg	NC	NC	0.041	U	0.051	U	0.052	U	0.046	U	0.058	U	0.048	U	0.066	U	0.045	U	0.077	U	0.044	U	0.047	U	0.055	U	0.038	U	0.045	U	0.056	U
SW8082	AROCLOR-1242	mg/kg	NC	NC	0.041	U	0.051	U	0.052	U	0.046	U	0.058	U	0.048	U	0.066	U	0.045	U	0.077	U	0.044	U	0.047	U	0.055	U	0.038	U	0.045	U	0.056	U
SW8082	AROCLOR-1248	mg/kg	NC	NC	0.041	U	0.051	U	0.052	U	0.046	U	0.058	U	0.048	U	0.066	U	0.045	U	0.077	U	0.044	U	0.047	U	0.055	U	0.038	U	2.59		0.056	U
SW8082	AROCLOR-1254	mg/kg	NC	NC	0.041	U	0.051	U	0.052	U	0.046	U	0.058	U	0.048	U	0.066	U	0.045	U	0.077	U	0.044	U	0.047	U	0.055	U	0.038	U	1.52		0.056	U
SW8082	AROCLOR-1260	mg/kg	NC	NC	0.041	U	0.051	U	0.052	U	0.046	U	0.058	U	0.048	U	0.066	U	0.045	U	0.077	U	0.044	U	0.047	U	0.055	U	0.038	U	0.667		0.056	U
SW8082	AROCLOR-1262	mg/kg	NC	NC	0.041	U	0.051	U	0.052	U	0.046	U	0.058	U	0.048	U	0.066	U	0.045	U	0.077	U	0.044	U	0.047	U	0.055	U	0.038	U	0.045	U	0.056	U
SW8082	AROCLOR-1268	mg/kg	NC	NC	0.041	U	0.051	U	0.052	U	0.046	U	0.058	U	0.048	U	0.066	U	0.045	U	0.077	U	0.044	U	0.047	U	0.055	U	0.038	U	0.045	U	0.056	U
	Total PCBs	mg/kg	0.2	0.2	0.041	U	0.051	U	0.052	U	0.046	U	0.058	U	0.048	U	0.066	U	0.045	U	0.077	U	0.044	U	0.047	U	0.055	U	0.038	U	**4.777**		0.056	U
SW8151	2,2-DICHLOROPROPANOIC ACID	mg/kg	NC	NC	0.0046	U	0.0052	U	0.0057	U	0.0047	U	0.0058	U	0.0049	U	0.0066	U	0.0043	U	0.0077	U	0.0048	U	0.005	U	0.0057	U	0.0035	U	0.0044	U	0.011	U
SW8151	2,4,5-T	mg/kg	NC	NC	0.0046	U	0.0052	U	0.0057	U	0.0047	U	0.0058	U	0.0049	U	0.0066	U	0.0043	U	0.0077	U	0.0048	U	0.005	U	0.0057	U	0.0035	U	0.0044	U	0.011	U
SW8151	2,4,5-TP (SILVEX)	mg/kg	NC	NC	0.0046	U	0.0052	U	0.0057	U	0.0047	U	0.0058	U	0.0049	U	0.0066	U	0.0043	U	0.0077	U	0.0048	U	0.005	U	0.0057	U	0.0035	U	0.0044	U	0.011	U
SW8151	2,4-D	mg/kg	NC	NC	0.023	U	0.026	U	0.029	U	0.024	U	0.029	U	0.025	U	0.033	U	0.022	U	0.039	U	0.024	U	0.025	U	0.028	U	0.017	U	0.022	U	0.056	U
SW8151	2,4-DB	mg/kg	NC	NC	0.023	U	0.026	U	0.029	U	0.024	U	0.029	U	0.025	U	0.033	U	0.022	U	0.039	U	0.024	U	0.025	U	0.028	U	0.017	U	0.022	U	0.056	U
SW8151	DICAMBA	mg/kg	NC	NC	0.0046	U	0.0052	U	0.0057	U	0.0047	U	0.0058	U	0.0049	U	0.0066	U	0.0043	U	0.0077	U	0.0048	U	0.005	U	0.0057	U	0.0035	U	0.0044	U	0.011	U
SW8151	DICHLOROPROP	mg/kg	NC	NC	0.023	U	0.026	U	0.029	U	0.024	U	0.029	U	0.025	U	0.033	U	0.022	U	0.039	U	0.024	U	0.025	U	0.028	U	0.017	U	0.022	U	0.056	U
SW8151	DINOSEB	mg/kg	NC	NC	0.023	U	0.026	U	0.029	U	0.024	U	0.029	U	0.025	U	0.033	U	0.022	U	0.039	U	0.024	U	0.025	U	0.028	U	0.017	U	0.022	U	0.056	U
SW8151	MCPA	mg/kg	NC	NC	2.3	U	2.6	U	2.9	U	2.4	U	2.9	U	2.5	U	3.3	U	2.2	U	3.9	U	2.4	U	2.5	U	2.8	U	1.7	U	2.2	U	5.6	U
SW8151	Mecoprop	mg/kg	NC	NC	2.3	U	2.6	U	2.9	U	2.4	U	2.9	U	2.5	U	3.3	U	2.2	U	3.9	U	2.4	U	2.5	U	2.8	U	1.7	U	2.2	U	5.6	U
SW8151	PENTACHLOROPHENOL	mg/kg	3	0.3	0.0023	U	0.0026	U	0.0029	U	0.0024	U	0.0029	U	0.0025	U	0.0033	U	0.0022	U	0.0039	U	0.0024	U	0.0025	U	0.0028	U	0.0017	U	0.0043		0.0056	U

Notes:
NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].
NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]
NC: No criterion established
Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS
Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS
Italicized values not detected: reporting limit exceeds criteria
Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per kilogram (mg/kg)
NS: Not sampled
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit
PCBs: Polychlorinated biphenyls

Prepared by: DP 05/25/2016
Reviewed by: JLD 12/15/2016

Waste Classification Table - General Chemistry

Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

		Client Sample ID			087-WC-B-1016		087-WC-D-1014		087-WC-E-0913		087-WC-F-1014		087-WC-K-1418		087-WC-G-1012		087-WC-L-1216		087-WC-I-0812		087-WC-N-1216		087-WC-H-0812		087-WC-M-1318		087-WC-J-0812		087-WC-A-0004		087-WC-C-0408		087-TW-02-GRAVEL	087-TW-02-FABRIC-A		124-087-WC-COMP	
		Lab Sample ID			JB85847-1/1A/1R		JB85847-3/3A		JB85847-5/5A/5R		JB85847-7/7A		JB85847-9/9A		JB85847-11/11A		JB85847-13/13A		JB85847-15/15A/15R		JB85847-17/17A/17R		JB85847-19/19A/19R		JB85847-21/21A		JB85847-23/23A		JB85847-25/25A		JB85847-27/27A/27R	JC31618-1/1R	JC31798-1	JC29746-3/3R	
		Date Sampled			01/06/2015		01/06/2015		01/06/2015		01/06/2015		01/06/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015	11/11/2016	11/15/2016	10/14/2016	
		Sample Purpose	NJ 2012 MOST	NJ 2013 IGW	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	REG	REG	REG	
Analytical Method	**Parameter Name**	**Units**	**STRINGENT SRS**	**SOIL**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**				**CONC**	**Q**
SW9040	CORROSIVITY	NEG	NC	NC	NEG		NEG		NEG		NEG		NEG		NEG		NEG		NEG		NEG		NEG		NEG		NEG		NEG		NEG		NS	NS		NEG	
SW9012	CYANIDE	mg/kg	1600	20	0.28	U	0.34	U	0.38	U	0.3	U	1.1		1.5		1.4		0.3	U	0.80		0.34	U	0.35		0.41	U	0.25	U	0.29	U	NS	NS		NS	
SW7199	HEXAVALENT CHROMIUM	mg/kg	20	NC	12.8		0.63	U	0.69	U	0.6	U	**170**		**3240**		0.83	U	1.9		13.1		**37.8**		**4380**		0.73	U	**72.8**		2.2	U	0.53	1	U	5.9	
SW1010	Ignitability (liquids) Pensky-Martens	NEG	NC	NC	NEG		NEG		NEG		NEG		NEG		NEG		NEG		NEG		NEG		NEG		NEG		NEG		NEG		NEG		NS	NS		NEG	
ASTM D1498	OXIDATION-REDUCTION POTENTIAL	mV	NC	NC	97.5		199		191		165		-118		80.7		32.7		100		113		264		84.4		109		237		256		NS	NS		536	
SW9095	PAINT FILTER TEST	ml/100g	NC	NC	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	NS	NS		0.50	U
SW9045	pH	S.U.	NC	NC	9.65		7.94		8.32		8.57		11.77		11.86		11.94		9.35		8.98		7.71		11.77		7.85		8.18		7.58		NS	NS		9.80	
846-7.3.3.2	REACTIVE CYANIDE	mg/kg	NC	NC	14	U	16	U	17	U	14	U	18	U	15	U	20	U	14	U	23	U	15	U	15	U	18	U	12	U	14	U	NS	NS		16	U
846-7.3.4.2	REACTIVE SULFIDE	mg/kg	NC	NC	140	UJ	160	U	170	U	140	U	180	U	150	U	200	U	140	U	230	U	150	U	150	U	180	U	120	U	140	U	NS	NS		160	U

Notes:
NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].
NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]
NC: No criterion established
Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS
Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS
Italicized values not detected; reporting limit exceeds criteria
Depths reported in feet below ground surface
NS: Not sampled
J: Estimated concentration
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit
S.U.: Standard Units
mg/kg: milligrams per kilogram
ml/100g: milliliters per 100 grams
mV: millivolts

Prepared by: DP 05/25/2016
Reviewed by: JLD 12/15/2016

Waste Classification Table - TCLP

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

			Client Sample ID		087-WC-B-1016		087-SB-612-1416		087-WC-D-1014		087-SB-613-D2-1214		087-WC-E-0913		087-SB-614-E1		087-WC-F-1014		087-SB-615-F2-1214		087-WC-K-1418		087-SB-615-K1-1416		087-WC-G-1012		087-SB-616-G2-1012		087-WC-L-1216	
			Lab Sample ID		JB85847-1A		JB85847-2		JB85847-3A		JB85847-4		JB85847-5A		JB85847-6		JB85847-7A		JB85847-8		JB85847-9A		JB85847-10		JB85847-11A		JB85847-12		JB85847-13A	
			Date Sampled	RCRA Toxicity	01/06/2015		01/06/2015		01/06/2015		01/06/2015		01/06/2015		01/06/2015		01/06/2015		01/06/2015		01/06/2015		01/06/2015		01/07/2015		01/07/2015		01/07/2015	
			Sample Purpose	Characteristics	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Group Name	**Parameter Name**	**Units**		**(40 CFR261.24)**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
SA-6 TAL Metals	ARSENIC	mg/L		5	0.5	U	NS		0.5	U	NS		0.5	U	NS		0.5	U	NS		0.5	U	NS		0.5	U	NS		0.5	U
SA-6 TAL Metals	BARIUM	mg/L		100	1	U	NS		2.1		NS		2.6		NS		2		NS		1	U	NS		1	U	NS		1	U
SA-6 TAL Metals	CADMIUM	mg/L		1	0.025	U	NS		0.025	U	NS		0.025	U	NS		0.025	U	NS		0.025	U	NS		0.025	U	NS		0.025	U
SA-6 TAL Metals	CHROMIUM	mg/L		5	0.08		NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		**73**		NS		**23.9**	
SA-6 TAL Metals	COPPER	mg/L		NC	0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U
SA-6 TAL Metals	LEAD	mg/L		5	0.5	U	NS		1.2		NS		0.74		NS		1.3		NS		0.5	U	NS		0.5	U	NS		0.5	U
SA-6 TAL Metals	MERCURY	mg/L		0.2	0.0002	U	NS		0.0002	U	NS		0.0002	U	NS		0.0002	U	NS		0.0002	U	NS		0.0002	U	NS		0.0002	U
SA-6 TAL Metals	NICKEL	mg/L		NC	0.063		NS		0.16		NS		0.2		NS		0.069		NS		0.07		NS		0.05	U	NS		0.05	U
SA-6 TAL Metals	SELENIUM	mg/L		1	0.5	U	NS		0.5	U	NS		0.5	U	NS		0.5	U	NS		0.5	U	NS		0.5	U	NS		0.5	U
SA-6 TAL Metals	SILVER	mg/L		5	0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U
SA-6 TAL Metals	ZINC	mg/L		NC	0.43		NS		3		NS		2.2		NS		5.7		NS		0.1	U	NS		0.1	U	NS		0.1	U
SA-6 GC/MS Volatiles	1,1-DICHLOROETHENE	mg/L		0.7	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS	
SA-6 GC/MS Volatiles	1,2-DICHLOROETHANE	mg/L		0.5	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS	
SA-6 GC/MS Volatiles	1,4-DICHLOROBENZENE	mg/L		7.5	0.02	U	0.005	U	0.02	U	0.005	U	0.02	U	0.005	U	0.02	U	0.005	U	0.02	U	0.005	U	0.02	U	0.005	U	0.02	U
SA-6 GC/MS Volatiles	2-BUTANONE	mg/L		200	NS		0.1	U	NS		0.1	U	NS		0.1	U	NS		0.1	U	NS		0.1	U	NS		0.1	U	NS	
SA-6 GC/MS Volatiles	BENZENE	mg/L		0.5	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS	
SA-6 GC/MS Volatiles	CARBON TETRACHLORIDE	mg/L		0.5	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS	
SA-6 GC/MS Volatiles	CHLOROBENZENE	mg/L		100	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS	
SA-6 GC/MS Volatiles	CHLOROFORM	mg/L		6	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.0019	J	NS		0.005	U	NS		0.005	U	NS	
SA-6 GC/MS Volatiles	TETRACHLOROETHENE	mg/L		0.7	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS	
SA-6 GC/MS Volatiles	TRICHLOROETHENE	mg/L		0.5	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS	
SA-6 GC/MS Volatiles	VINYL CHLORIDE	mg/L		0.2	NS		0.025	U	NS		0.025	U	NS		0.025	U	NS		0.025	U	NS		0.025	U	NS		0.025	U	NS	
SA-6 GC/MS Semi-Volatiles	1,4-DICHLOROBENZENE	mg/L		7.5	0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U
SA-6 GC/MS Semi-Volatiles	2,4,5-TRICHLOROPHENOL	mg/L		400	0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U
SA-6 GC/MS Semi-Volatiles	2,4,6-TRICHLOROPHENOL	mg/L		2	0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U
SA-6 GC/MS Semi-Volatiles	2,4-DINITROTOLUENE	mg/L		0.13	0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U
SA-6 GC/MS Semi-Volatiles	2-METHYLPHENOL	mg/L		200	0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U
SA-6 GC/MS Semi-Volatiles	3&4-METHYLPHENOL	mg/L		NC	0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U
SA-6 GC/MS Semi-Volatiles	HEXACHLOROBENZENE	mg/L		0.13	0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U
SA-6 GC/MS Semi-Volatiles	HEXACHLOROBUTADIENE	mg/L		0.5	0.01	U	NS		0.01	U	NS		0.01	U	NS		0.01	U	NS		0.01	U	NS		0.01	U	NS		0.01	U
SA-6 GC/MS Semi-Volatiles	HEXACHLOROETHANE	mg/L		3	0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U
SA-6 GC/MS Semi-Volatiles	NITROBENZENE	mg/L		2	0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U
SA-6 GC/MS Semi-Volatiles	PENTACHLOROPHENOL	mg/L		100	0.1	U	NS		0.1	U	NS		0.1	U	NS		0.1	U	NS		0.1	U	NS		0.1	U	NS		0.1	U
SA-6 GC/MS Semi-Volatiles	PYRIDINE	mg/L		5	0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U
SA-6 PCB/Pesticide/Herbicide	2,4,5-TP (SILVEX)	mg/L		1	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
SA-6 PCB/Pesticide/Herbicide	2,4-D	mg/L		10	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
SA-6 PCB/Pesticide/Herbicide	CONSTITUENTS OF CHLORDANE (ALPHA, BETA, AND GAMMA)	mg/L		0.03	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
SA-6 PCB/Pesticide/Herbicide	ENDRIN	mg/L		0.02	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
SA-6 PCB/Pesticide/Herbicide	GAMMA-BHC (LINDANE)	mg/L		0.4	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
SA-6 PCB/Pesticide/Herbicide	HEPTACHLOR	mg/L		0.008	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
SA-6 PCB/Pesticide/Herbicide	HEPTACHLOR EPOXIDE	mg/L			NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
SA-6 PCB/Pesticide/Herbicide	METHOXYCHLOR	mg/L		10	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
SA-6 PCB/Pesticide/Herbicide	PENTACHLOROPHENOL	mg/L		100	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
SA-6 PCB/Pesticide/Herbicide	TOXAPHENE	mg/L		0.5	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	

Notes:

TAL: Target Analyte List; hexavalent chromium results included for comparison

RCRA Toxicity Characteristics from 40 CFR 261.24

NC: No criterion established

Bold and underlined concentrations exceed the Toxicity Characteristics

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per liter (mg/L)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

mg/L: milligrams per liter

Prepared by: DP 05/25/2016

Reviewed by: JLD 12/15/2016

Waste Classification Table - TCLP

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

			Client Sample ID	087-SB-616-L1-1214		087-WC-I-0812		087-SB-617-I-0810		087-WC-N-1216		087-SB-617-N1-1012		087-WC-H-0812		087-SB-618-H-0810		087-WC-M-1318		087-SB-618-M1-1416		087-WC-J-0812		087-SB-619-J1-0810		087-WC-A-0004	
			Lab Sample ID	JB85847-14		JB85847-15A		JB85847-16		JB85847-17A		JB85847-18		JB85847-19A		JB85847-20		JB85847-21A		JB85847-22		JB85847-23A		JB85847-24		JB85847-25A	
			Date Sampled	01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015		01/07/2015	
			Sample Purpose	REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Parameter Group Name	**Parameter Name**	**Units**	**RCRA Toxicity Characteristics (40 CFR261.24)**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
SA-6 TAL Metals	ARSENIC	mg/L	5	NS		0.5	U	NS		0.5	U	NS		0.5	U	NS		0.5	U	NS		0.5	U	NS		0.5	U
SA-6 TAL Metals	BARIUM	mg/L	100	NS		1	U	NS		1	U	NS		2.2		NS		1	U	NS		1.5		NS		1.4	
SA-6 TAL Metals	CADMIUM	mg/L	1	NS		0.025	U	NS		0.025	U	NS		0.025	U	NS		0.025	U	NS		0.025	U	NS		0.025	U
SA-6 TAL Metals	CHROMIUM	mg/L	5	NS		0.49		NS		0.05	U	NS		0.05	U	NS		**96**		NS		0.14		NS		0.09	
SA-6 TAL Metals	COPPER	mg/L	NC	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U
SA-6 TAL Metals	LEAD	mg/L	5	NS		0.5	U	NS		0.5	U	NS		0.5	U	NS		0.5	U	NS		0.5	U	NS		0.5	U
SA-6 TAL Metals	MERCURY	mg/L	0.2	NS		0.0002	U	NS		0.0002	U	NS		0.0002	U	NS		0.0002	U	NS		0.0002	U	NS		0.0002	U
SA-6 TAL Metals	NICKEL	mg/L	NC	NS		0.13		NS		0.16		NS		0.051		NS		0.05	U	NS		0.05		NS		0.05	U
SA-6 TAL Metals	SELENIUM	mg/L	1	NS		0.5	U	NS		0.5	U	NS		0.5	U	NS		0.5	U	NS		0.5	U	NS		0.5	U
SA-6 TAL Metals	SILVER	mg/L	5	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U
SA-6 TAL Metals	ZINC	mg/L	NC	NS		0.58		NS		1.3		NS		0.81		NS		0.1	U	NS		0.62		NS		0.88	
SA-6 GC/MS Volatiles	1,1-DICHLOROETHENE	mg/L	0.7	0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS	
SA-6 GC/MS Volatiles	1,2-DICHLOROETHANE	mg/L	0.5	0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS	
SA-6 GC/MS Volatiles	1,4-DICHLOROBENZENE	mg/L	7.5	0.005	U	0.02	U	0.005	U	0.02	U	0.005	U	0.02	U	0.005	U	0.02	U	0.005	U	0.02	U	0.005	U	0.02	U
SA-6 GC/MS Volatiles	2-BUTANONE	mg/L	200	0.1	U	NS		0.1	U	NS		0.1	U	NS		0.1	U	NS		0.1	U	NS		0.1	U	NS	
SA-6 GC/MS Volatiles	BENZENE	mg/L	0.5	0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS	
SA-6 GC/MS Volatiles	CARBON TETRACHLORIDE	mg/L	0.5	0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS	
SA-6 GC/MS Volatiles	CHLOROBENZENE	mg/L	100	0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS	
SA-6 GC/MS Volatiles	CHLOROFORM	mg/L	6	0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS	
SA-6 GC/MS Volatiles	TETRACHLOROETHENE	mg/L	0.7	0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS	
SA-6 GC/MS Volatiles	TRICHLOROETHENE	mg/L	0.5	0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS		0.005	U	NS	
SA-6 GC/MS Volatiles	VINYL CHLORIDE	mg/L	0.2	0.025	U	NS		0.025	U	NS		0.025	U	NS		0.025	U	NS		0.025	U	NS		0.025	U	NS	
SA-6 GC/MS Semi-Volatiles	1,4-DICHLOROBENZENE	mg/L	7.5	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U
SA-6 GC/MS Semi-Volatiles	2,4,5-TRICHLOROPHENOL	mg/L	400	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U
SA-6 GC/MS Semi-Volatiles	2,4,6-TRICHLOROPHENOL	mg/L	2	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U
SA-6 GC/MS Semi-Volatiles	2,4-DINITROTOLUENE	mg/L	0.13	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U
SA-6 GC/MS Semi-Volatiles	2-METHYLPHENOL	mg/L	200	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U
SA-6 GC/MS Semi-Volatiles	3&4-METHYLPHENOL	mg/L	NC	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U
SA-6 GC/MS Semi-Volatiles	HEXACHLOROBENZENE	mg/L	0.13	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U
SA-6 GC/MS Semi-Volatiles	HEXACHLOROBUTADIENE	mg/L	0.5	NS		0.01	U	NS		0.01	U	NS		0.01	U	NS		0.01	U	NS		0.01	U	NS		0.01	U
SA-6 GC/MS Semi-Volatiles	HEXACHLOROETHANE	mg/L	3	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U	NS		0.05	U
SA-6 GC/MS Semi-Volatiles	NITROBENZENE	mg/L	2	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U
SA-6 GC/MS Semi-Volatiles	PENTACHLOROPHENOL	mg/L	100	NS		0.1	U	NS		0.1	U	NS		0.1	U	NS		0.1	U	NS		0.1	U	NS		0.1	U
SA-6 GC/MS Semi-Volatiles	PYRIDINE	mg/L	5	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U	NS		0.02	U
SA-6 PCB/Pesticide/Herbicide	2,4,5-TP (SILVEX)	mg/L	1	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
SA-6 PCB/Pesticide/Herbicide	2,4-D	mg/L	10	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
SA-6 PCB/Pesticide/Herbicide	CONSTITUENTS OF CHLORDANE (ALPHA, BETA, AND GAMMA)	mg/L	0.03	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
SA-6 PCB/Pesticide/Herbicide	ENDRIN	mg/L	0.02	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
SA-6 PCB/Pesticide/Herbicide	GAMMA-BHC (LINDANE)	mg/L	0.4	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
SA-6 PCB/Pesticide/Herbicide	HEPTACHLOR	mg/L	0.008	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
SA-6 PCB/Pesticide/Herbicide	HEPTACHLOR EPOXIDE	mg/L		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
SA-6 PCB/Pesticide/Herbicide	METHOXYCHLOR	mg/L	10	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
SA-6 PCB/Pesticide/Herbicide	PENTACHLOROPHENOL	mg/L	100	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
SA-6 PCB/Pesticide/Herbicide	TOXAPHENE	mg/L	0.5	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	

Notes:

TAL: Target Analyte List; hexavalent chromium results included for comparison

RCRA Toxicity Characteristics from 40 CFR 261.24

NC: No criterion established

Bold and underlined concentrations exceed the Toxicity Characteristics

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per liter (mg/L)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

mg/L: milligrams per liter

Prepared by: DP 05/25/2016

Reviewed by: JLD 12/15/2016

Waste Classification Table - TCLP

Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

		Client Sample ID	RCRA Toxicity Characteristics (40 CFR261.24)	087-SB-620-A-0002	
		Lab Sample ID		JB85847-26	
		Date Sampled		01/07/2015	
		Sample Purpose		REG	
Parameter Group Name	**Parameter Name**	**Units**		**CONC**	**Q**
SA-6 TAL Metals	ARSENIC	mg/L	5	NS	
SA-6 TAL Metals	BARIUM	mg/L	100	NS	
SA-6 TAL Metals	CADMIUM	mg/L	1	NS	
SA-6 TAL Metals	CHROMIUM	mg/L	5	NS	
SA-6 TAL Metals	COPPER	mg/L	NC	NS	
SA-6 TAL Metals	LEAD	mg/L	5	NS	
SA-6 TAL Metals	MERCURY	mg/L	0.2	NS	
SA-6 TAL Metals	NICKEL	mg/L	NC	NS	
SA-6 TAL Metals	SELENIUM	mg/L	1	NS	
SA-6 TAL Metals	SILVER	mg/L	5	NS	
SA-6 TAL Metals	ZINC	mg/L	NC	NS	
SA-6 GC/MS Volatiles	1,1-DICHLOROETHENE	mg/L	0.7	0.005	U
SA-6 GC/MS Volatiles	1,2-DICHLOROETHANE	mg/L	0.5	0.005	U
SA-6 GC/MS Volatiles	1,4-DICHLOROBENZENE	mg/L	7.5	0.005	U
SA-6 GC/MS Volatiles	2-BUTANONE	mg/L	200	0.1	U
SA-6 GC/MS Volatiles	BENZENE	mg/L	0.5	0.005	U
SA-6 GC/MS Volatiles	CARBON TETRACHLORIDE	mg/L	0.5	0.005	U
SA-6 GC/MS Volatiles	CHLOROBENZENE	mg/L	100	0.005	U
SA-6 GC/MS Volatiles	CHLOROFORM	mg/L	6	0.005	U
SA-6 GC/MS Volatiles	TETRACHLOROETHENE	mg/L	0.7	0.005	U
SA-6 GC/MS Volatiles	TRICHLOROETHENE	mg/L	0.5	0.005	U
SA-6 GC/MS Volatiles	VINYL CHLORIDE	mg/L	0.2	0.025	U
SA-6 GC/MS Semi-Volatiles	1,4-DICHLOROBENZENE	mg/L	7.5	NS	
SA-6 GC/MS Semi-Volatiles	2,4,5-TRICHLOROPHENOL	mg/L	400	NS	
SA-6 GC/MS Semi-Volatiles	2,4,6-TRICHLOROPHENOL	mg/L	2	NS	
SA-6 GC/MS Semi-Volatiles	2,4-DINITROTOLUENE	mg/L	0.13	NS	
SA-6 GC/MS Semi-Volatiles	2-METHYLPHENOL	mg/L	200	NS	
SA-6 GC/MS Semi-Volatiles	3&4-METHYLPHENOL	mg/L	NC	NS	
SA-6 GC/MS Semi-Volatiles	HEXACHLOROBENZENE	mg/L	0.13	NS	
SA-6 GC/MS Semi-Volatiles	HEXACHLOROBUTADIENE	mg/L	0.5	NS	
SA-6 GC/MS Semi-Volatiles	HEXACHLOROETHANE	mg/L	3	NS	
SA-6 GC/MS Semi-Volatiles	NITROBENZENE	mg/L	2	NS	
SA-6 GC/MS Semi-Volatiles	PENTACHLOROPHENOL	mg/L	100	NS	
SA-6 GC/MS Semi-Volatiles	PYRIDINE	mg/L	5	NS	
SA-6 PCB/Pesticide/Herbicide	2,4,5-TP (SILVEX)	mg/L	1	NS	
SA-6 PCB/Pesticide/Herbicide	2,4-D	mg/L	10	NS	
SA-6 PCB/Pesticide/Herbicide	CONSTITUENTS OF CHLORDANE (ALPHA, BETA, AND GAMMA)	mg/L	0.03	NS	
SA-6 PCB/Pesticide/Herbicide	ENDRIN	mg/L	0.02	NS	
SA-6 PCB/Pesticide/Herbicide	GAMMA-BHC (LINDANE)	mg/L	0.4	NS	
SA-6 PCB/Pesticide/Herbicide	HEPTACHLOR	mg/L	0.008	NS	
SA-6 PCB/Pesticide/Herbicide	HEPTACHLOR EPOXIDE	mg/L		NS	
SA-6 PCB/Pesticide/Herbicide	METHOXYCHLOR	mg/L	10	NS	
SA-6 PCB/Pesticide/Herbicide	PENTACHLOROPHENOL	mg/L	100	NS	
SA-6 PCB/Pesticide/Herbicide	TOXAPHENE	mg/L	0.5	NS	

Notes:
TAL: Target Analyte List; hexavalent chromium results included for comparison
RCRA Toxicity Characteristics from 40 CFR 261.24
NC: No criterion established
Bold and underlined concentrations exceed the Toxicity Characteristics
Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per liter (mg/L)
J: Estimated concentration
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit
mg/L: milligrams per liter

Prepared by: DP 05/25/2016
Reviewed by: JLD 12/15/2016

Waste Classification Table - TCLP

Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

			Client Sample ID	087-WC-C-0408		087-SB-621-C1-0204		087-SB-622-C2-0608		124-WC-100		087-WC-SLUDGE-1		124-087-WC-COMP	
			Lab Sample ID	JB85847-27A		JB85847-28		JB85847-29		JC29746-1/1R		JC29746-2		JC29746-3A	
			Date Sampled	01/07/2015		01/07/2015		01/07/2015		10/14/2016		10/14/2016		10/14/2016	
			Sample Purpose	REG		REG		REG		REG		REG		REG	
Parameter Group Name	**Parameter Name**	**Units**	**RCRA Toxicity Characteristics (40 CFR261.24)**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
SA-6 TAL Metals	ARSENIC	mg/L	5	0.5	U	NS		NS		NS		NS		0.5	U
SA-6 TAL Metals	BARIUM	mg/L	100	1	U	NS		NS		NS		NS		1	U
SA-6 TAL Metals	CADMIUM	mg/L	1	0.029		NS		NS		NS		NS		0.025	U
SA-6 TAL Metals	CHROMIUM	mg/L	5	0.05	U	NS		NS		0.05	U	0.08		0.05	U
SA-6 TAL Metals	COPPER	mg/L	NC	0.32		NS		NS		NS		NS		NS	
SA-6 TAL Metals	LEAD	mg/L	5	0.5	U	NS		NS		NS		NS		0.5	U
SA-6 TAL Metals	MERCURY	mg/L	0.2	0.0002	U	NS		NS		NS		NS		0.0002	U
SA-6 TAL Metals	NICKEL	mg/L	NC	0.1		NS		NS		NS		NS		NS	
SA-6 TAL Metals	SELENIUM	mg/L	1	0.5	U	NS		NS		NS		NS		0.5	U
SA-6 TAL Metals	SILVER	mg/L	5	0.05	U	NS		NS		NS		NS		0.05	U
SA-6 TAL Metals	ZINC	mg/L	NC	5.6		NS		NS		NS		NS		NS	
SA-6 GC/MS Volatiles	1,1-DICHLOROETHENE	mg/L	0.7	NS		0.005	U	0.005	U	0.005	U	NS		NS	
SA-6 GC/MS Volatiles	1,2-DICHLOROETHANE	mg/L	0.5	NS		0.005	U	0.005	U	0.005	U	NS		NS	
SA-6 GC/MS Volatiles	1,4-DICHLOROBENZENE	mg/L	7.5	0.02	U	0.005	U	0.005	U	0.005	U	NS		NS	
SA-6 GC/MS Volatiles	2-BUTANONE	mg/L	200	NS		0.1	U	0.1	U	0.1	U	NS		NS	
SA-6 GC/MS Volatiles	BENZENE	mg/L	0.5	NS		0.005	U	0.005	U	0.0025	U	NS		NS	
SA-6 GC/MS Volatiles	CARBON TETRACHLORIDE	mg/L	0.5	NS		0.005	U	0.005	U	0.005	U	NS		NS	
SA-6 GC/MS Volatiles	CHLOROBENZENE	mg/L	100	NS		0.005	U	0.005	U	0.005	U	NS		NS	
SA-6 GC/MS Volatiles	CHLOROFORM	mg/L	6	NS		0.005	U	0.005	U	0.005	U	NS		NS	
SA-6 GC/MS Volatiles	TETRACHLOROETHENE	mg/L	0.7	NS		0.005	U	0.005	U	0.005	U	NS		NS	
SA-6 GC/MS Volatiles	TRICHLOROETHENE	mg/L	0.5	NS		0.005	U	0.005	U	0.005	U	NS		NS	
SA-6 GC/MS Volatiles	VINYL CHLORIDE	mg/L	0.2	NS		0.025	U	0.025	U	0.005	U	NS		NS	
SA-6 GC/MS Semi-Volatiles	1,4-DICHLOROBENZENE	mg/L	7.5	0.02	U	NS		NS		0.005	U	NS		NS	
SA-6 GC/MS Semi-Volatiles	2,4,5-TRICHLOROPHENOL	mg/L	400	0.05	U	NS		NS		NS		NS		0.05	U
SA-6 GC/MS Semi-Volatiles	2,4,6-TRICHLOROPHENOL	mg/L	2	0.05	U	NS		NS		NS		NS		0.05	U
SA-6 GC/MS Semi-Volatiles	2,4-DINITROTOLUENE	mg/L	0.13	0.02	U	NS		NS		NS		NS		0.02	U
SA-6 GC/MS Semi-Volatiles	2-METHYLPHENOL	mg/L	200	0.02	U	NS		NS		NS		NS		0.02	U
SA-6 GC/MS Semi-Volatiles	3&4-METHYLPHENOL	mg/L	NC	0.02	U	NS		NS		NS		NS		0.02	U
SA-6 GC/MS Semi-Volatiles	HEXACHLOROBENZENE	mg/L	0.13	0.02	U	NS		NS		NS		NS		0.02	U
SA-6 GC/MS Semi-Volatiles	HEXACHLOROBUTADIENE	mg/L	0.5	0.01	U	NS		NS		NS		NS		0.01	U
SA-6 GC/MS Semi-Volatiles	HEXACHLOROETHANE	mg/L	3	0.05	U	NS		NS		NS		NS		0.05	U
SA-6 GC/MS Semi-Volatiles	NITROBENZENE	mg/L	2	0.02	U	NS		NS		NS		NS		0.02	U
SA-6 GC/MS Semi-Volatiles	PENTACHLOROPHENOL	mg/L	100	0.1	U	NS		NS		NS		NS		0.1	U
SA-6 GC/MS Semi-Volatiles	PYRIDINE	mg/L	5	0.02	U	NS		NS		NS		NS		0.02	U

SA-6 PCB/Pesticide/Herbicide	2,4,5-TP (SILVEX)	mg/L	1	NS		NS		NS		NS		0.0015	U
SA-6 PCB/Pesticide/Herbicide	2,4-D	mg/L	10	NS		NS		NS		NS		0.005	U
SA-6 PCB/Pesticide/Herbicide	CONSTITUENTS OF CHLORDANE (ALPHA, BETA, AND GAMMA)	mg/L	0.03	NS		NS		NS		NS		0.005	U
SA-6 PCB/Pesticide/Herbicide	ENDRIN	mg/L	0.02	NS		NS		NS		NS		0.0001	U
SA-6 PCB/Pesticide/Herbicide	GAMMA-BHC (LINDANE)	mg/L	0.4	NS		NS		NS		NS		0.0001	U
SA-6 PCB/Pesticide/Herbicide	HEPTACHLOR	mg/L	0.008	NS		NS		NS		NS		0.0001	U
SA-6 PCB/Pesticide/Herbicide	HEPTACHLOR EPOXIDE	mg/L		NS		NS		NS		NS		0.0001	U
SA-6 PCB/Pesticide/Herbicide	METHOXYCHLOR	mg/L	10	NS		NS		NS		NS		0.0002	U
SA-6 PCB/Pesticide/Herbicide	PENTACHLOROPHENOL	mg/L	100	NS		NS		NS		NS		0.1	U
SA-6 PCB/Pesticide/Herbicide	TOXAPHENE	mg/L	0.5	NS		NS		NS		NS		0.0025	U

Notes:
TAL: Target Analyte List; hexavalent chromium results included for comparison
RCRA Toxicity Characteristics from 40 CFR 261.24
NC: No criterion established
Bold and underlined concentrations exceed the Toxicity Characteristics
Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per liter (mg/L)
J: Estimated concentration
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit
mg/L: milligrams per liter

Prepared by: DP 05/25/2016
Reviewed by: JLD 12/15/2016

USE/HERITAGE HAZARDOUS WASTE TRACKING (2015)

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

Date Shipped	Date of Return Manifest	State Manifest	Man. Doc #	Facilty Manifest Weight (lbs)	Estimated Weight (lbs)	Manifest - Estimate (lbs)	Manifest - Estimate (%)	Material	Transporter	RAILCAR #
6/29/2015	8/21/2015	000561439WAS	S6N0001	44,660	41,120	3,540	7.9%	EA8 Cr 240 to >1000	HORWITH	CHUX260
6/29/2015	8/21/2015	000561440WAS	S6N0002	44,660	45,580	(920)	-2.1%	EA8 Cr 240 to >1000	HORWITH	CHUX260
6/29/2015	8/21/2015	000561441WAS	S6N0003	44,284	45,040	(756)	-1.7%	EA8 Cr 240 to >1000	HORWITH	CHUX106
6/29/2015	8/21/2015	000561442WAS	S6N0004	44,284	45,800	(1,516)	-3.4%	EA8 Cr 240 to >1000	HORWITH	CHUX106
6/29/2015	8/21/2015	000561443WAS	S6N0005	44,660	44,880	(220)	-0.5%	EA8 Cr 240 to >1000	HORWITH	CHUX260
6/29/2015	8/21/2015	000561444WAS	S6N0006	44,256	45,280	(1,024)	-2.3%	EA8 Cr 240 to >1000	HORWITH	CHUX318
6/29/2015	8/21/2015	000561445WAS	S6N0007	44,256	45,960	(1,704)	-3.9%	EA8 Cr 240 to >1000	HORWITH	CHUX318
6/29/2015	8/21/2015	000561446WAS	S6N0008	44,660	41,720	2,940	6.6%	EA8 Cr 240 to >1000	HORWITH	CHUX260
6/29/2015	8/21/2015	000561447WAS	S6N0009	44,660	43,040	1,620	3.6%	EA8 Cr 240 to >1000	HORWITH	CHUX260
6/29/2015	8/21/2015	000561448WAS	S6N0010	44,256	42,020	2,236	5.1%	EA8 Cr 240 to >1000	HORWITH	CHUX318
6/29/2015	8/21/2015	000561449WAS	S6N0011	44,284	46,980	(2,696)	-6.1%	EA8 Cr 240 to >1000	HORWITH	CHUX106
6/29/2015	8/21/2015	000561450WAS	S6N0012	43,828	45,320	(1,492)	-3.4%	EA8 Cr 240 to >1000	HORWITH	CHUX154
6/29/2015	8/21/2015	000561451WAS	S6N0013	44,256	46,480	(2,224)	-5.0%	EA8 Cr 240 to >1000	HORWITH	CHUX318
6/29/2015	8/21/2015	000561452WAS	S6N0014	43,828	44,860	(1,032)	-2.4%	EA8 Cr 240 to >1000	HORWITH	CHUX154
6/29/2015	8/21/2015	000561453WAS	S6N0015	43,828	43,500	328	0.7%	EA8 Cr 240 to >1000	HORWITH	CHUX154
6/29/2015	9/21/2015	000561454WAS	S6N0016	43,152	44,800	(1,648)	-3.8%	EA8 Cr 240 to >1000	HORWITH	CHUX275
6/29/2015	9/21/2015	000561455WAS	S6N0017	43,152	45,960	(2,808)	-6.5%	EA8 Cr 240 to >1000	HORWITH	CHUX275
6/29/2015	8/21/2015	000561456WAS	S6N0018	43,828	42,260	1,568	3.6%	EA8 Cr 240 to >1000	HORWITH	CHUX154
6/29/2015	8/21/2015	000561457WAS	S6N0019	44,256	37,960	6,296	14.2%	EA8 Cr 240 to >1000	HORWITH	CHUX318
6/29/2015	8/21/2015	000561458WAS	S6N0020	44,284	39,620	4,664	10.5%	EA8 Cr 240 to >1000	HORWITH	CHUX106
6/29/2015	8/21/2015	000561459WAS	S6N0021	44,284	39,120	5,164	11.7%	EA8 Cr 240 to >1000	HORWITH	CHUX106
6/29/2015	9/21/2015	000561460WAS	S6N0022	43,152	34,880	8,272	19.2%	EA8 Cr 240 to >1000	HORWITH	CHUX275
6/29/2015	8/21/2015	000561461WAS	S6N0023	43,828	41,720	2,108	4.8%	EA8 Cr 240 to >1000	HORWITH	CHUX154
6/30/2015	9/21/2015	000561462WAS	S6N0024	43,152	46,240	(3,088)	-7.2%	EA8 Cr 240 to >1000	HORWITH	CHUX275
6/30/2015	9/21/2015	000561463WAS	S6N0025	43,152	41,420	1,732	4.0%	EA8 Cr 240 to >1000	HORWITH	CHUX275
11/2/2015	2/15/2016	000599571WAS	S6N0026	44,164	48,660	(4,496)	-10.2%	Cr 240 to >1000	HORWITH	CHUX195
11/2/2015	2/15/2016	000599572WAS	S6N0027	44,172	45,640	(1,468)	-3.3%	Cr 240 to >1000	HORWITH	CHUX190
11/2/2015	2/15/2016	000599573WAS	S6N0028	44,172	44,240	(68)	-0.2%	Cr 240 to >1000	HORWITH	CHUX190
11/2/2015	2/15/2016	000599574WAS	S6N0029	44,172	45,980	(1,808)	-4.1%	Cr 240 to >1000	HORWITH	CHUX190
11/2/2015	2/15/2016	000599575WAS	S6N0030	44,164	43,460	704	1.6%	Cr 240 to >1000	HORWITH	CHUX195
11/2/2015	2/15/2016	000599594WAS	S6N0031	44,164	42,000	2,164	4.9%	Cr 240 to >1000	HORWITH	CHUX195
11/2/2015	2/15/2016	000599595WAS	S6N0032	44,624	44,220	404	0.9%	Cr 240 to >1000	HORWITH	CHUX140
11/2/2015	2/15/2016	000599596WAS	S6N0033	44,164	42,220	1,944	4.4%	Cr 240 to >1000	HORWITH	CHUX195
11/2/2015	2/15/2016	000599597WAS	S6N0034	44,624	43,660	964	2.2%	Cr 240 to >1000	HORWITH	CHUX140
11/2/2015	2/15/2016	000599598WAS	S6N0035	44,288	45,940	(1,652)	-3.7%	Cr 240 to >1000	HORWITH	CHUX121
11/2/2015	2/15/2016	000599599WAS	S6N0036	44,624	44,580	44	0.1%	Cr 240 to >1000	HORWITH	CHUX140
11/2/2015	2/15/2016	000599600WAS	S6N0037	44,624	43,340	1,284	2.9%	Cr 240 to >1000	HORWITH	CHUX140
11/2/2015	2/15/2016	000599601WAS	S6N0038	44,172	39,040	5,132	11.6%	Cr 240 to >1000	HORWITH	CHUX190
11/2/2015	2/15/2016	000599602WAS	S6N0039	44,624	42,100	2,524	5.7%	Cr 240 to >1000	HORWITH	CHUX140
11/2/2015	2/15/2016	000599603WAS	S6N0040	44,288	36,240	8,048	18.2%	Cr 240 to >1000	HORWITH	CHUX121
11/2/2015	2/15/2016	000599604WAS	S6N0041	44,164	40,420	3,744	8.5%	Cr 240 to >1000	HORWITH	CHUX195
11/3/2015	2/15/2016	000599669WAS	S6N0042	44,288	44,160	128	0.3%	Cr 240 to >1000	HORWITH	CHUX121
11/3/2015	2/15/2016	000599670WAS	S6N0043	44,288	45,460	(1,172)	-2.6%	Cr 240 to >1000	HORWITH	CHUX121
11/3/2015	2/15/2016	000599671WAS	S6N0044	44,140	44,080	60	0.1%	Cr 240 to >1000	HORWITH	CHUX114
11/3/2015	2/15/2016	000599672WAS	S6N0045	44,288	44,760	(472)	-1.1%	Cr 240 to >1000	HORWITH	CHUX121
11/3/2015	2/15/2016	000599673WAS	S6N0046	44,140	43,480	660	1.5%	Cr 240 to >1000	HORWITH	CHUX114
11/3/2015	2/15/2016	000599674WAS	S6N0047	44,316	44,640	(324)	-0.7%	Cr 240 to >1000	HORWITH	CHUX163
11/3/2015	2/15/2016	000599675WAS	S6N0048	44,172	42,760	1,412	3.2%	Cr 240 to >1000	HORWITH	CHUX190
11/3/2015	2/15/2016	000599676WAS	S6N0049	44,140	44,020	120	0.3%	Cr 240 to >1000	HORWITH	CHUX114
11/3/2015	2/15/2016	000599677WAS	S6N0050	44,316	45,300	(984)	-2.2%	Cr 240 to >1000	HORWITH	CHUX163

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Honeywell International Inc.

Jersey City, New Jersey

Date Shipped	Date of Return Manifest	State Manifest	Man. Doc #	Facilty Manifest Weight (lbs)	Estimated Weight (lbs)	Manifest - Estimate (lbs)	Manifest - Estimate (%)	Material	Transporter	RAILCAR #
11/3/2015	2/15/2016	000599678WAS	S6N0051	44,140	39,200	4,940	11.2%	Cr 240 to >1000	HORWITH	CHUX114
11/3/2015	2/15/2016	000599679WAS	S6N0052	44,140	47,380	(3,240)	-7.3%	Cr 240 to >1000	HORWITH	CHUX114
11/3/2015	2/15/2016	000599680WAS	S6N0053	44,316	43,100	1,216	2.7%	Cr 240 to >1000	HORWITH	CHUX163
11/3/2015	2/15/2016	000599681WAS	S6N0054	44,316	14,740	29,576	66.7%	Cr 240 to >1000	HORWITH	CHUX163
11/3/2015	2/15/2016	000599682WAS	S6N0055	44,316	43,540	776	1.8%	Cr 240 to >1000	HORWITH	CHUX163
11/3/2015	2/15/2016	000599683WAS	S6N0056	44,556	43,880	676	1.5%	Cr 240 to >1000	HORWITH	CHUX127
11/3/2015	2/15/2016	000599684WAS	S6N0057	44,556	44,040	516	1.2%	Cr 240 to >1000	HORWITH	CHUX127
11/4/2015	2/15/2016	000599685WAS	S6N0058	43,980	43,240	740	1.7%	Cr 240 to >1000	HORWITH	CHUX258
11/4/2015	2/15/2016	000599686WAS	S6N0059	43,980	40,600	3,380	7.7%	Cr 240 to >1000	HORWITH	CHUX258
11/4/2015	2/15/2016	000599687WAS	S6N0060	44,556	45,400	(844)	-1.9%	Cr 240 to >1000	HORWITH	CHUX127
11/4/2015	2/15/2016	000599688WAS	S6N0061	44,556	42,260	2,296	5.2%	Cr 240 to >1000	HORWITH	CHUX127
11/4/2015	2/15/2016	000599689WAS	S6N0062	43,980	40,800	3,180	7.2%	Cr 240 to >1000	HORWITH	CHUX258
11/4/2015	2/15/2016	000599690WAS	S6N0063	43,380	43,420	(40)	-0.1%	Cr 240 to >1000	HORWITH	CHUX296
11/4/2015	2/15/2016	000599691WAS	S6N0064	43,980	46,920	(2,940)	-6.7%	Cr 240 to >1000	HORWITH	CHUX258
11/4/2015	2/15/2016	000599692WAS	S6N0065	44,556	42,040	2,516	5.6%	Cr 240 to >1000	HORWITH	CHUX127
11/4/2015	2/15/2016	000599693WAS	S6N0066	43,380	44,360	(980)	-2.3%	Cr 240 to >1000	HORWITH	CHUX296
11/4/2015	2/15/2016	000599624WAS	S6N0067	43,380	42,320	1,060	2.4%	Cr 240 to >1000	HORWITH	CHUX296
11/4/2015	2/15/2016	000599623WAS	S6N0068	43,932	46,200	(2,268)	-5.2%	Cr 240 to >1000	HORWITH	CHUX297
11/4/2015	2/15/2016	000599621WAS	S6N0069	43,980	45,360	(1,380)	-3.1%	Cr 240 to >1000	HORWITH	CHUX258
11/4/2015	2/15/2016	000599625WAS	S6N0070	43,380	43,420	(40)	-0.1%	Cr 240 to >1000	HORWITH	CHUX296
11/4/2015	2/15/2016	000599626WAS	S6N0071	43,932	42,140	1,792	4.1%	Cr 240 to >1000	HORWITH	CHUX297
11/4/2015	2/15/2016	000599627WAS	S6N0072	43,932	43,020	912	2.1%	Cr 240 to >1000	HORWITH	CHUX297
11/4/2015	2/15/2016	000599628WAS	S6N0073	43,380	43,580	(200)	-0.5%	Cr 240 to >1000	HORWITH	CHUX296
11/5/2015	2/15/2016	000599629WAS	S6N0074	44,776	40,880	3,896	8.7%	Cr 240 to >1000	HORWITH	CHUX185
11/5/2015	2/15/2016	000599630WAS	S6N0075	43,932	43,020	912	2.1%	Cr 240 to >1000	HORWITH	CHUX297
11/5/2015	2/15/2016	000599631WAS	S6N0076	43,932	43,560	372	0.8%	Cr 240 to >1000	HORWITH	CHUX297
11/5/2015	2/15/2016	000599632WAS	S6N0077	44,548	42,060	2,488	5.6%	Cr 240 to >1000	HORWITH	CHUX191
11/5/2015	2/15/2016	000599633WAS	S6N0078	44,776	43,940	836	1.9%	Cr 240 to >1000	HORWITH	CHUX185
11/5/2015	2/15/2016	000599634WAS	S6N0079	44,776	42,840	1,936	4.3%	Cr 240 to >1000	HORWITH	CHUX185
11/5/2015	2/15/2016	000599635WAS	S6N0080	44,776	42,980	1,796	4.0%	Cr 240 to >1000	HORWITH	CHUX185
11/5/2015	2/15/2016	000599636WAS	S6N0081	44,776	47,560	(2,784)	-6.2%	Cr 240 to >1000	HORWITH	CHUX185
11/5/2015	2/15/2016	000599637WAS	S6N0082	44,548	43,920	628	1.4%	Cr 240 to >1000	HORWITH	CHUX191
11/5/2015	2/15/2016	000599638WAS	S6N0083	44,548	43,900	648	1.5%	Cr 240 to >1000	HORWITH	CHUX191
11/5/2015	2/15/2016	000599639WAS	S6N0084	43,072	45,940	(2,868)	-6.7%	Cr 240 to >1000	HORWITH	CHUX207
11/5/2015	2/15/2016	000599640WAS	S6N0085	43,072	42,220	852	2.0%	Cr 240 to >1000	HORWITH	CHUX207
11/5/2015	2/15/2016	000599641WAS	S6N0086	43,072	41,320	1,752	4.1%	Cr 240 to >1000	HORWITH	CHUX207
11/5/2015	2/15/2016	000599642WAS	S6N0087	43,472	41,320	2,152	5.0%	Cr 240 to >1000	HORWITH	CHUX278
11/5/2015	2/15/2016	000599643WAS	S6N0088	44,548	45,380	(832)	-1.9%	Cr 240 to >1000	HORWITH	CHUX191
11/5/2015	2/15/2016	000599644WAS	S6N0089	44,548	42,500	2,048	4.6%	Cr 240 to >1000	HORWITH	CHUX191
11/5/2015	2/15/2016	000599645WAS	S6N0090	43,072	43,160	(88)	-0.2%	Cr 240 to >1000	HORWITH	CHUX207
11/6/2015	2/15/2016	000599646WAS	S6N0091	43,572	42,080	1,492	3.4%	Cr 240 to >1000	HORWITH	CHUX260
11/6/2015	2/15/2016	000599647WAS	S6N0092	43,572	43,760	(188)	-0.4%	Cr 240 to >1000	HORWITH	CHUX260
11/6/2015	2/15/2016	000599648WAS	S6N0093	43,572	43,960	(388)	-0.9%	Cr 240 to >1000	HORWITH	CHUX260
11/6/2015	2/15/2016	000599649WAS	S6N0094	44,152	39,320	4,832	10.9%	Cr 240 to >1000	HORWITH	CHUX167
11/6/2015	2/15/2016	000599650WAS	S6N0095	43,472	39,880	3,592	8.3%	Cr 240 to >1000	HORWITH	CHUX278
11/6/2015	2/15/2016	000599651WAS	S6N0096	43,572	44,060	(488)	-1.1%	Cr 240 to >1000	HORWITH	CHUX260
11/6/2015	2/15/2016	000899652WAS	S6N0097	43,572	42,440	1,132	2.6%	Cr 240 to >1000	HORWITH	CHUX260
11/6/2015	2/15/2016	000599653WAS	S6N0098	44,152	41,920	2,232	5.1%	Cr 240 to >1000	HORWITH	CHUX167
11/6/2015	2/15/2016	000599654WAS	S6N0099	43,072	45,300	(2,228)	-5.2%	Cr 240 to >1000	HORWITH	CHUX207
11/6/2015	2/15/2016	000599655WAS	S6N0100	44,152	43,960	192	0.4%	Cr 240 to >1000	HORWITH	CHUX167

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11/6/2015	2/15/2016	000599656WAS	S6N0101	43,472	43,080	392	0.9%	Cr 240 to >1000	HORWITH	CHUX278
11/6/2015	2/15/2016	000599657WAS	S6N0102	43,472	42,900	572	1.3%	Cr 240 to >1000	HORWITH	CHUX278
11/6/2015	2/15/2016	000599658WAS	S6N0103	44,152	46,480	(2,328)	-5.3%	Cr 240 to >1000	HORWITH	CHUX167
11/6/2015	2/15/2016	000599659WAS	S6N0104	44,152	46,460	(2,308)	-5.2%	Cr 240 to >1000	HORWITH	CHUX167
11/6/2015	2/15/2016	000599660WAS	S6N0105	43,472	49,480	(6,008)	-13.8%	Cr 240 to >1000	HORWITH	CHUX278
11/6/2015	2/15/2016	000599661WAS	S6N0106	44,008	48,200	(4,192)	-9.5%	Cr 240 to >1000	HORWITH	CHUX142
11/9/2015	2/15/2016	000599662WAS	S6N0107	44,008	41,900	2,108	4.8%	Cr 240 to >1000	HORWITH	CHUX142
11/9/2015	2/15/2016	000599663WAS	S6N0108	44,008	42,520	1,488	3.4%	Cr 240 to >1000	HORWITH	CHUX142
11/9/2015	2/15/2016	000599664WAS	S6N0109	43,736	45,600	(1,864)	-4.3%	Cr 240 to >1000	HORWITH	CHUX210
11/9/2015	2/15/2016	000599665WAS	S6N0110	43,580	44,380	(800)	-1.8%	Cr 240 to >1000	HORWITH	CHUX157
11/9/2015	2/15/2016	000599666WAS	S6N0111	44,008	43,180	828	1.9%	Cr 240 to >1000	HORWITH	CHUX142
11/9/2015	2/15/2016	000599667WAS	S6N0112	43,832	44,260	(428)	-1.0%	Cr 240 to >1000	HORWITH	CHUX319
11/9/2015	2/15/2016	000599668WAS	S6N0113	43,580	43,820	(240)	-0.6%	Cr 240 to >1000	HORWITH	CHUX157
11/9/2015	2/15/2016	000599534WAS	S6N0114	43,832	43,980	(148)	-0.3%	Cr 240 to >1000	HORWITH	CHUX319
11/9/2015	2/15/2016	000599535WAS	S6N0115	43,580	43,780	(200)	-0.5%	Cr 240 to >1000	HORWITH	CHUX157
11/9/2015	2/15/2016	000599536WAS	S6N0116	43,736	44,560	(824)	-1.9%	Cr 240 to >1000	HORWITH	CHUX210
11/9/2015	2/15/2016	000599537WAS	S6N0117	43,832	44,220	(388)	-0.9%	Cr 240 to >1000	HORWITH	CHUX319
11/9/2015	2/15/2016	000599538WAS	S6N0118	43,580	44,000	(420)	-1.0%	Cr 240 to >1000	HORWITH	CHUX157
11/9/2015	2/15/2016	000599539WAS	S6N0119	43,736	43,740	(4)	0.0%	Cr 240 to >1000	HORWITH	CHUX210
11/9/2015	2/15/2016	000599605WAS	S6N0120	43,580	41,920	1,660	3.8%	Cr 240 to >1000	HORWITH	CHUX157
11/9/2015	2/15/2016	000599606WAS	S6N0121	43,736	42,680	1,056	2.4%	Cr 240 to >1000	HORWITH	CHUX210
11/9/2015	2/15/2016	000599607WAS	S6N0122	43,736	39,860	3,876	8.9%	Cr 240 to >1000	HORWITH	CHUX210
11/10/2015	2/15/2016	000599608WAS	S6N0123	43,832	39,540	4,292	9.8%	Cr 240 to >1000	HORWITH	CHUX319
11/10/2015	2/15/2016	000599609WAS	S6N0124	44,172	46,520	(2,348)	-5.3%	Cr 240 to >1000	HORWITH	CHUX224
11/10/2015	2/15/2016	000599610WAS	S6N0125	44,172	40,180	3,992	9.0%	Cr 240 to >1000	HORWITH	CHUX224
11/10/2015	2/15/2016	000599611WAS	S6N0126	43,992	43,220	772	1.8%	Cr 240 to >1000	HORWITH	CHUX164
11/10/2015	2/15/2016	000599612WAS	S6N0127	44,008	42,320	1,688	3.8%	Cr 240 to >1000	HORWITH	CHUX142
11/10/2015	2/15/2016	000599613WAS	S6N0128	44,172	40,080	4,092	9.3%	Cr 240 to >1000	HORWITH	CHUX224
11/10/2015	2/15/2016	000599614WAS	S6N0129	43,992	43,120	872	2.0%	Cr 240 to >1000	HORWITH	CHUX164
11/10/2015	2/15/2016	000599615WAS	S6N0130	43,992	41,920	2,072	4.7%	Cr 240 to >1000	HORWITH	CHUX164
11/10/2015	2/15/2016	000599616WAS	S6N0131	44,172	47,380	(3,208)	-7.3%	Cr 240 to >1000	HORWITH	CHUX224
11/10/2015	2/15/2016	000599617WAS	S6N0132	43,992	45,800	(1,808)	-4.1%	Cr 240 to >1000	HORWITH	CHUX164
11/10/2015	2/15/2016	000599618WAS	S6N0133	43,664	46,080	(2,416)	-5.5%	Cr 240 to >1000	HORWITH	CHUX298
11/10/2015	2/15/2016	000599619WAS	S6N0134	44,172	43,960	212	0.5%	Cr 240 to >1000	HORWITH	CHUX224
11/10/2015	2/15/2016	000599620WAS	S6N0135	43,644	39,860	3,784	8.7%	Cr 240 to >1000	HORWITH	CHUX298
11/10/2015	2/15/2016	000561464WAS	S6N0136	43,644	46,400	(2,756)	-6.3%	Cr 240 to >1000	HORWITH	CHUX298
11/10/2015	2/15/2016	000561465WAS	S6N0137	43,644	46,360	(2,716)	-6.2%	Cr 240 to >1000	HORWITH	CHUX298
11/10/2015	2/15/2016	000561466WAS	S6N0138	43,992	43,720	272	0.6%	Cr 240 to >1000	HORWITH	CHUX164
11/11/2015	2/15/2016	000561467WAS	S6N0139	44,576	44,420	156	0.3%	Cr 240 to >1000	HORWITH	CHUX211
11/11/2015	2/15/2016	000561468WAS	S6N0140	44,576	45,580	(1,004)	-2.3%	Cr 240 to >1000	HORWITH	CHUX211
11/11/2015	2/15/2016	000561469WAS	S6N0141	44,576	41,920	2,656	6.0%	Cr 240 to >1000	HORWITH	CHUX211
11/11/2015	2/15/2016	000561470WAS	S6N0142	44,576	46,440	(1,864)	-4.2%	Cr 240 to >1000	HORWITH	CHUX211
11/11/2015	2/15/2016	000561471WAS	S6N0143	44,808	46,060	(1,252)	-2.8%	Cr 240 to >1000	HORWITH	CHUX172
11/11/2015	2/15/2016	000561472WAS	S6N0144	44,808	46,340	(1,532)	-3.4%	Cr 240 to >1000	HORWITH	CHUX172
11/11/2015	2/15/2016	000561473WAS	S6N0145	44,808	43,340	1,468	3.3%	Cr 240 to >1000	HORWITH	CHUX172
11/11/2015	2/15/2016	000561474WAS	S6N0146	43,644	37,840	5,804	13.3%	Cr 240 to >1000	HORWITH	CHUX298
11/11/2015	2/15/2016	000561475WAS	S6N0147	44,576	40,020	4,556	10.2%	Cr 240 to >1000	HORWITH	CHUX211
11/11/2015	2/15/2016	000561476WAS	S6N0148	43,912	43,260	652	1.5%	Cr 240 to >1000	HORWITH	CHUX143
11/11/2015	2/15/2016	000561477WAS	S6N0149	43,912	41,760	2,152	4.9%	Cr 240 to >1000	HORWITH	CHUX193
11/11/2015	2/15/2016	000561478WAS	S6N0150	43,832	43,420	412	0.9%	Cr 240 to >1000	HORWITH	CHUX319

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Jersey City, New Jersey

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11/11/2015	2/15/2016	000561479WAS	S6N0151	43,912	40,420	3,492	8.0%	Cr 240 to >1000	HORWITH	CHUX143
11/11/2015	2/15/2016	000561480WAS	S6N0152	43,912	43,280	632	1.4%	Cr 240 to >1000	HORWITH	CHUX143
11/11/2015	2/15/2016	000561481WAS	S6N0153	43,912	46,000	(2,088)	-4.8%	Cr 240 to >1000	HORWITH	CHUX143
11/11/2015	2/15/2016	000561482WAS	S6N0154	44,808	42,420	2,388	5.3%	Cr 240 to >1000	HORWITH	CHUX172
11/11/2015	2/15/2016	000561483WAS	S6N0155	44,808	39,360	5,448	12.2%	Cr 240 to >1000	HORWITH	CHUX172
11/24/2015	2/15/2016	000701056WAS	S6N0156	43,868	46,160	(2,292)	-5.2%	Cr 240 to >1000	HORWITH	CHUX308
11/24/2015	2/15/2016	000701055WAS	S6N0157	43,672	46,140	(2,468)	-5.7%	Cr 240 to >1000	HORWITH	CHUX287
11/24/2015	2/15/2016	000701054WAS	S6N0158	43,868	45,040	(1,172)	-2.7%	Cr 240 to >1000	HORWITH	CHUX308
11/24/2015	2/15/2016	000701053WAS	S6N0159	43,672	45,160	(1,488)	-3.4%	Cr 240 to >1000	HORWITH	CHUX287
11/24/2015	2/15/2016	000701052WAS	S6N0160	43,148	46,440	(3,292)	-7.6%	Cr 240 to >1000	HORWITH	CHUX262
11/24/2015	2/15/2016	000701051WAS	S6N0161	43,672	40,200	3,472	8.0%	Cr 240 to >1000	HORWITH	CHUX287
11/24/2015	2/15/2016	000701050WAS	S6N0162	43,672	43,320	352	0.8%	Cr 240 to >1000	HORWITH	CHUX287
11/24/2015	2/15/2016	000701049WAS	S6N0163	43,672	41,800	1,872	4.3%	Cr 240 to >1000	HORWITH	CHUX287
11/24/2015	2/15/2016	000701048WAS	S6N0164	43,148	44,960	(1,812)	-4.2%	Cr 240 to >1000	HORWITH	CHUX262
11/24/2015	2/15/2016	000701047WAS	S6N0165	43,868	42,940	928	2.1%	Cr 240 to >1000	HORWITH	CHUX308
11/24/2015	2/15/2016	000701046WAS	S6N0166	43,148	43,360	(212)	-0.5%	Cr 240 to >1000	HORWITH	CHUX262
11/24/2015	2/15/2016	000701045WAS	S6N0167	43,340	42,500	840	1.9%	Cr 240 to >1000	HORWITH	CHUX318
11/24/2015	2/15/2016	000701044WAS	S6N0168	43,340	43,380	(40)	-0.1%	Cr 240 to >1000	HORWITH	CHUX318
11/24/2015	2/15/2016	000701043WAS	S6N0169	43,868	42,240	1,628	3.7%	Cr 240 to >1000	HORWITH	CHUX308
11/24/2015	2/15/2016	000701042WAS	S6N0170	43,148	42,180	968	2.2%	Cr 240 to >1000	HORWITH	CHUX262
11/25/2015	2/15/2016	000701041WAS	S6N0171	43,148	38,800	4,348	10.1%	Cr 240 to >1000	HORWITH	CHUX262
11/25/2015	2/15/2016	000701040WAS	S6N0172	43,340	37,400	5,940	13.7%	Cr 240 to >1000	HORWITH	CHUX318
11/25/2015	2/15/2016	000701039WAS	S6N0173	43,868	39,580	4,288	9.8%	Cr 240 to >1000	HORWITH	CHUX308
11/25/2015	2/15/2016	000701038WAS	S6N0174	43,340	45,400	(2,060)	-4.8%	Cr 240 to >1000	HORWITH	CHUX318
11/25/2015	2/15/2016	000701037WAS	S6N0175	43,340	47,180	(3,840)	-8.9%	Cr 240 to >1000	HORWITH	CHUX318
12/14/2015	2/12/2016	000561484WAS	S6N0176	43,220	44,680	(1,460)	-3.4%	Cr 240 to >1000	HORWITH	CHUX319
12/14/2015	2/12/2016	000561485WAS	S6N0177	43,160	39,940	3,220	7.5%	Cr 240 to >1000	HORWITH	CHUX140
12/14/2015	2/12/2016	000561486WAS	S6N0178	43,220	43,980	(760)	-1.8%	Cr 240 to >1000	HORWITH	CHUX319
12/14/2015	2/12/2016	000561487WAS	S6N0179	43,220	42,740	480	1.1%	Cr 240 to >1000	HORWITH	CHUX319
12/14/2015	2/12/2016	000561488WAS	S6N0180	43,220	41,600	1,620	3.7%	Cr 240 to >1000	HORWITH	CHUX319
12/14/2015	2/12/2016	000561489WAS	S6N0181	43,098	43,300	(202)	-0.5%	Cr 240 to >1000	HORWITH	CHUX185
12/14/2015	2/12/2016	000561490WAS	S6N0182	43,160	44,640	(1,480)	-3.4%	Cr 240 to >1000	HORWITH	CHUX140
12/14/2015	2/12/2016	000561491WAS	S6N0183	43,098	44,960	(1,862)	-4.3%	Cr 240 to >1000	HORWITH	CHUX185
12/14/2015	2/12/2016	000561492WAS	S6N0184	43,098	41,300	1,798	4.2%	Cr 240 to >1000	HORWITH	CHUX185
12/14/2015	2/12/2016	000561493WAS	S6N0185	43,220	42,040	1,180	2.7%	Cr 240 to >1000	HORWITH	CHUX319
12/14/2015	2/12/2016	000561494WAS	S6N0186	43,098	44,480	(1,382)	-3.2%	Cr 240 to >1000	HORWITH	CHUX185
12/14/2015	2/12/2016	000561495WAS	S6N0187	43,160	44,180	(1,020)	-2.4%	Cr 240 to >1000	HORWITH	CHUX140
12/14/2015	2/12/2016	000561496WAS	S6N0188	43,140	40,700	2,440	5.7%	Cr 240 to >1000	HORWITH	CHUX121
12/14/2015	2/12/2016	000561497WAS	S6N0189	43,140	39,940	3,200	7.4%	Cr 240 to >1000	HORWITH	CHUX121
12/14/2015	2/12/2016	000561498WAS	S6N0190	43,160	43,420	(260)	-0.6%	Cr 240 to >1000	HORWITH	CHUX140
12/14/2015	2/12/2016	000566926WAS	S6N0191	42,888	40,520	2,368	5.5%	Cr 240 to >1000	HORWITH	CHUX191
12/14/2015	2/12/2016	000566927WAS	S6N0192	42,796	39,520	3,276	7.7%	Cr 240 to >1000	HORWITH	CHUX224
12/14/2015	2/12/2016	000566928WAS	S6N0193	42,952	39,300	3,652	8.5%	Cr 240 to >1000	HORWITH	CHUX195
12/14/2015	2/12/2016	000566929WAS	S6N0194	42,888	39,520	3,368	7.9%	Cr 240 to >1000	HORWITH	CHUX191
12/14/2015	2/12/2016	000566930WAS	S6N0195	43,098	41,240	1,858	4.3%	Cr 240 to >1000	HORWITH	CHUX185
12/14/2015	2/12/2016	000566931WAS	S6N0196	43,140	44,900	(1,760)	-4.1%	Cr 240 to >1000	HORWITH	CHUX121
12/14/2015	2/12/2016	000566932WAS	S6N0197	43,140	44,660	(1,520)	-3.5%	Cr 240 to >1000	HORWITH	CHUX121
12/14/2015	2/12/2016	000566933WAS	S6N0198	42,796	42,500	296	0.7%	Cr 240 to >1000	HORWITH	CHUX224
12/14/2015	2/12/2016	000566934WAS	S6N0199	42,888	43,220	(332)	-0.8%	Cr 240 to >1000	HORWITH	CHUX191
12/14/2015	2/12/2016	000566935WAS	S6N0200	43,140	45,620	(2,480)	-5.7%	Cr 240 to >1000	HORWITH	CHUX121

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Honeywell International Inc.

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Date Shipped	Date of Return Manifest	State Manifest	Man. Doc #	Facilty Manifest Weight (lbs)	Estimated Weight (lbs)	Manifest - Estimate (lbs)	Manifest - Estimate (%)	Material	Transporter	RAILCAR #
12/14/2015	2/12/2016	000566936WAS	S6N0201	43,160	43,620	(460)	-1.1%	Cr 240 to >1000	HORWITH	CHUX140
12/14/2015	2/12/2016	000566937WAS	S6N0202	42,796	42,880	(84)	-0.2%	Cr 240 to >1000	HORWITH	CHUX224
12/14/2015	2/12/2016	000566938WAS	S6N0203	42,952	42,520	432	1.0%	Cr 240 to >1000	HORWITH	CHUX195
12/14/2015	2/12/2016	000566939WAS	S6N0204	42,796	43,680	(884)	-2.1%	Cr 240 to >1000	HORWITH	CHUX224
12/14/2015	2/12/2016	000566940WAS	S6N0205	42,952	42,320	632	1.5%	Cr 240 to >1000	HORWITH	CHUX195
12/15/2015	2/12/2016	000566941WAS	S6N0206	42,888	47,820	(4,932)	-11.5%	Cr 240 to >1000	HORWITH	CHUX191
12/15/2015	2/12/2016	000566942WAS	S6N0207	42,888	43,020	(132)	-0.3%	Cr 240 to >1000	HORWITH	CHUX191
12/15/2015	2/12/2016	000566943WAS	S6N0208	42,796	46,020	(3,224)	-7.5%	Cr 240 to >1000	HORWITH	CHUX224
12/15/2015	2/12/2016	000566944WAS	S6N0209	43,564	44,360	(796)	-1.8%	Cr 240 to >1000	HORWITH	CHUX157
12/15/2015	2/12/2016	000566945WAS	S6N0210	43,564	41,700	1,864	4.3%	Cr 240 to >1000	HORWITH	CHUX157
12/15/2015	2/12/2016	000566946WAS	S6N0211	42,952	42,280	672	1.6%	Cr 240 to >1000	HORWITH	CHUX195
12/15/2015	2/12/2016	000566947WAS	S6N0212	43,564	45,200	(1,636)	-3.8%	Cr 240 to >1000	HORWITH	CHUX157
12/15/2015	2/12/2016	000566948WAS	S6N0213	42,612	47,660	(5,048)	-11.8%	Cr 240 to >1000	HORWITH	CHUX210
12/15/2015	2/1/2016	000566949WAS	S6N0214	43,564	47,440	(3,876)	-8.9%	Cr 240 to >1000	HORWITH	CHUX157
12/15/2015	2/12/2016	000566950WAS	S6N0215	42,952	48,680	(5,728)	-13.3%	Cr 240 to >1000	HORWITH	CHUX195
12/15/2015	2/12/2016	000566901WAS	S6N0216	43,236	44,460	(1,224)	-2.8%	Cr 240 to >1000	HORWITH	CHUX164
12/15/2015	2/12/2016	000566902WAS	S6N0217	43,564	40,000	3,564	8.2%	Cr 240 to >1000	HORWITH	CHUX157
12/15/2015	2/12/2016	000566903WAS	S6N0218	42,612	41,440	1,172	2.8%	Cr 240 to >1000	HORWITH	CHUX210
12/15/2015	2/12/2016	000566904WAS	S6N0219	43,236	44,140	(904)	-2.1%	Cr 240 to >1000	HORWITH	CHUX164
12/15/2015	2/12/2016	000566905WAS	S6N0220	42,612	43,080	(468)	-1.1%	Cr 240 to >1000	HORWITH	CHUX210
12/15/2015	2/12/2016	000566906WAS	S6N0221	43,048	45,600	(2,552)	-5.9%	Cr 240 to >1000	HORWITH	CHUX296
12/15/2015	2/12/2016	000566907WAS	S6N0222	42,612	43,820	(1,208)	-2.8%	Cr 240 to >1000	HORWITH	CHUX210
12/15/2015	2/12/2016	000566908WAS	S6N0223	43,236	42,500	736	1.7%	Cr 240 to >1000	HORWITH	CHUX164
12/15/2015	2/12/2016	000566909WAS	S6N0224	43,236	43,020	216	0.5%	Cr 240 to >1000	HORWITH	CHUX164
12/15/2015	2/12/2016	000566910WAS	S6N0225	43,048	45,120	(2,072)	-4.8%	Cr 240 to >1000	HORWITH	CHUX296
12/15/2015	2/12/2016	000566911WAS	S6N0226	43,236	42,240	996	2.3%	Cr 240 to >1000	HORWITH	CHUX164
12/15/2015	2/12/2016	000566912WAS	S6N0227	43,272	46,440	(3,168)	-7.3%	Cr 240 to >1000	HORWITH	CHUX297
12/15/2015	2/12/2016	000566913WAS	S6N0228	43,048	44,140	(1,092)	-2.5%	Cr 240 to >1000	HORWITH	CHUX296
12/15/2015	2/12/2016	000566914WAS	S6N0229	43,272	44,320	(1,048)	-2.4%	Cr 240 to >1000	HORWITH	CHUX297
12/16/2015	2/12/2016	000566915WAS	S6N0230	43,468	43,720	(252)	-0.6%	Cr 240 to >1000	HORWITH	CHUX190
12/16/2015	2/12/2016	000566916WAS	S6N0231	43,468	44,220	(752)	-1.7%	Cr 240 to >1000	HORWITH	CHUX190
12/16/2015	2/12/2016	000566917WAS	S6N0232	43,272	41,820	1,452	3.4%	Cr 240 to >1000	HORWITH	CHUX297
12/16/2015	2/12/2016	000566918WAS	S6N0233	43,468	42,560	908	2.1%	Cr 240 to >1000	HORWITH	CHUX190
12/16/2015	2/12/2016	000566919WAS	S6N0234	43,468	42,700	768	1.8%	Cr 240 to >1000	HORWITH	CHUX190
12/16/2015	2/12/2016	000566920WAS	S6N0235	43,272	41,720	1,552	3.6%	Cr 240 to >1000	HORWITH	CHUX297
12/16/2015	2/12/2016	000566921WAS	S6N0236	43,048	38,760	4,288	10.0%	Cr 240 to >1000	HORWITH	CHUX296
12/16/2015	2/12/2016	000566922WAS	S6N0237	43,652	43,900	(248)	-0.6%	Cr 240 to >1000	HORWITH	CHUX278
12/16/2015	2/12/2016	000566923WAS	S6N0238	43,048	41,900	1,148	2.7%	Cr 240 to >1000	HORWITH	CHUX296
12/16/2015	2/12/2016	000566924WAS	S6N0239	42,612	39,020	3,592	8.4%	Cr 240 to >1000	HORWITH	CHUX210
12/16/2015	2/12/2016	000566925WAS	S6N0240	43,468	42,900	568	1.3%	Cr 240 to >1000	HORWITH	CHUX190
12/16/2015	2/12/2016	000566900WAS	S6N0241	43,652	41,900	1,752	4.0%	Cr 240 to >1000	HORWITH	CHUX278
12/16/2015	2/12/2016	000566851WAS	S6N0242	43,164	41,580	1,584	3.7%	Cr 240 to >1000	HORWITH	CHUX258
12/16/2015	2/12/2016	000566852WAS	S6N0243	43,652	44,400	(748)	-1.7%	Cr 240 to >1000	HORWITH	CHUX278
12/16/2015	2/12/2016	000566853WAS	S6N0244	43,272	41,700	1,572	3.6%	Cr 240 to >1000	HORWITH	CHUX297
12/16/2015	2/12/2016	000566854WAS	S6N0245	43,652	44,760	(1,108)	-2.5%	Cr 240 to >1000	HORWITH	CHUX278
12/16/2015	2/12/2016	000566855WAS	S6N0246	43,652	40,720	2,932	6.7%	Cr 240 to >1000	HORWITH	CHUX278
12/16/2015	2/12/2016	000566856WAS	S6N0247	43,164	42,300	864	2.0%	Cr 240 to >1000	HORWITH	CHUX258
12/16/2015	2/12/2016	000566857WAS	S6N0248	43,164	41,760	1,404	3.3%	Cr 240 to >1000	HORWITH	CHUX258
12/16/2015	2/12/2016	000566858WAS	S6N0249	44,568	41,100	3,468	7.8%	Cr 240 to >1000	HORWITH	CHUX167
12/16/2015	2/12/2016	000566859WAS	S6N0250	43,164	45,340	(2,176)	-5.0%	Cr 240 to >1000	HORWITH	CHUX158

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Honeywell International Inc.

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12/17/2015	2/12/2016	000566860WAS	S6N0251	44,568	45,500	(932)	-2.1%	Cr 240 to >1000	HORWITH	CHUX167
12/17/2015	2/12/2016	000566861WAS	S6N0252	44,356	45,760	(1,404)	-3.2%	Cr 240 to >1000	HORWITH	CHUX207
12/17/2015	2/12/2016	000566863WAS	S6N0253	44,568	42,300	2,268	5.1%	Cr 240 to >1000	HORWITH	CHUX167
12/17/2015	2/12/2016	000566864WAS	S6N0254	43,600	45,580	(1,980)	-4.5%	Cr 240 to >1000	HORWITH	CHUX260
12/17/2015	2/12/2016	000566865WAS	S6N0255	44,568	43,920	648	1.5%	Cr 240 to >1000	HORWITH	CHUX167
12/17/2015	2/12/2016	000566866WAS	S6N0256	43,164	44,980	(1,816)	-4.2%	Cr 240 to >1000	HORWITH	CHUX258
12/17/2015	2/12/2016	000566867WAS	S6N0257	43,600	41,520	2,080	4.8%	Cr 240 to >1000	HORWITH	CHUX260
12/17/2015	2/12/2016	000566868WAS	S6N0258	44,356	44,200	156	0.4%	Cr 240 to >1000	HORWITH	CHUX207
12/17/2015	2/12/2016	000566869WAS	S6N0259	43,600	45,340	(1,740)	-4.0%	Cr 240 to >1000	HORWITH	CHUX260
12/17/2015	2/12/2016	000566870WAS	S6N0260	43,600	41,400	2,200	5.0%	Cr 240 to >1000	HORWITH	CHUX260
12/17/2015	2/12/2016	000566871WAS	S6N0261	44,356	39,880	4,476	10.1%	Cr 240 to >1000	HORWITH	CHUX207
12/17/2015	2/12/2016	000566872WAS	S6N0262	44,356	42,940	1,416	3.2%	Cr 240 to >1000	HORWITH	CHUX207
12/17/2015	2/12/2016	000566873WAS	S6N0263	44,356	42,940	1,416	3.2%	Cr 240 to >1000	HORWITH	CHUX207
12/17/2015	2/12/2016	000566874WAS	S6N0264	42,992	42,860	132	0.3%	Cr 240 to >1000	HORWITH	CHUX142
12/17/2015	2/12/2016	000566875WAS	S6N0265	42,992	42,640	352	0.8%	Cr 240 to >1000	HORWITH	CHUX142
12/17/2015	2/12/2016	000566876WAS	S6N0266	44,568	43,120	1,448	3.2%	Cr 240 to >1000	HORWITH	CHUX167
12/17/2015	2/12/2016	000566877WAS	S6N0267	43,600	42,380	1,220	2.8%	Cr 240 to >1000	HORWITH	CHUX260
12/17/2015	2/12/2016	000566868WAS	S6N0268	42,992	42,380	612	1.4%	Cr 240 to >1000	HORWITH	CHUX142
12/17/2015	2/12/2016	000566879WAS	S6N0269	41,612	41,120	492	1.2%	Cr 240 to >1000	HORWITH	CHUX127
12/17/2015	2/12/2016	000566880WAS	S6N0270	41,612	43,240	(1,628)	-3.9%	Cr 240 to >1000	HORWITH	CHUX127
12/17/2015	2/12/2016	000566881WAS	S6N0271	42,992	43,020	(28)	-0.1%	Cr 240 to >1000	HORWITH	CHUX142
12/17/2015	2/12/2016	000566882WAS	S6N0272	42,992	44,460	(1,468)	-3.4%	Cr 240 to >1000	HORWITH	CHUX142
12/17/2015	2/12/2016	000566883WAS	S6N0273	41,612	39,820	1,792	4.3%	Cr 240 to >1000	HORWITH	CHUX127
12/17/2015	2/12/2016	000566884WAS	S6N0274	41,612	41,780	(168)	-0.4%	Cr 240 to >1000	HORWITH	CHUX127
12/18/2015	2/12/2016	000566885WAS	S6N0275	44,340	42,320	2,020	4.6%	Cr 240 to >1000	HORWITH	CHUX114
12/18/2015	2/12/2016	000566886WAS	S6N0276	44,340	42,400	1,940	4.4%	Cr 240 to >1000	HORWITH	CHUX114
12/18/2015	2/12/2016	000566887WAS	S6N0277	41,932	42,080	(148)	-0.4%	Cr 240 to >1000	HORWITH	CHUX163
12/18/2015	2/12/2016	000566888WAS	S6N0278	44,340	43,160	1,180	2.7%	Cr 240 to >1000	HORWITH	CHUX114
12/18/2015	2/12/2016	000566889WAS	S6N0279	44,340	44,600	(260)	-0.6%	Cr 240 to >1000	HORWITH	CHUX114
12/18/2015	2/12/2016	000566890WAS	S6N0280	41,784	41,720	64	0.2%	Cr 240 to >1000	HORWITH	CHUX106
12/18/2015	2/12/2016	000566891WAS	S6N0281	41,932	43,140	(1,208)	-2.9%	Cr 240 to >1000	HORWITH	CHUX163
12/18/2015	2/12/2016	000566892WAS	S6N0282	44,340	43,180	1,160	2.6%	Cr 240 to >1000	HORWITH	CHUX114
12/18/2015	2/12/2016	000566893WAS	S6N0283	41,932	42,960	(1,028)	-2.5%	Cr 240 to >1000	HORWITH	CHUX163
12/18/2015	2/12/2016	000566894WAS	S6N0284	42,680	41,720	960	2.2%	Cr 240 to >1000	HORWITH	CHUX154
12/18/2015	2/12/2016	000566895WAS	S6N0285	41,784	42,200	(416)	-1.0%	Cr 240 to >1000	HORWITH	CHUX106
12/18/2015	2/12/2016	000566896WAS	S6N0286	41,612	49,380	(7,768)	-18.7%	Cr 240 to >1000	HORWITH	CHUX127
12/18/2015	2/12/2016	000566897WAS	S6N0287	42,680	43,660	(980)	-2.3%	Cr 240 to >1000	HORWITH	CHUX154
12/18/2015	2/12/2016	000566898WAS	S6N0288	41,932	42,420	(488)	-1.2%	Cr 240 to >1000	HORWITH	CHUX163
12/21/2015	2/12/2016	000566899WAS	S6N0289	46,280	44,180	2,100	4.5%	Cr 240 to >1000	HORWITH	CHUX247
12/18/2015	2/12/2016	000700857WAS	S6N0290	41,784	45,980	(4,196)	-10.0%	Cr 240 to >1000	HORWITH	CHUX106
12/18/2015	2/12/2016	000700858WAS	S6N0291	41,784	44,380	(2,596)	-6.2%	Cr 240 to >1000	HORWITH	CHUX106
12/18/2015	2/12/2016	000700859WAS	S6N0292	42,680	39,860	2,820	6.6%	Cr 240 to >1000	HORWITH	CHUX154
12/18/2015	2/12/2016	000700860WAS	S6N0293	41,932	45,060	(3,128)	-7.5%	Cr 240 to >1000	HORWITH	CHUX163
12/18/2015	2/12/2016	000700861WAS	S6N0294	41,784	41,761	23	0.1%	Cr 240 to >1000	HORWITH	CHUX106
12/18/2015	2/12/2016	000700862WAS	S6N0295	42,680	41,480	1,200	2.8%	Cr 240 to >1000	HORWITH	CHUX154
12/21/2015	2/12/2016	000700863WAS	S6N0296	42,452	44,340	(1,888)	-4.4%	Cr 240 to >1000	HORWITH	CHUX103
12/21/2015	2/12/2016	000700864WAS	S6N0297	42,452	44,200	(1,748)	-4.1%	Cr 240 to >1000	HORWITH	CHUX103
12/21/2015	2/12/2016	000700865WAS	S6N0298	46,280	44,480	1,800	3.9%	Cr 240 to >1000	HORWITH	CHUX247
12/21/2015	2/12/2016	000700866WAS	S6N0299	43,752	45,920	(2,168)	-5.0%	Cr 240 to >1000	HORWITH	CHUX211
12/21/2015	2/12/2016	000700867WAS	S6N0300	46,280	41,440	4,840	10.5%	Cr 240 to >1000	HORWITH	CHUX247

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Honeywell International Inc.

Jersey City, New Jersey

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12/21/2015	2/12/2016	000700868WAS	S6N0301	42,452	41,940	512	1.2%	Cr 240 to >1000	HORWITH	CHUX103
12/21/2015	2/12/2016	000700869WAS	S6N0302	46,280	43,980	2,300	5.0%	Cr 240 to >1000	HORWITH	CHUX247
12/21/2015	2/12/2016	000700870WAS	S6N0303	42,452	43,660	(1,208)	-2.8%	Cr 240 to >1000	HORWITH	CHUX103
12/21/2015	2/12/2016	000700871WAS	S6N0304	42,680	49,840	(7,160)	-16.8%	Cr 240 to >1000	HORWITH	CHUX154
12/21/2015	2/12/2016	000700872WAS	S6N0305	42,452	41,340	1,112	2.6%	Cr 240 to >1000	HORWITH	CHUX103
12/21/2015	2/12/2016	000700873WAS	S6N0306	43,752	40,020	3,732	8.5%	Cr 240 to >1000	HORWITH	CHUX211
12/21/2015	2/12/2016	000700874WAS	S6N0307	42,324	43,480	(1,156)	-2.7%	Cr 240 to >1000	HORWITH	CHUX172
12/21/2015	2/12/2016	000700875WAS	S6N0308	42,324	44,280	(1,956)	-4.6%	Cr 240 to >1000	HORWITH	CHUX172
12/21/2015	2/12/2016	000700876WAS	S6N0309	43,752	43,740	12	0.0%	Cr 240 to >1000	HORWITH	CHUX211
12/21/2015	2/12/2016	000700877WAS	S6N0310	42,324	40,780	1,544	3.6%	Cr 240 to >1000	HORWITH	CHUX172
12/21/2015	2/12/2016	000700878WAS	S6N0311	42,324	43,140	(816)	-1.9%	Cr 240 to >1000	HORWITH	CHUX172
12/21/2015	2/12/2016	000700879WAS	S6N0312	43,752	45,140	(1,388)	-3.2%	Cr 240 to >1000	HORWITH	CHUX211
12/21/2015	2/12/2016	000700880WAS	S6N0313	42,324	44,680	(2,356)	-5.6%	Cr 240 to >1000	HORWITH	CHUX172
12/21/2015	2/12/2016	000700881WAS	S6N0314	39,116	45,040	(5,924)	-15.1%	Cr 240 to >1000	HORWITH	EHMX504
12/21/2015	2/12/2016	000700882WAS	S6N0315	43,752	40,900	2,852	6.5%	Cr 240 to >1000	HORWITH	CHUX211
12/21/2015	2/12/2016	000700883WAS	S6N0316	46,280	42,820	3,460	7.5%	Cr 240 to >1000	HORWITH	CHUX247
12/22/2015	2/12/2016	000700884WAS	S6N0317	43,584	45,900	(2,316)	-5.3%	Cr 240 to >1000	HORWITH	CHUX143
12/22/2015	2/12/2016	000700885WAS	S6N0318	45,152	48,020	(2,868)	-6.4%	Cr 240 to >1000	HORWITH	CHUX298
12/22/2015	2/12/2016	000700886WAS	S6N0319	39,116	49,180	(10,064)	-25.7%	Cr 240 to >1000	HORWITH	EHMX504
12/22/2015	2/12/2016	000700887WAS	S6N0320	43,584	46,960	(3,376)	-7.7%	Cr 240 to >1000	HORWITH	CHUX143
12/22/2015	2/12/2016	000700888WAS	S6N0321	39,116	48,620	(9,504)	-24.3%	Cr 240 to >1000	HORWITH	EHMX504
12/22/2015	2/12/2016	000700889WAS	S6N0322	43,584	43,400	184	0.4%	Cr 240 to >1000	HORWITH	CHUX143
12/22/2015	2/12/2016	000700890WAS	S6N0323	45,152	43,260	1,892	4.2%	Cr 240 to >1000	HORWITH	CHUX298
12/22/2015	2/12/2016	000700891WAS	S6N0324	43,152	43,180	(28)	-0.1%	Cr 240 to >1000	HORWITH	CHUX298
12/22/2015	2/12/2016	000700892WAS	S6N0325	43,584	39,420	4,164	9.6%	Cr 240 to >1000	HORWITH	CHUX143
12/22/2015	2/12/2016	000700893WAS	S6N0326	45,152	39,440	5,712	12.7%	Cr 240 to >1000	HORWITH	CHUX298
12/22/2015	2/12/2016	000700894WAS	S6N0327	39,116	51,280	(12,164)	-31.1%	Cr 240 to >1000	HORWITH	EHMX504
12/22/2015	2/12/2016	000700895WAS	S6N0328	45,152	41,220	3,932	8.7%	Cr 240 to >1000	HORWITH	CHUX298
12/22/2015	2/12/2016	000700896WAS	S6N0329	43,584	39,180	4,404	10.1%	Cr 240 to >1000	HORWITH	CHUX143
12/29/2015	2/12/2016	000700897WAS	S6N0330	38,470	48,200	(9,730)	-25.3%	Cr 240 to >1000	HORWITH	EHMX501
12/29/2015	2/12/2016	000700898WAS	S6N0331	38,470	48,300	(9,830)	-25.6%	Cr 240 to >1000	HORWITH	EHMX501
12/29/2015	2/12/2016	000700899WAS	S6N0332	52,360	47,760	4,600	8.8%	Cr 240 to >1000	HORWITH	EHMX516
12/29/2015	2/12/2016	000700900WAS	S6N0333	52,360	47,660	4,700	9.0%	Cr 240 to >1000	HORWITH	EHMX516
12/29/2015	2/12/2016	000700901WAS	S6N0334	38,470	51,860	(13,390)	-34.8%	Cr 240 to >1000	HORWITH	EHMX501
12/29/2015	2/12/2016	000700902WAS	S6N0335	52,360	49,240	3,120	6.0%	Cr 240 to >1000	HORWITH	EHMX516
12/29/2015	2/12/2016	000700903WAS	S6N0336	52,360	49,280	3,080	5.9%	Cr 240 to >1000	HORWITH	EHMX516
12/29/2015	2/12/2016	000700904WAS	S6N0337	38,470	50,960	(12,490)	-32.5%	Cr 240 to >1000	HORWITH	EHMX501

7,314.51	**SITE TONS**	**TOTAL:**			14,629,021				
7,354.63	**Facility Tons**	**TOTAL:**		14,709,254	14,629,021	14,629,021	-80,233	(0.01)	-0.55%

USE/HERITAGE HAZARDOUS WASTE TRACKING (2016)

Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Date Shipped	Date of Return Manifest	State Manifest	Man. Doc #	Facilty Manifest Weight (lbs)	Estimated Weight (lbs)	Manifest - Estimate (lbs)	Manifest - Estimate (%)	Material	Transporter	RAILCAR #
1/4/2016	2/12/2016	000700905WAS	S6N0338	42,388	46,100	(3,712)	-8.8%	Cr 240 to >1000	HORWITH	CHUX262
1/4/2016	2/12/2016	000700906WAS	S6N0339	42,432	44,520	(2,088)	-4.9%	Cr 240 to >1000	HORWITH	CHUX287
1/4/2016	2/12/2016	000700907WAS	S6N0340	42,432	46,860	(4,428)	-10.4%	Cr 240 to >1000	HORWITH	CHUX287
1/4/2016	2/12/2016	000700908WAS	S6N0341	42,388	44,280	(1,892)	-4.5%	Cr 240 to >1000	HORWITH	CHUX262
1/4/2016	2/12/2016	000700909WAS	S6N0342	42,388	45,080	(2,692)	-6.4%	Cr 240 to >1000	HORWITH	CHUX262
1/4/2016	2/12/2016	000700910WAS	S6N0343	42,432	44,180	(1,748)	-4.1%	Cr 240 to >1000	HORWITH	CHUX287
1/4/2016	2/12/2016	000700911WAS	S6N0344	42,432	39,200	3,232	7.6%	Cr 240 to >1000	HORWITH	CHUX287
1/4/2016	2/12/2016	000700912WAS	S6N0345	42,432	40,860	1,572	3.7%	Cr 240 to >1000	HORWITH	CHUX287
1/4/2016	2/12/2016	000700913WAS	S6N0346	42,388	38,240	4,148	9.8%	Cr 240 to >1000	HORWITH	CHUX262
1/4/2016	2/12/2016	000700914WAS	S6N0347	42,388	41,380	1,008	2.4%	Cr 240 to >1000	HORWITH	CHUX262
1/4/2016	2/12/2016	000700915WAS	S6N0348	42,284	40,340	1,944	4.6%	Cr 240 to >1000	HORWITH	CHUX308
1/4/2016	2/12/2016	000700916WAS	S6N0349	41,964	40,280	1,684	4.0%	Cr 240 to >1000	HORWITH	CHUX318
1/4/2016	2/12/2016	000700917WAS	S6N0350	42,284	46,100	(3,816)	-9.0%	Cr 240 to >1000	HORWITH	CHUX308
1/4/2016	2/12/2016	000700918WAS	S6N0351	41,964	43,300	(1,336)	-3.2%	Cr 240 to >1000	HORWITH	CHUX318
1/4/2016	2/12/2016	000700919WAS	S6N0352	42,284	42,500	(216)	-0.5%	Cr 240 to >1000	HORWITH	CHUX308
1/4/2016	2/12/2016	000700920WAS	S6N0353	42,284	42,040	244	0.6%	Cr 240 to >1000	HORWITH	CHUX308
1/4/2016	2/12/2016	000700921WAS	S6N0354	42,284	43,840	(1,556)	-3.7%	Cr 240 to >1000	HORWITH	CHUX308
1/4/2016	2/12/2016	000700922WAS	S6N0355	41,964	41,260	704	1.7%	Cr 240 to >1000	HORWITH	CHUX318
1/4/2016	2/12/2016	000700923WAS	S6N0356	41,964	44,600	(2,636)	-6.3%	Cr 240 to >1000	HORWITH	CHUX318
1/4/2016	2/12/2016	000700924WAS	S6N0357	41,964	42,620	(656)	-1.6%	Cr 240 to >1000	HORWITH	CHUX318
2/1/2016	3/24/2016	000726898WAS	S6N0358	43,712	42,820	892	2.0%	Cr 240 to >1000	HORWITH	CHUX278
2/1/2016	3/24/2016	000728551WAS	S6N0359	43,712	43,480	232	0.5%	Cr 240 to >1000	HORWITH	CHUX278
2/1/2016	3/24/2016	000728552WAS	S6N0360	43,712	42,060	1,652	3.8%	Cr 240 to >1000	HORWITH	CHUX278
2/1/2016	3/24/2016	000728553WAS	S6N0361	44,324	42,000	2,324	5.2%	Cr 240 to >1000	HORWITH	CHUX298
2/1/2016	3/24/2016	000728554WAS	S6N0362	44,324	41,760	2,564	5.8%	Cr 240 to >1000	HORWITH	CHUX298
2/1/2016	3/24/2016	000728555WAS	S6N0363	44,324	43,960	364	0.8%	Cr 240 to >1000	HORWITH	CHUX298
2/1/2016	3/24/2016	000728556WAS	S6N0364	43,712	42,080	1,632	3.7%	Cr 240 to >1000	HORWITH	CHUX278
2/1/2016	3/23/2016	000728557WAS	S6N0365	42,392	38,700	3,692	8.7%	Cr 240 to >1000	HORWITH	CHUX114
2/1/2016	3/24/2016	000728558WAS	S6N0366	44,324	41,640	2,684	6.1%	Cr 240 to >1000	HORWITH	CHUX298
2/1/2016	3/23/2016	000728559WAS	S6N0367	42,392	43,380	(988)	-2.3%	Cr 240 to >1000	HORWITH	CHUX114
2/1/2016	3/24/2016	000728560WAS	S6N0368	43,712	44,440	(728)	-1.7%	Cr 240 to >1000	HORWITH	CHUX278
2/1/2016	3/23/2016	000728561WAS	S6N0369	42,392	42,280	112	0.3%	Cr 240 to >1000	HORWITH	CHUX114
2/1/2016	3/23/2016	000728562WAS	S6N0370	42,392	47,520	(5,128)	-12.1%	Cr 240 to >1000	HORWITH	CHUX114
2/1/2016	3/24/2016	000728563WAS	S6N0371	44,324	45,700	(1,376)	-3.1%	Cr 240 to >1000	HORWITH	CHUX298
2/1/2016	3/10/2016	000728564WAS	S6N0372	44,064	45,840	(1,776)	-4.0%	Cr 240 to >1000	HORWITH	CHUX167
2/1/2016	3/10/2016	000728565WAS	S6N0373	44,064	45,720	(1,656)	-3.8%	Cr 240 to >1000	HORWITH	CHUX167
2/1/2016	3/10/2016	000728566WAS	S6N0374	44,064	41,820	2,244	5.1%	Cr 240 to >1000	HORWITH	CHUX167
2/1/2016	3/23/2016	000728567WAS	S6N0375	42,392	44,800	(2,408)	-5.7%	Cr 240 to >1000	HORWITH	CHUX114
2/2/2016	3/23/2016	000728568WAS	S6N0376	43,892	44,520	(628)	-1.4%	Cr 240 to >1000	HORWITH	CHUX207
2/2/2016	3/10/2016	000728569WAS	S6N0377	44,252	44,340	(88)	-0.2%	Cr 240 to >1000	HORWITH	CHUX142
2/2/2016	3/10/2016	000728570WAS	S6N0378	43,892	43,220	672	1.5%	Cr 240 to >1000	HORWITH	CHUX207
2/2/2016	4/5/2016	000728571WAS	S6N0379	43,900	46,020	(2,120)	-4.8%	Cr 240 to >1000	HORWITH	CHUX260
2/2/2016	3/10/2016	000728572WAS	S6N0380	43,892	43,420	472	1.1%	Cr 240 to >1000	HORWITH	CHUX207
2/2/2016	3/10/2016	000728573WAS	S6N0381	44,252	43,300	952	2.2%	Cr 240 to >1000	HORWITH	CHUX142
2/2/2016	4/5/2016	000728574WAS	S6N0382	43,900	44,080	(180)	-0.4%	Cr 240 to >1000	HORWITH	CHUX260
2/2/2016	3/10/2016	000728575WAS	S6N0383	44,252	43,980	272	0.6%	Cr 240 to >1000	HORWITH	CHUX142
2/2/2016	3/10/2016	000728576WAS	S6N0384	43,892	43,160	732	1.7%	Cr 240 to >1000	HORWITH	CHUX207
2/2/2016	3/10/2016	000728577WAS	S6N0385	44,252	43,060	1,192	2.7%	Cr 240 to >1000	HORWITH	CHUX142
2/2/2016	3/10/2016	000728578WAS	S6N0386	44,064	40,300	3,764	8.5%	Cr 240 to >1000	HORWITH	CHUX167
2/2/2016	3/10/2016	000728579WAS	S6N0387	44,064	42,680	1,384	3.1%	Cr 240 to >1000	HORWITH	CHUX167

USE/HERITAGE HAZARDOUS WASTE TRACKING (2016)

Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Date Shipped	Date of Return Manifest	State Manifest	Man. Doc #	Facilty Manifest Weight (lbs)	Estimated Weight (lbs)	Manifest - Estimate (lbs)	Manifest - Estimate (%)	Material	Transporter	RAILCAR #
2/2/2016	3/10/2016	000728580WAS	S6N0388	44,252	41,400	2,852	6.4%	Cr 240 to >1000	HORWITH	CHUX142
2/2/2016	3/10/2016	000728581WAS	S6N0389	43,336	42,940	396	0.9%	Cr 240 to >1000	HORWITH	CHUX191
2/2/2016	3/10/2016	000728582WAS	S6N0390	43,892	41,380	2,512	5.7%	Cr 240 to >1000	HORWITH	CHUX207
2/2/2016	3/10/2016	000728583WAS	S6N0391	43,336	45,780	(2,444)	-5.6%	Cr 240 to >1000	HORWITH	CHUX191
2/2/2016	3/10/2016	000728584WAS	S6N0392	43,336	43,220	116	0.3%	Cr 240 to >1000	HORWITH	CHUX191
2/2/2016	4/5/2016	000728585WAS	S6N0393	43,900	43,320	580	1.3%	Cr 240 to >1000	HORWITH	CHUX260
2/2/2016	4/5/2016	000728586WAS	S6N0394	43,900	41,240	2,660	6.1%	Cr 240 to >1000	HORWITH	CHUX260
2/2/2016	4/5/2016	000728587WAS	S6N0395	43,900	40,320	3,580	8.2%	Cr 240 to >1000	HORWITH	CHUX260
2/3/2016	3/10/2016	000728588WAS	S6N0396	43,652	44,940	(1,288)	-3.0%	Cr 240 to >1000	HORWITH	CHUX140
2/3/2016	3/10/2016	000728589WAS	S6N0397	45,016	45,820	(804)	-1.8%	Cr 240 to >1000	HORWITH	CHUX121
2/3/2016	3/10/2016	000728590WAS	S6N0398	43,336	40,540	2,796	6.5%	Cr 240 to >1000	HORWITH	CHUX191
2/3/2016	3/10/2016	000728591WAS	S6N0399	43,652	44,060	(408)	-0.9%	Cr 240 to >1000	HORWITH	CHUX140
2/3/2016	3/10/2016	000728592WAS	S6N0400	43,336	42,880	456	1.1%	Cr 240 to >1000	HORWITH	CHUX191
2/3/2016	3/10/2016	000728593WAS	S6N0401	43,652	46,760	(3,108)	-7.1%	Cr 240 to >1000	HORWITH	CHUX140
2/3/2016	3/10/2016	000728594WAS	S6N0402	45,016	44,540	476	1.1%	Cr 240 to >1000	HORWITH	CHUX121
2/3/2016	3/10/2016	000728595WAS	S6N0403	45,016	42,900	2,116	4.7%	Cr 240 to >1000	HORWITH	CHUX121
2/3/2016	3/10/2016	000728596WAS	S6N0404	45,016	44,700	316	0.7%	Cr 240 to >1000	HORWITH	CHUX121
2/3/2016	3/10/2016	000728597WAS	S6N0405	43,652	42,940	712	1.6%	Cr 240 to >1000	HORWITH	CHUX140
2/3/2016	3/10/2016	000728598WAS	S6N0406	43,652	36,000	7,652	17.5%	Cr 240 to >1000	HORWITH	CHUX140
2/3/2016	3/10/2016	000728599WAS	S6N0407	45,016	38,040	6,976	15.5%	Cr 240 to >1000	HORWITH	CHUX121
2/18/2016	3/15/2016	000728600WAS	S6N0408	42,716	37,860	4,856	11.4%	Cr 240 to >1000	HORWITH	CHUX319
2/18/2016	3/15/2016	000728601WAS	S6N0409	42,716	42,320	396	0.9%	Cr 240 to >1000	HORWITH	CHUX319
2/18/2016	3/15/2016	000728602WAS	S6N0410	42,716	39,160	3,556	8.3%	Cr 240 to >1000	HORWITH	CHUX319
2/18/2016	3/15/2016	000728603WAS	S6N0411	42,716	39,540	3,176	7.4%	Cr 240 to >1000	HORWITH	CHUX319
2/18/2016	3/15/2016	000728604WAS	S6N0412	42,716	44,900	(2,184)	-5.1%	Cr 240 to >1000	HORWITH	CHUX319
3/3/2016	4/5/2016	000728605WAS	S6N0413	42,760	43,700	(940)	-2.2%	Cr 240 to >1000	HORWITH	CHUX195
3/3/2016	4/1/2016	000728606WAS	S6N0414	42,616	47,780	(5,164)	-12.1%	Cr 240 to >1000	HORWITH	CHUX224
3/3/2016	4/5/2016	000728607WAS	S6N0415	42,760	44,600	(1,840)	-4.3%	Cr 240 to >1000	HORWITH	CHUX195
3/3/2016	4/1/2016	000728608WAS	S6N0416	42,908	47,660	(4,752)	-11.1%	Cr 240 to >1000	HORWITH	CHUX164
3/3/2016	4/5/2016	000728609WAS	S6N0417	42,968	42,600	368	0.9%	Cr 240 to >1000	HORWITH	CHUX287
3/3/2016	4/1/2016	000728610WAS	S6N0418	42,616	40,060	2,556	6.0%	Cr 240 to >1000	HORWITH	CHUX224
3/3/2016	4/5/2016	000728611WAS	S6N0419	42,968	44,120	(1,152)	-2.7%	Cr 240 to >1000	HORWITH	CHUX287
3/3/2016	4/1/2016	000728612WAS	S6N0420	42,768	45,980	(3,212)	-7.5%	Cr 240 to >1000	HORWITH	CHUX185
3/3/2016	4/5/2016	000728613WAS	S6N0421	42,760	42,220	540	1.3%	Cr 240 to >1000	HORWITH	CHUX195
3/3/2016	4/1/2016	000728614WAS	S6N0422	42,908	41,680	1,228	2.9%	Cr 240 to >1000	HORWITH	CHUX164
3/3/2016	4/5/2016	000728615WAS	S6N0423	42,968	43,960	(992)	-2.3%	Cr 240 to >1000	HORWITH	CHUX287
3/3/2016	4/1/2016	000728616WAS	S6N0424	42,908	40,720	2,188	5.1%	Cr 240 to >1000	HORWITH	CHUX164
3/3/2016	4/1/2016	000728804WAS	S6N0425	42,616	42,900	(284)	-0.7%	Cr 240 to >1000	HORWITH	CHUX224
3/3/2016	4/5/2016	000728805WAS	S6N0426	42,968	42,660	308	0.7%	Cr 240 to >1000	HORWITH	CHUX287
3/3/2016	4/5/2016	000728806WAS	S6N0427	42,760	39,080	3,680	8.6%	Cr 240 to >1000	HORWITH	CHUX195
3/3/2016	4/5/2016	000728807WAS	S6N0428	42,968	42,200	768	1.8%	Cr 240 to >1000	HORWITH	CHUX287
3/3/2016	4/1/2016	000728808WAS	S6N0429	42,768	41,700	1,068	2.5%	Cr 240 to >1000	HORWITH	CHUX185
3/3/2016	4/1/2016	000728809WAS	S6N0430	42,616	38,160	4,456	10.5%	Cr 240 to >1000	HORWITH	CHUX224
3/3/2016	4/1/2016	000728810WAS	S6N0431	42,908	41,120	1,788	4.2%	Cr 240 to >1000	HORWITH	CHUX164
3/3/2016	4/1/2016	000728811WAS	S6N0432	42,908	42,440	468	1.1%	Cr 240 to >1000	HORWITH	CHUX164
3/3/2016	4/1/2016	000566030WAS	S6N0433	42,768	42,240	528	1.2%	Cr 240 to >1000	HORWITH	CHUX185
3/3/2016	4/1/2016	000566031WAS	S6N0434	42,768	41,240	1,528	3.6%	Cr 240 to >1000	HORWITH	CHUX185
3/3/2016	4/1/2016	000566032WAS	S6N0435	42,768	42,000	768	1.8%	Cr 240 to >1000	HORWITH	CHUX185
3/3/2016	4/1/2016	000566033WAS	S6N0436	42,616	44,380	(1,764)	-4.1%	Cr 240 to >1000	HORWITH	CHUX224
3/3/2016	4/5/2016	000566034WAS	S6N0437	42,760	44,620	(1,860)	-4.3%	Cr 240 to >1000	HORWITH	CHUX195

USE/HERITAGE HAZARDOUS WASTE TRACKING (2016)

Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

Date Shipped	Date of Return Manifest	State Manifest	Man. Doc #	Facilty Manifest Weight (lbs)	Estimated Weight (lbs)	Manifest - Estimate (lbs)	Manifest - Estimate (%)	Material	Transporter	RAILCAR #
3/4/2016	4/5/2016	0005666035WAS	S6N0438	31,340	46,440	(15,100)	-48.2%	Cr 240 to >1000	HORWITH	CHUX308
3/4/2016	4/5/2016	0005666036WAS	S6N0439	61,420	46,840	14,580	23.7%	Cr 240 to >1000	HORWITH	CHUX308
2,190.13	**SITE TONS**	**TOTAL:**			4,380,260					
2,207.24	**Facility Tons**	**TOTAL:**		4,414,480	4,414,480	4,380,260	-34,220	(0.01)	-0.78%	

PPE-CLEAN EARTH HAZARDOUS WASTE TRACKING (2016)

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

Date Shipped	Date of Return Manifest	State Manifest	Facilty Manifest Weight (lbs)	Estimated Weight (CY)	Manifest - Estimate (lbs)	Material	Transporter
9/19/2016		016327221		20	(20)	PPE	Auchter
9/19/2016		016327222		20	(20)	PPE	Auchter

40.00	**SITE CUBIC YARDS**	**TOTAL:**		40			
0.00	**Facility Cubic Yards**	**TOTAL:**	0	0	40		

APPENDIX L

BACKFILL DOCUMENTATION

Imported Fill (NJCU) Soil Analytical Report

VOCs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

	Client Sample ID			124-WC-NJCU1-020515	
	Lab Sample ID			JB87709-1	
	Date Sampled			02/05/2015	
Parameter Name	Units	NJ 2012 MOST STRINGENT SRS	NJ 2013 IGW SOIL	CONC	Q
1,1,1-TRICHLOROETHANE	mg/kg	290	0.3	0.0038	U
1,1,2,2-TETRACHLOROETHANE	mg/kg	1	0.007	0.0038	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	mg/kg	NC	NC	0.0096	U
1,1,2-TRICHLOROETHANE	mg/kg	2	0.02	0.0038	U
1,1-DICHLOROETHANE	mg/kg	8	0.2	0.0019	U
1,1-DICHLOROETHENE	mg/kg	11	0.008	0.0019	U
1,2,3-TRICHLOROBENZENE	mg/kg	NC	NC	0.0096	U
1,2,4-TRICHLOROBENZENE	mg/kg	73	0.7	0.0096	U
1,2-DIBROMO-3-CHLOROPROPANE	mg/kg	0.08	0.005	*0.0096*	*U*
1,2-DIBROMOETHANE	mg/kg	0.008	0.005	0.0019	U
1,2-DICHLOROBENZENE	mg/kg	5300	17	0.0019	U
1,2-DICHLOROETHANE	mg/kg	0.9	0.005	0.0019	U
1,2-DICHLOROPROPANE	mg/kg	2	0.005	0.0038	U
1,3-DICHLOROBENZENE	mg/kg	5300	19	0.0019	U
1,4-DICHLOROBENZENE	mg/kg	5	2	0.0019	U
2-BUTANONE	mg/kg	3100	0.9	0.019	U
2-HEXANONE	mg/kg	NC	NC	0.0096	U
4-METHYL-2-PENTANONE	mg/kg	NC	NC	0.0096	U
ACETONE	mg/kg	70000	19	0.0165	J
BENZENE	mg/kg	2	0.005	0.00096	U
BROMOCHLOROMETHANE	mg/kg	NC	NC	0.0096	U
BROMODICHLOROMETHANE	mg/kg	1	0.005	0.0038	U
BROMOFORM	mg/kg	81	0.03	0.0096	U
BROMOMETHANE	mg/kg	25	0.04	0.0096	U
CARBON DISULFIDE	mg/kg	7800	6	0.0038	U
CARBON TETRACHLORIDE	mg/kg	0.6	0.005	0.0038	U
CHLOROBENZENE	mg/kg	510	0.6	0.0038	U
CHLOROETHANE	mg/kg	220	NC	0.0096	U
CHLOROFORM	mg/kg	0.6	0.4	0.0038	U
CHLOROMETHANE	mg/kg	4	NC	0.0096	U
CIS-1,2-DICHLOROETHENE	mg/kg	230	0.3	0.0019	U
CIS-1,3-DICHLOROPROPENE	mg/kg	NC	NC	0.0038	U
CYCLOHEXANE	mg/kg	NC	NC	0.0038	U
Dibromochloromethane	mg/kg	3	0.005	0.0038	U
DICHLORODIFLUOROMETHANE	mg/kg	490	39	0.0096	U
ETHYLBENZENE	mg/kg	7800	13	0.0019	U
ISOPROPYLBENZENE	mg/kg	NC	NC	0.0096	U
METHYL ACETATE	mg/kg	78000	22	0.0096	U
METHYL TERT-BUTYL ETHER	mg/kg	110	0.2	0.0019	U
METHYLCYCLOHEXANE	mg/kg	NC	NC	0.0038	U
METHYLENE CHLORIDE	mg/kg	34	0.01	0.0096	U
O-XYLENE	mg/kg	NC	NC	0.0019	U
STYRENE	mg/kg	90	3	0.0038	U
TETRACHLOROETHENE	mg/kg	2	0.005	0.0019	U
TOLUENE	mg/kg	6300	7	0.0019	U
TRANS-1,2-DICHLOROETHENE	mg/kg	300	0.6	0.0019	U
TRANS-1,3-DICHLOROPROPENE	mg/kg	NC	NC	0.0038	U
TRICHLOROETHENE	mg/kg	7	0.01	0.0019	U
TRICHLOROFLUOROMETHANE	mg/kg	23000	34	0.0096	U
VINYL CHLORIDE	mg/kg	0.7	0.005	0.0038	U

Prepared by: DP 05/24/2016
Reviewed by: JLD 05/24/2016

Imported Fill (NJCU) Soil Analytical Report

VOCs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				**124-WC-NJCU1-020515**	
Lab Sample ID				JB87709-1	
Date Sampled				02/05/2015	
Parameter Name	**Units**	**NJ 2012 MOST STRINGENT SRS**	**NJ 2013 IGW SOIL**	**CONC**	**Q**
XYLENES, M & P	mg/kg	NC	NC	0.0019	U
XYLENES, TOTAL	mg/kg	12000	19	0.0019	U
TOTAL TICS, ALKANES	mg/kg	NC	NC	0.0000	
TOTAL TICS, VOLATILES	mg/kg	NC	NC	0.0000	

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

Imported Fill (NJCU) Soil Analytical Report

SVOCs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

	Client Sample ID			124-WC-NJCU1-020515	
	Lab Sample ID			JB87709-1	
	Date Sampled			02/05/2015	
Parameter Name	Units	NJ 2012 MOST STRINGENT SRS	NJ 2013 IGW SOIL	CONC	Q
1,1'-BIPHENYL	mg/kg	3100	140	0.078	U
1,2,4,5-TETRACHLOROBENZENE	mg/kg	NC	NC	0.2	U
1,4-DIOXANE	mg/kg	NC	NC	0.039	U
2,2'-OXYBIS(1-CHLOROPROPANE)	mg/kg	23	5	0.078	U
2,3,4,6-TETRACHLOROPHENOL	mg/kg	NC	NC	0.2	U
2,4,5-TRICHLOROPHENOL	mg/kg	6100	68	0.2	U
2,4,6-TRICHLOROPHENOL	mg/kg	19	0.2	0.2	U
2,4-DICHLOROPHENOL	mg/kg	180	0.2	0.2	U
2,4-DIMETHYLPHENOL	mg/kg	1200	1	0.2	U
2,4-DINITROPHENOL	mg/kg	120	0.3	*0.78*	*U*
2,4-DINITROTOLUENE	mg/kg	0.7	NC	0.039	U
2,6-DINITROTOLUENE	mg/kg	0.7	NC	0.039	U
2-CHLORONAPHTHALENE	mg/kg	NC	NC	0.078	U
2-CHLOROPHENOL	mg/kg	310	0.8	0.078	U
2-METHYLNAPHTHALENE	mg/kg	230	8	0.078	U
2-METHYLPHENOL	mg/kg	310	NC	0.078	U
2-NITROANILINE	mg/kg	39	NC	0.2	U
2-NITROPHENOL	mg/kg	NC	NC	0.2	U
3&4-METHYLPHENOL	mg/kg	NC	NC	0.078	U
3,3'-DICHLOROBENZIDINE	mg/kg	1	0.2	0.078	U
3-NITROANILINE	mg/kg	NC	NC	0.2	U
4,6-DINITRO-2-METHYLPHENOL	mg/kg	6	0.3	*0.78*	*U*
4-BROMOPHENYL PHENYL ETHER	mg/kg	NC	NC	0.078	U
4-CHLORO-3-METHYLPHENOL	mg/kg	NC	NC	0.2	U
4-CHLOROANILINE	mg/kg	NC	NC	0.2	U
4-CHLOROPHENYL PHENYL ETHER	mg/kg	NC	NC	0.078	U
4-NITROANILINE	mg/kg	NC	NC	0.2	U
4-NITROPHENOL	mg/kg	NC	NC	0.39	U
ACENAPHTHENE	mg/kg	3400	110	0.039	U
ACENAPHTHYLENE	mg/kg	300000	NC	0.039	U
ACETOPHENONE	mg/kg	2	3	0.2	U
ANTHRACENE	mg/kg	17000	2400	0.039	U
ATRAZINE	mg/kg	210	0.2	0.078	U
BENZALDEHYDE	mg/kg	6100	NC	0.2	U
BENZO(A)ANTHRACENE	mg/kg	0.6	0.8	0.0169	J
BENZO(A)PYRENE	mg/kg	0.2	0.2	0.0165	J
BENZO(B)FLUORANTHENE	mg/kg	0.6	2	0.0178	J
BENZO(G,H,I)PERYLENE	mg/kg	30000	NC	0.039	U
BENZO(K)FLUORANTHENE	mg/kg	6	25	0.039	U
BIS(2-CHLOROETHOXY)METHANE	mg/kg	NC	NC	0.078	U
BIS(2-CHLOROETHYL)ETHER	mg/kg	0.4	0.2	0.078	U
BIS(2-ETHYLHEXYL)PHTHALATE	mg/kg	35	1200	0.078	U
BUTYLBENZYL PHTHALATE	mg/kg	1200	230	0.078	U
CAPROLACTAM	mg/kg	31000	12	0.078	U
CARBAZOLE	mg/kg	24	NC	0.078	U
CHRYSENE	mg/kg	62	80	0.0175	J
DI-N-BUTYL PHTHALATE	mg/kg	6100	760	0.078	U
DI-N-OCTYL PHTHALATE	mg/kg	2400	3300	0.078	U
DIBENZO(A,H)ANTHRACENE	mg/kg	0.2	0.8	0.039	U
DIBENZOFURAN	mg/kg	NC	NC	0.078	U

Prepared by: DP 05/24/2016
Reviewed by: JLD 05/24/2016

Imported Fill (NJCU) Soil Analytical Report

SVOCs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				**124-WC-NJCU1-020515**	
Lab Sample ID				JB87709-1	
Date Sampled				02/05/2015	
Parameter Name	**Units**	**NJ 2012 MOST STRINGENT SRS**	**NJ 2013 IGW SOIL**	**CONC**	**Q**
DIETHYL PHTHALATE	mg/kg	49000	88	0.078	U
DIMETHYL PHTHALATE	mg/kg	NC	NC	0.078	U
FLUORANTHENE	mg/kg	2300	1300	0.0366	J
FLUORENE	mg/kg	2300	170	0.039	U
HEXACHLOROBENZENE	mg/kg	0.3	0.2	0.078	U
HEXACHLOROBUTADIENE	mg/kg	6	0.9	0.039	U
HEXACHLOROCYCLOPENTADIENE	mg/kg	45	320	0.39	U
HEXACHLOROETHANE	mg/kg	35	0.2	0.2	U
INDENO(1,2,3-CD)PYRENE	mg/kg	0.6	7	0.039	U
ISOPHORONE	mg/kg	510	0.2	0.078	U
N-NITROSO-DI-N-PROPYLAMINE	mg/kg	0.2	0.2	0.078	U
N-NITROSODIPHENYLAMINE	mg/kg	99	0.4	0.2	U
NAPHTHALENE	mg/kg	6	25	0.039	U
NITROBENZENE	mg/kg	31	0.2	0.078	U
PHENANTHRENE	mg/kg	300000	NC	0.0226	J
PHENOL	mg/kg	18000	8	0.078	U
PYRENE	mg/kg	1700	840	0.0315	J
TOTAL TICS, ALKANES	mg/kg			0.0000	
TOTAL TICS, SEMI-VOLATILES	mg/kg			0.0000	

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

Imported Fill (NJCU) Soil Analytical Report

Metals

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

	Client Sample ID			124-WC-NJCU1-020515	
	Lab Sample ID			JB87709-1	
	Date Sampled			02/05/2015	
Parameter Name	Units	NJ 2012 MOST STRINGENT SRS	NJ 2013 IGW SOIL	CONC	Q
ALUMINUM	mg/kg	78000	6000	**10700**	
ANTIMONY	mg/kg	31	6	2.6	U
ARSENIC	mg/kg	19	19	2.6	U
BARIUM	mg/kg	16000	2100	125	
BERYLLIUM	mg/kg	16	0.7	0.34	
CADMIUM	mg/kg	78	2	0.65	U
CALCIUM	mg/kg	NC	NC	7680	
CHROMIUM	mg/kg	NC	NC	21.2	
COBALT	mg/kg	590	90	10.7	
COPPER	mg/kg	3100	11000	39.1	
IRON	mg/kg	NC	NC	21100	
LEAD	mg/kg	400	90	25.8	
MAGNESIUM	mg/kg	NC	NC	6250	
MANGANESE	mg/kg	11000	65	**249**	
MERCURY	mg/kg	23	0.1	0.093	
NICKEL	mg/kg	1600	48	19.6	
POTASSIUM	mg/kg	NC	NC	5000	
SELENIUM	mg/kg	390	11	2.6	U
SILVER	mg/kg	390	1	0.65	U
SODIUM	mg/kg	NC	NC	1300	U
THALLIUM	mg/kg	5	3	1.3	U
VANADIUM	mg/kg	78	NC	39.6	
ZINC	mg/kg	23000	930	55.5	

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

NS: Not sampled

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

Imported Fill (NJCU) Soil Analytical Report

Pesticides and PCBs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

	Client Sample ID			124-WC-NJCU1-020515	
	Lab Sample ID			JB87709-1	
	Date Sampled			02/05/2015	
Parameter Name	Units	NJ 2012 MOST STRINGENT SRS	NJ 2013 IGW SOIL	CONC	Q
2,2-DICHLOROPROPANOIC ACID	mg/kg	NC	NC	0.0039	U
2,4,5-T	mg/kg	NC	NC	0.0039	U
2,4,5-TP (SILVEX)	mg/kg	NC	NC	0.0039	U
2,4-D	mg/kg	NC	NC	0.019	U
2,4-DB	mg/kg	NC	NC	0.019	U
4,4'-DDD	mg/kg	3	4	0.00084	U
4,4'-DDE	mg/kg	2	18	0.00084	U
4,4'-DDT	mg/kg	2	11	0.000900	
ALDRIN	mg/kg	0.04	0.2	0.00084	U
ALPHA-BHC	mg/kg	0.1	0.002	0.00084	U
ALPHA-CHLORDANE	mg/kg	NC	NC	0.00084	U
AROCLOR-1016	mg/kg	NC	0.2	0.042	U
AROCLOR-1221	mg/kg	NC	0.2	0.042	U
AROCLOR-1232	mg/kg	NC	0.2	0.042	U
AROCLOR-1242	mg/kg	NC	0.2	0.042	U
AROCLOR-1248	mg/kg	NC	0.2	0.042	U
AROCLOR-1254	mg/kg	NC	0.2	0.042	U
AROCLOR-1260	mg/kg	NC	0.2	0.042	U
AROCLOR-1262	mg/kg	NC	0.2	0.042	U
AROCLOR-1268	mg/kg	NC	0.2	0.042	U
Total PCBs	mg/kg	0.2	0.2	0.042	U
BETA-BHC	mg/kg	0.4	0.002	0.00084	U
BETA-CHLORDANE	mg/kg	NC	NC	0.00084	U
CHLORDANE	mg/kg	0.2	0.05	0.00084	U
DELTA-BHC	mg/kg	NC	NC	0.00084	U
DICAMBA	mg/kg	NC	NC	0.0039	U
DICHLOROPROP	mg/kg	NC	NC	0.019	U
DIELDRIN	mg/kg	0.04	0.003	0.00084	U
DINOSEB	mg/kg	NC	NC	0.019	U
ENDOSULFAN I	mg/kg	NC	NC	0.00084	U
ENDOSULFAN II	mg/kg	NC	NC	0.00084	U
ENDOSULFAN SULFATE	mg/kg	470	2	0.00084	U
ENDRIN	mg/kg	23	1	0.00084	U
ENDRIN ALDEHYDE	mg/kg	NC	NC	0.00084	U
ENDRIN KETONE	mg/kg	NC	NC	0.00084	U
GAMMA-BHC (LINDANE)	mg/kg	0.4	0.002	0.00084	U
HEPTACHLOR	mg/kg	0.1	0.5	0.00084	U
HEPTACHLOR EPOXIDE	mg/kg	0.07	0.01	0.00084	U
MCPA	mg/kg	NC	NC	1.9	U
Mecoprop	mg/kg	NC	NC	1.9	U
METHOXYCHLOR	mg/kg	390	160	0.0017	U
PENTACHLOROPHENOL	mg/kg	3	0.3	0.0019	U
TOXAPHENE	mg/kg	0.6	0.3	0.021	U

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by:DP 05/24/2016

Reviewed by: JLD 05/24/2016

Imported Fill (NJCU) Soil Analytical Report

General Chemistry

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

	Client Sample ID			124-WC-NJCU1-020515	
	Lab Sample ID			JB87709-1	
	Date Sampled			02/05/2015	
Parameter Name	**Units**	**NJ 2012 MOST STRINGENT SRS**	**NJ 2013 IGW SOIL**	**CONC**	**Q**
HEXAVALENT CHROMIUM	mg/kg	20	NC	0.51	U

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]

NC: No criterion established

Depths reported in feet below ground surface

CONC: Concentration reported in milligrams per kilogram (mg/kg)

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

Backfill Sample Comparison to NJDEP Soil Standards
Study Area 6
6/5/2017

Clean Fill Comparison	RDCSRS (2012)	NRDCSRS (2012)	IGW (2013)	Tilcon Mt Hope - DGA	Tilcon Mt Hope - DGA 002	Tilcon Mt Hope - DGA 003	Tilcon Mt Hope - DGA 004	Tilcon Mt Hope - DGA 005	Tilcon Mt Hope - DGA 006 (used for 1.5" Stone also, Sub 173)	Tilcon Mt Hope - 1.5 in Stone 001	Tilcon Mt Hope - 1.5 in Stone 002	Tilcon Mt Hope - 3/8 in Stone 001	Tilcon Mt Hope - 3/8 in Stone 002	Tilcon Pompton Lakes DGA 001	Liberty 1.5" Stone	Liberty DGA
Approval Status	--	--	--	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Make Corrections	Approved	Approved	Approved as Noted	Approved as Noted
Material Type	--	--	--	Common Borrow / Stone												
Submittal Response Date	--	--	--	10/29/2013	4/9/2014	5/7/2014	9/25/2014	11/18/2014	9/12/2016	5/7/2014	5/6/2015	5/7/2014	5/6/2015	7/31/2014	7/23/2015	7/23/2015
Submittal Number	--	--	--	34A	46	49	68	77	168 / 173	53	84	54	85	57	107	106
Cyanide	1600	23000	20	0.13 U	0.044 J	0.318	0.124 U	0.131 U	0.122 U	0.034 J	0.122 U	0.077 J	0.125 U	0.07 J	0.124 U	0.118 U
Aluminum[1]	78000	NA	6000	3870	2090	1940	2090	1380	1260	**6130**	1930	2080	1960	4700	**7570**	**6820**
Antimony	31	450	6	0.25 J	1.07 UN	1.09 U	0.516 U	0.552 U	0.533 UN	1.06 U	0.539 U	1.05 U	0.539 U	1.05 UN	0.539 U	0.53 U
Arsenic	19	19	19	0.29 J	1.56 N	1.64	1.72	1.52	1.68	0.658 J	1.73	0.642 J	1.62	1.01	0.592 J	0.862
Barium	16000	59000	2100	18.8	13	12.1	12.6	8.11	9.76	29.5	17.3 N	9.36	12.5 N	25.7 N	19.1	30.9
Beryllium	16	140	0.7	0.065 U	0.545 N*	**0.947** N	0.251	0.175 J	0.064 U	**1.16**	0.242 J	**0.968**	0.31 J	0.205 J	0.131 J	0.166 J
Cadmium	78	78	2	0.21	0.128 U	0.13 U	0.062 U	0.066 U	0.064 U	0.127 U	0.065 U	0.127 U	0.128 U	0.126 U	0.338	0.439
Cobalt	1600	590	90	3.65	4.59 N	3.98 N	6.01	3.52	5.1	3.74	5.5	3.58	4.64	10 N	8.31	8.18
Copper	3100	45000	11000	4.07	5.11 N*	2.06	4.59	2.58	6.12	2.09	0.615 J	0.349 J	7.14 J	28.9 N	65.8	75.3
Lead	400	800	90	5.71	0.686	0.695	0.969	0.583	4.3	0.579	1.47	0.59	1.21	2.41	18.9	4.04
Manganese[1]	11000	59000	65	**70.8**	**103**	**71.1**	**76.5**	55	**77.3**	**80.2**	53.7	34.7	**66.3**	**77.7**	**96.5**	**147**
Mercury	23	65	0.1	0.002 J	0.005 U	0.0005 U	0.005 U	0.005 U	0.0006 U	0.004 U	0.007 U	0.005 U	0.007 U	0.005 U	0.006 U	0.007 U
Nickel (soluble salts)	1600	23000	48	3.36	2.91	2.56	5.67	2.73	4.92	0.714 J	11.1	4.45	2.65	13.1 N	15.3	9.29
Selenium	390	5700	11	0.215 U	0.621 JN	0.977	0.959	0.507 J	4.28	0.424 U	0.216 U	0.422 U	0.216 U	0.878	0.216 U	0.212 U
Silver[1]	390	5700	1	0.105 U	0.213 UN	**1.36**	**1.56**	0.11 U	0.128 JN	**1.07**	0.871	0.939	0.487	0.255 J	0.877	**1.16**
Thallium	5	79	3	0.43 U	0.853 U	0.87 U	0.413 U	0.441 U	0.426 U	0.847 U	0.431 U	0.844 U	0.431 U	0.841 U	0.431 U	0.424 U
Vanadium	78	1100	NA	5.89	5.7 N	5.04	7.61	5.13	6.92	6.24	9.21	15.2	5.39	20.3	33.6	36.7
Zinc[1]	23000	110000	930	15.6	13.2 N	8.87 N	17.6	11.3	18.5	17.4	12.2 N	9.52	15.4 N	16.1 N	36.2	32.1
Polychlorinated biphenyls (PCBs)	0.2	1	0.2	0.0245 U	0.0245 U	0.0035 U	0.0238 U	0.0252 U	0.0306 U	0.0033 U	0.0231 U	0.0033 U	0.0231 U	0.0033 U	0.0231 U	0.02331 U
Total EPH (mg/kg)	1000	1000	1000	11.37	10.92	3.105 J	8.44	7.76	3.04 U	3.86 J	6.85	2.995 U	6.27	4.92 J	2.99 U	6.29
alpha-HCH (alpha-BHC)	0.1	0.5	0.002	0.000342 U	0.000343 U	0.000342 U	0.000333 U	0.000352 U	0.000334 U	0.000329 U	0.000329 U	0.000329 U	0.000329 U	0.000332 U	0.000329 U	0.000329 U
beta-HCH (beta-BHC)	0.4	2	0.002	0.000342 U	0.000343 U	0.000342 U	0.000333 U	0.000352 U	0.000334 U	0.000329 U	0.000329 U	0.000329 U	0.000329 U	0.000332 U	0.000329 U	0.000329 U
Lindane (gamma-HCH) (gamma-BHC)	0.4	2	0.002	0.000342 U	0.000343 U	0.000342 U	0.000333 U	0.000352 U	0.000334 U	0.000329 U	0.000329 U	0.000329 U	0.000329 U	0.000332 U	0.000329 U	0.000329 U
Heptachlor	0.4	0.7	0.5	0.000342 U	0.000343 U	0.000342 U	0.000333 U	0.000352 U	0.000334 U	0.000329 U	0.000329 U	0.000329 U	0.000329 U	0.000332 U	0.000329 U	0.000329 U
Aldrin	0.04	0.2	0.2	0.000342 U	0.000343 U	0.000342 U	0.000333 U	0.000352 U	0.000334 U	0.000329 U	0.000329 U	0.000329 U	0.000329 U	0.000332 U	0.000329 U	0.000329 U
Heptachlor epoxide	0.07	0.3	0.01	0.000342 U	0.000343 U	0.000342 U	0.000333 U	0.000352 U	0.000334 U	0.000329 U	0.000329 U	0.000329 U	0.000329 U	0.000332 U	0.000329 U	0.000329 U
Endosulfan I and Endosulfan II (alpha and beta)	470	6800	4	0.000684 U	0.000343 U	0.000684 U	0.000666 U	0.000704 U	0.000668 U	0.000658 U	0.000658 U	0.000658 U	0.000658 U	0.000664 U	0.000658 U	0.000658 U
Dieldrin	0.04	0.2	0.003	0.000342 U	0.000343 U	0.000342 U	0.000333 U	0.000352 U	0.000334 U	0.000329 U	0.000329 U	0.000329 U	0.000329 U	0.000332 U	0.000329 U	0.000329 U
4,4'-DDE	2	9	18	0.000342 U	0.000343 U	0.000342 U	0.000333 U	0.000352 U	0.000334 U	0.000329 U	0.000329 U	0.000329 U	0.000329 U	0.000332 U	0.000329 U	0.000329 U
Endrin	23	340	1	0.000342 U	0.000343 U	0.000342 U	0.000333 U	0.000352 U	0.000334 U	0.000329 U	0.000329 U	0.000329 U	0.000329 U	0.000332 U	0.000329 U	0.000329 U
4,4'-DDD	3	13	4	0.000342 U	0.000343 U	0.000342 U	0.000333 U	0.000352 U	0.000334 U	0.000329 U	0.000329 U	0.000329 U	0.000329 U	0.000332 U	0.000329 U	0.000329 U
Endosulfan sulfate	470	6800	2	0.000342 U	0.000343 U	0.000342 U	0.000333 U	0.000352 U	0.000334 U	0.000329 U	0.000329 U	0.000329 U	0.000329 U	0.000332 U	0.000329 U	0.000329 U
4,4'-DDT	2	8	11	0.000342 U	0.000343 U	0.000342 U	0.000333 U	0.000352 U	0.000334 U	0.000329 U	0.000329 U	0.000329 U	0.000329 U	0.000332 U	0.000329 U	0.000329 U
Methoxychlor	390	5700	160	0.000342 U	0.000343 U	0.000342 U	0.000333 U	0.000352 U	0.000334 U	0.000329 U	0.000329 U	0.000329 U	0.000329 U	0.000332 U	0.000329 U	0.000329 U
Chlordane (alpha and gamma)	0.2	1	0.05	0.000684 U	0.000686 U	0.000684 U	0.000666 U	0.000704 U	0.000668 U	0.000658 U	0.000658 U	0.000658 U	0.000658 U	0.000664 U	0.000658 U	0.000658 U
Toxaphene	0.6	3	0.3	0.0035 U	0.0035 U	0.0034 U	0.0034 U	0.0035 U	0.0034 U	0.0033 U	0.0033 U	0.0033 U	0.0033 U	0.0033 U	0.0033 U	0.0033 U
N-Nitrosodimethylamine	0.7	0.7	0.7	0.0692 U	0.0692 U	0.0693 U	0.0673 U	0.0711 U	0.0674 U	0.0664 U	0.0665 U	0.0666 U	0.0666 U	0.0672 U	0.0666 U	0.0665 U
Benzaldehyde	6100	68000	NA	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Phenol	18000	210000	8	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Bis(2-chloroethyl)ether	0.4	2	0.2	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Bis(2-chloroisopropyl)ether	23	67	5	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
2-Chlorophenol (o-Chlorophenol)	310	2200	0.8	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
2-Methylphenol (o-Creosol)	310	3400	NA	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
2,2-oxybis(1-Chloropropane)	NA	NA	NA	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Acetophenone	2	5	3	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
4-Methylphenol (p-Creosol)	31	340	NA	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
N-Nitroso-di-n-propylamine	0.2	0.3	0.2	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Hexachloroethane	35	140	0.2	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Nitrobenzene	31	340	0.2	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Isophorone	510	2000	0.2	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
2,4-Dimethylphenol	1200	14000	1	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
2,4-Dichlorophenol	180	2100	0.2	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Naphthalene	6	17	25	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0017 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Hexachloro-1,3,butadiene	6	25	0.9	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Caprolactam	31000	340000	12	0.0692 U	0.0692 U	0.0693 U	0.0673 U	0.0711 U	0.0674 U	0.0664 U	0.0665 U	0.0666 U	0.0666 U	0.0672 U	0.0666 U	0.0665 U
2-Methylnaphthalene	230	2400	8	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0017 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Hexachlorocyclopentadiene	45	110	320	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
2,4,6-Trichlorophenol	19	74	0.2	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
2,4,5-Trichlorophenol	6100	68000	68	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
1,1-Biphenyl	3100	34000	140	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
2-Nitroaniline	39	23000	NA	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Acenaphthylene	NA	300000	NA	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0017 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
2,4-Dinitrotoluene/2,6-Dinitrotoluene (mixture)	0.7	3	0.2	0.0346 U	0.0692 U	0.0692 U	0.0672 U	0.071 U	0.0674 U	0.0332 U	0.0666 U	0.0333 U	0.0666 U	0.0672 U	0.0666 U	0.0664 U
2,6-Dinitrotoluene	0.7	3	NA	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Acenaphthene	3400	37000	110	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0017 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
2,4-Dinitrophenol[2]	120	1400	0.3	0.28 U	0.28 U	0.28 UQ	0.27 U	0.28 U	0.27 U	0.027 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
2,4-Dinitrotoluene	0.7	3	NA	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Diethylphthalate	49000	550000	88	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Fluorene	2300	24000	170	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0017 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	6	68	0.3	0.17 U	0.17 U	0.17 U	0.17 U	0.18 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
N-Nitrosodiphenylamine	99	390	0.4	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Azobenzene (1,2-Diphenylhydrazine)	0.7	2	0.7	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Hexachlorobenzene	0.3	1	0.2	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Atrazine	210	2400	0.2	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Pentachlorophenol	3	10	0.3	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Phenanthrene	NA	300000	NA	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Anthracene	17000	30000	2400	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0017 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Carbazole	24	96	NA	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Di-n-butyl phthalate	6100	68000	760	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Fluoranthene	2300	24000	1300	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0017 U	0.0332 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Benzidine	0.7	0.7	0.7	0.0692 U	0.0692 U	0.0693 U	0.0673 U	0.0711 U	0.0674 U	0.0664 U	0.0665 U	0.0666 U	0.0666 U	0.0672 U	0.0666 U	0.0665 U
Pyrene	1700	18000	840	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0017 U	0.0032 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Butyl benzyl phthalate	1200	14000	230	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0032 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0889 J	0.0332 U
3,3-Dichlorobenzidine	1	4	0.2	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0032 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Benzo(a)anthracene (1,2-Benzathracene)	0.6	2	0.8	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0017 U	0.0032 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0712 J	0.0332 U
Chrysene	62	230	80	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0017 U	0.0032 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0782 J	0.0332 U
Bis(2-ethylhexyl)phthalate	35	1140	1200	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0032 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0942 J	0.0332 J
Di-n-octyl phthalate	2400	27000	3300	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0337 U	0.0032 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	0.6	2	2	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0017 U	0.0032 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Benzo(k)fluoranthene	6	23	25	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0017 U	0.0032 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Benzo(a)pyrene	0.2	0.2	0.2	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0017 U	0.0032 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Indeno(1,2,3-cd)pyrene	0.6	2	7	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0017 U	0.0032 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Dibenzo(a,h)anthracene	0.2	0.2	0.8	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0017 U	0.0032 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Benzo(ghi)perylene	380000	30000	NA	0.0346 U	0.0346 U	0.0346 U	0.0336 U	0.0355 U	0.0017 U	0.0032 U	0.0333 U	0.0333 U	0.0333 U	0.0336 U	0.0333 U	0.0332 U
Dichlorodifluoromethane	490	230000	39	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
Chloromethane (Methyl chloride)	4	12	NA	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
Vinyl chloride	0.7	2	0.005	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
Bromomethane (Methyl bromide)	25	59	0.04	0.0012 U	0.00065 U	0.00065 U	0.00063 U	0.00067 U	0.001 U	0.00063 U	0.00063 U	0.00063 U	0.00063 U	0.00063 U	0.00063 U	0.00063 U

Backfill Sample Comparison to NJDEP Soil Standards
Study Area 6
6/5/2017

Clean Fill Comparison	RDCSRS (2012)	NRDCSRS (2012)	IGW (2013)	Tilcon Mt Hope - DGA	Tilcon Mt Hope - DGA 002	Tilcon Mt Hope - DGA 003	Tilcon Mt Hope - DGA 004	Tilcon Mt Hope - DGA 005	Tilcon Mt Hope - DGA 006 (used for 1.5" Stone also, Sub 173)	Tilcon Mt Hope - 1.5 in Stone 001	Tilcon Mt Hope - 1.5 in Stone 002	Tilcon Mt Hope - 3/8 in Stone 001	Tilcon Mt Hope - 3/8 in Stone 002	Tilcon Pompton Lakes DGA 001	Liberty 1.5" Stone	Liberty DGA
Approval Status	--	--	--	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Make Corrections	Approved	Approved	Approved as Noted	Approved as Noted
Material Type	--	--	--	Common Borrow / Stone												
Submittal Response Date	--	--	--	10/29/2013	4/9/2014	5/7/2014	9/25/2014	11/18/2014	9/12/2016	5/7/2014	5/6/2015	5/7/2014	5/6/2015	7/31/2014	7/23/2015	7/23/2015
Submittal Number	--	--	--	34A	46	49	68	77	168 / 173	53	84	54	85	57	107	106
Chloroethane (Ethyl chloride)	220	1100	NA	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
Trichlorofluoromethane	23000	340000	34	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
Tertiary butyl alcohol	1400	11000	0.3	0.0289 U	0.0163 U	0.0162 U	0.0158 UQ	0.0167 U	0.0254 U	0.0156 UQ	0.0156 U	0.0156 UQ	0.0156 U	0.0158 U	0.0156 U	0.0156 U
1,1-Dichloroethene (1,1-Dichloroethylene)	11	150	0.008	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
Acrolein	0.5	1	0.5	0.0289 U	0.0163 U	0.0162 U	0.0158 UQ	0.0167 U	0.0254 U	0.0156 UQ	0.0156 U	0.0156 UQ	0.0156 U	0.0158 U	0.0156 U	0.0156 U
Acrylonitrile	0.9	3	0.5	0.0029 U	0.0016 U	0.0016 U	0.0016 U	0.0017 U	0.0025 U	0.0016 UQ	0.0016 U	0.0016 UQ	0.0016 U	0.0016 U	0.0016 U	0.0016 U
Acetone (2-Propanone)	70000	NA	19	0.0029 U	0.0016 U	0.0016 U	0.0016 U	0.0017 U	0.0025 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U
Carbon disulfide	7800	110000	6	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
Methyl tert-butyl ether (MTBE)	110	320	0.2	0.00058 U	0.00033 U	0.00032 U	0.00032 UQ	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
Methyl acetate	78000	NA	22	0.0012 U	0.00065 U	0.00065 U	0.00063 U	0.00067 U	0.001 U	0.00063 U	0.00063 U	0.00063 U	0.00063 U	0.00063 U	0.00063 U	0.00063 U
Methylene chloride (Dichloromethane)	34	97	0.01	0.0068	0.00033 U	0.0014 J	0.00032 U	0.0024 J	0.0086	0.0013 JB	0.00031 U	0.0014 JB	0.00031 U	0.00032 U	0.0043	0.0057
1,2-Dichloroethene (trans) (t-1,2-Dichloroethylene)	300	780	0.6	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
1,1-Dichloroethane	8	24	0.2	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
2-Butanone (Methyl ethyl ketone) (MEK)	3100	44000	0.9	0.0087 U	0.0049 U	0.0049 U	0.0047 U	0.005 U	0.0076 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U	0.0047 U
Carbon tetrachloride	0.6	2	0.005	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
1,2-Dichloroethene (cis) (c-1,2-Dichloroethylene)	230	560	0.3	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
Chloroform	0.6	2	0.4	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
1,1,1-Trichloroethane	290	4200	0.3	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
Benzene	2	5	0.005	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
1,2-Dichloroethane	0.9	3	0.005	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
Trichloroethene (TCE)(Trichloroethylene)	7	20	0.01	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
1,2-Dichloropropane	2	5	0.005	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
Bromodichloromethane (Dichlorobromomethane)	1	3	0.005	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
4-Methyl-2-pentanone	NA	NA	NA	--	--	--	--	--	0.0025 U	--	--	--	--	--	--	--
Toluene	6300	91000	7	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
1,3-Dichloropropene (cis and trans) (summed)	2	7	0.005	0.00116 U	0.00066 U	0.00064 U	0.00064 U	0.00066 U	0.00102 U	0.00062 U	0.00062 U	0.00062 U	0.00062 U	0.00064 U	0.00062 U	0.00062 U
1,1,2-Trichloroethane	2	6	0.02	0.0012 U	0.00065 U	0.00065 U	0.00063 U	0.00067 U	0.001 U	0.00063 U	0.00063 U	0.00063 U	0.00063 U	0.00063 U	0.00063 U	0.00063 U
Dibromochloromethane (Chlorodibromomethane)	3	8	0.005	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
1,2-Dibromoethane (ethylene dibromide)	0.008	0.004	0.005	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
Tetrachloroethene (PCE)(Tetrachloroethylene)	2	5	0.005	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
Chlorobenzene	510	7400	0.6	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 UQ	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
Ethyl benzene	7800	110000	13	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 UQ	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
Total Xylenes	12000	170000	19	0.00178 U	0.00098 U	0.00097 U	0.00095 U	0.001 U	0.00151 U	0.00094 U	0.00094 U	0.00094 U	0.00094 U	0.00095 U	0.00094 U	0.00094 U
Styrene	90	260	3	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
Bromoform	81	280	0.03	0.0017 U	0.00098 U	0.00097 U	0.00095 U	0.001 U	0.0015 U	0.00094 U	0.00094 U	0.00094 U	0.00094 U	0.00095 U	0.00094 U	0.00094 U
Isopropylbenzene	NA	NA	NA	--	--	--	--	--	0.00051 U	--	--	--	--	--	--	--
1,1,2,2,-Tetratchloroethane	1	3	0.007	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
1,3-Dichlorobenzene (m-Dichlorobenzene)	5300	59000	19	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
1,4-Dichlorobenzene (p-Dichlorobenzene)	5	13	2	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	5300	59000	17	0.00058 U	0.00033 U	0.00032 U	0.00032 U	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
1,2-Dibromo-3-chloropropane[2]	0.08	0.2	0.005	**0.0058** U	0.0033 U	0.0032 U	0.0032 U	0.0033 U	**0.0051** U	0.0031 U	0.0031 U	0.0031 U	0.0031 U	0.0032 U	0.0031 U	0.0031 U
1,2,4-Trichlorobenzene	73	820	0.7	0.00058 U	0.00033 U	0.00032 U	0.00032 UQ	0.00033 U	0.00051 U	0.00031 U	0.00031 U	0.00031 U	0.00031 U	0.00032 U	0.00031 U	0.00031 U
DICAMBA	NA	NA	NA	--	0.0173 U	0.0173 U	0.0168 U	0.0178 U	0.0168 U	0.0166 U	0.0167 U	0.0166 U	0.0166 U	0.0168 U	0.0166 U	0.0166 U
DICHLORPROP	NA	NA	NA	--	0.0173 U	0.0173 U	0.0168 U	0.0178 U	0.0168 U	0.0166 U	0.0167 U	0.0166 U	0.0166 U	0.0168 U	0.0166 U	0.0166 U
2,4-D	NA	NA	NA	--	0.0173 U	0.0173 U	0.0168 U	0.0178 U	0.0168 U	0.0166 U	0.0167 U	0.0166 U	0.0166 U	0.0168 U	0.0166 U	0.0166 U
2,4,5-TP (Silvex)	NA	NA	NA	--	0.0173 U	0.0173 U	0.0168 U	0.0178 U	0.0168 U	0.0166 U	0.0167 U	0.0166 U	0.0166 U	0.0168 U	0.0166 U	0.0166 U
2,4,5-T	NA	NA	NA	--	0.0173 U	0.0173 U	0.0168 U	0.0178 U	0.0168 U	0.0166 U	0.0167 U	0.0166 U	0.0166 U	0.0168 U	0.0166 U	0.0166 U
2,4-DB	NA	NA	NA	--	0.0173 U	0.0173 U	0.0168 U	0.0178 U	0.0168 U	0.0166 U	0.0167 U	0.0166 U	0.0166 U	0.0168 U	0.0166 U	0.0166 U
DINOSEB	NA	NA	NA	--	0.0173 U	0.0173 U	0.0168 U	0.0178 U	0.0168 U	0.0166 U	0.0167 U	0.0166 U	0.0166 U	0.0168 U	0.0166 U	0.0166 U
Hexavalent Chromium (Study Area 6 Backfill Criteria: 1mg				0.43 U	0.42 U	0.42 U	0.4 U	0.43 U	0.14 U	0.4 U	0.41 U	0.4 U	0.39 U	0.41 U	0.4 U	0.41 U

SPLP Parameter[3]	SPLP Guidance	Units																				
Arsenic	3	ug/L	--	5 U	5 U	--	2.5	2.5 U	5 U	2.5 U	5 U	2.5 U	2.5 U	--	2.5 U	2.5 U
Barium	120,000	ug/L	--	191 N	155	--	644	177	164	276	164	341 N	--	235	273	
Beryllium	20	ug/L	--	--	1.5 U	--	0.75 U	0.75 U	1.5 U	0.75 U	1.5 U	0.75 U	--	0.75 U	0.75 U	
Cadmium	80	ug/L	--	1.5 U	1.5 U	--	0.75 U	0.75 U	1.5 U	0.75 U	1.5 U	0.75 U	--	0.75 U	0.75 U	
Chromium	--	ug/L	--	4 J	10.7	--	3.95 J	1.68 J	1.44 J	1.61 J	2.5 U	1.25 U	--	5.02	3.17	J
Lead	100	ug/L	--	4.42 J	3.22 J	--	5.07	1.5 U	3 U	1.89 J	3 U	1.5 U	--	1.5 U	1.5 U	J
Nickel	2,000	ug/L	--	15 J	7.39 J	--	5 U	--	10 U	9.55 J	10 U	5 U	--	5 U	5 U	
Selenium	800	ug/L	--	5 U	5 U	--	5 U	5 U	5 U	5 U	5 U	5 U	--	5 U	5 U	
Silver	800	ug/L	--	2.5 U	2.5 U	--	1.25 UN	1.25 U	2.5 U	1.25 U	2.5 U	1.25 U	--	1.25 U	1.25 U	
Aluminum	--	--	--	--	--	--	--	--	--	--	--					
Manganese	--	--	--	--	--	--	--	--	--	--	--					
Mercury	40	ug/L	--	--	--	--	--	0.1 U	--	--	--					

Legend

Bold - >IGW
Underline - >NRDCSRS
Highlight - >RDCSRS
Italics - > SPLP
U = Not Detected
D = Dilution
Q = indicates LCS control criteria did not meet requirements
J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits
N = Spiked sample recovery not within control limits

Notes:

1.) In accordance with the NJDEP's Frequently Asked Questions for the Impact to Ground Water Pathway in Soil Remediation Standards, the GWQS for aluminum, manganese, silver, and zinc are secondary (i.e. they are not based on health considerations); therefore, the NJDEP has determined that the IGW pathway does not need to be addressed for these contaminants, unless there is reason to believe their presence is due to a site discharge.

2.) For samples in which the reported 1,2-Dibromo-3-chloropropane and 2,4-Dinitrophenol level exceeds the IGW standard, the analytical lab has provided an e-mail confirming that 1,2-Dibromo-3-chloropropane or 2,4-Dinitrophenol is below the reported level and below IGW.

3) Three SPLP samples were taken per submittal. The highest value of the three samples is reported in this table. SPLP reported only when a parameter exceeded IGW.

4) These samples represent material used in both SA-6 North and SA-6 South.

*All metals and total EPH reported in mg/kg. All other parameters reported in ug/kg.

Backfill Sample Comparison to NJDEP Soil Standards
Study Area 6
6/5/2017

Clean Fill Comparison																																				
	RDCSRS (2012)	NRDCSRS (2012)	IGW (2013)	Nature's Choice (TS-001)		Nature's Choice (TS-002)		Nature's Choice (TS-004)		Nature's Choice (TS-005)		EME (TS-002)		EME (TS-003)		EME (TS-004)		Nature's Choice Horizon B (NC-HC-001)		Liberty Structural Fill		Liberty Structural Fill		Tilcon Mt Hope Structural Fill		Tilcon Mt Hope Structural Fill 002		Tilcon Mt Hope Structural Fill 003		Tilcon Mt Hope Structural Fill 004		Tilcon Mt Hope Structural Fill 005		Tilcon Mt Hope Structural Fill 006	
Approval Status	--	--	--	Approved		Approved		Approved		Approved		Appoved		Approved		Approved		Approved		Approved		Rejected		Approved		Approved		Approved		Approved		Approved		Approved	
Material Type	--	--	--	Horizon A and B Soils																Structural Fill																
Submittal Response Date	--	--	--	9/25/2015		5/20/2016		9/26/2016		9/26/2016		11/8/2016		11/8/2016		11/18/2016		9/24/2015		9/25/2015		12/17/2015		3/1/2016		4/26/2016		5/17/2016		7/29/2016		7/29/2016		9/26/2016	
Submittal Number	--	--	--	115A		144		171		172		176		177		178		116		117A		123		128		137		143		161		162		170	
Cyanide	1600	23000	20	0.132	U	0.055	J	0.083	J	0.098	J	0.23	U	0.085	J	0.06	J	0.256	U	0.11	U	0.125	U	0.067	J	0.253	U	0.066	J	0.096	J	0.125	U	0.127	U
Aluminum[1]	78000	NA	6000	**6450**		**6770**		**7280**		**7610**		3160		2360		1770		**12400**		**6190**		4540		1500		**6390**		1650		2250		2220		1760	
Antimony	31	450	6	0.596	U	0.668	UN	0.647	UN	0.641	UN	2.3	U	0.647	UN	0.639	UN	0.564	U	0.524	UN*	0.555	U	0.482	U	0.921	J	0.537	UN	0.538		0.541	UN	0.527	UN
Arsenic	19	19	19	3.29		4.04		4.53		4.35		5.4		6.16		5.13		4.94		0.849	N	1.46		0.978		3.37		0.945	N	1.04		1.09		1.02	
Barium	16000	59000	2100	36.5		49.5		48.1		47.2		23	U	7.62		6.45		14.9		73.5	N	50.7		6.16		99.9		6.93		15.8		14.4		8.92	
Beryllium	16	140	0.7	0.293		0.443		0.304	J	0.296	J	0.23	U	0.078	U	0.077	UN	0.458		0.294	N	0.249	J	0.133	J	0.277		0.182	J	0.071	J	0.071	J	0.135	J
Cadmium	78	78	2	0.465		0.259	J	0.078	U	0.077	U	0.58	U	0.078	U	0.077	UN	0.403		0.07	J	0.067	U	0.052	U	1.38		0.064	U	0.084	J	0.105	J	0.063	U
Cobalt	1600	590	90	3.07		6.74		6.3		6.12		5.8	U	0.388	U	0.383	U	4.35		7.45		5.43		2.22		2.57		3.29		3.6		5.33		2.95	
Copper	3100	45000	11000	21.7		13		11.9	N	14.2	N	3.5		0.259	U	2.87		5.94		25.3	N	23.9		1.77		2480	D	6.1		4.76		9.45		7.34	
Lead	400	800	90	27		18		26.8		**257**		4.3		6.1		4.94		5.27		8.09		11.5		0.78		**183**		1.33		1.15		1.5		4.93	
Manganese[1]	11000	59000	65	**131**		**262**		**300**		**245**		12.7		5.19		5.35		**92.2**		**117**		**133**		1.26	N	**77.9**		50.1		**77.4**		**96.3**		**65.5**	
Mercury	23	65	0.1	0.072		0.071		0.064		0.08		0.038	U	0.012	J	0.015	J	0.032		0.007	U	0.076		0.012	J	0.007	U	0.007	U	0.007	U	0.007	U	0.0007	U
Nickel (soluble salts)	1600	23000	48	7.15		11.2		11.8		11.5		4.6	U	1.21	J	1.04	J	4.53		16.1		8.29		1.26	J	11.7		2.79	N	3.93		5.7		2.35	
Selenium	390	5700	11	0.238	U	0.267	U	3.64		3.49		2.3	U	2.96		1.99		0.226	U	0.21	UN	0.222	U	0.411	J	0.213	U	0.215	UN	2.49		2.86		3.2	
Silver[1]	390	5700	1	0.674		0.134	UN	0.129	UN	0.128	UN	0.58	U	0.129	UN	0.128	UN	**1.26**		0.105	UN	0.111	UN	0.108	U	0.999		0.557	N	0.108	U	0.108	U	0.105	UN
Thallium	5	79	3	0.477	U	0.534	U	0.518	U	0.513	U	1.2	U	0.517	U	0.511	U	0.451	U	0.419	U	0.444	U	0.232	U	0.426	U	0.43	U	0.43	U	0.433	U	0.422	U
Vanadium	78	1100	NA	16		30.6		26.8		26.8		9.1		10.7		8.77		28.8		22.9	N	16.9		2.56		15.4		5.07		7.19		14.7		3.17	
Zinc[1]	23000	110000	930	60.1		41	N	47.9		46.1		5.8	U	6.69		4.5		8.5		41.1		26.3		12.7		288		9.4		12.5		14.4		23.4	
Polychlorinated biphenyls (PCBs)	0.2	1	0.2	0.0266	U	0.0378	U	0.0041	U	0.004	U	0.04	U	0.0369	U	0.036	U	0.00245	U	0.0238	U	0.0315	U	0.0306	U	0.0306	U	0.0315	U	0.0306	U	0.0315	U	0.0306	U
Total EPH (mg/kg)	1000	1000	1000	89.7				78.6		60.1		447		95.3		175		39.2		3.08	U	50.1		3.11	U	3.02	U	11.2		3.09	U	3.13	U	3.065	U
alpha-HCH (alpha-BHC)	0.1	0.5	0.002	0.000372	U	0.000421	U	0.00041	U	0.0004	U	0.0013	U	0.000411	U	0.000401	U	0.00035	U	0.00038	U	0.000342	U	0.000342	U	0.000333	U	0.000342	U	0.000339	U	0.000345	U	0.000337	U
beta-HCH (beta-BHC)	0.4	2	0.002	0.000372	U	0.000421	U	0.00041	U	0.0004	U	0.0015	U	0.000411	U	0.000401	U	0.00035	U	0.00038	U	0.000342	U	0.000342	U	0.000333	U	0.000342	U	0.000339	U	0.000345	U	0.000337	U
Lindane (gamma-HCH) (gamma-BHC)	0.4	2	0.002	0.000372	U	0.000421	U	0.00041	U	0.0004	U	0.0011	U	0.000411	U	0.000401	U	0.00035	U	0.00038	U	0.000342	U	0.000342	U	0.000333	U	0.000342	U	0.000339	U	0.000345	U	0.000337	U
Heptachlor	0.4	0.7	0.5	0.000372	U	0.000421	U	0.0011	J	0.0004	U	0.0012	U	0.000411	U	0.000401	U	0.00035	U	0.00038	U	0.000342	U	0.000342	U	0.000333	U	0.000342	U	0.000339	U	0.000345	U	0.000337	U
Aldrin	0.04	0.2	0.2	0.000372	U	0.000421	U	0.00041	U	0.0004	U	0.0012	U	0.000411	U	0.000401	U	0.00035	U	0.00038	U	0.000342	U	0.000342	U	0.000333	U	0.000342	U	0.000339	U	0.000345	U	0.000337	U
Heptachlor epoxide	0.07	0.3	0.01	0.000372	U	0.000421	U	0.00041	U	0.0004	U	0.0013	U	0.000411	U	0.000401	U	0.00035	U	0.00038	U	0.000342	U	0.000342	U	0.000333	U	0.000342	U	0.000339	U	0.000345	U	0.000337	U
Endosulfan I and Endosulfan II (alpha and beta)	470	6800	4	0.000744	U	0.000842	U	0.00082	U	0.0008	U	0.0026	U	0.000822	U	0.000802	U	0.0007	U	0.00076	U	0.000684	U	0.000684	U	0.000666	U	0.000684	U	0.000678	U	0.00069	U	0.000674	U
Dieldrin	0.04	0.2	0.003	0.000372	U	0.000421	U	0.0012	J	0.0004	U	0.0012	U	0.000411	U	0.000401	U	0.00035	U	0.00038	U	0.000342	U	0.000342	U	0.000333	U	0.000342	U	0.000339	U	0.000345	U	0.000337	U
4,4'-DDE	2	9	18	0.0072		0.000421	U	0.0022		0.0021	P	0.0013	U	0.000411	U	0.000401	U	0.00035	U	0.00038	U	0.000342	U	0.000342	U	0.000333	U	0.000342	U	0.000339	U	0.000345	U	0.000337	U
Endrin	23	340	1	0.000372	U	0.000421	U	0.00041	U	0.0004	U	0.0012	U	0.000411	U	0.000401	U	0.00035	U	0.00038	U	0.000342	U	0.000342	U	0.000333	U	0.000342	U	0.000339	U	0.000345	U	0.000337	U
4,4'-DDD	3	13	4	0.000372	U	0.000421	U	0.0019	JP	0.0004	U	0.0016	U	0.000411	U	0.000401	U	0.00035	U	0.00038	U	0.000342	U	0.000342	U	0.000333	U	0.000342	U	0.000339	U	0.000345	U	0.000337	U
Endosulfan sulfate	470	6800	2	0.000372	U	0.000421	U	0.00041	U	0.0004	U	0.00099	U	0.000411	U	0.000401	U	0.00035	U	0.00038	U	0.000342	U	0.000342	U	0.000333	U	0.000342	U	0.000339	U	0.000345	U	0.000337	U
4,4'-DDT	2	8	11	0.000372	U	0.000421	U	0.002	JP	0.0016	JP	0.0015	U	0.000411	U	0.000401	U	0.00035	U	0.00038	U	0.000342	U	0.000342	U	0.000333	U	0.000342	U	0.000339	U	0.000345	U	0.000337	U
Methoxychlor	390	5700	160	0.000372	U	0.000421	U	0.00041	U	0.0004	U	0.0012	U	0.000411	U	0.000401	U	0.00035	U	0.00038	U	0.000342	U	0.000342	U	0.000333	U	0.000342	U	0.000339	U	0.000345	U	0.000337	U
Chlordane (alpha and gamma)	0.2	1	0.05	0.0293	P	0.002555	JP	0.0192		0.0045		0.0011	U	0.000822	U	0.000802	U	0.0007	U	0.00076	U	0.000684	U	0.000684	U	0.000666	U	0.000684	U	0.000678	U	0.00069	U	0.000674	U
Toxaphene	0.6	3	0.3	0.0038	U	0.0042	U	0.00041	U	0.004	U	0.026	U	0.0041	U	0.004	U	0.0035	U	0.0034	U	0.0035	U	0.0034	U	0.0034	U	0.0035	U	0.0034	U	0.0035	U	0.0034	U
N-Nitrosodimethylamine	0.7	0.7	0.7	0.0751	U	0.0847	U	0.0826	U	0.0807	U			0.083	U	0.0809	U	0.0708	U	0.0685	U	0.069	U	0.0691	U	0.0671	U	0.0691	U	0.0687	U	0.0697	U	0.0682	U
Benzaldehyde	6100	68000	NA	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.0113	J	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
Phenol	18000	210000	8	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.02	U	0.0415	U	0.11	J	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
Bis(2-chloroethyl)ether	0.4	2	0.2	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.016	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
Bis(2-chloroisopropyl)ether	23	67	5	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.014	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
2-Chlorophenol (o-Chlorophenol)	310	2200	0.8	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.019	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
2-Methylphenol (o-Creosol)	310	3400	NA	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.024	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
2,2-oxybis(1-Chloropropane)	NA	NA	NA	0.0376	U	0.0424	U	0.0413	U	0.0403	U			0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
Acetophenone	2	5	3	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.0158	J	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
4-Methylphenol (p-Creosol)	31	340	NA	0.0376	U	0.0424	U	0.0413	U	0.0403	U			0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
N-Nitroso-di-n-propylamine	0.2	0.3	0.2	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.011	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
Hexachloroethane	35	140	0.2	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.019	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
Nitrobenzene	31	340	0.2	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.015	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
Isophorone	510	2000	0.2	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.0081	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
2,4-Dimethylphenol	1200	14000	1	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.068	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
2,4-Dichlorophenol	180	2100	0.2	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.032	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
Naphthalene	6	17	25	0.0376	U	0.0017	J	0.0029	J	0.0016	J	0.011	U	0.0021	U	0.002	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0017	U	0.0017	U	0.0024	J	0.0017	U	0.0017	U
Hexachloro-1,3,butadiene	6	25	0.9	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.015	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
Caprolactam	31000	340000	12	0.0751	U	0.0847	U	0.0826	U	0.0807	U	0.015	U	0.083	U	0.0809	U	0.0708	U	0.0685	U	0.069	U	0.0691	U	0.0671	U	0.0691	U	0.0687	U	0.0697	U	0.0682	U
2-Methylnaphthalene	230	2400	8	0.0376	U	0.0021	J	0.0025	J	0.0012	J	0.0086	U	0.0021	U	0.002	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0017	U	0.0017	U	0.00069	J	0.0017	U	0.0017	U
Hexachlorocyclopentadiene	45	110	320	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.015	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
2,4,6-Trichlorophenol	19	74	0.2	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.023	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
2,4,5-Trichlorophenol	6100	68000	68	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.028	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
1,1-Biphenyl	3100	34000	140	0.0375	U	0.0424	U	0.0413	U	0.0403	U	0.0052	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
2-Nitroaniline	39	23000	NA	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.009	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
Acenaphthylene	NA	300000	NA	0.0376	U	0.0055		0.0227		0.0154		0.019	U	0.0021	U	0.002	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0017	U	0.0017	U	0.0017	U	0.0024	U	0.0017	U
2,4-Dinitrotoluene/2,6-Dinitrotoluene (mixture)	0.7	3	0.2	0.0752	U	0.0848	U	0.0826	U	0.0807	U	0.031	U	0.083	U	0.0808	U	0.0708	U	0.0684	U	0.069	U	0.069	U	0.067	U	0.069	U	0.0686	U	0.0696	U	0.0682	U
2,6-Dinitrotoluene	0.7	3	NA	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.019	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
Acenaphthene	3400	37000	110	0.0376	U	0.0038	J	0.0045		0.0028	J	0.13	U	0.0021	U	0.002	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0017	U	0.0017	U	0.0017	U	0.0017	U	0.0017	U
2,4-Dinitrophenol[2]	120	1400	0.3	0.3	U	**0.34**	U	**0.33**	U	**0.32**	U	0.14	U	**0.33**	U	**0.32**	U	0.28	U	0.27	U	0.028	U	0.28	U	0.27	U	0.28	U	0.27	U	0.28	U	0.27	U
2,4-Dinitrotoluene	0.7	3	NA	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.012	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
Diethylphthalate	49000	550000	88	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.0081	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
Fluorene	2300	24000	170	0.0376	U	0.0064		0.0062		0.0036	J	0.017	U	0.0021	U	0.002	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0017	U	0.0017	U	0.0058		0.0035		0.0017	UQ
4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	6	68	0.3	0.19	UQ	0.21	U	0.21	U	0.2	U	0.041	U	0.21	U	0.2	U	0.18	UQ	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U
N-Nitrosodiphenylamine	99	390	0.4	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.014	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
Azobenzene (1,2-Diphenylhydrazine)	0.7	2	0.7	0.0376	U	0.0424	U	0.0413	U	0.0403	U			0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
Hexachlorobenzene	0.3	1	0.2	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.0096	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
Atrazine	210	2400	0.2	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.016	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
Pentachlorophenol	3	10	0.3	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.036	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
Phenanthrene	NA	300000	NA	0.0376	U	0.0434		0.0422		0.0324		0.013	U	0.0021	U	0.002	U	0.0354	U	0.0342	U	0.5		0.0345	U	0.0013	J	0.0017	U	0.0452		0.0181		0.0017	U
Anthracene	17000	30000	2400	0.0376	U	0.0183		0.0244		0.0166		0.023	U	0.0021	U	0.002	U	0.0354	U	0.0342	U	0.14	J	0.0345	U	0.0017	U	0.0017	U	0.014		0.0042		0.0017	U
Carbazole	24	96	NA	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.0055	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
Di-n-butyl phthalate	6100	68000	760	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.0062	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
Fluoranthene	2300	24000	1300	0.17	J	0.13		0.15		0.0967		0.017	U	0.0021	U	0.002	U	0.0354	U	0.0342	U	0.65		0.0345	U	0.001	J	0.0017	U	0.0613		0.016		0.0017	U
Benzidine	0.7	0.7	0.7	0.0751	U	0.0847	U	0.0826	U	0.0807	U			0.083	U	0.0809	U	0.0708	U	0.0685	U	0.069	U	0.0691	U	0.0671	U	0.0691	U	0.0687	U	0.0697	U	0.0682	U
Pyrene	1700	18000	840	0.16	J	0.12		0.15		0.11		0.012	U	0.0021	U	0.002	U	0.0354	U	0.0342	U	0.58		0.0345	U	0.0013	J	0.001	J	0.0723		0.023		0.0017	U
Butyl benzyl phthalate	1200	14000	230	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.0093	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
3,3-Dichlorobenzidine	1	4	0.2	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.032	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0343	U	0.0348	U	0.0341	U
Benzo(a)anthracene (1,2-Benzathracene)	0.6	2	0.8	0.0971	J	0.0808		0.0843		0.0756		0.011	U	0.0021	U	0.002	U	0.0354	U	0.0342	U	0.37		0.0345	U	0.0017	U	0.0017	U	0.0473		0.0119		0.0017	UQ
Chrysene	62	230	80	0.13	J	0.0544		0.11		0.0554		0.012	U	0.0021	U	0.002	U	0.0354	U	0.0342	U	0.33	J	0.0345	U	0.0017	U	0.0017	U	0.0257		0.0052		0.0017	U
Bis(2-ethylhexyl)phthalate	35	1140	1200	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.0089	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.0783	J	0.0348	U	0.0341	U
Di-n-octyl phthalate	2400	27000	3300	0.0376	U	0.0424	U	0.0413	U	0.0403	U	0.0095	U	0.0415	U	0.0404	U	0.0354	U	0.0342	U	0.0345	U	0.0345	U	0.0335	U	0.0345	U	0.18	J	0.0348	U	0.0341	U
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	0.6	2	2	0.18	J	0.12		0.15		0.0853		0.017	U	0.0021	U	0.002	U	0.0354	U	0.0342	U	0.45		0.0345	U	0.0017	U	0.0017	U	0.0322		0.0063		0.0017	U
Benzo(k)fluoranthene	6	23	25	0.0376	U	0.0285		0.0426		0.0283		0.018	U	0.0021	U	0.002	U	0.0354	U	0.0342	U	0.13	J	0.0345	U	0.0017	U	0.0017	U	0.0134		0.0028	J	0.0017	U
Benzo(a)pyrene	0.2	0.2	0.2	0.12	J	0.0766		0.093		0.0542		0.017	U	0.0021	U	0.002	U	0.0354	U	0.0342	U	**0.33**	J	0.0345	U	0.0017	U	0.0017	U	0.026		0.0052		0.0017	U
Indeno(1,2,3-cd)pyrene	0.6	2	7	0.0782	J	0.0451		0.0546		0.0315		0.018	U	0.0021	U	0.002	U	0.0354	U	0.0342	U	0.14	J	0.0345	U	0.0017	U	0.0017	U	0.0175		0.0035		0.0017	U
Dibenzo(a,

Backfill Sample Comparison to NJDEP Soil Standards
Study Area 6
6/5/2017

Clean Fill Comparison	RDCSRS (2012)	NRDCSRS (2012)	IGW (2013)	Nature's Choice (TS-001)	Nature's Choice (TS-002)	Nature's Choice (TS-004)	Nature's Choice (TS-005)	EME (TS-002)	EME (TS-003)	EME (TS-004)	Nature's Choice Horizon B (NC-HC-001)	Liberty Structural Fill	Liberty Structural Fill	Tilcon Mt Hope Structural Fill	Tilcon Mt Hope Structural Fill 002	Tilcon Mt Hope Structural Fill 003	Tilcon Mt Hope Structural Fill 004	Tilcon Mt Hope Structural Fill 005	Tilcon Mt Hope Structural Fill 006
Approval Status	--	--	--	Approved	Approved	Approved	Approved	Appoved	Approved	Approved	Approved	Approved	Rejected	Approved	Approved	Approved	Approved	Approved	Approved
Material Type	--	--	--	Horizon A and B Soils								Structural Fill							
Submittal Response Date	--	--	--	9/25/2015	5/20/2016	9/26/2016	9/26/2016	11/8/2016	11/8/2016	11/18/2016	9/24/2015	9/25/2015	12/17/2015	3/1/2016	4/26/2016	5/17/2016	7/29/2016	7/29/2016	9/26/2016
Submittal Number	--	--	--	115A	144	171	172	176	177	178	116	117A	123	128	137	143	161	162	170
Chloroethane (Ethyl chloride)	220	1100	NA	0.00035 U	0.0004 U	0.00039 U	0.00038 U	0.00083 U	0.00039 U	0.00038 U	0.00033 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00033 U	0.00032 U
Trichlorofluoromethane	23000	340000	34	0.00035 UQ	0.0004 U	0.00039 U	0.00038 U	0.0012 U	0.00039 U	0.00038 U	0.00033 UQ	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00033 U	0.00032 U
Tertiary butyl alcohol	1400	11000	0.3	0.0177 U	0.02 U	0.0194 U	0.019 U		0.0195 U	0.019 U	0.0166 U	0.0161 U	0.0162 U	0.0162 U	0.0158 U	0.0162 U	0.0161 U	0.0164 U	0.016 U
1,1-Dichloroethene (1,1-Dichloroethylene)	11	150	0.008	0.00035 U	0.0004 U	0.00039 U	0.00038 U	0.00029 U	0.00039 U	0.00038 U	0.00033 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00033 U	0.00032 U
Acrolein	0.5	1	0.5	0.0177 U	0.02 U	0.0194 U	0.019 U		0.0195 U	0.019 U	0.0166 U	0.0161 U	0.0162 U	0.0162 U	0.0158 U	0.0162 U	0.0161 U	0.0164 U	0.016 U
Acrylonitrile	0.9	3	0.5	0.0018 UQ	0.002 U	0.0019 U	0.0019 U		0.0019 U	0.0019 U	0.0017 UQ	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U
Acetone (2-Propanone)	70000	NA	19	0.0018 U	0.002 U	0.0019 UQ	0.0019 UQ	0.0096 U	0.0019 U	0.0019 U	0.0017 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U
Carbon disulfide	7800	110000	6	0.00035 U	0.0004 U	0.00039 U	0.00038 U	0.00033 U	0.00039 U	0.00038 U	0.00033 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00033 U	0.00032 U
Methyl tert-butyl ether (MTBE)	110	320	0.2	0.00035 U	0.0004 U	0.00039 U	0.00038 U	0.00051 U	0.00039 U	0.00038 U	0.00033 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00033 U	0.00032 U
Methyl acetate	78000	NA	22	0.00071 U	0.0008 U	0.00078 UQ	0.00076 UQ	0.0039 U	0.00078 U	0.00076 U	0.00067 U	0.00064 U	0.00065 U	0.00065 U	0.00063 U	0.00065 U	0.00065 U	0.00065 U	0.00064 U
Methylene chloride (Dichloromethane)	34	97	0.01	0.00035 UQ	0.0029 J	0.00039 U	0.00038 U	0.0019 U	0.0036 J	0.00038 U	0.00033 UQ	0.00032 U	0.0032	0.00073 J	0.00032 U	0.00032 U	0.00032 UQ	0.00033 UQ	0.00032 U
1,2-Dichloroethene (trans) (t-1,2-Dichloroethylene)	300	780	0.6	0.00035 U	0.0004 U	0.00039 U	0.00038 U	0.0003 U	0.00039 U	0.00038 U	0.00033 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00033 U	0.00032 U
1,1-Dichloroethane	8	24	0.2	0.00035 U	0.0004 U	0.00039 U	0.00038 U	0.00036 U	0.00039 U	0.00038 U	0.00033 U	0.00032 U	0.00032 U	0.00032 U	0.00032 UQ	0.00032 U	0.00032 U	0.00033 U	0.00032 U
2-Butanone (Methyl ethyl ketone) (MEK)	3100	44000	0.9	0.0053 U	0.006 U	0.0058 U	0.0057 U	0.0034 U	0.0058 U	0.0057 U	0.005 U	0.0048 U	0.0049 U	0.0049 U	0.0047 U	0.0049 U	0.0048 U	0.0049 U	0.0048 U
Carbon tetrachloride	0.6	2	0.005	0.00035 U	0.0004 U	0.00039 U	0.00038 U	0.00032 U	0.00039 U	0.00038 U	0.00033 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00033 U	0.00032 U
1,2-Dichloroethene (cis) (c-1,2-Dichloroethylene)	230	560	0.3	0.00035 U	0.0004 U	0.00039 U	0.00038 U	0.00084 U	0.00039 U	0.00038 U	0.00033 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00033 U	0.00032 U
Chloroform	0.6	2	0.4	0.00035 U	0.0004 U	0.00039 UQ	0.00038 UQ	0.00046 U	0.00039 U	0.00038 U	0.00033 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00033 U	0.00032 UQ
1,1,1-Trichloroethane	290	4200	0.3	0.00035 U	0.0004 U	0.00039 U	0.00038 U	0.00032 U	0.00039 U	0.00038 U	0.00033 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 UQ	0.00033 UQ	0.00032 U
Benzene	2	5	0.005	0.00035 U	0.0004 U	0.00039 U	0.00038 U	0.00023 U	0.00039 U	0.00038 U	0.00033 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00033 U	0.00032 U
1,2-Dichloroethane	0.9	3	0.005	0.00035 U	0.0004 U	0.00039 U	0.00038 U	0.00033 U	0.00039 U	0.00038 U	0.00033 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00033 U	0.00032 U
Trichloroethene (TCE)(Trichloroethylene)	7	20	0.01	0.00035 U	0.0004 U	0.00039 U	0.00038 U	0.00037 U	0.00039 U	0.00038 U	0.00033 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00033 U	0.00032 U
1,2-Dichloropropane	2	5	0.005	0.00035 U	0.0004 U	0.00039 U	0.00038 U	0.0006 U	0.00039 U	0.00038 U	0.00033 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00033 U	0.00032 U
Bromodichloromethane (Dichlorobromomethane)	1	3	0.005	0.00035 U	0.0004 U	0.00039 U	0.00038 UQ	0.00029 U	0.00039 U	0.00038 U	0.00033 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00033 U	0.00032 UQ
4-Methyl-2-pentanone	NA	NA	NA	--	0.002 U	0.0019 U	0.0019 U	0.0016 U	0.0019 U	0.0019 U	--	--	--	--	0.0016	0.0016 U	0.0016 U	0.0016 U	0.0016 U
Toluene	6300	91000	7	0.00035 U	0.0004 U	0.00039 U	0.00038 U	0.00024 U	0.00039 U	0.00038 U	0.00033 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00033 U	0.00032 U
1,3-Dichloropropene (cis and trans) (summed)	2	7	0.005	0.0007 U	0.0008 U	0.00039 U	0.00038 U	0.00081 U	0.00078 U	0.00076 U	0.00066 U	0.00064 U	0.00064 U	0.00064 U	0.00064 U	0.00064 U	0.00064 U	0.00066 U	0.00064 U
1,1,2-Trichloroethane	2	6	0.02	0.00071 U	0.0008 U	0.00078 UQ	0.00076 UQ	0.00062 U	0.00078 U	0.00076 U	0.00067 U	0.00064 U	0.00065 U	0.00065 U	0.00063 U	0.00065 U	0.00065 U	0.00065 U	0.00064 UQ
Dibromochloromethane (Chlorodibromomethane)	3	8	0.005	0.00035 U	0.0004 U	0.00039 UQ	0.00038 UQ	0.00029 U	0.00039 U	0.00038 U	0.00033 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00033 U	0.00032 UQ
1,2-Dibromoethane (ethylene dibromide)	0.008	0.004	0.005	0.00035 U	0.0004 U	0.00039 UQ	0.00038 UQ	0.00047 U	0.00039 U	0.00038 U	0.00033 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00033 U	0.00032 UQ
Tetratchloroethene (PCE)(Tetrachloroethylene)	2	5	0.005	0.00035 U	0.0004 U	0.00039 U	0.00038 U	0.00054 U	0.00039 U	0.00038 U	0.00033 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00033 U	0.00032 U
Chlorobenzene	510	7400	0.6	0.00035 U	0.0004 U	0.00039 U	0.00038 U	0.00031 U	0.00039 U	0.00038 U	0.00033 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00033 U	0.00032 U
Ethyl benzene	7800	110000	13	0.00035 U	0.0004 U	0.00039 U	0.00038 U	0.00029 U	0.00039 U	0.00038 U	0.00033 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 UQ	0.00033 UQ	0.00032 U
Total Xylenes	12000	170000	19	0.00106 U	0.0012 U	0.00117 U	0.00114 U	0.00039 U	0.00117 U	0.00114 U	0.001 U	0.00096 U	0.00097 U	0.00097 U	0.00095 U	0.00097 U	0.00097 U	0.00098 U	0.00096 U
Styrene	90	260	3	0.00035 U	0.0004 U	0.00039 UQ	0.00038 UQ	0.00028 U	0.00039 U	0.00038 U	0.00033 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00033 U	0.00032 U
Bromoform	81	280	0.03	0.0011 U	0.0012 U	0.0012 U	0.0011 U	0.00051 U	0.0012 U	0.0011 U	0.001 U	0.00096 U	0.00097 U	0.00097 U	0.00095 U	0.00097 U	0.00097 U	0.00098 U	0.00096 U
Isopropylbenzene	NA	NA	NA	--	0.0004 U	0.00039 U	0.00038 U	0.0003 U	0.00039 U	0.00038 U	--	--	--	--	0.00032 U	0.00032 U	0.00032 UQ	0.00033 UQ	0.00032 U
1,1,2,2,-Tetratchloroethane	1	3	0.007	0.00035 UQ	0.0004 U	0.00039 U	0.00038 U	0.00046 U	0.00039 U	0.00038 U	0.00033 UQ	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00033 U	0.00032 UQ
1,3-Dichlorobenzene (m-Dichlorobenzene)	5300	59000	19	0.00035 U	0.0004 U	0.00039 U	0.00038 U	0.00026 U	0.00039 U	0.00038 U	0.00033 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00033 U	0.00032 U
1,4-Dichlorobenzene (p-Dichlorobenzene)	5	13	2	0.00035 U	0.0004 U	0.00039 U	0.00038 U	0.00029 U	0.00039 U	0.00038 U	0.00033 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00033 U	0.00032 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	5300	59000	17	0.00035 U	0.0004 U	0.00039 U	0.00038 U	0.00033 U	0.00039 U	0.00038 U	0.00033 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00033 U	0.00032 UQ
1,2-Dibromo-3-chloropropane[2]	0.08	0.2	0.005	0.0035 U	0.004 U	0.0039 U	0.0038 U	0.00093 U	0.0039 U	0.0038 U	0.0033 U	0.0032 U	0.0032 U	0.0032 U	0.0032 U	0.0032 U	0.0032 U	0.0033 U	0.0032 U
1,2,4-Trichlorobenzene	73	820	0.7	0.00035 U	0.0004 U	0.00039 U	0.00038 U	0.00035 U	0.00039 U	0.00038 U	0.00033 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00032 U	0.00033 U	0.00032 U
DICAMBA	NA	NA	NA	0.0188 U	0.0212 U	0.0207 U	0.0202 U	0.0038 U	0.0207 U	0.0203 U	0.0177 U	0.0171 U	0.0173 U	0.0172 U	0.0168 U	0.0173 U	0.0172 U	0.0174 U	0.0171 U
DICHLORPROP	NA	NA	NA	0.0188 U	0.0212 U	0.0207 U	0.0202 U	0.011 U	0.0207 U	0.0203 U	0.0177 U	0.0171 U	0.0173 U	0.0172 U	0.0168 U	0.0173 U	0.0172 U	0.0174 U	0.0171 U
2,4-D	NA	NA	NA	0.0188 U	0.0212 U	0.0207 U	0.0202 U	0.017 U	0.0207 U	0.0203 U	0.0177 U	0.0171 U	0.0173 U	0.0172 U	0.0168 U	0.0173 U	0.0172 U	0.0174 U	0.0171 U
2,4,5-TP (Silvex)	NA	NA	NA	0.0188 U	0.0212 U	0.0207 U	0.0202 U	0.0027 U	0.0207 U	0.0203 U	0.0177 U	0.0171 U	0.0173 U	0.0172 U	0.0168 U	0.0173 U	0.0172 U	0.0174 U	0.0171 U
2,4,5-T	NA	NA	NA	0.0188 U	0.0212 U	0.0207 U	0.0202 U	0.0029 U	0.0207 U	0.0203 U	0.0177 U	0.0171 U	0.0173 U	0.0172 U	0.0168 U	0.0173 U	0.0172 U	0.0174 U	0.0171 U
2,4-DB	NA	NA	NA	0.0188 U	0.0212 U	0.0207 U	0.0202 U	0.012 U	0.0207 U	0.0203 U	0.0177 U	0.0171 U	0.0173 U	0.0172 U	0.0168 U	0.0173 U	0.0172 U	0.0174 U	0.0171 U
DINOSEB	NA	NA	NA	0.0188 U	0.0212 U	0.0207 U	0.0202 U	0.025 U	0.0207 U	0.0203 U	0.0177 U	0.0171 U	0.0173 U	0.0172 U	0.0168 U	0.0173 U	0.0172 U	0.0174 U	0.0171 U
Hexavalent Chromium (Study Area 6 Backfill Criteria: 1mg				0.16 J	0.24 J	0.17 U	0.17 U	0.46 U	0.17 U	0.3 J	0.64	0.14 U	0.23 J	0.96	0.17 U	0.44 J	0.42 U	0.42 U	0.23 J

SPLP Parameter[3]	SPLP Guidance	Units																	
Arsenic	3	ug/L	10.8	6.11 U	4.51 J	3.66 J	--	2.5 U	2.5 U	2.5 U	2.5 U	14.2	2.5 U	2.5 U	2.5 U	--	--	--
Barium	120,000	ug/L	396	293	259	316	--	246	211	150	228	398 N	190	205	167	--	--	--
Beryllium	20	ug/L	0.75 U	--	0.75 U	0.75 U	--	0.75 U	0.75 U	0.75 U	0.75 U	1.32 J	0.7 U			--	--	--
Cadmium	80	ug/L	0.75 U	0.75 U	0.75 U	0.75 U	--	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.5 U	0.75 U	0.75 U	--	--	--
Chromium	--	ug/L	18.2	28.5	6.37	9.57 J	--	13.2	13.9	1.24 J	1.25 U	31.2	4.08 J	212 N	2.24 J	--	--	--
Lead	100	ug/L	40	13.2	6.46	18.4	--	1.5 U	1.5 U	1.59 J	1.5 U	139	1.5 U	1.55 J	1.5 U	--	--	--
Nickel	2,000	ug/L	8.68 J	--	--	--	--	--	--	5 U	5 U	30.8	4.2 U	--	--	--	--	--
Selenium	800	ug/L	5 U	5.15 J	5 U	5 U	--	5 U	5 U	5 U	8.3 J	9.01 J	4.8 U	5 U	5 U	--	--	--
Silver	800	ug/L	1.37 J	1.25 U	1.25 U	1.25 U	--	1.25 U	1.25 U	1.25 U	1.25 U	1.25 U	1.25 U	1.25 U	1.25 U	--	--	--
Aluminum	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	40	ug/L	--	0.138 J	0.1 U	0.1 U	--	0.1 U	0.1 U	--	--	--	--	0.1 U	0.1 U	--	--	--

Legend

Bold - >IGW
Underline - >NRDCSRS
Highlight - >RDCSRS
Italics - > SPLP
U = Not Detected
D = Dilution
Q = indicates LCS control criteria did not meet requirements
J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits
N = Spiked sample recovery not within control limits

Notes:

1.) In accordance with the NJDEP's Frequently Asked Questions for the Impact to Ground Water Pathway in Soil Remediation Standards, the GWQS for aluminum, manganese, silver, and zinc are secondary (i.e. they are not based on health considerations); therefore, the NJDEP has determined that the IGW pathway does not need to be addressed for these contaminants, unless there is reason to believe their presence is due to a site discharge.

2.) For samples in which the reported 1,2-Dibromo-3-chloropropane and 2,4-Dinitrophenol level exceeds the IGW standard, the analytical lab has provided an e-mail confirming that 1,2-Dibromo-3-chloropropane or 2,4-Dinitrophenol is below the reported level and below IGW.

3) Three SPLP samples were taken per submittal. The highest value of the three samples is reported in this table. SPLP reported only when a parameter exceeded IGW.

4) These samples represent material used in both SA-6 North and SA-6 South.

*All metals and total EPH reported in mg/kg. All other parameters reported in ug/kg.

Backfill Sample Comparison to NJDEP Soil Standards
Study Area 6
6/5/2017

Clean Fill Comparison																																
	RDCSRS (2012)	NRDCSRS (2012)	IGW (2013)	Tilcon Mt Hope 3/4 Stone		Tilcon Mt Hope 3/4 Stone 002 (#57 Stone)		Tilcon Mt Hope 3/4 Stone 003		Nature's Choice Horizon A (NC-TS-003)		Horizon B - Cedar Hill (Cedar-001-HORC)		Horizon B - Cedar Hill (TF-PS-001)		Horizon B - Cedar Hill (TF-PS-002)		Horizon B - Cedar Hill (TF-PS-003)		Horizon C Nature's Choice (NC-HC-001)		Horizon C Nature's Choice (NC-003)		Horizon C Nature's Choice (NCHC-008)		Horizon C Nature's Choice (NCHC-009)		Horizon C Nature's Choice (NCHC-010)		Horizon C Nature's Choice (NCHC-011)		Horizon C Nature's Choice (NC-023)	
Approval Status	--	--	--	Approved		Approved		Approved		Approved		Approved		Rejected		Approved		Approved		Approved		Approved		Approved		Approved		Approved		Approved		Approved	
Material Type	--	--	--	Common Borrow / Stone						Horizon A, B, and C Soils																						
Submittal Response Date	--	--	--	3/29/2016		8/8/2016		9/12/2016		9/15/2016		4/26/2016		5/4/2016		5/16/2016		5/16/2016		10/28/2015		11/30/2015		7/14/2016		7/15/2016		7/15/2016		7/15/2016		4/22/2016	
Submittal Number	--	--	--	131		163		169		167		136		138		141		142		118A		121		157		158		159		160		135	
Cyanide	1600	23000	20	0.055	J	0.121	U	0.037	J	0.065	J	0.26	U	0.13	U	0.051	J	0.135	U	0.256	U	0.126	U	0.136	U	0.129	U	0.135	U	0.038	J	0.27	U
Aluminum[1]	78000	NA	6000	1790	*	536		1060		**6970**		**6130**		411		1490		947		**12400**		**12400**		**11700**		**12100**		**9840**		**12400**		**18800**	
Antimony	31	450	6	0.545	UN	0.508	UN	0.535	UN	0.672	UN	2	U	0.548	UN	0.566	UN	0.566	UN	0.564	U	0.562	UN	0.555	U	0.562	U	0.566	U	0.559	U	2	U
Arsenic	19	19	19	1.82		0.612	J	0.536	J	4.51		2	U	0.219	U	0.71	J	0.688	J	4.94		6.14		6.58		5.3		5.1		5.83		5.4	
Barium	16000	59000	2100	12.3	*	1.39	J	1.05	J	51.1		44.1		0.687	J	2.63	J	2.53	J	14.9		35.1		17.6		30.4		21.6		35.9		41.4	
Beryllium	16	140	0.7	0.246	J	0.061	U	0.064	U	0.287	J	0.24		0.058	J	0.102	J	0.095	J	0.458		0.462		0.45		0.461		0.406		0.496		0.36	
Cadmium	78	78	2	0.065		0.061	U	0.064	U	0.081	U	0.49	U	0.066	U	0.068	UN	0.068	U	0.403		0.184	JN	0.067	U	0.067	U	0.068	U	0.069	U	0.5	U
Cobalt	1600	590	90	4.72		0.949	J	1.16	J	6.19		5.3		0.329	U	0.339	U	0.34	U	4.35		4.18	N	2.77		3.73		3.05		4.87		5	U
Copper	3100	45000	11000	0.707	JN	0.789	J	2.53	J	25.5		10.1		1.59		2.52		2.56		5.94		4.44		8.19		11.9		14.8		16.2		14.6	
Lead	400	800	90	2.41		0.691		1.5		28.5		13.8		1.88		2.87		2.44		5.27		9.49	N	6.85		12.7		11.4		16.8		14.4	
Manganese[1]	11000	59000	65	62.5		21.4		44.9		**262**		**280**		1.68		3.99	N	3.25	N	**92.2**		**77**		57.6		**78**		**67.6**		**126**		**89.3**	
Mercury	23	65	0.1	0.006	U	0.007	U	0.007	U	**0.11**		0.032	U	0.016		0.024		0.02		0.032		0.029		0.032		0.029		0.028		0.063		0.036	U
Nickel (soluble salts)	1600	23000	48	3.31		0.406	U	0.428	U	11.3		13.5		0.438	U	0.452	U	0.453	U	4.53		5.97	N	4.42		6.21		4.98		7.85		9	
Selenium	390	5700	11	0.218	U	0.537	J	1.5		4.44		2		0.219	U	0.226	U	0.226	U	0.226	U	0.225	UN	0.222	U	0.225	U	0.226	U	0.224	U	2	U
Silver[1]	390	5700	1	0.856	N*	0.102	U	0.107	UN	0.134	UN	0.49		0.294	J	0.113	U	0.113	U	**1.26**		0.112	UN	0.111	U	0.112	U	0.113	U	0.112	U	**2.1**	
Thallium	5	79	3	0.436	U	0.406	U	0.428	U	0.538	U	0.98		0.438	U	0.452	U	0.453	U	0.451	U	0.449	U	0.444	U	0.449	U	0.453	U	0.447	U	1	U
Vanadium	78	1100	NA	3.68	N	1.43	J	0.718	J	30		21.1		1.69	J	3.94		3.64		28.8		25.8		27.7		24.4		23.9		25.9		29.7	
Zinc[1]	23000	110000	930	23.4		3.83		7.44		46.4		26.3		1.08	J	2.65		2.56		8.5		17.8		12.3		22.7		20.7		29.7		28.6	
Polychlorinated biphenyls (PCBs)	0.2	1	0.2	0.0297	U	0.0297	U	0.0297	U	0.0396	U	0.0324	U	0.0315	U	0.0324	U	0.0324	U	0.0245	U	0.0252	U	0.0324	U	0.0315	U	0.0324	U	0.0324	U	0.1319	U
Total EPH (mg/kg)	1000	1000	1000	5.17	J	3	U	3.01	U	137		7.1	U	3.17	U	10.6		8.72		39.2		33.5		5.89	J	41.2		85.4		108		61.5	
alpha-HCH (alpha-BHC)	0.1	0.5	0.002	0.00033	U	0.00033	U	0.00033	U	0.000432	U	0.00072	U	0.000349	U	0.000359	U	0.000358	U	0.00035	U	0.000352	U	0.000358	U	0.000349	U	0.000356	U	0.00036	U	0.00048	U
beta-HCH (beta-BHC)	0.4	2	0.002	0.00033	U	0.00033	U	0.00033	U	0.000432	U	0.00072	U	0.000349	U	0.000359	U	0.000358	U	0.00035	U	0.000352	U	0.000358	U	0.000349	U	0.000356	U	0.00036	U	0.00044	U
Lindane (gamma-HCH) (gamma-BHC)	0.4	2	0.002	0.00033	U	0.00033	U	0.00033	U	0.000432	U	0.00072	U	0.000349	U	0.000359	U	0.000358	U	0.00035	U	0.000352	U	0.000358	U	0.000349	U	0.000356	U	0.00036	U	0.00033	U
Heptachlor	0.4	0.7	0.5	0.00033	U	0.00033	U	0.00033	U	0.000432	U	0.00072	U	0.000349	U	0.000359	U	0.000358	U	0.00035	U	0.000352	U	0.000358	U	0.000349	U	0.000356	U	0.00036	U	0.00059	U
Aldrin	0.04	0.2	0.2	0.00033	U	0.00033	U	0.00033	U	0.000432	U	0.00072	U	0.000349	U	0.000359	U	0.000358	U	0.00035	U	0.000352	U	0.000358	U	0.000349	U	0.000356	U	0.00036	U	0.00064	U
Heptachlor epoxide	0.07	0.3	0.01	0.00033	U	0.00033	U	0.00033	U	0.000432	U	0.00072	U	0.000349	U	0.000359	U	0.000358	U	0.00035	U	0.000352	U	0.000358	U	0.000349	U	0.000356	U	0.00036	U	0.0003	U
Endosulfan I and Endosulfan II (alpha and beta)	470	6800	4	0.00066	U	0.00066	U	0.00066	U	0.000864	U	0.00144	U	0.000698	U	0.000718	U	0.000716	U	0.0007	U	0.000704	U	0.000716	U	0.000698	U	0.000712	U	0.00072	U	0.00092	U
Dieldrin	0.04	0.2	0.003	0.00033	U	0.00033	U	0.00033	U	0.000432	U	0.00072	U	0.000349	U	0.000359	U	0.000358	U	0.00035	U	0.000352	U	0.000358	U	0.000349	U	0.000356	U	0.00036	U	0.00056	U
4,4'-DDE	2	9	18	0.00033	U	0.00033	U	0.00033	U	0.000432	U	0.00072	U	0.000349	U	0.000359	U	0.000358	U	0.00035	U	0.0022	P	0.0015	J	0.0022		0.0013	JP	0.0024		0.0052	
Endrin	23	340	1	0.00033	U	0.00033	U	0.00033	U	0.000432	U	0.00072	U	0.000349	U	0.000359	U	0.000358	U	0.00035	U	0.000352	U	0.000358	U	0.000349	U	0.000356	U	0.00036	U	0.00025	U
4,4'-DDD	3	13	4	0.00033	U	0.00033	U	0.00033	U	0.000432	U	0.00072	U	0.000349	U	0.000359	U	0.000358	U	0.00035	U	0.000352	U	0.000358	U	0.000349	U	0.000356	U	0.00036	U	0.004	
Endosulfan sulfate	470	6800	2	0.00033	U	0.00033	U	0.00033	U	0.000432	U	0.00072	U	0.000349	U	0.000359	U	0.000358	U	0.00035	U	0.000352	U	0.000358	U	0.000349	U	0.000356	U	0.00036	U	0.00041	U
4,4'-DDT	2	8	11	0.00033	U	0.00033	U	0.00033	U	0.000432	U	0.00072	U	0.000349	U	0.000359	U	0.000358	U	0.00035	U	0.0021	P	0.0012	J	0.0011	J	0.000356	U	0.0011	J	0.011	
Methoxychlor	390	5700	160	0.00033	U	0.00033	U	0.00033	U	0.000432	U	0.0014	U	0.000349	U	0.000359	U	0.000358	U	0.00035	U	0.000352	U	0.000358	U	0.000349	U	0.000356	U	0.00036	U	0.0004	U
Chlordane (alpha and gamma)	0.2	1	0.05	0.000066	U	0.000066	U	0.000066	U	0.0066	P	0.00072	U	0.000698	U	0.000718	U	0.000716	U	0.0007	U	0.000704	U	0.000716	U	0.000698	U	0.000712	U	0.00072	U	0.00038	U
Toxaphene	0.6	3	0.3	0.0033	U	0.0034	U	0.0033	U	0.0044	U	0.018	U	0.0035	U	0.0036	U	0.0036	U	0.0035	U	0.0035	U	0.0036	U	0.0035	U	0.0036	U	0.0036	U	0.012	U
N-Nitrosodimethylamine	0.7	0.7	0.7	0.0668	U	0.0666	U	0.067	U	0.0874	U			0.0706	U	0.0725	U	0.0723	U	0.0708	U	0.0712	U	0.0723	U	0.0706	U	0.0717	U	0.073	U		
Benzaldehyde	6100	68000	NA	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.18	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.0091	U
Phenol	18000	210000	8	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.072	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.027	U
Bis(2-chloroethyl)ether	0.4	2	0.2	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.072	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.015	U
Bis(2-chloroisopropyl)ether	23	67	5	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.072	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.0084	U
2-Chlorophenol (o-Chlorophenol)	310	2200	0.8	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.072	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.027	U
2-Methylphenol (o-Creosol)	310	3400	NA	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.072	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.053	U
2,2-oxybis(1-Chloropropane)	NA	NA	NA	0.0334	U	0.0333	U	0.0335	U	0.0437	U			0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U		
Acetophenone	2	5	3	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.18	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.0062	U
4-Methylphenol (p-Creosol)	31	340	NA	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.072	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.035	U
N-Nitroso-di-n-propylamine	0.2	0.3	0.2	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.072	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.011	U
Hexachloroethane	35	140	0.2	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.18	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.012	U
Nitrobenzene	31	340	0.2	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.072	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.012	U
Isophorone	510	2000	0.2	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.072	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.0068	U
2,4-Dimethylphenol	1200	14000	1	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.18	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.067	U
2,4-Dichlorophenol	180	2100	0.2	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.18	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.033	U
Naphthalene	6	17	25	0.00067	J	0.0017	U	0.0335	U	0.0048		0.036	U	0.0017	U	0.0018	U	0.018	U	0.0354	U	0.0356	U	0.0018	U	0.0011	J	0.0018	U	0.0018	U	0.0059	U
Hexachloro-1,3,butadiene	6	25	0.9	0.00067	U	0.0033	U	0.0335	U	0.0437	U	0.036	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.0097	U
Caprolactam	31000	340000	12	0.0668	U	0.0666	U	0.067	U	0.0874	U	0.072	U	0.0706	U	0.0725	U	0.0723	U	0.0708	U	0.0712	U	0.0723	U	0.0706	U	0.0717	U	0.073	U	0.023	U
2-Methylnaphthalene	230	2400	8	0.0017	U	0.0017	U	0.0335	U	0.0031	J	0.072	U	0.0017	U	0.0018	U	0.018	U	0.0354	U	0.0356	U	0.0018	U	0.0007	J	0.0011	J	0.0018	U	0.0068	U
Hexachlorocyclopentadiene	45	110	320	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.36	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.058	U
2,4,6-Trichlorophenol	19	74	0.2	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.18	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.029	U
2,4,5-Trichlorophenol	6100	68000	68	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.18	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.033	U
1,1-Biphenyl	3100	34000	140	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.072	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.0068	U
2-Nitroaniline	39	23000	NA	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.18	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.0083	U
Acenaphthylene	NA	300000	NA	0.0017	U	0.0017	U	0.0335	U	0.0131		0.036	U	0.0017	U	0.0018	U	0.018	U	0.0354	U	0.0356	U	0.0018	U	0.0039		0.0032	J	0.0018	U	0.0038	U
2,4-Dinitrotoluene/2,6-Dinitrotoluene (mixture)	0.7	3	0.2	0.0668	U	0.0666	U	0.034	U	0.0874	U	0.072	U	0.0706	U	0.0726	U	0.0724	U	0.0708	U	0.0712	U	0.0722	U	0.0706	U	0.0716	U	0.073	U	0.0163	U
2,6-Dinitrotoluene	0.7	3	NA	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.036	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.0094	U
Acenaphthene	3400	37000	110	0.00067	J	0.0017	U	0.0335	U	0.0044		0.036	U	0.0017	U	0.0018	U	0.018	U	0.0354	U	0.0356	U	0.0018	U	0.0017	U	0.0018	U	0.0018	U	0.034	U
2,4-Dinitrophenol[2]	120	1400	0.3	0.27	U	0.27	U	0.27		**0.35**	U	0.18	U	0.28	U	0.29	U	0.29	U	0.28	U	0.28	U	0.29	U	0.28	U	0.29	U	0.29	U	0.16	U
2,4-Dinitrotoluene	0.7	3	NA	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.036	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.0069	U
Diethylphthalate	49000	550000	88	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.072	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.0046	U
Fluorene	2300	24000	170	0.00067	J	0.0017	U	0.0335	U	0.0057		0.036	U	0.0017	U	0.0018	U	0.018	U	0.0354	U	0.0356	U	0.0018	U	0.0021	J	0.0025	J	0.0018	U	0.0044	U
4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	6	68	0.3	0.17	U	0.17	U	0.17		0.22	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	UQ	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.07	U
N-Nitrosodiphenylamine	99	390	0.4	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.18	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.019	U
Azobenzene (1,2-Diphenylhydrazine)	0.7	2	0.7	0.0334	U	0.0333	U	0.0335	U	0.0437	U			0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U		
Hexachlorobenzene	0.3	1	0.2	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.072	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.0072	U
Atrazine	210	2400	0.2	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.072	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.015	U
Pentachlorophenol	3	10	0.3	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.0077		0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.0016	U
Phenanthrene	NA	300000	NA	0.0107		0.0017	U	0.0335	U	0.0537		0.036	U	0.0017	U	0.0018	U	0.018	U	0.0354	U	0.0356	U	0.0018	U	0.019		0.0118		0.0084		0.0497	J
Anthracene	17000	30000	2400	0.002	J	0.0017	U	0.0335	U	0.0188		0.036	U	0.0017	U	0.0018	U	0.018	U	0.0354	U	0.0356	U	0.0018	U	0.0053		0.0036		0.0029	J	0.0032	U
Carbazole	24	96	NA	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.072	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.0041	U
Di-n-butyl phthalate	6100	68000	760	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.072	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.0043	U
Fluoranthene	2300	24000	1300	0.023		0.0017	U	0.0335	U	0.12		0.036	U	0.0017	U	0.0018	U	0.018	U	0.0354	U	0.0356	U	0.0058		0.0356		0.0258		0.0175		0.0394	
Benzidine	0.7	0.7	0.7	0.0668	U	0.0666	U	0.067		0.0874	U			0.0706	U	0.0363	U	0.0723	U	0.0708	U	0.0712	U	0.0723	U	0.0706	U	0.0717	U	0.073	U		
Pyrene	1700	18000	840	0.0147		0.0017	U	0.0335	U	0.13		0.036	U	0.0017	U	0.0018	U	0.018	U	0.0354	U	0.0356	U	0.0065		0.0363		0.0298		0.02		0.0373	
Butyl benzyl phthalate	1200	14000	230	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.072	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.02	U
3,3-Dichlorobenzidine	1	4	0.2	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.072	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.024	U
Benzo(a)anthracene (1,2-Benzathracene)	0.6	2	0.8	0.0073		0.0017	U	0.0335	U	0.0903		0.036	U	0.0017	U	0.0018	U	0.018	U	0.0354	U	0.0356	U	0.004		0.0243		0.0172		0.0117		0.0238	J
Chrysene	62	230	80	0.008		0.0017	U	0.0335	U	0.0676		0.036	U	0.0017	U	0.0018	U	0.018	U	0.0354	U	0.0356	U	0.0033	J	0.0176		0.0154		0.0102		0.0292	J
Bis(2-ethylhexyl)phthalate	35	1140	1200	0.0334	U	0.0333	U	0.0335	U	0.14	J	0.072	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.013	U
Di-n-octyl phthalate	2400	27000	3300	0.0334	U	0.0333	U	0.0335	U	0.0437	U	0.072	U	0.0353	U	0.0363	U	0.0362	U	0.0354	U	0.0356	U	0.0361	U	0.0353	U	0.0358	U	0.0365	U	0.0049	U
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	0.6	2	2	0.0097		0.0017	U	0.0335	UQ	0.13		0.036	U	0.0017	U	0.0018	U	0.018	U	0.0354	U	0.0356	U	0.0051		0.0264		0.0255		0.0153		0.0341	J
Benzo(k)fluoranthene	6	23	25	0.0043		0.0017	U	0.0335	U	0.038		0.036	U	0.0017	U	0.0018	U	0.018	U	0.0354	U	0.0356	U	0.0022	J	0.0102		0.0111		0.0066		0.0082	U
Benzo(a)pyrene	0.2	0.2	0.2	0.0053		0.0017	U	0.0335	U	0.0864		0.036	U	0.0017	U	0.0018	U	0.018	U	0.0354	U	0.0356	U	0.0036		0.0197		0.0172		0.0113		0.0251	J
Indeno(1,2,3-cd)pyrene	0.6	2	7	0.003	J	0.0017	U	0.0335	U	0.0511		0.036	U	0.0017	U	0.0018	U	0.018	U	0.0354	U	0.0356	U	0.0025	J	0.0113		0.0115		0.0073		0.019	U
Dibenzo(a,h)anthracene	0.2	0.2	0.8	0.001	J	0.0017	U	0.0335	U	0.0188		0.036	U	0.0017	U	0.0018	U	0.018	U	0.0354	U	0.0356	U	0.0018	U	0.0017	U	0.0018	U	0.0018	U	0.013	U
Benzo(ghi)perylene	380000	30000	NA	0.0037		0.0017	U	0.0335	U	0.0724		0.036	U	0.0017	U	0.0018	U	0.018	U	0.0354	U	0.0356	U	0.0033	J	0.0169		0.0194		0.0102		0.0217	J
Dichlorodifluoromethane	490	230000	39	0.0005	U	0.00031	U	0.00051	U	0.00041	U	0.0062	U	0.00033	U	0.00034	U	0.00034	U	0.00033	U	0.00033	U	0.00034	U	0.00033	U	0.00034	U	0.00034	U	0.00031	U
Chloromethane (Methyl chloride)	4	12	NA	0.0005	U	0.00031	U	0.00051	U	0.00041	U	0.0062	U	0.00033	U	0.00034	U	0.00034	U	0.00033	U	0.00033	U	0.00034	U	0.00033	U	0.00034	U	0.00034	U	0.00023	U
Vinyl chloride	0.7	2	0.005	0.0005	U	0.00031	U	0.00051	U	0.00041	U	0.0025	U	0.00033	U	0.00034	U	0.00034	U	0.00033	U	0.00033	U	0.00034	U	0.00033

Backfill Sample Comparison to NJDEP Soil Standards
Study Area 6
6/5/2017

Clean Fill Comparison	RDCSRS (2012)	NRDCSRS (2012)	IGW (2013)	Tilcon Mt Hope 3/4 Stone	Tilcon Mt Hope 3/4 Stone 002 (#57 Stone)	Tilcon Mt Hope 3/4 Stone 003	Nature's Choice Horizon A (NC-TS-003)	Horizon B - Cedar Hill (Cedar-001-HORC)	Horizon B - Cedar Hill (TF-PS-001)	Horizon B - Cedar Hill (TF-PS-002)	Horizon B - Cedar Hill (TF-PS-003)	Horizon C Nature's Choice (NC-HC-001)	Horizon C Nature's Choice (NC-003)	Horizon C Nature's Choice (NCHC-008)	Horizon C Nature's Choice (NCHC-009)	Horizon C Nature's Choice (NCHC-010)	Horizon C Nature's Choice (NCHC-011)	Horizon C Nature's Choice (NC-023)
Approval Status	--	--	--	Approved	Approved	Approved	Approved	Approved	Rejected	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved
Material Type	--	--	--	Common Borrow / Stone			Horizon A, B, and C Soils											
Submittal Response Date	--	--	--	3/29/2016	8/8/2016	9/12/2016	9/15/2016	4/26/2016	5/4/2016	5/16/2016	5/16/2016	10/28/2015	11/30/2015	7/14/2016	7/15/2016	7/15/2016	7/15/2016	4/22/2016
Submittal Number	--	--	--	131	163	169	167	136	138	141	142	118A	121	157	158	159	160	135
Chloroethane (Ethyl chloride)	220	1100	NA	0.0005 U	0.00031 U	0.00051 U	0.00041 U	0.0062 U	0.00033 U	0.00034 U	0.00034 U	0.00033 U	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.00042 U
Trichlorofluoromethane	23000	340000	34	0.0005 U	0.00031 U	0.00051 U	0.00041 U	0.0062 U	0.00033 U	0.00034 U	0.00034 U	0.00033 UQ	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.00022 U
Tertiary butyl alcohol	1400	11000	0.3	0.025 U	0.0157 U	0.0253 U	0.0205 U		0.0166 U	0.017 U	0.017 U	0.0166 U	0.0167 U	0.17 U	0.0166 U	0.0168 U	0.0171 U	
1,1-Dichloroethene (1,1-Dichloroethylene)	11	150	0.008	0.0005 U	0.00031 U	0.00051 U	0.00041 U	0.0012 U	0.00033 U	0.00034 U	0.00034 U	0.00033 U	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.00052 U
Acrolein	0.5	1	0.5	0.025 U	0.0157 U	0.0253 U	0.0205 U		0.0166 U	0.017 U	0.017 U	0.0166 U	0.0167 U	0.017 U	0.0166 U	0.0168 U	0.0171 U	
Acrylonitrile	0.9	3	0.5	0.0025 U	0.0016 U	0.0025 U	0.0021 U		0.0017 U	0.0017 U	0.0017 U	0.0017 UQ	0.0017 U	0.0017 U	0.0017 U	0.0017 U	0.0017 U	
Acetone (2-Propanone)	70000	NA	19	0.0025 U	0.0016 U	0.0025 U	0.0021 U	0.012 U	0.0017 U	0.0017 U	0.0017 U	0.0017 U	0.0017 U	0.0017 U	0.0017 U	0.0017 U	0.0017 U	0.002 U
Carbon disulfide	7800	110000	6	0.0005 U	0.00031 U	0.00051 U	0.00041 U	0.0025 U	0.00033 U	0.00034 U	0.00034 U	0.00033 U	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.0002 U
Methyl tert-butyl ether (MTBE)	110	320	0.2	0.0005 U	0.00031 U	0.00051 U	0.00041 U	0.0012 U	0.00033 U	0.00034 U	0.00034 U	0.00033 U	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.00013 U
Methyl acetate	78000	NA	22	0.001 U	0.00063 U	0.001 U	0.00082 U	0.0062 U	0.00066 U	0.00068 U	0.00068 U	0.00067 U	0.00067 U	0.00068 U	0.00066 U	0.00067 U	0.00068 U	0.00075 U
Methylene chloride (Dichloromethane)	34	97	0.01	0.0051 U	0.00031 UQ	0.0054 U	0.00041 U	0.0062 U	0.00033 U	0.00034 U	0.00034 U	0.00033 UQ	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.00086 U
1,2-Dichloroethene (trans) (t-1,2-Dichloroethylene)	300	780	0.6	0.0005 U	0.00031 U	0.00051 U	0.00041 U	0.0012 U	0.00033 U	0.00034 U	0.00034 U	0.00033 U	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.00052 U
1,1-Dichloroethane	8	24	0.2	0.0005 U	0.00031 U	0.00051 U	0.00041 U	0.0012 U	0.00033 U	0.00034 U	0.00034 U	0.00033 U	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.00012 U
2-Butanone (Methyl ethyl ketone) (MEK)	3100	44000	0.9	0.0075 U	0.0047 U	0.0076 U	0.0062 U	0.012 U	0.005 U	0.0051 U	0.0051 U	0.005 U	0.005 U	0.0051 U	0.005 U	0.0051 U	0.0051 U	0.0017 U
Carbon tetrachloride	0.6	2	0.005	0.0005 U	0.00031 U	0.00051 U	0.00041 U	0.0025 U	0.00033 U	0.00034 U	0.00034 U	0.00033 U	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.0002 U
1,2-Dichloroethene (cis) (c-1,2-Dichloroethylene)	230	560	0.3	0.0005 U	0.00031 U	0.00051 U	0.00041 U	0.0012 U	0.00033 U	0.00034 U	0.00034 U	0.00033 U	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.00068 U
Chloroform	0.6	2	0.4	0.0005 U	0.00031 U	0.00051 U	0.00041 U	0.0025 U	0.00033 U	0.00034 U	0.00034 U	0.00033 U	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.00013 U
1,1,1-Trichloroethane	290	4200	0.3	0.0005 U	0.00031 UQ	0.00051 U	0.00041 U	0.0025 U	0.00033 U	0.00034 U	0.00034 U	0.00033 U	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.00013 U
Benzene	2	5	0.005	0.0005 U	0.00031 U	0.00051 U	0.00041 U	0.00062 U	0.00033 U	0.00034 U	0.00034 U	0.00033 U	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.00012 U
1,2-Dichloroethane	0.9	3	0.005	0.0005 U	0.00031 U	0.00051 U	0.00041 U	0.0012 U	0.00033 U	0.00034 U	0.00034 U	0.00033 U	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.00012 U
Trichloroethene (TCE)(Trichloroethylene)	7	20	0.01	0.0005 U	0.00031 U	0.00051 U	0.00041 U	0.0012 U	0.00033 U	0.00034 U	0.00034 U	0.00033 U	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.00013 U
1,2-Dichloropropane	2	5	0.005	0.0005 U	0.00031 U	0.00051 U	0.00041 U	0.0025 U	0.00033 U	0.00034 U	0.00034 U	0.00033 U	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.00021 U
Bromodichloromethane (Dichlorobromomethane)	1	3	0.005	0.0005 U	0.00031 U	0.00051 U	0.00041 U	0.0025 U	0.00033 U	0.00034 U	0.00034 U	0.00033 U	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.00027 U
4-Methyl-2-pentanone	NA	NA	NA	--	0.0016 U	0.0025 U	0.0021 U	0.0062 U	0.0017 U	0.017 U	0.0017 U	--	--	0.0017 U	0.0017 U	0.0017 U	0.0017 U	0.0004 U
Toluene	6300	91000	7	0.0005 U	0.00031 U	0.00051 U	0.00041 U	0.0012 U	0.00033 U	0.00034 U	0.00034 U	0.00033 U	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.00018 U
1,3-Dichloropropene (cis and trans) (summed)	2	7	0.005	0.001 U	0.00062 U	0.00102 U	0.00082 U	0.005 U	0.00066 U	0.00068 U	0.00068 U	0.00066 U	0.00066 U	0.00068 U	0.00066 U	0.00068 U	0.00068 U	0.00025 U
1,1,2-Trichloroethane	2	6	0.02	0.001 U	0.00063 U	0.001 U	0.00082 U	0.0025 U	0.00066 U	0.00068 U	0.00068 U	0.00067 U	0.00067 U	0.00068 U	0.00066 U	0.00067 U	0.00068 U	0.00013 U
Dibromochloromethane (Chlorodibromomethane)	3	8	0.005	0.0005 U	0.00031 U	0.00051 U	0.00041 U	0.0025 U	0.00033 U	0.00034 U	0.00034 U	0.00033 U	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.00018 U
1,2-Dibromoethane (ethylene dibromide)	0.008	0.004	0.005	0.0005 U	0.00031 U	0.00051 U	0.00041 U	0.0012 U	0.00033 U	0.00034 U	0.00034 U	0.00033 U	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.00011 U
Tetratchloroethene (PCE)(Tetrachloroethylene)	2	5	0.005	0.0005 U	0.00031 U	0.00051 U	0.00041 U	0.0025 U	0.00033 U	0.00034 U	0.00034 U	0.00033 U	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.00026 U
Chlorobenzene	510	7400	0.6	0.0005 U	0.00031 U	0.00051 U	0.00041 U	0.0025 U	0.00033 U	0.00034 U	0.00034 U	0.00033 U	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.00014 U
Ethyl benzene	7800	110000	13	0.0005 U	0.00031 UQ	0.00051 U	0.00041 U	0.0012 U	0.00033 U	0.00034 U	0.00034 U	0.00033 U	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.00014 U
Total Xylenes	12000	170000	19	0.0015 U	0.00094 U	0.00151 U	0.00123 U	0.0012 U	0.00099 U	0.00102 U	0.00102 U	0.001 U	0.001 U	0.00102 U	0.00099 U	0.00101 U	0.00102 U	0.00024 U
Styrene	90	260	3	0.0005 U	0.00031 U	0.00051 U	0.00041 U	0.0025 U	0.00033 U	0.00034 U	0.00034 U	0.00033 U	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.00016 U
Bromoform	81	280	0.03	0.0015 U	0.00094 U	0.0015 U	0.0012 U	0.0062 U	0.00099 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.00099 U	0.001 U	0.001 U	0.00014 U
Isopropylbenzene	NA	NA	NA	--	0.00031 UQ	0.00051 U	0.00041 U	0.0025 U	0.00033 U	0.00034 U	0.00034 U	--	--	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.000092 U
1,1,2,2,-Tetratchloroethane	1	3	0.007	0.0005 U	0.00031 U	0.00051 U	0.00041 U	0.0025 U	0.00033 U	0.00034 U	0.00034 U	0.00033 UQ	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.00015 U
1,3-Dichlorobenzene (m-Dichlorobenzene)	5300	59000	19	0.0005 U	0.00031 U	0.00051 U	0.00041 U	0.0012 U	0.00033 U	0.00034 U	0.00034 U	0.00033 U	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.00014 U
1,4-Dichlorobenzene (p-Dichlorobenzene)	5	13	2	0.0005 U	0.00031 U	0.00051 U	0.00041 U	0.0012 U	0.00033 U	0.00034 U	0.00034 U	0.00033 U	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.0002 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	5300	59000	17	0.0005 U	0.00031 U	0.00051 U	0.00041 U	0.0012 U	0.00033 U	0.00034 U	0.00034 U	0.00033 U	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.00011 U
1,2-Dibromo-3-chloropropane[2]	0.08	0.2	0.005	0.005 U	0.0031 U	0.0051 U	0.0041 U	0.0025 U	0.0033 U	0.0034 U	0.0034 U	0.0033 U	0.0033 U	0.0034 U	0.0033 U	0.0034 U	0.0034 U	0.00047 U
1,2,4-Trichlorobenzene	73	820	0.7	0.0005 U	0.00031 U	0.00051 U	0.00041 U	0.0062 U	0.00033 U	0.00034 U	0.00034 U	0.00033 U	0.00033 U	0.00034 U	0.00033 U	0.00034 U	0.00034 U	0.00015 U
DICAMBA	NA	NA	NA	0.0167 U	0.0167 U	0.0168 U	0.0218 U	0.0036 U	0.0176 U	0.0181 U	0.0181 U	0.0177 U	0.0178 U	0.018 U	0.0176 U	0.0179 U	0.0182 U	0.0023 U
DICHLORPROP	NA	NA	NA	0.0167 U	0.0167 U	0.0168 U	0.0218 U	0.018 U	0.0176 U	0.0181 U	0.0181 U	0.0177 U	0.0178 U	0.018 U	0.0176 U	0.0179 U	0.0182 U	0.023 U
2,4-D	NA	NA	NA	0.0167 U	0.0167 U	0.0168 U	0.0218 U	0.018 U	0.0176 U	0.0181 U	0.0181 U	0.0177 U	0.0178 U	0.018 U	0.0176 U	0.0179 U	0.0182 U	0.016 U
2,4,5-TP (Silvex)	NA	NA	NA	0.0167 U	0.0167 U	0.0168 U	0.0218 U	0.0036 U	0.0176 U	0.0181 U	0.0181 U	0.0177 U	0.0178 U	0.018 U	0.0176 U	0.0179 U	0.0182 U	0.0021 U
2,4,5-T	NA	NA	NA	0.0167 U	0.0167 U	0.0168 U	0.0218 U	0.0036 U	0.0176 U	0.0181 U	0.0181 U	0.0177 U	0.0178 U	0.018 U	0.0176 U	0.0179 U	0.0182 U	0.0026 U
2,4-DB	NA	NA	NA	0.0167 U	0.0167 U	0.0168 U	0.0218 U	0.018 U	0.0176 U	0.0181 U	0.0181 U	0.0177 U	0.0178 U	0.018 U	0.0176 U	0.0179 U	0.0182 U	0.022 U
DINOSEB	NA	NA	NA	0.0167 U	0.0167 U	0.0168 U	0.0218 U	0.018 U	0.0176 U	0.0181 U	0.0181 U	0.0177 U	0.0178 U	0.018 U	0.0176 U	0.0179 U	0.0182 U	0.034 U
Hexavalent Chromium (Study Area 6 Backfill Criteria: 1mg				0.14 U	0.15 J	0.13 U	0.22 U	0.44 U	0.23 J	1	0.24 J	0.64	0.97	0.63	1	0.71	0.61	**1.4**

SPLP Parameter[3]	SPLP Guidance	Units																												
Arsenic	3	ug/L	--	--	2.5 U	2.5 U	--	2.5 U	--	--	--	2.5 U	2.5 U	--	--	--	--	--
Barium	120,000	ug/L	--	--	227	179 N	--	204	--	--	150	148 N	--	--	--	--	--	--
Beryllium	20	ug/L	--	--	0.75 U	0.75 U	--	--	--	--	0.75 U	0.75 U	--	--	--	--	--	--
Cadmium	80	ug/L	--	--	0.75 U	0.75 U	--	0.75 U	--	--	0.75 U	0.75 U	--	--	--	--	--	--
Chromium	--	ug/L	--	--	1.25 U	7.27	--	20.4 N	--	--	1.24 J	5.11	--	--	--	--	--	--
Lead	100	ug/L	--	--	1.5 U	4.52 J	--	1.5 U	--	--	1.59 J	1.5 U	--	--	--	--	--	--
Nickel	2,000	ug/L	--	--	--	--	--	--	--	--	5 U	5.18 J	--	--	--	--	--	--
Selenium	800	ug/L	--	--	5 U	5 U	--	5 U	--	--	5 U	4.96 J	--	--	--	--	--	--
Silver	800	ug/L	--	--	1.25 U	1.25 U	--	1.25 U	--	--	1.25 U	1.25 U	--	--	--	--	--	--
Aluminum	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	40	ug/L	--	--	0.1 U	0.1 U	--	0.1 U	--	--	--	--	--	--	--	--	--	--

Legend

Bold - >IGW
Underline - >NRDCSRS
Highlight - >RDCSRS
Italics - > SPLP
U = Not Detected
D = Dilution
Q = indicates LCS control criteria did not meet requirements
J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits
N = Spiked sample recovery not within control limits

Notes:

1.) In accordance with the NJDEP's Frequently Asked Questions for the Impact to Ground Water Pathway in Soil Remediation Standards, the GWQS for aluminum, manganese, silver, and zinc are secondary (i.e. they are not based on health considerations); therefore, the NJDEP has determined that the IGW pathway does not need to be addressed for these contaminants, unless there is reason to believe their presence is due to a site discharge.

2.) For samples in which the reported 1,2-Dibromo-3-chloropropane and 2,4-Dinitrophenol level exceeds the IGW standard, the analytical lab has provided an e-mail confirming that 1,2-Dibromo-3-chloropropane or 2,4-Dinitrophenol is below the reported level and below IGW.

3) Three SPLP samples were taken per submittal. The highest value of the three samples is reported in this table. SPLP reported only when a parameter exceeded IGW.

4) These samples represent material used in both SA-6 North and SA-6 South.

*All metals and total EPH reported in mg/kg. All other parameters reported in ug/kg.

Backfill Sample Comparison to NJDEP Soil Standards
Study Area 6
6/5/2017

Clean Fill Comparison																																				
	RDCSRS (2012)	NRDCSRS (2012)	IGW (2013)	Horizon C Nature's Choice (NC-024)		Horizon C Nature's Choice (NC-HC-007)		Horizon C - Advanced (AST-HB-001)		Weldon - Lake Hopatcong		Weldon - Lake Hopatcong Screenings 002		Weldon - Lake Hopatcong Screenings 003		Weldon, Watchung - Screening		Weldon, Watchung - Screening 002		Weldon, Watchung - Screening 003		Weldon, Watchung - Screening 004		Weldon, Watchung - Screening 005		Weldon, Watchung - Screening 006		Weldon, Watchung - Screening 007		Weldon, Watchung Screenings 008		Weldon, Watchung Screenings 009		Weldon, Watchung Screenings 010	
Approval Status	--	--	--	Approved		Approved		Not Approved (Not used onsite)		Approved		Approved		Approved		Approved		Approved		Approved		Approved		Approved		Approved		Approved		Approved - CB; Rejected - GDL Cover		Approved		Approved	
Material Type	--	--	--	Horizon A, B, and C Soils						Common Borrow / Stone																										
Submittal Response Date	--	--	--	4/22/2016		5/9/2016		10/28/2015		11/7/2013		9/30/2014		9/30/2014		11/26/2013		1/21/2014		1/30/2014		2/21/2014		4/30/2014		4/24/2014		5/1/2014		6/4/2014		7/23/2014		8/12/2014	
Submittal Number	--	--	--	135		140		118		35		72		73		37		42		44		45A		47		48		51		55		59		61	
Cyanide	1600	23000	20	0.24	U	0.042	J	0.304	U	0.046	J	0.153	J	0.046	J	0.129	U	0.129	U	0.055	J	0.129	J	0.171	J	0.222	J	0.125	U	0.045	J	0.134	U	0.122	U
Aluminum[1]	78000	NA	6000	**24000**		**14100**		2090		1700		2080		2170		**13700**		**13800**		**15200**		**12700**		**13900**		**10900**		**14600**		**15000**		**13600**		**13000**	
Antimony	31	450	6	2.2	U	0.575	UN	0.675	U	1.09	UN	0.558	U	0.541	U	1.12	UN	1.08	UN	1.18	UN	0.626	J	0.704	J	0.603	J	1.06	J	1.04	UN	0.96	JN	0.888	J
Arsenic	19	19	19	5.4		5.51	N	1.69		0.35	J	1.38		1.56		0.449	U	0.554	J	0.529	J	0.374	J	0.393	J	0.3	J	1.58		1.58		1.43		1.74	
Barium	16000	59000	2100	43.5		38.1		13.9		29		30.3		31		30.1		27.6		25.7		25.1		24.2		25.9		28.6		29		21.6		18.8	
Beryllium	16	140	0.7	0.42		0.502		0.114	J	0.131	U	0.339		0.358		0.12	J	0.129	U	0.141	UN	0.14	U	0.135	U	0.137	U	**1.28**	N	0.125	U	0.394		0.391	
Cadmium	78	78	2	0.55	U	0.069	U	0.183	J	0.19	JN	0.067	U	0.065	U	0.135	UN	**2.91**	N	**2.87**	N	0.902		1.08		0.782		0.138	U	0.125	U	0.182	J	0.126	U
Cobalt	1600	590	90	5.5	U	4.33		0.944	J	5.1	N	5.43		7.35		27.9		27.5	N	27	N	22.7		25.4		21.3		27.1	N	25.4		28.4		27.6	
Copper	3100	45000	11000	12.5		15.6		6.5		7.9		6.16		6.91		72.7		75.3		71.9		126	N	54.1	N	57.8	N	78.9		57.7		81.2		82.5	
Lead	400	800	90	13.6		13.4		2.79		0.93		1.11		1.22		1.96		0.123	JN	0.113	JN	2.19		1.67		1.83		1.75		2.28		1.27	N	2.04	
Manganese[1]	11000	59000	65	**75.3**		**70.6**		**94.7**		**110**		**177**		**185**		**330**		**313**		**321**		**287**		**311**		**254**		**313**		**295**		**297**		**291**	
Mercury	23	65	0.1	0.034	U	0.033		0.012	J	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.004	U
Nickel (soluble salts)	1600	23000	48	9.5		7.91	N	1.87	J	2.8		4.47		4.99		**52.9**		**51.9**	N	47.2	N	43.7		45.8		41.5		44.8		38.2		**52.8**		**59.1**	
Selenium	390	5700	11	2.2	U	0.23	UN	0.27	U	1.6		0.833	J	1.01		2.54		2.8		2.57		0.468	UN	0.451	UN	0.455	UN	1.25		1.04		1.09		1.68	
Silver[1]	390	5700	1	**2.2**		0.988	N	0.387	J	0.37	J	**1.19**		**1.32**		0.773		0.789	N	0.649	N	0.234	U	0.226	U	0.228	U	**2.14**		0.957		**1.14**		0.888	
Thallium	5	79	3	1.1	U	0.46	U	0.54	U	0.874	U	0.447	U	0.433	U	0.897	U	0.86	U	0.942	U	0.935	U	0.902		0.91		0.092	U	0.832	U	0.939	U	0.84	U
Vanadium	78	1100	NA	30.7		23.3		6.56		6.5		4.89		5.5		59.1		55		62.2		52.4		58		47		58.6		52.2		50		49	
Zinc[1]	23000	110000	930	26.1		30.7		14.6		26.2		20.7		22.6		43.7		45.3		44.1		33.4		40.9		32.7		28.4	N	41.7		44.8		44.8	
Polychlorinated biphenyls (PCBs)	0.2	1	0.2	0.1374	U	0.0324	U	0.0294	U	0.0238	U	0.0238	U	0.0238	U	0.0238	U	0.0034	U	0.0037	U	0.0036	U	0.0036	U	0.0035	U	0.0036	U	0.0034	U	0.0252	U	0.0034	U
Total EPH (mg/kg)	1000	1000	1000	70.9		21.9				3.545	J	6.682		6.515				14.94		14.69		12.795		10.8		11.79		3.84	J	4.06	J	3.455	J	4.885	J
alpha-HCH (alpha-BHC)	0.1	0.5	0.002	0.00047	U	0.000361	U	0.000413	U	0.000341	U	0.000334	U	0.00032	U	0.00034	U	0.000338	U	0.000367	U	0.000361	U	0.000358	U	0.000351	U	0.000359	U	0.00034	U	0.000362	U	0.000332	U
beta-HCH (beta-BHC)	0.4	2	0.002	0.00044	U	0.000361	U	0.000413	U	0.000341	U	0.000334	U	0.00032	U	0.00034	U	0.000338	U	0.000367	U	0.000361	U	0.000358	U	0.000351	U	0.000359	U	0.00034	U	0.000362	U	0.000332	U
Lindane (gamma-HCH) (gamma-BHC)	0.4	2	0.002	0.00032	U	0.000361	U	0.000413	U	0.000341	U	0.000334	U	0.00032	U	0.00034	U	0.000338	U	0.000367	U	0.000361	U	0.000358	U	0.000351	U	0.000359	U	0.00034	U	0.000362	U	0.000332	U
Heptachlor	0.4	0.7	0.5	0.00058	U	0.000361	U	0.000413	U	0.000341	U	0.000334	U	0.00032	U	0.00034	U	0.000338	U	0.000367	U	0.000361	U	0.000358	U	0.000351	U	0.000359	U	0.00034	U	0.000362	U	0.000332	U
Aldrin	0.04	0.2	0.2	0.00063	U	0.000361	U	0.000413	U	0.000341	U	0.000334	U	0.00032	U	0.00034	U	0.000338	U	0.000367	U	0.000361	U	0.000358	U	0.000351	U	0.000359	U	0.00034	U	0.000362	U	0.000332	U
Heptachlor epoxide	0.07	0.3	0.01	0.00029	U	0.000361	U	0.000413	U	0.000341	U	0.000334	U	0.00032	U	0.00034	U	0.000338	U	0.000367	U	0.000361	U	0.000358	U	0.000351	U	0.000359	U	0.00034	U	0.000362	U	0.000332	U
Endosulfan I and Endosulfan II (alpha and beta)	470	6800	4	0.0009	U	0.000722	U	0.000826	U	0.000682	U	0.000668	U	0.00064	U	0.00068	U	0.000338	U	0.000367	U	0.000361	U	0.000716	U	0.000702	U	0.000718	U	0.00068	U	0.000724	U	0.000664	U
Dieldrin	0.04	0.2	0.003	0.00056	U	0.000361	U	0.000413	U	0.000341	U	0.000334	U	0.00032	U	0.00034	U	0.000338	U	0.000367	U	0.000361	U	0.000358	U	0.000351	U	0.000359	U	0.00034	U	0.000362	U	0.000332	U
4,4'-DDE	2	9	18	0.0049		0.0018	J	0.000413	U	0.000341	U	0.000334	U	0.00032	U	0.00034	U	0.000338	U	0.000367	U	0.000361	U	0.000358	U	0.000351	U	0.000359	U	0.00034	U	0.000362	U	0.000332	U
Endrin	23	340	1	0.00025	U	0.000361	U	0.000413	U	0.000341	U	0.000334	U	0.00032	U	0.00034	U	0.000338	U	0.000367	U	0.000361	U	0.000358	U	0.000351	U	0.000359	U	0.00034	U	0.000362	U	0.000332	U
4,4'-DDD	3	13	4	0.0035		0.000361	U	0.000413	U	0.000341	U	0.000334	U	0.00032	U	0.00034	U	0.000338	U	0.000367	U	0.000361	U	0.000358	U	0.000351	U	0.000359	U	0.00034	U	0.000362	U	0.000332	U
Endosulfan sulfate	470	6800	2	0.0004	U	0.0016	U	0.000413	U	0.000341	U	0.000334	U	0.00032	U	0.00034	U	0.000338	U	0.000367	U	0.000361	U	0.000358	U	0.000351	U	0.000359	U	0.00034	U	0.000362	U	0.000332	U
4,4'-DDT	2	8	11	0.0109		0.000361	J	0.000413	U	0.000341	U	0.000334	U	0.00032	U	0.00034	U	0.000338	U	0.000367	U	0.000361	U	0.000358	U	0.000351	U	0.000359	U	0.00034	U	0.000362	U	0.000332	U
Methoxychlor	390	5700	160	0.00039	U	0.000361	U	0.000413	U	0.000341	U	0.000334	U	0.00032	U	0.00034	U	0.000338	U	0.000367	U	0.000361	U	0.000358	U	0.000351	U	0.000359	U	0.00034	U	0.000362	U	0.000332	U
Chlordane (alpha and gamma)	0.2	1	0.05	0.00038	U	0.000722	U	0.002313	J	0.000682	U	0.000668	U	0.00064	U	0.00068	U	0.000338	U	0.000367	U	0.000361	U	0.000716	U	0.000702	U	0.000359	U	0.0044	P	0.000724	U	0.000664	U
Toxaphene	0.6	3	0.3	0.012	U	0.0036	U	0.0042	U	0.0034	U	0.0034	U	0.0034	U	0.0034	U	0.0034	U	0.0037	U	0.0036	U	0.0036	U	0.0035	U	0.0036	U	0.0034	U	0.0037	U	0.0034	U
N-Nitrosodimethylamine	0.7	0.7	0.7			0.073	U	0.0832	U	0.069	U	0.0674	U	0.0671	U	0.0687	U	0.0684	U	0.0742	U	0.0731	U	0.0723	U	0.0708	U	0.0725	U	0.0687	U	0.0731	U	0.0672	U
Benzaldehyde	6100	68000	NA	0.0087	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Phenol	18000	210000	8	0.026	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Bis(2-chloroethyl)ether	0.4	2	0.2	0.014	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Bis(2-chloroisopropyl)ether	23	67	5	0.0079	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
2-Chlorophenol (o-Chlorophenol)	310	2200	0.8	0.026	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
2-Methylphenol (o-Creosol)	310	3400	NA	0.05	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
2,2-oxybis(1-Chloropropane)	NA	NA	NA			0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Acetophenone	2	5	3	0.0059	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
4-Methylphenol (p-Creosol)	31	340	NA	0.033	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
N-Nitroso-di-n-propylamine	0.2	0.3	0.2	0.01	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Hexachloroethane	35	140	0.2	0.011	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Nitrobenzene	31	340	0.2	0.011	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Isophorone	510	2000	0.2	0.0065	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
2,4-Dimethylphenol	1200	14000	1	0.064	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
2,4-Dichlorophenol	180	2100	0.2	0.031	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Naphthalene	6	17	25	0.0056	U	0.0018	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Hexachloro-1,3,butadiene	6	25	0.9	0.0092	U	0.00905	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Caprolactam	31000	340000	12	0.022	U	0.073	U	0.0832	U	0.069	U	0.0674	U	0.0671	U	0.0687	U	0.0684	U	0.0742	U	0.0731	U	0.0723	U	0.0708	U	0.0725	U	0.0687	U	0.0731	U	0.0672	U
2-Methylnaphthalene	230	2400	8	0.0065	U	0.0018	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Hexachlorocyclopentadiene	45	110	320	0.055	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	UQ	0.0371	UQ	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
2,4,6-Trichlorophenol	19	74	0.2	0.028	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
2,4,5-Trichlorophenol	6100	68000	68	0.031	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
1,1-Biphenyl	3100	34000	140	0.0064	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
2-Nitroaniline	39	23000	NA	0.0079	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Acenaphthylene	NA	300000	NA	0.0036	U	0.0022	J	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
2,4-Dinitrotoluene/2,6-Dinitrotoluene (mixture)	0.7	3	0.2	0.0155	U	0.073	U	0.0832	U	0.0345	U	0.0674	U	0.0672	U	0.0686	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0686	U	0.0366	U	0.0672	U
2,6-Dinitrotoluene	0.7	3	NA	0.009	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0732	U	0.0336	U
Acenaphthene	3400	37000	110	0.033	U	0.00073	J	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
2,4-Dinitrophenol[2]	120	1400	0.3	0.15	U	0.29	U	**0.33**	U	0.28	U	0.27	U	0.27	U	0.27	U	0.27	UQ	0.3	UQ	0.29	U	0.29	U	0.28	U	0.29	UQ	0.27	U	0.29	U	0.27	U
2,4-Dinitrotoluene	0.7	3	NA	0.0065	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Diethylphthalate	49000	550000	88	0.0044	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0827	J	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Fluorene	2300	24000	170	0.0041	U	0.0011	J	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	6	68	0.3	0.066	U	0.18	U	0.21	UQ	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.19	U	0.18	U	0.18	U	0.18	U	0.18	U	0.17	U	0.18	U	0.17	U
N-Nitrosodiphenylamine	99	390	0.4	0.018	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Azobenzene (1,2-Diphenylhydrazine)	0.7	2	0.7			0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Hexachlorobenzene	0.3	1	0.2	0.0068	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Atrazine	210	2400	0.2	0.014	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Pentachlorophenol	3	10	0.3	0.0016	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Phenanthrene	NA	300000	NA	0.0158	J	0.0132		0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Anthracene	17000	30000	2400	0.003	U	0.004		0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Carbazole	24	96	NA	0.0039	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Di-n-butyl phthalate	6100	68000	760	0.0041	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0876	J	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Fluoranthene	2300	24000	1300	0.0329	J	0.0326		0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Benzidine	0.7	0.7	0.7			0.073	U	0.0832	U	0.069	U	0.0674	U	0.0671	U	0.0687	U	0.0684	U	0.0742	U	0.0731	U	0.0723	U	0.0708	U	0.0725	U	0.0687	U	0.0731	U	0.0672	U
Pyrene	1700	18000	840	0.0327	J	0.0362		0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Butyl benzyl phthalate	1200	14000	230	0.019	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
3,3-Dichlorobenzidine	1	4	0.2	0.023	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Benzo(a)anthracene (1,2-Benzathracene)	0.6	2	0.8	0.0209	J	0.0227		0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Chrysene	62	230	80	0.0253	J	0.0198		0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Bis(2-ethylhexyl)phthalate	35	1140	1200	0.012	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.29	J	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Di-n-octyl phthalate	2400	27000	3300	0.0047	U	0.0365	U	0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	0.6	2	2	0.0291	J	0.0234		0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Benzo(k)fluoranthene	6	23	25	0.0077	U	0.0102		0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Benzo(a)pyrene	0.2	0.2	0.2	0.0223	J	0.0176		0.0416	U	0.0345	U	0.0337	U	0.0336	U	0.0343	U	0.0342	U	0.0371	U	0.0365	U	0.0362	U	0.0354	U	0.0362	U	0.0343	U	0.0366	U	0.0336	U
Indeno(1,2,3-cd)p

Backfill Sample Comparison to NJDEP Soil Standards
Study Area 6
6/5/2017

Clean Fill Comparison	RDCSRS (2012)	NRDCSRS (2012)	IGW (2013)	Horizon C Nature's Choice (NC-024)	Horizon C Nature's Choice (NC-HC-007)	Horizon C - Advanced (AST-HB-001)	Weldon - Lake Hopatcong	Weldon - Lake Hopatcong Screenings 002	Weldon - Lake Hopatcong Screenings 003	Weldon, Watchung - Screening	Weldon, Watchung - Screening 002	Weldon, Watchung - Screening 003	Weldon, Watchung - Screening 004	Weldon, Watchung - Screening 005	Weldon, Watchung - Screening 006	Weldon, Watchung - Screening 007	Weldon, Watchung Screenings 008	Weldon, Watchung Screenings 009	Weldon, Watchung Screenings 010
Approval Status	--	--	--	Approved	Approved	Not Approved (Not used onsite)	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved - CB; Rejected - GDL Cover	Approved	Approved
Material Type	--	--	--	Horizon A, B, and C Soils			Common Borrow / Stone												
Submittal Response Date	--	--	--	4/22/2016	5/9/2016	10/28/2015	11/7/2013	9/30/2014	9/30/2014	11/26/2013	1/21/2014	1/30/2014	2/21/2014	4/30/2014	4/24/2014	5/1/2014	6/4/2014	7/23/2014	8/12/2014
Submittal Number	--	--	--	135	140	118	35	72	73	37	42	44	45A	47	48	51	55	59	61
Chloroethane (Ethyl chloride)	220	1100	NA	0.0004 U	0.00034 U	0.00039 U	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 UQ	0.00054 UQ	0.00052 UQ	0.00034 U	0.00032 U	0.00034 U	0.00032 U
Trichlorofluoromethane	23000	340000	34	0.00021 U	0.00034 U	0.00039 UQ	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 U	0.00054 U	0.00052 U	0.00034 U	0.00032 U	0.00034 U	0.00032 U
Tertiary butyl alcohol	1400	11000	0.3		0.0172 U	0.0196 U	0.0272 UQ	0.0158 U	0.0158 U	0.0306 U	0.0169 U	0.0255 U	0.028 U	0.0272 U	0.0261 U	0.017 U	0.0161 U	0.0172 U	0.0158 U
1,1-Dichloroethene (1,1-Dichloroethylene)	11	150	0.008	0.0005 U	0.00034 U	0.00039 U	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 U	0.00054 U	0.00052 U	0.00034 U	0.00032 U	0.00034 U	0.00032 U
Acrolein	0.5	1	0.5		0.0172 U	0.0196 U	0.0272 U	0.0158 U	0.0158 U	0.0306 U	0.0169 U	0.0255 U	0.028 U	0.0272 U	0.0261 U	0.017 U	0.0161 U	0.0172 U	0.0158 U
Acrylonitrile	0.9	3	0.5		0.0017 U	0.002 UQ	0.0027 U	0.0016 U	0.0016 U	0.0031 U	0.0017 U	0.0025 U	0.0028 U	0.0027 U	0.0026 U	0.0017 U	0.0016 U	0.0017 U	0.0016 U
Acetone (2-Propanone)	70000	NA	19	0.0019 U	0.0017 U	0.002 U	0.0027 U	0.012 J	0.0124 J	0.0031 U	0.0028 J	0.0025 U	0.0028 U	0.0027 U	0.0026 U	0.0017 U	0.0016 U	0.0094 J	0.0362
Carbon disulfide	7800	110000	6	0.00019	0.00034 U	0.00039 U	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 UQ	0.00054 UQ	0.00052 UQ	0.00034 U	0.00032 U	0.00034 U	0.00032 U
Methyl tert-butyl ether (MTBE)	110	320	0.2	0.00013 U	0.00034 U	0.00039 U	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 UQ	0.00054 U	0.00052 U	0.00034 U	0.00032 U	0.00034 U	0.00032 U
Methyl acetate	78000	NA	22	0.00072 U	0.00039 U	0.00078 U	0.0011 U	0.00063 U	0.00063 U	0.0012 U	0.00068 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.00068 U	0.00064 U	0.00069 U	0.0011 J
Methylene chloride (Dichloromethane)	34	97	0.01	0.00082 U	0.00034 U	0.00039 UQ	0.0029 J	0.0042	0.0029 J	0.002 J	0.00034 U	0.00051 U	0.00056 UQ	0.00054 UQ	0.00052 UQ	0.00034 U	0.00032 U	0.00034 U	0.00032 U
1,2-Dichloroethene (trans) (t-1,2-Dichloroethylene)	300	780	0.6	0.0005 U	0.00034 U	0.00039 U	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 U	0.00054 U	0.00052 U	0.00034 U	0.00032 U	0.00034 U	0.00032 U
1,1-Dichloroethane	8	24	0.2	0.00012 U	0.00034 U	0.00039 U	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 U	0.00054 U	0.00052 U	0.00034 U	0.00032 U	0.00034 U	0.00032 U
2-Butanone (Methyl ethyl ketone) (MEK)	3100	44000	0.9	0.0016 U	0.0052 U	0.0059 U	0.0082 U	0.0048 U	0.0047 U	0.0092 U	0.0051 U	0.0076 U	0.0084 U	0.0082 U	0.0078 U	0.0051 U	0.0048 U	0.0052 U	0.0148 J
Carbon tetrachloride	0.6	2	0.005	0.00019 U	0.00034 U	0.00039 U	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 U	0.00054 U	0.00052 U	0.00034 U	0.00032 U	0.00034 U	0.00032 U
1,2-Dichloroethene (cis) (c-1,2-Dichloroethylene)	230	560	0.3	0.00065 U	0.00034 U	0.00039 U	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 U	0.00054 U	0.00052 U	0.00034 U	0.00032 U	0.00034 U	0.00032 U
Chloroform	0.6	2	0.4	0.00013 U	0.00034 U	0.00039 U	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 U	0.00054 U	0.00052 U	0.00034 U	0.00032 U	0.00034 U	0.00032 U
1,1,1-Trichloroethane	290	4200	0.3	0.00013 U	0.00034 U	0.00039 U	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 U	0.00054 U	0.00052 U	0.00034 U	0.00032 U	0.00034 U	0.00032 U
Benzene	2	5	0.005	0.00011 U	0.00034 U	0.00039 U	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 U	0.00054 U	0.00052 U	0.00034 U	0.00032 U	0.00034 U	0.00032 U
1,2-Dichloroethane	0.9	3	0.005	0.00011 U	0.00034 U	0.00039 U	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 U	0.00054 U	0.00052 U	0.00034 U	0.00032 U	0.00034 U	0.00032 U
Trichloroethene (TCE)(Trichloroethylene)	7	20	0.01	0.00012 U	0.00034 U	0.00039 U	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 U	0.00054 U	0.00052 U	0.00034 U	0.00032 U	0.00034 U	0.00032 U
1,2-Dichloropropane	2	5	0.005	0.0002 U	0.00034 U	0.00039 U	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 U	0.00054 U	0.00052 U	0.00034 U	0.00032 U	0.00034 U	0.00032 U
Bromodichloromethane (Dichlorobromomethane)	1	3	0.005	0.00026 U	0.00034 U	0.00039 U	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 U	0.00054 U	0.00052 U	0.00034 U	0.00032 U	0.00034 U	0.00032 U
4-Methyl-2-pentanone	NA	NA	NA	0.00039 U	1.7 U	--	0.0027 U	--	--	0.0031 U	--	0.0025 U	--	0.00054	0.00052	--	--	--	--
Toluene	6300	91000	7	0.00017 U	0.00034 U	0.00039 U	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 U	0.00054 U	0.00052 U	0.00034 U	0.00032 U	0.00034 U	0.00032 U
1,3-Dichloropropene (cis and trans) (summed)	2	7	0.005	0.000249 U	0.00068 U	0.00078 U	0.00108 U	0.00064 U	0.00064 U	0.00122 U	0.00034 U	0.00051 U	0.00056 U	0.00108 U	0.00052 U	0.00068 U	0.00064 U	0.00068 U	0.00064 U
1,1,2-Trichloroethane	2	6	0.02	0.00012 U	0.00069 U	0.00078 U	0.0011 U	0.00063 U	0.00063 U	0.0012 U	0.00068 U	0.001 U	0.0011 U	0.0011 U	0.001 U	0.00068 U	0.00064 U	0.00069 U	0.00063 U
Dibromochloromethane (Chlorodibromomethane)	3	8	0.005	0.00017 U	0.00034 U	0.00039 U	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 U	0.00054 U	0.00052 U	0.00034 U	0.00032 U	0.00034 U	0.00032 U
1,2-Dibromoethane (ethylene dibromide)	0.008	0.004	0.005	0.00011 U	0.00034 U	0.00039 U	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 U	0.00054 U	0.00052 U	0.00034 U	0.00032 U	0.00034 U	0.00032 U
Tetratchloroethene (PCE)(Tetrachloroethylene)	2	5	0.005	0.00025 U	0.00034 U	0.00039 U	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 U	0.00054 U	0.00052 U	0.00034 U	0.00032 U	0.00034 U	0.00032 U
Chlorobenzene	510	7400	0.6	0.00013 U	0.00034 U	0.00039 U	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 U	0.00054 U	0.00052 U	0.00034 U	0.00032 U	0.00034 U	0.00032 U
Ethyl benzene	7800	110000	13	0.00014 U	0.00034 U	0.00039 U	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 U	0.00054 U	0.00052 U	0.00034 U	0.00032 U	0.00034 U	0.00032 U
Total Xylenes	12000	170000	19	0.00023 U	0.00103 U	0.00117 U	0.00164 U	0.00095 U	0.00095 U	0.00181 U	0.00102 U	0.00151 U	0.00166 U	0.00164 U	0.00152 U	0.00102 U	0.00096 U	0.00103 U	0.00095 U
Styrene	90	260	3	0.00015 U	0.00034 U	0.00039 U	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 U	0.00054 U	0.00052 U	0.00034 U	0.00032 U	0.00034 U	0.00085 J
Bromoform	81	280	0.03	0.00013 U	0.001 U	0.0012 U	0.0016 U	0.00095 U	0.00095 U	0.0018 U	0.001 U	0.0015 U	0.0017 U	0.0016 U	0.0016 U	0.001 U	0.00097 U	0.001 U	0.00095 U
Isopropylbenzene	NA	NA	NA	0.000089 U	0.00034 U	--	0.00054 U	--	--	0.00061 U	--	0.00051 U	--	--	--	--	--	--	--
1,1,2,2,-Tetratchloroethane	1	3	0.007	0.00015 U	0.00034 U	0.00039 UQ	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 U	0.00054 U	0.00052 U	0.00034 U	0.00032 U	0.00034 U	0.00032 U
1,3-Dichlorobenzene (m-Dichlorobenzene)	5300	59000	19	0.00013 U	0.00034 U	0.00039 U	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 U	0.00054 U	0.00052 U	0.00034 U	0.00032 U	0.00034 U	0.00032 U
1,4-Dichlorobenzene (p-Dichlorobenzene)	5	13	2	0.00019 U	0.00034 U	0.00039 U	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 U	0.00054 U	0.00052 U	0.00034 U	0.00032 U	0.00034 U	0.00032 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	5300	59000	17	0.0001 U	0.00034 U	0.00039 U	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 U	0.00054 U	0.00052 U	0.00034 U	0.00032 U	0.00034 U	0.00032 U
1,2-Dibromo-3-chloropropane[2]	0.08	0.2	0.005	0.00046 U	0.0034 U	0.0039 U	**0.0054** U	0.0032 U	0.0032 U	**0.0061** U	0.0034 U	**0.0051** U	**0.0056** U	**0.0054** U	**0.0052** U	0.0034 U	0.0032 U	0.0034 U	0.0032 U
1,2,4-Trichlorobenzene	73	820	0.7	0.00014 U	0.00034 U	0.00039 U	0.00054 U	0.00032 U	0.00032 U	0.00061 U	0.00034 U	0.00051 U	0.00056 U	0.00054 U	0.00052 U	0.00034 U	0.00032 U	0.00034 U	0.00032 U
DICAMBA	NA	NA	NA	0.0023 U	0.0183 U	0.0208 U		0.0169 U	0.0168 U	--	--	--	0.0183 U	0.0181 U	0.0177 U	0.018 U	0.0172 U	0.0183 U	0.0168 U
DICHLORPROP	NA	NA	NA	0.023 U	0.0183 U	0.0208 U		0.0169 U	0.0168 U	--	--	--	0.0183 U	0.0181 U	0.0177 U	0.018 U	0.0172 U	0.0183 U	0.0168 U
2,4-D	NA	NA	NA	0.016 U	0.0183 U	0.0208 U		0.0169 U	0.0168 U	--	--	--	0.0183 U	0.0181 U	0.0177 U	0.018 U	0.0172 U	0.0183 U	0.0168 U
2,4,5-TP (Silvex)	NA	NA	NA	0.0021 U	0.0183 U	0.0208 U		0.0169 U	0.0168 U	--	--	--	0.0183 U	0.0181 U	0.0177 U	0.018 U	0.0172 U	0.0183 U	0.0168 U
2,4,5-T	NA	NA	NA	0.0027 U	0.0183 U	0.0208 U		0.0169 U	0.0168 U	--	--	--	0.0183 U	0.0181 U	0.0177 U	0.018 U	0.0172 U	0.0183 U	0.0168 U
2,4-DB	NA	NA	NA	0.022 U	0.0183 U	0.0208 U		0.0169 U	0.0168 U	--	--	--	0.0183 U	0.0181 U	0.0177 U	0.018 U	0.0172 U	0.0183 U	0.0168 U
DINOSEB	NA	NA	NA	0.035 U	0.0183 U	0.0208 U		0.0169 U	0.0168 U	--	--	--	0.0183 U	0.0181 U	0.0177 U	0.018 U	0.0172 U	0.0183 U	0.0168 U
Hexavalent Chromium (Study Area 6 Backfill Criteria: 1mg				0.86	**1.3**	0.23 J	0.42 U	0.39 U	0.4 U	0.44 U	0.4 U	0.44 U	0.44 U	0.45 U	0.66	0.45 U	0.4 U	0.43 U	0.4 U

SPLP Parameter[3]	SPLP Guidance	Units																	
Arsenic	3	ug/L	--	27.6	--	2.5 U	2.5 U	2.5 U	5 U	5 UN	5 UN	5 U	5 U	5 U	5 U	--	5 U	5 U	
Barium	120,000	ug/L	--	702	--	165	589	779	158	156 N	173 N	983	922	1000	208	--	644	864	
Beryllium	20	ug/L	--	--	--	--	0.75 U	0.75 U	--	--	--	--	--	--	1.5 U	--	1.5 U	1.5 U	
Cadmium	80	ug/L	--	0.75 U	--	0.75 U	0.75 U	0.75 U	1.5 U	1.5 U	1.5 U	0.785 J	1.14 J	0.845 J	1.5 U	--	1.5 U	1.5 U	
Chromium	--	ug/L	--	61.8	--	1.25 U	3.28 J	4.22 J	2.3 JN	56.5 N*	49.8 N*	88.1	61.6	43.5	5.81	--	15	9.21	
Lead	100	ug/L	--	77.7	--	1.5 U	3.49 J	4.87 J	3 U	3 U	3 U	21.5	17.4	6.17	3 U	--	36.9	5.92 J	
Nickel	2,000	ug/L	--	--	--	--	5 U	5 U	10 U	24.2	31.8	58.5	45	29.6	7.33 J	--	30	27	
Selenium	800	ug/L	--	5 U	--	2.5 U	5 U	5 U	5 U	5 U	5 U	5 UN	5 UN	5 UN	5 U	--	5 U	5 U	
Silver	800	ug/L	--	3 J	--	1.25 U	1.25 U	1.25 U	2.5 U	2.5 UN	2.5 UN	2.5 UN	2.5 UN	2.5 UN	2.5 U	--	2.5 U	2.5 U	
Aluminum	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Manganese	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Mercury	40	ug/L	--	3.05	--	0.1 U	--	--	0.1 U	--	--	--	--	--	--	--	--	--	

Legend

Bold - >IGW
Underline - >NRDCSRS
Highlight - >RDCSRS
Italics - > SPLP
U = Not Detected
D = Dilution
Q = indicates LCS control criteria did not meet requirements
J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits
N = Spiked sample recovery not within control limits

Notes:

1.) In accordance with the NJDEP's Frequently Asked Questions for the Impact to Ground Water Pathway in Soil Remediation Standards, the GWQS for aluminum, manganese, silver, and zinc are secondary (i.e. they are not based on health considerations); therefore, the NJDEP has determined that the IGW pathway does not need to be addressed for these contaminants, unless there is reason to believe their presence is due to a site discharge.

2.) For samples in which the reported 1,2-Dibromo-3-chloropropane and 2,4-Dinitrophenol level exceeds the IGW standard, the analytical lab has provided an e-mail confirming that 1,2-Dibromo-3-chloropropane or 2,4-Dinitrophenol is below the reported level and below IGW.

3) Three SPLP samples were taken per submittal. The highest value of the three samples is reported in this table. SPLP reported only when a parameter exceeded IGW.

4) These samples represent material used in both SA-6 North and SA-6 South.

*All metals and total EPH reported in mg/kg. All other parameters reported in ug/kg.

Backfill Sample Comparison to NJDEP Soil Standards
Study Area 6
6/5/2017

Clean Fill Comparison	RDCSRS (2012)	NRDCSRS (2012)	IGW (2013)	Weldon, Watchung Screenings 011	Weldon, Watchung Screenings 012	Weldon, Watchung Screenings 013	Weldon, Watchung Screenings 014	Weldon, Watchung Screenings 015	Weldon, Watchung Screenings 016	Weldon, Watchung Screenings 017	Weldon, Watchung Screenings 018	Weldon, Watchung Screenings 018	Weldon Watching Screenings 019	Weldon, Watching DGA 001	Weldon, Watchung - QP 005	Weldon, Watchung - QP 004	Weldon, Watchung - QP 003	Weldon, Watchung - QP 002	Weldon, Watchung - QP 001
Approval Status	--	--	--	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Rejected	Approved	Rejected	Approved
Material Type	--	--	--	Common Borrow / Stone															
Submittal Response Date	--	--	--	9/2/2014	9/5/2014	9/18/2014	9/24/2014	9/30/2014	11/18/2014	11/18/2014	4/12/2016	5/31/2016	6/9/2016	9/5/2014	9/9/2014	9/12/2014	5/7/2014	12/12/2013	10/29/2013
Submittal Number	--	--	--	62	65	67	70	71A	75	76	134	147	151	64	66	63	50	39	34A
Cyanide	1600	23000	20	0.134 U	0.137 U	0.046 J	0.124 U	0.126 U	0.136 U	0.128 U	0.126 U	0.077 J	0.121 U	0.115 J	0.778	0.168 J	0.11 J	0.489	0.264 J
Aluminum[1]	78000	NA	6000	**13900**	**17400** J	**14400**	**10600**	**11200**	**12100**	**11900**	**12200**	**13400**	**12300**	**13200**	**9570**	**12700**	**13700**	**20800**	**13800**
Antimony	31	450	6	0.567 U	1.1 N	0.525 U	0.753 J	0.532 U	0.694 J	0.769 J	0.531 U	0.541 UN	0.533 UN	1.07 UN	0.54 U	1.17 UN	0.951 J	1.18 UN	0.57 U
Arsenic	19	19	19	1.57	1.77	1.87	1.4	1.18	1.3	1.26	1.17	1.4	1.2	1.63	1.07	1.58	1.85	0.425 J	0.31 J
Barium	16000	59000	2100	44.9	33.8	44.3	31.6	41.2	27.3	27.9	29.5	21.6	19.2	212	82.9	60.6	74.1	167	149
Beryllium	16	140	0.7	0.378	0.0489	0.445	0.339	0.331	0.317	0.323	0.334	0.387	0.37	0.128 U	0.296	0.14 U	**1.24** N	0.182 J	0.27
Cadmium	78	78	2	0.068 U	0.071 U	0.058 J	0.066 U	0.064 U	0.069 U	0.064 U	0.313	1.03	1.03	0.128 U	0.065 U	0.14 U	0.125 U	0.142 UN	0.07 U
Cobalt	1600	590	90	26.3	31.7 N	30.6	22.8	21.6	22.9	22.7	19.8	23.1	22.6	20	17.9	22.4	26.3 N	34.5	20.5
Copper	3100	45000	11000	83.5	57.3	65	66	62.4	66.5	55.2	50.2	72.1	75.5	57.9	67.2	60.7	75.8	111	50.5
Lead	400	800	90	2.5	2.36	2.33	2.1	4.48	1.31	1.26	2.46	3.59	4.32	2.46	1.18	3.29	3.71	**95.7**	3.91
Manganese[1]	11000	59000	65	**330**	**374**	**374**	**301**	**302**	**266**	**252**	**250**	**279**	**278**	**323**	**230**	**427**	**414**	**530**	**320**
Mercury	23	65	0.1	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.012 J	0.0007 U	0.008 J	0.005 U	0.014	0.005 U	0.005 U	0.005 U	0.004 J
Nickel (soluble salts)	1600	23000	48	**51.3**	**53.4**	**57.1**	45.6	40.6	44.4	43.5	36.6	41.8	40.9	33.5	36.6	29	41.8	**55.4**	41.5
Selenium	390	5700	11	1.42	1.24 N	1.16	1.27 N	1.03	0.683 J	0.755 J	0.614 J	0.216 U	0.213 U	0.812 J	1.09	0.75 J	1.24	3.65	0.23 U
Silver[1]	390	5700	1	**1.33**	**1.97**	**2.1**	**1.19**	**2.01**	0.116 U	0.106 U	0.106 U	0.108 UN	0.107 UN	0.669	0.939	0.808	**2.07**	**1.03**	0.115 U
Thallium	5	79	3	0.453 U	0.471 U	0.42 U	0.439 U	0.425 U	0.463 U	0.426 U	0.424 U	0.433 U	0.427 U	0.855 U	0.432 U	0.933 U	0.83 U	0.947 U	0.455 U
Vanadium	78	1100	NA	55.9	60	53.7	42.1	41.5	48	47.1	44.1	48.3	46.1	42	37.2	51.4	53.6	81.4	46.2
Zinc[1]	23000	110000	930	45.1	58.2	49.7	39.8	39.2	35.8	34.3	33.5	34.8	34.3	31.6	28.8	36.4	25.4 N	50.7	37
Polychlorinated biphenyls (PCBs)	0.2	1	0.2	0.0036 U	0.0037 U	0.0238 U	0.0238 U	0.0238 U	0.0266 U	0.0245 U	0.0279 U	0.0306 U	0.0238 U	0.0035 U	0.0245 U	0.0036 U	0.0034 U	0.0036 U	0.0665 U
Total EPH (mg/kg)	1000	1000	1000	2.715 J	4.175 J	6.46	3.03 U	3.03 U	9.15	8.11	3.01 U	12.1	10	5 J	3.17 U		4.498 J		10.46
alpha-HCH (alpha-BHC)	0.1	0.5	0.002	0.000354 U	0.000364 U	0.000336 U	0.000334 U	0.000333 U	0.000376 U	0.000349 U	0.000331 U	0.000339 U	0.000333 U	0.00035 U	0.000348 U	0.000361 U	0.000335 U	0.000353 U	0.000948 U
beta-HCH (beta-BHC)	0.4	2	0.002	0.000354 U	0.000364 U	0.000336 U	0.000334 U	0.000333 U	0.000376 U	0.000349 U	0.000331 U	0.000339 U	0.000333 U	0.00035 U	0.000348 U	0.000361 U	0.000335 U	0.000353 U	0.000948 U
Lindane (gamma-HCH) (gamma-BHC)	0.4	2	0.002	0.000354 U	0.000364 U	0.000336 U	0.000334 U	0.000333 U	0.000376 U	0.000349 U	0.000331 U	0.000339 U	0.000333 U	0.00035 U	0.000348 U	0.000361 U	0.000335 U	0.000353 U	0.000948 U
Heptachlor	0.4	0.7	0.5	0.000354 U	0.000364 U	0.000336 U	0.000334 U	0.000333 U	0.000376 U	0.000349 U	0.000331 U	0.000339 U	0.000333 U	0.00035 U	0.000348 U	0.002	0.000335 U	0.000353 U	0.000948 U
Aldrin	0.04	0.2	0.2	0.000354 U	0.000364 U	0.000336 U	0.000334 U	0.000333 U	0.000376 U	0.000349 U	0.000331 U	0.000339 U	0.000333 U	0.00035 U	0.000348 U	0.000361 U	0.000335 U	0.000353 U	0.000948 U
Heptachlor epoxide	0.07	0.3	0.01	0.000354 U	0.000364 U	0.000336 U	0.000334 U	0.000333 U	0.000376 U	0.000349 U	0.000331 U	0.000339 U	0.000333 U	0.00035 U	0.000348 U	0.000361 U	0.000335 U	0.000353 U	0.000948 U
Endosulfan I and Endosulfan II (alpha and beta)	470	6800	4	0.000708 U	0.000728 U	0.000672 U	0.000668 U	0.000666 U	0.000752 U	0.000698 U	0.000662 U	0.000678 U	0.000333 U	0.0007 U	0.000696 U	0.000722 U	0.00067 U	0.000353 U	0.001896 U
Dieldrin	0.04	0.2	0.003	0.000354 U	0.000364 U	0.000336 U	0.000334 U	0.000333 U	0.000376 U	0.000349 U	0.000331 U	0.000339 U	0.000333 U	0.00035 U	0.000348 U	0.000361 U	0.000335 U	0.000353 U	0.000948 U
4,4'-DDE	2	9	18	0.000354 U	0.000364 U	0.000336 U	0.000334 U	0.000333 U	0.000376 U	0.000349 U	0.000331 U	0.000339 U	0.000333 U	0.00035 U	0.000348 U	0.000361 U	0.000335 U	0.000353 U	0.000948 U
Endrin	23	340	1	0.000354 U	0.000364 U	0.000336 U	0.000334 U	0.000333 U	0.000376 U	0.000349 U	0.000331 U	0.000339 U	0.000333 U	0.00035 U	0.000348 U	0.000361 U	0.000335 U	0.000353 U	0.00948 U
4,4'-DDD	3	13	4	0.000354 U	0.000364 U	0.000336 U	0.000334 U	0.000333 U	0.000376 U	0.000349 U	0.000331 U	0.000339 U	0.000333 U	0.00035 U	0.000348 U	0.000361 U	0.000335 U	0.000353 U	0.000948 U
Endosulfan sulfate	470	6800	2	0.000354 U	0.000364 U	0.000336 U	0.000334 U	0.000333 U	0.000376 U	0.000349 U	0.000331 U	0.000339 U	0.000333 U	0.00035 U	0.000348 U	0.000361 U	0.000335 U	0.000353 U	0.000948 U
4,4'-DDT	2	8	11	0.000354 U	0.000364 U	0.000336 U	0.000334 U	0.000333 U	0.000376 U	0.000349 U	0.000331 U	0.000339 U	0.000333 U	0.00035 U	0.000348 U	0.000361 U	0.000335 U	0.000353 U	0.000948 U
Methoxychlor	390	5700	160	0.000354 U	0.000364 U	0.000336 U	0.000334 U	0.000333 U	0.000376 U	0.000349 U	0.000331 U	0.000339 U	0.000333 U	0.00035 U	0.000348 U	0.000361 U	0.000335 U	0.000353 U	0.000948 U
Chlordane (alpha and gamma)	0.2	1	0.05	0.000708 U	0.000728 U	0.000672 U	0.00668 U	0.000666 U	0.000752 U	0.000698 U	0.000662 U	0.000678 U	0.000333 U	0.0069 P	0.000696 U	**0.0514** P	0.00067 U	0.000353 U	0.001896 U
Toxaphene	0.6	3	0.3	0.0036 U	0.0037 U	0.0034 U	0.0034 U	0.0034 U	0.0038 U	0.0035 U	0.0033 U	0.0034 U	0.0034 U	0.0035 U	0.0035 U	0.0036 U	0.0034 U	0.0036 U	0.0095 U
N-Nitrosodimethylamine	0.7	0.7	0.7	0.0715 U	0.0736 U	0.068 U	0.0676 U	0.0673 U	0.0762 U	0.0706 U	0.0669 U	0.0685 U	0.0672 U	0.0707 U	0.0705 U	0.073 U	0.0678 U	0.0712 U	0.0743 U
Benzaldehyde	6100	68000	NA	0.0357 UQ	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 UQ	0.0336 UQ	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Phenol	18000	210000	8	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.08 J	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Bis(2-chloroethyl)ether	0.4	2	0.2	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Bis(2-chloroisopropyl)ether	23	67	5	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
2-Chlorophenol (o-Chlorophenol)	310	2200	0.8	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
2-Methylphenol (o-Creosol)	310	3400	NA	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
2,2-oxybis(1-Chloropropane)	NA	NA	NA	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Acetophenone	2	5	3	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
4-Methylphenol (p-Creosol)	31	340	NA	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
N-Nitroso-di-n-propylamine	0.2	0.3	0.2	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Hexachloroethane	35	140	0.2	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Nitrobenzene	31	340	0.2	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Isophorone	510	2000	0.2	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
2,4-Dimethylphenol	1200	14000	1	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
2,4-Dichlorophenol	180	2100	0.2	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Naphthalene	6	17	25	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0017 U	0.0017 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Hexachloro-1,3,butadiene	6	25	0.9	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Caprolactam	31000	340000	12	0.0715 U	0.0736 U	0.068 U	0.0676 U	0.0673 U	0.0762 U	0.0706 U	0.0669 U	0.0685 U	0.0336 U	0.0707 U	0.0705 U	0.073 U	0.0678 U	0.0712 U	0.0743 U
2-Methylnaphthalene	230	2400	8	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0017 U	0.0017 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Hexachlorocyclopentadiene	45	110	320	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
2,4,6-Trichlorophenol	19	74	0.2	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
2,4,5-Trichlorophenol	6100	68000	68	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
1,1-Biphenyl	3100	34000	140	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
2-Nitroaniline	39	23000	NA	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Acenaphthylene	NA	300000	NA	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0017 U	0.0017 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
2,4-Dinitrotoluene/2,6-Dinitrotoluene (mixture)	0.7	3	0.2	0.0714 U	0.0736 U	0.068 U	0.0676 U	0.0672 U	0.0762 U	0.0706 U	0.0668 U	0.0684 U	0.0336 U	0.0706 U	0.0704 U	0.073 U	0.0339 U	0.0356 U	0.0744 U
2,6-Dinitrotoluene	0.7	3	NA	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Acenaphthene	3400	37000	110	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0017 U	0.0017 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
2,4-Dinitrophenol[2]	120	1400	0.3	0.29 U	0.29 U	0.27 U	0.27 U	0.27 U	0.3 U	0.28 U	0.27 U	0.27 U	0.27 U	0.28 U	0.28 U	0.29 U	0.27 UQ	0.28 U	0.3 U
2,4-Dinitrotoluene	0.7	3	NA	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Diethylphthalate	49000	550000	88	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Fluorene	2300	24000	170	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0017 U	0.0017 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	6	68	0.3	0.18 U	0.18 U	0.17 U	0.17 U	0.17 U	0.19 U	0.18 U	0.17 U	0.17 U	0.17 U	0.18 U	0.18 U	0.18 U	0.17 U	0.18 U	0.19 U
N-Nitrosodiphenylamine	99	390	0.4	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Azobenzene (1,2-Diphenylhydrazine)	0.7	2	0.7	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Hexachlorobenzene	0.3	1	0.2	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Atrazine	210	2400	0.2	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Pentachlorophenol	3	10	0.3	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Phenanthrene	NA	300000	NA	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0017 U	0.001 J	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Anthracene	17000	30000	2400	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0017 U	0.0017 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Carbazole	24	96	NA	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Di-n-butyl phthalate	6100	68000	760	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Fluoranthene	2300	24000	1300	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0017 J	0.001 J	0.0336 U	0.0353 U	0.0352 U	0.11 J	0.0339 U	0.0356 U	0.0372 U
Benzidine	0.7	0.7	0.7	0.0715 U	0.0736 U	0.068 U	0.0676 U	0.0673 U	0.0762 U	0.0706 U	0.0669 U	0.0685 U	0.0672 U	0.0707 U	0.0705 U	0.073 U	0.0678 U	0.0712 U	0.0743 U
Pyrene	1700	18000	840	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.001 J	0.001 J	0.0336 U	0.0353 U	0.0352 U	0.0927 J	0.0339 U	0.0356 U	0.0372 U
Butyl benzyl phthalate	1200	14000	230	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
3,3-Dichlorobenzidine	1	4	0.2	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Benzo(a)anthracene (1,2-Benzathracene)	0.6	2	0.8	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0017 U	0.001 J	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Chrysene	62	230	80	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0017 U	0.0017 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Bis(2-ethylhexyl)phthalate	35	1140	1200	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Di-n-octyl phthalate	2400	27000	3300	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0342 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	0.6	2	2	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0017 U	0.0017 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Benzo(k)fluoranthene	6	23	25	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0017 U	0.0017 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Benzo(a)pyrene	0.2	0.2	0.2	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0334 U	0.0017 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Indeno(1,2,3-cd)pyrene	0.6	2	7	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.002 J	0.0017 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Dibenzo(a,h)anthracene	0.2	0.2	0.8	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0017 U	0.0017 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Benzo(ghi)perylene	380000	30000	NA	0.0357 U	0.0368 U	0.034 U	0.0338 U	0.0336 U	0.0381 U	0.0353 U	0.0013 J	0.0017 U	0.0336 U	0.0353 U	0.0352 U	0.0365 U	0.0339 U	0.0356 U	0.0372 U
Dichlorodifluoromethane	490	230000	39	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
Chloromethane (Methyl chloride)	4	12	NA	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
Vinyl chloride	0.7	2	0.005	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
Bromomethane (Methyl bromide)	25	59	0.04	0.00067 U	0.00069 U	0.00064 U	0.00063 U	0.00063 U	0.00072 U	0.00066 U	0.00063 U	0.00064 U	0.00063 U	0.00066 U	0.00066 U	0.00069 U	0.00064 U	0.0011 U	0.0023 U

Backfill Sample Comparison to NJDEP Soil Standards
Study Area 6
6/5/2017

Clean Fill Comparison	RDCSRS (2012)	NRDCSRS (2012)	IGW (2013)	Weldon, Watchung Screenings 011	Weldon, Watchung Screenings 012	Weldon, Watchung Screenings 013	Weldon, Watchung Screenings 014	Weldon, Watchung Screenings 015	Weldon, Watchung Screenings 016	Weldon, Watchung Screenings 017	Weldon, Watchung Screenings 018	Weldon, Watchung Screenings 018	Weldon Watching Screenings 019	Weldon, Watching DGA 001	Weldon, Watchung - QP 005	Weldon, Watchung - QP 004	Weldon, Watchung - QP 003	Weldon, Watchung - QP 002	Weldon, Watchung - QP 001
Approval Status	--	--	--	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Approved	Rejected	Approved	Rejected	Approved
Material Type	--	--	--	Common Borrow / Stone															
Submittal Response Date	--	--	--	9/2/2014	9/5/2014	9/18/2014	9/24/2014	9/30/2014	11/18/2014	11/18/2014	4/12/2016	5/31/2016	6/9/2016	9/5/2014	9/9/2014	9/12/2014	5/7/2014	12/12/2013	10/29/2013
Submittal Number	--	--	--	62	65	67	70	71A	75	76	134	147	151	64	66	63	50	39	34A
Chloroethane (Ethyl chloride)	220	1100	NA	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
Trichlorofluoromethane	23000	340000	34	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
Tertiary butyl alcohol	1400	11000	0.3	0.0168 U	0.0173 U	0.016 UQ	0.0159 U	0.0158 U	0.0179 U	0.0166 U	0.0157 U	0.0161 U	0.0158 U	0.0166 U	0.0165 U	0.0171 U	0.0159 U	0.0264 U	0.0115 UQ
1,1-Dichloroethene (1,1-Dichloroethylene)	11	150	0.008	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
Acrolein	0.5	1	0.5	0.0168 U	0.0173 U	0.016 UQ	0.0159 U	0.0158 UQ	0.0179 U	0.0166 U	0.0157 U	0.0161 U	0.0158 U	0.0166 U	0.0165 U	0.0171 U	0.0159 U	0.0264 U	0.0115 U
Acrylonitrile	0.9	3	0.5	0.0017 U	0.0017 U	0.0016 U	0.0016 U	0.0016 U	0.0018 U	0.0017 U	0.0016 U	0.0016 U	0.0016 U	0.0017 U	0.0017 U	0.0017 U	0.0016 U	0.0026 U	0.0115 U
Acetone (2-Propanone)	70000	NA	19	0.0017 U	0.0086 J	0.0016 U	0.0016 U	0.0212	0.0018 U	0.0017 U	0.0016 U	0.0016 U	0.0016 U	0.0017 U	0.0017 U	0.0017 U	0.26	0.0026 U	0.0115 UQ
Carbon disulfide	7800	110000	6	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
Methyl tert-butyl ether (MTBE)	110	320	0.2	0.00034 U	0.00035 U	0.00032 UQ	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
Methyl acetate	78000	NA	22	0.00067 U	0.00069 U	0.00064 U	0.00063 U	0.00063 U	0.00072 U	0.00066 U	0.00063 U	0.00064 U	0.00063 U	0.00066 U	0.00066 U	0.00069 U	0.00064 U	0.0011 U	0.0023 U
Methylene chloride (Dichloromethane)	34	97	0.01	0.00034 U	0.00079 J	0.00032 U	0.0015 J	0.00032 U	0.0025 J	0.0029 J	0.0015 J	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.0009 J	0.0017 JB	0.0019 J
1,2-Dichloroethene (trans) (t-1,2-Dichloroethylene)	300	780	0.6	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
1,1-Dichloroethane	8	24	0.2	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
2-Butanone (Methyl ethyl ketone) (MEK)	3100	44000	0.9	0.005 U	0.0052 U	0.0048 U	0.0048 U	0.0047 U	0.0054 U	0.005 U	0.0047 U	0.0048 U	0.0047 U	0.005 U	0.005 U	0.0051 U	0.12	0.0079 U	0.0115 UQ
Carbon tetrachloride	0.6	2	0.005	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
1,2-Dichloroethene (cis) (c-1,2-Dichloroethylene)	230	560	0.3	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
Chloroform	0.6	2	0.4	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
1,1,1-Trichloroethane	290	4200	0.3	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
Benzene	2	5	0.005	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
1,2-Dichloroethane	0.9	3	0.005	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
Trichloroethene (TCE)(Trichloroethylene)	7	20	0.01	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
1,2-Dichloropropane	2	5	0.005	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
Bromodichloromethane (Dichlorobromomethane)	1	3	0.005	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
4-Methyl-2-pentanone	NA	NA	NA	--	--	--	--	--	--	--	--	0.0016 U	0.0016 U	--	--	--	--	0.0026 U	--
Toluene	6300	91000	7	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
1,3-Dichloropropene (cis and trans) (summed)	2	7	0.005	0.00068 U	0.0007 U	0.00064 U	0.00064 U	0.00064 U	0.00072 U	0.00066 U	0.00062 U	0.00064 U	0.00064 U	0.000666 U	0.00066 U	0.00068 U	0.00064 U	0.00053 U	0.0046 U
1,1,2-Trichloroethane	2	6	0.02	0.00067 U	0.00069 U	0.00064 U	0.00063 U	0.00063 U	0.00072 U	0.00066 U	0.00063 U	0.00064 U	0.00063 U	0.00066 U	0.00066 U	0.00069 U	0.00064 U	0.0011 U	0.0023 U
Dibromochloromethane (Chlorodibromomethane)	3	8	0.005	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
1,2-Dibromoethane (ethylene dibromide)	0.008	0.004	0.005	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
Tetratchloroethene (PCE)(Tetrachloroethylene)	2	5	0.005	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
Chlorobenzene	510	7400	0.6	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 UQ	0.00033 UQ	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
Ethyl benzene	7800	110000	13	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 UQ	0.00033 UQ	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
Total Xylenes	12000	170000	19	0.00101 U	0.00104 U	0.00096 U	0.00095 U	0.00095 U	0.00108 U	0.00099 U	0.00094 U	0.00096 U	0.00095 U	0.00099 U	0.00099 U	0.00103 U	0.0013	0.00163 U	0.0069 U
Styrene	90	260	3	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
Bromoform	81	280	0.03	0.001 U	0.001 U	0.00096 U	0.00095 U	0.00095 U	0.0011 U	0.00099 U	0.00094 U	0.00097 U	0.00095 U	0.00099 U	0.00099 U	0.001 U	0.00095 U	0.0016 U	0.0023 U
Isopropylbenzene	NA	NA	NA	--	--	--	--	--	--	--	--	0.00032 U	0.00032 U	--	--	--	--	0.00053 U	--
1,1,2,2,-Tetratchloroethane	1	3	0.007	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
1,3-Dichlorobenzene (m-Dichlorobenzene)	5300	59000	19	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
1,4-Dichlorobenzene (p-Dichlorobenzene)	5	13	2	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	5300	59000	17	0.00034 U	0.00035 U	0.00032 U	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
1,2-Dibromo-3-chloropropane[2]	0.08	0.2	0.005	0.0034 U	0.0035 U	0.0032 U	0.0032 U	0.0032 U	0.0036 U	0.0033 U	0.0031 U	0.0032 U	0.0032 U	0.0033 U	0.0033 U	0.0034 U	0.0032 U	**0.0053** U	0.0023 U
1,2,4-Trichlorobenzene	73	820	0.7	0.00034 U	0.00035 U	0.00032 UQ	0.00032 U	0.00032 U	0.00036 U	0.00033 U	0.00031 U	0.00032 U	0.00032 U	0.00033 U	0.00033 U	0.00034 U	0.00032 U	0.00053 U	0.0023 U
DICAMBA	NA	NA	NA	0.0179 U	0.0184 U	0.017 U	0.0169 U	0.0168 U	0.0191 U	0.0176 U	0.0167 U	0.0171 U	0.0168 U	0.0176 U	0.0176 U	0.0183 U	0.0169 U		
DICHLORPROP	NA	NA	NA	0.0179 U	0.0184 U	0.017 U	0.0169 U	0.0168 U	0.0191 U	0.0176 U	0.0167 U	0.0171 U	0.0168 U	0.0176 U	0.0176 U	0.0183 U	0.0169 U		
2,4-D	NA	NA	NA	0.0179 U	0.0184 U	0.017 U	0.0169 U	0.0168 U	0.0191 U	0.0176 U	0.0167 U	0.0171 U	0.0168 U	0.0176 U	0.0176 U	0.0183 U	0.0169 U		
2,4,5-TP (Silvex)	NA	NA	NA	0.0179 U	0.0184 U	0.017 U	0.0169 U	0.0168 U	0.0191 U	0.0176 U	0.0167 U	0.0171 U	0.0168 U	0.0176 U	0.0176 U	0.0183 U	0.0169 U		
2,4,5-T	NA	NA	NA	0.0179 U	0.0184 U	0.017 U	0.0169 U	0.0168 U	0.0191 U	0.0176 U	0.0167 U	0.0171 U	0.0168 U	0.0176 U	0.0176 U	0.0183 U	0.0169 U		
2,4-DB	NA	NA	NA	0.0179 U	0.0184 U	0.017 U	0.0169 U	0.0168 U	0.0191 U	0.0176 U	0.0167 U	0.0171 U	0.0168 U	0.0176 U	0.0176 U	0.0183 U	0.0169 U		
DINOSEB	NA	NA	NA	0.0179 U	0.0184 U	0.017 U	0.0169 U	0.0168 U	0.0191 U	0.0176 U	0.0167 U	0.0171 U	0.0168 U	0.0176 U	0.0176 U	0.0183 U	0.0169 U		
Hexavalent Chromium (Study Area 6 Backfill Criteria: 1mg				0.42 U	0.41 U	0.4 U	0.42 U	0.42 U	0.44 U	0.42 U	0.47	0.32 J	0.2 J	0.66	0.43 U	0.61	0.42 U	0.44 U	0.89

SPLP Parameter[3]	SPLP Guidance	Units																							
Arsenic	3	ug/L	2.5 U	2.5 U	2.5 U	--	3.29 J	2.5 U	2.5 U	--	--	--	--	--	--	--	5 U	--	--
Barium	120,000	ug/L	843	850	497	--	893	1330	1180	--	--	--	--	--	--	--	192	--	--
Beryllium	20	ug/L	0.75 U	0.75 U	0.75 U	--	0.75 U	0.75 U	0.75 U	--	--	--	--	--	--	--	1.5 U	--	--
Cadmium	80	ug/L	0.75 U	0.75 U	0.75 U	--	0.75 U	0.75 U	0.75 U	--	--	--	--	--	--	--	1.5 U	--	--
Chromium	--	ug/L	8.31	17.7	12.4	--	22.4	18.9	26.2	--	--	--	--	--	--	--	3.25 J	--	--
Lead	100	ug/L	4.62 J	5.87 J	71.9	--	10.2	5.53 J	8.61	--	--	--	--	--	--	--	3 U	--	--
Nickel	2,000	ug/L	20.7	41.9	31.2	--	61.3	44.5	54.5	--	--	--	--	--	--	--	10 U	--	10 U
Selenium	800	ug/L	5 U	5 U	5 U	--	5 U	5 U	5 U	--	--	--	--	--	--	--	5 U	--	--
Silver	800	ug/L	1.25 U	1.25 J	1.25 U	--	1.94 J	1.25 UN	1.25 UN	--	--	--	--	--	--	--	2.5 U	--	--
Aluminum	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	847
Manganese	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	33.5
Mercury	40	ug/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Legend

Bold - >IGW
Underline - >NRDCSRS
Highlight - >RDCSRS
Italics - > SPLP
U = Not Detected
D = Dilution
Q = indicates LCS control criteria did not meet requirements
J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits
N = Spiked sample recovery not within control limits

Notes:

1.) In accordance with the NJDEP's Frequently Asked Questions for the Impact to Ground Water Pathway in Soil Remediation Standards, the GWQS for aluminum, manganese, silver, and zinc are secondary (i.e. they are not based on health considerations); therefore, the NJDEP has determined that the IGW pathway does not need to be addressed for these contaminants, unless there is reason to believe their presence is due to a site discharge.

2.) For samples in which the reported 1,2-Dibromo-3-chloropropane and 2,4-Dinitrophenol level exceeds the IGW standard, the analytical lab has provided an e-mail confirming that 1,2-Dibromo-3-chloropropane or 2,4-Dinitrophenol is below the reported level and below IGW.

3) Three SPLP samples were taken per submittal. The highest value of the three samples is reported in this table. SPLP reported only when a parameter exceeded IGW.

4) These samples represent material used in both SA-6 North and SA-6 South.

*All metals and total EPH reported in mg/kg. All other parameters reported in ug/kg.

EXCAVATING MATERIALS & EQUIPMENT, INC.
849 ROUTE 539 • NEW EGYPT, NJ 08533 • 609.758.3400 • FAX: 609.758.5545

10-12-16

GENERAL CONTRACTOR : Entach Corp

CERTIFICATION: Clean Fill Certification

PROJECT: Honeywell Jersey City NJ.

Please accept this letter as our certification that the Clean Fill to be supplied to you through EME for the above referenced project is produced at our Plumsted Township Plant located at 849 Route 539, New Egypt, NJ 08533. Block 80 lot 4.

The material provided from our pit is:
Excavated from undisturbed geologic formations;
Obtained from a licensed quarry/mine;
Not been subject to a discharged hazardous substance at any time;
Not located on or impacted by other contaminant sources;
Not comingled with any other materials;
Not known or suspected of being contaminated.
Not adversely impacted by discharges of hazardous materials or chemical applications;
Not affected by conditions or processes that would result in the introduction of contaminates into the licensed quarry/mine material in concentrations above regulatory concern; and
Not affected by conditions or processes that would increase the concentrations of contaminants already present in the licensed quarry/mine to concentrations above regulatory concern.
Also please find a copy of our state mine registration.

If you need any further assistance, please feel free to contact me.

Sincerely,

Keith Prince
Vice President

State of New Jersey
Department of Labor and Workforce Development

Certificate No. 004218
Expiration Date 3/31/2017

MINE REGISTRATION CERTIFICATE

ISSUED TO: EME Inc

LOCATION: 849 Route 539

New Egypt, NJ

BLK NO(S): 80
LOT NO(S): 4
COUNTY: Ocean

Issued pursuant to the provisions of N.J.S.A. 34:6-98.1 et. seq. Failure to comply with the provisions of the Act, and the Rules promulgated thereunder, shall be good cause for the revocation of this Certificate.

Harold J. Wirths
Commissioner

THIS CERTIFICATE MUST BE POSTED AT ALL TIMES

ES 148 (R-1-05)

PARTAC PEAT CORPORATION

ONE KELSEY PARK, GREAT MEADOWS, NEW JERSEY 07838

800-247-BEAM (2326) • 908-637-4151 • FAX 908-637-8421

sales@beamclay.com • sales@partac.com

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PARTAC GOLF COURSE TOP-DRESSINGS

www.partac.com

October 18, 2016

EME, Inc.
849 Route 539
New Egypt, NJ 08533

Att: Keith Prince

Dear Keith:

This is to certify that our **SPHAGNUM PEAT MOSS** comes from a virgin, non-contaminated source in Maine.

Sincerely yours,

PARTAC PEAT CORPORATION

Jim

James C. Kelsey, President

Nature's Choice Corporation

March 18, 2016

Caroline Panico
Entact Environmental Services Inc.
800 North Kings Highway, Suite 501
Cherry Hill, NJ 08034

RE: Topsoil located 20 Mansard Court, Wayne NJ 07470

Dear: Ms. Panico:

This letter is to certify that the above reference material is produced from a virgin source supply. All Material is excavated from the pre-existing location and put through a scalper prior to delivery.

Please contact me with any questions.

Very truly yours,

Matthew Vastano
Vice President

398 Lincoln Boulevard, Middlesex, New Jersey Phone 973.969.3299 Fax 732.469.0054

Horizon B, Page 1

Rosano Trucking, Inc.

26 Maple Avenue
Oceanport, New Jersey 07757

(732) 542-5009 · Fax (732) 542-5014

TANDEM TRUCK RENTAL
FILL DIRT
TOP SOIL
STONE

MAY 16, 2016

To Whom It May Concern:

This letter is to certify that the material Rosano Trucking, Inc. (RTI) supplies to the public comes from Blueberry Acres, located at Block 930; Lot 1 in Wall Township, New Jersey, comes from a virgin sand pit.

In addition, a sample of the soil from our sand pit was analyzed by a New Jersey certified laboratory for Target Compound List (TCL) and Target Analyte List (TAL parameters. The analytic results are below the New Jersey Department of Environmental Protection (NJDEP) Residential Direct Contact Soil Remediation Standards (RDCSRS) and the Impact to Ground Water Soil Screening Levels (IGWSSL).

A copy of the analytical data package is on file with out office and is available upon request. If you require further information, please feel free to contact us at (732)620-8400.

Sincerely,

Frank R. Rosano

Horizon B, Page 2

State of New Jersey
Department of Labor and Workforce Development

Certificate No. 004217
Expiration Date 3/31/2017

MINE REGISTRATION CERTIFICATE

ISSUED TO: Rosano Trucking

LOCATION: School House Rd
Wall Township, NJ

BLK NO(S): 930
LOT NO(S): 1
COUNTY: Monmouth

Issued pursuant to the provisions of N.J.S.A. 34:6-98.1 et. seq. Failure to comply with the provisions of the Act, and the Rules promulgated thereunder, shall be good cause for the revocation of this Certificate.

Harold J. Wirths
Commissioner

THIS CERTIFICATE MUST BE POSTED AT ALL TIMES

ES-148 (R-1-05)

Nature's Choice Corporation

March 18, 2016

Caroline Panico
Entact Environmental Services Inc.
800 North Kings Highway, Suite 501
Cherry Hill, NJ 08034

RE: Horizon C material located 476 Deans Rhode Hall Road, Cranbury, NJ

Dear: Ms. Panico:

This letter is to certify that the above reference material is produced from a virgin source supply. All Material is excavated from the pre-existing location and put through a scalper prior to delivery.

Please contact me with any questions.

Very truly yours,

Matthew Vastano
Vice President

398 Lincoln Boulevard, Middlesex, New Jersey Phone 973.969.3299 Fax 732.469.0054

Horizon C, Page 2

State of New Jersey
Department of Labor and Workforce Development

Certificate No. 004285
Expiration Date 3/31/2017

MINE REGISTRATION CERTIFICATE

ISSUED TO: A.B. Kurre Contracting Inc

LOCATION: PORTABLE

NJ

BLK NO(S): 18
LOT NO(S): 4
COUNTY: Middelsex

Issued pursuant to the provisions of N.J.S.A. 34:6-98.1 et. seq. Failure to comply with the provisions of the Act, and the Rules promulgated thereunder, shall be good cause for the revocation of this Certificate.

Harold J. Wirths
Commissioner

THIS CERTIFICATE MUST BE POSTED AT ALL TIMES

ES-148 (R-1-05)

TILCON NEW YORK INC.

PHONE: 973-366-7741 • 625 MT. HOPE ROAD • WHARTON, NEW JERSEY 07885 • FAX: 973-659-3902

September 28, 2016

ENTACT, LLC
575 State Route 440
Jersey City, NJ 07305

Attn: Caroline Panico
Re: Honeywell SA6 South Cap Toe Drains

Caroline,

Tilcon NY Inc. New Jersey Division confirms that the materials produced from our Mt. Hope Quarry are defined as virgin Gneiss mined at Mt. Hope Quarry, 625 Mt. Hope Road, Block No(s) 20001, 70001, 20101 – Lot No(s) 5.01, 5.02, 7, 2, 6 Wharton Borough, Morris County NJ. The material is identified on the job with Tilcon NJ delivery tickets.

The material produced at the Mt. Hope quarry is processed through the plant to the various sizes with the source remaining the same. The 1 ½" stone is produced from the same quarry/material as the DGA.

Attached is also the analytical data for your reference.

Please feel free to contact me for any additional information.
Thank You,

Aleksandra Rogozinski
Quality Control Supervisor
Tilcon New York, Inc.
(973) 659-3790
arogozinski@tilconny.com

TILCON-NY **Mt. Hope Quarry** Fax 973-659-3978

625 Mount Hope Rd. • Wharton, N.J. 07946 • 973-366-7741

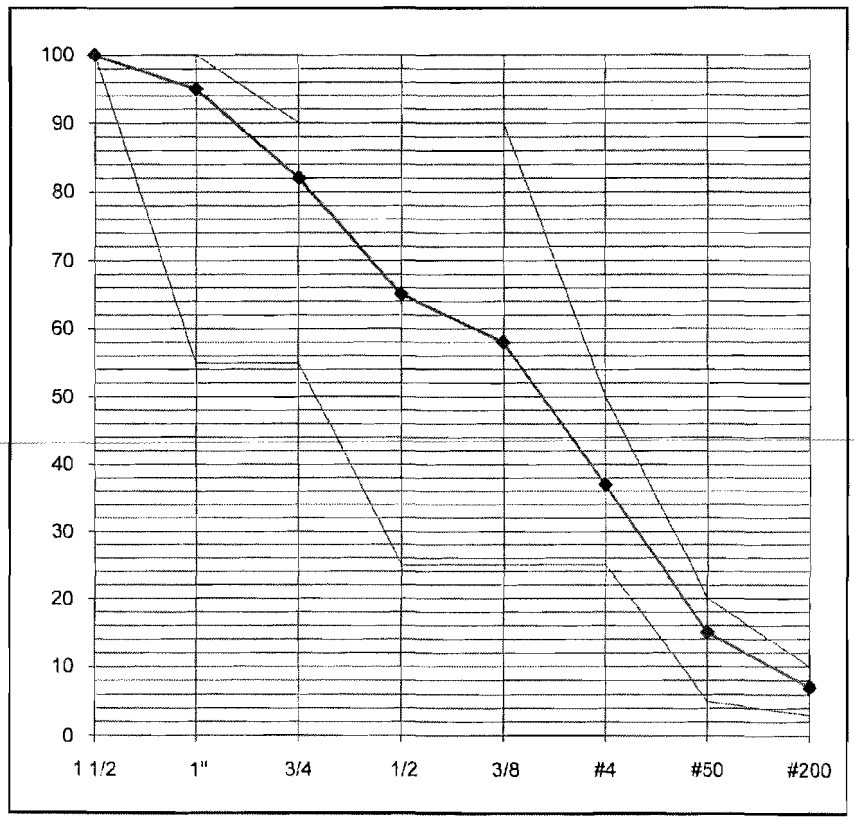
Typical Gradation,DGABC

Project
Honeywell SA6 Jersey City, NJ

Contractor
Entact

Sp. Gr	2.71
Loose	95.7
Rodded	104

	Typical	Prod. Target	
	% Pass	Low	High
1 1/2	100	100	100
1"	95	55	100
3/4	82	55	90
1/2	65	25	90
3/8	58	25	90
#4	37	25	50
#50	15	5	20
#200	7	3	10



Tilcon Inc confirms that DGABC available at Mt. Hope Quarry conforms to section 901 of the ***New Jersey Department of Transportation StandardSpecifications for Road and Bridge Construction.*** The material is defined as virgin Gneiss mined at Mt. Hope Quarry, 625 Mount Hope Road, Block 20001-Lot 6.01 Wharton Borough, Morris County NJ. The material is identified on the job with Tilcon delivery tickets.

The unit weights and voids are for process control and should be verified by the contractor before use.

Common Borrow

WELDON MATERIALS, INC.

ENGINEERING DIVISION - TECHNICAL SERVICES
141 CENTRAL AVENUE, WESTFIELD, NJ 07090
(908) 233-4444 ext. 2288 FAX (908) 233-4215
email: ra@weldonmat.com

August 21, 2013

ENTACT, LLC
Fax: email

Attn: Caroline Panico

Reference: Honeywell Project
Jersey City, NJ

Material: QUARRY PROCESSED AGGREGATE

To whom it may concern:

We certify that the aggregate to be purchased for the project in reference is produced by Fanwood Crushed Stone Company established and mining since 1907, from sources of virgin basalt indigenous to the region. These aggregates are free from contamination when stockpiled at our quarries in Watchung, New Jersey.

Our Quarry is located at:

 # 1 New Providence Road
Watchung, NJ
Somerset County.
Block #: 76.01, Lots #: 5 and 20
Mine Certificate #: 003455

Sincerely,

RICARDO AROCHA
TECHNICAL SERVICES

Common Borrow

WELDON MATERIALS, INC.

ENGINEERING DIVISION - TECHNICAL SERVICES
141 CENTRAL AVENUE, WESTFIELD, NJ 07090
(908) 233-4444 ext. 2288 FAX (908) 233-4215
email: ra@weldonmat.com

July 31, 2014

ENTACT Environmental Services
Fax: email

Attn: Caroline Panico

Reference: Honeywell SA6 Property
Jersey City, NJ

Material: DUST / SCREENINGS

To whom it may concern:

We certify that the aggregate to be purchased for the project in reference is produced by Fanwood Crushed Stone Company established and mining since 1907, from sources of virgin basalt indigenous to the region. These aggregates are free from contamination when stockpiled at our quarries in Watchung, New Jersey.

Our Quarry is located at:

 # 1 New Providence Road
Watchung, NJ
Somerset County.
Block #: 76.01, Lots #: 5 and 20
Mine Certificate #: 003951

Sincerely,

RICARDO AROCHA
TECHNICAL SERVICES

Common Borrow

WELDON MATERIALS, INC.

ENGINEERING DIVISION - TECHNICAL SERVICES
141 CENTRAL AVENUE, WESTFIELD, NJ 07090
(908) 233-4444 ext. 2288 FAX (908) 233-4215
email: ra@weldonmat.com

September 25, 2014

ENTACT, LLC

Fax: Email

Attn: Caroline Panico

Reference: Honeywell Project
Jersey City, NJ

Material(s): Screenings/Dust and NJDOT DGA/TYPE 5A

To whom it may concern:

We certify that the aggregates to be purchased for the project in reference are produced by Weldon Quarry Company, from sources of virgin granite indigenous to the region. These aggregates are free from contamination when stockpiled at our quarry in Hopatcong, New Jersey.

Our Quarry is located at:

Route 181
Hopatcong, NJ
Sussex County.
Block #: 1, Lot #: 70001
Mine Certificate #: 003959

Sincerely,

RICARDO AROCHA
TECHNICAL SERVICES

Common Borrow

WELDON MATERIALS, INC.

ENGINEERING DIVISION - TECHNICAL SERVICES
141 CENTRAL AVENUE, WESTFIELD, NJ 07090
(908) 233-4444 ext. 2288 FAX (908) 233-4215
email: ra@weldonmat.com

September 15, 2014

Contractor: ENTACT, LLC
Fax: email

Attn: Caroline Panico

Reference: Honeywell Project
Jersey City, NJ

Material: NJDOT DGA/TYPE 5A

To whom it may concern:

We certify that the aggregate to be purchased for the project in reference is produced by Fanwood Crushed Stone Company established and mining since 1907, from sources of virgin basalt indigenous to the region. These aggregates are free from contamination when stockpiled at our quarries in Watchung, New Jersey.

Our Quarry is located at:

 # 1 New Providence Road
Watchung, NJ
Somerset County.
Block #: 76.01, Lots #: 5 and 20
Mine Certificate #: 003951

Sincerely,

RICARDO AROCHA
TECHNICAL SERVICES

Structural Fill

July 10, 2015

LIBERTY AGGREGATES, LLC.

758 GARFIELD AVENUE

JERSEY CITY, NEW JERSEY 07305

PHONE: 201-240-4767

FAX: 201-432-6479

EMAIL: TPSenatore@aol.com

STATE OF NEW JERSEY PERMIT#: 004021 / CITY OF JERSEY CITY PERMIT#: P12-086

ENTACT, LLC.

ADAM EWERT

1 EAST OAK HILL DRIVE / SUITE 102

WESTMONT, IL. 60559

CELL: 630-675-9788

EMAIL: aewert@entact.com

Reference: Virgin Rock Certification

To Whom It May Concern,

Liberty Aggregates certifies that the aggregate (11/2" DGA and 3/4" clean) to be purchased for the Honeywell project in Jersey City, New Jersey are produced from clean, virgin rock excavated from the Mayrich project located at 524-530 East 74th Street, New York, New York. The depth of this excavation is approximately 50 feet and contains over 90,000 yards of material. This material is free from any contaminants and is stockpiled at our facility located at 34 Caven Point Avenue, Jersey City, New Jersey.

Sincerely,

Thomas P. Senatore

Managing Member

RALPH CLAYTON & SONS
CLAYTON BLOCK CO., INC.
CLAYTON SAND CO.

POST OFFICE BOX 3015
LAKEWOOD, NJ 08701
TOLL FREE 800-662-3044
WWW.CLAYTONCO.COM

CLAYTON
CONCRETE ▪ BLOCK ▪ SAND
American Owned

June 16, 2015

CONTRACTOR: Entact, LLC

CERTIFICATION: Clean Fill Certification

PROJECT: 60 Kellogg Street – Jersey City, NJ 07305

To Whom It May Concern:

Please accept this letter as our certification that the sand to be supplied to you for the above referenced project is clean sand from a "virgin bank" at our Woodmansie Plant located in Woodland Twp., New Jersey 08731.
Block No(s): 6401 /6402 Lot No(s): 4-4.01/8
If you need any further assistance, please feel free to contact me.

Sincerely,

Jerry Dooley
Sales and Technical Consultant
Clayton Sand Company

Sworn and subscribed to before me this 16th day

of June 2015 at Neptune, NJ 07753

CHERYLL MCCARTHY
Notary Public State of New Jersey
My Comm. Expires April 5, 2017

JD/cm

CERTIFICATION

"Celgene Soil" - New Source of Imported Clean Fill

In 2014, Honeywell identified a new source for backfill material to be used at SA-6 during the chromium remedy. The material was from a nearby construction site at the Celgene facility. The material was not from a quarry, but rather from a virgin portion of the Celgene property where a new underground structure and parking garage was being constructed. It was tested for environmental impacts and for geotechnical properties and was found to meet the NJDEP and the SA-6 100% Design requirements for use as clean fill at SA-6. Honeywell prepared correspondence entitled, "New Source of Imported Clean Fill," dated July 3, 2014 which was submitted to all the Parties. Given the above, the "Celgene Soil" is suitable for unrestricted use at SA-6.

CERTIFICATION

"Celgene Soil" - New Source of Imported Clean Fill

In 2014, Honeywell identified a new source for backfill material to be used at SA-6 during the chromium remedy. The material was from a nearby construction site at the Celgene facility. The material was not from a quarry, but rather from a virgin portion of the Celgene property where a new underground structure and parking garage was being constructed. It was tested for environmental impacts and for geotechnical properties and was found to meet the NJDEP and the SA-6 100% Design requirements for use as clean fill at SA-6. Honeywell prepared correspondence entitled, "New Source of Imported Clean Fill," dated July 3, 2014 which was submitted to all the Parties. Given the above, the "Celgene Soil" is suitable for unrestricted use at SA-6.

ENVIRON

July 12, 2012

MEMORANDUM

To: William J. Hague, P.E., Honeywell

From: Jose Sananes, P.E., ENVIRON
Gary DiPippo, P.E., Cornerstone
Mark Nielsen, P.E., ENVIRON

Subject: SA7 Contractor Submittal #15C - Earth Material Testing Report

ENVIRON and Cornerstone have reviewed Sevenson Environmental Services' (SES) submittal #15C (Earth Material Testing Report) for compliance with the project specifications. The testing report is applicable to all sand and stone materials to be used for the remedy construction at SA7. The materials will originate from Tilcon's Mount Hope Quarry.

As required in **Specification 35 43 00**, "cap materials shall not be obtained from an industrial site or from a source suspected to have been modified by the addition of man-made chemicals. For each source, material type prior to acceptance and for each 5,000 cubic yards, Contractor shall provide analytical data to indicate that the material is free from contamination, the total chromium concentration is below 370 mg/kg and the hexavalent chromium concentration is below 20 mg/kg, and a certificate of Clean Fill as per NJDEP requirements (N.J.A.C. 7:26E-6), unless other material is approved by the consent of the Parties" (i.e., the Special Master). Note that subsequent to the revision to the 100% Design Report we informed Sevenson that we are requiring a 1 mg/kg limit on hexavalent chromium.

In accordance with the NJDEP's Fill guidance (August 2011), SES has submitted a certification stating that the materials originate from a virgin source of rock not located on or impacted by any contaminated sources (see attached TILCON mining certificate and a certification prepared by S&S Environmental dated June 8, 2012). In addition, SES has provided analytical results for the materials (attached). Based on the information provided, we find the material to be acceptable, although we noted the following:

1. Beryllium was detected at a concentration of 0.549 ppm, which marginally exceeds the New Jersey impact-to-groundwater (IGW) soil screening level of 0.5 ppm. However,

    a. As per the NJDEP IGWSRS guideline and FAQs (http://www.nj.gov/dep/srp/guidance/rs/igw_faq.pdf), if detected concentrations are demonstrated to be due to background conditions as opposed to discharges, then no remediation is required (i.e., there is no AOC). As indicated above, SES has provided a certification from the quarry stating that the materials are not impacted by any contaminant source.

b. The detected concentration of beryllium is consistent with NJDEP's published median concentration for the urban piedmont region where the materials will be placed. Although the beryllium concentration is higher than the median concentration reported for rural areas of the New Jersey ridge and valley province where the quarry is located, the detected concentration is lower than the 90th percentile concentration (see NJDEP report on background: http://www.nj.gov/dep/dsr/research/ambient-levels-metal.pdf).

- NJ Urban Piedmont:
  - median=0.51 mg/kg;
  - 90th Percentile = 0.82 mg/kg
- NJ Ridge& Valley Province:
  - median = <0.01 mg/kg;
  - 90th Percentile = 0.91 mg/kg

c. The published EPA method 6020 QA/QC for beryllium indicates that the percent recovery on spiked samples is 75% to 125%. Given this range, the slightly elevated result in comparison to the default IGW soil screening level is within the level of accuracy of the analysis.

d. The IGW soil screening levels which are based on protection of potable drinking water are not necessarily applicable to this project. The sediment cap material is being placed in the Hackensack River (a saline surface water body) where there would be no potential for impact to potable water. If we consider the saline water quality criterion as the more appropriate end point, then the adjusted clean fill "IGW" soil screening level would be 21 mg/kg (i.e., a factor of 42 when changing from a groundwater quality criterion of1 ug/L to a saline surface water quality criterion of 42 ug/L) assuming all other factors remain the same.

e. The NJ Clean Fill Policy specifies that clean fill proposed for use at a site cannot impact sediment quality in a way that is "inconsistent with the proposed remedial action. In other words, the proposed remedial action for the receiving AOC must address all sediment issues whether from the existing contamination or the placement of the clean fill." In this regard, we note that the beryllium concentration in the quarry material is the approximately the same as the mean sediment concentration reported in the SA7 sediment investigation report (ENVIRON 2006).

2. Aluminum and Manganese concentrations in the quarry sample also exceeded the IGW soil screening levels, however, the NJDEP has determined that the IGW pathway does not need to be addressed for these contaminants unless there is cause to believe that their presence is due to a site discharge. As indicated above, SES has provided a certification from the quarry stating that the materials are not impacted by any contaminant source.

3. The quality of the materials will continue to be verified through the required testing every 5,000 CY.

SA7 – Earth Material Testing Reports/Clean Fill Affidavit

Specification – 31 23 16; 1.4D, D

Revised 6.27.12 based on comments from June 6, 2012

1. Filtering criteria design results and xls file as a separate attachment
2. Letter from Tilcon on source of material
3. Letter from S and S Environmental for their site review on the Mount Hope Quarry
4. "Fines" analysis from S and S Environmental in accordance with NJDEP Site Remediation Program
5. Gradation curves for sand, filter material, and armor stone (Mount Hope Quarry)
    a. Dense Graded Aggregate (Roadways)
    b. Grits (Sand)
    c. ASTM 57 (Filter Layer)
    d. ASTM 5 (0.75" Armor Stone)
    e. ASTM 4 (1.0" Armor Stone)
    f. ASTM 1 (1.5", 1.6", 2.0" Armor Stone)
    g. 4's and 5's (3.5" Armor Stone)
    h. Light Stone Filling (6" Armor Stone)
    i. Medium Stone Filling (10" Armor Stone)

1.0 Filtering Criteria Design

Filter Design Calculations
April 28, 2012 - Donegan
Jersey City SA7
Revised 6.28.12

Aggregate Specification/Type	D15 (in)	D50 (in)	D85 (in)	Proposed Layer
Insitu Material 1 - "coarse"			0.0163	Insitu Material 1
Insitu Material 2 - "Fine"			0.0025	Insitu Material 2
Grits Mount Hope Quarry (Sand)	0.010	0.055	0.118	Proposed "Sand Layer"
ASTM 5 (0.75" Armor)	0.551	0.768	0.906	Proposed 0.75" Material
ASTM 57 (Filter Layer)	0.433	0.551	0.709	Proposed Filter Layer
ASTM 4 (1.0" Armor)	0.827	1.063	1.339	Proposed 1" Material
ASTM1 (1.5", 1.6" and 2.0" Armor)	1.673	2.638	3.287	Proposed 1.5, 1.6, and 2.0" Material
4's and 5's (3.5" Armor)	2.953	3.543	5.118	Proposed 3.5" Material

Filter Material Design Criteria

Filter Criteria for Coarse Grained — D15 upper layer ≤ 5 x D85 lower layer
Filter Criteria for Fine Grained — D15 upper layer ≤ 9 x D85 lower layer

Analysis of Sand and Armor Cap Materials Based Against and Permeability Criteria

Note: Criteria results in red are outside of the acceptable range.

Insitu Layer				"Sand Material"			Filter Criteria
Type			D85(in)	Type	D15(in)	D50(in)	D15 armor / D85 sand
Insitu Material 1 - "coarse"			0.0163	Grits Mount Hope Quarry (Sand)	0.010	0.055	0.605
Insitu Material 2 - "Fine"			0.0025	Grits Mount Hope Quarry (Sand)	0.010	0.055	3.900

Sand Material				Filter Layer			Filter Criteria
Type	D15(in)	D50(in)	D85(in)	Type	D15(in)	D50(in)	D15 armor / D85 sand
Grits Mount Hope Quarry (Sand)	0.010	0.055	0.118	ASTM 57 (Filter Layer)	0.433	0.551	3.667

Filter/Sand Layer				Armor Cap			Filter Criteria
Type	D15(in)	D50(in)	D85(in)	Type	D15(in)	D50(in)	D15 armor / D85 sand
Grits Mount Hope Quarry (Sand)	0.010	0.055	0.118	ASTM 5 (0.75" Armor)	0.551	0.768	4.667
ASTM 57 (Filter Layer)	0.433	0.551	0.709	ASTM 4 (1.0" Armor)	0.827	1.063	1.167
ASTM 57 (Filter Layer)	0.433	0.551	0.709	ASTM1 (1.5", 1.6" and 2.0" Armor)	1.673	2.638	2.361
ASTM 57 (Filter Layer)	0.433	0.551	0.709	4's and 5's (3.5" Armor)	2.953	3.543	4.167

2.0 Letter from Tilcon

TILCON

TILCON NEW YORK INC.

625 MT. HOPE ROAD • WHARTON, NEW JERSEY 07885 • PHONE 973-366-7741

June 26, 2012

Mr. Timothy Donegan, PE
Engineering Manager
Sevenson Environmental Services, Inc.
815 Ritchie Highway, Suite 107
Severna Park, MD 21146

RE: Quarry Source and NJDEP Residential Direct Soil Remediation Standards/Clean Fill Criteria

Mr. Donegan,

As discussed today, June 26, 2012, the table below provides a summary of the materials we intend to provide for the Jersey City SA7 project and the source (quarry). A sample report is provided as an attachment for our Mount Hope Quarry identified in table 1 below.

Table 1 – Material Source Identification

Tilcon Material Type	Sevenson Designation	Quarry Source
Grits	Sand	Mount Hope Quarry
ASTM 57	Filterlayer	Mount Hope Quarry
ASTM 5	0.75 Inch Armor	Mount Hope Quarry
ASTM 4	1.0 Inch Armor	Mount Hope Quarry
ASTM 1	1.5, 1.6 AND 2.0 Inch Armor	Mount Hope Quarry
4's and 5's	3.5 Inch Armor	Mount Hope Quarry
Light Stone Filling	6" Armor Stone	Mount Hope Quarry
Medium Stone Filling	10" Armor Stone	Mount Hope Quarry
DGA	Roadway Stone	Mount Hope Quarry

All of the materials will be supplied from the Mount Hope Quarry and are durable and quarried from virgin gneiss. The materials identified come from the same location in the quarry as provided in the environmental analysis attached. All of the materials detailed above meet the NJDEP Residential Direct Soil Remediation Standards/Clean Fill Criteria. Please let us know if you have any questions.

Sincerely,

William H. Aspinall, IV
VP New Jersey Operations

cc: S. Laudone
S. O'Reilly
G. Labatte
C. Morris
R. Linton

3 - Letter from S and S Environmental Site Review of the Mount Hope Quarry

S & S ENVIRONMENTAL SCIENCES, INC.

Environmental Engineering, Testing and Consultation

98 Sand Park Road, Cedar Grove, NJ 07009
Tel (973) 857-7188 Fax (973) 239-8380

Kamil Sor, Ph.D.
Yilmaz Arhan, Ph.D.
Orhun Sor, P.E.
Peter G. Micklus, P.E.
Kenneth J. Rowbotham, P.E.

June 8, 2012
Report No. 12-E-188

Tilcon New York Inc.
625 Mount Hope Road
Wharton, NJ 07885

Attention: Mr. Steve O'Reilly

Re: Mount Hope Rock Quarry, New Jersey

Dear Mr. O'Reilly:

As requested, I visited the referenced quarry site on June 7, 2012. The purpose of my site visit was to visually check the area of the quarry where granite rock is being surface mined from an undisturbed geologic formation. The rock which is mined at this location is blasted, transported to the on-site crushing operation, and then processed into various sized aggregates including ¾ inch stone which is sold to various customers. The stone is virgin material, and no chemicals and/or additives are added to the product.

A Site Review was conducted in accordance with the New Jersey Department of Environmental Protection (NJDEP) Site Remediation Program Fill Guidance at SRP Sites dated August 11, 2011.

TILCON has owned and operated the rock quarry since 2001. The area of the quarry site was also used for mining iron, beginning around 1710, and the Mount Hope iron mines operated for over 250 years. The area of the quarry where virgin rock is being surface mined has never been used for any other industrial or commercial purposes.

Based on my site visit of June 7, 2012, information provided by Tilcon New York, Inc. (TILCON) with respect to their ownership and use of the site, and according to the preliminary investigation regarding site development and use history, the rock which is being obtained from this quarry has not been located on or impacted by any contaminant sources.

If there are any questions or should you require additional information, please do not hesitate to contact me.

Very truly yours,

S & S ENVIRONMENTAL SCIENCES, INC.

Yilmaz Arman, Ph.D.
Vice President

YA/ya

4 - “Fines” ! nalysis from S and S Environmental in Accordance With NJDEP Site Remediation Program

S & S ENVIRONMENTAL SCIENCES, INC.

Environmental Engineering, Testing and Consultation

98 Sand Park Road, Cedar Grove, NJ 07009
Tel (973) 857-7188 Fax (973) 239-8380

Kamil Sor, Ph.D.
Yilmaz Arhan, Ph.D.
Orhun Sor, P.E.
Peter G. Micklus, P.E.
Kenneth J. Rowbotham, P.E.

This report is the confidential property of the Client, and information contained may not be published or reproduced without our written permission.

Client:	TILCON New York, Inc.				
Project:	Mount Hope, New Jersey				
Subject:	Laboratory Analysis of Stone Fines				
Job No.:	07-E-34	**Report Number:**	12-E-206	**Date:**	06-15-2012

We present herewith the laboratory test results of the stone fines sample picked up by a representative of our firm on June 8, 2012. The sample was collected by a representative of TILCON on June 8, 2012.

As requested, the sample was analyzed for the U.S. EPA Target Compound List (TCL)+30/Target Analyte List (TAL) parameters, Extractable Petroleum Hydrocarbons (EPH), pH, and Hexavalent Chromium. The analyses were performed by Integrated Analytical Laboratories, LLC (IAL) (NJDEP Lab ID No. 14751).

The test results are summarized in Table Nos. 1 through 4. A copy of the IAL sample chain-of-custody form and a copy of the preliminary faxed IAL laboratory summary report are attached.

Based on the laboratory data, the sample meets all of the NJDEP Residential Direct Contact Soil Remediation Standards/Clean Fill Criteria.

If there are any questions or if we can be of further assistance in this matter please call us.

Very truly yours,

S & S ENVIRONMENTAL SCIENCES, INC.

Yilmaz Arhan, Ph.D.
Vice President

YA/ya

Attachments: (1) IAL Laboratory Summary Report and Sample Chain-of-Custody Form
(2) NJDEP Residential Soil Remediation Standards List

cc: (1) Client (Attn: Mr. Steve O'Reilly)

TABLE 1 - SUMMARY OF LABORATORY TEST RESULTS

PARAMETERS	SAMPLE #12-121 RESULT	NJDEP SOIL REMEDIATION STANDARD(*)
Organic Compounds		
Volatile Organic Compounds	Not Detected (See Table 2)	See Attached List
Semi-Volatile Organics	Not Detected (See Table 3)	See Attached List
Pesticides	Not Detected (See Table 4)	See Attached List
PCBs	Not Detected (See Table 4)	Total 0.20
Metals:		
Aluminum	4,820	78,000
Antimony	ND (<0.250)	31
Arsenic	1.06	19
Barium	47.1	16,000
Beryllium	0.549	16
Cadmium	ND (<0.125)	78
Calcium	4,570	NA
Chromium	14.2	120,000
Cobalt	5.75	1,600
Copper	16.3	3,100
Iron	17,300	NA
Lead	1.78	400
Magnesium	3,680	NA
Manganese	170	11,000
Mercury	ND (<0.00594)	23
Nickel	7.69	1,600
Potassium	1,960	NA
Selenium	ND (<1.00)	390
Silver	ND (<0.125)	390
Sodium	126	NA
Thallium	0.147 J	5
Vanadium	19.3	78
Zinc	19.0	23,000
Others		
Extractable Petroleum Hydrocarbons (EPH) (C9-C40)	ND (<9.00)	1,000
Cyanide	ND (<0.700)	1,600
Hexavalent Chromium	ND (<0.236)	1(**)
pH, SU	8.59	NA

Results are in mg/kg (milligrams per kilogram) unless otherwise specified.

(*) NJDEP's most stringent "Residential Direct Contact Soil Remediation Standards"

(**)The hexavalent chromium standard is a site-specific requirement

ND: N*ot Detected* < - Indicates less than (the value reported is the Method Detection Limit)
J – The concentration was detected at a value below the Reporting Limit and above the Method Detection Limit

TABLE 2 - TEST RESULTS FOR VOLATILE ORGANIC COMPOUNDS

SAMPLING DATE:	06-08-2012 (Client)	SAMPLE MATRIX: Stone Fines
PARAMETER	**SAMPLE #12-121 RESULT**	**NJDEP SOIL REMEDIATION STANDARD(*)**
1,1-Dichloroethane	ND	8
1,1,1-Trichloroethane	ND	290
1,1,2,2-Tetrachloroethane	ND	1
1,1,2-Trichloroethane	ND	2
1,1-Dichloroethene	ND	11
1,2-Dichloroethene	ND	230
1,2-Dichloropropane	ND	2
1,3-Dichloropropene (cis and trans)	ND	2
1,2-Dichloroethane	ND	0.9
2-Butanone (MEK)	ND	3100
4-Methyl-2-Pentanone (MIBK)	ND	NA
Acetone	ND	70000
Acrylonitrile	ND	0.9
Benzene	ND	2
Bromodichloromethane	ND	1
Bromoform	ND	81
Bromomethane	ND	25
Carbon tetrachloride	ND	0.6
Chlorobenzene	ND	510
Chloroform	ND	0.6
Chloromethane	ND	4
Cis-1,2-Dichloroethene	ND	230
Trans-1,2-Dichloroethene	ND	300
Dibromochloromethane	ND	3
Ethylbenzene	ND	7800
Methylene Chloride	ND	34
Styrene	ND	90
Naphthalene	ND	6
Tetrachloroethene (PCE)	ND	2
Toluene	ND	6300
Xylenes (Total)	ND	12000
Trichloroethene (TCE)	ND	7
Trichlorofluoromethane	ND	23000
Tertiary Butyl Alcohol	ND	1400
Vinyl Chloride	ND	0.7
Tentatively Identified Compounds	ND	NA
Total VO's and TICs	ND	NA

Results are in mg/kg (milligrams per kilogram) unless otherwise specified.
(*) NJDEP's most stringent "Residential Direct Contact Soil Remediation Standards"
ND: NOT DETECTED (see laboratory report for detection limits) NA–NOT AVAILABLE

TABLE 3 – TEST RESULTS FOR SEMI-VOLATILE ORGANIC COMPOUNDS

SAMPLING DATE:	06-08-2012 (Client)	**SAMPLE MATRIX:** Stone Fines

PARAMETER	SAMPLE #12-121 RESULT	NJDEP SOIL REMEDIATION STANDARD(*)
bis(2-chloroethyl) ether	ND	0.4
1,3–Dichlorobenzene	ND	5300
1,4–Dichlorobenzene	ND	5
1,2–Dichlorobenzene	ND	5300
Benzyl alcohol	ND	NA
bis(2-chloroisopropyl) ether	ND	23
bis(2-ethylhexyl) phthalate	ND	35
Hexachloroethane	ND	35
n-Nitroso-di-n-propylamine	ND	0.2
Nitrobenzene	ND	31
Isophorone	ND	510
1,2,4–Trichlorobenzene	ND	73
4–Chloroaniline	ND	NA
Hexachloro-1,3-butadiene	ND	6
Hexachlorocyclopentadiene	ND	45
Dimethylphthalate	ND	NA
Diethylphthalate	ND	49,000
2,4-Dinitrotoluene	ND	0.7
2,6- Dinitrotoluene	ND	0.7
n-Nitrosodiphenylamine	ND	99
Hexachlorobenzene	ND	0.3
Butylbenzylphthalate	ND	1200
4–Chloro-3-methylphenol	ND	NA
2–Chlorophenol	ND	310
Di-n-butyl phthalate	ND	6100
Di-n-octyl phthalate	ND	2400
3,3'-Dichlorobenzidine	ND	1
2,4-Dichlorophenol	ND	180

Results are in mg/kg (milligrams per kilogram) unless otherwise specified.

(*) NJDEP's most stringent "Residential Direct Contact Soil Remediation Standards"

ND: *Not Detected (see laboratory report for detection limits)*

NA – NOT APPLICABLE/NOT AVAILABLE

TABLE 3 - TEST RESULTS FOR SEMI-VOLATILE ORGANIC COMPOUNDS (continued)

SAMPLING DATE:	06-08-2012 (Client)	SAMPLE MATRIX: Stone Fines

PARAMETER	SAMPLE #12-121 RESULT	NJDEP SOIL REMEDIATION STANDARD(*)
2,4-Dimethylphenol	ND	1200
2,4-Dinitrophenol	ND	120
2-Methylphenol (o-Cresol)	ND	310
4-Methylphenol (p-Cresol)	ND	31
Pentachlorophenol	ND	3
Phenol	ND	18,000
2,4,5-Trichlorophenol	ND	6100
2,4,6-Trichlorophenol	ND	19
Benzoic Acid	ND	NA
Acenaphthene	ND	3400
Acenaphthylene	ND	NA
Anthracene	ND	17,000
Benzo[a]anthracene	ND	0.6
Benzo[a]pyrene	ND	0.2
Benzo[b]fluoranthene	ND	0.6
Benzo[k]fluoranthene	ND	6
Carbazole	ND	24
Chrysene	ND	62
Dibenz[a,h]anthracene	ND	0.2
Dibenzofuran	ND	NA
Fluoranthene	ND	2300
Fluorene	ND	2300
Indeno[1,2,3-cd]pyrene	ND	0.6
Naphthalene	ND	6
2-Methylnaphthalene	ND	230
Pyrene	ND	1700
Benzo[g,h,i]perylene	ND	380000
Phenanthrene	ND	NA
Total	ND	NA
Tentatively Identified Compounds (TICs)	ND	NA
Total	ND	NA

Results are in mg/kg (milligrams per kilogram) unless otherwise specified.
(*) NJDEP's most stringent "Residential Direct Contact Soil Remediation Standards"
ND: *Not Detected (see laboratory report for detection limits)*
NA - Not Applicable/Not Available
J – The concentration was detected at a value below the Reporting Limit and above the Method Detection Limit

TABLE 4- TEST RESULTS FOR PESTICIDES AND PCBs

SAMPLING DATE:	06-08-2012 (Client)	SAMPLE MATRIX: Stone Fines

PARAMETER	SAMPLE #12-121 RESULT	NJDEP SOIL REMEDIATION STANDARDS(*)
PESTICIDES		
Aldrin	ND	0.04
4,4' – DDD	ND	3
4,4' – DDE	ND	2
4,4' – DDT	ND	2
Dieldrin	ND	0.04
Endosulfan I and Endosulfan II	ND	470
Endosulfan sulfate	ND	470
Endrin	ND	23
Heptachlor	ND	0.1
Heptachlor epoxide	ND	0.07
alpha-BHC	ND	0.1
beta-BHC	ND	0.4
gamma – BHC (Lindane)	ND	0.4
Methoxychlor	ND	390
Toxaphene	ND	0.6
Chlordane	ND	0.2
PCBs		
Aroclor - 1016	ND	NA
Aroclor - 1221	ND	NA
Aroclor - 1232	ND	NA
Aroclor - 1242	ND	NA
Aroclor - 1248	ND	NA
Aroclor - 1254	ND	NA
Aroclor - 1260	ND	NA
Aroclor - 1262	ND	NA
Aroclor - 1268	ND	NA
Total PCBs	ND	0.20 (TOTAL PCBs)

Results are in mg/kg (milligrams per kilogram) unless otherwise specified.

(*) NJDEP's most stringent "Residential Direct Contact Soil Remediation Standards"

ND: *Not Detected (see laboratory report for detection limits)*
NA - Not Applicable/Not Available

INTEGRATED ANALYTICAL LABORATORIES, LLC.

SUMMARY REPORT
Client: S & S Environmental
Project: MT. HOPE
Lab Case No.: E12-05656

Lab ID:		**05656-001**	
Client ID:		**12-121**	
Matrix:		**Solid**	
Sampled Date		**6/8/12**	
PARAMETER(Units)	Conc	Q	MDL
Volatiles (Units)		*(mg/Kg-ppm)*	
TOTAL VO's:	ND		
TOTAL TIC's:	ND		
TOTAL VO's & TIC's:	ND		
Semivolatiles - BNA (Units)		*(mg/Kg-ppm)*	
TOTAL BNA'S:	ND		
TOTAL TIC's:	ND		
TOTAL BNA'S & TIC's:	ND		
PCB's (Units)		*(mg/Kg-ppm)*	
Aroclor-1016	ND		0.00066
Aroclor-1221	ND		0.00066
Aroclor-1232	ND		0.00066
Aroclor-1242	ND		0.00066
Aroclor-1248	ND		0.00066
Aroclor-1254	ND		0.00066
Aroclor-1260	ND		0.00066
Aroclor-1262	ND		0.00066
Aroclor-1268	ND		0.00066
PCBs	ND		0.00066
Pesticides (Units)		*(mg/Kg-ppm)*	
alpha-BHC	ND		0.000165
beta-BHC	ND		0.000165
gamma-BHC (Lindane)	ND		0.000165
delta-BHC	ND		0.000165
Heptachlor	ND		0.000165
Aldrin	ND		0.000165
Heptachlor epoxide	ND		0.000165
Endosulfan I	ND		0.000165
4,4'-DDE	ND		0.000165
Dieldrin	ND		0.000165
Endrin	ND		0.000165
Endosulfan II	ND		0.000165
4,4'-DDD	ND		0.000165
Endrin aldehyde	ND		0.000165
Endosulfan sulfate	ND		0.000165
4,4'-DDT	ND		0.000165
Endrin ketone	ND		0.000165
Methoxychlor	ND		0.000165
alpha-Chlordane	ND		0.000165
gamma-Chlordane	ND		0.000165
Toxaphene	ND		0.00198
Endosulfan (I and II)	ND		0.000165
Chlordane (alpha and gamma)	ND		0.000165

ND = Analyzed for but Not Detected at the MDL

INTEGRATED ANALYTICAL LABORATORIES, LLC.

SUMMARY REPORT
Client: S & S Environmental
Project: MT. HOPE
Lab Case No.: E12-05656

Lab ID:		**05656-001**	
Client ID:		**12-121**	
Matrix:		**Solid**	
Sampled Date		**6/8/12**	
PARAMETER(Units)	Conc	Q	MDL
Hydrocarbons (Units)		*(mg/Kg-ppm)*	
C9-C40	ND		9.00
Metals (Units)		*(mg/Kg-ppm)*	
Aluminum	4820		5.00
Antimony	ND		0.250
Arsenic	1.06		0.250
Barium	47.1		2.50
Beryllium	0.549		0.200
Cadmium	ND		0.125
Calcium	4570		25.0
Chromium	14.2		0.500
Cobalt	5.75		0.500
Copper	16.3		0.500
Iron	17300		12.5
Lead	1.78		0.125
Magnesium	3680		12.5
Manganese	170		0.250
Mercury	ND		0.00594
Nickel	7.69		0.500
Potassium	1960		12.5
Selenium	ND		1.00
Silver	ND		0.125
Sodium	126		25.0
Thallium	0.147	J	0.125
Vanadium	19.3		0.500
Zinc	19.0		2.00
General Analytical (Units)			
Hexavalent Chromium(mg/Kg-ppm)	ND		0.236
Cyanide, Total(mg/Kg-ppm)	ND		0.700
pH/Corrosivity(SU)	8.59		NA

ND = Analyzed for but Not Detected at the MDL
J = The concentration was detected at a value below the RL and above the MDL

S S Environmental
Project Name: MT. HOPE
IAL SDG No:E12-05656

Sample #:		NJDEP SOIL REMEDIAT			12-121	
Field ID:		STANDARDS				
Lab ID:		Residential			05656-001	
Date Sampled:		SRS			06/08/2012	
Depth(ft):						
	CAS	(mg/Kg)				
Volatiles (mg/Kg)			Conc	Q	RL	MDL
Dichlorodifluoromethane	75-71-8	490	ND		0.00152	0.000608
Chloromethane	74-87-3	4	ND		0.00152	0.000623
Vinyl chloride	75-01-4	0.7	ND		0.00152	0.00073
Bromomethane	74-83-9	25	ND		0.00304	0.000532
Chloroethane	75-00-3	220	ND		0.00152	0.000684
Trichlorofluoromethane	75-69-4	23000	ND		0.00152	0.000623
1,1-Dichloroethene	75-35-4	11	ND		0.00152	0.00076
Acetone	67-64-1	70000	ND		0.0076	0.00106
Carbon disulfide	75-15-0	7800	ND		0.00152	0.000517
Methylene chloride	75-09-2	34	ND		0.00304	0.00301
trans-1,2-Dichloroethene	156-60-5	300	ND		0.00152	0.000654
Methyl tert-butyl ether (MTBE)	1634-04-4	110	ND		0.00152	0.00035
1,1-Dichloroethane	75-34-3	8	ND		0.00152	0.00041
cis-1,2-Dichloroethene	156-59-2	230	ND		0.00152	0.000471
2-Butanone (MEK)	78-93-3	3100	ND		0.00152	0.000562
Bromochloromethane	74-97-5	NS	ND		0.00152	0.000365
Chloroform	67-66-3	0.6	ND		0.00152	0.000441
1,1,1-Trichloroethane	71-55-6	290	ND		0.00152	0.000502
Carbon tetrachloride	56-23-5	0.6	ND		0.00152	0.000623
1,2-Dichloroethane (EDC)	107-06-2	0.9	ND		0.00152	0.000319
Benzene	71-43-2	2	ND		0.00152	0.000365
Trichloroethene	79-01-6	7	ND		0.00152	0.000486
1,2-Dichloropropane	78-87-5	2	ND		0.00152	0.000334
1,4-Dioxane	123-91-1	NS	ND		0.304	0.024
Bromodichloromethane	75-27-4	1	ND		0.00152	0.000486
cis-1,3-Dichloropropene	10061-01-5	NS	ND		0.00152	0.000395
4-Methyl-2-pentanone (MIBK)	108-10-1	NS	ND		0.00152	0.000365
Toluene	108-88-3	6300	ND		0.00152	0.00038
trans-1,3-Dichloropropene	10061-02-6	NS	ND		0.00152	0.000395
1,1,2-Trichloroethane	79-00-5	2	ND		0.00152	0.000304
Tetrachloroethene	127-18-4	2	ND		0.00152	0.000395
2-Hexanone	591-78-6	NS	ND		0.00152	0.000547
Dibromochloromethane	124-48-1	3	ND		0.00152	0.000334
1,2-Dibromoethane (EDB)	106-93-4	0.008	ND		0.00152	0.000319
Chlorobenzene	108-90-7	510	ND		0.00152	0.000334
Ethylbenzene	100-41-4	7800	ND		0.00152	0.000471
Total Xylenes	1330-20-7	12000	ND		0.00304	0.00161
Styrene	100-42-5	90	ND		0.00152	0.000456

Standards are based upon published regulatory information.
Users are encouraged to consult appropriate regulatory sources for current values and updates.
IAL assumes no responsibility for the accuracy of these values.

EDD created on 6/15/12

S S Environmental
Project Name: MT. HOPE
IAL SDG No:E12-05656

Bromoform	75-25-2	**81**	ND		0.00152	0.000486
Isopropylbenzene	98-82-8	**NS**	ND		0.00152	0.000623
1,1,2,2-Tetrachloroethane	79-34-5	**1**	ND		0.00152	0.00035
1,3-Dichlorobenzene	541-73-1	**5300**	ND		0.00152	0.000471
1,4-Dichlorobenzene	106-46-7	**5**	ND		0.00152	0.000471
1,2-Dichlorobenzene	95-50-1	**5300**	ND		0.00152	0.000547
1,2-Dibromo-3-chloropropane	96-12-8	**0.08**	ND		0.00152	0.00076
1,2,4-Trichlorobenzene	120-82-1	**73**	ND		0.00152	0.00079
1,2,3-Trichlorobenzene	87-61-6	**NS**	ND		0.00152	0.00073
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	**NS**	ND		0.00152	0.000836
Methyl acetate	79-20-9	**78000**	ND		0.00152	0.000882
Cyclohexane	110-82-7	**NS**	ND		0.00304	0.000638
Methylcyclohexane	108-87-2	**NS**	ND		0.00152	0.00076
1,3-Dichloropropene (cis- and trans-)	542-75-6	**2**	ND		0.00152	0.000395
TOTAL VO's:		**NS**	ND			NA
TOTAL TIC's:		**NS**	ND			NA
TOTAL VO's & TIC's:		**NS**	ND			NA

Standards are based upon published regulatory information.
Users are encouraged to consult appropriate regulatory sources for current values and updates.
IAL assumes no responsibility for the accuracy of these values.

EDD created on 6/15/12

S S Environmental
Project Name: MT. HOPE
IAL SDG No:E12-05656

Semivolatiles - BNA (mg/Kg)			Conc	Q	RL	MDL
Benzaldehyde	100-52-7	**6100**	ND		0.033	0.013
Phenol	108-95-2	**18000**	ND		0.033	0.014
Bis(2-chloroethyl) ether	111-44-4	**0.4**	ND		0.033	0.023
2-Chlorophenol	95-57-8	**310**	ND		0.033	0.014
2-Methylphenol	95-48-7	**310**	ND		0.033	0.026
Bis(2-chloroisopropyl) ether	108-60-1	**23**	ND		0.033	0.012
4-Methylphenol **	106-44-5	**31**	ND		0.033	0.019
N-Nitrosodi-n-propylamine	621-64-7	**0.2**	ND		0.033	0.022
Acetophenone	98-86-2	**2**	ND		0.033	0.011
Hexachloroethane	67-72-1	**35**	ND		0.033	0.013
Nitrobenzene	98-95-3	**31**	ND		0.033	0.029
Isophorone	78-59-1	**510**	ND		0.033	0.021
2-Nitrophenol	88-75-5	**NS**	ND		0.033	0.024
2,4-Dimethylphenol	105-67-9	**1200**	ND		0.033	0.026
Bis(2-chloroethoxy) methane	111-91-1	**NS**	ND		0.033	0.028
2,4-Dichlorophenol	120-83-2	**180**	ND		0.033	0.032
Naphthalene	91-20-3	**6**	ND		0.033	0.025
4-Chloroaniline	106-47-8	**NS**	ND		0.033	0.031
Hexachlorobutadiene	87-68-3	**6**	ND		0.033	0.032
Caprolactam	105-60-2	**31000**	ND		0.033	0.021
4-Chloro-3-methylphenol	59-50-7	**NS**	ND		0.033	0.029
2-Methylnaphthalene	91-57-6	**230**	ND		0.033	0.027
Hexachlorocyclopentadiene	77-47-4	**45**	ND		0.033	0.010
2,4,6-Trichlorophenol	88-06-2	**19**	ND		0.033	0.010
2,4,5-Trichlorophenol	95-95-4	**6100**	ND		0.033	0.013
1,1'-Biphenyl	92-52-4	**3100**	ND		0.033	0.00989
2-Chloronaphthalene	91-58-7	**NS**	ND		0.033	0.031
2-Nitroaniline	88-74-4	**39**	ND		0.033	0.020
Dimethyl phthalate	131-11-3	**NS**	ND		0.033	0.00989
2,6-Dinitrotoluene	606-20-2	**0.7**	ND		0.033	0.019
Acenaphthylene	208-96-8	**NS**	ND		0.033	0.023
3-Nitroaniline	99-09-2	**NS**	ND		0.033	0.00989
Acenaphthene	83-32-9	**3400**	ND		0.033	0.026
2,4-Dinitrophenol	51-28-5	**120**	ND		0.033	0.013
4-Nitrophenol	100-02-7	**NS**	ND		0.033	0.024
2,4-Dinitrotoluene	121-14-2	**0.7**	ND		0.033	0.029
Dibenzofuran	132-64-9	**NS**	ND		0.033	0.011
Diethyl phthalate	84-66-2	**49000**	ND		0.033	0.024
Fluorene	86-73-7	**2300**	ND		0.033	0.018
4-Chlorophenyl phenyl ether	7005-72-3	**NS**	ND		0.033	0.015
4-Nitroaniline	100-01-6	**NS**	ND		0.033	0.021
1,2,4,5-Tetrachlorobenzene	95-94-3	**NS**	ND		0.033	0.00989
2,3,4,6-Tetrachlorophenol	58-90-2	**NS**	ND		0.033	0.014
4,6-Dinitro-2-methylphenol	534-52-1	**6**	ND		0.033	0.019
N-Nitrosodiphenylamine	86-30-6	**99**	ND		0.033	0.014

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4-Bromophenyl phenyl ether	101-55-3	**NS**	ND		0.033	0.019
Hexachlorobenzene	118-74-1	**0.3**	ND		0.033	0.023
Atrazine	1912-24-9	**210**	ND		0.033	0.023
Pentachlorophenol	87-86-5	**3**	ND		0.033	0.014
Phenanthrene	85-01-8	**NS**	ND		0.033	0.022
Anthracene	120-12-7	**17000**	ND		0.033	0.032
Carbazole	86-74-8	**24**	ND		0.033	0.019
Di-n-butyl phthalate	84-74-2	**6100**	ND		0.033	0.023
Fluoranthene	206-44-0	**2300**	ND		0.033	0.013
Pyrene	129-00-0	**1700**	ND		0.033	0.024
Butyl benzyl phthalate	85-68-7	**1200**	ND		0.033	0.021
3,3'-Dichlorobenzidine	91-94-1	**1**	ND		0.033	0.023
Benzo[a]anthracene	56-55-3	**0.6**	ND		0.033	0.032
Chrysene	218-01-9	**62**	ND		0.033	0.022
Bis(2-ethylhexyl) phthalate	117-81-7	**35**	ND		0.033	0.016
Di-n-octyl phthalate	117-84-0	**2400**	ND		0.033	0.013
Benzo[b]fluoranthene	205-99-2	**0.6**	ND		0.033	0.017
Benzo[k]fluoranthene	207-08-9	**6**	ND		0.033	0.012
Benzo[a]pyrene	50-32-8	**0.2**	ND		0.033	0.018
Indeno[1,2,3-cd]pyrene	193-39-5	**0.6**	ND		0.033	0.016
Dibenz[a,h]anthracene	53-70-3	**0.2**	ND		0.033	0.020
Benzo[g,h,i]perylene	191-24-2	**380000**	ND		0.033	0.010
Dinitrotoluene (2,4- and 2,6-)	25321-14-6	**0.7**	ND		0.033	0.029
TOTAL BNA'S:		**NS**	ND			NA
TOTAL TIC's:		**NS**	ND			NA
TOTAL BNA'S & TIC's:		**NS**	ND			NA

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PCB's (mg/Kg)			Conc	Q	RL	MDL
Aroclor-1016	12674-11-2	**NS**	ND		0.00165	0.00066
Aroclor-1221	11104-28-2	**NS**	ND		0.00165	0.00066
Aroclor-1232	11141-16-5	**NS**	ND		0.00165	0.00066
Aroclor-1242	53469-21-9	**NS**	ND		0.00165	0.00066
Aroclor-1248	12672-29-6	**NS**	ND		0.00165	0.00066
Aroclor-1254	11097-69-1	**NS**	ND		0.00165	0.00066
Aroclor-1260	11096-82-5	**NS**	ND		0.00165	0.00066
Aroclor-1262	37324-23-5	**NS**	ND		0.00165	0.00066
Aroclor-1268	11100-14-4	**NS**	ND		0.00165	0.00066
PCBs	1336-36-3	**0.2**	ND		0.00165	0.00066

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Pesticides (mg/Kg)			Conc	Q	RL	MDL
alpha-BHC	319-84-6	**0.1**	ND		0.00033	0.000165
beta-BHC	319-85-7	**0.4**	ND		0.00033	0.000165
gamma-BHC (Lindane)	58-89-9	**0.4**	ND		0.00033	0.000165
delta-BHC	319-86-8	**NS**	ND		0.00033	0.000165
Heptachlor	76-44-8	**0.1**	ND		0.00033	0.000165
Aldrin	309-00-2	**0.04**	ND		0.00033	0.000165
Heptachlor epoxide	1024-57-3	**0.07**	ND		0.00033	0.000165
Endosulfan I	959-98-8	**NS**	ND		0.00033	0.000165
4,4'-DDE	72-55-9	**2**	ND		0.00033	0.000165
Dieldrin	60-57-1	**0.04**	ND		0.00033	0.000165
Endrin	72-20-8	**23**	ND		0.00033	0.000165
Endosulfan II	33213-65-9	**NS**	ND		0.00033	0.000165
4,4'-DDD	72-54-8	**3**	ND		0.00033	0.000165
Endrin aldehyde	7421-93-4	**NS**	ND		0.00033	0.000165
Endosulfan sulfate	1031-07-8	**470**	ND		0.00033	0.000165
4,4'-DDT	50-29-3	**2**	ND		0.00033	0.000165
Endrin ketone	53494-70-5	**NS**	ND		0.00033	0.000165
Methoxychlor	72-43-5	**390**	ND		0.00033	0.000165
alpha-Chlordane	5103-71-9	**NS**	ND		0.00033	0.000165
gamma-Chlordane	5103-74-2	**NS**	ND		0.00033	0.000165
Toxaphene	8001-35-2	**0.6**	ND		0.00413	0.00198
Endosulfan (I and II)	115-29-7	**470**	ND		0.00033	0.000165
Chlordane (alpha and gamma)	57-74-9	**0.2**	ND		0.00033	0.000165

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Hydrocarbons (mg/Kg)			Conc	Q	RL	MDL
C9-C40	IALC9C40	NS	ND		36.0	9.00

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Metals (mg/Kg)			Conc	Q	RL	MDL
Aluminum	7429-90-5	**78000**	4820		10.0	5.00
Antimony	7440-36-0	**31**	ND		1.00	0.250
Arsenic	7440-38-2	**19**	1.06		0.500	0.250
Barium	7440-39-3	**16000**	47.1		10.0	2.50
Beryllium	7440-41-7	**16**	0.549		0.500	0.200
Cadmium	7440-43-9	**78**	ND		0.500	0.125
Calcium	7440-70-2	**NS**	4570		50.0	25.0
Chromium	7440-47-3	**NS**	14.2		2.00	0.500
Cobalt	7440-48-4	**1600**	5.75		2.00	0.500
Copper	7440-50-8	**3100**	16.3		2.00	0.500
Iron	7439-89-6	**NS**	17300		25.0	12.5
Lead	7439-92-1	**400**	1.78		0.500	0.125
Magnesium	7439-95-4	**NS**	3680		50.0	12.5
Manganese	7439-96-5	**11000**	170		1.00	0.250
Mercury	7439-97-6	**23**	ND		0.012	0.00594
Nickel	7440-02-0	**1600**	7.69		1.00	0.500
Potassium	7440-09-7	**NS**	1960		50.0	12.5
Selenium	7782-49-2	**390**	ND		2.00	1.00
Silver	7440-22-4	**390**	ND		0.500	0.125
Sodium	7440-23-5	**NS**	126		100	25.0
Thallium	7440-28-0	**5**	0.147	J	0.500	0.125
Vanadium	7440-62-2	**78**	19.3		2.00	0.500
Zinc	7440-66-6	**23000**	19.0		2.00	2.00

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General Analytical			Conc	Q	RL	MDL
Hexavalent Chromium-mg/Kg	18540-29-9	**240**	ND		1.00	0.236
Cyanide, Total-mg/Kg	57-12-5	**1600**	ND		1.00	0.700
pH/Corrosivity-SU	SRP 6	**NS**	8.59		NA	NA
NJDEP Soil Remediation Standards: Remediation Standards N.J.A.C. 7:26D, June 2008						
BOLD Conc	Indicates a concentration that exceeds applicable criteria.					
BOLD RL	Indicates RL that exceeds applicable criteria.					
BOLD MDL	Indicates MDL that exceeds applicable criteria.					
NS = No Standard Available						
ND = Analyzed for but Not Detected at the MDL						
J = The concentration was detected at a value below the RL and above the MDL						

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IAL Integrated Analytical Laboratories LLC

Integrated Analytical Labs
273 Franklin Road
Randolph, NJ 07869

Contact Us: 973-361-4252
Fax: 973-989-5288
Web: www.ialonline.com

CUSTOMER INFO		REPORTING INFO	
Company:	S+S	REPORT TO:	
Address:	98 Sand Park Rd	Address:	Same
	Cedar Grove, NJ 07009		
Telephone #:		Attn:	
Fax #:		FAX #	
Project Manager:	Y. Arden, PhD	INVOICE TO:	
EMAIL Address:		Address:	Same
Sampler:	EO		
Project Name:	Mt. Hope		
Project Location (State):	NJ	Attn:	
Bottle Order #:		PO #	12-121
Quote # :			

Turnaround Time (starts the following day if samples rec'd at lab > 5PM)

*Lab notification is required for RUSH TAT prior to sample arrival. RUSH TAT IS NOT GUARANTEED WITHOUT LAB APPROVAL. **RUSH SURCHARGES WILL APPLY IF ABLE TO ACCOMMODATE

PHC - MUST CHOOSE

NJ EPH DRO (5 day TAT) NJ EPH Fractionated (5 day TAT)

NJ EPH - C40 (5 day TAT)

DRO-8015 (3-5 day TAT) QAM025 (5 day TAT)

Verbal/Fax: Std 2 wk unless otherwise specified

24 hr** 48 hr** 72 hr** 96 hr** 1 wk**

Other** (specify): 5DAY

Hard Copy: Std 3 week * Other - call for price

Rush TAT Charge **: 24 hr - 100%.... 48 hr - 75%.... 72 hr - 50%.... 96 hr - 35%.... 5 day - 25%.... 6-9 day 10%

Report Format: Results Only; Reduced; Regulatory - 15% Surcharge applies; Other (describe)

EDDs: SRP format; lab approved custom EDD; NO EDD/CD REQ'D

Cooler Temp 4 °C

Sample Matrix

DW - Drinking Water AQ - Aqueous WW - Waste Water
OI - Oil LIQ - Liquid (Specify) OT - Other (Specify)
S - Soil SL - Sludge SOL - Solid W - Wipe

SAMPLE INFORMATION

ANALYTICAL PARAMETERS

Client ID	Depth (ft only)	Sampling Date	Sampling Time	Matrix	# container	IAL #	TAL TCL + 3	EPH	pH, Cr+2	HCL	HNO3	MeOH	Other	None	Encore
12-121		6/8/12		OT	6		✓	✓	✓			1	2	3	

Mod # 13875 #17642 #17670

 # BOTTLES & PRESERVATIVES

Known Hazard: Yes or No Describe:

Conc. Expected: Low Med High

MDL Req: GWQS (11/05) - SRS - SRS/IGW - SRS Residential - OTHER (SEE COMMENTS)

Please print legibly and fill out completely. Samples cannot be processed and the turnaround time will not start until any ambiguities have been resolved.

Carrier (check one): _____ IAL Courier _____ Client Courier _____ FedEx/UPS

Signature/Company	Date	Time	Signature/Company	Date	Time
Relinquished by: [signature]	6/8/12	2:45	Received by: Kim James	6/8/12	2:45
Relinquished by:			Received by:		
Relinquished by:			Received by:		
Relinquished by:			Received by:		
Relinquished by:			Received by:		

Comments: OT * - Rock fines

Lab Case # 05656

PAGE: of

LAB COPIES - WHITE & YELLOW; CLIENT COPY - PINK

INTEGRATED ANALYTICAL LABORATORIES, LLC

SAMPLE RECEIPT VERIFICATION

CASE NO: **E 12** **05656** CLIENT: S+S

COOLER TEMPERATURE: 2° - 6°C: ✓ (See Chain of Custody)

Comments

COC: (COMPLETE) / INCOMPLETE

KEY

✓ = **YES/NA**
✗ = **NO**

✓	Bottles Intact	
✓	no-Missing Bottles	
✓	no-Extra Bottles	
✓	Sufficient Sample Volume	
✓	no-headspace/bubbles in VOs	
✓	Labels intact/correct	
✓	pH Check (exclude VOs)[1]	
✓	Correct bottles/preservative	
✓	Sufficient Holding/Prep Time[1]	
	Sample to be Subcontracted	
✓	**Chain of Custody is Clear**	

[1] All samples with "Analyze Immediately" holding times will be analyzed by this laboratory past the holding time. This includes but is not limited to the following tests: pH, Temperature, Free Residual Chlorine, Total Residual Chlorine, Dissolved Oxygen, Sulfite.

ADDITIONAL COMMENTS:

SAMPLE(S) VERIFIED BY: INITIAL [signature] DATE 6/8/12

CORRECTIVE ACTION REQUIRED: **YES** (SEE BELOW) **NO**

If COC is **NOT** clear, ***STOP*** until you get client to authorize/clarify work.

CLIENT NOTIFIED: YES Date/ Time: NO

PROJECT CONTACT:

SUBCONTRACTED LAB:

DATE SHIPPED:

ADDITIONAL COMMENTS:

VERIFIED/TAKEN BY: INITIAL Kj DATE 6/8/12

REV 03/2009

Integrated Analytical Laboratories LLC

CONFIRMATION FOR PROJECT

E12-05656: MT. HOPE

To: Dr. Yilmaz Arhan
S & S Environmental
Fax: 1(973) 239-8380
EMail: angelal@sorlabs.com;Alig@sorlabs.com

Report To

S & S Environmental
98 Sand Park Road
Cedar Grove, NJ 07009
Attn: Dr. Yilmaz Arhan

Bill To

S & S Environmental
98 Sand Park Road
Cedar Grove, NJ 07009
Attn: Dr. Yilmaz Arhan

Report Format	P.O. #	Received At Lab	TPHC Due	Verbal Due	Hardcopy Due
Reduced		Jun 08, 2012 @ 14:45	NA	Jun 15, 2012	Jun 29, 2012 *

* Any ***Conditional or Hold*** status will delay final hardcopy report sent date.

Diskette Req. Not Required

**** QC Requirement (must meet):** NJ IGW

Lab ID	Client Sample ID	Depth	Sampling Time	Matrix	Unit	Field pH/Temp
05656-001	12-121	NA	06/08/12	Solid	mg/Kg (ppm)	

Sample #	Test	Status	QA Method	TAT	Holding Time Expires
001	TCL VO+10	Analyze	8260B	RUSH 1 WK	6/22/2012
	TCL BNA+20	Analyze	8270C	RUSH 1 WK	6/22/2012
	TCL Pesticides	Analyze	8081A	RUSH 1 WK	6/22/2012
	NJ-EPH-Fractionated	**Hold**	Method 10.08 Re	RUSH 1 WK	6/22/2012
	NJ-EPH-C40	Analyze	Method 10.08 Re	RUSH 1 WK	6/22/2012
	TCL PCB-9	Analyze	8082	RUSH 1 WK	6/22/2012
	TAL Metals	Analyze	6020/7471A	RUSH 1 WK	7/6/2012
	Cyanide, Total	Analyze	9012B	RUSH 1 WK	6/22/2012
	Cr-VI (Hexavalent Chromium)	Analyze	3060A/7196A	RUSH 1 WK	7/8/2012
	pH/Corrosivity	Analyze	9045C	RUSH 1 WK	7/6/2012

Project Notes:

NOTE 1 taken by Ellen on 06/08/2012 03:26
AS PER YILMAZ A., EPH = NJEPH-C40.

273 Franklin Road
Randolph, NJ 07869
Phone: 973 361 4252
Fax: 973 989 5288

IAL is a NELAC New Jersey Certified Lab (14751) and maintains certification in Connecticut (PH-0699), New York (11402), Rhode Island (00126), Florida (E87670) and in the Department of Navy IR QA Program

NOTE: THIS IS A COURTESY COPY OF THIS RULE. ALL OF THE DEPARTMENT'S RULES ARE COMPILED IN TITLE 7 OF THE NEW JERSEY ADMINISTRATIVE CODE.

APPENDIX 1 - SOIL REMEDIATION STANDARDS TABLES

Table 1A - Residential Direct Contact Health Based Criteria and Soil Remediation Standards (mg/kg)

Contaminant	CAS No.	Ingestion-Dermal Health Based Criterion	Inhalation Health Based Criterion	Soil PQL	Residential Direct Contact Soil Remediation Standard
Acenaphthene	83-32-9	3,400	NA	0.2	3,400
Acenaphthylene	208-96-8	NA	NA	0.2	NA
Acetone (2-Propanone)	67-64-1	70,000	NA	0.01	70,000
Acetophenone	98-86-2	6,100	2	0.2	2
Acrolein	107-02-8	39	0.5	0.5	0.5
Acrylonitrile	107-13-1	1	0.9	0.5	0.9
Aldrin	309-00-2	0.04	5	0.002	0.04
Aluminum	7429-90-5	78,000	NA	20	78,000
Anthracene	120-12-7	17,000	380,000	0.2	17,000
Antimony	7440-36-0	31	360,000	6	31
Arsenic	7440-38-2	0.4	980	1	19*
Atrazine	1912-24-9	210	NA	0.2	210
Barium	7440-39-3	16,000	910,000	20	16,000
Benzaldehyde	100-52-7	6,100	NA	0.2	6100
Benzene	71-43-2	3	2	0.005	2
Benzidine	92-87-5	0.002	0.004	0.7	0.7
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	0.6	38,000	0.2	0.6
Benzo(a)pyrene	50-32-8	0.06	3,800	0.2	0.2
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	0.6	38,000	0.2	0.6
Benzo(ghi)perylene	191-24-2	NA	380,000	0.2	380,000
Benzo(k)fluoranthene	207-08-9	6	38,000	0.2	6
Beryllium	7440-41-7	16	1,800	0.5	16
1,1'-Biphenyl	92-52-4	3,100	NA	0.2	3,100
Bis(2-chloroethyl)ether	111-44-4	0.4	0.6	0.2	0.4
Bis(2-chloroisopropyl)ether	108-60-1	2,400	23	0.2	23
Bis(2-ethylhexyl) phthalate	117-81-7	35	NA	0.2	35
Bromodichloromethane (Dichlorobromomethane)	75-27-4	10	1	0.005	1
Bromoform	75-25-2	81	98	0.005	81
Bromomethane (Methyl bromide)	74-83-9	110	25	0.005	25
bromide)					
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	3,100	NA	0.01	3,100
Butyl benzyl phthalate	85-68-7	1,200	NA	0.2	1,200
Cadmium	7440-43-9	78	1,000	0.5	78
Caprolactam	105-60-2	31,000	NA	0.2	31,000
Carbazole	86-74-8	24	740,000	0.2	24
Carbon disulfide	75-15-0	7,800	NA	0.5	7,800
Carbon tetrachloride	56-23-5	7	0.6	0.005	0.6

NOTE: THIS IS A COURTESY COPY OF THIS RULE. ALL OF THE DEPARTMENT'S RULES ARE COMPILED IN TITLE 7 OF THE NEW JERSEY ADMINISTRATIVE CODE.

Contaminant	CAS No.	Ingestion-Dermal Health Based Criterion	Inhalation Health Based Criterion	Soil PQL	Residential Direct Contact Soil Remediation Standard
Chlordane (alpha and gamma)	57-74-9	0.2	42,000	0.002	0.2
Chlorobenzene	108-90-7	510	NA	0.005	510
Chloroethane (Ethyl chloride)	75-00-3	220	NA	0.005	220
Chloroform	67-66-3	780	0.6	0.005	0.6
Chloromethane (Methyl chloride)	74-87-3	NA	4	0.005	4
2-Chlorophenol (o-Chlorophenol)	95-57-8	310	910	0.2	310
Chrysene	218-01-9	62	380,000	0.2	62
Cobalt	7440-48-4	1,600	9,100	5	1,600
Copper	7440-50-8	3,100	NA	3	3,100
Cyanide	57-12-5	1,600	NA	3	1,600
4,4'-DDD	72-54-8	3	61,000	0.003	3
4,4'-DDE	72-55-9	2	670	0.003	2
4,4'-DDT	50-29-3	2	44,000	0.003	2
Dibenz(a,h)anthracene	53-70-3	0.06	3,500	0.2	0.2
Dibromochloromethane (Chlorodibromomethane)	124-48-1	8	3	0.005	3
1,2-Dibromo-3-chloropropane	96-12-8	0.3	0.08	0.005	0.08
1,2-Dibromoethane	106-93-4	0.008	0.1	0.005	0.008
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	5,300	NA	0.005	5,300
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	5,300	NA	0.005	5,300
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	610	5	0.005	5
3,3'-Dichlorobenzidine	91-94-1	1	3	0.2	1
Dichlorodifluoromethane	75-71-8	16,000	490	0.005	490
1,1-Dichloroethane	75-34-3	510	8	0.005	8
1,2-Dichloroethane	107-06-2	5	0.9	0.005	0.9
1,1-Dichloroethene	75-35-4	11	61	0.005	11
1,2-Dichloroethene (cis) (c-1,2-Dichloroethylene)	156-59-2	780	230	0.005	230
1,2-Dichloroethene (trans) (t-1,2-Dichloroethylene)	156-60-5	1,300	300	0.005	300
2,4-Dichlorophenol	120-83-2	180	NA	0.2	180
1,2-Dichloropropane	78-87-5	9	2	0.005	2
1,3-Dichloropropene (cis and trans)	542-75-6	6	2	0.005	2
Dieldrin	60-57-1	0.04	1	0.003	0.04
Diethyl phthalate	84-66-2	49,000	NA	0.2	49,000
2,4-Dimethyl phenol	105-67-9	1,200	NA	0.2	1,200
Di-n-butyl phthalate	84-74-2	6,100	NA	0.2	6,100
4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	534-52-1	6	730,000	0.3	6
2,4-Dinitrophenol	51-28-5	120	NA	0.3	120
2,4-Dinitrotoluene	121-14-2	0.7	6	0.2	0.7
2,6-Dinitrotoluene	606-20-2	0.7	2	0.2	0.7
2,4-Dinitrotoluene/2,6-Dinitrotoluene (mixture)	25321-14-6	0.7	NA	0.2	0.7
Di-n-octyl phthalate	117-84-0	2,400	NA	0.2	2,400
1,2-Diphenylhydrazine	122-66-7	0.6	5	0.7	0.7

NOTE: THIS IS A COURTESY COPY OF THIS RULE. ALL OF THE DEPARTMENT'S RULES ARE COMPILED IN TITLE 7 OF THE NEW JERSEY ADMINISTRATIVE CODE.

Contaminant	CAS No.	Ingestion-Dermal Health Based Criterion	Inhalation Health Based Criterion	Soil PQL	Residential Direct Contact Soil Remediation Standard
Endosulfan I and Endosulfan II (alpha and beta)	115-29-7	470	NA	0.003	470
Endosulfan sulfate	1031-07-8	470	NA	0.003	470
Endrin	72-20-8	23	NA	0.003	23
Ethyl benzene	100-41-4	7,800	NA	0.005	7,800
Fluoranthene	206-44-0	2,300	NA	0.2	2,300
Fluorene	86-73-7	2,300	NA	0.2	2,300
alpha-HCH (alpha-BHC)	319-84-6	0.1	0.7	0.002	0.1
beta-HCH (beta-BHC)	319-85-7	0.4	8,000	0.002	0.4
Heptachlor	76-44-8	0.1	6	0.002	0.1
Heptachlor epoxide	1024-57-3	0.07	5	0.002	0.07
Hexachlorobenzene	118-74-1	0.3	1	0.2	0.3
Hexachloro-1,3-butadiene	87-68-3	6	12	0.2	6
Hexachlorocyclopentadiene	77-47-4	370	45	0.2	45
Hexachloroethane	67-72-1	35	83	0.2	35
Indeno(1,2,3-cd)pyrene	193-39-5	0.6	38,000	0.2	0.6
Isophorone	78-59-1	510	NA	0.2	510
Lead	7439-92-1	400	44,000	1	400
Lindane (gamma-HCH) (gamma-BHC)	58-89-9	0.4	3	0.002	0.4
Manganese	7439-96-5	11,000	91,000	2	11,000
Mercury	7439-97-6	23	27	0.1	23
Methoxychlor	72-43-5	390	NA	0.02	390
Methyl acetate	79-20-9	78,000	NA	0.005	78,000
Methylene chloride (Dichloromethane)	75-09-2	46	34	0.005	34
2-Methylnaphthalene	91-57-6	230	NA	0.17	230
2-Methylphenol (o-Creosol)	95-48-7	310	NA	0.2	310
4-Methylphenol (p-Creosol)	106-44-5	31	NA	0.2	31
Methyl tert-butyl ether (MTBE)	1634-04-4	780	110	0.005	110
Naphthalene	91-20-3	2,400	6	0.2	6
Nickel (Soluble salts)	7440-02-0	1,600	360,000	4	1,600
2-Nitroaniline	88-74-4	NA	39	0.3	39
Nitrobenzene	98-95-3	31	160	0.2	31
N-Nitrosodimethylamine	62-75-9	0.01	0.02	0.7	0.7
N-Nitrosodi-n-propylamine	621-64-7	0.07	0.2	0.2	0.2
N-Nitrosodiphenylamine	86-30-6	99	NA	0.2	99
Pentachlorophenol	87-86-5	3	590	0.3	3
Phenanthrene	85-01-8	NA	NA	0.2	NA
Phenol	108-95-2	18,000	NA	0.2	18,000
Polychlorinated biphenyls (PCBs)	1336-36-3	0.2	20	0.03	0.2
Pyrene	129-00-0	1,700	NA	0.2	1,700
Selenium	7782-49-2	390	NA	4	390
Silver	7440-22-4	390	NA	1	390

NOTE: THIS IS A COURTESY COPY OF THIS RULE. ALL OF THE DEPARTMENT'S RULES ARE COMPILED IN TITLE 7 OF THE NEW JERSEY ADMINISTRATIVE CODE.

Contaminant	CAS No.	Ingestion-Dermal Health Based Criterion	Inhalation Health Based Criterion	Soil PQL	Residential Direct Contact Soil Remediation Standard
Styrene	100-42-5	16,000	90	0.005	90
Tertiary butyl alcohol (TBA)	75-65-0	1,400	4,800	0.1	1,400
1,1,2,2-Tetrachloroethane	79-34-5	10	1	0.005	1
Tetrachloroethene (PCE) (Tetrachloroethylene)	127-18-4	8	2	0.005	2
Thallium	7440-28-0	5	360,000	3	5
Toluene	108-88-3	6,300	NA	0.005	6,300
Toxaphene	8001-35-2	0.6	70	0.2	0.6
1,2,4-Trichlorobenzene	120-82-1	73	NA	0.005	73
1,1,1-Trichloroethane	71-55-6	290	NA	0.005	290
1,1,2-Trichloroethane	79-00-5	31	2	0.005	2
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	21	7	0.005	7
Trichlorofluoromethane	75-69-4	23,000	NA	0.005	23,000
2,4,5-Trichlorophenol	95-95-4	6,100	NA	0.2	6,100
2,4,6-Trichlorophenol	88-06-2	19	340	0.2	19
Vanadium	7440-62-2	78	NA	5	78
Vinyl chloride	75-01-4	2	0.7	0.005	0.7
Xylenes	1330-20-7	12,000	NA	0.005	12,000
Zinc	7440-66-6	23,000	NA	6	23,000

NA = Standard not available

* The direct contact standard for arsenic is based on natural background

CHROMIUM SOIL CLEANUP CRITERIA

September 2008 Revised April 2010[1]

The Department did not develop soil remediation standards for trivalent or hexavalent chromium as part of its Remediation Standards rules at N.J.A.C. 7:26D. The Department was awaiting the release of the final report from the National Toxicology Program (NTP) study evaluating hexavalent chromium as an oral carcinogen prior to proposing soil remediation standards. The NTP report was released in August 2008. The Department is reviewing the report and will make a determination regarding the adoption of remediation standards for chromium. Until such time, the Department will continue to use the following soil cleanup criteria for trivalent and hexavalent chromium as guidance.

Soil Cleanup Criteria for Chromium

Residential (mg/kg)						
Contaminant	**CAS No.**	**Ingestion-Dermal**	**Inhalation**	**Allergic Contact Dermatitis (ACD)**	**Soil PQL**	**Residential Criterion**
Trivalent Chromium	16065-83-1	120,000	NA	NA	2	120,000
Hexavalent Chromium	18540-29-9	240	270	Site-specific determination	2	240 or ACD value whichever is lower

Non-Residential (mg/kg)						
Contaminant	**CAS No.**	**Ingestion-Dermal**	**Inhalation**	**Allergic Contact Dermatitis**	**Soil PQL**	**Non-Residential Criterion**
Trivalent Chromium	16065-83-1	NA	NA	NA	2	Not Regulated
Hexavalent Chromium	18540-29-9	6,100	20	Site-specific determination	2	20

NA = Standard not available

[1] This revision corrects the CAS numbers that were mistakenly used for trivalent and hexavalent chromium in the September 2008 version. The CAS numbers were inadvertently switched.

Impact to ground water soil remediation standards must be developed on a site-specific basis for chromium. For Class II ground water, the ground water quality standard is 70 ug/l measured as total chromium but assuming that it is all in the form of hexavalent chromium.

In addition to the cleanup criteria listed above, all remedial actions at sites that have hexavalent chromium must comply with Commissioner Jackson's memorandum dated February 8, 2007. A copy of this memorandum can be found on the Department web site at http://www.state.nj.us/dep/dsr/chromium/crmorlift200702.pdf

More information about the Department chromium work group and chromium research efforts are available on the NJDEP web site at http://www.state.nj.us/dep/dsr/chromium .

5 - Gradation Curves for Roadway Stone, Sand, Filter Material, and Armor Stone (Mount Hope Quarry)

TILCON-NY Mt. Hope Quarry

Fax 973-659-3978

625 Mount Hope Rd. • Wharton, N.J. 07946 • 973-366-7741

Stone for Roadways (staging areas)

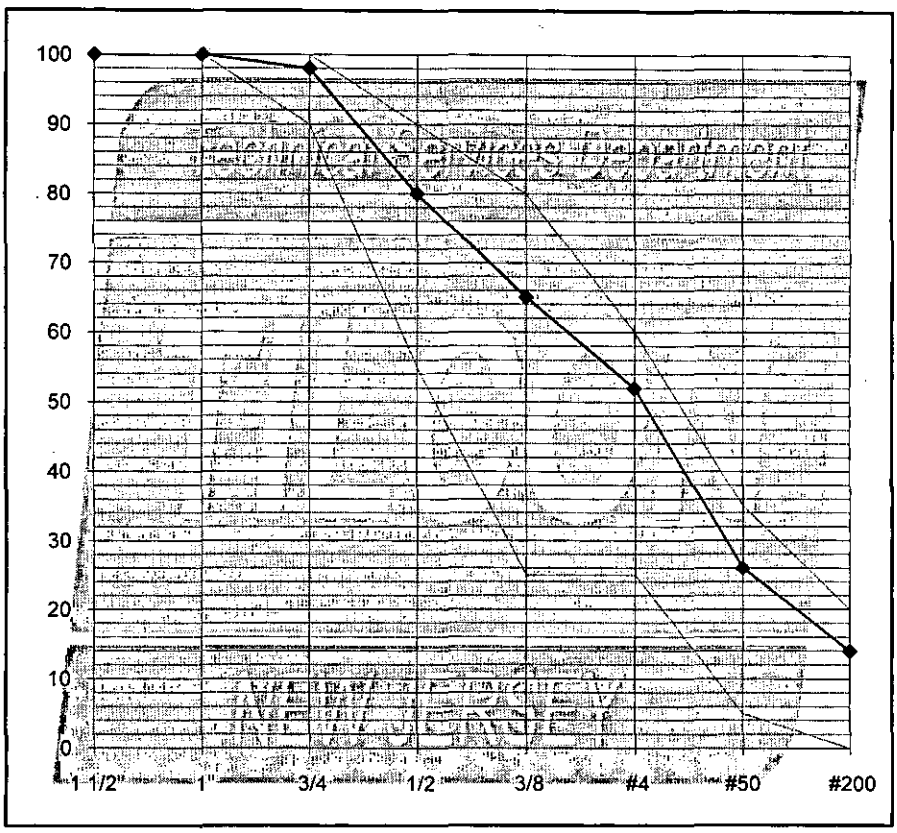
Typical Gradation,Fine QP (3/4")

Project
SA-7 Sediment Remediation Jersey City, Kellog Street

Contractor
Sevenson Enviromental

Sp. Gr	2.66
Loose	98
Rodded	110

	Typical	Prod. Target	
1 1/2"	100	100	100
1"	100	100	100
3/4	98	90	100
1/2	80	55	90
3/8	65	25	80
#4	52	25	60
#50	26	5	35
#200	14		20



Tilcon Inc confirms that Fine QP (3/4") available at Mt. Hope Quarry conforms to section 901 of the ***New Jersey Department of Transportation StandardSpecifications for Road and Bridge Construction.*** The material is defined as virgin Gneiss mined at Mt. Hope Quarry, 625 Mount Hope Road, Block 20001-Lot 6.01 Wharton Borough, Morris County NJ. The material is identified on the job with Tilcon delivery tickets.

The unit weights and voids are for process control and should be verified by the contractor before use.

TILCON
an Oldcastle® company

Proposed 0.75" Armor Stone

Product Quality Summary Report

Period 01/01/2011 - 12/31/2011
Plant **06000418-Mt. Hope Quarry**

Sand Layer

	Product	005
	ASTM #5	Grits
Specification	ASTM 5	Grits
1 1/2" (37.5mm)	100.0	
1" (25mm)	93.5	
3/4" (19mm)	47.7	
1/2" (12.5mm)	5.6	
3/8" (9.5mm)	2.9	100
#4 (4.75mm)		100
#8 (2.36mm)		75
#16 (1.18mm)		42
#30 (0.6mm)		24
Pan	0.00	0.0

TILCON
an Oldcastle® company

1.0" Armor Stone

Product Quality Summary Report

Period 01/01/2012 - 05/11/2012
Plant **06000418-Mt. Hope Quarry**

Filter Layer

	Product	1 1/2" ASTM 4	1015002 washed 3/4"
	Specification	ASTM 4	ASTM 57
2" (50mm)		100	
1 1/2" (37.5mm)		100	
1" (25mm)		39	99.8
3/4" (19mm)		4	92.4
1/2" (12.5mm)		1	30.9
3/8" (9.5mm)		1	5.7
#4 (4.75mm)			1.1
#8 (2.36mm)			0.6
Pan		0.0	0.00

TILCON-NY Mt. Hope Quarry

Fax 973-659-3978

625 Mount Hope Rd. • Wharton, N.J. 07946 • 973-366-7741

1.5", 1.6", and 2.0" Armor Stone

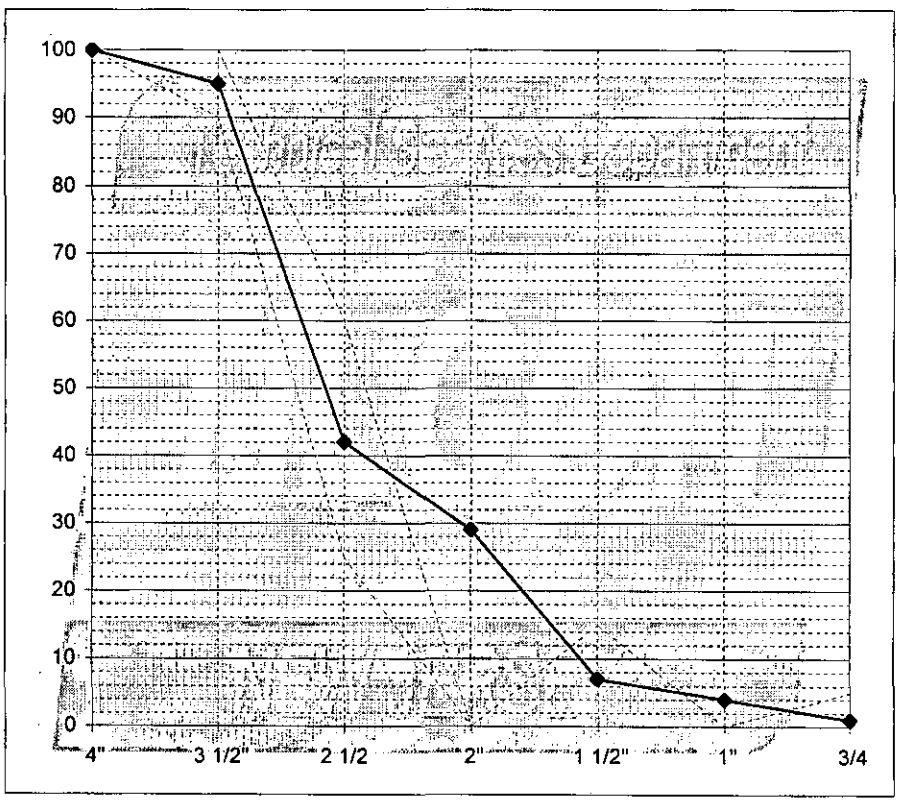
Typical Gradation,#1 (3 1/2" Clean)

Project
SA7 Project Jersey City

Contractor
Sevenson Environmental

Sp. Gr	2.68
Loose	75
Rodded	90

	Typical	Prod. Target	
4"	100	100	100
3 1/2"	95	90	100
2 1/2	42	25	60
2"	29		
1 1/2"	7		15
1"	4		
3/4	1		5



Tilcon Inc confirms that #1 (3 1/2" Clean) available at Mt. Hope Quarry conforms to section 901 of the ***New Jersey Department of Transportation StandardSpecifications for Road and Bridge Construction.*** The material is defined as virgin Gneiss mined at Mt. Hope Quarry, 625 Mount Hope Road, Block 20001-Lot 6.01 Wharton Borough, Morris County NJ. The material is identified on the job with Tilcon delivery tickets.

The unit weights and voids are for process control and should be verified by the contractor before use.

TILCON NY - Mt. Hope Facility

Mt Hope Surge (12" - 1/2") - Light Stone Filling
Sevenson Environmental - SA7 Project, Jersey City

Tilcon-NJ confirms that the Surge available at Mt. Hope Quarry Conforms to the quality requirements of section 901 of ***The New Jersey Department of Transportation Standard Specifications for Road and Bridge Construction.*** It is defined as virgin Gneiss mined at Mt. Hope Quarry, 625 Mt. Hope Rd. Blk 20001-Lot 6.01Wharton Boro, Morris County NJ. The material is identified on the job with Tilcon NJ delivery tickets.
This Rip Rap has the following properties:

Sodium Sulfate Soundness	(ASTM C88)	**2.0% Loss**
Water Absorption	(ASTM C97)	**0.50%**
LA Abrasion	(ASTM-C535)	**13.65% Loss**
Bulk Specific Gravity	(ASTM-C97)	**2.72**
Freeze-Thaw Test	(ASTM-T103)	**2.4% Loss**

And the following Gradation

D_{100}	12"
D_{50}	6"
D_{10}	1/2"

If you have anyquestions or concerns, please call.

(973)-366-3740
Central Materials Lab
Tilcon, NJ

TILCON NY - Mt. Hope Facility

Mt Hope Hammer Rock (20" - 6") - Medium Stone Filling
Sevenson Environmental - SA7 Project, Jersey City

Tilcon-NJ confirms that the Hammer Rock available at Mt. Hope Quarry Conforms to the quality requirements of section 901 of ***The New Jersey Department of Transportation Standard Specifications for Road and Bridge Construction.*** It is defined as virgin Gneiss mined at Mt. Hope Quarry, 625 Mt. Hope Rd. Blk 20001-Lot 6.01Wharton Boro, Morris County NJ. The material is identified on the job with Tilcon NJ delivery tickets.
This Rip Rap has the following properties:

Sodium Sulfate Soundness	(ASTM C88)	**2.0% Loss**
Water Absorption	(ASTM C97)	**0.50%**
LA Abrasion	(ASTM-C535)	**13.65% Loss**
Bulk Specific Gravity	(ASTM-C97)	**2.72**
Freeze-Thaw Test	(ASTM-T103)	**2.4% Loss**

And the following Gradation

D_{100}	20"
D_{50}	12"
D_{10}	6"

If you have anyquestions or concerns, please call.

(973)-366-3740
Central Materials Lab
Tilcon, NJ

TILCON-NY Mt. Hope Quarry

Fax 973-659-3978

625 Mount Hope Rd. • Wharton, N.J. 07946 • 973-366-7741

3.5 Inch Stone

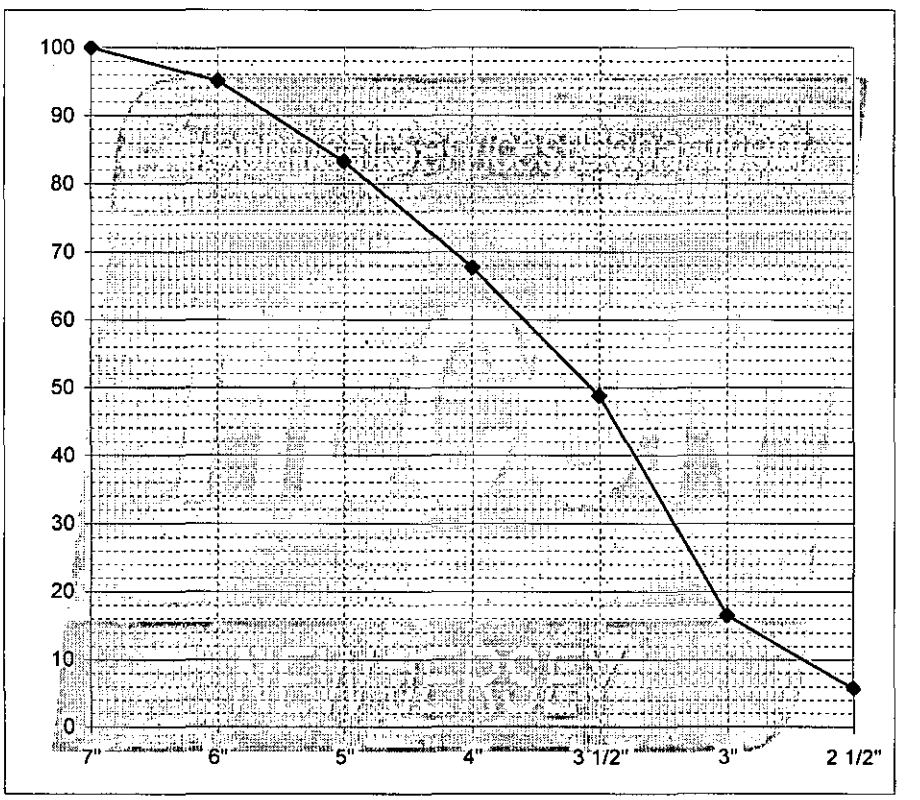
Typical Gradation,Re-Crush - 4's & 5's

Project
SA 7 Project Jersey City, NJ 07302

Contractor
Sevenson Environmental

Sp. Gr	2.68
Loose	
Rodded	

	Typical	Prod. Target	
7"	100		
6"	95.1		
5"	83.3		
4"	67.7		
3 1/2"	48.8		
3"	16.5		
2 1/2"	5.8		



Tilcon Inc confirms that Re-Crush - 4's & 5's available at Mt. Hope Quarry conforms to section 901 of the ***New Jersey Department of Transportation StandardSpecifications for Road and Bridge Construction.*** The material is defined as virgin Gneiss mined at Mt. Hope Quarry, 625 Mount Hope Road, Block 20001-Lot 6.01 Wharton Borough, Morris County NJ. The material is identified on the job with Tilcon delivery tickets.

The unit weights and voids are for process control and should be verified by the contractor before use.

APPENDIX M

COMPACTION TESTS

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-01-1	7/13/2016	686056.7	602102.5	11.70	107.6	7.8	117	8.6	92.0	90	1	GDL Cover Soil		V5N
1	CS-02-1	7/13/2016	686078.8	602160.6	12.30	111.1	7.5	117	8.6	95.0	90	1	GDL Cover Soil		V5N
1	CS-03-1	7/13/2016	686035.6	602132.4	12.50	107.5	7.8	117	8.6	92.0	90	1	GDL Cover Soil		V5N
1	CS-04-1	7/13/2016	685983.2	602018.1	12.90	111.1	7.5	117	8.6	95.0	90	1	GDL Cover Soil		V5N
1	CS-05-1	7/13/2016	685959.4	602142.7	13.50	110	7.5	117	8.6	94.0	90	1	GDL Cover Soil		V5N
1	CS-06-1	7/13/2016	685999.9	602165.7	15.70	112.15	7	117	8.6	96.0	90	1	GDL Cover Soil		V5N
1	CS-07-1	7/13/2016	686052.5	602190.6	12.30	110	8.4	117	8.6	94.0	90	1	GDL Cover Soil		V5N
1	CS-08-1	7/13/2016	685932.8	602188.2	14.00	107.5	7.8	117	8.6	91.9	90	2	GDL Cover Soil		V5N
1	CS-09-1	7/13/2016	685996.5	602222	15.90	108.16	8.3	117	8.6	93.0	90	2	GDL Cover Soil		V5N
1	CS-10-1	7/13/2016	686031.2	602252.7	12.40	111.1	7.2	117	8.6	95.0	90	2	GDL Cover Soil		V5N
1	CS-11-1	7/18/2016	686019.3	602311.2	13.10	121.1	5.2	117	8.6	103.5	90	3	GDL Cover Soil		V5N
1	CS-12-1	7/18/2016	686002.8	602277.9	13.00	116.6	5.3	117	8.6	99.7	90	3	GDL Cover Soil		V5N
1	CS-13-1	7/18/2016	685956.2	602253.6	16.30	115.9	5.1	117	8.6	99.1	90	3	GDL Cover Soil		V5N
1	CS-14-1	7/18/2016	685902.6	602234.8	14.50	117.2	7.9	117	8.6	100.2	90	3	GDL Cover Soil		V5N
1	SF-01-1	7/18/2016	686054.2	602111.9	13.40	117.5	3.9	112.2	9.7	104.7	95	1	Structural Fill	Final Elevation	V5N
1	SF-02-1	7/18/2016	686072.1	602155.3	13.41	118.1	1.8	112.2	9.7	105.3	95	1	Structural Fill		V5N
2	SF-02-2	7/18/2016	686067.9	602166.2	13.80	113.1	2.5	112.2	9.7	100.8	95	1	Structural Fill	Final Elevation	V5N
1	SF-03-1	7/18/2016	686058.0	602202.1	13.40	114.9	1.6	112.2	9.7	102.4	95	1	Structural Fill		V5N
1	SF-04-1	7/18/2016	686035.3	602247.1	13.30	115.0	2.2	112.2	9.7	102.5	95	2	Structural Fill		V5N
1	HC-24-1	8/29/2016	685713.6	602653.3	21.60	115.4	8.5	126	9.5	91.6	90	6	Horizon C	Back Scatter	V5N
1	HC-25-1	8/29/2016	685766.9	602684.5	18.80	116.7	8.8	126	9.5	92.6	90	6	Horizon C	Back Scatter	V5N
1	HC-26-1	8/29/2016	685809.6	602705.3	18.70	118.9	8.4	126	9.5	94.4	90	6	Horizon C	Back Scatter	V5N
1	HC-92-1	9/16/2016	685103.9	603560.3	13.90	105.7	7.5	126	9.5	83.9	90	12	Horizon C	HC-92-1R (Page 8)	V5N
1	HC-01-1	7/20/2016	686011.1	602089.8	12.90	120.5	5.2	126	9.5	95.6	90	1	Horizon C	Back Scatter	V5N
1	SF-12-1	7/20/2016	685987.4	602075.7	13.50	107.0	3.8	112.2	9.7	95.4	95	1	Structural Fill		V5N
1	SF-13-1	7/20/2016	685963.8	602121.8	14.20	107.6	3.7	112.2	9.7	95.9	95	1	Structural Fill		V5N
1	SF-14-1	7/20/2016	685931.2	602176.8	14.90	108.5	3.5	112.2	9.7	96.7	95	2	Structural Fill		V5N
1	CS-15-1	7/22/2016	685859.2	602274.7	15.30	113.6	5.3	117	8.6	97.1	90	3	GDL Cover Soil		V5N
1	CS-16-1	7/22/2016	685889.8	602275.9	15.50	115.1	7.5	117	8.6	98.4	90	3	GDL Cover Soil		V5N
1	CS-17-1	7/22/2016	685930.0	602308.4	16.90	114.7	5.2	117	8.6	98.0	90	3	GDL Cover Soil		V5N
1	CS-18-1	7/22/2016	685978.5	602322.4	13.70	115.2	6.3	117	8.6	98.5	90	3	GDL Cover Soil		V5N
1	CS-19-1	7/22/2016	685995.4	602358.6	13.60	112.3	7.3	117	8.6	96.0	90	3	GDL Cover Soil		V5N
1	CS-20-1	7/22/2016	685974.2	602407.6	14.20	110.5	8.5	117	8.6	94.4	90	3	GDL Cover Soil		V5N
1	CS-21-1	7/22/2016	685955.3	602367.3	14.20	115.2	4.6	117	8.6	98.5	90	3	GDL Cover Soil		V5N
1	CS-22-1	7/22/2016	685908.8	602343.5	15.00	121.8	9.2	117	8.6	104.1	90	3	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-23-1	7/22/2016	685867.1	602319.4	16.10	113.1	5.3	117	8.6	96.7	90	3	GDL Cover Soil		V5N
1	HC-02-1	7/20/2016	685997.1	602121.8	13.40	120.0	5.0	126	9.5	95.2	90	1	Horizon C	Back Scatter	V5N
1	HC-03-1	7/20/2016	686032.1	602156.7	12.40	119.3	5.6	126	9.5	94.7	90	1	Horizon C	Back Scatter	V5N
2	SF-03-2	7/22/2016	686050.7	602208.4	14.20	114.8	1.7	112.2	9.7	102.3	95	1	Structural Fill	Final Elevation	V5N
2	SF-04-2	7/22/2016	686035.2	602238.3	14.20	115.6	1.4	112.2	9.7	103.0	95	1	Structural Fill	Final Elevation	V5N
1	HC-04-1	7/20/2016	686008.8	602201.9	16.20	122.0	5.4	126	9.5	96.8	90	1	Horizon C	Back Scatter	V5N
1	HC-05-1	7/20/2016	685970.9	602168.3	14.40	119.5	5.6	126	9.5	94.8	90	1	Horizon C	Back Scatter	V5N
1	SF-05-1	7/28/2016	686021.4	602296.2	14.40	107.5	8.2	112.2	9.7	95.8	95	3	Structural Fill	Final Elevation	V5N
2	SF-12-2	7/28/2016	685986.7	602075.0	14.00	108.8	7.5	112.2	9.7	97.0	95	1	Structural Fill	Final Elevation	V5N
2	SF-13-2	7/28/2016	685958.4	602125.9	15.00	107.6	8.0	112.2	9.7	95.9	95	1	Structural Fill	Final Elevation	V5N
1	SF-15-1	7/28/2016	685894.5	602235.3	15.80	106.7	8.3	112.2	9.7	95.1	95	3	Structural Fill		V5N
1	CS-24-1	8/3/2016	685812.8	602367.6	16.10	108.1	8.3	117	8.6	92.4	90	4	GDL Cover Soil		V5N
1	CS-25-1	8/3/2016	685841.8	602355.4	16.40	107.6	8.9	117	8.6	92.0	90	4	GDL Cover Soil		V5N
1	CS-26-1	8/3/2016	685887.8	602387.1	18.10	108.9	8.8	117	8.6	93.1	90	4	GDL Cover Soil		V5N
1	CS-27-1	8/3/2016	685931.8	602410.4	15.10	107.6	9.5	117	8.6	92.0	90	4	GDL Cover Soil		V5N
1	CS-28-1	8/3/2016	685951.7	602456.4	14.70	108.9	8.5	117	8.6	93.1	90	4	GDL Cover Soil		V5N
1	CS-29-1	8/3/2016	685908.7	602454.7	15.80	110.0	6.5	117	8.6	94.0	90	4	GDL Cover Soil		V5N
1	CS-30-1	8/3/2016	685864.2	602431.3	16.00	107.6	8.8	117	8.6	92.0	90	4	GDL Cover Soil		V5N
1	CS-31-1	8/3/2016	685820.3	602408.9	16.90	110.0	6.1	117	8.6	94.0	90	4	GDL Cover Soil		V5N
1	HC-06-1	7/22/2016	685943.5	602217.1	16.60	121.2	8.2	126	9.5	96.2	90	1	Horizon C	Back Scatter	V5N
1	HC-07-1	7/22/2016	685985.9	602241.3	16.50	123.9	10.2	126	9.5	98.3	90	1	Horizon C	Back Scatter	V5N
1	HC-08-1	7/28/2016	685953.9	602285.9	17.12	114.2	8.9	126	9.5	90.6	90	2	Horizon C	Back Scatter	V5N
1	HC-09-1	7/28/2016	685921.7	602262.1	15.00	113.5	9.2	126	9.5	90.1	90	2	Horizon C	Back Scatter	V5N
1	HC-10-1	8/5/2016	685897.1	602316.3	15.80	117.5	8.2	126	9.5	93.3	90	2	Horizon C	Back Scatter	V5N
1	HC-11-1	8/5/2016	685939.6	602343.2	17.70	119.5	7.1	126	9.5	94.8	90	3	Horizon C	Back Scatter	V5N
1	SF-06-1	8/5/2016	686001.6	602337.9	14.70	110.0	2.3	112.2	9.7	98.0	95	3	Structural Fill	Final Elevation	V5N
1	SF-07-1	8/5/2016	685981.7	602383.3	15.20	111.0	1.1	112.2	9.7	98.9	95	3	Structural Fill	Final Elevation	V5N
2	SF-14-2	8/5/2016	685921.2	602172.6	15.20	110.0	1.8	112.2	9.7	98.0	95	2	Structural Fill	Final Elevation	V5N
2	SF-15-2	8/5/2016	685896.6	602231.8	16.40	110.0	1.8	112.2	9.7	98.0	95	3	Structural Fill	Final Elevation	V5N
1	SF-16-1	8/5/2016	685843.1	602309.5	16.40	111.0	1.1	112.2	9.7	98.9	95	3	Structural Fill	Final Elevation	V5N
1	CS-32-1	8/10/2016	685796.3	602441.1	17.30	106.1	8.8	117	8.6	90.7	90	4	GDL Cover Soil		V5N
1	CS-33-1	8/10/2016	685845.9	602479.3	16.50	105.6	10.0	117	8.6	90.3	90	5	GDL Cover Soil		V5N
1	CS-34-1	8/10/2016	685890.1	602491.3	18.50	105.9	7.2	117	8.6	90.5	90	5	GDL Cover Soil		V5N
1	CS-35-1	8/10/2016	685926.5	602522.2	11.00	108.3	9.6	117	8.6	92.6	90	5	GDL Cover Soil		V5N
1	CS-36-1	8/10/2016	685910.8	602551.9	15.70	105.9	9.8	117	8.6	90.5	90	5	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-37-1	8/10/2016	685859.0	602544.1	19.20	110.0	7.8	117	8.6	94.0	90	5	GDL Cover Soil		V5N
1	CS-38-1	8/10/2016	685818.5	602520.0	19.60	106.0	10.2	117	8.6	90.6	90	5	GDL Cover Soil		V5N
1	CS-39-1	8/10/2016	685771.2	602499.5	17.90	106.0	10.2	117	8.6	90.6	90	5	GDL Cover Soil		V5N
1	CS-40-1	8/10/2016	685761.7	602455.7	17.10	112.2	7.8	117	8.6	95.9	90	5	GDL Cover Soil		V5N
1	CS-41-1	8/10/2016	685727.7	602509.9	17.80	105.6	9.2	117	8.6	90.3	90	5	GDL Cover Soil		V5N
1	CS-42-1	8/10/2016	685750.8	602543.2	17.90	105.6	8.9	117	8.6	90.3	90	5	GDL Cover Soil		V5N
1	CS-43-1	8/10/2016	685790.6	602568.0	17.10	106.0	8.9	117	8.6	90.6	90	5	GDL Cover Soil		V5N
1	CS-44-1	8/10/2016	685829.9	602580.0	19.50	112.5	7.8	117	8.6	96.2	90	5	GDL Cover Soil		V5N
1	CS-45-1	8/10/2016	685883.5	602613.3	16.10	105.5	9.2	117	8.6	90.2	90	5	GDL Cover Soil		V5N
1	SF-08-1	8/10/2016	685947.6	602444.5	15.50	107.6	5.6	112.2	9.7	95.9	95	4	Structural Fill	Final Elevation	V5N
1	HC-12-1	8/5/2016	685923.2	602385.8	15.60	118.5	9.6	126	9.5	94.0	90	3	Horizon C	Back Scatter	V5N
1	HC-13-1	8/5/2016	685878.4	602355.3	18.70	116.5	11.6	126	9.5	92.5	90	3	Horizon C	Back Scatter	V5N
1	HC-14-1	8/5/2016	685857.5	602397.8	19.00	116.5	10.6	126	9.5	92.5	90	3	Horizon C	Back Scatter	V5N
1	HC-15-1	8/5/2016	685901.5	602426.6	16.00	117.5	8.9	126	9.5	93.3	90	3	Horizon C	Back Scatter	V5N
1	HC-16-1	8/11/2016	685877.5	602467.2	16.50	119.8	4.5	126	9.5	95.1	90	3	Horizon C	Back Scatter	V5N
1	SF-09-1	8/11/2016	685919.3	602481.2	16.30	107.8	5.2	112.2	9.7	96.1	95	4	Structural Fill	Final Elevation	V5N
1	SF-18-1	8/11/2016	685796.5	602421.3	18.00	107.8	5.0	112.2	9.7	96.1	95	4	Structural Fill		V5N
1	SF-19-1	8/11/2016	685765.4	602477.7	18.70	108.5	5.2	112.2	9.7	96.7	95	5	Structural Fill		V5N
1	CS-46-1	8/16/2016	685858.5	602654.7	16.70	106.7	5.4	117	8.6	91.2	90	6	GDL Cover Soil		V5N
1	CS-47-1	8/16/2016	685816.0	602640.9	14.90	117.6	6.3	117	8.6	100.5	90	6	GDL Cover Soil	Start Reduced Frequency	V5N
1	CS-48-1	8/16/2016	685772.5	602607.5	15.30	118.0	7.6	117	8.6	100.9	90	6	GDL Cover Soil		V5N
1	CS-49-1	8/16/2016	685725.8	602586.9	16.30	115.6	7.1	117	8.6	98.8	90	6	GDL Cover Soil		V5N
1	CS-50-1	8/16/2016	685696.7	602558.7	17.20	116.2	5.8	117	8.6	99.3	90	6	GDL Cover Soil		V5N
1	CS-51-1	8/16/2016	685666.9	602613.2	18.90	112.5	4.4	117	8.6	96.2	90	6	GDL Cover Soil		V5N
1	CS-52-1	8/16/2016	685706.9	602626.6	18.00	118.2	5.7	117	8.6	101.0	90	6	GDL Cover Soil		V5N
1	CS-53-1	8/16/2016	685738.4	602639.4	17.60	114.5	6.7	117	8.6	97.9	90	6	GDL Cover Soil		V5N
1	CS-54-1	8/16/2016	685793.1	602675.7	17.50	113.7	6.0	117	8.6	97.2	90	6	GDL Cover Soil		V5N
1	CS-55-1	8/16/2016	685830.0	602699.4	15.70	113.0	8.9	117	8.6	96.6	90	6	GDL Cover Soil		V5N
1	CS-94-1	8/19/2016	685064.3	603656.9	7.50	109.8	5.4	117	8.6	93.8	90	7	GDL Cover Soil		V5N
1	CS-95-1	8/19/2016	685177.8	603698.4	6.20	113.7	7.9	117	8.6	97.2	90	7	GDL Cover Soil		V5N
1	HC-17-1	8/11/2016	685824.6	602442.2	17.50	122.7	6.4	126	9.5	97.4	90	3	Horizon C	Back Scatter	V5N
1	HC-18-1	8/11/2016	685791.3	602476.8	20.80	118.5	5.8	126	9.5	94.0	90	3	Horizon C	Back Scatter	V5N
1	HC-19-1	8/11/2016	685833.9	602502.6	19.80	124.1	5.3	126	9.5	98.5	90	3	Horizon C	Back Scatter	V5N
1	SF-10-1	8/19/2016	685907.4	602542.6	16.80	120.0	2.4	112.2	9.7	107.0	95	5	Structural Fill		V5N
1	SF-17-1	8/19/2016	685816.7	602355.7	17.40	119.0	1.2	112.2	9.7	106.1	95	4	Structural Fill	Final Elevation	V5N

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SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	SF-20-1	8/19/2016	685723.9	602524.1	19.30	115.8	2.8	112.2	9.7	103.2	95	5	Structural Fill	Final Elevation	V5N
1	CS-57-1	8/24/2016	685725.4	602744.3	23.00	119.0	6.2	117	8.6	101.7	90	8	GDL Cover Soil		V5N
1	CS-58-1	8/24/2016	685648.5	602672.7	19.40	114.0	7.6	117	8.6	97.4	90	8	GDL Cover Soil		V5N
1	CS-59-1	8/24/2016	685678.3	602742.7	22.60	120.3	5.3	117	8.6	102.8	90	9	GDL Cover Soil		V5N
1	CS-60-1	8/24/2016	685783.3	602811.9	19.60	114.3	8.3	117	8.6	97.7	90	9	GDL Cover Soil		V5N
1	CS-61-1	8/24/2016	685983.1	602881.8	19.10	118.6	6.6	117	8.6	101.4	90	9	GDL Cover Soil		V5N
1	CS-62-1	8/24/2016	685690.9	602859.0	21.30	115.6	4.5	117	8.6	98.8	90	9	GDL Cover Soil		V5N
1	CS-63-1	8/24/2016	685600.9	602803.9	19.90	116.4	6.2	117	8.6	99.5	90	9	GDL Cover Soil		V5N
1	CS-64-1	8/24/2016	685711.9	602937.4	20.40	108.3	3.9	117	8.6	92.6	90	9	GDL Cover Soil		V5N
1	CS-65-1	8/24/2016	685611.8	602885.6	20.30	110.2	4.8	117	8.6	94.2	90	9	GDL Cover Soil		V5N
1	CS-66-1	8/24/2016	685705.6	603007.6	19.70	117.8	7.7	117	8.6	100.7	90	9	GDL Cover Soil		V5N
1	CS-67-1	8/24/2016	685615.9	602991.2	21.40	113.1	6.6	117	8.6	96.7	90	9	GDL Cover Soil		V5N
1	CS-68-1`	8/24/2016	685536.6	602916.2	19.40	112.3	6.2	117	8.6	96.0	90	9	GDL Cover Soil		V5N
1	SF-11-1	8/24/2016	685873.3	602605.8	17.50	115.1	2.4	112.2	9.7	103.7	95	5	Structural Fill		V5N
1	SF-24-1	8/24/2016	685854.9	602653.8	17.90	112.2	1.9	112.2	9.7	100.0	95	5	Structural Fill	Final Elevation	V5N
1	CS-56-1	8/29/2016	685809.2	602783.8	15.90	111.2	6.3	117	8.6	95.0	90	9	GDL Cover Soil	Moved point to Area 9	V5N
1	CS-69-1	8/29/2016	685642.2	603080.6	18.90	110.3	3.9	117	8.6	94.3	90	10W	GDL Cover Soil		V5N
1	CS-73-1	8/29/2016	685596.9	603156.9	17.20	113.3	5.7	117	8.6	96.8	90	10W	GDL Cover Soil		V5N
1	CS-75-1	8/29/2016	685451.4	603140.5	10.70	119.1	5.6	117	8.6	101.8	90	10	GDL Cover Soil	Corridor	V5N
1	DGA-1-1	8/29/2016	685498.1	603803.2	9.10	129.1	1.7	135.9	9.5	95.0	95	MUA	DGA	Driveway	V5N
1	DGA-2-1	8/29/2016	685479.7	603838.2	8.70	129.4	1.6	135.9	9.5	95.2	95	MUA	DGA	Driveway	V5N
1	DGA-3-1	8/29/2016	685462.6	603871.9	8.40	131.0	1.5	135.9	9.5	96.4	95	MUA	DGA	Driveway	V5N
1	HC-23-1	8/19/2016	685768.3	602522.6	18.50	116.8	9.7	126	9.5	92.7	90	5	Horizon C	Back Scatter	V5N
1	HC-28-1	8/31/2016	685753.3	602747.5	23.20	115.2	8.3	126	9.5	91.4	90	8	Horizon C	Back Scatter	V5N
1	HC-29-1	8/31/2016	685711.3	602718.5	23.00	113.4	10.9	126	9.5	90.0	90	8	Horizon C	Back Scatter	V5N
2	SF-10-2	8/29/2016	685907.0	602542.6	16.90	115.8	0.9	112.2	9.7	103.2	95	5	Structural Fill	Final Elevation	V5N
2	SF-11-2	8/29/2016	685878.3	602607.5	17.60	116.2	1.1	112.2	9.7	103.6	95	5	Structural Fill	Final Elevation	V5N
2	SF-18-2	8/29/2016	685782.4	602413.8	18.10	119.7	0.9	112.2	9.7	106.7	95	4	Structural Fill	Final Elevation	V5N
2	SF-19-2	8/29/2016	685755.2	602456.9	18.80	118.4	0.7	112.2	9.7	105.5	95	5	Structural Fill	Final Elevation	V5N
1	SF-21-1	8/29/2016	685788.0	602599.6	17.50	112.7	1.2	112.2	9.7	100.4	95	6	Structural Fill		V5N
2	SF-21-2	8/29/2016	685735.3	602583.2	18.40	117.9	1.0	112.2	9.7	105.1	95	6	Structural Fill	Final Elevation	V5N
1	SF-22-1	8/29/2016	685788.0	602599.6	16.40	115.8	1.3	112.2	9.7	103.2	95	6	Structural Fill		V5N
2	SF-22-2	8/29/2016	685777.9	602614.3	17.40	113.0	1.0	112.2	9.7	100.7	95	6	Structural Fill	Final Elevation	V5N
1	SF-23-1	8/29/2016	685822.7	602629.9	16.50	111.7	1.4	112.2	9.7	99.6	95	6	Structural Fill		V5N
2	SF-23-2	8/29/2016	685825.2	602646.2	17.50	121.4	1.0	112.2	9.7	108.2	95	6	Structural Fill	Final Elevation	V5N

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1	SF-35-1	8/29/2016	685689.1	602585.9	19.30	117.3	0.9	112.2	9.7	104.5	95	6	Structural Fill		V5N
1	SF-36-1	8/29/2016	685656.5	602646.9	20.20	117.3	1.6	112.2	9.7	104.5	95	8	Structural Fill	Final Elevation	V5N
1	SF-37-1	8/29/2016	685618.4	602697.5	20.70	108.6	2.7	112.2	9.7	96.8	95	9	Structural Fill	Final Elevation	V5N
1	HC-30-1	8/31/2016	686686.8	602719.5	22.90	125.9	8.7	126	9.5	99.9	90	8	Horizon C	Back Scatter	V5N
1	HC-31-1	8/31/2016	685632.8	602740.5	20.40	123.4	10.8	126	9.5	97.9	90	9	Horizon C	Back Scatter	V5N
1	HC-32-1	8/31/2016	685685.6	602764.1	23.40	113.4	7.4	126	9.5	90.0	90	9	Horizon C	Back Scatter	V5N
1	HC-33-1	8/31/2016	685727.2	602785.9	24.00	113.4	7.8	126	9.5	90.0	90	9	Horizon C	Back Scatter	V5N
1	HC-34-1	8/31/2016	685766.6	602816.6	23.10	114.4	6.6	126	9.5	90.8	90	9	Horizon C	Back Scatter	V5N
1	HC-35-1	8/31/2016	685741.4	602861.8	23.70	115.8	6.9	126	9.5	91.9	90	9	Horizon C	Back Scatter	V5N
1	HC-36-1	8/31/2016	685690.7	602833.7	21.70	117.7	7.6	126	9.5	93.4	90	9	Horizon C	Back Scatter	V5N
1	HC-37-1	8/31/2016	685656.1	602815.9	20.80	113.4	8.1	126	9.5	90.0	90	9	Horizon C	Back Scatter	V5N
1	HC-38-1	8/31/2016	685609.9	602779.5	20.40	115.1	9.2	126	9.5	91.3	90	9	Horizon C	Back Scatter	V5N
1	HC-39-1	8/31/2016	685592.8	602825.4	20.30	118.1	10.2	126	9.5	93.7	90	9	Horizon C	Back Scatter	V5N
1	HC-40-1	8/31/2016	685635.7	602852.3	20.90	116.1	9.9	126	9.5	92.1	90	9	Horizon C	Back Scatter	V5N
1	HC-41-1	8/31/2016	685681.5	602878.3	21.90	121.1	8.2	126	9.5	96.1	90	9	Horizon C	Back Scatter	V5N
1	HC-42-1	8/31/2016	685732.8	602895.5	20.90	117.1	7.8	126	9.5	92.9	90	9	Horizon C	Back Scatter	V5N
1	HC-27-1	9/1/2016	685785.7	602767.0	22.40	115.4	8.6	126	9.5	91.6	90	8	Horizon C	Back Scatter	V5N
1	HC-43-1	9/2/2016	685692.1	602950.2	21.10	127.0	9.9	126	9.5	100.8	90	9	Horizon C	Back Scatter	V5N
2	SF-35-2	8/31/2016	685677.8	602581.4	19.50	110.5	0.9	112.2	9.7	98.5	95	6	Structural Fill	Final Elevation	V5N
1	SF-38-1	8/31/2016	685584.9	602752.8	20.80	110.9	1.7	112.2	9.7	98.8	95	9	Structural Fill	Final Elevation	V5N
1	SF-39-1	8/31/2016	685552.4	602813.4	20.90	109.0	1.4	112.2	9.7	97.1	95	9	Structural Fill	Final Elevation	V5N
1	SF-44-1	8/31/2016	685384.5	603107.9	11.70	109.1	1.7	112.2	9.7	97.2	95	10	Structural Fill	Corridor	V5N
1	SF-45-1	8/31/2016	685416.7	603122.6	11.40	114.9	2.3	112.2	9.7	102.4	95	10	Structural Fill	Corridor	V5N
1	SF-46-1	8/31/2016	685463.1	603138.2	11.50	117.0	2.6	112.2	9.7	104.3	95	10	Structural Fill	Corridor	V5N
1	SF-47-1	8/31/2016	685499.8	603155.4	11.80	113.5	1.5	112.2	9.7	101.2	95	10	Structural Fill	Corridor	V5N
1	SF-48-1	8/31/2016	685543.0	603169.7	12.40	122.2	1.8	112.2	9.7	108.9	95	10	Structural Fill	Corridor	V5N
1	SF-49-1	8/31/2016	685580.7	603190.4	14.10	114.0	2.4	112.2	9.7	101.6	95	10	Structural Fill	Corridor	V5N
1	CS-70-1	9/1/2016	685518.2	603005.1	22.20	107.7	3.9	117	8.6	92.1	90	10W	GDL Cover Soil		V5N
1	CS-71-1	9/1/2016	685425.6	603080.3	17.00	112.9	6.5	117	8.6	96.5	90	10W	GDL Cover Soil		V5N
1	CS-72-1	9/1/2016	685558.2	603808.0	21.10	106.3	4.7	117	8.6	91.3	90	10W	GDL Cover Soil		V5N
1	CS-74-1	9/1/2016	685553.7	603203.7	15.60	111.6	4.5	117	8.6	95.4	90	11	GDL Cover Soil		V5N
1	CS-76-1	9/1/2016	685407.5	603198.1	18.50	119.5	5.3	117	8.6	102.1	90	11	GDL Cover Soil		V5N
1	CS-77-1	9/1/2016	685455.1	603251.1	15.10	113.9	4.3	117	8.6	97.3	90	11	GDL Cover Soil		V5N
1	CS-78-1	9/1/2016	685525.3	603246.0	14.70	117.4	6.8	117	8.6	100.3	90	11	GDL Cover Soil		V5N
1	HC-44-1	9/2/2016	685685.5	602922.7	22.00	114.5	11.1	126	9.5	90.9	90	9	Horizon C	Back Scatter	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
2	SF-44-2	9/1/2016	685376.0	603128.1	12.90	113.7	2.3	112.2	9.7	101.3	95	10	Structural Fill	Corridor	V5N
2	SF-45-2	9/1/2016	685427.3	603121.1	12.40	111.6	0.7	112.2	9.7	99.5	95	10	Structural Fill	Corridor	V5N
2	SF-46-2	9/1/2016	685470.5	603140.4	12.50	112.4	2.3	112.2	9.7	100.2	95	10	Structural Fill	Corridor	V5N
2	SF-47-2	9/1/2016	685511.7	603155.8	12.90	109.0	2.8	112.2	9.7	97.1	95	10	Structural Fill	Corridor	V5N
3	SF-47-3	9/1/2016	685497.9	603142.1	13.70	106.8	1.9	112.2	9.7	95.2	95	10	Structural Fill	Corridor	V5N
2	SF-48-2	9/1/2016	685556.8	603171.4	13.80	115.0	2.6	112.2	9.7	102.5	95	10	Structural Fill	Corridor	V5N
3	SF-48-3	9/1/2016	685539.6	603160.2	14.50	110.6	1.7	112.2	9.7	98.6	95	10	Structural Fill	Corridor	V5N
2	SF-49-2	9/1/2016	685586.0	603189.3	15.50	113.9	2.1	112.2	9.7	101.5	95	10	Structural Fill	Corridor	V5N
3	SF-49-3	9/1/2016	685587.9	603182.3	16.70	110.4	2.3	112.2	9.7	98.4	95	10	Structural Fill	Corridor	V5N
1	HC-45-1	9/2/2016	685613.1	602897.6	20.90	120.4	11.2	126	9.5	95.6	90	9	Horizon C	Back Scatter	V5N
1	HC-46-1	9/2/2016	685561.8	602872.7	20.30	121.0	9.3	126	9.5	96.0	90	9	Horizon C	Back Scatter	V5N
1	HC-47-1	9/9/2016	685537.9	602916.9	20.00	118.8	8.4	126	9.5	94.3	90	9	Horizon C	Back Scatter	V5N
1	HC-48-1	9/9/2016	685583.8	602941.4	20.80	113.6	7.6	126	9.5	90.2	90	9	Horizon C	Back Scatter	V5N
3	SF-44-3	9/2/2016	685386.8	603098.2	13.50	114.6	1.5	112.2	9.7	102.1	95	10	Structural Fill	Corridor	V5N
4	SF-44-4	9/2/2016	685379.0	603091.5	14.30	112.2	1.4	112.2	9.7	100.0	95	10	Structural Fill	Corridor	V5N
3	SF-45-3	9/2/2016	685416.0	603110.5	13.40	112.0	1.4	112.2	9.7	99.8	95	10	Structural Fill	Corridor	V5N
4	SF-45-4	9/2/2016	685414.5	603134.8	14.60	117.7	2.4	112.2	9.7	104.9	95	10	Structural Fill	Corridor	V5N
3	SF-46-3	9/2/2016	685468.8	603132.3	13.60	109.4	2.3	112.2	9.7	97.5	95	10	Structural Fill	Corridor	V5N
4	SF-46-4	9/2/2016	685459.8	603149.2	14.20	115.6	4.5	112.2	9.7	103.0	95	10	Structural Fill	Corridor	V5N
4	SF-47-4	9/2/2016	685504.7	603162.0	15.00	111.7	1.9	112.2	9.7	99.6	95	10	Structural Fill	Corridor	V5N
4	SF-48-4	9/2/2016	685553.1	603160.5	15.90	115.6	1.9	112.2	9.7	103.0	95	10	Structural Fill	Corridor	V5N
4	SF-49-4	9/2/2016	685598.7	603192.5	17.10	115.0	1.5	112.2	9.7	102.5	95	10	Structural Fill	Corridor	V5N
5	SF-44-5	9/6/2016	685384.8	603100.8	15.70	112.6	1.3	112.2	9.7	100.4	95	10	Structural Fill	Corridor	V5N
5	SF-45-5	9/6/2016	685421.0	603123.8	15.50	111.2	0.6	112.2	9.7	99.1	95	10	Structural Fill	Corridor	V5N
5	SF-46-5	9/6/2016	685468.8	603153.0	15.50	114.8	1.6	112.2	9.7	102.3	95	10	Structural Fill	Corridor	V5N
5	SF-47-5	9/6/2016	685504.2	603163.1	16.00	112.2	2.0	112.2	9.7	100.0	95	10	Structural Fill	Corridor	V5N
5	SF-48-5	9/6/2016	685545.7	603167.0	17.00	114.0	1.0	112.2	9.7	101.6	95	10	Structural Fill	Corridor	V5N
5	SF-49-5	9/6/2016	685589.2	603187.0	17.70	115.4	0.7	112.2	9.7	102.9	95	10	Structural Fill	Corridor	V5N
1	SF-74-1	9/6/2016	684991.4	603626.7	10.00	110.1	2.2	112.2	9.7	98.1	95	7	Structural Fill		V5N
1	SF-75-1	9/6/2016	685034.3	603648.9	9.00	115.2	1.3	112.2	9.7	102.7	95	7	Structural Fill		V5N
1	SF-76-1	9/6/2016	685079.9	603671.0	8.10	116.6	1.1	112.2	9.7	103.9	95	7	Structural Fill		V5N
1	SF-77-1	9/6/2016	685125.3	603689.7	7.30	112.0	1.5	112.2	9.7	99.8	95	7	Structural Fill		V5N
1	SF-78-1	9/6/2016	685172.3	603710.2	7.70	108.3	1.5	112.2	9.7	96.5	95	7	Structural Fill		V5N
1	CS-88-1	9/9/2016	685132.1	603471.8	12.00	112.8	12.6	117	8.6	96.4	90	12	GDL Cover Soil		V5N
1	CS-89-1	9/9/2016	685169.3	603521.9	13.90	110.0	12.5	117	8.6	94.0	90	12	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-90-1	9/9/2016	685268.8	603557.9	7.20	125.5	5.3	117	8.6	107.3	90	12	GDL Cover Soil		V5N
1	CS-91-1	9/9/2016	685224.0	603612.4	6.10	123.9	4.4	117	8.6	105.9	90	12	GDL Cover Soil		V5N
1	CS-92-1	9/9/2016	685120.8	603577.5	13.30	117.7	12.5	117	8.6	100.6	90	12	GDL Cover Soil		V5N
1	CS-93-1	9/9/2016	685042.5	603563.7	10.70	112.8	12.6	117	8.6	96.4	90	12	GDL Cover Soil		V5N
1	HC-49-1	9/9/2016	685632.4	602967.4	22.10	120.9	8.3	126	9.5	96.0	90	9	Horizon C	Back Scatter	V5N
1	HC-50-1	9/9/2016	685653.4	602989.2	21.40	114.6	7.8	126	9.5	91.0	90	9	Horizon C	Back Scatter	V5N
1	HC-51-1	9/12/2016	685642.6	603022.5	21.10	117.7	7.3	126	9.5	93.4	90	10W	Horizon C	Back Scatter	V5N
1	HC-52-1	9/12/2016	685608.9	603003.9	21.90	114.8	7.7	126	9.5	91.1	90	10W	Horizon C	Back Scatter	V5N
1	SF-25-1	9/9/2016	685816.9	602808.8	19.70	107.9	0.7	112.2	9.7	96.2	95	9	Structural Fill		V5N
1	SF-26-1	9/9/2016	685807.0	602858.9	19.90	107.2	0.9	112.2	9.7	95.5	95	9	Structural Fill		V5N
1	SF-27-1	9/9/2016	685764.8	602882.0	20.30	112.2	1.0	112.2	9.7	100.0	95	9	Structural Fill		V5N
1	SF-28-1	9/9/2016	685759.8	602946.2	20.90	107.7	1.0	112.2	9.7	96.0	95	9	Structural Fill		V5N
1	SF-29-1	9/9/2016	685724.7	602967.2	20.90	109.8	0.7	112.2	9.7	97.9	95	9	Structural Fill		V5N
1	SF-34-1	9/9/2016	685609.4	603156.3	18.80	107.3	1.4	112.2	9.7	95.6	95	10	Structural Fill	Final Elevation	V5N
1	SF-40-1	9/9/2016	685511.6	602875.5	20.20	116.1	1.3	112.2	9.7	103.5	95	9	Structural Fill	Final Elevation	V5N
6	SF-44-6	9/9/2016	685379.5	603113.0	16.70	119.9	1.2	112.2	9.7	106.9	95	10	Structural Fill	Corridor - Final Elevation	V5N
6	SF-45-6	9/9/2016	685417.8	603125.7	17.70	111.4	1.3	112.2	9.7	99.3	95	10	Structural Fill	Corridor - Final Elevation	V5N
6	SF-46-6	9/9/2016	685459.9	603141.3	17.20	118.2	1.2	112.2	9.7	105.3	95	10	Structural Fill	Corridor - Final Elevation	V5N
6	SF-47-6	9/9/2016	685503.4	603156.5	17.40	111.4	1.3	112.2	9.7	99.3	95	10	Structural Fill	Corridor - Final Elevation	V5N
6	SF-48-6	9/9/2016	685542.9	603167.8	18.00	109.7	0.5	112.2	9.7	97.8	95	10	Structural Fill	Corridor - Final Elevation	V5N
6	SF-49-6	9/9/2016	685585.9	603190.5	18.10	117.2	1.1	112.2	9.7	104.5	95	10	Structural Fill	Corridor - Final Elevation	V5N
1	HC-53-1	9/12/2016	685562.7	602969.1	20.70	113.7	5.2	126	9.5	90.2	90	10W	Horizon C	Back Scatter	V5N
1	HC-54-1	9/12/2016	685924.9	602941.0	20.00	118.7	7.4	126	9.5	94.2	90	10W	Horizon C	Back Scatter	V5N
1	HC-55-1	9/12/2016	685496.4	603002.0	22.20	121.1	7.0	126	9.5	96.1	90	10W	Horizon C	Back Scatter	V5N
1	HC-56-1	9/12/2016	685541.3	603022.2	20.60	117.7	6.4	126	9.5	93.4	90	10W	Horizon C	Back Scatter	V5N
1	HC-57-1	9/12/2016	685582.8	603050.8	23.00	117.1	7.1	126	9.5	92.9	90	10W	Horizon C	Back Scatter	V5N
1	HC-58-1	9/12/2016	685623.4	603079.4	19.70	118.5	7.6	126	9.5	94.0	90	10W	Horizon C	Back Scatter	V5N
1	HC-59-1	9/12/2016	685595.3	603109.6	18.70	113.4	7.2	126	9.5	90.0	90	10W	Horizon C	Back Scatter	V5N
1	HC-60-1	9/12/2016	685558.4	603089.5	21.30	114.9	10.0	126	9.5	91.2	90	10W	Horizon C	Back Scatter	V5N
1	HC-61-1	9/12/2016	685513.2	603080.7	21.00	120.7	9.0	126	9.5	95.8	90	10W	Horizon C	Back Scatter	V5N
1	HC-62-1	9/12/2016	685479.1	603082.3	20.10	115.2	9.0	126	9.5	91.4	90	10W	Horizon C	Back Scatter	V5N
1	HC-63-1	9/12/2016	685464.5	603107.4	16.30	127.2	8.2	126	9.5	101.0	90	10W	Horizon C	Back Scatter	V5N
1	HC-64-1	9/12/2016	685549.8	603137.7	17.10	119.2	9.1	126	9.5	94.6	90	10W	Horizon C	Back Scatter	V5N
1	HC-84-1	9/16/2016	685149.3	603473.7	12.90	140.0	6.5	126	9.5	111.1	90	12	Horizon C	Back Scatter	V5N
1	HC-85-1	9/16/2016	685181.9	603500.3	14.50	132.8	7.4	126	9.5	105.4	90	12	Horizon C	Back Scatter	V5N

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JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	SF-31-1	9/12/2016	685698.8	603047.0	20.60	104.8	2.1	112.2	9.7	93.4	95	10W	Structural Fill	SF-31-1R (Page 10)	V5N
1	SF-32-1	9/12/2016	685674.9	603084.1	20.10	114.3	2.2	112.2	9.7	101.9	95	10W	Structural Fill	Final Elevation	V5N
1	SF-33-1	9/12/2016	685636.1	603109.1	19.80	116.7	1.4	112.2	9.7	104.0	95	10W	Structural Fill	Final Elevation	V5N
1	SF-41-1	9/12/2016	685488.9	602934.6	20.10	117.4	1.3	112.2	9.7	104.6	95	10W	Structural Fill	Final Elevation	V5N
1	SF-42-1	9/12/2016	685453.4	602993.1	18.80	113.6	1.3	112.2	9.7	101.2	95	10W	Structural Fill		V5N
1	SF-43-1	9/12/2016	685417.9	603050.3	18.00	120.5	1.6	112.2	9.7	107.4	95	10W	Structural Fill		V5N
2	SF-74-2	9/12/2016	685922.0	603639.7	11.10	107.4	1.4	112.2	9.7	95.7	95	7	Structural Fill	Final Elevation	V5N
2	SF-75-2	9/12/2016	685032.9	603647.8	10.20	111.3	1.9	112.2	9.7	99.2	95	7	Structural Fill		V5N
2	SF-76-2	9/12/2016	685078.6	603666.6	9.40	107.8	1.0	112.2	9.7	96.1	95	7	Structural Fill		V5N
2	SF-77-2	9/12/2016	685124.8	603686.5	8.30	122.6	0.4	112.2	9.7	109.3	95	7	Structural Fill		V5N
2	SF-78-2	9/12/2016	685171.5	603702.0	8.50	120.9	1.0	112.2	9.7	107.8	95	7	Structural Fill		V5N
1	CS-79-1	9/14/2016	685460.8	603320.9	12.30	108.4	4.4	117	8.6	92.6	90	13	GDL Cover Soil		V5N
1	CS-80-1	9/14/2016	685363.7	603260.3	14.80	112.2	4.0	117	8.6	95.9	90	13	GDL Cover Soil		V5N
1	CS-81-1	9/14/2016	685314.2	603305.3	16.60	111.4	2.4	117	8.6	95.2	90	13	GDL Cover Soil		V5N
1	CS-82-1	9/14/2016	685340.0	603361.1	14.60	109.4	3.6	117	8.6	93.5	90	13	GDL Cover Soil		V5N
1	CS-83-1	9/14/2016	685428.3	603400.0	10.40	105.4	3.7	117	8.6	90.1	90	13	GDL Cover Soil		V5N
1	CS-84-1	9/14/2016	685372.9	603440.9	8.70	112.6	4.6	117	8.6	96.2	90	13	GDL Cover Soil		V5N
1	CS-85-1	9/14/2016	685225.6	603341.5	13.50	107.2	4.5	117	8.6	91.6	90	13	GDL Cover Soil		V5N
1	CS-86-1	9/14/2016	685194.1	603420.0	11.10	108.7	4.3	117	8.6	92.9	90	13	GDL Cover Soil		V5N
1	CS-87-1	9/14/2016	685379.7	603494.2	7.80	114.4	4.7	117	8.6	97.8	90	13	GDL Cover Soil		V5N
1	SF-30-1	9/14/2016	685715.6	603030.6	20.40	109.0	2.5	112.2	9.7	97.1	95	9	Structural Fill		V5N
1	HC-86-1	9/16/2016	685218.9	603514.8	13.40	125.6	6.5	126	9.5	99.7	90	12	Horizon C	Back Scatter	V5N
1	HC-87-1	9/16/2016	685257.0	603523.4	9.70	137.8	8.5	126	9.5	109.4	90	12	Horizon C	Back Scatter	V5N
1	HC-88-1	9/16/2016	685222.5	603581.8	8.20	135.3	8.3	126	9.5	107.4	90	12	Horizon C	Back Scatter	V5N
1	HC-89-1	9/16/2016	685193.5	603514.6	12.40	121.4	7.5	126	9.5	96.3	90	12	Horizon C	Back Scatter	V5N
1	HC-90-1	9/16/2016	685154.9	603541.7	14.40	130.7	8.2	126	9.5	103.7	90	12	Horizon C	Back Scatter	V5N
1	HC-91-1	9/16/2016	685130.5	603507.9	15.30	126.3	6.2	126	9.5	100.2	90	12	Horizon C	Back Scatter	V5N
1	HC-92-1R	9/16/2016	685103.9	603560.3	13.90	131.2	7.8	126	9.5	104.1	90	12	Horizon C	Back Scatter; re-test	V5N
1	HC-93-1	9/16/2016	685158.5	603571.5	13.70	129.0	7.8	126	9.5	102.4	90	12	Horizon C	Back Scatter	V5N
1	HC-94-1	9/16/2016	685188.9	603612.2	8.60	135.5	7.0	126	9.5	107.5	90	12	Horizon C	Back Scatter	V5N
1	HC-95-1	9/16/2016	685154.8	603655.0	7.80	117.6	9.6	126	9.5	93.3	90	12	Horizon C	Back Scatter	V5N
1	HC-96-1	9/16/2016	685118.9	603631.3	9.50	113.4	9.5	126	9.5	90.0	90	12	Horizon C	Back Scatter	V5N
1	HC-97-1	9/16/2016	685068.2	603614.3	10.00	115.0	6.3	126	9.5	91.3	90	12	Horizon C	Back Scatter	V5N
1	HC-65-1	9/21/2016	685396.8	603159.5	16.50	122.8	12.4	126	9.5	97.5	90	13	Horizon C	Back Scatter	V5N
1	HC-66-1	9/21/2016	685443.4	603171.9	15.90	124.1	12.2	126	9.5	98.5	90	13	Horizon C	Back Scatter	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	HC-67-1	9/21/2016	685504.6	603210.9	18.70	130.8	13.2	126	9.5	103.8	90	13	Horizon C	Back Scatter	V5N
1	SF-61-1	9/16/2016	685187.4	603409.9	12.30	115.1	1.1	112.2	9.7	102.6	95	12	Structural Fill		V5N
1	SF-62-1	9/16/2016	685220.9	603427.0	11.50	114.8	1.8	112.2	9.7	102.3	95	12	Structural Fill		V5N
1	SF-63-1	9/16/2016	685258.9	603458.9	9.70	116.0	1.8	112.2	9.7	103.4	95	12	Structural Fill		V5N
1	SF-64-1	9/16/2016	685298.0	603490.9	9.00	117.8	1.0	112.2	9.7	105.0	95	12	Structural Fill		V5N
1	SF-65-1	9/16/2016	685327.5	603571.4	8.70	118.9	1.4	112.2	9.7	106.0	95	12	Structural Fill		V5N
1	SF-66-1	9/16/2016	685294.2	603549.0	8.50	115.0	1.4	112.2	9.7	102.5	95	12	Structural Fill		V5N
1	SF-67-1	9/16/2016	685264.5	603588.1	7.50	114.9	1.3	112.2	9.7	102.4	95	12	Structural Fill	Final Elevation	V5N
1	SF-68-1	9/16/2016	685234.2	603626.7	7.10	120.5	1.7	112.2	9.7	107.4	95	12	Structural Fill		V5N
1	SF-69-1	9/16/2016	685202.1	603666.6	7.40	115.5	1.5	112.2	9.7	102.9	95	12	Structural Fill		V5N
1	SF-70-1	9/16/2016	685149.2	603437.2	13.00	117.3	1.1	112.2	9.7	104.5	95	12	Structural Fill		V5N
1	SF-71-1	9/16/2016	685105.7	603488.2	12.90	117.5	1.1	112.2	9.7	104.7	95	12	Structural Fill		V5N
1	SF-72-1	9/16/2016	685061.4	603541.1	12.10	119.4	1.5	112.2	9.7	106.4	95	12	Structural Fill		V5N
1	SF-73-1	9/16/2016	685019.3	603590.9	11.10	109.6	1.5	112.2	9.7	97.7	95	12	Structural Fill		V5N
3	SF-75-3	9/16/2016	685048.3	603631.9	10.80	112.4	1.1	112.2	9.7	100.2	95	7	Structural Fill	Final Elevation	V5N
1	HC-68-1	9/21/2016	685468.1	603245.9	15.60	126.8	12.5	126	9.5	100.6	90	13	Horizon C	Back Scatter	V5N
1	HC-69-1	9/21/2016	685415.3	603236.1	18.50	120.0	11.5	126	9.5	95.2	90	13	Horizon C	Back Scatter	V5N
1	HC-70-1	9/21/2016	685377.4	603205.9	19.00	120.2	12.5	126	9.5	95.4	90	13	Horizon C	Back Scatter	V5N
1	HC-71-1	9/21/2016	685343.8	603244.9	15.80	136.7	11.6	126	9.5	108.5	90	13	Horizon C	Back Scatter	V5N
1	HC-72-1	9/21/2016	685385.8	603275.1	15.00	125.8	12.5	126	9.5	99.8	90	13	Horizon C	Back Scatter	V5N
1	HC-73-1	9/21/2016	685455.7	603281.1	14.80	125.9	12.7	126	9.5	99.9	90	13	Horizon C	Back Scatter	V5N
1	HC-74-1	9/21/2016	685420.3	603319.5	13.60	133.3	13.8	126	9.5	105.8	90	13	Horizon C	Back Scatter	V5N
1	HC-75-1	9/21/2016	685356.5	603338.7	15.60	118.7	9.8	126	9.5	94.2	90	13	Horizon C	Back Scatter	V5N
1	HC-76-1	9/21/2016	685317.1	603293.5	17.40	114.0	10.5	126	9.5	90.5	90	13	Horizon C	Back Scatter	V5N
1	HC-77-1	9/21/2016	685280.8	603340.2	16.70	120.3	8.9	126	9.5	95.5	90	13	Horizon C	Back Scatter	V5N
1	HC-78-1	9/21/2016	685319.9	603353.4	15.80	128.0	8.9	126	9.5	101.6	90	13	Horizon C	Back Scatter	V5N
1	HC-79-1	9/21/2016	685392.9	603361.5	14.80	113.6	11.0	126	9.5	90.2	90	13	Horizon C	Back Scatter	V5N
1	HC-80-1	9/21/2016	685366.5	603390.4	14.10	113.4	11.0	126	9.5	90.0	90	13	Horizon C	Back Scatter	V5N
1	HC-81-1	9/21/2016	685330.2	603424.2	18.60	114.0	9.9	126	9.5	90.5	90	13	Horizon C	Back Scatter	V5N
1	HC-82-1	9/21/2016	685315.5	603390.5	14.90	118.9	9.6	126	9.5	94.4	90	13	Horizon C	Back Scatter	V5N
1	HC-83-1	9/21/2016	685251.5	603374.3	16.20	117.5	9.2	126	9.5	93.3	90	13	Horizon C	Back Scatter	V5N
1	HC-20-1	8/11/2016	685874.8	602528.7	19.50	117.0	5.2	126	9.5	92.9	90	3	Horizon C	Back Scatter	V5N
1	HC-21-1	8/19/2016	685852.9	602578.1	17.60	117.1	9.1	126	9.5	92.9	90	5	Horizon C	Back Scatter	V5N
1	HC-22-1	8/19/2016	685815.3	602550.0	20.10	118.5	8.9	126	9.5	94.0	90	5	Horizon C	Back Scatter	V5N
2	SF-25-2	9/21/2016	685815.2	602802.2	20.30	107.3	1.2	112.2	9.7	95.6	95	9	Structural Fill	Final Elevation	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
2	SF-26-2	9/21/2016	685805.7	602859.6	20.20	109.0	1.2	112.2	9.7	97.1	95	9	Structural Fill	Final Elevation	V5N
2	SF-27-2	9/21/2016	685764.4	602879.3	21.60	111.9	1.1	112.2	9.7	99.7	95	9	Structural Fill	Final Elevation	V5N
2	SF-28-2	9/21/2016	685759.9	602945.9	21.30	105.1	0.9	112.2	9.7	93.7	95	9	Structural Fill	SF-28-2R (Page 10)	V5N
1	SF-31-1R	9/21/2016	685674.0	603030.0	20.60	106.6	1.9	112.2	9.7	95.0	95	10W	Structural Fill	Re-test from 9/12/16	V5N
1	SF-50-1	9/21/2016	685544.9	603236.4	16.10	116.3	3.7	112.2	9.7	103.7	95	11	Structural Fill		V5N
1	SF-51-1	9/21/2016	685512.5	603275.8	14.90	109.0	2.7	112.2	9.7	97.1	95	11	Structural Fill		V5N
1	SF-52-1	9/21/2016	685474.8	603320.8	13.50	111.2	2.0	112.2	9.7	99.1	95	13	Structural Fill		V5N
1	SF-53-1	9/21/2016	685451.1	603352.7	12.30	112.6	2.5	112.2	9.7	100.4	95	13	Structural Fill		V5N
1	SF-54-1	9/21/2016	685418.6	603393.2	11.20	112.2	1.8	112.2	9.7	100.0	95	13	Structural Fill		V5N
1	SF-55-1	9/21/2016	685388.8	603432.7	10.00	116.4	1.2	112.2	9.7	103.7	95	13	Structural Fill		V5N
1	SF-56-1	9/21/2016	685357.4	603473.3	9.20	109.9	1.1	112.2	9.7	98.0	95	13	Structural Fill		V5N
1	SF-57-1	9/21/2016	685345.4	603162.0	16.80	109.2	2.7	112.2	9.7	97.3	95	13	Structural Fill	Final Elevation	V5N
1	SF-58-1	9/21/2016	685313.8	603223.0	16.40	108.7	1.7	112.2	9.7	96.9	95	13	Structural Fill	Final Elevation	V5N
1	SF-59-1	9/21/2016	685280.5	603280.7	15.70	117.8	1.6	112.2	9.7	105.0	95	11	Structural Fill	Final Elevation	V5N
1	SF-60-1	9/21/2016	685237.1	603333.1	15.10	110.0	1.6	112.2	9.7	98.0	95	13	Structural Fill	Final Elevation	V5N
2	SF-65-2	9/21/2016	685327.5	603511.4	9.50	106.2	1.2	112.2	9.7	94.7	95	12	Structural Fill	SF-65-2R (Page 11)	V5N
2	SF-67-2	9/21/2016	685261.2	603594.2	8.50	110.8	1.4	112.2	9.7	98.8	95	12	Structural Fill		V5N
2	SF-68-2	9/21/2016	685235.2	603625.3	8.10	106.6	1.3	112.2	9.7	95.0	95	12	Structural Fill		V5N
2	SF-69-2	9/21/2016	685200.6	603661.2	8.40	111.1	2.1	112.2	9.7	99.0	95	12	Structural Fill		V5N
3	SF-76-3	9/21/2016	685079.7	603667.9	10.20	113.9	1.4	112.2	9.7	101.5	95	7	Structural Fill	Final Elevation	V5N
3	SF-77-3	9/21/2016	685126.3	603688.7	9.30	115.5	1.4	112.2	9.7	102.9	95	7	Structural Fill	Final Elevation	V5N
3	SF-78-3	9/21/2016	685171.1	603708.0	9.80	107.5	2.0	112.2	9.7	95.8	95	7	Structural Fill	Final Elevation	V5N
2	SF-28-2R	9/28/2016	685759.9	602945.9	21.30	110.0	1.3	112.2	9.7	98.0	95	9	Structural Fill	Re-test from 9/21/16	V5N
2	SF-29-2	9/28/2016	685724.2	602963.6	22.10	116.1	1.4	112.2	9.7	103.5	95	9	Structural Fill	Final Elevation	V5N
2	SF-30-2	9/28/2016	685721.9	603032.1	20.80	108.6	1.0	112.2	9.7	96.8	95	10W	Structural Fill	Final Elevation	V5N
2	SF-31-2	9/28/2016	685681.0	603029.6	21.10	107.2	1.3	112.2	9.7	95.5	95	10W	Structural Fill	Final Elevation	V5N
2	SF-42-2	9/28/2016	685452.8	602991.9	19.50	110.7	2.8	112.2	9.7	98.7	95	10W	Structural Fill	Final Elevation	V5N
2	SF-43-2	9/28/2016	685420.1	603045.0	18.80	107.3	2.4	112.2	9.7	95.6	95	10W	Structural Fill	Final Elevation	V5N
2	SF-50-2	9/28/2016	685545.7	603239.7	17.30	116.2	2.0	112.2	9.7	103.6	95	11	Structural Fill	Final Elevation	V5N
2	SF-51-2	9/28/2016	685573.3	603275.6	15.50	111.4	1.3	112.2	9.7	99.3	95	11	Structural Fill	Final Elevation	V5N
2	SF-52-2	9/28/2016	685477.1	603319.6	14.10	114.7	1.5	112.2	9.7	102.2	95	13	Structural Fill	Final Elevation	V5N
2	SF-53-2	9/28/2016	685450.4	603352.9	13.10	113.3	1.6	112.2	9.7	101.0	95	13	Structural Fill	Final Elevation	V5N
2	SF-54-2	9/28/2016	685422.3	603390.4	12.00	114.2	1.2	112.2	9.7	101.8	95	13	Structural Fill	Final Elevation	V5N
2	SF-55-2	9/28/2016	685390.8	603429.9	10.80	115.1	1.0	112.2	9.7	102.6	95	13	Structural Fill	Final Elevation	V5N
2	SF-56-2	9/28/2016	685358.3	603469.2	10.00	120.1	1.1	112.2	9.7	107.0	95	13	Structural Fill	Final Elevation	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

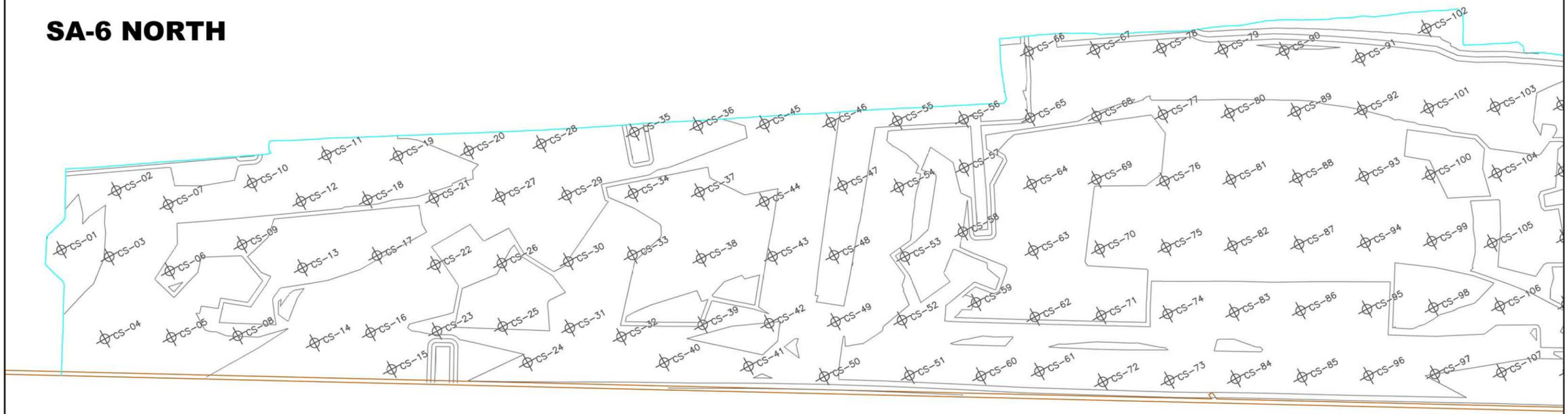
LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
2	SF-61-2	9/28/2016	685193.4	603386.6	13.30	122.8	2.2	112.2	9.7	109.4	95	13	Structural Fill	Final Elevation	V5N
2	SF-62-2	9/28/2016	685223.2	603428.2	12.50	110.4	1.0	112.2	9.7	98.4	95	13	Structural Fill	Final Elevation	V5N
2	SF-63-2	9/28/2016	685259.7	603460.0	11.10	113.6	1.4	112.2	9.7	101.2	95	13	Structural Fill	Final Elevation	V5N
2	SF-64-2	9/28/2016	685299.4	603486.9	9.80	114.6	1.6	112.2	9.7	102.1	95	13	Structural Fill	Final Elevation	V5N
2	SF-65-2R	9/28/2016	685327.5	603511.4	9.50	119.8	1.1	112.2	9.7	106.8	95	13	Structural Fill	Re-test from 9/21	V5N
2	SF-66-2	9/28/2016	685298.5	603550.4	9.50	118.1	1.2	112.2	9.7	105.3	95	12	Structural Fill	Final Elevation	V5N
3	SF-67-3	9/28/2016	685263.1	603589.9	9.50	113.2	1.1	112.2	9.7	100.9	95	12	Structural Fill	Final Elevation	V5N
3	SF-68-3	9/28/2016	685233.3	603627.8	9.40	112.8	1.4	112.2	9.7	100.5	95	12	Structural Fill	Final Elevation	V5N
3	SF-69-3	9/28/2016	685201.4	603664.6	9.60	113.8	1.6	112.2	9.7	101.4	95	12	Structural Fill	Final Elevation	V5N
2	SF-70-2	9/28/2016	685149.5	603436.1	14.00	116.6	1.2	112.2	9.7	103.9	95	12	Structural Fill	Final Elevation	V5N
2	SF-71-2	9/28/2016	685102.8	603489.6	13.40	111.7	1.4	112.2	9.7	99.6	95	12	Structural Fill	Final Elevation	V5N
2	SF-72-2	9/28/2016	685058.3	603539.5	12.90	110.4	1.8	112.2	9.7	98.4	95	12	Structural Fill	Final Elevation	V5N
2	SF-73-2	9/28/2016	685017.1	603590.8	12.20	111.8	1.2	112.2	9.7	99.6	95	12	Structural Fill	Final Elevation	V5N

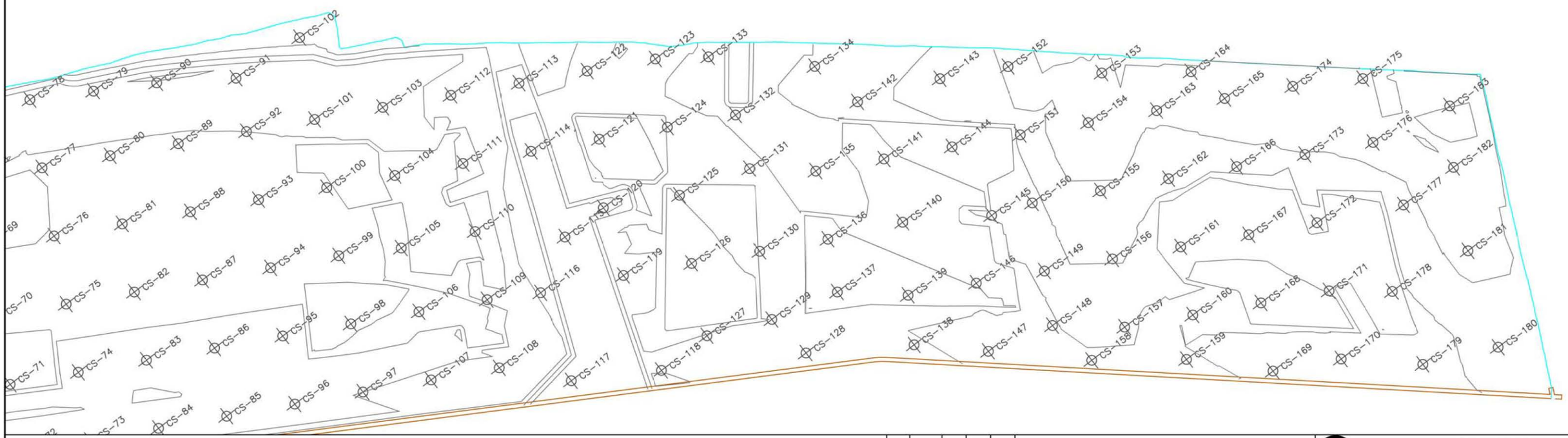
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again

2.0 Test Location Drawings

- **GDL Cover Soil (Initial and Reduced Frequency)**
- **Horizon C**
- **Structural Fill**

SA-6 NORTH





NOTES:

1) Testing locations are based on testing frequency specified in 012315 3.13 A. 2. a.

LEGEND:

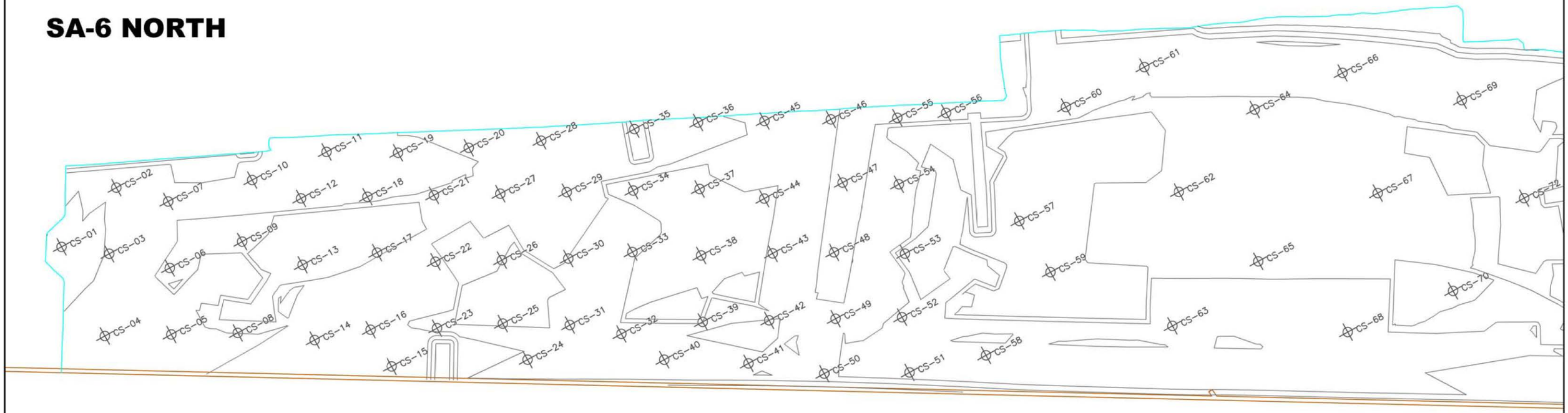
COMPACTION TEST LOCATION — CS-XX

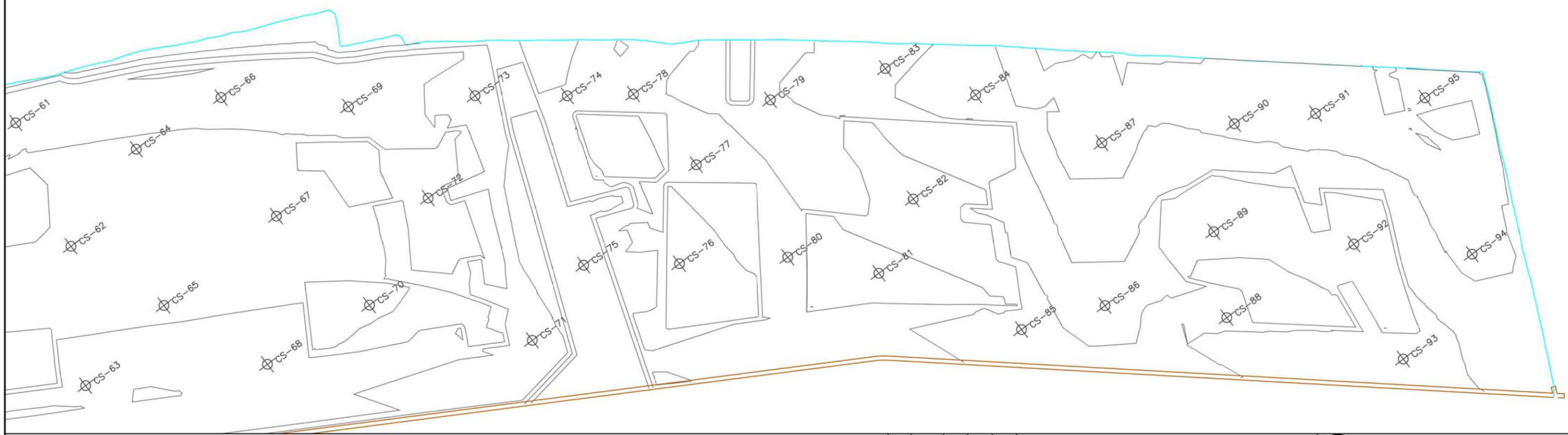
GDL COVER SOIL ELEVATION CONTOURS

ENTACT
302 Unity Plaza
Latrobe, PA 15650
412-357-1102

DRAWING NAME	GDL COVER SOIL COMPACTION LOCATIONS				
PROJECT NAME & LOCATION	HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ				
DRAWN BY	T. COLLIER	APPROVED BY			
DATE	7/12/16	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

SA-6 NORTH





NOTES:

1) Testing locations are based on testing frequency specified by approval of RFI-076

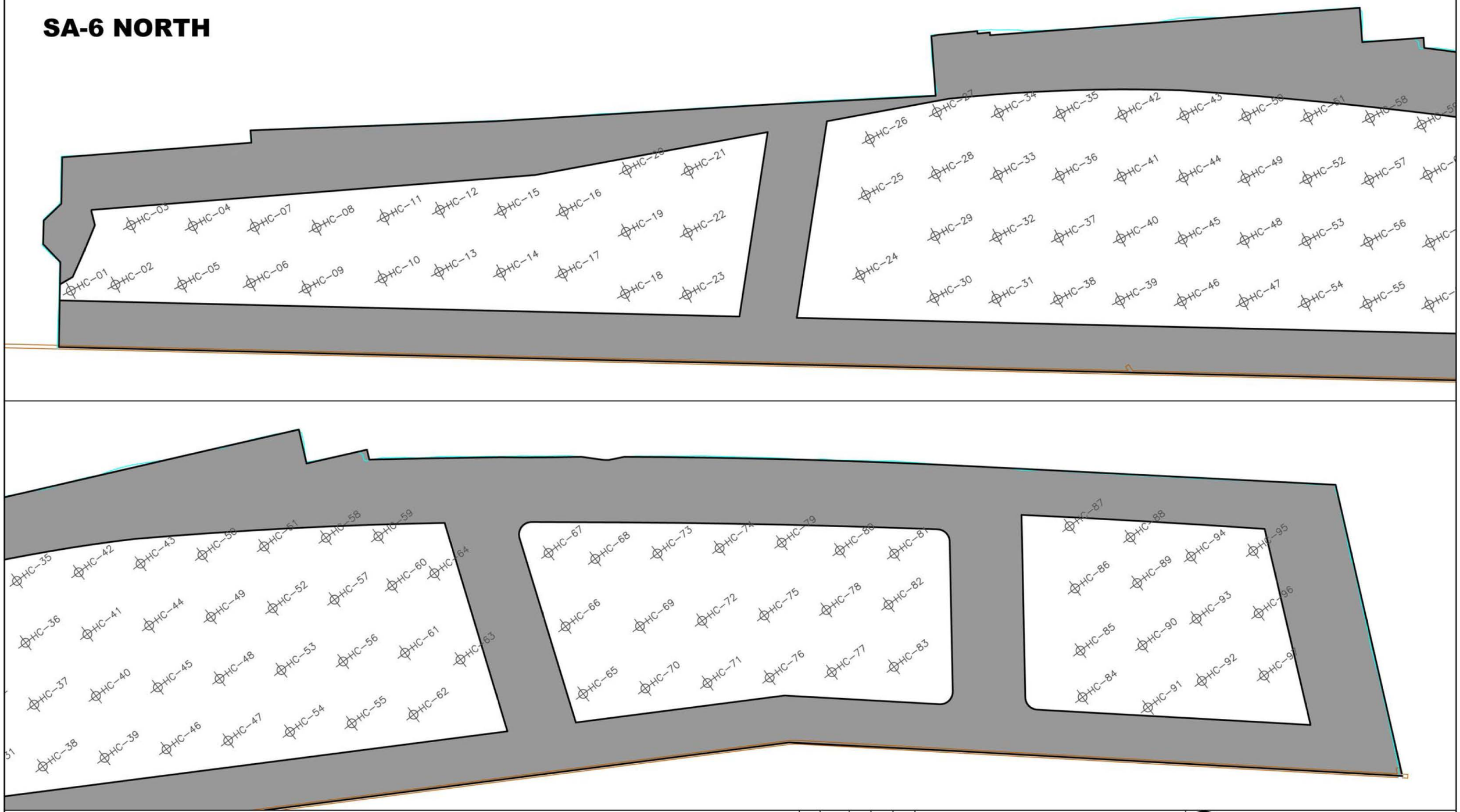
LEGEND:

COMPACTION TEST LOCATION — CS-XX

GDL COVER SOIL ELEVATION CONTOURS

ENTACT 302 Unity Plaza Latrobe, PA 15650 412-357-1102					
DRAWING NAME	GDL COVER SOIL REDUCED FREQUENCY COMPACTION LOCATIONS				
PROJECT NAME & LOCATION	HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ				
DRAWN BY	T. COLLIER	APPROVED BY			
DATE	8/18/16	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

SA-6 NORTH



NOTES:

1) Testing locations are based on testing frequency specified in 012315 3.13 A. 2. a.

LEGEND:

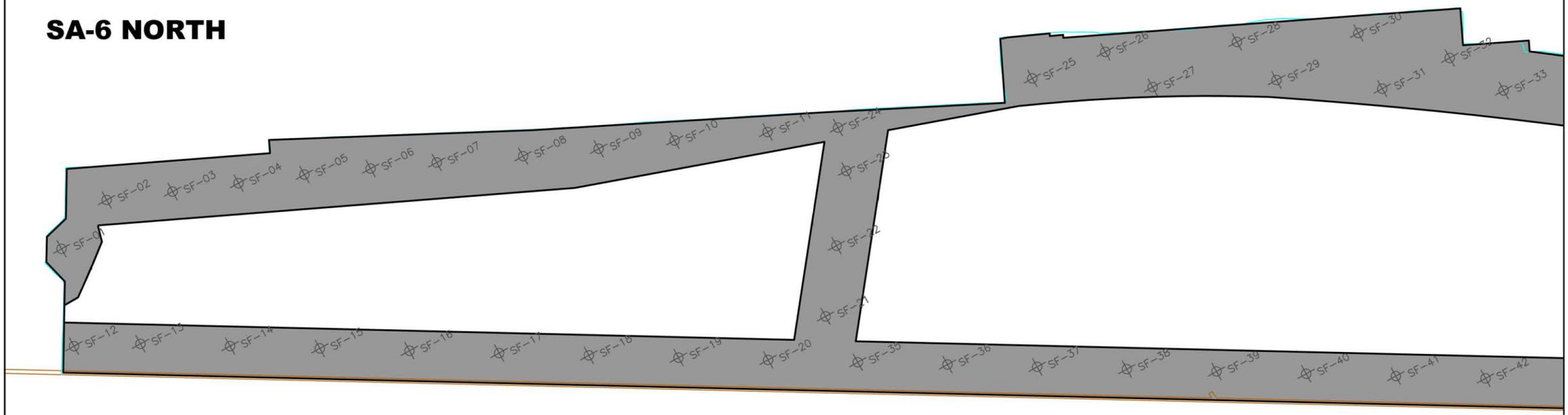
COMPACTION TEST LOCATION — HC-XX

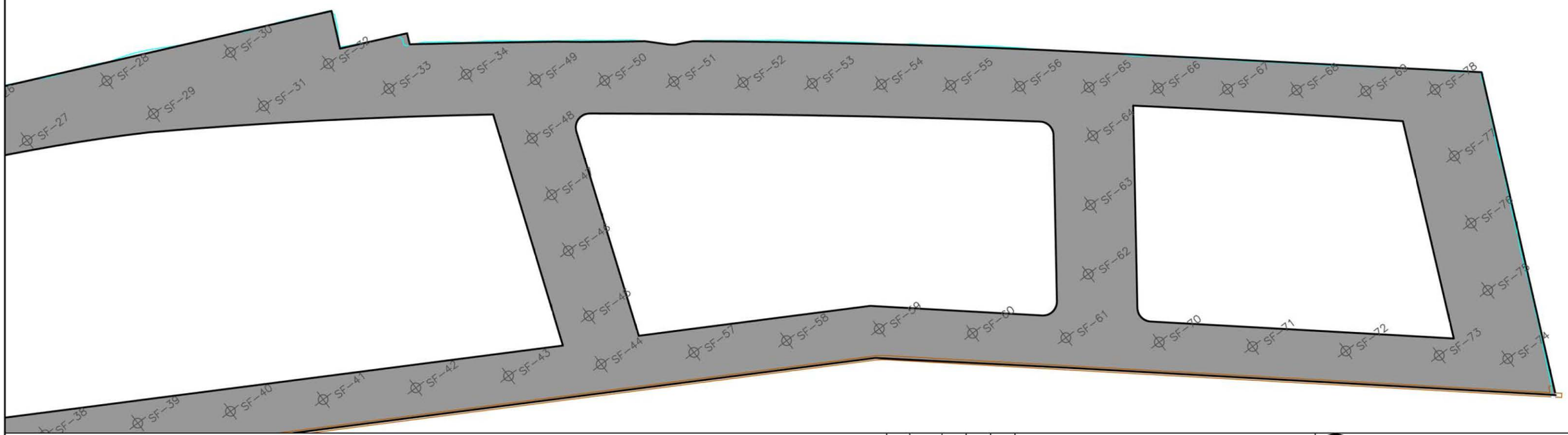
STRUCTURAL FILL LIMITS

ENTACT
302 Unity Plaza
Latrobe, PA 15650
412-357-1102

DRAWING NAME	HORIZON C COMPACTION LOCATIONS				
PROJECT NAME & LOCATION	HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ				
DRAWN BY	T. COLLIER	APPROVED BY			
DATE	7/15/16	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

SA-6 NORTH





NOTES:

1) Testing locations are based on testing frequency specified in 012315 3.13 A. 2. a.

LEGEND:

COMPACTION TEST LOCATION — SF-XX

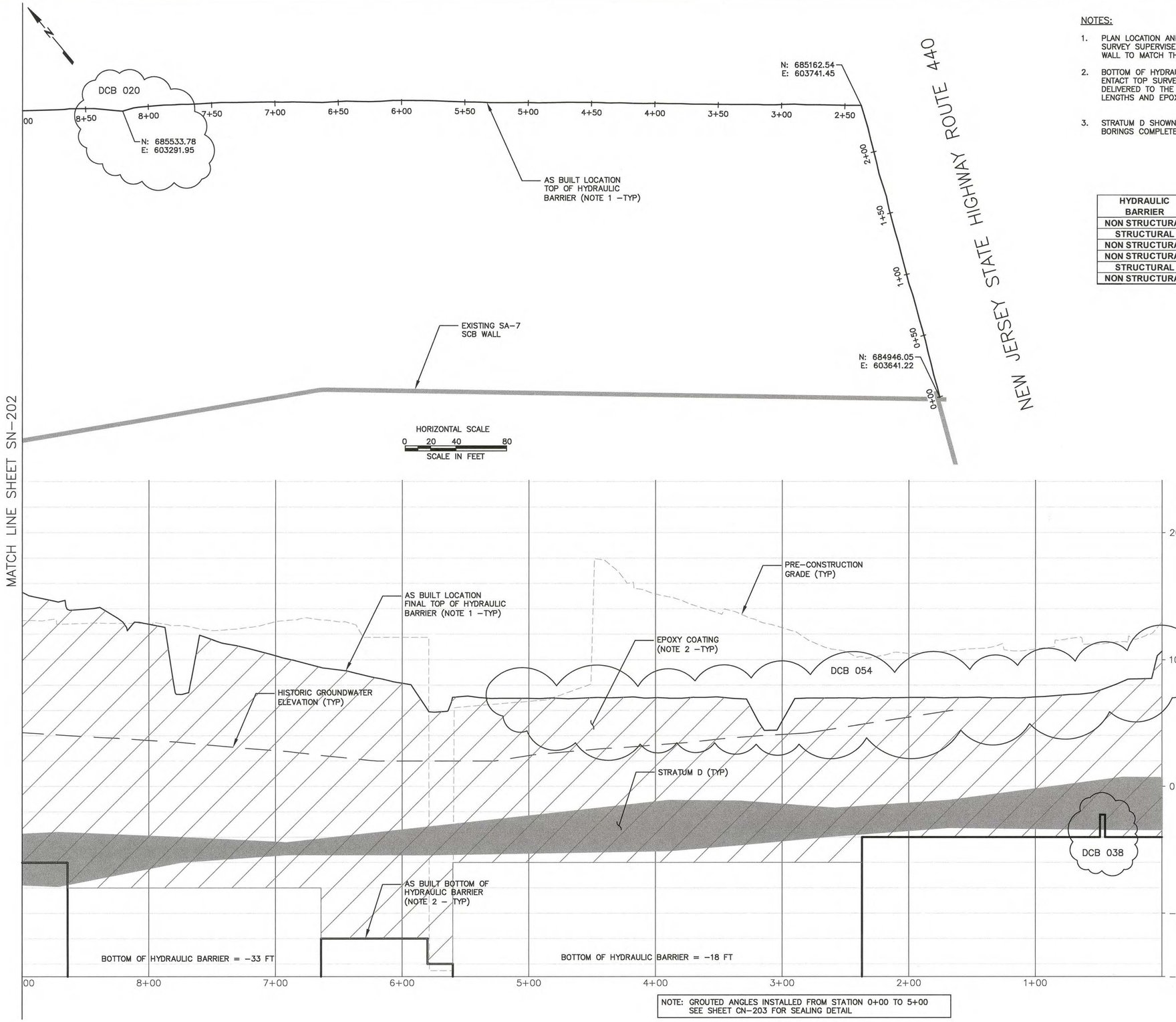
STRUCTURAL FILL LIMITS

ENTACT
302 Unity Plaza
Latrobe, PA 15650
412-357-1102

DRAWING NAME	STRUCTURAL FILL COMPACTION LOCATIONS				
PROJECT NAME & LOCATION	HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ				
DRAWN BY	T. COLLIER	APPROVED BY			
DATE	7/15/16	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

APPENDIX N

SHEETPILE DOCUMENTATION



NOTE: GROUTED ANGLES INSTALLED FROM STATION 0+00 TO 5+00
SEE SHEET CN–203 FOR SEALING DETAIL

NOTES:

1. PLAN LOCATION AND TOP ELEVATION OF HYDRAULIC BARRIER BASED ON SURVEY SUPERVISED BY MASER CONSULTING AND UPON CUTTING OF THE WALL TO MATCH THE INSTALLED LINER GRADE.
2. BOTTOM OF HYDRAULIC BARRIER AND EXTENT OF EPOXY COATING BASED ON ENTACT TOP SURVEY AND SHEET PILE FABRICATION DRAWINGS. ALL SHEETS DELIVERED TO THE SITE WERE INSPECTED BY AMEC PERSONNEL TO VERIFY LENGTHS AND EPOXY COATING.
3. STRATUM D SHOWN FOR REFERENCE ONLY AND IS BASED ON GEOTECHNICAL BORINGS COMPLETED DURING THE PRELIMINARY DESIGN INVESTIGATION.

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	0+00	2+37	-4	AZ 19-700
STRUCTURAL	2+37	5+60	-18	AZ 19-700
NON STRUCTURAL	5+60	5+80	-14	AZ 19-700
NON STRUCTURAL	5+80	6+64	-12	AZ 19-700
STRUCTURAL	6+64	8+64	-33	AZ 38-700N
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	DSGN	DR	CHK	APVD
2	12/8/16	DECLARATION NO 3 - SA-6 NORTH VHB AS BUILT	TDD	SGS		SGS
2	8/25/16	DECLARATION NO 3 - ISSUED FOR CLIENT REVIEW	TDD	SGS		APVD
1			BY	APVD		
			TDD	RJR	TDD	

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USER'S AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
AS BUILT DRAWINGS

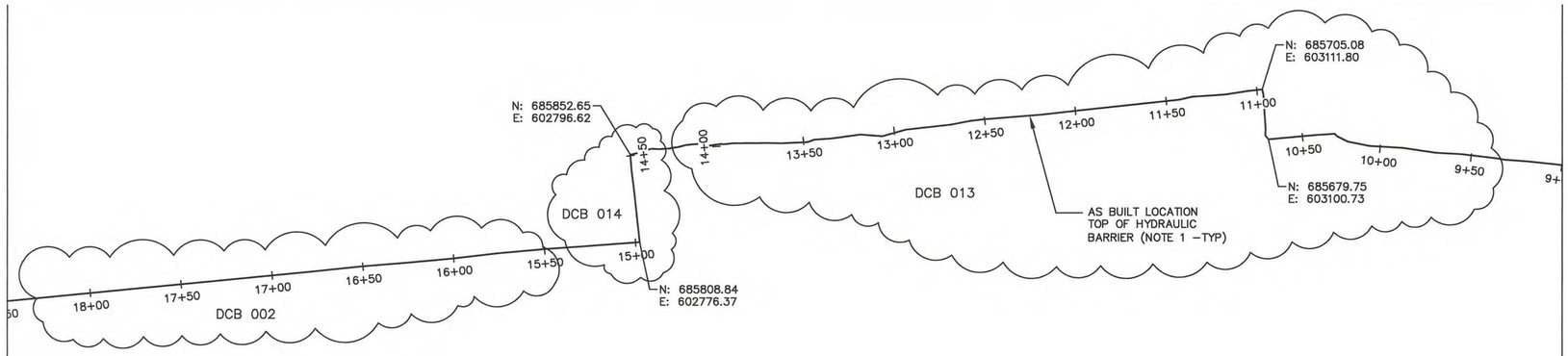
HYDRAULIC BARRIER
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	6/7/13
PROJ	3480-12-0317
DWG	SN-201
SHEET	54 OF 70

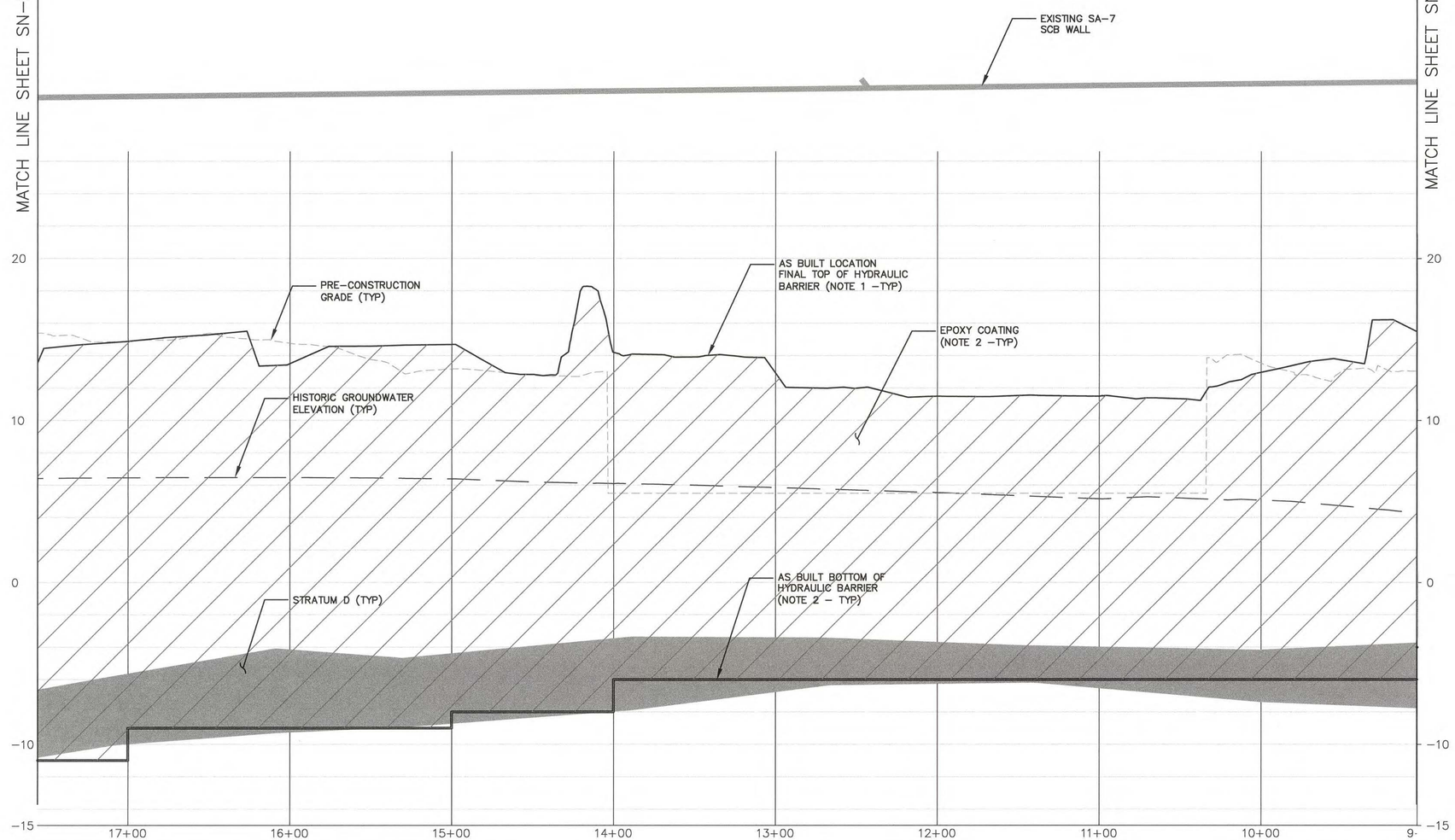
FILE NAME: C:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North VHB\SA-6 North VHB As Built.dwg PLOT DATE: Wed, 28 Dec 2016 PLOT TIME: 9:36 AM



NOTES:

1. REFER TO NOTES 1 THRU 3 ON SHEET SN–201

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700
NON STRUCTURAL	9+85	14+00	-6	AZ 19-700
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700



HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

SAMUEL G. SHALLARD

NO.	DATE	DESCRIPTION	BY	APV'D
2	12/8/16	DECLARATION NO 3 - SA-6 NORTH VHB AS BUILT	TDD	SGS
1	8/25/16	DECLARATION NO 3 - ISSUED FOR CLIENT REVIEW	TDD	SGS

DSGN TDD DR RJR CHK TDD APV'D SGS

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
AS BUILT DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 989 - 2029
NJ Cert of Authorization 24GA28011900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	6/7/13
PROJ	3480-12-0317
DWG	SN-202
SHEET	55 OF 70

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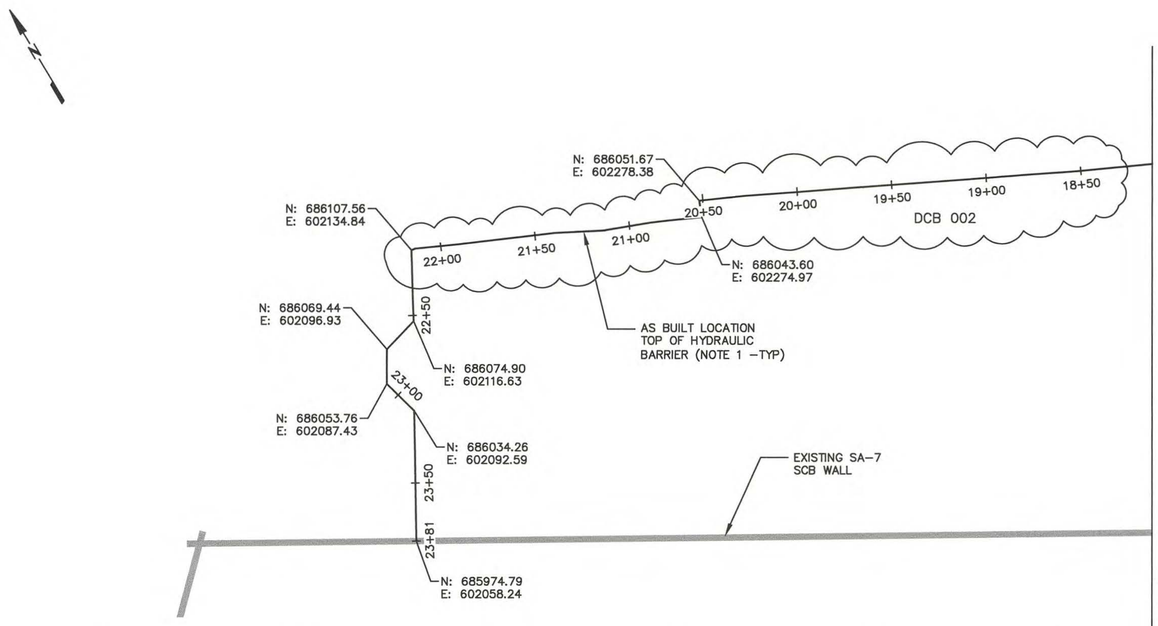
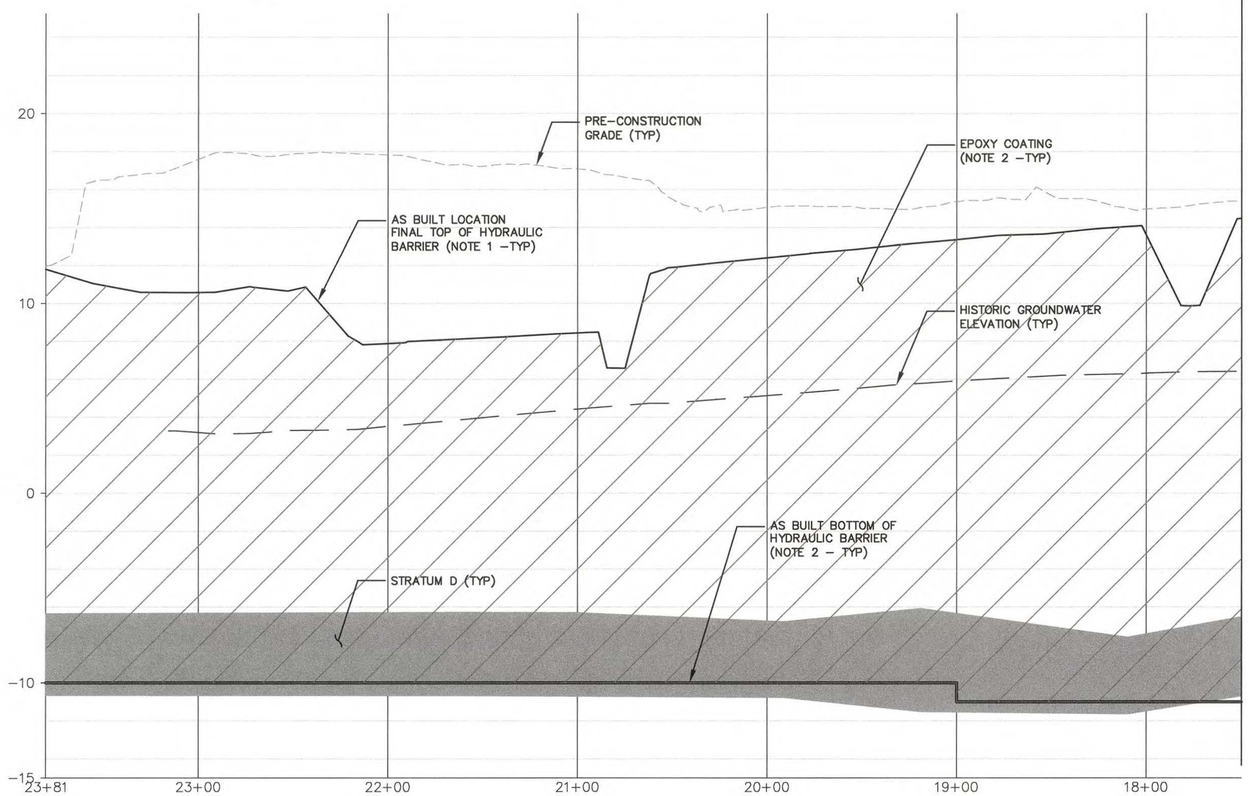
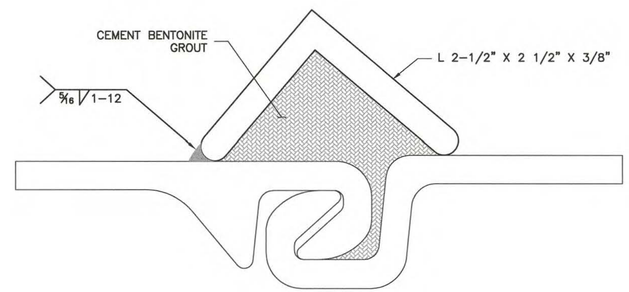




NOTES:

1. REFER TO NOTES 1 THRU 3 ON SHEET SN–201.

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700
NON STRUCTURAL	19+00	23+38	-10	AZ 19-700



SEE NOTE HB19 ON SHEET GN–003

SHEET SEALING DETAIL (F)
NTS
SN–201 | CN–301

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
2	12/8/16	DECLARATION NO 3 - SA-6 NORTH VHB AS BUILT	TDD	SGS
1	8/25/16	DECLARATION NO 3 - ISSUED FOR CLIENT REVIEW	TDD	SGS

DSGN TDD | DR RJR | CHK TDD | APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
AS BUILT DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2929
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	6/7/13
PROJ	3480-12-0317
DWG	SN-203
SHEET	56 OF 70

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APPENDIX O

VIBRATION MONITORING
(CD ONLY)

PART 1 OF 2

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Boston
Chicago
New York
San Francisco

www.geocomp.com

Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

February 27th, 2014
For ENTACT, LLC

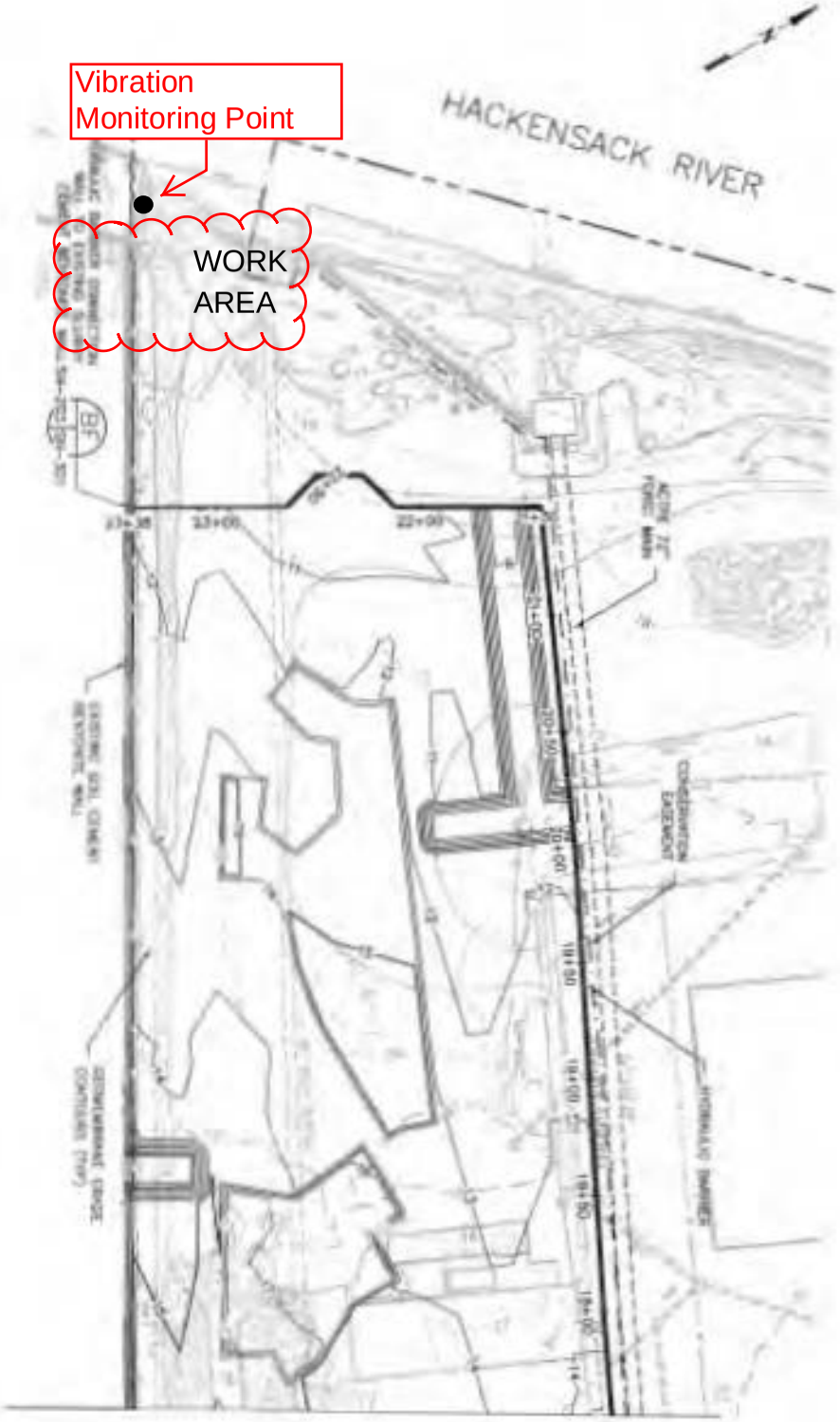
111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

NOTES:

Summary of Work:
Sheet pile driving commenced at 2:12 PM until 3:12 PM. An Instantel Blastmate III was used to record vibrations via a geophone placed on the ground over the 72 inch force main.

Four sheets were driven, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at this location.

Trigger Level: 0.5 in/sec
Alert Level: 1.0 in/sec


Vibration
Monitoring Point
WORK
AREA
HACKENSACK RIVER

Event Report

Histogram Start Time	14:12:45 February 27, 2014	**Serial Number**	BA15371 V 10.60-8.17 BlastMate III/8
Histogram Finish Time Number	15:12:38 February 27, 2014	**Battery Level**	6.9 Volts
of Intervals Range	766.00 at 5 seconds	**Unit Calibration**	January 29, 2014 by Instantel
Sample Rate	Geo:10.00 in/s	**File Name**	Q3715KE7.K90
Job Number:	1024sps		

Notes 1

Location: SA-6 North 72" in Force Main
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

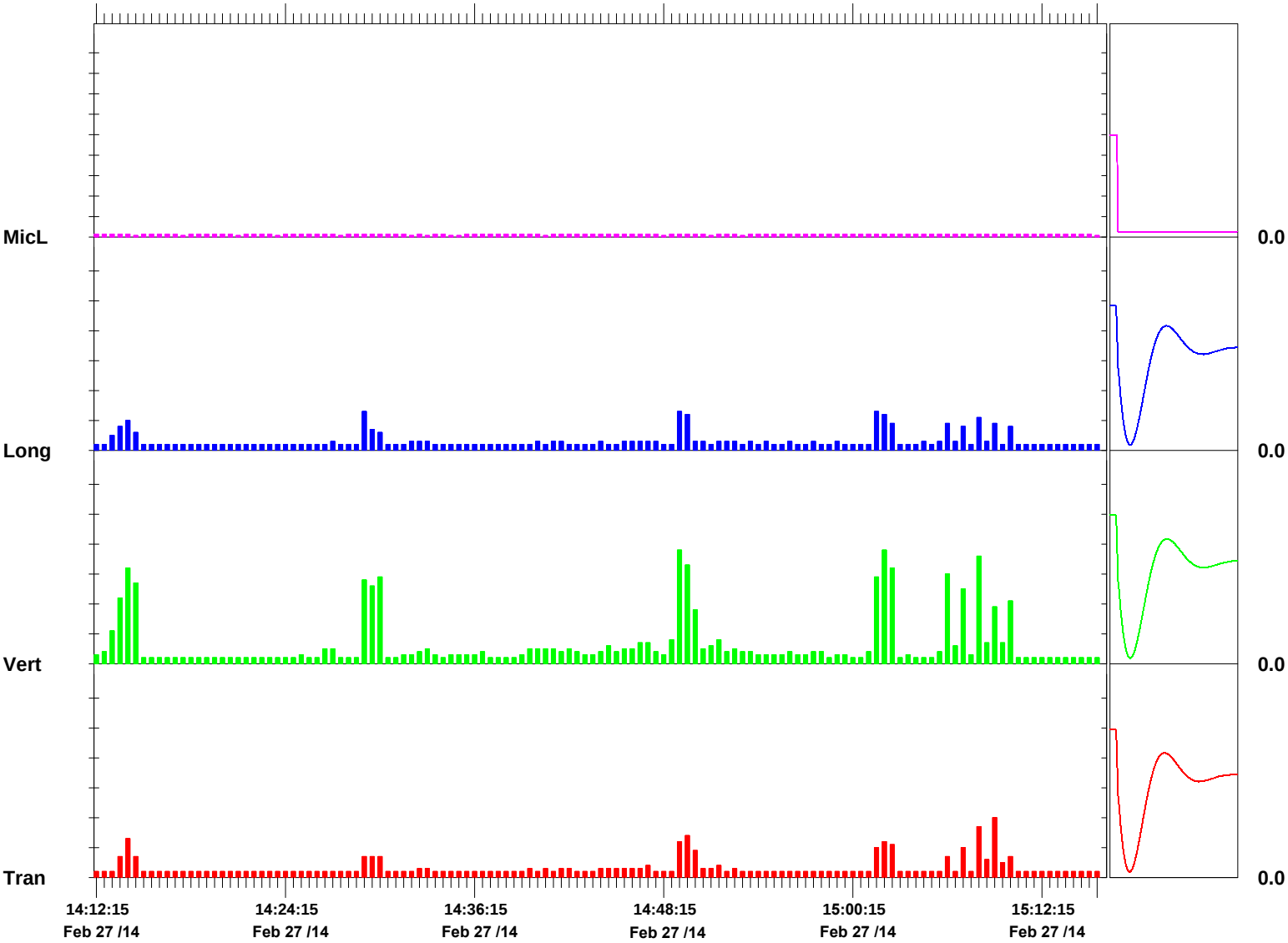
Post Event Notes

Extended Notes

Microphone
PSPL
ZC Freq
Channel Test

	Tran	Vert	Long	
PPV	0.1000	0.190	0.0650	in/s
ZC Freq	32	43	28	Hz
Date	Feb 27 /14	Feb 27 /14	Feb 27 /14	
Time	15:10:05	14:50:10	14:30:05	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.2	7.2	Hz
Overswing Ratio	4.2	4.1	4.2	

Peak Vector Sum 0.196 in/s on February 27, 2014 at 14:50:10



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Mic: 0.00050 psi(L)/div Sensor Check

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New York
San Francisco

www.geocomp.com

Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

March 5th, 2014
For ENTACT, LLC

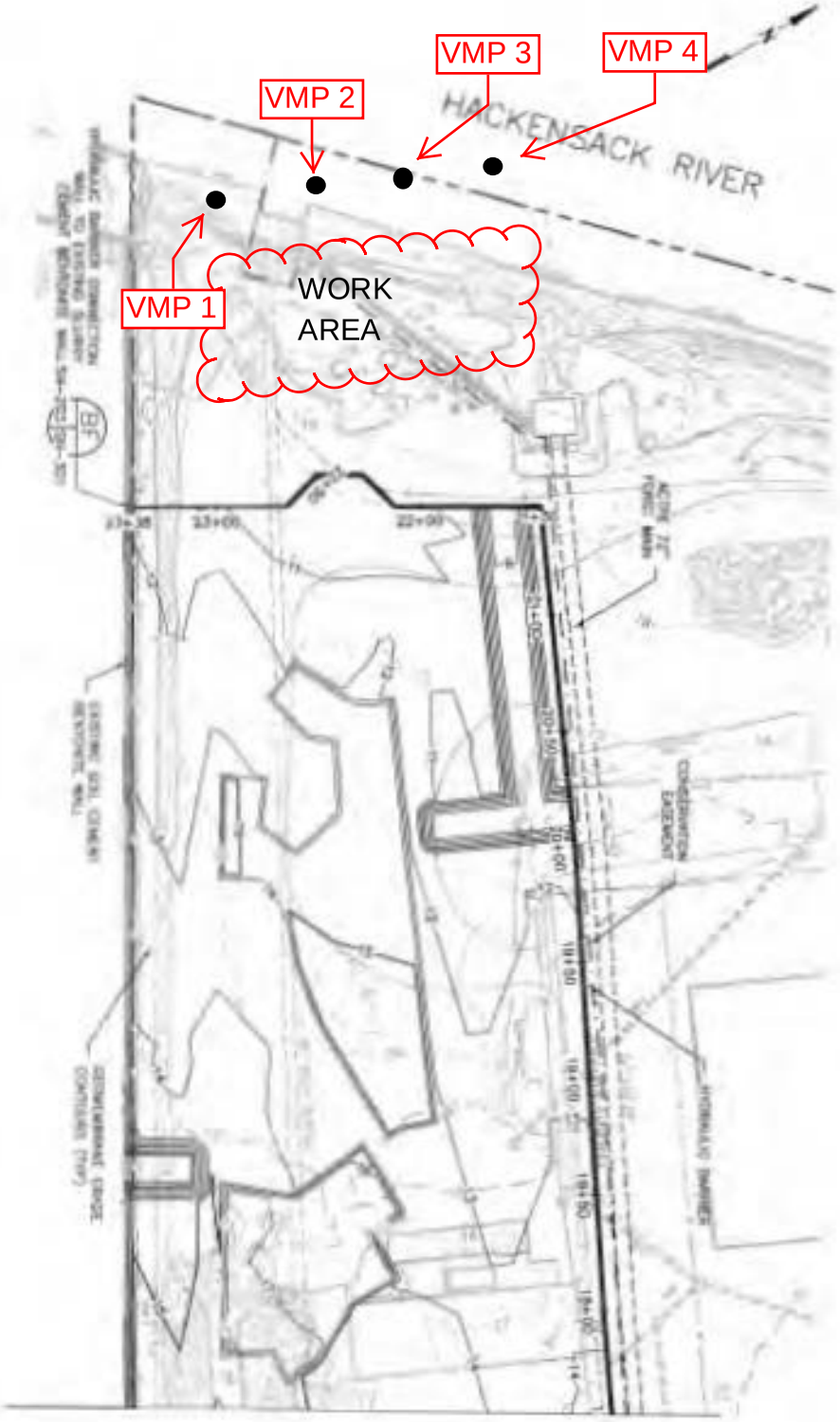
111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

NOTES:

Summary of Work:
Sheet pile driving commenced at 10:00 AM until 5:15 PM. An Instantel Blastmate III was used to record vibrations via a geophone placed on the ground over the 72 inch force main.

26 sheets were driven, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at this location.

Trigger Level: 0.5 in/sec
Alert Level: 1.0 in/sec


VMP 1
VMP 2
VMP 3
VMP 4
WORK
AREA
HACKENSACK RIVER

Event Report

Histogram Start Time	10:00 AM March 5, 2014	**Serial Number**	BA15371 V 10.60-8.17 BlastMate III/8
Histogram Finish Time	10:55 AM March 5, 2014	**Battery Level**	6.9 Volts
Number of Intervals	623.00 at 5 seconds	**Unit Calibration**	January 29, 2014 by Instantel
Range	Geo:10.00 in/s	**File Name**	Q3715KDW.3A0
Sample Rate	1024sps		
Job Number:	1		

Notes

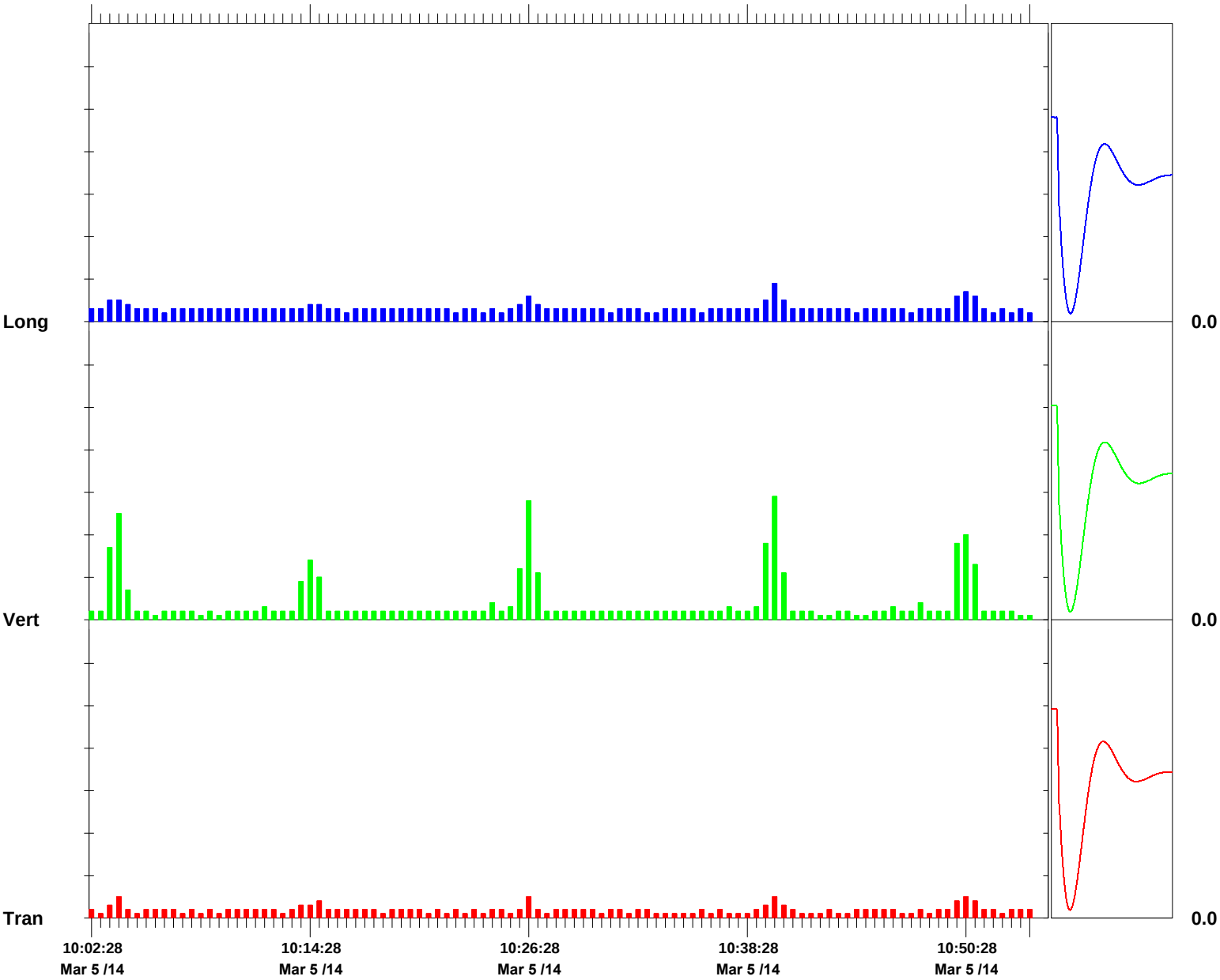
Location: SA 6 North 72" Forcemain
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

VMP 1

Extended Notes

	Tran	Vert	Long	
PPV	0.0250	0.145	0.0450	in/s
ZC Freq	39	30	27	Hz
Date	Mar 5 /14	Mar 5 /14	Mar 5 /14	
Time	10:03:53	10:39:58	10:39:58	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.3	Hz
Overswing Ratio	4.3	4.1	4.1	

Peak Vector Sum 0.146 in/s on September 1, 1995 at 12:39:58



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	11:10:56 March 5, 2014
Histogram Finish Time	11:46:53 March 5, 2014
Number of Intervals	431.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.9 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F84C.E80

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

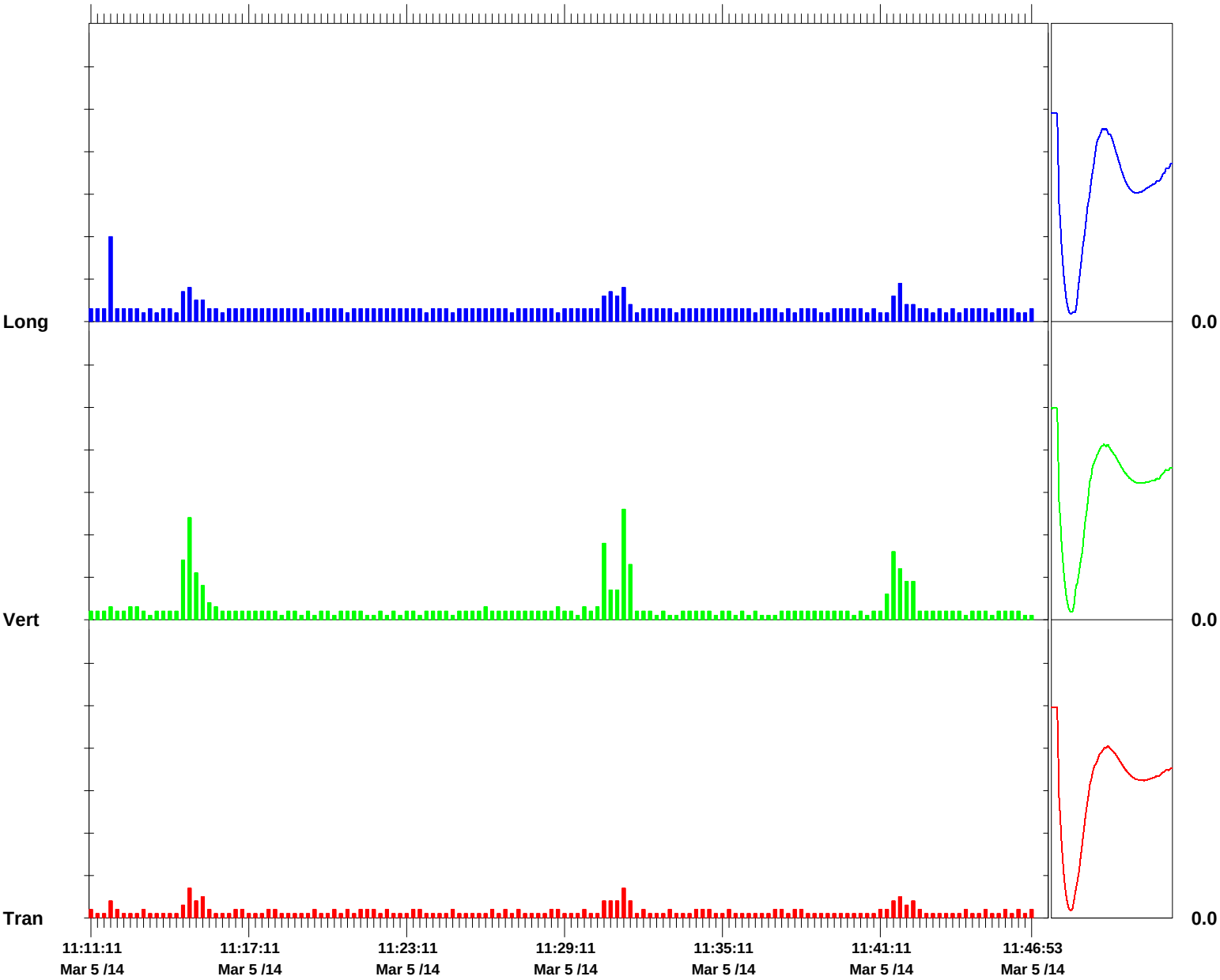
Post Event Notes

VMP 2

Extended Notes

	Tran	Vert	Long	
PPV	0.0350	0.130	0.1000	in/s
ZC Freq	43	37	13	Hz
Date	Mar 5 /14	Mar 5 /14	Mar 5 /14	
Time	11:14:56	11:31:21	11:11:56	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.4	7.4	Hz
Overswing Ratio	5.0	4.4	2.8	

Peak Vector Sum 0.131 in/s on March 5, 2014 at 11:31:21



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	11:47:42 March 5, 2014
Histogram Finish Time	12:07:17 March 5, 2014
Number of Intervals	234.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.9 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F84E.3I0

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

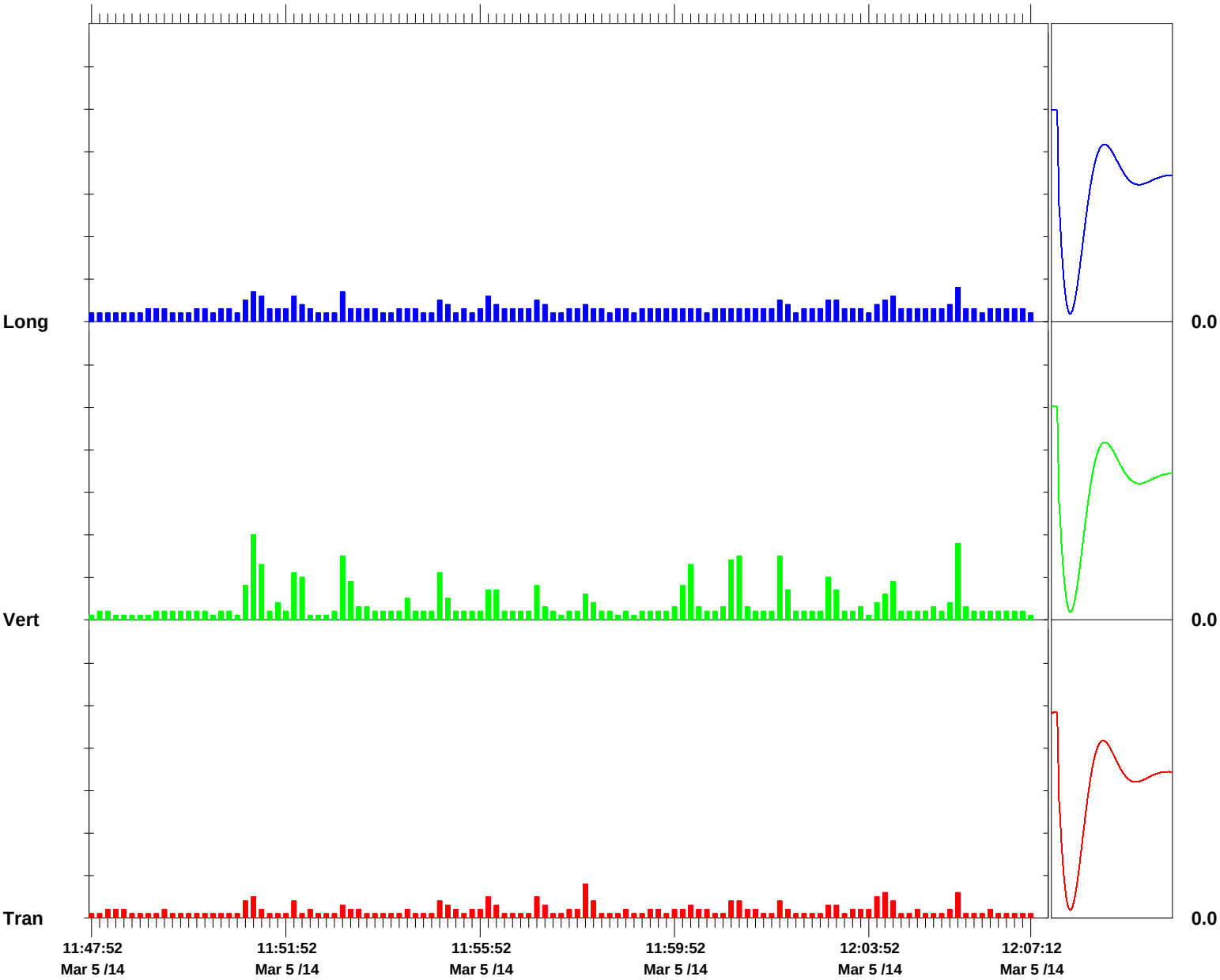
Post Event Notes

VMP 2

Extended Notes

	Tran	Vert	Long	
PPV	0.0400	0.1000	0.0400	in/s
ZC Freq	34	39	28	Hz
Date	Mar 5 /14	Mar 5 /14	Mar 5 /14	
Time	11:58:02	11:51:07	12:05:37	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.3	Hz
Overswing Ratio	4.2	4.1	4.2	

Peak Vector Sum 0.100 in/s on March 5, 2014 at 11:51:07



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	13:15:00 March 5, 2014
Histogram Finish Time	15:38:45 March 5, 2014
Number of Intervals	1725.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.9 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F84I.500

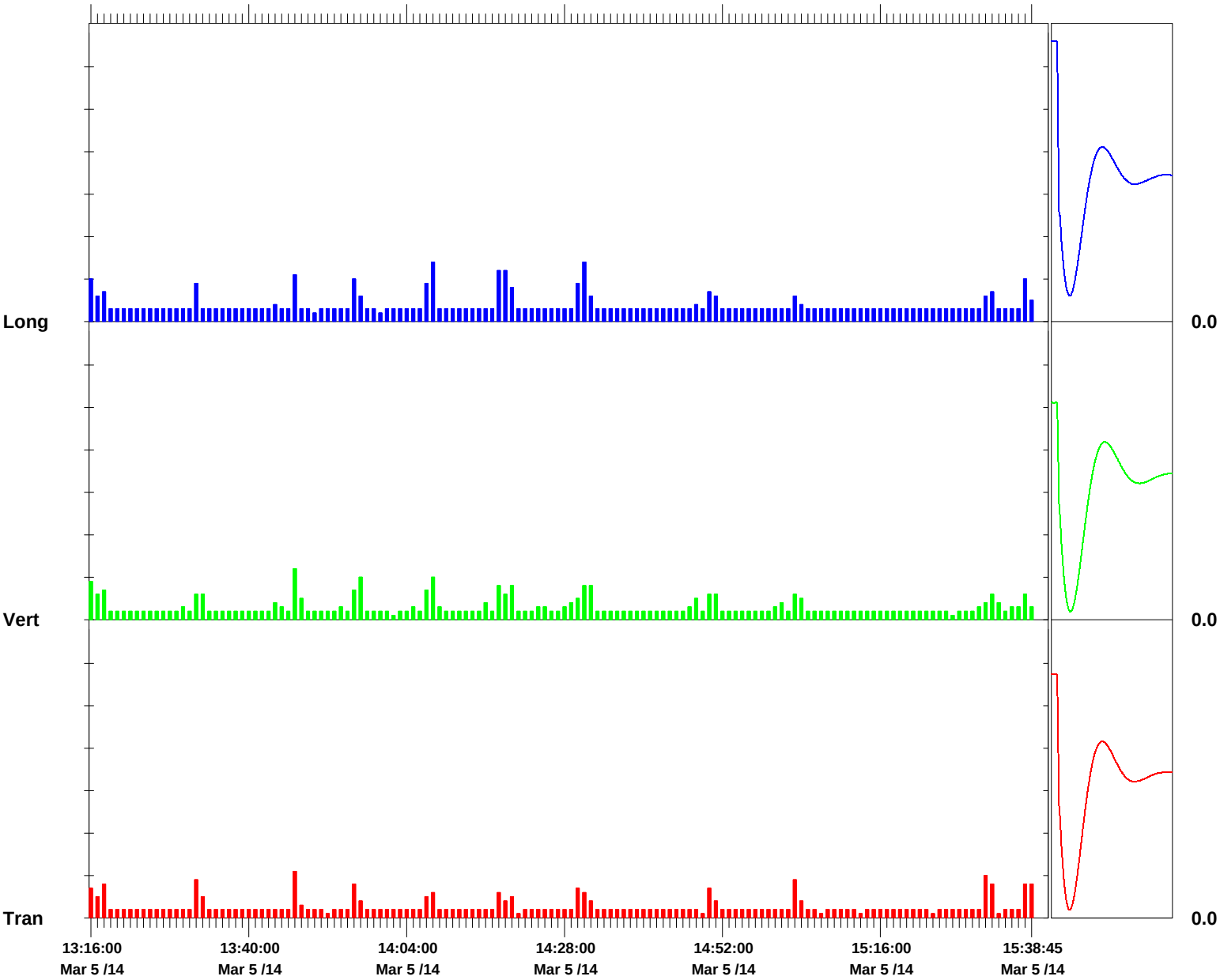
Post Event Notes

VMP 3

Extended Notes

	Tran	Vert	Long	
PPV	0.0550	0.0600	0.0700	in/s
ZC Freq	34	32	28	Hz
Date	Mar 5 /14	Mar 5 /14	Mar 5 /14	
Time	13:46:20	13:46:20	14:07:30	
Sensor Check	Passed	Passed	Check	
Frequency	7.6	7.3	7.8	Hz
Overswing Ratio	4.3	4.1	3.9	

Peak Vector Sum 0.0745 in/s on March 5, 2014 at 14:07:30



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	15:41:20 March 5, 2014
Histogram Finish Time	17:17:59 March 5, 2014
Number of Intervals	1159.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.9 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F84O.WW0

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

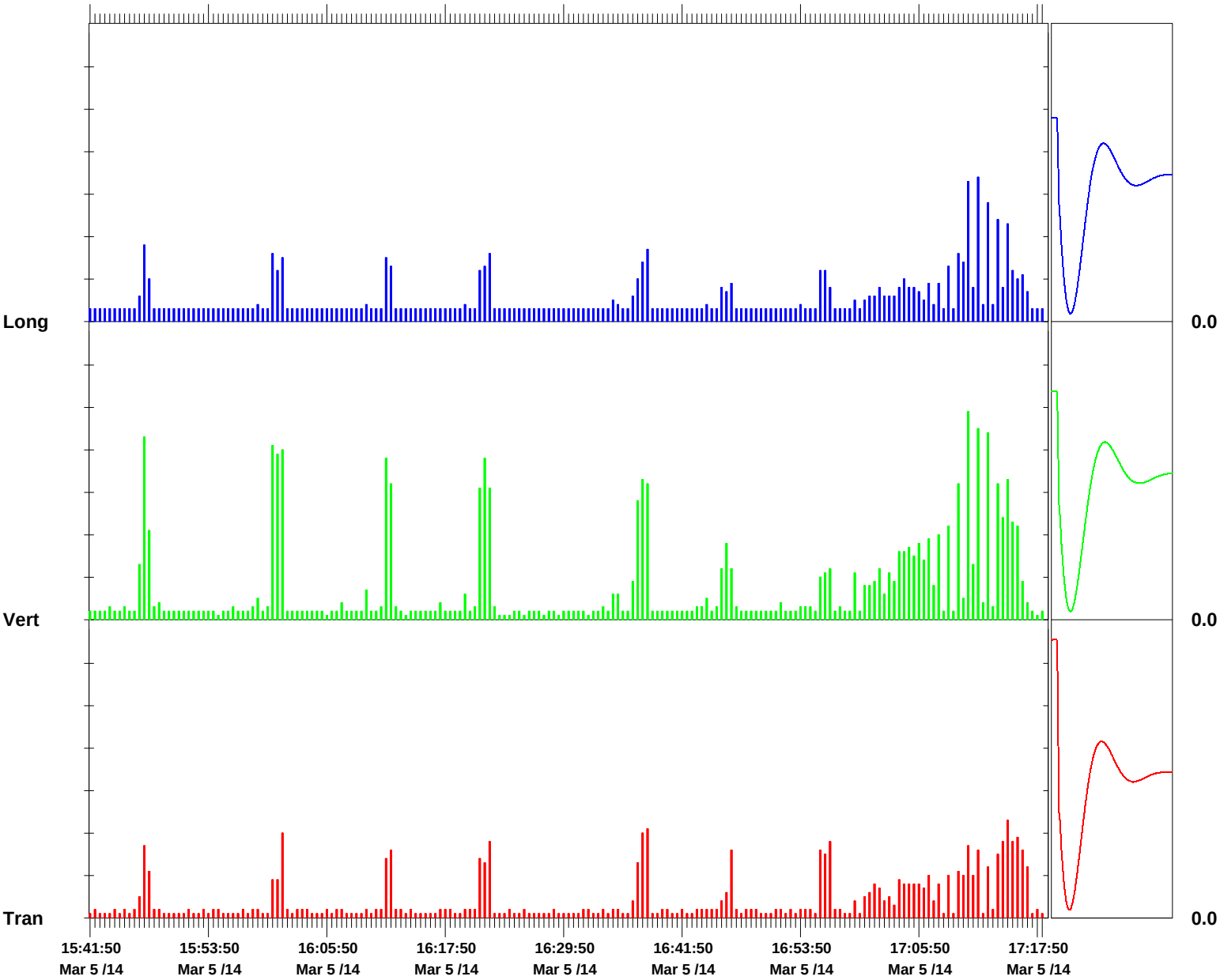
Post Event Notes

VMP 4

Extended Notes

	Tran	Vert	Long	
PPV	0.115	0.245	0.170	in/s
ZC Freq	28	28	27	Hz
Date	Mar 5 /14	Mar 5 /14	Mar 5 /14	
Time	17:14:25	17:10:40	17:11:35	
Sensor Check	Check	Passed	Passed	
Frequency	7.8	7.3	7.5	Hz
Overswing Ratio	4.3	4.1	4.1	

Peak Vector Sum 0.266 in/s on March 5, 2014 at 17:11:35



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

March 6th, 2014
For ENTACT, LLC

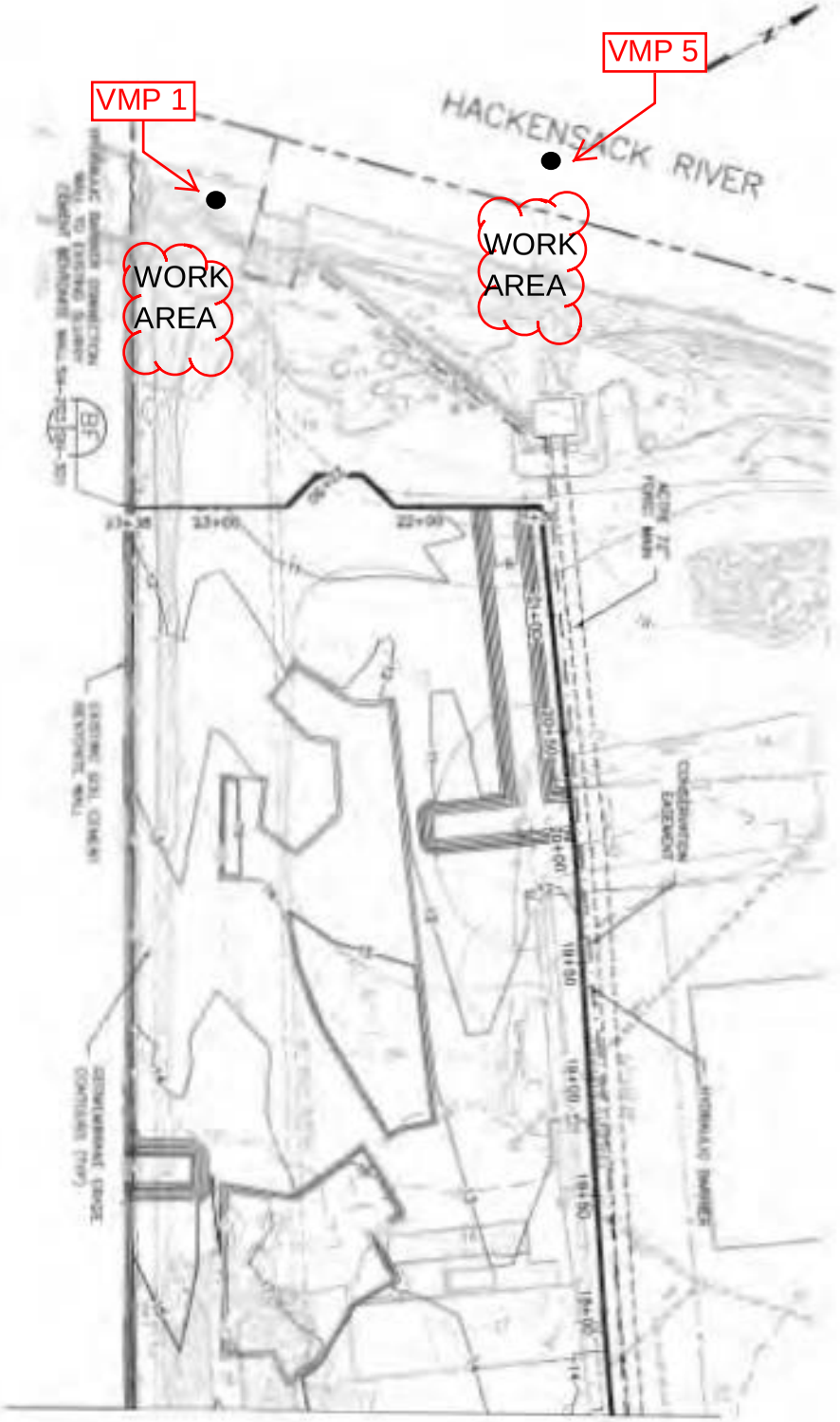
111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

NOTES:

Summary of Work:
Sheet pile driving commenced at 1:20 PM until 3:30 PM. An Instantel Blastmate III was used to record vibrations via a geophone placed on the ground over the 72 inch force main.

Five sheets were driven, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at this location.

Trigger Level: 0.5 in/sec
Alert Level: 1.0 in/sec


VMP 1
VMP 5
HACKENSACK RIVER
WORK AREA
WORK AREA

Event Report

Histogram Start Time	13:24:41 March 6, 2014
Histogram Finish Time	13:37:26 March 6, 2014
Number of Intervals	153.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.9 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F86D.950

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

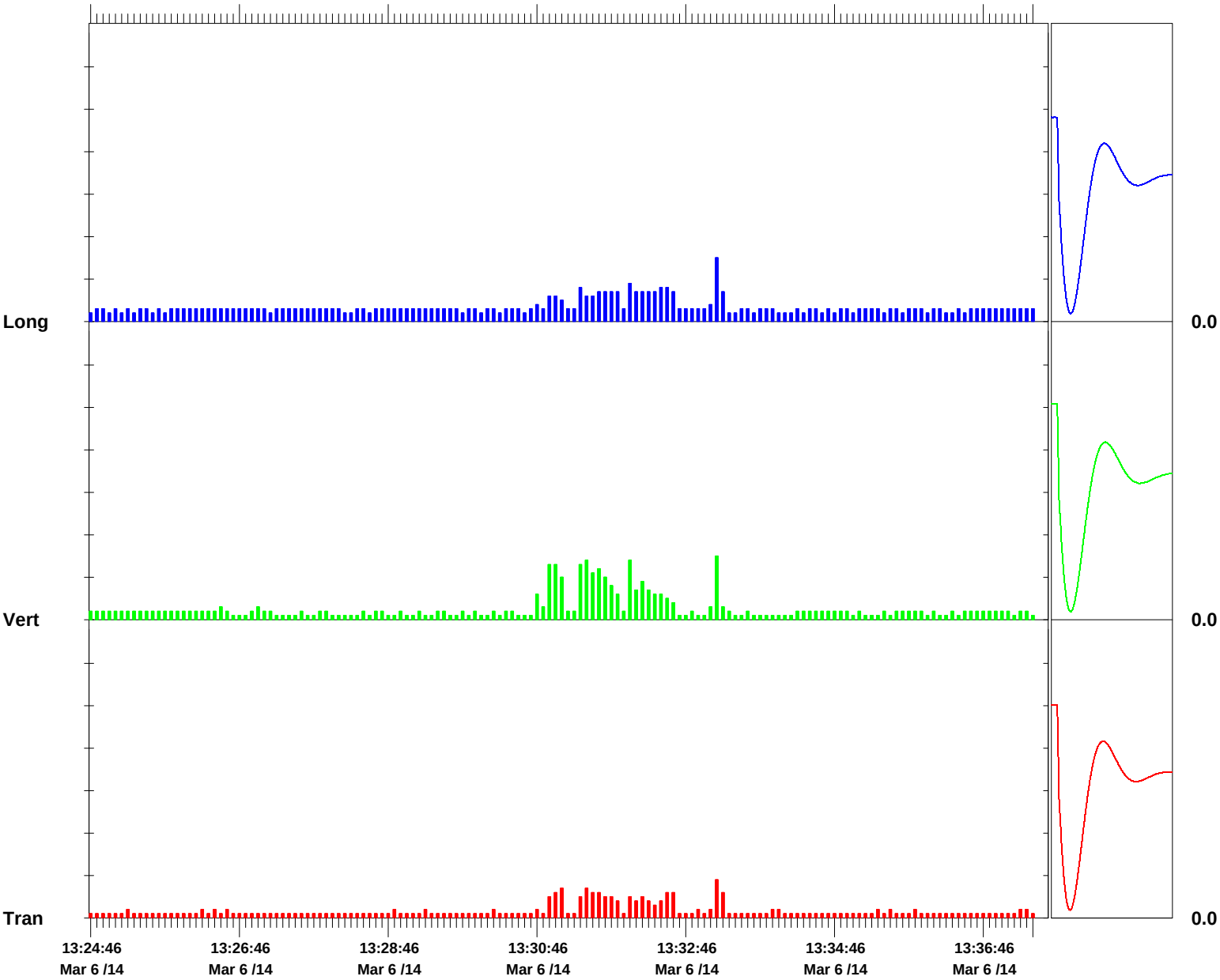
Post Event Notes

VMP 1

Extended Notes

	Tran	Vert	Long	
PPV	0.0450	0.0750	0.0750	in/s
ZC Freq	43	28	27	Hz
Date	Mar 6 /14	Mar 6 /14	Mar 6 /14	
Time	13:33:11	13:33:11	13:33:11	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.3	Hz
Overswing Ratio	4.2	4.1	4.1	

Peak Vector Sum 0.0886 in/s on March 6, 2014 at 13:33:11



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	13:49:49 March 6, 2014
Histogram Finish Time	15:29:00 March 6, 2014
Number of Intervals	1190.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1
Notes	
Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

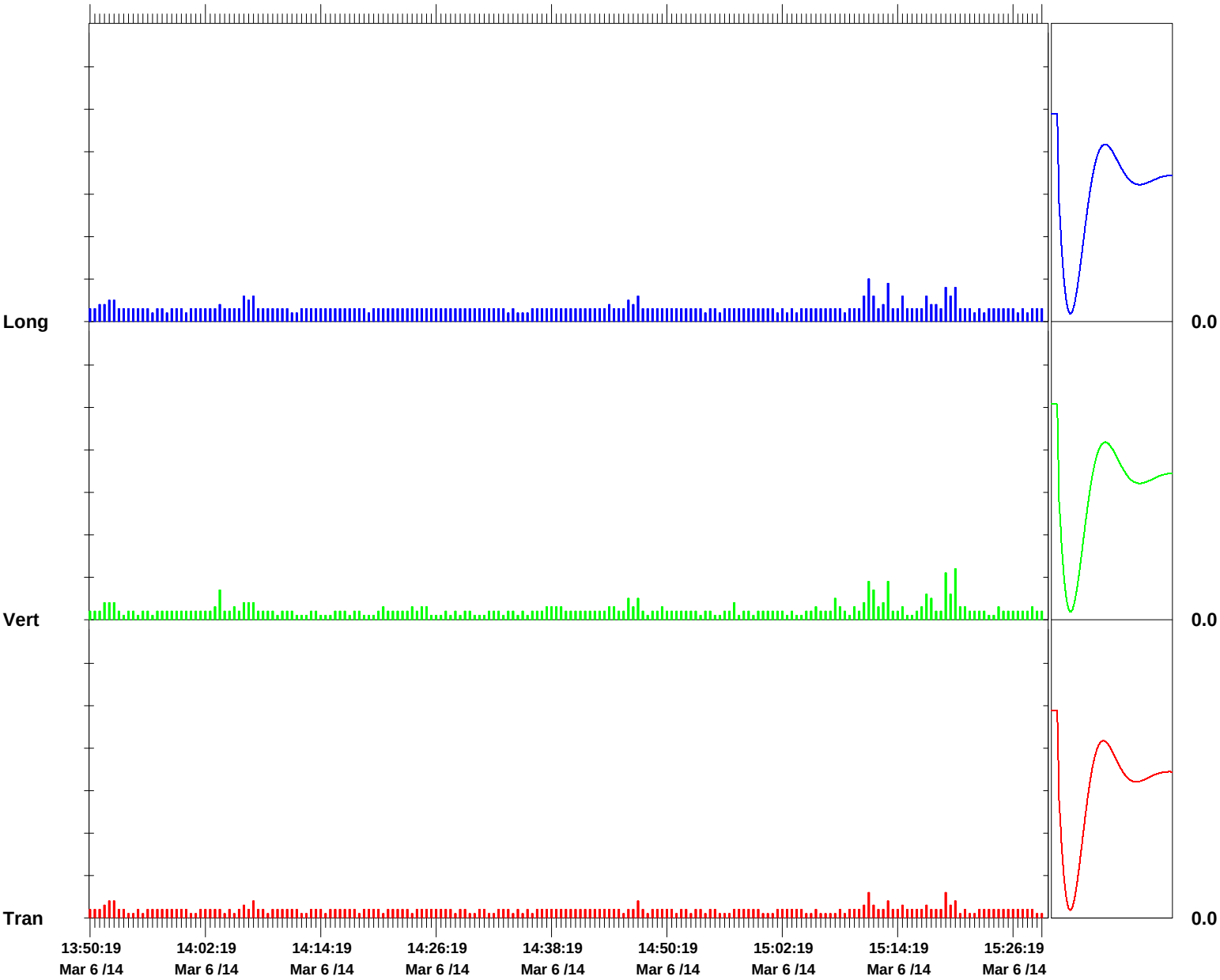
Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F86E.F10

Post Event Notes
VMP 5

Extended Notes

	Tran	Vert	Long	
PPV	0.0300	0.0600	0.0500	in/s
ZC Freq	37	34	28	Hz
Date	Mar 6 /14	Mar 6 /14	Mar 6 /14	
Time	15:11:19	15:20:09	15:11:19	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.2	7.2	Hz
Overswing Ratio	4.2	4.1	4.2	

Peak Vector Sum 0.0610 in/s on March 6, 2014 at 15:20:09



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

March 7th, 2014
For ENTACT, LLC

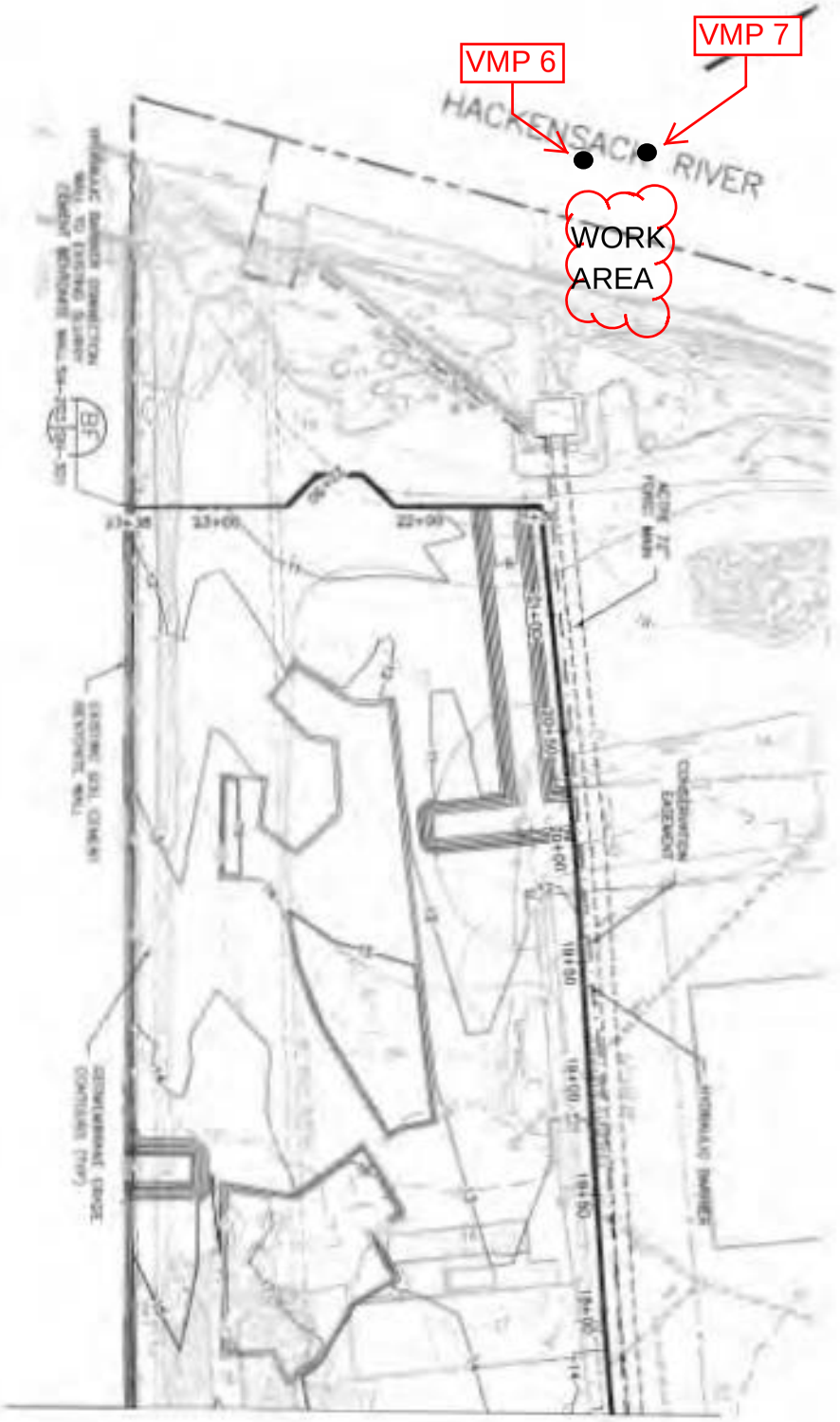
111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

NOTES:

Summary of Work:
Sheet pile driving commenced at 9:45 AM until 3:30 PM. An Instantel Blastmate III was used to record vibrations via a geophone placed on the ground over the 72 inch force main.

Twelve sheets were driven, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at this location.

Trigger Level: 0.5 in/sec
Alert Level: 1.0 in/sec


VMP 6
VMP 7
HACKENSACK RIVER
WORK AREA

Event Report

Histogram Start Time	09:46:05 March 7, 2014
Histogram Finish Time	14:57:11 March 7, 2014
Number of Intervals	3733.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.9 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F87X.ST0

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

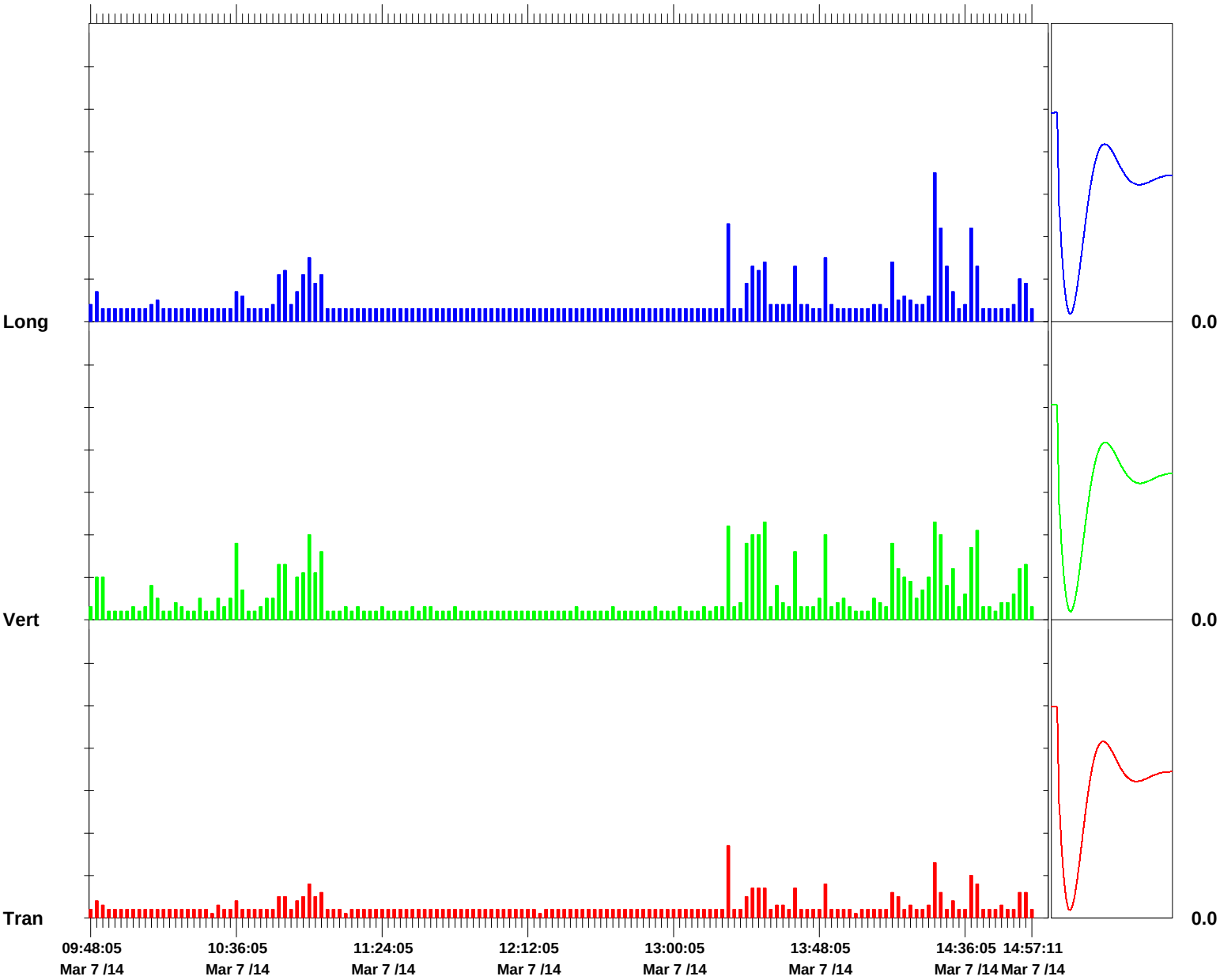
Post Event Notes

VMP 6

Extended Notes

	Tran	Vert	Long	
PPV	0.0850	0.115	0.175	in/s
ZC Freq	43	26	28	Hz
Date	Mar 7 /14	Mar 7 /14	Mar 7 /14	
Time	13:16:35	13:28:20	14:25:15	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.2	7.3	Hz
Overswing Ratio	4.2	4.1	4.1	

Peak Vector Sum 0.183 in/s on March 7, 2014 at 14:25:15



Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	15:00:12 March 7, 2014
Histogram Finish Time	15:39:10 March 7, 2014
Number of Intervals	467.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.9 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F88C.CC0

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

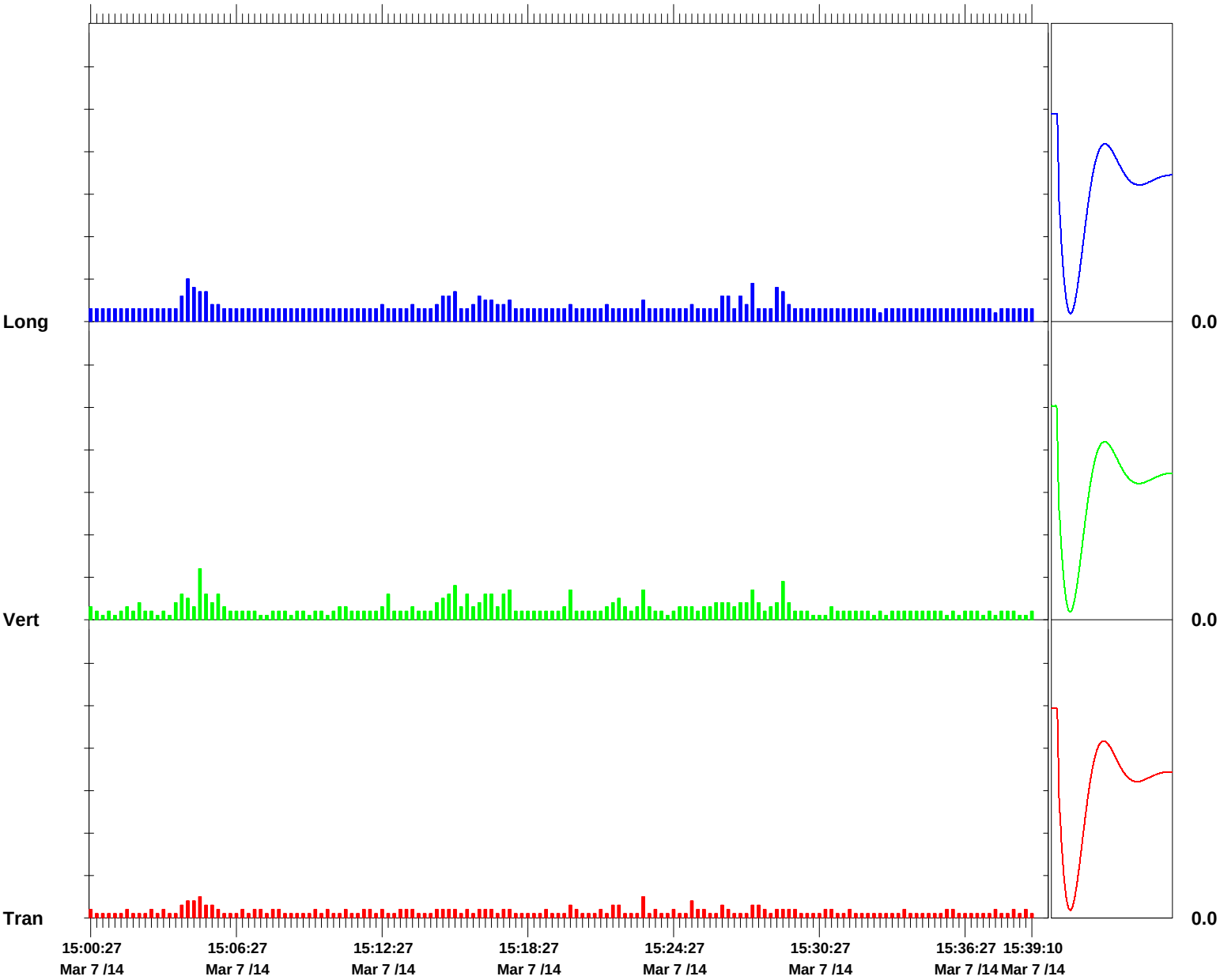
Post Event Notes

VMP 7

Extended Notes

	Tran	Vert	Long	
PPV	0.0250	0.0600	0.0500	in/s
ZC Freq	47	39	28	Hz
Date	Mar 7 /14	Mar 7 /14	Mar 7 /14	
Time	15:04:47	15:04:47	15:04:27	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.3	7.3	Hz
Overswing Ratio	4.2	4.1	4.1	

Peak Vector Sum 0.0634 in/s on March 7, 2014 at 15:04:47



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

March 8th, 2014
For ENTACT, LLC

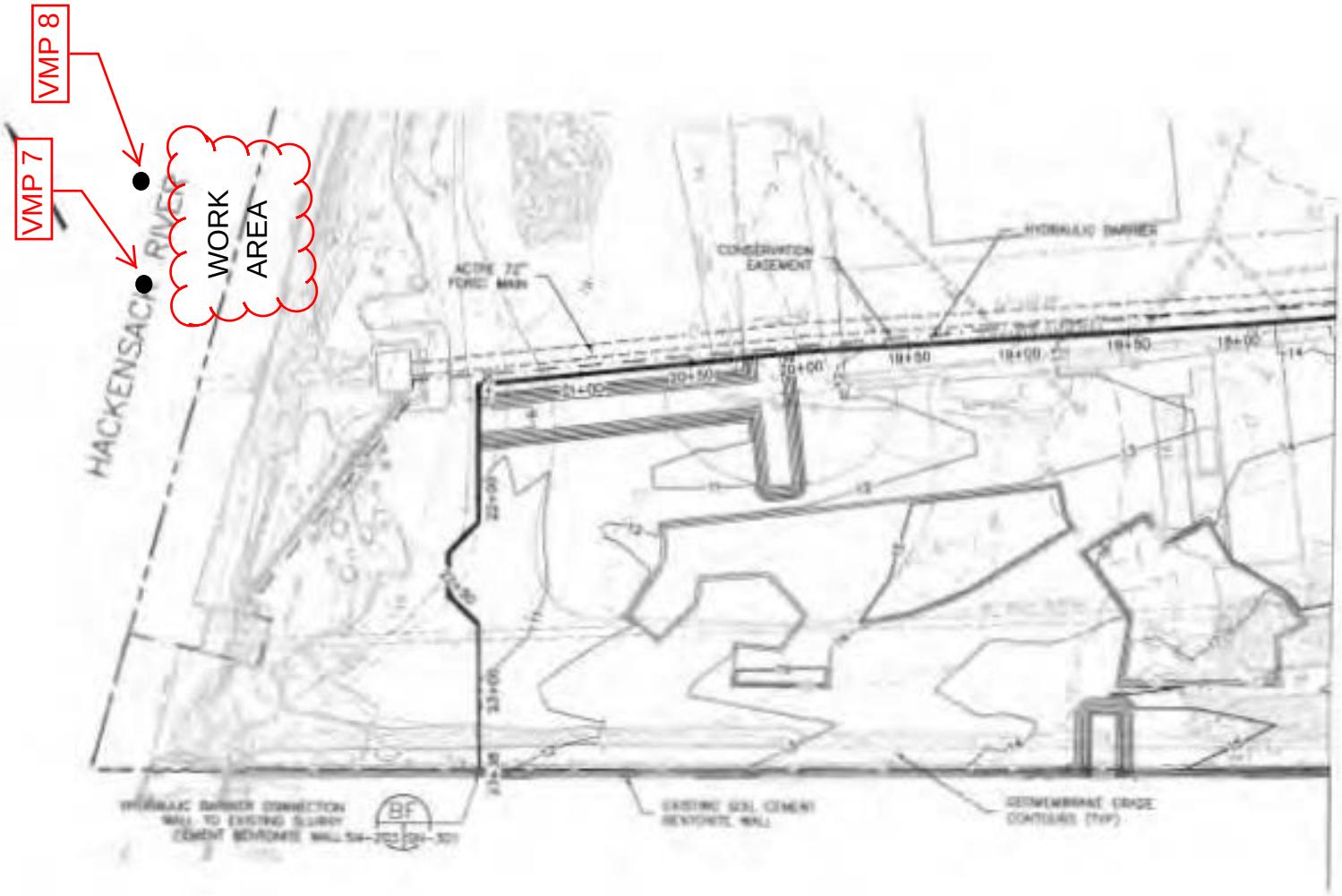
111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

NOTES:

Summary of Work:
Sheet pile driving commenced at 8:50 AM until 12:35 PM. An Instantel Blastmate III was used to record vibrations via a geophone placed on the ground over the 72 inch force main.

19 sheets were driven, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at this location.

Trigger Level: 0.5 in/sec
Alert Level: 1.0 in/sec


VMP 8
VMP 7
WORK AREA
HACKENSACK RIVER
ACTIVE 72" FORCE MAIN
CONSERVATION EASEMENT
HYDRAULIC BARRIER
20+00
20+50
19+50
19+00
18+50
18+00
22+00
23+00
BF
EXISTING SOIL CEMENT BENTONITE WALL
GEOMEMBRANE GRADE CONTOURS (TYP)

Event Report

Histogram Start Time	08:50:20 March 8, 2014
Histogram Finish Time	10:40:45 March 8, 2014
Number of Intervals	1325.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F89P.VW0

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

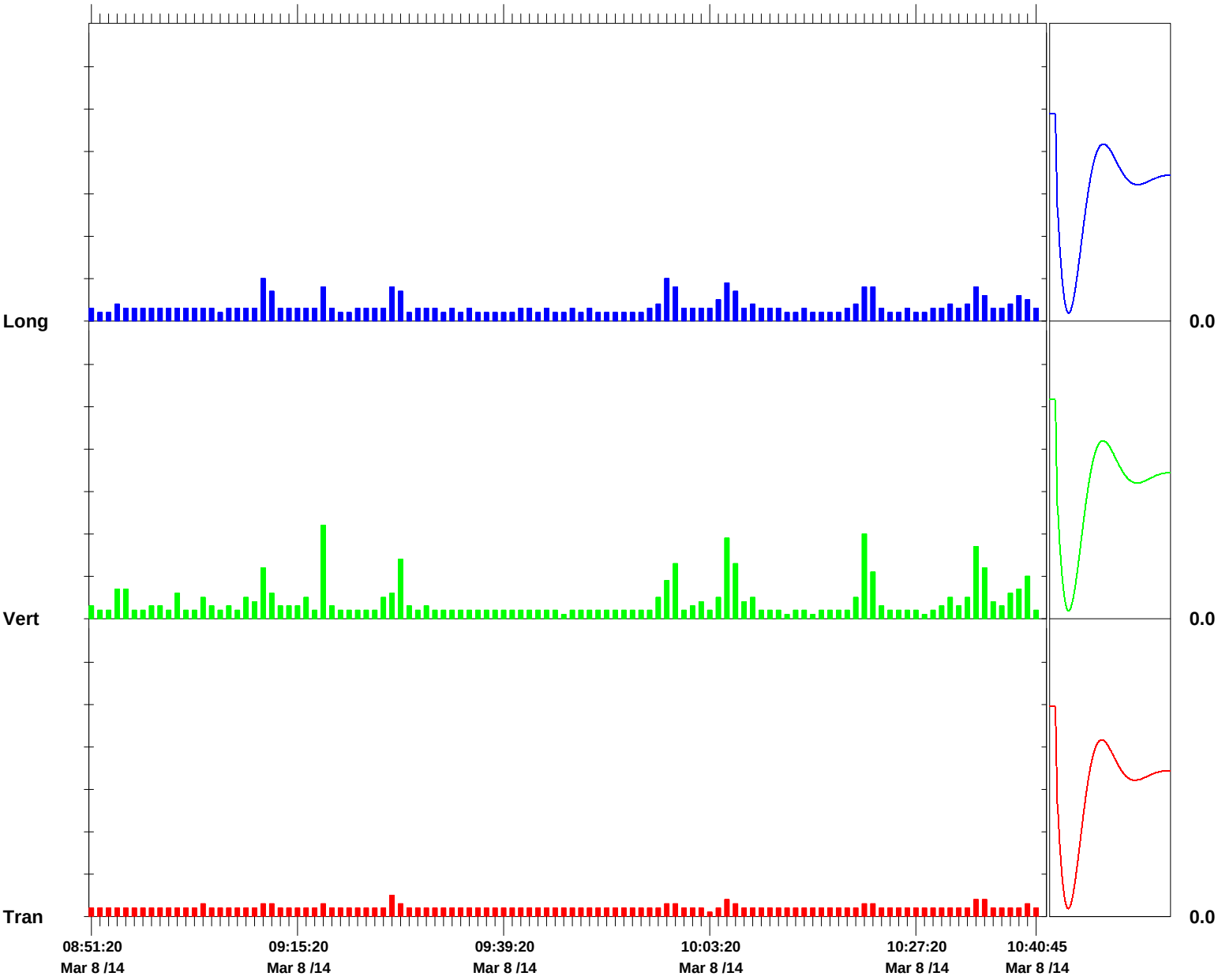
Post Event Notes

VMP 7

Extended Notes

	Tran	Vert	Long	
PPV	0.0250	0.110	0.0500	in/s
ZC Freq	51	16	28	Hz
Date	Mar 8 /14	Mar 8 /14	Mar 8 /14	
Time	09:26:20	09:17:35	09:11:15	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.2	Hz
Overswing Ratio	4.2	4.1	4.2	

Peak Vector Sum 0.113 in/s on March 8, 2014 at 09:17:35



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	10:43:17 March 8, 2014
Histogram Finish Time	12:36:05 March 8, 2014
Number of Intervals	1353.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F89V.450

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

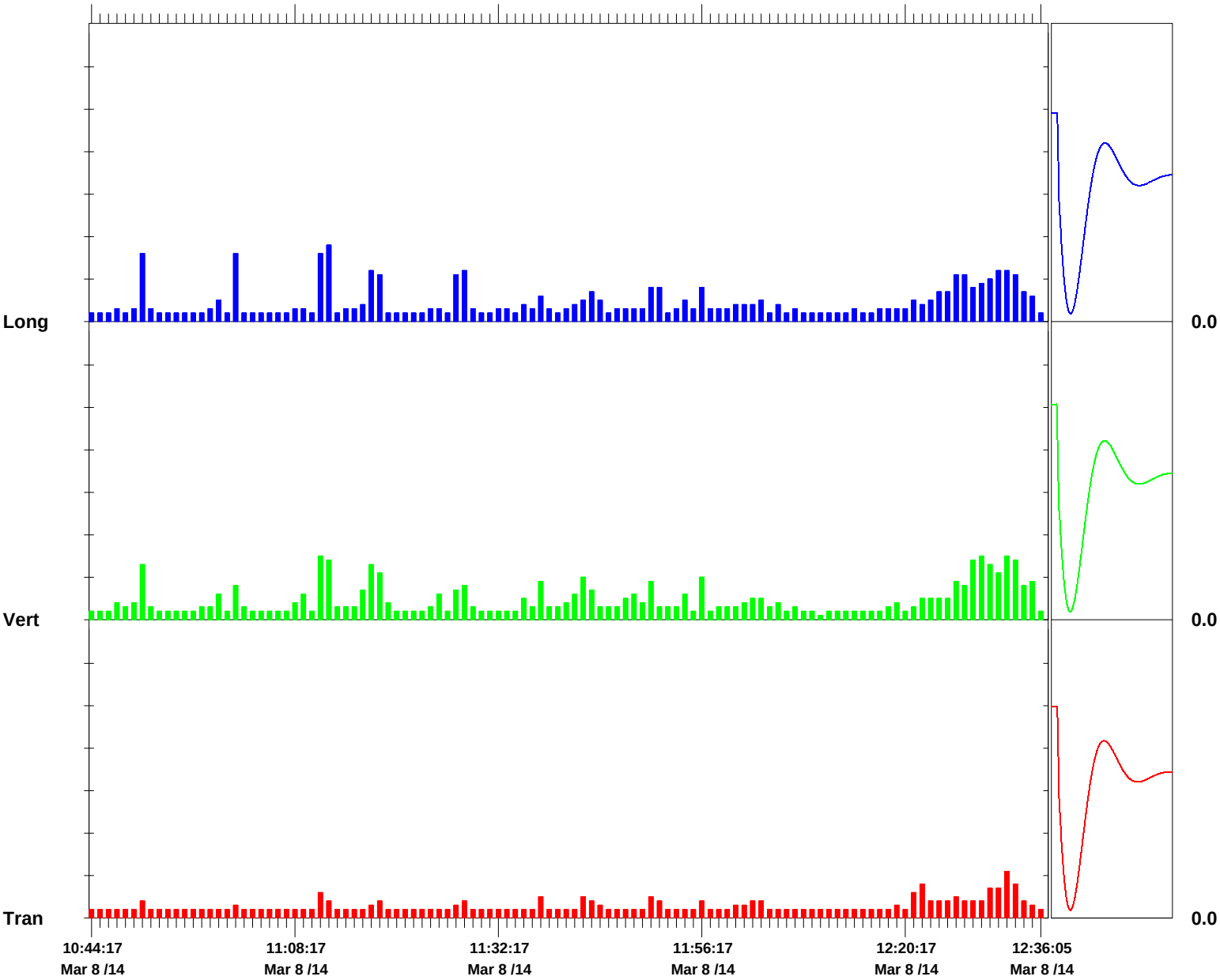
Post Event Notes

VMP 8

Extended Notes

	Tran	Vert	Long	
PPV	0.0550	0.0750	0.0900	in/s
ZC Freq	30	13	30	Hz
Date	Mar 8 /14	Mar 8 /14	Mar 8 /14	
Time	12:31:52	11:10:52	11:11:22	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.3	7.2	Hz
Overswing Ratio	4.2	4.0	4.0	

Peak Vector Sum 0.0935 in/s on March 8, 2014 at 11:11:22



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

March 10th, 2014
For ENTACT, LLC

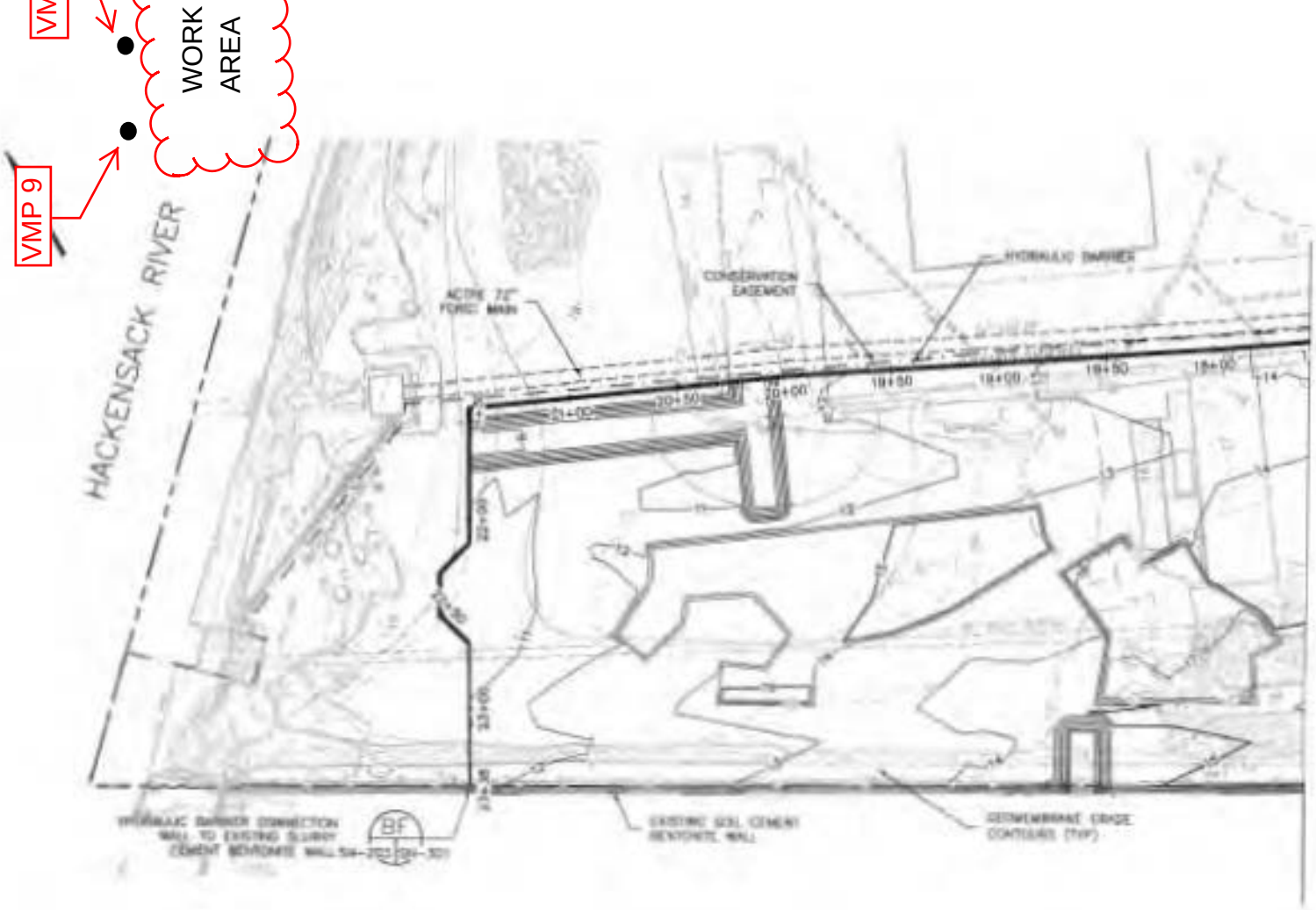
111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

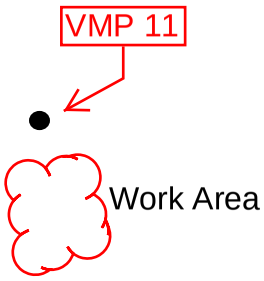
NOTES:

Summary of Work:
Sheet pile driving commenced at 11:30 AM and ended at 5:05 PM. An Instantel Blastmate III was used to record vibrations via a geophone placed on the ground over the 72 inch force main.

30 sheets were driven, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at this location.

Trigger Level: 0.5 in/sec
Alert Level: 1.0 in/sec


VMP 9
WORK AREA
HACKENSACK RIVER
ACTIVE 72" FORCE MAIN
CONSERVATION EASEMENT
HYDRAULIC BARRIER
20+00
20+50
19+50
19+00
18+50
18+00
22+00
23+00
BF
EXISTING SOIL CEMENT BENTONITE WALL
GEOMEMBRANE GRADE CONTOURS (TYP)


VMP 11
Work Area

Event Report

Histogram Start Time	11:30:36 March 10, 2014
Histogram Finish Time	13:38:03 March 10, 2014
Number of Intervals	1529.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F8DM.N00

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

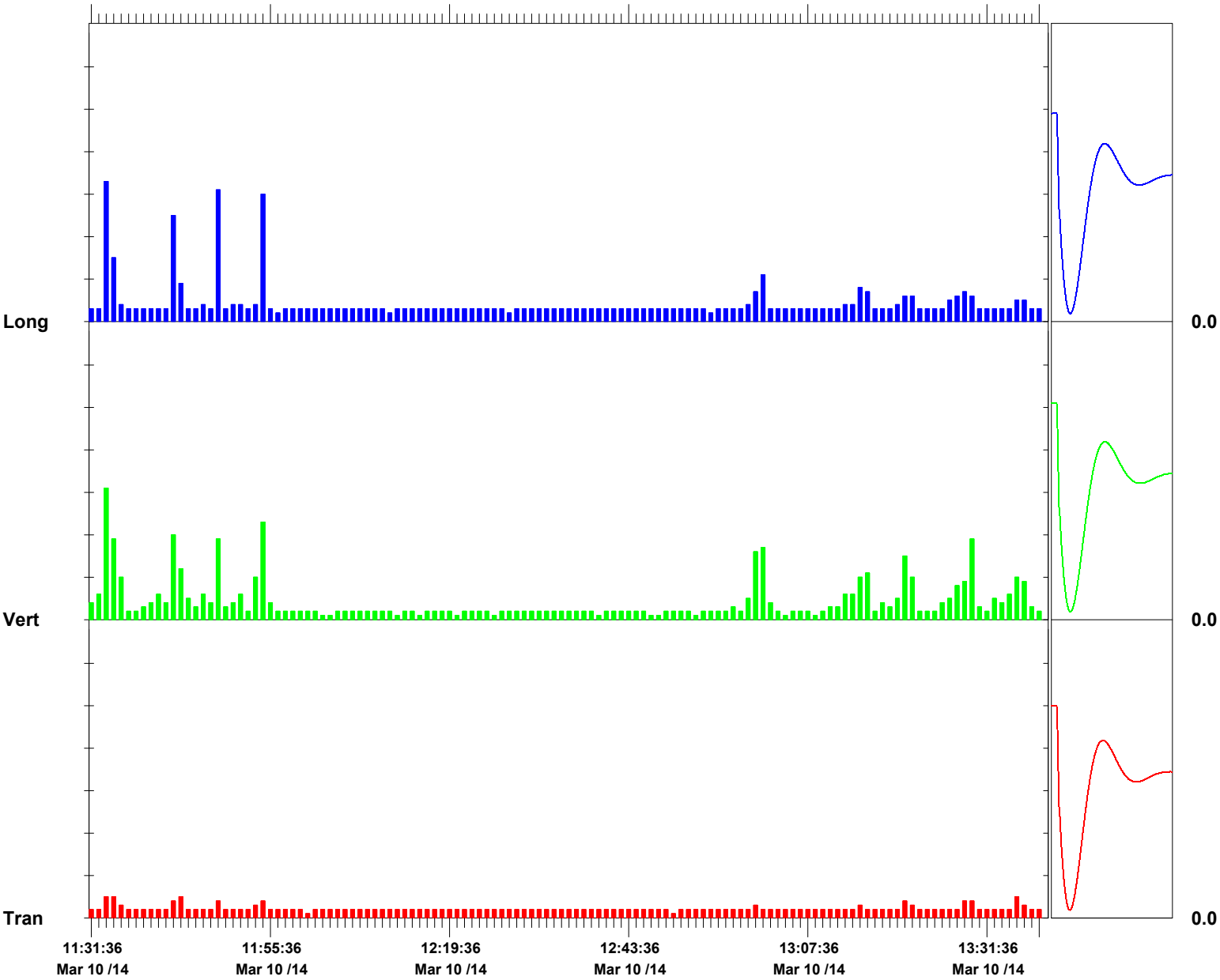
Post Event Notes

VMP 9

Extended Notes

	Tran	Vert	Long	
PPV	0.0250	0.155	0.165	in/s
ZC Freq	34	22	51	Hz
Date	Mar 10 /14	Mar 10 /14	Mar 10 /14	
Time	11:33:21	11:33:21	11:33:26	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.2	7.3	Hz
Overswing Ratio	4.1	4.1	4.1	

Peak Vector Sum 0.186 in/s on March 10, 2014 at 11:54:36



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	13:40:24 March 10, 2014
Histogram Finish Time	15:15:31 March 10, 2014
Number of Intervals	1141.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F8DS.NC0

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

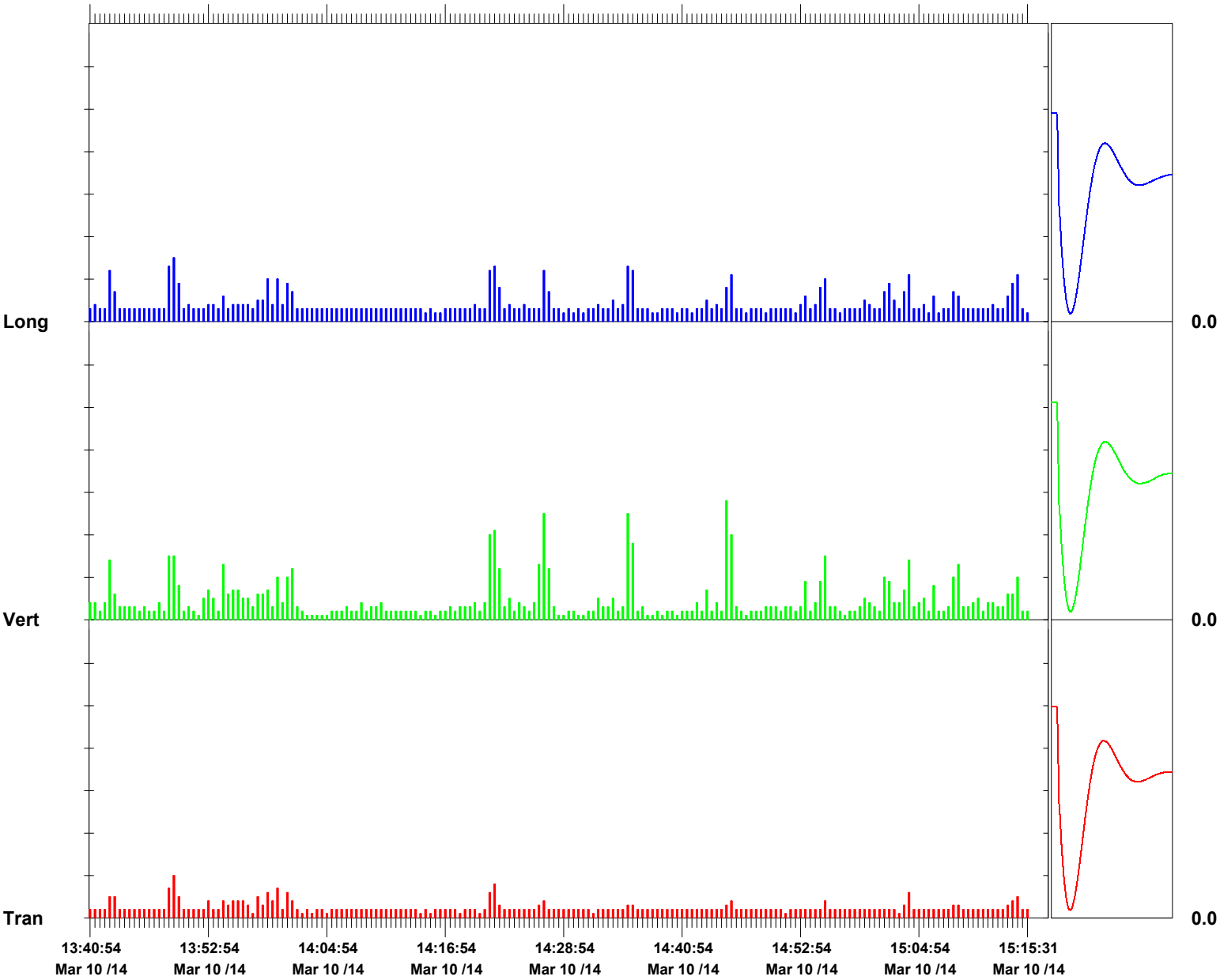
Post Event Notes

VMP 10

Extended Notes

	Tran	Vert	Long	
PPV	0.0500	0.140	0.0750	in/s
ZC Freq	34	32	32	Hz
Date	Mar 10 /14	Mar 10 /14	Mar 10 /14	
Time	13:48:59	14:45:24	13:49:04	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.2	7.2	Hz
Overswing Ratio	4.2	4.1	4.1	

Peak Vector Sum 0.146 in/s on March 10, 2014 at 14:45:24



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	15:17:54 March 10, 2014
Histogram Finish Time	17:08:22 March 10, 2014
Number of Intervals	1325.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F8DX.5U0

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

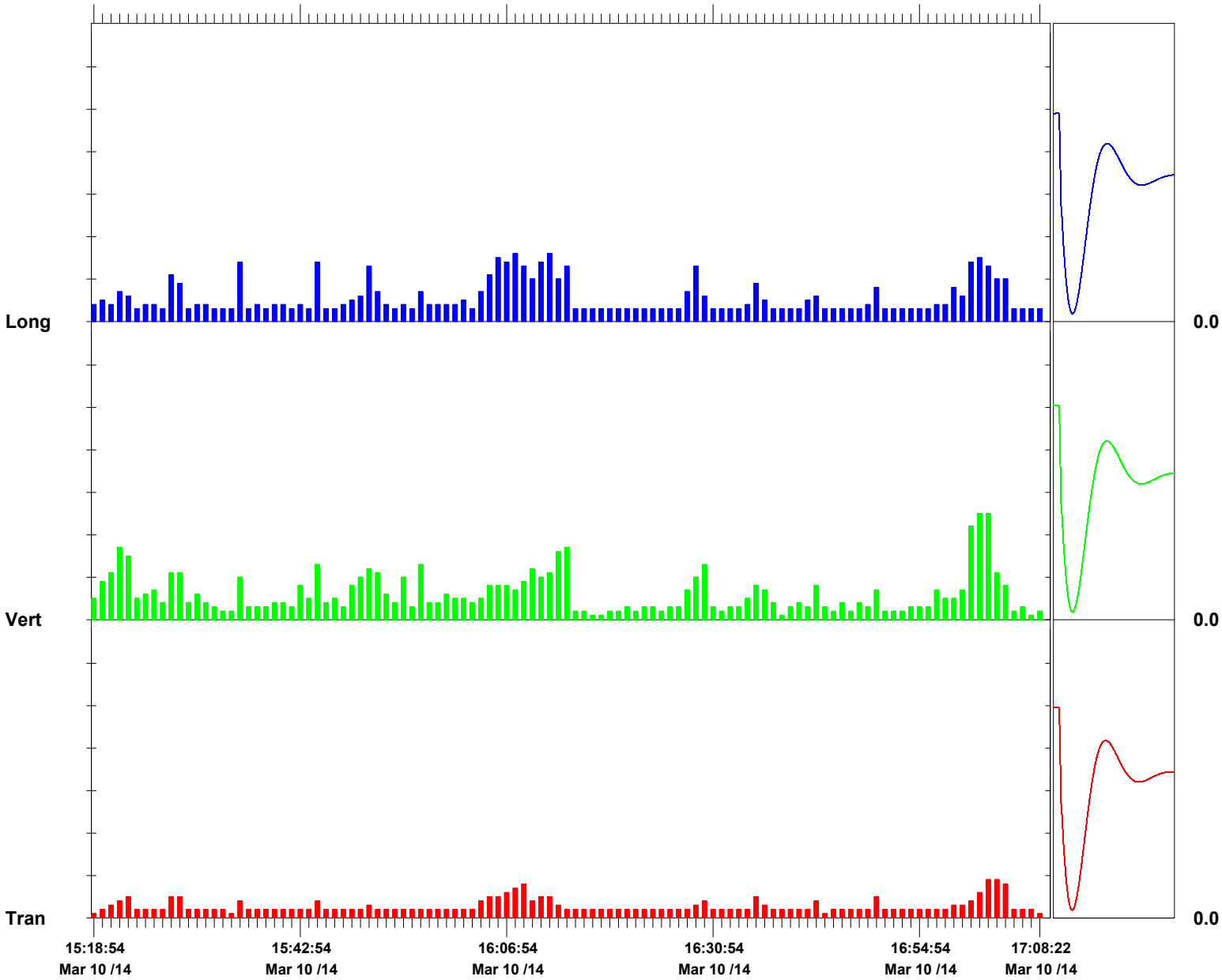
Post Event Notes

VMP 11

Extended Notes

	Tran	Vert	Long	
PPV	0.0450	0.125	0.0800	in/s
ZC Freq	34	32	30	Hz
Date	Mar 10 /14	Mar 10 /14	Mar 10 /14	
Time	17:02:14	17:01:34	16:06:59	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.3	7.2	Hz
Overswing Ratio	4.1	4.0	4.1	

Peak Vector Sum 0.145 in/s on March 10, 2014 at 17:01:34



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

March 11th, 2014
For ENTACT, LLC

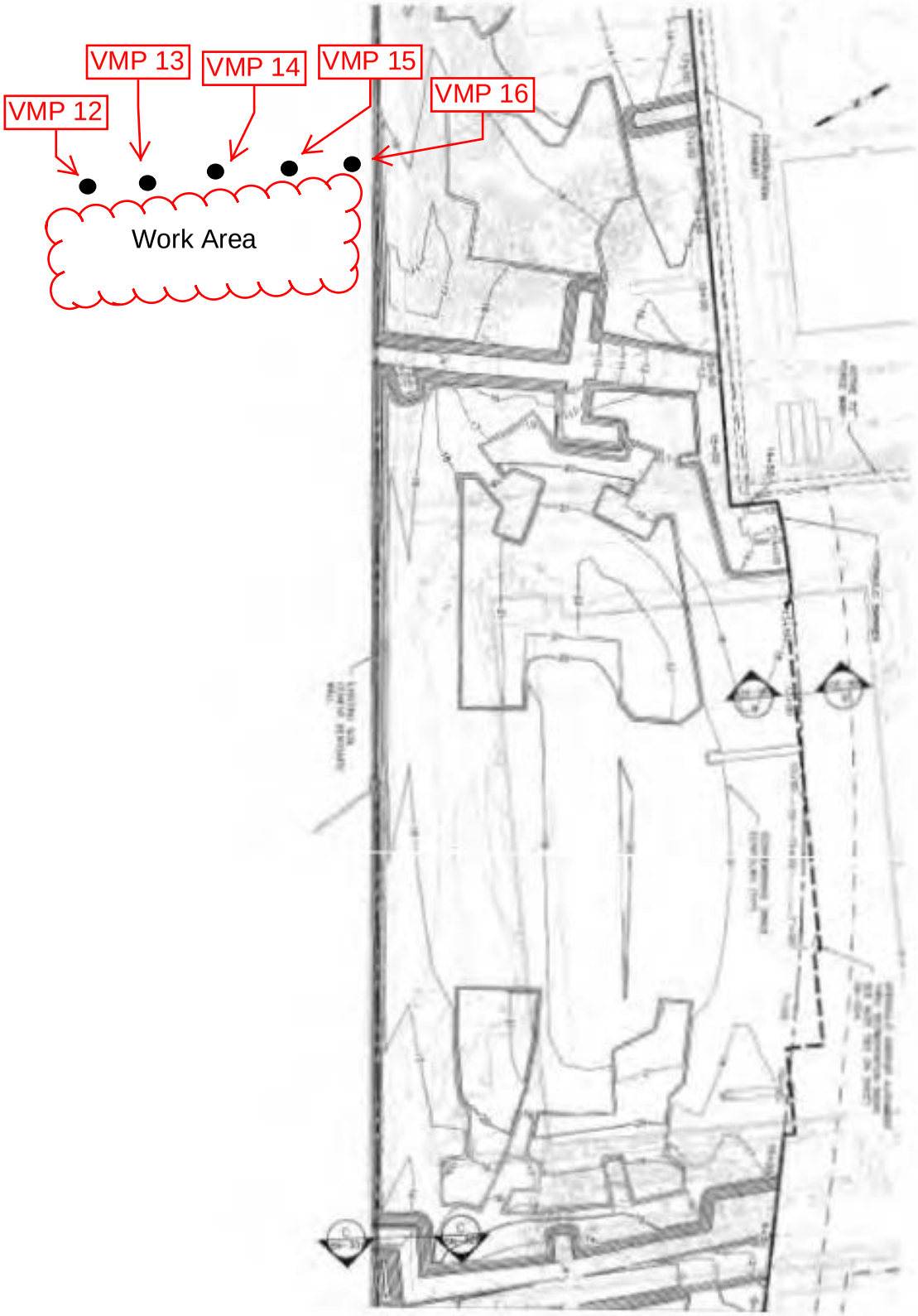
111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

NOTES:

Summary of Work:
Sheet pile driving commenced at 8:10 AM and ended at 6:40 PM. An Instantel Blastmate III was used to record vibrations via a geophone placed on the ground over the 72 inch force main.

44 sheets were driven, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at this location.

Trigger Level: 0.5 in/sec
Alert Level: 1.0 in/sec


VMP 12
VMP 13
VMP 14
VMP 15
VMP 16
Work Area

Event Report

Histogram Start Time	08:07:50 March 11, 2014
Histogram Finish Time	09:59:23 March 11, 2014
Number of Intervals	1338.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.9 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F8F7.X20

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

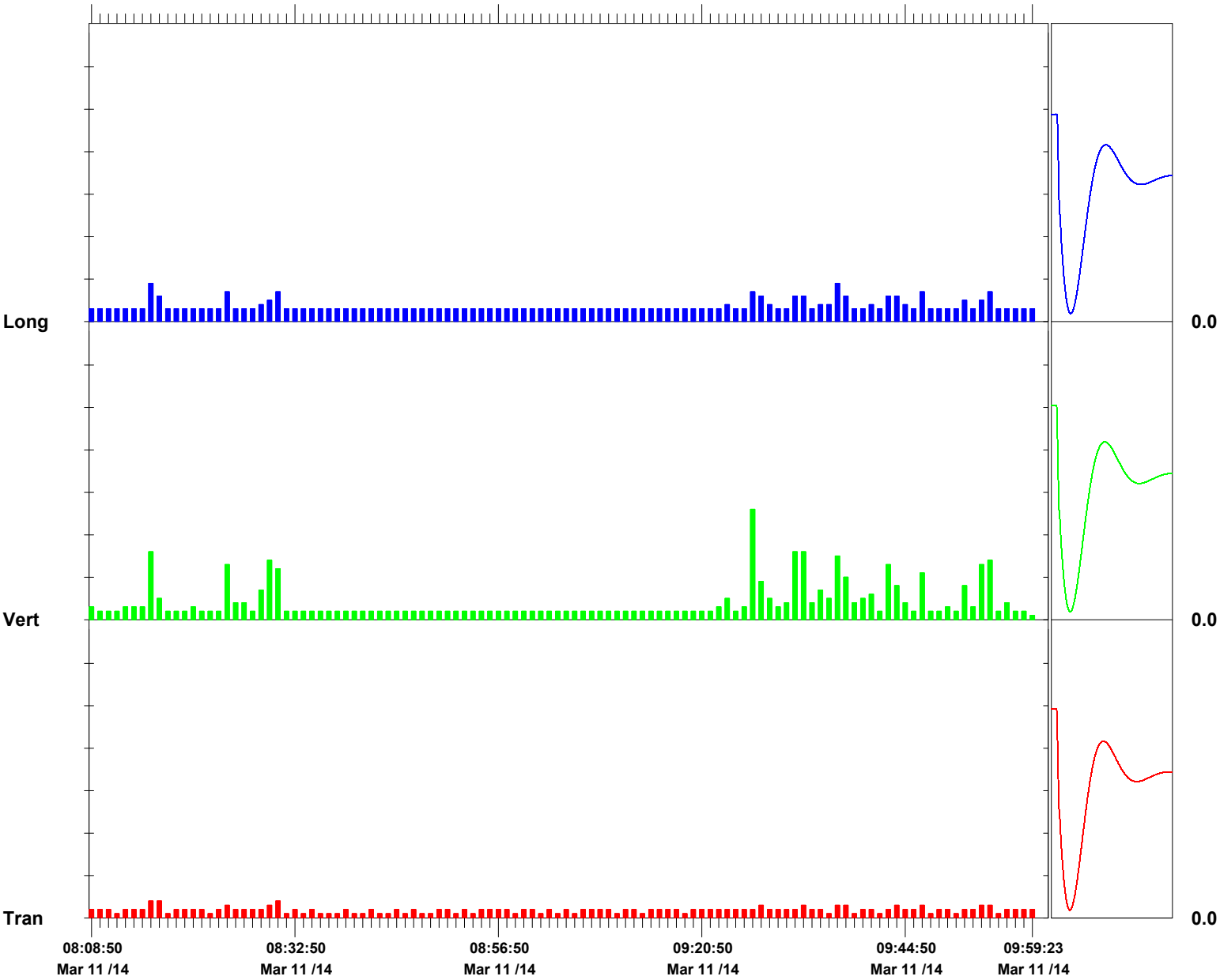
Post Event Notes

VMP 12

Extended Notes

	Tran	Vert	Long	
PPV	0.0200	0.130	0.0450	in/s
ZC Freq	43	15	17	Hz
Date	Mar 11 /14	Mar 11 /14	Mar 11 /14	
Time	08:15:45	09:26:45	08:15:00	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.2	Hz
Overswing Ratio	4.2	4.1	4.2	

Peak Vector Sum 0.132 in/s on March 11, 2014 at 09:26:45



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	10:01:54 March 11, 2014
Histogram Finish Time	13:41:17 March 11, 2014
Number of Intervals	2632.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F8FD.760

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

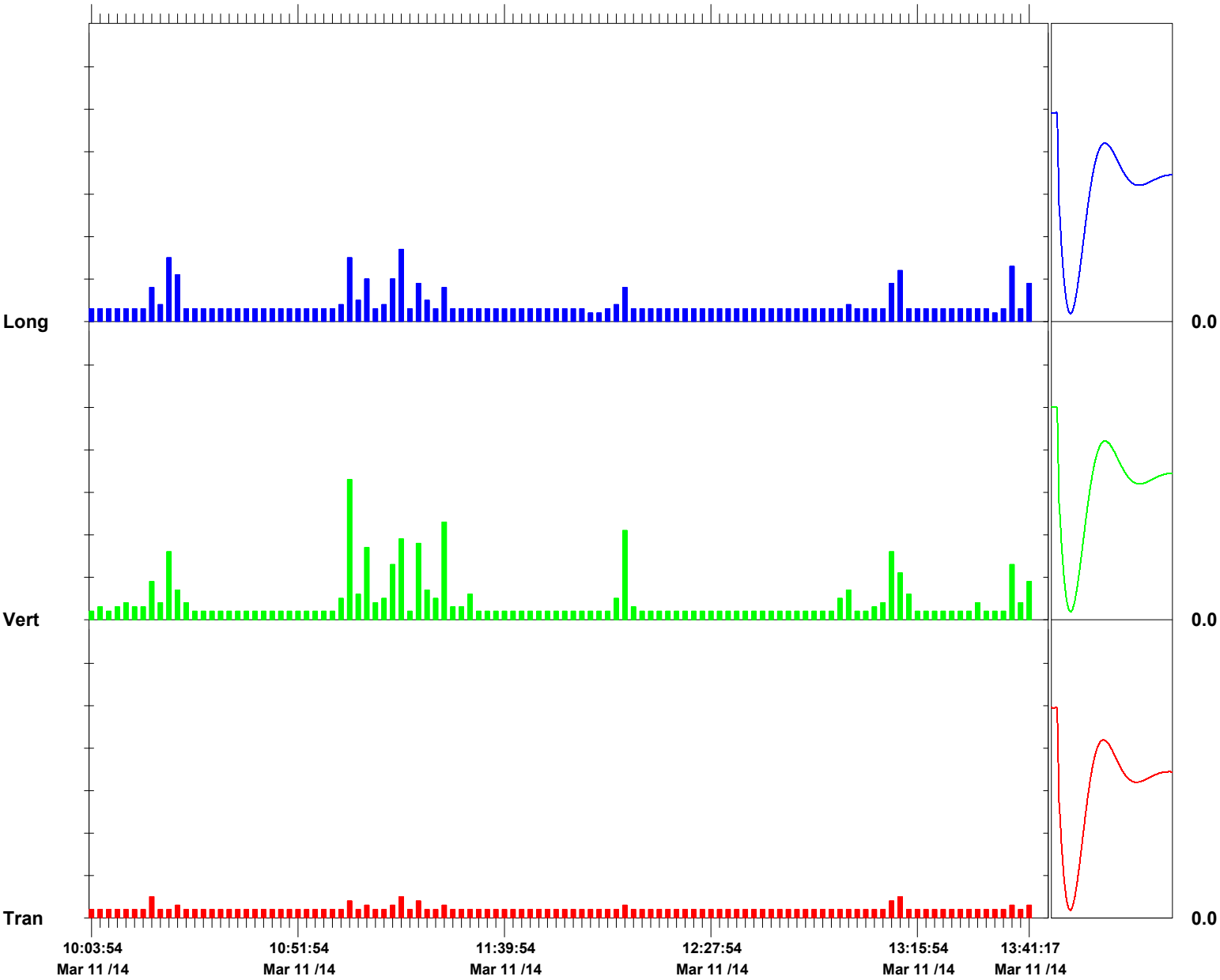
Post Event Notes

VMP 13

Extended Notes

	Tran	Vert	Long	
PPV	0.0250	0.165	0.0850	in/s
ZC Freq	39	17	32	Hz
Date	Mar 11 /14	Mar 11 /14	Mar 11 /14	
Time	10:16:54	11:02:59	11:14:44	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.2	7.3	Hz
Overswing Ratio	4.1	4.0	4.0	

Peak Vector Sum 0.169 in/s on March 11, 2014 at 11:02:59



Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	13:43:06 March 11, 2014
Histogram Finish Time	15:14:40 March 11, 2014
Number of Intervals	1098.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F8FN.FU0

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

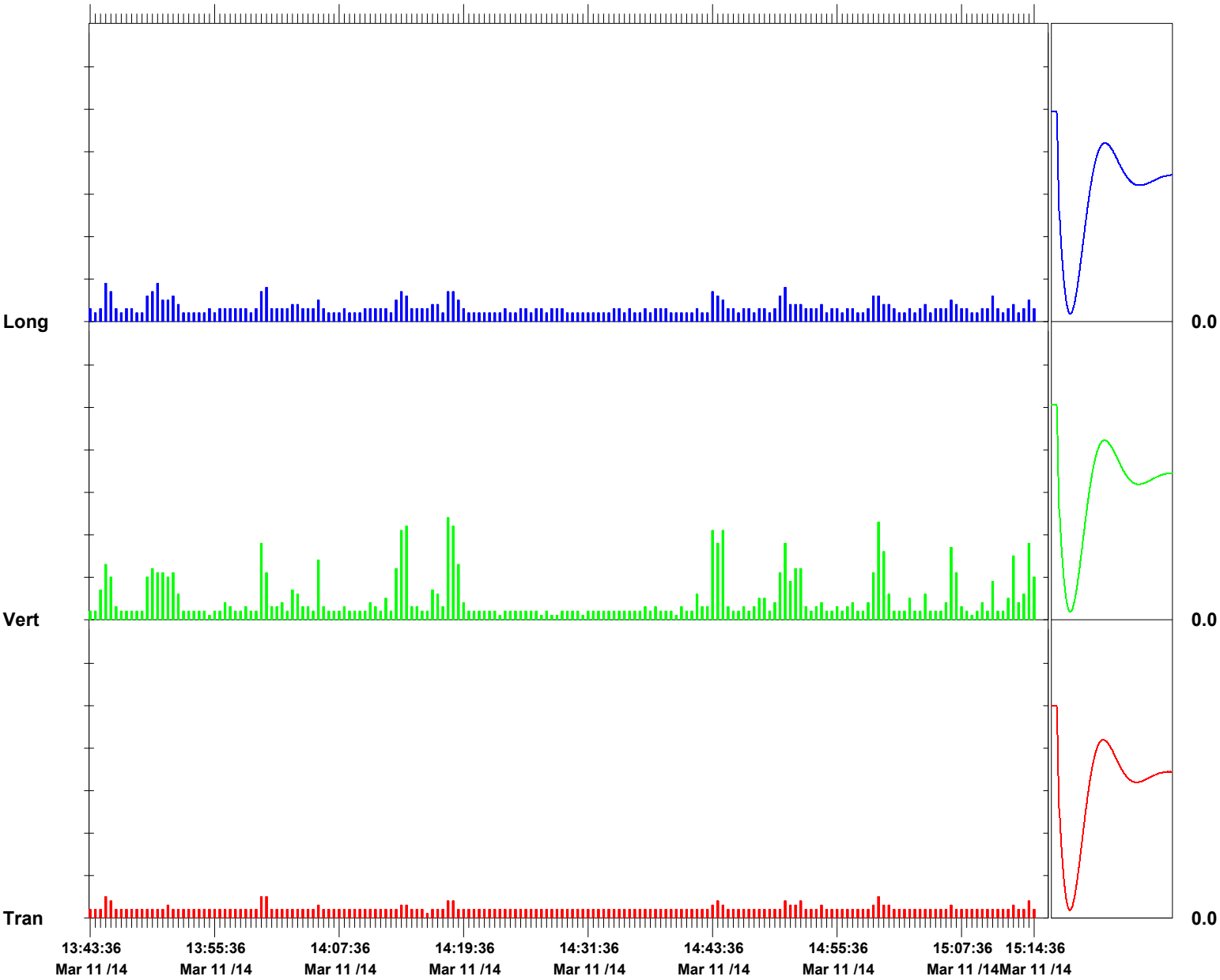
Post Event Notes

VMP 14

Extended Notes

	Tran	Vert	Long	
PPV	0.0250	0.120	0.0450	in/s
ZC Freq	39	30	30	Hz
Date	Mar 11 /14	Mar 11 /14	Mar 11 /14	
Time	13:45:06	14:18:06	13:45:06	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.3	Hz
Overswing Ratio	4.0	3.9	4.0	

Peak Vector Sum 0.122 in/s on March 11, 2014 at 14:18:06



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	15:17:04 March 11, 2014
Histogram Finish Time	15:55:36 March 11, 2014
Number of Intervals	462.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F8FR.SG0

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

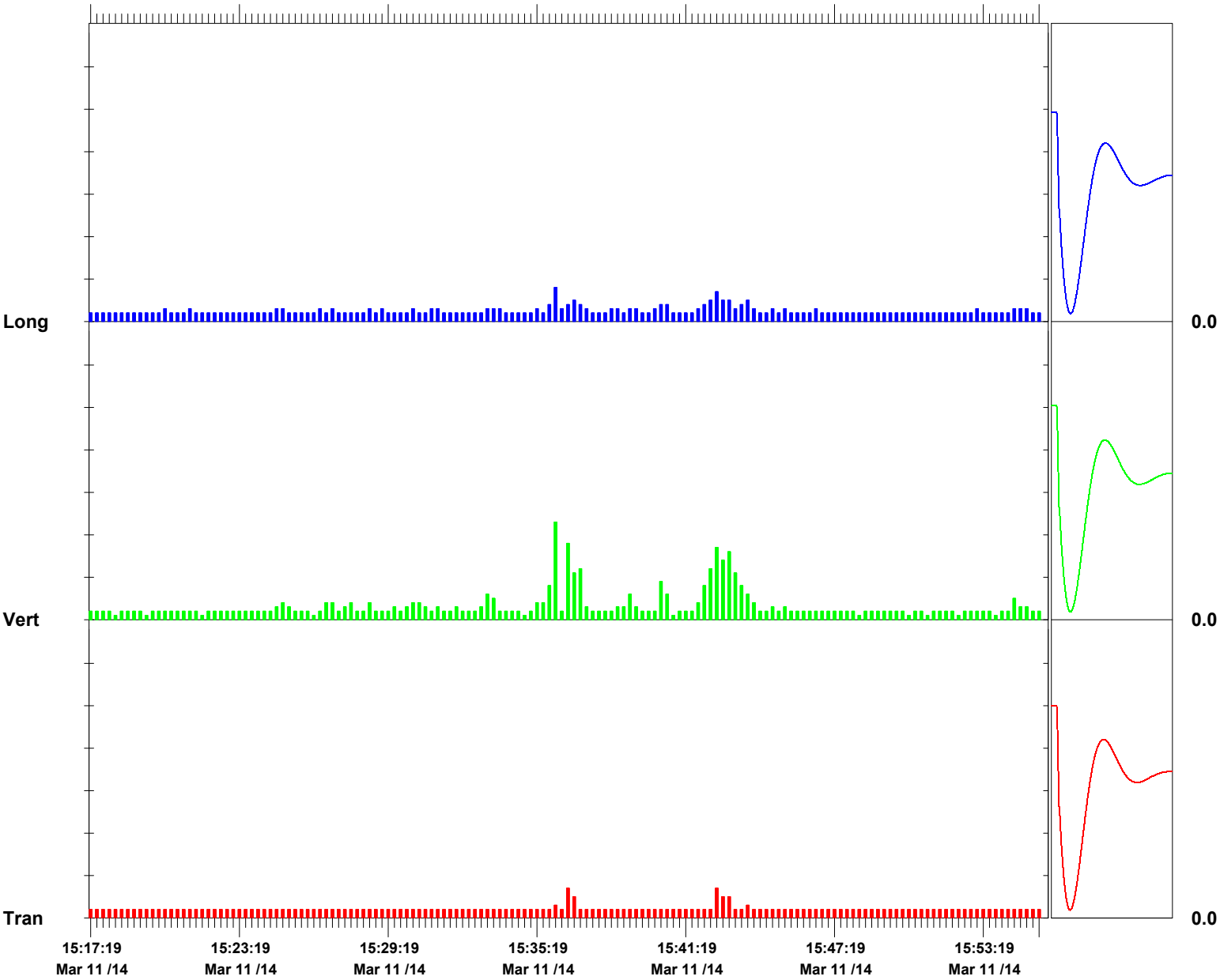
Post Event Notes

VMP 15

Extended Notes

	Tran	Vert	Long	
PPV	0.0350	0.115	0.0400	in/s
ZC Freq	34	30	34	Hz
Date	Mar 11 /14	Mar 11 /14	Mar 11 /14	
Time	15:36:34	15:35:54	15:35:54	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.3	7.2	Hz
Overswing Ratio	4.0	3.9	4.0	

Peak Vector Sum 0.119 in/s on March 11, 2014 at 15:35:54



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

Format © 1995-2013 Xmark Corporation

Event Report

Histogram Start Time	15:57:20 March 11, 2014
Histogram Finish Time	16:30:19 March 11, 2014
Number of Intervals	395.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F8FT.NK0

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

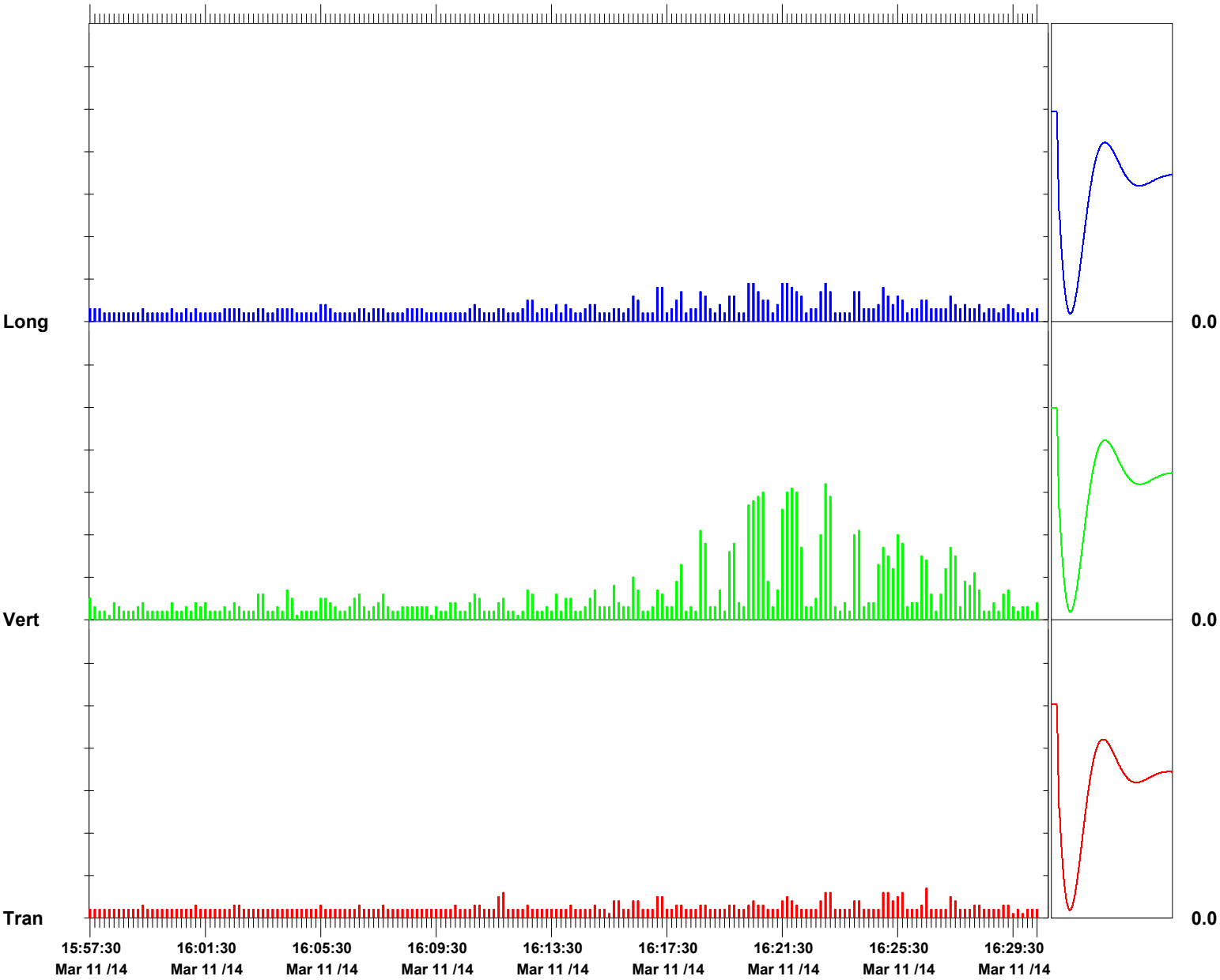
Post Event Notes

VMP 14

Extended Notes

	Tran	Vert	Long	
PPV	0.0350	0.160	0.0450	in/s
ZC Freq	39	30	30	Hz
Date	Mar 11 /14	Mar 11 /14	Mar 11 /14	
Time	16:26:30	16:23:00	16:20:20	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.3	Hz
Overswing Ratio	4.0	3.9	3.9	

Peak Vector Sum 0.164 in/s on March 11, 2014 at 16:23:00



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	16:32:48 March 11, 2014
Histogram Finish Time	17:59:40 March 11, 2014
Number of Intervals	1042.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F8FV.AO0

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

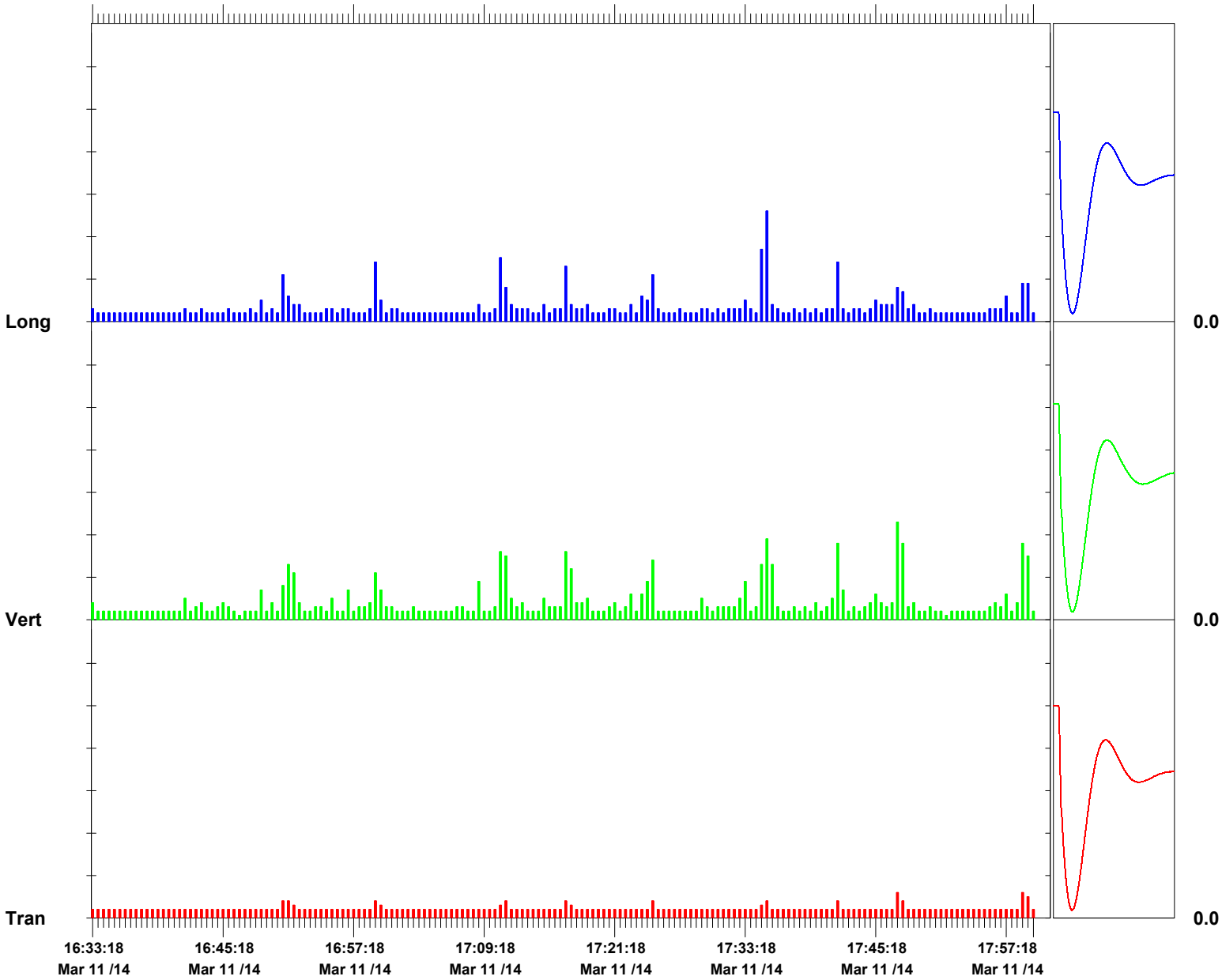
Post Event Notes

VMP 15

Extended Notes

	Tran	Vert	Long	
PPV	0.0300	0.115	0.130	in/s
ZC Freq	37	30	30	Hz
Date	Mar 11 /14	Mar 11 /14	Mar 11 /14	
Time	17:47:13	17:47:13	17:34:53	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.3	7.2	Hz
Overswing Ratio	4.1	3.9	4.0	

Peak Vector Sum 0.161 in/s on March 11, 2014 at 17:34:53



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	18:01:28 March 11, 2014
Histogram Finish Time	18:40:22 March 11, 2014
Number of Intervals	466.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F8FZ.EG0

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

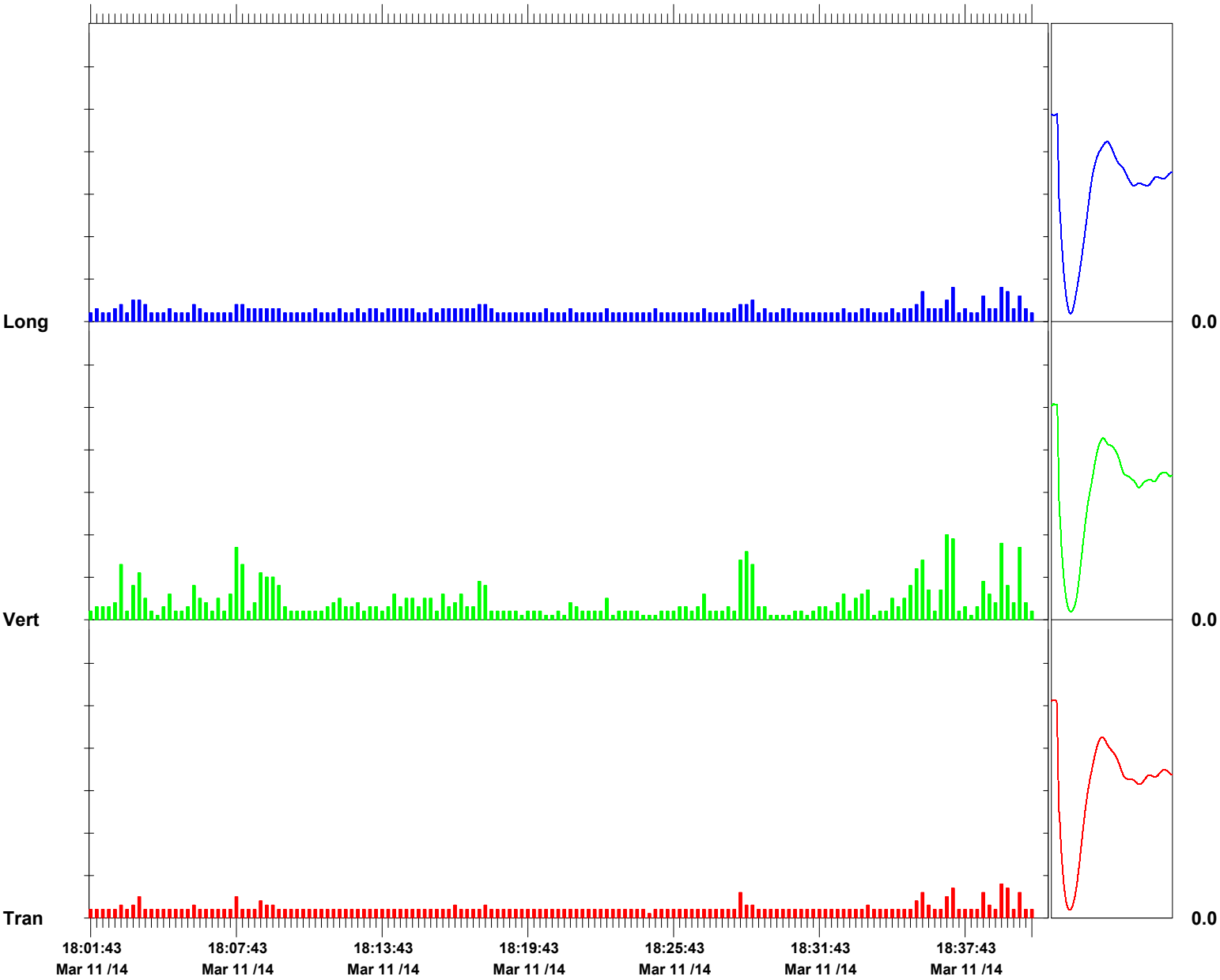
Post Event Notes

VMP 16

Extended Notes

	Tran	Vert	Long	
PPV	0.0400	0.1000	0.0400	in/s
ZC Freq	34	30	32	Hz
Date	Mar 11 /14	Mar 11 /14	Mar 11 /14	
Time	18:39:03	18:36:58	18:37:08	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.2	7.4	Hz
Overswing Ratio	3.8	3.7	3.9	

Peak Vector Sum 0.100 in/s on March 11, 2014 at 18:36:58



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

March 12th, 2014
For ENTACT, LLC

111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

NOTES:

Summary of Work:
Sheet pile driving commenced at 8:00 AM and ended at 10:40 AM. An Instantel Blastmate III was used to record vibrations via a geophone placed on the ground over the 72 inch force main.

16 sheets were driven, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at this location.

Trigger Level: 0.5 in/sec
Alert Level: 1.0 in/sec

VMP 16
VMP 17
VMP 12
Work Area

Event Report

Histogram Start Time	07:50:17 March 12, 2014
Histogram Finish Time	08:43:20 March 12, 2014
Number of Intervals	636.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F8H1.RT0

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

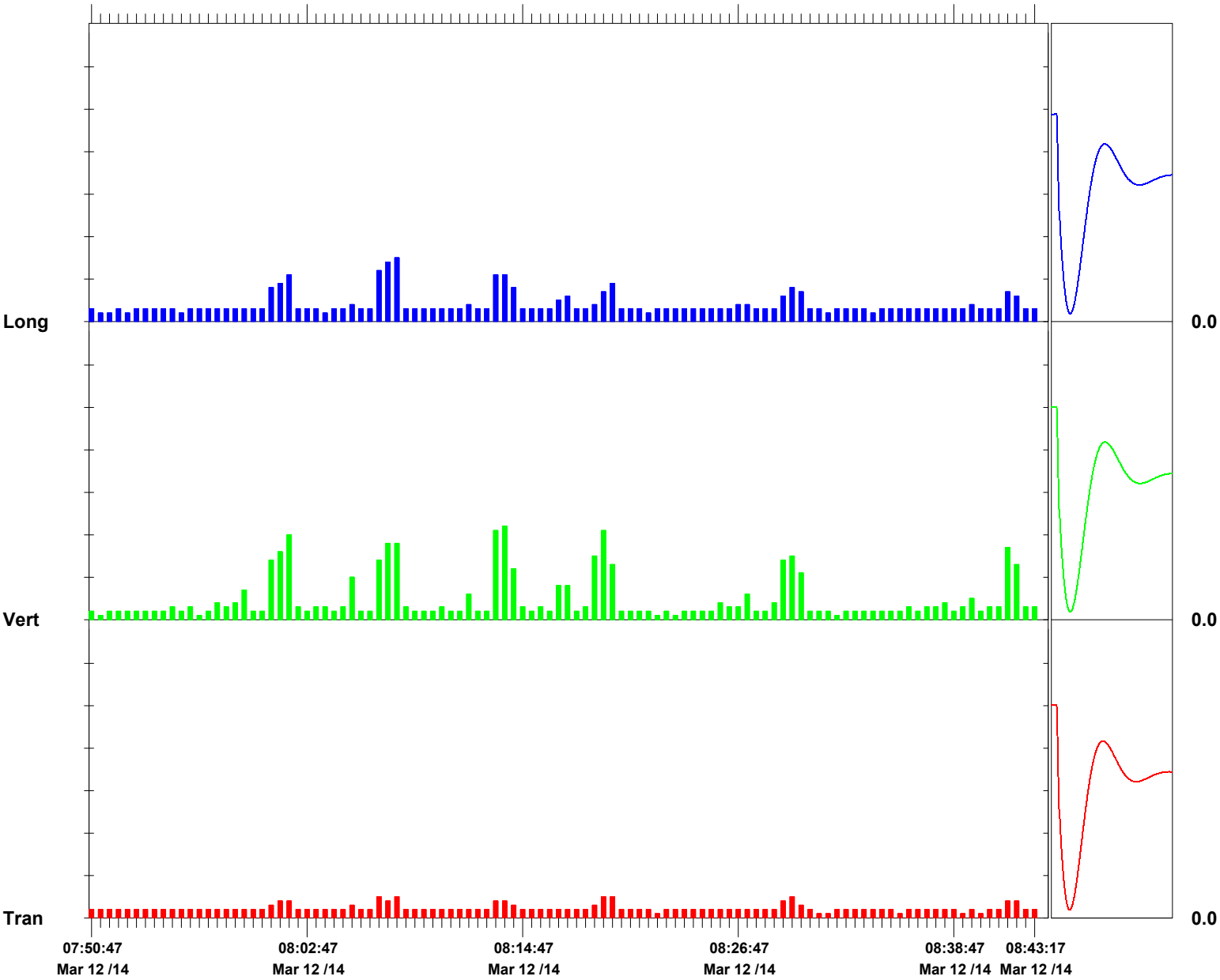
Post Event Notes

VMP 16

Extended Notes

	Tran	Vert	Long	
PPV	0.0250	0.110	0.0750	in/s
ZC Freq	51	32	30	Hz
Date	Mar 12 /14	Mar 12 /14	Mar 12 /14	
Time	08:06:47	08:13:22	08:07:22	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.2	7.3	Hz
Overswing Ratio	4.2	4.1	4.1	

Peak Vector Sum 0.119 in/s on March 12, 2014 at 08:13:12



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	08:45:37 March 12, 2014
Histogram Finish Time	09:50:52 March 12, 2014
Number of Intervals	783.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.9 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F8H4.C10

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

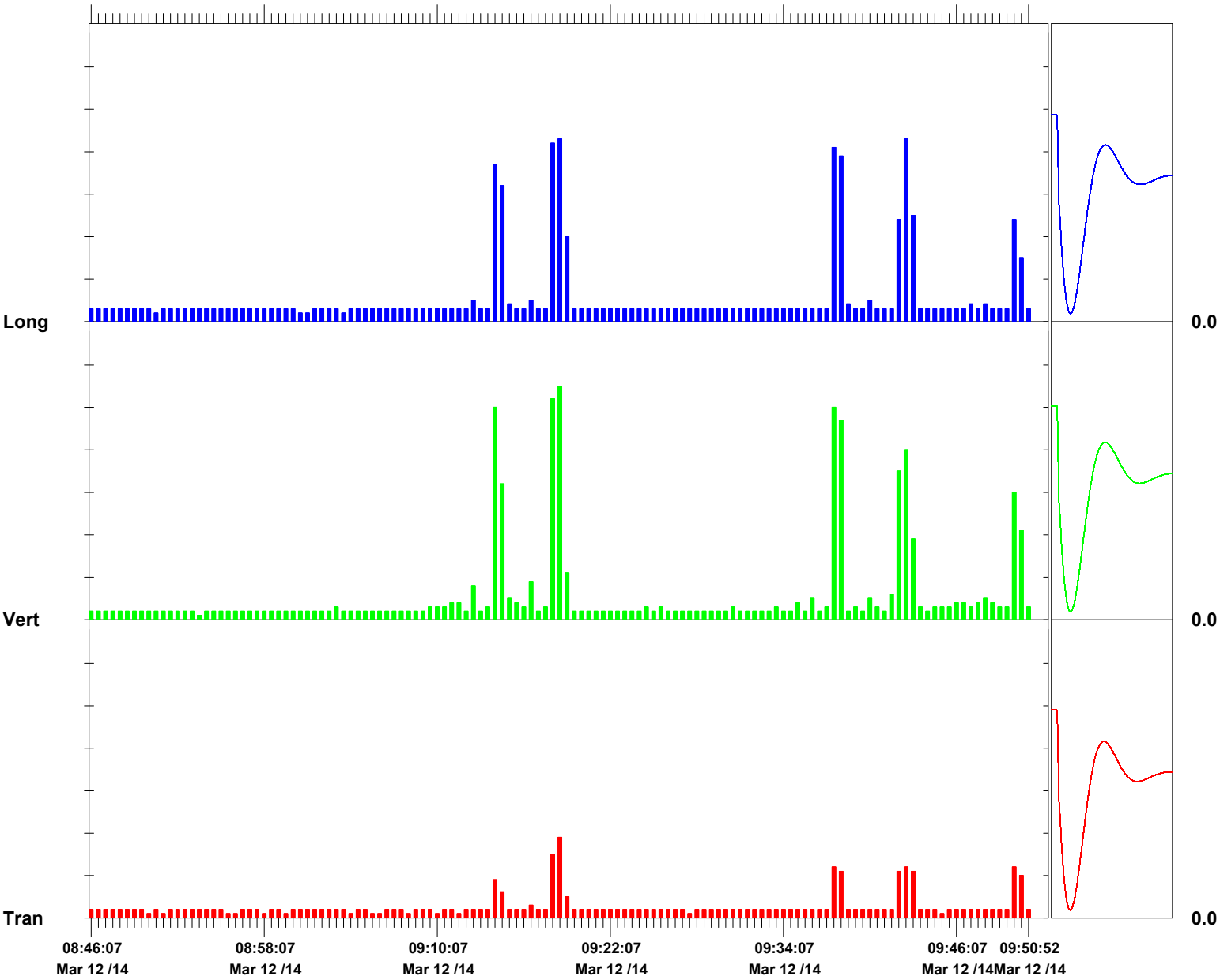
Post Event Notes

VMP 17

Extended Notes

	Tran	Vert	Long	
PPV	0.0950	0.275	0.215	in/s
ZC Freq	34	30	34	Hz
Date	Mar 12 /14	Mar 12 /14	Mar 12 /14	
Time	09:18:12	09:18:12	09:18:12	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.2	7.1	Hz
Overswing Ratio	4.3	4.1	4.2	

Peak Vector Sum 0.320 in/s on March 12, 2014 at 09:18:12



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	09:54:53 March 12, 2014
Histogram Finish Time	10:40:53 March 12, 2014
Number of Intervals	552.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F8H7.JH0

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

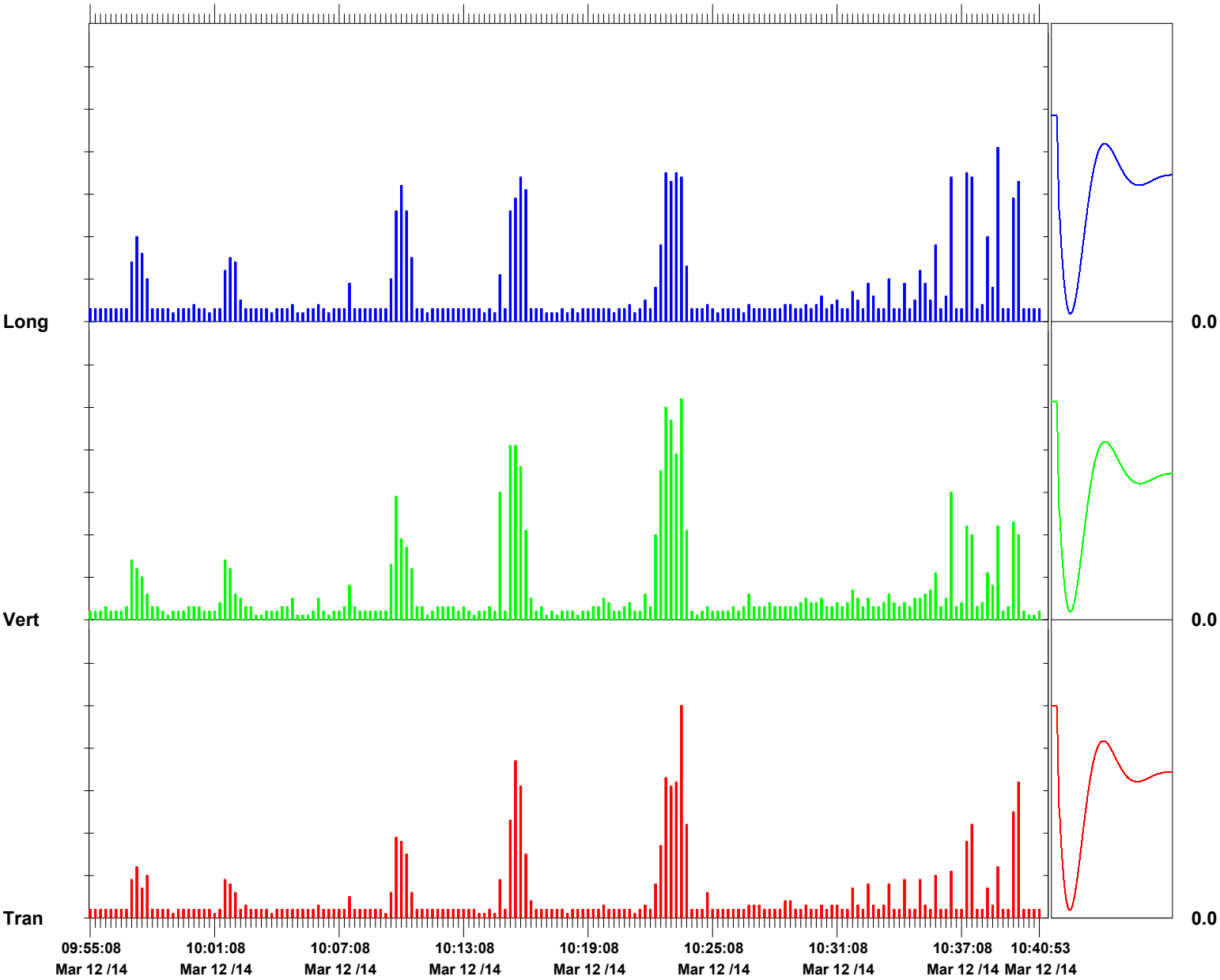
Post Event Notes

VMP 18

Extended Notes

	Tran	Vert	Long	
PPV	0.250	0.260	0.205	in/s
ZC Freq	32	37	28	Hz
Date	Mar 12 /14	Mar 12 /14	Mar 12 /14	
Time	10:23:33	10:23:33	10:38:53	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.3	Hz
Overswing Ratio	4.2	4.1	4.1	

Peak Vector Sum 0.310 in/s on March 12, 2014 at 10:23:33



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

September 23rd, 2014
For ENTACT, LLC

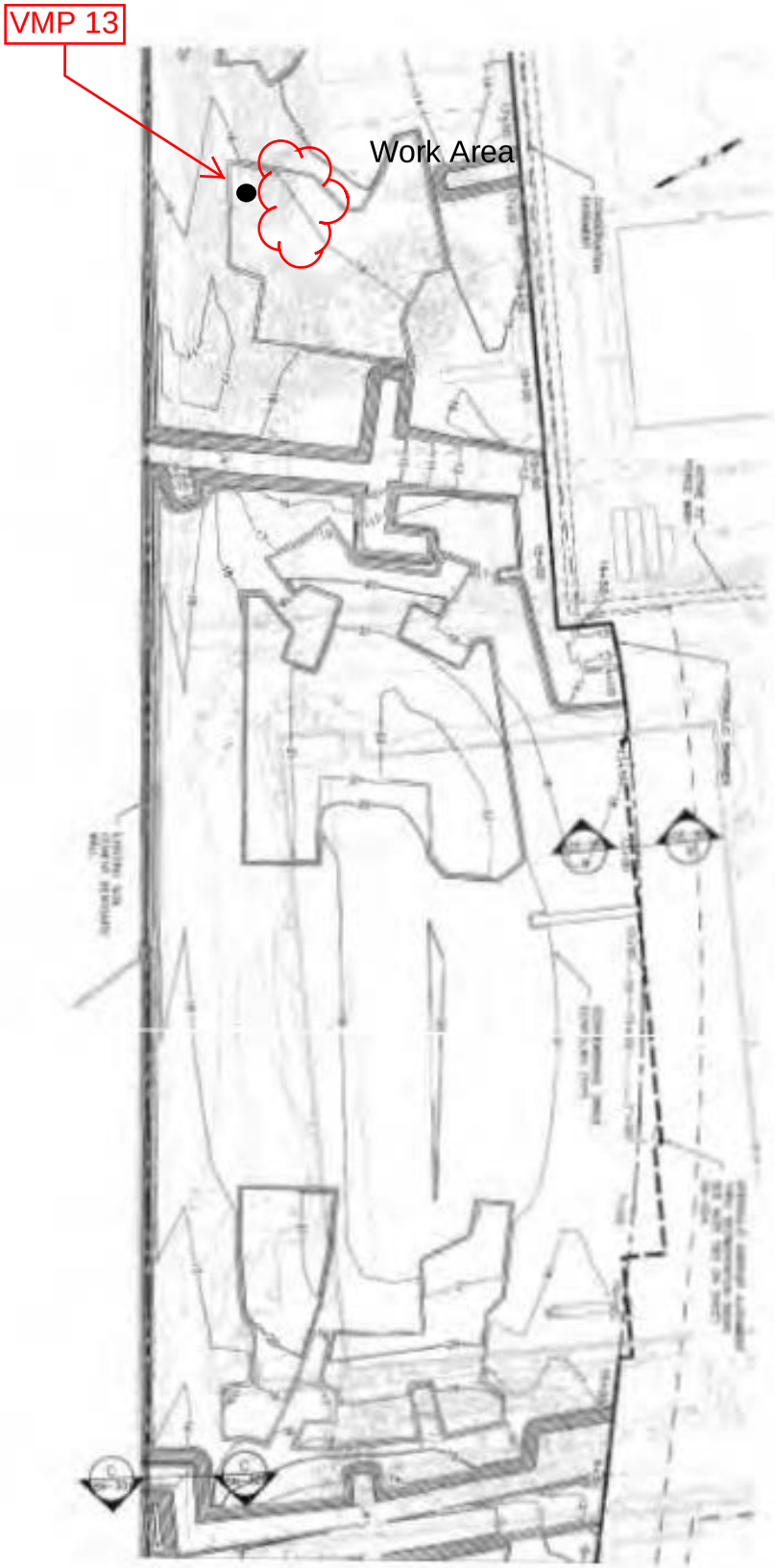
111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

NOTES:

Summary of Work:
Sheet pile driving commenced at 9:24 AM and ended at 2:55 PM. An Instantel Minimate was used to record vibrations via a geophone placed on the ground over the 72" inch force main.

15 sheets were driven, then all 15 sheets were brought to grade, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at these locations.

72 Inch Force Main:
Trigger Level: 0.5 in/sec
Alert Level: 1.0 in/sec


VMP 13
Work Area

Event Report

Histogram Start Time	09:24:56 September 23, 2014
Histogram Finish Time	11:54:18 September 23, 2014
Number of Intervals	1792.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	2048sps
Job Number:	13

Serial Number	BE17552 V 10.60-8.17 MiniMate Plus
Battery Level	6.1 Volts
Unit Calibration	September 6, 2013 by Instantel
File Name	S552FIIA.5K0

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

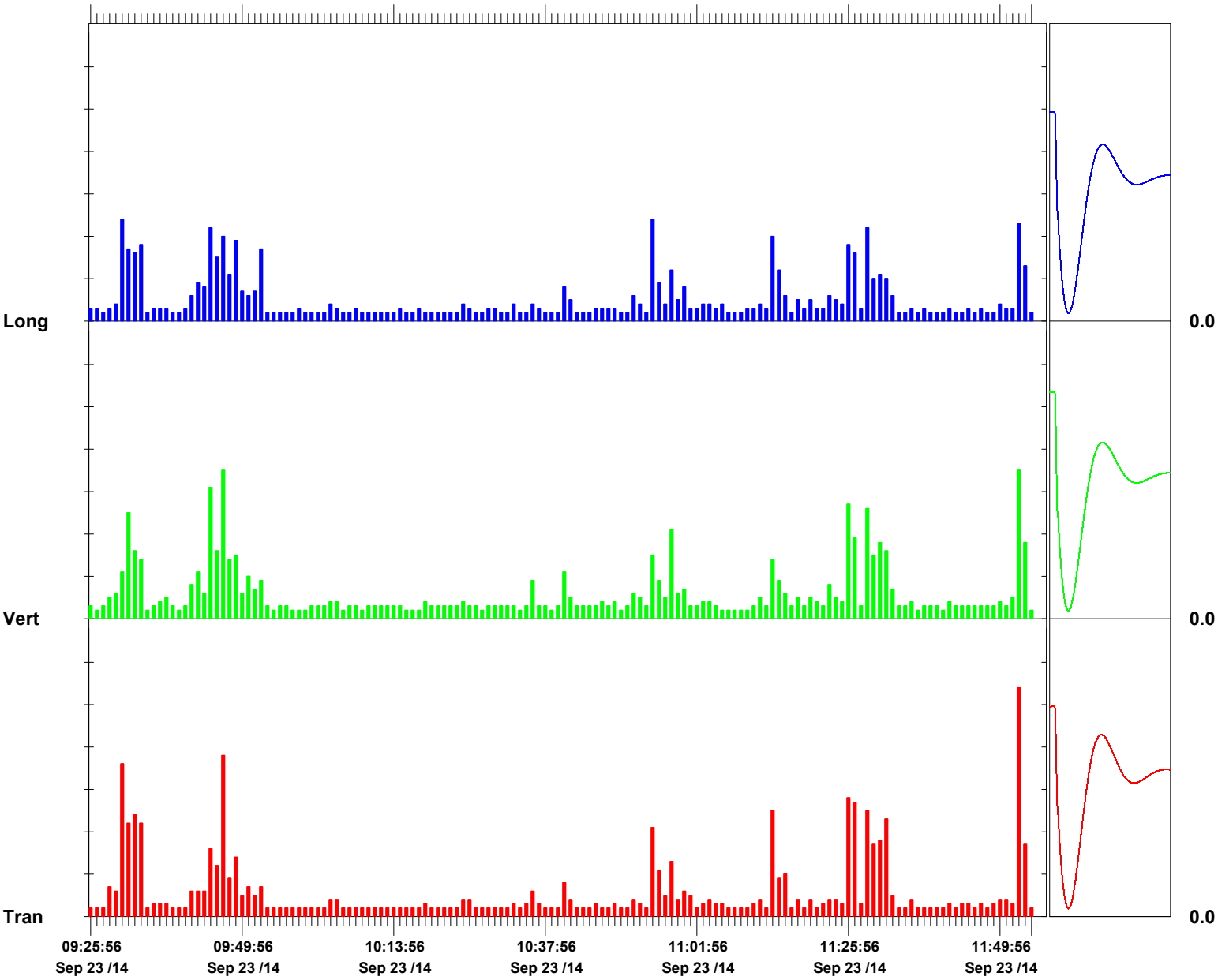
Post Event Notes

VMP 13

Extended Notes

	Tran	Vert	Long	
PPV	0.270	0.175	0.120	in/s
ZC Freq	30	17.7	25	Hz
Date	Sep 23 /14	Sep 23 /14	Sep 23 /14	
Time	11:52:36	09:46:06	09:30:56	
Sensor Check	Passed	Passed	Passed	
Frequency	7.6	7.3	7.2	Hz
Overswing Ratio	3.6	4.2	4.2	

Peak Vector Sum 0.307 in/s on September 23, 2014 at 11:52:36



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	13:01:51 September 23, 2014
Histogram Finish Time	14:58:28 September 23, 2014
Number of Intervals	1399.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	2048sps
Job Number:	13

Serial Number	BE17552 V 10.60-8.17 MiniMate Plus
Battery Level	6.1 Volts
Unit Calibration	September 6, 2013 by Instantel
File Name	S552FIIK.730

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

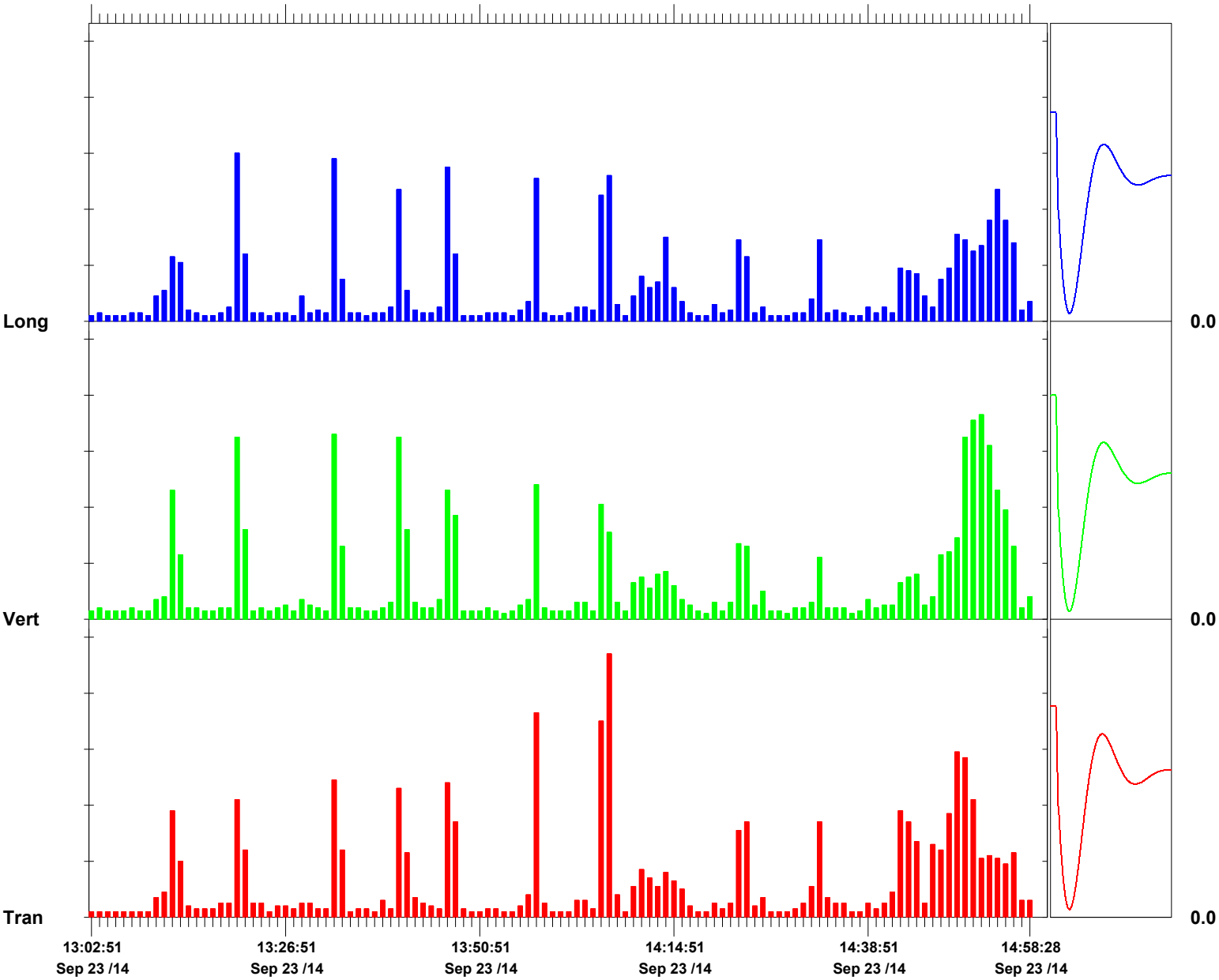
Post Event Notes

VMP 13

Extended Notes

	Tran	Vert	Long	
PPV	0.470	0.365	0.300	in/s
ZC Freq	29	28	35	Hz
Date	Sep 23 /14	Sep 23 /14	Sep 23 /14	
Time	14:05:56	14:52:21	13:20:36	
Sensor Check	Passed	Passed	Passed	
Frequency	7.6	7.3	7.2	Hz
Overswing Ratio	3.5	4.2	4.2	

Peak Vector Sum 0.485 in/s on September 23, 2014 at 14:05:56



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.100 in/s/div Sensor Check

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Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

March 10th, 2015
For ENTACT, LLC

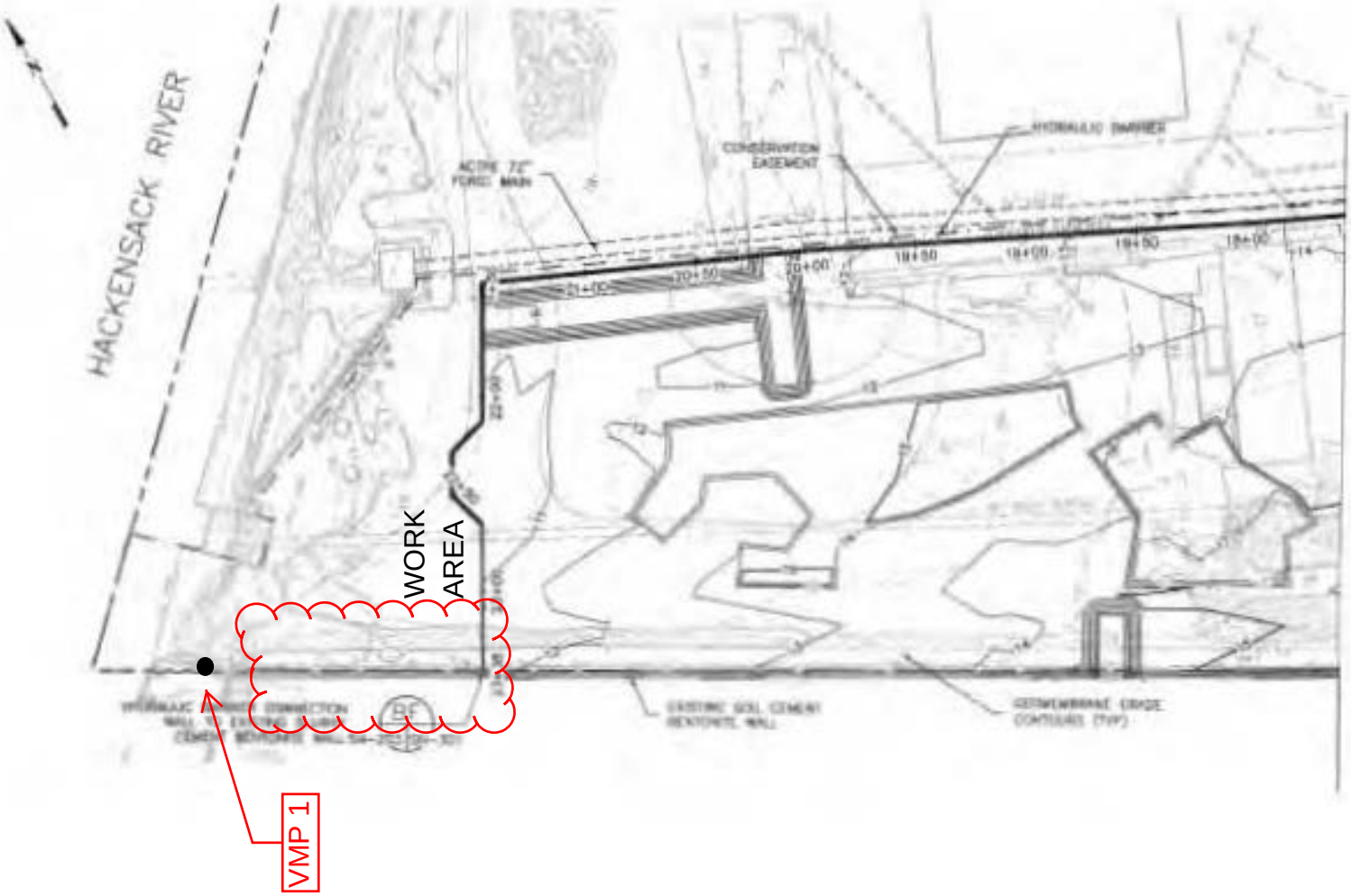
111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

NOTES:

Summary of Work:
Sheet pile driving commenced at 10:29 AM and ended at 3:29 PM. An Instantel Minimate was used to record vibrations via a geophone placed on the ground over the 72" inch force main.

16 sheets were driven, then all 16 sheets were brought to grade, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at these locations.

72 Inch Force Main:
Trigger Level: 0.5 in/sec
Alert Level: 1.0 in/sec


HACKENSACK RIVER
ACTIVE 72" FORCE MAIN
CONSERVATION EASEMENT
HYDRAULIC BARRIER
WORK AREA
VMP 1

Event Report

Histogram Start Time	10:29:16 March 10, 2015
Histogram Finish Time	11:50:49 March 10, 2015
Number of Intervals	978.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BE16068 V 10.72-8.17 MiniMate Plus/8
Battery Level	6.3 Volts
Unit Calibration	February 5, 2015 by Instantel
File Name	R068FR5H.4S0

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

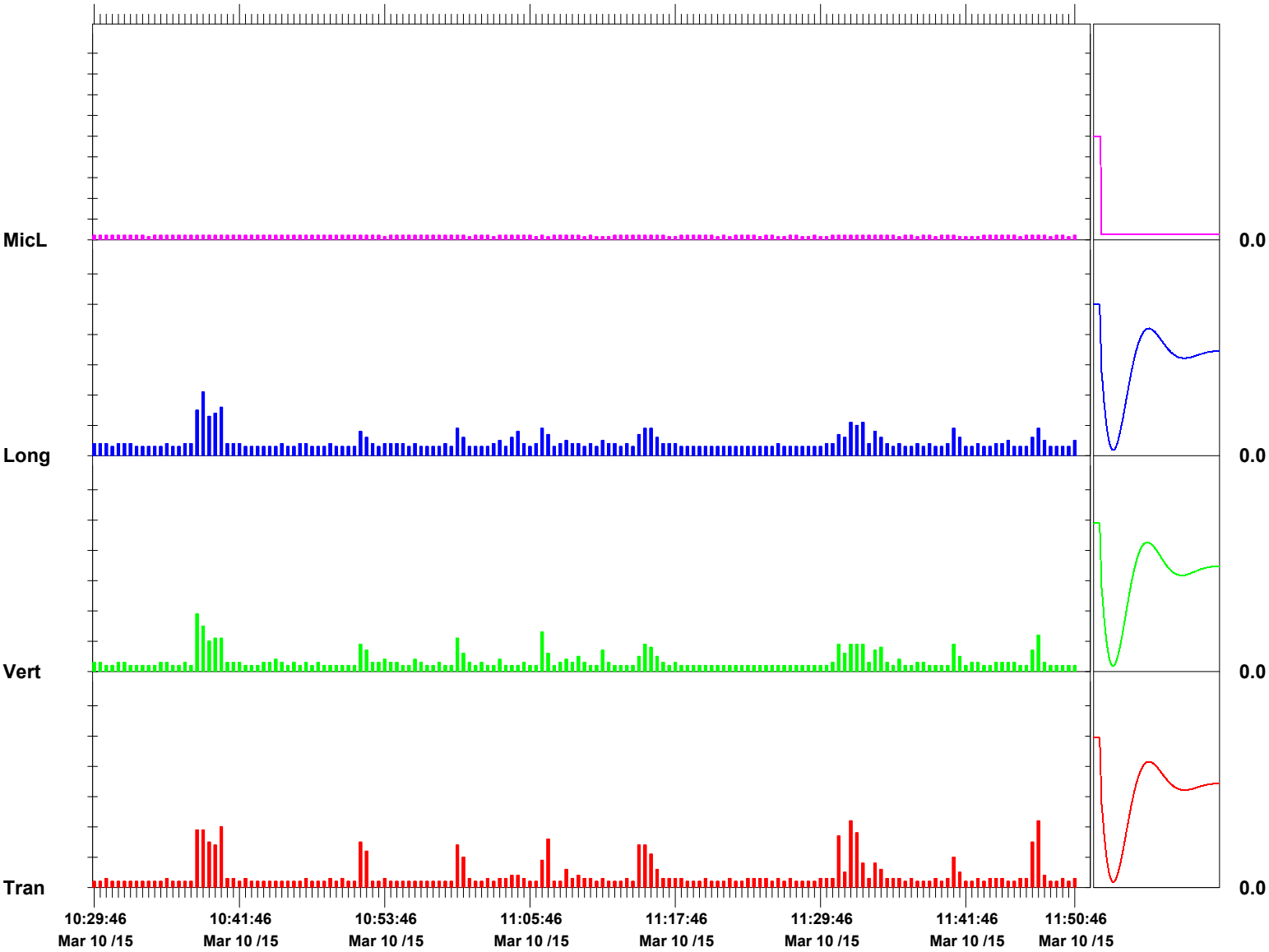
Post Event Notes

VMP 1

Microphone	Linear Weighting
PSPL	0.00011 psi(L) on March 10, 2015 at 10:29:26
ZC Freq	>100 Hz
Channel Test	Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.110	0.0950	0.105	in/s
ZC Freq	28	43	37	Hz
Date	Mar 10 /15	Mar 10 /15	Mar 10 /15	
Time	11:32:01	10:38:06	10:38:21	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.6	7.3	Hz
Overswing Ratio	4.3	3.7	4.0	

Peak Vector Sum 0.135 in/s on March 10, 2015 at 10:38:11



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Mic: 0.00050 psi(L)/div Sensor Check

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Event Report

Histogram Start Time	13:04:15 March 10, 2015
Histogram Finish Time	15:28:54 March 10, 2015
Number of Intervals	1735.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BE16068 V 10.72-8.17 MiniMate Plus/8
Battery Level	6.3 Volts
Unit Calibration	February 5, 2015 by Instantel
File Name	R068FR5O.B30

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

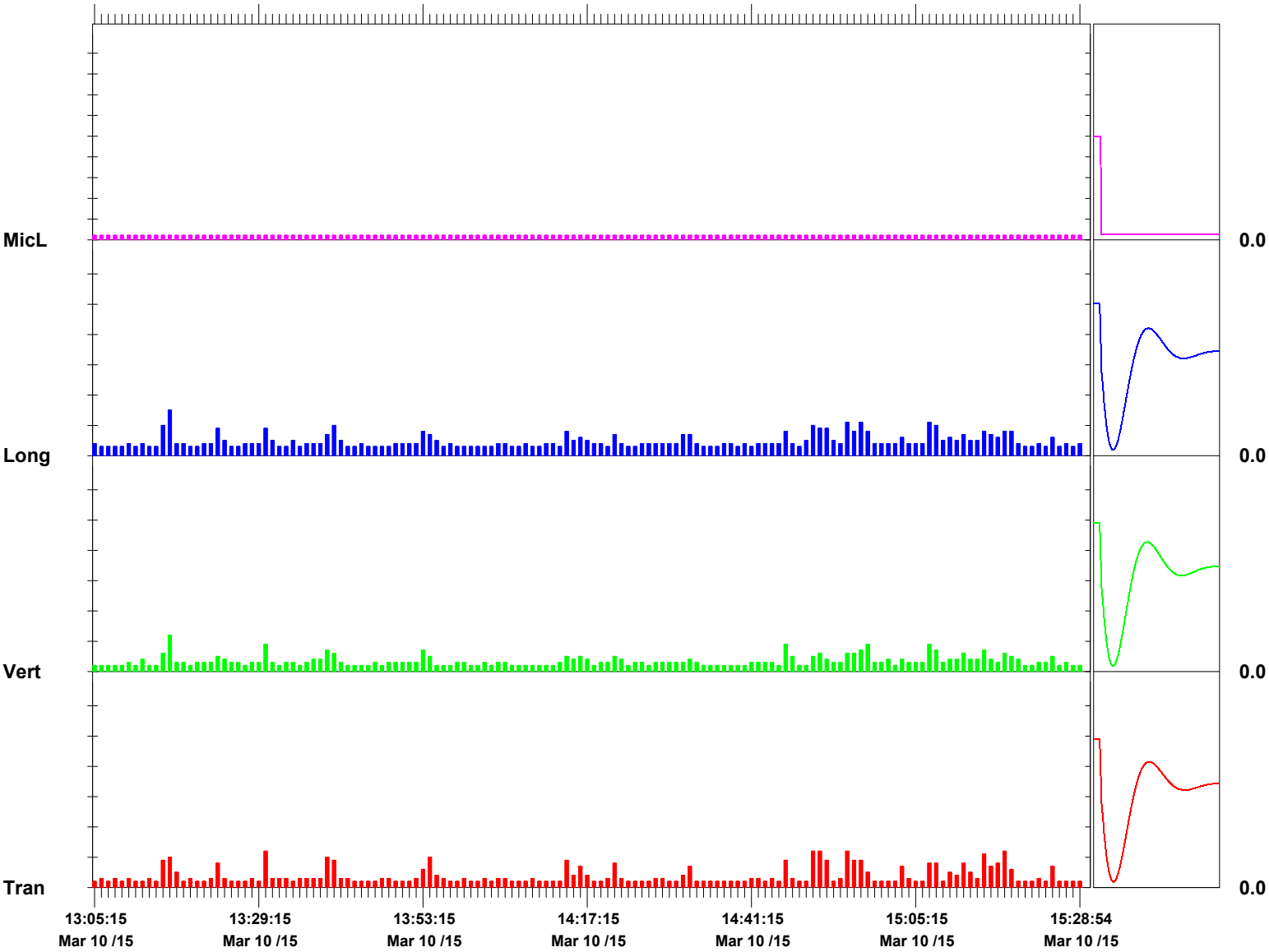
Post Event Notes

VMP 1

Microphone	Linear Weighting
PSPL	0.00011 psi(L) on March 10, 2015 at 13:04:20
ZC Freq	>100 Hz
Channel Test	Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.0600	0.0600	0.0750	in/s
ZC Freq	30	39	30	Hz
Date	Mar 10 /15	Mar 10 /15	Mar 10 /15	
Time	13:29:30	13:15:45	13:15:45	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.6	7.4	Hz
Overswing Ratio	4.3	3.7	4.0	

Peak Vector Sum 0.0841 in/s on March 10, 2015 at 13:15:45



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Mic: 0.00050 psi(L)/div Sensor Check

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Vibration Monitoring Report

Study Area 6 ~~South~~ North 1/27/17

Prepared by
Geocomp Engineering

July 20th, 2015
For ENTACT, LLC

111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

NOTES:

Summary of Work:
I-beam pile driving commenced at 11:10 AM and ended at 11:32 AM. Two Instantel Micromate were used to record vibrations via a geophone placed on the ground over the 36" inch force main and the gas line.

Sheet pile driving commenced at 4:28 and ended at 4:33. An Instantel Micromate was used to record vibrations via a geophone placed on the ground over the gas line.

2 I-beams were driven with no recorded exceedances and 1 sheet was driven with no recorded exceedances. See attached plan for area of work and location of the seismographs. See attached Blastware reports for PPV at these locations.

32 Inch Force Main:
Trigger Level: 0.5 in/sec
Alert Level: 1.0 in/sec

Gas Line:
Trigger Level: 0.5 in/sec
Alert Level: 2.0 in/sec

Event Reports:
The force main report has an incorrect date and time attached to it because of a unit issue, but the recorded values are correct. The unit has been readjusted to the correct date and time for future work.

PLAN
SCALE: 1"=150'-0"

Notes:

1. The work requires installation of sheet piles, drilling, and excavation in close proximity to overhead power lines and underground utilities. Coordinate access and controls with utility companies having jurisdiction over buried and overhead utilities.
2. Re-mark utility control markings daily if removed by excavation.
3. Steel sheet piling shall be uncoated, new or used in good condition, and of the sizes shown on the drawings or structural equivalent.
4. See AMEC Environment and Infrastructure, Inc. drawings for excavation subgrade elevations.
5. The angle of repose shown on the drawings is based on the definition and requirements provided by PSE&G.
6. Final soil locations subject to location of gas main, determined by test pits.
7. Pre-excavate as required to remove obstructions within the fill prior to driving sheet piling.
8. Handle sheet piling in a manner which prevents damage to the sheet piling. Use standard safety lifting devices, use lifting holes or provide secondary support during lifting.
9. Discontinue spudding more than 5 ft. above the minimum tip elevations indicated herein.
10. Stage pile driving and stop sheet piling tips as necessary to maintain interlocks. Remove and replace steel sheet piling found to be out of interlock, out of tolerance, damaged, or otherwise deficient.
11. Use drive templates and guides to maintain pile alignment and install piles plumb.
12. Sheet piling may be welded to adjacent sheets if required to control settlement during driving.
13. Spliced sheet piling shall be free sliding and able to obtain the minimum swing with contiguous piles. Splice welds shall develop the full structural strength of the member.
14. Drive templates: Prior to driving, provide template or driving frame suitable for aligning, supporting, and maintaining the sheet piling in the correct location and vertically during setting and driving. Fix template in place to prevent movement during sheet pile driving. Provide restraint necessary to prevent the sheets from warping or wandering from the alignment, or from racking along the alignment.
15. Provide continuous inspection of sheet pile driving. Inspect location and vertically when setting sheets, and when sheets are driven full depth.
16. Maintain pile driving inspection record for each pair driven. Indicate pile hammer, rate of operation, energy, use of drive helmet and cap, etc. Provide a unique number for each pair, and indicate location on alignment. Document installation date, set time, drive duration, and time drive completed, initial pile length, re-heading or cutting length(s), and any additional information required for record drawings. Record unusual conditions or problems observed during driving.
17. Soldier piles and wales shown are minimum sizes. Substitution with members of equivalent or higher capacity is allowed.
18. Shop and field welding procedures, electrode classification (E7018), and preheat temperature shall conform to AWS D1.1. Welders shall be certified in accordance with AWS D1.1 criteria.
19. Drill soldier pile using methods approved by the Engineer.
20. Dewater excavations to provide stable subgrade and to remove all uplift pressure below all sewers, force mains or other active utilities as may be required, as determined by the Engineer. Install piezometer within 10 feet of 48 inch sewer to monitor groundwater level.
21. Survey to establish construction station baseline and establish monitoring points.
22. Set permanent monitoring point on top of sheet piling and soldier piles. Grind smooth surface for point, if required. Mark point ID. At contractor option, GNP points may be reflective targets for total station surveys.
23. Survey location of monitoring point. (X, Y, Z) (baseline reading).
24. Survey location (X, Y, Z) two additional times, on separate days, before performing excavation within 50 ft. of monitoring point.
25. Survey monitoring point (X, Y, Z) daily, or more often at Engineer direction, when excavating within 50 ft. of monitoring point. For each reading event document survey data, time, reading change from previous reading, and reading change from baseline. Provide readings for Construction Manager review during active excavation.
26. Monitor vibrations at the ground surface above the gas main, force main, and sewer under Route 440 adjacent to the excavations within 25 feet.
27. Advise the Construction Manager of vibration monitoring data. Limiting values are:
    Gas Main - 2.0 in/sec
    Sewer & F.M. - 1.0 in/sec

    If limiting values are exceeded, the contractor shall notify the CM and cease work until adequate measures are taken to reduce vibrations.
28. Elevation are based on NGVD 1929 Datum.

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA - 225 WEST 34th STREET, NEW YORK, NY 10122

FILE NUMBER 11173

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
TEMPORARY
SUPPORT OF EXCAVATION
KEY PLAN AND NOTES

Honeywell
CP-REMEDIAL REMEDY
STUDY AREA 6 NORTH
SITES 007 AND 008
JERSEY CITY, NEW JERSEY

NO	DATE	DSGN	DR	CK	REVISION	APVD
1	10/31/14				ISSUED FOR NJEOT REVIEW	GP
0	06/17/13				ISSUED FOR CONSTRUCTION	GP

amec
Environment & Infrastructure, P.C.
200 Metroplex Blvd., Suite 110
Edison, NJ 08817
(732) 561-1818
NJ Certificate of Authorization Number 24GA28143600

VERIFY SCALE
SAT 0 ONE INCH ON ORIGINAL DRAWING
0 1"

DATE
PROJ 3480-12-0017
DWG SN-501
SHEET 52 OF 75

Instantel

Event Report

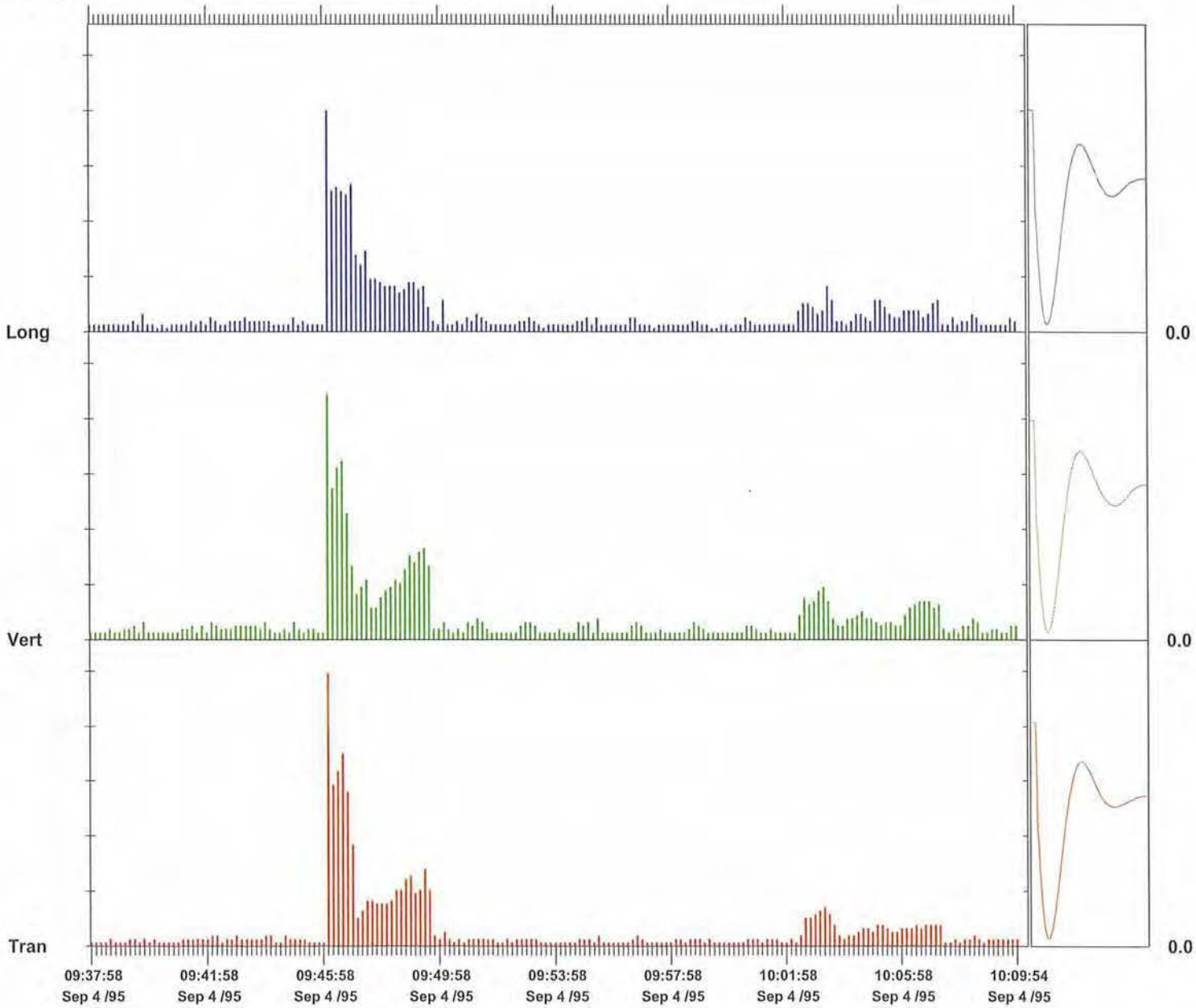
Histogram Start Time 09:37:48 September 4, 1995
Histogram Finish Time 10:09:54 September 4, 1995
Number of Intervals 385.00 at 5 seconds
Range Geo:254 mm/s
Sample Rate 1024sps
Notes
Location: SA 6 ~~South Force Main~~ North
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440

Serial Number BE17741 V 10.72-8.17 MiniMate Plus
Battery Level 6.3 Volts
Unit Calibration July 9, 2015 by Instantel
File Name S7415KJ9.F00

Post Event Notes
VMP 1

	Tran	Vert	Long	
PPV	9.91	8.89	8.00	mm/s
ZC Freq	28	14	18	Hz
Date	Sep 4 /95	Sep 4 /95	Sep 4 /95	
Time	09:46:08	09:46:08	09:46:08	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.5	7.3	Hz
Overswing Ratio	3.9	3.5	3.6	

Peak Vector Sum 11.2 mm/s on September 4, 1995 at 09:46:08



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 2.00 mm/s/div Sensor Check

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Instantel

Event Report

Histogram Start Time 11:02:31 July 20, 2015
Histogram Finish Time 11:34:09 July 20, 2015
Number of Intervals 379.00 at 5 seconds
Range Geo:254 mm/s
Sample Rate 1024sps

Serial Number BE11212 V 10.72-8.17 MiniMate Plus
Battery Level 6.4 Volts
Unit Calibration July 9, 2015 by Instantel
File Name M212FXXY.O70

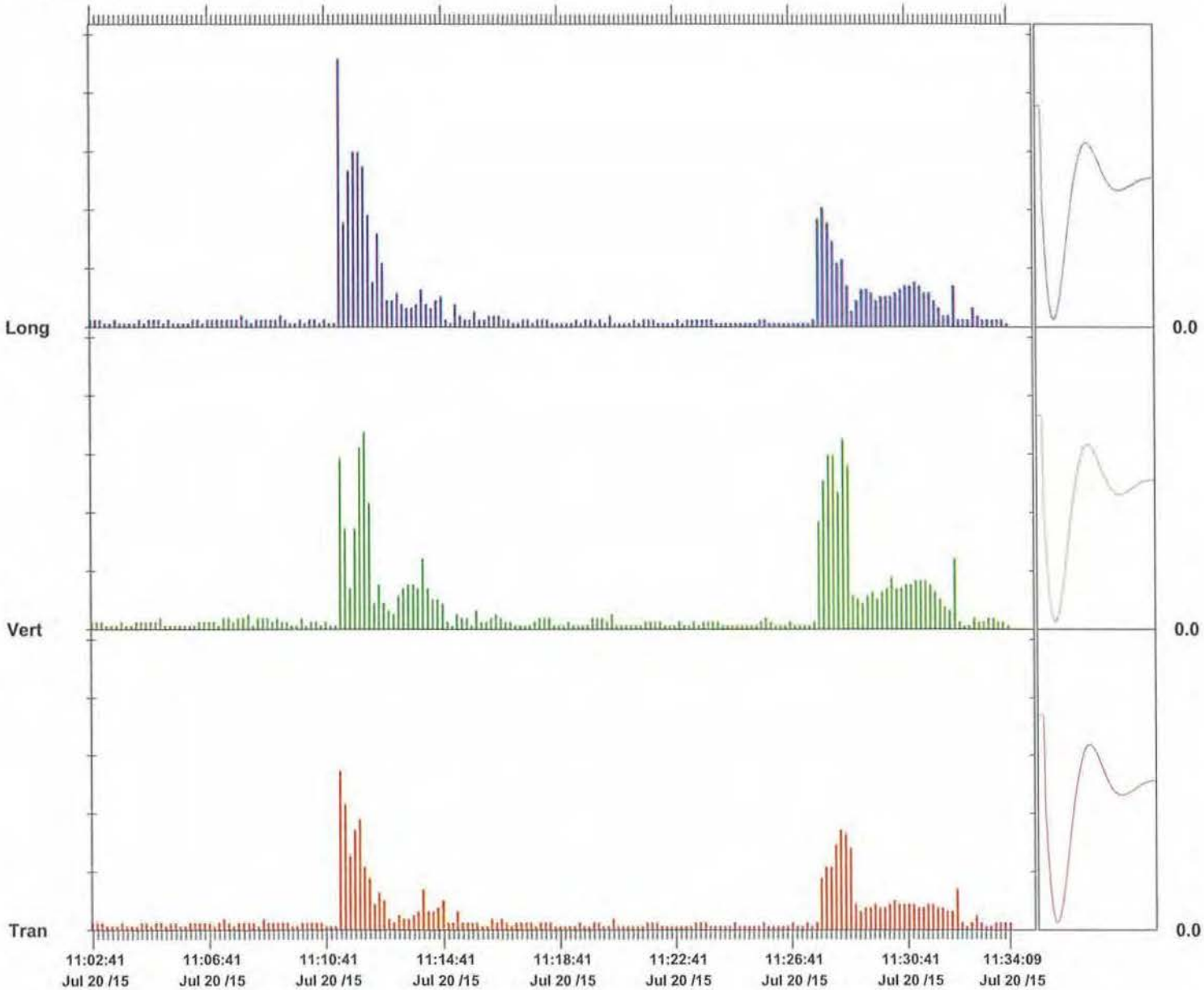
Post Event Notes

Notes
Location: SA 6 ~~South Gas Main~~ North
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 1/27/17

Extended Notes

	Tran	Vert	Long	
PPV	5.46	6.73	9.14	mm/s
ZC Freq	34	30	20	Hz
Date	Jul 20 /15	Jul 20 /15	Jul 20 /15	
Time	11:11:11	11:11:56	11:11:11	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.4	7.4	Hz
Overswing Ratio	3.5	3.6	3.7	

Peak Vector Sum 9.53 mm/s on July 20, 2015 at 11:11:11



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 2.00 mm/s/div Sensor Check

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Instantel

Event Report

Histogram Start Time	16:18:45 July 20, 2015
Histogram Finish Time	16:34:06 July 20, 2015
Number of Intervals	184.00 at 5 seconds
Range	Geo:254 mm/s
Sample Rate	1024sps

Notes

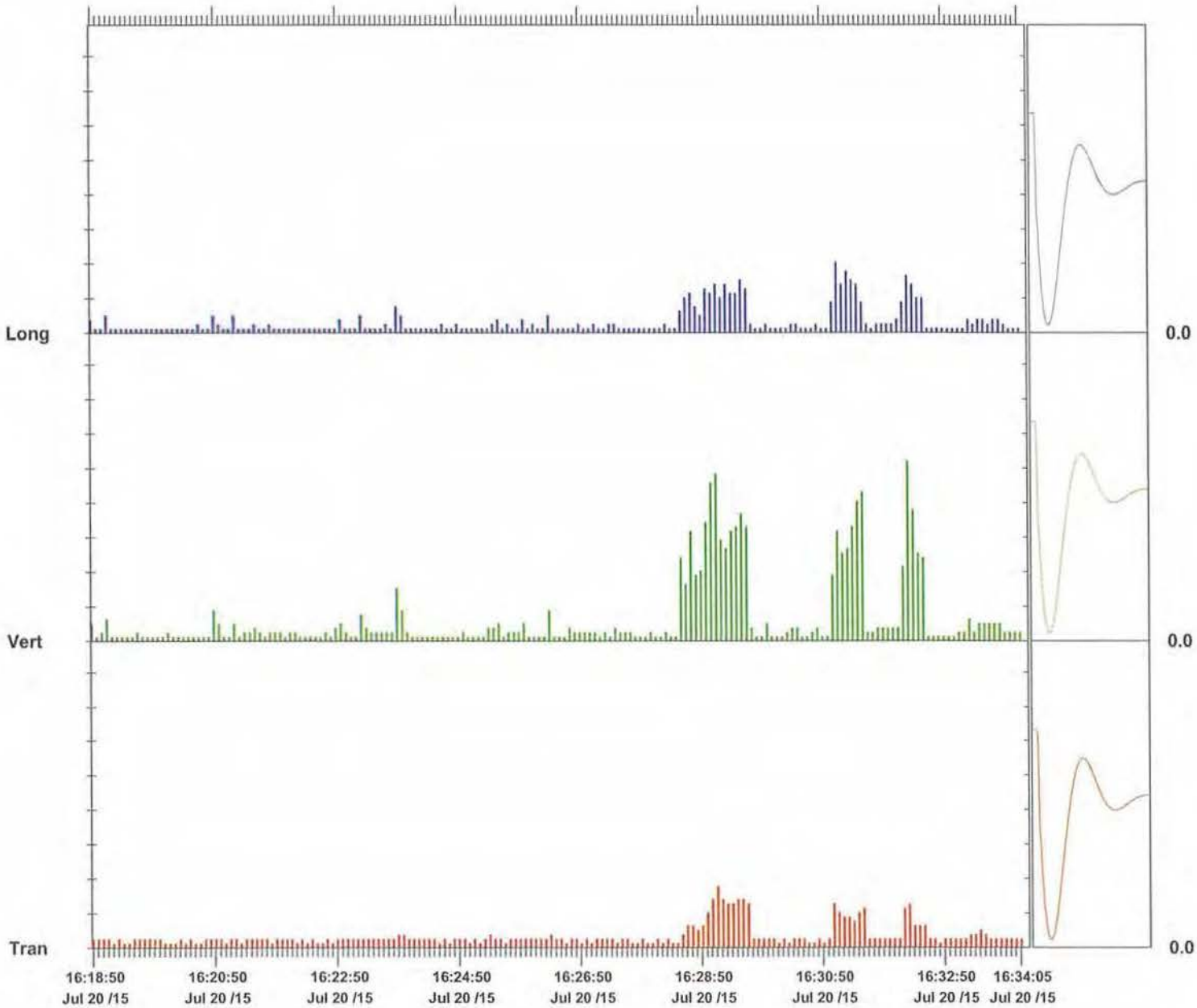
Location: SA 6 ~~South Gas Main~~ North
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FXYD.B90

Post Event Notes
VMP3

	Tran	Vert	Long	
PPV	1.78	5.21	2.03	mm/s
ZC Freq	34	39	30	Hz
Date	Jul 20 /15	Jul 20 /15	Jul 20 /15	
Time	16:29:05	16:32:15	16:31:05	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.5	7.4	Hz
Overswing Ratio	3.5	3.7	3.7	

Peak Vector Sum 5.31 mm/s on July 20, 2015 at 16:32:15



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 1.000 mm/s/div Sensor Check

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Geocomp

Technologies to manage risk
for infrastructure

Boston
Atlanta
Chicago
Los Angeles
New York
www.geocomp.com

Vibration Monitoring Report

Study Area 6 ~~South~~ North 1/27/17

Prepared by
Geocomp Engineering

July 29th, 2015
For ENTACT, LLC

111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

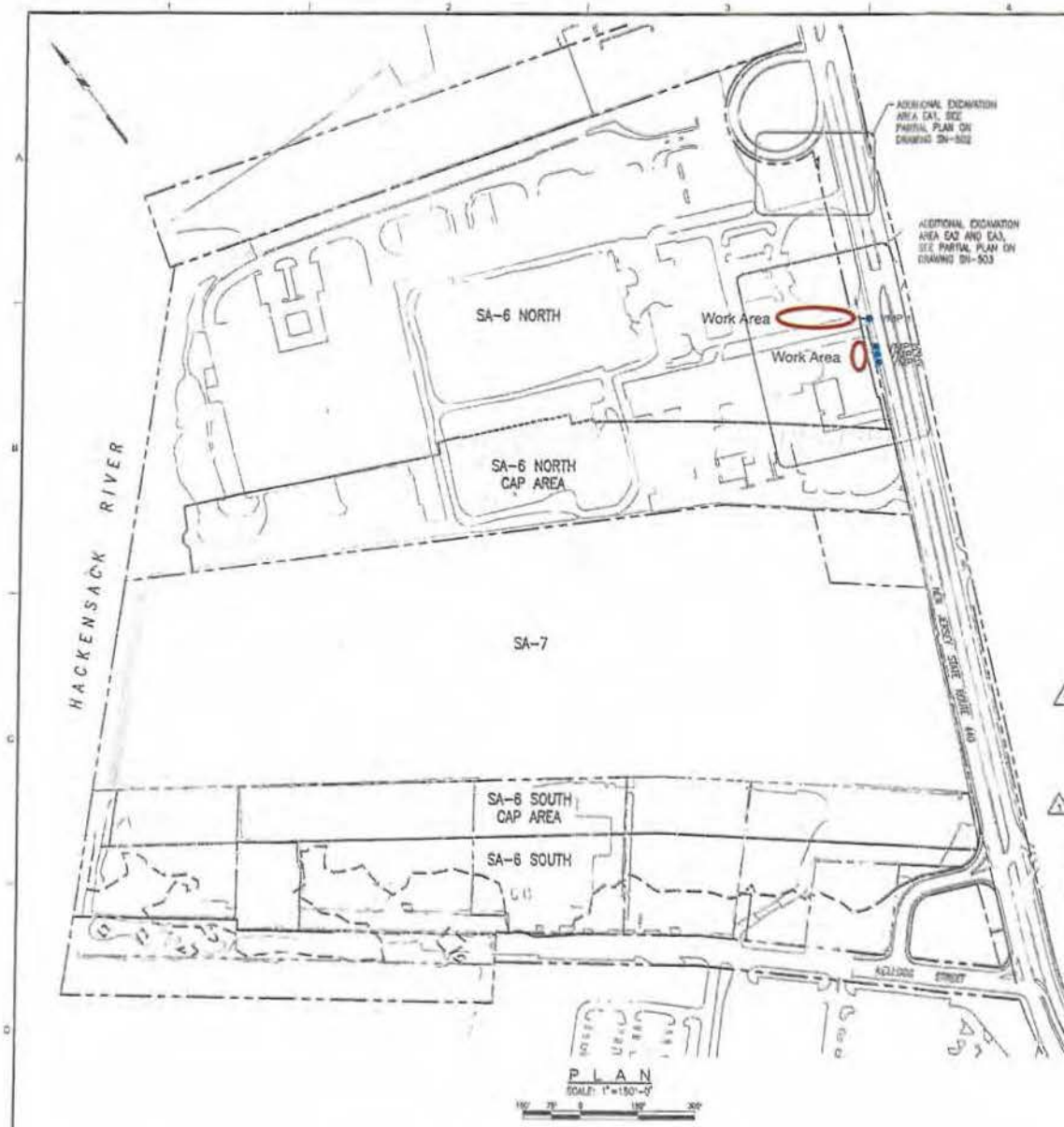
NOTES:

Summary of Work:
Sheet pile driving commenced at 9:30 AM and ended at 2:00 PM. An Instantel Micromate was used to record vibrations via a geophone placed on the ground over the water main.

5 sheets were driven and 9 were brought to grade with 6 recorded exceedances, i.e., the 0.5 limit was exceeded at 12:48 PM, 12:57 PM, 1:20 PM, 1:22 PM, 1:25 PM and 1:44 PM. See attached plan for area of work and location of the seismographs. See attached Blastware reports for PPV at these locations.

Water Main:
Trigger Level: 0.25 in/sec
Alert Level: 0.5 in/sec

Errors:
The top of each report states all data was collected for the force main but should read water main. All future water main data will have the correct label.



Notes:

1. The work requires installation of sheet piles, drilling, and excavation in close proximity to overhead power lines and underground utilities. Coordinate access and controls with utility companies having jurisdiction over buried and overhead utilities.
2. Re-mark utility control markings daily if removed by excavation.
3. Steel sheet piling shall be unmatched, new or used in good condition, and of the sizes shown on the drawings or structural equivalent.
4. See AMEC Environment and Infrastructure, Inc. drawings for excavation subgrade elevations.
5. The angle of repose shown on the drawings is based on the definition and requirements provided by PSE&G.
6. Final wall installers subject to location of gas main, determined by test pits.
7. Pre-excavate as required to remove obstructions within the fill prior to driving sheet piling.
8. Handle sheet piling in a manner which prevents damage to the sheet piling. Use standard safety lifting devices, use lifting holes or provide secondary support during lifting.
9. Discontinue spudding more than 5 ft. above the minimum tip elevations indicated herein.
10. Stage pile driving and stop sheet piling tips as necessary to maintain interlocks. Remove and replace sheet sheet piling found to be out of interlock, out of tolerance, damaged, or otherwise deficient.
11. Use drive templates and guides to maintain pile alignment and install piles plumb.
12. Sheet piling may be welded to adjacent sheets if required to control settlement during driving.
13. Spliced sheet piling shall be free sliding and able to obtain the maximum swing with contiguous piles. Splice welds shall develop the full structural strength of the member.
14. Drive templates: Prior to driving, provide template or driving frame suitable for aligning, supporting, and maintaining the sheet piling in the correct location and vertically during setting and driving. Fix template in place to prevent movement during sheet pile driving. Provide restraint necessary to prevent the sheets from warping or wandering from the alignment, or from sliding along the alignment.
15. Provide continuous inspection of sheet pile driving. Inspect location and verticality when setting sheets, and when sheets are driven half depth.
16. Maintain pile driving inspection record for each pair driven. Indicate pile hammer, rate of operation, energy, use of drive helmet and cap, etc. Provide a unique number for each pair, and indicate location on alignment. Document installation date, set time, drive duration, and time drive completed, initial pile length, re-heading or cutting length(s), and any additional information required for record drawings. Record unusual conditions or problems observed during driving.
17. Soldier piles and waler shown are minimum sizes. Substitution with members of equivalent or higher capacity is allowed.
18. Shop and field welding procedures, electrode classification (E7010), and preheat temperature shall conform to AWS D1.1. Welders shall be certified in accordance with AWS D1.1 criteria.
19. Drill soldier pile using methods approved by the Engineer.
20. Dewater excavations to provide stable subgrade and to remove all uplift pressure below all sewers, force mains or other active utilities as may be required, as determined by the Engineer. Install piezometer within 10 feet of 48 inch sewer to monitor groundwater level.
21. Survey to establish construction station baseline and establish monitoring points.
22. Set permanent monitoring point on top of sheet piling and soldier piles. Grind smooth surface for point. If required. Mark point ID. At contractor option, GNP points may be reflective targets for total station surveys.
23. Survey location of monitoring point. (X, Y, Z) (baseline reading).
24. Survey location (X, Y, Z) two additional times, on separate days, before performing excavation within 50 ft. of monitoring point.
25. Survey monitoring point (X, Y, Z) daily, or more often at Engineer direction, when excavating within 50 ft. of monitoring point. For each reading record document survey data, time, reading change from previous reading, and reading change from baseline. Provide readings for Construction Manager review during active excavation.
26. Monitor vibrations of the ground surface above the gas main, force main, and sewer under Route 440 adjacent to the excavations within 25 feet.
27. Advise the Construction Manager of vibration monitoring data. Limiting values are:
    Gas Main - 3.0 in/sec
    Sewer & F.M. - 1.0 in/sec

    If limiting values are exceeded, the contractor shall notify the CM and cease work until adequate measures are taken to reduce vibrations.
28. Elevation are based on NGVD 1929 Datum.

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA - 225 WEST 34th STREET, NEW YORK, NY 10122
PLE NUMBER 11173

Honeywell
CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 007 AND 008
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
TEMPORARY
SUPPORT OF EXCAVATION
KEY PLAN AND NOTES

amec

NO	DATE	REVISION	CHK	APVD
1	10/31/14	ISSUED FOR NJDOT REVIEW	GP	
0	09/17/14	ISSUED FOR CONSTRUCTION	PWD	BJ

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE
PROJ 3480-12-0317
DWG SN-501
SHEET 62 OF 70

Instantel

Event Report

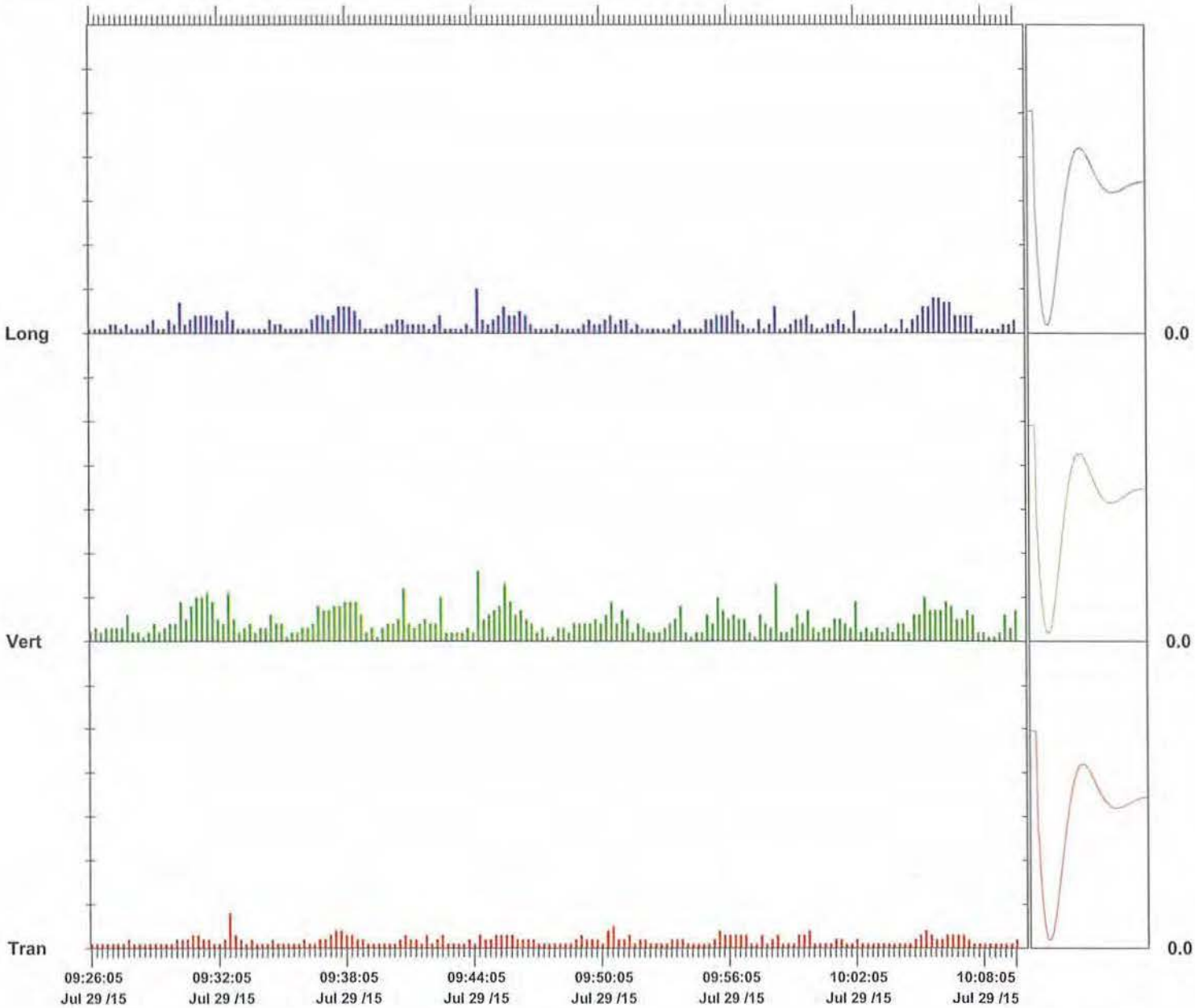
Histogram Start Time 09:25:50 July 29, 2015
Histogram Finish Time 10:09:35 July 29, 2015
Number of Intervals 525.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Notes
Location: SA 6 ~~South Force Main~~ North
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 1/27/17

Serial Number BE17741 V 10.72-8.17 MiniMate Plus
Battery Level 6.3 Volts
Unit Calibration July 9, 2015 by Instantel
File Name S741FYEI.720

Post Event Notes
VMP 1

	Tran	Vert	Long	
PPV	0.0400	0.0800	0.0500	in/s
ZC Freq	8.4	15	15	Hz
Date	Jul 29 /15	Jul 29 /15	Jul 29 /15	
Time	09:32:25	09:44:10	09:44:10	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.5	7.3	Hz
Overswing Ratio	4.0	3.7	4.0	

Peak Vector Sum 0.0955 in/s on July 29, 2015 at 09:44:10



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Instantel

Event Report

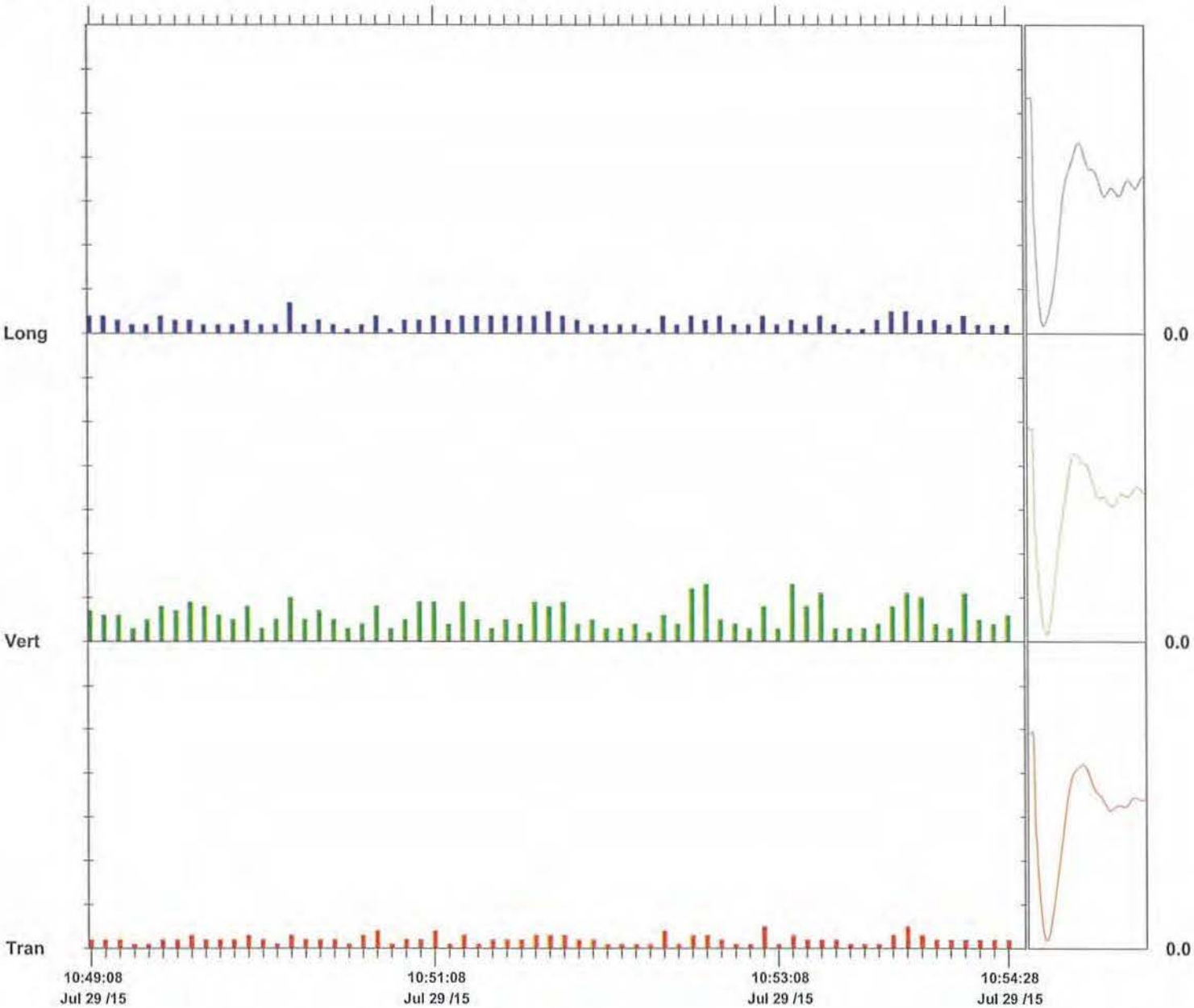
Histogram Start Time 10:49:03 July 29, 2015
Histogram Finish Time 10:54:30 July 29, 2015
Number of Intervals 65.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Notes
Location: SA 6 ~~South Force Main~~ North
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 1/22/17

Serial Number BE17741 V 10.72-8.17 MiniMate Plus
Battery Level 6.3 Volts
Unit Calibration July 9, 2015 by Instantel
File Name S741FYEM.1R0

Post Event Notes
VMP 1

	Tran	Vert	Long	
PPV	0.0250	0.0650	0.0350	in/s
ZC Freq	6.5	9.0	23	Hz
Date	Jul 29 /15	Jul 29 /15	Jul 29 /15	
Time	10:53:03	10:52:43	10:50:18	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.5	7.5	Hz
Overswing Ratio	4.1	3.7	3.4	

Peak Vector Sum 0.0669 in/s on July 29, 2015 at 10:52:43



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Instantel

Event Report

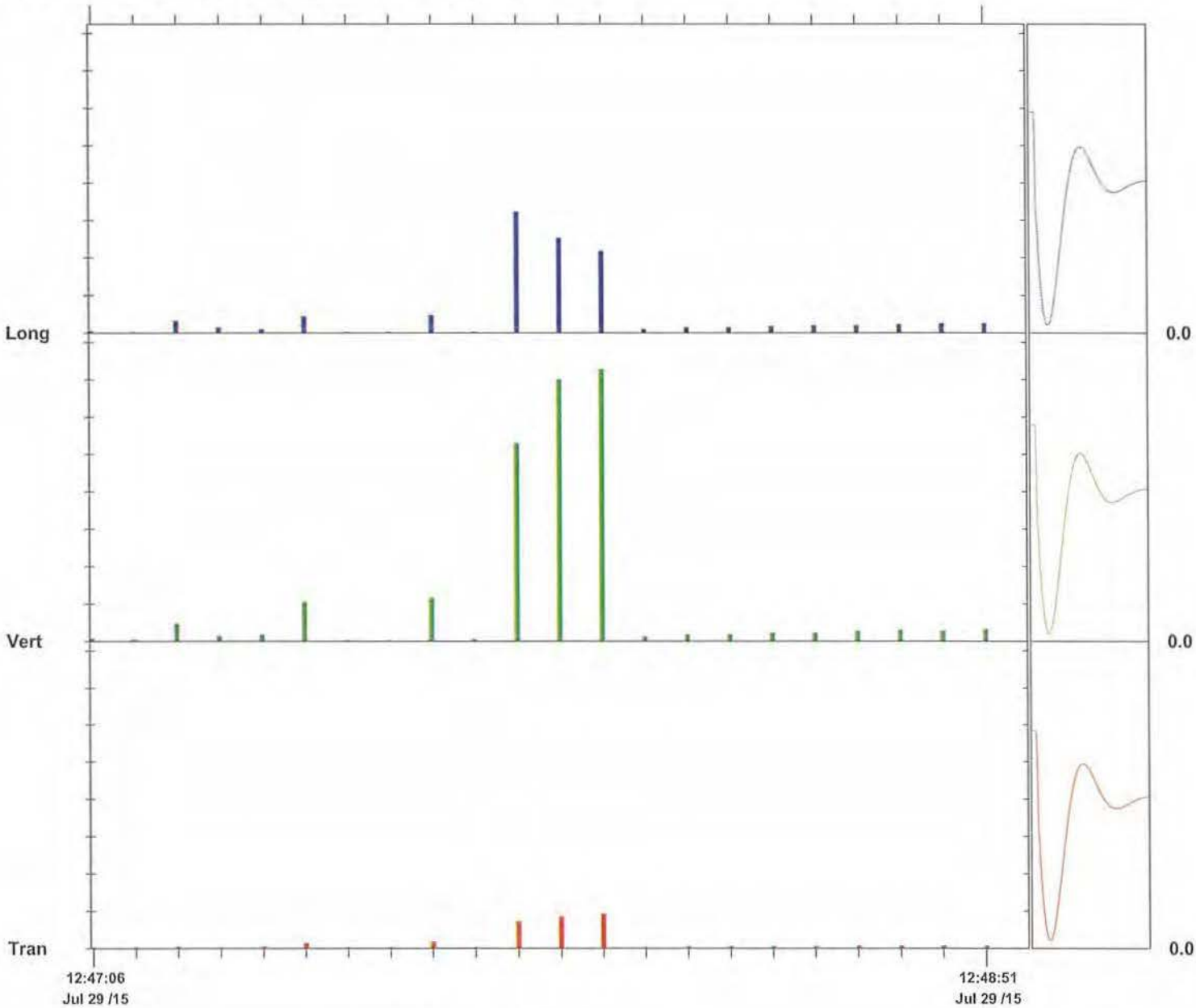
Histogram Start Time	12:47:01 July 29, 2015
Histogram Finish Time	12:48:52 July 29, 2015
Number of Intervals	22.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Force Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/27/17

Serial Number	BE17741 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	S741FYER.ID0

Post Event Notes
VMP 2

	Tran	Vert	Long	
PPV	0.185	1.45	0.645	in/s
ZC Freq	43	39	28	Hz
Date	Jul 29 /15	Jul 29 /15	Jul 29 /15	
Time	12:48:06	12:48:06	12:47:56	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.5	7.3	Hz
Overswing Ratio	4.0	3.7	3.9	

Peak Vector Sum 1.49 in/s on July 29, 2015 at 12:48:06



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.200 in/s/div

Sensor Check

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Instantel

Event Report

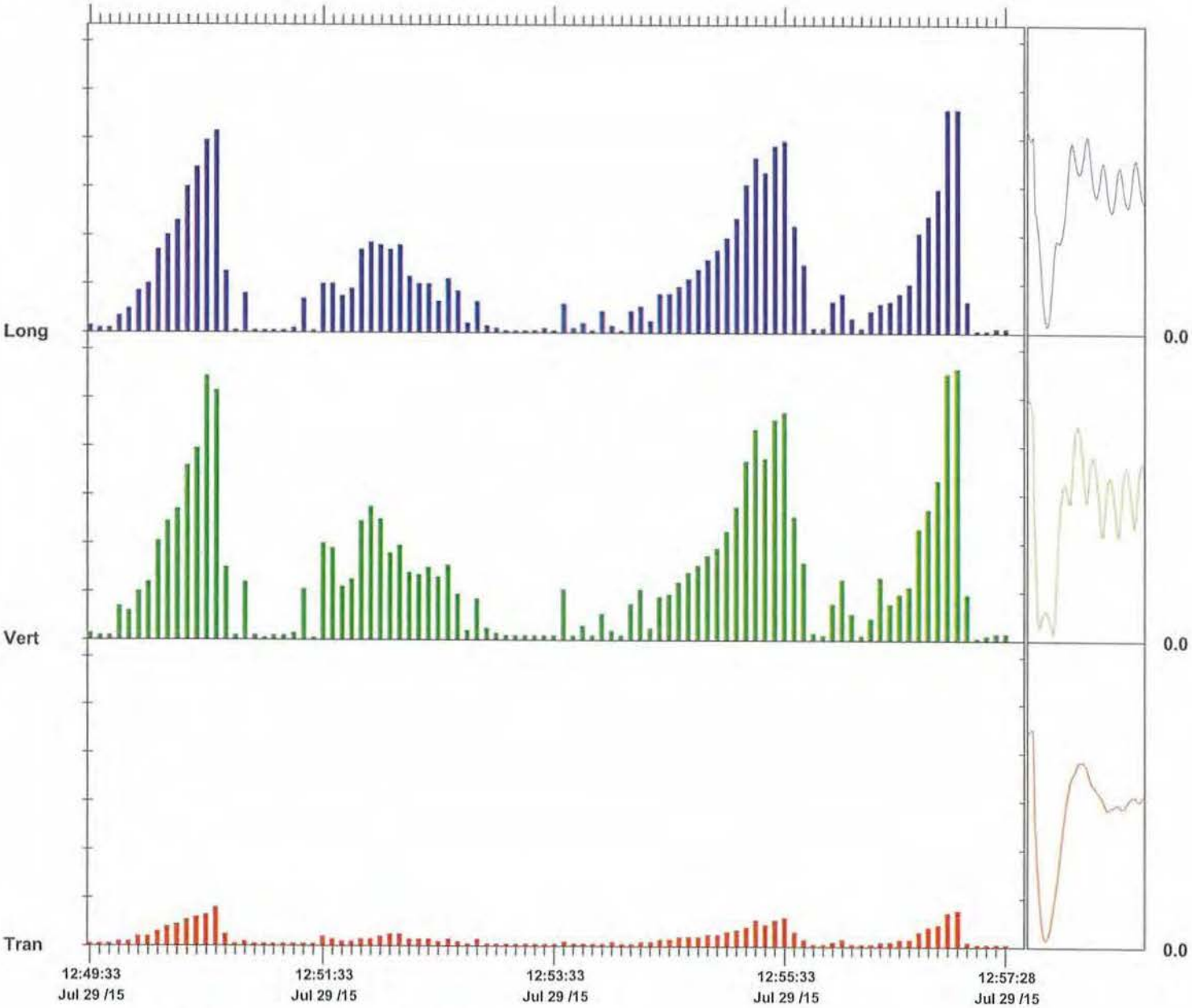
Histogram Start Time 12:49:28 July 29, 2015
Histogram Finish Time 12:57:30 July 29, 2015
Number of Intervals 96.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Notes
Location: SA 6 ~~South Force Main~~ North
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 1/27/17

Serial Number BE17741 V 10.72-8.17 MiniMate Plus
Battery Level 6.3 Volts
Unit Calibration July 9, 2015 by Instantel
File Name S741FYER.MG0

Post Event Notes
VMP 2

	Tran	Vert	Long	
PPV	0.0800	0.560	0.460	in/s
ZC Freq	37	30	32	Hz
Date	Jul 29 /15	Jul 29 /15	Jul 29 /15	
Time	12:50:38	12:57:03	12:56:58	
Sensor Check	Passed	Check	Passed	
Frequency	7.3	8.3	7.2	Hz
Overswing Ratio	3.8	19.1	2.9	

Peak Vector Sum 0.707 in/s on July 29, 2015 at 12:56:58



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div

Sensor Check

Format © 1995-2013 Xmark Corporation

Instantel

Event Report

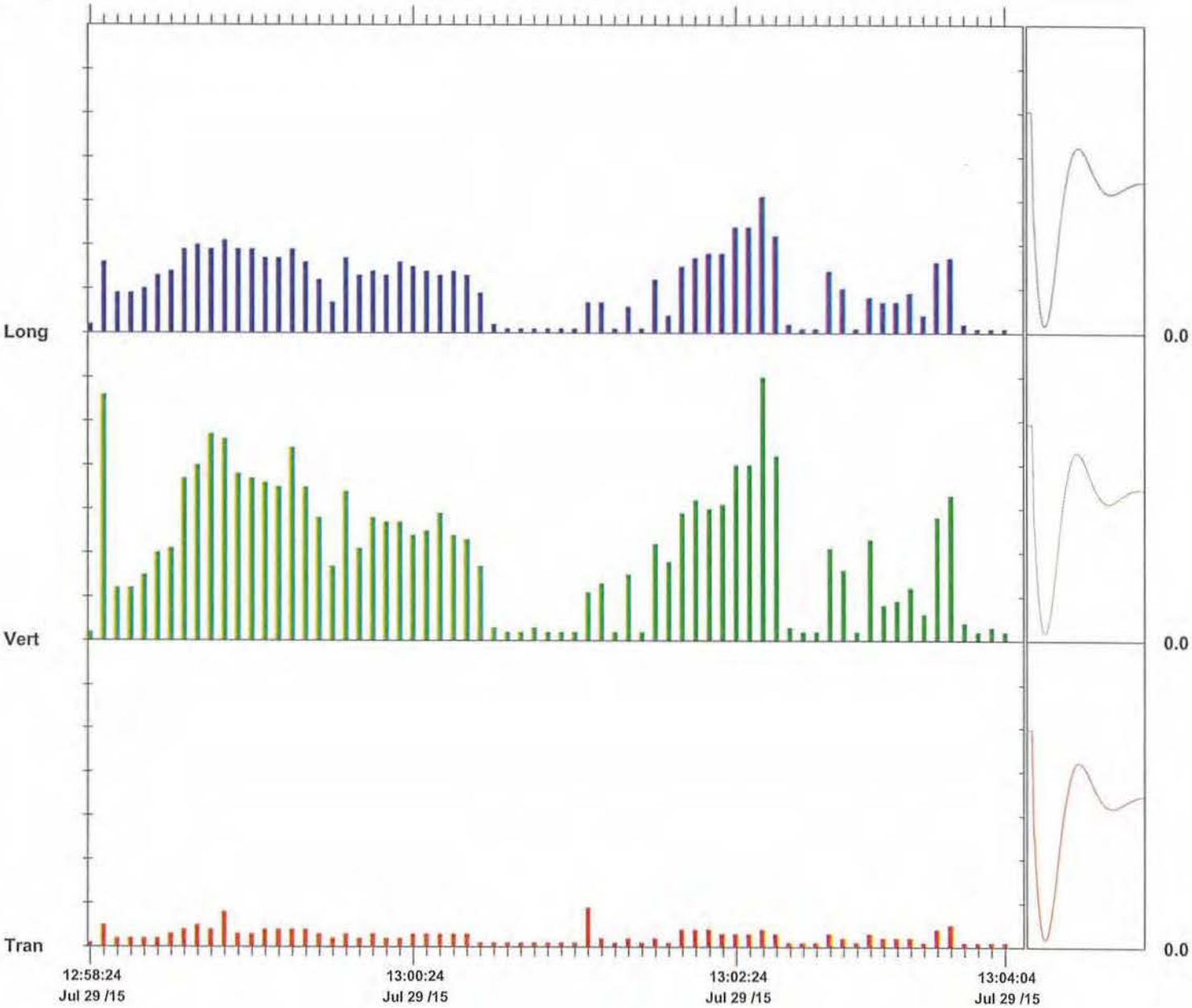
Histogram Start Time 12:58:19 July 29, 2015
Histogram Finish Time 13:04:07 July 29, 2015
Number of Intervals 69.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Notes
Location: SA 6 ~~South Force Main~~ North
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 1/23/17

Serial Number BE17741 V 10.72-8.17 MiniMate Plus
Battery Level 6.3 Volts
Unit Calibration July 9, 2015 by Instantel
File Name S741FYES.170

Post Event Notes
VMP 3

	Tran	Vert	Long	
PPV	0.0450	0.300	0.155	in/s
ZC Freq	34	32	34	Hz
Date	Jul 29 /15	Jul 29 /15	Jul 29 /15	
Time	13:01:29	13:02:34	13:02:34	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.6	7.3	Hz
Overswing Ratio	3.9	3.6	3.9	

Peak Vector Sum 0.338 in/s on July 29, 2015 at 13:02:34



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div

Sensor Check

Format © 1995-2013 Xmark Corporation

Instantel

Event Report

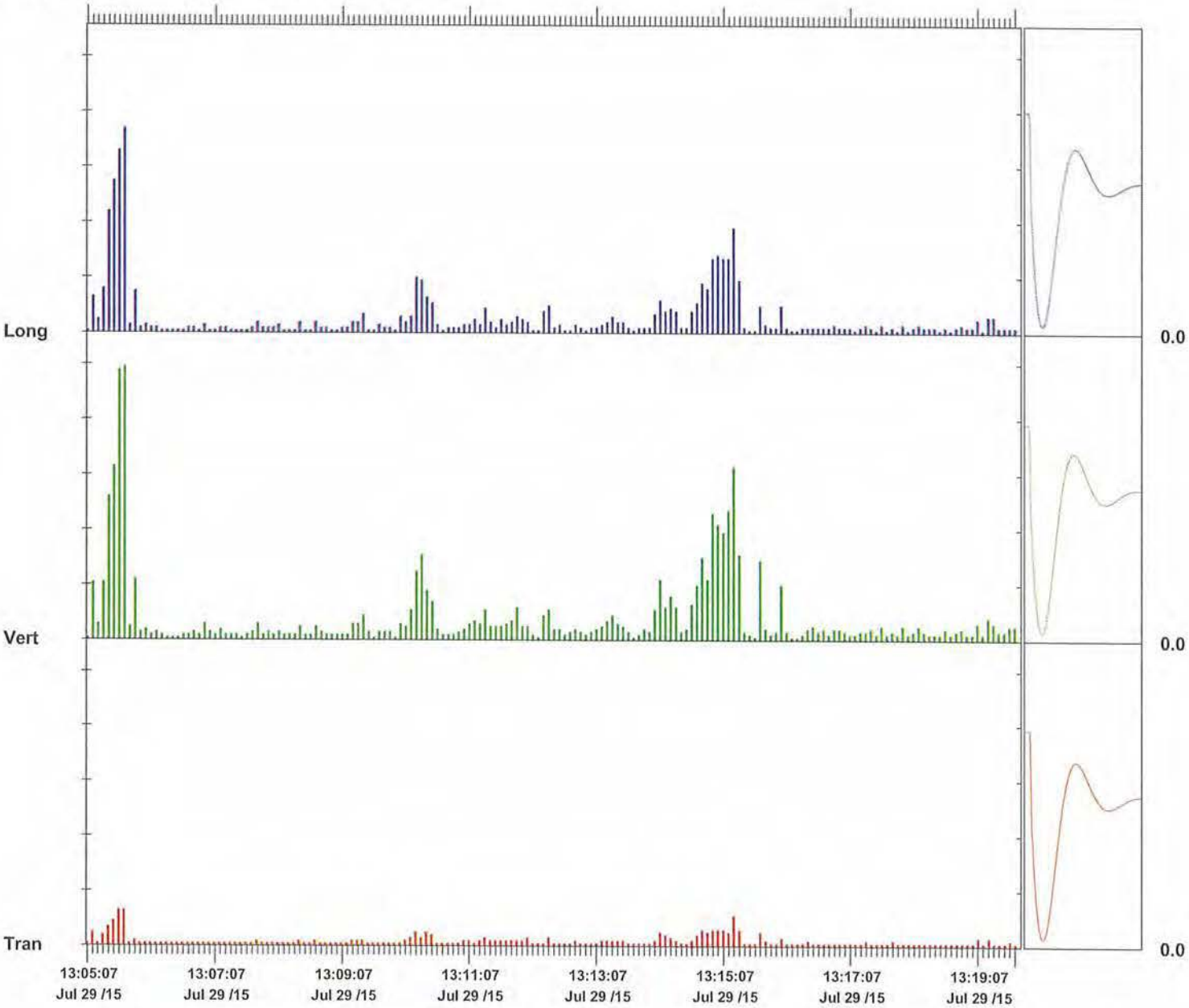
Histogram Start Time	13:05:02 July 29, 2015
Histogram Finish Time	13:19:43 July 29, 2015
Number of Intervals	176.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Force Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/27/17

Serial Number	BE17741 V 10.72-8.17 MiniMate Plus
Battery Level	6.2 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	S741FYES.CE0

Post Event Notes
VMP 2

	Tran	Vert	Long	
PPV	0.0650	0.495	0.370	in/s
ZC Freq	37	32	32	Hz
Date	Jul 29 /15	Jul 29 /15	Jul 29 /15	
Time	13:05:37	13:05:42	13:05:42	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.5	7.3	Hz
Overswing Ratio	3.8	3.6	3.9	

Peak Vector Sum 0.581 in/s on July 29, 2015 at 13:05:42



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div

Sensor Check

Format © 1995-2013 Xmark Corporation

Instantel

Event Report

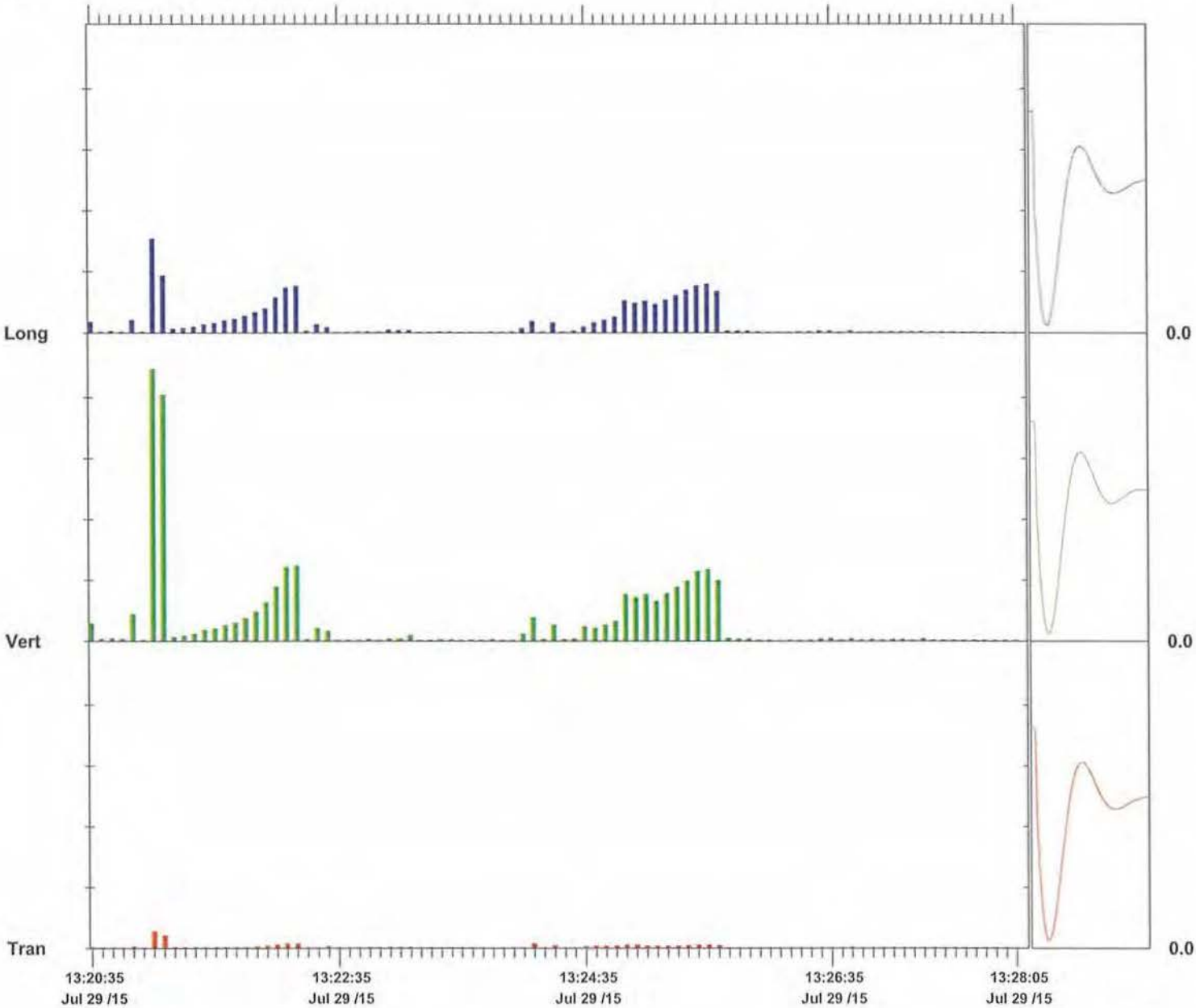
Histogram Start Time	13:20:30 July 29, 2015
Histogram Finish Time	13:28:05 July 29, 2015
Number of Intervals	91.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Force Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/27/17

Serial Number	BE17741 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	S741FYET.260

Post Event Notes
VMP 4

	Tran	Vert	Long	
PPV	0.140	2.23	0.770	in/s
ZC Freq	47	37	28	Hz
Date	Jul 29 /15	Jul 29 /15	Jul 29 /15	
Time	13:21:05	13:21:05	13:21:05	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.5	7.3	Hz
Overswing Ratio	3.8	3.6	3.9	

Peak Vector Sum 2.24 in/s on July 29, 2015 at 13:21:05



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.500 in/s/div Sensor Check

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Instantel

Event Report

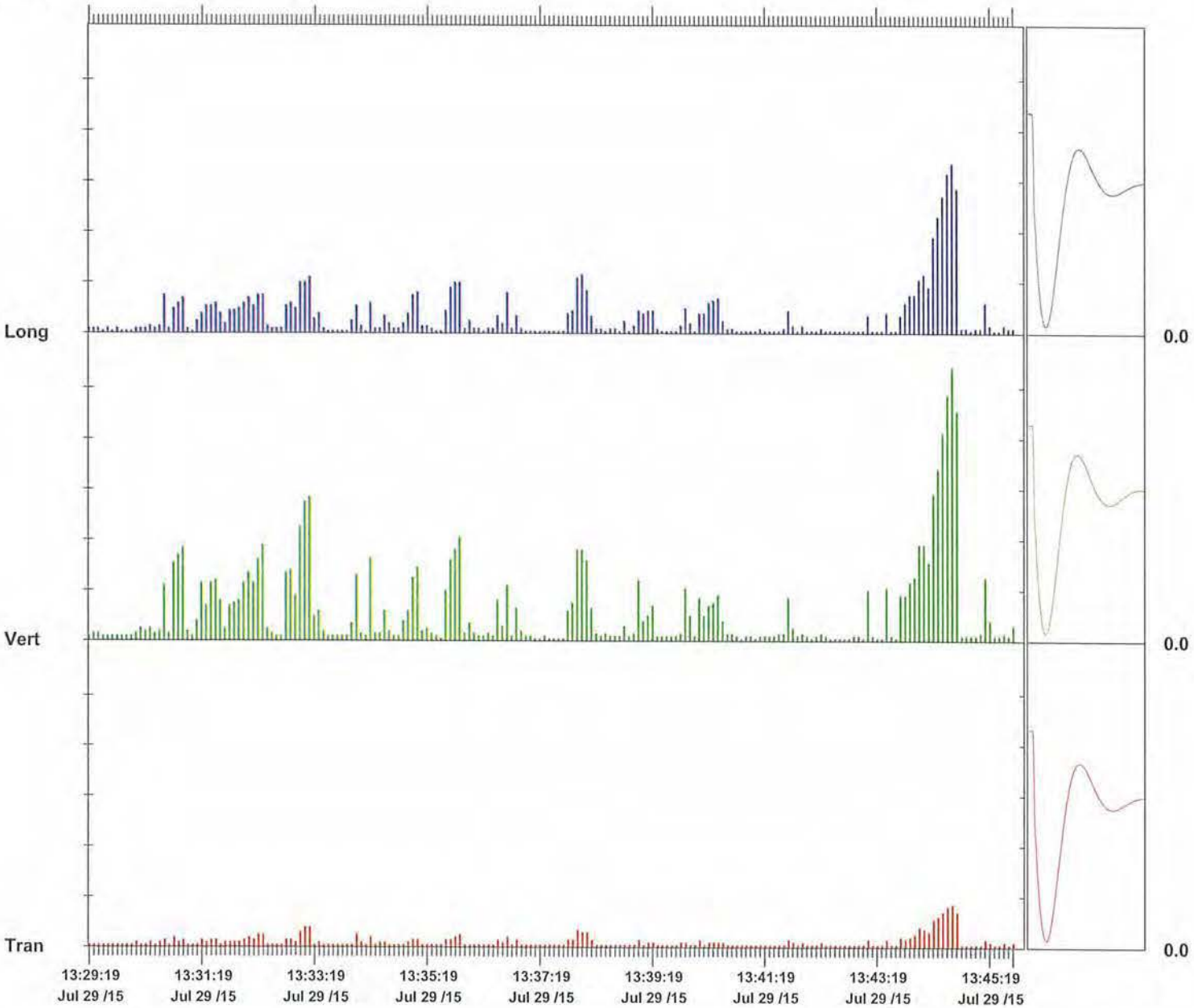
Histogram Start Time 13:29:14 July 29, 2015
Histogram Finish Time 13:45:45 July 29, 2015
Number of Intervals 198.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Notes
Location: SA 6 ~~South Force Main~~ North
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 1/29/17

Serial Number BE17741 V 10.72-8.17 MiniMate Plus
Battery Level 6.3 Volts
Unit Calibration July 9, 2015 by Instantel
File Name S741FYET.GQ0

Post Event Notes
VMP 3

	Tran	Vert	Long	
PPV	0.0850	0.540	0.335	in/s
ZC Freq	32	32	34	Hz
Date	Jul 29 /15	Jul 29 /15	Jul 29 /15	
Time	13:44:39	13:44:39	13:44:39	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.6	7.3	Hz
Overswing Ratio	3.9	3.6	3.9	

Peak Vector Sum 0.629 in/s on July 29, 2015 at 13:44:39



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div

Sensor Check

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Geocomp

Technologies to manage risk
for infrastructure

Boston
Atlanta
Chicago
Los Angeles
New York
www.geocomp.com

Vibration Monitoring Report

Study Area 6 ~~South~~ North 1/27/17

Prepared by
Geocomp Engineering

July 21th, 2015
For ENTACT, LLC

111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

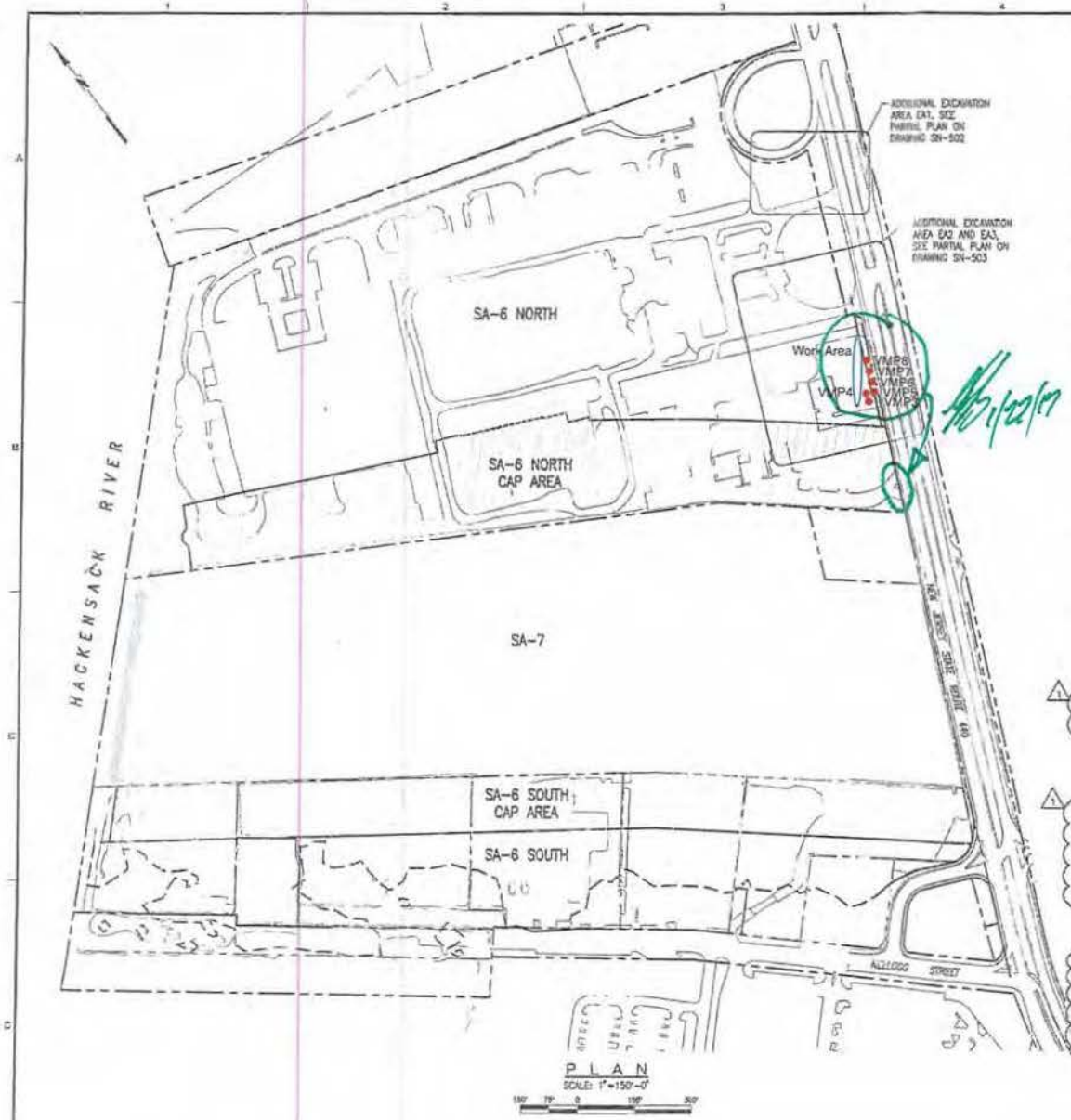
NOTES:

Summary of Work:
Sheet pile driving commenced at 8:05 AM and ended at 2:30 PM. An Instantel Micromate was used to record vibrations via a geophone placed on the ground over the gas line.

12 sheets were driven and 11 were brought to grade with 5 recorded exceedances, i.e., the 2.0 limit was exceeded at 10:28 AM, 11:27 AM, 1:45 PM, 2:10 PM, and 2:22 PM. See attached plan for area of work and location of the seismographs. See attached Blastware reports for PPV at these locations.

Gas Line:
Trigger Level: 0.5 in/sec
Alert Level: 2.0 in/sec

Errors:
The 3rd recording was taken too close to the work due to traffic concerns, granting higher readings than it should have recorded and was knocked at the recording's end, creating a 10:28 AM exceedance unrelated to sheet driving. The sheet driving was paused to allow movement of the sensor onto a street location closer to the gas pipe.



1/22/07

Notes:

1. The work requires installation of sheet piles, drilling, and excavation in close proximity to overhead power lines and underground utilities. Coordinate access and controls with utility companies having jurisdiction over buried and overhead utilities.
2. Re-mark utility control markings daily if removed by excavation.
3. Steel sheet piling shall be uncoated, new or used in good condition, and of the sizes shown on the drawings or structural equivalent.
4. See AMEC Environment and Infrastructure, Inc. drawings for excavation subgrade elevations.
5. The angle of repose shown on the drawings is based on the definition and requirements provided by PSE&G.
6. Final wall locations subject to location of gas main, determined by test pits.
7. Pre-excavate as required to remove obstructions within the fill prior to driving sheet piling.
8. Handle sheet piling in a manner which prevents damage to the sheet piling. Use standard safety lifting devices, use lifting holes or provide secondary support during lifting.
9. Discontinue spudding more than 5 ft. above the minimum tip elevations indicated herein.
10. Stage pile driving and stop sheet piling tips as necessary to maintain interlocks. Remove and replace steel sheet piling found to be out of interlock, out of tolerance, damaged, or otherwise deficient.
11. Use drive templates and guides to maintain pile alignment and install piles plumb.
12. Sheet piling may be welded to adjacent sheets if required to control settlement during driving.
13. Spliced sheet piling shall be free sliding and able to obtain the maximum swing with contiguous piles. Splice welds shall develop the full structural strength of the member.
14. Drive templates: Prior to driving, provide template or driving frame suitable for aligning, supporting, and maintaining the sheet piling in the correct location and vertically during setting and driving. Fix template in place to prevent movement during sheet pile driving. Provide restraint necessary to prevent the sheets from warping or wandering from the alignment, or from racking along the alignment.
15. Provide continuous inspection of sheet pile driving. Inspect location and vertically when setting sheets, and when sheets are driven half depth.
16. Maintain pile driving inspection record for each pair driven. Indicate pile hammer, rate of operation, energy, use of drive helmet and cap, etc. Provide a unique number for each pair, and indicate location on alignment. Document installation date, set time, drive duration, and time drive completed, initial pile length, re-heading or cutting length(s), and any additional information required for record drawings. Record unusual conditions or problems observed during driving.
17. Soldier piles and wales shown are minimum sizes. Substitution with members of equivalent or higher capacity is allowed.
18. Shop and field welding procedures, electrode classification (E70XX), and preheat temperature shall conform to AWS D1.1. Welders shall be certified in accordance with AWS D1.1 criteria.
19. Drill soldier pile using methods approved by the Engineer.
20. Dewater excavations to provide stable subgrade and to remove all uplift pressure below all sewers, force mains or other active utilities as may be required, as determined by the Engineer. Install piezometer within 10 feet of 48 inch sewer to monitor groundwater level.
21. Survey to establish construction station baseline and establish monitoring points.
22. Set permanent monitoring point on top of sheet piling and soldier piles. Grind smooth surface for point. If required. Mark point ID. At contractor option, DGPS points may be reflective targets for total station surveys.
23. Survey location of monitoring point. (X, Y, Z) (baseline reading).
24. Survey location (X, Y, Z) two additional times, on separate days, before performing excavation within 50 ft. of monitoring point.
25. Survey monitoring point (X, Y, Z) daily, or more often at Engineer direction, when excavating within 50 ft. of monitoring point. For each reading event document survey date, time, reading change from previous reading, and reading change from baseline. Provide readings for Construction Manager review during active excavation.
26. Monitor vibrations at the ground surface above the gas main, force main, and sewer under Route 440 adjacent to the excavations within 25 feet.
27. Advise the Construction Manager of vibration monitoring data. Limiting values are:
    Gas Main - 2.0 in/sec
    Sewer & F.M. - 1.0 in/sec

    If limiting values are exceeded, the contractor shall notify the CM and cease work until adequate measures are taken to reduce vibrations.
28. Elevation are based on NGVD 1929 Datum.

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA - 225 WEST 34TH STREET, NEW YORK, NY 10122
FILE NUMBER 11173

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS
CIVIL

TEMPORARY
SUPPORT OF EXCAVATION
KEY PLAN AND NOTES

amec
Environment & Infrastructure, Inc.
20 Morristown Metro Blvd, Suite 110
Morristown, NJ 07960
(973) 539 - 2600
A Consolidated Subsidiary of AMEC plc

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWINGS
0 1"

DATE
PROJ 3480-12-0217
DWG SN-501
SHEET 52 OF 72

Honeywell
CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

NO.	DATE	REVISION	DR.	CHK.
0	09/07/12	ISSUED FOR CONSTRUCTION		
1	10/31/18	ISSUED FOR NJDOT REVIEW	GP	FWD

APVD G.P.
BY JAMAD

NJ PROFESSIONAL ENGINEER
E. WU
LICENSE No. 24GE02 01 0002

PROTEX IV, TEANECK

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Instantel

Event Report

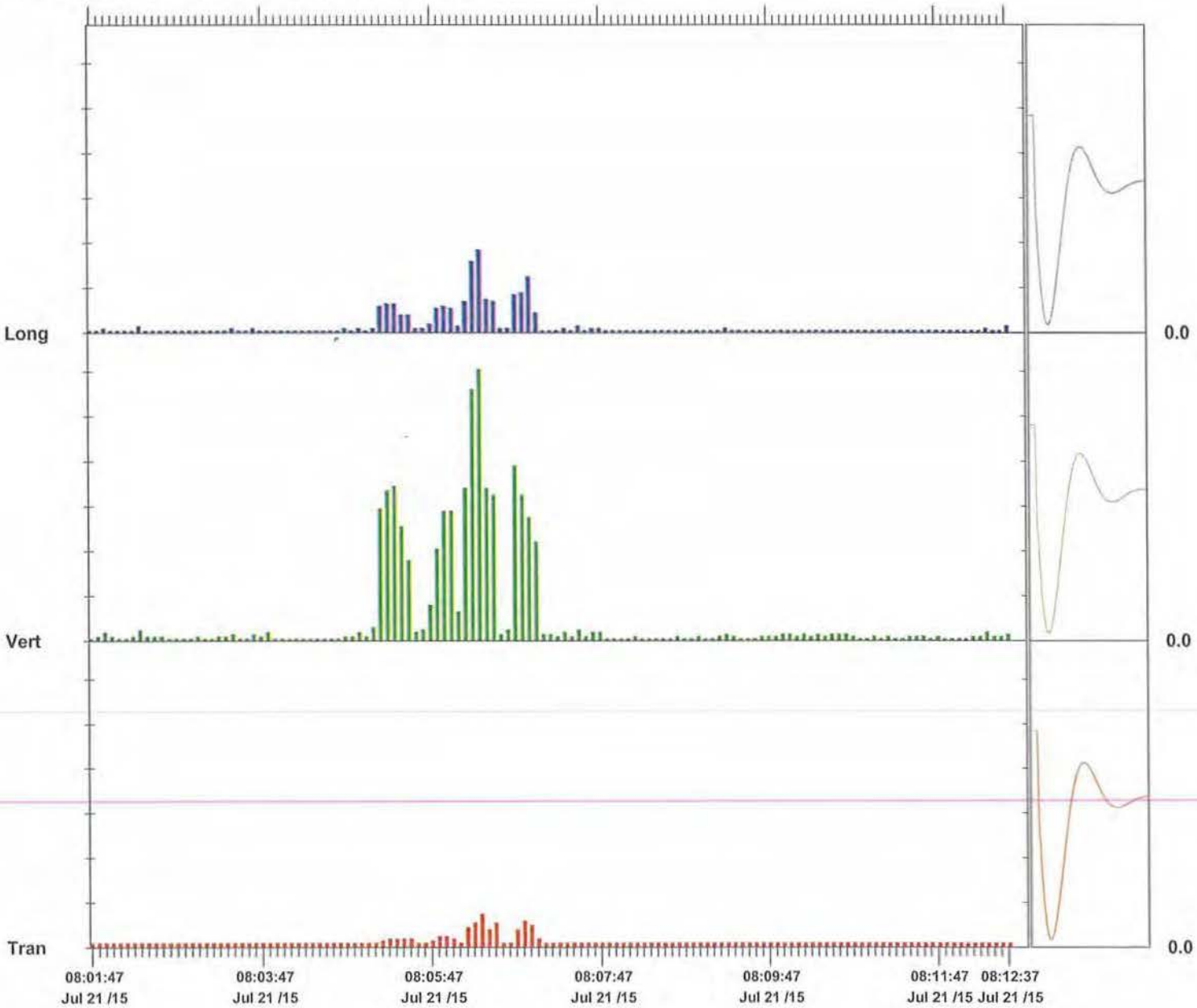
Histogram Start Time 08:01:42 July 21, 2015
Histogram Finish Time 08:12:38 July 21, 2015
Number of Intervals 131.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Notes
Location: SA 6 ~~South Gas Main~~ North
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 7/27/17

Serial Number BE11212 V 10.72-8.17 MiniMate Plus
Battery Level 6.3 Volts
Unit Calibration July 9, 2015 by Instantel
File Name M212FXZK.YU0

Post Event Notes
VMP 3

	Tran	Vert	Long	
PPV	0.0750	0.605	0.185	in/s
ZC Freq	39	34	32	Hz
Date	Jul 21 /15	Jul 21 /15	Jul 21 /15	
Time	08:06:22	08:06:22	08:06:22	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.5	7.3	Hz
Overswing Ratio	3.9	3.7	3.9	

Peak Vector Sum 0.627 in/s on July 21, 2015 at 08:06:22



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Sensor Check

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Instantel

Event Report

Histogram Start Time	09:03:36 July 21, 2015
Histogram Finish Time	09:16:52 July 21, 2015
Number of Intervals	159.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps

Notes

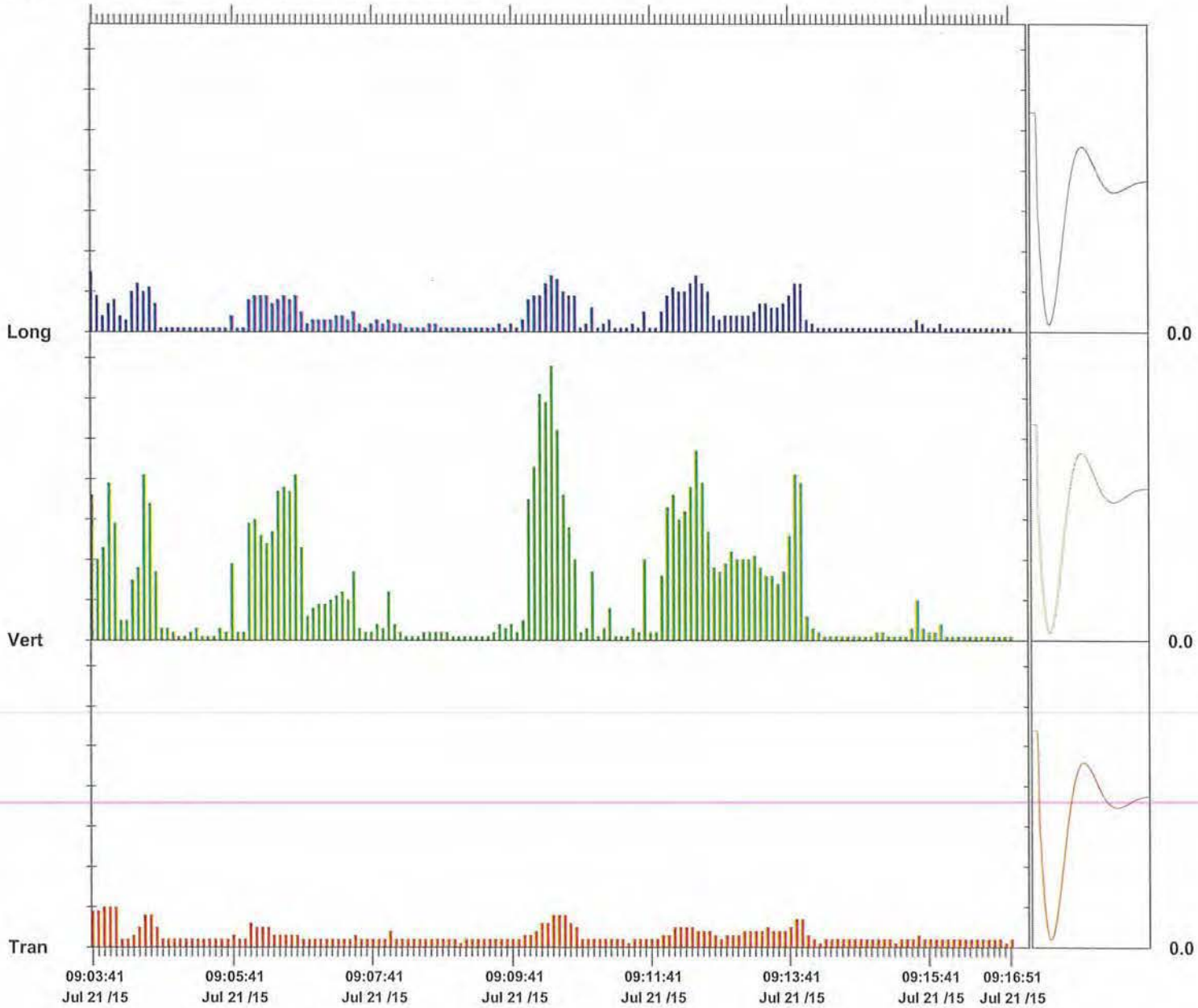
Location: SA 6 ~~South Gas Main~~ North
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 1/27/12

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FXZN.U00

Post Event Notes
VMP3

	Tran	Vert	Long	
PPV	0.0500	0.340	0.0750	in/s
ZC Freq	37	34	34	Hz
Date	Jul 21 /15	Jul 21 /15	Jul 21 /15	
Time	09:03:51	09:10:16	09:03:41	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.5	7.3	Hz
Overswing Ratio	3.9	3.7	3.9	

Peak Vector Sum 0.348 in/s on July 21, 2015 at 09:10:16



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div

Sensor Check

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Event Report

Histogram Start Time	10:26:32 July 21, 2015
Histogram Finish Time	10:27:34 July 21, 2015
Number of Intervals	12.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps

Notes

Location:	SA 6 ~~South Gas Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/27/15

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FXZR.O80

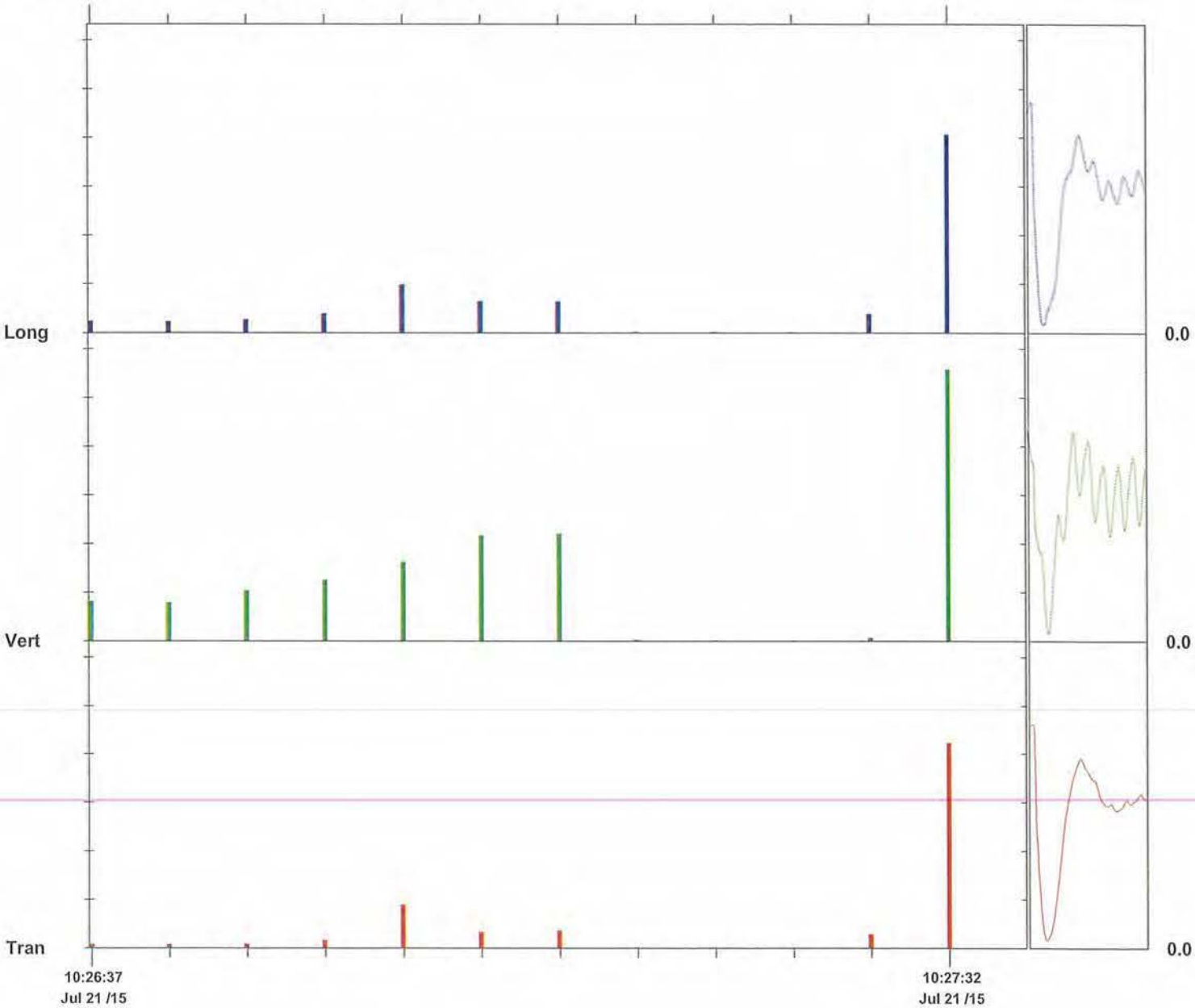
Post Event Notes

VMP4

Too close to site because of traffic safety and knocked at end.

	Tran	Vert	Long	
PPV	4.22	5.58	4.05	in/s
ZC Freq	2.7	1.3	1.4	Hz
Date	Jul 21 /15	Jul 21 /15	Jul 21 /15	
Time	10:27:32	10:27:32	10:27:32	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.2	7.6	Hz
Overswing Ratio	3.5	2.4	2.9	

Peak Vector Sum 6.49 in/s on July 21, 2015 at 10:27:32



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 1.000 in/s/div

Sensor Check

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Event Report

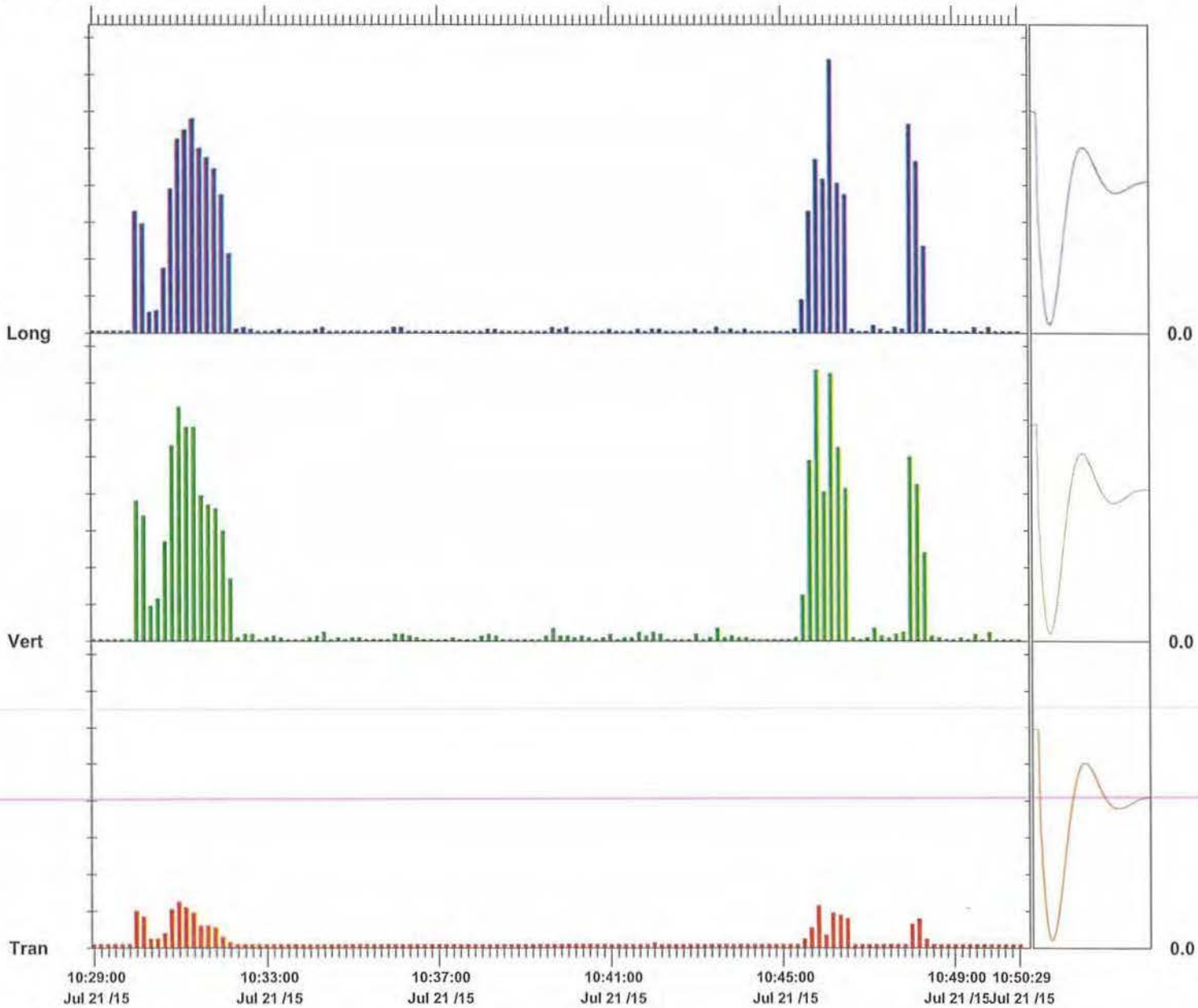
Histogram Start Time	10:28:50 July 21, 2015
Histogram Finish Time	10:50:29 July 21, 2015
Number of Intervals	259.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Gas Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/22/17

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FXZR.S20

Post Event Notes
VMP5

	Tran	Vert	Long	
PPV	0.125	0.735	0.740	in/s
ZC Freq	43	43	32	Hz
Date	Jul 21 /15	Jul 21 /15	Jul 21 /15	
Time	10:31:00	10:45:50	10:46:05	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.5	7.3	Hz
Overswing Ratio	3.9	3.7	3.9	

Peak Vector Sum 0.998 in/s on July 21, 2015 at 10:46:05



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div

Sensor Check

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Event Report

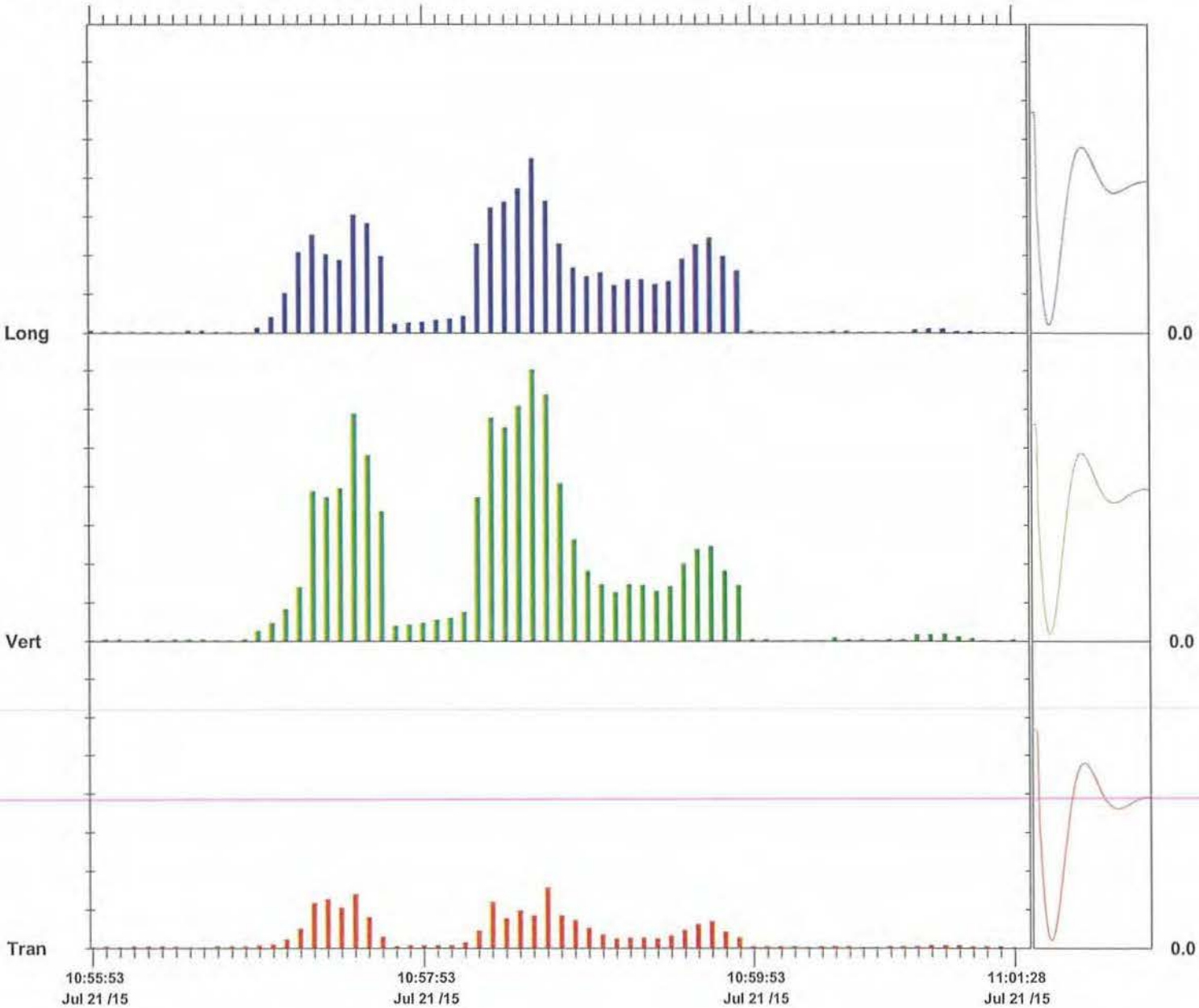
Histogram Start Time	10:55:48 July 21, 2015
Histogram Finish Time	11:01:32 July 21, 2015
Number of Intervals	68.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Gas Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/27/17

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FXZT.100

Post Event Notes
VMP6

	Tran	Vert	Long	
PPV	0.315	1.40	0.900	in/s
ZC Freq	34	43	32	Hz
Date	Jul 21 /15	Jul 21 /15	Jul 21 /15	
Time	10:58:38	10:58:33	10:58:33	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.5	7.3	Hz
Overswing Ratio	3.9	3.7	3.9	

Peak Vector Sum 1.65 in/s on July 21, 2015 at 10:58:33



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.200 in/s/div Sensor Check

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Event Report

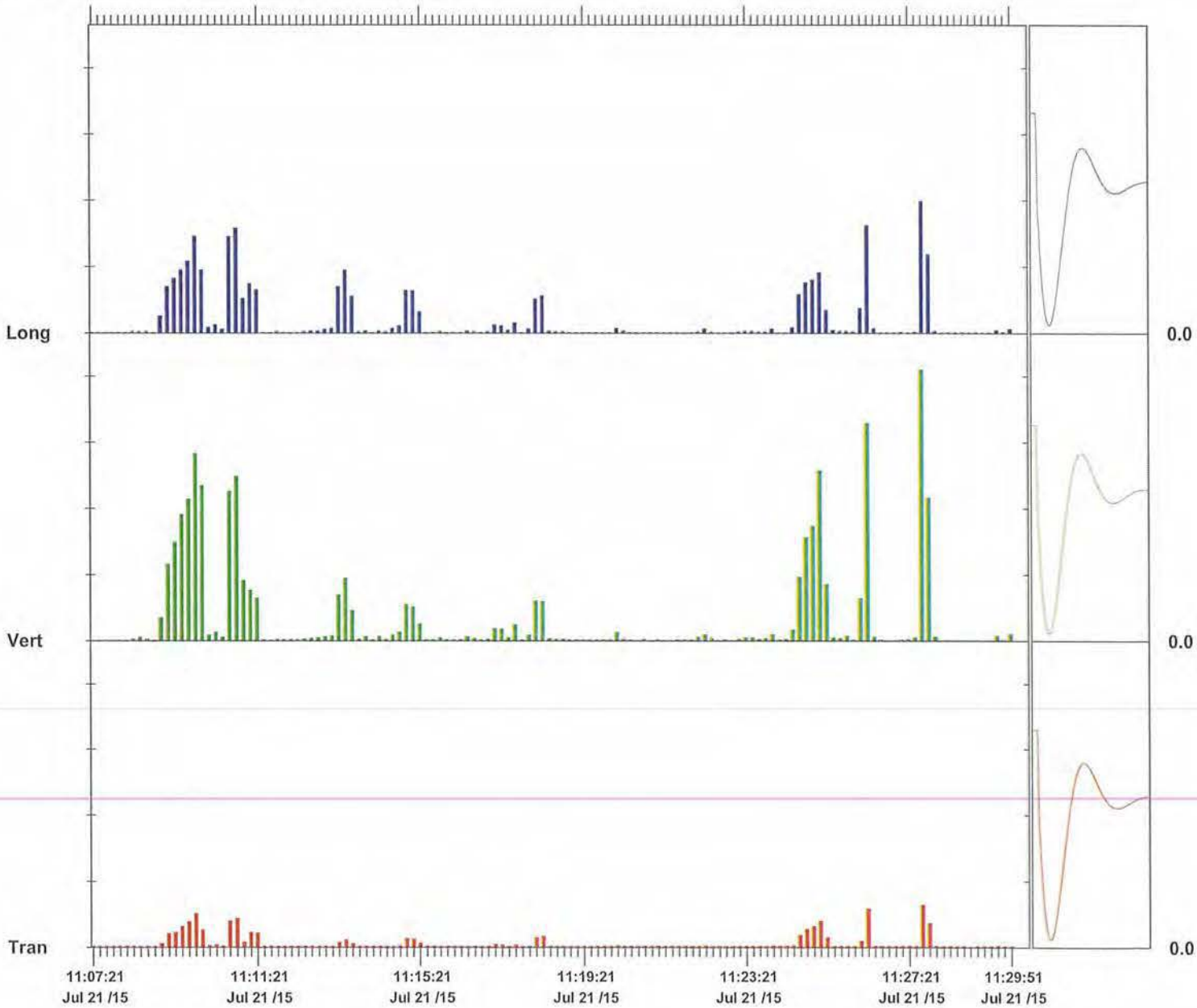
Histogram Start Time	11:07:11 July 21, 2015
Histogram Finish Time	11:29:52 July 21, 2015
Number of Intervals	272.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Gas Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/27/17

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FXZT.JZ0

Post Event Notes
VMP6

	Tran	Vert	Long	
PPV	0.325	2.05	0.995	in/s
ZC Freq	43	43	32	Hz
Date	Jul 21 /15	Jul 21 /15	Jul 21 /15	
Time	11:27:36	11:27:36	11:27:41	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.5	7.2	Hz
Overswing Ratio	3.9	3.6	3.9	

Peak Vector Sum 2.21 in/s on July 21, 2015 at 11:27:36



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.500 in/s/div

Sensor Check

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Event Report

Histogram Start Time	12:39:38 July 21, 2015
Histogram Finish Time	13:08:14 July 21, 2015
Number of Intervals	343.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Gas Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and Route~~ 440

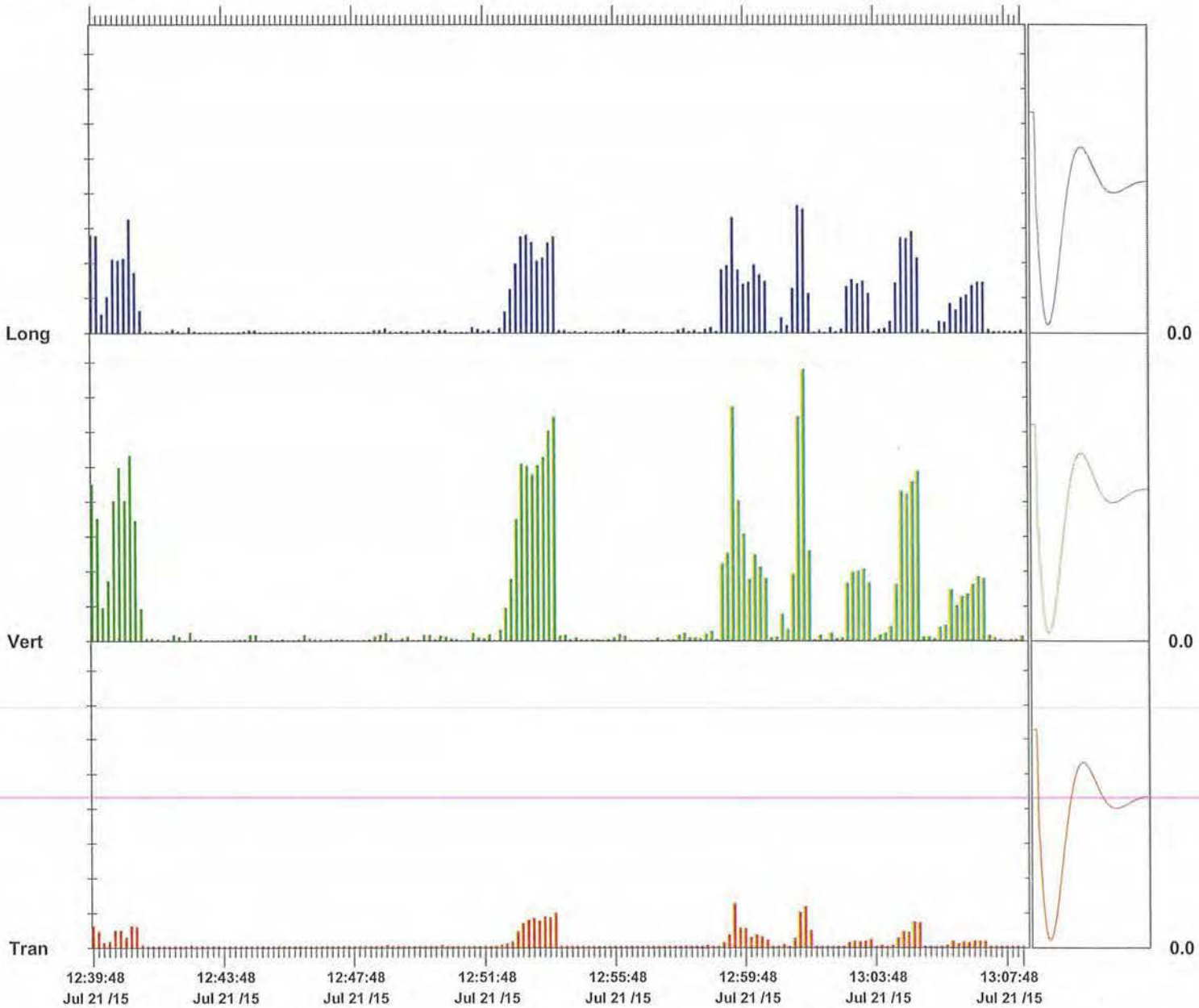
1/27/17

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FXZX.U20

Post Event Notes
VMP6

	Tran	Vert	Long	
PPV	0.255	1.56	0.730	in/s
ZC Freq	39	39	28	Hz
Date	Jul 21 /15	Jul 21 /15	Jul 21 /15	
Time	12:59:28	13:01:33	13:01:28	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.5	7.2	Hz
Overswing Ratio	3.9	3.7	3.9	

Peak Vector Sum 1.71 in/s on July 21, 2015 at 13:01:33



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.200 in/s/div Sensor Check

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Event Report

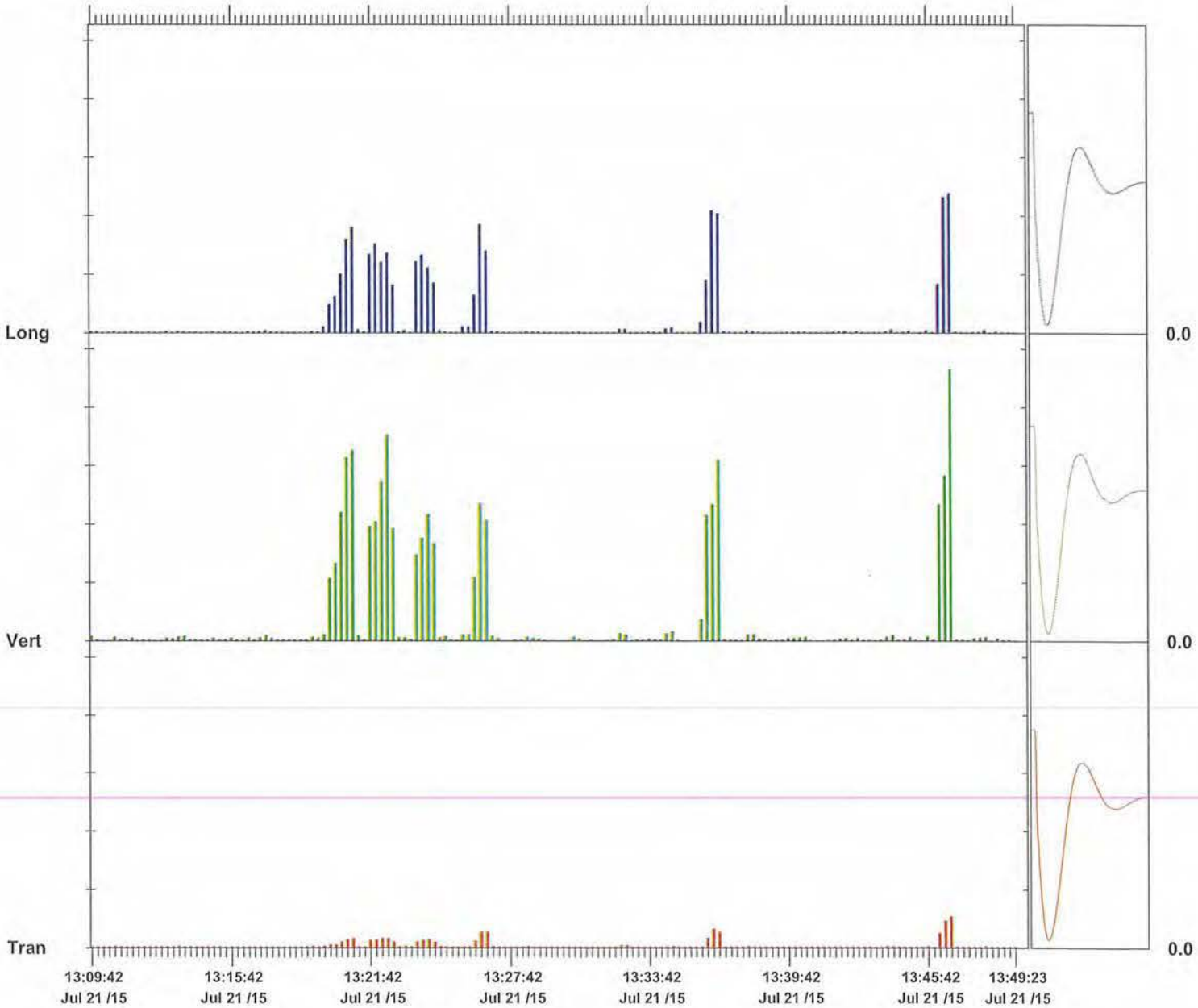
Histogram Start Time	13:09:27 July 21, 2015
Histogram Finish Time	13:49:23 July 21, 2015
Number of Intervals	479.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Gas Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/27/17

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FXZZ.7R0

Post Event Notes
VMP7

	Tran	Vert	Long	
PPV	0.270	2.32	1.19	in/s
ZC Freq	27	39	30	Hz
Date	Jul 21 /15	Jul 21 /15	Jul 21 /15	
Time	13:46:37	13:46:37	13:46:37	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.6	7.3	Hz
Overswing Ratio	3.9	3.7	3.9	

Peak Vector Sum 2.47 in/s on July 21, 2015 at 13:46:37



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.500 in/s/div

Sensor Check

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Instantel

Event Report

Histogram Start Time	13:54:04 July 21, 2015
Histogram Finish Time	14:15:25 July 21, 2015
Number of Intervals	256.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps

Notes

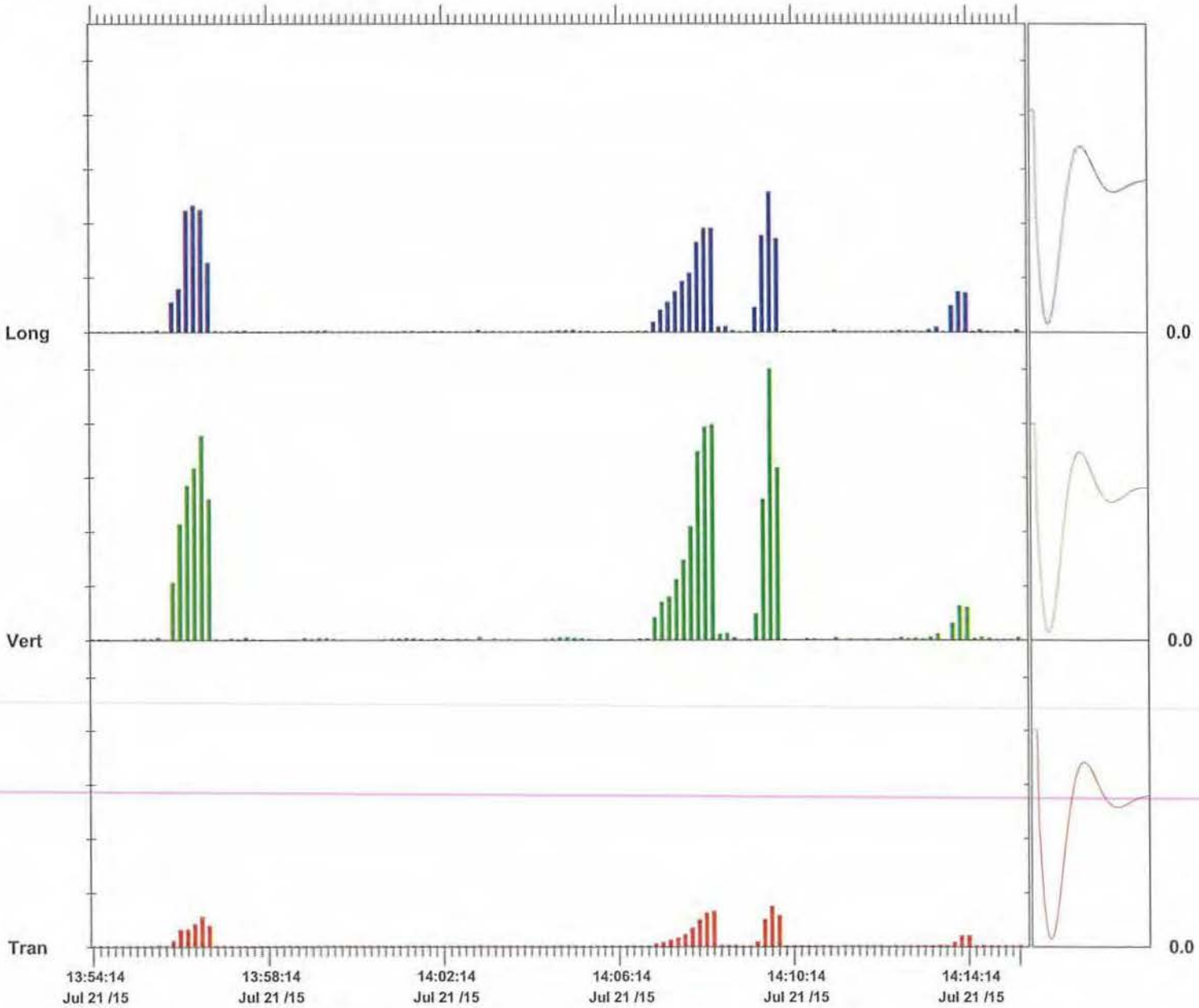
Location: SA 6 ~~South Gas Main~~ North
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 1/27/17

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FY01.A40

Post Event Notes
VMP8

	Tran	Vert	Long	
PPV	0.375	2.50	1.29	in/s
ZC Freq	51	34	39	Hz
Date	Jul 21 /15	Jul 21 /15	Jul 21 /15	
Time	14:09:39	14:09:39	14:09:39	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.5	7.3	Hz
Overswing Ratio	3.9	3.6	3.9	

Peak Vector Sum 2.76 in/s on July 21, 2015 at 14:09:39



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.500 in/s/div

Sensor Check

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Instantel

Event Report

Histogram Start Time	14:16:07 July 21, 2015
Histogram Finish Time	14:22:50 July 21, 2015
Number of Intervals	80.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Gas Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440

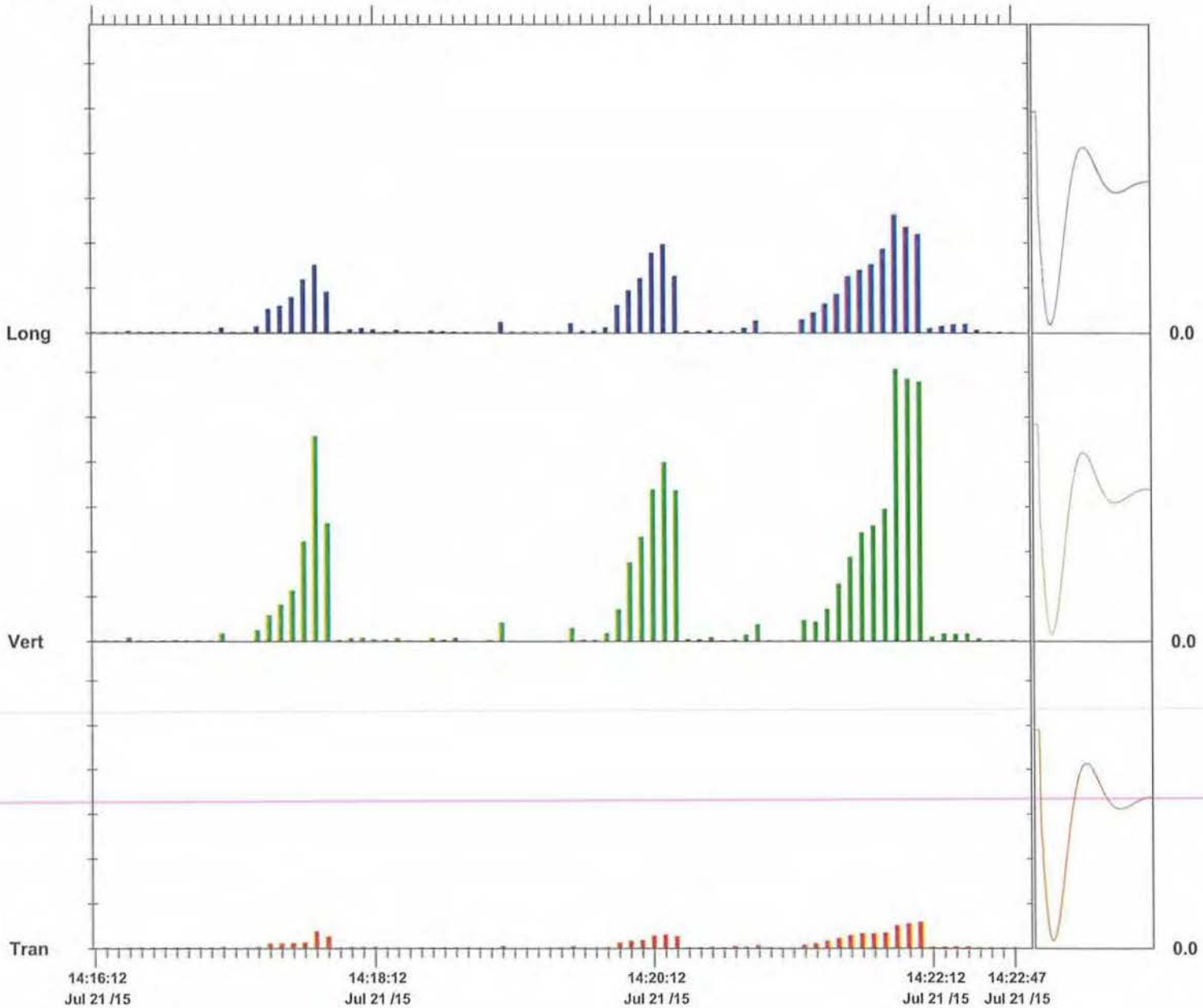
1/27/17

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FY02.AV0

Post Event Notes
VMP6

	Tran	Vert	Long	
PPV	0.295	3.03	1.31	in/s
ZC Freq	43	34	28	Hz
Date	Jul 21 /15	Jul 21 /15	Jul 21 /15	
Time	14:22:07	14:21:57	14:21:57	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.5	7.3	Hz
Overswing Ratio	3.9	3.6	3.9	

Peak Vector Sum 3.16 in/s on July 21, 2015 at 14:21:57



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.500 in/s/div Sensor Check

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Instantel

Event Report

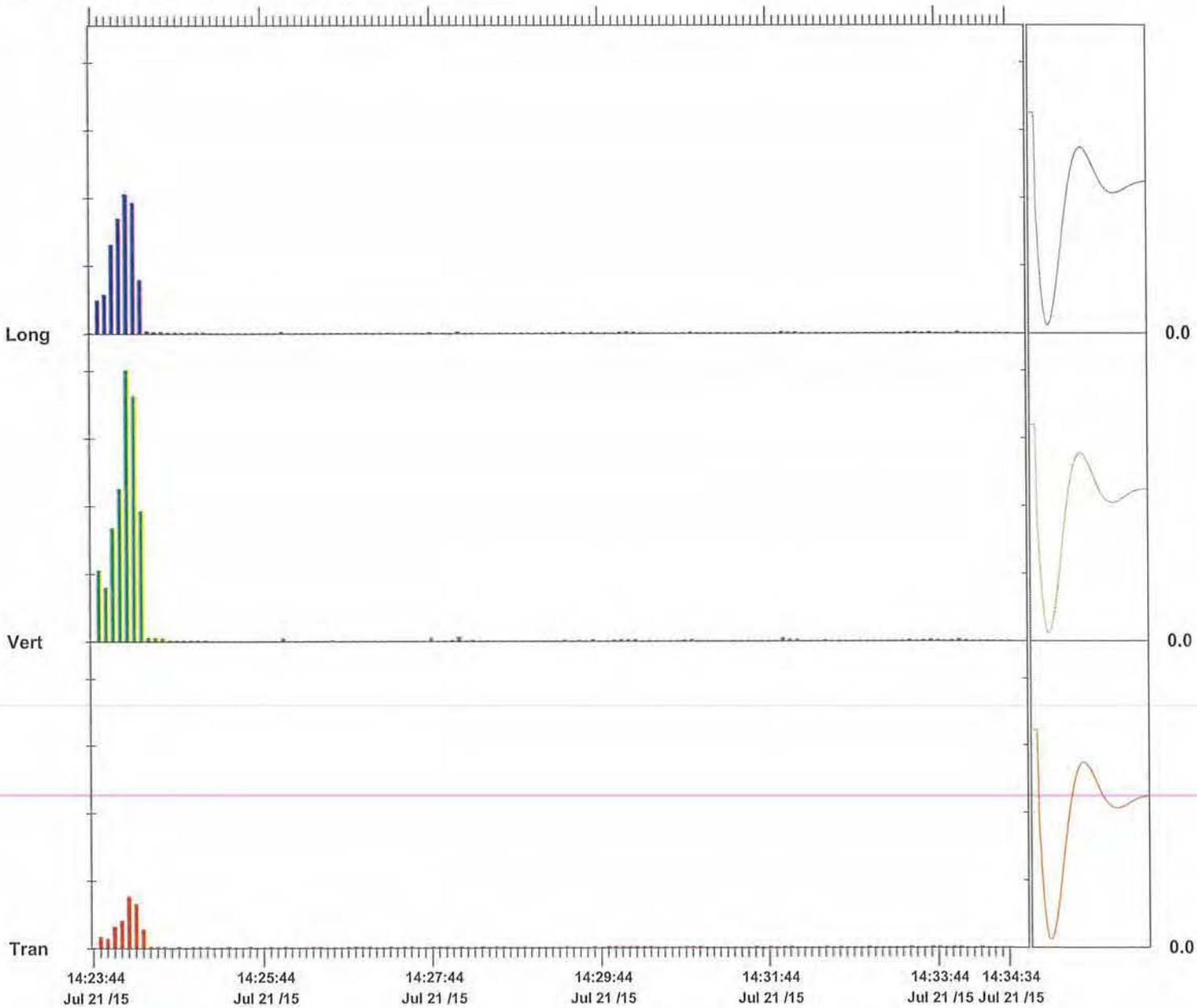
Histogram Start Time	14:23:39 July 21, 2015
Histogram Finish Time	14:34:37 July 21, 2015
Number of Intervals	131.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Gas Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/22/17

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FY02.NF0

Post Event Notes
VMP7

	Tran	Vert	Long	
PPV	0.385	2.00	1.03	in/s
ZC Freq	32	37	30	Hz
Date	Jul 21 /15	Jul 21 /15	Jul 21 /15	
Time	14:24:09	14:24:09	14:24:09	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.5	7.3	Hz
Overswing Ratio	3.9	3.6	3.9	

Peak Vector Sum 2.21 in/s on July 21, 2015 at 14:24:09



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.500 in/s/div

Sensor Check

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Geocomp

Technologies to manage risk for infrastructure

Boston
Atlanta
Chicago
Los Angeles
New York
www.geocomp.com

Vibration Monitoring Report

Study Area 6 ~~South~~ North 1/26/17

Prepared by
Geocomp Engineering

July 28th, 2015
For ENTACT, LLC

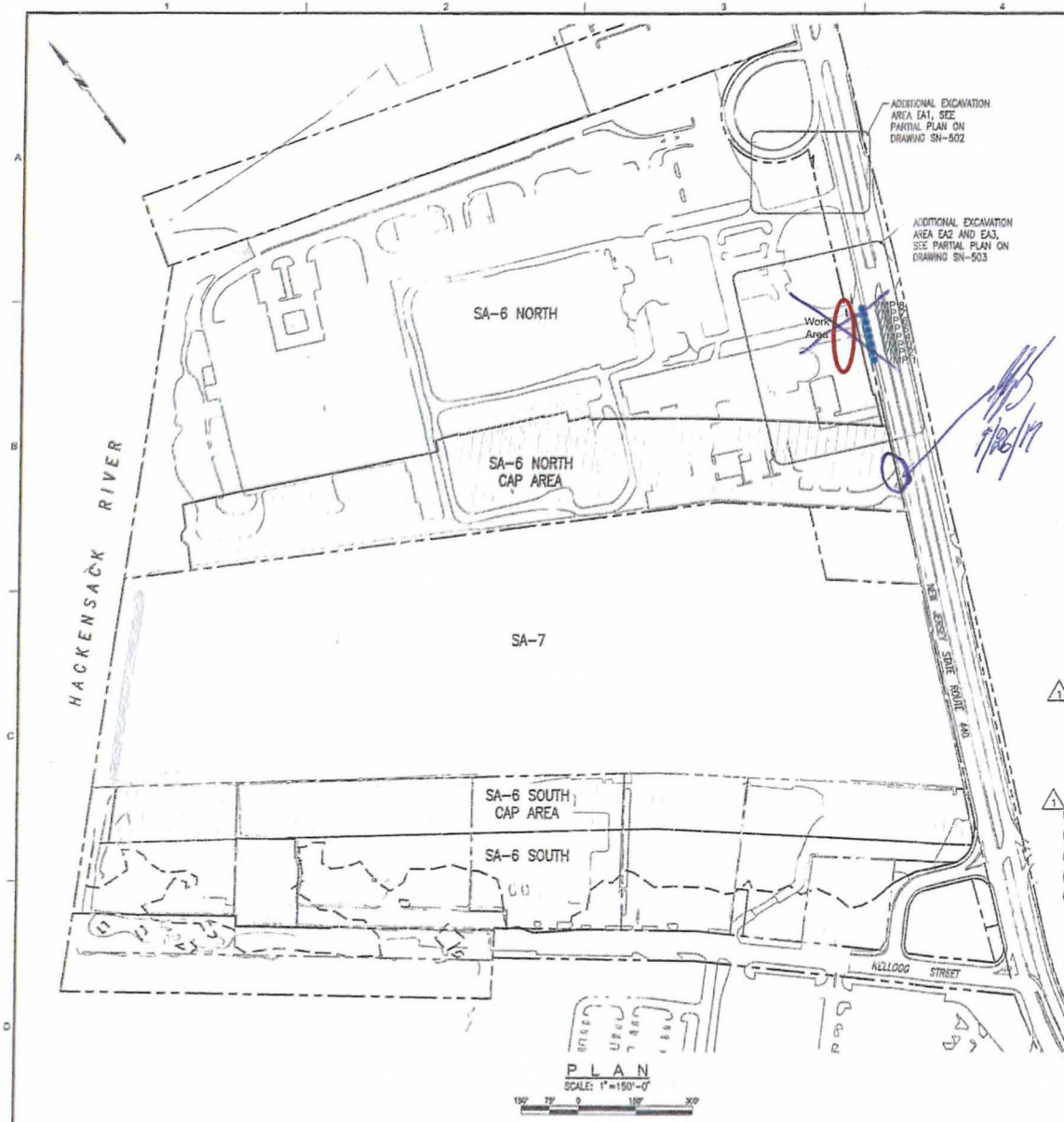
111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

NOTES:

Summary of Work:
Hammering commenced at 8 AM and ended at 8:30 AM. Sheet pile driving commenced at 9:35 AM and ended at 2:30 PM. An Instantel Micromate was used to record vibrations via a geophone placed on the ground over the gas line.

19 sheets were driven and 18 were brought to grade with 5 recorded exceedances, i.e., the 0.5 limit was exceeded at 9:35 AM, 1:12 PM, 1:18 PM, 1:37 PM, and 1:43 PM. See attached plan for area of work and location of the seismographs. See attached Blastware reports for PPV at these locations.

Gas Line:
Trigger Level: 0.25 in/sec
Alert Level: 0.5 in/sec



Notes:

1. The work requires installation of sheet piles, drilling, and excavation in close proximity to overhead power lines and underground utilities. Coordinate access and controls with utility companies having jurisdiction over buried and overhead utilities.
2. Re-mark utility control markings daily if removed by excavation.
3. Steel sheet piling shall be uncoated, new or used in good condition, and of the sizes shown on the drawings or structural equivalent.
4. See AMEC Environment and Infrastructure, Inc. drawings for excavation subgrade elevations.
5. The angle of repose shown on the drawings is based on the definition and requirements provided by PSE&G.
6. Final wall locations subject to location of gas main, determined by test pits.
7. Pre-excavate as required to remove obstructions within the fill prior to driving sheet piling.
8. Handle sheet piling in a manner which prevents damage to the sheet piling. Use standard safety lifting devices, use lifting holes or provide secondary support during lifting.
9. Discontinue spudding more than 5 ft. above the minimum tip elevations indicated herein.
10. Stage pile driving and step sheet piling tips as necessary to maintain interlocks. Remove and replace steel sheet piling found to be out of interlock, out of tolerance, damaged, or otherwise deficient.
11. Use drive templates and guides to maintain pile alignment and install piles plumb.
12. Sheet piling may be welded to adjacent sheets if required to control settlement during driving.
13. Spliced sheet piling shall be free sliding and able to obtain the maximum swing with contiguous piles. Splice welds shall develop the full structural strength of the member.
14. Drive templates: Prior to driving, provide template or driving frame suitable for aligning, supporting, and maintaining the sheet piling in the correct location and verticality during setting and driving. Fix template in place to prevent movement during sheet pile driving. Provide restraint necessary to prevent the sheets from warping or wandering from the alignment, or from racking along the alignment.
15. Provide continuous inspection of sheet pile driving. Inspect location and verticality when setting sheets, and when sheets are driven half depth.
16. Maintain pile driving inspection record for each pair driven. Indicate pile hammer, rate of operation, energy, use of drive helmet and cap, etc. Provide a unique number for each pair, and indicate location on alignment. Document installation date, set time, drive duration, and time drive completed, initial pile length, re-heading or cutting length(s), and any additional information required for record drawings. Record unusual conditions or problems observed during driving.
17. Soldier piles and wales shown are minimum sizes. Substitution with members of equivalent or higher capacity is allowed.
18. Shop and field welding procedures, electrode classification (E70XX), and preheat temperature shall conform to AWS D1.1. Welders shall be certified in accordance with AWS D1.1 criteria.
19. Drill soldier pile using methods approved by the Engineer.
20. Dewater excavations to provide stable subgrade and to remove all uplift pressure below all sewers, force mains or other active utilities as may be required, as determined by the Engineer. Install piezometer within 10 feet of 48 inch sewer to monitor groundwater level.
21. Survey to establish construction station baseline and establish monitoring points.
22. Set permanent monitoring point on top of sheet piling and soldier piles. Grind smooth surface for point. If required. Mark point ID. At contractor option, DMP points may be reflective targets for total station surveys.
23. Survey location of monitoring point. (X, Y, Z) (baseline reading).
24. Survey location (X, Y, Z) two additional times, on separate days, before performing excavation within 50 ft. of monitoring point.
25. Survey monitoring point (X, Y, Z) daily, or more often at Engineer direction, when excavating within 50 ft. of monitoring point. For each reading event document survey date, time, reading change from previous reading, and reading change from baseline. Provide readings for Construction Manager review during active excavation.
26. Monitor vibrations at the ground surface above the gas main, force main, and sewer under Route 440 adjacent to the excavations within 25 feet.
27. Advise the Construction Manager of vibration monitoring data. Limiting values are:
    Gas Main - 2.0 in/sec
    Sewer & F.M. - 1.0 in/sec

    If limiting values are exceeded, the contractor shall notify the CM and cease work until adequate measures are taken to reduce vibrations.
28. Elevation are based on NGVD 1929 Datum.

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34TH STREET, NEW YORK, NY 10122
FILE NUMBER 11173

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
TEMPORARY SUPPORT OF EXCAVATION KEY PLAN AND NOTES

Honeywell
CHROMIUM REMEDY STUDY AREA & NORTH SITES REMEDY
JERSEY CITY, NEW JERSEY

NO.	DATE	DSGN	DR	CHK	APVD	APVD
0	00/07/13	G.S.	B.B.	D.P.	B.P.	F.W.D.
1	10/31/14					

REVISION
ISSUED FOR CONSTRUCTION
ISSUED FOR NJDOT REVIEW

PETER R. FRIEDING
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE-00022

amec
Environment & Infrastructure, Inc.
285 Madison Avenue Blvd, Suite 113
Hamilton, NJ 08619
(609) 689-2839
www.amecfoster.com
NJ Certificate of Authorization Number 24GA28000300

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE
PROJ 3480-12-0317
DWG SN-601
SHEET 62 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC, INCORPORATED, AND THE DESIGNS AND INFORMATION SHOWN HEREON, AND/OR CONTAINED HEREIN, WERE PREPARED FOR THE USE ON THIS PROJECT ONLY. THEY MAY NOT BE REPRODUCED OR PUBLISHED, IN WHOLE OR IN PART, NOR THE MATERIAL DESCRIBED THEREIN, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

Event Report

Histogram Start Time	07:59:28 July 28, 2015
Histogram Finish Time	08:16:54 July 28, 2015
Number of Intervals	209.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South~~ North ~~Gas Main~~
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440

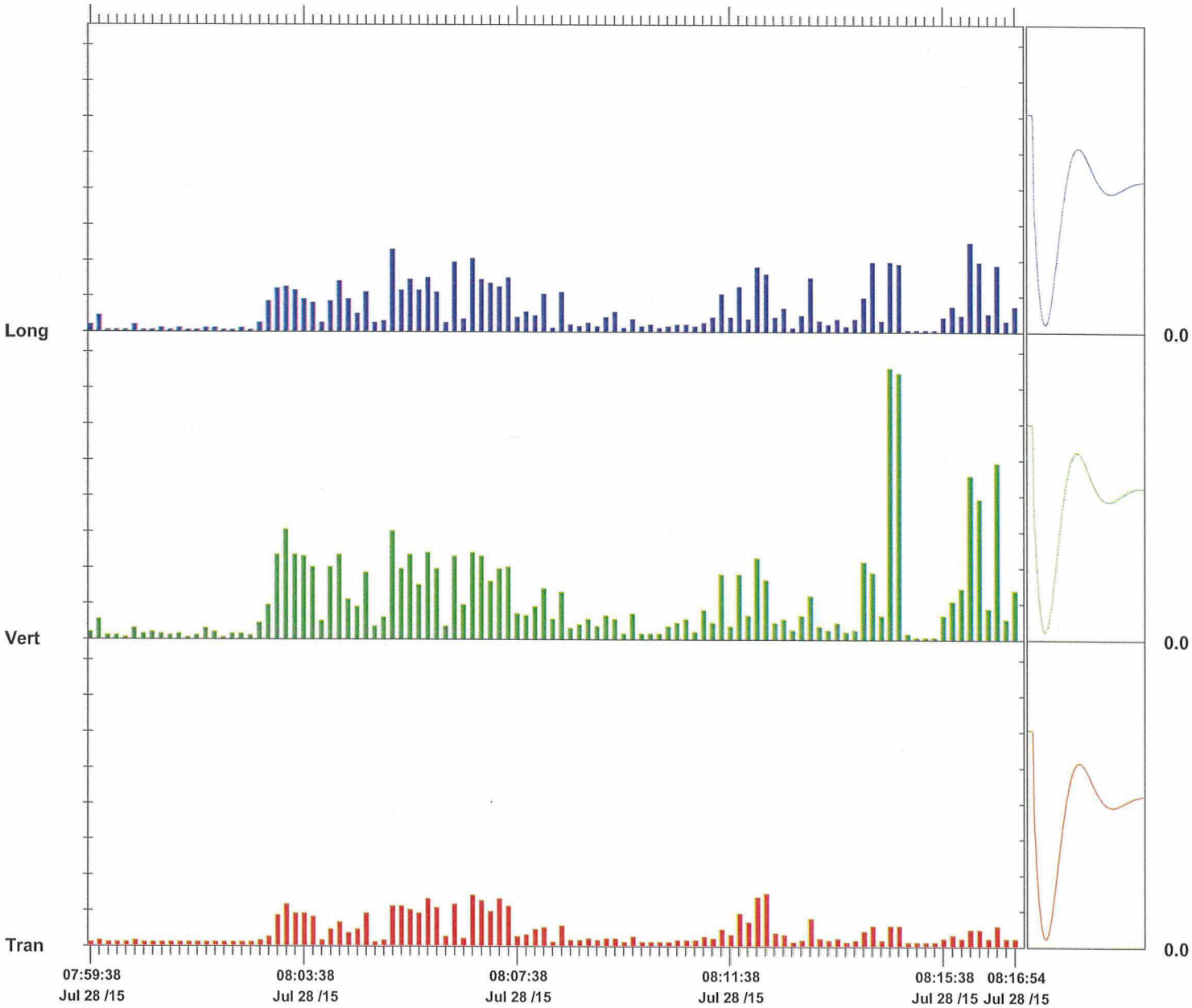
1/26/17

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FYCJ.J40

Post Event Notes
VMP 8

	Tran	Vert	Long	
PPV	0.145	0.755	0.250	in/s
ZC Freq	32	26	32	Hz
Date	Jul 28 /15	Jul 28 /15	Jul 28 /15	
Time	08:12:13	08:14:38	08:16:03	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.6	7.3	Hz
Overswing Ratio	4.0	3.7	3.9	

Peak Vector Sum 0.764 in/s on July 28, 2015 at 08:14:38



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div

Sensor Check

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Event Report

Histogram Start Time	08:19:36 July 28, 2015
Histogram Finish Time	08:23:09 July 28, 2015
Number of Intervals	42.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps

Notes

Location: SA 6 ~~South Gas Main~~ North
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440

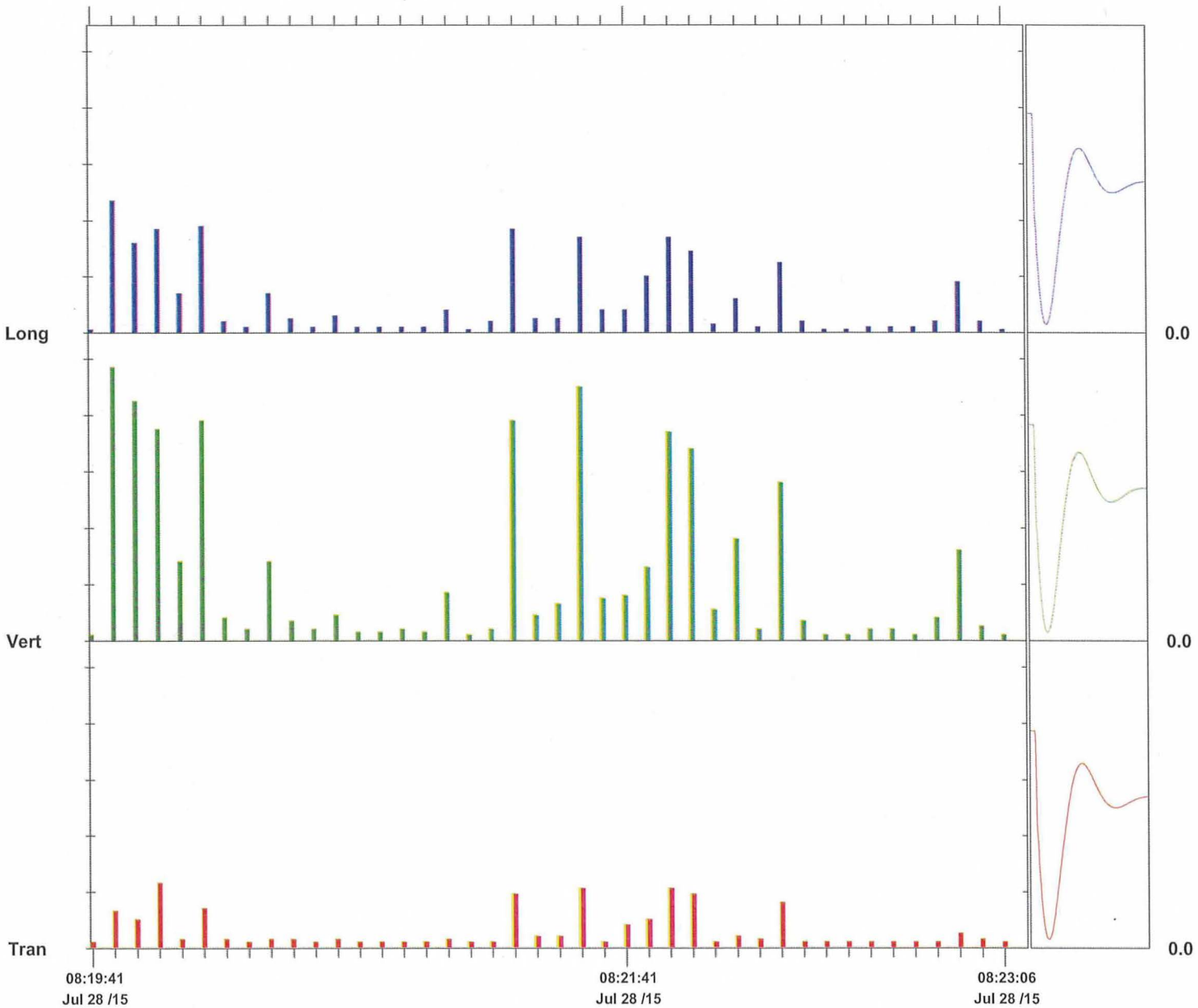
1/26/19

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FYCK.GO0

Post Event Notes
VMP 8

	Tran	Vert	Long	
PPV	0.115	0.485	0.235	in/s
ZC Freq	17	22	28	Hz
Date	Jul 28 /15	Jul 28 /15	Jul 28 /15	
Time	08:19:56	08:19:46	08:19:46	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.6	7.3	Hz
Overswing Ratio	4.0	3.7	4.0	

Peak Vector Sum 0.496 in/s on July 28, 2015 at 08:19:46



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Sensor Check

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Event Report

Histogram Start Time	09:32:45 July 28, 2015	**Serial Number**	BE11212 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	09:45:10 July 28, 2015	**Battery Level**	6.3 Volts
Number of Intervals	149.00 at 5 seconds	**Unit Calibration**	July 9, 2015 by Instantel
Range	Geo:10.00 in/s	**File Name**	M212FYCN.UL0
Sample Rate	1024sps		

Notes

Location: SA 6 ~~South Gas Main~~ North 6/26/17

Client: Entact

User Name: Geocomp

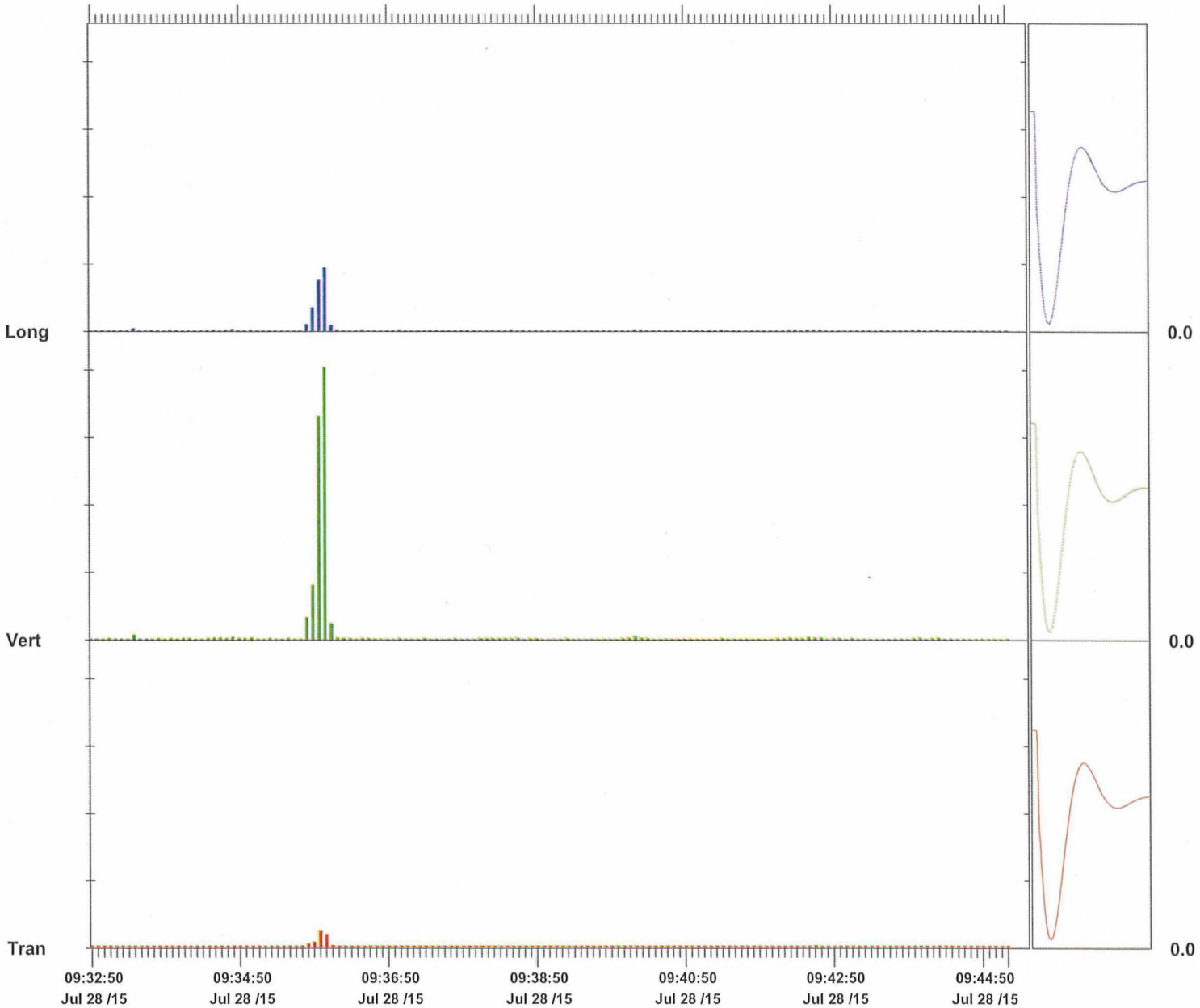
General: ~~Kellogg Street and~~ Route 440

Post Event Notes

VMP 1

	Tran	Vert	Long	
PPV	0.120	2.01	0.470	in/s
ZC Freq	51	37	37	Hz
Date	Jul 28 /15	Jul 28 /15	Jul 28 /15	
Time	09:35:55	09:36:00	09:36:00	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.6	7.3	Hz
Overswing Ratio	3.9	3.6	4.0	

Peak Vector Sum 2.07 in/s on July 28, 2015 at 09:36:00



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.500 in/s/div

Sensor Check

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Event Report

Histogram Start Time	09:51:43 July 28, 2015
Histogram Finish Time	10:18:13 July 28, 2015
Number of Intervals	318.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Gas Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440

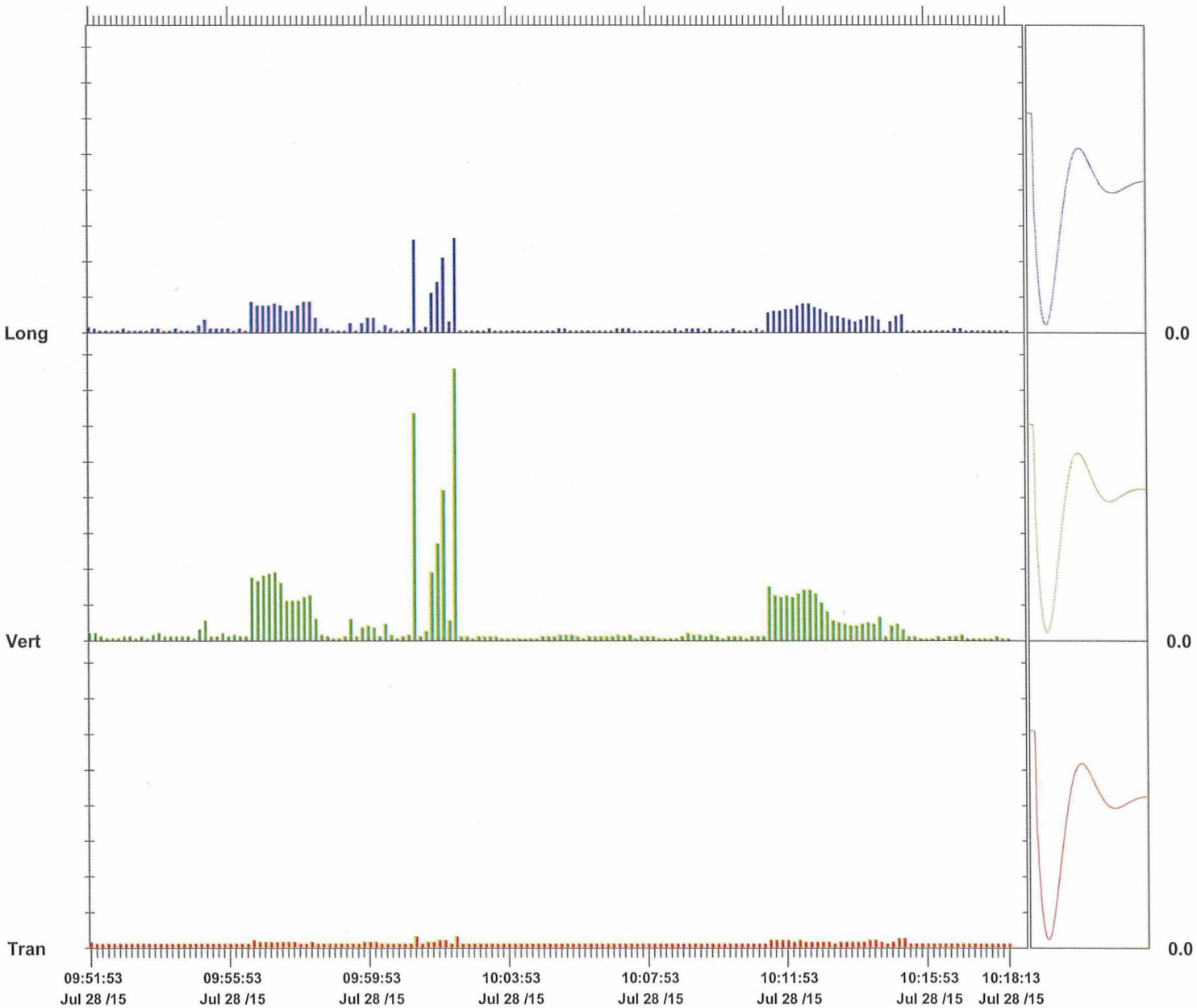
1/26/17

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FYCO.Q70

Post Event Notes
VMP 1

	Tran	Vert	Long	
PPV	0.0300	0.760	0.265	in/s
ZC Freq	39	32	28	Hz
Date	Jul 28 /15	Jul 28 /15	Jul 28 /15	
Time	10:01:08	10:02:23	10:02:23	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.6	7.3	Hz
Overswing Ratio	4.0	3.7	4.0	

Peak Vector Sum 0.802 in/s on July 28, 2015 at 10:02:23



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Sensor Check

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Event Report

Histogram Start Time	10:19:34 July 28, 2015
Histogram Finish Time	10:50:20 July 28, 2015
Number of Intervals	369.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Gas Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440

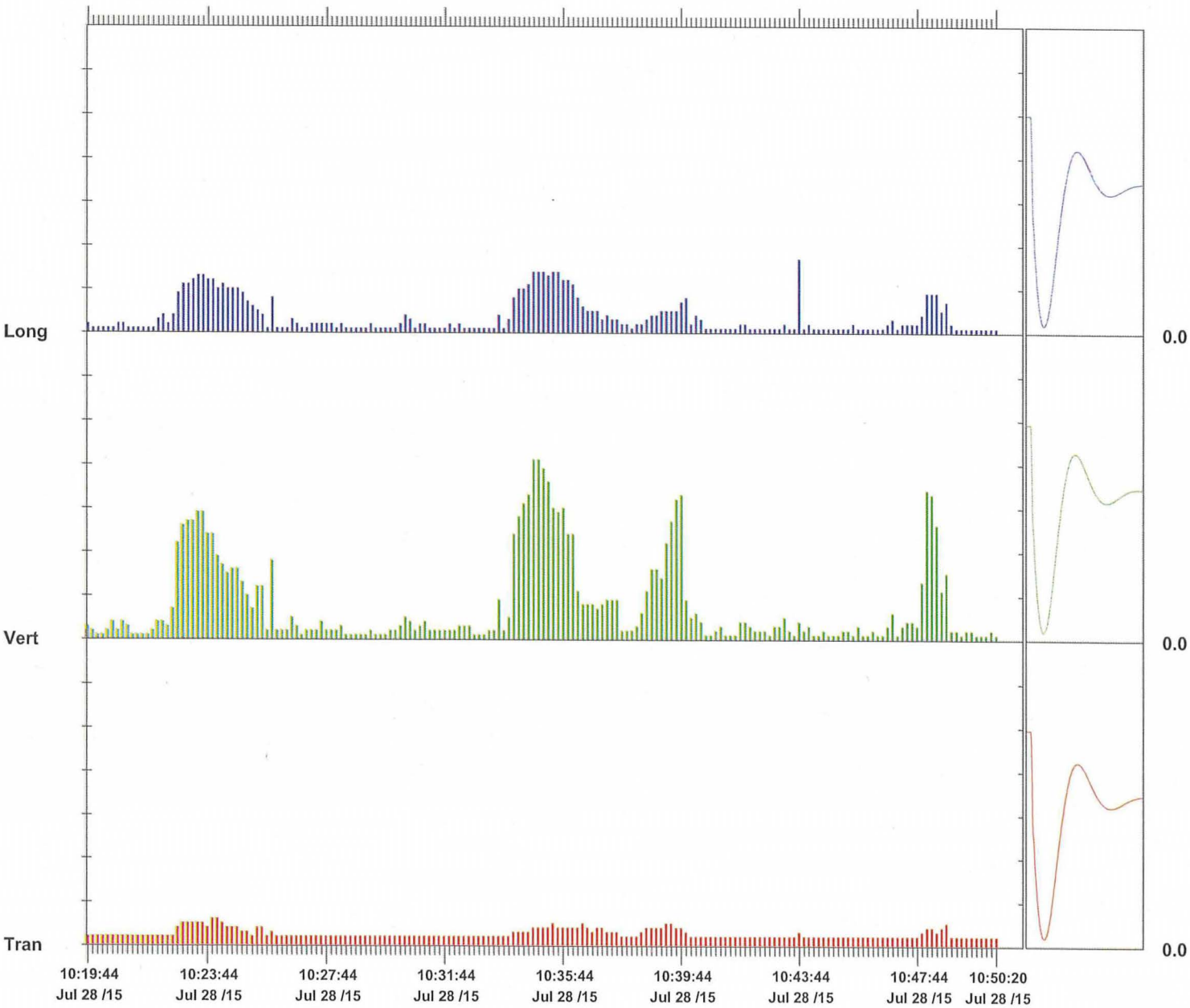
1/26/17

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FYCQ.0M0

Post Event Notes
VMP 2

	Tran	Vert	Long	
PPV	0.0300	0.205	0.0850	in/s
ZC Freq	43	34	34	Hz
Date	Jul 28 /15	Jul 28 /15	Jul 28 /15	
Time	10:23:54	10:34:44	10:43:39	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.6	7.3	Hz
Overswing Ratio	3.9	3.7	4.0	

Peak Vector Sum 0.216 in/s on July 28, 2015 at 10:34:49



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div

Sensor Check

Printed: July 28, 2015 (V 10.60 - 10.60)

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Event Report

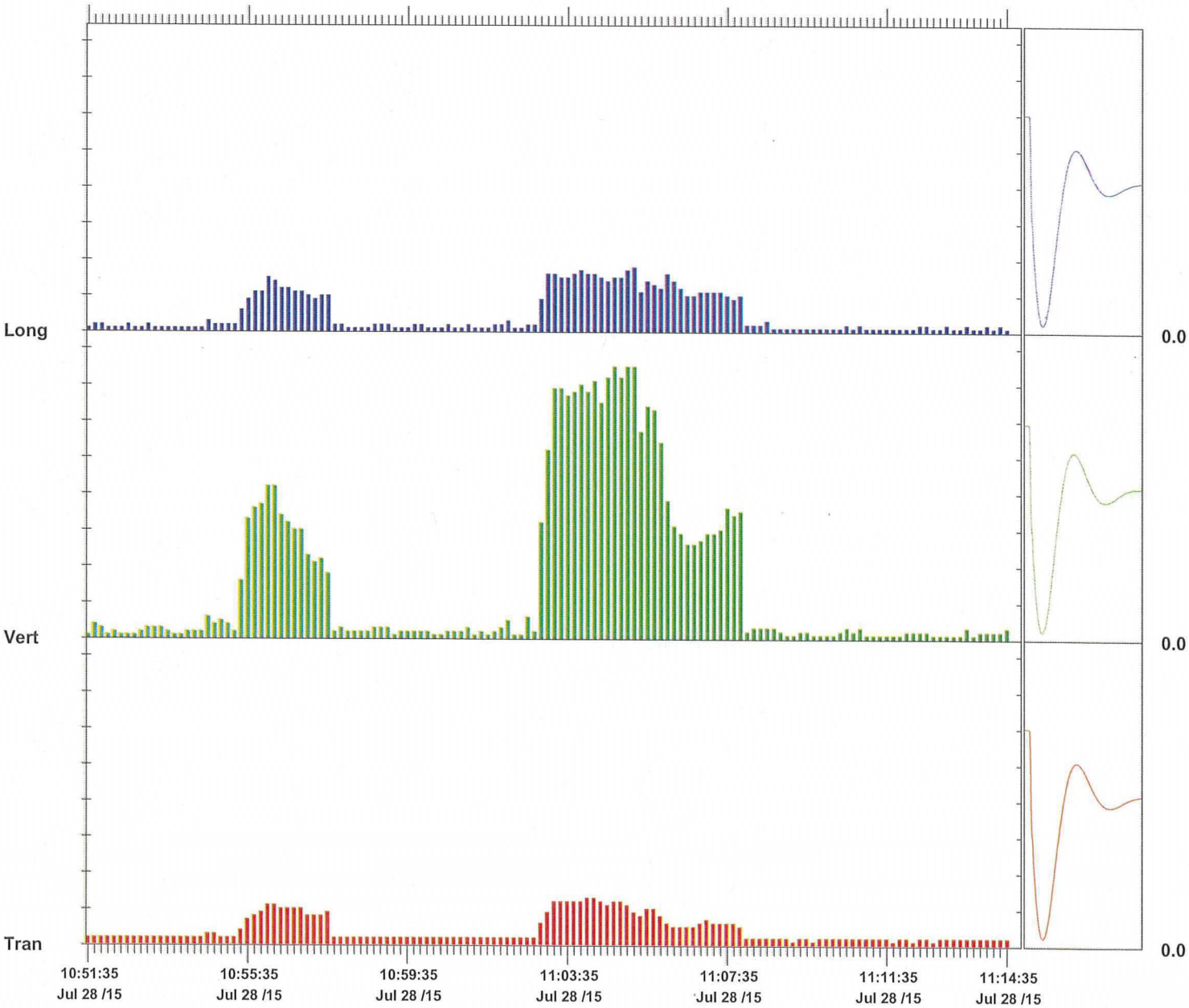
Histogram Start Time	10:51:25 July 28, 2015
Histogram Finish Time	11:14:39 July 28, 2015
Number of Intervals	278.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Gas Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FYCR.HP0

Post Event Notes
VMP 3

	Tran	Vert	Long	
PPV	0.0650	0.375	0.0900	in/s
ZC Freq	34	34	37	Hz
Date	Jul 28 /15	Jul 28 /15	Jul 28 /15	
Time	11:04:05	11:04:40	11:05:10	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.6	7.2	Hz
Overswing Ratio	4.0	3.6	4.0	

Peak Vector Sum 0.379 in/s on July 28, 2015 at 11:04:40



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div

Sensor Check

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Instantel

Event Report

Histogram Start Time	11:25:16 July 28, 2015
Histogram Finish Time	11:46:42 July 28, 2015
Number of Intervals	257.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps

Notes

Location:	SA 6 ~~South Gas Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440

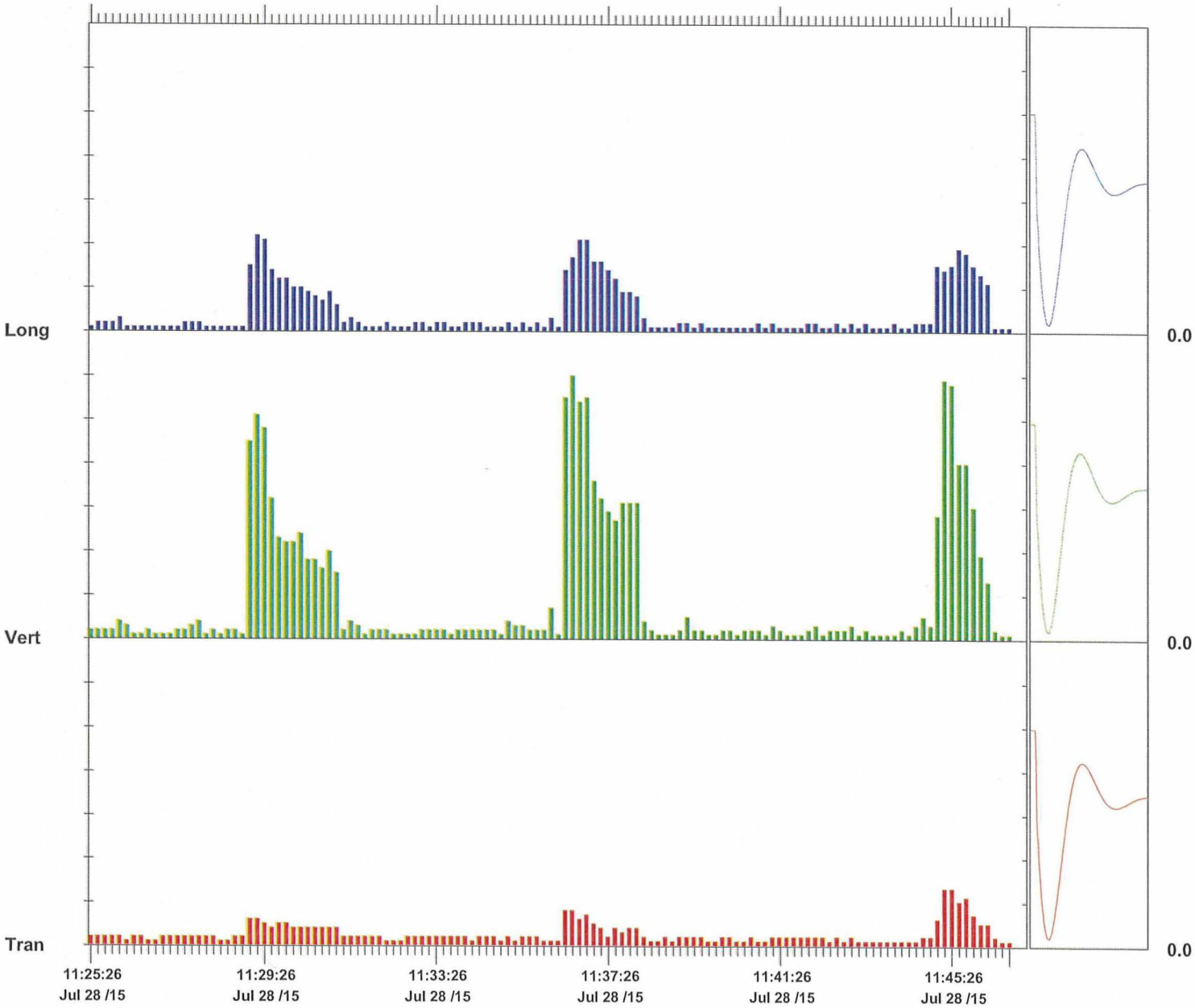
1/26/17

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FYCT.240

Post Event Notes
VMP 4

	Tran	Vert	Long	
PPV	0.0650	0.300	0.110	in/s
ZC Freq	30	32	32	Hz
Date	Jul 28 /15	Jul 28 /15	Jul 28 /15	
Time	11:45:16	11:36:31	11:29:16	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.5	7.3	Hz
Overswing Ratio	4.0	3.7	3.9	

Peak Vector Sum 0.302 in/s on July 28, 2015 at 11:45:16



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div

Sensor Check

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Event Report

Histogram Start Time	12:50:11 July 28, 2015
Histogram Finish Time	13:02:37 July 28, 2015
Number of Intervals	149.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps

Notes

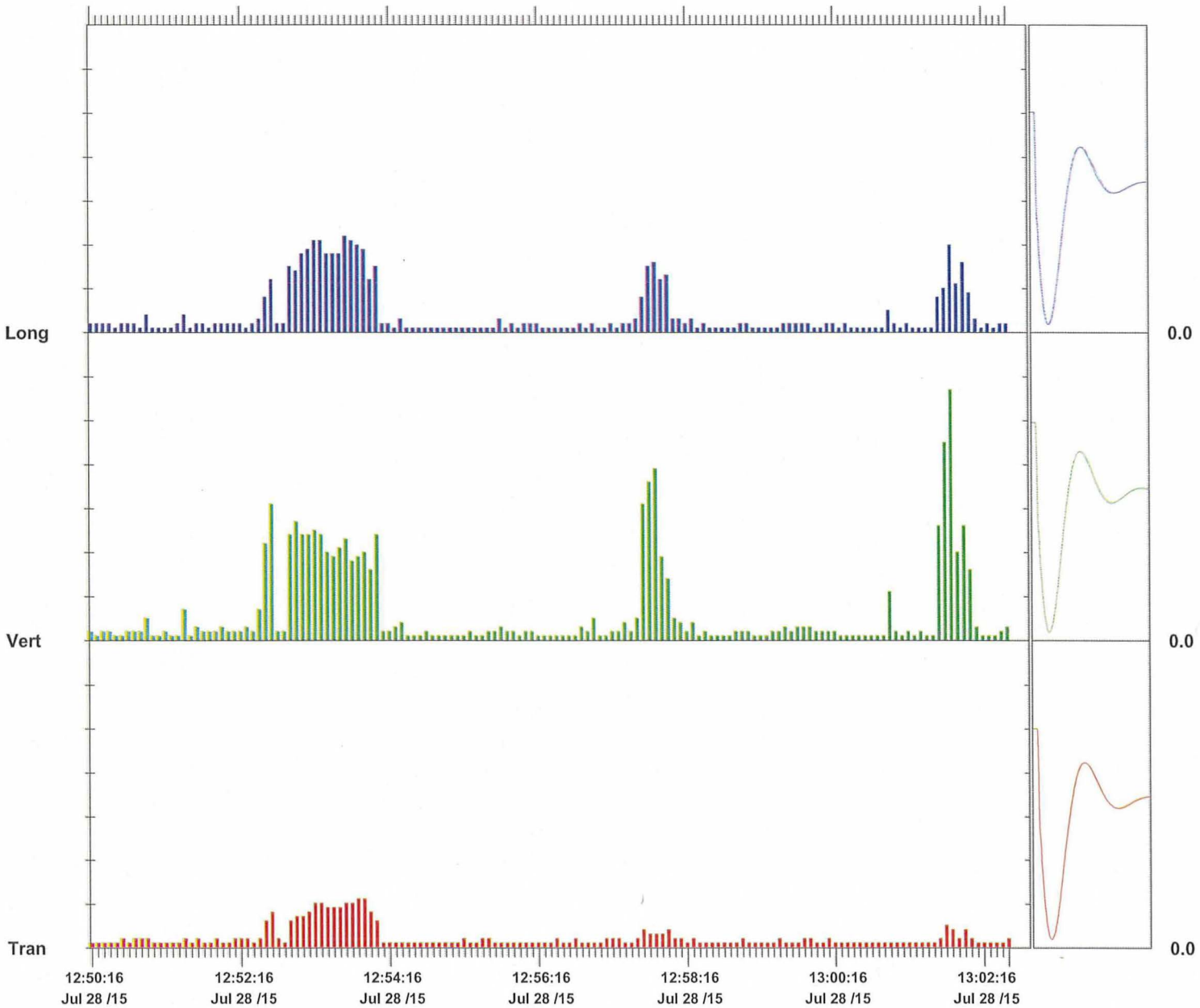
Location: SA 6 ~~South Gas Main~~ North
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 1/26/17

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FYCW.ZN0

Post Event Notes
VMP 5

	Tran	Vert	Long	
PPV	0.0550	0.285	0.110	in/s
ZC Freq	28	30	32	Hz
Date	Jul 28 /15	Jul 28 /15	Jul 28 /15	
Time	12:53:51	13:01:51	12:53:41	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.6	7.2	Hz
Overswing Ratio	3.9	3.6	3.9	

Peak Vector Sum 0.294 in/s on July 28, 2015 at 13:01:51



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	13:03:53 July 28, 2015
Histogram Finish Time	13:22:56 July 28, 2015
Number of Intervals	228.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Gas~~ Main
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440

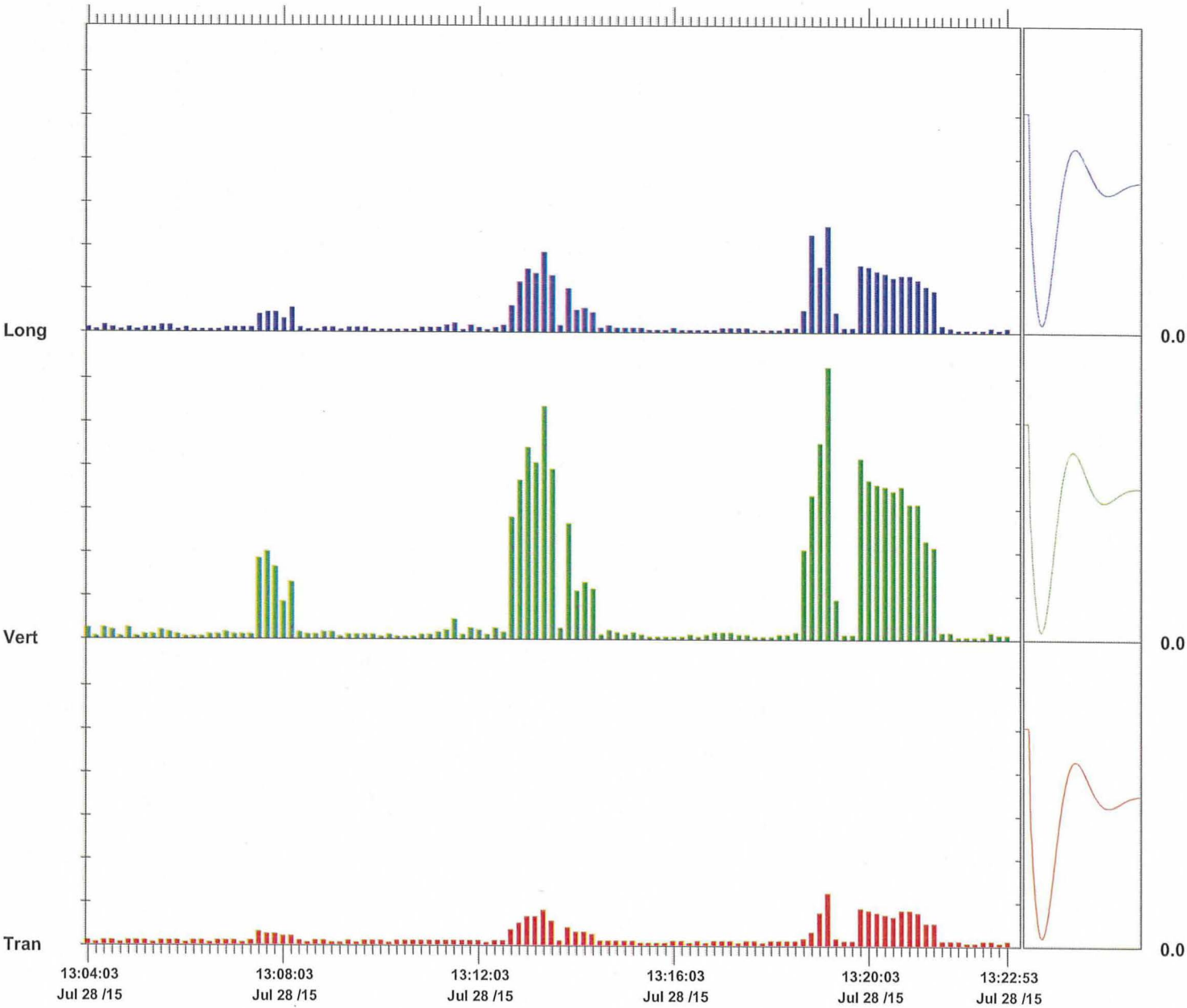
1/26/17

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FYCX.MH0

Post Event Notes
VMP 6

	Tran	Vert	Long	
PPV	0.120	0.625	0.245	in/s
ZC Freq	30	32	32	Hz
Date	Jul 28 /15	Jul 28 /15	Jul 28 /15	
Time	13:19:08	13:19:13	13:19:13	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.6	7.2	Hz
Overswing Ratio	3.9	3.6	3.9	

Peak Vector Sum 0.677 in/s on July 28, 2015 at 13:19:13



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div

Sensor Check

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Instantel

Event Report

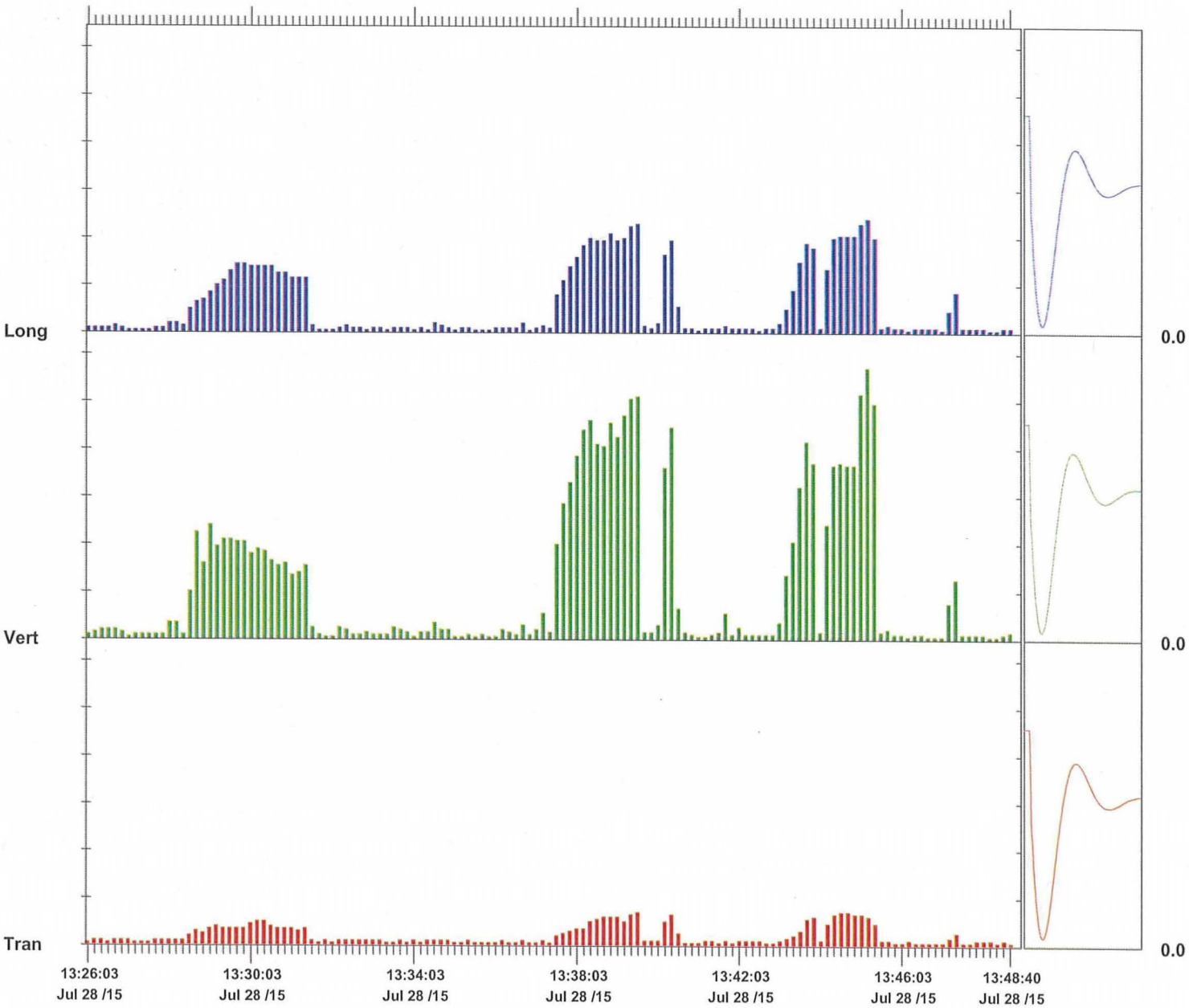
Histogram Start Time	13:25:53 July 28, 2015
Histogram Finish Time	13:48:40 July 28, 2015
Number of Intervals	273.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Gas Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/26/17

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FYCY.N50

Post Event Notes
VMP 7

	Tran	Vert	Long	
PPV	0.0700	0.570	0.240	in/s
ZC Freq	32	32	32	Hz
Date	Jul 28 /15	Jul 28 /15	Jul 28 /15	
Time	13:39:28	13:45:08	13:45:08	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.6	7.3	Hz
Overswing Ratio	3.9	3.6	3.9	

Peak Vector Sum 0.611 in/s on July 28, 2015 at 13:45:08



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div

Sensor Check

Format © 1995-2013 Xmark Corporation

Event Report

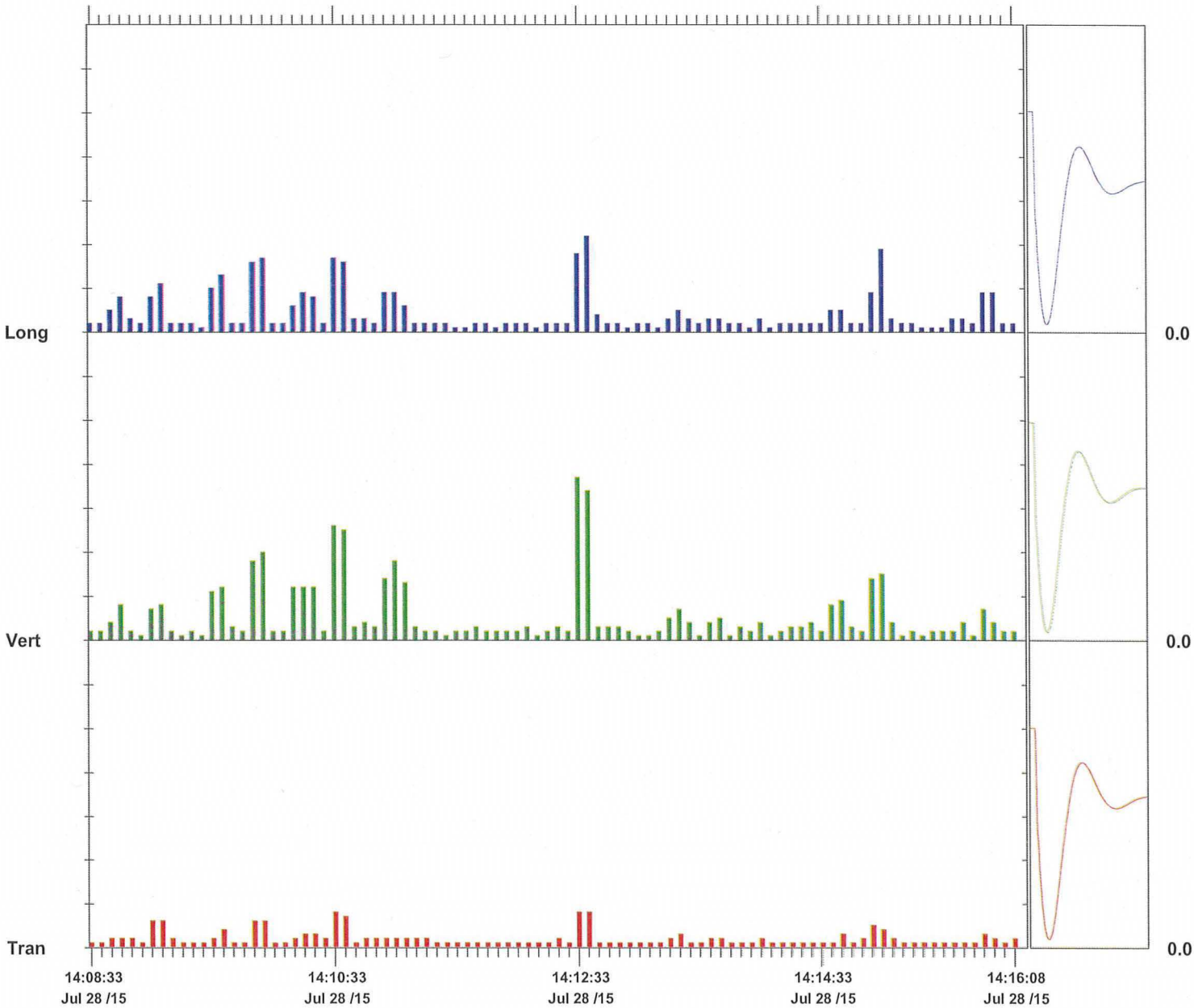
Histogram Start Time	14:08:28 July 28, 2015
Histogram Finish Time	14:16:08 July 28, 2015
Number of Intervals	92.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Gas Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FYD0.M40

Post Event Notes
VMP 6

	Tran	Vert	Long	
PPV	0.0400	0.185	0.110	in/s
ZC Freq	39	37	28	Hz
Date	Jul 28 /15	Jul 28 /15	Jul 28 /15	
Time	14:10:33	14:12:33	14:12:38	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.6	7.4	Hz
Overswing Ratio	3.9	3.6	3.8	

Peak Vector Sum 0.203 in/s on July 28, 2015 at 14:12:33



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

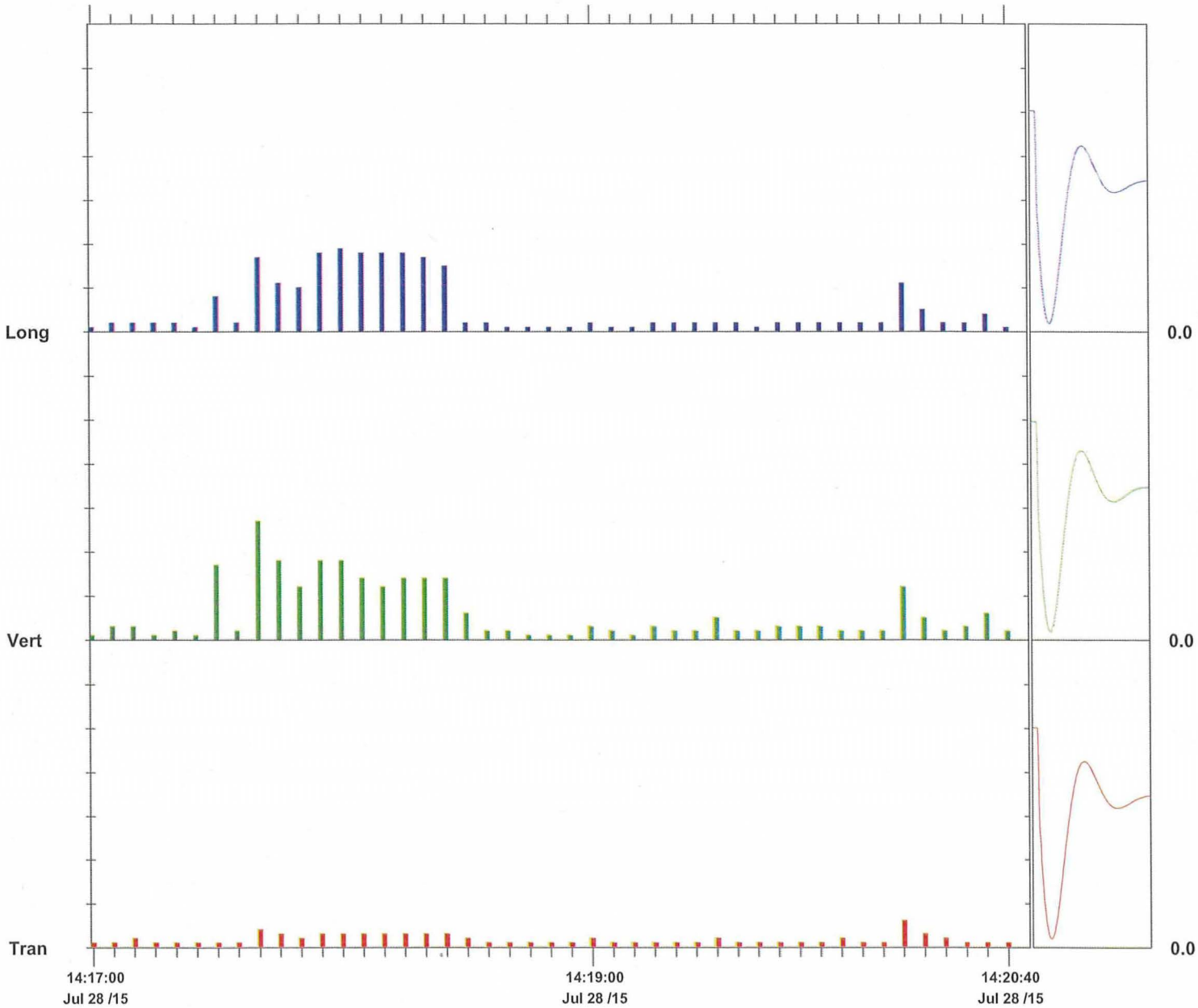
Histogram Start Time	14:16:55 July 28, 2015
Histogram Finish Time	14:20:40 July 28, 2015
Number of Intervals	45.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Gas Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FYD1.070

Post Event Notes
VMP 4

	Tran	Vert	Long	
PPV	0.0300	0.135	0.0950	in/s
ZC Freq	43	37	32	Hz
Date	Jul 28 /15	Jul 28 /15	Jul 28 /15	
Time	14:20:15	14:17:40	14:18:00	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.6	7.3	Hz
Overswing Ratio	3.8	3.6	3.8	

Peak Vector Sum 0.135 in/s on July 28, 2015 at 14:17:40



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

Format © 1995-2013 Xmark Corporation

Event Report

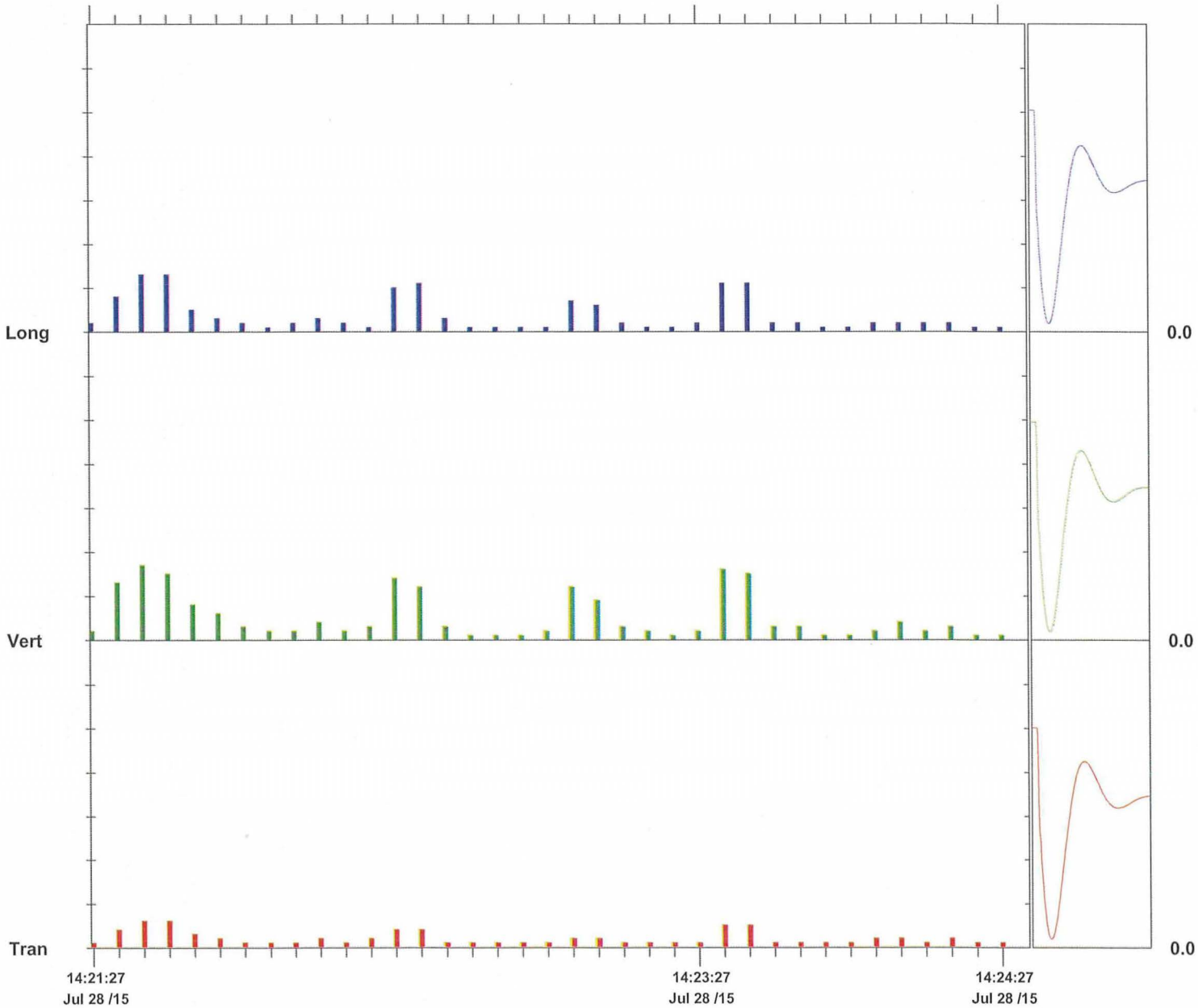
Histogram Start Time	14:21:22 July 28, 2015
Histogram Finish Time	14:24:28 July 28, 2015
Number of Intervals	37.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Gas Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/26/17

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FYD1.7M0

Post Event Notes
VMP 2

	Tran	Vert	Long	
PPV	0.0300	0.0850	0.0650	in/s
ZC Freq	32	30	30	Hz
Date	Jul 28 /15	Jul 28 /15	Jul 28 /15	
Time	14:21:37	14:21:37	14:21:37	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.5	7.3	Hz
Overswing Ratio	3.8	3.6	3.8	

Peak Vector Sum 0.103 in/s on July 28, 2015 at 14:21:37



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Vibration Monitoring Report

Study Area 6 ~~South~~ North 1/26/17

Prepared by
Geocomp Engineering

July 29th, 2015
For ENTACT, LLC

111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

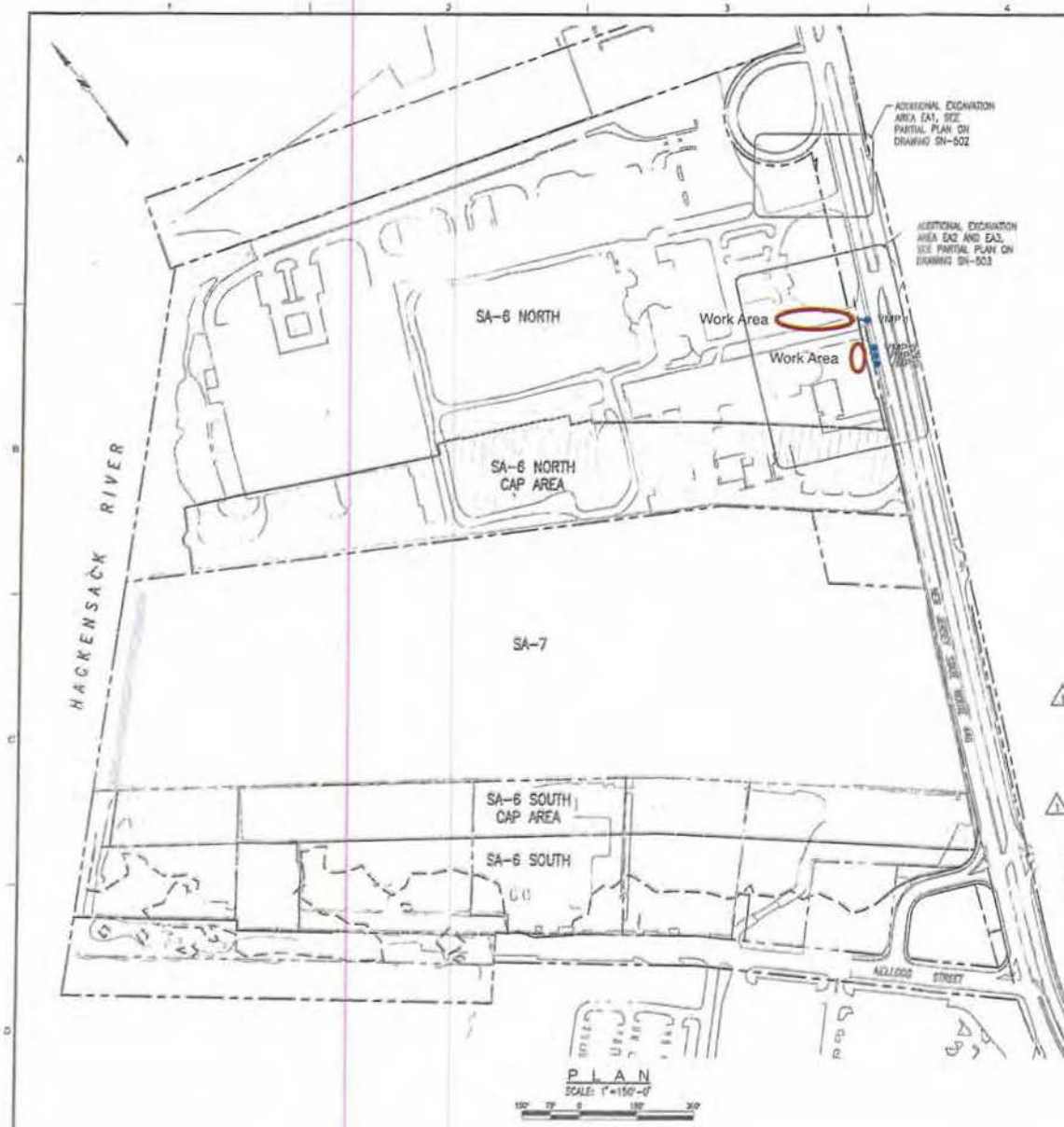
NOTES:

Summary of Work:
Sheet pile driving commenced at 9:30 AM and ended at 2:00 PM. An Instantel Micromate was used to record vibrations via a geophone placed on the ground over the water main.

5 sheets were driven and 9 were brought to grade with 6 recorded exceedances, i.e., the 0.5 limit was exceeded at 12:48 PM, 12:57 PM, 1:20 PM, 1:22 PM, 1:25 PM and 1:44 PM. See attached plan for area of work and location of the seismographs. See attached Blastware reports for PPV at these locations.

Water Main:
Trigger Level: 0.25 in/sec
Alert Level: 0.5 in/sec

Errors:
The top of each report states all data was collected for the force main but should read water main. All future water main data will have the correct label.



Notes:

1. The work requires installation of sheet piles, drilling, and excavation in close proximity to overhead power lines and underground utilities. Coordinate access and controls with utility companies having jurisdiction over buried and overhead utilities.
2. Re-mark utility control markings daily if removed by excavation.
3. Steel sheet piling shall be uncoated, new or used in good condition, and of the sizes shown on the drawings or structural equivalent.
4. See AMEC Environment and Infrastructure, Inc. drawings for excavation subgrade elevations.
5. The angle of repose shown on the drawings is based on the definition and requirements provided by PSE&G.
6. Final wall locations subject to location of gas main, determined by test pits.
7. Pre-excavate as required to remove obstructions within the fill prior to driving sheet piling.
8. Handle sheet piling in a manner which prevents damage to the sheet piling. Use standard safety lifting devices, use lifting holes or provide secondary support during lifting.
9. Discontinue spudding more than 5 ft. above the minimum tip elevations indicated herein.
10. Stage pile driving and step sheet piling tips as necessary to maintain interlocks. Remove and replace sheet piling found to be out of interlock, out of tolerance, damaged, or otherwise deficient.
11. Use drive templates and guides to maintain pile alignment and install piles plumb.
12. Sheet piling may be welded to adjacent sheets if required to control settlement during driving.
13. Spliced sheet piling shall be free sliding and able to obtain the maximum swing with contiguous piles. Splice welds shall develop the full structural strength of the member.
14. Drive templates: Prior to driving, provide template or driving frame suitable for aligning, supporting, and maintaining the sheet piling in the correct location and vertically during setting and driving. Fix template in place to prevent movement during sheet pile driving. Provide restraint necessary to prevent the sheets from warping or wandering from the alignment, or from racking along the alignment.
15. Provide continuous inspection of sheet pile driving. Inspect location and vertically when setting sheets, and when sheets are driven half depth.
16. Maintain pile driving inspection record for each pair driven. Indicate pile hammer, rate of operation, energy, use of drive helmet and cap, etc. Provide a unique number for each pair, and indicate location on alignment. Document installation date, set time, drive duration, and time drive completed, initial pile length, re-heading or cutting length(s), and any additional information required for record drawings. Record unusual conditions or problems observed during driving.
17. Soldier piles and wales shown are minimum sizes. Substitution with members of equivalent or higher capacity is allowed.
18. Shop and field welding procedures, electrode classification (E70XX), and preheat temperature shall conform to AWS D1.1. Welders shall be certified in accordance with AWS D1.1 criteria.
19. Drill soldier pile using methods approved by the Engineer.
20. Dewater excavations to provide stable subgrade and to remove all uplift pressure below all sewers, force mains or other active utilities as may be required, as determined by the Engineer. Install piezometer within 10 feet of 48 inch sewer to monitor groundwater level.
21. Survey to establish construction station baseline and establish monitoring points.
22. Set permanent monitoring point on top of sheet piling and soldier piles. Grind smooth surface for point. If required. Mark point ID. At contractor option, GMP points may be retroflite targets for total station surveys.
23. Survey location of monitoring point. (X, Y, Z) (baseline reading)
24. Survey location (X, Y, Z) ten additional times, on separate days, before performing excavation within 50 ft. of monitoring point.
25. Survey monitoring point (X, Y, Z) daily, or more often at Engineer direction, when excavating within 50 ft. of monitoring point. For each reading record document survey date, time, reading change from previous reading, and reading change from baseline. Provide readings for Construction Manager review during active excavation.
26. Monitor vibrations at the ground surface above the gas main, force main, and sewer under Route 440 adjacent to the excavations within 25 feet.
27. Advise the Construction Manager of vibration monitoring data. Limiting values are:
    Gas Main - 2.0 in/sec
    Sewer & F.M. - 1.0 in/sec

    If limiting values are exceeded, the contractor shall notify the CM and cease work until adequate measures are taken to reduce vibrations.
28. Elevation are based on NGVD 1929 Datum.

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA - 225 WEST 34th STREET, NEW YORK, NY 10122
PJ NUMBER 11173

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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS
CIVIL
TEMPORARY
SUPPORT OF EXCAVATION
KEY PLAN AND NOTES

NO	DATE	DWN	CHK	APVD	REVISION
1	10/31/14			GP	ISSUED FOR NJDOT REVIEW
0	10/17/13			(PWD)	ISSUED FOR CONSTRUCTION

PETER W. FIELDING
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER GE 46512

amec
Environment & Infrastructure, Inc.
120 Montgomery Street, Suite 1100
Hoboken, NJ 07030
(201) 659-2000
www.amec.com

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE
PROJ 3480-12-0317
DWG SN-501
SHEET 62 OF 70

Instantel

Event Report

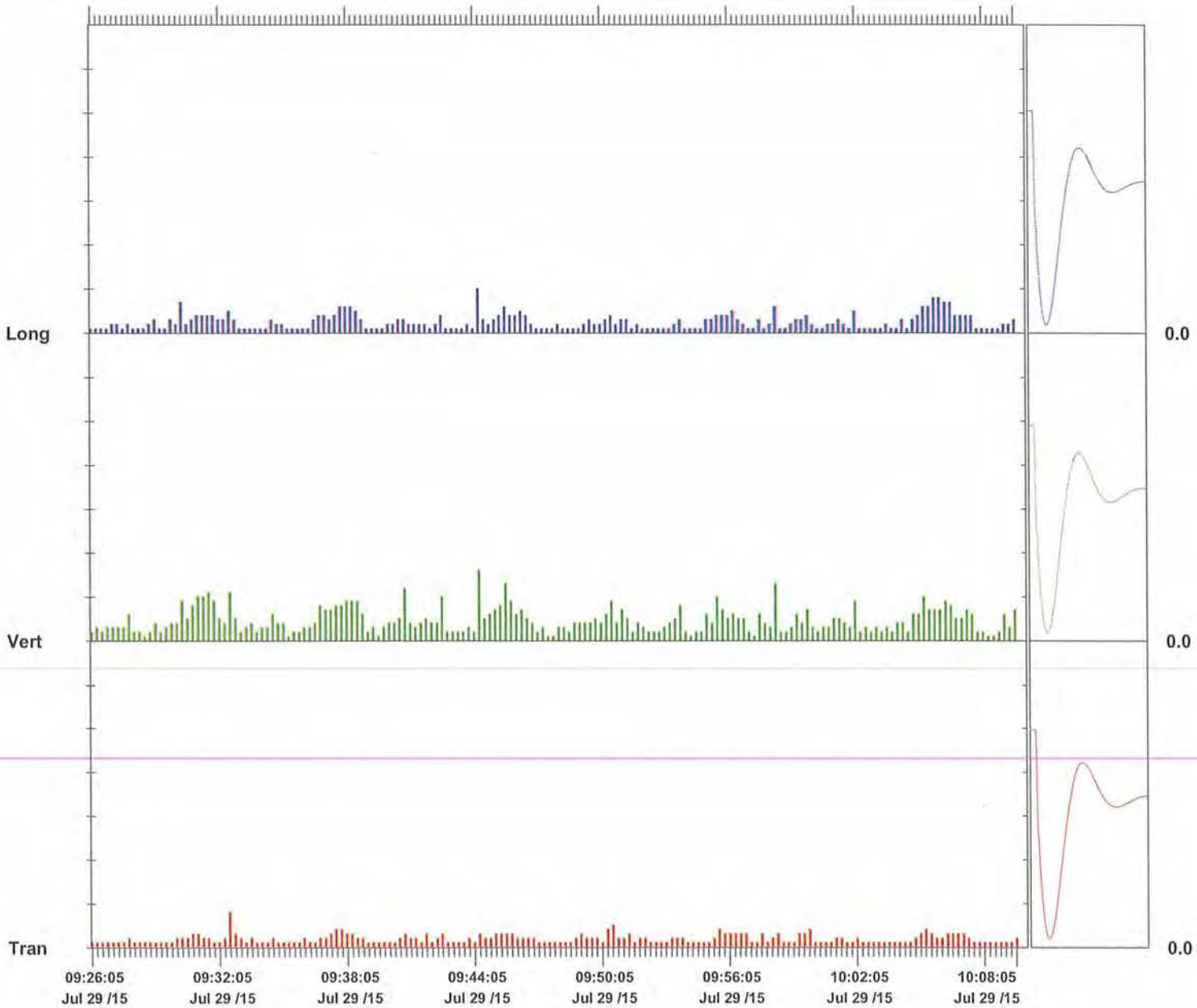
Histogram Start Time	09:25:50 July 29, 2015
Histogram Finish Time	10:09:35 July 29, 2015
Number of Intervals	525.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South~~ North Force Main
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street~~ and Route 440 1/27/17

Serial Number	BE17741 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	S741FYEI.720

Post Event Notes
VMP 1

	Tran	Vert	Long	
PPV	0.0400	0.0800	0.0500	in/s
ZC Freq	8.4	15	15	Hz
Date	Jul 29 /15	Jul 29 /15	Jul 29 /15	
Time	09:32:25	09:44:10	09:44:10	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.5	7.3	Hz
Overswing Ratio	4.0	3.7	4.0	

Peak Vector Sum 0.0955 in/s on July 29, 2015 at 09:44:10



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

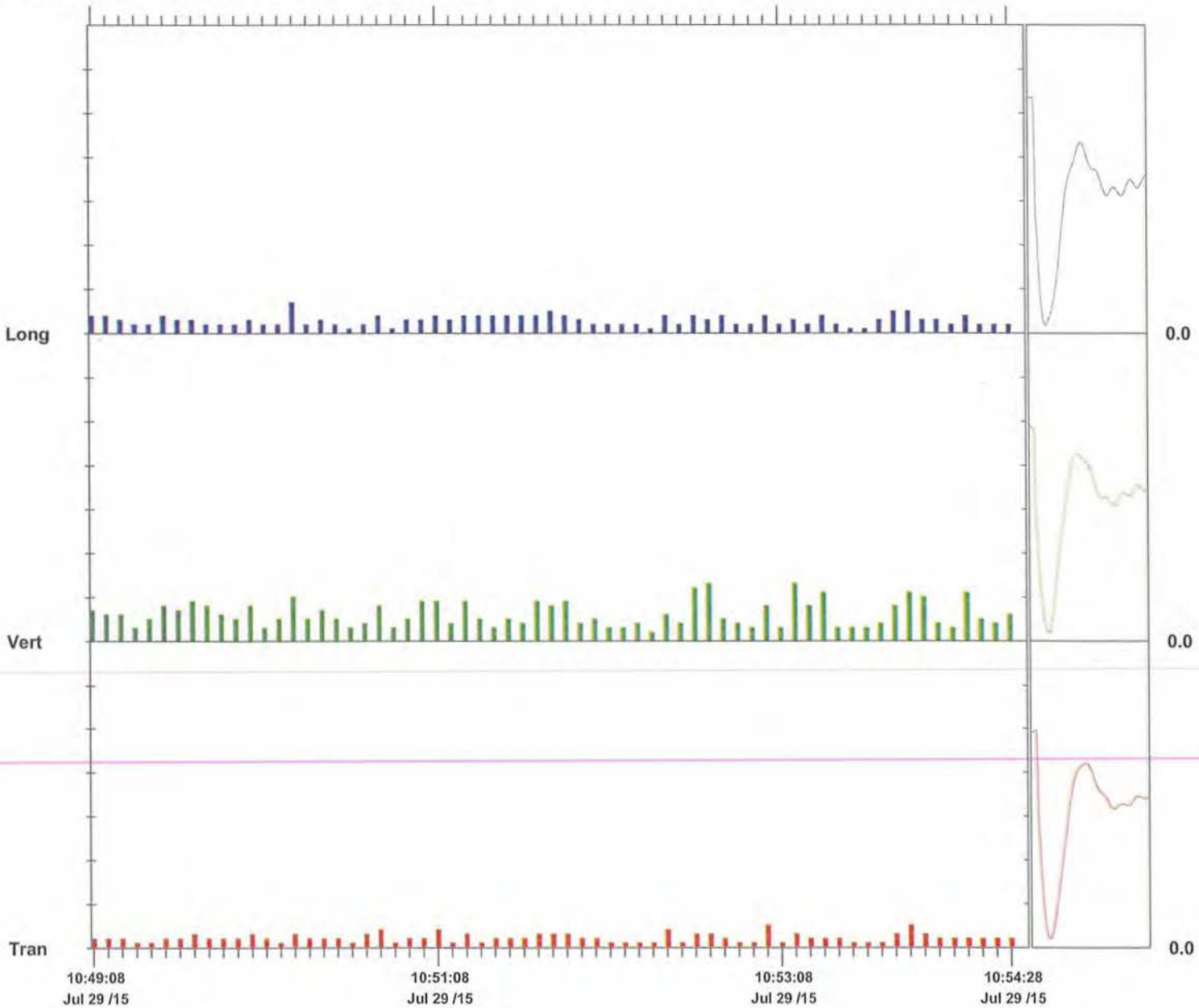
Histogram Start Time	10:49:03 July 29, 2015
Histogram Finish Time	10:54:30 July 29, 2015
Number of Intervals	65.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South~~ North Force Main
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/27/17

Serial Number	BE17741 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	S741FYEM.1R0

Post Event Notes
VMP 1

	Tran	Vert	Long	
PPV	0.0250	0.0650	0.0350	in/s
ZC Freq	6.5	9.0	23	Hz
Date	Jul 29 /15	Jul 29 /15	Jul 29 /15	
Time	10:53:03	10:52:43	10:50:18	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.5	7.5	Hz
Overswing Ratio	4.1	3.7	3.4	

Peak Vector Sum 0.0669 in/s on July 29, 2015 at 10:52:43



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div

Sensor Check

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Event Report

Histogram Start Time	12:47:01 July 29, 2015
Histogram Finish Time	12:48:52 July 29, 2015
Number of Intervals	22.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps

Notes

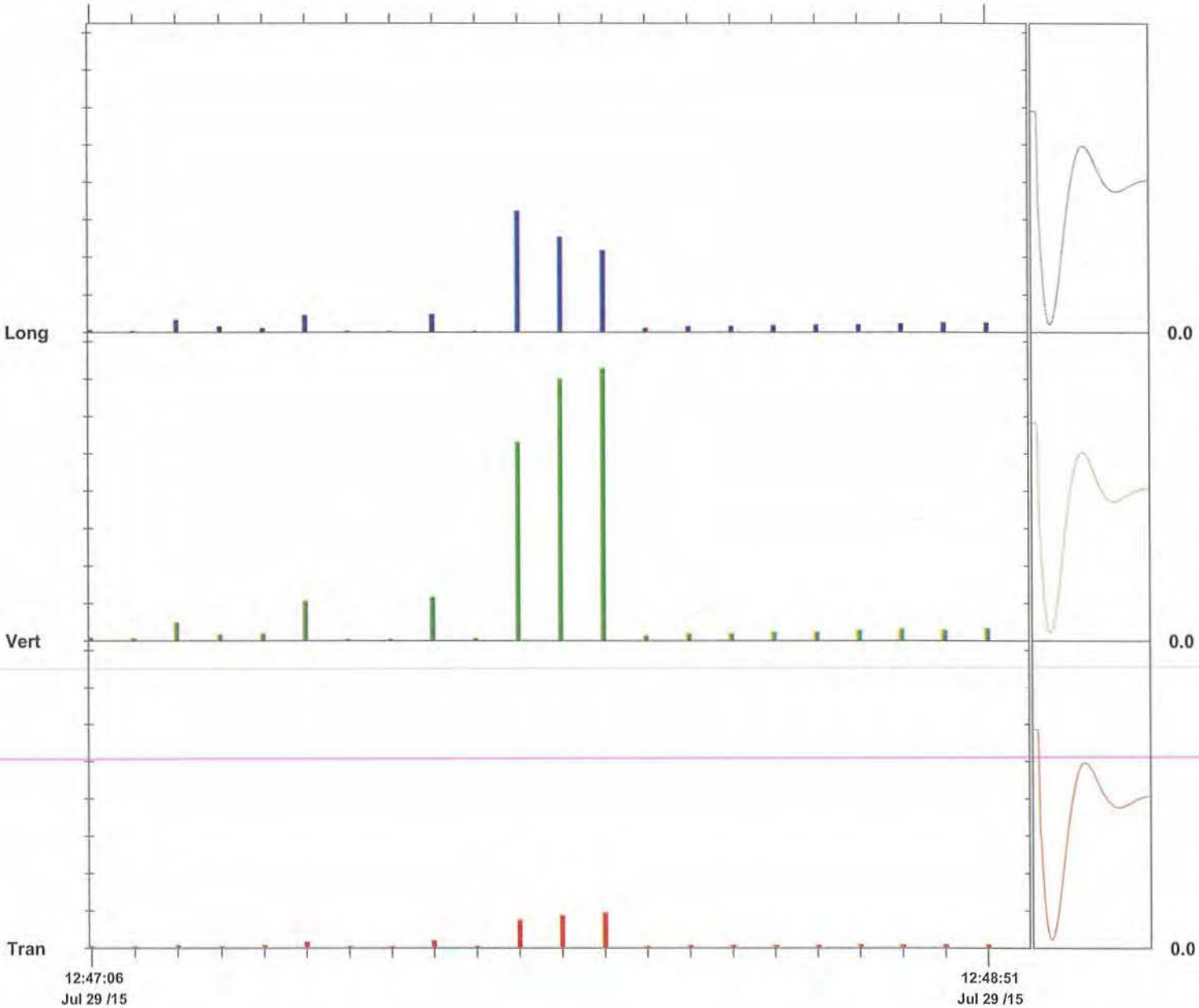
Location: SA 6 ~~South~~ Force Main
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 4/27/17

Serial Number	BE17741 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	S741FYER.ID0

Post Event Notes
VMP 2

	Tran	Vert	Long	
PPV	0.185	1.45	0.645	in/s
ZC Freq	43	39	28	Hz
Date	Jul 29 /15	Jul 29 /15	Jul 29 /15	
Time	12:48:06	12:48:06	12:47:56	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.5	7.3	Hz
Overswing Ratio	4.0	3.7	3.9	

Peak Vector Sum 1.49 in/s on July 29, 2015 at 12:48:06



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.200 in/s/div

Sensor Check

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Event Report

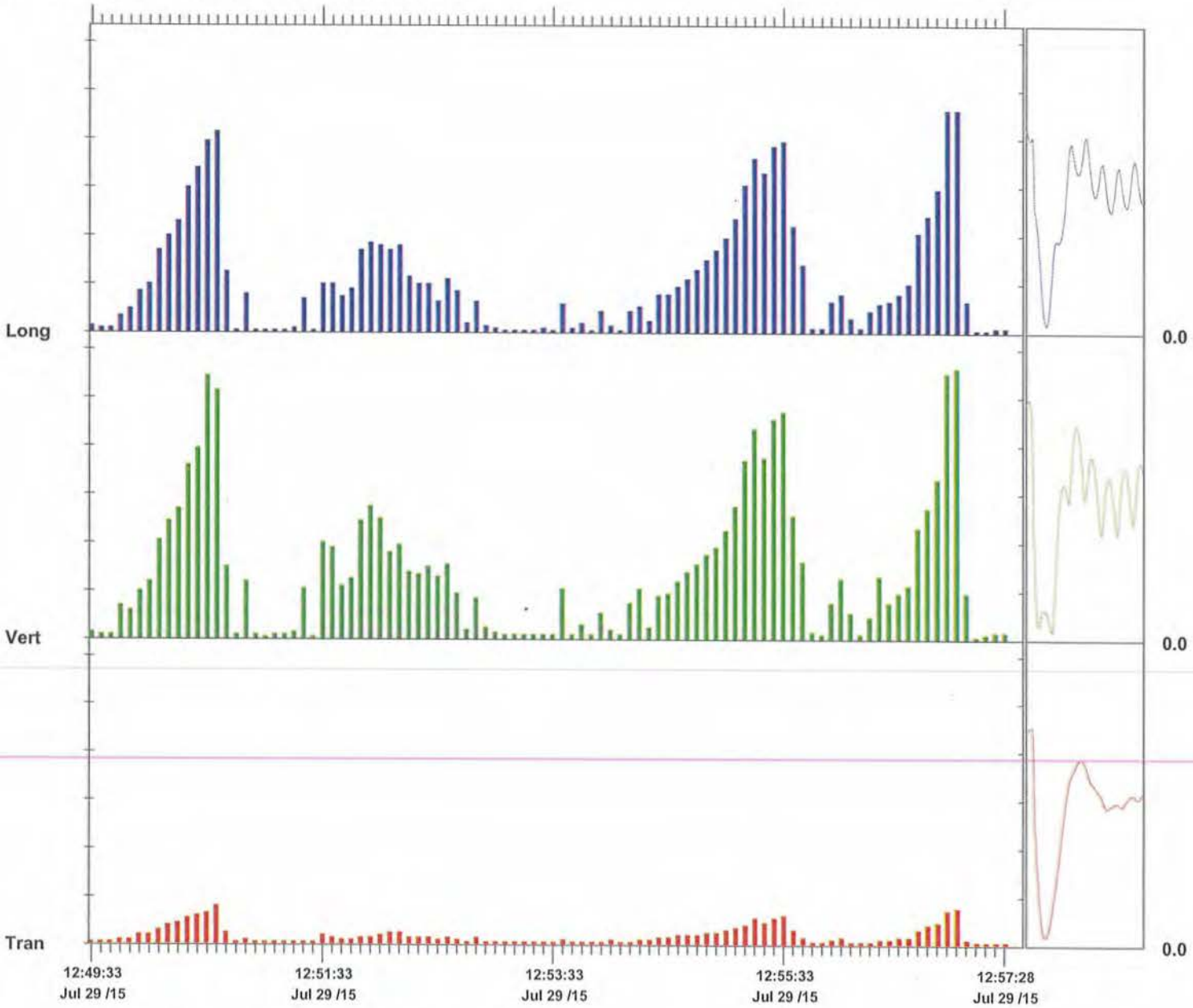
Histogram Start Time 12:49:28 July 29, 2015
Histogram Finish Time 12:57:30 July 29, 2015
Number of Intervals 96.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Notes
Location: SA 6 ~~South~~ North Force Main
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 1/27/17

Serial Number BE17741 V 10.72-8.17 MiniMate Plus
Battery Level 6.3 Volts
Unit Calibration July 9, 2015 by Instantel
File Name S741FYER.MG0

Post Event Notes
VMP 2

	Tran	Vert	Long	
PPV	0.0800	0.560	0.460	in/s
ZC Freq	37	30	32	Hz
Date	Jul 29 /15	Jul 29 /15	Jul 29 /15	
Time	12:50:38	12:57:03	12:56:58	
Sensor Check	Passed	Check	Passed	
Frequency	7.3	8.3	7.2	Hz
Overswing Ratio	3.8	19.1	2.9	

Peak Vector Sum 0.707 in/s on July 29, 2015 at 12:56:58



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div

Sensor Check

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Event Report

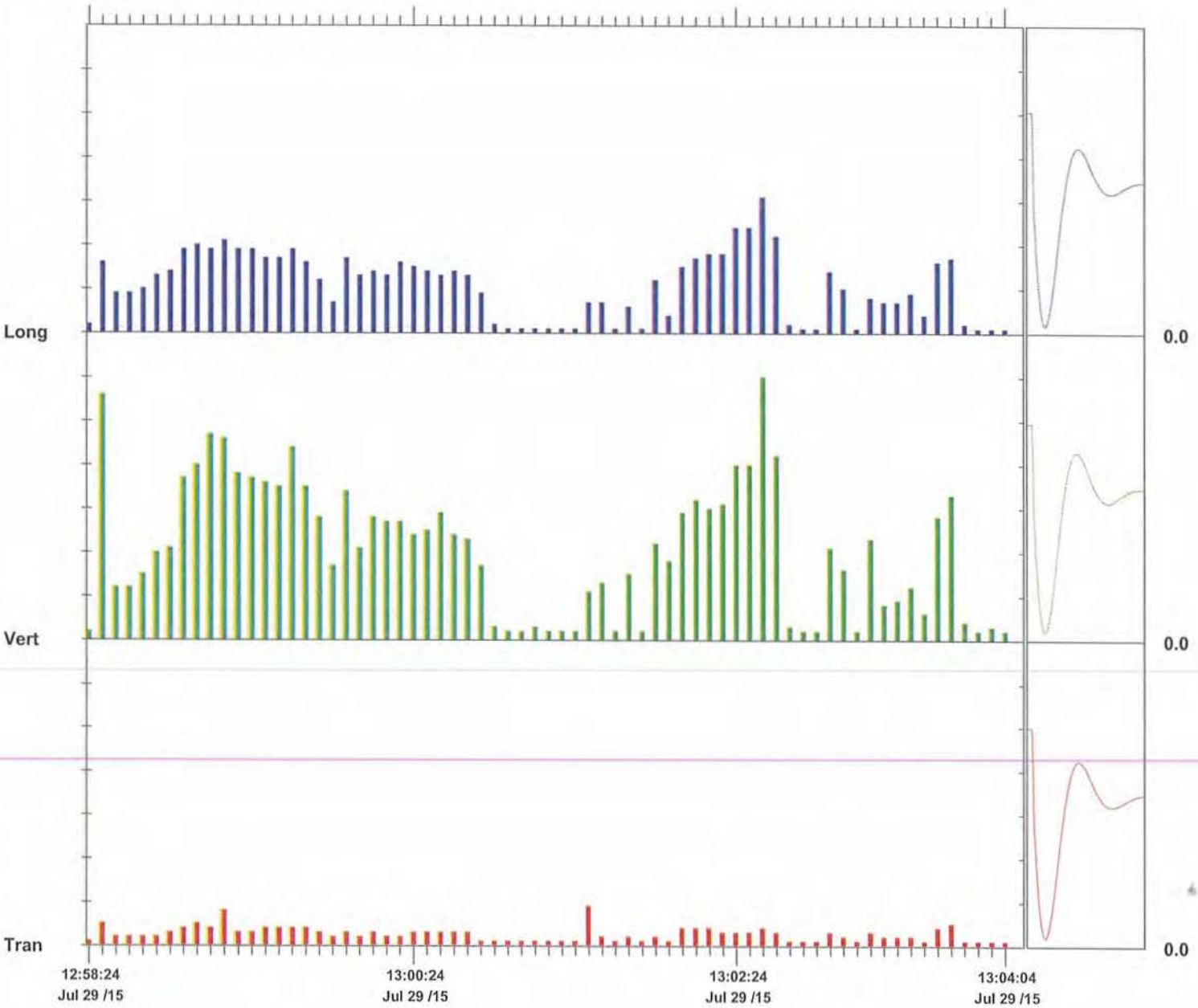
Histogram Start Time	12:58:19 July 29, 2015
Histogram Finish Time	13:04:07 July 29, 2015
Number of Intervals	69.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South~~ North Force Main
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/27/17

Serial Number	BE17741 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	S741FYES.170

Post Event Notes
VMP 3

	Tran	Vert	Long	
PPV	0.0450	0.300	0.155	in/s
ZC Freq	34	32	34	Hz
Date	Jul 29 /15	Jul 29 /15	Jul 29 /15	
Time	13:01:29	13:02:34	13:02:34	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.6	7.3	Hz
Overswing Ratio	3.9	3.6	3.9	

Peak Vector Sum 0.338 in/s on July 29, 2015 at 13:02:34



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div

Sensor Check

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Event Report

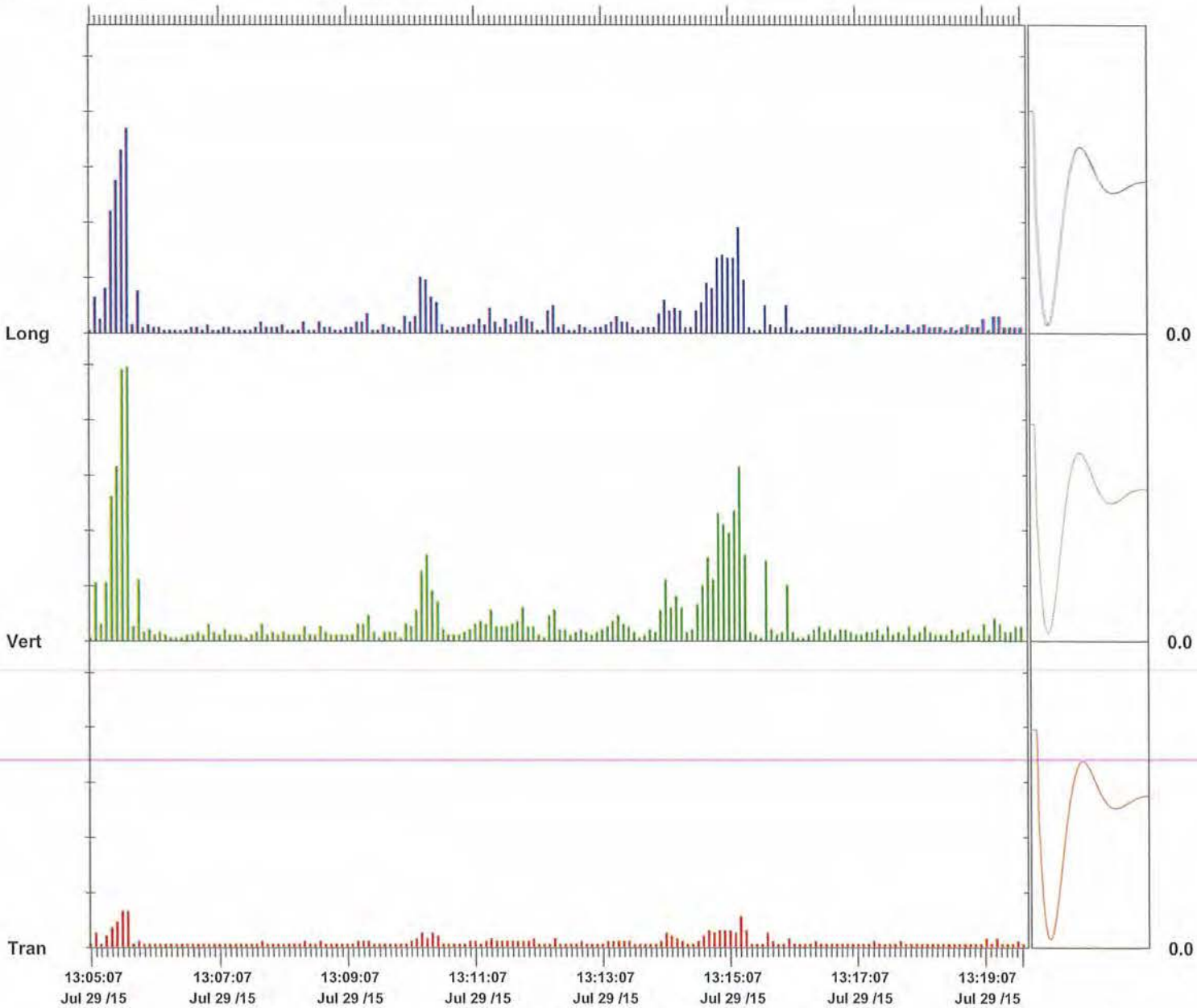
Histogram Start Time	13:05:02 July 29, 2015
Histogram Finish Time	13:19:43 July 29, 2015
Number of Intervals	176.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South~~ North Force Main
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/27/17

Serial Number	BE17741 V 10.72-8.17 MiniMate Plus
Battery Level	6.2 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	S741FYES.CE0

Post Event Notes
VMP 2

	Tran	Vert	Long	
PPV	0.0650	0.495	0.370	in/s
ZC Freq	37	32	32	Hz
Date	Jul 29 /15	Jul 29 /15	Jul 29 /15	
Time	13:05:37	13:05:42	13:05:42	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.5	7.3	Hz
Overswing Ratio	3.8	3.6	3.9	

Peak Vector Sum 0.581 in/s on July 29, 2015 at 13:05:42



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div

Sensor Check

Format © 1995-2013 Xmark Corporation

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Event Report

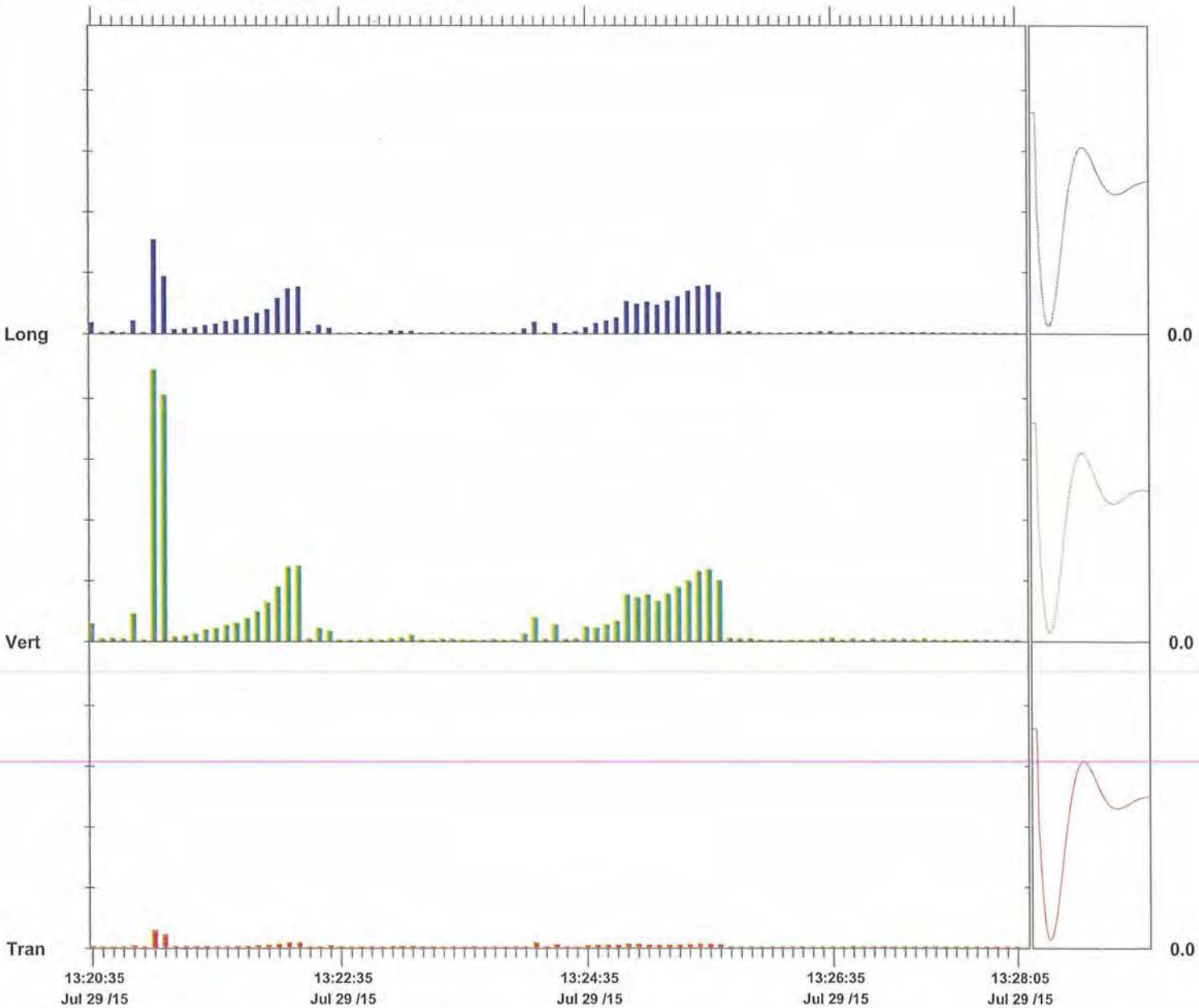
Histogram Start Time 13:20:30 July 29, 2015
Histogram Finish Time 13:28:05 July 29, 2015
Number of Intervals 91.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Notes
Location: SA 6 ~~South~~ North Force Main
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 1/27/17

Serial Number BE17741 V 10.72-8.17 MiniMate Plus
Battery Level 6.3 Volts
Unit Calibration July 9, 2015 by Instantel
File Name S741FYET.260

Post Event Notes
VMP 4

	Tran	Vert	Long	
PPV	0.140	2.23	0.770	in/s
ZC Freq	47	37	28	Hz
Date	Jul 29 /15	Jul 29 /15	Jul 29 /15	
Time	13:21:05	13:21:05	13:21:05	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.5	7.3	Hz
Overswing Ratio	3.8	3.6	3.9	

Peak Vector Sum 2.24 in/s on July 29, 2015 at 13:21:05



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.500 in/s/div

Sensor Check

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Instantel

Event Report

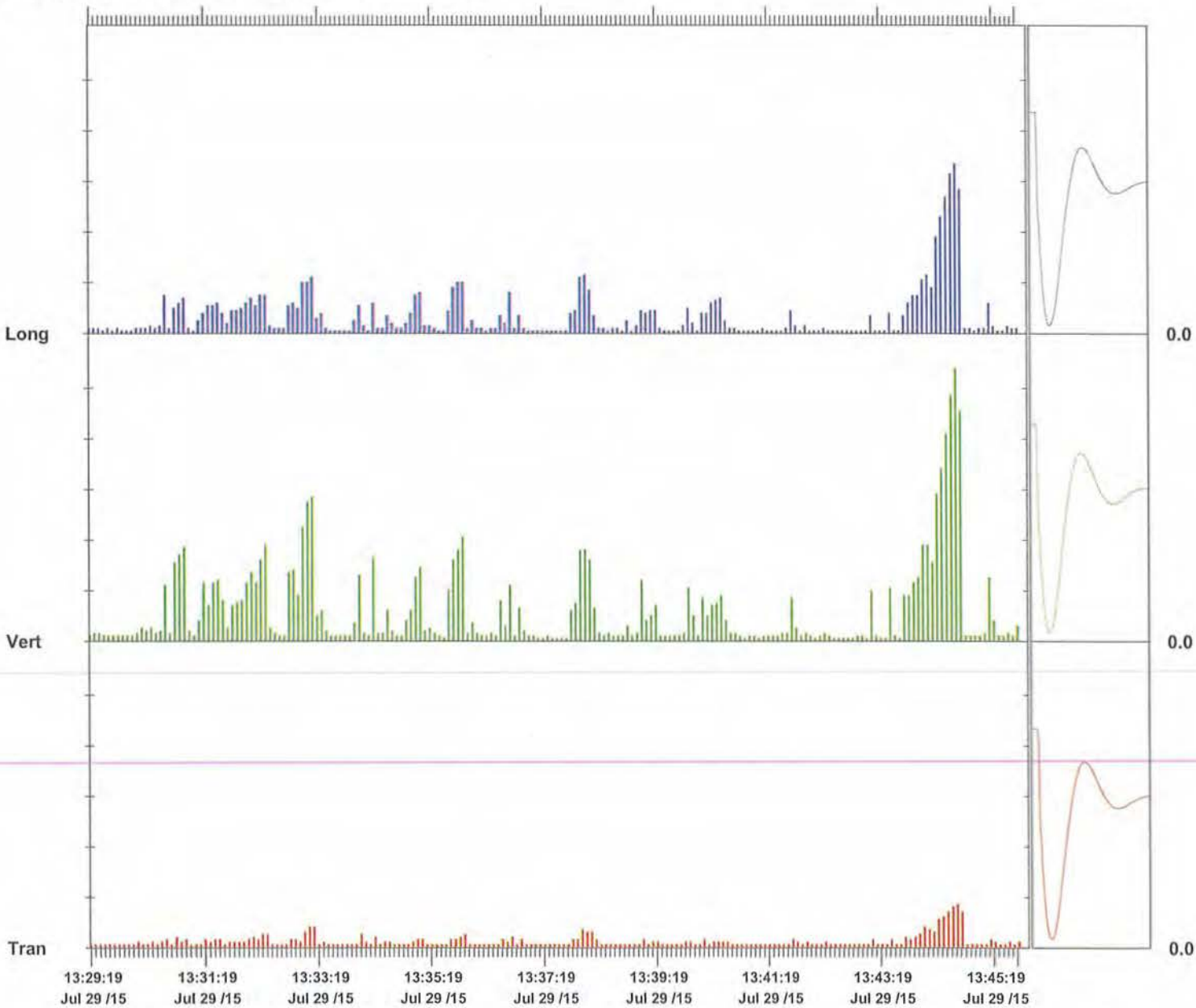
Histogram Start Time	13:29:14 July 29, 2015
Histogram Finish Time	13:45:45 July 29, 2015
Number of Intervals	198.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South~~ North Force Main
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/22/17

Serial Number	BE17741 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	S741FYET.GQ0

Post Event Notes
VMP 3

	Tran	Vert	Long	
PPV	0.0850	0.540	0.335	in/s
ZC Freq	32	32	34	Hz
Date	Jul 29 /15	Jul 29 /15	Jul 29 /15	
Time	13:44:39	13:44:39	13:44:39	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.6	7.3	Hz
Overswing Ratio	3.9	3.6	3.9	

Peak Vector Sum 0.629 in/s on July 29, 2015 at 13:44:39



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div

Sensor Check

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Vibration Monitoring Report

Study Area 6 ~~South~~ North 1/26/17

Prepared by
Geocomp Engineering

July 31th, 2015
For ENTACT, LLC

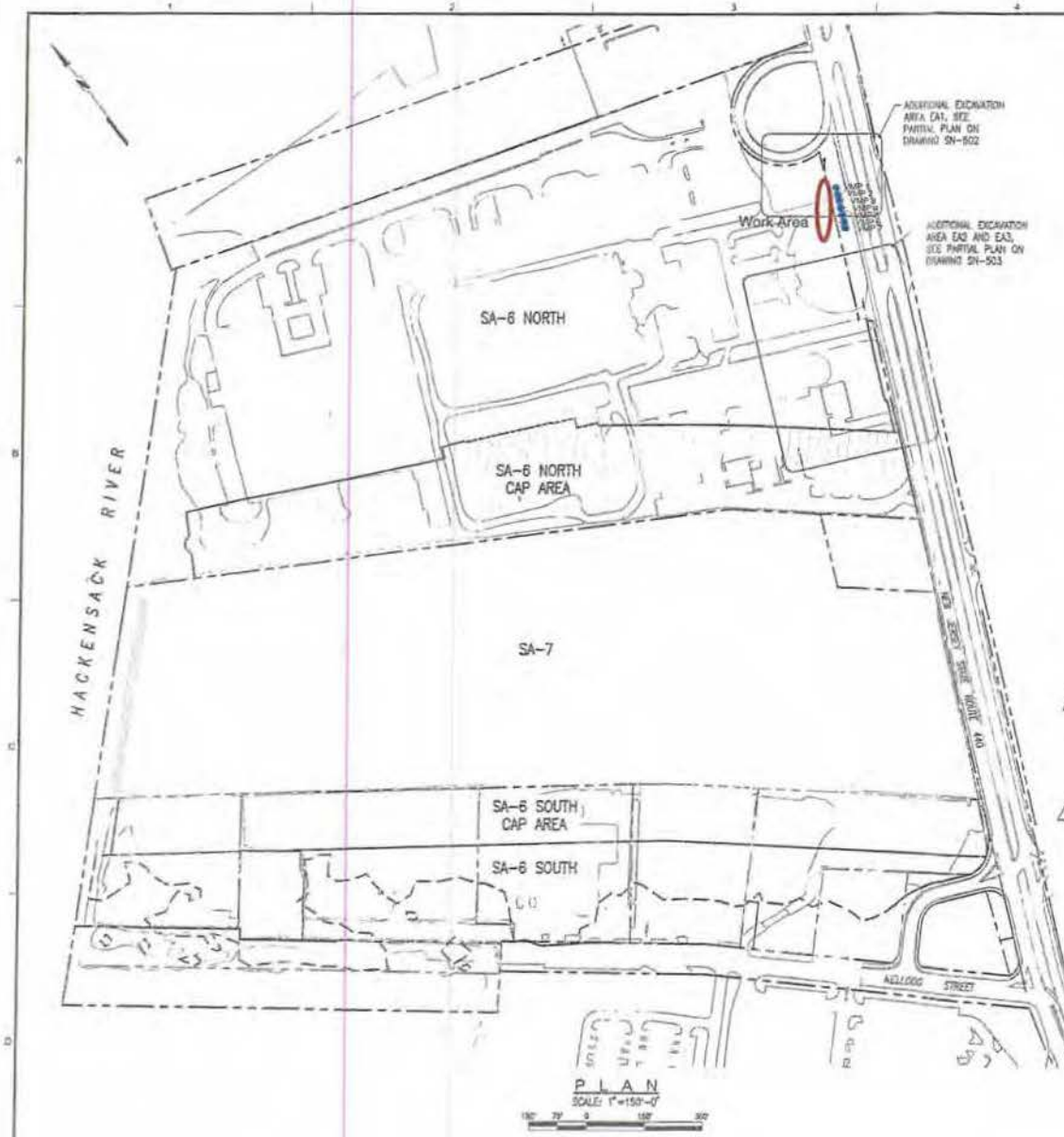
111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

NOTES:

Summary of Work:
Sheet pile driving commenced at 7:50 AM and ended at 2:30 PM. An Instantel Micromate was used to record vibrations via a geophone placed on the ground over the gas main.

23 sheets were driven 2 recorded exceedances, i.e., the 2.0 limit was exceeded at 1:22 PM and 1:25 PM. The 1:25 PM spike was caused by the machine being knocked and was unrelated to construction activities. See attached plan for area of work and location of the seismographs. See attached Blastware reports for PPV at these locations.

Gas Main:
Trigger Level: 0.5 in/sec
Alert Level: 2.0 in/sec



Notes:

1. The work requires installation of sheet piles, driving, and excavation in close proximity to overhead power lines and underground utilities. Coordinate access and controls with utility companies having jurisdiction over buried and overhead utilities.
2. Re-mark utility control markings daily if removed by excavation.
3. Steel sheet piling shall be uncoated, new or used in good condition, and of the sizes shown on the drawings or structural equivalent.
4. See AMEC Environment and Infrastructure, Inc. drawings for excavation subgrade elevations.
5. The angle of repose shown on the drawings is based on the definition and requirements provided by PSE&G.
6. Final wall locations subject to location of gas main, determined by test pits.
7. Pre-excavate as required to remove obstructions within the fill prior to driving sheet piling.
8. Handle sheet piling in a manner which prevents damage to the sheet piling. Use standard safety lifting devices, use lifting holes or provide secondary support during lifting.
9. Discontinue spudding more than 5 ft. above the minimum tip elevations indicated herein.
10. Stage pile driving and step sheet piling tips as necessary to maintain interlocks. Remove and replace steel sheet piling found to be out of interlock, out of tolerance, damaged, or otherwise deficient.
11. Use drive templates and guides to maintain pile alignment and install piles plumb.
12. Sheet piling may be welded to adjacent sheets if required to control settlement during driving.
13. Spliced sheet piling shall be free sliding and able to attain the maximum swing with contiguous piles. Splice welds shall develop the full structural strength of the member.
14. Drive templates: Prior to driving, provide template or driving frame suitable for aligning, supporting, and maintaining the sheet piling in the correct location and vertically during setting and driving. Fix template in place to prevent movement during sheet pile driving. Provide restraint necessary to prevent the sheets from warping or wandering from the alignment, or from racking along the alignment.
15. Provide continuous inspection of sheet pile driving. Inspect location and vertically when setting sheets, and when sheets are driven half depth.
16. Maintain pile driving inspection record for each pair driven. Indicate pile hammer, rate of operation, energy, use of drive helmet and cap, etc. Provide a unique number for each pair, and indicate location on alignment. Document installation date, set time, drive duration, and time drive completed, initial pile length, re-heading or cutting length(s), and any additional information required for record drawings. Record unusual conditions or problems observed during driving.
17. Soldier piles and wales shown are minimum sizes. Substitution with members of equivalent or higher capacity is allowed.
18. Shop and field welding procedures, electrode classification (E7024), and preheat temperature shall conform to AWS D1.1. Welders shall be certified in accordance with AWS D1.1 criteria.
19. Drill soldier pile using methods approved by the Engineer.
20. Dewater excavations to provide stable subgrade and to remove all uplift pressure below all sewers, force mains or other active utilities as may be required, as determined by the Engineer. Install piezometer within 10 feet of 48 inch sewer to monitor groundwater level.
21. Survey to establish construction station baseline and establish monitoring points.
22. Set permanent monitoring point on top of sheet piling and soldier piles. Grind smooth surface for point. If required, Mark point ID. At contractor option, GMP points may be reflective targets for total station surveys.
23. Survey location of monitoring point, (X, Y, Z) (baseline reading).
24. Survey location (X, Y, Z) ten additional times, on separate days, before performing excavation within 50 ft. of monitoring point.
25. Survey monitoring point (X, Y, Z) daily, or more often at Engineer direction, when excavating within 50 ft. of monitoring point. For each reading event document survey date, time, reading change from previous reading, and reading change from baseline. Provide readings for Construction Manager review during active excavation.
26. Monitor vibrations at the ground surface above the gas main, force main, and sewer under Route 440 adjacent to the excavations within 25 feet.
27. Advise the Construction Manager of vibration monitoring data. Limiting values are:
    Gas Main - 2.0 in/sec
    Sewer & F.M. - 1.0 in/sec
    If limiting values are exceeded, the contractor shall notify the CM and cease work until adequate measures are taken to reduce vibrations.
28. Elevation are based on NGVD 1929 Datum.

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET, NEW YORK, NY 10122

FILE NUMBER 11173

100 PERCENT DESIGN DRAWINGS

CIVIL

TEMPORARY
SUPPORT OF EXCAVATION
KEY PLAN AND NOTES

amec

Environment & Infrastructure, Inc.
200 Horizon Center Blvd, Suite 110
Trenton, NJ 08691
(609) 890-2939
NJ Certificate of Authorization Number 24GA28000300

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-501
SHEET	52 OF 70

Honeywell
101 STORRS St., P.O. BOX 1057, Morristown, N.J. 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 007 AND 008
JERSEY CITY, NEW JERSEY

NO	DATE	DESIGN	DRN	CHK	REVISION	APVD
1	10/31/14	G.S.		B.B.	ISSUED FOR NJDOT REVIEW	G.P.
0	09/17/13				ISSUED FOR CONSTRUCTION	

PETER W. HEMPEL

NJ PROFESSIONAL ORDINANCE
E.W.D. LICENSE NUMBER OF ARCHITECT

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Event Report

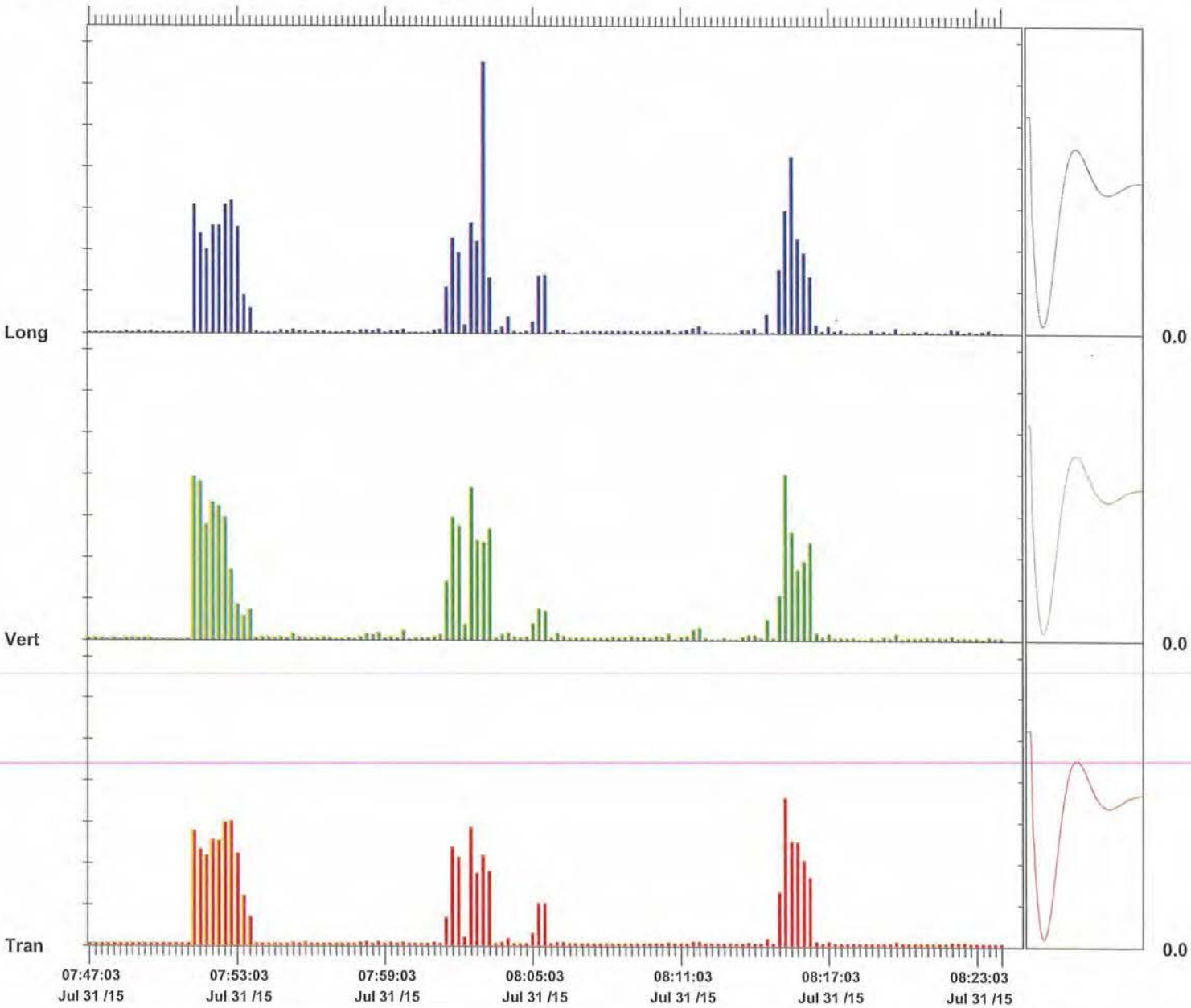
Histogram Start Time	07:46:48 July 31, 2015
Histogram Finish Time	08:23:54 July 31, 2015
Number of Intervals	445.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South~~ North Gas Main
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/27/17

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FYI2.Y00

Post Event Notes
VMP 1

	Tran	Vert	Long	
PPV	0.715	0.800	1.30	in/s
ZC Freq	39	39	47	Hz
Date	Jul 31 /15	Jul 31 /15	Jul 31 /15	
Time	08:15:13	08:15:13	08:02:53	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.5	7.4	Hz
Overswing Ratio	3.7	3.8	3.9	

Peak Vector Sum 1.32 in/s on July 31, 2015 at 08:02:53



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.200 in/s/div

Sensor Check

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Instantel

Event Report

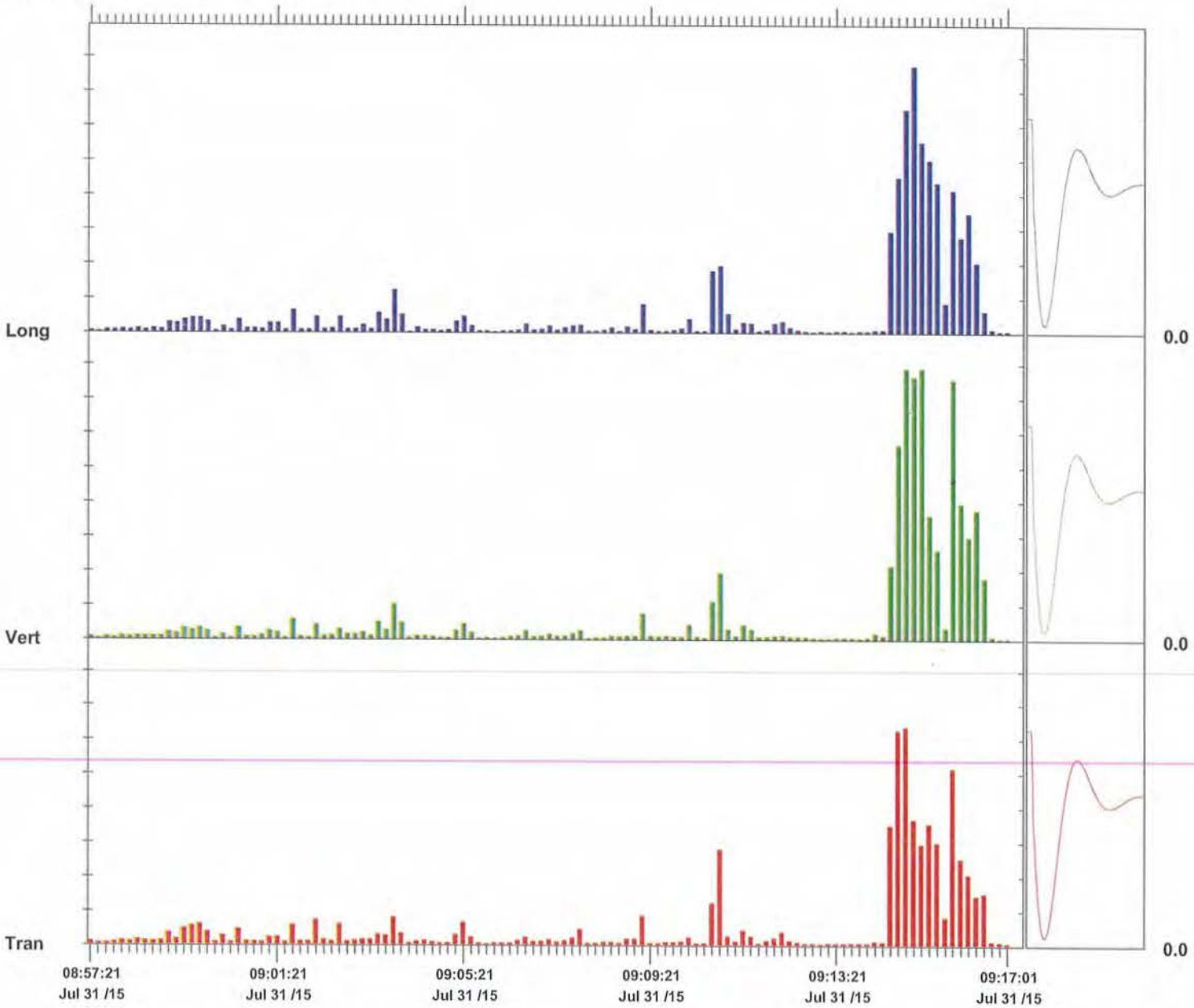
Histogram Start Time 08:57:11 July 31, 2015
Histogram Finish Time 09:17:05 July 31, 2015
Number of Intervals 238.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Notes
Location: SA 6 ~~South~~ North Gas Main
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 1/27/15

Serial Number BE11212 V 10.72-8.17 MiniMate Plus
Battery Level 6.3 Volts
Unit Calibration July 9, 2015 by Instantel
File Name M212FYI6.7B0

Post Event Notes
VMP 2

	Tran	Vert	Long	
PPV	1.27	1.57	1.54	in/s
ZC Freq	28	39	43	Hz
Date	Jul 31 /15	Jul 31 /15	Jul 31 /15	
Time	09:14:46	09:14:51	09:14:56	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.5	7.4	Hz
Overswing Ratio	3.7	3.7	3.8	

Peak Vector Sum 1.81 in/s on July 31, 2015 at 09:14:46



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.200 in/s/div

Sensor Check

Format © 1995-2013 Xmark Corporation

Instantel

Event Report

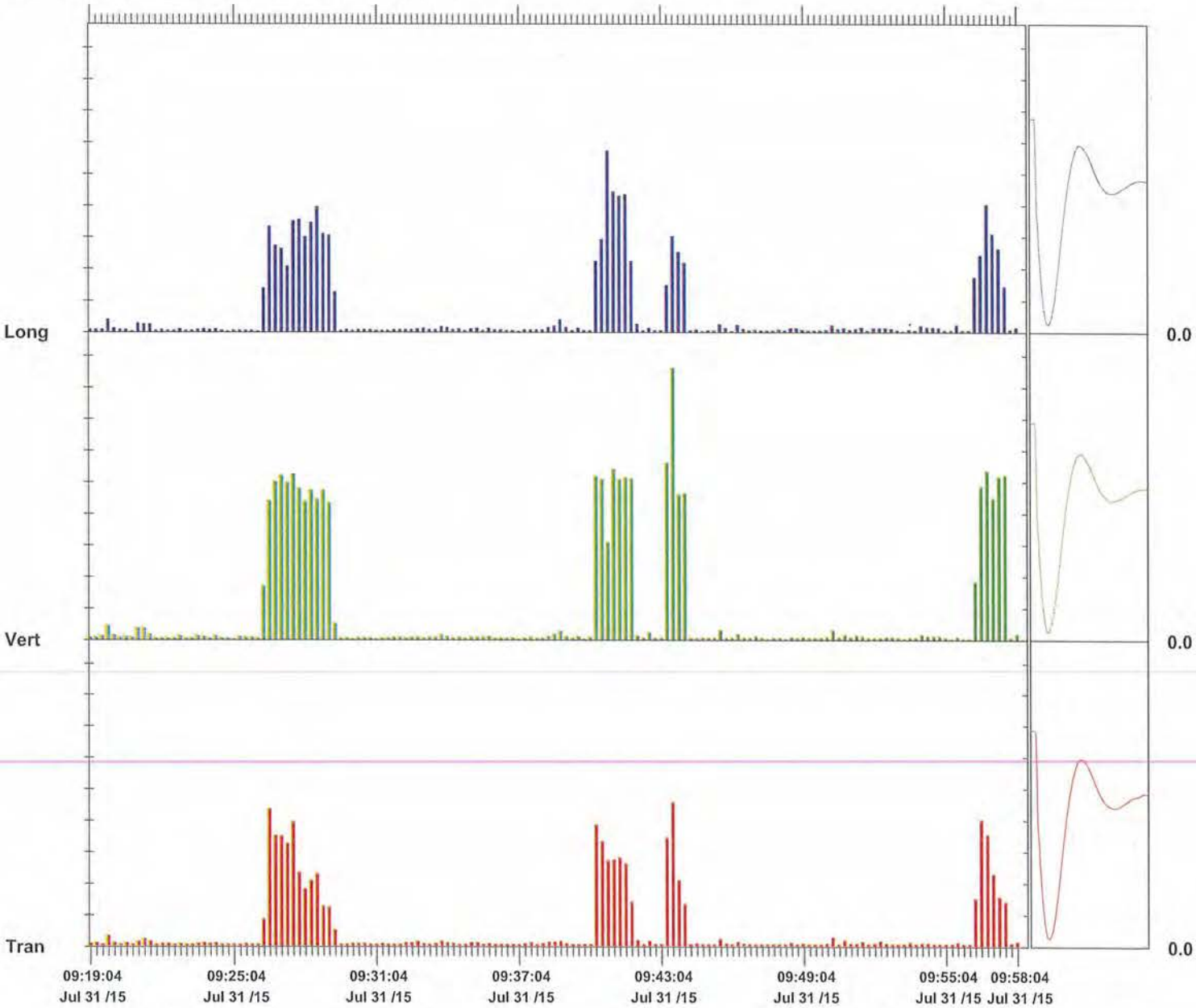
Histogram Start Time 09:18:49 July 31, 2015
Histogram Finish Time 09:58:06 July 31, 2015
Number of Intervals 471.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Notes
Location: SA 6 ~~South~~ North Gas Main
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 1/27/17

Serial Number BE11212 V 10.72-8.17 MiniMate Plus
Battery Level 6.3 Volts
Unit Calibration July 9, 2015 by Instantel
File Name M212FYI7.7D0

Post Event Notes
VMP 2

	Tran	Vert	Long	
PPV	0.910	1.72	1.14	in/s
ZC Freq	32	30	23	Hz
Date	Jul 31 /15	Jul 31 /15	Jul 31 /15	
Time	09:43:29	09:43:24	09:40:39	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.5	7.4	Hz
Overswing Ratio	3.7	3.8	3.8	

Peak Vector Sum 1.77 in/s on July 31, 2015 at 09:43:24



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.200 in/s/div

Sensor Check

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Instantel

Event Report

Histogram Start Time	10:00:08 July 31, 2015
Histogram Finish Time	10:24:31 July 31, 2015
Number of Intervals	292.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South~~ North Gas Main
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440

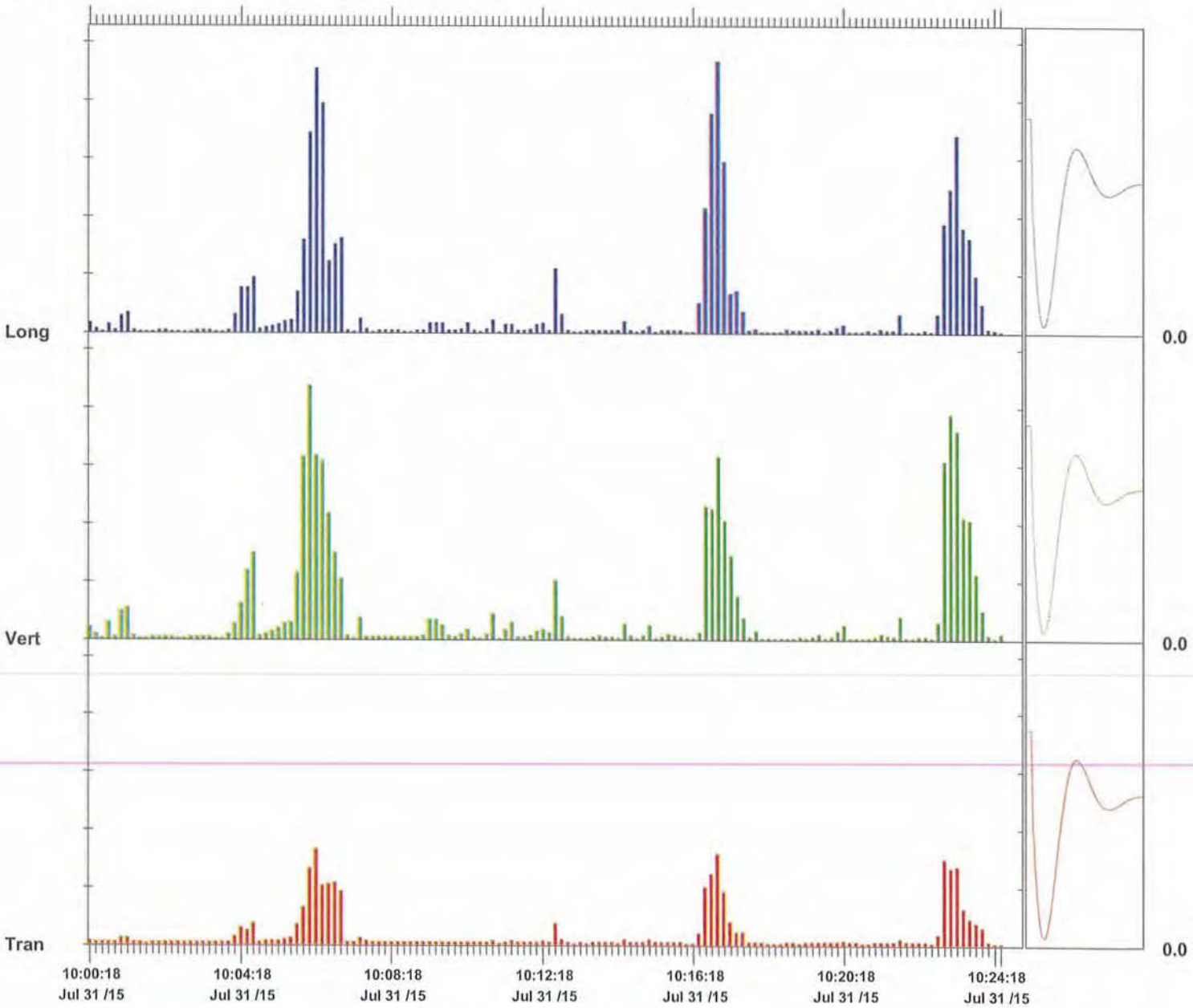
1/27/17

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FYI9.480

Post Event Notes
VMP 3

	Tran	Vert	Long	
PPV	0.330	0.875	0.935	in/s
ZC Freq	39	28	43	Hz
Date	Jul 31 /15	Jul 31 /15	Jul 31 /15	
Time	10:06:13	10:06:03	10:16:53	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.5	7.3	Hz
Overswing Ratio	3.6	3.7	3.8	

Peak Vector Sum 1.04 in/s on July 31, 2015 at 10:06:18



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.200 in/s/div

Sensor Check

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Instantel

Event Report

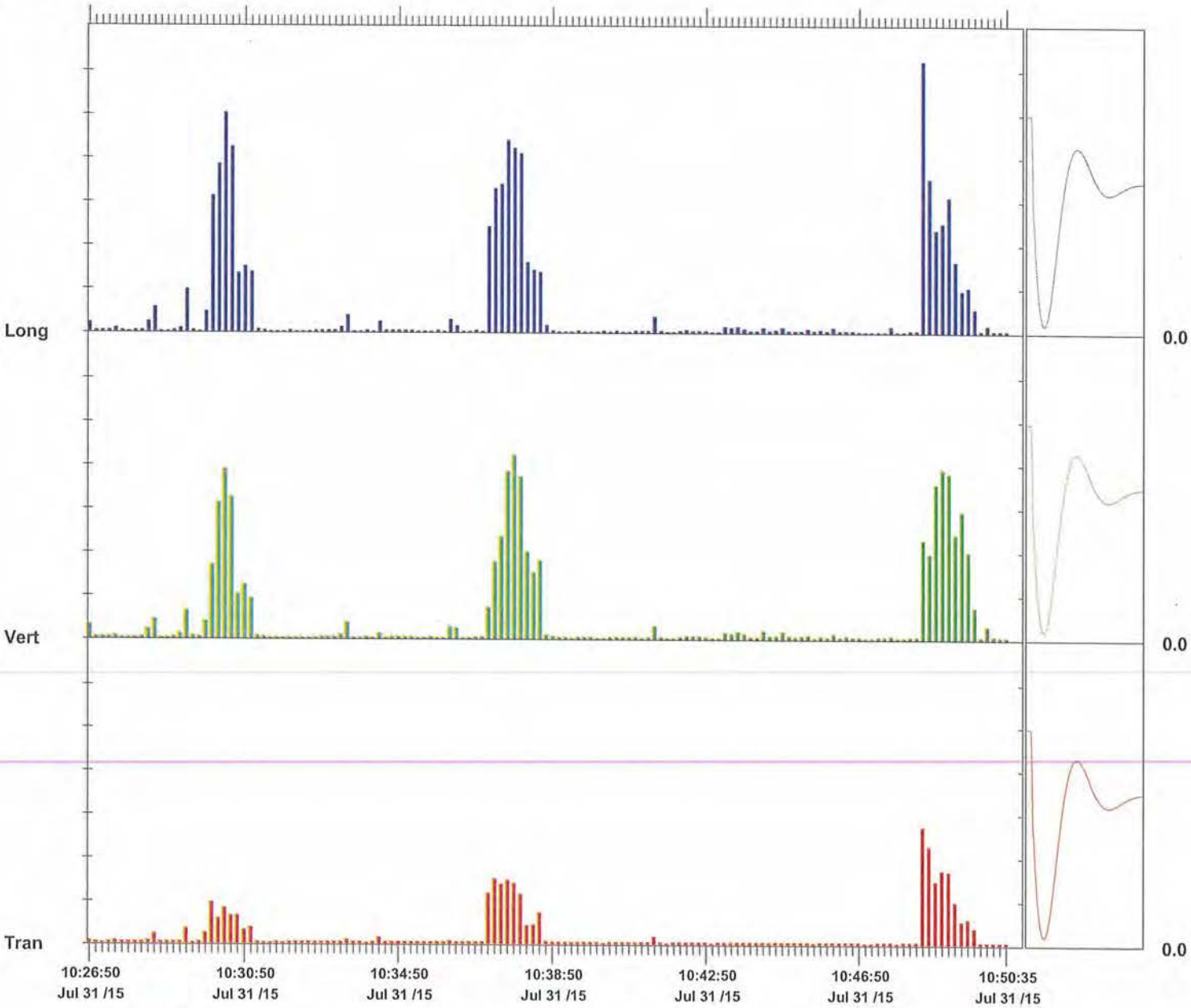
Histogram Start Time 10:26:40 July 31, 2015
Histogram Finish Time 10:50:35 July 31, 2015
Number of Intervals 287.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Notes
Location: SA 6 ~~South~~ North Gas Main
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 1/22/17

Serial Number BE11212 V 10.72-8.17 MiniMate Plus
Battery Level 6.3 Volts
Unit Calibration July 9, 2015 by Instantel
File Name M212FYIA.CG0

Post Event Notes
VMP 4

	Tran	Vert	Long	
PPV	0.540	0.845	1.24	in/s
ZC Freq	26	37	23	Hz
Date	Jul 31 /15	Jul 31 /15	Jul 31 /15	
Time	10:48:30	10:37:50	10:48:30	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.5	7.4	Hz
Overswing Ratio	3.7	3.8	3.8	

Peak Vector Sum 1.31 in/s on July 31, 2015 at 10:48:30



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.200 in/s/div

Sensor Check

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Event Report

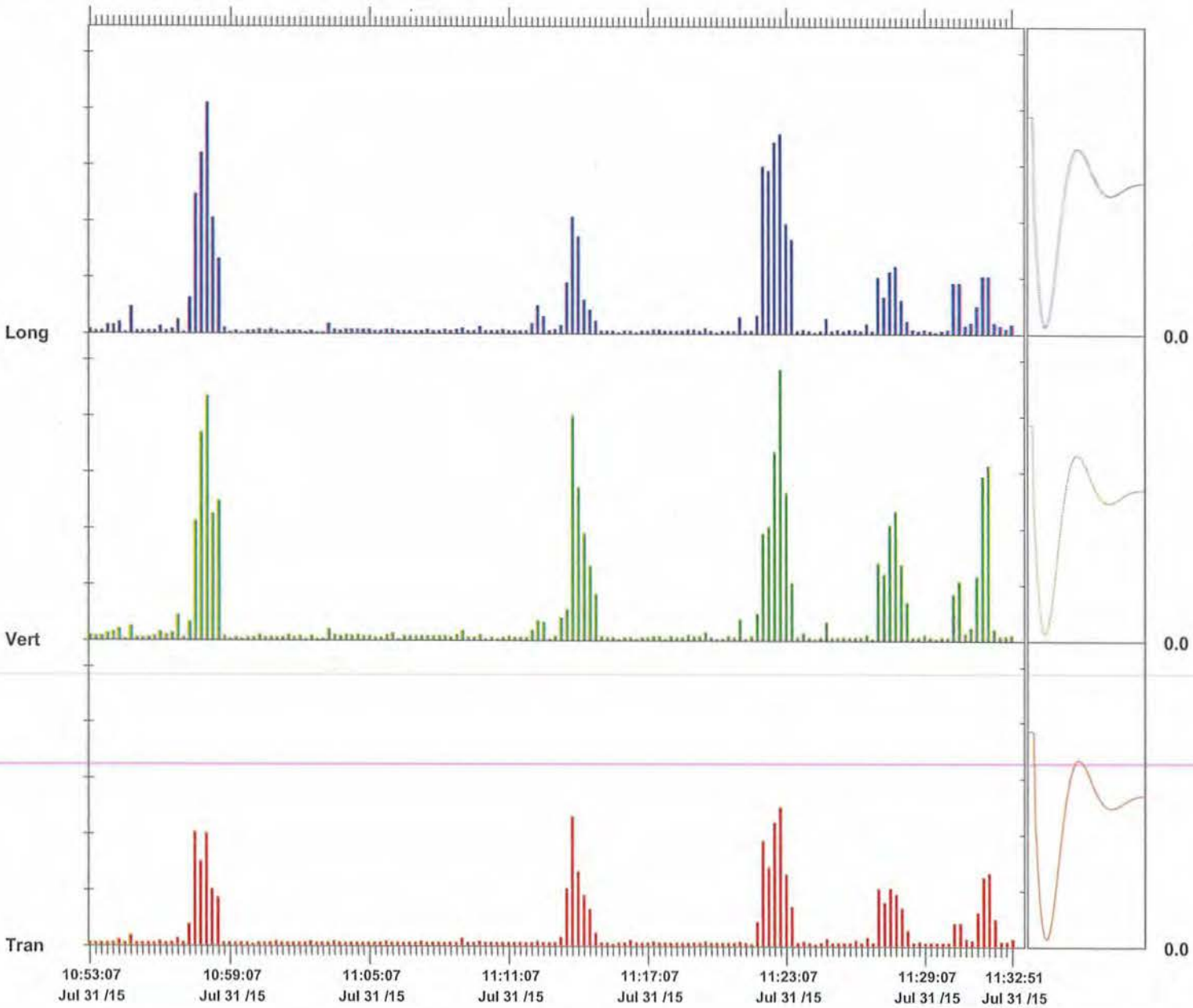
Histogram Start Time	10:52:52 July 31, 2015
Histogram Finish Time	11:32:51 July 31, 2015
Number of Intervals	479.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South~~ North Gas Main
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/27/17

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FYIB.K40

Post Event Notes
VMP 5

	Tran	Vert	Long	
PPV	0.495	0.965	0.820	in/s
ZC Freq	39	39	43	Hz
Date	Jul 31 /15	Jul 31 /15	Jul 31 /15	
Time	11:22:47	11:22:47	10:58:02	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.4	7.4	Hz
Overswing Ratio	3.7	3.8	3.8	

Peak Vector Sum 1.07 in/s on July 31, 2015 at 10:58:02



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.200 in/s/div

Sensor Check

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Instantel

Event Report

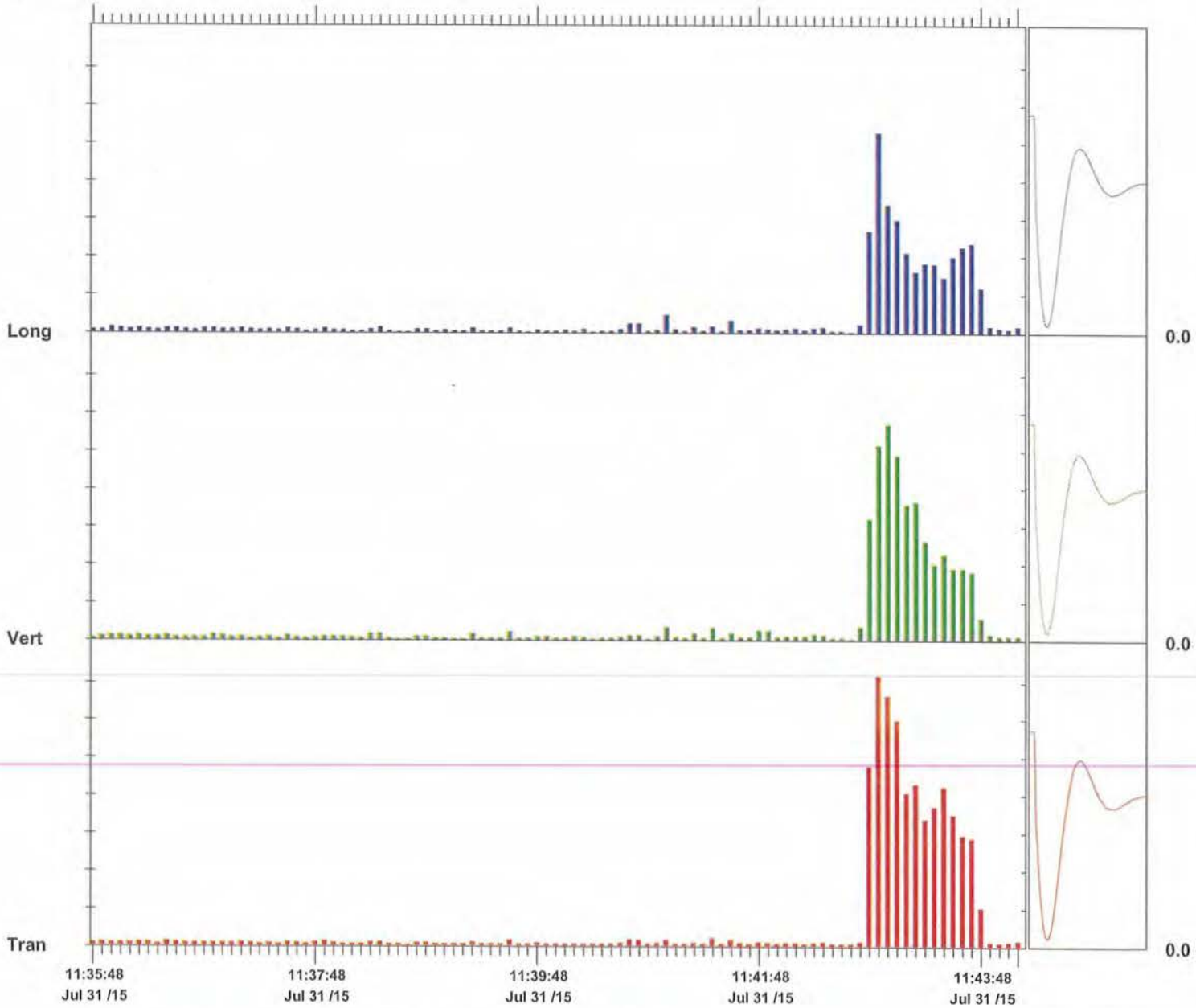
Histogram Start Time 11:35:43 July 31, 2015
Histogram Finish Time 11:44:10 July 31, 2015
Number of Intervals 101.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Notes
Location: SA 6 ~~South~~ North Gas Main
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 1/27/17

Serial Number BE11212 V 10.72-8.17 MiniMate Plus
Battery Level 6.3 Volts
Unit Calibration July 9, 2015 by Instantel
File Name M212FYID.JJ0

Post Event Notes
VMP 5

	Tran	Vert	Long	
PPV	1.43	1.14	1.05	in/s
ZC Freq	28	43	30	Hz
Date	Jul 31 /15	Jul 31 /15	Jul 31 /15	
Time	11:42:53	11:42:58	11:42:53	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.4	7.4	Hz
Overswing Ratio	3.6	3.8	3.8	

Peak Vector Sum 1.98 in/s on July 31, 2015 at 11:42:53



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.200 in/s/div

Sensor Check

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Instantel

Event Report

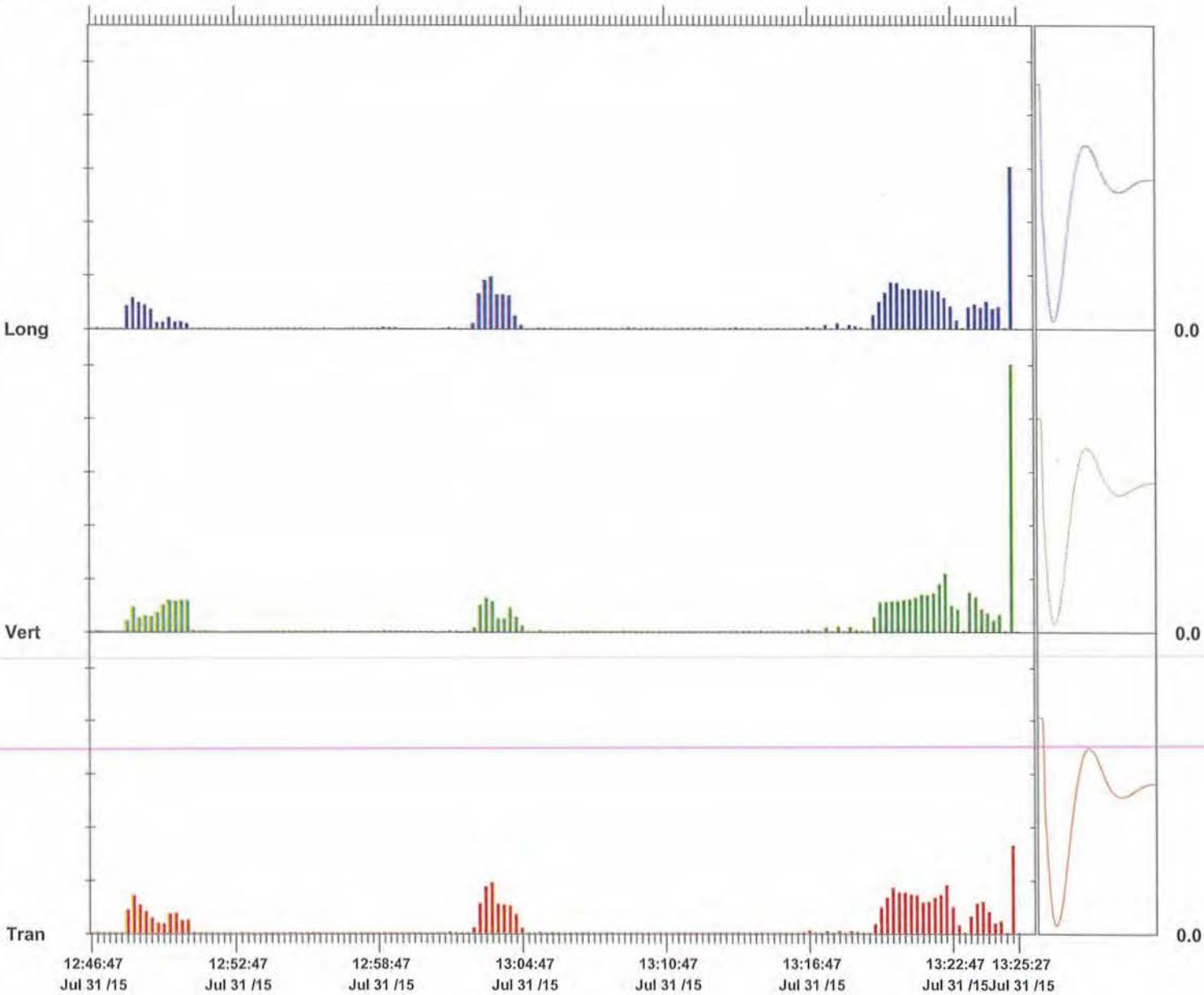
Histogram Start Time	12:46:32 July 31, 2015
Histogram Finish Time	13:25:27 July 31, 2015
Number of Intervals	466.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South~~ North Gas Main
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/27/17

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FYIG.TK0

Post Event Notes
VMP 6
Machine was knocked giving the 9.1 spike. Please ignore it.

	Tran	Vert	Long	
PPV	3.29	***	6.06	in/s
ZC Freq	1.7	9.1	3.7	Hz
Date	Jul 31 /15	Jul 31 /15	Jul 31 /15	
Time	13:25:17	13:25:17	13:25:17	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.5	7.6	Hz
Overswing Ratio	3.6	3.8	3.8	

Peak Vector Sum *** in/s on July 31, 2015 at 13:25:17
***** : Out of Range**



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 2.00 in/s/div Sensor Check

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Event Report

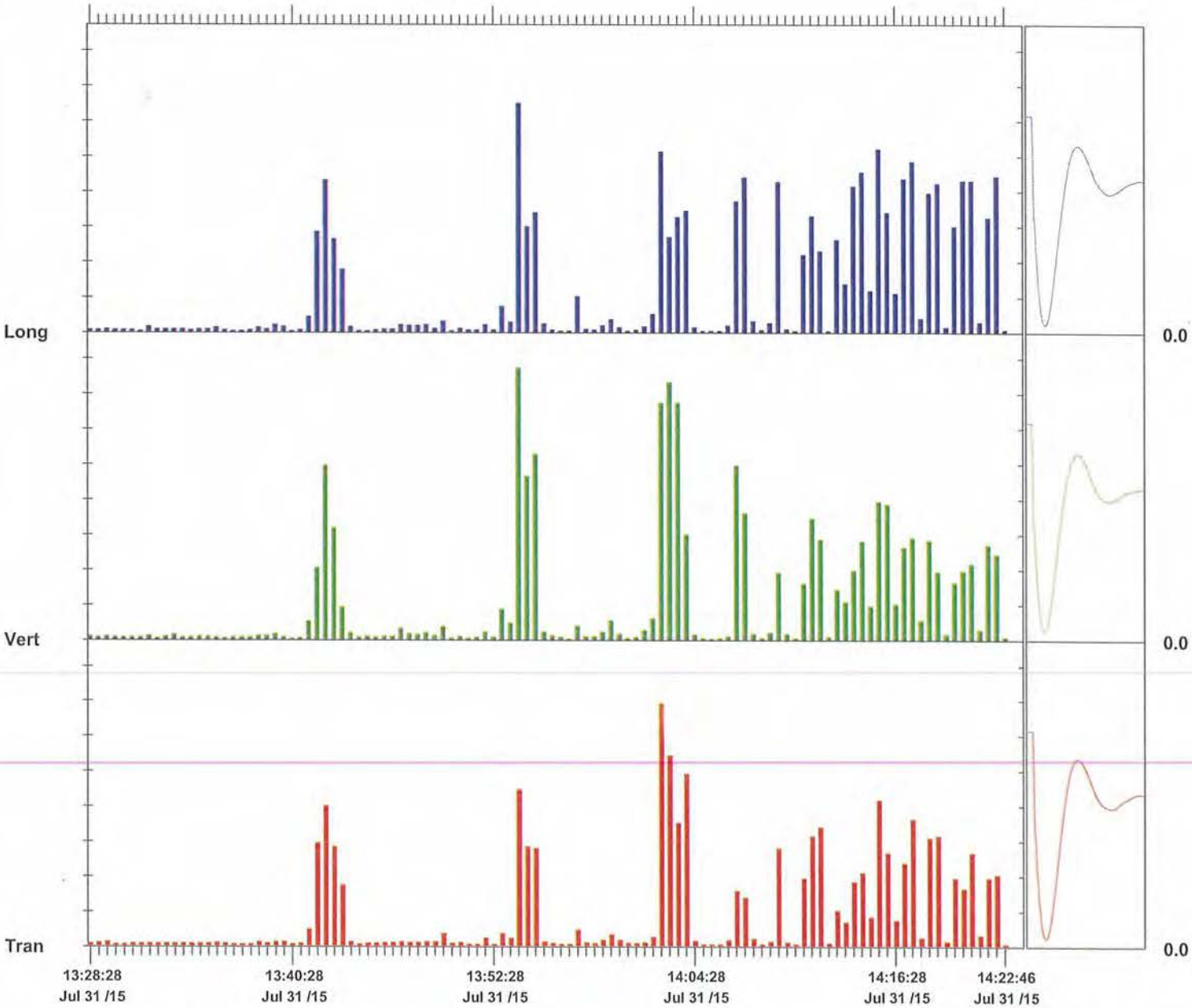
Histogram Start Time	13:27:58 July 31, 2015
Histogram Finish Time	14:22:46 July 31, 2015
Number of Intervals	657.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South~~ North Gas Main
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FYII.QM0

Post Event Notes
VMP 7

	Tran	Vert	Long	
PPV	1.38	1.54	1.30	in/s
ZC Freq	37	30	28	Hz
Date	Jul 31 /15	Jul 31 /15	Jul 31 /15	
Time	14:02:23	13:53:53	13:53:53	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.4	7.4	Hz
Overswing Ratio	3.6	3.8	3.8	

Peak Vector Sum 2.08 in/s on July 31, 2015 at 13:53:53



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.200 in/s/div

Sensor Check

Format © 1995-2013 Xmark Corporation

Geocomp

Technologies to manage risk
for infrastructure

Boston
Atlanta
Chicago
Los Angeles
New York
www.geocomp.com

Vibration Monitoring Report

Study Area 6 ~~South~~ North 1/26/17

Prepared by
Geocomp Engineering

August 3rd, 2015
For ENTACT, LLC

111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

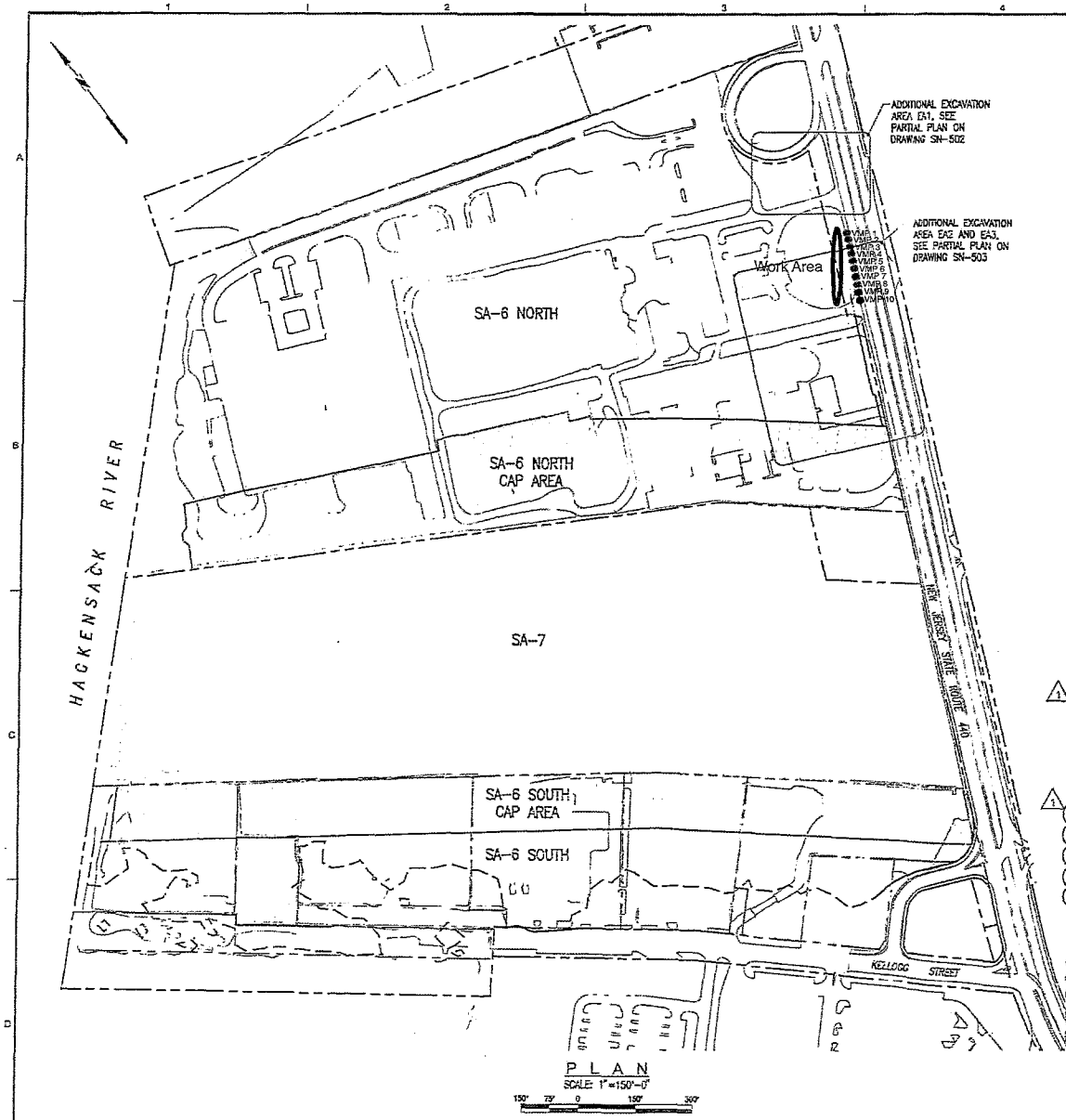
NOTES:

Summary of Work:
Sheet pile driving commenced at 6:30 AM and ended at 2:30 PM. An Instantel Micromate was used to record vibrations via a geophone placed on the ground over the gas main and water main.

30 sheets were driven 1 recorded exceedance, i.e., the 2.0 gas main limit was exceeded at 10:47 AM. See attached plan for area of work and location of the seismographs. See attached Blastware reports for PPV at these locations.

Gas Main:
Trigger Level: 0.5 in/sec
Alert Level: 2.0 in/sec

Water Main
Trigger Level: 0.25 in/sec
Alert Level: 0.5 in/sec



PLAN
SCALE 1" = 150'-0"
150' 75' 0 150' 300'

Notes:

1. The work requires installation of sheet piles, drilling, and excavation in close proximity to overhead power lines and underground utilities. Coordinate access and controls with utility companies having jurisdiction over buried and overhead utilities.
2. Re-mark utility control markings daily if removed by excavation.
3. Steel sheet piling shall be uncoated, new or used in good condition, and of the sizes shown on the drawings or structural equivalent.
4. See AMEC Environment and Infrastructure, Inc. drawings for excavation subgrade elevations.
5. The angle of repose shown on the drawings is based on the definition and requirements provided by PSE&G.
6. Final wall locations subject to location of gas main, determined by test pits.
7. Pre-excavate as required to remove obstructions within the fill prior to driving sheet piling.
8. Handle sheet piling in a manner which prevents damage to the sheet piling. Use standard safety lifting devices, use lifting holes or provide secondary support during lifting.
9. Discontinue spudding more than 5 ft. above the minimum tip elevations indicated herein.
10. Stage pile driving and step sheet piling tips as necessary to maintain interlocks. Remove and replace steel sheet piling found to be out of interlock, out of tolerance, damaged, or otherwise deficient.
11. Use drive templates and guides to maintain pile alignment and install piles plumb.
12. Sheet piling may be welded to adjacent sheets if required to control settlement during driving.
13. Spliced sheet piling shall be free sliding and able to obtain the maximum swing with contiguous piles. Splice welds shall develop the full structural strength of the member.
14. Drive templates: Prior to driving, provide template or driving frame suitable for aligning, supporting, and maintaining the sheet piling in the correct location and verticality during setting and driving. Fix template in place to prevent movement during sheet pile driving. Provide restraint necessary to prevent the sheets from warping or wandering from the alignment, or from rocking along the alignment.
15. Provide continuous inspection of sheet pile driving. Inspect location and verticality when setting sheets, and when sheets are driven half depth.
16. Maintain pile driving inspection record for each pair driven. Indicate pile hammer, rate of operation, energy, use of drive helmet and cap, etc. Provide a unique number for each pair, and indicate location on alignment. Document installation date, set time, drive duration, and time drive completed, initial pile length, re-heading or cutting length(s), and any additional information required for record drawings. Record unusual conditions or problems observed during driving.
17. Soldier piles and wales shown are minimum sizes. Substitution with members of equivalent or higher capacity is allowed.
18. Stop and field welding procedures, electrode classification (E70XX), and preheat temperature shall conform to AWS D1.1. Welders shall be certified in accordance with AWS D1.1 criteria.
19. Drill soldier pile using methods approved by the Engineer.
20. Dewater excavations to provide stable subgrade and to remove all uplift pressure below all sewers, force mains or other active utilities as may be required, as determined by the Engineer. Install piezometer within 10 feet of 48 inch sewer to monitor groundwater level. 1
21. Survey to establish construction station baseline and establish monitoring points.
22. Set permanent monitoring point on top of sheet piling and soldier piles. Grind smooth surface for point, if required. Mark point ID. At contractor option, DMP points may be reflective targets for total station surveys.
23. Survey location of monitoring point, (X, Y, Z) (baseline reading). 1
24. Survey location (X, Y, Z) two additional times, on separate days, before performing excavation within 50 ft. of monitoring point.
25. Survey monitoring point (X, Y, Z) daily, or more often at Engineer direction, when excavating within 50 ft. of monitoring point. For each reading event document survey date, time, reading change from previous reading, and reading change from baseline. Provide readings for Construction Manager review during active excavation.
26. Monitor vibrations at the ground surface above the gas main, force main, and sewer under Route 440 adjacent to the excavations within 25 feet.
27. Advise the Construction Manager of vibration monitoring data. Limiting values are:
    Gas Main – 2.0 in/sec
    Sewer & F.M. – 1.0 in/sec
    If limiting values are exceeded, the contractor shall notify the CM and cease work until adequate measures are taken to reduce vibrations. 1
28. Elevation are based on NGVD 1929 Datum.

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA - 225 WEST 34TH STREET, NEW YORK, NY 10122
R.E. NICHOLAS 111173

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
TEMPORARY
SUPPORT OF EXCAVATION
KEY PLAN AND NOTES

amec
Environmental & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 585 - 2833
NJ Certificate of Authorization Number 24GA28000600

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-501
SHEET	52 OF 70

Honeywell
101 COLUMBIA RD., BOX 2105, MORRISTOWN, NJ 07961

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

NO.	DATE	DSGN	DWN	CHK	APVD	BY	REVISION
1	10/31/14					GP	ISSUED FOR NJDOT REVIEW
0	08/17/13					FWD	ISSUED FOR CONSTRUCTION

G.S. G.S. G.P. APVD
PETER W. FIELING
NJ PROFESSIONAL ENGINEER
NO. 24GE02211400

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FILE NAME: G:\DIVISION\11\11173\SN-501.dwg PLOT DATE: Wed, 12 Nov 2014 PLOT TIME: 11:15 AM

Instantel

Event Report

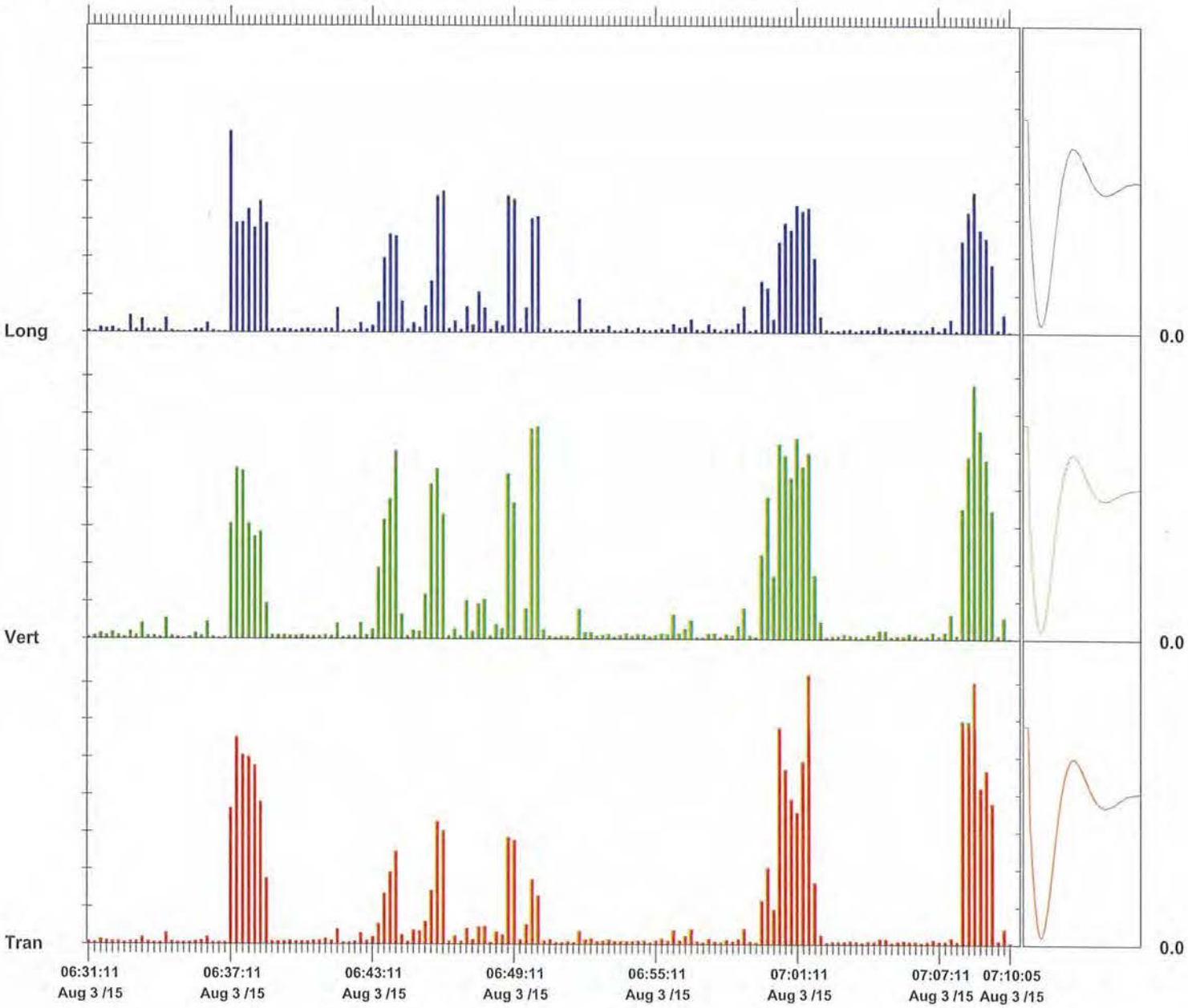
Histogram Start Time	06:30:56 August 3, 2015
Histogram Finish Time	07:10:05 August 3, 2015
Number of Intervals	469.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Gas Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/27/17

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.4 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FYNJ.FK0

Post Event Notes
VMP 1

	Tran	Vert	Long	
PPV	1.44	1.35	1.07	in/s
ZC Freq	73	34	27	Hz
Date	Aug 3 /15	Aug 3 /15	Aug 3 /15	
Time	07:01:31	07:08:36	06:37:11	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.5	7.4	Hz
Overswing Ratio	3.7	3.9	3.9	

Peak Vector Sum 1.72 in/s on August 3, 2015 at 07:01:31



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.200 in/s/div

Sensor Check

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Instantel

Event Report

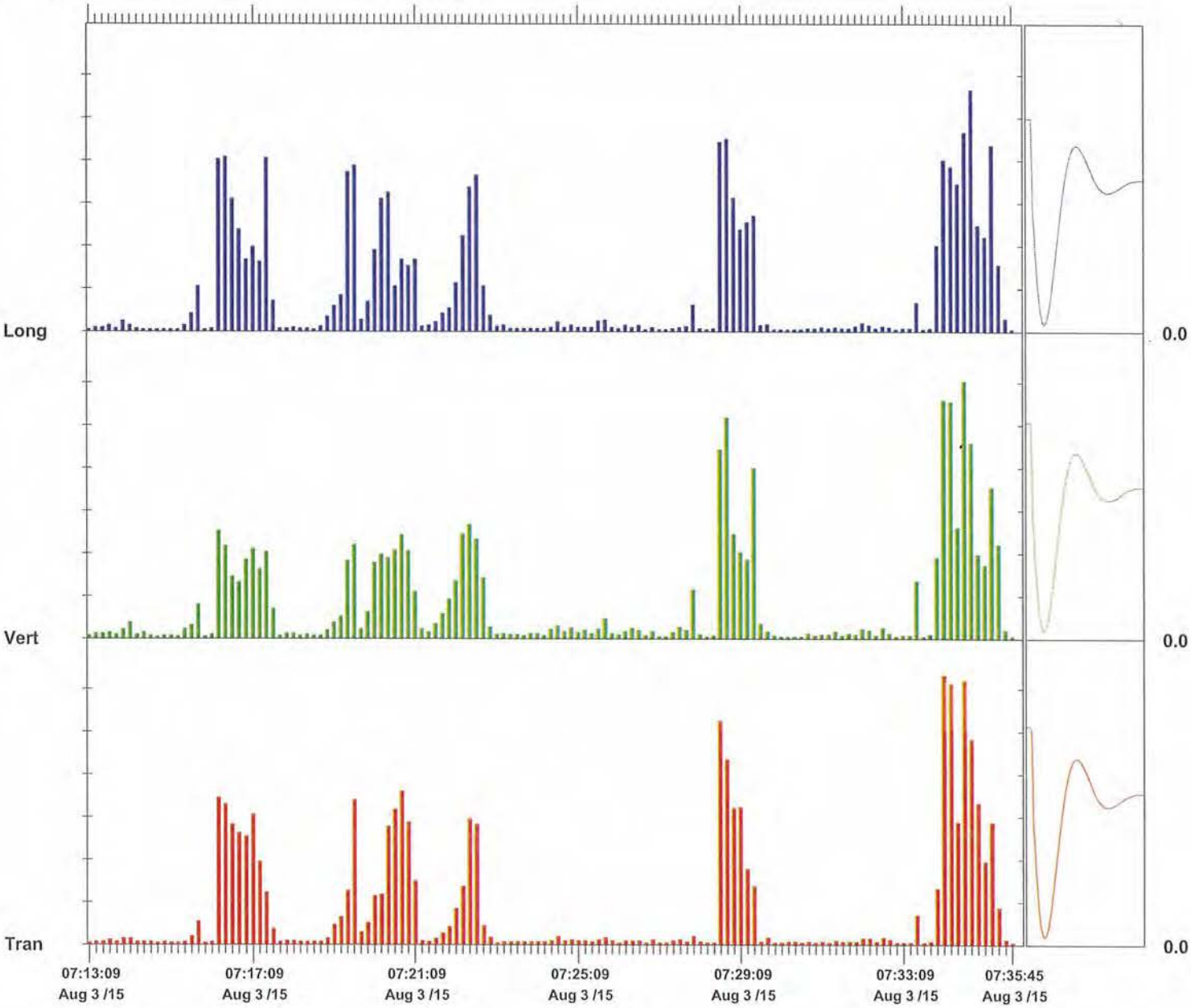
Histogram Start Time 07:12:59 August 3, 2015
Histogram Finish Time 07:35:45 August 3, 2015
Number of Intervals 273.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Notes
Location: SA 6 ~~South Gas Main~~ North
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 1/22/17

Serial Number BE11212 V 10.72-8.17 MiniMate Plus
Battery Level 6.3 Volts
Unit Calibration July 9, 2015 by Instantel
File Name M212FYNL.DN0

Post Event Notes
VMP 2

	Tran	Vert	Long	
PPV	1.27	1.20	1.13	in/s
ZC Freq	32	32	28	Hz
Date	Aug 3 /15	Aug 3 /15	Aug 3 /15	
Time	07:34:04	07:34:39	07:34:49	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.5	7.4	Hz
Overswing Ratio	3.7	3.8	3.8	

Peak Vector Sum 1.76 in/s on August 3, 2015 at 07:34:04



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.200 in/s/div

Sensor Check

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Instantel

Event Report

Histogram Start Time	07:39:19 August 3, 2015
Histogram Finish Time	08:06:42 August 3, 2015
Number of Intervals	328.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps

Notes

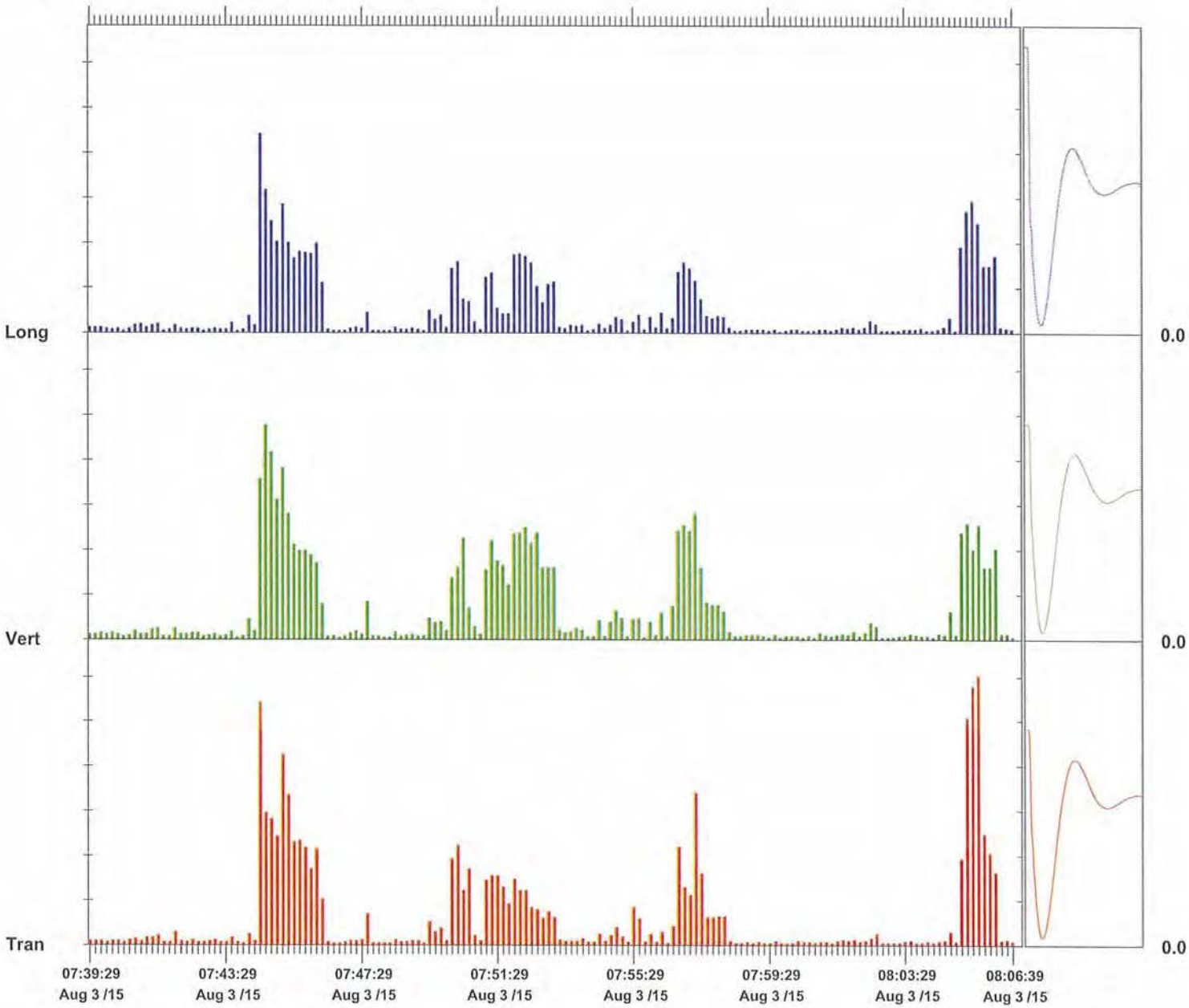
Location:	SA 6 ~~South Gas Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/27/17

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FYNM.LJ0

Post Event Notes
VMP 3

	Tran	Vert	Long	
PPV	1.20	0.955	0.885	in/s
ZC Freq	30	28	37	Hz
Date	Aug 3 /15	Aug 3 /15	Aug 3 /15	
Time	08:05:34	07:44:39	07:44:29	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.5	7.7	Hz
Overswing Ratio	3.7	3.7	3.8	

Peak Vector Sum 1.26 in/s on August 3, 2015 at 07:44:24



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.200 in/s/div

Sensor Check

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Event Report

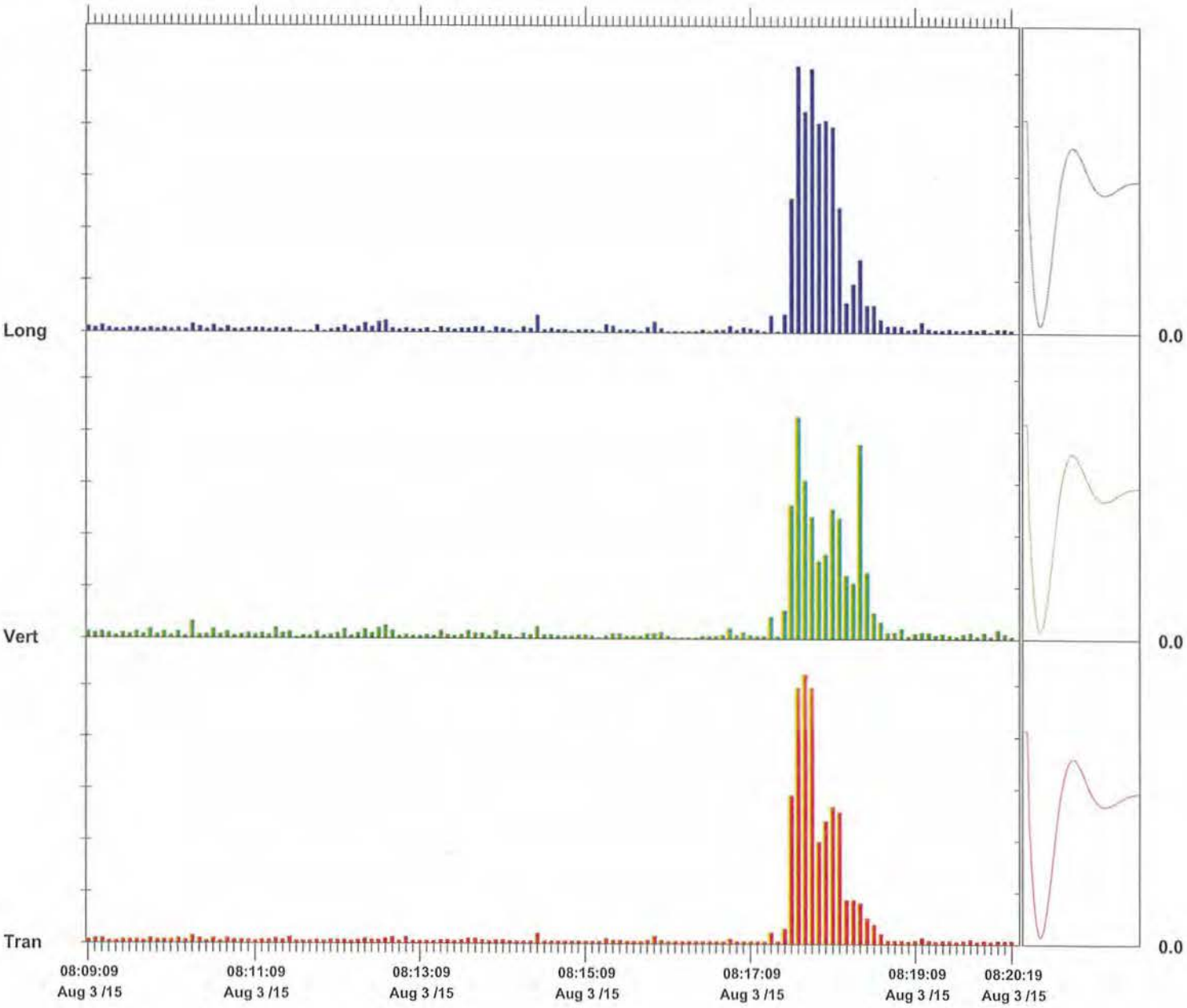
Histogram Start Time	08:09:04 August 3, 2015
Histogram Finish Time	08:20:20 August 3, 2015
Number of Intervals	135.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Gas Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/27/17

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FYNN.Z40

Post Event Notes
VMP 4

	Tran	Vert	Long	
PPV	1.04	0.855	1.02	in/s
ZC Freq	30	30	30	Hz
Date	Aug 3 /15	Aug 3 /15	Aug 3 /15	
Time	08:17:49	08:17:44	08:17:44	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.5	7.4	Hz
Overswing Ratio	3.7	3.8	3.8	

Peak Vector Sum 1.43 in/s on August 3, 2015 at 08:17:44



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.200 in/s/div

Sensor Check

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Instantel

Event Report

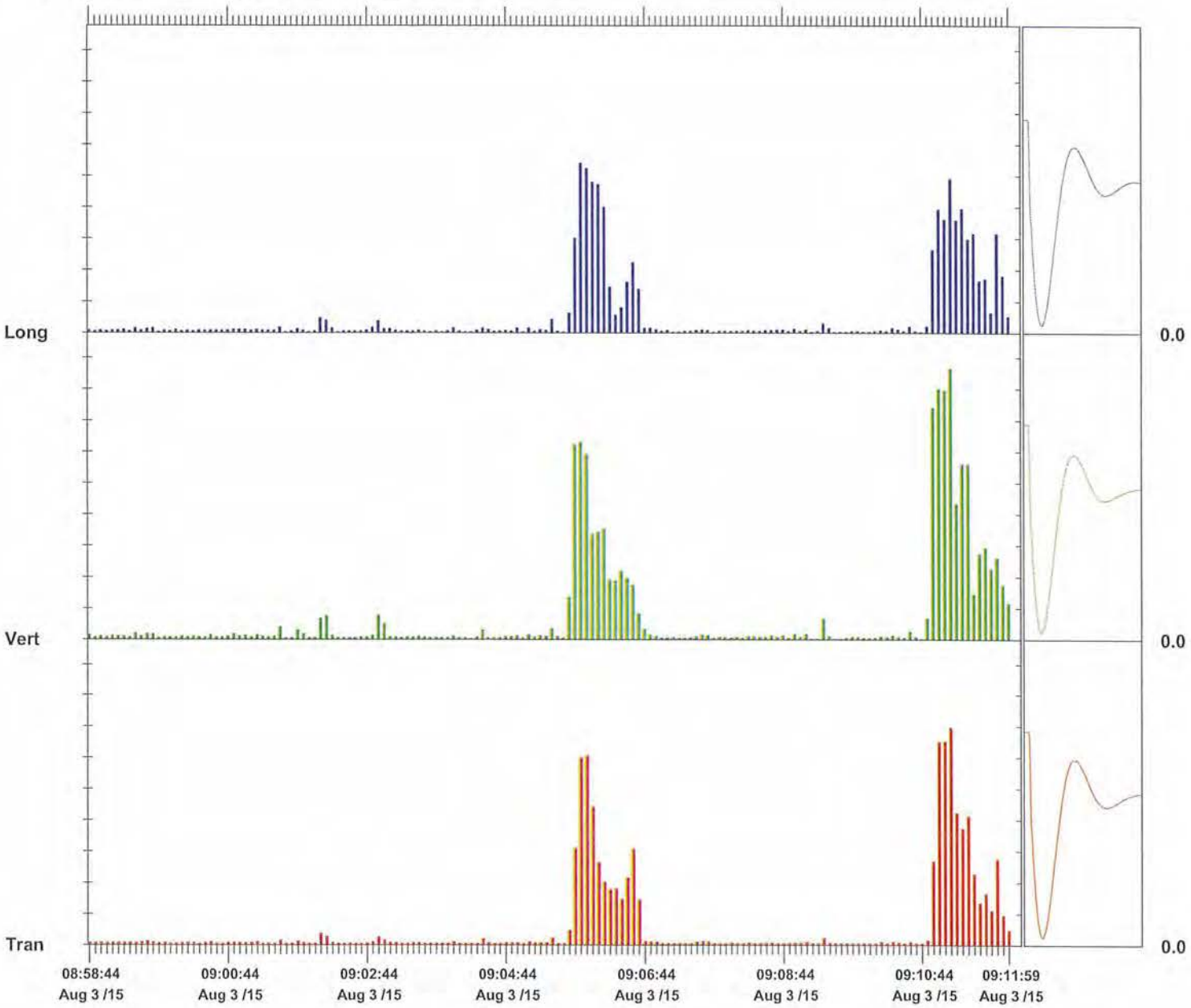
Histogram Start Time 08:58:39 August 3, 2015
Histogram Finish Time 09:12:02 August 3, 2015
Number of Intervals 160.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Notes
Location: SA 6 ~~South Gas Main~~ North
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 1/27/17

Serial Number BE11212 V 10.72-8.17 MiniMate Plus
Battery Level 6.3 Volts
Unit Calibration July 9, 2015 by Instantel
File Name M212FYNQ.9R0

Post Event Notes
VMP 4

	Tran	Vert	Long	
PPV	1.39	1.73	1.08	in/s
ZC Freq	30	32	30	Hz
Date	Aug 3 /15	Aug 3 /15	Aug 3 /15	
Time	09:11:09	09:11:09	09:05:49	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.5	7.3	Hz
Overswing Ratio	3.7	3.9	3.8	

Peak Vector Sum 2.35 in/s on August 3, 2015 at 09:11:09



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.200 in/s/div

Sensor Check

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Instantel

Event Report

Histogram Start Time	09:14:31 August 3, 2015
Histogram Finish Time	09:56:38 August 3, 2015
Number of Intervals	505.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps

Notes

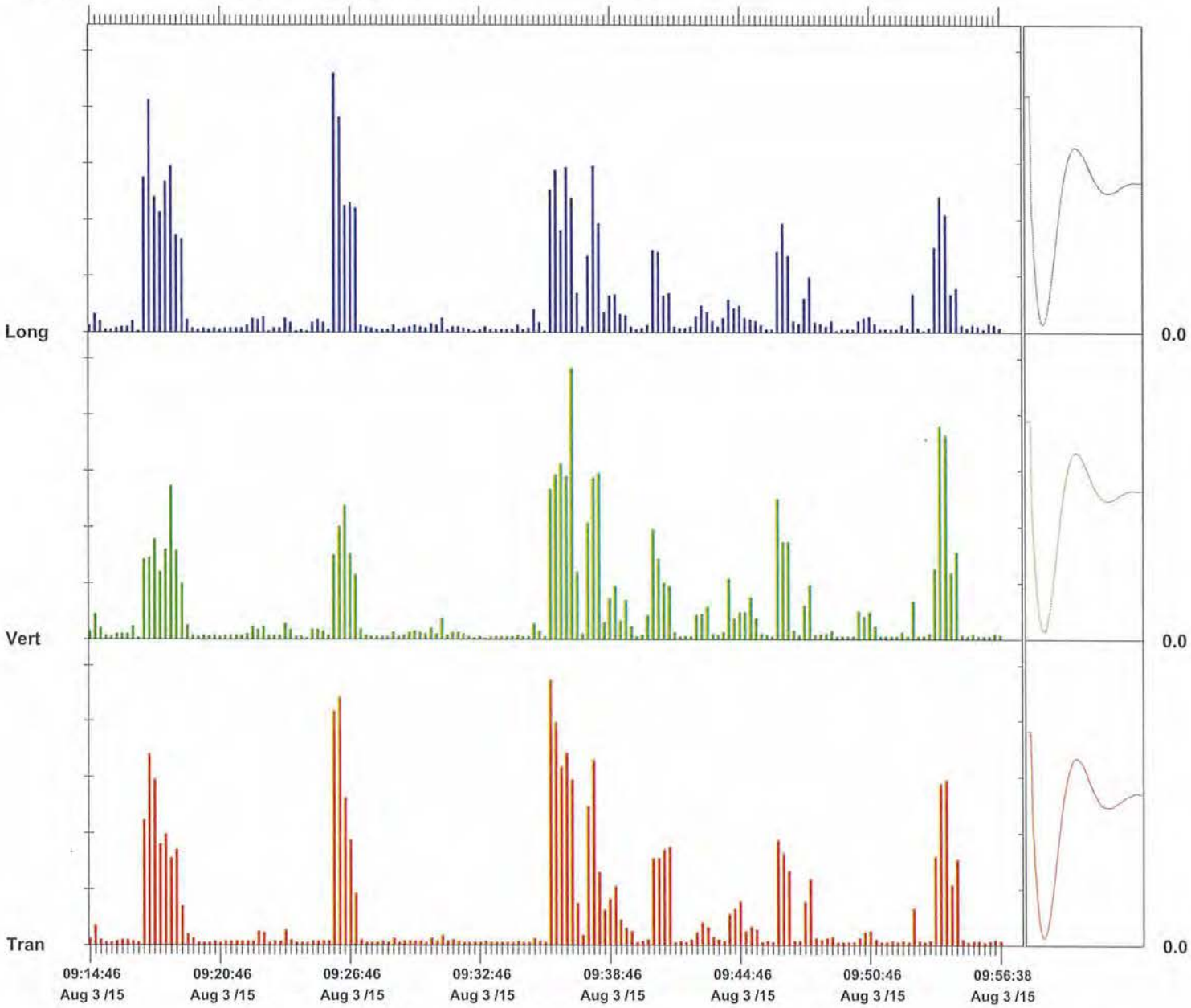
Location:	SA 6 ~~South Gas Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/27/17

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FYNR.070

Post Event Notes
VMP 5

	Tran	Vert	Long	
PPV	0.950	0.965	0.920	in/s
ZC Freq	30	28	32	Hz
Date	Aug 3 /15	Aug 3 /15	Aug 3 /15	
Time	09:35:56	09:36:51	09:26:01	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.4	7.4	Hz
Overswing Ratio	3.7	3.7	3.9	

Peak Vector Sum 1.14 in/s on August 3, 2015 at 09:36:51



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.200 in/s/div

Sensor Check

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Instantel

Event Report

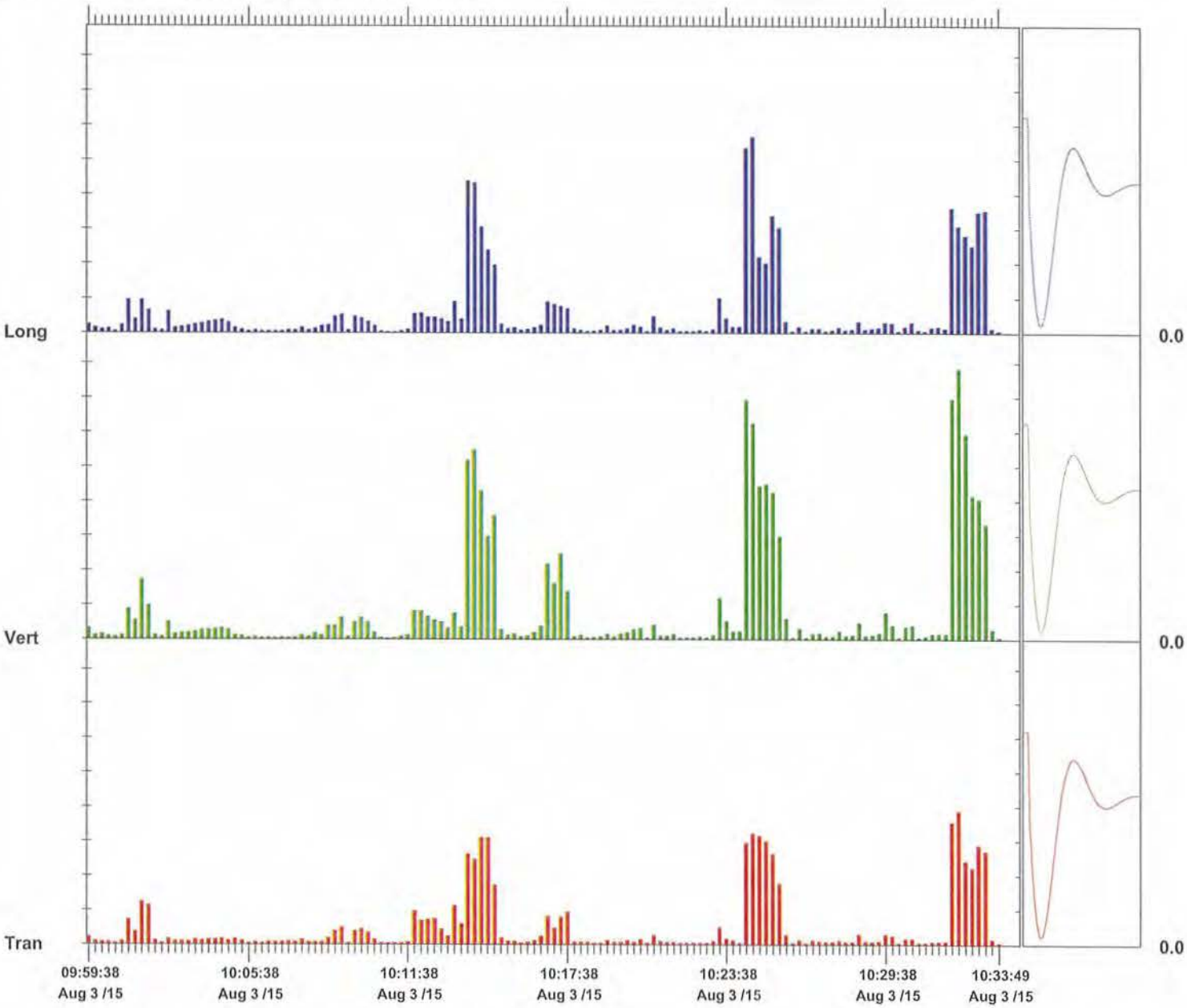
Histogram Start Time 09:59:23 August 3, 2015
Histogram Finish Time 10:33:49 August 3, 2015
Number of Intervals 413.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Notes
Location: SA 6 ~~South Gas Main~~ North
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 1/27/17

Serial Number BE11212 V 10.72-8.17 MiniMate Plus
Battery Level 6.3 Volts
Unit Calibration July 9, 2015 by Instantel
File Name M212FYNT.2Z0

Post Event Notes
VMP 6

	Tran	Vert	Long	
PPV	0.775	1.56	1.13	in/s
ZC Freq	32	30	30	Hz
Date	Aug 3 /15	Aug 3 /15	Aug 3 /15	
Time	10:32:18	10:32:18	10:24:33	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.4	7.4	Hz
Overswing Ratio	3.7	3.8	3.7	

Peak Vector Sum 1.72 in/s on August 3, 2015 at 10:32:18



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.200 in/s/div

Sensor Check

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Event Report

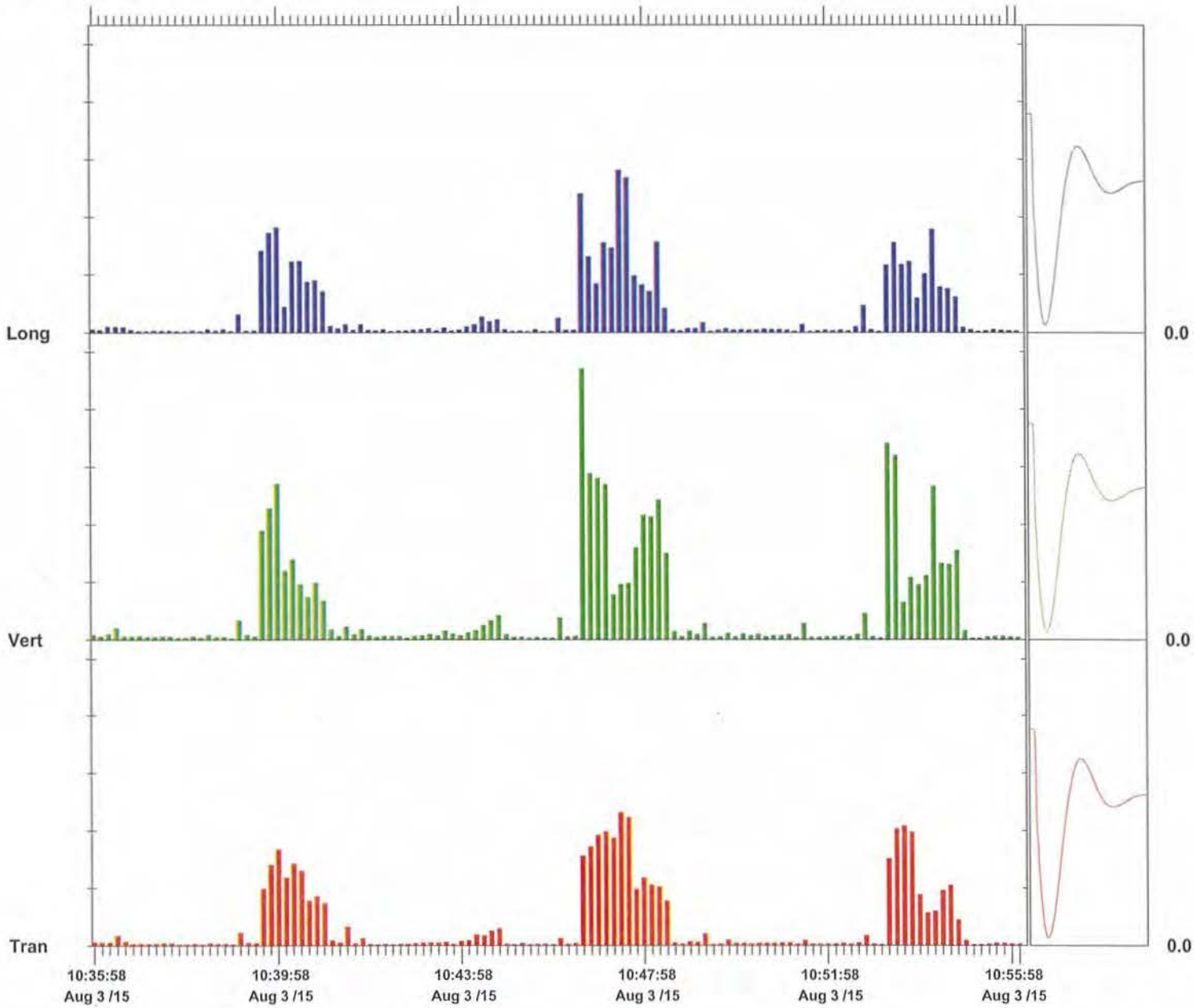
Histogram Start Time	10:35:48 August 3, 2015
Histogram Finish Time	10:56:10 August 3, 2015
Number of Intervals	244.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Gas Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/27/17

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FYNU.RO0

Post Event Notes
VMP 7

	Tran	Vert	Long	
PPV	1.16	2.35	1.40	in/s
ZC Freq	34	26	43	Hz
Date	Aug 3 /15	Aug 3 /15	Aug 3 /15	
Time	10:47:28	10:46:33	10:47:28	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.4	7.4	Hz
Overswing Ratio	3.7	3.8	3.8	

Peak Vector Sum 2.60 in/s on August 3, 2015 at 10:46:33



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.500 in/s/div Sensor Check

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Event Report

Histogram Start Time	10:58:04 August 3, 2015
Histogram Finish Time	11:48:10 August 3, 2015
Number of Intervals	601.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps

Notes

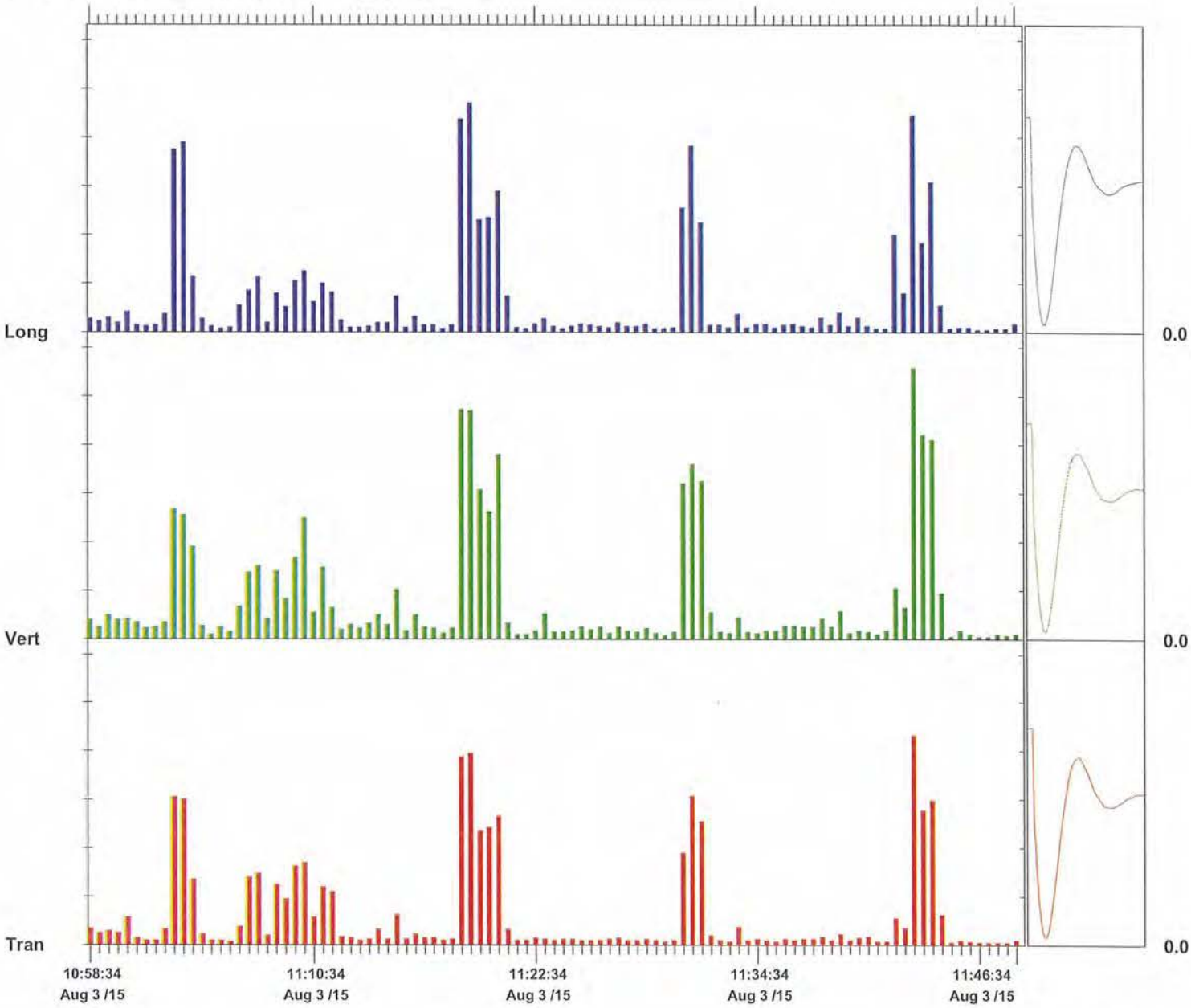
Location: SA 6 ~~South Gas Main~~ North
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 1/27/17

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FYNV.SS0

Post Event Notes
VMP 8

	Tran	Vert	Long	
PPV	0.865	1.11	0.940	in/s
ZC Freq	37	39	30	Hz
Date	Aug 3 /15	Aug 3 /15	Aug 3 /15	
Time	11:42:59	11:42:54	11:18:44	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.4	7.4	Hz
Overswing Ratio	3.6	3.8	3.7	

Peak Vector Sum 1.37 in/s on August 3, 2015 at 11:42:54



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.200 in/s/div

Sensor Check

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Event Report

Histogram Start Time	12:45:40 August 3, 2015
Histogram Finish Time	13:38:46 August 3, 2015
Number of Intervals	637.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps

Notes

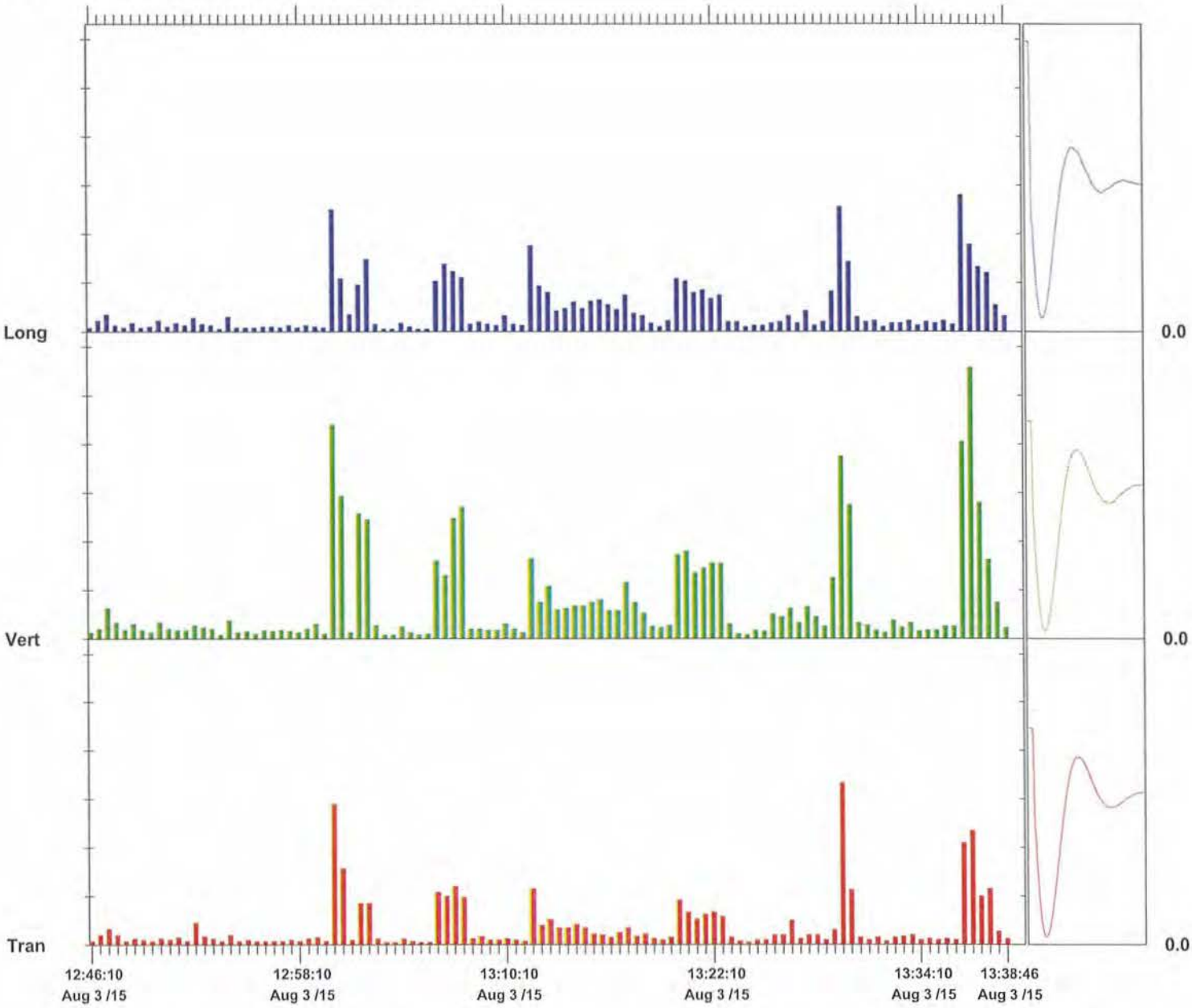
Location:	SA 6 ~~South Gas Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/27/17

Serial Number	BE11212 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	M212FYO0.S40

Post Event Notes
VMP 9

	Tran	Vert	Long	
PPV	0.665	1.11	0.560	in/s
ZC Freq	37	32	15	Hz
Date	Aug 3 /15	Aug 3 /15	Aug 3 /15	
Time	13:29:30	13:36:50	13:36:20	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.5	7.8	Hz
Overswing Ratio	3.6	3.6	3.9	

Peak Vector Sum 1.14 in/s on August 3, 2015 at 13:36:50



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.200 in/s/div Sensor Check

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Event Report

Histogram Start Time	13:47:57 August 3, 2015
Histogram Finish Time	14:18:16 August 3, 2015
Number of Intervals	363.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps

Notes

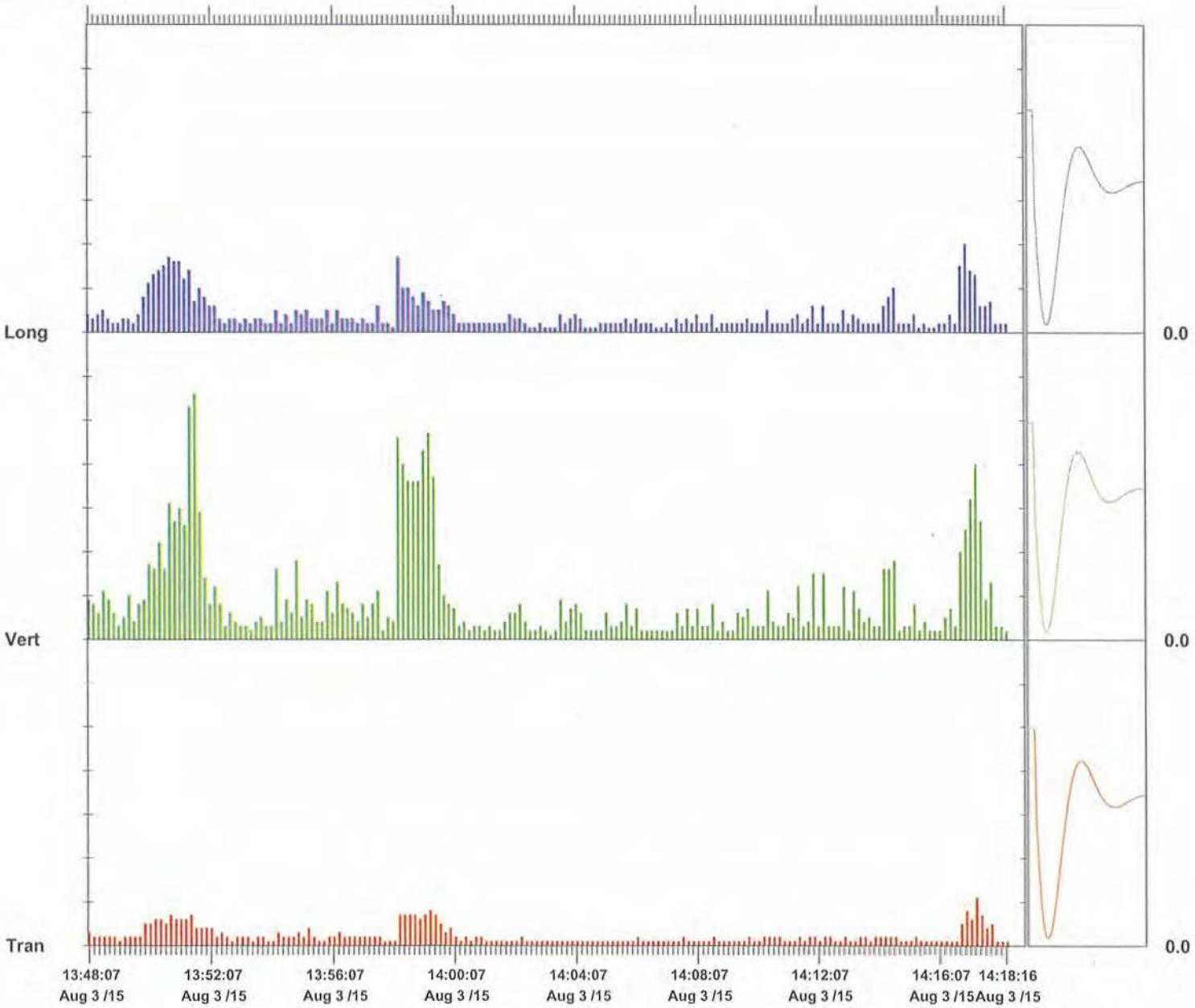
Location: SA 6 ~~South Water Main~~ North
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 1/28/17

Serial Number	BE17741 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	S741FYO3.NX0

Post Event Notes
VMP 10

	Tran	Vert	Long	
PPV	0.0550	0.280	0.1000	in/s
ZC Freq	37	39	23	Hz
Date	Aug 3 /15	Aug 3 /15	Aug 3 /15	
Time	14:17:12	13:51:32	14:16:57	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.6	7.3	Hz
Overswing Ratio	3.9	3.6	3.9	

Peak Vector Sum 0.280 in/s on August 3, 2015 at 13:51:32



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div

Sensor Check

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Geocomp

Technologies to manage risk
for infrastructure

Boston
Atlanta
Chicago
Los Angeles
New York
www.geocomp.com

Vibration Monitoring Report

Study Area 6 ~~South~~ North 1/26/17

Prepared by
Geocomp Engineering

August 4th, 2015
For ENTACT, LLC

111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

NOTES:

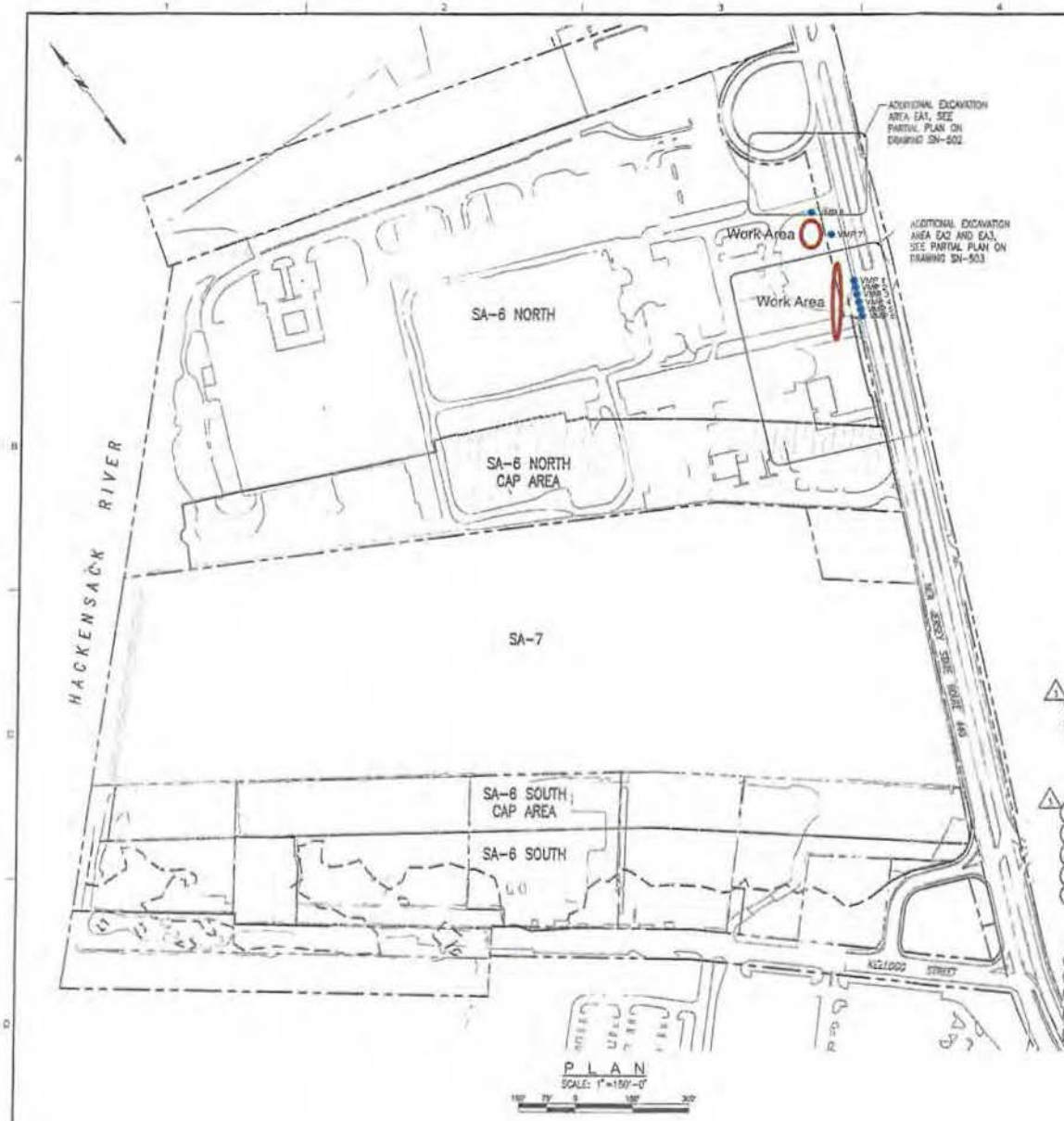
Summary of Work:
Sheet pile driving commenced at 6:30 AM and ended at 11:20 AM. An Instantel Micromate was used to record vibrations via a geophone placed on the ground over the gas main, water main, and force main.

17 sheets were driven no recorded exceedances. See attached plan for area of work and location of the seismographs. See attached Blastware reports for PPV at these locations.

Gas Main:
Trigger Level: 0.5 in/sec
Alert Level: 2.0 in/sec

Water Main
Trigger Level: 0.25 in/sec
Alert Level: 0.5 in/sec

Force Main
Trigger Level: 0.25 in/sec
Alert Level: 0.5 in/sec



Notes:

1. The work requires installation of sheet piles, drilling, and excavation in close proximity to overhead power lines and underground utilities. Coordinate access and controls with utility companies having jurisdiction over buried and overhead utilities.
2. Re-mark utility control markings daily if removed by excavation.
3. Steel sheet piling shall be uncoated, new or used in good condition, and of the size shown on the drawings or structural equivalent.
4. See AMEC Environment and Infrastructure, Inc. drawings for excavation subgrade elevations.
5. The angle of repose shown on the drawings is based on the definition and requirements provided by PSE&G.
6. Final wall locations subject to location of gas main, determined by test pits.
7. Pre-excavate as required to remove obstructions within the EA prior to driving sheet piling.
8. Handle sheet piling in a manner which prevents damage to the sheet piling. Use standard safety lifting devices, use lifting holes or provide secondary support during lifting.
9. Discontinue spudding more than 5 ft. above the minimum tip elevations indicated herein.
10. Stage pile driving and stop sheet piling tips as necessary to maintain interlocks. Remove and replace steel sheet piling found to be out of interlock, out of tolerance, damaged, or otherwise deficient.
11. Use drive templates and guides to maintain pile alignment and install piles plumb.
12. Sheet piling may be welded to adjacent sheets if required to control settlement during driving.
13. Spliced sheet piling shall be free sliding and able to obtain the maximum swing with contiguous piles. Splice welds shall develop the full structural strength of the member.
14. Drive templates: Prior to driving, provide template or driving frame suitable for aligning, supporting, and maintaining the sheet piling in the correct location and vertically during setting and driving. Fix template in place to prevent movement during sheet pile driving. Provide restraint necessary to prevent the sheets from warping or wandering from the alignment, or from rocking along the alignment.
15. Provide continuous inspection of sheet pile driving. Inspect timeline and vertically when setting sheets, and when sheets are driven half depth.
16. Maintain pile driving inspection record for each pair driven. Indicate pile hammer, rate of operation, energy, use of drive helmet and cap, etc. Provide a unique number for each pair, and indicate location on alignment. Document installation date, set time, drive duration, and time drive completed, initial pile length, re-heading or cutting length(s), and any additional information required for record drawings. Record unusual conditions or problems observed during driving.
17. Solider piles and wales shown are minimum sizes. Substitution with members of equivalent or higher capacity is allowed.
18. Shop and field welding procedures, electrode classification (E7018), and preheat temperature shall conform to AWS D1.1. Welders shall be certified in accordance with AWS D1.1 criteria.
19. Drill solider pile using methods approved by the Engineer.
20. Dewater excavations to provide stable subgrade and to remove all uplift pressure below all sewers, force mains or other active utilities as may be required, as determined by the Engineer. Install piezometer within 10 feet of 48 inch sewer to monitor groundwater level.
21. Survey to establish construction station baseline and establish monitoring points.
22. Set permanent monitoring point on top of steel piling and solider piles. Grind smooth surface for point. If required, Mark point ID. At contractor option, DMP points may be reflective targets for total station surveys.
23. Survey location of monitoring point, (X, Y, Z) (baseline reading).
24. Survey location (X, Y, Z) two additional times, on separate days, before performing excavation within 50 ft. of monitoring point.
25. Survey monitoring point (X, Y, Z) daily, or more often at Engineer direction, when excavating within 50 ft. of monitoring point. For each reading record document survey date, time, reading change from previous reading, and reading change from baseline. Provide readings for Construction Manager review during active excavation.
26. Monitor vibrations at the ground surface above the gas main, force main, and sewer under Route 440 adjacent to the excavations within 25 feet.
27. Advise the Construction Manager of vibration monitoring data. Limiting values are:
    Gas Main - 2.0 in/sec
    Sewer & F.M. - 1.0 in/sec

    If limiting values are exceeded, the contractor shall notify the CM and cease work until adequate measures are taken to reduce vibrations.
28. Elevation are based on NGVD 1929 Datum.

MUESER RUTLEDGE CONSULTING ENGINEERS
14 WALL PLAZA – 225 WEST 34TH STREET, NEW YORK, NY 10122
FILE NUMBER 11173

Honeywell
CHROMIUM REMEDIAL STUDY AREA 6 NORTH
SITES 000 AND 008
JERSEY CITY, NEW JERSEY

NO.	DATE	REVISION	DWN	CHK	APVD
1	10/31/14	ISSUED FOR NJDOT REVIEW			GP
0	06/17/13	ISSUED FOR CONSTRUCTION			FWD

DESIGN S.B. DRAWN C.S. CHK'D G.P. APVD F.W.D. BY AP-10

NJ PROFESSIONAL ENGINEER
F.W.D. LICENSE NUMBER GE-4602

WRITTEN W/ TRIMBLE

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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

TEMPORARY
SUPPORT OF EXCAVATION
KEY PLAN AND NOTES

amec
Environment & Infrastructure, Inc.
200 Airport Maity Blvd, Suite 113
Roselle, NJ, 07018
(908) 241-2020
www.amec.com

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE
PROJ 3480-12-0317
DWG S14-501
SHEET 52 OF 75

Instantel

Event Report

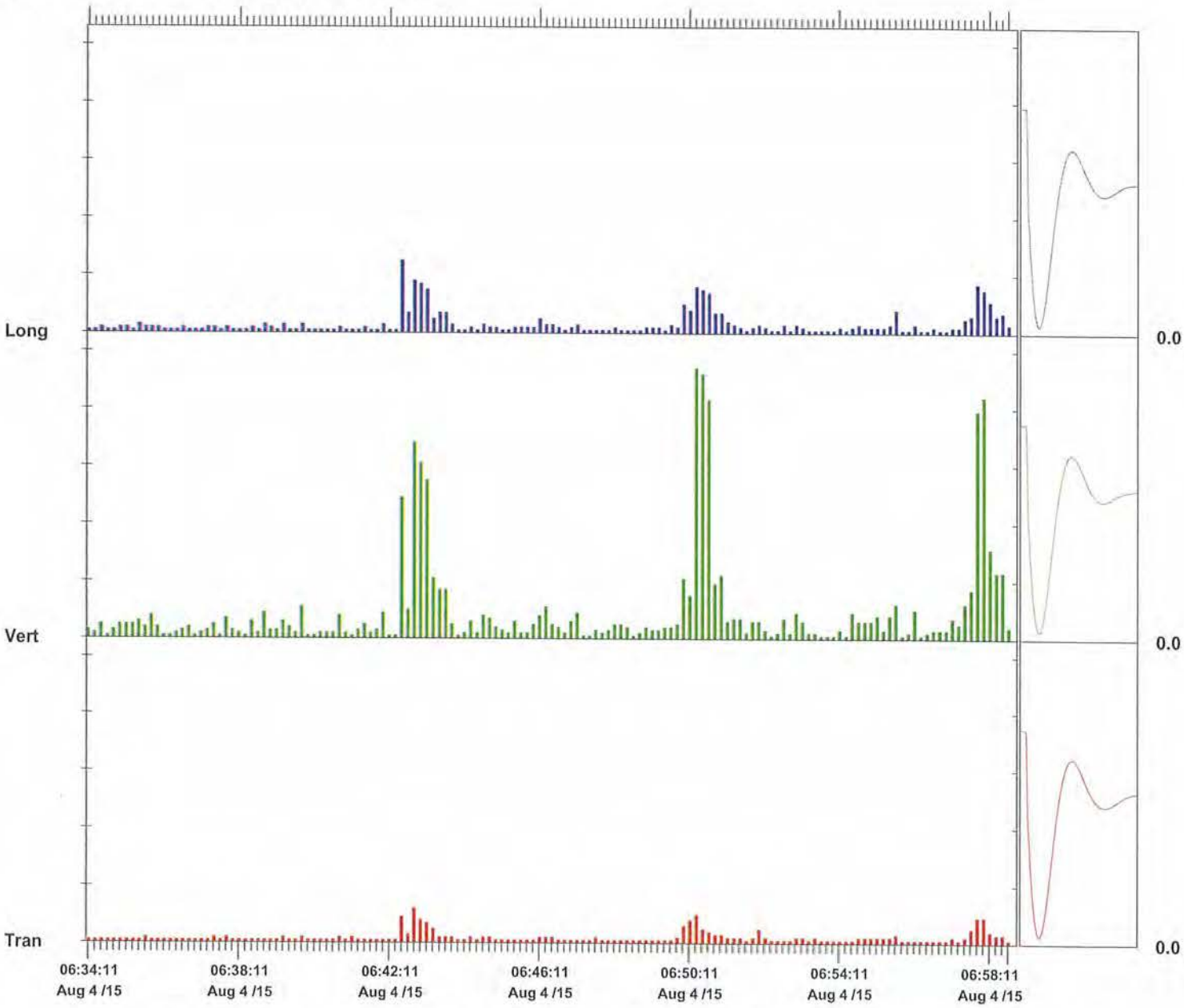
Histogram Start Time 06:34:01 August 4, 2015
Histogram Finish Time 06:58:39 August 4, 2015
Number of Intervals 295.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Notes
Location: SA 6 ~~South Water Main~~ North
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 1/27/17

Serial Number BE17741 V 10.72-8.17 MiniMate Plus
Battery Level 6.3 Volts
Unit Calibration July 9, 2015 by Instantel
File Name S741FYPE.8P0

Post Event Notes
VMP 1

	Tran	Vert	Long	
PPV	0.0600	0.470	0.125	in/s
ZC Freq	34	39	17	Hz
Date	Aug 4 /15	Aug 4 /15	Aug 4 /15	
Time	06:42:51	06:50:21	06:42:26	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.4	7.4	Hz
Overswing Ratio	3.7	3.8	3.9	

Peak Vector Sum 0.472 in/s on August 4, 2015 at 06:50:21



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div

Sensor Check

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Instantel

Event Report

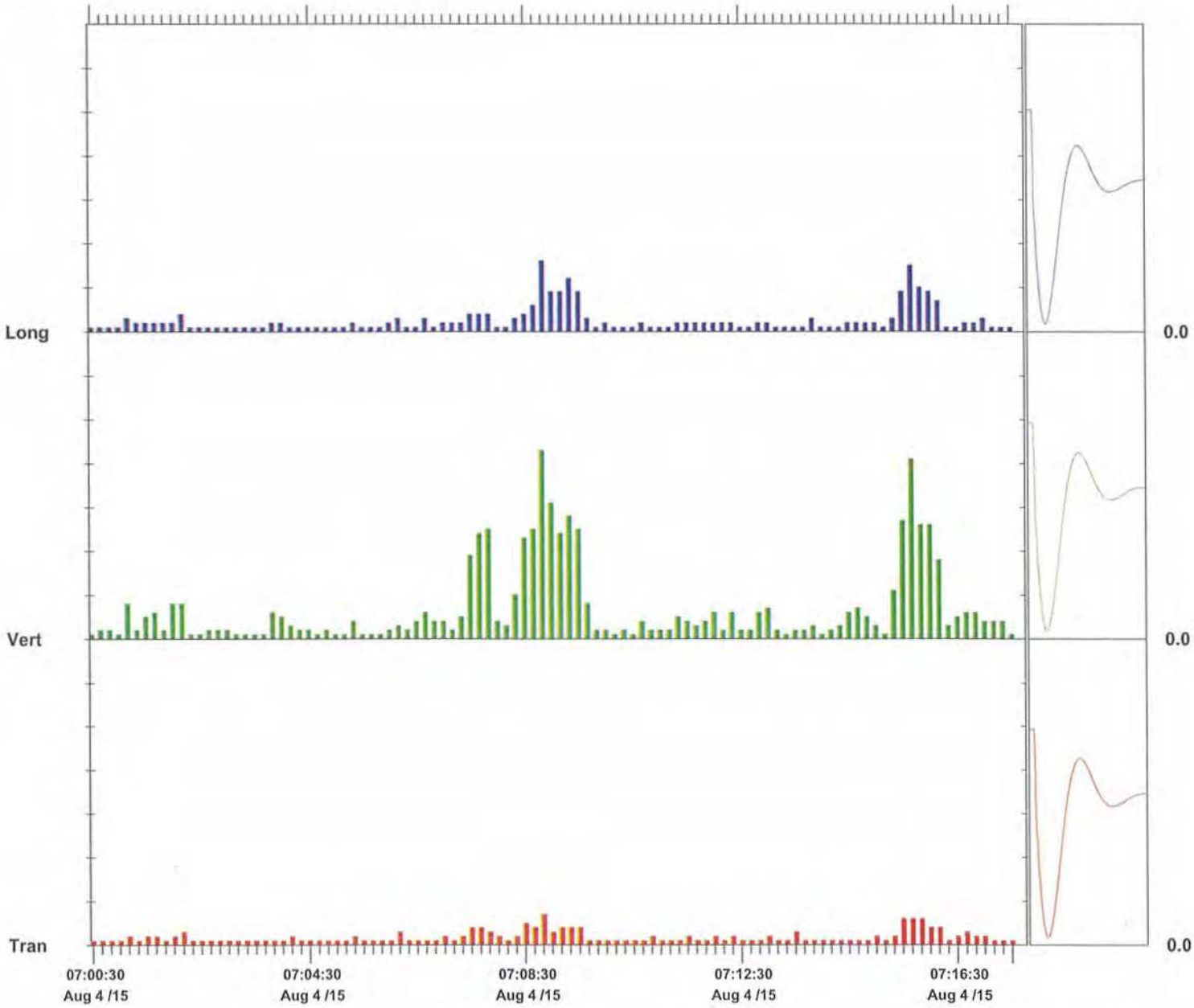
Histogram Start Time	07:00:20 August 4, 2015
Histogram Finish Time	07:17:27 August 4, 2015
Number of Intervals	205.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Water Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/29/17

Serial Number	BE17741 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	S741FYPF.GK0

Post Event Notes
VMP 2

	Tran	Vert	Long	
PPV	0.0350	0.215	0.0800	in/s
ZC Freq	34	37	43	Hz
Date	Aug 4 /15	Aug 4 /15	Aug 4 /15	
Time	07:08:45	07:08:50	07:08:50	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.5	7.4	Hz
Overswing Ratio	3.7	3.8	3.9	

Peak Vector Sum 0.215 in/s on August 4, 2015 at 07:08:50



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div

Sensor Check

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Event Report

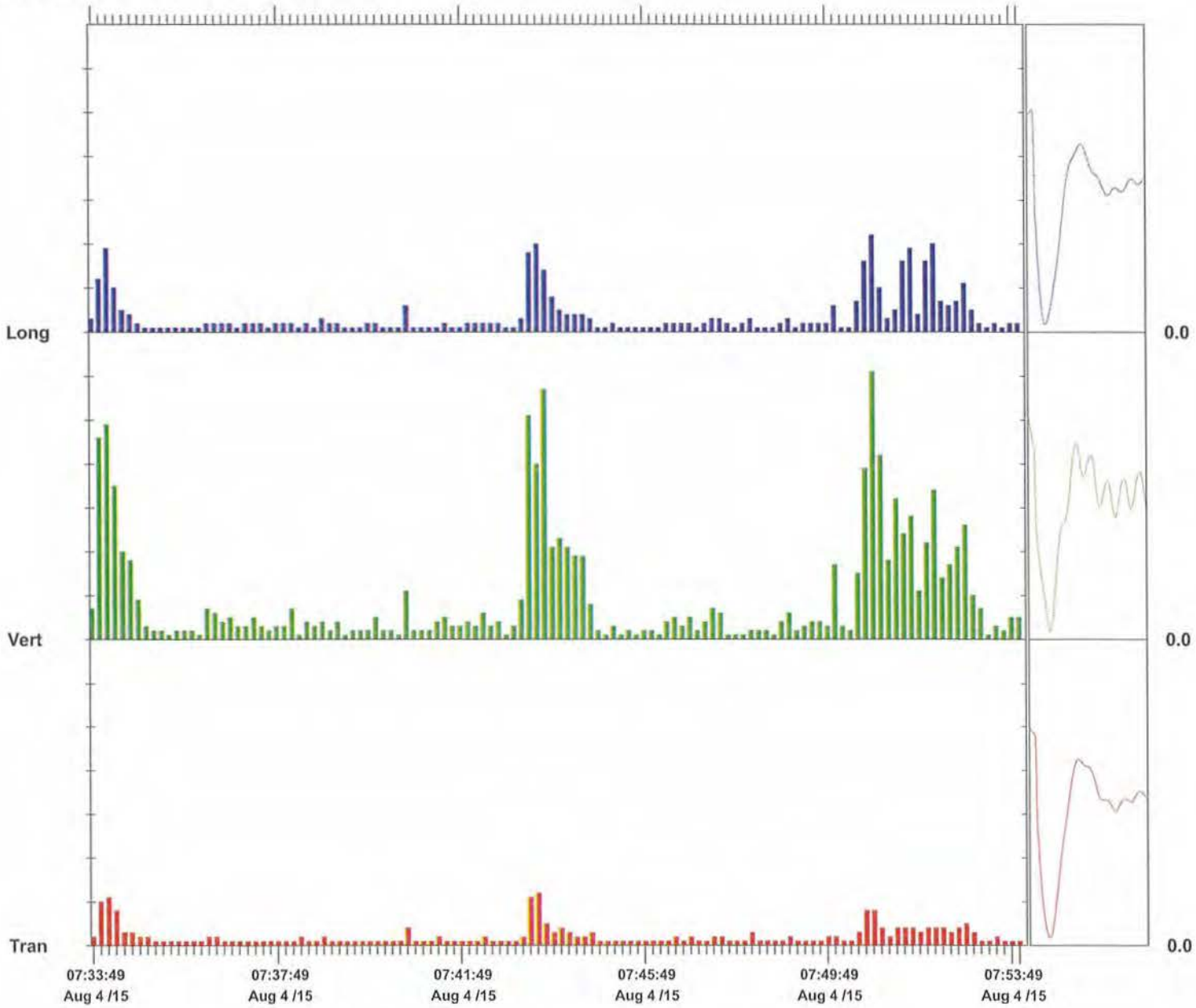
Histogram Start Time	07:33:39 August 4, 2015
Histogram Finish Time	07:53:55 August 4, 2015
Number of Intervals	243.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Water Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/27/17

Serial Number	BE17741 V 10.72-8.17 MiniMate Plus
Battery Level	6.2 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	S741FYPH.030

Post Event Notes
VMP 3

	Tran	Vert	Long	
PPV	0.0600	0.305	0.110	in/s
ZC Freq	34	39	32	Hz
Date	Aug 4 /15	Aug 4 /15	Aug 4 /15	
Time	07:43:24	07:50:49	07:50:44	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.0	7.6	Hz
Overswing Ratio	3.7	3.0	3.7	

Peak Vector Sum 0.305 in/s on August 4, 2015 at 07:50:49



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div

Sensor Check

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Event Report

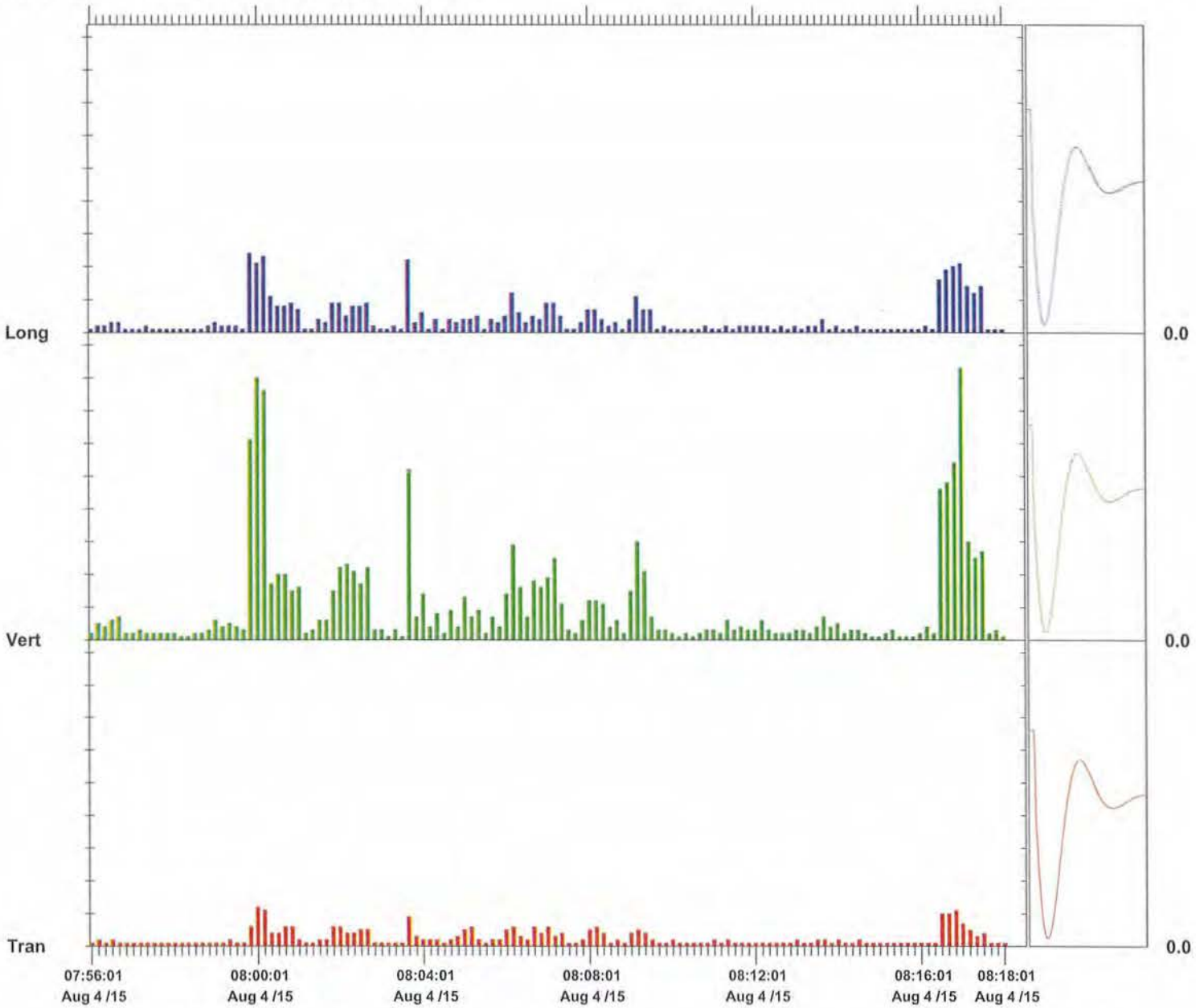
Histogram Start Time	07:55:51 August 4, 2015
Histogram Finish Time	08:18:02 August 4, 2015
Number of Intervals	266.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Water Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/27/17

Serial Number	BE17741 V 10.72-8.17 MiniMate Plus
Battery Level	6.2 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	S741FYPI.130

Post Event Notes
VMP 4

	Tran	Vert	Long	
PPV	0.0600	0.415	0.120	in/s
ZC Freq	47	39	30	Hz
Date	Aug 4 /15	Aug 4 /15	Aug 4 /15	
Time	08:00:01	08:16:56	07:59:51	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.5	7.5	Hz
Overswing Ratio	3.7	3.8	3.9	

Peak Vector Sum 0.422 in/s on August 4, 2015 at 08:16:56



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div

Sensor Check

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Event Report

Histogram Start Time	08:59:53 August 4, 2015
Histogram Finish Time	09:16:11 August 4, 2015
Number of Intervals	195.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps

Notes

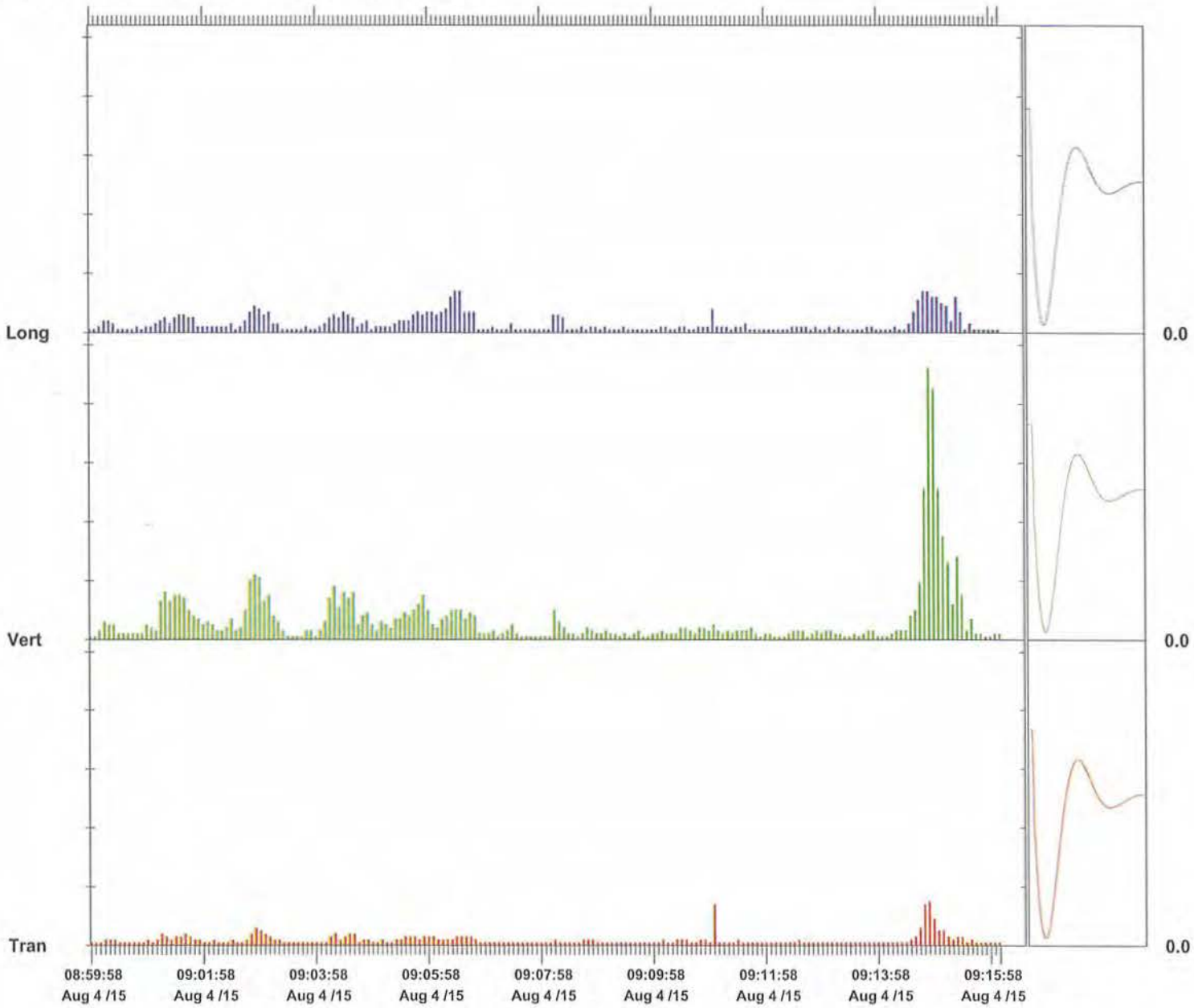
Location: SA 6 ~~South Water Main~~ North
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 1/27/17

Serial Number	BE17741 V 10.72-8.17 MiniMate Plus
Battery Level	6.2 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	S741FYPK.ZT0

Post Event Notes
VMP 4

	Tran	Vert	Long	
PPV	0.0750	0.460	0.0700	in/s
ZC Freq	34	39	30	Hz
Date	Aug 4 /15	Aug 4 /15	Aug 4 /15	
Time	09:14:53	09:14:53	09:06:28	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.5	7.4	Hz
Overswing Ratio	3.7	3.8	3.9	

Peak Vector Sum 0.463 in/s on August 4, 2015 at 09:14:53



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Sensor Check

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Event Report

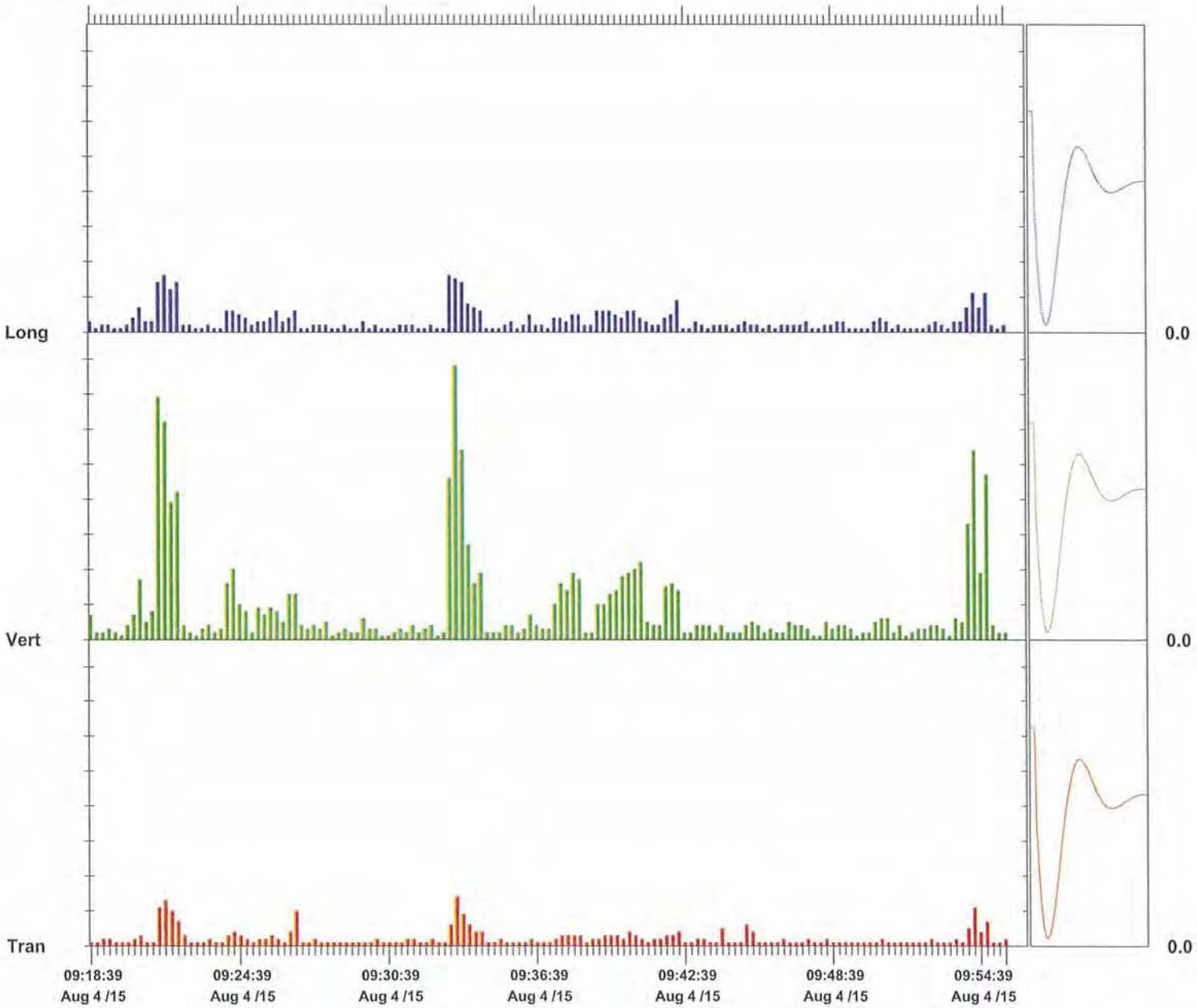
Histogram Start Time	09:18:24 August 4, 2015
Histogram Finish Time	09:55:41 August 4, 2015
Number of Intervals	447.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South~~ North Water Main
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/27/17

Serial Number	BE17741 V 10.72-8.17 MiniMate Plus
Battery Level	6.2 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	S741FYPL.UO0

Post Event Notes
VMP 5

	Tran	Vert	Long	
PPV	0.0700	0.390	0.0800	in/s
ZC Freq	37	34	43	Hz
Date	Aug 4 /15	Aug 4 /15	Aug 4 /15	
Time	09:33:19	09:33:19	09:21:39	
Sensor Check	Passed	Passed	Passed	
Frequency	7.6	7.5	7.4	Hz
Overswing Ratio	3.7	3.8	3.9	

Peak Vector Sum 0.392 in/s on August 4, 2015 at 09:33:19



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div

Sensor Check

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Instantel

Event Report

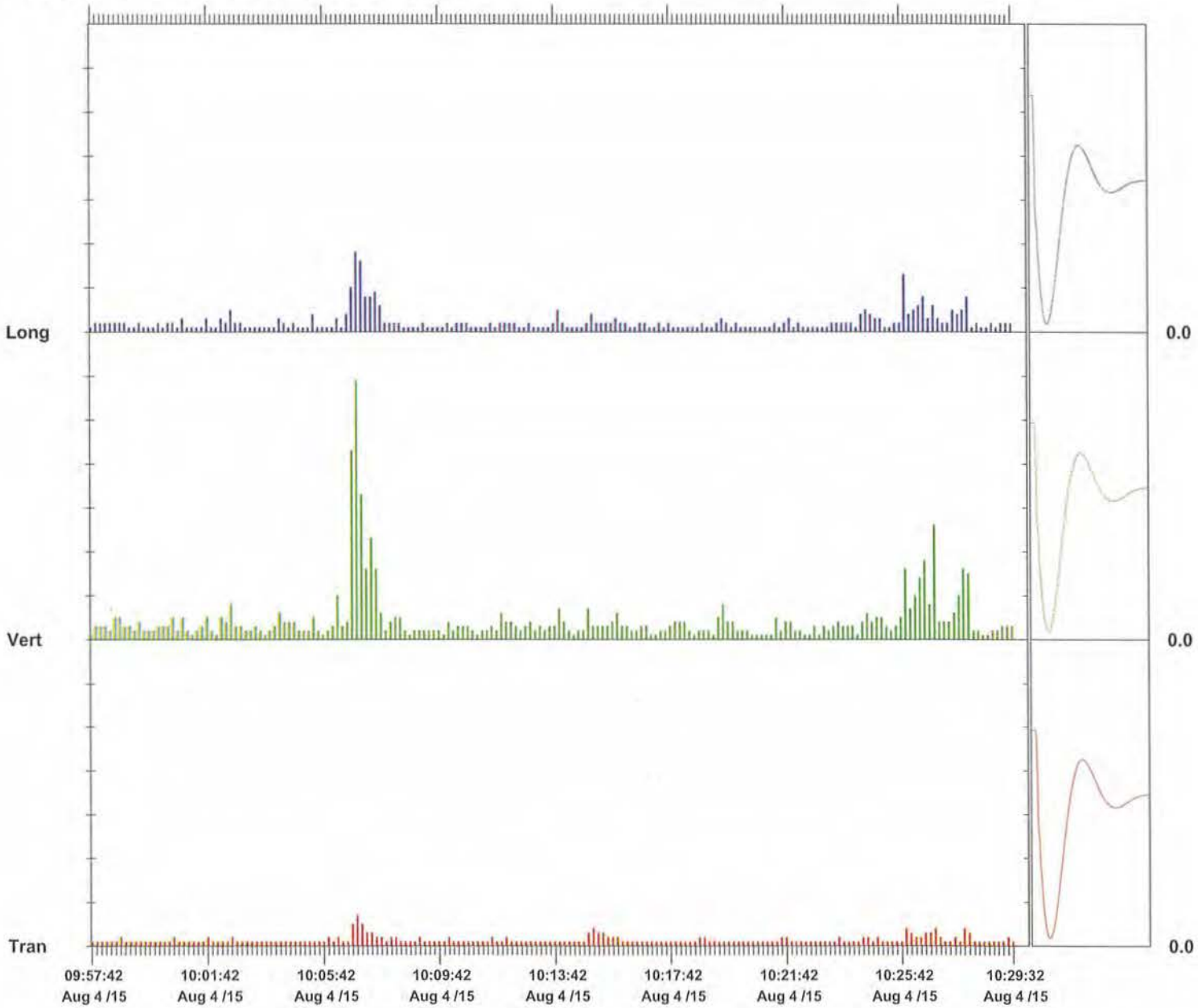
Histogram Start Time	09:57:32 August 4, 2015
Histogram Finish Time	10:29:36 August 4, 2015
Number of Intervals	384.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South~~ North Water Main
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/27/19

Serial Number	BE17741 V 10.72-8.17 MiniMate Plus
Battery Level	6.2 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	S741FYPN.NW0

Post Event Notes
VMP 6

	Tran	Vert	Long	
PPV	0.0350	0.295	0.0900	in/s
ZC Freq	32	32	37	Hz
Date	Aug 4 /15	Aug 4 /15	Aug 4 /15	
Time	10:06:47	10:06:52	10:06:52	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.5	7.6	Hz
Overswing Ratio	3.7	3.8	3.8	

Peak Vector Sum 0.305 in/s on August 4, 2015 at 10:06:52



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Instantel

Event Report

Histogram Start Time 11:09:32 August 4, 2015
Histogram Finish Time 11:27:39 August 4, 2015
Number of Intervals 217.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Notes
Location: SA 6 ~~South~~ North Gas Main
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440

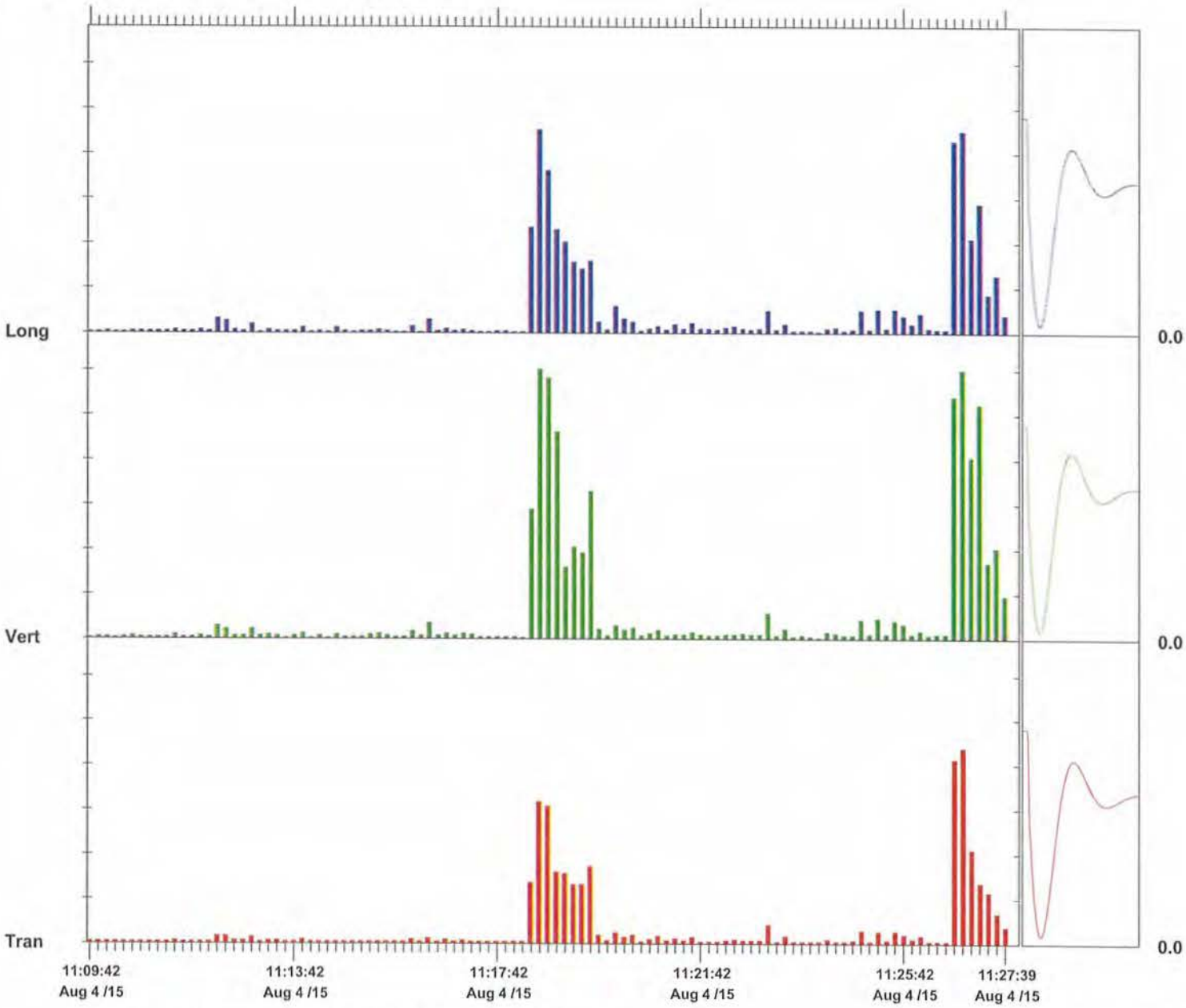
1/27/17

Serial Number BE11212 V 10.72-8.17 MiniMate Plus
Battery Level 6.4 Volts
Unit Calibration July 9, 2015 by Instantel
File Name M212FYPQ.ZW0

Post Event Notes
VMP 7

	Tran	Vert	Long	
PPV	0.875	1.20	0.905	in/s
ZC Freq	32	30	30	Hz
Date	Aug 4 /15	Aug 4 /15	Aug 4 /15	
Time	11:26:47	11:18:32	11:18:27	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.6	7.4	Hz
Overswing Ratio	3.9	3.7	3.8	

Peak Vector Sum 1.59 in/s on August 4, 2015 at 11:26:47



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.200 in/s/div

Sensor Check

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Event Report

Histogram Start Time	11:10:08 August 4, 2015
Histogram Finish Time	11:28:36 August 4, 2015
Number of Intervals	221.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South~~ North Water Main
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440

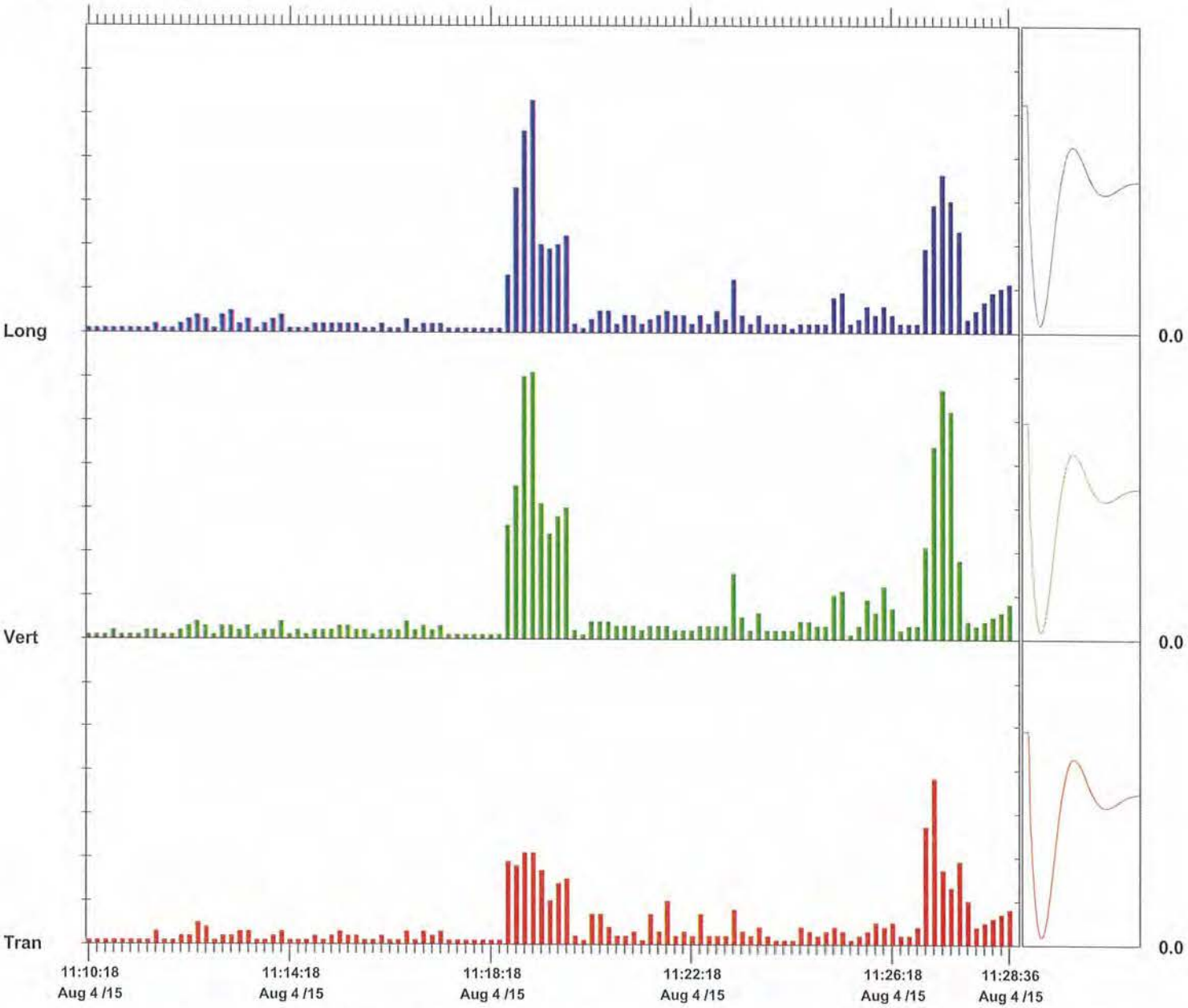
4/27/17

Serial Number	BE17741 V 10.72-8.17 MiniMate Plus
Battery Level	6.2 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	S741FYPR.0W0

Post Event Notes
Force Main - VMP 8

	Tran	Vert	Long	
PPV	0.190	0.305	0.265	in/s
ZC Freq	30	34	28	Hz
Date	Aug 4 /15	Aug 4 /15	Aug 4 /15	
Time	11:27:03	11:19:08	11:19:03	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.4	7.5	Hz
Overswing Ratio	3.7	3.7	3.7	

Peak Vector Sum 0.321 in/s on August 4, 2015 at 11:18:58



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div

Sensor Check

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Geocomp

Technologies to manage risk for infrastructure

Boston
Atlanta
Chicago
Los Angeles
New York
www.geocomp.com

Vibration Monitoring Report

Study Area 6 ~~South~~ North 1/26/17

Prepared by
Geocomp Engineering

August 5th, 2015
For ENTACT, LLC

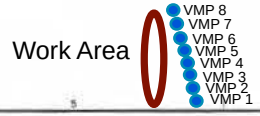
111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

NOTES:

Summary of Work:
Sheet pile driving commenced at 7:50 AM and ended at 1:30 PM. An Instantel Micromate was used to record vibrations via a geophone placed on the ground over the water main.

18 sheets were driven and brought to grade with 6 recorded exceedances, i.e., the 0.5 limit was exceeded at 7:22 AM, 7:37 AM, 7:43 AM, 9:20 AM, 10:10 AM, and 10:33 AM. See attached plan for area of work and location of the seismographs. See attached Blastware reports for PPV at these locations.

Water Main:
Trigger Level: 0.25 in/sec
Alert Level: 0.5 in/sec



Notes:

1. The work requires installation of sheet piles, drilling, and excavation in close proximity to overhead power lines and underground utilities. Coordinate access and controls with utility companies having jurisdiction over buried and overhead utilities.
2. Re-mark utility control markings daily if removed by excavation.
3. Steel sheet piling shall be unwelded, new or used in good condition, and of the sizes shown on the drawings or structural equivalent.
4. See AMEC Environment and Infrastructure, Inc. drawings for excavation subgrade elevations.
5. The angle of repose shown on the drawings is based on the definition and requirements provided by PSE&G.
6. Final wet locations subject to location of gas main, determined by test pits.
7. Pre-excavate as required to remove obstructions within the fill prior to driving sheet piling.
8. Handle sheet piling in a manner which prevents damage to the sheet piling. Use standard safety lifting devices, use lifting holes or provide secondary support during lifting.
9. Discontinue spudding more than 5 ft. above the minimum tip elevations indicated herein.
10. Stage pile driving and stop sheet piling tips as necessary to maintain interlocks. Remove and replace steel sheet piling found to be out of interlock, out of tolerance, damaged, or otherwise deficient.
11. Use drive templates and guides to maintain pile alignment and install piles plumb.
12. Sheet piling may be welded to adjacent sheets if required to control settlement during driving.
13. Spliced sheet piling shall be free sliding and able to obtain the maximum swing with contiguous piles. Splice welds shall develop the full structural strength of the member.
14. Drive templates: Prior to driving, provide template or driving frame suitable for aligning, supporting, and maintaining the sheet piling in the correct location and vertically during setting and driving. Fix template in place to prevent movement during sheet pile driving. Provide restraint necessary to prevent the sheets from swaying or wandering from the alignment, or from rocking along the alignment.
15. Provide continuous inspection of sheet pile driving. Inspect location and vertically when setting sheets, and when sheets are driven half depth.
16. Maintain pile driving inspection record for each pair driven. Indicate pile hammer, rate of operation, energy, use of drive helmet and cap, etc. Provide a unique number for each pair, and indicate location on alignment. Document installation date, set time, drive duration, and time drive completed, initial pile length, re-heading or cutting length(s), and any additional information required for record drawings. Record unusual conditions or problems observed during driving.
17. Soldier piles and wales shown are minimum sizes. Substitution with members of equivalent or higher capacity is allowed.
18. Shop and field welding procedures, electrode classification (E7010), and preheat temperature shall conform to AWS D1.1. Welders shall be certified in accordance with AWS D1.1 criteria.
19. Drill soldier pile using methods approved by the Engineer.
20. Operator excavations to provide stable subgrade and to restore (if uplift pressure below all sewers, force mains or other active utilities as may be required, as determined by the Engineer. Install piezometer within 10 feet of 48 inch sewer to monitor groundwater level.
21. Survey to establish construction station baseline and establish monitoring points.
22. Set permanent monitoring point on top of sheet piling and soldier piles. Grind smooth surface for point. If required Mark point ID. At contractor option, GMP points may be reflective targets for total station surveys.
23. Survey location of monitoring point, (X, Y, Z) (baseline reading).
24. Survey location (X, Y, Z) ten additional times, on separate days before performing excavation within 50 ft. of monitoring point.
25. Survey monitoring point (X, Y, Z) daily, or more often at Engineer direction, when excavating within 50 ft. of monitoring point. For each reading event document survey date, time, reading change from previous reading, and reading change from baseline. Provide readings for Construction Manager review during active excavation.
26. Monitor vibrations at the ground surface above the gas main, force main, and sewer under Route 440 adjacent to the excavations within 25 feet.
27. Advise the Construction Manager of vibration monitoring data. Limiting values are:
    Gas Main - 2.0 in/sec
    Sewer & F.M. - 1.0 in/sec

    If limiting values are exceeded, the contractor shall notify the CM and cease work until adequate measures are taken to reduce vibrations.
28. Elevation are based on NGVD 1929 Datum.

NO.	DATE	REVISION	DR	CHK	APVD
1	10/31/14	ISSUED FOR NJDOT REVIEW		GP	
0	09/17/13	ISSUED FOR CONSTRUCTION		FWD	BY JWVD

PEER REVIEWED

Honeywell

CHROMIUM REMEDY
STUDY AREA 8 NORTH
SITES 867 AND 868
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
TEMPORARY
SUPPORT OF EXCAVATION
KEY PLAN AND NOTES

FILE NUMBER 11173

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA - 225 WEST 34TH STREET, NEW YORK, NY 10122

amec

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE
PROJ: 3480-12-0317
DWG: SN-501
SHEET 52 OF 70

Instantel

Event Report

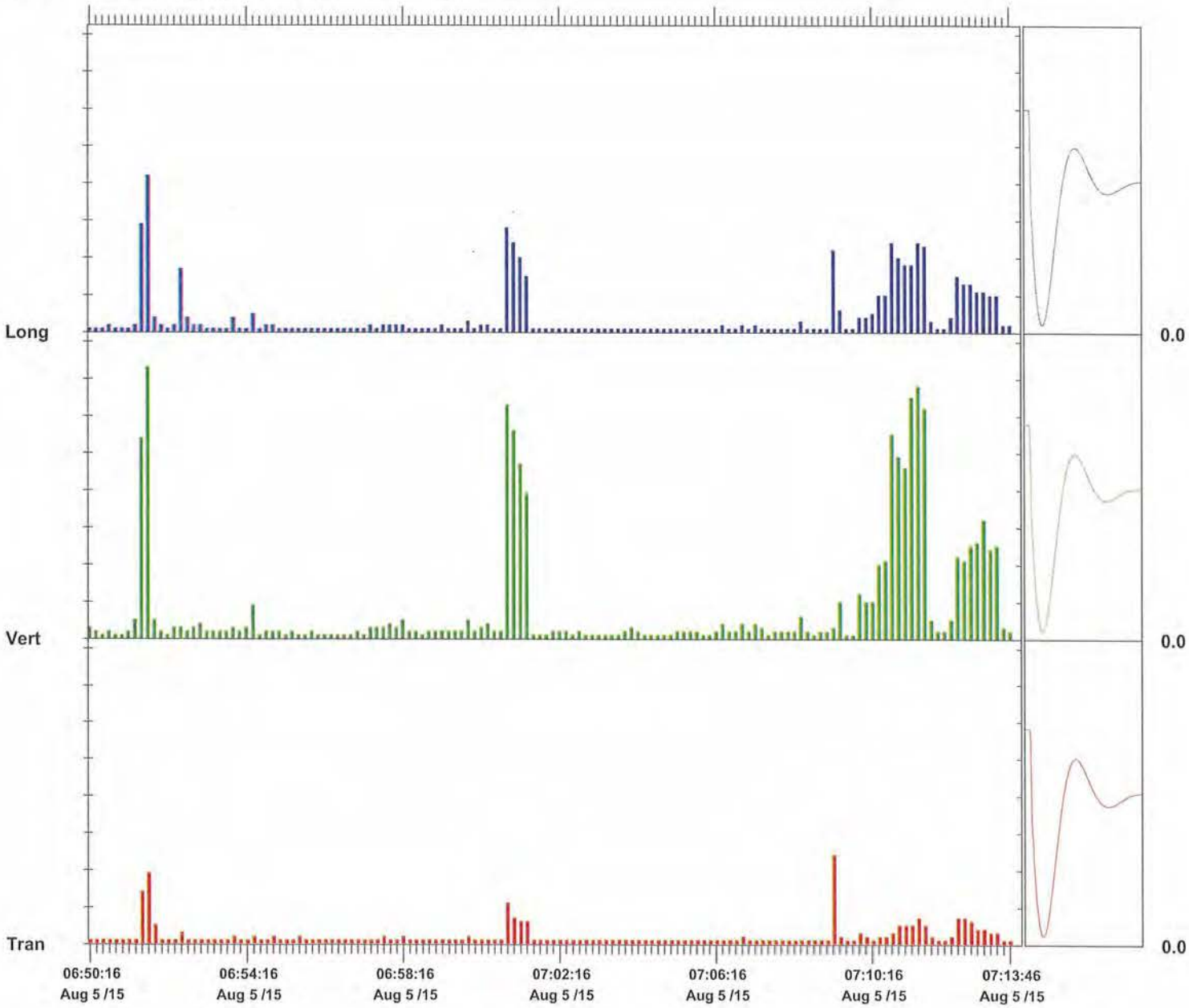
Histogram Start Time 06:50:06 August 5, 2015
Histogram Finish Time 07:13:47 August 5, 2015
Number of Intervals 284.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Notes
Location: SA 6 ~~South Water Main~~ North
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 1/26/17

Serial Number BE17741 V 10.72-8.17 MiniMate Plus
Battery Level 6.3 Volts
Unit Calibration July 9, 2015 by Instantel
File Name S741FYR9.NI0

Post Event Notes
VMP 1

	Tran	Vert	Long	
PPV	0.120	0.365	0.210	in/s
ZC Freq	16	28	32	Hz
Date	Aug 5 /15	Aug 5 /15	Aug 5 /15	
Time	07:09:16	06:51:41	06:51:41	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.5	7.4	Hz
Overswing Ratio	3.7	3.8	3.9	

Peak Vector Sum 0.419 in/s on August 5, 2015 at 06:51:41



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div

Sensor Check

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Event Report

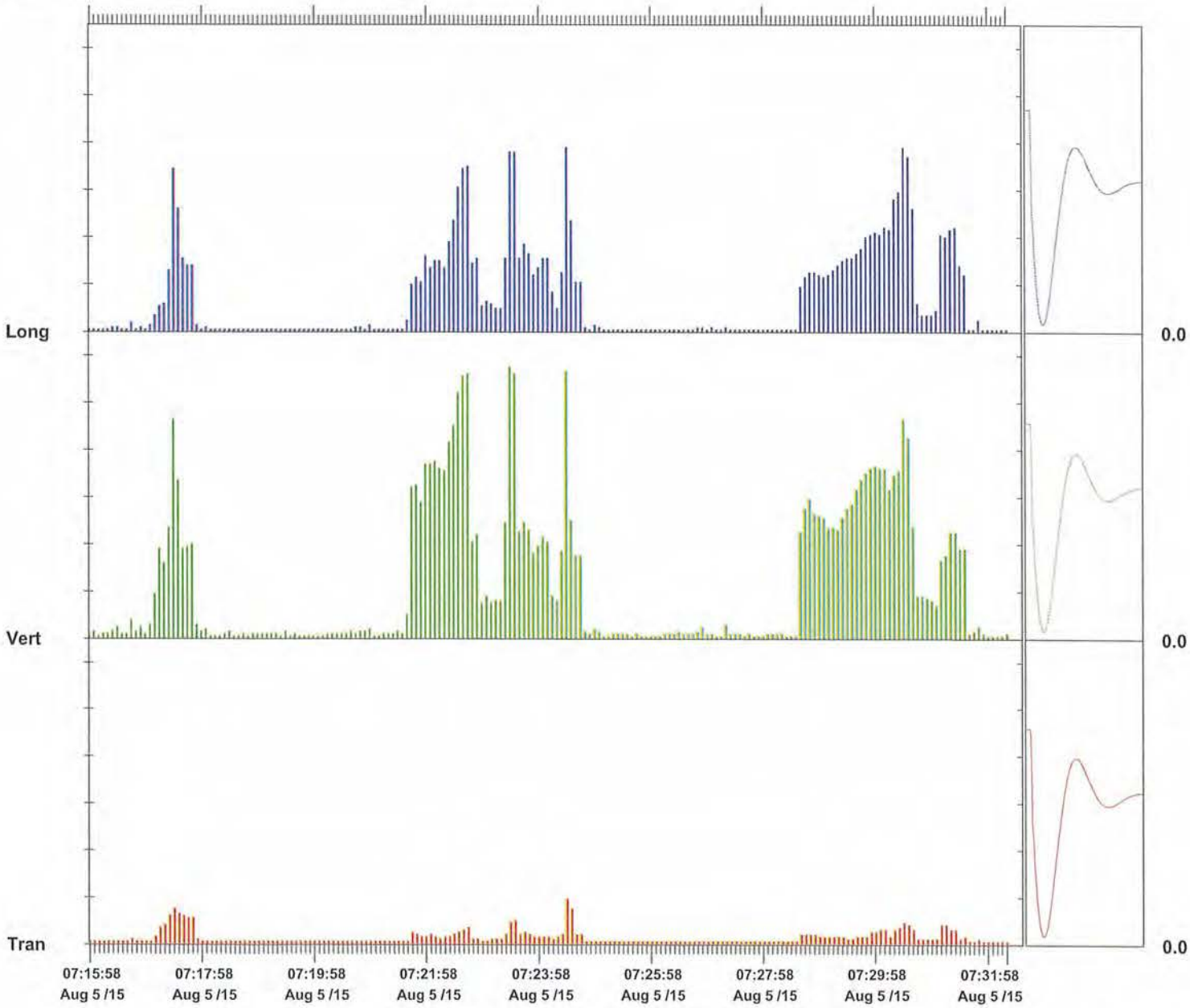
Histogram Start Time	07:15:53 August 5, 2015
Histogram Finish Time	07:32:21 August 5, 2015
Number of Intervals	197.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Water Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/26/17

Serial Number	BE17741 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	S741FYRA.UH0

Post Event Notes
VMP 2

	Tran	Vert	Long	
PPV	0.0950	0.575	0.390	in/s
ZC Freq	43	32	34	Hz
Date	Aug 5 /15	Aug 5 /15	Aug 5 /15	
Time	07:24:28	07:23:28	07:24:28	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.5	7.5	Hz
Overswing Ratio	3.7	3.9	3.9	

Peak Vector Sum 0.661 in/s on August 5, 2015 at 07:23:28



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div

Sensor Check

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Instantel

Event Report

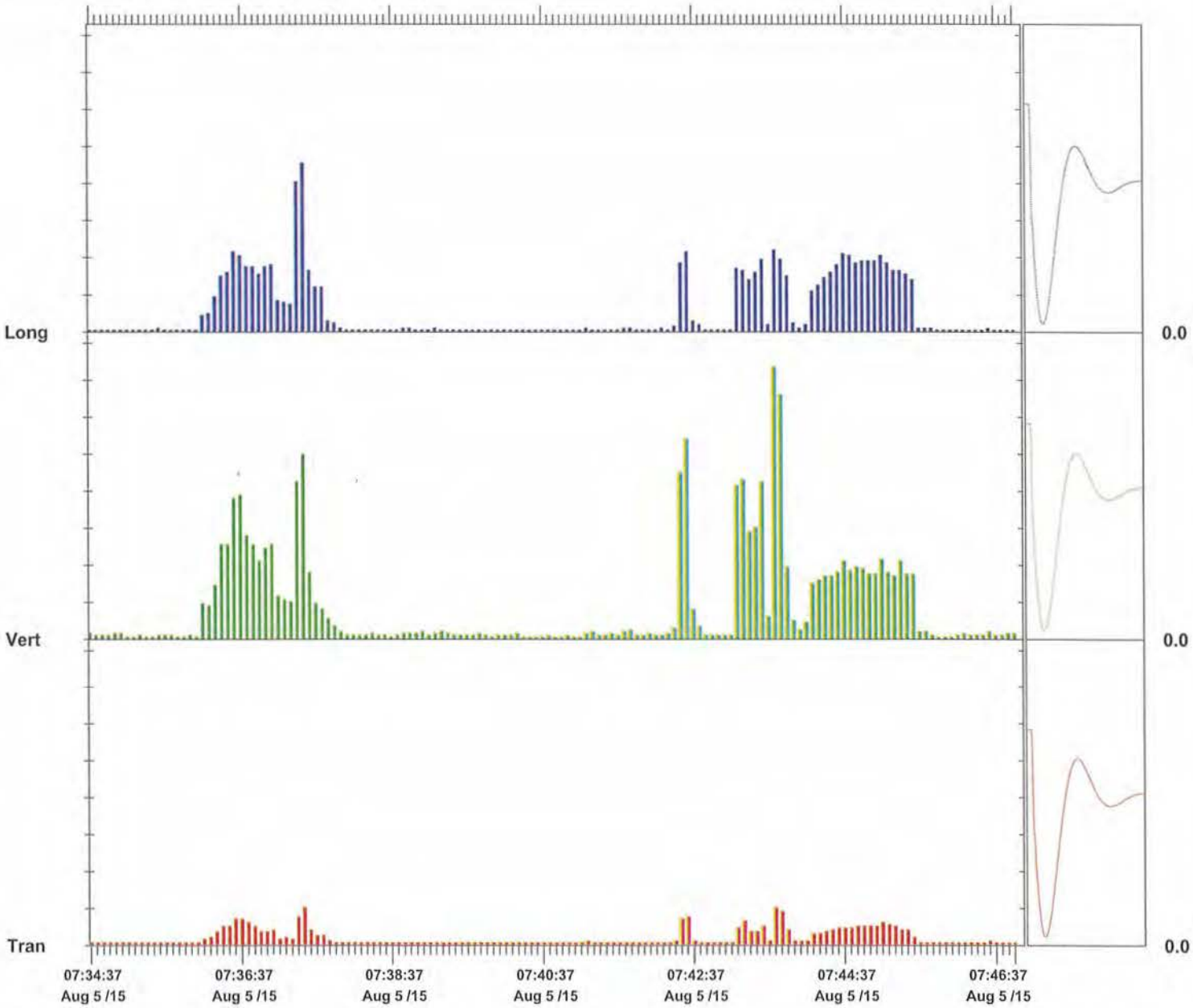
Histogram Start Time 07:34:32 August 5, 2015
Histogram Finish Time 07:46:53 August 5, 2015
Number of Intervals 148.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Notes
Location: SA 6 ~~South Water Main~~ North
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 1/20/17

Serial Number BE17741 V 10.72-8.17 MiniMate Plus
Battery Level 6.3 Volts
Unit Calibration July 9, 2015 by Instantel
File Name S741FYRB.PK0

Post Event Notes
VMP 3

	Tran	Vert	Long	
PPV	0.1000	0.735	0.455	in/s
ZC Freq	39	34	32	Hz
Date	Aug 5 /15	Aug 5 /15	Aug 5 /15	
Time	07:37:27	07:43:42	07:37:27	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.4	7.5	Hz
Overswing Ratio	3.8	3.8	3.8	

Peak Vector Sum 0.743 in/s on August 5, 2015 at 07:43:42



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div

Sensor Check

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Instantel

Event Report

Histogram Start Time	07:47:43 August 5, 2015
Histogram Finish Time	07:54:16 August 5, 2015
Number of Intervals	78.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps

Notes

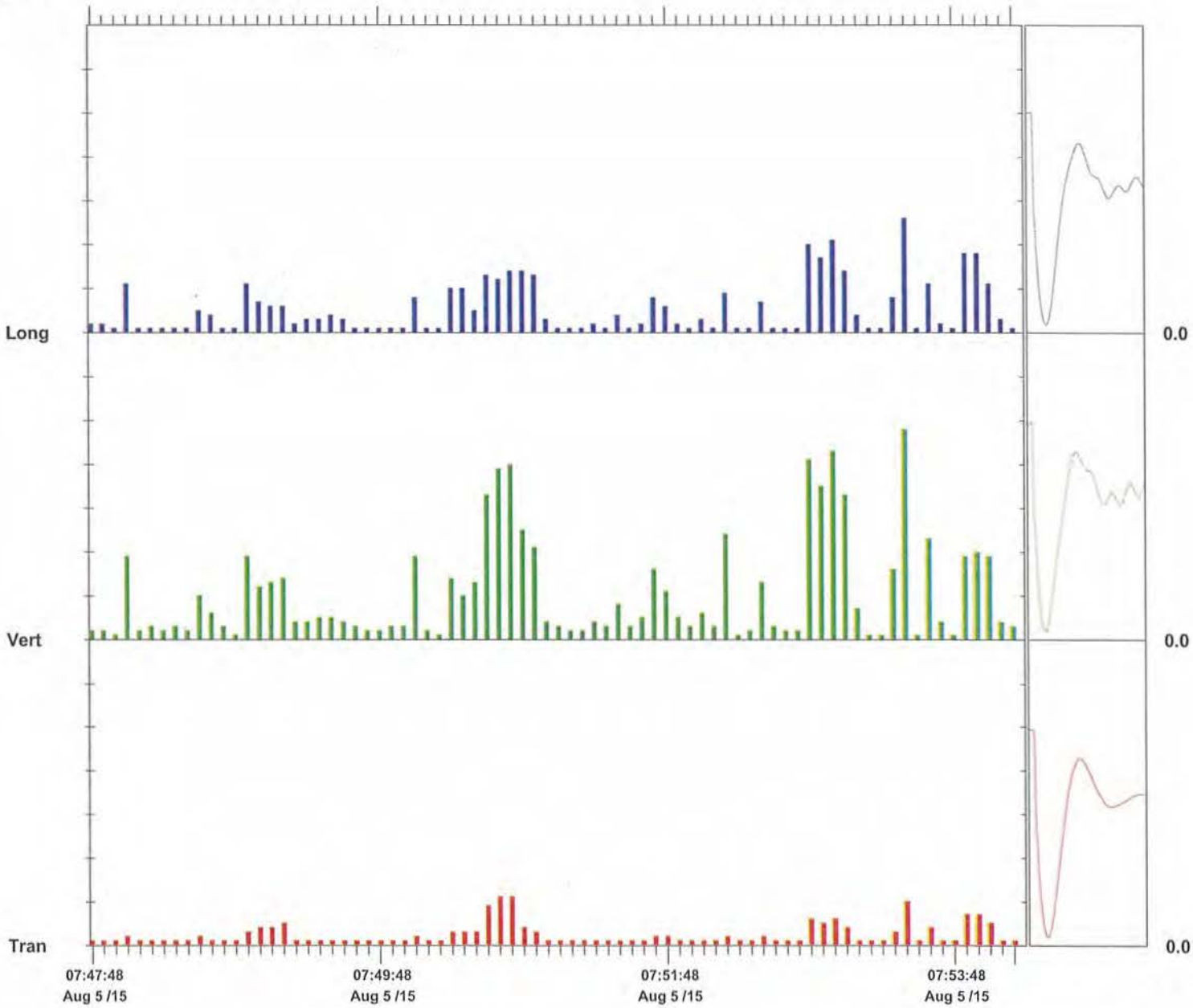
Location: SA 6 ~~South Water Main~~ North
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 7/26/17

Serial Number	BE17741 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	S741FYRC.BJ0

Post Event Notes
VMP 2

	Tran	Vert	Long	
PPV	0.0550	0.240	0.130	in/s
ZC Freq	32	18	18	Hz
Date	Aug 5 /15	Aug 5 /15	Aug 5 /15	
Time	07:50:38	07:53:28	07:53:28	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.4	7.4	Hz
Overswing Ratio	3.7	3.6	3.5	

Peak Vector Sum 0.266 in/s on August 5, 2015 at 07:53:28



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div

Sensor Check

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Event Report

Histogram Start Time	07:55:03 August 5, 2015
Histogram Finish Time	08:05:51 August 5, 2015
Number of Intervals	129.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps

Notes

Location:	SA 6 ~~South Water Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street~~ and Route 440

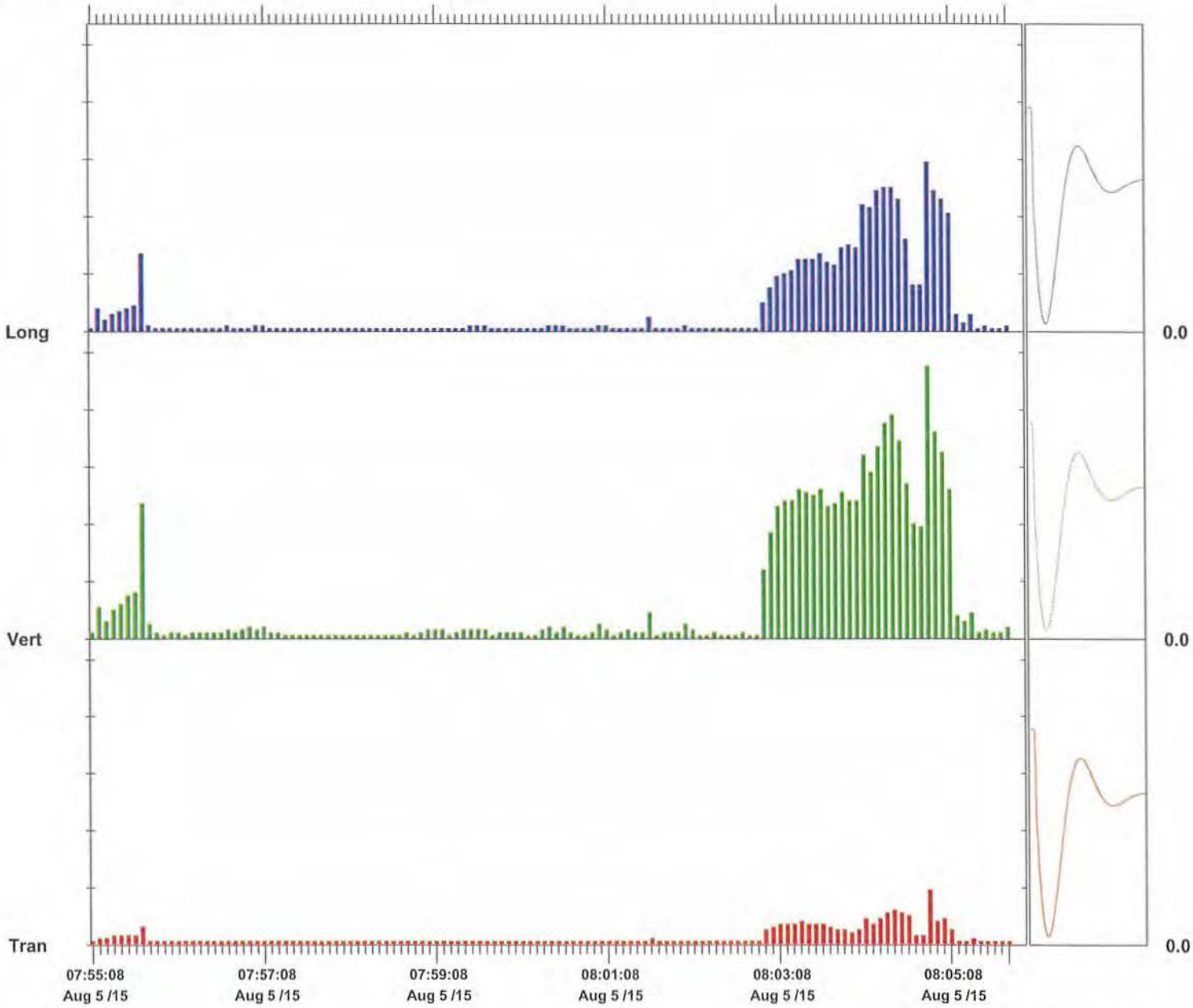
1/26/17

Serial Number	BE17741 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	S741FYRC.NR0

Post Event Notes
VMP 3

	Tran	Vert	Long	
PPV	0.0950	0.475	0.295	in/s
ZC Freq	30	28	30	Hz
Date	Aug 5 /15	Aug 5 /15	Aug 5 /15	
Time	08:04:53	08:04:53	08:04:53	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.4	7.4	Hz
Overswing Ratio	3.7	3.8	3.9	

Peak Vector Sum 0.551 in/s on August 5, 2015 at 08:04:53



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div

Sensor Check

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Instantel

Event Report

Histogram Start Time	08:07:19 August 5, 2015
Histogram Finish Time	08:12:49 August 5, 2015
Number of Intervals	65.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps

Notes

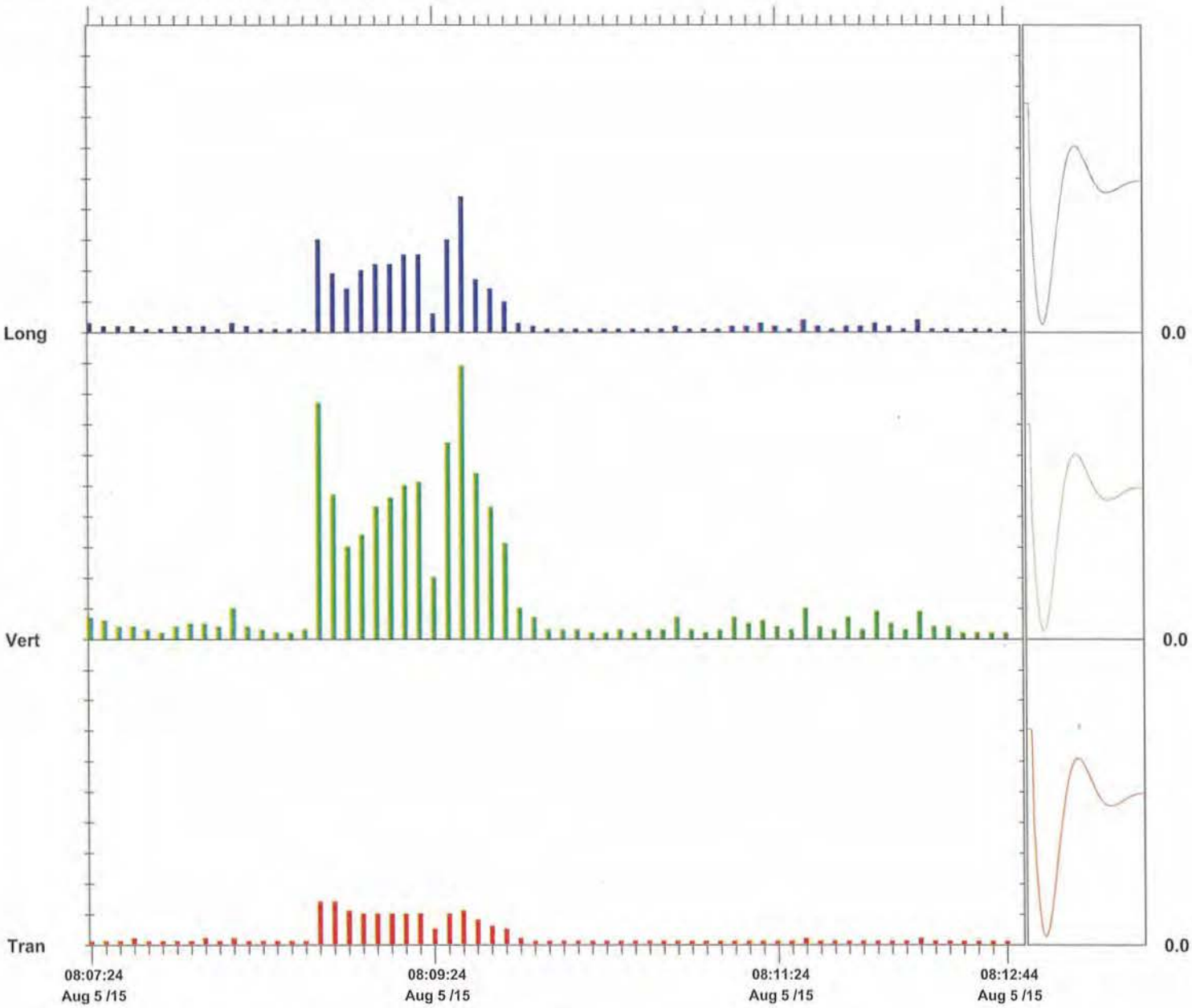
Location:	SA 6 ~~South Water Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 7/26/17

Serial Number	BE17741 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	S741FYRD.870

Post Event Notes
VMP 4

	Tran	Vert	Long	
PPV	0.0700	0.445	0.220	in/s
ZC Freq	30	32	32	Hz
Date	Aug 5 /15	Aug 5 /15	Aug 5 /15	
Time	08:08:44	08:09:34	08:09:34	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.5	7.5	Hz
Overswing Ratio	3.8	3.9	3.8	

Peak Vector Sum 0.480 in/s on August 5, 2015 at 08:09:34



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

Format © 1995-2013 Xmark Corporation

Event Report

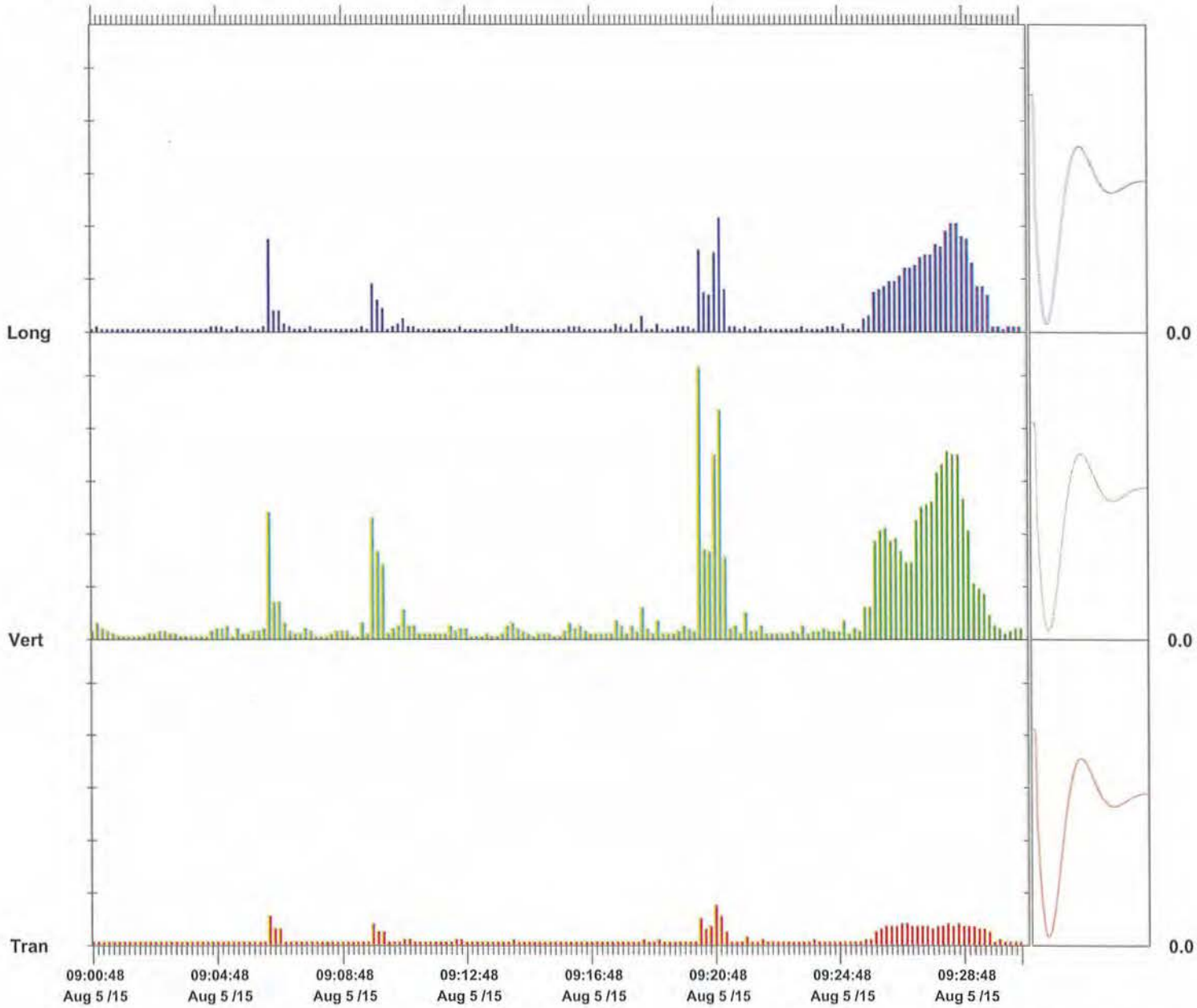
Histogram Start Time	09:00:38 August 5, 2015
Histogram Finish Time	09:30:39 August 5, 2015
Number of Intervals	360.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Water Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440 1/26/19

Serial Number	BE17741 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	S741FYRF.P20

Post Event Notes
VMP 4

	Tran	Vert	Long	
PPV	0.0750	0.515	0.215	in/s
ZC Freq	43	20	32	Hz
Date	Aug 5 /15	Aug 5 /15	Aug 5 /15	
Time	09:20:48	09:20:13	09:20:53	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.5	7.5	Hz
Overswing Ratio	3.7	3.8	3.9	

Peak Vector Sum 0.527 in/s on August 5, 2015 at 09:20:13



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div

Sensor Check

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Instantel

Event Report

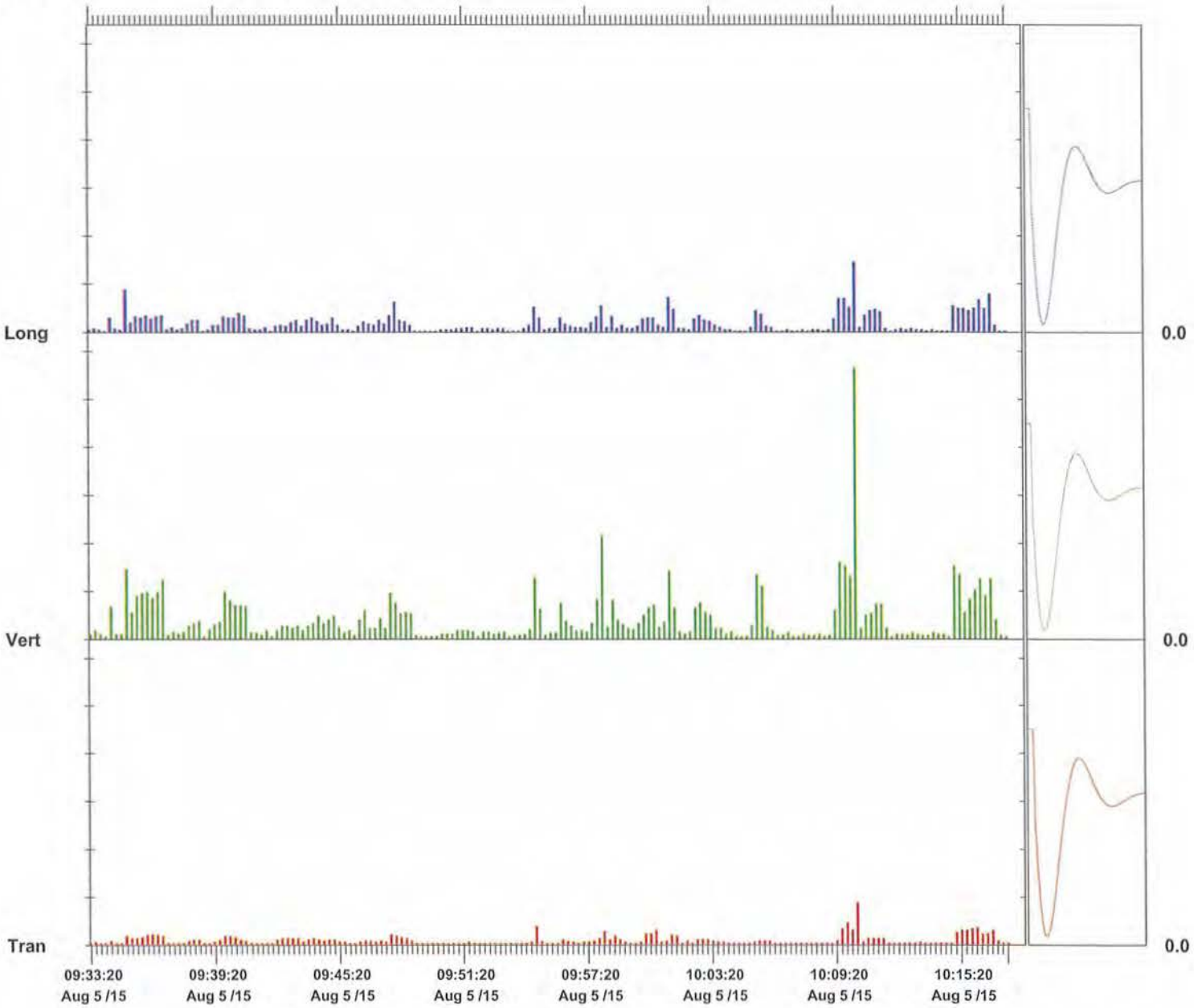
Histogram Start Time	09:33:05 August 5, 2015
Histogram Finish Time	10:17:29 August 5, 2015
Number of Intervals	532.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Water Main~~
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440

Serial Number	BE17741 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	S741FYRH.750

Post Event Notes
VMP 5

	Tran	Vert	Long	
PPV	0.175	1.13	0.290	in/s
ZC Freq	28	39	39	Hz
Date	Aug 5 /15	Aug 5 /15	Aug 5 /15	
Time	10:10:15	10:10:15	10:10:15	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.5	7.4	Hz
Overswing Ratio	3.7	3.8	3.8	

Peak Vector Sum 1.13 in/s on August 5, 2015 at 10:10:15



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.200 in/s/div

Sensor Check

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Instantel

Event Report

Histogram Start Time	10:19:18 August 5, 2015
Histogram Finish Time	10:25:16 August 5, 2015
Number of Intervals	71.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps

Notes

Location: SA 6 ~~South Water Main~~ North
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440

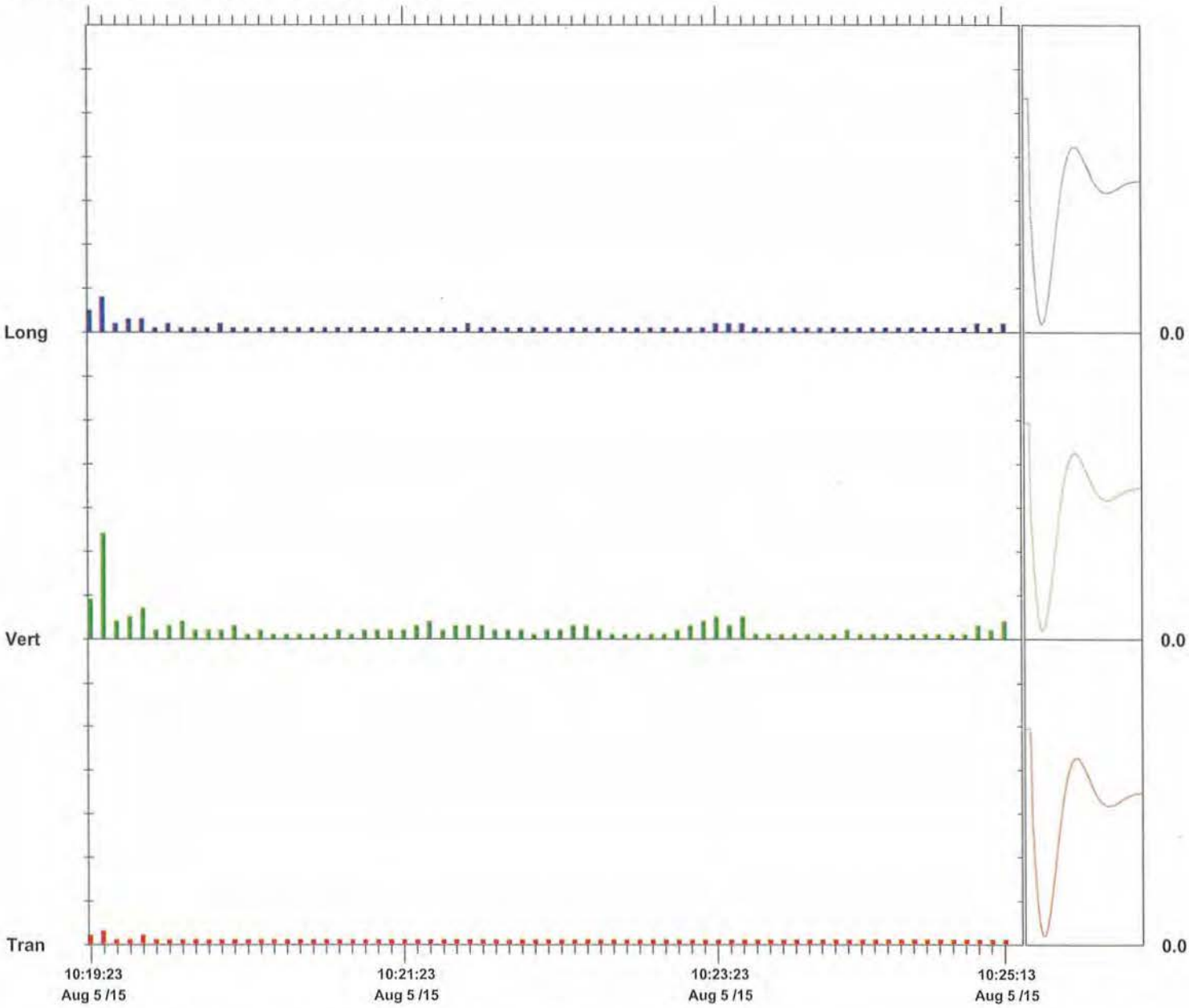
1/20/17

Serial Number	BE17741 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	S741FYRJ.C60

Post Event Notes
VMP 3

	Tran	Vert	Long	
PPV	0.0150	0.120	0.0400	in/s
ZC Freq	57	37	43	Hz
Date	Aug 5 /15	Aug 5 /15	Aug 5 /15	
Time	10:19:28	10:19:28	10:19:28	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.5	7.5	Hz
Overswing Ratio	3.7	3.8	3.9	

Peak Vector Sum 0.124 in/s on August 5, 2015 at 10:19:28



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div

Sensor Check

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Instantel

Event Report

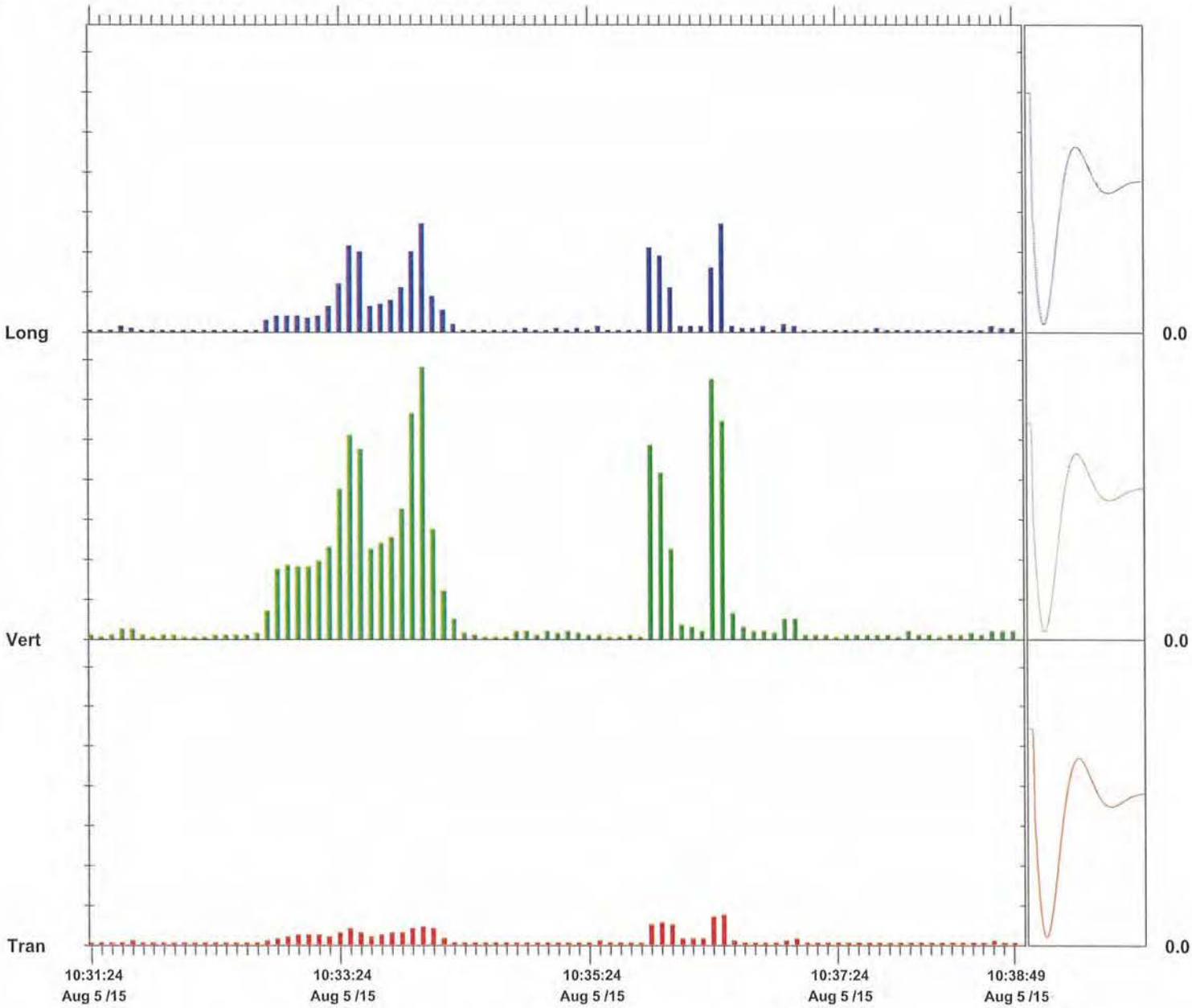
Histogram Start Time 10:31:19 August 5, 2015
Histogram Finish Time 10:38:51 August 5, 2015
Number of Intervals 90.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Notes
Location: SA 6 ~~South Water~~ Main North
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 1/26/17

Serial Number BE17741 V 10.72-8.17 MiniMate Plus
Battery Level 6.2 Volts
Unit Calibration July 9, 2015 by Instantel
File Name S741FYRJ.W70

Post Event Notes
VMP 5

	Tran	Vert	Long	
PPV	0.0750	0.680	0.270	in/s
ZC Freq	28	34	32	Hz
Date	Aug 5 /15	Aug 5 /15	Aug 5 /15	
Time	10:36:29	10:34:04	10:34:04	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.4	7.4	Hz
Overswing Ratio	3.7	3.8	3.9	

Peak Vector Sum 0.730 in/s on August 5, 2015 at 10:34:04



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Sensor Check

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Instantel

Event Report

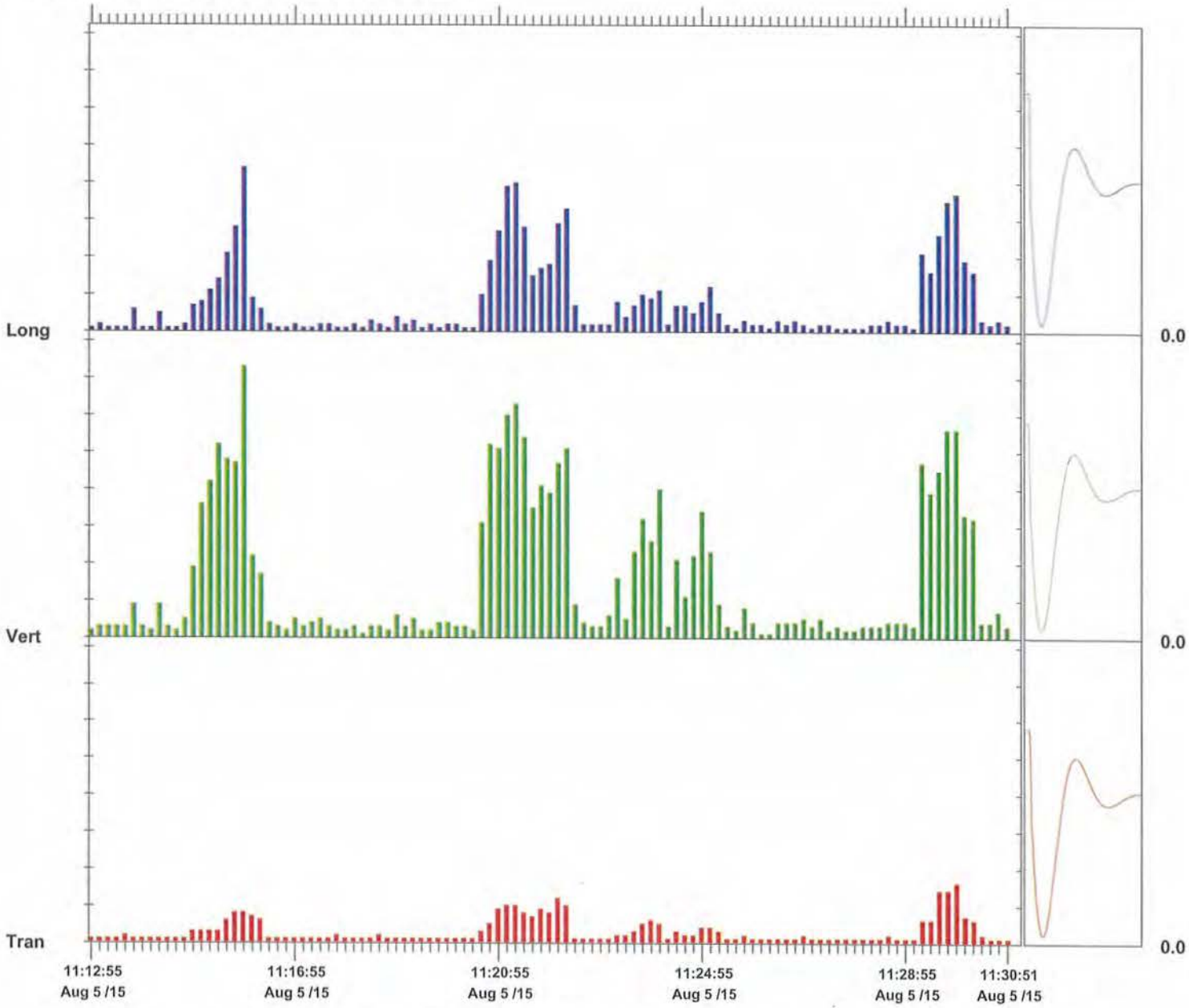
Histogram Start Time 11:12:45 August 5, 2015
Histogram Finish Time 11:30:51 August 5, 2015
Number of Intervals 217.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Notes
Location: SA 6 ~~South Water Main~~ North
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 1/20/17

Serial Number BE17741 V 10.72-8.17 MiniMate Plus
Battery Level 6.2 Volts
Unit Calibration July 9, 2015 by Instantel
File Name S741FYRL.T90

Post Event Notes
VMP 6

	Tran	Vert	Long	
PPV	0.0800	0.365	0.220	in/s
ZC Freq	32	30	32	Hz
Date	Aug 5 /15	Aug 5 /15	Aug 5 /15	
Time	11:29:50	11:15:50	11:15:50	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.5	7.5	Hz
Overswing Ratio	3.7	3.8	3.9	

Peak Vector Sum 0.418 in/s on August 5, 2015 at 11:15:50



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div

Sensor Check

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Instantel

Event Report

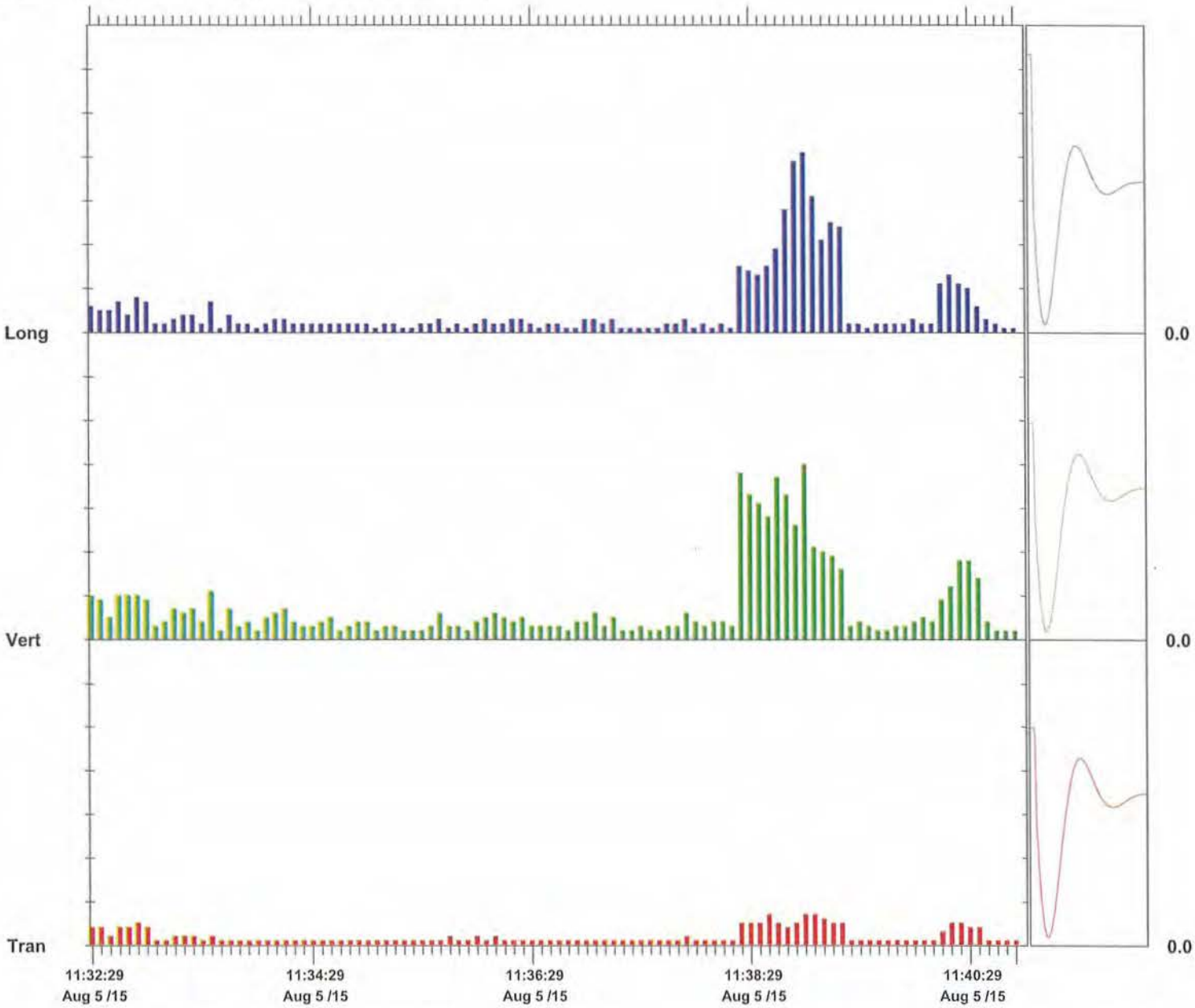
Histogram Start Time	11:32:24 August 5, 2015
Histogram Finish Time	11:40:56 August 5, 2015
Number of Intervals	102.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	SA 6 ~~South Water Main~~ North
Client:	Entact
User Name:	Geocomp
General:	~~Kellogg Street and~~ Route 440

Serial Number	BE17741 V 10.72-8.17 MiniMate Plus
Battery Level	6.2 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	S741FYRM.Q00

Post Event Notes
VMP 5

	Tran	Vert	Long	
PPV	0.0350	0.200	0.205	in/s
ZC Freq	34	32	34	Hz
Date	Aug 5 /15	Aug 5 /15	Aug 5 /15	
Time	11:38:39	11:38:59	11:38:59	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.5	7.7	Hz
Overswing Ratio	3.7	3.9	3.7	

Peak Vector Sum 0.287 in/s on August 5, 2015 at 11:38:59



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div

Sensor Check

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Instantel

Event Report

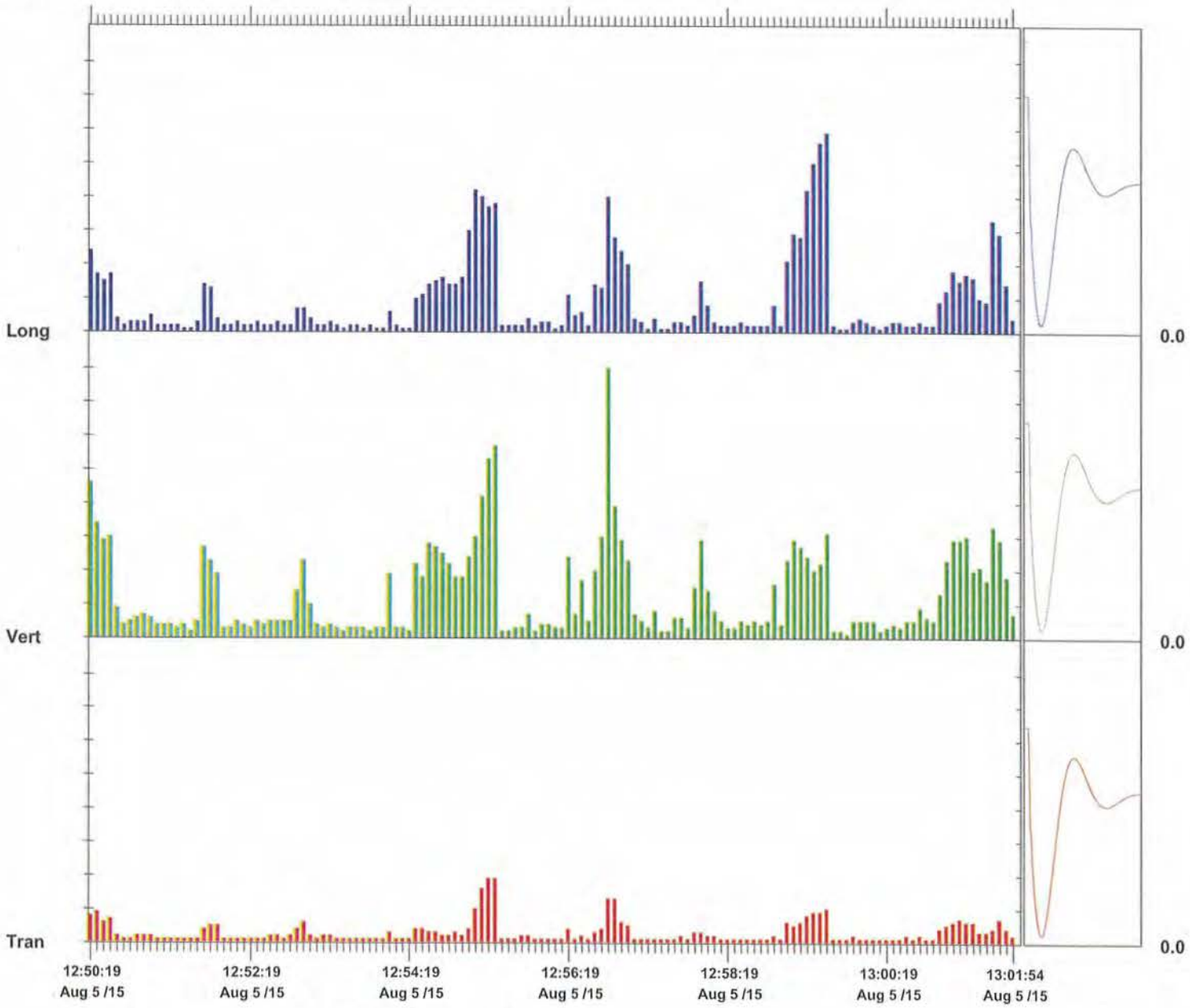
Histogram Start Time 12:50:14 August 5, 2015
Histogram Finish Time 13:01:58 August 5, 2015
Number of Intervals 140.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Notes
Location: SA 6 ~~South Water Main~~ North
Client: Entact
User Name: Geocomp
General: ~~Kellogg Street and~~ Route 440 1/26/17

Serial Number BE17741 V 10.72-8.17 MiniMate Plus
Battery Level 6.3 Volts
Unit Calibration July 9, 2015 by Instantel
File Name S741FYRQ.BQ0

Post Event Notes
VMP 7

	Tran	Vert	Long	
PPV	0.0950	0.400	0.295	in/s
ZC Freq	30	32	39	Hz
Date	Aug 5 /15	Aug 5 /15	Aug 5 /15	
Time	12:55:19	12:56:49	12:59:34	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.5	7.5	Hz
Overswing Ratio	3.6	3.7	3.8	

Peak Vector Sum 0.401 in/s on August 5, 2015 at 12:56:49



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div

Sensor Check

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Event Report

Histogram Start Time	13:03:15 August 5, 2015
Histogram Finish Time	13:28:16 August 5, 2015
Number of Intervals	300.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Serial Number	BE17741 V 10.72-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	July 9, 2015 by Instantel
File Name	S741FYRQ.XF0

Notes

Location: SA 6 ~~South Water~~ Main North

Client: Entact

User Name: Geocomp

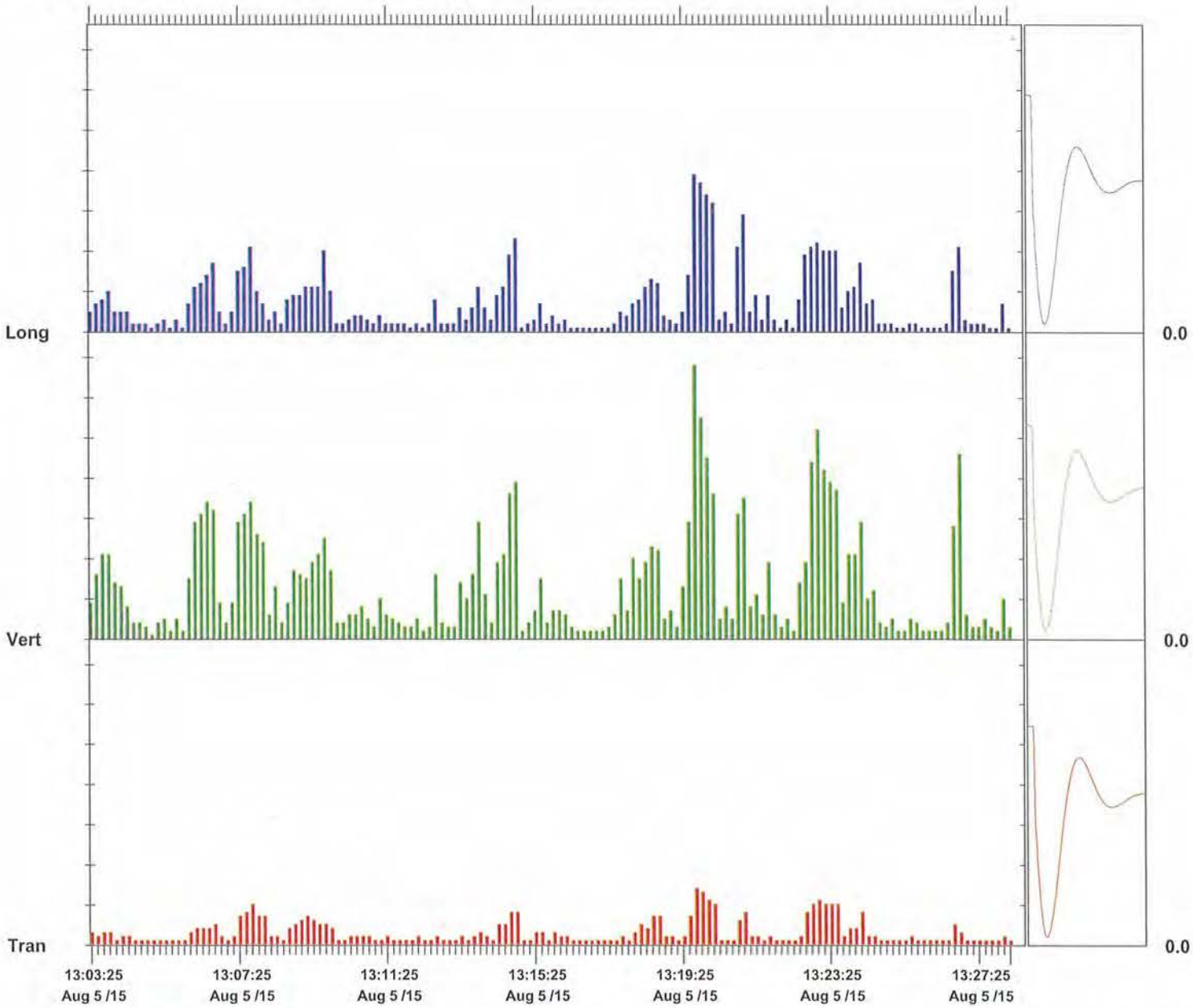
General: ~~Kellogg Street and~~ Route 440 4/20/17

Post Event Notes

VMP 8

	Tran	Vert	Long	
PPV	0.0700	0.340	0.195	in/s
ZC Freq	32	28	32	Hz
Date	Aug 5 /15	Aug 5 /15	Aug 5 /15	
Time	13:19:45	13:19:45	13:19:45	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.6	7.4	Hz
Overswing Ratio	3.6	3.6	3.9	

Peak Vector Sum 0.390 in/s on August 5, 2015 at 13:19:45



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div

Sensor Check

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APPENDIX O

VIBRATION MONITORING
(CD ONLY)

PART 2 OF 2

Geocomp

Technologies to manage risk
for infrastructure

Boston
Atlanta
Chicago
Los Angeles
New York
www.geocomp.com

Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

October 19th, 2015
For ENTACT, LLC

111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

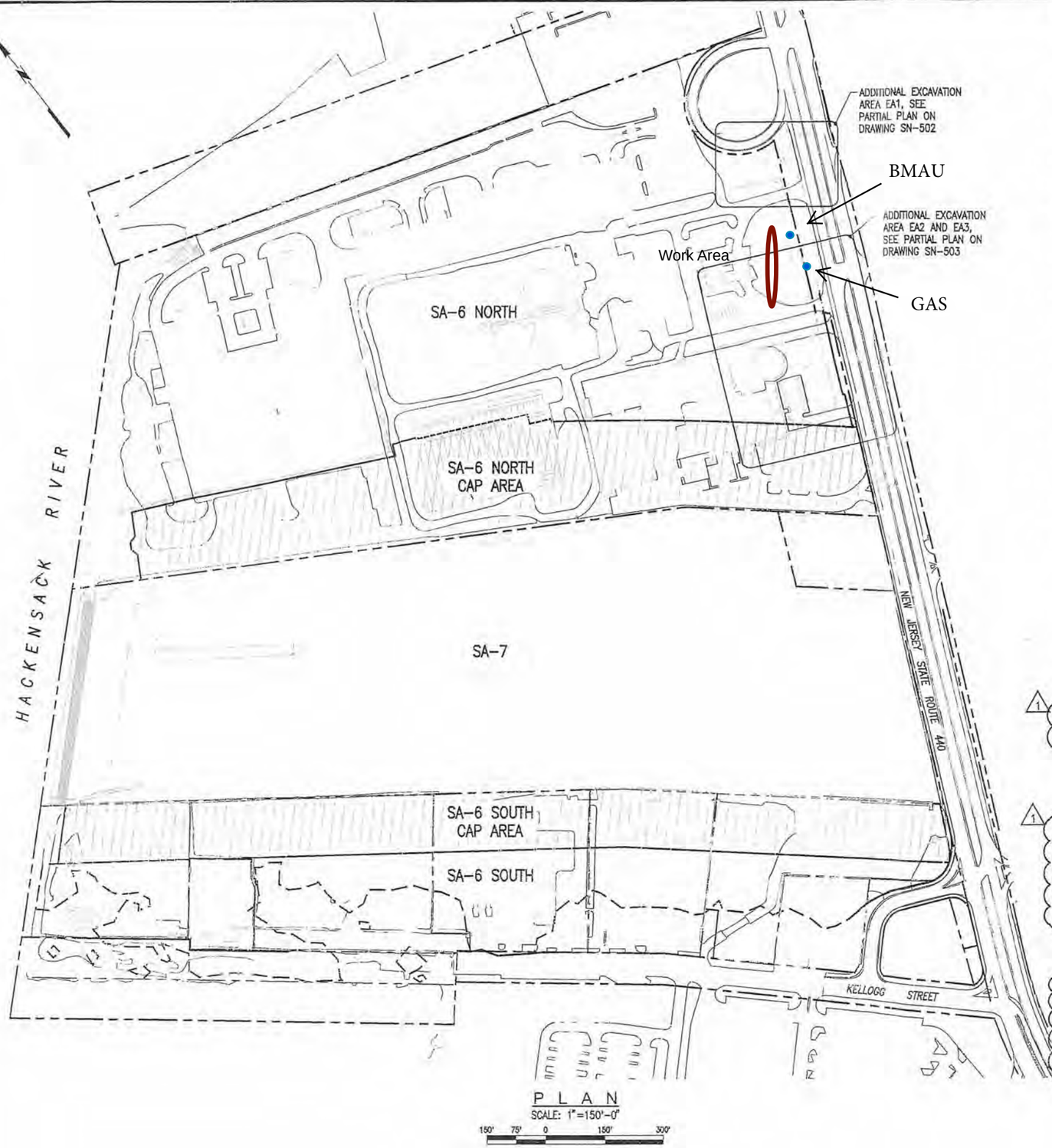
NOTES:

Summary of Work:
Sheet pile driving commenced at 11:10 AM and ended at 11:30 AM. Two Instantel Minimates were used to record vibrations via a geophone placed on the ground over the gas and BMAU main.

3 sheets were driven, and no exceedances were recorded. See attached plan for area of work and location of the seismographs. See attached Blastware reports for PPV at these locations.

Gas Main:
Trigger Level: 0.5 in/sec
Alert Level: 2.0 in/sec

BMAU Main:
Trigger Level: 0.25 in/s
Alert level: 0.5 in/s



PLAN
SCALE: 1"=150'-0"
150' 75' 0 150' 300'

Notes:

1. The work requires installation of sheet piles, drilling, and excavation in close proximity to overhead power lines and underground utilities. Coordinate access and controls with utility companies having jurisdiction over buried and overhead utilities.
2. Re-mark utility control markings daily if removed by excavation.
3. Steel sheet piling shall be uncoated, new or used in good condition, and of the sizes shown on the drawings or structural equivalent.
4. See AMEC Environment and Infrastructure, Inc. drawings for excavation subgrade elevations.
5. The angle of repose shown on the drawings is based on the definition and requirements provided by PSE&G.
6. Final wall locations subject to location of gas main, determined by test pits.
7. Pre-excavate as required to remove obstructions within the fill prior to driving sheet piling.
8. Handle sheet piling in a manner which prevents damage to the sheet piling. Use standard safety lifting devices, use lifting holes or provide secondary support during lifting.
9. Discontinue spudding more than 5 ft. above the minimum tip elevations indicated herein.
10. Stage pile driving and step sheet piling tips as necessary to maintain interlocks. Remove and replace steel sheet piling found to be out of interlock, out of tolerance, damaged, or otherwise deficient.
11. Use drive templates and guides to maintain pile alignment and install piles plumb.
12. Sheet piling may be welded to adjacent sheets if required to control settlement during driving.
13. Spliced sheet piling shall be free sliding and able to obtain the maximum swing with contiguous piles. Splice welds shall develop the full structural strength of the member.
14. Drive templates: Prior to driving, provide template or driving frame suitable for aligning, supporting, and maintaining the sheet piling in the correct location and verticality during setting and driving. Fix template in place to prevent movement during sheet pile driving. Provide restraint necessary to prevent the sheets from warping or wandering from the alignment, or from racking along the alignment.
15. Provide continuous inspection of sheet pile driving. Inspect location and verticality when setting sheets, and when sheets are driven half depth.
16. Maintain pile driving inspection record for each pair driven. Indicate pile hammer, rate of operation, energy, use of drive helmet and cap, etc. Provide a unique number for each pair, and indicate location on alignment. Document installation date, set time, drive duration, and time drive completed, initial pile length, re-heading or cutting length(s), and any additional information required for record drawings. Record unusual conditions or problems observed during driving.
17. Soldier piles and wales shown are minimum sizes. Substitution with members of equivalent or higher capacity is allowed.
18. Shop and field welding procedures, electrode classification (E70XX), and preheat temperature shall conform to AWS D1.1. Welders shall be certified in accordance with AWS D1.1 criteria.
19. Drill soldier pile using methods approved by the Engineer.
20. Dewater excavations to provide stable subgrade and to remove all uplift pressure below all sewers, force mains or other active utilities as may be required, as determined by the Engineer. Install piezometer within 10 feet of 48 inch sewer to monitor groundwater level. (1)
21. Survey to establish construction station baseline and establish monitoring points.
22. Set permanent monitoring point on top of sheet piling and soldier piles. Grind smooth surface for point, if required. Mark point ID. At contractor option, DMP points may be reflective targets for total station surveys.
23. Survey location of monitoring point. (X, Y, Z) (baseline reading). (1)
24. Survey location (X, Y, Z) two additional times, on separate days, before performing excavation within 50 ft. of monitoring point.
25. Survey monitoring point (X, Y, Z) daily, or more often at Engineer direction, when excavating within 50 ft. of monitoring point. For each reading event document survey date, time, reading change from previous reading, and reading change from baseline. Provide readings for Construction Manager review during active excavation.
26. Monitor vibrations at the ground surface above the gas main, force main, and sewer under Route 440 adjacent to the excavations within 25 feet.
27. Advise the Construction Manager of vibration monitoring data. Limiting values are:
    Gas Main – 2.0 in/sec
    Sewer & F.M. – 1.0 in/sec

    If limiting values are exceeded, the contractor shall notify the CM and cease work until adequate measures are taken to reduce vibrations. (1)
28. Elevation are based on NGVD 1929 Datum.

NO.	DATE	REVISION	CHK	APVD
1	10/31/14	ISSUED FOR NJDOT REVIEW		
0	06/17/13	ISSUED FOR CONSTRUCTION		

DSGN G.S. DR B.B. CHK G.P. APVD

PETER W. DEMING
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER GE-46522
P.W.D. GP FWD APVD

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Honeywell
101 COLUMBIA RD. BOX 2109, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
TEMPORARY
SUPPORT OF EXCAVATION
KEY PLAN AND NOTES

FILE NUMBER 11173

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA - 225 WEST 34TH STREET, NEW YORK, NY 10122

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2820
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-501
SHEET	62 OF 70

FILE NAME: G:\DWGS\11111\11173\SN-501.dwg PLOT DATE: Wed, 12 Nov 2014 PLOT TIME: 11:11 AM

Event Report

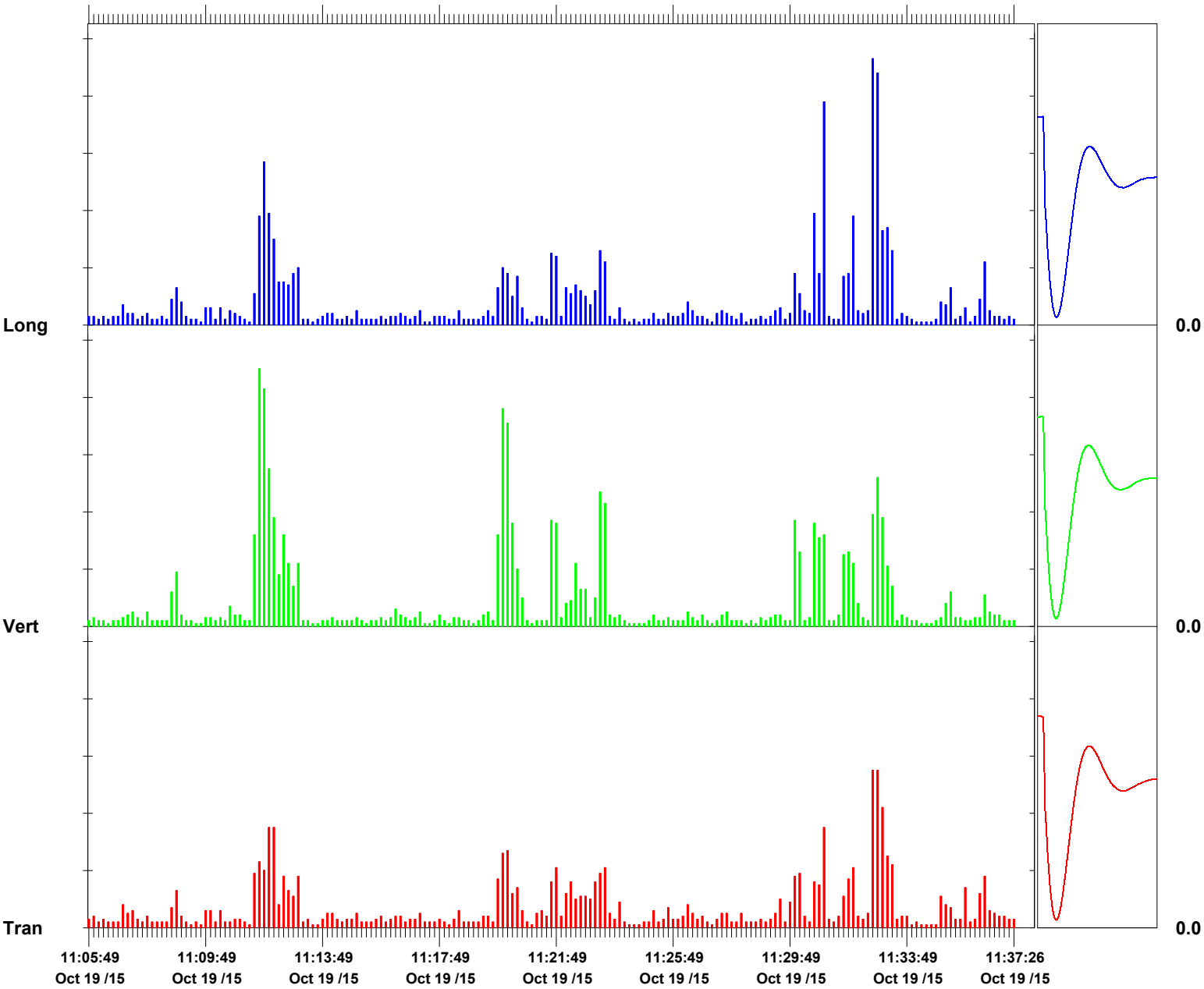
Histogram Start Time	11:05:39 October 19, 2015	**Serial Number**	BE11655 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	11:37:26 October 19, 2015	**Battery Level**	6.3 Volts
Number of Intervals	381.00 at 5 seconds	**Unit Calibration**	September 4, 2015 by Instantel
Range	Geo:10.000 in/s	**File Name**	M655G2MH.HF0
Sample Rate	1024sps		

Notes

Location: SA-6 BMAU
Cleint: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

	Tran	Vert	Long	
PPV	0.275	0.450	0.465	in/s
ZC Freq	39	30	39	Hz
Date	Oct 19 /15	Oct 19 /15	Oct 19 /15	
Time	11:32:39	11:11:39	11:32:39	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.5	7.3	Hz
Overswing Ratio	3.9	4.0	4.2	

Peak Vector Sum 0.505 in/s on October 19, 2015 at 11:32:39



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Sensor Check

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Event Report

Histogram Start Time	11:07:12 October 19, 2015	**Serial Number**	BE19225 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	11:37:13 October 19, 2015	**Battery Level**	6.2 Volts
Number of Intervals	360.00 at 5 seconds	**Unit Calibration**	September 21, 2015 by Instantel
Range	Geo:1.250 in/s	**File Name**	U225G2MH.K00
Sample Rate	1024sps		
Job Number:	1		

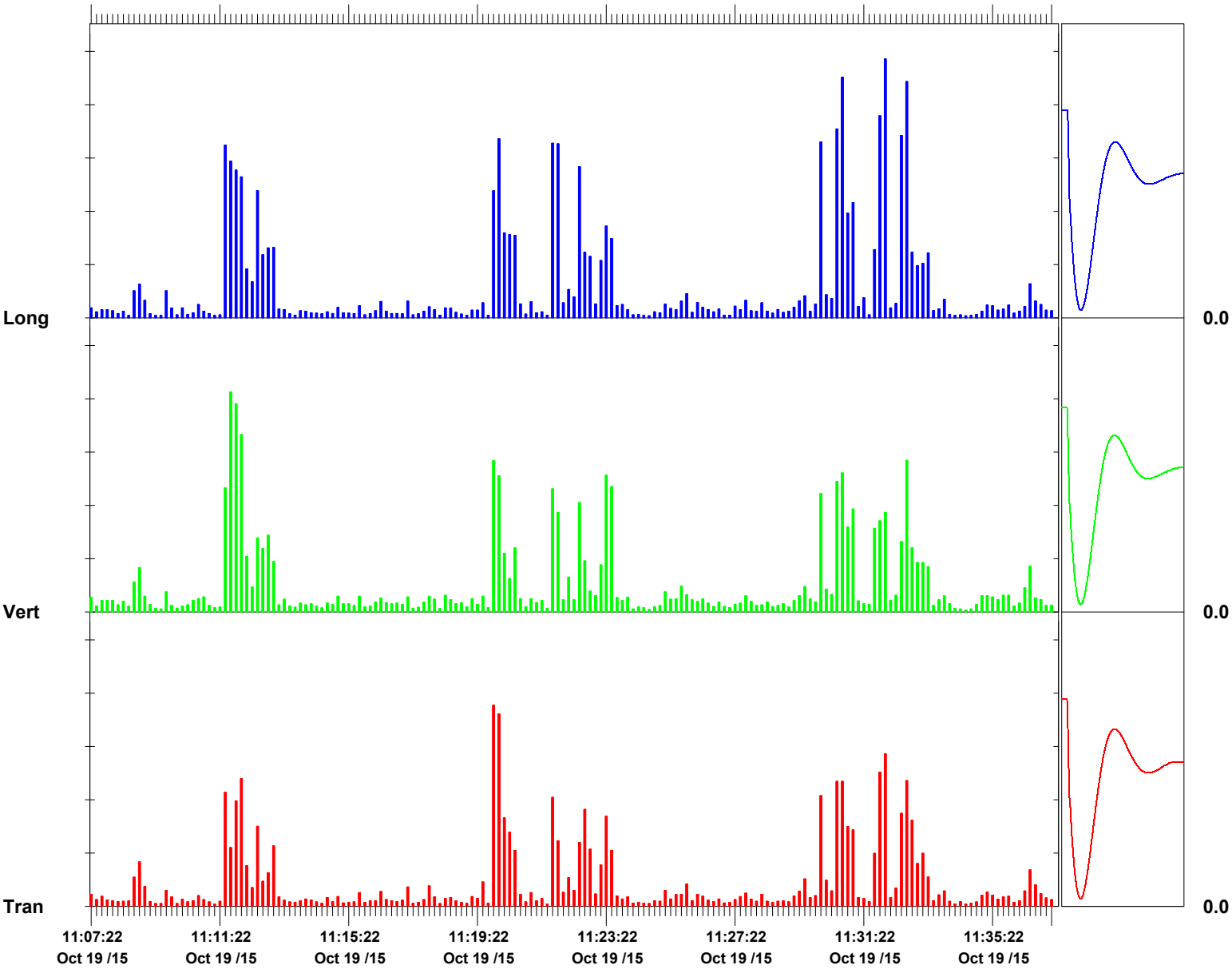
Notes

Location: SA-6 North Gas
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

Extended Notes

	Tran	Vert	Long	
PPV	0.377	0.412	0.486	in/s
ZC Freq	30	32	30	Hz
Date	Oct 19 /15	Oct 19 /15	Oct 19 /15	
Time	11:19:52	11:11:42	11:31:57	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.5	7.4	Hz
Overswing Ratio	3.9	3.9	4.0	

Peak Vector Sum 0.520 in/s on October 19, 2015 at 11:30:37



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Sensor Check

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www.geocomp.com

Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

January 12, 2016
For ENTACT, LLC

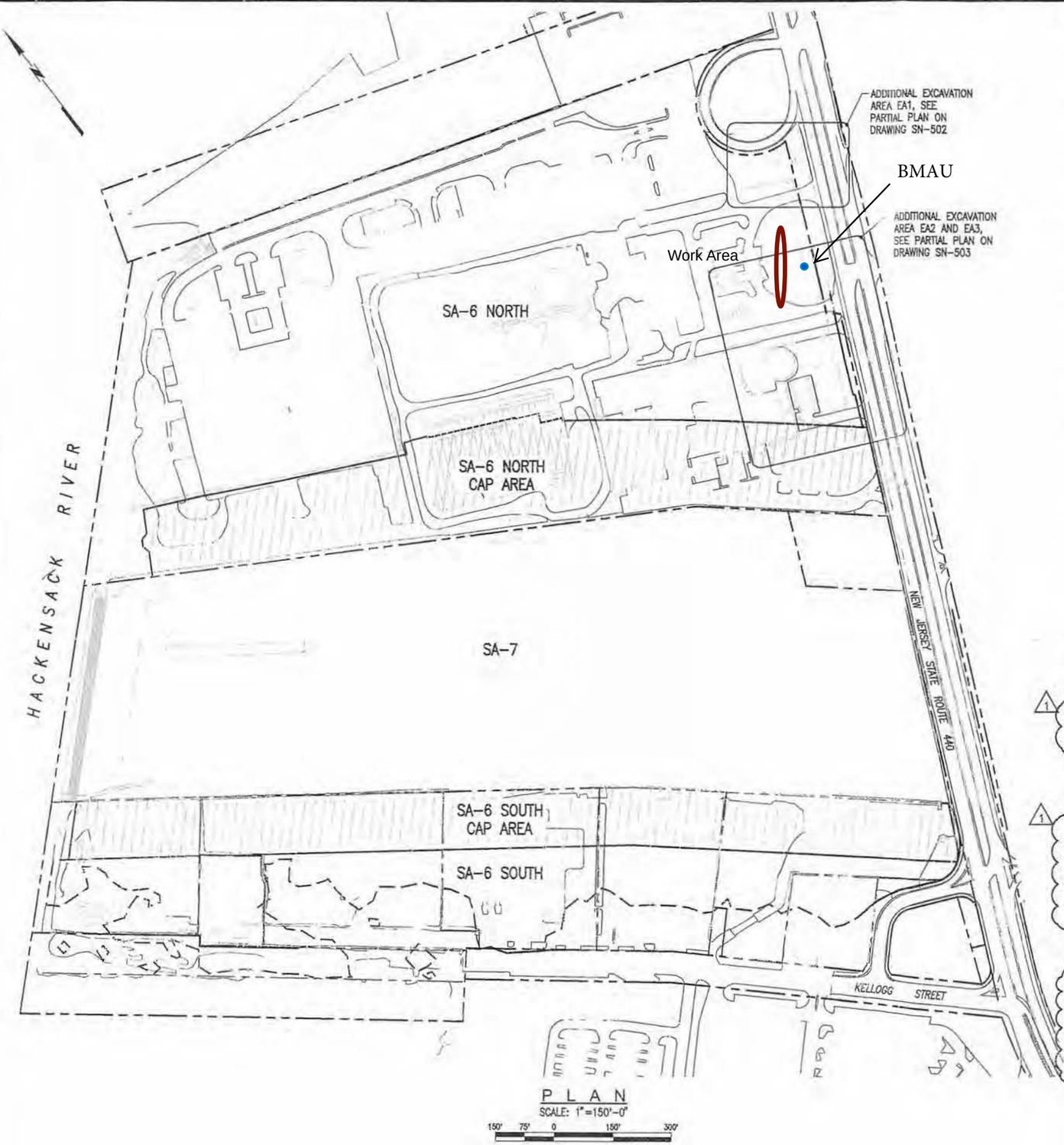
111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

NOTES:

Summary of Work:
Sheet pile driving commenced at 10:53 AM and ended at 11:30 AM. One Instantel Minimate was used to record vibrations via a geophone placed on the ground over the Water/Sewer main.

2 sheets were driven, and a 0.54 in/sec alert level was recorded on the first 2 feet of the 2nd sheet. See attached plan for area of work and location of the seismographs. See attached Blastware reports for PPV at these locations.

Water/Sewer
Alert Level: 0.5 in/sec
Limit Level: 1.0 in/sec



PLAN
SCALE: 1"=150'-0"
150' 75' 0 150' 300'

Notes:

1. The work requires installation of sheet piles, drilling, and excavation in close proximity to overhead power lines and underground utilities. Coordinate access and controls with utility companies having jurisdiction over buried and overhead utilities.
2. Re-mark utility control markings daily if removed by excavation.
3. Steel sheet piling shall be uncoated, new or used in good condition, and of the sizes shown on the drawings or structural equivalent.
4. See AMEC Environment and Infrastructure, Inc. drawings for excavation subgrade elevations.
5. The angle of repose shown on the drawings is based on the definition and requirements provided by PSE&G.
6. Final wall locations subject to location of gas main, determined by test pits.
7. Pre-excavate as required to remove obstructions within the fill prior to driving sheet piling.
8. Handle sheet piling in a manner which prevents damage to the sheet piling. Use standard safety lifting devices, use lifting holes or provide secondary support during lifting.
9. Discontinue spudding more than 5 ft. above the minimum tip elevations indicated herein.
10. Stage pile driving and step sheet piling tips as necessary to maintain interlocks. Remove and replace steel sheet piling found to be out of interlock, out of tolerance, damaged, or otherwise deficient.
11. Use drive templates and guides to maintain pile alignment and install piles plumb.
12. Sheet piling may be welded to adjacent sheets if required to control settlement during driving.
13. Spliced sheet piling shall be free sliding and able to obtain the maximum swing with contiguous piles. Splice welds shall develop the full structural strength of the member.
14. Drive templates: Prior to driving, provide template or driving frame suitable for aligning, supporting, and maintaining the sheet piling in the correct location and verticality during setting and driving. Fix template in place to prevent movement during sheet pile driving. Provide restraint necessary to prevent the sheets from warping or wandering from the alignment, or from racking along the alignment.
15. Provide continuous inspection of sheet pile driving. Inspect location and verticality when setting sheets, and when sheets are driven half depth.
16. Maintain pile driving inspection record for each pair driven. Indicate pile hammer, rate of operation, energy, use of drive helmet and cap, etc. Provide a unique number for each pair, and indicate location on alignment. Document installation date, set time, drive duration, and time drive completed, initial pile length, re-heading or cutting length(s), and any additional information required for record drawings. Record unusual conditions or problems observed during driving.
17. Soldier piles and wales shown are minimum sizes. Substitution with members of equivalent or higher capacity is allowed.
18. Shop and field welding procedures, electrode classification (E70XX), and preheat temperature shall conform to AWS D1.1. Welders shall be certified in accordance with AWS D1.1 criteria.
19. Drill soldier pile using methods approved by the Engineer.
20. Dewater excavations to provide stable subgrade and to remove all uplift pressure below all sewers, force mains or other active utilities as may be required, as determined by the Engineer. Install piezometer within 10 feet of 48 inch sewer to monitor groundwater level. (1)
21. Survey to establish construction station baseline and establish monitoring points.
22. Set permanent monitoring point on top of sheet piling and soldier piles. Grind smooth surface for point, if required. Mark point ID. At contractor option, DMP points may be reflective targets for total station surveys.
23. Survey location of monitoring point, (X, Y, Z) (baseline reading). (1)
24. Survey location (X, Y, Z) two additional times, on separate days, before performing excavation within 50 ft. of monitoring point.
25. Survey monitoring point (X, Y, Z) daily, or more often at Engineer direction, when excavating within 50 ft. of monitoring point. For each reading event document survey date, time, reading change from previous reading, and reading change from baseline. Provide readings for Construction Manager review during active excavation.
26. Monitor vibrations at the ground surface above the gas main, force main, and sewer under Route 440 adjacent to the excavations within 25 feet.
27. Advise the Construction Manager of vibration monitoring data. Limiting values are:
    Gas Main - 2.0 in/sec
    Sewer & F.M. - 1.0 in/sec

    If limiting values are exceeded, the contractor shall notify the CM and cease work until adequate measures are taken to reduce vibrations. (1)
28. Elevation are based on NGVD 1929 Datum.

NO.	DATE	DSGN	DR	CHK	APVD	
1	10/31/14	G.S.	B.B.	G.P.	APVD	ISSUED FOR NJDOT REVIEW
0	06/17/13					ISSUED FOR CONSTRUCTION

REVISION

PETER W. DEMING
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER GE-48522

GP | F.W.D. | B.Y. | APVD

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
TEMPORARY
SUPPORT OF EXCAVATION
KEY PLAN AND NOTES

FILE NUMBER 11173

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA - 225 WEST 34TH STREET, NEW YORK, NY 10122

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2828
NJ Certificate of Authorization Number 24GA28010500

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-501
SHEET	62 OF 70

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FILE NAME: G:\DWGS\11\11173\SN-501.dwg PLOT DATE: Wed, 12 Nov 2014 PLOT TIME: 11:11 AM

Event Report

Histogram Start Time	10:53:22 January 12, 2016	**Serial Number**	BE20564 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	11:41:11 January 12, 2016	**Battery Level**	6.2 Volts
Number of Intervals	573.00 at 5 seconds	**Unit Calibration**	September 22, 2015 by Instantel
Range	Geo:10.000 in/s	**File Name**	V564G6ZV.KY0
Sample Rate	1024sps		
Job Number:	1		

Notes

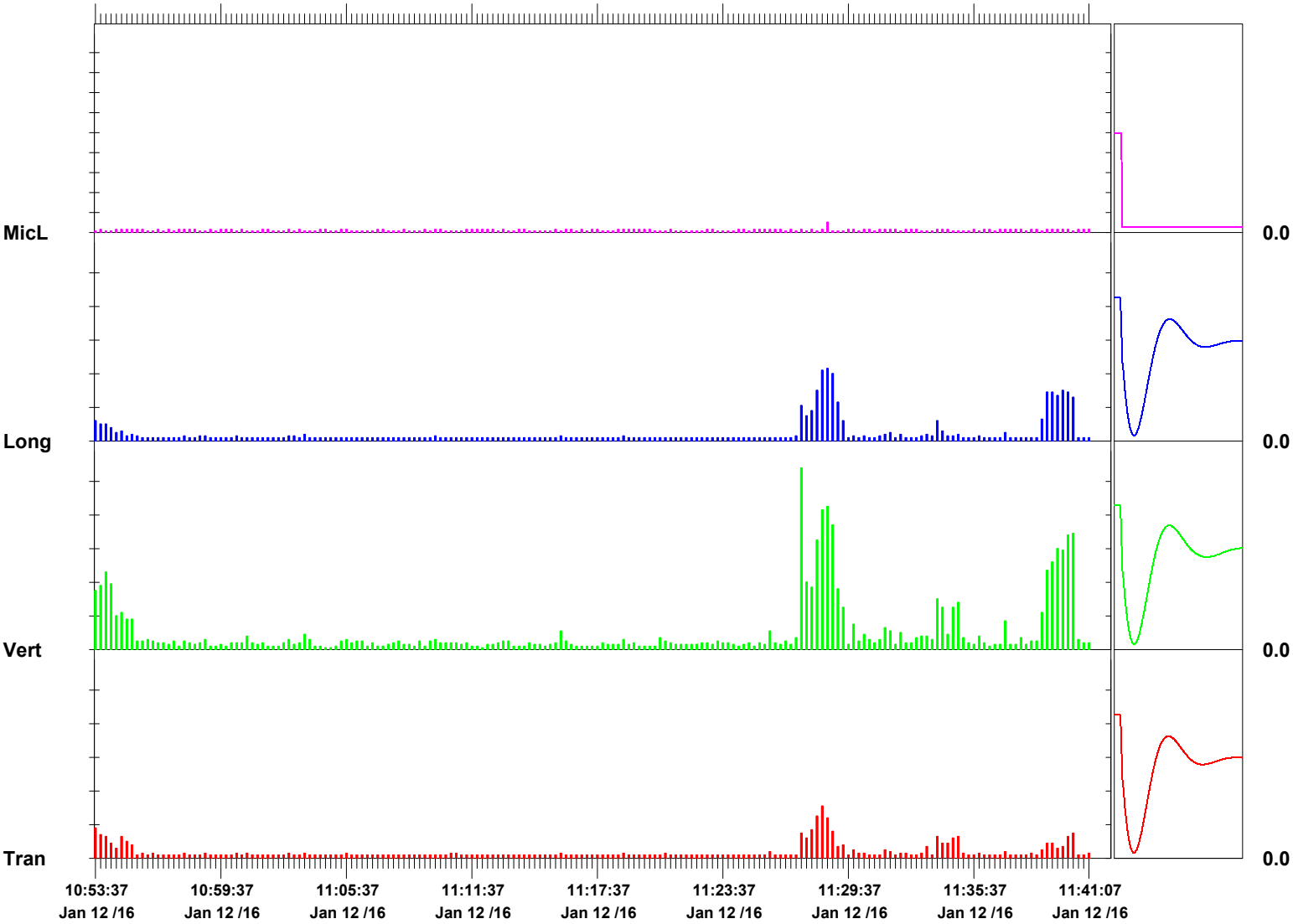
Location: SA-6 Water/Sewer
Client: ENTACT
User Name: GEOCOMP
General: KELLOGG STREET AND ROUTE 440

Extended Notes

Microphone Linear Weighting
PSPL 0.000 psi(L) on January 12, 2016 at 11:28:27
ZC Freq >100 Hz
Channel Test Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.155	0.540	0.215	in/s
ZC Freq	30	15	30	Hz
Date	Jan 12 /16	Jan 12 /16	Jan 12 /16	
Time	11:28:17	11:27:12	11:28:32	
Sensor Check	Passed	Passed	Passed	
Frequency	7.6	7.5	7.4	Hz
Overswing Ratio	4.1	3.8	4.2	

Peak Vector Sum 0.543 in/s on January 12, 2016 at 11:27:12



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Mic: 0.001 psi(L)/div Sensor Check

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Event Report

Date/Time	Vert at 11:27:08 January 12, 2016
Trigger Source	Geo: 0.250 in/s, Mic: 0.004 psi(L)
Range	Geo: 10.000 in/s
Record Time	7.0 sec at 1024 sps
Job Number:	1

Serial Number	BE20564 V 10.72-8.17 MiniMate Plus
Battery Level	6.2 Volts
Unit Calibration	September 22, 2015 by Instantel
File Name	V564G6ZX.580

Notes

Location:	SA-6 Water/Sewer
Client:	ENTACT
User Name:	GEOCOMP
General:	KELLOGG STREET AND ROUTE 440

Extended Notes

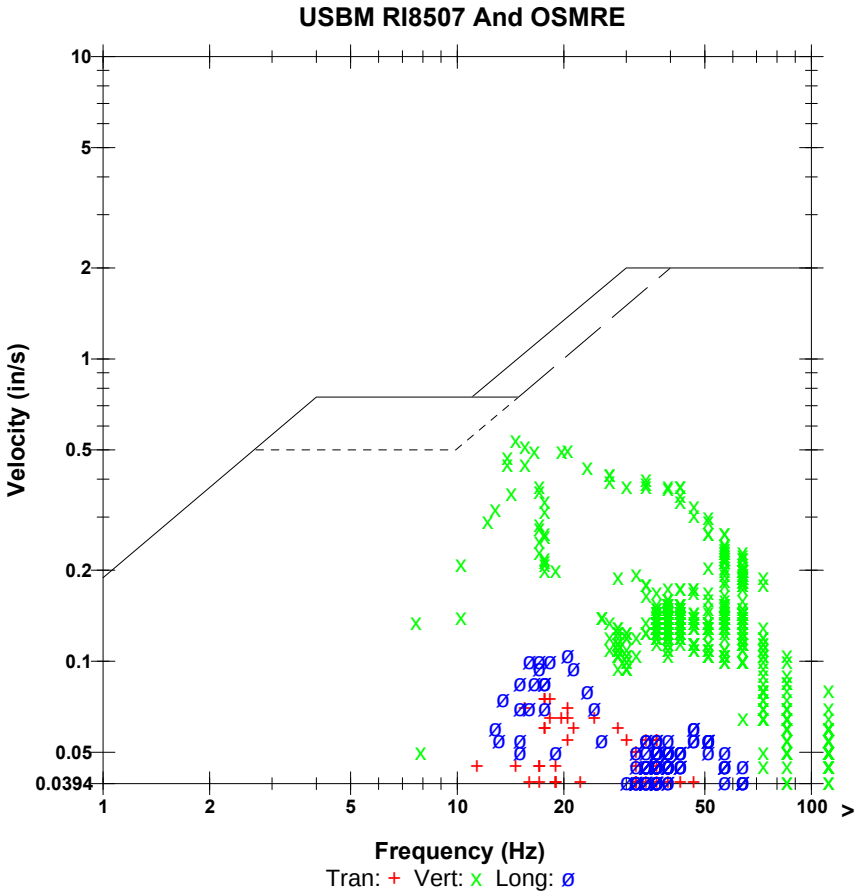
Combo Mode January 12, 2016 10:53:21

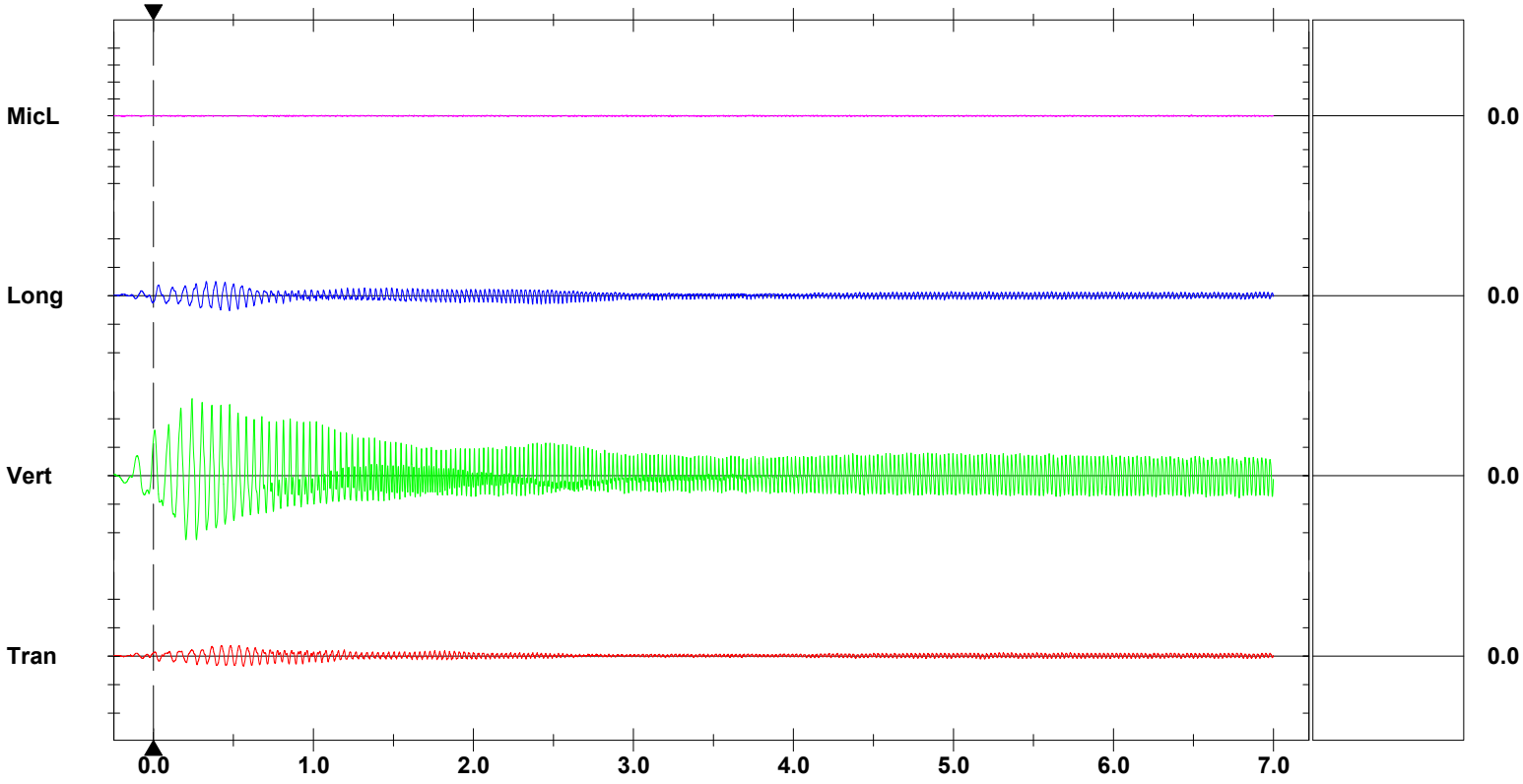
Microphone	Linear Weighting
PSPL	<.0000725 psi(L)
ZC Freq	>100 Hz
Channel Test	Disabled

	Tran	Vert	Long	
PPV	0.075	0.540	0.105	in/s
ZC Freq	18	15	20	Hz
Time (Rel. to Trig)	0.424	0.240	0.475	sec
Peak Acceleration	0.040	0.225	0.066	g
Peak Displacement	0.001	0.005	0.001	in
Sensor Check	Disabled	Disabled	Disabled	
Frequency	***	***	***	Hz
Overswing Ratio	***	***	***	

Peak Vector Sum 0.543 in/s at 0.241 sec

N/A: Not Applicable





Time Scale: 0.50 sec/div **Amplitude Scale:** Geo: 0.200 in/s/div Mic: 0.001 psi(L)/div Sensor Check

Trigger =

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Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

January 26, 2016
For ENTACT, LLC

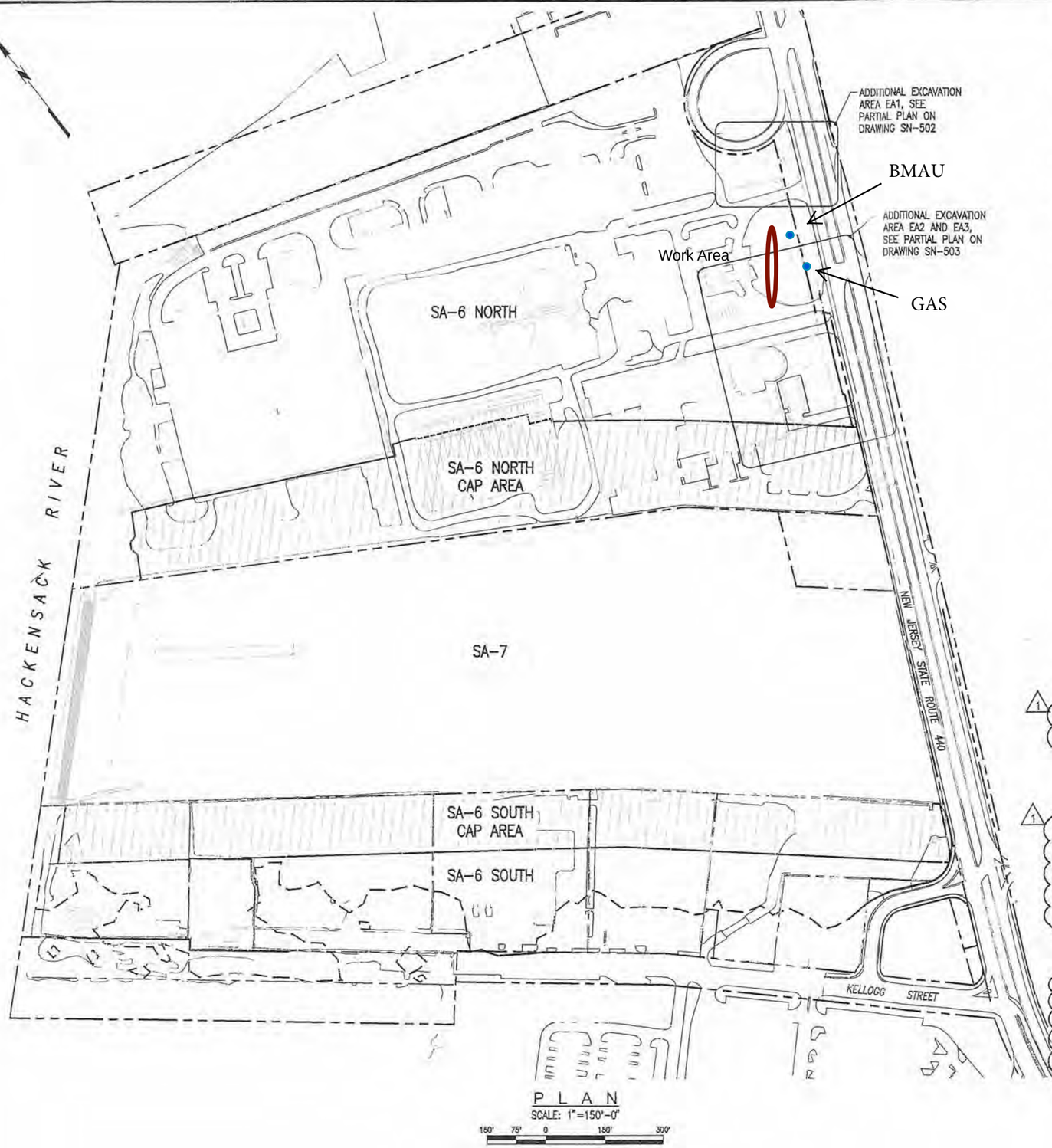
111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

NOTES:

Summary of Work:
Removing of sheet pile commenced at 1:30 PM and ended at 3:30 PM. One Instantel Minimate were used to record vibrations via a geophone placed on the ground over the Water/Sewer main.

Total of 9 sheets pile were removed, and no exceedances were recorded. See attached plan for area of work and location of the seismographs. See attached Blastware reports for PPV at these locations.

Water/Sewer
Alert Level: 0.5 in/sec
Limit Level: 1.0 in/sec



PLAN
SCALE: 1"=150'-0"
150' 75' 0 150' 300'

Notes:

1. The work requires installation of sheet piles, drilling, and excavation in close proximity to overhead power lines and underground utilities. Coordinate access and controls with utility companies having jurisdiction over buried and overhead utilities.
2. Re-mark utility control markings daily if removed by excavation.
3. Steel sheet piling shall be uncoated, new or used in good condition, and of the sizes shown on the drawings or structural equivalent.
4. See AMEC Environment and Infrastructure, Inc. drawings for excavation subgrade elevations.
5. The angle of repose shown on the drawings is based on the definition and requirements provided by PSE&G.
6. Final wall locations subject to location of gas main, determined by test pits.
7. Pre-excavate as required to remove obstructions within the fill prior to driving sheet piling.
8. Handle sheet piling in a manner which prevents damage to the sheet piling. Use standard safety lifting devices, use lifting holes or provide secondary support during lifting.
9. Discontinue spudding more than 5 ft. above the minimum tip elevations indicated herein.
10. Stage pile driving and step sheet piling tips as necessary to maintain interlocks. Remove and replace steel sheet piling found to be out of interlock, out of tolerance, damaged, or otherwise deficient.
11. Use drive templates and guides to maintain pile alignment and install piles plumb.
12. Sheet piling may be welded to adjacent sheets if required to control settlement during driving.
13. Spliced sheet piling shall be free sliding and able to obtain the maximum swing with contiguous piles. Splice welds shall develop the full structural strength of the member.
14. Drive templates: Prior to driving, provide template or driving frame suitable for aligning, supporting, and maintaining the sheet piling in the correct location and verticality during setting and driving. Fix template in place to prevent movement during sheet pile driving. Provide restraint necessary to prevent the sheets from warping or wandering from the alignment, or from racking along the alignment.
15. Provide continuous inspection of sheet pile driving. Inspect location and verticality when setting sheets, and when sheets are driven half depth.
16. Maintain pile driving inspection record for each pair driven. Indicate pile hammer, rate of operation, energy, use of drive helmet and cap, etc. Provide a unique number for each pair, and indicate location on alignment. Document installation date, set time, drive duration, and time drive completed, initial pile length, re-heading or cutting length(s), and any additional information required for record drawings. Record unusual conditions or problems observed during driving.
17. Soldier piles and wales shown are minimum sizes. Substitution with members of equivalent or higher capacity is allowed.
18. Shop and field welding procedures, electrode classification (E70XX), and preheat temperature shall conform to AWS D1.1. Welders shall be certified in accordance with AWS D1.1 criteria.
19. Drill soldier pile using methods approved by the Engineer.
20. Dewater excavations to provide stable subgrade and to remove all uplift pressure below all sewers, force mains or other active utilities as may be required, as determined by the Engineer. Install piezometer within 10 feet of 48 inch sewer to monitor groundwater level. (1)
21. Survey to establish construction station baseline and establish monitoring points.
22. Set permanent monitoring point on top of sheet piling and soldier piles. Grind smooth surface for point, if required. Mark point ID. At contractor option, DMP points may be reflective targets for total station surveys.
23. Survey location of monitoring point. (X, Y, Z) (baseline reading). (1)
24. Survey location (X, Y, Z) two additional times, on separate days, before performing excavation within 50 ft. of monitoring point.
25. Survey monitoring point (X, Y, Z) daily, or more often at Engineer direction, when excavating within 50 ft. of monitoring point. For each reading event document survey date, time, reading change from previous reading, and reading change from baseline. Provide readings for Construction Manager review during active excavation.
26. Monitor vibrations at the ground surface above the gas main, force main, and sewer under Route 440 adjacent to the excavations within 25 feet.
27. Advise the Construction Manager of vibration monitoring data. Limiting values are:
    Gas Main – 2.0 in/sec
    Sewer & F.M. – 1.0 in/sec

    If limiting values are exceeded, the contractor shall notify the CM and cease work until adequate measures are taken to reduce vibrations. (1)
28. Elevation are based on NGVD 1929 Datum.

NO.	DATE	REVISION	CHK	APVD
1	10/31/14	ISSUED FOR NJDOT REVIEW		
0	06/17/13	ISSUED FOR CONSTRUCTION		

DSGN G.S. DR B.B. CHK G.P. APVD

PETER W. DEMING
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER GE-46522
P.W.D. GP FWD APVD

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STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
TEMPORARY
SUPPORT OF EXCAVATION
KEY PLAN AND NOTES

FILE NUMBER 11173

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA - 225 WEST 34TH STREET, NEW YORK, NY 10122

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2820
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-501
SHEET	62 OF 70

FILE NAME: G:\DWGS\11111\11173\SN-501.dwg PLOT DATE: Wed, 12 Nov 2014 PLOT TIME: 11:11 AM

Event Report

Histogram Start Time	13:31:45 January 26, 2016	**Serial Number**	BE20564 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	13:40:28 January 26, 2016	**Battery Level**	6.2 Volts
Number of Intervals	104.00 at 5 seconds	**Unit Calibration**	September 22, 2015 by Instantel
Range	Geo:10.000 in/s	**File Name**	V564G7Q0.8X0
Sample Rate	1024sps		
Job Number:	1		

Notes

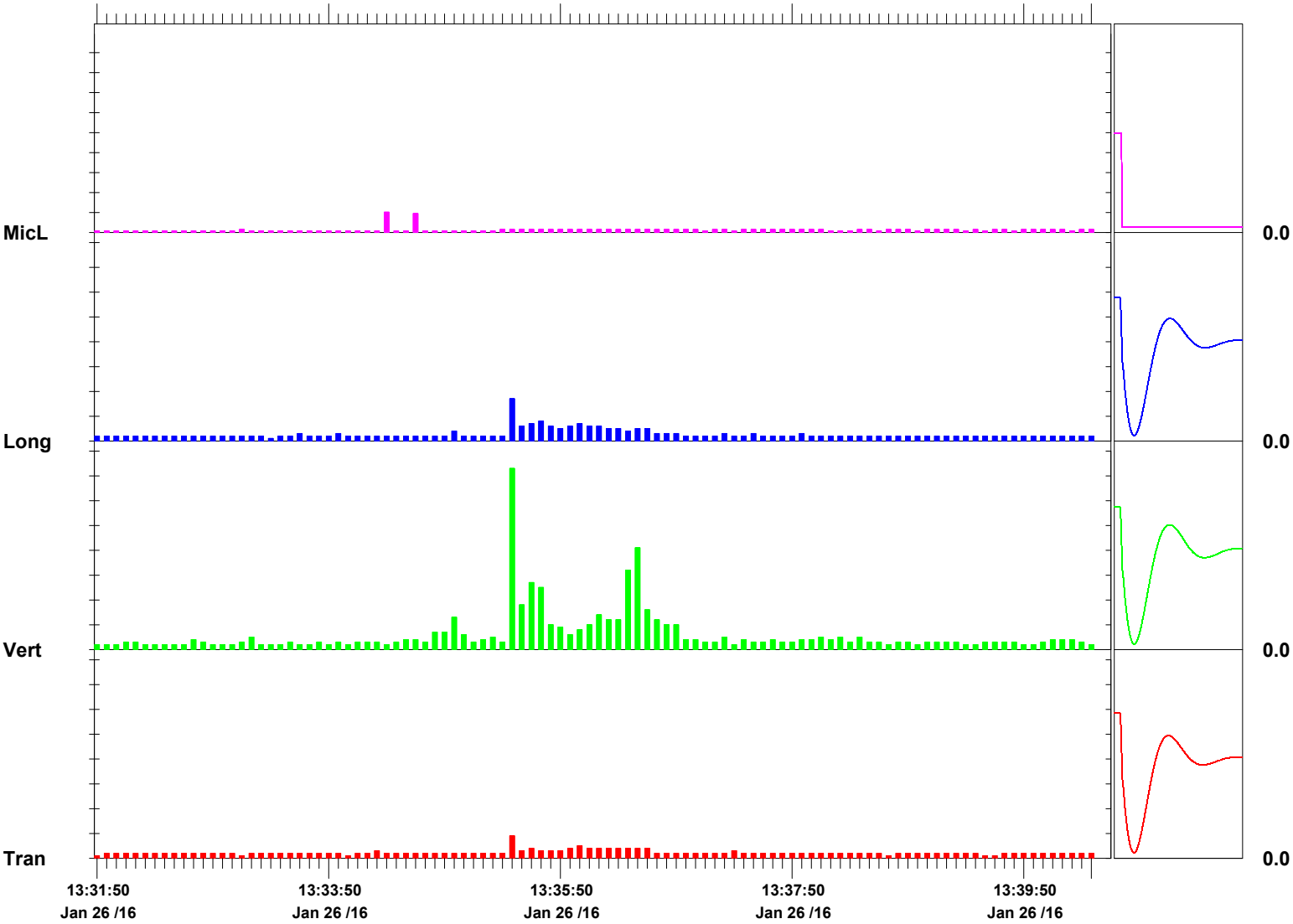
Location: SA-6 Water/Sewer
Client: ENTACT
User Name: GEOCOMP
General: KELLOGG STREET AND ROUTE 440

Extended Notes

Microphone Linear Weighting
PSPL 0.001 psi(L) on January 26, 2016 at 13:34:20
ZC Freq 11 Hz
Channel Test Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.045	0.365	0.085	in/s
ZC Freq	20	24	22	Hz
Date	Jan 26 /16	Jan 26 /16	Jan 26 /16	
Time	13:35:25	13:35:25	13:35:25	
Sensor Check	Passed	Passed	Passed	
Frequency	7.6	7.5	7.4	Hz
Overswing Ratio	4.0	3.7	4.0	

Peak Vector Sum 0.369 in/s on January 26, 2016 at 13:35:25



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.050 in/s/div Mic: 0.001 psi(L)/div Sensor Check

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Event Report

Histogram Start Time	14:05:30 January 26, 2016	**Serial Number**	BE20564 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	14:22:41 January 26, 2016	**Battery Level**	6.2 Volts
Number of Intervals	206.00 at 5 seconds	**Unit Calibration**	September 22, 2015 by Instantel
Range	Geo:10.000 in/s	**File Name**	V564G7Q1.T60
Sample Rate	1024sps		
Job Number:	1		

Notes

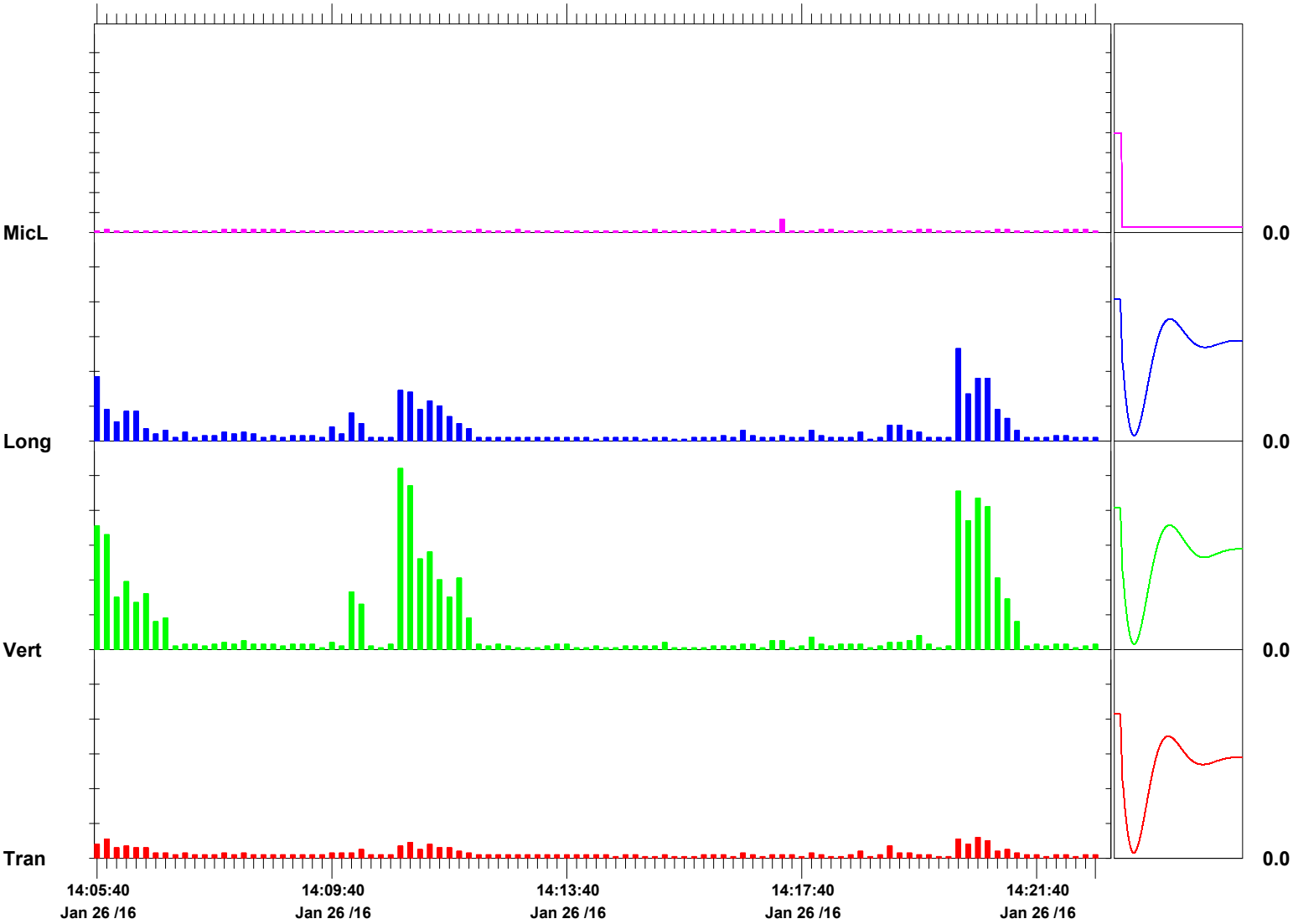
Location: SA-6 Water/Sewer
Client: ENTACT
User Name: GEOCOMP
General: KELLOGG STREET AND ROUTE 440

Extended Notes

Microphone Linear Weighting
PSPL 0.000 psi(L) on January 26, 2016 at 14:17:15
ZC Freq >100 Hz
Channel Test Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.060	0.520	0.265	in/s
ZC Freq	37	28	27	Hz
Date	Jan 26 /16	Jan 26 /16	Jan 26 /16	
Time	14:20:35	14:10:50	14:20:15	
Sensor Check	Passed	Passed	Passed	
Frequency	7.6	7.5	7.4	Hz
Overswing Ratio	4.1	3.8	4.2	

Peak Vector Sum 0.521 in/s on January 26, 2016 at 14:10:50



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Mic: 0.001 psi(L)/div Sensor Check

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Event Report

Histogram Start Time	14:49:44 January 26, 2016	**Serial Number**	BE20564 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	15:02:31 January 26, 2016	**Battery Level**	6.1 Volts
Number of Intervals	153.00 at 5 seconds	**Unit Calibration**	September 22, 2015 by Instantel
Range	Geo:10.000 in/s	**File Name**	V564G7Q3.UW0
Sample Rate	1024sps		
Job Number:	1		

Notes

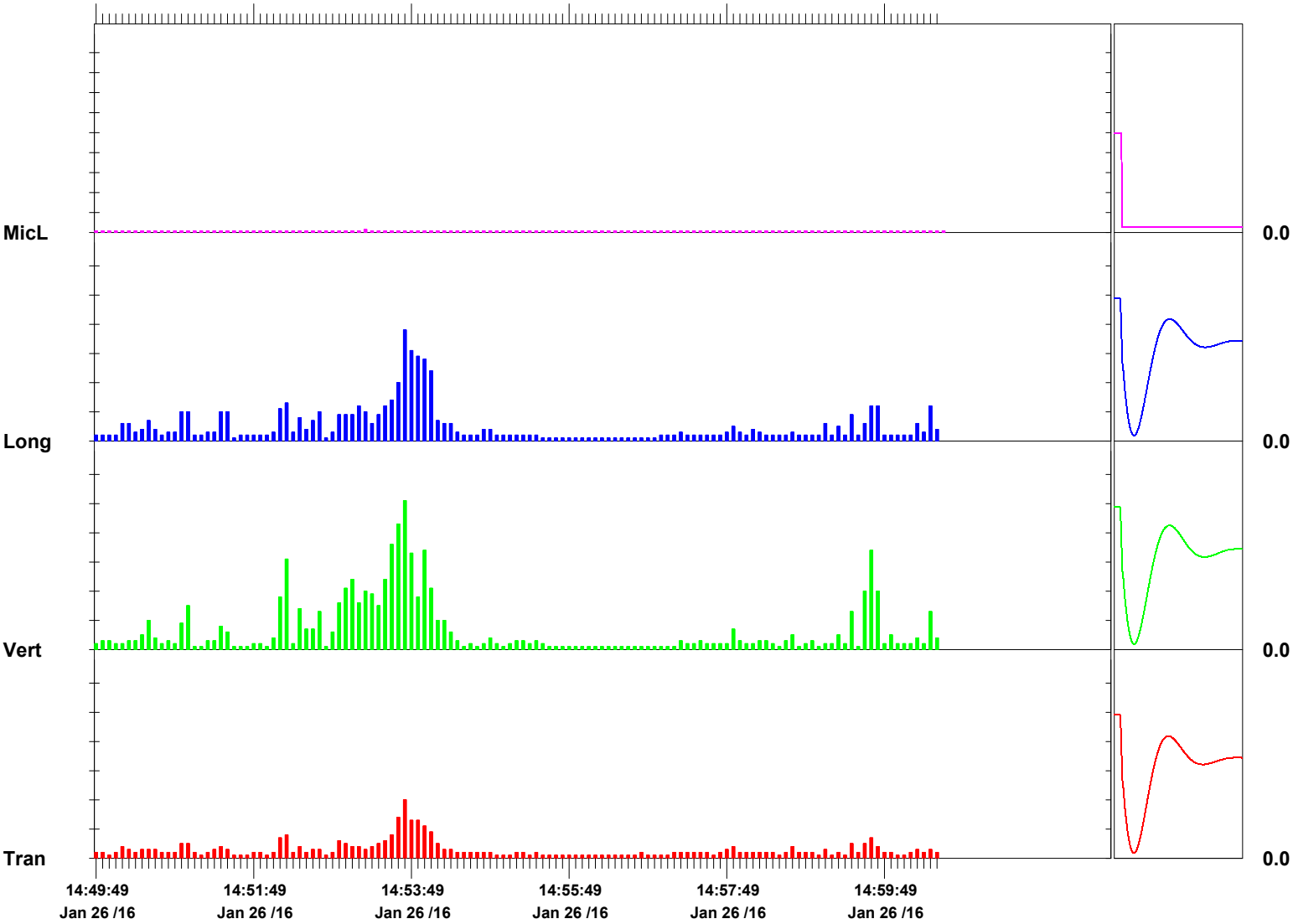
Location: SA-6 Water/Sewer
Client: ENTACT
User Name: GEOCOMP
General: KELLOGG STREET AND ROUTE 440

Extended Notes

Microphone Linear Weighting
PSPL 0.000 psi(L) on January 26, 2016 at 14:53:14
ZC Freq >100 Hz
Channel Test Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.100	0.255	0.190	in/s
ZC Freq	39	30	34	Hz
Date	Jan 26 /16	Jan 26 /16	Jan 26 /16	
Time	14:53:44	14:53:44	14:53:44	
Sensor Check	Passed	Passed	Passed	
Frequency	7.6	7.5	7.4	Hz
Overswing Ratio	4.1	3.8	4.1	

Peak Vector Sum 0.262 in/s on January 26, 2016 at 14:53:44



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Event Report

Date/Time	Vert at 14:10:48 January 26, 2016
Trigger Source	Geo: 0.500 in/s, Mic: 0.004 psi(L)
Range	Geo: 10.000 in/s
Record Time	7.0 sec at 1024 sps
Job Number:	1

Serial Number	BE20564 V 10.72-8.17 MiniMate Plus
Battery Level	6.2 Volts
Unit Calibration	September 22, 2015 by Instantel
File Name	V564G7Q2.200

Notes

Location:	SA-6 Water/Sewer
Client:	ENTACT
User Name:	GEOCOMP
General:	KELLOGG STREET AND ROUTE 440

Extended Notes

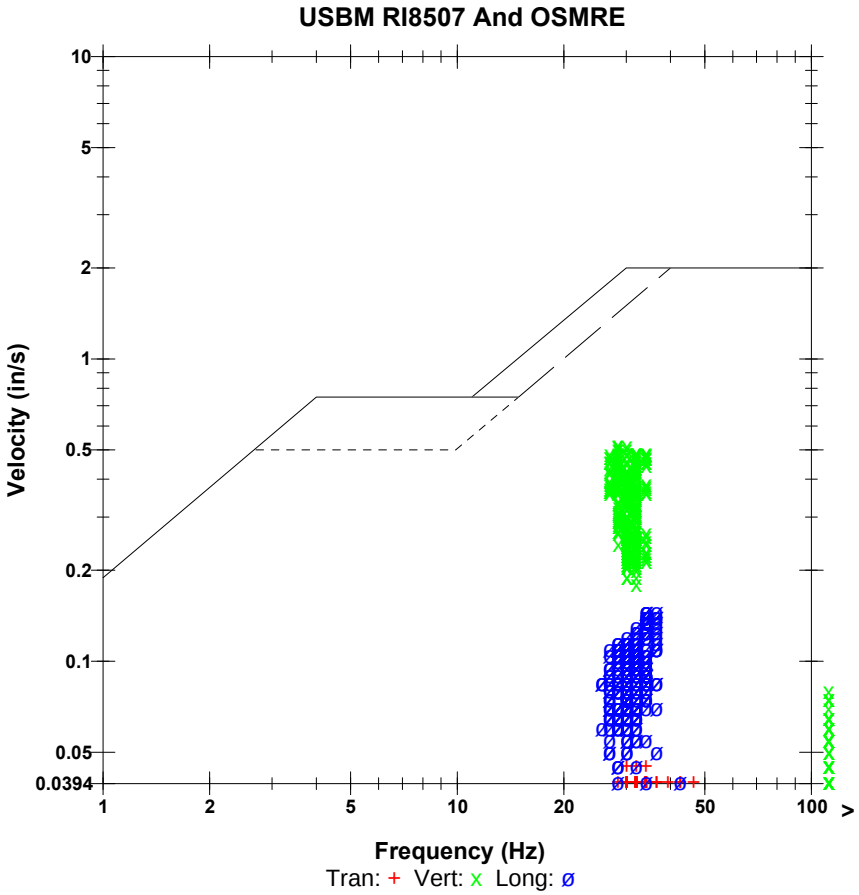
Combo Mode January 26, 2016 14:05:30

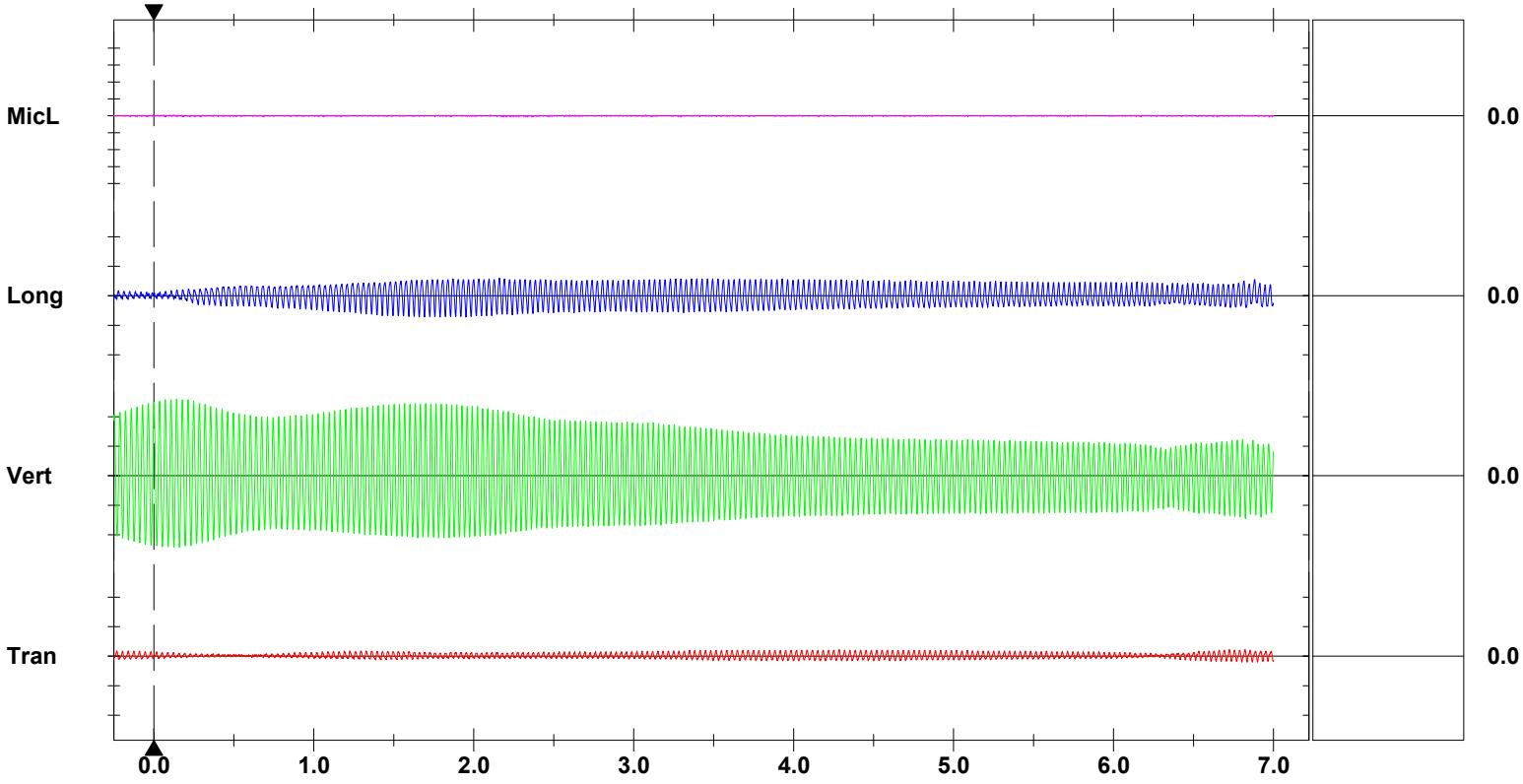
Microphone	Linear Weighting
PSPL	<.0000725 psi(L)
ZC Freq	>100 Hz
Channel Test	Disabled

	Tran	Vert	Long	
PPV	0.045	0.520	0.145	in/s
ZC Freq	32	28	37	Hz
Time (Rel. to Trig)	4.285	0.143	1.660	sec
Peak Acceleration	0.040	0.252	0.093	g
Peak Displacement	0.000	0.003	0.001	in
Sensor Check	Disabled	Disabled	Disabled	
Frequency	***	***	***	Hz
Overswing Ratio	***	***	***	

Peak Vector Sum 0.521 in/s at 0.143 sec

N/A: Not Applicable





Time Scale: 0.50 sec/div **Amplitude Scale:** Geo: 0.200 in/s/div Mic: 0.001 psi(L)/div Sensor Check

Trigger = ▶—— ——◀

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Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

January 27, 2016
For ENTACT, LLC

111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

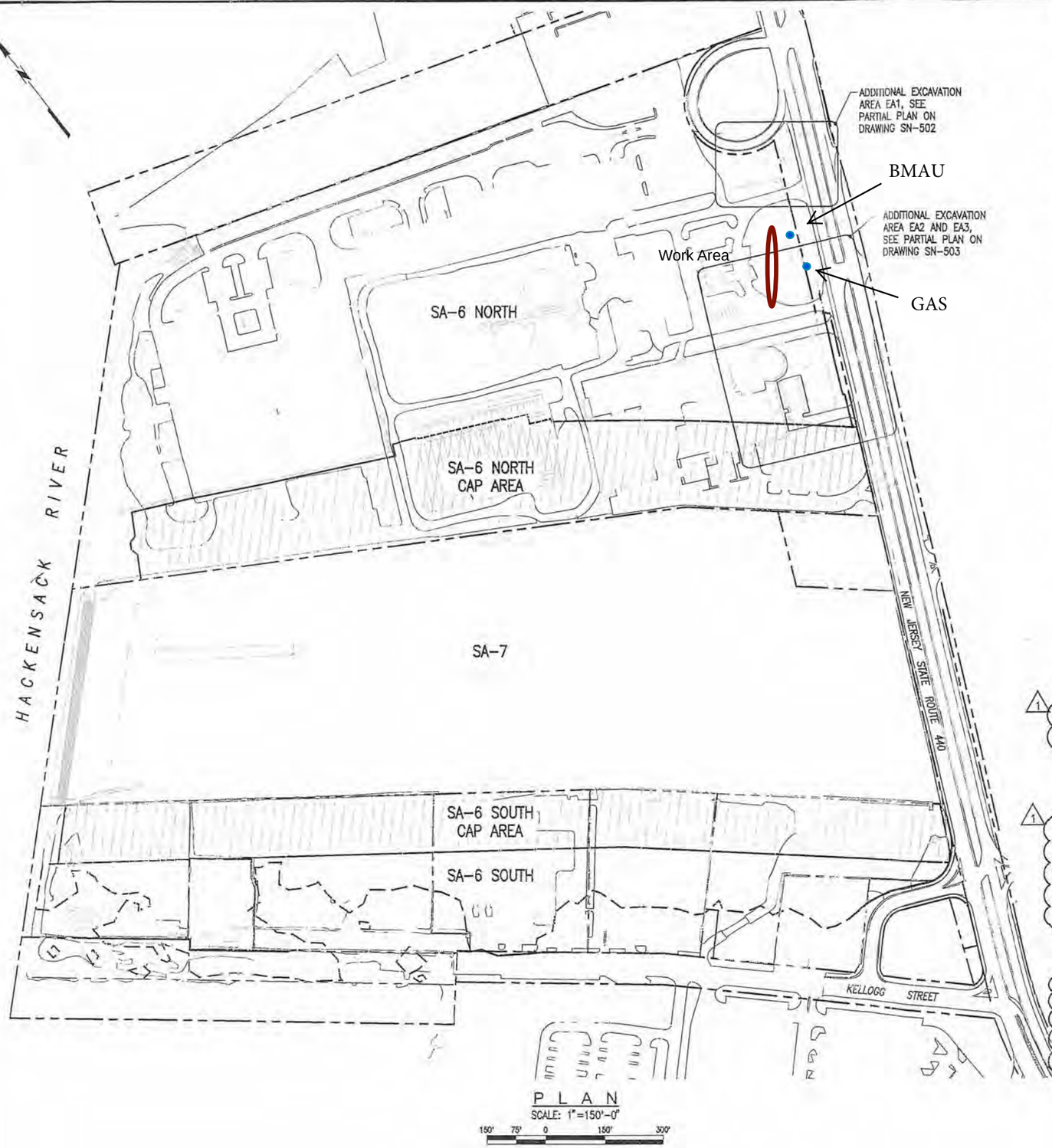
NOTES:

Summary of Work:
Removing of sheet pile commenced at 8:30 AM and ended at 3:00 PM. Two Instantel Minimate were used to record vibrations via a geophone placed on the ground over the Water/Sewer main and North Gas.

Total of 23 sheets pile were removed, and no exceedances were recorded. See attached plan for area of work and location of the seismographs. See attached Blastware reports for PPV at these locations.

Water/Sewer
Alert Level: 0.5 in/sec
Limit Level: 1.0 in/sec

North Gas
Alert Level 1.0 in/sec
Limit Level 2.0 in/sec



PLAN
SCALE: 1"=150'-0"
150' 75' 0 150' 300'

Notes:

1. The work requires installation of sheet piles, drilling, and excavation in close proximity to overhead power lines and underground utilities. Coordinate access and controls with utility companies having jurisdiction over buried and overhead utilities.
2. Re-mark utility control markings daily if removed by excavation.
3. Steel sheet piling shall be uncoated, new or used in good condition, and of the sizes shown on the drawings or structural equivalent.
4. See AMEC Environment and Infrastructure, Inc. drawings for excavation subgrade elevations.
5. The angle of repose shown on the drawings is based on the definition and requirements provided by PSE&G.
6. Final wall locations subject to location of gas main, determined by test pits.
7. Pre-excavate as required to remove obstructions within the fill prior to driving sheet piling.
8. Handle sheet piling in a manner which prevents damage to the sheet piling. Use standard safety lifting devices, use lifting holes or provide secondary support during lifting.
9. Discontinue spudding more than 5 ft. above the minimum tip elevations indicated herein.
10. Stage pile driving and step sheet piling tips as necessary to maintain interlocks. Remove and replace steel sheet piling found to be out of interlock, out of tolerance, damaged, or otherwise deficient.
11. Use drive templates and guides to maintain pile alignment and install piles plumb.
12. Sheet piling may be welded to adjacent sheets if required to control settlement during driving.
13. Spliced sheet piling shall be free sliding and able to obtain the maximum swing with contiguous piles. Splice welds shall develop the full structural strength of the member.
14. Drive templates: Prior to driving, provide template or driving frame suitable for aligning, supporting, and maintaining the sheet piling in the correct location and verticality during setting and driving. Fix template in place to prevent movement during sheet pile driving. Provide restraint necessary to prevent the sheets from warping or wandering from the alignment, or from racking along the alignment.
15. Provide continuous inspection of sheet pile driving. Inspect location and verticality when setting sheets, and when sheets are driven half depth.
16. Maintain pile driving inspection record for each pair driven. Indicate pile hammer, rate of operation, energy, use of drive helmet and cap, etc. Provide a unique number for each pair, and indicate location on alignment. Document installation date, set time, drive duration, and time drive completed, initial pile length, re-heading or cutting length(s), and any additional information required for record drawings. Record unusual conditions or problems observed during driving.
17. Soldier piles and wales shown are minimum sizes. Substitution with members of equivalent or higher capacity is allowed.
18. Shop and field welding procedures, electrode classification (E70XX), and preheat temperature shall conform to AWS D1.1. Welders shall be certified in accordance with AWS D1.1 criteria.
19. Drill soldier pile using methods approved by the Engineer.
20. Dewater excavations to provide stable subgrade and to remove all uplift pressure below all sewers, force mains or other active utilities as may be required, as determined by the Engineer. Install piezometer within 10 feet of 48 inch sewer to monitor groundwater level. (1)
21. Survey to establish construction station baseline and establish monitoring points.
22. Set permanent monitoring point on top of sheet piling and soldier piles. Grind smooth surface for point, if required. Mark point ID. At contractor option, DMP points may be reflective targets for total station surveys.
23. Survey location of monitoring point. (X, Y, Z) (baseline reading). (1)
24. Survey location (X, Y, Z) two additional times, on separate days, before performing excavation within 50 ft. of monitoring point.
25. Survey monitoring point (X, Y, Z) daily, or more often at Engineer direction, when excavating within 50 ft. of monitoring point. For each reading event document survey date, time, reading change from previous reading, and reading change from baseline. Provide readings for Construction Manager review during active excavation.
26. Monitor vibrations at the ground surface above the gas main, force main, and sewer under Route 440 adjacent to the excavations within 25 feet.
27. Advise the Construction Manager of vibration monitoring data. Limiting values are:
    Gas Main – 2.0 in/sec
    Sewer & F.M. – 1.0 in/sec

    If limiting values are exceeded, the contractor shall notify the CM and cease work until adequate measures are taken to reduce vibrations. (1)
28. Elevation are based on NGVD 1929 Datum.

NO.	DATE	REVISION	CHK	APVD
1	10/31/14	ISSUED FOR NJDOT REVIEW		
0	06/17/13	ISSUED FOR CONSTRUCTION		

DSGN G.S. DR B.B. CHK G.P. APVD

PETER W. DEMING
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER GE-46522
P.W.D. GP FWD APVD

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CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
TEMPORARY
SUPPORT OF EXCAVATION
KEY PLAN AND NOTES

FILE NUMBER 11173

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA - 225 WEST 34TH STREET, NEW YORK, NY 10122

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2820
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-501
SHEET	62 OF 70

FILE NAME: G:\DWGS\11111\11173\SN-501.dwg PLOT DATE: Wed, 12 Nov 2014 PLOT TIME: 11:11 AM

Event Report

Histogram Start Time	10:05:17 January 27, 2016	**Serial Number**	BE20564 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	10:26:45 January 27, 2016	**Battery Level**	6.3 Volts
Number of Intervals	257.00 at 5 seconds	**Unit Calibration**	September 22, 2015 by Instantel
Range	Geo:10.000 in/s	**File Name**	V564G7RL.CT0
Sample Rate	1024sps		
Job Number:	1		

Notes

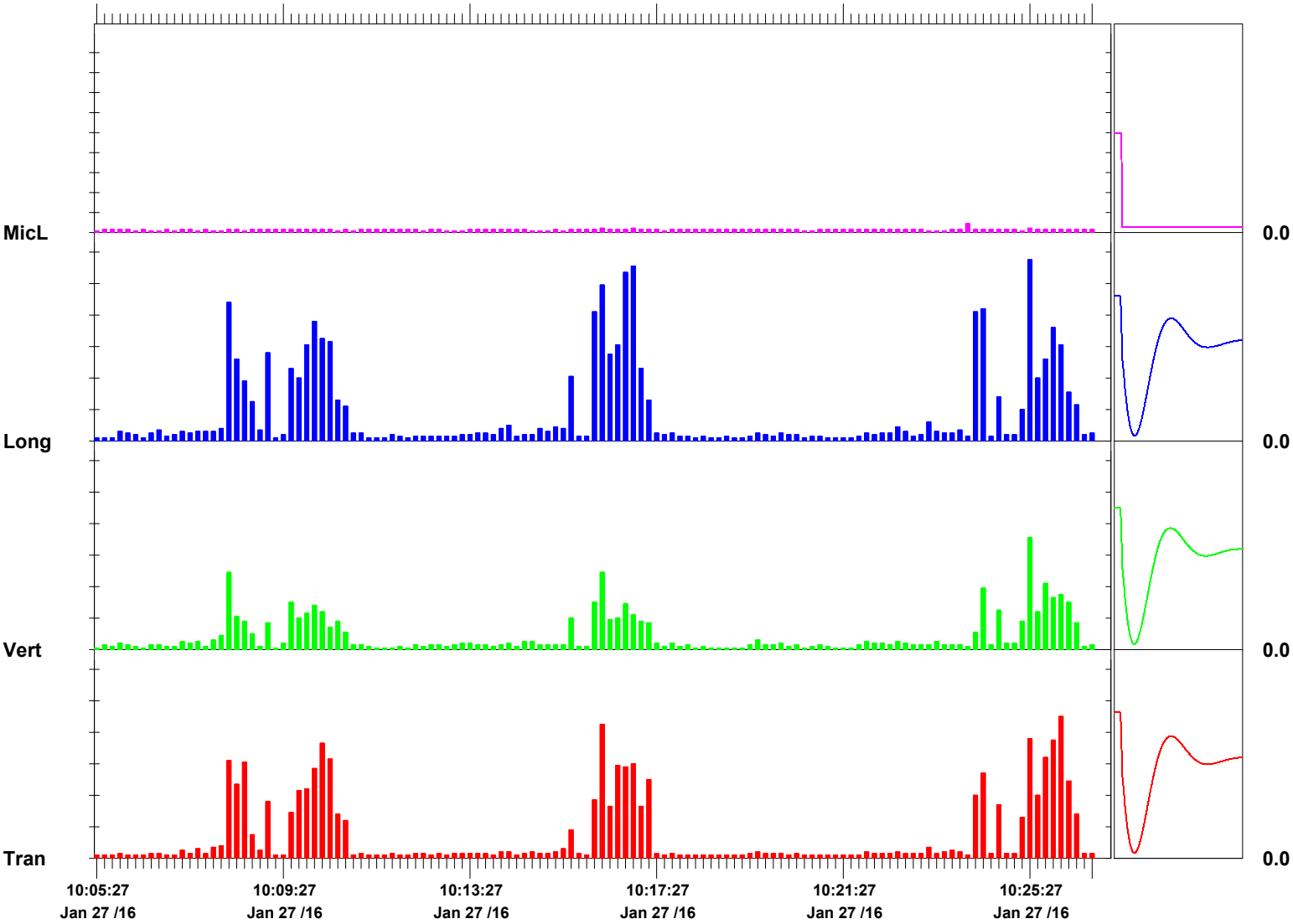
Location: SA-6 North Gas
Client: ENTACT
User Name: GEOCOMP
General: KELLOGG STREET AND ROUTE 440

Extended Notes

Microphone Linear Weighting
PSPL 0.000 psi(L) on January 27, 2016 at 10:24:07
ZC Freq 28 Hz
Channel Test Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.450	0.355	0.575	in/s
ZC Freq	28	30	28	Hz
Date	Jan 27 /16	Jan 27 /16	Jan 27 /16	
Time	10:26:07	10:25:22	10:25:22	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.3	7.2	Hz
Overswing Ratio	4.1	4.2	4.0	

Peak Vector Sum 0.596 in/s on January 27, 2016 at 10:25:22



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Mic: 0.001 psi(L)/div Sensor Check

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Event Report

Histogram Start Time	10:29:44 January 27, 2016	**Serial Number**	BE20564 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	10:51:24 January 27, 2016	**Battery Level**	6.2 Volts
Number of Intervals	260.00 at 5 seconds	**Unit Calibration**	September 22, 2015 by Instantel
Range	Geo:10.000 in/s	**File Name**	V564G7RM.HK0
Sample Rate	1024sps		
Job Number:	1		

Notes

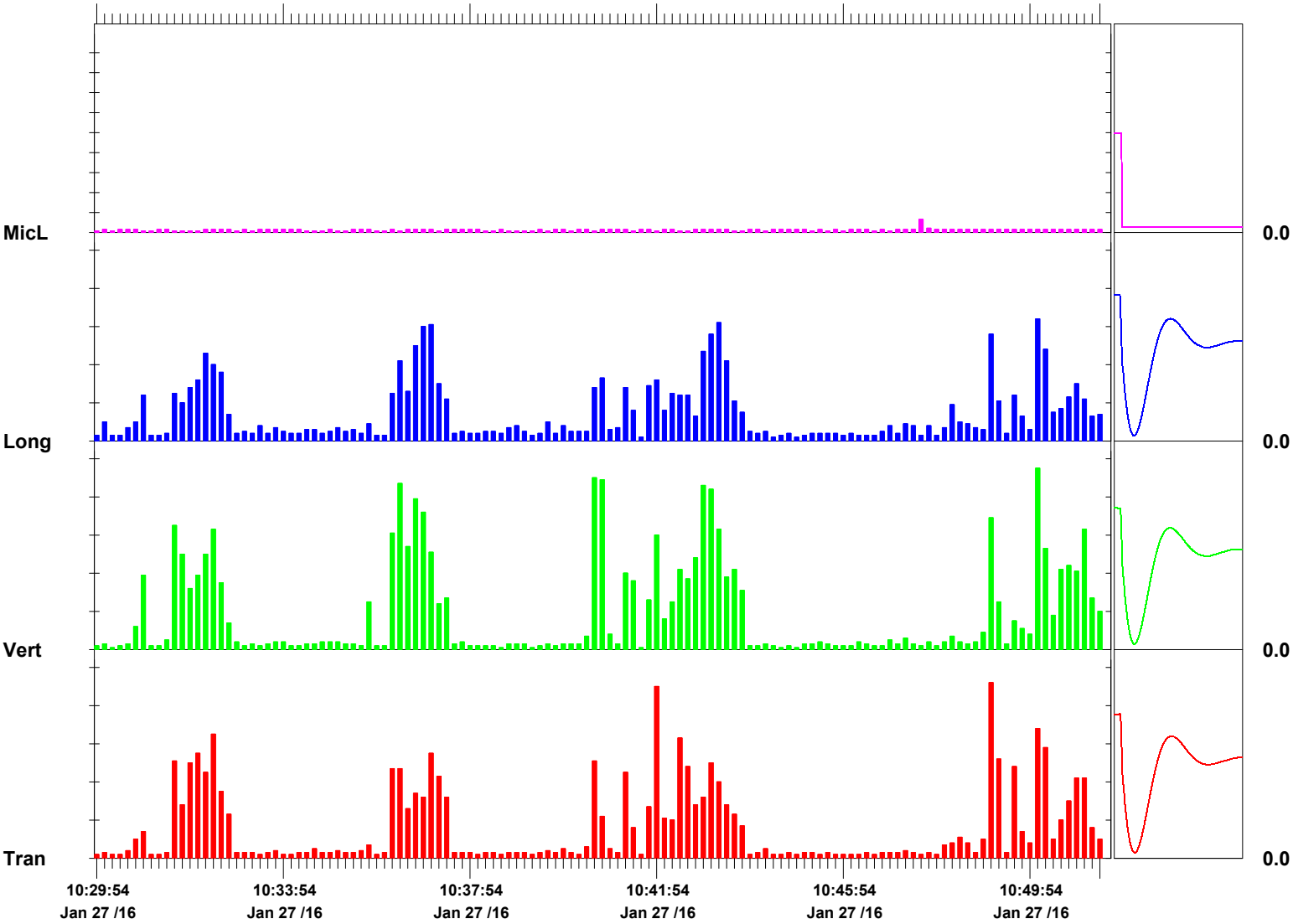
Location:	SA-6 North Gas
Client:	ENTACT
User Name:	GEOCOMP
General:	KELLOGG STREET AND ROUTE 440

Extended Notes

Microphone	Linear Weighting
PSPL	0.000 psi(L) on January 27, 2016 at 10:47:29
ZC Freq	73 Hz
Channel Test	Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.460	0.475	0.320	in/s
ZC Freq	30	27	32	Hz
Date	Jan 27 /16	Jan 27 /16	Jan 27 /16	
Time	10:49:04	10:50:04	10:50:04	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.4	7.4	Hz
Overswing Ratio	4.1	4.2	4.1	

Peak Vector Sum 0.523 in/s on January 27, 2016 at 10:50:04



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Mic: 0.001 psi(L)/div Sensor Check

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Event Report

Histogram Start Time	10:53:30 January 27, 2016	**Serial Number**	BE20564 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	11:12:40 January 27, 2016	**Battery Level**	6.2 Volts
Number of Intervals	230.00 at 5 seconds	**Unit Calibration**	September 22, 2015 by Instantel
Range	Geo:10.000 in/s	**File Name**	V564G7RN.L60
Sample Rate	1024sps		
Job Number:	1		

Notes

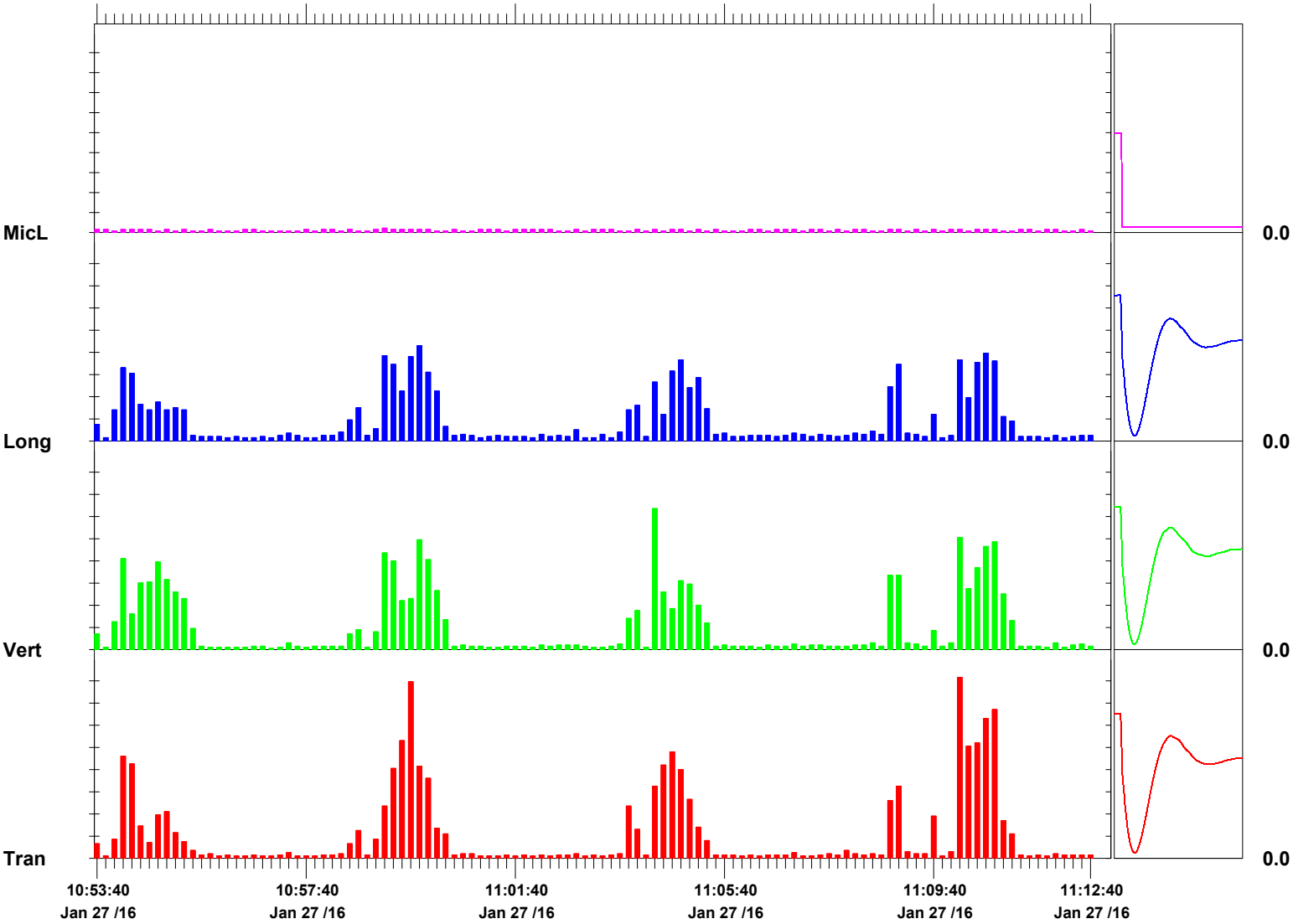
Location: SA-6 North Gas
Client: ENTACT
User Name: GEOCOMP
General: KELLOGG STREET AND ROUTE 440

Extended Notes

Microphone Linear Weighting
PSPL 0.000 psi(L) on January 27, 2016 at 10:59:10
ZC Freq >100 Hz
Channel Test Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.815	0.635	0.430	in/s
ZC Freq	30	30	30	Hz
Date	Jan 27 /16	Jan 27 /16	Jan 27 /16	
Time	11:10:10	11:04:20	10:59:50	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.4	7.3	Hz
Overswing Ratio	4.1	4.2	4.1	

Peak Vector Sum 0.958 in/s on January 27, 2016 at 11:10:10



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Mic: 0.001 psi(L)/div Sensor Check

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Event Report

Histogram Start Time	11:14:40 January 27, 2016	**Serial Number**	BE20564 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	11:37:07 January 27, 2016	**Battery Level**	6.2 Volts
Number of Intervals	269.00 at 5 seconds	**Unit Calibration**	September 22, 2015 by Instantel
Range	Geo:10.000 in/s	**File Name**	V564G7RO.KG0
Sample Rate	1024sps		
Job Number:	1		

Notes

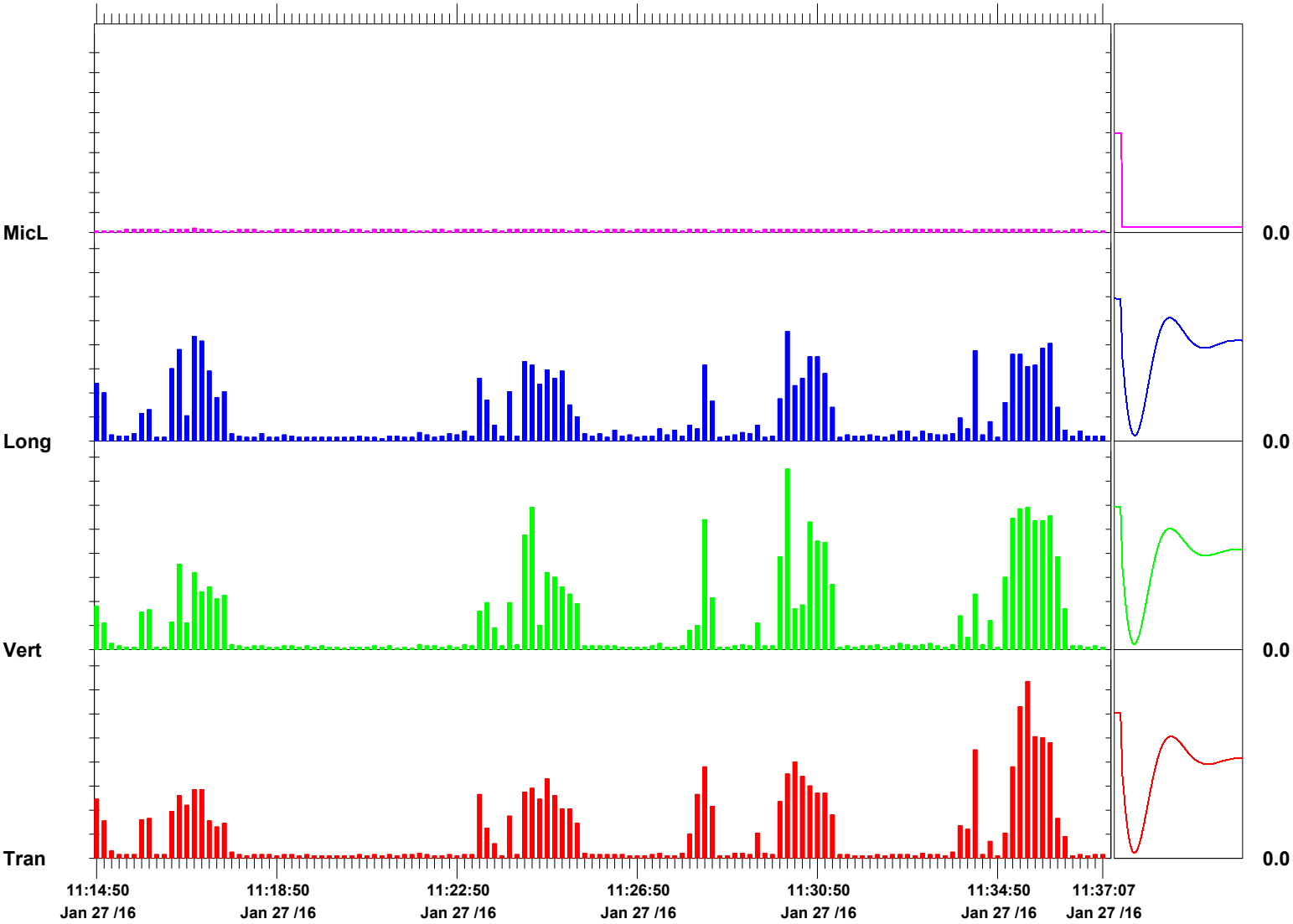
Location: SA-6 North Gas
Client: ENTACT
User Name: GEOCOMP
General: KELLOGG STREET AND ROUTE 440

Extended Notes

Microphone Linear Weighting
PSPL 0.000 psi(L) on January 27, 2016 at 11:17:00
ZC Freq >100 Hz
Channel Test Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.735	0.750	0.455	in/s
ZC Freq	37	32	30	Hz
Date	Jan 27 /16	Jan 27 /16	Jan 27 /16	
Time	11:35:25	11:30:05	11:30:05	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.4	7.4	Hz
Overswing Ratio	4.2	4.3	3.9	

Peak Vector Sum 0.851 in/s on January 27, 2016 at 11:30:05



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Mic: 0.001 psi(L)/div Sensor Check

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Event Report

Histogram Start Time	11:39:05 January 27, 2016	**Serial Number**	BE20564 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	12:51:17 January 27, 2016	**Battery Level**	6.2 Volts
Number of Intervals	866.00 at 5 seconds	**Unit Calibration**	September 22, 2015 by Instantel
Range	Geo:10.000 in/s	**File Name**	V564G7RP.P50
Sample Rate	1024sps		
Job Number:	1		

Notes

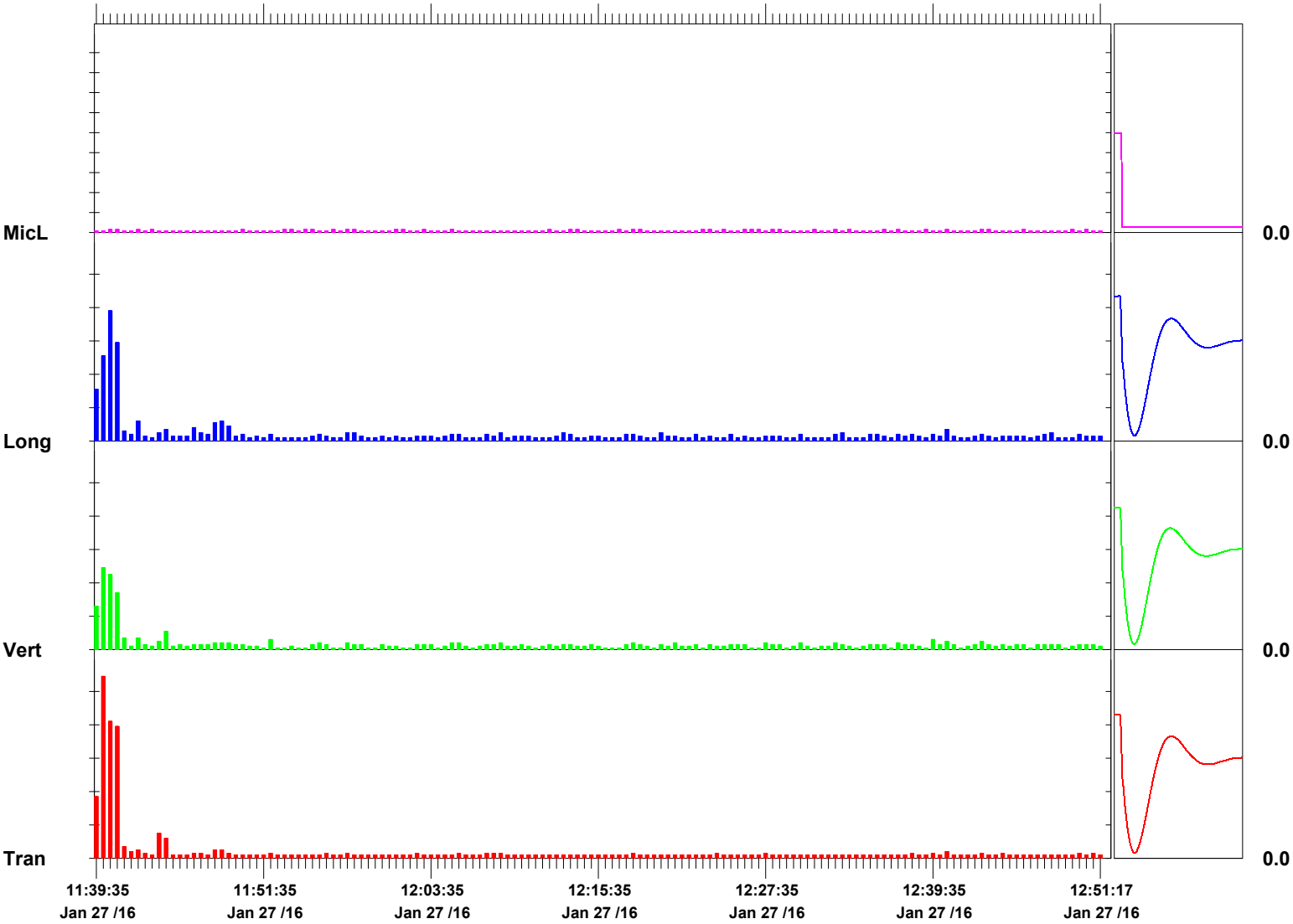
Location: SA-6 North Gas
Client: ENTACT
User Name: GEOCOMP
General: KELLOGG STREET AND ROUTE 440

Extended Notes

Microphone Linear Weighting
PSPL 0.000 psi(L) on January 27, 2016 at 11:40:10
ZC Freq >100 Hz
Channel Test Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.545	0.245	0.390	in/s
ZC Freq	30	39	28	Hz
Date	Jan 27 /16	Jan 27 /16	Jan 27 /16	
Time	11:40:05	11:40:05	11:40:10	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.3	7.2	Hz
Overswing Ratio	4.1	4.2	4.1	

Peak Vector Sum 0.563 in/s on January 27, 2016 at 11:40:05



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Mic: 0.001 psi(L)/div Sensor Check

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Event Report

Histogram Start Time	12:51:43 January 27, 2016	**Serial Number**	BE20564 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	14:15:28 January 27, 2016	**Battery Level**	6.1 Volts
Number of Intervals	1005.00 at 5 seconds	**Unit Calibration**	September 22, 2015 by Instantel
Range	Geo:10.000 in/s	**File Name**	V564G7RT.270
Sample Rate	1024sps		
Job Number:	1		

Notes

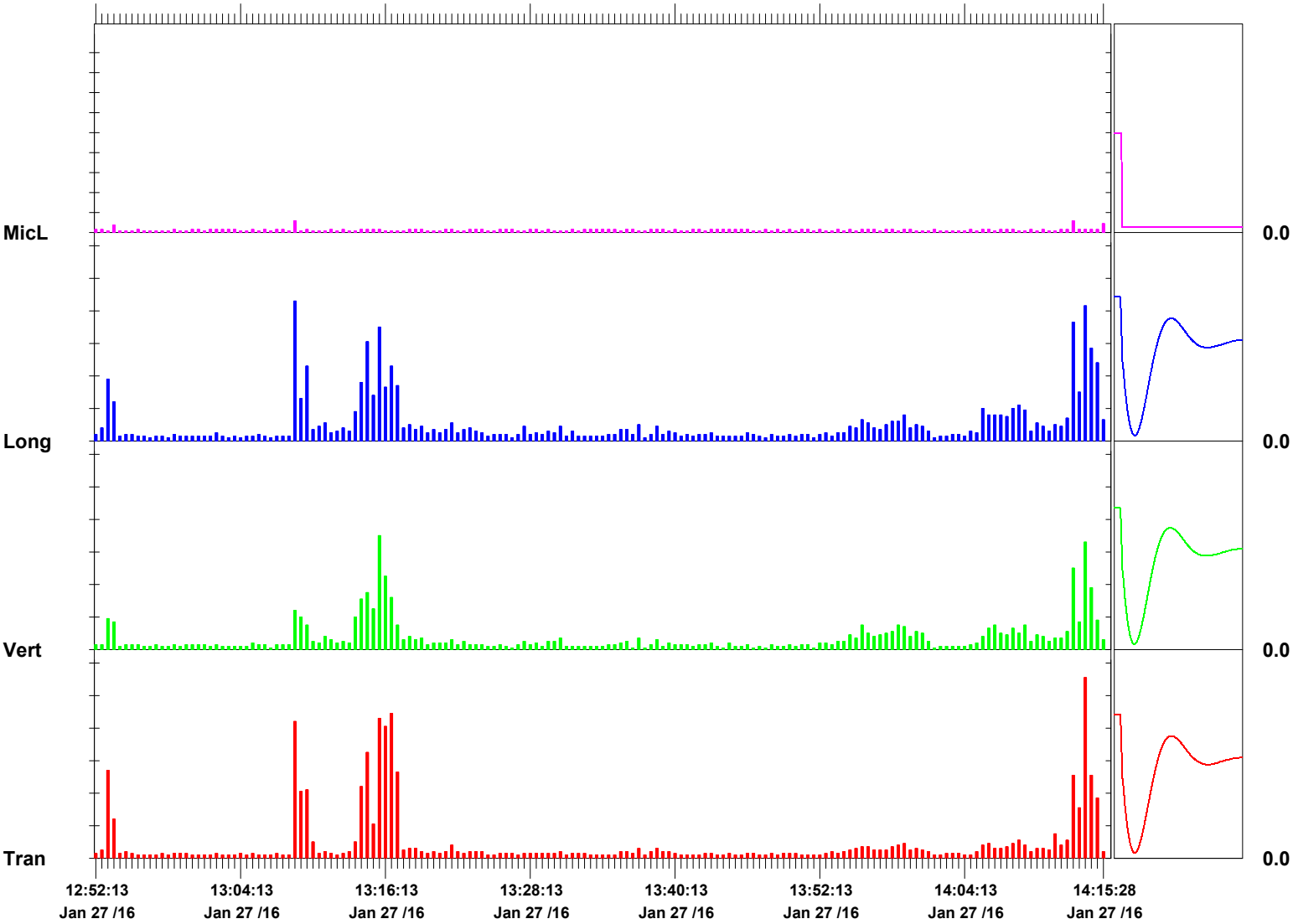
Location: SA-6 North Gas
Client: ENTACT
User Name: GEOCOMP
General: KELLOGG STREET AND ROUTE 440

Extended Notes

Microphone Linear Weighting
PSPL 0.000 psi(L) on January 27, 2016 at 13:08:38
ZC Freq >100 Hz
Channel Test Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.555	0.350	0.430	in/s
ZC Freq	30	28	28	Hz
Date	Jan 27 /16	Jan 27 /16	Jan 27 /16	
Time	14:13:53	13:15:23	13:08:43	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.4	7.2	Hz
Overswing Ratio	4.1	4.2	4.0	

Peak Vector Sum 0.683 in/s on January 27, 2016 at 14:13:53



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Mic: 0.001 psi(L)/div Sensor Check

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Event Report

Histogram Start Time	14:17:40 January 27, 2016	**Serial Number**	BE20564 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	14:31:30 January 27, 2016	**Battery Level**	6.1 Volts
Number of Intervals	165.00 at 5 seconds	**Unit Calibration**	September 22, 2015 by Instantel
Range	Geo:10.000 in/s	**File Name**	V564G7RX.1G0
Sample Rate	1024sps		
Job Number:	1		

Notes

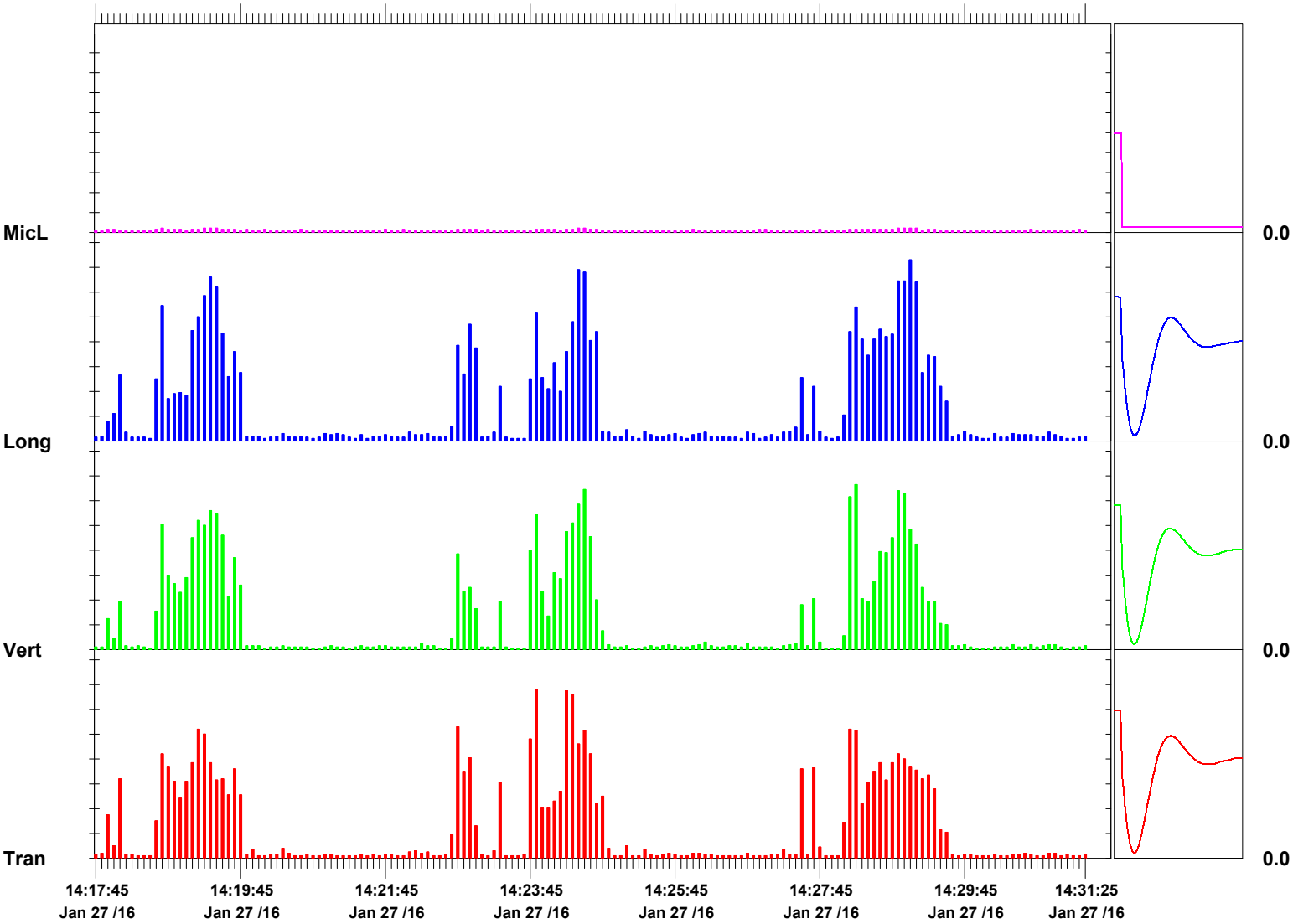
Location: SA-6 North Gas
Client: ENTACT
User Name: GEOCOMP
General: KELLOGG STREET AND ROUTE 440

Extended Notes

Microphone Linear Weighting
PSPL 0.000 psi(L) on January 27, 2016 at 14:18:40
ZC Freq 64 Hz
Channel Test Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.680	0.665	0.730	in/s
ZC Freq	30	30	30	Hz
Date	Jan 27 /16	Jan 27 /16	Jan 27 /16	
Time	14:23:50	14:28:15	14:29:00	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.4	7.2	Hz
Overswing Ratio	4.1	4.3	3.9	

Peak Vector Sum 0.970 in/s on January 27, 2016 at 14:24:30



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Mic: 0.001 psi(L)/div Sensor Check

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Event Report

Histogram Start Time	15:08:51 January 27, 2016	**Serial Number**	BE20564 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	15:09:30 January 27, 2016	**Battery Level**	6.1 Volts
Number of Intervals	7.00 at 5 seconds	**Unit Calibration**	September 22, 2015 by Instantel
Range	Geo:10.000 in/s	**File Name**	V564G7RZ.ER0
Sample Rate	1024sps		
Job Number:	1		

Notes

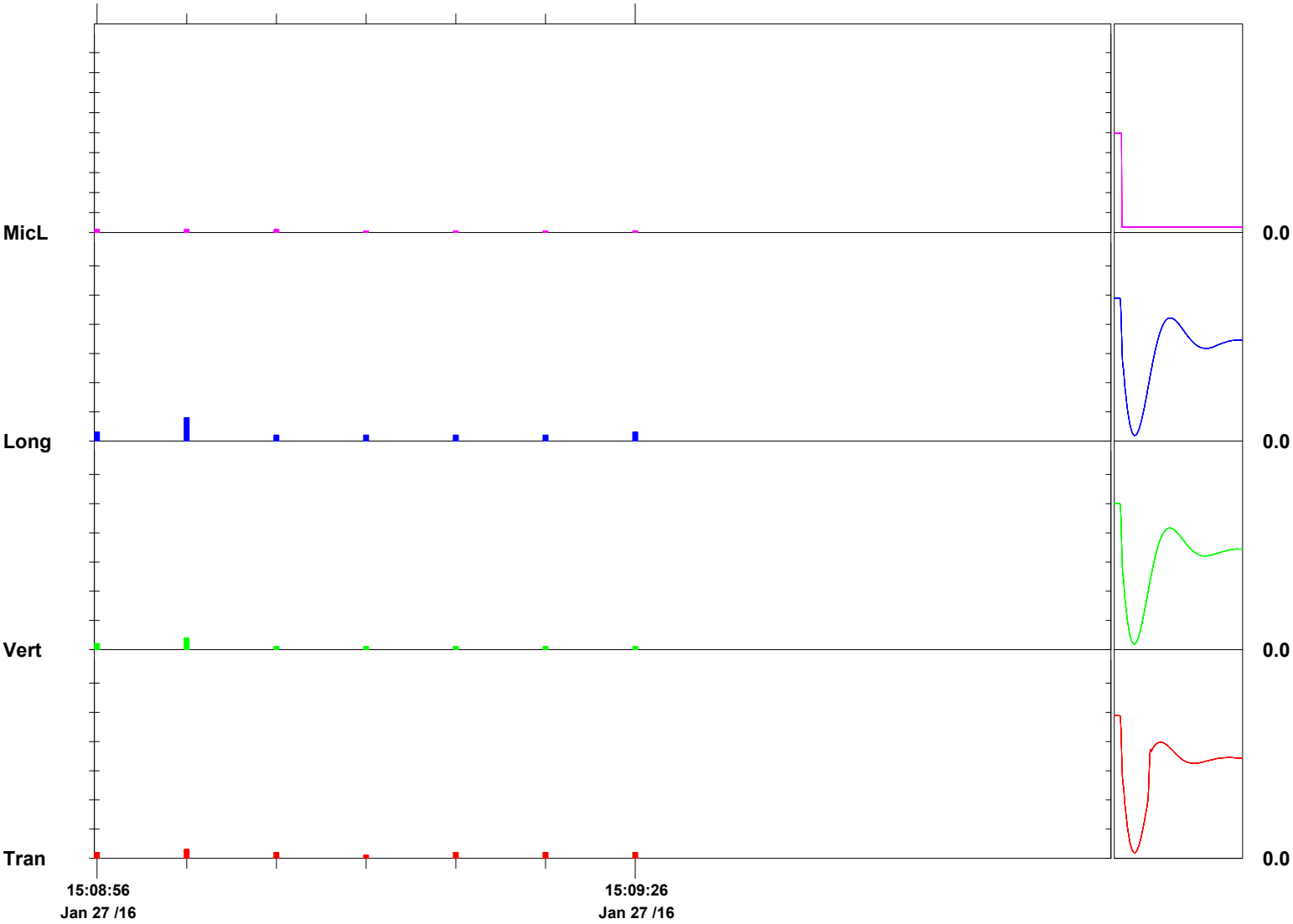
Location: SA-6 North Gas
Client: ENTACT
User Name: GEOCOMP
General: KELLOGG STREET AND ROUTE 440

Extended Notes

Microphone Linear Weighting
PSPL 0.000 psi(L) on January 27, 2016 at 15:08:56
ZC Freq >100 Hz
Channel Test Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.015	0.020	0.040	in/s
ZC Freq	9.3	12	6.0	Hz
Date	Jan 27 /16	Jan 27 /16	Jan 27 /16	
Time	15:09:01	15:09:01	15:09:01	
Sensor Check	Passed	Passed	Passed	
Frequency	9.2	7.4	7.3	Hz
Overswing Ratio	5.6	4.2	4.0	

Peak Vector Sum 0.041 in/s on January 27, 2016 at 15:09:01



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.050 in/s/div Mic: 0.001 psi(L)/div Sensor Check

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Event Report

Histogram Start Time	08:48:03 January 27, 2016	**Serial Number**	BE20564 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	09:21:52 January 27, 2016	**Battery Level**	6.3 Volts
Number of Intervals	405.00 at 5 seconds	**Unit Calibration**	September 22, 2015 by Instantel
Range	Geo:10.000 in/s	**File Name**	V564G7RH.S30
Sample Rate	1024sps		
Job Number:	1		

Notes

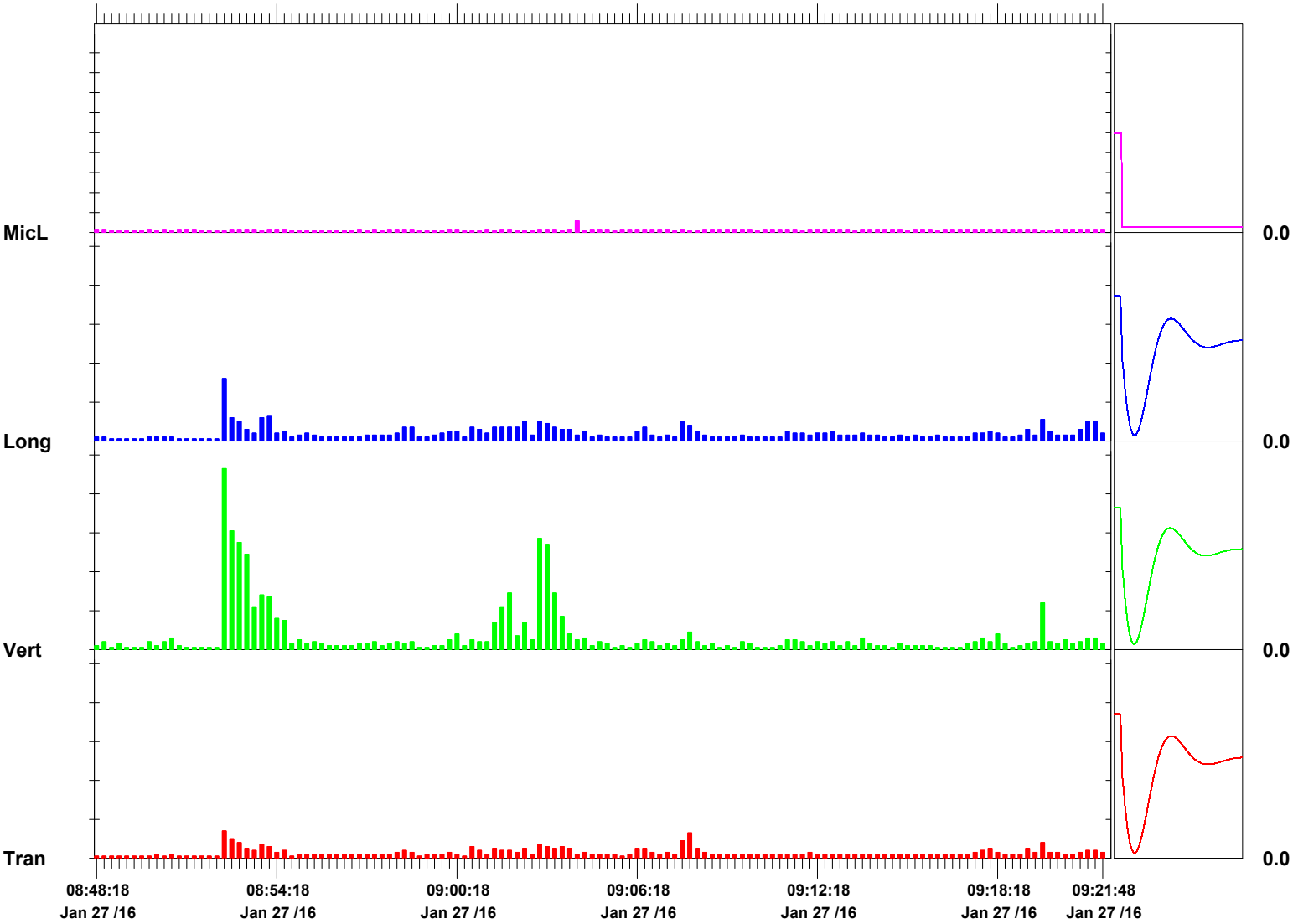
Location: SA-6 Water/Sewer
Client: ENTACT
User Name: GEOCOMP
General: KELLOGG STREET AND ROUTE 440

Extended Notes

Microphone Linear Weighting
PSPL 0.000 psi(L) on January 27, 2016 at 09:04:13
ZC Freq >100 Hz
Channel Test Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.070	0.465	0.160	in/s
ZC Freq	18	28	16	Hz
Date	Jan 27 /16	Jan 27 /16	Jan 27 /16	
Time	08:52:33	08:52:33	08:52:33	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.4	7.2	Hz
Overswing Ratio	4.1	4.2	4.1	

Peak Vector Sum 0.466 in/s on January 27, 2016 at 08:52:33



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Mic: 0.001 psi(L)/div Sensor Check

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Event Report

Histogram Start Time	09:23:13 January 27, 2016	**Serial Number**	BE20564 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	09:30:10 January 27, 2016	**Battery Level**	6.3 Volts
Number of Intervals	83.00 at 5 seconds	**Unit Calibration**	September 22, 2015 by Instantel
Range	Geo:10.000 in/s	**File Name**	V564G7RJ.EP0
Sample Rate	1024sps		
Job Number:	1		

Notes

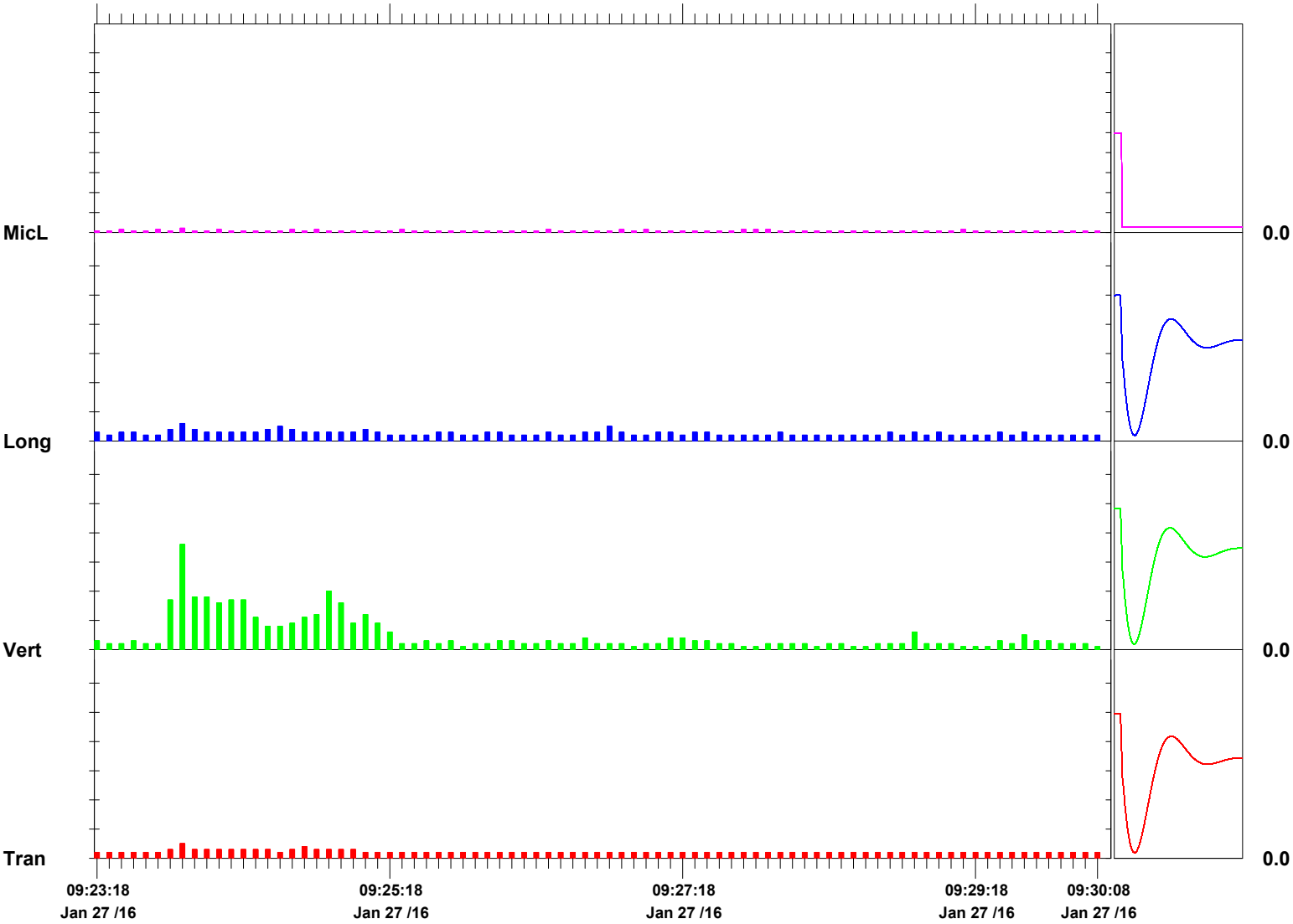
Location:	SA-6 Water/Sewer
Client:	ENTACT
User Name:	GEOCOMP
General:	KELLOGG STREET AND ROUTE 440

Extended Notes

Microphone	Linear Weighting
PSPL	0.000 psi(L) on January 27, 2016 at 09:23:53
ZC Freq	18 Hz
Channel Test	Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.025	0.180	0.030	in/s
ZC Freq	30	28	34	Hz
Date	Jan 27 /16	Jan 27 /16	Jan 27 /16	
Time	09:23:53	09:23:53	09:23:53	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.4	7.2	Hz
Overswing Ratio	4.1	4.2	4.1	

Peak Vector Sum 0.181 in/s on January 27, 2016 at 09:23:53



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.050 in/s/div Mic: 0.001 psi(L)/div Sensor Check

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Event Report

Histogram Start Time	09:43:23 January 27, 2016	**Serial Number**	BE20564 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	09:45:21 January 27, 2016	**Battery Level**	6.3 Volts
Number of Intervals	23.00 at 5 seconds	**Unit Calibration**	September 22, 2015 by Instantel
Range	Geo:10.000 in/s	**File Name**	V564G7RK.CB0
Sample Rate	1024sps		
Job Number:	1		

Notes

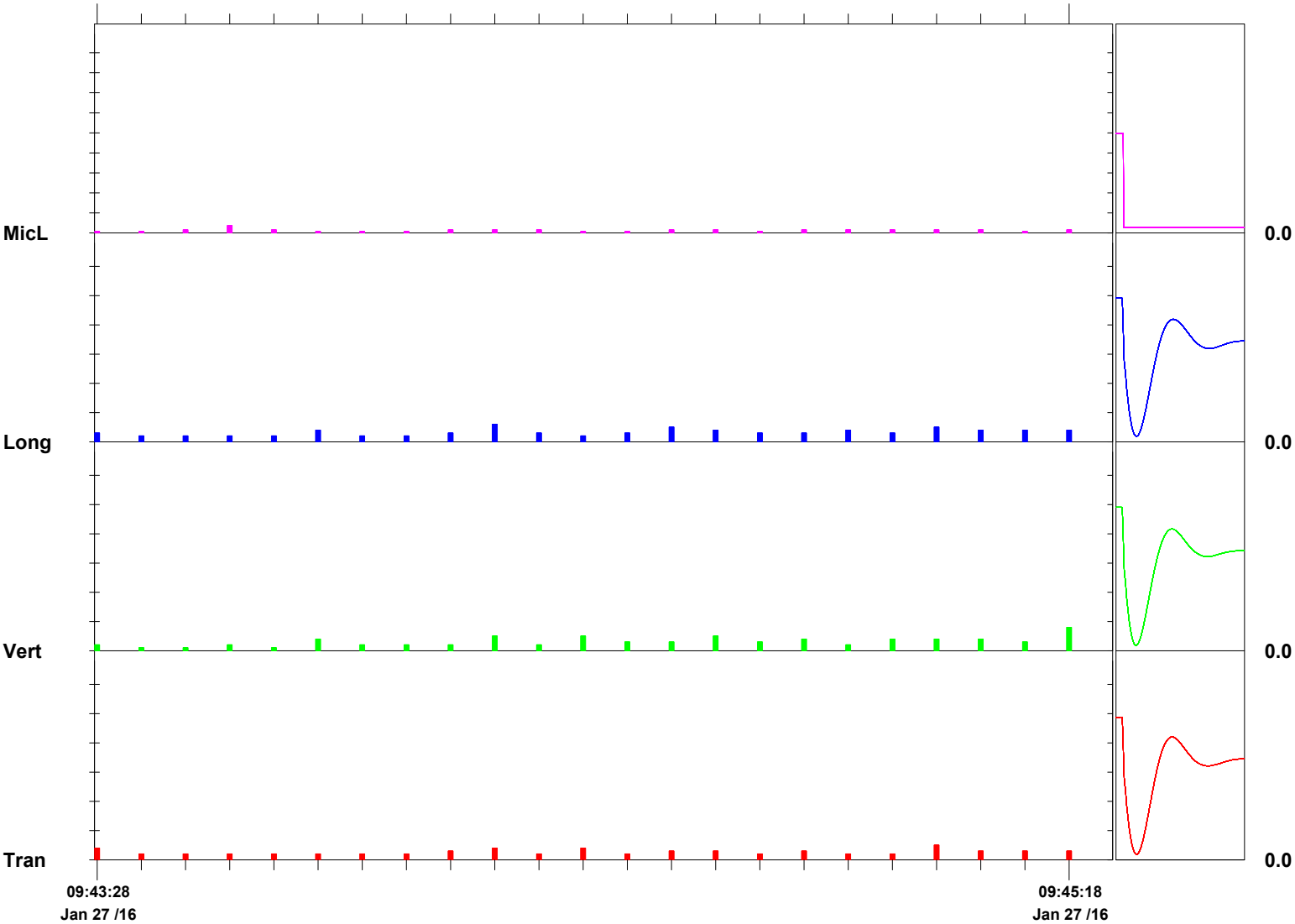
Location:	SA-6 Water/Sewer
Client:	ENTACT
User Name:	GEOCOMP
General:	KELLOGG STREET AND ROUTE 440

Extended Notes

Microphone	Linear Weighting
PSPL	0.000 psi(L) on January 27, 2016 at 09:43:43
ZC Freq	18 Hz
Channel Test	Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.025	0.040	0.030	in/s
ZC Freq	6.4	51	5.3	Hz
Date	Jan 27 /16	Jan 27 /16	Jan 27 /16	
Time	09:45:03	09:45:18	09:44:13	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.3	7.2	Hz
Overswing Ratio	4.0	4.2	4.1	

Peak Vector Sum 0.041 in/s on January 27, 2016 at 09:45:18



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.050 in/s/div Mic: 0.001 psi(L)/div Sensor Check

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Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

January 28, 2016
For ENTACT, LLC

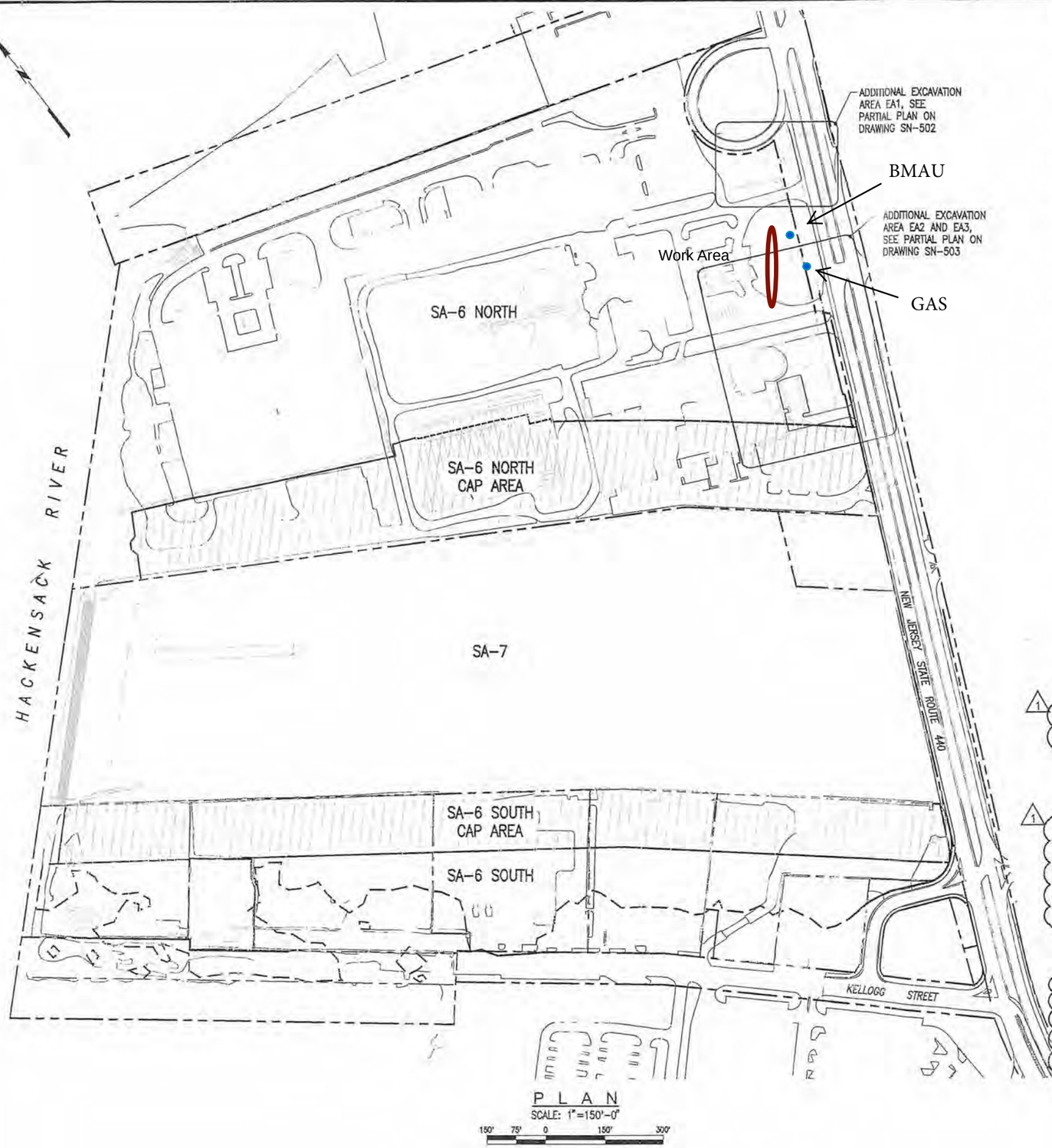
111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

NOTES:

Summary of Work:
Removing of sheet pile commenced at 10:40 AM and ended at 3:00 PM. One Instantel Minimate were used to record vibrations via a geophone placed on the ground over the Water/Sewer main.

Total of 21 sheets pile were removed, and no exceedances were recorded. See attached plan for area of work and location of the seismographs. See attached Blastware reports for PPV at these locations.

North Gas
Alert Level: 0.5 in/sec
Limit Level: 1.0 in/sec



PLAN
SCALE: 1"=150'-0"
150' 75' 0 150' 300'

Notes:

1. The work requires installation of sheet piles, drilling, and excavation in close proximity to overhead power lines and underground utilities. Coordinate access and controls with utility companies having jurisdiction over buried and overhead utilities.
2. Re-mark utility control markings daily if removed by excavation.
3. Steel sheet piling shall be uncoated, new or used in good condition, and of the sizes shown on the drawings or structural equivalent.
4. See AMEC Environment and Infrastructure, Inc. drawings for excavation subgrade elevations.
5. The angle of repose shown on the drawings is based on the definition and requirements provided by PSE&G.
6. Final wall locations subject to location of gas main, determined by test pits.
7. Pre-excavate as required to remove obstructions within the fill prior to driving sheet piling.
8. Handle sheet piling in a manner which prevents damage to the sheet piling. Use standard safety lifting devices, use lifting holes or provide secondary support during lifting.
9. Discontinue spudding more than 5 ft. above the minimum tip elevations indicated herein.
10. Stage pile driving and step sheet piling tips as necessary to maintain interlocks. Remove and replace steel sheet piling found to be out of interlock, out of tolerance, damaged, or otherwise deficient.
11. Use drive templates and guides to maintain pile alignment and install piles plumb.
12. Sheet piling may be welded to adjacent sheets if required to control settlement during driving.
13. Spliced sheet piling shall be free sliding and able to obtain the maximum swing with contiguous piles. Splice welds shall develop the full structural strength of the member.
14. Drive templates: Prior to driving, provide template or driving frame suitable for aligning, supporting, and maintaining the sheet piling in the correct location and verticality during setting and driving. Fix template in place to prevent movement during sheet pile driving. Provide restraint necessary to prevent the sheets from warping or wandering from the alignment, or from racking along the alignment.
15. Provide continuous inspection of sheet pile driving. Inspect location and verticality when setting sheets, and when sheets are driven half depth.
16. Maintain pile driving inspection record for each pair driven. Indicate pile hammer, rate of operation, energy, use of drive helmet and cap, etc. Provide a unique number for each pair, and indicate location on alignment. Document installation date, set time, drive duration, and time drive completed, initial pile length, re-heading or cutting length(s), and any additional information required for record drawings. Record unusual conditions or problems observed during driving.
17. Soldier piles and wales shown are minimum sizes. Substitution with members of equivalent or higher capacity is allowed.
18. Shop and field welding procedures, electrode classification (E70XX), and preheat temperature shall conform to AWS D1.1. Welders shall be certified in accordance with AWS D1.1 criteria.
19. Drill soldier pile using methods approved by the Engineer.
20. Dewater excavations to provide stable subgrade and to remove all uplift pressure below all sewers, force mains or other active utilities as may be required, as determined by the Engineer. Install piezometer within 10 feet of 48 inch sewer to monitor groundwater level. (1)
21. Survey to establish construction station baseline and establish monitoring points.
22. Set permanent monitoring point on top of sheet piling and soldier piles. Grind smooth surface for point, if required. Mark point ID. At contractor option, DMP points may be reflective targets for total station surveys.
23. Survey location of monitoring point. (X, Y, Z) (baseline reading). (1)
24. Survey location (X, Y, Z) two additional times, on separate days, before performing excavation within 50 ft. of monitoring point.
25. Survey monitoring point (X, Y, Z) daily, or more often at Engineer direction, when excavating within 50 ft. of monitoring point. For each reading event document survey date, time, reading change from previous reading, and reading change from baseline. Provide readings for Construction Manager review during active excavation.
26. Monitor vibrations at the ground surface above the gas main, force main, and sewer under Route 440 adjacent to the excavations within 25 feet.
27. Advise the Construction Manager of vibration monitoring data. Limiting values are:
    Gas Main – 2.0 in/sec
    Sewer & F.M. – 1.0 in/sec

    If limiting values are exceeded, the contractor shall notify the CM and cease work until adequate measures are taken to reduce vibrations. (1)
28. Elevation are based on NGVD 1929 Datum.

NO.	DATE	REVISION	CHK	APVD
1	10/31/14	ISSUED FOR NJDOT REVIEW		
0	06/17/13	ISSUED FOR CONSTRUCTION		

DSGN G.S. DR B.B. CHK G.P. APVD

PETER W. DEMING
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER GE-46522
P.W.D. GP FWD APVD

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STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
TEMPORARY
SUPPORT OF EXCAVATION
KEY PLAN AND NOTES

FILE NUMBER 11173

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA - 225 WEST 34TH STREET, NEW YORK, NY 10122

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2820
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-501
SHEET	62 OF 70

FILE NAME: G:\DWGS\11111\11173\SN-501.dwg PLOT DATE: Wed, 12 Nov 2014 PLOT TIME: 11:11 AM

Event Report

Histogram Start Time	10:40:10 January 28, 2016	**Serial Number**	BE20564 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	10:42:33 January 28, 2016	**Battery Level**	6.3 Volts
Number of Intervals	28.00 at 5 seconds	**Unit Calibration**	September 22, 2015 by Instantel
Range	Geo:10.000 in/s	**File Name**	V564G7TH.MY0
Sample Rate	1024sps		
Job Number:	1		

Notes

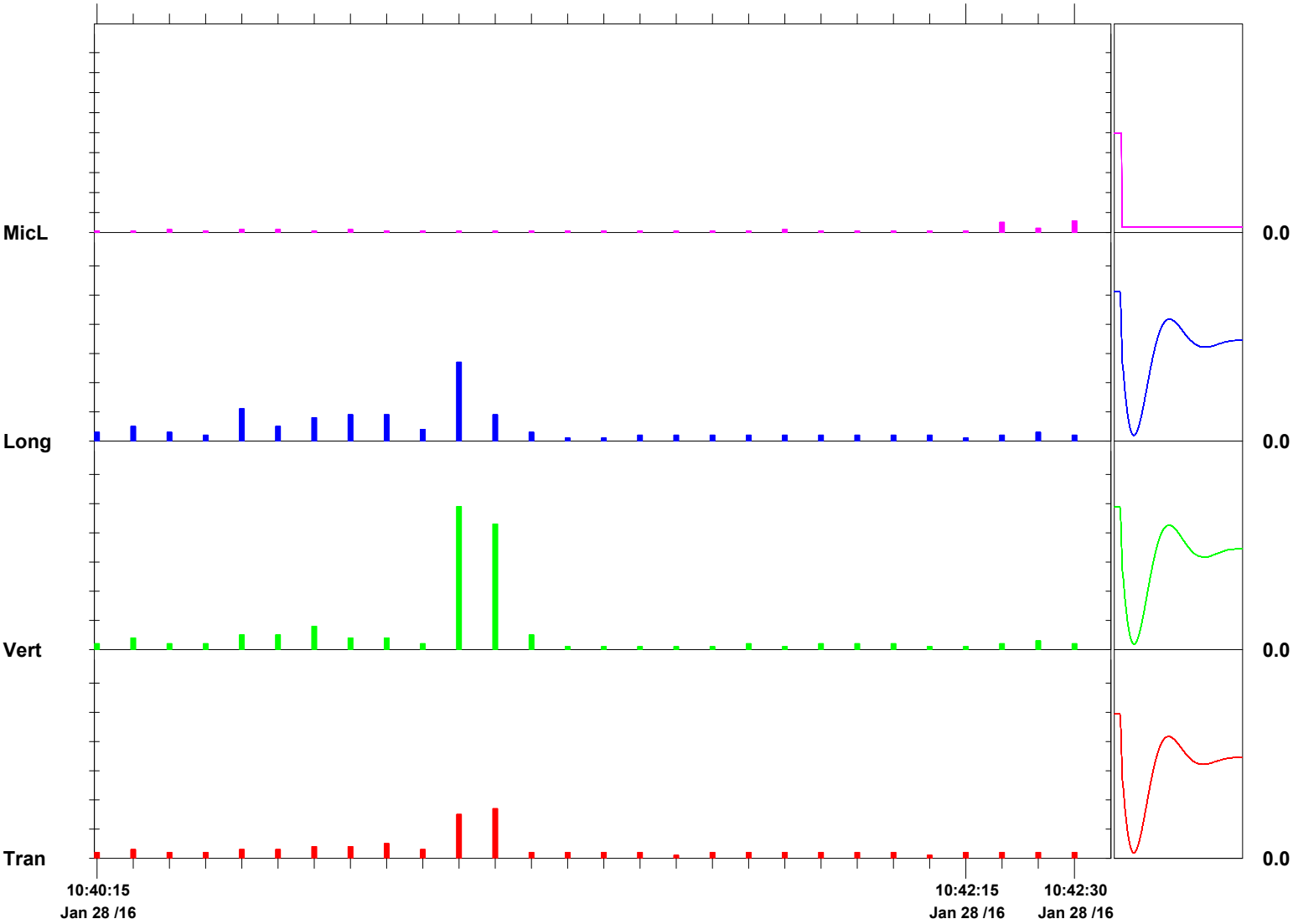
Location:	SA-6 North Gas
Client:	ENTACT
User Name:	GEOCOMP
General:	KELLOGG STREET AND ROUTE 440

Extended Notes

Microphone	Linear Weighting
PSPL	0.000 psi(L) on January 28, 2016 at 10:42:30
ZC Freq	11 Hz
Channel Test	Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.085	0.245	0.135	in/s
ZC Freq	37	27	17	Hz
Date	Jan 28 /16	Jan 28 /16	Jan 28 /16	
Time	10:41:10	10:41:05	10:41:05	
Sensor Check	Passed	Passed	Passed	
Frequency	7.6	7.6	7.5	Hz
Overswing Ratio	4.2	3.8	4.2	

Peak Vector Sum 0.260 in/s on January 28, 2016 at 10:41:05



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.050 in/s/div Mic: 0.001 psi(L)/div Sensor Check

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Event Report

Histogram Start Time	11:08:17 January 28, 2016	**Serial Number**	BE20564 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	11:30:18 January 28, 2016	**Battery Level**	6.3 Volts
Number of Intervals	264.00 at 5 seconds	**Unit Calibration**	September 22, 2015 by Instantel
Range	Geo:10.000 in/s	**File Name**	V564G7TI.XT0
Sample Rate	1024sps		
Job Number:	1		

Notes

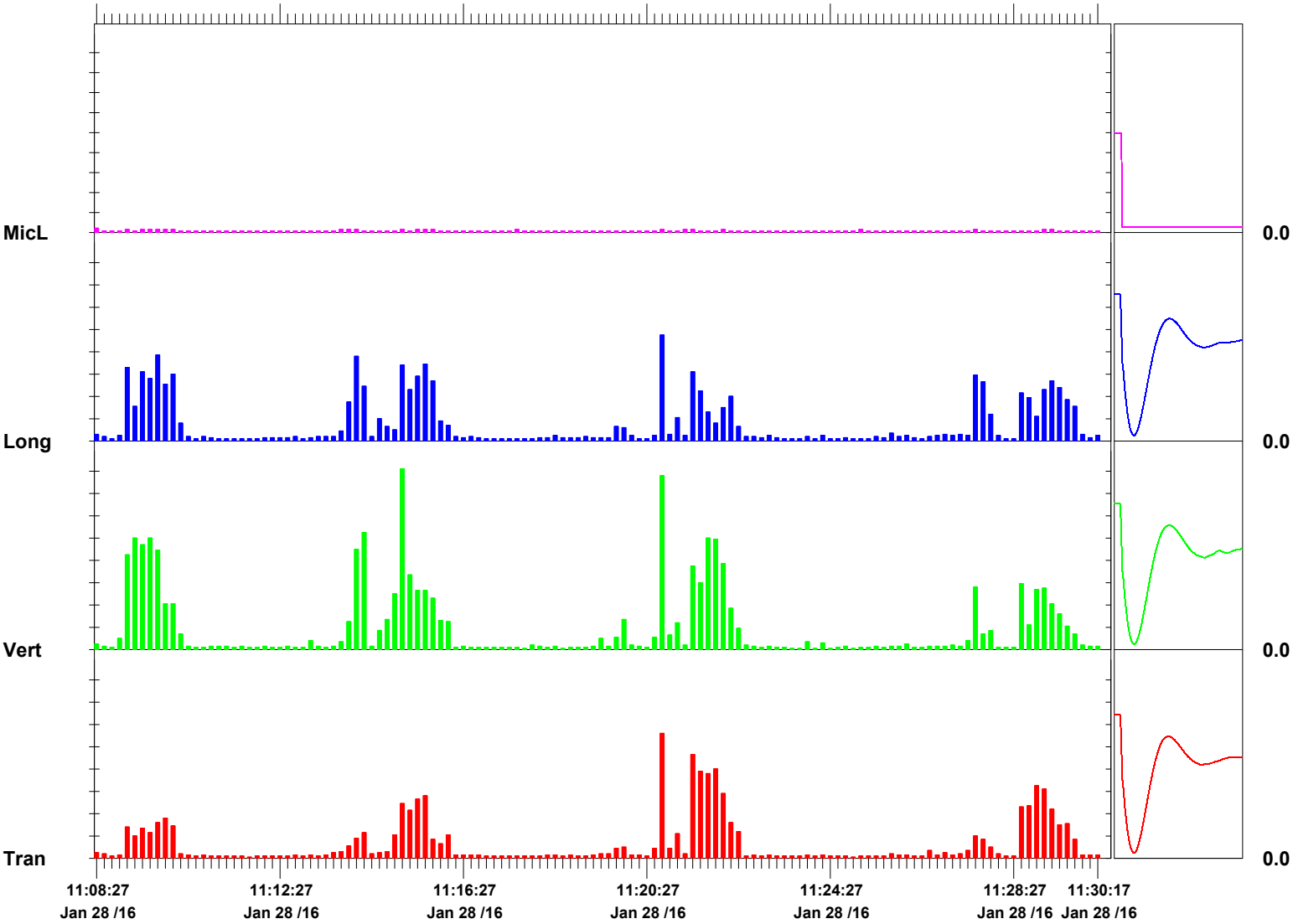
Location: SA-6 North Gas
Client: ENTACT
User Name: GEOCOMP
General: KELLOGG STREET AND ROUTE 440

Extended Notes

Microphone Linear Weighting
PSPL 0.000 psi(L) on January 28, 2016 at 11:08:22
ZC Freq >100 Hz
Channel Test Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.560	0.810	0.475	in/s
ZC Freq	30	32	28	Hz
Date	Jan 28 /16	Jan 28 /16	Jan 28 /16	
Time	11:20:47	11:15:02	11:20:47	
Sensor Check	Passed	Passed	Passed	
Frequency	7.6	7.6	7.5	Hz
Overswing Ratio	4.2	3.7	4.1	

Peak Vector Sum 0.849 in/s on January 28, 2016 at 11:20:47



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Mic: 0.001 psi(L)/div Sensor Check

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Event Report

Histogram Start Time	11:31:42 January 28, 2016	**Serial Number**	BE20564 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	11:48:44 January 28, 2016	**Battery Level**	6.3 Volts
Number of Intervals	204.00 at 5 seconds	**Unit Calibration**	September 22, 2015 by Instantel
Range	Geo:10.000 in/s	**File Name**	V564G7TK.0U0
Sample Rate	1024sps		
Job Number:	1		

Notes

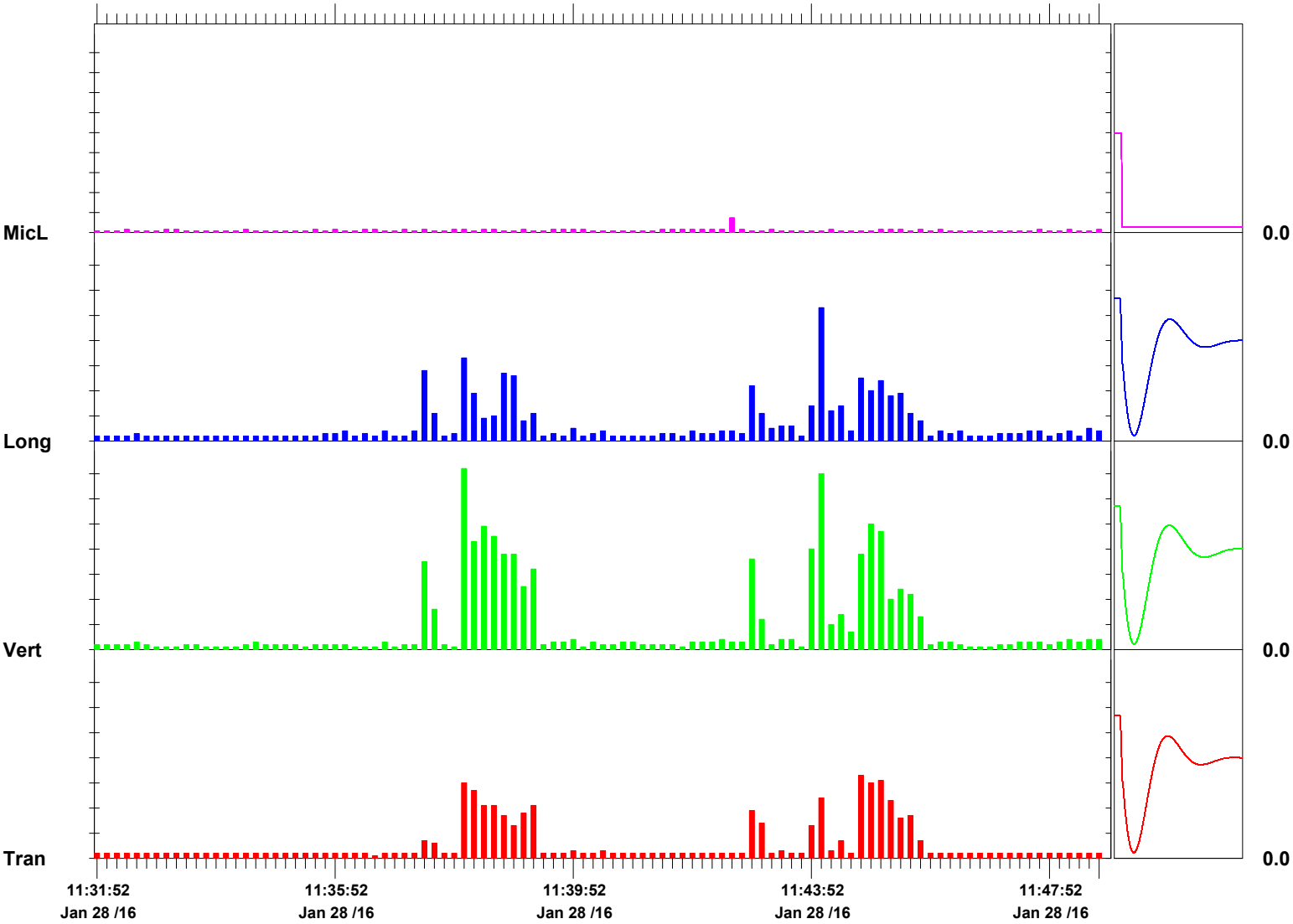
Location: SA-6 North Gas
Client: ENTACT
User Name: GEOCOMP
General: KELLOGG STREET AND ROUTE 440

Extended Notes

Microphone Linear Weighting
PSPL 0.000 psi(L) on January 28, 2016 at 11:42:32
ZC Freq >100 Hz
Channel Test Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.165	0.360	0.265	in/s
ZC Freq	30	28	19	Hz
Date	Jan 28 /16	Jan 28 /16	Jan 28 /16	
Time	11:44:42	11:38:02	11:43:57	
Sensor Check	Passed	Passed	Passed	
Frequency	7.7	7.6	7.4	Hz
Overswing Ratio	4.1	3.7	4.2	

Peak Vector Sum 0.386 in/s on January 28, 2016 at 11:38:02



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.050 in/s/div Mic: 0.001 psi(L)/div Sensor Check

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Event Report

Histogram Start Time	13:08:49 January 28, 2016	**Serial Number**	BE20564 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	14:16:08 January 28, 2016	**Battery Level**	6.3 Volts
Number of Intervals	807.00 at 5 seconds	**Unit Calibration**	September 22, 2015 by Instantel
Range	Geo:10.000 in/s	**File Name**	V564G7TO.IP0
Sample Rate	1024sps		
Job Number:	1		

Notes

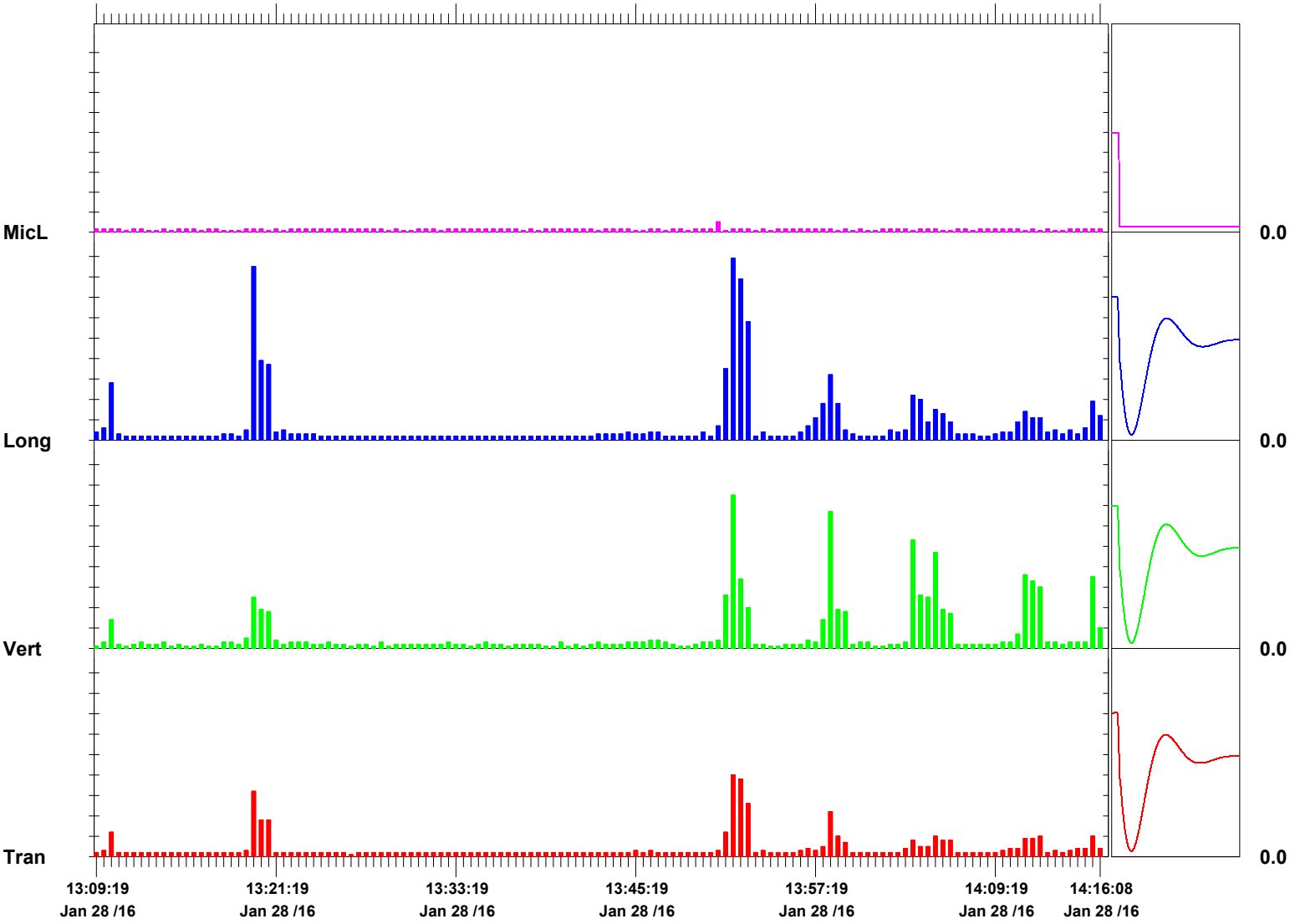
Location: SA-6 North Gas
Client: ENTACT
User Name: GEOCOMP
General: KELLOGG STREET AND ROUTE 440

Extended Notes

Microphone Linear Weighting
PSPL 0.000 psi(L) on January 28, 2016 at 13:50:49
ZC Freq 28 Hz
Channel Test Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.200	0.375	0.445	in/s
ZC Freq	30	32	30	Hz
Date	Jan 28 /16	Jan 28 /16	Jan 28 /16	
Time	13:51:39	13:51:44	13:51:39	
Sensor Check	Passed	Passed	Passed	
Frequency	7.6	7.6	7.4	Hz
Overswing Ratio	4.1	3.8	4.1	

Peak Vector Sum 0.484 in/s on January 28, 2016 at 13:51:39



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.050 in/s/div Mic: 0.001 psi(L)/div Sensor Check

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Event Report

Histogram Start Time	14:26:48 January 28, 2016	**Serial Number**	BE20564 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	14:49:12 January 28, 2016	**Battery Level**	6.3 Volts
Number of Intervals	268.00 at 5 seconds	**Unit Calibration**	September 22, 2015 by Instantel
Range	Geo:10.000 in/s	**File Name**	V564G7TS.4O0
Sample Rate	1024sps		
Job Number:	1		

Notes

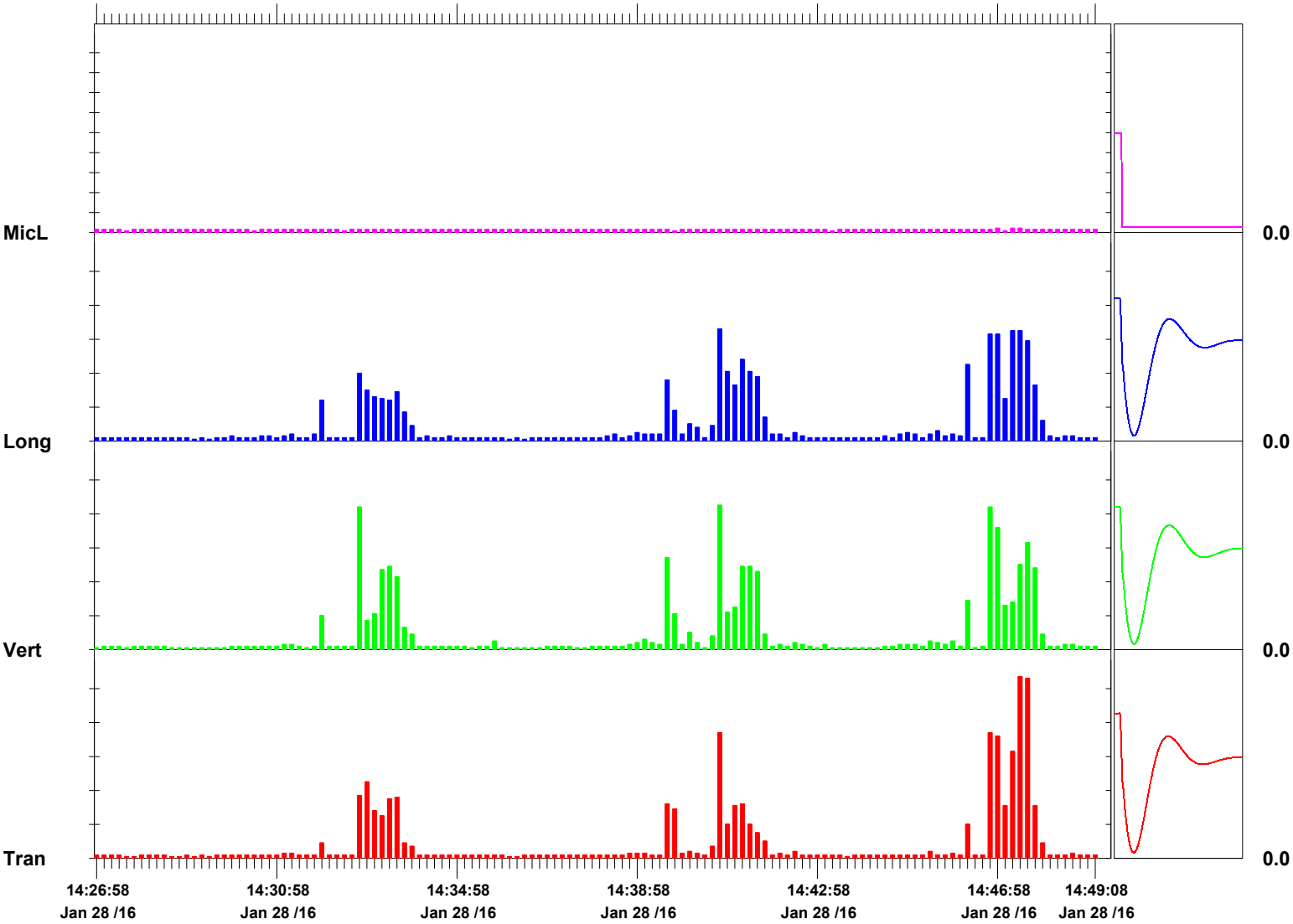
Location: SA-6 North Gas
Client: ENTACT
User Name: GEOCOMP
General: KELLOGG STREET AND ROUTE 440

Extended Notes

Microphone Linear Weighting
PSPL 0.000 psi(L) on January 28, 2016 at 14:46:53
ZC Freq >100 Hz
Channel Test Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.535	0.425	0.330	in/s
ZC Freq	37	28	32	Hz
Date	Jan 28 /16	Jan 28 /16	Jan 28 /16	
Time	14:47:28	14:40:43	14:40:48	
Sensor Check	Passed	Passed	Passed	
Frequency	7.6	7.6	7.4	Hz
Overswing Ratio	4.1	3.8	4.1	

Peak Vector Sum 0.609 in/s on January 28, 2016 at 14:47:33



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Mic: 0.001 psi(L)/div Sensor Check

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Event Report

Histogram Start Time	14:51:17 January 28, 2016	**Serial Number**	BE20564 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	14:56:13 January 28, 2016	**Battery Level**	6.3 Volts
Number of Intervals	59.00 at 5 seconds	**Unit Calibration**	September 22, 2015 by Instantel
Range	Geo:10.000 in/s	**File Name**	V564G7TT.9H0
Sample Rate	1024sps		
Job Number:	1		

Notes

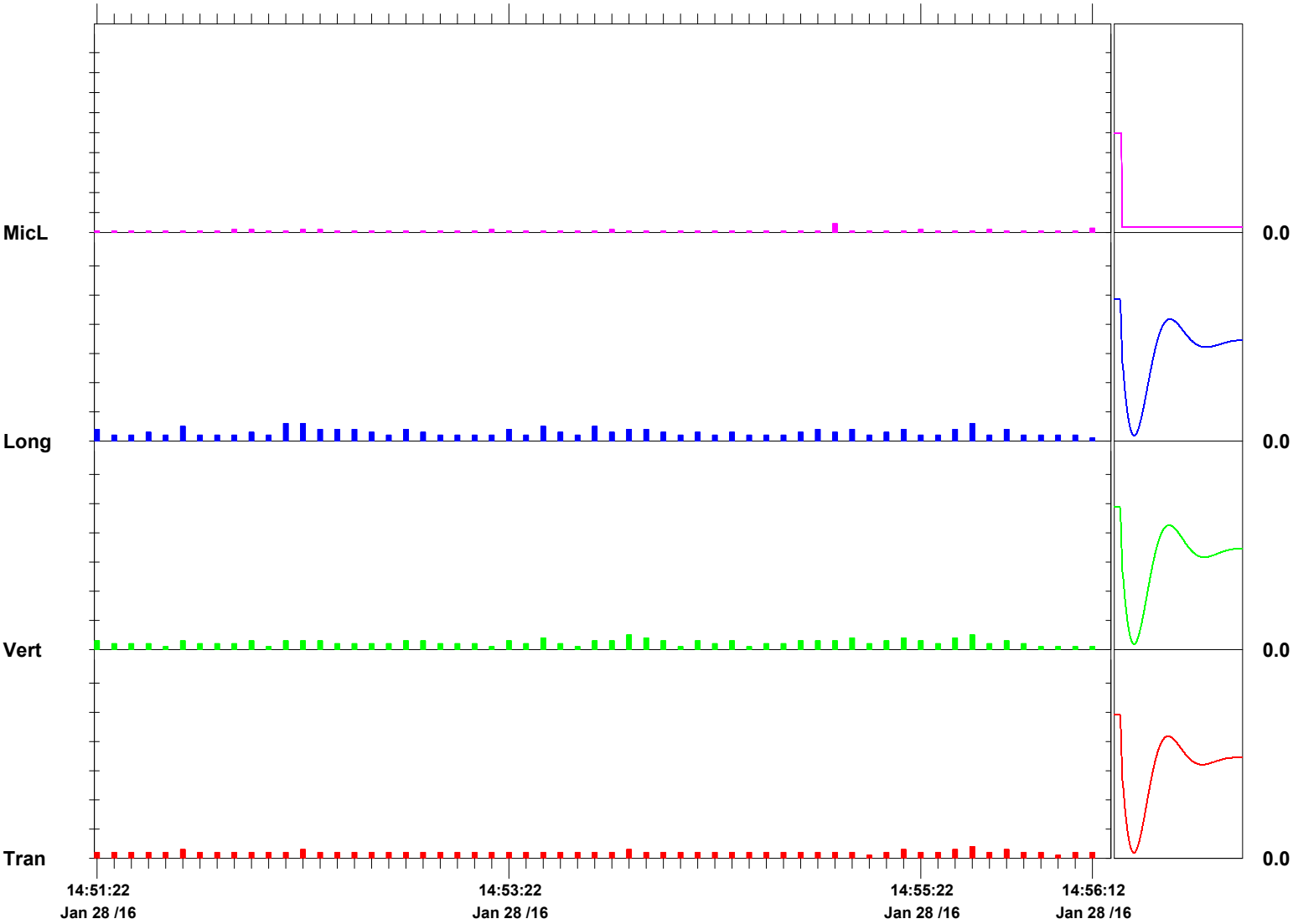
Location: SA-6 North Gas
Client: ENTACT
User Name: GEOCOMP
General: KELLOGG STREET AND ROUTE 440

Extended Notes

Microphone Linear Weighting
PSPL 0.000 psi(L) on January 28, 2016 at 14:54:57
ZC Freq >100 Hz
Channel Test Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.020	0.025	0.030	in/s
ZC Freq	15	14	7.3	Hz
Date	Jan 28 /16	Jan 28 /16	Jan 28 /16	
Time	14:55:37	14:53:57	14:52:17	
Sensor Check	Passed	Passed	Passed	
Frequency	7.6	7.6	7.4	Hz
Overswing Ratio	4.1	3.7	4.1	

Peak Vector Sum 0.039 in/s on January 28, 2016 at 14:55:37



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.050 in/s/div Mic: 0.001 psi(L)/div Sensor Check

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for infrastructure

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Atlanta
Chicago
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New York
www.geocomp.com

Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

January 29, 2016
For ENTACT, LLC

111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

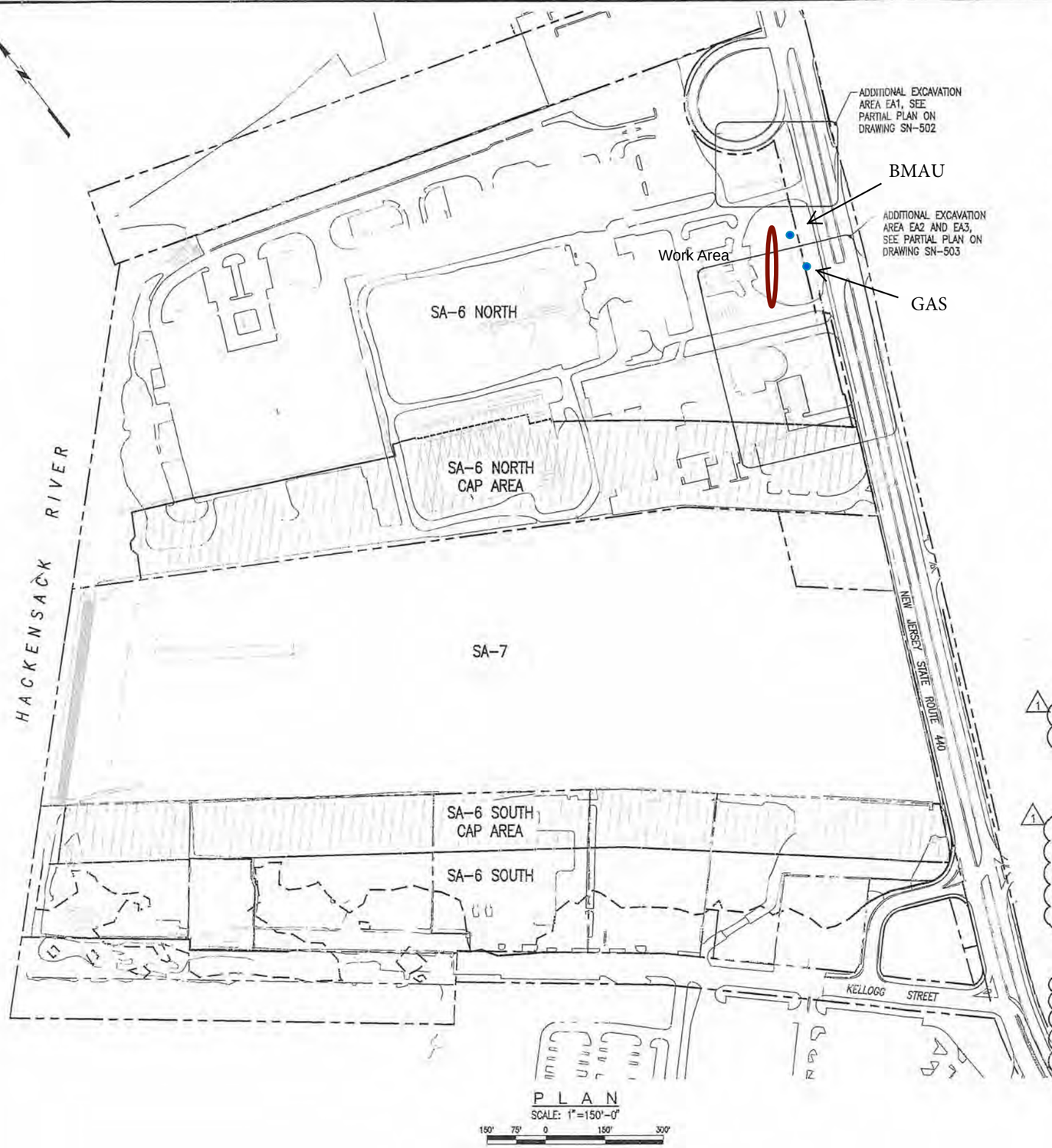
NOTES:

Summary of Work:
Removing of sheet pile commenced at 8:00 AM and ended at 12:00 PM. Two Instantel Minimate were used to record vibrations via a geophone placed on the ground over the Water/Sewer main and North Gas.

Total of 10 1/2 sheets pile were removed, and no exceedances were recorded. See attached plan for area of work and location of the seismographs. See attached Blastware reports for PPV at these locations.

Water/Sewer
Alert Level: 0.5 in/sec
Limit Level: 1.0 in/sec

North Gas
Alert Level 1.0 in/sec
Limit Level 2.0 in/sec



PLAN
SCALE: 1"=150'-0"
150' 75' 0 150' 300'

Notes:

1. The work requires installation of sheet piles, drilling, and excavation in close proximity to overhead power lines and underground utilities. Coordinate access and controls with utility companies having jurisdiction over buried and overhead utilities.
2. Re-mark utility control markings daily if removed by excavation.
3. Steel sheet piling shall be uncoated, new or used in good condition, and of the sizes shown on the drawings or structural equivalent.
4. See AMEC Environment and Infrastructure, Inc. drawings for excavation subgrade elevations.
5. The angle of repose shown on the drawings is based on the definition and requirements provided by PSE&G.
6. Final wall locations subject to location of gas main, determined by test pits.
7. Pre-excavate as required to remove obstructions within the fill prior to driving sheet piling.
8. Handle sheet piling in a manner which prevents damage to the sheet piling. Use standard safety lifting devices, use lifting holes or provide secondary support during lifting.
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12. Sheet piling may be welded to adjacent sheets if required to control settlement during driving.
13. Spliced sheet piling shall be free sliding and able to obtain the maximum swing with contiguous piles. Splice welds shall develop the full structural strength of the member.
14. Drive templates: Prior to driving, provide template or driving frame suitable for aligning, supporting, and maintaining the sheet piling in the correct location and verticality during setting and driving. Fix template in place to prevent movement during sheet pile driving. Provide restraint necessary to prevent the sheets from warping or wandering from the alignment, or from racking along the alignment.
15. Provide continuous inspection of sheet pile driving. Inspect location and verticality when setting sheets, and when sheets are driven half depth.
16. Maintain pile driving inspection record for each pair driven. Indicate pile hammer, rate of operation, energy, use of drive helmet and cap, etc. Provide a unique number for each pair, and indicate location on alignment. Document installation date, set time, drive duration, and time drive completed, initial pile length, re-heading or cutting length(s), and any additional information required for record drawings. Record unusual conditions or problems observed during driving.
17. Soldier piles and wales shown are minimum sizes. Substitution with members of equivalent or higher capacity is allowed.
18. Shop and field welding procedures, electrode classification (E70XX), and preheat temperature shall conform to AWS D1.1. Welders shall be certified in accordance with AWS D1.1 criteria.
19. Drill soldier pile using methods approved by the Engineer.
20. Dewater excavations to provide stable subgrade and to remove all uplift pressure below all sewers, force mains or other active utilities as may be required, as determined by the Engineer. Install piezometer within 10 feet of 48 inch sewer to monitor groundwater level. (1)
21. Survey to establish construction station baseline and establish monitoring points.
22. Set permanent monitoring point on top of sheet piling and soldier piles. Grind smooth surface for point, if required. Mark point ID. At contractor option, DMP points may be reflective targets for total station surveys.
23. Survey location of monitoring point. (X, Y, Z) (baseline reading). (1)
24. Survey location (X, Y, Z) two additional times, on separate days, before performing excavation within 50 ft. of monitoring point.
25. Survey monitoring point (X, Y, Z) daily, or more often at Engineer direction, when excavating within 50 ft. of monitoring point. For each reading event document survey date, time, reading change from previous reading, and reading change from baseline. Provide readings for Construction Manager review during active excavation.
26. Monitor vibrations at the ground surface above the gas main, force main, and sewer under Route 440 adjacent to the excavations within 25 feet.
27. Advise the Construction Manager of vibration monitoring data. Limiting values are:
    Gas Main – 2.0 in/sec
    Sewer & F.M. – 1.0 in/sec

    If limiting values are exceeded, the contractor shall notify the CM and cease work until adequate measures are taken to reduce vibrations. (1)
28. Elevation are based on NGVD 1929 Datum.

NO.	DATE	REVISION	CHK	APVD
1	10/31/14	ISSUED FOR NJDOT REVIEW		
0	06/17/13	ISSUED FOR CONSTRUCTION		

DSGN G.S. DR B.B. CHK G.P. APVD

PETER W. DEMING
NJ PROFESSIONAL ENGINEER
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P.W.D. GP FWD APVD

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101 COLUMBIA RD. BOX 2109, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
TEMPORARY
SUPPORT OF EXCAVATION
KEY PLAN AND NOTES

FILE NUMBER 11173

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA - 225 WEST 34TH STREET, NEW YORK, NY 10122

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2820
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-501
SHEET	62 OF 70

FILE NAME: G:\DWGS\11111\11173\SN-501.dwg PLOT DATE: Wed, 12 Nov 2014 PLOT TIME: 11:11 AM

Event Report

Histogram Start Time	08:04:57 January 29, 2016	**Serial Number**	BE21985 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	08:24:41 January 29, 2016	**Battery Level**	5.7 Volts (Battery Low)
Number of Intervals	236.00 at 5 seconds	**Unit Calibration**	January 26, 2015 by Instantel
Range	Geo:10.000 in/s	**File Name**	__TEMP.EVT
Sample Rate	1024sps		
Job Number:	1		

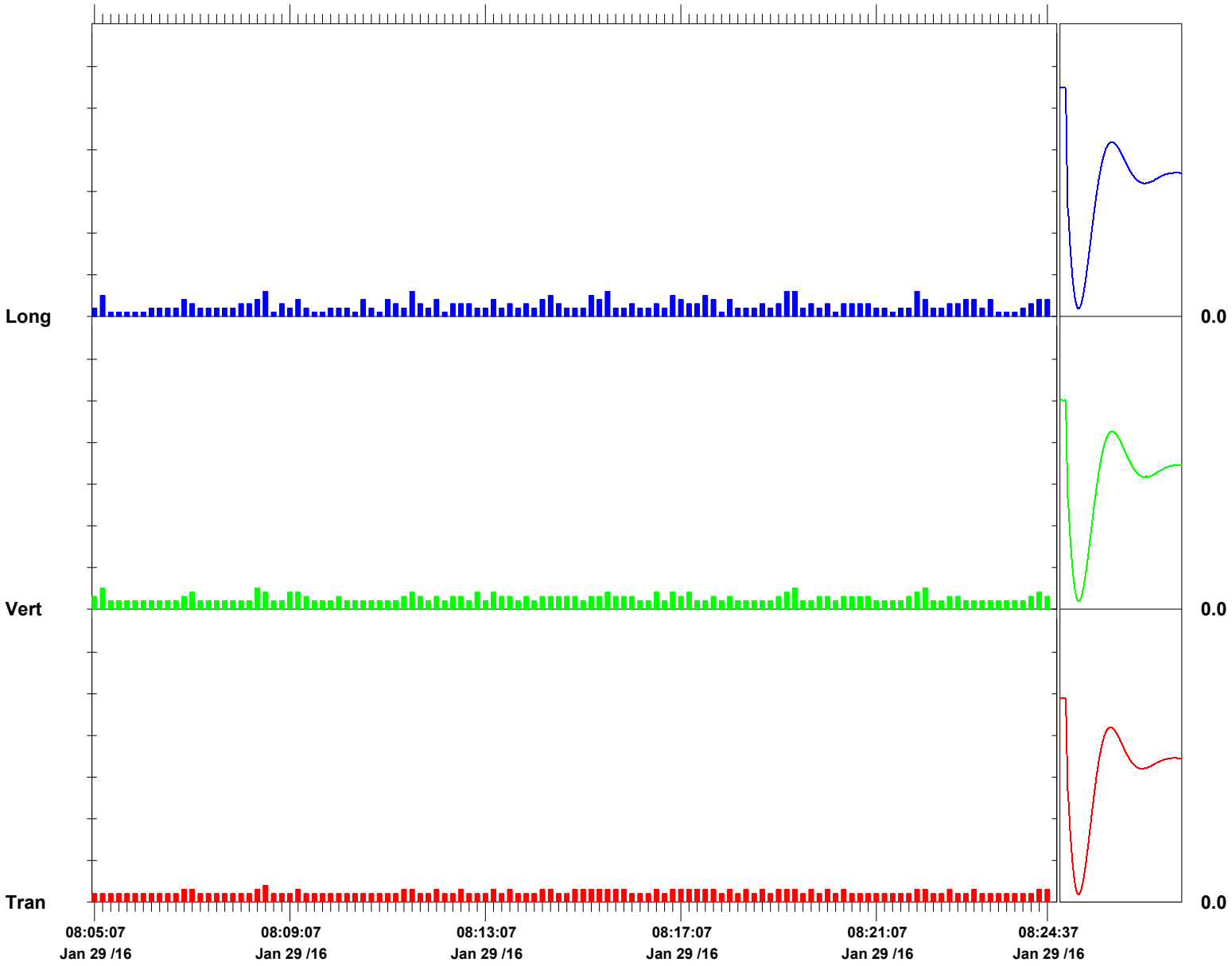
Notes

Location: SA-6 NORTH GAS
Client: ENTACT
User Name: GEOCOMP
General: KELLOGG STREET AND ROUTE 440

Extended Notes

	Tran	Vert	Long	
PPV	0.020	0.025	0.030	in/s
ZC Freq	15	13	14	Hz
Date	Jan 29 /16	Jan 29 /16	Jan 29 /16	
Time	08:08:32	08:05:12	08:08:32	
Sensor Check	Passed	Passed	Passed	
Frequency	7.7	7.6	7.6	Hz
Overswing Ratio	4.0	3.7	4.1	

Peak Vector Sum 0.036 in/s on January 29, 2016 at 08:19:17



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.050 in/s/div Sensor Check

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Event Report

Histogram Start Time	08:58:24 January 29, 2016	**Serial Number**	BE21985 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	10:23:52 January 29, 2016	**Battery Level**	5.8 Volts (Battery Low)
Number of Intervals	1025.00 at 5 seconds	**Unit Calibration**	January 26, 2015 by Instantel
Range	Geo:10.000 in/s	**File Name**	__TEMP.EVT
Sample Rate	1024sps		
Job Number:	1		

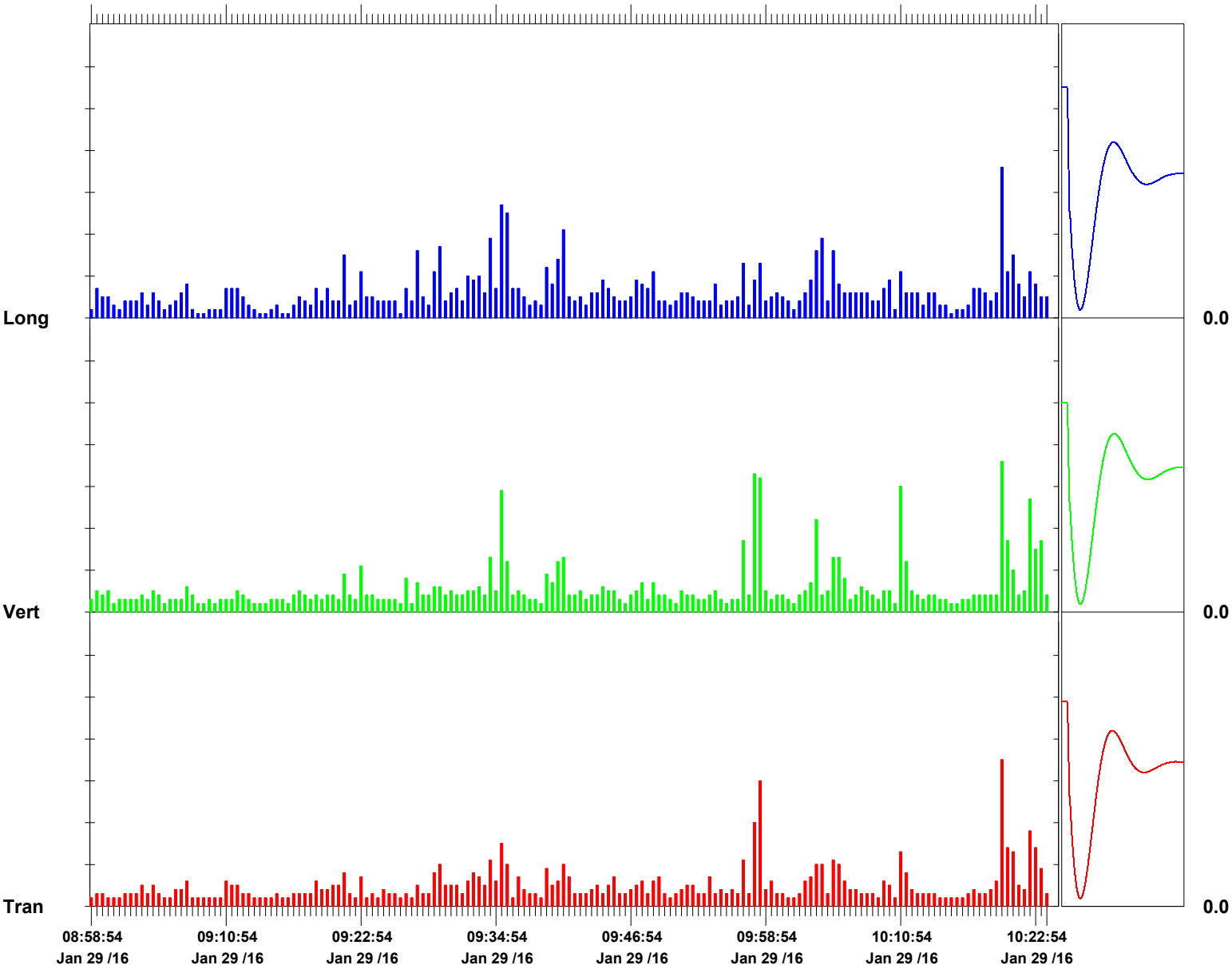
Notes

Location: SA-6 NORTH GAS
Client: ENTACT
User Name: GEOCOMP
General: KELLOGG STREET AND ROUTE 440

Extended Notes

	Tran	Vert	Long	
PPV	0.175	0.180	0.180	in/s
ZC Freq	16	20	17	Hz
Date	Jan 29 /16	Jan 29 /16	Jan 29 /16	
Time	10:19:39	10:19:39	10:19:39	
Sensor Check	Passed	Passed	Passed	
Frequency	7.7	7.6	7.6	Hz
Overswing Ratio	4.0	3.7	4.0	

Peak Vector Sum 0.248 in/s on January 29, 2016 at 10:19:39



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.050 in/s/div Sensor Check

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Event Report

Histogram Start Time	08:06:39 January 29, 2016	**Serial Number**	BE20564 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	10:25:07 January 29, 2016	**Battery Level**	6.1 Volts
Number of Intervals	1661.00 at 5 seconds	**Unit Calibration**	September 22, 2015 by Instantel
Range	Geo:10.000 in/s	**File Name**	__TEMP.EVT
Sample Rate	1024sps		
Job Number:	1		

Notes

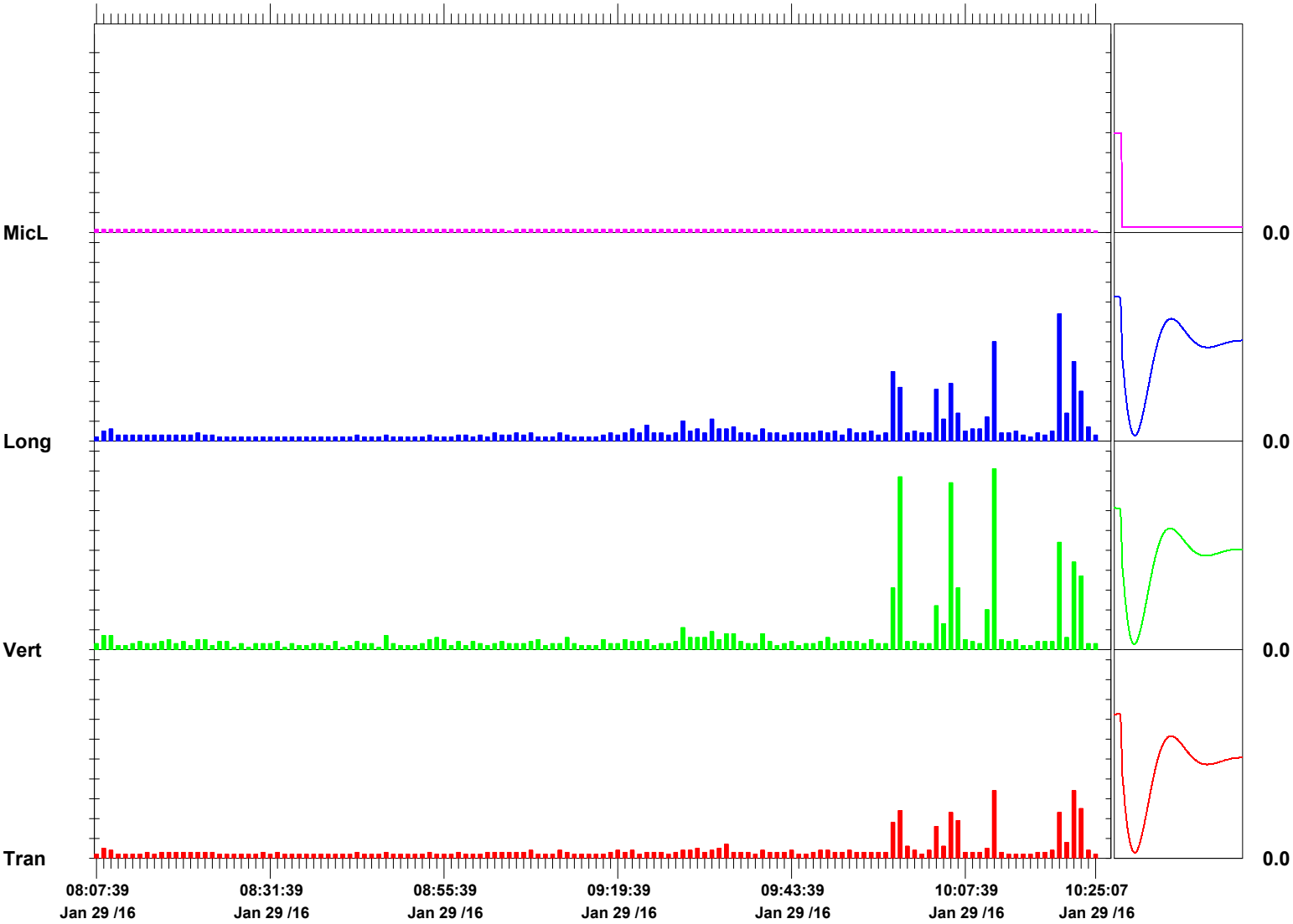
Location: SA-6 Water/Sewer
Client: ENTACT
User Name: GEOCOMP
General: KELLOGG STREET AND ROUTE 440

Extended Notes

Microphone Linear Weighting
PSPL 0.000 psi(L) on January 29, 2016 at 08:06:54
ZC Freq >100 Hz
Channel Test Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.170	0.455	0.320	in/s
ZC Freq	37	39	21	Hz
Date	Jan 29 /16	Jan 29 /16	Jan 29 /16	
Time	10:10:49	10:11:14	10:19:49	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.3	7.2	Hz
Overswing Ratio	4.1	4.3	4.1	

Peak Vector Sum 0.463 in/s on January 29, 2016 at 10:11:14



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.050 in/s/div Mic: 0.001 psi(L)/div Sensor Check

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Event Report

Histogram Start Time	10:48:48 January 29, 2016	**Serial Number**	BE20564 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	11:13:18 January 29, 2016	**Battery Level**	6.2 Volts
Number of Intervals	293.00 at 5 seconds	**Unit Calibration**	September 22, 2015 by Instantel
Range	Geo:10.000 in/s	**File Name**	__TEMP.EVT
Sample Rate	1024sps		
Job Number:	1		

Notes

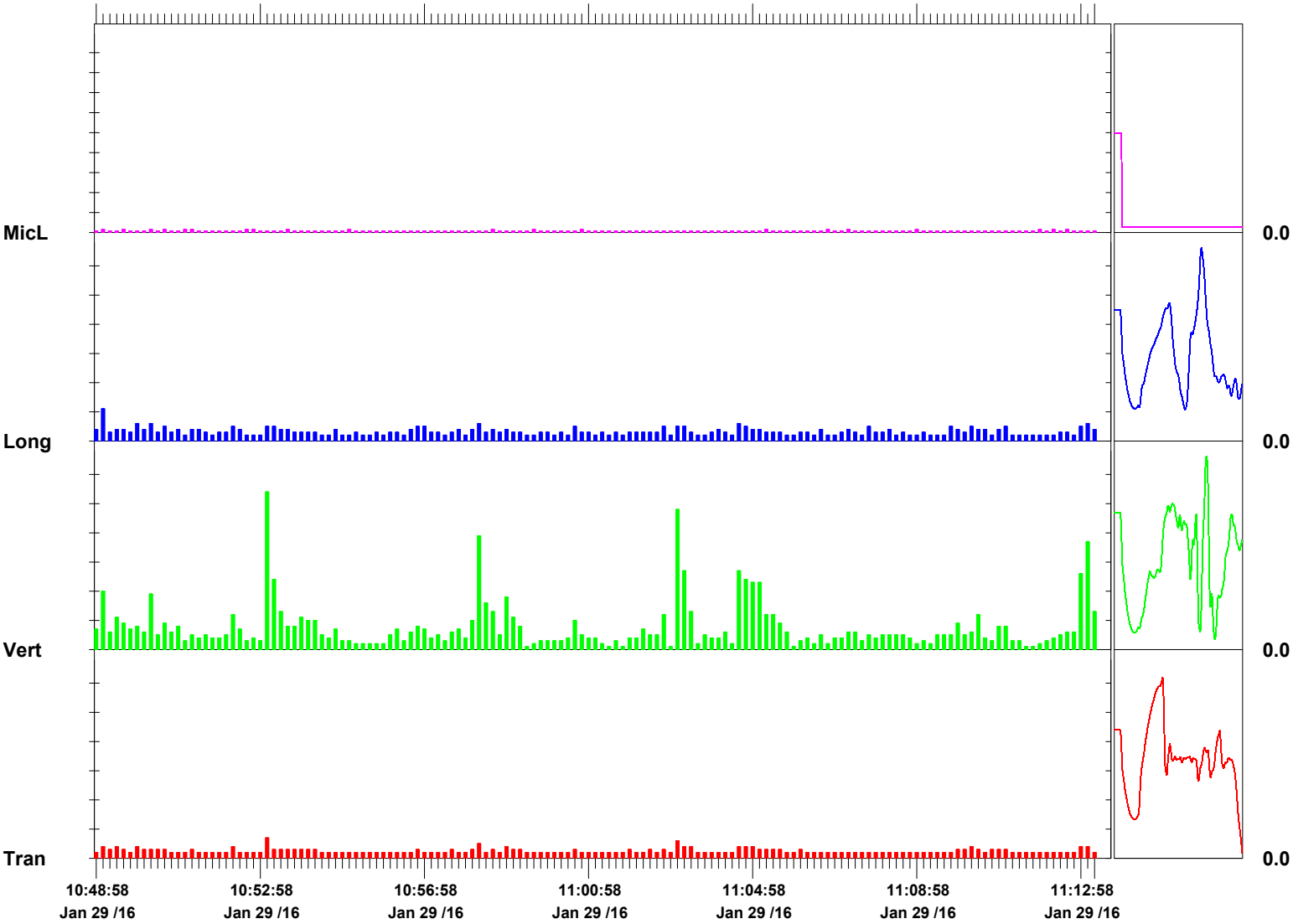
Location: SA-6 Water/Sewer
Client: ENTACT
User Name: GEOCOMP
General: KELLOGG STREET AND ROUTE 440

Extended Notes

Microphone Linear Weighting
PSPL 0.000 psi(L) on January 29, 2016 at 10:49:08
ZC Freq >100 Hz
Channel Test Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.035	0.270	0.055	in/s
ZC Freq	30	30	5.8	Hz
Date	Jan 29 /16	Jan 29 /16	Jan 29 /16	
Time	10:53:08	10:53:08	10:49:03	
Sensor Check	Check	Check	Check	
Frequency	12.0	6.4	7.8	Hz
Overswing Ratio	0.7	1.8	1.7	

Peak Vector Sum 0.272 in/s on January 29, 2016 at 10:53:08



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.050 in/s/div Mic: 0.001 psi(L)/div Sensor Check

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Event Report

Histogram Start Time	11:14:16 January 29, 2016	**Serial Number**	BE20564 V 10.72-8.17 MiniMate Plus
Histogram Finish Time	11:30:32 January 29, 2016	**Battery Level**	6.1 Volts
Number of Intervals	195.00 at 5 seconds	**Unit Calibration**	September 22, 2015 by Instantel
Range	Geo:10.000 in/s	**File Name**	__TEMP.EVT
Sample Rate	1024sps		
Job Number:	1		

Notes

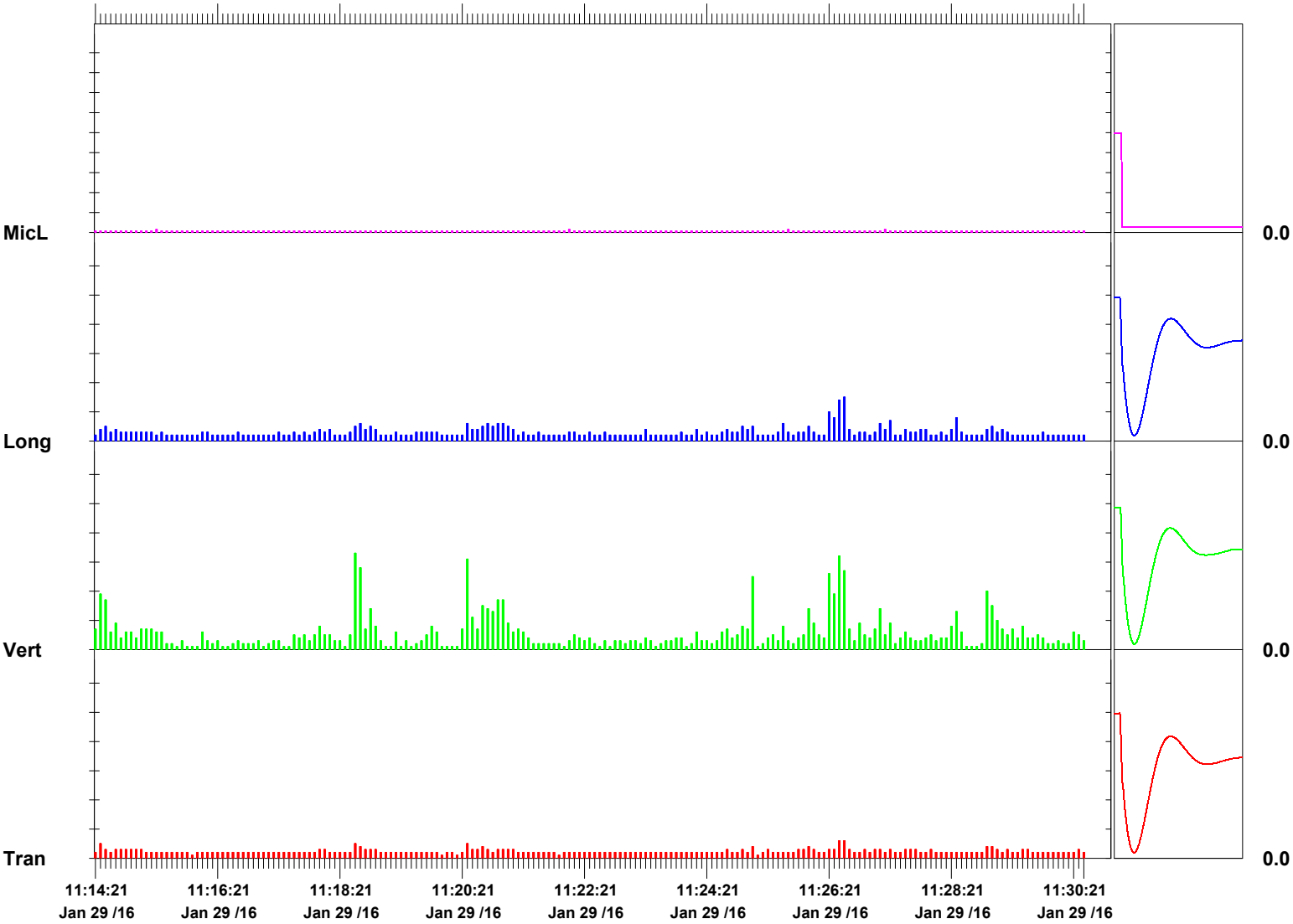
Location: SA-6 Water/Sewer
Client: ENTACT
User Name: GEOCOMP
General: KELLOGG STREET AND ROUTE 440

Extended Notes

Microphone Linear Weighting
PSPL 0.000 psi(L) on January 29, 2016 at 11:15:21
ZC Freq >100 Hz
Channel Test Check (Freq = 0.0 Hz Amp = 0 mv)

	Tran	Vert	Long	
PPV	0.030	0.165	0.075	in/s
ZC Freq	11	27	6.0	Hz
Date	Jan 29 /16	Jan 29 /16	Jan 29 /16	
Time	11:26:31	11:18:36	11:26:36	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.4	7.3	Hz
Overswing Ratio	4.1	4.2	4.1	

Peak Vector Sum 0.169 in/s on January 29, 2016 at 11:26:31



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.050 in/s/div Mic: 0.001 psi(L)/div Sensor Check

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APPENDIX P

SURCHARGE REPORT
(CD ONLY)

STUDY AREA 6 NORTH
&
STUDY AREA 6 SOUTH

SURCHARGE MONITORING PLAN
MONTHLY REPORT NO. 16
MARCH 2016 REPORTING PERIOD

JERSEY CITY, NEW JERSEY

Prepared for

Honeywell

115 Tabor Road
Morris Plains, New Jersey 07950

Prepared by

amec foster wheeler

Amec Foster Wheeler Environment & Infrastructure, Inc.
200 American Metro Boulevard, Suite 113
Hamilton, New Jersey 08619

APRIL 2016

INTRODUCTION

The surcharge monthly reports are generated to indicate the status of progress and/or indicate corrective actions needed as provided for in Appendix N (Surcharge Monitoring Plan, Section 5.0 Reporting). Report No. 13 July 2015 indicated completion of Area 1N, Area 2N, Area 1S, Area 2S and Area 3S.

Surcharge Instrumentation was installed in Area 3N and Area 4N subsequent to March 2015 in preparation for surcharge placement in those areas. Surcharge placement in Area 3N was complete on January 18, 2016. Surcharge placement in Area 4N was complete on January 29, 2016. This report is the third report for Area 3N and Area 4N. MRCE's March 29, 2016 letter confirms completion of Area 3N and Area 4N. This marks the formal end of the Surcharge Monitoring Program for the SA-6S and SA-6N project.

Report No. 16 will be the final report for the Surcharge Program.

The goal of the program was to "remove 100% of the Primary Consolidation that will result from the future development grading prior to cap installation". The reports have documented the successful attainment of that goal for each of the 7 designated areas. In general the magnitude of settlement and time for consolidation were consistent with the predicted settlements.

This report has been prepared consistent with the format and content of the prior reports with two notable exceptions.

1. Over the course of the program Installation Logs and instrument data plots were incorporated in one monthly report then incorporated by reference in subsequent reports. In this report a summary table is provided at the end of the Table of Contents that provides a matrix showing the report location for both monitoring data and installation logs by Area and Report Number.
2. All the MRCE approval letters have been included in the final report.

REPORT CONTENTS

SURCHARGE AREA	INCLUDED HEREIN	REPORT SECTION NO.
AREA 1N	**YES****	**1.0**
AREA 2N	**YES****	**2.0**
AREA 3N	**YES****	**3.0**
AREA 4N	**YES****	**4.0**
AREA 1S	**YES****	**5.0**
AREA 2S	**YES****	**6.0**
AREA 3S	**YES****	**7.0**

* Surcharge placement has not commenced.

** Surcharge is complete.

*** Surcharge Instrumentation Installed.

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Boring Logs, Instrument Installation Diagrams and Monitoring Data Report Location Matrix

Attachment	Surcharge Area	Submitted	
		Reporting Period	Report Number
Boring Logs & Instrument Installation Diagrams	1N	June 2014	03
	2N	July 2014	04
	3N	June 2015	13
	4N	June 2015	13
	1S	June 2014	03
	2S	July 2014	04
	3S	February 2014	01
Monitoring Data	1N	July 2014	04
	2N	October 2014	07
	3N	March 2016	16
	4N	March 2016	16
	1S	October 2014	07
	2S	January 2015	10
	3S	March 2015	12

<u>SURCHARGE AREA 1N:</u> FIGURES/ ATTACHMENTS

Figure 1N-1: Instrumentation Location Plan.

Attachment 1N-1: Baseline Surcharge Analysis for Monitoring Points.

Attachment 1N-2: August 8, 2014 Mueser Rutledge Correspondence re: SA-6 North Surcharge Monitoring, Jersey City, NJ (Previously Submitted Report No. 4).

SURCHARGE AREA 2N: FIGURES/ ATTACHMENTS

Figure 2N-1: Instrumentation Location Plan.

Attachment 2N-1: Baseline Surcharge Analysis for Monitoring Points.

Attachment 2N-2: November 21, 2014 Mueser Rutledge Correspondence re: SA-6 North Surcharge Monitoring, Jersey City, NJ (Previously Submitted Report No. 8).

SURCHARGE AREA 3N: FIGURES/ ATTACHMENTS

Figure 3N-1: Instrumentation Location Plan.

Attachment 3N-1: Baseline Surcharge Analysis for Monitoring Points.

Attachment 3N-2: Surcharge Monitoring Data.

N_FS-08	N_SP-15
N_FS-09	N_SP-21
N_FS-10	N_SP-14
N_FS-11	N_HS-13
N_HS-10	
N_HS-11	
N_HS-12	
N_RP-06	
N_RP-07	

Attachment 3N-3: March 29, 2016 Mueser Rutledge Correspondence re: Updated Area 3N and 4N Surcharge Review, SA-6 North, Jersey City, NJ.

SURCHARGE AREA 4N: FIGURES/ ATTACHMENTS

Figure 4N-1: Instrumentation Location Plan.

Attachment 4N-1: Baseline Surcharge Analysis for Monitoring Points.

Attachment 4N-2: Surcharge Monitoring Data.
N_FS-12
N_FS-13
N_SP-22
N_SP-23
N_SP-24
N_SP-25

Attachment 4N-3: March 29, 2016 Mueser Rutledge Correspondence re: Updated Area 3N and 4N Surcharge Review, SA-6 North, Jersey City, NJ.

SURCHARGE AREA 1S: FIGURES/ ATTACHMENTS

Figure 1S-1: Instrumentation Location Plan.

Attachment 1S-1: Baseline Surcharge Analysis for Monitoring Points

Attachment 1S-2: October 27, 2014 Mueser Rutledge Correspondence re: SA-6 South Surcharge Monitoring, Jersey City, NJ (Previously Submitted Report No. 7) .

SURCHARGE AREA 2S: FIGURES/ ATTACHMENTS

Figure 2S-1: Instrumentation Location Plan.

Attachment 2S-1: Baseline Surcharge Analysis for Monitoring Points.

Attachment 2S-2 February 6, 2015 Mueser Rutledge Correspondence re: SA-6 South Surcharge Monitoring, Jersey City, NJ. (Previously submitted Report No. 10).

SURCHARGE AREA 3S: FIGURES/ ATTACHMENTS

Figure 3S-1: Instrumentation Location Plan.

Attachment 3S-1: Baseline Surcharge Analysis for Monitoring Points.

Attachment 3S-2 April 24, 2015 Mueser Rutledge Correspondence re: SA-6 South Surcharge Monitoring, Jersey City, NJ.

1.0 AREA 1N SUMMARY

Surcharging was initiated in Area 1N on April 8, 2014. Final surcharge placement was completed on July 31, 2014.

1.1 SURCHARGE MONITORING DATA TRENDS/ANOMALIES/ MODIFICATIONS

Table 1N-1 below summarizes the status of the surcharge. Surcharging is complete at all 11 monitoring stations.

1.2 SURCHARGE PROGRESS

As noted in Section 1.1 and as summarized in **Table 1N-1** the surcharge objective has been met in the Stratum D at all 11 monitoring locations. Surcharge removal was initiated adjacent to the 72 in. force main on August 29, 2014 and continued through October.

Tasks requiring acoustical monitoring (Barrier Wall installation and Surcharge placement and removal) were completed by the end of October. Acoustical monitoring has been discontinued by PVSC.

TABLE 1N-1
SURCHARGE COMPLETION EVALUATION
SUMMARY OF EFFECTIVE STRESS

SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
N_FS-01	2308	2605	**113%**	Data as of August 2014
N_FS-02	2414	3186	**132%**	Data as of August 2014
N_FS-03	2529	2810	**111%**	Data as of August 2014
N_FS-04	2764	3076	**111%**	Data as of August 2014
N_HS-01	2287	2772	**121%**	Data as of August 2014
N_HS-02	2324	2824	**122%**	Data as of August 2014
N_HS-03	2427	3161	**130%**	Data as of August 2014
N_HS-04	2303	2522	**109%**	Data as of August 2014
N_HS-05	2562	3911	**153%**	Data as of August 2014
N_HS-07	2668	3577	**134%**	Data as of August 2014
N_HS-09	2748	3521	**128%**	Data as of August 2014

2.0 AREA 2N SUMMARY

Geotechnical instrumentation has been installed in Surcharge Area 2N consistent with the Surcharge Monitoring Plan (Amec, 2013) and Design Change Bulletin dated April 30, 2014. The installed instrument locations are depicted on **Figure 2N-1** (attached). Geotechnical Boring Records and Instrument Construction Diagrams for Area 2N were previously provided in Report No. 4.

The Baseline Surcharge Settlement Analysis for 2N is shown in **Attachment 2N-1.**

Surcharge placement continued in Area 2N throughout October. The surcharge Placement was completed on November 3, 2014.

2.1 SURCHARGE MONITORING DATA TRENDS/ANOMALIES/ MODIFICATIONS

Monitoring is no longer being performed.

2.2 SURCHARGE PROGRESS

As of October 28, 2014 Amec Foster Wheeler Environment and Infrastructure's (Amec Foster Wheeler's) evaluation concluded that the surcharge objective has been met at all three locations. **Table 2N-1** below summarizes the status of the surcharge.

TABLE 2N-1
SURCHARGE COMPLETION EVALUATION
SUMMARY OF EFFECTIVE STRESS

SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
N_FS-05	2766	2970	**107%**	Data as of November 2014; Pore pressure elevated 9.2 ft. (Stratum D).
N_FS-06	2833	3497	**123%**	Data as of November 2014
N_FS-07	2588	3389	**131%**	Data as of November 2014

3.0 AREA 3N SUMMARY

Geotechnical instrumentation has been installed in Surcharge Area 3N consistent with the Surcharge Monitoring Plan (Amec, 2013) and Design Change Bulletin dated April 30, 2014. The installed instrument locations are depicted on **Figure 3N-1** (attached). Geotechnical Boring Records and Instrument Construction Diagrams for Area 3N were previously provided in Report No. 13.

The Baseline Surcharge Settlement Analysis for 3N is shown in **Attachment 3N-1.**

Surcharge placement commenced in November 2015 in Area 3N and was completed on January 18, 2016.

3.1 SURCHARGE MONITORING DATA TRENDS/ANOMALIES/ MODIFICATIONS

Copies of the data plots are provided in **Attachment 3N-2.** Final Surcharge Grades in Area 3N were 1-2 ft. above the Design Surcharge Grades. All instruments performed as expected. Pumping of the contingent groundwater collection system has allowed for the desired pore pressure dissipation to take place at all monitoring locations.

3.2 SURCHARGE PROGRESS

All eight monitoring stations have met the 100% primary consolidation goal and the areas where fill was last placed have also met the required surcharge completion criteria. The surcharge completion summary for Area 3N is included in **Table 3N-1**.

Honeywell

TABLE 3N-1
SURCHARGE COMPLETION EVALUATION
SUMMARY OF EFFECTIVE STRESS

SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
N_FS-08	2401	2832	**118%**	SP and VWP data through 3/9/16.
N_FS-09	2218	2909	**131%**	SP and VWP data through 3/9/16.
N_FS-10	2619	2964	**113%**	SP data through 3/9/16. VWP data through 3/15/16.
N_FS-11	1920	2273	**118%**	SP and VWP data through 3/9/16.
N_HS-10	2216	2313	**104%**	SP and VWP data through 3/9/16.
N_HS-11	2280	2335	**102%**	SP data through 3/9/16. VWP data through 3/24/16.
N_HS-12	1932	2198	**114%**	SP and VWP data through 3/9/16.
N_HS-13	2050	2214	**108%**	SP and VWP data through 3/9/16.

4.0 AREA 4N SUMMARY

Geotechnical instrumentation has been installed in Surcharge Area 4N consistent with the Surcharge Monitoring Plan (Amec, 2013) and Design Change Bulletin dated April 30, 2014. The installed instrument locations are depicted on **Figure 4N-1** (attached). Geotechnical Boring Records and Instrument Construction Diagrams for Area 4N were previously provided in Report No. 13.

The Baseline Surcharge Settlement Analysis for 4N is shown in **Attachment 4N-1.**

Surcharge placement was completed in Area 4N on January 29, 2016.

4.1 SURCHARGE MONITORING DATA TRENDS/ANOMALIES/ MODIFICATIONS

Data plots for Area 4N are included in **Attachment 4N-2.** All instrumentation performed as intended.

4.2 SURCHARGE PROGRESS

There are only two Full Stations in Area 4N. Both locations now have met the surcharge goal and are therefore considered complete. The areas that were loaded last have also been loaded for an adequate duration. The surcharge completion summary for Area 4N is included in **Table 4N-1**.

TABLE 4N-1
SURCHARGE COMPLETION EVALUATION
SUMMARY OF EFFECTIVE STRESS

SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
N_FS-12	1869	1897	**101%**	SP data through 3/9/16. VWP data through 3/24/16.
N_FS-13	2064	2433	**118%**	SP and VWP data through 3/9/16.

5.0 AREA 1S SUMMARY

Geotechnical instrumentation has been installed in Surcharge Area 1S consistent with the Surcharge Monitoring Plan (Amec, 2013) and Design Change Bulletin dated April 30, 2014. The installed instrument locations are depicted on **Figure 1S-1** (attached). Geotechnical Boring Records and Instrument Construction Diagrams for Area 1S were included in Attachment 1S-3 Report No. 3.

The Baseline Surcharge Settlement Analysis for 1S is shown in **Attachment 1S-1.**

Surcharging was initiated in Area 1S on June 16, 2014 and continued through the week of September 26, 2014. Surcharging was noted as complete in Report No. 6, September 2014.

5.1 SURCHARGE MONITORING DATA TRENDS/ANOMALIES/ MODIFICATIONS

Monitoring is no longer being performed.

5.2 SURCHARGE PROGRESS

The Surcharge was considered complete (see **Table 1S-1**) at all locations as indicated in Report No. 6.

5.3 PROPOSED MODIFICATIONS

The grading of the surcharge pile has been modified at the Hackensack River to reduce load on the bulkhead and minimize the amount of rework in the deferred area. This information was issued in a Design Change Bulletin. The change moves the crest of the surcharge back approximately 16 ft. to the east.

TABLE 1S-1
SURCHARGE COMPLETION EVALUATION
SUMMARY OF EFFECTIVE STRESS

SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D	
			Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
S_FS-01	2616	3236	**124%**	Data as of November 2014. Pore pressure elevated 5 ft. in Stratum D and 3 ft. in Stratum RC.
S_FS-02	2627	3201	**122%**	Data as of November 2014. Pore pressure elevated 4.5 ft. in Stratum D.
S_HS-01	3064	3292	**107%**	Data as of November 2014.
S_HS-02	2571	2962	**115%**	Data as of November 2014. Pore pressure elevated 3 ft. in Stratum D.
S_HS-03	2400	2541	**106%**	Data as of November 2014. Pore pressure elevated 11 ft. in Stratum D and 5.5 ft. in Stratum RC.
S_HS-04	2548	3053	**120%**	Data as of November 2014. Pore pressure elevated 5 ft. in Stratum D.
S_HS-05	2583	2919	**113%**	Data as of November 2014.
S_HS-06	2881	3205	**111%**	Data as of November 2014. Pore pressure elevated 1.5 ft. in Stratum D and 7 ft. in Stratum RC.

SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D	
			Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
S_HS-07	2494	3130	**126%**	Data as of November 2014.
S_HS-08	2595	2880	**111%**	Data as of November 2014. Pore pressure elevated 5 ft. in Stratum D.

6.0 AREA 2S SUMMARY

Geotechnical instrumentation has been installed in Surcharge Area 2S consistent with the Surcharge Monitoring Plan (Amec, 2013) and Design Change Bulletin dated April 30, 2014. The installed instrument locations are depicted on **Figure 2S-1** (attached). Geotechnical Boring Records and Instrument Construction Diagrams for Area 2S were previously provided in Attachment 2S-2 of Report No. 4.

The Baseline Surcharge Settlement Analysis for 2S is shown in **Attachment 2S-1.**

Surcharging was initiated in Area 2S in July 2014 as subgrade fill placement progressing from Area 1S into Area 2S. Placement of subgrade fill was completed during the December reporting period. The placement of "Celgene and Novartis" imported fill was completed in the January reporting period.

Surcharging for Area 2S was noted as complete in Report No. 10.

6.1 SURCHARGE MONITORING DATA TRENDS/ANOMALIES/ MODIFICATIONS

Surcharge monitoring is no longer being conducted in Area 2S.

6.2 SURCHARGE PROGRESS

As of January 26, 2015 the reduced data at all 10 monitoring stations indicated that the completion criteria has been met. **Table 2S-1** below summarizes the status of the surcharge at each monitoring stations at the end of the January monitoring period.

6.3 PROPOSED MODIFICATIONS

There have been no modifications to the Surcharge Plan in Area 2S.

TABLE 2S-1
SURCHARGE COMPLETION EVALUATION
AMEC CORRECTED RESULTS JANUARY 2015

SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
S_FS-03	2343	2984	**127%**	VWP data through 1/12/15; SP data through 1/30/15.
S_FS-04	2359	2909	**123%**	VWP data through 1/18/15; SP data through 1/30/15.
S_FS-05	1839	1833	**100%**	VWP data through 1/29/15; SP data through 1/30/15.
S_HS-09	2232	3194	**143%**	VWP data through 1/12/15; SP data through 1/30/15.
S_HS-10	2479	2777	**112%**	VWP data through 1/12/15; SP data through 1/30/15.
S_HS-11	2342	2656	**113%**	VWP data through 1/12/15; SP data through 1/30/15.
S_HS-12	2482	2877	**116%**	VWP data through 1/12/15; SP data through 1/30/15.
S_HS-13	2100	2412	**115%**	VWP data as of 1/29/15; SP data through 1/30/15.
S_HS-14	2138	2839	**133%**	VWP data as of 1/12/15; SP data through 1/30/15.
S_HS-15	2637	3234	**123%**	VWP data as of 1/12/15; SP data through 1/30/15.

7.0 AREA 3S SUMMARY

Geotechnical instrumentation has been installed in Surcharge Area 3S consistent with the Surcharge Monitoring Plan (Amec, 2013) and Design Change Bulletin dated April 30, 2014. The installed instrument locations are depicted on **Figure 3S-1** (attached). Geotechnical Boring Records and Instrument Construction Diagrams for Area 3S were previously provided in Attachment 3S-1 of Report No. 1.

The Baseline Surcharge Settlement Analysis for 3S is shown in **Attachment 3S-1.**

Surcharging was initiated in Area 3S in November 2014 as subgrade fill placement progressing from West to East. Completion of surcharge fill placement finished in the first week of March with the placement of a small volume of gravel surface at the east end of Area 3S.

7.1 SURCHARGE MONITORING DATA TRENDS/ANOMALIES/ MODIFICATIONS

Surcharge monitoring is no longer being conducted.

7.2 SURCHARGE PROGRESS

As of the close of the March, 2015 reporting period Amec Foster Wheeler's evaluation concludes that the surcharge objective has been met at all nine locations. **Table 3S-1,** below, summarizes the status of the surcharge.

MRCE have completed their peer review of the results. MRCE's letter dated April 24, 2015 (Attachment 3S-4 to Report No. 10) indicates that based on their analysis all stations met the surcharge program completion goal as of the end of the March 2015 reporting period.

7.3 PROPOSED MODIFICATIONS

The 0-12 ft. wide Deferred Area strip along Route 440 will not be surcharged. The surcharge design grades have been carried to the point of forming a stable slope at the Barrier Wall at elevation 11. A Design Change Bulletin has been filed documenting this Field Change. The development grades are similar to the existing grades along the "Deferred Area" (i.e. approximately + 0.5 ft.). The surcharge height

in this area was an artifact resulting from generating a simple surcharge pile geometry with a uniform slope. Therefore elimination of surcharge from this strip will have no impact on the Chromium Remedy.

The intent of SP-08 was to monitor settlement impacts on the perimeter pool. The original Settlement Platform SP-08 was located just south of the SA-7 barrier wall and not north of the wall over the perimeter pool. The platform was relocated mid-January 2015 to be over the perimeter pool. The platform was renamed SP-08 (2). Both plots are included in this report.

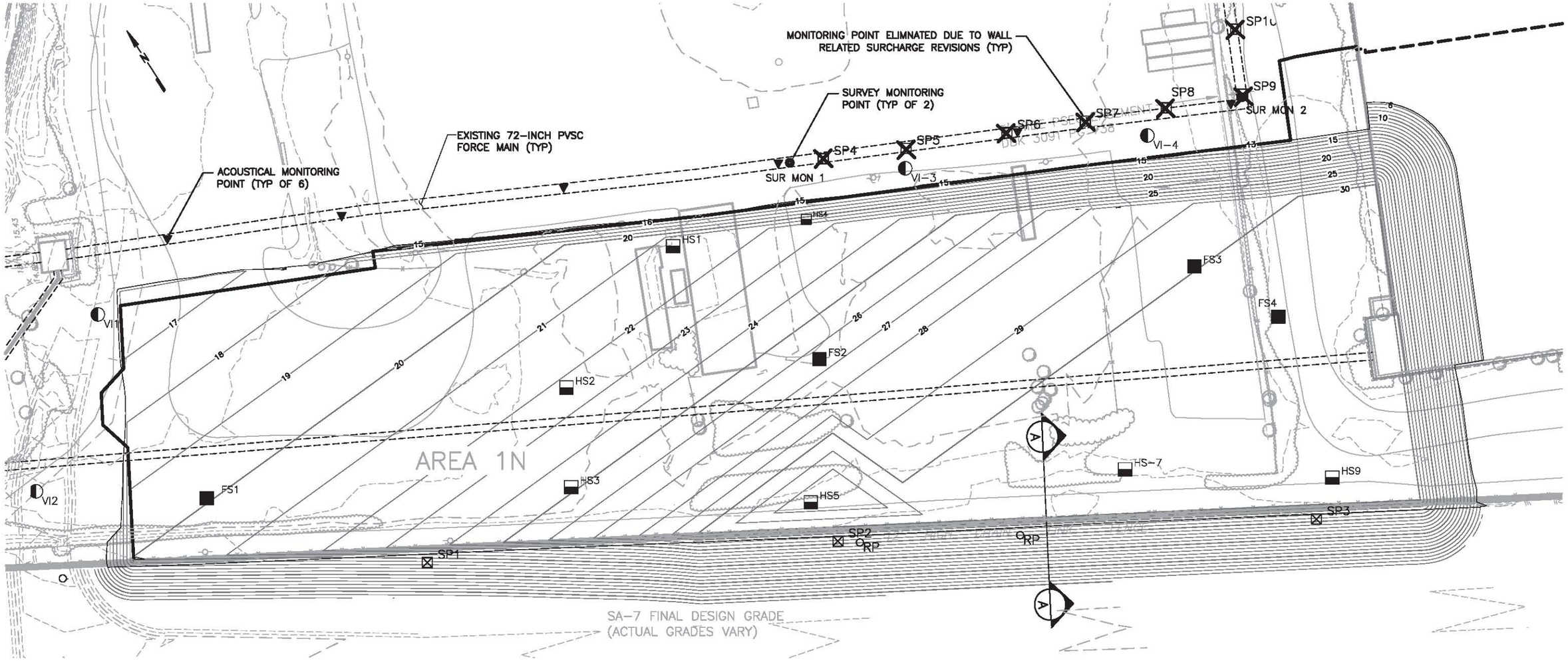
TABLE 3S-1
SURCHARGE COMPLETION EVALUATION

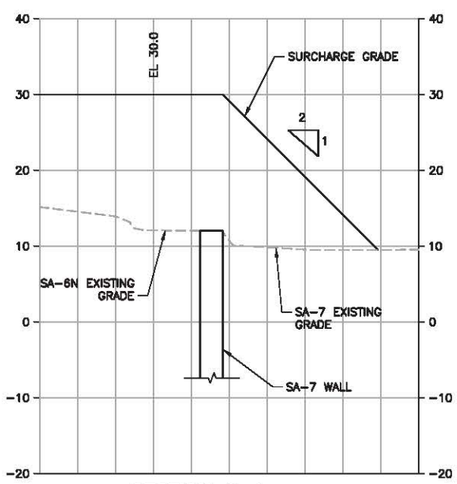
SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
S_FS-06	2099	2664	**127%**	Data through March 2015
S_FS-07	2376	2691	**113%**	Data through March 2015
S_HS-16	2522	2619	**104%**	Data through March 2015
S_HS-17	1751	2046	**117%**	Data through March 2015
S_HS-18	970	1458	**150%**	Data through March 2015
S_HS-19	845	1206	**143%**	Data through March 2015
S_HS-20	2484	2499	**101%**	Data through March 2015
S_HS-21	1504	1978	**132%**	Data through March 2015
S_HS-22	966	1198	**124%**	Data through March 2015

SURCHARGE AREA 1N
FIGURES & ATTACHMENTS

Figure 1N-1

Instrumentation Location Plan





SECTION A–A

SETTLEMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
VI–1	686110	602120
VI–2	686042	602032
VI–3	685922	602571
VI–4	685860	602703
FS1	685983	602116
FS2	685854	602467
FS3	685779	602684
FS4	685727	602709
HS1	685958	602431
HS2	685922	602330
HS3	685871	602301
HS4	685928	602505
HS5	685786	602416
~~HS6~~	~~685784.69~~	~~602649.88~~
HS7	685700.10	602583.29
~~HS8~~	~~685826.15~~	~~602798.09~~
HS9	685629	602684

SP1	685880	602205
SP2	685757	602417
SP3	685613	602663
~~SP4~~	~~685953.03~~	~~602533.39~~
~~SP5~~	~~685931.28~~	~~602578.16~~
~~SP6~~	~~685906.49~~	~~602633.51~~
~~SP7~~	~~685886.78~~	~~602678.31~~
~~SP8~~	~~685867.20~~	~~602721.11~~
~~SP9~~	~~685849.22~~	~~602763.68~~
~~SP10~~	~~685883.92~~	~~602761.17~~
SUR MON 1	685962	602515
SUR MON 2	685848	602762

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA–7 FENCE AND SA–7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
5. LOCATION OF SA–7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

VI–2	INCLINOMETER LOCATION
FS–1	SETTLEMENT MONITORING POINT FULL – SETUP
HS–1	SETTLEMENT MONITORING POINT HALF – SETUP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA–7 PERIMETER POOL RISER PIPE
	72–INCH FM ACOUSTICAL MONITORING POINT
SUR MON 1	72–INCH FM SURVEY MONITORING POINT
	STATION RELOCATED OR ELIMINATED DUE TO SURCHARGE PILE RECONFIGURATION

0 15 30 60
SCALE IN FEET

Revised/Date: TDD 08/13/14
Checked/Date: SGS 08/13/14

Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec

INSTRUMENTATION LOCATION PLAN
AREA 1N
Project 3480-09-0006
Figure B1

Attachment 1N-1

Baseline Surcharge Analysis for Monitoring Points

AREA 1N
BASELINE SURCHARGE ANALYSIS FOR MONITORING POINTS

SUMMARY OF EXISTING & PROPOSED GRADING, ESTIMATED SETTLEMENT DUE TO PROPOSED GRADE, DESIGN SURCHARGE, and ESTIMATED SECONDARY COMPRESSION

SURCHARGE MONITORING POINT	REFERENCE/NEARBY GEOTECHNICAL EXPLORATIONS	EXISTING & PROPOSED GRADING (At Surcharge Monitoring Point)			ESTIMATED SETTLEMENT DUE TO PROPOSED GRADE (100% Primary Consolidation)							SURCHARGE ANALYSIS (Targeting Removal of 100% Primary Consolidation Due to Proposed Grades)					ESTIMATED SECONDARY COMPRESSION		
		Existing Grade	Proposed Grade	Top of Surcharge Grade	Soil Stratum						Total	Design			Analysis Results		Soil Stratum		Total
					F	O	SF/O	D	S1	RC		Top of Surcharge Grade	Surcharge Height Above Existing Grade	Surcharge Height Above Proposed Grade	Estimated Surcharge Consolidation to Achieve 100% of Primary Consolidation Due to Proposed Grade	Estimated Time to Achieve 100% of Primary Consolidation Due to Proposed Grade	O	D	
		(feet)	(feet)	(feet)	(inches)	(inches)	(inches)	(inches)	(inches)	(inches)	(inches)	(feet)	(feet)	(feet)	(%)	(months)	(inches)	(inches)	(inches)
N_FS-01	087-SB-407	16.3	17.0	20.0	0.3	0.1	0.0	0.4	0.0	0.1	1.0	**20.0**	**3.8**	**3.0**	**22%**	**0.3**	0.2	2.4	**2.6**
N_FS-02	087-SB-411; 115-SB-214	14.8	19.5	26.5	1.5	1.1	0.0	2.6	0.0	0.6	5.8	**26.5**	**11.8**	**7.0**	**48%**	**1.5**	0.4	2.1	**2.5**
N_FS-03	087-SB-409; 087-CPT-006; 087-CPT-012	14.3	21.0	30.0	1.9	1.1	0.0	2.9	0.0	0.3	6.2	**30.0**	**15.8**	**9.0**	**52%**	**1.0**	0.3	1.6	**1.9**
N_FS-04	087-CPT-012	13.3	23.0	30.0	2.1	3.6	0.0	3.9	0.0	0.2	9.8	**30.0**	**16.8**	**7.0**	**68%**	**2.4**	0.7	1.5	**2.2**
N_HS-01	087-CPT-016; 087-SB-403	15.5	17.8	21.0	0.8	0.5	0.0	1.4	0.0	0.1	2.9	**21.0**	**5.5**	**3.3**	**45%**	**1.7**	0.4	2.5	**2.9**
N_HS-02	087-SB-408; 087-SB-411	14.3	18.0	22.5	1.3	0.8	0.0	2.2	0.0	0.5	4.8	**22.5**	**8.3**	**4.5**	**51%**	**1.8**	0.4	2.3	**2.7**
N_HS-03	087-SB-411; 115-SB-214	14.8	19.3	25.0	1.4	1.3	0.0	2.9	0.0	0.6	6.2	**25.0**	**10.3**	**5.8**	**50%**	**2.4**	0.5	2.5	**3.1**
N_HS-04	087-SB-411; 087-SB-403; 087-CPT-016	15.0	18.5	21.0	1.2	0.8	0.0	1.8	0.0	0.1	4.0	**21.0**	**6.0**	**2.5**	**62%**	**2.3**	0.4	2.0	**2.4**
N_HS-05	087-SB-411; 115-SB-214	13.3	20.0	32.0	2.0	1.8	0.0	4.6	0.0	0.2	8.6	**32.0**	**18.8**	**12.0**	**46%**	**2.1**	0.5	2.6	**3.1**
N_HS-07	087-SB-409; 115-SB-213; 087-CPT-012	12.5	22.0	30.0	2.3	2.3	0.0	4.3	0.0	0.3	9.1	**30.0**	**17.5**	**8.0**	**65%**	**1.9**	0.4	1.7	**2.1**
N_HS-09	115-SB-213; 087-CPT-012; 087-CPT-013	13.8	22.5	30.0	2.2	2.0	0.0	4.5	0.0	0.4	9.1	**30.0**	**16.3**	**7.5**	**63%**	**2.5**	0.4	2.1	**2.5**

Prepared By/Date: NDL/4-2-14
Checked By/Date: TCC/5-8-14

Attachment 1N-2
August 8, 2014 Mueser Rutledge Correspondence re:
SA-6 North Surcharge Monitoring, Jersey City, NJ
(Previously Submitted Report No. 4)

Mueser Rutledge
Consulting Engineers
14 Penn Plaza · 225 West 34th Street · New York, NY 10122
Tel: (917) 339-9300 · Fax: (917) 339-9400
www.mrce.com

Alfred H. Brand
David M. Cacoilo
Peter W. Deming
Roderic A. Ellman, Jr.
Francis J. Arland
Partners

David R. Good
Walter E. Kaeck
Associate Partners

James L. Kaufman
Hugh S. Lacy
Joel Moskowitz
George J. Tamaro
Elmer A. Richards
John W. Fowler
Consultants

Domenic D'Argenzio
Robert K. Radske
Ketan H. Trivedi
Hiren J. Shah
Alice Arana
Joel L. Volterra
Tony D. Canale
Jan Cermak
Sissy Nikolaou
Anthony DeVito
Frederick C. Rhyner
Sitotaw Y. Fantaye
Senior Associates

Michael J. Chow
Douglas W. Christie
Gregg V. Piazza
Pablo V. Lopez
Steven R. Lowe
James M. Tantalla
Andrew R. Tognon
T. C. Michael Law
Andrew Pontecorvo
Renzo D. Verastegui
Associates

Joseph N. Courtade
Director of Finance and Administration

Martha J. Huguet
Director of Marketing

August 8, 2014

Geoff Shallard
AMEC Environment & Infrastructure
511 Congress Street
Portland Me 04101

Re: SA-6 North Surcharge Monitoring
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

Mueser Rutledge Consulting Engineers (MRCE) reviewed the settlement and piezometer monitoring data related to Area 1N provided by AMEC, on July 18th 2014. MRCE's review of the available data is summarized below:

1. AMEC indicated boring sampling performed was to define the compressible layer stratification and the Vibrating Wire Piezometers (VWP) were set at the center of the layers. Center of the layer provide the most conservative pore water pressure reading for the effective stress evaluation. MRCE effective stress calculations were made at the center of the layers.

2. MRCE obtained the 06/16/14 measured fill thickness from the "Settlement Platform – Data Report". MRCE calculated the total stress as of 06/16/14 based on the 06/16/14 fill thickness and the "Historic Pre-Construction Conditions" total stresses provided by AMEC. MRCE calculated the pore water pressures based from 06/16/14 piezometer readings on "Vibrating Wire Piezometer – Data Report" and calculated the 06/16/14 effective stresses, as presented in Table 1.

3. MRCE compared calculated 06/16/14 effective stresses with the effective stresses provided by AMEC for "Final Post-Development Conditions". The defined goal of surcharge program was to achieve an equal or greater effective stress than the "Final Post-Development Conditions" effective stress. Accordingly, MRCE evaluated 06/16/14 percentage completion, shown as "MRCE % Completion (06/16/14)" in Table 1. Table 1 also presents 06/30/14 percent completion evaluation of AMEC, "AMEC % Completion (06/30/14)", for comparison.

4. Two settlement monitoring locations, N_FS-04 and N_HS-04 (highlighted in Table 1), had percentage completion less than 100%. These monitoring points did not meet the defined goal of the surcharge program as of 06/16/14.

5. AMEC provided updated settlement and piezometer monitoring data on August 6th 2014. MRCE calculated effective stresses and the percent completion for N_FS-04 and N_HS-04 based on the updated monitoring data, as shown in Table 2.

6. MRCE agrees that the defined goal of the surcharge program of achieving an equal or greater effective stress than the "Final Post-Development Conditions" effective stress is met in all settlement monitoring locations.

Very truly yours,

MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, P.E.

MP:F:\111\11173\SA-6 Surcharge Removal Review\MRCE SA-6 Surcharge Monitoring Review.docx

Table 1. MRCE SA-6 Surcharge Monitoring Review (06/16/14)

Source:		AMEC			Settlement Monitoring Data	VWP Monitoring Data	MRCE				AMEC
Settlement Monitoring Point	Layer	Center of the Layer EL. (ft)	Historic Pre-Construction Conditions Total Stress (psf)	Final Post-Development Conditions Effective Stress (psf)	Fill Thickness (ft)	Elevation Head (ft)	Total Stress 06/16/14 (psf)	Pore Water Pressure 06/16/14 (psf)	Effective Stress 06/16/14 (psf)	% Completion 06/16/14	% Completion 06/30/14
N_FS-01	Center D	-10.8	3073	2308	2.6	6.1	3393	1058	2335	101%	103%
N_FS-02	Center O	-4.6	2262	2279	11.2	11.6	4048	1242	2418	106%	-
N_FS-02	Center D	-8.3	2647	2414	11.2	15.4	3663	1245	2807	116%	117%
N_FS-03	Center O	-2.9	2118	2431	9.8	9.9	3628	1065	2443	100%	-
N_FS-03	Center D	-7.2	2400	2529	9.8	11.5	3346	904	2563	101%	105%
N_FS-04	Center O	-2.2	1830	2598	10.9	12.9	3624	1206	2417	**93%**	-
N_FS-04	Center D	-6.5	2266	2764	10.9	10.1	3189	771	2418	**87%**	92%
N_FS-04	RC	-43.2	6777	4984	10.9	2.7	8135	2866	5269	106%	-
N_HS-01	Center D	-9.6	2886	2287	5.3	5.8	3552	959	2593	113%	110%
N_HS-02	Center D	-9.2	2723	2324	8.7	9.0	3813	1133	2680	115%	115%
N_HS-03	Center D	-8.7	2700	2427	10.9	5.6	4065	894	3171	131%	130%
N_HS-04	Center D	-8.6	2702	2303	3.7	5.7	3163	892	2271	**99%**	96%
N_HS-05	Center D	-9.9	2654	2562	16.7	7.8	4746	1109	3637	142%	145%
N_HS-05	RC	-54.7	7323	4843	16.7	-0.9	9415	3354	6061	125%	-
N_HS-07	Center D	-7.6	2214	2668	12.0	12.0	4374	1224	3149	118%	121%
N_HS-09	Center D	-7.3	2428	2748	12.5	12.5	4429	1235	3194	116%	119%

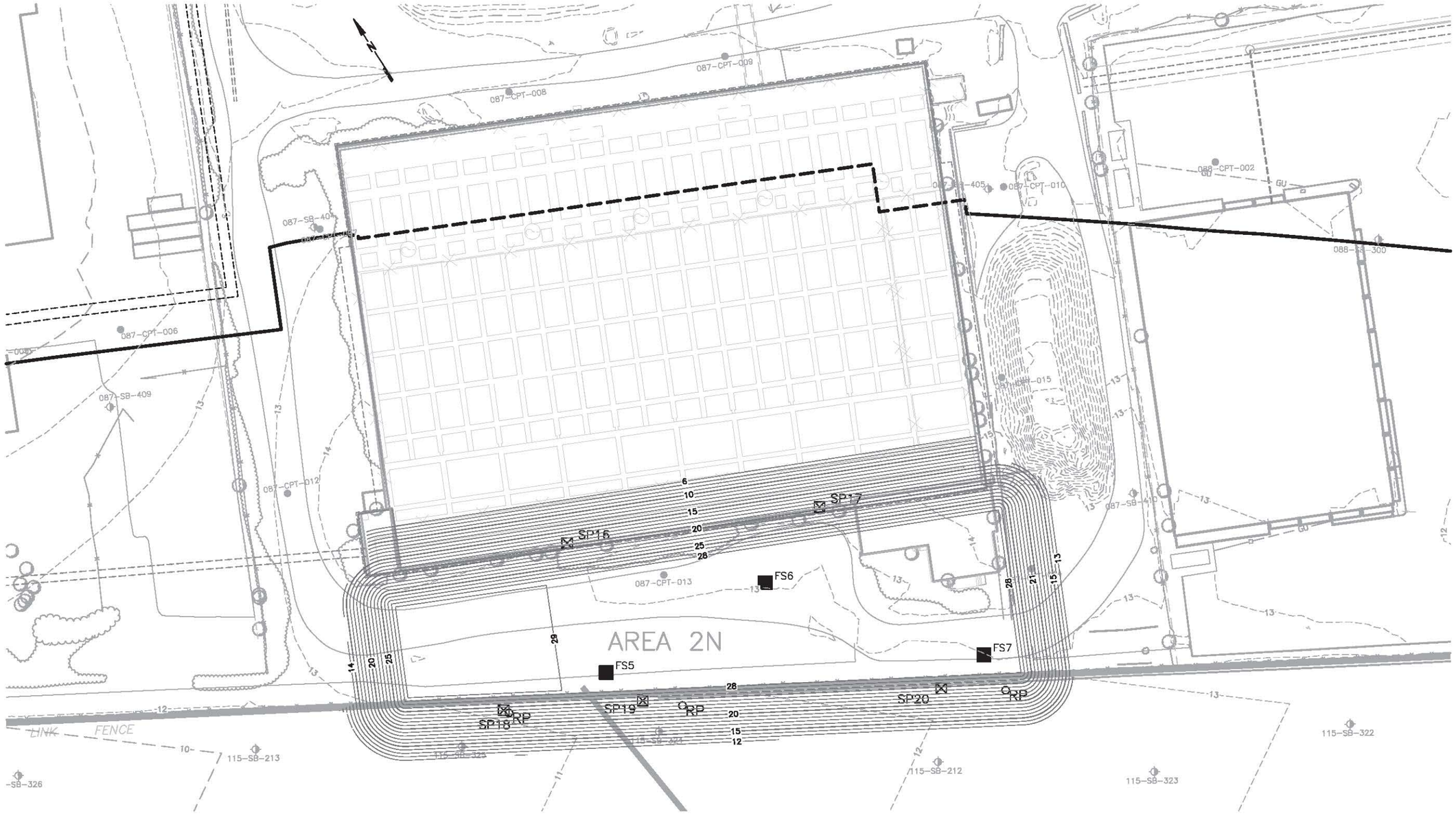
Table 2. MRCE Surcharge Monitoring Review (August 2014)

Source:		Settlement Monitoring Data	VWP Monitoring Data	MRCE				AMEC
Settlement Monitoring Point	Layer	Fill Thickness (ft)	Elevation Head (ft)	Total Stress 06/16/14 (psf)	Pore Water Pressure 06/16/14 (psf)	Effective Stress 06/16/14 (psf)	% Completion August 14	% Completion August 14
N_FS-04	Center O	16.3	9.6	3867	738	3130	**120%**	-
N_FS-04	Center D	16.3	9.6	4303	1003	3300	**119%**	118%
N_HS-04	Center D	9.4	5.0	3877	847	3030	**132%**	99%

SURCHARGE AREA 2N
FIGURES & ATTACHMENTS

Figure 2N-1

Instrumentation Location Plan



SETTLEMENT MONITORING POINT		
DESCRIPTION	NORTHING	EASTING
FS5	685543	602822
FS6	685536	602927
FS7	685433	603010
SP15	685618	602844
SP17	685556	602977
SP18	685557	602761
SP19	685518	602831
SP20	685430	602979

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
5. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

I_{N-2}	INCLINOMETER LOCATION
FS-1	SETTLEMENT MONITORING POINT FULL – SET UP
HS12	SETTLEMENT MONITORING POINT HALF – SET UP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE

Revised/Date: TDD 08/13/14
Checked/Date: SGS 08/13/14

0 15 30 60
SCALE IN FEET

Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec

INSTRUMENTATION LOCATION PLAN
AREA 2N
Project 3480-09-0006
Figure C1

Attachment 2N-1

Baseline Surcharge Analysis for Monitoring Points

AREA 2N
BASELINE SURCHARGE ANALYSIS FOR MONITORING POINTS

SUMMARY OF EXISTING & PROPOSED GRADING, ESTIMATED SETTLEMENT DUE TO PROPOSED GRADE, DESIGN SURCHARGE, and ESTIMATED SECONDARY COMPRESSION

SURCHARGE MONITORING POINT	REFERENCE/NEARBY GEOTECHNICAL EXPLORATIONS	EXISTING & PROPOSED GRADING (At Surcharge Monitoring Point)			ESTIMATED SETTLEMENT DUE TO PROPOSED GRADE (100% Primary Consolidation)							SURCHARGE ANALYSIS (Targeting Removal of 100% Primary Consolidation Due to Proposed Grades)					ESTIMATED SECONDARY COMPRESSION		
		Existing Grade	Proposed Grade	Top of Surcharge Grade	Soil Stratum						Total	Design			Analysis Results		Soil Stratum		Total
					F	O	SF/O	D	S1	RC		Top of Surcharge Grade	Surcharge Height Above Existing Grade	Surcharge Height Above Proposed Grade	Estimated Surcharge Consolidation to Achieve 100% of Primary Consolidation Due to Proposed Grade	Estimated Time to Achieve 100% of Primary Consolidation Due to Proposed Grade	O	D	
		(feet)	(feet)	(feet)	(inches)	(inches)	(inches)	(inches)	(inches)	(inches)	(inches)	(feet)	(feet)	(feet)	(%)	(months)	(inches)	(inches)	(inches)
N_FS-05	087-CPT-013; N_FS-06	13.1	22.5	28.5	2.2	3.9	0.0	1.4	0.0	0.3	7.8	**28.5**	**15.4**	**6.0**	**70%**	**1.0**	0.8	0.6	**1.4**
N_FS-06	087-CPT-013; N_FS-05; N_FS-07	12.7	22.8	28.5	2.3	3.3	0.0	3.1	0.0	0.1	8.8	**28.5**	**15.8**	**5.8**	**72%**	**1.9**	0.6	1.2	**1.8**
N_FS-07	087-CPT-013; N_FS-06; 087-CPT-014	13.0	20.8	28.0	2.2	1.0	0.0	1.5	0.0	0.1	4.7	**28.0**	**15.0**	**7.3**	**61%**	**0.4**	0.2	0.7	**1.0**

Prepared By/Date: NDL/8-14-14
Checked By/Date:

Attachment 2N-2

November 21, 2014 Mueser Rutledge Correspondence re:
SA-6 North Surcharge Monitoring, Jersey City, NJ
(Previously Submitted Report No. 8).

Mueser Rutledge
Consulting Engineers
14 Penn Plaza · 225 West 34th Street · New York, NY 10122
Tel: (917) 339-9300 · Fax: (917) 339-9400
www.mrce.com

Alfred H. Brand
David M. Cacoilo
Peter W. Deming
Roderic A. Ellman, Jr.
Francis J. Arland
Partners

David R. Good
Walter E. Kaeck
Associate Partners

James L. Kaufman
Hugh S. Lacy
Joel Moskowitz
George J. Tamaro
Elmer A. Richards
John W. Fowler
Consultants

Domenic D'Argenzio
Robert K. Radske
Ketan H. Trivedi
Hiren J. Shah
Alice Arana
Joel L. Volterra
Tony D. Canale
Jan Cermak
Sissy Nikolaou
Anthony DeVito
Frederick C. Rhyner
Sitotaw Y. Fantaye
Senior Associates

Michael J. Chow
Douglas W. Christie
Gregg V. Piazza
Pablo V. Lopez
Steven R. Lowe
James M. Tantalla
Andrew R. Tognon
T. C. Michael Law
Andrew Pontecorvo
Renzo D. Verastegui
Associates

Joseph N. Courtade
Director of Finance and Administration

Martha J. Huguet
Director of Marketing

November 21, 2014

AMEC Environment & Infrastructure
511 Congress Street
Portland Me 04101

Attention: Mr. Geoff Shallard

Re: Area 2N Surcharge Review
SA-6 North
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

The Mueser Rutledge Consulting Engineers (MRCE) review of November 17, 2014 AMEC settlement and piezometer monitoring data for Area 2N is summarized below:

AMEC indicated from borings and sampling the Vibrating Wire Piezometers (VWP) were set at the center of the compressible clay layer, which provides the most conservative pore water pressure reading for the effective stress evaluation. All the stress calculations are at the center of the compressible layers.

MRCE used measured fill thickness dated 10/28/14 from "Settlement Platform – Data Report" to calculate the total stress. Pore water was taken from the 10/28/14 "Vibrating Wire Piezometer – Data Report." Effective stress computed for 10/28/14, is presented in Table 1. MRCE compared the 10/28/14 calculated effective stress with the "Final Post-Development Conditions" effective stress estimates provided by AMEC. The defined goal of surcharge program was to achieve an effective stress greater than the "Final Post-Development Conditions."

This review finds all Area 2N monitoring locations have met the surcharge program goal as of 10/28/14.

Very truly yours,
MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, P.E.

MP:F:\111\11173\2014 Surcharge Removal Review\SA-6_Area 2N_Surcharge Removal Review\MRCE SA-6 Surcharge Monitoring Review- Area 2N.112114.docx

Table 1. MRCE SA-6 Surcharge Monitoring Review for Area 2N (10/28/14)

Source:		AMEC				Settlement Monitoring Data	VWP Monitoring Data	MRCE			MRCE	AMEC
Settlement Monitoring Point	Layer	Center of the Layer EL. (ft)	Pre-Surcharge Conditions Total Stress (psf)	Final Development Condition Effective Stress (psf)	Surcharge Conditions Effective Stress (psf)	Fill Thickness (ft)	Elevation Head (ft)	Total Stress 10/28/14 (psf)	Pore Water Pressure 10/28/14 (psf)	Effective Stress 10/28/14 (psf)	% Completion 10/28/14	% Completion 10/28/14
N_FS-05	Center O			2603.1		14.29	7.12	3750.0	812.4	2937.6	113%	-
N_FS-05	Center D	-7.3	2360.6	2765.9	3343.5	14.29	5.41	4146.9	799.3	3347.5	121%	121%
N_FS-06	Center O			2685.9		15.06	6.47	3837.5	640.8	3196.7	119%	-
N_FS-06	Center D	-7.6	2360.6	2833.1	3387.6	15.06	5.96	4218.8	827.4	3391.3	120%	120%
N_FS-06	RC			6075.3		15.06	2.94	10752.5	3135.0	7617.5	125%	-
N_FS-07	Center O			2523.5		10.69	6.61	3486.3	674.5	2811.7	111%	-
N_FS-07	Center D	-6.7	2360.6	2588.0	2972.4	10.69	4.87	3660.0	740.7	2919.3	113%	115%

Notes:

1. % Completion is the ratio of measured effective stress under surcharge with respect to final effective stress in development condition.

SURCHARGE AREA 3N
FIGURES & ATTACHMENTS

Figure 3N-1

Instrumentation Location Plan

SETTLEMENT MONITORING POINT		
DESCRIPTION	NORTHING	EASTING
FS8	685409	603096
FS9	685493	603135
FS10	685590	603173
FS11	685388	603343
HS10	685491	603322
HS11	685332	603206
HS12	685421	603404
HS13	685256	603314
SP14	685639	603121
SP15	685561	603086
SP21	685299	603197

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
5. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

IN-2	INCLINOMETER LOCATION
FS-1	SETTLEMENT MONITORING POINT FULL – SET UP
HS-1	SETTLEMENT MONITORING POINT HALF – SET UP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE

Revised/Date: TDD 08/30/15
Checked/Date: NDL 08/30/15

0 15 30 60
SCALE IN FEET

Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec

INSTRUMENTATION LOCATION PLAN
AREA 3N
Project 3480-13-0377
Figure D1

Attachment 3N-1

Baseline Surcharge Analysis for Monitoring Points

AREA 3N
BASELINE SURCHARGE ANALYSIS FOR MONITORING POINTS

SUMMARY OF EXISTING & PROPOSED GRADING, ESTIMATED SETTLEMENT DUE TO PROPOSED GRADE, DESIGN SURCHARGE, and ESTIMATED SECONDARY COMPRESSION

SURCHARGE MONITORING POINT	REFERENCE/NEARBY GEOTECHNICAL EXPLORATIONS	EXISTING & PROPOSED GRADING (At Surcharge Monitoring Point)			ESTIMATED SETTLEMENT DUE TO PROPOSED GRADE (100% Primary Consolidation)							SURCHARGE ANALYSIS (Targeting Removal of 100% Primary Consolidation Due to Proposed Grades)					ESTIMATED SECONDARY COMPRESSION		
		Existing Grade	Proposed Grade	Top of Surcharge Grade	Soil Stratum						Total	Design			Analysis Results		Soil Stratum		Total
					F	O	SF/O	D	S1	RC		Top of Surcharge Grade	Surcharge Height Above Existing Grade	Surcharge Height Above Proposed Grade	Estimated Surcharge Consolidation to Achieve 100% of Primary Consolidation Due to Proposed Grade	Estimated Time to Achieve 100% of Primary Consolidation Due to Proposed Grade	O	D	
		(feet)	(feet)	(feet)	(inches)	(inches)	(inches)	(inches)	(inches)	(inches)	(inches)	(feet)	(feet)	(feet)	(%)	(months)	(inches)	(inches)	(inches)
N_FS-08	087-SB-410; 087-CPT-014	12.8	19.8	23.7	1.8	2.0	0.0	2.4	0.0	0.1	6.3	**23.7**	**10.9**	**3.9**	**71%**	**1.5**	0.5	1.2	**1.7**
N_FS-09	087-SB-410; 087-CPT-014; 087-CPT-015	13.2	18.3	23.7	1.3	2.1	0.0	1.8	0.0	0.1	5.3	**23.7**	**10.6**	**5.4**	**56%**	**1.2**	0.7	1.2	**1.9**
N_FS-10	087-CPT-015; 087-SB-405; 087-CPT-010; 088-CPT002	13.3	20.7	23.8	1.8	1.2	0.0	2.7	0.0	0.2	6.0	**23.8**	**10.6**	**3.1**	**76%**	**1.9**	0.3	1.4	**1.7**
N_FS-11	088-SB-307	12.4	15.5	18.4	0.9	1.3	0.0	0.5	0.0	0.1	2.7	**18.4**	**6.0**	**2.9**	**56%**	**0.4**	0.6	0.5	**1.1**
N_HS-10	088-SB-300; 088-SB-301; 088-SB-307	12.3	17.0	18.7	1.3	0.7	0.0	1.0	0.0	0.0	2.9	**18.7**	**6.4**	**1.7**	**77%**	**0.6**	0.2	0.7	**1.0**
N_HS-11	088-SB-307; 087-CPT-014; 115-SB-211	12.8	18.7	18.9	1.7	0.9	0.0	2.5	0.0	0.0	5.0	**18.9**	**6.1**	**0.2**	**97%**	**4.9**	0.2	1.4	**1.7**
N_HS-12	088-SB-307; 088-SB-301	13.1	14.5	18.3	0.4	0.4	0.0	0.2	0.0	0.1	1.0	**18.3**	**5.2**	**3.8**	**30%**	**0.1**	0.5	0.5	**1.0**
N_HS-13	115-SB-211; 088-SB-307; 088-SB-306	13.0	16.8	18.3	1.1	0.0	0.0	2.5	0.0	0.0	3.6	**18.3**	**5.3**	**1.5**	**75%**	**2.7**	0.0	2.2	**2.2**

Prepared By/Date: NDL/6-26-15
Checked By/Date:

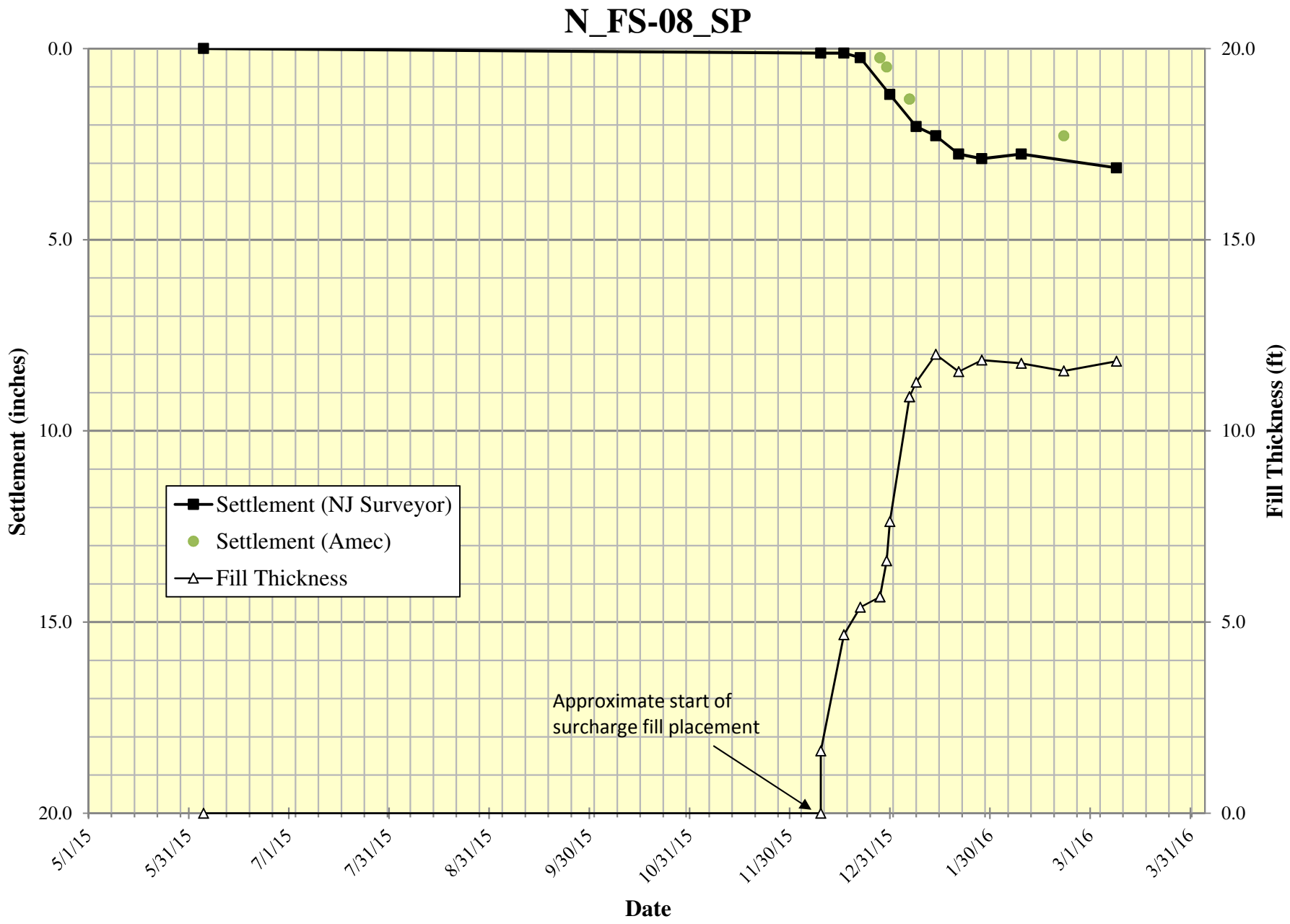
Attachment 3N-2

Surcharge Monitoring Data

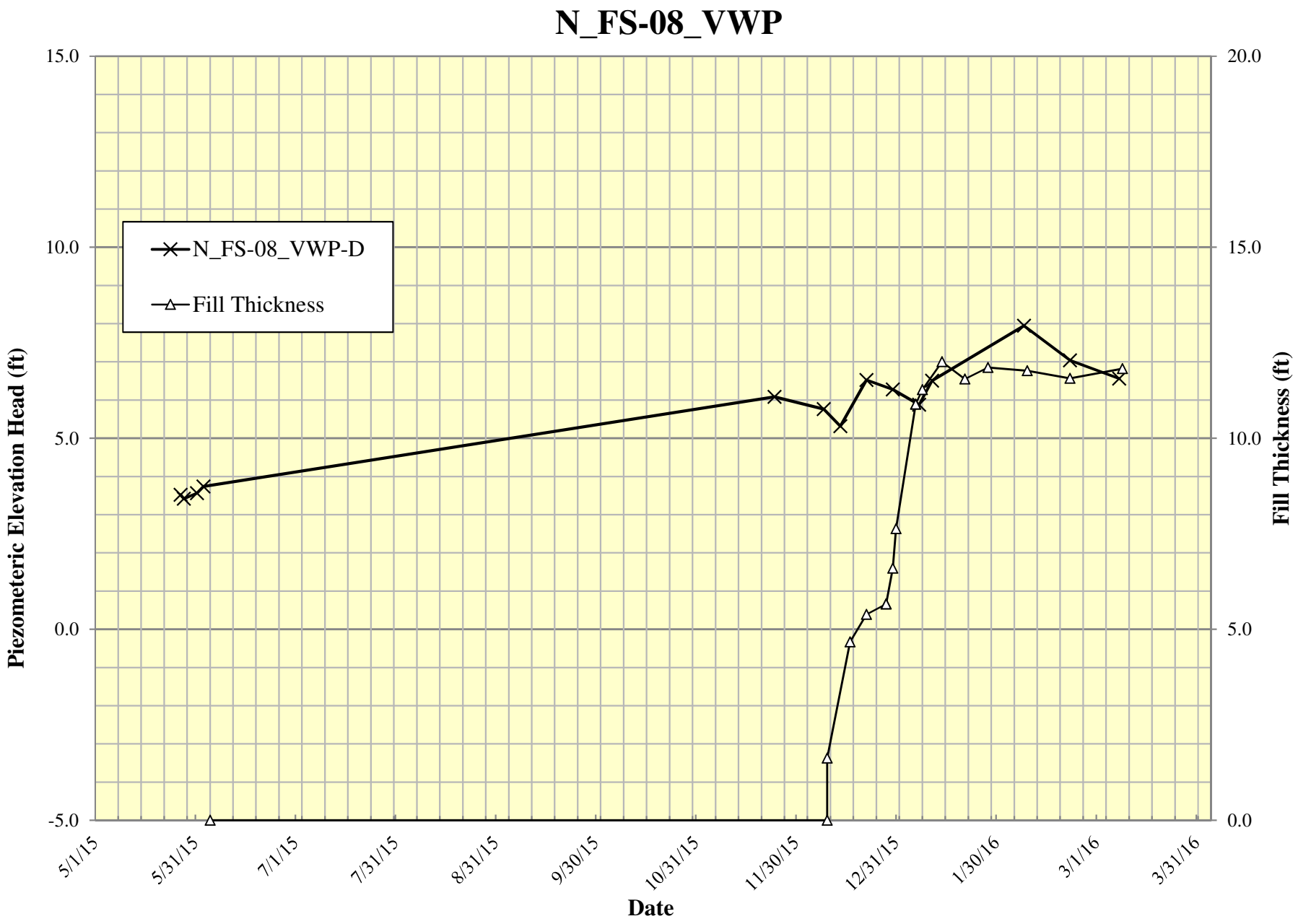
Surcharge Monitoring Data

N_FS-08

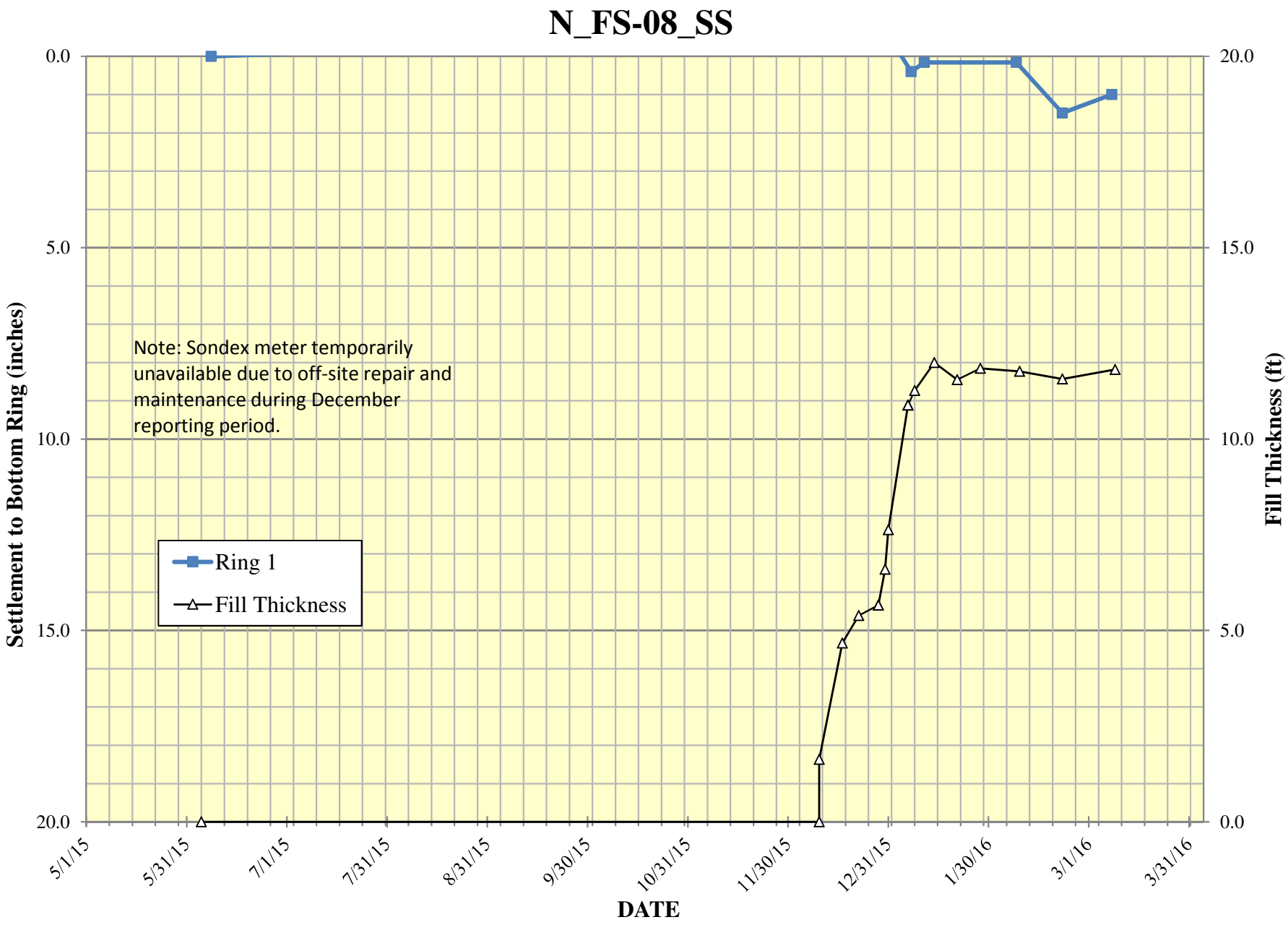
Settlement Platform Data Summary



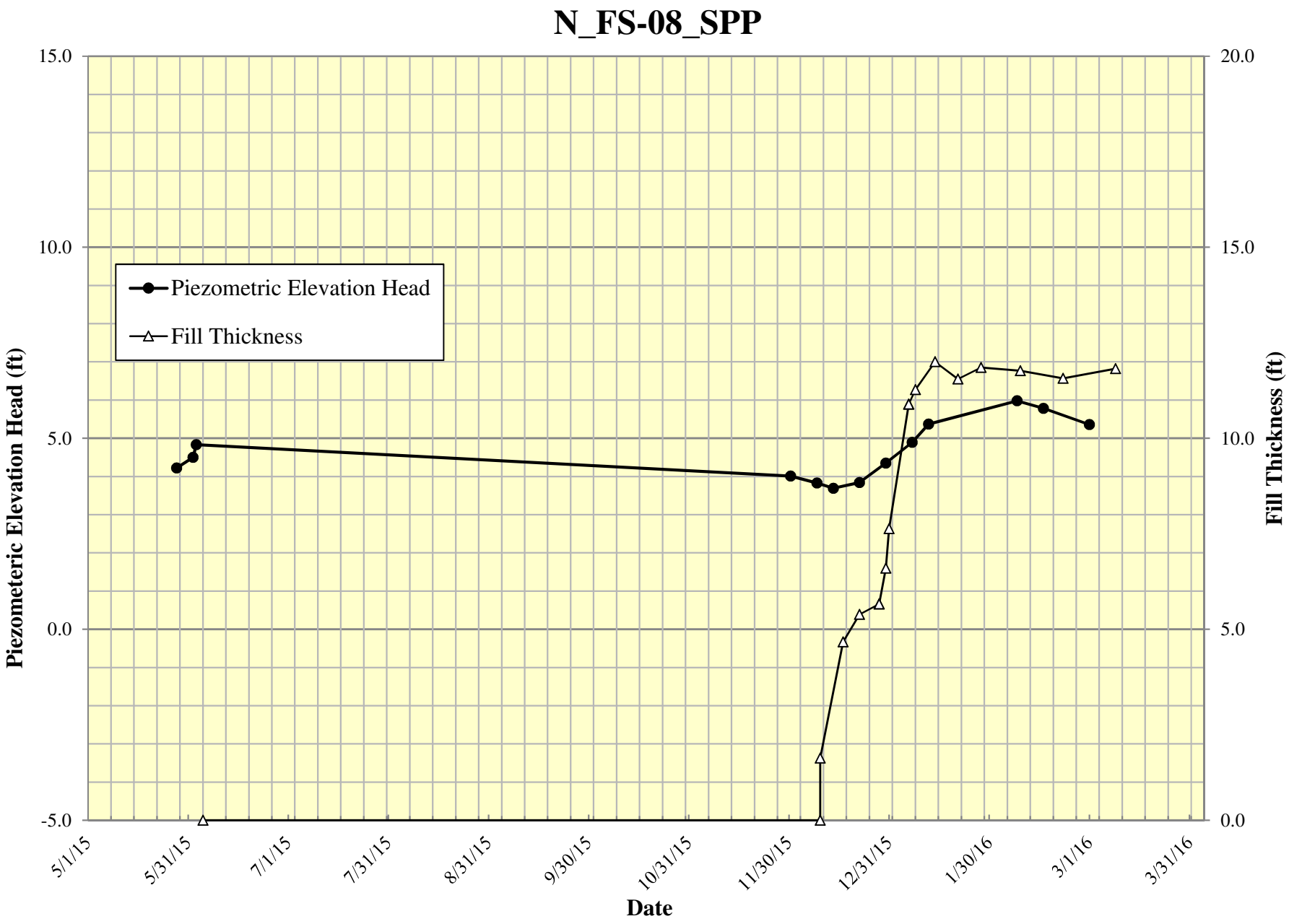
Vibrating Wire Piezometer Data Summary



Sondex System Data Summary



Standpipe Piezometer Data Summary



Surcharge Monitoring Data

N_FS-09

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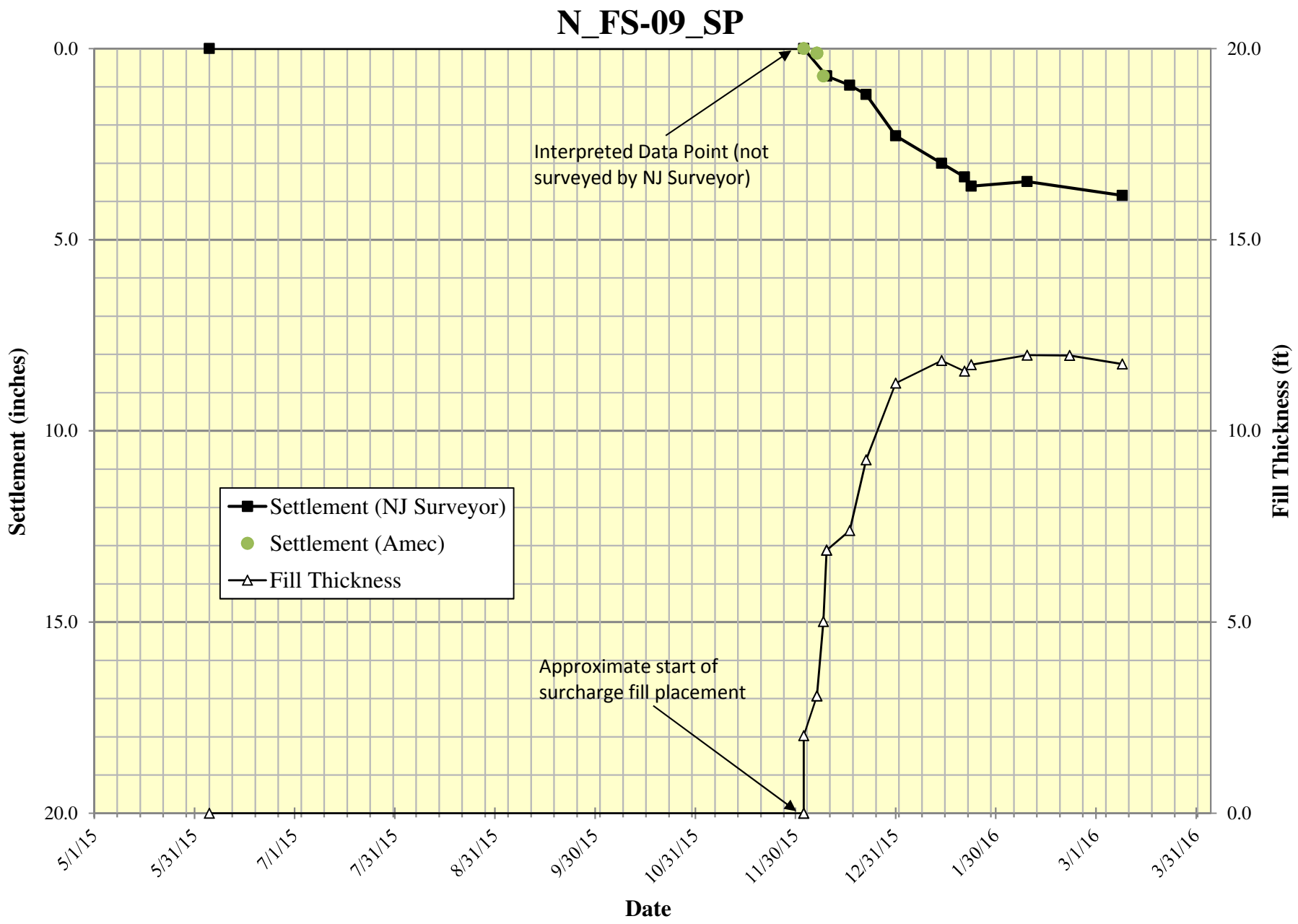

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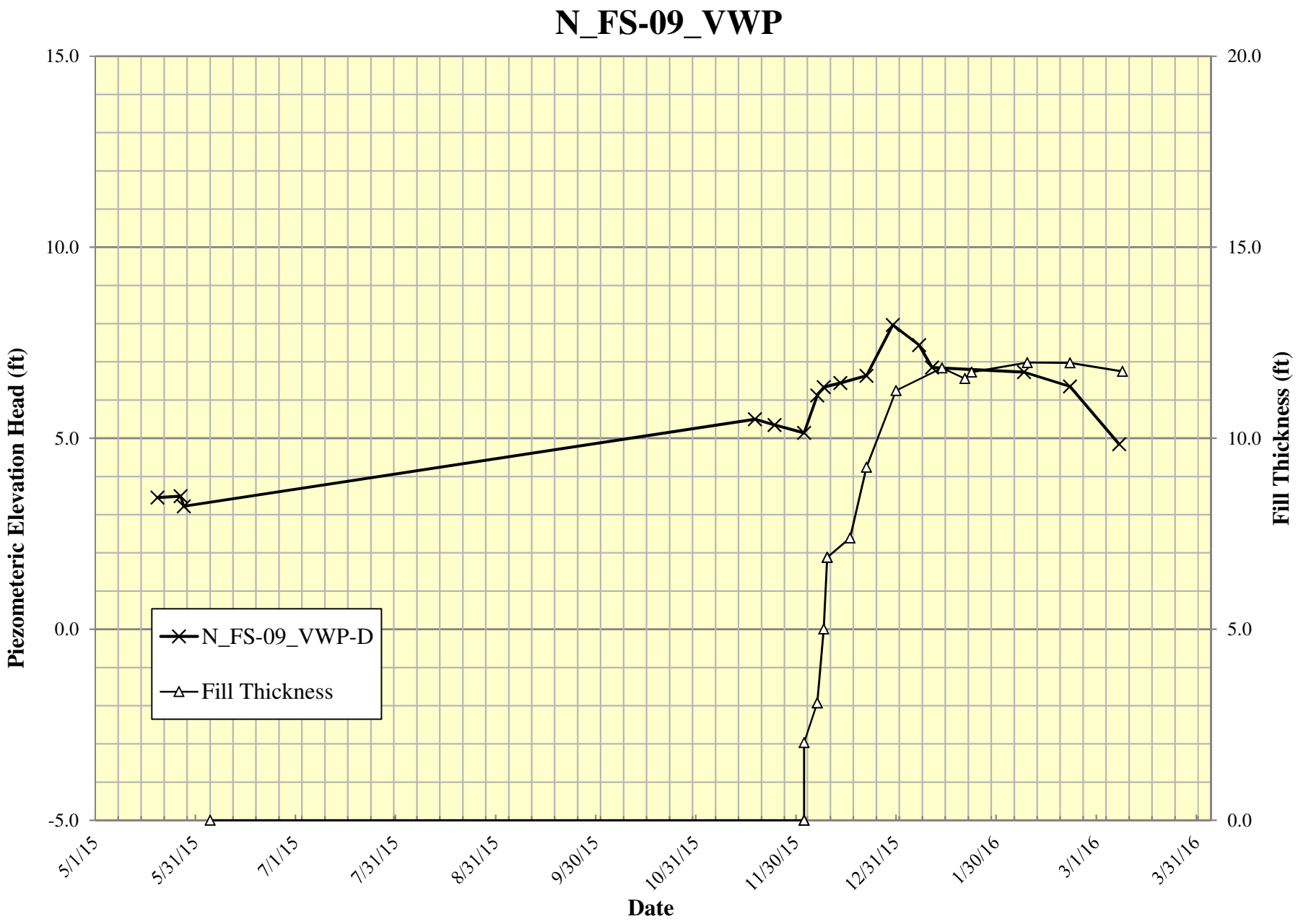

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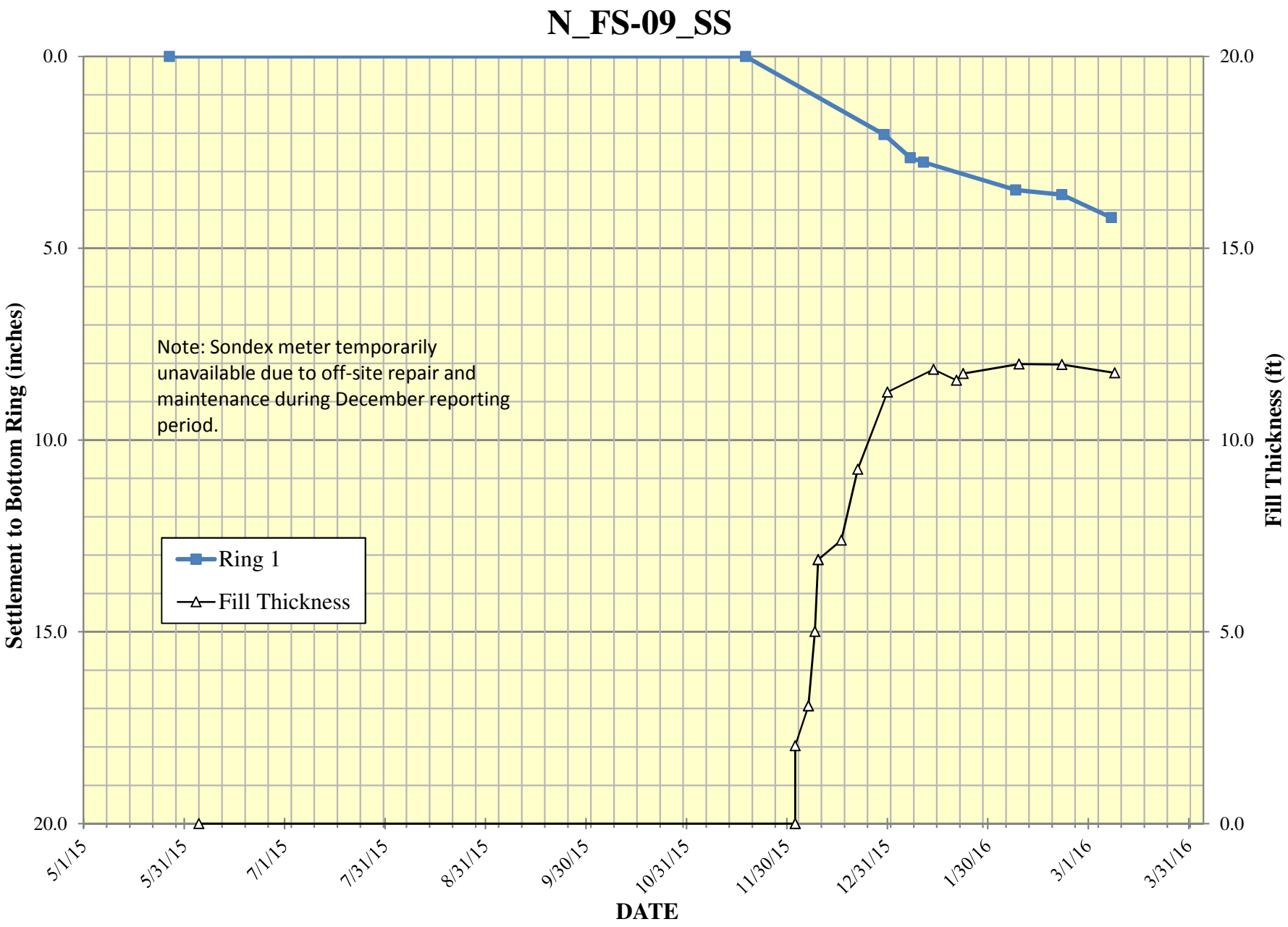

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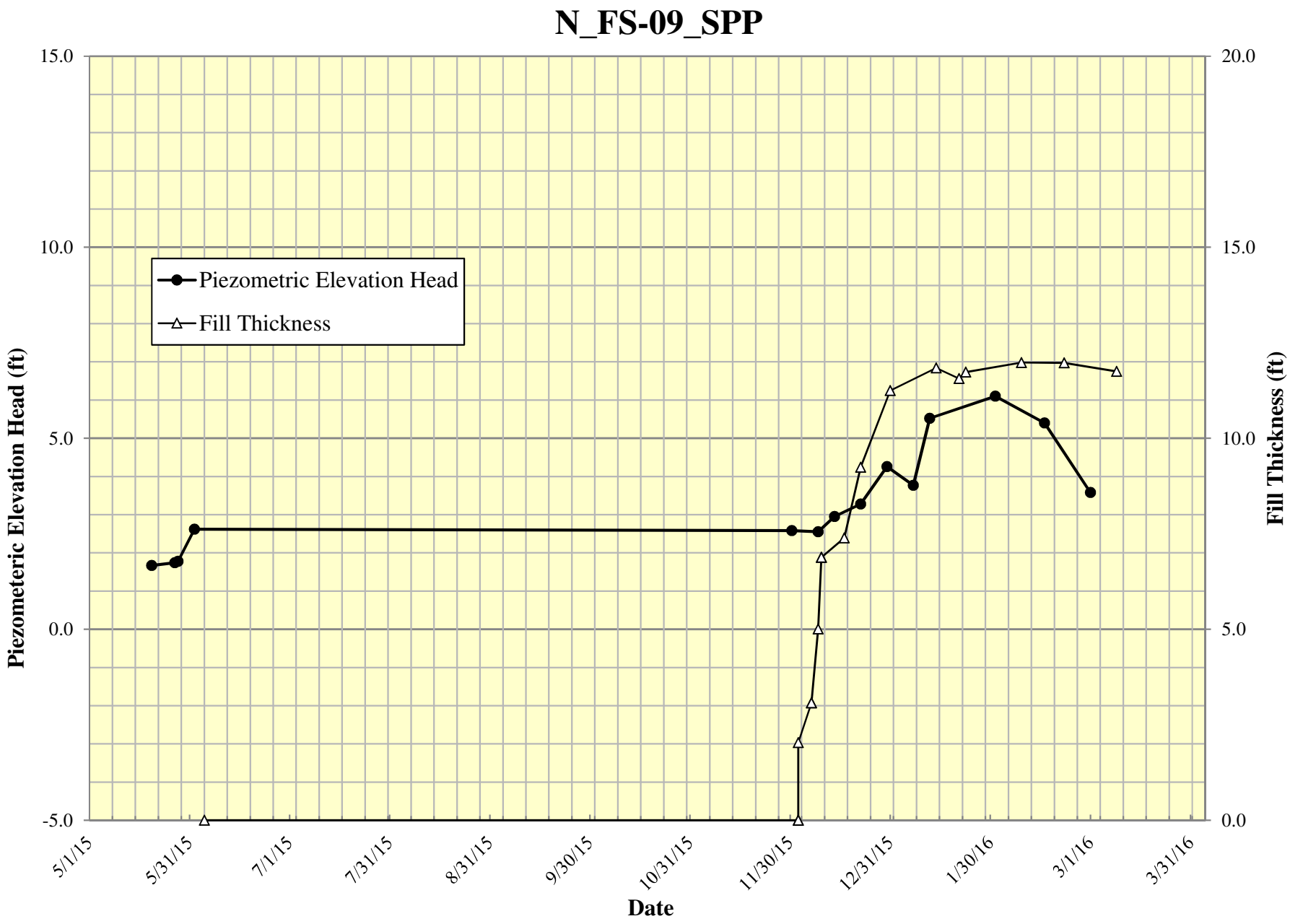
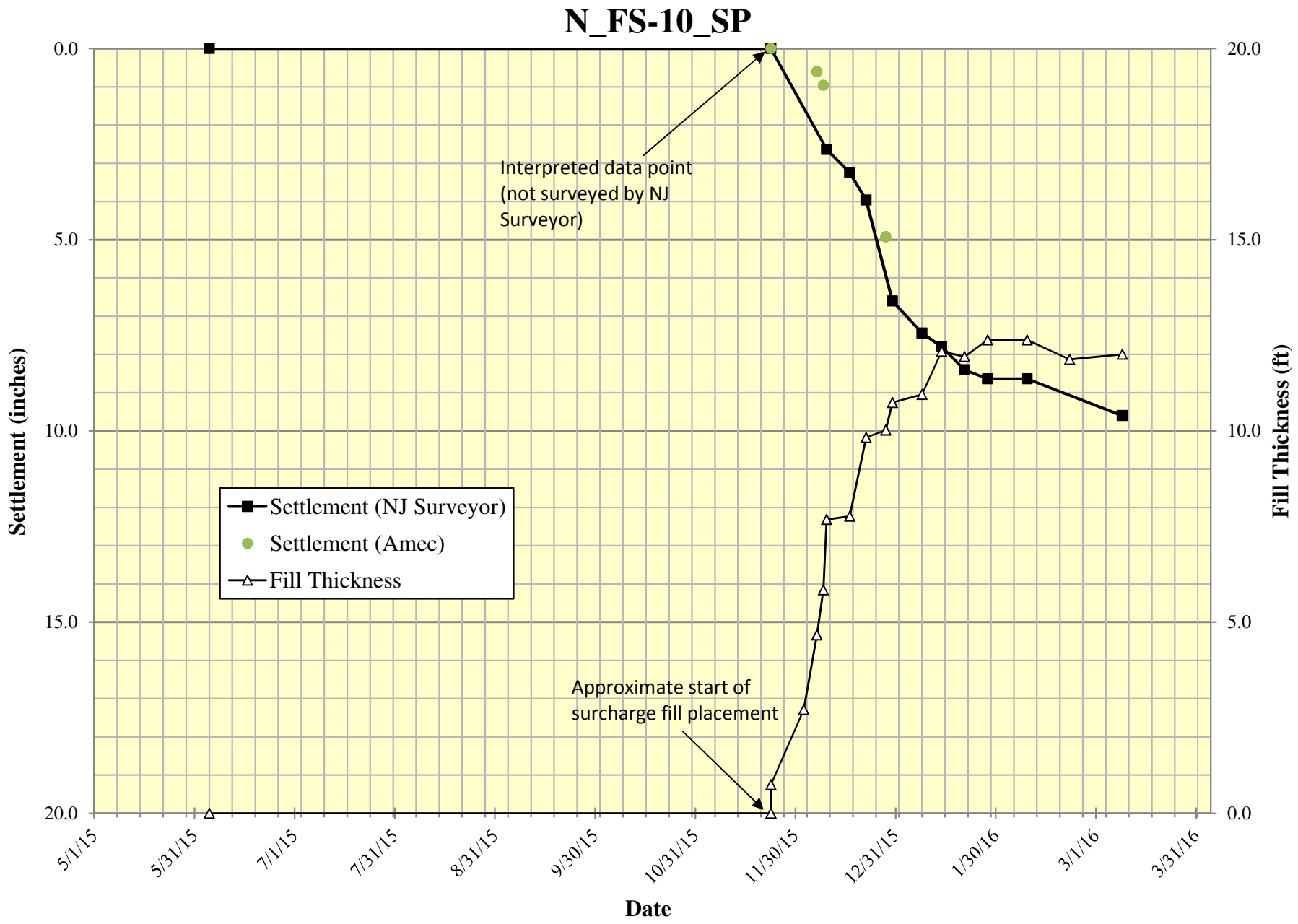


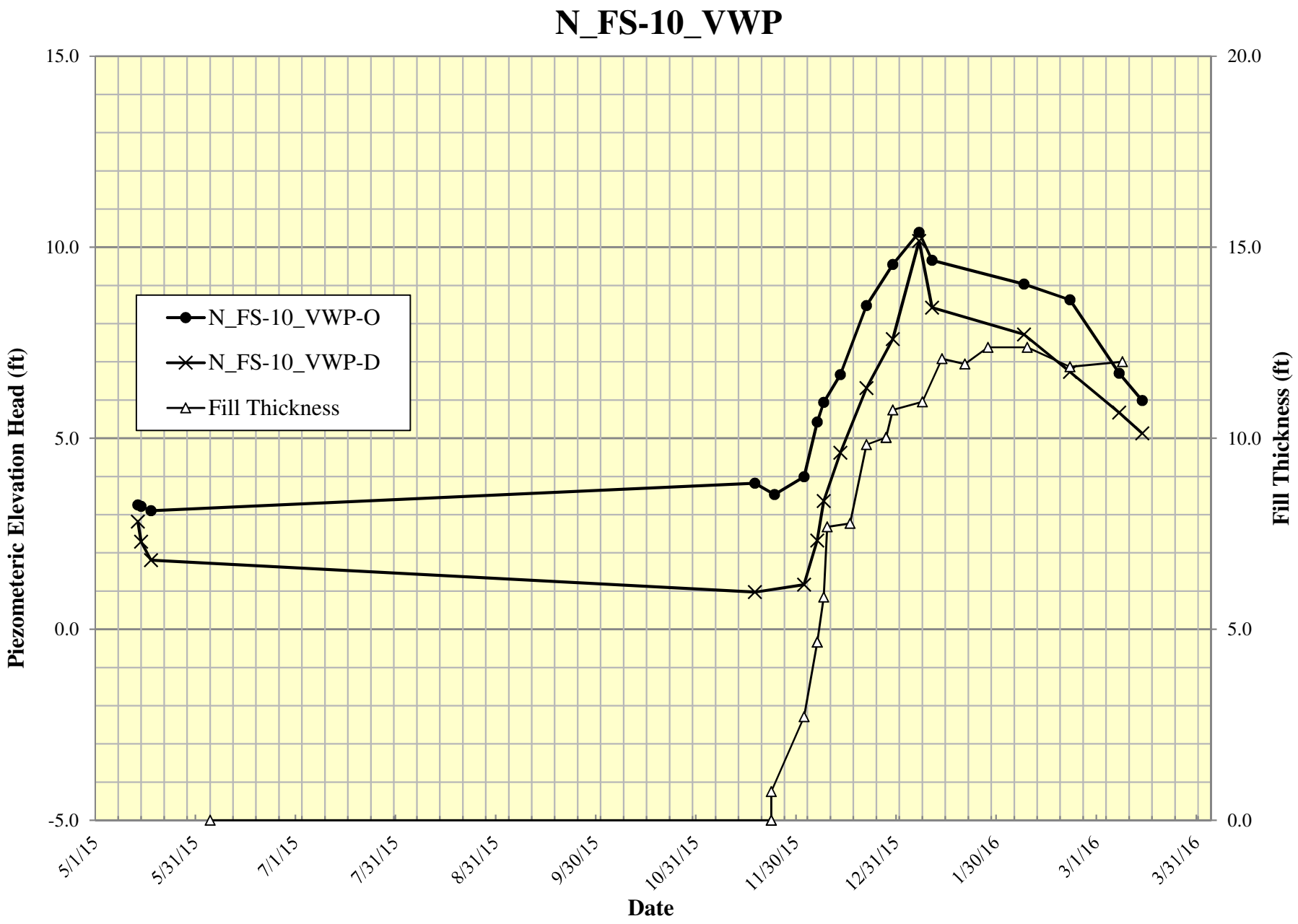
Surcharge Monitoring Data

N_FS-10

Settlement Platform Data Summary



Vibrating Wire Piezometer Data Summary



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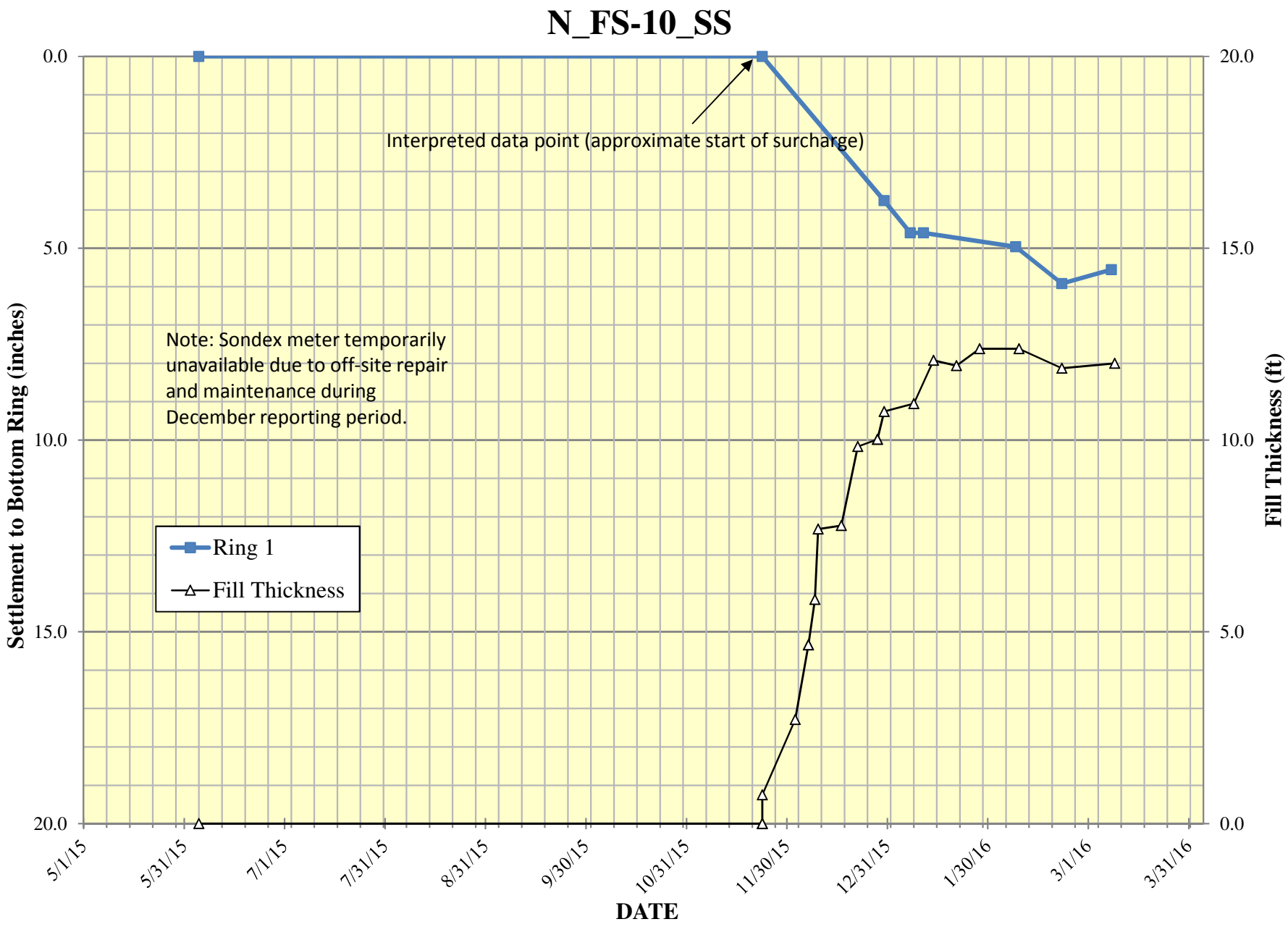

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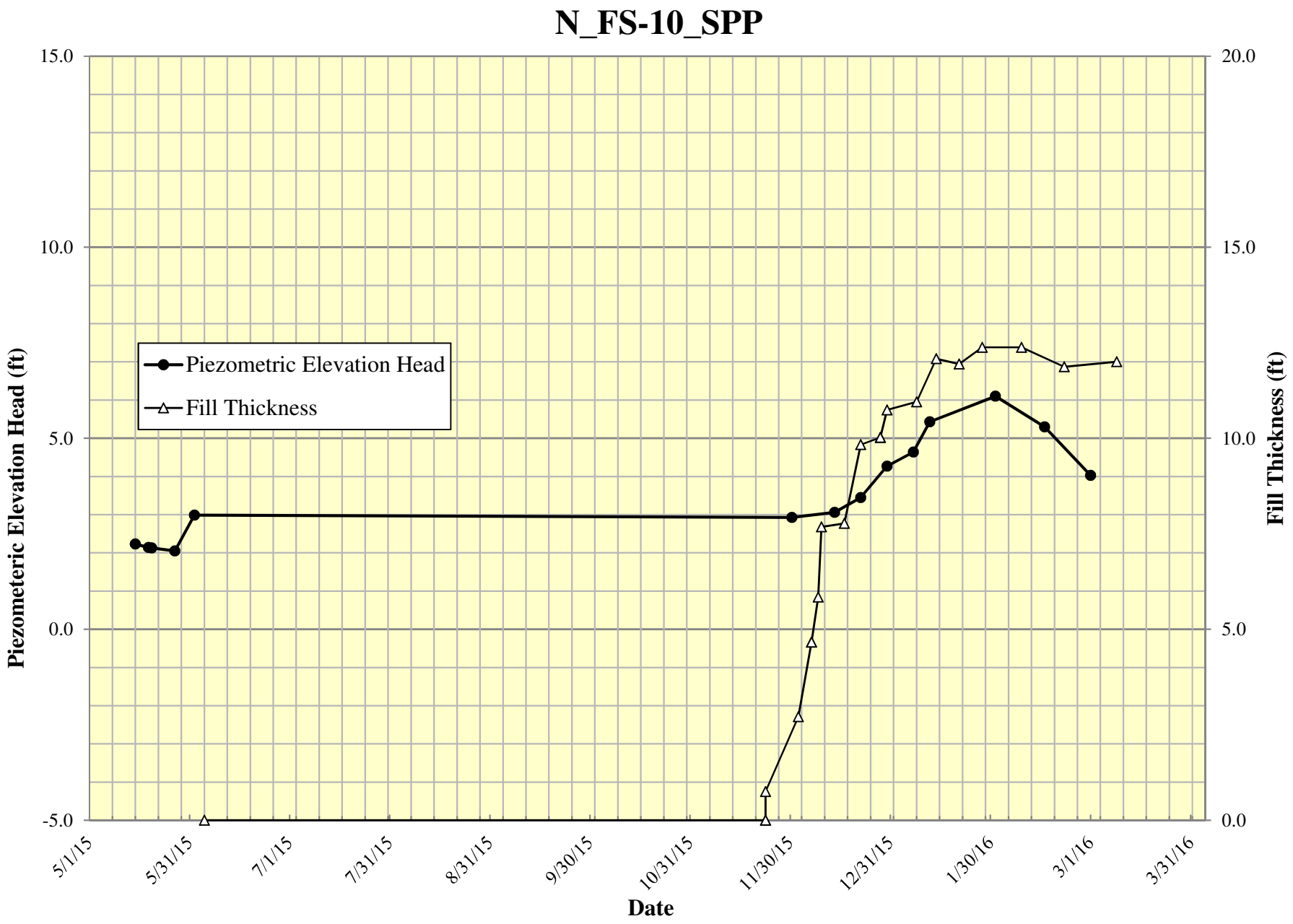

Surcharge Monitoring Data

N_FS-11

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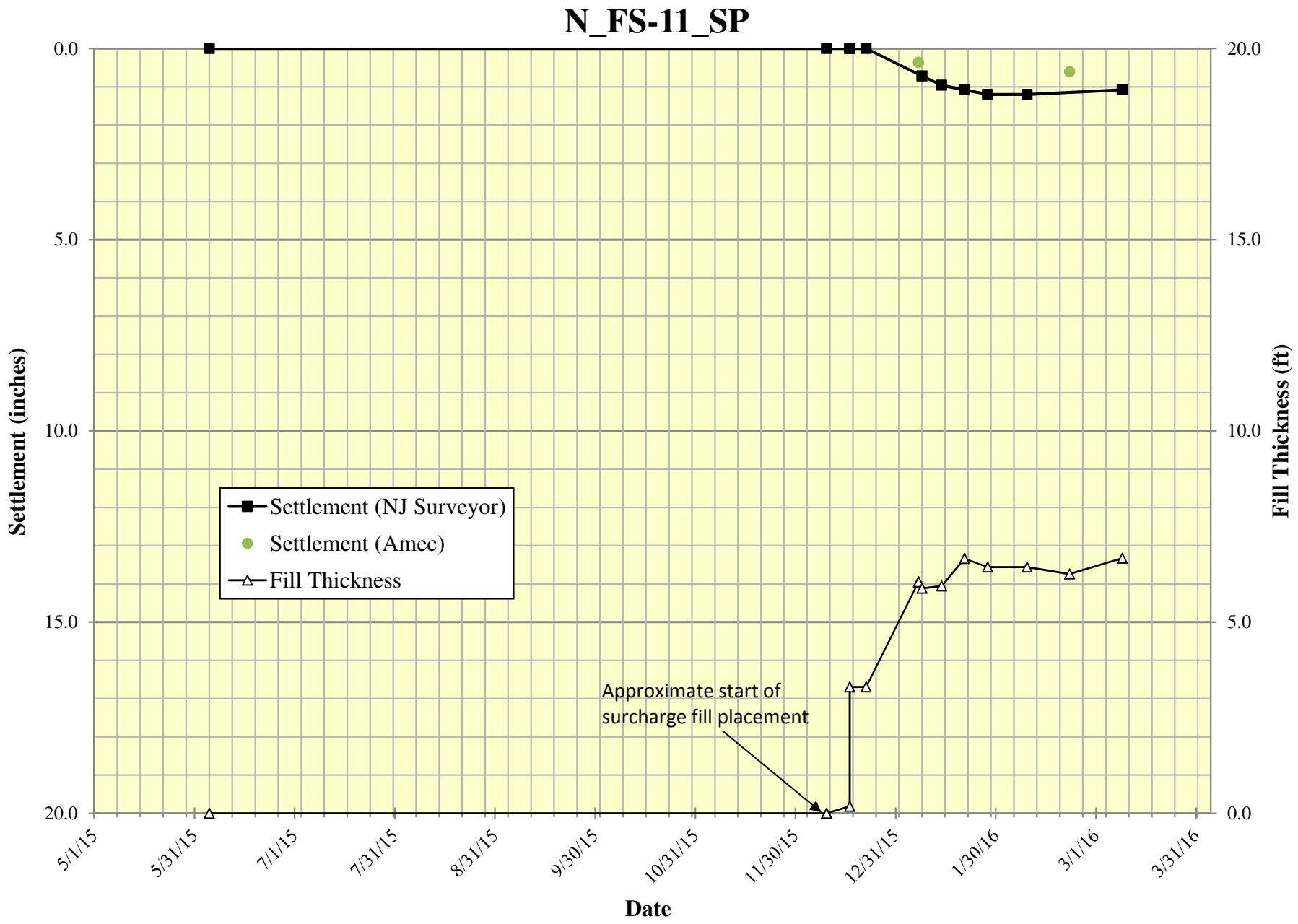
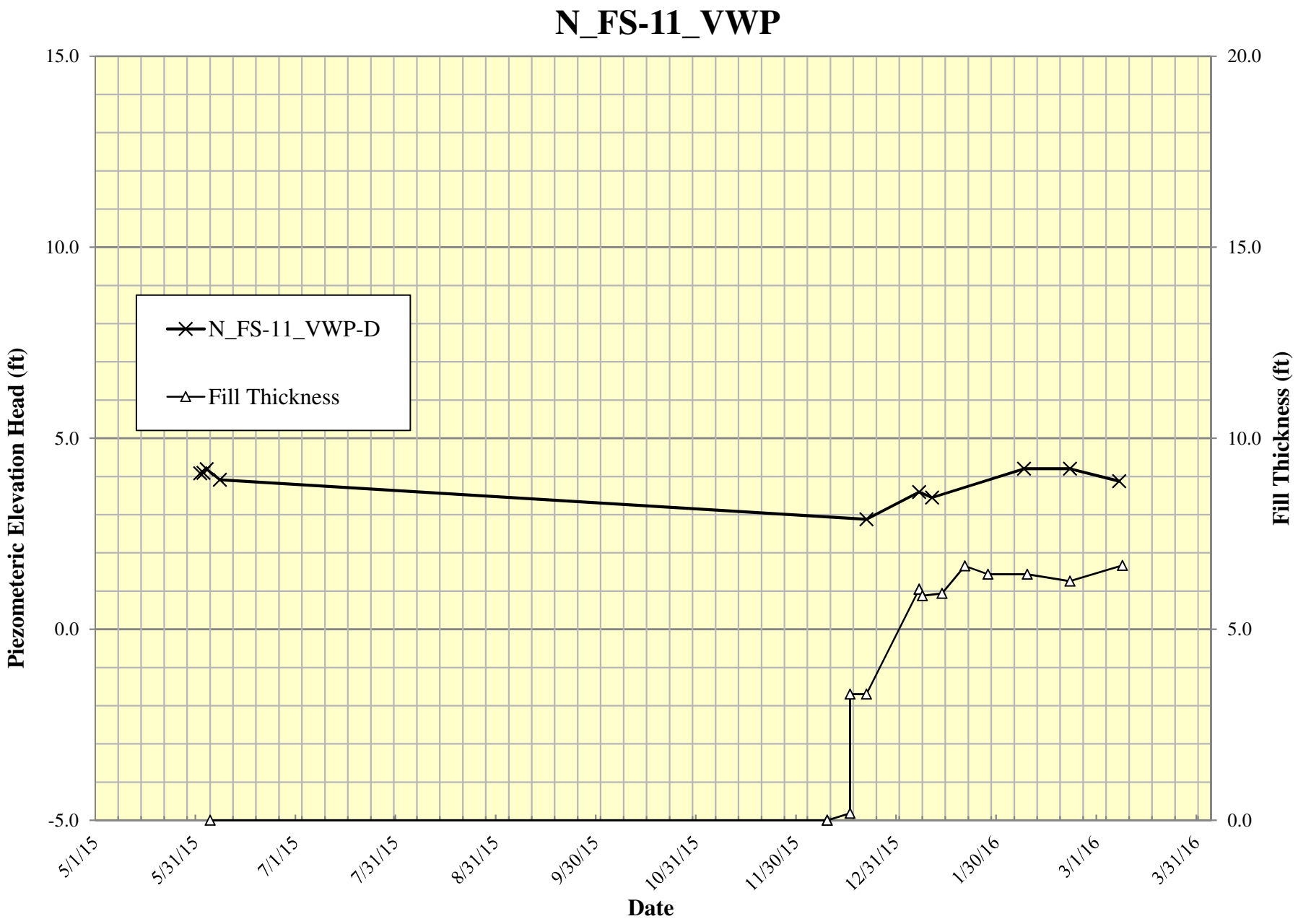


Vibrating Wire Piezometer Data Summary



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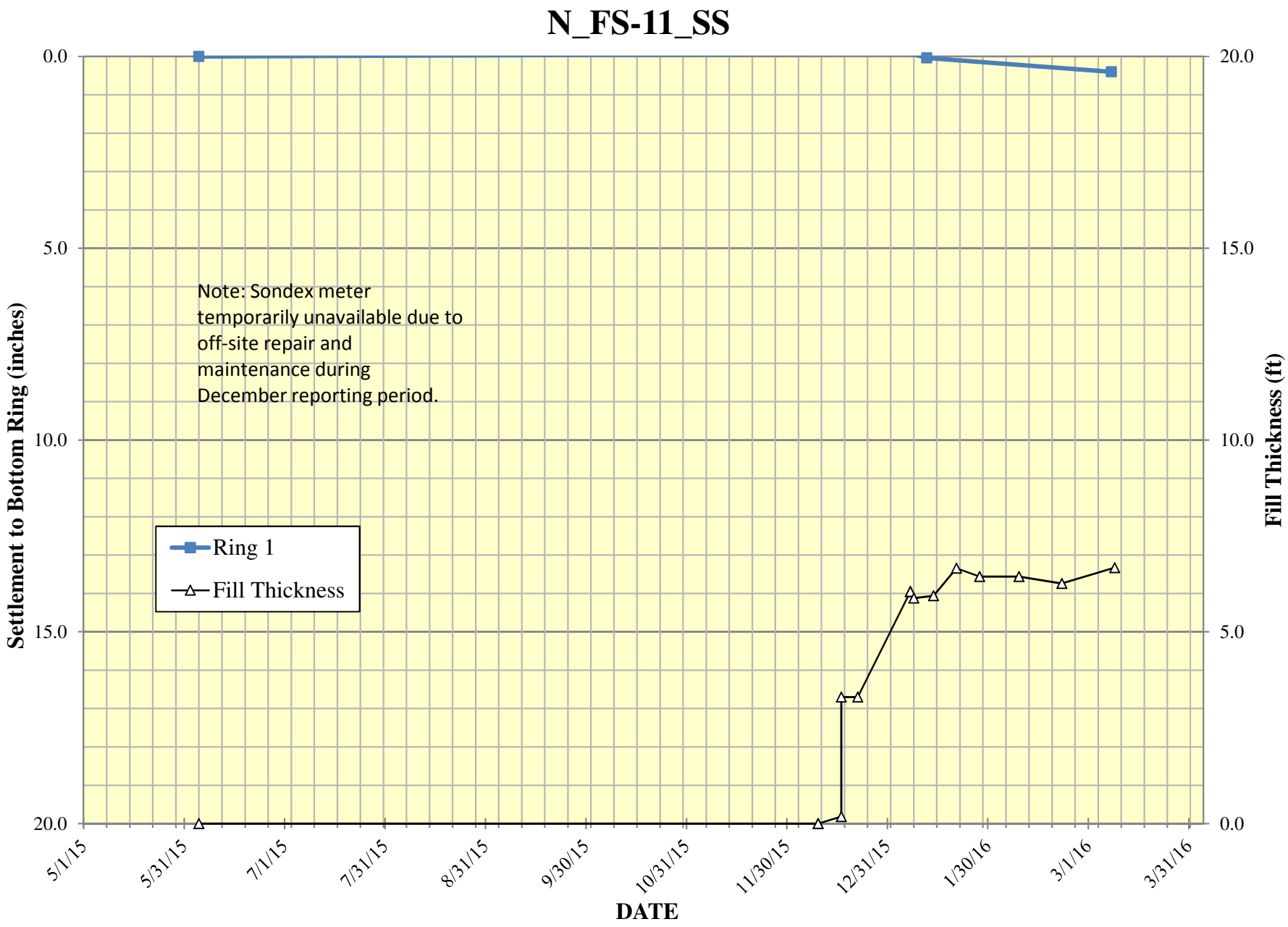
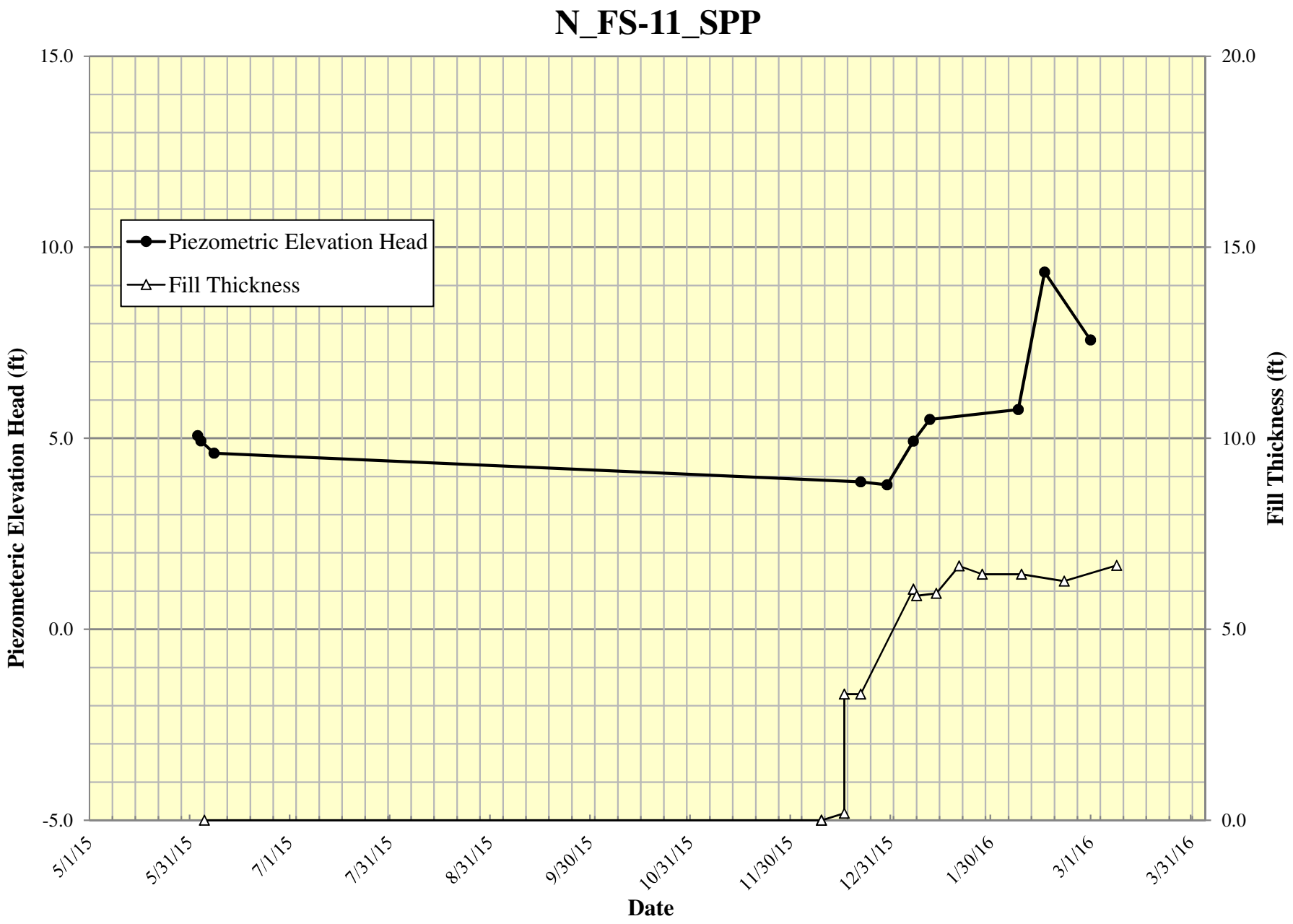


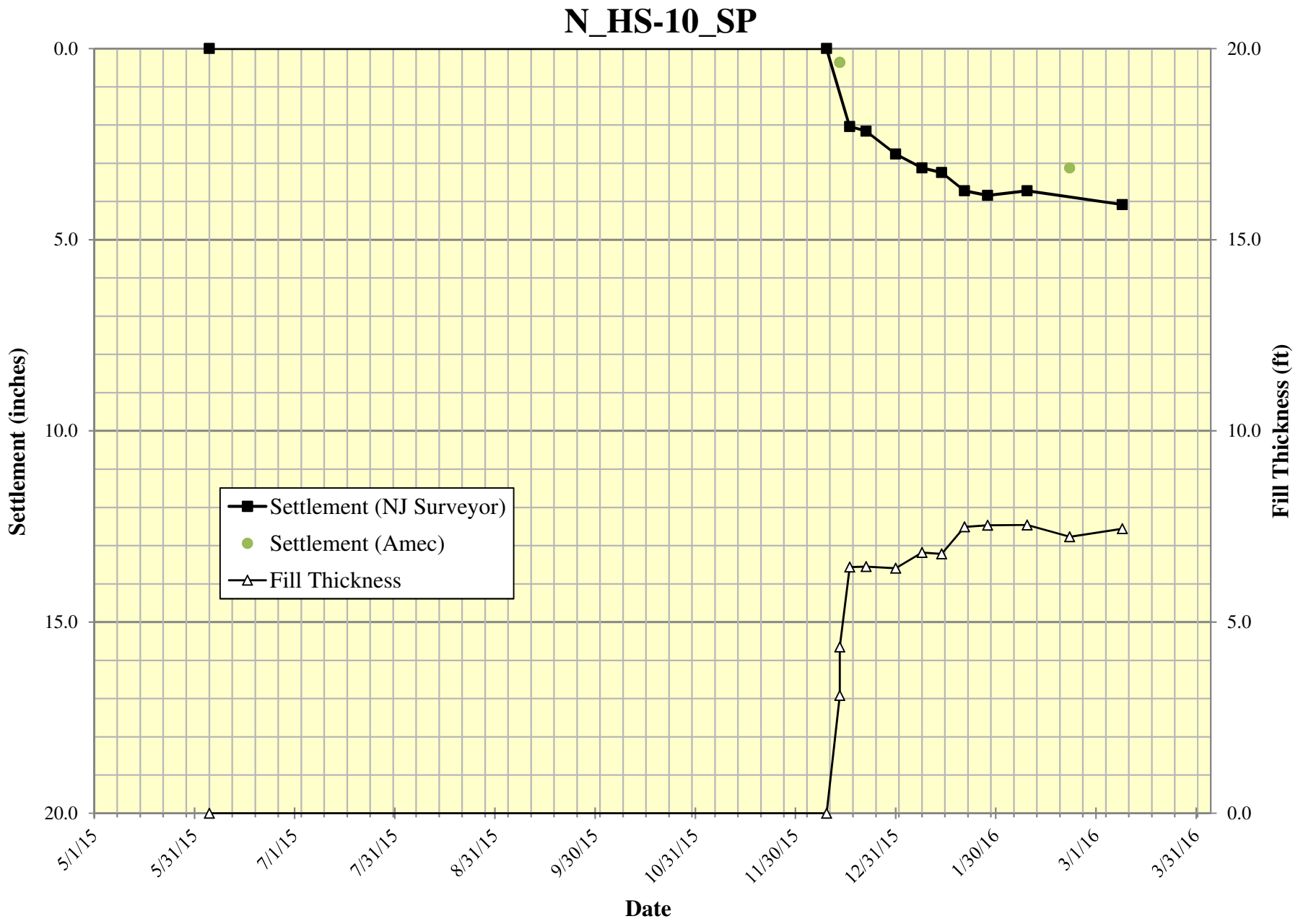
Standpipe Piezometer Data Summary



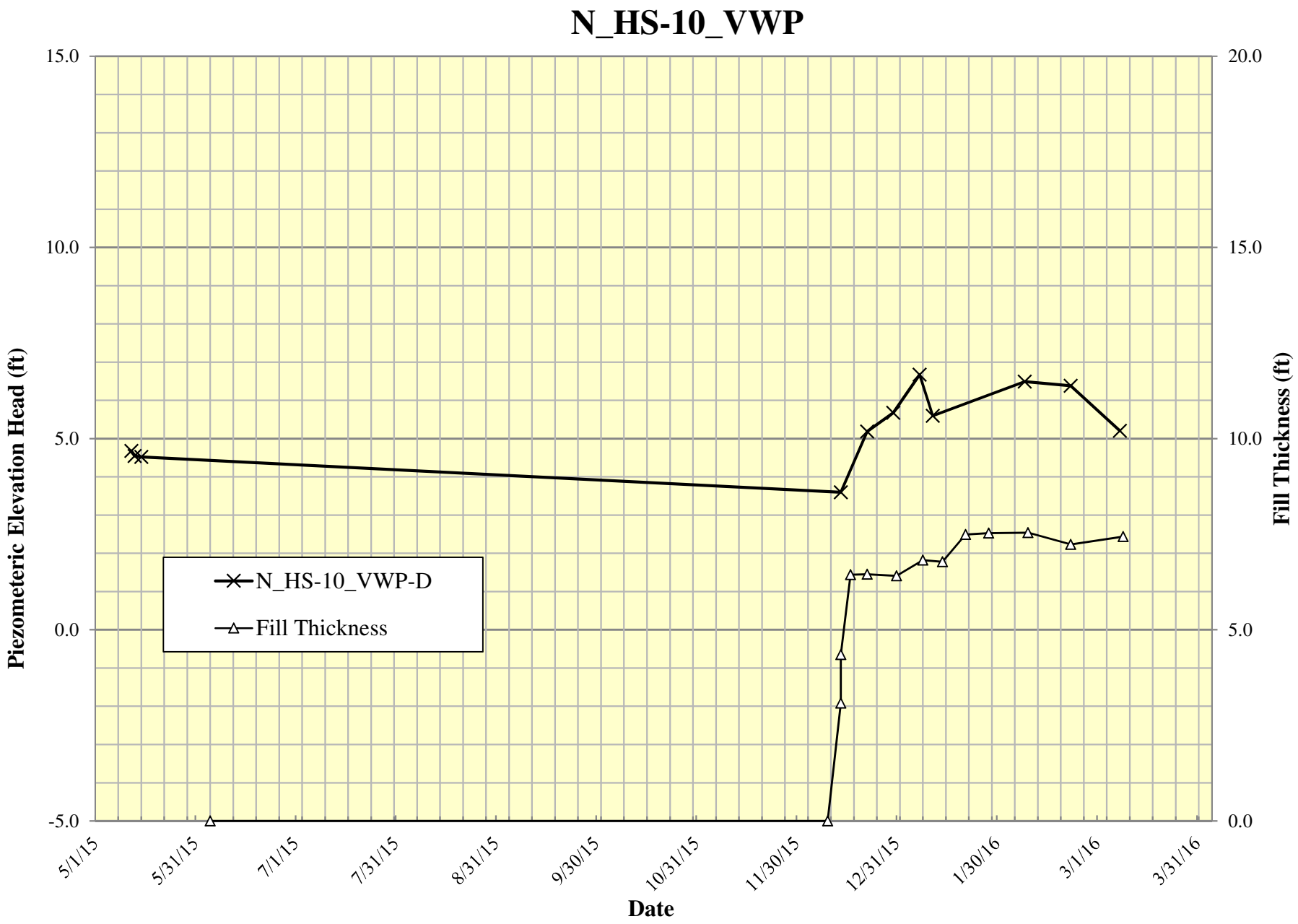
Surcharge Monitoring Data

N_HS-10

Settlement Platform Data Summary



Vibrating Wire Piezometer Data Summary



Surcharge Monitoring Data

N_HS-11

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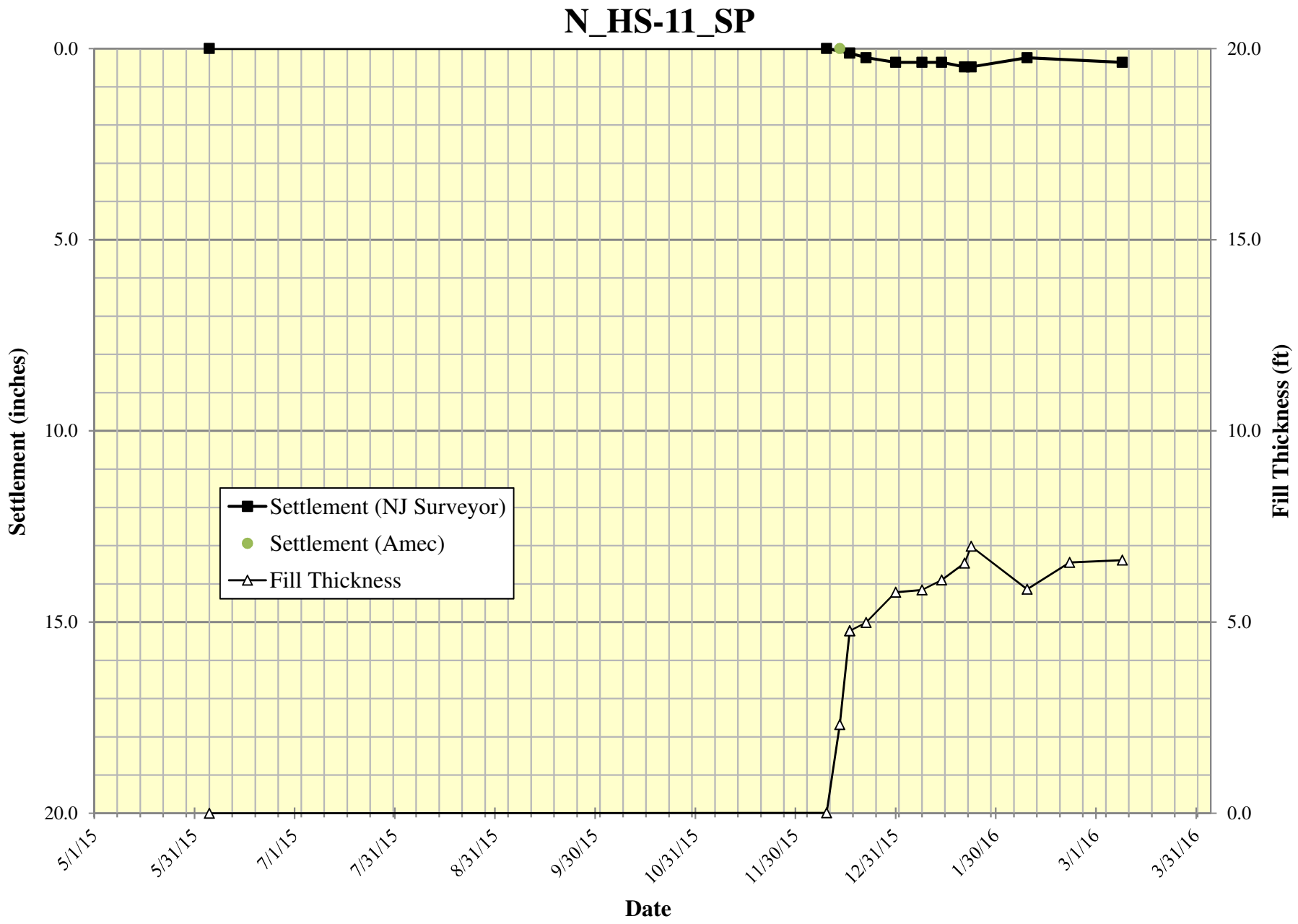
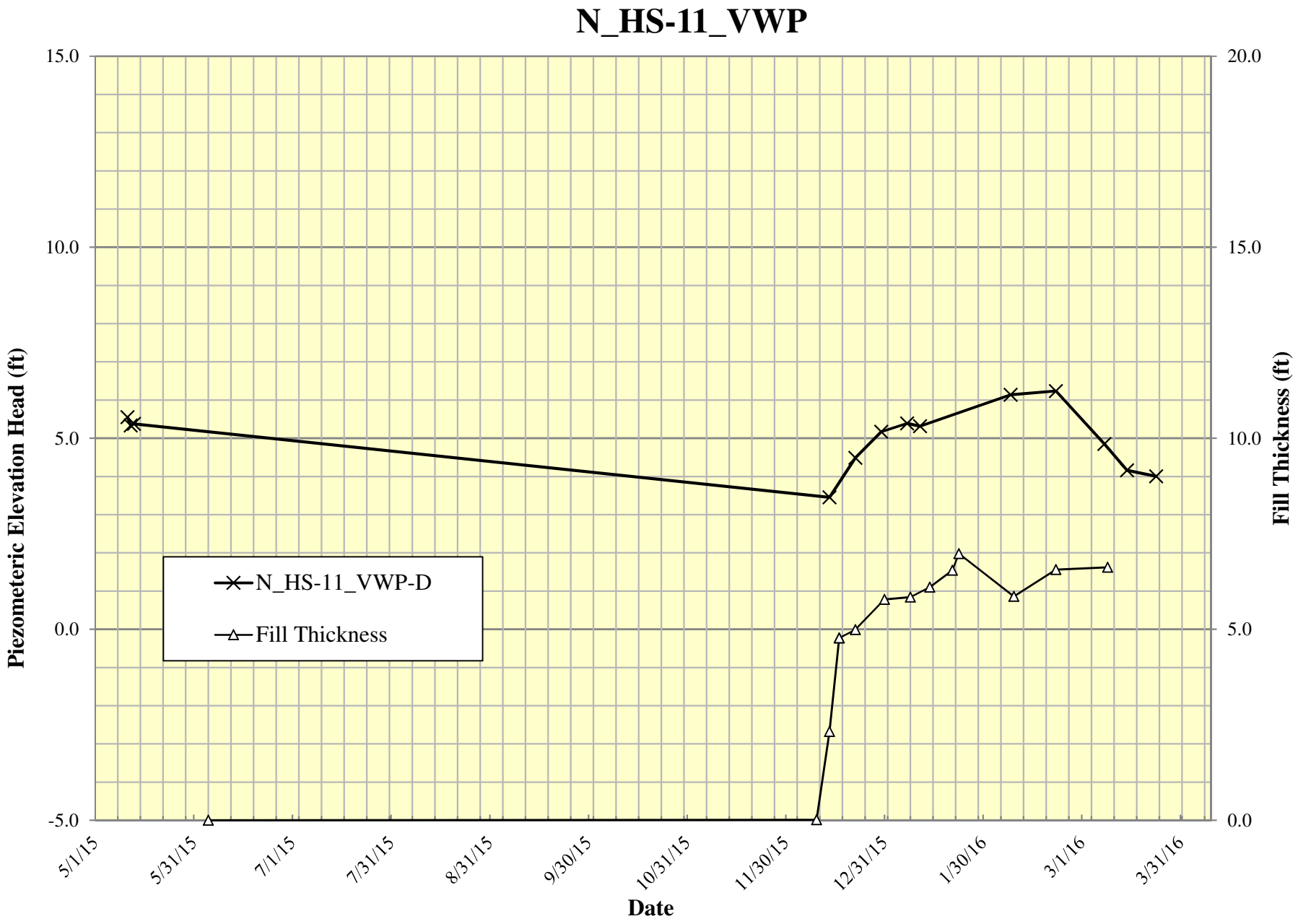


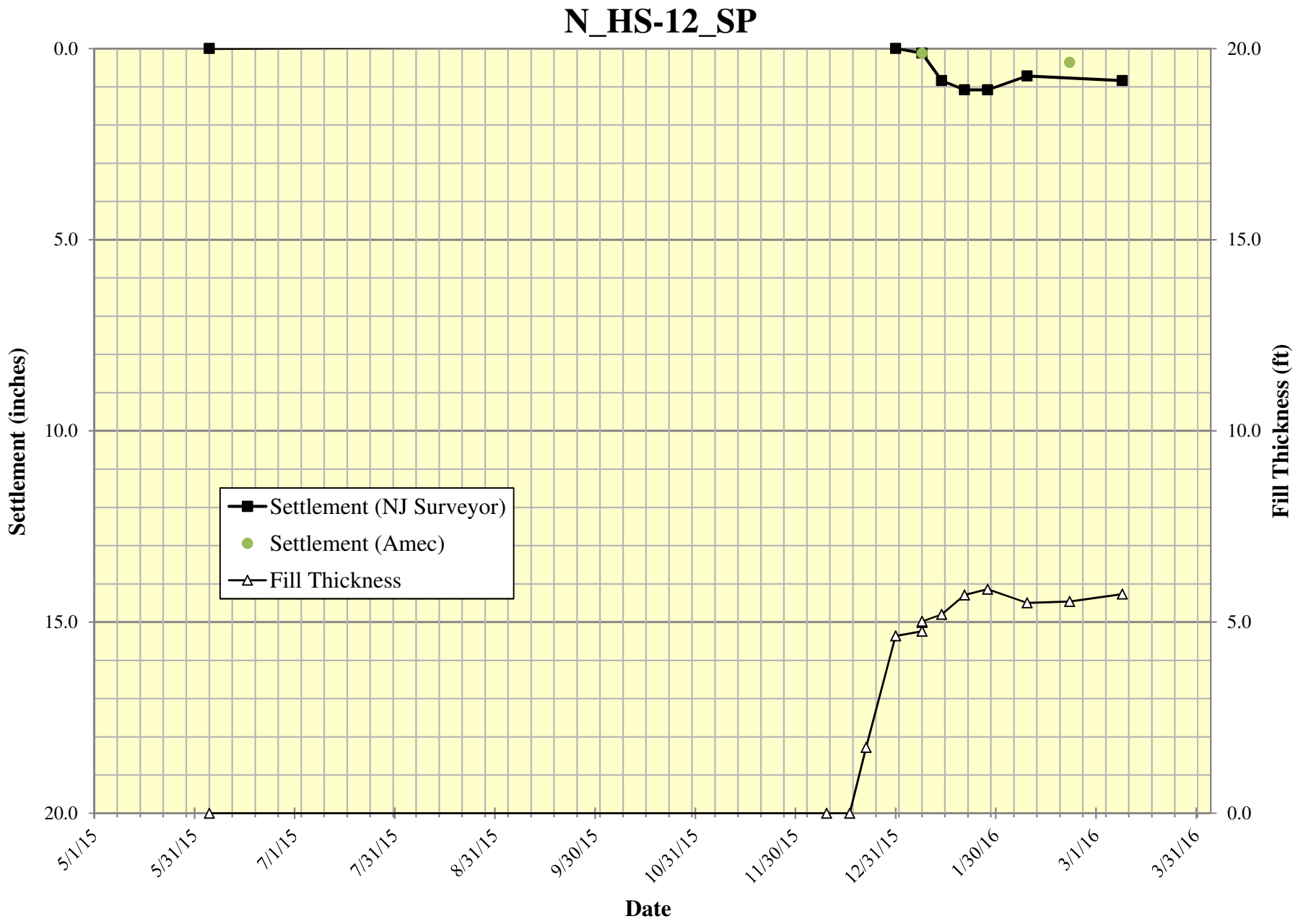
Vibrating Wire Piezometer Data Summary



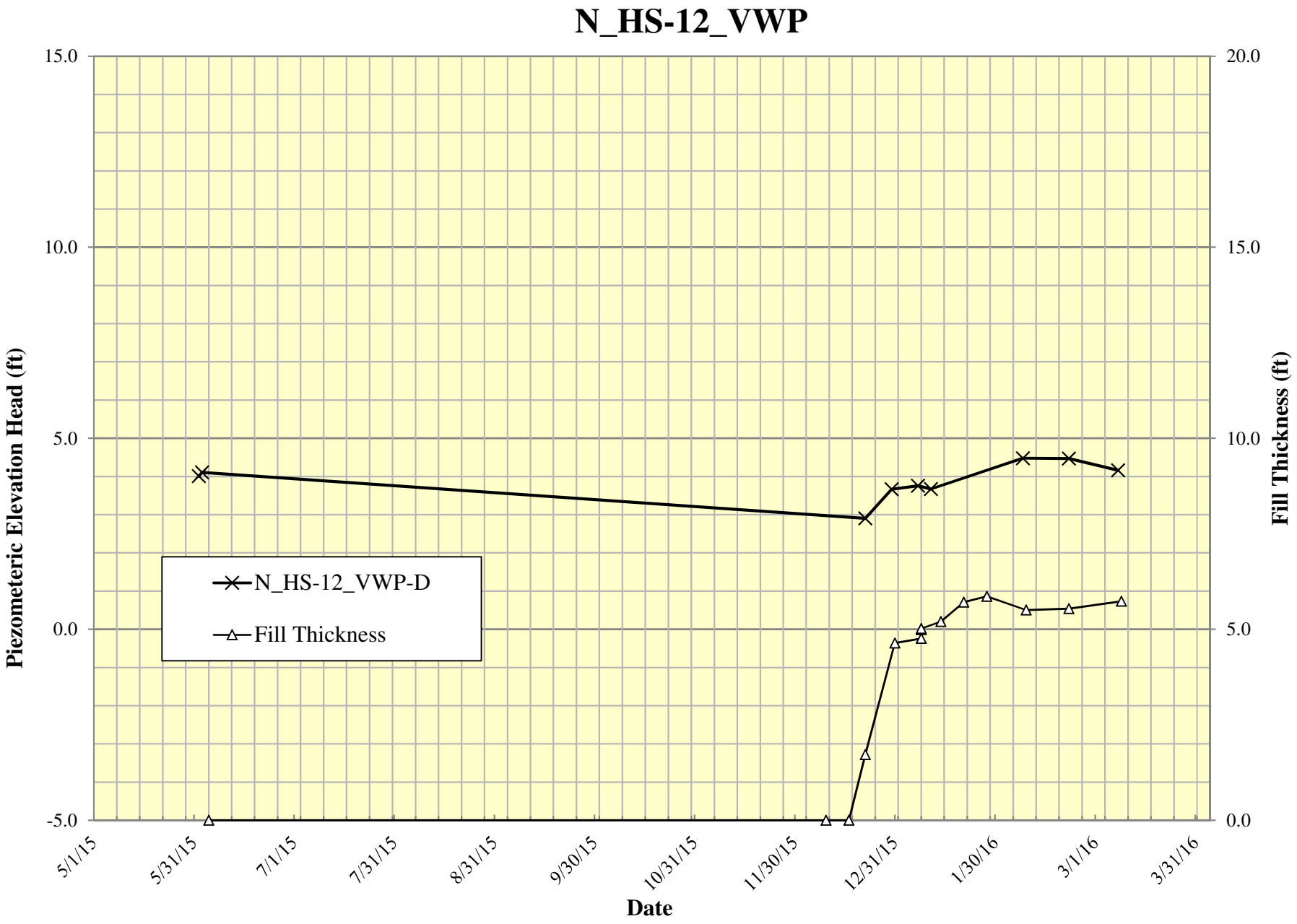
Surcharge Monitoring Data

N_HS-12

Settlement Platform Data Summary



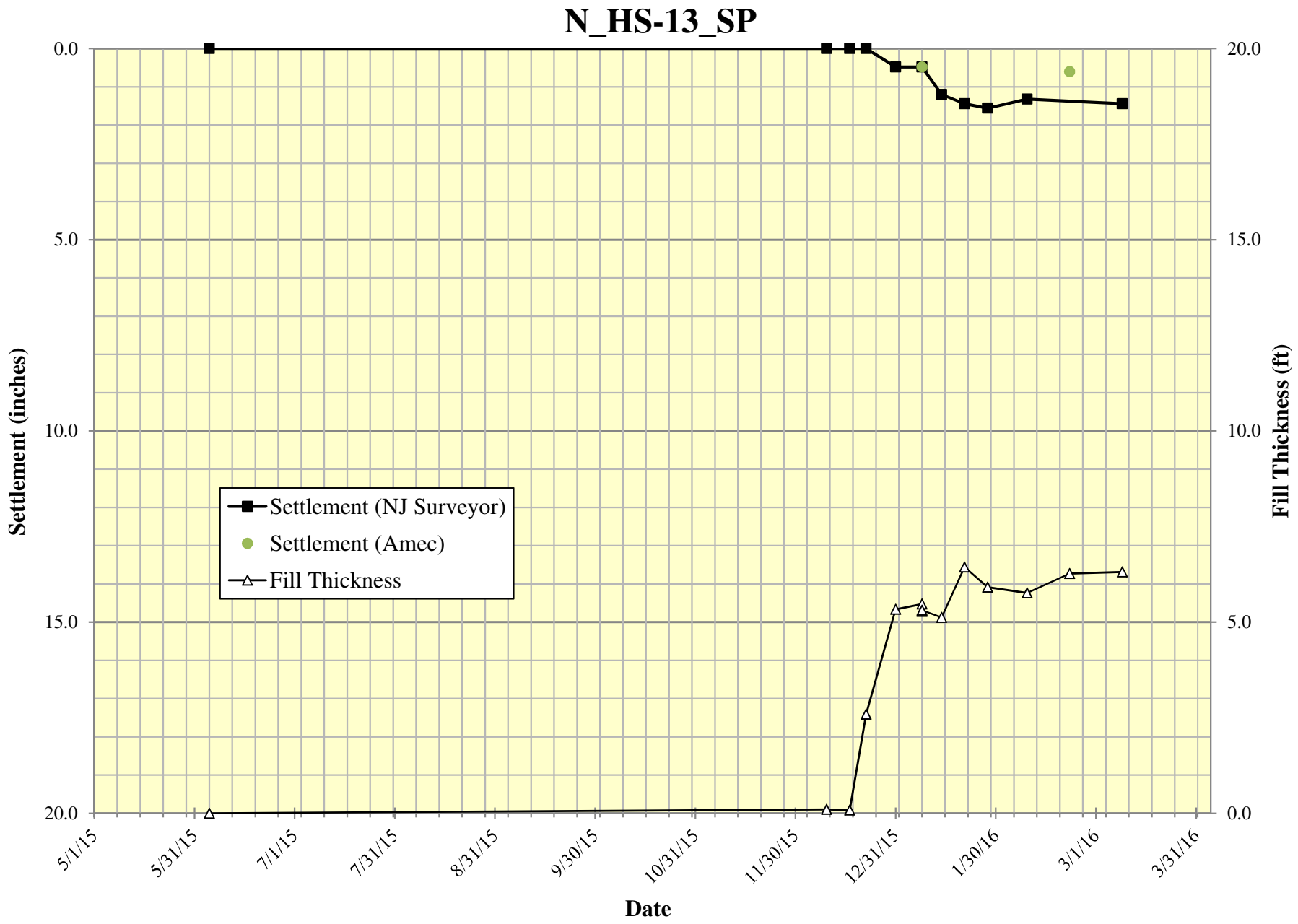
Vibrating Wire Piezometer Data Summary



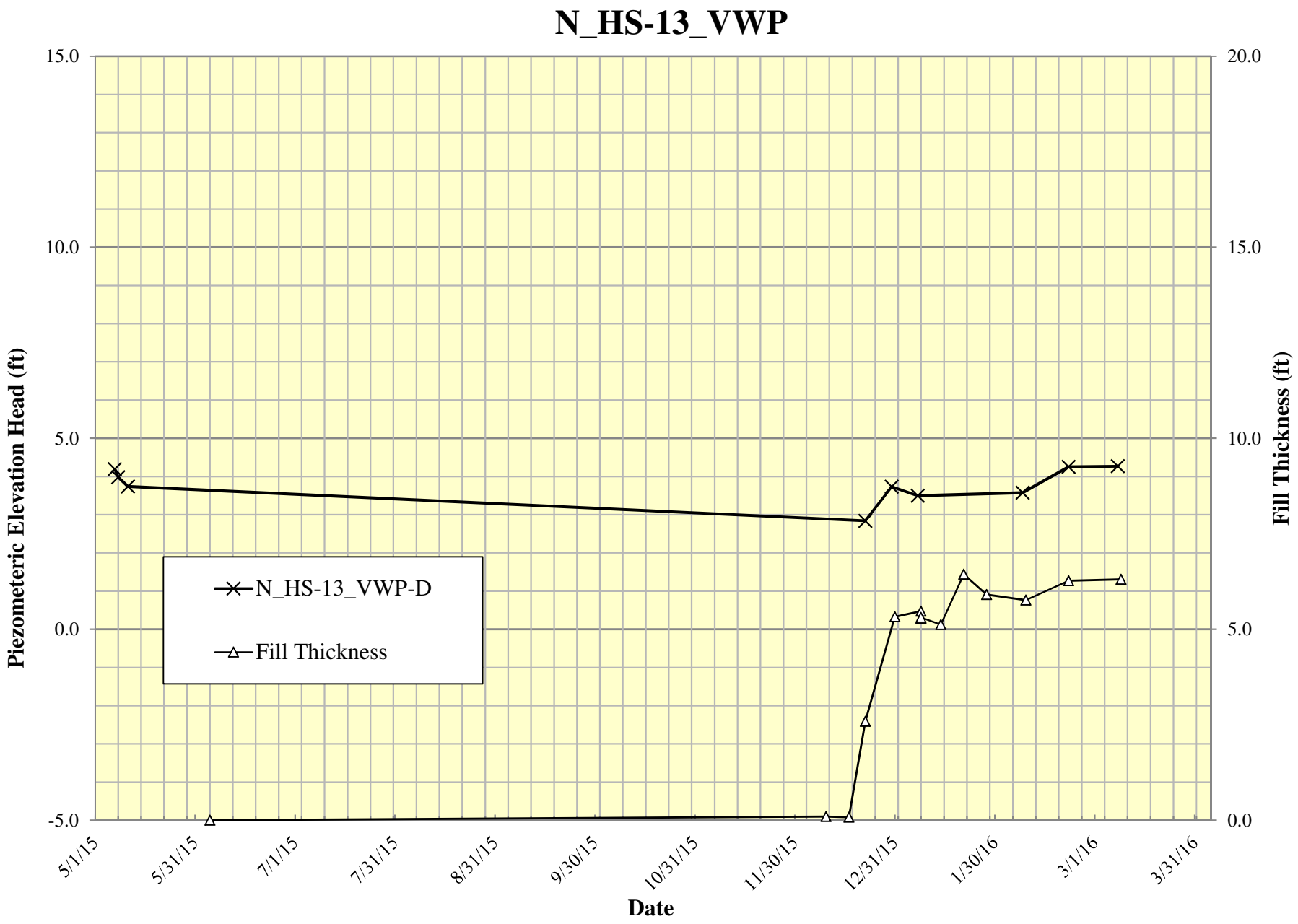
Surcharge Monitoring Data

N_HS-13

Settlement Platform Data Summary



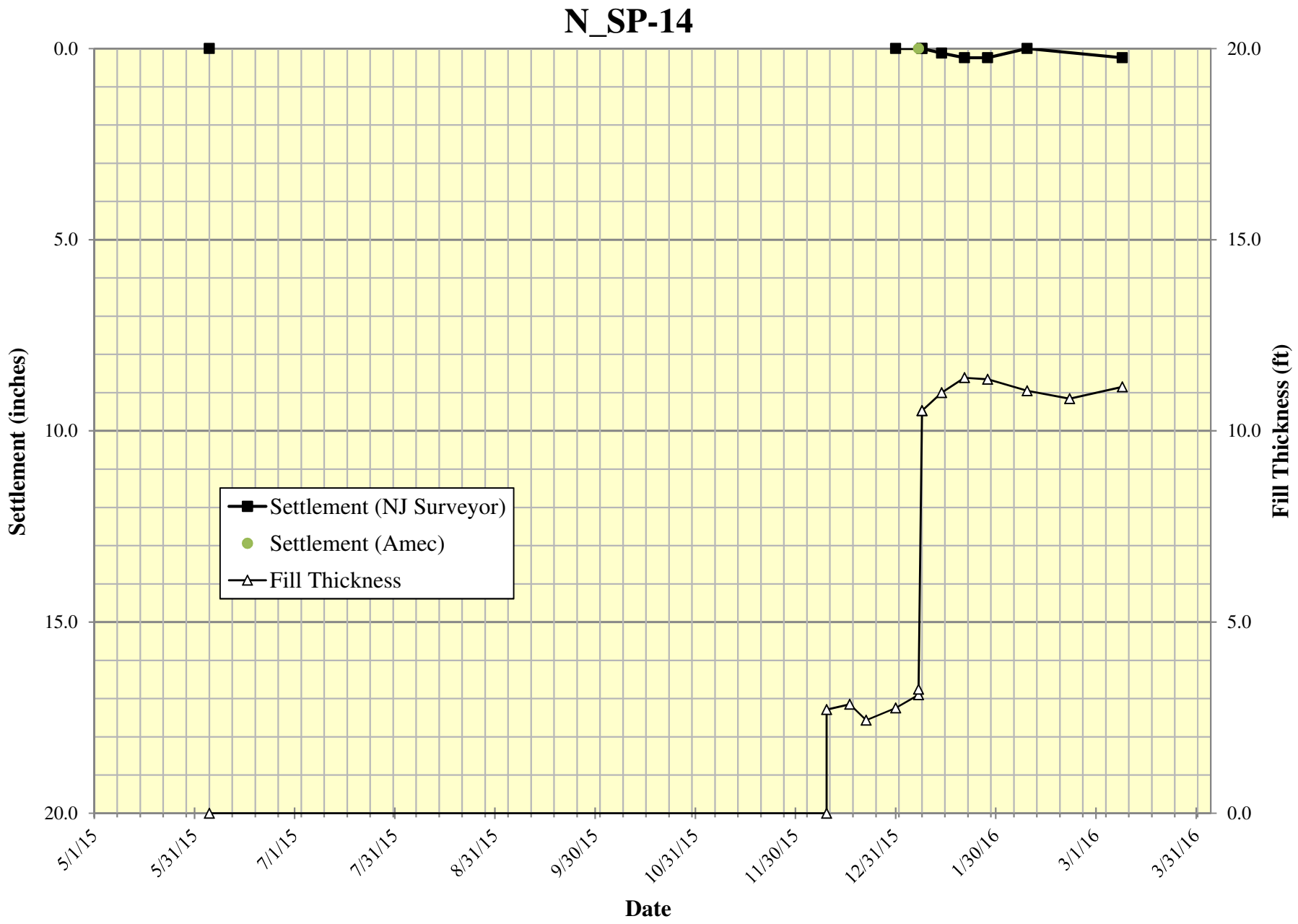
Vibrating Wire Piezometer Data Summary



Surcharge Monitoring Data

N_SP-14

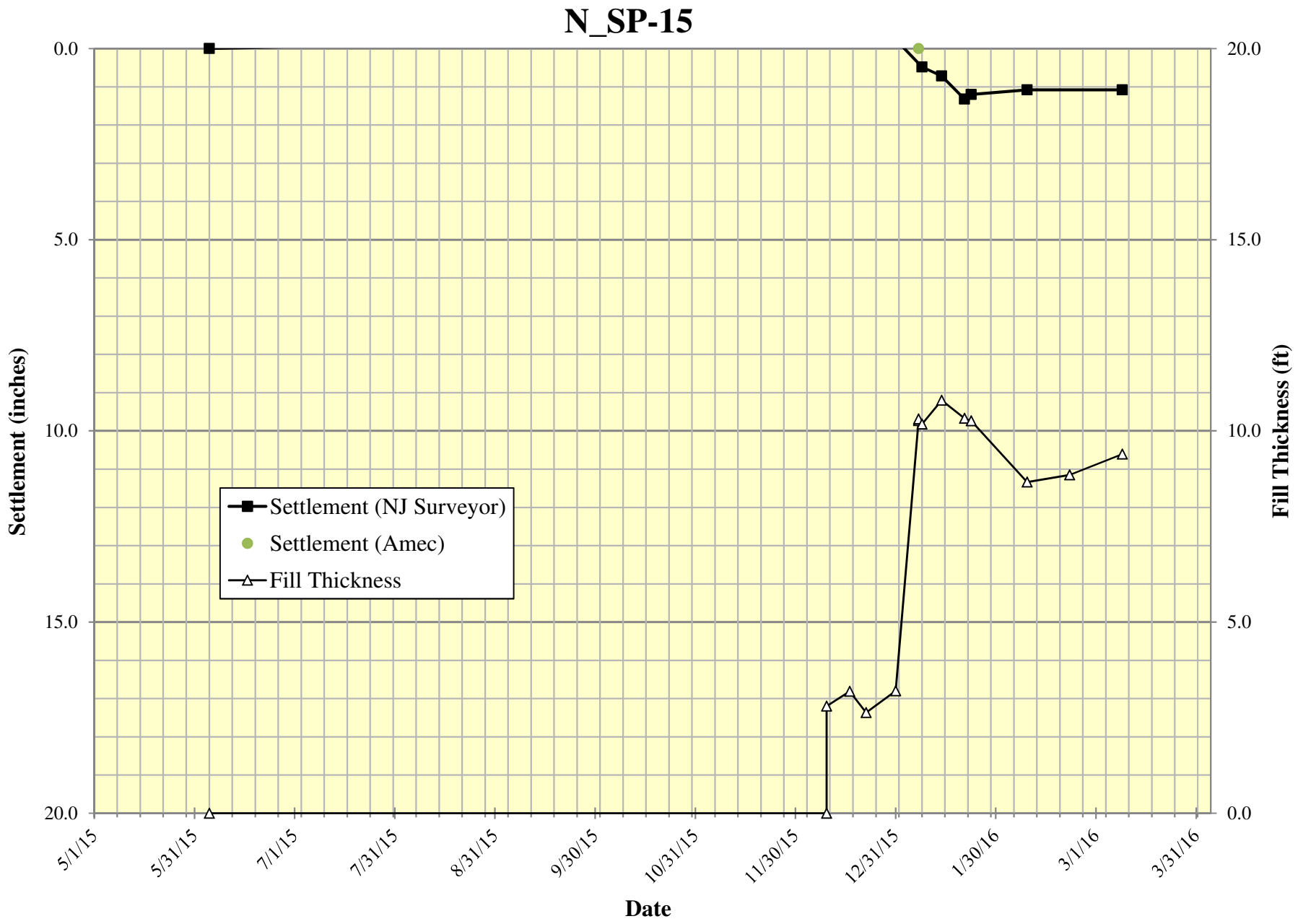
Settlement Platform Data Summary



Surcharge Monitoring Data

N_SP-15

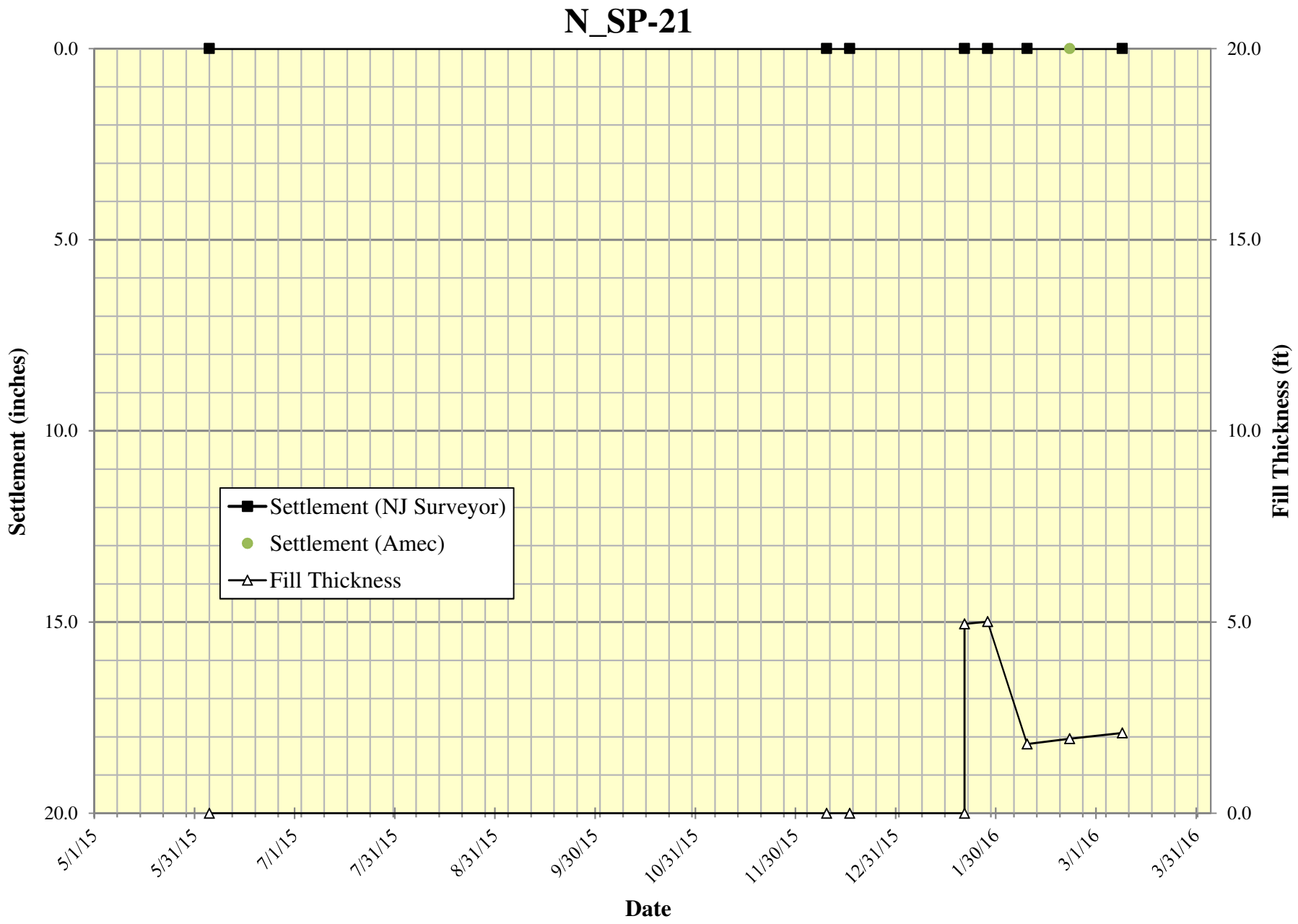
Settlement Platform Data Summary



Surcharge Monitoring Data

N_SP-21

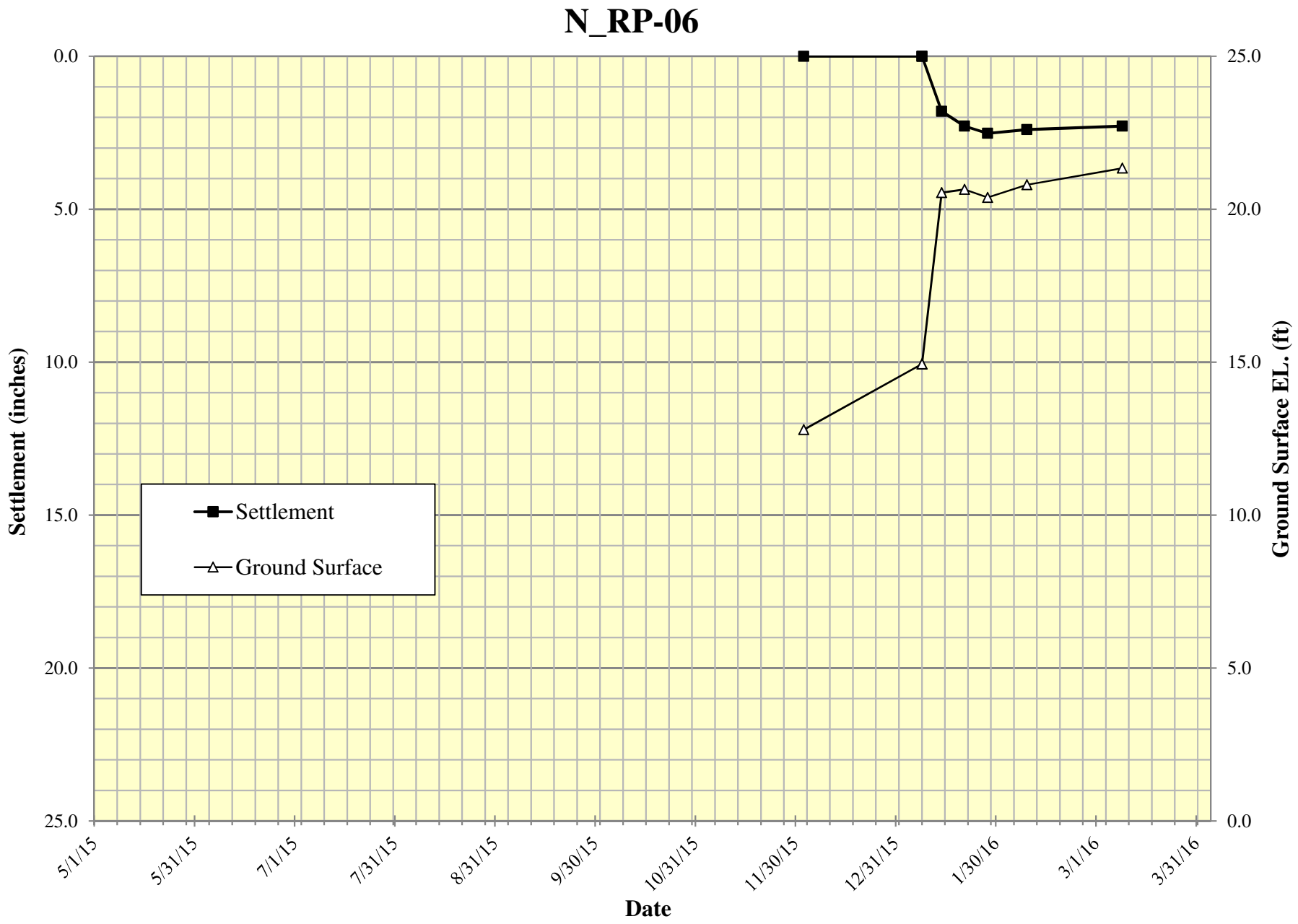
Settlement Platform Data Summary



Surcharge Monitoring Data

N_RP-06

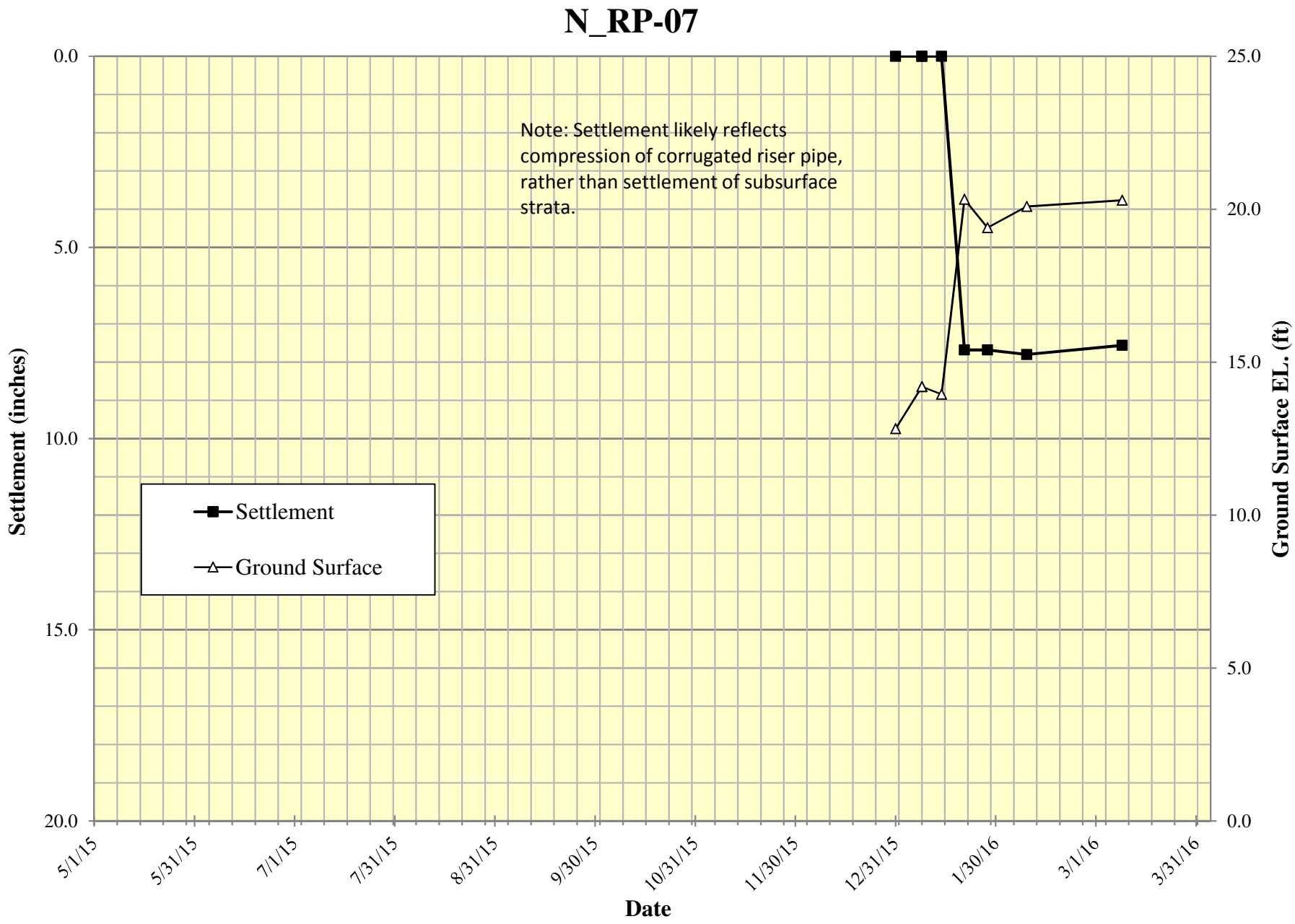
Riser Pipe Data Summary



Surcharge Monitoring Data

N_RP-07

Riser Pipe Data Summary



Attachment 3N-3

March 29, 2016 Mueser Rutledge Correspondence re:
Updated Area 3N and 4N Surcharge Review, SA-6 North, Jersey City, NJ

Mueser Rutledge Consulting Engineers

14 Penn Plaza · 225 West 34th Street · New York, NY 10122
Tel: (917) 339-9300 · Fax: (917) 339-9400
www.mrce.com

Peter W. Deming
Roderic A. Ellman, Jr.
Francis J. Arland
David R. Good
Walter E. Kaeck
Partners

Tony D. Canale
Jan Cermak
Sitotaw Y. Fantaye
Associate Partners

David M. Cacoilo
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Alex Krutovskiy
Srinivas Yenamandra
Farid F. Vastani
Jesse L. Richins
Associates

Joseph N. Courtade
Director of Finance and Administration

Martha J. Huguet
Director of Marketing

March 29, 2016

AMEC Environment & Infrastructure
511 Congress Street
Portland Me 04101

Attn: Mr. Geoff Shallard

Re: Updated Area 3N and 4N Surcharge Review
SA-6 North
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

The Mueser Rutledge Consulting Engineers (MRCE) review of March 15th, 2016 AMEC settlement and piezometer monitoring data for Area 3N and 4N is summarized below:

AMEC indicated boring sampling was performed to define the soil profile and the Vibrating Wire Piezometer (VWP) was set at the center of the compressible layer, so that the pore water pressure reading is the most conservative for effective stress evaluation. All the effective stress calculations were made at the center of the layers.

MRCE used the latest measured elevation head dated March 15th, 2016 from "Vibrating Wire Piezometer – Data Report" to calculate the post-surcharge pore water pressures. Post-surcharge total stresses were calculated using fill thickness measurements from the "Settlement Platform – Data Report" taken on March 9th, 2016. Calculated post-surcharge effective stresses are presented in Table 1 and Table 2. MRCE compared the calculated post-surcharge effective stresses with the "Final Post-Development Conditions" effective stress estimates provided by AMEC. The defined goal of the surcharge program was to achieve an effective stress greater than "Final Post-Development Conditions."

This review finds that with the March 15, 2016 readings all settlement monitoring locations, including the two settlement locations, N_HS-11 in Area 3N (Table 1) and N_FS-12 in Area 4N (Table 2), have met the surcharge program goal. This finding is in agreement with the AMEC data review and interpretation.

Very truly yours,

MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, P.E.

F:\111\11173\2015 Surcharge Removal Review\MRCE Peer Review Area 3N and 4N final.pdf

FOR: SA-6 North Surcharge Monitoring Review

Table 1. Area 3N Surcharge Review

Settlement Monitoring Point	Layer	Existing EL. (ft)	Pre-Surcharge Conditions	Proposed Final Development Conditions	Date of Recording used in calculations		Fill Thickness (ft)	Elevation Head (ft)	Post-Surcharge Conditions			**MRCE**	**AMEC**
			Total Stress (psf)	Effective Stress (psf)	Fill Thickness	VWP Elevation			Total Stress (psf)	Pore Water Pressure (psf)	Effective Stress (psf)	**% Completion**	**% Completion**
N_FS-08	Center D	-7.0	2226.3	2400.5	2/9/2016	2/22/2016	11.8	7.0	3697.5	876.1	2821.4	**118%**	**114%**
N_FS-09	Center D	-4.9	2151.3	2217.8	2/9/2016	2/22/2016	12.0	6.4	3648.8	699.4	2949.4	**133%**	**127%**
N_FS-10	Center O	-3.5	1937.5	2525.6	2/9/2016	2/22/2016	12.4	8.6	3485.0	756.7	2728.3	**108%**	**109%**
	Center D	-6.0	2202.5	2619.0	2/9/2016	2/22/2016	12.4	6.7	3750.0	794.8	2955.2	**113%**	
N_FS-11	Center D	-5.1	2032.5	1919.6	2/9/2016	2/22/2016	6.4	4.2	2837.5	579.8	2257.7	**118%**	**118%**
N_HS-10	Center D	-5.2	2083.8	2216.4	2/9/2016	2/22/2016	7.5	6.4	3026.3	721.5	2304.7	**104%**	**101%**
N_HS-11	Center D	-5.7	2147.5	2280.4	3/9/2016	3/15/2016	6.6	4.2	2975.0	617.3	2357.7	**103%**	**102%**
N_HS-12	Center D	-4.4	2042.5	1931.7	2/9/2016	2/22/2016	5.5	4.5	2730.0	551.0	2179.0	**113%**	**111%**
N_HS-13	Center D	-4.4	1991.3	2050.1	2/9/2016	2/22/2016	5.8	4.3	2711.3	539.3	2172.0	**106%**	**107%**

FOR: SA-6 North Surcharge Monitoring Review

Table 2. Area 4N Surcharge Review

Settlement Monitoring Point	Layer	Existing EL. (ft)	Pre-Surcharge Conditions	Proposed Final Development Conditions	Date of Recording used in calculations		Fill Thickness (ft)	Elevation Head (ft)	Post-Surcharge Conditions			**MRCE**	**AMEC**
			Total Stress (psf)	Effective Stress (psf)	Fill Thickness	VWP Elevation			Total Stress (psf)	Pore Water Pressure (psf)	Effective Stress (psf)	**% Completion**	**% Completion**
N_FS-12	Center D	-4.1	1927.5	1869.2	3/9/2016	3/15/2016	3.4	3.5	2348.8	473.9	1874.9	**100%**	**101%**
N_FS-13	Center D	-4.6	2248.8	2063.8	1/28/2016	2/22/2016	3.1	-0.9	2640.0	232.2	2407.8	**117%**	**119%**

SURCHARGE AREA 4N
FIGURES & ATTACHMENTS

Figure 4N-1

Instrumentation Location Plan

SETTELMENT MONITORING POINT		
DESCRIPTION	NORTHING	EASTING
FS12	685304	603416
FS13	685208	603374
SP22	685182	603355
SP23	685359	603466
SP24	685359	603491
SP25	685072	603483

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA–7 FENCE AND SA–7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
5. LOCATION OF SA–7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

VI–2	INCLINOMETER LOCATION
FS12	SETTLEMENT MONITORING POINT FULL – SET UP
HS12	SETTLEMENT MONITORING POINT HALF – SET UP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA–7 PERIMETER POOL RISER PIPE

Revised/Date: TDD 08/30/15
Checked/Date: NDL 08/30/15

0 15 30 60
SCALE IN FEET

Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec

INSTRUMENTATION LOCATION PLAN
AREA 4N
Project 3480-13-0377
Figure E1

Attachment 4N-1

Baseline Surcharge Analysis for Monitoring Points

AREA 4N
BASELINE SURCHARGE ANALYSIS FOR MONITORING POINTS

SUMMARY OF EXISTING & PROPOSED GRADING, ESTIMATED SETTLEMENT DUE TO PROPOSED GRADE, DESIGN SURCHARGE, and ESTIMATED SECONDARY COMPRESSION

SURCHARGE MONITORING POINT	REFERENCE/NEARBY GEOTECHNICAL EXPLORATIONS	EXISTING & PROPOSED GRADING (At Surcharge Monitoring Point)			ESTIMATED SETTLEMENT DUE TO PROPOSED GRADE (100% Primary Consolidation)							SURCHARGE ANALYSIS (Targeting Removal of 100% Primary Consolidation Due to Proposed Grades)					ESTIMATED SECONDARY COMPRESSION		
					Soil Stratum						Total	Design			Analysis Results		Soil Stratum		Total
		Existing Grade (feet)	Proposed Grade (feet)	Top of Surcharge Grade (feet)	F (inches)	O (inches)	SF/O (inches)	D (inches)	S1 (inches)	RC (inches)	(inches)	Top of Surcharge Grade (feet)	Surcharge Height Above Existing Grade (feet)	Surcharge Height Above Proposed Grade (feet)	Estimated Surcharge Consolidation to Achieve 100% of Primary Consolidation Due to Proposed Grade (%)	Estimated Time to Achieve 100% of Primary Consolidation Due to Proposed Grade (months)	O (inches)	D (inches)	(inches)
N_FS-12	088-SB-307; 088-SB-306	12.9	14.4	16.5	0.5	0.0	0.0	0.7	0.0	0.0	1.2	**16.5**	**3.6**	**2.1**	**45%**	**0.4**	0.0	1.4	**1.4**
N_FS-13	088-SB-306; 115-SB-211	15.0	16.6	18.0	0.6	0.0	0.0	0.8	0.0	0.0	1.3	**18.0**	**3.0**	**1.4**	**56%**	**0.8**	0.0	1.7	**1.7**

Prepared By/Date: NDL/6-26-15
Checked By/Date:

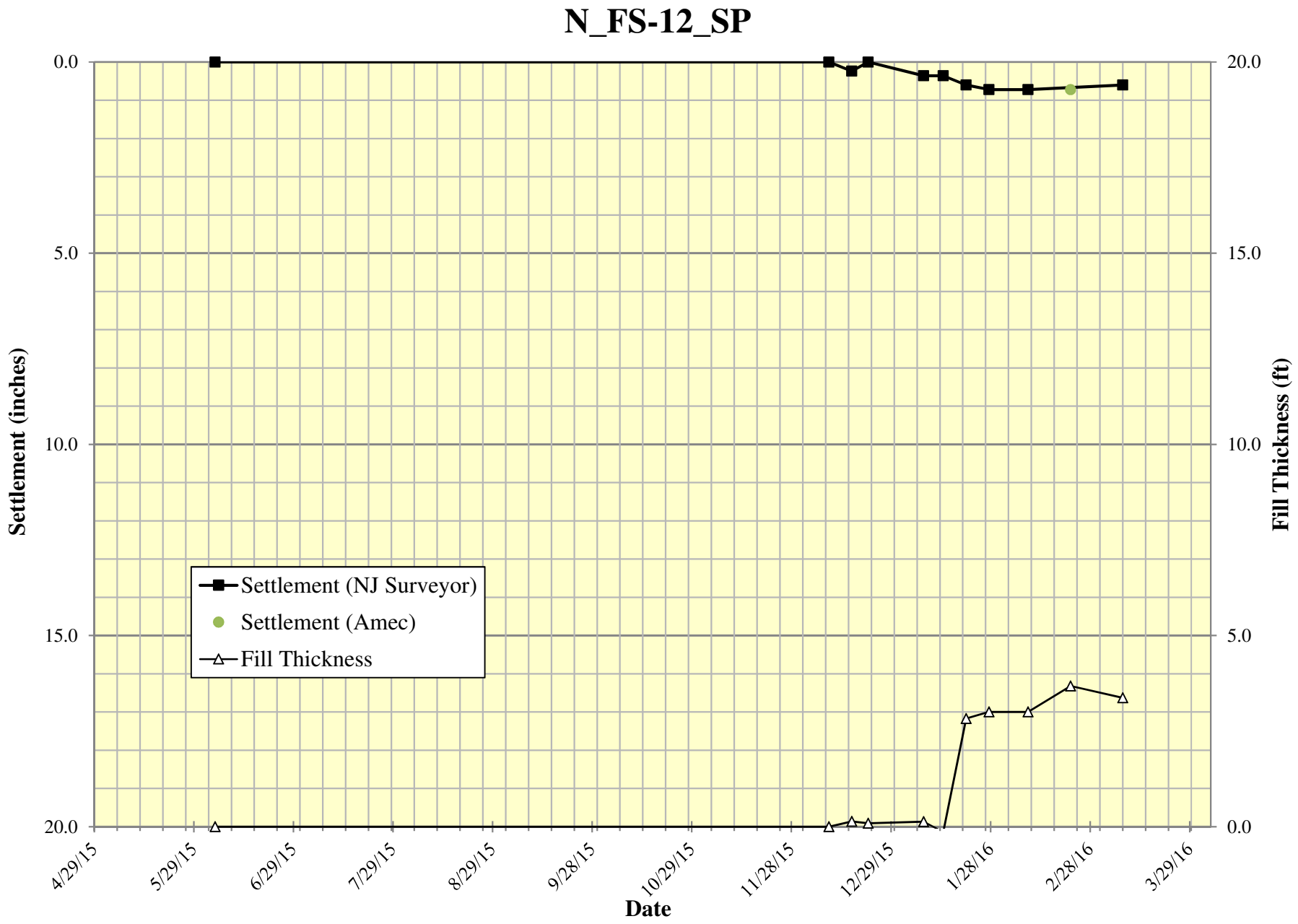
Attachment 4N-2

Surcharge Monitoring Data

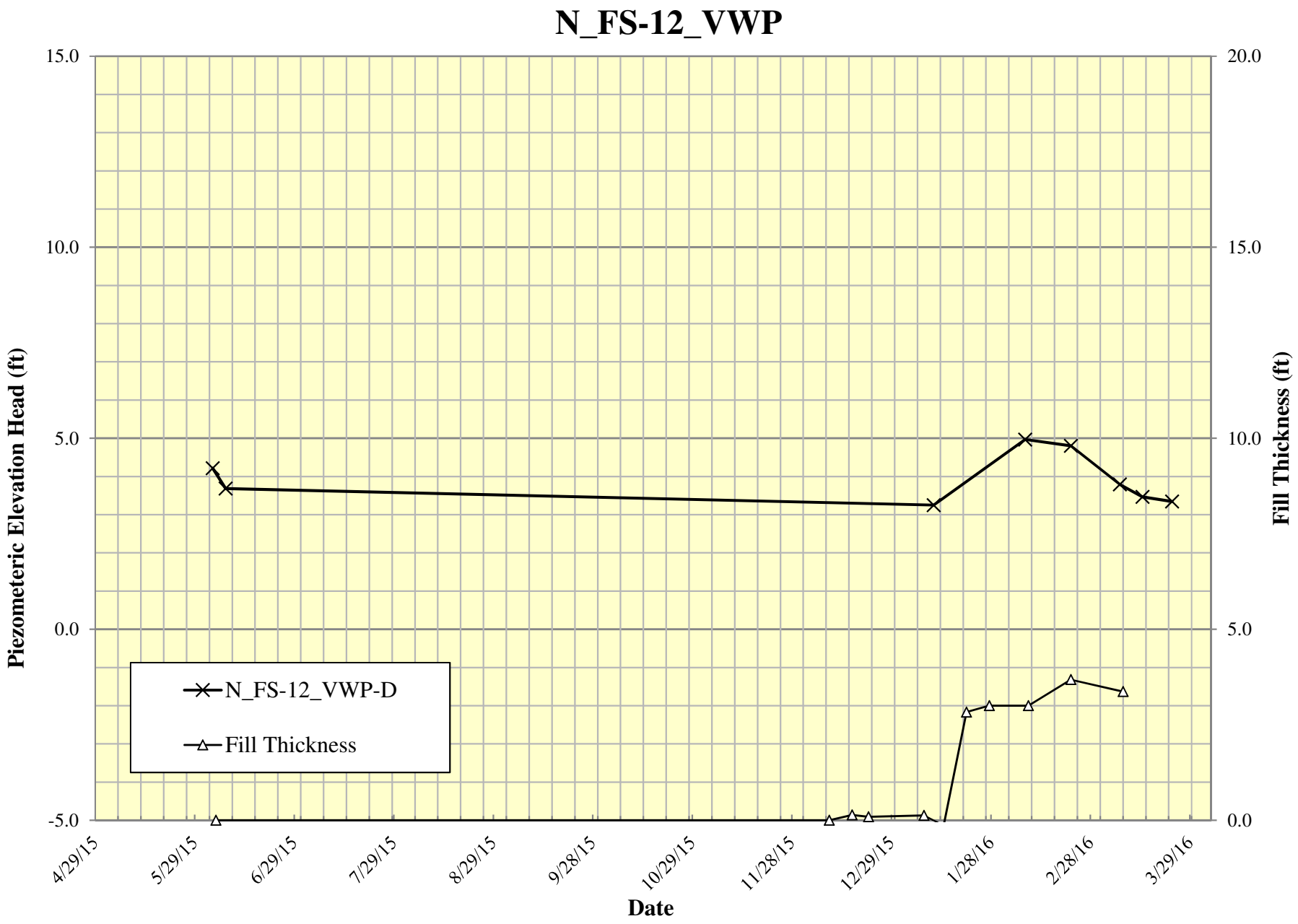
Surcharge Monitoring Data

N_FS-12

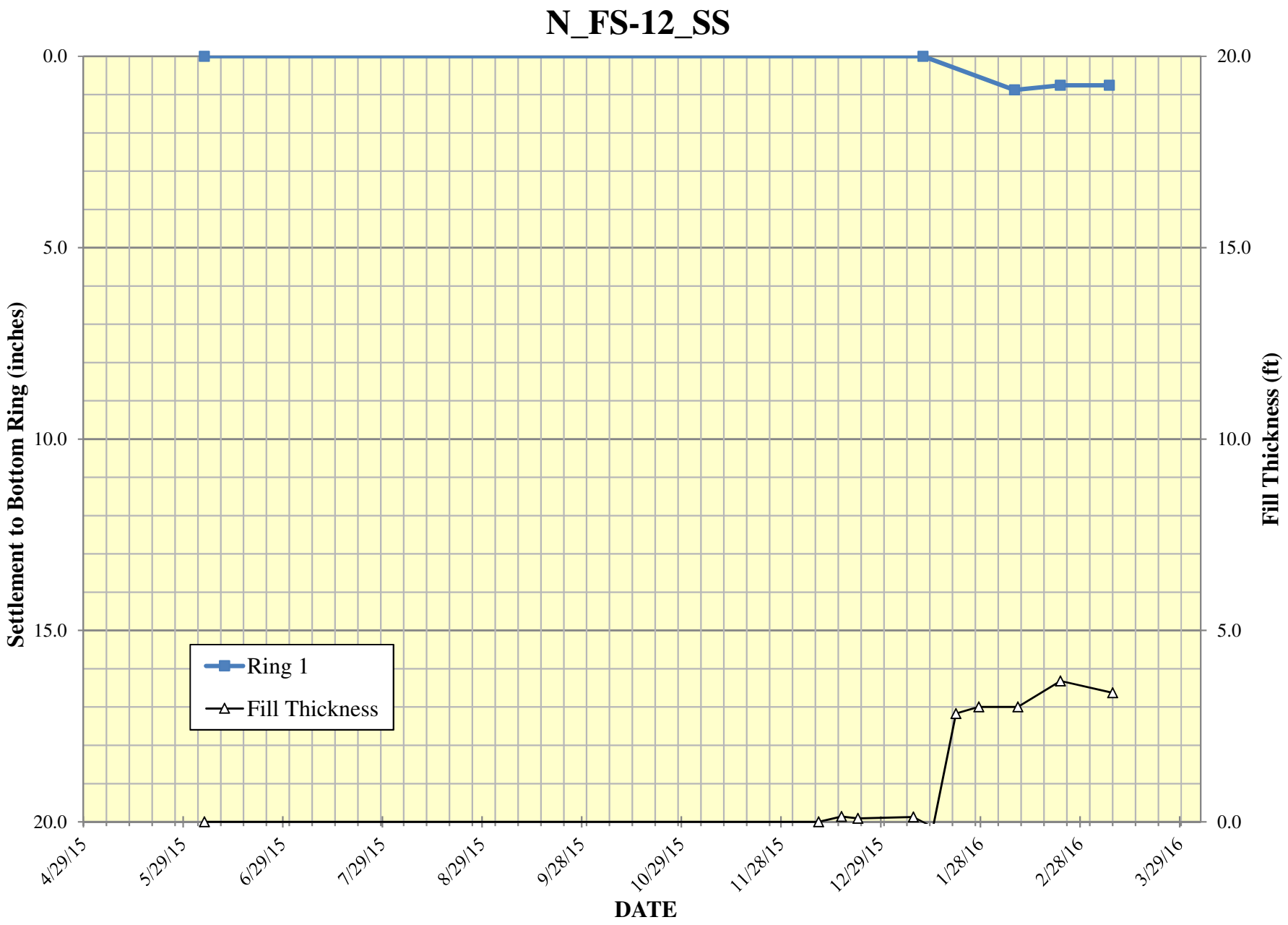
Settlement Platform Data Summary



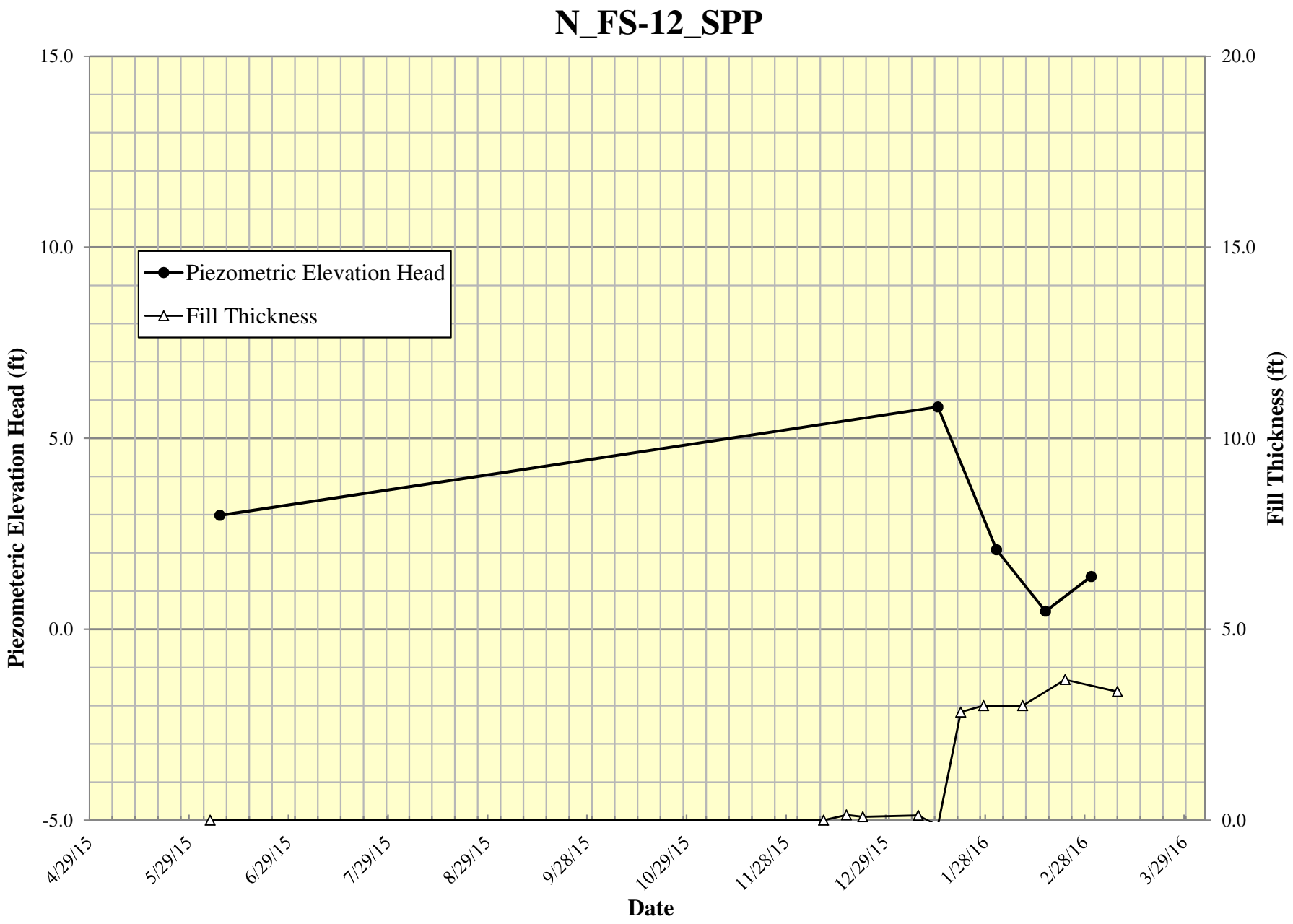
Vibrating Wire Piezometer Data Summary



Sondex System Data Summary



Standpipe Piezometer Data Summary

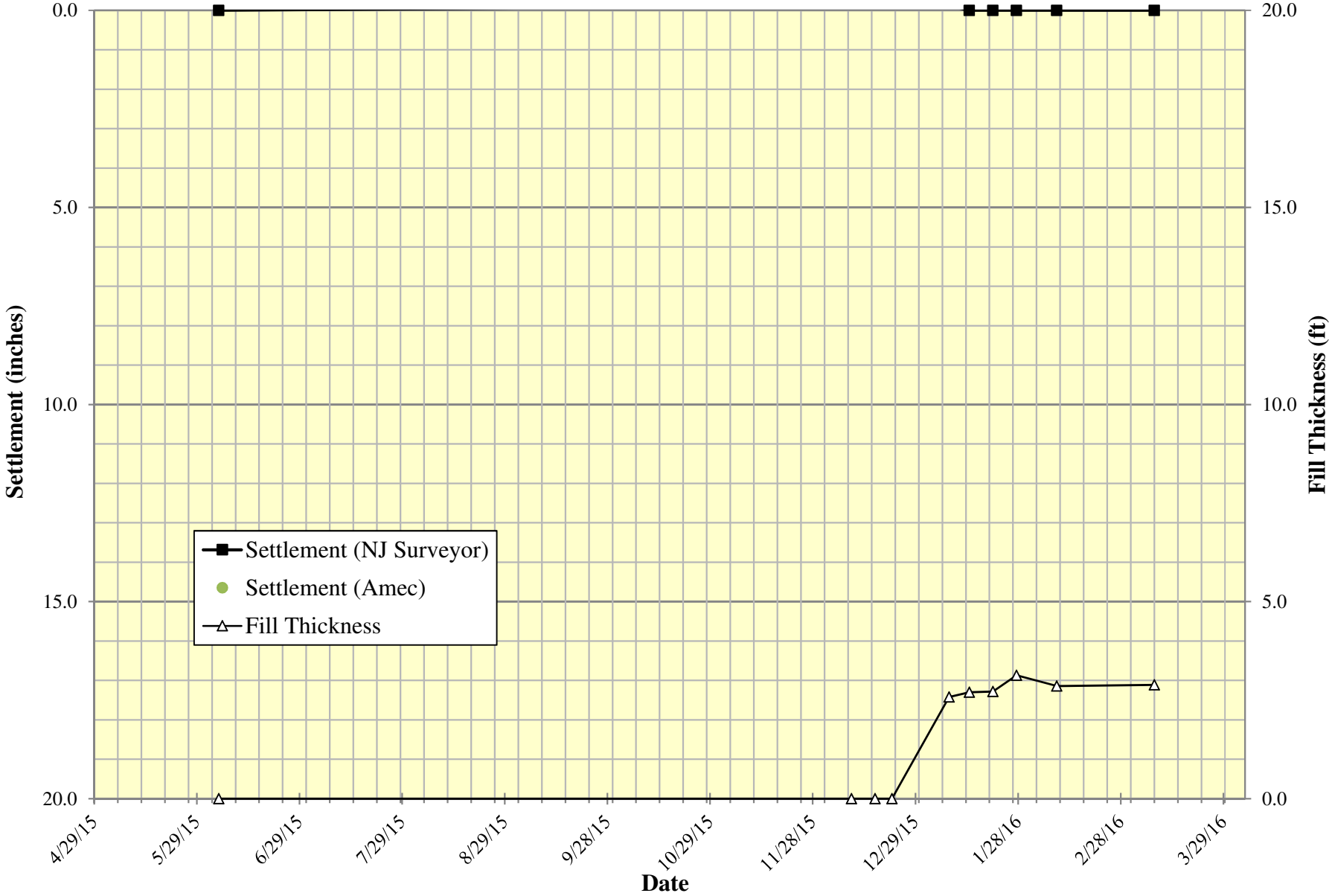


Surcharge Monitoring Data

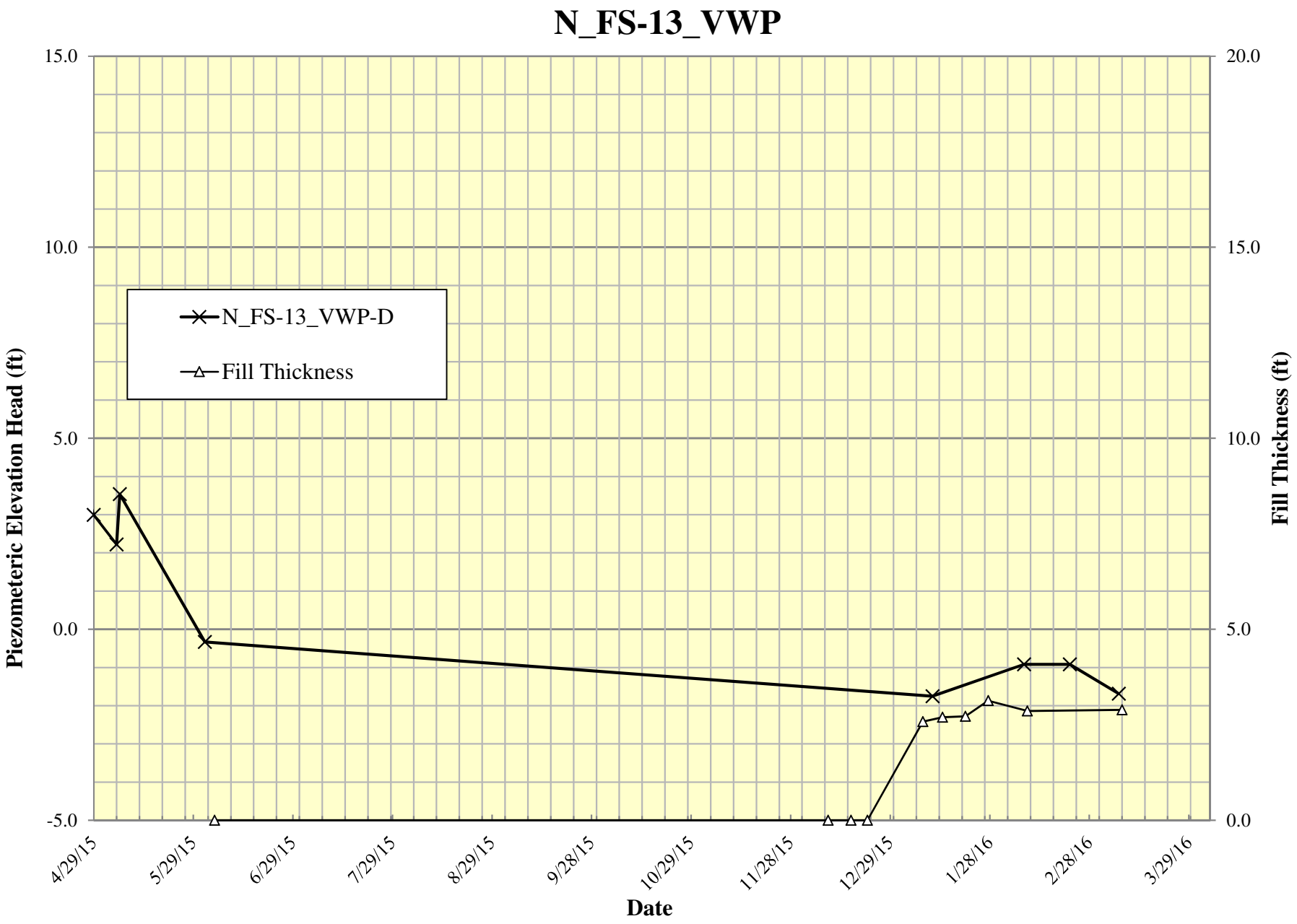
N_FS-13

Settlement Platform Data Summary

N_FS-13_SP



Vibrating Wire Piezometer Data Summary



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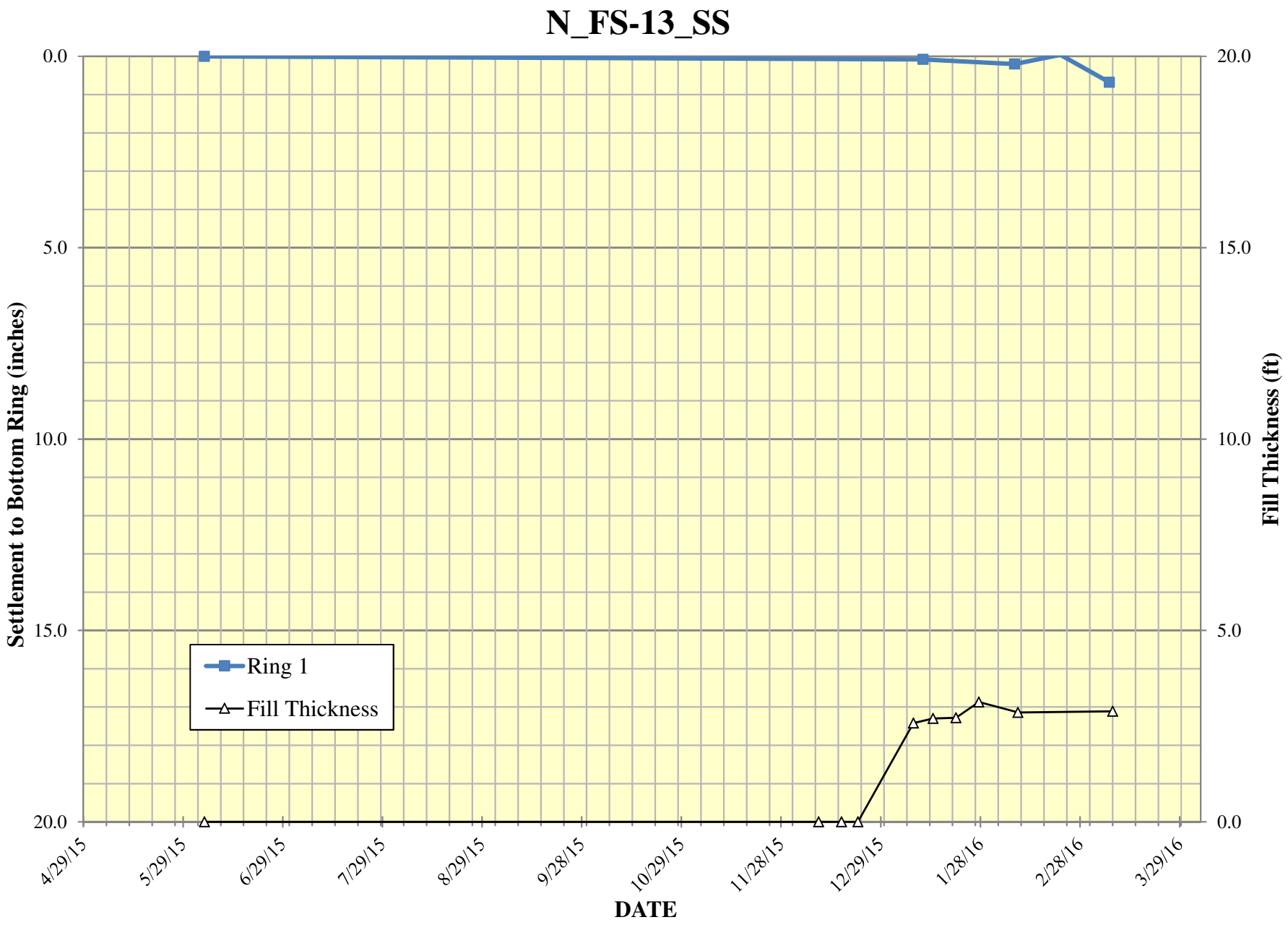
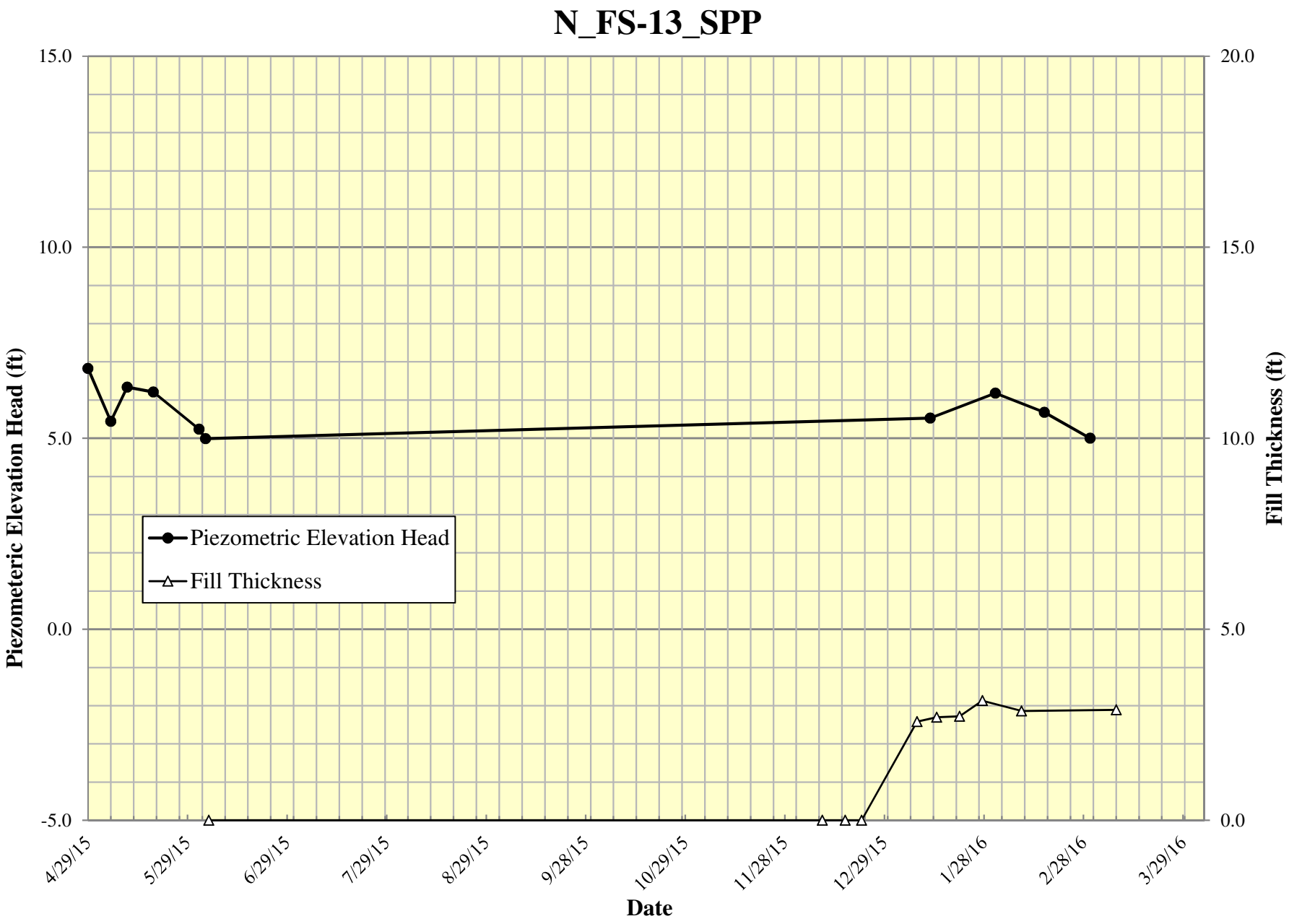


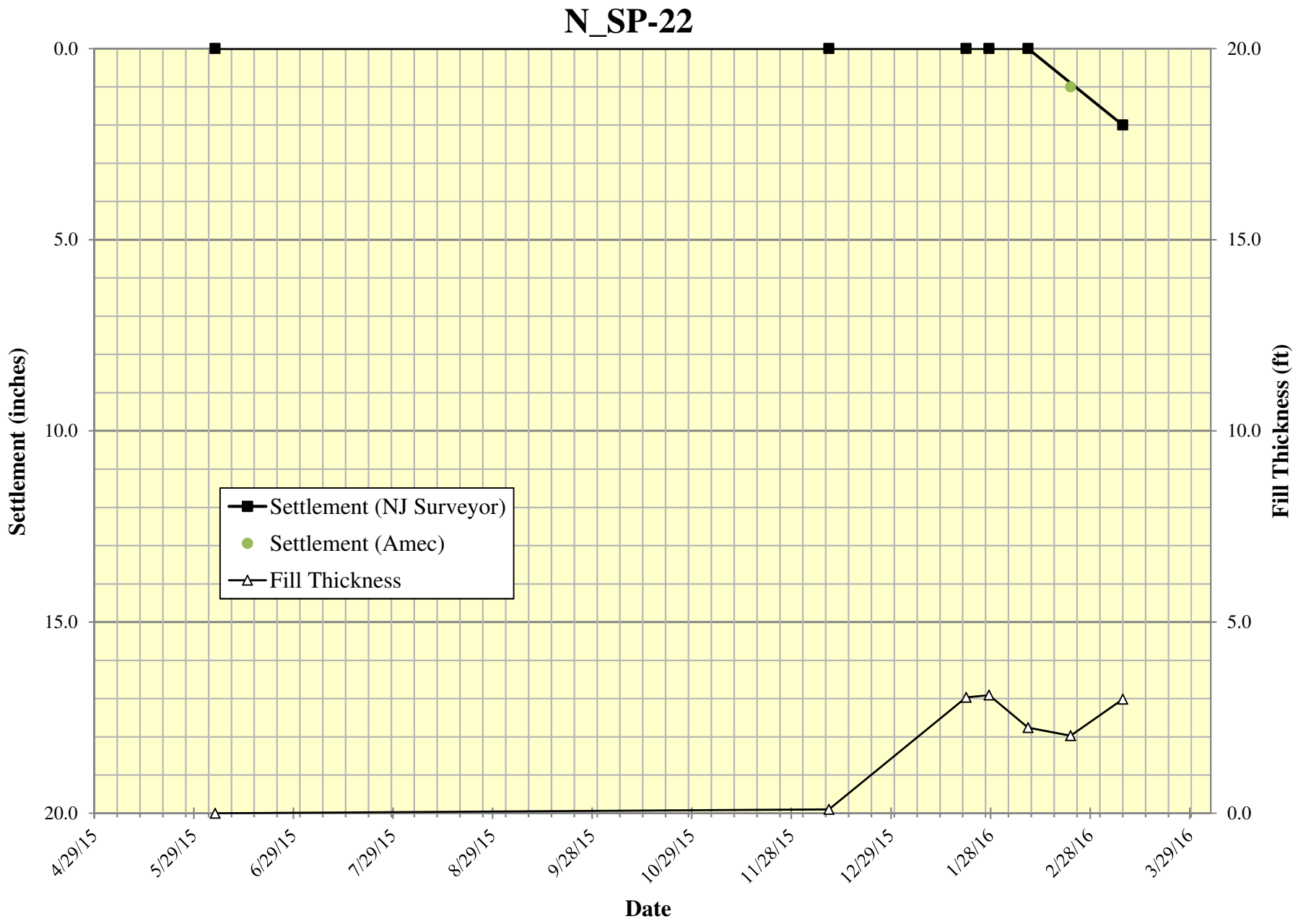
Standpipe Piezometer Data Summary



Surcharge Monitoring Data

N_SP-22

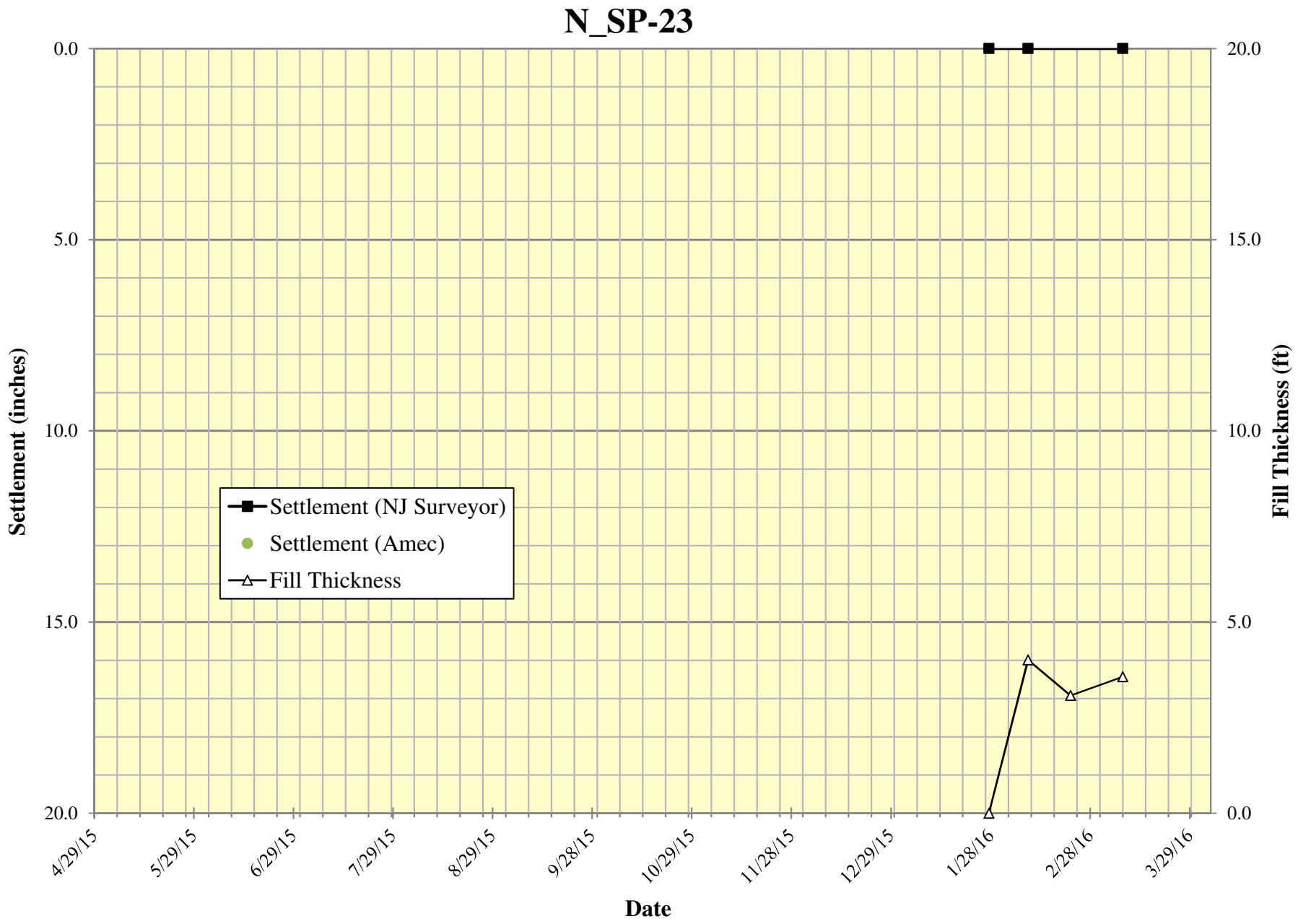
Settlement Platform Data Summary



Surcharge Monitoring Data

N_SP-23

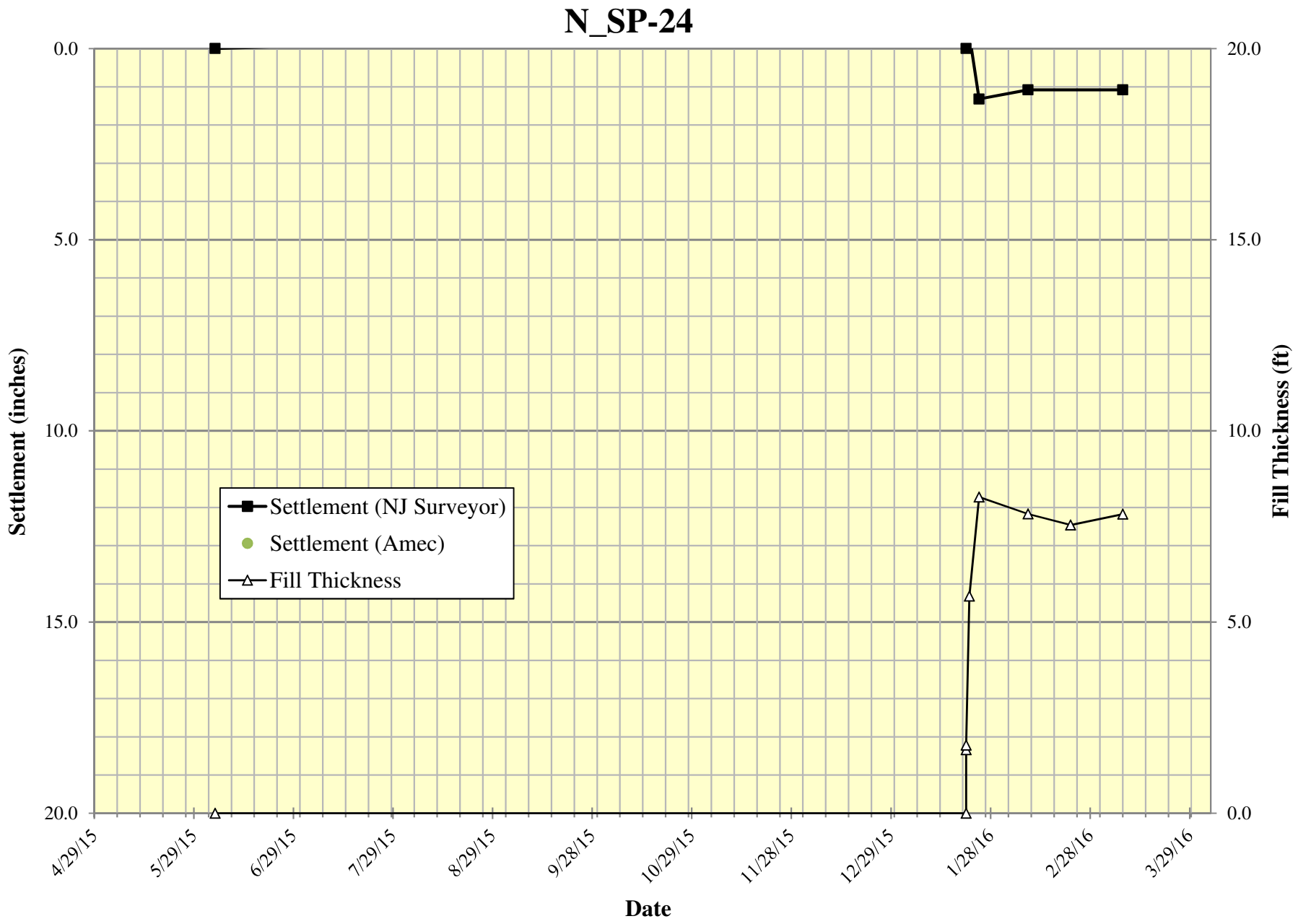
Settlement Platform Data Summary



Surcharge Monitoring Data

N_SP-24

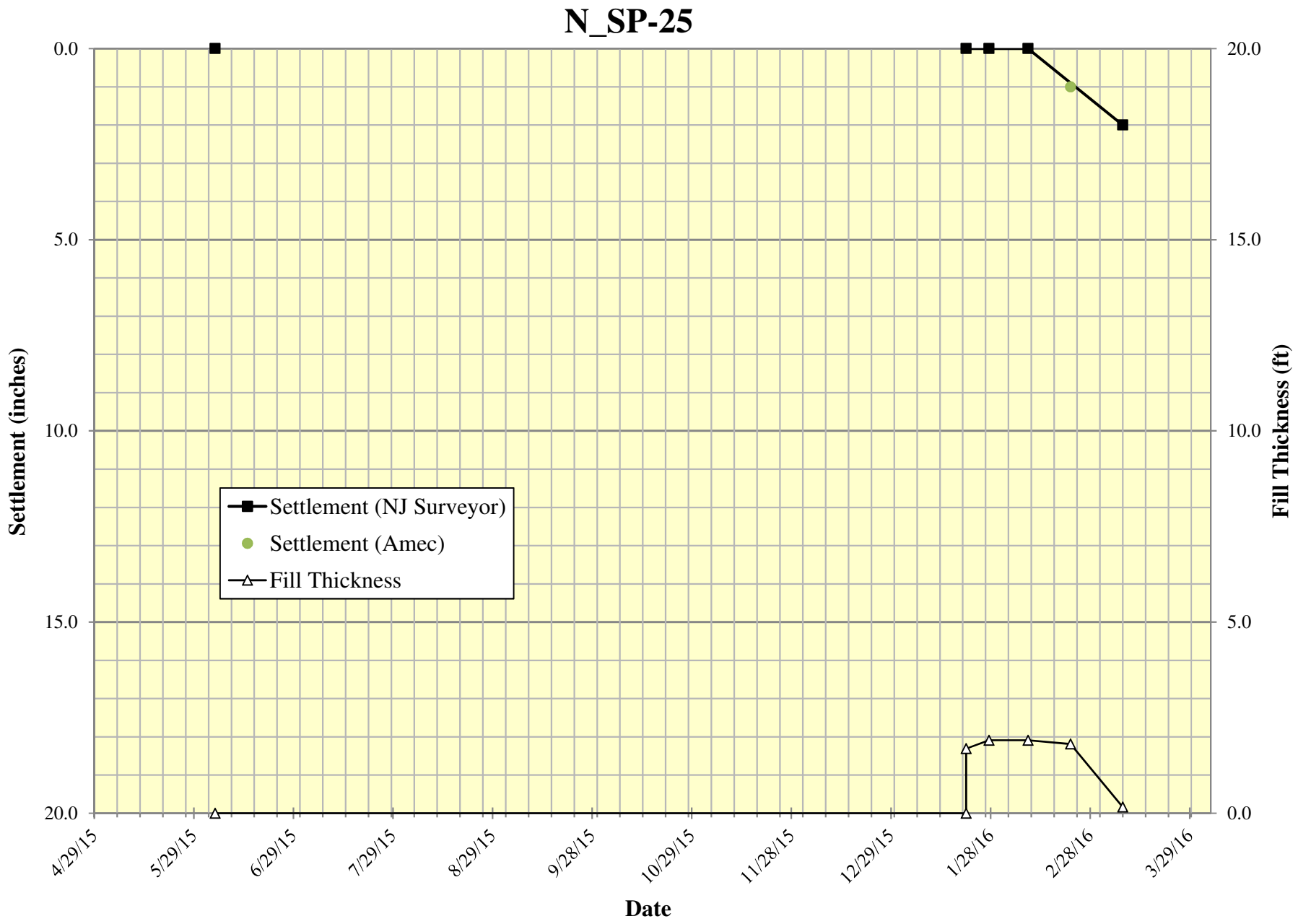
Settlement Platform Data Summary



Surcharge Monitoring Data

N_SP-25

Settlement Platform Data Summary



Attachment 4N-3

March 29, 2016 Mueser Rutledge Correspondence re:
Updated Area 3N and 4N Surcharge Review, SA-6 North, Jersey City, NJ

Mueser Rutledge Consulting Engineers

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March 29, 2016

AMEC Environment & Infrastructure
511 Congress Street
Portland Me 04101

Attn: Mr. Geoff Shallard

Re: Updated Area 3N and 4N Surcharge Review
SA-6 North
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

The Mueser Rutledge Consulting Engineers (MRCE) review of March 15th, 2016 AMEC settlement and piezometer monitoring data for Area 3N and 4N is summarized below:

AMEC indicated boring sampling was performed to define the soil profile and the Vibrating Wire Piezometer (VWP) was set at the center of the compressible layer, so that the pore water pressure reading is the most conservative for effective stress evaluation. All the effective stress calculations were made at the center of the layers.

MRCE used the latest measured elevation head dated March 15th, 2016 from "Vibrating Wire Piezometer – Data Report" to calculate the post-surcharge pore water pressures. Post-surcharge total stresses were calculated using fill thickness measurements from the "Settlement Platform – Data Report" taken on March 9th, 2016. Calculated post-surcharge effective stresses are presented in Table 1 and Table 2. MRCE compared the calculated post-surcharge effective stresses with the "Final Post-Development Conditions" effective stress estimates provided by AMEC. The defined goal of the surcharge program was to achieve an effective stress greater than "Final Post-Development Conditions."

This review finds that with the March 15, 2016 readings all settlement monitoring locations, including the two settlement locations, N_HS-11 in Area 3N (Table 1) and N_FS-12 in Area 4N (Table 2), have met the surcharge program goal. This finding is in agreement with the AMEC data review and interpretation.

Very truly yours,

MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, P.E.

F:\111\11173\2015 Surcharge Removal Review\MRCE Peer Review Area 3N and 4N final.pdf

FOR: SA-6 North Surcharge Monitoring Review

Table 1. Area 3N Surcharge Review

Settlement Monitoring Point	Layer	Existing EL. (ft)	Pre-Surcharge Conditions	Proposed Final Development Conditions	Date of Recording used in calculations		Fill Thickness (ft)	Elevation Head (ft)	Post-Surcharge Conditions			**MRCE**	**AMEC**
			Total Stress (psf)	Effective Stress (psf)	Fill Thickness	VWP Elevation			Total Stress (psf)	Pore Water Pressure (psf)	Effective Stress (psf)	**% Completion**	**% Completion**
N_FS-08	Center D	-7.0	2226.3	2400.5	2/9/2016	2/22/2016	11.8	7.0	3697.5	876.1	2821.4	**118%**	**114%**
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FOR: SA-6 North Surcharge Monitoring Review

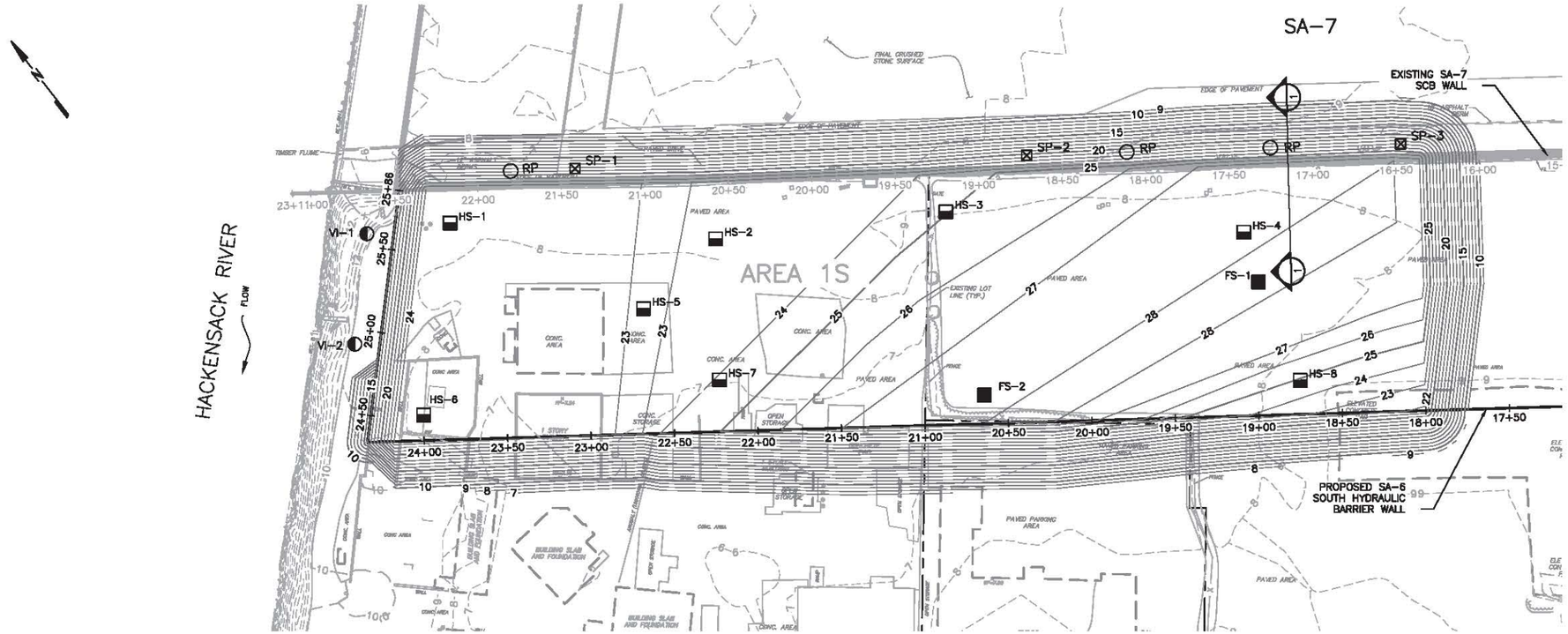
Table 2. Area 4N Surcharge Review

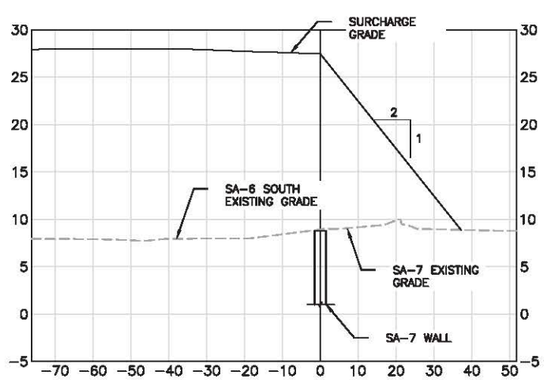
Settlement Monitoring Point	Layer	Existing EL. (ft)	Pre-Surcharge Conditions	Proposed Final Development Conditions	Date of Recording used in calculations		Fill Thickness (ft)	Elevation Head (ft)	Post-Surcharge Conditions			**MRCE**	**AMEC**
			Total Stress (psf)	Effective Stress (psf)	Fill Thickness	VWP Elevation			Total Stress (psf)	Pore Water Pressure (psf)	Effective Stress (psf)	**% Completion**	**% Completion**
N_FS-12	Center D	-4.1	1927.5	1869.2	3/9/2016	3/15/2016	3.4	3.5	2348.8	473.9	1874.9	**100%**	**101%**
N_FS-13	Center D	-4.6	2248.8	2063.8	1/28/2016	2/22/2016	3.1	-0.9	2640.0	232.2	2407.8	**117%**	**119%**

SURCHARGE AREA 1S
FIGURES & ATTACHMENTS

Figure 1S-1

Instrumentation Location Plan





SECTION 1-1

SETTELMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
FS-1	685274	601922
FS-2	685321	601752
HS-1	685597	601567
HS-2	685494	601682
HS-3	685422	601801
HS-4	685302	601934
HS-5	685488	601622
HS-6	685519	601480
HS-7	685413	601624
HS-8	685212	601906
VI-1	685825	601520
VI-2	685577	601473
SP-1	685579	601642
SP-2	685419	601860
SP-3	685286	602040

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

VI-2	INCLINOMETER LOCATION
FS-1	SETTLEMENT MONITORING POINT FULL – SET UP
HS-1	SETTLEMENT MONITORING POINT HALF – SET UP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE

0 20 40 80
SCALE IN FEET

Prepared/Date: RJR 10/117/14
Checked/Date: SGS 10/17/14

Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec

INSTRUMENTATION LOCATION PLAN
AREA 1S
Project 3480-12-0317
Figure F1

Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-CDR\CAD\SA6S\Figure - Surcharge Area1 Instrumentation Plan.dwg Fri, 17 Oct 2014 - 11:06am roger.fuller

Attachment 1S-1

Baseline Surcharge Analysis for Monitoring Points

AREA 1S
BASELINE SURCHARGE ANALYSIS FOR MONITORING POINTS

SUMMARY OF EXISTING & PROPOSED GRADING, ESTIMATED SETTLEMENT DUE TO PROPOSED GRADE, DESIGN SURCHARGE, and ESTIMATED SECONDARY COMPRESSION

SURCHARGE MONITORING STATION NO.	NEARBY EXPLORATION NO(s).	ELEVATION DATA (At Surcharge Monitoring Station)			ESTIMATED SETTLEMENT DUE TO PROPOSED GRADES (Primary Consolidation)							SURCHARGE ANALYSIS (Targeting Removal of 100% Primary Consolidation Due to Proposed Grades)					SECONDARY COMPRESSION		
		Existing Grade	Proposed Grade	Top of Surcharge Grade	Soil Stratum						Total	Design			Analysis Results		Soil Stratum		Total
					F	O	F-COPR	D	S1	RC		Top of Surcharge Grade	Surcharge Height Above Existing Grade	Surcharge Height Above Proposed Grade	Estimated Surcharge Consolidation to Achieve 100% of Primary Consolidation Due to Proposed Grade	Estimated Time to Achieve 100% of Primary Consolidation Due to Proposed Grade	O	D	
		(feet)	(feet)	(feet)	(inches)	(inches)	(inches)	(inches)	(inches)	(inches)	(inches)	(feet)	(feet)	(feet)	(%)	(months)	(inches)	(inches)	(inches)
S_FS-01	134-SB-503	7.9	20.5	28.0	2.5	3.2	0.0	9.6	1.6	0.9	17.8	**28.0**	**20.1**	**7.5**	**75%**	**5.3**	0.5	2.4	**2.9**
S_FS-02	073-SB-501	7.0	18.5	27.5	2.6	3.0	0.0	5.8	1.5	0.3	13.2	**27.5**	**20.5**	**9.0**	**69%**	**2.7**	0.5	1.7	**2.2**
S_HS-01	073-SB-005; 115-SB-202	8.3	22.0	24.0	3.0	3.1	0.0	3.4	1.4	1.4	12.3	**24.0**	**15.7**	**2.0**	**91%**	**3.1**	0.5	1.0	**1.5**
S_HS-02	073-PZ-001; 073-PZ-002; 115-SB-305; 115-SB-203	8.7	18.8	23.5	2.5	1.4	0.0	4.9	1.1	1.0	10.9	**23.5**	**14.9**	**4.8**	**76%**	**2.6**	0.3	1.7	**2.0**
S_HS-03	073-SB-501; 115-SB-306; 134-SB-503	8.1	18.3	25.0	1.8	4.8	0.0	7.8	1.3	0.3	16.1	**25.0**	**16.9**	**6.8**	**71%**	**6.4**	0.8	2.4	**3.2**
S_HS-04	134-SB-503; 115-SB-307	8.0	20.3	28.0	2.7	2.3	0.0	8.6	2.0	2.1	17.7	**28.0**	**20.0**	**7.8**	**74%**	**3.9**	0.4	2.2	**2.5**
S_HS-05	073-PZ-002; 073-CPT-003	9.2	19.0	23.0	2.0	3.0	0.0	3.3	1.0	1.4	10.8	**23.0**	**13.8**	**4.0**	**78%**	**2.8**	0.7	1.2	**1.9**
S_HS-06	073-SB-500; 073-CPT-001; 073-CPT-005	7.9	20.3	24.0	2.9	1.3	0.0	4.0	1.4	0.7	10.4	**24.0**	**16.2**	**3.8**	**84%**	**1.8**	0.2	1.2	**1.4**
S_HS-07	073-CPT-003	7.0	18.0	24.0	2.1	4.2	0.0	5.0	1.3	1.6	14.2	**24.0**	**17.0**	**6.0**	**75%**	**3.4**	0.7	1.4	**2.2**
S_HS-08	134-SB-500; 134-CPT-002	8.3	20.8	24.5	2.2	3.6	0.0	9.5	2.1	2.0	19.5	**24.5**	**16.2**	**3.8**	**85%**	**7.9**	0.5	2.4	**2.9**

Prepared By/Date: NDL/8-14-14

Checked By/Date:

Attachment 1S-2

October 27, 2014 Mueser Rutledge Correspondence re:
SA-6 South Surcharge Monitoring, Jersey City, NJ
(Previously Submitted Report No. 7)

Mueser Rutledge Consulting Engineers

14 Penn Plaza · 225 West 34th Street · New York, NY 10122
Tel: (917) 339-9300 · Fax: (917) 339-9400
www.mrce.com

Alfred H. Brand
David M. Cacoilo
Peter W. Deming
Roderic A. Ellman, Jr.
Francis J. Arland
Partners

David R. Good
Walter E. Kaeck
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Associates

Joseph N. Courtade
Director of Finance and Administration

Martha J. Huguet
Director of Marketing

October 27, 2014

Geoff Shallard
AMEC Environment & Infrastructure
511 Congress Street
Portland Me 04101

Re: SA-6 ~~North~~ Surcharge Monitoring
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

Mueser Rutledge Consulting Engineers (MRCE) reviewed the settlement and piezometer monitoring data related to Area 1S provided by AMEC, on October 17th 2014. MRCE's review of the available data is summarized below:

1. AMEC indicated boring sampling were performed and the Vibrating Wire Piezometer (VWP) was set at the center of the layer. Center of the layer provide the most conservative pore water pressure reading for the effective stress evaluation. All the effective stress calculations were made at the center of the layers.

2. MRCE used measured fill thickness dated 09/22/14 from provided "Settlement Platform – Data Report" and calculated the total stress as of 09/22/14 based on the fill thickness recorded on 09/22/14 and the "Historic Pre-Construction Conditions" total stresses provided by AMEC. MRCE evaluated the pore water pressures based on the piezometer reading on 09/23/14 from "Vibrating Wire Piezometer – Data Report" and calculated the effective stresses as of 09/23/14, as presented in Table 1.

3. MRCE compared calculated effective stresses of 09/23/14 with the effective stresses provided by AMEC for "Final Post-Development Conditions". The defined goal of surcharge program was to achieve an effective stress greater than the "Final Post-Development Conditions" effective stress. Percent completion computed by MRCE ("MRCE % Completion (09/23/14)" in Table 1) indicates effective stress compared to "Final Post-Development Conditions" effective stress; percent completion greater than 100 % indicates overconsolidation compared to "Final Post-Development Conditions" effective stress. Table 1 also presents percent completion evaluation of AMEC as of 09/26/14, "AMEC % Completion (09/26/14)" for comparison.

4. Settlement monitoring location S_FS-02 (highlighted in attached Table 1) has not yet met the surcharge program goal as of 09/23/14.

5. MRCE suggests leaving the surcharge on at S_FS-02 location until the pore water pressure dissipate such that the pore pressure head measured in the middle of Stratum D drops an additional 1.5 ft, or raising grade to increase the total stress to accelerate consolidation.

Very truly yours,

MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, P.E.

MP:F:\111\11173\2014 Surcharge Removal Review\SA 6_Area 1S_Surcharge Removal Review\MRCE SA-6 Surcharge Monitoring Review- Area 1S.docx

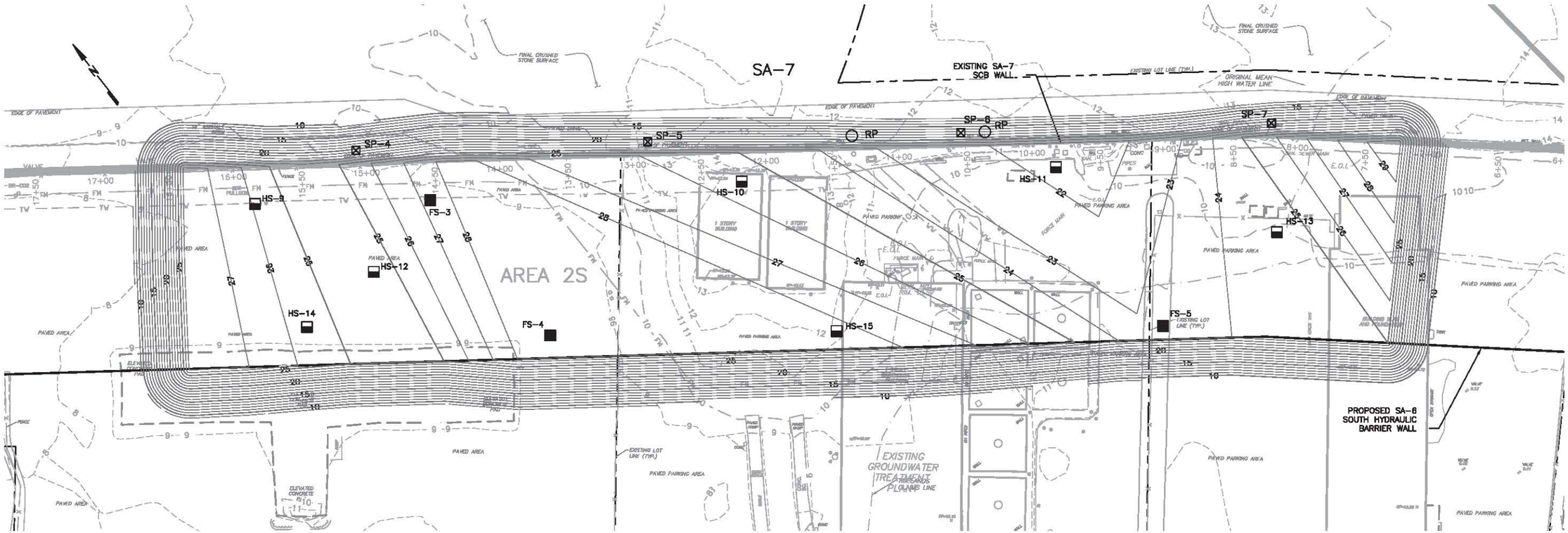
Table 1. MRCE SA-6 Surcharge Monitoring Review for Area 1S (09/23/14)

Source:		AMEC				Settlement Monitoring Data	VWP Monitoring Data	MRCE			MRCE	AMEC
Settlement Monitoring Point	Layer	Center of the Layer EL. (ft)	Pre-Surcharge Conditions Total Stress (psf)	Final Development Condition Effective Stress (psf)	Surcharge Conditions Effective Stress	Fill Thickness (ft)	Elevation Head (ft)	Total Stress 09/22/14 (psf)	Pore Water Pressure 09/23/14 (psf)	Effective Stress 09/23/14 (psf)	% Completion 09/23/14	% Completion 09/26/14
S_FS-01	Center D	-8.6	1852.5	2616.3	2451.0	17.15	-8.6	3996.3	1274.8	2721.4	104%	94%
S_FS-02	Center D	-11.16	2083.8	2627.1	2428.0	16.31	-11.16	4122.6	1509.5	2613.1	99%	92%
S_HS-01	Center D	-11.2	2260.0	3064.0	3196.0	15.31	-11.2	4173.8	891.7	3282.1	107%	104%
S_HS-02	Center D	-9.6	2103.8	2570.7	2774.0	15.22	-9.6	4006.3	1042.7	2963.6	115%	108%
S_HS-03	Center D	-9.4	1942.5	2400.1	2440.0	15.9	-9.4	3930.0	1347.2	2582.8	108%	102%
S_HS-04	Center D	-8.3	1841.3	2548.2	2595.0	15.54	-9	3783.8	1148.2	2635.6	103%	102%
S_HS-05	Center D	-8.5	2031.3	2583.0	2703.0	13.89	-9.3	3767.6	970.3	2797.2	108%	105%
S_HS-06	Center D	-10.4	2126.3	2880.7	3214.0	16.24	-11.15	4156.3	867.4	3288.9	114%	112%
S_HS-07	Center D	-9.5	1867.5	2493.7	2894.0	17.84	-9.5	4097.5	1007.8	3089.7	124%	116%
S_HS-08	Center D	-7.7	1787.5	2595.0	2707.0	16.29	-7.7	3823.8	963.5	2860.3	110%	104%

SURCHARGE AREA 2S
FIGURES & ATTACHMENTS

Figure 2S-1

Instrumentation Location Plan



NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

SETTLEMENT MONITORING POINTS

DESCRIPTION	NORTHING	EASTING
FS-3	685140	602174
FS-4	685005	602182
FS-5	684727	602549
HS-9	685219	602088
HS-10	685007	602367
HS-11	684870	602559
HS-12	685124	602107
HS-13	684730	602660
HS-14	685122	602042
HS-15	684875	602354
SP-4	685204	602153
SP-5	685074	602329
SP-6	684935	602519
SP-7	684797	602707

VI-2 INCLINOMETER LOCATION

FS-1 SETTLEMENT MONITORING POINT FULL – SET UP

HS-1 SETTLEMENT MONITORING POINT HALF – SET UP

SP-12 SETTLEMENT MONITORING PLATFORM

RP APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE

0 20 40 80
SCALE IN FEET

Prepared/Date: RJR 08/13/14
Checked/Date: TDD 08/13/14

Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec

INSTRUMENTATION LOCATION PLAN
AREA 2S
Project 3480-12-0317
Figure G1

Z:\Projects\HONEYWELL\JERSEY CITY\Dwg Design-SOB-2SN\CAD\AREA\Figure - Surcharge Area2 Instrumentation Plan.dwg Thu, 14 Aug 2014 - 12:49pm rajpar-rajular

Attachment 2S-1

Baseline Surcharge Analysis for Monitoring Point

AREA 2S
BASELINE SURCHARGE ANALYSIS FOR MONITORING POINTS

SUMMARY OF EXISTING & PROPOSED GRADING, ESTIMATED SETTLEMENT DUE TO PROPOSED GRADE, DESIGN SURCHARGE, and ESTIMATED SECONDARY COMPRESSION

SURCHARGE MONITORING STATION NO.	NEARBY EXPLORATION NO(s).	ELEVATION DATA (At Surcharge Monitoring Station)			ESTIMATED SETTLEMENT DUE TO PROPOSED GRADES (Primary Consolidation)							SURCHARGE ANALYSIS (Targeting Removal of 100% Primary Consolidation Due to Proposed Grades)					SECONDARY COMPRESSION		
		Existing Grade	Proposed Grade	Top of Surcharge Grade	Soil Stratum						Total	Design			Analysis Results		Soil Stratum		Total
					F	O	F-COPR	D	S1	RC		Top of Surcharge Grade	Surcharge Height Above Existing Grade	Surcharge Height Above Proposed Grade	Estimated Surcharge Consolidation to Achieve 100% of Primary Consolidation Due to Proposed Grade	Estimated Time to Achieve 100% of Primary Consolidation Due to Proposed Grade	O	D	
		(feet)	(feet)	(feet)	(inches)	(inches)	(inches)	(inches)	(inches)	(inches)	(inches)	(feet)	(feet)	(feet)	(%)	(months)	(inches)	(inches)	(inches)
S_FS-03	115-SB-308; 115-SB-309; 134-PZ-003; 134-PZ-004	8.3	19.5	27.5	2.3	2.8	0.0	8.6	1.9	1.4	17.0	**27.5**	**19.3**	**8.0**	**72%**	**3.9**	0.4	2.2	**2.6**
S_FS-04	134-SB-501; 140-CPT-001	8.5	20.0	28.0	2.2	2.2	0.0	12.3	1.7	1.0	19.4	**28.0**	**19.5**	**8.0**	**73%**	**6.3**	0.3	3.0	**3.3**
S_FS-05	140-SB-501; 140-CPT-003; 125-SB-501; S_HS-11	9.4	16.8	23.5	1.7	1.8	0.0	9.1	1.1	0.5	14.2	**23.5**	**14.1**	**6.8**	**65%**	**5.0**	0.4	3.0	**3.4**
S_HS-09	115-SB-204; 134-SB-503	8.0	18.8	26.0	2.2	2.8	0.0	8.6	1.8	1.9	17.3	**26.0**	**18.0**	**7.3**	**73%**	**4.0**	0.4	2.2	**2.6**
S_HS-10	115-SB-309; 140-CPT-001	13.4	22.0	25.5	2.2	1.3	0.0	3.0	0.6	1.0	8.0	**25.5**	**12.1**	**3.5**	**78%**	**1.7**	0.3	1.2	**1.5**
S_HS-11	115-SB-310; 115-SB-311; 140--CPT-003; 140-SB-501	9.8	19.5	22.0	2.4	2.5	0.0	3.8	0.6	0.6	9.9	**22.0**	**12.2**	**2.5**	**85%**	**2.9**	0.5	1.2	**1.7**
S_HS-12	134-SB-501; 134-CPT-003; 115-SB-308	8.6	19.8	25.0	2.4	2.1	0.0	9.1	1.3	1.2	16.2	**25.0**	**16.4**	**5.3**	**78%**	**5.8**	0.4	2.5	**2.9**
S_HS-13	125-SB-501; 125-CPT-001; 140-SB-501	9.8	19.0	24.5	2.0	2.3	0.0	8.6	1.0	0.7	14.5	**24.5**	**14.7**	**5.5**	**74%**	**5.0**	0.4	2.5	**2.9**
S_HS-14	134-CPT-003; S_HS-12; 134-SB-500; 134-SB-501	8.7	18.0	25.5	2.1	2.0	0.0	6.2	1.6	0.8	12.7	**25.5**	**16.8**	**7.5**	**68%**	**2.4**	0.4	1.8	**2.2**
S_HS-15	140-SB-500; 140-CPT-002	11.5	22.0	28.0	2.6	1.8	0.0	2.5	0.8	1.0	8.7	**28.0**	**16.5**	**6.0**	**73%**	**1.0**	0.4	0.8	**1.2**

Prepared By/Date: NDL/8-14-14

Checked By/Date:

Attachment 2S-2

February 6, 2015 Mueser Rutledge Correspondence re:
SA-6 South Surcharge Monitoring, Jersey City, NJ
(Previously submitted Report No. 10)

Mueser Rutledge
Consulting Engineers
14 Penn Plaza · 225 West 34th Street · New York, NY 10122
Tel: (917) 339-9300 · Fax: (917) 339-9400
www.mrce.com

David M. Cacoilo
Peter W. Deming
Roderic A. Ellman, Jr.
Francis J. Arland
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Tony D. Canale
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T. C. Michael Law
Andrew Pontecorvo
Renzo D. Verastegui
Alex Krutovskiy
Srinivas Yenamandra
Associates

Joseph N. Courtade
Director of Finance and Administration

Martha J. Huguet
Director of Marketing

February 06, 2015

AMEC Environment & Infrastructure
511 Congress Street
Portland Me 04101

Attention: Mr. Geoff Shallard

Re: Area 2S Surcharge Review
SA-6 North
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

The Mueser Rutledge Consulting Engineers (MRCE) review of February 06, 2015 AMEC settlement and piezometer monitoring data for Area 2S is summarized below:

AMEC indicated from borings and sampling the Vibrating Wire Piezometers (VWP) were set at the center of the compressible clay layer, which provides the most conservative pore water pressure reading for the effective stress evaluation. All the stress calculations are at the center of the compressible layers.

MRCE used latest measured elevation head dated between January 12-29, 2015 from "Vibrating Wire Piezometer – Data Report" to calculate the post-surcharge pore water pressures. Post-surcharge total stresses were calculated based on the fill thickness measurements from the "Settlement Platform – Data Report" taken at corresponding dates, between January 14-30, 2015. Calculated post-surcharge effective stresses are presented in Table 1. MRCE compared the calculated post-surcharge effective stresses with the "Final Post-Development Conditions" effective stress estimates provided by AMEC. The defined goal of surcharge program was to achieve an effective stress greater than the "Final Post-Development Conditions."

This review finds all Area 2S monitoring locations have met the surcharge program goal as of 01/30/2015.

Very truly yours,
MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, P.E.

MP:[illegible]\11173\2014 Surcharge Removal Review\SA-6_Area 2S_Surcharge Removal Review\MRCE Review- Area 2S.docx

Table 1. MRCE SA-6 Surcharge Monitoring Review for Area 2S

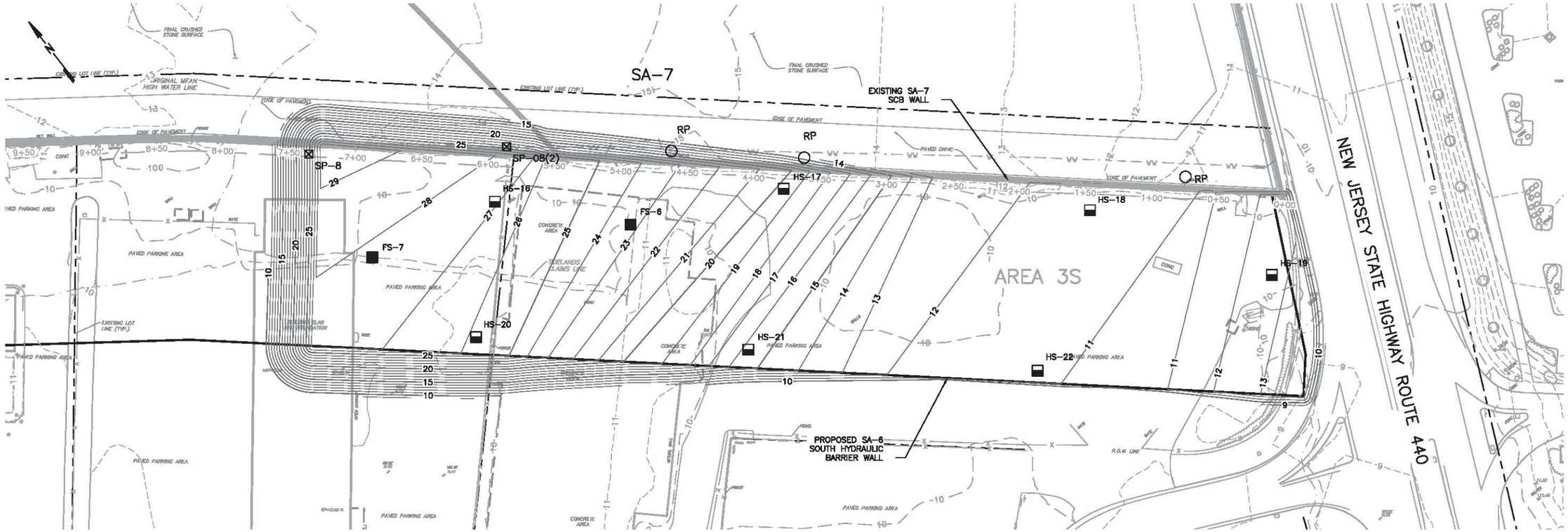
Settlement Monitoring Point	Layer	Existing EL (ft)	Pre-Surcharge Conditions	Proposed Final Development Conditions	Date of Recording used in calculations		Fill Thickness (ft)	Elevation Head (ft)	Post-Surcharge Conditions			MRCE	AMEC
			Total Stress (psf)	Effective Stress (psf)	Fill Thickness	VWP Elevation			Total Stress (psf)	Pore Water Pressure (psf)	Effective Stress (psf)	% Completion	% Completion
S_FS-03	Center O	-3.3	1332.5	2208.4	1/14/2015	1/12/2015	19.7	9.9	3798.8	823.7	2975.1	135%	-
	Top D	-5.8	1525.0	2291.7			19.7	13.0	3991.3	1172.5	2818.8	123%	-
	Center D	-7.0	1716.3	2342.5			19.7	13.4	4182.6	1273.6	2909.0	124%	145%
	Bottom D	-8.3	1907.5	2393.4			19.7	6.5	4373.8	926.0	3447.7	144%	-
S_FS-04	Center O	-1.5	1204.5	2223.3	1/23/2015	1/18/2015	19.8	7.6	3683.3	566.0	3117.3	140%	-
	Top D	-4.5	1353.0	2287.6			19.8	12.4	3831.8	1050.2	2781.6	122%	-
	Center D	-6.2	1620.8	2358.7			19.8	13.0	4099.6	1196.8	2902.7	123%	134%
	Bottom D	-7.7	1888.5	2429.9			19.8	10.6	4367.3	1143.8	3223.5	133%	-
	RC	-46.5	6613.5	4771.3			19.8	3.9	9092.3	3147.5	5944.8	125%	-
S_FS-05	Center O	-0.6	1185.0	1696.9	1/30/2015	1/29/2015	14.5	5.9	2992.5	406.8	2585.7	152%	-
	Top D	-3.6	1350.0	1768.3			14.5	8.1	3157.5	730.1	2427.4	137%	-
	Center D	-5.1	1617.8	1839.5			14.5	20.3	3425.3	1583.1	1842.2	100%	115%
	Bottom D	-6.6	1885.5	1910.7			14.5	9.8	3693.0	1022.7	2670.3	140%	-
S_HS-09	Center O	-4.0	1272.5	2097.7	1/14/2015	1/12/2015	18.2	9.1	3547.5	818.7	2728.8	130%	-
	Center D	-8.0	1656.3	2231.9			18.2	6.4	3931.3	896.7	3034.6	136%	156%
S_HS-10	Center O	-2.1	1831.3	2384.9	1/14/2015	1/12/2015	12.6	6.6	3406.3	545.4	2860.9	120%	-
	Center D	-4.4	2088.8	2478.6			12.6	10.2	3663.8	912.3	2751.5	111%	131%
S_HS-11	Center O	-5.2	1660.0	2218.6	1/14/2015	1/12/2015	12.8	9.0	3253.8	887.3	2366.4	107%	-
	Center D	-7.5	1986.3	2342.0			12.8	7.4	3580.1	927.9	2652.2	113%	132%
	RC	-50.2	7257.5	4930.1			12.8	3.8	8851.3	3372.7	5478.5	111%	-
S_HS-12	Center O	-3.9	1485.0	2350.9	1/14/2015	1/12/2015	15.9	10.1	3477.5	871.7	2605.8	111%	-
	Center D	-7.9	1875.3	2482.1			15.9	9.4	3867.8	1076.4	2791.4	112%	130%
	RC	-52.4	7238.0	5077.5			15.9	1.8	9230.5	3382.1	5848.4	115%	-
S_HS-13	Center O	-2.0	1261.5	1962.8	1/30/2015	1/292015	16.0	17.0	3255.3	1183.7	2071.5	106%	-
	Center D	-5.2	1664.0	2100.1			16.0	14.9	3657.8	1253.6	2404.1	114%	129%
S_HS-14	Center O	-2.0	1365.0	2023.3	1/14/2015	1/12/2015	17.6	10.6	3563.8	783.7	2780.0	137%	-
	Center D	-6.3	1691.5	2137.6			17.6	10.4	3890.3	1039.6	2850.7	133%	148%
S_HS-15	Center O	-2.8	1858.8	2539.5	1/14/2015	1/12/2015	16.6	11.5	3928.8	889.8	3039.0	120%	-
	Center D	-6.8	2111.9	2636.6			4181.9	964.7	3217.2	122%	3217.2	122%	140%

"Note that the Amec calculations referenced by MRCE were subsequently updated. Please refer to Table 2S-1 for the final values used. The correction does not impact the conclusion."

SURCHARGE AREA 3S
FIGURES & ATTACHMENTS

Figure 3S-1

Instrumentation Location Plan



SETTLEMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
FS-6	684538	602919
FS-7	684638	602751
HS-16	684614	602849
HS-17	684488	603027
HS-18	684333	603198
HS-19	684211	603277
HS-20	684543	602776
HS-21	684409	602931
HS-22	684263	603093
~~SP-8~~	~~684728~~	~~602761~~
SP-08(2)	684642	602882

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

VI-2	INCLINOMETER LOCATION
FS-1	SETTLEMENT MONITORING POINT FULL – SET UP
HS-1	SETTLEMENT MONITORING POINT HALF – SET UP
SP-12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE

0 20 40 80
SCALE IN FEET

Prepared/Date: RJR 03/17/15
Checked/Date: TDD 03/17/15

Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec

INSTRUMENTATION LOCATION PLAN
AREA 3S
Project 3480-12-0317
Figure H1

Attachment 3S-1

Baseline Surcharge Analysis for Monitoring Point

AREA 3S
BASELINE SURCHARGE ANALYSIS FOR MONITORING POINTS

SUMMARY OF EXISTING & PROPOSED GRADING, ESTIMATED SETTLEMENT DUE TO PROPOSED GRADE, DESIGN SURCHARGE, and ESTIMATED SECONDARY COMPRESSION

SURCHARGE MONITORING POINT	REFERENCE/NEARBY GEOTECHNICAL EXPLORATIONS	EXISTING & PROPOSED GRADING (At Surcharge Monitoring Point)			ESTIMATED SETTLEMENT DUE TO PROPOSED GRADE (100% Primary Consolidation)							SURCHARGE ANALYSIS (Targeting Removal of 100% Primary Consolidation Due to Proposed Grades)					ESTIMATED SECONDARY COMPRESSION		
		Existing Grade	Proposed Grade	Top of Surcharge Grade	Soil Stratum						Total	Design			Analysis Results		Soil Stratum		Total
					F	O	F-COPR	D	S1	RC		Top of Surcharge Grade	Surcharge Height Above Existing Grade	Surcharge Height Above Proposed Grade	Estimated Surcharge Consolidation to Achieve 100% of Primary Consolidation Due to Proposed Grade	Estimated Time to Achieve 100% of Primary Consolidation Due to Proposed Grade	O	D	
		(feet)	(feet)	(feet)	(inches)	(inches)	(inches)	(inches)	(inches)	(inches)	(inches)	(feet)	(feet)	(feet)	(%)	(months)	(inches)	(inches)	(inches)
S_FS-06	115-SB-313; 124-SB-503; 125-SB-500; 125-CPT-002	9.9	18.5	23.5	1.9	0.9	0.0	9.1	0.7	0.6	13.3	**23.5**	**13.7**	**5.0**	**74%**	**5.3**	0.2	2.9	**3.1**
S_FS-07	125-SB-500; 125-CPT-002; 115-SB-312	9.8	21.3	27.5	2.2	2.2	0.0	9.1	1.0	0.7	15.1	**27.5**	**17.8**	**6.3**	**77%**	**4.4**	0.3	2.3	**2.6**
S_HS-16	125-SB-500; 125-CPT-002; 115-SB-312; 115-SB-313	9.7	22.3	27.0	2.3	1.2	0.0	11.8	1.4	0.8	17.5	**27.0**	**17.3**	**4.8**	**82%**	**6.7**	0.2	2.8	**3.0**
S_HS-17	124-SB-503; 115-SB-207	9.2	15.8	19.5	1.4	1.6	0.0	5.3	0.4	0.2	9.0	**19.5**	**10.3**	**3.8**	**73%**	**3.1**	0.4	1.9	**2.3**
S_HS-18	124-SB-503; 115-SB-315; 115-SB-208	9.7	10.0	11.5	0.1	0.0	0.0	0.3	0.0	0.0	0.5	**11.5**	**1.8**	**1.5**	**17%**	**0.1**	0.0	1.9	**1.9**
S_HS-19	124-CPT-003; 124-SB-502; 124-SB-501	9.4	10.3	12.5	0.4	0.0	0.0	0.8	0.1	0.0	1.3	**12.5**	**3.1**	**2.3**	**32%**	**0.2**	0.0	1.4	**1.4**
S_HS-20	125-SB-500; 125-CPT-002	8.8	21.8	25.5	2.4	1.5	0.0	9.8	1.6	0.8	16.1	**25.5**	**16.7**	**3.8**	**86%**	**5.0**	0.2	2.2	**2.4**
S_HS-21	124-SB-500; 124-SB-503; 124-CPT-001	9.7	13.8	16.0	1.3	0.4	0.0	3.6	0.4	0.3	6.0	**16.0**	**6.3**	**2.3**	**71%**	**2.4**	0.2	2.0	**2.2**
S_HS-22	124-SB-501; 124-CPT-002; 124-CPT-001; 124-SB-500	9.9	10.0	11.5	0.1	0.0	0.0	0.1	0.0	0.0	0.2	**11.5**	**1.6**	**1.5**	**9%**	**0.0**	0.1	1.7	**1.8**

Prepared By/Date: NDL/03-18-14

Checked By/Date: TCC/03-20-14

Attachment 3S-2

April 24, 2015 Mueser Rutledge Correspondence re:
SA-6 South Surcharge Monitoring, Jersey City, NJ

Mueser Rutledge Consulting Engineers

14 Penn Plaza · 225 West 34th Street · New York, NY 10122
Tel: (917) 339-9300 · Fax: (917) 339-9400
www.mrce.com

David M. Cacoilo
Peter W. Deming
Roderic A. Ellman, Jr.
Francis J. Arland
David R. Good
Walter E. Kaeck
Partners

Tony D. Canale
Jan Cermak
Sitotaw Y. Fantaye
Associate Partners

Alfred H. Brand
James L. Kaufman
Hugh S. Lacy
Joel Moskowitz
George J. Tamaro
Elmer A. Richards
John W. Fowler
Consultants

Domenic D'Argenzio
Robert K. Radske
Ketan H. Trivedi
Hiren J. Shah
Alice Arana
Joel L. Volterra
Sissy Nikolaou
Anthony DeVito
Frederick C. Rhyner
Senior Associates

Douglas W. Christie
Gregg V. Piazza
Pablo V. Lopez
Steven R. Lowe
James M. Tantalla
Andrew R. Tognon
T. C. Michael Law
Andrew Pontecorvo
Renzo D. Verastegui
Alex Krutovskiy
Srinivas Yenamandra
Associates

Joseph N. Courtade
Director of Finance and Administration

Martha J. Huguet
Director of Marketing

April 24, 2015

AMEC Environment & Infrastructure
511 Congress Street
Portland Me 04101

Attention: Mr. Geoff Shallard

Re: Area 3S Surcharge Review
SA-6 South
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

The Mueser Rutledge Consulting Engineers (MRCE) review of March 30, 2015 AMEC settlement and piezometer monitoring data for Area 3S is summarized below:

AMEC indicated from borings and sampling the Vibrating Wire Piezometers (VWP) were set at the center of the compressible clay layer, which provides the most conservative pore water pressure reading for the effective stress evaluation. All the stress calculations are at the center of the compressible layers.

MRCE used latest measured elevation head dated between March 24-13, 2015 from "Vibrating Wire Piezometer – Data Report" to calculate the post-surcharge pore water pressures. Post-surcharge total stresses were calculated based on the fill thickness measurements from the "Settlement Platform – Data Report" taken on March 19, 2015. Calculated post-surcharge effective stresses are presented in Table 1. MRCE compared the calculated post-surcharge effective stresses with the "Final Post-Development Conditions" effective stress estimates provided by AMEC. The defined goal of surcharge program was to achieve an effective stress greater than the "Final Post-Development Conditions."

This review finds all Area 3S monitoring locations have met the surcharge program goal as of 03/30/2015.

Very truly yours,

MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, P.E.

MP:F:\111\11173\2014 Surcharge Removal Review\SA-6_Area 3S\MRCE Review-Area 3S-April15.docx

Table 1. MRCE SA-6 South Surcharge Monitoring Review for Area 3S (April 2015)

Settlement Monitoring Point	Layer	Existing EL (ft)	Pre-Surcharge Conditions	Proposed Final Development Conditions	Date of Recording used in calculations		Fill Thickness (ft)	Elevation Head (ft)	Post-Surcharge Conditions			MRCE	AMEC
			Total Stress (psf)	Effective Stress (psf)	Fill Thickness	VWP Elevation			Total Stress (psf)	Pore Water Pressure (psf)	Effective Stress (psf)	% Completion	% Completion
S_FS-06	Top D	-2.7	1365.0	2031.3	3/19/2015	3/24/2015	14.3	6.6	3148.8	574.1	2574.7	127%	-
	Center D	-3.9	1620.0	2099.1			14.3	7.2	3403.8	693.3	2710.5	129%	127%
	Bottom D	-5.2	1875.0	2166.9			14.3	9.6	3658.8	919.8	2739.0	126%	-
S_FS-07	Center O	-0.8	1234.0	2256.5	3/19/2015	3/24/2015	16.9	4.8	3346.5	348.9	2997.6	133%	-
	Top D	-3.0	1388.0	2323.2			16.9	5.2	3500.5	510.7	2989.8	129%	-
	Center D	-4.3	1587.8	2376.3			16.9	11.8	3700.3	999.5	2700.8	114%	113%
	Bottom D	-5.5	1787.5	2429.4			16.9	6.9	3900.0	775.1	3124.9	129%	-
	RC	-34.3	5220.0	4145.9			16.9	3.4	7332.5	2352.4	4980.1	120%	-
S_HS-16	Center O	-0.6	1222.5	2420.6	3/19/2015	3/24/2015	18.0	5.3	3472.5	368.2	3104.3	128%	-
	Center D	-4.1	1551.5	2521.8			18.0	14.7	3801.5	1173.1	2628.4	104%	104%
S_HS-17	Center D	-3.8	1460.0	1750.9	3/19/2015	3/24/2015	10.3	7.4	2743.8	697.6	2046.1	117%	117%
S_HS-18	Center D	-2.5	1406.0	969.9	3/19/2015	3/24/2015	3.5	3.6	1841.0	382.5	1458.5	150%	150%
S_HS-19	Center D	-0.6	1207.5	844.5	3/19/2015	3/24/2015	3.0	4.9	1578.8	345.1	1233.7	146%	143%
S_HS-20	Center O	-1.2	1209.5	2392.7	3/19/2015	3/24/2015	15.1	5.3	3093.3	403.7	2689.5	112%	-
	Center D	-4.4	1494.3	2484.0		3/13/2015	15.1	9.7	3378.0	878.6	2499.4	101%	101%
S_HS-21	Center D	-4.3	1581.5	1503.7	3/19/2015	3/24/2015	6.1	1.6	2339.0	367.5	1971.5	131%	132%
S_HS-22	Center D	-2.6	1436.8	966.3	3/19/2015	3/24/2015	1.7	4.6	1651.8	450.5	1201.2	124%	124%

B&B Drilling. Inc.

PO Box 8
Netcong, New Jersey 07857

PH 973 347-2250
FX 973 347-3864
www.hrsdrilling.com

April 26, 2016

Amec Foster Wheeler E&I, Inc.
200 American Metro Boulevard
Hamilton, New Jersey 08619

Attention: Eric Christodoulatos

Reference: Settlement Platform Decommissioning
Honeywell Site, Jersey City, New Jersey

Dear Eric,

B&B Drilling, Inc. (B&B) decommissioned settlement platforms at the north and south surcharge areas. Although settlement platforms were not NJDEP-permitted wells they were decommissioned in accordance with the NJDEP regulations for well abandonment (N.J.A.C. 7:9D-3.1). The only difference is that no formal decommissioning report submission to NJDEP was required.

Settlement platforms were constructed with a 1-inch galvanized steel casing inside a 4-inch PVC casing. A portion of the annular space between the 1 and 4-inch pipes was filled with bentonite when originally constructed. The decommissioning consisted of pressure tremie grouting both the 1-inch inner casing and the remaining open annular space in the 4-inch casings at each settlement platform.

Yours truly,

Andrew Wadden
Operations Manager

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317969

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Honeywell Sa-6 North

Address: 525 St. Rt. 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602109 Northing (Y): 686123
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: VI-1

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: INCLINOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 50

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
LATION
DETAIL 11-
11- 2013.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: December 9, 2013
Expiration Date: December 9, 2014

Well Permit Number
E201317969

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	Please see Engineers Design Documentation
Unusual Conditions:	Please see Engineers Design Documentation
Reason for Deviation:	Please see Engineers Design Documentation
Proposed Well Construction	Please see Engineers Design Documentation

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317970

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Honeywell Sa-6 North

Address: 525 St. Rt. 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602049 Northing (Y): 686029
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: VI-2

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: INCLINOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 50

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
LATION
DETAIL 11-
11- 2013.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: December 9, 2013
Expiration Date: December 9, 2014

Well Permit Number
E201317970

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	Please see Engineers Design Documentation
Unusual Conditions:	Please see Engineers Design Documentation
Reason for Deviation:	Please see Engineers Design Documentation
Proposed Well Construction	Please see Engineers Design Documentation

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
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The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201318265

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: SA-6 NORTH

Address: 575 ST RT 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602504 Northing (Y): 685960
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: VI-3

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: INCLINOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 50

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
LATION
DETAIL 11-
11- 2013.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: December 13, 2013
Expiration Date: December 13, 2014

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	Please see Engineers Design Documentation
Unusual Conditions:	Please see Engineers Design Documentation
Reason for Deviation:	Please see Engineers Design Documentation
Proposed Well Construction	Please see Engineers Design Documentation

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506822

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 575 State Route 440 SA-6 North

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602703 Northing (Y): 685860
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: VI-4

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: INCLINOMETER

Other Use(s):

Diameter (in.): 3.34

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 60

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
LATION DETAIL 11-11- 2013.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: June 18, 2015
Expiration Date: June 17, 2016

WELL PERMIT

%%:activity_class_well%%

DEVIATION INFORMATION	
Purpose:	This installation is part of an ongoing site remediation activity on which several like Inclinometers have previously been approved. Please see attached, Site Engineer's descriptive documentation.
Unusual Conditions:	The proposed borehole diameter and grout mix do not comply with current NJDEP regulations. Please see attached, Site Engineer's descriptive documentation.
Reason for Deviation:	Please see attached, Site Engineer's descriptive documentation.
Proposed Well Construction	Please see attached, Site Engineer's descriptive documentation.

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317969

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Honeywell Sa-6 North

Address: 525 St. Rt. 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602109 Northing (Y): 686123
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: March 14, 2014

DATE WELL COMPLETED: March 17, 2014

WELL USE: INCLINOMETER

Other Use(s):

Local ID: VI-1

WELL CONSTRUCTION

Total Depth Drilled (ft.): 60 Finished Well Depth (ft.): 60 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	60	6		
Casing	0	60	3.34	PVC	INCLINOMETER CASING
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	60	6	3.34	20	860	50
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 12 ft. below land surface
Water Level Measure Tool: M-SCOPE IN ADJACENT WELL
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 15: BRN GC - Clayey gravels, gravel-sand-clay mixtures FILL
15 - 20: BRN-GRAY SM - Silty sands, sand-silt mixtures
20 - 25: BRN-BLK OL - Organic silts and organic silty clays of low plasticity
25 - 60: RED - BRN SP - Poorly graded sands and gravelly sands, little or no fines

ADDITIONAL INFORMATION: Inclinometer Well was installed in compliance with an approved NJDEP Deviation Request.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317970

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Honeywell Sa-6 North

Address: 525 St. Rt. 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602049 Northing (Y): 686029
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: March 18, 2014

DATE WELL COMPLETED: March 19, 2014

WELL USE: INCLINOMETER

Other Use(s):

Local ID: VI-2

WELL CONSTRUCTION

Total Depth Drilled (ft.): 50 Finished Well Depth (ft.): 50 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	50	6		
Casing	0	50	3.34	PVC	INCLINOMETER CASING
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	50	6	3.34	1	700	40
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 10 ft. below land surface
Water Level Measure Tool: M-SCOPE IN ADJACENT WELL
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 10: BRN GC - Clayey gravels, gravel-sand-clay mixtures FILL
10 - 20: BRN-BLK SM - Silty sands, sand-silt mixtures
20 - 25: BLK-GRAY OL - Organic silts and organic silty clays of low plasticity
25 - 50: RED-BRN SP - Poorly graded sands and gravelly sands, little or no fines

ADDITIONAL INFORMATION: Inclinometer Well was installed in compliance with an approved NJDEP Deviation Request.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201318265

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: SA-6 NORTH

Address: 575 ST RT 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602504 Northing (Y): 685960
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: March 20, 2014
DATE WELL COMPLETED: March 21, 2014

WELL USE: INCLINOMETER

Other Use(s):

Local ID: VI-3

WELL CONSTRUCTION

Total Depth Drilled (ft.): 55 Finished Well Depth (ft.): 55 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	55	6		
Casing	0	55	3.34	PVC	INCLINOMETER CASING
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	55	6	3.34	5	780	45
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 10 ft. below land surface
Water Level Measure Tool: M-SCOPE IN ADJACENT WELL
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL-B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 10: BRN GC - Clayey gravels, gravel-sand-clay mixtures FILL
10 - 17: BRN-BLK SM - Silty sands, sand-silt mixtures
17 - 25: BLK-GRAY OL - Organic silts and organic silty clays of low plasticity
25 - 55: GRAY SP - Poorly graded sands and gravelly sands, little or no fines

ADDITIONAL INFORMATION: Inclinometer Well was installed in compliance with an approved NJDEP Deviation Request.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506822

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 575 State Route 440 SA-6 North

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602703 Northing (Y): 685860
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 19, 2015
DATE WELL COMPLETED: June 19, 2015

WELL USE: INCLINOMETER

Other Use(s):

Local ID: VI-4

WELL CONSTRUCTION

Total Depth Drilled (ft.): 47 Finished Well Depth (ft.): 47 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	47	6		
Casing	0	47	3.34	PVC	INCLINOMETER CASING
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	47	6	3.34	10	670	38
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 10 ft. below land surface
Water Level Measure Tool: M-SCOPE
Well Development Period: 0 hrs.
Method of Development: AIR LIFT
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 10: BRN GC - Clayey gravels, gravel-sand-clay mixtures FILL
10 - 16: BRN-BLK SM - Silty sands, sand-silt mixtures
16 - 18: BLK-GRAY OL - Organic silts and organic silty clays of low plasticity
18 - 47: RED-BRN SP - Poorly graded sands and gravelly sands, little or no fines

ADDITIONAL INFORMATION: Inclinometer Well was installed in compliance with an approved NJDEP Deviation Request.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317959

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Honeywell SA-6 North

Address: 525 St Rt 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602115 Northing (Y): 685981
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 8, 2016

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-1

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 40

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	40	3.34	PVC	sondex casing
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	40	3.34	0	0	200	11
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317960

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Honeywell SA-6 North

Address: 525 St Rt 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602694 Northing (Y): 685850
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 8, 2016

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-3

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 40

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	40	3.34	PVC	sondex casing
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	40	3.34	0	0	200	11
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317961

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Honeywell SA-6 North

Address: 525 St Rt 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602723 Northing (Y): 685723
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 8, 2016

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-4

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 32

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	32	3.34	PVC	sondex casing
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	32	3.34	0	0	160	9
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317965

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Honeywell SA-6 North

Address: 575 St. Rt 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602450 Northing (Y): 685863
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 8, 2016

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-2

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 55

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	55	3.34	PVC	sondex casing
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	55	3.34	0	0	275	15
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401546

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: Honeywell SA-6 North

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602745 Northing (Y): 685595
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 28, 2016

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-5

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 42

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	42	3.34	PVC	sondex casing
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	42	3.34	0	0	210	12
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Gordon Blewett
JOURNEYMAN
LICENSE # 0021852

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401547

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: Honeywell SA-6 North

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602890 Northing (Y): 685557
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 28, 2016

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-6

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 32

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	32	3.34	PVC	sondex casing
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	32	3.34	0	0	160	9
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Gordon Blewett
JOURNEYMAN
LICENSE # 0021852

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401548

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: Honeywell SA-6 North

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603001 Northing (Y): 685445
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 28, 2016

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-7

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 32

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	32	3.34	PVC	sondex casing
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	32	3.34	0	0	160	9
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Gordon Blewett
JOURNEYMAN
LICENSE # 0021852

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401549

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: Honeywell SA-6 North

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603094 Northing (Y): 685406
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 28, 2016

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-8

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 35

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	35	3.34	PVC	sondex casing
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	35	3.34	0	0	175	10
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Gordon Blewett
JOURNEYMAN
LICENSE # 0021852

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401550

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: Honeywell SA-6 North

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603127 Northing (Y): 685501
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 28, 2016

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-9

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 33

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	33	3.34	PVC	sondex casing
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	33	3.34	0	0	164	9
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Gordon Blewett
JOURNEYMAN
LICENSE # 0021852

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401551

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: Honeywell SA-6 North

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603166 Northing (Y): 685858
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 28, 2016

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-10

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 34

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	34	3.34	PVC	sondex casing
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	34	3.34	0	0	170	10
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Gordon Blewett
JOURNEYMAN
LICENSE # 0021852

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201503233

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: Honeywell SA-6 North

Address: 501 ROUTE 440 SA-6 NORTH

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603339 Northing (Y): 685387
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 29, 2016

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: NFS11-SD

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 35

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	35	3.34	PVC	sondex casing
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	35	3.34	0	0	175	10
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Gordon Blewett
JOURNEYMAN
LICENSE # 0021852

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201503235

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: Honeywell SA-6 North

Address: 501 ROUTE 440 SA-6 NORTH

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603408 Northing (Y): 685429
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 29, 2016

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: NFS12-SD

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 30

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	30	3.34	PVC	sondex casing
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	30	3.34	0	0	150	8.5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Gordon Blewett
JOURNEYMAN
LICENSE # 0021852

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201503236

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: Honeywell SA-6 North

Address: 501 ROUTE 440 SA-6 NORTH

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603316 Northing (Y): 685253
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 29, 2016

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: NFS13-SD

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 42

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	42	3.34	PVC	sondex casing
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	42	3.34	0	0	210	12
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Gordon Blewett
JOURNEYMAN
LICENSE # 0021852

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317959

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Honeywell SA-6 North

Address: 525 St Rt 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602115 Northing (Y): 685981
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: SD-1

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: EXTENSOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 50

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
sondex settlement system.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: December 9, 2013
Expiration Date: December 9, 2014

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	Please see Engineers Design Documentation
Unusual Conditions:	Please see Engineers Design Documentation
Reason for Deviation:	Please see Engineers Design Documentation
Proposed Well Construction	Please see Engineers Design Documentation

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317960

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Honeywell SA-6 North

Address: 525 St Rt 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602694 Northing (Y): 685850
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: SD-3

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: EXTENSOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 50

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
sondex settlement system.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approval Date: December 9, 2013
Expiration Date: December 9, 2014

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	Please see Engineers Design Documentation
Unusual Conditions:	Please see Engineers Design Documentation
Reason for Deviation:	Please see Engineers Design Documentation
Proposed Well Construction	Please see Engineers Design Documentation

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317961

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Honeywell SA-6 North

Address: 525 St Rt 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602723 Northing (Y): 685723
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: SD-4

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: EXTENSOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 50

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
sondex settlement system.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approval Date: December 9, 2013
Expiration Date: December 9, 2014

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	Please see Engineers Design Documentation
Unusual Conditions:	Please see Engineers Design Documentation
Reason for Deviation:	Please see Engineers Design Documentation
Proposed Well Construction	Please see Engineers Design Documentation

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
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In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317965

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Honeywell SA-6 North

Address: 575 St. Rt 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602450 Northing (Y): 685863
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: SD-2

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: EXTENSOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 50

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
sondex settlement system.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: December 9, 2013
Expiration Date: December 9, 2014

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	Please see Engineers Design Documentation
Unusual Conditions:	Please see Engineers Design Documentation
Reason for Deviation:	Please see Engineers Design Documentation
Proposed Well Construction	Please see Engineers Design Documentation

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
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If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
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In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
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This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401546

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Honeywell SA-6 North

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602745 Northing (Y): 685595
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: SD-5

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: EXTENSOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 50

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
Sondex
Figure A2.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: February 6, 2014
Expiration Date: February 6, 2015

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	Please see attached Engineers Design Documentation
Unusual Conditions:	Please see attached Engineers Design Documentation
Reason for Deviation:	Please see attached Engineers Design Documentation
Proposed Well Construction	Please see attached Engineers Design Documentation

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
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In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
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This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401547

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Honeywell SA-6 North

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602890 Northing (Y): 685557
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: SD-6

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: EXTENSOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 50

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
Sondex
Figure A2.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: February 6, 2014
Expiration Date: February 6, 2015

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	Please see attached Engineers Design Documentation
Unusual Conditions:	Please see attached Engineers Design Documentation
Reason for Deviation:	Please see attached Engineers Design Documentation
Proposed Well Construction	Please see attached Engineers Design Documentation

GENERAL CONDITIONS/REQUIREMENTS
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This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401548

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Honeywell SA-6 North

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603001 Northing (Y): 685445
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: SD-7

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: EXTENSOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 50

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
Sondex
Figure A2.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: February 6, 2014
Expiration Date: February 6, 2015

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	Please see attached Engineers Design Documentation
Unusual Conditions:	Please see attached Engineers Design Documentation
Reason for Deviation:	Please see attached Engineers Design Documentation
Proposed Well Construction	Please see attached Engineers Design Documentation

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201503230

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Honeywell SA-6 North

Address: 501 ROUTE 440 SA-6 NORTH

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603094 Northing (Y): 685406
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: NFS8-SD

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: EXTENSOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 50

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
sondex settlement system.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: April 8, 2015
Expiration Date: April 7, 2016

Well Permit Number
E201503230

WELL PERMIT

%%:activity_class_well%%

DEVIATION INFORMATION	
Purpose:	Please see engineer's design documentation attached.
Unusual Conditions:	Please see engineer's design documentation attached.
Reason for Deviation:	Please see engineer's design documentation attached.
Proposed Well Construction	Please see engineer's design documentation attached.

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
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The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401549

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Honeywell SA-6 North

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603094 Northing (Y): 685406
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: SD-8

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: EXTENSOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 50

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
Sondex
Figure A2.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: February 6, 2014
Expiration Date: February 6, 2015

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	Please see attached Engineers Design Documentation
Unusual Conditions:	Please see attached Engineers Design Documentation
Reason for Deviation:	Please see attached Engineers Design Documentation
Proposed Well Construction	Please see attached Engineers Design Documentation

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
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For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
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In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
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This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401550

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Honeywell SA-6 North

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603127 Northing (Y): 685501
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: SD-9

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: EXTENSOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 50

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
Sondex
Figure A2.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: February 6, 2014
Expiration Date: February 6, 2015

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	Please see attached Engineers Design Documentation
Unusual Conditions:	Please see attached Engineers Design Documentation
Reason for Deviation:	Please see attached Engineers Design Documentation
Proposed Well Construction	Please see attached Engineers Design Documentation

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
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In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
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This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401551

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Honeywell SA-6 North

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603166 Northing (Y): 685858
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: SD-10

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: EXTENSOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 50

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
Sondex
Figure A2.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: February 6, 2014
Expiration Date: February 6, 2015

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	Please see attached Engineers Design Documentation
Unusual Conditions:	Please see attached Engineers Design Documentation
Reason for Deviation:	Please see attached Engineers Design Documentation
Proposed Well Construction	Please see attached Engineers Design Documentation

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201503233

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Honeywell SA-6 North

Address: 501 ROUTE 440 SA-6 NORTH

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603339 Northing (Y): 685387
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: NFS11-SD

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: EXTENSOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 50

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
sondex settlement system.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: April 8, 2015
Expiration Date: April 7, 2016

Well Permit Number
E201503233

WELL PERMIT

%%:activity_class_well%%

DEVIATION INFORMATION	
Purpose:	Please see engineer's design documentation attached.
Unusual Conditions:	Please see engineer's design documentation attached.
Reason for Deviation:	Please see engineer's design documentation attached.
Proposed Well Construction	Please see engineer's design documentation attached.

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201503235

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Honeywell SA-6 North

Address: 501 ROUTE 440 SA-6 NORTH

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603408 Northing (Y): 685429
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: NFS12-SD

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: EXTENSOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 50

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
sondex settlement system.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: April 8, 2015
Expiration Date: April 7, 2016

Well Permit Number
E201503235

WELL PERMIT

%%:activity_class_well%%

DEVIATION INFORMATION	
Purpose:	Please see engineer's design documentation attached
Unusual Conditions:	Please see engineer's design documentation attached
Reason for Deviation:	Please see engineer's design documentation attached
Proposed Well Construction	Please see engineer's design documentation attached

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201503236

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Honeywell SA-6 North

Address: 501 ROUTE 440 SA-6 NORTH

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603316 Northing (Y): 685253
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: NFS13-SD

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: EXTENSOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 50

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
sondex settlement system.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: April 8, 2015
Expiration Date: April 7, 2016

WELL PERMIT

%%:activity_class_well%%

DEVIATION INFORMATION	
Purpose:	Please see engineer's design documentation attached
Unusual Conditions:	Please see engineer's design documentation attached
Reason for Deviation:	Please see engineer's design documentation attached
Proposed Well Construction	Please see engineer's design documentation attached

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
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In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
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The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317959

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Honeywell SA-6 North

Address: 525 St Rt 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602115 Northing (Y): 685981
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: December 23, 2013
DATE WELL COMPLETED: December 24, 2013

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-1

WELL CONSTRUCTION

Total Depth Drilled (ft.): 40 Finished Well Depth (ft.): 40 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	40	4.5		
Casing	0	40	3.34	PVC	Sondex Casing
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	40	4.5	3.34	12	225	13
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 10 ft. below land surface
Water Level Measure Tool: m-scope/in adjacent well
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Mobile B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 17: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL
17 - 21: BRN SM - Silty sands, sand-silt mixtures
21 - 25: GRAY-BLK PT - Peat, muck, and other highly organic soils
25 - 40: BRN-GRAY SP - Poorly graded sands and gravelly sands, little or no fines

ADDITIONAL INFORMATION: Well was constructed in compliance with an approved NJDEP Deviation request.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317960

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Honeywell SA-6 North

Address: 525 St Rt 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602694 Northing (Y): 685850
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: January 16, 2014

DATE WELL COMPLETED: January 16, 2014

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-3

WELL CONSTRUCTION

Total Depth Drilled (ft.): 40 Finished Well Depth (ft.): 40 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	40	4.5		
Casing	0	40	3.34	PVC	SONDEX CASING
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	40	4.5	3.34	11	215	12
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 12 ft. below land surface
Water Level Measure Tool: m-scope/In adjacent Well
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Mobil B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 16.5: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL
16.5 - 19: BRN SM - Silty sands, sand-silt mixtures
19 - 23.5: BRN-BLK PT - Peat, muck, and other highly organic soils
23.5 - 33: RED-BRN SP - Poorly graded sands and gravelly sands, little or no fines
33 - 40: RED-BRN SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION: Well was constructed in compliance with NJDEP approved Deviations as indicated on the Well Permit.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317961

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Honeywell SA-6 North

Address: 525 St Rt 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602723 Northing (Y): 685723
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: February 21, 2014
DATE WELL COMPLETED: February 24, 2014

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-4

WELL CONSTRUCTION

Total Depth Drilled (ft.): 32 Finished Well Depth (ft.): 32 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	32	4.5		
Casing	0	32	3.34	PVC	SONDEX CASING
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	32	4.5	3.34	8	150	8.5
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 12 ft. below land surface
Water Level Measure Tool: M-SCOPE/IN ADJACENT WELL
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 14.5: BRN GP - Poorly graded gravels and gravel-sand mixtures, little or no fines FILL
14.5 - 18: BRN SM - Silty sands, sand-silt mixtures
18 - 21: BRN-BLK PT - Peat, muck, and other highly organic soils
21 - 25: GRAY SP - Poorly graded sands and gravelly sands, little or no fines
25 - 32: RED-BRN SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION: Well was constructed in compliance with NJDEP approved Deviations as indicated on the Well Permit.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317965

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Honeywell SA-6 North

Address: 575 St. Rt 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602450 Northing (Y): 685863
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: April 23, 2014

DATE WELL COMPLETED: April 25, 2014

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-2

WELL CONSTRUCTION

Total Depth Drilled (ft.): 55 Finished Well Depth (ft.): 55 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	55	4.5		
Casing	0	55	3.34	PVC	SONDEX CASING
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	55	4.5	3.34	16	300	18
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 8 ft. below land surface
Water Level Measure Tool: M-SCOPE/IN ADJACENT WELL
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBILE B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 17: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL
17 - 19: BRN SM - Silty sands, sand-silt mixtures
19 - 25: GRAY - BRN PT - Peat, muck, and other highly organic soils
25 - 32.5: GRAY SP - Poorly graded sands and gravelly sands, little or no fines
32.5 - 55: RED-BRN SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION: Well was constructed in compliance with an approved NJDEP Deviation request.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401546

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Honeywell SA-6 North

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602745 Northing (Y): 685595
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 18, 2014

DATE WELL COMPLETED: June 19, 2014

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-5

WELL CONSTRUCTION

Total Depth Drilled (ft.): 42 Finished Well Depth (ft.): 42 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	42	4.5		
Casing	0	42	3.34	PVC	SONDEX CASING
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	42	4.5	3.34	12	200	14
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 8 ft. below land surface
Water Level Measure Tool: M-SCOPE/IN ADJACENT WELL
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 13.5: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL
13.5 - 19.5: BRN SM - Silty sands, sand-silt mixtures
19.5 - 21: BLK PT - Peat, muck, and other highly organic soils
21 - 26: GRAY SP - Poorly graded sands and gravelly sands, little or no fines
26 - 38.5: RED-BRN SM - Silty sands, sand-silt mixtures
38.5 - 42: RED-BRN ML - Inorganic silts, very fine sands, rock four, silty or clayey fine sands

ADDITIONAL INFORMATION: Well was constructed in compliance with NJDEP approved Deviations as indicated on the Well Permit.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401547

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Honeywell SA-6 North

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602890 Northing (Y): 685557
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 26, 2014

DATE WELL COMPLETED: June 30, 2014

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-6

WELL CONSTRUCTION

Total Depth Drilled (ft.): 32 Finished Well Depth (ft.): 32 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	32	4.5		
Casing	0	32	3.34	PVC	SONDEX CASING
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	32	4.5	3.34	8	150	8.5
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 9 ft. below land surface
Water Level Measure Tool: M-SCOPE/IN ADJACENT WELL
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 14: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL
14 - 19: BRN SM - Silty sands, sand-silt mixtures
19 - 21.5: BRN-BLK PT - Peat, muck, and other highly organic soils
21.5 - 32: GRAY SP - Poorly graded sands and gravelly sands, little or no fines

ADDITIONAL INFORMATION: Well was constructed in compliance with NJDEP approved Deviations as indicated on the Well Permit.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401548

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Honeywell SA-6 North

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603001 Northing (Y): 685445
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: July 1, 2014

DATE WELL COMPLETED: July 3, 2014

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-7

WELL CONSTRUCTION

Total Depth Drilled (ft.): 32 Finished Well Depth (ft.): 32 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	32	4.5		
Casing	0	32	3.34	PVC	SONDEX CASING
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	32	4.5	3.34	8	150	8.5
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 8 ft. below land surface
Water Level Measure Tool: M-SCOPE/IN ADJACENT WELL
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 10: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL
10 - 15.5: DRK BRN SP - Poorly graded sands and gravelly sands, little or no fines FILL
15.5 - 19: BRN SM - Silty sands, sand-silt mixtures
19 - 21: BRN - BLK PT - Peat, muck, and other highly organic soils
21 - 23.5: GRAY SW - Well-graded sands and gravelly sands, little or no fines
23.5 - 32: RED BRN SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION: Well was constructed in compliance with NJDEP approved Deviations as indicated on the Well Permit.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401549

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Honeywell SA-6 North

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603094 Northing (Y): 685406
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: May 26, 2015
DATE WELL COMPLETED: May 26, 2015

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-8

WELL CONSTRUCTION

Total Depth Drilled (ft.): 35 Finished Well Depth (ft.): 35 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	35	4.5		
Casing	0	35	3.34	PVC	SONDEX CASING
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	32	4.5	3.34	8	150	8.5
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 8 ft. below land surface
Water Level Measure Tool: M-Scope ina djacent borehole
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Mobil B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 10: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL
10 - 16: DRK BRN SP - Poorly graded sands and gravelly sands, little or no fines FILL
16 - 19: BRN SM - Silty sands, sand-silt mixtures
19 - 21: BRN PT - Peat, muck, and other highly organic soils
21 - 35: RED-BRN SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION: Well was constructed in compliance with NJDEP approved Deviation as indicated on the Well Permit.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401550

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Honeywell SA-6 North

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603127 Northing (Y): 685501
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: May 15, 2015
DATE WELL COMPLETED: May 18, 2015

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-9

WELL CONSTRUCTION

Total Depth Drilled (ft.): 33 Finished Well Depth (ft.): 33 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	33	4.5		
Casing	0	33	3.34	PVC	SONDEX CASING
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	33	4.5	3.34	8	24	5.5
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 11 ft. below land surface
Water Level Measure Tool: m-scope in adjacent well
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Mobil B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 12: BRN GC - Clayey gravels, gravel-sand-clay mixtures FILL
12 - 16: BRN ML - Inorganic silts, very fine sands, rock four, silty or clayey fine sands
16 - 20: BLK-GRAY PT - Peat, muck, and other highly organic soils
20 - 33: GRAY SP - Poorly graded sands and gravelly sands, little or no fines

ADDITIONAL INFORMATION: SONDEX Well was installed in Compliance with an approved NJDEP Deviation Request.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401551

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Honeywell SA-6 North

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603166 Northing (Y): 685858
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: May 14, 2015

DATE WELL COMPLETED: May 14, 2015

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-10

WELL CONSTRUCTION

Total Depth Drilled (ft.): 34 Finished Well Depth (ft.): 34 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	34	4.5		
Casing	0	34	3.34	PVC	sondex casing
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	34	4.5	3.34	0.7	180	10
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 7 ft. below land surface
Water Level Measure Tool: m-scope in adjacent well
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Mobil B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 10: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL
10 - 15: BLACK-GRAY SP - Poorly graded sands and gravelly sands, little or no fines FILL
15 - 20: GRAY - BRN OL - Organic silts and organic silty clays of low plasticity
20 - 21.5: BRN PT - Peat, muck, and other highly organic soils
21.5 - 34: RED-GRAY SP - Poorly graded sands and gravelly sands, little or no fines

ADDITIONAL INFORMATION: SONDEX Well was installed in compliance with an approved NJDEP Deviation Request.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201503230

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Honeywell SA-6 North

Address: 501 ROUTE 440 SA-6 NORTH

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603094 Northing (Y): 685406
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: May 26, 2015
DATE WELL COMPLETED: May 26, 2015

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: NFS8-SD

WELL CONSTRUCTION

Total Depth Drilled (ft.): 32 Finished Well Depth (ft.): 32 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	32	4.5		
Casing	0	32	3.34	PVC	SONDEX CASING
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	32	4.5	3.24	8	6	14
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 12 ft. below land surface
Water Level Measure Tool: m-scope in adjacent well
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Mobil B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 13: BRN GC - Clayey gravels, gravel-sand-clay mixtures FILL
13 - 16: BRN SM - Silty sands, sand-silt mixtures FILL W/COPER PRESENT
16 - 18: BRN ML - Inorganic silts, very fine sands, rock four, silty or clayey fine sands
18 - 20.5: GRAY PT - Peat, muck, and other highly organic soils
20.5 - 32: GRAY-BRN SP - Poorly graded sands and gravelly sands, little or no fines

ADDITIONAL INFORMATION: This SONDEX Well was constructed in compliance with an approved NJDEP Deviation Request.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201503233

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Honeywell SA-6 North

Address: 501 ROUTE 440 SA-6 NORTH

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603339 Northing (Y): 685387
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: May 29, 2015
DATE WELL COMPLETED: June 2, 2015

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: NFS11-SD

WELL CONSTRUCTION

Total Depth Drilled (ft.): 35 Finished Well Depth (ft.): 35 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	35	4.5		
Casing	0	35	3.34	PVC	SONDEX CASING
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	35	4.5	3.34	0.75	60	3.5
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 8 ft. below land surface
Water Level Measure Tool: m-scope in adjacent well
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Mobil B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 13: BRN GC - Clayey gravels, gravel-sand-clay mixtures FILL
13 - 15: ORANGE-BRN SM - Silty sands, sand-silt mixtures COPR PRESENT
15 - 17: BRN ML - Inorganic silts, very fine sands, rock four, silty or clayey fine sands
17 - 20: GRAY-BRN OH - Organic clays of medium to high plasticity
20 - 35: RED-BRN SP - Poorly graded sands and gravelly sands, little or no fines

ADDITIONAL INFORMATION: SONDEX Well was installed in compliance with an approved NJDEP Deviation Request.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201503235

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Honeywell SA-6 North

Address: 501 ROUTE 440 SA-6 NORTH

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603408 Northing (Y): 685429
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 4, 2015
DATE WELL COMPLETED: June 6, 2015

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: NFS12-SD

WELL CONSTRUCTION

Total Depth Drilled (ft.): 30 Finished Well Depth (ft.): 30 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	30	4.5		
Casing	0	30	3.34	PVC	SONDEX CASING
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	30	4.5	3.34	8	150	8.5
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 9 ft. below land surface
Water Level Measure Tool: M-Scope from an adjacent well
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Mobile B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 10: BRN GC - Clayey gravels, gravel-sand-clay mixtures FILL
10 - 12: GRAY-BLK SP - Poorly graded sands and gravelly sands, little or no fines FILL
12 - 17: GRAY ML - Inorganic silts, very fine sands, rock four, silty or clayey fine sands FILL
17 - 18: BLK OH - Organic clays of medium to high plasticity
18 - 30: RED-BRN SP - Poorly graded sands and gravelly sands, little or no fines

ADDITIONAL INFORMATION: This SONDEX Well was constructed in compliance with an approved NJDEP Deviation Request.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201503236

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Honeywell SA-6 North

Address: 501 ROUTE 440 SA-6 NORTH

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603316 Northing (Y): 685253
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: April 27, 2015
DATE WELL COMPLETED: April 27, 2015

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: NFS13-SD

WELL CONSTRUCTION

Total Depth Drilled (ft.): 42 Finished Well Depth (ft.): 42 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	42	4.5		
Casing	0	42	3.34	PVC	SONDEX CASING
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	42	4.5	3.34	7	33	9
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 7 ft. below land surface
Water Level Measure Tool: M-SCOPE in adjacent well location
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 10: BRN GC - Clayey gravels, gravel-sand-clay mixtures FILL
10 - 15: GRAY SP - Poorly graded sands and gravelly sands, little or no fines FILL
15 - 19.5: BRN - BLK PT - Peat, muck, and other highly organic soils
19.5 - 42: GRAY SP - Poorly graded sands and gravelly sands, little or no fines

ADDITIONAL INFORMATION: SONDEX Well was constructed in compliance with an approved NJDEP Deviation Request.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317955

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: 525 St. Route 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602115 Northing (Y): 685986
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 7, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-1

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 20

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	10	1	PVC	sch 40
Screen	10	20	1	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	20	1	0	0	9	0.5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317956

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: 525 St. Route 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602694 Northing (Y): 685855
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 7, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-3

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 20

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	10	1	PVC	
Screen	10	20	1		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	20	1	0	0	9	0.5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317957

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: 525 St. Route 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 21901

Easting (X): 602423 Northing (Y): 685728
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 7, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-4

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 12.5

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	7.5	1	PVC	
Screen	7.5	12.5	1		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	12.5	1	0	0	6	0.3
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317958

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: 575 ST RT 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602453 Northing (Y): 685868
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 7, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-2

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 13

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	8	1	PVC	sch 40
Screen	8	13	1	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	13	1	0	0	6	0.33
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401536

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602750 Northing (Y): 685600
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 28, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-5

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 17

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	12	1	PVC	
Screen	12	17	1	PVC	

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	17	1	0	0	8	0.5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Gordon Blewett
JOURNEYMAN
LICENSE # 0021852

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401537

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602895 Northing (Y): 685562
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 28, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-6

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 13

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	8	1	PVC	
Screen	8	13	1		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	13	1	0	0	6	0.33
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Gordon Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0021852

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401538

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603006 Northing (Y): 685450
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 28, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-7

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 15

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	10	1	PVC	
Screen	10	15	1		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	15	1	0	0	6.7	0.4
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Gordon Blewett
JOURNEYMAN
LICENSE # 0021852

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401539

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603099 Northing (Y): 685411
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 28, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-8

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 14

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	9	1	PVC	
Screen	9	14	1		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	14	1	0	0	6	0.3
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Gordon Blewett
JOURNEYMAN
LICENSE # 0021852

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401540

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603132 Northing (Y): 685506
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 28, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-9

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 12

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	7	1	PVC	
Screen	7	12	1		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	12	1	0	0	5	0.25
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Gordon Blewett
JOURNEYMAN
LICENSE # 0021852

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401541

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603171 Northing (Y): 685863
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 28, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-10

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 14

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	9	1	PVC	
Screen	9	14	1		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	14	1	0	0	6	0.33
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Gordon Blewett
JOURNEYMAN
LICENSE # 0021852

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201503247

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: 501 ROUTE 440 SA-6 NORTH

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603340 Northing (Y): 685383
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 29, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: NFS11-SP

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 13

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	8	1	PVC	
Screen	8	13	1		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	13	1	0	0	6	0.33
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Gordon Blewett
JOURNEYMAN
LICENSE # 0021852

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201503248

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: 501 ROUTE 440 SA-6 NORTH

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603419 Northing (Y): 685304
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 29, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: NFS12-SP

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 13

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	8	1	PVC	
Screen	8	13	1		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	13	1	0	0	6	0.33
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Gordon Blewett
JOURNEYMAN
LICENSE # 0021852

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201503249

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: 501 ROUTE 440 SA-6 NORTH

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603369 Northing (Y): 686207
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 29, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: NFS13-SP

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 11

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	6	1	PVC	
Screen	6	11	1		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	11	1	0	0	5	0.3
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Gordon Blewett
JOURNEYMAN
LICENSE # 0021852

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317955

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: HONEYWELL SA-6 NORTH

Address: 525 St. Route 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602115 Northing (Y): 685986
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: STP-1

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: December 9, 2013
Expiration Date: December 9, 2014

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317956

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: HONEYWELL SA-6 NORTH

Address: 525 St. Route 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602694 Northing (Y): 685555
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: STP-3

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: December 9, 2013
Expiration Date: December 9, 2014

Well Permit Number
E201317956

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
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This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317957

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: HONEYWELL SA-6 NORTH

Address: 525 St. Route 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602423 Northing (Y): 685728
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: STP-4

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: December 9, 2013
Expiration Date: December 9, 2014

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
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This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317958

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: HONEYWELL SA-6 NORTH

Address: 575 ST RT 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602450 Northing (Y): 685868
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: STP-2

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: December 9, 2013
Expiration Date: December 9, 2014

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

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This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401536

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: HONEYWELL SA-6 NORTH

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602750 Northing (Y): 685600
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: STP-5

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: February 4, 2014
Expiration Date: February 4, 2015

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401536

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401537

WELL PERMIT

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Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

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PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: HONEYWELL SA-6 NORTH

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602895 Northing (Y): 685562
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: STP-6

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: February 4, 2014
Expiration Date: February 4, 2015

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

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Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
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WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401538

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: HONEYWELL SA-6 NORTH

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603006 Northing (Y): 685450
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: STP-7

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: February 4, 2014
Expiration Date: February 4, 2015

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401538

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
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In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401539

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: HONEYWELL SA-6 NORTH

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603099 Northing (Y): 685411
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: STP-8

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: February 4, 2014
Expiration Date: February 4, 2015

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401539

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
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In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401540

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: HONEYWELL SA-6 NORTH

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603132 Northing (Y): 685506
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: STP-9

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: February 4, 2014
Expiration Date: February 4, 2015

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401540

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
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In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
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The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401541

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: HONEYWELL SA-6 NORTH

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603171 Northing (Y): 685863
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: STP-10

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: February 4, 2014
Expiration Date: February 4, 2015

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401541

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201503247

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: HONEYWELL SA-6 NORTH

Address: 501 ROUTE 440 SA-6 NORTH

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603339 Northing (Y): 685387
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: NFS11-SP

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: April 8, 2015
Expiration Date: April 7, 2016

WELL PERMIT

%%:activity_class_well%%

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
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This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201503248

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: HONEYWELL SA-6 NORTH

Address: 501 ROUTE 440 SA-6 NORTH

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603419 Northing (Y): 685304
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: NFS12-SP

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: April 8, 2015
Expiration Date: April 7, 2016

WELL PERMIT

%%:activity_class_well%%

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New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201503249

WELL PERMIT

New Well

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PROPOSED WELL LOCATION

Facility Name: HONEYWELL SA-6 NORTH

Address: 501 ROUTE 440 SA-6 NORTH

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603369 Northing (Y): 685207
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: NFS13-SP

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: April 8, 2015
Expiration Date: April 7, 2016

WELL PERMIT

%%:activity_class_well%%

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Unusual Conditions:	
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New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201503250

WELL PERMIT

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City: Morristown State: New Jersey Zip Code: 07962

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Facility Name: HONEYWELL SA-6 NORTH

Address: 501 ROUTE 440 SA-6 NORTH

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603408 Northing (Y): 685429
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: NHS12-SP

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: April 8, 2015
Expiration Date: April 7, 2016

Well Permit Number
E201503250

WELL PERMIT

%%:activity_class_well%%

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

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Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201503251

WELL PERMIT

New Well

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PROPOSED WELL LOCATION

Facility Name: HONEYWELL SA-6 NORTH

Address: 501 ROUTE 440 SA-6 NORTH

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603316 Northing (Y): 685253
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: NHS13-SP

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
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WELL PERMIT

%%:activity_class_well%%

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Unusual Conditions:	
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Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317955

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: 525 St. Route 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602115 Northing (Y): 685986
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: December 30, 2013
DATE WELL COMPLETED: December 30, 2013

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-1

WELL CONSTRUCTION

Total Depth Drilled (ft.): 20 Finished Well Depth (ft.): 20 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	20	6		
Casing	0	10	1	PVC	SH40
Screen	10	20	1	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	9	6	1	0	140	8
Gravel Pack	9	20	6	1	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 7 ft. below land surface
Water Level Measure Tool: M-SCOPE
Well Development Period: 1 hrs.
Method of Development: AIR LIFT
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBILE B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 20: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317956

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: 525 St. Route 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602694 Northing (Y): 685855
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: January 30, 2014
DATE WELL COMPLETED: January 30, 2014

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-3

WELL CONSTRUCTION

Total Depth Drilled (ft.): 20 Finished Well Depth (ft.): 20 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	20	6		
Casing	0	10	1	PVC	SH40
Screen	10	20	1	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	9	6	1	0	94	5.5
Gravel Pack	9	20	6	1	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 10 ft. below land surface
Water Level Measure Tool: m-scope
Well Development Period: 1 hrs.
Method of Development: air lift
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 16.5: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL
16.5 - 20: BRN SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317957

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: 525 St. Route 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602423 Northing (Y): 685728
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: February 21, 2014
DATE WELL COMPLETED: February 21, 2014

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-4

WELL CONSTRUCTION

Total Depth Drilled (ft.): 12.5 Finished Well Depth (ft.): 12.5 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	12.5	6		
Casing	0	7.5	1	PVC	SH40
Screen	7.5	12.5	1	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	6.5	6	1	0	94	5.5
Gravel Pack	6.5	12.5	6	1	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 7 ft. below land surface
Water Level Measure Tool: M-SCOPE
Well Development Period: 1 hrs.
Method of Development: AIR LIFT
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 12.5: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201317958

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: 575 ST RT 440

County: Hudson Municipality: Jersey City Lot: 9 Block: 21901

Easting (X): 602453 Northing (Y): 685868
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: April 28, 2014
DATE WELL COMPLETED: April 28, 2014

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-2

WELL CONSTRUCTION

Total Depth Drilled (ft.): 13 Finished Well Depth (ft.): 13 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	13	6		
Casing	0	8	1	PVC	SH40
Screen	8	13	1	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	7	6	1	0	94	5
Gravel Pack	7	13	6	1	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 10 ft. below land surface
Water Level Measure Tool: M-SCOPE
Well Development Period: 1 hrs.
Method of Development: AIR LIFT
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 13: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401536

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602750 Northing (Y): 685600
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 20, 2014

DATE WELL COMPLETED: June 20, 2014

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-5

WELL CONSTRUCTION

Total Depth Drilled (ft.): 17 Finished Well Depth (ft.): 17 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	17	6		
Casing	0	12	1	PVC	SH40
Screen	12	17	1	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	11	6	1	0	160	9
Gravel Pack	11	17	6	1	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 11 ft. below land surface
Water Level Measure Tool: M-SCOPE
Well Development Period: 1 hrs.
Method of Development: AIR LIFT
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 13: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL
13 - 17: BRN SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401537

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 602895 Northing (Y): 685562
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 27, 2014

DATE WELL COMPLETED: June 27, 2014

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-6

WELL CONSTRUCTION

Total Depth Drilled (ft.): 13 Finished Well Depth (ft.): 13 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	13	6		
Casing	0	8	1	PVC	SH40
Screen	8	13	1	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	7	6	1	0	94	5.5
Gravel Pack	7	13	6	1	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 9 ft. below land surface
Water Level Measure Tool: M-SCOPE
Well Development Period: 1 hrs.
Method of Development: AIR LIFT
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 13: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401538

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603006 Northing (Y): 685450
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: July 3, 2014
DATE WELL COMPLETED: July 3, 2014

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-7

WELL CONSTRUCTION

Total Depth Drilled (ft.): 15 Finished Well Depth (ft.): 15 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	15	6		
Casing	0	10	1	PVC	SH40
Screen	10	15	1	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	9	6	1	0	130	7.25
Gravel Pack	9	15	6	1	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 8 ft. below land surface
Water Level Measure Tool: M-SCOPE
Well Development Period: 1 hrs.
Method of Development: AIR LIFT
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: NOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 15: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401539

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603099 Northing (Y): 685411
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: May 27, 2015
DATE WELL COMPLETED: May 27, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-8

WELL CONSTRUCTION

Total Depth Drilled (ft.): 14 Finished Well Depth (ft.): 14 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	14	6		
Casing	0	9	1	PVC	SH40
Screen	9	14	1	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	8	6	1	0	115	6.5
Gravel Pack	8	14	6	1	morie #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 12 ft. below land surface
Water Level Measure Tool: m-scope
Well Development Period: 1 hrs.
Method of Development: air lift
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Mobil B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 12: BRN GC - Clayey gravels, gravel-sand-clay mixtures FILL
12 - 14: BRN SP - Poorly graded sands and gravelly sands, little or no fines FILL

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401540

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603132 Northing (Y): 685506
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: May 18, 2015
DATE WELL COMPLETED: May 18, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-9

WELL CONSTRUCTION

Total Depth Drilled (ft.): 12 Finished Well Depth (ft.): 12 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	12	6		
Casing	0	7	1	PVC	SH40
Screen	7	12	1	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	6	6	1	0	94	5
Gravel Pack	6	12	6	1	MORIE #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 10 ft. below land surface
Water Level Measure Tool: M-SCOPE
Well Development Period: 1 hrs.
Method of Development: AIR LIFT
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 12: BRN GC - Clayey gravels, gravel-sand-clay mixtures FILL

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201401541

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 21901

Easting (X): 603171 Northing (Y): 685863
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: May 14, 2015
DATE WELL COMPLETED: May 14, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-10

WELL CONSTRUCTION

Total Depth Drilled (ft.): 14 Finished Well Depth (ft.): 14 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	14	6		
Casing	0	9	1	PVC	SCH40
Screen	9	14	1	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	8	6	1	0	115	6.5
Gravel Pack	8	13	6	1	MORIE #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 7.5 ft. below land surface
Water Level Measure Tool: M-SCOPE
Well Development Period: 1 hrs.
Method of Development: AIR LIFT
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBILR B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 10: BRN GC - Clayey gravels, gravel-sand-clay mixtures FILL
10 - 14: BLK-GRAY SP - Poorly graded sands and gravelly sands, little or no fines FILL

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201503247

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: 501 ROUTE 440 SA-6 NORTH

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603340 Northing (Y): 685383
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: May 29, 2015
DATE WELL COMPLETED: May 29, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: NFS11-SP

WELL CONSTRUCTION

Total Depth Drilled (ft.): 13 Finished Well Depth (ft.): 13 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	13	6		
Casing	0	8	1	PVC	SH40
Screen	8	13	1	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	7	6	1	0	94	5
Gravel Pack	7	13	6	1	MORIE #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 8 ft. below land surface
Water Level Measure Tool: M-SCOPE
Well Development Period: 1 hrs.
Method of Development: AIR LIFT
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBILE B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 13: BRN GC - Clayey gravels, gravel-sand-clay mixtures FILL

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201503248

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: 501 ROUTE 440 SA-6 NORTH

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603419 Northing (Y): 685304
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 5, 2015
DATE WELL COMPLETED: June 5, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: NFS12-SP

WELL CONSTRUCTION

Total Depth Drilled (ft.): 13 Finished Well Depth (ft.): 13 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	13	6		
Casing	0	8	1	PVC	SH40
Screen	8	13	1	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	7	6	1	0	94	5
Gravel Pack	7	13	6	1	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 11 ft. below land surface
Water Level Measure Tool: M-SCOPE
Well Development Period: 1 hrs.
Method of Development: AIR LIFT
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 10: BRN GC - Clayey gravels, gravel-sand-clay mixtures FILL
10 - 13: GRAY - BLK SP - Poorly graded sands and gravelly sands, little or no fines FILL

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201503249

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: HONEYWELL SA-6 NORTH

Address: 501 ROUTE 440 SA-6 NORTH

County: Hudson Municipality: Jersey City Lot: 5 Block: 21901

Easting (X): 603369 Northing (Y): 686207
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: April 28, 2015
DATE WELL COMPLETED: April 28, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: NFS13-SP

WELL CONSTRUCTION

Total Depth Drilled (ft.): 11 Finished Well Depth (ft.): 11 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	11	6		
Casing	0	6	1	PVC	SH40
Screen	6	11	1	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	5	6	1	0	94	5
Gravel Pack	5	11	6	1	MORIE #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 7 ft. below land surface
Water Level Measure Tool: M-SCOPE
Well Development Period: 1 hrs.
Method of Development: AIR LIFT
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 10: BRN GC - Clayey gravels, gravel-sand-clay mixtures FILL
10 - 11: GRAY SP - Poorly graded sands and gravelly sands, little or no fines FILL

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201318002

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Honeywell SA-6 North

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 5, 9, 10 Block: 21901

Easting (X): 602450 Northing (Y): 685865
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: VWP-1

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: VIBRATING WIRE PIEZOMETER/SITEWIDE

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 50

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
llation Detail 08-27-2011.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approval Date: December 12, 2013
Expiration Date: December 12, 2014

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	Please see Engineers Design Documentation
Unusual Conditions:	Please see Engineers Design Documentation
Reason for Deviation:	Please see Engineers Design Documentation
Proposed Well Construction	Please see Engineers Design Documentation

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201318002

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Honeywell SA-6 North

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 5, 9, 10 Block: 21901

Easting (X): 602450 Northing (Y): 685850
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: January 14, 2014

DATE WELL COMPLETED: May 14, 2015

WELL USE: VIBRATING WIRE PIEZOMETER/SITEWIDE

Other Use(s):

Local ID: VWP-1

WELL CONSTRUCTION

Total Depth Drilled (ft.): 80 Finished Well Depth (ft.): 80 Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	80	6		
Casing	0	80	1	PVC	SCH40
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	80	6	1	58	185	40
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 10 ft. below land surface
Water Level Measure Tool: VPI Transducer
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 10: BRN GC - Clayey gravels, gravel-sand-clay mixtures FILL
10 - 20: BRN SM - Silty sands, sand-silt mixtures
20 - 25: BLK-GRAY PT - Peat, muck, and other highly organic soils
25 - 80: RED-BRN SP - Poorly graded sands and gravelly sands, little or no fines

ADDITIONAL INFORMATION: Vibrating Wire Piezometers (VIP) were installed in compliance with an approved NJDEP Deviation Request.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201318002

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Honeywell SA-6 North

Address: Kellogg St. & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 5, 9, 10 Block: 21901

Easting (X): 602450 Northing (Y): 685850
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 7, 2016

WELL USE: VIBRATING WIRE PIEZOMETER/SITEWIDE

Other Use(s):

Local ID: VWP-1

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 80

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	80	1	PVC	sch 40
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	80	1	0	0	36	2
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Sealing Driller: Warren Blewett
JOURNEYMAN
LICENSE # 0014578

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

APPENDIX Q

CAP COMPONENTS QUALITY CONTROL TESTING REPORTS (CD ONLY)

PART 1 OF 2

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

Technical Excellence
Practical Experience
Client Responsiveness

Cap Geosynthetic Quality Assurance (QA) Report

Honeywell SA-6 North

SA-6 North
Jersey City, New Jersey
Project Number: 100530001

December 2016

Honeywell

Cap Geosynthetic Quality Assurance (QA) Report (SA-6 North)

for

SA-6 North
Jersey City, New Jersey

Prepared For:

Honeywell International, Inc.
115 Tabor Road
Morris Plains, New Jersey 07950

Prepared By:

Langan Engineering and Environmental Services, Inc.
300 Kimball Drive
Parsippany, NJ 07054

December 2016

Langan Project No. 100530001

LANGAN

CAP GEOSYNTHETIC QUALITY ASSURANCE (QA) REPORT for SA-6 North

Prepared By:
Langan Engineering & Environmental Services, Inc.
300 Kimball Drive
Parsippany, NJ 07054

Dan Bosworth
Senior Staff Engineer

Jeffrey Stoicescu, P.E.
Associate
New Jersey Professional Engineer License No. 24GE04504400

LANGAN

ENGINEER'S CONSTRUCTION CERTIFICATION

I certify that the placement of the SA-6 North geosynthetics witnessed by myself, and / or a person under my direct supervision, was completed in compliance with the design documents.

Print Name: Jeffrey Stoicescu, P.E. Title: Senior Associate

Signature: Date: 12/13/16

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Appendix N	Penetration & Pipe Boot Logs
Appendix O	Spark Test Logs

LIST OF ACRONYMS

AO – Add-On
AOC – Area of Concern
BO – Burnout
CF – Custom Fit Repairs
CQA – Construction Quality Assurance
DCB – Design Change Bulletin
DO – Damage By Others
DS – Destruct Sample (Fusion)
DSX – Destruct Sample (Extrusion)
EOR – Engineer of Record
EPA – Environmental Protection Agency
FS – Failed Seam
FTB – Film Tearing Bond
GCL – Geosynthetic Clay Liner
GDL – Geocomposite Drainage Layer
GVL – Geocomposite Venting Layer
HB – Hydraulic Barrier
IFC – Issued for Construction
LF – Linear Feet
LLDPE – Linear Low-Density Polyethylene
PB – Pipe Boot
PSI – Pounds per Square Inch
RCRA – Resource Conservation & Recovery Act
RFI – Request for Information
RAR – Remedial Action Report
RIR – Receiving Inspection Report
RP - Repair
SA-6 – Study Area 6
SCB – Soil Cement Bentonite
SI – Subgrade Irregularity
SJ – Seam Joint
QA - Quality Assurance
QA Report – Cap Geosynthetic Quality Assurance Report
QC – Quality Control
WR - Wrinkle

1.0 INTRODUCTION

The purpose of this Cap Geosynthetic Quality Assurance Report (QA Report) is to present the observations made, and data collected during the construction of an engineered cap placed within the Study Area 6 (SA-6) North Open Space Area of Concern (AOC) located in Jersey City, New Jersey (site). The capping activities at SA-6 North included the preparation of the soil subgrade, placement of geocomposite venting layer (GVL), geosynthetic clay liner (GCL), linear low-density polyethylene (LLDPE) geomembrane, and a geocomposite drainage layer (GDL). Langan Engineering & Environmental Services, Inc. (Langan) was contracted by Honeywell International, Inc. (Honeywell) to provide independent Quality Assurance (QA) for the installation of the geosynthetic components of the cap.

The Chromium Remedy *100% Design* Issued for Construction dated June 2013, (*100% Design*) was prepared by AMEC Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) on behalf of Honeywell, to address chromium contamination at SA-6 North. The *100% Design* required installation of a Resource Conservation and Recovery Act (RCRA) – equivalent geosynthetic cap system, including a venting layer for naturally occurring methane, covering approximately ten acres of the designated Open Space AOC. As part of this QA Report, the Record Drawings, which outline the placement and construction of the various geosynthetic components of the cap, have been provided as *Appendix A*. Other design details discussed herein, including the Issued for Construction (IFC) drawings, geosynthetics specifications, and geosynthetic products approved for this site are incorporated by reference only. Refer to Amec Foster Wheeler documents titled "*100% Design*," dated June 2013, and "*Remedial Action Report (RAR) for Chromium*" for these details. Additionally, the Construction Quality Assurance Plan (CQA) Plan prepared by Langan in June 2015 was previously submitted as part of the April 2016 SA-6 South QA Report (*Cap Geosynthetic Quality Assurance (QA) Report – Honeywell SA-6 South)* and is incorporated by reference only. The CQA Plan also outlines the details of the scope conducted by Langan, as well as the roles and responsibilities of the owner, Engineer of Record (EOR), earthwork contractor, and liner contractor.

This QA Report documents the results of the QA Geosynthetic activities conducted during the construction of the cap at SA-6 North by both Langan and Amec Foster Wheeler field personnel. Design Change Bulletins (DCBs) and Requests for Information (RFIs) which were generated subsequent to the *100% Design*, and relevant to the QA scope were reviewed and approved by the EOR, and are further summarized in Amec Foster Wheeler's EOR Closure Report.

This QA Report specifically includes the following documentation of the cap construction activities:

- The Record Drawings;
- Summary of the various phases of the work observed as part of this QA Report;
- Daily Reports summarizing the work activities completed each day and other pertinent information;
- Daily cap construction forms submitted by the Geosynthetic Installer which includes: Repair Reports, Trial Weld Logs, Panel Placement Forms, Seam Control Forms, Destructive & Non-Destructive Test Forms, and Subgrade Approval Forms;

- Field testing results for fusion welds and extrusion welds;
- Laboratory testing results for the destructive samples collected (i.e., fusion & extrusion welds);
- Photographs depicting daily work activities and various phases of the capping activities; and
- Independent QA's certification that the placement of the SA-6 North geosynthetics was implemented in general compliance with the design documents.

This QA Report addresses the cap construction of SA-6 North only. The cap construction at SA-6 South was previously completed in November 2015 and was summarized in the *Cap Geosynthetic Quality Assurance (QA) Report – Honeywell SA-6 South* submitted to Honeywell in April 2016.

2.0 SA-6 NORTH CAP CONSTRUCTION AND DOCUMENTATION

2.1 General

This Section describes the construction methods implemented and the Quality Control (QC) and QA documentation completed as part of the construction of SA-6 North. This Section also provides the results of the QC and QA testing that was performed during field activities by Langan (QA Engineer), Environmental Specialties International (ESI) as the Geosynthetic Installer, and Entact, LLC (Entact) as the Construction Contractor and QC Supervisor.

QA activities commenced on June 21, 2016, with Langan conducting observation of the soil subgrade preparation for the western end of SA-6 North (near the Hackensack River). Geocomposite / geotextile placement began on June 22, 2016 and continued until capping activities were completed on August 15, 2016. Relevant observations and QA/QC testing during this timeframe are defined further in this section. A project Certificate of Completion (completed and verified by Entact) certifying that the SA-6 North cap has been constructed and completed in compliance with the project drawings and technical specifications is attached as *Appendix B*.

2.2 Survey Control / Subgrade Elevations

Entact subcontracted Maser Consulting, P.A. (Maser), a licensed New Jersey land surveyor, who provided surveying services during the construction of the cap. Maser completed surveying of the cap from the initial subgrade preparation phases to the placement of the geomembrane. Maser surveyed the subgrade elevations of the cap prior to material placement and tabulated the survey results as compared to the design elevations on the construction control grid. These survey activities included:

1. Measurement of elevations of the subgrade surface in accordance with a pre-determined Construction Control Grid. Conformance to the design lines and grades was verified by Amec Foster Wheeler and Entact by comparing the actual elevations with the design elevations on the Construction Control Grid. The accepted subgrade elevations, and corresponding Construction Control Grid for SA-6 North are provided within *Appendix C1* and *Appendix C2*, respectively.

2. Measurement of the as-built conditions including the perimeter or termination of the geomembrane and geotextile over the hydraulic barrier (HB), and Soil Cement Bentonite (SCB) wall, as well as, the location of the geomembrane repairs, boots / penetrations, and other pertinent information related to the construction of the cap.
3. The subgrade surface was observed to verify uniformity of grade between the construction control grid points.

This survey information is shown on the final Record Drawings attached in *Appendix A.* Amec Foster Wheeler provided QA review and verification of the Maser survey data.

2.3 Soil Subgrade Preparation

Soil subgrade preparation was required prior to the placement of the geotextile and the geomembrane in the areas to be capped. Soil subgrade preparation for the cap was completed by Entact using the following procedures:

- Step 1: Entact conducted rough grading of the subgrade surfaces with the use of track-mounted dozers to prepare the appropriate grades and to clear the surface of large objects (i.e. rocks, metals, debris, etc.);
- Step 2: The subgrade surface was fine-graded and compacted in accordance with the project specifications presented in the *100% Design* package. Subgrade sections not meeting survey or compaction requirements were re-worked by Entact until specified conditions were achieved. At the conclusion of this step, Entact provided a certification that the surface met the grading and compaction requirements. The certifications included the Construction Control Grid tabulation prepared by Maser (as defined in *Section 2.2*) and issuance of a Certificate of Subgrade Surface Acceptance as defined in further detail below;
- Step 3: When precipitation was forecast, the prepared subgrade surface was temporarily covered with a polyethylene plastic sheet to protect the soil from overnight precipitation; and
- Step 4: The subgrade surface would be prepared in approximate 100 ft. sections (moving from west to east across SA-6), followed by extra fine grading conducted by laborers who cleared the surface of extraneous materials greater than ½-inch in diameter, followed by repair and re-compaction of any areas that became inadvertently wetted.

Entact and ESI also conducted their own observation of the subgrade surface to confirm if the surface was acceptable for the placement of the geosynthetic material. Upon notification by Entact that the grading was acceptable, Langan conducted an independent observation to identify that the subgrade was prepared in general accordance with the *100% Design*. As part of the observation activities, the Langan field engineer walked the subgrade in approximate 8 ft. by 200 ft. to 300 ft. (width of SA-6 North from north to south) transects to observe soil compaction, as well as items requiring removal (>1/2") prior to panel placement.

If the soil subgrade surface was deemed acceptable with no additional re-work required, the Langan QA and Entact QC representative signed and submitted an acceptance form for the approved subgrade. The daily QA subgrade approval forms are provided in *Appendix D*, with the ESI Certificate of Subgrade Surface Acceptance forms provided in *Appendix D1*, and the Langan Certificate of Soil Surface provided in *Appendix D2.* In the event the subgrade surface was not deemed acceptable, Steps 2, 3, and 4 outlined above were repeated until an acceptable subgrade surface was achieved (based on conditions outlined in the Langan Certificate of Soil Surface forms) and confirmed by Langan and Entact.

Figure 1 below shows a typical section of subgrade approved for geomembrane placement. Additional photos and summaries of the subgrade preparation activities conducted each day are presented in the Daily Reports and Daily Photo Logs provided in *Appendix E.*

Figure 1 – Typical Soil Subgrade Approved for Geomembrane Placement

2.4 SA-6 North Cap Components

2.4.1 Geotextiles

The geotextile materials installed at SA-6 North were previously delivered to the site in 2015 during the installation of the cap at SA-6 South. The corresponding Receiving Inspection Reports (RIRs) prepared by Amec Foster Wheeler documenting receipt of the geotextile material were outlined in the *Cap Geosynthetic Quality Assurance (QA) Report – Honeywell SA-6 South (SA-6 South QA Report)* submitted in April 2016. As such the RIRs are incorporated in this report as reference only. Additional details on the delivery, handling, and storage of the geotextile material is outlined in the *SA-6 South QA Report*.

Following approval of the subgrade surface at the various sections of the work area, a 16 oz. geotextile layer was placed over the HB and SCB barrier walls around the perimeter of the

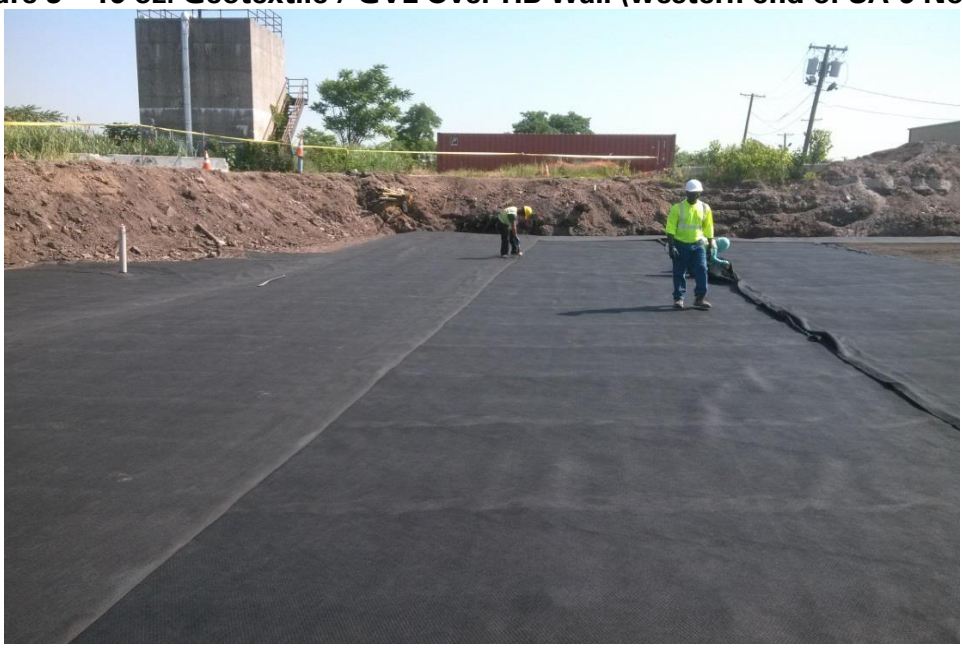
capped area. According to the *100% Design* package, this geotextile layer was designed to protect the 60-mil LLDPE geomembrane from potential puncture damage from the perimeter barriers / walls. The approved 16 oz. non-woven geotextile fabric layer consisted of SKAPS GE-116 (further defined in Amec Foster Wheeler's *EOR Closure Report).*

The 16 oz. geotextile was installed by ESI at locations shown on the Record Drawings (*Appendix A2*). Geotextile was placed along the boundaries of SA-6 North over the HB and SCB wall located along the northern, southern, eastern and western boundaries of the cap. The 15 ft. wide geotextile panels were placed with approximately 14 ft. of the geotextile panel inbound of the perimeter of the HB and SCB walls and with 1 ft. of the geotextile panel extending outbound of the perimeter containment walls. This geotextile was installed in areas where the GVL was placed. For areas where the GCL was installed, the GCL overlapped the HB/SCB wall as shown in *Appendix A2*.

Geotextile panels were overlapped at least 12-inches and seamed using a dual hot wedge welder that melted the two surfaces together to form a bond (also referred to as leistering). The 16 oz. geotextile was placed along the boundary areas of SA-6 North at locations above the Site water table (i.e. locations where geosynthetic clay liner was not required). The geotextile (on the interior of the Cap) overlapped the geocomposite venting layer and was leistered in place following the procedure outlined above. *Figure 2* below shows the 16 oz. geotextile being placed over the SCB wall (southern end of SA-6 North cap), and *Figure 3* shows the geotextile overlapping the GVL Note, the GVL rolls were placed in a general north to south direction across SA-6, while the 16 oz. geotextile rolls were placed in a general east to west direction.

Figure 2 – 16 oz. Geotextile Placed Over SCB Wall (southern end of SA-6 North)

Figure 3 – 16 oz. Geotextile / GVL Over HB Wall (western end of SA-6 North)



2.4.2 Geocomposite Venting Layer (GVL)

Prior to placement of the 60-mil LLDPE geomembrane, GVL was placed over the soil subgrade at locations above the water table to serve as a venting layer for naturally occurring methane that may emanate from below the cap.

The approved GVL (i.e., defined as SKAPS TN-220-2-6 in Amec Foster Wheeler's *EOR Closure Report* consisted of an extruded polyethylene drainage net structure (or geonet) sandwiched between two non-woven geotextile layers. The GVL was placed by ESI, over the approved soil subgrade for areas above the Site water table at locations shown on the Record Drawings (*Appendix A1*).

The GVL rolls were typically oriented in a north to south direction. The leading edge of the GVL panels was held in place by sand bags until the subsequent panels could be placed and seamed. The placement strategy for this material was to limit the amount of GVL to be placed in a day, to an area that could also be covered by the LLDPE geomembrane that same day. This strategy was used to minimize the risk of the GVL and underlying subgrade from becoming wet during overnight rain events. GVL panels were not placed during precipitation events, in the presence of excessive moisture, or during high winds.

GVL panels were placed according to Section 02380 – Gas Venting System as defined in *100% Design* package. GVL was generally placed with the predominant flow direction towards the edge of the cap with GVL panels running parallel to any slopes or elevation changes (i.e. running up/down the slope and not across the slope). For adjacent GVL panels, the following minimum seaming requirements were met:

- Adjacent rolls of GVL were placed so that the geonet overlapped by 2 to 3-inches, and the geotextiles overlapped by at least 4-inches;
- The bottom layer of geotextile (underneath the geonet) was overlapped to ensure that no areas of the soil subgrade were exposed;
- White plastic fasteners were placed at a maximum of every 5 ft. along the seam to connect adjacent pieces of the GVL panels. Additional fasteners were requested by the QA team when the seams extended down slopes or at significant subgrade elevation changes. *Figure 4* below shows placement of the white plastic fasteners; and
- Once the geonet was tied with a sufficient number of fasteners, the top geotextile of the GVL panel was continuously sewn as shown in *Figure 5* below.

Figure 4 – Typical Placement of GVL & Joining of the Net with Plastic Fasteners

Figure 5 – Typical Sewing of GVL (for top layer of geotextile)

During placement of the GVL, butt seams, rips, tears, or other damaged areas of the GVL were repaired by exposing an appropriate area of geonet, placing fasteners as defined in the project specifications, and covering the area with a new piece of geotextile which was leistered in-place. Additional details of the GVL placement are further described in the Langan Daily Reports and Photo Logs provided in *Appendix E*.

2.4.3 Geosynthetic Clay Liner (GCL)

The approved GCL consisted of granular sodium bentonite clay sandwiched between, supported, and encapsulated by two geotextiles, and held together by needled punching. The approved GCL consisted of Cetco Bentomat DN (as further defined in Amec Foster Wheeler's EOR Closure Report.

The approved GCL was deployed by ESI in accordance with Section 02375 – Geosynthetic Clay Liner as defined in the *100% Design* package. GCL was placed directly over the approved soil subgrade, at locations situated below (to 1 ft. above) the site water table. GCL was generally placed along the eastern end of SA-6 North (northern and eastern side of the cap), as the east end of the site was constructed at a lower elevation than the west end. The location of the GCL placement is also shown on the Record Drawings (*Appendix A1*).

During placement of the GCL, granular bentonite was placed along the GCL seams as outlined in the project specifications and shown on *Figure 6* below. No GCL was placed during precipitation, in the presence of excessive moisture, or during high winds.

Figure 6 – ESI Placing Granular Bentonite along GCL Seams

Additional details on the placement of the GCL are further described in the Langan Daily Reports and supporting photo logs provided in *Appendix E*.

2.4.3.1 Bentonite Sand Plug

As outlined in specification Section 02375 – Geosynthetic Clay Liner of the *100% Design* package, a sand bentonite plug was constructed on the inboard side of the HB wall for wall sections below Elevation 7 (below the site groundwater table) along the edges of SA-6 North. This bentonite sand plug was constructed in the field by Entact by mixing clean sand with sodium montmorillonite at a 90% sand to 10% bentonite ratio.

The plug was constructed to a depth of approximately 18-inches below the HB wall elevation, and was approximately 2 ft. wide. Additional details on the edge connection details are provided below in *Section 2.4.3.2*.

2.4.3.2 GCL to Barrier Wall Connection Details

GCL to Barrier Wall Logs are provided within *Appendix F*. As per the approved Langan CQA Plan, Amec Foster Wheeler completed a GCL to Barrier Wall (HB Wall & SCB) Connection Detail form for the low-lying areas of SA-6 North (below the Site water table). This form documented that the bentonite sand plug was appropriately constructed, that the barrier wall was clean and exposed, and that the appropriate GCL overlap (1 ft. minimum) was maintained.

2.4.4 60-mil Low Linear Density Polyethylene (LLDPE) Geomembrane

A textured LLDPE geomembrane manufactured to a nominal 60-mil thickness was placed over the 16 oz geotextile (installed over the HB/SCB wall), GVL and GCL layers at the Site to mitigate groundwater infiltration through the cap. The 60-mil LLDPE geomembrane was placed directly over the GVL and GCL geotextiles. The 60-mil geomembrane was placed in accordance with specification Section 02372 – Cap Geomembrane Liner as defined in the *100% Design* Package. The location and placement of the LLDPE panels is documented on the ESI Panel Placement Logs provided in *Appendix G*.

ESI deployed the geomembrane rolls in a general north to south orientation. Hand clamps were used on the edge of the panels to aid in the final positioning, as required. The leading edge of the LLDPE geomembrane panels were held in place by sand bags until the subsequent panels could be placed and seamed via fusion welding methodology. The number of panels deployed in a single day was limited to the amount that could be field seamed that same day. No panels were placed during precipitation, in the presence of excessive moisture in the subgrade, or during high winds. The minimum ambient temperature for seaming was specified as 32°F, with a maximum ambient temperature of 104°F. No cold or hot weather seaming was conducted as temperatures did not reach below 32°F, or above 104°F during geomembrane installation.

Each individual LLDPE panel was observed for damage by ESI, Entact, and Langan during the installation process. Prior to seaming, the approved geomembrane was observed by Langan to evaluate that the material for defects or damage prior to seaming. Areas observed to be damaged / defective, or areas where the geomembrane had to be custom cut to conform to the subgrade contours, were marked for repair. Repairs were completed in the field by ESI via patching and welding the geomembrane as further described below. All repairs were

documented and recorded on the Record Drawings (*Appendix A2*). Additional details on the repair methodology and types of repairs are further described in *Section 2.4.4.4*.
The LLDPE geomembrane was seamed in the field by one of two welding methods: extrusion and double-fusion. Extrusion welding was used for repairs, short seams, and areas where the double fusion could not operate. Extrusion welding was performed with a hand held extrusion welding gun. The double-fusion seaming (fusion welding) was performed using a self-propelled "wedge welder" which formed an air channel between the two seams. Fusion welding was performed with a minimum of 4-inches overlap as per the project specifications.

The integrity of the welds was monitored by both destructive and non-destructive test methods. The destructive testing consisted of the collection of samples from the completed seams at a minimum frequency of one sample per 500 ft. of weld (for both fusion and extrusion welds) for the first twenty-five (25) samples collected. Based on the results of the first 25 samples, the sampling frequency may be modified as outlined in *Section 2.4.4.3.* A representative of Langan was onsite to confirm the locations of the destructive samples along with a representative of ESI.

The destructive samples were analyzed by Geotechnics, Inc. (Geotechnics) the Contractor's Material Quality Control Laboratory. Langan also collected additional QA samples (approximate 15% of total samples collected) and submitted samples to TRI Environmental, Inc. (TRI) for independent QA testing. Destructive sample locations were repaired in the field and confirmed with vacuum box testing. All destructive sample locations have been recorded and are shown on the Record Drawings (*Appendix A2*). The laboratory results of the destruct samples are discussed further in *Section 2.4.4.3* below.

In addition to the destructive testing, non-destructive testing was completed by ESI during cap construction. Two types of non-destructive tests were used at the Site: air channel tests (pressure tests) and vacuum box tests as defined further below. In addition for all pipe boot / penetrations, spark testing was also completed at the base of the boot and vertical weld (areas not accessible for vacuum box testing) to confirm the integrity of the extrusion weld:

1. Pressure Testing - The pressure tests were conducted on 100% of all the double fusion welded seams where both ends of the seam were clamped and sealed and a pressure needle was inserted into the air channel. The air channel was then pressurized to thirty pounds per square inch (psi) and the pressure was maintained for a minimum of five minutes. If the pressure did not stabilize, or a pressure drop greater than four psi was noted over a five minute span, then the seam was deemed unacceptable and the faulty area was isolated and repaired. Results of the non-destructive testing are discussed further in *Section 2.4.4.2* below.
2. Vacuum Box Testing - For patch / repair work and other areas where extrusion welding was required, the extrusion welds were vacuum box tested by ESI. A soapy solution was applied to the weld area, and a vacuum box was placed over the weld for a minimum of ten seconds and observed for the appearance of soap bubbles. No failed vacuum box tests were encountered during the extrusion weld testing for SA-6 North.
3. Spark Testing – Spark testing was conducted for the vertical weld on the "sleeve" and horizontal weld on the "skirt" (base of boot) weld for the pipe boot / penetrations at the

site. This included piezometers, gas vents, monitoring wells, injection wells, and access manholes. The spark test strategy included installing a copper wire under the extrusion weld, and applying a charged probe to complete the circuit when testing. If any deficiencies were present in the weld, the probe and wire would arc, thus causing a visible spark to identify the location. Individual forms were generated to document the installation of each boot / penetration. Additional details on the pipes / penetrations encountered, as well as the spark testing details, are further described in *Section 2.4.4.5 and Section 2.4.4.5.1*, respectively.

For additional details on the geomembrane placement, destructive and non-destructive testing, patch / repair work, and other geomembrane related construction activities, refer to the Langan Daily Reports and Photo Logs provided in *Appendix E*.

2.4.4.1 Trial Weld Logs

Prior to any seaming of the geomembrane each day, the fusion and/or extrusion welding equipment was used to conduct trial welds (or test strips) to confirm that the material and equipment met the specification requirements. Test strips were collected (using the same 60 mil LLDPE geomembrane placed across the cap) by completing a sample fusion or extrusion weld. This activity included producing several types of seams to qualify that a specific seamer and apparatus would yield the desired specified performance requirements. These seam types included: smooth-to-smooth, smooth-to-texture, and texture-to-texture. It should be noted that the 60 mil geomembrane installed across the cap was textured (60-mil Microspike); however, the manufacturer's product has a smooth edge for welding.

The trial welds were cut and tested on a portable tensiometer by ESI. Langan and Entact observed the trial weld tests to confirm that the minimum peel and shear values were obtained as per specification Section 02372 – Cap Geomembrane Liner defined in the *100% Design* package. These trial welds were completed prior to commencement of seaming at the start of each day, and once every four hours. The results of daily trial weld logs are provided in *Appendix H*.

2.4.4.2 Non-Destructive Testing Results

Non-Destructive Pressure Testing (i.e., using vacuum box testing) was conducted along the geomembrane panels, and the repaired / patched areas by ESI, as per the project specifications. The results of the non-destructive testing for each of the panel seams are provided in the Seam Control Log shown in *Appendix I*. Additionally, the associated repairs and the corresponding vacuum box testing results are presented in the ESI Repair Report attached in *Appendix J*.

During the construction of the cap at SA-6 North, there were no observed non-destructive test failures during the field testing. All vacuum box and pressure tests were in compliance with Section 02372 – Cap Geomembrane Liner.

2.4.4.3 Destructive Testing Results

Destructive testing was conducted for the fusion and extrusion welding that was completed along the edge of the geomembrane panels. Destruct samples were collected at a minimum sampling interval of 500 linear feet (LF) of seaming length for the initial twenty-six (26) samples. The locations of the destruct samples were identified in the field by the Independent QA Engineer (Langan) and are shown on the Record Drawings (*Appendix A2*). Once the destruct sample locations were determined, ESI cut and tested the destruct samples (as per the project specifications).

A total of ten (10) 1-inch wide specimens were cut from the destruct sample for field testing. These samples were then tested by a tensiometer equipped with a drive/pull apparatus rate of 20-inches per minute. Five of the specimens were tested for peel strength, and the remaining five for shear strength. The samples were tested to confirm that the geomembrane met the specified peel and shear strength values outlined in *Table 1* below. Additional details on the test results are provided on the Destructive Sample Information Log attached as *Appendix K.*

Table 1 – LLDPE Geomembrane Seam Property Requirements

Property	Test Method	60-mil LLDPE Value
Shear Strength (min. avg.)	ASTM D 6392	90 lb/in
Peel Strength – Extrusion (min. avg.)	ASTM D 6392	66 lb/in
Peel Strength – Fusion (min. avg.)	ASTM D 6392	75 lb/in

In addition to the field testing completed by ESI, thirty-six (36) fusion weld destruct samples, and seventeen (17) extrusion weld samples were sent to Geotechnics for lab verification.

A total of thirty-six (36) fusion weld destruct samples (DS-1 through DS-36) were collected during the capping of SA-6 North. The first 26 fusion weld destruct samples were collected every 500 LF and all samples met the specified destructive testing requirements outlined in *Table 1* with the exception of sample DS-26 as defined in further detail below. As per the specification, the frequency of fusion weld destruct sampling was reduced from every 500 LF of welded seam to every 1,500 LF of welded seam; however, additional destruct samples were collected (at approximately 500 LF to 600 LF) immediately after sample location DS-26 to confirm that they met the specification requirements. A summary of the peel and shear QA testing conducted for the 36 fusion weld samples collected is summarized in *Appendix L*.

As shown in the fusion weld destruct sample summary, destruct sample DS-26 was reported as EPA Break Classification Code "AD BRK". Although the specimen met the required peel and strength parameters, since the coupons broke at the weld and was not considered a film tearing bond (FTB), the sample was reported as a failed test. As such, additional samples were cut at approximately 10 ft. on either side of DS-26 (DS-26A and DS-26B). Both samples were field tested and the peel and shear criteria were achieved. Additionally, the sample that exhibited the lower peel and shear values (DS-26A) was sent for confirmatory laboratory analysis. The analytical results for sample DS-26A confirmed that the sample met the minimum peel and shear strength values. Additional details on this non-compliance issue are described in further detail in *Section 2.4.6.*

A total of 17 extrusion destruct samples were collected throughout the capping of SA-6 North. *Table 2* below summarizes the results of the extrusion weld destruct samples collected and corresponding laboratory data, peel and shear averages, and compliance with specification Section 02372 – Cap Geomembrane Liner outlined in the *100% Design* package.

Table 2 – Summary of ESI / Langan QA Testing - Extrusion Weld Data

Honeywell SA-6 Capping										
Comparison of ESI / Langan (QA) Destruct Samples - Extrusion Welds										
Sample ID	***Weld Type***	***Submitted By:***	***Test***	***Peel Strength (ppi)***					**Avg. Strength (ppi)**	***Meets Spec Requirement***
DSX-1	Extrusion	Langan	Peel	134	142	137	136	136	**137**	**Yes**
DSX-1		Entact	Peel	140.9	139.6	140.3	138.5	138.5	**139.6**	**Yes**
DSX-1		Langan	Shear	127	130	128	124	126	**127**	**Yes**
DSX-1		Entact	Shear	136.5	137.1	137.1	134.8	134.8	**136.1**	**Yes**
DSX-2	Extrusion	Entact	Peel	128.1	125.7	128.2	126.1	128.5	**127.3**	**Yes**
			Shear	136.2	131.8	132.6	136.1	134.8	**134.3**	**Yes**
DSX-3	Extrusion	Entact	Peel	124.6	124.1	125.2	129.4	125.5	**125.8**	**Yes**
			Shear	128.5	128.9	133.8	127.2	127.8	**129.2**	**Yes**
DSX-4	Extrusion	Entact	Peel	105.1	114	109.8	114.8	112	**111.1**	**Yes**
			Shear	132.5	129.3	136.2	129.2	131	**131.6**	**Yes**
DSX-5	Extrusion	Entact	Peel	120.6	118.6	119.8	118.8	122.8	**120.1**	**Yes**
			Shear	122.3	131.8	120.3	121.7	129.5	**125.1**	**Yes**
DSX-6	Extrusion	Entact	Peel	110.4	117.4	125.7	122.8	120.6	**119.4**	**Yes**
			Shear	127.7	126.1	127.5	127.4	131.5	**128.0**	**Yes**
DSX-7	Extrusion	Entact	Peel	123.4	113.7	115.5	119.5	110.2	**116.5**	**Yes**
			Shear	123.8	127.3	125.5	126.1	122.9	**125.1**	**Yes**
DSX-8	Extrusion	Entact	Peel	93.5	113.2	123.2	102	108.6	**108.1**	**Yes**
			Shear	137.8	141	136.9	135.5	137	**137.6**	**Yes**
DSX-9	Extrusion	Entact	Peel	125.4	129.2	126	122.2	128.9	**126.3**	**Yes**
			Shear	139.5	139.8	145.3	139.6	140.4	**140.9**	**Yes**
DSX-10	Extrusion	Entact	Peel	121.2	118.9	118.5	119.6	113.9	**118.4**	**Yes**
			Shear	124.1	121.4	125.8	122.7	126.1	**124.0**	**Yes**
DSX-11	Extrusion	Entact	Peel	108.7	109.9	110.7	109.4	116.9	**111.1**	**Yes**
			Shear	118.4	118.3	119.5	120.3	124.5	**120.2**	**Yes**
DSX-12	Extrusion	Entact	Peel	102.2	112.6	123.2	118.7	123.8	**116.1**	**No**
			Shear	135.2	134.2	136.6	127.5	134.6	**133.6**	**Yes**
DSX-13	Extrusion	Langan	Peel	140	139	138	155	138	**142**	**Yes**
		Entact	Peel	114.6	112.6	114.7	110.3	112.8	**113.0**	**Yes**
		Langan	Shear	147	149	155	157	151	**152**	**Yes**
		Entact	Shear	115.5	116.8	114.2	114	118.7	**115.8**	**Yes**
DSX-14	Extrusion	Entact	Peel	112.5	111	110.6	113.4	111	**111.7**	**Yes**
			Shear	111.9	113.4	111.5	112	114.6	**112.7**	**Yes**
DSX-15	Extrusion	Entact	Peel	120.7	123	106.2	127.4	121	**119.7**	**Yes**
			Shear	132.2	136	132.7	132	132.1	**133.0**	**Yes**
DSX-16	Extrusion	Entact	Peel	129	127.4	125	125.7	130.7	**127.6**	**Yes**
			Shear	130.3	127.1	129.2	133	133.9	**130.7**	**Yes**
DSX-17	Extrusion	Langan	Peel	118	119	118	119	123	**119**	**Yes**
		Entact	Peel	124	118.5	120.5	126	125	**122.8**	**Yes**
		Langan	Shear	133	130	132	129	130	**131**	**Yes**
		Entact	Shear	129.9	129	129.8	129.2	134	**130.4**	**Yes**

Extrusion weld destruct samples were collected at every 500 LF of weld and as shown on *Table 2*, all extrusion weld samples were in compliance with the project specifications.

In addition, Langan collected a total of six (6) QA samples (4 fusion weld samples and 2 extrusion weld samples) to verify the results of the Geosynthetic Installer's laboratory data. Langan's QA samples were submitted to Texas Research Institute Environmental, Inc. (TRI). The results of the ESI and Langan destruct samples indicated that the peel and shear strength values met the requirements outlined in the project specifications. Furthermore, the additional QA samples collected by Langan yielded values that were in close proximity to the values obtained by ESI (which were generally lower than the values obtained by Langan's QA laboratory). The Laboratory Destruct Test Results are provided in *Appendix L*.

2.4.4.4 Repair Reports

Several different types of repairs were observed and recorded during field activities by ESI. These corresponding repairs are documented in the ESI Repair Report provided in *Appendix J* and depicted on the Record Drawings (*Appendix A2*), and consisted of the following types of repairs:

- Custom Fit Repairs (CF) – Custom Fit Repairs consisted of areas of the geomembrane cap where the geomembrane was cut (and subsequently repaired) to allow the geomembrane to conform to the cap contours. These areas were typically located where there were abrupt elevation changes, such as drainage and utility swales, utility corridors, and planting areas;
- Wrinkles (WR) – Wrinkles consisted of areas where excess geomembrane was observed. Where the size of the wrinkle was determined to be detrimental to the geomembrane (i.e. wrinkles with the potential for folding), the wrinkle was cut, and the excess geomembrane was overlapped and sealed with an extrusion weld in accordance with the project specifications;
- Burnouts (BO) –Wedge burnouts occurred where the wedge became jammed thus causing the welder to burn / melt through the geomembrane seam. These areas were subsequently patched and repaired according to the project specifications;
- Destruct Samples (DS & DSX) – These areas consisted of the geomembrane destruct samples that were cut for laboratory testing. The removal of the sample creates a hole in the seam, thus these areas were subsequently patched according to the project specifications;
- Pipe Boots (PB) – Pipe boots were installed where penetrations of the geomembrane occurred such as at monitoring wells, injection wells, piezometers, gas vents, and access manholes. Additional details regarding the pipe boot construction are provided in *Section 2.4.4.5;*
- Add On (AO) – AO areas consisted of sections of SA-6 North where an additional piece of geomembrane was required to finish a geomembrane run across the cap (from north to south);

- Seam Joints (SJ) – Seam joints consisted of the areas where non-destructive testing (pressure testing) was conducted along a "T" section of the geomembrane;
- Subgrade Irregularities (SI) – Subgrade Irregularities consisted of areas along the geomembrane cap where a rock or object larger than ½-inch in diameter was encountered underneath the geomembrane after the material had been placed. These areas were subsequently cut, the rock/debris removed, and the area patched / repaired according to the project specifications. These SIs were identified as non-compliance issues and are discussed in further detail in *Section 2.4.6* below;
- Damage By Others (DO) – DO areas consisted of a deficiency or cut in the LLDPE geomembrane that required repair. This also included the grounding rod puncture through the LLDPE geomembrane that occurred by an outside contractor after the LLDPE had already been covered with the protective cover soil. This incident was identified as a DO instance and was also considered a non-compliance issue which is discussed in further detail in *Section 2.4.6* below.

Additional details on the geomembrane repairs are provided in *Appendix J* and the non-compliance issues observed during field activities are summarized within *Appendix M*.

2.4.4.5 Geomembrane Penetrations & Pipe Boot Installation

The geomembrane penetration and pipe boot logs are provided in *Appendix N*. The pipe boots were field fabricated by ESI, and the boots were installed at monitoring wells, injection wells, gas vents, piezometers, and access manhole penetrations across the cap.

The geomembrane boots consisted of a vertical (minimum of 2 ft.) section of LLDPE being wrapped around the penetration (i.e. well, gas vent, etc.) from the base to the top of the penetration. Prior to welding, the joints for the pipe boots covering the penetration were equipped with a copper wire to facilitate spark testing as discussed in further detail in *Section 2.4.4.5.1* below. The geomebrane wrap was then heat sealed and an extrusion weld was placed with a vertical seam connecting the two pieces of geomembrane. The end of the boot terminated in a skirt section which was placed over the boot. The skirt and the geomembrane overlapped a minimum of 18-inches and the skirt was welded to the geomembrane.

A neoprene rubber gasket was used between the boot and the penetration and secured with a 1-inch wide stainless steel clamp (or two ½-inch clamps). An LLDPE sacrificial sheet was then placed between the boot and the clamp for protection and a butyl sealant was applied along the top of the boot. *Figure 7* below shows the typical construction of a geomembrane pipe boot in the field by ESI. The welding of each boot was observed by Langan, and each boot fabrication was documented on an individual boot fabrication form provided in *Appendix N*. The seven (7) typical types of penetrations present on the SA-6 North cap are defined below.

Figure 7 – Typical Geomembrane Pipe Boot Construction

Monitoring Wells

A total of four (4) monitoring wells were located within the SA-6 North cap. The monitoring wells were constructed with PVC and were encased within a minimum 4-inch metal casing. Refer to *Appendix N* for the penetration and boot logs for monitoring wells: 115-W1-SO, 115-W6-SO, 115-E4-SO, and 115-E5-SO.

Injection Wells

A total of three (3) injection wells were located within the boundaries of the SA-6 North cap. The injection wells were constructed with PVC and were encased within minimum 4-inch metal casing. Additional details are provided in Appendix N for injection wells 088-IW-01, 088-IW-02, and 088-IW-03 as well as the Record Drawings (*Appendix A2*).

Gas Vents

A total of six (6) gas vents were constructed through the SA-6 North cap. Gas vents were completed in accordance with Section 02380 – Gas Venting System of the *100% Design* Package to allow any naturally occurring methane to vent to the atmosphere. Refer to *Appendix N* for the penetration and boot logs for gas vents GV-1 through GV-6, with the corresponding locations shown on the Record Drawings (*Appendix A2*).

Piezometers

A total of five (5) piezometers were installed through the cap to allow the project team to compare the groundwater within capped area to the groundwater immediately outside of the cap. Piezometers were encased within a minimum of 4-inch steel casing. Refer to *Appendix N* for the penetration and boots logs for piezometers PZ-2, PZ-4, PZ-6, PZ-8, and PZ-10, and to the Record Drawings (*Appendix A2*) for the corresponding piezometer locations.

Cleanout Structures

A total of two (2) cleanout stations were installed at SA-6 North to provide access to the groundwater treatment piping for areas where access manholes were not practical. Additional details are provided in *Appendix N* for the penetration and boot logs completed for Cleanout 1

and Cleanout 2. Refer to the Record Drawings (*Appendix A2*) for the corresponding cleanout locations.

Horizontal Drain Pipe
One horizontal drainage pipe was installed along the southern end of the cap within the bottom of the SA-6 North D-Street utility corridor. This pipe is aligned with the perimeter pool clay plug located between the N1 pool and N2 pool. The drain penetrates the SCB wall and clay plug and drains to the interior of SA-7. The drain allows for gravity flow from the bottom of the utility corridor to the exterior of the cap. Additional details are provided within *Appendix N*, and the Record Drawings (*Appendix A2*).

Pump Station and Access Manholes
A total of two pump stations and two access manholes were completed with field fabricated geomembrane boots. Refer to *Appendix N* for the penetration and boot logs for Access Manhole Sta. 1+00, Extraction Pump Station 1, Extraction Pump Station 2, and Access Manhole Sta. 18+00 with the corresponding locations shown on the Record Drawings (*Appendix A2).*

2.4.4.5.1 Spark Testing

Prior to spark testing, Amec Foster Wheeler conducted methane testing at each pipe boot location to determine the percentage of methane present below the geomembrane boot. In the event that methane was greater than 1%, spark testing was not completed and the weld was visually observed for any deficiencies. If methane testing was less than 1%, spark testing was conducted by ESI and if no sparks were observed the spark test passed. If sparks were observed, then the weld was reported as a failed weld. Failed spark tests were also identified as non-compliance issues as further described in *Section 2.4.6*.

Design Change 2015-12-14 added the spark testing provisions for the SA-6 North cap. Spark testing was completed at the site at the pipe boot / penetration locations across SA-6 North, and was conducted to test the integrity of the vertical weld and base weld of the boot, as these areas could not be tested via vacuum box testing. To complete the spark test, a thin copper wire (approximately 20 gauge) was placed along the base of the boot and vertical weld prior to extrusion welding. The extrusion welding was conducted over the vertical seam and base of the boot where the copper wire was placed. A handheld probe was then utilized to attempt to complete a arc, thus causing the probe and wire to visibly spark. If any sparks were observed, the area was grinded, rewelded, and re-tested. Additional details are provided in the Spark Test Logs provided in *Appendix O*. *Figure 8* below shows ESI conducting spark testing along the base of a boot.

Figure 8 – ESI Conducting Spark Test at Base of Boot

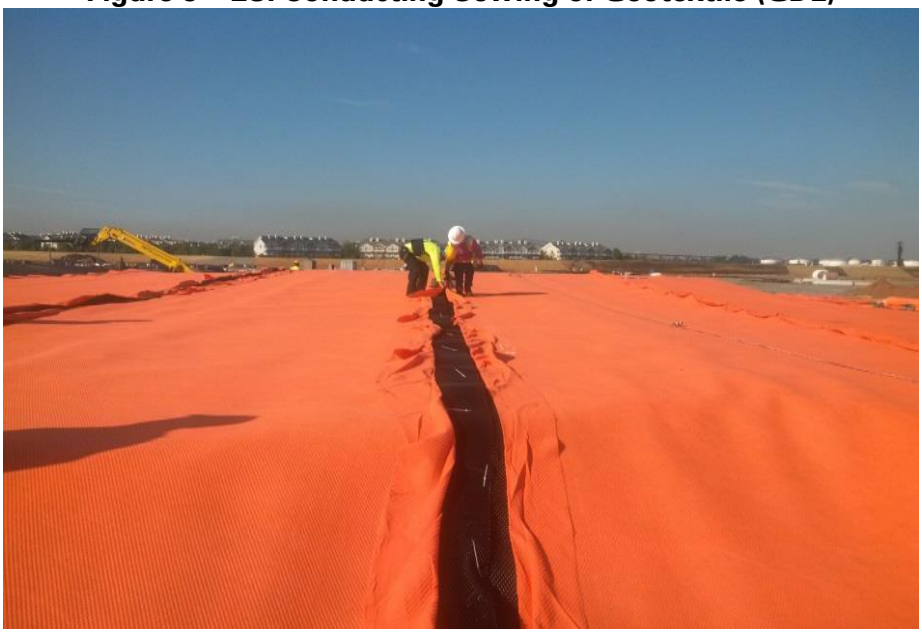
2.4.5 Geocomposite Drainage Layer (GDL)

To facilitate drainage and transport of infiltrated surface water off the cap, a geocomposite drainage layer (GDL) consisting of a geonet with a non-woven geotextile bonded to both sides (i.e., defined as SKAPS TN 330-2-6) was deployed across SA-6 North. The GDL was placed at the site by ESI and was placed directly over the geomembrane cap as shown on the Record Drawings (*Appendix A3*).

GDL panels were placed according to the specification Section 02374 – Geocomposite Drainage Layer as defined in the *100% Design* package. For adjacent GDL panels, the following minimum seaming requirements were met:

- Adjacent rolls of GDL were overlapped so that the geonet overlapped by 2 to 3-inches, and the geotextiles overlapped by at least 4-inches;
- The bottom layer of geotextile (underneath the geonet) was overlapped so that no areas of the underlying geomembrane were exposed;
- White plastic fasteners were placed at a maximum of every 5 ft. along the seam. Additional fasteners were requested by the QA team when the seams extended down the slopes or elevation changes were noted; and
- Once the geonet was tied with a sufficient number of fasteners, the top geotextile of the GDL was continuously sewn as shown in *Figure 9* below.

Figure 9 – ESI Conducting Sewing of Geotextile (GDL)



During placement of the GDL, butt seams, rips, tears, or other damaged areas of the GDL were repaired by exposing an appropriate area of geonet, placing fasteners as defined in the project specifications, and covering the area with a new piece of orange geotextile (same as the GDL geotextile) which was heat sealed in place.

Once the GDL was placed, Entact placed protective cover soil (i.e., 1 ft. layer of material) directly over the GDL. In addition, yellow caution tape was placed every 55-inches over the GDL prior to protective cover soil placement. The caution type had bold type which indicated "Danger Do Not Dig – Peligro No Excavar" in English and Spanish. Additional details on the GDL placement are provided in the Langan Daily Reports and Photo Logs provided in *Appendix E*.

2.4.6 Non-Compliance Issues

Summaries of Non-Compliance & Corrective Action Sheets are provided in *Appendix M*. During the SA-6 North capping activities, any QA field tests, observations, or failed samples that did not comply with the project specifications were documented and recorded as a non-compliance issue followed by repair or correction of these issues in accordance with the specifications. A total of fourteen (14) non-compliance issues were identified and repaired throughout the capping of SA-6 North and are summarized below:

1. Subgrade Irregularities – Refer to Sheet Numbers 1, 2, 5, 6, 7, 8, and 13 of the Non-Compliance & Corrective Action Sheets (*Appendix M)*. In general, the subgrade irregularities consisted of stones or other material greater than ½-inch in size encountered below the geomembrane cap after the material had been placed and secured. These objects were removed by cutting the geomembrane, removing the object, and patching the geomembrane in accordance with the project specifications. The subgrade showed no indication of these items at the time of subgrade approval,

and it is postulated that these items were dislodged from the subgrade as the GVL was drawn across the subgrade surface;

2. Failed Destruct Sample – Refer to Sheet Number 9 (*Appendix M*). Fusion weld destruct sample DS-26, which was collected from Panel Seam P-72 / P-74 was reported as EPA Break Classification Code "AD BRK". Although the peel and shear strength requirements were met, since the coupons broke at the weld and were not considered film tearing bond (FTB), the sample was reported as a failed sample. Two field samples (DS-26A and DS-26B) were cut approximately 10 ft. on each side of the DS-26 seam and field tested. Both samples met the peel and shear strength requirements. Additionally, sample DS-26B (lesser peel and shear strength values than 26-A) was sent for confirmatory laboratory analysis, which indicated peel and shear strength values were in compliance with project specifications.
3. Failed Spark Tests – Refer to Sheet Number 3, 4, 11, 12 and 14. During spark testing of boots Well 115-E4-SO, a spark was observed during testing along the base of the boot and/or vertical weld for Piezometer PZ4, Gas Vent GV-5, Well 115-W1-SO, Well 115-E4-SO, and Well 115-E5-WO. For each of the failed areas where a spark was observed, the area was grinded, re-welded, and retested with the spark retest passing (i.e. no sparks observed); and
4. Geomembrane Puncture (Equipment) – Refer to Sheet Number 10 (*Appendix M*). During outside construction activities at the site, an equipment puncture through SA-6 North on Panel P-36 (north end) was observed as a grounding rod was driven through the membrane. This puncture was subsequently repaired / patched, welded, and vacuum box tested by ESI, according to the project specifications. The repair associated with the puncture was identified as repair RP-418, and was listed as Damage by Others (DO) on the Non-Compliance Log.

Additional details on the non-compliance issues encountered, as well as the subsequent repair activities, are further described in the Langan Daily Reports and Photo Logs provided in *Appendix E*.

3.0 DECLARATIONS

3.1 General

Langan personnel have monitored the construction and field activities completed for the capping of SA-6 North specific to the subgrade preparation and placement of the geotextile and geocomposite materials as defined herein. Based on the field observations made by Langan along with the field and laboratory test data collected by the Contractor and Subcontractors, it is our professional opinion that the construction observed at SA-6 North complied with the approved *100% Design* package. Additional details on the work and approval of materials is outlined in the *EOR Closure Report*.

3.2 Limitations

This Cap Geosynthetic Quality Assurance Report (QA Report) was prepared by Langan (in conjunction with Amec Foster Wheeler) for the exclusive use of Honeywell. This QA Report

applies specifically to the subgrade preparation and construction of the geosynthetics components of the SA-6 North cap only.

The construction observations and monitoring were conducted under the conditions stated. Conclusions made in this report were based on these observations and data obtained from field and laboratory tests conducted on the QA samples collected.

The topographic survey measurements were completed by Entact and their licensed surveyor Maser and were subject to review and approval by Amec Foster Wheeler. Langan did not independently verify the accuracy of this data.

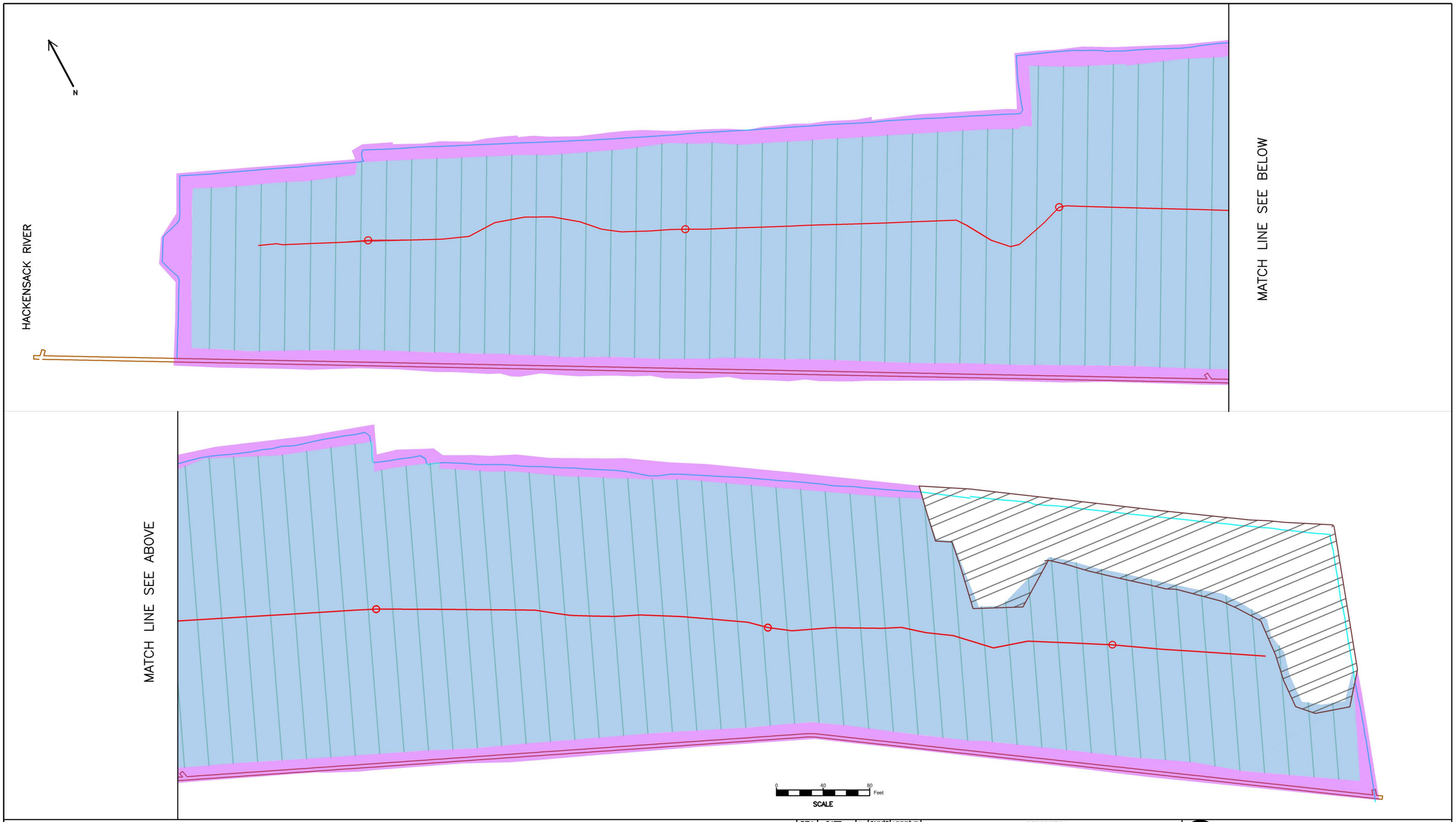
Acceptance of the geosynthetic materials used for the SA-6 North cap construction was completed by Amec Foster Wheeler. Furthermore, the QC laboratory testing was completed by Geotechnics (under the direction of Entact) and QA laboratory testing was completed by TRI (under the direction of Langan).

The approval of all materials used for this project was completed by Amec Foster Wheeler in the *EOR Closure Report*. The geosynthetic production quality testing was completed by AGRU America, Inc. and their subcontracted companies working on their behalf. Langan did not independently verify the accuracy of the conformance test data.

Appendix A : Record Drawings

A1. GVL / GCL Record Drawing
A2. LLDPE Geomembrane Record Drawing
A3. GDL Record Drawing

A1. GVL / GCL Record Drawing



LEGEND

- CLASS A/16 OZ GEOTEXTILE
- GEOCOMPOSITE GAS VENT LAYER (GVL)
- GEOSYNTHETIC CLAY LINER (GCL)
- GAS VENT (NOT TO SCALE)
- GAS VENT PIPE
- SCB WALL
- HB WALL (Inner Edge)

NOTE: Drawing is schematic in nature. Actual seam locations may vary due to the geomembrane grading.

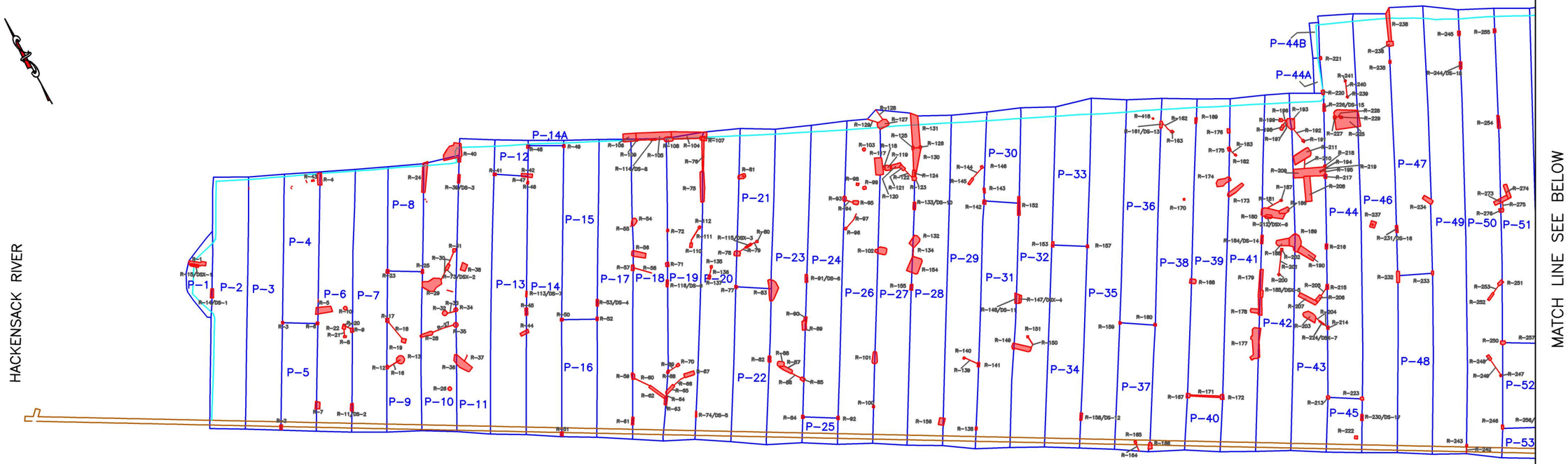
REV	DATE	BY	CHK'D	APPR'VD	DESCRIPTION
0	10/27/16	EP	CP	CP	RECORD DRAWING
1	11/04/16	EP	CP	CP	RECORD DRAWING

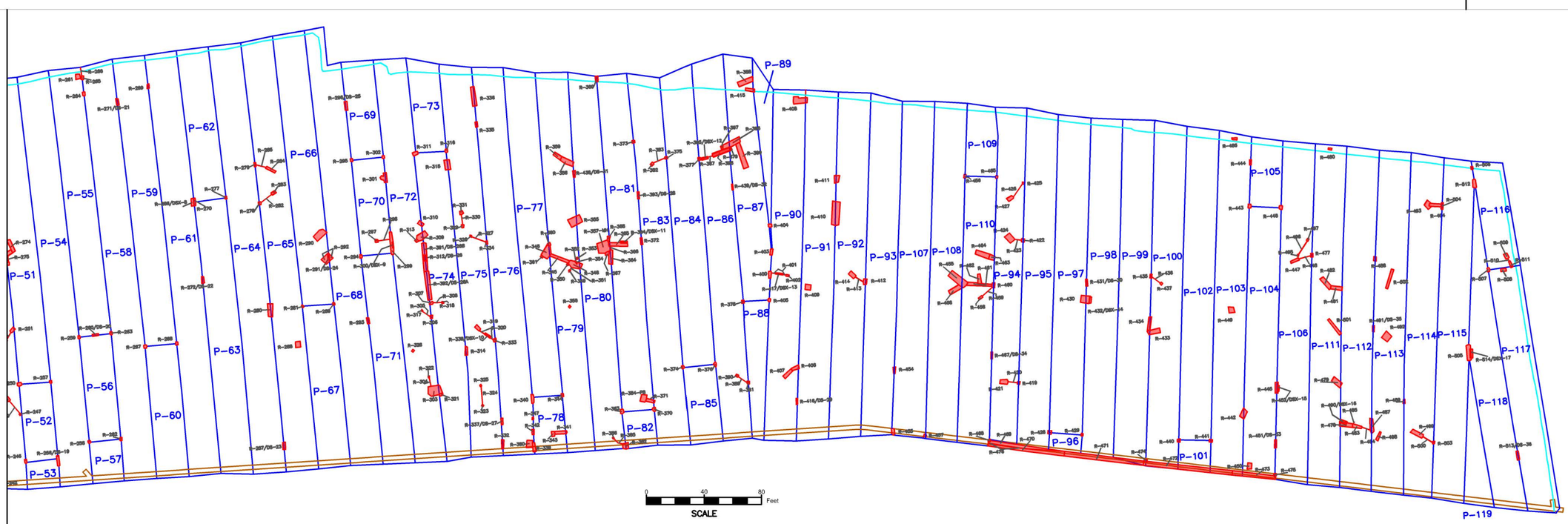
ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 NORTH CAP GVL/GCL Layout
Class A Geotextile/Gas Vent Layer/Geosynthetic Clay Liner
11/04/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

A2. LLDPE Geomembrane Record Drawing





LEGEND

- R-1 (Repair Number)
- LINER SEAM/EDGE
- SCB WALL
- HB WALL (Inner Edge)

R: Repair

DSX: Destructive Extrusion Weld Test

DS: Destructive Fusion Weld Test

P: Panel

NOTE: Drawing details are schematic in nature. Actual seam locations and repair dimensions may vary due to the geomembrane grading. Repair locations are recorded in the repair logs.

NOTE: Refer to ESI Repair Report for repair details

REV	DATE	BY	CHK'D	APPRV'D	DESCRIPTION
0	10/27/16	EP	CP	CP	RECORD DRAWING
1	11/04/16	EP	CP	CP	RECORD DRAWING
2	11/18/16	EP	CP	CP	RECORD DRAWING

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SA6 NORTH CAP PANEL LAYOUT
60 mil Textured LLDPE Geomembrane
11/18/16

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

A3. GDL Record Drawing

LEGEND

- GEOCOMPOSITE DRAINAGE LAYER (GDL)
- CAP SUBGRADE CONTOUR
- SCB WALL
- HB WALL (Inner Edge)

NOTE: Drawing is schematic in nature. Actual seam locations may vary due to geomembrane grading.

REV	DATE	BY	CHK'D	APPR'VD	DESCRIPTION
0	10/27/16	EP	CP	CP	RECORD DRAWING
1	11/04/16	EP	CP	CP	RECORD DRAWING

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SA6 NORTH CAP PANEL LAYOUT GEOCOMPOSITE DRAINAGE LAYER 11/04/16

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

Appendix B
SA-6 North Certificate of Completion

PROJECT COMPLETION REPORT

Project Name: Honeywell Chromium Area

Project Manager: Kevin Simms

Job Number: 12-11-1399

Superintendent: Tony Ung

Date Completed:

Item Number	Item Description	Completed Quantity
1	60 Mil LLPE Text	494,086 s/f
2	DS Composite 22-2-6 (Gas)	378,950 s/f
3	DS Composite 300-2 6 (Drain)	494,086 s/f
4	16 Oz. NW Geotextile	58,845
5	GCL	25,350
6	60" Manholes	4
	Total Linear Feet of Anchor Trench	
	Vertical Feet of Liner in Trench (per Detail)	

Item Number	Item Description	Completed Quantity
7	4" Pipe Boots	5
8	6" Pipe Boots	4
9	8" Pipe Boots	12
	Total Linear Feet of Tie in to Existing	
	Total Linear Feet of Tie in Slope to Floor	

The Quantities Listed Above Are Based On The Following :

- [x] Field measurements
- [ ] Quantities are agreed to at this time
- [ ] Quantities listed include geosynthetics in anchor trench
- [x] Job 100% complete
- [x] Field change orders were Issued — How Many? 1

Check All Applicable Boxes Below:

- [ ] Quantities listed include tie in / run out details
- [ ] Quantities to be verified by survey
- [ ] Quantities listed are per completed survey
- [ ] Job is partially complete.
- [ ] Anticipated remob date is:

- [x] The project has been left, by ESI, in a clean and orderly fashion acceptable to customer.

Initial by Customer / Rep

- [x] All work has been found satisfactorily completed and the work satisfies the Project plans and specifications

Initial by Customer / Rep

ESI Owned Materials Left On Site

Material Description	Roll Count	Total Square Feet	Notes

ESI Superintendent Signature

Tony Ung

Print Name

8-16-16

Date

Authorized Signature

Keith Gorsse

Print Name

Superv. / Entact

Title / Company

8-16-16

Date

Appendix C: Survey Construction Details

C1. Final Maser Subgrade Tables

C2. Subgrade Construction Control Grid

C1. Final Maser Subgrade Tables

Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

156 Stagecoach Road
Marmora, NJ 08223
T: 609.390.1927
F: 609.390.0040
www.maserconsulting.com

SA-6 North Cap Subgrade: Grid Points (Table 1.0)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
1	686039.50	602096.13	10.6	GRID	6/20/2016	10.6	0.0	Point surveyed within Tolerance
2	686061.08	602108.76	10.6	GRID	6/20/2016	10.5	-0.1	Point surveyed within Tolerance
3	686091.59	602155.60	11.4	GRID	6/20/2016	11.3	-0.1	Point surveyed within Tolerance
4	686070.02	602142.97	10.8	GRID	6/20/2016	10.8	0.0	Point surveyed within Tolerance
5	686048.45	602130.34	10.6	GRID	6/20/2016	10.6	0.0	Point surveyed within Tolerance
6	686026.87	602117.70	10.9	GRID	6/20/2016	11.0	0.1	Point surveyed within Tolerance
7	686005.30	602105.07	11.6	GRID	6/20/2016	11.5	-0.1	Point surveyed within Tolerance
8	685983.72	602092.44	11.6	GRID	6/20/2016	11.6	0.0	Point surveyed within Tolerance
9	685971.09	602114.02	11.9	GRID	6/20/2016	11.8	-0.1	Point surveyed within Tolerance
10	685992.67	602126.65	11.8	GRID	6/20/2016	11.8	0.0	Point surveyed within Tolerance
11	686014.24	602139.28	11.8	GRID	6/20/2016	11.7	-0.1	Point surveyed within Tolerance
12	686035.82	602151.91	11.7	GRID	6/20/2016	11.6	-0.1	Point surveyed within Tolerance
13	686057.39	602164.54	11.6	GRID	6/20/2016	11.6	0.0	Point surveyed within Tolerance
14	686078.96	602177.17	11.4	GRID	6/20/2016	11.4	0.0	Point surveyed within Tolerance
15	686066.33	602198.75	11.0	GRID	6/20/2016	11.0	0.0	Point surveyed within Tolerance
16	686044.76	602186.12	11.3	GRID	6/20/2016	11.3	0.0	Point surveyed within Tolerance
17	686023.18	602173.48	11.9	GRID	6/20/2016	11.8	-0.1	Point surveyed within Tolerance
18	686001.61	602160.85	14.6	GRID	6/20/2016	14.5	-0.1	Point surveyed within Tolerance
19	685980.04	602148.22	12.4	GRID	6/20/2016	12.3	-0.1	Point surveyed within Tolerance
20	685958.46	602135.59	12.1	GRID	6/20/2016	12.1	0.0	Point surveyed within Tolerance
21	685945.83	602157.16	12.4	GRID	6/20/2016	12.4	0.0	Point surveyed within Tolerance
22	685967.40	602169.80	12.8	GRID	6/20/2016	12.8	0.0	Point surveyed within Tolerance
23	685988.98	602182.43	12.1	GRID	6/20/2016	12.1	0.0	Point surveyed within Tolerance
24	686010.55	602195.06	14.5	GRID	6/20/2016	14.4	-0.1	Point surveyed within Tolerance
25	686032.13	602207.69	11.4	GRID	6/20/2016	11.3	-0.1	Point surveyed within Tolerance
26	686053.70	602220.32	10.4	GRID	6/20/2016	10.4	0.0	Point surveyed within Tolerance
27	686041.07	602241.90	10.8	GRID	6/20/2016	10.7	-0.1	Point surveyed within Tolerance
28	686019.49	602229.26	11.6	GRID	6/20/2016	11.5	-0.1	Point surveyed within Tolerance
29	685997.92	602216.63	14.7	GRID	6/20/2016	14.6	-0.1	Point surveyed within Tolerance
30	685976.35	602204.00	12.3	GRID	6/20/2016	12.2	-0.1	Point surveyed within Tolerance
31	685954.77	602191.37	15.7	GRID	6/20/2016	15.7	0.0	Point surveyed within Tolerance
32	685933.20	602178.74	12.7	GRID	6/20/2016	12.6	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.1)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
33	685920.57	602200.31	12.8	GRID	6/20/2016	12.8	0.0	Point surveyed within Tolerance
34	685942.14	602212.94	15.2	GRID	6/20/2016	15.2	0.0	Point surveyed within Tolerance
35	685985.29	602238.21	14.9	GRID	6/20/2016	14.8	-0.1	Point surveyed within Tolerance
36	686006.86	602250.84	12.0	GRID	6/20/2016	12.0	0.0	Point surveyed within Tolerance
37	686028.44	602263.47	11.3	GRID	6/20/2016	11.2	-0.1	Point surveyed within Tolerance
38	686037.38	602297.68	12.0	GRID	6/20/2016	11.9	-0.1	Point surveyed within Tolerance
39	686015.81	602285.04	11.5	GRID	6/20/2016	11.4	-0.1	Point surveyed within Tolerance
40	685972.66	602259.78	15.1	GRID	6/20/2016	15.0	-0.1	Point surveyed within Tolerance
41	685951.08	602247.15	15.0	GRID	6/20/2016	15.0	0.0	Point surveyed within Tolerance
42	685929.51	602234.52	12.9	GRID	6/20/2016	12.8	-0.1	Point surveyed within Tolerance
43	685907.93	602221.89	13.1	GRID	6/20/2016	13.1	0.0	Point surveyed within Tolerance
44	685895.30	602243.46	13.5	GRID	6/20/2016	13.5	0.0	Point surveyed within Tolerance
45	685916.88	602256.09	13.2	GRID	6/20/2016	13.1	-0.1	Point surveyed within Tolerance
46	685960.03	602281.36	15.4	GRID	6/20/2016	15.3	-0.1	Point surveyed within Tolerance
47	686003.17	602306.62	11.7	GRID	6/20/2016	11.7	0.0	Point surveyed within Tolerance
48	686024.75	602319.25	12.2	GRID	6/20/2016	12.1	-0.1	Point surveyed within Tolerance
49	686012.12	602340.82	12.4	GRID	6/23/2016	12.3	-0.1	Point surveyed within Tolerance
50	685990.54	602328.19	12.0	GRID	6/23/2016	12.0	0.0	Point surveyed within Tolerance
51	685968.97	602315.56	15.5	GRID	6/23/2016	15.5	0.0	Point surveyed within Tolerance
52	685947.39	602302.93	15.6	GRID	6/23/2016	15.6	0.0	Point surveyed within Tolerance
53	685925.82	602290.30	13.4	GRID	6/23/2016	13.4	0.0	Point surveyed within Tolerance
54	685904.25	602277.67	14.3	GRID	6/23/2016	14.3	0.0	Point surveyed within Tolerance
55	685882.67	602265.03	13.9	GRID	6/23/2016	13.9	0.0	Point surveyed within Tolerance
56	685870.04	602286.61	14.0	GRID	6/23/2016	14.0	0.0	Point surveyed within Tolerance
57	685891.61	602299.24	14.5	GRID	6/23/2016	14.4	-0.1	Point surveyed within Tolerance
58	685913.19	602311.87	13.7	GRID	6/23/2016	13.7	0.0	Point surveyed within Tolerance
59	685956.34	602337.14	15.8	GRID	6/23/2016	15.8	0.0	Point surveyed within Tolerance
60	685977.91	602349.77	12.2	GRID	6/23/2016	12.3	0.1	Point surveyed within Tolerance
61	685999.49	602362.40	12.6	GRID	6/23/2016	12.5	-0.1	Point surveyed within Tolerance
62	685986.85	602383.97	12.8	GRID	6/23/2016	12.7	-0.1	Point surveyed within Tolerance
63	685965.28	602371.34	12.6	GRID	6/23/2016	12.6	0.0	Point surveyed within Tolerance
64	685943.71	602358.71	13.6	GRID	6/23/2016	13.7	0.1	Point surveyed within Tolerance
65	685900.56	602333.45	14.0	GRID	6/23/2016	13.9	-0.1	Point surveyed within Tolerance
66	685878.98	602320.81	14.8	GRID	6/23/2016	14.7	-0.1	Point surveyed within Tolerance
67	685866.35	602342.39	17.5	GRID	6/23/2016	17.5	0.0	Point surveyed within Tolerance
68	685887.93	602355.02	16.7	GRID	6/23/2016	16.7	0.0	Point surveyed within Tolerance
69	685909.50	602367.65	16.5	GRID	6/23/2016	16.4	-0.1	Point surveyed within Tolerance
70	685931.07	602380.28	13.7	GRID	6/23/2016	13.7	0.0	Point surveyed within Tolerance
71	685952.65	602392.91	12.9	GRID	6/23/2016	12.9	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.2)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
72	685974.22	602405.55	13.0	GRID	6/23/2016	12.9	-0.1	Point surveyed within Tolerance
73	685961.59	602427.12	13.2	GRID	6/23/2016	13.1	-0.1	Point surveyed within Tolerance
74	685940.02	602414.49	13.4	GRID	6/23/2016	13.3	-0.1	Point surveyed within Tolerance
75	685918.44	602401.86	14.1	GRID	6/23/2016	14.0	-0.1	Point surveyed within Tolerance
76	685896.87	602389.23	16.7	GRID	6/23/2016	16.7	0.0	Point surveyed within Tolerance
77	685875.29	602376.59	17.1	GRID	6/23/2016	17.1	0.0	Point surveyed within Tolerance
78	685853.72	602363.96	17.8	GRID	6/23/2016	17.7	-0.1	Point surveyed within Tolerance
79	685832.15	602351.33	14.7	GRID	6/23/2016	14.8	0.1	Point surveyed within Tolerance
80	685819.51	602372.91	15.0	GRID	6/27/2016	15.0	0.0	Point surveyed within Tolerance
81	685841.09	602385.54	17.7	GRID	6/27/2016	17.6	-0.1	Point surveyed within Tolerance
82	685862.66	602398.17	17.2	GRID	6/27/2016	17.2	0.0	Point surveyed within Tolerance
83	685884.24	602410.80	14.5	GRID	6/27/2016	14.4	-0.1	Point surveyed within Tolerance
84	685905.81	602423.43	14.2	GRID	6/27/2016	14.2	0.0	Point surveyed within Tolerance
85	685927.39	602436.06	13.7	GRID	6/27/2016	13.7	0.0	Point surveyed within Tolerance
86	685948.96	602448.69	13.4	GRID	6/27/2016	13.4	0.0	Point surveyed within Tolerance
87	685936.33	602470.27	13.6	GRID	6/27/2016	13.5	-0.1	Point surveyed within Tolerance
88	685914.75	602457.64	14.2	GRID	6/27/2016	14.1	-0.1	Point surveyed within Tolerance
89	685893.18	602445.01	14.6	GRID	6/27/2016	14.6	0.0	Point surveyed within Tolerance
90	685871.61	602432.37	14.8	GRID	6/27/2016	14.7	-0.1	Point surveyed within Tolerance
91	685828.46	602407.11	15.7	GRID	6/27/2016	15.6	-0.1	Point surveyed within Tolerance
92	685806.88	602394.48	15.2	GRID	6/27/2016	15.2	0.0	Point surveyed within Tolerance
93	685794.25	602416.05	15.4	GRID	6/27/2016	15.4	0.0	Point surveyed within Tolerance
94	685815.83	602428.69	15.8	GRID	6/27/2016	15.7	-0.1	Point surveyed within Tolerance
95	685837.40	602441.32	15.5	GRID	6/27/2016	15.4	-0.1	Point surveyed within Tolerance
96	685858.97	602453.95	15.0	GRID	6/27/2016	15.0	0.0	Point surveyed within Tolerance
97	685880.55	602466.58	14.9	GRID	6/27/2016	14.8	-0.1	Point surveyed within Tolerance
98	685902.12	602479.21	14.7	GRID	6/27/2016	14.6	-0.1	Point surveyed within Tolerance
99	685923.70	602491.84	13.7	GRID	6/27/2016	13.7	0.0	Point surveyed within Tolerance
100	685889.49	602500.79	17.5	GRID	6/27/2016	17.4	-0.1	Point surveyed within Tolerance
101	685867.92	602488.15	15.1	GRID	6/27/2016	15.1	0.0	Point surveyed within Tolerance
102	685846.34	602475.52	15.3	GRID	6/27/2016	15.2	-0.1	Point surveyed within Tolerance
103	685803.19	602450.26	18.9	GRID	6/27/2016	18.8	-0.1	Point surveyed within Tolerance
104	685781.62	602437.63	15.7	GRID	6/27/2016	15.7	0.0	Point surveyed within Tolerance
105	685768.99	602459.20	16.0	GRID	6/27/2016	16.0	0.0	Point surveyed within Tolerance
106	685812.14	602484.47	18.7	GRID	6/27/2016	18.6	-0.1	Point surveyed within Tolerance
107	685833.71	602497.10	18.1	GRID	6/27/2016	18.0	-0.1	Point surveyed within Tolerance
108	685855.28	602509.73	17.9	GRID	6/27/2016	17.9	0.0	Point surveyed within Tolerance
109	685876.86	602522.36	17.8	GRID	6/27/2016	17.7	-0.1	Point surveyed within Tolerance
110	685898.43	602534.99	14.4	GRID	6/27/2016	14.3	-0.1	Point surveyed within Tolerance
111	685885.80	602556.57	14.8	GRID	6/27/2016	14.8	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.3)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
112	685864.23	602543.93	18.1	GRID	6/27/2016	18.0	-0.1	Point surveyed within Tolerance
113	685842.65	602531.30	18.2	GRID	6/27/2016	18.1	-0.1	Point surveyed within Tolerance
114	685821.08	602518.67	18.4	GRID	6/27/2016	18.3	-0.1	Point surveyed within Tolerance
115	685799.50	602506.04	18.8	GRID	6/27/2016	18.7	-0.1	Point surveyed within Tolerance
116	685756.36	602480.78	16.2	GRID	6/27/2016	16.2	0.0	Point surveyed within Tolerance
117	685743.73	602502.35	16.5	GRID	6/27/2016	16.5	0.0	Point surveyed within Tolerance
118	685765.30	602514.98	16.8	GRID	6/27/2016	16.7	-0.1	Point surveyed within Tolerance
119	685786.87	602527.61	18.9	GRID	6/27/2016	18.9	0.0	Point surveyed within Tolerance
120	685808.45	602540.25	18.5	GRID	6/27/2016	18.5	0.0	Point surveyed within Tolerance
121	685830.02	602552.88	18.3	GRID	6/27/2016	18.3	0.0	Point surveyed within Tolerance
122	685873.17	602578.14	15.4	GRID	6/27/2016	15.3	-0.1	Point surveyed within Tolerance
123	685894.74	602590.77	14.8	GRID	6/27/2016	14.8	0.0	Point surveyed within Tolerance
124	685882.10	602612.30	15.0	GRID	6/29/2016	15.0	0.0	Point surveyed within Tolerance
125	685860.50	602599.70	16.0	GRID	6/29/2016	15.9	-0.1	Point surveyed within Tolerance
126	685817.40	602574.50	18.4	GRID	6/29/2016	18.4	0.0	Point surveyed within Tolerance
127	685774.20	602549.20	16.5	GRID	6/29/2016	16.4	-0.1	Point surveyed within Tolerance
128	685752.70	602536.60	16.8	GRID	6/29/2016	16.8	0.0	Point surveyed within Tolerance
129	685731.10	602523.90	16.7	GRID	6/29/2016	16.8	0.1	Point surveyed within Tolerance
130	685718.50	602545.50	16.8	GRID	6/29/2016	16.8	0.0	Point surveyed within Tolerance
131	685740.00	602558.10	16.3	GRID	6/29/2016	16.3	0.0	Point surveyed within Tolerance
132	685761.60	602570.80	15.9	GRID	6/29/2016	15.9	0.0	Point surveyed within Tolerance
133	685783.20	602583.40	15.8	GRID	6/29/2016	15.8	0.0	Point surveyed within Tolerance
134	685804.80	602596.00	15.8	GRID	6/29/2016	15.8	0.0	Point surveyed within Tolerance
135	685826.30	602608.70	16.0	GRID	6/29/2016	15.9	-0.1	Point surveyed within Tolerance
136	685847.90	602621.30	16.3	GRID	6/29/2016	16.2	-0.1	Point surveyed within Tolerance
137	685869.50	602633.90	15.2	GRID	6/29/2016	15.3	0.1	Point surveyed within Tolerance
138	685856.80	602655.50	15.6	GRID	6/29/2016	15.7	0.1	Point surveyed within Tolerance
139	685792.10	602617.60	14.0	GRID	6/29/2016	13.9	-0.1	Point surveyed within Tolerance
140	685770.60	602605.00	14.2	GRID	6/29/2016	14.1	-0.1	Point surveyed within Tolerance
141	685749.00	602592.30	14.6	GRID	6/29/2016	14.6	0.0	Point surveyed within Tolerance
142	685727.40	602579.70	15.2	GRID	6/29/2016	15.1	-0.1	Point surveyed within Tolerance
143	685705.80	602567.10	15.9	GRID	6/29/2016	15.9	0.0	Point surveyed within Tolerance
144	685693.20	602588.60	17.3	GRID	6/29/2016	17.3	0.0	Point surveyed within Tolerance
145	685714.80	602601.30	16.1	GRID	6/29/2016	16.1	0.0	Point surveyed within Tolerance
146	685736.30	602613.90	15.8	GRID	6/29/2016	15.7	-0.1	Point surveyed within Tolerance
147	685757.90	602626.50	15.4	GRID	6/29/2016	15.5	0.1	Point surveyed within Tolerance
148	685779.50	602639.20	15.3	GRID	6/29/2016	15.3	0.0	Point surveyed within Tolerance
149	685844.20	602677.10	13.3	GRID	6/29/2016	13.4	0.1	Point surveyed within Tolerance
150	685810.00	602686.00	16.7	GRID	6/29/2016	16.6	-0.1	Point surveyed within Tolerance
151	685788.40	602673.40	16.4	GRID	6/29/2016	16.4	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.4)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
152	685766.90	602660.70	16.4	GRID	6/29/2016	16.4	0.0	Point surveyed within Tolerance
153	685723.70	602635.50	16.7	GRID	6/29/2016	16.6	-0.1	Point surveyed within Tolerance
154	685702.10	602622.90	17.1	GRID	6/29/2016	17.0	-0.1	Point surveyed within Tolerance
155	685680.60	602610.20	17.5	GRID	6/29/2016	17.5	0.0	Point surveyed within Tolerance
156	685667.90	602631.80	17.8	GRID	7/1/2016	17.9	0.1	Point surveyed within Tolerance
157	685689.50	602644.40	18.1	GRID	7/1/2016	18.2	0.1	Point surveyed within Tolerance
158	685732.70	602669.70	20.0	GRID	7/1/2016	20.0	0.0	Point surveyed within Tolerance
159	685797.40	602707.60	19.7	GRID	7/1/2016	19.6	-0.1	Point surveyed within Tolerance
160	685806.30	602741.80	17.4	GRID	7/1/2016	17.4	0.0	Point surveyed within Tolerance
161	685784.70	602729.20	17.4	GRID	7/1/2016	17.4	0.0	Point surveyed within Tolerance
162	685741.60	602703.90	20.9	GRID	7/1/2016	20.9	0.0	Point surveyed within Tolerance
163	685720.00	602691.30	18.5	GRID	7/1/2016	18.4	-0.1	Point surveyed within Tolerance
164	685676.90	602666.00	18.7	GRID	7/1/2016	18.8	0.1	Point surveyed within Tolerance
165	685655.30	602653.40	17.9	GRID	7/1/2016	18.0	0.1	Point surveyed within Tolerance
166	685642.70	602674.90	18.1	GRID	7/1/2016	18.1	0.0	Point surveyed within Tolerance
167	685664.20	602687.60	18.7	GRID	7/1/2016	18.7	0.0	Point surveyed within Tolerance
168	685685.80	602700.20	21.0	GRID	7/1/2016	21.1	0.1	Point surveyed within Tolerance
169	685750.50	602738.10	21.5	GRID	7/1/2016	21.5	0.0	Point surveyed within Tolerance
170	685772.10	602750.70	18.5	GRID	7/1/2016	18.4	-0.1	Point surveyed within Tolerance
171	685824.20	602810.20	17.2	GRID	7/7/2016	17.2	0.0	Point surveyed within Tolerance
172	685759.50	602772.30	21.6	GRID	7/1/2016	21.5	-0.1	Point surveyed within Tolerance
173	685737.90	602759.70	21.9	GRID	7/1/2016	21.9	0.0	Point surveyed within Tolerance
174	685716.30	602747.00	21.9	GRID	7/1/2016	21.9	0.0	Point surveyed within Tolerance
175	685694.80	602734.40	21.5	GRID	7/1/2016	21.6	0.1	Point surveyed within Tolerance
176	685673.20	602721.80	21.0	GRID	7/1/2016	20.9	-0.1	Point surveyed within Tolerance
177	685651.60	602709.10	18.7	GRID	7/1/2016	18.7	0.0	Point surveyed within Tolerance
178	685630.00	602696.50	18.1	GRID	7/1/2016	18.2	0.1	Point surveyed within Tolerance
179	685617.40	602718.10	18.2	GRID	7/7/2016	18.3	0.1	Point surveyed within Tolerance
180	685639.00	602730.70	18.7	GRID	7/7/2016	18.7	0.0	Point surveyed within Tolerance
181	685660.60	602743.40	21.0	GRID	7/7/2016	21.0	0.0	Point surveyed within Tolerance
182	685682.10	602756.00	21.5	GRID	7/7/2016	21.5	0.0	Point surveyed within Tolerance
183	685703.70	602768.60	22.0	GRID	7/7/2016	22.0	0.0	Point surveyed within Tolerance
184	685725.30	602781.20	22.2	GRID	7/7/2016	22.2	0.0	Point surveyed within Tolerance
185	685746.90	602793.90	22.1	GRID	7/7/2016	22.1	0.0	Point surveyed within Tolerance
186	685768.40	602806.50	21.4	GRID	7/7/2016	21.4	0.0	Point surveyed within Tolerance
187	685790.00	602819.10	17.9	GRID	7/7/2016	17.9	0.0	Point surveyed within Tolerance
188	685811.60	602831.80	17.4	GRID	7/7/2016	17.4	0.0	Point surveyed within Tolerance
189	685798.90	602853.40	17.6	GRID	7/7/2016	17.7	0.1	Point surveyed within Tolerance
190	685777.40	602840.70	18.3	GRID	7/7/2016	18.3	0.0	Point surveyed within Tolerance
191	685755.80	602828.10	21.8	GRID	7/7/2016	21.9	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.5)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
192	685734.20	602815.50	22.5	GRID	7/7/2016	22.5	0.0	Point surveyed within Tolerance
193	685712.60	602802.80	20.1	GRID	7/7/2016	20.1	0.0	Point surveyed within Tolerance
194	685691.10	602790.20	19.6	GRID	7/7/2016	19.5	-0.1	Point surveyed within Tolerance
195	685647.90	602764.90	21.0	GRID	7/7/2016	21.0	0.0	Point surveyed within Tolerance
196	685626.40	602752.30	18.8	GRID	7/7/2016	18.7	-0.1	Point surveyed within Tolerance
197	685604.80	602739.70	18.2	GRID	7/7/2016	18.2	0.0	Point surveyed within Tolerance
198	685592.10	602761.20	18.2	GRID	7/7/2016	18.2	0.0	Point surveyed within Tolerance
199	685613.70	602773.90	18.8	GRID	7/7/2016	18.7	-0.1	Point surveyed within Tolerance
200	685635.30	602786.50	21.0	GRID	7/7/2016	21.0	0.0	Point surveyed within Tolerance
201	685678.40	602811.80	19.6	GRID	7/7/2016	19.6	0.0	Point surveyed within Tolerance
202	685700.00	602824.40	20.0	GRID	7/7/2016	20.0	0.0	Point surveyed within Tolerance
203	685721.60	602837.00	22.7	GRID	7/7/2016	22.7	0.0	Point surveyed within Tolerance
204	685743.20	602849.70	22.1	GRID	7/7/2016	22.1	0.0	Point surveyed within Tolerance
205	685764.70	602862.30	18.8	GRID	7/7/2016	18.8	0.0	Point surveyed within Tolerance
206	685786.30	602874.90	17.9	GRID	7/7/2016	17.8	-0.1	Point surveyed within Tolerance
207	685773.70	602896.50	18.1	GRID	7/7/2016	18.1	0.0	Point surveyed within Tolerance
208	685752.10	602883.90	19.0	GRID	7/7/2016	19.0	0.0	Point surveyed within Tolerance
209	685687.40	602846.00	20.0	GRID	7/7/2016	20.0	0.0	Point surveyed within Tolerance
210	685665.80	602833.30	19.5	GRID	7/7/2016	19.6	0.1	Point surveyed within Tolerance
211	685644.20	602820.70	19.0	GRID	7/7/2016	19.1	0.1	Point surveyed within Tolerance
212	685622.70	602808.10	18.6	GRID	7/7/2016	18.6	0.0	Point surveyed within Tolerance
213	685601.10	602795.40	18.8	GRID	7/7/2016	18.7	-0.1	Point surveyed within Tolerance
214	685579.50	602782.80	18.2	GRID	7/7/2016	18.2	0.0	Point surveyed within Tolerance
215	685566.90	602804.40	18.1	GRID	7/8/2016	18.1	0.0	Point surveyed within Tolerance
216	685588.50	602817.00	18.8	GRID	7/8/2016	18.7	-0.1	Point surveyed within Tolerance
217	685610.00	602829.70	18.6	GRID	7/8/2016	18.5	-0.1	Point surveyed within Tolerance
218	685631.60	602842.30	19.0	GRID	7/8/2016	19.0	0.0	Point surveyed within Tolerance
219	685653.20	602854.90	19.5	GRID	7/8/2016	19.6	0.1	Point surveyed within Tolerance
220	685674.80	602867.50	20.0	GRID	7/8/2016	20.0	0.0	Point surveyed within Tolerance
221	685696.30	602880.20	20.2	GRID	7/8/2016	20.2	0.0	Point surveyed within Tolerance
222	685717.90	602892.80	19.6	GRID	7/8/2016	19.7	0.1	Point surveyed within Tolerance
223	685739.50	602905.40	19.0	GRID	7/8/2016	18.9	-0.1	Point surveyed within Tolerance
224	685761.10	602918.10	18.3	GRID	7/8/2016	18.3	0.0	Point surveyed within Tolerance
225	685748.40	602939.60	18.4	GRID	7/8/2016	18.5	0.1	Point surveyed within Tolerance
226	685726.80	602927.00	19.0	GRID	7/8/2016	19.0	0.0	Point surveyed within Tolerance
227	685705.30	602914.40	19.6	GRID	7/8/2016	19.5	-0.1	Point surveyed within Tolerance
228	685683.70	602901.80	20.2	GRID	7/8/2016	20.1	-0.1	Point surveyed within Tolerance
229	685662.10	602889.10	20.0	GRID	7/8/2016	20.0	0.0	Point surveyed within Tolerance
230	685640.50	602876.50	19.5	GRID	7/8/2016	19.5	0.0	Point surveyed within Tolerance
231	685619.00	602863.90	19.0	GRID	7/8/2016	19.1	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.6)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
232	685597.40	602851.20	18.6	GRID	7/8/2016	18.6	0.0	Point surveyed within Tolerance
233	685575.80	602838.60	18.8	GRID	7/8/2016	18.8	0.0	Point surveyed within Tolerance
234	685554.30	602826.00	18.0	GRID	7/8/2016	18.1	0.1	Point surveyed within Tolerance
235	685541.60	602847.50	17.9	GRID	7/8/2016	17.9	0.0	Point surveyed within Tolerance
236	685563.20	602860.20	18.7	GRID	7/8/2016	18.7	0.0	Point surveyed within Tolerance
237	685584.80	602872.80	18.6	GRID	7/8/2016	18.6	0.0	Point surveyed within Tolerance
238	685606.30	602885.40	19.0	GRID	7/8/2016	19.0	0.0	Point surveyed within Tolerance
239	685627.90	602898.10	19.5	GRID	7/8/2016	19.5	0.0	Point surveyed within Tolerance
240	685649.50	602910.70	20.0	GRID	7/8/2016	20.0	0.0	Point surveyed within Tolerance
241	685671.10	602923.30	20.2	GRID	7/8/2016	20.2	0.0	Point surveyed within Tolerance
242	685692.60	602936.00	19.6	GRID	7/8/2016	19.6	0.0	Point surveyed within Tolerance
243	685714.20	602948.60	19.0	GRID	7/8/2016	19.0	0.0	Point surveyed within Tolerance
244	685735.80	602961.20	18.5	GRID	7/8/2016	18.5	0.0	Point surveyed within Tolerance
245	685723.20	602982.80	18.5	GRID	7/8/2016	18.5	0.0	Point surveyed within Tolerance
246	685701.60	602970.20	19.0	GRID	7/8/2016	19.1	0.1	Point surveyed within Tolerance
247	685680.00	602957.50	19.6	GRID	7/8/2016	19.6	0.0	Point surveyed within Tolerance
248	685658.40	602944.90	20.2	GRID	7/8/2016	20.1	-0.1	Point surveyed within Tolerance
249	685636.90	602932.30	20.0	GRID	7/8/2016	19.9	-0.1	Point surveyed within Tolerance
250	685615.30	602919.60	19.5	GRID	7/8/2016	19.6	0.1	Point surveyed within Tolerance
251	685593.70	602907.00	19.0	GRID	7/8/2016	19.1	0.1	Point surveyed within Tolerance
252	685572.10	602894.40	18.6	GRID	7/8/2016	18.6	0.0	Point surveyed within Tolerance
253	685550.60	602881.70	18.6	GRID	7/8/2016	18.5	-0.1	Point surveyed within Tolerance
254	685529.00	602869.10	17.7	GRID	7/8/2016	17.7	0.0	Point surveyed within Tolerance
255	685516.40	602890.70	17.6	GRID	7/12/2016	17.6	0.0	Point surveyed within Tolerance
256	685537.90	602903.30	18.6	GRID	7/12/2016	18.5	-0.1	Point surveyed within Tolerance
257	685559.50	602915.90	18.7	GRID	7/12/2016	18.6	-0.1	Point surveyed within Tolerance
258	685581.10	602928.60	19.0	GRID	7/12/2016	19.0	0.0	Point surveyed within Tolerance
259	685602.70	602941.20	19.5	GRID	7/12/2016	19.5	0.0	Point surveyed within Tolerance
260	685624.20	602953.80	20.0	GRID	7/12/2016	20.0	0.0	Point surveyed within Tolerance
261	685645.80	602966.50	20.1	GRID	7/12/2016	20.2	0.1	Point surveyed within Tolerance
262	685667.40	602979.10	19.5	GRID	7/12/2016	19.5	0.0	Point surveyed within Tolerance
263	685689.00	602991.70	18.8	GRID	7/12/2016	18.8	0.0	Point surveyed within Tolerance
264	685710.50	603004.40	18.5	GRID	7/12/2016	18.5	0.0	Point surveyed within Tolerance
265	685697.90	603025.90	18.4	GRID	7/12/2016	18.5	0.1	Point surveyed within Tolerance
266	685676.30	603013.30	18.6	GRID	7/12/2016	18.5	-0.1	Point surveyed within Tolerance
267	685654.70	603000.70	19.5	GRID	7/12/2016	19.5	0.0	Point surveyed within Tolerance
268	685633.20	602988.00	20.1	GRID	7/12/2016	20.0	-0.1	Point surveyed within Tolerance
269	685611.60	602975.40	20.0	GRID	7/12/2016	20.0	0.0	Point surveyed within Tolerance
270	685590.00	602962.80	19.5	GRID	7/12/2016	19.5	0.0	Point surveyed within Tolerance
271	685568.40	602950.20	19.0	GRID	7/12/2016	19.0	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.7)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
272	685546.90	602937.50	18.6	GRID	7/12/2016	18.6	0.0	Point surveyed within Tolerance
273	685525.30	602924.90	18.1	GRID	7/12/2016	18.1	0.0	Point surveyed within Tolerance
274	685503.70	602912.30	17.4	GRID	7/12/2016	17.4	0.0	Point surveyed within Tolerance
275	685491.10	602933.80	17.2	GRID	7/12/2016	17.2	0.0	Point surveyed within Tolerance
276	685512.70	602946.50	18.2	GRID	7/12/2016	18.2	0.0	Point surveyed within Tolerance
277	685577.40	602984.40	19.5	GRID	7/12/2016	19.5	0.0	Point surveyed within Tolerance
278	685599.00	602997.00	20.0	GRID	7/12/2016	19.9	-0.1	Point surveyed within Tolerance
279	685620.50	603009.60	20.0	GRID	7/12/2016	20.0	0.0	Point surveyed within Tolerance
280	685642.10	603022.30	19.4	GRID	7/12/2016	19.5	0.1	Point surveyed within Tolerance
281	685663.70	603034.90	18.2	GRID	7/12/2016	18.2	0.0	Point surveyed within Tolerance
282	685685.30	603047.50	18.3	GRID	7/12/2016	18.3	0.0	Point surveyed within Tolerance
283	685672.60	603069.10	18.1	GRID	7/13/2016	18.1	0.0	Point surveyed within Tolerance
284	685651.10	603056.50	17.9	GRID	7/13/2016	18.0	0.1	Point surveyed within Tolerance
285	685629.50	603043.80	21.7	GRID	7/13/2016	21.6	-0.1	Point surveyed within Tolerance
286	685607.90	603031.20	19.8	GRID	7/13/2016	19.8	0.0	Point surveyed within Tolerance
287	685586.30	603018.60	19.9	GRID	7/13/2016	19.8	-0.1	Point surveyed within Tolerance
288	685564.80	603005.90	19.3	GRID	7/13/2016	19.4	0.1	Point surveyed within Tolerance
289	685543.20	602993.30	21.5	GRID	7/13/2016	21.5	0.0	Point surveyed within Tolerance
290	685521.60	602980.70	21.0	GRID	7/13/2016	21.0	0.0	Point surveyed within Tolerance
291	685478.50	602955.40	16.9	GRID	7/13/2016	17.0	0.1	Point surveyed within Tolerance
292	685500.00	602968.00	18.0	GRID	7/13/2016	18.0	0.0	Point surveyed within Tolerance
293	685465.80	602977.00	16.7	GRID	7/13/2016	16.7	0.0	Point surveyed within Tolerance
294	685487.40	602989.60	17.8	GRID	7/13/2016	17.9	0.1	Point surveyed within Tolerance
295	685509.00	603002.20	20.8	GRID	7/13/2016	20.9	0.1	Point surveyed within Tolerance
296	685552.10	603027.50	18.9	GRID	7/13/2016	19.0	0.1	Point surveyed within Tolerance
297	685573.70	603040.10	18.9	GRID	7/13/2016	19.0	0.1	Point surveyed within Tolerance
298	685595.30	603052.80	21.4	GRID	7/13/2016	21.3	-0.1	Point surveyed within Tolerance
299	685616.90	603065.40	21.2	GRID	7/13/2016	21.3	0.1	Point surveyed within Tolerance
300	685638.40	603078.00	17.7	GRID	7/13/2016	17.7	0.0	Point surveyed within Tolerance
301	685660.00	603090.70	17.8	GRID	7/13/2016	17.9	0.1	Point surveyed within Tolerance
302	685647.40	603112.20	17.5	GRID	7/13/2016	17.4	-0.1	Point surveyed within Tolerance
303	685625.80	603099.60	17.3	GRID	7/13/2016	17.3	0.0	Point surveyed within Tolerance
304	685604.20	603087.00	17.9	GRID	7/13/2016	17.9	0.0	Point surveyed within Tolerance
305	685582.60	603074.30	20.5	GRID	7/13/2016	20.5	0.0	Point surveyed within Tolerance
306	685561.10	603061.70	18.3	GRID	7/13/2016	18.4	0.1	Point surveyed within Tolerance
307	685539.50	603049.10	18.5	GRID	7/13/2016	18.5	0.0	Point surveyed within Tolerance
308	685517.90	603036.50	18.4	GRID	7/13/2016	18.5	0.1	Point surveyed within Tolerance
309	685496.30	603023.80	20.5	GRID	7/13/2016	20.5	0.0	Point surveyed within Tolerance
310	685474.80	603011.20	17.5	GRID	7/13/2016	17.5	0.0	Point surveyed within Tolerance
311	685453.20	602998.60	16.4	GRID	7/13/2016	16.5	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.8)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
312	685440.60	603020.10	16.2	GRID	7/13/2016	16.3	0.1	Point surveyed within Tolerance
313	685462.10	603032.80	17.0	GRID	7/13/2016	17.0	0.0	Point surveyed within Tolerance
314	685483.70	603045.40	19.7	GRID	7/13/2016	19.8	0.1	Point surveyed within Tolerance
315	685526.90	603070.70	19.9	GRID	7/13/2016	19.9	0.0	Point surveyed within Tolerance
316	685548.40	603083.30	19.7	GRID	7/13/2016	19.8	0.1	Point surveyed within Tolerance
317	685570.00	603095.90	19.5	GRID	7/13/2016	19.5	0.0	Point surveyed within Tolerance
318	685591.60	603108.60	17.0	GRID	7/13/2016	17.0	0.0	Point surveyed within Tolerance
319	685613.20	603121.20	16.9	GRID	7/13/2016	16.9	0.0	Point surveyed within Tolerance
320	685634.70	603133.80	17.2	GRID	7/13/2016	17.1	-0.1	Point surveyed within Tolerance
321	685622.10	603155.40	16.9	GRID	7/15/2016	16.9	0.0	Point surveyed within Tolerance
322	685600.50	603142.80	16.4	GRID	7/15/2016	16.5	0.1	Point surveyed within Tolerance
323	685579.00	603130.10	18.9	GRID	7/15/2016	18.8	-0.1	Point surveyed within Tolerance
324	685557.40	603117.50	18.6	GRID	7/15/2016	18.7	0.1	Point surveyed within Tolerance
325	685535.80	603104.90	18.7	GRID	7/15/2016	18.8	0.1	Point surveyed within Tolerance
326	685514.20	603092.20	18.9	GRID	7/15/2016	18.9	0.0	Point surveyed within Tolerance
327	685492.70	603079.60	16.6	GRID	7/15/2016	16.7	0.1	Point surveyed within Tolerance
328	685449.50	603054.30	19.1	GRID	7/15/2016	19.1	0.0	Point surveyed within Tolerance
329	685427.90	603041.70	15.9	GRID	7/15/2016	16.0	0.1	Point surveyed within Tolerance
330	685415.30	603063.30	15.7	GRID	7/15/2016	15.7	0.0	Point surveyed within Tolerance
331	685436.90	603075.90	15.9	GRID	7/15/2016	15.9	0.0	Point surveyed within Tolerance
332	685458.50	603088.50	15.7	GRID	7/15/2016	15.7	0.0	Point surveyed within Tolerance
333	685480.00	603101.20	15.2	GRID	7/15/2016	15.2	0.0	Point surveyed within Tolerance
334	685501.60	603113.80	15.1	GRID	7/15/2016	15.2	0.1	Point surveyed within Tolerance
335	685523.20	603126.40	15.0	GRID	7/15/2016	15.0	0.0	Point surveyed within Tolerance
336	685544.80	603139.10	15.1	GRID	7/15/2016	15.2	0.1	Point surveyed within Tolerance
337	685566.30	603151.70	15.8	GRID	7/15/2016	15.9	0.1	Point surveyed within Tolerance
338	685587.90	603164.30	15.4	GRID	7/18/2016	15.5	0.1	Point surveyed within Tolerance
339	685609.50	603177.00	16.5	GRID	7/18/2016	16.6	0.1	Point surveyed within Tolerance
340	685575.30	603185.90	11.8	GRID	7/21/2016	11.8	0.0	Point surveyed within Tolerance
341	685553.70	603173.30	10.4	GRID	7/21/2016	10.5	0.1	Point surveyed within Tolerance
342	685532.10	603160.60	10.1	GRID	7/21/2016	10.0	-0.1	Point surveyed within Tolerance
343	685510.50	603148.00	9.9	GRID	7/21/2016	9.9	0.0	Point surveyed within Tolerance
344	685424.20	603097.50	15.1	GRID	7/18/2016	15.2	0.1	Point surveyed within Tolerance
345	685390.00	603106.40	9.1	GRID	7/21/2016	9.1	0.0	Point surveyed within Tolerance
346	685411.60	603119.10	9.2	GRID	7/21/2016	9.2	0.0	Point surveyed within Tolerance
347	685433.20	603131.70	9.4	GRID	7/21/2016	9.3	-0.1	Point surveyed within Tolerance
348	685454.80	603144.30	9.5	GRID	7/21/2016	9.4	-0.1	Point surveyed within Tolerance
349	685476.30	603157.00	9.6	GRID	7/21/2016	9.6	0.0	Point surveyed within Tolerance
350	685497.90	603169.60	13.2	GRID	7/21/2016	13.3	0.1	Point surveyed within Tolerance
351	685519.50	603182.20	13.8	GRID	7/21/2016	13.9	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.9)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
352	685541.10	603194.80	14.2	GRID	7/21/2016	14.2	0.0	Point surveyed within Tolerance
353	685562.60	603207.50	14.9	GRID	7/21/2016	14.9	0.0	Point surveyed within Tolerance
354	685584.20	603220.10	15.5	GRID	7/21/2016	15.5	0.0	Point surveyed within Tolerance
355	685571.60	603241.70	14.5	GRID	7/21/2016	14.5	0.0	Point surveyed within Tolerance
356	685550.00	603229.10	14.3	GRID	7/21/2016	14.3	0.0	Point surveyed within Tolerance
357	685506.90	603203.80	17.1	GRID	7/25/2016	17.1	0.0	Point surveyed within Tolerance
358	685485.30	603191.20	14.9	GRID	7/21/2016	14.8	-0.1	Point surveyed within Tolerance
359	685442.10	603165.90	14.4	GRID	7/21/2016	14.5	0.1	Point surveyed within Tolerance
360	685377.40	603128.00	9.1	GRID	7/21/2016	9.0	-0.1	Point surveyed within Tolerance
361	685364.80	603149.60	14.7	GRID	7/21/2016	14.6	-0.1	Point surveyed within Tolerance
362	685386.40	603162.20	15.1	GRID	7/21/2016	15.1	0.0	Point surveyed within Tolerance
363	685407.90	603174.80	14.8	GRID	7/21/2016	14.8	0.0	Point surveyed within Tolerance
364	685429.50	603187.50	14.9	GRID	7/21/2016	14.9	0.0	Point surveyed within Tolerance
365	685451.10	603200.10	14.7	GRID	7/21/2016	14.8	0.1	Point surveyed within Tolerance
366	685494.20	603225.40	17.1	GRID	7/25/2016	17.1	0.0	Point surveyed within Tolerance
367	685515.80	603238.00	14.0	GRID	7/25/2016	14.0	0.0	Point surveyed within Tolerance
368	685537.40	603250.60	13.8	GRID	7/21/2016	13.8	0.0	Point surveyed within Tolerance
369	685524.70	603272.20	13.1	GRID	7/25/2016	13.2	0.1	Point surveyed within Tolerance
370	685503.20	603259.60	13.3	GRID	7/25/2016	13.3	0.0	Point surveyed within Tolerance
371	685481.60	603246.90	14.0	GRID	7/25/2016	14.1	0.1	Point surveyed within Tolerance
372	685460.00	603234.30	14.2	GRID	7/25/2016	14.3	0.1	Point surveyed within Tolerance
373	685438.40	603221.70	17.0	GRID	7/25/2016	16.9	-0.1	Point surveyed within Tolerance
374	685416.90	603209.00	17.2	GRID	7/25/2016	17.2	0.0	Point surveyed within Tolerance
375	685395.30	603196.40	17.4	GRID	7/25/2016	17.4	0.0	Point surveyed within Tolerance
376	685373.70	603183.80	17.7	GRID	7/25/2016	17.6	-0.1	Point surveyed within Tolerance
377	685352.10	603171.10	14.4	GRID	7/25/2016	14.4	0.0	Point surveyed within Tolerance
378	685339.50	603192.70	14.2	GRID	7/25/2016	14.2	0.0	Point surveyed within Tolerance
379	685361.10	603205.40	17.4	GRID	7/25/2016	17.3	-0.1	Point surveyed within Tolerance
380	685382.70	603218.00	17.1	GRID	7/25/2016	17.1	0.0	Point surveyed within Tolerance
381	685404.20	603230.60	16.8	GRID	7/25/2016	16.8	0.0	Point surveyed within Tolerance
382	685425.80	603243.20	16.6	GRID	7/25/2016	16.5	-0.1	Point surveyed within Tolerance
383	685447.40	603255.90	13.8	GRID	7/25/2016	13.7	-0.1	Point surveyed within Tolerance
384	685469.00	603268.50	13.4	GRID	7/25/2016	13.4	0.0	Point surveyed within Tolerance
385	685490.50	603281.10	12.4	GRID	7/25/2016	12.4	0.0	Point surveyed within Tolerance
386	685512.10	603293.80	12.5	GRID	7/25/2016	12.6	0.1	Point surveyed within Tolerance
387	685477.90	603302.70	7.4	GRID	7/25/2016	7.4	0.0	Point surveyed within Tolerance
388	685456.30	603290.10	12.8	GRID	7/25/2016	12.7	-0.1	Point surveyed within Tolerance
389	685434.80	603277.50	13.2	GRID	7/25/2016	13.2	0.0	Point surveyed within Tolerance
390	685413.20	603264.80	16.1	GRID	7/25/2016	16.1	0.0	Point surveyed within Tolerance
391	685391.60	603252.20	16.4	GRID	7/25/2016	16.3	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.10)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
392	685326.90	603214.30	13.9	GRID	7/25/2016	13.9	0.0	Point surveyed within Tolerance
393	685314.30	603235.90	13.7	GRID	7/25/2016	13.7	0.0	Point surveyed within Tolerance
394	685335.80	603248.50	14.2	GRID	7/25/2016	14.1	-0.1	Point surveyed within Tolerance
395	685357.40	603261.10	13.7	GRID	7/25/2016	13.6	-0.1	Point surveyed within Tolerance
396	685379.00	603273.80	13.3	GRID	7/25/2016	13.2	-0.1	Point surveyed within Tolerance
397	685400.50	603286.40	13.0	GRID	7/25/2016	12.9	-0.1	Point surveyed within Tolerance
398	685422.10	603299.00	12.6	GRID	7/25/2016	12.5	-0.1	Point surveyed within Tolerance
399	685443.70	603311.70	12.1	GRID	7/25/2016	12.1	0.0	Point surveyed within Tolerance
400	685465.30	603324.30	11.0	GRID	7/25/2016	11.0	0.0	Point surveyed within Tolerance
401	685486.80	603336.90	11.4	GRID	7/25/2016	11.4	0.0	Point surveyed within Tolerance
402	685474.20	603358.50	10.9	GRID	7/27/2016	10.8	-0.1	Point surveyed within Tolerance
403	685452.60	603345.90	10.4	GRID	7/27/2016	10.4	0.0	Point surveyed within Tolerance
404	685431.10	603333.20	11.4	GRID	7/27/2016	11.4	0.0	Point surveyed within Tolerance
405	685409.50	603320.60	11.9	GRID	7/27/2016	11.9	0.0	Point surveyed within Tolerance
406	685387.90	603308.00	12.3	GRID	7/27/2016	12.3	0.0	Point surveyed within Tolerance
407	685366.30	603295.30	15.2	GRID	7/27/2016	15.1	-0.1	Point surveyed within Tolerance
408	685344.80	603282.70	15.6	GRID	7/27/2016	15.5	-0.1	Point surveyed within Tolerance
409	685323.20	603270.10	16.4	GRID	7/27/2016	16.3	-0.1	Point surveyed within Tolerance
410	685301.60	603257.40	13.4	GRID	7/27/2016	13.5	0.1	Point surveyed within Tolerance
411	685289.00	603279.00	13.3	GRID	7/27/2016	13.2	-0.1	Point surveyed within Tolerance
412	685310.60	603291.70	16.0	GRID	7/27/2016	15.9	-0.1	Point surveyed within Tolerance
413	685332.10	603304.30	15.2	GRID	7/27/2016	15.2	0.0	Point surveyed within Tolerance
414	685353.70	603316.90	14.5	GRID	7/27/2016	14.6	0.1	Point surveyed within Tolerance
415	685375.30	603329.50	11.6	GRID	7/27/2016	11.6	0.0	Point surveyed within Tolerance
416	685440.00	603367.40	9.8	GRID	7/27/2016	9.8	0.0	Point surveyed within Tolerance
417	685461.60	603380.10	10.4	GRID	7/27/2016	10.4	0.0	Point surveyed within Tolerance
418	685427.40	603389.00	9.3	GRID	7/27/2016	9.3	0.0	Point surveyed within Tolerance
419	685405.80	603376.40	9.8	GRID	7/27/2016	9.7	-0.1	Point surveyed within Tolerance
420	685384.20	603363.80	13.0	GRID	7/27/2016	13.0	0.0	Point surveyed within Tolerance
421	685362.70	603351.10	13.5	GRID	7/27/2016	13.4	-0.1	Point surveyed within Tolerance
422	685341.10	603338.50	14.2	GRID	7/27/2016	14.1	-0.1	Point surveyed within Tolerance
423	685319.50	603325.90	14.8	GRID	7/27/2016	14.7	-0.1	Point surveyed within Tolerance
424	685297.90	603313.20	15.6	GRID	7/27/2016	15.6	0.0	Point surveyed within Tolerance
425	685276.40	603300.60	13.2	GRID	7/27/2016	13.2	0.0	Point surveyed within Tolerance
426	685254.80	603288.00	13.2	GRID	7/27/2016	13.1	-0.1	Point surveyed within Tolerance
427	685242.20	603309.50	12.8	GRID	7/27/2016	12.8	0.0	Point surveyed within Tolerance
428	685263.70	603322.20	13.0	GRID	7/27/2016	13.0	0.0	Point surveyed within Tolerance
429	685285.30	603334.80	15.1	GRID	7/27/2016	15.1	0.0	Point surveyed within Tolerance
430	685306.90	603347.40	14.4	GRID	7/27/2016	14.4	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.11)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
431	685328.40	603360.10	13.8	GRID	7/27/2016	13.7	-0.1	Point surveyed within Tolerance
432	685350.00	603372.70	13.1	GRID	7/27/2016	13.1	0.0	Point surveyed within Tolerance
433	685371.60	603385.30	12.5	GRID	7/27/2016	12.4	-0.1	Point surveyed within Tolerance
434	685393.20	603398.00	9.0	GRID	7/27/2016	8.9	-0.1	Point surveyed within Tolerance
435	685414.70	603410.60	8.8	GRID	7/27/2016	8.8	0.0	Point surveyed within Tolerance
436	685402.10	603432.20	8.3	GRID	7/27/2016	8.3	0.0	Point surveyed within Tolerance
437	685380.50	603419.50	8.2	GRID	7/27/2016	8.3	0.1	Point surveyed within Tolerance
438	685359.00	603406.90	12.0	GRID	7/27/2016	11.9	-0.1	Point surveyed within Tolerance
439	685337.40	603394.30	12.8	GRID	7/27/2016	12.7	-0.1	Point surveyed within Tolerance
440	685294.20	603369.00	14.1	GRID	7/27/2016	14.0	-0.1	Point surveyed within Tolerance
441	685272.70	603356.40	14.7	GRID	7/27/2016	14.7	0.0	Point surveyed within Tolerance
442	685251.10	603343.70	12.9	GRID	7/27/2016	12.9	0.0	Point surveyed within Tolerance
443	685229.50	603331.10	12.5	GRID	7/27/2016	12.5	0.0	Point surveyed within Tolerance
444	685216.90	603352.70	12.1	GRID	7/27/2016	12.1	0.0	Point surveyed within Tolerance
445	685260.00	603377.90	14.3	GRID	7/27/2016	14.3	0.0	Point surveyed within Tolerance
446	685281.60	603390.60	11.0	GRID	7/27/2016	10.9	-0.1	Point surveyed within Tolerance
447	685303.20	603403.20	10.5	GRID	7/27/2016	10.6	0.1	Point surveyed within Tolerance
448	685324.80	603415.80	12.3	GRID	7/27/2016	12.3	0.0	Point surveyed within Tolerance
449	685346.30	603428.50	11.4	GRID	7/27/2016	11.3	-0.1	Point surveyed within Tolerance
450	685367.90	603441.10	7.5	GRID	7/27/2016	7.6	0.1	Point surveyed within Tolerance
451	685389.50	603453.70	7.9	GRID	8/3/2016	7.8	-0.1	Point surveyed within Tolerance
452	685376.90	603475.30	5.9	GRID	8/3/2016	6.0	0.1	Point surveyed within Tolerance
453	685355.30	603462.70	6.1	GRID	8/3/2016	6.2	0.1	Point surveyed within Tolerance
454	685333.70	603450.00	8.3	GRID	7/27/2016	8.4	0.1	Point surveyed within Tolerance
455	685312.10	603437.40	9.0	GRID	7/27/2016	9.0	0.0	Point surveyed within Tolerance
456	685290.60	603424.80	9.4	GRID	7/27/2016	9.4	0.0	Point surveyed within Tolerance
457	685269.00	603412.20	9.9	GRID	7/27/2016	9.9	0.0	Point surveyed within Tolerance
458	685247.40	603399.50	10.5	GRID	7/27/2016	10.5	0.0	Point surveyed within Tolerance
459	685225.80	603386.90	11.2	GRID	7/27/2016	11.2	0.0	Point surveyed within Tolerance
460	685204.30	603374.30	11.4	GRID	7/27/2016	11.4	0.0	Point surveyed within Tolerance
461	685170.10	603383.20	11.4	GRID	8/3/2016	11.4	0.0	Point surveyed within Tolerance
462	685191.60	603395.80	10.5	GRID	8/3/2016	10.5	0.0	Point surveyed within Tolerance
463	685213.20	603408.50	9.7	GRID	8/3/2016	9.6	-0.1	Point surveyed within Tolerance
464	685234.80	603421.10	8.9	GRID	8/3/2016	8.9	0.0	Point surveyed within Tolerance
465	685256.30	603433.70	8.2	GRID	8/3/2016	8.2	0.0	Point surveyed within Tolerance
466	685277.90	603446.40	7.6	GRID	8/3/2016	7.5	-0.1	Point surveyed within Tolerance
467	685299.50	603459.00	6.9	GRID	8/3/2016	6.9	0.0	Point surveyed within Tolerance
468	685321.10	603471.60	6.7	GRID	8/3/2016	6.7	0.0	Point surveyed within Tolerance
469	685342.60	603484.30	6.2	GRID	8/3/2016	6.2	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.12)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
470	685364.20	603496.90	7.2	GRID	8/3/2016	7.1	-0.1	Point surveyed within Tolerance
471	685330.00	603505.80	6.7	GRID	8/5/2016	6.6	-0.1	Point surveyed within Tolerance
472	685308.40	603493.20	6.7	GRID	8/5/2016	6.7	0.0	Point surveyed within Tolerance
473	685286.90	603480.60	6.7	GRID	8/5/2016	6.6	-0.1	Point surveyed within Tolerance
474	685265.30	603467.90	7.1	GRID	8/5/2016	7.0	-0.1	Point surveyed within Tolerance
475	685243.70	603455.30	7.9	GRID	8/5/2016	7.9	0.0	Point surveyed within Tolerance
476	685222.10	603442.70	8.8	GRID	8/5/2016	8.7	-0.1	Point surveyed within Tolerance
477	685200.60	603430.00	9.6	GRID	8/5/2016	9.5	-0.1	Point surveyed within Tolerance
478	685179.00	603417.40	10.4	GRID	8/5/2016	10.5	0.1	Point surveyed within Tolerance
479	685157.40	603404.80	11.2	GRID	8/5/2016	11.3	0.1	Point surveyed within Tolerance
480	685144.80	603426.40	11.3	GRID	8/5/2016	11.2	-0.1	Point surveyed within Tolerance
481	685166.40	603439.00	11.1	GRID	8/5/2016	11.2	0.1	Point surveyed within Tolerance
482	685187.90	603451.60	10.2	GRID	8/5/2016	10.2	0.0	Point surveyed within Tolerance
483	685209.50	603464.20	9.6	GRID	8/5/2016	9.5	-0.1	Point surveyed within Tolerance
484	685231.10	603476.90	8.4	GRID	8/5/2016	8.5	0.1	Point surveyed within Tolerance
485	685252.70	603489.50	7.4	GRID	8/5/2016	7.4	0.0	Point surveyed within Tolerance
486	685274.20	603502.10	6.7	GRID	8/5/2016	6.6	-0.1	Point surveyed within Tolerance
487	685295.80	603514.80	6.6	GRID	8/5/2016	6.5	-0.1	Point surveyed within Tolerance
488	685317.40	603527.40	6.8	GRID	8/5/2016	6.7	-0.1	Point surveyed within Tolerance
489	685304.80	603549.00	6.6	GRID	8/5/2016	6.5	-0.1	Point surveyed within Tolerance
490	685283.20	603536.30	6.4	GRID	8/5/2016	6.3	-0.1	Point surveyed within Tolerance
491	685261.60	603523.70	7.9	GRID	8/5/2016	7.8	-0.1	Point surveyed within Tolerance
492	685240.00	603511.10	8.5	GRID	8/5/2016	8.5	0.0	Point surveyed within Tolerance
493	685218.50	603498.50	11.6	GRID	8/5/2016	11.5	-0.1	Point surveyed within Tolerance
494	685196.90	603485.80	12.1	GRID	8/5/2016	12.1	0.0	Point surveyed within Tolerance
495	685175.30	603473.20	10.5	GRID	8/5/2016	10.5	0.0	Point surveyed within Tolerance
496	685153.80	603460.40	11.7	GRID	8/5/2016	11.6	-0.1	Point surveyed within Tolerance
497	685132.20	603447.90	10.9	GRID	8/5/2016	10.9	0.0	Point surveyed within Tolerance
498	685119.50	603469.50	10.6	GRID	8/5/2016	10.5	-0.1	Point surveyed within Tolerance
499	685141.10	603482.10	11.0	GRID	8/5/2016	11.0	0.0	Point surveyed within Tolerance
500	685162.70	603494.80	13.3	GRID	8/5/2016	13.2	-0.1	Point surveyed within Tolerance
501	685184.20	603507.40	12.7	GRID	8/5/2016	12.6	-0.1	Point surveyed within Tolerance
502	685205.80	603520.00	12.2	GRID	8/5/2016	12.1	-0.1	Point surveyed within Tolerance
503	685249.00	603545.30	7.4	GRID	8/5/2016	7.3	-0.1	Point surveyed within Tolerance
504	685270.50	603557.90	6.0	GRID	8/5/2016	5.9	-0.1	Point surveyed within Tolerance
505	685292.10	603570.60	6.6	GRID	8/5/2016	6.5	-0.1	Point surveyed within Tolerance
506	685279.50	603592.10	5.8	GRID	8/9/2016	5.8	0.0	Point surveyed within Tolerance
507	685257.90	603579.50	5.2	GRID	8/9/2016	5.2	0.0	Point surveyed within Tolerance
508	685236.30	603566.90	6.8	GRID	8/9/2016	6.7	-0.1	Point surveyed within Tolerance
509	685193.20	603541.60	12.1	GRID	8/9/2016	12.0	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.13)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
510	685171.60	603529.00	12.6	GRID	8/9/2016	12.5	-0.1	Point surveyed within Tolerance
511	685150.00	603516.30	13.2	GRID	8/9/2016	13.1	-0.1	Point surveyed within Tolerance
512	685128.50	603503.70	13.7	GRID	8/9/2016	13.6	-0.1	Point surveyed within Tolerance
513	685106.90	603491.10	10.5	GRID	8/9/2016	10.4	-0.1	Point surveyed within Tolerance
514	685072.70	603500.00	10.4	GRID	8/9/2016	10.3	-0.1	Point surveyed within Tolerance
515	685094.30	603512.60	10.5	GRID	8/9/2016	10.4	-0.1	Point surveyed within Tolerance
516	685115.80	603525.30	13.3	GRID	8/9/2016	13.2	-0.1	Point surveyed within Tolerance
517	685137.40	603537.90	12.9	GRID	8/9/2016	12.8	-0.1	Point surveyed within Tolerance
518	685159.00	603550.50	12.4	GRID	8/9/2016	12.4	0.0	Point surveyed within Tolerance
519	685180.60	603563.20	11.5	GRID	8/9/2016	11.4	-0.1	Point surveyed within Tolerance
520	685202.10	603575.80	7.9	GRID	8/9/2016	7.8	-0.1	Point surveyed within Tolerance
521	685223.70	603588.40	5.9	GRID	8/9/2016	5.9	0.0	Point surveyed within Tolerance
522	685245.30	603601.10	5.1	GRID	8/9/2016	5.0	-0.1	Point surveyed within Tolerance
523	685266.90	603613.70	6.2	GRID	8/9/2016	6.2	0.0	Point surveyed within Tolerance
524	685232.70	603622.60	5.0	GRID	8/9/2016	5.0	0.0	Point surveyed within Tolerance
525	685211.10	603610.00	5.5	GRID	8/9/2016	5.4	-0.1	Point surveyed within Tolerance
526	685189.50	603597.40	7.4	GRID	8/9/2016	7.4	0.0	Point surveyed within Tolerance
527	685167.90	603584.70	8.6	GRID	8/9/2016	8.5	-0.1	Point surveyed within Tolerance
528	685124.80	603559.50	12.6	GRID	8/9/2016	12.5	-0.1	Point surveyed within Tolerance
529	685103.20	603546.90	13.0	GRID	8/9/2016	12.9	-0.1	Point surveyed within Tolerance
530	685081.60	603534.20	10.5	GRID	8/9/2016	10.4	-0.1	Point surveyed within Tolerance
531	685060.10	603521.60	10.0	GRID	8/9/2016	9.9	-0.1	Point surveyed within Tolerance
532	685047.40	603543.20	9.7	GRID	8/9/2016	9.6	-0.1	Point surveyed within Tolerance
533	685090.60	603568.40	10.2	GRID	8/10/2016	10.9	0.7	Material Added to Facilitate Drainage
534	685112.10	603581.10	12.1	GRID	8/9/2016	12.1	0.0	Point surveyed within Tolerance
535	685133.70	603593.70	11.8	GRID	8/9/2016	11.7	-0.1	Point surveyed within Tolerance
536	685176.90	603619.00	7.0	GRID	8/9/2016	7.1	0.1	Point surveyed within Tolerance
537	685198.40	603631.60	5.1	GRID	8/9/2016	5.1	0.0	Point surveyed within Tolerance
538	685220.00	603644.20	5.1	GRID	8/9/2016	5.0	-0.1	Point surveyed within Tolerance
539	685207.40	603665.80	5.1	GRID	8/10/2016	5.0	-0.1	Point surveyed within Tolerance
540	685185.80	603653.20	4.9	GRID	8/10/2016	4.8	-0.1	Point surveyed within Tolerance
541	685164.20	603640.50	6.4	GRID	8/10/2016	6.4	0.0	Point surveyed within Tolerance
542	685121.10	603615.30	11.4	GRID	8/10/2016	11.4	0.0	Point surveyed within Tolerance
543	685099.50	603602.60	11.4	GRID	8/10/2016	11.3	-0.1	Point surveyed within Tolerance
544	685077.90	603590.00	11.9	GRID	8/10/2016	11.9	0.0	Point surveyed within Tolerance
545	685056.40	603577.40	12.7	GRID	8/10/2016	12.6	-0.1	Point surveyed within Tolerance
546	685034.80	603564.70	9.4	GRID	8/10/2016	9.4	0.0	Point surveyed within Tolerance
547	685022.20	603586.30	9.2	GRID	8/10/2016	9.3	0.1	Point surveyed within Tolerance
548	685043.70	603598.90	9.3	GRID	8/10/2016	9.2	-0.1	Point surveyed within Tolerance
549	685065.30	603611.60	8.5	GRID	8/10/2016	8.4	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.14)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
550	685086.90	603624.20	8.0	GRID	8/10/2016	8.0	0.0	Point surveyed within Tolerance
551	685108.50	603636.80	7.3	GRID	8/10/2016	7.2	-0.1	Point surveyed within Tolerance
552	685130.00	603649.50	6.7	GRID	8/10/2016	6.6	-0.1	Point surveyed within Tolerance
553	685151.60	603662.10	6.0	GRID	8/10/2016	6.0	0.0	Point surveyed within Tolerance
554	685173.20	603674.70	4.9	GRID	8/10/2016	4.8	-0.1	Point surveyed within Tolerance
555	685194.80	603687.40	4.7	GRID	8/10/2016	4.8	0.1	Point surveyed within Tolerance
556	685182.10	603708.90	5.9	GRID	8/10/2016	6.0	0.1	Point surveyed within Tolerance
557	685160.60	603696.30	4.8	GRID	8/12/2016	4.8	0.0	Point surveyed within Tolerance
558	685139.00	603683.70	4.9	GRID	8/10/2016	4.8	-0.1	Point surveyed within Tolerance
559	685117.40	603671.00	5.4	GRID	8/10/2016	5.3	-0.1	Point surveyed within Tolerance
560	685095.80	603658.40	6.0	GRID	8/10/2016	5.9	-0.1	Point surveyed within Tolerance
561	685074.30	603645.80	6.5	GRID	8/10/2016	6.5	0.0	Point surveyed within Tolerance
562	685052.70	603633.10	7.0	GRID	8/10/2016	7.1	0.1	Point surveyed within Tolerance
563	685031.10	603620.50	7.8	GRID	8/10/2016	7.7	-0.1	Point surveyed within Tolerance
564	685009.50	603607.90	8.5	GRID	8/10/2016	8.4	-0.1	Point surveyed within Tolerance
565	684988.00	603595.30	8.9	GRID	8/12/2016	8.9	0.0	Point surveyed within Tolerance
566	684975.30	603616.80	8.3	GRID	8/12/2016	8.2	-0.1	Point surveyed within Tolerance
567	684996.90	603629.50	7.8	GRID	8/12/2016	7.8	0.0	Point surveyed within Tolerance
568	685018.50	603642.10	7.4	GRID	8/12/2016	7.3	-0.1	Point surveyed within Tolerance
569	685040.00	603654.70	6.9	GRID	8/12/2016	6.9	0.0	Point surveyed within Tolerance
570	685061.60	603667.40	6.4	GRID	8/12/2016	6.3	-0.1	Point surveyed within Tolerance
571	685083.20	603680.00	5.9	GRID	8/12/2016	5.8	-0.1	Point surveyed within Tolerance
572	685104.80	603692.60	5.5	GRID	8/13/2016	5.4	-0.1	Point surveyed within Tolerance
573	685126.30	603705.20	5.0	GRID	8/13/2016	4.9	-0.1	Point surveyed within Tolerance
574	685147.90	603717.90	4.8	GRID	8/13/2016	4.7	-0.1	Point surveyed within Tolerance
576	685005.80	603663.70	7.3	GRID	8/12/2016	7.2	-0.1	Point surveyed within Tolerance
577	684984.30	603651.00	7.8	GRID	8/12/2016	7.8	0.0	Point surveyed within Tolerance
578	684962.70	603638.40	8.3	GRID	8/12/2016	8.3	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Break Points (Table 2.0)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2000	685963.50	602222.90	12.5	BRK	6/20/2016	12.6	0.1	Point surveyed within Tolerance
2001	685959.20	602225.00	15.0	BRK	6/20/2016	14.9	-0.1	Point surveyed within Tolerance
2002	686044.60	602255.10	11.4	BRK	6/20/2016	11.3	-0.1	Point surveyed within Tolerance
2003	685995.00	602272.90	12.5	BRK	6/20/2016	12.6	0.1	Point surveyed within Tolerance
2004	685991.80	602271.00	15.0	BRK	6/20/2016	14.9	-0.1	Point surveyed within Tolerance
2005	685981.30	602293.80	15.3	BRK	6/20/2016	15.2	-0.1	Point surveyed within Tolerance
2006	685984.60	602295.70	12.8	BRK	6/20/2016	12.7	-0.1	Point surveyed within Tolerance
2007	685937.00	602325.80	15.9	BRK	6/23/2016	15.9	0.0	Point surveyed within Tolerance
2008	685933.30	602323.70	13.5	BRK	6/23/2016	13.5	0.0	Point surveyed within Tolerance
2009	685852.20	602416.10	17.7	BRK	6/27/2016	17.6	-0.1	Point surveyed within Tolerance
2010	685936.60	602267.70	13.0	BRK	6/20/2016	13.1	0.1	Point surveyed within Tolerance
2011	685940.00	602269.70	15.5	BRK	6/20/2016	15.4	-0.1	Point surveyed within Tolerance
2012	685849.90	602420.00	15.3	BRK	6/27/2016	15.3	0.0	Point surveyed within Tolerance
2013	685796.10	602561.30	18.5	BRK	6/29/2016	18.5	0.0	Point surveyed within Tolerance
2014	685794.20	602564.60	16.0	BRK	6/29/2016	16.1	0.1	Point surveyed within Tolerance
2015	685850.40	602564.80	18.3	BRK	6/27/2016	18.2	-0.1	Point surveyed within Tolerance
2016	685854.00	602566.90	15.7	BRK	6/27/2016	15.8	0.1	Point surveyed within Tolerance
2017	685836.80	602585.80	18.4	BRK	6/29/2016	18.3	-0.1	Point surveyed within Tolerance
2018	685840.10	602587.70	15.9	BRK	6/29/2016	15.9	0.0	Point surveyed within Tolerance
2019	685920.10	602349.50	16.2	BRK	6/23/2016	16.2	0.0	Point surveyed within Tolerance
2020	685922.60	602345.30	13.7	BRK	6/23/2016	13.7	0.0	Point surveyed within Tolerance
2021	685856.30	602313.50	8.6	BRK	6/23/2016	8.6	0.0	Point surveyed within Tolerance
2022	685851.30	602322.10	8.6	BRK	6/23/2016	8.7	0.1	Point surveyed within Tolerance
2023	685843.50	602327.60	14.4	BRK	6/23/2016	14.3	-0.1	Point surveyed within Tolerance
2024	685860.60	602306.10	14.3	BRK	6/23/2016	14.2	-0.1	Point surveyed within Tolerance
2025	685912.10	602513.80	10.0	BRK	6/27/2016	9.9	-0.1	Point surveyed within Tolerance
2026	685914.00	602508.20	13.9	BRK	6/27/2016	13.9	0.0	Point surveyed within Tolerance
2027	685826.00	602460.70	15.8	BRK	6/27/2016	15.8	0.0	Point surveyed within Tolerance
2028	685824.00	602464.20	18.4	BRK	6/27/2016	18.5	0.1	Point surveyed within Tolerance
2029	685833.70	602645.50	13.5	BRK	6/29/2016	13.6	0.1	Point surveyed within Tolerance
2030	685815.80	602627.70	15.3	BRK	6/29/2016	15.4	0.1	Point surveyed within Tolerance
2031	685813.90	602630.20	13.8	BRK	6/29/2016	13.8	0.0	Point surveyed within Tolerance
2032	685705.00	602711.40	18.9	BRK	7/1/2016	18.8	-0.1	Point surveyed within Tolerance
2033	685708.50	602713.50	21.5	BRK	7/1/2016	21.4	-0.1	Point surveyed within Tolerance
2034	685697.20	602677.90	20.8	BRK	7/1/2016	20.9	0.1	Point surveyed within Tolerance
2035	685701.40	602680.40	18.4	BRK	7/1/2016	18.3	-0.1	Point surveyed within Tolerance
2036	685711.80	602657.50	20.1	BRK	7/1/2016	20.0	-0.1	Point surveyed within Tolerance
2037	685756.40	602678.80	17.2	BRK	7/1/2016	17.2	0.0	Point surveyed within Tolerance
2038	685754.00	602682.00	19.9	BRK	7/1/2016	20.0	0.1	Point surveyed within Tolerance
2039	685732.00	602720.30	17.5	BRK	7/1/2016	17.5	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Break Points (Table 2.1)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2040	685728.90	602725.70	21.7	BRK	7/1/2016	21.7	0.0	Point surveyed within Tolerance
2041	685707.80	602655.10	17.6	BRK	7/1/2016	17.7	0.1	Point surveyed within Tolerance
2042	685764.90	602717.50	18.0	BRK	7/1/2016	18.0	0.0	Point surveyed within Tolerance
2043	685761.00	602715.30	20.7	BRK	7/1/2016	20.7	0.0	Point surveyed within Tolerance
2044	685822.00	602722.00	14.7	BRK	7/1/2016	14.7	0.0	Point surveyed within Tolerance
2045	685818.70	602720.10	17.2	BRK	7/1/2016	17.3	0.1	Point surveyed within Tolerance
2046	685829.80	602697.60	17.0	BRK	7/1/2016	17.0	0.0	Point surveyed within Tolerance
2047	685833.00	602699.50	14.5	BRK	6/29/2016	14.5	0.0	Point surveyed within Tolerance
2048	685746.80	602645.60	16.5	BRK	6/29/2016	16.5	0.0	Point surveyed within Tolerance
2049	685835.80	602641.50	15.8	BRK	6/29/2016	15.8	0.0	Point surveyed within Tolerance
2050	685783.50	602786.40	18.4	BRK	7/1/2016	18.4	0.0	Point surveyed within Tolerance
2051	685780.10	602784.40	21.0	BRK	7/1/2016	21.0	0.0	Point surveyed within Tolerance
2052	685805.30	602793.00	14.9	BRK	7/7/2016	14.9	0.0	Point surveyed within Tolerance
2053	685802.50	602795.10	17.0	BRK	7/7/2016	17.0	0.0	Point surveyed within Tolerance
2054	685827.20	602831.00	17.0	BRK	7/7/2016	17.1	0.1	Point surveyed within Tolerance
2055	685744.20	602650.00	19.2	BRK	7/1/2016	19.2	0.0	Point surveyed within Tolerance
2056	685800.50	602883.20	18.2	BRK	7/7/2016	18.2	0.0	Point surveyed within Tolerance
2057	685789.50	602905.80	18.5	BRK	7/7/2016	18.4	-0.1	Point surveyed within Tolerance
2058	685822.90	602664.90	13.5	BRK	6/29/2016	13.6	0.1	Point surveyed within Tolerance
2059	685820.20	602668.40	15.7	BRK	6/29/2016	15.7	0.0	Point surveyed within Tolerance
2060	685800.10	602651.00	15.0	BRK	6/29/2016	15.0	0.0	Point surveyed within Tolerance
2061	685801.80	602648.60	13.7	BRK	6/29/2016	13.7	0.0	Point surveyed within Tolerance
2062	685776.30	602694.10	17.2	BRK	7/1/2016	17.3	0.1	Point surveyed within Tolerance
2063	685774.30	602697.60	19.9	BRK	7/1/2016	19.8	-0.1	Point surveyed within Tolerance
2064	685811.40	602860.70	17.9	BRK	7/7/2016	17.9	0.0	Point surveyed within Tolerance
2065	685790.60	602471.80	19.2	BRK	6/27/2016	19.1	-0.1	Point surveyed within Tolerance
2066	685787.30	602469.90	16.8	BRK	6/27/2016	16.8	0.0	Point surveyed within Tolerance
2067	685775.20	602491.80	16.8	BRK	6/27/2016	16.8	0.0	Point surveyed within Tolerance
2068	685778.40	602493.70	19.3	BRK	6/27/2016	19.2	-0.1	Point surveyed within Tolerance
2069	685657.70	602799.60	19.1	BRK	7/7/2016	19.0	-0.1	Point surveyed within Tolerance
2070	685654.60	602797.80	21.5	BRK	7/7/2016	21.4	-0.1	Point surveyed within Tolerance
2071	685671.10	602778.50	19.1	BRK	7/7/2016	19.2	0.1	Point surveyed within Tolerance
2072	685667.90	602776.60	21.5	BRK	7/7/2016	21.5	0.0	Point surveyed within Tolerance
2073	685709.40	602857.90	20.1	BRK	7/7/2016	20.2	0.1	Point surveyed within Tolerance
2074	685711.30	602854.60	22.6	BRK	7/7/2016	22.6	0.0	Point surveyed within Tolerance
2075	685729.70	602872.60	19.7	BRK	7/7/2016	19.7	0.0	Point surveyed within Tolerance
2076	685731.80	602869.10	22.2	BRK	7/7/2016	22.2	0.0	Point surveyed within Tolerance
2077	685795.70	602764.50	18.0	BRK	7/1/2016	18.0	0.0	Point surveyed within Tolerance
2078	685800.00	602767.10	14.7	BRK	7/1/2016	14.7	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

Points in 0.1 - 0.5 ft. tolerance are due to a slight overcut in the top of slopes where it wouldn't be suitable for backfill due to compaction difficulties.

SA-6 North Cap Subgrade: Break Points (Table 2.2)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2079	685792.80	602762.90	18.1	BRK	7/1/2016	18.1	0.0	Point surveyed within Tolerance
2080	685789.40	602760.90	20.7	BRK	7/1/2016	20.7	0.0	Point surveyed within Tolerance
2081	685557.30	602969.20	19.0	BRK	7/13/2016	19.0	0.0	Point surveyed within Tolerance
2082	685555.40	602972.40	21.5	BRK	7/13/2016	21.4	-0.1	Point surveyed within Tolerance
2083	685468.20	603121.30	13.6	BRK	7/15/2016	13.6	0.0	Point surveyed within Tolerance
2084	685465.10	603126.70	9.5	BRK	7/18/2016	9.5	0.0	Point surveyed within Tolerance
2085	685475.10	603069.30	16.6	BRK	7/15/2016	16.6	0.0	Point surveyed within Tolerance
2086	685471.50	603067.20	19.0	BRK	7/15/2016	19.0	0.0	Point surveyed within Tolerance
2087	685533.60	603016.70	18.9	BRK	7/13/2016	19.0	0.1	Point surveyed within Tolerance
2088	685530.40	603014.80	21.4	BRK	7/13/2016	21.3	-0.1	Point surveyed within Tolerance
2089	685536.30	602955.60	18.6	BRK	7/13/2016	18.6	0.0	Point surveyed within Tolerance
2090	685534.30	602959.00	21.1	BRK	7/13/2016	21.0	-0.1	Point surveyed within Tolerance
2091	685507.60	603059.40	20.1	BRK	7/13/2016	20.0	-0.1	Point surveyed within Tolerance
2092	685504.40	603057.50	17.6	BRK	7/13/2016	17.6	0.0	Point surveyed within Tolerance
2093	685594.50	603202.50	16.1	BRK	7/21/2016	16.1	0.0	Point surveyed within Tolerance
2094	685596.80	603198.60	13.2	BRK	7/21/2016	13.1	-0.1	Point surveyed within Tolerance
2095	685405.10	603081.80	15.5	BRK	7/15/2016	15.5	0.0	Point surveyed within Tolerance
2096	685395.60	603083.30	9.1	BRK	7/18/2016	9.2	0.1	Point surveyed within Tolerance
2097	685399.60	603139.50	9.2	BRK	7/21/2016	9.3	0.1	Point surveyed within Tolerance
2098	685395.00	603147.40	15.1	BRK	7/21/2016	15.0	-0.1	Point surveyed within Tolerance
2099	685423.70	603148.00	9.4	BRK	7/21/2016	9.4	0.0	Point surveyed within Tolerance
2100	685441.60	603117.40	9.4	BRK	7/18/2016	9.5	0.1	Point surveyed within Tolerance
2101	685420.00	603154.10	14.0	BRK	7/21/2016	14.1	0.1	Point surveyed within Tolerance
2102	685445.00	603111.60	13.8	BRK	7/15/2016	13.9	0.1	Point surveyed within Tolerance
2103	685491.70	603130.70	13.6	BRK	7/15/2016	13.7	0.1	Point surveyed within Tolerance
2104	685488.70	603135.90	9.7	BRK	7/18/2016	9.7	0.0	Point surveyed within Tolerance
2105	685470.80	603211.60	14.8	BRK	7/25/2016	14.9	0.1	Point surveyed within Tolerance
2106	685468.50	603181.50	10.8	BRK	7/21/2016	10.9	0.1	Point surveyed within Tolerance
2107	685463.60	603179.40	14.4	BRK	7/21/2016	14.4	0.0	Point surveyed within Tolerance
2108	685616.60	603185.80	13.5	BRK	7/18/2016	13.5	0.0	Point surveyed within Tolerance
2109	685614.80	603180.20	16.5	BRK	7/15/2016	16.6	0.1	Point surveyed within Tolerance
2110	685473.50	603213.20	17.0	BRK	7/25/2016	17.0	0.0	Point surveyed within Tolerance
2111	685663.50	603121.70	12.5	BRK	7/13/2016	12.6	0.1	Point surveyed within Tolerance
2112	685647.90	603127.60	17.5	BRK	7/13/2016	17.4	-0.1	Point surveyed within Tolerance
2113	685675.50	603099.70	12.8	BRK	7/13/2016	12.8	0.0	Point surveyed within Tolerance
2114	685660.10	603105.60	17.8	BRK	7/13/2016	17.8	0.0	Point surveyed within Tolerance
2115	685722.70	603040.50	13.0	BRK	7/12/2016	13.0	0.0	Point surveyed within Tolerance
2116	685712.80	603034.70	18.7	BRK	7/12/2016	18.8	0.1	Point surveyed within Tolerance
2117	685693.80	603081.50	13.0	BRK	7/13/2016	13.0	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Break Points (Table 2.3)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2118	685684.50	603076.10	18.4	BRK	7/13/2016	18.4	0.0	Point surveyed within Tolerance
2119	685708.50	603061.10	13.0	BRK	7/12/2016	13.1	0.1	Point surveyed within Tolerance
2120	685698.80	603055.40	18.6	BRK	7/12/2016	18.5	-0.1	Point surveyed within Tolerance
2121	685773.30	602954.20	13.0	BRK	7/8/2016	13.0	0.0	Point surveyed within Tolerance
2122	685763.40	602948.40	18.7	BRK	7/8/2016	18.8	0.1	Point surveyed within Tolerance
2123	685736.50	603019.60	13.0	BRK	7/12/2016	13.1	0.1	Point surveyed within Tolerance
2124	685726.40	603013.70	18.8	BRK	7/12/2016	18.8	0.0	Point surveyed within Tolerance
2125	685749.70	602998.40	13.0	BRK	7/8/2016	13.1	0.1	Point surveyed within Tolerance
2126	685739.60	602992.40	18.9	BRK	7/8/2016	18.9	0.0	Point surveyed within Tolerance
2127	685762.20	602976.70	13.0	BRK	7/8/2016	13.0	0.0	Point surveyed within Tolerance
2128	685752.10	602970.80	18.9	BRK	7/8/2016	18.8	-0.1	Point surveyed within Tolerance
2129	685784.70	602933.00	13.0	BRK	7/8/2016	13.1	0.1	Point surveyed within Tolerance
2130	685776.70	602925.80	18.7	BRK	7/8/2016	18.7	0.0	Point surveyed within Tolerance
2131	685530.40	603217.60	14.7	BRK	7/25/2016	14.7	0.0	Point surveyed within Tolerance
2132	685527.40	603215.80	17.5	BRK	7/25/2016	17.5	0.0	Point surveyed within Tolerance
2133	685368.50	603242.20	14.1	BRK	7/25/2016	14.2	0.1	Point surveyed within Tolerance
2134	685370.50	603238.70	16.7	BRK	7/25/2016	16.6	-0.1	Point surveyed within Tolerance
2135	685350.10	603224.10	17.0	BRK	7/25/2016	16.9	-0.1	Point surveyed within Tolerance
2136	685348.20	603227.40	14.5	BRK	7/25/2016	14.6	0.1	Point surveyed within Tolerance
2137	685398.30	603339.70	11.3	BRK	7/27/2016	11.4	0.1	Point surveyed within Tolerance
2138	685396.20	603343.20	13.7	BRK	7/27/2016	13.6	-0.1	Point surveyed within Tolerance
2139	685420.60	603353.70	10.7	BRK	7/27/2016	10.8	0.1	Point surveyed within Tolerance
2140	685415.10	603354.10	13.3	BRK	7/27/2016	13.3	0.0	Point surveyed within Tolerance
2141	685497.90	603316.30	7.3	BRK	7/25/2016	7.3	0.0	Point surveyed within Tolerance
2142	685502.30	603310.60	12.1	BRK	7/25/2016	12.2	0.1	Point surveyed within Tolerance
2143	685313.20	603384.50	10.9	BRK	7/27/2016	10.9	0.0	Point surveyed within Tolerance
2144	685315.90	603381.60	13.4	BRK	7/27/2016	13.5	0.1	Point surveyed within Tolerance
2145	685073.60	603554.90	13.1	BRK	8/9/2016	13.0	-0.1	Point surveyed within Tolerance
2146	685066.30	603557.80	10.6	BRK	8/9/2016	10.5	-0.1	Point surveyed within Tolerance
2147	685216.30	603555.10	8.1	BRK	8/9/2016	8.1	0.0	Point surveyed within Tolerance
2148	685212.80	603553.10	10.8	BRK	8/9/2016	10.7	-0.1	Point surveyed within Tolerance
2149	685223.70	603530.50	11.0	BRK	8/5/2016	10.9	-0.1	Point surveyed within Tolerance
2150	685227.20	603532.50	8.5	BRK	8/5/2016	8.5	0.0	Point surveyed within Tolerance
2151	685148.10	603569.80	12.3	BRK	8/9/2016	12.2	-0.1	Point surveyed within Tolerance
2152	685146.90	603573.50	9.7	BRK	8/9/2016	9.7	0.0	Point surveyed within Tolerance
2153	685143.40	603571.70	12.3	BRK	8/9/2016	12.2	-0.1	Point surveyed within Tolerance
2154	685155.60	603606.50	10.8	BRK	8/9/2016	10.7	-0.1	Point surveyed within Tolerance
2155	685159.10	603608.60	8.1	BRK	8/9/2016	8.2	0.1	Point surveyed within Tolerance
2156	685143.40	603628.30	7.9	BRK	8/10/2016	7.8	-0.1	Point surveyed within Tolerance
2157	685139.90	603626.30	10.6	BRK	8/10/2016	10.5	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Break Points (Table 2.4)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2158	685236.50	603364.20	12.9	BRK	7/27/2016	12.8	-0.1	Point surveyed within Tolerance
2159	685239.30	603365.80	15.0	BRK	7/27/2016	14.9	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Boundary Points (Table 3.0)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
1000	685974.80	602058.20	11.8	BNDY	6/20/2016	11.8	0.0	Point surveyed within Tolerance
1001	685996.40	602070.70	11.1	BNDY	6/20/2016	11.1	0.0	Point surveyed within Tolerance
1002	686018.10	602083.20	10.6	BNDY	6/20/2016	10.6	0.0	Point surveyed within Tolerance
1003	686034.30	602092.60	10.6	BNDY	6/20/2016	10.6	0.0	Point surveyed within Tolerance
1004	686042.90	602090.30	10.6	BNDY	6/20/2016	10.6	0.0	Point surveyed within Tolerance
1005	686053.70	602087.50	10.6	BNDY	6/20/2016	10.6	0.0	Point surveyed within Tolerance
1006	686070.10	602097.00	10.8	BNDY	6/20/2016	10.9	0.1	Point surveyed within Tolerance
1007	686075.10	602116.10	10.7	BNDY	6/20/2016	10.7	0.0	Point surveyed within Tolerance
1008	686083.10	602120.70	10.8	BNDY	6/20/2016	10.9	0.1	Point surveyed within Tolerance
1009	686107.60	602134.80	7.9	BNDY	6/20/2016	7.9	0.0	Point surveyed within Tolerance
1010	686096.70	602158.60	8.0	BNDY	6/20/2016	8.0	0.0	Point surveyed within Tolerance
1012	686086.20	602181.40	8.1	BNDY	6/20/2016	8.1	0.0	Point surveyed within Tolerance
1013	686075.80	602204.30	8.2	BNDY	6/20/2016	8.2	0.0	Point surveyed within Tolerance
1014	686065.30	602227.10	8.3	BNDY	6/20/2016	8.4	0.1	Point surveyed within Tolerance
1015	686054.90	602250.00	8.4	BNDY	6/20/2016	8.5	0.1	Point surveyed within Tolerance
1016	686051.10	602258.10	6.6	BNDY	6/20/2016	6.6	0.0	Point surveyed within Tolerance
1017	686043.70	602274.40	11.7	BNDY	6/20/2016	11.6	-0.1	Point surveyed within Tolerance
1018	686052.80	602278.50	11.9	BNDY	6/20/2016	11.9	0.0	Point surveyed within Tolerance
1019	686041.80	602300.30	12.1	BNDY	6/20/2016	12.1	0.0	Point surveyed within Tolerance
1020	686030.50	602322.60	12.4	BNDY	6/20/2016	12.4	0.0	Point surveyed within Tolerance
1021	686019.20	602344.90	12.6	BNDY	6/23/2016	12.6	0.0	Point surveyed within Tolerance
1022	686007.80	602367.30	12.9	BNDY	6/23/2016	12.9	0.0	Point surveyed within Tolerance
1023	685996.50	602389.60	13.1	BNDY	6/23/2016	13.1	0.0	Point surveyed within Tolerance
1024	685985.20	602412.00	13.4	BNDY	6/23/2016	13.3	-0.1	Point surveyed within Tolerance
1025	685973.90	602434.30	13.6	BNDY	6/23/2016	13.6	0.0	Point surveyed within Tolerance
1026	685962.60	602456.70	13.7	BNDY	6/27/2016	13.7	0.0	Point surveyed within Tolerance
1027	685951.80	602479.30	13.9	BNDY	6/27/2016	13.9	0.0	Point surveyed within Tolerance
1028	685941.00	602502.00	14.1	BNDY	6/27/2016	14.1	0.0	Point surveyed within Tolerance
1029	685930.20	602524.60	9.9	BNDY	6/27/2016	9.8	-0.1	Point surveyed within Tolerance
1030	685919.40	602547.30	14.5	BNDY	6/27/2016	14.5	0.0	Point surveyed within Tolerance
1031	685908.60	602569.90	14.7	BNDY	6/27/2016	14.7	0.0	Point surveyed within Tolerance
1032	685897.80	602592.60	14.9	BNDY	6/27/2016	14.9	0.0	Point surveyed within Tolerance
1033	685887.00	602615.20	15.1	BNDY	6/29/2016	15.1	0.0	Point surveyed within Tolerance
1034	685876.20	602637.90	15.3	BNDY	6/29/2016	15.3	0.0	Point surveyed within Tolerance
1035	685865.40	602660.50	15.5	BNDY	6/29/2016	15.5	0.0	Point surveyed within Tolerance
1036	685854.40	602683.00	13.5	BNDY	6/29/2016	13.4	-0.1	Point surveyed within Tolerance
1037	685843.40	602705.60	14.5	BNDY	6/29/2016	14.6	0.1	Point surveyed within Tolerance
1038	685832.40	602728.10	14.7	BNDY	7/1/2016	14.6	-0.1	Point surveyed within Tolerance
1039	685821.40	602750.60	14.7	BNDY	7/1/2016	14.7	0.0	Point surveyed within Tolerance
1040	685808.80	602776.40	14.7	BNDY	7/1/2016	14.7	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Boundary Points (Table 3.1)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
1041	685836.50	602789.20	12.9	BNDY	7/1/2016	13.0	0.1	Point surveyed within Tolerance
1042	685852.60	602796.70	12.8	BNDY	7/1/2016	12.8	0.0	Point surveyed within Tolerance
1043	685850.80	602802.10	12.8	BNDY	7/1/2016	12.8	0.0	Point surveyed within Tolerance
1044	685842.60	602821.00	18.0	BNDY	7/7/2016	16.6	-1.4	Out of Tolerance due to HB Wall Lower than Design Elevation
1045	685838.20	602831.10	18.3	BNDY	7/7/2016	18.2	-0.1	Point surveyed within Tolerance
1046	685836.40	602830.30	18.1	BNDY	7/7/2016	18.1	0.0	Point surveyed within Tolerance
1047	685832.30	602839.50	14.2	BNDY	7/7/2016	14.2	0.0	Point surveyed within Tolerance
1048	685830.30	602838.50	14.0	BNDY	7/7/2016	14.1	0.1	Point surveyed within Tolerance
1049	685818.30	602864.70	14.0	BNDY	7/7/2016	14.1	0.1	Point surveyed within Tolerance
1050	685807.80	602887.50	14.0	BNDY	7/7/2016	14.0	0.0	Point surveyed within Tolerance
1051	685797.30	602910.30	14.0	BNDY	7/7/2016	13.9	-0.1	Point surveyed within Tolerance
1052	685786.80	602933.10	12.0	BNDY	7/8/2016	12.0	0.0	Point surveyed within Tolerance
1053	685776.20	602955.90	12.0	BNDY	7/8/2016	12.0	0.0	Point surveyed within Tolerance
1054	685765.80	602978.80	12.0	BNDY	7/8/2016	12.1	0.1	Point surveyed within Tolerance
1055	685755.30	603001.60	11.8	BNDY	7/8/2016	11.4	-0.4	Out of Tolerance due to HB Wall Lower than Design Elevation
1056	685744.80	603024.40	11.5	BNDY	7/12/2016	11.5	0.0	Point surveyed within Tolerance
1057	685734.20	603047.20	11.5	BNDY	7/12/2016	11.5	0.0	Point surveyed within Tolerance
1058	685723.70	603070.00	11.5	BNDY	7/12/2016	11.6	0.1	Point surveyed within Tolerance
1059	685713.10	603092.80	11.5	BNDY	7/13/2016	11.5	0.0	Point surveyed within Tolerance
1060	685704.90	603110.60	11.5	BNDY	7/13/2016	11.5	0.0	Point surveyed within Tolerance
1061	685679.60	603098.80	11.5	BNDY	7/13/2016	11.6	0.1	Point surveyed within Tolerance
1062	685667.90	603124.20	11.5	BNDY	7/13/2016	11.4	-0.1	Point surveyed within Tolerance
1063	685658.70	603143.90	12.0	BNDY	7/18/2016	12.1	0.1	Point surveyed within Tolerance
1064	685651.30	603140.50	12.7	BNDY	7/18/2016	12.7	0.0	Point surveyed within Tolerance
1065	685634.80	603162.80	13.3	BNDY	7/18/2016	13.3	0.0	Point surveyed within Tolerance
1066	685619.90	603183.00	13.7	BNDY	7/18/2016	13.8	0.1	Point surveyed within Tolerance
1067	685604.80	603203.20	14.3	BNDY	7/21/2016	14.3	0.0	Point surveyed within Tolerance
1068	685589.70	603223.30	15.6	BNDY	7/21/2016	15.6	0.0	Point surveyed within Tolerance
1069	685574.10	603243.20	14.6	BNDY	7/21/2016	14.6	0.0	Point surveyed within Tolerance
1070	685558.90	603263.20	14.8	BNDY	7/21/2016	13.8	-1.0	Out of Tolerance due to HB Wall Lower than Design Elevation
1071	685549.20	603276.30	14.3	BNDY	7/21/2016	14.0	-0.3	Out of Tolerance due to HB Wall Lower than Design Elevation
1072	685536.50	603288.70	13.3	BNDY	7/25/2016	13.3	0.0	Point surveyed within Tolerance
1073	685533.80	603292.00	13.2	BNDY	7/25/2016	13.2	0.0	Point surveyed within Tolerance
1074	685528.20	603303.30	12.9	BNDY	7/25/2016	12.8	-0.1	Point surveyed within Tolerance
1075	685512.70	603323.10	9.8	BNDY	7/25/2016	9.8	0.0	Point surveyed within Tolerance
1076	685497.10	603342.90	11.9	BNDY	7/25/2016	11.9	0.0	Point surveyed within Tolerance
1077	685481.30	603362.70	11.1	BNDY	7/27/2016	11.2	0.1	Point surveyed within Tolerance
1078	685465.50	603382.40	10.5	BNDY	7/27/2016	10.4	-0.1	Point surveyed within Tolerance
1079	685449.60	603402.00	9.9	BNDY	7/27/2016	9.9	0.0	Point surveyed within Tolerance
1080	685433.60	603421.60	9.2	BNDY	8/3/2016	9.3	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Boundary Points (Table 3.2)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
1081	685417.50	603441.20	8.7	BNDY	8/3/2016	8.8	0.1	Point surveyed within Tolerance
1082	685401.30	603460.70	8.2	BNDY	8/3/2016	8.3	0.1	Point surveyed within Tolerance
1083	685385.00	603480.10	5.9	BNDY	8/3/2016	6.0	0.1	Point surveyed within Tolerance
1084	685368.70	603499.50	7.3	BNDY	8/5/2016	7.2	-0.1	Point surveyed within Tolerance
1085	685352.20	603518.80	7.0	BNDY	8/5/2016	6.9	-0.1	Point surveyed within Tolerance
1086	685335.70	603538.10	7.0	BNDY	8/5/2016	7.0	0.0	Point surveyed within Tolerance
1087	685319.10	603557.40	7.0	BNDY	8/5/2016	6.9	-0.1	Point surveyed within Tolerance
1088	685302.60	603576.70	7.0	BNDY	8/5/2016	7.0	0.0	Point surveyed within Tolerance
1089	685286.00	603596.00	7.0	BNDY	8/9/2016	6.9	-0.1	Point surveyed within Tolerance
1090	685269.50	603615.30	7.0	BNDY	8/9/2016	6.9	-0.1	Point surveyed within Tolerance
1091	685253.00	603634.50	7.0	BNDY	8/9/2016	6.9	-0.1	Point surveyed within Tolerance
1092	685236.40	603653.80	7.0	BNDY	8/9/2016	6.9	-0.1	Point surveyed within Tolerance
1093	685219.90	603673.10	7.0	BNDY	8/10/2016	7.0	0.0	Point surveyed within Tolerance
1094	685203.30	603692.40	4.8	BNDY	8/12/2016	4.7	-0.1	Point surveyed within Tolerance
1095	685186.80	603711.70	7.0	BNDY	8/12/2016	6.9	-0.1	Point surveyed within Tolerance
1096	685170.20	603731.00	7.0	BNDY	8/12/2016	7.0	0.0	Point surveyed within Tolerance
1097	685161.70	603740.90	7.0	BNDY	8/13/2016	7.0	0.0	Point surveyed within Tolerance
1098	685140.30	603731.00	7.0	BNDY	8/13/2016	7.0	0.0	Point surveyed within Tolerance
1099	685117.50	603720.40	7.0	BNDY	8/13/2016	7.0	0.0	Point surveyed within Tolerance
1100	685094.70	603709.90	7.0	BNDY	8/13/2016	7.0	0.0	Point surveyed within Tolerance
1101	685071.80	603699.40	7.0	BNDY	8/13/2016	7.0	0.0	Point surveyed within Tolerance
1102	685049.00	603688.80	7.0	BNDY	8/12/2016	7.0	0.0	Point surveyed within Tolerance
1103	685026.20	603678.30	7.1	BNDY	8/12/2016	7.1	0.0	Point surveyed within Tolerance
1104	685003.40	603667.80	7.3	BNDY	8/12/2016	7.2	-0.1	Point surveyed within Tolerance
1105	684980.60	603657.30	8.0	BNDY	8/12/2016	8.0	0.0	Point surveyed within Tolerance
1106	684957.80	603646.70	8.5	BNDY	8/12/2016	8.5	0.0	Point surveyed within Tolerance
1107	684945.00	603640.20	8.6	BNDY	8/12/2016	10.7	2.1	Out of Tolerance due to SCB Wall Higher than Design Elevation
1108	684968.60	603612.90	8.5	BNDY	8/12/2016	8.5	0.0	Point surveyed within Tolerance
1109	684985.30	603593.70	8.9	BNDY	8/12/2016	8.9	0.0	Point surveyed within Tolerance
1110	685001.90	603574.50	9.6	BNDY	8/10/2016	9.7	0.1	Point surveyed within Tolerance
1111	685018.60	603555.20	9.8	BNDY	8/10/2016	9.7	-0.1	Point surveyed within Tolerance
1112	685035.20	603536.00	9.9	BNDY	8/10/2016	10.0	0.1	Point surveyed within Tolerance
1113	685051.90	603516.80	10.2	BNDY	8/9/2016	10.3	0.1	Point surveyed within Tolerance
1114	685068.50	603497.60	10.4	BNDY	8/9/2016	10.5	0.1	Point surveyed within Tolerance
1115	685085.20	603478.30	10.7	BNDY	8/9/2016	10.7	0.0	Point surveyed within Tolerance
1116	685101.80	603459.10	10.9	BNDY	8/5/2016	10.9	0.0	Point surveyed within Tolerance
1117	685118.50	603439.90	11.2	BNDY	8/5/2016	11.2	0.0	Point surveyed within Tolerance
1118	685135.10	603420.70	11.4	BNDY	8/5/2016	11.4	0.0	Point surveyed within Tolerance
1119	685151.70	603401.50	11.4	BNDY	8/5/2016	11.4	0.0	Point surveyed within Tolerance
1120	685168.40	603382.20	11.5	BNDY	8/3/2016	11.5	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Boundary Points (Table 3.3)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
1121	685185.00	603363.00	11.5	BNDY	8/3/2016	11.5	0.0	Point surveyed within Tolerance
1122	685201.70	603343.80	12.4	BNDY	8/3/2016	12.4	0.0	Point surveyed within Tolerance
1123	685218.30	603324.60	12.7	BNDY	7/27/2016	12.7	0.0	Point surveyed within Tolerance
1124	685235.00	603305.30	13.0	BNDY	7/27/2016	13.0	0.0	Point surveyed within Tolerance
1125	685251.60	603286.10	13.2	BNDY	7/27/2016	13.3	0.1	Point surveyed within Tolerance
1126	685264.60	603271.10	13.4	BNDY	7/27/2016	13.5	0.1	Point surveyed within Tolerance
1127	685280.00	603244.80	13.7	BNDY	7/27/2016	13.8	0.1	Point surveyed within Tolerance
1128	685292.70	603223.20	14.0	BNDY	7/25/2016	14.0	0.0	Point surveyed within Tolerance
1129	685305.30	603201.70	14.2	BNDY	7/25/2016	14.3	0.1	Point surveyed within Tolerance
1130	685317.90	603180.10	14.5	BNDY	7/25/2016	14.5	0.0	Point surveyed within Tolerance
1131	685330.60	603158.50	14.6	BNDY	7/25/2016	14.6	0.0	Point surveyed within Tolerance
1132	685343.20	603136.90	14.3	BNDY	7/21/2016	14.4	0.1	Point surveyed within Tolerance
1133	685355.80	603115.40	9.0	BNDY	7/21/2016	9.0	0.0	Point surveyed within Tolerance
1134	685368.50	603093.80	9.0	BNDY	7/21/2016	8.9	-0.1	Point surveyed within Tolerance
1135	685381.10	603072.20	9.0	BNDY	7/21/2016	9.1	0.1	Point surveyed within Tolerance
1136	685391.10	603055.10	9.0	BNDY	7/18/2016	9.1	0.1	Point surveyed within Tolerance
1137	685406.40	603029.10	13.4	BNDY	7/15/2016	13.4	0.0	Point surveyed within Tolerance
1138	685419.00	603007.50	13.3	BNDY	7/13/2016	13.4	0.1	Point surveyed within Tolerance
1139	685431.60	602985.90	13.3	BNDY	7/13/2016	13.3	0.0	Point surveyed within Tolerance
1140	685444.30	602964.40	13.3	BNDY	7/13/2016	13.4	0.1	Point surveyed within Tolerance
1141	685456.90	602942.80	13.4	BNDY	7/13/2016	13.4	0.0	Point surveyed within Tolerance
1142	685469.50	602921.20	13.4	BNDY	7/12/2016	13.5	0.1	Point surveyed within Tolerance
1143	685482.20	602899.60	13.5	BNDY	7/12/2016	13.5	0.0	Point surveyed within Tolerance
1144	685494.80	602878.10	13.5	BNDY	7/12/2016	13.5	0.0	Point surveyed within Tolerance
1145	685507.40	602856.50	13.5	BNDY	7/8/2016	13.5	0.0	Point surveyed within Tolerance
1146	685520.00	602834.90	13.5	BNDY	7/8/2016	13.5	0.0	Point surveyed within Tolerance
1147	685532.70	602813.30	13.5	BNDY	7/8/2016	13.6	0.1	Point surveyed within Tolerance
1148	685545.30	602791.80	13.8	BNDY	7/8/2016	13.8	0.0	Point surveyed within Tolerance
1149	685557.90	602770.20	13.8	BNDY	7/7/2016	13.8	0.0	Point surveyed within Tolerance
1150	685570.60	602748.60	13.7	BNDY	7/7/2016	13.7	0.0	Point surveyed within Tolerance
1151	685583.20	602727.00	13.7	BNDY	7/7/2016	13.6	-0.1	Point surveyed within Tolerance
1152	685595.80	602705.50	13.6	BNDY	7/7/2016	13.6	0.0	Point surveyed within Tolerance
1153	685608.50	602683.90	13.4	BNDY	7/1/2016	13.5	0.1	Point surveyed within Tolerance
1154	685621.10	602662.30	13.1	BNDY	7/1/2016	13.2	0.1	Point surveyed within Tolerance
1155	685633.70	602640.70	12.8	BNDY	7/1/2016	12.9	0.1	Point surveyed within Tolerance
1156	685646.40	602619.20	12.6	BNDY	7/1/2016	12.6	0.0	Point surveyed within Tolerance
1157	685659.00	602597.60	12.3	BNDY	6/29/2016	12.3	0.0	Point surveyed within Tolerance
1158	685671.60	602576.00	12.2	BNDY	6/29/2016	12.2	0.0	Point surveyed within Tolerance
1159	685684.30	602554.40	12.1	BNDY	6/29/2016	12.1	0.0	Point surveyed within Tolerance
1160	685696.90	602532.90	12.1	BNDY	6/29/2016	12.1	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Boundary Points (Table 3.4)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
1161	685709.50	602511.30	12.2	BNDY	6/29/2016	12.2	0.0	Point surveyed within Tolerance
1162	685722.20	602489.70	12.5	BNDY	6/27/2016	12.4	-0.1	Point surveyed within Tolerance
1163	685734.80	602468.10	12.7	BNDY	6/27/2016	12.7	0.0	Point surveyed within Tolerance
1164	685747.40	602446.60	12.9	BNDY	6/27/2016	12.8	-0.1	Point surveyed within Tolerance
1165	685760.00	602425.00	13.0	BNDY	6/27/2016	13.0	0.0	Point surveyed within Tolerance
1166	685772.70	602403.40	13.2	BNDY	6/27/2016	13.3	0.1	Point surveyed within Tolerance
1167	685785.30	602381.80	13.5	BNDY	6/27/2016	13.5	0.0	Point surveyed within Tolerance
1168	685797.90	602360.30	13.7	BNDY	6/27/2016	13.7	0.0	Point surveyed within Tolerance
1169	685810.60	602338.70	13.9	BNDY	6/23/2016	13.9	0.0	Point surveyed within Tolerance
1170	685823.20	602317.10	13.9	BNDY	6/23/2016	13.9	0.0	Point surveyed within Tolerance
1171	685833.20	602300.00	8.5	BNDY	6/23/2016	8.5	0.0	Point surveyed within Tolerance
1172	685837.80	602292.20	13.9	BNDY	6/23/2016	13.9	0.0	Point surveyed within Tolerance
1173	685848.40	602274.00	14.3	BNDY	6/23/2016	14.2	-0.1	Point surveyed within Tolerance
1174	685861.10	602252.40	14.0	BNDY	6/23/2016	14.0	0.0	Point surveyed within Tolerance
1175	685873.70	602230.80	13.8	BNDY	6/20/2016	13.8	0.0	Point surveyed within Tolerance
1176	685886.40	602209.30	13.5	BNDY	6/20/2016	13.5	0.0	Point surveyed within Tolerance
1177	685899.00	602187.70	13.3	BNDY	6/20/2016	13.2	-0.1	Point surveyed within Tolerance
1178	685911.60	602166.10	13.0	BNDY	6/20/2016	13.0	0.0	Point surveyed within Tolerance
1179	685924.30	602144.50	12.8	BNDY	6/20/2016	12.8	0.0	Point surveyed within Tolerance
1180	685936.90	602123.00	12.5	BNDY	6/20/2016	12.5	0.0	Point surveyed within Tolerance
1181	685949.50	602101.40	12.3	BNDY	6/20/2016	12.3	0.0	Point surveyed within Tolerance
1182	685962.20	602079.80	12.1	BNDY	6/20/2016	12.2	0.1	Point surveyed within Tolerance
1183	685396.50	603046.00	13.0	BNDY	7/18/2016	13.0	0.0	Point surveyed within Tolerance
1184	684952.00	603632.10	8.5	BNDY	8/12/2016	8.4	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

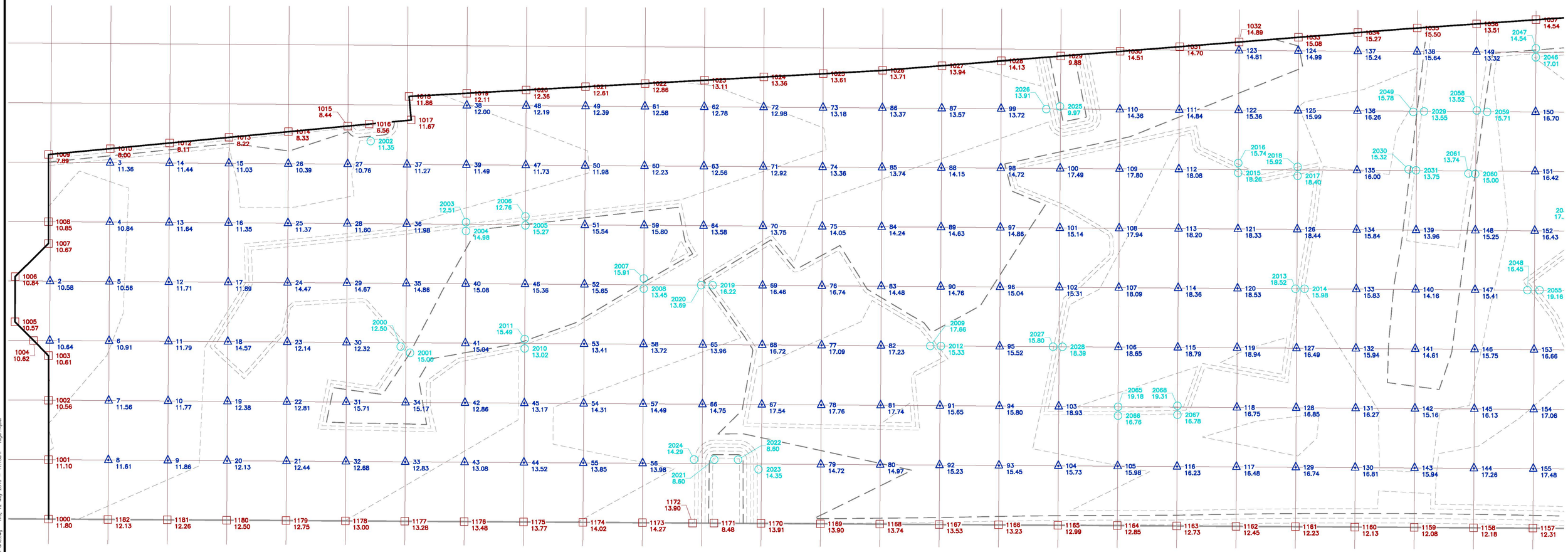
Per SPECIFICATION 01460 SURVEY. SECTION 1.05 F. Spot Elevations - Survey shall be constructed to provide an accuracy of 0.1 feet vertically. Ninety percent of all spot elevations placed on the maps shall have an accuracy of at least 0.1', and the remaining 10 percent shall not be in error by more than one-half (1/2) the contour interval (0.5'). Break points added to replace Grid Points that fell on slopes and Boundary Points will be treated as Spot Elevations as defined in Section 1.05 F.

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Grid Points depicted in Table 1, Break Points in Table 2, Boundary Points in Table 3, and topographic spot elevations are correct, and representative of the as-built cap subgrade throughout the SA6 North cap.

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR
LICENSE NO. 36737

C2. Subgrade Construction Control Grid



153 16.66 GRID POINT

2054 17.00 BREAK POINT

1157 12.31 BOUND POINT

0 10 20 40

SCALE IN FEET

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

Honeywell

101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec foster wheeler

SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 1 OF 3
Project 3480-13-0377
Figure 1.1

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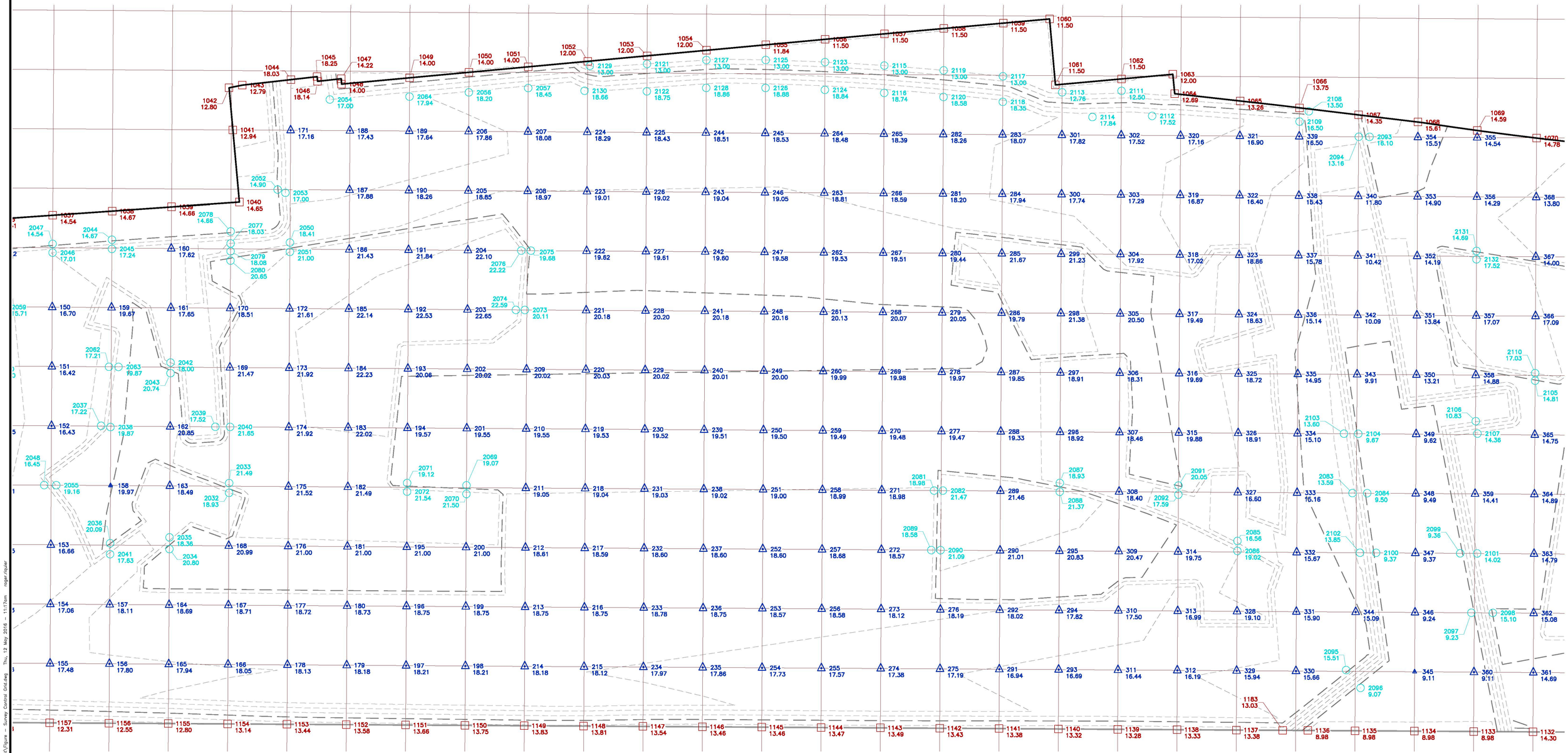


153 16.66 GRID POINT

2054 17.00 BREAK POINT

1157 12.31 BOUND POINT

0 10 20 40

SCALE IN FEET

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

Honeywell

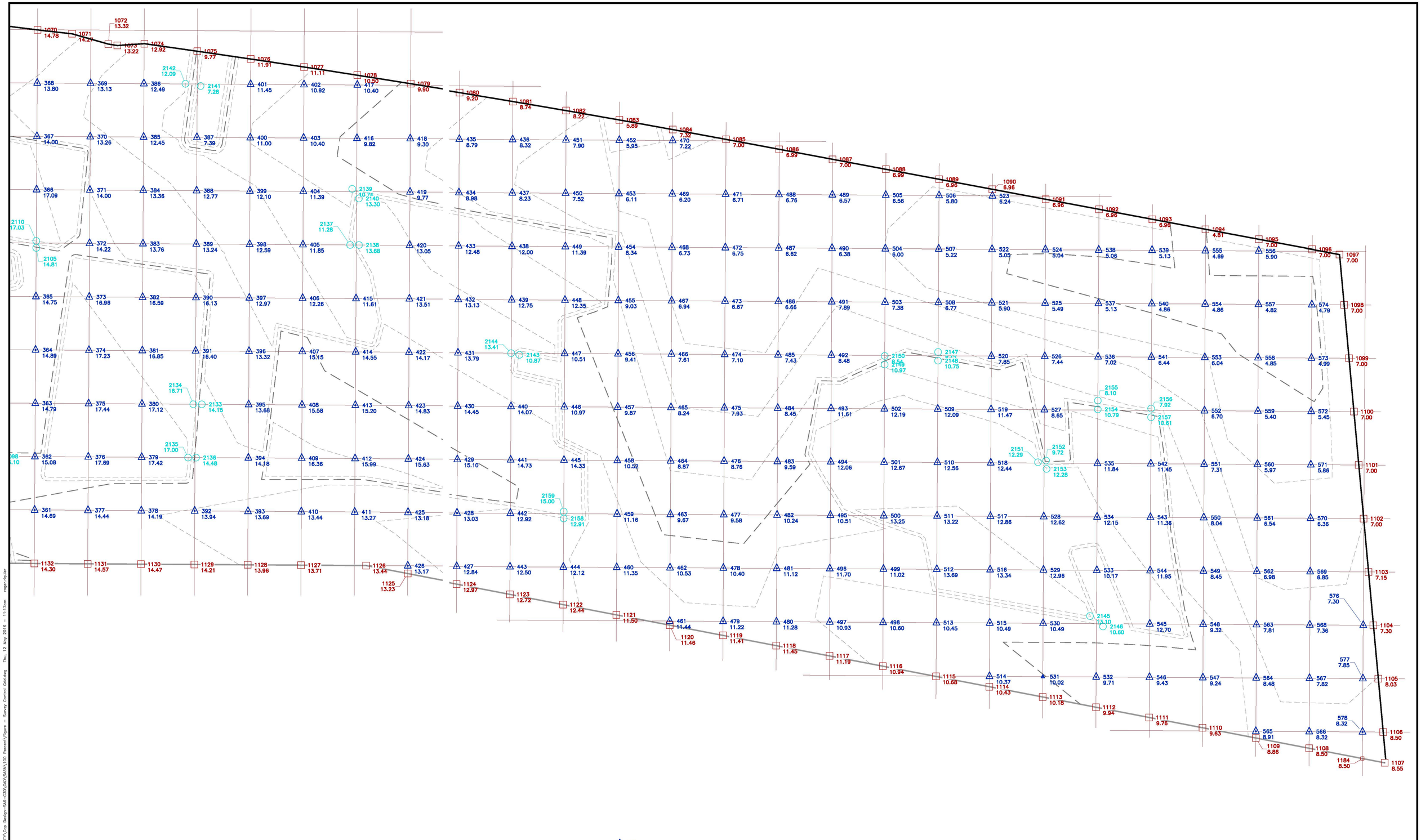
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec foster wheeler

SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 2 OF 3
Project 3480-13-0377
Figure 1.2

Z:\Projects\HONEWELL\JERSEY CITY\Cdp Design-SA6-+30\CAD\SA6N\160 Percent\Figure - Survey Control Grid.dwg Thu, 12 May 2016 - 11:17am rogel.rogular



Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

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101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

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SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 3 OF 3
Project 3480-13-0377
Figure 1.3

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Appendix D: Soil Subgrade Approval

D1. ESI Certificate of Subgrade Surface Acceptance

D2. Langan Certificate of Soil Surface

D1. ESI Certificate of Subgrade Surface Acceptance

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell S.A.B. North PROJECT NO: 12-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 19,384 Square feet

PANEL NUMBERS: Panel 1 thru 7

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S. Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 6-22-16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
	QC	6/22/16
	INDEPENDENT CQA MONITOR	6/22/16

OWNER REPRESENTATIVE

Signature	Title	DATE
	QC Manager	6/22/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell SA 6 North PROJECT NO: 12-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 16,618 square Feet

PANEL NUMBERS: P8-P13

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S. Sok ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 6/23/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
Khai S Sok	QC	6/23/16
	INDEPENDENT CQA MONITOR	6/23/16

OWNER REPRESENTATIVE

Signature	Title	DATE
Caroline Yanco	QC Manager	6/23/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell SA 6 North PROJECT NO: 12a-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 21,784 square Feet

PANEL NUMBERS: P14 - P19

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 6/24/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
Khai S Sok	QC	6/24/16
[illegible]	INDEPENDENT CQA MONITOR	6/24/16

OWNER REPRESENTATIVE

Signature	Title	DATE
Timothy Collins	Field Engineer	6/27/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell SA 6 Norty PROJECT NO: 12-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 27,225

PANEL NUMBERS: P-20-27

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sok ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 6-27-16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Khai S Sok	QC	6-27-16
Signature	*Title*	*DATE*
OWNER REPRESENTATIVE	INDEPENDENT CQA MONITOR	6/27/16
Caroline Harris	QC Manager	6-28-16
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell SA6 North PROJECT NO: 12-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 19,305

PANEL NUMBERS: P28 & 32

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 6/30/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
Khai S Sok	QC	6/30/16
	INDEPENDENT CQA MONITOR	6/30/16

OWNER REPRESENTATIVE

Signature	Title	DATE
Christian Ramos	QC Manager	7/1/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell S A6 Northcap PROJECT NO: 16-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: P-33 thru 38

PANEL NUMBERS: 33/34/35/36/37/38

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai PSdk, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/1 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title: QC	DATE: 7/1/16
OWNER REPRESENTATIVE	Title: INDEPENDENT CQA MONITOR	7/1/16
Signature	Title: QC Manager	DATE: 7/1/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell SA6 North PROJECT NO: 12-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 15,732

PANEL NUMBERS: P39-42

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/6/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
Khai S Sok	QC	7/6/16
OWNER REPRESENTATIVE	INDEPENDENT CQA MONITOR	7/6/16
Carlos Ramos	QC Manager	7/6/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell PROJECT NO: 12-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 5,520

PANEL NUMBERS: P43

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/7/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
	QC	7/7/16
	INDEPENDENT CQA MONITOR	7/7/16

OWNER REPRESENTATIVE

Signature	Title	DATE
	QC Manager	7/7/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell SA6 North Cap PROJECT NO: _____

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 32,890 sq fee

PANEL NUMBERS: P 44 & 49

GRADE ACCEPTANCE: INSPECTOR: _____

GENERAL CONTRACTOR: _____

OWNER: _____

AUTHORIZED REPRESENTATIVE: _____

The undersigned, Khai S Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/8/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
Khai S Sok	QC	7/8/16
[illegible]	Independent CQA Monitor	7/8/16

OWNER REPRESENTATIVE

Signature	Title	DATE
Carolina Ramos	QC Mgr	7/8/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell SA 6 North cap PROJECT NO: 12-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 26,680

PANEL NUMBERS: P 50 - 57

GRADE ACCEPTANCE: INSPECTOR

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE

The undersigned, Khai S Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/12/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Khai S Sok	QC	7/12/16
Signature	Title	DATE
	INDEPENDENT CQA MONITOR	7/12/16
OWNER REPRESENTATIVE		
Carolyn Marino	QC Manager	7/12/16
Signature		

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell SA 6 North Cap PROJECT NO: 12-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 27,600 sq feet

PANEL NUMBERS: P58 & 63

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/13/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
Khai S Sok	QC	7/13/16
OWNER REPRESENTATIVE	INDEPENDENT CQA MONITOR	7/13/16
Carolyn Parno	QC Manager	7/13/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2786

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell 8A6 North Cap PROJECT NO: 12-11-1399

LOCATION: Jersey City; New Jersey

AREA ACCEPTED: 27,600

PANEL NUMBERS: P64 & 68

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Solk, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/14/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
Khai S Solk	QC	7/14/16

OWNER REPRESENTATIVE		
	INDEPENDENT CQA MONITOR	7/14/16
Caroline Parnes	QC Mgr	7/15/16
Signature	Title	DATE

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell SA6 North cap PROJECT NO: 12-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 26 312 sq feet

PANEL NUMBERS: P69-75

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sok ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/25/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
Khai S Sok	QC	7/25/16

	INDEPENDENT CQA MONITOR	7/25/16

OWNER REPRESENTATIVE

Signature	Title	DATE
Carolina Ramos	QC Manager	7/26/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Sft 6 North cap. PROJECT NO: 12-11-1399

LOCATION: Jersey City; New Jersey

AREA ACCEPTED: 25,024

PANEL NUMBERS: P 76 & 80

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/27/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
[illegible]	QC	7/27/16

OWNER REPRESENTATIVE

Signature	Title	DATE
[illegible]	INDEPENDENT CQA MONITOR	7/27/16
Caroline Marino	QC Mgr	7/28/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: HoneyWell SAb Northcap PROJECT NO: 12-11-1399

LOCATION: Jersey City New Jersey

AREA ACCEPTED: 22,885

PANEL NUMBERS: 81-88

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/28/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
	QC	7/28/16
	INDEPENDENT CQA MONITOR	7/28/16

OWNER REPRESENTATIVE

Signature	Title	DATE
	QC Mgr	7/28/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell PROJECT NO: 12-11-1399

LOCATION: Jersey City ; New Jersey

AREA ACCEPTED: 22,356

PANEL NUMBERS: P89 / P93

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sok ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/3/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
Khai S Sok		8/3/16

OWNER REPRESENTATIVE

Signature	Title	DATE
	INDEPENDENT CQA MONITOR	8/3/16
[illegible]	QC	8/3/16

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywellwell PROJECT NO: 12-11-1399

LOCATION: Jersey City; New Jersey

AREA ACCEPTED: 15,750 sq feet

PANEL NUMBERS: ~~NA~~ 3 TEME

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Soh ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/4/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
Khai S Soh	QC	8/4/16

OWNER REPRESENTATIVE

Signature	Title	DATE
	INDEPENDENT CQA MONITOR	8/4/16
Carolina Parra	QC	8/4/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell PROJECT NO: 12-11-1399

LOCATION: Jesey City, New Jersey

AREA ACCEPTED: 21,620 sq feet

PANEL NUMBERS: P94/P98

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sak, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/5/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC

Signature	Title	DATE
Khai S Sak	QC	8/5/16
	INDEPENDENT CQA MONITOR	8/5/16

OWNER REPRESENTATIVE

Signature	Title	DATE
Carolina Pena	QC Mgr	8/5/16

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CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell 8A6 North cap PROJECT NO: 12-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 10,948 sq feet

PANEL NUMBERS: P99/100

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khoi S Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/8/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
Khoi S Sok	QC	8/8/16
	INDEPENDENT CQA MONITOR	8/8/16

OWNER REPRESENTATIVE

Signature	Title	DATE
Carolina Ramos	QC Mgr	8/8/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell SR6 North cap PROJECT NO: 12-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 21,712 sq feet

PANEL NUMBERS: P 101/106

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/9/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
Khai S Sok	QC	8/9/16

	INDEPENDENT CQA MONITOR	8/9/16

OWNER REPRESENTATIVE

Signature	Title	DATE
Carolina Ramos	QC	8/9/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell SA 6 North cap PROJECT NO: 12-11-1379

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 10,948 sq feet

PANEL NUMBERS: P 111 / P 112

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/11/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
	QC	8/11/16
	Independent CQA Monitor	8/11/16

OWNER REPRESENTATIVE

Signature	Title	DATE
	PL	8/11/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2785

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell SA6 North cap PROJECT NO: 12-11-1379

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 10,764 sq feet

PANEL NUMBERS: P113/P114

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/12/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
	QC	8/12/16

OWNER REPRESENTATIVE	INDEPENDENT CQA MONITOR	8/12/16
Carolina Parra	QC	8/12/16
Signature	Title	DATE

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell SA6 Northcap PROJECT NO: 12-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 44,793 sq feet

PANEL NUMBERS: ~~P113 / P119~~ P115 / P119

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/13/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
Khai S Sok	QC	8/13/16

OWNER REPRESENTATIVE

Signature	Title	DATE
[illegible]	INDEPENDENT CQA MONITOR	8/13/16
Carolin Ramos	QC	8/13/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

D2. Langan Certificate of Soil Surface

LANGAN

Certificate of Soil Surface

Sheet # 1

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 319+00 + ~STA 317+75		
QA Monitor	LANGAN	Date	6/22/16		

Description of Soil Surface to be lined: WESTERN END OF SA-6 NORTH (~STA 319+00) APPROX. 125 FT. EAST (STA. 317+75). SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (?½") AND IN CONFORMANCE WITH PROJECT SPECS. NOTE: MINOR CHANGES IN SUBGRADE ELEVATION IN SELECT AREAS TO ALLOW POSITIVE DRAINAGE

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	6/22/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	6/22/16
Title	QC Manager
Representing:	Entact
Signature:	Carolina Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1½") AS OUTLINED IN SECTION 02372-8.
MINOR CHANGES IN SUBGRADE ELEVATION IN SELECT AREAS OF CAP (COMPLETED BY ENTRACT)
- NO GCL TO BE PLACED ALONG WESTERN END OF SA-6 NORTH

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA 319+00	LOOKING N	REFER TO PHOTO #1 (PHOTO LOG 6/22/16)
	2 PHOTO #2	~STA 318+50	LOOKING N	REFER TO PHOTO #2 (PHOTO LOG 6/22/16)

1. REFER TO 6/22/16 PHOTOGRAPH LOG PHOTOS 1 TO 4 FOR SUPPORTING INFORMATION.

2.

LANGAN

Certificate of Soil Surface

Sheet # 2

Project Name	HONEYWELL SA-6 N1	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMECFW	Cell No.	~ STA. 317+75 TO ~ STA. 316+50		
QA Monitor	LANGAN	Date	6/23/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST FROM PANEL P17 (INSTALLED ON 6/22/16) ~~AREA~~ APPROX. STA. 317+75 + 425 FT. EAST TO APPROXIMATE. STA 316+50. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (≥ 1/2") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	6/23/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	6/23/16
Title	QC Manager
Representing:	Entek
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 02372-8.

- NO GCL TO BE PLACED ALONG WESTERN END OF SA-6 NORTH.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 317+50	LOOKING E	REFER TO PHOTO #1 (PHOTO LOG 6/23/16)
	2 PHOTO #2	~STA. 317+56	LOOKING S	REFER TO PHOTO #2 (PHOTO LOG 6/23/16)

1. REFER TO 6/23/16 PHOTOGRAPH LOG PHOTOS 1 TO 4 FOR SUPPORTING INFORMATION.

2.

LANGAN

Certificate of Soil Surface

Sheet # 3

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 316+50 TO ~STA. 315+75		
QA Monitor	LANGAN	Date	6/24/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P12/P13 (INSTALLED ON 6/23/16) FROM APPROX. STA. 316+50 TO APPROX. STA. 315+175. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	6/24/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	6/29/16
Title	QC Manager
Representing:	Entek
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (~1/2")
AS OUTLINED IN SECTION 02372-8.

- NO GCL TO BE PLACED ALONG WESTERN END OF SA-6 NORTH.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA 316+50	LOOKING E	REFER TO PHOTO #1 (PHOTO LOG 6/24/16)
	2 PHOTO #2	~STA 315+75	LOOKING S	REFER TO PHOTO #2 (PHOTO LOG 6/24/16)

1. REFER TO 6/24/16 PHOTOGRAPH LOG PHOTOS 1 TO 3 FOR SUPPORTING INFORMATION.

2.

LANGAN

Certificate of Soil Surface

Sheet # 4

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 315+75 TO ~STA. 314+25		
QA Monitor	LANGAN	Date	6/27/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P19 (INSTALLED ON 6/24/16). FROM APPROX. STA. 315+75 TO APPROX STA. 314+25. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	6/27/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	6/29/16
Title	QC Manager
Representing:	Entrust
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2")
AS OUTLINED IN SECTION 02372-8.

-- NO GCL TO BE PLACED ALONG WESTERN END OF SA-6 NORTH.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 315+75	LOOKING E	REFER TO PHOTO #1 (PHOTO LOG 6/27/16)
	2 PHOTO #2	~STA. 315+00	LOOKING S	REFER TO PHOTO #2 (PHOTO LOG 6/27/16)
1. REFER TO 6/27/16 PHOTOGRAPH LOG PHOTOS 1 TO 3 FOR SUPPORTING INFORMATION				2.

LANGAN

Certificate of Soil Surface

Sheet # 5

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMORANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 314.25 TO ~STA. 313+25		
QA Monitor	LANGAN	Date	6/30/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P27 (INSTALLED ON 6/27/16) FROM APPROX. STA. 314+25 TO APPROX. STA. 313+25. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	6/30/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Andrew Harris
Date:	7/1/16
Title	QC Manager
Representing:	Entact
Signature:	Andrew Harris

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2")
AS OUTLINED IN SECTION 02372-8

- NO GCL TO BE PLACED ALONG WESTERN END OF SA-6 NORTH

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1			REFER TO PHOTO #1 (PHOTO LOG 6/30/16)
	2 PHOTO #2			REFER TO PHOTO #2 (PHOTO LOG 6/30/16)
1. REFER TO 6/30/16 PHOTOGRAPH LOG PHOTOS 1 TO 3 FOR SUPPORTING INFORMATION.				2.

LANGAN

Certificate of Soil Surface

Sheet # 6

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 313+25 TO ~STA. 312+60		
QA Monitor	LANGAN	Date	7/1/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P32 (INSTALLED ON 6/30/16) FROM APPROX STA. 313+25 TO APPROX STA. 312+60. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/1/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolyn Panico
Date:	7/1/16
Title	QC Manager
Representing:	Entek
Signature:	Carolyn Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2")
AS OUTLINED IN SECTION 02372-8.

- NO GCL TO BE PLACED FROM ~STA. 313+25 TO ~STA. 312+60

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 313+25	LOOKING N	REFER TO PHOTO #1 (PHOTO LOG 7/1/16)
	2 PHOTO #2	~STA. 313+25	LOOKING S	REFER TO PHOTO #2 (PHOTO LOG 7/1/16)

1. REFER TO 7/1/16 PHOTOGRAPH LOG PHOTOS 1 TO 3 FOR SUPPORTING INFO.

2.

LANGAN

Certificate of Soil Surface

Sheet # 7

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 312+60 TO ~STA. 311+75		
QA Monitor	LANGAN	Date	7/6/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P38 (INSTALLED ON 7/1/16) FROM APPROX. STA. 312+60 TO APPROX. STA. 311+75. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/6/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7/8/16
Title	QC Mgr
Representing:	Entech
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8

- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT. x 8 FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (i.e. >1/2"). NO GCL TO BE PLACED FROM ~STA. 312+60 TO ~STA. 311+75

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	~STA 312+25	LOOKING S/SE	REFER TO PHOTO #3 (PHOTO LOG 7/6/16)
	2 PHOTO #4	~STA 312+27	LOOKING E	REFER TO PHOTO #4 (PHOTO LOG 7/6/16)
1. REFER TO 7/6/16 PHOTOGRAPH LOG PHOTOS 3 TO 5 FOR SUPPORTING PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 8

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMECFW	Cell No.	~STA. 311+75 TO ~STA. 311+55		
QA Monitor	LANGAN	Date	7/7/16		

Description of Soil Surface to be lined: ~20 FT. AREA IMMEDIATELY EAST OF PANEL P42 (INSTALLED ON 7/6/16) FROM APPROX. STA. 311+75 TO APPROX. STA. 311+55. APPROVED SOIL FOR PLACEMENT OF ONE PANEL SO INSTALLED LINER TERMINATES OUTSIDE OF BOTTOM OF SWALES + DEPRESSED CONTOURS TO PROMOTE + DRAINAGE (PM RAINSTORMS FORECASTED).

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/7/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7/8/16
Title	QC Mgr
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT. × 8 FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>1/2"). NO GCL TO BE PLACED FROM ~STA. 311+75 TO ~STA. 311+55'.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #9	~STA. 311+75	LOOKING N	REFER TO PHOTO #9 (PHOTO LOG 7/7/16)
	2			

1. REFER TO 7/7/16 PHOTO LOG PHOTO 9 (N ALONG ~STA 311+75)

2.

LANGAN

Certificate of Soil Surface

Sheet # 9

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMECFW	Cell No.	~STA. 311+55 TO ~STA. 310+80		
QA Monitor	LANGAN	Date	7/8/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P43 (INSTALLED ON 7/7/16) FROM APPROX. STA. 311+55 TO ~STA. 310+80. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BUDWORTH
Date:	7/8/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7/8/16
Title	QC Mgr
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: Soil Graded, Compacted, And Free of Debris (>1/2")
As outlined In Section 02372-8.
- Subgrade Observed By Field Engineer Who Walked The Placement Area In Approx. 200 ft. x 8 ft. Transects To Observe Soil Compaction As Well As Items Requiring Removal Prior to Panel Placement (>1/2"). No GCL to Be Placed From ~Sta. 311+55 to ~Sta. 310+80.

Photographs	Number	Location	Orientation	Notes
	1 Photo #1	~Sta. 311+55	Looking S/SE	Refer to Photo #1 (7/8/16)
	2 Photo #2	~Sta. 311+55	Looking S	Refer to Photo #2 (7/8/16)

1. Refer to 7/8/16 Photo Log Photos 1+2 for Supporting Subgrade Photos

2.

LANGAN

Certificate of Soil Surface

Sheet # 10

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 310+80 TO ~STA. 309+75		
QA Monitor	LANGAN	Date	7/12/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P49 (INSTALLED ON 7/8/16) APPROX. 105 FT. FROM APPROX STA. 310+80 TO ~STA 309+75. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/12/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	7/15/16
Title	QC Mgr
Representing:	Entek
Signature:	Carolina Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT. x 8 FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>1/2"). NO GCL TO BE PLACED FROM ~STA. 310+80 TO ~STA. 309+75.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #7	~STA. 310+80	LOOKING N	REFER TO PHOTO #7 (7/12/16)
	2 PHOTO #8	~STA. 310+80	LOOKING E	REFER TO PHOTO #8 (7/12/16)
1. REFER TO 7/12/16 PHOTO LOG PHOTOS 7 TO 9 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 11

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 309+75 TO ~STA. 309+00		
QA Monitor	LANGAN	Date	7/13/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P55/P56/P57 (INSTALLED ON 7/12/16) APPROX 75 FT. FROM APPROX. STA. 309+75 TO ~STA. 309+00. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/13/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	7/15/16
Title	QC Mgr
Representing:	Entrade
Signature:	Carolina Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2") AS OUTLINED IN SECTION 023122-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT BY 8 FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (7 1/2"). NO GCL TO BE PLACED FROM ~ STA 309+75 TO ~ STA. 309+00.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	~STA. 309+75	LOOKING S	REFER TO PHOTO #3 (7/13/16)
	2 PHOTO #4	~STA. 309+75	LOOKING E	REFER TO PHOTO #4 (7/13/16)
1. REFER TO 7/13/16 PHOTO LOG PHOTOS 3 TO 5 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 12

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 309+00 TO ~STA. 308+20		
QA Monitor	LANGAN	Date	7/14/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P62 / P63 (INSTALLED ON 7/13/16) APPROX 85 FT FROM APPROX STA. 309+00 TO ~STA. 308+20 SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/14/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7/15/16
Title	QC Mgr
Representing:	Enviro
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT. BY 8 FT. TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>1/2"). NO GCL TO BE PLACED FROM APPROX STA. 309+00 TO ± STA. 308+20.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 309+00	LOOKING E	REFER TO PHOTO #1 (7/14/16)
	2 PHOTO #2	~STA 309+00	LOOKING N	REFER TO PHOTO #2 (7/14/16)
1. REFER TO 7/14/16 PHOTOGRAPH LOG, PHOTOS 1 TO 3 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 13

Project Name	Honeywell SA-6 North	Material Desc.	Geomembrane		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	Honeywell / Amec F&W	Cell No.	~Sta. 308+20 to ~Sta. 307+20		
QA Monitor	Langan	Date	7/25/16		

Description of Soil Surface to be lined: Area immediately east of panel P68 (installed on 7/14/16) approx 100 ft. from approx ~Sta. 308+20 to ~Sta. 307+20 Soil appears to be graded, compacted, and free of debris (>1/2") and in conformance with project specs

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	7/25/16
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	7/25/16
Title	QC Mgr
Representing:	Entec
Signature:	Carolina Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.

- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX 200 FT x 8 FT. TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>1/2"). NO GCL TO BE PLACED FROM ~ STA. 308+20 TO ~ STA. 307+20

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 308+15	LOOKING S	REFER TO PHOTO #1 (11/25/16)
	2 PHOTO #2	~STA 308+15	LOOKING E	REFER TO PHOTO #2 (11/25/16)
1. REFER TO 11/25/16 PHOTOGRAPH LOG PHOTOS 1 TO 3 FOR SUPPORTING SUBGRADE PHOTO				2.

LANGAN

Certificate of Soil Surface

Sheet # 14

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 307+20 TO ~STA. 306+40		
QA Monitor	LANGAN	Date	7/27/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P175 (INSTALLED ON 7/25/16) APPROX 80 FT. FROM ~STA. 307+20 TO ~STA. 306+40. SOIL ADDITIONS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/27/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	7/27/16
Title	QC
Representing:	Entech
Signature:	Carolina Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT. x 8 FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>1/2"). NO GCL TO BE PLACED FROM ~STA. 307+20 TO ~STA. 306+40.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 307+00	LOOKING S	REFER TO PHOTO #1 (11/27/16)
	2 PHOTO #2	~STA. 307+20	LOOKING S	REFER TO PHOTO #2 (11/27/16)

1. REFER TO 11/27/16 PHOTOGRAPH LOG PHOTOS 1 TO 4 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 15

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 306+40 TO ~STA. 305+40		
QA Monitor	LANGAN	Date	7/28/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P86 (INSTALLED ON 7/27/16) APPROX 100 FT. EAST FROM ~ STA. 306+40 TO ~ STA. 305+40 SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/28/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7/28/16
Title	QC
Representing:	Entech
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02317Z-8.

- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT. x 8 FT. TRANSECTS TO OBSERVE SOIL CONDITION AS WELL AS ITEMS REQUIRING REMOVAL TO PANEL PLACEMENT (>1/2"). NO GCL TO BE PLACED FROM APPROX. STA. 306+40 TO ~ STA. 305+40

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	STA. 306+40	LOOKING N	REFER TO PHOTO #1 (7/28/16)
	2 PHOTO #2	STA. 306+40	LOOKING S	REFER TO PHOTO #2 (7/28/16)

1. REFER TO 7/28/16 PHOTOGRAPH LOG PHOTOS 1 TO 3 FOR SUPPORTING SUBGRADE PHOTOS.

2.

LANGAN

Certificate of Soil Surface

Sheet # 16

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 305+40 TO ~STA. 304+60		
QA Monitor	LANGAN	Date	8/3/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P88 (INSTALLED ON 7/28/16) APPROX 80 FT EAST FROM ~STA. 305+40 TO ~STA. 304+60. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/3/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Pania
Date:	8/3/16
Title	QC Mgr
Representing:	Antech
Signature:	Carolina Pania

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.
-SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT BY 8 FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>1/2"). NO GCL TO BE INSTALLED FROM APPROX. STA. 305+40 TO ~ STA. 304+60

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	~STA. 305+40	LOOKING S	REFER TO PHOTO #3 (8/3/16)
	2 PHOTO #4	~STA. 305+40	LOOKING E	REFER TO PHOTO #4 (8/3/16)

1. REFER TO 8/3/16 PHOTOGRAPH LOG PHOTOS 3 TO 5 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 17

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 304+60 TO ~STA. 303+75		
QA Monitor	LANGAN	Date	8/4/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P93 (INSTALLED ON 8/3/16) APPROX. 85 FT. EAST FROM ~STA. 304+60 TO ~STA. 303+75. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS. GCL PLACED ALONG NORTH END OF CAP (~STA. 303+75) FOR AREA BELOW, TO 1 FT. ABOVE SITE WATER TABLE

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/4/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/4/16
Title	QC mgr
Representing:	Entech
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED. AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT BY 8 FT. TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>1/2"). GCL PAPERED ALONG NORTHERN EDGE OF CAP AT APPROX STA. 303+75 FOR AREAS BELOW (TO 1FT ABOVE SITE GROUNDWATER TABLE) @ APPROX EL. 7

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	~STA. 304+60	LOOKING E	REFER TO PHOTO #3 (8/4/16)
	2 PHOTO #4	~STA. 304+60	LOOKING S	REFER TO PHOTO #4 (8/4/16)
1. REFER TO 8/4/16 PHOTOGRAPH LOG PHOTOS 3 TO 5 FOR SUPPORTING SUBGRADE PHOTOS.				2.

LANGAN

Certificate of Soil Surface

Sheet # 18

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 303+75 TO ~STA. 303+15		
QA Monitor	LANGAN	Date	8/5/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF TEMPORARY PANEL 3 (INSTALLED ON 8/4/16) APPROX 60 FT EAST FROM ~STA. 303+75 TO ~STA. 303+15. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS. GCL PLACED ALONG N END OF CAP FOR AREA BELOW (TO 1 FT. ABOVE) SITE WATER TABLE AS INDICATED ON DESIGN DRAWINGS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/5/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/5/16
Title	QC Mgr
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 02372-8.

- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX 200 FT BY 8 FT. TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>½"). GCL PLACED ALONG NORTHERN END OF CAP FROM ±STA. 303+75 TO ±STA 303+15. FOR AREAS BELOW (TO 1FT. ABOVE) SITE WATER TABLE @ APPROX EL. 7 AS ~~INDICATED~~ SHOWN ON DESIGN DRAWINGS

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #5	±STA. 303+75	LOOKING S	REFER TO PHOTO #5 (8/5/16)
	2 PHOTO #6	±STA. 303+75	LOOKING E	REFER TO PHOTO #6 (8/5/16)
1. REFER TO 8/5/16 PHOTOGRAPH LOG PHOTOS 5 TO 8 FOR SUPPORTING SUBGRADE PHOTOS + GCL PLACEMENT				2.

LANGAN

Certificate of Soil Surface

Sheet # 19

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMECFW	Cell No.	~STA. 303+15 TO ~STA. 302+70		
QA Monitor	LANGAN	Date	8/8/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P98 (INSTALLED ON 8/5/16) APPROX 45 FT EAST FROM APPROX ~STA. 303+15 TO ~STA. 302+70. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS. GCL PLACED ALONG N END OF CAP FOR AREAS BELOW (TO 1FT ABOVE) SITE WATER TABLE AS SHOWN ON DESIGN DRAWINGS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/8/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/8/16
Title	QC Manager
Representing:	Anchor
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX ~200 FT BY 8 FT. TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT. ALL PLACED ALONG N END OF CAP FROM APPROX ~STA. 303+15 TO ~STA. 302+70, FOR AREAS BELOW (TO 1FT ABOVE) SITE WATER TABLE @ ~EL. 7 AS SHOWN ON DESIGN DRAWINGS

Photographs	Number	Location	Orientation	Notes
	1			
	2			

1.

2.

LANGAN

Certificate of Soil Surface

Sheet # 20

Project Name	Honeywell SA-6 North	Material Desc.	Geomembrane		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	Honeywell / AMRC FW	Cell No.	~Sta. 302+70 to ~Sta. 301+70		
QA Monitor	Langan	Date	8/9/16		

Description of Soil Surface to be lined: Area immediately east of P100 (installed on 8/8/16) approx 100 ft east from approx ~Sta. 302+70 to ~Sta. 301+70. Soil appears to be graded, compacted, and free of debris (>½") and in conformance with project specs. GCL placed along N end of cap for areas below (to 1ft. above) site water table as shown on design drawings

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-no changes

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	8/9/16
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/9/16
Title	QC Manager
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 02372-8
• SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 12'-00 FT BY SET TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>½"). GCL PLACED ALONG N END OF CAP FROM APPROX. STA. 302+70 TO STA. 301+70 FOR AREAS BELOW (TO 1 FT. ABOVE) SITE WATER TABLE @ APPROX. EL. 7 AS SHOWN ON DESIGN DRAWINGS

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #9	STA 302+70	LOOKING E	REFER TO PHOTO #9 (8/9/16)
	2 PHOTO #10	STA. 302+70	LOOKING S	REFER TO PHOTO #10 (8/9/16)

1. REFER TO 8/9/16 PHOTOGRAPH LOG PHOTOS 9 TO 12 FOR SUPPORTING SUBGRADE PHOTOS + GCL PLACEMENT

2.

LANGAN

Certificate of Soil Surface

Sheet # 21

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 301+70 TO ~STA. 301+25		
QA Monitor	LANGAN	Date	8/11/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P106 (INSTALLED ON 8/9/16) APPROX 45 FT. EAST FROM APPROX ~STA. 301+70 TO ~STA. 301+25. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS. GCL PLACED ALONG N END OF CAP FOR AREAS BELOW (TO 1FT ABOVE) SITE WATER TABLE AS SHOWN ON DESIGN DRAWINGS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DAN BOSWORTH
Date:	8/11/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/11/16
Title	QC Manager
Representing:	Entek
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8

- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX ~200 FT BY 8 FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>1/2"). GCL PLACED ALONG N END OF CAP FROM ~STA. 301+70 TO ~STA. 301+25 FOR AREAS BELOW (TO 1FT. ABOVE) SITE WATER TABLE @ APPROX EL. 7 AS SHOWN ON DESIGN DRAWINGS

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #9	~STA. 301+70	LOOKING S	REFER TO PHOTO #9 (8/11/16)
	2 PHOTO #10	~STA. 301+70	LOOKING S	REFER TO PHOTO #10 (8/11/16)

1. REFER TO 8/11/16 PHOTOGRAPH LOG PHOTOS 9 TO 12 FOR SUPPORTING SUBGRADE PHOTOS + GCL PLACEMENT

2.

LANGAN

Certificate of Soil Surface

Sheet # 22

Project Name	HONEYWELL 5A-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 301+25 TO ~STA. 300+80		
QA Monitor	LANGAN	Date	8/12/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P112 (INSTALLED ON 8/11/16) APPROX 45 FT. EAST FROM ~STA. 301+25 TO ~STA. 300+80. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS. ALL PLACED ALONG N END OF CAP FOR AREAS BELOW (TO 1FT ABOVE) SITE WATER TABLE AS SHOWN ON DESIGN DRAWINGS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DAN BOSWORTH
Date:	8/12/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/12/16
Title	QC Manager
Representing:	Entrack
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. ~200 FT BY 8 FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT
GCL PLACED ALONG N END OF CAP FROM APPROX ~STA. 301+25 TO ~STA. 300+80 FOR AREAS BELOW (TO 1FT. ABOVE) SITE WATER TABLE @ APPROX. EL. 17 AS SHOWN ON DESIGN DRAWINGS.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #9	~STA. 301+25	LOOKING N	REFER TO PHOTO #9 (8/12/16)
	2 PHOTO #10	~STA. 301+25	LOOKING S	REFER TO PHOTO #10 (8/12/16)

1. REFER TO 8/12/16 PHOTOGRAPH LOG PHOTOS 9 TO 12 FOR SUPPORTING SUBGRADE PHOTOS + GCL PLACEMENT

2.

LANGAN

Certificate of Soil Surface

Sheet # 23

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 300+80 TO ~STA. 300+00 (EEOS)		
QA Monitor	LANGAN	Date	8/13/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P114 (INSTALLED ON 8/12/16) APPROX 80 FT. EAST FROM ~STA. 300+80 TO ~STA. 300+00 (EEOS). SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS. GCL PLACED ALONG N AND E END OF CAP FOR AREAS BELOW (TO 1FT ABOVE) SITE WATER TABLE. AS SHOWN ON DESIGN DRAWINGS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DAN BOSWORTH
Date:	8/13/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/13/16
Title	QC Manager
Representing:	Antaeus
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2") AS OUTLINED IN SECTION 02372-8
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX ~200 FT BY 3 FT. TRANSECTS TO ASSESS SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT. GCL PLACED ALONG NORTH + EAST END OF CAP FROM APPROX STA. 300+80 TO ~STA 300+00 (EDGE OF CAP) FOR AREAS BELOW TO 1FT. ABOVE SITE WATER TABLE @ APPROX EL. 7 AS SHOWN ON DESIGN DRAWINGS

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #8	~STA. 300+40	LOOKING N	REFER TO PHOTO #8 (8/13/16)
	2 PHOTO #9	~STA. 300+80	LOOKING N	REFER TO PHOTO #9 (8/13/16)
1. REFER TO 8/13/16 PHOTOGRAPH LOG PHOTOS 8 TO 11 FOR SUPPORTING SUBGRADE PHOTOS + GCL PLACEMENT				2.

Appendix E
Langan Daily Reports & Supporting Photo Logs

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/21/2015
PROJECT:	SA-6 Capping			**WEATHER:**	80/92° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Soil Subgrade Observation		**TIME:**	0745 – 1215

CONTRACTOR & EQUIPMENT: **Entact & ESI** *Equipment:* Dozers, Steel Drum Rollers, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #1** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Philemon **Langan:** Dan Bosworth, Jeff Stoicescu **ENTACT**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite to conduct soil subgrade observation along the west end of SA-6 North. A preliminary kickoff meeting was conducted between AmecFW, Langan, and Entact to discuss the QA / QC activities, along with the strategy and implementation plan for the proposed capping of SA-6 North.
- Following the meeting, Langan and AmecFW conducted a visual observation of the prepared soil subgrade along the western end of SA-6 North. This area included the furthest western part of the cap (approximately 100 ft. from the western end moving east).
- In general, the following soil subgrade properties were observed:
  - Various debris including broken glass, wood fragments, small rocks, etc. were observed along the western end of SA-6 North (specifically along the slopes and elevation changes at the northern end of the cap). It is recommended that this debris addressed so that no objects are penetrating / extruding from the surface, and the overall subgrade is flat and even. Additionally, Entact should provide laborers with a wheelbarrow and equipment to collect various debris as it is encountered.
  - Some slight changes in elevation were observed in areas along the western end of the cap where one area appeared higher than the other. The variations in cap subgrade elevation could potentially result in the ponding of water. Additionally, the mouths along the tree bulb swales appeared to be higher than the swale itself, thus causing water to pond in the swales instead of flowing out and down the sides of the cap. AmecFW to review the survey data and confirm existing grades.
  - Additional details regarding the subgrade are outlined in the 6/21/16 Photograph Log attached as part of this report.
- AmecFW to address the issues outlined above, with follow up subgrade inspection to be completed on 6/22/16 by Langan (prior to deployment of GVL).

Observations Requiring Contractor / QA Engineer Review

- Based on the soil subgrade observation, the soil has not yet been approved for liner installation activities based on the debris / penetrations outlined in this report. It is recommended that the Entact provide the necessary labor to remove the various debris and provide a flat, even surface with no penetrations or extrusions through the subgrade.

Cc Jeff Stoicescu, Rory Johnston, Vikki Hon, File

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items Pending

- QA Engineer - Review SA-6 North capping specifications and drawings. Review product submittals (as provided) and ensure that all data, drawings, and pertinent documents are ready for liner installation kickoff (planned to commence on 6/22/16).

Action Items – Weekly Completions

- None to Date

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- SA-6 North capping to commence on 6/22/16 (pending soil subgrade approval).

Cc: Jeff Stoicescu, Rory Johnston, Vikki Hon, File

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Photograph Log

Photo 1: Wood and various debris observed along northern end of SA-6 North.

Photo 2: Looking south along western end of SA-6 North. Misc. trash and debris to be removed by Entact.

Photograph Log (continued)

Photo 3: Prepared subgrade along western end of SA-6 North. AmecFW to confirm and verify surveyed grades.

Photo 4: Soil subgrade along western end of SA-6 North. Entact to remove debris / penetrations. AmecFW to verify and confirm surveyed grades.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/22/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/92° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0745 – 1630

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #2**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Philemon
Langan: Dan Bosworth
ENTACT: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) starting at the western end of SA-6 North. Material to be placed starting from the western end (approximate Sta. 319+00) of SA-6 North for approximately 125 ft. east. (to approximate Sta. 317+75).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area).
- Prior to placement of geosynthetic material, soil subgrade observation was conducted by Langan and Entact for the area outlined above. Based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #1, 2, 3, and 4 of the daily photo log for 6/22/2016, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications as verified by AmecFW. Additionally, minor modifications to the subgrade elevations were completed by Entact to facilitate positive drainage flow away from the tree bulb swales (located at approximate Sta. 317+75).
- Following soil subgrade approval, ESI began by placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed on the western end of the Site (approximate Sta. 319+00) moving east (to approximate Sta. 317+75). GVL was placed according to the project specifications with white plastic fasteners spaced at a minimum of 5 ft. Additionally the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to 6/22/16 Photo Log for supporting photographs.
- After installation of GVL, geomembrane liner was installed beginning at the western end of SA-6 North and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 319+00 to approximate Sta. 317+75. A total of seven panels were installed (P1, P2, P3, P4, P5, P6, and P7). Note: P1 consisted of an approximate 50 ft. by 18 ft. piece of LLDPE installed along the western end of SA-6 North. During placement of Panel P4, the roll of LLDPE terminated at the approximate center of the cap, thus the remaining run of LLDPE was installed as P5. P2, P3, P6, and P7 ran the entire width of SA-6 North (approximately 162 ft.) from north to south.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- Adjacent panel seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 6/22/16 *Trial Weld Log.*
- Non-destructive testing was then conducted (pressure testing) for the fusion welded seams. 30 psi was applied to the seams and held for 5-minute increments with no more than 4 psi loss measured over the 5-minute interval. The results of the non-destructive tests are outlined in the *Seam Control Form.*
- Destruct test samples and extrusion weld detailing (repairs) to be completed on 6/23/15.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log for 6/22/16. Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, etc.)

Action Items – Weekly Completions

- None to Date

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 317+75 to Sta. 316+75).
- Continue with 16 oz. geotextile, GVL, and LLDPE placement moving east along SA-6 North.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be certified upon completion of SA-6 North
A2 – Receiving and Inspection		NA - No material delivered to the site on 6/22/16
A3 – Photo Log	Pages 1 - 8	Total of 16 photos outlining pertinent daily observations and descriptions for activities completed on 6/22/16
A4 – Geosynthetic Inventory Log		Completed to date, no updates from 6/22/15
A5 – Subgrade Approval	Sheet 1 & ESI (6/22/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Sheet 1	One trial weld log provided by ESI and confirmed by Langan for trial welds completed on 6/22/16
A7 – Panel Placement Log	Sheet 1	One panel placement log provided by ESI and confirmed by Langan for panels placed on 6/22/16.
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 6/22/16
A9 – Seam/Non-Destruct. Test Log	Sheets 1 - 2	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 6/22/16
A10 – Repair Log		NA – no repairs or extrusion welds completed on 6/22/16
A11 – Conformance COC		NA – for 6/22/16.
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 6/22/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 6/22/16
A14 – Penetration & Edge Form		NA – no penetrations / boots completed on 6/22/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 6/22/16
A17 – Spark Test Form		NA – no spark testing conducted on 6/22/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking north along SA-6 North (western end of cap) near Sta. 319+00.

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #2 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking north along western end of SA-6 North (approximate Sta. 318+50).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding and graded, compacted, and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #3 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking southeast along western end of SA-6 North

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #4 (06/22/2015)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/2215

Direction Taken:

Looking north / northeast along SA-6 North (at approximate Sta. 318+00).

Description:

Modifications completed on subgrade to facilitate positive drainage flow away from tree bulb swales.

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PHOTOGRAPHIC LOG
Photo #5 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking north along western end of SA-6 North (approximate Sta. 319+00).

Description:

ESI deploying 16 oz. geotextile along western end of SA-6 North. Geotextile overlapped minimum of 1 ft. over the edges of the cap (remaining roll width inside)

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PHOTOGRAPHIC LOG
Photo #6 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking east along northern end of SA-6 North.

Description:

16 oz. geotextile deployed along northern end of SA-6 North and overlapped a minimum of 1 ft. beyond the edges of the cap.

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PHOTOGRAPHIC LOG
Photo #7 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking north along western end of SA-6 North (approximate Sta. 319+00).

Description:

ESi deploying GVL along SA-6 North. 16 oz. geotextile overlapping GVL by a minimum of 1 ft. and leistered in place.

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PHOTOGRAPHIC LOG
Photo #8 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

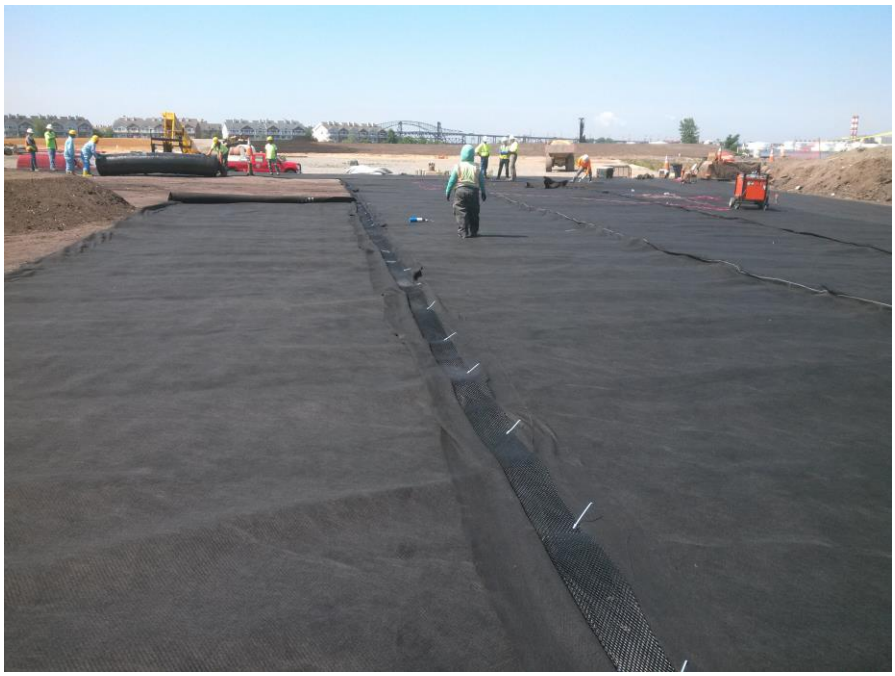
Date:
6/22/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 318+25).

Description:

ESI placing white plastic fasteners at maximum 5 ft. spacing along adjacent GVL panels. Top layer of geotextile then sewn.



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PHOTOGRAPHIC LOG
Photo #9 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking south / southeast along SA-6 North

Description:

GVL deployed over approved subgrade.

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PHOTOGRAPHIC LOG
Photo #10 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking north along western end of SA-6 North

Description:

ESI deploying LLDPE along western end of SA-6 North (approximate Sta. 319+00).

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PHOTOGRAPHIC LOG
Photo #11 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

SA-6 North

Description:

ESI conducting fusion weld for peel and shear trial weld testing.

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PHOTOGRAPHIC LOG
Photo #12 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

ESI Trailer

Description:

ESI conducting trial weld peel and shear testing (as per project specifications).

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PHOTOGRAPHIC LOG
Photo #13 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking north along western end of SA-6 North (approximate Sta. 319+00).

Description:

ESI conducting fusion welding between P1 and P2 seams.

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PHOTOGRAPHIC LOG
Photo #14 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking at SA-6 North (P1 & P2 seam)

Description:

ESI conducting pressure testing along P1 and P2 seams (30 psi hold for 5 minutes).

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PHOTOGRAPHIC LOG
Photo #15 (06/22/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
6/22/16

Direction Taken:

Looking north along SA-6 North

Description:

LLDPE Panels P4 & P5 (butt seam) labeled in field.

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PHOTOGRAPHIC LOG
Photo #16 (06/22/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
6/22/16

Direction Taken:

Looking south / southeast along SA-6 North

Description:

LLDPE deployed across SA-6 North from approximate Sta. 319+00 to Sta. 317+75.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/23/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/90° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0650 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Lull, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #3** **AmecFW**: Stu Bills, Dave Ambrose, Ari Eslaminejad, Philemon Onyango **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) continuing east from Panel P7 installed on 6/22/16 (approximate Sta. 317+75). Material to be placed from Panel P7 running approximately 125 ft. east to approximate Sta. 316+50.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 317+75 (east of Panel P7 installed on 6/22/16) to approximate Sta. 316+50. Refer to *Soil Subgrade Approval* forms from 6/23/15 for additional details. Based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos 1 to 4 of the daily photo log for 6/23/2016, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications as verified by AmecFW
- GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 317+75 (east Panel P7) moving east to approximate Sta. 316+50. GVL was placed according to the project specifications with white plastic fasteners spaced at a minimum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/23/16 Photo Log for supporting photographs.
- While GVL was being deployed, ESI also conducted patch / repair work along the panels installed on 6/22/16 (Panels P1 to P7). Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (6/23/16).

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

- A total of eleven repairs (R-1 through R-11) were observed and fixed (according to the project specifications) from Panels P1 through P7. Refer to 6/23/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While the geomembrane (installed on 6/22/16) was being patched / repaired, ESI also began to prepare penetration boots for Piezometer PZ10, Well 115-W6-SO, and Gas Vent GV-6. Note: The boot and boot skirts were completed, however, the vertical welds along the boots have not yet been tested as methane testing / spark testing are to be completed prior to finalizing the boot details.
- During repair activities / extrusion welding one non-conformance issue was observed and was documented on Sheet #1 as non-compliance. The non-compliance issue encountered was identified based on debris / rock that was observed underneath the LLDPE geomembrane. The rock was subsequently removed and the hole was patched / repaired according to the project specifications and further outlined in the *Non-Compliance and Corrective Action* forms – *Sheet #1* for 6/23/16. The non-compliance issue was also recorded within the *Repair Log* as a subgrade irregularity and is identified as R-10.
- After placement of GVL, geomembrane liner was installed beginning at the western end of SA-6 North (from Panel P7) and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 317+75 (Panel P7) to approximate Sta. 316+50. A total of six panels were installed (P8, P9, P10, P11, P12, and P13). Note: During placement of panel P8, the roll of LLDPE terminated approx. 2/3 from the north of the cap, thus the remaining run of LLDPE was installed as P9. Similarly, during placement of Panel P12, the roll terminated along the northern end of SA-6 North, thus the remaining run of LLDPE was labeled as P13. Panels P10 and P11 ran the entire width of SA-6 North (approximately 162 ft.) from north to south.
- Adjacent geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 6/23/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 316+50, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 6/23/16 *Seam Control Form* for non-destructive testing details. Additionally, repair and extrusion weld activities were also conducted for Panels P8 through P13. A total of 32 additional repairs (RP-11 through RP-43) were observed and fixed according to the project specifications. Additional details are also outlined on the 6/23/16 *Repair Log.*
- A total of four destruct samples were collected for laboratory sampling by Entact / ESI. Three fusion weld destruct samples DS-1 (Panel P1 / P2 seam), DS-2 (Panel P6 / P7 seam), and DS-3 (Panel P10 / P11 seam) were collected for laboratory analysis. Additionally, one extrusion weld sample DSX-1 (Panel P1) was also collected for laboratory analysis.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 1 (Sheet #1) – Subgrade irregularity identified as R-10 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P6. Stone was subsequently removed, and hole was patched/repaired following project specs as further described in *Sheet 1 Notice of Non-Compliance.*

Action Items – Pending

- Complete Daily Report and Photo Log (for 6/23/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.)

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Action Items – Pending (continued)

- Review laboratory destruct sample data for fusion weld destruct samples DS-1 to DS-3 and extrusion weld sample DSX-1 (once received from laboratory).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16. ESI Daily Form Submittals still to be reviewed.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 6/23/16
A3 – Photo Log	Pages 1 – 8	Total of 16 photos outlining pertinent daily observations and descriptions for 6/23/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 6/23/16
A5 – Subgrade Approval	Sheet 2 & ESI (6/23/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 1	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 6/23/16
A7 – Panel Placement Log	Pages 1 - 2	One panel placement log provided by ESI and confirmed by Langan for panels placed on 6/23/16
A8 – Destruct Seam Testing COC	Sheet 1	Updated for destruct samples collected on 6/23/16
A9 – Seam/Non-Destruct. Test Log	Pages 2 - 4	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 6/23/16
A10 – Repair Log	Pages 1 - 2	One repair log provided by ESI and confirmed by Langan for repairs completed for 6/23/16

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A11 – Conformance COC		NA for 6/23/16
A12 – Destructive Seam Field Test	Page 1	Updated with destruct samples collected on 6/23/16
A13 – Destruct. Sample Summary	Page 1	Destruct sample summary updated with samples collected on 6/23/16
A14 – Penetration & Edge Form	6/23/16 Pipe Boot Logs	Pipe boots completed for Piezometer PZ10, Well 115-W6-SO, and Gas Vent GV-6. Methane / spark testing still to be conducted to confirm integrity of boot.
A16 – Notice of Non-Compliance	Sheet 1	One non-compliance issue identified on 6/23/16 and summarized on Sheet 1
A17 – Spark Test Log		NA – no spark testing conducted on 6/23/16

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PHOTOGRAPHIC LOG
Photo #1 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

Looking east along SA-6 North from Panel P7 (installed on 6/22/16) near Sta. approximate Sta. 317+50.

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #2 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 317+50).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding and graded, compacted, and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #3 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

Looking east along SA-6 North (from approximate Sta. 316+50).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #4 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

Looking north / northeast along SA-6 North (southern end of SA-6 North)

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #5 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 317+25).

Description:

ESI deploying GVL across approved soil subgrade.

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PHOTOGRAPHIC LOG
Photo #6 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

Looking east along western end of SA-6 North (at Piezometer PZ10)

Description:

ESI prepping for extrusion weld / detailing for pipe boot repairs. Neoprene gasket placed around Piezometer PZ10.

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PHOTOGRAPHIC LOG
Photo #7 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

Looking north along SA-6 North (at approximate Sta. 317+50).

Description:

White plastic fasteners spaced at maximum of 5 ft. along geonet. Top layer of geotextile to be sewn.

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PHOTOGRAPHIC LOG
Photo #8 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

Looking east along western end of SA-6 North (Panel P1).

Description:

ESI conducting extrusion welding (detailing) for pipe boot for Piezometer PZ10 and repairs located on Panel P1. Additional details provided in ESI Repair Log dated 6/23/16.

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PHOTOGRAPHIC LOG
Photo #9 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

Looking east along SA-6 North (at approximate Sta. 318+25)

Description:

ESI conducting repairs / extrusion welding for custom fit repairs on Panel P6. Geomembrane cut to conform to SA-6 North contours.

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PHOTOGRAPHIC LOG
Photo #10 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

Looking east along southern end of SA-6 North (Panel P6 / P7 seam).

Description:

Destruct sample DS-2 (fusion weld) marked to be cut for laboratory testing. DS-2 located along southern end of SA-6 North (Panel P6 / P7).

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PHOTOGRAPHIC LOG
Photo #11 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 317+25).

Description:

ESI deploying LLDPE across SA-6 North (panels oriented north to south).

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PHOTOGRAPHIC LOG
Photo #12 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

SA-6 North, Panel P6

Description:

Subgrade irregularity identified on Panel P6. Rock removed from underneath LLDPE and recorded as Repair R-10, non-compliance issue (identified on Sheet 1).

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PHOTOGRAPHIC LOG
Photo #13 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

Looking east along SA-6 North (approximate Sta. 317+50).

Description:

ESI conducting fusion welding between Panel P8 / P9 seam (butt seam).

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PHOTOGRAPHIC LOG
Photo #14 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

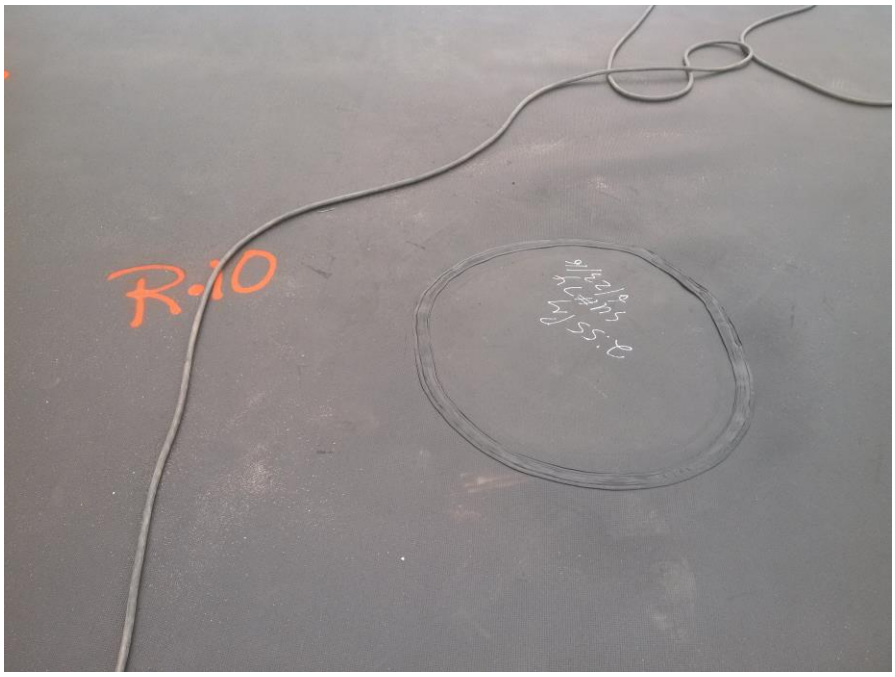
Date:
6/23/16

Direction Taken:

SA-6 North Panel P6

Description:

Patch repair and extrusion welding completed for R-10 which was identified as the subgrade irregularity (non-conformance Sheet 1) with rock removed from underneath LLDPE geomembrane.



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PHOTOGRAPHIC LOG
Photo #15 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

SA-6 North Destruct Sample DS-2

Description:

Destruct sample DS-2 (Panel P6 / P7 seam) following patch repair and extrusion welding.

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PHOTOGRAPHIC LOG
Photo #16 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

SA-6 North at well 115-W6-SO

Description:

LLDPE boot with skirt welded. Vertical seam extrusion weld to be completed once methane testing / spark testing completed.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/24/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/95° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1545

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #4** **AmecFW**: Stu Bills, Dave Ambrose, Ari Eslaminejad, Philemon Onyango **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) continuing east from Panel P12 / P13 installed on 6/23/16 (approximate Sta. 316+50). Material to be placed from Panel P12 / P13 running approximately 75 ft. east to approximate Sta. 315+75.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 316+50 (Panel P12 / P13 installed on 6/23/16) to approximate Sta. 315+75. Refer to *Soil Subgrade Approval* forms from 6/24/15 for additional details. Based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos 1 to 3 of the daily photo log for 6/24/2016, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications as verified by AmecFW
- GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 316+50 (east of Panel P12 / P13) moving east to approximate Sta. 315+75. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/24/16 Photo Log for supporting photographs.
- While GVL was being deployed, ESI also continued patch / repair work for the panels installed on 6/23/16 (Panels P8 to P13). Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (6/24/16).
- In addition, methane testing was conducted for the pipe boots completed for Well 115-W6-SO,

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Piezometer PZ10, and Gas Vent GV-6. Methane testing was conducted by AmecFW to measure the concentration of methane present below the LLDPE geomembrane. During methane testing of Well 115-W6-SO, a concentration of 1.4% (greater than 1%) was measured. No spark testing was conducted on Well 115-W6-SO due to the measured methane concentration. Instead, the weld was visually observed for deficiencies and none were noted.

- Methane testing for PZ10 and Gas Vent GV-6 yielded methane concentrations of 0.8% and 0.0%, respectively (<1%). Following the methane testing, spark testing was conducted by ESI for the vertical weld and pipe boot weld at the base of the penetration (i.e. welds not accessible for vacuum box testing). No sparks were observed during the test, and both boots passed. Additional details are outlined in the *Spark Testing QA Form Sheets #1-3.*
- After placement of GVL, LLDPE geomembrane was installed continuing from Panel P12 / P13 (installed on 6/23/16) and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 316+50 (Panel P12 / P13) to approximate Sta. 315+75. A total of six panels were installed (P14, P15, P16, P17, P18, and P19). Note: During placement of panel P15, the roll of LLDPE terminated approx. 2/3 from the north of the cap, thus the remaining run of LLDPE was installed as P16. Panels P14, P17, P18, and P19 ran the entire width of SA-6 North (approximately 192 ft.) from north to south.
- Adjacent geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. At leastsix 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 6/24/16 *Trial Weld Log*.
- Upon completion of geomembrane panel placement to approximate Sta. 315+75, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 6/24/16 *Seam Control Form* for non-destructive testing details. Additionally, repair and extrusion weld activities were also conducted for Panels P14 through P19. Additional details are also outlined on the 6/24/16 *Repair Log.*
- A total of thirty repairs (RP-44 through RP-73) were observed and fixed (according to the project specifications) from Panels P14 through P19. Refer to 6/24/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. Note: vacuum box testing not completed for all welds. To be continued on 6/27/16.
- ESI completed pipe boot / penetrations for Access Manhole 1 (Sta. 1+50). Additional details are provided in the 6/24/16 Pipe Boot Forms.
- A total of two destruct samples were collected for laboratory analysis by Entact / ESI. One fusion weld destruct sample DS-4 (Panel P15 / P17 seam) was collected for laboratory analysis. Additionally, one extrusion weld sample DSX-2 (Panel P10) was also collected for laboratory analysis.

Non-Conformance Items / Corrective Actions

- None Encountered

Action Items – Pending

- Complete Daily Report and Photo Log (for 6/24/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample data (once received from laboratory).

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By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16 and 6/23/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1, DS-2, and DS-3. Reviewed laboratory data for extrusion weld destruct sample DSX-1.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 6/24/16
A3 – Photo Log	Pages 1 – 7	Total of 14 photos outlining pertinent daily observations and descriptions for 6/24/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 6/24/16
A5 – Subgrade Approval	Sheet 3 & ESI (6/24/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 1 - 2	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 6/24/16
A7 – Panel Placement Log	Pages 2 & 3	One panel placement log provided by ESI and confirmed by Langan for panels placed on 6/24/16
A8 – Destruct Seam Testing COC	Sheet 1	Updated for destruct samples collected on 6/24/16
A9 – Seam/Non-Destruct. Test Log	Pages 4 - 7	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 6/24/16
A10 – Repair Log	Pages 2 - 4	One repair log provided by ESI and confirmed by Langan for repairs completed for 6/24/16
A11 – Conformance COC		NA for 6/24/16

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By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test	Page 1	Updated with destruct samples collected on 6/24/16
A13 – Destruct. Sample Summary	Page 1	Destruct sample summary updated with samples collected on 6/24/16
A14 – Penetration & Edge Form	6/24/16 Pipe Boot Logs	Pipe boot completed for Access Manhole 1 (Sta. 1+50).
A16 – Notice of Non-Compliance		NA - no non-compliance issues identified on 6/24/16.
A17 – Methane / Spark Testing Log	Sheets 1 to 3	Methane testing completed for Piezometer PZ10, Well 115-W6-SO, and Gas Vent GV-6. Spark testing completed for Piezometer PZ10 and Gas Vent GV-6 (no spark testing completed for Well 115-W6-SO due to the measured methane concentration).

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By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

Looking east along the southern end of SA-6 North (at approximate Sta. 316+50).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #2 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

Looking south across SA-6 North (approximate Sta. 315+75).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding and graded, compacted, and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #3 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

Looking east / southeast along SA-6 North (from approximate Sta. 316+50).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #4 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

Looking north / northeast along SA-6 North (at approximate Sta. 316+50).

Description:

ESI deploying GVL over approved subgrade. GVL secured with plastic fasteners with top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #5 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

Looking north / northwest at Well 115-W6-SO

Description:

Entact conducting methane testing for Well 115-W6-SO pipe boot. Methane at concentration of 1.4% measured. No spark testing conducted on well pipe boot.

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PHOTOGRAPHIC LOG
Photo #6 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

Looking west at Piezometer PZ10

Description:

ESI conducting spark testing for Piezometer PZ10 pipe boot. Methane testing yielded results of 0.8% (below 1%), thus spark testing was completed. No sparks identified during test. Spark test passed.

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PHOTOGRAPHIC LOG
Photo #7 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

SA-6 North – Gas Vent GV-6

Description:

ESI conducting spark testing for Gas Vent GV-6 pipe boot. Methane testing yielded results of 0.0% (below 1%), thus spark testing was conducted. No sparks identified during test. Spark test passed.

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PHOTOGRAPHIC LOG
Photo #8 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

Looking south / southeast along SA-6 North (at approximate Sta. 316+50).

Description:

ESI deploying LLDPE geomembrane over GVL. LLDPE panels oriented north to south as per approved panel layout.

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PHOTOGRAPHIC LOG
Photo #9 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

Looking south / southeast along SA-6 North (Panel P13 / P14).

Description:

ESI conducting fusion welding along Panel P13 / P14 seam.

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PHOTOGRAPHIC LOG
Photo #10 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

Looking south / southwest along SA-6 North (Access Manhole #1).

Description:

ESI prepping pipe boot for Access Manhole #1. Methane testing / spark testing to be completed before completing boot welds.

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PHOTOGRAPHIC LOG
Photo #11 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

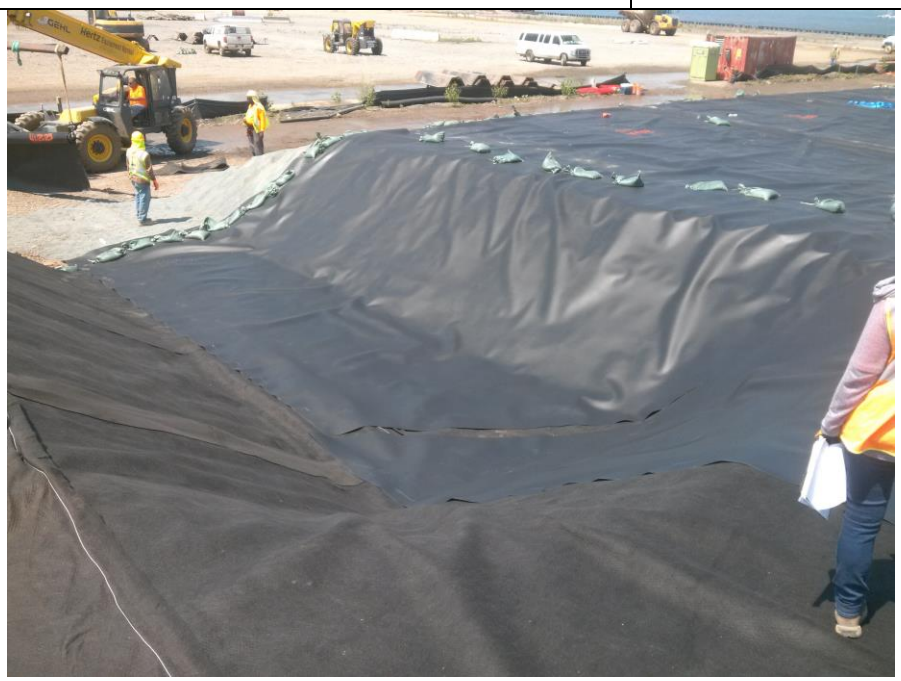
Date:
6/24/16

Direction Taken:

Looking south along southern end of SA-6 North (approximate Sta. 316+00).

Description:

ESI cutting "custom fit" repairs to conform LLDPE geomembrane to SA-6 North contours (i.e. drainage swale at approximate Sta. 316+00).



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PHOTOGRAPHIC LOG
Photo #12 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

SA-6 North, Panel P12 / P13

Description:

ESi conducting non-destructive testing (i.e. pressure testing) for Panel seam P12 / P13/ P14. Seam pressurized to 30 psi and held for 5 minutes with > 4 psi loss (according to project specs).

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PHOTOGRAPHIC LOG
Photo #13 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

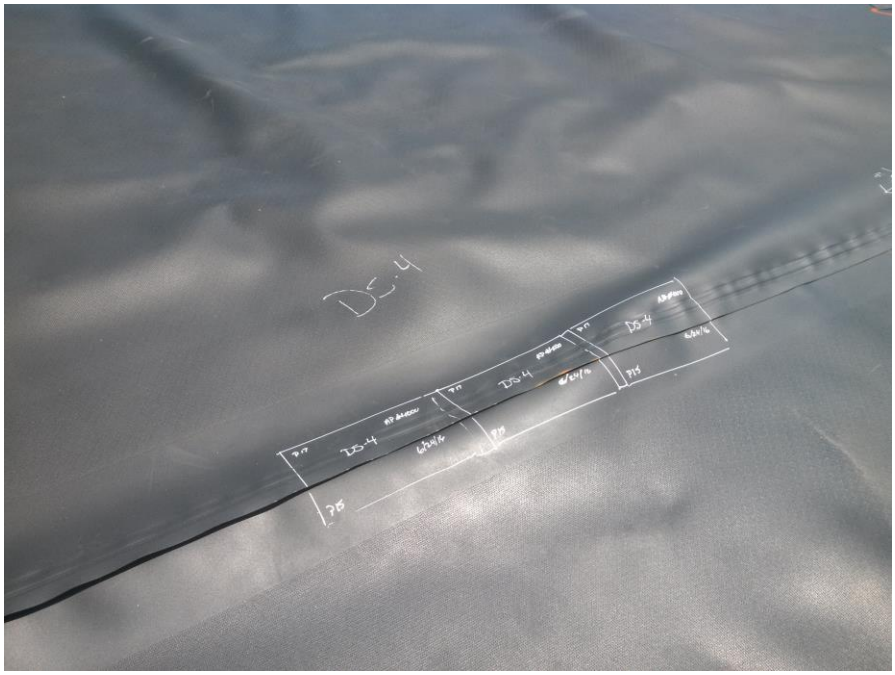
Date:
6/24/16

Direction Taken:

SA-6 North – Panels P15 / P17

Description:

Destruct sample DS-4 marked on Panels P15 / P17.



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PHOTOGRAPHIC LOG
Photo #14 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

SA-6 North Panel P10

Description:

ESI conducting vacuum box testing for R-31 (Panel P10).

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/27/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	70/85° F, Sunny (AM), PM Showers
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0650 – 1930

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #5** **AmecFW**: Stu Bills, Dave Ambrose, Ari Eslaminejad, Philemon Onyango **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) continuing east from Panel P19 installed on 6/24/16 (approximate Sta. 315+75). Material to be placed from Panel P19 running approximately 150 ft. east to approximate Sta. 314+25.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 315+75 (Panel P19 installed on 6/24/16) to approximate Sta. 314+25. Refer to *Soil Subgrade Approval* forms from 6/27/15 for additional details. Based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos 1 to 3 of the daily photo log for 6/27/2016, for supporting subgrade photos. During subgrade observation, AmecFW was also completing surveying to verify the subgrade elevations. The area was subsequently approved by AmecFW following review of the survey data.
- While the subgrade was being surveyed, ESI deployed the orange geocomposite drainage layer (GDL), over the installed LLDPE geomembrane. GDL was placed from Panel P1 (approximate Sta. 319+00), to Panel P11 (approximate Sta. 316+25). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/27/16 Photo Log for supporting photographs.
- While GDL was being deployed, ESI also conducted, methane / spark testing for the pipe boot completed for Access Manhole #1 (Panel P10). Prior to spark testing, methane testing was conducted to measure the concentration of methane present below the LLDPE geomembrane. During methane testing of Manhole #1, a concentration of 0.1% (less than 1%) was measured. Following the methane testing, spark testing was conducted by ESI for the vertical weld and pipe boot weld at the base of the penetration (i.e. welds not accessible for vacuum box testing). No sparks were observed during the test, and Manhole #1 boot passed. Additional details are outlined in the *Spark Testing QA Form Sheet #4.*

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

- Following the placement of GDL, and subsequent to AmecFW completing the survey requirements for the soil subgrade, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 315+75 (east of Panel P19) moving east to approximate Sta. 314+25. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/27/16 Photo Log for supporting photographs.
- After placement of GVL, LLDPE geomembrane was installed continuing from Panel P19 (installed on 6/24/16) and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 315+75 (Panel P19) to approximate Sta. 314+25. A total of eight panels were installed (P20, P21, P22, P23, P24, P25, P26, and P27). Note: During placement of panel P21, the roll of LLDPE terminated at the approximate center of the cap, thus the remaining run of LLDPE was installed as P22. Similarly, during placement of Panel P24, the roll of LLDPE terminated along the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P25. Panels P20, P23, P26, and P27 ran the entire width of SA-6 North (approximately 200 ft.) from north to south.
- Adjacent geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 6/27/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 314+25, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 6/27/16 *Seam Control Form* for non-destructive testing details. Additionally, repair and extrusion weld activities were also conducted for Panels P19 through P27 to attempt to patch / cover the LLDPE before inclement weather. Additional details are outlined on the 6/27/16 *Repair Log.*
- ESI completed pipe boot / penetrations for Piezometer PZ8. Additional details are provided in the 6/27/16 Pipe Boot Forms.
- A total of seven repairs (R-75 through R-81) were observed and fixed (according to the project specifications) from Panels P20 through P21. Refer to 6/27/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. Note: not all repairs completed, repairs conducted to cover and seal cap before inclement weather. Vacuum box testing not completed. Activities to be continued on 6/28/16. No destruct samples were collected, as destruct samples to be cut on 6/28/16 (Note: Repair R-74 destruct sample to be cut on 6/28/16).

Non-Conformance Items / Corrective Actions

- None Encountered

Action Items – Pending

- Complete Daily Report and Photo Log (for 6/27/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete pipe boot penetration log for Piezometer PZ-8 (Panel P21).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, and 6/24/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1, DS-2, DS-3, and DS-4. Reviewed laboratory data for extrusion weld destruct sample DSX-1 and DSX-2. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 6/27/16
A3 – Photo Log	Pages 1 – 7	Total of 14 photos outlining pertinent daily observations and descriptions for 6/27/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 6/27/16
A5 – Subgrade Approval	Sheet 4 & ESI (6/27/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 2	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 6/27/16
A7 – Panel Placement Log	Pages 3 - 4	One panel placement log provided by ESI and confirmed by Langan for panels placed on 6/27/16
A8 – Destruct Seam Testing COC	Sheet 1	Updated for destruct samples collected on 6/27/16
A9 – Seam/Non-Destruct. Test Log	Pages 7 - 8	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 6/27/16
A10 – Repair Log	Pages 4 - 5	One repair log provided by ESI and confirmed by Langan for repairs completed for 6/27/16
A11 – Conformance COC		NA for 6/27/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 6/27/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 6/27/16
A14 – Penetration & Edge Form	6/27/16 Form	One boot penetration form completed for Piezometer PZ8. Note: no methane / spark testing conducted.
A16 – Notice of Non-Compliance		NA - no non-compliance issues identified on 6/27/16
A17 – Spark Testing Form		NA – no spark testing completed on 6/27/16. Boot for Piezometer PZ8 completed. Methane / spark testing to be completed week of July 5, 2016.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/27/16

Direction Taken:

Looking east along SA-6 North (from approximate Sta. 315+75).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #2 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/27/16

Direction Taken:

Looking south across SA-6 North (approximate Sta. 315+00).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding and graded, compacted, and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #3 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/27/16

Direction Taken:

Looking east along northern end of SA-6 North (from approximate Sta. 315+50).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #4 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/27/16

Direction Taken:

Looking west/ southwest along SA-6 North (at approximate Sta. 319+00).

Description:

ESI preparing to deploy GDL over Panel P1 and P2 (at approximate Sta. 319+00).

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PHOTOGRAPHIC LOG
Photo #5 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

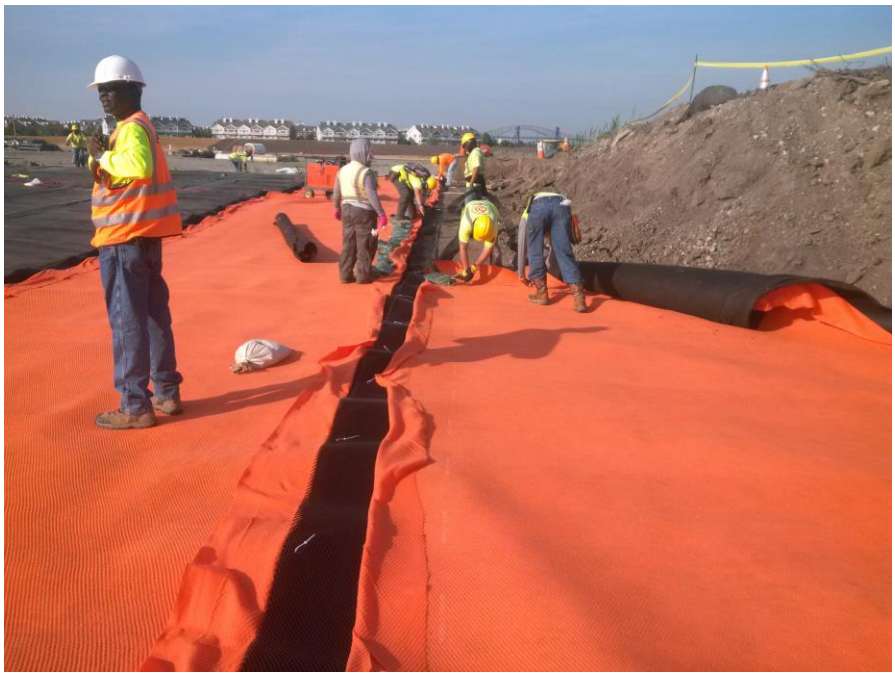
Date:
6/27/16

Direction Taken:

Looking south along western end of SA-6 North (approximate Sta. 319+00).

Description:

ESI deploying GDL with white plastic fasteners spaced at a maximum of 5 ft. along geonet. Top layer of geotextile (orange) sewn.



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PHOTOGRAPHIC LOG
Photo #6 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/27/16

Direction Taken:

Looking south / southeast across SA-6 North (from approximate Sta. 319+00).

Description:

ESI placing GDL across western end of SA-6 North.

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PHOTOGRAPHIC LOG
Photo #7 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/27/16

Direction Taken:

SA-6 North – Access Manhole #1. Repair R-29 (Panel P10).

Description:

Entact completing methane testing for Access Manhole #1 pipe boot (prior to spark testing). Methane concentration of 0.1% measured underneath LLDPE. Boot approved for spark testing.

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PHOTOGRAPHIC LOG
Photo #8 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/27/16

Direction Taken:

SA-6 North - Access Manhole #1. Repair R-29 (Panel P10).

Description:

ESI conducting spark testing for Access Manhole #1 pipe boot. Spark testing completed around base of boot and vertical welds (i.e. welds that cannot be vacuum box tested). No sparks were observed. Pipe boot passed spark testing.

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PHOTOGRAPHIC LOG
Photo #9 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/27/16

Direction Taken:

Looking east along southern end of SA-6 North (from approximate Sta. 315+50).

Description:

ESI deploying 16 oz. geotextile along southern edge of SA-6 North. Geotextile overlapped 1 ft. outside of SA-6 North (remaining roll width inside), as outlined in project specifications.

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PHOTOGRAPHIC LOG
Photo #10 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/27/16

Direction Taken:

Looking south / southeast along SA-6 North (from approximate Sta. 315+75).

Description:

ESI deploying GVL across approved soil subgrade. GVL secured with white plastic fasteners spaced at a maximum of 5 ft. Top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #11 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/27/16

Direction Taken:

Looking north along SA-6 North (at approximate Sta. 315+00).

Description:

ESI deploying LLDPE geomembrane over GVL.

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PHOTOGRAPHIC LOG
Photo #12 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

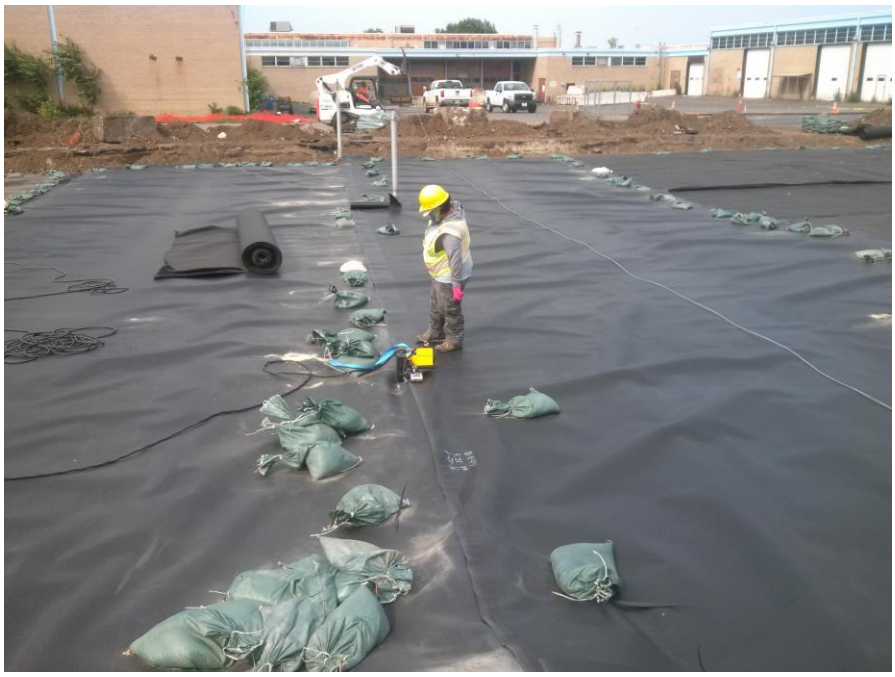
Date:
6/27/16

Direction Taken:

Looking north along SA-6 North at Panel P20 / P21 seam

Description:

ESI conducting fusion welding along Panel P20 / P21 seam.



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PHOTOGRAPHIC LOG
Photo #13 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/27/16

Direction Taken:

SA-6 North – Panel P23 / P24 seam.

Description:

ESI conducting non-destructive testing (pressure testing) along fusion weld Panel P23 / P24 seam.

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PHOTOGRAPHIC LOG
Photo #14 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/27/16

Direction Taken:

SA-6 North – Piezometer PZ8

Description:

ESI completing LLDPE boot for Piezometer PZ8 (Panel P21). Note: no methane / spark testing completed. Testing to be completed week of July 5, 2016.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/29/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/90° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0650 – 1530

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #6**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for LLDPE repair activities to be completed on LLDPE geomembrane installed on 6/27/16. Note: No capping activities conducted on 6/28/16 due to inclement weather, and no new LLDPE was placed on 6/29/16 as soil subgrade was not approved.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI continuing with non-destructive testing (pressure testing) and repair activities for geomembrane panels P19 through P27 (installed on 6/27/16). Non-destructive testing was conducted on the remaining panel seams and the seams were pressurized to 30 psi and held for 5 minutes with less than 4 psi loss. Refer to *6/29/16 Seam Control Form* for additional details.
- A total of twenty-two repairs (R-82 through RP-103) were observed and fixed (according to the project specifications) from Panels P19 through P27. Refer to 6/29/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of two destruct samples were collected for laboratory analysis. Two fusion weld destruct samples, DS-5 and DS-6, were collected from Panel Seam P19 / P20 and Panel Seam P23 / P24, respectively. Additional details are outlined in the *Trial Weld Log* dated 6/29/16.
- The LLDPE pipe boot penetration for Gas Vent GV-5 was completed and extrusion welded. Note: no methane testing / spark testing completed. Methane / spark testing to be completed week of July 5, 2016.
- While ESI was conducting repairs, small areas of standing water were observed on the soil subgrade from Sta. 314+25 to approximate Sta. 313+75. Entact solidified the subgrade by adding calcium cement to the soils so that the wet areas were absorbed / removed. Additionally, minor modifications to the subgrade were completed to facilitate positive drainage off of SA-6 North.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Non-Conformance Items / Corrective Actions

- Non-Conformance No. 2 (Sheet #2) – Subgrade irregularity identified as R-98 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P26. Stone was subsequently removed, and hole was patched/repaired following project specs as further described in *Sheet 2 Notice of Non-Compliance.*

Action Items – Pending

- Complete Daily Report and Photo Log (for 6/29/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct samples results for DS-5 and DS-6.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, and 6/27/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1, DS-2, DS-3, and DS-4. Reviewed laboratory data for extrusion weld destruct sample DSX-1 and DSX-2. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 6/29/16
A3 – Photo Log	Pages 1 – 4	Total of 7 photos outlining pertinent daily observations and descriptions for 6/29/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 6/29/16
A5 – Subgrade Approval		NA - no subgrade approval for 6/29/16
A6 – Trial Weld Log	Page 2	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 6/29/16
A7 – Panel Placement Log		NA – no LLDPE panels placed on 6/29/16
A8 – Destruct Seam Testing COC	Sheet ~~1~~	Updated for destruct samples collected on 6/29/16
A9 – Seam/Non-Destruct. Test Log	Pages 8 - 10	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 6/29/16
A10 – Repair Log	Pages 5 - 6	One repair log provided by ESI and confirmed by Langan for repairs completed for 6/29/16
A11 – Conformance COC		NA for 6/29/16
A12 – Destructive Seam Field Test	Page 1	Updated with destruct samples collected on 6/29/16
A13 – Destruct. Sample Summary	Page 1	Destruct sample summary updated with samples collected on 6/29/16
A14 – Penetration & Edge Form	6/29/16 Form	LLDPE pipe boot penetration form completed for Gas Vent GV-5. Note: methane / spark testing not completed (to be completed week of June 5, 2016).
A16 – Notice of Non-Compliance	Sheet 2	One non-compliance issue identified on 6/29/16 and summarized on Sheet 2.
A17 – Spark Testing Form		NA – no methane / spark testing completed on 6/29/16 for Gas Vent GV-5.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (06/29/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/29/16

Direction Taken:

Looking south along SA-6 North along southern end of cap.

Description:

ESI continuing patch / repair activities for LLDPE geomembrane panels P19 through P27 (installed on 6/27/16).

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PHOTOGRAPHIC LOG
Photo #2 (06/29/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/29/16

Direction Taken:

SA-6 North – Repair R98

Description:

ESI completing extrusion welds (detailing) for Repair R98 identified as a subgrade irregularity (Panel P26)

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PHOTOGRAPHIC LOG
Photo #3 (06/29/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/29/16

Direction Taken:

Looking south / southwest across SA-6 North (approximate Sta. 317+00).

Description:

Entact placing protective cover soil over GDL Panels 1 to 11 (GDL placed on 6/27/16).

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PHOTOGRAPHIC LOG
Photo #4 (06/29/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/29/16

Direction Taken:

SA-6 North – Destruct Sample DS-5 (Panel P19 / P20 seam)

Description:

Destruct sample DS-5 along Panel seam P19 / P20 marked by ESI for laboratory analysis.

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PHOTOGRAPHIC LOG
Photo #5 (06/29/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/29/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 314+25).

Description:

Soft / wet areas identified along northern end of SA-6 North from approximate Sta. 314+25 to approximate Sta. 313+75. Entact to add calcium cement and solidify subgrade.

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PHOTOGRAPHIC LOG
Photo #6 (06/29/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/29/16

Direction Taken:

Looking south / southeast along SA-6 North (approximate Sta. 314+25).

Description:

Entact adding calcium cement and solidifying subgrade for LLDPE geomembrane placement.

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PHOTOGRAPHIC LOG

Photo #7 (06/29/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/29/16

Direction Taken:

SA-6 North – Gas Vent GV-5

Description:

ESI completing LLDPE pipe boot for Gas Vent GV-5 (R-102). Boot sealed and extrusion welds completed. Methane / spark testing not completed (to be conducted week of July 5, 2016).

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/30/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/95° F, Sunny, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1615

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #7** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) continuing east from Panel P27 installed on 6/27/16 (approximate Sta. 314+25). Material to be placed from Panel P27 running approximately 100 ft. east to approximate Sta. 313+25.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 314+25 (Panel P27 installed on 6/27/16) to approximate Sta. 313+25. Refer to *Soil Subgrade Approval* forms from 6/30/16 for additional details. Based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos 1 to 3 of the daily photo log for 6/30/2016, for supporting subgrade photos. During subgrade observation, AmecFW was also completing surveying to verify the subgrade elevations. The area was subsequently approved by AmecFW following review of the survey data.
- Following subgrade approval (including AmecFW completing the survey requirements for the soil subgrade), GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 314+25 (east of Panel P27) moving east to approximate Sta. 313+25. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/30/16 Photo Log for supporting photographs.
- After placement of GVL, LLDPE geomembrane was installed continuing from Panel P27 (installed on 6/27/16) and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 314+25 (Panel P27) to approximate Sta. 313+25. A total of five panels were installed (P28, P29, P30, P31, and P32). Note: During placement of Panel P30

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the roll of LLDPE terminated near the north end of SA-6 North, thus the remaining run of LLDPE was installed as P31. Panels P28, P29, and P31 ran the entire width of SA-6 North (approximately 215 ft.) from north to south.

- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 6/30/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 314+25, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 6/30/16 *Seam Control Form* for non-destructive testing details. Additionally, repair and extrusion weld activities were also conducted for Panels P27 through P32. Additional details are outlined on the 6/30/16 *Repair Log.*
- A total of thirty-one repairs (R-104 through R-134) were observed and fixed (according to the project specifications) from Panels P19 through P27. Refer to 6/30/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. Note: Add on (AO) repairs completed for Panels P17, P18, and P19, as LLDPE length had to be increased along edges of SA-6 North.
- Following the placement of LLDPE geomembrane, ESI deployed the orange geocomposite drainage layer (GDL), over the installed LLDPE geomembrane. GDL was placed from Panel P11 (approximate Sta. 316+25), to east of Panel P19 (approximate Sta. 315+50). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/30/16 Photo Log for supporting photographs
- A total of four destruct samples were collected on 6/30/16. Three fusion weld destruct samples DS-7, DS-8, and DS-9 were collected from panel seams P13 / P14, P18 / R-105, and 18 / 19, respectively. One extrusion weld destruct sample, DSX-3, was collected from Panel P21 (R-79).

Non-Conformance Items / Corrective Actions

- None Encountered

Action Items – Pending

- Complete Daily Report and Photo Log for 6/30/16. Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample results for DS-7, DS-8, DS-9, and DSX-3.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, and 6/29/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-6. Reviewed laboratory data for extrusion weld destruct sample DSX-1 and DSX-2. Laboratory results in compliance with project specifications.

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Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 6/30/16
A3 – Photo Log	Pages 1 – 7	Total of 13 photos outlining pertinent daily observations and descriptions for 6/30/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 6/30/16
A5 – Subgrade Approval	Sheet 5 & ESI (6/30/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 2-3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 6/30/16
A7 – Panel Placement Log	Pages 4-5	One panel placement log provided by ESI and confirmed by Langan for panels placed on 6/30/16
A8 – Destruct Seam Testing COC	Sheet 1	Updated for destruct samples collected on 6/30/16
A9 – Seam/Non-Destruct. Test Log	Pages 10 - 14	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 6/30/16
A10 – Repair Log	Pages 6-7	One repair log provided by ESI and confirmed by Langan for repairs completed for 6/30/16
A11 – Conformance COC		NA for 6/30/16
A12 – Destructive Seam Field Test	Page 1	Updated with destruct samples collected on 6/30/16
A13 – Destruct. Sample Summary	Page 1	Destruct sample summary updated with samples collected on 6/30/16
A14 – Penetration & Edge Form		NA – no pipe boot penetrations completed on 6/30/16.

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A16 – Notice of Non-Compliance		NA - no non-compliance issues identified on 6/30/16
A17 – Spark Test Form		NA – no methane / spark testing completed on 6/30/16

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PHOTOGRAPHIC LOG
Photo #1 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/30/16

Direction Taken:

Looking east along southern end of SA-6 North (from approximate Sta. 314+25).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #2 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/30/16

Direction Taken:

Looking north along northern end of SA-6 North (approximate Sta. 314+25).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding and graded, compacted, and free of debris (>1/2”). Area previously identified as wet and unacceptable subgrade from 6/29/16.

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PHOTOGRAPHIC LOG
Photo #3 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/30/16

Direction Taken:

Looking south / southeast across SA-6 North (from approximate Sta. 314+25).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #4 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/30/16

Direction Taken:

Looking south / southeast along SA-6 North (approximate Sta. 314+00).

Description:

ESI deploying GVL across approved subgrade for SA-6 North.

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PHOTOGRAPHIC LOG
Photo #5 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/30/16

Direction Taken:

Looking south along southern end of SA-6 North (approximate Sta. 314+00).

Description:

ESI deploying GVL with white plastic fasteners spaced at a maximum of 5 ft. along geonet. Top layer of geotextile also sewn.

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PHOTOGRAPHIC LOG
Photo #6 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/30/16

Direction Taken:

Looking west along southern end of SA-6 North (Panels P19, P18, P17).

Description:

ESI conducting repair activities and completing LLDPE add on (AO) for Panels P17, P18, and P19.

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PHOTOGRAPHIC LOG
Photo #7 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/30/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 314+00).

Description:

ESI deploying LLDPE geomembrane over GVL.

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PHOTOGRAPHIC LOG
Photo #8 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

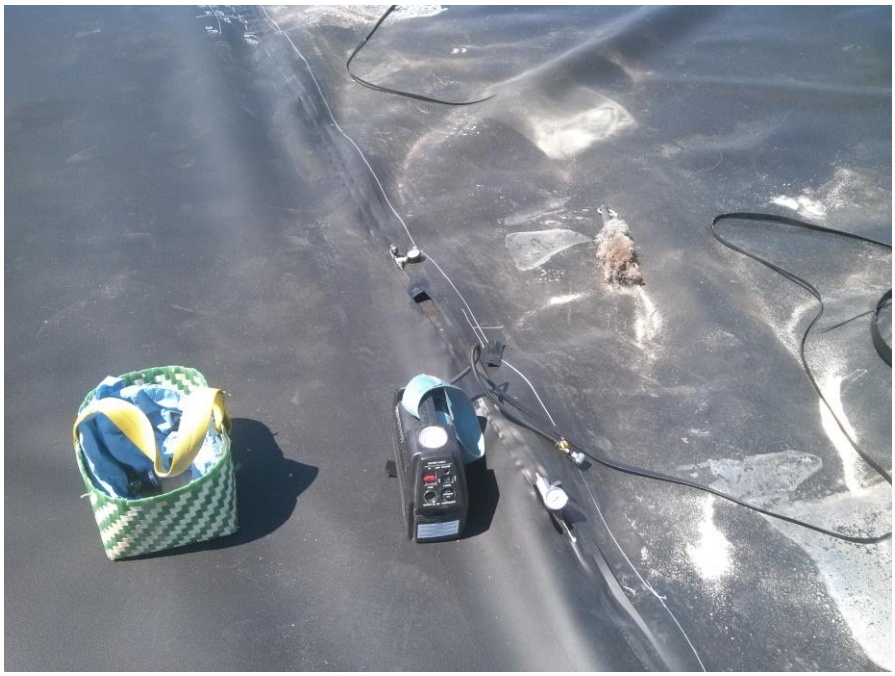
Date:
6/30/16

Direction Taken:

SA-6 North Panel P27 / P28 seam

Description:

ESI conducting non-destructive testing (air pressure testing) for Panel P27 / P28 seam. Seam pressurized to 30 psi and held for 5 minutes with less than 4 psi loss.



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PHOTOGRAPHIC LOG
Photo #9 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/30/16

Direction Taken:

Looking north / northeast along SA-6 North (from approximate Sta. 314+00).

Description:

LLDPE geomembrane deployed across SA-6 North from approximate Sta. 314+25 to Sta. 313+25.

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PHOTOGRAPHIC LOG
Photo #10 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/30/16

Direction Taken:

SA-6 North – Destruct Sample DS-7

Description:

ESI completed patch / repair activities for destruct sample DS-7 (Panel P13 / P14). Geomembrane patch, repaired, and vacuum box tested.

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PHOTOGRAPHIC LOG
Photo #11 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/30/16

Direction Taken:

SA-6 North – Panel P31 / P32 seam

Description:

ESI conducting fusion welding along Panel P31 / P32 seam.

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PHOTOGRAPHIC LOG
Photo #12 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/27/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 316+00).

Description:

ESI deploying orange GDL over previously installed LLDPE GDL secured with white plastic fasteners spaced at a maximum of 5 ft. and the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #13 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/30/16

Direction Taken:

Looking south across SA-6 North (approximate Sta. 315+50).

Description:

Orange GDL deployed over approved LLDPE geomembrane to Panel P19 (approximate Sta. 315+50).

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/1/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/95° F, Sunny, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1315

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #8** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) continuing east from Panel P32 installed on 6/30/16 (approximate Sta. 313+25). Material to be placed from Panel P32 running approximately 65 ft. east to approximate Sta. 312+60.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 313+25 (Panel P32 installed on 6/30/16) to approximate Sta. 312+60. Refer to *Soil Subgrade Approval* forms from 7/1/16 for additional details. Based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos 1 to 3 of the daily photo log for 7/1/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 313+25 (east of Panel P32) moving east to approximate Sta. 312+60. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/1/16 Photo Log for supporting photographs.
- After placement of GVL, LLDPE geomembrane was installed continuing from Panel P32 (installed on 6/30/16) and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 313+25 (Panel P32) to approximate Sta. 312+60. A total of seven panels were installed (P33, P34, P35, P36, P37, and P38). Note: During placement of Panel P33 the roll of LLDPE terminated near the northern end of SA-6 North, thus the remaining run of LLDPE was installed as P34. Similarly, during placement of Panel 36, the roll of LLDPE terminated

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approximately 2/3 from the north end of SA-6 North, thus the remaining run of LLDPE was installed as P37. Panels P32, P35, and P38 ran the entire width of SA-6 North (approximately 220 ft.) from north to south.

- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 7/1/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 312+60, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/1/16 *Seam Control Form* for non-destructive testing details. Additionally, repair and extrusion weld activities were also conducted for Panel P29 (installed on 6/30/16) and Panels P33 to P38 (installed on 7/1/16). Additional details are outlined on the 7/1/16 *Repair Log.*
- A total of twenty-eight repairs (R-135 through R-162) were observed and fixed (according to the project specifications) from Panels P19 through P27. Refer to 7/1/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- ESI also completed a pipe boot for Well 115-S1-SO located on the Panel P28 / P29 seam. Additional details are provided in the pipe boot penetration form for 7/1/16. No methane / spark testing was conducted on the boot (to be completed on 7/6/16).
- Following the placement of LLDPE geomembrane, ESI deployed the orange geocomposite drainage layer (GDL), over the installed LLDPE geomembrane. GDL was placed from Panel P11 (approximate Sta. 316+25), to east of Panel P19 (approximate Sta. 315+50). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/1/16 Photo Log for supporting photographs
- A total of four destruct samples were collected on 7/1/16. Three (3) fusion weld destruct samples were collected – DS-11, DS-12, and DS-13 from Panel Seams P31 / P32, P34 / P35, and P36 / P38, respectively. One extrusion weld destruct sample – DSX-4 was collected from Panel P32 (Repair R-148).

Non-Conformance Items / Corrective Actions

- None Encountered

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/1/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory data for destruct samples DS-11, DS-12, DS-13, and DSX-4.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, and 6/30/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-10. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-3. Laboratory results in compliance with project

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 7/1/16
A3 – Photo Log	Pages 1 – 6	Total of 11 photos outlining pertinent daily observations and descriptions for 7/1/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/1/16
A5 – Subgrade Approval	Sheet 6 & ESI (7/1/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/1/16
A7 – Panel Placement Log	Page 5	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/1/16
A8 – Destruct Seam Testing COC	Sheets 1 - 2	Updated for destruct samples collected on 7/1/16
A9 – Seam/Non-Destruct. Test Log	Pages 12-13	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/1/16
A10 – Repair Log	Pages 7-9	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/1/16
A11 – Conformance COC		NA for 7/1/16
A12 – Destructive Seam Field Test	Pages 1 - 2	Updated with destruct samples collected on 7/1/16
A13 – Destruct. Sample Summary	Pages 1 - 2	Destruct sample summary updated with samples collected on 7/1/16
A14 – Penetration & Edge Form	7/1/16 Form	Pipe boot completed for Well 115-W1-SO located along Panel P28 / P29.

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By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A16 – Notice of Non-Compliance		NA – no non-compliance issues identified on 7/1/16
A17 – Spark Testing Form		NA – no spark testing completed on 7/1/16. Boot for Well 115-W1-SO completed. Methane / spark testing to be completed week of July 5, 2016.

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By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/01/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/1/16

Direction Taken:

Looking north along northern end of SA-6 North (from approximate Sta. 313+25).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #2 (07/01/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/1/16

Direction Taken:

Looking south along southern end of SA-6 North (approximate Sta. 313+25).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding and graded, compacted, and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #3 (07/01/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/1/16

Direction Taken:

Looking north / northeast across SA-6 North (from approximate Sta. 313+25).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #4 (07/01/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/1/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 313+00).

Description:

ESI deploying GVL across approved subgrade for SA-6 North. White plastic fasteners spaced at 5 ft. maximum across geonet with top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #5 (07/01/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/1/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 313+00).

Description:

ESI deploying GVL across SA-6 North with white plastic fasteners spaced at a maximum of 5 ft. along geonet. Top layer of geotextile also sewn.

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PHOTOGRAPHIC LOG
Photo #6 (07/01/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/1/16

Direction Taken:

Looking north / northeast across SA-6 North (approximate Sta. 313+25).

Description:

ESI deploying LLDPE geomembrane across SA-6 North over GVL.

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PHOTOGRAPHIC LOG
Photo #7 (07/01/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/1/16

Direction Taken:

Looking north / northeast along SA-6 North (from approximate Sta. 313+25).

Description:

ESI conducting fusion welding along Panel Seams P32 / P34.

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PHOTOGRAPHIC LOG
Photo #8 (07/01/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/1/16

Direction Taken:

SA-6 North (Panel P32 / P33 / P34 seam

Description:

ESI conducting non-destructive testing (pressure testing) for fusion weld panel seams (Panel Seam P32 / P33 / P34).

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PHOTOGRAPHIC LOG
Photo #9 (07/01/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/1/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 313+00).

Description:

ESI deploying LLDPE geomembrane across SA-6 North.

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PHOTOGRAPHIC LOG
Photo #10 (07/01/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/1/16

Direction Taken:

Looking south along southern end of SA-6 North (Well 115-W1-SO)

Description:

ESI completing pipe boot / penetration for Well 115-W1-SO listed as Repair R-156 on Repair Report).

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PHOTOGRAPHIC LOG
Photo #11 (07/01/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/1/16

Direction Taken:

SA-6 North – Destruct Sample DS-13

Description:

ESI marking destruct sample DS-13 (Panel P36/ P38 seam) to be cut for laboratory analysis.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/6/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	82/98° F, Sunny, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0655 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #9** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), 60-mil geomembrane liner (LLDPE) continuing east from Panel P38 installed on 7/1/16 (approximate Sta. 312+60). Material to be placed from Panel P38 running approximately 85 ft. east to approximate Sta. 311+75.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from Panel P19 (approximate Sta. 315+50), moving east up to Panel P27 (approximate Sta. 314+60). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/6/16 Photo Log for supporting photographs
- While ESI was deploying GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 312+60 (Panel P38 installed on 7/1/16) to approximate Sta. 311+75. Refer to *Soil Subgrade Approval* forms from 7/6/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 3 to 5 of the daily photo log for 7/6/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 312+60 (east of Panel P38) moving east to approximate Sta. 311+75. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top

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layer of geotextile was sewn along the seams (according to the project specifications). Refer to 7/6/16 Photo Log for supporting photographs.

- During deployment of GVL, the potential for rocks or other debris to become dislodged in the soil subgrade were observed. Additional walkover and observation activities were conducted along the GVL to attempt to identify any rocks or debris (>1/2") that may have been dislodged.
- After placement of GVL, LLDPE geomembrane was installed continuing from Panel P38 (installed on 7/1/16) and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 312+60 (Panel P38) to approximate Sta. 311+75. A total of four panels were installed (P39, P40, P41, and P42). Note: During placement of Panel P39 the roll of LLDPE terminated near the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P40. Panels P41 and P42 ran the entire width of SA-6 North (approximately 220 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 7/6/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 311+75, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/6/16 *Seam Control Form* for non-destructive testing details. ESI completed a temporary pipe boot for Extraction Pump Station #1 and completed leistering of temporary patches to cover the LLDPE geomembrane. Repair (detailing) activities to be completed on 7/7/16.
- While GDL was being deployed, ESI also conducted, methane / spark testing for the pipe boots completed for Piezometer PZ8, Gas Vent GV-5, and Well 115-W1-SO. Prior to spark testing, methane testing was conducted to measure the concentration of methane present below the LLDPE geomembrane. During methane testing, a concentration of 0.0% (<1%) was measured for each of the pipe boots. Following the methane testing, spark testing was conducted by ESI for the vertical weld and pipe boot weld at the base of the penetration (i.e. welds not accessible for vacuum box testing).
- During the spark testing for Piezometer PZ8 a spark was observed at the top of the boot (outside of the 2 ft. boot requirement). Since this spark was outside of the required boot construction, the boot was subsequently cut at 2 ft. (thus removing the failed weld), and the remaining boot was retested with no sparks observed.
- During spark testing of Gas Vent GV-5 and Well 115-W1-SO, a spark was observed while testing the vertical weld and a small pinhole deficiency was observed in the weld. These areas will be grinded, rewelded, and retested on 7/7/16. Additional details are outlined in the *Spark Testing QA Forms* dated 7/6/16.
- No destruct samples collected on 7/6/16. Destruct samples to be cut on 7/7/16.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 3 (Sheet #3) – Failed spark test along vertical weld of Gas Vent GV-5
    - Failed spark test identified during spark testing of Gas Vent GV-5. Small pinhole deficiency identified in vertical weld. Weld to be grinded, re-welded, and re-tested on 7/7/16.
- Non-Conformance No. 4 (Sheet #4) – Failed spark test along vertical weld of Well 115-W1-SO
    - Failed spark test identified during spark testing of Well 115-W1-SO. Small pinhole deficiency identified in vertical weld. Weld to be grinded, re-welded, and re-tested on 7/7/16.

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Action Items – Pending

- Complete Daily Report and Photo Log (for 7/6/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, and 7/1/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-13. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-4. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 7/6/16
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 7/6/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/6/16
A5 – Subgrade Approval	Sheet 7 & ESI (7/6/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/6/16
A7 – Panel Placement Log	Pages 5-6	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/6/16
A8 – Destruct Seam Testing COC		NA - no destruct samples collected on 7/6/16
A9 – Seam/Non-Destruct. Test Log	Pages 14-16	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/6/16

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log		NA – no repair activities conducted on 7/6/16
A11 – Conformance COC		NA for 7/6/16
A12 – Destructive Seam Field Test		NA - no destruct samples collected on 7/6/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 7/6/16
A14 – Penetration & Edge Form		NA – no pipe boots / penetrations completed on 7/6/16
A16 – Notice of Non-Compliance	Sheets 3 & 4	Two non-compliance issues identified on 7/6/16 during spark testing of pipe boots and summarized on Sheets 3 & 4 (7/6/16 Non-Compliance Forms).
A17 – Spark Test Log	7/616 Spark Test Logs	Spark tests conducted for Piezometer PZ8, Gas Vent GV-5, and Well 115-W1-SO. Spark retest for Gas Vent GV-5 and Well 115-W1-SO to be completed on 7/7/16.

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PHOTOGRAPHIC LOG
Photo #1 (07/06/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/6/16

Direction Taken:

Looking north along SA-6 South (Panel P20).

Description:

ESI deploying orange GDL over approved LLDPE geomembrane. GDL secured with white plastic fasteners spaced at a maximum of 5 ft. and top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #2 (07/06/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

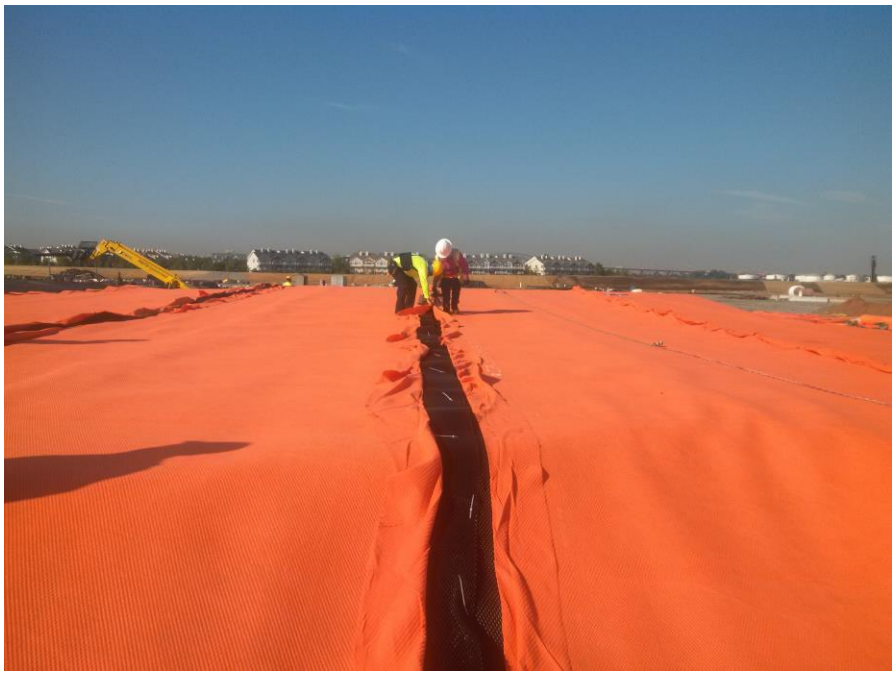
Date:
7/6/16

Direction Taken:

Looking south along SA-6 North

Description:

ESI sewing top layer of orange geotextile. White plastic fasteners spaced at maximum of 5 ft. along geonet.



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PHOTOGRAPHIC LOG
Photo #3 (07/06/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/6/16

Direction Taken:

Looking south / southeast across SA-6 North (approximate Sta. 312+25).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #4 (07/06/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/6/16

Direction Taken:

Looking east along SA-6 North, approximate center of the cap (approximate Sta. 312+25).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #5 (07/06/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/6/16

Direction Taken:

Looking east along southern end of SA-6 North (approximate Sta. 312+00).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #6 (07/06/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/6/16

Direction Taken:

Looking south across SA-6 North (approximate Sta. 312+60).

Description:

ESI deploying GVL over approved soil subgrade. GVL secured with white plastic fasteners spaced at a maximum of 5 ft. and top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #7 (07/06/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/6/16

Direction Taken:

Looking north along SA-6 North (Panels P39 / P40

Description:

ESI conducting fusion welding along Panel P39 / P40 seam.

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PHOTOGRAPHIC LOG
Photo #8 (07/06/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/6/16

Direction Taken:

SA-6 North (Panels P39 / P41 seam)

Description:

ESI conducting non-destructive testing (pressure testing) along Panel P39 / P41 seam. Seam pressurized to 30 psi and held for 5 minutes with less than 4 psi loss.

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PHOTOGRAPHIC LOG
Photo #9 (07/06/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/6/16

Direction Taken:

SA-6 North – Gas Vent GV-5

Description:

Entact conducting methane testing prior to spark testing for Gas Vent GV-5 boot. Methane tested yielded concentration of 0.0% methane, (>1%), thus spark testing was conducted.

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PHOTOGRAPHIC LOG
Photo #10 (07/06/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/6/16

Direction Taken:

SA-6 North – Gas Vent GV-5

Description:

ESI conducting spark testing along Gas Vent GV-5 boot. Small pinhole deficiency identified along vertical weld of boot. Area to be grinded, re-welded, and re-tested on 7/7/16.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/7/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	82/98° F, Overcast, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #10** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), 60-mil geomembrane liner (LLDPE), continuing east from Panel P42 installed on 7/6/16 (approximate Sta. 311+75). Material to be placed from Panel P42 running approximately 20 ft. east to approximate Sta. 311+55. Note: based on available prepared subgrade and inclement weather scheduled in the afternoon, ESI deployed one panel of GVL and one panel of LLDPE geomembrane so that the installed LLDPE was outside of the slope swales and depressed contours thus promoting positive drainage away from the installed material.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from Panel P27 (approximate Sta. 314+60), moving east up to Panel P36 / P37 (approximate Sta. 313+25). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/7/16 Photo Log for supporting photographs
- While GDL was being deployed, ESI also completed repair activities for Panels P39 to P42 (installed on 7/6/16). A total of thirty-seven repairs (R-163 through R-199) were observed and fixed (according to the project specifications) from Panels P39 through P42. Refer to 7/7/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of two (2) destruct samples were collected. One fusion weld destruct sample (DS-14) was collected from Panel P41 / P42 seam, and one extrusion weld sample (DSX-5) was collected from Panel P42, Repair R-179 for laboratory analysis.

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- While GDL and repair activities were being completed, ESI also conducted, methane / spark testing for the pipe boots repairs for Gas Vent GV-5, and Well 115-W1-SO. Based on the sparks observed during spark testing on 7/6/16, the areas were subsequently grinded, re-welded, and re-tested. Refer to 7/7/16 Photograph Log for supporting photos. Prior to spark testing, methane testing was conducted by AmecFW to measure the concentration of methane present below the LLDPE geomembrane. During methane testing, a concentration of 0.0% (<1%) was measured for each of the boots. Following the methane testing, spark testing was conducted by ESI for the vertical weld areas that were re-welded. During the re-test no sparks were observed and the retest spark test passed. Additional details are outlined in the *Spark Testing QA Forms* dated 7/6/16.
- Following the LLDPE repair activities, and deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 311+75 (Panel P42 installed on 7/6/16) to approximate Sta. 311+55. Refer to *Soil Subgrade Approval* forms from 7/7/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photo 9 of the daily photo log for 7/7/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement. Note: the approximate 20 ft. area of soil was approved so that an additional panel of LLDPE geomembrane could be deployed to allow the edges of the liner to be outside of the depressed contours in the event of afternoon rainstorms (positive drainage away from the installed LLDPE geomembrane).
- Following subgrade approval, one panel of GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications).
- After placement of GVL, one panel of LLDPE geomembrane was installed continuing from Panel P42 (installed on 7/6/16) and moving east. The panel was oriented from north to south (as proposed in the approved Panel Layout) and was installed from approximate Sta. 311+75 (Panel P42) to approximate Sta. 311+55. A total of one panel was installed (P43). Panel P43 ran the entire width of SA-6 North (approximately 230 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 7/7/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 312+60, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/7/16 *Seam Control Form* for non-destructive testing details. Additionally, repairs were marked and temporary patches were leistered in place for repair activities (i.e. detailing) to be completed on 7/8/16.
- ESI completed the boot / penetration construction for Extraction Pump Station #1 manhole and welded (detailed) the repairs. Note: Extraction Pump Station #1 manhole was located in a recessed contour of SA-6 North and repair activities were conducted to seal the LLDPE geomembrane as rainstorms were forecasted for the afternoon.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 5 (Sheet #5) – Subgrade irregularity identified as R-170 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P38. Stone was subsequently removed, and hole was patched/repaired following project specs as further described in *Sheet 5 Notice of Non-Compliance.*

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By: Dan Bosworth

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Action Items – Pending

- Complete Daily Report and Photo Log (for 7/6/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory results for destruct samples DS-14 and DSX-5.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, and 7/6/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-13. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-4. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/7/16
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 7/7/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/7/16
A5 – Subgrade Approval	Sheet 8 & ESI (7/7/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 3-4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/7/16
A7 – Panel Placement Log	Page 6	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/7/16
A8 – Destruct Seam Testing COC	Sheet 2	Updated for destruct samples collected on 7/7/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A9 – Seam/Non-Destruct. Test Log	Page 16	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/7/16
A10 – Repair Log	Pages 9-10	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/7/16
A11 – Conformance COC		NA for 7/7/16
A12 – Destructive Seam Field Test	Page 2	Updated with destruct samples collected on 7/7/16
A13 – Destruct. Sample Summary	Page 2	Destruct sample summary updated with samples collected on 7/7/16
A14 – Penetration & Edge Form	7/7/16 Boot Form	Pipe boot for Extraction Pump Station #1 manhole completed on 7/7/16
A16 – Notice of Non-Compliance	Sheet 5	One non-compliance issue identified as subgrade irregularity on 7/7/16 and summarized on Sheet 5.
A17 – Spark Test Log	7/6/16 Spark Test Logs	Spark tests logs for Gas Vent GV-5 and Well 115-W1-SO dated 7/6/16 updated for spark retests completed on 7/7/16.

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By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/07/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

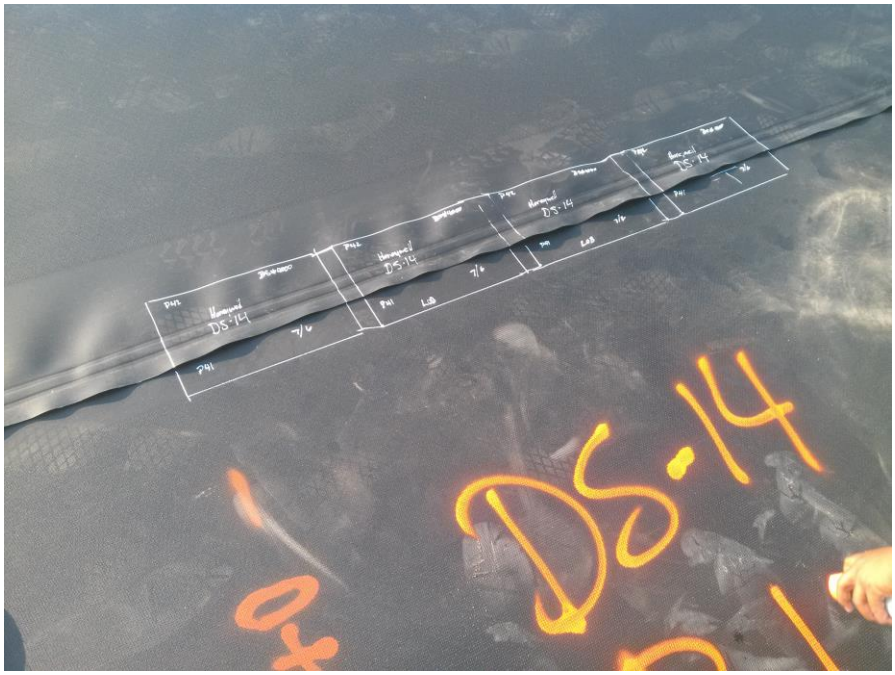
Date:
7/7/16

Direction Taken:

SA-6 North – Destruct Sample DS-14 (Panel P41 / P42 seam)

Description:

Fusion weld destruct sample DS-14 collected from Panel P41 / P42 seam.



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PHOTOGRAPHIC LOG
Photo #2 (07/07/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/7/16

Direction Taken:

Looking south / southeast along SA-6 North (Panels P42 / P43).

Description:

ESI conducting repair activities for LLDPE geomembrane panels P39 through P42 installed on 7/6/16.

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PHOTOGRAPHIC LOG
Photo #3 (07/07/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

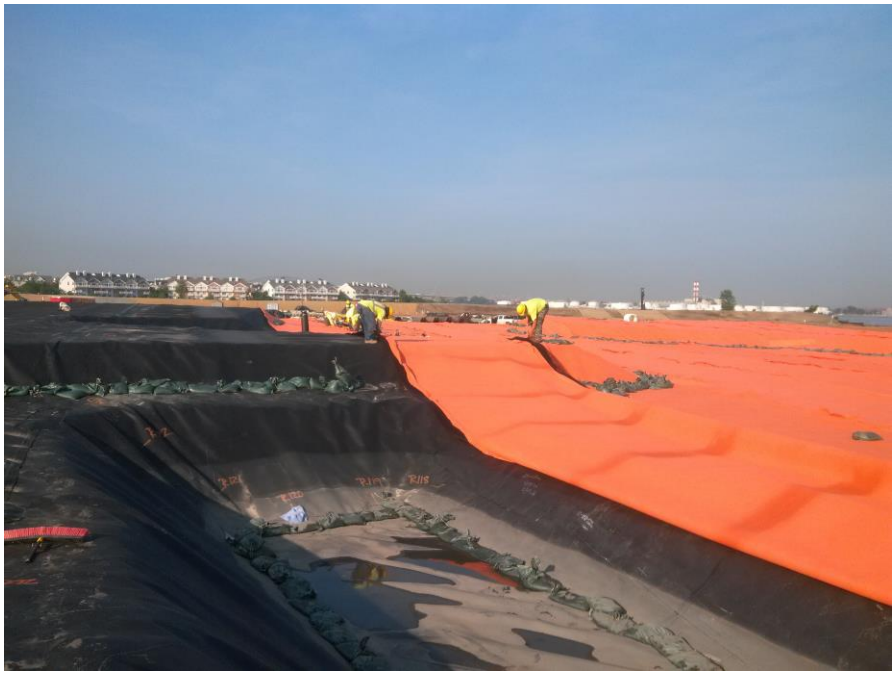
Date:
7/7/16

Direction Taken:

Looking south / southwest across SA-6 North (approximate Sta. 314+50).

Description:

ESI deploying orange GDL across approved LLDPE geomembrane. GDL placed from Panel P27 (approximate Sta. 314+60) to Panel P36/P37 (approximate Sta. 313+25).



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PHOTOGRAPHIC LOG
Photo #4 (07/07/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/7/16

Direction Taken:

SA-6 North – Destruct Sample DSX-5 (Panel P42)

Description:

ESI collecting extrusion weld destruct sample DSX-5 from Panel P42 / Repair R-179.

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PHOTOGRAPHIC LOG
Photo #5 (07/07/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/7/16

Direction Taken:

SA-6 North – Gas Vent GV-5

Description:

Entact conducting methane testing prior to the spark retest of Gas Vent GV-5. Methane concentration of 0.0% measured. Weld was grinded, re-welded, and retested by ESI.

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PHOTOGRAPHIC LOG
Photo #6 (07/07/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/7/16

Direction Taken:

SA-6 North – Gas Vent GV-5

Description:

ESI conducting spark retest on Gas Vent GV-5. Weld was grinded, re-welded, and retested. No sparks were observed during the spark retest (spark retest passed).

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PHOTOGRAPHIC LOG
Photo #7 (07/07/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/7/16

Direction Taken:

SA-6 North – Well 115-W1-SO

Description:

ESI grinding pinhole area of vertical weld that was identified during spark test on 7/6/16. Repair was grinded, rewelded and retested.

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PHOTOGRAPHIC LOG
Photo #8 (07/07/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/7/16

Direction Taken:

SA-6 North – Well 115-W1-SO

Description:

ESI re-welding vertical seam on Well 115-W1-SO (failed spark test on 7/6/16). Vertical weld was grinded, re-welded, and retested. No sparks were observed during the spark retest (spark retest passed).

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PHOTOGRAPHIC LOG
Photo #9 (07/07/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/7/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 311+75).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #10 (07/07/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/7/16

Direction Taken:

SA-6 North – Extraction Pump Station #1

Description:

ESI conducting repair activities for Extraction Pump Station #1. Skirt and base of boot completed so LLDPE geomembrane is watertight before afternoon rainstorms.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/8/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	82/98° F, Overcast, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #11** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P43 installed on 7/7/16 (approximate Sta. 311+55). Material to be placed from Panel P43 running approximately 75 ft. east to approximate Sta. 310+80.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI completing repair activities for Panels P42 and P43 (Panel P43 installed on 7/7/16). A total of twelve repairs (R-200 through R-211) were observed and fixed (according to the project specifications) from the two panels. Refer to 7/8/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While LLDPE repair activities were being conducted, Langan and Entact conducted soil subgrade approval from approximate Sta. 311+55 (Panel P43 installed on 7/7/16) to approximate Sta. 310+80. Refer to *Soil Subgrade Approval* forms from 7/8/16 for additional details. During subgrade observation, the subgrade area was transversed in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 1 and 2 of the daily photo log for 7/8/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 311+55 (east of Panel P43) moving east to approximate Sta. 310+80.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

- GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 7/8/16 Photo Log for supporting photographs.
- During deployment of GVL, the potential for rocks or other debris to become dislodged in the soil subgrade were observed. Additional walkover and observation activities were conducted along the GVL to attempt to identify any rocks or debris (>1/2") that may have been dislodged.
- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P43 (installed on 7/7/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 311+55 (Panel P43) to approximate Sta. 310+80. A total of eight panels were installed (P44, P44A, P44B, P45, P46, P47, P48, and P49). Note: During placement of Panel P44 the roll of LLDPE terminated near the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P45. Similarly, during placement of Panel P47, the roll of LLDPE terminated near the center of SA-6 North, thus the remaining run of LLDPE was installed as P48. Panels P46 and P49 ran the entire width of SA-6 North (approximately 290 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 7/8/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 310+80, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/8/16 *Seam Control Form* for non-destructive testing details. Additionally, repairs activities were conducted for Panels P44 through P49 (installed on 7/8/16). These repair activities were conducted in addition to the repairs completed in the morning for Panels P42 and P43 (installed on 7/7/16).
- A total of twenty additional repairs (R-212 through R-223, R-225, R-227, R-228, R-229, and R-233 to R-236) were observed and fixed (according to the project specifications) from Panels P44 to P49. Refer to 7/8/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of one (1) destruct sample was collected. One extrusion weld sample (DSX-6) was collected from Panel P42, Repair R-180 for laboratory analysis. Additional destruct samples to be cut and collected on 7/11/16.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 6 (Sheet #6) – Subgrade irregularity identified as R-222 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P45. Stone was subsequently removed, and hole was patched/repaired following project specs as further described in *Sheet 6 Notice of Non-Compliance.*

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/8/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory results for destruct sample DSX-6.

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By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, and 7/7/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-13. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-5. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 7/8/16
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 7/8/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/8/16
A5 – Subgrade Approval	Sheet 9 & ESI (7/8/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/8/16
A7 – Panel Placement Log	Page 6-7	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/8/16
A8 – Destruct Seam Testing COC	Sheet 2	Updated for destruct samples collected on 7/8/16
A9 – Seam/Non-Destruct. Test Log	Pages 17-19	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/8/16
A10 – Repair Log	Pages 10-12	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/8/16
A11 – Conformance COC		NA for 7/8/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test	Page 2	Updated with destruct samples collected on 7/8/16
A13 – Destruct. Sample Summary	Page 2	Destruct sample summary updated with samples collected on 7/8/16
A14 – Penetration & Edge Form		NA – no pipe boots / penetrations completed on 7/8/16
A16 – Notice of Non-Compliance	Sheet 6	One non-compliance issue (subgrade irregularity) identified on 7/8/16 and summarized on Sheet 6.
A17 – Spark Test Log		NA – no spark test activities conducted on 7/8/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

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PHOTOGRAPHIC LOG
Photo #1 (07/08/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/8/16

Direction Taken:

Looking south / southeast along SA-6 North (from approximate Sta. 311+55).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #2 (07/08/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/8/16

Direction Taken:

Looking north along SA-6 North from northern end of cap (approximate Sta. 311+55).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #3 (07/08/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/8/16

Direction Taken:

SA-6 North – Panels P42 / P43

Description:

ESI conducting repair activities (i.e. extrusion weld detailing) for repairs from Panel P42 / P43 (Panel P43 installed on 7/7/16).

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PHOTOGRAPHIC LOG
Photo #4 (07/08/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/8/16

Direction Taken:

Looking south across SA-6 North (approximate Sta. 310+80).

Description:

ESI deploying GVL over approved soil subgrade. GVL secured with white plastic fasteners spaced at a maximum of 5 ft. and top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #5 (07/08/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/8/16

Direction Taken:

Looking south / southwest across SA-6 North (from approximate Sta. 310+80).

Description:

GVL deployed up to approximate Sta. 310+80 (approved soil subgrade).

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PHOTOGRAPHIC LOG
Photo #6 (07/08/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/8/16

Direction Taken:

Looking south across SA-6 North (approximate Sta. 311+55).

Description:

ESI deploying LLDPE geomembrane over GVL.

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PHOTOGRAPHIC LOG
Photo #7 (07/08/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/8/16

Direction Taken:

SA-6 North – Panel P43 / P44 seam

Description:

ESI conducting non-destructive testing (air pressure testing) along Panel P43 / P44 seam. Seam pressurized to 30 psi and held for 5 minutes with less than 4 psi loss.

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PHOTOGRAPHIC LOG
Photo #8 (07/08/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/8/16

Direction Taken:

SA-6 North – Panel P47 / P49 seam

Description:

ESI conducting fusion welding along Panel P47 / P49 seam (butt seam).

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/11/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	72/80° F, Sunny, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** LLDPE Repair Activities & Destruct Samples		**TIME:**	0645 – 0845

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #12**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of LLDPE repair activities (from Panels P44 to P49 installed on 7/8/16). Note: soil subgrade not approved for LLDPE placement as standing water / wet areas observed along subgrade from rainstorms over the weekend. Entact to solidify, rework, and re-compact soils for subgrade approval to be completed on 7/12/16. Note: the edge of the LLDPE geomembrane placed on 7/8/16 was pulled back until dry soil subgrade from below the liner was exposed (as shown in the 7/11/16 Photo Log). Soil to be dried, solidified, reworked, and re-compacted by Entact for approval on 7/12/16.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting repair activities for Panels P44 through P49 (panels installed on 7/8/16). A total of eight repairs (R-224, R-226, R-230, R-231, R-232, R-239, R-240, and R-241) were observed and fixed (according to the project specifications) from the two panels. Refer to 7/11/16 *Repair Report* for additional details. In general, the majority of the repairs were destruct samples that were collected for laboratory analysis and cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of four (4) destruct samples were collected from panels installed on 7/8/16. Three fusion weld destruct samples – DS-15, DS-16, and DS-17 were collected from Panel Seam P43 / P44, P46 / P47, and P45 / 46, respectively. Additionally, one extrusion weld destruct sample - DSX-7 was collected from Panel P44, Repair R-179 for laboratory analysis.

Non-Conformance Items / Corrective Actions

- None Encountered

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By: Dan Bosworth

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Action Items – Pending

- Complete Daily Report and Photo Log (for 7/11/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct results for DS-15, DS-16, DS-17, and DSX-7.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, and 7/8/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-14. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-6. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 7/11/16
A3 – Photo Log	Pages 1 – 2	Total of 4 photos outlining pertinent daily observations and descriptions for 7/11/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/11/16
A5 – Subgrade Approval		NA – no subgrade approved for LLDPE placement on 7/11/16
A6 – Trial Weld Log	Page 4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/11/16
A7 – Panel Placement Log		NA – no panels placed on 7/11/16 as no soil subgrade was not approved.

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A8 – Destruct Seam Testing COC	Sheet 2	Updated for destruct samples collected on 7/11/16
A9 – Seam/Non-Destruct. Test Log		NA – no pressure testing conducted on 7/11/16
A10 – Repair Log	Pages 12-13	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/11/16
A11 – Conformance COC		NA for 7/11/16
A12 – Destructive Seam Field Test	Page 2	Updated with destruct samples collected on 7/11/16
A13 – Destruct. Sample Summary	Page 2	Destruct sample summary updated with samples collected on 7/11/16
A14 – Penetration & Edge Form		NA – no boots / penetrations completed on 7/11/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues identified on 7/11/16
A17 – Spark Test Log		NA – no spark testing conducted on 7/11/16

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By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/11/16

Direction Taken:

Looking east along SA-6 North (approximate Sta. 310+50).

Description:

Soil subgrade east of Panel P49. Soil wet / saturated with standing water present from rainstorms over the weekend. Subgrade not approved for panel placement. Entact to solidify, rework, and re-compact soil.

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PHOTOGRAPHIC LOG
Photo #2 (07/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/11/16

Direction Taken:

SA-6 North – Destruct Sample DS-15 (Panel P43 / P44 seam)

Description:

Fusion weld destruct sample DS-15 collected from Panel P43 / P44 seam. Area of LLDPE geomembrane cut, patched, and repaired according to project specs.

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PHOTOGRAPHIC LOG
Photo #3 (07/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/11/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 310+50).

Description:

Entact reworking wet / saturated soils. Calcium cement added to solidify soil. Area to be re-compacted.

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PHOTOGRAPHIC LOG
Photo #4 (07/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/11/16

Direction Taken:

Looking south along southern end of SA-6 North (approximate Sta. 310+50).

Description:

Calcium cement added to wet / saturated soils. Entact to rework and re-compact wet areas for soil subgrade approval on 7/12/16.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/12/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	72/85° F, Sunny, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1500

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #13** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P49 installed on 7/8/16 (approximate Sta. 310+80). Material to be placed from Panel P49 running approximately 100 ft. east to approximate Sta. 309+75.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from Panel P36 / P37 (approximate Sta. 313+25), moving east up to Panel P42 (approximate Sta. 312+25). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/12/16 Photo Log for supporting photographs.
- While GDL was being deployed, ESI also completed the LLDPE pipe boot for Gas Vent GV-4 (previously installed on 7/8/16). The boot was patched and welded (to be methane / spark tested later in the morning). Additional details are outlined in the Gas Vent GV-4 penetration log dated 7/12/16.
- ESI completed methane / spark testing for the LLDPE pipe boot for Extraction Pump Station #1 and Gas Vent GV-4. Prior to spark testing, Entact conducted methane testing to measure the concentration of methane present underneath the LLDPE geomembrane. A concentration of 0.0% (>1%) was measured for both boots. As such, ESI conducted spark testing along the base of the boot and the vertical weld. No sparks were observed during the spark test and both boots passed. Additional details are outlined in the *Spark Testing QA Forms* dated 7/12/16.
- Following the deployment of GDL and spark testing activities, Langan and Entact conducted soil subgrade approval from approximate Sta. 310+80 (Panel P49 installed on 7/8/16) to approximate Sta. 309+75. Refer to *Soil Subgrade Approval* forms from 7/12/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was

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generally free of any loose material greater than ½". Refer to Photos 7 to 9 of the daily photo log for 7/12/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement. Note: the approximate 20 ft. area of soil was approved so that an additional panel of LLDPE geomembrane could be deployed to allow the edges of the liner to be outside of the depressed contours in the event of afternoon rainstorms (positive drainage away from the installed LLDPE geomembrane).

- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 310+80 (east of Panel P49) moving east to approximate Sta. 309+75. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 7/12/16 Photo Log for supporting photographs.
- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P49 (installed on 7/8/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 310+80 (Panel P49) to approximate Sta. 309+75. A total of eight panels were installed (P50, P51, P52, P53, P54, P55, P56, and P7). Note: During placement of Panel P51 the roll of LLDPE terminated near the approximate center of SA-6 North, thus the remaining run of LLDPE was installed as P52 and P53 (P52 and P53 remaining pieces of LLDPE from rolls previously used). Similarly, during placement of Panel P55, the roll of LLDPE terminated near the center of SA-6 North, thus the remaining run of LLDPE was installed as P56 & P57 (Panels P56 and P57 installed as remaining pieces of previously used LLDPE rolls). Panels P50 and P54 ran the entire width of SA-6 North (approximately 288 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 7/12/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 309+75, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/12/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P50 through P57 (installed on 7/12/16).
- ESI conducted repair activities for Panels P50 to P57 (installed on 7/12/16). A total of twenty-two repairs (R-237, R-238 and R-242 through R-261) were observed and fixed (according to the project specifications) from Panels P50 through P57. Refer to 7/12/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- As part of the repair activities for Panels P50 to P57, the pipe boot/penetration for Piezometer PZ6 was also completed as outlined on the 7/12/16 Pipe Boot Form. A total of three (3) destruct samples were also collected. Three fusion weld destruct samples - DS-18, DS-19, DS-20 were collected from Panel Seams P49 / P50, P53 / P54, and P55 / P56 for laboratory analysis

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 7 (Sheet #7) – Subgrade irregularity identified as R-242 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P49 / P50. Stone was subsequently removed, and hole was patched/repaired following project specs as further described in *Sheet 7 Notice of Non-Compliance.*

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Action Items – Pending

- Complete Daily Report and Photo Log (for 7/12/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory results for destruct samples DS-18, DS-19, and DS-20.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, and 7/11/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-17. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-7. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/12/16
A3 – Photo Log	Pages 1 – 8	Total of 15 photos outlining pertinent daily observations and descriptions for 7/12/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/12/16
A5 – Subgrade Approval	Sheet 10 & ESI (7/12/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/12/16
A7 – Panel Placement Log	Pages 7-8	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/12/16
A8 – Destruct Seam Testing COC	Sheet 2	Updated for destruct samples collected on 7/12/16

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A9 – Seam/Non-Destruct. Test Log	Pages 19-22	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/12/16
A10 – Repair Log	Pages 13-14	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/12/16
A11 – Conformance COC		NA for 7/12/16
A12 – Destructive Seam Field Test	Page 2	Updated with destruct samples collected on 7/12/16
A13 – Destruct. Sample Summary	Page 2	Destruct sample summary updated with samples collected on 7/12/16
A14 – Penetration & Edge Form	7/12/16 Boot Form	Pipe boot for Gas Vent GV-4 and Piezometer PZ6 completed on 7/12/16.
A16 – Notice of Non-Compliance	Sheet 7	One non-compliance issue identified as subgrade irregularity on 7/12/16 and summarized on Sheet 7.
A17 – Spark Test Log	7/12/16 Spark Test Logs	Spark tests logs for Gas Vent GV-4 and Extraction Pump Station #1 dated 7/12/16

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PHOTOGRAPHIC LOG
Photo #1 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/12/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 312+70).

Description:

ESI deploying orange GDL over approved LLDPE geomembrane. GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #2 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/12/16

Direction Taken:

SA-6 North – Gas Vent GV-4

Description:

ESI completing LLDPE pipe boot for Gas Vent GV-4. Copper wire placed behind the extrusion weld at the base of the boot and along the vertical weld (for methane / spark testing to be completed later on 7/12/16).

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PHOTOGRAPHIC LOG
Photo #3 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/12/16

Direction Taken:

SA-6 North – Gas Vent GV-4

Description:

ESI conducting spark testing along base of boot and along vertical weld. Methane testing completed by Entact and 0.0% measured. No sparks / deficiencies were observed during the spark test and the GV-4 spark test passed.

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PHOTOGRAPHIC LOG
Photo #4 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

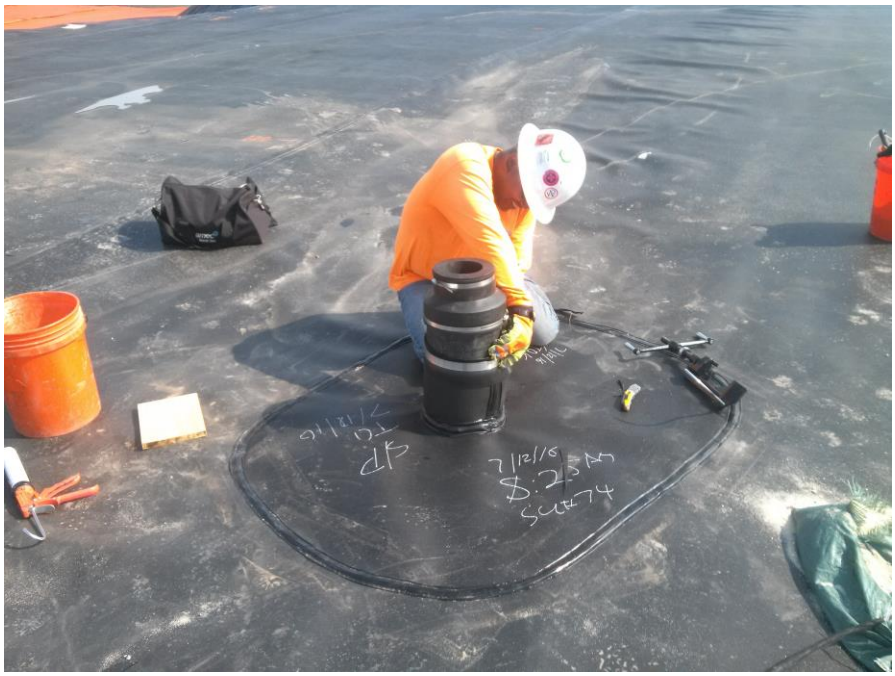
Date:
7/12/16

Direction Taken:

SA-6 North – Gas Vent GV-4

Description:

ESI completing boot construction including adding sacrificial sheet, stainless steel clamp, and butyl sealant. Final construction activities completed after passed spark test.



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PHOTOGRAPHIC LOG
Photo #5 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/12/16

Direction Taken:

SA-6 North – Extraction Pump Station #1

Description:

ESI conducting spark testing along base of boot for Extraction Pump Station #1. Entact previously conducted methane testing and concentration of 0.0% (>1%) was measured. ESI completed spark testing of the base of boot and vertical weld and no sparks or deficiencies were observed (spark test passed).

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PHOTOGRAPHIC LOG
Photo #6 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/12/16

Direction Taken:

SA-6 North – Extraction Pump Station #1

Description:

Pipe boot for Extraction Pump Station #1 completed. Methane / spark testing completed on 7/12/16 and spark test passed. Following completion of spark testing, ESI completed the boot construction by adding the stainless steel clamp and sealing the boot with butyl sealant.

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PHOTOGRAPHIC LOG
Photo #7 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/12/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 310+80).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #8 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/12/16

Direction Taken:

Looking east along southern end of SA-6 North (from approximate Sta. 310+80).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #9 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/12/16

Direction Taken:

Looking south along SA-6 North from northern end (approximate Sta. 310+80).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2").

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PHOTOGRAPHIC LOG
Photo #10 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/12/16

Direction Taken:

Looking north / northwest along SA-6 North (from approximate Sta. 309+75)

Description:

GVL deployed across approved soil subgrade up to approximate Sta. 309+75. GVL secured with white plastic fasteners spaced at a maximum of 5 ft. and top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #11 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/12/16

Direction Taken:

Looking north along SA-6 North (at approximate Sta. 310+60).

Description:

ESI deploying LLDPE geomembrane along installed GVL.

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PHOTOGRAPHIC LOG
Photo #12 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/12/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 310+80).

Description:

ESI conducting fusion welding along Panel P49 / P50 seam.

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PHOTOGRAPHIC LOG
Photo #13 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

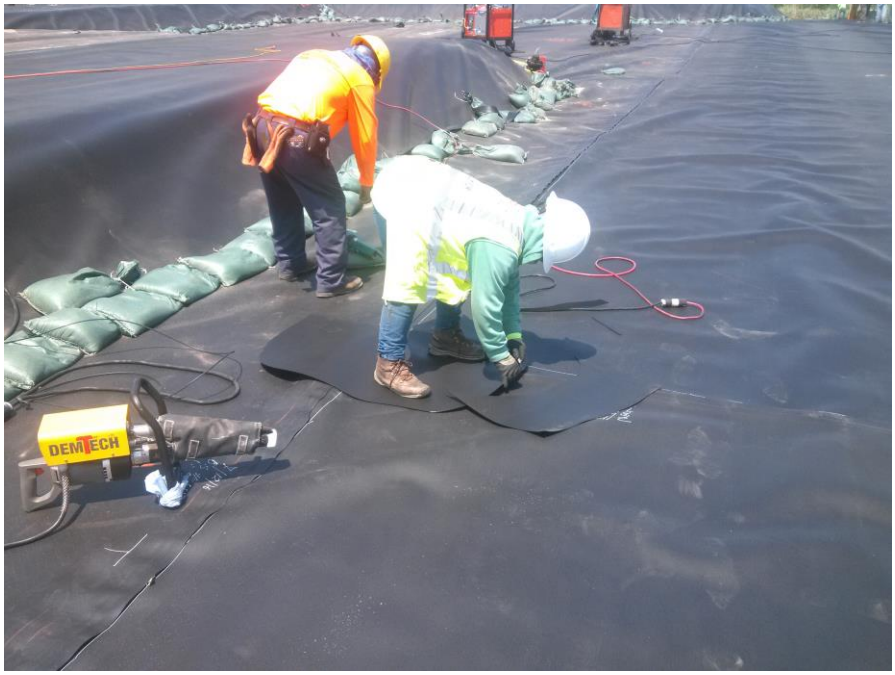
Date:
7/12/16

Direction Taken:

SA-6 North – Panel P50 / P51 / P52 seam joint

Description:

ESI conducting repair activities for Panel Seam Joint P50 / P51 / P52.



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PHOTOGRAPHIC LOG
Photo #14 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

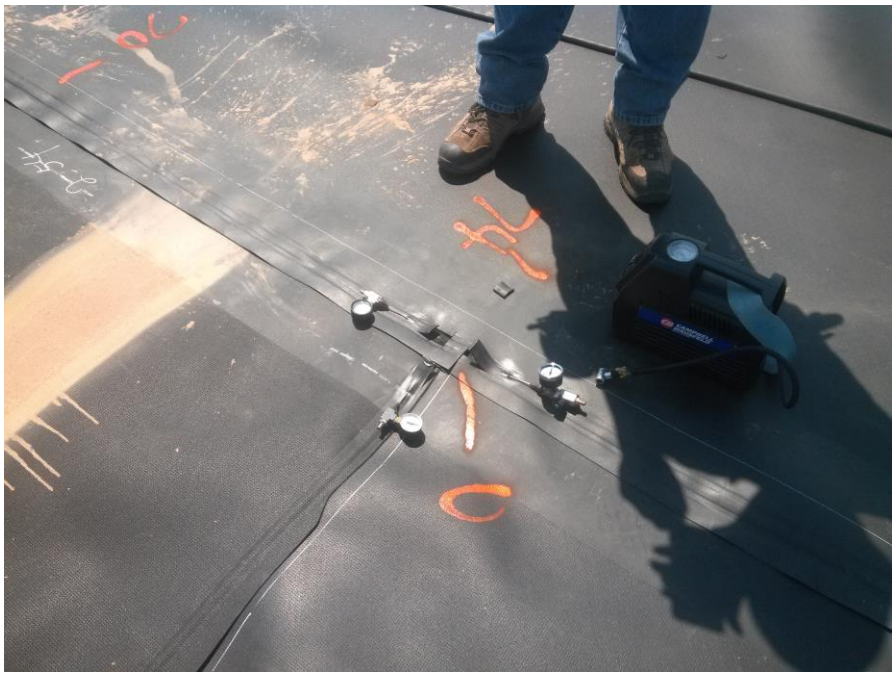
Date:
7/12/16

Direction Taken:

SA-6 North Panel P51 / P52 / P54 seam joint

Description:

ESI conducting non-destructive testing (pressure testing) for seam joint P51 / P52 / P54. Seams pressurized to 30 psi and held for 5 minutes with less than 4 psi loss.



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PHOTOGRAPHIC LOG
Photo #15 (07/12/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/12/16

Direction Taken:

SA-6 North Destruct Sample DS-18

Description:

Destruct sample DS-18 (Panel P49 / P50 seam) following patch repair and extrusion welding.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/13/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	72/85° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #14** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth, Kale **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P55 / P56 / P57 installed on 7/12/16 (approximate Sta. 309+75). Material to be placed from Panel P55 / P56 / P57 running approximately 75 ft. east to approximate Sta. 309+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from Panel P42 (approximate Sta. 312+25), moving east through Panel P47 / P48 (approximate Sta. 311+10). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/13/16 Photo Log for supporting photographs.
- Following the deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 309+75 (Panel P55 / P56 / P57 installed on 7/12/16) to approximate Sta. 309+00. Refer to *Soil Subgrade Approval* forms from 7/13/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 3,4, and 5 of the daily photo log for 7/13/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 309+75 (east of Panel P55 / P56 / P57) moving east to approximate Sta. 309+00. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft.

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Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 7/13/16 Photo Log for supporting photographs.

- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P55 / P56 / P57 (installed on 7/12/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 309+75 (Panel P55 / P56 / P57) to approximate Sta. 309+00. A total of six panels were installed (P58, P59, P60, P61, P62, and P63). Note: During placement of Panel P59 the roll of LLDPE terminated near the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P60. Similarly, during placement of Panel P62, the roll of LLDPE terminated near the northern end of SA-6 North, thus the remaining run of LLDPE was installed as P63. Panels P58 and P61 ran the entire width of SA-6 North (approximately 295 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 7/13/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 309+00, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/13/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P58 to P63 (installed on 7/13/16)
- ESI conducted repair activities for Panels P58 to P63 (installed on 7/13/16). A total of eleven repairs (R-262 through R-272) were observed and fixed (according to the project specifications) from Panels P58 through P63. Refer to 7/13/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of two (2) destruct samples were collected. Two fusion weld destruct samples - DS-21 and DS-22 were collected from Panel Seams P58 / P59 and P61 / P63, respectively, for laboratory analysis.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/13/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory results for destruct samples DS-21 and DS-22.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, and 7/12/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-20. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-7. Laboratory results in compliance with project specifications.

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Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/13/16
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 7/13/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/13/16
A5 – Subgrade Approval	Sheet 11 & ESI (7/13/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 4-5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/13/16
A7 – Panel Placement Log	Pages 8 - 9	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/13/16
A8 – Destruct Seam Testing COC	Sheet 2	Updated for destruct samples collected on 7/13/16
A9 – Seam/Non-Destruct. Test Log	Pages 22-24	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/13/16
A10 – Repair Log	Page 14	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/13/16
A11 – Conformance COC		NA for 7/13/16
A12 – Destructive Seam Field Test	Page 2	Updated with destruct samples collected on 7/13/16
A13 – Destruct. Sample Summary	Page 2	Destruct sample summary updated with samples collected on 7/13/16

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A14 – Penetration & Edge Form		NA – No pipe boots / penetrations completed on 7/13/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 7/13/16
A17 – Spark Test Log		NA – no spark testing conducted on 7/13/16

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PHOTOGRAPHIC LOG
Photo #1 (07/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/13/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 312+00).

Description:

ESI deploying orange GDL over approved LLDPE geomembrane. GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #2 (07/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/13/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 311+25).

Description:

Orange GDL installed across approved LLDPE geomembrane through Panel P47 / P48. GDL secured with white plastic fasteners (5 ft. maximum) and top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #3 (07/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/13/16

Direction Taken:

Looking south across SA-6 from approximate center of cap (approximate Sta. 309+75).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #4 (07/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/13/16

Direction Taken:

Looking east along SA-6 North from approximate center of cap (from approximate Sta. 309+75).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #5 (07/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/13/16

Direction Taken:

Looking north along SA-6 North from approximate center of cap (approximate Sta. 309+75).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #6 (07/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/13/16

Direction Taken:

Looking east along northern end of SA-6 North (from approximate Sta. 309+75).

Description:

ESI deploying 16 oz. geotextile along northern end of SA-6 North. Geotextile overlapped 1 ft. outside of barrier wall (remaining roll width inside) as outlined in project specifications.

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PHOTOGRAPHIC LOG
Photo #7 (07/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/13/16

Direction Taken:

Looking south across SA-6 North (approximate Sta. 309+75).

Description:

GVL being deployed over approved soil subgrade. GVL securd with whie plastic fasteners spaced at a maximum of 5 ft. and the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #8 (07/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/13/16

Direction Taken:

Looking north / northwest along SA-6 North (from approximate Sta. 309+00).

Description:

GVL deployed along approved soil subgrade up to approximate Sta. 309+00. GVL secured with white plastic fasteners spaced at maximum of 5 ft. and top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #9 (07/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

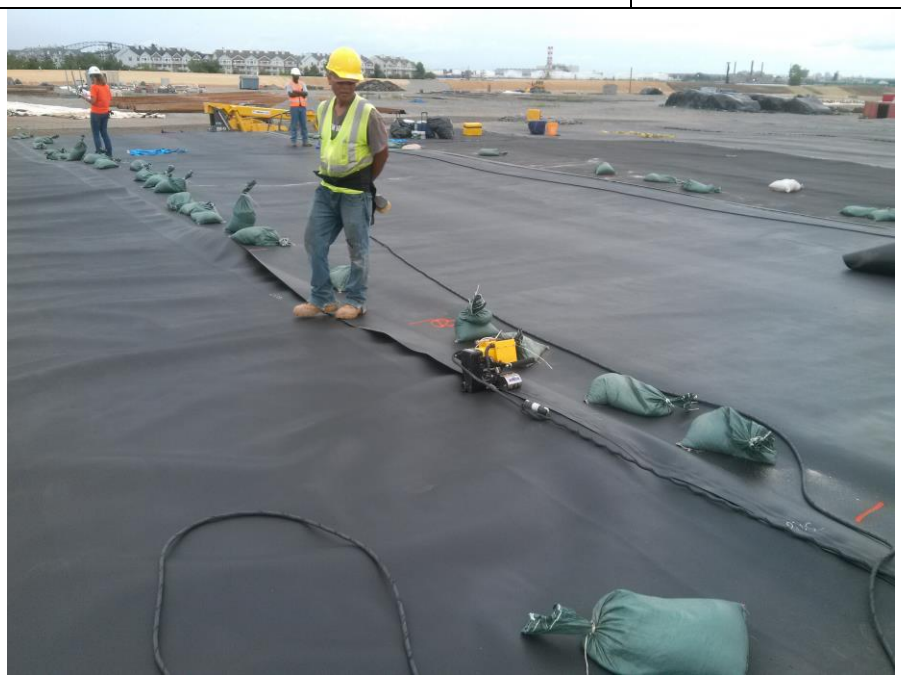
Date:
7/13/16

Direction Taken:

Looking south / southeast along SA-6 North (approximate Sta. 309+60).

Description:

ESI conducting fusion welding along LLDPE geomembrane Panel Seam P58 and P59.



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PHOTOGRAPHIC LOG
Photo #10 (07/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/13/16

Direction Taken:

SA-6 North – Panel P58 / P59 / P60 seam

Description:

ESI conducing non-destructive testing (pressure testing) along Panel P58 / P59 / P60 seams. Seams pressurized to 30 psi and held for 5 minutes with less than 4 psi loss.

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PHOTOGRAPHIC LOG
Photo #11 (07/13/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/13/16

Direction Taken:

SA-6 North Panel P58 / P59 / P60 / P61

Description:

ESI conducting seam joint patch repair activities along Panel P58 / P59 / P60 / P61 seam joints.

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PHOTOGRAPHIC LOG
Photo #12 (07/13/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/13/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 309+00).

Description:

LLDPE geomembrane installed up to approximate Sta. 309+00.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/14/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	75/85° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1500

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #15** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth, Kale **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P62 / P63 installed on 7/13/16 (approximate Sta. 309+00). Material to be placed from Panel P62 / P63 running approximately 80 ft. east to approximate Sta. 308+20.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting repair activities for a wrinkle observed on Panel P50 / P51. A total of four repairs (R-273 through R-276) were observed and fixed (according to the project specifications) from Panels P50 and P51. Refer to 7/14/16 *Repair Report* for additional details. The observed wrinkles were cut to allow the geomembrane to conform to the subgrade, and the cut areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While repair activities were being conducted, Langan and Entact conducted soil subgrade approval from approximate Sta. 309+00 (Panel P62 / P63 installed on 7/13/16) to approximate Sta. 308+20. Refer to *Soil Subgrade Approval* forms from 7/14/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 1, 2, and 3 of the daily photo log for 7/14/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta.309+00 (east of Panel P62 / P63) moving east to approximate Sta. 308+20. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft.

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Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 7/14/16 Photo Log for supporting photographs.

- During deployment of GVL, the potential for rocks or other debris to become dislodged in the soil subgrade were observed. Additional walkover and observation activities were conducted along the GVL to attempt to identify any rocks or debris (>1/2") that may have been dislodged.
- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P62 / P63 (installed on 7/13/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 309+00 (Panel P62 / P63) to approximate Sta. 308+20. A total of five panels were installed (P64, P65, P66, P67, and P68). Note: During placement of Panel P66 the roll of LLDPE terminated approximately 2/3 from the northern end of SA-6 North, thus the remaining run of LLDPE was installed as P67. Panels P64, P65, and P68 ran the entire width of SA-6 North (approximately 299 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 7/14/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 308+20, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/14/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P64 to P68 (installed on 7/14/16).
- ESI conducted repair activities for Panels P64 to P68 (installed on 7/14/16) in addition to the wrinkle repairs completed in the morning on Panels P50 / P51. A total of sixteen repairs (R-277 through R-292) were observed and fixed (according to the project specifications) from Panels P64 through P68. Refer to 7/14/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- ESI also completed the boot / penetration construction for Gas Vent GV-3 and Cleanout 1. The boots were welded and sealed with methane / spark testing to be conducted at a later date.
- A total of three (3) destruct samples were collected. Two fusion weld destruct samples - DS-23 and DS-24 were collected from Panel Seams P64 / P65 and P66 / P68, respectively, for laboratory analysis. In addition, one extrusion weld destruct sample – DSX-8 was collected from Panel P61 (Repair R-270) for laboratory analysis.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/14/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory results for destruct samples DS-23, DS-24, and DSX-8.

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, and 7/13/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-22. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-7. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/14/16
A3 – Photo Log	Pages 1 – 6	Total of 11 photos outlining pertinent daily observations and descriptions for 7/14/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/14/16
A5 – Subgrade Approval	Sheet 12 & ESI (7/14/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/14/16
A7 – Panel Placement Log	Page 9	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/14/16
A8 – Destruct Seam Testing COC	Sheet 3	Updated for destruct samples collected on 7/14/16
A9 – Seam/Non-Destruct. Test Log	Pages 24-25	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/14/16

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log	Pages 14-15	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/14/16
A11 – Conformance COC		NA for 7/14/16
A12 – Destructive Seam Field Test	Page 3	Updated with destruct samples collected on 7/14/16
A13 – Destruct. Sample Summary	Page 3	Destruct sample summary updated with samples collected on 7/14/16
A14 – Penetration & Edge Form	7/14/16 Boot Forms	Pipe boot / penetrations completed for Gas Vent GV-3 and Cleanout 1. To be methane / spark tested at later date.
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 7/14/16
A17 – Spark Test Log		NA – no spark testing conducted on 7/14/16

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By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/14/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/14/16

Direction Taken:

Looking east along southern end of SA-6 North (from approximate Sta. 309+00).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #2 (07/14/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/14/16

Direction Taken:

Looking north across SA-6 North from approximate center of SA-6 North (approximate Sta. 309+00).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #3 (07/14/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/14/16

Direction Taken:

Looking east along northern end of SA-6 North (from approximate Sta. 309+00).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #4 (07/14/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/14/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 308+60).

Description:

ESI deploying GVL across approved soil subgrade. GVL secured with white plastic fasteners spaced at maximum of 5 ft. and top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #5 (07/14/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/14/16

Direction Taken:

Looking north / northeast along SA-6 North (approximate Sta. 308+20).

Description:

GVL installed up to approximate Sta. 308+20. GVL placed over approved soil subgrade, secured with white plastic fasteners, and top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #6 (07/14/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/14/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 308+75).

Description:

ESI deploying LLDPE geomembrane over installed GVL.

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PHOTOGRAPHIC LOG
Photo #7 (07/14/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/14/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 308+20).

Description:

ESI conducting fusion welding along Panel P66 / P68 seam.

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PHOTOGRAPHIC LOG
Photo #8 (07/14/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

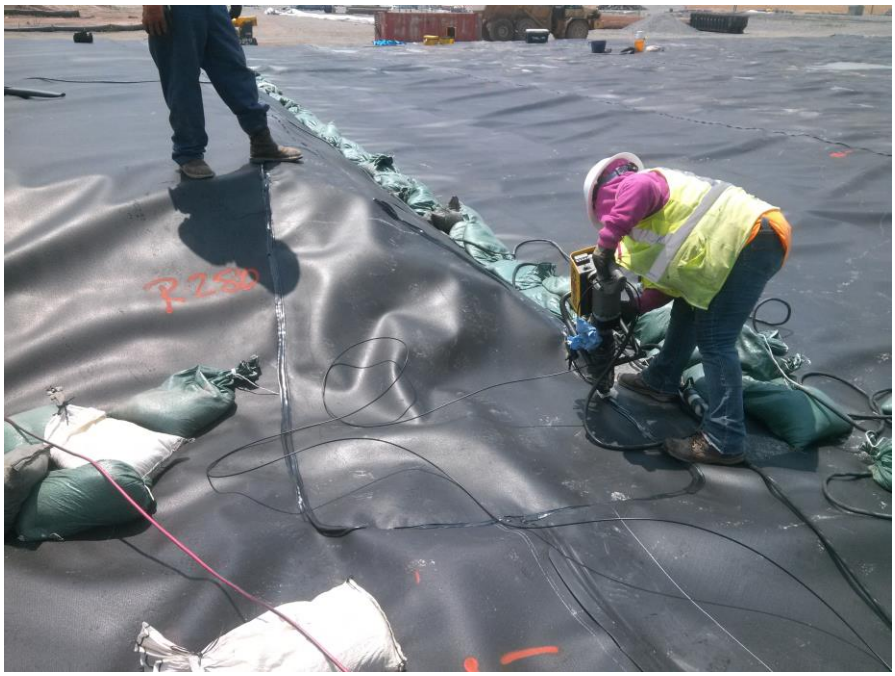
Date:
7/14/16

Direction Taken:

SA-6 North – Panel P64 / P65

Description:

ESI conducting “custom fit” repairs along Panel P64 / P65 (Repair R-280).



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PHOTOGRAPHIC LOG
Photo #9 (07/14/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/14/16

Direction Taken:

SA-6 North – Gas Vent GV-3

Description:

ESI completing pipe boot / penetration for Gas Vent GV-3. Boot to be methane / spark tested at later date.

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PHOTOGRAPHIC LOG
Photo #10 (07/14/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/14/16

Direction Taken:

SA-6 North – Cleanout 1

Description:

Completed pipe boot / penetration for Cleanout 1. Boot to be methane / spark tested at later date.

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PHOTOGRAPHIC LOG
Photo #11 (07/14/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/14/16

Direction Taken:

SA-6 North – Destruct Sample DS-23

Description:

ESI completing patch / repair activities for Destruct Sample DS-23 located on Panel P64 / P65 seam (Repair R-287).

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/15/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	80/95° F, Partly Cloudy, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite Drainage Layer (GDL)		**TIME:**	0645 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #16** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth, Kale Novalis **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainager layer (GDL) over approved LLDPE geomembrane. Note: no soil subgrade approved and no LLDPE geomembrane installed on 7/15/16. Next area of subgrade still being prepared, graded, and compacted by Entact (to be surveyed by Maser).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from Panel P47 / P48 (approximate Sta. 311+10) to Panel P66 (approximate Sta. 308+35) along northern end of cap. Note: GDL rolls were approximately 200 ft. in length and covered approximately 2/3 of the cap (north to south). As such, GDL was deployed along the northern half to Panel P66. The southern end of the cap was covered to Panel P63 (approximate Sta. 309+00). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/15/16 Photo Log for supporting photographs.

Non-Conformance Items / Corrective Actions

- None encountered

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/15/16). No LLDPE paperwork to be completed as no subgrade was approved and no LLDPE geomembrane was installed.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, and 7/14/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-24. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-8. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/15/16
A3 – Photo Log	Pages 1 – 2	Total of 3 photos outlining pertinent daily observations and descriptions for 7/15/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/15/16
A5 – Subgrade Approval		NA – no subgrade approved for LLDPE placement on 7/15/16
A6 – Trial Weld Log		NA – no trial welds completed on 7/15/16
A7 – Panel Placement Log		NA – no LLDPE panels placed on 7/15/16
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 7/15/16
A9 – Seam/Non-Destruct. Test Log		NA – no non-destructive testing conducted on 7/15/16
A10 – Repair Log		NA – no LLDPE repair activities conducted on 7/15/16
A11 – Conformance COC		NA for 7/15/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 7/15/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 7/15/16
A14 – Penetration & Edge Form		NA – no penetration / pipe boots completed on 7/15/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 7/15/16
A17 – Spark Test Log		NA – no spark testing completed on 7/15/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/15/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/15/16

Direction Taken:

Looking north / northwest across SA-6 North

Description:

ESI deploying orange GDL over approved LLDPE geomembrane. GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with top layer of geotextile sewn. Note: based on length of GDL (approximately 200 ft.), panels were run along northern end of cap first.

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PHOTOGRAPHIC LOG
Photo #2 (07/15/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/15/16

Direction Taken:

Looking north across SA-6 North (approximate center of cap).

Description:

ESI deploying GDL over approved LLDPE geomembrane.

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PHOTOGRAPHIC LOG
Photo #3 (07/15/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/15/16

Direction Taken:

Looking west along northern end of SA-6 North (from approximate Sta. 308+35).

Description:

GDL deployed along northern edge of cap up to Panel P66.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/18/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/85° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 0845

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #17** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth, Kale **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainager layer (GDL) over approved LLDPE geomembrane. Note: no soil subgrade approved and no LLDPE geomembrane installed on 7/18/16. Next area of subgrade still being prepared, graded, and compacted by Entact (to be surveyed by Maser).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed along the southern end of SA-6 North from Panel P63 (approximate Sta. 309+00) to Panel P66 (approximate Sta. 308+35) along southern end of cap. Note: GDL rolls were approximately 200 ft. in length and covered approximately 2/3 of the cap (north to south). As such, GDL was deployed along the southern half to Panel P66 (northern half previously covered with GDL on 7/15/16). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/18/16 Photo Log for supporting photographs.

Non-Conformance Items / Corrective Actions

- None encountered

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/18/16). No LLDPE paperwork to be completed as no subgrade was approved and no LLDPE geomembrane was installed.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, and 7/15/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-24. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-8. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/18/16
A3 – Photo Log	Page 1	Total of 2 photos outlining pertinent daily observations and descriptions for 7/18/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/18/16
A5 – Subgrade Approval		NA – no subgrade approved for LLDPE placement on 7/18/16
A6 – Trial Weld Log		NA – no trial welds completed on 7/18/16
A7 – Panel Placement Log		NA – no LLDPE panels placed on 7/18/16
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 7/18/16
A9 – Seam/Non-Destruct. Test Log		NA – no non-destructive testing conducted on 7/18/16
A10 – Repair Log		NA – no LLDPE repair activities conducted on 7/18/16
A11 – Conformance COC		NA for 7/18/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 7/18/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 7/18/16
A14 – Penetration & Edge Form		NA – no penetration / pipe boots completed on 7/18/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 7/18/16
A17 – Spark Test Log		NA – no spark testing completed on 7/18/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/18/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/18/16

Direction Taken:

Looking east across southern end of SA-6 North (approximate Sta. 308+50).

Description:

ESI deploying orange GDL over approved LLDPE geomembrane. GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with top layer of geotextile sewn. Note: based on length of GDL (approximately 200 ft.), panels were run along northern end first (completed on 7/15/16).

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PHOTOGRAPHIC LOG
Photo #2 (07/18/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/18/16

Direction Taken:

Looking north across SA-6 North

Description:

ESI deploying GDL over approved LLDPE geomembrane.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/25/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	85/93° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #18** **AmecFW**: Dave Ambrose, Josh Boynton **Langan:** Dan Bosworth, Kale Novalis **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P68 installed on 7/14/16 (approximate Sta. 308+20). Material to be placed from Panel P68 running approximately 100 ft. east to approximate Sta. 307+20.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 308+20 (Panel P68 installed on 7/14/16) to approximate Sta. 307+20. Refer to *Soil Subgrade Approval* forms from 7/25/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 1, 2, and 3 of the daily photo log on 7/25/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 308+20 (east of Panel P68) moving east to approximate Sta. 307+20. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 7/25/16 Photo Log for supporting photographs.
- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P68 (installed on 7/14/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 308+20 (Panel P68) to approximate Sta. 307+20. A total of seven panels were installed (P69, P70, P71, P72, P73, P74 and P75).

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

Note: During placement of Panel P69 the roll of LLDPE terminated near the northern end of SA-6 North, thus the remaining run of LLDPE was installed as P70 and P71 (P70 and P71 remaining pieces of LLDPE from rolls previously used). Similarly, during placement of Panel P73, the roll of LLDPE terminated near the northern end of SA-6 North, thus the remaining run of LLDPE was installed as P74. Panels P72 and P75 ran the entire width of SA-6 North (approximately 280 ft.) from north to south.

- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 7/25/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 307+20, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/25/16 *Seam Control Form* for non-destructive testing details.
- ESI conducted repair activities for Panels 68 to P75 (installed on 7/25/16). A total of twenty-six repairs (R-293 through R-318) were observed and fixed (according to the project specifications) from Panels P68 through P75. Refer to 7/25/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications (Note: vacuum box testing not completed for all repairs. To be finished on 7/26/16).
- ESI also completed the pipe boot construction for Cleanout 2. Additional details are provided in the 7/25/16 Pipe Boot Penetration Form.
- A total of two (3) destruct samples were collected. Two fusion weld destruct samples were collected – DS-25 and DS-26 were collected from Panel Seams P68 / P69 and P72 / P74, respectively. One extrusion weld destruct sample – DSX-9 was also collected from patch repair R-299 (Panel P72) for laboratory analysis.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/25/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete boot penetration log for Cleanout 2
- Review laboratory results for destruct samples DS-25, DS-26, and DSX-9.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, and 7/18/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-24. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-8. Laboratory results in compliance with project specifications.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/25/16
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 7/25/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/25/16
A5 – Subgrade Approval	Sheet 13 & ESI (7/25/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/25/16
A7 – Panel Placement Log	Pages 9 - 10	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/25/16
A8 – Destruct Seam Testing COC	Sheet 3	Updated for destruct samples collected on 7/25/16
A9 – Seam/Non-Destruct. Test Log	Pages 25-28	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/25/16
A10 – Repair Log	Pages 15-16	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/25/16
A11 – Conformance COC		NA for 7/25/16
A12 – Destructive Seam Field Test	Page 3	Updated with destruct samples collected on 7/25/16
A13 – Destruct. Sample Summary	Page 3	Destruct sample summary updated with samples collected on 7/25/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A14 – Penetration & Edge Form	7/25/16 Pipe Boot Log	Pipe boot penetration log completed for Cleanout 2
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 7/25/16
A17 – Spark Test Log		NA – no spark testing conducted on 7/25/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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PHOTOGRAPHIC LOG
Photo #1 (07/25/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/25/16

Direction Taken:

Looking south along SA-6 North from approximate center of cap (approximate Sta. 308+20).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #2 (07/25/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/25/16

Direction Taken:

Looking east along SA-6 North from approximate center of cap (approximate Sta. 308+20).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #3 (07/25/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/25/16

Direction Taken:

Looking north across SA-6 from approximate center of cap (approximate Sta. 308+20).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #4 (07/25/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/25/16

Direction Taken:

Looking south across SA-6 North (approximate Sta. 308+20).

Description:

GVL being deployed over approved soil subgrade. GVL secured with white plastic fasteners spaced at a maximum of 5 ft. and the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #5 (07/25/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

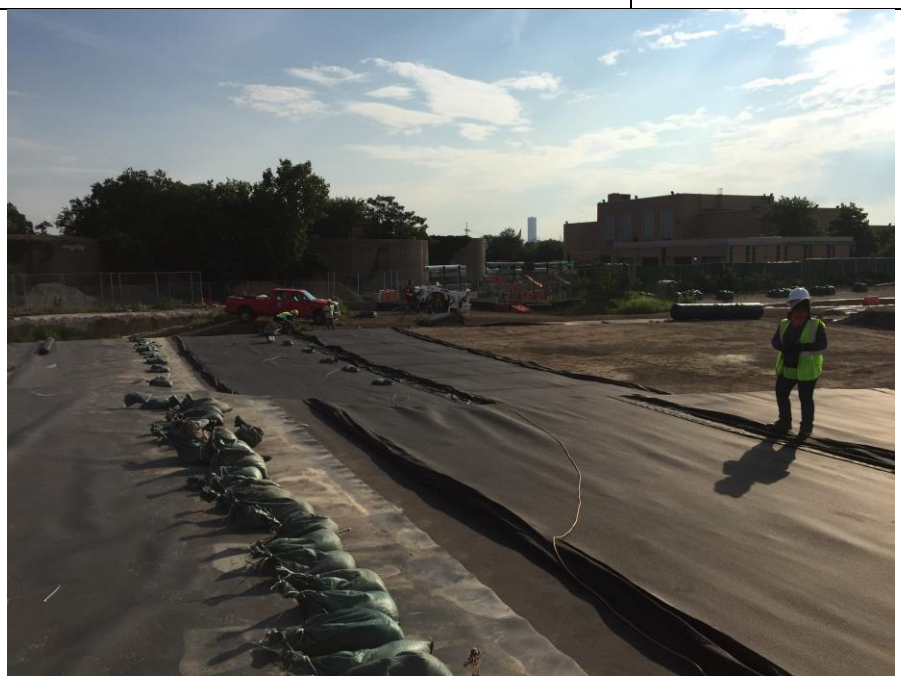
Date:
7/25/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 308+20).

Description:

GVL being deployed over approved soil subgrade. GVL secured with white plastic fasteners spaced at a maximum of 5 ft. and the top layer of geotextile sewn.



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PHOTOGRAPHIC LOG
Photo #6 (07/25/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/25/16

Direction Taken:

Looking east along northern end of SA-6 North (from approximate Sta. 308+20).

Description:

ESI deploying 16 oz. geotextile along northern end of SA-6 North. Geotextile overlapped 1 ft. outside of barrier wall (remaining roll width inside) as outlined in project specifications.

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PHOTOGRAPHIC LOG
Photo #7 (07/25/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/25/16

Direction Taken:

Looking south / southeast along SA-6 North (approximate Sta. 308+00).

Description:

ESI conducting fusion welding along LLDPE geomembrane Panel Seam P68 / P70.

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PHOTOGRAPHIC LOG
Photo #8 (07/25/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/25/16

Direction Taken:

SA-6 North – Panel P70 / P71 / P72 seam

Description:

ESI conducing non-destructive testing (pressure testing) along Panel P70 / P71 / P72 seams. Seams pressurized to 30 psi and held for 5 minutes with less than 4 psi loss.

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PHOTOGRAPHIC LOG
Photo #9 (07/25/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

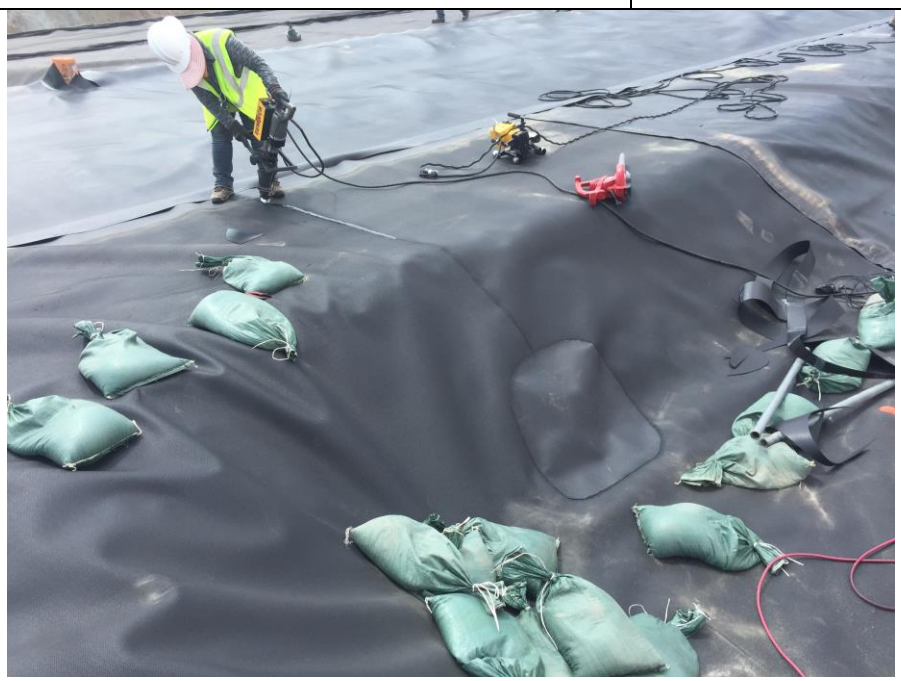
Date:
7/25/16

Direction Taken:

Looking south / southeast along SA-6 North (approximate Sta. 308+15).

Description:

ESI conducting custom fit repairs on Panel P-70.



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PHOTOGRAPHIC LOG
Photo #10 (07/25/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

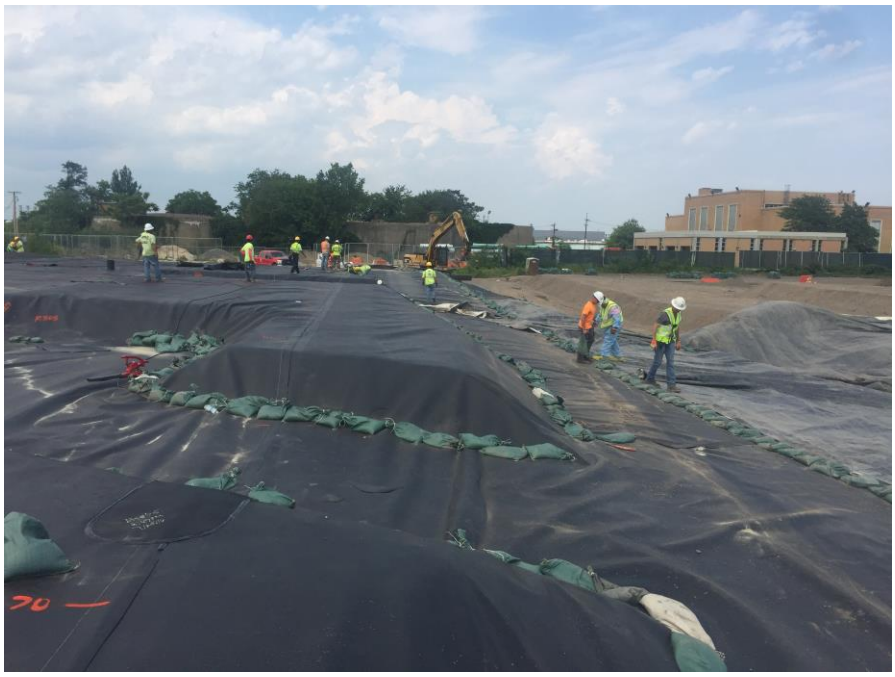
Date:
7/25/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 307+20).

Description:

LLDPE geomembrane installed up to approximate Sta. 307+20.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/27/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/98° F, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1615

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #19** **AmecFW**: Dave Ambrose, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P75 installed on 7/25/16 (approximate Sta. 307+20). Material to be placed from Panel P75 running approximately 80 ft. east to approximate Sta. 306+40.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 307+20 (Panel P75 installed on 7/25/16) to approximate Sta. 306+40. Refer to *Soil Subgrade Approval* forms from 7/27/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and one wet / soft area was identified at the top of the western slope of the utility corridor. The wet area was identified underneath the edge of the GVL panel (previously installed on 7/25/16). The GVL was pulled back and the soil subgrade was exposed. The wet area was re-worked by Entact and calcium cement was added to solidify the soil. Based on visual observation, the remaining soil subgrade (along with the re-worked wet area) appeared to be firm and unyielding with no other soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 1 to 4 of the daily photo log for 7/27/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 307+20 (east of Panel P75) moving east to approximate Sta. 306+40. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to the 7/27/16 Photo Log for supporting photographs.

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- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P75 (installed on 7/25/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 307+20 (Panel P75) to approximate Sta. 306+40. A total of five panels were installed (P76, P77, P78, P79, and P80). Note: During placement of Panel P77 the roll of LLDPE terminated near the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P78. Panels P76, P79, and P80 ran the entire width of SA-6 North (approximately 270 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 7/27/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 306+40, ESI began to conduct non-destructive testing (pressure testing) in accordance with the project specifications. Seams were pressurized to 30 psi and held for 5 minutes with less than 5 psi loss. Refer to the 7/27/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P75 to P80 (installed on 7/25/16 and 7/27/16)
- ESI conducted repair activities for Panel P75 (installed on 7/25/16), and Panels P76 through P80 (installed on 7/27/16). A total of forty-three repairs (R-319 through R-361) were observed and fixed (according to the project specifications) from Panels P75 through P80. Refer to 7/27/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- As part of the repair activities for LLDPE geomembrane installed on 7/27/16, two pipe boots / penetrations were completed for Well 115-E5-SO and Extraction Pump Station 2. Additional details are provided in the 7/27/16 Pipe Boot Forms.
- While repair activities were being conducted, ESI also completed methane / spark testing for Piezometer PZ6 and Cleanout 1. Prior to spark testing methane testing was conducted at each location and 0.0% methane was recorded. As such, spark testing was then conducted and no sparks were observed along the base of the boot or vertical weld for both boots. Refer to the *Spark Testing Forms* from 7/27/16 for additional details.
- A total of two (2) destruct samples were collected on 7/27/16. One fusion weld destruct samples - DS-27 was collected from Panel Seams P75 / P76, for laboratory analysis. Additionally, one extrusion weld sample – DSX-10 was collected from Panel P75 Repair R-320.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 8 (Sheet #8) – Subgrade irregularity identified as R-328 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P71 / P72. Stone was subsequently removed, and hole was patched/repaired following project specs as further described in *Sheet 8 Notice of Non-Compliance.*

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/27/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory results for destruct samples DS-27 and DSX-10.

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By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, and 7/25/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-24. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-8. Laboratory samples DS-25, DS-26, and DSX-9 still pending.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/27/16
A3 – Photo Log	Pages 1 – 7	Total of 14 photos outlining pertinent daily observations and descriptions for 7/27/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/27/16
A5 – Subgrade Approval	Sheet 14 & ESI (7/27/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 5-6	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/27/16
A7 – Panel Placement Log	Pages 10-11	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/27/16
A8 – Destruct Seam Testing COC	Sheets 3-4	Updated for destruct samples collected on 7/27/16
A9 – Seam/Non-Destruct. Test Log	Pages 28-31	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/27/16

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log	Pages 16-19	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/27/16
A11 – Conformance COC		NA for 7/27/16
A12 – Destructive Seam Field Test	Pages 3-4	Updated with destruct samples collected on 7/27/16
A13 – Destruct. Sample Summary	Pages 3-4	Destruct sample summary updated with samples collected on 7/27/16
A14 – Penetration & Edge Form	7/27/16 Pipe Boot Forms	Two pipe boot / penetrations completed for Well 115-E5-S0 and Extraction Pump Station 2
A16 – Notice of Non-Compliance	Sheet 8	One subgrade irregularity identified and recorded on Sheet 8 Notice of Non-Compliance
A17 – Spark Test Log	7/27/16 Spark Test Logs	Two spark tests completed for pipe boots Piezometer PZ6 and Cleanout 1

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By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/27/16

Direction Taken:

Looking south along SA-6 North utility corridor (approximate Sta. 307+00).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #2 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/27/16

Direction Taken:

Looking south along top of western slope of utility corridor (approximate Sta. 307+20).

Description:

Wet / soft area of subgrade identified along edge of previously deployed GVL. GVL was pulled back to expose subgrade. Entact to solidify, re-work, and re-compact area so soil is suitable for LLDPE placement.

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PHOTOGRAPHIC LOG
Photo #3 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/27/16

Direction Taken:

Looking north along western edge of utility corridor (approximate Sta. 307+20).

Description:

Wet / soft area of subgrade solidified with calcium cement. Area re-compacted and suitable for LLDPE placement.

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PHOTOGRAPHIC LOG
Photo #4 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/27/16

Direction Taken:

Looking north along SA-6 North utility corridor (approximate Sta. 307+00).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #5 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/27/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 307+00).

Description:

ESI deploying GVL over approved soil subgrade. GVL secured with white plastic fasteners spaced at maximum of 5 ft. intervals with top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #6 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/27/16

Direction Taken:

Looking south along southern end of SA-6 North (approximate Sta. 307+20).

Description:

GVL secured with white plastic fasteners at maximum of 5 ft. along geonet. Top layer of geotextile to be sewn.

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PHOTOGRAPHIC LOG
Photo #7 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/27/16

Direction Taken:

Looking south across SA-6 North (approximate Sta. 306+40).

Description:

GVL deployed over approved subgrade up to approximate Sta. 306+40.

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PHOTOGRAPHIC LOG
Photo #8 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/27/16

Direction Taken:

SA-6 North Panel P75 & P76 seam (toward northern end of cap).

Description:

ESI conducting fusion welding along Panel P75 & P76 seam.

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PHOTOGRAPHIC LOG
Photo #9 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/27/16

Direction Taken:

Looking south along SA-6 North utility corridor (from approximate Sta. 307+00).

Description:

ESI deploying LLDPE geomembrane over installed GVL. LLDPE installed through utility corridor as per approved panel layout.

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PHOTOGRAPHIC LOG
Photo #10 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

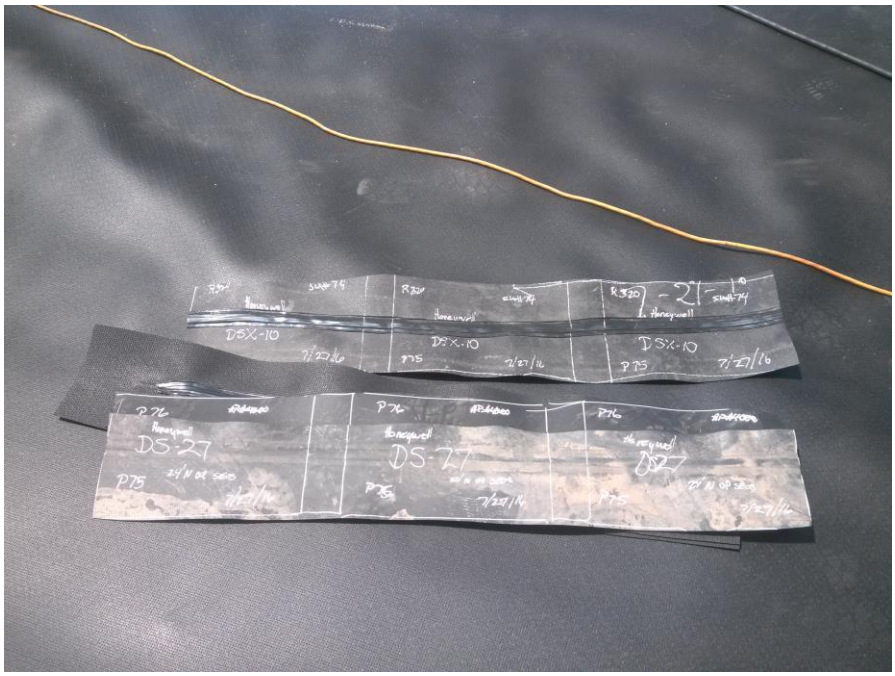
Date:
7/27/16

Direction Taken:

SA-6 North – Destruct Samples

Description:

Fusion weld destruct sample DS-27 and extrusion weld destruct sample DSX-10 cut for laboratory analysis (also to be field tested with tensiometer).



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PHOTOGRAPHIC LOG
Photo #11 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

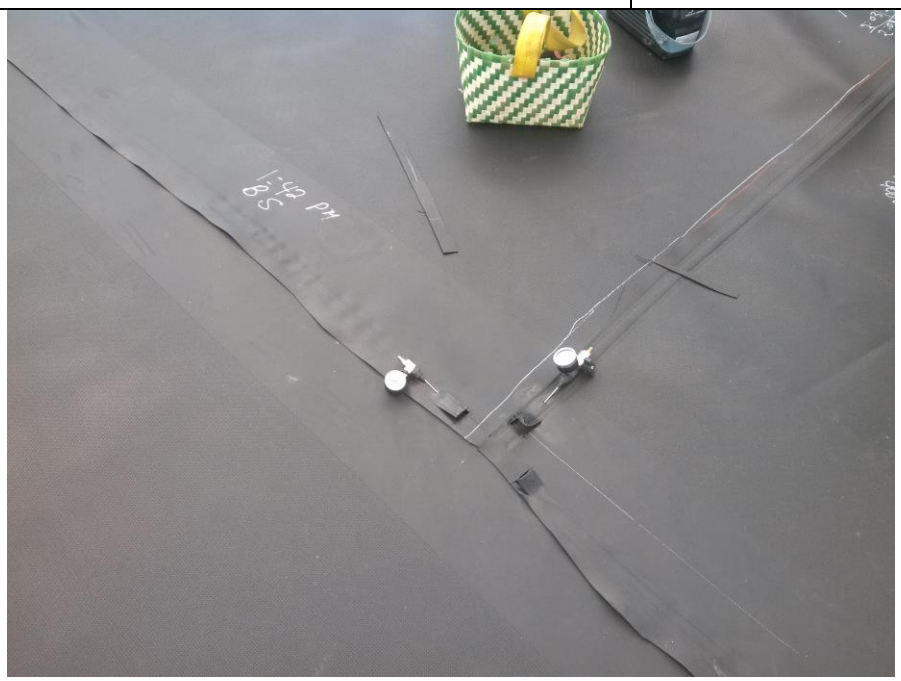
Date:
7/27/16

Direction Taken:

SA-6 North – Panel P77 / P78 / P79 seam

Description:

ESI conducting non-destructive testing (pressure testing) along Panel P77 / P78 / P79 seam. Seams pressurized to 30 psi and held for 5 minutes with less than 4 psi loss.



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PHOTOGRAPHIC LOG
Photo #12 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/27/16

Direction Taken:

SA-6 North – Destruct Sample DS-27

Description:

Destruct sample DS-27 cut for laboratory analysis from Panel P75 / P76 seam. Sample location was patched, repaired with extrusion weld, and vacuum box tested (as per project specs).

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PHOTOGRAPHIC LOG
Photo #13 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/27/16

Direction Taken:

SA-6 North – Piezometer PZ6

Description:

Entact conducting methane testing for LLDPE boot for Piezometer PZ6. Concentration of 0.0% methane measured. As such, spark testing was subsequently completed and no sparks were observed during the test.

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PHOTOGRAPHIC LOG
Photo #14 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

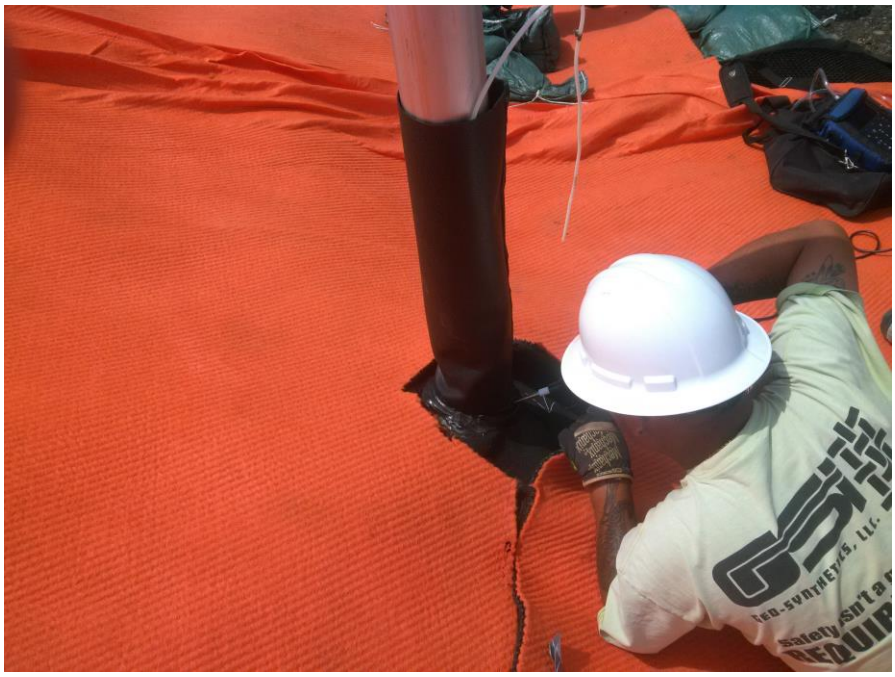
Date:
7/27/16

Direction Taken:

SA-6 North – Piezometer PZ6

Description:

ESI conducting spark testing along vertical weld and base of boot for Piezometer PZ6. No sparks were observed (i.e. spark test passed).



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/28/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/95° F, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1745

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #20** **AmecFW**: Dave Ambrose, Josh Boynton **Langan:** Dan Bosworth, Jeff Stoicescu **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P80 installed on 7/27/16 (approximate Sta. 306+40). Material to be placed from Panel P80 running approximately 100 ft. east to approximate Sta. 305+40.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 306+40 (Panel P80 installed on 7/27/16) to approximate Sta. 305+40. Refer to *Soil Subgrade Approval* forms from 7/28/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 1, 2, and 3 of the daily photo log for 7/28/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 306+40 (east of Panel P80) moving east to approximate Sta. 305+40. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to the 7/28/16 Photo Log for supporting photographs.
- While GVL was being installed, Entact and ESI conducted spark testing for Gas Vent GV-3, and Cleanout 2. Prior to spark testing, methane testing was conducted by Entact and a concentration of 0.0% was measured at each boot. As such, spark testing was subsequently completed, and no sparks were observed during the test (i.e. spark test passed). Additional details regarding the

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methane / spark testing are provided in the 7/28/16 *Spark Test Logs*.

- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P80 (installed on 7/27/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 306+40 (Panel P80) to approximate Sta. 305+40. A total of eight panels were installed (P81, P82, P83, P84, P85, P86, P87, and P88). Note: During placement of Panel P81 the roll of LLDPE terminated near the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P82. Similarly, during placement of Panel P84 the roll of LLDPE terminated near the southern end of SA-6, thus the remaining run of LLDPE was installed as Panel P85. Panel P87 also terminated near the approximate center of SA-6 North, thus the remaining LLDPE run was installed as Panel P88. Panels P83 and P86 ran the entire width of SA-6 North (approximately 260 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 7/28/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 305+40, ESI began to conduct non-destructive testing (pressure testing) in accordance with the project specifications. Seams were pressurized to 30 psi and held for 5 minutes with less than 5 psi loss. Refer to the 7/28/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P80 to P88 (installed on 7/27/16 and 7/28/16)
- ESI conducted repair activities for Panel P80 (installed on 7/27/16), and Panels P81 through P88 (installed on 7/28/16). A total of twenty-nine repairs (R-362 through R-390) were observed and fixed (according to the project specifications) from Panels P80 through P88. Refer to 7/28/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- As part of the repair activities ESI also completed the pipe boots for the Utility Corridor Drainage Pipe and Injection Well 088-IW-03. Additional details are provided in the 7/28/16 Boot Forms
- Laboratory results for destruct sample DS-26 were received and two of the coupons were reported as EPA Break Classification Code "AD BRK". Although the coupons met the peel strength requirements, since the break was reported at the weld and not considered a film tearing bond (FTB), the sample was considered a failed sample and reported as a non-conformance item.
- No destruct samples were collected due to the forecasted storms at the end of the day. Destruct samples anticipated to be cut on 8/1/16 (rain forecast for 7/29/16 – no LLDPE activities anticipated).

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 9 (Sheet #9) – Failed destruct sample DS-26 collected from Panel P72 / P74
    - Destruct sample DS-26 failed 2/5 coupons as the weld breaks were reported as "AD BRK" under the EPA Break Classification Code. Although the coupons achieved the required peel / shear strength parameters, since the break occurred at the weld and was not considered an FTB, the sample failed.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/28/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, and 7/27/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-27. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-10. Laboratory results in compliance with project specifications with the exception of destruct sample DS-26 (recorded as Non-Conformance #9).

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/28/16
A3 – Photo Log	Pages 1 – 7	Total of 14 photos outlining pertinent daily observations and descriptions for 7/28/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/28/16
A5 – Subgrade Approval	Sheet 15 & ESI (7/28/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 6	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/28/16
A7 – Panel Placement Log	Pages 11-12	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/28/16
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 7/28/16
A9 – Seam/Non-Destruct. Test Log	Pages 31-33	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/28/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log	Pages 19-20	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/28/16
A11 – Conformance COC		NA for 7/28/16
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 7/28/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 7/28/16
A14 – Penetration & Edge Form	7/28/16 Pipe Boot Form	Two pipe boot / penetrations completed for Utility Corridor Drainage Pipe and Injection Well 088-IW-03
A16 – Notice of Non-Compliance	Sheet 9	One failed destruct sample: DS-26 recorded on 7/28/16. Additional details provided in Non-Conformance Log Sheet #9
A17 – Spark Test Log	7/28/16 Spark Test Logs	Spark testing completed on 7/28/16 for Gas Vent GV-3 and Cleanout 2

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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PHOTOGRAPHIC LOG
Photo #1 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/28/16

Direction Taken:

Looking north along SA-6 North from approximate center of cap (approximate Sta. 306+40).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #2 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/28/16

Direction Taken:

Looking south along SA-6 North from approximate center of cap (approximate Sta. 306+40).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #3 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/28/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 306+40).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #4 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/28/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 306+20).

Description:

ESI deploying GVL over approved soil subgrade.

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PHOTOGRAPHIC LOG
Photo #5 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/28/16

Direction Taken:

Looking north along northern end of SA-6 North (approximate Sta. 306+40).

Description:

GVL being deployed over approved soil subgrade. GVL secured with white plastic fasteners spaced at maximum of 5 ft. intervals and top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #6 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

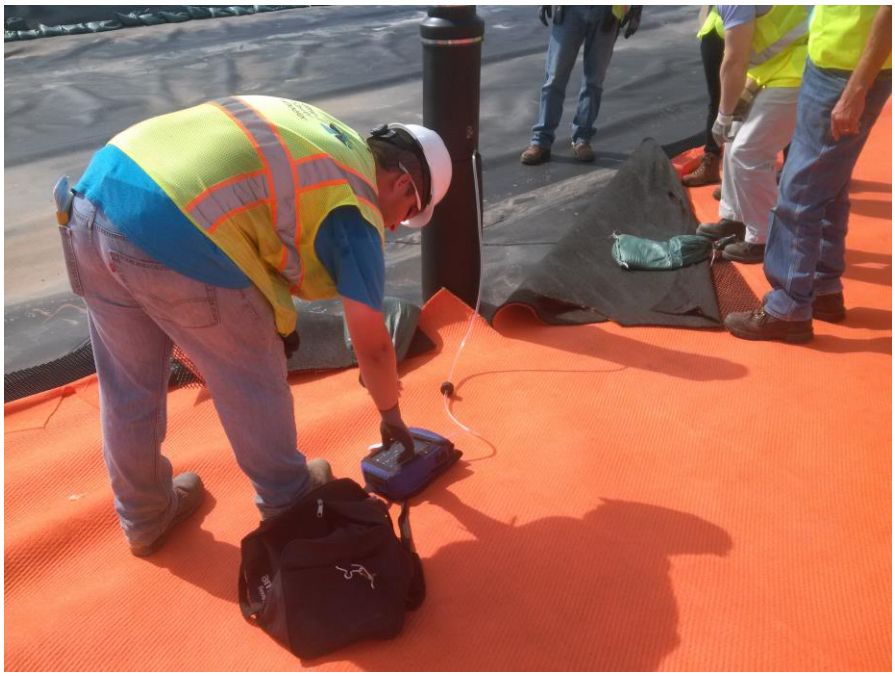
Date:
7/28/16

Direction Taken:

SA-6 North – Gas Vent GV-3

Description:

Entact conducting methane testing at Gas Vent GV-3 prior to spark testing. Concentration of 0.0% methane measured. Boot was subsequently spark tested and passed spark test.



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PHOTOGRAPHIC LOG
Photo #7 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/28/16

Direction Taken:

SA-6 North – Gas Vent GV-3

Description:

ESi conducting spark testing along base of boot and vertical weld for Gas Vent GV-3. No sparks were observed and the spark test passed.

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PHOTOGRAPHIC LOG
Photo #8 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/28/16

Direction Taken:

SA-6 North Panel P75 & P76 seam (toward northern end of cap).

Description:

ESI conducting spark testing for Cleanout 2. No sparks were observed and the spark test passed.

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PHOTOGRAPHIC LOG
Photo #9 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/28/16

Direction Taken:

Looking south / southeast along SA-6 North

Description:

GVL being deployed up to approximate Sta. 305+40.

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PHOTOGRAPHIC LOG
Photo #10 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/28/16

Direction Taken:

Looking north along SA-6 North from approximate center of cap (approximate Sta. 305+90).

Description:

ESI deploying LLDPE geomembrane over GVL across SA-6 North.

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PHOTOGRAPHIC LOG
Photo #11 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/28/16

Direction Taken:

Looking south along SA-6 North (Panel P83 / P84 seam).

Description:

ESI conducting fusion weld along Panel Seam P83 / P84.

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PHOTOGRAPHIC LOG
Photo #12 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/28/16

Direction Taken:

SA-6 North, Northern Swale (at approximate Sta. 305+60).

Description:

ESI conducting repair activities along tree bulb swale located along northern end of SA-6 North (approximate Sta. 305+60). “Custom fit” repairs patched and sealed with extrusion welds.

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PHOTOGRAPHIC LOG
Photo #13 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/28/16

Direction Taken:

SA-6 North – Well 115-E5-WO

Description:

Completed pipe boot for Monitoring Well 115-E5-WO (boot constructed on 7/27/16 and completed on 7/28/16). Boot to be methane / spark tested at later date.

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PHOTOGRAPHIC LOG
Photo #14 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/28/16

Direction Taken:

SA-6 North – Extraction Pump Station Manhole #2

Description:

Completed pipe boot for Extraction Pump Station Manhole #2 (boot constructed on 7/27/16 and completed on 7/28/16). Boot to be methane / spark tested at later date.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/2/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/85° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1645

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #21** **AmecFW**: Stu Bills, Dave Ambrose, Josh Boynton **Langan:** Dan Bosworth, Vikki Hon **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL) over approved LLDPE geomembrane. Note: no soil subgrade approved and no LLDPE geomembrane installed on 8/2/16. Next area of subgrade still being prepared, graded, and compacted by Entact (to be surveyed by Maser).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was first placed along the northern end of SA-6 North from Panel P66 / P67 (approximate Sta. 308+35) to the approximate center of the Utility Corridor (approximate Sta. 306+80) Note: The GDL panel orientation changed to east to west through the utility corridor so that the GDL followed the same contours as the utility corridor slopes. GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/2/16 Photo Log for supporting photographs.
- While GDL was being deployed ESI also conducted vacuum box testing and minor repair activities for Panels P86 and P87 (installed on 7/28/16). Additional details are provided in the 8/2/16 Repair Report.
- A total of three (3) destruct samples were collected. One fusion weld sample – DS-28 was collected from Panel Seam P81 / P83. Two extrusion weld destruct samples – DSX-11 and DSX-12 were collected from Repair R-365 (Panel 81) and Repair R-387 (Panel 86), respectively.
- ESI also completed repair activities for fusion weld destruct sample DS-26 (Panel P72 / P74 seam). DS-26 failed laboratory testing as two specimens were reported as EPA Break Code “AD-BRK” outlining a break in the weld and not the film tear break (FTB). Although the minimum peel requirements were met, since the break code was not an FTB, the test was reported as a failed test.
- To address the failed destruct sample, two field specimens (DS-26A & DS-26B) were cut approximately 10 ft. on each side of DS-26. Both samples were field tested and peel and shear strength requirements were met. Sample DS-26B which exhibited peel and shear breaks slightly less than DS-26A was sent for laboratory analysis.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

Non-Conformance Items / Corrective Actions

- None Encountered - Failed destruct sample DS-26 was previously outlined on the 7/28/16 Daily Report

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/2/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct results for DS-28, DSX-11, DSX-12, and DS-26B.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/27/16, and 7/28/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-27. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-10. Laboratory results generally in compliance with project specifications with the exception of DS-26.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/2/16
A3 – Photo Log	Pages 1-3	Total of 6 photos outlining pertinent daily observations and descriptions for 8/2/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/2/16
A5 – Subgrade Approval		NA – no subgrade approved for LLDPE placement on 8/2/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A6 – Trial Weld Log	Page 6	One trial weld log provided by ESI for prewelds completed on 8/2/16
A7 – Panel Placement Log		NA – no LLDPE panels placed on 8/2/16
A8 – Destruct Seam Testing COC	Sheet 3	Updated with destruct samples collected on 8/2/16
A9 – Seam/Non-Destruct. Test Log		NA – no non-destructive testing conducted on 8/2/16
A10 – Repair Log	Page 20	Repair log provided by ESI for LLDPE repair activities completed on 8/2/16
A11 – Conformance COC		NA for 8/2/16
A12 – Destructive Seam Field Test	Page 3	Updated with destruct samples collected on 8/2/16
A13 – Destruct. Sample Summary	Page 3	Updated with destruct samples collected on 8/2/16
A14 – Penetration & Edge Form		NA – no penetration / pipe boots completed on 8/2/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 8/2/16
A17 – Spark Test Log		NA – no spark testing completed on 8/2/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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PHOTOGRAPHIC LOG
Photo #1 (08/02/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/2/16

Direction Taken:

Looking south along SA-6 North a approximate Panel P66/ P67 (approximate Sta. 308+35).

Description:

ESI deploying GDL over approved LLDPE geomembrane (Panels P66 / P67 and P68). GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextiel sewn.

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PHOTOGRAPHIC LOG
Photo #2 (08/02/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/2/16

Direction Taken:

SA-6 North – Panel Seam P72 / P74

Description:

ESI conducting LLDPE patching activities (LLDPE cap) over failed destruct sample DS-26. Two field samples cut approximately 10 ft. on each side of DS-26 (labeled A & B). Subsequent field testing yielded peel and shear strength parameters that passed the spec requirements Sample B was sent for laboratory analysis (peel and shear strength slightly less than sample A).

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PHOTOGRAPHIC LOG
Photo #3 (08/02/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

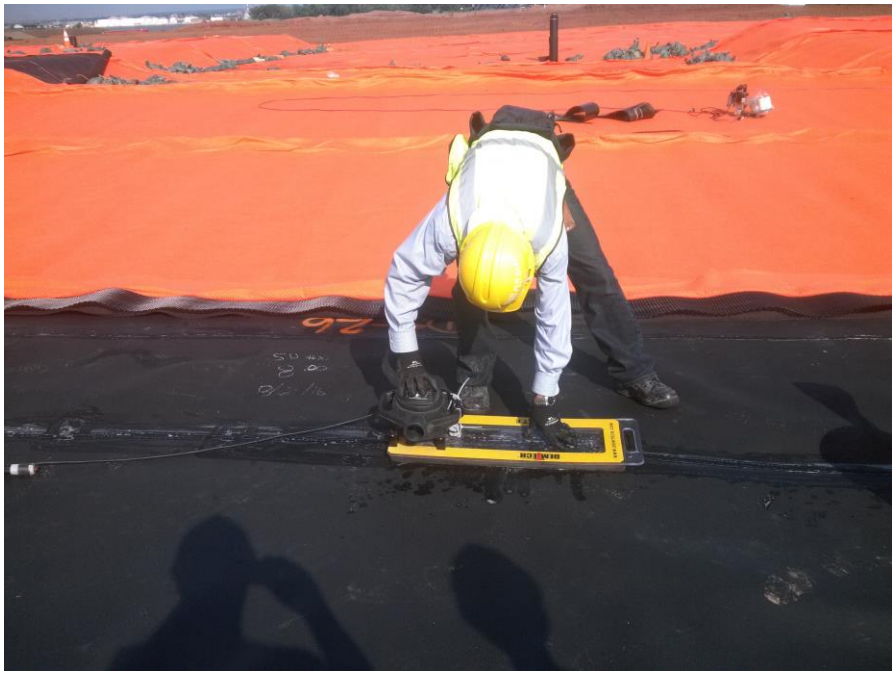
Date:
8/2/16

Direction Taken:

SA-6 North – Panel Seam P72 / P74 (Repair R-391)

Description:

ESI conducting vacuum box activities for extrusion weld patch R-391. Two additional samples were cut approximately 10 ft. from each side of DS-26, patched, sealed with an extrusion weld, and vacuum box tested.



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PHOTOGRAPHIC LOG
Photo #4 (08/2/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/2/16

Direction Taken:

Looking west along SA-6 North (approximate Sta. 307+50).

Description:

ESI sewing along GDL panel seams (geonet secured with white plastic fasteners).

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PHOTOGRAPHIC LOG
Photo #5 (08/2/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/2/16

Direction Taken:

Looking north through SA-6 North Utility Corridor (approximate Sta. 307+00).

Description:

GDL installed along western slopes of utility corridor. GDL panels oriented east – west to mirror slopes of utility corridor. GDL secured with white plastic fasteners with top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #6 (08/2/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/2/16

Direction Taken:

Looking north through SA-6 North Utility Corridor

Description:

GDL deployed through center of utility corridor to approximate Sta. 306+80.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/3/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	80/85° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #22** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth, Kale Novalis **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P87 / P88 installed on 7/28/16 (approximate Sta. 305+40). Material to be placed from Panel P87 / P88 running approximately 80 ft. east to approximate Sta. 304+60.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from the approximate center of the Utility Corridor (approximate Sta. 306+80), moving east through Panel P81 (approximate Sta. 306+20). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/3/16 Photo Log for supporting photographs.
- Following the deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 305+40 (Panel P87 / P88 installed on 7/28/16) to approximate Sta. 304+60. Refer to *Soil Subgrade Approval* forms from 8/3/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 3 to 5 of the daily photo log for 8/3/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 305+40 (east of Panel P87 / P88) moving east to approximate Sta. 304+60. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications).

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- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P87 / P88 (installed on 7/28/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 305+40 (Panel P87 / P88) to approximate Sta. 304+60. A total of five panels were installed (P89, P90, P91, P92, and P93). Note: During placement of Panel P89 a piece of LLDPE was used to realign the panel placement arrangement. Panels P90, P91, P92, and P93 ran the entire width of SA-6 North (approximately 245 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 8/3/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 304+60, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 8/3/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P89 to P93 (installed on 8/3/16)
- ESI conducted repair activities for Panels 89 to P93 (installed on 8/13/16). A total of sixteen repairs (R-400 through R-415) were observed and fixed (according to the project specifications) from Panels P89 through P93. Refer to 8/3/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. Additionally, ESI completed boot construction activities for Gas Vent GV-2 and Piezometer PZ4. Additional details are provided in the 8/3/16 Pipe Boot Forms.
- No destruct samples were collected on 8/3/16. Samples to be cut for laboratory analysis on 8/4/16.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/3/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 and 8/2/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-28. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-12. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

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By: Dan Bosworth

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Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/3/16
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 8/3/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/3/16
A5 – Subgrade Approval	Sheet 16 & ESI (8/3/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 6-7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/3/16
A7 – Panel Placement Log	Page 12	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/3/16
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 8/3/16
A9 – Seam/Non-Destruct. Test Log	Pages 33-35	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 8/3/16
A10 – Repair Log	Pages 20-21	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/3/16
A11 – Conformance COC		NA for 8/3/16
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 8/3/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 8/3/16
A14 – Penetration & Edge Form	8/3/16 Pipe Boot Forms	Pipe boot / penetration forms completed for Piezometer PZ4 and Gas Vent GV-2
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 8/3/16
A17 – Spark Test Log		NA – no spark testing conducted on 8/3/16

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PHOTOGRAPHIC LOG
Photo #1 (08/03/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/3/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 306+20).

Description:

ESI deploying orange GDL over approved LLDPE geomembrane. GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #2 (08/03/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/3/16

Direction Taken:

Looking south across SA-6 North (approximate Sta. 306+80).

Description:

Orange GDL installed across approved LLDPE geomembrane through Panel P81. GDL secured with white plastic fasteners (5 ft. maximum) and top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #3 (08/03/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/3/16

Direction Taken:

Looking south across SA-6 from approximate center of cap (approximate Sta. 305+40).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #4 (08/03/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/3/16

Direction Taken:

Looking east along SA-6 North from approximate center of cap (from approximate Sta. 305+40).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #5 (08/03/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/3/16

Direction Taken:

Looking north along SA-6 North from approximate center of cap (approximate Sta. 305+40).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2").

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PHOTOGRAPHIC LOG
Photo #6 (08/03/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/3/16

Direction Taken:

Looking east along northern end of SA-6 North (from approximate Sta. 305+40).

Description:

ESI deploying 16 oz. geotextile along northern end of SA-6 North. Geotextile overlapped 1 ft. outside of barrier wall (remaining roll width inside) as outlined in project specifications.

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PHOTOGRAPHIC LOG
Photo #7 (08/03/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/3/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 305+20).

Description:

GVL being deployed over approved soil subgrade. GVL secured with white plastic fasteners spaced at a maximum of 5 ft. and the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #8 (08/03/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/3/16

Direction Taken:

Looking north / northeast along SA-6 North (from approximate Sta. 304+80).

Description:

GVL deployed along approved soil subgrade up to approximate Sta. 304+60. GVL secured with white plastic fasteners spaced at maximum of 5 ft. and top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #9 (08/03/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/3/16

Direction Taken:

Looking south / southeast along SA-6 North (approximate Sta. 305+40).

Description:

ESI conducting fusion welding along LLDPE geomembrane Panel Seam P88 and P90.

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PHOTOGRAPHIC LOG
Photo #10 (08/03/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/3/16

Direction Taken:

SA-6 North – Panel P87 / P89 / P90 seam

Description:

ESI conducing non-destructive testing (pressure testing) along Panel P87 / P89 / P90 seams. Seams pressurized to 30 psi and held for 5 minutes with less than 4 psi loss.

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PHOTOGRAPHIC LOG
Photo #11 (08/03/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/3/16

Direction Taken:

SA-6 North Panel P88 / P90

Description:

ESI conducting seam joint patch repair activities along Panel P88 / P90 seam joints.

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PHOTOGRAPHIC LOG
Photo #12 (08/03/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/3/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 304+60).

Description:

LLDPE geomembrane installed up to approximate Sta. 304+60.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/4/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	72/85° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1645

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #23** **AmecFW**: Stu Bills, Dave Ambrose, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and temporary liner, continuing east from Panel P93 installed on 8/3/16 (approximate Sta. 304+60). Material to be placed from Panel P93 running approximately 85 ft. east to approximate Sta. 303+75.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting vacuum box and repair activities for LLDPE previously installed on 8/3/16. In addition, two destruct samples were collected for laboratory analysis. One fusion weld destruct sample – DS-29 was collected from Panel P90 / P91. One extrusion weld destruct sample was also collected – DSX-13 from Panel P90 Repair R-401.
- While repair / vacuum box activities were being conducted ESI deployed the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed moving east through Panel P81 (approximate Sta. 306+20) up to Panel P86 (approximate Sta. 305+80). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/4/16 Photo Log for supporting photographs.
- Following the deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 304+60 (Panel P93 installed on 8/3/16) to approximate Sta. 303+75. Refer to *Soil Subgrade Approval* forms from 8/4/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 3, 4, and 5 of the daily photo log for 8/4/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.

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- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 304+60 (east of Panel P93) moving east to approximate Sta. 303+75. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/4/16 Photo Log for supporting photographs.
- Additionally, GCL was placed along the areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included a small area along the northern edge of SA-6 North east of Sta. 303+75. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/4/16 *Photograph Log*.
- Based on an LLDPE inventory completed by Entact, it was determined that approximately two additional rolls of 60-mil LLDPE would be required to complete the remaining area of SA-6 North. As such, three temporary panels were installed (to be replaced once new LLDPE rolls were received) from approximate Sta. 304+60 to approximate Sta. 303+75 (area of SA-6 North at upper elevation above the water table).
- After placement of GVL, three temporary panels were installed east of Panel P93 (installed on 8/3/16) and moving east. The three temporary panels were installed up to approximate Sta. 303+75 (did not cover the GCL or remaining area of subgrade to the east as permanent 60-mil panels will be installed continuing east from the temporary panel on 8/5/16.
- Note: since no permanent LLDPE was installed, and only temporary panels were placed, no repairs or non-destructive testing was conducted on the temporary panels.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/4/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct results for samples DS-29 and DSX-13.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, and 8/3/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-28. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-12. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

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By: Dan Bosworth

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Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/4/16
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 8/4/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/4/16
A5 – Subgrade Approval	Sheet 17 & ESI (8/4/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log		NA – no trial welds completed on 8/4/16
A7 – Panel Placement Log		NA – no permanent LLDPE panels on 8/4/16
A8 – Destruct Seam Testing COC	Sheet 3	Updated for destruct samples collected on 8/4/16
A9 – Seam/Non-Destruct. Test Log		NA – no non-destructive testing conducted as no permanent LLDPE panels were installed
A10 – Repair Log	Page 21	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/4/16
A11 – Conformance COC		NA for 8/4/16
A12 – Destructive Seam Field Test	Page 3	Updated with destruct samples collected on 8/4/16
A13 – Destruct. Sample Summary	Page 3	Destruct sample summary updated with samples collected on 8/4/16
A14 – Penetration & Edge Form		NA – No pipe boots / penetrations completed on 8/4/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 8/4/16
A17 – Spark Test Log		NA – no spark testing conducted on 8/4/16

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PHOTOGRAPHIC LOG
Photo #1 (08/04/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/4/16

Direction Taken:

SA-6 North – Destruct Sample DS-29 (Panel P90 / P91)

Description:

Fusion weld destruct sample DS-29 marked for laboratory analysis along Panel P90 / P91 seam.

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PHOTOGRAPHIC LOG
Photo #2 (08/04/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

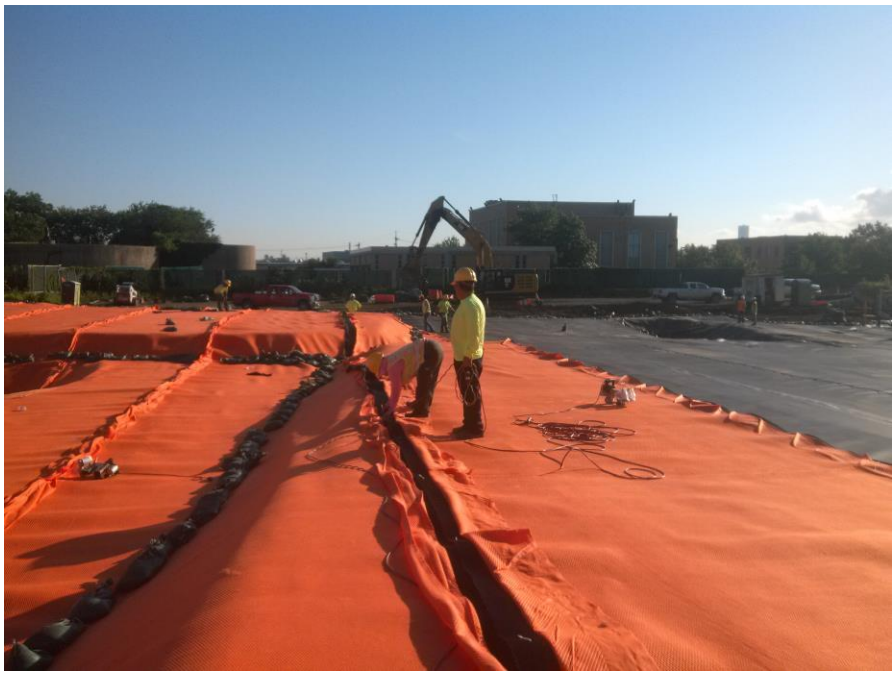
Date:
8/4/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 306+20).

Description:

Orange GDL being deployed across approved LLDPE geomembrane. GDL secured with white plastic fasteners spaced at a maximum of 5 ft., and top layer of geotextile sewn.



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PHOTOGRAPHIC LOG
Photo #3 (08/04/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/4/16

Direction Taken:

Looking east across SA-6 from along southern end of cap (approximate Sta. 304+60).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #4 (08/04/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/4/16

Direction Taken:

Looking south along SA-6 North from approximate center of cap (approximate Sta. 304+60).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #5 (08/04/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/4/16

Direction Taken:

Looking east / southeast along SA-6 North from approximate center of cap (from approximate Sta. 304+60).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #6 (08/04/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/4/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 304+50).

Description:

ESI deploying GVL over approved soil subgrade. GVL secured with white plastic fasteners spaced at a maximum of 5 ft. and top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #7 (08/04/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/4/16

Direction Taken:

Looking north along northern end of SA-6 North (approximate Sta. 303+75).

Description:

ESI deploying GCL along northern edge of SA-6 North. GCL placed along areas of the cap within 1 ft. of the site water table (approximate El. 7) as shown on the design drawings.

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PHOTOGRAPHIC LOG
Photo #8 (08/04/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/4/16

Direction Taken:

Looking north along northern end of SA-6 North (approximate Sta. 303+75).

Description:

GCL placed along areas below (to 1 ft. above) the site water table. GCL seams sealed with bentonite and leistered in place.

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PHOTOGRAPHIC LOG
Photo #9 (08/04/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/4/16

Direction Taken:

Looking north from approximate center of SA-6 North (approximate Sta. 304+40).

Description:

ESI deploying temporary LLDPE geomembrane panels. Temp panels consist of 40 mil LLDPE. Temp panels installed along upper elevation so that permanent panels could be placed along eastern end of site (lower elevation). Temp panels to be removed once new rolls of LLDPE material are received.

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PHOTOGRAPHIC LOG
Photo #10 (08/04/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/4/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 304+00).

Description:

Temporary 40-mil LLDPE panels installed up to approximate Sta. 303+75.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/5/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	75/85° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1745

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #24**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from the third temporary panel installed on 8/4/16 (approximate Sta. 303+75). Material to be placed from Temp Panel 3 running approximately 60 ft. east to approximate Sta. 303+15.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed moving east through Panel P86 (approximate Sta. 305+80) up to Panel P93 (approximate Sta. 304+60). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/5/16 Photo Log for supporting photographs.
- While GDL was being deployed, a puncture / penetration through the liner was fixed at Panel P36. The penetration was due to work activities outside of SA-6 North, as a grounding rod was driven through the liner. This penetration was recorded as a non-conformance issue, and is identified as Repair R-418 on the *Repair Report.*
- Following the deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 303+75 (east of temporary panels installed on 8/4/16) to approximate Sta. 303+15. Refer to *Soil Subgrade Approval* forms from 8/5/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 5 to 8 of the daily photo log for 8/5/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.

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- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 303+75 (east of temporary panels) moving east to approximate Sta. 303+15. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/5/16 Photo Log for supporting photographs. Note: GVL was placed along the southern end of SA-6 North at areas above the site water table (areas not covered by GCL).
- Additionally, GCL was placed along the northern end of SA-6 North at areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included an area along the northern edge of SA-6 North from Sta. 303+75 to Sta. 303+15. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/5/16 *Photograph Log*.
- After placement of GVL and GCL, LLDPE geomembrane was installed continuing east of the temporary panels (installed on 8/4/16). The LLDPE panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 303+75 (east of temporary panels) to approximate Sta. 303+15. A total of five panels were installed (P94, P95, P96, P97, and P98). Note: During placement of Panel P96 the LLDPE panel terminated along the southern end of SA-6 North, thus the remaining run of LLDPE was installed as Panel P97. Panels P94, P95, and P98 ran the entire width of SA-6 North (north to south) spanning approximately 235 ft.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 8/5/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 303+15, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 8/5/16 *Seam Control Form* for non-destructive testing details.
- ESI conducted repair activities for Panels P94 to P98 (installed on 8/5/16). A total of thirteen repairs (R-418 through R-430) were observed and fixed (according to the project specifications) from Panels P94 through P98. Refer to 8/5/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- ESI also completed the pipe boot construction for Injection Well 088-IW-02. Additional details are provided in the 8/5/16 Pipe Boot Forms. No destruct samples were collected on 8/5/16.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 10 (Sheet #10) – Penetration / puncture through LLDPE geomembrane
    - Penetration / puncture through LLDPE geomembrane from work activities outside of geosynthetic installation. Grounding rod driven through liner. Puncture exposed, and hole patched / repaired as per project specifications and outlined in the non-conformance log.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/5/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, and 8/4/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-29. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-13. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/5/16
A3 – Photo Log	Pages 1 – 8	Total of 15 photos outlining pertinent daily observations and descriptions for 8/5/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/5/16
A5 – Subgrade Approval	Sheet 18 & ESI (8/5/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/5/16
A7 – Panel Placement Log	Page 13	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/5/16
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 8/5/16
A9 – Seam/Non-Destruct. Test Log	Page 36	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 8/5/16

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log	Pages 21-22	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/5/16
A11 – Conformance COC		NA for 8/5/16
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 8/5/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 8/5/16
A14 – Penetration & Edge Form	8/15/16 Pipe Boot Form	Pipe boot / penetration form completed for Injection Well 088-IW-02
A16 – Notice of Non-Compliance	8/15/16 Sheet #10	One non-compliance issue identified as “Damage by Others” on Panel P36
A17 – Spark Test Log		NA – no spark testing conducted on 8/5/16

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By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

Looking north / northwest from approximate center of SA-6 North (looking at approximate Sta. 305+80).

Description:

ESI deploying GDL over approved LLDPE geomembrane. GDL secured with white plastic fasteners spaced at a maximum of 5 ft. and the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #2 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 305+70).

Description:

Orange GDL being deployed across approved LLDPE geomembrane. GDL secured with white plastic fasteners spaced at a maximum of 5 ft., and top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #3 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

SA-6 North – Repair R-418 (Panel P36)

Description:

Small penetration (<1/2") through LLDPE geomembrane located at Panel P36. Small hole was patched repaired following project specs and recorded on non-conformance log.

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PHOTOGRAPHIC LOG
Photo #4 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

SA-6 North – Panel P36 (Repair R-418)

Description:

Penetration sealed with patch, extrusion weld, and vacuum box tested to confirm seal of weld (vacuum box test passed). Repair activities completed for penetration and recorded as R-418.

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PHOTOGRAPHIC LOG
Photo #5 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 303+75).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #6 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

Looking east / southeast along SA-6 North (from approximate Sta. 303+75).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #7 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

Looking north along northern end of SA-6 North (approximate Sta. 303+50).

Description:

ESI deploying GCL along northern edge of SA-6 North. GCL placed along areas of the cap within 1 ft. of the site water table (approximate El. 7) as shown on the Design Drawings.

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PHOTOGRAPHIC LOG
Photo #8 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

Looking north along southern end of SA-6 North (approximate Sta. 303+50).

Description:

GCL being placed along northern end of cap at areas below (to 1 ft. above) the site water table. GCL seams sealed with bentonite and leistered in place.

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PHOTOGRAPHIC LOG
Photo #9 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

Looking south from approximate center of SA-6 North (approximate Sta. 303+40).

Description:

ESI deploying GVL along southern end of SA-6 North (areas greater than 1 ft. above the site groundwater table). GVL secured with white plastic fasteners spaced at a maximum of 5 ft. with top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #10 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

Looking north along northern end of SA-6 North (approximate Sta. 303+40)

Description:

GCL deployed along northern end of SA-6 North. GVL overlapping GCL by 1 ft. and leistered in place.

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PHOTOGRAPHIC LOG
Photo #11 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 303+75)

Description:

ESI deploying LLDPE geomembrane over GVL / GCL.

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PHOTOGRAPHIC LOG
Photo #12 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

SA-6 North – Panel P94 / P95 seam

Description:

ESI conducting non-destructive testing (pressure testing) along Panel P94 / P95 seam. Seam pressurized to 30 psi and held for 5 minutes with less than 4 psi loss.

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PHOTOGRAPHIC LOG
Photo #13 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

SA-6 North – Panel P94

Description:

ESI conducting repair activities along Panel P94 (Repair R-423).

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PHOTOGRAPHIC LOG
Photo #14 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

SA-6 North – Injection Well 088-IW-02

Description:

ESI completing boot penetration for Injection Well 088-IW-02 located on Panel P97.

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PHOTOGRAPHIC LOG

Photo #15 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

Looking north across SA-6 North

Description:

LLDPE geomembrane installed up to Panel P98 (approximate Sta. 303+15).

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/8/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	85/95° F, Sunny, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1215

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #25** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P98 installed on 8/5/16 (approximate Sta. 303+15). Material to be placed from Panel P98 running approximately 45 ft. east to approximate Sta. 302+70.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI completing vacuum box testing for repairs from Panels P94 to P98 (installed on 8/5/16). Additionally, two destruct samples were collected. One fusion weld destruct sample – DS-30 was collected from Panel P97 / P98, and one extrusion weld sample DSX-14 was collected from Panel P98 (Repair R-430).
- ESI deployed the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed moving east through Panel P93 and up to the temporary panels (installed on 8/4/16). Approximately 2 rolls of GDL were placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/8/16 Photo Log for supporting photographs.
- Following the deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 303+15 (east of Panel P98 installed on 8/5/16) to approximate Sta. 302+70. Refer to *Soil Subgrade Approval* forms from 8/8/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile

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was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 303+15 (east of Panel P98) moving east to approximate Sta. 302+70. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/8/16 Photo Log for supporting photographs. Note: GVL was placed along the southern end of SA-6 North at areas above the site water table (areas not covered by GCL).

- Additionally, GCL was placed along the northern end of SA-6 North at areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included an area along the northern edge of SA-6 North from approximate Sta. 303+15 to Sta. 302+70. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/8/16 *Photograph Log*.
- After placement of GVL and GCL, LLDPE geomembrane was installed continuing east Panel P98 (installed on 8/5/16). The LLDPE panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 303+15 (east of Panel P98) to approximate Sta. 302+70. A total of two panels were installed (P99 and P100). Panels P99 and P100 ran the entire width of SA-6 North (north to south) spanning approximately 238 ft.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 8/8/16 *Trial Weld Log*.
- Upon completion of geomembrane panel placement to approximate Sta. 302+70, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 8/8/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P99 and P100 (installed on 8/8/16) as outlined below.
- ESI conducted repair activities for Panels P99 and P100 (installed on 8/8/16). A total of seven repairs (R-431 through R-437) were observed and fixed (according to the project specifications) from Panels P99 to P100. Refer to 8/8/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.

Non-Conformance Items / Corrective Actions

- None Encountered

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/8/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample results for DS-30 and DSX-14.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, and 8/5/16. ESI Forms still to be reviewed.

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- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-29. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-13. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/8/16
A3 – Photo Log	Pages 1 – 3	Total of 5 photos outlining pertinent daily observations and descriptions for 8/8/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/8/16
A5 – Subgrade Approval	Sheet 19 & ESI (8/8/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/8/16
A7 – Panel Placement Log	Page 13	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/8/16
A8 – Destruct Seam Testing COC	Sheet 4	Updated for destruct samples collected on 8/8/16
A9 – Seam/Non-Destruct. Test Log	Page 37	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 8/8/16
A10 – Repair Log	Page 22	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/8/16
A11 – Conformance COC		NA for 8/8/16

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test	Page 4	Updated with destruct samples collected on 8/8/16
A13 – Destruct. Sample Summary	Page 4	Destruct sample summary updated with samples collected on 8/8/16
A14 – Penetration & Edge Form		NA – no penetrations / pipe boots completed on 8/8/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues encountered on 8/8/16
A17 – Spark Test Log		NA – no spark testing conducted on 8/8/16

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By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (08/08/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/8/16

Direction Taken:

SA-6 North – Destruct Sample DSX-14

Description:

Extrusion weld destruct sample DSX-14 to be cut from Panel P98, Repair R-430. Sample DSX-14 listed as Repair R-432 on Repair Report.

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PHOTOGRAPHIC LOG
Photo #2 (08/08/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/8/16

Direction Taken:

SA-6 North – Destruct Sample DS-30

Description:

Fusion weld destruct sample DS-30 to be cut from Panel P97 / P98 seam for laboratory analysis.

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PHOTOGRAPHIC LOG
Photo #3 (08/08/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/8/16

Direction Taken:

Looking north along SA-6 (approximate Sta. 304+60).

Description:

ESI deploying two panels of orange GDL over approved LLDPE geomembrane. GDL placed up to temporary panels installed 8/4/16. GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #4 (08/08/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/8/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 303+00).

Description:

GCL placed along the northern end of SA-6 North for areas below (to 1 ft. above) the water table. GVL placed at areas above the water table as per project specifications.

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PHOTOGRAPHIC LOG

Photo #5 (08/08/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/8/16

Direction Taken:

Looking north along SA-6 North from approximate center of cap (approximate Sta. 303+00).

Description:

GVL and GCL deployed over soil subgrade. GVL overlapping GCL by 1 ft.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/9/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	85/90° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1800

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #26** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth, Kale Novalis **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P100 installed on 8/8/16 (approximate Sta. 302+70). Material to be placed from Panel P100 running approximately 100 ft. east to approximate Sta. 301+70.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from Panel P94 (approximate Sta. 303+75), moving east through Panel P97 (approximate Sta. 303+15). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/9/16 Photo Log for supporting photographs.
- While GDL was being deployed, ESI also collected two destruct samples for laboratory analysis. Two fusion weld destruct samples – DS-31 was collected from Panel P79 / P80 and DS-32 was collected from Panel P86 / P87. These additional samples were collected to supplement the destruct sample data previously collected beyond failed destruct sample DS-26. DS-31 and DS-32 were collected between the destruct samples collected at 1,500 LF to provide additional sample information.
- Following the deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 302+70 (Panel P100 installed on 8/8/16) to approximate Sta. 301+70. Refer to *Soil Subgrade Approval* forms from 8/9/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 9 to 12 of the daily photo log for 8/9/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 302+70 (east of Panel P100) moving east to approximate Sta. 301+70. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/9/16 Photo Log for supporting photographs.
- Additionally, GCL was placed along the northern end of SA-6 North at areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs), which included an area along the northern edge of SA-6 North from approximate Sta. 302+70 to Sta. 301+70. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/9/16 *Photograph Log*.
- After placement of GVL and GCL, LLDPE geomembrane was installed continuing east from Panel P100 (installed on 8/8/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 302+70 (Panel P100) to approximate Sta. 301+70. A total of six panels were installed (P101, P102, P103, P104, P105, and P106). Note: During placement of Panel P101 the roll of LLDPE terminated near the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P102. Similarly, during placement of Panel P104, the roll of LLDPE terminated near the northern end of SA-6 North and the remaining run of LLDPE was installed as P105. Panels P103 and P106 ran the entire width of SA-6 North (approx. 235 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test) for each weld. The results of the pre-trial weld are provided in the 8/9/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 301+70, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 8/9/16 *Seam Control Form* for pressure testing details. Additionally, repair activities were conducted for Panels P100 to P106 (installed on 8/9/16)
- ESI conducted repair activities for Panels P100 to P106 (installed on 8/9/16). A total of eight repairs (R-438 through R-445) were observed and fixed (according to the project specifications) from Panels P100 through P106. Refer to 8/9/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds. Repair activities for Panels P100 to P106 to be completed on 8/10/16.
- ESI also conducted spark testing for seven pipe boots / penetrations total. Prior to spark testing, Entact conducted methane testing prior to spark testing and a concentration of 0.0% was measured at each location. Spark testing was completed for Extraction Pump Sta. 2, Gas Vent GV-2, Utility Corridor Drain Pipe, Injection Well 088-IW-02, and Injection Well 088-IW-03. The vertical welds and base of the boots were tested and no sparks were observed (thus the spark tests passed). During spark testing of Piezometer PZ4 and Well 115-E5-SO,a spark was observed during testing as the spark was able to arc to the wire through a section of vertical weld. Area was re-grinded, rewelded, and retested on 8/9/16 and spark retest passed.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 11 (Sheet #11) – Failed spark test along vertical weld of Piezometer PZ4
    - Failed spark test identified during spark testing of Piezometer PZ4. Spark able to arc to wire through section of vertical weld (thin weld). Weld to be grinded, re-welded, and re-tested on 8/9.

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By: Dan Bosworth

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Non-Conformance Items / Corrective Actions (continued)

- Non-Conformance No. 12 (Sheet #12) – Failed spark test along vertical weld of Well 115-E5-SO
    - Failed spark test identified during spark testing of Well 115-E5-SO. Spark able to arc to wire through section of vertical weld (thin weld). Weld to be grinded, re-welded, and re-tested on 8/9.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/9/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample results for DS-31 and DS-32.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, 8/5/16, and 8/8/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-30. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-14. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/9/16
A3 – Photo Log	Pages 1 – 9	Total of 17 photos outlining pertinent daily observations and descriptions for 8/9/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/9/16

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By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A5 – Subgrade Approval	Sheet 20 & ESI (8/9/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 7-8	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/9/16
A7 – Panel Placement Log	Pages 13 - 14	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/9/16
A8 – Destruct Seam Testing COC	Sheet 4	Updated for destruct samples collected on 8/9/16
A9 – Seam/Non-Destruct. Test Log	Pages 37-38	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 8/9/16
A10 – Repair Log	Pages 22-23	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/9/16
A11 – Conformance COC		NA for 8/9/16
A12 – Destructive Seam Field Test	Page 4	Updated with destruct samples collected on 8/9/16
A13 – Destruct. Sample Summary	Page 4	Destruct sample summary updated with samples collected on 8/9/16
A14 – Penetration & Edge Form		NA – No pipe boots / penetrations completed on 8/9/16
A16 – Notice of Non-Compliance	Sheet 11 & 12 (8/9/16)	Two non-compliance issues identified for failed spark tests on 8/9/16
A17 – Spark Test Log	8/9/16 Spark Test Logs	Seven spark test logs conducted for Extraction Pump Sta. 2 Manhole, Gas Vent GV-2, Piezometer PZ4, Utility Corridor Drain Pipe, Injection Well 088-IW-02, Injection Well 088-IW-03, and Well 115-E5-SO

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PHOTOGRAPHIC LOG
Photo #1 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

SA-6 North – Destruct Samples DS-31 and DS-32

Description:

Fusion weld destruct sample DS-31 cut from Panel P79 / P80 seam and fusion weld destruct sample DS-32 cut from Panel P86 / P87 seam for laboratory analysis

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PHOTOGRAPHIC LOG
Photo #2 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

Looking south along SA-6 (approximate Sta. 303+75)

Description:

ESI deploying panels of orange GDL over approved LLDPE geomembrane. GDL placed from Panel P94 moving east through Panel P97 (installed on 8/5/16). GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #3 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

SA-6 North – Gas Vent GV-2

Description:

ESI conducting spark testing for Gas Vent GV-2. Prior to spark testing, methane testing was conducted and yielded a concentration of 0.0%, thus spark testing was conducted and no sparks were observed (spark test passed).

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PHOTOGRAPHIC LOG
Photo #4 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

SA-6 North – Piezometer PZ-4

Description:

ESI conducting spark testing for Piezometer PZ4. Prior to spark testing, methane testing was conducted and yielded a concentration of 0.0%, thus spark testing was conducted. A spark was observed during testing and the area was grinded, rewelded, and retested and the spark retest passed.

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PHOTOGRAPHIC LOG
Photo #5 (08/09/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/9/16

Direction Taken:

SA-6 North – Extraction Pump Station 2

Description:

ESI conducting spark testing for Extraction Pump Station 2. Prior to spark testing, methane testing was conducted and yielded a concentration of 0.0%, thus spark testing was conducted and no sparks were observed (spark test passed).

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PHOTOGRAPHIC LOG
Photo #6 (08/09/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/9/16

Direction Taken:

SA-6 North – Injection Well 088-IW-03

Description:

ESI conducting spark testing for Injection Well 088-IW-03. Prior to spark testing, methane testing was conducted and yielded a concentration of 0.0%, thus spark testing was conducted and no sparks were observed (spark test passed).

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PHOTOGRAPHIC LOG
Photo #7 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

SA-6 North – Horizontal Drain Plug

Description:

ESI conducting spark testing for Horizontal Drain Plug. Prior to spark testing, methane testing was conducted and yielded a concentration of 0.0%, thus spark testing was conducted and no sparks were observed (spark test passed).

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PHOTOGRAPHIC LOG
Photo #8 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

SA-6 North – Injection Well 088-IW-02

Description:

ESI conducting spark testing for Injection Well 088-IW-02. Prior to spark testing, methane testing was conducted and yielded a concentration of 0.0%, thus spark testing was conducted and no sparks were observed (spark test passed).

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PHOTOGRAPHIC LOG
Photo #9 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

Looking east along SA-6 North from approximate center of cap (from approximate Sta. 302+70)

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #10 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

Looking south along SA-6 North from approximate center of cap (approximate Sta. 302+70)

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #11 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

Looking north along SA-6 North from approximate center of cap (from approximate Sta. 302+70)

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #12 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

Looking north / northeast along northern end of SA-6 North (approximate Sta. 302+70)

Description:

ESI deploying GCL along northern edge of SA-6 North. GCL placed along areas of the cap within 1 ft. of the site water table (approximate El. 7) as shown on the design drawings.

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PHOTOGRAPHIC LOG
Photo #13 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

Looking east along northern end of SA-6 North (toward approximate Sta. 301+70)

Description:

GCL placed along areas below (to 1 ft. above) the site water table. GCL seams sealed with bentonite and leistered in place.

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PHOTOGRAPHIC LOG
Photo #14 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

Looking south / southeast from approximate center of SA-6 North (approximate Sta. 302+20)

Description:

ESI deploying GVL along southern end of SA-6 North (areas greater than 1 ft. above the site groundwater table). GVL secured with white plastic fasteners spaced at a maximum of 5 ft. with top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #15 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

Looking north from approximate center of SA-6 North (approximate Sta. 301+70)

Description:

ESI deploying LLDPE geomembrane over GVL / GCL.

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PHOTOGRAPHIC LOG
Photo #16 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

Looking south from approximate center of SA-6 North (approximate Sta. 301+70)

Description:

LLDPE geomembrane installed up to Panel P106 (approximate Sta. 301+70).

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PHOTOGRAPHIC LOG
Photo #17 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

SA-6 North Panel P103 / P104 /P105

Description:

ESI conducting non-destructive testing (pressure testing) along Panel P103 / P104 /P105 seam. Seam pressurized to 30 psi and held for 5 minutes with less than 4 psi loss.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/10/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	82/88° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1315

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #27** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) for area previously covered by temporary panels (area east of Panel P93). Temporary panels were removed, and new LLDPE was placed from Panel P93 (approximate Sta. 304+60) running approximately 85 ft. east to approximate Sta. 303+75 (subgrade previously approved on 8/4/16).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI continuing with repair activities for Panels P100 to P106 (installed on 8/9/16). The repairs were patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. Additional details are outlined on the 8/10/16 *Repair Report.*
- ESI also collected two destruct samples from Panels P100 to P106 (installed on 8/9/16) for laboratory analysis. One fusion weld destruct samples – DS-33 was collected from Panel P104 / P106 and one extrusion weld destruct sample – DSX-15 was collected from Repair R-445 (Panel P104 / P106).
- While repair / vacuum box activities were being conducted ESI removed the temporary panels from approximate Sta. 304+60 to approximate Sta. 303+75 which were previously installed on 8/4/16. Note: soil subgrade approval for this area was also completed on 8/4/16 prior to the temporary panel placement. 16 oz. geotextile and GVL were also placed on 8/4/16 following subgrade approval.
- LLDPE geomembrane was installed continuing east from Panel P93 (installed on 8/4/16) up to Panel P94 (installed on 8/5/16). The new LLDPE panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 304+60 (east of Panel P93) to approximate Sta.303+75 (Panel P94) . A total of four panels were installed (P107, P108, P109, and P110). Note: During placement of Panel P109 the roll of LLDPE terminated near the northern end of SA-6 North, thus the remaining run of LLDPE was installed as P110. Panels P107 and P108 ran the entire width of SA-6 North (approximately 233 ft.) from north to south.

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- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing for each weld (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 8/10/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 303+75, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 8/10/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P107 to P110 (installed on 8/10/16)
- ESI conducted repair activities for Panels P107 to P110 (installed on 8/10/16), along with the repair activities for Panels P100 to P106 (installed on 8/9/16). A total of twenty-two repairs (R-446 through R-467) were observed and fixed (according to the project specifications). Refer to 8/10/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- ESI also completed pipe boot / penetrations for Gas Vent GV-1 and Well 115-E4-SO. Additional details are provided in the 8/10/16 Pipe Boot Construction Logs.
- One fusion weld sample – DS-34 was also collected from Panels P107 to P110 (installed on 8/11/16) from Panel P94 / P110 seam for laboratory analysis.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 13 (Sheet #13) – Subgrade irregularity identified as R-457 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P107 / P108. Stone was subsequently removed, and hole was patched / repaired following project specs as further described in *Sheet 13 Notice of Non-Compliance.*

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/10/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample results for DS-33, DS-34, and DSX-15.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, 8/5/16, 8/8/16, and 8/9/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-32. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-14. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

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By: Dan Bosworth

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Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/10/16
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 8/10/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/10/16
A5 – Subgrade Approval		NA – no subgrade approval for 8/10/16. Subgrade previously approved on 8/4/16 prior to temp panel placement
A6 – Trial Weld Log	Page 8	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/10/16
A7 – Panel Placement Log	Pages 14 - 15	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/10/16
A8 – Destruct Seam Testing COC	Sheet 4	Updated for destruct samples collected on 8/10/16
A9 – Seam/Non-Destruct. Test Log	Pages 39-40	One seam control form provided by ESI and confirmed by Langan for pressure testing conducted on 8/10/16
A10 – Repair Log	Pages 23-24	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/10/16
A11 – Conformance COC		NA for 8/10/16
A12 – Destructive Seam Field Test	Page 4	Updated with destruct samples collected on 8/10/16
A13 – Destruct. Sample Summary	Page 4	Destruct sample summary updated with samples collected on 8/10/16
A14 – Penetration & Edge Form	8/10/16 Pipe Boot Forms	Pipe boots for Gas Vent GV-1 and Well 115-E4-SO completed on 8/10/16
A16 – Notice of Non-Compliance	Sheet 13	Subgrade irregularity identified as non-compliance issue on 8/10/16
A17 – Spark Test Log		NA – no spark testing conducted on 8/10/16

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By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (08/10/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/10/16

Direction Taken:

SA-6 North – Destruct Sample DS-33

Description:

Fusion weld destruct sample to be collected from Panel Seam P104 / P106 (installed on 8/9/16), for laboratory analysis.

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PHOTOGRAPHIC LOG
Photo #2 (08/10/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/10/16

Direction Taken:

SA-6 North – Destruct Sample DSX-15

Description:

Extrusion weld destruct sample DSX-15 collected from Repair R-445 located on Panel P104 / P106 seam. Sample location patched, sealed with extrusion weld, and vacuum box tested.

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PHOTOGRAPHIC LOG
Photo #3 (08/10/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/10/16

Direction Taken:

SA-6 North – Panel Seam P102 / P103 / P104

Description:

ESI conducting repair activities for seam joint at Panel P102 / P103 / P104 (panels installed on 8/9/16).

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PHOTOGRAPHIC LOG
Photo #4 (08/10/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/10/16

Direction Taken:

Looking south along SA-6 (approximate Sta. 304+60)

Description:

ESI deploying new panels of LLDPE east of Panel P93. Temporary panels removed and new LLDPE panels installed.

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PHOTOGRAPHIC LOG
Photo #5 (08/10/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/10/16

Direction Taken:

Looking south along SA-6 North from southern end of cap (approximate Sta. 304+60)

Description:

ESI conducting fusion welding along Panel Seam P93 and Panel P107 (new LLDPE panel replaced temporary panel).

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PHOTOGRAPHIC LOG
Photo #6 (08/10/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/10/16

Direction Taken:

SA-6 North – Panel Seam P93 / P107

Description:

ESI conducting non-destructive testing (pressure testing) along Panel P93 / P107 seam. Seam pressurized to 30 psi and held for 5 minutes with less than 4 psi loss.

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PHOTOGRAPHIC LOG
Photo #7 (08/10/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/10/16

Direction Taken:

SA-6 North – Panel P110 (approx. Sta. 303.75)

Description:

ESI conducting custom fit repairs along Panel P110.

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PHOTOGRAPHIC LOG
Photo #8 (08/10/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/4/16

Direction Taken:

SA-6 North – Panel P110

Description:

ESI conducting custom fit repairs along Panel P110.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/11/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	85/90° F, Overcast, Humid, Iso. Storms
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1715

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #28**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P106 installed on 8/9/16 (approximate Sta. 301+70). Material to be placed from Panel P106 running approximately 45 ft. east to approximate Sta. 301+25.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting vacuum box testing and "Add On" repair activities for Panels P94 to P104. ESI completed Add On repairs along the southern end of SA-6 North. Additional LLDPE was installed so that the cap extended a minimum of 1 ft. beyond the edges of the SCB wall. These repairs were recorded and documented on the 8/11/16 *Repair Report.*
- Following repair activities, ESI placed geocomposite drainage layer (GDL) continuing east of Panel P93. GDL was placed over Panels P107 to P110 (installed on 8/10/16) from approximate Sta. 304+60 to approximate Sta. 303+75. GDL was placed according to the project specs with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn.
- Prior to soil subgrade approval, the edge of Panel P106 (installed on 8/9/16) was pulled back to expose the underlying GCL layer. A small portion of the GCL had become saturated due to overnight storms. The saturated GCL was cut and exposed to dry the GCL and soil subgrade. A new piece of GCL was then installed over the saturated GCL, secured with bentonite, and leistered in place. See Photos 6 & 7 in 8/11/6 *Photograph Log.*
- Following the GCL activities, Langan and Entact conducted soil subgrade approval from approximate Sta. 301+70 (east of Panel P106 installed on 8/9/16) to approximate Sta. 301+25. Refer to *Soil Subgrade Approval* forms from 8/11/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 301+75 (east of Panel P106) moving east to approximate Sta. 301+25. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/11/16 Photo Log for supporting photographs. Note: GVL was placed along the southern end of SA-6 North at areas above the site water table (areas not covered by GCL).
- Additionally, GCL was placed along the northern end of SA-6 North at areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included an area along the northern edge of SA-6 North from approximate Sta. 301+75 to Sta. 301+25. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/11/16 *Photograph Log*.
- After placement of GVL and GCL, LLDPE geomembrane was installed continuing east Panel P106 (installed on 8/9/16). The LLDPE panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 301+75 (east of Panel P106) to approximate Sta. 301+25. A total of two panels were installed (P111 and P112). Panels P111 and P112 ran the entire width of SA-6 North (north to south) spanning approximately 237 ft.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 8/11/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 301+25, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 8/11/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P111 and P112 (installed on 8/11/16)
- ESI completed repair activities for Panels P94 to P104 (Add On repairs along southern end of the cap) and Panels P111 & P112 (installed on 8/11/16). A total of twenty-one repairs (R-468 through R-485 and R-495 to R-497) were observed and fixed (according to the project specifications). Refer to the 8/11/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- No destruct samples collected on 8/11/16.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/11/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

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By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, 8/5/16, 8/8/16, 8/9/16, and 8/10/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-34. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-15. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/11/16
A3 – Photo Log	Pages 1 – 8	Total of 16 photos outlining pertinent daily observations and descriptions for 8/11/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/11/16
A5 – Subgrade Approval	Sheet 21 & ESI (8/11/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 8	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/11/16
A7 – Panel Placement Log	Page 15	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/11/16
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 8/11/16
A9 – Seam/Non-Destruct. Test Log	Pages 40-42	One seam control form provided by ESI and confirmed by Langan for pressure testing conducted on 8/11/16
A10 – Repair Log	Pages 24-25	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/11/16

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By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A11 – Conformance COC		NA for 8/11/16
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 8/11/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 8/11/16
A14 – Penetration & Edge Form		NA – No pipe boots / penetrations completed on 8/11/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 8/11/16
A17 – Spark Test Log		NA – no spark testing conducted on 8/11/16

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By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/11/16

Direction Taken:

Looking west along southern end of SA-6 North

Description:

ESI completing "Add On" repairs along southern end of SA-6 North. Additional LLDPE added for cap to extend minimum of 1 ft. beyond edge of SCB wall.

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PHOTOGRAPHIC LOG
Photo #2 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/11/16

Direction Taken:

Looking west along southern edge of SA-6 North

Description:

Add on panels installed via fusion welding. Repairs recorded on repair report, and seams pressure tested (as per project specs).

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PHOTOGRAPHIC LOG
Photo #3 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/11/16

Direction Taken:

Looking north / northwest along SA-6 North (approximate Sta. 304+60)

Description:

ESI deploying GDL over approved LLDPE geomembrane (Panels P107 to P110 installed on 8/10/16). GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #4 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/11/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 304+20)

Description:

ESI installing GDL with white plastic fasteners spaced at a maximum of 5 ft. Top layer of geotextile to be sewn.

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PHOTOGRAPHIC LOG
Photo #5 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/11/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 303+95)

Description:

ESI deploying orange GDL over Panels P107 to P110. GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #6 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/11/16

Direction Taken:

Looking north along edge of Panel P106 (approximate Sta. 301+70)

Description:

Edge of GCL under Panel P106 previously installed on 8/9/16. Small portion of GCL saturated from rainstorm. Area of GCL exposed to dry. Additional piece of GCL to be placed over saturated area (once dry).

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PHOTOGRAPHIC LOG
Photo #7 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/11/16

Direction Taken:

Looking north along edge of Panel P106 (approximate Sta. 301+70)

Description:

Additional piece of GCL installed over GCL previously saturated. Edges of piece leisterd in place and sealed with bentonite.

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PHOTOGRAPHIC LOG
Photo #8 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/11/16

Direction Taken:

Looking south across SA-6 North (approximate Sta. 301+70).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #9 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/11/16

Direction Taken:

Looking south from approximate center of SA-6 North (approximate Sta. 301+70)

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2").

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PHOTOGRAPHIC LOG
Photo #10 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/11/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 301+70)

Description:

ESI deploying GCL for areas below (to 1 ft. above) the site water table. GCL installed along northern end of cap. Seams sealed with granular bentonite and leisterd in place.

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PHOTOGRAPHIC LOG
Photo #11 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/11/16

Direction Taken:

Looking south along SA-6 North (from approximate Sta. 301+70).

Description:

GCL deployed along northern end of cap as shown on design drawings.

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PHOTOGRAPHIC LOG
Photo #12 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/11/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 301+25).

Description:

GVL deployed along southern end of cap at areas above the site water table. GVL secured with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #13 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

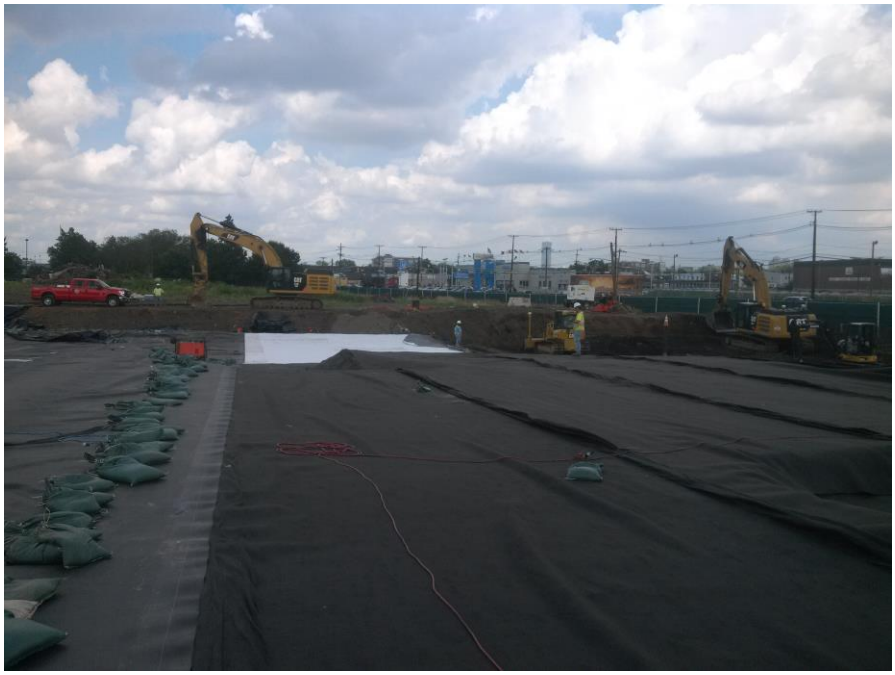
Date:
8/11/16

Direction Taken:

Looking north across SA-6 North (from approximate Sta. 301+70).

Description:

GCL and GVL installed and ready for LLDPE panel placement.



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PHOTOGRAPHIC LOG
Photo #14 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

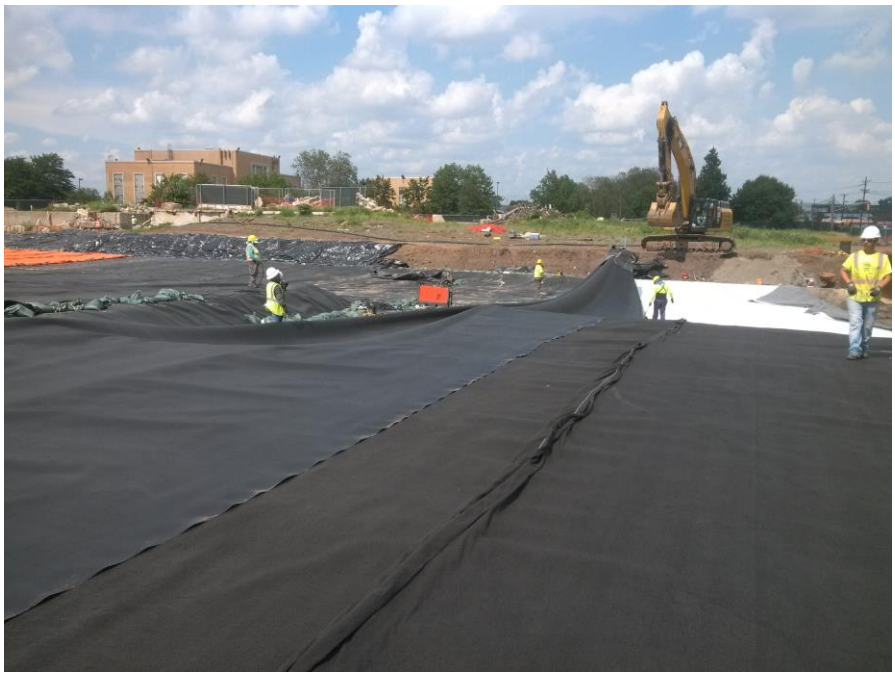
Date:
8/11/16

Direction Taken:

Looking north / northwest across SA-6 North (from approximate Sta. 301+40).

Description:

LLDPE geomembrane being installed over GCL and GVL.



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PHOTOGRAPHIC LOG
Photo #15 (08/11/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/11/16

Direction Taken:

SA-6 North – Panel P106 / P111 seam

Description:

ESI conducting fusion welding along Panel P106 / P111 seam.

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PHOTOGRAPHIC LOG
Photo #16 (08/11/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/11/16

Direction Taken:

SA-6 North – Repair R-481 (Panel P111 / P112)

Description:

ESI conducting repair activities along Panel P111 and P112 (installed on 8/11/16).

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/12/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	85/98° F, Sunny, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1730

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #29** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P112 installed on 8/11/16 (approximate Sta. 301+25). Material to be placed from Panel P112 running approximately 45 ft. east to approximate Sta. 300+80.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying orange geocomposite drainage layer (GDL) continuing east from Panel P98. GDL was placed over Panels P99 to P106 (installed on 8/8/16 and 8/9/16) from approximate Sta. 303+15 (Panel P99) to approximate Sta. 301+70 (Panel P106). GDL was placed according to the project specs with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn.
- While GDL was being deployed ESI also conducted vacuum box testing and minor repairs for Panels P111 and P112 (installed on 8/11/16). Additional details are provided in the 8/12/16 *Repair Report.*
- ESI also completed spark testing for Gas Vent GV-1 and Well 115-E4-SO. Prior to spark testing, methane testing was completed by AmecFW and a concentration of 0.0% was measured for both boots. Spark testing was then completed for Gas Vent GV-1 along the base of the boot and vertical weld and no sparks were observed (spark test passed). During spark testing of Well 115-E4-SO a spark was observed along the edge of the vertical weld as the extrusion weld was not centered over the copper wire. This area was marked by ESI, grinded, re-welded, and retested. No sparks were observed during the spark retest thus the retest passed.
- Prior to soil subgrade approval, the edge of Panel P112 (installed on 8/11/16) was pulled back to expose the underlying GCL layer. A small portion of the GCL had become saturated due to overnight storms. The saturated GCL was cut and exposed to dry the GCL and soil subgrade. A new piece of GCL was then installed over the saturated GCL, secured with bentonite, and leistered in place.
- Following the GCL activities, Langan and Entact conducted soil subgrade approval from approximate Sta. 301+25 (east of Panel P112 installed on 8/11/16) to approximate Sta. 300+80. Refer to *Soil Subgrade Approval* forms from 8/12/16 for additional details.

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During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.

- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 301+25 (east of Panel P112) moving east to approximate Sta. 300+80. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/12/16 Photo Log for supporting photographs. Note: GVL was placed along the southern end of SA-6 North at areas above the site water table (areas not covered by GCL).
- Additionally, GCL was placed along the northern end of SA-6 North at areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included an area along the northern edge of SA-6 North from approximate Sta. 301+25 to approximate Sta. 300+80. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/12/16 *Photograph Log*.
- After placement of GVL and GCL, LLDPE geomembrane was installed continuing east of Panel P112 (installed on 8/12/16). The LLDPE panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 301+25 (east of Panel P112) to approximate Sta. 300+80. A total of two panels were installed (P113 and P114). Panels P113 and P114 ran the entire width of SA-6 North (north to south) spanning approximately 233 ft.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each weld). The results of the pre-trial weld are provided in the 8/12/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 300+80, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 8/12/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P113 and P114 (installed on 8/12/16)
- ESI completed repair activities for Panels P113 to P114 (installed on 8/12/16). A total of seven repairs (R-486 through R-489 and R-492, R-493, and R-494) were observed and fixed (according to the project specifications). Refer to the 8/12/16 *Repair Report* for additional details. Repairs were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- ESI also completed pipe boot / penetrations for Access Manhole Sta. 18+00 and Injection Well 088-IW-01. Additional details are provided in the 8/12/16 Pipe Boot Forms.
- No destruct samples collected on 8/12/16.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 14 (Sheet #14) – Failed spark test along vertical weld of Well 115-E4-SO
    - Failed spark test identified during spark testing of Well 115-E4-SO. Spark observed along edge of extrusion weld (weld not centered over wire). Area was grinded, rewelded, and retested and no sparks were observed during spark retest (spark retest passed).

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Action Items – Pending

- Complete Daily Report and Photo Log (for 8/12/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, 8/5/16, 8/8/16, 8/9/16, 8/10/16, and 8/11/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-34. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-15. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/12/16
A3 – Photo Log	Pages 1 – 8	Total of 16 photos outlining pertinent daily observations and descriptions for 8/12/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/12/16
A5 – Subgrade Approval	Sheet 22 & ESI (8/12/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 8-9	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/12/16
A7 – Panel Placement Log	Page 15	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/12/16

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 8/12/16
A9 – Seam/Non-Destruct. Test Log	Pages 42-43	One seam control form provided by ESI and confirmed by Langan for pressure testing conducted on 8/12/16
A10 – Repair Log	Page 25	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/12/16
A11 – Conformance COC		NA for 8/12/16
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 8/12/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 8/12/16
A14 – Penetration & Edge Form	8/12/16 Pipe Boot Forms	Pipe boots / penetrations completed for Access Manhole Sta. 18+00 and Injection Well 088-IW-01
A16 – Notice of Non-Compliance	Sheet 14	One failed spark test for Well 115-E4-SO identified on 8/12/16
A17 – Spark Test Log	8/12/16 Spark Test Logs	Spark testing for Gas Vent GV-1 and Well 115-E4-SO completed on 8/12/16

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PHOTOGRAPHIC LOG
Photo #1 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 302+70)

Description:

ESI deploying orange GDL over approved LLDPE geomembrane. GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #2 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

SA-6 North (northern end of SA-6 North) Repair R-480

Description:

ESI conducting vacuum box testing activities for repairs completed on 8/11/16 for Panels P111 and P112 (installed on 8/11/16).

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PHOTOGRAPHIC LOG
Photo #3 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

SA-6 North – Gas Vent GV-1

Description:

ESI conducting spark testing for Gas Vent GV-1. Base of boot and vertical weld was tested and no sparks were observed. Spark test passed.

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PHOTOGRAPHIC LOG
Photo #4 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

SA-6 North – Well 115-E4-SO

Description:

Entact measuring methane concentration for Well 115-E4-SO prior to spark testing. Concentration of 0.0% measured underneath boot.

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PHOTOGRAPHIC LOG
Photo #5 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

SA-6 North – Well 115-E4-SO

Description:

ESI conducting spark testing along vertical weld at Well 115-EI-SO. Spark identified during testing of the vertical seam (extrusion bead off-center of boot). Area was grinded, rewelded, and re-tested and spark retest passed.

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PHOTOGRAPHIC LOG
Photo #6 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 302+00)

Description:

Orange GDL deployed up to Panel P106 (approximate Sta. 301+70). GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #7 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

Looking north along Panel P112 (approximate Sta. 301+25)

Description:

Edge of Panel P112 (installed on 8/11/6) pulled back to expose GCL. Small area of GCL saturated from overnight rain. GCL cut, exposed, and left to dry. Additional piece of GCL to be installed over saturated area.

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PHOTOGRAPHIC LOG
Photo #8 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 301+25)

Description:

Entact applying calcium cement to solidify soil subgrade. Area around GCL reworked and re-compacted to project specs.

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PHOTOGRAPHIC LOG
Photo #9 (08/12/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/12/16

Direction Taken:

Looking north from approximate center of SA-6 North (approximate Sta. 301+25)

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #10 (08/12/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/12/16

Direction Taken:

Looking south across SA-6 North (approximate Sta. 301+25)

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #11 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

Looking north / northeast from southern end of cap (approximate Sta. 301+25)

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #12 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 301+00).

Description:

ESI deploying GCL for areas below (to 1 ft. above) the site water table. GCL secured with granular bentonite and leistered in place.

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PHOTOGRAPHIC LOG
Photo #13 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

Looking north along SA-6 North from approximate center of cap (approximate Sta. 300+80)

Description:

ESI deploying GVL over southern end of SA-6 North (areas above the site water table) and GCL along northern end of cap (areas below to 1 ft. above site water table).

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PHOTOGRAPHIC LOG
Photo #14 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 301+25)

Description:

ESI deploying LLDPE geomembrane over GVL and GCL.

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PHOTOGRAPHIC LOG
Photo #15 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

Looking north / northeast along SA-6 North (toward approximate Sta. 301+00)

Description:

LLDPE geomembrane Panels P113 and P114 installed up to approximate Sta. 300+80

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PHOTOGRAPHIC LOG
Photo #16 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

SA-6 North – Injection Well 088-IW-01

Description:

ESI completing pipe boot / penetration for Injection Well 088-IW-01.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/13/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	85/98° F, Sunny, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1800

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #30** **AmecFW**: Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P114 installed on 8/12/16 (approximate Sta. 300+80). Material to be placed from Panel P114 running approximately 80 ft. east to approximate Sta. 300+00 (east end of SA-6 North).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting vacuum box testing and minor repair activities for Panels P113 / P114 (installed on 8/12/16). Repairs were patched, extrusion welded, and vacuum box tested as per project specifications. Additional details are outlined on the 8/13/16 *Repair Report*. Additionally, two destruct samples were collected. One fusion weld destruct sample DS-35 was collected from Panel P112 / P113, and one extrusion weld destruct sample – DSX-16 was collected from Panel P112 (Repair R-478)
- While repair activities were being completed ESI deployed orange geocomposite drainage layer (GDL) continuing east from Panel P106. GDL was placed over Panels P106 (approximate Sta. 301+70) to approximate Sta. 300+80 (Panel P114). GDL was placed according to the project specs with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn. Note: repairs were completed for Panels P113 / P114 in the early morning and were surveyed and verified before GDL was deployed over the panels later in the morning.
- ESI also completed spark testing for Access Manhole Sta. 18+00 and Injection Well 088-IW-01. Prior to spark testing, methane testing was completed by AmecFW and a concentration of 0.0% was measured for both boots. Spark testing was then completed along the base of the boot and vertical weld for both locations. No sparks were observed during either test (spark tests passed).
- Following the GDL activities, Langan and Entact conducted soil subgrade approval from approximate Sta. 300+80 (east of Panel P114 installed on 8/12/16) to approximate Sta. 300+00 (east end of cap). Refer to *Soil Subgrade Approval* forms from 8/13/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any

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loose material greater than ½". The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.

- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 300+80 (east of Panel P114) moving east to approximate Sta. 300+00 (east end of cap). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/13/16 Photo Log for supporting photographs. Note: GVL was placed along the southern end of SA-6 North at areas above the site water table (areas not covered by GCL).
- Additionally, GCL was placed along the northern and eastern end of SA-6 North at areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included an area along the northern edge of SA-6 North from approximate Sta. 300+80 to approximate Sta. 300+00 (east end of cap). GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/13/16 *Photograph Log*.
- After placement of GVL and GCL, LLDPE geomembrane was installed continuing east of Panel P114 (installed on 8/12/16). The LLDPE panels were generally oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 300+80 (east of Panel P114) to approximate Sta. 300+00. A total of five panels were installed (P115, P116, P117, P118, and P119). Panels P116, P117, P118, and P119 were oriented northwest/southeast and were placed to fill in the triangle area along the southeast portion of the cap. Panel P115 ran the entire width of SA-6 North (north to south) spanning approximately 235 ft.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 8/13/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 300+00 (east end of cap), ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 8/13/16 *Seam Control Form* for non-destructive testing details.
- Temporary patches were leistered in place for Panels P115 to P119, but no repair activities (extrusion welding) were completed on 8/13/16 (to be finished Monday – 8/15/16). ESI completed repair activities for Panels P113 to P114 (installed on 8/12/16). A total of seven repairs (R-490, R-491, R-498 to R-502) were observed and fixed (according to the project specifications). Refer to the 8/13/16 *Repair Report* for additional details. Repairs were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/13/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample results for DSX-16 and DS-35.

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By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, 8/5/16, 8/8/16, 8/9/16, 8/10/16, 8/11/16, and 8/12/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-34. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-15. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/13/16
A3 – Photo Log	Pages 1 – 8	Total of 16 photos outlining pertinent daily observations and descriptions for 8/13/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/13/16
A5 – Subgrade Approval	Sheet 23 & ESI (8/13/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 9	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/13/16
A7 – Panel Placement Log	Pages 15 - 16	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/13/16
A8 – Destruct Seam Testing COC	Sheet 4	Updated with destruct samples collected on 8/13/16
A9 – Seam/Non-Destruct. Test Log	Pages 43-44	One seam control form provided by ESI and confirmed by Langan for pressure testing conducted on 8/13/16
A10 – Repair Log	Pages 25-26	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/13/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A11 – Conformance COC		NA for 8/13/16
A12 – Destructive Seam Field Test	Page 4	Updated with destruct samples collected on 8/13/16
A13 – Destruct. Sample Summary	Page 4	Destruct sample summary updated with samples collected on 8/13/16
A14 – Penetration & Edge Form		NA – no boots / penetrations completed on 8/13/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 8/13/16
A17 – Spark Test Log	8/13/16 Spark Test Forms	Spark testing completed for Access Manhole Sta. 18+00 and Injection Well 088-IW-01

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

SA-6 North – Repair R-498

Description:

ESI conducting repair activities for wrinkles and custom fit repairs on Panel P113

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PHOTOGRAPHIC LOG
Photo #2 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

SA-6 North – Access Manhole Sta. 18+00

Description:

Entact conducting methane testing for Access Manhole Sta. 18+00. Methane concentration of 0.0% measured.

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PHOTOGRAPHIC LOG
Photo #3 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

SA-6 North – Access Manhole Sta. 18+00

Description:

ESI conducting spark testing for Access Manhole Sta. 18+00. Base of boot and vertical weld tested and no sparks were observed (passed spark test). Additional welds on boot were vacuum box tested.

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PHOTOGRAPHIC LOG
Photo #4 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

SA-6 North – Injection well 088-IW-01

Description:

ESI conducting spark testing for Injection Well 088-IW-01. Base of boot and vertical weld spark tested and no sparks were observed (passed spark test).

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PHOTOGRAPHIC LOG
Photo #5 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

SA-6 North – Destruct Sample DS-35

Description:

Repair activities being completed for destruct sample DS-35 (marked on 8/12/16).

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PHOTOGRAPHIC LOG
Photo #6 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

Looking north / northwest along SA-6 (at approximate Sta. 301+70)

Description:

ESI deploying orange GDL over approved LLDPE geomembrane.

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PHOTOGRAPHIC LOG
Photo #7 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

Looking north across SA-6 North (toward approximate Sta. 300+80)

Description:

ESI deploying orange GDL over approved LLDPE up to Panel P114 (approximate Sta. 300+80).

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PHOTOGRAPHIC LOG
Photo #8 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

Looking north across SA-6 North from southern end of cap (approximate Sta. 300+40)

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #9 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

Looking north across SA-6 North from approximate center of cap (approximate Sta. 300+80)

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #10 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

Looking north / northeast across SA-6 North (approximate Sta. 300+80)

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #11 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 300+80)

Description:

ESI deploying GCL along northern and eastern end of SA-6 North for areas below (to 1 ft. above the site water table). GCL secured with granular bentonite along the seams and leistered in place.

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PHOTOGRAPHIC LOG
Photo #12 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 304+50).

Description:

GCL placed along northern end of SA-6 for areas below to 1 ft. above the site water table. GVL placed along southern end of cap for areas above the site water table.

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PHOTOGRAPHIC LOG
Photo #13 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 300+20)

Description:

ESI sewing top layer of geotextile for GVL at areas above the site water table.

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PHOTOGRAPHIC LOG
Photo #14 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 300+80)

Description:

ESI deploying LLDPE geomembrane over GVL and GCL layers.

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PHOTOGRAPHIC LOG
Photo #15 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 300+60)

Description:

LLDPE geomembrane installed over GVL and GCL to east end of cap (approximate Sta. 300+00)

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PHOTOGRAPHIC LOG
Photo #16 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

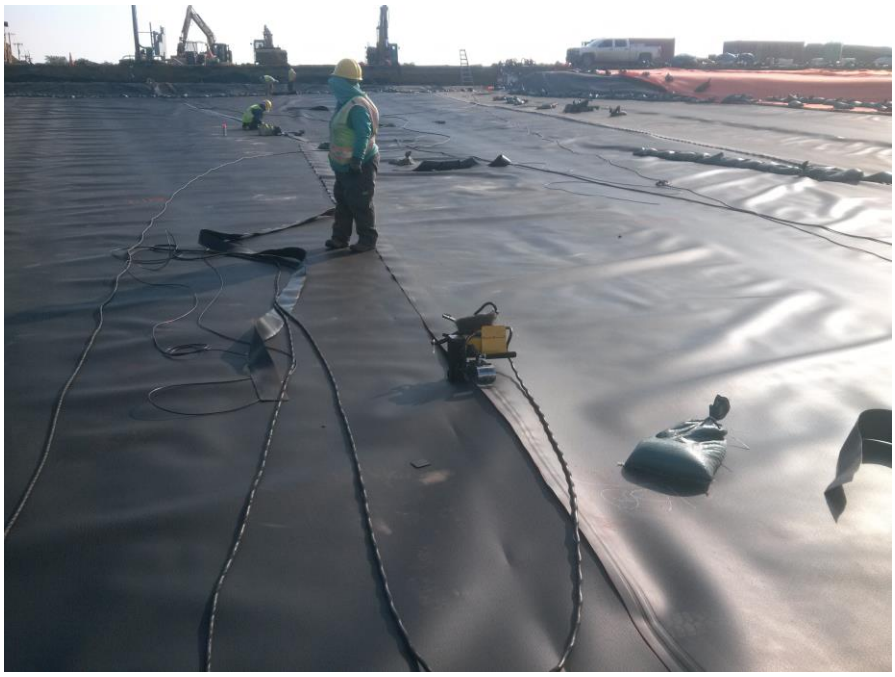
Date:
8/13/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 300+40)

Description:

ESI conducting fusion welding between Panel P115 / P118 seam.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/15/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	82/92° F, Sunny, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1500

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #31** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL) over approved LLDPE geomembrane (Panel P115 to P119). Note: LLDPE geomembrane installation complete up to east end of cap (Panels P115 to P119).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI completing repair activities and vacuum box testing for Panels P115 to P119 (installed on 8/13/16). A total of twelve repairs were (R-503 to R-514) observed and fixed according to the project specifications. Refer to the 8/15/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of two destruct samples were collected. One destruct sample DS-36 was collected from Panel P117 / P118 seam and one extrusion weld destruct sample – DSX-17 was collected from Panel P118 (Repair R-505) for laboratory analysis.
- ESI also completed the boot construction for Piezometer PZ2. Following the boot completion, methane / spark testing for Piezometer PZ2 was completed. Methane testing was conducted prior to spark testing and a concentration of 0.0% was measured. Spark testing was then conducted along the base of the boot and vertical weld and no sparks were observed (spark test passed). Additional details are provided in the Piezometer PZ2 boot construction log and the 8/15 *Spark Test Log.*
- After repair activities were completed, the as-built information including repair locations, distances, etc. was verified and ESI deployed the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane (Panels P115 to P119). GDL was placed from approximate Sta. 300+80 to the east end of SA-6 North (approximate Sta. 300+00). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/15/16 Photo Log for supporting photographs.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/15/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample results for DSX-17 and DS-36.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, 8/5/16, 8/8/16, 8/9/16, 8/10/16, 8/11/16, 8/12/16, and 8/13/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-35. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-16. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/15/16
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 8/15/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/15/16
A5 – Subgrade Approval		NA – no subgrade approval completed on 8/15/16
A6 – Trial Weld Log	Page 9	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/13/16
A7 – Panel Placement Log		NA – no new LLDPE geomembrane panels placed on 8/15/16
A8 – Destruct Seam Testing COC	Sheet 4	Updated with destruct samples collected on 8/15/16
A9 – Seam/Non-Destruct. Test Log		NA – no pressure testing completed on 8/15/16
A10 – Repair Log	Page 26	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/15/16
A11 – Conformance COC		NA for 8/15/16
A12 – Destructive Seam Field Test	Page 4	Updated with destruct samples collected on 8/15/16
A13 – Destruct. Sample Summary	Page 4	Destruct sample summary updated with samples collected on 8/15/16
A14 – Penetration & Edge Form	8/15/16 Boot Form	LLDPE geomembrane boot for Piezometer PZ2 completed on 8/15/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 8/15/16
A17 – Spark Test Log	8/15/16 Spark Test Logs	Spark testing for Piezometer PZ2 completed on 8/15/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (08/15/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

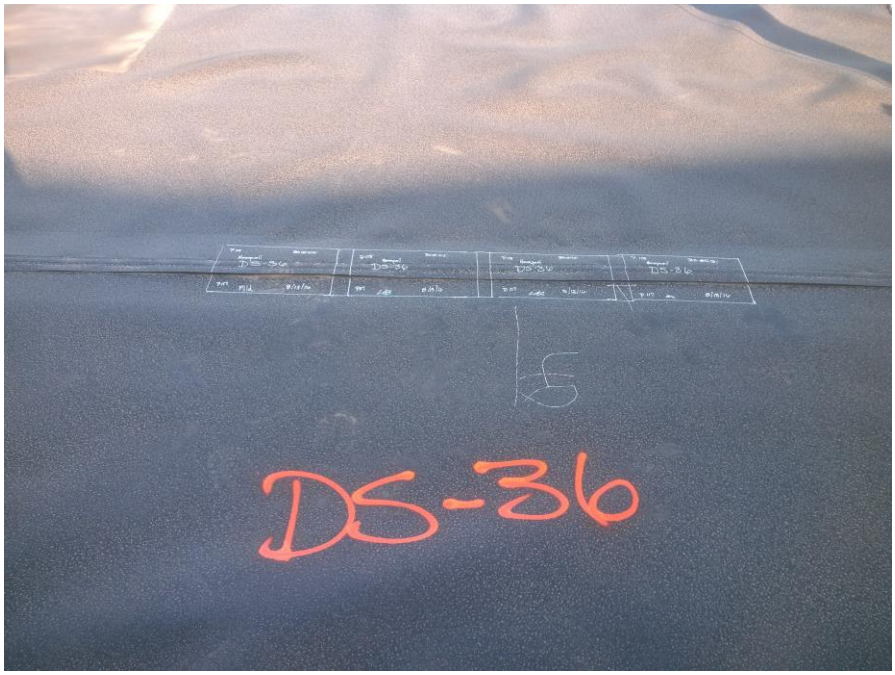
Date:
8/15/16

Direction Taken:

SA-6 North – Destruct Sample DS-36

Description:

Fusion weld destruct sample DS-36 located on Panel P117 / P118 seam to be cut for laboratory analysis.



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PHOTOGRAPHIC LOG
Photo #2 (08/15/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/15/16

Direction Taken:

SA-6 North – Repair R-512

Description:

ESI conducting vacuum box testing for Repair R-512 (seam joint for Panels P115 / P116 / P118).

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PHOTOGRAPHIC LOG
Photo #3 (08/15/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/15/16

Direction Taken:

SA-6 North – Destruct Sample DS-36

Description:

Patch / repair activities completed for Destruct Sample DS-36 located on Panel P117 / P118 seam.

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PHOTOGRAPHIC LOG
Photo #4 (08/15/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/15/16

Direction Taken:

SA-6 North – Piezometer PZ2

Description:

Entact conducting methane testing for Piezometer PZ2. Concentration of 0.0% measured at pipe boot, thus spark testing was subsequently completed (spark test passed).

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PHOTOGRAPHIC LOG
Photo #5 (08/15/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/15/16

Direction Taken:

SA-6 North – Piezometer PZ2

Description:

ESI conducting spark testing for Piezometer PZ2. Base of boot and vertical weld tested and no sparks observed (spark test passed).

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PHOTOGRAPHIC LOG
Photo #6 (08/15/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/15/16

Direction Taken:

Looking south / southwest along SA-6 (twoard approximate Sta. 300+50)

Description:

ESI deploying orange GDL over approved LLDPE geomembrane. GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #7 (08/15/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/15/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 300+50)

Description:

ESI conducting deploying orange GDL over approved LLDPE geomembrane (Panels P115 to P119).

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PHOTOGRAPHIC LOG
Photo #8 (08/15/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/15/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 300+50)

Description:

Orange GDL placed up to approximate Sta. 300+00 (east end of cap).

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/17/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	82/92° F, Sunny, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Final Site Walk / Observation		**TIME:**	0745 – 1015

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #32**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth, Jeff Stoicescu
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan (Dan Bosworth and Jeff Stoicescu) onsite for final site walk of SA-6 North to observe completed geosynthetic components of SA-6 North capping activities.
- Langan conducted a site walk of the completed SA-6 North cap spanning from the west end (approximate. Sta. 319+00) to the east end (approximate Sta. 300+00). During the site walk, the following conditions were observed (in relation to the geosynthetic components of the cap installation):
    - Condition 1: The final GDL geotextile wrap around Gas Vent GV-2 was cut and gas vent was exposed.
    - Action Item: Based on discussions with Entact, the GDL was cut so that the construction of the gas vent could be completed. Entact plans to conduct leistering activities to reseal the geotextile wrap and secure the GDL.
    - Condition 2: Wrinkles were observed along the east end of the cap (approximate Sta. 300+00) due to the spreading of cover soils over the GDL.
    - Action Item: Entact to attempt to work out wrinkles to the east end of the cap. If wrinkles cannot be removed, ESI will return to the site to cut the geomembrane and complete patch / repair activities.
    - Condition 3: LLDPE was pulled taught along the slopes / contour changes along SA-6 North for areas where cover soil was being placed. During placement of cover soil, sand bags were removed from the cap so that the cover soil could be placed over the GDL. However, for areas where cover soil was not completed by the end of the day, the sand bags were not returned and the geosynthetic material was left un-weighted, thus causing the LLDPE to trampoline.
    - Action Item: Entact to ensure that areas not covered with cover soil at the end of the day will be secured with sand bags.
- Above items shall be reviewed on Friday (8/19).
- Additional details are outlined in the 8/17/16 *Photograph Log.*

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (08/17/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/17/16

Direction Taken:

SA-6 North – Gas Vent GV-2

Description:

Orange GDL cover cut on Gas Vent GV-2 by Entact to complete construction of gas vent. GDL to be re-leistered by Entact.

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PHOTOGRAPHIC LOG
Photo #2 (08/17/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/17/16

Direction Taken:

Looking north along northern end of SA-6 North; east end of cap (approximate Sta. 300+00)

Description:

Wrinkles observed along east end of cap from placement of cover soil. Entact to try and work wrinkles out to the east end of cap.

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PHOTOGRAPHIC LOG
Photo #3 (08/17/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/17/16

Direction Taken:

SA-6 North – east end of cap (approximate Sta. 300+00).

Description:

Wrinkle / crease observed along east end of cap (approximate Sta. 300+00).

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PHOTOGRAPHIC LOG
Photo #4 (08/17/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/17/16

Direction Taken:

Looking south along east end of SA-6 North (approximate Sta. 300+00)

Description:

Location of wrinkles observed along east end of cap due to placement of cover soil.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/19/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	85/95° F, Sunny, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Final Site Walk / Observation		**TIME:**	0815 – 1230

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #33**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth, Kale Novalis
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of wrinkle repair along the east end of the cap (approximate Sta. 300+00) due to the spreading of cover soils over the GDL.
- ESI completed repairs of wrinkles along the east end of the cap (approximate Sta. 300+00) as outlined in the 8/17/16 Report. Upon cutting of the GDL layer it was observed that the wrinkles were contained to the GDL only with no observed damage to the LLDPE or soil subgrade. As such, the GDL layer was cut, flattened, and leistered. No repairs to the LLDPE were required.
- Additional details are outlined in the 8/19/16 *Photograph Log.*

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (08/19/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/19/16

Direction Taken:

Looking south along SA-6 (approximate Sta. 300+00)

Description:

Wrinkles observed along the east end of the cap (approximate Sta. 300+00) due to the spreading of cover soils over the GDL.

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

PHOTOGRAPHIC LOG
Photo #2 (08/19/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/19/16

Direction Taken:

Looking south along SA-6 (approximate Sta. 300+00)

Description:

Wrinkles observed along the east end of the cap (approximate Sta. 300+00) due to the spreading of cover soils over the GDL.

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

PHOTOGRAPHIC LOG
Photo #3 (08/19/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/19/16

Direction Taken:

Looking north along SA-6 (approximate Sta. 300+00)

Description:

Repaired wrinkles observed along the east end of the cap (approximate Sta. 300+00) by pulling GDL and LLDPE.

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

PHOTOGRAPHIC LOG
Photo #4 (08/19/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/19/16

Direction Taken:

Looking north / northwest along SA-6 (approximate Sta. 300+00)

Description:

Wrinkles observed along the east end of the cap (approximate Sta. 300+00) only on GDL. No wrinkles observed on LLDPE.

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

PHOTOGRAPHIC LOG
Photo #5 (08/19/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/19/16

Direction Taken:

Looking north along SA-6 (approximate Sta. 300+00)

Description:

Finished repairs of wrinkles observed along the east end of the cap (approximate Sta. 300+00) with leistering of cut GDL section.

Appendix F
GCL to Barrier Wall Connection Logs

Honeywell

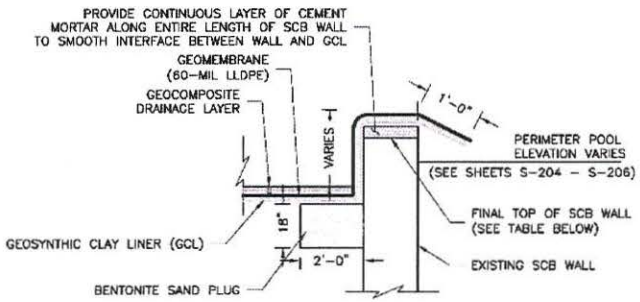
amec foster wheeler

STUDY AREA 6 - CAP INSTALLATION

Project: Study Area 6 North

Date: 08/4/16

QA - GCL to Barrier Wall Connection Detail



BELOW GROUNDWATER

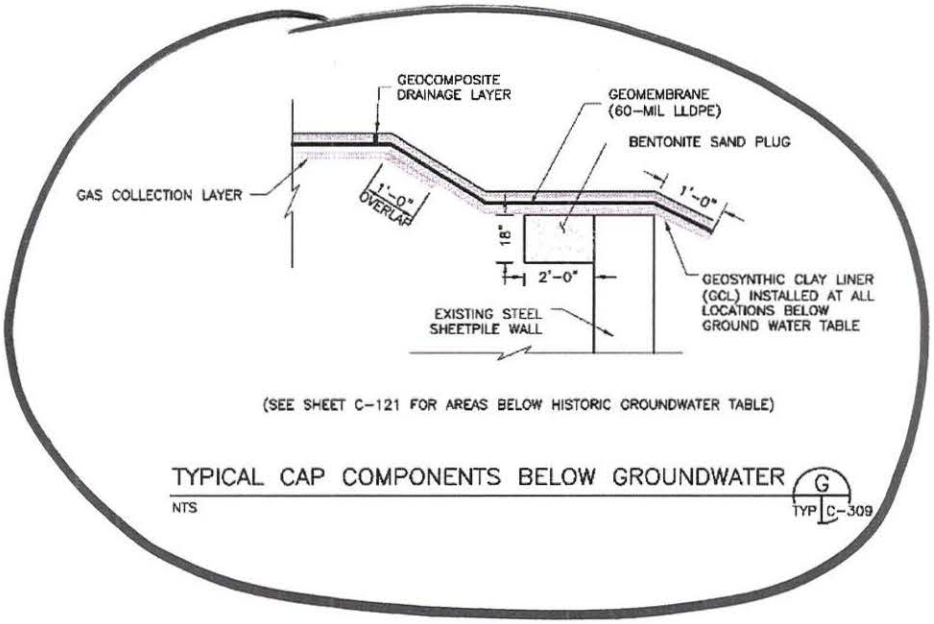
GCL AREAS STA 0+00 TO STA 3+22

TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION

NTS

BN C-121 C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER

NTS

G TYP C-309

***Check applicable Detail:**

X Box Cut Dimension

X Barrier wall clean/exposed

X Sand Bentonite Mix

Location:

- **Soil Cement Wall stations 5+60 to 5+90 (approximately).**
- **North side of south cap near Route 440 along the HB Wall.**

Comments:

- Photos captured Amec Foster Wheeler.

AmecFW QA Signature: _____

Honeywell

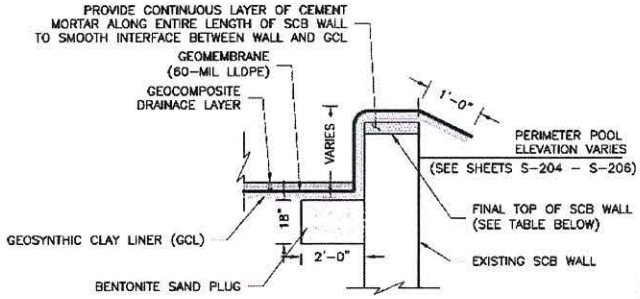
amec foster wheeler

STUDY AREA 6 - CAP INSTALLATION

Project: Study Area 6 North

Date: 08/11/16

QA - GCL to Barrier Wall Connection Detail



BELOW GROUNDWATER

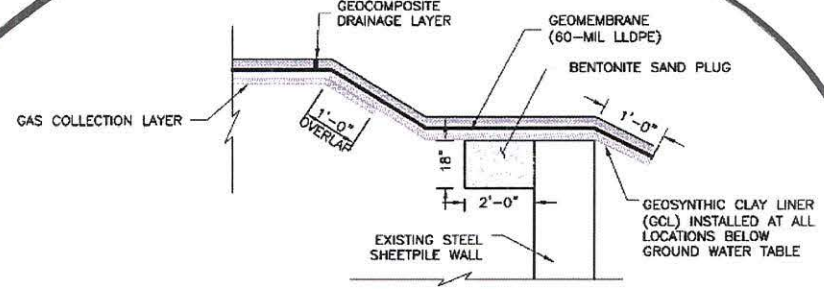
GCL AREAS STA 0+00 TO STA 3+22

TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION

NTS

BN C-121 C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER

NTS

G TYP C-309

***Check applicable Detail:**

X Box Cut Dimension

X Barrier wall clean/exposed

X Sand Bentonite Mix

Location:

- **Soil Cement Wall stations 2+92 to 3+26 (approximately).**
- **North side of south cap near Route 440 along the HB Wall.**

Comments:

- Photos captured Amec Foster Wheeler.

AmecFW QA Signature: _____

Appendix G
ESI Panel Placement Logs

Daily Panel Placement

Page 1

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.) **Roll Stock Width** 23

Panel # P-1 — Roll # G15F443031

Final Length Avg.	37.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	38.50	LF
Initial Width Avg.	23.00	LF

22.5 / 23 / 22 / 21 / 54 / 55 / 22.5 / 23

Notes:

Initial SF	886	Lineal Feet Trench
Final SF	844	

Panel # P-2 — Roll # G15F443031

Final Length Avg.	161.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	162.00	LF
Initial Width Avg.	23.00	LF

22.5 / 23 / 162 / 161 / 161 / 162 / 22.5 / 23

Notes:

Initial SF	3,726	Lineal Feet Trench
Final SF	3,623	

Panel # P-3 — Roll # G15F443031

Final Length Avg.	162.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	163.00	LF
Initial Width Avg.	23.00	LF

22.5 / 23 / 162 / 161 / 163 / 164 / 22.5 / 23

Notes:

Initial SF	3,749	Lineal Feet Trench
Final SF	3,645	

Panel # P-4 — Roll # G15F443031

Final Length Avg.	96.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	97.00	LF
Initial Width Avg.	23.00	LF

22.5 / 23 / 96 / 95 / 97 / 98 / 22.5 / 23

Notes:

Initial SF	2,231	Lineal Feet Trench
Final SF	2,160	

Panel # P-5 — Roll # G15F445054

Final Length Avg.	68.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	69.00	LF
Initial Width Avg.	23.00	LF

22.5 / 23 / 69 / 68 / 68 / 69 / 22.5 / 23

Notes:

Initial SF	1,587	Lineal Feet Trench
Final SF	1,530	

Panel # P-6 — Roll # G15F445054

Final Length Avg.	167.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	168.00	LF
Initial Width Avg.	23.00	LF

22.5 / 23 / 167 / 166 / 168 / 169 / 22.5 / 23

Notes:

Initial SF	3,864	Lineal Feet Trench
Final SF	3,758	

Panel # P-7 — Roll # G15F445054

Final Length Avg.	170.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	171.00	LF
Initial Width Avg.	23.00	LF

22.5 / 23 / 170 / 169 / 171 / 172 / 22.5 / 23

Notes:

Initial SF	3,933	Lineal Feet Trench
Final SF	3,825	

Panel # P-8 — Roll # G154445054

Final Length Avg.	68.50	LF
Final Width Avg.	22.53	LF
Initial Length Avg.	69.50	LF
Initial Width Avg.	23.00	LF

22.57 / 23 / 68 / 67 / 70 / 71 / 22.5 / 23

Notes:

Initial SF	1,599	Lineal Feet Trench
Final SF	1,544	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**20,927**	**SF**
Total Pay Area This Page	**20,927**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	-	SF
Total Panel SF To Date	20,927	SF
Total Pay Area To Date Including Anchor Trench	**20,927**	
Initial Quantity Previous	-	SF
Initial Quantity This Page	21,574	SF
Initial Quantity To Date	21,574	SF

Daily Panel Placement

Page 2

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.) **Roll Stock Width** 23

Panel #	Roll #	Final Length Avg.	Final Width Avg.	Initial Length Avg.	Initial Width Avg.	Initial SF	Final SF
P-9	G15F444052	103.00 LF	22.50 LF	104.00 LF	23.00 LF	2,392	2,318
P-10	G15F444052	177.50 LF	password 22.50 LF	178.50 LF	23.00 LF	4,106	3,994
P-11	G15F444052	188.00 LF	22.50 LF	189.00 LF	23.00 LF	4,347	4,230
P-12	G15F444052	23.00 LF	22.50 LF	24.00 LF	23.00 LF	552	518
P-13	G15F442018	168.50 LF	22.50 LF	169.50 LF	23.00 LF	3,899	3,791
P-14 A	G15F442018	5.00 LF	22.50 LF	6.00 LF	23.00 LF	138	113
P-14	G15F442018	186.50 LF	22.50 LF	187.50 LF	23.00 LF	4,313	4,196
P-15	G15F442018	116.00 LF	22.50 LF	117.00 LF	23.00 LF	2,691	2,610

Lineal Feet Trench

Panel #	Top	Left	Right	Bottom
P-9	23	104	104	23
P-10	23	179	178	23
P-11	23	189	189	23
P-12	23	25	23	23
P-13	23	170	169	23
P-14 A	23	6	6	23
P-14	23	187	188	23
P-15	23	117	117	23

Panel #	Left	Right
P-9	103	103
P-10	178	177
P-11	188	188
P-12	24	22
P-13	169	168
P-14 A	5	5
P-14	186	187
P-15	116	116

Notes:

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**21,769**	**SF**
Total Pay Area This Page	**21,769**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	20,927	SF
Total Panel SF To Date	42,696	SF
Total Pay Area To Date Including Anchor Trench	**42,696**	
Initial Quantity Previous	21,574	SF
Initial Quantity This Page	22,437	SF
Initial Quantity To Date	44,011	SF

Daily Panel Placement

Page 3

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.) **Roll Stock Width** 23

Panel #	Roll #	Final Length Avg.	Final Width Avg.	Initial Length Avg.	Initial Width Avg.	Initial SF	Final SF
P-16	G15F442023	74.50 LF	22.50 LF	75.50 LF	23.00 LF	1,737	1,676
P-17	G15F442023	192.50 LF	22.50 LF	193.50 LF	23.00 LF	4,451	4,331
P-18	G15F442023	195.00 LF	22.50 LF	196.00 LF	23.00 LF	4,508	4,388
P-19	G15F442019	197.50 LF	22.50 LF	198.50 LF	23.00 LF	4,566	4,444
P-20	G15F442019	196.00 LF	22.50 LF	197.00 LF	23.00 LF	4,531	4,410
P-21	G15F442019	99.00 LF	22.50 LF	100.00 LF	23.00 LF	2,300	2,228
P-22	G15F442026	99.00 LF	22.50 LF	100.00 LF	23.00 LF	2,300	2,228
P-23	G15F442026	199.50 LF	22.50 LF	200.50 LF	23.00 LF	4,612	4,489

Lineal Feet Trench

Panel #	Left	Top	Bottom	Right
P-16	75	74	75	76
P-17	193	192	193	194
P-18	195	194	196	197
P-19	198	197	198	199
P-20	194	193	199	200
P-21	100	99	99	100
P-22	100	99	99	100
P-23	200	199	200	201

Notes:

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**28,193**	**SF**
Total Pay Area This Page	**28,193**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	42,696	SF
Total Panel SF To Date	70,889	SF
Total Pay Area To Date Including Anchor Trench	**70,889**	
Initial Quantity Previous	44,011	SF
Initial Quantity This Page	29,003	SF
Initial Quantity To Date	73,014	SF

Daily Panel Placement

Page 4

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.) **Roll Stock Width** 23

Panel # P-24 — Roll # G15F442026

Final Length Avg.	186.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	187.50	LF
Initial Width Avg.	23.00	LF

23
22.5
186 185 188 189
22.5
23

Notes:

Initial SF	4,313	Lineal Feet Trench
Final SF	4,196	

Panel # P-25 — Roll # G15F444043

Final Length Avg.	17.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	18.00	LF
Initial Width Avg.	23.00	LF

23
22.5
18 17 17 18
22.5
23

Notes:

Initial SF	414	Lineal Feet Trench
Final SF	383	

Panel # P-26 — Roll # G15F444043

Final Length Avg.	202.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	203.50	LF
Initial Width Avg.	23.00	LF

23
22.5
206 205 200 201
22.5
23

Notes:

Initial SF	4,681	Lineal Feet Trench
Final SF	4,556	

Panel # P-27 — Roll # G15F444043

Final Length Avg.	213.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	214.00	LF
Initial Width Avg.	23.00	LF

23
22.5
213 212 214 215
22.5
23

Notes:

Initial SF	4,922	Lineal Feet Trench
Final SF	4,793	

Panel # P-28 — Roll # G15F444051

Final Length Avg.	212.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	213.50	LF
Initial Width Avg.	23.00	LF

23
22.5
214 213 212 213
22.5
23

Notes:

Initial SF	4,911	Lineal Feet Trench
Final SF	4,781	

Panel # P-29 — Roll # G15F444051

Final Length Avg.	213.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	214.50	LF
Initial Width Avg.	23.00	LF

23
22.5
214 213 214 215
22.5
23

Notes:

Initial SF	4,934	Lineal Feet Trench
Final SF	4,804	

Panel # P-30 — Roll # G15F444051

Final Length Avg.	56.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	57.00	LF
Initial Width Avg.	23.00	LF

23
22.5
57 56 56 57
22.5
23

Notes:

Initial SF	1,311	Lineal Feet Trench
Final SF	1,260	

Panel # P-31 — Roll # G15F444044

Final Length Avg.	159.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	160.00	LF
Initial Width Avg.	23.00	LF

23
22.5
160 159 159 160
22.5
23

Notes:

Initial SF	3,680	Lineal Feet Trench
Final SF	3,578	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**28,350**	**SF**
Total Pay Area This Page	**28,350**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	70,889	SF
Total Panel SF To Date	99,239	SF
Total Pay Area To Date Including Anchor Trench	**99,239**	
Initial Quantity Previous	73,014	SF
Initial Quantity This Page	29,164	SF
Initial Quantity To Date	102,178	SF

Daily Panel Placement

Page 5

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.)

Roll Stock Width 23

Panel # P-32 — Roll # G15F444044

Final Length Avg.	217.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	218.00	LF
Initial Width Avg.	23.00	LF

23
22.5
218 217 217 218
22.5
23

Notes:

Initial SF	5,014	Lineal Feet Trench
Final SF	4,883	

Panel # P-33 — Roll # G15F444044

Final Length Avg.	87.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	88.50	LF
Initial Width Avg.	23.00	LF

23
22.5
88 87 88 89
22.5
23

Notes:

Initial SF	2,036	Lineal Feet Trench
Final SF	1,969	

Panel # P-34 — Roll # G15F444053

Final Length Avg.	128.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	129.50	LF
Initial Width Avg.	23.00	LF

23
22.5
129 128 129 130
22.5
23

Notes:

Initial SF	2,979	Lineal Feet Trench
Final SF	2,891	

Panel # P-35 — Roll # G15F444053

Final Length Avg.	222.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	223.50	LF
Initial Width Avg.	23.00	LF

23
22.5
221 220 225 226
22.5
23

Notes:

Initial SF	5,141	Lineal Feet Trench
Final SF	5,006	

Panel # P-36 — Roll # G15F444053

Final Length Avg.	142.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	143.00	LF
Initial Width Avg.	23.00	LF

23
22.5
143 142 142 143
22.5
23

Notes:

Initial SF	3,289	Lineal Feet Trench
Final SF	3,195	

Panel # P-37 — Roll # G15F444046

Final Length Avg.	81.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	82.00	LF
Initial Width Avg.	23.00	LF

23
22.5
82 81 81 82
22.5
23

Notes:

Initial SF	1,886	Lineal Feet Trench
Final SF	1,823	

Panel # P-38 — Roll # G15F444046

Final Length Avg.	225.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	226.00	LF
Initial Width Avg.	23.00	LF

23
22.5
226 225 225 226
22.5
23

Notes:

Initial SF	5,198	Lineal Feet Trench
Final SF	5,063	

Panel # P-39 — Roll # G15F444046

Final Length Avg.	191.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	192.50	LF
Initial Width Avg.	23.00	LF

23
22.5
191 190 193 194
22.5
23

Notes:

Initial SF	4,428	Lineal Feet Trench
Final SF	4,309	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**29,138**	**SF**
Total Pay Area This Page	**29,138**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	99,239	SF
Total Panel SF To Date	128,376	SF
Total Pay Area To Date Including Anchor Trench	**128,376**	
Initial Quantity Previous	102,178	SF
Initial Quantity This Page	29,969	SF
Initial Quantity To Date	132,147	SF

Daily Panel Placement

Page 6

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.)

Roll Stock Width 23

Panel # P-40 — Roll # G15F445055

Final Length Avg.	34.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	35.50	LF
Initial Width Avg.	23.00	LF

23
22.5
35 34 35 36
22.5
23

Notes:

Initial SF	817	Lineal Feet Trench
Final SF	776	

Panel # P-41 — Roll # G15F445055

Final Length Avg.	226.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	227.50	LF
Initial Width Avg.	23.00	LF

23
22.5
226 225 228 229
22.5
23

Notes:

Initial SF	5,233	Lineal Feet Trench
Final SF	5,096	

Panel # P-42 — Roll # G15F445055

Final Length Avg.	227.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	228.00	LF
Initial Width Avg.	23.00	LF

23
22.5
228 227 227 228
22.5
23

Notes:

Initial SF	5,244	Lineal Feet Trench
Final SF	5,108	

Panel # P-43 — Roll # G15F444045

Final Length Avg.	229.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	230.00	LF
Initial Width Avg.	23.00	LF

23
22.5
230 229 229 230
22.5
23

Notes:

Initial SF	5,290	Lineal Feet Trench
Final SF	5,153	

Panel # P-44 — Roll # G15F444045

Final Length Avg.	246.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	247.00	LF
Initial Width Avg.	23.00	LF

23
22.5
246 245 247 248
22.5
23

Notes:

Initial SF	5,681	Lineal Feet Trench
Final SF	5,535	

Panel # P-44A — Roll # G15F445056

Final Length Avg.	22.00	LF
Final Width Avg.	5.00	LF
Initial Length Avg.	23.00	LF
Initial Width Avg.	6.00	LF

6
5
23 22 22 23
5
6

Notes:

Initial SF	138	Lineal Feet Trench
Final SF	110	

Panel # P-44B — Roll # G15F445056

Final Length Avg.	22.00	LF
Final Width Avg.	5.00	LF
Initial Length Avg.	23.00	LF
Initial Width Avg.	6.00	LF

6
5
23 22 22 23
5
6

Notes:

Initial SF	138	Lineal Feet Trench
Final SF	110	

Panel # P-45 — Roll # G15F443028

Final Length Avg.	35.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	36.00	LF
Initial Width Avg.	23.00	LF

23
22.5
36 35 35 36
22.5
23

Notes:

Initial SF	828	Lineal Feet Trench
Final SF	788	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**22,675**	**SF**
Total Pay Area This Page	**22,675**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	128,376	SF
Total Panel SF To Date	151,051	SF
Total Pay Area To Date Including Anchor Trench	**151,051**	
Initial Quantity Previous	132,147	SF
Initial Quantity This Page	23,368	SF
Initial Quantity To Date	155,515	SF

Daily Panel Placement

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.) **Roll Stock Width** 23

Panel # P-46 — Roll # G15F443028

Final Length Avg.	280.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	281.00	LF
Initial Width Avg.	23.00	LF

23
22.5
281 280 280 281
22.5
23

Notes:

Initial SF	6,463	Lineal Feet Trench
Final SF	6,300	

Panel # P-47 — Roll # G15F443028

Final Length Avg.	169.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	170.50	LF
Initial Width Avg.	23.00	LF

23
22.5
171 170 169 170
22.5
23

Notes:

Initial SF	3,922	Lineal Feet Trench
Final SF	3,814	

Panel # P-48 — Roll # G15F445056

Final Length Avg.	115.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	116.00	LF
Initial Width Avg.	23.00	LF

23
22.5
116 115 115 116
22.5
23

Notes:

Initial SF	2,668	Lineal Feet Trench
Final SF	2,588	

Panel # P-49 — Roll # G15F445056

Final Length Avg.	290.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	291.50	LF
Initial Width Avg.	23.00	LF

23
22.5
293 292 289 290
22.5
23

Notes:

Initial SF	6,705	Lineal Feet Trench
Final SF	6,536	

Panel # P-50 — Roll # G15F442021

Final Length Avg.	287.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	288.50	LF
Initial Width Avg.	23.00	LF

23
22.5
287 286 289 290
22.5
23

Notes:

Initial SF	6,636	Lineal Feet Trench
Final SF	6,469	

Panel # P-51 — Roll # G15F442021

Final Length Avg.	217.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	218.50	LF
Initial Width Avg.	23.00	LF

23
22.5
218 217 218 219
22.5
23

Notes:

Initial SF	5,026	Lineal Feet Trench
Final SF	4,894	

Panel # P-52 — Roll # G15F445056

Final Length Avg.	44.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	45.00	LF
Initial Width Avg.	23.00	LF

23
22.5
45 44 44 45
22.5
23

Notes:

Initial SF	1,035	Lineal Feet Trench
Final SF	990	

Panel # P-53 — Roll # G15F443037

Final Length Avg.	21.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	22.00	LF
Initial Width Avg.	23.00	LF

23
22.5
22 21 21 22
22.5
23

Notes:

Initial SF	506	Lineal Feet Trench
Final SF	473	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**32,063**	**SF**
Total Pay Area This Page	**32,063**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	151,051	SF
Total Panel SF To Date	183,114	SF
Total Pay Area To Date Including Anchor Trench	**183,114**	
Initial Quantity Previous	155,515	SF
Initial Quantity This Page	32,959	SF
Initial Quantity To Date	188,474	SF

Daily Panel Placement

Page 8

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.)

Roll Stock Width 23

Panel # P-54 — Roll # G15F443037

Final Length Avg.	289.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	290.00	LF
Initial Width Avg.	23.00	LF

23
22.5
290 289 289 290
22.5
23

Notes:

Initial SF	6,670	Lineal Feet Trench
Final SF	6,503	

Panel # P-55 — Roll # G15F443037

Final Length Avg.	189.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	190.00	LF
Initial Width Avg.	23.00	LF

23
22.5
190 189 189 190
22.5
23

Notes:

Initial SF	4,370	Lineal Feet Trench
Final SF	4,253	

Panel # P-56 — Roll # G15C282022

Final Length Avg.	73.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	74.00	LF
Initial Width Avg.	23.00	LF

23
22.5
74 73 73 74
22.5
23

Notes:

Initial SF	1,702	Lineal Feet Trench
Final SF	1,643	

Panel # P-57 — Roll # G15C282014

Final Length Avg.	29.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	30.00	LF
Initial Width Avg.	23.00	LF

23
22.5
30 29 29 30
22.5
23

Notes:

Initial SF	690	Lineal Feet Trench
Final SF	653	

Panel # P-58 — Roll # G15F442022

Final Length Avg.	293.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	294.50	LF
Initial Width Avg.	23.00	LF

23
22.5
293 292 295 296
22.5
23

Notes:

Initial SF	6,774	Lineal Feet Trench
Final SF	6,604	

Panel # P-59 — Roll # G15F442022

Final Length Avg.	204.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	205.00	LF
Initial Width Avg.	23.00	LF

23
22.5
204 203 205 206
22.5
23

Notes:

Initial SF	4,715	Lineal Feet Trench
Final SF	4,590	

Panel # P-60 — Roll # G15F445057

Final Length Avg.	93.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	94.00	LF
Initial Width Avg.	23.00	LF

23
22.5
94 93 93 94
22.5
23

Notes:

Initial SF	2,162	Lineal Feet Trench
Final SF	2,093	

Panel # P-61 — Roll # G15F445057

Final Length Avg.	299.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	300.00	LF
Initial Width Avg.	23.00	LF

23
22.5
300 299 299 300
22.5
23

Notes:

Initial SF	6,900	Lineal Feet Trench
Final SF	6,728	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**33,064**	**SF**
Total Pay Area This Page	**33,064**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	183,114	SF
Total Panel SF To Date	216,177	SF
Total Pay Area To Date Including Anchor Trench	**216,177**	
Initial Quantity Previous	188,474	SF
Initial Quantity This Page	33,983	SF
Initial Quantity To Date	222,456	SF

Daily Panel Placement

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.) **Roll Stock Width** 23

Panel # P-62 — Roll # G15F445057

Final Length Avg.	109.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	110.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 110 109 109 110 / 22.5 / 23

Notes:

Initial SF	2,530	Lineal Feet Trench
Final SF	2,453	

Panel # P-63 — Roll # G15F442017

Final Length Avg.	192.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	193.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 193 192 192 193 / 22.5 / 23

Notes:

Initial SF	4,439	Lineal Feet Trench
Final SF	4,320	

Panel # P-64 — Roll # G15F442017

Final Length Avg.	299.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	300.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 300 299 299 300 / 22.5 / 23

Notes:

Initial SF	6,900	Lineal Feet Trench
Final SF	6,728	

Panel # P-65 — Roll # G15F442020

Final Length Avg.	299.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	300.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 300 299 299 300 / 22.5 / 23

Notes:

Initial SF	6,900	Lineal Feet Trench
Final SF	6,728	

Panel # P-66 — Roll # G15F442020

Final Length Avg.	182.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	183.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 183 182 182 183 / 22.5 / 23

Notes:

Initial SF	4,209	Lineal Feet Trench
Final SF	4,095	

Panel # P-67 — Roll # G15F443027

Final Length Avg.	115.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	116.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 116 115 115 116 / 22.5 / 23

Notes:

Initial SF	2,668	Lineal Feet Trench
Final SF	2,588	

Panel # P-68 — Roll # G15F443027

Final Length Avg.	291.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	292.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 300 299 283 284 / 22.5 / 23

Notes:

Initial SF	6,716	Lineal Feet Trench
Final SF	6,548	

Panel # P-69 — Roll # G15F443027

Final Length Avg.	69.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	70.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 70 69 69 70 / 22.5 / 23

Notes:

Initial SF	1,610	Lineal Feet Trench
Final SF	1,553	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**35,010**	**SF**
Total Pay Area This Page	**35,010**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	216,177	SF
Total Panel SF To Date	251,187	SF
Total Pay Area To Date Including Anchor Trench	**251,187**	
Initial Quantity Previous	222,456	SF
Initial Quantity This Page	35,972	SF
Initial Quantity To Date	258,428	SF

Daily Panel Placement

Page 10

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.) **Roll Stock Width** 23

Panel #	Roll #	Final Length Avg.	Final Width Avg.	Initial Length Avg.	Initial Width Avg.	Initial SF	Final SF	Lineal Feet Trench
P-70	G15C282014	67.00 LF	22.50 LF	68.00 LF	23.00 LF	1,564	1,508	
P-71	G15F443033	146.00 LF	22.50 LF	147.00 LF	23.00 LF	3,381	3,285	
P-72	G15F443033	286.00 LF	22.50 LF	287.00 LF	23.00 LF	6,601	6,435	
P-73	G15F443033	61.00 LF	22.50 LF	62.00 LF	23.00 LF	1,426	1,373	
P-74	G15F443039	220.00 LF	22.50 LF	221.00 LF	23.00 LF	5,083	4,950	
P-75	G15F443039	275.00 LF	22.50 LF	276.00 LF	23.00 LF	6,348	6,188	
P-76	G15F442016	267.00 LF	22.50 LF	268.00 LF	23.00 LF	6,164	6,008	
P-77	G15F442016	235.00 LF	22.50 LF	236.00 LF	23.00 LF	5,428	5,288	

Notes:

Panel #	Top	Left	Right	Bottom
P-70	23	68	68	23
P-71	23	147	147	23
P-72	23	286	288	23
P-73	23	62	62	23
P-74	23	221	221	23
P-75	23	276	276	23
P-76	23	268	268	23
P-77	23	236	236	23

Panel #	Left	Right
P-70	67	67
P-71	146	146
P-72	285	287
P-73	61	61
P-74	220	220
P-75	275	275
P-76	267	267
P-77	235	235

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**35,033**	**SF**
Total Pay Area This Page	**35,033**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	251,187	SF
Total Panel SF To Date	286,220	SF
Total Pay Area To Date Including Anchor Trench	**286,220**	
Initial Quantity Previous	258,428	SF
Initial Quantity This Page	35,995	SF
Initial Quantity To Date	294,423	SF

Daily Panel Placement

Page 11

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.)

Roll Stock Width 23

Panel # P-78 — Roll # G15F443036

Final Length Avg.	41.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	42.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 42 41 41 42 / 22.5 / 23

Notes:

Initial SF	966	Lineal Feet Trench
Final SF	923	

Panel # P-79 — Roll # G15F443036

Final Length Avg.	271.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	272.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 272 271 271 272 / 22.5 / 23

Notes:

Initial SF	6,256	Lineal Feet Trench
Final SF	6,098	

Panel # P-80 — Roll # G15F443030

Final Length Avg.	267.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	268.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 268 267 267 268 / 22.5 / 23

Notes:

Initial SF	6,164	Lineal Feet Trench
Final SF	6,008	

Panel # P-81 — Roll # G15F443036

Final Length Avg.	237.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	238.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 238 237 237 238 / 22.5 / 23

Notes:

Initial SF	5,474	Lineal Feet Trench
Final SF	5,333	

Panel # P-82 — Roll # G15F444050

Final Length Avg.	24.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	25.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 25 24 24 25 / 22.5 / 23

Notes:

Initial SF	575	Lineal Feet Trench
Final SF	540	

Panel # P-83 — Roll # G15F444050

Final Length Avg.	260.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	261.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 261 260 260 261 / 22.5 / 23

Notes:

Initial SF	6,003	Lineal Feet Trench
Final SF	5,850	

Panel # P-84 — Roll # G15F444050

Final Length Avg.	204.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	205.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 205 204 204 205 / 22.5 / 23

Notes:

Initial SF	4,715	Lineal Feet Trench
Final SF	4,590	

Panel # P-85 — Roll # G15F443034

Final Length Avg.	57.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	58.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 58 57 57 58 / 22.5 / 23

Notes:

Initial SF	1,334	Lineal Feet Trench
Final SF	1,283	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**30,623**	**SF**
Total Pay Area This Page	**30,623**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	286,220	SF
Total Panel SF To Date	316,842	SF
Total Pay Area To Date Including Anchor Trench	**316,842**	
Initial Quantity Previous	294,423	SF
Initial Quantity This Page	31,487	SF
Initial Quantity To Date	325,910	SF

Daily Panel Placement

Page 12

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.) **Roll Stock Width** 23

Panel # P-86 — Roll # G15F443034

Final Length Avg.	260.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	261.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 261 / 260 / 260 / 261 / 22.5 / 23

Notes:

Initial SF	6,003	Lineal Feet Trench
Final SF	5,850	

Panel # P-87 — Roll # G15F443034

Final Length Avg.	168.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	169.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 169 / 168 / 168 / 169 / 22.5 / 23

Notes:

Initial SF	3,887	Lineal Feet Trench
Final SF	3,780	

Panel # P-88 — Roll # G15F443036

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

100 / 101 / 17 / 18

Notes:

Initial SF	909	Lineal Feet Trench
Final SF	850	

Panel # P-89 — Roll # G15F443036

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

119 / 120 / 14 / 15

Notes:

Initial SF	900	Lineal Feet Trench
Final SF	833	

Panel # P-90 — Roll # G15F443035

Final Length Avg.	243.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	244.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 244 / 243 / 243 / 244 / 22.5 / 23

Notes:

Initial SF	5,612	Lineal Feet Trench
Final SF	5,468	

Panel # P-91 — Roll # G15F443035

Final Length Avg.	242.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	243.50	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 244 / 243 / 242 / 243 / 22.5 / 23

Notes:

Initial SF	5,601	Lineal Feet Trench
Final SF	5,456	

Panel # P-92 — Roll # G15F444042

Final Length Avg.	242.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	243.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 243 / 242 / 242 / 243 / 22.5 / 23

Notes:

Initial SF	5,589	Lineal Feet Trench
Final SF	5,445	

Panel # P-93 — Roll # G15F444042

Final Length Avg.	242.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	243.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 243 / 242 / 242 / 243 / 22.5 / 23

Notes:

Initial SF	5,589	Lineal Feet Trench
Final SF	5,445	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**33,127**	**SF**
Total Pay Area This Page	**33,127**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	316,842	SF
Total Panel SF To Date	349,969	SF
Total Pay Area To Date Including Anchor Trench	**349,969**	
Initial Quantity Previous	325,910	SF
Initial Quantity This Page	34,090	SF
Initial Quantity To Date	360,000	SF

Daily Panel Placement

Page 13

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.) **Roll Stock Width** 23

Panel # P-94 — Roll # G15F443029

Final Length Avg.	234.00	LF
Final Width Avg.	20.25	LF
Initial Length Avg.	235.00	LF
Initial Width Avg.	21.00	LF

23
22.5
235 234 234 235
18
19

Notes:

Initial SF	4,935	Lineal Feet Trench
Final SF	4,739	

Panel # P-95 — Roll # G15F443029

Final Length Avg.	234.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	235.00	LF
Initial Width Avg.	23.00	LF

23
22.5
235 234 234 235
22.5
23

Notes:

Initial SF	5,405	Lineal Feet Trench
Final SF	5,265	

Panel # P-96 — Roll # G15F443029

Final Length Avg.	13.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	14.00	LF
Initial Width Avg.	23.00	LF

23
22.5
14 13 13 14
22.5
23

Notes:

Initial SF	322	Lineal Feet Trench
Final SF	293	

Panel # P-97 — Roll # G15F443040

Final Length Avg.	219.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	220.00	LF
Initial Width Avg.	23.00	LF

23
22.5
220 219 219 220
22.5
23

Notes:

Initial SF	5,060	Lineal Feet Trench
Final SF	4,928	

Panel # P-98 — Roll # G15F443040

Final Length Avg.	234.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	235.00	LF
Initial Width Avg.	23.00	LF

23
22.5
235 234 234 235
22.5
23

Notes:

Initial SF	5,405	Lineal Feet Trench
Final SF	5,265	

Panel # P-99 — Roll # G15F444049

Final Length Avg.	238.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	239.00	LF
Initial Width Avg.	23.00	LF

23
22.5
239 238 238 239
22.5
23

Notes:

Initial SF	5,497	Lineal Feet Trench
Final SF	5,355	

Panel # P-100 — Roll # G15F444049

Final Length Avg.	236.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	237.00	LF
Initial Width Avg.	23.00	LF

23
22.5
237 236 236 237
22.5
23

Notes:

Initial SF	5,451	Lineal Feet Trench
Final SF	5,310	

Panel # P-101 — Roll # G15F444049

Final Length Avg.	19.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	20.00	LF
Initial Width Avg.	23.00	LF

23
22.5
19 18 20 21
22.5
23

Notes:

Initial SF	460	Lineal Feet Trench
Final SF	428	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**31,581**	**SF**
Total Pay Area This Page	**31,581**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	349,969	SF
Total Panel SF To Date	381,550	SF
Total Pay Area To Date Including Anchor Trench	**381,550**	
Initial Quantity Previous	360,000	SF
Initial Quantity This Page	32,535	SF
Initial Quantity To Date	392,535	SF

Daily Panel Placement

Page 14

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.)

Roll Stock Width 23

Panel # P-102 — Roll # G15F443032

Final Length Avg.	216.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	217.00	LF
Initial Width Avg.	23.00	LF

23
22.5
217 216 216 217
22.5
23

Notes:

Initial SF	4,991	Lineal Feet Trench
Final SF	4,860	

Panel # P-103 — Roll # G15F443032

Final Length Avg.	236.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	237.00	LF
Initial Width Avg.	23.00	LF

23
22.5
237 236 236 237
22.5
23

Notes:

Initial SF	5,451	Lineal Feet Trench
Final SF	5,310	

Panel # P-104 — Roll # G15F442024

Final Length Avg.	187.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	188.00	LF
Initial Width Avg.	23.00	LF

23
22.5
188 187 187 188
22.5
23

Notes:

Initial SF	4,324	Lineal Feet Trench
Final SF	4,208	

Panel # P-105 — Roll # G15F443032

Final Length Avg.	46.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	47.00	LF
Initial Width Avg.	23.00	LF

23
22.5
47 46 46 47
22.5
23

Notes:

Initial SF	1,081	Lineal Feet Trench
Final SF	1,035	

Panel # P-106 — Roll # G15F442024

Final Length Avg.	235.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	236.00	LF
Initial Width Avg.	23.00	LF

23
22.5
236 235 235 236
22.5
23

Notes:

Initial SF	5,428	Lineal Feet Trench
Final SF	5,288	

Panel # P-107 — Roll # G16B001092

Final Length Avg.	233.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	234.00	LF
Initial Width Avg.	23.00	LF

23
22.5
234 233 233 234
22.5
23

Notes:

Initial SF	5,382	Lineal Feet Trench
Final SF	5,243	

Panel # P-108 — Roll # G16B001092

Final Length Avg.	233.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	234.00	LF
Initial Width Avg.	23.00	LF

23
22.5
234 233 233 234
22.5
23

Notes:

Initial SF	5,382	Lineal Feet Trench
Final SF	5,243	

Panel # P-109 — Roll # G16B001092

Final Length Avg.	49.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	50.00	LF
Initial Width Avg.	23.00	LF

23
22.5
50 49 49 50
22.5
23

Notes:

Initial SF	1,150	Lineal Feet Trench
Final SF	1,103	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**32,288**	**SF**
Total Pay Area This Page	**32,288**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	381,550	SF
Total Panel SF To Date	413,838	SF
Total Pay Area To Date Including Anchor Trench	**413,838**	
Initial Quantity Previous	392,535	SF
Initial Quantity This Page	33,189	SF
Initial Quantity To Date	425,724	SF

Daily Panel Placement

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.) **Roll Stock Width** 23

Panel #	Roll #	Final Length Avg.	Final Width Avg.	Initial Length Avg.	Initial Width Avg.	Initial SF	Final SF	Lineal Feet Trench
P-110	G16B001091	187.00 LF	21.50 LF	188.00 LF	22.00 LF	4,136	4,021	
P-111	G15F444041	237.00 LF	21.50 LF	238.00 LF	22.00 LF	5,236	5,096	
P-112	G15F444041	237.00 LF	22.50 LF	238.00 LF	23.00 LF	5,474	5,333	
P-113	G15F442025	233.00 LF	22.50 LF	234.00 LF	23.00 LF	5,382	5,243	
P-114	G15F442025	233.00 LF	22.50 LF	234.00 LF	23.00 LF	5,382	5,243	
P-115	G15F443038	235.00 LF	22.50 LF	236.00 LF	23.00 LF	5,428	5,288	
P-116	G15F443038	77.00 LF	22.50 LF	78.00 LF	23.00 LF	1,794	1,733	
P-117	G15F443038	171.00 LF	22.50 LF	172.00 LF	23.00 LF	3,956	3,848	

Panel #	Initial Length	Initial Width	Final Length	Final Width
P-110	188	22	187	21.5
P-111	238	22	237	21.5
P-112	238	23	237	22.5
P-113	234	23	233	22.5
P-114	234	23	233	22.5
P-115	236	23	235	22.5
P-116	78	23	77	22.5
P-117	172	23	171	22.5

Notes:

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**35,801**	**SF**
Total Pay Area This Page	**35,801**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	413,838	SF
Total Panel SF To Date	449,639	SF
Total Pay Area To Date Including Anchor Trench	**449,639**	
Initial Quantity Previous	425,724	SF
Initial Quantity This Page	36,788	SF
Initial Quantity To Date	462,512	SF

Daily Panel Placement

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Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.) **Roll Stock Width** 23

Panel #	Roll #	Final Length Avg.	Final Width Avg.	Initial Length Avg.	Initial Width Avg.	Initial SF	Final SF	Lineal Feet Trench
P-118	G16B001091					2,645	2,576	
P-119	G16B001091					1,428	1,404	
						-	-	
						-	-	
						-	-	
						-	-	
						-	-	
						-	-	

Notes:

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**3,981**	**SF**
Total Pay Area This Page	**3,981**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	449,639	SF
Total Panel SF To Date	453,619	SF
Total Pay Area To Date Including Anchor Trench	**453,619**	
Initial Quantity Previous	462,512	SF
Initial Quantity This Page	4,073	SF
Initial Quantity To Date	466,585	SF

Appendix H
ESI Trial Weld Logs

Environmental Specialties International Inc.
Preweld Test Report

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : KHAI S. SOK **Cap** X **Shear Test Minimum** 90 **PPI**

Other : CAP CONSTRUCTION

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM / PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
6/22/16	13:00	SU	4024	6	860		82	Peel	90	75	82	95	75	85	95	89	91	84	Pass
S TO S	PM							Shear	93		97		98		96		97		
6/22/16	13:43	BS	4000	6	860		82	Peel	81	86	83	84	87	83	86	87	84	86	Pass
S TO S	PM							Shear	95		96		98		97		98		
6/22/16	14:00	SU	4024	6	860		82	Peel	75	96	97	93	77	94	98	85	91	96	Pass
T TO T	PM							Shear	101		98		103		101		99		
6/22/16	15:51	BS	4000	6	860		82	Peel	98	96	86	87	99	87	95	89	84	86	Pass
S TO T	PM							Shear	104		101		102		99		98		
6/23/16	7:45	SU	EXT-74		500	450	69	Peel	84		89		91		96		100		Pass
S TO S	AM							Shear	90		100		100		105		103		
6/23/16	10:30	AP	4000	5	860		72	Peel	96	93	89	81	90	81	91	91	89	91	Pass
S TO S	AM							Shear	97		99		101		103		98		
6/23/16	10:35	AP	4000	5	860		72	Peel	106	107	105	104	90	105	91	105	85	91	Pass
T TO T	AM							Shear	103		97		96		105		100		
6/23/16	10:17	BS	4131	5	860		72	Peel	91	89	76	84	91	99	86	90	91	76	Pass
S TO S	AM							Shear	100		97		99		103		105		
6/23/16	11:34	AP	4000	5	860		72	Peel	88	83	84	89	86	86	87	87	84	83	Pass
S TO T	AM							Shear	90		95		98		92		94		
6/23/16	13:00	SU	EXT-74		500	450	72	Peel	85		78		93		95		96		Pass
S TO S	PM							Shear	99		98		102		103		101		
6/24/16	7:20	SU	EXT-74		500	450	72	Peel	99		89		88		97		100		Pass
T TO T	AM							Shear	101		103		98		100		97		
6/24/16	10:20	AP	4000	5	860		72	Peel	89	91	88	87	86	93	94	98	91	92	Pass
S TO S	AM							Shear	101		103		104		100		102		
6/24/16	10:24	AP	4000	5	860		72	Peel	91	93	89	90	93	96	91	92	93	94	Pass
T TO T	AM							Shear	103		101		100		103		102		
6/24/16	10:18	AP	4000	5	860		72	Peel	86	87	93	94	95	98	86	85	80	79	Pass
S TO T	AM							Shear	103		98		103		102		99		
6/24/16	10:18	BS	4131	6	860		72	Peel	81	94	95	86	87	88	86	89	96	89	Pass
S TO S	AM							Shear	102		99		100		102		103		
6/24/16	13:15	MA	EXT-75		500	450	72	Peel	91		95		90		89		96		Pass
S TO S	PM							Shear	108		109		101		107		101		

Environmental Specialties International Inc.
Preweld Test Report

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Peel Test Extrusion Minimum** 66 PPI

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Peel Test Fusion Minimum** 75 PPI

Reported By : KHAI S. SOK **Cap** X **Shear Test Minimum** 90 PPI

Other : CAP CONSTRUCTION

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM / PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
6/24/16	12:50	SU	EXT -74		500	450	72	Peel	90		96		88		92		97		Pass
S TO S	PM							Shear	101		103		104		107		106		
6/27/16	15:27	BS	4131	5	860		80	Peel	91	88	90	78	88	89	92	90	93	95	Pass
S to S	PM							Shear	109		98		100		103		102		
6/27/16	15:44	AP	4000	5	860		80	Peel	93	89	90	90	91	96	93	91	92	90	Pass
S TO S	PM							Shear	103		103		100		102		104		
6/27/16	15:46	AP	4000	5	860		80	Peel	90	92	94	88	95	102	94	94	96	94	Pass
T TO T	PM							Shear	101		102		100		99		96		
6/27/16	15:48	AP	4000	5	860		80	Peel	95	87	97	90	101	96	95	83	95	90	Pass
S TO T	PM							Shear	101		103		98		99		100		
6/27/16	15:30	BS	4131	5	860		80	Peel	95	96	89	91	88	76	90	87	96	87	Pass
S TO T	PM							Shear	101		102		97		96		103		
6/27/16	17:29	BS	4024	5	860		80	Peel	91	98	95	96	103	93	93	76	93	89	Pass
S TO S	PM							Shear	105		103		107		106		103		
6/27/16	13:05	SU	EXT-74		500	450	70	Peel	98		98		101		103		102		Pass
T TO T	PM							Shear	101		103		102		101		103		
6/29/16	7:25	SU	EXT-74		500	400	80	Peel	90		99		100		102		102		Pass
T TO T	AM							Shear	94		97		98		97		96		
6/29/16	12:59	SU	EXT-74		500	400	80	Peel	101		87		101		101		103		Pass
T TO T	PM							Shear	100		103		107		106		100		
6/30/16	8:10	SU	EXT-74		500	400	75	Peel	107		109		119		99		111		Pass
T TO T	AM							Shear	106		101		100		99		103		
6/30/16	10:43	BS	4131	6	860		75	Peel	103	116	96	115	110	113	111	106	98	114	Pass
T TO T	AM							Shear	104		106		101		100		102		
6/30/16	10:06	BS	4131	6	860		75	Peel	102	100	101	88	104	100	98	102	100	95	Pass
S TO S	AM							Shear	103		104		101		102		100		
6/30/16	10:15	AP	4000	6	860		75	Peel	107	93	107	100	101	100	82	103	105	96	Pass
S TO T	AM							Shear	103		102		101		103		102		
6/30/16	10:20	AP	4000	6	860		75	Peel	101	101	101	100	91	104	101	100	101	98	Pass
S TO S	AM							Shear	104		103		99		100		104		
6/30/16	10:05	AP	4000	6	860		75	Peel	83	91	78	106	91	104	103	99	100	102	Pass
T TO T	AM							Shear	98		99		101		100		103		

Environmental Specialties International Inc.
Preweld Test Report

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : KHAI S. SOK **Cap** X **Shear Test Minimum** 90 **PPI**

Other : CAP CONSTRUCTION

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM / PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
6/30/16	12:40	SU	EXT-74		500	400	85	Peel	108		103		99		98		101		Pass
T TO T	PM							Shear	103		102		100		99		100		
6/30/16	12:55	BS	4131	6	860		85	Peel	100	98	89	95	96	89	107	100	99	99	Pass
S TO S	PM							Shear	101		100		104		105		103		
7/1/16	7:30	SU	EXT-74		500	400	81	Peel	101		107		108		108		107		Pass
T TO T	AM							Shear	103		102		101		102		103		
7/1/16	7:40	BS	4131	6	860		81	Peel	88	94	110	98	111	99	101	99	88	93	Pass
S TO S	AM							Shear	100		103		102		99		101		
7/1/16	7:34	AP	4000	6	860		81	Peel	93	82	97	96	91	94	82	89	98	95	Pass
S TO S	AM							Shear	102		100		103		111		104		
7/1/16	7:32	AP	4000	6	860		81	Peel	104	104	105	102	98	95	104	112	102	103	Pass
T TO T	AM							Shear	102		103		100		102		101		
7/1/16	7:32	AP	4000	6	860		81	Peel	91	86	87	94	100	95	99	97	98	89	Pass
S TO T	AM							Shear	111		102		103		102		100		
7/1/16	12:50	SU	EXT-74		500	400	81	Peel	91		95		98		101		96		Pass
T TO T	PM							Shear	101		102		103		104		106		
7/6/16	13:00	SU	EXT-74		500	400	91	Peel	89		99		98		102		101		Pass
T TO T	PM							Shear	103		102		101		103		104		
7/6/16	13:05	AP	4000	6	860		91	Peel	83	101	93	96	93	85	96	99	98	88	Pass
T TO T	PM							Shear	101		100		103		104		102		
7/6/16	13:10	AP	4000	6	860		91	Peel	78	87	86	83	83	84	86	86	90	93	Pass
S TO S	PM							Shear	103		104		102		103		104		
7/6/16	13:05	AP	4000	6	860		91	Peel	97	93	86	90	91	95	85	89	90	89	Pass
T TO S	PM							Shear	101		100		102		101		100		
7/6/16	13:05	BS	4131	6	860		91	Peel	89	85	89	86	86	89	79	91	93	93	Pass
S TO S	PM							Shear	101		100		103		102		101		
7/7/16	7:10	SU	EXT-74		500	400	90	Peel	90		100		102		101		100		Pass
T TO T	AM							Shear	104		103		104		102		103		
7/7/16	13:45	SU	EXT-74		500	400	90	Peel	98		101		98		96		101		Pass
T TO T	PM							Shear	102		100		103		103		104		
7/7/16	13:10	BS	4131	6	860		91	Peel	98	89	83	89	93	94	95	96	100	99	Pass
S TO S	PM							Shear	101		103		104		103		101		

Environmental Specialties International Inc.
Preweld Test Report

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : KHAI S. SOK **Cap** X **Shear Test Minimum** 90 **PPI**

Other : CAP CONSTRUCTION

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM / PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
7/8/16	7:00	SU	EXT-74		500	400	88	Peel	109		101		112		110		111		Pass
T TO T	AM							Shear	101		102		106		101		103		
7/8/16	7:50	DM	EXT-75		500	400	88	Peel	80		80		82		83		86		Pass
T TO T	AM							Shear	100		103		102		100		101		
7/8/16	10:38	AP	4000	6	860		88	Peel	89	95	95	100	87	93	75	91	79	89	Pass
S TO S	AM							Shear	101		102		101		103		102		
7/8/16	10:40	AP	4000	6	860		88	Peel	88	87	89	98	96	93	93	96	88	92	Pass
T TO T	AM							Shear	102		103		102		103		102		
7/8/16	8:46	BS	4131	6	860		88	Peel	93	90	88	87	91	93	94	95	91	92	Pass
S TO S	AM							Shear	102		101		103		104		105		
7/8/16	10:50	BS	4131	6	860		88	Peel	81	82	89	90	91	92	93	94	95	96	Pass
S TO T	AM							Shear	105		103		104		102		103		
7/8/16	12:30	SU	EXT-74		500	400	86	Peel	96		103		98		97		101		Pass
T TO T	PM							Shear	100		101		102		103		100		
7/11/16	7:10	SU	EXT-74		500	400	85	Peel	103		102		100		101		103		Pass
T TO T	AM							Shear	103		102		100		105		104		
7/12/16	7:50	SU	EXT-74		500	400	69	Peel	102		101		100		100		101		Pass
T TO T	AM							Shear	101		101		103		104		106		
7/12/16	11:15	AP	4000	6	860		80	Peel	80	106	101	109	89	95	101	102	101	100	Pass
S TO S	AM							Shear	103		104		105		104		103		
7/12/16	11:20	AP	4000	6	860		80	Peel	89	100	112	111	101	102	109	99	93	95	Pass
T TO T	AM							Shear	103		102		101		104		103		
7/12/16	12:40	SU	EXT-74		500	400	89	Peel	101		102		99		100		101		Pass
T TO T	PM							Shear	104		103		102		103		101		
7/12/16	13:10	BS	4131	6	860		89	Peel	95	96	85	86	89	93	99	96	97	90	Pass
S TO S	PM							Shear	100		102		103		102		101		
7/12/16	13:15	BS	4131	6	860		89	Peel	98	98	87	80	96	89	93	94	96	92	Pass
T TO T	PM							Shear	101		102		101		104		105		
7/13/16	7:10	SU	EXT-74		500	400	69	Peel	113		112		114		110		112		Pass
T TO T	AM							Shear	101		103		102		102		103		
7/13/16	14:30	AP	4000	6	860		82	Peel	101	99	96	98	100	98	97	96	97	88	Pass
S TO S	PM							Shear	103		102		103		102		104		

Environmental Specialties International Inc.
Preweld Test Report

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : KHAI S. SOK **Cap** X **Shear Test Minimum** 90 **PPI**

Other : CAP CONSTRUCTION

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM / PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
7/13/16	14:35	AP	4000	6	860		82	Peel	86	93	86	95	87	90	96	97	96	95	Pass
T TO T	PM							Shear	101		103		103		105		103		
7/13/16	14:23	BS	4131	6	860		83	Peel	92	86	93	90	94	96	97	95	86	84	Pass
S TO S	PM							Shear	101		103		102		104		104		
7/13/16	14:25	BS	4131	6	860		83	Peel	96	98	91	90	92	93	94	96	98	99	Pass
T TO T	PM							Shear	101		103		104		103		102		
7/13/16	13:30	SU	EXT-74		500	400	83	Peel	102		101		103		102		101		Pass
T TO T	PM							Shear	105		101		105		102		104		
7/14/16	7:20	SU	EXT-74		500	400	83	Peel	92		92		99		96		97		Pass
T TO T	AM							Shear	103		108		106		107		103		
7/14/16	10:00	BS	4131	6	860		75	Peel	91	99	95	93	89	89	86	89	91	93	Pass
S TO S	AM							Shear	101		108		107		105		103		
7/14/16	9:52	AP	4000	6	860		75	Peel	85	86	93	96	98	100	96	98	87	86	Pass
T TO T	AM							Shear	102		108		109		106		107		
7/14/16	9:50	AP	4000	6	860		75	Peel	100	99	96	97	99	100	87	97	93	96	Pass
S TO S	AM							Shear	103		104		102		103		106		
7/25/16	10:15	AP	4000	6	860		76	Peel	101	98	89	96	97	99	101	103	99	100	Pass
S TO S	AM							Shear	115		116		112		116		115		
7/25/16	10:15	BS	4131	6	860		76	Peel	103	102	104	103	102	101	100	96	97	93	Pass
S TO S	AM							Shear	131		126		124		122		124		
7/25/16	10:20	SU	EXT-74		500	400	76	Peel	87		97		98		98		85		Pass
S TO S	AM							Shear	102		105		125		110		113		
7/25/16	10:30	BS	4131	6	860		76	Peel	96	98	86	96	99	100	89	96	95	96	Pass
T TO T	AM							Shear	105		104		105		103		105		
7/25/16	12:18	BS	4131	6	860		95	Peel	99	100	104	89	99	98	88	86	99	95	Pass
S TO T	PM							Shear	102		105		103		105		102		
7/25/16	12:20	BS	4131	6	860		96	Peel	98	96	86	100	86	95	96	86	92	86	Pass
T TO T	PM							Shear	105		108		103		108		109		
7/25/16	2:19	DM	EXT-75		500	400	92	Peel	100		102		103		104		103		Pass
T TO T	PM							Shear	103		102		103		106		103		
7/27/16	7:20	SU	EXT-74		500	400	82	Peel	100		102		99		104		102		Pass
T TO T	AM							Shear	105		102		103		101		103		

Environmental Specialties International Inc.
Preweld Test Report

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : KHAI S. SOK **Cap** X **Shear Test Minimum** 90 **PPI**

Other : CAP CONSTRUCTION

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM / PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
7/27/16	10:52	AP	4000	6	860		85	Peel	98	89	85	86	95	99	100	98	85	98	Pass
S TO S	AM							Shear	104		103		105		102		105		
7/27/16	10:51	AP	4000	6	860		85	Peel	98	99	85	86	94	99	79	81	85	87	Pass
T TO T	AM							Shear	105		104		105		106		104		
7/27/16	10:50	BS	4131	6	860		85	Peel	89	87	85	89	99	98	97	96	93	89	Pass
T TO T	AM							Shear	104		103		105		103		105		
7/27/16	10:56	BS	4131	6	860		91	Peel	96	98	95	94	85	76	89	88	82	78	Pass
S TO S	AM							Shear	105		108		103		105		103		
7/27/16	11:10	BS	4131	6	860		91	Peel	98	89	85	81	83	97	98	92	95	93	Pass
S TO T	AM							Shear	106		106		104		105		102		
7/28/16	7:30	SU	EXT-74		500	400	87	Peel	110		112		110		112		114		Pass
T TO T	AM							Shear	101		108		104		103		105		
7/28/16	12:48	AP	4000	6	860		93	Peel	110	103	98	89	85	92	99	93	100	99	Pass
S TO S	PM							Shear	102		103		1014		105		102		
7/28/16	12:49	AP	4000	6	860		93	Peel	102	102	106	111	102	101	111	98	99	98	Pass
T TO T	PM							Shear	102		103		102		104		105		
7/28/16	12:56	BS	4131	6	860		93	Peel	111	105	111	103	99	98	86	89	95	86	Pass
S TO S	PM							Shear	105		102		106		105		102		
7/28/16	12:58	BS	4131	6	860		93	Peel	111	102	115	113	89	99	89	95	86	92	Pass
T TO T	PM							Shear	106		105		105		103		102		
7/28/16	12:59	BS	4131	6	860		93	Peel	113	100	98	99	96	98	98	89	86	87	Pass
S TO T	PM							Shear	105		108		106		105		103		
7/28/16	15:56	DM	EXT-75		500	400	93	Peel	101		102		104		99		100		Pass
T TO T	PM							Shear	102		103		102		105		103		
8/2/16	7:20	SU	EXT-74		500	400	78	Peel	100		101		103		102		102		Pass
T TO T	AM							Shear	103		102		103		102		103		
8/2/16	12:40	SU	EXT-74		500	400	80	Peel	103		102		101		102		101		Pass
t TO t	PM							Shear	101		103		103		102		103		
8/3/16	13:08	BS	4131	6	860		80	Peel	98	96	100	98	93	86	85	86	89	99	Pass
T TO T	PM							Shear	105		106		102		106		102		
8/3/16	13:00	BS	4131	6	860		80	Peel	96	98	95	96	94	92	98	100	96	98	Pass
S TO S	PM							Shear	105		104		108		102		107		

Environmental Specialties International Inc.
Preweld Test Report

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : KHAI S. SOK **Cap** X **Shear Test Minimum** 90 **PPI**

Other : CAP CONSTRUCTION

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM / PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
8/3/16	13:03	BS	4131	6	860		80	Peel	98	93	100	99	86	95	93	95	89	87	Pass
S TO T	PM							Shear	109		108		103		106		105		
8/3/16	13:00	AP	4000	6	860		80	Peel	96	99	100	98	89	85	86	89	95	99	Pass
S TO S	PM							Shear	102		103		105		105		106		
8/3/16	13:05	AP	4000	6	860		80	Peel	100	98	87	85	86	99	95	89	86	87	Pass
T TO T	PM							Shear	105		105		104		106		105		
8/3/16	12:50	SU	EXT-74		500	400	80	Peel	98		102		111		103		102		Pass
T TO T	PM							Shear	105		108		109		106		104		
8/5/16	14:51	BS	4131	6	860		87	Peel	100	101	98	89	95	86	98	85	99	95	Pass
S TO S	PM							Shear	102		105		102		106		105		
8/5/16	14:55	BS	4131	6	860		87	Peel	96	89	96	89	86	95	94	86	84	96	Pass
S TO T	PM							Shear	105		105		106		102		105		
8/5/16	14:35	AP	4000	6	860		87	Peel	85	86	95	97	89	86	96	99	98	89	Pass
S TO S	PM							Shear	105		107		104		102		103		
8/5/16	14:30	AP	4000	6	860		87	Peel	93	95	86	82	89	98	87	94	92	97	Pass
T TO T	PM							Shear	105		105		105		102		104		
8/5/16	14:20	SU	EXT-74		500	400	87	Peel	98		98		86		99		97		Pass
T TO T	PM							Shear	103		102		102		104		105		
8/8/16	7:35	SU	EXT-74		500	400	80	Peel	99		96		100		89		93		Pass
T TO T	AM							Shear	106		105		104		103		104		
8/8/16	10:00	AP	4000	6	860		80	Peel	98	97	98	99	100	95	96	97	95	99	Pass
S TO S	AM							Shear	103		105		104		105		106		
8/8/16	10:02	AP	4000	6	860		80	Peel	99	100	96	98	100	99	89	95	93	95	Pass
T TO T	AM							Shear	106		105		103		103		105		
8/8/16	10:19	BS	4131	6	860		80	Peel	96	95	98	93	85	88	89	100	89	88	Pass
S TO S	AM							Shear	105		103		105		102		103		
8/9/16	14:40	SU	EXT-74		500	400	83	Peel	93	94	96	95	98	99	103	110	102	102	Pass
S TO S	PM							Shear	103		104		105		1036		107		
8/9/16	15:02	BS	4131	6	860		83	Peel	99	91	86	95	95	97	88	87	99	90	Pass
S TO S	PM							Shear	100		105		106		105		104		
8/9/16	15:03	BS	4131	6	860		83	Peel	95	96	95	99	86	87	88	85	95	99	Pass
T TO T	PM							Shear	105		104		106		105		104		

Environmental Specialties International Inc.
Preweld Test Report

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : KHAI S. SOK **Cap** X **Shear Test Minimum** 90 **PPI**

Other : CAP CONSTRUCTION

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM / PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
8/9/16	14:45	SU	4000	6	860		83	Peel	100	99	97	96	95	93	94	96	98	98	Pass
T TO T	PM							Shear	103		106		105		104		103		
8/9/16	17:05	SU	EXT-74		500	400	83	Peel	89		97		92		98		94		Pass
T TO T	PM							Shear	105		106		105		103		105		
8/10/16	7:25	SU	EXT-74		500	400	83	Peel	103		102		102		103		104		Pass
T TO T	AM							Shear	105		102		95		96		99		
8/10/16	8:14	BS	4131	6	860		82	Peel	95	99	85	98	86	87	89	88	85	90	Pass
S TO S	AM							Shear	104		102		1047		105		104		
8/10/16	9:30	BS	4131	6	860		82	Peel	99	97	89	86	84	83	81	86	98	96	Pass
T TO T	AM							Shear	102		105		105		104		105		
8/10/16	9:25	BS	4131	6	860		82	Peel	95	98	89	86	98	88	84	86	89	99	Pass
S TO T	AM							Shear	105		106		104		105		102		
8/11/16	7:20	SU	4131	6	860		85	Peel	89	88	98	96	98	89	95	94	96	98	Pass
T TO T	AM							Shear	104		102		106		104		105		
8/11/16	7:51	DM	EXT-75		500	400	85	Peel	105		104		102		104		103		Pass
T TO T	AM							Shear	104		104		102		105		102		
8/11/16	14:50	BS	4131	6	860		90	Peel	95	98	96	85	86	84	96	98	98	86	Pass
S TO S	PM							Shear	102		105		106		105		104		
8/11/16	14:45	BS	4131	6	860		90	Peel	98	89	86	85	84	99	98	85	86	84	Pass
T TO T	PM							Shear	102		104		102		104		105		
8/11/16	14:40	BS	4131	6	860		90	Peel	98	86	84	98	85	94	97	84	87	85	Pass
S TO T	PM							Shear	104		105		102		104		105		
8/11/16	14:30	SU	4000	6	860		90	Peel	98	96	98	95	86	84	85	96	98	97	Pass
S TO S	PM							Shear	104		102		106		105		104		
8/11/16	14:33	SU	4000	6	860		90	Peel	96	95	98	92	97	98	94	95	96	95	Pass
T TO T	PM							Shear	103		106		104		105		105		
8/11/16	15:10	SU	EXT-74		500	400	90	Peel	98		113		101		105		104		Pass
T TO T	PM							Shear	106		102		104		106		105		
8/12/16	14:05	BS	4131	6	860		90	Peel	98	96	95	97	98	97	89	90	88	85	Pass
S TO S	PM							Shear	102		104		103		105		104		
8/12/16	14:15	BS	4131	6	860		90	Peel	89	95	88	87	86	84	85	98	99	100	Pass
T TO T	PM							Shear	105		103		106		105		104		

Environmental Specialties International Inc.
Preweld Test Report

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : KHAI S. SOK **Cap** X **Shear Test Minimum** 90 **PPI**

Other : CAP CONSTRUCTION

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM / PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
8/12/16	14:20	SU	4000	6	860		90	Peel	98	99	96	95	93	92	93	97	98	99	Pass
S TO S	PM							Shear	105		103		104		105		104		
8/12/16	14:25	SU	4000	6	860		90	Peel	889	86	98	96	97	94	92	93	95	96	Pass
T TO T	PM							Shear	105		105		103		104		106		
8/12/16	15:20	SU	EXT-74		500	400	90	Peel	103		102		102		105		102		Pass
T TO T	PM							Shear	102		105		104		104		103		
8/13/16	15:31	BS	4131	6	860		96	Peel	89	98	96	95	94	96	94	93	89	99	Pass
S TO S	PM							Shear	105		103		104		106		102		
8/13/16	15:20	SU	4000	6	860		96	Peel	99	89	96	95	86	95	86	88	96	98	Pass
S TO S	PM							Shear	102		105		103		104		101		
8/1315	15:25	SU	4000	6	860		96	Peel	88	89	89	95	98	97	88	95	93	89	Pass
S TO T	PM							Shear	103		105		102		104		106		
8/13/16	15:30	SU	4000	6	860		96	Peel	96	86	88	95	94	96	89	98	97	98	Pass
T TO T	PM							Shear	105		104		106		105		102		
8/15/16	7:15	SU	EXT-74		500	400	90	Peel	103		102		103		101		111		Pass
T TO T	AM							Shear	102		105		106		102		103		
	:							Peel											
TO								Shear											
	:							Peel											
TO								Shear											
	:							Peel											
TO								Shear											
	:							Peel											
TO								Shear											
	:							Peel											
TO								Shear											
	:							Peel											
TO								Shear											
	:							Peel											
TO								Shear											

Appendix I
ESI Seam Control (Non-Destructive) Test Logs

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
6/22/16	1 / 2	54	13:50 PM	SU	4024	6	860		6/22/16	Air Pressure	14:19 / 30	14:24 / 28	2	Pass
Seam Notes	SEOS TO NEOS (DS-1 CUT FROM SEAM)													
6/22/16	2 / 3	162	14:06 PM	BS	4000	6	860		6/22/16	Air Pressure	15:17 / 30	15:22 / 28	2	Pass
Seam Notes	SEOS TO NEOS													
6/22/16	3 / 5	69	14:44 PM	BS	4000	6	860		6/22/16	Air Pressure	15:20 / 30	15:25 / 30		Pass
Seam Notes	SEOS (COVERED BY R-2) TO R-3													
6/22/16	3 / 4	96	14:52 PM	BS	4000	6	860		6/22/16	Air Pressure	15:20 / 30	15:25 / 29	1	Pass
Seam Notes	R-3 TO NEOS													
6/22/16	4 / 5	23	14:37 PM	SU	4024	6	860		6/22/16	Air Pressure	15:32 / 30	15:37 / 30		Pass
Seam Notes	R-3 TO R-5 (BUTT SEAM)													
6/22/16	5 / 6	15	15:15 PM	BS	4000	6	860		6/22/16	Air Pressure	16 03 / 30	16 08 / 30		Pass
Seam Notes	SEOS TO R-7													
6/22/16	5 / 6	53	14:55 PM	SU	4024	6	860		6/22/16	Air Pressure	15 32 / 30	15 37 / 30		Pass
Seam Notes	R-7 TO R-6													
6/22/16	4 / 6	8	15:00 PM	SU	4024	6	860		6/22/16	Air Pressure	15 32 / 30	15 37 / 30		Pass
Seam Notes	R-6 TO R-5													
6/22/16	4 / 6	89	15:02 PM	SU	4024	6	860		6/22/16	Air Pressure	15 50 / 30	15 55 / 29	1	Pass
Seam Notes	R-5 TO R-4 (NEOS)													
6/22/16	6 / 7	66	15:21 PM	BS	4000	6	860		6/22/16	Air Pressure	15 58 / 30	16 03 / 29	1	Pass
Seam Notes	SEOS TO R-9 (DS-2 CUT FROM SEAM)													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
6/22/16	6 / 7	104	15:29 PM	BS	4000	6	860		6/22/16	Air Pressure	15 52 / 30	15 57 / 30		Pass
Seam Notes	R-9 TO NEOS													
6/23/16	7 / 9	41	10:41 AM	BS	4131	6	860		6/23/16	Air Pressure	11 31 / 30	11 36 / 30		Pass
Seam Notes	SEOS TO R-12													
6/23/16	7 / 9	29	10:47 AM	BS	4131	6	860		6/23/16	Air Pressure	11 31 / 30	11 36 / 30		Pass
Seam Notes	R-12 TO R-17													
6/23/16	7 / 9	32	10:50 AM	BS	4131	6	860		6/23/16	Air Pressure	11 55 / 30	12 00 / 30		Pass
Seam Notes	R-17 TO R-23													
6/23/16	7 / 8	68	10:54 AM	BS	4131	6	860		6/23/16	Air Pressure	12 02 / 30	12 07 / 30		Pass
Seam Notes	R-23 TO NEOS													
6/23/16	8 / 9	23	10:41 AM	AP	4000	6	860		6/23/16	Air Pressure	12 02 / 30	12 07 / 30		Pass
Seam Notes	R-23 TO R-25 (BUTT SEAM)													
6/23/16	9 / 10	61	11:15 AM	AP	4000	5	860		6/23/16	Air Pressure	12 20 / 30	12 25 / 30		Pass
Seam Notes	SEOS TO R-28													
6/23/16	9 / 10	29	11:35 AM	AP	4000	5	860		6/23/16	Air Pressure	12 24 / 30	12 29 / 30		Pass
Seam Notes	R-28 TO R-29													
6/23/16	9 / 10	8	11:48 AM	AP	4000	5	860		6/23/16	Air Pressure	12 30 / 30	12 35 / 30		Pass
Seam Notes	R-29 TO R-25													
6/23/16	8 / 10	52	11:23 AM	BS	4131	6	860		6/23/16	Air Pressure	12 12 / 30	12 17 / 30		Pass
Seam Notes	R-25 TO R-24													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
6/23/16	8 / 10	19	:	CAP			500	400	6/23/16	Vacuum				Pass
Seam Notes	R-24 (20' CAP AT NEOS)													
6/23/16	10 / 11	49	11:40 AM	AP	4000	5	860		6/23/16	Air Pressure	12 49 / 30	12 54 / 30		Pass
Seam Notes	SEOS TO R-36													
6/23/16	10 / 11	20	11:44 AM	AP	4000	5	860		6/23/16	Air Pressure	13 07 / 30	13 12 / 30		Pass
Seam Notes	R-36 TO R-35													
6/23/16	10 / 11	96	11:50 AM	AP	4000	5	860		6/23/16	Air Pressure	13 28 / 30	13 33 / 28	2	Pass
Seam Notes	R-35 TO R-40 (12' CAP AT NEOS) (DS-3 CUT FROM SEAM)(R-34 LOCATED BTWN R-35 AND R-40 WAS CUT AFTER THE SEAM WAS TESTED)													
6/23/16	11 / 12	22	12:13 AM	BS	4131	5	860		6/23/16	Air Pressure	13 28 / 30	13 33 / 28	2	Pass
Seam Notes	NEOS TO R-41													
6/23/16	11 / 13	167	11:56 AM	BS	4131	5	860		6/23/16	Air Pressure	13 42 / 30	13 47 / 30		Pass
Seam Notes	R-41 TO SEOS													
6/24/16	13 / 14	65	10:31 AM	AP	4000	6	860		6/24/16	Air Pressure	11 24 / 30	11 29 / 28	2	Pass
Seam Notes	SEOS TO R-44													
6/24/16	13 / 14	14	10:41 AM	AP	4000	6	860		6/24/16	Air Pressure	11 29 / 30	11 34 / 28	2	Pass
Seam Notes	R-44 TO R-45													
6/24/16	13 / 14	84	10:46	AP	4000	6	860		6/24/16	Air Pressure	11 42 / 30	11 47 / 30		Pass
Seam Notes	R-45 TO R-46 (DS-7 CUT FROM SEAM)													
6/24/16	13 / 14	1	:	AP	EXT-74		500		6/24/16	Vacuum				Pass
Seam Notes	EXTRUSION WELD FROM R-46 AND R-42													
6/24/16	12 / 14	20	10:55 AM	AP	4000	6	860		6/24/16	Air Pressure	11 58 / 30	12 03 / 30		Pass
Seam Notes	R-42 TO R-48													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
6/24/16	12 / 14 A	4	:	EXT	EXT-74		500	400	6/23/16	Vacuum				Pass
Seam Notes	R-48 TO NEOS (3' EXT WELD)													
6/24/16	12 / 13	23	12:06 PM	AP	4000	6	860		6/23/16	Air Pressure	13 45 / 30	13 50 / 29	1	Pass
Seam Notes	R-41 TO R-42 (BUTT SEAM)													
6/24/16	14 A / 14	23	11:00	AP	4000	6	860		6/24/16	Air Pressure	12 55 / 30	13 00 / 30		Pass
Seam Notes	R-48 TO R-49 (BUTT SEAM)													
6/24/16	14 / 16	76	11:07	BS	4131	6	860		6/24/16	Air Pressure	13 10 / 30	13 15 / 30		Pass
Seam Notes	R-51 (3' CAP AT SEOS) TO R-50													
6/24/16	14 / 15	109	11:14	BS	4131	6	860		6/24/16	Air Pressure	12 55 / 30	13 00 / 29	1	Pass
Seam Notes	R-50 TO R-49													
6/24/16	14 A / 15	3	11:16	BS	4131	6	860		6/24/16	Air Pressure	12 55 / 30	13 00 / 28	2	Pass
Seam Notes	R-49 TO NEOS													
6/24/16	15 / 16	23	11:10	BS	4131	6	860		6/24/16	Air Pressure	13 06 / 30	13 11 / 30		Pass
Seam Notes	R-50 TO R-52 (BUTT SEAM)													
6/24/16	16 / 17	78	11:10	AP	4000	6	860		6/24/16	Air Pressure	13 23 / 30	13 28 / 29	1	Pass
Seam Notes	SEOS TO R-52													
6/24/16	15 / 17	118	11:19	AP	4000	6	860		6/24/16	Air Pressure	13 20 / 30	13 25 / 30		Pass
Seam Notes	R-52 TO NEOS (DS-4 CUT FROM SEAM)													
6/24/16	17 / 18	10	11:32	BS	4131	6	860		6/24/16	Air Pressure	14 05 / 30	14 10 / 30		Pass
Seam Notes	SEOS TO R-61													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
6/24/16	17 / 18	29	11:33 AM	BS	4131	6	860		6/24/16	Air Pressure	14 05 / 30	14 10 / 30		Pass
Seam Notes	R-61 TO R-59													
6/24/16	17 / 18	70	11:37	BS	4131	6	860		6/24/16	Air Pressure	13 36 / 30	13 41 / 30		Pass
Seam Notes	R-59 TO R-57													
6/24/16	17 / 18	11	11:46	BS	4131	6	860		6/24/16	Air Pressure	13 50 / 30	13 55 / 30		Pass
Seam Notes	R-57 TO R-56													
6/24/16	17 / 18	20	11:47	BS	4131	6	860		6/24/16	Air Pressure	13 48 / 30	13 53 / 30		Pass
Seam Notes	R-56 TO R-54													
6/24/16	17 / 18	56	11:50	BS	4131	6	860		6/24/16	Air Pressure	13 34 / 30	13 39 / 30		Pass
Seam Notes	R-54 TO NEOS													
6/24/16	18 / 19	24	14:02	AP	4000	6	860		6/24/16	Air Pressure	14 12 / 30	14 17 / 30		Pass
Seam Notes	SEOS TO R-63/64/65 (IN BOTTOM OF SWALE)													
6/24/16	18 / 19	16	11:55	AP	4000	6	860		6/24/16	Air Pressure	13 51 / 30	13 55 / 30		Pass
Seam Notes	R-65 TO R-68													
6/24/16	18 / 19	70	11:58	AP	4000	6	860		6/24/16	Air Pressure	13 51 / 30	13 56 / 28	2	Pass
Seam Notes	R-68 TO R-71 (DS-9 CUT FROM SEAM)													
6/24/16	18 / 19	23	12:40	AP	4000	6	860		6/24/16	Air Pressure	13 35 / 30	13 40 / 30		Pass
Seam Notes	R-71 TO R-72													
6/24/16	18 / 19	60	13:00	AP	4000	6	860		6/24/16	Air Pressure	13 35 / 30	13 40 / 29	1	Pass
Seam Notes	R-72 TO NEOS													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
6/27/16	19 / 20	164	13:59 PM	BS	4131	6	860		6/27/16	Air Pressure	16 15 / 30	16 20 / 30		Pass
Seam Notes	SEOS TO R-75 (DS-5 CUT FROM SEAM)													
6/27/16	19 / R-76	22	:	BS	4131	6	860		6/27/16	Air Pressure	16 52 / 30	16 57 / 30		Pass
Seam Notes	20' ADD ON BETWEEN R-75 AND NEOS													
6/27/16	20 / R-76	22	:	BS	4131	6	860		6/27/16	Air Pressure	16 47 / 30	16 52 / 30		Pass
Seam Notes	20' ADD ON BETWEEN R-75 AND NEOS													
6/27/16	20 / 22	100	16:44 PM	AP	4000	6	860		6/27/16	Air Pressure	17 57 / 30	18 02 / 30		Pass
Seam Notes	SEOS TO R-77													
6/27/16	20 / 21	21	16:44 PM	AP	4000	6	860		6/27/16	Air Pressure	17 57 / 30	18 02 / 30		Pass
Seam Notes	R-77 TO R-78													
6/27/16	20 / 21	49	16:20 PM	BS	4131	6	860		6/27/16	Air Pressure	16 35 / 30	16 40 / 30		Pass
Seam Notes	R-78 TO R-81													
6/27/16	20 / 21	28	16:30 PM	BS	4131	6	860		6/27/16	Air Pressure	16 40 / 30	16 45 / 29	1	Pass
Seam Notes	R-81 TO NEOS													
6/27/16	22 / 23	54	16:55 PM	BS	4024	6	860		6/27/16	Air Pressure	17 21 / 30	17 26 / 30		Pass
Seam Notes	SEOS TO R-82													
6/27/16	22 / 23	45	17:05 PM	BS	4024	6	860		6/27/16	Air Pressure	17 20 / 30	17 25 / 29	1	Pass
Seam Notes	R-82 TO R-83													
6/27/16	21 / 23	101	17:39 PM	BS	4131	6	860		6/27/16	Air Pressure	7 00 / 30	7 05 / 30		Pass
Seam Notes	R-83 TO NEOS													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
6/27/16	21 / 22	23	16:32 PM	BS	4131	6	860		6/27/16	Air Pressure	17 35 / 30	17 40 / 30		Pass
Seam Notes	R-77 TO R-83 (BUTT SEAM)													
6/27/16	23 / 25	17	17:27	AP	4000	6	860		6/29/16	Air Pressure	7 16 / 30	7 21 / 30		Pass
Seam Notes	SEOS TO R-84													
6/27/16	23 / 24	24	17:30 PM	AP	4000	6	860		6/29/16	Air Pressure	7 10 / 30	7 15 / 30		Pass
Seam Notes	R-84 TO R-85													
6/27/16	23 / 24	32	17:30 PM	AP	4000	6	860		6/29/16	Air Pressure	7 10 / 30	7 15 / 30		Pass
Seam Notes	R-85 TO R-89/R-90													
6/27/16	23 / 24	122	17:37	AP	4000	6	860		6/29/16	Air Pressure	7 01 / 30	7 06 / 29	1	Pass
Seam Notes	R-89/R-90 TO NEOS (DS-6 CUT FROM SEAM)													
6/27/16	24 / 25	23	17:15	AP	4000	6	860		6/29/16	Air Pressure	7 16 / 30	7 21 / 29	1	Pass
Seam Notes	R-84 TO R-92 (BUTT SEAM)													
6/27/16	25 / 26	17	17:55	BS	4024	6	860		6/29/16	Air Pressure	7 19 / 30	7 24 / 30		Pass
Seam Notes	SEOS TO R-92													
6/27/16	24 / 26	140	17:59	BS	4024	6	860		6/29/16	Air Pressure	7 19 / 30	7 24 / 30		Pass
Seam Notes	R-92 TO R-93													
6/27/16	24 / 26	48	18:19	BS	4024	6	860		6/29/16	Air Pressure	8 00 / 30	8 05 / 29	1	Pass
Seam Notes	R-93 TO NEOS													
6/27/16	26 / 27	26	18:03	AP	4000	6	860		6/29/16	Air Pressure	7 33 / 30	7 38 / 30		Pass
Seam Notes	SEOS TO R-100													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
6/27/16	26 / 27	29	18:16	AP	4000	6	860		6/29/16	Air Pressure	7 30 / 30	7 35 / 30		Pass
Seam Notes	R-100 TO R-101													
6/27/16	26 / 27	69	18:25	AP	4000	6	860		6/29/16	Air Pressure	7 47 / 30	7 52 / 30		Pass
Seam Notes	R-101 TO R-102													
6/27/16	26 / 27	56	18:20	AP	4000	6	860		6/29/16	Air Pressure	7 54 / 30	7 59 / 30		Pass
Seam Notes	R-102 TO R-117													
6/27/16	26 / 27	28	18:30	AP	4000	6	860		6/29/16	Air Pressure	8 08 / 30	8 13 / 30		Pass
Seam Notes	R-117 TO R-127													
6/27/16	26 / 27	28	: :	SU	EXT-74				6/29/16	Vacuum				Pass
Seam Notes	R-127 TO NEOS COVERED BY R-128 (EXTR WELD)													
6/30/16	R-104 / 19	17	7:44	BS	4131	6	860		6/30/16	Air Pressure	7 55 / 30	8 00 / 30		Pass
Seam Notes	BETWEEN R-107 & R-108 ON P19 & 5'S OF NEOS													
6/30/16	R-105 / 18	22	7:48	BS	4131	6	860		6/30/16	Air Pressure	7 57 / 30	8 02 / 30		Pass
Seam Notes	BETWEEN R-108 & R-109 ON P18 & 5' S OF NEOS (DS-8 CUT FROM SEAM)													
6/30/16	R-104 / R-105	5	7:48	BS	4131	6	860		6/30/16	Air Pressure	7 55 / 30	8 00 / 29	1	Pass
Seam Notes	5' S OF NEOS													
6/30/16	17 / 18	8	8:43	SU	EXT-74		500	400	6/30/16	Vacuum				Pass
Seam Notes	EXTRUDE 2' BETWEEN R-109 TO NEOS													
6/30/16	27 / 28	102	10:32	BS	4131	6	860		6/30/16	Air Pressure	11 07 / 30	11 12 / 30		Pass
Seam Notes	SEOS TO R-155													
6/30/16	27 / 28	13	10:46	BS	4131	6	860		6/30/16	Air Pressure	11 11 / 30	11 16 / 27	3	Pass
Seam Notes	R-155 TO R-154													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
6/30/16	27 / 28	6	:	SU	EXT-74		500	400	6/30/16	Vacuum				Pass
Seam Notes	R-154 to R-132 (6' EXT WELD - R-134)													
6/30/16	27 / 28	35	10:50	BS	4131	6	860		6/30/16	Air Pressure	11 16 / 30	11 21 / 28	2	Pass
Seam Notes	R-132 TO R-123 (DS-10 CUT FROM SEAM)													
6/30/16	27 / R-130	20	11:20	AP	4000	6	860		6/30/16	Air Pressure	13 05 / 30	13 10 / 30		Pass
Seam Notes	20' ADD ON (BETWEEN R-123 AND R-125)													
6/30/16	R-130 / 28	20	11:54	AP	4000	6	860		6/30/16	Air Pressure	12 53 / 30	12 58 / 30		Pass
Seam Notes	20' ADD ON (BETWEEN R-123 AND R-126)													
6/30/16	27 / R-131	23	11:39	AP	4000	6	860		6/30/16	Air Pressure	13 07 / 30	13 12 / 30		Pass
Seam Notes	23' ADD ON AT NEOS (BETWEEN R-125 AND NEOS)													
6/30/16	R-131 / 28	23	11:48	AP	4000	6	860		6/30/16	Air Pressure	12 54 / 30	12 59 / 30		Pass
Seam Notes	23' ADD ON AT NEOS (BETWEEN NEOS AND R-126)													
6/30/16	28 / 29	15	10:33	AP	4000	6	860		6/30/16	Air Pressure	11 33 / 30	11 38 / 30		Pass
Seam Notes	SEOS TO R-156													
6/30/16	28 / 29	193	10:36	AP	4000	6	860		6/30/16	Air Pressure	11 32 / 30	11 37 / 29	1	Pass
Seam Notes	R-156 TO NEOS													
6/30/16	29 / 31	11	11:21	BS	4131	6	860		6/30/16	Air Pressure	14 54 / 30	14 59 / 30		Pass
Seam Notes	SEOS TO R-138													
6/30/16	29 / 31	43	11:23	BS	4131	6	860		6/30/16	Air Pressure	14 52 / 30	14 57 / 28	2	Pass
Seam Notes	R-138 TO R-141													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
6/30/16	29 / 31	105	11:29	BS	4131	6	860		6/30/16	Air Pressure	13 27 / 30	13 32 / 30		Pass
Seam Notes	R-141 TO R-142													
6/30/16	29 / 30	7	11:18	AP	4000	6	860		6/30/16	Air Pressure	13 21 / 30	13 26 / 29	1	Pass
Seam Notes	R-142 TO R-143													
6/30/16	29 / 30	49	11:20	AP	4000	6	860		6/30/16	Air Pressure	13 18 / 30	13 23 / 28	2	Pass
Seam Notes	R-143 TO NEOS													
6/30/16	30 / 31	23	11:45	AP	4000	6	860		6/30/16	Air Pressure	13 33 / 30	13 38 / 30		Pass
Seam Notes	R-142 TO R-152 (BUTT SEAM)													
6/30/16	31 / 32	65	13:08	BS	4131	6	860		6/30/16	Air Pressure	14 01 / 30	14 06 / 29	1	Pass
Seam Notes	SEOS TO R-149													
6/30/16	31 / 32	93	13:15	BS	4131	6	860		6/30/16	Air Pressure	13 53 / 30	13 58 / 30		Pass
Seam Notes	R-149 TO R-152 (DS-11 CUT FROM SEAM)													
6/30/16	30 / 32	58	11:50	AP	4000	6	860		6/30/16	Air Pressure	13 41 / 30	13 46 / 30		Pass
Seam Notes	R-152 TO NEOS													
7/1/16	32 / 34	130	9:08	BS	4131	6	860		7/1/16	Air Pressure	9 30 / 30	9 35 / 28	2	Pass
Seam Notes	SEOS TO R-153													
7/1/16	32 / 33	87	9:21	BS	4131	6	860		7/1/16	Air Pressure	9 40 / 30	9 45 / 30		Pass
Seam Notes	R-153 TO NEOS													
7/1/16	33 / 34	23	9:00	AP	4000	6	860		7/1/16	Air Pressure	9 22 / 30	9 27 / 29	1	Pass
Seam Notes	R-153 TO R-157 (BUTT SEAM)													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/1/16	34 / 35	130	9:45	AP	4000	6	860		7/1/16	Air Pressure	9 47 / 30	9 52 / 29	1	Pass
Seam Notes	SEOS TO R-157 (DS-12 CUT FROM SEAM)													
7/1/16	33 / 35	87	9:19	AP	4000	6	860		7/1/16	Air Pressure	9 52 / 30	9 57 / 29	1	Pass
Seam Notes	R-157 TO NEOS													
7/1/16	35 / 37	82	9:53	BS	4131	6	860		7/1/16	Air Pressure	10 10 / 30	10 15 / 30		Pass
Seam Notes	SEOS TO R-159													
7/1/16	35 / 36	143	10:03	BS	4131	6	860		7/1/16	Air Pressure	10 23 / 30	10 28 / 29	1	Pass
Seam Notes	R-159 TO NEOS													
7/1/16	36 / 37	23	9:45	BS	4131	6	860		7/1/16	Air Pressure	9 58 / 30	10 03 / 29	1	Pass
Seam Notes	R-159 TO R-160 (BUTT SEAM)													
7/1/16	37 / 38	81	11:07	BS	4131	6	860		7/1/16	Air Pressure	11 35 / 30	11 40 / 28	2	Pass
Seam Notes	SEOS (COVERED BY R-166) TO R-160													
7/1/16	36 / 38	144	11:20	BS	4131	6	860		7/1/16	Air Pressure	11 35 / 30	11 40 / 28	2	Pass
Seam Notes	R-160 TO NEOS (DS-13 CUT FROM SEAM)													
7/6/16	38 / 40	35	14:08	AP	4000	6	860		7/6/16	Air Pressure	14 25 / 30	14 30 / 28	2	Pass
Seam Notes	SEOS TO R-167													
7/6/16	38 / 39	74	13:56	BS	4131	6	860		7/6/16	Air Pressure	14 26 / 30	14 31 / 28	2	Pass
Seam Notes	R-167 TO R-168													
7/6/16	38 / 39	108	14:05	BS	4131	6	860		7/6/16	Air Pressure	14 33 / 30	14 38 / 30		Pass
Seam Notes	R-168 TO R-169													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/6/16	38 / 39	11	14:20	BS	4131	6	860		7/6/16	Air Pressure	14 40 / 30	14 45 / 28	2	Pass
Seam Notes	R-169 TO NEOS													
7/6/16	39 / R-171	23	14:48	BS	4131	6	860		7/6/16	Air Pressure	14 54 / 30	14 59 / 30		Pass
Seam Notes	BETWEEN R-167 & R-172 (R-171 WELD TO P39)													
7/6/16	R-171 / 40	23	14:41	BS	4131	6	860		7/6/16	Air Pressure	14 54 / 30	14 59 / 30		Pass
Seam Notes	BETWEEN R-167 & R-172 (R-171 WELD TO P40)													
7/6/16	40 / 41	35	14:48	AP	4000	6	860		7/6/16	Air Pressure	14 54 / 30	14 59 / 29	1	Pass
Seam Notes	SEOS TO R-172													
7/6/16	39 / 41	97	14:53	AP	4000	6	860		7/6/16	Air Pressure	15 13 / 30	15 18 / 30		Pass
Seam Notes	R-172 TO R-173													
7/6/16	39 / 41	11	15:09	AP	4000	6	860		7/6/16	Air Pressure	15 15 / 30	15 20 / 29	1	Pass
Seam Notes	R-173 TO R-174													
7/6/16	39 / 41	18	15:12	AP	4000	6	860		7/6/16	Air Pressure	15 29 / 30	15 34 / 29	1	Pass
Seam Notes	R-174 TO R-175													
7/6/16	39 / 41	12	15:15	AP	4000	6	860		7/6/16	Air Pressure	15 31 / 30	15 36 / 30		Pass
Seam Notes	R-175 TO R-176													
7/6/16	39 / 41	21	15:22	AP	4000	6	860		7/6/16	Air Pressure	15 35 / 30	15 40 / 30		Pass
Seam Notes	R-176 TO NEOS													
7/6/16	41 / 42	65	15:13	BS	4131	6	860		7/6/16	Air Pressure	14 56 / 30	15 01 / 29	1	Pass
Seam Notes	SEOS TO R-177													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/6/16	41 / 42	10	15:51	BS	4131	6	860		7/6/16	Air Pressure	15 56 / 30	16 01 / 29	1	Pass
Seam Notes	R-177 TO R-179													
7/6/16	41 / 42	30	:	SU	EXT-74		500	400	7/6/16	Vacuum				Pass
Seam Notes	R-179 (30' CAP)													
7/6/16	41 / 42	36	15:35	BS	4131	6	860		7/6/16	Air Pressure	16 09 / 30	16 14 / 29	1	Pass
Seam Notes	R-179 TO R-180 (DS-14 CUT FROM SEAM)													
7/6/16	41 / 42	75	15:45	BS	4131	6	860		7/6/16	Air Pressure	16 05 / 30	16 10 / 29	1	Pass
Seam Notes	R-180 TO NEOS													
7/7/16	42 / 43	136	13:27	BS	4131	6	860		7/7/16	Air Pressure	13 57 / 30	14 02 / 30		Pass
Seam Notes	SEOS TO R-189													
7/7/16	42 / 43	68	13:45	BS	4131	6	860		7/7/16	Air Pressure	14 08 / 30	14 13 / 30		Pass
Seam Notes	R-189 TO R-193													
7/7/16	42 / 43	16	13:53	BS	4131	6	860		7/7/16	Air Pressure	14 13 / 30	14 18 / 30		Pass
Seam Notes	R-193 TO NEOS													
7/8/16	43 / 45	36	10:58	BS	4131	6	860		7/8/16	Air Pressure	11 12 / 30	11 17 / 29	1	Pass
Seam Notes	SEOS TO R-213													
7/8/16	43 / 44	47	11:02	BS	4131	6	860		7/8/16	Air Pressure	11 21 / 30	11 26 / 30		Pass
Seam Notes	R-213 TO R-214													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/8/16	43 / 44	26	11:07	BS	4131	6	860		7/8/16	Air Pressure	11 21 / 30	11 26 / 30		Pass
Seam Notes	R-214 TO R-215													
7/8/16	43 / 44	26	11:10	BS	4131	6	860		7/8/16	Air Pressure	11 31 / 30	11 36 / 28	2	Pass
Seam Notes	R-215 TO R-216													
7/8/16	43 / 44	48	11:20	BS	4131	6	860		7/8/16	Air Pressure	11 36 / 30	11 41 / 29	1	Pass
Seam Notes	R-216 TO R-217													
7/8/16	43 / 44	6	13:45	SU	EXT-74		500	400	7/8/16	Vacuum				Pass
Seam Notes	R-219 (6' CAP BETWEEN R-217 & R-218)													
7/8/16	43 / 44	45	11:145	BS	4131	6	860		7/8/16	Air Pressure	11 36 / 30	11 41 / 30		Pass
Seam Notes	R-218 TO NEOS (DS-15 CUT FROM SEAM)													
7/8/16	44 / 44A	26	12:53	BS	4131	6	860		7/8/16	Air Pressure	13 12 / 30	13 17 / 30		Pass
Seam Notes	R-220 TO R-221													
7/8/16	44 / 44B	26	12:53	BS	4131	6	860		7/8/16	Air Pressure	13 12 / 30	13 17 / 30		Pass
Seam Notes	R-221 TO NEOS													
7/8/16	44A / 44B	6	12:52	AP	4000	6	860		7/8/16	Air Pressure	13 12 / 30	13 17 / 30		Pass
Seam Notes	BUTT SEAM													
7/8/16	44 / 45	23	10:59	AP	4000	6	860		7/8/16	Air Pressure	11 11 / 30	11 16 / 30		Pass
Seam Notes	R-213 TO R-223 (BUTT SEAM)													
7/8/16	45 / 46	35	11:11	AP	4000	6	860		7/8/16	Air Pressure	11 52 / 30	11 57 / 30		Pass
Seam Notes	SEOS TO R-223 (DS-17 CUT FROM SEAM)													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/8/16	44 / 46	180	11:16	AP	4000	6	860		7/8/16	Air Pressure	11 52 / 30	11 57 / 30		Pass
Seam Notes	R-223 TO R-225													
7/8/16	44 / 46	63	11:35	AP	4000	6	860		7/8/16	Air Pressure	12 36 / 30	12 41 / 30		Pass
Seam Notes	R-225 TO NEOS													
7/8/16	46 / 48	115	13:22	BS	4131	6	860		7/8/16	Air Pressure	13 54 / 30	13 59 / 28	2	Pass
Seam Notes	SEOS TO R-232													
7/8/16	46 / 47	138	12:44	AP	4000	6	860		7/8/16	Air Pressure	13 05 / 30	13 10 / 30		Pass
Seam Notes	R-232 TO R-235 (DS-16 CUT FROM SEAM)													
7/8/16	46 / 47	12	13:00	AP	4000	6	860		7/8/16	Air Pressure	13 31 / 30	13 36 / 29	1	Pass
Seam Notes	R-235 TO R-236													
7/8/16	46 / R238	19	13:50	BS	4131	6	860		7/8/16	Air Pressure	13 26 / 30	13 31 / 29	1	Pass
Seam Notes	R-236 TO NEOS (19' CAP)													
7/8/16	47 / 48	23	13:34	BS	4131	6	860		7/8/16	Air Pressure	13 46 / 30	13 51 / 29	1	Pass
Seam Notes	R-232 TO R-233 (BUTT SEAM)													
7/8/16	R238 / 47	19	13:55	BS	4131	6	860		7/8/16	Air Pressure	13 26 / 30	13 31 / 29	1	Pass
Seam Notes	R-236 TO NEOS (19' CAP)													
7/8/16	48 / 49	116	13:45	BS	4131	6	860		7/8/16	Air Pressure	14 03 / 30	14 08 / 30		Pass
Seam Notes	SEOS TO R-233													
7/8/16	47 / 49	47	13:54	BS	4131	6	860		7/8/16	Air Pressure	14 07 / 30	14 12 / 29	1	Pass
Seam Notes	R-233 TO R-234													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/8/16	47 / 49	127	13:49	BS	4131	6	860		7/8/16	Air Pressure	14 17 / 30	14 22 / 30		Pass
Seam Notes	R-234 TO NEOS													
7/12/16	49 / 50	5	13:05	SU	EXT-74		500	400	7/12/16	Vacuum				Pass
Seam Notes	SEOS TO R-243 (R-242 EXT WELD)													
7/12/16	49 / 50	283	12:51	AP	4000	6	860		7/12/16	Air Pressure	14 02 / 30	14 07 / 30		Pass
Seam Notes	R-243 TO R-245 (DS-18 CUT FROM SEAM)													
7/12/16	49 / 50	30	13:24	AP	4000	6	860		7/12/16	Air Pressure	14 02 / 30	14 07 / 28	2	Pass
Seam Notes	R-245 TO NEOS													
7/12/16	50 / 53	20	14:00	BS	4131	6	860		7/12/16	Air Pressure	14 30 / 30	14 35 / 29	1	Pass
Seam Notes	SEOS TO R-246													
7/12/16	50 / 52	54	13:53	BS	4131	6	860		7/12/16	Air Pressure	14 17 / 30	14 22 / 29	1	Pass
Seam Notes	R-246 TO R-250													
7/12/16	50 / 51	39	13:44	BS	4131	6	860		7/12/16	Air Pressure	14 15 / 30	14 20 / 28	2	Pass
Seam Notes	R-250 TO R-251													
7/12/16	50 / 51	99	13:33	BS	4131	6	860		7/12/16	Air Pressure	14 12 / 30	14 17 / 29	1	Pass
Seam Notes	R-251 TO R-254													
7/12/16	50 / 51	60	15:22	BS	4131	6	860		7/12/16	Air Pressure	14 05 / 30	14 10 / 30		Pass
Seam Notes	R-254 TO R-255													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/12/16	50 / 51	15	15:22	BS	4131	6	860		7/12/16	Air Pressure	14 05 / 30	14 10 / 27	3	Pass
Seam Notes	R-255 TO NEOS													
7/12/16	51 / 52	23	13:49	BS	4131	6	860		7/12/16	Air Pressure	14 15 / 30	14 20 / 28	2	Pass
Seam Notes	R-250 TO R-257 (BUTT SEAM)													
7/12/16	52 / 53	23	14:10	BS	4131	6	860		7/12/16	Air Pressure	14 27 / 30	14 32 / 29	1	Pass
Seam Notes	R-246 TO R-256 (BUTT SEAM)													
7/12/16	53 / 54	20	14:30	BS	4131	6	860		7/12/16	Air Pressure	14 40 / 30	14 45 / 28	2	Pass
Seam Notes	SEOS TO R-256 (DS-19 CUT FROM SEAM)													
7/12/16	52 / 54	54	14:22	AP	4000	6	860		7/12/16	Air Pressure	14 35 / 30	14 40 / 29	1	Pass
Seam Notes	R-256 TO R-257													
7/12/16	51 / 54	210	14:04	AP	4000	6	860		7/12/16	Air Pressure	14 35 / 30	14 40 / 29	1	Pass
Seam Notes	R-257 TO NEOS													
7/12/16	54 / 57	30	15:03	BS	4131	6	860		7/12/16	Air Pressure	15 17 / 30	15 22 / 27	3	Pass
Seam Notes	SEOS TO R-258													
7/12/16	54 / 56	74	14:54	BS	4131	6	860		7/12/16	Air Pressure	15 12 / 30	15 17 / 28	2	Pass
Seam Notes	R-258 TO R-259													
7/12/16	54 / 55	190	14:33	BS	4131	6	860		7/12/16	Air Pressure	15 03 / 30	15 08 / 28	2	Pass
Seam Notes	R-259 TO NEOS													
7/12/16	55 / 56	23	14:46	AP	4000	6	860		7/12/16	Air Pressure	15 02 / 30	15 07 / 29	1	Pass
Seam Notes	R-259 TO R-263 (BUTT SEAM)(DS-20 CUT FROM SEAM)													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/12/16	56 / 57	23	14:53	AP	4000	6	860		7/12/16	Air Pressure	15 20 / 30	15 25 / 30		Pass
Seam Notes	R-258 TO R-262 (BUTT SEAM)													
7/13/16	57 / 58	30	14:59	BS	4131	6	860		7/13/16	Air Pressure	15 10 / 30	15 15 / 27	3	Pass
Seam Notes	SEOS TO R-262													
7/13/16	56 / 58	73	14:51	BS	4131	6	860		7/13/16	Air Pressure	15 10 / 30	15 15 / 28	2	Pass
Seam Notes	R-262 TO R-263													
7/13/16	55 / 58	170	14:32	BS	4131	6	860		7/13/16	Air Pressure	15 10 / 30	15 10 / 28	2	Pass
Seam Notes	R-263 TO R-264													
7/13/16	55 / 58	12	14:35	BS	4131	6	860		7/13/16	Air Pressure	14 56 / 30	15 01 / 28	2	Pass
Seam Notes	R-264 TO R-265													
7/13/16	55 / 58	7	15:25	SU	EXT-74		500	400	7/13/16	Vacuum				Pass
Seam Notes	R-265 TO NEOS (7' EXT WELD)													
7/13/16	58 / 60	94	15:10	AP	4000	6	860		7/13/16	Air Pressure	15 27 / 30	15 32 / 28	2	Pass
Seam Notes	SEOS TO R-267													
7/13/16	58 / 59	196	14:46	AP	4000	6	860		7/13/16	Air Pressure	15 23 / 30	15 28 / 29	1	Pass
Seam Notes	R-267 TO NEOS (DS-21 CUT FROM SEAM)													
7/13/16	60 / 59	23	15:07	BS	4131	6	860		7/13/16	Air Pressure	15 22 / 30	15 27 / 27	3	Pass
Seam Notes	R-267 & R-268 (BUTT SEAM)													
7/13/16	60 / 61	94	15:39	BS	4131	6	860		7/13/16	Air Pressure	15 55 / 30	16 00 / 29	1	Pass
Seam Notes	SEOS TO R-268													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/13/16	59 / 61	184	15:17	BS	4131	6	860		7/13/16	Air Pressure	15 51 / 30	15 56 / 29	1	Pass
Seam Notes	R-268 TO R-269													
7/13/16	59 / 61	23	15:15	BS	4131	6	860		7/13/16	Air Pressure	15 40 / 30	15 45 / 30		Pass
Seam Notes	R-269 TO NEOS													
7/13/16	61 / 63	194	15:54	BS	4131	6	860		7/13/16	Air Pressure	16 22 / 30	16 27 / 29	1	Pass
Seam Notes	SEOS TO R-270 (DS-22 CUT FROM SEAM)													
7/13/16	61 / 62	94	14:33	BS	4131	6	860		7/13/16	Air Pressure	15 04 / 30	15 09 / 28	2	Pass
Seam Notes	R-270 TO NEOS													
7/14/16	63 / 64	193	10:26	BS	4131	6	860		7/14/16	Air Pressure	11 00 / 30	11 05 / 30		Pass
Seam Notes	SEOS TO R-277													
7/14/16	62 / 64	107	10:15	BS	4131	6	860		7/14/16	Air Pressure	11 00 / 30	11 05 / 30		Pass
Seam Notes	R-277 TO NEOS													
7/15/16	62 / 63	23	10:00	AP	4000	6	860		7/14/16	Air Pressure	10 19 / 30	10 24 / 30		Pass
Seam Notes	R-270 TO R-277 (BUTT SEAM)													
7/14/16	64 / 65	115	11:00	AP	4000	6	860		7/14/16	Air Pressure	11 31 / 30	11 36 / 28	2	Pass
Seam Notes	SEOS TO R-280 (DS-23 CUT FROM SEAM)													
7/14/16	64 / 65	75	10:48	AP	4000	6	860		7/14/16	Air Pressure	11 28 / 30	11 33 / 27	3	Pass
Seam Notes	R-280 TO R-278													
7/14/16	64 / 65	25	10:33	AP	4000	6	860		7/14/16	Air Pressure	11 12 / 30	11 17 / 28	2	Pass
Seam Notes	R-278 TO R-279													
7/14/16	64 / 65	90	10:35	AP	4000	6	860		7/14/16	Air Pressure	10 52 / 30	10 57 / 30		Pass
Seam Notes	R-279 TO NEOS													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/14/16	65 / 67	116	11:23	BS	4131	6	860		7/14/16	Air Pressure	12 02 / 30	12 07 / 30		Pass
Seam Notes	SEOS TO R-281													
7/14/16	65 / 66	195	11:00	BS	4131	6	860		7/14/16	Air Pressure	11 56 / 30	12 07 / 29	1	Pass
Seam Notes	R-281 TO NEOS													
7/14/16	67 / 68	115	13:32	BS	4131	6	860		7/14/16	Air Pressure	13 51 / 30	13 56 / 29	1	Pass
Seam Notes	SEOS TO R-289													
7/14/16	66 / 68	60	13:27	BS	4131	6	860		7/14/16	Air Pressure	13 51 / 30	13 56 / 28	2	Pass
Seam Notes	R-289 TO R-290 (DS-24 CUT FROM SEAM)													
7/14/16	66 / 68	145	13:13	BS	4131	6	860		7/14/16	Air Pressure	13 35 / 30	13 40 / 27	3	Pass
Seam Notes	R-290 TO NEOS													
7/14/16	67 / 66	23	11:20	AP	4000	6	860		7/14/16	Air Pressure	11 56 / 30	12 01 / 30		Pass
Seam Notes	R-281 TO R-289 (BUTT SEAM)													
7/25/16	68 / 71	99	10:50	BS	4131	6	860		7/25/16	Air Pressure	11 14 / 30	11 19 / 29	1	Pass
Seam Notes	SEOS TO R-293													
7/25/16	68 / 71	48	10:47	BS	4131	6	860		7/25/16	Air Pressure	11 12 / 30	11 17 / 30		Pass
Seam Notes	R-293 TO R-294													
7/25/16	68 / 70	68	10:36	BS	4131	6	860		7/25/16	Air Pressure	10 54 / 30	10 59 / 30		Pass
Seam Notes	R-294 TO R-295													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/25/16	68 / 69	69	10:31	BS	4131	6	860		7/25/16	Air Pressure	10 46 / 30	10 51 / 29	1	Pass
Seam Notes	R-295 TO NEOS (DS-25 CUT FROM SEAM)													
7/25/16	69 / 70	23	10:28	AP	4000	6	860		7/25/16	Air Pressure	10 30 / 30	10 35 / 29	1	Pass
Seam Notes	R-295 TO R-302 (BUTT SEAM)													
7/25/16	70 / 71	23	10:49	AP	4000	6	860		7/25/16	Air Pressure	10 58 / 30	11 03 / 28	2	Pass
Seam Notes	R-294 TO R-299 (BUTT SEAM)													
7/25/16	71 / 72	155	11:31	BS	4131	6	860		7/25/16	Air Pressure	11 41 / 30	11 46 / 28	2	Pass
Seam Notes	SEOS TO R-299													
7/25/16	70 / 72	53	11:20	AP	4000	6	860		7/25/16	Air Pressure	11 55 / 30	12 00 / 28	2	Pass
Seam Notes	R-299 TO R-301													
7/25/16	70 / 72	16	11:17	AP	4000	6	860		7/25/16	Air Pressure	11 31 / 30	11 36 / 28	2	Pass
Seam Notes	R-301 TO R-302													
7/25/16	69 / 72	69	11:09	AP	4000	6	860		7/25/16	Air Pressure	11 26 / 30	11 31 / 28	2	Pass
Seam Notes	R-302 TO NEOS													
7/25/16	72 / 74	53	12:03	BS	4131	6	860		7/25/16	Air Pressure	13 20 / 30	13 25 / 30		Pass
Seam Notes	SEOS TO R-303													
7/25/16	72 / 74	50	11:56	BS	4131	6	860		7/25/16	Air Pressure	13 14 / 30	13 19 / 30		Pass
Seam Notes	R-303 TO R-306													
7/25/16	72 / 74	10	11:45	BS	4131	6	860		7/25/16	Air Pressure	13 10 / 30	13 15 / 28	2	Pass
Seam Notes	R-306 TO R-307													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/25/16	72 / 74	48	11:43	BS	4131	5	860		7/25/16	Air Pressure	13 08 / 30	13 13 / 28	2	Pass
Seam Notes	R-307 TO R-309 (DS-26 CUT FROM SEAM)													
7/25/16	72 / 74	9	12:01	AP	4000	6	860		7/25/16	Air Pressure	13 02 / 30	13 07 / 29	1	Pass
Seam Notes	R-309 TO R-310													
7/25/16	72 / 74	51	11:51	AP	4000	6	860		7/25/16	Air Pressure	12 59 / 30	13 04 / 29	1	Pass
Seam Notes	R-310 TO R-311													
7/25/16	72 / 73	61	11:25	AP	4000	6	860		7/25/16	Air Pressure	12 01 / 30	12 06 / 29	1	Pass
Seam Notes	R-311 TO NEOS													
7/25/16	73 / 74	23	11:45	AP	4000	6	860		7/25/16	Air Pressure	12 01 / 30	12 06 / 29	1	Pass
Seam Notes	R-311 TO R-316 (BUTT SEAM)													
7/25/16	74 / 75	76	11:50	BS	4131	6	860		7/25/16	Air Pressure	14 38 / 30	14 43 / 30		Pass
Seam Notes	SEOS TO R-314													
7/25/16	74 / 75	134	13:53	BS	4131	6	860		7/25/16	Air Pressure	14 31 / 30	14 36 / 30		Pass
Seam Notes	R-314 TO R-315													
7/25/16	74 / 75	4	13:50	BS	4131	6	860		7/25/16	Air Pressure	14 20 / 30	14 25 / 28	2	Pass
Seam Notes	R-315 TO R-316													
7/25/16	73 / 75	58	13:44	BS	4131	6	860		7/25/16	Air Pressure	14 29 / 30	14 34 / 29	1	Pass
Seam Notes	R-316 TO NEOS													
7/27/16	75 / 76	8	14:35	SU	EXT-74		500	400	7/27/16	Vacuum				Pass
Seam Notes	SEOS TO R-332 (8' CAP)													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/27/16	75 / 76	71	11:08	AP	4000	6	860		7/27/16	Air Pressure	11 27 / 30	11 32 / 29	1	Pass
Seam Notes	R-332 TO R-333 (DS-27 COLLECTED FROM SEAM)													
7/27/16	75 / 76	68	11:30	BS	4131	6	860		7/27/16	Air Pressure	11 44 / 30	11 49 / 29	1	Pass
Seam Notes	R-333 TO R-334													
7/27/16	75 / 76	83	11:20	BS	4131	6	860		7/27/16	Air Pressure	11 45 / 30	11 50 / 30		Pass
Seam Notes	R-334 TO 335													
7/27/16	75 / 76	14	11:14	BS	4131	6	860		7/27/16	Air Pressure	11 32 / 30	11 37 / 28	2	Pass
Seam Notes	R-335 TO R-336													
7/27/16	75 / 76	12	11:10	BS	4131	6	860		7/27/16	Air Pressure	11 35 / 30	11 40 / 29	1	Pass
Seam Notes	R-336 TO NEOS													
7/27/16	76 / 78	4	13:47	AP	4000	6	860		7/27/16	Air Pressure	14 03 / 30	14 08 / 29	1	Pass
Seam Notes	SEOS TO R-339													
7/27/16	76 / 78	36	13:41	AP	4000	6	860		7/27/16	Air Pressure	14 30 / 30	14 35 / 29	1	Pass
Seam Notes	R-339 TO R-340 (R-342 AND R-347 LOCATED BTWN R-339 AND R-340 WERE CUT AFTER THE SEAM WAS TESTED)													
7/27/16	76 / 77	240	11:31	AP	4000	6	860		7/27/16	Air Pressure	12 51 / 30	12 56 / 29	1	Pass
Seam Notes	R-340 TO NEOS													
7/27/16	77 / 78	23	13:35	AP	4000	6	860		7/27/16	Air Pressure	14 03 / 30	14 08 / 29	1	Pass
Seam Notes	R-340 TO R-344 (BUTT SEAM)													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/27/16	78 / 79	15	13:45	BS	4131	6	860		7/27/16	Air Pressure	14 06 / 30	14 11 / 29	1	Pass
Seam Notes	SEOS TO R-341													
7/27/16	78 / 79	25	13:42	BS	4131	6	860		7/27/16	Air Pressure	14 03 / 30	14 08 / 28	2	Pass
Seam Notes	R-341 TO R-344													
7/27/16	77 / 79	98	13:30	BS	4131	6	860		7/27/16	Air Pressure	13 47 / 30	13 52 / 28	2	Pass
Seam Notes	R-344 TO R-345													
7/27/16	77 / 79	4	13:25	BS	4131	6	860		7/27/16	Air Pressure	13 47 / 30	13 52 / 28	2	Pass
Seam Notes	R-345 TO R-346 (PATCHED OVER)													
7/27/16	77 / 79	121	13:17	BS	4131	6	860		7/27/16	Air Pressure	13 40 / 30	13 45 / 28	2	Pass
Seam Notes	R-346 TO NEOS													
7/27/16	79 / 80	131	14:14	AP	4000	6	860		7/27/16	Air Pressure	14 43 / 30	14 48 / 28	2	Pass
Seam Notes	SEOS TO R-348													
7/27/16	79 / 80	33	14:37	BS	4131	6	860		7/27/16	Air Pressure	14 51 / 30	14 56 / 29	1	Pass
Seam Notes	R-348 TO R-355													
7/27/16	79 / 80	40	14:24	BS	4131	6	860		7/27/16	Air Pressure	14 54 / 30	14 59 / 29	1	Pass
Seam Notes	R-355 TO R-358 (DS-31 CUT FROM SEAM)													
7/27/16	79 / 80	60	14:31	BS	4131	6	860		7/27/16	Air Pressure	14 56 / 30	15 01 / 29	1	Pass
Seam Notes	R-358 TO NEOS													
7/28/16	80 / 82	25	13:47	BS	4131	6	860		7/28/16	Air Pressure	14 47 / 30	14 52 / 30		Pass
Seam Notes	R-362 (4' PATCH AT SEOS) TO R-363													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/28/16	80 / 81	110	13:23	BS	4131	6	860		7/27/16	Air Pressure	13 38 / 30	13 43 / 28	2	Pass
Seam Notes	R-363 TO R-364													
7/28/16	80 / 81	3	14:05	SU	EXT-74		500	400	7/28/16	Vacuum				Pass
Seam Notes	R-364 TO R-365/R-368 (3' EXT WELD)													
7/28/16	80 / 81	111	13:05	BS	4131	6	860		7/28/16	Air Pressure	13 24 / 30	13 29 / 30		Pass
Seam Notes	R-365/R-368 TO R-369 (2' CAP AT NEOS)													
7/28/16	81 / 82	23	13:43	BS	4131	6	860		7/28/16	Air Pressure	14 36 / 30	14 41 / 29	1	Pass
Seam Notes	R-363 TO R-370 (BUTT SEAM)													
7/28/16	82 / 83	25	13:56	BS	4131	6	860		7/28/16	Air Pressure	14 36 / 30	14 41 / 28	2	Pass
Seam Notes	SEOS TO R-370													
7/28/16	81 / 83	6	14:10	AP	4000	6	860		7/28/16	Air Pressure	14 42 / 30	14 47 / 28	2	Pass
Seam Notes	R-370 TO R-371													
7/28/16	81 / 83	113	14:55	AP	4000	6	860		7/28/16	Air Pressure	14 35 / 30	14 40 / 28	2	Pass
Seam Notes	R-371 TO R-372													
7/28/16	81 / 83	71	14:45	AP	4000	6	860		7/28/16	Air Pressure	14 24 / 30	14 29 / 28	2	Pass
Seam Notes	R-372 TO R-373 (DS-28 CUT FROM SEAM)													
7/28/16	81 / 83	47	13:38	AP	4000	6	860		7/28/16	Air Pressure	14 24 / 30	14 29 / 28	2	Pass
Seam Notes	R-373 TO NEOS													
7/28/16	83 / 85	52	14:40	BS	4131	6	860		7/28/16	Air Pressure	14 52 / 30	14 57 / 30		Pass
Seam Notes	SEOS TO R-374													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/28/16	83 / 84	147	14:24	BS	4131	6	860		7/28/16	Air Pressure	14 57 / 30	15 02 / 28	2	Pass
Seam Notes	R-374 TO R-375													
7/28/16	83 / 84	55	14:16	BS	4131	6	860		7/28/16	Air Pressure	15 18 / 30	15 23 / 29	1	Pass
Seam Notes	R-375 TO NEOS													
7/28/16	84 / 85	23	14:08	BS	4131	6	860		7/28/16	Air Pressure	14 52 / 30	14 57 / 29	1	Pass
Seam Notes	R-374 TO R-376 (BUTT SEAM)													
7/28/16	85 / 86	52	14:54	AP	4000	6	860		7/28/16	Air Pressure	15 09 / 30	15 14 / 30		Pass
Seam Notes	SEOS TO R-376													
7/28/16	84 / 86	145	14:39	AP	4000	6	860		7/28/16	Air Pressure	15 09 / 30	15 14 / 30		Pass
Seam Notes	R-376 TO R-377													
7/28/16	84 / 86	65	14:29	AP	4000	6	860		7/28/16	Air Pressure	15 20 / 30	15 25 / 30		Pass
Seam Notes	R-377 TO NEOS													
7/28/16	86 / 88	39	16:04	BS	4131	6	860		7/28/16	Air Pressure	16 14 / 30	16 19 / 30		Pass
Seam Notes	SEOS TO R-381													
7/28/16	86 / 88	57	15:57	BS	4131	6	860		7/28/16	Air Pressure	16 14 / 30	16 19 / 30		Pass
Seam Notes	R-381 TO R-378													
7/28/16	86 / 87	108	15:32	BS	4131	6	860		7/28/16	Air Pressure	16 04 / 30	16 09 / 30		Pass
Seam Notes	R-378 TO R-379 (DS-32 CUT FROM SEAM)													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/28/16	86 / 87	63	15:41	BS	4131	6	860		7/28/16	Air Pressure	15 27 / 30	15 32 / 30		Pass
Seam Notes	R-379 TO NEOS													
7/28/16	88 / 87	23	15:52	BS	4131	6	860		7/28/16	Air Pressure	16 04 / 30	14 09 / 30		Pass
Seam Notes	R-378 TO R-405 (BUTT SEAM)													
8/3/16	88 / 90	97	13:56	BS	4131	6	860		8/3/16	Air Pressure	14 13 / 30	14 18 / 30		Pass
Seam Notes	SEOS TO R-405													
8/3/16	87 / 90	18	13:45	BS	4131	6	860		8/3/16	Air Pressure	14 00 / 30	14 05 / 30		Pass
Seam Notes	R-405 TO R-400													
8/3/16	87 / 90	15	13:40	BS	4131	6	860		8/3/16	Air Pressure	14 00 / 30	14 05 / 30		Pass
Seam Notes	R-400 TO R-403													
8/3/16	87 / 89	18	13:35	BS	4131	6	860		8/3/16	Air Pressure	13 53 / 30	13 58 / 29	1	Pass
Seam Notes	R-403 TO R-404													
8/3/16	87 / 89	96	13:16	BS	4131	6	860		8/3/16	Air Pressure	13 50 / 30	13 55 / 30		Pass
Seam Notes	R-404 TO NEOS													
8/3/16	89 / 90	18	13:49	BS	4131	6	860		8/3/16	Air Pressure	13:53 / 30	13:58 / 29	1	Pass
Seam Notes	R-403 TO R-404													
8/3/16	89 / 90	96	13:38	BS	4131	6	860		8/3/16	Air Pressure	13 50 / 30	13 55 / 28	2	Pass
Seam Notes	R-404 TO NEOS													
8/3/16	90 / 91	50	14:10	AP	4000	6	860		8/3/16	Air Pressure	14:23 / 30	14:28 / 30		Pass
Seam Notes	SEOS TO R-406 (DS-29 CUT FROM SEAM)													
8/3/16	90 / 91	188	13:48	AP	4000	6	860		8/3/16	Air Pressure	14:23 / 30	14:28 / 28	2	Pass
Seam Notes	R-406 TO R-408													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
8/3/16	90 / 91	5	14:35	SU	EXT-74		500	400	8/3/16	Vacuum	:	:		Pass
Seam Notes	R-408 TO NEOS (EXT WELD)													
8/3/16	91 / 92	160	14:38	BS	4131	6	860		8/3/16	Air Pressure	15:05 / 30	15:10 / 30		Pass
Seam Notes	SEOS TO R-410													
8/3/16	91 / 92	13	14:30	BS	4131	6	860		8/3/16	Air Pressure	14 15 / 30	14 30 / 29	1	Pass
Seam Notes	R-410 TO R-411													
8/3/16	91 / 92	57	14:22	BS	4131	6	860		8/3/16	Air Pressure	14 35 / 30	14 40 / 29	1	Pass
Seam Notes	R-411 TO NEOS													
8/3/16	92 / 93	110	14:50	AP	4000	6	860		8/3/16	Air Pressure	15 08 / 30	15 13 / 29	1	Pass
Seam Notes	SEOS TO R-412													
8/3/16	92 / 93	128	14:26	AP	4000	6	860		8/3/16	Air Pressure	14 55 / 30	15 00 / 29	1	Pass
Seam Notes	R-412 TO NEOS													
8/5/16	94 / 95	45	15:41	BS	4000	6	860		8/5/16	Air Pressure	15 52 / 30	15 57 / 29	1	Pass
Seam Notes	SEOS TO R-419													
8/5/16	94 / 95	109	15:80	BS	4131	6	860		8/5/16	Air Pressure	15 52 / 30	15 57 / 30		Pass
Seam Notes	R-419 TO R-422													
8/5/16	94 / 95	89	15:18	BS	4131	6	860		8/5/16	Air Pressure	16 00 / 30	16 05 / 29	1	Pass
Seam Notes	R-422 TO NEOS													
8/5/16	95 / 96	14	16:18	AP	4000	6	860		8/5/16	Air Pressure	16 34 / 30	16 39 / 29	1	Pass
Seam Notes	SEOS TO R-428													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
8/5/16	95 / 97	220	15:50	AP	4000	6	860		8/5/16	Air Pressure	16 45 / 30	16 50 / 30	1	Pass
Seam Notes	R-428 TO NEOS													
8/5/16	96 / 97	23	16:13	AP	4000	6	860		8/5/16	Air Pressure	16 34 / 30	16 39 / 29	1	Pass
Seam Notes	R-428 TO R-429 (BUTT SEAM)													
8/5/16	96 / 98	14	16:20	BS	4131	6	860		8/5/16	Air Pressure	16 36 / 30	16 41 / 29	1	Pass
Seam Notes	SEOS TO R-429													
8/5/16	97 / 98	94	16:10	BS	4131	6	860		8/5/16	Air Pressure	16 39 / 30	16 44 / 30		Pass
Seam Notes	R-429 TO R-430													
8/5/16	97 / 98	126	15:56	BS	4131	6	860		8/5/16	Air Pressure	16 15 / 30	16 20 / 29	1	Pass
Seam Notes	R-430 TO NEOS (DS-30 CUT FROM SEAM)													
8/8/16	98 / 99	238	10:30	BS	4131	6	860		8/8/16	Air Pressure	11 09 / 30	11 14 / 29	1	Pass
Seam Notes	SEOS TO NEOS													
8/8/16	99 / 100	92	10:38	AP	4000	6	860		8/8/16	Air Pressure	10 55 / 30	11 00 / 30		Pass
Seam Notes	SEOS TO R-433/R-434													
8/8/16	99 / 100	28	10:50	AP	4000	6	860		8/8/16	Air Pressure	11 00 / 30	11 05 / 29	1	Pass
Seam Notes	R-433/R-434 TO R-435													
8/8/16	99 / 100	106	10:54	AP	4000	6	860		8/8/16	Air Pressure	11 15 / 30	11 20 / 29	1	Pass
Seam Notes	R-435 TO NEOS													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
8/9/16	100 / 101	20	15:05	SU	4000	6	860		8/9/16	Air Pressure	15 33 / 30	15 38 / 30		Pass
Seam Notes	SEOS TO R-440													
8/9/16	100 / 102	217	15:26	BS	4131	6	860		8/9/16	Air Pressure	16 15 / 30	16 20 / 30		Pass
Seam Notes	R-440 TO NEOS													
8/9/16	101 / 102	23	15:30	SU	4000	6	860		8/9/16	Air Pressure	15 34 / 30	15 39 / 29	1	Pass
Seam Notes	R-440 TO R-441 (BUTT SEAM)													
8/9/16	101 / 103	20	15:45	SU	4000	6	860		8/9/16	Air Pressure	16 11 / 30	16 16 / 30		Pass
Seam Notes	SEOS TO R-441													
8/9/16	102 / 103	217	15:41	SU	4000	6	860		8/9/16	Air Pressure	16 17 / 30	16 22 / 30		Pass
Seam Notes	R-441 TO NEOS													
8/9/16	103 / 104	40	16:33	BS	4131	6	860		8/9/16	Air Pressure	17 25 / 30	17 30 / 30		Pass
Seam Notes	SEOS TO R-442													
8/9/16	103 / 104	148	16:40	BS	4131	6	860		8/9/16	Air Pressure	17 02 / 30	17 07 / 30		Pass
Seam Notes	R-442 TO R-443													
8/9/16	103 / 105	31	16:10	SU	4000	6	860		8/9/16	Air Pressure	16 25 / 30	16 30 / 30		Pass
Seam Notes	R-443 TO R-444													
8/9/16	103 / 105	16	16:15	SU	4000	6	860		8/9/16	Air Pressure	16 26 / 30	16 31 / 30		Pass
Seam Notes	R-444 TO NEOS													
8/9/16	104 / 105	23	16:40	SU	4000	6	860		8/9/16	Air Pressure	16 43 / 30	16 48 / 30		Pass
Seam Notes	R-443 TO R-446 (BUTT SEAM)													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
8/9/16	104 / 106	62	16:55	SU	4000	6	860		8/9/16	Air Pressure	17 26 / 30	17 31 / 30		Pass
Seam Notes	SEOS TO R-445 (DS-33 CUT FROM SEAM)													
8/9/16	104 / 106	131	17:05	SU	4000	6	860		8/9/16	Air Pressure	17 13 / 30	17 18 / 30		Pass
Seam Notes	R-445 TO R-446													
8/9/16	105 / 106	47	17:12	SU	4000	6	860		8/9/16	Air Pressure	17 19 / 30	17 24 / 29	1	Pass
Seam Notes	R-446 TO NEOS													
8/10/16	93 / 107	45	8:23	BS	4131	6	860		8/10/16	Air Pressure	8 46 / 30	8 51 / 29	1	Pass
Seam Notes	SEOS (COVERED BY R-453) TO R-454													
8/10/16	93 / 107	175	8:26	BS	4131	6	860		8/10/16	Air Pressure	8 55 / 30	9 00 / 30		Pass
Seam Notes	R-454 TO NEOS													
8/10/16	107 / 108	235	8:30	BS	4131	6	860		8/10/16	Air Pressure	9 24 / 30	9 29 / 30		Pass
Seam Notes	SEOS (COVERED BY R-457) TO NEOS													
8/10/16	108 / 110	110	10:06	BS	4131	6	860		8/10/16	Air Pressure	10 24 / 30	10 29 / 30		Pass
Seam Notes	SEOS TO R-455													
8/10/16	108 / 110	88	9:50	BS	4131	6	860		8/10/16	Air Pressure	10 15 / 30	10 20 / 30		Pass
Seam Notes	R-455 TO R-456													
8/10/16	108 / 109	45	9:45	BS	4131	6	860		8/10/16	Air Pressure	10 04 / 30	10 09 / 30		Pass
Seam Notes	R-456 TO NEOS													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
8/10/16	109 / 110	23	9:37	BS	4131	6	860		8/10/16	Air Pressure	9 46 / 30	9 51 / 29	1	Pass
Seam Notes	R-456 TO R-465 (BUTT SEAM)													
8/10/16	110 / 94	110	10:23	BS	4131	6	860		8/10/16	Air Pressure	10 41 / 30	10 46 / 30		Pass
Seam Notes	SEOS TO R-460 (DS-34 CUT FROM SEAM)													
8/10/16	110 / 94	18	10:45	BS	4131	6	860		8/10/16	Air Pressure	10 55 / 30	11 00 / 30		Pass
Seam Notes	R-460 TO R-463													
8/10/16	110 / 94	58	10:48	BS	4131	6	860		8/10/16	Air Pressure	11 05 / 30	11 10 / 29	1	Pass
Seam Notes	R-463 TO R-465													
8/10/16	109 / 94	49	10:55	BS	4131	6	860		8/10/16	Air Pressure	11 05 / 30	11 10 / 29	1	Pass
Seam Notes	R-465 TO NEOS													
8/10/16	110 / R-461	12	10:02	BS	4131	6	860		8/10/16	Air Pressure	10 17 / 30	10 22 / 30		Pass
Seam Notes	R-455 TO R-462													
8/10/16	110 / R-461	9	10:38	BS	4131	6	860		8/10/16	Air Pressure	10 48 / 30	10 53 / 30		Pass
Seam Notes	R-462 TO R-460													
8/10/16	110 / R-461	22	10:40	BS	4131	6	860		8/10/16	Air Pressure	10 48 / 30	10 53 / 30		Pass
Seam Notes	R-455 TO R-460													
8/11/16	94 / R-469	23	8:00	BS	4131	6	860		8/11/16	Air Pressure	8 40 / 30	8 45 / 28	2	Pass
Seam Notes	ADD ON AT SEOS													
8/11/16	95 / R-469	23	8:03	BS	4131	6	860		8/11/16	Air Pressure	8 40 / 30	8 45 / 28	2	Pass
Seam Notes	ADD ON AT SEOS													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
8/11/16	96 / R-469	13	8:06	BS	4131	6	860		8/11/16	Air Pressure	8 40 / 30	8 45 / 28	2	Pass
Seam Notes	ADD ON AT SEOS													
8/11/16	96 / R-471	12	8:08	BS	4131	6	860		8/11/16	Air Pressure	8 40 / 30	8 45 / 28	2	Pass
Seam Notes	ADD ON AT SEOS													
8/11/16	97 / R-471	23	8:11	BS	4131	6	860		8/11/16	Air Pressure	8 40 / 30	8 45 / 28	2	Pass
Seam Notes	ADD ON AT SEOS													
8/11/16	98 / R-471	23	8:14	BS	4131	6	860		8/11/16	Air Pressure	8 40 / 30	8 45 / 30		Pass
Seam Notes	R-468 TO R-494													
8/11/16	100 / R-472	23	17:B	BS	4131	6	860		8/11/16	Air Pressure	9 00 / 30	9 05 / 30		Pass
Seam Notes	ADD ON AT SEOS													
8/11/16	101 / R-472	23	8:20	BS	4131	6	860		8/11/16	Air Pressure	9 00 / 30	9 05 / 30		Pass
Seam Notes	ADD ON AT SEOS													
8/11/16	103 / R-472	16	8:23	BS	4131	6	860		8/11/16	Air Pressure	9 00 / 30	9 05 / 30		Pass
Seam Notes	ADD ON AT SEOS													
8/11/16	103 / R-473	7	8:25	BS	4131	6	860		8/11/16	Air Pressure	9 00 / 30	9 05 / 30		Pass
Seam Notes	ADD ON AT SEOS													
8/11/16	140 / R-473	23	8:29	BS	4131	6	860		8/11/16	Air Pressure	9 00 / 30	9 05 / 30		Pass
Seam Notes	ADD ON AT SEOS													
8/11/16	R-470 / R-469	25	8:30	DM	EXT-75		500	400	8/11/16	Vacuum				Pass
Seam Notes	ADD ON AT SEOS													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
8/11/16	106 / 111	161	15:15	SU	4000	6	860		8/11/16	Air Pressure	15 43 / 30	15 48 / 30		Pass
Seam Notes	SEOS TO R-477													
8/11/16	106 / 111	79	15:05	SU	4000	6	860		8/11/16	Air Pressure	15 26 / 30	15 31 / 29	1	Pass
Seam Notes	R-477 TO NEOS													
8/11/16	111 / 112	46	16:21	BS	4131	6	860		8/11/16	Air Pressure	16 32 / 30	16 37 / 30		Pass
Seam Notes	SEOS TO R-478													
8/11/16	111 / 112	28	16:14	BS	4131	6	860		8/11/16	Air Pressure	16 24 / 30	16 29 / 30		Pass
Seam Notes	R-478 TO R-479													
8/11/16	111 / 112	66	16:05	BS	4131	6	860		8/11/16	Air Pressure	16 18 / 30	16 23 / 29	1	Pass
Seam Notes	R-479 TO R-481													
8/11/16	111 / 112	100	15:49	BS	4131	6	860		8/11/16	Air Pressure	16 05 / 30	16 10 / 29	1	Pass
Seam Notes	R-481 TO NEOS													
8/12/16	112 / 113	46	15:50	SU	4000	6	860		8/12/16	Air Pressure	16 03 / 30	16 08 / 30		Pass
Seam Notes	SEOS TO R-487													
8/12/16	112 / 113	111	15:46	SU	4000	6	860		8/12/16	Air Pressure	15 52 / 30	15 57 / 29	1	Pass
Seam Notes	R-487 TO R-488 (DS-35 CUT FROM SEAM)													
8/12/16	112 / 113	75	15:20	SU	4000	6	860		8/12/16	Air Pressure	15 48 / 30	15 53 / 27	3	Pass
Seam Notes	R-488 TO NEOS													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
8/12/16	113 / 114	66	16:04	BS	4131	6	860		8/12/16	Air Pressure	16 18 / 30	16 23 / 30		Pass
Seam Notes	SEOS TO R-489													
8/12/16	113 / 114	175	15:43	BS	4131	6	860		8/12/16	Air Pressure	16 19 / 30	16 24 / 30		Pass
Seam Notes	R-489 TO NEOS													
8/13/16	114 / 115	39	15:05	SU	4000	6	860		8/13/16	Air Pressure	16 02 / 30	16 07 / 30		Pass
Seam Notes	SEOS TO R-503													
8/13/16	114 / 115	166	15:35	SU	4000	6	860		8/13/16	Air Pressure	15 55 / 30	16 00 / 30		Pass
Seam Notes	R-503 TO R-504													
8/13/16	144 / 115	31	15:30	SU	4000	6	860		8/13/16	Air Pressure	15 49 / 30	15 54 / 30		Pass
Seam Notes	R-504 TO NEOS													
8/13/16	115 / 119	106	17:34	BS	4131	6	860		8/13/16	Air Pressure	17 53 / 30	17 58 / 30		Pass
Seam Notes	SEOS TO R-505													
8/13/16	115 / 118	118	17:17	BS	4131	6	860		8/13/16	Air Pressure	17 36 / 30	17 41 / 30		Pass
Seam Notes	R-505 TO R-512													
8/13/16	115 / 116	10	17:15	BS	4131	6	860		8/13/16	Air Pressure	17 50 / 30	17 55 / 30		Pass
Seam Notes	R-512 TO R-506													
8/13/16	119 / 118	105	17:03	SU	4000	6	860		8/13/16	Air Pressure	17 26 / 30	17 31 / 30		Pass
Seam Notes	SEOS TO R-505													
8/13/16	119 / 115	5	17:00	SU	4000	6	860		8/13/16	Air Pressure	17 18 / 30	17 23 / 29	1	Pass
Seam Notes	COVERED WITH PATCH AFTER TESTING (R-505)													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
8/13/16	118 / 117	171	16:45	BS	4131	6	860		8/13/16	Air Pressure	17 09 / 30	17 14 / 30		Pass
Seam Notes	SEOS TO R-507 (DS-36 CUT FROM SEAM)													
8/13/16	118 / 116	61	16:39	BS	4131	6	860		8/13/16	Air Pressure	17 03 / 30	17 08 / 30		Pass
Seam Notes	R-507 TO R-512													
8/13/16	116 / 117	17	16:20	BS	4131	6	860		8/13/16	Air Pressure	16 32 / 30	16 37 / 29	1	Pass
Seam Notes	R-507 TO R-511 (BUTT SEAM)													
8/13/16	116 / 117	5	16:25	BS	4131	6	860		8/13/16	Air Pressure	16 35 / 30	16 40 / 30		Pass
Seam Notes	R-511 TO EEOS (BUTT SEAM)													
8/13/16	115 / 116	3	17:10	BS	4131	6	860		8/13/16	Air Pressure	17 50 / 30	17 55 / 28	2	Pass
Seam Notes	R-506 TO NEOS													

APPENDIX Q

CAP COMPONENTS QUALITY CONTROL TESTING REPORTS (CD ONLY)

PART 2 OF 2

Appendix J
ESI Repair Report

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
1	PB	1/2	P-1	35' N OF SEOS & 8'W PB 6")	P	3	x	11	24	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
2	BO	3/5		2' N OF S EOS	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
3	SJ	3/4/5		69' N OF SEOS	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
4	CF	4/6		5' S OF NEOS	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
5	CF	4/6	P-6	77' N OF SEOS & 2'E	P	5	x	12		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
6	SJ	4/5/6		69' N OF SEOS	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
7	PB	5/6		15' N OF SEOS (PB 6")	P	3	x	6	24	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
8	WR	6/7	P-6	63' N OF S EOS & 5'W	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
9	BO	6/7		66' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
10	SI	6/7	P-6	80' N OF SEOS & 5'W	P	3	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
11	DS-2	6/7		16' N OF SEOS	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
12	WR	7/9		41' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
13	CF	7/9	P-9	45' N OF SEOS & 10'E	P	6	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
14	DS-1	1/2		15' N OF SEOS	P	2	x	7		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
15	DSX-1	R-15	P-1	34'N OF SEOS & 10'W	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
16	CF		P-9	BETWEEN R-12 & R-13	B		x		60	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
17	WR	7/9		71' N OF SEOS	P	3	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
18	CF		P-9	BETWEEN R17 & R19	B		x		168	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
19	CF	7/9	P-9	59' N OF SEOS & 12'E	P	4	x	4		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
20	CF		P-6	BETWEEN R-22 & R-9	B		x		36	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
21	CF		P-6	BETWEEN R-22 & R-8	B		x		48	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
22	CF	6/7	P-6	68' N OF SEOS & 6'W	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
23	SJ	7/8/9		103' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
24	CF	8/10		11' S OF NEOS	P	2	x	20		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
25	SJ	8/9/10		103' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
26	DO	10/11	P-10	27' N OF SEOS & 4'W	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
27	CF	10/11	P-10	BETWEEN R-35 & R-28	B		x		156	6/26/16	SU	EXT-74	Vacuum	Pass	6/23/16
28	CF	10/11	P-10	64'N OF SEOS & 15' W	P	4	x	4		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
29	PB	10/11	P-10	93' S OF NEOS 4' E (48" MH)	P	6	x	10	48	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
30	CF		P-10	BETWEEN R-29 & R-31	B		x		240	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
31	CF	10/11	P-10	68' S OF NEOS & 2'W	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
32	CF	10/11	P-10	78' N OF SEOS & 7'W	P	2	x	4		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
33	CF		P-10	BETWEEN R-32 & R-34	B		x		60	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
34	CF	10/11		80' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
35	CF	10/11		69' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
36	CF	10/11	P-11	49' N OF SEOS & 5'E	P	5	x	15		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
37	CF		P-11	50' N OF SEOS & 3'E	B		x		48	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
38	PB	10/11	P-11	105' N OF SEOS & 3' E (8" PIPE)	P	4	x	5	24	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
39	DS-3	10/11		25' S OF NEOS	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
40	AO	10/11		3' S OF NEOS	P	12	x	12		6/24/16	SU	EXT-74	Vacuum	Pass	6/23/16
41	SJ	11/12/13		22' S OF NEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/23/16
42	SJ	12/13/14		24' S OF NEOS	P	2	x	6		6/24/16	SU	EXT-74	Vacuum	Pass	6/23/16
43	DO	4/6	P-4	6' S OF NEOS & 4'W	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
44	BO	13/14		65' N OF SEOS	P	2	x	5		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
45	BO	13/14		79' N OF SEOS	P	2	x	5		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
46	BO	13/14		163' N OF SEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
47	CF	13/14		BETWEEN R-46 & R-42	B		x		12	6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
48	SJ	12/14/14A		4' S OF NEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
49	SJ	14A/14/15		4' S OF NEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
50	SJ	14/15/16		78' N OF SEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
51	BO	14/16		2'N OF SEOS	P	2	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
52	SJ	15/16/17		78' N OF SEOS	P	2	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
53	DS-4	15/17		87' N OF SEOS	P	2	x	6		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
54	CF	17/18		53' S OF NEOS	P	3	x	5		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
55	CF	17/18	P-17	56' S OF NEOS & 3'W	B		x		24	6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
56	CF	17/18	P-18	74' S OF NEOS &3'E	P	3	x	9		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
57	CF	17/18		83' S OF NEOS	P	2	x	4		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
58	CF	17/18	P-18	84' S OF NEOS & 4' E OF R-57	B		x		120	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
59	BO	17/18		153' S OF NEOS	P	2	x	5		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
60	CF		P-18	BETWEEN R-59 & R-62	B		x		140	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
61	BO	17/18		182' S OF NEOS	P	2	x	6		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
62	CF	18/19	P-18	29' N OF SEOS & 7'W	P	2	x	13		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
63	BO	18/19		24' N OF SEOS	P	2	x	6		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
64	CF	18/19		BETWEEN R-63 & R-65	B		x		12	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
65	CF	18/19	P-19	30' N OF SEOS & 3'E	P	2	x	9		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
66	CF		P-19	BETWEEN R-65 & R-67	B		x		108	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
67	CF	19/20	P-19	42' N OF SEOS & 5'W	P	3	x	7		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
68	CF	18/19		46' N OF SEOS	P	2	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
69	CF		P-19	BETWEEN R-68 & R-70	B		x		72	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
70	CF	18/19	P-19	49' N OF SEOS & 7'E	P	3	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
71	BO	18/19		113' N OF SEOS	P	3	x	4		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
72	BO	18/19		130' N OF SEOS	P	2	x	2		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
73	DSX-2	R-30	P-10	106' N OF SEOS & 6'W	P	2	x	5		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
74	DS-5	19/20		16' N OF SEOS	P	2	x	5		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
75	CF	19/20		164' N OF SEOS	P	2	x	20		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
76	AO	19/R76/20		180' N OF SEOS	P	1	x	21		6/27/16	SU	EXT-74	Air Pressure	Pass	6/27/16
77	SJ	20/21/22		99' N OF SEOS	P	2	x	2		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
78	CF	20/21		122' N OF SEOS	P	4	x	4		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
79	CF		P-21	BETWEEN R-78 & R-80	B		x		156	6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
80	CF	21/23	P-21	128' N OF SEOS & 11' W	P	1	x	1		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
81	PB	20/21	P-21	171' N OF SEOS & 3' E (PB 4")	P	3	x	5		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
82	BO	22/23		54' N OF SEOS	P	2	x	4		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
83	SJ	21/22/23		99' N OF SEOS	P	6	x	14		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
84	SJ	23/24/25		17' N OF SEOS	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
85	BO	23/24		40' N OF SEOS	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
86	CF	23/24	P-23	BETWEEN R-85 & R-87	B		x		72	6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
87	CF	23/24	P-23	48' N OF SEOS & 11' W	P	2	x	9		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
88	CF	22/23	P-23	51' N OF SEOS & 8' E	P	3	x	5		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
89	CF	23/24		74' N OF SEOS	P	2	x	6		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
90	CF	23/24		79' N OF SEOS	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
91	DS-6	23/24		105' N OF SEOS	P	2	x	6		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
92	SJ	24/25/26		17' N OF SEOS	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
93	CF	24/26		157' N OF SEOS	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
94	CF	24/26	P-26	BETWEEN R-93 & R-95	B		x		72	6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
95	CF	24/26	P-26	156' N OF SEOS & 8' E	P	2	x	4		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
96	CF	24/26	P-26	137' N OF SEOS & 2' E	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
97	CF	24/26	P-26	143' N OF SEOS & 6'E FROM R-96	B		x		132	6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
98	SI	24/26	P-26	167' N OF SEOS & 8' E	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
99	DO	26/27	P-26	166' N OF SEOS & 10' W	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
100	BO	26/27		26' N OF SEOS	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
101	CF	26/27		55' N OF SEOS	P	3	x	8		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
102	PB	26/27	P-27	124' N OF SEOS & 3' E (PB 8")	P	4	x	5	24	6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
103	CF	26/27	P-26	185' N OF SEOS & 12' W	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
104	AO	19/20		196' N OF SEOS	P	5	x	23		6/30/16	BS	W-4131	Air Pressure	Pass	6/30/16
105	AO	18/19		196' N OF SEOS	P	5	x	23		6/30/16	BS	W-4131	Air Pressure	Pass	6/30/16
106	AO	17/18		196' N OF SEOS	P	5	x	8		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
107	CF	19/20/R-26		194' N OF SEOS	P	3	x	5		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
108	CF	18/19		194' N OF SEOS	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
109	CF	17/18	P-18	194' N OF SEOS & 4' E	P	2	x	2		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
110	CF	19/20	P-19	126' N OF SEOS & 8' W	P	2	x	4		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
111	CF	19/20	P-19	BETWEEN R-110 & R-112	B		x		120	6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
112	CF	19/20	P-19	136' N OF SEOS & 2' W	P	2	x	2		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
113	DS-7	13/14		91' N OF SEOS	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
114	DS-8	R-105/18	P-18	195' N OF SEOS & 9' W	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
115	DSX-3	R-79	P-21	125'N OF SEOS	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
116	DS-9	18/19		101' N OF SEOS	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
117	CF	26/27		180' N OF SEOS	P	6	x	11		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
118	CF	26/27	P-27	179' N OF SEOS 2'E	P	4	x	3		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
119	CF	26/27	P-27	179' N OF SEOS 4'E	P	5	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
120	CF	26/27	P-27	179' N OF SEOS 6'E	P	3	x	7		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
121	CF	27/28	P-27	179' N OF SEOS & 14'W	P	3	x	3		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
122	CF	27/28	P-27	BETWEEN R-121 & R-123	B		x		108	6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
123	CF	27/28		173'N OF SEOS	P	3	x	3		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
124	BO	27/28		177' N OF SEOS	P	2	x	5		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
125	SJ	27/28/R-30		129' N OF SEOS	P	2	x	3		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
126	SJ	27/28/R-30	P-28	129'N OF SEOS & 3' E	P	2	x	2		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
127	CF	26/27	P-27	208'N OF SEOS & 2'E	P	5	x	8		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
128	CF	26/27	P-26	216'N OF SEOS (FROM R-127)	B		x		108	6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
129	CF	27/R-127	P-26	205'N OF SEOS(FROM R-127)	B		x		108	6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
130	AO	27/28		175'N OF SEOS	P	6	x	18		6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
131	AO	27/28		200'N OF SEOS	P	5	x	20		6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
132	CF	27/28		133'N OF SEOS	P	5	x	8		6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
133	DS-10	27/28		155'N OF SEOS	P	2	x	5		6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
134	CF	27/28		BETWEEN R-132 & R-154	B		x		72	6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
135	CF	19/20	P-20	115' N OF SEOS & 6'E	P	2	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
136	CF	19/20	P-20	BETWEEN R-135 & R-137	B		x		60	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
137	CF	19/20	P-20	115'N OF SEOS & 3'E	P	2	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
138	BO	29/31		11'N OF SEOS	P	2	x	4		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
139	CF	29/31	P-29	BETWEEN R-140 & R-141	B		x		108	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
140	CF	29/31	P-29	54'N OFSEOS 10'W	P	1	x	1		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
141	CF	29/31		54' N OF SEOS	P	2	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
142	SJ	29/30/31		159' N OF SEOS	P	3	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
143	BO	29/30		169' N OF SEOS	P	2	x	4		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
144	CF	29/30	P-29	BETWEEN R-145 & R-146	B		x		96	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
145	CF	29/30	P-29	175' N OF SEOS & 10'W	P	3	x	7		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
146	CF	29/30	P-29	180' N OF SEOS & 2'W	P	2	x	2		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
147	DSX-4	R-148	P-32	96'N OF SEOS	P	2	x	5		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
148	DS-11	31/32		96' N OF SEOS	P	4	x	7		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
149	CF	31/32	P-32	65' N OF SEOS & 4'E	P	3	x	12		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
150	CF	32/34	P-32	BETWEEN R-149 & R-150	B		x		108	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
151	CF	32/34	P-32	73' N OF SEOS 13' W	P	1	x	1		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
152	SJ	30/31/32		158' N OF SEOS	P	2	x	13		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
153	SJ	32/33/34		130'N OF SEOS	P	2	x	4		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
154	CF	27/28		115' N OF SEOS	P	8	x	10		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
155	BO	27/28		102' N OF SEOS	P	3	x	4		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
156	PB	28/29		15' N OF SEOS (8"PB)	P	4	x	5	24	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
157	SJ	33/34/35		130' N OF SEOS	P	2	x	2		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
158	DS-12	34/35		21' N OF SEOS	P	2	x	5		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
159	SJ	35/36/37		82' N OF SEOS	P	2	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
160	SJ	36/37/38		82' N OF SEOS	P	2	x	5		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
161	DS-13	36/38		215' N OF SEOS	P	2	x	5		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
162	CF	36/38	P-38	BETWEEN R-161 & R-163	B		x		96	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
163	CF	36/38	P-38	205' N OF SEOS & 10'E	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
164	CF	37/38	P-37	3'N OF SEOS & 9' W	B		x		72	7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
165	CF	37/38	P-37	6'N OF SEOS & 10' W	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
166	CF	37/38		3'N OF SEOS	P	3	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
167	SJ	38/39/40		35' N OF SEOS	P	3	x	3		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
168	CF	38/39		109' N OF SEOS	P	3	x	5		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
169	BO	38/39		213' N OF SEOS	P	3	x	5		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
170	SI	38/39	P-38	162' N OF SEOS 7' W	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
171	AO	40/39		BETWEEN R-167 & R-172	C	2	x	23		7/7/16	BS	W-4131	Air Pressure	Pass	7/7/16
172	SJ	39/40/41		35'N OF SEOS	P	3	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
173	CF	39/41	P-41	167' N OFSEOS 5'E	P	4	x	13		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
174	CF	39/41	P-39	177' N OF SEOS 4' W	P	3	x	10		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
175	CF	39/41		197' N OF SEOS	P	2	x	3		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
176	BO	39/41		208' N OF SEOS	P	2	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
177	CF	41/42		70' N OF SEOS	P	5	x	20		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
178	CF	41/42	P-41	92' N OF SEOS & 5'W	P	3	x	6		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
179	CF	41/42		105' N OF SEOS	P	3	x	30		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
180	CF	41/42	P-42	156' N OF SEOS & 5'E	P	6	x	17		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
181	CF	41/42	P-42	BETWEEN R-180 & R-187	B		x		120	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
182	CF	39/41	P-41	193' N OF SEOS & 4' E	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
183	CF	39/41	P-41	BETWEEN R-182 & R-175	B		x		48	7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
184	DS-14	41/42		139' N OF SEOS	P	2	x	6		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
185	DSX-5	R-179	P-42	100' N OF SEOS & 3' E	P	2	x	6		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
186	CF	41/42	P-42	157' N OF SEOS & 10' E	P	4	x	8		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
187	CF	41/42	P-42	162' N OF SEOS & 8'E	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
188	CF	41/42	P-42	138' N OF SEOS & 10'E	P	4	x	10		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
189	PB	42/43		136' N OF SEOS (48" MH)	P	7	x	9	48	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
190	CF	42/43	P-43	127' N OF SEOS & 5' E	P	5	x	13		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
191	CF	42/43	P-43	202' N OF SEOS & 10' E	P	2	x	3		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
192	CF	42/43	P-43	BETWEEN R-191 & R-193	B		x		120	7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
193	CF	42/43		210' N 0F SEOS	P	6	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
194	CF	43/44	P-43	175' N OF SEOS & 5'W	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
195	CF	43/44	P-43	BETWEEN R-194 & R-219	B		x		24	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
196	CF	42/43	P-42	BETWEEN R-199 & R-193	B		x		48	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
197	CF	42/43	P-42	BETWEEN R-198 & R-193	B		x		60	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
198	CF	42/43	P-42	210' N 0F SEOS & 7'W	P	3	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
199	CF	42/43	P-42	215' N OF SEOS & 7'W	P	3	x	3		7/7/16	SU	EXT-74	Vacuum	Pass	7/9/16
200	CF	42/43	P-42	114'N OF SEOS & 11'W	P	3	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
201	CF	42/43	P-42	BETWEEN R-200 & R-202	B		x		168	7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
202	CF	42/43	P-42	128'N OF SEOS & 10'W	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
203	CF	42/43	P-43	91' N OF SEOS & 10'E	P	4	x	10		7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16
204	CF	42/43	P-43	BETWEEN R-203 & R-214	B		x		120	7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16
205	CF	42/43	P-43	BETWEEN R-206 & R-215	B		x		108	7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16
206	CF	42/43	P-43	103' N OF SEOS & 20'E	P	2	x	5		7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16
207	CF	42/43	P-43	103' N OF SEOS & 9'E	P	3	x	13		7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
208	CF	43/44	P-43	160' N OF SEOS & 13'W	P	5	x	17		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
209	CF	43/44	P-43	180' N OF SEOS & 10'W	P	6	x	22		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
210	CF	42/43	P-43	BETWEEN R-211 & R-209	B		x		72	7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
211	CF	42/43	P-43	190'N OF SEOS & 8' E	P	8	x	12		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
212	DSX-6	R-180	P-42	153'N SEOS & 5'E	P	3	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
213	SJ	43/44/45		36'N OF SEOS	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
214	CF	43/44		81'N OF SEOS	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
215	CF	43/44		107'N OF SEOS	P	2	x	4		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
216	BO	43/44		133'N OF SEOS	P	2	x	4		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
217	CF	43/44		178'N OF SEOS	P	2	x	4		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
218	CF	43/44		185'N OF SEOS	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
219	CF	43/44		BETWEEN R-218 & R-217	B		x		60	7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
220	SJ	43/44/44A		231'N OF SEOS	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
221	SJ	44/44A/43		250' N OF SEOS	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
222	SI	45/46	P-45	11'N OF 4'W	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
223	SJ	44/45/46		35'N OF SEOS	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
224	DSX-7	R-204	P-43	80'N OF SEOS 4'W	P	4	x	2		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
225	CF	44/46	P-44	215'N SEOS & 12'E	P	10	x	16		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
226	DS-15	43/44		222'N OF SEOS	P	2	x	4		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
227	CF	43./44	P-44	216'N OF SEOS 5'E	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
228	CF	43/44	P-44	BETWEEN R-227 & R-229	B		x		24	7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
229	CF	43/44	P-44	216'N OF SEOS 7'E	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
230	DS-17	45/46		24'N OF SEOS	P	2	x	4		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
231	DS-16	46/47		146'N OF SEOS	P	2	x	4		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
232	SJ	46/47/48		115'N OF SEOS	P	2	x	7		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
233	SJ	47/48/49		116'N OF SEOS	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
234	CF	47/49	P-47	164' N OF SEOS & 2'W	P	3	x	8		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
235	BO	46/47		258'N OF SEOS	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
236	CF	46/47		266'N OF SEOS	P	5	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
237	PB	44/46	P-46	147'N OF SEOS 8'E(8"PB)	P	4	x	5		7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
238	AO	46/47		19'S OF NEOS (CAP 19')	P	2	x	19		7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
239	CF	44/46	P-44	230'N OF SEOS 7'W	P	2	x	2		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
240	CF	44/46	P-44	BETWEEN R-239 & R-241	B		x		108	7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
241	CF	44/46	P-44	241'N SEOS 7'W	P	2	x	2		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
242	SI	49/50		3'N OF SEOS	B		x		60	7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
243	BO	49/50		6'N OF SEOS	P	2	x	2		7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
244	DS-18	49/50		251' N OF SEOS	P	2	x	5		7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
245	BO	49/50		271'N OF SEOS	P	2	x	4		7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
246	SJ	50/52/53		20'N OF SEOS	P	2	x	3		7/12/16	SU	EXT-74	Vacuum	Pass	7/1/16
247	CF	50/52	P-50	53'N OF SEOS 2'W	P	2	x	2		7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
248	CF	50/52	P-50	65'N OF SEOS 10'W	P	3	x	5		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
249	CF	50/52	P-50	BETWEEN R-247 & R-248	B		x		108	7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
250	SJ	50/51/52		74'N OF SEOS	P	3	x	4		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
251	CF	50/51	P-50	111'N OF SEOS & 2'W	P	3	x	5		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
252	CF	50/51	P-50	102N OF SEOS 8'W	P	2	x	8		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
253	CF	50/51	P-50	BETWEEN R-251 & R-252	B		x		72	7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
254	CF	50/51		214N OF SEOS	P	3	x	10		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
255	CF	50/51		274'N OF SEOS	P	3	x	3		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
256	DS-19	53/54		20' N OF SEOS (AT SJ FOR 52/53/54)	P	3	x	8		7/12/16	SU	EXT-249	Vacuum	Pass	7/13/16
257	SJ	51/54/52		74'N OF SEOS	P	2	x	2		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
258	SJ	54/56/57		30'N OF SEOS	P	2	x	2		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
259	SJ	54/55/56		103'N OF SEOS	P	2	x	2		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
260	DS-20	55/56		103'N OF SEOS ON P55/P56	P	2	x	6		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
261	PB	54/55	P-55	285'N OF SEOS 20'E (4" PB)	P	4	x	4		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
262	SJ	56/57/58		30'N OF SEOS	P	2	x	3		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
263	SJ	55/56/58		103'N OF SEOS	P	2	x	3		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
264	BO	55/58		273' N OF SEOS	P	2	x	3		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
265	BO	55/58		285'N OF SEOS	P	2	x	4		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
266	CF	55/58		289'N OF SEOS	B		x		72	7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
267	SJ	58/59/60		94'N OF SEOS	P	3	x	3		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
268	SJ	59/60/61		94'N OF SEOS	P	3	x	3		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
269	BO	59/61		278'N OF SEOS	P	2	x	3		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
270	SJ	61/62/63		194'N OF SEOS	P	2	x	6		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
271	DS-21	58/59		266'N OF SEOS	P	2	x	4		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
272	DS-22	61/63		137' N OF SEOS	P	2	x	5		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
273	WR	50/51		165'N OF SEOS	P	3	x	10		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
274	WR	50/51	P-51	170'N OF SEOS 5'E	P	3	x	10		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
275	CF	50/51	P-51	BETWEEN R-273 & R-276	B		x		60	7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
276	BO	50/51		158'N OF SEOS	P	3	x	4		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
277	SJ	62/63/64		193'N OF SEOS	P	2	x	3		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
278	CF	64/65		187'N OF SEOS	P	2	x	3		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
279	CF	64/65		216'N OF SEOS	P	2	x	3		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
280	CF	64/65		115'N OF SEOS	P	5	x	10		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
281	SJ	65/66/67		116'N OF SEOS	P	2	x	2		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
282	CF	64/65	P-65	BETWEEN R-278 & R-283	B		x		120	7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
283	CF	64/65	P-65	193'N OF SEOS & 12'E	P	2	x	4		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
284	CF	64/65	P-65	215'N OF SEOS & 11'E	P	2	x	9		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
285	CF	64/65	P-65	BETWEEN R-279 & R-284	B		x		60	7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
286	DSX-8	R-270	P-61	193'N OF SEOS	P	2	x	6		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
287	DS-23	64/65		17'N OF SEOS	P	2	x	6		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
288	PB	65/67	P-65	90'N OF SEOS & 7'W (8")	P	2	x	5		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
289	SJ	66/67/68		115' OF SEOS	P	2	x	2		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
290	CF	66/68	P-66	167'N OF SEOS & 4'W	P	6	x	10		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
291	DS-24	66/68		148'N OF SEOS	P	2	x	4		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
292	PB	66/68	P-66	148'N OF SEOS & 3'W (8")	P	6	x	8		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
293	BO	68/71		99' N OF SEOS	P	3	x	5		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
294	SJ	68/70/71		147' N OF SEOS	P	5	x	3		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
295	SJ	68/69/70		216' N OF SEOS	P	2	x	2		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
296	DS-25	68/69		250' N OF SEOS	P	3	x	6		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
297	CF	68/70	P-70	155'N OF SEOS & 12' E	P	4	x	4		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
298	CF	70/72	P-70	BETWEEN R-297 & R-299	B		x		109	7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
299	SJ	71/70/72		155'N OF SEOS	P	2	x	16		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
300	DSX-9	R-299	P-72	153'N OF SEOS	P	2	x	6		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
301	CF	70/72		200'N OF SEOS	P	5	x	8		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
302	SJ	69/70/72		217'N OF SEOS	P	2	x	2		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
303	CF	72/74	P-72	54'N OF SEOS & 4'W	P	3	x	9		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
304	CF	72/74	P-72	BETWEEN R-303 & R-322	B		x		109	7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
305	CF	72/74	P-72	BETWEEN R-306 & R-317	B		x		109	7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
306	CF	72/74		104'N OF SEOS	P	2	x	3		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
307	CF	72/74		114'N OF SEOS	P	2	x	3		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
308	CF	72/74	P-74	BETWEEN R-307 & R-318	B		x		84	7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
309	CF	74/74		164'N OF SEOS	P	4	x	9		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
310	CF	72/74		172'N OF SEOS	P	4	x	6		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
311	SJ	72/73/74		220'N OF SEOS	P	3	x	4		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
312	DS-26	72/74		145'N OF SEOS	P	2	x	6		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
313	PB	72/74	P-72	158'N OFSEOS & 6'W (8" PB)	P	2	x	2	24	7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
314	CF	74/75		76'N OF SEOS	P	3	x	7		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
315	CF	74/75		209'N OF SEOS	P	5	x	7		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
316	SJ	74/73/75		218'N OF SEOS	P	2	x	3		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
317	CF	72/74	P-72	109'N OF SEOS & 7' W	P	1	x	1		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
318	CF	72/74	P-74	114'N OF SEOS & 9'E	P	2	x	2		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
319	CF	74/75	P-75	95'N OF SEOS & 10'E	P	3	x	5		7/27/16	SU	EXT-75	Vacuum	Pass	7/27/16
320	CF	74/75	P-75	BETWEEN R-319 & R-333	B		x		108	7/27/16	SU	EXT-75	Vacuum	Pass	7/27/16
321	CF	72/74	P-74	48'N OF SEOS & 2' E	P	2	x	3		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
322	CF	72/74	P-72	62'N OF SEOS & 8' W	P	1	x	2		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
323	CF	74/75	P-75	35'N OF SEOS &10' E	P	2	x	2		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
324	CF	74/75	P-75	BETWEEN R-323 AND R-325	B		x		144	7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
325	CF	74/75	P-75	50'N OF SEOS & 10' E	P	1	x	1		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
326	CF	74/75	P-75	157'N OF SEOS & 12' E	P	2	x	2		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
327	CF	74/75	P-75	BETWEEN R-326 AND R-334	B		x		144	7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
328	SI	71/72	P-72	77'N OF SEOS & 7' E	P	2	x	2		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
329	CF	74/75	P-75	164'N OF SEOS & 7'E	P	2	x	3		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
330	CF	74/75	P-75	BETWEEN R-329 AND R-331	B		x		84	7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
331	CF	74/75	P-75	173'N OF SEOS & 7'E	P	3	x	3		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
332	CF	75/76		8'N OF SEOS	P	2	x	7		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
333	CF	75/76		81'N OF SEOS	P	3	x	3		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
334	CF	75/76		151'N OF SEOS	P	2	x	3		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
335	BO	75/76		234'N OF SEOS	P	2	x	4		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
336	CF	75/76		254'N OF SEOS	P	4	x	14		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
337	DS-27	75/76		24'N OF SEOS	P	2	x	5		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
338	DSX-10	R-320	P-75	82'N OF SEOS & 5'W	P	2	x	5		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
339	CF	76/78		4'N OF SEOS	P	3	x	7		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
340	SJ	76/77/78		40'N OF SEOS	P	3	x	6		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
341	CF	78/79	P-78	15'N OF SEOS & 4'W	P	2	x	9		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
342	CF	76/78		15'N OF SEOS	P	2	x	5		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
343	PB	78/79	P-78	15'N OF SEOS & 9'W (6"PB)	P	2	x	4		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
344	SJ	77/78/79		40'N OF SEOS	P	3	x	3		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
345	CF	77/79	P-79	138'N OF SEOS & 7'E	P	2	x	15		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
346	CF	77/79	P-77	144'N OF SEOS 3'W	P	6	x	10		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
347	CF	76/78		25'N OF SEOS	P	2	x	3		7/27/16	SU	EXT-75	Vacuum	Pass	8/2/16
348	CF	79/80	P-79	133'N OF SEOS & 4'W	P	5	x	10		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
349	CF	79/80	P-79	129'N OF SEOS & 9' W	P	2	x	3		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
350	CF	79/80	P-79	131'N OFSEOS & 10' W	P	2	x	2		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
351	CF	79/80	P-79	BETWEEN R-348 AND R-349	B		x		36	7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
352	CF	79/80	P-79	BETWEEN R-348 & R-353	B		x		36	7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
353	CF	79/80	P-79	138'N OF SEOS & 2'W	P	2	x	3		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
354	CF	79/80	P-79	134'N OF SEOS & 3'W (ON R-348)	P	3	x	3		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
355	CF	79/80		167'N OF SEOS	P	5	x	10		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
356	CF	79/80	P-79	106'N OF SEOS & 4'W	P	3	x	6		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
357	PB	80/81	P-80	140' N OF SEOS & 1'W (48" MH)	P	6	x	6	60	7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
358	CF	79/80	P-79	207'N OF SEOS & 6'W	P	4	x	10		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
359	CF	79/80	P-79	208'N OF SEOS & 10'W	P	3	x	7		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
360	CF	77/79	P-79	148'N OF SEOS (ON R-346)	P	2	x	2		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
361	CF	77/79	P-77	137'N OF SEOS & 6'W	P	1	x	2		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
362	CF	80/82		6'N OF SEOS	P	2	x	4		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
363	SJ	80/81/82		25'N OF SEOS	P	2	x	4		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
364	CF	80/81		130'N OF SEOS	P	3	x	4		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
365	CF	80/81		140'N OF SEOS	P	3	x	15		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
366	CF	80/81	P-80	BETWEEN R-364 & R-365	B		x		36	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
367	CF	80/81	P-80	140'NOF SEOS & 4'W	P	3	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
368	CF	80/81		150'N OF SEOS	P	4	x	6		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
369	CF	80/81		264'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
370	SJ	81/82/83		25'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
371	CF	81/83	P-81	31'N OF SEOS & 3'W	P	2	x	6		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
372	BO	81/83		145'N OF SEOS	P	2	x	5		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
373	CF	81/83		216'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
374	SJ	83/84/85		52'N OF SEOS	P	3	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
375	CF	83/84		202'N OF SEOS	P	3	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
376	SJ	84/85/86		52'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
377	CF	84/86		198'N OF SEOS	P	2	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
378	SJ	86/87/88		96'N OF SEOS	P	2	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
379	CF	86/87	P-86	205' N OF SEOS	P	4	x	11		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
380	PB	76/78	P-76	6'N OF SEOS & 4'W (8" PB)	P	5	x	6	24	7/28/16	DM	EXT-75	Vacuum	Pass	8/2/16
381	CF	86/88		40'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
382	CF	83/84	P-83	197'N OF SEOS & 10'W	P	3	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
383	CF	83/84	P-83	BETWEEN R-382 & R-375	B		x		120	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
384	PB	81/83	P-81	32'N OF SEOS & 7'W (8" PB)	P	2	x	4	24	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
385	CF	80/82	P-80	BETWEEN R-362 & R-386	B		x		120	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
386	CF	80/82	P-80	10'N OF SEOS & 10W	P	2	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
387	CF	84/86	P-86	BETWEEN R-377 & R-379	B		x		86	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
388	CF	86/87	P-87	250'N OF SEOS & 19'E	P	3	x	12		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
389	CF	86/88	P-86	BETWEEN R-381 & R-390	B		x		120	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
390	CF	86/88	P-86	42'N OF SEOS & 9'W	P	2	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
391	DS-26 B	72/74		154'N OF SEOS	P	2	x	11		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
392	DS-26 A	72/74		135'N OFSEOS	P	2	x	11		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
393	DS-28	81/83		177'N OF SEOS	P	2	x	5		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
394	DSX-11	R-365	P-81	144'N OF SEOS &12'W	P	2	x	5		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
395	DSX-12	R-387	P-86	199'N OF SEOS & 4'E	P	2	x	5		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
396	CF	86/87		210'N OF SEOS	P	4	x	14		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
397	CF	86/87	P-86	210'N OF SEOS 7'W	P	3	x	4		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
398	CF	86/87	P-86	208'N OF SEOS 10'W	P	3	x	15		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
399	CF	86/87	P-87	200'N OF SEOS 9'E	P	4	x	20		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
400	CF	87/90		115'N OF SEOS	P	2	x	5		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
401	CF	87/90	P-90	BETWEEN R-400 & R-402	B		x		120	8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
402	CF	87/90	P-90	115'N OF SEOS 13'E	P	2	x	3		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
403	BO	87/90		130'N OF SEOS	P	2	x	5		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
404	BO	87/89/90		150'N OF SEOS	P	2	x	3		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
405	SJ	88/87/90		97'N OF SEOS	P	2	x	3		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
406	CF	90/91	P-90	50'N OF SEOS 3'W	P	3	x	6		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
407	CF	90/91	P-90	49'N OF SEOS 7'W	P	3	x	9		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
408	PB	90/91	P-90	238'N OF SEOS 7'W (4" PB)	P	4	x	10	24	8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
409	PB	90/91	P-91	107'N OF SEOS 5'E (8" PB)	P	4	x	4	24	8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
410	CF	91/92		160' N OF SEOS	P	6	x	17		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
411	CF	91/92		180'N SEOS	P	4	x	6		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
412	CF	92/93		110'N OF SEOS	P	3	x	5		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
413	CF	92/93	P-92	BETWEEN R-412 & R-414	B		x		84	8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
414	CF	92/93	P-92	115'N OF SEOS & 11'W	P	4	x	6		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
415	CF	87/89	P-87	246' N OF SEOS & 4'W	P	3	x	8		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
416	DS-29	90/91		26'N OF SEOS	P	2	x	5		8/4/16	SU	EXT-74	Vacuum	Pass	8/4/16
417	DSX-13	R-401	P-90	116'N OF SEOS &7'E	P	2	x	7		8/4/16	SU	EXT-74	Vacuum	Pass	8/4/16
418	DO	36/38	P-36	212' N OF SEOS & 6'W	P	2	x	2		8/5/16	SU	EXT-74	Vacuum	Pass	8/5/16
419	CF	94/95		45'N OF SEOS	P	2	x	3		8/5/16	SU	EXT-74	Vacuum	Pass	8/5/16
420	CF	94/95	P-94	BETWEEN R-419 & R-420	B		x		86	8/5/16	SU	EXT-74	Vacuum	Pass	8/5/16
421	CF	94/95	P-94	45'N OF SEOS & 12'W	P	4	x	6		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
422	CF	94/95	P-94	149'N OF SEOS	P	2	x	3		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
423	CF	94/95	P-94	BETWEEN R-422 & R-424	B		x		84	8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
424	CF	94/95	P-94	149'N OF SEOS & 11'W	P	4	x	6		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
425	CF	94/95	P-94	186'N OF SEOS & 2'W	P	2	x	2		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
426	CF	94/95	P-94	BETWEEN R-425 & R-427	B		x		132	8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
427	CF	94/95	P-94	176'N OF SEOS & 12'W	P	3	x	4		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
428	SJ	95/96/97		14'N OF SEOS	P	2	x	3		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
429	SJ	96/97/98		14'N OF SEOS	P	2	x	2		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
430	PB	97/98	P-97	109'N OF SEOS 2'W (8"PB)	P	2	x	4	24	8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
431	DS-30	97/98		120'N OF SEOS	P	2	x	5		8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16
432	DSX-14	R-430	P-98	110'N OF SEOS	P	2	x	5		8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16
433	CF	99/100	P-100	92'N OF SEOS & 6'E	P	3	x	7		8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16
434	CF	99/100		97'N OF SEOS	P	3	x	11		8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16
435	CF	99/100		132'N OF SEOS	P	2	x	3		8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16
436	CF	99/100	P-100	BETWEEN R-435 & R-437	B		x		108	8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16
437	CF	99/100	P-100	128'N OFSEOS & 8'E	P	2	x	2		8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
438	DS-31	79/80		200'N OF SEOS	P	2	x	5		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
439	DS-32	86/87		178'N OF SEOS	P	2	x	5		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
440	SJ	100/101/102		20'N OF SEOS	P	3	x	5		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
441	SJ	101/102/103		22'N OF SEOS	P	2	x	4		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
442	CF	103/104		40'N OF SEOS	P	4	x	8		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
443	SJ	103/104/105		188'N OF SEOS	P	2	x	3		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
444	BO	103/105		218'N OF SEOS	P	2	x	4		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
445	BO	104/106		62'N OF SEOS	P	3	x	8		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
446	SJ	104/105/106		190'N OF SEOS	P	2	x	3		8/10/16	SU	EXT-74	Vacuum	Pass	8/11/16
447	CF	104/106	P-106	150'N OF SEOS 13'E	P	2	x	7		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
448	CF	104/106	P-106	BETWEEN R-447 & R-477	B		x		108	8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
449	PB	102/103	P-103	113'N OF SEOS 13'E (8" PB)	P	2	x	4	24	8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
450	PB	103/104	P-104	6'N OF SEOS 5'E (6" PB)	P	3	x	4	24	8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
451	DS-33	104/106		23'N OF SEOS	P	2	x	6		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
452	DSX-15	R-445	P-106	62'N OF SEOS	P	2	x	6		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
453	BO	93/107		3'N OF SEOS	P	2	x	5		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
454	BO	93/107		45'N OF SEOS	P	3	x	6		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
455	CF	108/110	P-108	115'N OF SEOS & 2'W	P	5	x	15		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
456	SJ	108/109/110		188'N OF SEOS	P	2	x	3		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
457	SI	107/108		2'N OF SEOS	P	2	x	3		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
458	CF	94/110	P-110	103'N OF SEOS & 9'W	P	2	x	4		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
459	CF	94/110		BETWEEN R-458 & R-460	B		x		120	8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
460	SJ	R-461/94		110'N OF SEOS	P	2	x	4		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
461	AO		P-110	110'N OF SEOS (BTWN R-460/R-455)	C	2	x	22		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
462	CF	110/94		115'N OF SEOS & 13'W	P	3	x	8		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
463	CF	110/94	P-110	132'N OF SEOS & 2'W	P	4	x	5		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
464	CF	110/94	P-110	136'N OF SEOS & 10'W	P	4	x	12		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
465	SJ	94/110/109		188'N OF SEOS	P	2	x	3		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
466	CF	108/110	P-108	110'N OF SEOS & 5'W	P	3	x	11		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
467	DS-34	94/110		62'N OF SEOS	P	2	x	5		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
468	AO	94/110		4' N OF SEOS (ON R-469)	P	2	x	2		8/11/16	SU	EXT-74	Vacuum	Pass	8/11/16
469	AO	R-470	P-94/P-95	4'N OF SEOS	P	2	x	45		8/11/16	SU	EXT-74	Vacuum	Pass	8/11/16
470	AO	R-469	P-94/P-95/P-96	2'N OF SEOS	P	2	x	55		8/11/16	SU	EXT-74	Vacuum	Pass	8/11/16
471	AO	R-470/R-472	P-96/P-98/P-99	2'N OF SEOS	P	2	x	45		8/11/16	SU	EXT-74	Vacuum	Pass	8/11/16
472	AO	R-473/R-474	P-100/P-101	2'N OF SEOS	P	2	x	56		8/11/16	SU	EXT-74	Vacuum	Pass	8/11/16
473	AO	R-472/R-475	103/P-104/P-1	2'N OF SEOS	P	3	x	25		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
474	AO	R-472	P-99/P-100	4'N OF SEOS	P	3	x	3		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
475	AO	R-473	P-104/P-106	3'N OF SEOS	P	2	x	3		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
476	AO	R-469/R-470	P-94/P-95	2'N OF SEOS	B		x		276	8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
477	CF	106/111		161'N OF SEOS	P	2	x	3		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
478	CF	111/112	P-112	46'N OF SEOS & 4'E	P	4	x	10		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
479	CF	111/112	P-111	74'N OF SEOS & 2'W	P	3	x	7		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
480	DO	111/112	P-111	236'N OF SEOS & 11'W	P	2	x	3		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
481	CF	111/112	P-111	140'N OF SEOS & 4'W	P	3	x	9		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
482	CF	111/112	P-111	142'N OF SEOS &14'W	P	4	x	12		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
483	CF	111/112	P-112	46' N OF SEOS &15'E	P	2	x	7		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
484	CF	111/112	P-112	BETWEEN R-483 & R-487	B		x		96	8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
485	CF	111/112	P-112	46'N OF SEOS & 11' E	B		x		36	8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
486	DO	103/105	P-103	236'N OF SEOS & 12'W	P	2	x	3		8/12/16	SU	EXT-74	Vacuum	Pass	8/12/16
487	CF	112/113		46'N OF SEOS	P	2	x	10		8/12/16	SU	EXT-74	Vacuum	Pass	8/13/16
488	BO	112/113		163'N OFSEOS	P	3	x	3		8/12/16	SU	EXT-74	Vacuum	Pass	8/13/16
489	BO	113/114		66'N OF SEOS	P	2	x	3		8/12/16	SU	EXT-74	Vacuum	Pass	8/13/16
490	DSX-16	R-478	P-112	47'N OF SEOS	P	2	x	6		8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
491	DS-35	112/113		114'N OF SEOS	P	2	x	6		8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
492	PB	112/113	P-113	110'N OF SEOS & 10'E (48" MH)	P	7	x	6	60	8/12/16	SU	EXT-74	Vacuum	Pass	8/13/16
493	PB	113/114	P-114	206'N SEOS & 13'E (6" PB)	P	2	x	7	24	8/12/16	SU	EXT-74	Vacuum	Pass	8/13/16
494	CF	113/114	P-114	206'N OF SEOS &16'E	P	2	x	10		8/12/16	SU	EXT-74	Vacuum	Pass	8/13/16
495	CF	111/106	P-106	161'N OF SEOS & 9'W	P	1	x	1		8/11/16	SU	EXT-74	Vacuum	Pass	8/13/16
496	CF	111/106	P-106	BETWEEN R-495 & R-497	B		x		120	8/11/16	SU	EXT-74	Vacuum	Pass	8/13/16
497	CF	111/106	P-106	172'N OF SEOS & 3'W	P	2	x	2		8/11/16	SU	EXT-74	Vacuum	Pass	8/13/16
498	CF	112/113	P-113	38'N OF SEOS & 7'E	P	3	x	7		8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
499	CF	113/114	P-114	46'N OF SEOS & 7'E	P	3	x	10		8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
500	CF	113/114	P-114	BETWEEN R-499 & R-503	B		x		120	8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
501	CF	111/112	P-111	115'N OF SEOS & 6' W	P	2	x	14		8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
502	CF	112/113	P-113	152'N OF SEOS & 11' E	P	2	x	15		8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
503	CF	114/115		39'N OF SEOS	P	2	x	3		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
504	CF	114/115		205'N OF SEOS	P	2	x	5		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
505	SJ	115/119/118		106'N OF SEOS	P	4	x	12		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
506	BO	116/115		244'N OF SEOS	P	3	x	3		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
507	SJ	118/116/117		171'N OF SEOS	P	2	x	3		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
508	BO	117/118		171'N OF SEOS & 10'E	P	4	x	5		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
509	PB	116/118	P-116	176'N OF SEOS & 13'E (4" PB)	P	4	x	4	24	8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
510	CF	118/116	P-116	BETWEEN R-509 & R-511	B		x		60	8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
511	CF	117/116	P-116	171'N OF SEOS & 16'E	P	2	x	5		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
512	SJ	115/116/118		225'N OF SEOS	P	3	x	6		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
513	DS-36	118/117		40'N OF SEOS	P	2	x	6		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
514	DSX-17	R-505	P-118	106' N OF SEOS	P	3	x	6		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16

Appendix K
ESI Destruct Sample Information Logs

Environmental Specialties International Inc.
Destructive Sample Information

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Peel Test Extrusion Minimum** 66 PPI

Job Description: **Secondary** **Cell** **Peel Test Fusion Minimum** 75 PPI

Reported By: KHAI S. SOK **Cap** X **Shear Test Minimum** 90 PPI

Other:

D.S. No.	Seam No.	Weld Date	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
DSX-1	P-1 / R-1	6/23/16	SU	EXT -74		500	450	Peel	100		104		107		97		101		Pass
								Shear	99		98		103		105		101		
	DS Location and Notes	34' N OF SEOS & 10'W																	
DS -1	P-1 / P-2	6/22/16	SU	4024	5	860		Peel	92	88	89	86	77	93	98	87	76	92	Pass
								Shear	101		99		97		100		98		
	DS Location and Notes	15'N OF SEOS																	
DS-2	P-6 / P-7	6/22/16	BS	4131	5	860		Peel	90	84	84	79	88	96	76	81	95	86	Pass
								Shear	101		98		103		95		101		
	DS Location and Notes	16'N OF SEOS																	
DS-3	P-10 / P-11	6/23/16	AP	4000	5	860		Peel	81	81	81	75	82	86	84	93	95	97	Pass
								Shear	100		99		101		97		95		
	DS Location and Notes	25' S OF NEOS																	
DS-4	P-15 / P-17	6/24/16	AP	4000	5	860		Peel	95	98	100	99	99	98	96	98	93	96	Pass
								Shear	101		102		99		102		101		
	DS Location and Notes	87'N OF SEOS																	
DSX-2	P-10 / R-30	6/23/16	SU	EXT -74		500	450	Peel	94		95		99		92		97		Pass
								Shear	103		103		102		104		102		
	DS Location and Notes	106' N OF SEOS &6'W																	
DS-5	P-19 / P-20	6/27/16	BS	4131	5	860		Peel	91	93	94	95	98	99	100	99	96	99	Pass
								Shear	105		104		103		102		100		
	DS Location and Notes	16'N OF SEOS																	
DS-6	P-23 / P-24	6/27/16	AP	4000	6	860		Peel	100	99	89	87	91	93	98	88	91	93	Pass
								Shear	103		104		102		102		100		
	DS Location and Notes	105'N OF SEOS																	
DS-7	P-13 / P-14	6/24/16	AP	4000	6	860		Peel	98	99	97	100	91	96	100	98	89	93	Pass
								Shear	101		102		103		104		103		
	DS Location and Notes	91'N OF SEOS																	
DS-8	P-18 / R-105	6/30/16	BS	4131	6	860		Peel	102	100	88	85	91	99	101	98	98	95	Pass
								Shear	108		105		103		106		102		
	DS Location and Notes	195' N OF SEOS & 9'W OF P-18/P-19																	
DS-9	P-18 / P-19	6/24/16	AP	4000	6	860		Peel	94	76	98	91	100	99	97	100	89	87	Pass
								Shear	103		105		100		101		103		
	DS Location and Notes	101'N OF SEOS																	
DS-10	P-27 / P-28	6/30/16	AP	4000	6	860		Peel	87	89	88	87	86	90	93	94	100	96	Pass
								Shear	103		102		103		104		105		
	DS Location and Notes	155'N OF SEOS																	
DS-11	P-31 / P-32	6/30/16	BS	4131	6	860		Peel	90	83	87	89	101	100	102	100	99	95	Pass
								Shear	100		100		103		102		101		
	DS Location and Notes	96'N OF SEOS																	
DSX-4	R-148 / P-32	7/1/16	SU	74		500	400	Peel	94		102		107		103		102		Pass
								Shear	101		100		103		102		101		
	DS Location and Notes	96'N OF SEOS																	
DS-12	P-34 / P-35	7/1/16	AP	4000	6	860		Peel	89	99	97	84	79	86	100	98	99	98	Pass
								Shear	102		103		102		100		101		
	DS Location and Notes	21'N OF SEOS																	

Environmental Specialties International Inc.
Destructive Sample Information

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Peel Test Extrusion Minimum** 66 PPI

Job Description: **Secondary** **Cell** **Peel Test Fusion Minimum** 75 PPI

Reported By: KHAI S. SOK **Cap** X **Shear Test Minimum** 90 PPI

Other:

D.S. No.	Seam No.	Weld Date	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
DS-13	P-36 / P-38	7/1/16	BS	4131	6	860		Peel	99	95	84	75	85	89	91	94	97	96	Pass
								Shear	102		105		104		103		101		
	DS Location and Notes	215'N OF SEOS																	
DS-14	P-41 / P-42	7/7/16	BS	4131	6	860		Peel	88	84	84	81	90	96	94	85	89	81	Pass
								Shear	101		104		105		103		104		
	DS Location and Notes	139'N OF SEOS																	
DSX-5	P-42 / R-179	7/7/16	SU	EXT -74		500	400	Peel	94		91		96		89		84		Pass
								Shear	101		103		102		101		102		
	DS Location and Notes	100'N OF SEOS & 3'E																	
DSX-3	P-21 / R-79	6/27/16	SU	EXT -74		500	400	Peel	105		99		103		101		100		Pass
								Shear	103		101		104		103		105		
	DS Location and Notes	125'N OF SEOS																	
DSX-6	P-42 / R-180	7/7/16	SU	EXT -74		500	400	Peel	94		101		99		87		84		Pass
								Shear	101		103		102		101		102		
	DS Location and Notes	153'N OF SEOS &5'E OF P-41/P-42																	
DS-15	P-43 / P-44	7/8/16	BS	4131	6	860		Peel	85	93	106	101	89	96	99	103	101	104	Pass
								Shear	105		106		101		103		103		
	DS Location and Notes	222'N OF SEOS																	
DS-16	P-46 / P-47	7/8/16	BS	4131	6	860		Peel	98	104	98	100	99	100	96	95	100	91	Pass
								Shear	102		101		103		104		102		
	DS Location and Notes	146'N OF SEOS																	
DS-17	P-45 / P-46	7/8/16	AP	4000	6	860		Peel	99	85	90	89	96	91	101	100	99	96	Pass
								Shear	101		103		105		106		103		
	DS Location and Notes	24'N OF SEOS																	
DSX-7	P-43 / R-204	7/8/16	PHOU	EXT-75		500	400	Peel	108		103		104		105		104		Pass
								Shear	103		106		103		106		105		
	DS Location and Notes	80'N OF SEOS & 4'W OF P-43/P-44																	
DS-18	P-49 / P-50	7/12/16	AP	4000	6	860		Peel	99	101	109	94	98	100	86	99	88	79	Pass
								Shear	108		106		108		109		107		
	DS Location and Notes	251'N OF SEOS																	
DS-19	P-53 / P-54	7/12/16	BS	4131	6	860		Peel	100	109	106	100	81	95	86	78	99	95	Pass
								Shear	102		101		103		103		105		
	DS Location and Notes	20'N OF SEOS																	
DS-20	P-55 / P-56	7/12/16	AP	4000	6	860		Peel	118	112	120	126	97	83	84	86	98	93	Pass
								Shear	106		106		107		106		103		
	DS Location and Notes	103'N OF SEOS																	
DS-21	P-58 / P-59	7/13/16	AP	4000	6	860		Peel	100	98	96	97	101	99	89	89	96	94	Pass
								Shear	102		105		106		104		107		
	DS Location and Notes	266'N OF SEOS																	
DS-22	P-61 / P-63	7/13/16	BS	4131	6	860		Peel	88	87	96	86	94	86	96	92	97	95	Pass
								Shear	105		106		102		105		108		
	DS Location and Notes	137'N OF SEOS																	

Environmental Specialties International Inc.

Destructive Sample Information

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Peel Test Extrusion Minimum** 66 PPI

Job Description: **Secondary** **Cell** **Peel Test Fusion Minimum** 75 PPI

Reported By: KHAI S. SOK **Cap** X **Shear Test Minimum** 90 PPI

Other:

D.S. No.	Seam No.	Weld Date	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
DS-23	P-64 / P-63	7/14/16	BS	4131	6	860		Peel	87	85	86	95	94	98	86	94	95	85	Pass
								Shear	102		105		104		105		104		
	DS Location and Notes	17'N OF SEOS																	
DS-24	P-66 / P-68	7/14/16	BS	4131	6	860		Peel	96	98	86	98	95	98	86	84	98	86	Pass
								Shear	105		103		104		108		107		
	DS Location and Notes	148'N OF SEOS																	
DSX-8	R-270 / P-61	7/14/16	SU	EXT-74		500	400	Peel	99		92		100		102		103		Pass
								Shear	101		102		105		102		101		
	DS Location and Notes	193'N OF SEOS																	
DS-25	P-68 / P-69	7/25/16	BS	4131	6	860		Peel	93	95	88	96	93	86	83	85	87	94	Pass
								Shear	103		104		105		106		107		
	DS Location and Notes	250'N OF SEOS																	
DS-26	P-72 / P-74	7/25/16	BS	4131	6	860		Peel	98	99	100	98	86	87	79	81	83	91	Pass
								Shear	103		104		104		105		120		
	DS Location and Notes	145'N OF SEOS. FIELD TEST RESULTS MET PEEL/SHEAR REQUIREMENTS. LAB RESULTS FOR PEEL ADHESION REPORTED BREAK CODE OF AD-BRK ON INSIDE TRACK AS THIS SAMLPE FAILED. SAMPLES DS-26A AND DS-26B WERE SUBSEQUENTLY COLLECTED 10 FT ON EACH SIDE OF DS-26																	
DSX-9	P-72 / R-299	7/25/16	SU	EXT-74		500	400	Peel	101		99		108		101		103		Pass
								Shear	106		104		104		105		101		
	DS Location and Notes	153'N OF SEOS																	
DSX-10	P-75 / R-320	7/27/16	SU	EXT-74		500	400	Peel	101		103		94		96		100		Pass
								Shear	103		102		103		102		101		
	DS Location and Notes	82'N OF SEOS & 5'W OF P-75/P-76																	
DS-26A	P-72 / P-74	7/25/16	BS	4131	6	860		Peel	106	107	100	102	106	110	107	110	100	99	Pass
								Shear	101		103		102		103		107		
	DS Location and Notes	135'N OF SEOS																	
DS-26B	P-72 / P-74	7/25/16	BS	4131	6	860		Peel	99	100	106	104	99	102	111	101	99	100	Pass
								Shear	106		107		102		103		104		
	DS Location and Notes	154'N OF SEOS																	
DS-27	P-75 / P-76	7/27/16	AP	4000	6	860		Peel	97	97	86	89	100	89	101	98	96	81	Pass
								Shear	102		103		104		103		106		
	DS Location and Notes	24'N OF SEOS																	
DS-28	P-81 / P-83	7/28/16	AP	4000	6	860		Peel	99	98	86	95	100	113	100	102	103	100	Pass
								Shear	103		105		102		103		106		
	DS Location and Notes	177'N OF SEOS																	
DSX-11	R-365 / P-81	7/28/16	SU	EXT-74		500	400	Peel	103		104		103		102		103		Pass
								Shear	101		111		106		105		106		
	DS Location and Notes	144'N OF SEOS & 12'W OF P-81/P-83																	
DSX-12	R-387 / P-86	7/28/16	DM	EXT-75		500	400	Peel	100		102		103		102		102		Pass
								Shear	103		111		105		106		105		
	DS Location and Notes	199'OF SEOS & 4'E OF P-84/P-86																	
DSX-13	P-90 / R-401	8/3/16	SU	EXT-74		500	400	Peel	103		102		101		100		105		Pass
								Shear	103		105		104		105		105		
	DS Location and Notes	116'N OF SEOS & 7'E OF P-87/P-90																	
DS-29	P-90 / P-91	8/3/16	AP	4000	6	860		Peel	89	100	95	99	101	98	99	86	87	89	Pass
								Shear	105		102		104		103		105		
	DS Location and Notes	26' N OF SEOS																	

Environmental Specialties International Inc.

Destructive Sample Information

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Peel Test Extrusion Minimum** 66 PPI

Job Description: **Secondary** **Cell** **Peel Test Fusion Minimum** 75 PPI

Reported By: KHAI S. SOK **Cap** X **Shear Test Minimum** 90 PPI

Other:

D.S. No.	Seam No.	Weld Date	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
DS-30	P-97 / P-98	8/5/16	BS	4131	6	860		Peel	98	96	95	96	100	98	91	93	96	97	Pass
								Shear	105		102		104		105		103		
	DS Location and Notes	120'N OF SEOS																	
DSX-14	R-430 / P-98	8/516	SU	EXT-74		500	400	Peel	99		100		98		112		116		Pass
								Shear	105		106		102		105		100		
	DS Location and Notes	110'N OF SEOS																	
DS-31	P-79 / P-80	7/27/16	BS	4131	6	860		Peel	98	95	94	101	85	99	103	97	98	95	Pass
								Shear	111		102		105		106		102		
	DS Location and Notes	200'N OF SEOS																	
DS-32	P-86 / P-87	7/28/16	BS	4131	6	860		Peel	85	86	89	84	89	86	96	89	99	104	Pass
								Shear	105		103		104		102		103		
	DS Location and Notes	178'N OF SEOS																	
DS-33	P-104 / P-106	8/9/16	SU	4000	6	860		Peel	98	89	96	95	89	87	83	84	96	86	Pass
								Shear	102		105		103		105		104		
	DS Location and Notes	23'N OF SEOS																	
DSX-15	R-445 / P-106	8/10/16	SU	EXT-74		500	400	Peel	112		113		114		113		114		Pass
								Shear	105		106		104		102		105		
	DS Location and Notes	62'N OF SEOS																	
DSX-16	R-478 / P-112	8/12/16	SU	EXT-74		500	400	Peel	101		96		86		89		100		Pass
								Shear	105		103		104		105		102		
	DS Location and Notes	47'N OF SEOS																	
DS-34	P-94 / P-110	8/10/16	BS	4131	6	860		Peel	98	96	98	86	89	84	94	86	96	98	Pass
								Shear	102		103		105		104		104		
	DS Location and Notes	62'N OF SEOS																	
DS-35	P-112 / P-113	8/12/16	SU	4000	6	860		Peel	96	89	86	95	84	98	94	96	95	94	Pass
								Shear	103		105		104		104		105		
	DS Location and Notes	114'N OF SEOS																	
DS-36	P-118 / P-117	8/13/16	BS	4131	6	860		Peel	98	96	94	86	86	96	97	94	93	92	Pass
								Shear	102		103		105		106		105		
	DS Location and Notes	40'N OF SEOS																	
DSX-17	R-505 / P-118	8/15/16	SU	EXT-74	6	860		Peel	113		112		114		111		101		Pass
								Shear	105		104		106		104		105		
	DS Location and Notes	106'N OF SEOS																	

Appendix L
Laboratory Destruct Test Results

Honeywell SA-6 Capping (SA-6 North)

Comparison of ESI / Langan (QA) Destruct Samples - Fusion Weld

Sample ID	***Weld Type***	***Submitted By:***	***Test***	***Peel Strength (ppi)***					**Avg. Strength (ppi)**	***Meets Spec Requirement***
DS-1	Fusion	Langan	Side A Peel	104	103	114	107	105	**107**	**Yes**
		Entact	Side A Peel	105.2	103.2	104	105.9	108.3	**105.3**	**Yes**
		Langan	Side B Peel	118	115	125	111	107	**115**	**Yes**
		Entact	Side B Peel	118.8	109.4	116.5	118.8	94.4	**111.6**	**Yes**
		Langan	Shear	125	123	122	122	125	**123**	**Yes**
		Entact	Shear	129.9	131	131	129.7	134.3	**131.2**	**Yes**
DS-2	Fusion	Entact	Side A Peel	103.4	102.1	102.7	99.7	106.3	**102.8**	**Yes**
			Side B Peel	112.3	111.6	113.6	114	116.5	**113.6**	**Yes**
			Shear	116.1	118.2	117.5	114.9	115.8	**116.5**	**Yes**
DS-3	Fusion	Entact	Side A Peel	115.4	105.5	102.3	101.2	103.2	**105.5**	**Yes**
			Side B Peel	113.5	89.6	112	112.3	109.3	**107.3**	**Yes**
			Shear	121.6	122.5	126.5	122.7	120.3	**122.7**	**Yes**
DS-4	Fusion	Entact	Side A Peel	120.2	121.3	111.2	109.2	120.3	**116.4**	**Yes**
			Side B Peel	110.6	106.3	109.5	102.6	110.1	**107.8**	**Yes**
			Shear	128.7	132.4	129.5	128	127.6	**129.2**	**Yes**
DS-5	Fusion	Entact	Side A Peel	124.6	111.9	118.7	112.8	112.7	**116.1**	**Yes**
			Side B Peel	116.4	103	111.9	107.7	111.5	**110.1**	**Yes**
			Shear	116.2	120.3	116.3	117	115.6	**117.1**	**Yes**
DS-6	Fusion	Entact	Side A Peel	102.4	102.2	103.2	102.1	100	**102.0**	**Yes**
			Side B Peel	105.4	106.9	108	103.7	107.5	**106.3**	**Yes**
			Shear	126.6	125.5	130.1	125	129.7	**127.4**	**Yes**
DS-7	Fusion	Entact	Side A Peel	102.3	114.2	108.4	117.2	116.1	**111.6**	**Yes**
			Side B Peel	103.2	103	109.6	111	105	**106.4**	**Yes**
			Shear	127.5	132.2	130.7	128.1	130.4	**129.8**	**Yes**
DS-8	Fusion	Entact	Side A Peel	126	119	123.4	120.1	126	**122.9**	**Yes**
			Side B Peel	135.6	128	132.3	127	135	**131.6**	**Yes**
			Shear	128.9	132	135	136.3	139	**134.2**	**Yes**
DS-9	Fusion	Entact	Side A Peel	118.5	121.4	122.4	117.8	118.9	**119.8**	**Yes**
			Side B Peel	111.8	117.7	120.5	116.8	116.1	**116.6**	**Yes**
			Shear	133	136.3	131.8	132.1	132.3	**133.1**	**Yes**
DS-10	Fusion	Entact	Side A Peel	113.2	109	108.3	108	117	**111.1**	**Yes**
			Side B Peel	119	119	117.7	117	117.2	**118.0**	**Yes**
			Shear	130.5	124.9	126.9	129	128.4	**127.9**	**Yes**
DS-11	Fusion	Entact	Side A Peel	113.3	113	117.5	111.1	104	**111.8**	**Yes**
			Side B Peel	117.4	119	128.4	121.1	115.6	**120.3**	**Yes**
			Shear	125.1	124.2	129.1	126	126.6	**126.2**	**Yes**
DS-12	Fusion	Entact	Side A Peel	114.2	110.2	111.6	110.2	111	**111.4**	**Yes**
			Side B Peel	122.7	110.3	116.4	109.5	107	**113.2**	**Yes**
			Shear	119	118.8	118	114	117.6	**117.5**	**Yes**
DS-13	Fusion	Entact	Side A Peel	114.3	109.2	110.5	109.1	110.2	**110.7**	**Yes**
			Side B Peel	128	121.1	123.3	122.7	121.3	**123.3**	**Yes**
			Shear	125.1	123.7	124.3	125	130.9	**125.8**	**Yes**

DS-14	Fusion	Langan	Side A Peel	124	136	120	119	132	**126.2**	**Yes**
		Entact	Side A Peel	125.8	121.7	118.4	115.7	116.2	**119.6**	**Yes**
		Langan	Side B Peel	113	113	114	113	117	**114.0**	**Yes**
		Entact	Side B Peel	112.3	111.2	112.8	112.8	110.6	**111.9**	**Yes**
		Langan	Shear	117	118	117	115	114	**116.2**	**Yes**
		Entact	Shear	114.3	114	115.3	114.7	118.4	**115.3**	**Yes**
DS-15	Fusion	Entact	Side A Peel	122	116.1	117.1	116.9	118.2	**118.1**	**Yes**
			Side B Peel	124.1	106.3	119	119.5	119.4	**117.7**	**Yes**
			Shear	120.3	121	125.9	126.5	122.4	**123.2**	**Yes**
DS-16	Fusion	Entact	Side A Peel	117.5	112.3	111.7	113.3	116	**114.2**	**Yes**
			Side B Peel	109.6	104.4	104.2	107.1	105.5	**106.2**	**Yes**
			Shear	128.9	121.1	123.2	122.2	121.1	**123.3**	**Yes**
DS-17	Fusion	Entact	Side A Peel	116.5	120.5	118.7	119.5	114	**117.8**	**Yes**
			Side B Peel	106.1	118.1	108.4	123.3	99	**111.0**	**Yes**
			Shear	136	127	130	134	130.8	**131.6**	**Yes**
DS-18	Fusion	Entact	Side A Peel	112.7	118	116.4	118.4	110.1	**115.1**	**Yes**
			Side B Peel	117.6	118.6	114.6	118.8	116.8	**117.3**	**Yes**
			Shear	128.1	129.8	129	121.3	128	**127.2**	**Yes**
DS-19	Fusion	Entact	Side A Peel	106.1	111.2	105.3	107.2	108.4	**107.6**	**Yes**
			Side B Peel	111	115	117.1	115	120.2	**115.7**	**Yes**
			Shear	128.2	123	125.2	126.3	123.4	**125.2**	**Yes**
DS-20	Fusion	Entact	Side A Peel	126.2	129.8	137	129	127	**129.8**	**Yes**
			Side B Peel	131.2	135.5	132.2	129	128.1	**131.2**	**Yes**
			Shear	140.1	132	134.2	135.2	131.6	**134.6**	**Yes**
DS-21	Fusion	Entact	Side A Peel	110.7	113.5	110.7	106.6	116.6	**111.6**	**Yes**
			Side B Peel	108.4	109.3	116.5	109.9	109.6	**110.7**	**Yes**
			Shear	129.5	127.4	127.3	129.4	133.1	**129.3**	**Yes**
DS-22	Fusion	Entact	Side A Peel	126.9	119	126.2	124.3	124.6	**124.2**	**Yes**
			Side B Peel	118.9	114	119.3	115.3	117	**116.9**	**Yes**
			Shear	127.7	126.2	132	126.2	127.5	**127.9**	**Yes**
DS-23	Fusion	Entact	Side A Peel	116.5	108.7	111.4	118.7	110.9	**113.2**	**Yes**
			Side B Peel	105.6	101.9	103.9	110.3	102.8	**104.9**	**Yes**
			Shear	128.5	127.1	129.1	129.2	128.2	**128.4**	**Yes**
DS-24	Fusion	Entact	Side A Peel	126	128.9	120.8	130.1	127.8	**126.7**	**Yes**
			Side B Peel	112.2	108.8	109.6	111.8	112.4	**111.0**	**Yes**
			Shear	135.8	132.6	134.1	134.7	133.1	**134.1**	**Yes**
DS-25	Fusion	Langan	Side A Peel	121	119	123	120	119	**120.4**	**Yes**
		Entact	Side A Peel	118.6	124.4	118.7	121.9	119.7	**120.7**	**Yes**
		Langan	Side B Peel	111	109	105	113	111	**109.8**	**Yes**
		Entact	Side B Peel	107.3	108.7	107	107.3	108.5	**107.8**	**Yes**
		Langan	Shear	131	131	133	131	131	**131.4**	**Yes**
		Entact	Shear	128.1	126.7	129.1	126.4	131.1	**128.3**	**Yes**
DS-26	Fusion	Entact	Side A Peel	126.4	122.7	125.9	125.6	122.5	**124.6**	**Yes**
			Side B Peel	110.8	114.2	90.3	102.9	89.7	**101.6**	**No**
			Shear	129.1	128.7	129.8	127.2	126	**128.2**	**Yes**
DS-26B	Fusion	Entact	Side A Peel	108.6	105.4	105.9	107.2	113.6	**108.1**	**Yes**
			Side B Peel	118.3	114	116.1	119.9	117.4	**117.1**	**Yes**
			Shear	123.7	125.4	123.5	126.3	125.3	**124.8**	**Yes**

DS-27	Fusion	Entact	Side A Peel	109.9	113.2	111.3	111.3	113.1	**111.8**	**Yes**
			Side B Peel	107.2	107	105.3	104.1	100.3	**104.8**	**Yes**
			Shear	128.7	128	129.5	127.4	133	**129.3**	**Yes**
DS-28	Fusion	Entact	Side A Peel	107.3	105	100.3	102.8	103.7	**103.8**	**Yes**
			Side B Peel	101.6	98.9	100.7	94.2	96.8	**98.4**	**Yes**
			Shear	116.5	116.5	117.4	117	118.5	**117.2**	**Yes**
DS-29	Fusion	Entact	Side A Peel	115.1	108.1	111.6	110	112.4	**111.4**	**Yes**
			Side B Peel	114.6	102.1	107.6	106.9	106.1	**107.5**	**Yes**
			Shear	126.9	127.4	128.8	127.8	133.2	**128.8**	**Yes**
DS-30	Fusion	Entact	Side A Peel	105.5	103.1	101.8	107.7	106.3	**104.9**	**Yes**
			Side B Peel	101.4	103.5	102.1	104.8	100.7	**102.5**	**Yes**
			Shear	112.5	108	107.7	107	107.2	**108.5**	**Yes**
DS-31	Fusion	Entact	Side A Peel	129.2	120.7	114	110.4	112.3	**117.3**	**Yes**
			Side B Peel	117.1	110.4	124.2	124.1	123.6	**119.9**	**Yes**
			Shear	130.1	133.8	129.7	128	130.1	**130.3**	**Yes**
DS-32	Fusion	Entact	Side A Peel	126	122.1	119	118.3	121.7	**121.4**	**Yes**
			Side B Peel	118.2	114.4	113.3	111.4	115.3	**114.5**	**Yes**
			Shear	129.5	133	138.6	134	128.7	**132.8**	**Yes**
DS-33	Fusion	Entact	Side A Peel	115.1	110.4	113	113.3	113.1	**113.0**	**Yes**
			Side B Peel	112.1	114.3	110.1	112.1	111.3	**112.0**	**Yes**
			Shear	132.4	131	131.5	132.2	134	**132.2**	**Yes**
DS-34	Fusion	Entact	Side A Peel	126.4	123.2	127.6	123	129	**125.8**	**Yes**
			Side B Peel	114.2	117.4	117.5	117.1	116.5	**116.5**	**Yes**
			Shear	133	130.7	131.4	131.8	136	**132.6**	**Yes**
DS-35	Fusion	Entact	Side A Peel	116.7	114	127.4	116	114.5	**117.7**	**Yes**
			Side B Peel	119	111.1	120.5	118.7	115	**116.9**	**Yes**
			Shear	133.3	131	124	130.4	134.9	**130.7**	**Yes**
DS-36	Fusion	Langan	Side A Peel	115	111	108	114	117	**113.0**	**Yes**
		Entact	Side A Peel	117	119.6	116	111.4	114	**115.6**	**Yes**
		Langan	Side B Peel	115	116	110	109	106	**111.2**	**Yes**
		Entact	Side B Peel	111.7	114.1	100	115.1	111.6	**110.5**	**Yes**
		Langan	Shear	129	132	128	127	128	**128.8**	**Yes**
		Entact	Shear	126	125.1	121.8	124.4	128.1	**125.1**	**Yes**

Sample reported as "AD-BRK" under EPA Break Classification Code. Although specimen met the minimum peel requirements, since the sample broke at the weld, the sample is reported as a failed sample.

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS

PROJECT NO.: L16040-03
LAB ID NO.: L16040-03-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-1

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	105.2	SE1	<10
2	103.2	SE1	<10
3	104.0	SE1	<10
4	105.9	SE1	<10
5	108.3	SE1	<10
AVERAGE	**105.3**		
STD. DEV.	1.76		
INSIDE TRACK (WELD "B")			
1	118.8	SE1	<10
2	109.4	SE1	<10
3	116.5	SE1	<10
4	118.8	SE1	<10
5	94.4	SE1	<10
AVERAGE	**111.6**		
STD. DEV.	9.26		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	129.9	SE1
2	131.0	SE1
3	131.0	SE1
4	129.7	SE1
5	134.3	SE1
AVERAGE	**131.2**	
STD. DEV.	1.65	

CHECKED BY: CWT DATE: 6-27-16

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\\geoserver\Data Drive\Synthetics\2016 SYNTHETICS\[L16040-03 HONEYWELL SA6 NORTH & SOUTH CAPS DS-1.xls]Sheet1 L16040-03-02 6/27/16

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS

PROJECT NO.: L16040-03
LAB ID NO.: L16040-03-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-2

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	103.4	SE1	<10
2	102.1	SE1	<10
3	102.7	SE1	<10
4	99.7	SE1	<10
5	106.3	SE1	<10
AVERAGE	**102.8**		
STD. DEV.	2.13		
INSIDE TRACK (WELD "B")			
1	112.3	SE1	<10
2	111.6	SE1	<10
3	113.6	SE1	<10
4	114.0	SE1	<10
5	116.5	SE1	<10
AVERAGE	**113.6**		
STD. DEV.	1.69		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	116.1	SE1
2	118.2	SE1
3	117.5	SE1
4	114.9	SE1
5	115.8	SE1
AVERAGE	**116.5**	
STD. DEV.	1.19	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS

PROJECT NO.: L16040-03
LAB ID NO.: L16040-03-04
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-3

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	115.4	SE1	<10
2	105.5	SE1	<10
3	102.3	SE1	<10
4	101.2	SE1	<10
5	103.2	SE1	<10
AVERAGE	**105.5**		
STD. DEV.	5.14		
INSIDE TRACK (WELD "B")			
1	113.5	SE1	<10
2	89.6	SE1	<10
3	112.0	SE1	<10
4	112.3	SE1	<10
5	109.3	SE1	<10
AVERAGE	**107.3**		
STD. DEV.	8.98		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	121.6	SE1
2	122.5	SE1
3	126.5	SE1
4	122.7	SE1
5	120.3	SE1
AVERAGE	**122.7**	
STD. DEV.	2.07	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS

PROJECT NO.: L16040-04
LAB ID NO.: L16040-04-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-4

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	120.2	SE1	<10
2	121.3	SE1	<10
3	111.2	SE1	<10
4	109.2	SE1	<10
5	120.3	SE1	<10
AVERAGE	**116.4**		
STD. DEV.	5.15		
INSIDE TRACK (WELD "B")			
1	110.6	SE1	<10
2	106.3	SE1	<10
3	109.5	SE1	<10
4	102.6	SE1	<10
5	110.1	SE1	<10
AVERAGE	**107.8**		
STD. DEV.	3.01		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	128.7	SE1
2	132.4	SE1
3	129.5	SE1
4	128.0	SE1
5	127.6	SE1
AVERAGE	**129.2**	
STD. DEV.	1.71	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-05
LAB ID NO.: L16040-05-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-5

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	124.6	SE1	<10
2	111.9	SE1	<10
3	118.7	SE1	<10
4	112.8	SE1	<10
5	112.7	SE1	<10
AVERAGE	**116.1**		
STD. DEV.	4.88		
INSIDE TRACK (WELD "B")			
1	116.4	SE1	<10
2	103.0	SE1	<10
3	111.9	SE1	<10
4	107.7	SE1	<10
5	111.5	SE1	<10
AVERAGE	**110.1**		
STD. DEV.	4.50		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	116.2	SE1
2	120.3	SE1
3	116.3	SE1
4	117.0	SE1
5	115.6	SE1
AVERAGE	**117.1**	
STD. DEV.	1.67	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-05
LAB ID NO.: L16040-05-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-6

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	102.4	SE1	<10
2	102.2	SE1	<10
3	103.2	SE1	<10
4	102.1	SE1	<10
5	100.0	SE1	<10
AVERAGE	**102.0**		
STD. DEV.	1.06		
INSIDE TRACK (WELD "B")			
1	105.4	SE1	<10
2	106.9	SE1	<10
3	108.0	SE1	<10
4	103.7	SE1	<10
5	107.5	SE1	<10
AVERAGE	**106.3**		
STD. DEV.	1.57		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	126.6	SE1
2	125.5	SE1
3	130.1	SE1
4	125.0	SE1
5	129.7	SE1
AVERAGE	**127.4**	
STD. DEV.	2.13	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-06
LAB ID NO.: L16040-06-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-7

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	102.3	SE1	<10
2	114.2	SE1	<10
3	108.4	SE1	<10
4	117.2	SE1	<10
5	116.1	SE1	<10
AVERAGE	**111.6**		
STD. DEV.	5.57		
INSIDE TRACK (WELD "B")			
1	103.2	SE1	<10
2	103.0	SE1	<10
3	109.6	SE1	<10
4	111.0	SE1	<10
5	105.0	SE1	<10
AVERAGE	**106.4**		
STD. DEV.	3.32		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	127.5	SE1
2	132.2	SE1
3	130.7	SE1
4	128.1	SE1
5	130.4	SE1
AVERAGE	**129.8**	
STD. DEV.	1.74	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-06
LAB ID NO.: L16040-06-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-8

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	126.0	SE1	<10
2	119.0	SE1	<10
3	123.4	SE1	<10
4	120.1	SE1	<10
5	126.0	SE1	<10
AVERAGE	**122.9**		
STD. DEV.	2.92		
INSIDE TRACK (WELD "B")			
1	135.6	SE1	<10
2	128.0	SE1	<10
3	132.3	SE1	<10
4	127.0	SE1	<10
5	135.0	SE1	<10
AVERAGE	**131.6**		
STD. DEV.	3.53		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	128.9	SE1
2	132.0	SE1
3	135.0	SE1
4	136.3	SE1
5	139.0	SE1
AVERAGE	**134.2**	
STD. DEV.	3.49	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-06
LAB ID NO.: L16040-06-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-9

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	118.5	SE1	<10
2	121.4	SE1	<10
3	122.4	SE1	<10
4	117.8	SE1	<10
5	118.9	SE1	<10
AVERAGE	**119.8**		
STD. DEV.	1.78		
INSIDE TRACK (WELD "B")			
1	111.8	SE1	<10
2	117.7	SE1	<10
3	120.5	SE1	<10
4	116.8	SE1	<10
5	116.1	SE1	<10
AVERAGE	**116.6**		
STD. DEV.	2.82		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	133.0	SE1
2	136.3	SE1
3	131.8	SE1
4	132.1	SE1
5	132.3	SE1
AVERAGE	**133.1**	
STD. DEV.	1.65	

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PEEL AND SHEAR TEST RESULTS
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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-06
LAB ID NO.: L16040-06-04
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-10

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	113.2	SE1	<10
2	109.0	SE1	<10
3	108.3	SE1	<10
4	108.0	SE1	<10
5	117.0	SE1	<10
AVERAGE	**111.1**		
STD. DEV.	3.50		
INSIDE TRACK (WELD "B")			
1	119.0	SE1	<10
2	119.0	SE1	<10
3	117.7	SE1	<10
4	117.0	SE1	<10
5	117.2	SE1	<10
AVERAGE	**118.0**		
STD. DEV.	0.86		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	130.5	SE1
2	124.9	SE1
3	126.9	SE1
4	129.0	SE1
5	128.4	SE1
AVERAGE	**127.9**	
STD. DEV.	1.91	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-06
LAB ID NO.: L16040-06-05
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-11

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	113.3	SE1	<10
2	113.0	SE1	<10
3	117.5	SE1	<10
4	111.1	SE1	<10
5	104.0	SE1	<10
AVERAGE	**111.8**		
STD. DEV.	4.42		
INSIDE TRACK (WELD "B")			
1	117.4	SE1	<10
2	119.0	SE1	<10
3	128.4	SE1	<10
4	121.1	SE1	<10
5	115.6	SE1	<10
AVERAGE	**120.3**		
STD. DEV.	4.44		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	125.1	SE1
2	124.2	SE1
3	129.1	SE1
4	126.0	SE1
5	126.6	SE1
AVERAGE	**126.2**	
STD. DEV.	1.66	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-07
LAB ID NO.: L16040-07-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-12

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	114.2	SE1	<10
2	110.2	SE1	<10
3	111.6	SE1	<10
4	110.2	SE1	<10
5	111.0	SE1	<10
AVERAGE	**111.4**		
STD. DEV.	1.48		
INSIDE TRACK (WELD "B")			
1	122.7	SE1	<10
2	110.3	SE1	<10
3	116.4	SE1	<10
4	109.5	SE1	<10
5	107.0	SE1	<10
AVERAGE	**113.2**		
STD. DEV.	5.67		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	119.0	SE1
2	118.8	SE1
3	118.0	SE1
4	114.0	SE1
5	117.6	SE1
AVERAGE	**117.5**	
STD. DEV.	1.81	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-07
LAB ID NO.: L16040-07-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-13

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	114.3	SE1	<10
2	109.2	SE1	<10
3	110.5	SE1	<10
4	109.1	SE1	<10
5	110.2	SE1	<10
AVERAGE	**110.7**		
STD. DEV.	1.90		
INSIDE TRACK (WELD "B")			
1	128.0	SE1	<10
2	121.1	SE1	<10
3	123.3	SE1	<10
4	122.7	SE1	<10
5	121.3	SE1	<10
AVERAGE	**123.3**		
STD. DEV.	2.50		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	125.1	SE1
2	123.7	SE1
3	124.3	SE1
4	125.0	SE1
5	130.9	SE1
AVERAGE	**125.8**	
STD. DEV.	2.60	

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PEEL AND SHEAR TEST RESULTS
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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-08
LAB ID NO.: L16040-08-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-14

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	125.8	SE1	<10
2	121.7	SE1	<10
3	118.4	SE1	<10
4	115.7	SE1	<10
5	116.2	SE1	<10
AVERAGE	**119.6**		
STD. DEV.	3.77		
INSIDE TRACK (WELD "B")			
1	112.3	SE1	<10
2	111.2	SE1	<10
3	112.8	SE1	<10
4	112.8	SE1	<10
5	110.6	SE1	<10
AVERAGE	**111.9**		
STD. DEV.	0.89		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	114.3	SE1
2	114.0	SE1
3	115.3	SE1
4	114.7	SE1
5	118.4	SE1
AVERAGE	**115.3**	
STD. DEV.	1.59	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-10
LAB ID NO.: L16040-10-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-15

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	122.0	SE1	<10
2	116.1	SE1	<10
3	117.1	SE1	<10
4	116.9	SE1	<10
5	118.2	SE1	<10
AVERAGE	**118.1**		
STD. DEV.	2.08		
INSIDE TRACK (WELD "B")			
1	124.1	SE1	<10
2	106.3	SE1	<10
3	119.0	SE1	<10
4	119.5	SE1	<10
5	119.4	SE1	<10
AVERAGE	**117.7**		
STD. DEV.	5.98		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	120.3	SE1
2	121.0	SE1
3	125.9	SE1
4	126.5	SE1
5	122.4	SE1
AVERAGE	**123.2**	
STD. DEV.	2.53	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-10
LAB ID NO.: L16040-10-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-16

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	117.5	SE1	<10
2	112.3	SE1	<10
3	111.7	SE1	<10
4	113.3	SE1	<10
5	116.0	SE1	<10
AVERAGE	**114.2**		
STD. DEV.	2.23		
INSIDE TRACK (WELD "B")			
1	109.6	SE1	<10
2	104.4	SE1	<10
3	104.2	SE1	<10
4	107.1	SE1	<10
5	105.5	SE1	<10
AVERAGE	**106.2**		
STD. DEV.	2.00		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	128.9	SE1
2	121.1	SE1
3	123.2	SE1
4	122.2	SE1
5	121.1	SE1
AVERAGE	**123.3**	
STD. DEV.	2.91	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-10
LAB ID NO.: L16040-10-04
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-17

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	116.5	SE1	<10
2	120.5	SE1	<10
3	118.7	SE1	<10
4	119.5	SE1	<10
5	114.0	SE1	<10
AVERAGE	**117.8**		
STD. DEV.	2.33		
INSIDE TRACK (WELD "B")			
1	106.1	SE1	<10
2	118.1	SE1	<10
3	108.4	SE1	<10
4	123.3	SE1	<10
5	99.0	SE1	<10
AVERAGE	**111.0**		
STD. DEV.	8.68		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	136.0	SE1
2	127.0	SE1
3	130.0	SE1
4	134.0	SE1
5	130.8	SE1
AVERAGE	**131.6**	
STD. DEV.	3.15	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-11
LAB ID NO.: L16040-11-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-18

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	112.7	SE1	<10
2	118.0	SE1	<10
3	116.4	SE1	<10
4	118.4	SE1	<10
5	110.1	SE1	<10
AVERAGE	**115.1**		
STD. DEV.	3.22		
INSIDE TRACK (WELD "B")			
1	117.6	SE1	<10
2	118.6	SE1	<10
3	114.6	SE1	<10
4	118.8	SE1	<10
5	116.8	SE1	<10
AVERAGE	**117.3**		
STD. DEV.	1.52		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	128.1	SE1
2	129.8	SE1
3	129.0	SE1
4	121.3	SE1
5	128.0	SE1
AVERAGE	**127.2**	
STD. DEV.	3.04	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-11
LAB ID NO.: L16040-11-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-19

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	106.1	SE1	<10
2	111.2	SE1	<10
3	105.3	SE1	<10
4	107.2	SE1	<10
5	108.4	SE1	<10
AVERAGE	**107.6**		
STD. DEV.	2.06		
INSIDE TRACK (WELD "B")			
1	111.0	SE1	<10
2	115.0	SE1	<10
3	117.1	SE1	<10
4	115.0	SE1	<10
5	120.2	SE1	<10
AVERAGE	**115.7**		
STD. DEV.	3.01		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	128.2	SE1
2	123.0	SE1
3	125.2	SE1
4	126.3	SE1
5	123.4	SE1
AVERAGE	**125.2**	
STD. DEV.	1.91	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-11
LAB ID NO.: L16040-11-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-20

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	126.2	SE1	<10
2	129.8	SE1	<10
3	137.0	SE1	<10
4	129.0	SE1	<10
5	127.0	SE1	<10
AVERAGE	**129.8**		
STD. DEV.	3.83		
INSIDE TRACK (WELD "B")			
1	131.2	SE1	<10
2	135.5	SE1	<10
3	132.2	SE1	<10
4	129.0	SE1	<10
5	128.1	SE1	<10
AVERAGE	**131.2**		
STD. DEV.	2.61		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	140.1	SE1
2	132.0	SE1
3	134.2	SE1
4	135.2	SE1
5	131.6	SE1
AVERAGE	**134.6**	
STD. DEV.	3.05	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-12
LAB ID NO.: L16040-12-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-21

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	110.7	SE1	<10
2	113.5	SE1	<10
3	110.7	SE1	<10
4	106.6	SE1	<10
5	116.6	SE1	<10
AVERAGE	**111.6**		
STD. DEV.	3.32		
INSIDE TRACK (WELD "B")			
1	108.4	SE1	<10
2	109.3	SE1	<10
3	116.5	SE1	<10
4	109.9	SE1	<10
5	109.6	SE1	<10
AVERAGE	**110.7**		
STD. DEV.	2.92		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	129.5	SE1
2	127.4	SE1
3	127.3	SE1
4	129.4	SE1
5	133.1	SE1
AVERAGE	**129.3**	
STD. DEV.	2.10	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-12
LAB ID NO.: L16040-12-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-22

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	126.9	SE1	<10
2	119.0	SE1	<10
3	126.2	SE1	<10
4	124.3	SE1	<10
5	124.6	SE1	<10
AVERAGE	**124.2**		
STD. DEV.	2.77		
INSIDE TRACK (WELD "B")			
1	118.9	SE1	<10
2	114.0	SE1	<10
3	119.3	SE1	<10
4	115.3	SE1	<10
5	117.0	SE1	<10
AVERAGE	**116.9**		
STD. DEV.	2.04		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	127.7	SE1
2	126.2	SE1
3	132.0	SE1
4	126.2	SE1
5	127.5	SE1
AVERAGE	**127.9**	
STD. DEV.	2.13	

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PEEL AND SHEAR TEST RESULTS
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CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-12
LAB ID NO.: L16040-12-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-23

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	116.5	SE1	<10
2	108.7	SE1	<10
3	111.4	SE1	<10
4	118.7	SE1	<10
5	110.9	SE1	<10
AVERAGE	**113.2**		
STD. DEV.	3.74		
INSIDE TRACK (WELD "B")			
1	105.6	SE1	<10
2	101.9	SE1	<10
3	103.9	SE1	<10
4	110.3	SE1	<10
5	102.8	SE1	<10
AVERAGE	**104.9**		
STD. DEV.	2.97		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	128.5	SE1
2	127.1	SE1
3	129.1	SE1
4	129.2	SE1
5	128.2	SE1
AVERAGE	**128.4**	
STD. DEV.	0.76	

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PEEL AND SHEAR TEST RESULTS
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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-12
LAB ID NO.: L16040-12-04
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-24

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	126.0	SE1	<10
2	128.9	SE1	<10
3	120.8	SE1	<10
4	130.1	SE1	<10
5	127.8	SE1	<10
AVERAGE	**126.7**		
STD. DEV.	3.25		
INSIDE TRACK (WELD "B")			
1	112.2	SE1	<10
2	108.8	SE1	<10
3	109.6	SE1	<10
4	111.8	SE1	<10
5	112.4	SE1	<10
AVERAGE	**111.0**		
STD. DEV.	1.47		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	135.8	SE1
2	132.6	SE1
3	134.1	SE1
4	134.7	SE1
5	133.1	SE1
AVERAGE	**134.1**	
STD. DEV.	1.14	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-13
LAB ID NO.: L16040-13-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-25

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	118.6	SE1	<10
2	124.4	SE1	<10
3	118.7	SE1	<10
4	121.9	SE1	<10
5	119.7	SE1	<10
AVERAGE	**120.7**		
STD. DEV.	2.22		
INSIDE TRACK (WELD "B")			
1	107.3	SE1	<10
2	108.7	SE1	<10
3	107.0	SE1	<10
4	107.3	SE1	<10
5	108.5	SE1	<10
AVERAGE	**107.8**		
STD. DEV.	0.70		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	128.1	SE1
2	126.7	SE1
3	129.1	SE1
4	126.4	SE1
5	131.1	SE1
AVERAGE	**128.3**	
STD. DEV.	1.71	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-13
LAB ID NO.: L16040-13-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-26

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	126.4	SE1	<10
2	122.7	SE1	<10
3	125.9	SE1	<10
4	125.6	SE1	<10
5	122.5	SE1	<10
AVERAGE	**124.6**		
STD. DEV.	1.67		
INSIDE TRACK (WELD "B")			
1	110.8	SE1	<10
2	114.2	SE1	<10
3	90.3	AD-BRK	80
4	102.9	SE1	<10
5	89.7	AD-BRK	40
AVERAGE	**101.6**		
STD. DEV.	10.14		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	129.1	SE1
2	128.7	SE1
3	129.8	SE1
4	127.2	SE1
5	126.0	SE1
AVERAGE	**128.2**	
STD. DEV.	1.37	

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PEEL AND SHEAR TEST RESULTS
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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-15
LAB ID NO.: L16040-15-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-26B

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	108.6	SE1	<10
2	105.4	SE1	<10
3	105.9	SE1	<10
4	107.2	SE1	<10
5	113.6	SE1	<10
AVERAGE	**108.1**		
STD. DEV.	2.95		
INSIDE TRACK (WELD "B")			
1	118.3	SE1	<10
2	114.0	SE1	<10
3	116.1	SE1	<10
4	119.9	SE1	<10
5	117.4	SE1	<10
AVERAGE	**117.1**		
STD. DEV.	2.00		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	123.7	SE1
2	125.4	SE1
3	123.5	SE1
4	126.3	SE1
5	125.3	SE1
AVERAGE	**124.8**	
STD. DEV.	1.07	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-14
LAB ID NO.: L16040-14-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-27

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	109.9	SE1	<10
2	113.2	SE1	<10
3	111.3	SE1	<10
4	111.3	SE1	<10
5	113.1	SE1	<10
AVERAGE	**111.8**		
STD. DEV.	1.25		
INSIDE TRACK (WELD "B")			
1	107.2	SE1	<10
2	107.0	SE1	<10
3	105.3	SE1	<10
4	104.1	SE1	<10
5	100.3	SE1	<10
AVERAGE	**104.8**		
STD. DEV.	2.51		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	128.7	SE1
2	128.0	SE1
3	129.5	SE1
4	127.4	SE1
5	133.0	SE1
AVERAGE	**129.3**	
STD. DEV.	1.97	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-15
LAB ID NO.: L16040-15-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-28

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	107.3	SE1	<10
2	105.0	SE1	<10
3	100.3	SE1	<10
4	102.8	SE1	<10
5	103.7	SE1	<10
AVERAGE	**103.8**		
STD. DEV.	2.32		
INSIDE TRACK (WELD "B")			
1	101.6	SE1	<10
2	98.9	SE1	<10
3	100.7	SE1	<10
4	94.2	SE1	<10
5	96.8	SE1	<10
AVERAGE	**98.4**		
STD. DEV.	2.68		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	116.5	SE1
2	116.5	SE1
3	117.4	SE1
4	117.0	SE1
5	118.5	SE1
AVERAGE	**117.2**	
STD. DEV.	0.74	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-16
LAB ID NO.: L16040-16-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-29

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	115.1	SE1	<10
2	108.1	SE1	<10
3	111.6	SE1	<10
4	110.0	SE1	<10
5	112.4	SE1	<10
AVERAGE	**111.4**		
STD. DEV.	2.35		
INSIDE TRACK (WELD "B")			
1	114.6	SE1	<10
2	102.1	SE1	<10
3	107.6	SE1	<10
4	106.9	SE1	<10
5	106.1	SE1	<10
AVERAGE	**107.5**		
STD. DEV.	4.05		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	126.9	SE1
2	127.4	SE1
3	128.8	SE1
4	127.8	SE1
5	133.2	SE1
AVERAGE	**128.8**	
STD. DEV.	2.28	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-17
LAB ID NO.: L16040-17-01
MATERIAL: 60 MIL HDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-30

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	105.5	SE1	<10
2	103.1	SE1	<10
3	101.8	SE1	<10
4	107.7	SE1	<10
5	106.3	SE1	<10
AVERAGE	**104.9**		
STD. DEV.	2.15		
INSIDE TRACK (WELD "B")			
1	101.4	SE1	<10
2	103.5	SE1	<10
3	102.1	SE1	<10
4	104.8	SE1	<10
5	100.7	SE1	<10
AVERAGE	**102.5**		
STD. DEV.	1.48		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	112.5	SE1
2	108.0	SE1
3	107.7	SE1
4	107.0	SE1
5	107.2	SE1
AVERAGE	**108.5**	
STD. DEV.	2.04	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-19
LAB ID NO.: L16040-19-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-31

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	129.2	SE1	<10
2	120.7	SE1	<10
3	114.0	SE1	<10
4	110.4	SE1	<10
5	112.3	SE1	<10
AVERAGE	**117.3**		
STD. DEV.	6.88		
INSIDE TRACK (WELD "B")			
1	117.1	SE1	<10
2	110.4	SE1	<10
3	124.2	SE1	<10
4	124.1	SE1	<10
5	123.6	SE1	<10
AVERAGE	**119.9**		
STD. DEV.	5.44		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	130.1	SE1
2	133.8	SE1
3	129.7	SE1
4	128.0	SE1
5	130.1	SE1
AVERAGE	**130.3**	
STD. DEV.	1.90	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-19
LAB ID NO.: L16040-19-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-32

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	126.0	SE1	<10
2	122.1	SE1	<10
3	119.0	SE1	<10
4	118.3	SE1	<10
5	121.7	SE1	<10
AVERAGE	**121.4**		
STD. DEV.	2.72		
INSIDE TRACK (WELD "B")			
1	118.2	SE1	<10
2	114.4	SE1	<10
3	113.3	SE1	<10
4	111.4	SE1	<10
5	115.3	SE1	<10
AVERAGE	**114.5**		
STD. DEV.	2.25		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	129.5	SE1
2	133.0	SE1
3	138.6	SE1
4	134.0	SE1
5	128.7	SE1
AVERAGE	**132.8**	
STD. DEV.	3.54	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-20
LAB ID NO.: L16040-20-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-33

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	115.1	SE1	<10
2	110.4	SE1	<10
3	113.0	SE1	<10
4	113.3	SE1	<10
5	113.1	SE1	<10
AVERAGE	**113.0**		
STD. DEV.	1.50		
INSIDE TRACK (WELD "B")			
1	112.1	SE1	<10
2	114.3	SE1	<10
3	110.1	SE1	<10
4	112.1	SE1	<10
5	111.3	SE1	<10
AVERAGE	**112.0**		
STD. DEV.	1.37		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	132.4	SE1
2	131.0	SE1
3	131.5	SE1
4	132.2	SE1
5	134.0	SE1
AVERAGE	**132.2**	
STD. DEV.	1.02	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-20
LAB ID NO.: L16040-20-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-34

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	126.4	SE1	<10
2	123.2	SE1	<10
3	127.6	SE1	<10
4	123.0	SE1	<10
5	129.0	SE1	<10
AVERAGE	**125.8**		
STD. DEV.	2.38		
INSIDE TRACK (WELD "B")			
1	114.2	SE1	<10
2	117.4	SE1	<10
3	117.5	SE1	<10
4	117.1	SE1	<10
5	116.5	SE1	<10
AVERAGE	**116.5**		
STD. DEV.	1.22		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	133.0	SE1
2	130.7	SE1
3	131.4	SE1
4	131.8	SE1
5	136.0	SE1
AVERAGE	**132.6**	
STD. DEV.	1.87	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-21
LAB ID NO.: L16040-21-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-35

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	116.7	SE1	<10
2	114.0	SE1	<10
3	127.4	SE1	<10
4	116.0	SE1	<10
5	114.5	SE1	<10
AVERAGE	**117.7**		
STD. DEV.	4.94		
INSIDE TRACK (WELD "B")			
1	119.0	SE1	<10
2	111.1	SE1	<10
3	120.5	SE1	<10
4	118.7	SE1	<10
5	115.0	SE1	<10
AVERAGE	**116.9**		
STD. DEV.	3.40		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	133.3	SE1
2	131.0	SE1
3	124.0	SE1
4	130.4	SE1
5	134.9	SE1
AVERAGE	**130.7**	
STD. DEV.	3.73	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-21
LAB ID NO.: L16040-21-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-36

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	117.0	SE1	<10
2	119.6	SE1	<10
3	116.0	SE1	<10
4	111.4	SE1	<10
5	114.0	SE1	<10
AVERAGE	**115.6**		
STD. DEV.	2.77		
INSIDE TRACK (WELD "B")			
1	111.7	SE1	<10
2	114.1	SE1	<10
3	100.0	SE1	<10
4	115.1	SE1	<10
5	111.6	SE1	<10
AVERAGE	**110.5**		
STD. DEV.	5.42		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	126.0	SE1
2	125.1	SE1
3	121.8	SE1
4	124.4	SE1
5	128.1	SE1
AVERAGE	**125.1**	
STD. DEV.	2.06	

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Date: 2016-06-24

Mail To:
Dan Bosworth
Langan Environmental Services

, ,

e-mail:dbosworth@langan.com

Bill To:

Langan Environmental Services

Dear Mr. Bosworth,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Honeywell 5A-6 North**
TRI Job Reference Number:	**21760**
Material(s) Tested:	(1) Heat Fusion Weld Seam(s) (1) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

James Burgess

Geosynthetic Services Division
http://www.geosyntheticstestinc.com

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Langan Environmental Services
Project: Honeywell 5A-6 North

Material: 60 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 21760

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-1 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	104	103	114	107	105	**107**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	118	115	125	111	107	**115**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	125	123	122	122	125	**123**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

Date: 2016-07-12

Mail To:
Dan Bosworth
Langan Environmental Services

, ,

e-mail:dbosworth@langan.com

Bill To:

Langan Environmental Services

Dear Mr. Bosworth,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Honeywell 5A-6 North**
TRI Job Reference Number:	**22194**
Material(s) Tested:	(1) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

James Burgess

Geosynthetic Services Division
http://www.geosyntheticstestinc.com

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Langan Environmental Services
Project: Honeywell 5A-6 North

Material: 60 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 22194

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-14 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	124	136	120	119	132	**126**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	113	113	114	113	117	**114**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	117	118	117	115	114	**116**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

Date: 2016-07-26

Mail To:
Dan Bosworth
Langan Environmental Services

, ,

e-mail:dbosworth@langan.com

Bill To:

Langan Environmental Services

Dear Mr. Bosworth,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Honeywell 5A-6 North**
TRI Job Reference Number:	**22590**
Material(s) Tested:	(1) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

James Burgess

Geosynthetic Services Division
http://www.geosyntheticstestinc.com

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Langan Environmental Services
Project: Honeywell 5A-6 North

Material: 60 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 22590

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-25 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	121	119	123	120	119	**120**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	111	109	105	113	111	**110**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	131	131	133	131	131	**131**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

Date: 2016-08-17

Mail To:
Dan Bosworth
Langan Environmental Services

, ,

e-mail:dbosworth@langan.com

Bill To:

Langan Environmental Services

Dear Mr. Bosworth,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Honeywell 5A-6 North**
TRI Job Reference Number:	**23291**
Material(s) Tested:	(1) Heat Fusion Weld Seam(s) (1) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

James Burgess

Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Langan Environmental Services
Project: Honeywell 5A-6 North

Material: 60 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 23291

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-36 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	115	111	108	114	117	**113**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	115	116	110	109	106	**111**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	129	132	128	127	128	**129**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

Honeywell SA-6 Capping

Comparison of ESI / Langan (QA) Destruct Samples - Extrusion Welds

Sample ID	***Weld Type***	***Submitted By:***	***Test***	***Peel Strength (ppi)***					**Avg. Strength (ppi)**	***Meets Spec Requirement***
DSX-1	Extrusion	Langan	Peel	134	142	137	136	136	**137**	**Yes**
DSX-1		Entact	Peel	140.9	139.6	140.3	138.5	138.5	**139.6**	**Yes**
DSX-1		Langan	Shear	127	130	128	124	126	**127**	**Yes**
DSX-1		Entact	Shear	136.5	137.1	137.1	134.8	134.8	**136.1**	**Yes**
DSX-2	Extrusion	Entact	Peel	128.1	125.7	128.2	126.1	128.5	**127.3**	**Yes**
			Shear	136.2	131.8	132.6	136.1	134.8	**134.3**	**Yes**
DSX-3	Extrusion	Entact	Peel	124.6	124.1	125.2	129.4	125.5	**125.8**	**Yes**
			Shear	128.5	128.9	133.8	127.2	127.8	**129.2**	**Yes**
DSX-4	Extrusion	Entact	Peel	105.1	114	109.8	114.8	112	**111.1**	**Yes**
			Shear	132.5	129.3	136.2	129.2	131	**131.6**	**Yes**
DSX-5	Extrusion	Entact	Peel	120.6	118.6	119.8	118.8	122.8	**120.1**	**Yes**
			Shear	122.3	131.8	120.3	121.7	129.5	**125.1**	**Yes**
DSX-6	Extrusion	Entact	Peel	110.4	117.4	125.7	122.8	120.6	**119.4**	**Yes**
			Shear	127.7	126.1	127.5	127.4	131.5	**128.0**	**Yes**
DSX-7	Extrusion	Entact	Peel	123.4	113.7	115.5	119.5	110.2	**116.5**	**Yes**
			Shear	123.8	127.3	125.5	126.1	122.9	**125.1**	**Yes**
DSX-8	Extrusion	Entact	Peel	93.5	113.2	123.2	102	108.6	**108.1**	**Yes**
			Shear	137.8	141	136.9	135.5	137	**137.6**	**Yes**
DSX-9	Extrusion	Entact	Peel	125.4	129.2	126	122.2	128.9	**126.3**	**Yes**
			Shear	139.5	139.8	145.3	139.6	140.4	**140.9**	**Yes**
DSX-10	Extrusion	Entact	Peel	121.2	118.9	118.5	119.6	113.9	**118.4**	**Yes**
			Shear	124.1	121.4	125.8	122.7	126.1	**124.0**	**Yes**
DSX-11	Extrusion	Entact	Peel	108.7	109.9	110.7	109.4	116.9	**111.1**	**Yes**
			Shear	118.4	118.3	119.5	120.3	124.5	**120.2**	**Yes**
DSX-12	Extrusion	Entact	Peel	102.2	112.6	123.2	118.7	123.8	**116.1**	**No**
			Shear	135.2	134.2	136.6	127.5	134.6	**133.6**	**Yes**
DSX-13	Extrusion	Langan	Peel	140	139	138	155	138	**142**	**Yes**
		Entact	Peel	114.6	112.6	114.7	110.3	112.8	**113.0**	**Yes**
		Langan	Shear	147	149	155	157	151	**152**	**Yes**
		Entact	Shear	115.5	116.8	114.2	114	118.7	**115.8**	**Yes**
DSX-14	Extrusion	Entact	Peel	112.5	111	110.6	113.4	111	**111.7**	**Yes**
			Shear	111.9	113.4	111.5	112	114.6	**112.7**	**Yes**
DSX-15	Extrusion	Entact	Peel	120.7	123	106.2	127.4	121	**119.7**	**Yes**
			Shear	132.2	136	132.7	132	132.1	**133.0**	**Yes**
DSX-16	Extrusion	Entact	Peel	129	127.4	125	125.7	130.7	**127.6**	**Yes**
			Shear	130.3	127.1	129.2	133	133.9	**130.7**	**Yes**
DSX-17	Extrusion	Langan	Peel	118	119	118	119	123	**119**	**Yes**
		Entact	Peel	124	118.5	120.5	126	125	**122.8**	**Yes**
		Langan	Shear	133	130	132	129	130	**131**	**Yes**
		Entact	Shear	129.9	129	129.8	129.2	134	**130.4**	**Yes**

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS

PROJECT NO.: L16040-03
LAB ID NO.: L16040-03-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-1

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	140.9	SE3	<10
2	139.6	SE3	<10
3	140.3	SE3	<10
4	138.5	SE3	<10
5	138.5	SE3	<10
AVERAGE	**139.6**		
STD. DEV.	0.96		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	136.5	SE1
2	137.1	SE1
3	137.1	SE1
4	134.8	SE1
5	134.8	SE1
AVERAGE	**136.1**	
STD. DEV.	1.05	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS

PROJECT NO.: L16040-04
LAB ID NO.: L16040-04-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-2

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	128.1	SE3	<10
2	125.7	SE3	<10
3	128.2	SE3	<10
4	126.1	SE3	<10
5	128.5	SE3	<10
AVERAGE	**127.3**		
STD. DEV.	1.17		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	136.2	SE1
2	131.8	SE1
3	132.6	SE1
4	136.1	SE1
5	134.8	SE1
AVERAGE	**134.3**	
STD. DEV.	1.80	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-06
LAB ID NO.: L16040-06-06
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-3

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	124.6	SE3	<10
2	124.1	SE3	<10
3	125.2	SE3	<10
4	129.4	SE3	<10
5	125.5	SE3	<10
AVERAGE	**125.8**		
STD. DEV.	1.88		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	128.5	SE1
2	128.9	SE1
3	133.8	SE1
4	127.2	SE1
5	127.8	SE1
AVERAGE	**129.2**	
STD. DEV.	2.35	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-07
LAB ID NO.: L16040-07-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-4

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	105.1	SE3	<10
2	114.0	SE3	<10
3	109.8	SE3	<10
4	114.8	SE3	<10
5	112.0	SE3	<10
AVERAGE	**111.1**		
STD. DEV.	3.48		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	132.5	SE1
2	129.3	SE1
3	136.2	SE1
4	129.2	SE1
5	131.0	SE1
AVERAGE	**131.6**	
STD. DEV.	2.58	

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PEEL AND SHEAR TEST RESULTS
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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-08
LAB ID NO.: L16040-08-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-5

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	120.6	SE3	<10
2	118.6	SE3	<10
3	119.8	SE3	<10
4	118.8	SE3	<10
5	122.8	SE3	<10
AVERAGE	**120.1**		
STD. DEV.	1.52		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	122.3	SE1
2	131.8	SE1
3	120.3	SE1
4	121.7	SE1
5	129.5	SE1
AVERAGE	**125.1**	
STD. DEV.	4.62	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-09
LAB ID NO.: L16040-09-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-6

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	110.4	SE3	<10
2	117.4	SE3	<10
3	125.7	SE3	<10
4	122.8	SE3	<10
5	120.6	SE3	<10
AVERAGE	**119.4**		
STD. DEV.	5.25		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	127.7	SE1
2	126.1	SE1
3	127.5	SE1
4	127.4	SE1
5	131.5	SE1
AVERAGE	**128.0**	
STD. DEV.	1.82	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-10
LAB ID NO.: L16040-10-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-7

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	123.4	SE3	<10
2	113.7	SE3	<10
3	115.5	SE3	<10
4	119.5	SE3	<10
5	110.2	SE3	<10
AVERAGE	**116.5**		
STD. DEV.	4.59		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	123.8	SE1
2	127.3	SE1
3	125.5	SE1
4	126.1	SE1
5	122.9	SE1
AVERAGE	**125.1**	
STD. DEV.	1.58	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-12
LAB ID NO.: L16040-12-05
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-8

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	93.5	SE3	<10
2	113.2	SE3	<10
3	123.2	SE3	<10
4	102.0	SE3	<10
5	108.6	SE3	<10
AVERAGE	**108.1**		
STD. DEV.	10.05		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	137.8	SE1
2	141.0	SE1
3	136.9	SE1
4	135.5	SE1
5	137.0	SE1
AVERAGE	**137.6**	
STD. DEV.	1.84	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-13
LAB ID NO.: L16040-13-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-9

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	125.4	SE3	<10
2	129.2	SE3	<10
3	126.0	SE3	<10
4	122.2	SE3	<10
5	128.9	SE3	<10
AVERAGE	**126.3**		
STD. DEV.	2.56		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	139.5	SE1
2	139.8	SE1
3	145.3	SE1
4	139.6	SE1
5	140.4	SE1
AVERAGE	**140.9**	
STD. DEV.	2.21	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-14
LAB ID NO.: L16040-14-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-10

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	121.2	SE3	<10
2	118.9	SE3	<10
3	118.5	SE3	<10
4	119.6	SE3	<10
5	113.9	SE3	<10
AVERAGE	**118.4**		
STD. DEV.	2.44		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	124.1	SE1
2	121.4	SE1
3	125.8	SE1
4	122.7	SE1
5	126.1	SE1
AVERAGE	**124.0**	
STD. DEV.	1.79	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-15
LAB ID NO.: L16040-15-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-11

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	108.7	SE3	<10
2	109.9	SE3	<10
3	110.7	SE3	<10
4	109.4	SE3	<10
5	116.9	SE3	<10
AVERAGE	**111.1**		
STD. DEV.	2.96		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	118.4	SE1
2	118.3	SE1
3	119.5	SE1
4	120.3	SE1
5	124.5	SE1
AVERAGE	**120.2**	
STD. DEV.	2.27	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-15
LAB ID NO.: L16040-15-04
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-12

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	102.2	SE3	<10
2	112.6	SE3	<10
3	123.2	SE3	<10
4	118.7	SE3	<10
5	123.8	SE3	<10
AVERAGE	**116.1**		
STD. DEV.	8.02		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	135.2	SE2
2	134.2	SE2
3	136.6	SE2
4	127.5	SE2
5	134.6	SE2
AVERAGE	**133.6**	
STD. DEV.	3.17	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-16
LAB ID NO.: L16040-16-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DSX-13

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	114.6	SE1	<10
2	112.6	SE1	<10
3	114.7	SE1	<10
4	110.3	SE1	<10
5	112.8	SE1	<10
AVERAGE	**113.0**		
STD. DEV.	1.61		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	115.5	SE1
2	116.8	SE1
3	114.2	SE1
4	114.0	SE1
5	118.7	SE1
AVERAGE	**115.8**	
STD. DEV.	1.75	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-17
LAB ID NO.: L16040-17-02
MATERIAL: 60 MIL HDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-14

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	112.5	SE3	<10
2	111.0	SE3	<10
3	110.6	SE3	<10
4	113.4	SE3	<10
5	111.0	SE3	<10
AVERAGE	**111.7**		
STD. DEV.	1.07		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	111.9	SE1
2	113.4	SE1
3	111.5	SE1
4	112.0	SE1
5	114.6	SE1
AVERAGE	**112.7**	
STD. DEV.	1.15	

CHECKED BY: SB DATE: 8-9-16

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544 Braddock Avenue • East Pittsburgh, PA 15112 • 412-823-7600 • FAX 412-823-8999 • www.geotechnics.net

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-20
LAB ID NO.: L16040-20-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-15

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	120.7	SE3	<10
2	123.0	SE3	<10
3	106.2	SE3	<10
4	127.4	SE3	<10
5	121.0	SE3	<10
AVERAGE	**119.7**		
STD. DEV.	7.14		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	132.2	SE2
2	136.0	SE2
3	132.7	SE2
4	132.0	SE2
5	132.1	SE2
AVERAGE	**133.0**	
STD. DEV.	1.52	

CHECKED BY: [illegible] DATE: 8·11·16

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-21
LAB ID NO.: L16040-21-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-16

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	129.0	SE3	<10
2	127.4	SE3	<10
3	125.0	SE3	<10
4	125.7	SE3	<10
5	130.7	SE3	<10
AVERAGE	**127.6**		
STD. DEV.	2.10		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	130.3	SE1
2	127.1	SE1
3	129.2	SE1
4	133.0	SE1
5	133.9	SE1
AVERAGE	**130.7**	
STD. DEV.	2.49	

CHECKED BY: TO DATE: 8·16·16

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-21
LAB ID NO.: L16040-21-04
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-17

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	124.0	SE3	<10
2	118.5	SE3	<10
3	120.5	SE3	<10
4	126.0	SE3	<10
5	125.0	SE3	<10
AVERAGE	**122.8**		
STD. DEV.	2.84		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	129.9	SE1
2	129.0	SE1
3	129.8	SE1
4	129.2	SE1
5	134.0	SE1
AVERAGE	**130.4**	
STD. DEV.	1.84	

CHECKED BY: JO DATE: 8-16-16

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Langan Environmental Services
Project: Honeywell 5A-6 North

Material: 60 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 21760

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSX-1 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	134	142	137	136	136	**137**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	127	130	128	124	126	**127**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

Date: 2016-08-09

Mail To:
Dan Bosworth
Langan Environmental Services

, ,

e-mail:dbosworth@langan.com

Bill To:

Langan Environmental Services

Dear Mr. Bosworth,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Honeywell 5A-6 North**
TRI Job Reference Number:	**23021**
Material(s) Tested:	(1) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

James Burgess

Geosynthetic Services Division
http://www.geosyntheticstestinc.com

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Langan Environmental Services
Project: Honeywell 5A-6 North

Material: 60 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 23021

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSX-13 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	140	139	138	155	138	**142**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	147	149	155	157	151	**152**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Langan Environmental Services
Project: Honeywell 5A-6 North

Material: 60 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 23291

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSX-17 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	118	119	118	119	123	**119**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	133	130	132	129	130	**131**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

Appendix M
Summary of Non-Compliance & Corrective Action Sheets

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 1

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 6/23/16 Contractor in NC: Entact Non-Compliance No.: 1 Notes: Soil Subgrade Irregularity
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Rock / loose debris (>1/2 – inches) observed underneath LLDPE geomembrane at Panel P6. This non-compliance issue is also noted on the 6/23/16 Repair Report, and is identified as R-10. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Loose debris / rock area identified as subgrade irregularity. Rock to be removed and the area will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove rock / debris from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Rock was removed from underneath LLDPE geomembrane as a small hole (< 4-inches) was made in the LLDPE to remove the stone. This hole was then repaired with approximate 3 ft. by 3 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372). Refer to Photo #12 and Photo #14 of 6/23/16 photo log for repair of R-10.

Geosynthetic Installer Representative _____ Date 6/24/16

Independent CQA Monitor _____ LANGAN Date 6/24/16

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 2

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 6/29/16 Contractor in NC: Entact Non-Compliance No.: 2 Notes: Soil Subgrade Irregularity
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Rock / loose debris (>1/2 – inches) observed underneath LLDPE geomembrane at Panel P26. Prior to deployment of the panel, the subgrade was observed by a field engineer who walked the placement area in approximate 200 ft. by 8 ft. transects to observe soil bearing conditions as well as items requiring removal prior to panel placement (i.e. materials such as rocks or other items that protrude >1/2" above the surface). In the event these conditions were during the subgrade observation, the material was removed and the area was observed again. After deployment of the GVL and LLDPE, the area was walked again (following the same procedure during the soil subgrade observation) to attempt to identify the presence of materials larger than ½" protruding below the LLDPE. During this latest observation, a rock was noted to be present below the LLDPE. It is possible that this rock may have been dislodged during deployment of the GVL which was pulled over a small portion of the subgrade surface. This non-compliance issue was repaired as defined below and on the 6/29/16 Repair Report, and is identified as R-98. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Loose debris / rock area identified as subgrade irregularity. Rock to be removed and the area will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove rock / debris from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response. Assess GVL deployment methods to determine most effective method in reducing dislodgment of subgrade material.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Rock was removed from underneath LLDPE geomembrane as a small hole (< 4-inches) was made in the LLDPE to remove the stone. This hole was then repaired with approximate 2 ft. by 2 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372). Refer to Photo #2 of 6/29/16 photo log for repair of R-98.

Geosynthetic Installer Representative _____ Date 6/30/16

Independent CQA Monitor _____ LANGAN Date 6/30/16

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 3

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 7/6/16 Contractor in NC: ESI Non-Compliance No.: 3 Notes: Failed Spark Test
Reference	
Item: Failed Spark Test Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

During spark testing of Gas Vent GV-5 on 7/6/16, a small pinhole deficiency was identified (via spark test) within the vertical weld of the boot. As the point probe was passed over the weld, a visual spark was observed. The failed weld was marked by ESI and the area to be grinded, re-welded, and re-tested on 7/7/16. Additional details on the spark testing are also noted on the 7/6/16 Spark Test Log.

Contractor's Response

Failed spark test identified and confirmed on vertical weld for Gas Vent GV-5 pipe boot. Weld to be grinded, re-welded, and re-tested on 7/7/16 as outlined in the project specifications.

Follow Up Action Required

Grind area of weld requiring retesting, re-weld the vertical seam, and conduct additional spark testing to confirm integrity of weld.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Area of vertical weld identified during spark testing was grinded, re-welded, and re-tested on 7/7/16. The extrusion weld was grinded by ESI to scratch / mar the surface and the area was re-welded. Following the welding activities, Entact conducted methane testing to confirm that the methane concentration was below 1% (measured as 0.0%). Following methane testing, ESI conducted a spark retest along the vertical weld, and no sparks or deficiencies were identified (spark retest passed). Refer to Photo #5 and Photo #6 of 7/7/16 Photo Log for spark retest details.

Geosynthetic Installer Representative Carlos Pano Date 7/7/16

Independent CQA Monitor Langan Date 7/7/16

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 4

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 7/6/16 Contractor in NC: ESI Non-Compliance No.: 4 Notes: Failed Spark Test
Reference	
Item: Failed Spark Test Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

During spark testing of Well 115-W1-SO on 7/6/16, two small pinhole deficiencies were identified (via spark test) within the vertical weld of the boot. As the point probe was passed over the weld, a visual spark was observed along two areas of the weld. The failed weld was marked by ESI and the areas were to be grinded, re-welded, and re-tested on 7/7/16. Additional details on the spark testing are also noted on the 7/6/16 Spark Test Log.

Contractor's Response

Failed spark test identified and confirmed on vertical weld for Well 115-W1-SO pipe boot. Weld to be grinded, re-welded, and re-tested on 7/7/16 as outlined in the project specifications.

Follow Up Action Required

Grind area of weld requiring retesting, re-weld the vertical seam, and conduct additional spark testing to confirm integrity of weld.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Two areas of vertical weld for Well 115-W1-SO identified during spark testing were grinded, re-welded, and re-tested on 7/7/16. The extrusion weld was grinded by ESI to scratch / mar the surface and the area was re-welded. Following the welding activities, Entact conducted methane testing to confirm that the methane concentration was below 1% (measured as 0.0%). Following methane testing, ESI conducted a spark retest along the vertical weld, and no sparks or deficiencies were identified (spark retest passed). Refer to Photo #7 and Photo #8 of 7/7/16 Photo Log for spark retest details.

Geosynthetic Installer Representative _____ Date 7/7/16

Independent CQA Monitor _____ Langan Date 7/7/16

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 5

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 7/7/16 Contractor in NC: Entact Non-Compliance No.: 5 Notes: Soil Subgrade Irregularity
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Rock / loose debris (>1/2 – inches) observed underneath LLDPE geomembrane at Panel P38. Prior to deployment of the panel, the subgrade was observed by a field engineer who walked the placement area in approximate 200 ft. by 8 ft. transects to observe soil bearing conditions as well as items requiring removal prior to panel placement (i.e. materials such as rocks or other items that protrude >1/2" above the surface). In the event these conditions were during the subgrade observation, the material was removed and the area was observed again. After deployment of the GVL and LLDPE, the area was walked again (following the same procedure during the soil subgrade observation) to attempt to identify the presence of materials larger than ½" protruding below the LLDPE. During this latest observation, a rock was noted to be present below the LLDPE. It is possible that this rock may have been dislodged during deployment of the GVL which was pulled over a small portion of the subgrade surface. This non-compliance issue was repaired as defined below and on the 7/7/16 Repair Report, and is identified as R-170. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Loose debris / rock area identified as subgrade irregularity. Rock to be removed and the area will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove rock / debris from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response. Assess GVL deployment methods to determine most effective method in reducing dislodgment of subgrade material.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Rock was removed from underneath LLDPE geomembrane as a small hole (< 4-inches) was made in the LLDPE to remove the stone. This hole was then repaired with approximate 2 ft. by 2 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372).

Geosynthetic Installer Representative Carolina Pares Date 7/8/16

Independent CQA Monitor LANGAN Date 7/8/16

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 6

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 7/8/16 Contractor in NC: Entact Non-Compliance No.: 6 Notes: Soil Subgrade Irregularity
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Rock / loose debris (>1/2 – inches) observed underneath LLDPE geomembrane at Panel P45. Prior to deployment of the panel, the subgrade was observed by a field engineer who walked the placement area in approximate 200 ft. by 8 ft. transects to observe soil bearing conditions as well as items requiring removal prior to panel placement (i.e. materials such as rocks or other items that protrude >1/2" above the surface). In the event these conditions were during the subgrade observation, the material was removed and the area was observed again. After deployment of the GVL and LLDPE, the area was walked again (following the same procedure during the soil subgrade observation) to attempt to identify the presence of materials larger than ½" protruding below the LLDPE. During this latest observation, a rock was noted to be present below the LLDPE. It is possible that this rock may have been dislodged during deployment of the GVL which was pulled over a small portion of the subgrade surface. This non-compliance issue was repaired as defined below and on the 7/8/16 Repair Report, and is identified as R-222. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Loose debris / rock area identified as subgrade irregularity. Rock to be removed and the area will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove rock / debris from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response. Assess GVL deployment methods to determine most effective method in reducing dislodgment of subgrade material.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Rock was removed from underneath LLDPE geomembrane as a small hole (< 4-inches) was made in the LLDPE to remove the stone. This hole was then repaired with approximate 2 ft. by 3 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372).

Geosynthetic Installer Representative Carlos Pano Date 7/11/16

Independent CQA Monitor - LANGAN Date 7/11/16

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 7

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 7/12/16 Contractor in NC: Entact Non-Compliance No.: 7 Notes: Soil Subgrade Irregularity
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Rock / loose debris (>1/2 – inches) observed underneath LLDPE geomembrane at southern end of Panel P49 / P50. Prior to deployment of the panel, the subgrade was observed by a field engineer who walked the placement area in approximate 200 ft. by 8 ft. transects to observe soil bearing conditions as well as items requiring removal prior to panel placement (i.e. materials such as rocks or other items that protrude >1/2" above the surface). In the event these conditions were identified during the subgrade observation, the material was removed and the area was observed again. After deployment of the GVL and LLDPE, the area was walked again (following the same procedure during the soil subgrade observation) to attempt to identify the presence of materials larger than ½" protruding below the LLDPE. During this latest observation, a rock was noted to be present below the LLDPE. It is possible that this rock may have been dislodged during deployment of the GVL which was pulled over a small portion of the subgrade surface. This non-compliance issue was repaired as defined below and on the 7/12/16 Repair Report, and is identified as R-242. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Loose debris / rock area identified as subgrade irregularity. Rock to be removed and the area will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove rock / debris from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response. Assess GVL deployment methods to determine most effective method in reducing dislodgment of subgrade material.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Rock was removed from underneath LLDPE geomembrane along the southern edge of SA-6 North (approximately 3 ft. from the edge of the cap. As such, the edge of the LLDPE was cut to remove the stone. This cut was then repaired with an extrusion weld bead. Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the cut / bead was properly sealed (as outlined in Section 02372).

Geosynthetic Installer Representative _____ Date 7/13/16

Independent CQA Monitor _____ LANGAN Date 7/13/16

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 8

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 7/27/16 Contractor in NC: Entact Non-Compliance No.: 8 Notes: Soil Subgrade Irregularity
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Rock / loose debris (>1/2 – inches) observed underneath LLDPE geomembrane at southern end of Panel P72. Prior to deployment of the panel, the subgrade was observed by a field engineer who walked the placement area in approximate 200 ft. by 8 ft. transects to observe soil bearing conditions as well as items requiring removal prior to panel placement (i.e. materials such as rocks or other items that protrude >1/2" above the surface). In the event these conditions were identified during the subgrade observation, the material was removed and the area was observed again. After deployment of the GVL and LLDPE, the area was walked again (following the same procedure during the soil subgrade observation) to attempt to identify the presence of materials larger than ½" protruding below the LLDPE. During this latest observation, a rock was noted to be present below the LLDPE. It is possible that this rock may have been dislodged during deployment of the GVL which was pulled over a small portion of the subgrade surface. This non-compliance issue was repaired as defined below and on the 7/27/16 Repair Report, and is identified as R-328. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Loose debris / rock area identified as subgrade irregularity. Rock to be removed and the area will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove rock / debris from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Rock was removed from underneath LLDPE geomembrane as a small hole (< 4-inches) was made in the LLDPE to remove the stone. This hole was then repaired with approximate 2 ft. by 2 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372).

Geosynthetic Installer Representative Carolina Ramos Date 7/28/16

Independent CQA Monitor LANGAN Date 7/28/16

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 9

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 7/28/16 Contractor in NC: ESI Non-Compliance No.: 9 Notes: Failed Destruct Sample
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Destruct sample DS-26 (Repair R-312) collected from Panel P72 / P74 failed two of the five specimens for peel testing completed by the Geosynthetic Installer's Laboratory. Although the peel strength parameters exceeded the minimum strength requirements outlined in the project specifications, the break was reported as EPA Break Classification Code "AD BRK" by the laboratory. Although the coupons met the peel strength requirements, since the break was reported at the weld and not considered a film tearing bond (FTB), the sample was considered a failed sample and reported as a non-conformance item.

Contractor's Response

Destruct sample DS-26 break failure for two of the five specimens confirmed. As per project specs, an additional two field samples will be collected 10 ft. on each side of the failed sample. Both field samples will be tested for peel and shear strength parameters. The sample with the lower of the peel and shear strength parameters will be sent for confirmatory laboratory analysis.

Follow Up Action Required

Collect two field samples approximately 10 ft. on each side of failed destruct sample DS-26. If both samples pass the peel and shear strength requirements, the entire Panel 72/74 seam will be capped, sealed with an extrusion weld, and vacuum box tested.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Two field samples (DS-26A and DS-26B) were cut approximately 10 ft. on each side of destruct sample DS-26 (along Panel P72 / P74 seam). Both samples passed the peel and shear strength requirements during field testing. Sample DS-26B exhibited peel and shear strength parameters slightly less than DS-26A. As such, DS-26B was sent for laboratory analysis and passed the peel and shear requirements. Panel P72 / P74 seam from sample DS-26A to DS-26B was capped, sealed with an extrusion weld, and vacuum box tested on 8/2/16.

Geosynthetic Installer Representative [signature] Date 8/2/16

Independent CQA Monitor [signature] Langan Date 8/2/16

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 10

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 8/5/16 Contractor in NC: Entact Non-Compliance No.: 10 Notes: Equipment Puncture
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Equipment puncture through SA-6 North observed at Panel P36 (northern end of SA-6 North cap). Grounding rod was driven through liner by others. Puncture to be patched / repaired according to project specs. Additional details on the patch / repair work completed are described in the *8/5/16 Daily Report* and *8/5/16 Photograph Log*. This non-compliance issue was also noted on the 8/5/16 Repair Report, and is identified as RP-418. The location of this repair was recorded and logged (via GPS) by the team (along the hydraulic barrier [HB] wall).

Contractor's Response

Equipment puncture through geomembrane along SCB wall confirmed. Puncture to be covered with new patch, sealed, and extrusion welded according to project specifications.

Follow Up Action Required

Place patch over puncture location and repair and seal with extrusion weld according to project specs. Vacuum box to then be conducted to confirm integrity of weld.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Geomembrane patch was placed over the equipment puncture and was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). The weld was then vacuum box tested and passed. Additional details provided in the 8/5/16 Daily Report and 8/5/16 Photograph Log (Photos 3 & 4).

Geosynthetic Installer Representative Carolina Ramos Date 8/8/16

Independent CQA Monitor D. B. Langan Date 8/8/16

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 11

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 8/9/16 Contractor in NC: ESI Non-Compliance No.: 11 Notes: Failed Spark Test
Reference	
Item: Failed Spark Test Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

During spark testing of Piezometer PZ4, a spark was observed through the weld as the probe transmitted through the weld thus causing the spark to arc. As the point probe was passed over the weld, a visual spark was observed. The failed weld was marked by ESI and the area to be grinded, re-welded, and re-tested on 8/9/16. Additional details on the spark testing are also noted on the 8/9/16 Spark Test Log.

Contractor's Response

Failed spark test identified and confirmed on vertical weld for Piezometer PZ4 pipe boot. Weld to be grinded, re-welded, and re-tested as outlined in the project specifications.

Follow Up Action Required

Grind area of weld requiring retesting, re-weld the vertical seam, and conduct additional spark testing to confirm integrity of weld.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Area of vertical weld identified during spark testing was grinded, re-welded, and re-tested on 8/9/16. The extrusion weld was grinded by ESI to scratch / mar the surface and the area was re-welded. Following the welding activities, Entact conducted methane testing to confirm that the methane concentration was below 1% (measured as 0.0%). Following methane testing, ESI conducted a spark retest along the vertical weld, and no sparks or deficiencies were identified (spark retest passed).

Geosynthetic Installer Representative Carolina Ramos Date 8/10/16

Independent CQA Monitor LANGAN Date 8/10/16

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 12

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 8/9/16 Contractor in NC: ESI Non-Compliance No.: 12 Notes: Failed Spark Test
Reference	
Item: Failed Spark Test Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

During spark testing of Monitoring Well 115-E5-SO, a spark was observed through the weld as the probe transmitted through the weld thus causing the spark to arc. As the point probe was passed over the weld, a visual spark was observed. The failed weld was marked by ESI and the area to be grinded, re-welded, and re-tested on 8/9/16. Additional details on the spark testing are also noted on the 8/9/16 Spark Test Log.

Contractor's Response

Failed spark test identified and confirmed on vertical weld for Monitoring Well 115-E5-SO pipe boot. Weld to be grinded, re-welded, and re-tested as outlined in the project specifications.

Follow Up Action Required

Grind area of weld requiring retesting, re-weld the vertical seam, and conduct additional spark testing to confirm integrity of weld.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Area of vertical weld identified during spark testing was grinded, re-welded, and re-tested on 8/9/16. The extrusion weld was grinded by ESI to scratch / mar the surface and the area was re-welded. Following the welding activities, Entact conducted methane testing to confirm that the methane concentration was below 1% (measured as 0.0%). Following methane testing, ESI conducted a spark retest along the vertical weld, and no sparks or deficiencies were identified (spark retest passed).

Geosynthetic Installer Representative Caroline Ramos Date 8/10/16

Independent CQA Monitor LANGAN Date 8/10/16

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 13

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 8/10/16 Contractor in NC: Entact Non-Compliance No.: 13 Notes: Soil Subgrade Irregularity
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Rock / loose debris (>1/2 – inches) observed underneath LLDPE geomembrane at southern end of Panel P107 / P108. Prior to deployment of the panel, the subgrade was observed by a field engineer who walked the placement area in approximate 200 ft. by 8 ft. transects to observe soil bearing conditions as well as items requiring removal prior to panel placement (i.e. materials such as rocks or other items that protrude >1/2" above the surface). In the event these conditions were identified during the subgrade observation, the material was removed and the area was observed again. After deployment of the GVL and LLDPE, the area was walked again (following the same procedure during the soil subgrade observation) to attempt to identify the presence of materials larger than ½" protruding below the LLDPE. During this latest observation, a rock was noted to be present below the LLDPE. It is possible that this rock may have been dislodged during deployment of the GVL which was pulled over a small portion of the subgrade surface. This non-compliance issue was repaired as defined below and on the 8/10/16 Repair Report, and is identified as R-457. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Loose debris / rock area identified as subgrade irregularity. Rock to be removed and the area will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove rock / debris from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Rock was removed from underneath LLDPE geomembrane as a small hole (< 4-inches) was made in the LLDPE to remove the stone. This hole was then repaired with approximate 2 ft. by 3 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372).

Geosynthetic Installer Representative Carolina Pana Date 8/11/16

Independent CQA Monitor LANGAN Date 8/11/16

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 14

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 8/12/16 Contractor in NC: ESI Non-Compliance No.: 14 Notes: Failed Spark Test
Reference	
Item: Failed Spark Test Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

During spark testing of Monitoring Well 115-E4-SO, a spark was observed along the edge of the extrusion weld as the weld was not directly centered over the wire. As the point probe was passed over the edge of the weld, a visual spark was observed. The failed weld was marked by ESI and the area was to be grinded, re-welded, and re-tested on 8/12/16. Additional details on the spark testing are also noted on the 8/12/16 Spark Test Log.

Contractor's Response

Failed spark test identified and confirmed on vertical weld for Monitoring Well 115-E4-SO pipe boot. Weld to be grinded, re-welded, and re-tested as outlined in the project specifications.

Follow Up Action Required

Grind area of weld requiring retesting, re-weld the vertical seam, and conduct additional spark testing to confirm integrity of weld.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Area of vertical weld identified during spark testing was grinded, re-welded, and re-tested on 8/12/16. The extrusion weld was grinded by ESI to scratch / mar the surface and the area was re-welded. Following the welding activities, Entact conducted methane testing to confirm that the methane concentration was below 1% (measured as 0.0%). Following methane testing, ESI conducted a spark retest along the vertical weld, and no sparks or deficiencies were identified (spark retest passed).

Geosynthetic Installer Representative Carolina Ramos Date 8/13/16

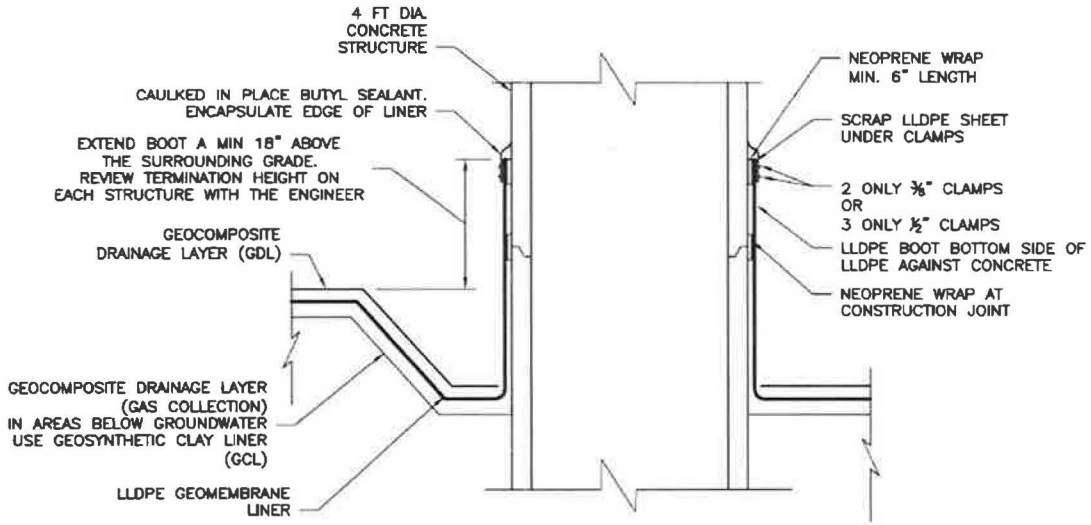
Independent CQA Monitor -Langan Date 8/13/16

Appendix N
Penetration & Pipe Boot Logs

Project: Study Area 6 North

Date: 6/23/16

QA – Manhole Boot Installation



LINER ANCHOR TO CONCRETE STRUCTURE

NTS

CE TYP C-304

***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ SS Band Clamps tightened and uniform

☒ Caulked Butyl Sealant around top edge of liner

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

Location: Access Manhole #1 (Sta. 1+50) located near approximate center of SA-6 North Cap on Panel P10 (approximately 93 ft. south of northern end of cap and 4 ft. east from Panel P10/P11 seam). Identified as R-29 on *As Built* and *Repair Report*.

AmecFW QA Signature:

Independent CQA Signature: LANGAN

Comments: Initial boot fabrication and construction conducted on 6/23/16 for skirt and boot with vertical welding completed on 6/24/16. Methane testing / spark testing completed on 6/27/16. Methane testing conducted by AmecFW and a concentration of 0.1% was measured, thus spark testing was subsequently completed by ESI for the base of the boot and vertical weld and no sparks were observed (spark test passed).

Honeywell

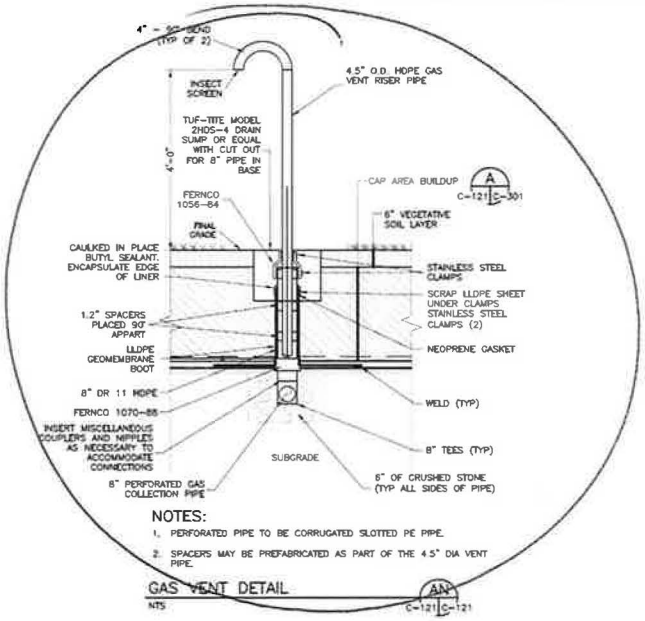
STUDY AREA 6 - CAP INSTALLATION

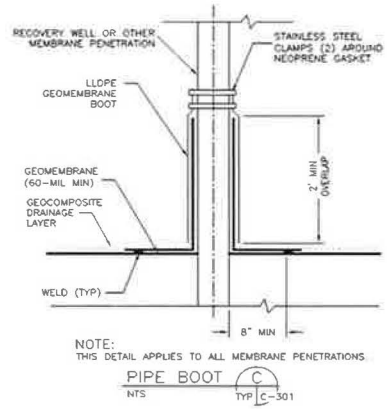
LANGAN

Project: Study Area 6 North

Date: 6/23/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-6 located near approximate center of SA-6 North Cap on Panel P11 (approximately 105 ft. north of southern end of cap and 3 ft. east of Panel P10/P11 seam). Identified as R-38 on *As Built* and *Repair Report.*

AmecFW QA Signature:

Independent CQA Monitor Signature:

LANGAN

Comments: Boot fabrication, construction, and welding and completed on 6/23/16. Methane testing / spark testing completed on 6/24/16. Methane testing conducted by AmecFW and concentration of 0.0% was measured prior to spark testing. Spark testing was conducted by ESI and no sparks observed during test (passed spark test). Following spark testing the stainless steel clamps and butyl sealant was applied to complete the boot construction.

Honeywell

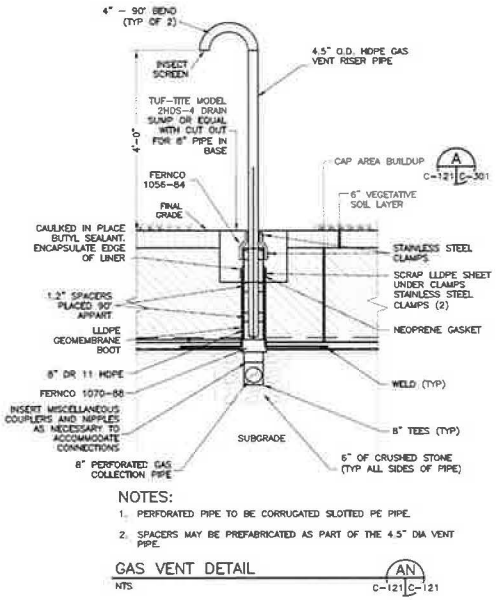
STUDY AREA 6 - CAP INSTALLATION

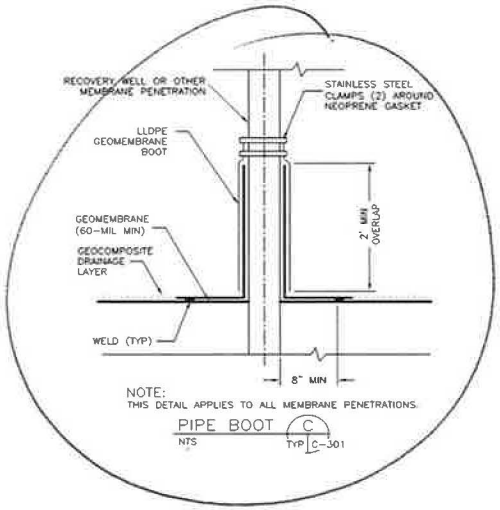
LANGAN

Project: Study Area 6 North

Date: 6/23/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Piezometer PZ10 located at approximate center of SA-6 North Cap on Panel P1 (approximately 35 ft. north of Panel P1 / P2 seam and 8 ft. west). Identified as R-1 on *As Built* and *Repair Report.*

AmecFW QA Signature:

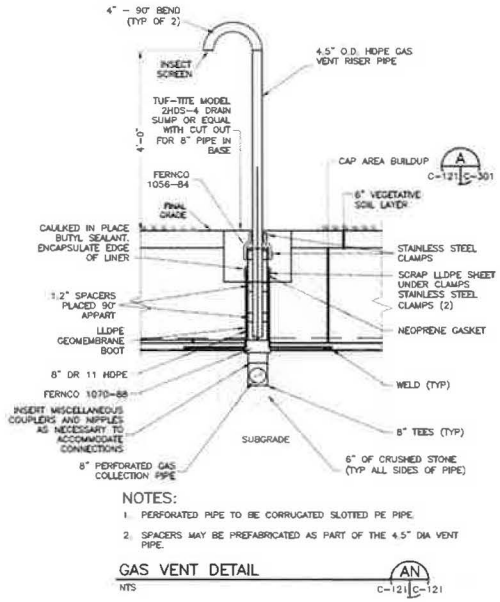
Independent CQA Monitor Signature: LANGIAN

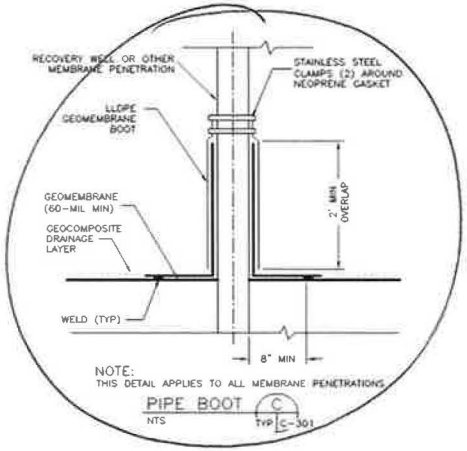
Comments: Boot fabrication, construction, and welding completed on 6/23/16. Methane testing / spark testing completed on 6/24/16. Methane testing conducted by AmecFW and concentration of 0.8% measured prior to spark testing. Spark testing was conducted by ESI and no sparks observed during spark test (spark test passed). Following spark testing, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Project: Study Area 6 North

Date: 6/23/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☐ Field fabricated, spark test ☒ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Well 115-W6-SO located near southern end of SA-6 North Cap on Panel P5 / P6 seam (approximately 15 ft. north of southern end of cap). Identified as R-7 on *As Built* and *Repair Report.*

AmecFW QA Signature:

Independent CQA Monitor Signature: - LANGAN

Comments: Boot fabrication, construction, and welding completed on 6/23/16. Methane testing completed on 6/24/16 by AmecFW, and no spark testing was conducted as methane measured concentration of 1.4% prior to spark testing. Since the concentration was greater than 1% no spark testing was completed. Welds visually observed for deficiencies and none were noted. Following visual observation, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Honeywell

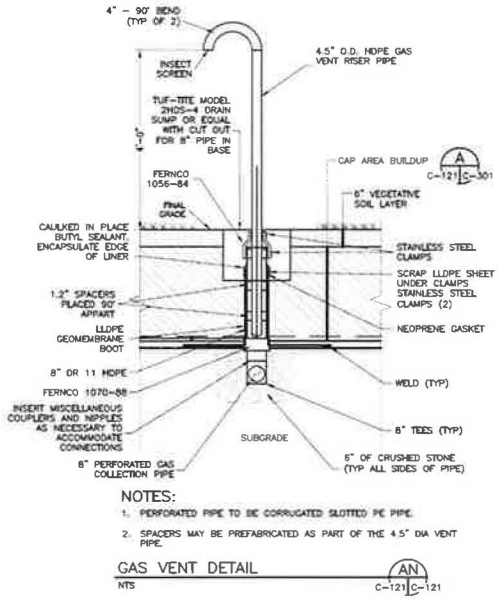
STUDY AREA 6 - CAP INSTALLATION

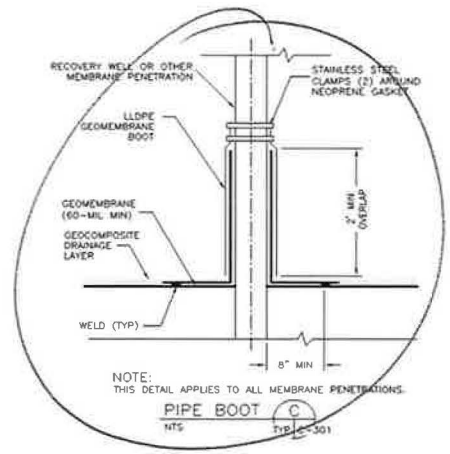
LANGAN

Project: Study Area 6 North

Date: 6/27/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Piezometer PZ8 located along northern end of SA-6 North Cap on Panel P21 (approximately 171 ft. north of south end of cap and 3 ft. east of Panel P20/P21 seam). Identified as R-81 on *As Built* and *Repair Report.*

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Comments: Boot fabrication, construction, and welding completed on 6/27/16. Methane testing / spark testing completed on 7/6/16. Methane testing conducted by AmecFW and concentration of 0.0% was measured. As such, spark testing was conducted by ESI along the base of the boot and vertical weld and no sparks observed (spark test passed). Following spark testing the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Honeywell

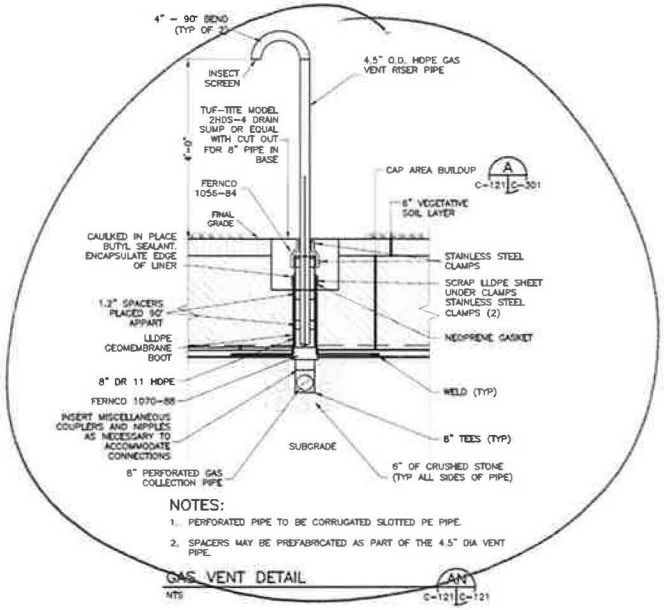
STUDY AREA 6 - CAP INSTALLATION

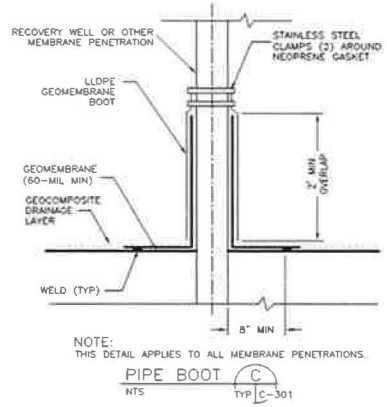
LANGAN

Project: Study Area 6 North

Date: 6/29/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-5 located near approximate center of SA-6 North Cap on Panel P27 (approximately 124 ft. north of southern end of cap and 3 ft. east from Panel P26/P27 seam). Identified as R-102 on *As Built* and *Repair Report.*

AmecFW QA Signature:

Independent CQA Monitor Signature:

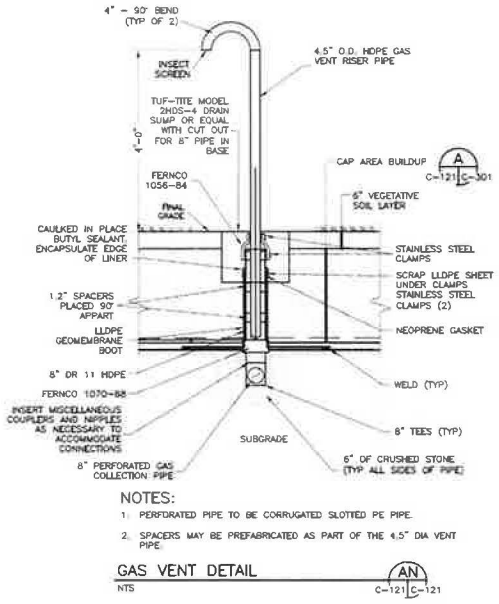
LANGAN

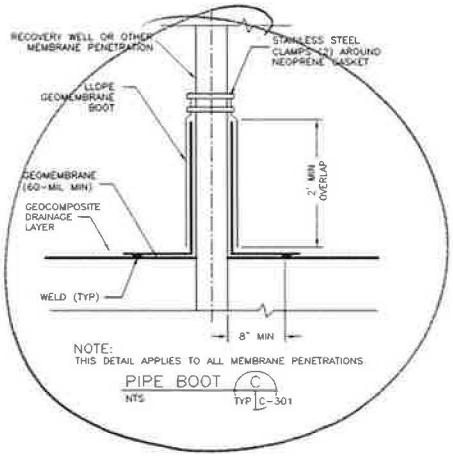
Comments: Boot fabrication, construction, and welding completed on 6/29/16. Methane testing / spark testing completed on 7/6/16. Methane testing was conducted by AmecFW and concentration of 0.0% was measured. As such, spark testing was conducted by ESI for the base of the boot and vertical weld. During spark testing of vertical weld, a spark was observed and identified a minor pinhole location along the edge of the weld that was re-welded and re-tested on 7/7/16 (spark retest passed). Following the spark retest, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Project: Study Area 6 North

Date: 7/1/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Well 115-W1-SO located along southern end of SA-6 North Cap on Panel P28 / P29 seam (approximately 15 ft. north of south end of cap). Identified as R-156 on *As Built* and *Repair Report.*

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Comments: Boot fabrication, construction, and welding completed on 7/1/16. Methane testing / spark testing completed on 7/6/16. Methane testing was conducted by AmecFW and a concentration of 0.0% was measured. As such, spark testing was conducted by ESI along the base of the boot and vertical weld. During spark testing of the vertical weld, two small pinhole deficiencies were observed and the area was grinded, rewelded, and re-tested on 7/7/16 (spark retest passed). Following the spark retest, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Honeywell

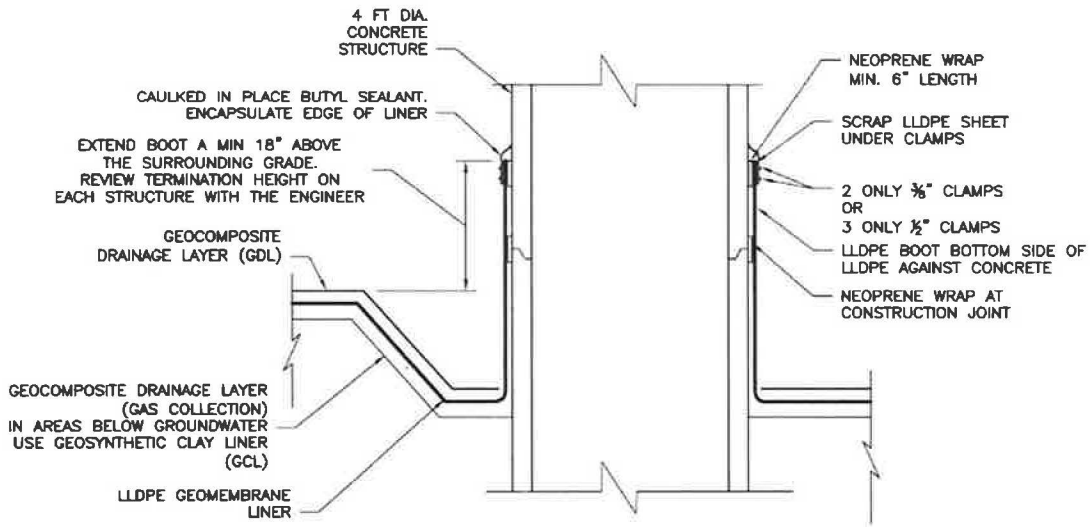
STUDY AREA 6 - CAP INSTALLATION

LANGAN

Project: Study Area 6 North

Date: 7/7/16

QA – Manhole Boot Installation



LINER ANCHOR TO CONCRETE STRUCTURE

NTS

CE TYP C-304

***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ SS Band Clamps tightened and uniform

☒ Caulked Butyl Sealant around top edge of liner

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

Location: Extraction Pump Station #1 located near approximate center of SA-6 North Cap on Panel P42 / P43 seam (approximately 136 ft. north of southern end of cap). Identified as R-189 on *As Built* and *Repair Report.*

AmecFW QA Signature:

Independent CQA Signature: - LANGAN

Comments: Boot fabrication, construction, and welding completed on 7/7/16. Methane testing / spark testing completed on 7/12/16. Methane testing was conducted by AmecFW and concentration of 0.0% was measured. As such, spark testing was conducted by ESI along the base of the boot and vertical weld and no sparks were observed (spark test passed). Following spark testing, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Honeywell

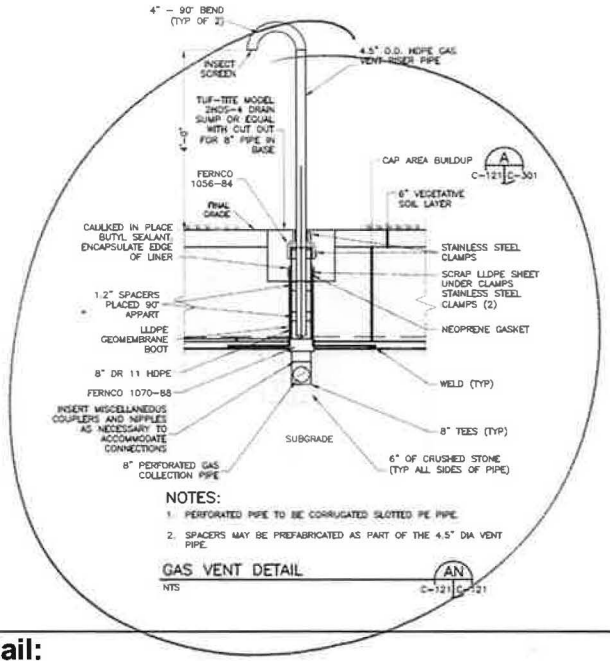
STUDY AREA 6 - CAP INSTALLATION

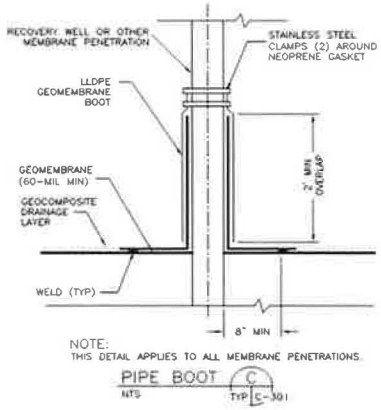
LANGAN

Project: Study Area 6 North

Date: 7/12/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-4 located near approximate center of SA-6 North Cap on Panel P46 (approximately 147 ft. north of southern end of cap and 8 ft. east from Panel P44/P46 seam). Identified as R-237 on *As Built* and *Repair Report.*

AmecFW QA Signature:

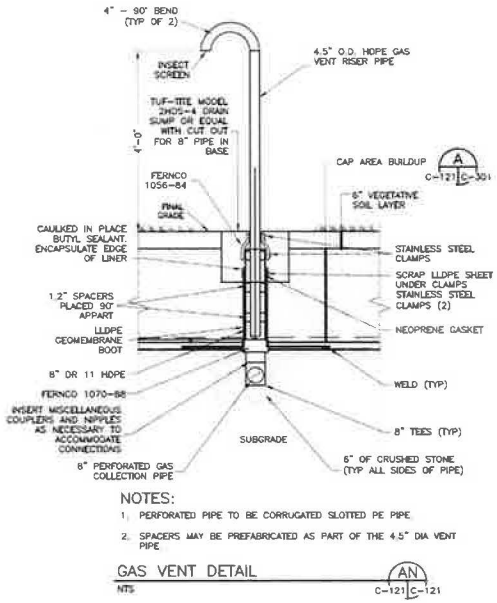
Independent CQA Monitor Signature: LANGAN

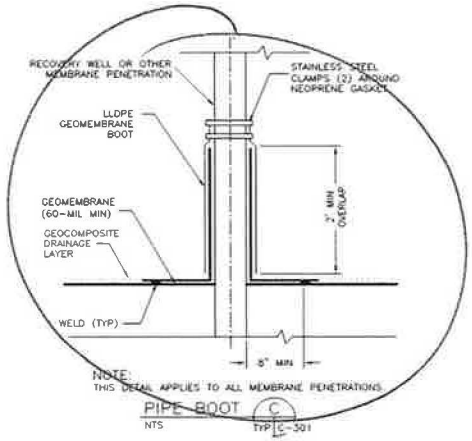
Comments: Boot fabrication, construction, and welding completed on 7/12/16. Methane testing / spark testing completed after boot construction on 7/12/16. Methane testing was conducted by AmecFW and a concentration of 0.0% was measured. As such, spark testing was conducted by ESI along the base of the boot and vertical weld and no sparks were observed (spark test passed). Following spark testing, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Project: Study Area 6 North

Date: 7/12/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Piezometer PZ6 located near northern end of SA-6 North Cap on Panel P55 (approximately 285 ft. north of southern end of cap and 20 ft. east from Panel P54/P55 seam). Identified as R-261 on *As Built* and *Repair Report*.

AmecFW QA Signature:

Independent CQA Monitor Signature: – LANGAN

Comments: Boot fabrication and construction completed on 7/12/16. Methane testing / spark testing completed on 7/27/16. Methane testing completed by AmecFW and yielded methane concentration of 0.0%. As such, spark testing was conducted by ESI along the base of the boot and vertical weld and no sparks were observed (i.e. spark test passed). Following spark testing the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Honeywell

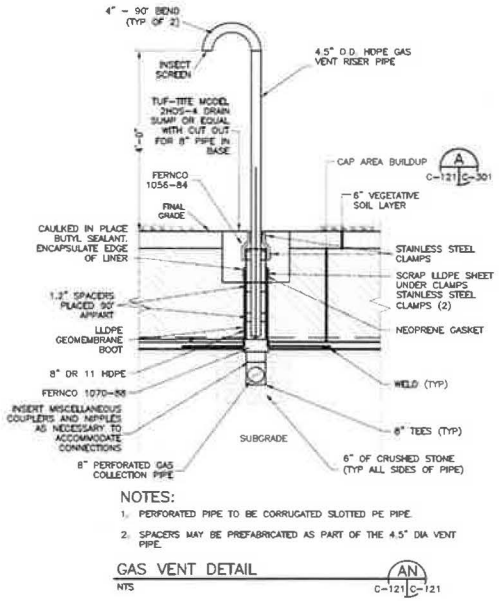
STUDY AREA 6 - CAP INSTALLATION

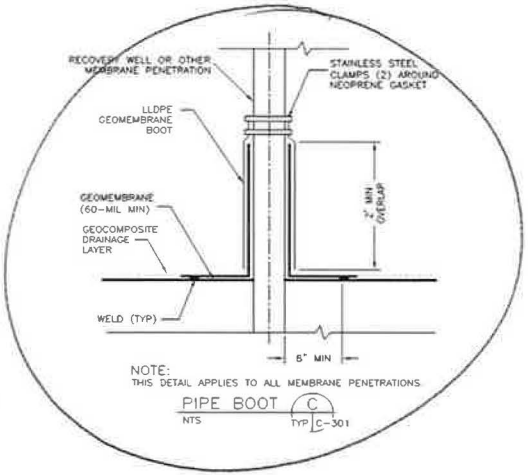
LANGAN

Project: Study Area 6 North

Date: 7/14/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Cleanout 1 located near southern half of SA-6 North Cap on Panel P65 (approximately 90 ft. north of southern end of cap and 7 ft. west from Panel P65/P67 seam). Identified as R-288 on *As Built* and *Repair Report.*

AmecFW QA Signature:

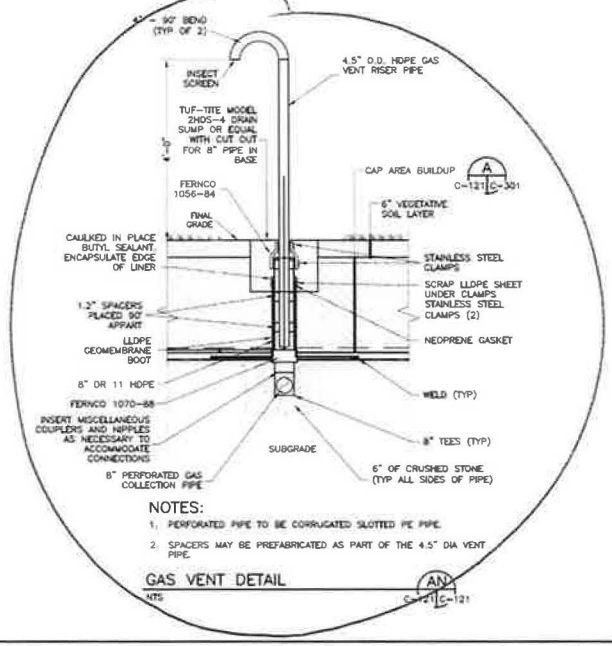
Independent CQA Monitor Signature: LANGAN

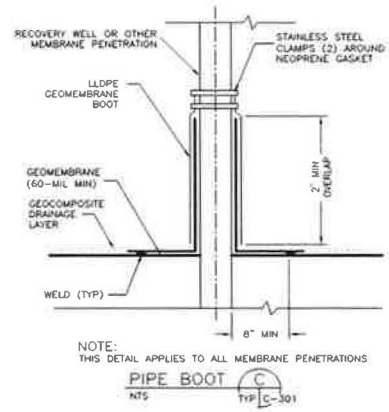
Comments: Boot fabrication, construction and welding completed on 7/14/16. Methane testing / spark testing completed on 7/27/16. Methane testing was conducted by AmecFW and concentration of 0.0% was measured. As such, spark testing was completed by ESI along the base of the boot and vertical weld and no sparks were observed (spark test passed). Following spark testing, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Project: Study Area 6 North

Date: 7/14/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-3 located near approximate center of SA-6 North Cap on Panel P66 (approximately 148 ft. north of southern end of cap and 3 ft. west from Panel P66/P68 seam). Identified as R-292 on *As Built* and *Repair Report*.

AmecFW QA Signature:

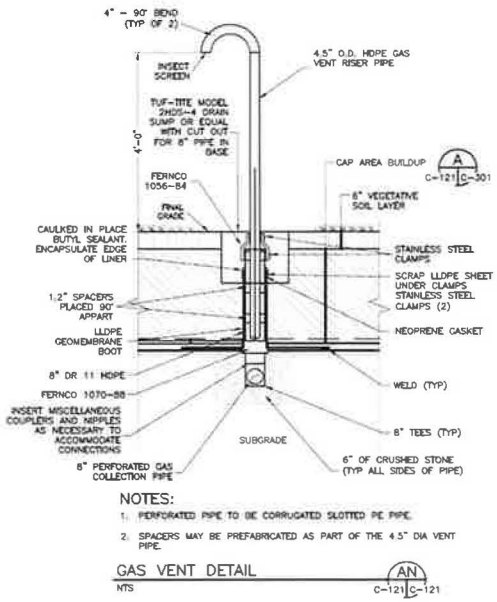
Independent CQA Monitor Signature: LANGAN

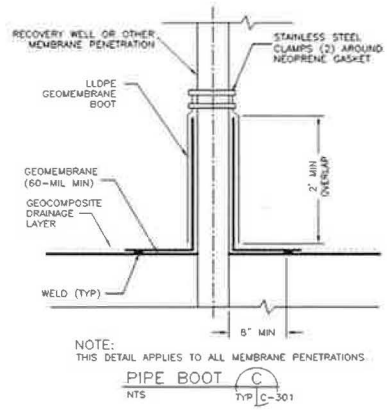
Comments: Boot fabrication, construction and welding completed on 7/14/16. Methane testing / spark testing completed on 7/28/16. Methane testing conducted by AmecFW and concentration of 0.0% was measured. As such, spark testing was conducted by ESI along the base of the boot and vertical weld and no sparks were observed (spark test passed). Following spark testing, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Project: Study Area 6 North

Date: 7/25/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Cleanout 2 located near approximate center of SA-6 North Cap on Panel P72 (approximately 158 ft. north of southern end of cap and 6 ft. west from Panel P72/P74 seam). Identified as R-313 on *As Built* and *Repair Report.*

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Comments: Boot fabrication, construction and welding completed on 7/25/16. Methane testing / spark testing completed on 7/28/16. Methane testing was conducted by AmecFW and concentration of 0.0% was measured. As such, spark testing was conducted by ESI along the base of the boot and vertical weld and no sparks were observed (spark test passed). Following spark testing, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Honeywell

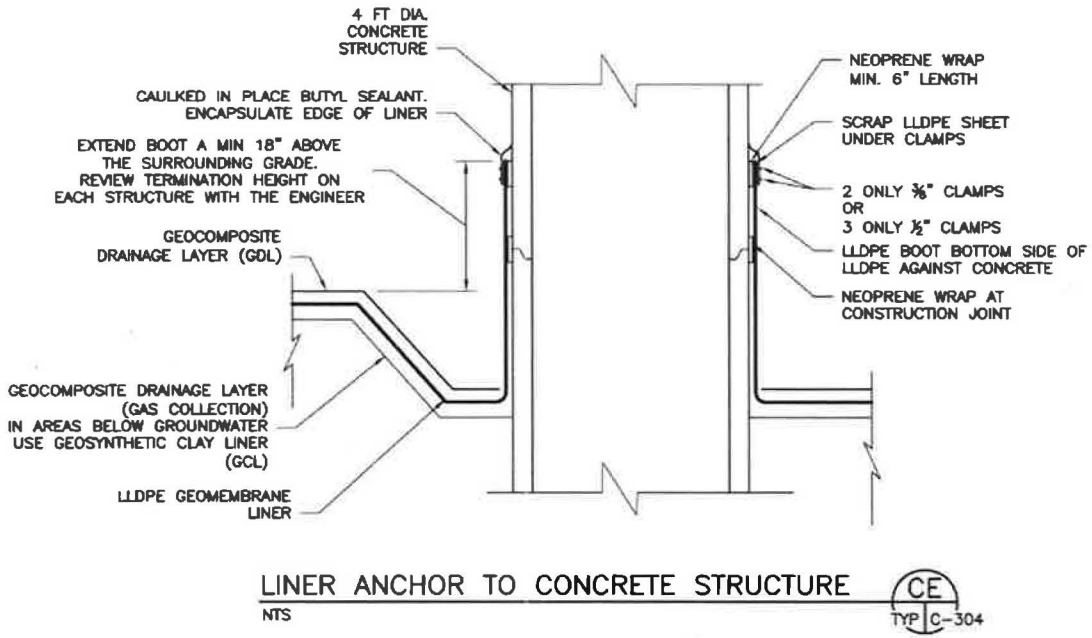
STUDY AREA 6 - CAP INSTALLATION

LANGAN

Project: Study Area 6 North

Date: 7/27/16

QA – Manhole Boot Installation



LINER ANCHOR TO CONCRETE STRUCTURE

NTS

CE TYP C-304

***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ SS Band Clamps tightened and uniform

☒ Caulked Butyl Sealant around top edge of liner

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

Location: Extraction Pump Station #2 located near approximate center of SA-6 North Cap on Panel P80 (approximately 140 ft. north of southern end of cap and 1 ft. west of Panel P80/P81 seam). Identified as R-357 on *As Built* and *Repair Report.*

AmecFW QA Signature:

Independent CQA Signature: LANGAN

Comments: Boot fabrication, construction, and welding completed on 7/27/16. Methane testing / spark testing completed on 8/9/16. Methane testing completed by AmecFW and yielded concentration of 0.0%. As such, spark testing was conducted by ESI along the base of the boot and vertical weld and no sparks were observed (spark test passed). Following spark testing, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Honeywell

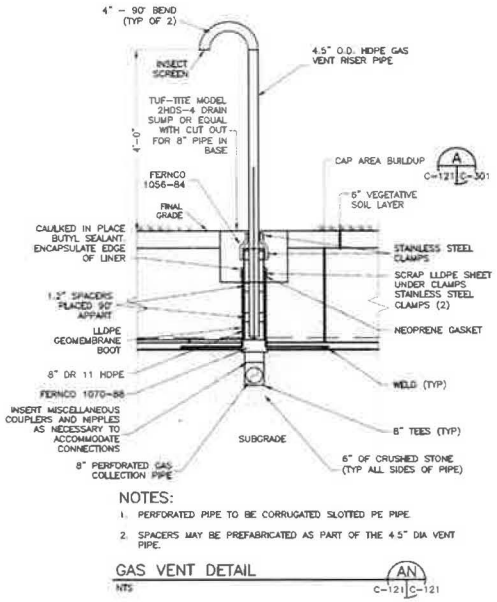
STUDY AREA 6 - CAP INSTALLATION

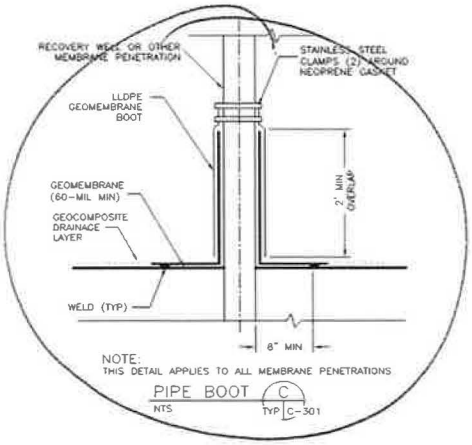
LANGAN

Project: Study Area 6 North

Date: 7/27/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Monitoring well 115-E5-SO located along southern end of SA-6 North Cap on Panel P78 (approximately 15 ft. north of southern end of cap and 9 ft. west from Panel P78/P79 seam). Identified as R-343 on *As Built* and *Repair Report*.

AmecFW QA Signature:

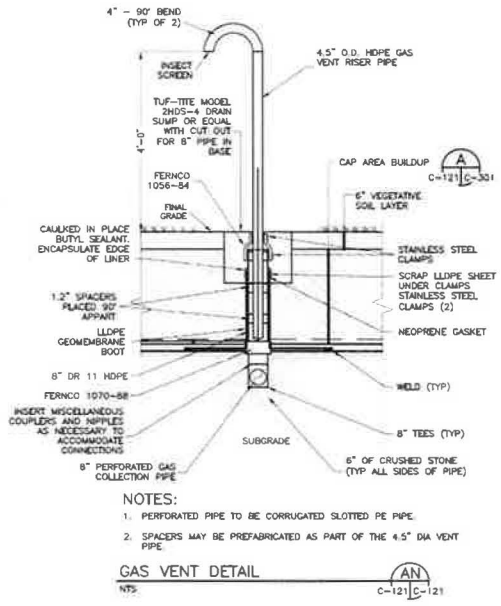
Independent CQA Monitor Signature: LANGAN

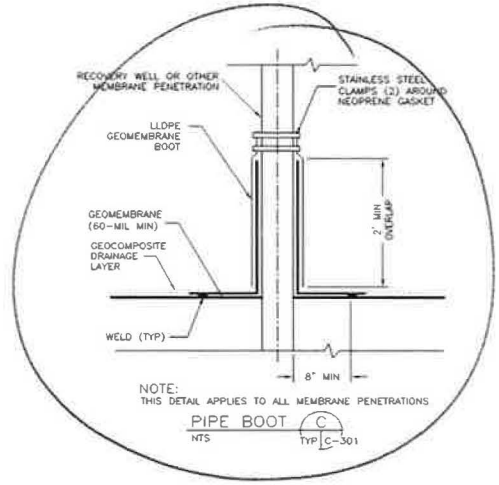
Comments: Boot fabrication, construction, and welding completed on 7/27/16. Methane testing / spark testing completed on 8/9/16. Methane testing conducted by AmecFW and yielded concentration of 0.0%. As such, spark testing was conducted by ESI along the base of the boot and vertical weld. A spark was observed along the vertical weld as the weld over the wire was too thin thus causing the spark to arc. The area was grinded, rewelded, and retested and the spark retest passed. Following the spark retest the stainless steel clamps and final butyl sealant were applied to complete the boot construction.

Project: Study Area 6 North

Date: 7/28/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Injection Well 088-IW-03 located near southern end of SA-6 North Cap on Panel P81 (approximately 32 ft. north of southern end of cap and 7 ft. west from Panel P81/P83 seam). Identified as R-384 on *As Built* and *Repair Report*.

AmecFW QA Signature:

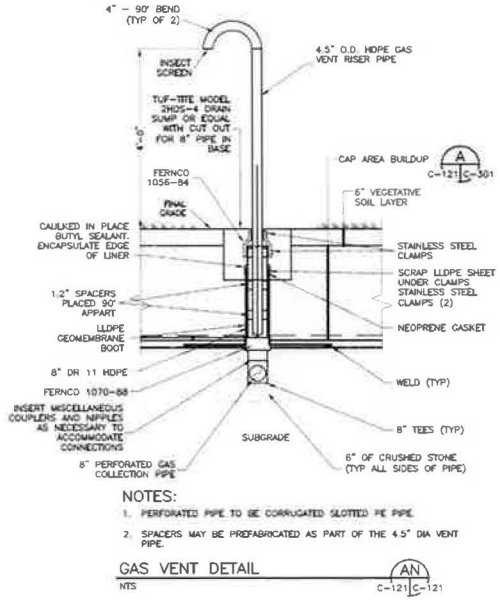
Independent CQA Monitor Signature: LANGAN

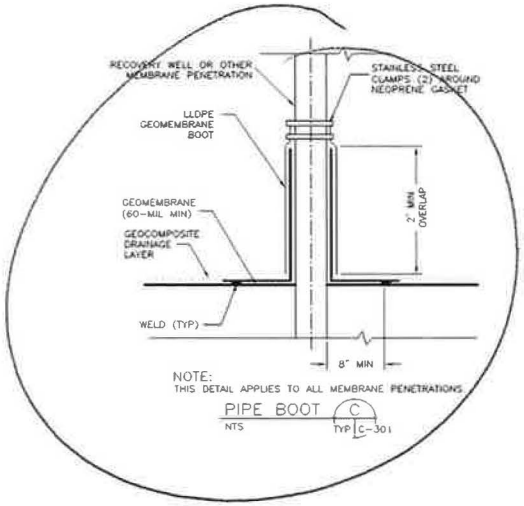
Comments: Boot fabrication, construction, and welding completed on 7/28/16. Methane testing / spark testing completed on 8/9/16. Methane testing conducted by AmecFW and yielded concentration of 0.0%. As such, spark testing was conducted by ESI along base of boot and vertical weld and no sparks were identified (spark test passed). Following spark testing the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Project: Study Area 6 North

Date: 7/28/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Utility corridor horizontal drain pipe located along southern end of SA-6 North Cap on Panel P76 (approximately 6 ft. north of southern end of cap and 4 ft. west from Panel P76/P78 seam). Identified as R-380 on *As Built* and *Repair Report*.

AmecFW QA Signature:

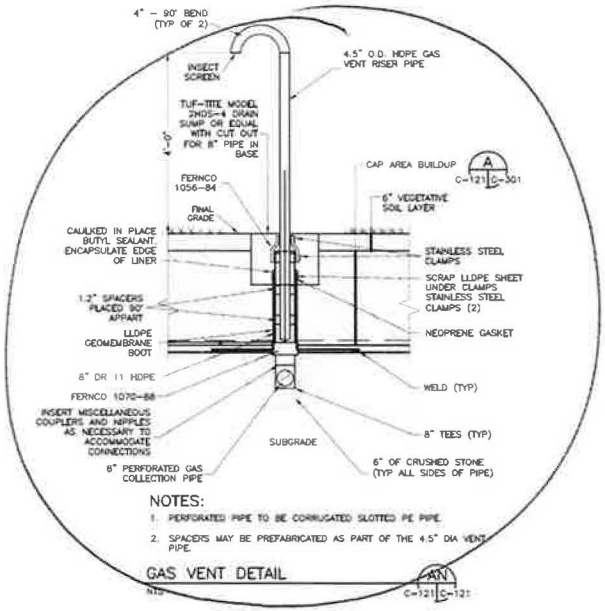
Independent CQA Monitor Signature: LANGAN

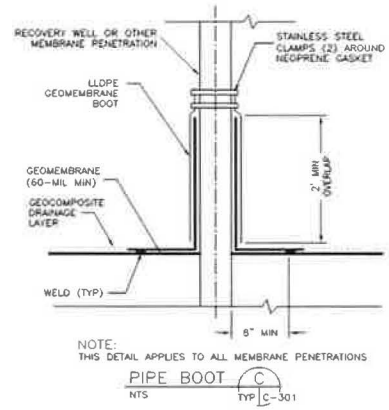
Comments: Boot fabrication, construction welding and testing completed on 7/28/16. Methane testing / spark testing completed on 8/9/16. Methane testing was conducted by AmecFW and concentration of 0.0% was measured. As such, spark testing was conducted by ESI along the base of the boot and vertical weld and no sparks were observed (spark test passed). Following spark testing, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Project: Study Area 6 North

Date: 8/3/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-2 located at the approximate center of SA-6 North Cap on Panel P91 (approximately 107 ft. north of southern end of cap and 5 ft. east from Panel P90/P91 seam). Identified as R-409 on *As Built* and *Repair Report*.

AmecFW QA Signature:

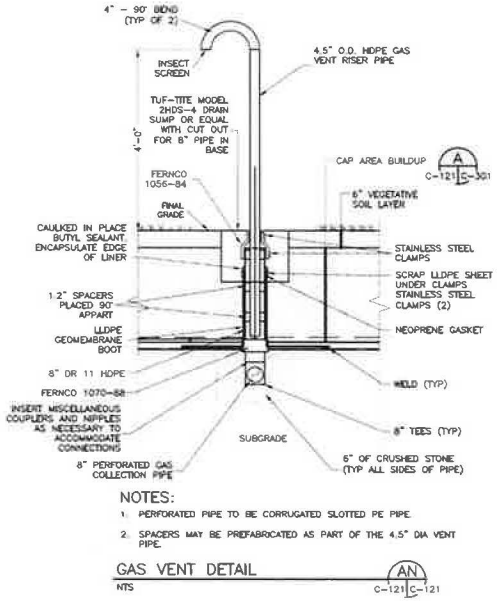
Independent CQA Monitor Signature: LANGAN

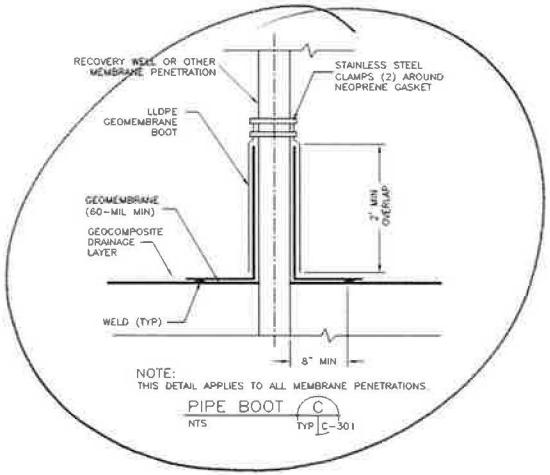
Comments: Boot fabrication, construction, and welding completed on 8/3/16. Methane testing / spark testing completed on 8/9/16. Methane testing was conducted by AmecFW and a concentration of 0.0% was measured. As such, spark testing was conducted by ESI along the base of the boot and vertical weld and no sparks were observed (spark test passed). Following spark testing, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Project: Study Area 6 North

Date: 8/3/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Piezometer PZ4 located along northern end of SA-6 North Cap on Panel P90 (approximately 238 ft. north of southern end of cap and 7 ft. west from Panel P90/P91 seam). Identified as R-408 on *As Built* and *Repair Report*.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Comments: Boot fabrication, construction, and welding completed on 8/3/16. Methane testing / spark testing completed on 8/9/16. Methane testing conducted by AmecFW and yielded concentration of 0.0%. As such, spark testing was conducted by ESI along the base of the boot and the vertical weld and a spark was observed (for both the vertical weld and base) as the weld was too thin over the wire, thus causing the spark to arc. The areas were grinded, re-welded, and retested on 8/9/16 and the spark retest passed. Following the spark retest, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Honeywell

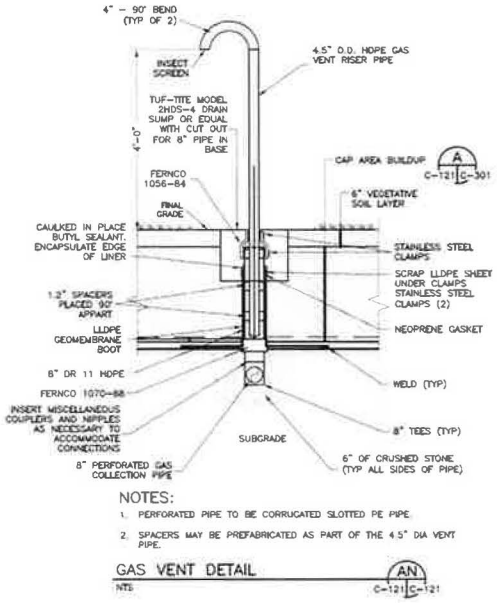
STUDY AREA 6 - CAP INSTALLATION

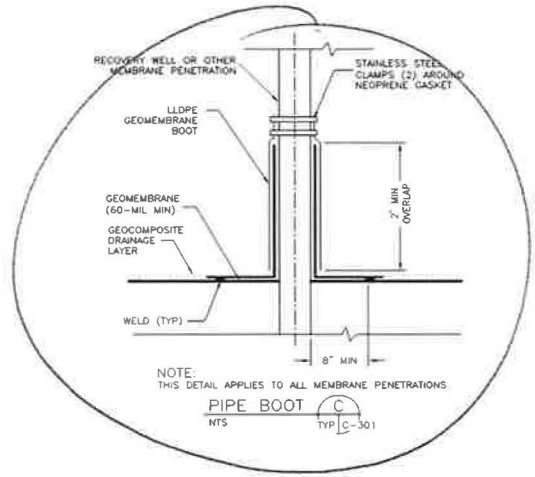
LANGAN

Project: Study Area 6 North

Date: 8/5/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Injection Well 088-IW-02 located at the approximate center of SA-6 North Cap on Panel P97 (approximately 109 ft. north of southern end of cap and 2 ft. west from Panel P97/P98 seam). Identified as R-430 on *As Built* and *Repair Report.*

AmecFW QA Signature:

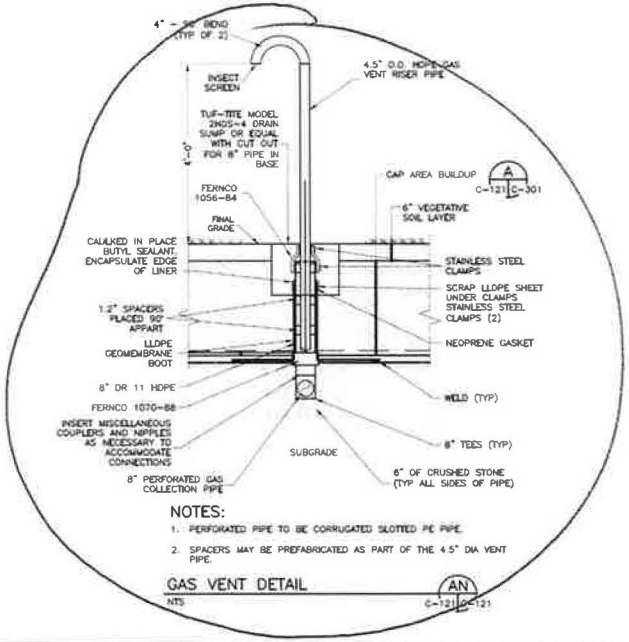
Independent CQA Monitor Signature: LANGAN

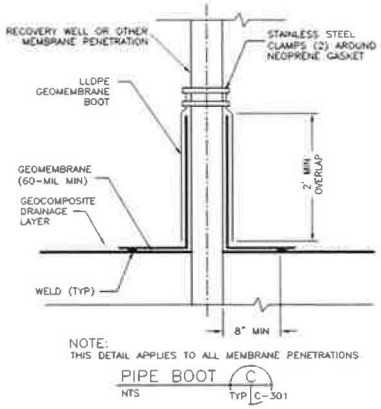
Comments: Boot fabrication, construction, and welding completed on 8/5/16. Methane testing / spark testing completed on 8/9/16. Methane testing conducted by AmecFW and yielded concentration of 0.0%. As such, spark testing was conducted by ESI along the base of the boot and vertical weld and no sparks were observed (spark test passed). Following spark testing, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Project: Study Area 6 North

Date: 8/10/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-1 located at the approximate center of SA-6 North Cap on Panel P103 (approximately 113 ft. north of southern end of cap and 13 ft. east from Panel P102/P103 seam). Identified as R-449 on *As Built* and *Repair Report*.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Comments: Boot fabrication, construction, and welding completed on 8/10/16. Methane testing / spark testing completed on 8/12/16. Methane testing was conducted by AmecFW and a concentration of 0.0% was measured. As such, spark testing was conducted by ESI along the base of the boot and vertical weld and no sparks were observed (spark test passed). Following spark testing, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Honeywell

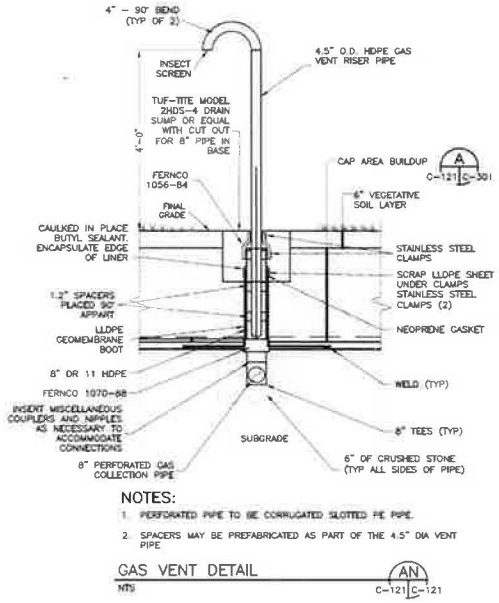
STUDY AREA 6 - CAP INSTALLATION

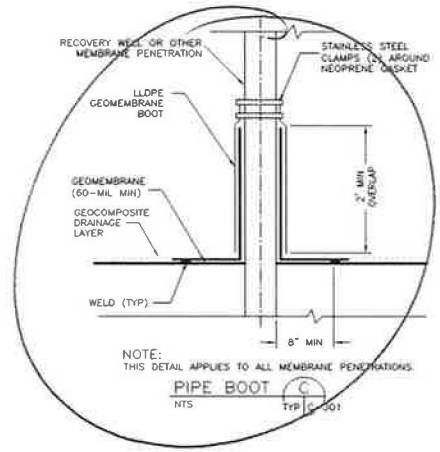
LANGAN

Project: Study Area 6 North

Date: 8/10/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Monitoring Well 115-E4-SO located along the southern end of SA-6 North on Panel P104 (approximately 6 ft. north of southern end of cap and 5 ft. east from Panel P103/P104 seam). Identified as R-450 on *As Built* and *Repair Report*.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Comments: Boot fabrication, construction, and welding completed on 8/10/16. Methane testing / spark testing completed on 8/12/16. Methane testing was conducted by AmecFW and concentration of 0.0% was measured. As such, spark testing was conducted by ESI for the base of the boot and vertical weld. During testing of the vertical weld, a spark was observed along the edge of the weld (weld not centered over wire). The area was grinded, rewelded, and retested, and the spark retest passed. Following the spark retest, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Honeywell

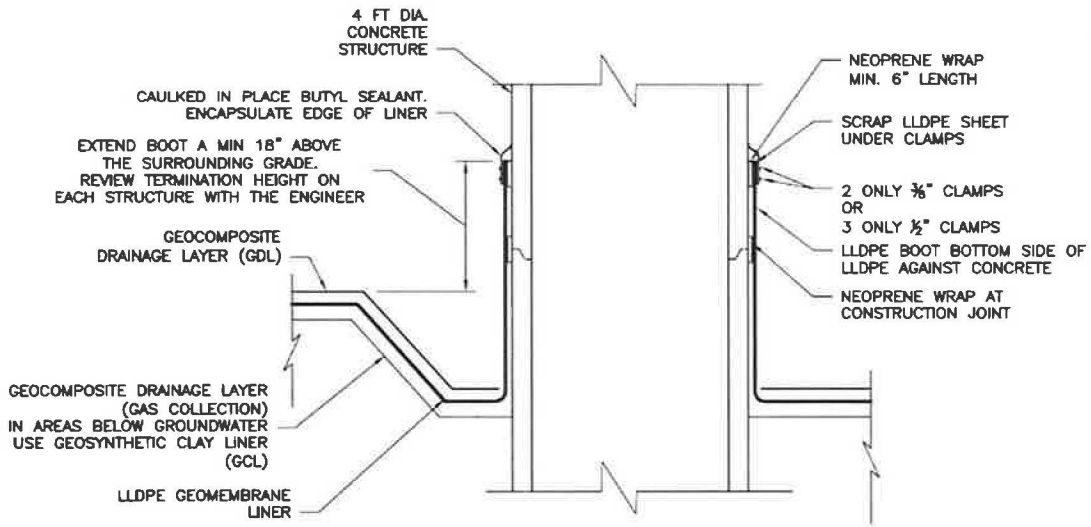
STUDY AREA 6 - CAP INSTALLATION

LANGAN

Project: Study Area 6 North

Date: 8/12/16

QA – Manhole Boot Installation



LINER ANCHOR TO CONCRETE STRUCTURE

NTS

CE TYP C-304

***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ SS Band Clamps tightened and uniform

☒ Caulked Butyl Sealant around top edge of liner

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

Location: Access Manhole Sta. 18+00 located near approximate center of SA-6 North Cap on Panel P113 (approximately 110 ft. north of southern end of cap and 10 ft. east of Panel P112/P113 seam). Identified as R-492 on *As Built* and *Repair Report.*

AmecFW QA Signature:

Independent CQA Signature: LANGAN

Comments: Boot fabrication, construction, and welding completed on 8/12/16. Methane testing / spark testing completed on 8/13/16. Methane testing was conducted by AmecFW and a concentration of 0.0% was measured. As such, spark testing was conducted by ESI along the base of the boot and vertical weld and no sparks were observed (spark test passed). Additionally, vacuum box testing was conducted along horizontal and vertical welds completed for the boot construction (vacuum box testing passed). Following testing, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Honeywell

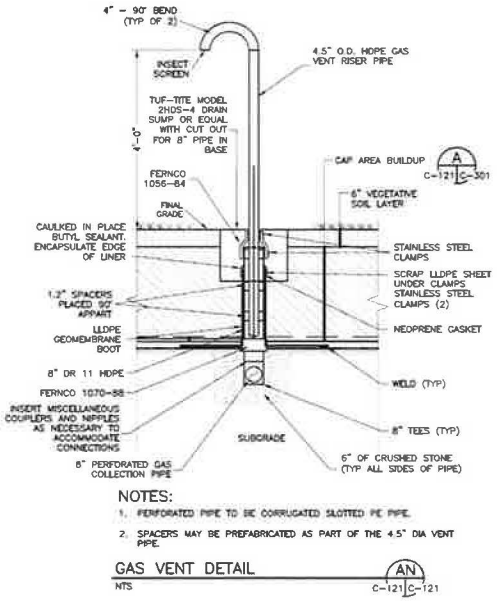
STUDY AREA 6 - CAP INSTALLATION

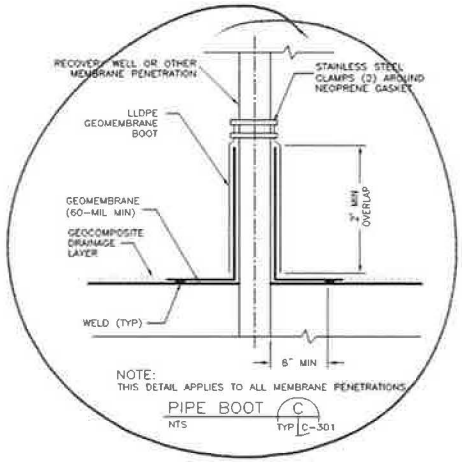
LANGAN

Project: Study Area 6 North

Date: 8/12/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Injection Well 088-IW-01 located along northern end of SA-6 North Cap on Panel P114 (approximately 206 ft. north of southern end of cap and 13 ft. east from Panel P113/P114 seam). Identified as R-493 on *As Built* and *Repair Report*.

AmecFW QA Signature:

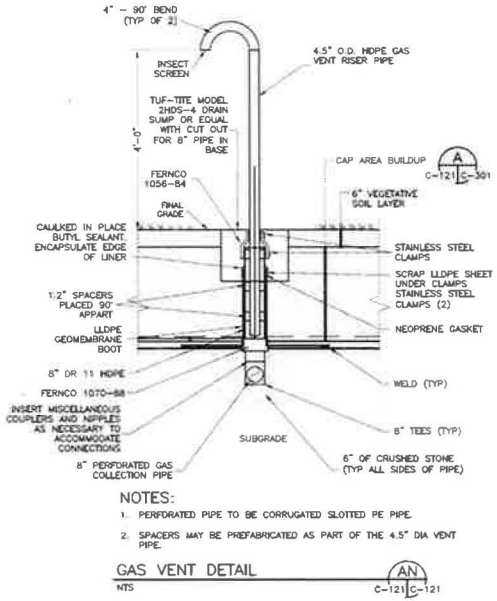
Independent CQA Monitor Signature: LANGAN

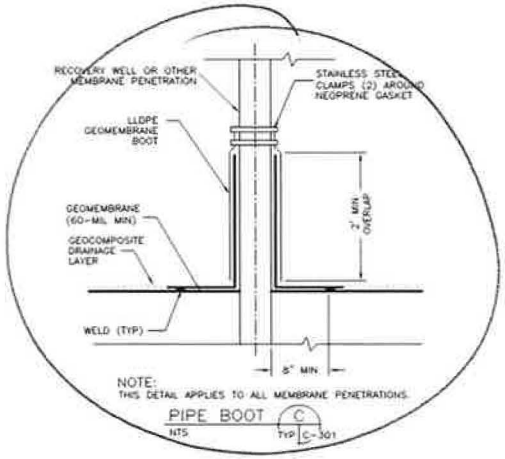
Comments: Boot fabrication, construction, and welding completed on 8/12/16. Methane testing / spark testing completed on 8/13/16. Methane testing was conducted by AmecFW and concentration of 0.0% was measured. As such, spark testing was conducted by ESI at the base of the boot and vertical weld and no sparks were observed (spark test passed). Following spark testing, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Project: Study Area 6 North

Date: 8/15/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Piezometer PZ2 located along northern end of SA-6 North Cap on Panel P116 (approximately 176 ft. north of southern end of cap and 13 ft. east from Panel P116/P118 seam). Identified as R-509 on *As Built* and *Repair Report.*

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Comments: Boot fabrication, construction, and welding completed on 8/15/16. Methane testing / spark testing also completed on 8/15/16. Methane testing was conducted by AmecFW and yielded concentration of 0.0%. As such, spark testing was conducted by ESI at the base of the boot and vertical weld and no sparks were observed (spark test passed). Following spark testing, the stainless steel clamps and butyl sealant were applied to complete the boot.

Appendix O
Spark Test Logs

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

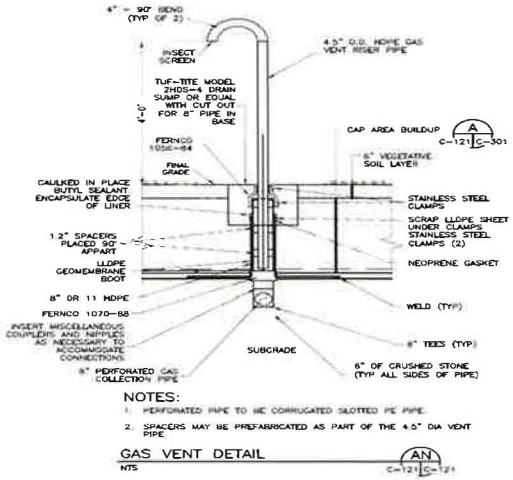
Project: Study Area 6 North

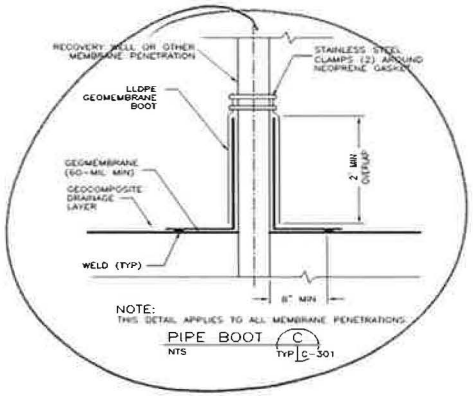
Location: Piezometer PZ10 located at approximate center of SA-6 North Cap on Panel P1 (approximately 35 ft. north of Panel P1 / P2 seam and 8 ft. west). Identified as R-1 on *As Built* and *Repair Report.*

Date: 6/24/16 **Repair Number:** R-1

Boot Log QA Form (cross-reference): 6/23/16 Piezometer PZ10 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0925*

% Methane 0.8%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 6/23/16. Methane / spark testing completed on 6/24/16. Methane testing completed by AmecFW and yielded concentration of 0.8%. As such, spark testing was conducted by ESI at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

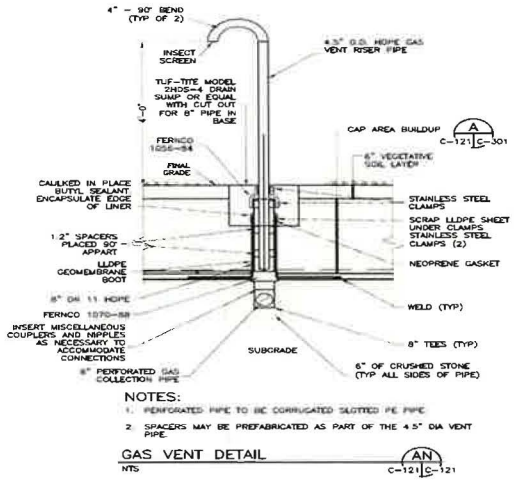
Project: Study Area 6 North

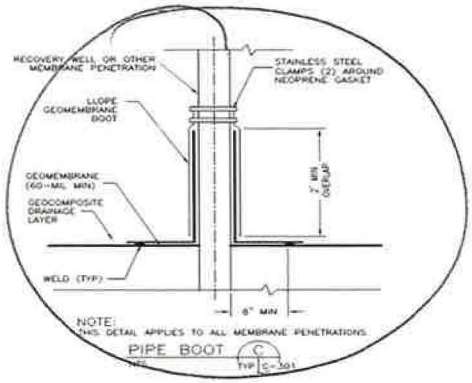
Location: Well 115-W6-SO located near southern end of SA-6 North Cap on Panel P5 / P6 seam (approximately 15 ft. north of southern end of cap). Identified as R-7 on *As Built* and *Repair Report*.

Date: 6/24/16 **Repair Number:** R-7

Boot Log QA Form (cross-reference): 6/23/16 Well 115-W6-SO Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0910*

% Methane 1.4%

☐Methane < 1%; Proceed with spark testing

☒Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☐Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot										
Vertical weld										

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 6/23/16. Methane testing completed on 6/24/16 by AmecFW. Methane testing yielded concentration of 1.4%. (>1%). As such, no spark testing was completed for the boot. The vertical weld and the weld at the base of the boot were visually observed by the Independent CQA Monitor and AmecFW QA and no deficiencies along the welds were noted.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

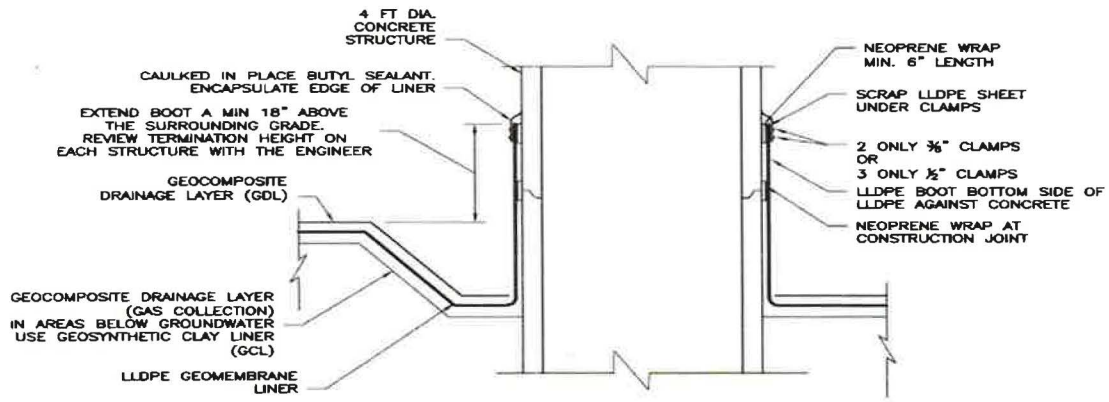
Project: Study Area 6 North

Location: Access Manhole #1 (Sta. 1+50) located near approx. .center of SA-6 North on Panel P10 (approx. 93 ft. south of northern end and 4 ft. east from Panel P10/P11 seam). Identified as R-29 on *As Built* and *Repair Report*.

Date: 6/27/16 **Repair Number:** R-29

Boot Log QA Form (cross-reference): 6/23/16 Access Manhole #1 (Sta. 1+50) Form

QA – Spark Test Log – Manhole



LINER ANCHOR TO CONCRETE STRUCTURE

NTS

CE TYP C-304

Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *1030*

% Methane *0.1%*

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Panel Extrusion Weld:

☐Vacuum Box Tested

☐Spark Tested (as outlined below)

Spark Test Information

Item Tested	Thickness	Operator Initials	Voltage (kV)	AC / DC	Brush Probe	Point Probe	QCR I.D*	Pass / Fail	Retest Pass /Fail	QCR I.D*
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 6/23/16 and 6/24/16. Spark / methane testing conducted on 6/27/16. Methane testing conducted by AmecFW and concentration of 0.1% methane was measured prior to spark testing. As such, spark testing was conducted by ESI along the base of the boot and the vertical weld and no sparks were observed (spark test passed).

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

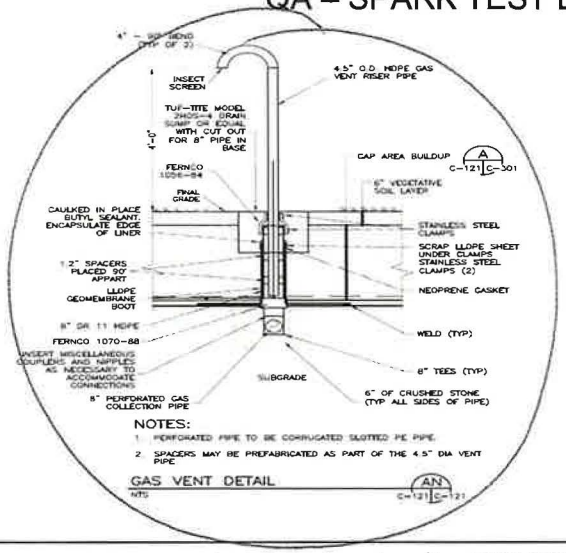
Project: Study Area 6 North

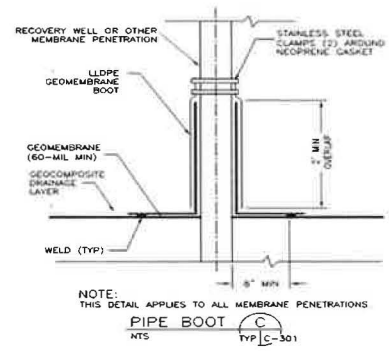
Location: Gas Vent GV-6 located near approximate center of SA-6 North Cap on Panel P11 (approximately 105 ft. north of southern end of cap and 3 ft. east of Panel P10/P11 seam). Identified as R-38 on *As Built* and *Repair Report*.

Date: 6/24/16 **Repair Number:** R-38

Boot Log QA Form (cross-reference): 6/23/16 Gas Vent GV-6 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0915*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 6/23/16. Methane / spark testing completed on 6/24/16. Methane testing was conducted by AmecFW and yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld by ESI. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

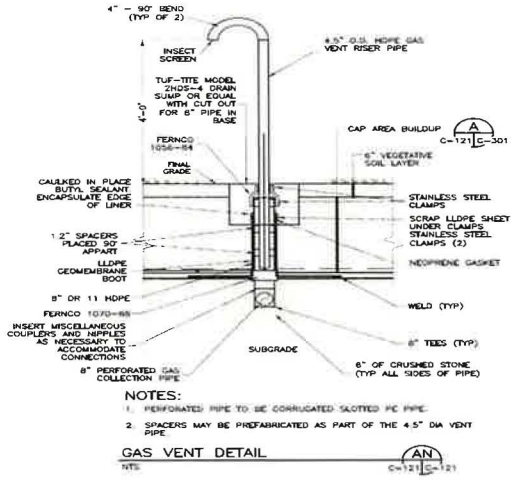
Project: Study Area 6 North

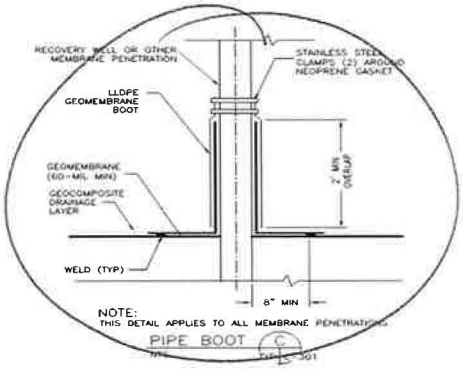
Location: Piezometer PZ8 located along northern end of SA-6 North on Panel P21 (approx. 171 ft. north of south end of cap and 3 ft. east of Panel P20/P21 seam). Identified as R-81 on *As Built* and *Repair Report*

Date: 7/6/16 **Repair Number:** R-81

Boot Log QA Form (cross-reference): 6/27/16 Piezometer PZ8 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *1525*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 6/27/16. Methane / spark testing conducted on 7/6/16. Methane testing conducted by AmecFW and concentration of 0.0% was measured. Spark testing completed on 7/6/16 by ESI. Vertical weld and base of boot tested and no sparks were observed (spark test passed).

AmecFW QA Signature:

Independent CQA Monitor Signature:

LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

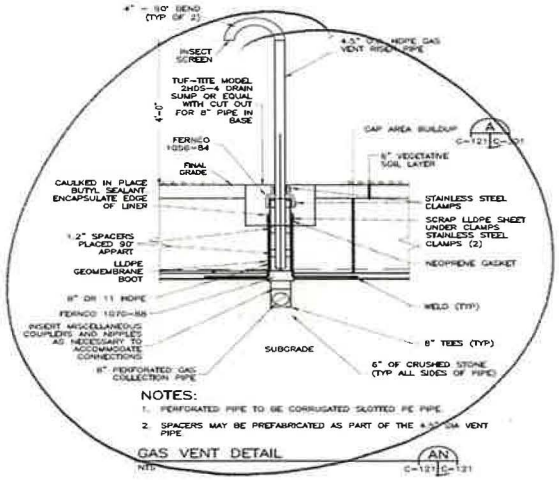
Project: Study Area 6 North

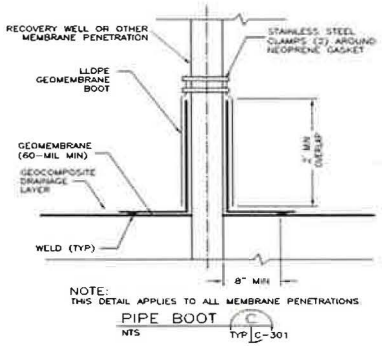
Location: Gas Vent GV-5 located near approximate center of SA-6 North Cap on Panel P27 approximately 124 ft. north of southern end of cap and 3 ft. east from Panel P26/P27 seam.

Date: 7/6/16 & 7/7/16 **Repair Number:** R-102

Boot Log QA Form (cross-reference): 6/29/16 Gas Vent GV-5 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *1545*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass (7/6/16)		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Fail	Pass (7/7/16)	CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 6/29/16. Methane testing conducted by AmecFW and concentration of 0.0% was measured. Spark testing conducted on 7/6/16 by ESI. Base of boot spark tested and no sparks were observed (spark test passed). During spark testing of vertical weld, a spark was observed during testing which identified a pinhole location along the edge of the weld. This minor anomaly was subsequently re-welded and re-tested on 7/7/16. During the retest on 7/7/16 no sparks were observed (passed re-test).

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

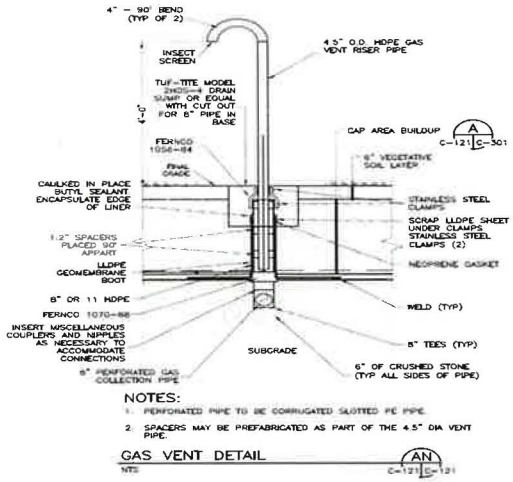
Project: Study Area 6 North

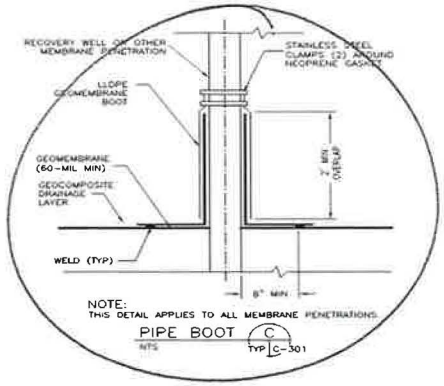
Location: Well 115-W1-SO located along southern end of SA-6 North on Panel P28/P29 seam (approximately 15 ft. north of south end of cap). Identified as R-156 on *As Built* and *Repair Report*

Date: 7/6/16 & 7/7/16 **Repair Number:** R-156

Boot Log QA Form (cross-reference): 7/1/16 Well 115-W1-SO Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* Landtec GEM 5000 *Time:* 1550

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass (7/6/16)		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Fail	Pass (7/7/16)	CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 7/1/16. Methane testing conducted by AmecFW on 7/6/16 & 7/7/16 and concentration of 0.0% was measured. Spark testing was conducted by ESI at the base of boot and no sparks were observed (spark test passed). During spark testing of the vertical weld, two small pinholes were identified on 7/6/16 and subsequently re-welded and re-tested on 7/7/16. Retesting on 7/7/16 yielded no sparks (spark retest passed).

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

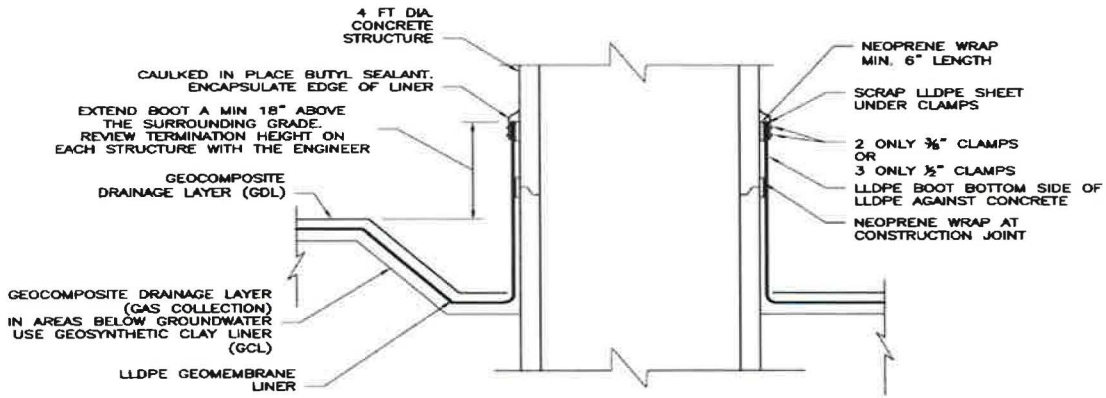
Project: Study Area 6 North

Location: Extraction Pump Station #1 located near approximate center of SA-6 North Cap on Panel P42 / P43 seam (approximately 136 ft. north of southern end of cap). Identified as R-189 on *As Built* and *Repair Report.*

Date: 7/12/16 **Repair Number:** R-189

Boot Log QA Form (cross-reference): 7/7/16 Extraction Pump Station #1 Form

QA – Spark Test Log – Manhole



LINER ANCHOR TO CONCRETE STRUCTURE CE TYP C-304

NTS

Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0905*

% Methane *0.0%*

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Panel Extrusion Weld:

☐Vacuum Box Tested

☐Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (kV)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 7/7/12. Spark / methane testing conducted on 7/12/16. Methane testing conducted by AmecFW and concentration of 0.0% measured prior to spark testing. As such, spark testing was conducted by ESI along the base of the boot and the vertical weld and no sparks were observed (spark test passed).

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

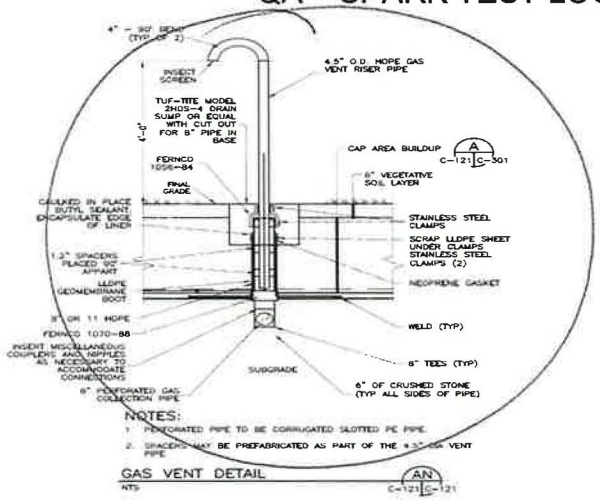
Project: Study Area 6 North

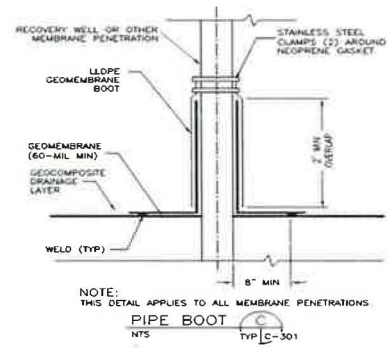
Location: Gas Vent GV-4 located near approximate center of SA-6 North Cap on Panel P46 (approximately 147 ft. north of southern end of cap and 8 ft. east from Panel P44/P46 seam). Identified as R-237 on *As Built* and *Repair Report*.

Date: 7/12/16 **Repair Number:** R-237

Boot Log QA Form (cross-reference): 7/12/16 Gas Vent GV-4 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0905*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 7/12/16. Methane / spark testing completed on 7/12/16 also. Prior to spark testing, methane testing was conducted by AmecFW and a concentration of 0.0% was measured. As such, spark testing was conducted by ESI along the base of the boot and vertical weld and no sparks were observed (spark test passed).

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

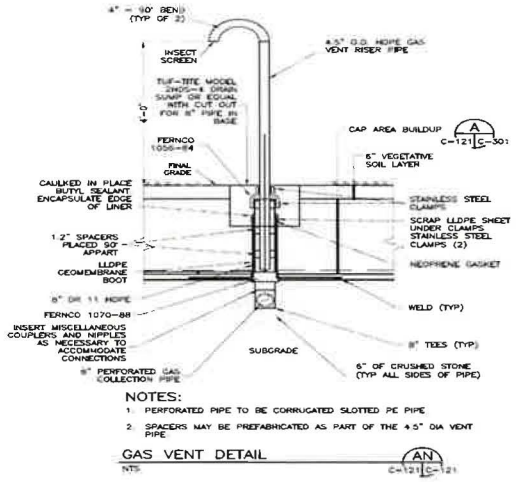
Project: Study Area 6 North

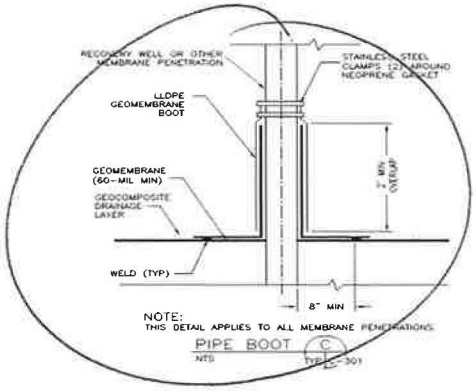
Location: Piezometer PZ6 located near northern end of SA-6 North on Panel P55 (approx. 285 ft. N of southern end of cap and 20 ft. E from Panel P54/P55 seam). Identified as R-261 on *As Built* and *Repair Report*.

Date: 7/27/16 **Repair Number:** R-261

Boot Log QA Form (cross-reference): 7/12/16 Piezometer PZ6 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *1420*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 7/12/16. Methane / Spark testing completed on 7/27/16. Methane testing conducted by AmecFW and yielded concentration of 0.0%. Spark testing conducted by ESI along vertical weld and base of boot and no sparks were observed (spark test passed).

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

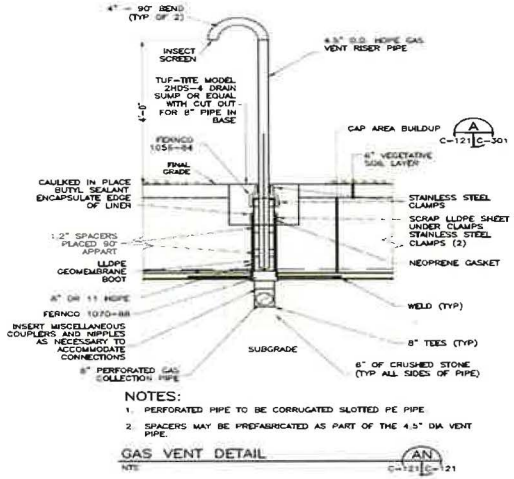
Project: Study Area 6 North

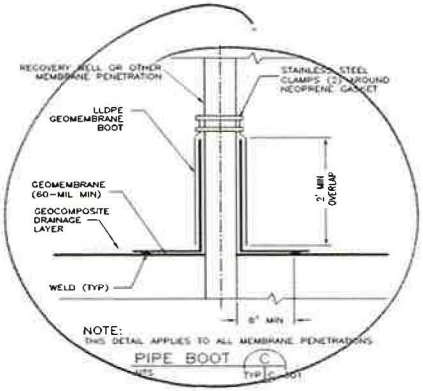
Location: Cleanout 1 located near southern half of SA-6 North on Panel P65 (approx. 90 ft. north of south end of cap and 7 ft. west from Panel P65/P67 seam). Identified as R-288 on *As Built* and *Repair Report.*

Date: 7/27/16 **Repair Number:** R-288

Boot Log QA Form (cross-reference): 7/14/16 Cleanout 1 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *1440*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing ☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld: ☐Vacuum Box Tested ☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 7/14/16. Methane / Spark testing completed on 7/27/16. Methane testing conducted by AmecFW and yielded concentration of 0.0%. Spark testing completed by ESI along vertical weld and base of boot and no sparks were observed (spark test passed).

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

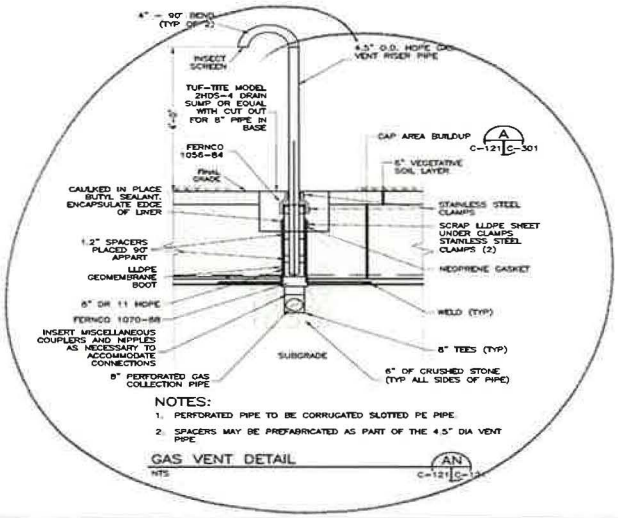
Project: Study Area 6 North

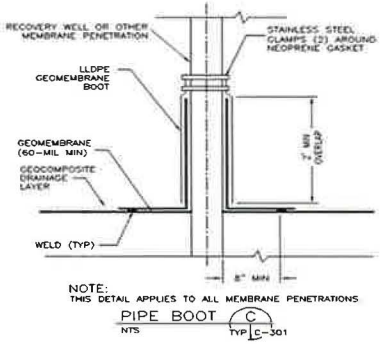
Location: Gas Vent GV-3 located near approximate center of SA-6 North Cap on Panel P66 (approximately 148 ft. north of southern end of cap and 3 ft. west from Panel P66/P68 seam). Identified as R-292 on *As Built* and *Repair Report*.

Date: 7/28/16 **Repair Number:** R-292

Boot Log QA Form (cross-reference): 7/14/16 Gas Vent GV-3 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *1005*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 7/14/16. Methane / Spark testing completed on 7/28/16. Methane testing conducted by AmecFW and yielded concentration of 0.0%. Spark testing was conducted by ESI for the vertical weld and base of boot and no sparks were observed (spark test passed).

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

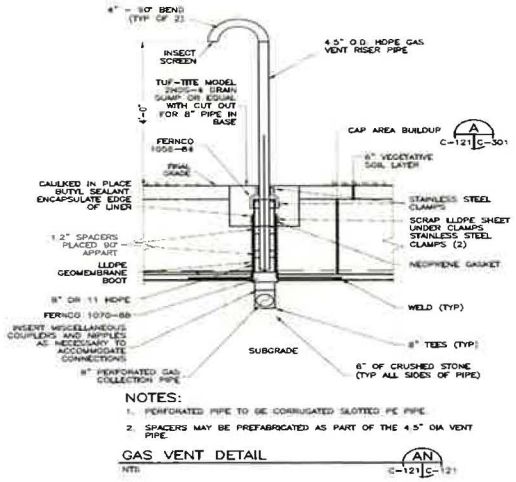
Project: Study Area 6 North

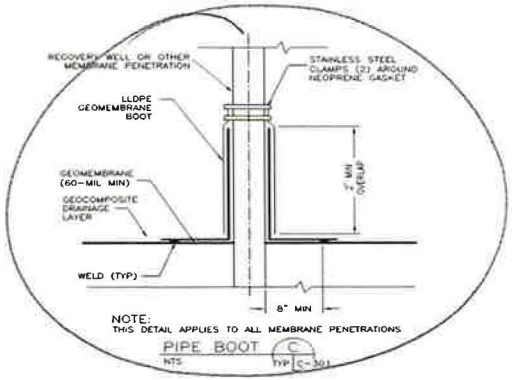
Location: Cleanout 2 located near approximate center of SA-6 North on Panel P72 (approx. 158 ft. north of southern end of cap and 6 ft. west from Panel P72/P74 seam). Identified as R-313 on *As Built* and *Repair Report*.

Date: 7/28/16 **Repair Number:** R-313

Boot Log QA Form (cross-reference): 7/25/16 Cleanout 2 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *1010*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 7/25/16. Methane / Spark testing completed on 7/28/16. Methane testing conducted by AmecFW and yielded concentration of 0.0%. Spark testing was conducted by ESI for the vertical weld and base of boot and no sparks were observed (spark test passed).

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

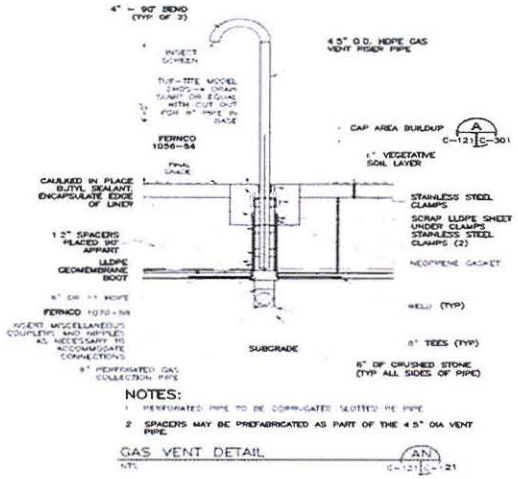
Project: Study Area 6 North

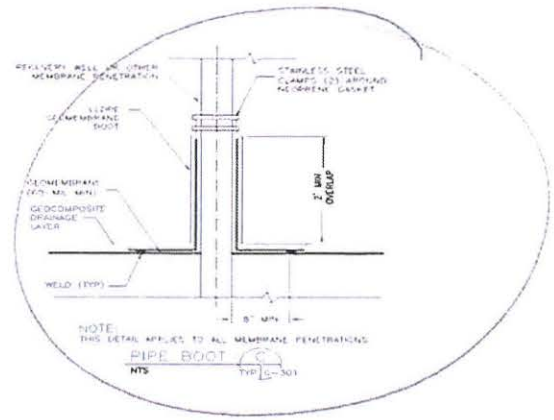
Location: Monitoring well 115-E5-SO located along southern end of SA-6 North Cap on Panel P78 (approximately 15 ft. north of southern end of cap and 9 ft. west from Panel P78/P79 seam). Identified as R-343 on *As Built* and *Repair Report*.

Date: 8/9/16 **Repair Number:** R-343

Boot Log QA Form (cross-reference): 7/27/16 Well 115-E5-SO Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0930*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	Thickness	Operator Initials	Voltage (Volts)	AC / DC	Brush Probe	Point Probe	QCR I.D*	Pass / Fail	Retest Pass /Fail	QCR I.D*
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Fail	Pass	CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 7/27/16. Methane completed on 8/9/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. A spark was observed along the vertical weld as the weld over the wire was too thin thus causing the spark to arc. The area was grinded, rewelded, and retested on 8/9/16 and the spark retest passed as no sparks were observed.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGIAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

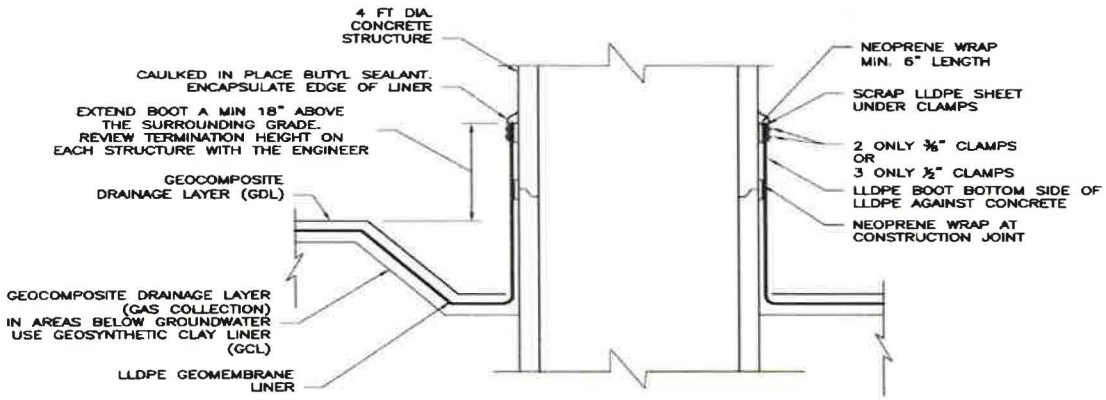
Project: Study Area 6 North

Location: Extraction Pump Station #2 located near approx. center of SA-6 North Cap on Panel P80 (approx.. 140 ft. N of southern end of cap and 1 ft. W of Panel P80/P81 seam). Identified as R-357 on *As Built* and *Repair Report*.

Date: 8/9/16 **Repair Number:** R-357

Boot Log QA Form (cross-reference): 7/27/16 Extraction Pump Station #2 Form

QA – Spark Test Log – Manhole



LINER ANCHOR TO CONCRETE STRUCTURE
NTS
CE TYP C-304

Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0910*

% Methane *0.0%*

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Panel Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	Thickness	Operator Initials	Voltage (kV)	AC / DC	Brush Probe	Point Probe	QCR I.D*	Pass / Fail	Retest Pass /Fail	QCR I.D*
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 7/27/16. Spark / methane testing conducted on 8/9/16. Methane testing was conducted by AmecFW and a concentration of 0.0% was measured prior to spark testing. As such, spark testing was conducted by ESI along the base of the boot and the vertical weld and no sparks were observed (spark test passed).

AmecFW QA Signature:

Independent CQA Monitor Signature: – LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

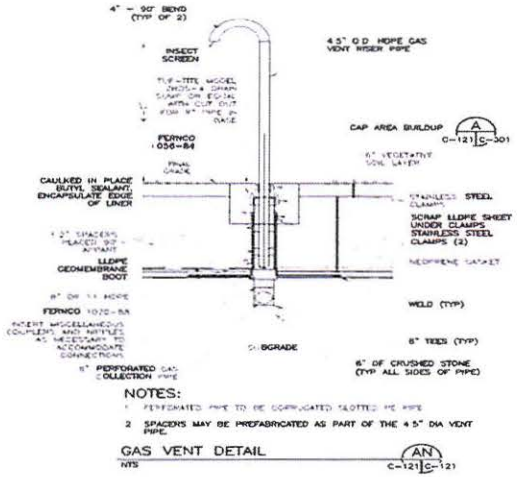
Project: Study Area 6 North

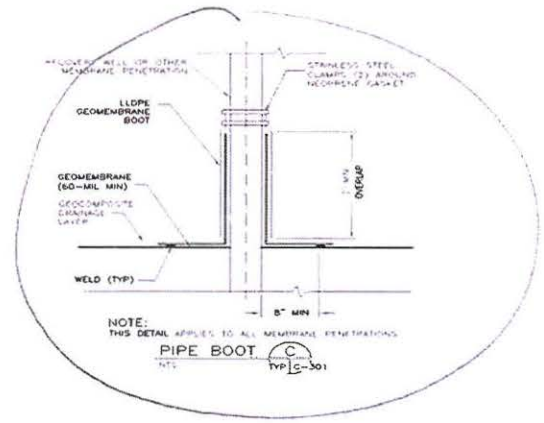
Location: Utility corridor horizontal drain pipe located along southern end of SA-6 North Cap on Panel P76 (approx. 6 ft. north of southern end of cap and 4 ft. west from Panel P76/P78 seam). Identified as R-380 on *As Built* and *Repair Report*.

Date: 8/9/16 **Repair Number:** R-380

Boot Log QA Form (cross-reference): 7/28/16 Utility Corridor Drain Pipe Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0935*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld: ☐Vacuum Box Tested ☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 7/28/16. Methane completed on 8/9/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

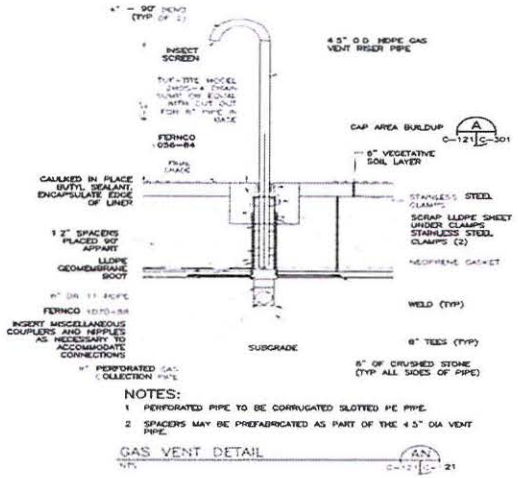
Project: Study Area 6 North

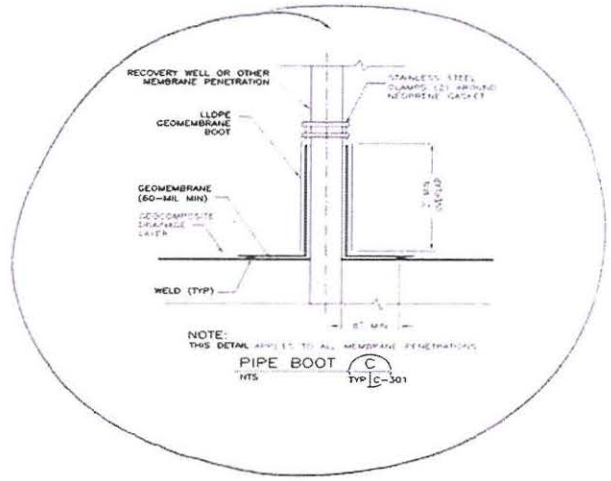
Location: Injection Well 088-IW-03 located near southern end of SA-6 North Cap on Panel P81 (approximately 32 ft. north of southern end of cap and 7 ft. west from Panel P81/P83 seam). Identified as R-384 on *As Built* and *Repair Report*.

Date: 8/9/16 **Repair Number:** R-384

Boot Log QA Form (cross-reference): 7/28/16 Injection Well 088-IW-03 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *1220*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing ☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld: ☐Vacuum Box Tested ☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 7/28/16. Methane / spark testing completed on 8/9/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature: -LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

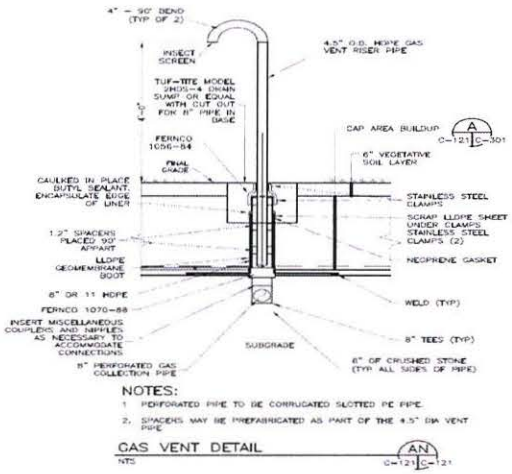
Project: Study Area 6 North

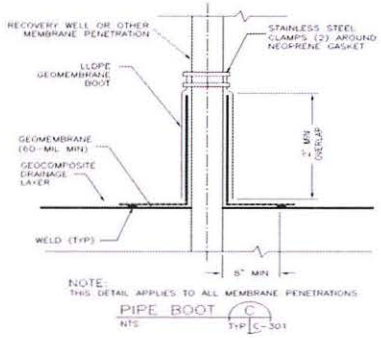
Location: Piezometer PZ4 located along northern end of SA-6 North Cap on Panel P90 (approximately 238 ft. north of southern end of cap and 7 ft. west from Panel P90/P91 seam). Identified as R-408 on *As Built* and *Repair Report*.

Date: 8/9/16 **Repair Number:** R-408

Boot Log QA Form (cross-reference): 8/3/16 Piezometer PZ4 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0855*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Fail	Pass	CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Fail	Pass	CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/3/16. Methane / spark testing completed on 8/9/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld and a spark was observed as the weld over the wire was too thin thus causing the spark to arc. The area was grinded, re-welded and retested on 8/9/16 and the subsequent spark re-test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature: – LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

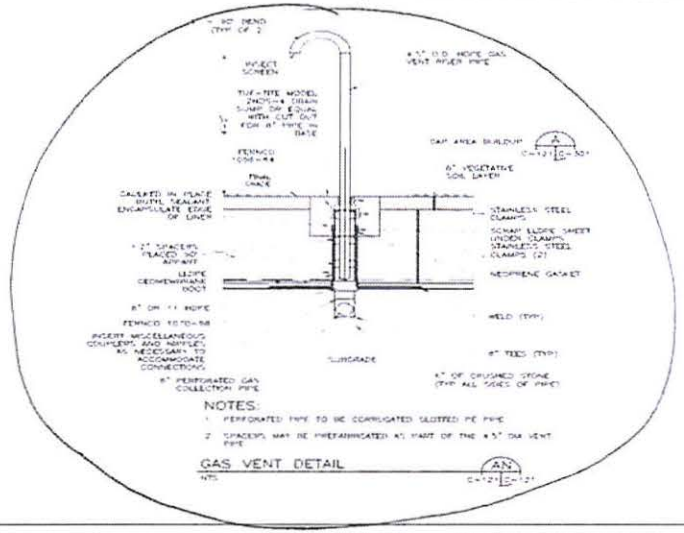
Project: Study Area 6 North

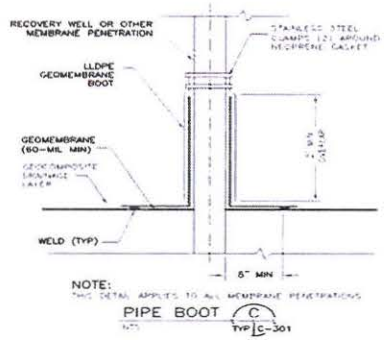
Location: Gas Vent GV-2 located at the approximate center of SA-6 North Cap on Panel P91 (approximately 107 ft. north of southern end of cap and 5 ft. east from Panel P90/P91 seam). Identified as R-409 on *As Built* and *Repair Report*.

Date: 8/9/16 **Repair Number:** R-409

Boot Log QA Form (cross-reference): 8/3/16 Gas Vent GV-2 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0900*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/3/16. Methane / spark testing completed on 8/9/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature:

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

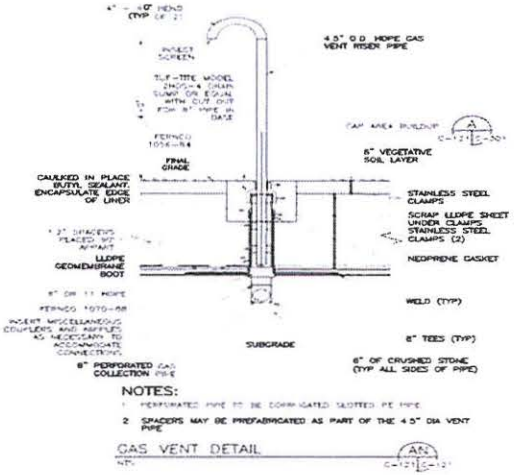
Project: Study Area 6 North

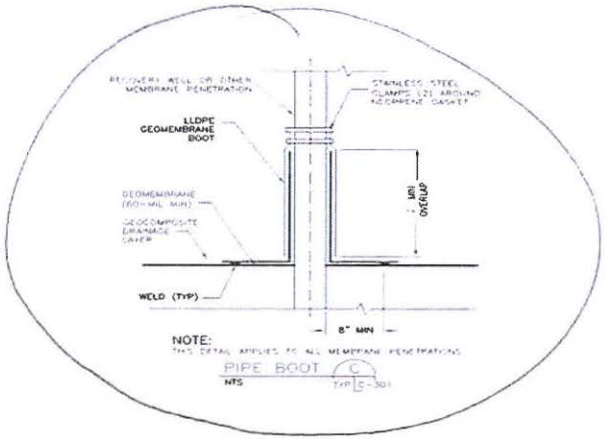
Location: Injection Well 088-IW-02 located at the approx. center of SA-6 North Cap on Panel P97 (approximately 109 ft. north of southern end of cap and 2 ft. west from Panel P97/P98 seam). Identified as R-430 on *As Built* and *Repair Report*.

Date: 8/9/16 **Repair Number:** R-430

Boot Log QA Form (cross-reference): 8/5/16 Injection Well 088-IW-02 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0840*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/5/16. Methane completed on 8/9/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

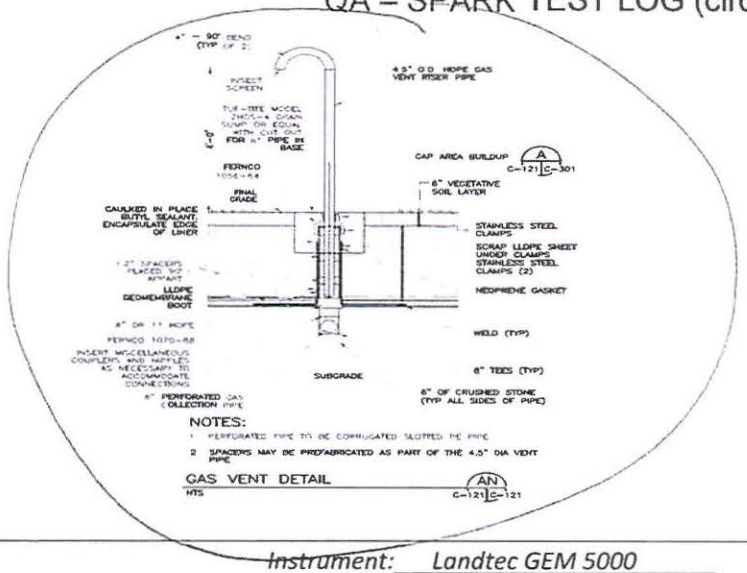
Project: Study Area 6 North

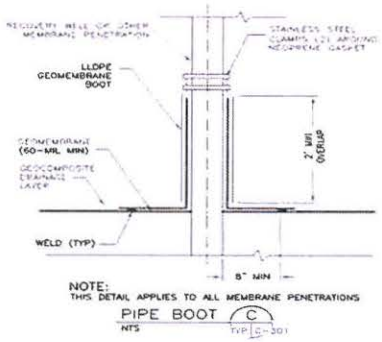
Location: Gas Vent GV-1 located at the approximate center of SA-6 North Cap on Panel P103 (approximately 113 ft. north of southern end of cap and 13 ft. east from Panel P102/P103 seam). Identified as R-449 on *As Built* and *Repair Report*.

Date: 8/12/16 **Repair Number:** R-449

Boot Log QA Form (cross-reference): 8/10/16 Gas Vent GV-1 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0800*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/10/16. Methane / spark testing completed on 8/12/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

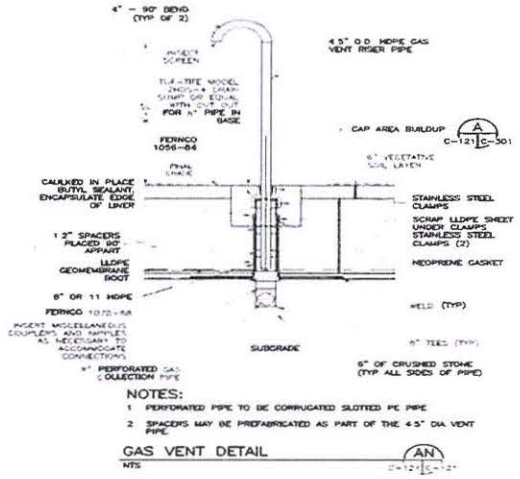
Project: Study Area 6 North

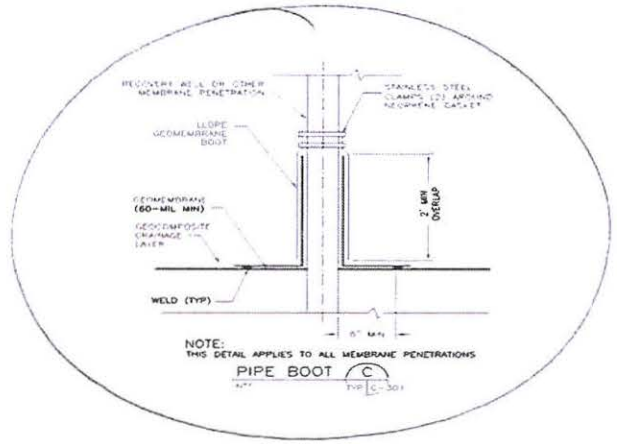
Location: Monitoring Well 115-E4-SO located along the southern end of SA-6 North on Panel P104 (approx. 6 ft. north of southern end of cap and 5 ft. east from Panel P103/P104 seam). Identified as R-450 on *As Built* and *Repair Report*.

Date: 8/12/16 **Repair Number:** R-450

Boot Log QA Form (cross-reference): 8/10/16 Monitoring Well 115-E4-SO Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0810*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Fail	Pass	CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/10/16. Methane / spark testing completed on 8/12/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing of the base of the boot, thus the spark test passed. During spark testing of the vertical weld a spark was observed along the edge of the weld (weld not centered over wire) thus the test failed. The area was grinded, rewelded, and retested on 8/12/16 and no sparks were observed (spark retest passed).

AmecFW QA Signature:

Independent CQA Monitor Signature: -LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

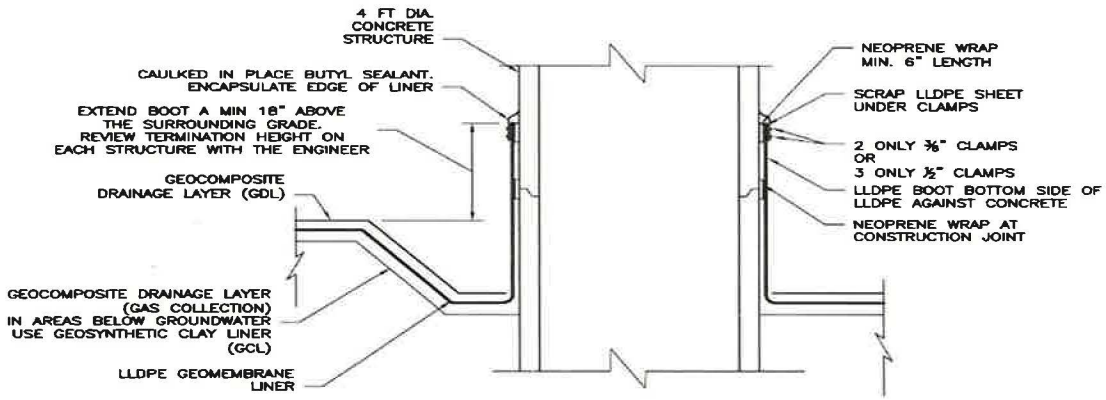
Project: Study Area 6 North

Location: Access Manhole Sta. 18+00 located near approximate center of SA-6 North Cap on Panel P113 (approximately 110 ft. north of southern end of cap and 10 ft. east of Panel P112/P113 seam). Identified as R-492 on *As Built* and *Repair Report*.

Date: 8/13/16 **Repair Number:** R-492

Boot Log QA Form (cross-reference): 8/12/16 Access Manhole Sta. 18+00 Form

QA – Spark Test Log – Manhole



LINER ANCHOR TO CONCRETE STRUCTURE
NTS
CE TYP C-304

Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0910*

% Methane *0.0%*

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Panel Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (kV)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 8/12/16. Spark / methane testing conducted on 8/13/16. Concentration of 0.0% methane measured prior to spark testing. As such, spark testing was conducted along the base of the boot and the vertical weld and no sparks were observed (spark test passed). Additionally, vacuum box testing was conducted along vertical and horizontal extrusion welds completed for the boot construction.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

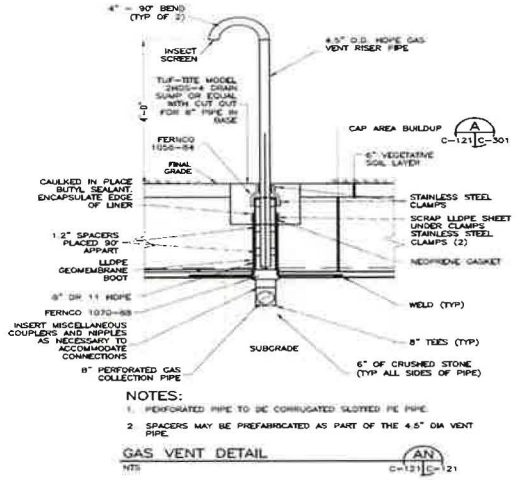
Project: Study Area 6 North

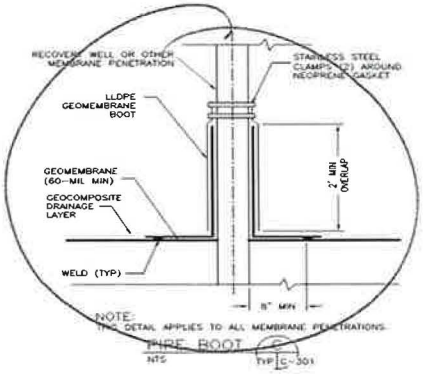
Location: Injection Well 088-IW-01 located along N end of SA-6 North Cap on Panel P114 (approx.. 206 ft. north of southern end of cap and 13 ft. east from Panel P113/P114 seam). Identified as R-493 on *As Built* and *Repair Report*.

Date: 8/13/16 **Repair Number:** R-493

Boot Log QA Form (cross-reference): 8/12/16 Injection Well 088-IW-01 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0800*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/12/16. Methane / spark testing completed on 8/13/16. Methane testing conducted by AmecFW and yielded concentration of 0.0%. As such, spark testing was conducted by ESI at the base of boot and along the vertical weld and no sparks were observed (spark test passed).

AmecFW QA Signature:

Independent CQA Monitor Signature: - LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

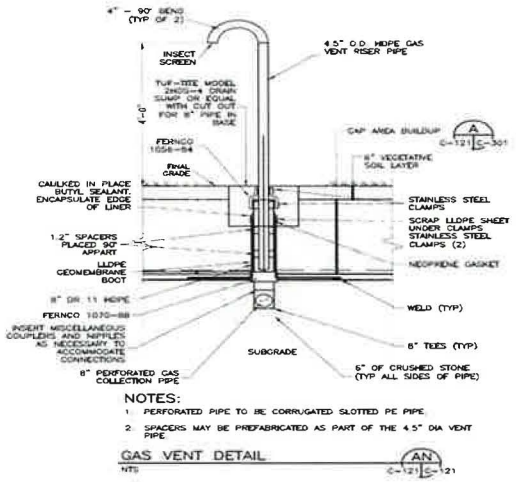
Project: Study Area 6 North

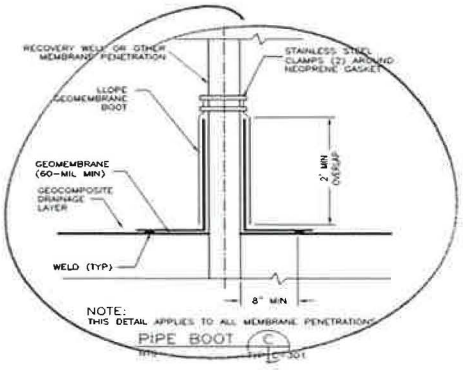
Location: Piezometer PZ2 located along northern end of SA-6 North Cap on Panel P116 (approximately 176 ft. north of southern end of cap and 13 ft. east from Panel P116/P118 seam). Identified as R-509 on *As Built* and *Repair Report*.

Date: 8/15/16 **Repair Number:** R-509

Boot Log QA Form (cross-reference): 8/15/16 Piezometer PZ2 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0800*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/15/16. Methane / spark testing also completed on 8/15/16. Methane testing conducted by AmecFW and yielded concentration of 0.0%. As such, spark testing was conducted by ESI at the base of boot and along the vertical weld and no sparks were observed (spark test passed).

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

APPENDIX R

IN-SITU TREATMENT DOCUMENTATION

TA-7/TA-8
MEMORANDUM 9/12/14
MEMORANDUM 8/10/16

TA-10
MEMORANDUM 10/12/15
MEMORANDUM 5/6/16
MEMORANDUM 1/12/17

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

September 12, 2014 *Via Express Mail*

Honorable Robert G. Torricelli
Office of the Special Master
49 Bridge Street, Suite 2
Lambertville, NJ 08530

Subject: SA-6 North Treatability – Areas 7 & 8
CAS Injection Test Results

Dear Senator Torricelli:

I am attaching a technical memorandum prepared by Honeywell's Engineer, Amec, which provides a summary of the post treatment analytical results for the program conducted at the chromium contaminated soils Area 7 & 8.

We are very pleased to report that this treatment program has successfully reduced the hexavalent chrome levels to below 20 mg/kg. All program implementation details and analytical results are provided in the attached memorandum. Should you have any questions on these materials please contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:sgf

Encl: 09/09/14 Amec Memorandum: Summary of In-Situ Treatment of Hexavalent Chromium Impacted Soils, SA-6 North, Treatment Areas 7 & 8

cc: (electronic copy only)
Joe Clifford - AMEC
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP
Dr. Bruce Bell - Carpenter Environmental Associates, Inc.
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall
Jason Watson – City Hall
Agnieszka Antonian - Connell Foley LLP
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC
Tom Byrne - Honeywell

Maria Kaouris - Honeywell
John Morris - Honeywell
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP
Steve Egnaczyk - The Louis Berger Group, Inc.
Thomas Lewis - The Louis Berger Group, Inc.

Memo

Date:	**September 9, 2014**	cc:	**John Morris, Maria Kaouris, John Mojka – Honeywell Jeremy Karpatkin, Michael Daneker – A&P**
From:	**Joe Clifford/Dennis Nagg, Amec**		
To:	**Bill Hague – Honeywell**		
Subject:	**Summary of In-Situ Treatment of Hexavalent Chromium Impacted Soils, SA-6 North, Treatment Areas 7 & 8**		

This memorandum presents a summary of the in-situ treatment of hexavalent chromium (Cr(VI)) impacted soils and initial post-treatment sampling conducted adjacent to active pipelines at SA-6 North (the Site) within Treatment Areas 7 and 8 (TA-7 and TA-8). As shown in the attached tables, the analytical data demonstrate that the program succeeded in reducing Cr(VI) concentrations in soils to below the 20 milligram per kilogram (mg/kg) objective in these two treatment areas.

The in-situ approach for TA-10 was updated as a result of the barrier wall relocation proximate to the 72-inch force main and the treatment program associated with this location will be implemented and documented under separate cover.

BACKGROUND

Amec retained In-Situ Oxidative Technologies, Inc. (Isotec) of Lawrenceville, New Jersey to implement the in-situ injection of calcium polysulfide (CAPS) on behalf of Honeywell. The Amec/Isotec team implemented the in-situ program in TA-7 and TA-8 between June 17, 2013 and June 30, 2013 in accordance with the following documents:

- NJDEP Permit-by-Rule, Discharge to Groundwater Authorization, dated April 30, 2012;
- Amec's Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 2013 (Amec Revised WP); and
- Isotec's Chromium Treatment Program Operations Plan, dated April 8, 2013 (Isotec WP).

TREATMENT AREAS

TA-7 is located within the portion of the Site occupied by the Jersey City Municipal Utilities Authority (JCMUA). Chromium-impacted soils at TA-7 are located immediately adjacent to two in-service above ground storage tank (AST) systems containing Gasoline and Diesel motor fuels and beneath the associated dispenser island used daily by JCMUA. The Cr(VI)-impacted soils exceeding 20 mg/kg were detected in TA-7 at 2 to 4 and 16 to 18 feet below existing grade during the initial remedial investigation (RI). The Cr(VI) concentration in the 2 to 4 foot depth interval was 43.6 mg/kg and the Cr(VI) concentration in the 16 to 18 foot depth interval was 84.4 mg/kg. An active 72-inch Force Main (FM) is also proximate to TA-7 to the north.

TA-8 is located within the portion of the Site occupied by the Jersey City Department of Public Works (JCDPW). Chromium-impacted soils at TA-8 are located within approximately 7 feet of a 96-inch Combined Sewer Overflow (CSO) line. The Cr(VI)-impacted soils exceeding 20 mg/kg were detected in TA-8 at a depth of 10 to 12 feet and 18 to 20 feet below existing grade during the initial RI. The Cr(VI) concentration in the 10 to 12 foot depth interval was 68.8 mg/kg and

AMEC
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
Tel 609-689-2829
Fax 609-689-2838
amec.com

the Cr(VI) concentration in the 18 to 20 foot depth interval was <25.4 mg/kg (below detection limit).

INJECTION PROGRAM MOBILIZATION ACTIVITIES

As indicated in the Amec Revised WP, injections were targeted for a zone from 2 feet above to 2 feet below each contaminated zone. However, injections were not to penetrate below the meadow mat that underlies the Cr(VI)-impacted soil/fill at the Site. Therefore, prior to the initiation of the in-situ injection programs at TA-7 and TA-8, soil borings were drilled in each area to confirm the depth of the meadow mat. At both TA-7 and at TA-8 the top of the meadow mat was encountered at 17.0 feet below ground surface (ft bgs). Based on the confirmed meadow mat depths and the reported sampling intervals (samples were all identified as 2-foot intervals during the initial RI), the injection depths of the deeper intervals at TA-7 was adjusted to 14.0 to 17.0 ft bgs and at TA-8 was adjusted to 15.0 to 17.5 ft bgs. Due to the depth of the deep sample in TA-8 (18 to 20 ft bags) and the confirmed depth to the top of the meadowmat (17 ft bgs), it was decided that the deep injection at TA-8 would be implemented only to 6 inches within the top of the meadow mat, but not penetrate any further into the meadow mat. Therefore, because the deep injection intervals were cut approximately in half, the volume of diluted CAPs solution was also decreased by 50%, but the volume of stock 29% CAPs solution was not decreased, effectively doubling the concentration of the injected solution.

In addition, during drilling of the initial soil boring prior to the initiation of the in-situ injection program in TA-7, it was observed that the top 12 inches of the area consisted of up to 6 inches of asphalt and up to 6 inches of gravel sub-base. Therefore, the shallow injection program in TA-7 was adjusted to start at 1 ft bgs, instead of 0 ft bgs.

TEMPORARY MONITORING WELL INSTALLATION

In each area and at each injection interval, 1-inch diameter temporary monitoring wells were installed prior to the initiation of injections constructed from polyvinyl chloride (PVC) well screen and riser pipe material. As indicated in the Isotec Work Plan, temporary monitoring points (TMPs) were installed within each area and utility line monitoring points (ULMPs) were installed between the area and adjacent major utility pipelines to monitor propagation of the injected fluids. Additionally, during injections in TA-8, Isotec monitored the existing monitoring well, 087-MW-O29, previously installed in that area during the initial RI.

Drilling was performed using a Geoprobe® direct push drill rig (see **Photo 1** on the attached photolog). Boreholes for the temporary monitoring wells were drilled with 2-inch diameter direct push hollow casing sleeves fitted with an expendable drive point to the design depth and the 1-inch diameter PVC well screens/risers were installed within the casings. All temporary monitoring wells installed were screened at the same depth of the injection intervals; therefore, multiple wells were installed in each area to correspond to the shallow and deep injection intervals. As indicated on **Tables 3, 5, 7**, and **9**, screened intervals for all TMPs and ULMPs generally matched the injection intervals. Shallow TMPs and ULMPs were installed first and were abandoned with a cement/bentonite grout upon completion of the shallow injections and prior to installation of the deep TMPs and ULMPs. At the completion of deep injections, all remaining TMPs and ULMPs were also abandoned in the same manner.

Prior to the start of injections, baseline readings were collected from all TMPs and ULMPs as follows:

- Depth to groundwater table;

- Groundwater quality parameters, including pH, oxidation/reduction potential (ORP), specific conductivity (SC), and total dissolved solids (TDS);
- Hydrogen sulfide (H2S) in the headspace of the PVC riser pipe; and
- Groundwater color.

Once injections began, these same readings/observations were recorded in each TMP and ULMP to monitor injectant propagation. Because of their shallow depth, the temporary monitoring wells installed in TA-7 did not encounter groundwater; therefore, it was impossible to measure baseline groundwater quality parameters in the shallow zone in TA-7.

INJECTION PROGRAM

At each area, the shallow injections were completed prior to the start of the deep injections. Boreholes for injection points (IPs) were drilled with a Geoprobe® direct push drill rig. A proprietary steel well screen was then installed in the borehole with the drill rig to the design depth. Isotec conducted all mixing operations in plastic 55-gallon drums in a box truck and delivered the mixed solution using small volume double diaphragm pumps (see **Photo 2**). Up to 4 IPs were installed and injected at a time using a manifold system (see **Photo 3**).

Pertinent information concerning the in-situ injection program at TA-7 and TA-8 is summarized on **Table 1**. The layout of the completed TMPs, ULMPs, and IPs is shown on **Figure 1** and **Figure 2** for TA-7 and TA-8, respectively. A summary of the injection logs and monitoring data collected in the TMPs and ULMPs during the injections is shown on **Table 2** through **Table 9**. During mixing operations and injections, the breathing zone in the work areas and at the perimeter of the areas were monitored for odors and carbon monoxide, oxygen, H_2S, and lower explosive limit using a 4-gas meter, and volatile contaminants were monitored using a photoionization device. Samples of the groundwater from TMPs were collected periodically to check for color change (**Photo 4**).

Table 1 summarizes the operational parameters of the injection program as proposed in the Isotec Work Plan as well as those for the completed injection program to compare one to the other. The proposed and completed information on **Table 1** includes the number of IPs, the number of temporary monitoring wells, and the volume of CAPs, CAPs solution, and concentration of CAPs injected. **Table 1** also shows the calculated radius of influence (ROI) for each treatment area/zone determined by comparing the monitoring data to the distance from the injection point to the TMP at which the data was collected. As seen by **Table 1**, with Amec's approval Isotec increased the volume of stock 29% CAPs solution injected into each area/injection zone, while maintaining or increasing the concentration of the injected solution CAPs solution throughout the areas.

Because of the lack of groundwater in the shallow TMPs and ULMPs in the shallow zone in TA-7, it was not possible to obtain baseline groundwater measurements in the shallow TMPs and ULMPs and subsequently obtain measurements during injections, with one exception (see 087-TMPI-07002 on **Table 3**). Consequently, to be conservative and to verify adequate coverage of the area, with Amec's approval Isotec installed 3 extra IPs during shallow injections in TA-7 and increased the overall diluted CAPs solution volume injected while maintaining the original volume of stock CAPs solution. .

In addition, due to the initially proposed distribution of the temporary monitoring wells and IPs in both zones in TA-8, Isotec elected to install 1 additional TMP and 2 additional IPs in both injection zones in TA-8 to verify adequate coverage of the area.

As discussed above, in both TA-7 and TA-8, the deeper injection intervals were decreased by approximately 50% due to the confirmed depth of the top of meadowmat (17 ft bgs). Consequently, with Amec's approval Isotec decreased the overall diluted CAPs solution volume injected by 50%, while maintaining the original volume of stock CAPs solution.

Key observations of the injection program are summarized below:

- No noticeable smells, or readings above background levels, were noted during the injection program.
- Propagation of injectant fluids was evidenced by one or more of the following:
    - Increase in the depth to groundwater table;
    - Marked increase in pH;
    - Marked decrease in ORP;
    - Changes in SC or TDS;
    - H2S readings or odor; and
    - Change in groundwater color.
- The calculated ROIs ranged from 8 to 13 feet. Given these ROIs, it is clear that the injectant propagation covered the entire footprint of each area in both shallow and deep zones.
- Generally, no evidence of detections of injectant fluids was noted in any of the ULMPs, indicating that the injected fluids did not reach the nearby utilities. As shown on **Table 9**, during the deep zone injections in TA-8, the ORP decreased slightly in the ULMP from 12 millivolts (mV) to -106 mV after injecting for approximately 30 mins into 4 IPs, including the closest IP (087-IP-08009). The ORP rebounded to 64 mV 70 minutes later, at which point injections into 2 additional IPs and 2 repeated IPs were coming to a close. This localized and temporary decrease in ORP in the TA-8 ULMP is likely due to a minor detection of diluted CAPs solution from 087-IP-08009. Given that the TA-8 ULMP is only 8 feet from this IP and the 96-inch CSO is approximately 15 feet from this IP (slightly farther than observed ROI in this area), it is unlikely that injected fluids reached the utility in any significant quantity. .

PERFORMANCE ASSESSMENT SOIL SAMPLING

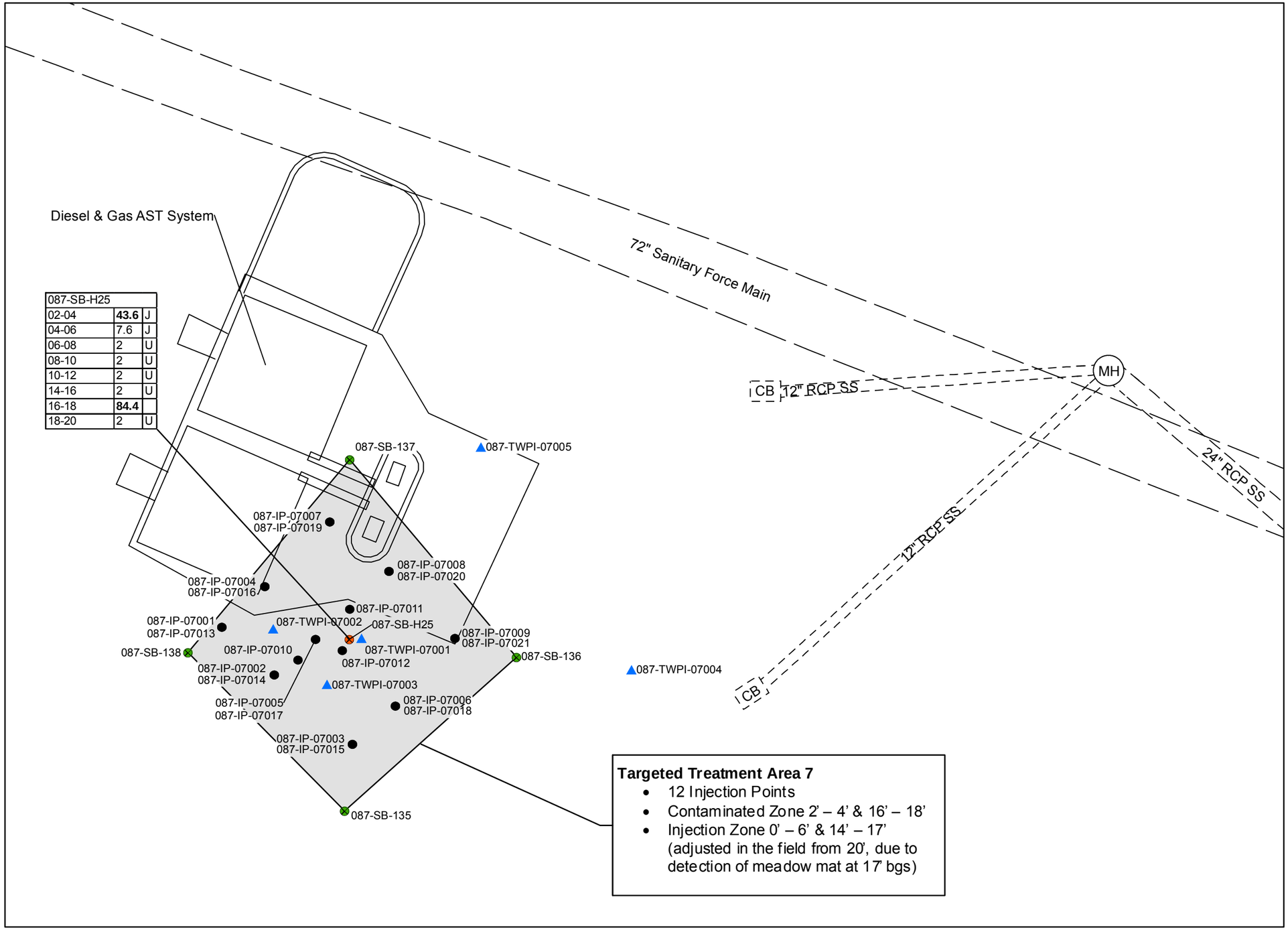
In June 2014, Honeywell authorized Amec to collect performance assessment soil samples in each treatment area and at each treatment zone. These samples were collected in accordance with the Amec Revised WP by drilling 2 soil borings no more than 15 feet apart and straddling the original soil borings which exhibited the elevated Cr(VI) concentrations during the initial RI. The soil borings were drilled with a Geoprobe® direct push drill rig and soil was obtained for the samples in 4-foot long acetate sleeves fitted into a Geoprobe® steel macro core sampler. In accordance with the Amec Revised WP, samples were collected from each boring from 1 foot intervals and the entire 1 foot interval was homogenized and placed into laboratory-provided sample jars for analysis. All samples were analyzed for total chromium and Cr(VI) using

USEPA Method 3060A/7199, Eh and pH, and sulfides using USEPA Method 9030b by Accutest Laboratories of Dayton, New Jersey.

In TA-7, soil borings 087-SB-454 and 087-SB-455 were drilled and in TA-8, soil borings 087-SB-452 and 087-SB-453 were drilled at the locations shown on **Figures 3** and **4**, respectively.

The analytical data is summarized on **Tables 10A** and **10B** for TA-7 and **Tables 11A** and **11B** for TA-8. For comparison, the initial RI samples are included on the tables. As indicated by the analytical results, all performance assessment soil samples collected were below 20 mg/kg for Cr(VI). Thus, the data support that the in-situ injection program was successful at treating the Cr(VI)-impacted soils at TA-7 and TA-8.

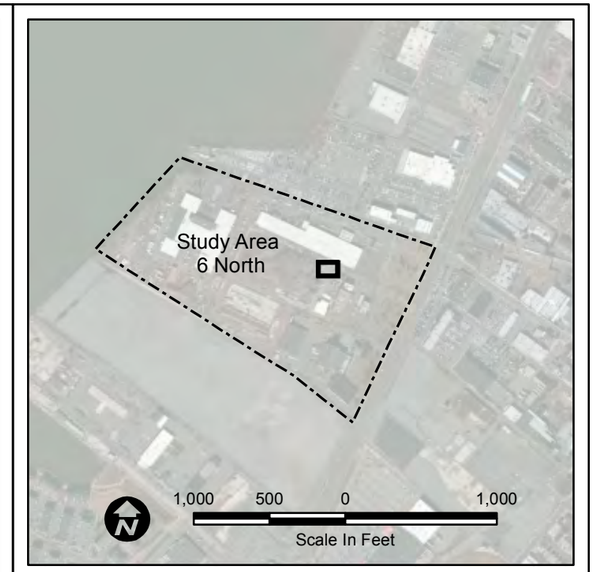
FIGURES



087-SB-H25		
02-04	**43.6**	J
04-06	7.6	J
06-08	2	U
08-10	2	U
10-12	2	U
14-16	2	U
16-18	**84.4**	
18-20	2	U

Targeted Treatment Area 7

- 12 Injection Points
- Contaminated Zone 2' – 4' & 16' – 18'
- Injection Zone 0' – 6' & 14' – 17' (adjusted in the field from 20', due to detection of meadow mat at 17' bgs)



Legend

- Temporary Well Point
- Injection Point
- Previous Soil Sample Location (Hexavalent Chromium Result < 20 ppm)
- Previous Soil Sample Location (Hexavalent Chromium Result > 20 ppm)
- SS Storm Sewer
- CB Catch Basin
- MH Manhole
- Treatment Area 7

10 5 0 10
Scale In Feet

Project Number: 3480110298	
Prepared/Date: WSL 06/25/2013	Checked/Date: JR 07/01/2013

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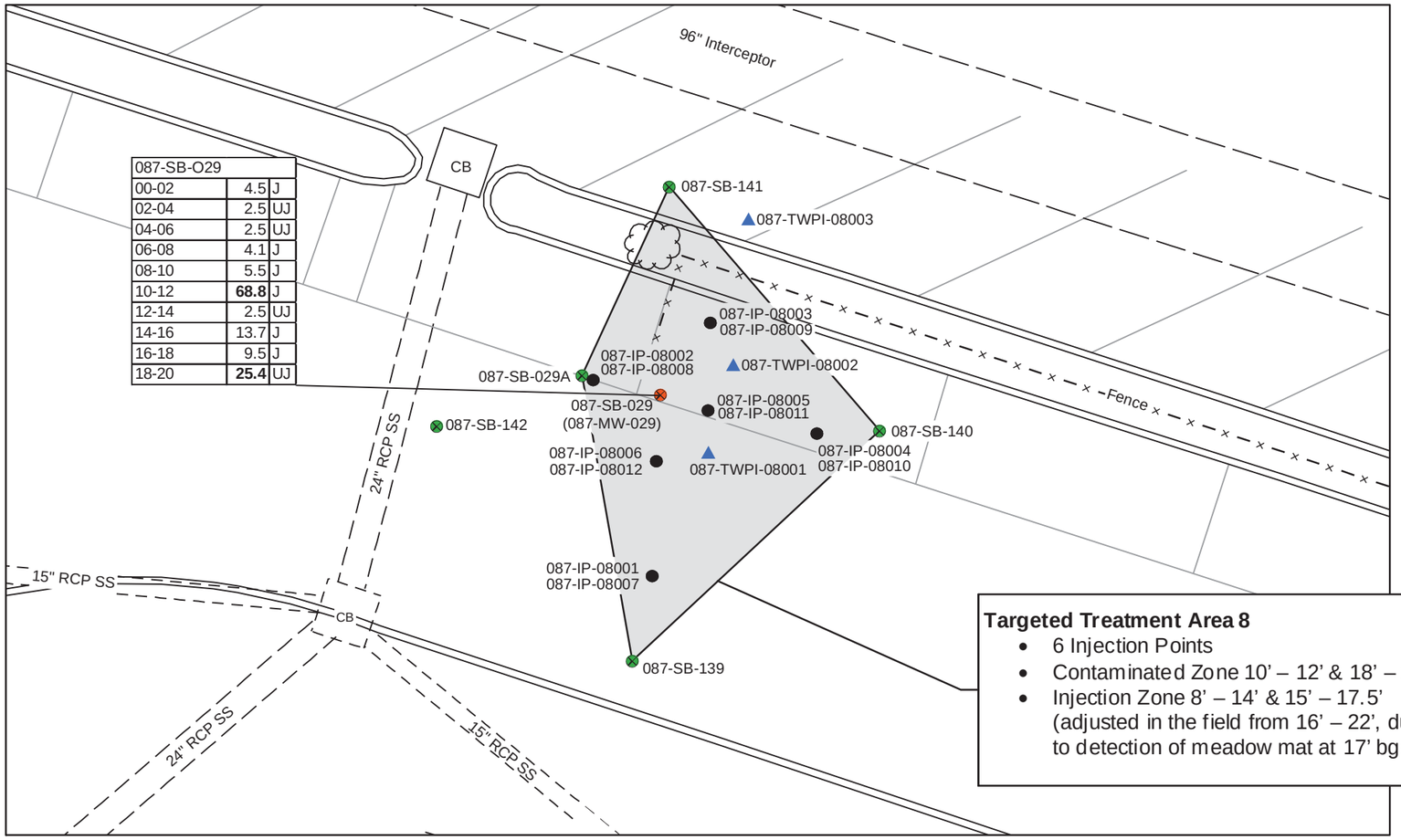
Figure 1
Treatment Area 7
In-situ Chemical Injection Treatment Process
Study Area 6 North
Jersey City, New Jersey



087-SB-O29		
00-02	4.5	J
02-04	2.5	UJ
04-06	2.5	UJ
06-08	4.1	J
08-10	5.5	J
10-12	**68.8**	J
12-14	2.5	UJ
14-16	13.7	J
16-18	9.5	J
18-20	**25.4**	UJ

Targeted Treatment Area 8

- 6 Injection Points
- Contaminated Zone 10' – 12' & 18' – 20'
- Injection Zone 8' – 14' & 15' – 17.5' (adjusted in the field from 16' – 22', due to detection of meadow mat at 17' bgs)

Legend

- Temporary Well Point
- Injection Point
- Previous Soil Sample Location (Hexavalent Chromium Result < 20 ppm)
- Previous Soil Sample Location (Hexavalent Chromium Result > 20 ppm)
- SS Storm Sewer
- CB Catch Basin
- MH Manhole
- Treatment Area 8

10 5 0 10

Scale In Feet

Project Number: 3480110298		
Prepared/Date: WSL 06/26/2013	Checked/Date: xx xx/xx/2013	

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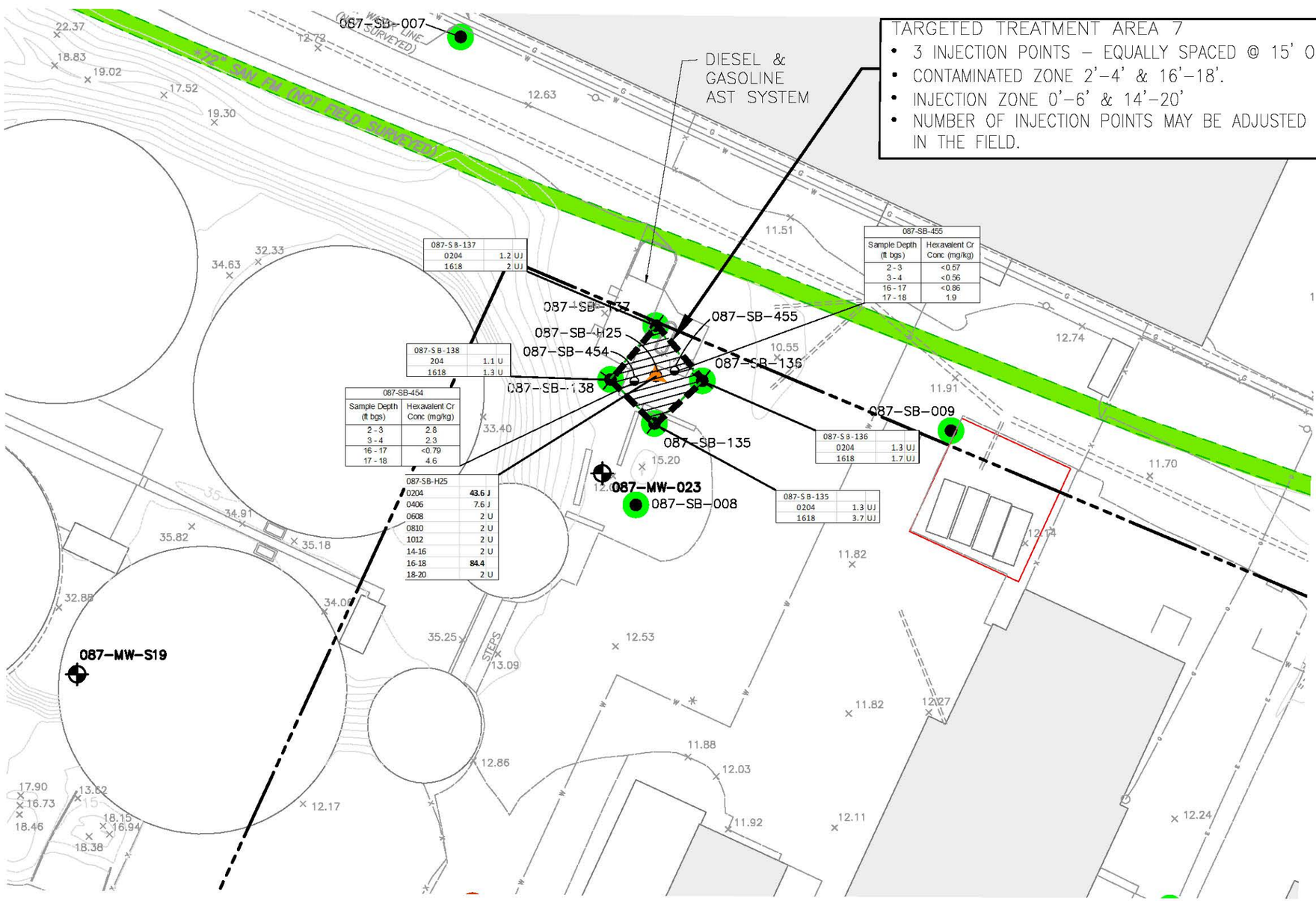
Figure 2
Treatment Area 8
In-situ Chemical Injection Treatment Process
Study Area 6 North
Jersey City, New Jersey



LEGEND

- EXISTING SHALOW MONITORING WELL LOCATIONS ASSOCIATED WITH CHROMIUM REMEDIAL INVESTIGATION
- EXISTING DEEP MONITORING WELL LOCATIONS ASSOCIATED WITH CHROMIUM REMEDIAL INVESTIGATION
- EXISTING MONITORING WELL LOCATIONS ASSOCIATED WITH PREVIOUS UST INVESTIGATIONS NOTED IN THE FIELD ON JCIA AND JCMUA PROPERTIES (LOCATION IDs ASSIGNED BY MACTEC 2005)
- PDI SOIL BORINGS
- PREVIOUS RIR SOIL BORING LOCATIONS COMPLETED
- SEDIMENT BASIN HORIZONTAL DRILLING
- PDI BORING (APRIL 2009)
- POST–TREATMENT SOIL BORING LOCATION
- <20 ppm HEXAVALENT CHROMIUM SAMPLE LOCATION
- 20–240 ppm HEXAVALENT CHROMIUM SAMPLE LOCATION
- >240 ppm HEXAVALENT CHROMIUM SAMPLE LOCATION
- BLOCK/LOT LINE (APPROXIMATE LOCATION)
- STORM SEWER
- 72" FORCEMAIN SANITARY SEWER
- 96" COMBINED SEWER OUTLET
- 84" SANITARY SEWER
- 54" OUTFALL (ABANDONED)
- CONSERVATION EASEMENT
- PROPOSED SLURRY WALL
- LIMITS OF TARGETED IN–SITU TREATMENT
- EXISTING BUILDINGS
- IN–SITU TREATMENT AREA

U NOT DETECTED

J ESTIMATED CONCENTRATION

UTILITY LOCATIONS BASED ON ALTA/ASCM LAND TITLE SURVEY FOR BLOCK 1290.1 – LOTS 2D,2E,15D, 15B & 16A, DATED 5/23/08

NOTE:

SEE FIGURE 2 FOR LOCATION OF DETAIL MAP.

0 20 40 80

SCALE IN FEET

REV.	DATE	STATUS	PRPD BY	CHKD BY
2	08/26/14	ADD POST–TREATMENT SAMPLE LOCATIONS	STR	DN
1	12/05/11	REVISE CALLOUT, UPDATE TITLE BLOCK	STR	TT

AMEC PROJECT No. 3480110298
DRAWING:
TARGETED IN–SITU TREATMENT AREAS–03

PREPARED/DATE: STR 03/03/10

CHECKED/DATE: TT 03/03/10

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FIGURE 3
TARGETED IN-SITU TREATMENT AREA 7
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY

P:\CADD\HONEYWELL\JERSEY CITY\SA 6 NORTH\REPORT\TARGETED IN-SITU TREATMENT AREAS-03.dwg Tue, 26 Aug 2014 - 2:20pm scott.rudkin Layout: FIG 3

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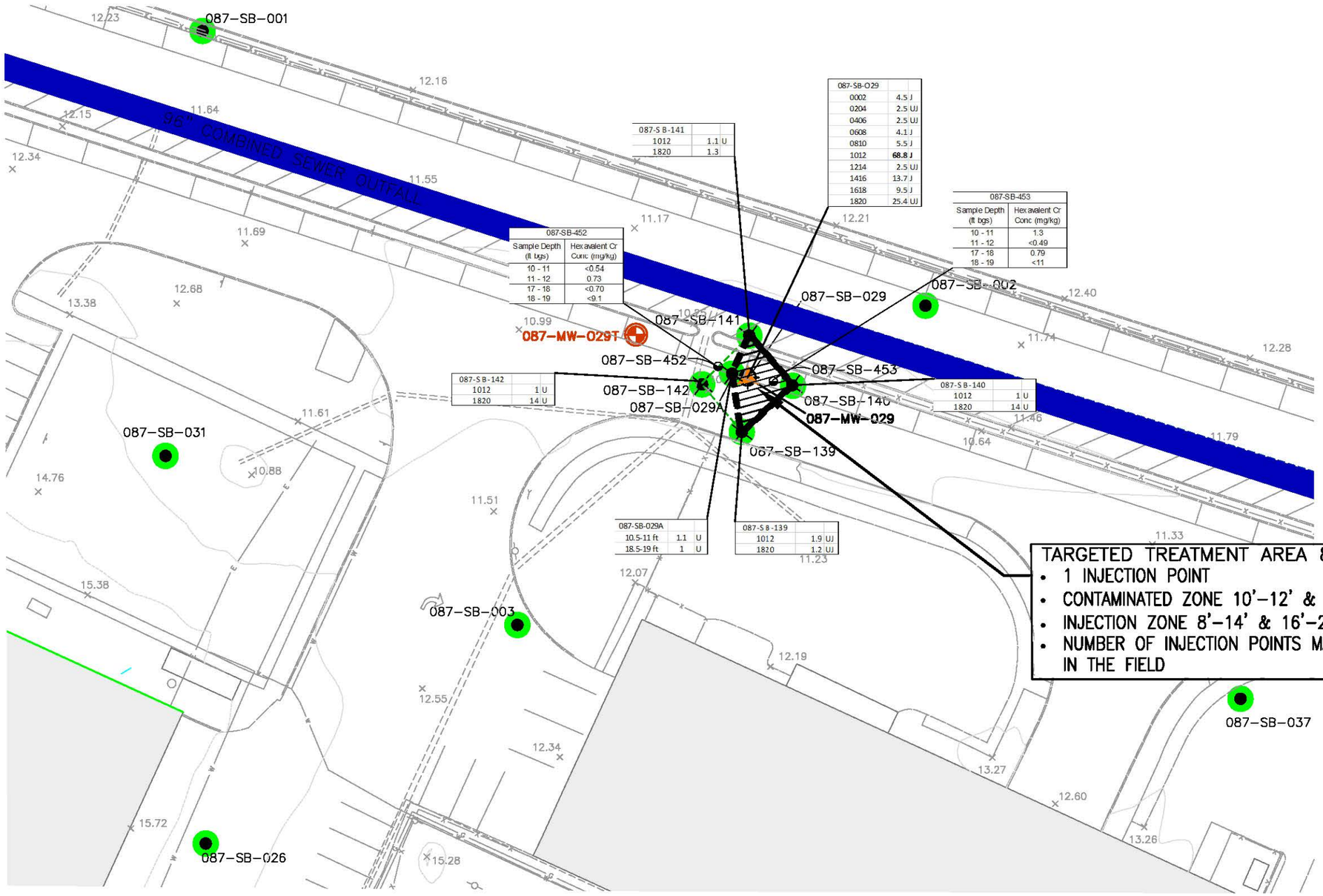

LEGEND

- EXISTING SHALOW MONITORING WELL LOCATIONS ASSOCIATED WITH CHROMIUM REMEDIAL INVESTIGATION
- EXISTING DEEP MONITORING WELL LOCATIONS ASSOCIATED WITH CHROMIUM REMEDIAL INVESTIGATION
- EXISTING MONITORING WELL LOCATIONS ASSOCIATED WITH PREVIOUS UST INVESTIGATIONS NOTED IN THE FIELD ON JCIA AND JCMUA PROPERTIES (LOCATION IDs ASSIGNED BY MACTEC 2005)
- PDI SOIL BORINGS
- PDI BORING (APRIL 2009)
- POST–TREATMENT SOIL BORING LOCATION
- <20 ppm HEXAVALENT CHROMIUM SAMPLE LOCATION
- 20–240 ppm HEXAVALENT CHROMIUM SAMPLE LOCATION
- >240 ppm HEXAVALENT CHROMIUM SAMPLE LOCATION
- BLOCK/LOT LINE (APPROXIMATE LOCATION)
- STORM SEWER
- 96" COMBINED SEWER OUTLET
- LIMITS OF TARGETED IN–SITU TREATMENT
- EXISTING BUILDINGS
- IN–SITU TREATMENT AREA
- U NOT DETECTED
- J ESTIMATED CONCENTRATION

UTILITY LOCATIONS BASED ON ALTA/ASCM LAND TITLE SURVEY FOR BLOCK 1290.1 – LOTS 2D,2E,15D, 15B & 18A, DATED 5/23/08

NOTE:

SEE FIGURE 2 FOR LOCATION OF DETAIL MAP.

0 20 40 80
SCALE IN FEET

REV.	DATE	STATUS	PRPD BY	CHKD BY
3	08/26/14	ADD POST–TREATMENT SAMPLE LOCATIONS	STR	DN
2	12/12/12	REVISE IN–SITU AREA	DL	AG
1	12/05/11	REVISE CALLOUT, UPDATE TITLE BLOCK	STR	TT

AMEC PROJECT No. 3480110298
DRAWING: TARGETED IN–SITU TREATMENT AREAS–03

PREPARED/DATE: STR 03/03/10
CHECKED/DATE: TT 03/03/10

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FIGURE 4
TARGETED IN-SITU TREATMENT AREA 8
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY

TABLES

TABLE 1
SUMMARY OF IN-SITU INJECTION PROGRAM AT TREATMENT AREAS 7 AND 8

STUDY AREA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Area	Injection Zone	Injection Date(s)	PROPOSED PER ISOTEC WORK PLAN						COMPLETED						Injection Time (mins)	Avg. Injection Flow Rate (gpm)	IP Pressure Range Min (psi)	IP Pressure Range Max (psi)	Minimum Radius of Influence (ft)	Notes
			Injection Depth (ft bgs)	No. of Temp Injection Points	No. of Temporary Monitoring Wells	Stock Solution Volume (~29% CAPS) (gals)	Diluted CAPS Sol'n Injection Volume (gals)	Approx. CAPS Injection Concentration (%)	Injection Depth (feet bgs)	No. of IPs	No. of Temp Monitoring Wells	Stock Solution Volume (~29% CAPS) (gals)	Diluted CAPS Sol'n Injection Volume (gals)	Approx. CAPS Injection Concentration (%)						
7	Shallow	6/17 - 6/18/2013	0.0-6.0	9	5*	105	2,074	1.47%	1.0-6.0	12	5*	108	2,703	0.75 - 1.5%	1,073	2.87	0.0	5.0	8.0	No problems noted while injecting.
7	Deep	6/19 - 6/20/2013	14.0-20.0	9	5*	201	2,074	2.8%	14.0-17.0	9	5*	216	1,035	6.1%	522	2.07	0.0	10.0	13.0	No problems noted while injecting.
8	Shallow	6/29/2013	8.0-14.0	4	2**	111	1,407	2.3%	8.0-14.0	6	3**	120	1,409	2.5%	318	4.44	0.0	8.0	12.0	No problems noted while injecting.
8	Deep	6/30/2013	16.0-22.0	4	2**	39	1,407	0.8%	15.0-17.5	6	3**	48	704	2.0%	200	3.66	0.0	30.0	13.0	No problems noted while injecting.

Notes:
* For TA-7, 3 temporary monitoring wells (TMWs) were proposed and installed within the area and 2 utility line monitoring points (ULMPs) were proposed and installed between the area and the 72-inch Force Main.
** For TA-8, 1 TMW was proposed within the area and 1 ULMPs was proposed and installed between the area and the 96-inch Combined Sewer Outfall. To increase the monitoring of injections withing the area, 2 TMWs were installed. In addition, the existing shallow monitoring well in TA-8, 087-MW-O29, was used for monitoring.

ft = Feet
bgs = Below Ground Surface
gals = Gallons
mins = Minutes
gpm = Gallons per Minute
psi = Pounds per Square Inch
CAPS = Calcium Polysulfide
IP = Injection Point

TABLE 2
IN-SITU INJECTION LOG AT TREATMENT AREA 7 - SHALLOW

STUDY AREA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Injection Point ID	Injection Date	Injection Depth (feet BGS)	Injection Start Time	Injection Stop Time	CAPS Injection Concentration	CAPS Injection Time (mins)	CAPS Injection Volume (gallons)	Stock Solution Volume (~29% CAPS) (gallons)	CAPS Injection Flow Rate (gals/min)	IP Pressure Range (psi)	Notes
087-IP7001	17-Jun-13	1.0-6.0	12:13 PM	2:20 PM	~1.5%	127	230	12.0	1.81	0-2	No problems noted while injecting.
087-IP7002	18-Jun-13	1.0-6.0	9:25 AM	11:30 AM	~1.5%	125	230	12.0	1.84	0-2	No problems noted while injecting.
087-IP7003	17-Jun-13	1.0-6.0	12:50 PM	2:36 PM	~1.5%	106	230	12.0	2.17	0-2	No problems noted while injecting.
087-IP7004	18-Jun-13	1.0-6.0	12:50 PM	1:14 PM	~0.75%	24	57.5	1.5	2.40	0-2	No problems noted while injecting.
087-IP7004	18-Jun-13	1.0-6.0	2:00 PM	2:19 PM	~0.75%	19	57.5	1.5	3.03	0-5	No problems noted while injecting.
087-IP7004	18-Jun-13	1.0-6.0	2:25 PM	2:45 PM	~0.75%	20	57.5	1.5	2.88	0-5	No problems noted while injecting.
087-IP7004	18-Jun-13	1.0-6.0	3:21 PM	3:40 PM	~0.75%	19	57.5	1.5	3.03	0-5	No problems noted while injecting.
087-IP7005	17-Jun-13	1.0-6.0	2:34 PM	3:54 PM	~1.5%	80	230	12.0	2.88	0-2	No problems noted while injecting.
087-IP7006	17-Jun-13	1.0-6.0	2:15 PM	3:46 PM	~1.5%	91	230	12.0	2.53	0-2	No problems noted while injecting.
087-IP7007	18-Jun-13	1.0-6.0	11:00 AM	11:48 AM	~1.5%	48	57.5	3.0	1.20	0-2	No problems noted while injecting.
087-IP7007	18-Jun-13	1.0-6.0	2:00 PM	2:19 PM	~0.75%	19	57.5	1.5	3.03	0-2	No problems noted while injecting.
087-IP7007	18-Jun-13	1.0-6.0	2:25 PM	2:45 PM	~0.75%	20	57.5	1.5	2.88	0-2	No problems noted while injecting.
087-IP7008	18-Jun-13	1.0-6.0	1:35 PM	1:50 PM	~0.75%	15	57.5	1.5	3.83	0-2	No problems noted while injecting.
087-IP7008	18-Jun-13	1.0-6.0	2:00 PM	2:19 PM	~0.75%	19	57.5	1.5	3.03	0-2	No problems noted while injecting.
087-IP7008	18-Jun-13	1.0-6.0	2:49 PM	3:18 PM	~0.75%	29	115	3.0	3.97	0-2	No problems noted while injecting.
087-IP7009	18-Jun-13	1.0-6.0	9:18 AM	10:48 AM	~1.5%	90	230	12.0	2.56	0-2	No problems noted while injecting.
087-IP7010	18-Jun-13	1.0-6.0	12:50 PM	1:14 PM	~0.75%	24	57.5	1.5	2.40	0-4	No problems noted while injecting.
087-IP7010	18-Jun-13	1.0-6.0	1:15 PM	1:34 PM	~0.75%	19	57.5	1.5	3.03	0-4	No problems noted while injecting.
087-IP7010	18-Jun-13	1.0-6.0	2:25 PM	2:45 PM	~0.75%	20	57.5	1.5	2.88	0-5	No problems noted while injecting.
087-IP7010	18-Jun-13	1.0-6.0	2:49 PM	3:08 PM	~0.75%	19	57.5	1.5	3.03	0-5	No problems noted while injecting.
087-IP7011	18-Jun-13	1.0-6.0	12:50 PM	1:14 PM	~0.75%	24	57.5	1.5	2.40	0-2	No problems noted while injecting.
087-IP7011	18-Jun-13	1.0-6.0	1:15 PM	1:34 PM	~0.75%	19	57.5	1.5	3.03	0-2	No problems noted while injecting.
087-IP7011	18-Jun-13	1.0-6.0	1:35 PM	1:50 PM	~0.75%	15	57.5	1.5	3.83	0-2	No problems noted while injecting.
087-IP7011	18-Jun-13	1.0-6.0	3:21 PM	3:40 PM	~0.75%	19	57.5	1.5	3.03	0-2	No problems noted while injecting.
087-IP7012	18-Jun-13	1.0-6.0	1:15 PM	1:34 PM	~0.75%	19	57.5	1.5	3.03	0-2	No problems noted while injecting.
087-IP7012	18-Jun-13	1.0-6.0	1:35 PM	1:50 PM	~0.75%	15	57.5	1.5	3.83	0-2	No problems noted while injecting.
087-IP7012	18-Jun-13	1.0-6.0	2:49 PM	3:18 PM	~0.75%	29	115	3.0	3.97	0-2	No problems noted while injecting.
TOTAL VOLUME (Gallons)/ AVERAGE FLOW RATE (Gals/Min)							**2,702.5**	**108**	**2.87**		

Notes:

BGS =	Below Ground Surface
Gals =	Gallons
Min =	Minutes
Gals/Min =	Gallons per Minute
IP =	Injection Point
psi =	Pounds per Square Inch
CAPS =	Calcium Polysulfide

Cells shaded gray indicate that the concentration injected into a given location was ~0.75% as opposed to ~1.50% which was the proposed concentration. The concentration was reduced so that additional volume of reagent could be injected to the unsaturated zone to assist in obtaining increased radial distribution to verify propagation.

TABLE 3
SUMMARY OF IN-SITU INJECTION PROGRAM/MONITORING AT TREATMENT AREA 7 - SHALLOW

STUDY AREA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Monitoring Point ID	Type of Monitoring Point	Screened Depth (feet BGS)	Monitoring Date	Time	Water Depth (feet BGS)	Conductivity (uS)	ORP (mV)	pH	TDS (ppm)	H2S Reading (ppm)	H2S Smell	Water Color	Notes
087-TWPI-07001	TMP	0-6	17-Jun-13	11:45 AM	NA	NA	NA	NA	NA	None	None	No Water Available for Sample Collection	Wells were dry.
087-TWPI-07001			17-Jun-13	1:30 PM	NA	NA	NA	NA	NA	None	None	No Water Available for Sample Collection	Wells were dry.
087-TWPI-07001			17-Jun-13	4:30 PM	NA	NA	NA	NA	NA	None	None	No Water Available for Sample Collection	Wells were dry.
087-TWPI-07001			18-Jun-13	11:00 AM	NA	NA	NA	NA	NA	None	None	No Water Available for Sample Collection	Wells were dry.
087-TWPI-07001			18-Jun-13	2:00 PM	NA	NA	NA	NA	NA	None	None	No Water Available for Sample Collection	Wells were dry.
087-TWPI-07001			18-Jun-13	3:00 PM	NA	NA	NA	NA	NA	None	None	No Water Available for Sample Collection	Wells were dry.
087-TWPI-07002	TMP	0-6	17-Jun-13	11:45 AM	NA	NA	NA	NA	NA	None	None	No Water Available for Sample Collection	Wells were dry.
087-TWPI-07002			17-Jun-13	1:30 PM	NA	NA	NA	NA	NA	None	None	No Water Available for Sample Collection	Wells were dry.
087-TWPI-07002			17-Jun-13	4:30 PM	NA	NA	NA	NA	NA	None	None	No Water Available for Sample Collection	Wells were dry.
087-TWPI-07002			18-Jun-13	11:00 AM	NA	NA	NA	NA	NA	None	None	No Water Available for Sample Collection	Wells were dry.
087-TWPI-07002			18-Jun-13	1:00 PM	1.00	3563	-460	9.86	2646	0.0	Yes	Dark green/yellowish, black (turbid)	Injections into IP's 4, 10 and 11 were influencing this well.
087-TWPI-07002			18-Jun-13	2:00 PM	1.50	5488	-470	10.17	4304	0.0	Yes	Dark green/yellowish, brown (turbid)	Injections into IP's 4, 10 and 11 were influencing this well.
087-TWPI-07002			18-Jun-13	3:00 PM	1.50	NA	NA	NA	NA	None	Yes	Dark green/yellowish, brown (turbid)	Injections into IP's 4, 10 and 11 were influencing this well.
087-TWPI-07003	TMP	0-6	17-Jun-13	11:45 AM	NA	NA	NA	NA	NA	None	None	No Water Available for Sample Collection	Wells were dry.
087-TWPI-07003			17-Jun-13	1:30 PM	NA	NA	NA	NA	NA	None	None	No Water Available for Sample Collection	Wells were dry.
087-TWPI-07003			17-Jun-13	4:30 PM	NA	NA	NA	NA	NA	None	None	No Water Available for Sample Collection	Wells were dry. Oxygen levels were going down (AMEC data).
087-TWPI-07003			18-Jun-13	11:00 AM	NA	NA	NA	NA	NA	None	None	No Water Available for Sample Collection	Wells were dry.
087-TWPI-07003			18-Jun-13	2:00 PM	NA	NA	NA	NA	NA	None	None	No Water Available for Sample Collection	Wells were dry.
087-TWPI-07003			18-Jun-13	3:00 PM	NA	NA	NA	NA	NA	None	None	No Water Available for Sample Collection	Wells were dry.
087-TWPI-07004	ULMP	0-6	17-Jun-13	11:45 AM	NA	NA	NA	NA	NA	None	None	No Water Available for Sample Collection	Wells were dry.
087-TWPI-07004			17-Jun-13	1:30 PM	NA	NA	NA	NA	NA	None	None	No Water Available for Sample Collection	Wells were dry.
087-TWPI-07004			17-Jun-13	4:30 PM	NA	NA	NA	NA	NA	None	None	No Water Available for Sample Collection	Wells were dry.
087-TWPI-07004			18-Jun-13	11:00 AM	NA	NA	NA	NA	NA	None	None	No Water Available for Sample Collection	Wells were dry.
087-TWPI-07004			18-Jun-13	3:00 PM	NA	NA	NA	NA	NA	None	None	No Water Available for Sample Collection	Wells were dry.
087-TWPI-07005	ULMP	0-6	17-Jun-13	11:45 AM	NA	NA	NA	NA	NA	None	None	No Water Available for Sample Collection	Wells were dry.
087-TWPI-07005			17-Jun-13	1:30 PM	NA	NA	NA	NA	NA	None	None	No Water Available for Sample Collection	Wells were dry.
087-TWPI-07005			17-Jun-13	4:30 PM	NA	NA	NA	NA	NA	None	None	No Water Available for Sample Collection	Wells were dry.
087-TWPI-07005			18-Jun-13	11:00 AM	NA	NA	NA	NA	NA	None	None	No Water Available for Sample Collection	Wells were dry.
087-TWPI-07005			18-Jun-13	3:00 PM	NA	NA	NA	NA	NA	None	None	No Water Available for Sample Collection	Wells were dry.

Notes:

TWP =	Temporary Well Point
BGS =	Below Ground Surface
uS =	Micro Siemens
mV =	Milli Volts
PPM =	Parts per Million
NA =	Parameter was not analyzed.
H2S =	Hydrogen Sulfide

Prepared By: DEN 8/22/14
Checked By:

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Treatment Program Summary (SA-6N - Area 7_082214.xlsx

TABLE 4
IN-SITU INJECTION LOG AT TREATMENT AREA 7 - DEEP

STUDY AREA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Injection Point ID	Injection Date	Injection Depth (feet BGS)	Injection Start Time	Injection Stop Time	CAPS Injection Concentration*	CAPS Injection Time (mins)	CAPS Injection Volume (gallons)	Stock Solution Volume (~29% CAPS) (gallons)	CAPS Injection Flow Rate (gals/min)	IP Pressure Range (psi)	Notes
087-IP7013	20-Jun-13	14.0-17.0	10:00 AM	10:53 AM	~6.0%	53	115	24.0	2.17	8-10	No problems noted while injecting.
087-IP7014	20-Jun-13	14.0-17.0	10:00 AM	11:07 AM	~6.0%	67	115	24.0	1.72	8-10	No problems noted while injecting.
087-IP7015	20-Jun-13	14.0-17.0	10:00 AM	10:56 AM	~6.0%	56	115	24.0	2.05	6-8	No problems noted while injecting.
087-IP7016	20-Jun-13	14.0-17.0	10:00 AM	11:10 AM	~6.0%	70	115	24.0	1.64	0-5	No problems noted while injecting.
087-IP7017	19-Jun-13	14.0-17.0	11:20 AM	11:56 AM	~6.0%	36	57.5	12.0	1.60	0-5	No problems noted while injecting.
087-IP7017	19-Jun-13	14.0-17.0	1:02 PM	1:25 PM	~6.0%	23	57.5	12.0	2.50	0-5	No problems noted while injecting.
087-IP7018	19-Jun-13	14.0-17.0	11:20 AM	11:56 AM	~6.0%	36	57.5	12.0	1.60	0-2	No problems noted while injecting.
087-IP7018	19-Jun-13	14.0-17.0	1:02 PM	1:25 PM	~6.0%	23	57.5	12.0	2.50	0-2	No problems noted while injecting.
087-IP7019	19-Jun-13	14.0-17.0	2:50 PM	3:30 PM	~6.0%	40	115	24.0	2.88	0-2	No problems noted while injecting.
087-IP7020	19-Jun-13	14.0-17.0	11:20 AM	11:56 AM	~6.0%	36	57.5	12.0	1.60	0-5	No problems noted while injecting.
087-IP7020	19-Jun-13	14.0-17.0	1:02 PM	1:25 PM	~6.0%	23	57.5	12.0	2.50	0-5	No problems noted while injecting.
087-IP7021	19-Jun-13	14.0-17.0	11:20 AM	11:56 AM	~6.0%	36	57.5	12.0	1.60	0-5	No problems noted while injecting.
087-IP7021	19-Jun-13	14.0-17.0	1:02 PM	1:25 PM	~6.0%	23	57.5	12.0	2.50	0-5	No problems noted while injecting.
TOTAL VOLUME (Gallons)/ AVERAGE FLOW RATE (Gals/Min)							**1,035**	**216**	**2.07**		

Notes:

BGS = Below Ground Surface
Gals = Gallons
Min = Minutes
Gals/Min = Gallons per Minute
IP = Injection Point
psi = Pounds per Square Inch
CAPS = Calcium Polysulfide
* = The concentration injected into a given location was ~6.0% as opposed to ~3.0% which was the proposed concentration. The concentration was increased because the vertical interval was decreased from 14-20 ft bgs (6 ft thickness) to 14-17 ft bgs (3 ft thickness) due to the depth of the underlying meadow mat occurring at ~17 ft bgs.

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Treatment Program Summary (SA-6N - Area 7_082214.xlsx
Prepared By: DEN 8/25/14
Checked By:

TABLE 5
SUMMARY OF IN-SITU INJECTION PROGRAM/MONITORING AT TREATMENT AREA 7 - DEEP

STUDY AREA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Monitoring Point ID	Type of Monitoring Point	Screened Depth (feet BGS)	Monitoring Date	Time	Water Depth (feet BGS)	Conductivity (uS)	ORP (mV)	pH	TDS (ppm)	H2S Reading (ppm)	H2S Smell	Water Color	Notes
087-TWPI-07001	TMP	14-18	19-Jun-13	10:20 AM	7.41	4229	-144	7.37	3241	0.0	None	Brown (turbid)	Baseline sample.
087-TWPI-07001			19-Jun-13	12:00 PM	1.15	2483	-190	7.32	1793	8.0	None	Brown (turbid)	
087-TWPI-07001			19-Jun-13	1:30 PM	0.00	2922	-405	8.58	2121	26.0	Yes	Dark Green	Injections into IP's 17, 18, 20 and 21 were influencing this well.
087-TWPI-07001			19-Jun-13	3:30 PM	5.70	2785	-412	8.45	2034	32.0	Yes	Green	Injections into IP's 17, 18, 20 and 21 were influencing this well.
087-TWPI-07001			20-Jun-13	8:30 AM	7.35	2792	-412	8.64	2048	53.0	Yes	Green	Injections into IP's 17, 18, 20 and 21 were influencing this well.
087-TWPI-07001			20-Jun-13	10:30 AM	1.40	2891	-415	8.58	2103	6.0	Yes	Green	Injections into IP's 17, 18, 20 and 21 were influencing this well.
087-TWPI-07001			20-Jun-13	11:45 AM	5.45	2910	-420	8.41	2107	0.0	Yes	Green	Injections into IP's 17, 18, 20 and 21 were influencing this well.
087-TWPI-07002	TMP	14-17	19-Jun-13	10:20 AM	7.45	3410	-112	6.98	2565	0.0	None	Brown (turbid)	Baseline sample.
087-TWPI-07002			19-Jun-13	12:00 PM	7.10	3133	-173	7.31	2310	1.0	None	Brown (turbid)	
087-TWPI-07002			19-Jun-13	1:30 PM	7.15	2817	-174	7.04	2027	1.0	None	Clear	
087-TWPI-07002			19-Jun-13	3:30 PM	7.10	2807	-160	7.31	2053	1.0	None	Clear	
087-TWPI-07002			20-Jun-13	8:30 AM	7.46	2738	-180	7.41	2004	0.0	None	Clear	
087-TWPI-07002			20-Jun-13	10:30 AM	2.77	2768	-164	7.40	2044	0.0	None	Clear	
087-TWPI-07002			20-Jun-13	11:45 AM	6.05	2896	-246	7.78	2101	1.0	Yes (slight odor)	Black	Injections into IP's 13, 14, 15 and 16 were influencing this well.
087-TWPI-07003	TMP	14-17	19-Jun-13	10:20 AM	9.00	2772	-143	7.64	2034	0.0	None	Brown (turbid)	Baseline sample.
087-TWPI-07003			19-Jun-13	12:00 PM	2.20	3018	-171	7.69	2212	1.0	None	Clear	
087-TWPI-07003			19-Jun-13	1:30 PM	3.45	2976	-125	7.73	2169	1.0	None	Clear	
087-TWPI-07003			19-Jun-13	3:30 PM	6.00	2907	-132	7.64	2116	0.0	None	Brown (slightly turbid)	
087-TWPI-07003			20-Jun-13	8:30 AM	7.52	2893	-170	7.73	2132	0.0	None	Brown (slightly turbid)	
087-TWPI-07003			20-Jun-13	10:30 AM	0.00	4021	-439	8.46	3016	433.0	Yes	Light Green	Injections into IP's 13, 14, 15 and 16 were influencing this well.
087-TWPI-07003			20-Jun-13	11:45 AM	5.27	3753	-435	8.43	2806	3.0	Yes	Green	Injections into IP's 13, 14, 15 and 16 were influencing this well.
087-TWPI-07004	ULMP	14-17	19-Jun-13	10:20 AM	7.75	3421	-173	7.47	2556	0.0	None	Brown (turbid)	Baseline sample.
087-TWPI-07004			19-Jun-13	12:00 PM	2.80	2987	-177	7.30	2193	1.0	None	Brown (turbid)	
087-TWPI-07004			19-Jun-13	1:30 PM	4.15	2980	-164	7.29	2179	0.0	None	Clear	
087-TWPI-07004			19-Jun-13	3:30 PM	5.70	2983	-144	7.24	2163	0.0	None	Clear	
087-TWPI-07004			20-Jun-13	8:30 AM	6.55	2977	-150	7.28	2203	0.0	None	Clear	
087-TWPI-07004			20-Jun-13	10:30 AM	4.95	2986	-141	7.27	2192	0.0	None	Clear	
087-TWPI-07004			20-Jun-13	11:45 AM	5.51	2946	-147	7.31	2146	0.0	None	Clear	
087-TWPI-07005	ULMP	14-17	19-Jun-13	10:20 AM	8.50	2400	-144	7.15	1730	0.0	None	Brown (slightly turbid)	Baseline sample.
087-TWPI-07005			19-Jun-13	12:00 PM	4.30	2701	-171	7.24	1974	0.0	None	Brown (slightly turbid)	
087-TWPI-07005			19-Jun-13	1:30 PM	5.30	2600	-159	7.26	1868	0.0	None	Clear	
087-TWPI-07005			19-Jun-13	3:30 PM	6.30	2835	-167	7.23	2051	0.0	None	Brown/Clear	
087-TWPI-07005			20-Jun-13	8:30 AM	6.90	2618	-135	7.28	1909	0.0	None	Brown/Clear	
087-TWPI-07005			20-Jun-13	10:30 AM	5.95	2758	-144	7.24	2018	0.0	None	Clear	
087-TWPI-07005			20-Jun-13	11:45 AM	6.35	2697	-161	7.25	1943	0.0	None	Clear	

Notes:

TWP =	Temporary Well Point
BGS =	Below Ground Surface
uS =	Micro Siemens
mV =	Milli Volts
PPM =	Parts per Million
NA =	Parameter was not analyzed.
H2S =	Hydrogen Sulfide

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Treatment Program Summary (SA-6N - Area 7_082214.xlsx

Prepared By: DEN 8/22/14
Checked By:

TABLE 6
IN-SITU INJECTION LOG AT TREATMENT AREA 8 - SHALLOW

STUDY AREA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Injection Point ID	Injection Date	Injection Depth (feet BGS)	Injection Start Time	Injection Stop Time	CAPS Injection Concentration	CAPS Injection Time (mins)	CAPS Injection Volume (gallons)	Stock Solution Volume (~29% CAPS) (gallons)	CAPS Injection Flow Rate (gals/min)	IP Pressure Range (psi)	Notes
087-IP8001	29-Jun-13	8.0-14.0	10:55 AM	11:21 AM	~2.5%	26	117.4	10.0	4.52	0-2	No problems noted while injecting.
087-IP8001	29-Jun-13	8.0-14.0	2:28 PM	2:58 PM	~2.5%	30	117.4	10.0	3.91	0-2	No problems noted while injecting.
087-IP8002	29-Jun-13	8.0-14.0	10:55 AM	11:19 AM	~2.5%	24	117.4	10.0	4.89	4-8	No problems noted while injecting.
087-IP8002	29-Jun-13	8.0-14.0	2:28 PM	2:53 PM	~2.5%	25	117.4	10.0	4.70	4-8	No problems noted while injecting.
087-IP8003	29-Jun-13	8.0-14.0	10:55 AM	11:21 AM	~2.5%	26	117.4	10.0	4.52	0-2	No problems noted while injecting.
087-IP8003	29-Jun-13	8.0-14.0	12:48 PM	1:12 PM	~2.5%	24	117.4	10.0	4.89	0-2	No problems noted while injecting.
087-IP8003	29-Jun-13	8.0-14.0	2:28 PM	2:46 PM	~2.5%	18	58.7	5.0	3.26	0-2	No problems noted while injecting.
087-IP8004	29-Jun-13	8.0-14.0	10:55 AM	11:22 AM	~2.5%	27	117.4	10.0	4.35	0-2	No problems noted while injecting.
087-IP8004	29-Jun-13	8.0-14.0	12:48 PM	1:08 PM	~2.5%	20	117.4	10.0	5.87	0-2	No problems noted while injecting.
087-IP8004	29-Jun-13	8.0-14.0	2:46 PM	3:06 PM	~2.5%	20	58.7	5.0	2.94	0-2	No problems noted while injecting.
087-IP8005	29-Jun-13	8.0-14.0	12:48 PM	1:13 PM	~2.5%	25	117.4	10.0	4.70	0-2	No problems noted while injecting.
087-IP8005	29-Jun-13	8.0-14.0	2:28 PM	2:59 PM	~2.5%	31	117.4	10.0	3.79	0-2	No problems noted while injecting.
087-IP8006	29-Jun-13	8.0-14.0	12:48 PM	1:10 PM	~2.5%	22	117.4	10.0	5.34	0-2	No problems noted while injecting.
TOTAL VOLUME (Gallons)/ AVERAGE FLOW RATE (Gals/Min)							**1,408.8**	**120**	**4.44**		

Notes:

BGS =	Below Ground Surface
Gals =	Gallons
Min =	Minutes
Gals/Min =	Gallons per Minute
IP =	Injection Point
psi =	Pounds per Square Inch
CAPS =	Calcium Polysulfide

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Treatment Program Summary_SA-6N - Area 8_082214.xlsx
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Checked By:

TABLE 7
SUMMARY OF IN-SITU INJECTION PROGRAM/MONITORING AT TREATMENT AREA 8 - SHALLOW

STUDY AREA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Monitoring Point ID	Type of Monitoring Point	Screened Depth (feet BGS)	Monitoring Date	Time	Water Depth (feet BGS)	Conductivity (uS)	ORP (mV)	pH	TDS (ppm)	H2S Reading (ppm)	H2S Smell	Water Color	Notes
087-MW-O29	Existing Shallow Monitoring Well	4.0-14.0	29-Jun-13	10:20 AM	5.35	5684	-119	7.09	4444	0.0	None	Black (turbid)	Baseline sample.
087-MW-O29			29-Jun-13	11:25 AM	4.85	5526	-138	7.07	4439	0.0	None	Clear	
087-MW-O29			29-Jun-13	1:30 PM	4.95	5527	-117	7.11	4288	0.0	None	Clear	
087-MW-O29			29-Jun-13	3:15 PM	4.44	5547	-250	7.29	4560	0.0	Yes (slight odor)	Black (turbid)	Injections into IP's 1, 2, 3 and 5 were influencing this well (slight changes observed).
087-MW-O29			30-Jun-13	7:30 AM	NA	5784	-149	7.33	4530	NA	None	Black (turbid)	
087-TWPI-08001	TMP	8-14	29-Jun-13	10:20 AM	5.68	5486	-132	6.96	4267	0.0	None	Brown (turbid)	Baseline sample.
087-TWPI-08001			29-Jun-13	11:25 AM	5.20	5337	-146	7.03	4123	0.0	None	Black (turbid)	
087-TWPI-08001			29-Jun-13	1:03 PM	0.50	13440	-422	9.32	11448	285.0	Yes	Light Green	Injections into IP's 3, 4, 5 and 6 were influencing this well.
087-TWPI-08001			29-Jun-13	1:30 PM	5.60	10650	-490	10.40	8756	0.0	Yes	Brown	Injections into IP's 3, 4, 5 and 6 were influencing this well.
087-TWPI-08001			29-Jun-13	3:15 PM	0.00	7880	-486	10.68	6132	0.0	Yes	Brown/ Orange	Injections into IP's 3, 4, 5 and 6 were influencing this well.
087-TWPI-08001			30-Jun-13	7:30 AM	NA	6685	-470	9.61	5285	NA	Yes	Brown/ Orange	Injections into IP's 3, 4, 5 and 6 were influencing this well.
087-TWPI-08002	TMP	8-14	29-Jun-13	10:20 AM	5.60	5675	-155	7.07	4441	0.0	None	Brown (turbid)	Baseline sample.
087-TWPI-08002			29-Jun-13	11:25 AM	4.70	5472	-142	7.08	4243	0.0	None	Clear (turbid)	
087-TWPI-08002			29-Jun-13	1:30 PM	5.05	5243	-138	7.14	4070	0.0	None	Grey/ Clear (turbid)	
087-TWPI-08002			29-Jun-13	3:15 PM	4.42	5291	-180	7.14	4088	0.0	None	Clear (turbid)	
087-TWPI-08002			30-Jun-13	7:30 AM	NA	5333	-87	7.10	4141	NA	None	Clear (turbid)	
087-TWPI-08003	ULMP	8-14	29-Jun-13	10:20 AM	5.45	6205	-142	7.13	4900	0.0	None	Brown (turbid)	Baseline sample.
087-TWPI-08003			29-Jun-13	11:25 AM	3.70	6533	-146	7.06	5145	0.0	None	Clear (turbid)	
087-TWPI-08003			29-Jun-13	1:30 PM	4.55	6082	-132	7.17	4750	0.0	None	Clear	
087-TWPI-08003			29-Jun-13	3:15 PM	4.34	6329	-163	7.18	4960	0.0	None	Clear (turbid)	
087-TWPI-08003			30-Jun-13	7:30 AM	NA	6149	-63	7.16	4846	NA	None	Clear (turbid)	

Notes:

TWP =	Temporary Well Point
MW =	Monitoring Well
BGS =	Below Ground Surface
uS =	Micro Siemens
mV =	Milli Volts
PPM =	Parts per Million
NA =	Parameter was not analyzed.
H2S =	Hydrogen Sulfide

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Treatment Program Summary_SA-6N - Area 8_082214.xlsx
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Checked By:

TABLE 8
IN-SITU INJECTION LOG AT TREATMENT AREA 8 - DEEP

STUDY AREA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Injection Point ID	Injection Date	Injection Depth (feet BGS)	Injection Start Time	Injection Stop Time	CAPS Injection Concentration*	CAPS Injection Time (mins)	CAPS Injection Volume (gallons)	Stock Solution Volume (~29% CAPS) (gallons)	CAPS Injection Flow Rate (gals/min)	IP Pressure Range (psi)	Notes
087-IP8007	30-Jun-13	15.0-17.5	10:40 AM	11:15 AM	~2.0%	35	117.4	8.0	3.35	18-20	No problems noted while injecting.
087-IP8007	30-Jun-13	15.0-17.5	11:58 AM	12:14 PM	~2.0%	16	58.7	4.0	3.67	25-30	No problems noted while injecting.
087-IP8008	30-Jun-13	15.0-17.5	10:40 AM	11:15 AM	~2.0%	35	117.4	8.0	3.35	10-12	No problems noted while injecting.
087-IP8009	30-Jun-13	15.0-17.5	10:40 AM	11:15 AM	~2.0%	35	117.4	8.0	3.35	0-5	No problems noted while injecting.
087-IP8010	30-Jun-13	15.0-17.5	10:40 AM	11:15 AM	~2.0%	35	117.4	8.0	3.35	5-10	No problems noted while injecting.
087-IP8010	30-Jun-13	15.0-17.5	11:58 AM	12:12 PM	~2.0%	14	58.7	4.0	4.19	5-10	No problems noted while injecting.
087-IP8011	30-Jun-13	15.0-17.5	11:58 AM	12:15 PM	~2.0%	17	58.7	4.0	3.45	0-6	No problems noted while injecting.
087-IP8012	30-Jun-13	15.0-17.5	11:58 AM	12:11 PM	~2.0%	13	58.7	4.0	4.52	0-6	No problems noted while injecting.
TOTAL VOLUME (Gallons)/ AVERAGE FLOW RATE (Gals/Min)							**704**	**48**	**3.66**		

Notes:

BGS = Below Ground Surface
Gals = Gallons
Min = Minutes
Gals/Min = Gallons per Minute
IP = Injection Point
psi = Pounds per Square Inch
CAPS = Calcium Polysulfide

* = The concentration injected into a given location was ~2.0% as opposed to ~1.0% which was the proposed concentration. The concentration was increased because the vertical interval was decreased from 16-22 ft bgs (6 ft thickness) to 15-17.5 ft bgs (2.5 ft thickness) due to the depth of the underlying meadow mat occurring at ~17.0-17.5 ft bgs.

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Treatment Program Summary_SA-6N - Area 8_082214.xlsx
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Checked By:

TABLE 9
SUMMARY OF IN-SITU INJECTION PROGRAM/MONITORING AT TREATMENT AREA 8 - DEEP

STUDY AREA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Monitoring Point ID	Type of Monitoring Point	Screened Depth (feet BGS)	Monitoring Date	Time	Water Depth (feet BGS)	Conductivity (uS)	ORP (mV)	pH	TDS (ppm)	H2S Reading (ppm)	H2S Smell	Water Color	Notes
087-MW-O29	Existing Shallow Monitoring Well	4.0-14.0	30-Jun-13	10:30 AM	5.40	5784	-149	7.33	4530	0.0	None	Black (turbid)	Baseline sample.
087-MW-O29			30-Jun-13	11:10 AM	4.10	5602	-155	7.14	4364	0.0	None	Clear (turbid)	
087-MW-O29			30-Jun-13	12:20 PM	4.35	5727	-164	7.19	4427	0.0	None	Clear	
087-TWPI-08001	TMP	15-17.5	30-Jun-13	10:30 AM	16.60	7493	28	7.73	5939	0.0	None	Black (turbid)	Baseline sample.
087-TWPI-08001			30-Jun-13	11:10 AM	16.75	7906	-66	8.04	6282	0.0	None	Black (turbid)	Injections into IP's 7, 8, 9 and 10 were influencing this well (slight changes observed).
087-TWPI-08001			30-Jun-13	12:20 PM	16.68	7747	13	8.22	6114	0.0	None	Brown (turbid)	Injections into IP's 7, 10, 11 and 12 were influencing this well (slight changes observed).
087-TWPI-08002	15-17.5	15-17.5	30-Jun-13	10:30 AM	11.52	6276	38	7.67	4957	0.0	None	Clear (turbid)	Baseline sample.
087-TWPI-08002			30-Jun-13	10:55 AM	1.00	5482	-408	8.30	4276	10.5	Yes	Green (turbid)	Injections into IP's 7, 8, 9 and 10 were influencing this well.
087-TWPI-08002			30-Jun-13	11:10 AM	2.50	5541	-405	8.38	4308	13.0	Yes	Green	Injections into IP's 7, 8, 9 and 10 were influencing this well.
087-TWPI-08002			30-Jun-13	12:20 PM	6.00	5603	-422	8.27	4313	13.0	Yes	Green (turbid)	Injections into IP's 7, 8, 9 and 10 were influencing this well.
087-TWPI-08003	ULMP	15-17.5	30-Jun-13	10:30 AM	14.64	5751	12	7.60	4399	0.0	None	Brown (turbid)	Baseline sample.
087-TWPI-08003			30-Jun-13	11:10 AM	14.10	5500	-106	7.42	4251	0.0	None	Brown (turbid)	
087-TWPI-08003			30-Jun-13	12:20 PM	14.80	5622	64	7.44	4320	0.0	None	Brown (turbid)	

Notes:

TWP =	Temporary Well Point
MW =	Monitoring Well
BGS =	Below Ground Surface
uS =	Micro Siemens
mV =	Milli Volts
PPM =	Parts per Million
NA =	Parameter was not analyzed.
H2S =	Hydrogen Sulfide

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Treatment Program Summary_SA-6N - Area 8_082214.xlsx

Prepared By: DEN 8/22/14
Checked By:

TABLE 10A
SUMMARY OF 6-MONTH SOIL ANALYTICAL RESULTS AT IN-SITU TREATMENT AREA 7 - SHALLOW

STUDY AREA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Client Sample ID:		**Most Stringent NJ Residential Direct Contact Soil Remediation Standard**	**087-SB-H25***	**087-SB-454-0203**	**087-SB-454-0304**	**087-SB-455-0203**	**087-SB-455-0304**
Sample Depth (ft):			**2 - 4**	**2 - 3**	**3 - 4**	**2 - 3**	**3 - 4**
Lab Sample ID:				**JB69171-9**	**JB69171-10**	**JB69171-14**	**JB69171-15**
Date Sampled:			**11/20/1998**	**6/11/2014**	**6/11/2014**	**6/11/2014**	**6/11/2014**
TAL Metals Analysis							
Chromium	mg/kg	NS	307	43.3	15.3	456	883
General Chemistry							
Chromium, Hexavalent	mg/kg	20	**43.6 J**	2.8	2.3	<0.57	<0.56
Sulfide	mg/kg	NS	NT	<5.4	<5.5	<5.5	<5.5
pH	su	NS	NT	7.05	7.29	6.83	6.89

Notes:
*The original sample ID for the remedial investigation sample that exceeded 20 mg/kg for hexavalent chromium.
Bold and highlighted values are above the most stringent NJDEP RDCSRS.
NS = No Standard.
J = Estimated Value

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Table 10 TA 7 6 Mon Data_082514.xlsx
Prepared By: DEN 8/25/14
Checked By:

TABLE 10B
SUMMARY OF 6-MONTH SOIL ANALYTICAL RESULTS AT IN-SITU TREATMENT AREA 7 - DEEP

STUDY AREA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Client Sample ID:		**Most Stringent NJ Residential Direct Contact Soil Remediation Standard**	**087-SB-H25***	**087-SB-454-1617**	**087-SB-454-1718**	**087-SB-455-1617**	**087-SB-455-1718**
Sample Depth (ft):			**16 - 18**	**16 - 17**	**17 - 18**	**16 - 17**	**17 - 18**
Lab Sample ID:				**JB69171-11**	**JB69171-12**	**JB69171-16**	**JB69171-17**
Date Sampled:			**11/20/1998**	**6/11/2014**	**6/11/2014**	**6/11/2014**	**6/11/2014**
TAL Metals Analysis							
Chromium	mg/kg	NS	1,400	1,510	101	6,930	530
General Chemistry							
Chromium, Hexavalent	mg/kg	20	**84.4**	<0.79	4.6	<0.86	1.9
Sulfide	mg/kg	NS	NT	30.9	15.7	41.6	16.5
pH	su	NS	NT	8.49	8.24	7.99	8.27

Notes:
*The original sample ID for the remedial investigation sample that exceeded 20 mg/kg for hexavalent chromium.
Bold and highlighted values are above the most stringent NJDEP RDCSRS.
NS = No Standard.

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Table 10 TA 7 6 Mon Data_082514.xlsx
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Checked By:

TABLE 11A
SUMMARY OF 6-MONTH SOIL ANALYTICAL RESULTS AT IN-SITU TREATMENT AREA 8 - SHALLOW

STUDY AREA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Client Sample ID:		**Most Stringent NJ Residential Direct Contact Soil Remediation Standard**	**087-SB-O29***	**087-SB-452-1011**	**087-SB-452-1112**	**087-SB-453-1011**	**087-SB-453-1112**
Sample Depth (ft):			**10 - 12**	**10 - 11**	**11 - 12**	**10 - 11**	**11 - 12**
Lab Sample ID:				**JB69171-1**	**JB69171-2**	**JB69171-5**	**JB69171-6**
Date Sampled:			**6/12/1997**	**6/11/2014**	**6/11/2014**	**6/11/2014**	**6/11/2014**
Metals Analysis							
Chromium	mg/kg	NS	217	34.3	24.8	67	30.9
General Chemistry							
Chromium, Hexavalent	mg/kg	20	**68.8 J**	<0.54	0.73	1.3	<0.49
Sulfide	mg/kg	NS	NtT	<5.1	<5.4	<4.8	<4.9
pH	su	NS	NT	8.57	8.48	8.62	8.19

Notes:
*The original sample ID for the remedial investigation sample that exceeded 20 mg/kg for hexavalent chromium.
Bold and highlighted values are above the most stringent NJDEP RDCSRS.
NS = No Standard.
J = Estimated Value

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Table 11 TA 8 6-Mon Data_082514.xlsx
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TABLE 11B
SUMMARY OF 6-MONTH SOIL ANALYTICAL RESULTS AT IN-SITU TREATMENT AREA 8 - DEEP

STUDY AREA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Client Sample ID:		**Most Stringent NJ Residential Direct Contact Soil Remediation Standard**	**087-SB-O29***	**087-SB-452-1718**	**087-SB-452-1819**	**087-SB-453-1718**	**087-SB-453-1819**
Sample Depth (ft):			**18 - 20**	**17 - 18**	**18 - 19**	**17 - 18**	**18 - 19**
Lab Sample ID:				**JB69171-3**	**JB69171-4**	**JB69171-7**	**JB69171-8**
Date Sampled:			**6/12/1997**	**6/11/2014**	**6/11/2014**	**6/11/2014**	**6/11/2014**
Metals Analysis							
Chromium	mg/kg	NS	9.4	30.7	9.1	102	4.2
General Chemistry							
Chromium, Hexavalent	mg/kg	20	**<25.4 J**	<0.70	<9.1	0.79	<11
Sulfide	mg/kg	NS	NT	15.2	<17	13.4	<20
pH	su	NS	NT	8.38	7.58	8.35	7.62

Notes:
*The original sample ID for the remedial investigation sample that exceeded 20 mg/kg for hexavalent chromium.
Bold and highlighted values are above the most stringent NJDEP RDCSRS.
NS = No Standard.
J = Estimated Value

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Table 11 TA 8 6-Mon Data_082514.xlsx
Prepared By: DEN 8/25/14
Checked By:

PHOTOS

Photo 1: Geoprobe® direct push drill rig.

Photo 2: Double diaphragm pumps

Photo 3: Injecting Into 4 Injection Points

Photo 4: Groundwater Sample from a TMP

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

August 10, 2016 ***via Electronic Delivery***

The Honorable Robert G. Torricelli
Office of the Special Master
RGTSpecialMaster@aol.com

Re: 3 Year Sampling Results
Treatment Areas 7 and 8
Study Area 6 North (Site 087)
Jersey City, New Jersey

Dear Senator Torricelli:

Honeywell's engineer, Amec Foster Wheeler, has prepared the enclosed memorandum that summarizes the 3-year post-treatment performance assessment for the in-situ Treatment Areas 7 and 8 (TA-7 and TA-8). The locations and depths of the soil sampling program were finalized with Plaintiffs in recent written and email correspondence, as described in the attached Amec Foster Wheeler memo.

The data indicates that fifteen of the sixteen sample results for hexavalent chromium are below 20 milligrams per kilogram (mg/kg) Guideline. Honeywell is evaluating which option, re-treat or excavate, makes the most sense for the one area where there was an exceedence at a concentration of 26.3 mg/kg.

We are prepared to discuss this matter further at the next All Parties meeting. If you have any questions in the meantime, please call me at (973) 455-2175.

Sincerely,

William J. Hague
Global Remediation Director
Design and Construction

WJH:dn/sgf

Encl: 08/08/16 Amec Foster Wheeler Technical Memorandum: Study Area 6 North – 3 Year Sampling At TA-7 & TA-8

cc: (electronic copy only)
Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall
Jason Watson – City Hall
Agnieszka Antonian - Connell Foley LLP
Kevin Coakley, Esq. - Connell Foley LLP
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP

Dr. Benjamin Ross - Disposal Safety, Inc.
Tom Byrne - Honeywell
Maria Kaouris - Honeywell
John Morris - Honeywell
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP
Steve Egnaczyk - The Louis Berger Group, Inc.
Thomas Lewis - The Louis Berger Group, Inc.
Mary Hogan - Walsh Pizzi O'Reilly Falanga LLP
Hector Ruiz - Walsh Pizzi O'Reilly Falanga LLP
Liza Walsh - Walsh Pizzi O'Reilly Falanga LLP

Memo

Date: August 8, 2016

From: Joe Clifford/Dennis Nagg – Amec Foster Wheeler

To: Bill Hague – Honeywell

cc: John Morris, Maria Kaouris, John Mojka – Honeywell

Subject: Study Area 6 North – 3 Year Sampling At TA-7 & TA-8

In accordance with the approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 2013 (Revised WP) prepared by Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler), Amec Foster Wheeler implemented the 3-year post-treatment performance assessment soil sampling within in-situ Treatment Areas 7 and 8 (TA-7 and TA-8). The in-situ injections in TA-7 and TA-8 were implemented between June 17, 2013 and June 30, 2013 as summarized in a memo dated September 4, 2014. The 3-Year soil sampling occurred on June 27, 2016. These areas are adjacent to active pipelines at SA-6 North (the Site) as shown on the attached Figure 2 (Revised) borrowed from the Revised Work Plan.

The 3-Year sampling program was implemented in accordance with the following correspondence regarding the 6-month performance assessment sampling between Honeywell and the Parties:

- Plaintiffs' comments, dated December 4, 2014;
- Honeywell response, dated February 4, 2015;
- Plaintiffs' comments, dated March 6, 2015;
- Honeywell response, dated March 30, 2015; and
- Plaintiffs' comments, dated April 16, 2015.

Based upon their comments regarding the 6-month performance assessment sampling, Plaintiffs requested slight adjustments in the 3-Year sampling program soil boring locations and sample depths. The locations of borings and sample depths were finalized in the following recent correspondence regarding the 3-Year sampling program between Honeywell and the Parties:

- Honeywell memo, dated June 16, 2016
- Email correspondence from Ben Ross, dated June 17, 2016

200 American Metro Blvd
Suite 113
Hamilton, NJ 08619
609-689-2829
amecfw.com

Upon mobilization, additional minor adjustments were made in the field based upon detection of underground utilities and other subsurface obstructions using geophysical equipment. The "as-built" soil boring locations are shown on the attached Figure 1 for TA-7 and Figure 2 for TA-8.

TA-7

For the shallow sampling interval in TA-7, the Revised WP proposed to collect samples from 2 to 3 ft. below ground surface (bgs) and 3 to 4 ft bgs from two borings each. Thus, four samples were collected as proposed from the shallow sampling interval at shallow soil boring locations 087-SB-659 and 087-SB-660. As agreed to with All Parties in the previous correspondence, borings for the shallow sampling intervals were separated from borings for the deeper sampling intervals.

For the deep sampling interval in TA-7, the Revised WP proposed to collect samples from 16 to 17 ft bgs and 17 to 18 ft bgs from two borings each. Two samples were collected as proposed from 16 to 17 ft bgs and from 17 to 17.5 ft bgs at the deep soil boring locations 087-SB-661 and 087-SB-662. Boring 087-SB-662 was adjusted to the northeast to avoid contact with reinforcing steel in the edge of the concrete pad in this area. The deeper interval was collected from a 6-inch interval from 17 to 17.5 ft bgs rather than the proposed 12-inch interval because meadow mat was found at 17.5 ft bgs. Thus, four samples were collected from the deep sampling interval.

TA-8

For the shallow sampling interval in TA-8, the Revised WP proposed to collect samples from 10 to 11 ft bgs and 11 to 12 ft bgs from two borings each. As agreed to with All Parties in the previous correspondence, shallow and deep samples were to be collected from one of the borings in TA-8 (087-SB-657) while two separate borings were to be drilled to collect the shallow sampling interval (087-SB-658) and the deeper sampling interval (087-SB-663) elsewhere in TA-8. However, because of lack of sample recovery at the 10 to 12 ft depth interval in soil boring 087-SB-657, this boring was also spilt into two separate adjacent borings (087-SB-657A for the shallow sampling and 087-SB-657B for the deep sampling). Soil borings 087-SB-658 was drilled at the proposed location and shallow samples were collected from this boring as proposed. Thus, four samples were collected as proposed from the shallow sampling interval.

For the deep sampling interval in TA-8, the Revised WP proposed to collect samples from 16 to 17 ft bgs and 17 to 18 ft bgs from two borings each. Soil borings 087-SB-657B and 087-SB-663 were drilled to collect samples from the deep intervals. Two samples were collected as proposed from the 16 to 17 ft bgs. The deeper interval was collected from a 6-inch interval from 17 to 17.5 ft bgs rather than the proposed 12-inch interval because meadow mat was found at 17.5 ft bgs. Thus, four samples were collected from the deep sampling interval.

As indicated in the Revised WP, all soil samples from both TA-7 and TA-8 were analyzed for hexavalent chromium, total chromium, and sulfide. The attached Table 1 summarizes the sample results. Fifteen of the sixteen sample results for hexavalent chromium are below 20 milligrams per kilogram (mg/kg). Due to the exceedance of one shallow sample at TA-7 that

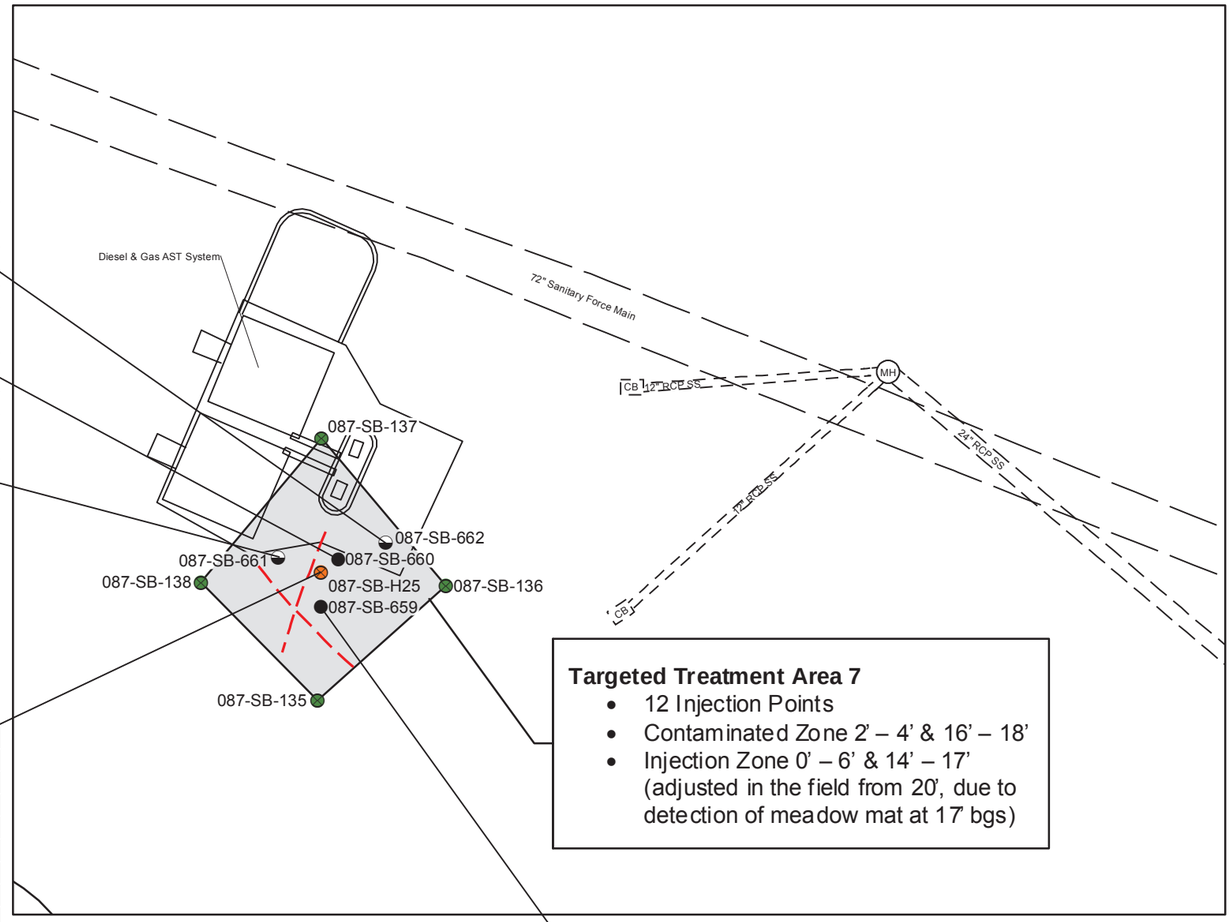
exceeds 20 mg/kg for hexavalent chromium, Honeywell is evaluating options for either re-injecting in this area or excavating the shallow soils.

FIGURE 1
Treatment Area 7
In-situ Chemical Injection Treatment Process

087-SB-662		
Sample Depth	16 - 17	17 - 17.5
Sample Date	6/27/2016	6/27/2016
HEXAVALENT CHROMIUM	0.92 U	1.7

087-SB-660		
Sample Depth	2 - 3	3 - 4
Sample Date	6/27/2016	6/27/2016
HEXAVALENT CHROMIUM	**26.3 J**	1.3

087-SB-661		
Sample Depth	16 - 17	17 - 17.5
Sample Date	6/27/2016	6/27/2016
HEXAVALENT CHROMIUM	0.77 U	1.7

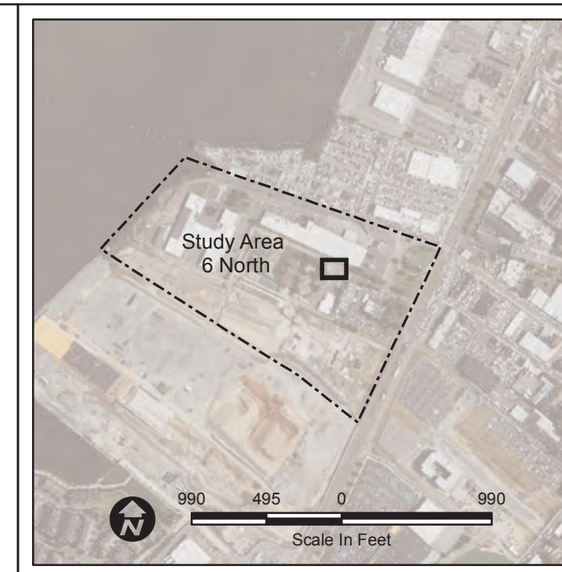


Targeted Treatment Area 7

- 12 Injection Points
- Contaminated Zone 2' – 4' & 16' – 18'
- Injection Zone 0' – 6' & 14' – 17' (adjusted in the field from 20', due to detection of meadow mat at 17' bgs)

087-SB-H25		
02-04	**43.6**	J
04-06	7.6	J
06-08	2	U
08-10	2	U
10-12	2	U
14-16	2	U
16-18	**84.4**	
18-20	2	U

087-SB-659		
Sample Depth	2 - 3	3 - 4
Sample Date	6/27/2016	6/27/2016
HEXAVALENT CHROMIUM	0.54 U	0.55 U



Legend

- Shallow Soil Boring
- Deep Soil Boring
- Previous Soil Sample Location (Hexavalent Chromium Result < 20 ppm)
- Previous Soil Sample Location (Hexavalent Chromium Result > 20 ppm)
- SS Storm Sewer
- CB Catch Basin
- MH Manhole
- Buried Electrical Utility
- Treatment Area 7

20 10 0 20
Scale In Feet

Project Number:
3480150488

Prepared/Date:
WSL 06/22/2016

Checked/Date:
DEN 06/22/2016

amec foster wheeler

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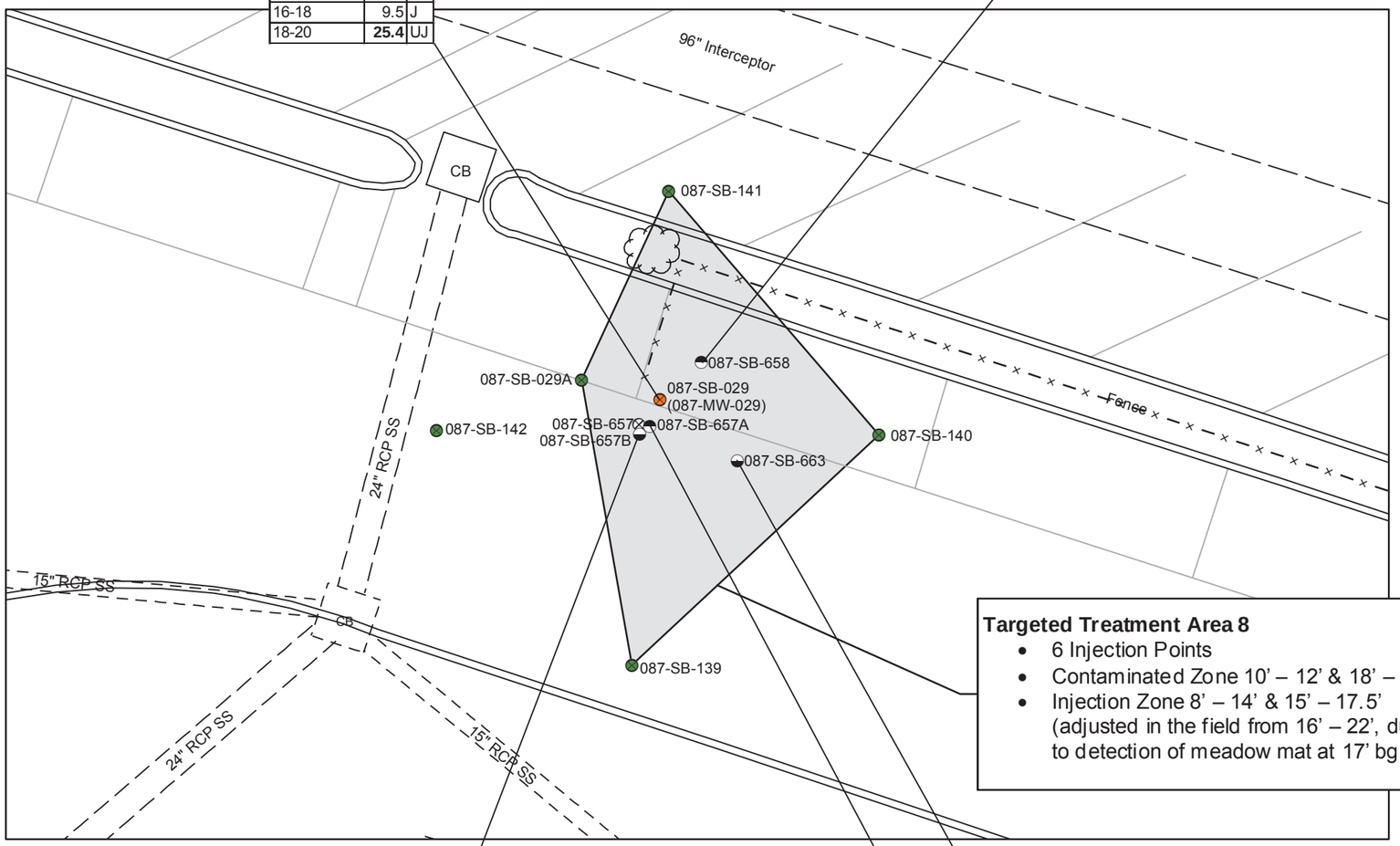
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

Figure 1
Treatment Area 7
In-situ Chemical Injection Treatment Process
Study Area 6 North
Jersey City, New Jersey

FIGURE 2
Treatment Area 8
In-situ Chemical Injection Treatment Process

087-SB-O29		
00-02	4.5	J
02-04	2.5	UJ
04-06	2.5	UJ
06-08	4.1	J
08-10	5.5	J
10-12	**68.8**	J
12-14	2.5	UJ
14-16	13.7	J
16-18	9.5	J
18-20	**25.4**	UJ

087-SB-658		
Sample Depth	10 - 11	11 - 12
Sample Date	6/27/2016	6/27/2016
HEXAVALENT CHROMIUM	0.74	0.49 U



Targeted Treatment Area 8

- 6 Injection Points
- Contaminated Zone 10' – 12' & 18' – 20'
- Injection Zone 8' – 14' & 15' – 17.5' (adjusted in the field from 16' – 22', due to detection of meadow mat at 17' bgs)

087-SB-657B		
Sample Depth	15.5 - 16.5	16.5 - 17.5
Sample Date	6/27/2016	6/27/2016
HEXAVALENT CHROMIUM	0.81 U	0.82

087-SB-663		
Sample Depth	15.5 - 16.5	16.5 - 17.5
Sample Date	6/27/2016	6/27/2016
HEXAVALENT CHROMIUM	0.92	0.69 U

087-SB-657A		
Sample Depth	10 - 11	11 - 12
Sample Date	6/27/2016	6/27/2016
HEXAVALENT CHROMIUM	0.49 U	0.61

Legend

- Soil Boring (Refusal, No Samples Taken)
- Shallow Soil Boring
- Deep Soil Boring
- Previous Soil Sample Location (Hexavalent Chromium Result < 20 ppm)
- Previous Soil Sample Location (Hexavalent Chromium Result > 20 ppm)
- SS Storm Sewer
- CB Catch Basin
- MH Manhole
- Treatment Area 8

10 5 0 10
Scale In Feet

Project Number:
3480150488

Prepared/Date:
WSL 06/26/2013

Checked/Date:
DEN 06/14/2016

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HAMILTON, NEW JERSEY 08619

Figure 2
Treatment Area 8
In-situ Chemical Injection Treatment Process
Study Area 6 North
Jersey City, New Jersey

TABLE 1
Summary of 3-Year Soil Analytical Results

TABLE 1
SUMMARY OF 3-YEAR SOIL ANALYTICAL RESULTS

IN-SITU TREATMENT AREA 7 & 8

SA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Area/Sample Interval			**TA-7/Shallow**				**TA-7/Deep**				**TA-8/Shallow**				**TA-8/Deep**			
Client Sample ID:		**NJ Residential Soil Criteria**	**087-SB-659**	**087-SB-659**	**087-SB-660**	**087-SB-660**	**087-SB-661**	**087-SB-661**	**087-SB-662**	**087-SB-662**	**087-SB-657A**	**087-SB-657A**	**087-SB-658**	**087-SB-658**	**087-SB-657B**	**087-SB-657B**	**087-SB-663**	**087-SB-663**
Sample Depth (ft):			**2-3**	**3-4**	**2-3**	**3-4**	**16-17**	**17-17.5**	**16-17**	**17-17.5**	**10-11**	**11-12**	**10-11**	**11-12**	**15.5-16.5**	**16.5-17.5**	**15.5-16.5**	**16.5-17.5**
Lab Sample ID:			**JC23027-9**	**JC23027-10**	**JC23027-11/11R/11T**	**JC23027-12**	**JC23027-13**	**JC23027-14**	**JC23027-16/16R**	**JC23027-17**	**JC23027-1**	**JC23027-2**	**JC23027-5/5R**	**JC23027-6**	**JC23027-3/3R**	**JC23027-4**	**JC23027-7/7R**	**JC23027-8**
Date Sampled:			**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**	**6/27/2016**
TAL Metals Analysis																		
Chromium	mg/kg	NS	598	196	382	19.4	5,050	168	6,450	142	21.7	11	102	17.8	1,980	64.6	719	63.8
General Chemistry																		
Chromium, Hexavalent	mg/kg	20	<0.54	<0.55	**26.3**	1.3	<0.77	1.7	<0.92	1.7	<0.49	0.61	0.74	<0.49	<0.81	0.82	0.92	<0.69
Sulfide	mg/kg	NS	<5.2	<5.5	<4.9	<5.2	26.2	31.7	26.2	23	4.8	4.8	7.3	<4.9	15.1	6.6	18.5	6.6
pH	su	NS	7.2	6.98	7.52	7.33	8.08	7.78	8.11	7.91	8.04	7.88	8.32	8.11	7.75	7.67	7.61	7.55

Notes:
Bold and highlighted values are above the NJ Residential Soil Criteria
NS = No Standard.

Prepared By: JLD 7/19/16
Checked By: DEN 7/19/16

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

January 12, 2017 ***via Electronic Transmittal***

The Honorable Robert G. Torricelli
Office of the Special Master
RGTSpecialMaster@aol.com

Re: Summary of Additional In-Situ Injection of Calcium Polysulfide for Treatment of Hexavalent Chromium Impacted Soils Treatment Area 10-1 Study Area 6 (SA-6) North (Site 087) Jersey City, New Jersey

Dear Senator Torricelli:

Honeywell's engineer, Amec Foster Wheeler, has prepared the enclosed technical memorandum providing a summary of the implementation of the recently completed additional in-situ injection program within the northern section of Area 10 (designated as TA 10-1) using calcium polysulfide (CAPS). This injection event was a follow-up to the initial in-situ event completed in September 2015 which was presented in correspondence entitled, Additional In-Situ Injection of Calcium Polysulfide for Treatment of Hexavalent Chromium Impacted Soils, dated July 11, 2016 (Proposed Implementation Plan) submitted by Honeywell to all Parties.

The Amec Foster Wheeler/ERFS team implemented the prolonged in-situ injection program at the Site in five events separated by at least one week between September 7, 2016 and October 26, 2016. On December 5, 2016, Amec Foster Wheeler implemented an interim soil sampling program using the same protocol as the post-treatment soil samples collected in March 2016.

As is evident in the attached soil sample data, the 2016 re-injection program was very successful in further reducing hexavalent chromium concentrations in soils in this area. Nineteen of the 20 samples are below the 20 mg/kg cleanup criteria and only one sample location is at 33 mg/kg. Amec Foster Wheeler/ERFS will remobilize and perform another treatment injection at this one exceedance location within the next several weeks.

We are prepared to discuss this matter further at the next All Parties call if the parties desire. If you have any questions in the meantime, please call me at (973) 455-2175.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:dn/sgf

Encl: 01/12/17 Amec Foster Wheeler Technical Memorandum: Summary of Proposed In-Situ Treatment Program for Hexavelent Chromium Impacted Soils – Additional CAPS Injections, SA-6 North, Site 087

cc: (electronic copy only)
Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall
Jason Watson – City Hall
Agnieszka Antonian - Connell Foley LLP
Kevin Coakley, Esq. - Connell Foley LLP
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP
Dr. Benjamin Ross - Disposal Safety, Inc.
Tom Byrne - Honeywell
William Hague - Honeywell
Maria Kaouris - Honeywell
John Morris - Honeywell
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP
Steve Egnaczyk - The Louis Berger Group, Inc.
Thomas Lewis - The Louis Berger Group, Inc.
Mary Hogan - Walsh Pizzi O'Reilly Falanga LLP
Hector Ruiz - Walsh Pizzi O'Reilly Falanga LLP
Liza Walsh - Walsh Pizzi O'Reilly Falanga LLP

Memo

Date: January 12, 2017

From: Joe Clifford/Dennis Nagg, Amec Foster Wheeler

To: Bill Hague – Honeywell

cc: John Morris, Maria Kaouris, John Mojka – Honeywell
Jeremy Karpatkin, Michael Daneker – A&P

Subject: Summary of Additional In-Situ Injection of Calcium Polysulfide for Treatment of Hexavalent Chromium Impacted Soils, SA-6 North, Treatment Area-10-1

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler), on behalf of Honeywell, has prepared this memorandum to summarize the recently completed additional injection of calcium polysulfide (CAPS) for in-situ treatment of hexavalent chromium (Cr(VI)) impacted soils in the northern section of Treatment Area 10 (TA-10-1) at SA-6 North, Site 087 (the Site, **Figure 2 (Revised)**). As described herein and shown by the attached tables and figures, we successfully implemented the re-injection of the proposed volumes of CAPS in the designated area consistent with the Additional In-Situ Injection of Calcium Polysulfide for Treatment of Hexavalent Chromium Impacted Soils, dated July 11, 2016 (Proposed Implementation Plan) submitted by Honeywell to all Parties. Additionally, Honeywell directed Amec Foster Wheeler to implement interim soil sampling approximately six weeks after the completion of the re-injection program to assess short-term Cr(VI) concentrations in soils in the area. As shown by the soils data, the results of that soil sampling program indicated marked reduction in Cr(VI) concentrations in soils compared to the previous soil sampling.

BACKGROUND

Amec Foster Wheeler retained ERFS of Lakewood, New Jersey to implement an initial in-situ treatment event in the TA-10-1 area between August and September 2015. This initial injection of CAPS was summarized in an October 12, 2015 technical memorandum submitted by Honeywell to all Parties. Following this initial CAPS injection, post-treatment soil samples were collected in March 2016 (approximately six months after the initial injection) to provide an early indication of the efficacy of this treatment. As detailed in a May 6, 2016 technical memorandum, post in-situ analytical results showed that the majority of areas treated were now below the 20 milligram per kilogram (mg/kg) standard for Cr(VI) in soil. However, 5 out of 20 sample points exceeded the

200 American Metro Blvd
Suite 113
Hamilton, NJ 08619
609-689-2829
amecfw.com

20 mg/kg Cr(VI) standard. Based on these results and due to the limited timeframe remaining before potential redevelopment, Honeywell proposed a supplemental CAPS injection program to further remediate soils in these areas in the Proposed Implementation Plan. As requested in a May 23, 2016 letter from Plaintiffs, Honeywell agreed to re-inject CAPS within all five original treatment points, not just the remaining areas of soil exceedances. Modifications were made to the initial approach which included a slower and prolonged injection delivery approach over the course of several weeks through injection wells installed in the area. In contrast, the initial injection program utilized a direct-injection approach where the entire volume of CAPS solution was injected over the course of two days.

On July 28, 2016, Honeywell submitted a new NJDEP Permit-by-Rule Discharge to Groundwater (PBR-DGW) Authorization request to NJDEP to implement the proposed re-injection program based on the July 11, 2016 Proposed Implementation Plan. NJDEP issued the requested PBR-DGW on August 4, 2016.

Amec Foster Wheeler again retained ERFS to implement the re-injections. The Amec Foster Wheeler/ERFS team implemented the prolonged injection delivery program at the Site in 5 events separated by at least one week between September 7, 2016 and October 26, 2016. The Amec Foster Wheeler/ERFS team implemented the in-situ program in accordance with the following documents:

- Honeywell's July 11, 2016 Proposed Implementation Plan; and
- NJDEP August 4, 2016 PBR-DGW;

In addition, although not revised specifically for the 2016 re-injection program, the 2016 re-injection program generally followed provisions of the following documents previously prepared for the initial injection program since the means and methods were essentially similar:

- Amec Foster Wheeler's Updated Work Plan for In-Situ Treatment of Chromium Impacted Soils, dated August 2015 (Updated Work Plan);
- ERFS' In-Situ Chemical Reduction Implementation Work Plan, dated September 2013;
- ERFS Health and Safety Plan, dated June 2013 (Revised July 2014)

TREATMENT AREA

As shown on **Figure 2 (Revised)** and **Figure 5A (Revised)**, the TA-10-1 area is the portion of TA-10 that is north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. TA-10 is located immediately proximate to and

north of the hydraulic barrier wall installed along the northern boundary of the SA-6 North Open Space Area and overlies a portion of the 72-inch sanitary sewer force main (FM) owned by Jersey City Municipal Utilities Authority that traverses this part of the Site. The depth to the chromium impacted material in this area is 12 to 14 feet below existing grade which is approximately at the same elevation as the bottom portion of the FM. Because of the proximity of the FM, excavation of impacted soils in TA-10 could structurally impact the FM during removal of the impacted soils; therefore, in-situ treatment of the chromium impacted material was preferred for this area. To allay concerns about impacts from sulfate on the concrete outer shell of the FM, Honeywell reviewed the proposed CAPS injection program with NJDEP and PVSC. Ultimately, it was agreed by all Parties that only impacted soils within subarea TA-10-1 would be treated with CAPS so that the injections are approximately 20 to 25 feet away from the FM. The remaining portion of TA-10, south of the northern curbline for the future Stegman Boulevard, will be capped by the Stegman Boulevard footprint.

MONITORING WELL AND TEMPORARY WELL POINT INSTALLATION

Three monitoring wells (MWs) and five temporary well points (TWPs) were installed by ERFS' subcontracted New Jersey-licensed driller (Summit Drilling) in August 2015 for the initial injection program. All MWs and TWPs were permitted with NJDEP as permanent wells. The MW identifications (IDs) are 087-MW-132, 087-MW-133, and 087-MW-134 and the TWP IDs are 087-TWP-37 through 087-TWP-41. Details of the installation and construction of the MWs and TWPs was provided in the summary of the implementation of the initial injection program, dated October 12, 2015, submitted by Honeywell to all Parties. Amec Foster Wheeler maintained these MWs and TWPs and used them for monitoring groundwater conditions during the 2016 re-injection program. The locations of the MWs and TWPs are shown on **Figure 5A (Revised)**.

INJECTION POINT INSTALLATION

The Proposed Implementation Plan detailed a delivery approach for the re-injection program where CAPS would be injected in specified dosages through injection points (IPs) in five separate events over a period of time. Thus, the IPs were installed first to facilitate the proposed dosage injections. ERFS retained B&B Drilling of Netcong, New Jersey to install the IPs (see Photo 1). B&B Drilling drilled and installed the IPs on August 25, 2016 and August 26, 2016.

The Proposed Implementation Plan specified the installation of ten IPs, grouped in 5 nested pairs, in the same general location as the previous 5 injection points from the initial injection program. The location of each of the 5 nested pairs is shown on **Figure 5A (Revised)**. Each pair of wells was installed no further than approximately 1 foot apart. Each IP was installed with 2-inch diameter PVC well screen and riser pipe. Both the initial and re-injection programs specified CAPS injections from 10 to 16 feet below ground surface (bgs) which was from 2 feet

above to 2 feet below the contaminated zone. To increase the vertical distribution of CAPS during the re-injection program, the IPs within each nested pair were screened at 3-foot intervals, one from 10 to 13 feet bgs and one from 13 to 16 feet bgs. Each of the 5 nested pair of IPs were given the IDs IP-10-1 through IP-10-5; an “A” suffix at the end of each IP ID denotes that the IP is the shallower screened interval, whereas a “B” suffix denotes that the IP is the deeper screened interval. Following installation, each IP was developed by pumping until the pumped water ran clear.

During drilling operations, the breathing zones at the drilling locations were monitored for volatile organic compounds (VOCs) and hydrogen sulfide (H_2S).All readings were non-detect.

CHEMICAL STORAGE/MIXING AREA MOBILIZATION

Because the re-injection program was designed to inject specified dosages over the course of 5 separate events, ERFS did not mobilize all of the required 29% stock CAPS solution at once. Instead, ERFS brought only the required volume of 29% stock CAPS needed for each of the injection events. The stock CAPS solution was obtained from the supplier and brought to the Site in 55-gallon plastic drums. For each event, ERFS mixed the prescribed volume of 29% stock CAPS solution in potable water to make the prescribed volume of diluted CAPS solution in a plastic mixing tank staged inside a utility van (see Photo 2). Potable water for mixing the diluted solution was obtained from a nearby fire hydrant. The 29% stock CAPS solution was transferred to the mixing tank from the drums using a drum pump. Only enough diluted CAPS solution was mixed for each of the separate injection events; no solution was kept over until the next event. Once the mixture was ready, the diluted CAPS solution was then transferred directly from the mixing tank on the truck to the IPs as described in the following section.

INJECTION PROGRAM

Tables 1 and 2 summarize the re-injection program. The five re-injection events occurred on the following dates:

- September 7, 2016;
- September 14, 2016;
- October 5, 2016;
- October 12, 2016; and
- October 26, 2016

As specified in the Proposed Implementation Plan, a total of 825 gallons of 29% stock CAPS solution was mixed with approximately 2,425 gallons of potable water to produce 3,250 gallons

of CAPS solution. Thus, for each of the five events, ERFS mixed 165 gallons of 29% stock CAPS solution and 485 gallons of potable water to make up 650 gallons of diluted CAPS solution. During each event, the ten IPs received 65 gallons of diluted CAPS solution. The prescribed volume of diluted CAPS solution was gravity fed from the mixing tank on ERFS' truck into the IPs utilizing hosing, valves, and associated fittings (see Photo 3). Occasionally, a transfer pump located between the tank on the truck and the IP was operated for a minute or two to start the flow, but was then shut off allowing the flow to continue by gravity. Ten gallons of clean potable water was flushed through the transfer hoses after each 65 gallons of diluted CAPS solution was injected into each IP to rinse the hoses and flush any solution remaining in the IP into the surrounding soil.

The area surrounding the injection locations was monitored for daylighting throughout the re-injection program. No daylighting occurred. During mixing operations and injections, the breathing zone in the work area and at the perimeter was monitored for odors and H_2S using a 4-gas meter and VOCs using a photoionization device. No elevated readings were measured.

Table 1 summarizes the operational parameters of the injection program as proposed in the Proposed Implementation Plan as well as those for the completed injection program to compare one to the other. Table 2 summarizes the volume of stock CAPs, diluted CAPs solution, and concentration of CAPs injected into each IP. In addition, the injection time and average flow rates for each area are presented on Table1.

GROUNDWATER MONITORING

Prior to the installation of the IPs, samples from each of the three MWs and five TWPs were collected for analysis of sulfide and sulfate to assess baseline groundwater conditions in subarea TA-10-1 on August 23, 2016. Following the first injection event, the sampling of the three MWs and five TWPs and analysis of sulfide and sulfate was repeated each week until November 8, 2016 (nine weekly post-injection sampling events) and again on December 7, 2016. The baseline and post-injection groundwater sample results are summarized on Table 3.

Of particular interest with respect to maintaining the integrity of the FM was sulfate concentrations in either one or both of 087-MW-133 and 087-MW-134 installed between subarea TA-10-1 and the FM. In the event that sulfate concentrations in these two sentinel MWs increased to a limit of 150 milligrams per liter (mg/L), a contingency plan would be implemented that called for clean potable water to be injected into both wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the FM. As seen on Table 3, sulfate concentrations in these 2 sentinel MWs remained well below the limit of 150 mg/L. However, because of the elevated sulfate concentrations in 087-MW-132 and 087-TWP-41 during the

December 7, 2016 sampling, as a precautionary measure, samples from 087-MW-133 and 087-MW-134 were again collected on December 21, 2016 to confirm that sulfate concentrations in the two sentinel MWs remained below the limit of 150 mg/L.

Prior to the start of injections (baseline), during injections, and following injections Amec Foster Wheeler and/or ERFS measured groundwater conditions in the MWs and TWPs in subarea TA-10-1. The following measurements were taken and recorded:

- Depth to groundwater;
- Groundwater quality parameters, including pH, oxidation/reduction potential (ORP), specific conductivity (SC), and total dissolved solids (TDS);
- Hydrogen sulfide (H_2S) and volatile organic compounds (VOCs) in the headspace of the PVC riser pipe; and
- Groundwater color and/or odor.

These results are summarized on Table 4. For brevity, only measurements of depth to groundwater, pH, ORP, and SC are included. By comparing the baseline monitoring data to measurements collected during or following injections distribution of the CAPS could be monitored. Following each injection event Amec Foster Wheeler and Mutch Associates reviewed the sulfide and sulfate and groundwater parameter data to assess the shallow groundwater conditions.

SOIL SAMPLING

In accordance with the Proposed Implementation Plan, Honeywell directed Amec Foster Wheeler to conduct an interim soil sampling program in the TA-10-1. The soil sampling program was implemented on December 5, 2016 using the same protocol as the post-treatment soil samples collected in March 2016 following the initial CAPS injection program. Ten borings (087-SB-710 through 087-SB-719) were drilled no more than 15 feet apart (shown on Figure 5A Revised), as close as possible to the March 2016 borings, and straddling the locations of the previous Remedial and/or Pre-Design Investigation borings where Cr(VI) was previously detected in concentrations above 20 mg/kg in soils. All soil borings were drilled with a Geoprobe® drill rig. Samples were extracted from the soil boring location in 4-foot long acetate sleeves fitted in the steel Geoprobe® tooling. Samples were collected at 1 foot intervals (12 to 13 and 13 to 14 feet bgs). All soil samples were analyzed for the following:

- Hexavalent chromium;
- Total chromium;

- Sulfide; and
- pH

On December 7, 2016, Amec Foster Wheeler also collected post injection groundwater samples from the 3 monitoring wells and 5 temporary well points that were installed in the TA-10-1 area during the injection program. A total of 8 groundwater samples were collected and analyzed for sulfide and sulfate.

The groundwater sample results are summarized on Table 4 and the soil sample results are summarized on Table 5. As seen from the soil data, all locations, but one, were reduced to below 20 mg/kg for Cr(VI). This sample is 087-SB-712 (13-14).

CONCLUSIONS

Key observations of the injection program are summarized below:

- The overall average injection flow rate for the Site was 3.33 gallons per minute.
- Propagation of injectant fluids was evidenced by one or more of the following:
    - Decrease in the depth to groundwater table in shallow MW and TWPs;
    - Marked increase in pH;
    - Marked decrease in ORP; and
    - Increases in SC or TDS.
- Sulfide concentrations in 087-MW-132, the MW in the center of the TA-10-1 subarea were much higher during the re-injection program as compared to the initial injection program. This suggests that groundwater conditions inside the boundary of the TA-10-1 area were more conducive to treatment of the remaining chromium-impacted soils. For comparison, Table 1 from the October 12, 2015 technical memorandum summarizing the initial injection of CAPS is included in Attachment 1.
- Elevated sulfide and sulfate concentrations were measured in TWP 087-TWP-41, which is east of the boundary of TA-10-1, indicating a preferential pathway in this direction. Since this direction is upgradient of the TA-10-1 area, groundwater is expected to flow back into the TA-10-1 area after the injections were completed. While slightly elevated sulfide and sulfate concentrations were detected in the TWPs and MWs located north, west, and south of the TA-10-1 area, they were not as high as those in TWP 087-TWP-41.

Based on the above summary, Amec Foster Wheeler concludes that the reinjection program was successfully implemented in accordance with the Proposed Implementation Plan. The interim soils data indicates successful reduction of Cr(VI) concentrations in soils to below 20 mg/kg in all

but one recalcitrant location. Consequently, an additional limited re-injection program in this one location is recommended below.

RECOMMENDATIONS

Amec Foster Wheeler recommends an additional limited re-injection of CAPS in the one recalcitrant location. This additional re-injection program is summarized as follows:

- The same volume of CAPS as that injected during the re-injection program described above will be injected into the closest IP to the 087-SB-712 soil boring location, 087-IP-10-1, which is 5 feet from the 087-SB-712 soil boring.
- A total volume of 650 gallons of an approximate 7% CAPS solution will be injected by diluting 165 gallons of 29% CAPS in 485 gallons of potable water.
- The injection will be divided into 2 equal injection events (325 gallons each) separated by no more than a week.
- Since the IP consists of a nested well pair screened at 10 to 13 feet bgs and 13 to 16 feet bgs, each 325 gallon injection will be divided equally amongst the two nested pairs.
- All other procedures activities will be generally identical to those indicated above for the re-injection program.
- Post-treatment groundwater samples will be collected from two TWPs (087-TWP-38 and 087-TWP-39) and all three MWs (087-MW-132, 087-MW-133, and 087-MW-134) for several weeks following completion of the additional limited re-injection program. Depending on the results, the post-treatment groundwater sampling may be terminated after 2 or 3 weeks.

To provide an early indication of the efficacy of the additional limited re-injection program, Honeywell will implement post-treatment re-sampling of the recalcitrant sample location 087-SB-712 (13-14) as early as February or March 2017. Subsequent post-treatment soil sampling may be implemented 6 months after the completion of the additional limited re-injection program in the third quarter 2017. Results of all soil sampling will be shared with the Parties upon receipt and validation/evaluation of the data.

FIGURES

LEGEND

- BLOCK/LOT LINE (APPROXIMATE LOCATION)
- STORM SEWER
- 72" FORCEMAIN SANITARY SEWER
- 96" COMBINED SEWER OUTLET
- 84" SANITARY SEWER
- 54" OUTFALL (ABANDONED)
- NORTHERN EDGE OF BAYFRONT REDEVELOPMENT CURBLINE OF NEW STEGMAN BOULEVARD
- PROPOSED SLURRY WALL
- 20–240 ppm HEXAVALENT CHROMIUM
- >240 ppm HEXAVALENT CHROMIUM
- EXISTING BUILDINGS
- SOIL EXCEEDANCE AREA >20 ppm HEXAVALENT CHROMIUM
- IN–SITU TREATMENT AREA

0 100 200 400
SCALE IN FEET

UTILITY LOCATIONS BASED ON ALTA/ASCM LAND TITLE SURVEY FOR BLOCK 1290.1 – LOTS 2D,2E,15D, 15B & 16A, DATED 5/23/08

REV.	DATE	STATUS	PRPD BY	CHKD BY

Amec Foster Wheeler PROJECT No. 3480150438
DRAWING: TARGETED IN–SITU TREATMENT AREAS–03

PREPARED/DATE: STR 06/09/15

CHECKED/DATE: DN 06/09/15

amec foster wheeler

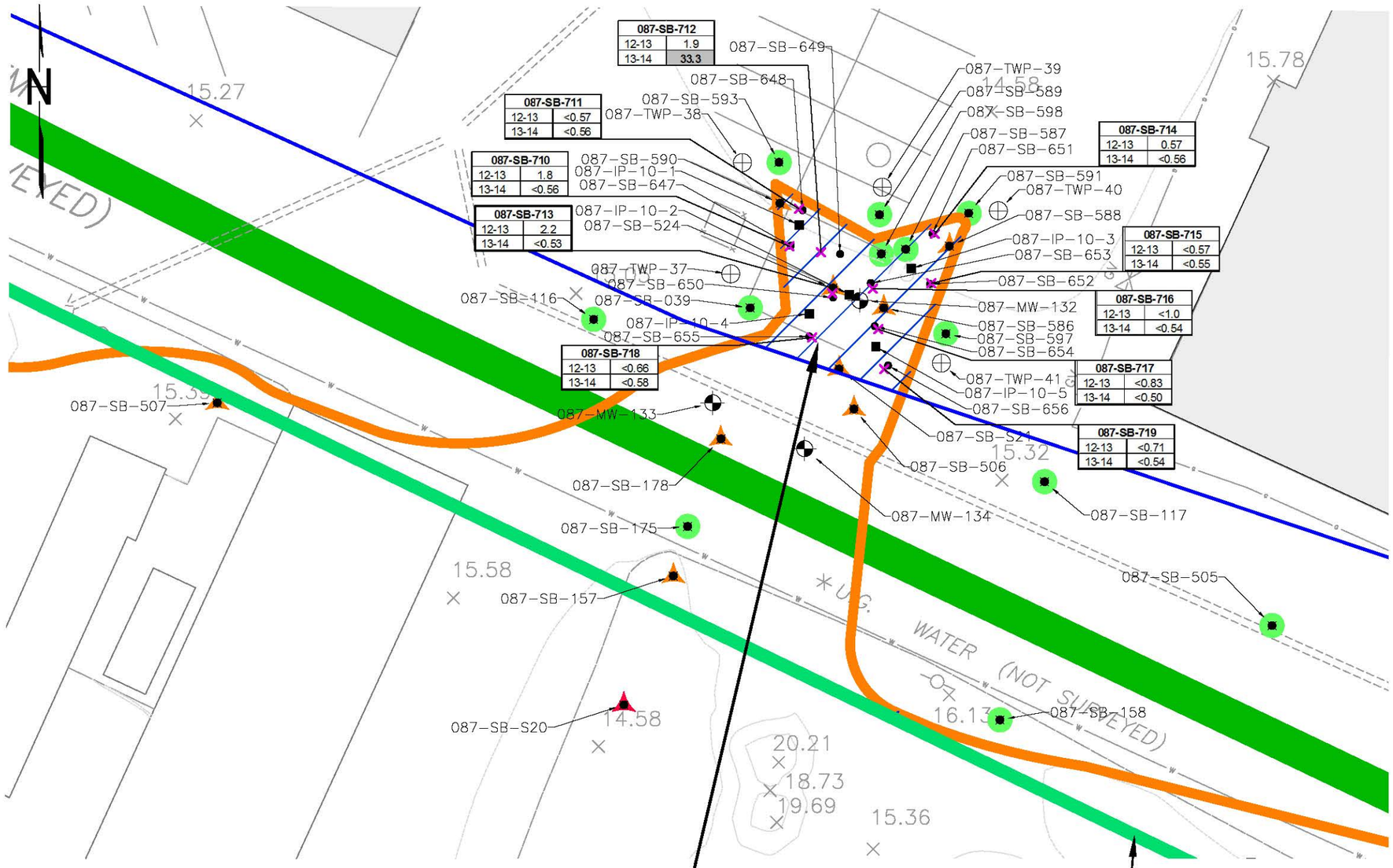
ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 2 (REVISED)
TARGETED IN-SITU
TREATMENT AREAS
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY

"WHICH THIS MAY BE DELIVERED, ANY OTHER USE OR RELIANCE ON THE DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY."

P:\CADD\HONEYWELL\JERSEY CITY\SA 6 NORTH\REPORT\3480150438\5710\CURRENT DRAWINGS\TARGETED IN-SITU TREATMENT AREAS-03.dwg Tue, 09 Jun 2015 - 3:54pm rcotl rudick Layout: FIG. 2

UNLESS OTHERWISE AGREED IN A WRITTEN CONTRACT BETWEEN AMEC FOSTER WHEELER AND ITS CLIENT: (I) THIS DOCUMENT CONTAINS INFORMATION, DATA AND DESIGN THAT IS CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (II) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN DELIVERED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.



TARGETED TREATMENT AREA 10-1

- 5 INJECTION POINTS – SPACED @ 15' O.C.
- CONTAMINATED ZONE 12'–14'
- INJECTION ZONE 10'–16'
- NUMBER OF INJECTION POINTS MAY BE ADJUSTED IN THE FIELD

AREA = APPROX. 800 SF

PROPOSED HYDRAULIC BARRIER WALL.

LEGEND

- DECEMBER 2016 SOIL BORING
- MARCH 2016 (6-MONTH) SOIL BORING
- PREVIOUS SOIL BORINGS
- EXISTING NEW PERMANENT MONITORING WELL LOCATION
- INJECTION POINT LOCATION
- EXISTING OBSERVATION TEMPORARY WELL POINT (TWP)
- <20 ppm HEXAVALENT CHROMIUM SAMPLE LOCATION
- 20–240 ppm HEXAVALENT CHROMIUM SAMPLE LOCATION
- >240 ppm HEXAVALENT CHROMIUM SAMPLE LOCATION
- BLOCK/LOT LINE (APPROXIMATE LOCATION)
- STORM SEWER
- 72" FORCEMAIN SANITARY SEWER
- 54" OUTFALL (ABANDONED)
- NORTHERN EDGE OF BAYFRONT REDEVELOPMENT CURBLINE OF NEW STEGMAN BOULEVARD
- LIMITS OF TARGETED IN-SITU TREATMENT
- RELOCATED HYDRAULIC BARRIER
- APPROXIMATE LIMITS OF AREA WHERE DETECTED HEXAVALENT CHROMIUM CONCENTRATION VALUES >20 mg/kg
- EXISTING BUILDINGS
- IN-SITU TREATMENT AREA
- U NOT DETECTED
- J ESTIMATED CONCENTRATION

UTILITY LOCATIONS BASED ON ALTA/ASCM LAND TITLE SURVEY FOR BLOCK 1290.1 – LOTS 2D,2E,15D, 15B & 16A, DATED 5/23/08

NOTE:

SEE FIGURE 2 FOR LOCATION OF DETAIL MAP.

0 10 20 40
SCALE IN FEET

REV.	DATE	STATUS	PRPD BY	CHKD BY
1	07/28/16	REVISED TO ADJUST INJECTION POINTS (INCLUDED IN 07/28/16 DGW-PBR APPLICATION)	STR	DEN

Amec Foster Wheeler PROJECT No. 3480150438
DRAWING: TARGETED IN-SITU TREATMENT NORTHERN PORTION 01

PREPARED/DATE: STR 06/05/15

CHECKED/DATE: DN 06/05/15

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 5A (REVISED)
PROPOSED TARGETED IN-SITU INJECTION NORTHERN PORTION OF TREATMENT AREA 10-1
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY

P:\CADD\HACKENSACK\JERSEY CITY\SA 6 NORTH\REPORT\3480150438\SA10\10\CURRENT DRAWINGS\TARGETED IN-SITU TREATMENT NORTHERN PORTION 01.dwg Thu, 12 Jan 2017 - 8:53am eceli rudick Layout: FIG 5A

TABLES

TABLE 1
SUMMARY OF IN-SITU INJECTION AREAS: TA-10-1

STUDY AREA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Area	Injection Date(s)	PROPOSED PER ERFS WORK PLAN						COMPLETED						Injection Time (mins)	Avg. Injection Flow Rate (gpm)	Minimum Radius of Influence (ft)	Notes
		Injection Depth (ft bgs)	No. of IPs	No. of TWPs	Stock Solution Volume (~29% CAPS) (gals)	Diluted CAPS Sol'n Injection Volume (gals)	Approx. CAPS Injection Conc (%)	Injection Depth (feet bgs)	No. of IPs	No. of TWPs	Stock Solution Volume (~29% CAPS) (gals)	Diluted CAPS Sol'n Injection Volume (gals)	Approx. CAPS Injection Conc (%)				
TA-10-1	9/7/2016, 9/14/2016, 10/5/2016, 10/12/2016, and 10/26/2016	10-16	10	5	825	3,250	7.36%	10-16	10	5	825	3,250	7.36%	1,307	3.33	10	No problems noted while injecting.

Notes:

ft =	Feet
bgs =	Below Ground Surface
TWPs =	Temporary Well Points
gals =	Gallons
mins =	Minutes
gpm =	Gallons per Minute
psi =	Pounds per Square Inch
CAPS =	Calcium Polysulfide
IP =	Injection Point

TABLE 2
INJECTION LOG DURING IN-SITU INJECTION PROGRAM: TA-10-1

STUDY AREA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Area	Injection Point (IP) ID	Injection Date	Injection Start Depth (ft bgs)	Injection End Depth (ft bgs)	CAPs Sol'n Injected Volume (Gals)	Diluted CAPs Sol'n Injected Volume (Gals)	Injected CAPs Conc (%)	Injection Time (Mins)	Injection Flow Rate (gpm)
TA-10	IP-10-1A	9/7/2016	16	10	16.5	65	7.36%	8	8.13
	IP-10-1B	9/7/2016			16.5	65	7.36%	30	2.17
	IP-10-2A	9/7/2016			16.5	65	7.36%	7	9.29
	IP-10-2B	9/7/2016			16.5	65	7.36%	18	3.61
	IP-10-3A	9/7/2016			16.5	65	7.36%	6	10.83
	IP-10-3B	9/7/2016			16.5	65	7.36%	23	2.83
	IP-10-4A	9/7/2016			16.5	65	7.36%	5	13.00
	IP-10-4B	9/7/2016			16.5	65	7.36%	42	1.55
	IP-10-5A	9/7/2016			16.5	65	7.36%	8	8.13
	IP-10-5B	9/7/2016			16.5	65	7.36%	20	3.25
TA-10	IP-10-1A	9/14/2016	16	10	16.5	65	7.36%	44	1.48
	IP-10-1B	9/14/2016			16.5	65	7.36%	31	2.10
	IP-10-2A	9/14/2016			16.5	65	7.36%	33	1.97
	IP-10-2B	9/14/2016			16.5	65	7.36%	31	2.10
	IP-10-3A	9/14/2016			16.5	65	7.36%	50	1.30
	IP-10-3B	9/14/2016			16.5	65	7.36%	20	3.25
	IP-10-4A	9/14/2016			16.5	65	7.36%	15	4.33
	IP-10-4B	9/14/2016			16.5	65	7.36%	24	2.71
	IP-10-5A	9/14/2016			16.5	65	7.36%	18	3.61
	IP-10-5B	9/14/2016			16.5	65	7.36%	14	4.64
TA-10	IP-10-1A	10/5/2016	16	10	16.5	65	7.36%	30	2.17
	IP-10-1B	10/5/2016			16.5	65	7.36%	38	1.71
	IP-10-2A	10/5/2016			16.5	65	7.36%	15	4.33
	IP-10-2B	10/5/2016			16.5	65	7.36%	24	2.71
	IP-10-3A	10/5/2016			16.5	65	7.36%	34	1.91
	IP-10-3B	10/5/2016			16.5	65	7.36%	17	3.82
	IP-10-4A	10/5/2016			16.5	65	7.36%	16	4.06
	IP-10-4B	10/5/2016			16.5	65	7.36%	16	4.06
	IP-10-5A	10/5/2016			16.5	65	7.36%	34	1.91
	IP-10-5B	10/5/2016			16.5	65	7.36%	36	1.81
TA-10	IP-10-1A	10/12/2016	16	10	16.5	65	7.36%	26	2.50
	IP-10-1B	10/12/2016			16.5	65	7.36%	33	1.97
	IP-10-2A	10/12/2016			16.5	65	7.36%	24	2.71
	IP-10-2B	10/12/2016			16.5	65	7.36%	22	2.95
	IP-10-3A	10/12/2016			16.5	65	7.36%	33	1.97
	IP-10-3B	10/12/2016			16.5	65	7.36%	19	3.42
	IP-10-4A	10/12/2016			16.5	65	7.36%	23	2.83
	IP-10-4B	10/12/2016			16.5	65	7.36%	15	4.33
	IP-10-5A	10/12/2016			16.5	65	7.36%	21	3.10
	IP-10-5B	10/12/2016			16.5	65	7.36%	19	3.42
TA-10	IP-10-1A	10/26/2016	16	10	16.5	65	7.36%	23	2.83
	IP-10-1B	10/26/2016			16.5	65	7.36%	40	1.63
	IP-10-2A	10/26/2016			16.5	65	7.36%	46	1.41
	IP-10-2B	10/26/2016			16.5	65	7.36%	35	1.86
	IP-10-3A	10/26/2016			16.5	65	7.36%	42	1.55
	IP-10-3B	10/26/2016			16.5	65	7.36%	40	1.63
	IP-10-4A	10/26/2016			16.5	65	7.36%	26	2.50
	IP-10-4B	10/26/2016			16.5	65	7.36%	39	1.67
	IP-10-5A	10/26/2016			16.5	65	7.36%	34	1.91
	IP-10-5B	10/26/2016			16.5	65	7.36%	40	1.63
Totals	**10 Injection points**	**9/7/2016, 9/14/2016, 10/5/2016, 10/12/2016, 10/26/2016**			**825.00**	**3,250**		**1,307**	

Notes:

ft = Feet
bgs = Below Ground Surface
TWPs = Temporary Well Points
gals = Gallons
mins = Minutes
gpm = Gallons per Minute
psi = Pounds per Square Inch
CAPS = Calcium Polysulfide
IP = Injection Point

TABLE 3
SUMMARY OF IN-SITU INJECTION GW MONITORING DATA: TA-10-1

STUDY AREA 6 North
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Monitoring Point ID	AmecFW/ ERFS	Baseline, During Injections, or Final	Monitoring Date	Time	Water Depth (ft bgs)	ORP (mV)	pH	Conductivity (uS)	Notes
087-TWP-37	AmecFW	Baseline	8/23/2016	8:54 AM	10.66	-157	7.27	0.99	Baseline Readings
	ERFS	Pre-Injection	9/7/2016	8:00 AM	10.74	-25	6.93	1.28	Pre-injections
	ERFS	During Injections	9/7/2016	10:45 AM	10.29	-203	7.62	1.44	Injection of CAPS
	ERFS	During Injections	9/7/2016	2:10 PM	10.15	-197	7.41	1.72	Post-Injections (All Injection Points)
	AmecFW	Between Injections	9/12/2016	9:13 AM	10.88	-89	7.18	1.40	Sampling Event
	ERFS	During Injections	9/14/2016	1:20 PM	10.33	-54	9.74	1.94	Injection of CAPS
	AmecFW	Between Injections	9/19/2016	11:25 AM	10.81	-109	8.19	1.57	Sampling Event
	AmecFW	Between Injections	9/21/2016	9:15 AM	10.85	-151	7.28	1.68	Reading Event (No Sample Taken)
	AmecFW	Between Injections	9/26/2016	11:00 AM	10.85	-217	7.24	1.69	Sampling Event
	AmecFW	Between Injections	9/29/2016	11:50 AM	10.93	-150	7.51	1.44	Reading Event (No Sample Taken)
	AmecFW	Between Injections	10/3/2016	8:40 AM	10.78	-124	7.44	1.85	Sampling Event
	ERFS/AmecFW	During Injections	10/5/2016	2:30 PM	10.24	-243	7.90	2.45	Post-Injections (All Injection Points)
	AmecFW	Between Injections	10/7/2016	12:25 PM	10.81	-155	7.35	1.95	Reading Event (No Sample Taken)
	AmecFW	Between Injections	10/10/2016	10:35 AM	10.85	-185	7.54	2.03	Sampling Event
	ERFS	Pre-Injection	10/12/2016	7:50 AM	10.81	-139	8.11	1.92	Pre-injections
	ERFS	During Injections	10/12/2016	11:05 AM	10.44	-139	8.91	2.57	Injection of CAPS
	ERFS	Post-Injections	10/12/2016	2:00 PM	9.79	-133	9.38	2.97	Post-Injections (All Injection Points)
	AmecFW	Between Injections	10/17/2016	10:00 AM	10.73	-154	7.46	1.95	Sampling Event
	AmecFW	Between Injections	10/24/2016	11:30 AM	10.84	-131	7.34	1.62	Sampling Event
	AmecFW	Pre-Injection	10/26/2016	8:15 AM	10.91	-167	7.45	1.17	Pre-injections
	AmecFW	During Injections	10/26/2016	2:23 PM	10.46	-183	8.19	2.26	Post-Injections (All Injection Points)
	AmecFW	Between Injections	10/31/2016	9:49 AM	10.69	-145	7.06	2.03	Sampling Event
	AmecFW	Between Injections	11/8/2016	11:30 AM	10.40	-143	7.06	1.31	Sampling Event
	AmecFW	Post-Injections	12/7/2016	11:40 AM	9.66	-319	7.70	2.12	6 Month Sampling Event
087-TWP-38	AmecFW	Baseline	8/23/2016	9:03 AM	10.64	-150	7.33	0.86	Baseline Readings
	ERFS	Pre-Injection	9/7/2016	8:00 AM	10.66	-106	7.37	1.15	Pre-injections
	ERFS	During Injections	9/7/2016	10:45 AM	10.30	-167	7.63	1.19	Injection of CAPS
	ERFS	During Injections	9/7/2016	2:10 PM	10.14	-162	7.58	1.27	Post-Injections (All Injection Points)
	AmecFW	Between Injections	9/12/2016	9:35 AM	10.81	-108	7.65	1.07	Sampling Event
	ERFS	During Injections	9/14/2016	1:20 PM	10.28	-117	9.36	1.23	Injection of CAPS
	AmecFW	Between Injections	9/19/2016	11:15 AM	10.73	-97	8.09	1.17	Sampling Event
	AmecFW	Between Injections	9/21/2016	9:20 AM	10.77	-145	7.42	1.02	Reading Event (No Sample Taken)
	AmecFW	Between Injections	9/26/2016	11:10 AM	10.78	-211	7.39	1.04	Sampling Event
	AmecFW	Between Injections	9/29/2016	12:00 PM	10.85	-148	7.48	1.00	Reading Event (No Sample Taken)
	AmecFW	Between Injections	10/3/2016	9:00 AM	10.71	-160	7.25	1.28	Sampling Event
	ERFS/AmecFW	During Injections	10/5/2016	2:30 PM	10.31	-234	8.17	1.23	Post-Injections (All Injection Points)
	AmecFW	Between Injections	10/7/2016	12:30 PM	10.73	-166	7.53	1.26	Reading Event (No Sample Taken)
	AmecFW	Between Injections	10/10/2016	10:40 AM	10.77	-167	7.58	1.16	Sampling Event
	ERFS	Pre-Injection	10/12/2016	7:50 AM	10.74	-133	8.47	1.16	Pre-injections
	ERFS	During Injections	10/12/2016	11:05 AM	10.42	-230	9.74	1.27	Injection of CAPS
	ERFS	Post-Injections	10/12/2016	2:00 PM	9.82	-367	10.12	1.99	Post-Injections (All Injection Points)
	AmecFW	Between Injections	10/17/2016	10:05 AM	10.66	-156	7.51	1.37	Sampling Event
	AmecFW	Between Injections	10/24/2016	11:35 AM	11.76	-123	7.55	0.94	Sampling Event
	AmecFW	Pre-Injection	10/26/2016	9:00 AM	10.84	-175	7.44	1.01	Pre-injections
	AmecFW	During Injections	10/26/2016	2:47 PM	10.45	-436	8.82	2.95	Post-Injections (All Injection Points)
	AmecFW	Between Injections	10/31/2016	9:53 AM	10.63	-323	7.88	2.19	Sampling Event
	AmecFW	Between Injections	11/8/2016	11:39 AM	10.32	-448	8.12	1.64	Sampling Event
	AmecFW	Post-Injections	12/7/2016	11:25 AM	9.65	-330	7.30	2.23	6 Month Sampling Event

TABLE 3
SUMMARY OF IN-SITU INJECTION GW MONITORING DATA: TA-10-1

STUDY AREA 6 North
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Monitoring Point ID	AmecFW/ ERFS	Baseline, During Injections, or Final	Monitoring Date	Time	Water Depth (ft bgs)	ORP (mV)	pH	Conductivity (uS)	Notes
087-TWP-39	AmecFW	Baseline	8/23/2016	9:07 AM	10.24	-157	7.31	0.92	Baseline Readings
	ERFS	Pre-Injection	9/7/2016	8:15 AM	10.30	-126	7.32	1.27	Pre-injections
	ERFS	During Injections	9/7/2016	10:45 AM	9.99	-158	7.42	1.37	Injection of CAPS
	ERFS	During Injections	9/7/2016	2:10 PM	9.51	-157	7.59	1.64	Post-Injections (All Injection Points)
	AmecFW	Between Injections	9/12/2016	9:40 AM	10.46	-108	7.60	1.82	Sampling Event
	ERFS	During Injections	9/14/2016	1:20 PM	10.13	-78	7.87	2.19	Injection of CAPS
	AmecFW	Between Injections	9/19/2016	11:35 AM	10.36	-103	8.25	1.89	Sampling Event
	AmecFW	Between Injections	9/21/2016	9:25 AM	10.41	-144	7.69	1.95	Reading Event (No Sample Taken)
	AmecFW	Between Injections	9/26/2016	11:15 AM	10.43	-182	7.50	1.78	Sampling Event
	AmecFW	Between Injections	9/29/2016	12:05 PM	10.56	-148	7.51	1.51	Reading Event (No Sample Taken)
	AmecFW	Between Injections	10/3/2016	9:00 AM	10.35	-153	7.53	1.93	Sampling Event
	ERFS/AmecFW	During Injections	10/5/2016	2:30 PM	10.05	-173	7.92	1.72	Post-Injections (All Injection Points)
	AmecFW	Between Injections	10/7/2016	12:32 PM	10.35	-163	7.59	1.94	Reading Event (No Sample Taken)
	AmecFW	Between Injections	10/10/2016	10:45 AM	10.42	-164	7.55	1.96	Reading Event (No Sample Taken)
	ERFS	Pre-Injection	10/12/2016	7:50 AM	10.41	-125	8.22	1.72	Pre-injections
	ERFS	During Injections	10/12/2016	11:05 AM	10.11	-183	9.28	2.11	Injection of CAPS
	ERFS	Post-Injections	10/12/2016	2:00 PM	9.73	-220	9.26	2.03	Post-Injections (All Injection Points)
	AmecFW	Between Injections	10/17/2016	10:10 AM	10.28	-156	7.61	2.08	Sampling Event
	AmecFW	Between Injections	10/24/2016	11:40 AM	10.40	-119	7.76	1.67	Sampling Event
	AmecFW	Pre-Injection	10/26/2016	8:15 AM	10.49	-107	7.43	1.30	Pre-injections
	AmecFW	During Injections	10/26/2016	2:31 PM	10.16	-254	8.21	2.07	Post-Injections (All Injection Points)
	AmecFW	Between Injections	10/31/2016	9:57 AM	10.29	-216	7.64	2.30	Sampling Event
	AmecFW	Between Injections	11/8/2016	11:40 AM	9.95	-124	7.70	1.34	Sampling Event
	AmecFW	Post-Injections	12/7/2016	11:35 AM	9.25	-252	7.55	2.09	6 Month Sampling Event
087-TWP-40	AmecFW	Baseline	8/23/2016	9:14 AM	10.20	-150	7.23	1.78	Baseline Readings
	ERFS	Pre-Injection	9/7/2016	8:15 AM	10.26	-102	7.19	1.84	Pre-Injections
	ERFS	During Injections	9/7/2016	10:45 AM	10.03	-150	7.21	1.85	Injection of CAPS
	ERFS	During Injections	9/7/2016	2:10 PM	9.85	-140	7.22	1.83	Post-Injections (All Injection Points)
	AmecFW	Between Injections	9/12/2016	9:45 AM	10.48	-98	7.37	1.85	Sampling Event
	ERFS	During Injections	9/14/2016	1:20 PM	10.02	-58	7.34	1.90	Injection of CAPS
	AmecFW	Between Injections	9/19/2016	11:40 AM	10.31	-104	8.06	1.84	Sampling Event
	AmecFW	Between Injections	9/21/2016	9:30 AM	10.36	-146	7.38	1.96	Reading Event (No Sample Taken)
	AmecFW	Between Injections	9/26/2016	11:20 AM	10.36	-166	7.20	1.95	Sampling Event
	AmecFW	Between Injections	9/29/2016	12:15 PM	10.43	-145	7.23	1.92	Reading Event (No Sample Taken)
	AmecFW	Between Injections	10/3/2016	9:10 AM	10.31	-135	7.21	2.03	Sampling Event
	ERFS/AmecFW	During Injections	10/5/2016	2:26 PM	10.11	-147	7.44	1.85	Post-Injections (All Injection Points)
	AmecFW	Between Injections	10/7/2016	12:40 PM	10.31	-161	7.18	1.94	Reading Event (No Sample Taken)
	AmecFW	Between Injections	10/10/2016	10:50 AM	10.39	-156	7.16	1.99	Sampling Event
	ERFS	Pre-Injection	10/12/2016	7:50 AM	10.32	-124	8.00	1.71	Pre-injections
	ERFS	During Injections	10/12/2016	11:05 AM	10.22	-148	8.70	1.72	Injection of CAPS
	ERFS	Post-Injections	10/12/2016	2:00 PM	9.95	-168	8.44	1.74	Post-Injections (All Injection Points)
	AmecFW	Between Injections	10/17/2016	10:15 AM	10.24	-137	7.21	1.86	Sampling Event
	AmecFW	Between Injections	10/24/2016	11:50 AM	10.37	-109	7.34	1.57	Sampling Event
	AmecFW	Pre-Injection	10/26/2016	8:30 AM	10.45	-171	7.29	1.55	Pre-injections
	AmecFW	During Injections	10/26/2016	2:35 PM	10.18	-198	7.57	1.51	Post-Injections (All Injection Points)
	AmecFW	Between Injections	10/31/2016	10:01 AM	10.28	-191	7.22	2.03	Sampling Event
	AmecFW	Between Injections	11/8/2016	11:50 AM	9.88	-127	7.24	1.25	Sampling Event
	AmecFW	Post-Injections	12/7/2016	11:45 AM	9.17	-235	7.38	1.85	6 Month Sampling Event

TABLE 3
SUMMARY OF IN-SITU INJECTION GW MONITORING DATA: TA-10-1

STUDY AREA 6 North
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Monitoring Point ID	AmecFW/ ERFS	Baseline, During Injections, or Final	Monitoring Date	Time	Water Depth (ft bgs)	ORP (mV)	pH	Conductivity (uS)	Notes
087-TWP-41	AmecFW	Baseline	8/23/2016	9:34 AM	10.54	-99	6.93	1.47	Baseline Readings
	ERFS	Pre-Injection	9/7/2016	8:15 AM	10.60	-55	6.78	1.71	Pre-Injections
	ERFS	During Injections	9/7/2016	10:45 AM	8.39	-391	8.77	6.14	Injection of CAPS
	ERFS	During Injections	9/7/2016	2:10 PM	10.11	-470	9.42	21.5	Post-Injections (All Injection Points)
	AmecFW	Between Injections	9/12/2016	9:55 AM	10.79	-424	8.85	6.78	Sampling Event
	ERFS	During Injections	9/14/2016	1:20 PM	10.03	-460	9.09	29.20	Injection of CAPS
	AmecFW	Between Injections	9/19/2016	11:50 AM	10.65	-428	10.79	8.48	Sampling Event
	AmecFW	Between Injections	9/21/2016	9:30 AM	10.70	-463	9.14	9.51	Reading Event (No Sample Taken)
	AmecFW	Between Injections	9/26/2016	11:30 AM	10.71	-462	8.56	6.52	Sampling Event
	AmecFW	Between Injections	9/29/2016	12:20 PM	10.81	-381	8.42	5.71	Reading Event (No Sample Taken)
	AmecFW	Between Injections	10/3/2016	9:18 AM	10.66	-424	8.59	6.74	Sampling Event
	ERFS/AmecFW	During Injections	10/5/2016	2:30 PM	10.65	-508	10.65	28.20	Post-Injections (All Injection Points)
	AmecFW	Between Injections	10/7/2016	12:40 PM	10.71	-493	9.07	12.00	Reading Event (No Sample Taken)
	AmecFW	Between Injections	10/10/2016	11:00 AM	10.73	-482	8.71	8.18	Sampling Event
	ERFS	Pre-Injection	10/12/2016	7:50 AM	10.68	-430	9.67	6.19	Pre-injections
	ERFS	During Injections	10/12/2016	11:05 AM	10.08	-511	8.13	24.90	Injection of CAPS
	ERFS	Post-Injections	10/12/2016	2:00 PM	10.01	-499	12.61	18.60	Post-Injections (All Injection Points)
	AmecFW	Between Injections	10/17/2016	10:20 AM	10.61	-471	8.57	7.19	Sampling Event
	AmecFW	Between Injections	10/24/2016	11:52 AM	10.73	-427	8.69	6.16	Sampling Event
	AmecFW	Pre-Injection	10/26/2016	8:30 AM	11.76	-467	8.46	5.84	Pre-injections
	AmecFW	During Injections	10/26/2016	2:45 PM	NR	-518	9.44	21.90	Post-Injections (All Injection Points)
	AmecFW	Between Injections	10/31/2016	10:05 AM	10.56	-448	8.75	8.91	Sampling Event
	AmecFW	Between Injections	11/8/2016	11:50 AM	10.19	-449	7.78	4.68	Sampling Event
	AmecFW	Post-Injections	12/7/2016	11:50 AM	9.49	-419	7.52	6.08	6 Month Sampling Event
087-MWP-132	AmecFW	Baseline	8/23/2016	9:38 AM	9.11	-134	7.24	1.400	Baseline Readings
	ERFS	Pre-Injection	9/7/2016	8:15 AM	9.20	-98	7.07	1.19	Pre-Injections
	ERFS	During Injections	9/7/2016	10:45 AM	8.40	-269	8.20	1.61	Injection of CAPS
	ERFS	During Injections	9/7/2016	2:10 PM	8.56	-304	8.69	2.18	Post-Injections (All Injection Points)
	AmecFW	Between Injections	9/12/2016	10:00 AM	9.34	-381	8.88	2.35	Sampling Event
	ERFS	During Injections	9/14/2016	1:20 PM	9.01	-391	9.40	4.42	Injection of CAPS
	AmecFW	Between Injections	9/19/2016	11:50 AM	9.25	-371	10.17	5.36	Sampling Event
	AmecFW	Between Injections	9/21/2016	9:35 AM	9.32	-451	8.98	6.66	Reading Event (No Sample Taken)
	AmecFW	Between Injections	9/26/2016	11:30 AM	9.31	-461	8.57	6.38	Sampling Event
	AmecFW	Between Injections	9/29/2016	12:30 PM	9.40	-420	8.51	5.18	Reading Event (No Sample Taken)
	AmecFW	Between Injections	10/3/2016	9:22 AM	9.23	-454	8.86	9.04	Sampling Event
	ERFS/AmecFW	During Injections	10/5/2016	2:30 PM	8.57	-479	9.51	9.51	Post-Injections (All Injection Points)
	AmecFW	Between Injections	10/7/2016	12:41 PM	9.24	-486	8.87	10.80	Reading Event (No Sample Taken)
	AmecFW	Between Injections	10/10/2016	11:00 AM	9.32	-489	8.84	10.10	Sampling Event
	ERFS	Pre-Injection	10/12/2016	7:50 AM	9.30	-444	10.14	9.72	Pre-injections
	ERFS	During Injections	10/12/2016	11:05 AM	8.41	-467	11.56	9.03	Injection of CAPS
	ERFS	Post-Injections	10/12/2016	2:00 PM	8.16	-484	12.05	13.90	Post-Injections (All Injection Points)
	AmecFW	Between Injections	10/17/2016	10:20 AM	9.21	-489	9.01	13.00	Sampling Event
	AmecFW	Between Injections	10/24/2016	11:55 AM	9.31	-449	9.12	8.94	Sampling Event
	AmecFW	Pre-Injection	10/26/2016	8:30 AM	9.40	-509	9.15	11.50	Pre-injections
	AmecFW	During Injections	10/26/2016	2:45 PM	8.37	-527	9.55	25.10	Post-Injections (All Injection Points)
	AmecFW	Between Injections	10/31/2016	10:09 AM	9.15	-485	9.24	13.10	Sampling Event
	AmecFW	Between Injections	11/8/2016	11:55 AM	8.85	-495	8.75	12.20	Sampling Event
	AmecFW	Post-Injections	12/7/2016	11:55 AM	8.10	-476	8.45	6.98	6 Month Sampling Event

TABLE 3
SUMMARY OF IN-SITU INJECTION GW MONITORING DATA: TA-10-1

STUDY AREA 6 North
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Monitoring Point ID	AmecFW/ ERFS	Baseline, During Injections, or Final	Monitoring Date	Time	Water Depth (ft bgs)	ORP (mV)	pH	Conductivity (uS)	Notes
087-MWP-133	AmecFW	Baseline	8/23/2016	9:47 AM	9.07	-125	7.39	0.65	Baseline Readings
	ERFS	Pre-Injection	9/7/2016	8:30 AM	9.17	-105	7.17	0.88	Pre-Injections
	ERFS	During Injections	9/7/2016	10:45 AM	9.01	-111	7.21	0.87	Injection of CAPS
	ERFS	During Injections	9/7/2016	2:10 PM	8.95	-124	7.27	0.89	Post-Injections (All Injection Points)
	AmecFW	Between Injections	9/12/2016	10:05 AM	9.38	-153	7.80	0.85	Sampling Event
	AmecFW	Between Injections	9/19/2016	12:00 PM	9.21	-237	9.60	0.71	Sampling Event
	AmecFW	Between Injections	9/21/2016	9:40 AM	9.27	-209	7.72	0.80	Reading Event (No Sample Taken)
	AmecFW	Between Injections	9/26/2016	11:35 AM	9.27	-226	7.54	0.72	Sampling Event
	AmecFW	Between Injections	9/29/2016	12:32 PM	9.35	-261	7.32	0.78	Reading Event (No Sample Taken)
	AmecFW	Between Injections	10/3/2016	9:28 AM	9.21	-243	7.41	0.83	Sampling Event
	ERFS/AmecFW	During Injections	10/5/2016	2:30 PM	9.07	-144	7.57	0.83	Post-Injections (All Injection Points)
	AmecFW	Between Injections	10/7/2016	12:43 PM	9.27	-250	7.32	0.87	Reading Event (No Sample Taken)
	AmecFW	Between Injections	10/10/2016	11:05 AM	9.25	-245	7.28	0.84	Sampling Event
	ERFS	Pre-Injection	10/12/2016	7:50 AM	9.24	-121	8.12	0.85	Pre-injections
	ERFS	During Injections	10/12/2016	11:05 AM	9.21	-266	9.94	0.88	Injection of CAPS
	ERFS	Post-Injections	10/12/2016	2:00 PM	8.96	-232	10.65	0.87	Post-Injections (All Injection Points)
	AmecFW	Between Injections	10/17/2016	10:30 AM	9.20	-216	7.58	0.83	Sampling Event
	AmecFW	Between Injections	10/24/2016	12:00 PM	9.25	-200	7.80	0.59	Sampling Event
	AmecFW	Pre-Injection	10/26/2016	8:30 AM	9.35	-161	7.06	0.68	Pre-injections
	AmecFW	During Injections	10/26/2016	2:40 PM	9.15	-199	7.51	0.65	Post-Injections (All Injection Points)
	AmecFW	Between Injections	10/31/2016	10:12 AM	9.00	-228	7.56	0.70	Sampling Event
	AmecFW	Between Injections	11/8/2016	12:00 PM	8.81	-150	8.27	0.83	Sampling Event
	AmecFW	Post-Injections	12/7/2016	12:00 PM	7.97	-261	7.64	0.70	6 Month Sampling Event
	AmecFW	Post-Injections	12/21/2016	1:50 PM	8.03	29	6.57	0.86	6 Month Sampling Event
087-MWP-134	AmecFW	Baseline	8/23/2016	9:43 AM	9.17	-152	7.50	1.98	Baseline Readings
	ERFS	Pre-Injection	9/7/2016	8:30 AM	9.25	-112	7.17	1.14	Pre-Injections
	ERFS	During Injections	9/7/2016	10:45 AM	8.64	-129	7.25	1.19	Injection of CAPS
	ERFS	During Injections	9/7/2016	2:10 PM	8.75	-62	7.22	1.12	Post-Injections (All Injection Points)
	AmecFW	Between Injections	9/12/2016	10:10 AM	9.87	-135	7.48	1.14	Sampling Event
	ERFS	During Injections	9/14/2016	1:20 PM	8.99	-49	6.90	1.21	Injection of CAPS
	AmecFW	Between Injections	9/19/2016	12:05 PM	9.31	-215	9.09	0.94	Sampling Event
	AmecFW	Between Injections	9/21/2016	9:50 AM	9.38	-212	8.05	0.98	Reading Event (No Sample Taken)
	AmecFW	Between Injections	9/26/2016	11:40 AM	9.38	-219	7.37	0.91	Sampling Event
	AmecFW	Between Injections	9/29/2016	12:35 PM	9.45	-233	7.39	0.91	Reading Event (No Sample Taken)
	AmecFW	Between Injections	10/3/2016	9:30 AM	9.30	-223	7.39	0.97	Sampling Event
	ERFS/AmecFW	During Injections	10/5/2016	2:30 PM	8.80	-143	7.62	0.76	Post-Injections (All Injection Points)
	AmecFW	Between Injections	10/7/2016	12:45 PM	9.32	-233	7.35	1.02	Reading Event (No Sample Taken)
	AmecFW	Between Injections	10/10/2016	11:05 AM	9.36	-227	7.13	0.81	Sampling Event
	ERFS	Pre-Injection	10/12/2016	7:50 AM	9.32	-116	7.85	0.94	Pre-injections
	ERFS	During Injections	10/12/2016	11:05 AM	8.96	-221	9.48	0.96	Injection of CAPS
	ERFS	Post-Injections	10/12/2016	2:00 PM	8.65	-206	10.65	1.03	Post-Injections (All Injection Points)
	AmecFW	Between Injections	10/17/2016	10:31 AM	9.27	-210	7.58	0.98	Sampling Event
	AmecFW	Between Injections	10/24/2016	12:02 PM	9.35	-190	7.79	0.79	Sampling Event
	AmecFW	Pre-Injection	10/26/2016	8:30 AM	9.45	-159	7.12	0.88	Pre-injections
	AmecFW	During Injections	10/26/2016	2:40 PM	8.88	-193	7.55	0.89	Post-Injections (All Injection Points)
	AmecFW	Between Injections	10/31/2016	10:19 AM	9.22	-210	7.58	1.40	Sampling Event
	AmecFW	Between Injections	11/8/2016	12:03 PM	8.91	-140	7.68	1.42	Sampling Event
	AmecFW	Post-Injections	12/7/2016	12:05 PM	8.11	-253	7.26	1.50	6 Month Sampling Event
	AmecFW	Post-Injections	12/21/2016	2:05 PM	8.17	-114	7.01	1.44	6 Month Sampling Event

TABLE 3
SUMMARY OF IN-SITU INJECTION GW MONITORING DATA: TA-10-1

STUDY AREA 6 North
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Monitoring Point ID	AmecFW/ ERFS	Baseline, During Injections, or Final	Monitoring Date	Time	Water Depth (ft bgs)	ORP (mV)	pH	Conductivity (uS)	Notes
087-IP-10-1A	AmecFW	Between Injections	9/21/2016	10:10 AM	11.92	-504	10.41	14.30	Reading Event (No Sample Taken)
	AmecFW	Between Injections	10/7/2016	12:48 PM	11.92	-523	10.24	26.40	Reading Event (No Sample Taken)
087-IP-10-1B	AmecFW	Between Injections	9/21/2016	1:15 PM	12.05	-492	10.55	5.38	Reading Event (No Sample Taken)
	AmecFW	Between Injections	10/7/2016	12:51 PM	12.09	-524	11.10	25.00	Reading Event (No Sample Taken)
087-IP-10-2A	AmecFW	Between Injections	9/21/2016	9:55 AM	11.90	-493	10.32	10.10	Reading Event (No Sample Taken)
	AmecFW	Between Injections	10/7/2016	12:54 PM	11.92	-519	10.20	22.80	Reading Event (No Sample Taken)
087-IP-10-2B	AmecFW	Between Injections	9/21/2016	10:00 AM	11.74	-492	10.89	3.96	Reading Event (No Sample Taken)
	AmecFW	Between Injections	10/7/2016	12:55 PM	11.67	-500	10.21	4.78	Reading Event (No Sample Taken)
087-IP-10-3A	AmecFW	Between Injections	9/21/2016	1:20 PM	11.69	-504	10.13	17.20	Reading Event (No Sample Taken)
	AmecFW	Between Injections	10/7/2016	12:57 PM	11.65	-520	10.22	23.20	Reading Event (No Sample Taken)
087-IP-10-3B	AmecFW	Between Injections	9/21/2016	1:25 PM	11.93	-430	10.06	0.74	Reading Event (No Sample Taken)
	AmecFW	Between Injections	10/7/2016	1:00 PM	11.90	-501	10.26	4.70	Reading Event (No Sample Taken)
087-IP-10-4A	AmecFW	Between Injections	9/21/2016	10:05 AM	11.70	-502	10.48	12.60	Reading Event (No Sample Taken)
	AmecFW	Between Injections	10/7/2016	1:03 PM	11.65	-516	10.03	21.20	Reading Event (No Sample Taken)
087-IP-10-4B	AmecFW	Between Injections	9/21/2016	10:05 AM	11.96	-454	10.04	1.68	Reading Event (No Sample Taken)
	AmecFW	Between Injections	10/7/2016	1:06 PM	11.90	-484	9.91	3.12	Reading Event (No Sample Taken)
087-IP-10-5A	AmecFW	Between Injections	9/21/2016	9:45 AM	11.97	-496	10.14	13.90	Reading Event (No Sample Taken)
	AmecFW	Between Injections	10/7/2016	1:09 PM	11.99	-523	10.15	27.20	Reading Event (No Sample Taken)
087-IP-10-5B	AmecFW	Between Injections	9/21/2016	9:52 AM	12.02	-493	10.30	9.48	Reading Event (No Sample Taken)
	AmecFW	Between Injections	10/7/2016	1:12 PM	11.98	-514	10.41	11.60	Reading Event (No Sample Taken)

Notes:

ft =	Feet
bgs =	Below Ground Surface
mV =	Millivolts
uS =	MicroSiemens
TWP =	Temporary Well Point
IP =	Injection Point
mins =	Minutes
hrs =	Hours
NR=	No Result

TABLE 4
SULFIDE/ SULFATE ANALYTICAL DATA: TA-10-1

STUDY AREA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Sampling Date	087-MW-132		087-MW-133		087-MW-134		087-TWP-37		087-TWP-38		087-TWP-39		087-TWP-40		087-TWP-41	
	Sulfide	Sulfate	Sulfide	Sulfate	Sulfide	Sulfate	Sulfide	Sulfate	Sulfide	Sulfate	Sulfide	Sulfate	Sulfide	Sulfate	Sulfide	Sulfate
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
8/23/2016	5.6	<10	6.3	<10	5.2	<10	4.4	<10	18.9	81.7	2.3	<10	<2.0	<10	<2.0	<10
9/12/2016	154	28.8	<2.0	<10	<2.0	<10	23.1	<10	2.7	<10	2.4	<10	3.6	<10	800	115
9/19/2016	1,140	239	<2.0	12.4	<2.0	<20	4.1	57.4	3.1	<10	3	53.4	3.9	<10	2,560	295
9/26/2016	1,140	459	<2.0	<10	12.1	<10	114	74.4	73.6	<10	<6.0	34.9	12.4	<10	1,160	437
10/3/2016	680	359	<2.0	10.3	<4.0	<10	<8.0	92.8	<4.0	<10	<4.0	36	<4.0	<10	1,080	372
10/10/2016	2,000	368	<2.0	18.8	3.9	<10	186	100	26.8	31	<2.0	50.3	18.8	<10	1,590	469
10/17/2016	2,680	429	<20	29.3	3.1	<10	37.6	280	17.6	79.6	9.6	100	10	10.4	1,320	529
10/24/2016	2,700	1,090	<2.0	<10	<2.0	<10	12.4	120	3.1	157	<2.0	86.3	<2.0	<10	832	607
10/31/2016	3,210	766	<2.0	20.2	<2.0	23.5	6.5	196	150	247	<2.0	111	16.5	<10	1,380	739
11/8/2016	1,700	413	<2.0	10	<2.0	23.4	15.4	214	256	176	2.3	110	7.1	<10	574	978
12/7/2016	760	1340	<2.0	54.1	<2.0	19.7	<4.0	185	72.6	324	<2.0	278	<4.0	<10	282	1120
12/21/2016	NS	NS	<2.0	56.6	<2.0	<10	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:

Baseline Readings

mg/L = milligrams/liter

NS= Not Sampled

TABLE 5
SUMMARY OF 6-MONTH SOIL ANALYTICAL RESULTS
IN-SITU TREATMENT AREA 10

SA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Client Sample ID:		Most Stringent NJ Residential Direct Contact Soil Remediation Standard	087-SB-590*	087-SB-647		087-SB-647		087-SB-648		087-SB-648		087-SB-710		087-SB-710		087-SB-711		087-SB-711		087-SB-524*		087-SB-649		087-SB-649		087-SB-650		087-SB-650		087-SB-712		087-SB-712		087-SB-713		087-SB-713	
Sample Depth (ft):			12-14	12-13		13-14		12-13		13-14		12-13		13-14		12-13		13-14		12-14		12-13		13-14		12-13		13-14		12-13		13-14		12-13		13-14	
Lab Sample ID:			JB6885-1/1R	JC16343-1		JC16343-2		JC16343-3		JC16343-4		JC32905-1/1R		JC32905-2		JC32905-3R		JC32905-4		JA17466-14/14R/14RT		JC16343-5		JC16343-6		JC16343-7		JC16343-8/8R		JC32905-5		JC32905-6/6TA		JC32905-7/7TA		JC32905-8/8R	
Date Sampled:			5/17/2012	3/15/2016		3/15/2016		3/15/2016		3/15/2016		12/5/2016		12/5/2016		12/5/2016		12/5/2016		4/28/2009		3/15/2016		3/15/2016		3/15/2016		3/15/2016		12/5/2016		12/5/2016		12/5/2016		12/5/2016	
TAL Metals Analysis																																					
Chromium	mg/kg	NS	NT	1,340	J	204	J	2,080	J	309	J	582	J	5,120	J	9,150	J	1,660	J	4,640		3,250	J	73.5	J	776	J	1,980	J	1,930	J	1,030	J	6,180	J	1,460	J
General Chemistry																																					
Chromium, Hexavalent	mg/kg	20	**34.5**	4.0	J	1.1	J	1.3	J	**128**		1.8**		<0.56	UJ	<0.57	U	<0.56	U	**27.6**	J	2.3	J	1.5	J	**42.2**	J	**87.7**		1.9		**33.3****	J	2.2**	J	<0.53	U
Sulfide	mg/kg	NS	NT	<6.1	U	<5.1	U	<5.2	U	<5.2	U	<5.3	U	684		<5.6	U	662		NT		<5.1	U	<5.4	U	5		5		<5.7	U	161		279		558	

Notes:

*The original sample ID for the remedial investigation sample that exceeded 20 mg/kg for hexavalent chromium.

**JC32905-1, 6 and 7 plotted on the line that separates the Cr(III) and Cr(VI) stability fields. Statistical examination of the laboratory Eh QC data indicates these samples are not oxidizing with the preferred level of certainty of p = 0.95 or greater (0.85 for these samples). This result coupled with the extremely low recovery of the soluble (-0.3%) and insoluble (9.4%) Cr(VI) spike for QC sample JC3205-1gives the appearance of a reducing character. Additional spikes as high as 3500 mg/kg for this sample failed to recover more than 10% of the Cr(VI) spike

Remedial Investigation Analytical Data

6-Month Post Injection (March 2016) Analytical Data

Most Recent (December 2016) Analytical Data

Bold and shaded concentrations exceed the Most Stringent NJ Residential Direct Contact Soil Remediation Standard

NS = No Standard.
J = Estimated Value
NT= Not Tested
NA= Not Applicable
U= Not Detected Above Method Detection Limit

Prepared By: JLD 1/04/17
Checked By: DEN 1/04/17

TABLE 5
SUMMARY OF 6-MONTH SOIL ANALYTICAL RESULTS
IN-SITU TREATMENT AREA 10

SA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Client Sample ID:		Most Stringent NJ Residential Direct Contact Soil Remediation Standard	087-SB-588-DP*		087-SB-651		087-SB-651		087-SB-652		087-SB-652		087-SB-714		087-SB-714		087-SB-715		087-SB-715	
Sample Depth (ft):			12-14		12-13		13-14		12-13		13-14		12-13		13-14		12-13		13-14	
Lab Sample ID:			JB6885-4/4R		JC16343-9		JC16343-10/10R		JC16343-11/11R		JC16343-12		JC32905-9		JC32905-10		JC32905-11		JC32905-12	
Date Sampled:			5/17/2012		3/15/2016		3/15/2016		3/15/2016		3/15/2016		12/5/2016		12/5/2016		12/5/2016		12/6/2016	
TAL Metals Analysis																				
Chromium	mg/kg	NS	NT		159	J	72.9	J	160	J	66	J	137	J	288	J	321	J	701	J
General Chemistry																				
Chromium, Hexavalent	mg/kg	20	**26.7**	**J**	0.63	J	1.7		1.8		<0.55	UJ	0.57		<0.56	U	<0.57	U	<0.55	U
Sulfide	mg/kg	NS	NT		<5.3	U	<5.2	U	<4.9	U	<5.3	U	<5.3	U	284		<5.5	U	439	

Client Sample ID:	087-SB-586*		087-SB-653		087-SB-653		087-SB-654		087-SB-654		087-SB-716		087-SB-716		087-SB-717		087-SB-717	
Sample Depth (ft):	12-14		12-13		13-14		12-13		13-14		12-13		13-14		12-13		13-14	
Lab Sample ID:	JB6885-6/6R		JC16343-13/13R		JC16343-14		JC16343-15		JC16343-16		JC32905-13		JC32905-14		JC32905-15		JC32905-16	
Date Sampled:	5/17/2012		3/15/2016		3/15/2016		3/15/2016		3/15/2016		12/5/2016		12/5/2016		12/5/2016		12/6/2016	
TAL Metals Analysis																		
Chromium	NT		412	J	143	J	674	J	174	J	75.9	J	1,020	J	168	J	772	J
General Chemistry																		
Chromium, Hexavalent	**25.1**		1.6		6.2	J	1.7	J	1.1	J	<1.0	U	<0.54	U	<0.83	U	<0.50	U
Sulfide	NT		<5.0	U	<4.9	U	<5.4	U	<4.7	U	359		897		<8.0	U	77	

Notes:

*The original sample ID for the remedial investigation sample tha

**JC32905-1, 6 and 7 plotted on the line that separates the Cr(III) a
the laboratory Eh QC data indicates these samples are not oxidizin
greater (0.85 for these samples). This result coupled with the extre
insoluble (9.4%) Cr(VI) spike for QC sample JC3205-1gives the ap
spikes as high as 3500 mg/kg for this sample failed to recover mor

Remedial Investigation Analytical Data

6-Month Post Injection (March 2016) Analytical Data

Most Recent (December 2016) Analytical Data

Bold and shaded concentrations exceed the Most Stringent NJ Residential Direct Contact Soil Remediation Standard

NS = No Standard.
J = Estimated Value
NT= Not Tested
NA= Not Applicable
U= Not Detected Above Method Detection Limit

Prepared By: JLD 1/04/17
Checked By: DEN 1/04/17

TABLE 5
SUMMARY OF 6-MONTH SOIL ANALYTICAL RESULTS
IN-SITU TREATMENT AREA 10

SA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Client Sample ID:		Most Stringent NJ Residential Direct Contact Soil Remediation Standard	087-SB-S21*		087-SB-655		087-SB-655		087-SB-656		087-SB-656		087-SB-718		087-SB-718		087-SB-719		087-SB-719	
Sample Depth (ft):			12-14		12-13		13-14		12-13		13-14		12-13		13-14		12-13		13-14	
Lab Sample ID:			NA		JC16343-17		JC16343-18		JC16343-19		JC16343-20/20R		JC32905-17		JC32905-18		JC32905-19		JC32905-20	
Date Sampled:			5/20/1997		3/16/2016		3/16/2016		3/16/2016		3/16/2016		12/5/2016		12/5/2016		12/5/2016		12/5/2016	
TAL Metals Analysis																				
Chromium	mg/kg	NS	405	J	580	J	1,930	J	7,310	J	113	J	820	J	3,130	J	104	J	3,470	J
General Chemistry																				
Chromium, Hexavalent	mg/kg	20	**39.0**	**J**	2.7	J	**21.5**	J	10.9	J	**90.9**		<0.66	U	<0.58	U	<0.71	U	<0.54	U
Sulfide	mg/kg	NS	NT		<4.5	U	<5.3	U	<7.5	U	<4.0	U	67.2		287		318		419	

Notes:

*The original sample ID for the remedial investigation sample tha

**JC32905-1, 6 and 7 plotted on the line that separates the Cr(III) a
the laboratory Eh QC data indicates these samples are not oxidizin
greater (0.85 for these samples). This result coupled with the extre
insoluble (9.4%) Cr(VI) spike for QC sample JC3205-1gives the ap
spikes as high as 3500 mg/kg for this sample failed to recover mor

Remedial Investigation Analytical Data

6-Month Post Injection (March 2016) Analytical Data

Most Recent (December 2016) Analytical Data

Bold and shaded concentrations exceed the Most Stringent NJ Residential Direct Contact Soil Remediation Standard

NS = No Standard.
J = Estimated Value
NT= Not Tested
NA= Not Applicable
U= Not Detected Above Method Detection Limit

Prepared By: JLD 1/04/17
Checked By: DEN 1/04/17

ATTACHMENT 1

TABLE 1 FROM OCTOBER 12, 2015 TECHNICAL MEMORANDUM SUMMARIZING IMPLEMENTATION OF THE INITIAL INJECTION PROGRAM

TABLE 1
SULFIDE/ SULFATE ANALYTICAL DATA: TA-10-1

STUDY AREA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Sampling	087-MW-132		087-MW-133		087-MW-134		087-TWP-37		087-TWP-38		087-TWP-39		087-TWP-40		087-TWP-41	
Date	Sulfide	Sulfate	Sulfide	Sulfate	Sulfide	Sulfate	Sulfide	Sulfate	Sulfide	Sulfate	Sulfide	Sulfate	Sulfide	Sulfate	Sulfide	Sulfate
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
8/14/2015	<2.0	<10	<2.0	16	<2.0	<10	204	<10	54	15.2	12	<10	<2.0	<10	4.3	<10
8/19/2015	20	<10	2.6	10	16	<10	524	10.1	98	<10	90	<10	44	<10	23.3	<10
9/11/2015	30	22.4	<10	<10	10	26.5	123	35.5	70	31.6	180	48.3	75	<10	681	81.4
9/18/2015	56	85.3	32	<10	28	<10	690	55	190	164	76	144	84	82.7	452	21.9
9/25/2015	22.9	82.1	3	<10	11	<10	101	103	39.8	114	45.8	52.2	30.9	61.6	158	21.6

Notes:

Baseline Readings

Preliminary Results

C:\Users\dennis.nagg\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\21G8CGI7\
Table 1 Sulifde Sulfate Data_10 1 15

Prepared By: JLD 10/01/15
Checked By: DEN 10/01/15

PHOTOS

PHOTOS

Photo 1: Treatment Area 10-1 Injection Point

Photo 2: CAPS Mixing Apparatus in Utility Van

Photo 3: Hoses & Fittings at Injection Point

Honeywell

115 Tabor Road
Morris Plains, NJ 07950

May 5, 2016

The Honorable Robert G. Torricelli
Office of the Special Master
RGTSpecialMaster@aol.com

Re: Summary of 6-Month Performance Assessment Sampling Post In-Situ Treatment of Hexavalent Chromium Impacted Soils
Treatment Area 10-1 Only
Study Area 6 (SA-6) North (Site 087)
Jersey City, New Jersey

Dear Senator Torricelli:

Honeywell's engineering consultant, Amec Foster Wheeler, completed the 6-month performance assessment of soil sampling associated with the treatability injection of reductants at SA-6 North, specifically Treatment Area 10-1, which is north of the 72-inch forcemain. This work was conducted in accordance with the Updated Work Plan for In-Situ Treatment of Chromium Impacted Soils, dated August 2015 (updated Work Plan) and the NJDEP Permit-by-Rule Discharge to Groundwater Authorization, dated July 14, 2015.

The attached technical memorandum prepared by Amec Foster Wheeler provides a summary of the analytical sampling activities. The results essentially demonstrate that 15 of the 20 sample points are now compliant with the 20 mg/Kg hexavalent chromium criteria. Honeywell is currently evaluating if additional injections will be performed at the 5 locations exceeding the 20 mg/Kg hexavalent chromium criteria.

Honeywell also notes that a second round of soil sampling will be conducted 3 years after completion of the field program. In a July 21, 2015 letter from Arnold and Porter to the Special Master, Honeywell indicated that it may seek to conduct the second sampling event sooner than the 3 year timeframe after the completion of the TA-10-1 injection program. In the event Honeywell seeks to advance the second sampling event, Honeywell will provide a proposal to the Parties for their review and comment.

Should you have any questions regarding this submittal or require additional information, please contact me at (973) 455-2175.

Sincerely,

William J. Hague
Global Remediation Director
Design and Construction

WJH:dn/sgf

Encl: 5/5/16 Amec Foster Wheeler Technical Memorandum: Summary of 6-Month Post In-Situ Analytical Sampling, SA-6 North, Treatment Area 10-1

cc: (electronic copy only)
Joe Clifford – Amec Foster Wheeler
Michael Daneker – Arnold & Porter LLP
Jeremy Karpatkin – Arnold & Porter LLP
Kim Hosea – Carpenter Environmental Associates, Inc.
Jeremy Farrell – City Hall
Jason Watson – City Hall
Agnieszka Antonian – Connell Foley LLP
Kevin Coakley, Esq. – Connell Foley LLP
Liza Walsh – Connell Foley LLP
Frank Borin – DeCotiis, Fitzpatrick & Cole, LLP
Kevin Kinsella – DeCotiis, Fitzpatrick & Cole, LLP
Dr. Benjamin Ross – Disposal Safety, Inc.
David Isabel – Golub & Isabel PC
Tom Byrne – Honeywell
Maria Kaouris – Honeywell
John Morris – Honeywell
Alicia Clark Alcorn – Terris, Pravlik & Millian, LLP
Kathleen Millian – Terris, Pravlik & Millian, LLP
Carolyn Smith-Pravlik – Terris, Pravlik & Millian, LLP
Steve Egnaczyk – The Louis Berger Group, Inc.
Thomas Lewis – The Louis Berger Group, Inc.

Memo

Date: May 5, 2016

From: Joe Clifford, Dennis Nagg – Amec Foster Wheeler

To: Bill Hague – Honeywell

cc: John Morris, Maria Kaouris, John Mojka – Honeywell
Jeremy Karpatkin, Michael Daneker – A&P

Subject: Summary of 6 Month Post In-Situ Analytical Sampling
SA-6 North, Treatment Area 10-1

This memorandum presents a summary of the analytical results from the six month post in-situ treatment sampling event at SA-6 North at Treatment Area 10-1 (TA-10-1). As shown by the attached tables and figures, Amec Foster Wheeler collected and analyzed 20 soil samples from 10 soil borings and 8 groundwater samples within the designated area consistent with the proposed plan. A detailed description of the treatment areas, well installation, mobilization, implementation, and the overall treatment program has been previously outlined and discussed in a memo dated October 12, 2015.

BACKGROUND

Amec Foster Wheeler retained ERFS of Lakewood, New Jersey to implement the in-situ injection of CAPS on behalf of Honeywell. The Amec Foster Wheeler/ERFS team implemented the in-situ program at the Site in three non-consecutive days beginning on August 17, 2015. The Amec Foster Wheeler/ERFS team paused the in-situ program on August 18, 2015 after one injection point (IP-1) was completed. On September 9, 2015 the Amec Foster Wheeler/ERFS team remobilized and implemented the in-situ program through September 10, 2015. The in-situ program was implemented in accordance with the following documents:

- NJDEP Permit-by-Rule Discharge to Groundwater Authorization, dated July 14, 2015;
- Amec Foster Wheeler's Updated Work Plan for In-Situ Treatment of Chromium Impacted Soils, dated August 2015 (Updated Work Plan); and
- ERFS' In-Situ Chemical Reduction Implementation Work Plan, dated September 2013.

6-Month Performance Assessment Soil Sampling Implementation

In accordance with the Updated Work Plan, the first round of soil sampling was conducted approximately 6 months after completing the in-situ injection program to evaluate the effectiveness of the in-situ treatment. Between March 15, 2016 and March 16, 2016, 20 soil samples were collected from 10 borings drilled no more than 15 feet apart **(see Figure 5A Revised)**, straddling

200 American Metro Blvd
Suite 113
Hamilton, NJ 08619
609-689-2829
amecfw.com

the locations of the Remedial and/or Pre-Design Investigation borings. All soil borings were drilled with a Geoprobe® drill rig. Samples were extracted from the soil boring location in 4-foot long acetate sleeves fitted in the steel Geoprobe® tooling. Samples were collected from the intervals where hexavalent chromium was previously detected in concentrations above 20 mg/kg. Samples were collected at 1 foot intervals and the entire 1 foot interval was homogenized and sampled. This is a deviation from the NJDEP requirement that samples be collected from discreet 6-inch intervals. However, this procedure ensured that the sampling results are not biased by hand-specimen-scale inhomogeneities and variability in contaminant distribution and reagent propagation.

In accordance with the Updated Work Plan, on March 16, 2016, Amec Foster Wheeler also collected 6 month post injection groundwater samples from the 3 monitoring wells and 5 temporary well points that had been installed at TA-10-1 during the injection program. A total of 8 groundwater samples were collected and analyzed.

6-Month Performance Assessment Soil Sampling Analytical Results

All of the 6-month performance assessment soil samples were analyzed for the following:

- Hexavalent chromium;
- Total chromium;
- Sulfide; and
- pH

The analytical results are summarized on the attached **Table 1**. For comparison, the table also indicates the previous PDI soil sample data which exceeded 20 mg/kg and indicated the need for treatment in this area. The soil laboratory data packages were validated by a third party validator in accordance with Section 3.4.2 of the Updated Work Plan. This 6-month performance assessment soil sample data indicates the following:

- 15 of the 20 soil samples are <20 mg/kg for hexavalent chromium;
- 5 of the 20 soil samples are >20 mg/kg for hexavalent chromium.

All of the 6-month performance assessment groundwater samples were analyzed for the following:

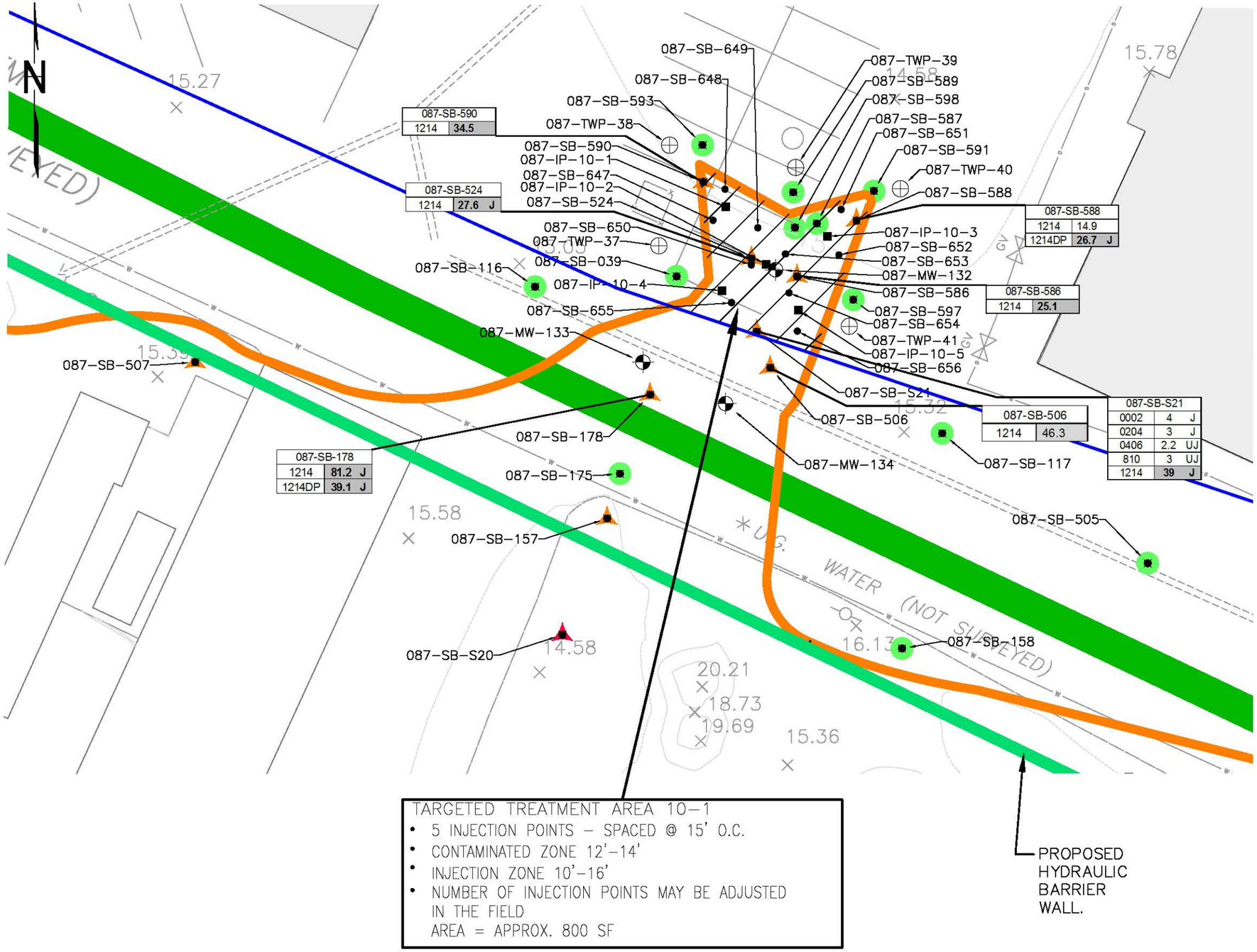
- Sulfide; and
- Sulfate.

This groundwater data along with baseline and post-treatment samples are summarized in **Table 2**. The groundwater laboratory data packages were validated by a third party validator in accordance with Section 3.4.2 of the Updated Work Plan. This new data affirms the original analytical conclusions that sulfate concentrations in the monitoring wells between the injection area and the 72-inch FM (087-MW-133 and 087-MW-134) have not risen above 150 mg/L and therefore, do not pose a concern to the concrete pipe.

Recommendation

Amec Foster Wheeler recommends re-injection of CAPS at the isolated locations that remain >20 mg/kg for hexavalent chromium.

FIGURE



LEGEND

- PROPOSED 6-MONTH SOIL BORING
- PREVIOUS SOIL BORINGS
- EXISTING NEW PERMANENT MONITORING WELL LOCATION
- INJECTION POINT LOCATION
- EXISTING OBSERVATION TEMPORARY WELL POINT (TWP)
- <20 ppm HEXAVALENT CHROMIUM SAMPLE LOCATION
- 20-240 ppm HEXAVALENT CHROMIUM SAMPLE LOCATION
- >240 ppm HEXAVALENT CHROMIUM SAMPLE LOCATION
- BLOCK/LOT LINE (APPROXIMATE LOCATION)
- STORM SEWER
- 72" FORCEMAIN SANITARY SEWER
- 54" OUTFALL (ABANDONED)
- NORTHERN EDGE OF BAYFRONT REDEVELOPMENT CURBLINE OF NEW STEGMAN BOULEVARD
- LIMITS OF TARGETED IN-SITU TREATMENT
- RELOCATED HYDRAULIC BARRIER
- APPROXIMATE LIMITS OF AREA WHERE DETECTED HEXAVALENT CHROMIUM CONCENTRATION VALUES >20 mg/kg
- EXISTING BUILDINGS
- IN-SITU TREATMENT AREA
- U NOT DETECTED
- J ESTIMATED CONCENTRATION

UTILITY LOCATIONS BASED ON ALTA/ASCM LAND TITLE SURVEY FOR BLOCK 1290.1 – LOTS 2D,2E,15D, 15B & 16A, DATED 5/23/08

NOTE:

SEE FIGURE 2 FOR LOCATION OF DETAIL MAP.

0 10 20 40
SCALE IN FEET

REV.	DATE	STATUS	PRPD BY	CHKD BY
	12/05/11			

Amec Foster Wheeler PROJECT No. 3480150438
DRAWING: TARGETED IN-SITU TREATMENT NORTHERN PORTION 01

PREPARED/DATE: STR 06/05/15
CHECKED/DATE: DN 06/05/15

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 5A (REVISED)
PROPOSED TARGETED IN-SITU INJECTION NORTHERN PORTION OF TREATMENT AREA 10-1
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY

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TABLES

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TABLE 1
SUMMARY OF 6-MONTH SOIL ANALYTICAL RESULTS
IN-SITU TREATMENT AREA 10

SA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Client Sample ID:		**Most Stringent NJ Residential Direct Contact Soil Remediation Standard**	**087-SB-590***	**087-SB-647**		**087-SB-647**		**087-SB-648**		**087-SB-648**		**087-SB-524***		**087-SB-649**		**087-SB-649**		**087-SB-650**		**087-SB-650**	
Sample Depth (ft):			**12-14**	**12-13**		**13-14**		**12-13**		**13-14**		**12-14**		**12-13**		**13-14**		**12-13**		**13-14**	
Lab Sample ID:			**JB6885-1/1R**	**JC16343-1**		**JC16343-2**		**JC16343-3**		**JC16343-4**		**JA17466-14/14R/14RT**		**JC16343-5**		**JC16343-6**		**JC16343-7**		**JC16343-8/8R**	
Date Sampled:			**5/17/2012**	**3/15/2016**		**3/15/2016**		**3/15/2016**		**3/15/2016**		**4/28/2009**		**3/15/2016**		**3/15/2016**		**3/15/2016**		**3/15/2016**	
TAL Metals Analysis																					
Chromium	mg/kg	NS	NT	1,340.0	J	204.0	J	2,080.0	J	309.0	J	4,640.0		3,250.0	J	73.5	J	776.0	J	1,980.0	J
General Chemistry																					
Chromium, Hexavalent	mg/kg	20	**34.5**	4.0	J	1.1	J	1.3	J	**128**		**27.6**	**J**	2.3	J	1.5	J	**42.2**	**J**	**87.7**	
Sulfide	mg/kg	NS	NT	<6.1	U	<5.1	U	<5.2	U	<5.2	U	NT		<5.1	U	<5.4	U	5		5	
pH	su	NS	8.78	8.29		9.47		8.38		8.81		9.09		8.21		9.24		7.83		7.89	

Notes:
*The original sample ID for the remedial investigation sample that exceeded 20 mg/kg for hexavalent chromium.
Bold and highlighted values are above the most stringent
NS = No Standard.
J = Estimated Value
NT= Not Tested
NA= Not Applicable
U= Not Detected Above Method Detection Limit

Prepared By: JLD 4/22/16
Checked By: DEN 4/22/16

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TABLE 1
SUMMARY OF 6-MONTH SOIL ANALYTICAL RESULTS
IN-SITU TREATMENT AREA 10

SA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Client Sample ID:		**Most Stringent NJ Residential Direct Contact Soil Remediation Standard**	**087-SB-588-DP***		**087-SB-651**		**087-SB-651**		**087-SB-652**		**087-SB-652**		**087-SB-586***	**087-SB-653**		**087-SB-653**		**087-SB-654**		**087-SB-654**		**087-SB-S21***		**087-SB-655**	
Sample Depth (ft):			**12-14**		**12-13**		**13-14**		**12-13**		**13-14**		**12-14**	**12-13**		**13-14**		**12-13**		**13-14**		**12-14**		**12-13**	
Lab Sample ID:			**JB6885-4/4R**		**JC16343-9**		**JC16343-10/10R**		**JC16343-11/11R**		**JC16343-12**		**JB6885-6/6R**	**JC16343-13/13R**		**JC16343-14**		**JC16343-15**		**JC16343-16**		**NA**		**JC16343-17**	
Date Sampled:			**5/17/2012**		**3/15/2016**		**3/15/2016**		**3/15/2016**		**3/15/2016**		**5/17/2012**	**3/15/2016**		**3/15/2016**		**3/15/2016**		**3/15/2016**		**5/20/1997**		**3/16/2016**	
TAL Metals Analysis																									
Chromium	mg/kg	NS	NT		159.0	J	72.9	J	160.0	J	66.0	J	NT	412.0	J	143.0	J	674.0	J	174.0	J	405.0	J	580.0	J
General Chemistry																									
Chromium, Hexavalent	mg/kg	20	**26.7**	**J**	0.63	J	1.7		1.8		<0.55	J	**25.1**	1.6		6.2	J	1.7	J	1.1	J	**39.0**	**J**	2.7	J
Sulfide	mg/kg	NS	NT		<5.3	U	<5.2	U	<4.9	U	<5.3	U	NT	<5.0	U	<4.9	U	<5.4	U	<4.7	U	NT		<4.5	U
pH	su	NS	8.65		7.34		8.9		7.85		8.61		8.54	8.14		8.65		7.59		9.54		NT		7.92	

Notes:

*The original sample ID for the remedial investigation sample that exceeded 20 mg/kg for hexavalent chromium.

Bold and highlighted values are above the most stringent

NS = No Standard.
J = Estimated Value
NT= Not Tested
NA= Not Applicable
U= Not Detected Above Method Detection Limit

Prepared By: JLD 4/22/16
Checked By: DEN 4/22/16

.

TABLE 1
SUMMARY OF 6-MONTH SOIL ANALYTICAL RESULTS
IN-SITU TREATMENT AREA 10

SA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Client Sample ID:		**Most Stringent NJ Residential Direct Contact Soil Remediation Standard**	**087-SB-655**		**087-SB-656**		**087-SB-656**	
Sample Depth (ft):			**13-14**		**12-13**		**13-14**	
Lab Sample ID:			**JC16343-18**		**JC16343-19**		**JC16343-20/20R**	
Date Sampled:			**3/16/2016**		**3/16/2016**		**3/16/2016**	
TAL Metals Analysis								
Chromium	mg/kg	NS	1,930.0	J	7,310.0	J	113	J
General Chemistry								
Chromium, Hexavalent	mg/kg	20	**21.5**	J	10.9	J	**90.9**	
Sulfide	mg/kg	NS	<5.3	U	<7.5	U	<4.0	U
pH	su	NS	8.78		8.00		8.67	

Notes:
*The original sample ID for the remedial investigation sample that exceeded 20 mg/kg for hexavalent chromium.
Bold and highlighted values are above the most stringent
NS = No Standard.
J = Estimated Value
NT= Not Tested
NA= Not Applicable
U= Not Detected Above Method Detection Limit

Prepared By: JLD 4/22/16
Checked By: DEN 4/22/16

TABLE 2
SULFIDE/ SULFATE ANALYTICAL DATA: TA-10-1

STUDY AREA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Sampling	087-MW-132		087-MW-133		087-MW-134		087-TWP-37		087-TWP-38		087-TWP-39		087-TWP-40		087-TWP-41	
Date	Sulfide	Sulfate	Sulfide	Sulfate	Sulfide	Sulfate	Sulfide	Sulfate	Sulfide	Sulfate	Sulfide	Sulfate	Sulfide	Sulfate	Sulfide	Sulfate
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
8/14/2015	<2.0	<10	<2.0	16	<2.0	<10	204	<10	54	15.2	12	<10	<2.0	<10	4.3	<10
8/19/2015	20	<10	2.6	10	16	<10	524	10.1	98	<10	90	<10	44	<10	23.3	<10
9/11/2015	30	22.4	<10	<10	10	26.5	123	35.5	70	31.6	180	48.3	75	<10	681	81.4
9/18/2015	56	85.3	32	<10	28	<10	690	55	190	164	76	144	84	82.7	452	21.9
9/25/2015	22.9	82.1	3	<10	11	<10	101	103	39.8	114	45.8	52.2	30.9	61.6	158	21.6
10/1/2015	25.2	120	4.5	<10	11.3	<10	77.7	169	47.8	175	32.9	47	24.6	92.7	101	33.4
10/9/2015	27.9	129	7.3	<10	49.8	<10	41.6	218	40.4	145	29.9	81.1	57.8	89.9	124	85.8
10/16/2015	16.9	120	5	<10	6.6	<10	131	226	23.9	175	13.3	41.3	42.5	69.7	70.7	201
10/23/2015	16.6	127	10	<10	2	<10	43.3	227	39.8	231	21.9	55.1	39.8	29.8	45.8	335
10/30/2015	22.4	133	2.5	10.5	<2.0	<10	44.5	213	37.2	271	21.2	58.3	42.5	37	26.9	439
11/6/2015	3	118	<2.0	<10	2	<10	2	174	<2.0	206	<2.0	61.3	<2.0	25.2	4.5	483
11/13/2015	19.3	143	<2.0	<10	3.3	<10	39.3	167	28.7	226	15.3	47.2	55.3	22.5	44	561
3/16/2016	<2.0	13	<2.0	10.7	<2.0	46.6	4.9	<10	5.4	13.2	4.1	16.7	5.4	<10	6.3	386

Notes:

Baseline Readings
6 Months Post-Insitu

Prepared By: JLD 4/22/16
Checked By: DEN 4/22/16

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

July 11, 2016

The Honorable Robert G. Torricelli
Office of the Special Master
RGTSpecialMaster@aol.com

Re: Proposed Additional In-Situ Injection of Calcium Polysulfide for Treatment of Hexavalent Chromium Impacted Soils
Treatment Area 10-1
Study Area 6 (SA-6) North (Site 087)
Jersey City, New Jersey

Dear Senator Torricelli:

Honeywell's engineer, Amec Foster Wheeler, has prepared the enclosed technical memorandum providing a scope of work for a supplemental in-situ treatment event within the northern section of Area 10 (designated as TA 10-1) using calcium polysulfide (CAPS). This supplemental injection event is proposed as a follow-up to the initial in-situ event completed in September 2015.

As described in our May 6, 2016 technical memorandum, the six-month post in-situ analytical soil sample results indicated that 5 out of 20 sample points contain soil which still exceeds the 20 mg/kg cleanup criteria for hexavalent chromium. Honeywell proposes this supplemental treatment event to further remediate soils in these areas.

In response to the Plaintiffs' comments in their May 23, 2016 correspondence, this event will include the injection of CAPS within all original treatment points, not just the remaining areas of soil exceedances. The attached technical memorandum provides further details on this proposed re-injection program.

This proposed work will be conducted in general accordance with the Updated Work Plan for In-Situ Treatment of Chromium Impacted Soils, dated August 2015 (Updated Work Plan) and a new NJDEP Permit-by-Rule Discharge to Groundwater Authorization (DGW Permit) which is being obtained as the previous permit has expired. Honeywell and Amec Foster Wheeler anticipate receipt of this new DGW Permt such that implementation of the supplemental injection event can be completed in the third quarter 2016 utilizing ERFS as our subcontractor.

We are prepared to discuss this matter further at the next All Parties call if the parties desire. If you have any questions in the meantime, please call me at (973) 455-2175.

Sincerely,

William J. Hague
Global Director, Remediation
Design and Construction

WJH:dn/sgf

Encl: 7/8/16 Amec Foster Wheeler Technical Memorandum: Summary of Proposed In-Situ Treatment Program for Hexavelent Chromium Impacted Soils – Additional CAPS Injections, SA-6 North, Site 087

cc: (electronic copy only)
Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall
Jason Watson – City Hall
Agnieszka Antonian - Connell Foley LLP
Kevin Coakley, Esq. - Connell Foley LLP
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP
Dr. Benjamin Ross - Disposal Safety, Inc.
Tom Byrne - Honeywell
Maria Kaouris - Honeywell
John Morris - Honeywell
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP
Steve Egnaczyk - The Louis Berger Group, Inc.
Thomas Lewis - The Louis Berger Group, Inc.
Mary Hogan - Walsh Pizzi O'Reilly Falanga LLP
Hector Ruiz - Walsh Pizzi O'Reilly Falanga LLP
Liza Walsh - Walsh Pizzi O'Reilly Falanga LLP

Memo

Date: July 8, 2016

From: Joe Clifford/Dennis Nagg – Amec Foster Wheeler

To: Bill Hague – Honeywell

cc: John Morris, Maria Kaouris, John Mojka – Honeywell
Jeremy Karpatkin, Michael Daneker – Arnold & Porter

Subject: Proposed In-Situ Treatment Event for Remaining Hexavalent Chromium Impacted Soils – Treatment Area 10-1 SA-6 North, Site 087

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler), on behalf of Honeywell, has prepared this memorandum to summarize the proposed supplemental injection event of calcium polysulfide (CAPS) for in-situ treatment of hexavalent chromium (Cr(VI)) impacted soils in the northern section of Treatment Area 10 (TA-10-1) at SA-6 North at Site 087 (the Site, **Figure 2 (Revised)**). The initial in-situ treatment event occurred between August and September 2015 and was summarized in an October 12, 2015 technical memorandum. Subsequent to this initial CAPS injection, post-treatment soil samples were collected approximately six months later to provide an early indication of the efficacy of this treatment.

As detailed in a May 6, 2016 technical memorandum, post in-situ analytical results showed that the majority of areas treated were now below the 20 mg/kg clean up criteria. However, 5 out of 20 sample points contained soil which will require additional treatment. Based on these results and due to the limited timeframes remaining before potential redevelopment, Amec Foster Wheeler proposes a supplemental CAPS injection event to further remediate soils in these areas. Although we do not feel it is necessary for the efficacy of the treatment program, as requested in the Plaintiffs' May 23, 2016 letter, CAPS will be re-injected within all five original treatment points, not just the remaining areas of soil exceedances.

Amec Foster Wheeler, Mutch Associates, and our injection subcontractor (ERFS) reviewed the initial treatment event and have made some modifications to the approach as detailed within this memo. The modifications include a requirement for a slower and prolonged injection delivery approach. Nevertheless, the proposed additional CAPS injections will be conducted in general

200 American Metro Blvd
Suite 113
Hamilton, NJ 08619
609-689-2829
amecfw.com

accordance with Amec Foster Wheeler's Updated Work Plan for In-Situ Treatment of Chromium Impacted Soils (August 2015) and ERFS' In-Situ Chemical Reduction Implementation Work Plan (September 2013). Injections will be implemented under a pending NJDEP Permit-by-Rule Discharge to Groundwater (PBR DGW) Authorization.

Scope of Supplemental In-Situ Injection Event

The attached **Table 1** indicates the injection volume estimates for the in-situ injection program for the northern portion of TA-10-1 and **Figure 5A (Revised)** shows this treatment area. The calculated theoretical volume of required CAPS in **Table 1** has been increased by a factor of five. Additionally, this volume has been increased per the available volume increments for which CAPS can be purchased (i.e. 55 gallon drums). The amount of potable water needed to maintain solution has also been adjusted to the estimated volume.

Other than the delivery approach outlined below, means and methods will generally follow the February 2013 Revised WP; ERFS' In-Situ Chemical Reduction Implementation Work Plan, dated September 2013; and ERFS Health and Safety Plan, dated June 2013 (Revised July 2014).

The in-situ injection event will be implemented as follows:

- Injections in subarea TA-10-1 will occur from 10 to 16 feet below grade.
- Injections will occur over a 6-foot vertical profile.
- Ten (10) 1-inch diameter PVC injection wells (IWs) will be drilled and installed within subarea TA-10-1, grouped in 5 nested pairs, in the same general location as the previous 5 injection points (**Figure 5A (Revised)**). Wells within each pair will be screened at 3-foot intervals, one from 10 to 13 feet bgs and one from 13 to 16 feet bgs, to increase the vertical distribution of CAPS.
- A total of 825 gallons of 29% CAPS will be mixed with approximately 2,425 gallons of potable water to produce 3,250 gallons of CAPS solution.
- The 3,250 gallons of CAPS solution will be gravity fed from tanker trucks into the 10 IWs utilizing hosing, valves, and associated fittings. Injections will occur over an estimated 5 weekly dosages of 650 gallons each. Each IW will receive 65 gallons of solution during each event.
- Areas surrounding injection locations will be monitored for evidence of daylighting.

- If daylighting occurs, the liquid will be contained at the daylighting site and be allowed to seep back into the ground.
- Injection activities will be adjusted as necessary to eliminate excessive daylighting.
- Groundwater monitoring wells 087-MW-132, 087-MW-133, and 087-MW-134 installed between subarea TA-10-1 and the adjacent force main (FM) for the 2015 injection event have been maintained in the area. Each of these monitoring wells will be monitored for sulfate and sulfide in the shallow groundwater. As a contingency measure, if the sulfate concentrations in either one or both of 087-MW-133 and 087-MW-134 reach 150 milligrams per liter (mg/L), clean potable water will be injected into both wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the FM. These proposed response measures were accepted by NJDEP and PVSC to allay concerns about the sulfate in shallow groundwater in the vicinity of the FM. Additionally, the five temporary well points (TWPs) 087-TWP-37 through 087-TWP-41 installed for the 2015 injection event have been maintained in the area and will also be monitored for sulfate and sulfide, but will not be subject to the limitations and contingency measured noted above as they are not proximate to the FM.
- Groundwater samples will be collected from the TWPs and MWs within the vicinity of the treatment area (see **Figure 5A (Revised)**) for analysis of sulfate and sulfide prior to the start of injections (baseline) and each week between dosages and for several weeks after the last dosage. Additional sampling may be implemented if conditions warrant.
- The following measurements will be taken and recorded in TWPs and MWs prior to the start of injections (baseline), during injections, and following completion of injections as required:
    - Depth to groundwater;
    - Groundwater quality parameters, including pH, oxidation/reduction potential (ORP), specific conductivity (SC), and total dissolved solids (TDS);
    - Hydrogen sulfide (H2S) and volatile organic compounds (VOCs) in the headspace of the PVC riser pipe; and
    - Groundwater color and/or odor.
- The breathing zones at storage, mixing, and injection areas will be monitored for hydrogen sulfide (H_2S).
- The breathing zones at drilling locations will be monitored for volatile organic compounds (VOCs) and H_2S.

- Honeywell will obtain a new Discharge to Groundwater – Permit By Rule from NJDEP for the injection activities.
- All as-built nested IW locations will be surveyed to determine their position.

Performance Assessment Soil Sampling and Reporting

Approximately six months after the final (fifth) weekly injection dosage in subarea TA-10-1 (weather permitting), we will collect and analyze soil samples in accordance with the February 2013 Revised WP. Additionally, Honeywell may seek to conduct the final sampling event sooner than 3 years after the completion of the TA-10-1 injection program. In the event Honeywell seeks to advance the final sampling event, Honeywell will provide notice to the parties.

Upon receipt of final validated analytical results, the performance assessment soil sampling will be summarized in a memorandum and on tables and “chem-box” figures and will be transmitted to All Parties in a timely manner.

FIGURES

UTILITY LOCATIONS BASED ON ALTA/ASCM LAND TITLE SURVEY FOR BLOCK 1290.1 – LOTS 2D,2E,15D, 15B & 16A, DATED 5/23/08

REV.	DATE	STATUS	PRPD BY	CHKD BY

Amec Foster Wheeler PROJECT No. 3480150438
DRAWING: TARGETED IN–SITU TREATMENT AREAS–03

PREPARED/DATE: STR 06/09/15

CHECKED/DATE: DN 06/09/15

amec foster wheeler

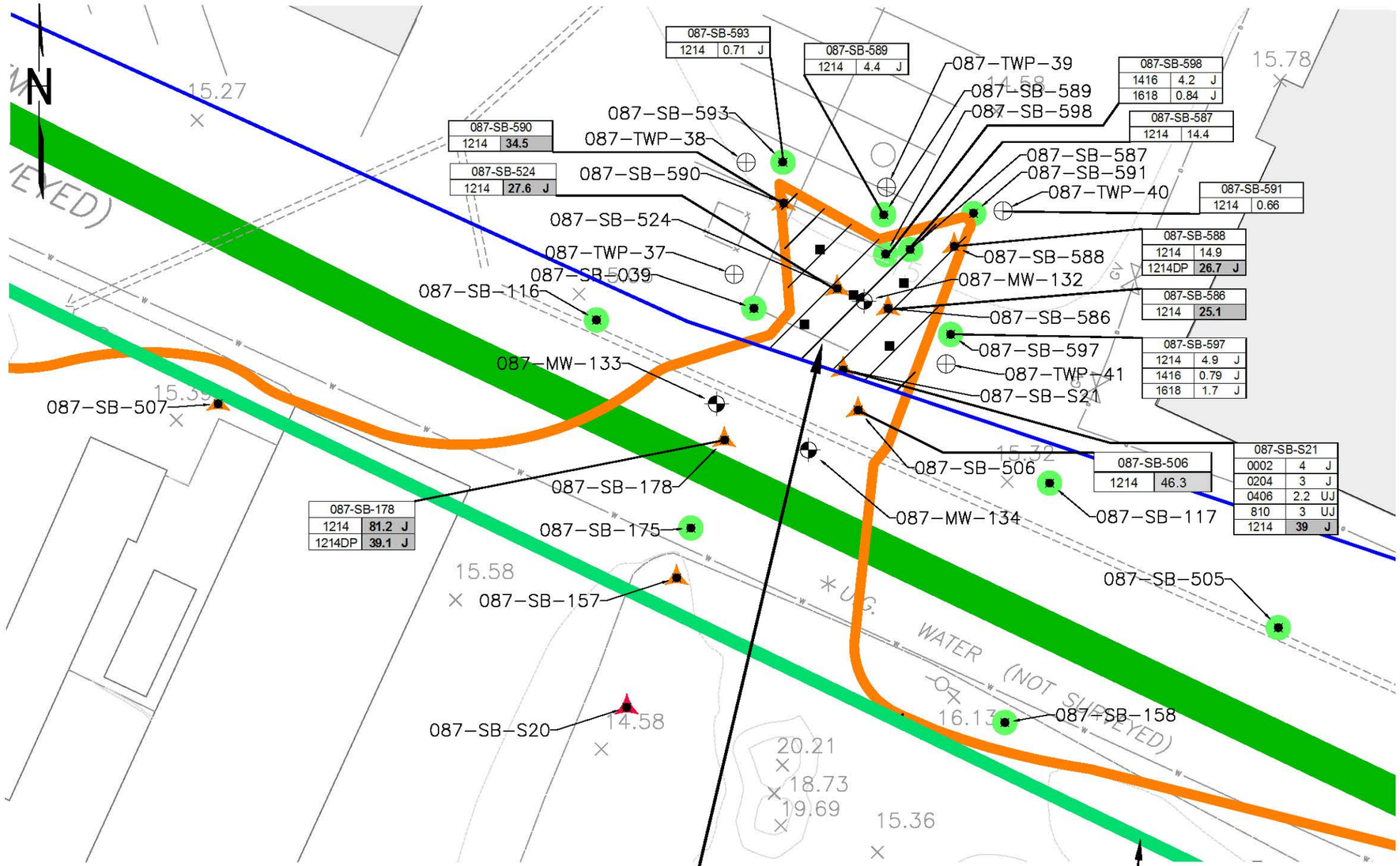
ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 2 (REVISED)
TARGETED IN-SITU
TREATMENT AREAS
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY

"WHICH THIS MAY BE DELIVERED, ANY OTHER USE OR RELIANCE ON THE DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY"

P:\CADD\HONEYWELL\JERSEY CITY\SA 6 NORTH\REPORT\3480150438\5710\CURRENT DRAWINGS\TARGETED IN-SITU TREATMENT AREAS-03.dwg Tue, 09 Jun 2015 - 3:54pm rcott.radke Layout: FIG 2

THIS DOCUMENT IS THE PROPERTY OF AMEC FOSTER WHEELER AND IS LOANED TO THE CLIENT FOR ITS USE AND REPRODUCTION. THIS DOCUMENT IS CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED, AND (2) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN ELICITED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.



TARGETED TREATMENT AREA 10–1
- 5 INJECTION POINTS – SPACED @ 15' O.C.
- CONTAMINATED ZONE 12'–14'
- INJECTION ZONE 10'–16'
- NUMBER OF INJECTION POINTS MAY BE ADJUSTED IN THE FIELD

AREA = 697 SF

PROPOSED HYDRAULIC BARRIER WALL.

LEGEND

- PREVIOUS SOIL BORINGS
- PROPOSED NEW PERMANENT MONITORING WELL LOCATION
- INJECTION POINT LOCATION
- PROPOSED OBSERVATION TEMPORARY WELL POINT (TWP)
- <20 ppm HEXAVALENT CHROMIUM SAMPLE LOCATION
- 20–240 ppm HEXAVALENT CHROMIUM SAMPLE LOCATION
- >240 ppm HEXAVALENT CHROMIUM SAMPLE LOCATION
- BLOCK/LOT LINE (APPROXIMATE LOCATION)
- STORM SEWER
- 72" FORCEMAIN SANITARY SEWER
- 54" OUTFALL (ABANDONED)
- NORTHERN EDGE OF BAYFRONT REDEVELOPMENT CURBLINE OF NEW STEGMAN BOULEVARD
- LIMITS OF TARGETED IN–SITU TREATMENT
- RELOCATED HYDRAULIC BARRIER
- APPROXIMATE LIMITS OF AREA WHERE DETECTED HEXAVALENT CHROMIUM CONCENTRATION VALUES >20 mg/kg
- EXISTING BUILDINGS
- IN–SITU TREATMENT AREA
- u NOT DETECTED
- J ESTIMATED CONCENTRATION

UTILITY LOCATIONS BASED ON ALTA/ASCM LAND TITLE SURVEY FOR BLOCK 1290.1 – LOTS 2D,2E,15D, 15B & 16A, DATED 5/23/08

NOTE:

SEE FIGURE 2 FOR LOCATION OF DETAIL MAP.

0 10 20 40
SCALE IN FEET

REV.	DATE	STATUS	PRPD BY	CHKD BY
	12/05/11			

Amec Foster Wheeler PROJECT No. 3480150438
DRAWING: TARGETED IN–SITU TREATMENT NORTHERN PORTION

PREPARED/DATE: STR 06/05/15
CHECKED/DATE: DN 06/05/15

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 5A (REVISED)
PROPOSED TARGETED IN-SITU INJECTION NORTHERN PORTION OF TREATMENT AREA 10-1
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY

TABLE 1

TABLE 1
INJECTION ESTIMATES
TREATMENT AREA 10, SA-6 NORTH, SITE 087

Honeywell Inc.
Jersey City, New Jersey

Treatment Area	Totals	10-1
Depth Interval (ft bgs)		12-14
Thickness (ft)		2
Area (ft^2)		800
Area of injection, SF	800	800
Zone of Injection (feet below grade)		12-14
Height of Injection (feet)		2
Soil Volume for reagent addition (bcy)		59
Soil Pore Volume (gallons at 30%)	3,591	3591
Hex Cr Concentration, ppm		39.0
Assumed Soil Density (tons/cy)		1.6
Weight of soil in treatment zone (lbs)		189,630
Total mass load exceeding 20 ppm Hex Cr		4
CaSx Dose at 1X ==> 25.3 lbs of CsSx 29% solution per 1 lb of Cr (VI) **[x=5]**		25.3
CaSx Stoichiometric Dosage @29% Solution		5.00
CaSx Dose at 2.5X [at 1X ==> 25.3 lbs of CsSx 29% solution per 1 lb of Cr (VI)]		126.5
CaSx (lbs) @29% Solution for total Hex Cr Mass at 2.5X		456
CaSx 29% solution Density, lbs/gal		10.6
CaSx (Gallons) @29% Solution for total Hex Cr Mass at 5X		43
CaSx solution application volume (gallons at 25% volume exchange)		898
Additional CaSx (Gallons) @29% Solution for 2-ft interval above and below		86
Additional CaSx solution application volume (gallons at 25% volume exchange) for 2-ft interval above and below		1,795
Total CaSx (Gallons) @29% Solution (from 2-ft above to 2-ft below zone)		129
Total CaSx solution application volume (gallons at 25% volume exchange) from 2-ft above to 2-ft below zone		2,693
Additional 10% CaSx (Gallons) @29% Solution safety factor		13
Additional 10% CaSx solution application volume (gallons at 25% volume exchange) from 2-ft above to 2-ft below zone		269
TOTAL CaSx (Gallons) @29% Solution	142	142
TOTAL CaSx (Gallons) @29% Solution (5X and rounded up)[1]	715	**715**
TOTAL CaSx solution application volume (gallons at 25% volume exchange)	2,962	**2,962**
CaSx Solution Injected Concentration		7.0%
Max # DP Injectors (depth = midpoint of treatment interval, 150 sf coverage/pt)	5	5

Prepared By: JAB 6/21/16
Checked By: DN 6/23/16

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

October 12, 2015

Via Electronic Delivery

The Honorable Robert G. Torricelli
Office of the Special Master
RGTSpecialMaster@aol.com

Re: Summary of In-Situ Treatment of Hexavalent Chromium Impacted Soils
Treatment Area 10-1 Only
Study Area 6 North (Site 087)
Jersey City, New Jersey

Dear Senator Torricelli:

As discussed at the All Parties meeting on September 15, 2015, Honeywell's engineering consultant, Amec Foster Wheeler, completed field activities associated with the treatability injection of reductants at SA-6 North, specifically Treatment Area 10-1 which is north of the 72-inch forcemain. This work was conducted in accordance with the Updated Work Plan for In-Situ Treatment of Chromium Impacted Soils, dated August 2015 (Updated Work Plan) and the NJDEP Permit-by-Rule Discharge to Groundwater Authorization, dated July 14, 2015.

The attached technical memorandum prepared by Amec Foster Wheeler provides a summary of the field activities. If necessary, we are prepared to walk the Parties through the enclosed information at the next All Parties call scheduled for October 20, 2015. In the meantime, should you have any questions regarding this submittal or require additional information, please contact me at (973) 455-2175.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:dn/sgf

Encl: 10/12/15 Amec Foster Wheeler Technical Memorandum: Summary of In-Situ Treatment of Hexavalent Chromium Impacted Soils, SA-6 North, Treatment Area 10-1

cc: (electronic copy only)
Joe Clifford – Amec Foster Wheeler
Michael Daneker – Arnold & Porter LLP
Jeremy Karpatkin – Arnold & Porter LLP
Kim Hosea – Carpenter Environmental Associates, Inc.
Jeremy Farrell – City Hall
Jason Watson – City Hall
Agnieszka Antonian – Connell Foley LLP
Kevin Coakley, Esq. – Connell Foley LLP
Liza Walsh – Connell Foley LLP
Frank Borin – DeCotiis, Fitzpatrick & Cole, LLP
Kevin Kinsella – DeCotiis, Fitzpatrick & Cole, LLP
Dr. Benjamin Ross – Disposal Safety, Inc.
David Isabel – Golub & Isabel PC
Tom Byrne – Honeywell
Maria Kaouris – Honeywell
John Morris – Honeywell
Alicia Clark Alcorn – Terris, Pravlik & Millian, LLP
Kathleen Millian – Terris, Pravlik & Millian, LLP
Carolyn Smith-Pravlik – Terris, Pravlik & Millian, LLP
Steve Egnaczyk – The Louis Berger Group, Inc.
Thomas Lewis – The Louis Berger Group, Inc.

Memo

Date: October 12, 2015

From: Joe Clifford/Dennis Nagg, Amec Foster Wheeler

To: Bill Hague – Honeywell

cc: John Morris, Maria Kaouris, John Mojka – Honeywell
Jeremy Karpatkin, Michael Daneker – A&P

Subject: Summary of In-Situ Treatment of Hexavalent Chromium Impacted Soils, SA-6 North, Treatment Area 10-1

This memorandum presents a summary of the field activities recently completed for the in-situ treatment of hexavalent chromium (Cr(VI)) impacted soils at SA-6 North at TA-10-1. As shown by the attached tables and figures, we successfully injected the proposed volumes of calcium polysulfide (CAPS) in the designated area consistent with the proposed plan.

BACKGROUND

Amec Foster Wheeler retained ERFS of Lakewood, New Jersey to implement the in-situ injection of CAPS on behalf of Honeywell. The Amec Foster Wheeler/ERFS team implemented the in-situ program at the Site in three non-consecutive days beginning on August 17, 2015. The Amec Foster Wheeler/ERFS team paused the in-situ program on August 18, 2015 after one injection point (IP-1). On September 9, 2015 the Amec Foster Wheeler/ERFS team remobilized and implemented the in-situ program through September 10, 2015 in accordance with the following documents:

- NJDEP Permit-by-Rule Discharge to Groundwater Authorization, dated July 14, 2015;
- Amec Foster Wheeler's Updated Work Plan for In-Situ Treatment of Chromium Impacted Soils, dated August 2015 (Updated Work Plan); and
- ERFS' In-Situ Chemical Reduction Implementation Work Plan, dated September 2013.

TREATMENT AREAS

The area of impacted soils is located immediately proximate to the 72 inch force main (FM) (see **Figure 2 (Revised)**). The 72 inch FM is installed at an approximate invert elevation of 3.0 feet msl or approximately 12 feet below grade (source: Record Drawings No. 7 Plan, Existing Outfall and No. 8 Profiles, Emergency Overflow Structures prepared by LMS, Inc.) The depth to the chromium impacted material is 12 to 14 feet below existing grade. Therefore, excavation of impacted soils in TA-10 would potentially result in undermining of the FM during removal of the

200 American Metro Blvd
Suite 113
Hamilton, NJ 08619
609-689-2829
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impacted soils. Although the 72 inch FM is supported by a pile foundation system, there is still a risk of joint separation during soil excavation activities due to the fact that one or more unrestrained pipe joints may exist along this straight run portion of piping.

Honeywell has implemented CAPS injections in subarea TA-10-1 (See **Figure 5A (Revised)**), north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project (see **Photo 1**). This subarea is approximately 800 square feet. Honeywell reviewed this proposed CAPS injection program with NJDEP and PVSC to allay concerns about impacts to the FM from sulfate. To monitor sulfate conditions in shallow groundwater, one permanent MW (087-MW-132) was installed in the center of the injection area and two permanent MWs (087-MW-133 and 087-MW-134) were installed between subarea TA-10-1 and the FM. As a contingency, Honeywell further proposed that if the sulfate concentrations in either one or both of 087-MW-133 and 087-MW-134 reach 150 milligrams per liter (mg/L), that clean potable water would be injected into both wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the FM. Both agencies agreed that these proposed measures addressed their concerns about the sulfate in shallow groundwater in the vicinity of the FM. In accordance with the Updated Work Plan, Amec Foster Wheeler has, to date, collected baseline and four weekly post-injection groundwater samples from the MWs and TWPs for sulfide and sulfate analysis to monitor groundwater conditions in the area. This groundwater data is summarized in **Table 1**. The data indicates that sulfate concentrations in the MWs between the injection area and the 72-inch FM (087-MW-133 and 087-MW-134) are not above 150 mg/L and therefore, do not pose a concern to the concrete pipe. Depending on results, groundwater sampling of the TWPs and MWs will continue for several more weeks.

TEMPORARY MONITORING WELL INSTALLATION

ERFS subcontracted Summit Drilling (Summit) of Bridgewater, New Jersey to install MWs and TWPs prior to the implementation of the in-situ injection program. Summit obtained well permits from NJDEP prior to mobilizing to the Site. MWs were installed on August 10, 2015 and TWPs on August 11, 2015. Summit's New Jersey-licensed well driller utilized a Geoprobe® rig outfitted with hollow stem augers to drill and install the MWs and TWPs at the locations shown on **Figure 5A (Revised)** in accordance with NJDEP well drilling and construction standards in N.J.A.C. 7:9D and as described below:

- One (1) permanent 2-inch diameter MW was installed in the center of subarea TA-10-1 and two permanent MWs were installed between subarea TA-10-1 and the FM to monitor sulfate in the shallow groundwater.
- Five (5) 1-inch diameter TWPs were installed adjacent to (around the perimeter of) subarea TA-10-1.

The MWs and TWPs were constructed as follows:

- MWs were constructed of 10 feet of 2-inch diameter polyvinyl chloride (PVC) 0.010-inch slotted well screen/riser pipe with screens set from 6 to 16 feet below ground surface (bgs). The annular space around the screen was filled with No. 1 graded sand to 12 inches above the top of the screen. At least 12 inches of hydrated bentonite seal was

placed above the sand pack, and the remaining annular space was filled with a neat bentonite/cement grout.

- An 8-inch diameter, steel, flush-mounted traffic-rated protective well cap was installed at the top of each MW well borehole.
- TWP boreholes were drilled with a combination of the hollow stem augers for the first 5 feet below ground surface (ft bgs) and 2-inch diameter direct push hollow casing sleeves fitted with an expendable drive point for the remainder of the borehole. All TWP boreholes were drilled to 16 feet bgs.
- The TWPs were constructed from 1-inch diameter PVC 0.010-inch slotted well screen/riser pipe with screens set from 9 to 16 feet. Once the TWP boreholes were drilled, the PVC well screens/risers were installed within the casing sleeves/hollow stem augers. A sand pack was installed around the well screens to approximately 12 inches above the screen and a combination of hydrated bentonite chips and bentonite/cement grout was placed within the remaining annular space to grade to mitigate any short-circuiting of injection fluids. The tops of the PVC riser pipes protrude above the ground surface and are affixed with threaded caps.

Following the installation of the MWs and the TWPs all of the wells were developed by pumping until the pumped water ran clear. On August 14, 2015, groundwater samples from each MW and TWP were collected for analysis of sulfide and sulfate to assess baseline groundwater conditions in subarea TA-10-1. Additionally, the horizontal positions and the elevations of the tops of the riser pipes on each MW and TWP were surveyed by a New Jersey-licensed surveyor from Maser Consulting, P.A. of Red Bank, New Jersey.

The following measurements were taken and recorded in the MWs and TWPs prior to the start of injections (baseline) as follows:

- Depth to groundwater;
- Groundwater quality parameters, including pH, oxidation/reduction potential (ORP), specific conductivity (SC), and total dissolved solids (TDS);
- Hydrogen sulfide (H_2S) and volatile organic compounds (VOCs) in the headspace of the PVC riser pipe; and
- Groundwater color and/or odor.

CHEMICAL STORAGE/MIXING AREA MOBILIZATION

On August 18, 2015, prior to the initiation of the injection program, ERFS set up chemical storage/mixing stations (see **Photo 2**). Portable pop-up secondary containment berms were deployed and all CAPS containers, mixing tanks, and pumps were located within the berms. ERFS took delivery of the 29% stock CAPS solution in 55-gallon plastic drums. Potable water for mixing the diluted solution was obtained from a nearby fire hydrant maintained and operated by Jersey City Municipal Utility Authority (JCMUA) at the SA-6 North Site.

ERFS conducted all mixing operations in plastic 500-gallon mixing tanks within the secondary containment berms at the mixing stations. 29% stock CAPS solution was transferred to the mixing tanks from the totes or drums using a drum pump. ERFS mixed enough solution for one IP at a time. Only enough diluted CAPS solution was mixed for the day's injection events; no solution was kept overnight.

INJECTION PROGRAM

The selection of the reductant and the delivery methods are based on full scale work conducted by Honeywell at SA-6 North and SA-6 South. Direct injection of a diluted calcium polysulfide (CAPS) aqueous solution was used for this treatment program (see **Photo 3**). A Geoprobe® drill-rig was utilized to advance the injection tooling to the desired treatment depth. The reductant was injected into the formation directly from the drill tool string, without the need to construct injection wells. Portable pumps were utilized for reagent transfer and injection. Connections were made using chemical-grade hoses with quick disconnect couplers. Pumping rates and pressures were controlled manually by the chemical feed operators. The contaminated interval targeted by the treatment program is approximately 2 feet thick. To ensure adequate coverage and good permeation of the targeted interval by the reductant, the injection spanned a zone from 2 feet above to 2 feet below the contaminated zone. Injections did not continue below the meadow mat.

Based on our experience from the previously completed in-situ treatment programs at TA-7, TA-8, Site 079, Site 163, and the pilot program at Site 124, the injection program is designed based on 30 percent porosity and 25 percent volume exchange. A 10 percent excess was included in the final injectant volume estimate. Because CAPS contains a mixture of polysulfides with x ranging from 2 to 5, we have used x=5 (the least favorable formulation) as the basis for estimating stoichiometric demand. Additionally, Amec Foster Wheeler increased the stoichiometric ratio of the CAPS solution to approximately 5X to account for potential ambient soil reductant demand.

The locations of the five (5) injection points in subarea TA-10-1 are shown on **Figure 5A (Revised)**. Injections were carried out as follows:

- Means and methods generally followed ERFS' In-Situ Chemical Reduction Implementation Work Plan, dated September 2013; and ERFS' Health and Safety Plan, dated June 2013 (Revised July 2014).
- Injections in subarea TA-10-1 occurred from 10 to 16 feet below grade.
- Injections occurred over a 6-foot vertical profile.
- A total of 165 gallons of 29% CAPS were mixed with approximately 3,085 gallons of potable water to produce the CAPS 3,250 gallon solution.
- The 3,250 gallons of CAPS solution was injected into 5 IPs; 650 gallons of CAPS solution per IP.
- The breathing zones at storage, mixing, and injection areas were monitored for hydrogen sulfide (H_2S).

- The breathing zones at drilling locations were monitored for volatile organic compounds (VOCs) and H2S.

Boreholes for the IPs were drilled with a Geoprobe® direct push drill rig (See **Photo 3**). Injection intervals were 6 feet from top to bottom. Injections were conducted by driving a pressure-activated injection probe (see **Attachment 1**) to 16 ft bgs, attaching an injection well head to the drive pipe (see **Photo 4**), and applying 50 gallons of 1.47% CAPS solution to that depth interval. Since ERFS purchased and used three 55-gallon drums of 29% CAPS for this injection program, this concentration of CAPS solution was slightly higher than proposed in the Updated Work Plan. Once the specified volume had been injected, the rods were pulled up 6 inches and another 50 gallons of 1.47% CAPS solution was injected. That process was repeated over a total of thirteen 6-inch intervals from top to bottom at each IP location, for a total vertical injection interval of 6 feet at each location.

Table 2 summarizes the operational parameters of the injection program as proposed in the Updated Work Plan as well as those for the completed injection program to compare one to the other. The proposed and completed information on **Table 2** includes the number of IPs, the number of TWPs, and the volume of CAPs, CAPs solution, and concentration of CAPs injected for each area. In addition, the injection time and average flow rates for each area are presented on **Table 2**. By comparing the baseline monitoring data to measurements collected during or slightly following injections and knowing the distance from the injection point to the TWP at which the data was collected, ERFS determined the minimum and average ROI for the treatment area. A summary of the injection logs is presented on **Table 4** and a summary of the monitoring data collected in the TWPs prior (see **Photo 5**), during (for brevity, one representative measurement), and after the injections is shown on **Table 3**. For brevity, only measurements of depth to groundwater, pH, ORP, and SC are shown on **Table 3**. During mixing operations and injections, the breathing zone in the work area and at the perimeter was monitored for odors and H_2S using a 4-gas meter and VOCs using a photoionization device.

Key observations of the injection program are summarized below:

- During mixing operations, there was a slight occasional H_2S odor within the work zone, but no readings were exhibited above background levels in the work zone or at the perimeter.
- The overall average injection flow rate for the Site was 11 gallons per minute, which was about what ERFS expected.
- Propagation of injectant fluids was evidenced by one or more of the following:
    - Decrease in the depth to groundwater table;
    - Marked increase in pH;
    - Marked decrease in ORP; and
    - Changes in SC or TDS.

- The minimum ROI was approximately 10 feet, but average ROIs were as high as 15 feet based upon responses in multiple TWPs during injections.

Based on the above summary, Amec Foster Wheeler is confident that the field implementation phase was successful.

FIGURES

LEGEND

- BLOCK/LOT LINE (APPROXIMATE LOCATION)
- STORM SEWER
- 72" FORCEMAIN SANITARY SEWER
- 96" COMBINED SEWER OUTLET
- 84" SANITARY SEWER
- 54" OUTFALL (ABANDONED)
- NORTHERN EDGE OF BAYFRONT REDEVELOPMENT CURBLINE OF NEW STEGMAN BOULEVARD
- PROPOSED SLURRY WALL
- 20–240 ppm HEXAVALENT CHROMIUM
- >240 ppm HEXAVALENT CHROMIUM
- EXISTING BUILDINGS
- SOIL EXCEEDANCE AREA >20 ppm HEXAVALENT CHROMIUM
- IN–SITU TREATMENT AREA

0 100 200 400
SCALE IN FEET

UTILITY LOCATIONS BASED ON ALTA/ASCM LAND TITLE SURVEY FOR BLOCK 1290.1 – LOTS 2D,2E,15D, 15B & 16A, DATED 5/23/08

REV.	DATE	STATUS	PRPD BY	CHKD BY

Amec Foster Wheeler PROJECT No. 3480150438
DRAWING: TARGETED IN–SITU TREATMENT AREAS–03

PREPARED/DATE: STR 06/09/15

CHECKED/DATE: DN 06/09/15

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 2 (REVISED)
TARGETED IN-SITU
TREATMENT AREAS
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY

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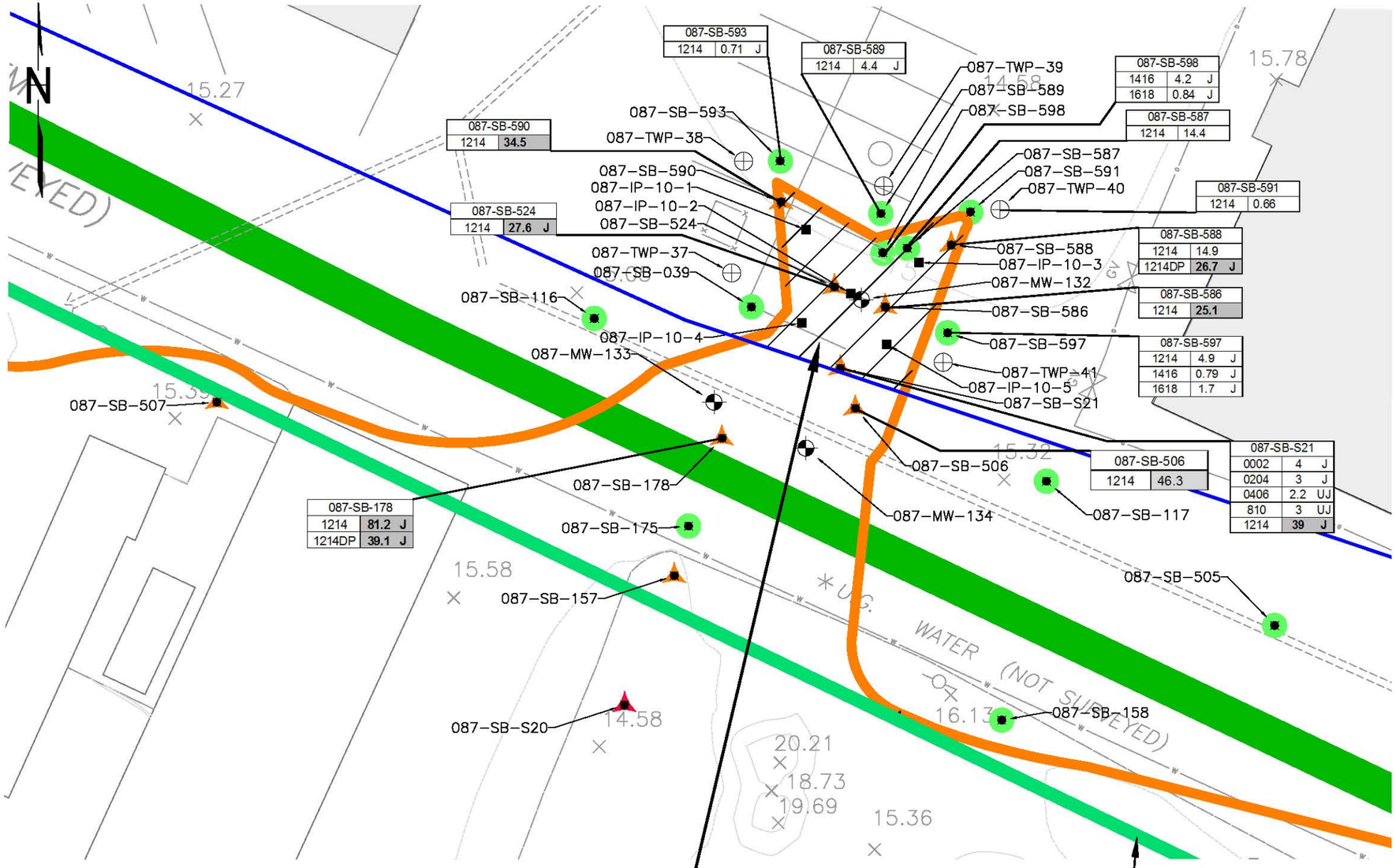
P:\CADD\WINCHWELL\JERSEY CITY\SA 6 NORTH\REPORT\3480150438\5710\CURRENT DRAWINGS\TARGETED IN-SITU TREATMENT AREAS-03.dwg Tue, 09 Jun 2015 - 3:34pm rcott.radke Layout: FIG 2



LEGEND

- PREVIOUS SOIL BORINGS
- PROPOSED NEW PERMANENT MONITORING WELL LOCATION
- INJECTION POINT LOCATION
- PROPOSED OBSERVATION TEMPORARY WELL POINT (TWP)
- <20 ppm HEXAVALENT CHROMIUM SAMPLE LOCATION
- 20–240 ppm HEXAVALENT CHROMIUM SAMPLE LOCATION
- >240 ppm HEXAVALENT CHROMIUM SAMPLE LOCATION
- BLOCK/LOT LINE (APPROXIMATE LOCATION)
- STORM SEWER
- 72" FORCEMAIN SANITARY SEWER
- 54" OUTFALL (ABANDONED)
- NORTHERN EDGE OF BAYFRONT REDEVELOPMENT CURBLINE OF NEW STEGMAN BOULEVARD
- LIMITS OF TARGETED IN-SITU TREATMENT
- RELOCATED HYDRAULIC BARRIER
- APPROXIMATE LIMITS OF AREA WHERE DETECTED HEXAVALENT CHROMIUM CONCENTRATION VALUES >20 mg/kg
- EXISTING BUILDINGS
- IN-SITU TREATMENT AREA
- u NOT DETECTED
- J ESTIMATED CONCENTRATION

UTILITY LOCATIONS BASED ON ALTA/ASCM LAND TITLE SURVEY FOR BLOCK 1290.1 – LOTS 2D,2E,15D, 15B & 16A, DATED 5/23/08

NOTE:

SEE FIGURE 2 FOR LOCATION OF DETAIL MAP.

0 10 20 40
SCALE IN FEET

REV.	DATE	STATUS	PRPD BY	CHKD BY
	12/05/11			

Amec Foster Wheeler PROJECT No. 3480150438
DRAWING: TARGETED IN-SITU TREATMENT NORTHERN PORTION

PREPARED/DATE: STR 06/05/15
CHECKED/DATE: DN 06/05/15

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 5A (REVISED)
PROPOSED TARGETED IN-SITU INJECTION NORTHERN PORTION OF TREATMENT AREA 10-1
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY

CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED, AND (2) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN DELIVERED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.

TABLES

TABLE 1
SULFIDE/ SULFATE ANALYTICAL DATA: TA-10-1

STUDY AREA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Sampling	087-MW-132		087-MW-133		087-MW-134		087-TWP-37		087-TWP-38		087-TWP-39		087-TWP-40		087-TWP-41	
Date	Sulfide	Sulfate	Sulfide	Sulfate	Sulfide	Sulfate	Sulfide	Sulfate	Sulfide	Sulfate	Sulfide	Sulfate	Sulfide	Sulfate	Sulfide	Sulfate
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
8/14/2015	<2.0	<10	<2.0	16	<2.0	<10	204	<10	54	15.2	12	<10	<2.0	<10	4.3	<10
8/19/2015	20	<10	2.6	10	16	<10	524	10.1	98	<10	90	<10	44	<10	23.3	<10
9/11/2015	30	22.4	<10	<10	10	26.5	123	35.5	70	31.6	180	48.3	75	<10	681	81.4
9/18/2015	56	85.3	32	<10	28	<10	690	55	190	164	76	144	84	82.7	452	21.9
9/25/2015	22.9	82.1	3	<10	11	<10	101	103	39.8	114	45.8	52.2	30.9	61.6	158	21.6

Notes:

Baseline Readings

Preliminary Results

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Table 1 Sulifde Sulfate Data_10 1 15

Prepared By: JLD 10/01/15
Checked By: DEN 10/01/15

TABLE 2
SUMMARY OF IN-SITU INJECTION AREAS: TA-10-1

STUDY AREA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Area	Injection Date(s)	PROPOSED PER ERFS WORK PLAN						COMPLETED						Injection Time (mins)	Avg. Injection Flow Rate (gpm)	Minimum Radius of Influence (ft)	Notes
		Injection Depth (ft bgs)	No. of IPs	No. of TWPs	Stock Solution Volume (~29% CAPS) (gals)	Diluted CAPS Sol'n Injection Volume (gals)	Approx. CAPS Injection Conc (%)	Injection Depth (feet bgs)	No. of IPs	No. of TWPs	Stock Solution Volume (~29% CAPS) (gals)	Diluted CAPS Sol'n Injection Volume (gals)	Approx. CAPS Injection Conc (%)				
TA-10-1	8/18/15, 9/9/15-9/10/15	10-16	5	5	150	3,150	1.38%	10-16	5	5	165	3,250	1.47%	460	8	10	No problems noted while injecting.

Notes:

ft = Feet
bgs = Below Ground Surface
TWPs = Temporary Well Points
gals = Gallons
mins = Minutes
gpm = Gallons per Minute
psi = Pounds per Square Inch
CAPS = Calcium Polysulfide
IP = Injection Point

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Table 2 Areas Summaries_092915
Prepared By: JLD 9/28/15
Checked By: DEN 9/29/15

TABLE 3
SUMMARY OF IN-SITU INJECTION GW MONITORING DATA: TA-10-1

STUDY AREA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Area	Monitoring Point ID	Baseline, During Injections, or Final	Monitoring Date	Time	Water Depth (ft bgs)	ORP (mV)	pH	Conductivity (uS)	Notes
TA-10	087-TWP-37	Baseline	8/17/2015	9:30 AM	10.65	-30	7.59	1.68	Pre-Injections
		During Injections	8/18/2015	1:00 PM	10.09	-228	8.54	2.27	During the injection of IP-1
		During Injections	9/9/2015	8:00 AM	10.91	-129	7.74	1.59	Pre-injection of IP-2
		During Injections	9/9/2015	12:15 PM	9.80	-325	9.56	3.37	Post injection of IP-2 and IP-3
		During Injections	9/9/2015	1:50 PM	9.73	-377	10.67	2.67	Post injection of IP-4
		During Injections	9/10/2015	10:30 AM	10.42	-267	10.51	2.29	During the injection of IP-5
		Final	9/10/2015	12:40 PM	10.58	-390	10.58	2.65	Post-Injections
	087-TWP-38	Baseline	8/17/2015	9:30 AM	10.58	-55	7.49	1.19	Pre-Injections
		During Injections	8/18/2015	1:00 PM	9.61	-108	8.18	1.20	During the injection of IP-1
		During Injections	9/9/2015	8:00 AM	10.84	-171	7.64	1.28	Pre-injection of IP-2
		During Injections	9/9/2015	10:40 AM	10.26	-192	8.37	1.98	Post injection of IP-2 and During the injection of IP-3
		During Injections	9/9/2015	1:50 PM	9.82	-309	9.11	2.31	Post injection of IP-4
		During Injections	9/10/2015	10:30 AM	10.43	-256	9.20	1.720	During the injection of IP-5
		Final	9/10/2015	12:40 PM	10.50	-328	9.59	1.83	Post-Injections
	087-TWP-39	Baseline	8/17/2015	9:30 AM	10.24	-50	7.20	0.97	Pre-Injections
		During Injections	8/17/2015	1:00 PM	9.81	-341	8.55	2.40	Post injection of IP-1
		During Injections	9/9/2015	8:00 AM	10.50	-117	8.02	1.08	Pre-injection of IP-2
		During Injections	9/9/2015	10:40 AM	9.98	-174	8.12	2.14	Post injection of IP-2 and During the injection of IP-3
		During Injections	9/9/2015	1:50 PM	9.23	-230	10.20	2.69	Post injection of IP-4
		During Injections	9/10/2015	10:30 AM	9.98	-177	9.50	2.61	During the injection of IP-5
		Final	9/10/2015	12:40 PM	10.15	-228	9.34	2.57	Post-Injections
	087-TWP-40	Baseline	8/17/2015	9:30 AM	10.16	-48	7.24	1.76	Pre-Injections
		During Injections	8/18/2015	1:00 PM	9.40	-48	7.31	1.70	During the injection of IP-1
		During Injections	9/9/2015	8:00 AM	10.44	-172	7.80	1.81	Pre-injection of IP-2
		During Injections	9/9/2015	10:40 AM	10.07	-159	8.01	1.78	Post injection of IP-2 and During the injection of IP-3
		During Injections	9/9/2015	1:50 PM	8.19	-466	11.71	8.49	Post injection of IP-4
		During Injections	9/10/2015	10:30 AM	9.80	-313	11.72	3.83	During the injection of IP-5
		Final	9/10/2015	12:40 PM	10.02	-349	12.03	3.29	Post-Injections
	087-TWP-41	Baseline	8/17/2015	9:30 AM	10.56	-31	7.19	1.27	Pre-Injections
		During Injections	8/18/2015	1:00 PM	10.11	-85	7.23	1.12	Post injection of IP-1
		During Injections	9/9/2015	8:00 AM	10.83	-176	7.89	1.94	Pre-injection of IP-2
		During Injections	9/9/2015	10:40 AM	10.38	-185	8.18	1.62	Post injection of IP-2 and During the injection of IP-3
		During Injections	9/9/2015	1:50 PM	9.64	-343	10.75	2.14	Post injection of IP-4
		During Injections	9/10/2015	10:40 AM	5.42	-434	11.02	5.71	During the injection of IP-5
		Final	9/10/2015	12:35 PM	10.41	-452	11.22	5.99	Post-Injections
	087-MWP-132	Baseline	8/17/2015	9:30 AM	9.11	-2	7.35	0.987	Pre-Injections
		During Injections	8/18/2015	1:00 PM	8.70	-296	7.96	1.00	Post injection of IP-1
		During Injections	9/9/2015	8:00 AM	9.37	-107	7.87	0.95	Pre-injection of IP-2
		During Injections	9/9/2015	12:15 PM	8.08	-253	8.80	1.31	Post injection of IP-2 and During the injection of IP-3
		During Injections	9/9/2015	1:50 PM	7.94	-223	9.32	1.39	Post injection of IP-4
		During Injections	9/10/2015	10:30 AM	8.45	-266	10.33	8.71	During the injection of IP-5
		Final	9/10/2015	12:40 PM	9.01	-380	10.24	2.43	Post-Injections
	087-MWP-133	Baseline	8/17/2015	9:30 AM	9.13	-37	7.12	1.21	Pre-Injections
		During Injections	8/18/2015	1:00 PM	8.81	-35	7.32	1.18	Post injection of IP-1
		During Injections	9/9/2015	8:00 AM	9.35	-129	7.78	1.35	Pre-injection of IP-2
		During Injections	9/9/2015	12:15 PM	9.03	-154	7.85	1.27	Post injection of IP-2 and During the injection of IP-3
		During Injections	9/9/2015	1:50 PM	8.86	-177	7.88	1.17	Post injection of IP-4
		During Injections	9/10/2015	10:30 AM	9.09	-179	7.87	1.34	During the injection of IP-5
		Final	9/10/2015	12:40 PM	7.90	-261	7.90	1.21	Post-Injections
	087-MWP-134	Baseline	8/17/2015	9:30 AM	9.17	-46	7.22	1.38	Pre-Injections
		During Injections	8/18/2015	1:00 PM	9.69	-118	7.28	1.24	Post injection of IP-1
		During Injections	9/9/2015	8:00 AM	9.41	-131	7.45	1.10	Pre-injection of IP-2
		During Injections	9/9/2015	12:15 PM	8.70	-151	7.85	1.09	Post injection of IP-2 and During the injection of IP-3
		During Injections	9/9/2015	1:50 PM	8.44	-155	7.87	1.07	Post injection of IP-4
		During Injections	9/10/2015	10:30 AM	8.83	-190	7.91	1.04	During the injection of IP-5
		Final	9/10/2015	12:40 PM	9.09	-199	7.28	1.07	Post-Injections

Notes:
* Interior MWs are shaded gray.
ft = Feet
bgs = Below Ground Surface
mV = Millivolts
uS = MicroSiemens
TWP = Temporary Well Point
IP = Injection Point
mins = Minutes
hrs = Hours

P:\Active Projects\Honeywell_Jersey City\SA-6\SA-6 North Cr DGW\Injections in 10-1 Only\Summary Memo\
Table 3_GW Monitoring Data_092915
Prepared By: JLD 9/28/15
Checked By: DEN 9/29/15

TABLE 4
INJECTION LOG DURING IN-SITU INJECTION PROGRAM: TA-10-1

STUDY AREA 6 NORTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Area	Injection Point (IP) ID	Injection Date	Injection Start Depth (ft bgs)	Injection End Depth (ft bgs)	CAPs Sol'n Injected Volume (Gals)	Diluted CAPs Sol'n Injected Volume (Gals)	Injected CAPs Conc (%)	Injection Time (Mins)	Injection Flow Rate (gpm)
TA-10	IP-10-1	8/18/2015	16	10	33	650	1.47%	175	3.71
	IP-10-2	9/9/2015			33	650	1.47%	69	9.42
	IP-10-3	9/9/2015			33	650	1.47%	68	9.56
	IP-10-4	9/9/2015			33	650	1.47%	71	9.15
	IP-10-5	9/10/2015			33	650	1.47%	77	8.44
Totals	**5 Injection points**	**8/18/15, 9/9/15-9/10/15**			**165.00**	**3,250**		**460**	

Notes:

ft = Feet
bgs = Below Ground Surface
TWPs = Temporary Well Points
gals = Gallons
mins = Minutes
gpm = Gallons per Minute
psi = Pounds per Square Inch
CAPS = Calcium Polysulfide
IP = Injection Point

P:\Active Projects\Honeywell_Jersey City\SA-6\SA-6 North Cr DGW\Injections in 10-1 Only\Summary Memo\
Table 4_Injection Points_092915

Prepared By: JLD 9/28/15
Checked By: DEN 9/29/15

ATTACHMENT 1

GEOPROBE® INJECTION PROBE TOOL

Geoprobe Systems®

ENVIRONMENTAL • GEOTECHNICAL • GEOTHERMAL • MINING EXPLORATION

Product Sheet

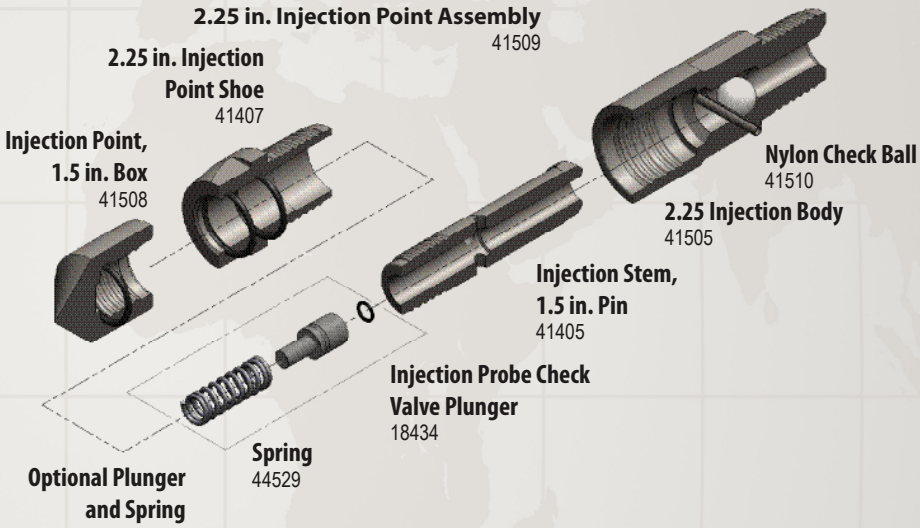
Geoprobe® 2.25 in. Injection Probe

Accurate Injection Materials Placement

• The Geoprobe® 2.25 in. Injection Probe allows for "Top Down" or "Bottom Up" injection methods. Use with the Geoprobe 2.25 Injection Pull Cap (P/N 37275).

• The four horizontal injection ports provide 360 degrees influence of remediation materials.

• During advancement & retraction of the probe, the check valve system keeps subsurface materials out of the injection tool string and helps prevent injection material back flow.



Cost Effective Injection

• No need for expendable points thus giving you a cost savings per hole.

• Compatible with all Geoprobe Systems® pump configurations.

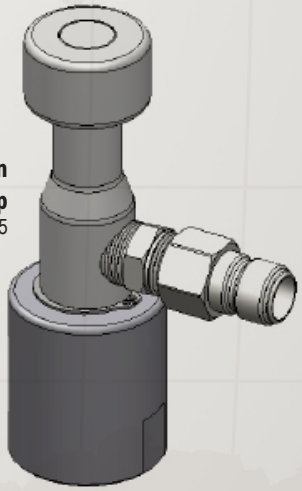
• Fast & Simple cleaning with few replaceable parts needed.

Productive Injection

• The Geoprobe® 2.25 in. Injection Probe is manufactured with Stainless Steel components and is compatible with many remediation products.

• "High Solids" materials such as cement or iron based materials are easily injected with the 2.25 in. Injection Probe.

• Quick & Easy assembly and disassembly of the probe for cleaning and simple maintenance.



1835 Wall Street • Salina, KS 67401 | 1-800-436-7762 | geoprobe.com

This document is not a final purchasing quotation. Tooling specifications are subject to change without notice.

PHOTOS

PHOTOS

Photo 1: Treatment Area 10-1 Area

Photo 2: CAPS Storage and Mixing Area with Secondary Containment

Photo 3: Summit Drilling Injection Point

Photo 4: ERFS' Well Head Injection Hose Assembly

Photo 5: Monitoring Temporary Well Points

APPENDIX S

DRAFT DEED NOTICE DOCUMENTS (CD ONLY)

DRAFT DEED NOTICE

IN ACCORDANCE WITH N.J.S.A. 58:10B-13, THIS DOCUMENT IS TO BE RECORDED IN THE SAME MANNER AS ARE DEEDS AND OTHER INTERESTS IN REAL PROPERTY.

Prepared by: _____
[Signature]

_____
[Bayfront Redevelopment LLC]

Recorded by:

_____
[Signature, Officer of County Recording Office]

_____
[Print name below signature]

DEED NOTICE CONCERNING CONTROLS INSTALLED TO CONTAIN CHROMIUM AND HISTORIC FILL CONTAMINATION UNDERLYING THE CENTRAL PARK

This Deed Notice is made as of the __ day of _____, 2017, by ***Bayfront Redevelopment LLC, whose post office address is 115 Tabor Road, Morris Plains, New Jersey 07950***. "Owner" shall mean Bayfront Redevelopment LLC together with its successors and assigns, including all successors in interest in the Property which is the subject of this Deed Notice as described fully below. The Property (also referred to herein as Restricted Area(s)") is particularly described by metes and bounds in Exhibit A-2 attached hereto.

1. THE PROPERTY. Bayfront Redevelopment LLC is the current owner in fee simple of certain real property designated as portions of ***Block 21901, Lots 5 through 10 on the tax map of the City of Jersey City, Hudson County, New Jersey***[1]; the New Jersey Department of Environmental Protection ("the Department") Program Interest ("PI") Numbers for the contaminated site which includes this property are ***Hudson County Chromate Site No. 087 PI No. G000008710 and Hudson County Chromate Site No. 088 PI No. G000008711*** (NJDEP PI# for non-chromium-

[1] All references to Block 21901 Lots 5 through 10 in this Deed Notice shall mean the applicable portions of Block 21901 Lots 5 through 10 as shown in the metes and bounds description, regardless of whether the word "portion(s)" is specifically called out or not.

related contaminants at the Property is #745719) and known as the Open Space Area pursuant to the First Amended Consent Decree Regarding the Remediation and Redevelopment of Study Area 6 North ("Consent Decree") which is attached hereto as Appendix I and is entered as an order of the Court in the following consolidated actions *JCMUA v. Honeywell International, Inc.,* D.N.J., Civ. No. 05-05955; *JCIA v. Honeywell International, Inc.,* D.N.J., Civ. No. 05-5993; and *Hackensack Riverkeeper, Inc. v. Honeywell International, Inc.,* D.N.J., Civ. No. 06-22 (consolidated under Civ. No. 95-2097). The approximate location of the Open Space Area is also referred to as Central Park in the Bayfront I Redevelopment Plan adopted by Jersey City on March 12, 2008. The Property also includes a portion of the area referred to as treatment area 10 (TA-10) that is located immediately north of the SA-6 North Open Space Area northern hydraulic barrier and south of the northern curbline of the future Stegman Boulevard. The Consent Decree restricts transfer, use and development of the Property. To the extent that there is any conflict or inconsistency between the terms of this Deed Notice and the terms of the Consent Decree, the Consent Decree shall govern.

2. REMEDIATION.

i. The Department's Bureau of State Case Management ("BCM") is the entity within the Department that is responsible for the oversight of the chromium remediation of the Property. The matter was Case No. Hudson County Chromate Site No. 087 PI# G000008710 and Hudson County Chromate Site No. 088 PI# G000008711. The Department has approved this Deed Notice as an institutional control for the Property, which is part of the remediation of the Property.

ii. N.J.A.C. 7:26-C-7 requires the Owner, among other persons, including the responsible party Honeywell International, Inc. ("Honeywell"), to obtain a soil remedial action permit for the soil remedial action at the Property. That permit will contain the monitoring, maintenance and biennial certification requirements that apply to the Property.

3. SOIL AND GROUNDWATER CONTAMINATION. Honeywell, a corporation of the State of Delaware, licensed to do business in the State of New Jersey whose post office address is 115 Tabor Road, Morris Plains, New Jersey 07950, has remediated SA-6 North to address chromium-related soil and non-chromium related soil and shallow groundwater contamination, except for the Property and certain other deed noticed areas where engineering controls were implemented. The Remedial Action Work Plan ("RAWP") for chromium remedial actions was approved by the Department on February 19, 2009 for Hudson County Chromate Site Nos. 087 and 088 which included the Property. The RAWP for non-chromium remedial actions was approved by the Department on November 10, 2009. Remedial actions for chromium were further approved pursuant to the Consent Decree.

Under both the Consent Decree and the RAWP soil and groundwater contamination remains in the Property at concentrations that do not allow for the unrestricted use of the Property. A Remedial Action Report ("RAR") for SA-6 North was submitted to the Department on March 16, 2017. The Department approved the RAR on June 1, 2017. A Construction Completion Report ("CCR") for SA-6 North to document the implementation of the Chromium Remedy pursuant to Article III of the Consent Decree (the "Chromium Remedy") to address chromium-impacted soil and groundwater for SA-6 North was entered by the Court on [DATE], [CITE TO DOCKET AND DOCKET #].

The Property encompasses approximately 10 acres. This deed notice area includes chromium, benzene, MTBE, and historic fill. The horizontal extents of the Property include an existing soil-cement-bentonite ("SCB") wall along the southern boundary of the Property with SA-7, the hydraulic barrier walls installed on the other three sides as part of the Chromium Remedy, and the portion of TA-10 that is south of the northern curbline of the future Stegman Boulevard. The engineering barrier covering the contamination in the area of the Property contained within the SCB and hydraulic barrier walls consists of an engineered Resource Conservation Recovery Act ("RCRA") cap that includes a gas collection system, base protective layer, geomembrane liner, geocomposite drainage layer, filter fabric, warning layer and cover soils. The engineering barrier in the TA-10 area of the Property consists of at least 12 feet of clean fill and the area will be capped by the future Stegman Boulevard. TheProperty includes chromium for the Open Space Area and the TA-10 area, and benzene, methyl tert-butyl ether (MTBE) and historic fill for the Open Space Area. Honeywell will restrict, or will cause Bayfront Redevelopment LLC to restrict, the future use of this area by implementing a conservation restriction, which has been recorded at the Office of the Hudson County Register, and Honeywell will transfer, or cause Bayfront Redevelopment LLC to transfer, title to the City of Jersey City (as called for in Paragraph 60(a)(iii) of the Consent Decree). The provisions of the Long Term Monitoring Plan ("LTMP") and the Open Space Design Standards ("OSDS"), developed pursuant to the Consent Decree, will apply to the Property.

The soil contamination is described, including the type, concentration and specific location of such contaminants, in Exhibit B, which is attached hereto and made a part hereof. Groundwater within the Property remains contaminated. Groundwater contaminant concentrations and restrictions for SA-6 North in its entirety are addressed in the Classification Exception Area (CEA)] approved by the NJDEP on February 16, 2012 and in a forthcoming Remedial Action Permit for Groundwater. As a result of the remaining soil contamination, there is a statutory requirement for this Deed Notice and engineering controls in accordance with N.J.S.A. 58:10B-13. Under the terms of the Consent Decree and this Deed Notice, Honeywell is responsible for monitoring and maintaining the soil and groundwater remediation for the Property in perpetuity.

4. CONSIDERATION. In accordance with the Department's approval of the chromium and non-chromium RAWPs for the remediation for the Hudson County Chromate Site Nos. 087 and 088 which includes the Property, and in consideration of the terms and conditions of that remedial action, and in accordance with the Consent Decree, and other good and valuable considerations, Owner has agreed to subject the Property to certain statutory and regulatory requirements which impose restrictions upon the use of the Property, to restrict certain uses of the Property, and to provide notice to subsequent owners, lessees and operators of the restrictions and the monitoring, maintenance, and biennial certification requirements outlined in this Deed Notice and required by law, as set forth herein.

5A. RESTRICTED AREAS. Due to the presence of these contaminants, Owner has agreed, as part of the remedial action for the Property, to restrict the use of the Property (the "Restricted Areas"); a narrative description of these restrictions, along with the associated monitoring and maintenance activities and the biennial certification requirements are provided in Exhibit C, which is attached hereto and made a part hereof. Owner will develop a binder containing a list of these restrictions

which will be maintained at either the onsite trailers or within the Groundwater Treatment Plant building and be available for inspection by governmental enforcement officials if requested.

5B. RESTRICTED LAND USES. The following land use restrictions apply to the Property:

i. The Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-12.g(10), prohibits the conversion of a contaminated site, remediated to non-residential soil remediation standards that require the maintenance of engineering or institutional controls, to a child care facility, or public, private, or charter school without the Department's prior written approval, unless a presumptive remedy is implemented;

ii. The Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-12.g(12), prohibits the conversion of a landfill, with gas venting systems and or leachate collection systems, to a single-family residence or a child care facility without the Department's prior written approval;

iii. The Consent Decree, paragraph 60, prohibits development in the Property except as allowed by paragraphs 60(j) and (k) of the Consent Decree; and

iv. The Conservation Restriction, recorded with the Hudson County Register of Deeds at Book 8644, page 662, restricts the use and development of the Property.[2]

5C. ENGINEERING CONTROLS. Due to the presence and concentration of these contaminants, the Owner has also agreed, as part of the remedial action for the Property, to the placement of certain engineering controls within the Property. A narrative description of these engineering controls, along with the associated monitoring and maintenance activities and the biennial certification requirements are provided in Exhibit C. Honeywell shall be responsible for monitoring and maintenance of engineering controls and biennial certification requirements as specified in the Consent Decree, the LTMP, and Paragraphs 8A and 8B herein.

5D. LONG TERM MONITORING PLAN. Pursuant to the Consent Decree, Honeywell has developed an LTMP which sets forth requirements for monitoring, maintaining, and repairing or replacing the soil and groundwater chromium remedial measures including engineering controls within the Property, and requirements for notification and reporting pursuant to the Consent Decree, Deed Notice, and Soil Remedial Action Permit. A copy of the LTMP is maintained by Honeywell at 115 Tabor Road, Morris Plains, NJ 07950. This Deed Notice is appended to the LTMP.

5E. OPEN SPACE DESIGN STANDARDS. Pursuant to the Consent Decree, Honeywell has prepared the OSDS which set forth the standards that must be met to ensure the protection of the Chromium Remedy during all development and other intrusive work conducted within the Property.

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[2] In the future, the boundary of the existing conservation restriction recorded on the Property will be amended to conform to the portion of the TA-10 area that is south of the northern curbline of the future Stegman Boulevard and the location of the as-built hydraulic barrier walls.

5F. WORKER TRAINING MATERIALS. All maintenance workers engaged in maintenance at the Property shall be trained in maintenance procedures that do not jeopardize the integrity of the Chromium Remedy. Workers shall be trained using materials developed by Honeywell pursuant to the Consent Decree.

6A. CHANGE IN OWNERSHIP AND REZONING.

i. The Owner and the subsequent owners and lessees, shall cause all leases, grants, and other written transfers of an interest in the Property to contain a provision expressly requiring all holders thereof to take the Property subject to the restrictions contained herein and to comply with all, and not to violate any of the conditions of this Deed Notice. Nothing contained in this Paragraph shall be construed as limiting any obligation of any person to provide any notice required by any law, regulation, or order of any governmental authority.

ii. The Owner and the subsequent owners shall provide written notice to the Department of Environmental Protection on a form provided by the Department and available at www.nj.gov/srp/forms within thirty (30) calendar days after the effective date of any conveyance, grant, gift, or other transfer, in whole or in part, of the owner's interest in the Property.

iii. The Owner and the subsequent owners shall provide written notice to the Department, on a form available from the Department at www.nj.gov/srp/forms, within thirty (30) calendar days after the owner's petition for or filing of any document initiating a rezoning of the Property to residential.

6B. SUCCESSORS AND ASSIGNS. This Deed Notice shall be binding upon Owner and upon Owner's successors and assigns, and subsequent owners, lessees, and operators while each is an owner, lessee, or operator of the Property.

7A. ALTERATIONS, IMPROVEMENTS, AND DISTURBANCES.

i. The Owner and all subsequent owners and lessees shall notify any person of whom it has knowledge, including, without limitation, tenants, employees of tenants, developers, and contractors, intending to conduct invasive work or excavate within the Property, of the nature and location of known contamination in the Property, and, of the precautions necessary to protect the engineering controls and minimize potential human exposure to contaminants.

ii. Except as provided in the Consent Decree and Paragraph 7B below, no person shall make, or allow to be made, any alteration, improvement, or disturbance in, to, or about the Property which disturbs any engineering control at the Property except as (a) permitted in the Consent Decree and Conservation Restriction,(b) as is consistent with the OSDS, and (c) without first obtaining aa Soil Remedial Action Permit modification from the Department. Nothing herein shall constitute a waiver of the obligation of any person to comply with all applicable laws and regulations including, without limitation, the applicable rules of the Occupational Safety and Health Administration.

iii. Notwithstanding subparagraph 7A.ii.(c), above, a Soil Remedial Action Permit modification is not required for any alteration, improvement, or disturbance provided that:

(A) Such action is taken in conformance with the Consent Decree, the OSDS, and this Deed Notice; and

(B) The Department of Environmental Protection is notified of the activity by calling the DEP Hotline, at 1-877-WARN-DEP or 1-877-927-6337, within twenty-four (24) hours after the beginning of each alteration, improvement, or disturbance; and

(C)Honeywell is notified of the activity by calling 855-727-2658; and

(D) Honeywell and/or the owner restores any disturbance of an engineering control to pre-disturbance conditions, consistent with the requirements of the Consent Decree and LTMP within sixty (60) calendar days after the initiation of the alteration, improvement or disturbance; and

(E) All applicable worker health and safety laws and regulations are followed during the alteration, improvement, or disturbance, and during the restoration; and

(F)Appropriate measures are taken so that human exposure, and exposure of the environment outside the containment of the engineering controls, to contamination in excess of the applicable remediation standards does not occur; and

(G) The next biennial certification includes a description of the nature of the alteration, improvement, or disturbance, the dates and duration of the alteration, improvement, or disturbance, the name of key individuals and their affiliations conducting the alteration, improvement, or disturbance, a description of the notice the Owner gave to those persons prior to the disturbance, the amounts of soil generated for disposal, if any, the final disposition and any precautions taken to prevent exposure.

7B. EMERGENCIES. In the event of an emergency which presents, or may present, an unacceptable risk to the public health and safety, or to the environment, or immediate environmental concern, see N.J.S.A. 58:10C-2, any person may temporarily breach an engineering control provided that:

i. The Department of Environmental Protection is immediately notified of the emergency, by calling the DEP Hotline at 1-877-WARNDEP or 1-877-927-6337; and

ii. Immediately after notifying NJDEP, Honeywell is notified of the emergency by calling 855-727-2658; and

iii. Both the actual disturbance and the time needed for the disturbance are limited to the minimum reasonably necessary to adequately respond to the emergency; and

iv. All measures necessary to limit actual or potential, present or future risk of exposure to humans or the environment to the contamination are implemented; and

v. The Department of Environmental Protection is notified when the emergency has ended by calling the DEP Hotline at 1-877-WARNDEP or 1-877-927-6337; and

vi. Honeywell is notified when the emergency has ended by calling 855-727-2658; and

vii. Honeywell restores the engineering control to the pre-emergency conditions, consistent with the requirements of the Consent Decree and LTMP, as soon as possible, and submits a written report to the Department of Environmental Protection of such emergency and restoration efforts within sixty (60) calendar days after completion of the restoration of the engineering control. The report must include all information pertinent to the emergency, potential discharges of contaminants, and restoration measures that were implemented, which, at a minimum, should specify: (a) the nature and likely cause of the emergency, (b) the potential discharges of or exposures to contaminants, if any, that may have occurred, (c) the measures that have been taken to mitigate the effects of the emergency on human health and the environment, (d) the measures completed or implemented to restore the engineering control, and (e) the changes to the engineering control or site operation and maintenance plan to prevent recurrence of such conditions in the future. Honeywell shall submit the report to:

Department of Environmental Protection
Division of Remediation Management and Response
Bureau of Operation, Maintenance and Monitoring
Deed Notice Inspection Program
P.O. Box 413
401 E. State Street
Trenton, NJ 08625-0413

8A. MONITORING AND MAINTENANCE OF DEED NOTICE, AND PROTECTIVENESS CERTIFICATION. The persons in any way responsible, pursuant to the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11a et seq., for the hazardous substances that remain at the Property, the persons responsible for conducting the remediation, Honeywell, the Owner, and the subsequent owners, lessees, and operators, shall monitor and maintain this Deed Notice. The subsequent owners, lessees and operators have this obligation only during their ownership, tenancy, or operation. Honeywell shall certify to the Department on a biennial basis that the remedial action that includes this Deed Notice remains protective of the public health and safety and of the environment. The specific obligations to monitor and maintain the deed notice shall include all of the following:

i. Monitoring and maintaining this Deed Notice according to the requirements in Article III of the Consent Decree, and Exhibit C herein, to ensure that the remedial action that includes the Deed Notice continues to be protective of the public health and safety and of the environment; and

ii. Conducting any additional remedial investigations and implementing any additional remedial actions, that are necessary to correct, mitigate, or abate each problem related to the protectiveness of the remedial action for the Property prior to the date that the certification is due to the Department pursuant to iii, below, so that the remedial action that includes this Deed Notice remains protective of the public health and safety and of the environment; and

iii. Certifying to the Department of Environmental Protection the continued protectiveness of the remedial action that includes this Deed Notice, on a form provided by the Department and consistent with N.J.A.C. 7:26C-1.2 (a)1, every two years on the anniversary of the date stamped on the Deed Notice that indicates when the Deed Notice was recorded.

8B. MONITORING AND MAINTENANCE OF ENGINEERING CONTROLS, AND PROTECTIVENESS CERTIFICATION. Honeywell shall maintain all engineering controls at the Open Space Area Property and certify to the Department on a biennial basis that the remedial action of which each engineering control is a part remains protective of the public health and safety and of the environment. The specific obligations to monitor and maintain the engineering controls shall include the following:

i. Monitoring and maintaining each engineering control according to the requirements in Article III of the Consent Decree, the LTMP, and Exhibit C herein, so that the remedial action that includes the engineering control continues to be protective of the public health and safety and of the environment; and

ii. Conducting any additional remedial investigations and implementing any additional remedial actions, that are necessary to correct, mitigate, or abate each problem related to the protectiveness of the remedial action for the Property prior to the date that the certification is due to the Department pursuant to iii, below, so that the remedial action that includes the engineering control remains protective of the public health and safety and of the environment; and

iii. Certifying to the Department of Environmental Protection the continued protectiveness of the remedial action that includes the engineering control, on a form provided by the Department and consistent with N.J.A.C. 7:26C-1.2 (a)1, every two years on the anniversary of the date stamped on the Deed Notice that indicates when the Deed Notice was recorded.

9. ACCESS. The Owner, subsequent owners, lessees, and operators, agree to allow the Department, its agents and representatives access to the Property to inspect and evaluate the continued protectiveness of the remedial action that includes this Deed Notice and to conduct additional remediation to ensure the protection of the public health and safety and of the environment if the persons responsible for monitoring the protectiveness of the remedial action, as described in Paragraph 8, above, fail to conduct such remediation pursuant to this Deed Notice as required by law. The Owner, and the subsequent owners and lessees, shall also cause all leases, subleases, grants, and other written transfers of an interest in the Property to contain a provision expressly requiring that all holders thereof provide such access to the Department.

10. NOTICES.

i. Owner shall cause all leases, grants, and other written transfers of an interest in the Property to contain a provision expressly requiring all holders thereof to take the Property subject to the restrictions contained herein and to comply with all, and not to violate any of the conditions of this Deed Notice. Nothing contained in this Paragraph shall be construed as limiting any obligation of

any person to provide any notice required by any law, regulation, or order of any governmental authority.

ii. Honeywell or the Owner shall notify any person intending to conduct invasive work or excavate within the Property of the nature and location of contamination and, of the precautions necessary to minimize potential human exposure, and exposure of the environment outside the containment of the engineering controls, to contaminants.

iii. Owner shall provide written notice to the Department of Environmental Protection at least thirty (30) calendar days before the effective date of any conveyance, grant, gift, or other transfer, in whole or in part, of the Owner's interest in the Property. Any such conveyance, grant or gift must be consistent with the terms of the Consent Decree.

iv. Owner shall provide written notice to the Department within thirty (30) calendar days following the Owner's receiving notice of any petition for a rezoning of the Property. Any such rezoning must be consistent with the terms of the Consent Decree. The Owner shall submit the written notice to:

Department of Environmental Protection
Division of Remediation Management and Response
Bureau of Operation, Maintenance and Monitoring
Deed Notice Inspection Program
P.O. Box 413
401 E. State Street
Trenton, NJ 08625-0413.

11. ENFORCEMENT OF VIOLATIONS.

i. This Deed Notice itself is not intended to create any interest in real estate in favor of the Department of Environmental Protection, nor to create a lien against the Property, but merely is intended to provide notice of certain conditions and restrictions on the Property and to reflect the regulatory and statutory obligations imposed as a conditional remedial action for this Property.

ii. The restrictions provided herein may be enforceable by the Department against any person who violates this Deed Notice. To enforce violations of this Deed Notice, the Department may initiate one or more enforcement actions pursuant to N.J.S.A. 58:10-23.11, and N.J.S.A. 58:10C, and require additional remediation and assess damages pursuant to N.J.S.A. 58:10-23.11, and N.J.S.A. 58:10C.

iii. This Deed Notice is also enforceable in the United States District Court for the District of New Jersey by all residents, owners, lessees, and all commercial tenants on Study Areas 6 and 7 pursuant to paragraphs 66 and 69 of the Consent Decree.

12. SEVERABILITY. If any court of competent jurisdiction determines that any provision of this Deed Notice requires modification, such provision shall be deemed to have been modified automatically to conform to such requirements. If a court of competent jurisdiction determines that

any provision of this Deed Notice is invalid or unenforceable and the provision is of such a nature that it cannot be modified, the provision shall be deemed deleted from this instrument as if the provision had never been included herein. In either case, the remaining provisions of this Deed Notice shall remain in full force and effect.

13. MODIFICATION AND TERMINATION.

i. Any person may request in writing, at any time, that the Department modify this Deed Notice where performance of subsequent remedial actions, a change of conditions at the Property, or the adoption of revised remediation standards suggest that modification of the Deed Notice would be appropriate, provided that any such modification is consistent with the requirements of the Consent Decree.

ii. Any person may request in writing, at any time, that the Department terminate this Deed Notice because the conditions which triggered the need for this Deed Notice are no longer applicable.

iii. Any person seeking a modification or termination of this Deed Notice must also have such modification approved by the United States District Court for the District of New Jersey pursuant to the Consent Decree until such time as the Consent Decree terminates with regard to the Property pursuant to the Consent Decree.

iv. If the United States District Court for the District of New Jersey and NJDEP have concluded that this Deed Notice shall be modified or terminated, such modification or termination will only be effective upon the filing of a Termination of Deed Notice, available at N.J.A.C. 7:26C Appendix C, with the office of the Register of Deeds of Hudson County, New Jersey, expressly modifying or terminating this Deed Notice.

v. Within thirty (30) calendar days after the filing of a Termination of Deed Notice, the owner of the Property shall apply to the Department for modification or termination of the Soil Remedial Action Permit pursuant to N.J.A.C. 7:26C-7.

vi. This Deed Notice may be modified only if it has first been terminated pursuant to subparagraphs 13v above, and upon filing of a modified Deed Notice, executed by the Owner of the Property, in the office of the Register of Deeds of Hudson County, New Jersey.

14A. EXHIBIT A. Exhibit A includes the following maps of the Property and the vicinity:

i. Exhibit A-1: Vicinity Map - A map that identifies by name the roads, and other important geographical features in the vicinity of the Property;

ii. Exhibit A-2: Metes and Bounds Description of Property- A metes and bounds description of the Property, including reference to tax lot and block numbers for the Property and a Tax Map;

iii. Exhibit A-3: Property Map - A scaled map of the Property, scaled at one inch to 200 feet or less, and if more than one map is submitted, the maps shall be presented as

overlays, keyed to a base map; the map(s) shall include diagrams of major surface topographical features such as buildings, roads, and parking lots. After development of the Property, this Deed Notice shall be modified to show topographical features constructed on the Property such as buildings, roads, and parking lots.

14B. EXHIBIT B. Exhibit B includes the following descriptions of the Restricted Areas:

i. Exhibit B-1 and B-2 (Exhibits B-1A, B-1B, B-2A, and B-2B): Restricted Area Maps - Maps for the that include, as applicable:

(A) As-built diagrams of each engineering control, including caps, fences, hydraulic barrier walls, ground water monitoring wells, and ground water pumping system including trenches and pumps;

(B) As-built diagrams of any buildings, roads, parking lots, utility corridors, and other structures that function as engineering controls; and

(C) Designation of all soil and/or sediment sample locations within the restricted areas that exceed any soil or sediment standard that are keyed into one of the tables described below.

ii. Exhibit B-3 (Table B-3): Restricted Area Data Tables - Table for the Open Space Area Property that includes:

(A) Sample location designation from Restricted Area maps (Exhibit B-1);

(B) Sample elevation based upon mean sea level;

(C) Name and chemical abstract service registry number of each contaminant with a concentration that exceeds the unrestricted use standard;

(D) The restricted and unrestricted use standards for each contaminant in the table; and

(E) The remaining concentration of each contaminant at each sample location at each elevation (or if historic fill, include data from the Department's default concentrations at N.J.A.C. 7:26E-4.6, Table 4-2).

14C. EXHIBIT C. Exhibit C includes narrative descriptions of the institutional controls and engineering controls as follows:

i. Exhibit C-1A through D. Exhibit C-1A: Deed Notice as Institutional Control; Exhibit C-1B: Consent Decree as Institutional Control (attached); Exhibit C-1C: Zoning as Institutional Control; Exhibit C-1D: Conservation Restriction as Institutional Control (recorded at Hudson County Register of Deeds as indicated in Paragraph 3): Exhibit C-1 (A through D) includes a narrative description of the restrictions and obligations of this Deed Notice that are in addition to those described above, as follows:

(A) General Description of the Institutional Control:

(1) Description and estimated size of the Restricted Areas as described above;
(2) Description of the restrictions on the Property by operation of this Deed Notice and the other Institutional Controls; and
(3) The objective of the restrictions;

(B) Description of the monitoring necessary to determine whether:

(1) Any disturbances of the soil in the Restricted Areas resulted in the unacceptable exposure to the soil contamination;
(2) There have been any land use changes subsequent to the filing of this Deed Notice and the other Institutional Controls or the most recent biennial certification, whichever is more recent;
(3) The current land use on the Property is consistent with the restrictions in this Deed Notice and the other Institutional Controls;
(4) Any newly promulgated or modified requirements of applicable regulations or laws apply to the Property; and
(5) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice and the other Institutional Controls, and conduct the necessary sampling; and

(C) Description of the following items that will be included in the biennial certification:

(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice and the other Institutional Controls;
(2) Land use at the Property is consistent with the restrictions in this Deed Notice and the other Institutional Controls; and
(3) The remedial action that includes this Deed Notice and the other Institutional Controls continues to be protective of the public health and safety and of the environment.

ii. Exhibit C-2A through C. Exhibit C-2A: Engineering Controls: Clean Fill and Soil Capping System; Exhibit C-2B: Engineering Controls: Underground Containment Walls; Exhibit C-2C: Engineering Controls: Shallow Groundwater Collection and Treatment System.

Exhibit C-2 includes a narrative description of the engineering controls as follows:

(A) General Description of the engineering control:

(1) Description of the engineering control;
(2) The objective of the engineering control; and
(3) How the engineering control is intended to function.

(B) Description of the operation and maintenance necessary to ensure that:

(1) Periodic inspections of each engineering control are performed in order to determine its integrity, operability, and effectiveness;
(2) Each engineering control continues as designed and intended to protect the public health and safety and the environment;
(3) Each alteration, excavation or disturbance of any engineering control is timely and appropriately addressed to maintain the integrity of the engineering control;
(4) The engineering control is being inspected and maintained and its integrity remains so that the remedial action continues to be protective of the public health and safety and of the environment;
(5) A record of the self-inspection dates, name of the inspector, results of the inspection and condition(s) of the engineering control. Sampling, for example, may be necessary if it is not possible to visually evaluate the integrity/performance of the engineering control; and
(6) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice, and conduct the necessary sampling; and

(C) Description of the following items that will be included in the biennial certification:
(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice;
(2) The engineering control continues to operate as designed; and
(3) The remedial action that includes the engineering control continues to be protective of the public health and safety and of the environment.

15. SIGNATURES. IN WITNESS WHEREOF, Owner has executed this Deed Notice as of the date first written above.

ATTEST: , LLC

_____ By_____
[Signature] [Signature]

_____ _____
[Print name and title] [Print name and title]

STATE OF NEW JERSEY SS.:
COUNTY OF _____

I certify that on _____ ___, 2017, _____ personally came before me, and this person acknowledged under oath, to my satisfaction, that:

(a) this person is the _____ of _____, LLC, the Limited Liability Corporation named in this document;

(b) this person is the attesting witness to the signing of this document by the proper corporate officer who is the _____ of the Limited Liability Corporation;

(c) this document was signed and delivered by the Limited Liability Corporation as its voluntary act and was duly authorized;

(d) this person knows the proper seal of the Limited Liability Corporation which was affixed to this document; and

(e) this person signed this proof to attest to the truth of these facts.

_____
[Signature]

_____
[Print name and title of attesting witness]

Signed and sworn before me on _____, 20__

_____, Notary Public

_____
[Print name and title]

EXHIBIT A
Deed Notice #5 SA-6 North Property

A-1 Vicinity Map

A-2 Metes and Bounds Description of the Property and Tax Map

A-3Property Maps Portions of Block 21901, Lots 5 through 10, City of Jersey City, New Jersey

Exhibit A-1 Vicinity Map consists of a road map for the vicinity of the Property.

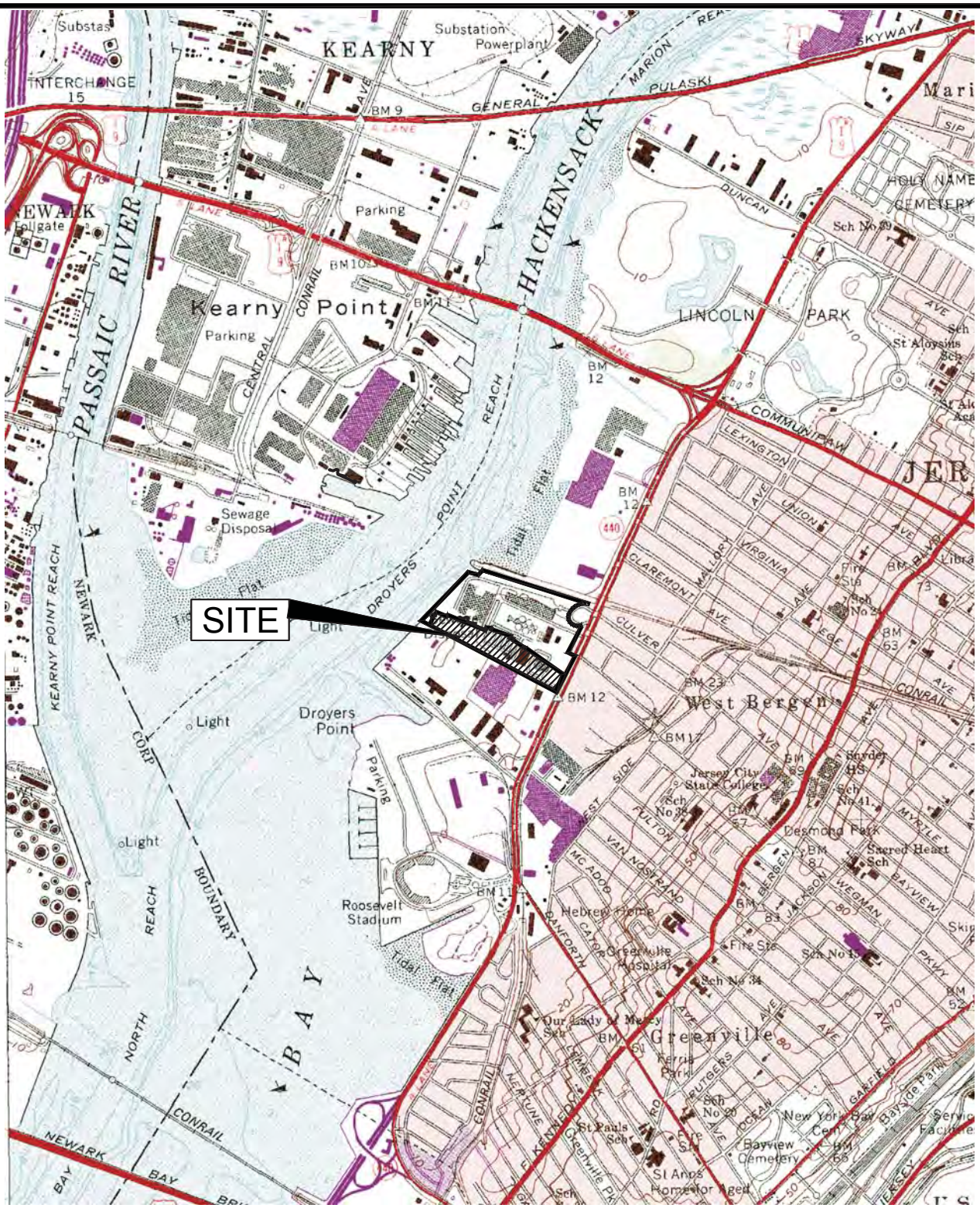
Exhibit A-2 consists of the metes and bounds and a tax map for the Property.

Exhibit A-3A and 3B Property Maps consist of figures indicating major surface features and engineering control for the Property. After development of the Property, this Deed Notice shall be modified to show topographical features constructed on the Property such as buildings, roads, and parking lots.

Exhibit A-1
Site Vicinity Map

EXHIBIT A-1
SITE VICINITY MAP
STUDY AREA 6 NORTH SITES 087 and 088
JERSEY CITY, NEW JERSEY

CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (ii) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN DELIVERED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.



SOURCE: USGS QUADRANGLE MAP, 7.5 MIN SERIES
JERSEY CITY, NJ-NY 1967, PHOTO REVISED 1981

OPEN SPACE AOC
RESTRICTED AREA

DRAFT

0 1000 2000 4000
SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150487 *DRAWING:* 3480150487-6100-A105-0000		amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619
PREPARED/DATE: STR 12/15/16	*CHECKED/DATE:* NW 01/31/17	

EXHIBIT A-1
VICINITY MAP
BLOCK 21901 LOTS 5-10
SA-6 NORTH
JERSEY CITY, NEW JERSEY
DEED NOTICE #5

P:\CADD\HONEYWELL\JERSEY CITY\SA 6 NORTH\3480150487\6100\610001\DEED NOTICE\DN 5\3480150487-6100-A105-0000.dwg Thu, 17 Aug 2017 - 10:43am charles.wingfield

Exhibit A-2
Deed Notice #5 SA-6 North Property

Metes and Bounds Description of the Property and Tax Map

A-2 Metes and Bounds Description of Property Portions of Block 21901, Lots 5 through 10 City of Jersey City, New Jersey (see attached)

If there is any discrepancy between the Metes and Bounds and the tax map, or any other maps attached hereto, the Metes and Bounds prevails.

The Property is identified as portions of Block 21901, Lots 5 through 10 on the City of Jersey City tax maps, the Property being presently owned by Bayfront Redevelopment LLC. A copy of the current tax map which includes the general location of the Property is attached as Exhibit A-2.

MASER CONSULTING P.A.
Consulting, Municipal & Environmental Engineers
Planners ▪ Surveyors ▪ Landscape Architects

331 Newman Springs Road
Suite 203
Red Bank, NJ 07701
Tel: 732.383.1950 ▪ Fax: 732.383.1984

DESCRIPTION OF PROPERTY
CITY OF JERSEY CITY
HUDSON COUNTY, NEW JERSEY
PROJECT NO. 10000292R

DEED NOTICE AREA 5
BLOCK 21901 LOTS 5 THRU 10
MAY 18, 2016
REVISED: AUGUST 16, 2017

All that certain lot, tract or parcel of land situate lying and being in the City of Jersey, in the County of Hudson and State of New Jersey, and being a portion of Lots 5 thru 10, in Block 21901, designated as Deed Notice Area 5 as shown on an exhibit entitled, "Deed Notice Area 5, SA6 North, Block 21901, Lots 5 Thru 10, City of Jersey City, Hudson County, New Jersey," prepared by Maser Consulting P.A., dated May 12, 2016, revised through August 16, 2017 and being more particularly bounded and described as follows, to wit:

BEGINNING at a point in the westerly sideline of New Jersey State Highway Route 440 (112 foot wide right of way), said sideline being distant 61 feet westward at right angles to the centerline thereof, said beginning point being distant **S24° 46' 55"W, 4.16 feet** along said sideline, from its intersection with the division line between Lots 5 and 6 in Block 21901, and running; thence-

1. **N49° 06' 51"W, 488.50 feet,** running through Lot 6 and beyond, to a point in Lot 7; thence –

2. **N59° 38' 29"W, 1,519.31 feet,** running through said Lot 7 and beyond, to a point in Lot 8; thence –

3. **N45° 51' 07"E, 4.13 feet,** still running through said Lot 8, to a point in the common division line between Lot 8 and Lot 10 in Block 21901; thence –

4. **S59° 39' 05"E, 111.22 feet,** along said common division line; thence –

Running through said Lot 10, the following seven (7) courses:

5. **N28° 37' 00"E, 19.46 feet,** through the same and beyond, to a point in Lot 10; thence –

6. **N30° 01' 01"E, 48.06 feet**; thence –

7. **N19° 17' 57"W, 17.97 feet**; thence –

8. **N31° 55' 37"E, 23.15 feet**; thence –

9. **N76° 06' 19"E, 18.87 feet**; thence –

10. **N29° 16' 27"E, 36.41 feet**; thence –

11. **S65° 27' 42"E, 153.93 feet**, through said Lot 10 and beyond, to a point in Lot 9; thence –

Running through said Lot 9 the following fifteen (15) courses:

12. **N24° 46' 55"E, 9.39 feet**; thence –

13. **S63° 20' 43"E, 154.05 feet**; thence –

14. **S64° 10' 53"E, 3.13 feet**; thence –

15. **N89° 06' 30"E, 10.85 feet**; thence –

16. **S71° 33' 46"E, 49.04 feet**; thence –

17. **N64° 44' 16"E, 48.64 feet**; thence –

18. **S71° 27' 06"E, 29.23 feet**; thence –

19. **S20° 45' 38"W, 20.55 feet**; thence –

20. **S06° 10' 50"W, 25.40 feet**; thence –

21. **S43° 02' 17"E, 20.42 feet**; thence –

22. **S75° 55' 23"E, 91.65 feet**; thence –

23. **N69° 31' 56"E, 18.75 feet**; thence –

24. **S73° 19' 46"E, 15.58 feet**; thence –

25. **S31° 22' 02"E, 27.50 feet**; thence –

26. **S63° 54' 38"E, 73.11 feet** to a point in Lot 10; thence –

27. **S53° 29' 05"E, 36.52 feet,** through Lot 10 to a point in the thirteenth (13th) course of the aforesaid Deed Notice Area 5; thence –

28. **N21° 49' 22"E, 36.10 feet**; thence –

29. **S64° 01' 16"E, 27.11 feet**; thence –

30. **S71° 46' 41"E, 7.00 feet**; thence –

31. **S64° 53' 57"E, 170.96 feet**; thence –

32. **S64° 26' 41"E, 145.28 feet**; thence –

33. **S21° 49' 39"W, 13.27 feet**; thence –

34. **S30° 55' 57"W, 14.90 feet**; thence –

35. **S63° 05' 16"E, 40.95 feet**; thence –

36. **S23° 59' 21"E, 5.01 feet**; thence –

37. **S09° 06' 51"W, 5.08 feet**; thence –

38. **S62° 39' 21"E, 11.92 feet**; thence –

39. **S52° 51' 45"E, 21.10 feet**; thence –

40. **S53° 17' 55"E, 88.34 feet**, through the same and beyond, to a point in Lot 5; thence –

Running through said Lot 5 the following ten (10) courses:

41. **S52° 44' 24"E, 69.21 feet**; thence –

42. **S51° 37' 08"E, 58.38 feet**; thence –

43. **S51° 38' 54"E, 66.12 feet**; thence –

44. **S50° 49' 27"E, 106.68 feet**; thence –

45. **S48° 28' 21"E, 88.28 feet**; thence –

46. **S47° 08' 10"E, 8.77 feet**; thence –

47. **S27° 42' 13"E, 2.67 feet**; thence –

48. **S51° 51' 37"E, 32.05 feet**; thence –

49. **S49° 13' 40"E, 214.67 feet**; thence –

50. **S49° 22' 28"E, 10.39 feet**, to the aforesaid westerly sideline of Route 440; thence –

51. **S24° 46' 55"W, 241.26 feet**, along said westerly sideline to the point and place of BEGINNING.

CONTAINING: 445, 993 S.F. of land more or less or 10.239 acres of land more or less.

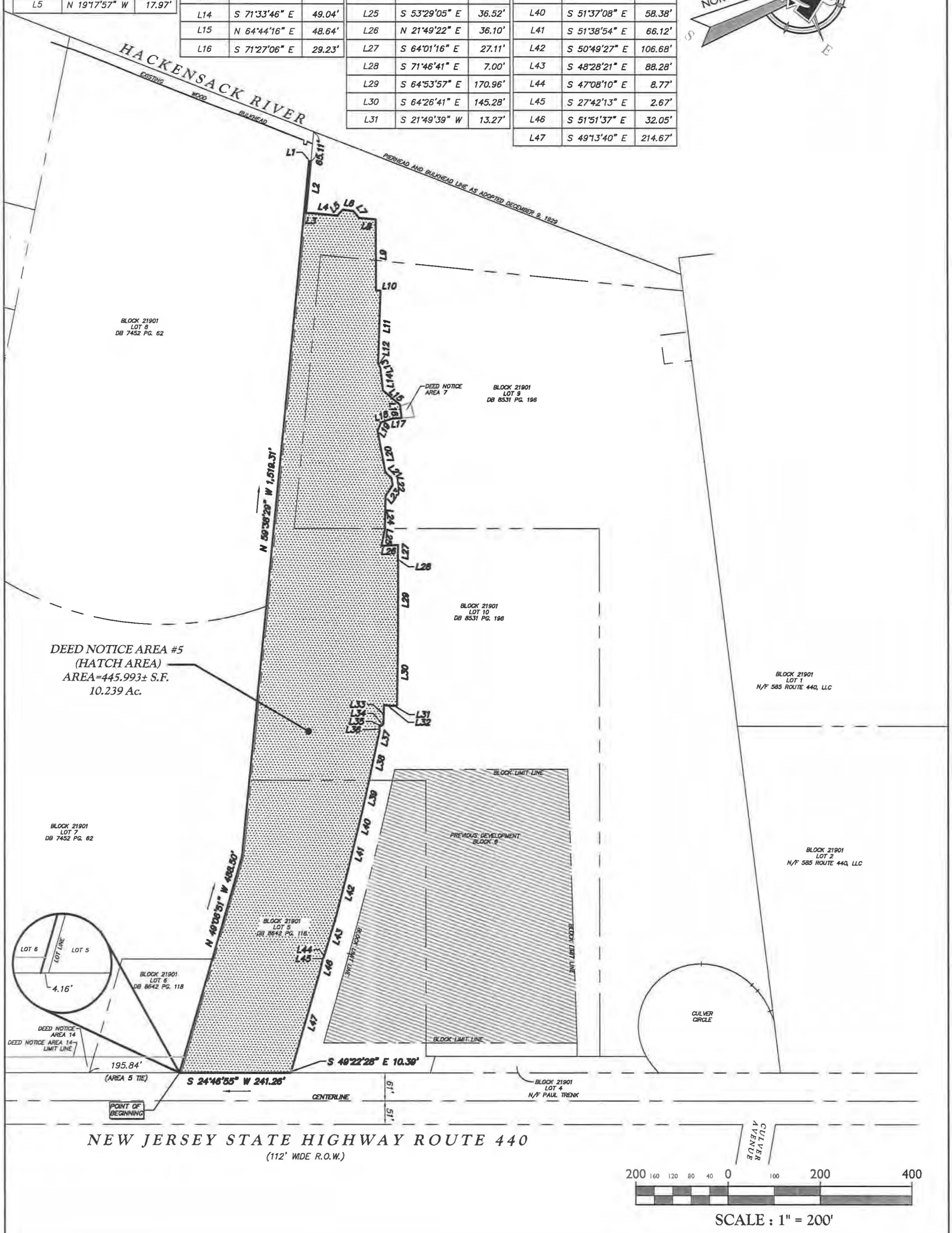
08/16/17

GLEN J. LLOYD, P.L.S. DATE SIGNED
NEW JERSEY PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS037598

R:\General\Projects\2010\10000292R\Survey\Description\Metes & Bounds-Deed Notice 5_REV 08.16.17.docx

DEED NOTICE #5 LINE TABLE

SEGMENT	DIRECTION	LENGTH
L1	N 45°51'07" E	4.13'
L2	S 59°39'05" E	111.22'
L3	N 28°37'00" E	19.46'
L4	N 30°01'01" E	48.06'
L5	N 19°17'57" W	17.97'
L6	N 31°55'37" E	23.15'
L7	N 76°06'19" E	18.87'
L8	N 29°16'27" E	36.41'
L9	S 65°27'42" E	153.93'
L10	N 24°46'55" E	9.39'
L11	S 63°20'43" E	154.05'
L12	S 64°10'53" E	3.13'
L13	S 89°06'30" E	10.85'
L14	S 71°33'46" E	49.04'
L15	N 64°44'16" E	48.64'
L16	S 71°27'06" E	29.23'
L17	S 20°45'38" W	20.55'
L18	S 06°10'50" W	25.40'
L19	S 43°02'17" E	20.42'
L20	S 75°55'23" E	91.65'
L21	S 69°31'56" E	18.75'
L22	S 73°19'46" E	15.58'
L23	S 31°22'02" E	27.50'
L24	S 63°54'38" E	73.11'
L25	S 53°29'05" E	36.52'
L26	N 21°49'22" E	36.10'
L27	S 64°01'16" E	27.11'
L28	S 71°46'41" E	7.00'
L29	S 64°53'57" E	170.96'
L30	S 64°26'41" E	145.28'
L31	S 21°49'39" W	13.27'
L32	S 30°55'57" W	14.90'
L33	S 63°05'16" E	40.95'
L34	S 23°59'21" E	5.01'
L35	S 09°05'51" W	5.08'
L36	S 62°39'21" E	11.92'
L37	S 52°51'45" E	21.10'
L38	S 53°17'55" E	88.34'
L39	S 52°44'24" E	69.21'
L40	S 51°37'08" E	58.38'
L41	S 51°38'54" E	66.12'
L42	S 50°49'27" E	106.68'
L43	S 48°28'21" E	88.28'
L44	S 47°08'10" E	8.77'
L45	S 27°42'13" E	2.67'
L46	S 51°51'37" E	32.05'
L47	S 49°13'40" E	214.67'



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REV	DATE	DRAWN BY	DESCRIPTION
1	12/7/16	HA	EXPAND DEED NOTICE AREA
2	1/13/17	KAN	BLOCK 6
3	2/2/17	KAN	BLOCK 6
4	8/16/17	KAN	EXPAND DEED NOTICE AREA
-	-	-	-
-	-	-	-

DEED NOTICE AREA 5
SA6 NORTH

BLOCK 21901
LOTS 5-10

CITY OF JERSEY CITY
HUDSON COUNTY
NEW JERSEY

811 Know what's below. Call before you dig.

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

RED BANK OFFICE
Corporate Headquarters
331 Newman Springs Road
Suite 203
Red Bank, NJ 07701
Phone: 732.383.1950
Fax: 732.383.1984

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	5/16/2016	KAN	GJL
PROJECT NUMBER: 10000292Q		DRAWING NAME: V-EXBT-DN-5_REV	

SHEET TITLE:
DEED NOTICE EXHIBIT

SHEET NUMBER:
1 of 1

Exhibit A-2
Tax Map

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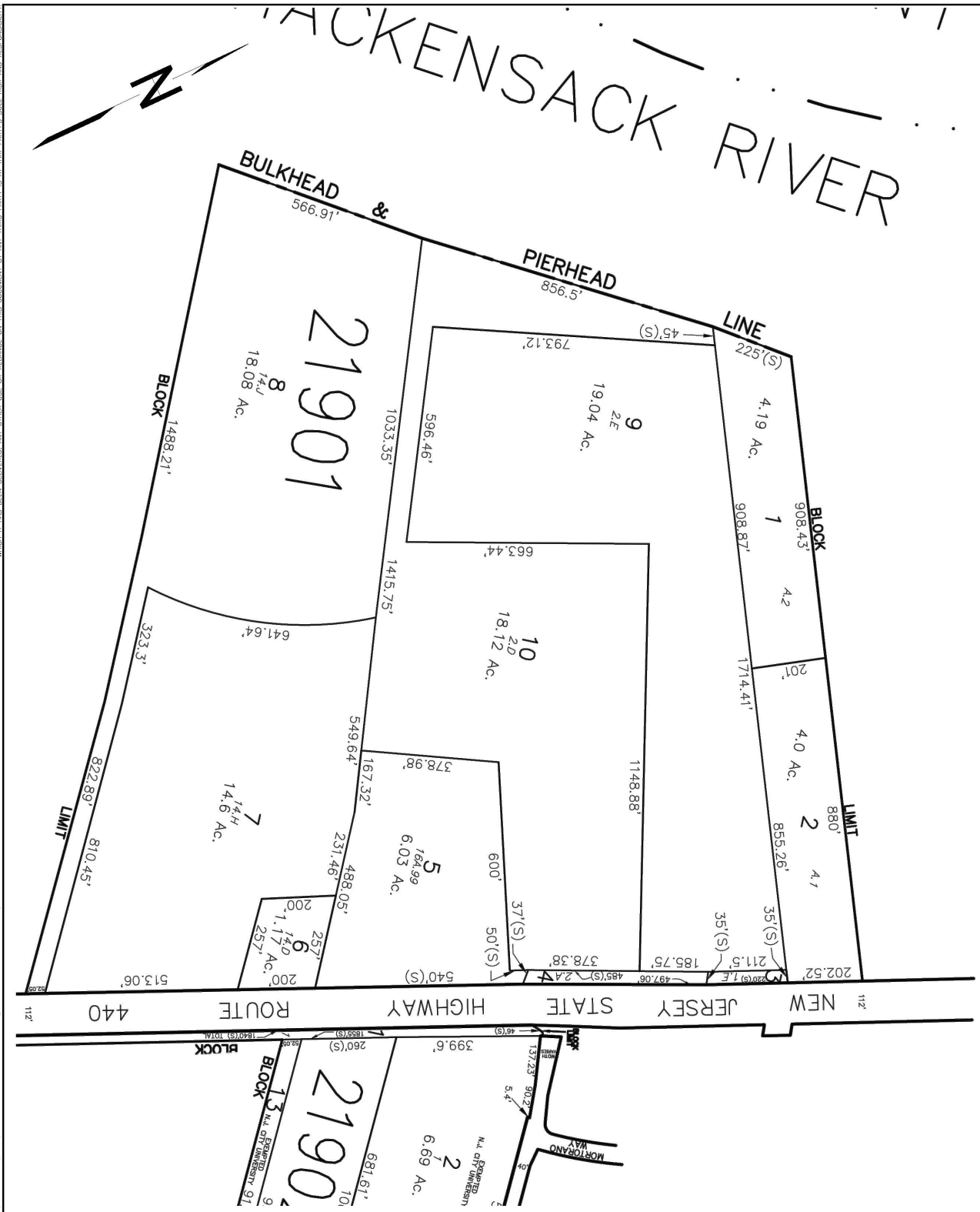

DRAFT

SOURCE:
DRAWING TITLED: "TAX MAP CITY OF JERSEY CITY", PREPARED BY T&M ASSOCIATED, MIDDLETOWN TWP., NJ SHEET 219, DATED AUGUST, 2006; NEW JERSEY DEPARTMENT OF THE TREASURY DIVISION OF TAXATION PROPERTY ADMINISTRATION DATED MAY 8, 2009 SERIAL NO.: 934.

0 150 300 600
SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150450 DRAWING: 3480150487-6100-A205-0000		amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT A-2** TAX MAP BLOCK 21901, LOTS 5 -10 SA-6 NORTH JERSEY CITY, NEW JERSEY DEED NOTICE # 5
PREPARED/DATE: STR 12/15/16	CHECKED/DATE: NW 01/31/17		

P:\CADD\HONEWELL\JERSEY CITY\SA 6 NORTH\3480150487\6100\610001\DEED NOTICE\DN 5\3480150487-6100-A205-0000.dwg Fri, 10 Mar 2017 - 1:45pm acott.rudin

Exhibit A-3A and A-3B
Property Maps

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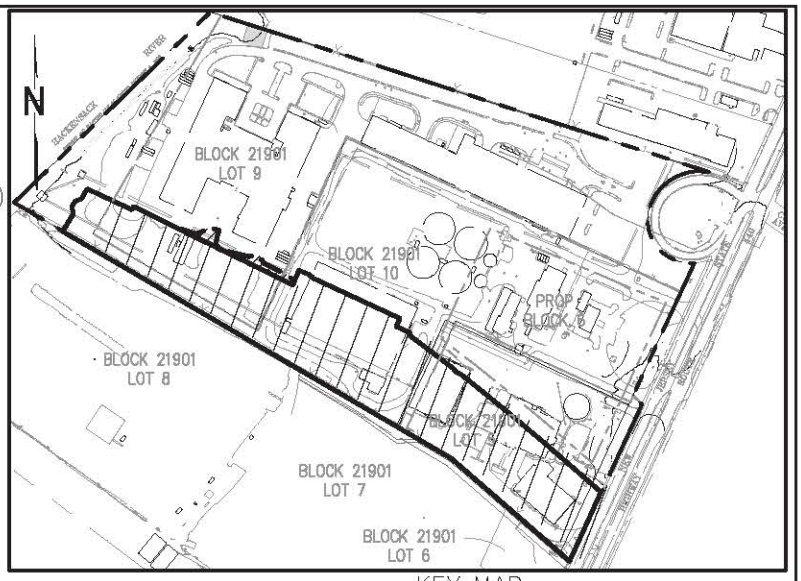
LEGEND

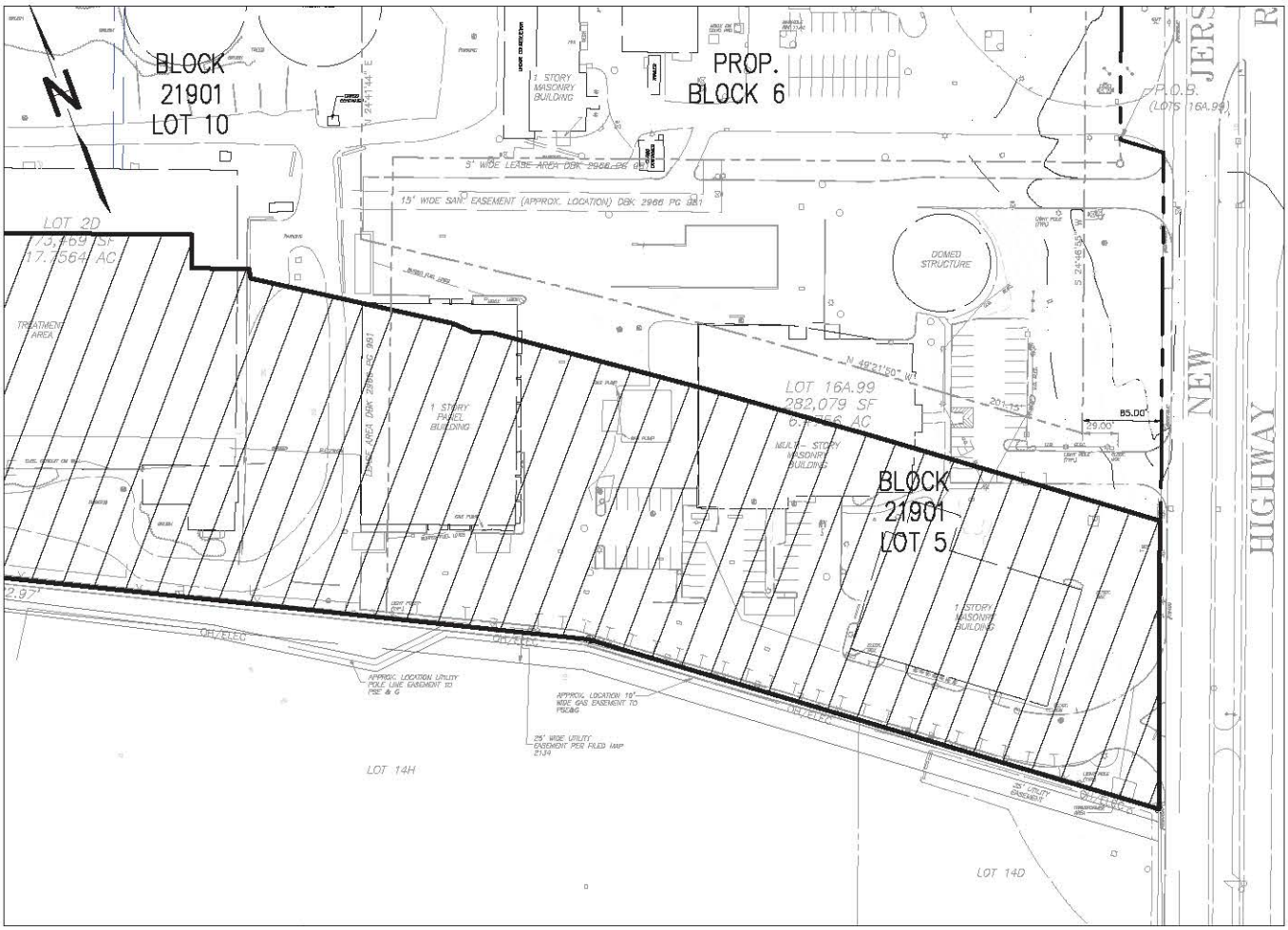
PROPERTY BOUNDARY

CEA AREA AND OPEN SPACE AREA (INCLUDES PORTION OF TA-10 AREA NORTH OF HYDRAULIC BARRIER WALL)



KEY MAP

SCALE: 1" = 600'



SOURCE REFERENCE:

DRAWING TITLED: "ALTA/ASCM LAND TITLE SURVEY FOR BAYFRONT REDEVELOPMENT, LLC., BLOCK 21901 LOTS 5 THRU 10, PREPARED BY MASER CONSULTING, P.A. DATED 10/16/15 CITY OF JERSEY CITY, HUDSON COUNTY, NEW JERSEY

DATUM:
HORIZONTAL DATUM: NAD83
VERTICAL DATUM: NGVD29

0 60 120 240

SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150487 DRAWING: 3480150487-6100-A305-0000		amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT A-3A** PROPERTY AREA MAP BLOCK 21901; LOTS 5-10 SA-6 NORTH JERSEY CITY, NEW JERSEY DEED NOTICE 5
PREPARED/DATE: STR 12/15/16	CHECKED/DATE: NW 01/31/17		

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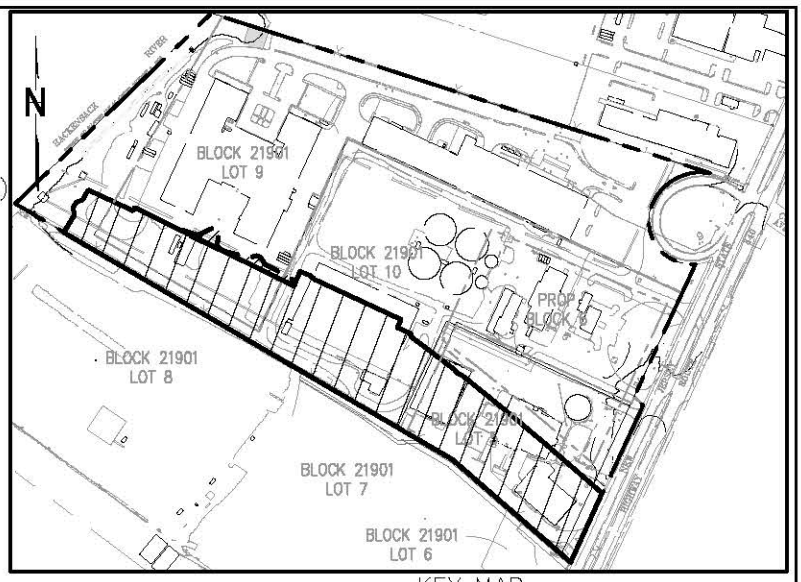
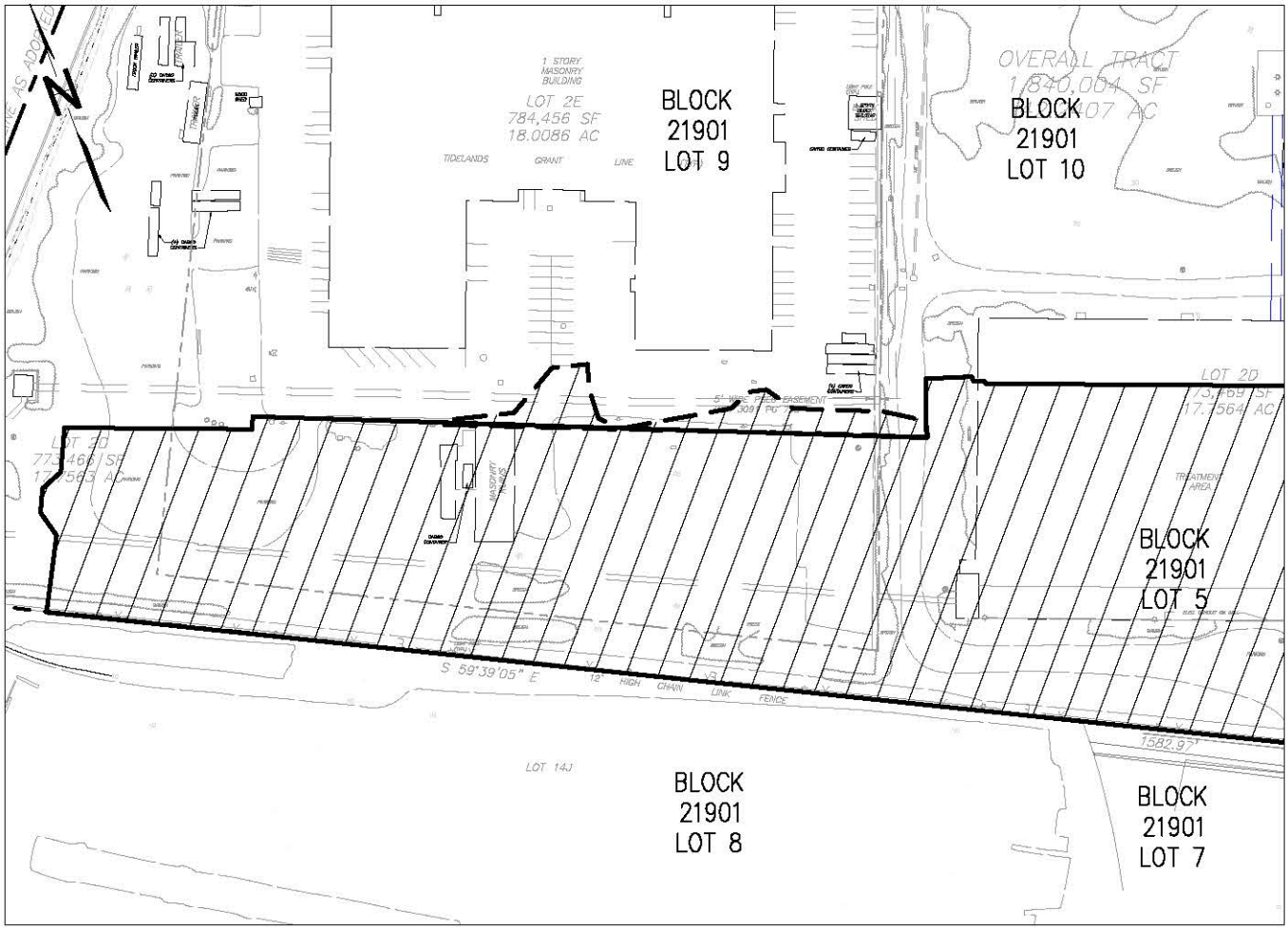
LEGEND

PROPERTY BOUNDARY

CEA AREA AND OPEN SPACE AREA (INCLUDES PORTION OF TA-10 AREA NORTH OF HYDRAULIC BARRIER WALL)



KEY MAP
SCALE: 1" = 600'



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SCALE IN FEET

SOURCE REFERENCE:

DRAWING TITLED: "ALTA/ASCM LAND TITLE SURVEY FOR BAYFRONT REDEVELOPMENT, LLC., BLOCK 21901 LOTS 5 THRU 10, PREPARED BY MASER CONSULTING, P.A. DATED 10/16/15 CITY OF JERSEY CITY, HUDSON COUNTY, NEW JERSEY

DATUM:
HORIZONTAL DATUM: NAD83
VERTICAL DATUM: NGVD29

Amec Foster Wheeler PROJECT No. 3480150487 *DRAWING:* 3480150487-6100-A305-0000		amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619
PREPARED/DATE: STR 12/12/16	*CHECKED/DATE:* NW 01/31/17	

EXHIBIT A-B
PROPERTY AREA MAP
BLOCK 21901; LOTS 5-10
SA-6 NORTH
JERSEY CITY, NEW JERSEY
DEED NOTICE #5

EXHIBIT B
Deed Notice #5 SA-6 North Property

B-1A and B-1B Restricted Area Maps
B-2A Chromium Remedy Components
B-2B and B-2C Cap System Detail
B-2D As-Built Restoration Plan
B-3 Restricted Area Data Table
Portions of Block 21901, Lots 5 through 10
City of Jersey City, New Jersey

Exhibit B-1 Restricted Area Maps includes Exhibit B-1A and Exhibit B-1B (Restricted Area Soil Sample Locations).

Exhibit B-2 Chromium Remedy Components includes Exhibit B-2A (Chromium Remedy Components), B-2B and B-2C (Cap System Detail), and Exhibit B-2D (As-Built Restoration Plan).

Exhibit B-3 is a Restricted Area Data Table indicating soil sample locations with concentrations of contaminants remaining above the level established in the New Jersey Department of Environmental Protection (NJDEP) Chromium Policy and/or other applicable NJDEP Soil Quality Standards as described below.

Restricted Area Map Notes:

Exhibits B-1A and B-1B indicate engineering controls. The engineering controls include (1) underground containment walls, and (2) a capping system consisting of: a warning layer, impervious geo-membrane liner; geo-composite drainage layer; and clean soil cover with minimum 12 inches thickness in areas where pavement is proposed; and an average of 36-inches and a minimum 24-inches thickness in areas where landscaping is proposed.

Exhibit B-2B indicates engineering controls cap system detail.

Exhibits B-1A and B-1B indicate the restricted area for soil containing contaminants of concern, including hexavalent chromium above 20 milligrams per kilogram (mg/kg), benzene above the NJDEP Residential Direct Contact Soil Remediation Standard (RDCSRS) of 2 mg/kg, methyl tert-butyl ether (MTBE) above the NJDEP RDCSRS of 320 mg/kg, and soils that are consistent with NJDEP's definition of "historic fill material" found at N.J.A.C. 7:26E-1.8 as shown on Exhibit B-3.

Analytical results and soil borings indicate that historic fill is present onsite and extends over the entire Restricted Area. Historic fill onsite typically consists of the following: metals, PAHs, and miscellaneous debris (including but not limited to coal fragments, brick, timber, and other construction materials).

A table summarizing maximum concentrations of typical contaminants found in the historic fill material in the Restricted Area is included as Exhibit B-3.

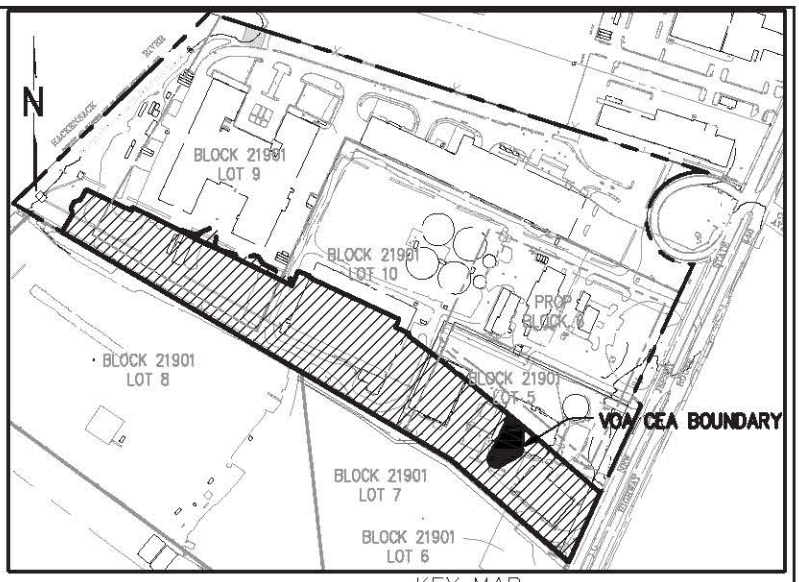
For soils north of the hydraulic barrier wall with hexavalent chromium concentrations above 20 mg/kg, the engineering control is 12 feet of clean soil and an asphalt cap as shown on Exhibit B-2C.

Exhibits B-1A and B-1B
Restricted Area Maps

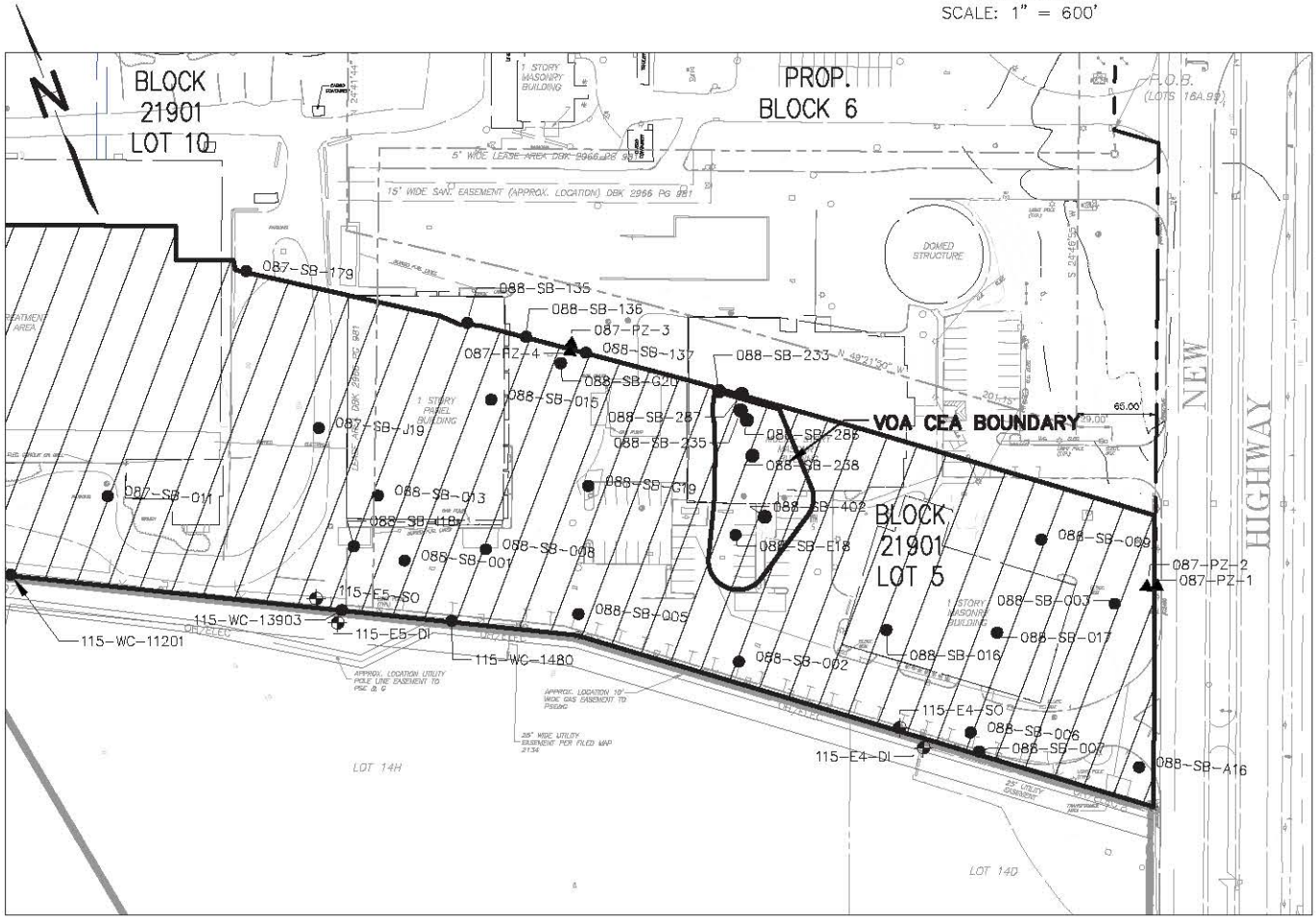
UNLESS OTHERWISE AGREED IN A WRITTEN CONTRACT BETWEEN AMEC FOSTER WHEELER AND ITS CLIENT: (I) THIS DOCUMENT CONTAINS INFORMATION, DATA AND DESIGN THAT IS CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (II) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN DELIVERED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.

LEGEND

- SOIL SAMPLE LOCATION ABOVE STANDARD (SEE EXHIBIT B-2)
- MONITORING WELL
- PIEZOMETER
- PROPERTY BOUNDARY
- HYDRAULIC BARRIER SCB WALL
- CEA AREA AND OPEN SPACE AREA RESTRICTED AREA



KEY MAP
SCALE: 1" = 600'



SOURCE REFERENCE:

DRAWING TITLED: "ALTA/ASCM LAND TITLE SURVEY FOR BAYFRONT REDEVELOPMENT, LLC., BLOCK 21901 LOTS 5 THRU 10, PREPARED BY MASER CONSULTING, P.A. DATED 10/16/15 CITY OF JERSEY CITY, HUDSON COUNTY, NEW JERSEY

DATUM:
HORIZONTAL DATUM: NAD83
VERTICAL DATUM: NGVD29

DRAFT

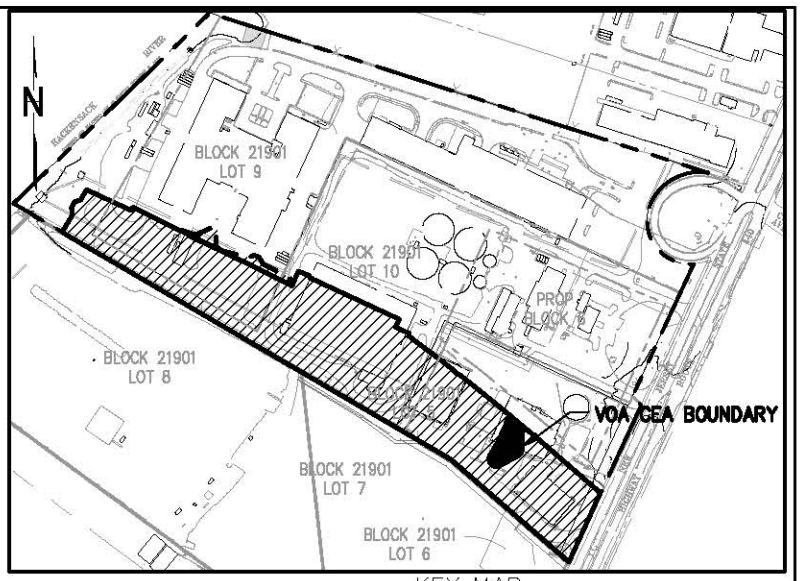
0 75 150 300
SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150487 *DRAWING:* 3480150487-6100-B005-0000	amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT B-1A** RESTRICTED AREA MAP BLOCK 21901; LOTS 5-10 SA-6 NORTH JERSEY CITY, NEW JERSEY DEED NOTICE 5
PREPARED/DATE: STR 12/15/16 | *CHECKED/DATE:* NW 12/22/16		

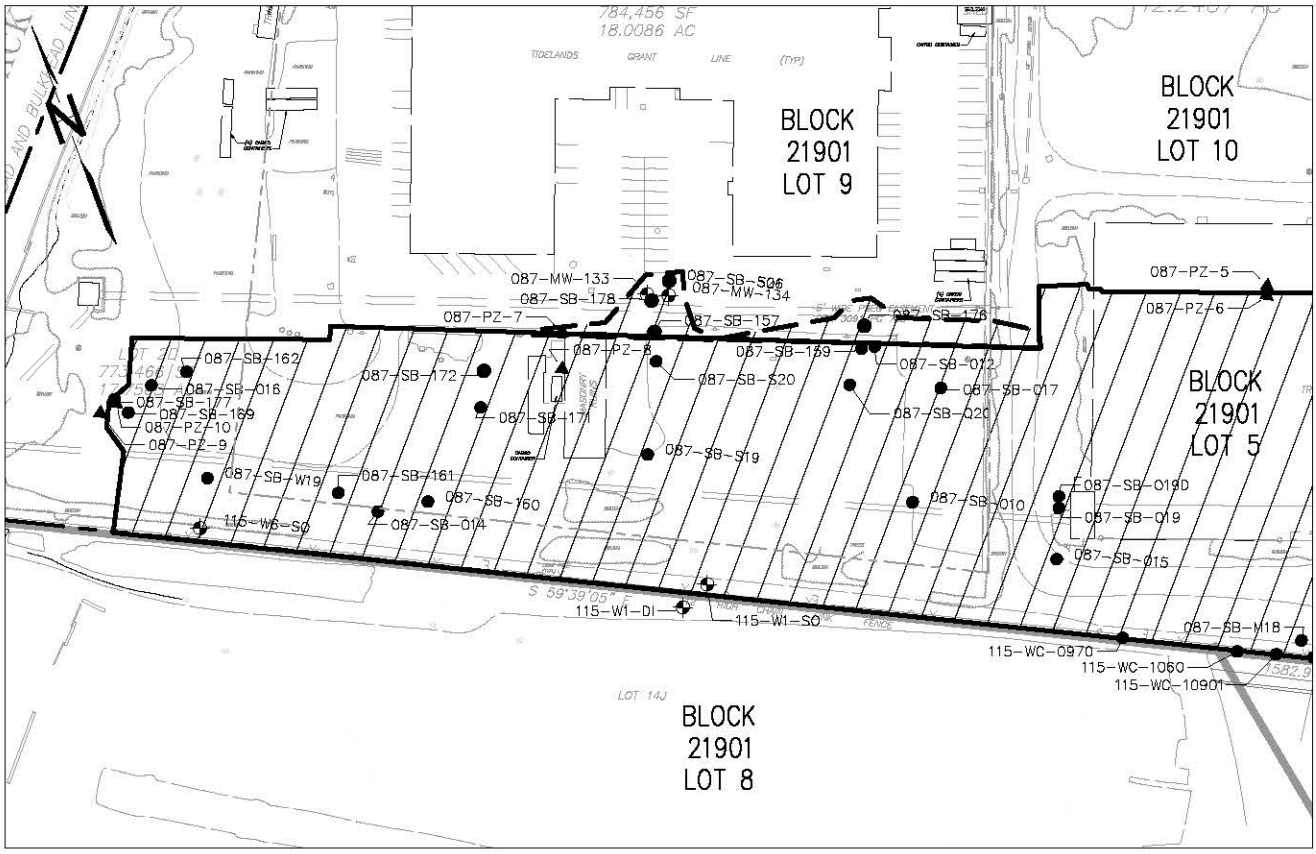
UNLESS OTHERWISE AGREED IN A WRITTEN CONTRACT BETWEEN AMEC FOSTER WHEELER AND ITS CLIENT: (I) THIS DOCUMENT CONTAINS INFORMATION, DATA AND DESIGN THAT IS CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (II) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN DELIVERED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.

LEGEND

- SOIL SAMPLE LOCATION ABOVE STANDARD (SEE EXHIBIT B-2)
- MONITORING WELL
- PIEZOMETER
- PROPERTY BOUNDARY
- HYDRAULIC BARRIER SCB WALL
- CEA AREA AND OPEN SPACE AREA RESTRICTED AREA (INCLUDES PORTION OF TA-10 AREA NORTH OF HYDRAULIC BARRIER WALL)



KEY MAP
SCALE: 1" = 600'



SOURCE REFERENCE:

DRAWING TITLED: "ALTA/ASCM LAND TITLE SURVEY FOR BAYFRONT REDEVELOPMENT, LLC., BLOCK 21901 LOTS 5 THRU 10, PREPARED BY MASER CONSULTING, P.A. DATED 10/16/15 CITY OF JERSEY CITY, HUDSON COUNTY, NEW JERSEY

DATUM:
HORIZONTAL DATUM: NAD83
VERTICAL DATUM: NGVD29

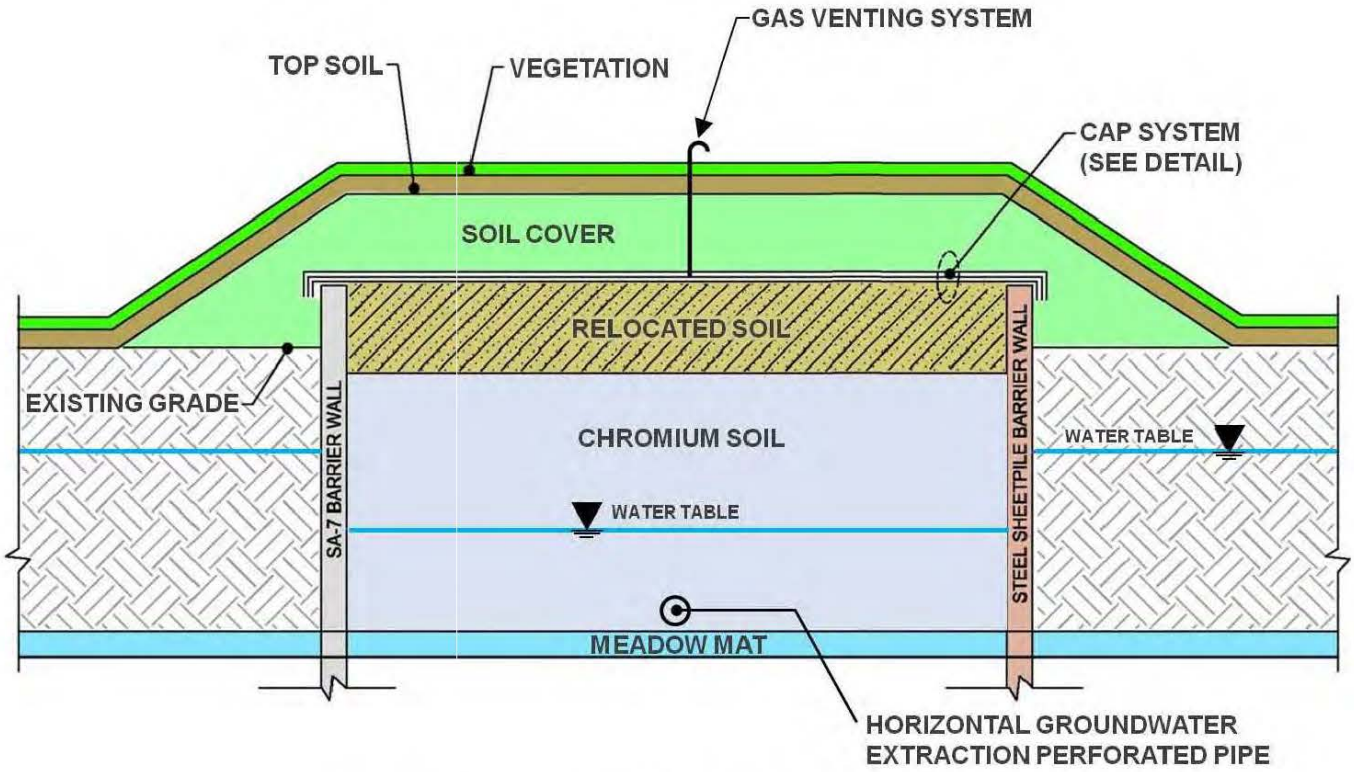
DRAFT

0 75 150 300
SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150487 *DRAWING:* 3480150487-6100-B005-0000		amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619
PREPARED/DATE: STR 12/12/16	*CHECKED/DATE:* NW 01/31/17	

EXHIBIT B-B
RESTRICTED AREA MAP
BLOCK 21901; LOTS 5-10
SA-6 NORTH
JERSEY CITY, NEW JERSEY
DEED NOTICE 5

Exhibit B-2
Chromium Remedy Components and Cap System Details



CHROMIUM REMEDY COMPONENTS

NTS

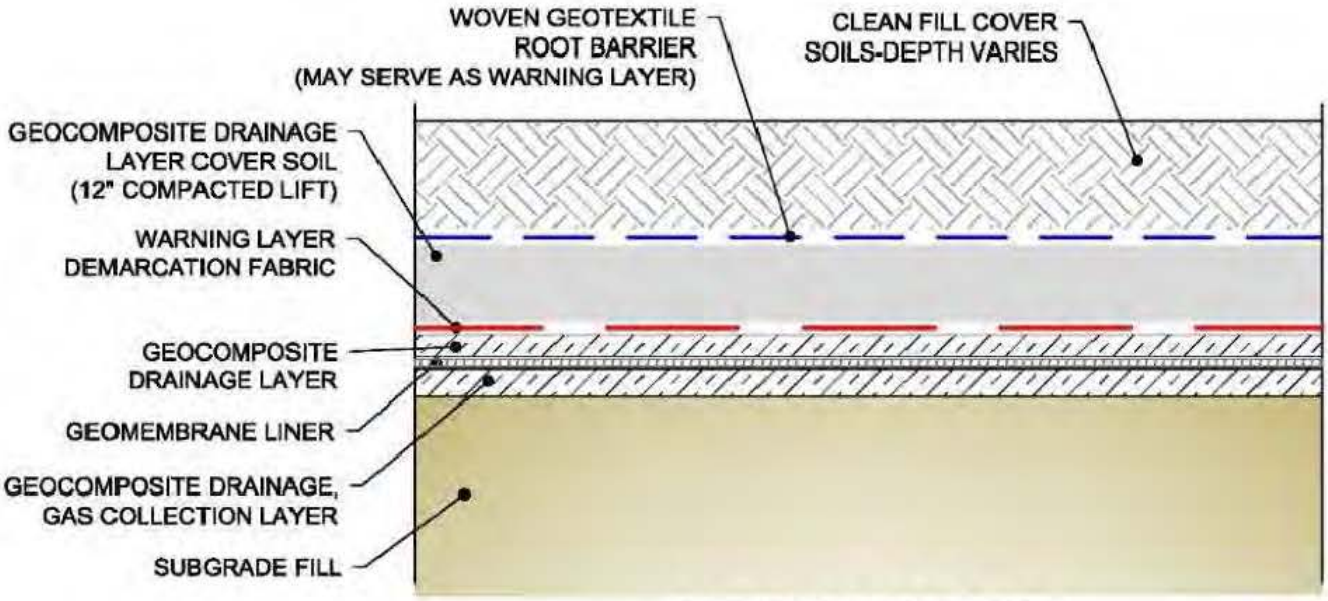
DRAFT

Amec Foster Wheeler PROJECT No. 3480150488 *DRAWING:* 3480150487-6100-CPCS-5000	amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT B-2A** CHROMIUM REMEDY COMPONENTS BLOCK 21901 LOTS 5-10 SA-6 NORTH JERSEY CITY, NEW JERSEY DEED NOTICE # 5
PREPARED/DATE: STR 03/10/16 | *CHECKED/DATE:* DEN 01/31/17		

P:\CADD\HONEYWELL\JERSEY CITY\SA 6 NORTH\3480150487\6100\610001\DEED NOTICE\DN 5\3480150487-6100-CPCS-5000.dwg Fri, 10 Mar 2017 - 1:46pm scott.rudkin
UNLESS OTHERWISE AGREED IN A WRITTEN CONTRACT BETWEEN AMEC FOSTER WHEELER AND ITS CLIENT: (I) THE DOCUMENT CONTAINS PROPRIETARY DATA AND DESIGN THAT IS CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (II) THE DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT WAS MADE DELIVERED. ANY OTHER USE OR RELIANCE ON THE DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.

UNLESS OTHERWISE AGREED IN A WRITTEN CONTRACT BETWEEN AMEC FOSTER WHEELER AND ITS CLIENT: (I) THIS DOCUMENT CONTAINS INFORMATION, DATA AND DESIGN THAT IS CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (II) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN DELIVERED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.

P:\CADD\HONEYWELL\JERSEY CITY\SA 6 NORTH\3480150487\6100\610001\DEED NOTICE\DN 5\3480150487-6100-CSDD-5000.dwg Fri, 10 Mar 2017 - 1:48pm scott.rudkin



CAP SYSTEM DETAIL

NTS

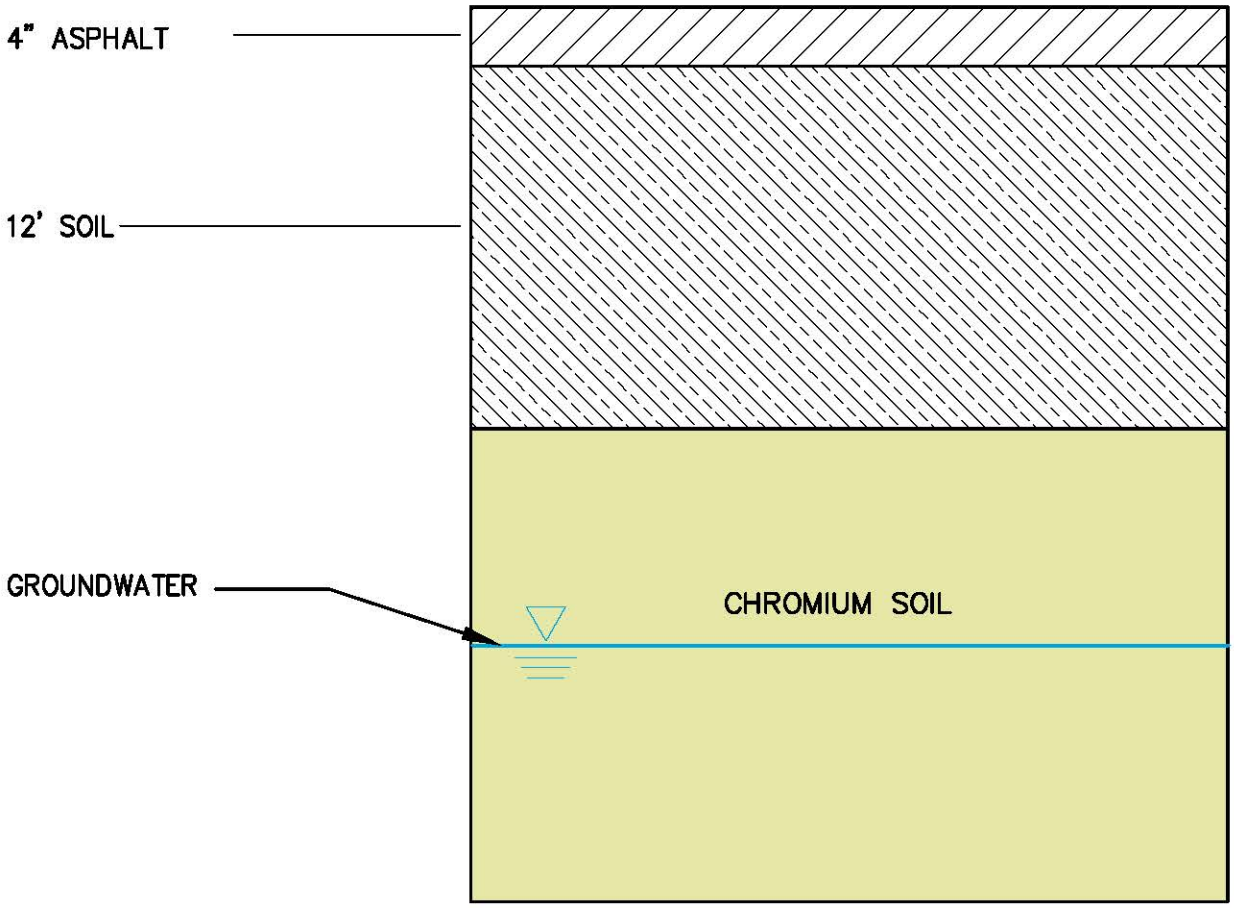
DRAFT

Amec Foster Wheeler PROJECT No. 3480150488 DRAWING: 3480150487-6100-CSDD-5000		amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619
PREPARED/DATE: STR 03/10/16	CHECKED/DATE: DEN 01/31/17	

EXHIBIT B-2B
CAP SYSTEM DETAIL
BLOCK 21901 LOTS 5-10
SA-6 NORTH
JERSEY CITY, NEW JERSEY
DEED NOTICE # 5

UNLESS OTHERWISE AGREED IN A WRITTEN CONTRACT BETWEEN AMEC FOSTER WHEELER AND ITS CLIENT: (1) THIS DOCUMENT CONTAINS INFORMATION, DATA AND DESIGN THAT IS PROPRIETARY AND MAY NOT BE COPIED OR DISCLOSED; AND (2) THE DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN DELIVERED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.

P:\CADD\HONEYWELL\JERSEY CITY\SA 6 NORTH\3480150487\6100\610001\DEED NOTICE\DN 7\3480150487-6100-B2C0-0000.dwg Mon, 20 Nov 2017 - 12:09pm charles.wingfield

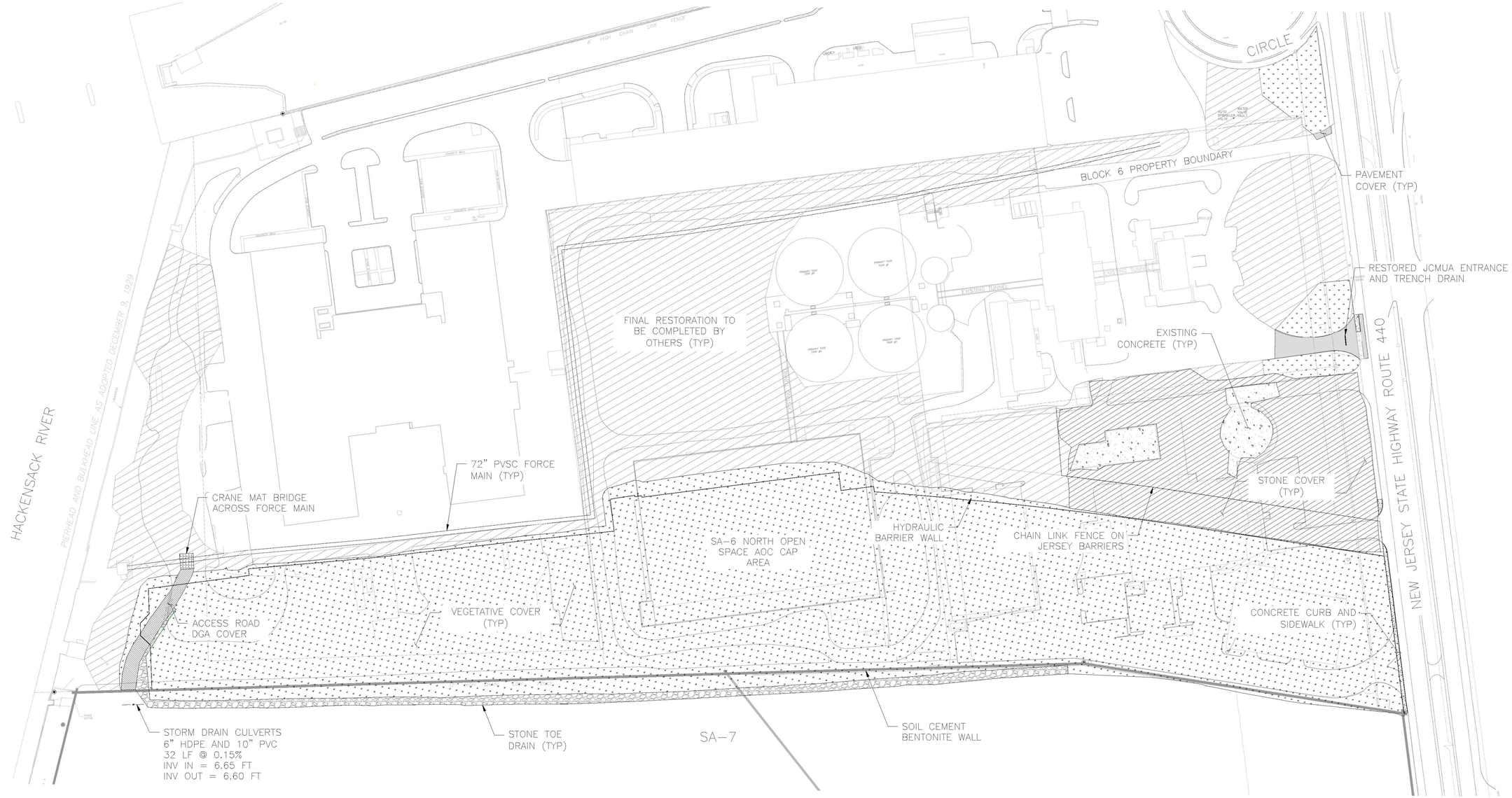


CAP SYSTEM DETAIL (FOR AREA NORTH OF HYDRAULIC BARRIER WALL)

NTS

DRAFT

Amec Foster Wheeler PROJECT No. 3480150488 *DRAWING:* 3480150487-6100-B2C0-0000		amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT B-2C** CAP SYSTEM DETAIL BLOCK 21901, LOTS 5-10 SA-6 NORTH JERSEY CITY, NEW JERSEY DEED NOTICE # 5
PREPARED/DATE: STR 01/25/17	*CHECKED/DATE:* NW 01/31/17		



NOTE:

1. REFER TO CONSTRUCTION CONTROL GRID FIGURE AND ATTACHED TABLES FOR SURVEY DOCUMENTATION OF 6 INCH GRAVEL HISTORIC FILL CAP INSTALLATION.
2. OPEN SPACE CAP AREA WITHIN LIMITS OF THE BARRIER WALLS IS COVERED WITH CLEAN IMPORTED SOILS TO THE DEPTHS IDENTIFIED IN THE DESIGN. THE VEGETATED SLOPE WITHIN THE DEVELOPMENT AREA IS COVERED WITH A MINIMUM OF 12 INCHES OF CLEAN IMPORTED FILL. THE VEGETATED SLOPE ALONG SA-7 WAS CONSTRUCTED ENTIRELY FROM CLEAN IMPORTED FILL.
3. REMAINING RESTORATION AREAS IDENTIFIED ON THE CHROMIUM REMEDY 100% DESIGN DRAWINGS WILL BE ADDRESSED AS PART OF THE NON CHROMIUM REMEDIATION WORK CURRENTLY BEING COMPLETED. FINAL RESTORATION OF ALL AREAS IS SCHEDULED TO BE COMPLETE IN MARCH 2017.

EXHIBIT B-2D

STONE COVER
VEGETATED COVER
PAVEMENT COVER
CONCRETE COVER
DGA COVER
RESTORATION BY OTHERS
STONE TOE DRAIN
SD — STORM DRAIN PIPE

0 80 160 FEET
SCALE

REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	1/7/17	EJP	AE	AE	AS BUILT RESTORATION PLAN

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
AS BUILT RESTORATION PLAN
SA-6 NORTH – SHEET 001
1/6/17

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Exhibit B-3: Table B-3
Soil Sample Data Tables

EXHIBIT B-3
Restricted Area Data Table
Deed Notice #5 SA-6 North Open Space Area Property
Portions of Block 21901, Lots 5 through 10
Jersey City, New Jersey

Location ID	Sample Date	Sample Elevation (NAVD88)	Hexavalent Chromium (mg/kg)	Q
087-SB-010	05/27/2005	-1.9	**52.3**	J
087-SB-010	05/27/2005	-4.9	**3590**	J
087-SB-011	05/24/2005	-0.5	**104**	
087-SB-011	05/24/2005	-3	**4630**	J
087-SB-012	05/27/2005	-5.9	**873**	J
087-SB-014	05/27/2005	1.5	**292**	J
087-SB-014	05/27/2005	-3.5	**292**	J
087-SB-015	05/24/2005	1.5	**8530**	J
087-SB-015	05/24/2005	-0.5	**6960**	J
087-SB-015	05/24/2005	4.5	**5580**	J
087-SB-016	05/26/2005	2.2	**5340**	J
087-SB-017	05/27/2005	-5	**980**	J
087-SB-017	05/27/2005	-9.4	**7580**	J
087-SB-157	07/02/2008	-0.3	**80.1**	
087-SB-159	07/02/2008	3.5	**93.5**	
087-SB-159	07/02/2008	2	**722**	
087-SB-160	07/09/2008	3	**22.4**	J
087-SB-160	07/09/2008	1.5	**1990**	
087-SB-160	07/09/2008	-0.5	**40.5**	J
087-SB-161	07/09/2008	0	**606**	
087-SB-162	07/09/2008	5.5	**10800**	J
087-SB-162	07/09/2008	2	**22.5**	J
087-SB-169	08/08/2008	5	**25.5**	J
087-SB-169	08/08/2008	3.5	**60.8**	J
087-SB-169	08/08/2008	1.5	**20.3**	J
087-SB-171	08/11/2008	3.5	**27.5**	
087-SB-171	08/11/2008	1	**1760**	J
087-SB-172	08/11/2008	1	**429**	
087-SB-177	09/03/2008	4	**7020**	
087-SB-178	09/04/2008	1.7	**81.2**	J
087-SB-179	09/03/2008	-3.4	**20.3**	
087-SB-J19	08/20/1997	-4.4	**27.8**	
087-SB-J19	08/20/1997	-6.4	**4390**	
087-SB-M18	05/21/1997	11.5	**21.6**	J
087-SB-M18	05/21/1997	1.5	**9600**	J
087-SB-M18	05/21/1997	-0.5	**10200**	J
087-SB-M18	05/21/1997	-2.5	**1180**	J
087-SB-M18	05/21/1997	-4.5	**5210**	J
087-SB-M18	05/21/1997	3.5	**39.8**	J
087-SB-O19	05/20/1997	14	**42.6**	J
087-SB-O19	05/20/1997	2	**6100**	J
087-SB-O19D	10/13/1997	2	**3480**	J
087-SB-Q20	05/21/1997	1.6	**282**	J
087-SB-S19	05/20/1997	-0.4	**1140**	J
087-SB-S20	08/21/1997	0.7	**346**	
087-SB-S20	08/21/1997	-1.3	**734**	
087-SB-S20	08/21/1997	-3.3	**588**	
087-SB-S20	08/21/1997	12.7	**266**	
087-SB-W19	05/20/1997	2.4	**97.3**	J
087-SB-W19	05/20/1997	0.4	**25.2**	J

EXHIBIT B-3
Restricted Area Data Table
Deed Notice #5 SA-6 North Open Space Area Property
Portions of Block 21901, Lots 5 through 10
Jersey City, New Jersey

Location ID	Sample Date	Sample Elevation (NAVD88)	Hexavalent Chromium (mg/kg)	Q
087-SB-W19	05/20/1997	14.4	**161**	J
087-SB-506	04/13/2009	2.8	**46.3**	
088-MW-02	05/16/2005	8.7	**2110**	J
088-MW-02	05/16/2005	3.7	**973**	J
088-SB-001	05/20/2005	1.3	**4730**	J
088-SB-001	05/20/2005	-3.2	**7880**	J
088-SB-001	05/20/2005	-5.7	**1470**	J
088-SB-001	05/20/2005	5.3	**327**	J
088-SB-002	05/17/2005	11.6	**25.8**	J
088-SB-002	05/17/2005	-1.9	**54.7**	J
088-SB-002	05/17/2005	-4.4	**395**	J
088-SB-002	05/17/2005	9.6	**227**	J
088-SB-002	05/17/2005	3.6	**4240**	J
088-SB-003	05/20/2005	-1.3	**1740**	J
088-SB-003	05/20/2005	-4.3	**190**	J
088-SB-003	05/20/2005	7.7	**911**	J
088-SB-003	05/20/2005	3.7	**2040**	J
088-SB-005	05/17/2005	-1	**9150**	J
088-SB-005	05/17/2005	-4.5	**2410**	J
088-SB-005	05/17/2005	3.5	**754**	J
088-SB-006	05/17/2005	-0.8	**11300**	J
088-SB-006	05/17/2005	-3.3	**12100**	J
088-SB-006	05/17/2005	7.7	**4660**	J
088-SB-006	05/17/2005	3.7	**28.7**	J
088-SB-007	05/16/2005	-1.8	**14600**	J
088-SB-007	05/16/2005	3.7	**3440**	J
088-SB-007	05/17/2005	8.69	**1730**	J
088-SB-008	05/20/2005	-2.7	**165**	J
088-SB-008	05/20/2005	-7.7	**206**	J
088-SB-008	05/20/2005	-9.5	**6510**	J
088-SB-009	05/20/2005	-3.13	**7160**	J
088-SB-009	05/20/2005	-6.13	**4580**	J
088-SB-009	05/20/2005	1.87	**239**	J
088-SB-013	05/18/2005	-2.7	**5310**	
088-SB-013	05/18/2005	-7.2	**2050**	
088-SB-015	05/18/2005	-2.7	**4020**	
088-SB-016	05/20/2005	-1.4	**9120**	
088-SB-016	05/20/2005	-5.9	**5690**	
088-SB-016	05/20/2005	6.6	**3770**	
088-SB-016	05/20/2005	3.6	**7990**	
088-SB-017	05/20/2005	-1.3	**123**	J
088-SB-017	05/20/2005	-6.3	**222**	J
088-SB-017	05/20/2005	6.7	**189**	
088-SB-017	05/20/2005	3.7	**7290**	
088-SB-135	09/04/2008	-4.2	**225**	J
088-SB-136	09/04/2008	-2.7	**146**	J
088-SB-136	09/04/2008	-4.2	**217**	J
088-SB-137	09/03/2008	-0.7	**37.4**	J
088-SB-137	09/03/2008	-3.2	**162**	
088-SB-137	09/03/2008	-4.7	**35.2**	

EXHIBIT B-3
Restricted Area Data Table
Deed Notice #5 SA-6 North Open Space Area Property
Portions of Block 21901, Lots 5 through 10
Jersey City, New Jersey

Location ID	Sample Date	Sample Elevation (NAVD88)	Hexavalent Chromium (mg/kg)	Q
088-SB-142	09/04/2008	-0.4	**1360**	J
088-SB-142	09/04/2008	-1.4	**159**	J
088-SB-142	09/04/2008	-2.9	**188**	J
088-SB-143	09/05/2008	2.6	**320**	
088-SB-143	09/05/2008	1.1	**595**	
088-SB-A16	05/15/1997	13.2	**144**	
088-SB-A16	05/15/1997	1.2	**35.1**	
088-SB-A16	05/15/1997	11.2	**3550**	
088-SB-A16	05/15/1997	9.2	**948**	
088-SB-A16	05/15/1997	7.2	**2580**	
088-SB-A16	05/15/1997	5.2	**4550**	
088-SB-A16	11/17/1998	11.2	**263**	J
088-SB-E18	05/15/1997	5.1	**4840**	
088-SB-G19	05/15/1997	3.1	**5500**	
088-SB-G19	05/15/1997	1.1	**9080**	
088-SB-G19	05/15/1997	5.1	**24.7**	
088-SB-G20	08/20/1997	-2.9	**585**	J
088-SB-I18	05/15/1997	11.8	**2650**	J
088-SB-I18	05/15/1997	1.8	**9170**	J
088-SB-I18	05/15/1997	-0.2	**11100**	J
088-SB-I18	05/15/1997	-2.2	**1960**	J
088-SB-I18	05/15/1997	-4.2	**8780**	J
088-SB-I18	05/15/1997	-6.2	**732**	J
115-WC-N1480	7/27/2007	7	**25.2**	
115-WC-N13903	3/6/2008	13.3	**27.4**	
115-WC-N11201	5/14/2008	12.2	**25.5**	
115-WC-N10901	5/14/2008	11.8	**28.9**	
115-WC-N1060	6/3/2008	7	**50.8**	J
115-WC-N0970	6/3/2008	7	**47.4**	

Notes:
Results reported in milligrams per kilogram (mg/kg).

Data Qualifiers:
J - Data indicates the presence of a compound that meets the identification criteria.
The concentration given is an approximate value.

Abbreviations:
Feet bgs - Feet below ground surface
mg/kg - milligrams per kilogram
feet msl = feet mean sea level NAVD88 - North American Vertical Datum of 1988
NJDEP Chromium SCC - New Jersey Department of Environmental Protection Chromium Soil Cleanup Criteria, revised April 2010
CASR# - Chemical Abstract Service Number for hexavalent chromium is 18540-29-9.

EXHIBIT B-3
Restricted Area Data Table
Deed Notice #5 SA-6 North Open Space Area Property
Portions of Block 21901, Lots 5 through 10
Jersey City, New Jersey

Location ID	Sample Date	Sample Elevation (feet msl)	Depth (ft bgs)	Compounds	CASR #	NJ 2012 RDCSRS (mg/kg)	Concentration (mg/kg)
088-SB-231	7/8/2013	6	7.0-7.5	Benzene	71-43-2	2.0	**4.12**
088-SB-235	6/12/2008	7	6.0-8.0	Benzene	71-43-2	2.0	**67.3**
088-SB-238	6/12/2008	7	6.0-8.0	Benzene	71-43-2	2	**24.2**
		-1	14.0-16.0	Benzene	71-43-2	2	**2.26**
088-SB-287	6/15/2009	5.5	7.5-8.0	Benzene	71-43-2	2.0	**2.71**
088-SB-286	6/11/2009	6	7.0-7.5	Benzene	71-43-2	2.0	**60.9**
	6/11/2009	3	10-10.5	Benzene	71-43-2	2.0	**5.97**
088-SB-402	7/14/2013	6	7.0-7.5	methyl tert butyl ether (MTBE)	1634-04-4	110	**129**

Notes:
Results reported in milligrams per kilogram (mg/kg).

Abbreviations:
Feet bgs - Feet below ground surface
mg/kg - milligrams per kilogram
feet msl = feet mean sea level NAVD88 - North American Vertical Datum of 1988
NJDEP RDCSRS - New Jersey Department of Environmental Protection Residential Direct Contact Soil Remediation Standard, 2012
CASR# - Chemical Abstract Service Number

Prepared By: US 09/20/2016

EXHIBIT B-3
Restricted Area Data Table - Historic Fill
Deed Notice #5 SA-6 North Open Space Area Property
Portions of Block 21901; Lots 5 through 10
Jersey City, New Jersey

Parameter Name	NJDEP Residential Direct Contact Soil Remediation Standard (mg/kg)	NJDEP Maximum Historic Fill Concentration[1] (mg/kg)	NJDEP Average Historic Fill Concentration[1] (mg/kg)	Number of Samples[2]	Site-wide Fill Minimum Detected Concentration	Site-wide Fill Maximum Detected Concentration
SVOCs (mg/kg)						
BENZO(A)ANTHRACENE	5	160	1.37	161	0.008	12
BENZO(A)PYRENE	0.5	120	1.89	161	0.008	13
BENZO(B)FLUORANTHENE	5	110	1.91	161	0.008	10
BIS(2-ETHYLHEXYL)PHTHALATE	35	NA	NA	161	0.041	42
DIBENZO(A,H)ANTHRACENE	0.5	25	1.24	161	0.005	2.4
INDENO(1,2,3-CD)PYRENE	5	67	1.41	161	0.016	7.2
NAPHTHALENE	6	NA	NA	160	0.012	194
METALS (mg/kg)						
ANTIMONY	31	NA	NA	160	0.8	243
ARSENIC	19	1098	13.15	160	0.65	191
COPPER	3100	NA	NA	160	4.2	3530
LEAD	400	10700	574	160	5.8	5720
MERCURY	23	NA	NA	161	0.034	1560
NICKEL	1600	NA	NA	160	0.75	3060
VANADIUM	78	NA	NA	92	6.9	478
ZINC	23000	10900	575	160	10.9	13700
TOTAL PCBs (mg/kg)						
TOTAL PCBs	4.7	NA	NA	82	0.0475	46.72

Notes:
All concentrations reported in milligrams per kilogram (mg/kg)
[1] - NJDEP Reference Historic Fill Concentrations from Table 4-2 of the prior version of Technical Requirements for Site Remediation; N.J.A.C 7:26E-4.6
[2] - Site-wide historic fill database includes a total of 159 sample points: 26 samples from the initial RI (TTNUS, 2000); 69 samples from Supplemental RI (MACTEC, 2006); and 64 samples from the RI activities completed during 2008. Samples include both Deed Notice #5 and #13
SVOCs - Semivolatile organic compounds
PCBs - Polychlorinated biphenyls - standard is the NJDEP approved 95% Upper Confidence Limit
NA - None available

Prepared by: JB
Checked by: TG

EXHIBIT C
Deed Notice #5 SA-6 North Property

C-1 Institutional Controls
C-2 Engineering Controls
Portions of Block 21901, Lots 5 through 10 City of Jersey City, New Jersey

C-1 Institutional Controls

C-1 Deed Notice, Consent Decree, Zoning, and Conservation Restriction as Institutional Controls: Exhibit C-1 (A through D) for the portions of Block 21901, Lots 5 through 10, City of Jersey City, New Jersey known as the Property.

i. Exhibits C-1A through D. Exhibit C-1A: Deed Notice as Institutional Control; Exhibit C-1B: Consent Decree as Institutional Control (attached); Exhibit C-1C: Zoning as Institutional Control; Exhibit C-1D: Conservation Restriction as Institutional Control (recorded at the Office of Hudson County Register as indicated in Paragraph 3): Exhibits C-1A through C-1D include a narrative description of the restrictions and obligations of this Deed Notice and the other Institutional Controls that are in addition to those described above, as follows:

(A) General Description of the Institutional Control:
The Property encompasses approximately 10 acres. This deed notice area includes chromium, benzene, MTBE, and historic fill. The horizontal extent of the Property include an existing SCB wall along the southern boundary of the Property with SA-7, the hydraulic barrier walls installed on the other three sides as part of the Chromium Remedy, and the portion of TA-10 that is south of the northern curbline of the future Stegman Boulevard. The engineering barrier covering the contamination in the area of the Property contained within the SCB and hydraulic barrier walls consists of an engineered RCRA cap that includes a gas collection system, base protective layer, geomembrane liner, geocomposite drainage layer, filter fabric, warning layer and cover soils. The engineering barrier in the TA-10 area of the Property consists of at least 12 feet of clean fill and the area will be capped by the future Stegman Boulevard. The Property includes chromium, for the Open Space Area and the TA-10 area, and benzene, MTBE, and historic fill for the Open Space Area. Honeywell has restricted the future use of the Open Space Area by implementing a conservation restriction, which has been recorded at the Office of the Hudson County Register. Honeywell will amend the conservation restriction to include TA-10 and to restrict the future use of the TA-10 area. The amended conservation restriction will be recorded at the Office of the Hudson County Register. Honeywell will transfer, or cause Bayfront Redevelopment LLC to transfer, title to the City of Jersey City (as called for in Paragraph 60(a)(iii) of the Consent Decree). The provisions of the LTMP and the OSDS, developed pursuant to the Consent Decree, will apply to the Property.

(1) Description and estimated size of the Restricted Areas as described above;

The Property constitutes portions of Block 21901, Lots 5 through and 10. The estimated size of the Property containing chromium-impacted soils (hexavalent chromium above 20 mg/kg) is identified Cap Area on Exhibit B-1 is estimated at approximately 10 acres. The Property also includes chromium-impacted soils (hexavalent chromium above 20 mg/kg) identified on Exhibit B-1 as TA-10 and estimated at approximately 0.2 acre in size.

(2) Description of the restrictions on the Property by operation of the Institutional Control;

The Property shall only be used for activities consistent with this Deed Notice, the Consent Decree, including, but not limited to, Paragraphs 60(j) and 60 (k) of the Consent Decree, the applicable zoning standards, and the Conservation Restriction. Intrusive activities (i.e., excavation or digging) that breach the engineering controls (as described in Exhibit C-2) will not be permitted on the Property except in compliance with the terms of the Consent Decree and the LTMP developed thereunder, and this Deed Notice. See subsections 7A Alterations, Improvements, Disturbances, and 7B, Emergencies for additional information. A copy of the LTMP is maintained by Honeywell at 115 Tabor Road, Morris Plains, NJ 07950.

(3) The objective of the restrictions;

The restrictions will prohibit contact with soils containing hexavalent chromium above the level established in the NJDEP Chromium Policy of 20 mg/kg, soils containing benzene above the NJDEP RDCSRS of 2 mg/kg, soils containing MTBE above the NJDEP RDCSRS of 320 mg/kg and soils that are historic fill.

(B) Description of the monitoring necessary to determine whether:

(1) Any disturbances of the soil in the Restricted Areas resulted in the unacceptable exposure to the soil contamination;

Visual inspections of the Property and other monitoring as set forth in the Consent Decree and LTMP established thereunder.

(2) There have been any land use changes subsequent to the filing of this Deed Notice or the most recent biennial certification, whichever is more recent;

Same as (B)(1).

(3) The current land use on the Property is consistent with the restrictions in this Deed Notice;

Same as (B)(1).

(4) Any newly promulgated or modified requirements of applicable regulations or laws apply to the site; and

Review of newly promulgated or modified requirements of applicable regulations or laws that potentially may apply to the Property.

(5) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice, and conduct the necessary sampling; and

Same as (B)(4).

(C) Description of the following items that will be included in the biennial certification:

(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice;

(2) Land use at the Property is consistent with the restrictions in the Consent Decree, this Deed Notice, the OSDS, the applicable zoning standards and the Conservation Restriction; and

(3) The remedial action that includes this Deed Notice continues to be protective of the public health and safety and of the environment.

The monitoring report will be included in the biennial certification. Components of the monitoring report will include the following:

- ***A report of all conditions set forth in sections (A) and (B) above to assure that they have been adhered to, including evaluation of any available documents as a result of changes in land use or incidents.***
- ***A report that determines whether or not the land use at the Property has remained consistent with the restrictions in the Consent Decree, this Deed Notice, the OSDS, the applicable zoning standards and the Conservation Restriction.***
- ***A report that determines whether or not the Deed Notice continues to be protective of the public health and safety and the environment.***

C-2 Engineering Controls
Deed Notice #5 SA-6 North Property

Portions of Block 21901, Lots 5 through 10
City of Jersey City, New Jersey

Exhibits C-2A through C: Narrative description of the Engineering Controls including (A) the Clean Fill and Soil Capping System; (B) Underground Containment Walls; (C) Shallow Groundwater Collection and Treatment System as follows:

(A) General Description of the engineering controls:

(1) Description of the engineering controls;

The Engineering Controls consist of the following: (A) The engineering controls include a capping system consisting of: a root barrier, a warning layer, impervious geo-membrane liner; geo-composite drainage layer; and clean soil cover with minimum 12 inches thickness in areas where pavement is proposed; and an average of 36-inches and a minimum 24-inches thickness in areas where landscaping is proposed. For the purposes of this Deed Notice, the engineering controls exclude cover soils that are within 12 inches of the root barrier. (B) Engineering controls will also include underground containment walls around the perimeter of the Property, except for the TA-10 area. The Engineering Controls in the TA-10 area of the Property consist of at least 12 feet of clean fill and the area will be capped by the future Stegman Boulevard. The Engineering Controls are more fully set forth in the Consent Decree.

(2) The objective of the engineering controls; and

The objective of the controls is to prevent contact with soils containing hexavalent chromium above the level established in the NJDEP Chromium Policy of 20 mg/kg, soils containing benzene above the NJDEP RDCSRS of 2 mg/kg, soils containing MTBE above the NJDEP RDCSRS of 320 mg/kg, and soils that are historic fill material, and to contain shallow groundwater above the NJDEP groundwater quality standard for total chromium.

(3) How the engineering controls are intended to function.

The soil engineering controls are intended to function as a barrier to underlying and adjacent soils impacted as defined above. The groundwater engineering controls are intended to restrict the flow of shallow groundwater, and to collect and treat contaminated groundwater within the Property. Monitoring requirements for the engineering controls are set forth in the LTMP.

(B) Description of the operation and maintenance necessary to ensure that:

(1) Periodic inspections of each engineering control are performed in order to determine its integrity, operability, and effectiveness;

Honeywell will perform monitoring by visual inspection of the Property pursuant to the Consent Decree. Other monitoring activities shall be performed as set forth in the LTMP developed pursuant to the Consent Decree.

(2) Each engineering control continues as designed and intended to protect the public health and safety and the environment;

Same as (B)(1) above.

(3) Each alteration, excavation or disturbance of any engineering control is timely and appropriately addressed to maintain the integrity of the engineering controls;

Same as (B)(1) above. Also, see the Consent Decree and subsections 7A Alterations, Improvements, Disturbances, and 7B Emergencies for additional information.

(4) The engineering controls are being inspected and maintained and their integrity remains so that the remedial action continues to be protective of the public health and safety and of the environment;

Same as (B)(1) above.

(5) A record of the self-inspection dates, name of the inspector, results of the inspection and condition(s) of the engineering controls. Sampling, for example, may be necessary if it is not possible to visually evaluate the integrity/performance of the engineering controls; and

Records of the inspections are to be maintained as listed in (5). Should the activities carried out in conformance with the LTMP developed pursuant to the Consent Decree indicate that other activities are necessary, those activities will be listed and executed.

(6) Any new standards, regulations, or laws apply to the Open Space Area Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice, and conduct the necessary sampling; and

A review of any new standards, regulations, or laws will be conducted. Should the review indicate that other activities are necessary, those activities will be listed and executed.

(C) Description of the following items that will be included in the biennial certification:

(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice;

(2) The engineering controls continues to operate as designed; and

(3) The remedial action that includes the engineering control continues to be protective of the public health and safety and of the environment.

The monitoring report will be included in the biennial certification. Components of the monitoring report will include the following:

- ***A report of all conditions set forth in sections (A) and (B) above to assure that they have been adhered to, including an evaluation to determine whether or not the engineering controls are continuing to meet the original objective and intended function.***
- ***A report to determine whether or not the engineering controls continue to operate as designed.***
- ***A report to determine whether or not the engineering controls continue to be protective of the public health and safety and of the environment.***

Appendix I
Consent Decree

APPENDIX I

UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY

JERSEY CITY MUNICIPAL UTILITIES AUTHORITY, Plaintiff, v. HONEYWELL INTERNATIONAL INC., Defendant.	Civil Action No. 05-5955 Consolidated under Docket No. 95-2097 (DMC)
JERSEY CITY INCINERATOR AUTHORITY Plaintiff, v. HONEYWELL INTERNATIONAL INC., Defendant.	Civil Action No. 05-5993 Consolidated under Docket No. 05-5955 (DMC) under Docket No. 95-2097 (DMC)
HACKENSACK RIVERKEEPER, INC., *et al.* Plaintiffs, v. HONEYWELL INTERNATIONAL INC., *et al.* Defendants.	Civil Action No. 06-22 Consolidated under Docket No. 05-5955 (DMC) under Docket No. 95-2097 (DMC)

FIRST AMENDED CONSENT DECREE REGARDING REMEDIATION AND REDEVELOPMENT OF STUDY AREA 6 NORTH

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RECITALS

Whereas, on June 30, 2003, the district court for the District of New Jersey issued a Final Judgment in *Interfaith Community Organization v. Honeywell International Inc.*, Civ. No. 95-2097 (DMC) ("*ICO v. Honeywell*"), ordering the remediation of an area designated by the New Jersey Department of Environmental Protection ("NJDEP") as Study Area 7 by excavation of all chromium contamination on the property, under the oversight of a court-appointed Special Master;

Whereas, on or about December 23, 2005, the Jersey City Municipal Utilities Authority ("JCMUA") filed litigation styled *Jersey City Municipal Utilities Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5955 (DMC), bringing claims against Honeywell International Inc. ("Honeywell") under, *inter alia*, Section 6972 of the Resource Conservation and Recovery Act ("RCRA"), and seeking remediation of chromium contamination on property owned by JCMUA and other relief;

Whereas, on or about December 28, 2005, the Jersey City Incinerator Authority ("JCIA") filed litigation styled *Jersey City Incinerator Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5993 (DMC), bringing claims against Honeywell under, *inter alia*, Section 6972 of RCRA, and seeking remediation of chromium contamination on property owned by JCIA and other relief;

Whereas, on or about January 4, 2006, the Hackensack Riverkeeper, Inc., Captain William Sheehan, Reverend Winston Clarke, and Lawrence Baker ("Riverkeeper") filed litigation styled *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.,* D.N.J., Civ. No. 06-022 (DMC), bringing a claim against Honeywell under RCRA and seeking remediation of chromium contamination to soils, groundwater, surface waters, and sediments associated with various properties collectively designated by NJDEP as Study Areas 5, 6 North, and 6 South;

Whereas, Study Areas 6 North and South are directly adjacent to Study Area 7 on the north and south sides, respectively;

Whereas, Study Area 5 is comprised of properties to the east of Study Areas 6 North, 6 South, and 7 across Route 440;

Whereas, the property owned by JCIA and JCMUA and collectively the subject of *JCMUA v. Honeywell* and *JCIA v. Honeywell* comprises a part of Study Area 6 North;

Whereas, the City of Jersey City ("Jersey City") also owns property that comprises a part of Study Area 6 North;

Whereas, Riverkeeper also named as defendants in *Riverkeeper v. Honeywell* Jersey City, JCMUA, and JCIA (collectively the "Jersey City Entities");

Whereas, the Jersey City Entities and Honeywell also asserted cross-claims against each other in *Riverkeeper v. Honeywell*;

Whereas, *JCMUA v. Honeywell*, *JCIA v. Honeywell,* and *Riverkeeper v. Honeywell* were consolidated by the United States District Court for the District of New Jersey (hereinafter the "Consolidated Litigation");

Whereas, in the Consolidated Litigation, the Jersey City Entities and Riverkeeper have alleged that Honeywell bears responsibility for the presence and remediation of chromite ore processing residue ("COPR") and chromium in soils and groundwater on the Study Area 6 North property;

Whereas, in the Consolidated Litigation, Honeywell has alleged that the Jersey City Entities bear full responsibility for lead and other contamination on the Study Area 6 North property, and also bear an equitable share of liability for the presence and remediation of COPR and chromium in soils and groundwater on the Study Area 6 North property and for chromium and other contamination in Hackensack River sediments in the vicinity of Study Area 6 North;

Whereas, on October 9, 2007, Honeywell and Riverkeeper submitted the Consent Order on Sediment Remediation and Financial Assurances ("Sediment Consent Order"), resolving issues related to the remediation of chromium contaminated sediments in the Hackensack River in the vicinity of Study Areas 5, 6, and 7;

Whereas, the Parties to this Consent Decree each believe that it is in their mutual interest to move forward productively to resolve their differences so that they can implement environmental remediation at Study Area 6 North that ensures the continued protection of human health and the environment and so that Study Area 6 and Study Area 7 can be redeveloped in keeping with Jersey City's vision for a revitalized West Side;

Whereas, the Local Redevelopment and Housing Law, N.J.S.A. 40A:12A-1, *et seq.*, as amended and supplemented (the "Redevelopment Law") provides for municipalities to participate in the redevelopment and improvement of areas in need of redevelopment;

Whereas, the portions of Study Area 6 and Study Area 7 (i) which are owned by the Jersey City Entities, (ii) which are owned by Honeywell, (iii) as to which Honeywell has a purchase and sale agreement with the current owner, or (iv) which hereafter will be acquired by a Jersey City Entity and/or Honeywell are parcels which by ordinance adopted by the City Council of Jersey City on February 27, 2008, have been determined to be "areas in need of redevelopment" under the criteria of the Redevelopment Law because of conditions prevalent on those parcels;

Whereas, the settlement which is the subject matter of this Consent Decree contemplates the environmental remediation of Study Area 6 North and redevelopment of the parcels that comprise Study Areas 6 and 7 to create a major mixed use project in an important section of Jersey City;

Whereas, each of the actions to implement this Consent Decree have been fully considered by the Parties as a means to accomplish the aforesaid purposes of this settlement;

Whereas, the consent of each of the Jersey City Entities to this Consent Decree was considered at a duly noticed and appropriate meeting of their respective governing bodies, open to the public, at which members of the public were provided an opportunity to comment on all aspects of the settlement, including, without limitation, the commitments made by the Jersey City Entities herein; and

Whereas, Honeywell and the Jersey City Entities are settling their claims, cross-claims, or counter-claims in the Consolidated Litigation against each other in the *Settlement Consent Order by and between the Jersey City Entities and Honeywell International Inc.* (hereafter "Jersey City/Honeywell Consent Order"), filed in the Consolidated Litigation simultaneously with this Consent Decree and attached as Exhibit A to this Consent Decree:

NOW, THEREFORE, IT IS HEREBY ORDERED AND DECREED AS FOLLOWS:

ARTICLE I: DEFINITIONS

For purposes of this Consent Decree, the following terms shall have the meanings set forth in this Article:

1. **AOC 1** shall mean that area of Study Area 6 North in which the hexavalent chromium concentration in the top 20 feet of soil below existing ground surfaces exceeds concentrations of 20 mg/kg and the Chromium Remedy will be implemented pursuant to Article III. AOC 1 is shown on Exhibit B.

2. **AOC 1 Additional Excavation Areas** shall mean those areas of Study Area 6 North which require excavation pursuant to paragraph 57. The AOC 1 Additional Excavation Areas are not contiguous to AOC 1. The AOC 1 Additional Excavation Areas are shown on Exhibit B.

3. **AOC 1 Open Space Area** shall mean the AOC 1 Open Space Area, as defined by paragraph 53, consisting of approximately 11 acres enclosed by the hydraulic barrier walls constructed under the Chromium Remedy, and which shall be subject to paragraph 60. The AOC 1 Open Space Area is shown on Exhibit B.

4. **AOC 2** shall mean that area of Study Area 6 North on which the Historic Fill Remedy will be implemented pursuant to Article II.B of the Jersey City/Honeywell Consent Order. AOC 2 is shown on Exhibit B.

5. **Bayfront Redevelopment LLC** shall have the meaning set forth in paragraph 4.1 of the Jersey City/Honeywell Consent Order.

6. **COPR** shall mean Chromite Ore Processing Residue.

7. **Chromium Remedy** or **Chromium Remediation** shall mean the remedy set forth in Article III.

8. **Consolidated Litigation** shall mean *Jersey City Municipal Utility Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5955 (DMC), *Jersey City Incinerator Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5993 (DMC), and *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.,* D.N.J., Civ. No. 06-022 (DMC).

9. The **Court** shall mean the United States District Court of the District of New Jersey, which has jurisdiction over the Consolidated Litigation.

10. **Deep Groundwater Remedy** shall mean the deep overburden and bedrock groundwater pump and treat remedy as required by the Order Approving the Deep Overburden Groundwater Remediation, entered on October 6, 2006, and the Stipulation on Consent Regarding the Schedule for Implementation of Deep Groundwater Remedial Actions, currently pending before the Special Master in *ICO v. Honeywell.* In the event that Riverkeeper and Honeywell reach a settlement on source control issues, the Deep Groundwater Remedy shall

include the remedy to which Riverkeeper and Honeywell have agreed. In the event that Riverkeeper and Honeywell do not reach a settlement on source control issues, the Deep Groundwater Remedy shall include the remedy ordered by the Special Master or the Court in *ICO v. Honeywell* for source control.

11. **Hackensack River Watershed Land Trust** shall mean the dedicated fund of the Hackensack Riverkeeper, Inc., established under Section 501(c) of the Internal Revenue Code for the purpose of acquiring and preserving open space within the Hackensack River watershed and administered by the Board of Trustees of the Hackensack Riverkeeper, Inc.

12. **Historic Fill** shall have the definition provided in the NJDEP Technical Requirements for Site Remediation.

13. **Historic Fill Remedy or Historic Fill Remediation** shall mean the remedy set forth in Article II.B of the Jersey City/Honeywell Consent Order, except that the Historic Fill Remedy shall not be limited to the remedy set forth in Article II.B of the Jersey City/Honeywell Consent Order if NJDEP requires a more stringent remedy.

14. **Honeywell** shall mean Honeywell International Inc. and its affiliates, including Kellogg Street 80 Property LLC, Kellogg Street 60 Property LLC, and Kellogg Street/440 Property LLC.

15. **Honeywell's Treatment Plant** shall mean the treatment plant currently located at 80 Kellogg Street that is used to treat, *inter alia*, chromium contaminated groundwater.

16. ***ICO v. Honeywell*** shall mean *Interfaith Community Organization v. Honeywell International Inc.*, D.N.J., Civ. No. 95-2097 (DMC).

17. **Including** shall mean including, but not limited to.

18. **JCIA** shall mean the Jersey City Incinerator Authority.

19. **JCMUA** shall mean the Jersey City Municipal Utilities Authority.

20. **JCRA** shall mean the Jersey City Redevelopment Agency.

21. **Jersey City Entities** shall mean the City of Jersey City, including the Department of Public Works ("DPW") and other agencies and branches thereof, the JCIA, and the JCMUA.

22. **Jersey City/Honeywell Consent Order** shall mean the *Settlement Consent Order by and between the Jersey City Entities and Honeywell International Inc.* entered in the Consolidated Litigation simultaneously with this Consent Decree.

23. **NJDEP** shall mean the New Jersey Department of Environmental Protection.

24. **NJDEP Chromium Directive** shall mean the Chromium Directive issued by NJDEP on February 8, 2007, and attached as Exhibit C.

25. **Party or Parties** shall mean any one or all of the signatories to this Consent Decree.

26. **RCRA** shall mean the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et seq.*, as amended.

27. **Redevelopment Agreement** shall have the meaning set forth in paragraph 4.11(e) of the Jersey City/Honeywell Consent Order.

28. **Redevelopment Area** shall mean Study Area 6 North, Study Area 6 South, and Study Area 7, collectively.

29. **Redevelopment Law** shall mean the New Jersey Local Redevelopment and Housing Law, N.J.S.A. 40A:12A1, *et seq.*, as amended and supplemented.

30. **Redevelopment Plan** shall mean the Bayfront I Redevelopment Plan as adopted by Jersey City on March 12, 2008.

31. **Riverkeeper** shall mean the plaintiffs in *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.*, D.N.J., Civ. No. 06-22 (DMC), and includes the Hackensack Riverkeeper, Inc., William Sheehan, Reverend Winston Clarke, and Lawrence Baker.

32. **Sediment Consent Order** shall mean the Consent Order on Sediment Remediation and Financial Assurances, which the Parties expect will be entered by the Court in *ICO v. Honeywell* and this Consolidated Litigation.

33. **Shallow Groundwater** or **Shallow Level of Groundwater** shall mean groundwater above the meadow mat, groundwater at stratigraphically equivalent depths in locations where there is no meadow mat, and groundwater that is contaminated by recent contact with COPR or other chromium soil contamination above the meadow mat and subsequently flows downward through or past the meadow mat into the upper portion of the lacustrine sediments. This does not include groundwater found in the bedrock, the deep zone, or any plume of contamination that is in both the intermediate and deep zones, as those zones are defined in the Final Groundwater Investigation Report, prepared in *ICO v. Honeywell*, dated February 2007, p. 1-2.

34. **Site** shall mean Study Area 6 North.

35. **Site Preparation Activities** shall have the meaning set forth in paragraph 3.1 of the Jersey City/Honeywell Consent Order.

36. **Site Preparation Plan** shall have the meaning set forth in paragraph 3.2 of the Jersey City/Honeywell Consent Order.

37. **Soil** shall mean soils, historic fill, and/or COPR.

38. The **Special Master** shall mean Senator Robert G. Torricelli, appointed as the Special Master in *ICO v. Honeywell* and the Consolidated Litigation, and his successors or whomever the Court may appoint as Special Master.

39. **Stratum O** shall mean the layer composed of soft brown silty fine sand interlayered with soft gray silty clay and fine sandy to clayey silt generally located above the meadow mat below the Historic Fill and/or COPR.

40. **Study Area 6 North** shall mean that property comprising Sites 87 and 88 of the Chromate Chemical Production Waste Sites designated by NJDEP, comprising approximately 41.58 acres and including: (a) all such property owned by JCMUA located at 555 Route 440, Jersey City, New Jersey, (b) all such property owned by JCIA located at 501 Route 440, Jersey City, New Jersey; (c) all such property owned by Jersey City or its Department of Public Works and located at 575 Route 440, Jersey City, New Jersey; and (d) all such property owned by Paul Trenk consisting of Block 1290.1, Lot 2A, Jersey City, New Jersey. Such properties are more fully described in Exhibit H to the Jersey City/Honeywell Consent Order.

41. **Study Area 6 South** shall mean (a) that property currently owned by 425/445 Route 440 Property LLC consisting of Site 73, located at 200 Kellogg Street Jersey City, Hudson County, New Jersey; (b) that property currently owned by Kellogg Street 80 Property LLC consisting of Site 134, located at 100 Kellogg Street Jersey City, Hudson County, New Jersey; (c) that property currently owned by Kellogg Street 80 Property LLC consisting of Site 140 located at 80 Kellogg Street Jersey City, Hudson County, New Jersey; (d) that property currently owned by Kellogg Street 60 LLC consisting of Site 125, located at 60 Kellogg Street Jersey City, Hudson County, New Jersey; (e) that property currently owned by Kellogg Street/440 Property LLC consisting of Site 124, Jersey City, Hudson County, New Jersey; (f) that property currently owned by Kellogg St/Harsimus Cove Realty located at 150 Kellogg Street, Jersey City, Hudson County, New Jersey, (g) that property currently owned by Cordova Enterprises Ltd located at 38 Kellogg Street, Jersey City, Hudson County, New Jersey, and (g) that property currently owned by Cordova Enterprises Ltd located at 28 Kellogg Street, Jersey City, Hudson County, New Jersey. Such properties are more fully described in Exhibit H to the Jersey City/Honeywell Consent Order.

42. **Study Area 6** shall mean Study Area 6 North and Study Area 6 South, collectively.

43. **Study Area 7** shall mean (a) that property currently owned by 425/445 Route 440 Property LLC located at 425 and 445 Route 440, Jersey City, Hudson County, New Jersey, and (b) that property currently owned by Roned Realty/Edward Navlen located at 465 Route 440, Jersey City, Hudson County, New Jersey. Such properties are more fully described in Exhibit H to the Jersey City/Honeywell Consent Order.

44. **Technical Requirements for Site Remediation** shall mean the NJDEP Technical Requirements for Site Remediation, N.J.A.C. Chapter 26E, as duly and properly promulgated and amended.

45. **Unrestricted Use** shall mean that the contaminated medium is restored to a condition or quality suitable for all uses.

ARTICLE II: SCOPE OF THE CONSENT DECREE, JURISDICTION, AND CLAIMS RESOLVED

46. Except as provided in this paragraph, the terms of the Jersey City/Honeywell Consent Order shall remain in full force and effect. To the extent that any provision in the Jersey City/Honeywell Consent Order refers to the Chromium Remedy or Chromium Remediation, it shall be construed as referring to Article III of this Decree. In the event of any conflict or inconsistency between the terms of this Decree and the Jersey City/Honeywell Consent Order, the terms of this Decree govern. In the event that any action taken pursuant to the Jersey City/Honeywell Consent Order is in conflict with or inconsistent with the terms of this Decree, the terms of this Decree shall govern.

47. This Court has jurisdiction over the Parties and subject matter of the Consolidated Litigation pursuant to Section 6972 of RCRA.

48. For purposes of this Consent Decree, the Complaints in the Consolidated Litigation each state claims upon which relief may be granted against Honeywell.

49. In the event that this Decree is not terminated by one or more Parties pursuant to paragraph 100, this Consent Decree resolves, settles, and satisfies all claims by Riverkeeper against Honeywell with respect to soils and shallow groundwater at Study Area 6 North. This Consent Decree does not resolve any claims by Riverkeeper against Honeywell with respect to Study Area 6 South, Study Area 5, or groundwater at Study Area 6 North other than shallow groundwater.

50. Nothing in this Consent Decree shall be construed or interpreted to waive any claim or defense any Party has asserted or may assert against any third party in the Consolidated Litigation except as explicitly stated herein.

51. This Consent Decree does not constitute an admission of liability on the part of any Party with respect to any claims, cross-claims, or counter-claims in the Consolidated Litigation.

ARTICLE III: CHROMIUM REMEDIATION

A. Chromium Remedy

52. **Responsibility for Implementation of Chromium Remediation.** As between the Parties, Honeywell shall be responsible for and shall undertake remediation of COPR and chromium present in Study Area 6 North at Honeywell's sole cost and expense. Remediation of COPR and chromium present in Study Area 6 North shall be undertaken in accordance with the terms of this Consent Decree.

53. **AOC 1 and AOC 2.** For the purposes of remediation, Study Area 6 North shall consist of two Areas of Concern ("AOCs"), designated as AOC 1 and AOC 2 as shown on Exhibit B. AOC 1 is set forth on Exhibit B and consists of that portion of Study Area 6 North for which chromium remediation is required pursuant to paragraphs 55, 56, and 57. AOC 2 consists of the entirety of Study Area 6 North, including AOC 1, to the extent that historic fill is present in any area of Study Area 6 North. For AOC 1, the intended land use will determine the types

of remedial measures taken in the Chromium Remedy. There are two distinct land uses for AOC 1: open space and residential. As a result, AOC 1 will be further subdivided into:

(a) The AOC 1 Open Space Area, which shall comprise that portion of AOC 1 for which future use shall be restricted as provided in paragraph 60. The AOC 1 Open Space Area is shown on Exhibit B;

(b) The AOC 1 Residential Area, which shall comprise that portion of AOC 1 for which future use shall allow for residential and/or commercial and retail uses, but for which the remedial measures shall assume only a residential use . The AOC 1 Residential Area is shown on Exhibit B; and

(c) The AOC 1 Additional Excavation Areas, which consist of those portions of Study Area 6 North that require remediation pursuant to paragraph 57. The planned land use for the AOC 1 Additional Excavation Areas is residential and/or commercial and retail uses, but the remedial measures shall assume only a residential use.

54. **Scope and General Requirements of the Chromium Remedy.** The Chromium Remedy shall address shallow groundwater and soil containing hexavalent chromium in AOC 1, and shall be consistent with the requirements set forth in this Article. The Chromium Remedy set forth in this Consent Decree addresses only the shallow level of groundwater (see paragraph 58). The deep overburden and bedrock groundwater remediation, including source control, shall be addressed in a separate consent order, which shall place these issues within the jurisdiction of the Special Master in conjunction with the groundwater remedies for Study Area 7.

(a) The Chromium Remedy shall be consistent with the NJDEP Technical Requirements for Site Remediation, the Chromium Directive as issued by NJDEP on February 8, 2007 ("the NJDEP Chromium Directive"), and the Remedial Action Work Plan (with addenda) approved by NJDEP on or about February 19, 2008. This Consent Decree shall have precedence

over the Remedial Action Work Plan in the event of any inconsistency.

(b) The Chromium Remedy shall be carried out diligently, and the development and implementation of the Historic Fill Remedy shall not delay satisfaction of the milestones in the Schedule established pursuant to this paragraph. Honeywell shall propose a master Schedule for the implementation of the Chromium Remedy within 90 days of the entry of this Consent Decree, which shall include, at a minimum, the following milestones:

(i) Submission to the Special Master for all documents subject to review by the Special Master pursuant to paragraph 72(c);

(ii) Relocation of the Jersey City Entities' Study Area 6 North Operations as shall be required prior to the implementation of the Chromium Remedy;

(iii) Completion of those Site Preparation Activities necessary for the implementation of the Chromium Remedy, including remediation of the AOC 1 Additional Excavation Areas;

(iv) A final date for Honeywell's proposal of *in situ* treatment for any part of the AOC 1 Residential Area pursuant to paragraph 55(d) and a date for the final decision as to whether excavation or *in situ* treatment shall be used in the event of such a proposal;

(v) The initiation of work related to the Chromium Remedy;

(vi) The date for completion of the installation of the Chromium Remedy;

(vii) Implementation of the long-term protections of the AOC 1 Open Space Area established pursuant to paragraph 60; and

(viii) Transfer of the AOC 1 Open Space Area to Jersey City pursuant to paragraph 60(a)(iii).

(c) **Demolition and Grading Activities.** During demolition and grading activities, adequate protective measures shall be taken to protect site workers and the community

from airborne dusts and exposures to contaminated soils.

(d) **Vegetation of Clean Fill.** All clean soil fill in areas that will not involve paved roads, sidewalks, paths, walkways, or building structures shall be vegetated in such a manner to protect and maintain the required depth of clean soil fill.

55. **AOC 1 Residential Area Soil Remedy.** In the AOC 1 Residential Area, soils containing hexavalent chromium at concentrations greater than 20 mg/kg shall be excavated to a depth of 20 feet below the current ground surface in accordance with the NJDEP Chromium Directive.

(a) Those soils excavated from the AOC 1 Residential Area in which hexavalent chromium concentrations exceed 240 mg/kg shall be disposed of off-site at a waste disposal facility licensed to accept such waste.

(b) Those soils excavated from the AOC 1 Residential Area in which the hexavalent chromium concentration is less than 240 mg/kg, but greater than 20 mg/kg, shall be consolidated within the AOC 1 Open Space Area. However, any such soils which would require venting of gases shall be disposed of off-site.

(c) Soils excavated from the AOC 1 Residential Area shall be replaced with existing soils from AOC 2 or backfill soil. Any backfill soil brought to the Site shall either meet all applicable federal and NJDEP criteria, including NJDEP residential soil criteria, or comply with a beneficial soil reuse plan that is approved by NJDEP and subject to review and comment by the Parties and approval by the Special Master.

(d) In the AOC 1 Residential Area, excavation of soils containing hexavalent chromium greater than 20 mg/kg shall be the presumptive remedy. Around remaining active underground utilities or other structures, such as the bulkhead, *in situ* treatment may be considered in lieu of excavation only if Honeywell demonstrates, and all Parties, the Special

Master, and NJDEP agree that (1) excavation is technically impracticable and (2) treatment will result in hexavalent chromium concentrations of 20 mg/kg or less and no rebound will occur. If no treatment option is available, Honeywell shall propose an alternative remedial approach, subject to review and comment by the Parties and approval by the Special Master.

(e) Honeywell shall excavate all soils containing hexavalent chromium greater than 20 mg/kg in conjunction with the placement of the piping for the Deep Groundwater Remedy. Honeywell shall not propose treatment in lieu of excavation based on the location of the pipes for the Deep Groundwater Remedy or any apparent impracticability of excavating in conjunction with their installation.

56. **AOC 1 Open Space Area Soil Remedy.** In the AOC 1 Open Space Area, the soil remedy shall consist of an engineered RCRA cap to isolate contaminated soils, with gas venting, if necessary, to address the generation of methane and other naturally occurring gases in the Stratum O and/or Stratum D in the Open Space AOC. Soils consolidated under the cap, shall not require gas venting and shall not be the basis for the inclusion of gas venting as a component of the cap. The cap shall be designed and constructed so that:

(a) The cap shall consist of gas collection system, if gas venting is necessary, a base protective layer, an impervious geomembrane liner with a minimum thickness of 40 mil; a geocomposite drainage layer; a filter fabric; and a distinctive colored warning layer with markings in English and Spanish that would deter penetration of the cap in the event that digging occurred in the vicinity of the cap;

(b) All utilities, including those supporting the pump-and-treat system for groundwater remediation, with the exception of any extraction wells or collection trenches, shall be placed above the cap (but may be below the ground surface and/or contained within utility corridors). In the event that above-cap-grade gas collection and treatment is selected or is

needed to meet current or future regulatory requirements, such collection and treatment facilities are prohibited in the Open Space AOC, except for piping to connect the sub-liner collection system with the treatment facilities. Honeywell shall configure the cap so that all active piping for the wastewater treatment system operated by JCMUA, including all force mains and any connections to the emergency outfall, shall be outside the capped area. Honeywell may propose, subject to the review process in paragraph 72, to use treatment in lieu of excavation in the vicinity of the emergency outfall line if the criteria of paragraph 55(d) are satisfied; and

(c) Exclusive of roadways, the cap shall be overlain by layers of clean fill, backfill and/or overburden with an average depth of at least three feet and a minimum depth of at least two feet provided that any layer that incorporates overburden shall be below at least two feet of clean fill. Any clean fill or backfill soil brought to the Site will either meet all applicable federal and NJDEP criteria, including NJDEP residential soil criteria, or comply with a beneficial soil reuse plan that is approved by NJDEP and subject to review and comment by the Parties and approval by the Special Master. One foot of clean fill, covered with bituminous blacktop, shall be sufficient cover where roads, walkways, or other paved surfaces are located within the AOC 1 Open Space Area. All clean soil fill in areas that will not involve paved roads, walkways, or other paved surfaces shall be vegetated in such a manner as to protect and maintain the required depth of the clean soil fill and to ensure that such vegetation shall not cause any interference with or penetration of the cap.

(d) The existing overburden soils in the AOC 1 Open Space Area shall first be stripped off and set aside for use. If hexavalent chromium concentrations in the overburden exceed 20 mg/kg, the overburden shall be placed under the cap. If hexavalent chromium concentrations in the overburden do not exceed 20 mg/kg, the overburden may be placed above the cap but below the two feet of clean fill required by paragraph 56(c). Excavated hexavalent

chromium impacted soils (with concentrations between 20 mg/kg and 240 mg/kg) from the AOC 1 Residential Area shall be placed and spread in the AOC 1 Open Space Area under the cap. Excavated hexavalent chromium impacted soils (with concentrations between 20 mg/kg and 240 mg/kg) from the Study Area 6 South Development AOC (as defined in the First Amended Consent Decree Regarding Remediation and Redevelopment of Study Area 6 South and including only those portions of Study Area 6 South for which the future uses of the property may include commercial or residential development) may be placed and spread in the AOC 1 Open Space Area under the cap, provided that such soils do not require venting of gases and shall not serve as the basis for the inclusion of gas venting as part of the Study Area 6 North AOC 1 Open Space Area remedy. Both the chromium impacted soils and the previously stripped overburden shall be suitably compacted according to design specifications. Debris, to the extent it would interfere with the compaction specification requirements of the 100% Design, shall not be placed under the cap. The engineered cap shall be installed over the chromium-impacted soils exceeding 20 mg/kg hexavalent chromium.

57. **AOC 1 Additional Excavation Areas Remedy.** For those AOC 1 Additional Excavation Areas, soils containing hexavalent chromium at concentrations greater than 20 mg/kg shall be excavated to a depth of 20 feet below the current ground surface in accordance with the NJDEP Chromium Directive. Excavation of those areas comprising the AOC 1 Additional Excavation Areas shall initially be conducted in the 50-foot by 50-foot area planned in the RAWP but shall not be so limited in the event that confirmation sampling indicates that hexavalent chromium concentrations continue to exceed 20 mg/kg. Honeywell shall excavate laterally and vertically (to depths of up to 20 feet below current ground surface) until the hexavalent chromium is less than 20 mg/kg based on the results of confirmation sampling. Confirmation sampling for the AOC 1 Additional Excavation Areas shall be taken from the side

walls and bottom of the excavation, in accordance with the Technical Requirements for Site Remediation, to confirm complete removal of contaminated soils.

58. **Shallow Groundwater Remedy.** The shallow groundwater remedy shall consist of hydraulic barriers with a pump-and-treat system designed to isolate shallow groundwater and to intercept and treat shallow groundwater flowing above the meadow mat in the AOC 1 Open Space Area. The shallow groundwater remedy shall consist of the following:

(a) The existing soil/cement/bentonite wall on the boundary of Study Area 6 North and Study Area 7 shall be incorporated into the other engineering controls;

(b) Subterranean slurry walls or other hydraulic barriers shall be installed along the northern, eastern and western sides of the AOC 1 Open Space Area and keyed into the meadow mat or Stratum O or to comparable depths below ground surface;

(c) A groundwater extraction system shall be established that will consist of (i) one or more shallow extraction wells, sumps, or french drains within the AOC 1 Open Space Area; (ii) pumps; and (iii) underground piping to convey any extracted water to Honeywell's Treatment Plant;

(d) The capture zone for the shallow groundwater remedy shall include at least the entire area of contaminated shallow groundwater (except for shallow groundwater that penetrates the meadow mat and is captured by the Deep Groundwater Remedy);

(e) A plan for control of water levels shall be developed;

(f) In the event that underground structures are demolished, the plans shall address the need for special attention for structures that extend below the meadow mat in order to control needed water levels; and

(g) Honeywell shall submit such information as is required to allow NJDEP to establish a classification exception area for groundwater at the Site, in accordance with NJDEP

regulations.

59. **Permits and Authorizations.** Honeywell shall obtain all necessary federal, state, and local permits and authorizations to carry out the Chromium Remedy as set forth in this Article. The Jersey City Entities agree to cooperate with Honeywell in the applications for any such permits, authorizations, or approvals. Such cooperation shall include providing information or data with respect to permit applications, co-signing permit applications, and allowing access to Study Area 6 North to obtain information necessary for the permits.

B. Long-Term Monitoring, Maintenance, and Protection of Engineering and Institutional Controls

60. **Protection of the AOC 1 Open Space Area.** Except as provided in paragraphs 60(j) and 60(k), development in the AOC 1 Open Space Area shall be prohibited. The AOC 1 Open Space Area shall be protected against activities that may jeopardize the integrity of the cap and/or the groundwater remedial measures that shall be installed in the AOC 1 Open Space Area pursuant to the Chromium Remedy or that may impede the long-term monitoring and maintenance of the cap and/or groundwater remedial measures. It is the intention of the Parties to implement different layers of protection, which alone or in concert, impose restrictions on development, run with the land, and survive all parties. Accordingly, the following actions shall be taken pursuant to the Schedule provided in paragraph 54(b):

(a) **Ownership of and Access to the AOC 1 Open Space Area.** Ownership of and access to the AOC 1 Open Space Area shall be in accordance with the following:

(i) Pursuant to the terms of this Consent Decree and paragraph 4.3 of the Jersey City/Honeywell Consent Order, Bayfront Redevelopment LLC shall become the owner in fee simple absolute of all of the property that comprises the AOC 1 Open Space Area and shall not convey any rights or interests in such property except as provided in this Decree. At the time

of the conveyance from JCRA to Bayfront Redevelopment LLC, Bayfront Redevelopment LLC shall give Jersey City an option to buy AOC 1 Open Space Area prior to the planned transfer pursuant to paragraph 60(a)(iii). Such option to buy shall be subject to the conservation restriction imposed pursuant to paragraph 60(b). Jersey City shall exercise the option to buy the AOC 1 Open Space Area in the event that the conditions allowing for withdrawal of funds from the financial assurance mechanisms under paragraphs 84(c) or 84(d) are met;

(ii) At the time the JCRA conveys the Study Area 6 North property to Bayfront Redevelopment LLC pursuant to paragraph 4.3 of the Jersey City/Honeywell Consent Order, Bayfront Redevelopment LLC shall grant a conservation restriction for the AOC 1 Open Space Area pursuant to the requirements of paragraph 60(b);

(iii) Upon the final construction of all roads and utility corridors within the AOC 1 Open Space Area, Bayfront Development LLC shall donate good and marketable title to all the land comprising the AOC 1 Open Space Area to Jersey City. In conjunction with such donation, Bayfront Redevelopment LLC shall petition to subdivide the properties within Study Area 6 North to create a new parcel(s) comprising the AOC 1 Open Space Area. At the time of the donation, Jersey City shall grant Honeywell an easement for the purpose of monitoring and maintaining the Chromium Remedy. Jersey City shall also grant Honeywell all necessary access to the AOC 1 Open Space Area by license or such other mechanisms as may be appropriate for purposes of monitoring and maintaining the Chromium Remedy. After it acquires title pursuant to this paragraph, Jersey City shall retain ownership of the AOC 1 Open Space Area unless and until it shall have complied with the requirements of paragraph 60(a)(iv);

(iv) After it acquires title pursuant to this paragraph, Jersey City shall not convey or enter into any lease of the AOC 1 Open Space Area to any other person or entity unless it has first satisfied either of the following conditions:

(1) Jersey City has obtained the Special Master's (or if the Special Master's appointment has expired, the Court's) approval to convey the AOC 1 Open Space Area to a government entity that has the capacity and willingness to fulfill Jersey City's obligations under the Consent Decree with respect to the AOC 1 Open Space Area and such entity agrees to submit to the Court's jurisdiction and to be bound by the requirements of the Consent Decree that Jersey City has committed to fulfill with respect to protection of the AOC 1 Open Space Area pursuant to this paragraph and routine maintenance of the permissible development in the AOC 1 Open Space Area pursuant to paragraph 64(d); or

(2) The AOC 1 Open Space Area has been remediated such that no hexavalent or total chromium contamination remains in the AOC 1 Open Space Area, whether in soils or in groundwater, in excess of the levels specified for Unrestricted Use in the NJDEP Chromium Directive or any more restrictive standards for Unrestricted Use in place at the time, whichever is more restrictive, and Jersey City has demonstrated to the Special Master and/or the Court, as appropriate, that such remediation has been completed in accordance with all applicable requirements.

(b) **Conservation Restriction.** At the time the JCRA conveys the Study Area 6 North property to Bayfront Redevelopment LLC pursuant to paragraph 4.3 of the Jersey City/Honeywell Consent Order, but prior to the grant of the option to buy pursuant to paragraph 60(a)(i), Bayfront Redevelopment LLC shall grant an open space conservation restriction, pursuant to N.J.S.A. 13:8-B-1, *et seq.*, over the AOC 1 Open Space Area substantially in the form set forth in Exhibit D. Exhibit D is a conservation restriction that is consistent with the terms of this paragraph and this Consent Decree. The conservation restriction shall allow for the implementation, maintenance, monitoring, repair and replacement of the Chromium Remedy and development consistent with paragraphs 60(j) and 60(k), including the construction and

placement of roads and utilities. The Hackensack River Watershed Land Trust shall be the primary holder of the conservation restriction, with all rights of monitoring and enforcement. Riverkeeper shall propose an entity to serve as the secondary holder of the conservation restriction subject to comment by the Parties and review by the Special Master. The secondary holder shall have secondary rights of monitoring and enforcement.

(i) The conservation restriction shall be incorporated into this Consent Decree and made part of this Consent Decree. The final, executed conservation restriction shall be lodged with the Court and entered as an order of the Court. The conservation restriction shall be enforceable in this Court, in the same manner as this Consent Decree.

(ii) The conservation restrictions provided under this Consent Decree shall be consistent with the prohibited and permitted development of the AOC 1 Open Space Area as set forth in paragraphs 60(j) and 60(k) below.

(iii) Jersey City shall not take any action, whether through exercise of any power of eminent domain, application to the State of New Jersey for approval of a diversion of public park or recreation land, legal challenge to the validity or enforceability of the conservation restriction, or otherwise, the effect of which would be to in any way terminate, abrogate, or diminish the terms, conditions, or purposes of the conservation restriction. If, notwithstanding the preceding sentence, Jersey City proceeds with a condemnation or other action, the result of which would be to terminate, abrogate, or otherwise diminish the terms, conditions, or purposes of the conservation restriction, Jersey City shall, before taking any such action satisfy all of the conditions set forth in paragraph60(a)(iv)(2).

(iv) Notwithstanding the foregoing, the conservation restriction may be terminated upon application of any Party when no hexavalent or total chromium contamination remains in the AOC 1 Open Space Area, whether in soils or in groundwater, in excess of the

levels specified for Unrestricted Use in the NJDEP Chromium Directive or any more restrictive standards for Unrestricted Use in place at the time, whichever is more restrictive.

(c) **Deed Notice.** Upon completion of the Chromium Remedy, the AOC 1 Open Space Area shall be subjected to the deed notice substantially in the form set forth in Exhibit E that restricts future activities on the AOC 1 Open Space Area. Nothing in the deed notice shall be construed as preventing the imposition of more stringent restrictions on the development allowed in the AOC 1 Open Space Area pursuant to this paragraph and, in particular, the conservation restriction provided for in paragraph 60(b).

(d) **Recording of the Consent Decree, Conservation Restriction, and Deed Notice.** This Consent Decree, the conservation restriction imposed pursuant to paragraph 60(b), and the deed notice imposed pursuant to paragraph 60(c) shall be recorded, pursuant to N.J.S.A. 46:15-1.1, 46:16-1.1, and 46:16-2, in the office of the Hudson County Register and a conspicuous reference to the Consent Decree, conservation restriction, and deed notice shall be included in all instruments concerning title to the AOC 1 Open Space Area. Any Party shall have the right, periodically, but no more than once every 25 years, to record memoranda or other instruments that reference, incorporate, or attach this Consent Decree, the conservation restriction, the deed notice, and/or any further orders of the Court related to the AOC 1 Open Space Area in the real estate records related to the AOC 1 Open Space Area.

(e) **Zoning.** Pursuant to the Redevelopment Plan, the AOC 1 Open Space Area is designated for open space and park. Jersey City shall not amend or change this designation unless it first satisfies the requirements of paragraph 60(a)(iv)(2).

(f) **Recreation and Open Space Inventory.** Upon acquiring fee simple absolute title to the AOC 1 Open Space, Jersey City shall add those portions of the AOC 1 Open Space Area not covered by roads, the pedestrian thoroughfare, and utility corridors adjacent to

roads onto its Green Acres Program Recreation and Open Space Inventory ("ROSI") pursuant to N.J.A.C. 7:36 and shall specify in such listing that it is subject to (i) Honeywell's prior easement to monitor, maintain, repair, and replace the Chromium Remedy; (ii) the actions necessary to implement, monitor, maintain, repair, and replace the Chromium Remedy; (iii) the actions necessary to install any development permissible under paragraphs 60(j) and 60(k); and (iv) the conservation restriction imposed pursuant to paragraph 60(b). Jersey City shall also take all steps necessary or appropriate to notify the New Jersey Green Acres Program that such portions of the AOC 1 Open Space Area have been added to its ROSI, such that those portions of the AOC 1 Open Space Area shall thereafter be subject to all procedural and regulatory requirements applicable under the Green Acres Program, including prohibitions against diversion.

(g) **Eminent Domain.** If all or part of the AOC 1 Open Space Area is taken in exercise of the power of eminent domain, or acquired by purchase in lieu of condemnation, by any public, corporate, or other authority so as to terminate, abrogate, or limit the restrictions created by this Consent Decree or the conservation restriction imposed pursuant to paragraph 60(b), in whole or in part, any Party may take appropriate actions to challenge such taking if there is a reasonable legal basis for doing so. In the event that the Parties are unable to prevent a taking notwithstanding their reasonable and appropriate efforts, any Party may take appropriate actions to recover the full value of the interests in the AOC 1 Open Space Area subject to the taking or in lieu purchase, and all direct and incidental damages, costs, and fees occasioned thereby.

(h) **Environmental Covenant.** In the event that New Jersey enacts the Uniform Environmental Covenants Act or its substantial equivalent, the Parties shall address the issue of whether an environmental covenant shall be established for the AOC 1 Open Space Area under the statute. If the Parties are unable to reach agreement on establishment of an environmental

covenant, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. The Special Master shall recommend adoption of an environmental covenant if it would provide substantial additional protection for the AOC 1 Open Space Area without unreasonably harming the interests of any Party. Any Party shall have the right to seek review by the Court of the Special Master's recommendation or consideration by the Court of the dispute in the event that the Special Master's appointment has expired.

(i) **Future Protections.** Any Party shall have the right to propose consideration of additional or substitute protections for the AOC 1 Open Space Area. If the Parties are unable to reach agreement with regard to the proposal, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. The Special Master shall recommend adoption of additional or substitute protections for the AOC 1 Open Space Area if they would provide substantial additional protection for the AOC 1 Open Space Area without unreasonably harming the interests of any Party. Any Party shall have the right to seek review by the Court of the Special Master's recommendation or consideration by the Court of the dispute in the event that the Special Master's appointment has expired.

(j) **Prohibited Development in AOC 1 Open Space Area.** Only development satisfying the requirements of this paragraph and paragraph 60(k) shall be permitted in the AOC 1 Open Space Area. All other development in the AOC 1 Open Space Area shall be prohibited.

(i) Honeywell shall establish Open Space Design Standards that shall govern all development in the AOC 1 Open Space Area regardless of when the construction or installation of permissible development occurs. The Open Space Design Standards shall satisfy each of the requirements set forth in paragraph 60(j)(v) and shall set forth the requirements for development that are necessary for the protection of the integrity of the Chromium Remedy.

(ii) The Initial Development in the AOC 1 Open Space Area shall be the

development undertaken following the completion of the Chromium Remedy in the AOC 1 Open Space Area. The Initial Development may occur in one or more phases. Honeywell and Bayfront Redevelopment LLC shall prepare a Development Plan before the initiation of each phase of the Initial Development. The Initial Development Period for each phase shall consist of the period covered by the Initial Development, plus a period of 10 years following the submission of the as-built documentation for the phase pursuant to paragraph 60(j)(viii).

(iii) The Special Master shall have jurisdiction to review the Open Space Design Standards and the Development Plan(s) solely for the purpose of ensuring that any development undertaken during the Initial Development Period is consistent with this Consent Decree and with protection of the integrity of the Chromium Remedy. The Special Master's jurisdiction with regard to development in the AOC 1 Open Space Area shall run through the Initial Development Period for each phase.

(iv) Honeywell shall ensure that the requirements of this paragraph and paragraph 60(k) are satisfied with regard to any development undertaken within the Initial Development Period. Honeywell shall also ensure that any development undertaken within the Initial Development Period is designed and installed in a manner consistent with this Consent Decree and with protection of the integrity of the Chromium Remedy.

(v) Any development undertaken in the AOC 1 Open Space Area, regardless of when undertaken, shall satisfy each of the following requirements:

(1) It shall not jeopardize the integrity of the Chromium Remedy;

(2) It shall be limited to the types of development permitted under paragraph 60(k);

(3) It shall be consistent with this Consent Decree, including the conservation restriction imposed pursuant to paragraph 60(b), and the Redevelopment Plan;

however, in the event of any conflict or inconsistency between this Decree and the Redevelopment Plan, this Decree shall govern;

(4) In total, at least 75% of the AOC 1 Open Space Area, exclusive of the acreage used for roads and the pedestrian thoroughfare, shall be comprised of landscaping, as defined by paragraph 60(k)(xi);

(5) The portion of the Open Space Design Standards necessary for protection of the Chromium Remedy as related to all roads, the pedestrian thoroughfare and associated utility corridors as well as the general location of such items shall be included in the 100% Design of the Chromium Remedy;

(6) If the lowest elevation for the bedding for any utility line, including irrigation or sprinkler lines, is two feet from the top of the warning layer of the cap, the utility line shall be placed in a utility corridor;

(7) In any event, there shall be two feet of soil or more between the warning layer of the cap and the lowest elevation of the bedding for any irrigation or sprinkler lines; and

(8) No permanent concession facilities shall be permitted.

(vi) Honeywell shall submit the Open Space Design Standards and the Development Plan(s) for any development undertaken during the Initial Development Period pursuant to the requirements of paragraph 72(c), except that such documents need not be submitted to NJDEP. Following Honeywell's submission of such documents, the procedures of paragraphs 72(d) and 72(e) shall apply, except that the Special Master need not provide notice to NJDEP.

(vii) During the Initial Development Period, any development in the AOC 1 Open Space Area shall require the preparation and submission of a Development Plan pursuant

to paragraph 60(j)(vi) and such Development Plan shall be subject to review by the Special Master pursuant to paragraph 60(j)(iii).

(viii) Upon completion of each phase of the Initial Development, Honeywell shall provide as-built documentation for the Initial Development to the Special Master, Riverkeeper, and the Jersey City Entities. Upon completion of any further development during the Initial Development Period for the phase, Honeywell shall also provide as-built documentation to the Special Master, Riverkeeper, and the Jersey City Entities for the additional development. Such additional as-built documentation for a phase shall not affect the running of the Initial Development Period for the phase.

(ix) During the Initial Development Period, replacement in-kind of development features or facilities included in the Initial Development or minor modifications to the development features or facilities included in the Initial Development shall not require the preparation of a Development Plan or be subject to review by the Special Master, provided that such replacement or modification satisfies the requirements of the Open Space Design Standards, the applicable Development Plan, and paragraphs 60(j)(v) and 60(j)(x)(3)(notice requirement).

(x) After the Initial Development Period, all development is prohibited unless one of the following conditions is met:

(1) Jersey City satisfies the conditions set forth in paragraph 60(a)(iv)(2);

(2) The development is a replacement in-kind and such replacement is made in conformance with the specifications of the Open Space Design Standards, the applicable Development Plan, and paragraph 60(j)(v); or

(3) The development meets the requirements of paragraphs 60(j)(v) and 60(j)(xi), and Jersey City provides notice of its intention to alter or add to the

development undertaken in the Initial Development Period. Such notice shall be provided in writing to Honeywell, Riverkeeper, and the holders of the conservation restriction established pursuant to paragraph 60(b) at least 30 days prior to Jersey City's alteration or addition to development undertaken in the Initial Development Period. Honeywell, Riverkeeper, or any holder of the conservation restriction shall have the right to move the Court to prohibit such alteration or addition.

(xi) If any of the development features or facilities that Jersey City seeks to add pursuant to paragraph 60(j)(x) require utilities that would require utility corridors other than the utility corridors installed during the Initial Development Period, Jersey City shall obtain approval from the Court before installing such new utility corridors.

(xii) Jersey City shall provide Honeywell, Riverkeeper, and the holders of the conservation restriction established pursuant to paragraph 60(b) with an annual report that describes any alterations or additions, including those activities under paragraph 60(j)(x)(2), to the development undertaken during the Initial Development Period.

(xiii) All development features or facilities, whether included in the Initial Development or added subsequent thereto, are subject to demolition and/or removal to the extent necessary to maintain, replace, or repair the Chromium Remedy.

(k) **Permissible Development in the AOC 1 Open Space Area.** The Initial Development or any subsequent addition or alteration thereto may include any or all of the following types of development features or facilities, provided that such development features or facilities satisfy the conditions set forth in paragraph 60(j)(v):

(i) Roads and the pedestrian thoroughfare -- both crossing and running along the AOC 1 Open Space Area, but no more extensive than provided for in the diagram on page 39 of the Redevelopment Plan;

(ii) Curbing and fences;

(iii) Sidewalks, paths, walkways, and nature trails;

(iv) Utilities and utility corridors, lighting, and restrooms;

(v) Irrigation or sprinkler components or systems;

(vi) Water features;

(vii) Above-ground storm water cisterns;

(viii) Signs, including the signs or display required by paragraph 60(l);

(ix) Benches, trash receptacles, and bicycle racks;

(x) Recreational facilities, such as playground equipment, bocce ball courts, tennis courts, basketball courts, and athletic fields; and

(xi) Landscaping, including natural grasses, small trees, shrubbery, flowers, and potted plants, provided that such landscaping and the anticipated root structure of each landscaping component do not and will not jeopardize the integrity of the Chromium Remedy. Any portion of an athletic field that is covered in natural grass shall be considered landscaping for purposes of the percentage set forth in paragraph 60(j)(v)(4).

(l) **Signs or Displays.** Honeywell shall develop a permanent plan for informing visitors to the AOC 1 Open Space Area of the history of the chromium production, contamination, and its remediation. Such plan shall provide for appropriate signs or displays that communicate this information. Such plan shall be subject to review and comment by the Parties and approval by the Special Master.

61. **Honeywell's Ongoing Responsibility.** Honeywell shall be responsible for implementing, monitoring, maintaining, repairing and replacing the Chromium Remedy in perpetuity. Honeywell shall satisfy this responsibility through establishment and implementation of a Long-Term Monitoring Plan. In the event that Honeywell ceases to exist without a

successor-in-interest or its obligations under this Consent Decree are stayed or limited due to a bankruptcy petition, the Court shall appoint an independent third-party fiduciary who shall be responsible for implementing, monitoring, maintaining, repairing and replacing the Chromium Remedy pursuant to the requirements of this Consent Decree and the Long-Term Monitoring Plan, unless Jersey City volunteers to assume these responsibilities for the Chromium Remedy.

62. **Long-Term Monitoring Plan.** In consultation with the Parties, and subject to approval by the Special Master and NJDEP, Honeywell shall develop a Long-Term Monitoring Plan to ensure the ongoing effectiveness of the Chromium Remedy to meet the objectives set forth in paragraphs 56, 58, and 63. The Long-Term Monitoring Plan shall be consistent with the applicable EPA policies and guidance, including, among others, EPA's Comprehensive Five Year Review Guidance (2001) (or any subsequent revision) and with NJDEP's Technical Requirements for Site Remediation (or any subsequent revision).

63. **Long-Term Monitoring Plan Objectives.** Honeywell shall design the Long-Term Monitoring Plan to satisfy each of the following objectives:

(a) Provide monitoring to ensure that the integrity and effectiveness of the Chromium Remedy are maintained; and

(b) Provide monitoring to ensure that the restrictions of the institutional controls are being satisfied, including the prohibition on development in the AOC 1 Open Space Area.

64. **Monitoring and Remediation Under the Long-Term Monitoring Plan.** The Long-Term Monitoring Plan shall include the monitoring and remediation activities set forth in this paragraph and other monitoring and remediation activities, if necessary, to meet the objectives of paragraph 63. Honeywell shall provide Riverkeeper, the Jersey City Entities, the Special Master, and NJDEP with annual reports on activities conducted under the Long-Term Monitoring Plan.

(a) **Monitoring Activities in the Long-Term Monitoring Plan.** Honeywell shall undertake the following monitoring activities at intervals to be specified in the Long-Term Monitoring Plan, but no less frequently than set forth below, and, if the monitoring shows it is necessary, Honeywell shall also undertake the remediation activities as set forth below:

(i) Quarterly visual inspection monitoring of the AOC 1 Open Space Area to ensure that it is not being put to any use that is inconsistent with paragraphs 60(j) and 60(k) or any use that may compromise the integrity of the Chromium Remedy. The Long-Term Monitoring Plan shall include an inventory of the prohibited and permissible uses pursuant to paragraph 60 and a corresponding checklist to be used by the individuals conducting the monitoring. If Honeywell determines that the AOC 1 Open Space Area is being used in a manner inconsistent with the protections or the integrity and effectiveness of the Chromium Remedy, Honeywell shall act as soon as possible to cause such use to cease and, if there has been damage to the Chromium Remedy, to repair or replace it to original specifications or to a level of protection equivalent to the original Chromium Remedy;

(ii) Quarterly visual inspection monitoring of the AOC 1 Open Space Area grade and slope to identify whether erosion has occurred or is occurring. Honeywell shall remediate any significant erosion.

(iii) Quarterly visual inspection monitoring to determine whether noticeable differential settlement or subsidence has occurred or is occurring in the AOC 1 Open Space Area such that the integrity of the Chromium Remedy may be materially impaired. If evidence of differential settlement or subsidence is found, Honeywell shall propose further investigative measures. Honeywell shall remediate any differential settlement or subsidence that is beyond the degree of differential settlement/subsidence allowed for in the 100% Design

and repair the cap and/or the overlying layers to original 100% Design specifications or to a level of protection at least equivalent to the original Chromium Remedy;

(iv) A baseline topographic survey at the completion of the Chromium Remedy and three additional surveys conducted at five-year intervals beginning five years after the conduct of the baseline survey. The topographic survey shall be of sufficient precision and accuracy to present the results as one-foot contours;

(v) Quarterly visual inspection monitoring to determine whether the Chromium Remedy in the AOC 1 Open Space Area has been disturbed. Any evidence of the distinctive warning layer materials or any other cap materials as described in paragraph 56(a) at the surface is an indication that the cap has been disturbed. In such an event, Honeywell shall propose further investigative measures to evaluate whether the integrity of the cap has been compromised. In the event that the investigative measures show that the cap integrity has been compromised, Honeywell shall repair or replace the cap and the overlying layers to original 100% Design specifications or to a level of protection at least equivalent to the original Chromium Remedy;

(vi) Quarterly visual inspection monitoring to ensure that burrowing animals are not materially impairing the integrity of the Chromium Remedy. If evidence of burrowing animals is found, Honeywell shall follow humane removal procedures and repair or replace the cap and the overlying layers to original 100% Design specifications or to a level of protection at least equivalent to the original Chromium Remedy;

(vii) Quarterly visual inspection monitoring of the vegetative cover in the AOC 1 Open Space Area to ensure that vegetative cover is in conformance with the landscaping provisions of the 100% Design and the Redevelopment Plan and will not materially impair the integrity of the Chromium Remedy. Maintenance of the vegetative cover shall include, at a

minimum, mowing to ensure that tree species cannot become established and removal of any other vegetation with the potential to damage the Chromium Remedy;

(viii) Quarterly groundwater monitoring to ensure that groundwater levels are maintained in accordance with the requirement to maintain an outward gradient from Study Area 7 and in accordance with the water level control plan developed pursuant to paragraph 58(e);

(ix) Monitoring of vented gases and the gas venting system to ensure proper operation of the system, to evaluate any degradation of the system, to assess the need for treatment of vented gases, either initial, subsequent, or further depending on whether treatment has been previously provided, and to detect any condition that might endanger public health or safety. Such monitoring shall be conducted on a monthly basis for at least one year and, if the readings are stable, such monitoring may be conducted thereafter on a quarterly basis; and

(x) Any additional monitoring as required by specific details added in the design phase of the AOC 1 Open Space Area.

(b) **Procedures for Proposing Changes to the Long-Term Monitoring Plan.** Any Party may, from time to time, propose changes to the scope of the monitoring activities under the Long-Term Monitoring Plan. If the Parties agree, the Long-Monitoring Plan shall be so changed subject to approval by NJDEP and by the Special Master, if his appointment has not terminated, or otherwise, by the Court. If the Parties are unable to reach agreement over alterations to the monitoring and the Special Master's appointment has not terminated under this Consent Decree, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. Any Party shall have the right to seek review by the Court of the Special Master's recommendation. In the event that the dispute arises after the Special Master's appointment has terminated, any Party may file a motion seeking a resolution of the dispute by

the Court.

(c) **Contingency Plan.** As part of the Long-Term Monitoring Plan, Honeywell shall develop a contingency plan to ensure the integrity of the remediation in the event of any planned penetration of the cap or otherwise planned activity that compromises the cap or any unplanned event or accident that penetrates the cap or otherwise compromises the integrity of the Chromium Remedy. The contingency plan shall include, at a minimum, an annually updated plan to notify the relevant persons, including the Special Master, NJDEP, and the Parties, of (i) the event penetrating the cap, compromising the cap, or compromising the integrity of the Chromium Remedy; (ii) the general steps to be taken to identify the extent of the problem; and (iii) the standards for remedying the problem.

(d) **Routine Maintenance.** The title owner of the AOC 1 Open Space Area shall conduct maintenance of the AOC 1 Open Space Area features or facilities that are permissible under paragraphs 60(j) and 60(k). The maintenance workers shall be trained in maintenance procedures that do not jeopardize the integrity of the Chromium Remedy. The training shall include the identification and reporting of any uses or features that are not permissible in the AOC 1 Open Space Area or that may jeopardize the integrity of the Chromium Remedy. Honeywell shall provide all training materials. The title owner of AOC 1 Open Space Area shall annually provide to the other Parties and the Special Master a report describing the training which has been provided to its maintenance workers. The title owner of the AOC 1 Open Space Area shall also provide to the Parties and the Special Master notice of any violations of the restrictions relating to the AOC 1 Open Space Area identified by its workers during routine maintenance.

(e) **Recordkeeping.** Honeywell shall maintain written logs or other records of those monitoring and remediation activities undertaken pursuant to the Long-Term Monitoring

Plan. Such logs shall be provided to Riverkeeper and the Jersey City Entities on a quarterly basis.

65. **Monitoring and Reporting to Riverkeeper and Jersey City Entities.** Riverkeeper and Jersey City Entities shall be provided with all documents submitted to NJDEP and/or the Special Master with respect to the Chromium Remedy, including the documents identified in paragraph 72(c).

66. **Notice to Stakeholders.** All residents, regardless of whether they are owners or lessees, and all commercial tenants on Study Areas 6 and 7 are hereby deemed stakeholders. Honeywell shall ensure that all stakeholders shall be provided at the time of their purchase or lease with notice of the contamination, the remedial actions that have been undertaken or are planned, and the importance of reporting activities that may appear to jeopardize the integrity of the engineering controls. Notice shall be accomplished in the following manner:

(a) Bold or otherwise conspicuous language on the first page of the deed provided to all purchasers in the Residential Area;

(b) A summary notice of the Chromium Remedy which:

(i) Has been subject to review and comment by the Parties and approval by the Special Master; and

(ii) Provides a reference to public websites and libraries and/or the future equivalents thereof, where the following can be found:

(1) Zoning and other Jersey City maps showing the AOC 1 Open Space Area; and

(2) Documents describing the contamination and the remediation, including:

(a) This Consent Decree;

(b) The Remedial Investigation Report and the Final Remedial Action Report,

(c) The annual reports on long-term monitoring and maintenance and repair activities as required by paragraph 64 and annual reports on changes to the Initial Development as required by paragraph 60(j)(xii); and

(d) The Long-Term Monitoring Plan.

(c) The provision of the maps and documents referred to in paragraph 66(b)(ii) to the public via websites and libraries and/or the future equivalents thereof; and

(d) Notices to lessees and commercial tenants in all lease documents.

67. **Annual Letter to Riverkeeper and Jersey City Entities on Notice to Stakeholders.** Each year beginning one year after the issuance of the first notice in a deed or lease pursuant to paragraph 66, Honeywell shall provide a letter to the Riverkeeper and the Jersey City Entities documenting its compliance with paragraph 66.

68. **Future Notice to Stakeholders.** Honeywell shall ensure that all stakeholders are provided with notice, at least annually, of long-term monitoring activities and any additional remediation activities undertaken with respect to the Chromium Remedy. Such notice shall be accomplished by notices on websites or future equivalents thereof, including Jersey City websites, any websites created to provide information about the Chromium Remediation or redevelopment of the Redevelopment Area, and one or more of the following:

(a) Any community message board or other similar site used and/or maintained by stakeholders or the manager(s) of the Redevelopment Area;

(b) Mailings to all stakeholders; and

(c) Posters and flyers throughout the Redevelopment Area.

69. **Stakeholder Enforcement.** Any stakeholder shall have the right to enforce the

remedial obligations of this Consent Decree in the Court, including post-implementation monitoring and maintenance obligations, and the terms of any deed notice or use restriction.

C. Oversight and Enforcement by the Special Master and NJDEP

70. **Federal Court Jurisdiction.** The Court shall retain jurisdiction for the purpose of overseeing and enforcing this Consent Decree and to review any issue or dispute which is not resolved through the oversight process described in Article III.C.

71. **Appointment and Jurisdiction of the Special Master.** The Chromium Remedy provided for in this Consent Decree is hereby referred to a Special Master pursuant to Rule 53 of the Federal Rules of Civil Procedure. The Special Master is appointed in the Consolidated Litigation for the purpose of overseeing and enforcing the Chromium Remedy, the first five years of long-term monitoring of the Chromium Remedy, financial assurances for the Chromium Remedy, and the Initial Development Period for each phase of development in the AOC 1 Open Space Area. The Special Master is also appointed in the Consolidated Litigation for the limited purpose of ensuring that the scheduling and implementation of the Historic Fill Remedy, the site preparation activities, and the site redevelopment activities described in the Jersey City/Honeywell Consent Order, Articles II.B, III, and IV, do not undermine the integrity of, unreasonably interfere with, or unnecessarily delay the effectuation of the Chromium Remedy, the Study Area 7 remedies, and other remedies within his jurisdiction as of the date of entry of this Consent Decree. The Special Master shall have jurisdiction over all matters for which he is appointed.

72. **Oversight of the Chromium Remedy.**

(a) **NJDEP Authority.** NJDEP shall retain its full statutory and regulatory authority with respect to the Study Area 6 North site, including (i) permitting authority; (ii) authority to review and approve the Remedial Action Work Plan, 100% Design, and final

Remedial Action Report for the Chromium Remedy; and (iii) authority to issue a no further action letter.

(b) **Special Master Responsibilities.** The Special Master shall have the following responsibilities:

(i) Ensuring that Honeywell's implementation of the Chromium Remedy satisfies the requirements of this Consent Decree;

(ii) Ensuring that Honeywell's implementation of the Chromium Remedy conforms with federal, state, and local permit requirements;

(iii) Establishing a reasonable schedule for the implementation of the Chromium Remedy and monitoring conformance with it;

(iv) Reviewing monthly progress reports and conducting periodic meetings with the Parties to review the progress of the implementation of the Chromium Remedy. NJDEP shall be invited, but not required, to participate in these meetings and the decision as to whether to participate shall be left to NJDEP's sole discretion;

(v) Submitting quarterly progress reports to the Court;

(vi) Overseeing the financial assurances established pursuant to paragraphs 77 through 86, and, until the expiration of his term pursuant to paragraph 76, overseeing the financial assurances established pursuant to paragraphs 87 through 98;

(vii) Coordinating review of the documents as provided in paragraphs 72(c) through 72(f);

(viii) Overseeing all development undertaken in the AOC 1 Open Space Area during the Initial Development Period pursuant to paragraph 60(j)(iii); and

(ix) To the extent that, in matters within the jurisdiction of the Special Master as set forth herein, a dispute arises between the Parties with respect to implementation of the Chromium Remedy, issuing a recommendation to the Court with respect to the dispute.

(c) **Submission of Documents by Honeywell.** Honeywell shall submit the following documents to Riverkeeper, the Jersey City Entities, the Special Master, and NJDEP:

(i) An overall schedule with milestones for the design and implementation of the remedy ("Schedule");

(ii) Design drawings and specifications at the 50% level;

(iii) Design drawings and specifications at the 100% level (after selection of the contractor) (hereafter "100% Design");

(iv) The data validation plan, including quality control and quality assurance protocols;

(v) The site-wide master health and safety plan;

(vi) The Long-Term Monitoring Plan;

(vii) The final Remedial Action Report or final construction report (including as-built drawings and such other reports as may be prepared of the remedy as implemented);

(viii) A report reviewing measured groundwater levels for the groundwater remedy;

(ix) Documents required during the Initial Development Period pursuant to paragraphs 60(j)(vi), 60(j)(vii), and 60(j)(viii) ; and

(x) Other post-implementation monitoring reports as required by the Long-Term Monitoring Plan.

(d) **Comment on Submitted Documents.** For each of the documents submitted by Honeywell pursuant to paragraph 72(c), the Special Master shall establish a schedule for the submission of comments and responses to comments. For each of the documents submitted, Riverkeeper, the Jersey City Entities, the Special Master, and NJDEP shall have the right to submit comments to Honeywell. Honeywell shall address all received comments and submit a revised document. The revised document shall be submitted by Honeywell to Riverkeeper, the Jersey City Entities, the Special Master, and NJDEP. The revised document shall be subject to review and approval pursuant to paragraph 72(e).

(e) **Review and Approval of the Submitted/Revised Document**

(i) **Scope of Review.** All documents submitted by Honeywell, pursuant to paragraph 72(c) and 72(d), shall be subject to review and approval by the Special Master in accordance with the following procedure. All such documents, except the Schedule and the 100% Design, shall be subject to the review and approval process and shall not require an order of the Court. The Schedule and 100% Design documents shall be subject to the review and approval process, but shall also require an order of the Court as provided in paragraph 72(f). A document shall be approved if the document (1) complies with this Consent Decree; (2) complies with the Remedial Action Work Plan for the Chromium Remedy; and (3) complies with the Schedule and 100% Design.

(ii) **Procedure.** Prior to making a decision on a document, the Special Master shall notify NJDEP of his intention to rule on the document or make a recommendation to the Court on the document. Such notice shall notify NJDEP that the Special Master will consider any comments NJDEP wishes to submit on the document if such comments are submitted within 30 days of NJDEP's receipt of the notice. NJDEP shall in its sole discretion determine whether to submit comments to the Special Master.

(iii) **Court Review.** If any Party objects to the Special Master's recommendation to the Court or approval of any document pursuant to this paragraph, that Party may seek further relief from the Court with respect to the document.

(f) **Schedule and 100% Design Documents.** As to the Schedule and the 100% Design documents, Honeywell shall have the responsibility, within 30 days of the Special Master's approval of each document, of (i) moving for entry of an order by the Court approving the document as approved by the Special Master; or (ii) filing objections with the Court to the Special Master's approval (and any recommendations contained therein) and moving for entry of the Schedule or 100% Design (including any such recommendations of the Special Master to which Honeywell agrees). Riverkeeper and the Jersey City Entities shall have the right in these proceedings to raise any objections they might have to the Schedule or 100% Design as approved by the Special Master or to the submission by Honeywell to the Court. NJDEP shall receive notice of any motion filed with respect to the Schedule or the 100% Design.

(g) **Flexibility in 50% and 100% Design Documents**. The Parties recognize that work conducted to implement the Chromium Remedy may be conducted by Honeywell contractors and that Honeywell may establish performance-based criteria or specifications for its contractors. As a result, the Parties recognize that the 50% Design and 100% Design documents for the Chromium Remedy may include performance-based standards, criteria, and specifications. These documents shall be sufficiently prescriptive to enable the Parties and the Special Master to evaluate their conformance with the Remedial Action Work Plan and this Consent Decree. The Parties also recognize that the 100% Design will be completed after Honeywell has selected a contractor. The Parties further recognize that completing the 100% Design after the selection of the contractor(s) shall not make the 100% Design subject to any less

stringent or more deferential review. Honeywell's commitment to the contractor(s) shall not be cause to limit review by the Parties and the Special Master.

(h) **Changes to the Schedule**. The Parties recognize that changes to individual line items in the Schedule will occur. To the extent that (i) the Parties and the Special Master agree that such changes do not have a material impact on satisfaction of the Schedule milestones established for items set forth in paragraph 54(b); and (ii) such changes do not require modifications to any necessary permits or authorizations for the Chromium Remedy, such changes may be made upon agreement of the Parties and the Special Master without further order of the Court.

73. **Retention of Professionals.** The Special Master may retain the services of professionals and/or other technical personnel, as reasonably needed, to fulfill his obligations under this Consent Decree, and for which he will be reimbursed pursuant to paragraph 75.

74. **Insurance for the Special Master.** The Special Master shall obtain insurance coverage relating to the performance of the Special Master's duties and responsibilities under this Consent Decree. Such coverage shall be similar to the Special Master's existing coverage in *ICO v. Honeywell*, procured pursuant to the Court's November 11, 2005 Stipulation and Order Regarding Special Master's Application to Procure Insurance Coverage, and as extended to the Consolidated Litigation by the Consent Order on Sediment Remediation and Financial Assurances ("Sediment Consent Order"). The insurance coverage shall be sufficiently extended in duration and scope to cover all additional duties and responsibilities as set forth hereunder. Honeywell shall pay the premiums and other administrative costs of the Special Master's insurance.

75. **Reimbursement of Special Master Fees and Expenses.** The Special Master shall submit fee applications to the Court for approval of reasonable fees and expenses incurred in the

oversight of matters referred to him pursuant to this Consent Decree. Any Party may raise with the Court objections to such fee applications. Upon approval of a fee application by the Court, the reimbursement of the Special Master's fees and expenses shall be made from the escrow fund previously established by Honeywell for the purpose of paying the Special Master's fees and expenses in *ICO v. Honeywell* pursuant to this Court's September 15, 2003 Order Setting Financial Assurances and extended to the Consolidated Litigation by the Sediment Consent Order.

76. **Expiration of Special Master's Appointment.** The Special Master's appointment under this Consent Decree shall expire after Honeywell has completed the first five years of long-term monitoring of the Chromium Remedy and the Initial Development Period for each phase of development has been concluded as provided in paragraph 60(j)(ii). However, solely to the extent that the Special Master is still supervising other portions of the Consolidated Litigation or *ICO v. Honeywell* after Honeywell has completed the first five years of long-term monitoring of the Chromium Remedy or the Initial Development Period for each phase of development as provided in paragraph 60(j)(ii), whichever is later, the Special Master shall continue to have jurisdiction under this Consent Decree until he has completed his specifically enumerated responsibilities under the Final Judgment in *ICO v. Honeywell*, the Sediment Consent Order, the Deep Groundwater Consent Order, and any other future orders, decrees, or judgments in *ICO v. Honeywell* and the Consolidated Litigation. Enumerated responsibilities under any order, decree, or judgment shall include only those tasks specifically assigned to the Special Master in the order, decree, or judgment. Enumerated responsibilities shall not include any continued jurisdiction exercised over long-term monitoring beyond the initial period specified in the order, decree, or judgment. For example, the Special Master has jurisdiction over the first five years of long-term monitoring under the Sediment Consent Order. Oversight during these five years shall

be an enumerated responsibility, but any continued oversight of long-term monitoring, pursuant to the extension of the Special Master's jurisdiction beyond the first five years, as provided in paragraph 60 of the Sediment Consent Order, shall not be an enumerated responsibility. Such extensions of jurisdiction shall be effective only so long as specific enumerated responsibilities in any order, decree, or judgment have not been fulfilled.

D. Initial Financial Assurances

77. **Chromium Remedy Letter of Credit.** Honeywell shall obtain a one-year, irrevocable letter of credit (the "Chromium Remedy Letter of Credit") to be automatically renewed annually in an amount equal to the "Remedial Costs Subject to Financial Assurance."

(a) Remedial Costs Subject to Financial Assurance shall mean:

(i) The costs of implementing the Chromium Remedy;

(ii) The costs of monitoring and maintenance activities, as required by the Long-Term Monitoring Plan, for five years; and

(iii) A contingency of 25% with respect to those costs listed in paragraphs 77(a)(i) and 77(a)(ii).

(b) The Chromium Remedy Letter of Credit shall be issued by a financial institution domiciled in the United States or by a United States subsidiary of a non-U.S. financial institution, provided that in either case, the financial institution shall be acceptable to the Special Master.

78. **Procedures for Review of the Proposed Chromium Remedy Letter of Credit.** No later than 60 days after entry by the Court of this Consent Decree, Honeywell shall submit to Riverkeeper, Jersey City Entities, and the Special Master for their review the proposed (a) amount of the Chromium Remedy Letter of Credit; (b) form of the Chromium Remedy Letter of Credit; and (c) name of the institution that will issue the Chromium Remedy Letter of Credit. If

Riverkeeper or the Jersey City Entities do not agree to the terms of the Chromium Remedy Letter of Credit, the Parties shall meet and confer in an effort to resolve their differences. If the Parties are unable to reach agreement over the terms of the Chromium Remedy Letter of Credit, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. Any Party shall have the right to seek review by the Court of the Special Master's recommendation regarding the terms of the Chromium Remedy Letter of Credit.

79. **Automatic Renewal.** The Chromium Remedy Letter of Credit shall be automatically renewed annually unless (a) no later than 120 days prior to the anniversary of the Chromium Remedy Letter of Credit issue date, the issuer provides notice of nonrenewal or (b) Honeywell seeks a reduction in the Chromium Remedy Letter of Credit, pursuant to paragraph 80, to correspond to the reduced estimate of Remedial Costs Subject to Financial Assurances. If the issuer provides notice of nonrenewal, Honeywell shall obtain a replacement irrevocable Chromium Remedy Letter of Credit at least 95 days prior to the expiration date of the existing Chromium Remedy Letter of Credit. If Honeywell is not otherwise in default as provided in Article III.D, the Special Master shall direct the cancellation of the prior Chromium Remedy Letter of Credit within 91 days after delivery to the Special Master of any replacement of a Chromium Remedy Letter of Credit. In the event that the Special Master is entitled to draw upon a Chromium Remedy Letter of Credit because there are two Chromium Remedy Letters of Credit currently in place, the Special Master shall not draw an aggregate amount in excess of the highest valued Chromium Remedy Letter of Credit. Upon Honeywell's request, the Special Master may, at his option, decide not to require overlapping letters of credit in any year based on Honeywell's financial strength in that year, provided that Honeywell has submitted all necessary information so that the Special Master can make his determination at least 150 days prior to the expiration of the Chromium Remedy Letter of Credit.

80. **Annual Right to Seek Reduction in Amount of Chromium Remedy Letter of Credit.** Honeywell shall have the right annually to seek a reduction in the Chromium Remedy Letter of Credit. At the time of seeking such reduction, Honeywell shall submit to the Riverkeeper, the Jersey City Entities, and the Special Master an estimate of the remaining Remedial Costs Subject to Financial Assurance, including the contingency as described in paragraph 77(a)(iii), and shall seek adjustment of the Chromium Remedy Letter of Credit so that the total estimated amount of remaining Remedial Costs Subject to Financial Assurance are covered by the Chromium Remedy Letter of Credit. However, the adjustment shall not result in reducing the Chromium Remedy Letter of Credit to an amount below the remaining estimated costs under paragraphs 77(a)(i) and 77(a)(ii), plus a contingency of 25% of the remaining estimated costs under paragraphs 77(a)(i) and 77(a)(ii), and shall not result in reducing the Chromium Remedy Letter of Credit to an amount less than $20,000,000 as expressed in 2008 dollars unless long-term financial assurances are in place pursuant to Article III.E. Before making any request to reduce the amount or modify the terms of the Chromium Remedy Letter of Credit, Honeywell shall first confer with the Riverkeeper and the Jersey City Entities in an effort to reach agreement on the modified amount or terms of the Chromium Remedy Letter of Credit. If the Parties are unable to reach agreement over the modified amount or terms of the Chromium Remedy Letter of Credit, the Parties shall submit the dispute to the Special Master, who shall resolve the dispute. Any Party shall have the right to seek review by the Court of the Special Master's decision regarding the modified amount or terms of the Chromium Remedy Letter of Credit. Upon agreement on the amount of the reduction or modified terms of the Chromium Remedy Letter of Credit (or upon order of the Court directing that the Chromium Remedy Letter of Credit be reduced to an identified amount or otherwise modified), Honeywell shall obtain a replacement Chromium Remedy Letter of Credit in such amount and with such

terms. If Honeywell is not otherwise in default as provided in Article III.D and the issuer of the primary Chromium Remedy Letter of Credit has not provided notice of non-renewal, within 30 days after delivery to the Special Master of any replacement of a Chromium Remedy Letter of Credit, the Special Master shall direct the cancellation of the prior Chromium Remedy Letter of Credit.

81. **Bankruptcy Protection.** Neither the Chromium Remedy Letter of Credit nor the proceeds of the Chromium Remedy Letter of Credit shall be considered the property of Honeywell or property of the estate in the event of Honeywell's bankruptcy. The Chromium Remedy Letter of Credit shall contain the language necessary to assure that neither the Chromium Remedy Letter of Credit nor the proceeds of the Chromium Remedy Letter of Credit shall be affected or restricted in any way by operation of the automatic stay in 11 U.S.C. 362.

82. **Exclusive Court Jurisdiction.** The Chromium Remedy Letter of Credit shall recite that the issuer submits to the exclusive jurisdiction of this Court for any and all disputes arising under the Letter of Credit.

83. **Application of New York Law.** The provisions of the Uniform Customs and Practice ("UCP") for Documentary Credits (1993 Revision) International Chamber of Commerce Publication #500 and New York law shall apply to the Chromium Remedy Letter of Credit.

84. **Procedures upon Honeywell's Material Default of Its Obligations.** During the period in which the Special Master has jurisdiction pursuant to paragraph 71, the Chromium Remedy Letter of Credit shall be payable to the Special Master and shall not, prior to its expiration date, be revoked or terminated except consistent with this Consent Decree and with the consent of the Special Master and approval by the Court. The Special Master's ability to draw upon the Chromium Remedy Letter of Credit shall not be limited by any agreement between Honeywell and the issuer. The Special Master may, without further order or notice to

this Court, draw upon the Chromium Remedy Letter of Credit upon the occurrence of default by Honeywell, which shall include:

(a) The failure of Honeywell, in the event that notice is given pursuant to paragraph 79 to deliver a replacement Chromium Remedy Letter of Credit at least 95 days prior to the expiration date of the existing Chromium Remedy Letter of Credit;

(b) The material failure of Honeywell to proceed with diligence and in good faith to carry out the terms of this Consent Decree and the continuance of such a material breach for a period of 15 days after written notice to Honeywell thereof and either (i) Honeywell, in the opinion of the Special Master without further input from the Parties, shall have failed to cure the breach; (ii) during the 15-day period, the Court has not entered an order to prevent the Special Master from drawing on the Chromium Remedy Letter of Credit; or (iii) the Court or the Special Master has not granted Honeywell additional time to cure the breach;

(c) The filing by Honeywell of a petition seeking relief, or the granting of relief, under the Federal Bankruptcy Code or any similar federal or state statute; any assignment for the benefit of creditors made by Honeywell; the involuntary filing of any of the foregoing against Honeywell if involuntary filing has not been dismissed within 60 days; the appointment of a custodian, receiver, liquidator, or trustee, or other similar official for Honeywell or for a substantial part of Honeywell's property; any action by Honeywell to effect any of the foregoing; or if Honeywell becomes insolvent as defined in Section 101(32) of the Federal Bankruptcy Code; or

(d) The dissolution, liquidation, merger, consolidation, or reorganization of Honeywell or the institution of any proceeding to effect any of the foregoing, other than under paragraph 84(c) above, and the failure of Honeywell to provide assurance to the Special Master, within 15 days after written notice, that such an event will not impair Honeywell's ability to

carry out the terms of this Consent Decree.

85. **Placement of Proceeds in Court Registry Investment System Account.** In the event that the Special Master draws upon the Chromium Remedy Letter of Credit due to an event of default, the Special Master shall place the proceeds of the Chromium Remedy Letter of Credit which represent the remaining estimated Chromium Remedy costs under paragraphs 77(a)(i), plus a contingency of 25% of the remaining estimated costs under paragraph 77(a)(i), in an account with the Court Registry Investment System in accordance with Local Civil Rule 67.1 and not expend the proceeds of the Letter of Credit without further order of this Court. The Special Master shall place all additional proceeds of the Chromium Remedy Letter of Credit in a trust fund pursuant to paragraph 90(b)(v).

86. **Termination of Chromium Remedy Letter of Credit.** The Chromium Remedy Letter of Credit may be withdrawn in its entirety upon the satisfaction of all of the following:

(a) The implementation of the Chromium Remedy; and

(b) Establishment of long-term financial assurance pursuant to Article III.E.

E. Long-Term Financial Assurances

87. **Long-Term Financial Assurances.** Honeywell shall fund long-term financial assurances to ensure that the activities set forth in paragraph 89(a) are carried out regardless of whether Honeywell is financially able to carry out such activities in perpetuity.

88. **Resolution of the Amount of Long-Term Financial Assurances.** The Parties have agreed to the following options with regard to how the long-term financial assurances shall be determined:

(a) If the Parties agree that the current amount necessary to cover the costs to be subject to long-term financial assurances, as set forth in paragraph 89(b), is $10,000,000 or less,

and agree on the amount of funding needed, Honeywell shall provide long-term financial assurances as required by Article III.E.

(b) If the Parties agree that the current amount necessary to cover the costs to be subject to long-term financial assurances, as set forth in paragraph 89(b), is $10,000,000 or less, but disagree on the amount of funding needed, Honeywell shall provide long-term financial assurances as required by Article III.E except that the dispute as to the amount of the long-term financial assurances shall be submitted to the Special Master pursuant to paragraph 91.

(c) If the Parties do not agree that the current amount necessary to cover the costs to be subject to long-term financial assurances, as set forth in paragraph 89(b), is $10,000,000 or less, or the Parties agree that the current amount necessary to cover the costs to be subject to long-term financial assurances, as set forth in paragraph 89(b), is greater than $10,000,000, the Parties shall seek resolution by the Court of the long-term financial assurances issues, including (i) the type of financial assurances to be provided; (ii) the scope of the financial assurances; (iii) the amount of the financial assurances; and (iv) the duration of the financial assurances. In the event that the Parties seek resolution by the Court, the provisions of paragraphs 90 through 98 shall not apply.

(d) Within 60 days of the entry of this Consent Decree, the Parties shall determine which option under this paragraph shall apply. In the event that the Parties determine that paragraph 88(c) applies, Riverkeeper shall initiate the proceedings by moving the Court for the imposition of long-term financial assurances.

(e) If the Parties determine that they are proceeding under paragraph 88(c), Honeywell shall maintain the Chromium Remedy Letter of Credit required by paragraph 77 in an amount equal to at least $20,000,000 in 2008 dollars until such time as the long-term financial assurances ordered by the Court are in place. In the event of any default by Honeywell pursuant

to paragraph 84 while the Chromium Remedy Letter of Credit is in place, the provisions of paragraph 90(b)(v) for the placement of the proceeds that exceed the remaining estimated Chromium Remedy costs under paragraph 77(a)(i) plus a contingency of 25% of the remaining estimated costs under paragraph 77(a)(i), shall apply.

89. **Costs Subject to Long-Term Financial Assurances.**

(a) Long-term financial assurances shall provide enough funds to cover the costs of the following activities:

(i) Perpetual monitoring and maintenance of the Chromium Remedy, including installation, operation and monitoring of any above-cap-grade gas collection and/or treatment system as may be necessary, but such system is not part of the 100% Design;

(ii) Perpetual operation of the shallow groundwater pump-and-treat remedy;

(iii) Perpetual repair of the cap;

(iv) Perpetual replacement of the cap on a 75-year replacement interval; and

(v) In the event that Honeywell selects a trust fund pursuant to paragraph 90(a), the perpetual administration of the trust fund.

(b) The costs that shall be subject to financial assurances is an amount that will provide the full payment for each of the activities set forth in paragraphs 89(a)(i) through 89(a)(v) plus a 25% contingency when the activities in paragraphs 89(a)(i) through 89(a)(v) are expected to be performed. The costs subject to financial assurances are forward looking because they state an amount valued at the time the funds are needed. As such, they shall be stated in contemporary time as the present value (calculated on the basis of a discount rate of 4.75%) of

the estimated future costs of the activities specified in paragraphs 89(a)(i) through 89(a)(v), plus a 25% contingency on those costs.

90. **Long-Term Financial Assurance Mechanisms.** Honeywell shall provide long-term financial assurances in the amount of the costs subject to long-term financial assurances in the form of a trust fund, a letter of credit, or some combination of the two. The selected mechanism(s) shall satisfy the following requirements:

(a) **Trust Fund.** In the event that Honeywell selects a trust fund, Honeywell shall create a trust fund such that it can provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary.

(i) The trust fund shall be at arm's length from Honeywell and shall not be considered the property of Honeywell or property of the estate in the event of Honeywell's bankruptcy, dissolution, privatization, or sale. The trust fund agreement shall contain the language necessary to assure that neither the trust fund nor the earnings of the trust fund shall be affected or restricted in any way by operation of the automatic stay in 11 U.S.C. 362.

(ii) The trust fund shall be managed by a financial institution domiciled in the United States or by a United States subsidiary of a non-U.S. financial institution acceptable to Riverkeeper and the Jersey City Entities or approved by the Court. In the event that the financial institution managing the trust fund declares bankruptcy, the Court shall withdraw the funds and appoint another financial institution meeting the requirements of this paragraph to manage the trust.

(iii) No more frequently than once per year, Honeywell may apply to the Court for an order directing the trust manager to reimburse Honeywell for any costs that it has incurred to carry out the activities set forth in paragraphs 89(a)(i) through 89(a)(iv).

(b) **Long-Term Letter of Credit.** In the event that Honeywell selects a letter of credit, Honeywell shall obtain a one-year irrevocable letter of credit (the "Long-Term Letter of Credit") to be automatically renewed annually in an amount that provides sufficient funds such that a trust fund, separate from any trust fund created under paragraph 90(a) but satisfying the requirements of paragraph 90(a), could be created. The Long-Term Letter of Credit-funded trust, plus any trust fund established under paragraph 90(a), shall provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary. The amount of any Long-Term Letter of Credit shall therefore be adjusted periodically as the cap replacement interval is approached because, for example, the money needed in the 10th year to fund a trust that can provide for replacement of the cap in the 75th year is much less than the money that would be needed in the 40th year. Such periodic adjustments shall be proposed and approved by the Court in conjunction with the adjustments under paragraph 92.

(i) Neither the Long-Term Letter of Credit nor the proceeds of the Long-Term Letter of Credit shall be considered the property of Honeywell or property of the estate in the event of Honeywell's bankruptcy, dissolution, privatization, or sale. The Long-Term Letter of Credit shall contain the language necessary to assure that neither the Long-Term Letter of Credit nor the proceeds of the Long-Term Letter of Credit shall be affected or restricted in any way by operation of the automatic stay in 11 U.S.C. 362.

(ii) The Long-Term Letter of Credit shall be issued by a financial institution domiciled in the United States or by a United States subsidiary of a non-U.S. financial institution acceptable to Riverkeeper and the Jersey City Entities or approved by the Court. In the event that the financial institution issuing the Long-Term Letter of Credit declares bankruptcy, the Court shall authorize the drawing of funds from the Long-Term Letter of Credit

and shall deposit those funds in a trust fund, separate from any trust fund created under paragraph 90(a) but satisfying the requirements of paragraph 90(a).

(iii) The provisions of the Uniform Customs and Practice ("UCP") for Documentary Credits (1993 Revision) International Chamber of Commerce Publication #500 and New York law shall apply to the Long-Term Letter of Credit.

(iv) The Long-Term Letter of Credit shall be automatically renewed annually, unless, no later than 120 days prior to the anniversary of the Long-Term Letter of Credit issue date, the issuer provides notice of non-renewal. If the issuer provides notice of non-renewal, Honeywell shall obtain a replacement irrevocable Long-Term Letter of Credit at least 95 days prior to the expiration date of the existing Long-Term Letter of Credit. If Honeywell is not otherwise in default as provided in this Article, the Court shall direct the cancellation of the prior Long-Term Letter of Credit within 91 days after delivery to the Court of any replacement of a Long-Term Letter of Credit. In the event that the Court is entitled to draw upon a Long-Term Letter of Credit when there are two Letters of Credit currently in place, the Court shall not draw an aggregate amount in excess of the highest valued Long-Term Letter of Credit.

(v) Prior to the expiration of the Special Master's appointment pursuant to paragraph 76, the Long-Term Letter of Credit shall be payable to the Special Master. During the time the Long-Term Letter of Credit is payable to the Special Master, the Special Master may draw on the Long-Term Letter of Credit as provided in paragraph 84. In the event that the Special Master draws upon the Long-Term Letter of Credit due to an event of default, the Special Master shall place the proceeds of the Long-Term Letter of Credit in a trust fund, separate from any trust fund created under paragraph 90(a) but satisfying the requirements of paragraph 90(a). After the Special Master's appointment expires pursuant to paragraph 76, the Long-Term Letter of Credit shall be payable to the Court and, in the event that the Court draws

on the Long-Term Letter of Credit, the Court shall place the proceeds of the Long-Term Letter of Credit in a trust fund, separate from any trust fund created under paragraph 90(a) but satisfying the requirements of paragraph 90(a).

(vi) Whether the Long-Term Letter of Credit is payable to the Special Master or the Court, it shall not, prior to its expiration date, be revoked or terminated by Honeywell except consistent with this Consent Decree and with the approval of the Court. The ability of the Special Master or the Court to draw upon the Long-Term Letter of Credit shall not be limited by any agreement between Honeywell and the issuer.

(vii) In the event that the Long-Term Letter of Credit is drawn upon and invested pursuant to paragraph 90(b)(ii), 90(b)(v) or 95 and Honeywell has also selected a trust fund pursuant to paragraph 90(a), resulting in the existence of two trust funds, the two trust funds shall be managed so as to ensure that the combined amount of the trust funds is sufficient to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary.

(c) **Combination.** Honeywell may use some combination of a trust fund and a letter of credit to achieve the requirements of this paragraph. However, if a combination is used, Honeywell shall ensure that the combined amount of financial assurances is sufficient to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary. The trust fund and the letter of credit shall otherwise satisfy all the requirements of paragraphs 90(a) and 90(b).

91. **Procedures for Review of the Proposed Long-Term Financial Assurances.** In the event that the Parties have determined that they are proceeding pursuant to paragraph 88(a) or 88(b), no later than 120 days after the determination under paragraph 88(d), Honeywell shall submit to Riverkeeper, the Jersey City Entities, and the Special Master, for their review (a) the

amount of the proposed long-term financial assurances; (b) the form(s) of the proposed long-term financial assurance mechanisms; and (c) the name(s) of the institution proposed to manage or issue the long-term financial assurances. If Riverkeeper and the Jersey City Entities agree to the terms of the proposed long-term financial assurances, within 60 days of such agreement, Honeywell shall create a trust fund and/or secure a Long-Term Letter of Credit on those terms. If the Parties are unable to reach agreement over the terms of the long-term financial assurances, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. Any Party shall have the right to seek review by the Court of the Special Master's recommendation regarding the terms of the financial assurances. In any event, until the long-term financial assurances have been put into place, Honeywell shall maintain the Chromium Remedy Letter of Credit and the requirements of paragraphs 88(e) and 90(b)(v) shall apply to the Chromium Remedy Letter of Credit.

92. **Adjustment of Amount Held in Long-Term Financial Assurances.** Every five years as marked from the establishment of the first long-term financial assurances pursuant to paragraph 90, the Parties shall report to the Court whether the long-term financial assurances are adequately funded to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary. At such time as the Parties report to the Court, any Party may seek an adjustment in the amount of the long-term financial assurances. The Party seeking an adjustment must demonstrate that the long-term financial assurances are under-funded or over-funded to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary. Such demonstration shall reflect the actual costs of implementing the remedy and/or any replacement of the remedy, once such actual costs are available. The demonstration shall also reflect the costs of work completed to date and the actual lifetime of the cap, once the

cap has been replaced or has passed a replacement interval without requiring replacement. The demonstration shall further reflect the actual performance of the fund and its ability to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary. Any demonstration shall be forward looking and shall be based upon estimates of what the activities in paragraphs 89(a)(i) through 89(a)(v) are expected to cost at the time they must be performed and the amount of funding projected to be available to undertake such activities at the time they must be performed. If, after reviewing the submission(s) received from the Parties, the Court determines that the long-term financial assurances are under-funded or over-funded to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary, the Court shall order an adjustment in the amount held in the long-term financial assurances to overcome the shortage or overage. In the event that the Court determines that the long-term financial assurances are under-funded, it shall order Honeywell to increase the amount held in the long-term financial assurances. In the event that the Court determines that any trust fund established pursuant to paragraph 90(a) is over-funded, the Court shall issue an order directing the trust manager to pay the overage to Honeywell. In the event that the Court determines that the Long-Term Letter of Credit is over-funded, the Court shall issue an order permitting Honeywell to reduce the amount covered during the next annual renewal of the Long-Term Letter of Credit pursuant to paragraph 90(b)(iv). Any adjustment to the amount of the Long-Term Letter of Credit pursuant to this paragraph shall be in addition to any adjustment of the amount of the Long-Term Letter of Credit required pursuant to paragraph 90(b).

93. **Exclusive Court Jurisdiction.** The trust fund agreement and/or the Long-Term Letter of Credit shall recite that the trust fund manager and/or issuer of the Long-Term Letter of Credit submit to the exclusive jurisdiction of this Court for any and all disputes arising under the

trust fund or the Long-Term Letter of Credit. The requirements of this paragraph shall apply whether the trust fund is established pursuant to paragraph 90(a), 90(b)(ii), 90(b)(v), or 95.

94. **Procedures upon Honeywell's Material Default of Its Obligations after the Special Master's Appointment Has Expired.** Upon the occurrence of default by Honeywell, after the Special Master's appointment has expired, Riverkeeper or the Jersey City Entities may move the Court on an expedited basis for an order to withdraw funds from the trust fund or to draw on the Long-Term Letter of Credit. Default shall include:

(a) The failure of Honeywell, in the event that notice is given pursuant to paragraph 90(b)(iv) to deliver a replacement Long-Term Letter of Credit at least 95 days prior to the expiration date of the existing Long-Term Letter of Credit;

(b) The material failure of Honeywell to proceed with diligence and in good faith to carry out the terms of this Consent Decree and the continuance of such a material breach for a period of 30 days after written notice by Riverkeeper or the Jersey City Entities to Honeywell of the alleged material failure, unless Honeywell cures the alleged breach within the 30-day notice period or such longer period as the Parties may agree to or the Court may order;

(c) The filing by Honeywell of a petition seeking relief, or the granting of relief, under the Federal Bankruptcy Code or any similar federal or state statute; any assignment for the benefit of creditors made by Honeywell; the involuntary filing of any of the foregoing against Honeywell if the involuntary filing is not dismissed within 60 days; the appointment of a custodian, receiver, liquidator, trustee, or other similar official for Honeywell or for a substantial part of Honeywell's property; any action by Honeywell to effect any of the foregoing; or if Honeywell becomes insolvent as defined in Section 101(32) of the Federal Bankruptcy Code; or

(d) The dissolution, liquidation, merger, consolidation, or reorganization of Honeywell or the institution of any proceeding to effect any of the foregoing, other than under

paragraph 94(c), if Honeywell fails to provide assurance to Riverkeeper, the Jersey City Entities, and the Court, within 15 days after written notice, that such an event will not impair Honeywell's ability to carry out the terms of this Consent Decree.

95. **Drawing on the Long-Term Letter of Credit in the Event of Honeywell's Default.** If the Court grants any motion by Riverkeeper or the Jersey City Entities pursuant to paragraph 94 to draw on the Long-Term Letter of Credit, the sum approved by the Court's order granting the motion shall be paid from the Long-Term Letter of Credit into a trust fund, separate from any trust fund created under paragraph 90(a) but satisfying the requirements of paragraph 90(a).

96. **Use of the Trust Fund in the Event of Honeywell's Default**. In the event of Honeywell's default, the money in the trust fund established pursuant to paragraph 90(a) shall be available to meet the obligations of paragraph 89(a). Riverkeeper and/or the Jersey City Entities shall file motions with the Court seeking orders directing how the money in the trust fund shall be used. The Court shall consider motions on an expedited basis and shall enter appropriate orders. The Court may enter an order allowing for automatic withdrawal of regular expenses without separate motion to the Court by Riverkeeper or the Jersey City Entities.

97. **Use of a Trust Fund Established Pursuant to Paragraph 85, 90(b)(ii), 90(b)(v), or 95.** In the event that a trust fund is established pursuant to paragraph 85, 90(b)(ii), 90(b)(v), or 95, the money in the trust fund shall be available to meet the obligations of paragraph 89(a). Riverkeeper and/or the Jersey City Entities shall file motions with the Court seeking orders directing how the money in the trust fund shall be used. The Court shall consider motions on an expedited basis and shall enter appropriate orders. The Court may enter an order allowing for automatic withdrawal of regular expenses without separate motion to the Court by Riverkeeper or the Jersey City Entities.

98. **Termination of the Long-Term Financial Assurances.** Honeywell's obligations

under Article III.E shall be terminated and the long-term financial assurance mechanisms shall be terminated when the Court finds that no hexavalent or total chromium contamination remains in the AOC 1 Open Space Area or on the Site, whether in soils or in groundwater, in excess of the levels specified for Unrestricted Use in the NJDEP Chromium Directive or any more restrictive standards for Unrestricted Use in place at the time, whichever is more restrictive. Upon determining that long-term financial assurances may be terminated, the Court shall order that any Long-Term Letter of Credit may be withdrawn in its entirety and any trust fund may be terminated. In conjunction with its order terminating any trust fund, the Court in its discretion shall designate a recipient(s) of any remaining trust funds.

ARTICLE IV: IMPLEMENTATION SCHEDULE AND TERMINATION

99. **Schedule for Remedy and Site Preparation Implementation Activities.** The Chromium Remedy under Article III and the Historic Fill Remedy under Article II.B of the Jersey City/Honeywell Consent Order and Site Preparation Activities under Article III of the Jersey City/Honeywell Consent Order shall be undertaken by the Parties in accordance with the following anticipated schedule, recognizing that this schedule may be further modified in writing by agreement of the Parties and with the approval of the Court:

(a) By October 1, 2008, the Jersey City Entities and Honeywell shall develop a Site Preparation Plan, pursuant to paragraph 3.2 of the Jersey City/Honeywell Consent Order, for all Site Preparation Activities necessary to undertake the Chromium Remedy;

(b) No later than June 18, 2009, Honeywell shall submit to NJDEP a remedial design document for the Chromium Remedy;

(c) No later than September 1, 2009, Honeywell shall submit all applications for permits and authorizations for the performance of the Chromium Remedy to all appropriate local, state, and federal government entities;

(d) Honeywell shall use its best efforts to complete the Chromium Remedy no later than four years after all appropriate applications and authorizations for the performance of the Chromium Remedy have been obtained;

(e) By May 1, 2008, Honeywell and the Jersey City Entities shall submit a work plan for further Remedial Investigation for AOC 2 to NJDEP; and

(f) By December 1, 2008, Honeywell and the Jersey City Entities shall submit a Remedial Action Selection Report and Remedial Action Workplan for the Historic Fill Remedy set forth in Article II.B of the Jersey City/Honeywell Consent Order. The Workplan shall contain a schedule for implementation of the Historic Fill Remedy.

100. **Termination of this Consent Decree.** This Consent Decree shall terminate upon the withdrawal of any Party as provided for in this paragraph. Any Party may elect to withdraw from this Consent Decree due to the occurrence of one or more of the following events, provided that such Party provides written notice of withdrawal to the other Parties pursuant to paragraph 108:

(a) The Court fails to enter the Jersey City/Honeywell Consent Order or this Consent Decree or either the Jersey City/Honeywell Consent Order or this Consent Decree is determined to be invalid on appeal;

(b) JCRA fails to take those actions required under paragraphs 4.11(a), (b), and (c) of the Jersey City/Honeywell Consent Order within nine months of entry of this Consent Decree; or

(c) JCRA fails to approve a Redevelopment Agreement between Bayfront Redevelopment LLC and JCRA pursuant to paragraph 4.11(e) of the Jersey City/Honeywell Consent Order within 12 months of entry of this Consent Decree.

101. **Procedures for Withdrawal and Termination.** Any Party electing to withdraw pursuant to paragraph 100 and thereby terminate this Consent Decree shall provide written notice of such withdrawal and termination to all other Parties within 30 days of the occurrence giving rise to the decision to withdraw. If any Party objects to termination of the Consent Decree, or believes that the conditions set forth in paragraph 100 have not been met, such objecting Party may move the Court for an expedited hearing on the issue of whether the conditions for termination have been effectuated.

102. **Good-Faith Obligation to Avoid Termination.** The Parties agree that they will each endeavor to fulfill the terms of this Consent Decree, that they will work diligently and in good faith to meet their obligations hereunder, and that they will promptly and timely take all reasonable steps to give effect to this Consent Decree and to avoid termination under paragraph 100.

103. **Effect of Termination.** If this Consent Decree is terminated pursuant to paragraph 100, the Consent Decree shall no longer be binding on the Parties and shall be of no further effect. In the event that this Consent Decree is terminated by one or more Parties pursuant to paragraph 100, each Party to this Consent Decree reserves all of its rights, claims, and defenses (both legal and factual) against the other Parties with respect to the matters at issue in the Consolidated Litigation and each Party remains free to pursue such rights, claims, and defenses.

ARTICLE V: ADDITIONAL PROVISIONS RELATED TO HISTORIC FILL AND SITE PREPARATION AND REDEVELOPMENT

104. **Historic Fill Remedy**. This Consent Decree shall adopt and incorporate the terms of Article II.B of the Jersey City/Honeywell Consent Order with respect to the Historic Fill Remedy. The Historic Fill Remedy shall not be limited to the activities set forth in Article II.B of the Jersey City/Honeywell Consent Order in the event that NJDEP requires a more extensive remedy. The Historic Fill Remedy shall be compatible with the Chromium Remedy such that no

part of the Historic Fill Remedy shall interfere with the installation, maintenance, and monitoring of the Chromium Remedy. In addition, the Historic Fill Remedy for any discharge of non-chromium contaminants to the Hackensack River shall not interfere with the remedies under the Sediment Consent Order, including the source control remedies. In the event that Jersey City conducts the Historic Fill Remedy instead of Honeywell, the terms of this paragraph shall still apply.

105. **Oversight of Historic Fill Remedy**. Paragraph 2.11 of the Jersey City/Honeywell Consent Order shall apply only to the Historic Fill Remedy, not the Chromium Remedy. The Progress Reports provided for in paragraphs 2.12 and 3.7 of the Jersey City/Honeywell Consent Order shall be provided to Riverkeeper and the Special Master at the time they are submitted.

106. **Transfer of Title of Study Areas 6 North and 7 to and from Bayfront Redevelopment LLC**. The transfer of title of Study Area 6 North and Study Area 7 properties to Bayfront Redevelopment LLC pursuant to the Jersey City/Honeywell Consent Order and any subsequent transfers shall not impede Honeywell's obligations to (a) complete the remediation of Study Area 7 and implement the Final Judgment and subsequent orders in *ICO v. Honeywell* or (b) complete the Chromium Remedy and conduct long-term monitoring and fulfill its other obligations set forth in this Consent Decree. Such transfers of Study Areas 6 North and Study Area 7 shall not include a transfer of Honeywell's obligations to implement the Final Judgment and subsequent orders in *ICO v. Honeywell* or a transfer of Honeywell's obligations under this Consent Decree, but shall include a right of access or any other right required by Honeywell to complete the remediation. Any subsequent transfer of Study Area 6 North or Study Area 7 from Bayfront Redevelopment LLC to a redeveloper or other party shall provide all necessary agreements to allow Honeywell all necessary access to Study Area 6 North and Study Area 7 for purposes of completing Honeywell's obligations with respect to Study Area 6 North under this

Consent Decree and completing the Study Area 7 remediation and implementing the Final Judgment and subsequent orders in *ICO v. Honeywell.*

107. **Dispute Resolution Procedures.** The provisions of Article VIII of the Jersey City/Honeywell Consent Order do not apply to any disputes regarding or impacting the Chromium Remedy, which shall be resolved as provided in paragraph 72. The provisions of Article VIII of the Jersey City/Honeywell Consent Order shall apply to disputes between the Jersey City Entities and Honeywell regarding the Historic Fill Remedy and other obligations provided in the Jersey City/Honeywell Consent Order, except to the extent that such disputes may affect the Chromium Remedy. If any such dispute may affect the Chromium Remedy, it shall be resolved as provided in paragraph 72. Honeywell shall provide Riverkeeper with a copy of each notice of any breach provided under paragraph 8.1 of the Jersey City/Honeywell Consent Order within 10 days of Honeywell's receipt or issuance of such notice. Honeywell shall provide Riverkeeper with a copy of any written resolution of a dispute pursuant to paragraph 8.2 within 10 days of the resolution.

ARTICLE XI: NOTICE

108. **Notice.** Any and all notices given in connection with this Consent Decree shall be deemed adequately given only if in writing and addressed to the Party for whom such notices are intended at the addresses set forth in this paragraph. All notices shall be sent by Federal Express or other nationally recognized overnight messenger service or by first-class registered or certified mail, postage prepaid, return receipt requested. A written notice shall be deemed to have been given to the recipient party on the earlier of (a) the date it shall be delivered to the address set forth in this paragraph; (b) the date delivery shall have been refused at the address set forth in this paragraph; or (c) with respect to notices sent by mail, the date as of which the postal service shall have indicated such notice to be undeliverable at the address set forth in this paragraph.

Any and all notices referred to in this Consent Decree, or which any Party desires to give to the other, shall be addressed as follows:

If to Honeywell and/or
Bayfront Redevelopment LLC :

Tom Byrne, Esq.
Honeywell International Inc.
101 Columbia Road
Morristown, NJ 07962
(973) 455-2775

With copies to:

John Morris
Honeywell International Inc.
101 Columbia Road
Morristown, NJ 07962
(973) 455-4003

If to Riverkeeper:

Bruce J. Terris
Carolyn Smith Pravlik
Kathleen L. Millian
Terris, Pravlik & Millian, LLP
1121 12th St., N.W.
Washington, DC 20005-4632
(202) 682-2100

If to Jersey City:

William Matsikoudis
Corporation Counsel
City of Jersey City
280 Grove Street
Jersey City, NJ 07305
(201) 547-4667

If to JCIA:

David L. Isabel
Golub & Isabel, PC
160 Littleton Road
Parsippany, NJ 07054
(973) 968-3377

If to JCMUA:

Sam Della Fera Jr.
Trenk, DiPasquale, Webster,
Della Ferra & Sodono, P.C.
347 Mount Pleasant Ave.
West Orange, NJ 07052
(973) 243-8600

If to JCRA:

Robert Antonichello
Executive Director
30 Montgomery Street
Jersey City, NJ 07302
(201) 547-5810

Any party may change its designated recipients or addresses for notice in this paragraph by providing written notice of such change to all other Parties.

ARTICLE XII: RIVERKEEPER'S ATTORNEYS' FEES

109. **Payment of Past Fees and Expenses.** Within 30 days of the entry of this Consent Decree, Honeywell shall pay Terris, Pravlik & Millian, LLP the sum of $1,513,217.15 which represents the following:

(a) A compromise of the attorneys' fees incurred by Riverkeeper in the litigation of Study Area 6 North portion of *Riverkeeper v. Honeywell* through March 27, 2008; and

(b) $187,862.27 in out-of-pocket expenses representing 50% of the expenses incurred by Riverkeeper in *Riverkeeper v. Honeywell* from the inception of the litigation after deducting the expenses to be paid pursuant to the Sediment Consent Order.

Payment of the sum of $1,513,217.15 shall be in full satisfaction of all obligations, duties, and responsibilities of Honeywell with respect to the $1,556,747.46 in fees and expenses that Riverkeeper claimed with regard to the above described fees and expenses.

110. **Future Fees and Expenses.** Honeywell shall reimburse Riverkeeper's attorneys for reasonable fees and expenses incurred: (a) in negotiating this Consent Decree after March 27, 2008; (b) in the monitoring and enforcement of this Consent Decree; and (c) in participation in the Special Master process established pursuant to this Consent Decree. Honeywell shall also reimburse Riverkeeper for reasonable attorneys' fees and expenses for Riverkeeper's review of and participation in the Long-Term Monitoring Plan and monitoring and enforcement of this Consent Decree following the term of the Special Master. In the event that any dispute arises between the Parties under this Consent Decree that must be resolved by the Court, Riverkeeper shall be entitled to recover its attorneys' fees and expenses for litigation of the dispute to the extent allowed by federal law. Riverkeeper and Honeywell shall use the same informal procedure for attempting to settle fees issues as has been used for post-judgment monitoring fees in *ICO v. Honeywell.* In the event that Riverkeeper and Honeywell are unable to reach a

settlement on fees, Riverkeeper shall apply to the Court for an award of attorneys' fees and expenses. If Honeywell objects to only a portion of the Riverkeeper's statement of attorneys' fees and expenses, Honeywell shall pay the undisputed portion within 60 days of Riverkeeper's submittal of the statement to Honeywell. The Court shall resolve any objections to Riverkeeper's statement of attorneys' fees and expenses and shall enter an appropriate Order.

ARTICLE XIII: MISCELLANEOUS PROVISIONS

111. **Force Majeure.** Force Majeure, for the purposes of this Consent Decree, is defined as an event arising from causes beyond the control of any Party or Parties (or their agents, contractors, subcontractors, representatives, or assigns) which could not have been overcome by reasonable diligence and which delays or prevents the performance of any obligation under this Consent Decree. Examples of events which may constitute force majeure include the refusal of any federal or state governmental authority to grant a permit or authorization necessary for the completion of actions required by this Consent Decree, floods, hurricanes, tornadoes, and other extraordinary weather events, earthquakes and other natural disasters, terrorist attacks, war, and other national emergencies. Examples of events that are not force majeure events include normal inclement weather, increased costs or expense, the failure to timely and fully apply for a permit or authorization necessary for the completion of actions required by this Consent Decree, or financial difficulty of any Party. The Party claiming force majeure shall bear the burden of showing an event was a force majeure event.

112. **JCRA and Bayfront Redevelopment LLC as Parties.** As signatories to this Consent Decree, JCRA and Bayfront Redevelopment LLC subject themselves to the Court's jurisdiction for the purpose of enforcing this Consent Decree and agree to be bound by this Consent Decree. This Consent Decree shall be fully enforceable against JCRA and Bayfront Redevelopment LLC.

113. **Successors and Assigns.** This Consent Decree shall be binding upon and shall inure to the benefit of the successors, assigns, heirs, corporate parents, subsidiaries, and affiliates of each Party. No assignment or delegation of the obligations hereunder shall release the assigning Party from its obligations under this Consent Decree.

114. **Successors to Hackensack Riverkeeper, Inc.** In the event that Hackensack Riverkeeper, Inc. disbands or otherwise ceases operations, it shall assign its rights under this Consent Decree to another qualified nonprofit organization. A nonprofit organization shall be qualified for assignment under this Consent Decree if it is a charitable organization under Section 501(c)(3) of the Internal Revenue Code or its substantial equivalent and has an established record of working to enhance or preserve the ecology, natural habitat, or environment. Any such assignment shall be subject to approval by the Court and Honeywell shall have the right to object to any proposed assignment. Any successor organization shall have the duty to assign its rights under this Consent Decree to another qualified nonprofit organization in the event that the successor disbands or otherwise ceases operations. In the event that a successor is not appointed at any given time, the New Jersey Attorney General or equivalent officer shall appoint a successor subject to approval by the Court and objection by Honeywell.

115. **Reservation of Rights and Claims**. Except as set forth expressly herein, this Consent Decree does not affect in any way any of the Parties' claims or defenses against third parties who have not signed the Consent Decree.

116. **Governing Law and Continuing Jurisdiction.** The Court shall retain jurisdiction over the matters addressed in this Consent Decree for purposes of enabling the Parties to apply to the Court for any further order as may be necessary to construe, carry out, or enforce the terms of this Consent Decree. This Consent Decree shall be interpreted and enforced under the laws of

the United States and the State of New Jersey by the United States District Court for the District of New Jersey.

117. **Construction.** Questions regarding the interpretation of this Consent Decree shall not be resolved against any Party on the ground that this Consent Decree has been drafted by that Party. This Consent Decree is the result of review, negotiation, and compromise by each Party.

118. **Authority to Enter into Agreement.** The undersigned representative for each Party represents, certifies, and warrants that he or she is duly authorized by the Party whom he or she represents to enter into the terms of this Consent Decree and bind such Party legally to this Consent Decree.

119. **Measures to Effectuate This Consent Decree.** The Jersey City Entities and JCRA shall take all appropriate steps to ensure that this Consent Decree has been (and that actions required hereunder will be) duly considered, ratified, and approved. Such steps include consideration of this Consent Decree at a meeting of the City Council, open to the public, at which members of the public have the opportunity to comment on all aspects of the Settlement, including the commitments made by Jersey City; and consideration by and approval of the commissioners of the JCIA, JCMUA, and JCRA.

120. **Modifications.** This Consent Decree may be modified by mutual agreement of the Parties but such agreement must be in writing, duly and properly signed by all Parties, and shall be submitted to the Court for approval.

121. **Severability.** Each of the provisions in paragraph 60 of this Consent Decree shall be deemed severable and, in the event that one or more of such provisions is deemed invalid or unenforceable, it shall not affect the validity or enforceability of the other provisions of the Consent Decree.

122. **Signatures.** This Consent Decree may be signed simultaneously or in counterparts by the respective signatories, which shall be as fully valid and binding as if a single document was signed by all of the signatories. This Consent Decree may be signed electronically by any or all signatories, and such electronic signature shall be as fully valid and binding as a hand-written signature.

Consented to and approved for entry:

s/Aurelio Vincitore

William Matsikoudis
Aurelio Vincitore
Corporation Counsel
City of Jersey City
280 Grove Street
Jersey City, NY 07305
(201) 547-4667

Counsel for the City of Jersey City

s/David L. Isabel

David L. Isabel
Golub & Isabel, PC
160 Littleton Road
Parsippany, NJ 07054
(973) 968-3377

Counsel for Jersey City Incinerator Authority

s/ Joni Noble McDonnell

Joni Noble McDonnell
Genova, Bruns & Giantomasi
4974 Broad Street
Newark, NJ 07102
973-535-4435

Counsel for Jersey City Municipal Utilities Authority

Robert Antonichello
Executive Director
30 Montgomery Street
Jersey City, NJ 07302
(201) 547-5810

Executive Director of Jersey City Redevelopment Agency

s/ David Sheehan

David Sheehan
Baker Hostetler
45 Rockefeller Plaza
11th Floor
New York, NY 10111
(212) 589-4200

Michael D. Daneker
Arnold & Porter LLP
555 12th Street N.W.
Washington, DC 20004
(202) 942-5000

Counsel for Honeywell International Inc. and Bayfront Redevelopment LLC

s/ Edward Lloyd

Edward Lloyd
Columbia Law School
435 West 116th Street, Room 831
New York, NY 10027
(212) 854-4376

Bruce J. Terris
Carolyn Smith Pravlik
Kathleen L. Millian
Terris, Pravlik & Millian, LLP
1121 12th Street N.W.
Washington, DC 20005-4632
(202) 682-2100

Counsel for the Hackensack Riverkeeper, William Sheehan, Reverend Winston Clarke, and Lawrence Baker

APPROVED AND ENTERED as an Order of this Court this ___ day of _____, 2012.

_____
Hon. Dennis M. Cavanaugh
United States District Judge

EXHIBITS

Exhibit A: Jersey City/Honeywell Consent Order

Exhibit B: Remedial AOC's and Remedial Approach Map

Exhibit C: NJDEP Chromium Policy

Exhibit D: Conservation Restriction

Exhibit E: Deed Notice

Deed Notice

Dated: _____, 2017

BAYFRONT REDEVELOPMENT LLC

Grantor(s).

Record and return to:

Waters, McPherson, McNeill, P.C.
P.O. Box 1560
300 Lighting Way
Secaucus, New Jersey 07096-1560

ATTN: _____, Esq

DRAFT DEED NOTICE

IN ACCORDANCE WITH N.J.S.A. 58:10B-13, THIS DOCUMENT IS TO BE RECORDED IN THE SAME MANNER AS ARE DEEDS AND OTHER INTERESTS IN REAL PROPERTY.

Prepared by: _____
[Signature]

_____
[Bayfront Redevelopment, LLC]

Recorded by:

_____
[Signature, Officer of County Recording Office]

_____
[Print name below signature]

DEED NOTICE CONCERNING CONTROLS INSTALLED FOR CHROMIUM CONTAMINATION UNDERLYING THE PROPERTY

This Deed Notice is made as of the __ day of _____, 2017, ***Bayfront Redevelopment LLC, whose post office address is 115 Tabor Road, Morris Plains, New Jersey 07950***. "Owner" shall mean Bayfront Redevelopment, LLC together with its successors and assigns, including all successors in interest in the Property which is the subject of this Deed Notice as described fully below. Block 21901 Lot 5 is currently owned by Bayfront Redevelopment, LLC. The "Property" (also referenced herein as the "Deferred Area" or the "Restricted Area(s)") is particularly described by metes and bounds in Exhibit A-2 attached hereto.

1. THE PROPERTY. Bayfront Redevelopment, LLC is the current owner in fee simple of certain real property designated as a portion of ***Block 21901, Lot 5 on the tax map of the City of Jersey City, Hudson County, New Jersey***[1]**.** The New Jersey Department of Environmental Protection (NJDEP) Program Interest Number for the contaminated site which includes this Property is ***Hudson County Chromate Site No. 088 Program Interest ("PI") # G000008711*** (NJDEP PI# for non-chromium-related contaminants at the Property is #745719). Remediation of hexavalent chromium is pursuant to the First Amended Consent Decree Regarding the Remediation and

[1] All references to Block 21901 Lot 5 in this Deed Notice shall mean the applicable portions of Block 21901 Lot 5 as shown in the metes and bounds description, regardless of whether the word "portion(s)" is specifically called out or not.

Redevelopment of Study Area 6 North ("Consent Decree") which is attached hereto as Appendix I and is entered as an order of the Court in the following consolidated actions *JCMUA v. Honeywell International, Inc.,* D.N.J., Civ. No. 05-05955; *JCIA v. Honeywell International, Inc.,* D.N.J., Civ. No. 05-5993; and *Hackensack Riverkeeper, Inc. v. Honeywell International, Inc.,* D.N.J., Civ. No. 06-22 (consolidated under Civ. No. 95-2097). The Consent Decree restricts transfer, use and development of the Property. To the extent that there is any conflict or inconsistency between the terms of this Deed Notice and the terms of the Consent Decree, the Consent Decree shall govern.

2. REMEDIATION.

i. The Department's Bureau of State Case Management ("BCM") is the entity within the Department that is responsible for the oversight of the chromium remediation of SA-6 North and the Property. The matter is Case No. Hudson County Chromate Site No. 088 PI# G000008711. The Department has approved this Deed Notice as an institutional control for the Property, which is part of the remediation of the Property.

ii. N.J.A.C. 7:26-C-7 requires the Owner, among other persons, including the responsible party Honeywell International Inc. ("Honeywell"), to obtain a soil remedial action permit for the soil remedial action at the Property. That permit will contain the monitoring, maintenance and biennial certification requirements that apply to the Property.

3. SOIL AND GROUNDWATER CONTAMINATION. Honeywell, a corporation of the State of Delaware, licensed to do business in the State of New Jersey whose post office address is 115 Tabor Road, Morris Plains, New Jersey 07950, has remediated SA-6 North to address chromium-related soil contamination, except for the Property and certain other deed noticed areas where engineering controls were implemented. The Remedial Action Work Plan ("RAWP") was approved by the Department on February 19, 2009 for Hudson County Chromate Site No. 088, which included portions of the Property. Remedial actions were further approved pursuant to the Consent Decree.

Under both the Consent Decree and the RAWP soil contamination remains in the Property at concentrations that do not allow for the unrestricted use of the Property. A Remedial Action Report ("RAR") for SA-6 North was submitted to the Department on March 16, 2017. The Department approved the RAR on June 1, 2017. A Construction Completion Report ("CCR") for SA-6 North to document the implementation of the Chromium Remedy pursuant to Article III of the Consent Decree (the "Chromium Remedy") to address chromium-impacted soil and groundwater for SA-6 North was entered by the Court on [DATE], [CITE TO DOCKET AND DOCKET #].

The Property, also known as The Deferred Area, is an approximately 4,077 square foot strip of land on SA-6 North adjacent to the Route 440 ROW where a Public Service Electric & Gas ("PSE&G") gas main is located north and east of the SA-6 North Open Space Area. PSE&G owns and operates a 24-inch high pressure gas main within the ROW in this area. In the 100% Design Report, Honeywell indicated its intention of deferring excavation of chromium-impacted soil within The Deferred Area footprint until such time that the gas main is relocated during the future Route 440 Road Widening Project. Excavation of residual chromium-impacted soil along the eastern edge of the SA-6 North property line in this area will be coordinated with the relocation of the gas main

during the Route 440 Road Widening Project. Once the remediation of this area is complete in accordance with Article III of the Consent Decree, Honeywell will terminate the deed notice consistent with the requirements of Paragraph 13 below. In the meantime, the provisions of the Long Term Monitoring Plan ("LTMP"), developed pursuant to the Consent Decree, will apply to the Property.

The soil contamination is described, including the type, concentration and specific location of such contaminants, in Exhibit B, which is attached hereto and made a part hereof. Groundwater contaminant concentrations and restrictions for SA-6 North in its entirety are addressed in the Classification Exception Area (CEA) approved by the NJDEP on February 16, 2012 and in a forthcoming Remedial Action Permit for Groundwater (recent groundwater samples for the Property do not indicate shallow groundwater contamination). As a result of the remaining soil contamination, there is a statutory requirement for this Deed Notice and engineering controls in accordance with N.J.S.A. 58:10B-13. Under the terms of the Consent Decree and this Deed Notice, Honeywell is responsible for monitoring and maintaining the soil remediation for the Property in perpetuity or until remediation is implemented that renders this Deed Notice unnecessary.

4. CONSIDERATION. In accordance with the Department's approval of the chromium RAWP for the remediation of Hudson County Chromate Site Nos. 087 and 088 which includes the Property, and in consideration of the terms and conditions of that approval, and in accordance with the Consent Decree, and other good and valuable considerations, Owner has agreed to subject the Property to certain statutory and regulatory requirements which impose restrictions upon the use of the Property, to restrict certain uses of the Property, and to provide notice to subsequent owners, lessees and operators of the restrictions and the monitoring, maintenance, and biennial certification requirements outlined in this Deed Notice and required by law, as set forth herein.

5A. RESTRICTED AREAS. Due to the presence of these contaminants, Owner has agreed, as part of the remedial action for the Property, to restrict the use of the Property (the "Restricted Areas"); a narrative description of these restrictions, along with the associated monitoring and maintenance activities and the biennial certification requirements are provided in Exhibit C, which is attached hereto and made a part hereof. Owner will develop a binder containing a list of these restrictions which will be maintained at either the onsite trailers or within the Groundwater Treatment Plant building, available for review and inspection by governmental enforcement officials if requested.

5B. RESTRICTED LAND USES. The following land use restrictions apply to the Property:

i. The Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-12.g(10), prohibits the conversion of a contaminated site, remediated to non-residential soil remediation standards that require the maintenance of engineering or institutional controls, to a child care facility, or public, private, or charter school without the Department's prior written approval, unless a presumptive remedy is implemented;

ii. The Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-12.g(12), prohibits the conversion of a landfill, with gas venting systems and or leachate collection systems, to a single-family residence or a child care facility without the Department's prior written approval; and

iii. The Consent Decree, paragraph 53, prohibits the unrestricted use of the Property until the Chromium Remedy set forth in Article III of the Consent Decree is implemented and the concentration of hexavalent chromium in soil is less than 20 mg/kg to a depth of 20 feet below ground surface.

5C. ENGINEERING CONTROLS. Due to the presence and concentration of these contaminants, the Owner has also agreed, as part of the remedial action for the Property, to the placement of certain engineering controls within the Property. The engineering controls include clean cover materials to a depth of approximately 6-inches below ground surface. A narrative description of these engineering controls, along with the associated monitoring and maintenance activities and the biennial certification requirements are provided in Exhibit C. Honeywell shall be responsible for monitoring and maintenance of engineering controls and biennial certification requirements as specified in the Consent Decree, the LTMP, and Paragraphs 8A and 8B herein.

5D. LONG TERM MONITORING PLAN. Pursuant to the Consent Decree, Honeywell has developed a LTMP pursuant to the Consent Decree which sets forth requirements for monitoring, maintaining, and repairing or replacing the soil and groundwater chromium remedial measures including engineering controls within the Property, and requirements for notification and reporting pursuant to the Consent Decree, Deed Notice, and Soil Remedial Action Permit. A copy of the LTMP is maintained by Honeywell at 115 Tabor Road, Morris Plains, NJ 07950. This Deed Notice is appended to the LTMP.

5F. WORKER TRAINING MATERIALS. All maintenance workers engaged in maintenance at the Property shall be trained in maintenance procedures that do not jeopardize the integrity of the Chromium Remedy. Workers shall be trained using materials developed by Honeywell pursuant to the Consent Decree.

6A. CHANGE IN OWNERSHIP AND REZONING.

i. The Owner and the subsequent owners and lessees, shall cause all leases, grants, and other written transfers of an interest in the Property to contain a provision expressly requiring all holders thereof to take the Property subject to the restrictions contained herein and to comply with all, and not to violate any of the conditions of this Deed Notice. Nothing contained in this Paragraph shall be construed as limiting any obligation of any person to provide any notice required by any law, regulation, or order of any governmental authority.

ii. The Owner and the subsequent owners shall provide written notice to the Department of Environmental Protection on a form provided by the Department and available at www.nj.gov/srp/forms within thirty (30) calendar days after the effective date of any conveyance, grant, gift, or other transfer, in whole or in part, of the owner's interest in the Restricted Area.

iii. The Owner and the subsequent owners shall provide written notice to the Department, on a form available from the Department at www.nj.gov/srp/forms, within thirty (30) calendar days after the owner's petition for or filing of any document initiating a rezoning of the Property to residential.

6B. SUCCESSORS AND ASSIGNS. This Deed Notice shall be binding upon Owner and upon Owner's successors and assigns, and subsequent owners, lessees, and operators while each is an owner, lessee, or operator of the Property.

7A. ALTERATIONS, IMPROVEMENTS, AND DISTURBANCES.

i. The Owner and all subsequent owners and lessees shall notify any person of whom it has knowledge, including, without limitation, tenants, employees of tenants, developers, and contractors, intending to conduct invasive work or excavate within the Property, of the nature and location of known contamination in the Property, and, of the precautions necessary to protect the engineering controls and minimize potential human exposure to contaminants.

ii. Except as provided in the Consent Decree and Paragraph 7B below no person shall make, or allow to be made, any alteration, improvement, or disturbance in, to, or about the Property which disturbs any engineering control at the Property except as (a) permitted in the Consent Decree and (b) without first obtaining a Soil Remedial Action Permit modification from the Department. Nothing herein shall constitute a waiver of the obligation of any person to comply with all applicable laws and regulations including, without limitation, the applicable rules of the Occupational Safety and Health Administration.

iii. Notwithstanding subparagraph 7A.ii.(b), above, a Soil Remedial Action Permit modification is not required for any alteration, improvement, or disturbance provided that:

(A) Such action is taken in conformance with the Consent Decree and this Deed Notice; and

(B) The Department of Environmental Protection is notified of the activity by calling the DEP Hotline, at 1-877-WARN-DEP or 1-877-927-6337, within twenty-four (24) hours after the beginning of each alteration, improvement, or disturbance; and

(C) Honeywell is notified of the activity by calling 855-727-2658; and

(D) Honeywell and/or the owner restores any disturbance of an engineering control to pre-disturbance conditions, consistent with the requirements of the Consent Decree and LTMP, within sixty (60) calendar days after the initiation of the alteration, improvement or disturbance; and

(E) All applicable worker health and safety laws and regulations are followed during the alteration, improvement, or disturbance, and during the restoration; and

(F) Appropriate measures are taken so that human exposure, and exposure of the environment outside the containment of the engineering controls, to contamination in excess of the applicable remediation standards does not occur; and

(G) The next biennial certification includes a description of the nature of the alteration, improvement, or disturbance, the dates and duration of the alteration, improvement, or disturbance, the name of key individuals and their affiliations conducting the alteration, improvement, or disturbance, a description of the notice the Owner gave to those persons prior to the disturbance, the amounts of soil generated for disposal, if any, the final disposition and any precautions taken to prevent exposure.

7B. EMERGENCIES. In the event of an emergency which presents, or may present, an unacceptable risk to the public health and safety, or to the environment, or immediate environmental concern, see N.J.S.A. 58:10C-2, any person may temporarily breach an engineering control provided that:

i. The Department of Environmental Protection is immediately notified of the emergency, by calling the DEP Hotline at 1-877-WARNDEP or 1-877-927-6337; and

ii. Immediately after notifying NJDEP, Honeywell is notified of the emergency by calling 855-727-2658; and

iii. Both the actual disturbance and the time needed for the disturbance are limited to the minimum reasonably necessary to adequately respond to the emergency; and

iv. All measures necessary to limit actual or potential, present or future risk of exposure to humans or the environment to the contamination are implemented; and

v. The Department of Environmental Protection is notified when the emergency has ended by calling the DEP Hotline at 1-877-WARNDEP or 1-877-927-6337; and

vi. Honeywell is notified when the emergency has ended by calling 855-727-2658; and

vii. Honeywell restores the engineering control to the pre-emergency conditions, consistent with the requirements of the Consent Decree and LTMP, as soon as possible, and submits a written report to the Department of Environmental Protection of such emergency and restoration efforts within sixty (60) calendar days after completion of the restoration of the engineering control. The report must include all information pertinent to the emergency, potential discharges of contaminants, and restoration measures that were implemented, which, at a minimum, should specify: (a) the nature and likely cause of the emergency, (b) the potential discharges of or exposures to contaminants, if any, that may have occurred, (c) the measures that have been taken to mitigate the effects of the emergency on human health and the environment, (d) the measures completed or implemented to restore the engineering control, and (e) the changes to the engineering control or site operation and maintenance plan to prevent recurrence of such conditions in the future. Honeywell shall submit the report to:

Department of Environmental Protection
Division of Remediation Management and Response
Bureau of Operation, Maintenance and Monitoring
Deed Notice Inspection Program

P.O. Box 413
401 E. State Street
Trenton, NJ 08625-0413

8A. MONITORING AND MAINTENANCE OF DEED NOTICE, AND PROTECTIVENESS CERTIFICATION. The persons in any way responsible, pursuant to the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11a et seq., for the hazardous substances that remain at the Property, the persons responsible for conducting the remediation, Honeywell, the Owner, and the subsequent owners, lessees, and operators, shall monitor and maintain this Deed Notice. The subsequent owners, lessees and operators have this obligation only during their ownership, tenancy, or operation. Honeywell shall certify to the Department on a biennial basis that the remedial action that includes this Deed Notice remains protective of the public health and safety and of the environment. The specific obligations to monitor and maintain the deed notice shall include all of the following:

i. Monitoring and maintaining this Deed Notice according to the requirements in Article III of the Consent Decree, and Exhibit C herein, to ensure that the remedial action that includes the Deed Notice continues to be protective of the public health and safety and of the environment; and

ii. Conducting any additional remedial investigations and implementing any additional remedial actions, that are necessary to correct, mitigate, or abate each problem related to the protectiveness of the remedial action for the Property prior to the date that the certification is due to the Department pursuant to iii, below, so that the remedial action that includes this Deed Notice remains protective of the public health and safety and of the environment; and

iii. Certifying to the Department of Environmental Protection the continued protectiveness of the remedial action that includes this Deed Notice, on a form provided by the Department and consistent with N.J.A.C. 7:26C-1.2 (a)1, every two years on the anniversary of the date stamped on the Deed Notice that indicates when the Deed Notice was recorded.

8B. MONITORING AND MAINTENANCE OF ENGINEERING CONTROLS, AND PROTECTIVENESS CERTIFICATION. Honeywell shall maintain all engineering controls at the Property and certify to the Department on a biennial basis that the remedial action of which each engineering control is a part remains protective of the public health and safety and of the environment. The specific obligations to monitor and maintain the engineering controls shall include the following:

i. Monitoring and maintaining each engineering control according to the requirements in Article III of the Consent Decree, the LTMP, and Exhibit C herein, so that the remedial action that includes the engineering control continues to be protective of the public health and safety and of the environment; and

ii. Conducting any additional remedial investigations and implementing any additional remedial actions, that are necessary to correct, mitigate, or abate each problem related to the protectiveness of the remedial action for the Property prior to the date that the certification is due to

the Department pursuant to iii, below, so that the remedial action that includes the engineering control remains protective of the public health and safety and of the environment; and

iii. Certifying to the Department of Environmental Protection the continued protectiveness of the remedial action that includes the engineering control, on a form provided by the Department and consistent with N.J.A.C. 7:26C-1.2 (a)1, every two years on the anniversary of the date stamped on the Deed Notice that indicates when the Deed Notice was recorded.

9. ACCESS. The Owner, subsequent owners, lessees, and operators, agree to allow the Department, its agents and representatives access to the Property to inspect and evaluate the continued protectiveness of the remedial action that includes this Deed Notice and to conduct additional remediation to ensure the protection of the public health and safety and of the environment if the persons responsible for monitoring the protectiveness of the remedial action, as described in Paragraph 8, above, fail to conduct such remediation pursuant to this Deed Notice as required by law. The Owner, and the subsequent owners and lessees, shall also cause all leases, subleases, grants, and other written transfers of an interest in the Restricted Areas to contain a provision expressly requiring that all holders thereof provide such access to the Department.

10. NOTICES.

i. Owner shall cause all leases, grants, and other written transfers of an interest in the Property to contain a provision expressly requiring all holders thereof to take the Property subject to the restrictions contained herein and to comply with all, and not to violate any of the conditions of this Deed Notice. Nothing contained in this Paragraph shall be construed as limiting any obligation of any person to provide any notice required by any law, regulation, or order of any governmental authority.

ii. Honeywell or the Owner shall notify any person intending to conduct invasive work or excavate within the Property of the nature and location of contamination and, of the precautions necessary to minimize potential human exposure, and exposure of the environment outside the containment of the engineering controls, to contaminants.

iii. Owner shall provide written notice to the Department of Environmental Protection at least thirty (30) calendar days before the effective date of any conveyance, grant, gift, or other transfer, in whole or in part, of the owner's interest in the Restricted Area. Any such conveyance, grant or gift must be consistent with the terms of the Consent Decree.

iv. Owner shall provide written notice to the Department within thirty (30) calendar days following the Owner's receiving notice of any petition for a rezoning of the Property. Any such rezoning must be consistent with the terms of the Consent Decree. The Owner shall submit the written notice to:

Department of Environmental Protection
Division of Remediation Management and Response
Bureau of Operation, Maintenance and Monitoring
Deed Notice Inspection Program

P.O. Box 413
401 E. State Street
Trenton, NJ 08625-0413.

11. ENFORCEMENT OF VIOLATIONS.

i. This Deed Notice itself is not intended to create any interest in real estate in favor of the Department of Environmental Protection, nor to create a lien against the Property, but merely is intended to provide notice of certain conditions and restrictions on the Property and to reflect the regulatory and statutory obligations imposed as a conditional remedial action for this Property.

ii. The restrictions provided herein may be enforceable by the Department against any person who violates this Deed Notice. To enforce violations of this Deed Notice, the Department may initiate one or more enforcement actions pursuant to N.J.S.A. 58:10-23.11, and N.J.S.A. 58:10C, and require additional remediation and assess damages pursuant to N.J.S.A. 58:10-23.11, and N.J.S.A. 58:10C.

iii. This Deed Notice is also enforceable in the United States District Court for the District of New Jersey by all residents, owners, lessees, and all commercial tenants on Study Areas 6 and 7 pursuant to paragraphs 60 and 69 of the Consent Decree.

12. SEVERABILITY. If any court of competent jurisdiction determines that any provision of this Deed Notice requires modification, such provision shall be deemed to have been modified automatically to conform to such requirements. If a court of competent jurisdiction determines that any provision of this Deed Notice is invalid or unenforceable and the provision is of such a nature that it cannot be modified, the provision shall be deemed deleted from this instrument as if the provision had never been included herein. In either case, the remaining provisions of this Deed Notice shall remain in full force and effect.

13. MODIFICATION AND TERMINATION.

i. Any person may request in writing, at any time, that the Department modify this Deed Notice where performance of subsequent remedial actions, a change of conditions at the Property, or the adoption of revised remediation standards suggest that modification of the Deed Notice would be appropriate, provided that any such modification is consistent with the requirements of the Consent Decree.

ii. Any person may request in writing, at any time, that the Department terminate this Deed Notice because the conditions which triggered the need for this Deed Notice are no longer applicable.

iii. Any person seeking a modification or termination of this Deed Notice must also have such modification approved by the United States District Court for the District of New Jersey pursuant to the Consent Decree until such time as the Consent Decree terminates with regard to the Property pursuant to the Consent Decree.

iv. If the United States District Court for the District of New Jersey and NJDEP have concluded that this Deed Notice shall be modified or terminated, such modification or termination will only be effective upon the filing of a Termination of Deed Notice, available at N.J.A.C. 7:26C Appendix C, with the office of the Register of Deeds of Hudson County, New Jersey, expressly modifying or terminating this Deed Notice.

v. Within thirty (30) calendar days after the filing of a Termination of Deed Notice, the owner of the Property shall apply to the Department for modification or termination of the Soil Remedial Action Permit pursuant to N.J.A.C. 7:26C-7.

vi. This Deed Notice may be modified only if it has first been terminated pursuant to subparagraphs 13v above, and upon filing of a modified Deed Notice, executed by the Owner of the Property, in the office of the Register of Deeds of Hudson County, New Jersey.

14A. EXHIBIT A. Exhibit A includes the following maps of the Property and the vicinity:

i. Exhibit A-1: Vicinity Map - A map that identifies by name the roads, and other important geographical features in the vicinity of the Property;

ii. Exhibit A-2: Metes and Bounds Description - A metes and bounds description of the Property, including reference to tax lot and block numbers for the Property and a Tax Map;

iii. Exhibit A-3: Property Map - A scaled map of the Property, scaled at one inch to 200 feet or less, and if more than one map is submitted, the maps shall be presented as overlays, keyed to a base map; the map(s) shall include diagrams of major surface topographical features such as buildings, roads, and parking lots. After development of the Property, this Deed Notice shall be modified to show topographical features constructed on the Property such as buildings, roads, and parking lots.

14B. EXHIBIT B. Exhibit B includes the following descriptions of the Restricted Areas:

i. Exhibit B-1: Restricted Area Map - Maps for the Property that include, as applicable:

(A) As-built diagrams of each engineering control, including caps, fences, hydraulic barrier walls, ground water monitoring wells, and ground water pumping system including trenches and pumps;

(B) As-built diagrams of any buildings, roads, parking lots, utility corridors, and other structures that function as engineering controls; and

(C) Designation of all soil and/or sediment sample locations within the restricted areas that exceed any soil or sediment standard that are keyed into one of the tables described below.

ii. Exhibit B-2 (Table B-2): Restricted Area Data Tables - Table for the Property that includes:

(A) Sample location designation from Restricted Area maps (Exhibit B-1);

(B) Sample elevation based upon mean sea level;

(C) Name and chemical abstract service registry number of each contaminant with a concentration that exceeds the unrestricted use standard;

(D) The restricted and unrestricted use standards for each contaminant in the table; and

(E) The remaining concentration of each contaminant at each sample location at each elevation (or if historic fill, include data from the Department's default concentrations at N.J.A.C. 7:26E-4.6, Table 4-2).

14C. EXHIBIT C. Exhibit C includes narrative descriptions of the institutional controls and engineering controls as follows:

i. Exhibit C-1A through C-1C. Exhibit C-1A: Deed Notice as Institutional Control; Exhibit C-1B: Consent Decree as Institutional Control (attached); Exhibit C-1C: Zoning as Institutional Control; includes a narrative description of the restrictions and obligations of this Deed Notice that are in addition to those described above, as follows:

(A) General Description of the Institutional Control:
(1) Description and estimated size of the Restricted Areas as described above;
(2) Description of the restrictions on the Property by operation of this Deed Notice and the other Institutional Controls; and
(3) The objective of the restrictions;

(B) Description of the monitoring necessary to determine whether:
(1) Any disturbances of the soil in the Restricted Areas resulted in the unacceptable exposure to the soil contamination;
(2) There have been any land use changes subsequent to the filing of this Deed Notice and the other Institutional Controls or the most recent biennial certification, whichever is more recent;
(3) The current land use on the Property is consistent with the restrictions in this Deed Notice and the other Institutional Controls;
(4) Any newly promulgated or modified requirements of applicable regulations or laws apply to the Property; and
(5) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice and the other Institutional Controls, and conduct the necessary sampling; and

(C) Description of the following items that will be included in the biennial certification:
(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice and the other Institutional Controls;

(2) Land use at the Property is consistent with the restrictions in this Deed Notice and the other Institutional Controls; and
(3) The remedial action that includes this Deed Notice and the other Institutional Controls continues to be protective of the public health and safety and of the environment.

ii. Exhibit C-2. Exhibit C-2: Engineering Controls: Asphalt Cover;

Exhibit C-2 includes a narrative description of the engineering controls as follows:

(A) General Description of the engineering control:
(1) Description of the engineering control;
(2) The objective of the engineering control; and
(3) How the engineering control is intended to function.

(B) Description of the operation and maintenance necessary to ensure that:
(1) Periodic inspections of each engineering control are performed in order to determine its integrity, operability, and effectiveness;
(2) Each engineering control continues as designed and intended to protect the public health and safety and the environment;
(3) Each alteration, excavation or disturbance of any engineering control is timely and appropriately addressed to maintain the integrity of the engineering control;
(4) The engineering control is being inspected and maintained and its integrity remains so that the remedial action continues to be protective of the public health and safety and of the environment;
(5) A record of the self-inspection dates, name of the inspector, results of the inspection and condition(s) of the engineering control. Sampling, for example, may be necessary if it is not possible to visually evaluate the integrity/performance of the engineering control; and
(6) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice, and conduct the necessary sampling; and

(C) Description of the following items that will be included in the biennial certification:
(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice;
(2) The engineering control continues to operate as designed; and
(3) The remedial action that includes the engineering control continues to be protective of the public health and safety and of the environment.

15. SIGNATURES. IN WITNESS WHEREOF, Owner has executed this Deed Notice as of the date first written above.

ATTEST: , LLC

_____ By_____
[Signature] [Signature]

_____ _____
[Print name and title] [Print name and title]

STATE OF NEW JERSEY SS.:
COUNTY OF _____

I certify that on _____ ___, 2017, _____ personally came before me, and this person acknowledged under oath, to my satisfaction, that:

(a) this person is the _____ of _____, LLC, the Limited Liability Corporation named in this document;

(b) this person is the attesting witness to the signing of this document by the proper corporate officer who is the _____ of the Limited Liability Corporation;

(c) this document was signed and delivered by the Limited Liability Corporation as its voluntary act and was duly authorized;

(d) this person knows the proper seal of the Limited Liability Corporation which was affixed to this document; and

(e) this person signed this proof to attest to the truth of these facts.

_____
[Signature]

_____
[Print name and title of attesting witness]

Signed and sworn before me on _____, 20__

_____, Notary Public

_____
[Print name and title]

EXHIBIT A
Deed Notice #6 SA-6 North Deferred Area Adjacent to Route 440 ROW

A-1 Vicinity Map

A-2 Metes and Bounds Description and tax map

A-3 Property Map A portion of Block 21901, Lot 5, City of Jersey City, New Jersey

Exhibit A-1 Vicinity Map consists of a road map for the vicinity of the Property.

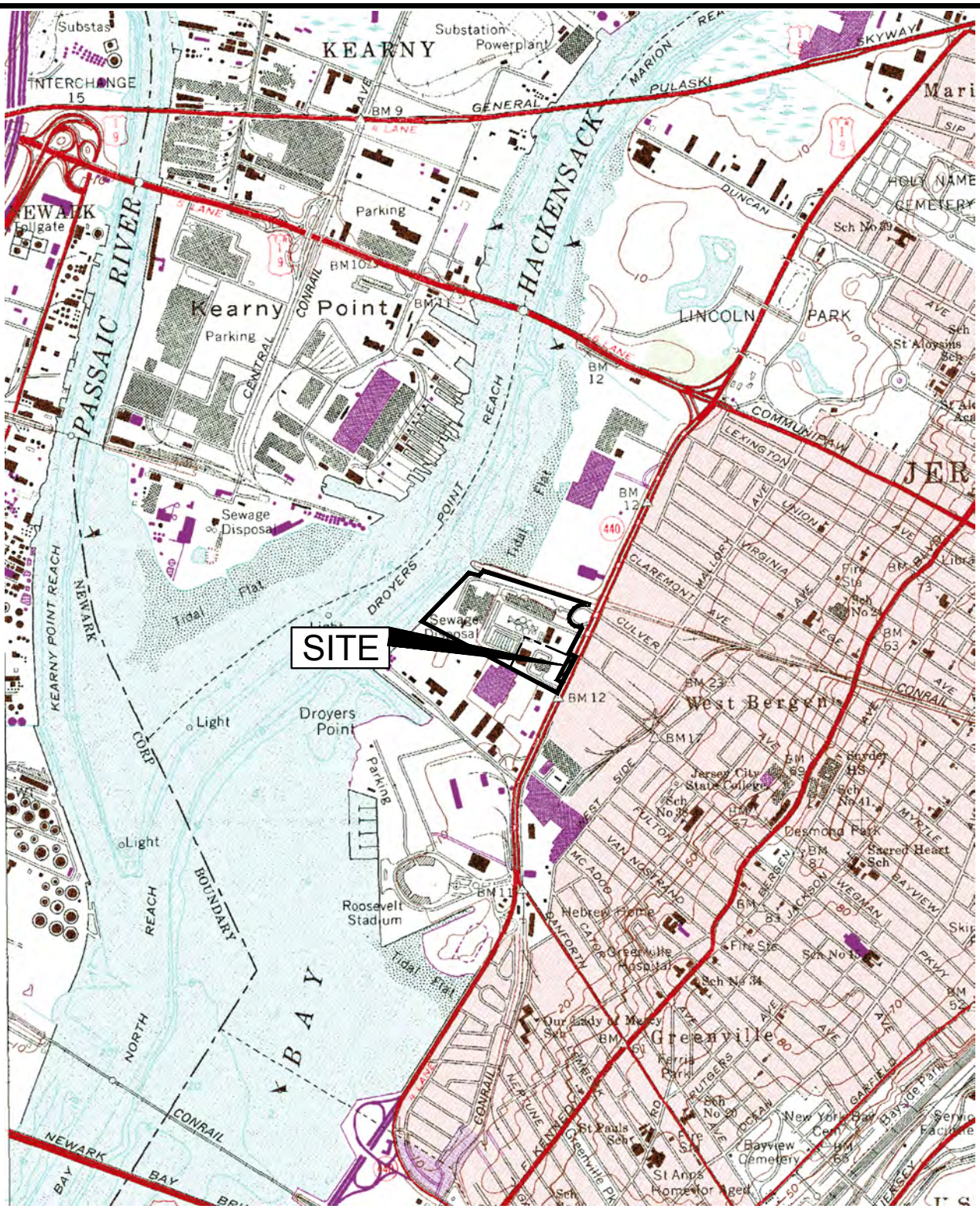
Exhibit A-2 consists of a metes and bounds and tax map for the Property.

Exhibit A-3 Property Map consists of a figure indicating major surface features and engineering control for the Property. After development of the Property, this Deed Notice shall be modified to show topographical features constructed on the Property such as buildings, roads, and parking lots.

Exhibit A-1
Site Vicinity Map
Jersey City, New Jersey

EXHIBIT A-1
SITE VICINITY MAP
PORTIONS OF STUDY AREA 6 NORTH SITE 088
JERSEY CITY, NEW JERSEY

CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (II) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN DELIVERED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.



SOURCE: USGS QUADRANGLE MAP, 7.5 MIN SERIES
JERSEY CITY, NJ-NY 1967, PHOTO REVISED 1981

RESTRICTED AREA

DRAFT

0 1000 2000 4000
SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150487 *DRAWING:* 3480150487-6100-A106-0000	amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT A-1** VICINITY MAP BLOCK 21901 LOT 5 SA-6 NORTH JERSEY CITY, NEW JERSEY DEED NOTICE #6
PREPARED/DATE: STR 12/15/16 | *CHECKED/DATE:* NW 01/31/17		

P:\CADD\HONEYWELL\JERSEY CITY\SA 6 NORTH\3480150487\6100\610001\DEED NOTICE\DN 6\3480150487-6100-A106-0000.dwg Fri, 10 Mar 2017 - 1:46pm scott.rudkin

Exhibit A-2
Deed Notice #6 SA-6 North Deferred Area Adjacent to Route 440 ROW

Metes and Bounds Description of Property: See Attached
Tax Map: See Attached

A-2 Metes and Bounds Description of Property A portion of Block 21901, Lot 5
City of Jersey City, New Jersey

If there is any discrepancy between the Metes and Bounds and the tax map; the Metes and Bounds prevails.

The Property is identified as a portion of Block 21901, Lot 5 on the City of Jersey City tax maps, the Property being presently owned by Bayfront Redevelopment, LLC. A copy of the current tax map which includes the Property is attached as Exhibit A-2.

MASER CONSULTING P.A.
Consulting, Municipal & Environmental Engineers
Planners • Surveyors • Landscape Architects

331 Newman Springs Road
Suite 203
Red Bank, NJ 07701
Tel: 732.383.1950 • Fax: 732.383.1984

DESCRIPTION OF PROPERTY
CITY OF JERSEY CITY
HUDSON COUNTY, NEW JERSEY
PROJECT NO. 10000292R

DEED NOTICE AREA 6
BLOCK 21901, LOT 5
MAY 18, 2016
REVISED OCTOBER 13, 2016

All that certain lot, tract or parcel of land situate lying and being in the City of Jersey, in the County of Hudson and State of New Jersey, and being a portion of Lot 5 in Block 21901, designated as Deed Notice Area 6 as shown on an exhibit entitled, "Deed Notice Area 6, SA6 North, Block 21901, Lot 5, City of Jersey City, Hudson County, New Jersey," prepared by Maser Consulting P.A., dated April 12, 2016, revised October 7, 2016 and being more particularly bounded and described as follows, to wit:

BEGINNING at the intersection of the westerly line of New Jersey State Highway Route 440 (112 foot wide right of way), with the division line between Lots 4 and 5 in Block 21901 and running; thence–

1. Along said westerly line of Route 440, **S 24° 46' 55" W, 302.60 feet**; thence-

Running through a portion of Lot 5 in Block 21601, the following four (4) courses:

2. **N 49° 22' 28" W, 10.39 feet**; thence-
3. **N 24° 46' 55" E, 90.73 feet**; thence-
4. **N 20° 13' 05" W, 7.07 feet**; thence -
5. **N 24° 46' 55" E, 208.35 feet,** to the aforesaid division line between Lots 4 and 5 in Block 21901; thence –
6. Along said division line, **S 49° 08' 25" E, 15.61 feet**, to the point and place of **BEGINNING.**

CONTAINING: 4,077 S.F. of land more or less or 0.094 acre of land more or less.

10/13/16

GLEN J. LLOYD, P.L.S.
NEW JERSEY PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS037598

DATE SIGNED

\\HQFAS1\General\Projects\2010\10000292R\Survey\Description\Metes & Bounds-Deed Notice 6_REV.docx

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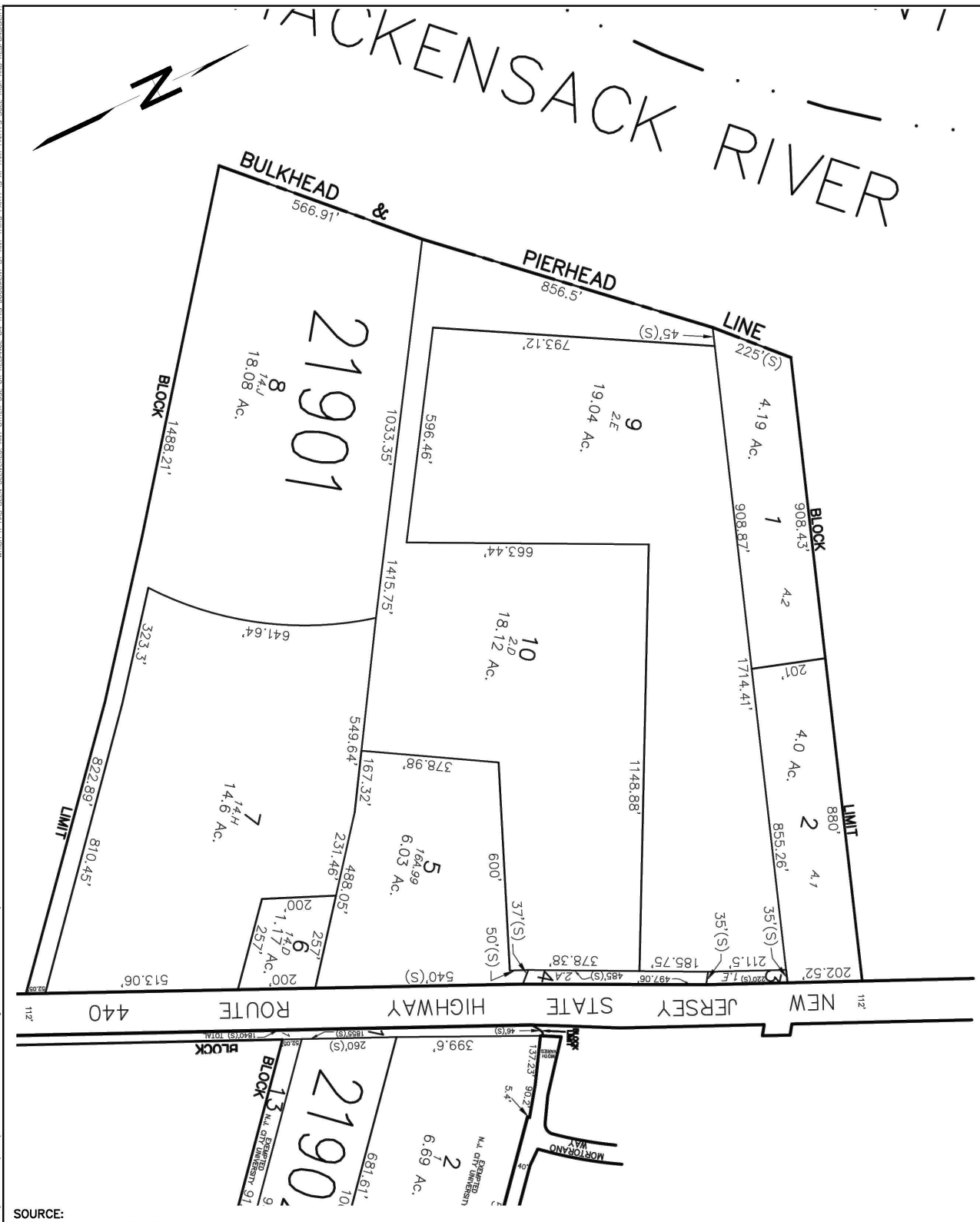

SOURCE:
DRAWING TITLED: "TAX MAP CITY OF JERSEY CITY", PREPARED BY T&M ASSOCIATED, MIDDLETOWN TWP., NJ SHEET 219, DATED AUGUST, 2006; NEW JERSEY DEPARTMENT OF THE TREASURY DIVISION OF TAXATION PROPERTY ADMINISTRATION DATED MAY 8, 2009 SERIAL NO.: 934.

DRAFT

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SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150487 DRAWING: 3480150487-6100-A206-0000		amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT A-2** TAX MAP BLOCK 21901, LOT 5 SA-6 NORTH JERSEY CITY, NEW JERSEY DEED NOTICE #6
PREPARED/DATE: STR 12/15/16	CHECKED/DATE: NW 01/31/17		

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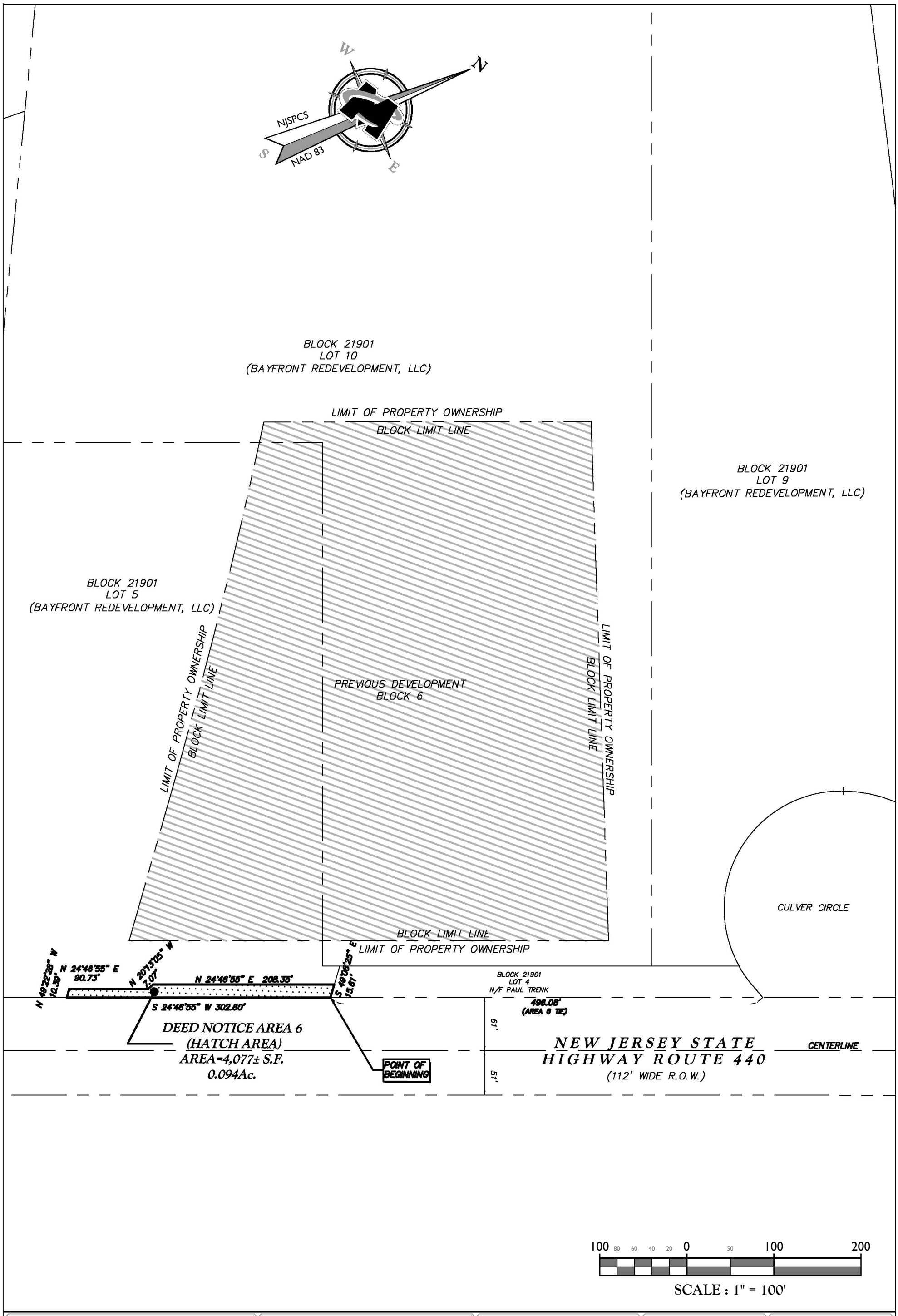

100 80 60 40 20 0 50 100 200

SCALE : 1" = 100'

MASER CONSULTING P.A.

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REV	DATE	DRAWN BY	DESCRIPTION
1	10/7/16	KAN	EXCLUDE PORTION WITHIN TRENK PROPERTY AS REQUESTED
2	12/22/16	KAN	BLOCK 6
3	1/10/17	KAN	BLOCK 6
4	1/13/17	KAN	BLOCK 6
5	2/2/17	KAN	BLOCK 6
.	.	.	.

DEED NOTICE AREA 6
SA6 NORTH

BLOCK 21901
LOT 5

CITY OF JERSEY CITY
HUDSON COUNTY
NEW JERSEY

811 Know what's below. Call before you dig.

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

RED BANK OFFICE
Corporate Headquarters
331 Newman Springs Road
Suite 203
Red Bank, NJ 07701
Phone: 732.383.1950
Fax: 732.383.1984

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	5/12/2016	KAN	CJK

PROJECT NUMBER:	DRAWING NAME:
2010\1000	V-EXBT-DN-6_REV

SHEET TITLE:
DEED NOTICE EXHIBIT

SHEET NUMBER:
1 of 1

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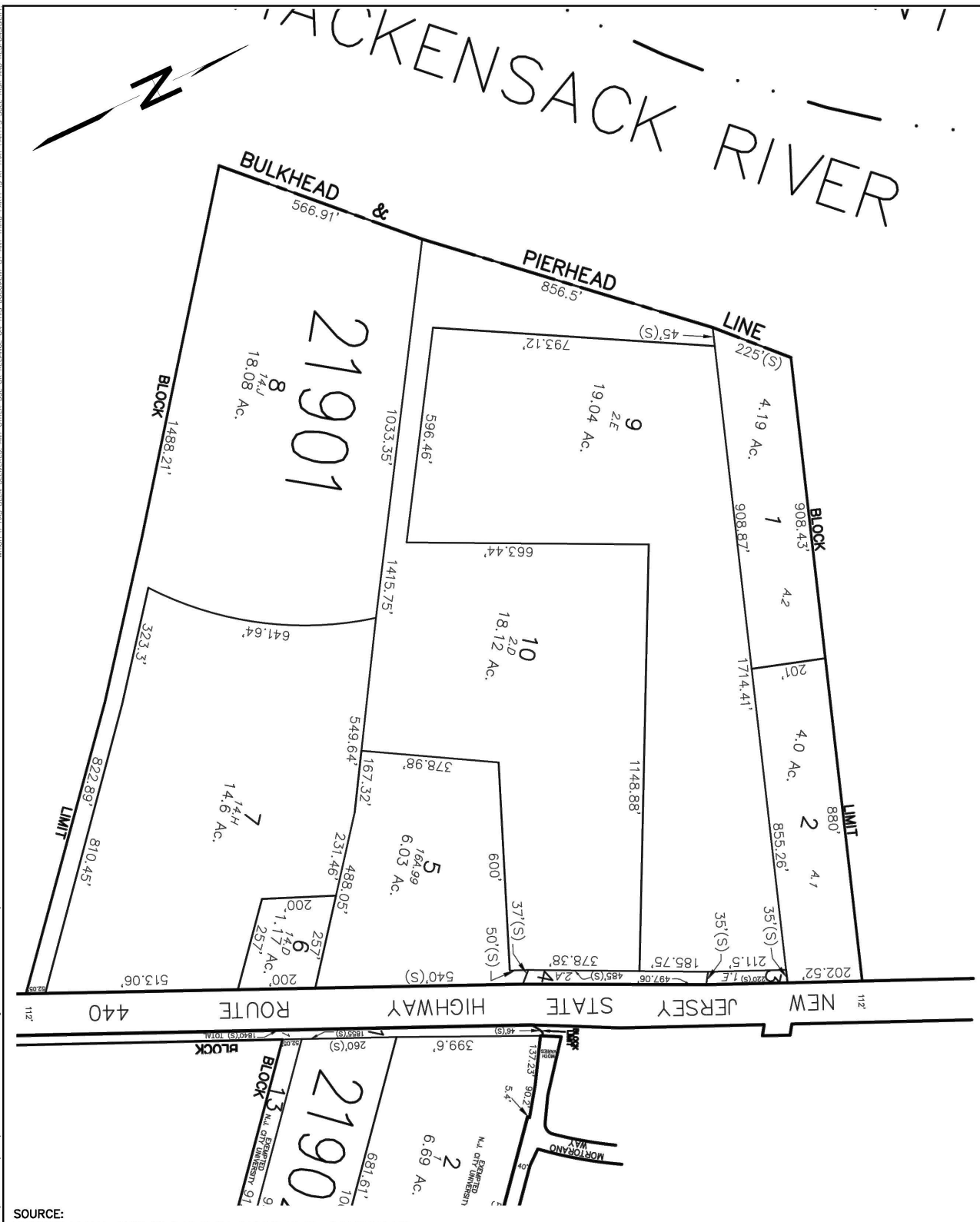

SOURCE:
DRAWING TITLED: "TAX MAP CITY OF JERSEY CITY", PREPARED BY T&M ASSOCIATED, MIDDLETOWN TWP., NJ SHEET 219, DATED AUGUST, 2006; NEW JERSEY DEPARTMENT OF THE TREASURY DIVISION OF TAXATION PROPERTY ADMINISTRATION DATED MAY 8, 2009 SERIAL NO.: 934.

DRAFT

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Amec Foster Wheeler PROJECT No. 3480150487 DRAWING: 3480150487-6100-A206-0000		amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT A-2** TAX MAP BLOCK 21901, LOT 5 SA-6 NORTH JERSEY CITY, NEW JERSEY DEED NOTICE #6
PREPARED/DATE: STR 12/15/16	CHECKED/DATE: NW 01/31/17		

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Exhibit A-3
Property Map

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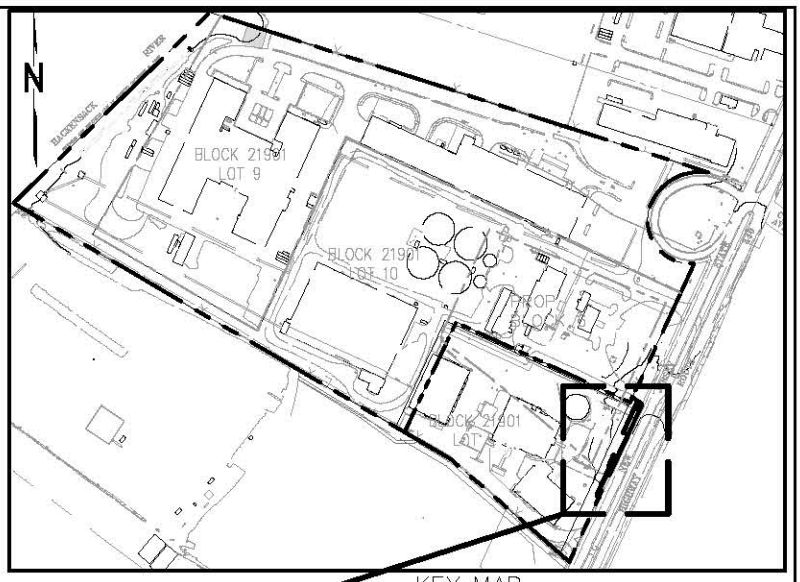
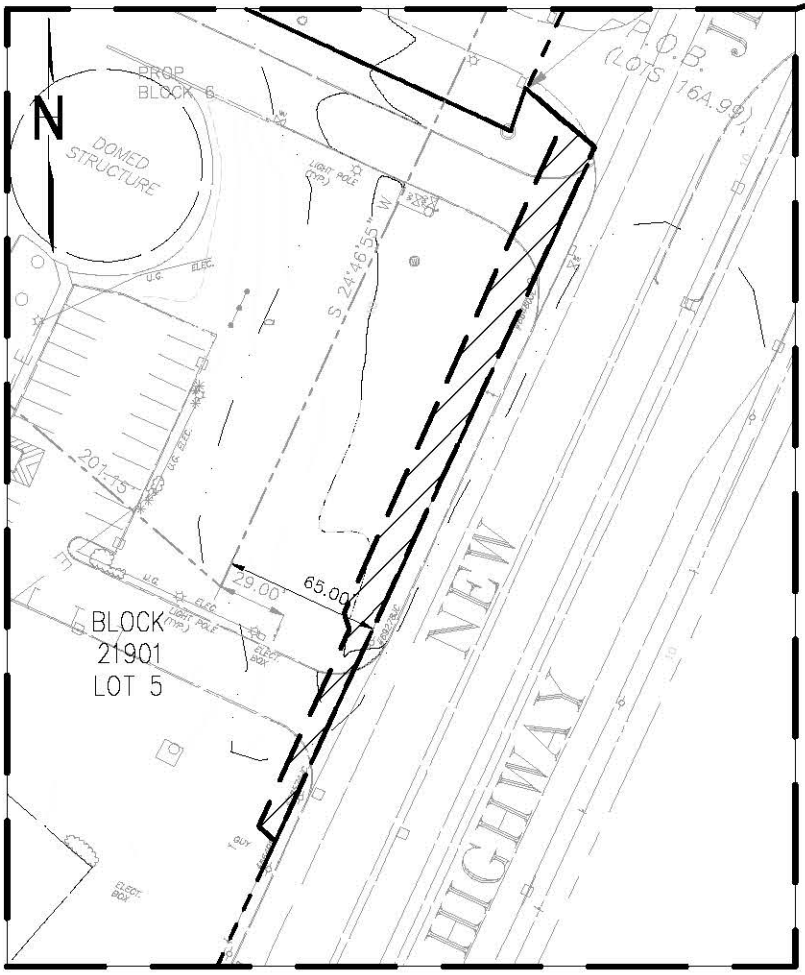
LEGEND

PROPERTY BOUNDARY

RESTRICTED AREA



KEY MAP
SCALE: 1" = 600'



SOURCE REFERENCE:

DRAWING TITLED: "ALTA/ASCM LAND TITLE SURVEY FOR BAYFRONT REDEVELOPMENT, LLC., BLOCK 21901 LOTS 5 THRU 10, PREPARED BY MASER CONSULTING, P.A. DATED 10/16/15 CITY OF JERSEY CITY, HUDSON COUNTY, NEW JERSEY

DATUM:
HORIZONTAL DATUM: NAD83
VERTICAL DATUM: NGVD29

DRAFT

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SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150487 *DRAWING:* 3480150487-6100-A306-0000	amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD. SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT A-3** PROPERTY AREA MAP BLOCK 21901, LOT 5 SA-6 NORTH JERSEY CITY, NEW JERSEY DEED NOTICE #6
PREPARED/DATE: STR 12/15/16 | *CHECKED/DATE:* NW 01/31/17		

EXHIBIT B
Deed Notice #6 SA-6 North Deferred Area Adjacent to Route 440 ROW

B-1 Restricted Area Map
B-2 Restricted Area Data Table
A portion of Block 21901, Lot 5
City of Jersey City, New Jersey

Exhibit B-1 Restricted Area Maps include Exhibit B-1A (Restricted Area Soil Sample Locations), Exhibit B-1B (Cap System Detail), and Exhibit B-1C (As-Built Restoration Plan).

Exhibit B-2 is a Restricted Area Data Table indicating soil sample locations with concentrations of hexavalent chromium remaining above the level established in the New Jersey Department of Environmental Protection's (NJDEP) Chromium Policy of 20 milligrams per kilogram (mg/kg).

Restricted Area Map Notes:

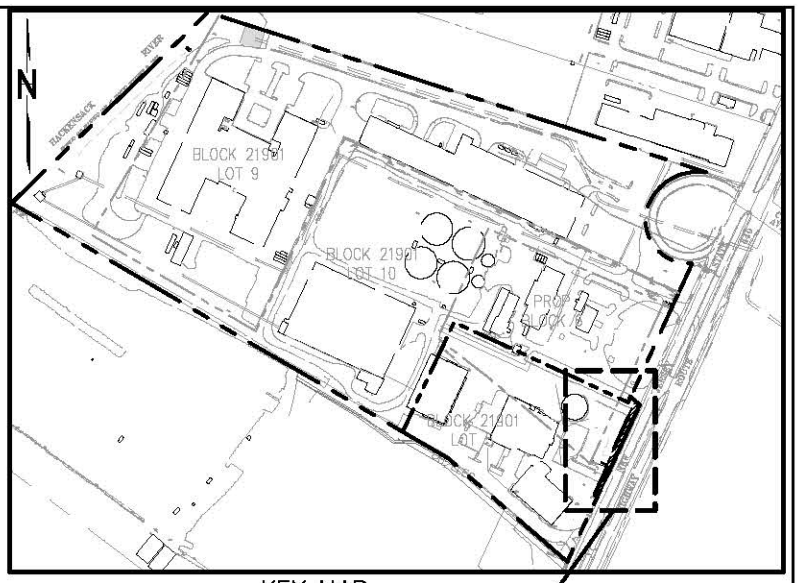
Exhibit B-1 indicates engineering controls. For soils with hexavalent chromium concentrations above 20 mg/kg, the engineering control includes a cap consisting of a geotextile demarcation fabric overlain by 6-inches of gravel.

Exhibit B-1
Restricted Area Maps

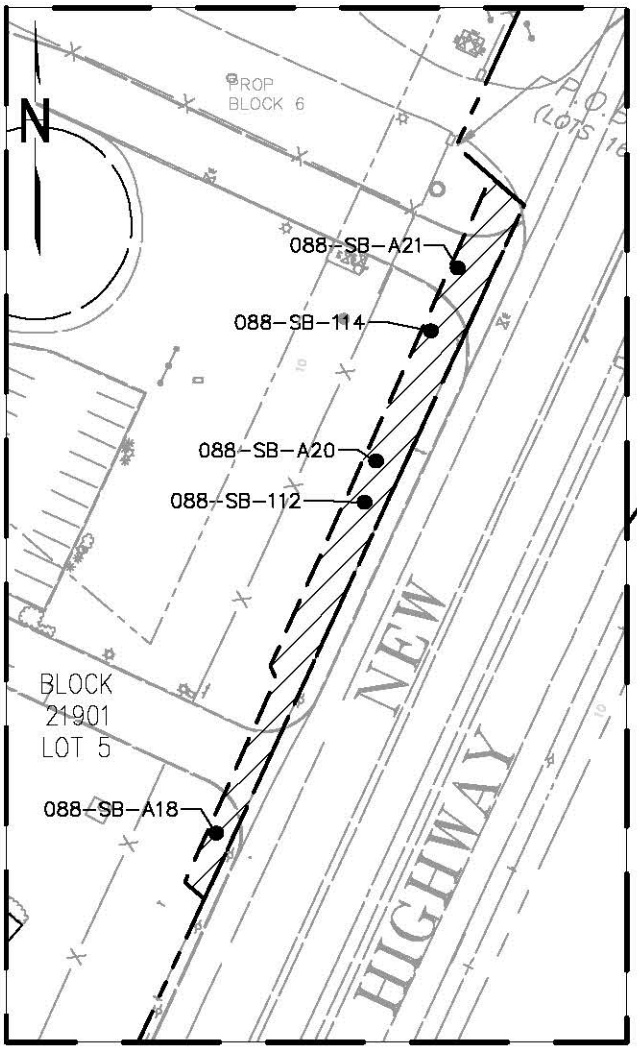
UNLESS OTHERWISE AGREED IN A WRITTEN CONTRACT BETWEEN AMEC FOSTER WHEELER AND ITS CLIENT: (I) THIS DOCUMENT CONTAINS INFORMATION, DATA AND DESIGN THAT IS CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (II) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN DELIVERED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.

LEGEND

- SOIL SAMPLE LOCATION HEXAVALENT CHROMIUM > 20mg/kg (SEE EXHIBIT B-2)
- PROPERTY BOUNDARY
- RESTRICTED AREA



KEY MAP
SCALE: 1" = 600'



DRAFT

0 40 80 160
SCALE IN FEET

SOURCE REFERENCE:

DRAWING TITLED: "ALTA/ASCM LAND TITLE SURVEY FOR BAYFRONT REDEVELOPMENT, LLC., BLOCK 21901 LOTS 5 THRU 10, PREPARED BY MASER CONSULTING, P.A. DATED 10/16/15 CITY OF JERSEY CITY, HUDSON COUNTY, NEW JERSEY

DATUM:
HORIZONTAL DATUM: NAD83
VERTICAL DATUM: NGVD29

Amec Foster Wheeler PROJECT No. 3480150487 *DRAWING:* 3480150487-6100-B106-0000		
PREPARED/DATE: STR 12/15/16	*CHECKED/DATE:* NW 01/31/17	

amec foster wheeler

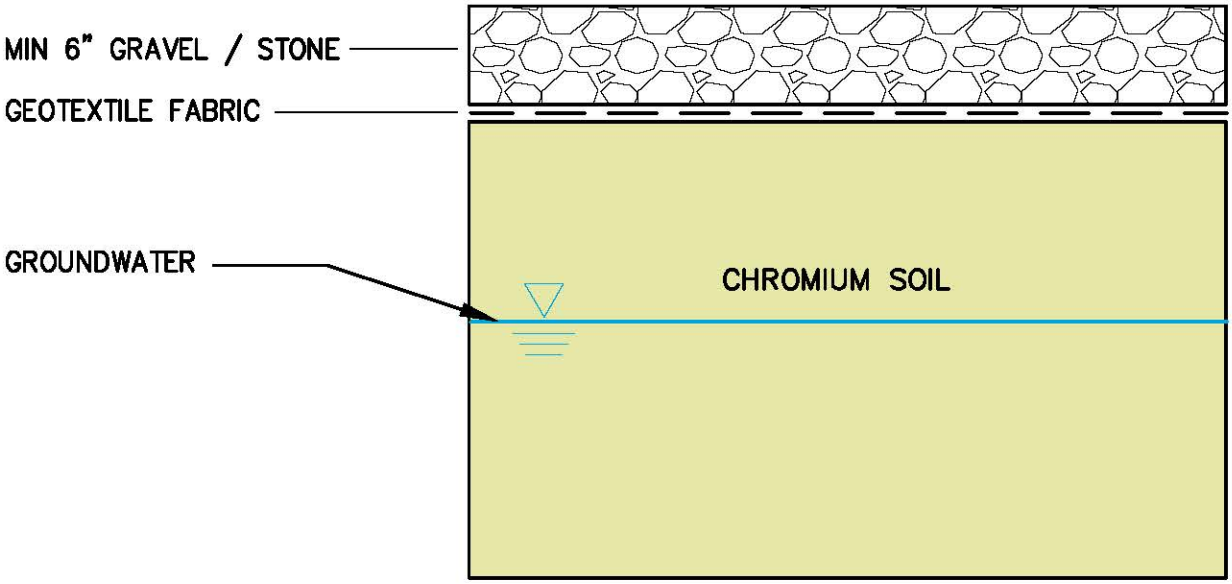
ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

EXHIBIT B-1A
RESTRICTED AREA AND
ENGINEERING CONTROL
BLOCK 21901; LOT 5
SA-6 NORTH
JERSEY CITY, NEW JERSEY
DEED NOTICE #6

P:\CADD\WINEWELL\JERSEY CITY\B & W\BTA\3480150487-6100\6100\WED NOTICE\DWG\3480150487-6100-B106-0000.dwg Fri, 19 Mar 2017 - 1:47pm wed.wallin Layout: Layout1

UNLESS OTHERWISE AGREED IN A WRITTEN CONTRACT BETWEEN AMEC FOSTER WHEELER AND ITS CLIENT: (1) THIS DOCUMENT CONTAINS INFORMATION, DATA AND DESIGN THAT IS CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (2) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN DELIVERED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.

P:\CADD\HONEYWELL\JERSEY CITY\SA 6 NORTH\3480150487\6100\610001\DEED NOTICE\DN 6\3480150450-6100-B206-0000.dwg Fri, 10 Mar 2017 - 1:47pm scott.rudkin

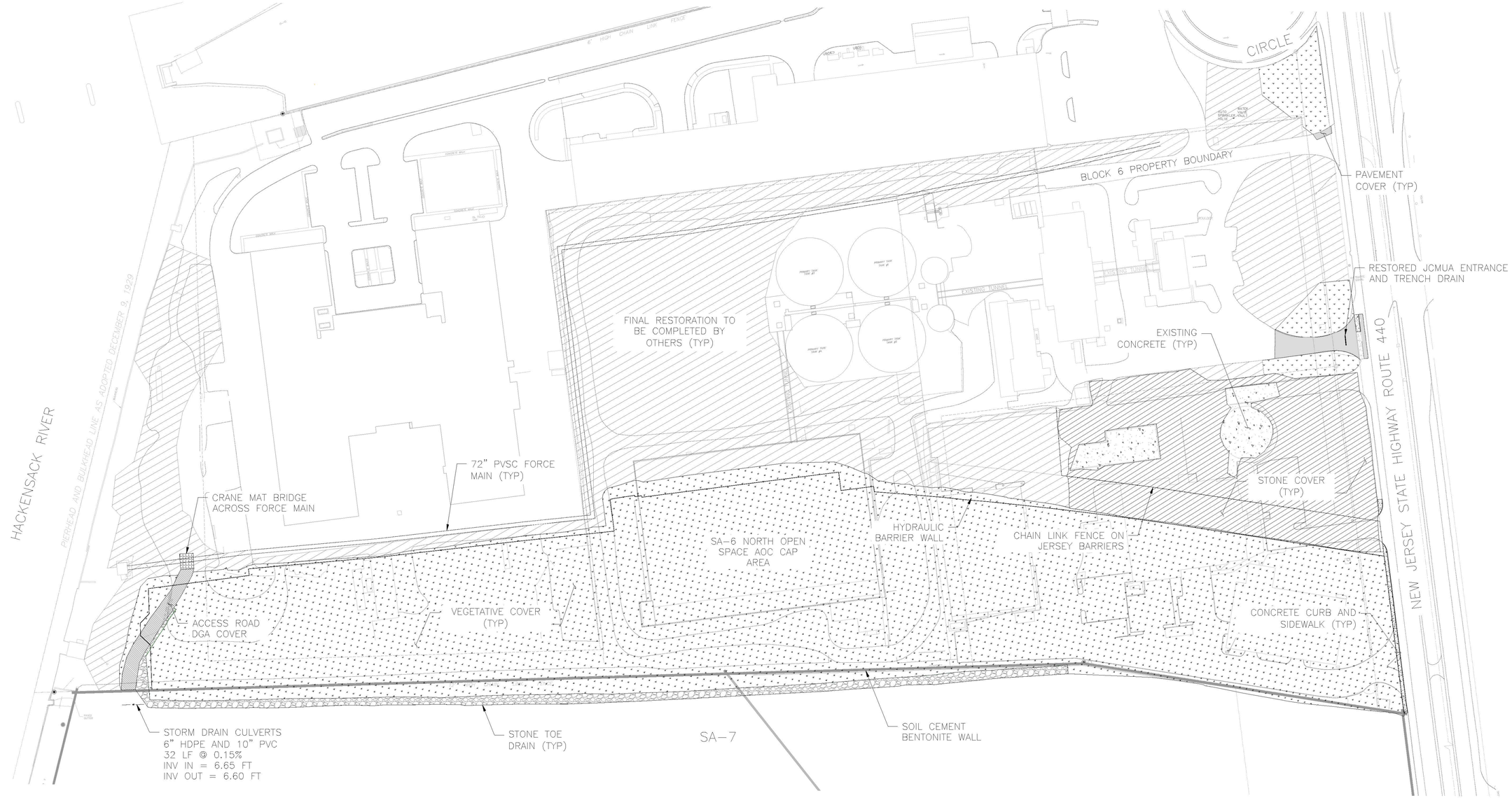


CAP SYSTEM DETAIL

NTS

DRAFT

Amec Foster Wheeler PROJECT No. 3480150488 *DRAWING:* 3480150450-6100-B206-0000	amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT B-1B** CAP SYSTEM DETAIL BLOCK 21901; LOT 5 SA-6 NORTH JERSEY CITY, NEW JERSEY DEED NOTICE # 6
PREPARED/DATE: STR 01/25/17 | *CHECKED/DATE:* NW 01/31/17		



NOTE:

1. REFER TO CONSTRUCTION CONTROL GRID FIGURE AND ATTACHED TABLES FOR SURVEY DOCUMENTATION OF 6 INCH GRAVEL HISTORIC FILL CAP INSTALLATION.
2. OPEN SPACE CAP AREA WITHIN LIMITS OF THE BARRIER WALLS IS COVERED WITH CLEAN IMPORTED SOILS TO THE DEPTHS IDENTIFIED IN THE DESIGN. THE VEGETATED SLOPE WITHIN THE DEVELOPMENT AREA IS COVERED WITH A MINIMUM OF 12 INCHES OF CLEAN IMPORTED FILL. THE VEGETATED SLOPE ALONG SA-7 WAS CONSTRUCTED ENTIRELY FROM CLEAN IMPORTED FILL.
3. REMAINING RESTORATION AREAS IDENTIFIED ON THE CHROMIUM REMEDY 100% DESIGN DRAWINGS WILL BE ADDRESSED AS PART OF THE NON CHROMIUM REMEDIATION WORK CURRENTLY BEING COMPLETED. FINAL RESTORATION OF ALL AREAS IS SCHEDULED TO BE COMPLETE IN MARCH 2017.

EXHIBIT B-1C

STONE COVER
VEGETATED COVER
PAVEMENT COVER
CONCRETE COVER
DGA COVER
RESTORATION BY OTHERS
STONE TOE DRAIN
SD — STORM DRAIN PIPE

0 80 160 FEET
SCALE

REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	1/7/17	EJP	AE	AE	AS BUILT RESTORATION PLAN

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
AS BUILT RESTORATION PLAN
SA-6 NORTH – SHEET 001
1/6/17

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Exhibit B-2: Table B-2
Soil Sample Data Table (Hexavalent Chromium)

EXHIBIT B-2
Restricted Area Data Table
Study Area 6 North
Portions of Block 21901, Lot 5
Deed Notice #6 Deferred Area Adjacent to Route 440 ROW
Jersey City, New Jersey

Location ID	Sample Date	Sample Depth (feet bgs)	Sample Elevation (feet msl NAVD88)	Contaminant	CASR#	NJDEP Chromium SCC (mg/kg)	Concentration (mg/kg)	Q
088-SB-A18	05/15/1997	0 - 2	11.37	Hexavalent Chromium	18540-29-9	20	**49.3**	J
088-SB-A18	05/15/1997	10 - 12	1.37	Hexavalent Chromium	18540-29-9	20	**106**	
088-SB-A18	05/15/1997	2 - 4	9.37	Hexavalent Chromium	18540-29-9	20	**57.8**	J
088-SB-A20	05/15/1997	10 - 12	-0.2	Hexavalent Chromium	18540-29-9	20	**28.3**	J
088-SB-A20	05/15/1997	2 - 4	7.8	Hexavalent Chromium	18540-29-9	20	**45.7**	J
088-SB-A20	05/15/1997	6 - 8	3.8	Hexavalent Chromium	18540-29-9	20	**287**	J
088-SB-A20	05/15/1997	8 - 10	1.8	Hexavalent Chromium	18540-29-9	20	**26.6**	J
088-SB-A21	08/20/1997	0 - 2	9.5	Hexavalent Chromium	18540-29-9	20	**27.8**	J
088-SB-A21	08/20/1997	10 - 12	-0.5	Hexavalent Chromium	18540-29-9	20	**1150**	J
088-SB-A21	08/20/1997	4 - 6	5.5	Hexavalent Chromium	18540-29-9	20	**42.5**	J
088-SB-A21	08/20/1997	6 - 8	3.5	Hexavalent Chromium	18540-29-9	20	**4690**	J
088-SB-112	05/21/2008	6.5 - 7	3.3	Hexavalent Chromium	18540-29-9	20	**1640**	
088-SB-114	05/21/2008	6.5 - 7	3	Hexavalent Chromium	18540-29-9	20	**4270**	

Notes:
Results reported in milligrams per kilogram (mg/kg).

Data Qualifiers:
J - Data indicates the presence of a compound that meets the identification criteria. The concentration given is an approximate value.

Abbreviations:
Feet bgs - Feet below ground surface
mg/kg - milligrams per kilogram
feet msl = feet mean sea level NAVD88 - North American Vertical Datum of 1988
NJDEP Chromium SCC - New Jersey Department of Environmental Protection Chromium Soil Cleanup Criteria, revised April 2010
CASR# - Chemical Abstract Service Number

EXHIBIT C
Deed Notice #6 SA-6 North Deferred Area Adjacent to Route 440 ROW

C-1 Institutional Controls
C-2 Engineering Controls
A portion of Block 21901, Lot 5
City of Jersey City, New Jersey

C-1 Institutional Controls

C-1 Deed Notice, Consent Decree, Zoning as Institutional Controls: Exhibit C-1 (A through C) for that portion of Block 21901, Lot 5, City of Jersey City, New Jersey known as the Deferred Area.

Exhibits C-1A through C-1C. Exhibit C-1A: Deed Notice as Institutional Control; Exhibit C-1B: Consent Decree as Institutional Control: Exhibit C-1C Zoning as Institutional Control: Exhibits C-1A through C-1C include a narrative description of the restrictions and obligations of this Deed Notice and the other Institutional Controls that are in addition to those described above, as follows:

(A) General Description of the Institutional Control:
"The Deferred Area" is an approximately 4,077 square foot strip of land on SA-6 North adjacent to the Route 440 ROW where a PSE&G gas main is located north of the SA-6 North Open Space Area. PSE&G owns and operates a 24-inch high pressure gas main within the ROW in this area. In the 100% Design Report, Honeywell indicated its intention of deferring excavation of chromium-impacted soil within The Deferred Area footprint until such time that the gas main is relocated during the future Route 440 Road Widening Project. Excavation of residual chromium-impacted soil along the eastern edge of the SA-6 North property line in this area will be coordinated with the relocation of the gas main during the Route 440 Road Widening Project. Once the remediation of this area is complete in accordance with the Redial Action Report, Honeywell will terminate the deed notice with the approval of the Department. The provisions of the LTMP, developed pursuant to the Consent Decree, will apply to the Property.

(1) Description and estimated size of the Restricted Areas as described above;

The Property constitutes a portion of Block 21901, Lot 5. The estimated size of the area containing chromium-impacted soils (hexavalent chromium above 20 mg/kg) as identified on Exhibit B-1 is estimated at approximately 4,000 square feet or approximately 0.09 acres.

(2) Description of the restrictions on the Property by operation of the Institutional Control;

The Property shall only be used for activities consistent with this Deed Notice, the Consent Decree, and the applicable zoning standards. Intrusive activities (i.e., excavation or digging) that breach the engineering controls (as described in Exhibit C-2) will not be permitted on the Property except in compliance with the

terms of the Consent Decree and the applicable portions of the LTMP developed thereunder, and this Deed Notice. See subsections 7A Alterations, Improvements, Disturbances, and 7B Emergencies for additional information. A copy of the LTMP is maintained by Honeywell at 115 Tabor Road, Morris Plains, NJ 07950.

(3) The objective of the restrictions;

The restrictions will prohibit contact with soils containing hexavalent chromium above the level established in the NJDEP Chromium Policy of 20 mg/kg.

(B) Description of the monitoring necessary to determine whether:

(1) Any disturbances of the soil in the Restricted Areas resulted in the unacceptable exposure to the soil contamination;

Visual inspections of the Property and other monitoring as set forth in the Consent Decree and the applicable portions of the LTMP developed thereunder.

(2) There have been any land use changes subsequent to the filing of this Deed Notice or the most recent biennial certification, whichever is more recent;

Same as (B)(1).

(3) The current land use on the Property is consistent with the restrictions in this Deed Notice;

Same as (B)(1).

(4) Any newly promulgated or modified requirements of applicable regulations or laws apply to the site; and

Review of newly promulgated or modified requirements of applicable regulations or laws that potentially may apply to the site.

(5) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice, and conduct the necessary sampling; and

Same as (B)(4).

(C) Description of the following items that will be included in the biennial certification:

(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice;

(2) Land use at the Property is consistent with the restrictions in the Consent Decree, this Deed Notice, the applicable zoning standards; and

(3) The remedial action that includes this Deed Notice continues to be protective of the public health and safety and of the environment.

The monitoring report will be included in the biennial certification. Components of the monitoring report will include the following:

- ***A report of all conditions set forth in sections (A) and (B) above to assure that they have been adhered to, including evaluation of any available documents as a result of changes in land use or incidents.***
- ***A report that determines whether or not the land use at the Property has remained consistent with the restrictions in the Consent Decree, this Deed Notice*, and *the applicable zoning standards.***
- ***A report that determines whether or not the Deed Notice continues to be protective of the public health and safety and the environment.***

C-2 Engineering Controls
Deed Notice #6 SA-6 North Deferred Area Adjacent to Route 440 ROW

A portion of Block 21901, Lot 5
City of Jersey City, New Jersey

Exhibits C-2A through C: Narrative description of the Engineering Controls including Clean Fill as follows:

(A) General Description of the engineering controls:

(1) Description of the engineering controls;

The Engineering Control consists of a cap consisting of a geotextile demarcation fabric overlain by 6-inches of gravel.

(2) The objective of the engineering controls; and

The objective of the controls is to prevent contact with soils containing hexavalent chromium above the level established in the NJDEP Chromium Policy of 20 mg/kg.

(3) How the engineering controls are intended to function.

The soil engineering controls are intended to function as a barrier to underlying and adjacent soils containing hexavalent chromium above 20 mg/kg within the Property. Monitoring requirements for the engineering controls are set forth in the applicable portions of the LTMP developed pursuant to the Consent Decree.

(B) Description of the operation and maintenance necessary to ensure that:

(1) Periodic inspections of each engineering control are performed in order to determine its integrity, operability, and effectiveness;

Honeywell will perform monitoring by visual inspection of the Property pursuant to the Consent Decree. Other monitoring activities shall be performed as set forth in the applicable portions of the LTMP developed pursuant to the Consent Decree.

(2) Each engineering control continues as designed and intended to protect the public health and safety and the environment;

Same as (B)(1) above.

(3) Each alteration, excavation or disturbance of any engineering control is timely and appropriately addressed to maintain the integrity of the engineering controls;

Same as (B)(1) above. Also, see the Consent Decree and subsections 7A Alterations, Improvements, Disturbances, and 7B Emergencies for additional information.

(4) The engineering controls are being inspected and maintained and their integrity remains so that the remedial action continues to be protective of the public health and safety and of the environment;

Same as (B)(1) above.

(5) A record of the self-inspection dates, name of the inspector, results of the inspection and condition(s) of the engineering controls. Sampling, for example, may be necessary if it is not possible to visually evaluate the integrity/performance of the engineering controls; and

Records of the inspections are to be maintained as listed in (5). Other monitoring activities shall be performed as set forth in the applicable portions of the LTMP developed pursuant to the Consent Decree.

(6) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice, and conduct the necessary sampling; and

A review of any new standards, regulations, or laws will be conducted. Should the review indicate that other activities are necessary, those activities will be listed and executed.

(C) Description of the following items that will be included in the biennial certification:

(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice;

(2) The engineering controls continues to operate as designed; and

(3) The remedial action that includes the engineering control continues to be protective of the public health and safety and of the environment.

The monitoring report will be included in the biennial certification. Components of the monitoring report will include the following:

- ***A report of all conditions set forth in sections (A) and (B) above to assure that they have been adhered to, including an evaluation to determine whether or not the engineering controls are continuing to meet the original objective and intended function.***

- ***A report to determine whether or not the engineering controls continue to operate as designed.***
- ***A report to determine whether or not the engineering controls continue to be protective of the public health and safety and of the environment.***

Appendix I
Consent Decree

APPENDIX I

UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY

JERSEY CITY MUNICIPAL UTILITIES AUTHORITY, Plaintiff, v. HONEYWELL INTERNATIONAL INC., Defendant.	Civil Action No. 05-5955 Consolidated under Docket No. 95-2097 (DMC)
JERSEY CITY INCINERATOR AUTHORITY Plaintiff, v. HONEYWELL INTERNATIONAL INC., Defendant.	Civil Action No. 05-5993 Consolidated under Docket No. 05-5955 (DMC) under Docket No. 95-2097 (DMC)
HACKENSACK RIVERKEEPER, INC., *et al.* Plaintiffs, v. HONEYWELL INTERNATIONAL INC., *et al.* Defendants.	Civil Action No. 06-22 Consolidated under Docket No. 05-5955 (DMC) under Docket No. 95-2097 (DMC)

FIRST AMENDED CONSENT DECREE REGARDING REMEDIATION AND REDEVELOPMENT OF STUDY AREA 6 NORTH

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RECITALS

Whereas, on June 30, 2003, the district court for the District of New Jersey issued a Final Judgment in *Interfaith Community Organization v. Honeywell International Inc.*, Civ. No. 95-2097 (DMC) ("*ICO v. Honeywell*"), ordering the remediation of an area designated by the New Jersey Department of Environmental Protection ("NJDEP") as Study Area 7 by excavation of all chromium contamination on the property, under the oversight of a court-appointed Special Master;

Whereas, on or about December 23, 2005, the Jersey City Municipal Utilities Authority ("JCMUA") filed litigation styled *Jersey City Municipal Utilities Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5955 (DMC), bringing claims against Honeywell International Inc. ("Honeywell") under, *inter alia*, Section 6972 of the Resource Conservation and Recovery Act ("RCRA"), and seeking remediation of chromium contamination on property owned by JCMUA and other relief;

Whereas, on or about December 28, 2005, the Jersey City Incinerator Authority ("JCIA") filed litigation styled *Jersey City Incinerator Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5993 (DMC), bringing claims against Honeywell under, *inter alia*, Section 6972 of RCRA, and seeking remediation of chromium contamination on property owned by JCIA and other relief;

Whereas, on or about January 4, 2006, the Hackensack Riverkeeper, Inc., Captain William Sheehan, Reverend Winston Clarke, and Lawrence Baker ("Riverkeeper") filed litigation styled *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.,* D.N.J., Civ. No. 06-022 (DMC), bringing a claim against Honeywell under RCRA and seeking remediation of chromium contamination to soils, groundwater, surface waters, and sediments associated with various properties collectively designated by NJDEP as Study Areas 5, 6 North, and 6 South;

Whereas, Study Areas 6 North and South are directly adjacent to Study Area 7 on the north and south sides, respectively;

Whereas, Study Area 5 is comprised of properties to the east of Study Areas 6 North, 6 South, and 7 across Route 440;

Whereas, the property owned by JCIA and JCMUA and collectively the subject of *JCMUA v. Honeywell* and *JCIA v. Honeywell* comprises a part of Study Area 6 North;

Whereas, the City of Jersey City ("Jersey City") also owns property that comprises a part of Study Area 6 North;

Whereas, Riverkeeper also named as defendants in *Riverkeeper v. Honeywell* Jersey City, JCMUA, and JCIA (collectively the "Jersey City Entities");

Whereas, the Jersey City Entities and Honeywell also asserted cross-claims against each other in *Riverkeeper v. Honeywell*;

Whereas, *JCMUA v. Honeywell*, *JCIA v. Honeywell,* and *Riverkeeper v. Honeywell* were consolidated by the United States District Court for the District of New Jersey (hereinafter the "Consolidated Litigation");

Whereas, in the Consolidated Litigation, the Jersey City Entities and Riverkeeper have alleged that Honeywell bears responsibility for the presence and remediation of chromite ore processing residue ("COPR") and chromium in soils and groundwater on the Study Area 6 North property;

Whereas, in the Consolidated Litigation, Honeywell has alleged that the Jersey City Entities bear full responsibility for lead and other contamination on the Study Area 6 North property, and also bear an equitable share of liability for the presence and remediation of COPR and chromium in soils and groundwater on the Study Area 6 North property and for chromium and other contamination in Hackensack River sediments in the vicinity of Study Area 6 North;

Whereas, on October 9, 2007, Honeywell and Riverkeeper submitted the Consent Order on Sediment Remediation and Financial Assurances ("Sediment Consent Order"), resolving issues related to the remediation of chromium contaminated sediments in the Hackensack River in the vicinity of Study Areas 5, 6, and 7;

Whereas, the Parties to this Consent Decree each believe that it is in their mutual interest to move forward productively to resolve their differences so that they can implement environmental remediation at Study Area 6 North that ensures the continued protection of human health and the environment and so that Study Area 6 and Study Area 7 can be redeveloped in keeping with Jersey City's vision for a revitalized West Side;

Whereas, the Local Redevelopment and Housing Law, N.J.S.A. 40A:12A-1, *et seq.*, as amended and supplemented (the "Redevelopment Law") provides for municipalities to participate in the redevelopment and improvement of areas in need of redevelopment;

Whereas, the portions of Study Area 6 and Study Area 7 (i) which are owned by the Jersey City Entities, (ii) which are owned by Honeywell, (iii) as to which Honeywell has a purchase and sale agreement with the current owner, or (iv) which hereafter will be acquired by a Jersey City Entity and/or Honeywell are parcels which by ordinance adopted by the City Council of Jersey City on February 27, 2008, have been determined to be "areas in need of redevelopment" under the criteria of the Redevelopment Law because of conditions prevalent on those parcels;

Whereas, the settlement which is the subject matter of this Consent Decree contemplates the environmental remediation of Study Area 6 North and redevelopment of the parcels that comprise Study Areas 6 and 7 to create a major mixed use project in an important section of Jersey City;

Whereas, each of the actions to implement this Consent Decree have been fully considered by the Parties as a means to accomplish the aforesaid purposes of this settlement;

Whereas, the consent of each of the Jersey City Entities to this Consent Decree was considered at a duly noticed and appropriate meeting of their respective governing bodies, open to the public, at which members of the public were provided an opportunity to comment on all aspects of the settlement, including, without limitation, the commitments made by the Jersey City Entities herein; and

Whereas, Honeywell and the Jersey City Entities are settling their claims, cross-claims, or counter-claims in the Consolidated Litigation against each other in the *Settlement Consent Order by and between the Jersey City Entities and Honeywell International Inc.* (hereafter "Jersey City/Honeywell Consent Order"), filed in the Consolidated Litigation simultaneously with this Consent Decree and attached as Exhibit A to this Consent Decree:

NOW, THEREFORE, IT IS HEREBY ORDERED AND DECREED AS FOLLOWS:

ARTICLE I: DEFINITIONS

For purposes of this Consent Decree, the following terms shall have the meanings set forth in this Article:

1. **AOC 1** shall mean that area of Study Area 6 North in which the hexavalent chromium concentration in the top 20 feet of soil below existing ground surfaces exceeds concentrations of 20 mg/kg and the Chromium Remedy will be implemented pursuant to Article III. AOC 1 is shown on Exhibit B.

2. **AOC 1 Additional Excavation Areas** shall mean those areas of Study Area 6 North which require excavation pursuant to paragraph 57. The AOC 1 Additional Excavation Areas are not contiguous to AOC 1. The AOC 1 Additional Excavation Areas are shown on Exhibit B.

3. **AOC 1 Open Space Area** shall mean the AOC 1 Open Space Area, as defined by paragraph 53, consisting of approximately 11 acres enclosed by the hydraulic barrier walls constructed under the Chromium Remedy, and which shall be subject to paragraph 60. The AOC 1 Open Space Area is shown on Exhibit B.

4. **AOC 2** shall mean that area of Study Area 6 North on which the Historic Fill Remedy will be implemented pursuant to Article II.B of the Jersey City/Honeywell Consent Order. AOC 2 is shown on Exhibit B.

5. **Bayfront Redevelopment LLC** shall have the meaning set forth in paragraph 4.1 of the Jersey City/Honeywell Consent Order.

6. **COPR** shall mean Chromite Ore Processing Residue.

7. **Chromium Remedy** or **Chromium Remediation** shall mean the remedy set forth in Article III.

8. **Consolidated Litigation** shall mean *Jersey City Municipal Utility Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5955 (DMC), *Jersey City Incinerator Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5993 (DMC), and *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.,* D.N.J., Civ. No. 06-022 (DMC).

9. The **Court** shall mean the United States District Court of the District of New Jersey, which has jurisdiction over the Consolidated Litigation.

10. **Deep Groundwater Remedy** shall mean the deep overburden and bedrock groundwater pump and treat remedy as required by the Order Approving the Deep Overburden Groundwater Remediation, entered on October 6, 2006, and the Stipulation on Consent Regarding the Schedule for Implementation of Deep Groundwater Remedial Actions, currently pending before the Special Master in *ICO v. Honeywell.* In the event that Riverkeeper and Honeywell reach a settlement on source control issues, the Deep Groundwater Remedy shall

include the remedy to which Riverkeeper and Honeywell have agreed. In the event that Riverkeeper and Honeywell do not reach a settlement on source control issues, the Deep Groundwater Remedy shall include the remedy ordered by the Special Master or the Court in *ICO v. Honeywell* for source control.

11. **Hackensack River Watershed Land Trust** shall mean the dedicated fund of the Hackensack Riverkeeper, Inc., established under Section 501(c) of the Internal Revenue Code for the purpose of acquiring and preserving open space within the Hackensack River watershed and administered by the Board of Trustees of the Hackensack Riverkeeper, Inc.

12. **Historic Fill** shall have the definition provided in the NJDEP Technical Requirements for Site Remediation.

13. **Historic Fill Remedy or Historic Fill Remediation** shall mean the remedy set forth in Article II.B of the Jersey City/Honeywell Consent Order, except that the Historic Fill Remedy shall not be limited to the remedy set forth in Article II.B of the Jersey City/Honeywell Consent Order if NJDEP requires a more stringent remedy.

14. **Honeywell** shall mean Honeywell International Inc. and its affiliates, including Kellogg Street 80 Property LLC, Kellogg Street 60 Property LLC, and Kellogg Street/440 Property LLC.

15. **Honeywell's Treatment Plant** shall mean the treatment plant currently located at 80 Kellogg Street that is used to treat, *inter alia*, chromium contaminated groundwater.

16. ***ICO v. Honeywell*** shall mean *Interfaith Community Organization v. Honeywell International Inc.*, D.N.J., Civ. No. 95-2097 (DMC).

17. **Including** shall mean including, but not limited to.

18. **JCIA** shall mean the Jersey City Incinerator Authority.

19. **JCMUA** shall mean the Jersey City Municipal Utilities Authority.

20. **JCRA** shall mean the Jersey City Redevelopment Agency.

21. **Jersey City Entities** shall mean the City of Jersey City, including the Department of Public Works ("DPW") and other agencies and branches thereof, the JCIA, and the JCMUA.

22. **Jersey City/Honeywell Consent Order** shall mean the *Settlement Consent Order by and between the Jersey City Entities and Honeywell International Inc.* entered in the Consolidated Litigation simultaneously with this Consent Decree.

23. **NJDEP** shall mean the New Jersey Department of Environmental Protection.

24. **NJDEP Chromium Directive** shall mean the Chromium Directive issued by NJDEP on February 8, 2007, and attached as Exhibit C.

25. **Party or Parties** shall mean any one or all of the signatories to this Consent Decree.

26. **RCRA** shall mean the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et seq.*, as amended.

27. **Redevelopment Agreement** shall have the meaning set forth in paragraph 4.11(e) of the Jersey City/Honeywell Consent Order.

28. **Redevelopment Area** shall mean Study Area 6 North, Study Area 6 South, and Study Area 7, collectively.

29. **Redevelopment Law** shall mean the New Jersey Local Redevelopment and Housing Law, N.J.S.A. 40A:12A1, *et seq.*, as amended and supplemented.

30. **Redevelopment Plan** shall mean the Bayfront I Redevelopment Plan as adopted by Jersey City on March 12, 2008.

31. **Riverkeeper** shall mean the plaintiffs in *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.*, D.N.J., Civ. No. 06-22 (DMC), and includes the Hackensack Riverkeeper, Inc., William Sheehan, Reverend Winston Clarke, and Lawrence Baker.

32. **Sediment Consent Order** shall mean the Consent Order on Sediment Remediation and Financial Assurances, which the Parties expect will be entered by the Court in *ICO v. Honeywell* and this Consolidated Litigation.

33. **Shallow Groundwater** or **Shallow Level of Groundwater** shall mean groundwater above the meadow mat, groundwater at stratigraphically equivalent depths in locations where there is no meadow mat, and groundwater that is contaminated by recent contact with COPR or other chromium soil contamination above the meadow mat and subsequently flows downward through or past the meadow mat into the upper portion of the lacustrine sediments. This does not include groundwater found in the bedrock, the deep zone, or any plume of contamination that is in both the intermediate and deep zones, as those zones are defined in the Final Groundwater Investigation Report, prepared in *ICO v. Honeywell*, dated February 2007, p. 1-2.

34. **Site** shall mean Study Area 6 North.

35. **Site Preparation Activities** shall have the meaning set forth in paragraph 3.1 of the Jersey City/Honeywell Consent Order.

36. **Site Preparation Plan** shall have the meaning set forth in paragraph 3.2 of the Jersey City/Honeywell Consent Order.

37. **Soil** shall mean soils, historic fill, and/or COPR.

38. The **Special Master** shall mean Senator Robert G. Torricelli, appointed as the Special Master in *ICO v. Honeywell* and the Consolidated Litigation, and his successors or whomever the Court may appoint as Special Master.

39. **Stratum O** shall mean the layer composed of soft brown silty fine sand interlayered with soft gray silty clay and fine sandy to clayey silt generally located above the meadow mat below the Historic Fill and/or COPR.

40. **Study Area 6 North** shall mean that property comprising Sites 87 and 88 of the Chromate Chemical Production Waste Sites designated by NJDEP, comprising approximately 41.58 acres and including: (a) all such property owned by JCMUA located at 555 Route 440, Jersey City, New Jersey, (b) all such property owned by JCIA located at 501 Route 440, Jersey City, New Jersey; (c) all such property owned by Jersey City or its Department of Public Works and located at 575 Route 440, Jersey City, New Jersey; and (d) all such property owned by Paul Trenk consisting of Block 1290.1, Lot 2A, Jersey City, New Jersey. Such properties are more fully described in Exhibit H to the Jersey City/Honeywell Consent Order.

41. **Study Area 6 South** shall mean (a) that property currently owned by 425/445 Route 440 Property LLC consisting of Site 73, located at 200 Kellogg Street Jersey City, Hudson County, New Jersey; (b) that property currently owned by Kellogg Street 80 Property LLC consisting of Site 134, located at 100 Kellogg Street Jersey City, Hudson County, New Jersey; (c) that property currently owned by Kellogg Street 80 Property LLC consisting of Site 140 located at 80 Kellogg Street Jersey City, Hudson County, New Jersey; (d) that property currently owned by Kellogg Street 60 LLC consisting of Site 125, located at 60 Kellogg Street Jersey City, Hudson County, New Jersey; (e) that property currently owned by Kellogg Street/440 Property LLC consisting of Site 124, Jersey City, Hudson County, New Jersey; (f) that property currently owned by Kellogg St/Harsimus Cove Realty located at 150 Kellogg Street, Jersey City, Hudson County, New Jersey, (g) that property currently owned by Cordova Enterprises Ltd located at 38 Kellogg Street, Jersey City, Hudson County, New Jersey, and (g) that property currently owned by Cordova Enterprises Ltd located at 28 Kellogg Street, Jersey City, Hudson County, New Jersey. Such properties are more fully described in Exhibit H to the Jersey City/Honeywell Consent Order.

42. **Study Area 6** shall mean Study Area 6 North and Study Area 6 South, collectively.

43. **Study Area 7** shall mean (a) that property currently owned by 425/445 Route 440 Property LLC located at 425 and 445 Route 440, Jersey City, Hudson County, New Jersey, and (b) that property currently owned by Roned Realty/Edward Navlen located at 465 Route 440, Jersey City, Hudson County, New Jersey. Such properties are more fully described in Exhibit H to the Jersey City/Honeywell Consent Order.

44. **Technical Requirements for Site Remediation** shall mean the NJDEP Technical Requirements for Site Remediation, N.J.A.C. Chapter 26E, as duly and properly promulgated and amended.

45. **Unrestricted Use** shall mean that the contaminated medium is restored to a condition or quality suitable for all uses.

ARTICLE II: SCOPE OF THE CONSENT DECREE, JURISDICTION, AND CLAIMS RESOLVED

46. Except as provided in this paragraph, the terms of the Jersey City/Honeywell Consent Order shall remain in full force and effect. To the extent that any provision in the Jersey City/Honeywell Consent Order refers to the Chromium Remedy or Chromium Remediation, it shall be construed as referring to Article III of this Decree. In the event of any conflict or inconsistency between the terms of this Decree and the Jersey City/Honeywell Consent Order, the terms of this Decree govern. In the event that any action taken pursuant to the Jersey City/Honeywell Consent Order is in conflict with or inconsistent with the terms of this Decree, the terms of this Decree shall govern.

47. This Court has jurisdiction over the Parties and subject matter of the Consolidated Litigation pursuant to Section 6972 of RCRA.

48. For purposes of this Consent Decree, the Complaints in the Consolidated Litigation each state claims upon which relief may be granted against Honeywell.

49. In the event that this Decree is not terminated by one or more Parties pursuant to paragraph 100, this Consent Decree resolves, settles, and satisfies all claims by Riverkeeper against Honeywell with respect to soils and shallow groundwater at Study Area 6 North. This Consent Decree does not resolve any claims by Riverkeeper against Honeywell with respect to Study Area 6 South, Study Area 5, or groundwater at Study Area 6 North other than shallow groundwater.

50. Nothing in this Consent Decree shall be construed or interpreted to waive any claim or defense any Party has asserted or may assert against any third party in the Consolidated Litigation except as explicitly stated herein.

51. This Consent Decree does not constitute an admission of liability on the part of any Party with respect to any claims, cross-claims, or counter-claims in the Consolidated Litigation.

ARTICLE III: CHROMIUM REMEDIATION

A. Chromium Remedy

52. **Responsibility for Implementation of Chromium Remediation.** As between the Parties, Honeywell shall be responsible for and shall undertake remediation of COPR and chromium present in Study Area 6 North at Honeywell's sole cost and expense. Remediation of COPR and chromium present in Study Area 6 North shall be undertaken in accordance with the terms of this Consent Decree.

53. **AOC 1 and AOC 2.** For the purposes of remediation, Study Area 6 North shall consist of two Areas of Concern ("AOCs"), designated as AOC 1 and AOC 2 as shown on Exhibit B. AOC 1 is set forth on Exhibit B and consists of that portion of Study Area 6 North for which chromium remediation is required pursuant to paragraphs 55, 56, and 57. AOC 2 consists of the entirety of Study Area 6 North, including AOC 1, to the extent that historic fill is present in any area of Study Area 6 North. For AOC 1, the intended land use will determine the types

of remedial measures taken in the Chromium Remedy. There are two distinct land uses for AOC 1: open space and residential. As a result, AOC 1 will be further subdivided into:

(a) The AOC 1 Open Space Area, which shall comprise that portion of AOC 1 for which future use shall be restricted as provided in paragraph 60. The AOC 1 Open Space Area is shown on Exhibit B;

(b) The AOC 1 Residential Area, which shall comprise that portion of AOC 1 for which future use shall allow for residential and/or commercial and retail uses, but for which the remedial measures shall assume only a residential use . The AOC 1 Residential Area is shown on Exhibit B; and

(c) The AOC 1 Additional Excavation Areas, which consist of those portions of Study Area 6 North that require remediation pursuant to paragraph 57. The planned land use for the AOC 1 Additional Excavation Areas is residential and/or commercial and retail uses, but the remedial measures shall assume only a residential use.

54. **Scope and General Requirements of the Chromium Remedy.** The Chromium Remedy shall address shallow groundwater and soil containing hexavalent chromium in AOC 1, and shall be consistent with the requirements set forth in this Article. The Chromium Remedy set forth in this Consent Decree addresses only the shallow level of groundwater (see paragraph 58). The deep overburden and bedrock groundwater remediation, including source control, shall be addressed in a separate consent order, which shall place these issues within the jurisdiction of the Special Master in conjunction with the groundwater remedies for Study Area 7.

(a) The Chromium Remedy shall be consistent with the NJDEP Technical Requirements for Site Remediation, the Chromium Directive as issued by NJDEP on February 8, 2007 ("the NJDEP Chromium Directive"), and the Remedial Action Work Plan (with addenda) approved by NJDEP on or about February 19, 2008. This Consent Decree shall have precedence

over the Remedial Action Work Plan in the event of any inconsistency.

(b) The Chromium Remedy shall be carried out diligently, and the development and implementation of the Historic Fill Remedy shall not delay satisfaction of the milestones in the Schedule established pursuant to this paragraph. Honeywell shall propose a master Schedule for the implementation of the Chromium Remedy within 90 days of the entry of this Consent Decree, which shall include, at a minimum, the following milestones:

(i) Submission to the Special Master for all documents subject to review by the Special Master pursuant to paragraph 72(c);

(ii) Relocation of the Jersey City Entities' Study Area 6 North Operations as shall be required prior to the implementation of the Chromium Remedy;

(iii) Completion of those Site Preparation Activities necessary for the implementation of the Chromium Remedy, including remediation of the AOC 1 Additional Excavation Areas;

(iv) A final date for Honeywell's proposal of *in situ* treatment for any part of the AOC 1 Residential Area pursuant to paragraph 55(d) and a date for the final decision as to whether excavation or *in situ* treatment shall be used in the event of such a proposal;

(v) The initiation of work related to the Chromium Remedy;

(vi) The date for completion of the installation of the Chromium Remedy;

(vii) Implementation of the long-term protections of the AOC 1 Open Space Area established pursuant to paragraph 60; and

(viii) Transfer of the AOC 1 Open Space Area to Jersey City pursuant to paragraph 60(a)(iii).

(c) **Demolition and Grading Activities.** During demolition and grading activities, adequate protective measures shall be taken to protect site workers and the community

from airborne dusts and exposures to contaminated soils.

(d) **Vegetation of Clean Fill.** All clean soil fill in areas that will not involve paved roads, sidewalks, paths, walkways, or building structures shall be vegetated in such a manner to protect and maintain the required depth of clean soil fill.

55. **AOC 1 Residential Area Soil Remedy.** In the AOC 1 Residential Area, soils containing hexavalent chromium at concentrations greater than 20 mg/kg shall be excavated to a depth of 20 feet below the current ground surface in accordance with the NJDEP Chromium Directive.

(a) Those soils excavated from the AOC 1 Residential Area in which hexavalent chromium concentrations exceed 240 mg/kg shall be disposed of off-site at a waste disposal facility licensed to accept such waste.

(b) Those soils excavated from the AOC 1 Residential Area in which the hexavalent chromium concentration is less than 240 mg/kg, but greater than 20 mg/kg, shall be consolidated within the AOC 1 Open Space Area. However, any such soils which would require venting of gases shall be disposed of off-site.

(c) Soils excavated from the AOC 1 Residential Area shall be replaced with existing soils from AOC 2 or backfill soil. Any backfill soil brought to the Site shall either meet all applicable federal and NJDEP criteria, including NJDEP residential soil criteria, or comply with a beneficial soil reuse plan that is approved by NJDEP and subject to review and comment by the Parties and approval by the Special Master.

(d) In the AOC 1 Residential Area, excavation of soils containing hexavalent chromium greater than 20 mg/kg shall be the presumptive remedy. Around remaining active underground utilities or other structures, such as the bulkhead, *in situ* treatment may be considered in lieu of excavation only if Honeywell demonstrates, and all Parties, the Special

Master, and NJDEP agree that (1) excavation is technically impracticable and (2) treatment will result in hexavalent chromium concentrations of 20 mg/kg or less and no rebound will occur. If no treatment option is available, Honeywell shall propose an alternative remedial approach, subject to review and comment by the Parties and approval by the Special Master.

(e) Honeywell shall excavate all soils containing hexavalent chromium greater than 20 mg/kg in conjunction with the placement of the piping for the Deep Groundwater Remedy. Honeywell shall not propose treatment in lieu of excavation based on the location of the pipes for the Deep Groundwater Remedy or any apparent impracticability of excavating in conjunction with their installation.

56. **AOC 1 Open Space Area Soil Remedy.** In the AOC 1 Open Space Area, the soil remedy shall consist of an engineered RCRA cap to isolate contaminated soils, with gas venting, if necessary, to address the generation of methane and other naturally occurring gases in the Stratum O and/or Stratum D in the Open Space AOC. Soils consolidated under the cap, shall not require gas venting and shall not be the basis for the inclusion of gas venting as a component of the cap. The cap shall be designed and constructed so that:

(a) The cap shall consist of gas collection system, if gas venting is necessary, a base protective layer, an impervious geomembrane liner with a minimum thickness of 40 mil; a geocomposite drainage layer; a filter fabric; and a distinctive colored warning layer with markings in English and Spanish that would deter penetration of the cap in the event that digging occurred in the vicinity of the cap;

(b) All utilities, including those supporting the pump-and-treat system for groundwater remediation, with the exception of any extraction wells or collection trenches, shall be placed above the cap (but may be below the ground surface and/or contained within utility corridors). In the event that above-cap-grade gas collection and treatment is selected or is

needed to meet current or future regulatory requirements, such collection and treatment facilities are prohibited in the Open Space AOC, except for piping to connect the sub-liner collection system with the treatment facilities. Honeywell shall configure the cap so that all active piping for the wastewater treatment system operated by JCMUA, including all force mains and any connections to the emergency outfall, shall be outside the capped area. Honeywell may propose, subject to the review process in paragraph 72, to use treatment in lieu of excavation in the vicinity of the emergency outfall line if the criteria of paragraph 55(d) are satisfied; and

(c) Exclusive of roadways, the cap shall be overlain by layers of clean fill, backfill and/or overburden with an average depth of at least three feet and a minimum depth of at least two feet provided that any layer that incorporates overburden shall be below at least two feet of clean fill. Any clean fill or backfill soil brought to the Site will either meet all applicable federal and NJDEP criteria, including NJDEP residential soil criteria, or comply with a beneficial soil reuse plan that is approved by NJDEP and subject to review and comment by the Parties and approval by the Special Master. One foot of clean fill, covered with bituminous blacktop, shall be sufficient cover where roads, walkways, or other paved surfaces are located within the AOC 1 Open Space Area. All clean soil fill in areas that will not involve paved roads, walkways, or other paved surfaces shall be vegetated in such a manner as to protect and maintain the required depth of the clean soil fill and to ensure that such vegetation shall not cause any interference with or penetration of the cap.

(d) The existing overburden soils in the AOC 1 Open Space Area shall first be stripped off and set aside for use. If hexavalent chromium concentrations in the overburden exceed 20 mg/kg, the overburden shall be placed under the cap. If hexavalent chromium concentrations in the overburden do not exceed 20 mg/kg, the overburden may be placed above the cap but below the two feet of clean fill required by paragraph 56(c). Excavated hexavalent

chromium impacted soils (with concentrations between 20 mg/kg and 240 mg/kg) from the AOC 1 Residential Area shall be placed and spread in the AOC 1 Open Space Area under the cap. Excavated hexavalent chromium impacted soils (with concentrations between 20 mg/kg and 240 mg/kg) from the Study Area 6 South Development AOC (as defined in the First Amended Consent Decree Regarding Remediation and Redevelopment of Study Area 6 South and including only those portions of Study Area 6 South for which the future uses of the property may include commercial or residential development) may be placed and spread in the AOC 1 Open Space Area under the cap, provided that such soils do not require venting of gases and shall not serve as the basis for the inclusion of gas venting as part of the Study Area 6 North AOC 1 Open Space Area remedy. Both the chromium impacted soils and the previously stripped overburden shall be suitably compacted according to design specifications. Debris, to the extent it would interfere with the compaction specification requirements of the 100% Design, shall not be placed under the cap. The engineered cap shall be installed over the chromium-impacted soils exceeding 20 mg/kg hexavalent chromium.

57. **AOC 1 Additional Excavation Areas Remedy.** For those AOC 1 Additional Excavation Areas, soils containing hexavalent chromium at concentrations greater than 20 mg/kg shall be excavated to a depth of 20 feet below the current ground surface in accordance with the NJDEP Chromium Directive. Excavation of those areas comprising the AOC 1 Additional Excavation Areas shall initially be conducted in the 50-foot by 50-foot area planned in the RAWP but shall not be so limited in the event that confirmation sampling indicates that hexavalent chromium concentrations continue to exceed 20 mg/kg. Honeywell shall excavate laterally and vertically (to depths of up to 20 feet below current ground surface) until the hexavalent chromium is less than 20 mg/kg based on the results of confirmation sampling. Confirmation sampling for the AOC 1 Additional Excavation Areas shall be taken from the side

walls and bottom of the excavation, in accordance with the Technical Requirements for Site Remediation, to confirm complete removal of contaminated soils.

58. **Shallow Groundwater Remedy.** The shallow groundwater remedy shall consist of hydraulic barriers with a pump-and-treat system designed to isolate shallow groundwater and to intercept and treat shallow groundwater flowing above the meadow mat in the AOC 1 Open Space Area. The shallow groundwater remedy shall consist of the following:

(a) The existing soil/cement/bentonite wall on the boundary of Study Area 6 North and Study Area 7 shall be incorporated into the other engineering controls;

(b) Subterranean slurry walls or other hydraulic barriers shall be installed along the northern, eastern and western sides of the AOC 1 Open Space Area and keyed into the meadow mat or Stratum O or to comparable depths below ground surface;

(c) A groundwater extraction system shall be established that will consist of (i) one or more shallow extraction wells, sumps, or french drains within the AOC 1 Open Space Area; (ii) pumps; and (iii) underground piping to convey any extracted water to Honeywell's Treatment Plant;

(d) The capture zone for the shallow groundwater remedy shall include at least the entire area of contaminated shallow groundwater (except for shallow groundwater that penetrates the meadow mat and is captured by the Deep Groundwater Remedy);

(e) A plan for control of water levels shall be developed;

(f) In the event that underground structures are demolished, the plans shall address the need for special attention for structures that extend below the meadow mat in order to control needed water levels; and

(g) Honeywell shall submit such information as is required to allow NJDEP to establish a classification exception area for groundwater at the Site, in accordance with NJDEP

regulations.

59. **Permits and Authorizations.** Honeywell shall obtain all necessary federal, state, and local permits and authorizations to carry out the Chromium Remedy as set forth in this Article. The Jersey City Entities agree to cooperate with Honeywell in the applications for any such permits, authorizations, or approvals. Such cooperation shall include providing information or data with respect to permit applications, co-signing permit applications, and allowing access to Study Area 6 North to obtain information necessary for the permits.

B. Long-Term Monitoring, Maintenance, and Protection of Engineering and Institutional Controls

60. **Protection of the AOC 1 Open Space Area.** Except as provided in paragraphs 60(j) and 60(k), development in the AOC 1 Open Space Area shall be prohibited. The AOC 1 Open Space Area shall be protected against activities that may jeopardize the integrity of the cap and/or the groundwater remedial measures that shall be installed in the AOC 1 Open Space Area pursuant to the Chromium Remedy or that may impede the long-term monitoring and maintenance of the cap and/or groundwater remedial measures. It is the intention of the Parties to implement different layers of protection, which alone or in concert, impose restrictions on development, run with the land, and survive all parties. Accordingly, the following actions shall be taken pursuant to the Schedule provided in paragraph 54(b):

(a) **Ownership of and Access to the AOC 1 Open Space Area.** Ownership of and access to the AOC 1 Open Space Area shall be in accordance with the following:

(i) Pursuant to the terms of this Consent Decree and paragraph 4.3 of the Jersey City/Honeywell Consent Order, Bayfront Redevelopment LLC shall become the owner in fee simple absolute of all of the property that comprises the AOC 1 Open Space Area and shall not convey any rights or interests in such property except as provided in this Decree. At the time

of the conveyance from JCRA to Bayfront Redevelopment LLC, Bayfront Redevelopment LLC shall give Jersey City an option to buy AOC 1 Open Space Area prior to the planned transfer pursuant to paragraph 60(a)(iii). Such option to buy shall be subject to the conservation restriction imposed pursuant to paragraph 60(b). Jersey City shall exercise the option to buy the AOC 1 Open Space Area in the event that the conditions allowing for withdrawal of funds from the financial assurance mechanisms under paragraphs 84(c) or 84(d) are met;

(ii) At the time the JCRA conveys the Study Area 6 North property to Bayfront Redevelopment LLC pursuant to paragraph 4.3 of the Jersey City/Honeywell Consent Order, Bayfront Redevelopment LLC shall grant a conservation restriction for the AOC 1 Open Space Area pursuant to the requirements of paragraph 60(b);

(iii) Upon the final construction of all roads and utility corridors within the AOC 1 Open Space Area, Bayfront Development LLC shall donate good and marketable title to all the land comprising the AOC 1 Open Space Area to Jersey City. In conjunction with such donation, Bayfront Redevelopment LLC shall petition to subdivide the properties within Study Area 6 North to create a new parcel(s) comprising the AOC 1 Open Space Area. At the time of the donation, Jersey City shall grant Honeywell an easement for the purpose of monitoring and maintaining the Chromium Remedy. Jersey City shall also grant Honeywell all necessary access to the AOC 1 Open Space Area by license or such other mechanisms as may be appropriate for purposes of monitoring and maintaining the Chromium Remedy. After it acquires title pursuant to this paragraph, Jersey City shall retain ownership of the AOC 1 Open Space Area unless and until it shall have complied with the requirements of paragraph 60(a)(iv);

(iv) After it acquires title pursuant to this paragraph, Jersey City shall not convey or enter into any lease of the AOC 1 Open Space Area to any other person or entity unless it has first satisfied either of the following conditions:

(1) Jersey City has obtained the Special Master's (or if the Special Master's appointment has expired, the Court's) approval to convey the AOC 1 Open Space Area to a government entity that has the capacity and willingness to fulfill Jersey City's obligations under the Consent Decree with respect to the AOC 1 Open Space Area and such entity agrees to submit to the Court's jurisdiction and to be bound by the requirements of the Consent Decree that Jersey City has committed to fulfill with respect to protection of the AOC 1 Open Space Area pursuant to this paragraph and routine maintenance of the permissible development in the AOC 1 Open Space Area pursuant to paragraph 64(d); or

(2) The AOC 1 Open Space Area has been remediated such that no hexavalent or total chromium contamination remains in the AOC 1 Open Space Area, whether in soils or in groundwater, in excess of the levels specified for Unrestricted Use in the NJDEP Chromium Directive or any more restrictive standards for Unrestricted Use in place at the time, whichever is more restrictive, and Jersey City has demonstrated to the Special Master and/or the Court, as appropriate, that such remediation has been completed in accordance with all applicable requirements.

(b) **Conservation Restriction.** At the time the JCRA conveys the Study Area 6 North property to Bayfront Redevelopment LLC pursuant to paragraph 4.3 of the Jersey City/Honeywell Consent Order, but prior to the grant of the option to buy pursuant to paragraph 60(a)(i), Bayfront Redevelopment LLC shall grant an open space conservation restriction, pursuant to N.J.S.A. 13:8-B-1, *et seq.*, over the AOC 1 Open Space Area substantially in the form set forth in Exhibit D. Exhibit D is a conservation restriction that is consistent with the terms of this paragraph and this Consent Decree. The conservation restriction shall allow for the implementation, maintenance, monitoring, repair and replacement of the Chromium Remedy and development consistent with paragraphs 60(j) and 60(k), including the construction and

placement of roads and utilities. The Hackensack River Watershed Land Trust shall be the primary holder of the conservation restriction, with all rights of monitoring and enforcement. Riverkeeper shall propose an entity to serve as the secondary holder of the conservation restriction subject to comment by the Parties and review by the Special Master. The secondary holder shall have secondary rights of monitoring and enforcement.

(i) The conservation restriction shall be incorporated into this Consent Decree and made part of this Consent Decree. The final, executed conservation restriction shall be lodged with the Court and entered as an order of the Court. The conservation restriction shall be enforceable in this Court, in the same manner as this Consent Decree.

(ii) The conservation restrictions provided under this Consent Decree shall be consistent with the prohibited and permitted development of the AOC 1 Open Space Area as set forth in paragraphs 60(j) and 60(k) below.

(iii) Jersey City shall not take any action, whether through exercise of any power of eminent domain, application to the State of New Jersey for approval of a diversion of public park or recreation land, legal challenge to the validity or enforceability of the conservation restriction, or otherwise, the effect of which would be to in any way terminate, abrogate, or diminish the terms, conditions, or purposes of the conservation restriction. If, notwithstanding the preceding sentence, Jersey City proceeds with a condemnation or other action, the result of which would be to terminate, abrogate, or otherwise diminish the terms, conditions, or purposes of the conservation restriction, Jersey City shall, before taking any such action satisfy all of the conditions set forth in paragraph60(a)(iv)(2).

(iv) Notwithstanding the foregoing, the conservation restriction may be terminated upon application of any Party when no hexavalent or total chromium contamination remains in the AOC 1 Open Space Area, whether in soils or in groundwater, in excess of the

levels specified for Unrestricted Use in the NJDEP Chromium Directive or any more restrictive standards for Unrestricted Use in place at the time, whichever is more restrictive.

(c) **Deed Notice.** Upon completion of the Chromium Remedy, the AOC 1 Open Space Area shall be subjected to the deed notice substantially in the form set forth in Exhibit E that restricts future activities on the AOC 1 Open Space Area. Nothing in the deed notice shall be construed as preventing the imposition of more stringent restrictions on the development allowed in the AOC 1 Open Space Area pursuant to this paragraph and, in particular, the conservation restriction provided for in paragraph 60(b).

(d) **Recording of the Consent Decree, Conservation Restriction, and Deed Notice.** This Consent Decree, the conservation restriction imposed pursuant to paragraph 60(b), and the deed notice imposed pursuant to paragraph 60(c) shall be recorded, pursuant to N.J.S.A. 46:15-1.1, 46:16-1.1, and 46:16-2, in the office of the Hudson County Register and a conspicuous reference to the Consent Decree, conservation restriction, and deed notice shall be included in all instruments concerning title to the AOC 1 Open Space Area. Any Party shall have the right, periodically, but no more than once every 25 years, to record memoranda or other instruments that reference, incorporate, or attach this Consent Decree, the conservation restriction, the deed notice, and/or any further orders of the Court related to the AOC 1 Open Space Area in the real estate records related to the AOC 1 Open Space Area.

(e) **Zoning.** Pursuant to the Redevelopment Plan, the AOC 1 Open Space Area is designated for open space and park. Jersey City shall not amend or change this designation unless it first satisfies the requirements of paragraph 60(a)(iv)(2).

(f) **Recreation and Open Space Inventory.** Upon acquiring fee simple absolute title to the AOC 1 Open Space, Jersey City shall add those portions of the AOC 1 Open Space Area not covered by roads, the pedestrian thoroughfare, and utility corridors adjacent to

roads onto its Green Acres Program Recreation and Open Space Inventory ("ROSI") pursuant to N.J.A.C. 7:36 and shall specify in such listing that it is subject to (i) Honeywell's prior easement to monitor, maintain, repair, and replace the Chromium Remedy; (ii) the actions necessary to implement, monitor, maintain, repair, and replace the Chromium Remedy; (iii) the actions necessary to install any development permissible under paragraphs 60(j) and 60(k); and (iv) the conservation restriction imposed pursuant to paragraph 60(b). Jersey City shall also take all steps necessary or appropriate to notify the New Jersey Green Acres Program that such portions of the AOC 1 Open Space Area have been added to its ROSI, such that those portions of the AOC 1 Open Space Area shall thereafter be subject to all procedural and regulatory requirements applicable under the Green Acres Program, including prohibitions against diversion.

(g) **Eminent Domain.** If all or part of the AOC 1 Open Space Area is taken in exercise of the power of eminent domain, or acquired by purchase in lieu of condemnation, by any public, corporate, or other authority so as to terminate, abrogate, or limit the restrictions created by this Consent Decree or the conservation restriction imposed pursuant to paragraph 60(b), in whole or in part, any Party may take appropriate actions to challenge such taking if there is a reasonable legal basis for doing so. In the event that the Parties are unable to prevent a taking notwithstanding their reasonable and appropriate efforts, any Party may take appropriate actions to recover the full value of the interests in the AOC 1 Open Space Area subject to the taking or in lieu purchase, and all direct and incidental damages, costs, and fees occasioned thereby.

(h) **Environmental Covenant.** In the event that New Jersey enacts the Uniform Environmental Covenants Act or its substantial equivalent, the Parties shall address the issue of whether an environmental covenant shall be established for the AOC 1 Open Space Area under the statute. If the Parties are unable to reach agreement on establishment of an environmental

covenant, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. The Special Master shall recommend adoption of an environmental covenant if it would provide substantial additional protection for the AOC 1 Open Space Area without unreasonably harming the interests of any Party. Any Party shall have the right to seek review by the Court of the Special Master's recommendation or consideration by the Court of the dispute in the event that the Special Master's appointment has expired.

(i) **Future Protections.** Any Party shall have the right to propose consideration of additional or substitute protections for the AOC 1 Open Space Area. If the Parties are unable to reach agreement with regard to the proposal, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. The Special Master shall recommend adoption of additional or substitute protections for the AOC 1 Open Space Area if they would provide substantial additional protection for the AOC 1 Open Space Area without unreasonably harming the interests of any Party. Any Party shall have the right to seek review by the Court of the Special Master's recommendation or consideration by the Court of the dispute in the event that the Special Master's appointment has expired.

(j) **Prohibited Development in AOC 1 Open Space Area.** Only development satisfying the requirements of this paragraph and paragraph 60(k) shall be permitted in the AOC 1 Open Space Area. All other development in the AOC 1 Open Space Area shall be prohibited.

(i) Honeywell shall establish Open Space Design Standards that shall govern all development in the AOC 1 Open Space Area regardless of when the construction or installation of permissible development occurs. The Open Space Design Standards shall satisfy each of the requirements set forth in paragraph 60(j)(v) and shall set forth the requirements for development that are necessary for the protection of the integrity of the Chromium Remedy.

(ii) The Initial Development in the AOC 1 Open Space Area shall be the

development undertaken following the completion of the Chromium Remedy in the AOC 1 Open Space Area. The Initial Development may occur in one or more phases. Honeywell and Bayfront Redevelopment LLC shall prepare a Development Plan before the initiation of each phase of the Initial Development. The Initial Development Period for each phase shall consist of the period covered by the Initial Development, plus a period of 10 years following the submission of the as-built documentation for the phase pursuant to paragraph 60(j)(viii).

(iii) The Special Master shall have jurisdiction to review the Open Space Design Standards and the Development Plan(s) solely for the purpose of ensuring that any development undertaken during the Initial Development Period is consistent with this Consent Decree and with protection of the integrity of the Chromium Remedy. The Special Master's jurisdiction with regard to development in the AOC 1 Open Space Area shall run through the Initial Development Period for each phase.

(iv) Honeywell shall ensure that the requirements of this paragraph and paragraph 60(k) are satisfied with regard to any development undertaken within the Initial Development Period. Honeywell shall also ensure that any development undertaken within the Initial Development Period is designed and installed in a manner consistent with this Consent Decree and with protection of the integrity of the Chromium Remedy.

(v) Any development undertaken in the AOC 1 Open Space Area, regardless of when undertaken, shall satisfy each of the following requirements:

(1) It shall not jeopardize the integrity of the Chromium Remedy;

(2) It shall be limited to the types of development permitted under paragraph 60(k);

(3) It shall be consistent with this Consent Decree, including the conservation restriction imposed pursuant to paragraph 60(b), and the Redevelopment Plan;

however, in the event of any conflict or inconsistency between this Decree and the Redevelopment Plan, this Decree shall govern;

(4) In total, at least 75% of the AOC 1 Open Space Area, exclusive of the acreage used for roads and the pedestrian thoroughfare, shall be comprised of landscaping, as defined by paragraph 60(k)(xi);

(5) The portion of the Open Space Design Standards necessary for protection of the Chromium Remedy as related to all roads, the pedestrian thoroughfare and associated utility corridors as well as the general location of such items shall be included in the 100% Design of the Chromium Remedy;

(6) If the lowest elevation for the bedding for any utility line, including irrigation or sprinkler lines, is two feet from the top of the warning layer of the cap, the utility line shall be placed in a utility corridor;

(7) In any event, there shall be two feet of soil or more between the warning layer of the cap and the lowest elevation of the bedding for any irrigation or sprinkler lines; and

(8) No permanent concession facilities shall be permitted.

(vi) Honeywell shall submit the Open Space Design Standards and the Development Plan(s) for any development undertaken during the Initial Development Period pursuant to the requirements of paragraph 72(c), except that such documents need not be submitted to NJDEP. Following Honeywell's submission of such documents, the procedures of paragraphs 72(d) and 72(e) shall apply, except that the Special Master need not provide notice to NJDEP.

(vii) During the Initial Development Period, any development in the AOC 1 Open Space Area shall require the preparation and submission of a Development Plan pursuant

to paragraph 60(j)(vi) and such Development Plan shall be subject to review by the Special Master pursuant to paragraph 60(j)(iii).

(viii) Upon completion of each phase of the Initial Development, Honeywell shall provide as-built documentation for the Initial Development to the Special Master, Riverkeeper, and the Jersey City Entities. Upon completion of any further development during the Initial Development Period for the phase, Honeywell shall also provide as-built documentation to the Special Master, Riverkeeper, and the Jersey City Entities for the additional development. Such additional as-built documentation for a phase shall not affect the running of the Initial Development Period for the phase.

(ix) During the Initial Development Period, replacement in-kind of development features or facilities included in the Initial Development or minor modifications to the development features or facilities included in the Initial Development shall not require the preparation of a Development Plan or be subject to review by the Special Master, provided that such replacement or modification satisfies the requirements of the Open Space Design Standards, the applicable Development Plan, and paragraphs 60(j)(v) and 60(j)(x)(3)(notice requirement).

(x) After the Initial Development Period, all development is prohibited unless one of the following conditions is met:

(1) Jersey City satisfies the conditions set forth in paragraph 60(a)(iv)(2);

(2) The development is a replacement in-kind and such replacement is made in conformance with the specifications of the Open Space Design Standards, the applicable Development Plan, and paragraph 60(j)(v); or

(3) The development meets the requirements of paragraphs 60(j)(v) and 60(j)(xi), and Jersey City provides notice of its intention to alter or add to the

development undertaken in the Initial Development Period. Such notice shall be provided in writing to Honeywell, Riverkeeper, and the holders of the conservation restriction established pursuant to paragraph 60(b) at least 30 days prior to Jersey City's alteration or addition to development undertaken in the Initial Development Period. Honeywell, Riverkeeper, or any holder of the conservation restriction shall have the right to move the Court to prohibit such alteration or addition.

(xi) If any of the development features or facilities that Jersey City seeks to add pursuant to paragraph 60(j)(x) require utilities that would require utility corridors other than the utility corridors installed during the Initial Development Period, Jersey City shall obtain approval from the Court before installing such new utility corridors.

(xii) Jersey City shall provide Honeywell, Riverkeeper, and the holders of the conservation restriction established pursuant to paragraph 60(b) with an annual report that describes any alterations or additions, including those activities under paragraph 60(j)(x)(2), to the development undertaken during the Initial Development Period.

(xiii) All development features or facilities, whether included in the Initial Development or added subsequent thereto, are subject to demolition and/or removal to the extent necessary to maintain, replace, or repair the Chromium Remedy.

(k) **Permissible Development in the AOC 1 Open Space Area.** The Initial Development or any subsequent addition or alteration thereto may include any or all of the following types of development features or facilities, provided that such development features or facilities satisfy the conditions set forth in paragraph 60(j)(v):

(i) Roads and the pedestrian thoroughfare -- both crossing and running along the AOC 1 Open Space Area, but no more extensive than provided for in the diagram on page 39 of the Redevelopment Plan;

(ii) Curbing and fences;

(iii) Sidewalks, paths, walkways, and nature trails;

(iv) Utilities and utility corridors, lighting, and restrooms;

(v) Irrigation or sprinkler components or systems;

(vi) Water features;

(vii) Above-ground storm water cisterns;

(viii) Signs, including the signs or display required by paragraph 60(l);

(ix) Benches, trash receptacles, and bicycle racks;

(x) Recreational facilities, such as playground equipment, bocce ball courts, tennis courts, basketball courts, and athletic fields; and

(xi) Landscaping, including natural grasses, small trees, shrubbery, flowers, and potted plants, provided that such landscaping and the anticipated root structure of each landscaping component do not and will not jeopardize the integrity of the Chromium Remedy. Any portion of an athletic field that is covered in natural grass shall be considered landscaping for purposes of the percentage set forth in paragraph 60(j)(v)(4).

(l) **Signs or Displays.** Honeywell shall develop a permanent plan for informing visitors to the AOC 1 Open Space Area of the history of the chromium production, contamination, and its remediation. Such plan shall provide for appropriate signs or displays that communicate this information. Such plan shall be subject to review and comment by the Parties and approval by the Special Master.

61. **Honeywell's Ongoing Responsibility.** Honeywell shall be responsible for implementing, monitoring, maintaining, repairing and replacing the Chromium Remedy in perpetuity. Honeywell shall satisfy this responsibility through establishment and implementation of a Long-Term Monitoring Plan. In the event that Honeywell ceases to exist without a

successor-in-interest or its obligations under this Consent Decree are stayed or limited due to a bankruptcy petition, the Court shall appoint an independent third-party fiduciary who shall be responsible for implementing, monitoring, maintaining, repairing and replacing the Chromium Remedy pursuant to the requirements of this Consent Decree and the Long-Term Monitoring Plan, unless Jersey City volunteers to assume these responsibilities for the Chromium Remedy.

62. **Long-Term Monitoring Plan.** In consultation with the Parties, and subject to approval by the Special Master and NJDEP, Honeywell shall develop a Long-Term Monitoring Plan to ensure the ongoing effectiveness of the Chromium Remedy to meet the objectives set forth in paragraphs 56, 58, and 63. The Long-Term Monitoring Plan shall be consistent with the applicable EPA policies and guidance, including, among others, EPA's Comprehensive Five Year Review Guidance (2001) (or any subsequent revision) and with NJDEP's Technical Requirements for Site Remediation (or any subsequent revision).

63. **Long-Term Monitoring Plan Objectives.** Honeywell shall design the Long-Term Monitoring Plan to satisfy each of the following objectives:

(a) Provide monitoring to ensure that the integrity and effectiveness of the Chromium Remedy are maintained; and

(b) Provide monitoring to ensure that the restrictions of the institutional controls are being satisfied, including the prohibition on development in the AOC 1 Open Space Area.

64. **Monitoring and Remediation Under the Long-Term Monitoring Plan.** The Long-Term Monitoring Plan shall include the monitoring and remediation activities set forth in this paragraph and other monitoring and remediation activities, if necessary, to meet the objectives of paragraph 63. Honeywell shall provide Riverkeeper, the Jersey City Entities, the Special Master, and NJDEP with annual reports on activities conducted under the Long-Term Monitoring Plan.

(a) **Monitoring Activities in the Long-Term Monitoring Plan.** Honeywell shall undertake the following monitoring activities at intervals to be specified in the Long-Term Monitoring Plan, but no less frequently than set forth below, and, if the monitoring shows it is necessary, Honeywell shall also undertake the remediation activities as set forth below:

(i) Quarterly visual inspection monitoring of the AOC 1 Open Space Area to ensure that it is not being put to any use that is inconsistent with paragraphs 60(j) and 60(k) or any use that may compromise the integrity of the Chromium Remedy. The Long-Term Monitoring Plan shall include an inventory of the prohibited and permissible uses pursuant to paragraph 60 and a corresponding checklist to be used by the individuals conducting the monitoring. If Honeywell determines that the AOC 1 Open Space Area is being used in a manner inconsistent with the protections or the integrity and effectiveness of the Chromium Remedy, Honeywell shall act as soon as possible to cause such use to cease and, if there has been damage to the Chromium Remedy, to repair or replace it to original specifications or to a level of protection equivalent to the original Chromium Remedy;

(ii) Quarterly visual inspection monitoring of the AOC 1 Open Space Area grade and slope to identify whether erosion has occurred or is occurring. Honeywell shall remediate any significant erosion.

(iii) Quarterly visual inspection monitoring to determine whether noticeable differential settlement or subsidence has occurred or is occurring in the AOC 1 Open Space Area such that the integrity of the Chromium Remedy may be materially impaired. If evidence of differential settlement or subsidence is found, Honeywell shall propose further investigative measures. Honeywell shall remediate any differential settlement or subsidence that is beyond the degree of differential settlement/subsidence allowed for in the 100% Design

and repair the cap and/or the overlying layers to original 100% Design specifications or to a level of protection at least equivalent to the original Chromium Remedy;

(iv) A baseline topographic survey at the completion of the Chromium Remedy and three additional surveys conducted at five-year intervals beginning five years after the conduct of the baseline survey. The topographic survey shall be of sufficient precision and accuracy to present the results as one-foot contours;

(v) Quarterly visual inspection monitoring to determine whether the Chromium Remedy in the AOC 1 Open Space Area has been disturbed. Any evidence of the distinctive warning layer materials or any other cap materials as described in paragraph 56(a) at the surface is an indication that the cap has been disturbed. In such an event, Honeywell shall propose further investigative measures to evaluate whether the integrity of the cap has been compromised. In the event that the investigative measures show that the cap integrity has been compromised, Honeywell shall repair or replace the cap and the overlying layers to original 100% Design specifications or to a level of protection at least equivalent to the original Chromium Remedy;

(vi) Quarterly visual inspection monitoring to ensure that burrowing animals are not materially impairing the integrity of the Chromium Remedy. If evidence of burrowing animals is found, Honeywell shall follow humane removal procedures and repair or replace the cap and the overlying layers to original 100% Design specifications or to a level of protection at least equivalent to the original Chromium Remedy;

(vii) Quarterly visual inspection monitoring of the vegetative cover in the AOC 1 Open Space Area to ensure that vegetative cover is in conformance with the landscaping provisions of the 100% Design and the Redevelopment Plan and will not materially impair the integrity of the Chromium Remedy. Maintenance of the vegetative cover shall include, at a

minimum, mowing to ensure that tree species cannot become established and removal of any other vegetation with the potential to damage the Chromium Remedy;

(viii) Quarterly groundwater monitoring to ensure that groundwater levels are maintained in accordance with the requirement to maintain an outward gradient from Study Area 7 and in accordance with the water level control plan developed pursuant to paragraph 58(e);

(ix) Monitoring of vented gases and the gas venting system to ensure proper operation of the system, to evaluate any degradation of the system, to assess the need for treatment of vented gases, either initial, subsequent, or further depending on whether treatment has been previously provided, and to detect any condition that might endanger public health or safety. Such monitoring shall be conducted on a monthly basis for at least one year and, if the readings are stable, such monitoring may be conducted thereafter on a quarterly basis; and

(x) Any additional monitoring as required by specific details added in the design phase of the AOC 1 Open Space Area.

(b) **Procedures for Proposing Changes to the Long-Term Monitoring Plan.** Any Party may, from time to time, propose changes to the scope of the monitoring activities under the Long-Term Monitoring Plan. If the Parties agree, the Long-Monitoring Plan shall be so changed subject to approval by NJDEP and by the Special Master, if his appointment has not terminated, or otherwise, by the Court. If the Parties are unable to reach agreement over alterations to the monitoring and the Special Master's appointment has not terminated under this Consent Decree, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. Any Party shall have the right to seek review by the Court of the Special Master's recommendation. In the event that the dispute arises after the Special Master's appointment has terminated, any Party may file a motion seeking a resolution of the dispute by

the Court.

(c) **Contingency Plan.** As part of the Long-Term Monitoring Plan, Honeywell shall develop a contingency plan to ensure the integrity of the remediation in the event of any planned penetration of the cap or otherwise planned activity that compromises the cap or any unplanned event or accident that penetrates the cap or otherwise compromises the integrity of the Chromium Remedy. The contingency plan shall include, at a minimum, an annually updated plan to notify the relevant persons, including the Special Master, NJDEP, and the Parties, of (i) the event penetrating the cap, compromising the cap, or compromising the integrity of the Chromium Remedy; (ii) the general steps to be taken to identify the extent of the problem; and (iii) the standards for remedying the problem.

(d) **Routine Maintenance.** The title owner of the AOC 1 Open Space Area shall conduct maintenance of the AOC 1 Open Space Area features or facilities that are permissible under paragraphs 60(j) and 60(k). The maintenance workers shall be trained in maintenance procedures that do not jeopardize the integrity of the Chromium Remedy. The training shall include the identification and reporting of any uses or features that are not permissible in the AOC 1 Open Space Area or that may jeopardize the integrity of the Chromium Remedy. Honeywell shall provide all training materials. The title owner of AOC 1 Open Space Area shall annually provide to the other Parties and the Special Master a report describing the training which has been provided to its maintenance workers. The title owner of the AOC 1 Open Space Area shall also provide to the Parties and the Special Master notice of any violations of the restrictions relating to the AOC 1 Open Space Area identified by its workers during routine maintenance.

(e) **Recordkeeping.** Honeywell shall maintain written logs or other records of those monitoring and remediation activities undertaken pursuant to the Long-Term Monitoring

Plan. Such logs shall be provided to Riverkeeper and the Jersey City Entities on a quarterly basis.

65. **Monitoring and Reporting to Riverkeeper and Jersey City Entities.** Riverkeeper and Jersey City Entities shall be provided with all documents submitted to NJDEP and/or the Special Master with respect to the Chromium Remedy, including the documents identified in paragraph 72(c).

66. **Notice to Stakeholders.** All residents, regardless of whether they are owners or lessees, and all commercial tenants on Study Areas 6 and 7 are hereby deemed stakeholders. Honeywell shall ensure that all stakeholders shall be provided at the time of their purchase or lease with notice of the contamination, the remedial actions that have been undertaken or are planned, and the importance of reporting activities that may appear to jeopardize the integrity of the engineering controls. Notice shall be accomplished in the following manner:

(a) Bold or otherwise conspicuous language on the first page of the deed provided to all purchasers in the Residential Area;

(b) A summary notice of the Chromium Remedy which:

(i) Has been subject to review and comment by the Parties and approval by the Special Master; and

(ii) Provides a reference to public websites and libraries and/or the future equivalents thereof, where the following can be found:

(1) Zoning and other Jersey City maps showing the AOC 1 Open Space Area; and

(2) Documents describing the contamination and the remediation, including:

(a) This Consent Decree;

(b) The Remedial Investigation Report and the Final Remedial Action Report,

(c) The annual reports on long-term monitoring and maintenance and repair activities as required by paragraph 64 and annual reports on changes to the Initial Development as required by paragraph 60(j)(xii); and

(d) The Long-Term Monitoring Plan.

(c) The provision of the maps and documents referred to in paragraph 66(b)(ii) to the public via websites and libraries and/or the future equivalents thereof; and

(d) Notices to lessees and commercial tenants in all lease documents.

67. **Annual Letter to Riverkeeper and Jersey City Entities on Notice to Stakeholders.** Each year beginning one year after the issuance of the first notice in a deed or lease pursuant to paragraph 66, Honeywell shall provide a letter to the Riverkeeper and the Jersey City Entities documenting its compliance with paragraph 66.

68. **Future Notice to Stakeholders.** Honeywell shall ensure that all stakeholders are provided with notice, at least annually, of long-term monitoring activities and any additional remediation activities undertaken with respect to the Chromium Remedy. Such notice shall be accomplished by notices on websites or future equivalents thereof, including Jersey City websites, any websites created to provide information about the Chromium Remediation or redevelopment of the Redevelopment Area, and one or more of the following:

(a) Any community message board or other similar site used and/or maintained by stakeholders or the manager(s) of the Redevelopment Area;

(b) Mailings to all stakeholders; and

(c) Posters and flyers throughout the Redevelopment Area.

69. **Stakeholder Enforcement.** Any stakeholder shall have the right to enforce the

remedial obligations of this Consent Decree in the Court, including post-implementation monitoring and maintenance obligations, and the terms of any deed notice or use restriction.

C. Oversight and Enforcement by the Special Master and NJDEP

70. **Federal Court Jurisdiction.** The Court shall retain jurisdiction for the purpose of overseeing and enforcing this Consent Decree and to review any issue or dispute which is not resolved through the oversight process described in Article III.C.

71. **Appointment and Jurisdiction of the Special Master.** The Chromium Remedy provided for in this Consent Decree is hereby referred to a Special Master pursuant to Rule 53 of the Federal Rules of Civil Procedure. The Special Master is appointed in the Consolidated Litigation for the purpose of overseeing and enforcing the Chromium Remedy, the first five years of long-term monitoring of the Chromium Remedy, financial assurances for the Chromium Remedy, and the Initial Development Period for each phase of development in the AOC 1 Open Space Area. The Special Master is also appointed in the Consolidated Litigation for the limited purpose of ensuring that the scheduling and implementation of the Historic Fill Remedy, the site preparation activities, and the site redevelopment activities described in the Jersey City/Honeywell Consent Order, Articles II.B, III, and IV, do not undermine the integrity of, unreasonably interfere with, or unnecessarily delay the effectuation of the Chromium Remedy, the Study Area 7 remedies, and other remedies within his jurisdiction as of the date of entry of this Consent Decree. The Special Master shall have jurisdiction over all matters for which he is appointed.

72. **Oversight of the Chromium Remedy.**

(a) **NJDEP Authority.** NJDEP shall retain its full statutory and regulatory authority with respect to the Study Area 6 North site, including (i) permitting authority; (ii) authority to review and approve the Remedial Action Work Plan, 100% Design, and final

Remedial Action Report for the Chromium Remedy; and (iii) authority to issue a no further action letter.

(b) **Special Master Responsibilities.** The Special Master shall have the following responsibilities:

(i) Ensuring that Honeywell's implementation of the Chromium Remedy satisfies the requirements of this Consent Decree;

(ii) Ensuring that Honeywell's implementation of the Chromium Remedy conforms with federal, state, and local permit requirements;

(iii) Establishing a reasonable schedule for the implementation of the Chromium Remedy and monitoring conformance with it;

(iv) Reviewing monthly progress reports and conducting periodic meetings with the Parties to review the progress of the implementation of the Chromium Remedy. NJDEP shall be invited, but not required, to participate in these meetings and the decision as to whether to participate shall be left to NJDEP's sole discretion;

(v) Submitting quarterly progress reports to the Court;

(vi) Overseeing the financial assurances established pursuant to paragraphs 77 through 86, and, until the expiration of his term pursuant to paragraph 76, overseeing the financial assurances established pursuant to paragraphs 87 through 98;

(vii) Coordinating review of the documents as provided in paragraphs 72(c) through 72(f);

(viii) Overseeing all development undertaken in the AOC 1 Open Space Area during the Initial Development Period pursuant to paragraph 60(j)(iii); and

(ix) To the extent that, in matters within the jurisdiction of the Special Master as set forth herein, a dispute arises between the Parties with respect to implementation of the Chromium Remedy, issuing a recommendation to the Court with respect to the dispute.

(c) **Submission of Documents by Honeywell.** Honeywell shall submit the following documents to Riverkeeper, the Jersey City Entities, the Special Master, and NJDEP:

(i) An overall schedule with milestones for the design and implementation of the remedy ("Schedule");

(ii) Design drawings and specifications at the 50% level;

(iii) Design drawings and specifications at the 100% level (after selection of the contractor) (hereafter "100% Design");

(iv) The data validation plan, including quality control and quality assurance protocols;

(v) The site-wide master health and safety plan;

(vi) The Long-Term Monitoring Plan;

(vii) The final Remedial Action Report or final construction report (including as-built drawings and such other reports as may be prepared of the remedy as implemented);

(viii) A report reviewing measured groundwater levels for the groundwater remedy;

(ix) Documents required during the Initial Development Period pursuant to paragraphs 60(j)(vi), 60(j)(vii), and 60(j)(viii) ; and

(x) Other post-implementation monitoring reports as required by the Long-Term Monitoring Plan.

(d) **Comment on Submitted Documents.** For each of the documents submitted by Honeywell pursuant to paragraph 72(c), the Special Master shall establish a schedule for the submission of comments and responses to comments. For each of the documents submitted, Riverkeeper, the Jersey City Entities, the Special Master, and NJDEP shall have the right to submit comments to Honeywell. Honeywell shall address all received comments and submit a revised document. The revised document shall be submitted by Honeywell to Riverkeeper, the Jersey City Entities, the Special Master, and NJDEP. The revised document shall be subject to review and approval pursuant to paragraph 72(e).

(e) **Review and Approval of the Submitted/Revised Document**

(i) **Scope of Review.** All documents submitted by Honeywell, pursuant to paragraph 72(c) and 72(d), shall be subject to review and approval by the Special Master in accordance with the following procedure. All such documents, except the Schedule and the 100% Design, shall be subject to the review and approval process and shall not require an order of the Court. The Schedule and 100% Design documents shall be subject to the review and approval process, but shall also require an order of the Court as provided in paragraph 72(f). A document shall be approved if the document (1) complies with this Consent Decree; (2) complies with the Remedial Action Work Plan for the Chromium Remedy; and (3) complies with the Schedule and 100% Design.

(ii) **Procedure.** Prior to making a decision on a document, the Special Master shall notify NJDEP of his intention to rule on the document or make a recommendation to the Court on the document. Such notice shall notify NJDEP that the Special Master will consider any comments NJDEP wishes to submit on the document if such comments are submitted within 30 days of NJDEP's receipt of the notice. NJDEP shall in its sole discretion determine whether to submit comments to the Special Master.

(iii) **Court Review.** If any Party objects to the Special Master's recommendation to the Court or approval of any document pursuant to this paragraph, that Party may seek further relief from the Court with respect to the document.

(f) **Schedule and 100% Design Documents.** As to the Schedule and the 100% Design documents, Honeywell shall have the responsibility, within 30 days of the Special Master's approval of each document, of (i) moving for entry of an order by the Court approving the document as approved by the Special Master; or (ii) filing objections with the Court to the Special Master's approval (and any recommendations contained therein) and moving for entry of the Schedule or 100% Design (including any such recommendations of the Special Master to which Honeywell agrees). Riverkeeper and the Jersey City Entities shall have the right in these proceedings to raise any objections they might have to the Schedule or 100% Design as approved by the Special Master or to the submission by Honeywell to the Court. NJDEP shall receive notice of any motion filed with respect to the Schedule or the 100% Design.

(g) **Flexibility in 50% and 100% Design Documents**. The Parties recognize that work conducted to implement the Chromium Remedy may be conducted by Honeywell contractors and that Honeywell may establish performance-based criteria or specifications for its contractors. As a result, the Parties recognize that the 50% Design and 100% Design documents for the Chromium Remedy may include performance-based standards, criteria, and specifications. These documents shall be sufficiently prescriptive to enable the Parties and the Special Master to evaluate their conformance with the Remedial Action Work Plan and this Consent Decree. The Parties also recognize that the 100% Design will be completed after Honeywell has selected a contractor. The Parties further recognize that completing the 100% Design after the selection of the contractor(s) shall not make the 100% Design subject to any less

stringent or more deferential review. Honeywell's commitment to the contractor(s) shall not be cause to limit review by the Parties and the Special Master.

(h) **Changes to the Schedule**. The Parties recognize that changes to individual line items in the Schedule will occur. To the extent that (i) the Parties and the Special Master agree that such changes do not have a material impact on satisfaction of the Schedule milestones established for items set forth in paragraph 54(b); and (ii) such changes do not require modifications to any necessary permits or authorizations for the Chromium Remedy, such changes may be made upon agreement of the Parties and the Special Master without further order of the Court.

73. **Retention of Professionals.** The Special Master may retain the services of professionals and/or other technical personnel, as reasonably needed, to fulfill his obligations under this Consent Decree, and for which he will be reimbursed pursuant to paragraph 75.

74. **Insurance for the Special Master.** The Special Master shall obtain insurance coverage relating to the performance of the Special Master's duties and responsibilities under this Consent Decree. Such coverage shall be similar to the Special Master's existing coverage in *ICO v. Honeywell*, procured pursuant to the Court's November 11, 2005 Stipulation and Order Regarding Special Master's Application to Procure Insurance Coverage, and as extended to the Consolidated Litigation by the Consent Order on Sediment Remediation and Financial Assurances ("Sediment Consent Order"). The insurance coverage shall be sufficiently extended in duration and scope to cover all additional duties and responsibilities as set forth hereunder. Honeywell shall pay the premiums and other administrative costs of the Special Master's insurance.

75. **Reimbursement of Special Master Fees and Expenses.** The Special Master shall submit fee applications to the Court for approval of reasonable fees and expenses incurred in the

oversight of matters referred to him pursuant to this Consent Decree. Any Party may raise with the Court objections to such fee applications. Upon approval of a fee application by the Court, the reimbursement of the Special Master's fees and expenses shall be made from the escrow fund previously established by Honeywell for the purpose of paying the Special Master's fees and expenses in *ICO v. Honeywell* pursuant to this Court's September 15, 2003 Order Setting Financial Assurances and extended to the Consolidated Litigation by the Sediment Consent Order.

76. **Expiration of Special Master's Appointment.** The Special Master's appointment under this Consent Decree shall expire after Honeywell has completed the first five years of long-term monitoring of the Chromium Remedy and the Initial Development Period for each phase of development has been concluded as provided in paragraph 60(j)(ii). However, solely to the extent that the Special Master is still supervising other portions of the Consolidated Litigation or *ICO v. Honeywell* after Honeywell has completed the first five years of long-term monitoring of the Chromium Remedy or the Initial Development Period for each phase of development as provided in paragraph 60(j)(ii), whichever is later, the Special Master shall continue to have jurisdiction under this Consent Decree until he has completed his specifically enumerated responsibilities under the Final Judgment in *ICO v. Honeywell*, the Sediment Consent Order, the Deep Groundwater Consent Order, and any other future orders, decrees, or judgments in *ICO v. Honeywell* and the Consolidated Litigation. Enumerated responsibilities under any order, decree, or judgment shall include only those tasks specifically assigned to the Special Master in the order, decree, or judgment. Enumerated responsibilities shall not include any continued jurisdiction exercised over long-term monitoring beyond the initial period specified in the order, decree, or judgment. For example, the Special Master has jurisdiction over the first five years of long-term monitoring under the Sediment Consent Order. Oversight during these five years shall

be an enumerated responsibility, but any continued oversight of long-term monitoring, pursuant to the extension of the Special Master's jurisdiction beyond the first five years, as provided in paragraph 60 of the Sediment Consent Order, shall not be an enumerated responsibility. Such extensions of jurisdiction shall be effective only so long as specific enumerated responsibilities in any order, decree, or judgment have not been fulfilled.

D. Initial Financial Assurances

77. **Chromium Remedy Letter of Credit.** Honeywell shall obtain a one-year, irrevocable letter of credit (the "Chromium Remedy Letter of Credit") to be automatically renewed annually in an amount equal to the "Remedial Costs Subject to Financial Assurance."

(a) Remedial Costs Subject to Financial Assurance shall mean:

(i) The costs of implementing the Chromium Remedy;

(ii) The costs of monitoring and maintenance activities, as required by the Long-Term Monitoring Plan, for five years; and

(iii) A contingency of 25% with respect to those costs listed in paragraphs 77(a)(i) and 77(a)(ii).

(b) The Chromium Remedy Letter of Credit shall be issued by a financial institution domiciled in the United States or by a United States subsidiary of a non-U.S. financial institution, provided that in either case, the financial institution shall be acceptable to the Special Master.

78. **Procedures for Review of the Proposed Chromium Remedy Letter of Credit.** No later than 60 days after entry by the Court of this Consent Decree, Honeywell shall submit to Riverkeeper, Jersey City Entities, and the Special Master for their review the proposed (a) amount of the Chromium Remedy Letter of Credit; (b) form of the Chromium Remedy Letter of Credit; and (c) name of the institution that will issue the Chromium Remedy Letter of Credit. If

Riverkeeper or the Jersey City Entities do not agree to the terms of the Chromium Remedy Letter of Credit, the Parties shall meet and confer in an effort to resolve their differences. If the Parties are unable to reach agreement over the terms of the Chromium Remedy Letter of Credit, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. Any Party shall have the right to seek review by the Court of the Special Master's recommendation regarding the terms of the Chromium Remedy Letter of Credit.

79. **Automatic Renewal.** The Chromium Remedy Letter of Credit shall be automatically renewed annually unless (a) no later than 120 days prior to the anniversary of the Chromium Remedy Letter of Credit issue date, the issuer provides notice of nonrenewal or (b) Honeywell seeks a reduction in the Chromium Remedy Letter of Credit, pursuant to paragraph 80, to correspond to the reduced estimate of Remedial Costs Subject to Financial Assurances. If the issuer provides notice of nonrenewal, Honeywell shall obtain a replacement irrevocable Chromium Remedy Letter of Credit at least 95 days prior to the expiration date of the existing Chromium Remedy Letter of Credit. If Honeywell is not otherwise in default as provided in Article III.D, the Special Master shall direct the cancellation of the prior Chromium Remedy Letter of Credit within 91 days after delivery to the Special Master of any replacement of a Chromium Remedy Letter of Credit. In the event that the Special Master is entitled to draw upon a Chromium Remedy Letter of Credit because there are two Chromium Remedy Letters of Credit currently in place, the Special Master shall not draw an aggregate amount in excess of the highest valued Chromium Remedy Letter of Credit. Upon Honeywell's request, the Special Master may, at his option, decide not to require overlapping letters of credit in any year based on Honeywell's financial strength in that year, provided that Honeywell has submitted all necessary information so that the Special Master can make his determination at least 150 days prior to the expiration of the Chromium Remedy Letter of Credit.

80. **Annual Right to Seek Reduction in Amount of Chromium Remedy Letter of Credit.** Honeywell shall have the right annually to seek a reduction in the Chromium Remedy Letter of Credit. At the time of seeking such reduction, Honeywell shall submit to the Riverkeeper, the Jersey City Entities, and the Special Master an estimate of the remaining Remedial Costs Subject to Financial Assurance, including the contingency as described in paragraph 77(a)(iii), and shall seek adjustment of the Chromium Remedy Letter of Credit so that the total estimated amount of remaining Remedial Costs Subject to Financial Assurance are covered by the Chromium Remedy Letter of Credit. However, the adjustment shall not result in reducing the Chromium Remedy Letter of Credit to an amount below the remaining estimated costs under paragraphs 77(a)(i) and 77(a)(ii), plus a contingency of 25% of the remaining estimated costs under paragraphs 77(a)(i) and 77(a)(ii), and shall not result in reducing the Chromium Remedy Letter of Credit to an amount less than $20,000,000 as expressed in 2008 dollars unless long-term financial assurances are in place pursuant to Article III.E. Before making any request to reduce the amount or modify the terms of the Chromium Remedy Letter of Credit, Honeywell shall first confer with the Riverkeeper and the Jersey City Entities in an effort to reach agreement on the modified amount or terms of the Chromium Remedy Letter of Credit. If the Parties are unable to reach agreement over the modified amount or terms of the Chromium Remedy Letter of Credit, the Parties shall submit the dispute to the Special Master, who shall resolve the dispute. Any Party shall have the right to seek review by the Court of the Special Master's decision regarding the modified amount or terms of the Chromium Remedy Letter of Credit. Upon agreement on the amount of the reduction or modified terms of the Chromium Remedy Letter of Credit (or upon order of the Court directing that the Chromium Remedy Letter of Credit be reduced to an identified amount or otherwise modified), Honeywell shall obtain a replacement Chromium Remedy Letter of Credit in such amount and with such

terms. If Honeywell is not otherwise in default as provided in Article III.D and the issuer of the primary Chromium Remedy Letter of Credit has not provided notice of non-renewal, within 30 days after delivery to the Special Master of any replacement of a Chromium Remedy Letter of Credit, the Special Master shall direct the cancellation of the prior Chromium Remedy Letter of Credit.

81. **Bankruptcy Protection.** Neither the Chromium Remedy Letter of Credit nor the proceeds of the Chromium Remedy Letter of Credit shall be considered the property of Honeywell or property of the estate in the event of Honeywell's bankruptcy. The Chromium Remedy Letter of Credit shall contain the language necessary to assure that neither the Chromium Remedy Letter of Credit nor the proceeds of the Chromium Remedy Letter of Credit shall be affected or restricted in any way by operation of the automatic stay in 11 U.S.C. 362.

82. **Exclusive Court Jurisdiction.** The Chromium Remedy Letter of Credit shall recite that the issuer submits to the exclusive jurisdiction of this Court for any and all disputes arising under the Letter of Credit.

83. **Application of New York Law.** The provisions of the Uniform Customs and Practice ("UCP") for Documentary Credits (1993 Revision) International Chamber of Commerce Publication #500 and New York law shall apply to the Chromium Remedy Letter of Credit.

84. **Procedures upon Honeywell's Material Default of Its Obligations.** During the period in which the Special Master has jurisdiction pursuant to paragraph 71, the Chromium Remedy Letter of Credit shall be payable to the Special Master and shall not, prior to its expiration date, be revoked or terminated except consistent with this Consent Decree and with the consent of the Special Master and approval by the Court. The Special Master's ability to draw upon the Chromium Remedy Letter of Credit shall not be limited by any agreement between Honeywell and the issuer. The Special Master may, without further order or notice to

this Court, draw upon the Chromium Remedy Letter of Credit upon the occurrence of default by Honeywell, which shall include:

(a) The failure of Honeywell, in the event that notice is given pursuant to paragraph 79 to deliver a replacement Chromium Remedy Letter of Credit at least 95 days prior to the expiration date of the existing Chromium Remedy Letter of Credit;

(b) The material failure of Honeywell to proceed with diligence and in good faith to carry out the terms of this Consent Decree and the continuance of such a material breach for a period of 15 days after written notice to Honeywell thereof and either (i) Honeywell, in the opinion of the Special Master without further input from the Parties, shall have failed to cure the breach; (ii) during the 15-day period, the Court has not entered an order to prevent the Special Master from drawing on the Chromium Remedy Letter of Credit; or (iii) the Court or the Special Master has not granted Honeywell additional time to cure the breach;

(c) The filing by Honeywell of a petition seeking relief, or the granting of relief, under the Federal Bankruptcy Code or any similar federal or state statute; any assignment for the benefit of creditors made by Honeywell; the involuntary filing of any of the foregoing against Honeywell if involuntary filing has not been dismissed within 60 days; the appointment of a custodian, receiver, liquidator, or trustee, or other similar official for Honeywell or for a substantial part of Honeywell's property; any action by Honeywell to effect any of the foregoing; or if Honeywell becomes insolvent as defined in Section 101(32) of the Federal Bankruptcy Code; or

(d) The dissolution, liquidation, merger, consolidation, or reorganization of Honeywell or the institution of any proceeding to effect any of the foregoing, other than under paragraph 84(c) above, and the failure of Honeywell to provide assurance to the Special Master, within 15 days after written notice, that such an event will not impair Honeywell's ability to

carry out the terms of this Consent Decree.

85. **Placement of Proceeds in Court Registry Investment System Account.** In the event that the Special Master draws upon the Chromium Remedy Letter of Credit due to an event of default, the Special Master shall place the proceeds of the Chromium Remedy Letter of Credit which represent the remaining estimated Chromium Remedy costs under paragraphs 77(a)(i), plus a contingency of 25% of the remaining estimated costs under paragraph 77(a)(i), in an account with the Court Registry Investment System in accordance with Local Civil Rule 67.1 and not expend the proceeds of the Letter of Credit without further order of this Court. The Special Master shall place all additional proceeds of the Chromium Remedy Letter of Credit in a trust fund pursuant to paragraph 90(b)(v).

86. **Termination of Chromium Remedy Letter of Credit.** The Chromium Remedy Letter of Credit may be withdrawn in its entirety upon the satisfaction of all of the following:

(a) The implementation of the Chromium Remedy; and

(b) Establishment of long-term financial assurance pursuant to Article III.E.

E. Long-Term Financial Assurances

87. **Long-Term Financial Assurances.** Honeywell shall fund long-term financial assurances to ensure that the activities set forth in paragraph 89(a) are carried out regardless of whether Honeywell is financially able to carry out such activities in perpetuity.

88. **Resolution of the Amount of Long-Term Financial Assurances.** The Parties have agreed to the following options with regard to how the long-term financial assurances shall be determined:

(a) If the Parties agree that the current amount necessary to cover the costs to be subject to long-term financial assurances, as set forth in paragraph 89(b), is $10,000,000 or less,

and agree on the amount of funding needed, Honeywell shall provide long-term financial assurances as required by Article III.E.

(b) If the Parties agree that the current amount necessary to cover the costs to be subject to long-term financial assurances, as set forth in paragraph 89(b), is $10,000,000 or less, but disagree on the amount of funding needed, Honeywell shall provide long-term financial assurances as required by Article III.E except that the dispute as to the amount of the long-term financial assurances shall be submitted to the Special Master pursuant to paragraph 91.

(c) If the Parties do not agree that the current amount necessary to cover the costs to be subject to long-term financial assurances, as set forth in paragraph 89(b), is $10,000,000 or less, or the Parties agree that the current amount necessary to cover the costs to be subject to long-term financial assurances, as set forth in paragraph 89(b), is greater than $10,000,000, the Parties shall seek resolution by the Court of the long-term financial assurances issues, including (i) the type of financial assurances to be provided; (ii) the scope of the financial assurances; (iii) the amount of the financial assurances; and (iv) the duration of the financial assurances. In the event that the Parties seek resolution by the Court, the provisions of paragraphs 90 through 98 shall not apply.

(d) Within 60 days of the entry of this Consent Decree, the Parties shall determine which option under this paragraph shall apply. In the event that the Parties determine that paragraph 88(c) applies, Riverkeeper shall initiate the proceedings by moving the Court for the imposition of long-term financial assurances.

(e) If the Parties determine that they are proceeding under paragraph 88(c), Honeywell shall maintain the Chromium Remedy Letter of Credit required by paragraph 77 in an amount equal to at least $20,000,000 in 2008 dollars until such time as the long-term financial assurances ordered by the Court are in place. In the event of any default by Honeywell pursuant

to paragraph 84 while the Chromium Remedy Letter of Credit is in place, the provisions of paragraph 90(b)(v) for the placement of the proceeds that exceed the remaining estimated Chromium Remedy costs under paragraph 77(a)(i) plus a contingency of 25% of the remaining estimated costs under paragraph 77(a)(i), shall apply.

89. **Costs Subject to Long-Term Financial Assurances.**

(a) Long-term financial assurances shall provide enough funds to cover the costs of the following activities:

(i) Perpetual monitoring and maintenance of the Chromium Remedy, including installation, operation and monitoring of any above-cap-grade gas collection and/or treatment system as may be necessary, but such system is not part of the 100% Design;

(ii) Perpetual operation of the shallow groundwater pump-and-treat remedy;

(iii) Perpetual repair of the cap;

(iv) Perpetual replacement of the cap on a 75-year replacement interval; and

(v) In the event that Honeywell selects a trust fund pursuant to paragraph 90(a), the perpetual administration of the trust fund.

(b) The costs that shall be subject to financial assurances is an amount that will provide the full payment for each of the activities set forth in paragraphs 89(a)(i) through 89(a)(v) plus a 25% contingency when the activities in paragraphs 89(a)(i) through 89(a)(v) are expected to be performed. The costs subject to financial assurances are forward looking because they state an amount valued at the time the funds are needed. As such, they shall be stated in contemporary time as the present value (calculated on the basis of a discount rate of 4.75%) of

the estimated future costs of the activities specified in paragraphs 89(a)(i) through 89(a)(v), plus a 25% contingency on those costs.

90. **Long-Term Financial Assurance Mechanisms.** Honeywell shall provide long-term financial assurances in the amount of the costs subject to long-term financial assurances in the form of a trust fund, a letter of credit, or some combination of the two. The selected mechanism(s) shall satisfy the following requirements:

(a) **Trust Fund.** In the event that Honeywell selects a trust fund, Honeywell shall create a trust fund such that it can provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary.

(i) The trust fund shall be at arm's length from Honeywell and shall not be considered the property of Honeywell or property of the estate in the event of Honeywell's bankruptcy, dissolution, privatization, or sale. The trust fund agreement shall contain the language necessary to assure that neither the trust fund nor the earnings of the trust fund shall be affected or restricted in any way by operation of the automatic stay in 11 U.S.C. 362.

(ii) The trust fund shall be managed by a financial institution domiciled in the United States or by a United States subsidiary of a non-U.S. financial institution acceptable to Riverkeeper and the Jersey City Entities or approved by the Court. In the event that the financial institution managing the trust fund declares bankruptcy, the Court shall withdraw the funds and appoint another financial institution meeting the requirements of this paragraph to manage the trust.

(iii) No more frequently than once per year, Honeywell may apply to the Court for an order directing the trust manager to reimburse Honeywell for any costs that it has incurred to carry out the activities set forth in paragraphs 89(a)(i) through 89(a)(iv).

(b) **Long-Term Letter of Credit.** In the event that Honeywell selects a letter of credit, Honeywell shall obtain a one-year irrevocable letter of credit (the "Long-Term Letter of Credit") to be automatically renewed annually in an amount that provides sufficient funds such that a trust fund, separate from any trust fund created under paragraph 90(a) but satisfying the requirements of paragraph 90(a), could be created. The Long-Term Letter of Credit-funded trust, plus any trust fund established under paragraph 90(a), shall provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary. The amount of any Long-Term Letter of Credit shall therefore be adjusted periodically as the cap replacement interval is approached because, for example, the money needed in the 10th year to fund a trust that can provide for replacement of the cap in the 75th year is much less than the money that would be needed in the 40th year. Such periodic adjustments shall be proposed and approved by the Court in conjunction with the adjustments under paragraph 92.

(i) Neither the Long-Term Letter of Credit nor the proceeds of the Long-Term Letter of Credit shall be considered the property of Honeywell or property of the estate in the event of Honeywell's bankruptcy, dissolution, privatization, or sale. The Long-Term Letter of Credit shall contain the language necessary to assure that neither the Long-Term Letter of Credit nor the proceeds of the Long-Term Letter of Credit shall be affected or restricted in any way by operation of the automatic stay in 11 U.S.C. 362.

(ii) The Long-Term Letter of Credit shall be issued by a financial institution domiciled in the United States or by a United States subsidiary of a non-U.S. financial institution acceptable to Riverkeeper and the Jersey City Entities or approved by the Court. In the event that the financial institution issuing the Long-Term Letter of Credit declares bankruptcy, the Court shall authorize the drawing of funds from the Long-Term Letter of Credit

and shall deposit those funds in a trust fund, separate from any trust fund created under paragraph 90(a) but satisfying the requirements of paragraph 90(a).

(iii) The provisions of the Uniform Customs and Practice ("UCP") for Documentary Credits (1993 Revision) International Chamber of Commerce Publication #500 and New York law shall apply to the Long-Term Letter of Credit.

(iv) The Long-Term Letter of Credit shall be automatically renewed annually, unless, no later than 120 days prior to the anniversary of the Long-Term Letter of Credit issue date, the issuer provides notice of non-renewal. If the issuer provides notice of non-renewal, Honeywell shall obtain a replacement irrevocable Long-Term Letter of Credit at least 95 days prior to the expiration date of the existing Long-Term Letter of Credit. If Honeywell is not otherwise in default as provided in this Article, the Court shall direct the cancellation of the prior Long-Term Letter of Credit within 91 days after delivery to the Court of any replacement of a Long-Term Letter of Credit. In the event that the Court is entitled to draw upon a Long-Term Letter of Credit when there are two Letters of Credit currently in place, the Court shall not draw an aggregate amount in excess of the highest valued Long-Term Letter of Credit.

(v) Prior to the expiration of the Special Master's appointment pursuant to paragraph 76, the Long-Term Letter of Credit shall be payable to the Special Master. During the time the Long-Term Letter of Credit is payable to the Special Master, the Special Master may draw on the Long-Term Letter of Credit as provided in paragraph 84. In the event that the Special Master draws upon the Long-Term Letter of Credit due to an event of default, the Special Master shall place the proceeds of the Long-Term Letter of Credit in a trust fund, separate from any trust fund created under paragraph 90(a) but satisfying the requirements of paragraph 90(a). After the Special Master's appointment expires pursuant to paragraph 76, the Long-Term Letter of Credit shall be payable to the Court and, in the event that the Court draws

on the Long-Term Letter of Credit, the Court shall place the proceeds of the Long-Term Letter of Credit in a trust fund, separate from any trust fund created under paragraph 90(a) but satisfying the requirements of paragraph 90(a).

(vi) Whether the Long-Term Letter of Credit is payable to the Special Master or the Court, it shall not, prior to its expiration date, be revoked or terminated by Honeywell except consistent with this Consent Decree and with the approval of the Court. The ability of the Special Master or the Court to draw upon the Long-Term Letter of Credit shall not be limited by any agreement between Honeywell and the issuer.

(vii) In the event that the Long-Term Letter of Credit is drawn upon and invested pursuant to paragraph 90(b)(ii), 90(b)(v) or 95 and Honeywell has also selected a trust fund pursuant to paragraph 90(a), resulting in the existence of two trust funds, the two trust funds shall be managed so as to ensure that the combined amount of the trust funds is sufficient to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary.

(c) **Combination.** Honeywell may use some combination of a trust fund and a letter of credit to achieve the requirements of this paragraph. However, if a combination is used, Honeywell shall ensure that the combined amount of financial assurances is sufficient to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary. The trust fund and the letter of credit shall otherwise satisfy all the requirements of paragraphs 90(a) and 90(b).

91. **Procedures for Review of the Proposed Long-Term Financial Assurances.** In the event that the Parties have determined that they are proceeding pursuant to paragraph 88(a) or 88(b), no later than 120 days after the determination under paragraph 88(d), Honeywell shall submit to Riverkeeper, the Jersey City Entities, and the Special Master, for their review (a) the

amount of the proposed long-term financial assurances; (b) the form(s) of the proposed long-term financial assurance mechanisms; and (c) the name(s) of the institution proposed to manage or issue the long-term financial assurances. If Riverkeeper and the Jersey City Entities agree to the terms of the proposed long-term financial assurances, within 60 days of such agreement, Honeywell shall create a trust fund and/or secure a Long-Term Letter of Credit on those terms. If the Parties are unable to reach agreement over the terms of the long-term financial assurances, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. Any Party shall have the right to seek review by the Court of the Special Master's recommendation regarding the terms of the financial assurances. In any event, until the long-term financial assurances have been put into place, Honeywell shall maintain the Chromium Remedy Letter of Credit and the requirements of paragraphs 88(e) and 90(b)(v) shall apply to the Chromium Remedy Letter of Credit.

92. **Adjustment of Amount Held in Long-Term Financial Assurances.** Every five years as marked from the establishment of the first long-term financial assurances pursuant to paragraph 90, the Parties shall report to the Court whether the long-term financial assurances are adequately funded to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary. At such time as the Parties report to the Court, any Party may seek an adjustment in the amount of the long-term financial assurances. The Party seeking an adjustment must demonstrate that the long-term financial assurances are under-funded or over-funded to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary. Such demonstration shall reflect the actual costs of implementing the remedy and/or any replacement of the remedy, once such actual costs are available. The demonstration shall also reflect the costs of work completed to date and the actual lifetime of the cap, once the

cap has been replaced or has passed a replacement interval without requiring replacement. The demonstration shall further reflect the actual performance of the fund and its ability to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary. Any demonstration shall be forward looking and shall be based upon estimates of what the activities in paragraphs 89(a)(i) through 89(a)(v) are expected to cost at the time they must be performed and the amount of funding projected to be available to undertake such activities at the time they must be performed. If, after reviewing the submission(s) received from the Parties, the Court determines that the long-term financial assurances are under-funded or over-funded to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary, the Court shall order an adjustment in the amount held in the long-term financial assurances to overcome the shortage or overage. In the event that the Court determines that the long-term financial assurances are under-funded, it shall order Honeywell to increase the amount held in the long-term financial assurances. In the event that the Court determines that any trust fund established pursuant to paragraph 90(a) is over-funded, the Court shall issue an order directing the trust manager to pay the overage to Honeywell. In the event that the Court determines that the Long-Term Letter of Credit is over-funded, the Court shall issue an order permitting Honeywell to reduce the amount covered during the next annual renewal of the Long-Term Letter of Credit pursuant to paragraph 90(b)(iv). Any adjustment to the amount of the Long-Term Letter of Credit pursuant to this paragraph shall be in addition to any adjustment of the amount of the Long-Term Letter of Credit required pursuant to paragraph 90(b).

93. **Exclusive Court Jurisdiction.** The trust fund agreement and/or the Long-Term Letter of Credit shall recite that the trust fund manager and/or issuer of the Long-Term Letter of Credit submit to the exclusive jurisdiction of this Court for any and all disputes arising under the

trust fund or the Long-Term Letter of Credit. The requirements of this paragraph shall apply whether the trust fund is established pursuant to paragraph 90(a), 90(b)(ii), 90(b)(v), or 95.

94. **Procedures upon Honeywell's Material Default of Its Obligations after the Special Master's Appointment Has Expired.** Upon the occurrence of default by Honeywell, after the Special Master's appointment has expired, Riverkeeper or the Jersey City Entities may move the Court on an expedited basis for an order to withdraw funds from the trust fund or to draw on the Long-Term Letter of Credit. Default shall include:

(a) The failure of Honeywell, in the event that notice is given pursuant to paragraph 90(b)(iv) to deliver a replacement Long-Term Letter of Credit at least 95 days prior to the expiration date of the existing Long-Term Letter of Credit;

(b) The material failure of Honeywell to proceed with diligence and in good faith to carry out the terms of this Consent Decree and the continuance of such a material breach for a period of 30 days after written notice by Riverkeeper or the Jersey City Entities to Honeywell of the alleged material failure, unless Honeywell cures the alleged breach within the 30-day notice period or such longer period as the Parties may agree to or the Court may order;

(c) The filing by Honeywell of a petition seeking relief, or the granting of relief, under the Federal Bankruptcy Code or any similar federal or state statute; any assignment for the benefit of creditors made by Honeywell; the involuntary filing of any of the foregoing against Honeywell if the involuntary filing is not dismissed within 60 days; the appointment of a custodian, receiver, liquidator, trustee, or other similar official for Honeywell or for a substantial part of Honeywell's property; any action by Honeywell to effect any of the foregoing; or if Honeywell becomes insolvent as defined in Section 101(32) of the Federal Bankruptcy Code; or

(d) The dissolution, liquidation, merger, consolidation, or reorganization of Honeywell or the institution of any proceeding to effect any of the foregoing, other than under

paragraph 94(c), if Honeywell fails to provide assurance to Riverkeeper, the Jersey City Entities, and the Court, within 15 days after written notice, that such an event will not impair Honeywell's ability to carry out the terms of this Consent Decree.

95. **Drawing on the Long-Term Letter of Credit in the Event of Honeywell's Default.** If the Court grants any motion by Riverkeeper or the Jersey City Entities pursuant to paragraph 94 to draw on the Long-Term Letter of Credit, the sum approved by the Court's order granting the motion shall be paid from the Long-Term Letter of Credit into a trust fund, separate from any trust fund created under paragraph 90(a) but satisfying the requirements of paragraph 90(a).

96. **Use of the Trust Fund in the Event of Honeywell's Default**. In the event of Honeywell's default, the money in the trust fund established pursuant to paragraph 90(a) shall be available to meet the obligations of paragraph 89(a). Riverkeeper and/or the Jersey City Entities shall file motions with the Court seeking orders directing how the money in the trust fund shall be used. The Court shall consider motions on an expedited basis and shall enter appropriate orders. The Court may enter an order allowing for automatic withdrawal of regular expenses without separate motion to the Court by Riverkeeper or the Jersey City Entities.

97. **Use of a Trust Fund Established Pursuant to Paragraph 85, 90(b)(ii), 90(b)(v), or 95.** In the event that a trust fund is established pursuant to paragraph 85, 90(b)(ii), 90(b)(v), or 95, the money in the trust fund shall be available to meet the obligations of paragraph 89(a). Riverkeeper and/or the Jersey City Entities shall file motions with the Court seeking orders directing how the money in the trust fund shall be used. The Court shall consider motions on an expedited basis and shall enter appropriate orders. The Court may enter an order allowing for automatic withdrawal of regular expenses without separate motion to the Court by Riverkeeper or the Jersey City Entities.

98. **Termination of the Long-Term Financial Assurances.** Honeywell's obligations

under Article III.E shall be terminated and the long-term financial assurance mechanisms shall be terminated when the Court finds that no hexavalent or total chromium contamination remains in the AOC 1 Open Space Area or on the Site, whether in soils or in groundwater, in excess of the levels specified for Unrestricted Use in the NJDEP Chromium Directive or any more restrictive standards for Unrestricted Use in place at the time, whichever is more restrictive. Upon determining that long-term financial assurances may be terminated, the Court shall order that any Long-Term Letter of Credit may be withdrawn in its entirety and any trust fund may be terminated. In conjunction with its order terminating any trust fund, the Court in its discretion shall designate a recipient(s) of any remaining trust funds.

ARTICLE IV: IMPLEMENTATION SCHEDULE AND TERMINATION

99. **Schedule for Remedy and Site Preparation Implementation Activities.** The Chromium Remedy under Article III and the Historic Fill Remedy under Article II.B of the Jersey City/Honeywell Consent Order and Site Preparation Activities under Article III of the Jersey City/Honeywell Consent Order shall be undertaken by the Parties in accordance with the following anticipated schedule, recognizing that this schedule may be further modified in writing by agreement of the Parties and with the approval of the Court:

(a) By October 1, 2008, the Jersey City Entities and Honeywell shall develop a Site Preparation Plan, pursuant to paragraph 3.2 of the Jersey City/Honeywell Consent Order, for all Site Preparation Activities necessary to undertake the Chromium Remedy;

(b) No later than June 18, 2009, Honeywell shall submit to NJDEP a remedial design document for the Chromium Remedy;

(c) No later than September 1, 2009, Honeywell shall submit all applications for permits and authorizations for the performance of the Chromium Remedy to all appropriate local, state, and federal government entities;

(d) Honeywell shall use its best efforts to complete the Chromium Remedy no later than four years after all appropriate applications and authorizations for the performance of the Chromium Remedy have been obtained;

(e) By May 1, 2008, Honeywell and the Jersey City Entities shall submit a work plan for further Remedial Investigation for AOC 2 to NJDEP; and

(f) By December 1, 2008, Honeywell and the Jersey City Entities shall submit a Remedial Action Selection Report and Remedial Action Workplan for the Historic Fill Remedy set forth in Article II.B of the Jersey City/Honeywell Consent Order. The Workplan shall contain a schedule for implementation of the Historic Fill Remedy.

100. **Termination of this Consent Decree.** This Consent Decree shall terminate upon the withdrawal of any Party as provided for in this paragraph. Any Party may elect to withdraw from this Consent Decree due to the occurrence of one or more of the following events, provided that such Party provides written notice of withdrawal to the other Parties pursuant to paragraph 108:

(a) The Court fails to enter the Jersey City/Honeywell Consent Order or this Consent Decree or either the Jersey City/Honeywell Consent Order or this Consent Decree is determined to be invalid on appeal;

(b) JCRA fails to take those actions required under paragraphs 4.11(a), (b), and (c) of the Jersey City/Honeywell Consent Order within nine months of entry of this Consent Decree; or

(c) JCRA fails to approve a Redevelopment Agreement between Bayfront Redevelopment LLC and JCRA pursuant to paragraph 4.11(e) of the Jersey City/Honeywell Consent Order within 12 months of entry of this Consent Decree.

101. **Procedures for Withdrawal and Termination.** Any Party electing to withdraw pursuant to paragraph 100 and thereby terminate this Consent Decree shall provide written notice of such withdrawal and termination to all other Parties within 30 days of the occurrence giving rise to the decision to withdraw. If any Party objects to termination of the Consent Decree, or believes that the conditions set forth in paragraph 100 have not been met, such objecting Party may move the Court for an expedited hearing on the issue of whether the conditions for termination have been effectuated.

102. **Good-Faith Obligation to Avoid Termination.** The Parties agree that they will each endeavor to fulfill the terms of this Consent Decree, that they will work diligently and in good faith to meet their obligations hereunder, and that they will promptly and timely take all reasonable steps to give effect to this Consent Decree and to avoid termination under paragraph 100.

103. **Effect of Termination.** If this Consent Decree is terminated pursuant to paragraph 100, the Consent Decree shall no longer be binding on the Parties and shall be of no further effect. In the event that this Consent Decree is terminated by one or more Parties pursuant to paragraph 100, each Party to this Consent Decree reserves all of its rights, claims, and defenses (both legal and factual) against the other Parties with respect to the matters at issue in the Consolidated Litigation and each Party remains free to pursue such rights, claims, and defenses.

ARTICLE V: ADDITIONAL PROVISIONS RELATED TO HISTORIC FILL AND SITE PREPARATION AND REDEVELOPMENT

104. **Historic Fill Remedy**. This Consent Decree shall adopt and incorporate the terms of Article II.B of the Jersey City/Honeywell Consent Order with respect to the Historic Fill Remedy. The Historic Fill Remedy shall not be limited to the activities set forth in Article II.B of the Jersey City/Honeywell Consent Order in the event that NJDEP requires a more extensive remedy. The Historic Fill Remedy shall be compatible with the Chromium Remedy such that no

part of the Historic Fill Remedy shall interfere with the installation, maintenance, and monitoring of the Chromium Remedy. In addition, the Historic Fill Remedy for any discharge of non-chromium contaminants to the Hackensack River shall not interfere with the remedies under the Sediment Consent Order, including the source control remedies. In the event that Jersey City conducts the Historic Fill Remedy instead of Honeywell, the terms of this paragraph shall still apply.

105. **Oversight of Historic Fill Remedy**. Paragraph 2.11 of the Jersey City/Honeywell Consent Order shall apply only to the Historic Fill Remedy, not the Chromium Remedy. The Progress Reports provided for in paragraphs 2.12 and 3.7 of the Jersey City/Honeywell Consent Order shall be provided to Riverkeeper and the Special Master at the time they are submitted.

106. **Transfer of Title of Study Areas 6 North and 7 to and from Bayfront Redevelopment LLC**. The transfer of title of Study Area 6 North and Study Area 7 properties to Bayfront Redevelopment LLC pursuant to the Jersey City/Honeywell Consent Order and any subsequent transfers shall not impede Honeywell's obligations to (a) complete the remediation of Study Area 7 and implement the Final Judgment and subsequent orders in *ICO v. Honeywell* or (b) complete the Chromium Remedy and conduct long-term monitoring and fulfill its other obligations set forth in this Consent Decree. Such transfers of Study Areas 6 North and Study Area 7 shall not include a transfer of Honeywell's obligations to implement the Final Judgment and subsequent orders in *ICO v. Honeywell* or a transfer of Honeywell's obligations under this Consent Decree, but shall include a right of access or any other right required by Honeywell to complete the remediation. Any subsequent transfer of Study Area 6 North or Study Area 7 from Bayfront Redevelopment LLC to a redeveloper or other party shall provide all necessary agreements to allow Honeywell all necessary access to Study Area 6 North and Study Area 7 for purposes of completing Honeywell's obligations with respect to Study Area 6 North under this

Consent Decree and completing the Study Area 7 remediation and implementing the Final Judgment and subsequent orders in *ICO v. Honeywell.*

107. **Dispute Resolution Procedures.** The provisions of Article VIII of the Jersey City/Honeywell Consent Order do not apply to any disputes regarding or impacting the Chromium Remedy, which shall be resolved as provided in paragraph 72. The provisions of Article VIII of the Jersey City/Honeywell Consent Order shall apply to disputes between the Jersey City Entities and Honeywell regarding the Historic Fill Remedy and other obligations provided in the Jersey City/Honeywell Consent Order, except to the extent that such disputes may affect the Chromium Remedy. If any such dispute may affect the Chromium Remedy, it shall be resolved as provided in paragraph 72. Honeywell shall provide Riverkeeper with a copy of each notice of any breach provided under paragraph 8.1 of the Jersey City/Honeywell Consent Order within 10 days of Honeywell's receipt or issuance of such notice. Honeywell shall provide Riverkeeper with a copy of any written resolution of a dispute pursuant to paragraph 8.2 within 10 days of the resolution.

ARTICLE XI: NOTICE

108. **Notice.** Any and all notices given in connection with this Consent Decree shall be deemed adequately given only if in writing and addressed to the Party for whom such notices are intended at the addresses set forth in this paragraph. All notices shall be sent by Federal Express or other nationally recognized overnight messenger service or by first-class registered or certified mail, postage prepaid, return receipt requested. A written notice shall be deemed to have been given to the recipient party on the earlier of (a) the date it shall be delivered to the address set forth in this paragraph; (b) the date delivery shall have been refused at the address set forth in this paragraph; or (c) with respect to notices sent by mail, the date as of which the postal service shall have indicated such notice to be undeliverable at the address set forth in this paragraph.

Any and all notices referred to in this Consent Decree, or which any Party desires to give to the other, shall be addressed as follows:

If to Honeywell and/or
Bayfront Redevelopment LLC :

Tom Byrne, Esq.
Honeywell International Inc.
101 Columbia Road
Morristown, NJ 07962
(973) 455-2775

With copies to:

John Morris
Honeywell International Inc.
101 Columbia Road
Morristown, NJ 07962
(973) 455-4003

If to Riverkeeper:

Bruce J. Terris
Carolyn Smith Pravlik
Kathleen L. Millian
Terris, Pravlik & Millian, LLP
1121 12th St., N.W.
Washington, DC 20005-4632
(202) 682-2100

If to Jersey City:

William Matsikoudis
Corporation Counsel
City of Jersey City
280 Grove Street
Jersey City, NJ 07305
(201) 547-4667

If to JCIA:

David L. Isabel
Golub & Isabel, PC
160 Littleton Road
Parsippany, NJ 07054
(973) 968-3377

If to JCMUA:

Sam Della Fera Jr.
Trenk, DiPasquale, Webster,
Della Ferra & Sodono, P.C.
347 Mount Pleasant Ave.
West Orange, NJ 07052
(973) 243-8600

If to JCRA:

Robert Antonichello
Executive Director
30 Montgomery Street
Jersey City, NJ 07302
(201) 547-5810

Any party may change its designated recipients or addresses for notice in this paragraph by providing written notice of such change to all other Parties.

ARTICLE XII: RIVERKEEPER'S ATTORNEYS' FEES

109. **Payment of Past Fees and Expenses.** Within 30 days of the entry of this Consent Decree, Honeywell shall pay Terris, Pravlik & Millian, LLP the sum of $1,513,217.15 which represents the following:

(a) A compromise of the attorneys' fees incurred by Riverkeeper in the litigation of Study Area 6 North portion of *Riverkeeper v. Honeywell* through March 27, 2008; and

(b) $187,862.27 in out-of-pocket expenses representing 50% of the expenses incurred by Riverkeeper in *Riverkeeper v. Honeywell* from the inception of the litigation after deducting the expenses to be paid pursuant to the Sediment Consent Order.

Payment of the sum of $1,513,217.15 shall be in full satisfaction of all obligations, duties, and responsibilities of Honeywell with respect to the $1,556,747.46 in fees and expenses that Riverkeeper claimed with regard to the above described fees and expenses.

110. **Future Fees and Expenses.** Honeywell shall reimburse Riverkeeper's attorneys for reasonable fees and expenses incurred: (a) in negotiating this Consent Decree after March 27, 2008; (b) in the monitoring and enforcement of this Consent Decree; and (c) in participation in the Special Master process established pursuant to this Consent Decree. Honeywell shall also reimburse Riverkeeper for reasonable attorneys' fees and expenses for Riverkeeper's review of and participation in the Long-Term Monitoring Plan and monitoring and enforcement of this Consent Decree following the term of the Special Master. In the event that any dispute arises between the Parties under this Consent Decree that must be resolved by the Court, Riverkeeper shall be entitled to recover its attorneys' fees and expenses for litigation of the dispute to the extent allowed by federal law. Riverkeeper and Honeywell shall use the same informal procedure for attempting to settle fees issues as has been used for post-judgment monitoring fees in *ICO v. Honeywell.* In the event that Riverkeeper and Honeywell are unable to reach a

settlement on fees, Riverkeeper shall apply to the Court for an award of attorneys' fees and expenses. If Honeywell objects to only a portion of the Riverkeeper's statement of attorneys' fees and expenses, Honeywell shall pay the undisputed portion within 60 days of Riverkeeper's submittal of the statement to Honeywell. The Court shall resolve any objections to Riverkeeper's statement of attorneys' fees and expenses and shall enter an appropriate Order.

ARTICLE XIII: MISCELLANEOUS PROVISIONS

111. **Force Majeure.** Force Majeure, for the purposes of this Consent Decree, is defined as an event arising from causes beyond the control of any Party or Parties (or their agents, contractors, subcontractors, representatives, or assigns) which could not have been overcome by reasonable diligence and which delays or prevents the performance of any obligation under this Consent Decree. Examples of events which may constitute force majeure include the refusal of any federal or state governmental authority to grant a permit or authorization necessary for the completion of actions required by this Consent Decree, floods, hurricanes, tornadoes, and other extraordinary weather events, earthquakes and other natural disasters, terrorist attacks, war, and other national emergencies. Examples of events that are not force majeure events include normal inclement weather, increased costs or expense, the failure to timely and fully apply for a permit or authorization necessary for the completion of actions required by this Consent Decree, or financial difficulty of any Party. The Party claiming force majeure shall bear the burden of showing an event was a force majeure event.

112. **JCRA and Bayfront Redevelopment LLC as Parties.** As signatories to this Consent Decree, JCRA and Bayfront Redevelopment LLC subject themselves to the Court's jurisdiction for the purpose of enforcing this Consent Decree and agree to be bound by this Consent Decree. This Consent Decree shall be fully enforceable against JCRA and Bayfront Redevelopment LLC.

113. **Successors and Assigns.** This Consent Decree shall be binding upon and shall inure to the benefit of the successors, assigns, heirs, corporate parents, subsidiaries, and affiliates of each Party. No assignment or delegation of the obligations hereunder shall release the assigning Party from its obligations under this Consent Decree.

114. **Successors to Hackensack Riverkeeper, Inc.** In the event that Hackensack Riverkeeper, Inc. disbands or otherwise ceases operations, it shall assign its rights under this Consent Decree to another qualified nonprofit organization. A nonprofit organization shall be qualified for assignment under this Consent Decree if it is a charitable organization under Section 501(c)(3) of the Internal Revenue Code or its substantial equivalent and has an established record of working to enhance or preserve the ecology, natural habitat, or environment. Any such assignment shall be subject to approval by the Court and Honeywell shall have the right to object to any proposed assignment. Any successor organization shall have the duty to assign its rights under this Consent Decree to another qualified nonprofit organization in the event that the successor disbands or otherwise ceases operations. In the event that a successor is not appointed at any given time, the New Jersey Attorney General or equivalent officer shall appoint a successor subject to approval by the Court and objection by Honeywell.

115. **Reservation of Rights and Claims**. Except as set forth expressly herein, this Consent Decree does not affect in any way any of the Parties' claims or defenses against third parties who have not signed the Consent Decree.

116. **Governing Law and Continuing Jurisdiction.** The Court shall retain jurisdiction over the matters addressed in this Consent Decree for purposes of enabling the Parties to apply to the Court for any further order as may be necessary to construe, carry out, or enforce the terms of this Consent Decree. This Consent Decree shall be interpreted and enforced under the laws of

the United States and the State of New Jersey by the United States District Court for the District of New Jersey.

117. **Construction.** Questions regarding the interpretation of this Consent Decree shall not be resolved against any Party on the ground that this Consent Decree has been drafted by that Party. This Consent Decree is the result of review, negotiation, and compromise by each Party.

118. **Authority to Enter into Agreement.** The undersigned representative for each Party represents, certifies, and warrants that he or she is duly authorized by the Party whom he or she represents to enter into the terms of this Consent Decree and bind such Party legally to this Consent Decree.

119. **Measures to Effectuate This Consent Decree.** The Jersey City Entities and JCRA shall take all appropriate steps to ensure that this Consent Decree has been (and that actions required hereunder will be) duly considered, ratified, and approved. Such steps include consideration of this Consent Decree at a meeting of the City Council, open to the public, at which members of the public have the opportunity to comment on all aspects of the Settlement, including the commitments made by Jersey City; and consideration by and approval of the commissioners of the JCIA, JCMUA, and JCRA.

120. **Modifications.** This Consent Decree may be modified by mutual agreement of the Parties but such agreement must be in writing, duly and properly signed by all Parties, and shall be submitted to the Court for approval.

121. **Severability.** Each of the provisions in paragraph 60 of this Consent Decree shall be deemed severable and, in the event that one or more of such provisions is deemed invalid or unenforceable, it shall not affect the validity or enforceability of the other provisions of the Consent Decree.

122. **Signatures.** This Consent Decree may be signed simultaneously or in counterparts by the respective signatories, which shall be as fully valid and binding as if a single document was signed by all of the signatories. This Consent Decree may be signed electronically by any or all signatories, and such electronic signature shall be as fully valid and binding as a hand-written signature.

Consented to and approved for entry:

s/Aurelio Vincitore

William Matsikoudis
Aurelio Vincitore
Corporation Counsel
City of Jersey City
280 Grove Street
Jersey City, NY 07305
(201) 547-4667

Counsel for the City of Jersey City

s/David L. Isabel

David L. Isabel
Golub & Isabel, PC
160 Littleton Road
Parsippany, NJ 07054
(973) 968-3377

Counsel for Jersey City Incinerator Authority

s/ Joni Noble McDonnell

Joni Noble McDonnell
Genova, Bruns & Giantomasi
4974 Broad Street
Newark, NJ 07102
973-535-4435

Counsel for Jersey City Municipal Utilities Authority

Robert Antonichello
Executive Director
30 Montgomery Street
Jersey City, NJ 07302
(201) 547-5810

Executive Director of Jersey City Redevelopment Agency

s/ David Sheehan

David Sheehan
Baker Hostetler
45 Rockefeller Plaza
11th Floor
New York, NY 10111
(212) 589-4200

Michael D. Daneker
Arnold & Porter LLP
555 12th Street N.W.
Washington, DC 20004
(202) 942-5000

Counsel for Honeywell International Inc. and Bayfront Redevelopment LLC

s/ Edward Lloyd

Edward Lloyd
Columbia Law School
435 West 116th Street, Room 831
New York, NY 10027
(212) 854-4376

Bruce J. Terris
Carolyn Smith Pravlik
Kathleen L. Millian
Terris, Pravlik & Millian, LLP
1121 12th Street N.W.
Washington, DC 20005-4632
(202) 682-2100

Counsel for the Hackensack Riverkeeper, William Sheehan, Reverend Winston Clarke, and Lawrence Baker

APPROVED AND ENTERED as an Order of this Court this ___ day of _____, 2012.

_____
Hon. Dennis M. Cavanaugh
United States District Judge

EXHIBITS

Exhibit A: Jersey City/Honeywell Consent Order

Exhibit B: Remedial AOC's and Remedial Approach Map

Exhibit C: NJDEP Chromium Policy

Exhibit D: Conservation Restriction

Exhibit E: Deed Notice

Deed Notice

Dated: _____, 2017

BAYFRONT REDEVELOPMENT LLC

Grantor(s).

Record and return to:

Waters, McPherson, McNeill, P.C.
P.O. Box 1560
300 Lighting Way
Secaucus, New Jersey 07096-1560

ATTN: _____, Esq

DRAFT DEED NOTICE

IN ACCORDANCE WITH N.J.S.A. 58:10B-13, THIS DOCUMENT IS TO BE RECORDED IN THE SAME MANNER AS ARE DEEDS AND OTHER INTERESTS IN REAL PROPERTY.

Prepared by: _____
[Signature]

_____
[Bayfront Redevelopment, LLC]

Recorded by:

_____
[Signature, Officer of County Recording Office]

_____
[Print name below signature]

DEED NOTICE CONCERNING CONTROLS INSTALLED FOR CHROMIUM CONTAMINATION UNDERLYING THE PROPERTY

This Deed Notice is made as of the __ day of _____, 2017, by ***Bayfront Redevelopment LLC, whose post office address is 115 Tabor Road, Morris Plains, New Jersey 07950***. "Owner" shall mean Bayfront Redevelopment LLC together with its successors and assigns, including all successors in interest in the Property which is the subject of this Deed Notice as described fully below. The "Property" (also referenced herein as the "Restricted Area(s)") shall consist of those lands particularly described by metes and bounds in Exhibit A-2 attached hereto.

1. THE PROPERTY. Bayfront Redevelopment, LLC is the current owner in fee simple of certain real property designated as portions of ***Block 21901, Lot 9 on the tax map of the City of Jersey City, Hudson County, New Jersey[1].*** The New Jersey Department of Environmental Protection ("NJDEP") Program Interest ("PI") Number for the contaminated site which includes this property is ***Hudson County Chromate Site No. 087 PI # G000008710*** (NJDEP PI# for non-chromium-related contaminants at the Property is #745719). The Property is also part of the as Site 087 pursuant to the First Amended Consent Decree Regarding the Remediation and Redevelopment of Study Area 6 North ("Consent Decree") which is attached hereto as Appendix I and is entered as an

[1] All references to Block 21901 Lot 9 in this Deed Notice shall mean the applicable portions of Block 21901 Lot 9 as shown in the metes and bounds description, regardless of whether the word "portion(s)" is specifically called out or not.

order of the Court in the following consolidated actions *JCMUA v. Honeywell International, Inc.,* D.N.J., Civ. No. 05-05955; *JCIA v. Honeywell International, Inc.,* D.N.J., Civ. No. 05-5993; and *Hackensack Riverkeeper, Inc. v. Honeywell International, Inc.,* D.N.J., Civ. No. 06-22 (consolidated under Civ. No. 95-2097). The Consent Decree restricts transfer, use and development of the Property. To the extent that there is any conflict or inconsistency between the terms of this Deed Notice and the terms of the Consent Decree, the Consent Decree shall govern.

2. REMEDIATION.

i. The Department's Bureau of State Case Management ("BCM") is the entity within the Department that is responsible for the oversight of the remediation of the SA-6 North. The matter is Case No. Hudson County Chromate Site No. 087 PI# G000008710. The Department has approved this Deed Notice as an institutional control for the Property, which is part of the remediation of the Property.

ii. N.J.A.C. 7:26-C-7 requires the Owner, among other persons, including the responsible party Honeywell International Inc. ("Honeywell"), to obtain a soil remedial action permit for the soil remedial action at the Property. That permit will contain the monitoring, maintenance and biennial certification requirements that apply to the Property.

3. SOIL AND GROUNDWATER CONTAMINATION. Honeywell, a corporation of the State of Delaware, licensed to do business in the State of New Jersey whose post office address is 115 Tabor Road, Morris Plains, New Jersey 07950, has remediated SA-6 North to address chromium-related soil and shallow groundwater contamination, except for the Property and certain other deed noticed areas where engineering controls were implemented. The Remedial Action Work Plan ("RAWP") was approved by the Department on February 19, 2009 for Hudson County Chromate Site Nos. 087 and 088, which included portions of the Property. Remedial actions were further approved pursuant to the Consent Decree.

Under both the Consent Decree and the RAWP, soil contamination remains in the Property at concentrations that do not allow for the unrestricted use of the Property. A Remedial Action Report ("RAR") for SA-6 North was submitted to the Department on March 16, 2017. The Department approved the RAR on June 1, 2017. A Construction Completion Report ("CCR") for SA-6 North to document the implementation of the Chromium Remedy pursuant to Article III of the Consent Decree (the "Chromium Remedy") to address chromium-impacted soil and groundwater for SA-6 North was entered by the Court on [DATE], [CITE TO DOCKET AND DOCKET #].

The Property includes a portion of the in-situ treatment area 10-1 ("TA-10-1") located north of the SA-6 North Open Space Area northern hydraulic barrier and north of the northern curbline of the future Stegman Boulevard. Due to the proximity of the force main, excavation of impacted soils in TA-10-1 is technically impracticable. Therefore, Honeywell implemented an in-situ treatment in this area in lieu of excavation. The Property is subject to post-remedy confirmation soil sampling. The Property is approximately 800 square feet. If the confirmation sampling demonstrates that hexavalent chromium concentrations are below 20 mg/kg within the Property, this deed notice will be terminated pursuant to Paragraph 13 below. In the meantime, the provisions of the Long Term Monitoring Plan ("LTMP"), developed pursuant to the Consent Decree, will apply to the Property.

The soil contamination is described, including the type, concentration and specific location of such contaminants, in Exhibit B, which is attached hereto and made a part hereof. Groundwater contaminant concentrations and restrictions for SA-6 North in its entirety are addressed in the Classification Exception Area (CEA) approved by the NJDEP on February 16, 2012 and in a forthcoming Remedial Action Permit for Groundwater (recent groundwater samples for the Property do not indicate shallow groundwater contamination). As a result of the remaining soil contamination, there is a statutory requirement for this Deed Notice and engineering controls in accordance with N.J.S.A. 58:10B-13. Under the terms of the Consent Decree and this Deed Notice, Honeywell is responsible for monitoring and maintaining the soil remediation for the Property in perpetuity or until remediation is implemented that renders this Deed Notice unnecessary.

4. CONSIDERATION. In accordance with the Department's approval of the chromium RAWP for the remediation for the Hudson County Chromate Site No. 087 which includes the Property, and in consideration of the terms and conditions of that approval, and in accordance with the Consent Decree, and other good and valuable considerations, Owner has agreed to subject the Property to certain statutory and regulatory requirements which impose restrictions upon the use of the Property, to restrict certain uses of the Property, and to provide notice to subsequent owners, lessees and operators of the restrictions and the monitoring, maintenance, and biennial certification requirements outlined in this Deed Notice and required by law, as set forth herein.

5A. RESTRICTED AREAS. Due to the presence of these contaminants, Owner has agreed, as part of the remedial action for the Property, to restrict the use of the Property (the "Restricted Areas"); a narrative description of these restrictions, along with the associated monitoring and maintenance activities and the biennial certification requirements are provided in Exhibit C, which is attached hereto and made a part hereof. Owner will develop a binder containing a list of these restrictions which will be maintained at either the onsite trailers or within the Groundwater Treatment Plant building, available for review and inspection by governmental enforcement officials if requested.

5B. RESTRICTED LAND USES. The following land use restrictions apply to the Property:

i. The Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-12.g(10), prohibits the conversion of a contaminated site, remediated to non-residential soil remediation standards that require the maintenance of engineering or institutional controls, to a child care facility, or public, private, or charter school without the Department's prior written approval, unless a presumptive remedy is implemented;

ii. The Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-12.g(12), prohibits the conversion of a landfill, with gas venting systems and or leachate collection systems, to a single-family residence or a child care facility without the Department's prior written approval;

iii. The Consent Decree, paragraph 53, prohibits the unrestricted use of the Property until the Chromium Remedy set forth in Article III of the Consent Decree is implemented and confirmation sampling demonstrates that the concentration of hexavalent chromium in soil is less than 20 mg/kg to a depth of 20 feet below ground surface.

5C. ENGINEERING CONTROLS. Due to the presence and concentration of these contaminants, the Owner has also agreed, as part of the remedial action for the Property, to the placement of certain engineering controls within the Property. The engineering controls include clean cover materials to a depth of at least 10-feet below ground surface. A narrative description of these engineering controls, along with the associated monitoring and maintenance activities and the biennial certification requirements are provided in Exhibit C. Honeywell shall be responsible for monitoring and maintenance of engineering controls and biennial certification requirements as specified in the Consent Decree, LTMP, and Paragraphs 8A and 8B herein.

5D. LONG TERM MONITORING PLAN. Honeywell has developed an LTMP pursuant to the Consent Decree which sets forth requirements for monitoring, maintaining, and repairing or replacing the soil and groundwater chromium remedial measures including engineering controls within the Property, and requirements for notification and reporting pursuant to the Consent Decree, Deed Notice, and Soil Remedial Action Permit. A copy of the LTMP is maintained by Honeywell at 115 Tabor Road, Morris Plains, NJ 07950. This Deed Notice is appended to the LTMP.

5E. WORKER TRAINING MATERIALS. All maintenance workers engaged in maintenance at the Property shall be trained in maintenance procedures that do not jeopardize the integrity of the Chromium Remedy. Workers shall be trained using materials developed by Honeywell pursuant to the Consent Decree.

6A. CHANGE IN OWNERSHIP AND REZONING.

i. The Owner and the subsequent owners and lessees, shall cause all leases, grants, and other written transfers of an interest in the Restricted Areas to contain a provision expressly requiring all holders thereof to take the Property subject to the restrictions contained herein and to comply with all, and not to violate any of the conditions of this Deed Notice. Nothing contained in this Paragraph shall be construed as limiting any obligation of any person to provide any notice required by any law, regulation, or order of any governmental authority.

ii. The Owner and the subsequent owners shall provide written notice to the Department of Environmental Protection on a form provided by the Department and available at www.nj.gov/srp/forms within thirty (30) calendar days after the effective date of any conveyance, grant, gift, or other transfer, in whole or in part, of the owner's interest in the Restricted Area.

iii. The Owner and the subsequent owners shall provide written notice to the Department, on a form available from the Department at www.nj.gov/srp/forms, within thirty (30) calendar days after the owner's petition for or filing of any document initiating a rezoning of the Property to residential.

6B. SUCCESSORS AND ASSIGNS. This Deed Notice shall be binding upon Owner and upon Owner's successors and assigns, and subsequent owners, lessees, and operators while each is an owner, lessee, or operator of the Property.

7A. ALTERATIONS, IMPROVEMENTS, AND DISTURBANCES.

i. The Owner and all subsequent owners and lessees shall notify any person of whom it has knowledge, including, without limitation, tenants, employees of tenants, developers, and contractors, intending to conduct invasive work or excavate within the Property, of the nature and location of known contamination in the Property, and, of the precautions necessary to protect the engineering controls and minimize potential human exposure to contaminants.

ii. Except as provided in the Consent Decree and Paragraph 7B below, no person shall make, or allow to be made, any alteration, improvement, or disturbance in, to, or about the Property which disturbs any engineering control at the Property except as (a) permitted in the Consent Decree and (b) without first obtaining a Soil Remedial Action Permit modification from the Department. Nothing herein shall constitute a waiver of the obligation of any person to comply with all applicable laws and regulations including, without limitation, the applicable rules of the Occupational Safety and Health Administration.

iii. Notwithstanding subparagraph 7A.ii.(b), above, a Soil Remedial Action Permit modification is not required for any alteration, improvement, or disturbance provided that:

(A) Such action is taken in conformance with the Consent Decree and this Deed Notice; and

(B) The Department of Environmental Protection is notified of the activity by calling the DEP Hotline, at 1-877-WARN-DEP or 1-877-927-6337, within twenty-four (24) hours after the beginning of each alteration, improvement, or disturbance; and

(C) Honeywell is notified of the activity by calling 855-727-2658; and

(D) Honeywell and/or the owner restores any disturbance of an engineering control to pre-disturbance conditions, consistent with the requirements of the Consent Decree and LTMP, within sixty (60) calendar days after the initiation of the alteration, improvement or disturbance; and

(E) All applicable worker health and safety laws and regulations are followed during the alteration, improvement, or disturbance, and during the restoration; and

(F) Appropriate measures are taken so that human exposure, and exposure of the environment outside the containment of the engineering controls, to contamination in excess of the applicable remediation standards does not occur; and

(G) The next biennial certification includes a description of the nature of the alteration, improvement, or disturbance, the dates and duration of the alteration, improvement, or disturbance, the name of key individuals and their affiliations conducting the alteration, improvement, or disturbance, a description of the notice the Owner gave to those persons prior to the disturbance, the amounts of soil generated for disposal, if any, the final disposition and any precautions taken to prevent exposure.

7B. EMERGENCIES. In the event of an emergency which presents, or may present, an unacceptable risk to the public health and safety, or to the environment, or immediate environmental concern, see N.J.S.A. 58:10C-2, any person may temporarily breach an engineering control provided that:

i. The Department of Environmental Protection is immediately notified of the emergency, by calling the DEP Hotline at 1-877-WARNDEP or 1-877-927-6337; and

ii. Immediately after notifying NJDEP, Honeywell is notified of the emergency by calling 855-727-2658; and

iii. Both the actual disturbance and the time needed for the disturbance are limited to the minimum reasonably necessary to adequately respond to the emergency; and

iv. All measures necessary to limit actual or potential, present or future risk of exposure to humans or the environment to the contamination are implemented; and

v. The Department of Environmental Protection is notified when the emergency has ended by calling the DEP Hotline at 1-877-WARNDEP or 1-877-927-6337; and

vi. Honeywell is notified when the emergency has ended by calling 855-727-2658; and

vii. Honeywell restores the engineering control to the pre-emergency conditions, consistent with the requirements in the Consent Decree and LTMP, as soon as possible, and submits a written report to the Department of Environmental Protection of such emergency and restoration efforts within sixty (60) calendar days after completion of the restoration of the engineering control. The report must include all information pertinent to the emergency, potential discharges of contaminants, and restoration measures that were implemented, which, at a minimum, should specify: (a) the nature and likely cause of the emergency, (b) the potential discharges of or exposures to contaminants, if any, that may have occurred, (c) the measures that have been taken to mitigate the effects of the emergency on human health and the environment, (d) the measures completed or implemented to restore the engineering control, and (e) the changes to the engineering control or site operation and maintenance plan to prevent recurrence of such conditions in the future. Honeywell shall submit the report to:

Department of Environmental Protection
Division of Remediation Management and Response
Bureau of Operation, Maintenance and Monitoring
Deed Notice Inspection Program
P.O. Box 413
401 E. State Street
Trenton, NJ 08625-0413

8A. MONITORING AND MAINTENANCE OF DEED NOTICE, AND PROTECTIVENESS CERTIFICATION. The persons in any way responsible, pursuant to the Spill Compensation

and Control Act, N.J.S.A. 58:10-23.11a et seq., for the hazardous substances that remain at the Property, the persons responsible for conducting the remediation, Honeywell, the Owner, and the subsequent owners, lessees, and operators, shall monitor and maintain this Deed Notice. The subsequent owners, lessees and operators have this obligation only during their ownership, tenancy, or operation. Honeywell shall certify to the Department on a biennial basis that the remedial action that includes this Deed Notice remains protective of the public health and safety and of the environment. The specific obligations to monitor and maintain the Deed Notice shall include all of the following:

i. Monitoring and maintaining this Deed Notice according to the requirements in Article III of the Consent Decree and Exhibit C herein, to ensure that the remedial action that includes the Deed Notice continues to be protective of the public health and safety and of the environment; and

ii. Conducting any additional remedial investigations and implementing any additional remedial actions, that are necessary to correct, mitigate, or abate each problem related to the protectiveness of the remedial action for the Property prior to the date that the certification is due to the Department pursuant to iii, below, so that the remedial action that includes this Deed Notice remains protective of the public health and safety and of the environment; and

iii. Certifying to the Department of Environmental Protection the continued protectiveness of the remedial action that includes this Deed Notice, on a form provided by the Department and consistent with N.J.A.C. 7:26C-1.2 (a)1, every two years on the anniversary of the date stamped on the Deed Notice that indicates when the Deed Notice was recorded.

8B. MONITORING AND MAINTENANCE OF ENGINEERING CONTROLS, AND PROTECTIVENESS CERTIFICATION. Honeywell shall maintain all engineering controls at the Property and certify to the Department on a biennial basis that the remedial action of which each engineering control is a part remains protective of the public health and safety and of the environment. The specific obligations to monitor and maintain the engineering controls shall include the following:

i. Monitoring and maintaining each engineering control according to the requirements in Article III of the Consent Decree, the LTMP, and Exhibit C herein, so that the remedial action that includes the engineering control continues to be protective of the public health and safety and of the environment; and

ii. Conducting any additional remedial investigations and implementing any additional remedial actions, that are necessary to correct, mitigate, or abate each problem related to the protectiveness of the remedial action for the Property prior to the date that the certification is due to the Department pursuant to iii, below, so that the remedial action that includes the engineering control remains protective of the public health and safety and of the environment; and

iii. Certifying to the Department of Environmental Protection the continued protectiveness of the remedial action that includes the engineering control, on a form provided by the Department and consistent with N.J.A.C. 7:26C-1.2 (a)1, every two years on the anniversary of the date stamped on the Deed Notice that indicates when the Deed Notice was recorded.

9. ACCESS. The Owner, subsequent owners, lessees, and operators, agree to allow the Department, its agents and representatives access to the Property to inspect and evaluate the continued protectiveness of the remedial action that includes this Deed Notice and to conduct additional remediation to ensure the protection of the public health and safety and of the environment if the persons responsible for monitoring the protectiveness of the remedial action, as described in Paragraph 8, above, fail to conduct such remediation pursuant to this Deed Notice as required by law. The Owner, and the subsequent owners and lessees, shall also cause all leases, subleases, grants, and other written transfers of an interest in the Restricted Areas to contain a provision expressly requiring that all holders thereof provide such access to the Department.

10. NOTICES.

i. Owner shall cause all leases, grants, and other written transfers of an interest in the Restricted Areas to contain a provision expressly requiring all holders thereof to take the Property subject to the restrictions contained herein and to comply with all, and not to violate any of the conditions of this Deed Notice. Nothing contained in this Paragraph shall be construed as limiting any obligation of any person to provide any notice required by any law, regulation, or order of any governmental authority.

ii. Honeywell or Owner shall notify any person intending to conduct invasive work or excavate within the Property of the nature and location of contamination and, of the precautions necessary to minimize potential human exposure, and exposure of the environment outside the containment of the engineering controls, to contaminants.

iii. Owner shall provide written notice to the Department of Environmental Protection at least thirty (30) calendar days before the effective date of any conveyance, grant, gift, or other transfer, in whole or in part, of the owner's interest in the Restricted Area. Any such conveyance, grant or gift must be consistent with the terms of the Consent Decree.

iv. Owner shall provide written notice to the Department within thirty (30) calendar days following the Owner's receiving notice of any petition for a rezoning of the Property. Any such rezoning must be consistent with the terms of the Consent Decree. The Owner shall submit the written notice to:

Department of Environmental Protection
Division of Remediation Management and Response
Bureau of Operation, Maintenance and Monitoring
Deed Notice Inspection Program
P.O. Box 413
401 E. State Street
Trenton, NJ 08625-0413.

11. ENFORCEMENT OF VIOLATIONS.

i. This Deed Notice itself is not intended to create any interest in real estate in favor of the Department of Environmental Protection, nor to create a lien against the Property, but merely is intended to provide notice of certain conditions and restrictions on the Property and to reflect the regulatory and statutory obligations imposed as a conditional remedial action for this Property.

ii. The restrictions provided herein may be enforceable by the Department against any person who violates this Deed Notice. To enforce violations of this Deed Notice, the Department may initiate one or more enforcement actions pursuant to N.J.S.A. 58:10-23.11, and N.J.S.A. 58:10C, and require additional remediation and assess damages pursuant to N.J.S.A. 58:10-23.11, and N.J.S.A. 58:10C.

iii. This Deed Notice is also enforceable in the United States District Court for the District of New Jersey by all residents, owners, lessees, and all commercial tenants on Study Areas 6 and 7 pursuant to paragraphs 66 and 69 of the Consent Decree.

12. SEVERABILITY. If any court of competent jurisdiction determines that any provision of this Deed Notice requires modification, such provision shall be deemed to have been modified automatically to conform to such requirements. If a court of competent jurisdiction determines that any provision of this Deed Notice is invalid or unenforceable and the provision is of such a nature that it cannot be modified, the provision shall be deemed deleted from this instrument as if the provision had never been included herein. In either case, the remaining provisions of this Deed Notice shall remain in full force and effect.

13. MODIFICATION AND TERMINATION.

i. Any person may request in writing, at any time, that the Department modify this Deed Notice where performance of subsequent remedial actions, a change of conditions at the Property, or the adoption of revised remediation standards suggest that modification of the Deed Notice would be appropriate, provided that any such modification is consistent with the requirements of the Consent Decree.

ii. Any person may request in writing, at any time, that the Department terminate this Deed Notice because the conditions which triggered the need for this Deed Notice are no longer applicable.

iii. Any person seeking a modification or termination of this Deed Notice must also have such modification approved by the United States District Court for the District of New Jersey pursuant to the Consent Decree until such time as the Consent Decree terminates with regard to the Property pursuant to the Consent Decree.

iv. If the United States District Court for the District of New Jersey and NJDEP have concluded that this Deed Notice shall be modified or terminated, such modification or termination will only be effective upon the filing of a Termination of Deed Notice, available at N.J.A.C. 7:26C

Appendix C, with the office of the Register of Deeds of Hudson County, New Jersey, expressly modifying or terminating this Deed Notice.

v. Within thirty (30) calendar days after the filing of a Termination of Deed Notice, the owner of the Property shall apply to the Department for modification or termination of the Soil Remedial Action Permit pursuant to N.J.A.C. 7:26C-7.

vi. This Deed Notice may be modified only if it has first been terminated pursuant to subparagraphs 13v above, and upon filing of a modified Deed Notice, executed by the Owner of the Property, in the office of the Register of Deeds of Hudson County, New Jersey.

14A. EXHIBIT A. Exhibit A includes the following maps of the Property and the vicinity:

i. Exhibit A-1: Vicinity Map - A map that identifies by name the roads, and other important geographical features in the vicinity of the Property;

ii. Exhibit A-2: Metes and Bounds Description - A metes and bounds description of the Property, including reference to tax lot and block numbers for the Property and a Tax Map;

iii. Exhibit A-3: Property Map - A scaled map of the Property, scaled at one inch to 200 feet or less, and if more than one map is submitted, the maps shall be presented as overlays, keyed to a base map; the map(s) shall include diagrams of major surface topographical features such as buildings, roads, and parking lots. Unless this Deed Notice has been terminated pursuant to Paragraph 13, after development of the Property, this Deed Notice shall be modified to show topographical features constructed on the Property such as buildings, roads, and parking lots.

14B. EXHIBIT B. Exhibit B includes the following descriptions of the Restricted Areas:

i. Exhibit B-1: Restricted Area Map - Maps for the Property that include, as applicable:

(A) As-built diagrams of each engineering control, including caps, fences, hydraulic barrier walls, ground water monitoring wells, and ground water pumping system including trenches and pumps;

(B) As-built diagrams of any buildings, roads, parking lots, utility corridors, and other structures that function as engineering controls; and

(C) Designation of all soil and/or sediment sample locations within the restricted areas that exceed any soil or sediment standard that are keyed into one of the tables described below.

ii. Exhibit B-2 (Table B-2): Restricted Area Data Tables - Table for the Property that includes:

(A) Sample location designation from Restricted Area maps (Exhibit B-1);

(B) Sample elevation based upon mean sea level;

(C) Name and chemical abstract service registry number of each contaminant with a concentration that exceeds the unrestricted use standard;

(D) The restricted and unrestricted use standards for each contaminant in the table; and

(E) The remaining concentration of each contaminant at each sample location at each elevation (or if historic fill, include data from the Department's default concentrations at N.J.A.C. 7:26E-4.6, Table 4-2).

14C. EXHIBIT C. Exhibit C includes narrative descriptions of the institutional controls and engineering controls as follows:

i. Exhibit C-1A through C-1C. Exhibit C-1-A: Deed Notice as Institutional Control; Exhibit C-1-B: Consent Decree as Institutional Control; and Exhibit C-1C Zoning as Institutional Control: Exhibit C-1 includes a narrative description of the restrictions and obligations of this Deed Notice that are in addition to those described above, as follows:

(A) General Description of the Institutional Control:
(1) Description and estimated size of the Restricted Areas as described above;
(2) Description of the restrictions on the Property by operation of this Deed Notice and the other Institutional Controls; and
(3) The objective of the restrictions;

(B) Description of the monitoring necessary to determine whether:
(1) Any disturbances of the soil in the Restricted Areas resulted in the unacceptable exposure to the soil contamination;
(2) There have been any land use changes subsequent to the filing of this Deed Notice and the other Institutional Controls or the most recent biennial certification, whichever is more recent;
(3) The current land use on the Property is consistent with the restrictions in this Deed Notice and the other Institutional Controls;
(4) Any newly promulgated or modified requirements of applicable regulations or laws apply to the Property; and
(5) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice and the other Institutional Controls, and conduct the necessary sampling; and

(C) Description of the following items that will be included in the biennial certification:
(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice and the other Institutional Controls;
(2) Land use at the Property is consistent with the restrictions in this Deed Notice and the other Institutional Controls; and

(3) The remedial action that includes this Deed Notice and the other Institutional Controls continues to be protective of the public health and safety and of the environment.

ii. Exhibit C-2. Exhibit C-2: Engineering Controls: Asphalt Cover;

Exhibit C-2 includes a narrative description of the engineering controls as follows:

(A) General Description of the engineering control:
(1) Description of the engineering control;
(2) The objective of the engineering control; and
(3) How the engineering control is intended to function.

(B) Description of the operation and maintenance necessary to ensure that:
(1) Periodic inspections of each engineering control are performed in order to determine its integrity, operability, and effectiveness;
(2) Each engineering control continues as designed and intended to protect the public health and safety and the environment;
(3) Each alteration, excavation or disturbance of any engineering control is timely and appropriately addressed to maintain the integrity of the engineering control;
(4) The engineering control is being inspected and maintained and its integrity remains so that the remedial action continues to be protective of the public health and safety and of the environment;
(5) A record of the self-inspection dates, name of the inspector, results of the inspection and condition(s) of the engineering control. Sampling, for example, may be necessary if it is not possible to visually evaluate the integrity/performance of the engineering control; and
(6) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice, and conduct the necessary sampling; and

(C) Description of the following items that will be included in the biennial certification:
(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice;
(2) The engineering control continues to operate as designed; and
(3) The remedial action that includes the engineering control continues to be protective of the public health and safety and of the environment.

15. SIGNATURES. IN WITNESS WHEREOF, Owner has executed this Deed Notice as of the date first written above.

ATTEST: , LLC

_____ By_____
[Signature] [Signature]

_____ _____
[Print name and title] [Print name and title]

STATE OF NEW JERSEY SS.:
COUNTY OF _____

I certify that on _____ ___, 2017, _____ personally came before me, and this person acknowledged under oath, to my satisfaction, that:

(a) this person is the _____ of _____, LLC, the Limited Liability Corporation named in this document;

(b) this person is the attesting witness to the signing of this document by the proper corporate officer who is the _____ of the Limited Liability Corporation;

(c) this document was signed and delivered by the Limited Liability Corporation as its voluntary act and was duly authorized;

(d) this person knows the proper seal of the Limited Liability Corporation which was affixed to this document; and

(e) this person signed this proof to attest to the truth of these facts.

_____
[Signature]

_____
[Print name and title of attesting witness]

Signed and sworn before me on _____, 20__

_____, Notary Public

_____
[Print name and title]

EXHIBIT A
Deed Notice #7 TA-10-1

A-1 Vicinity Map

A-2 Metes and Bounds Description and Tax Map

A-3 Property Map Portions of Block 21901, Lot 9, City of Jersey City, New Jersey

Exhibit A-1 Vicinity Map consists of a road map for the vicinity of the Property.

Exhibit A-2 consists of metes and bounds and a tax map for the Property.

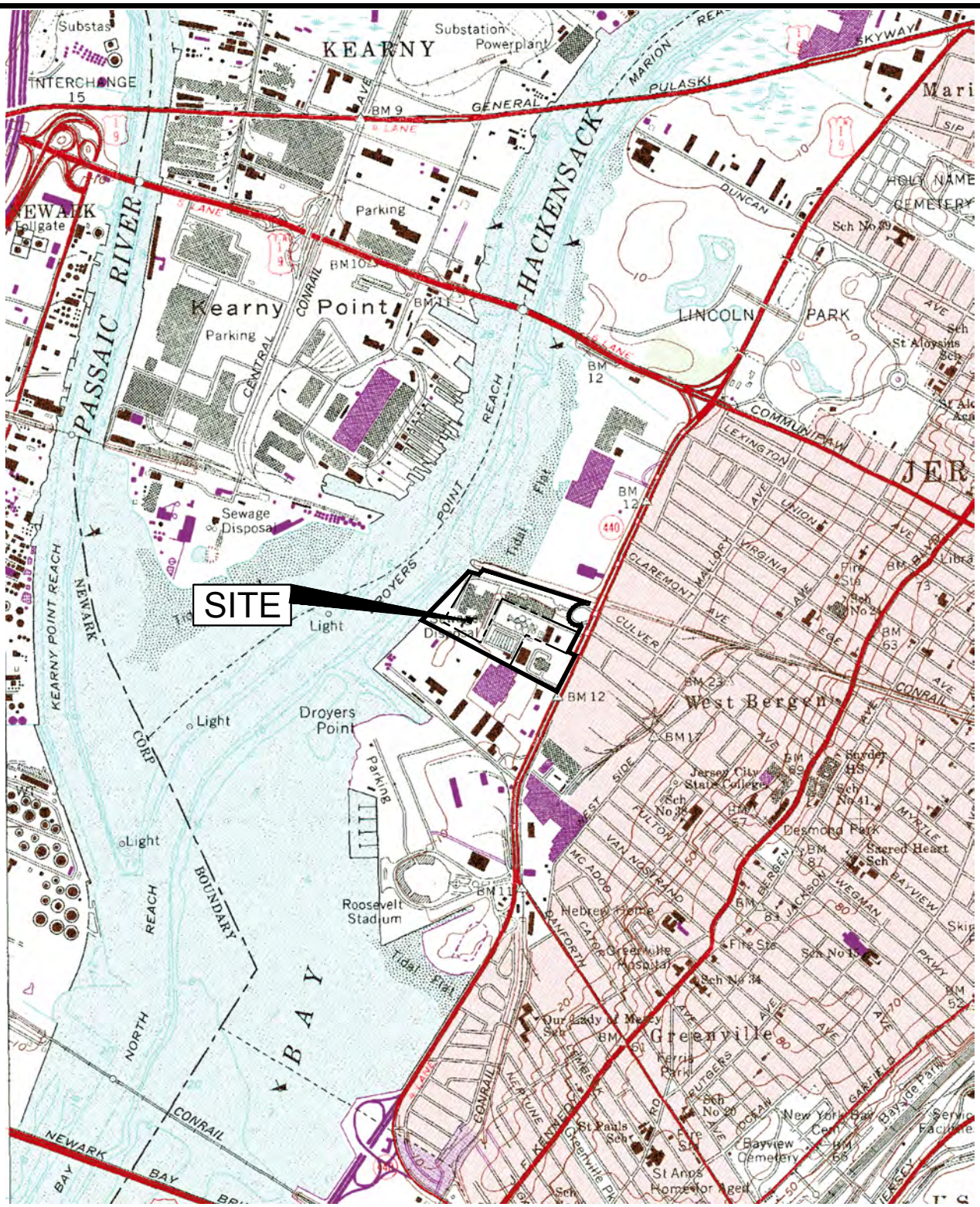
Exhibit A-3 Property Map consists of a figure indicating major surface features and engineering control for the Property. Unless this Deed Notice has been terminated pursuant to Paragraph 13, after development of the Property, this Deed Notice shall be modified to show topographical features constructed on the Property such as buildings, roads, and parking lots.

Exhibit A-1
Site Vicinity Map
Jersey City, New Jersey

EXHIBIT A-1
SITE VICINITY MAP
PORTIONS OF STUDY AREA 6 NORTH SITE 087
JERSEY CITY, NEW JERSEY

CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (ii) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN DELIVERED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.

P:\CADD\HONEYWELL\JERSEY CITY\SA 6 NORTH\3480150487\6100\610001\DEED NOTICE\DN 7\3480150487-6100-A107-0000.dwg Thu, 17 Aug 2017 - 10:43am charles.wingfield



SOURCE: USGS QUADRANGLE MAP, 7.5 MIN SERIES
JERSEY CITY, NJ-NY 1967, PHOTO REVISED 1981

RESTRICTED AREA

DRAFT

0 1000 2000 4000
SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150450 *DRAWING:* 3480150487-6100-A107-0000		amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619
PREPARED/DATE: STR 12/15/16	*CHECKED/DATE:* NW 01/31/17	

EXHIBIT A-1
VICINITY MAP
BLOCK 21901 LOT 9
SA-6 NORTH
JERSEY CITY, NEW JERSEY
DEED NOTICE #7

Exhibit A-2
Deed Notice #7 TA-10-1

Metes and Bounds Description of Property: See Attached
Tax Map: See Attached

A-2 Metes and Bounds Description of Property Portions of Block 21901, Lot 9
City of Jersey City, New Jersey

If there is any discrepancy between the Metes and Bounds and the tax map or any of the other maps attached hereto, the Metes and Bounds prevails.

The Property is identified as portions of Block 21901, Lot 9 on the City of Jersey City tax maps, the Property being presently owned by Bayfront Redevelopment, LLC. A copy of the current tax map which includes the TA-10-1 Property is attached as Exhibit A-2.

MASER CONSULTING P.A.
Consulting, Municipal & Environmental Engineers
Planners • Surveyors • Landscape Architects

331 Newman Springs Road
Suite 203
Red Bank, NJ 07701
Tel: 732.383.1950 • Fax: 732.383.1984

DESCRIPTION OF PROPERTY
CITY OF JERSEY CITY
HUDSON COUNTY, NEW JERSEY
PROJECT NO. 10000292R

DEED NOTICE AREA 7
BLOCK 21901 LOT 9
MAY 18, 2016
REVISED: AUGUST 16, 2017

All that certain lot, tract or parcel of land situate lying and being in the City of Jersey, in the County of Hudson and State of New Jersey, and being a portion of Lot 9 Block 21901, designated as Deed Notice Area 7 as shown on an exhibit entitled, "Deed Notice Area 7, SA6 North, Block 21901, Lot 9, City of Jersey City, Hudson County, New Jersey," prepared by Maser Consulting P.A., dated April 12, 2016, revised through August 16, 2017 and being more particularly bounded and described as follows, to wit:

COMENCING at the intersection of the westerly line of Lots 8 and 10, in Block 21901 with the division line between said lots as shown on the aforesaid exhibit; thence –

A. **S59° 39'05"E, 176.32 feet**, along said division line to the intersection of the same with the third course of an area designated as Deed Notice Area 5; thence—

Running along the westerly and northerly lines of said Deed Notice Area 5, the following thirteen (13) courses:

B. **N28° 37' 00"E, 19.46 feet**; thence –
C. **N30° 01' 01"E, 48.06 feet**; thence –
D. **N19° 17' 57"W, 17.97 feet**; thence –
E. **N31° 55' 37"E, 23.15 feet**; thence –
F. **N76° 06' 19"E, 18.87 feet**; thence –
G. **N29° 16' 27"E, 36.41 feet**; thence –
H. **S65° 27' 42"E, 153.93 feet**, through said Lot 10 and beyond, to a point in Lot 9; thence –

Running through said Lot 9 the following six (6) courses:

I. **N24° 46' 55"E, 9.39 feet**; thence –
J. **S63° 20' 43"E, 154.05 feet**; thence –
K. **S64° 10' 53"E, 3.13 feet**; thence –
L. **N89° 06' 30"E, 10.85 feet**; thence –
M. **S71° 33' 46"E, 49.04 feet**; thence –
N. **N64° 44' 16"E, 48.64 feet**, to the 4th True Point of **BEGINNING**, and running; thence –

Continuing through said Lot 9 the following five (5) courses:

1. **N64° 44' 16"E, 2.98 feet**; thence –

2. **S06° 31' 46"E, 21.50 feet**; thence –

3. **S79° 41' 26"E, 32.97 feet**; thence –

4. **S20° 45' 38"W, 27.84 feet** to the aforesaid northerly line of Deed Notice Area 5; thence –

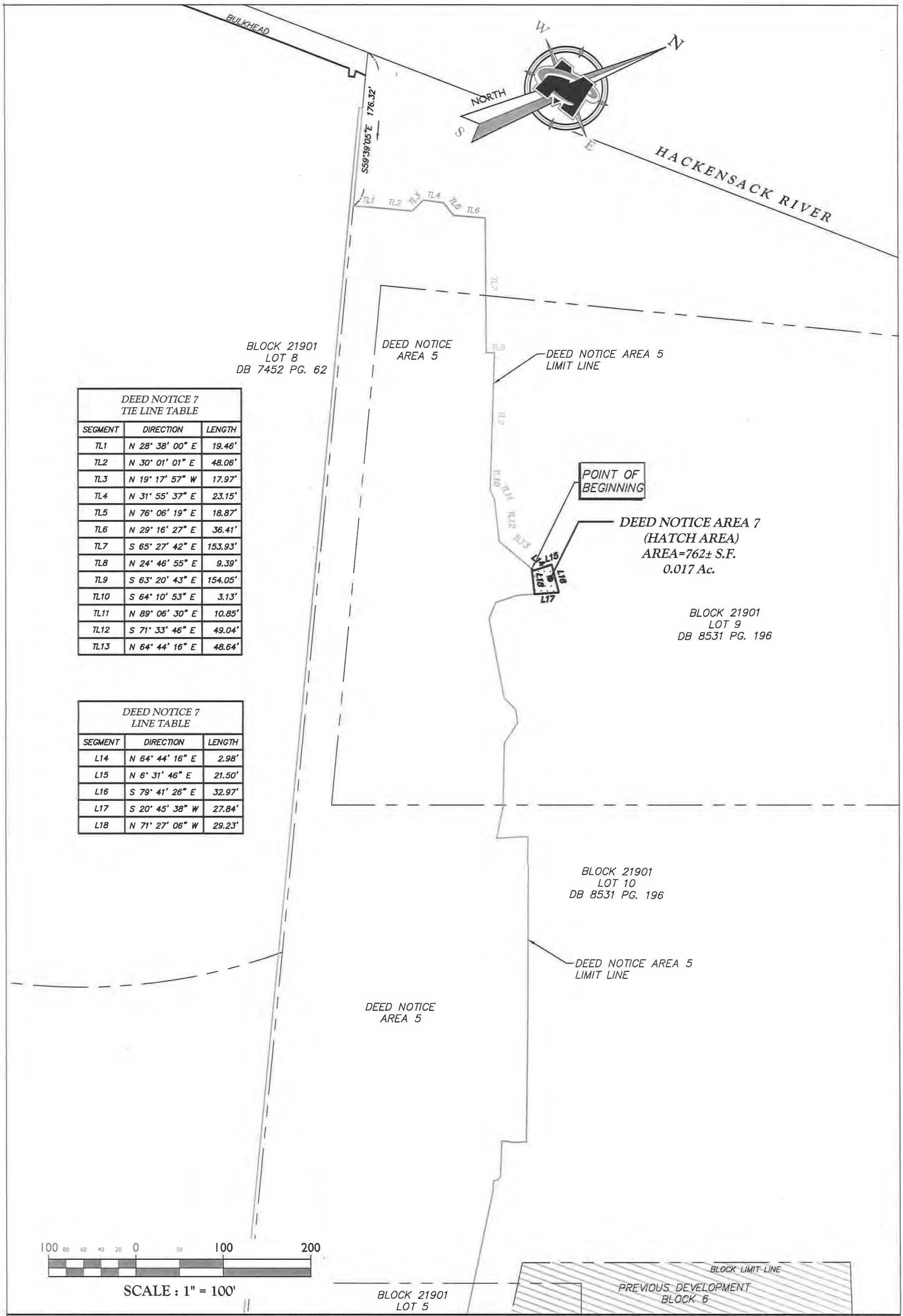
5. **S71° 27' 06"E, 29.23 feet** along said northerly line to the Point and Place of **BEGINNING**.

CONTAINING: 762 S.F. of land more or less or 0.017 acres of land more or less.

08/16/17

GLEN J. LLOYD, P.L.S. DATE SIGNED
NEW JERSEY PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS037598

R:\General\Projects\2010\10000292R\Survey\Description\Metes & Bounds-Deed Notice 7_REV 08.16.17.docx



DEED NOTICE 7 TIE LINE TABLE		
SEGMENT	DIRECTION	LENGTH
TL1	N 28° 38' 00" E	19.46'
TL2	N 30° 01' 01" E	48.06'
TL3	N 19° 17' 57" W	17.97'
TL4	N 31° 55' 37" E	23.15'
TL5	N 76° 06' 19" E	18.87'
TL6	N 29° 16' 27" E	36.41'
TL7	S 65° 27' 42" E	153.93'
TL8	N 24° 46' 55" E	9.39'
TL9	S 63° 20' 43" E	154.05'
TL10	S 64° 10' 53" E	3.13'
TL11	N 89° 06' 30" E	10.85'
TL12	S 71° 33' 46" E	49.04'
TL13	N 64° 44' 16" E	48.64'

DEED NOTICE 7 LINE TABLE		
SEGMENT	DIRECTION	LENGTH
L14	N 64° 44' 16" E	2.98'
L15	N 6° 31' 46" E	21.50'
L16	S 79° 41' 26" E	32.97'
L17	S 20° 45' 38" W	27.84'
L18	N 71° 27' 06" W	29.23'

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▪ Mt. Laurel, NJ ▪ Exton, PA
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REV	DATE	DRAWN BY	DESCRIPTION
1	12/7/16	CJK	DIVIDED DN-7 INTO TWO (2) TRACTS
2	1/13/17	KAN	BLOCK 6
3	2/2/17	KAN	BLOCK 6
4	8/16/17	KAN	REVISED DN-7
-	-	-	-
-	-	-	-

DEED NOTICE AREA 7
SA6 NORTH

BLOCK 21901
LOT 9

CITY OF JERSEY CITY
HUDSON COUNTY
NEW JERSEY

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
Know what's below. Call before you dig.
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

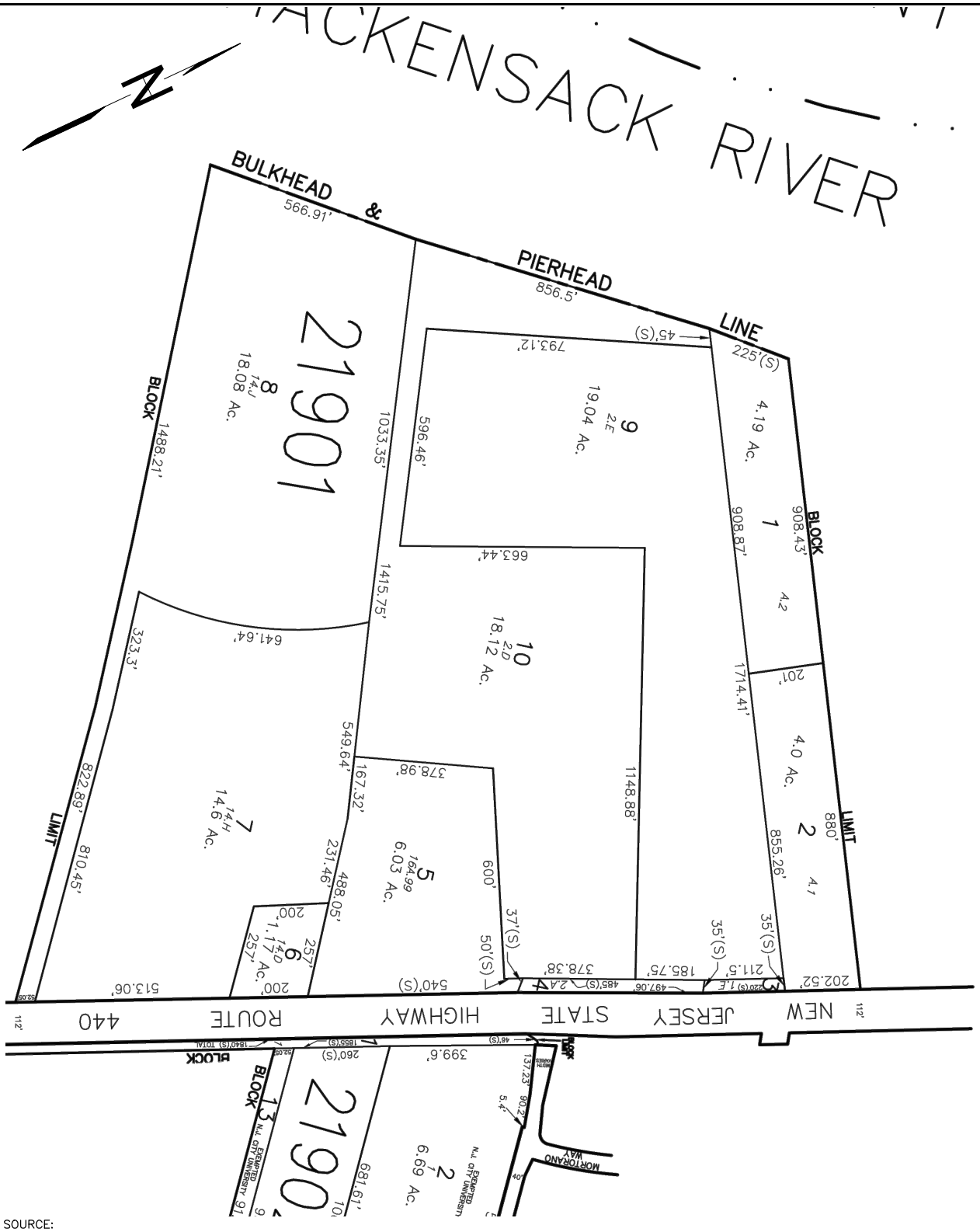
RED BANK OFFICE
Corporate Headquarters
331 Newman Springs Road
Suite 203
Red Bank, NJ 07701
Phone: 732.383.1950
Fax: 732.383.1984

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	05/16/16	KAN	GJL
PROJECT NUMBER: 10000292Q		DRAWING NAME: V-EXBT-DN-7_REV	

SHEET TITLE:
DEED NOTICE EXHIBIT

SHEET NUMBER:
1 of 1

UNLESS OTHERWISE AGREED IN A WRITTEN CONTRACT BETWEEN AMEC FOSTER WHEELER AND ITS CLIENT: (I) THIS DOCUMENT CONTAINS INFORMATION, DATA AND DESIGN THAT IS CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (II) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN DELIVERED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.



SOURCE:
DRAWING TITLED: "TAX MAP CITY OF JERSEY CITY", PREPARED BY T&M ASSOCIATED, MIDDLETOWN TWP., NJ SHEET 219, DATED AUGUST, 2006; NEW JERSEY DEPARTMENT OF THE TREASURY DIVISION OF TAXATION PROPERTY ADMINISTRATION DATED MAY 8, 2009 SERIAL NO.: 934.

DRAFT

0 150 300 600
SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150487 *DRAWING:* 3480150487-6100-A207-0000	amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT A-2** TAX MAP BLOCK 21901, LOT 9 SA-6 NORTH JERSEY CITY, NEW JERSEY DEED NOTICE # 7
PREPARED/DATE: STR 12/22/16 | *CHECKED/DATE:* NW 01/31/17		

P:\CADD\HONEWELL\JERSEY CITY\SA 6 NORTH\3480150487\6100\6100011\DEED NOTICE\DN 7\3480150487-6100-A207-0000.dwg Tue, 22 Aug 2017 - 11:08am charles.wingfield

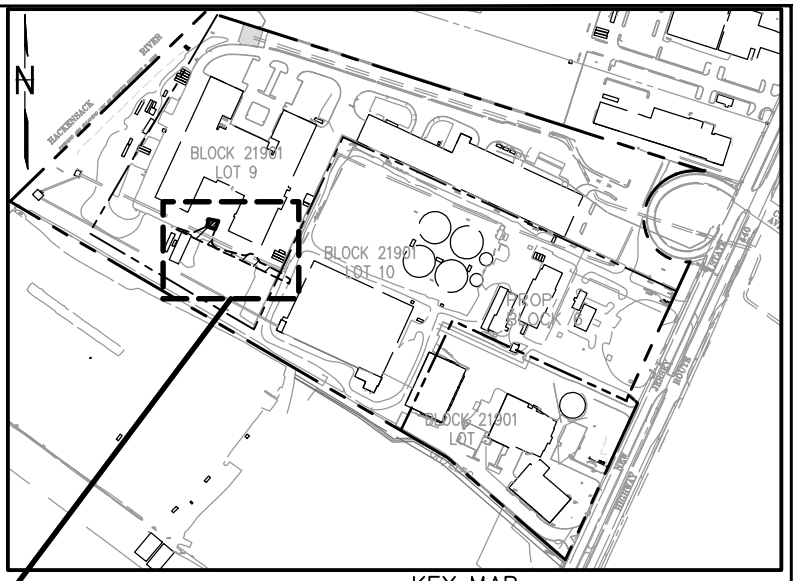
Exhibit A-3
Property Map

UNLESS OTHERWISE AGREED IN A WRITTEN CONTRACT BETWEEN AMEC FOSTER WHEELER AND ITS CLIENT: (I) THIS DOCUMENT CONTAINS INFORMATION, DATA AND DESIGN THAT IS CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (II) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN DELIVERED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.

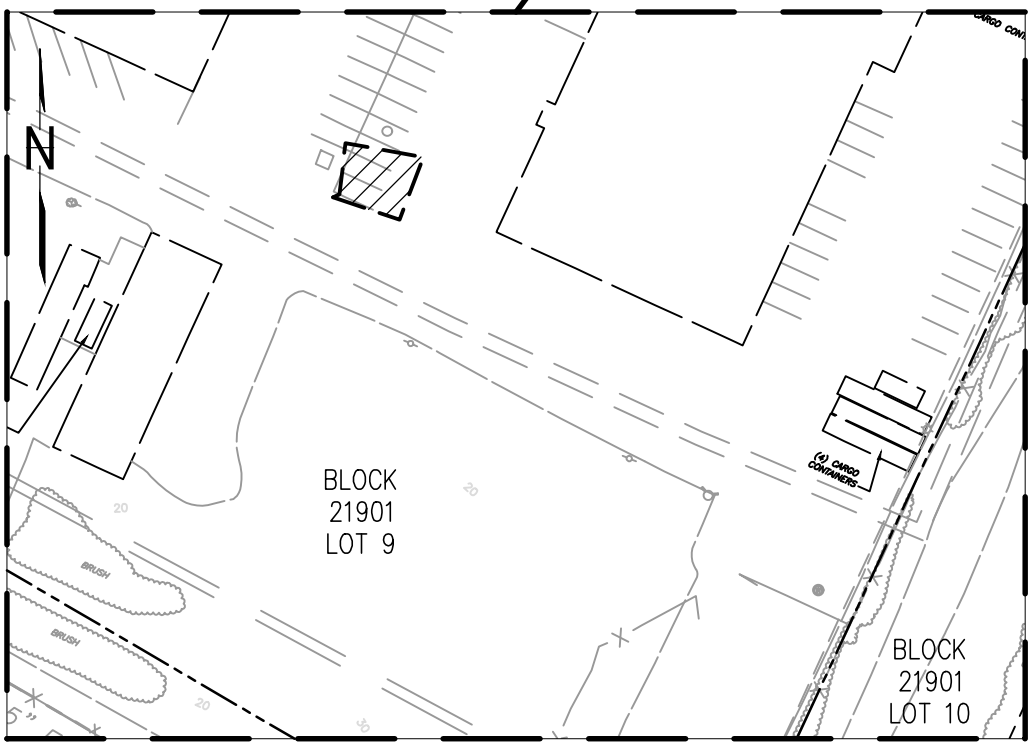
LEGEND

PROPERTY BOUNDARY

RESTRICTED AREA



KEY MAP
SCALE: 1" = 600'



SOURCE REFERENCE:

DRAWING TITLED: "ALTA/ASCM LAND TITLE SURVEY FOR BAYFRONT REDEVELOPMENT, LLC., BLOCK 21901 LOTS 5 THRU 10, PREPARED BY MASER CONSULTING, P.A. DATED 10/16/15 CITY OF JERSEY CITY, HUDSON COUNTY, NEW JERSEY

DATUM:
HORIZONTAL DATUM: NAD83
VERTICAL DATUM: NGVD29

DRAFT

0 40 80 160

SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150487 *DRAWING:* 3480150487-6100-A307-0000		
PREPARED/DATE: STR 12/15/16	*CHECKED/DATE:* NW 01/31/17	

amec foster wheeler

ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

EXHIBIT A-3
PROPERTY AREA MAP
BLOCK 21901, LOT 9
SA-6 NORTH
JERSEY CITY, NEW JERSEY
DEED NOTICE #7

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EXHIBIT B
Deed Notice #7 TA-10-1

B-1 Restricted Area Maps
B-2 Restricted Area Data Table
Portions of Block 21901, Lot 9
City of Jersey City, New Jersey

Exhibit B-1 Restricted Area Maps include Exhibit B-1A (Restricted Area Soil Sample Locations), Exhibit B-1B (Cap System Detail), and Exhibit B-1C (As-Built Restoration Plan).

Exhibit B-2 is a Restricted Area Data Table indicating soil sample locations with concentrations of hexavalent chromium remaining above the level established in the New Jersey Department of Environmental Protection's (NJDEP) Chromium Policy of 20 milligrams per kilogram (mg/kg).

Restricted Area Map Notes:

Exhibit B-1 indicates engineering controls chromium remedy components. For soils with hexavalent chromium concentrations above 20 mg/kg, the engineering control is 12 feet of clean soil and an asphalt cap.

Exhibit B-1
Restricted Area Maps

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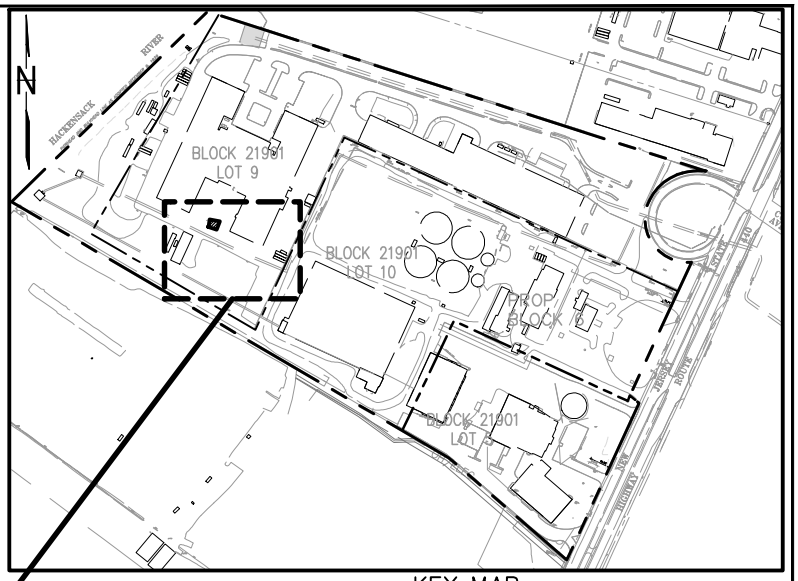
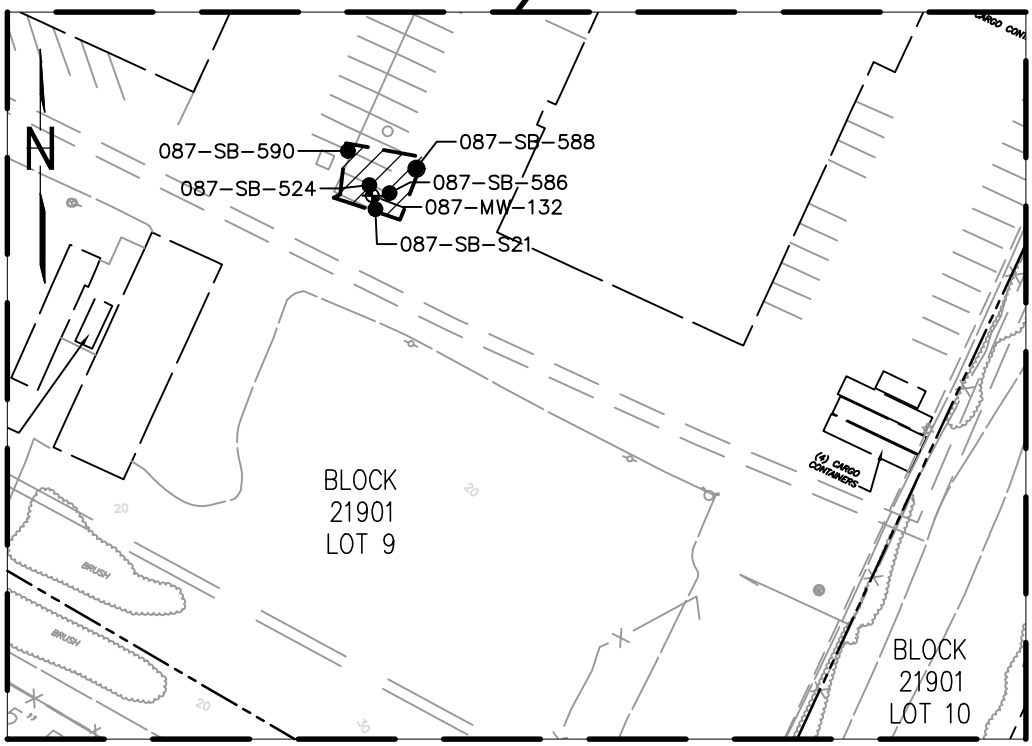
LEGEND

- MONITORING WELL
- MONITORING WELL
- PROPERTY BOUNDARY
- RESTRICTED AREA



KEY MAP
SCALE: 1" = 600'



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SCALE IN FEET

SOURCE REFERENCE:

DRAWING TITLED: "ALTA/ASCM LAND TITLE SURVEY FOR BAYFRONT REDEVELOPMENT, LLC., BLOCK 21901 LOTS 5 THRU 10, PREPARED BY MASER CONSULTING, P.A. DATED 10/16/15 CITY OF JERSEY CITY, HUDSON COUNTY, NEW JERSEY

DATUM:
HORIZONTAL DATUM: NAD83
VERTICAL DATUM: NGVD29

Amec Foster Wheeler PROJECT No. 3480150487 *DRAWING:* 3480150487-6100-B007-0000		amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619
PREPARED/DATE: STR 12/15/16	*CHECKED/DATE:* NW 12/22/16	

EXHIBIT B-1A
RESTRICTED AREA AND
ENGINEERING CONTROL
BLOCK 21901; LOT 9
SA-6 NORTH
JERSEY CITY, NEW JERSEY
DEED NOTICE #7

P:\CAD\VONEWELL\JERSEY CITY\SA 6 NORTH\3480150487\6100\B0100\DED NOTICE\DN 7\3480150487-6100-B007-0000.dwg Fri, 25 Aug 2017 - 9:38am chrisa.wingfield Layout: Layout1

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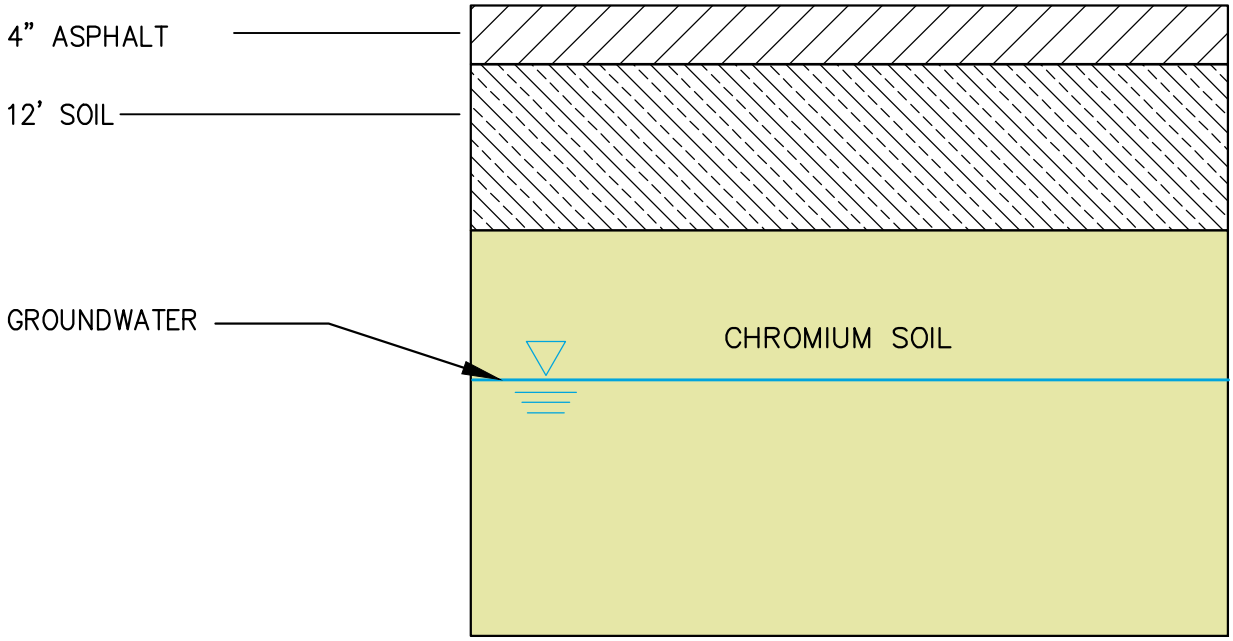
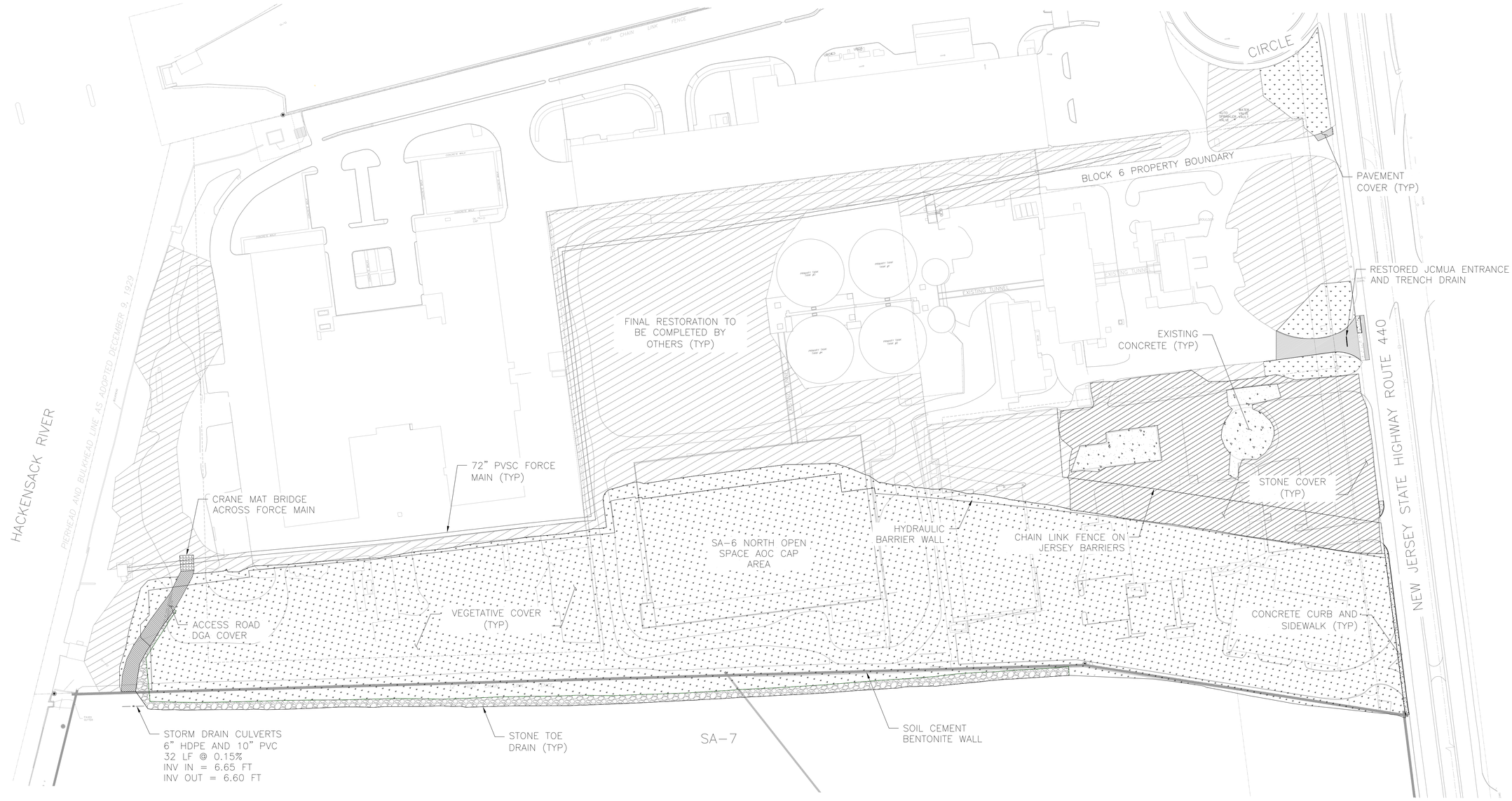
P:\CADD\HONEYWELL\JERSEY CITY\SA 6 NORTH\3480150487\6100\610001\DEED NOTICE\DN 7\3480150487-6100-B207-0000.dwg Tue, 22 Aug 2017 - 11:07am charles.winglield



CAP SYSTEM DETAIL
NTS

DRAFT

Amec Foster Wheeler PROJECT No. 3480150488 *DRAWING:* 3480150487-6100-B207-0000	amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT B-1B** CAP SYSTEM DETAIL BLOCK 21901, LOT 9 SA-6 NORTH JERSEY CITY, NEW JERSEY DEED NOTICE # 7
PREPARED/DATE: STR 01/25/17 | *CHECKED/DATE:* NW 01/31/17		



NOTE:

1. REFER TO CONSTRUCTION CONTROL GRID FIGURE AND ATTACHED TABLES FOR SURVEY DOCUMENTATION OF 6 INCH GRAVEL HISTORIC FILL CAP INSTALLATION.
2. OPEN SPACE CAP AREA WITHIN LIMITS OF THE BARRIER WALLS IS COVERED WITH CLEAN IMPORTED SOILS TO THE DEPTHS IDENTIFIED IN THE DESIGN. THE VEGETATED SLOPE WITHIN THE DEVELOPMENT AREA IS COVERED WITH A MINIMUM OF 12 INCHES OF CLEAN IMPORTED FILL. THE VEGETATED SLOPE ALONG SA-7 WAS CONSTRUCTED ENTIRELY FROM CLEAN IMPORTED FILL.
3. REMAINING RESTORATION AREAS IDENTIFIED ON THE CHROMIUM REMEDY 100% DESIGN DRAWINGS WILL BE ADDRESSED AS PART OF THE NON CHROMIUM REMEDIATION WORK CURRENTLY BEING COMPLETED. FINAL RESTORATION OF ALL AREAS IS SCHEDULED TO BE COMPLETE IN MARCH 2017.

EXHIBIT B-1C

STONE COVER
VEGETATED COVER
PAVEMENT COVER
CONCRETE COVER
DGA COVER
RESTORATION BY OTHERS
STONE TOE DRAIN
SD STORM DRAIN PIPE

0 80 160 FEET
SCALE

REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	1/7/17	EJP	AE	AE	AS BUILT RESTORATION PLAN

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
AS BUILT RESTORATION PLAN
SA-6 NORTH - SHEET 001
1/6/17

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Exhibit B-2: Table B-2
Soil Sample Data Table (Hexavalent Chromium)

EXHIBIT B-2
Restricted Area Data Table
Study Area 6 North
Portions of Block 21901, Lot 9
Deed Notice #7 TA-10 Area
Jersey City, New Jersey

Location ID	Sample Depth (feet bgs)	Sample Elevation (NAVD88)	Contaminant	CASR#	NJDEP Chromium SCC (mg/kg)	Northing	Easting	CONC	Q
087-SB-524	12 - 12.5	2.8	Hexavalent Chromium	18540-29-9	20	685993.297658	602534.809075	**27.6**	J
087-SB-586	13 - 13.5	1.8	Hexavalent Chromium	18540-29-9	20	685989.98	602543.31	**25.1**	
087-SB-588	12-14	2.8	Hexavalent Chromium	18540-29-9	20	686000.3446	602554.3418	**26.7**	J
087-SB-590	13 - 13.5	1.8	Hexavalent Chromium	18540-29-9	20	686007.53	602525.89	**34.5**	
087-SB-S21	12 - 14	2.8	Hexavalent Chromium	18540-29-9	20	685979.7247	602535.8078	**39**	J

Notes:
Results reported in milligrams per kilogram (mg/kg).

Data Qualifiers:
J - Data indicates the presence of a compound that meets the identification criteria. The concentration given is an approximate value.

Abbreviations:
Feet bgs - Feet below ground surface
mg/kg - milligrams per kilogram
feet msl = feet mean sea level NAVD88 - North American Vertical Datum of 1988
NJDEP Chromium SCC - New Jersey Department of Environmental Protection Chromium Soil Cleanup Criteria, revised April 2010
CASR# - Chemical Abstract Service Number

EXHIBIT C
Deed Notice #7 TA-10-1

C-1 Institutional Controls
C-2 Engineering Controls
Portions of Block 21901, Lot 9
City of Jersey City, New Jersey

C-1 Institutional Controls

C-1 Deed Notice, Consent Decree, Zoning as Institutional Controls: Exhibit C-1 (A through C) for portions of Block 21901, Lot 9, City of Jersey City, New Jersey known as the TA-10 Area

Exhibits C-1A through C-1C. Exhibit C-1-A: Deed Notice as Institutional Control; Exhibit C-1-B: Consent Decree as Institutional Control; Exhibit C-1C Zoning as Institutional Control: Exhibits C-1A through C-1C include a narrative description of the restrictions and obligations of this Deed Notice and the other Institutional Controls that are in addition to those described above, as follows:

(A) General Description of the Institutional Control:
The Property includes a portion of the in-situ treatment area 10-1 ("TA-10-1") located north of the SA-6 North Open Space Area hydraulic barrier and north of the northern curbline of the future Stegman Boulevard. Due to the proximity of the force main, excavation of impacted soils in TA-10-1 is technically impracticable. Therefore, Honeywell implemented an in-situ treatment in this area in lieu of excavation. The Property is subject to post-remedy confirmation soil sampling. This Property is approximately 800 square feet. If the confirmation sampling demonstrates that hexavalent chromium concentrations are below 20 mg/kg within the Property, this deed notice will be terminated pursuant to Paragraph 13 above. In the meantime, the provisions of the LTMP, developed pursuant to the Consent Decree, will apply to the Property.

(1) Description and estimated size of the Restricted Areas as described above;

The Property constitutes portions of Block 21901, Lot 9. The estimated size of the Area containing chromium-impacted soils (hexavalent chromium above 20 mg/kg) is identified on Exhibit B-1 is estimated at approximately 800 square feet or approximately 0.017 acres.

(2) Description of the restrictions on the Property by operation of the Institutional Control;

The Property shall only be used for activities consistent with this Deed Notice, the Consent Decree, and the applicable zoning standards. Intrusive activities (i.e., excavation or digging) that breach the engineering controls (as described in Exhibit C-2) will not be permitted on the Property except in compliance with the

terms of the Consent Decree and the applicable portions of the LTMP developed thereunder, and this Deed Notice. See subsections 7A Alterations, Improvements, Disturbances, and 7B Emergencies for additional information. A copy of the LTMP is maintained by Honeywell at 115 Tabor Road, Morris Plains, NJ 07950.

(3) The objective of the restrictions;

The restrictions will prohibit contact with soils containing hexavalent chromium above the level established in the NJDEP Policy of 20 mg/kg.

(B) Description of the monitoring necessary to determine whether:

(1) Any disturbances of the soil in the Restricted Areas resulted in the unacceptable exposure to the soil contamination;

Visual inspections of the Property and other monitoring as set forth in the Consent Decree and the applicable portions of the LTMP developed thereunder.

(2) There have been any land use changes subsequent to the filing of this Deed Notice or the most recent biennial certification, whichever is more recent;

Same as (B)(1).

(3) The current land use on the Property is consistent with the restrictions in this Deed Notice;

Same as (B)(1).

(4) Any newly promulgated or modified requirements of applicable regulations or laws apply to the site; and

Review of newly promulgated or modified requirements of applicable regulations or laws that potentially may apply to the site.

(5) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice, and conduct the necessary sampling; and

Same as (B)(4).

(C) Description of the following items that will be included in the biennial certification:

(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice;

(2) Land use at the Property is consistent with the restrictions in the Consent Decree, this Deed Notice, the applicable zoning standards; and

(3) The remedial action that includes this Deed Notice continues to be protective of the public health and safety and of the environment.

The monitoring report will be included in the biennial certification. Components of the monitoring report will include the following:

- ***A report of all conditions set forth in sections (A) and (B) above to assure that they have been adhered to, including evaluation of any available documents as a result of changes in land use or incidents.***
- ***A report that determines whether or not the land use at the Property has remained consistent with the restrictions in the Consent Decree, this Deed Notice*, and *the applicable zoning standards.***
- ***A report that determines whether or not the Deed Notice continues to be protective of the public health and safety and the environment.***

C-2 Engineering Controls
Deed Notice #7 TA-10-1

Portions of Block 21901, Lot 9
City of Jersey City, New Jersey

Exhibits C-2A through C: Narrative description of the Engineering Controls including Clean Fill as follows:

(A) General Description of the engineering controls:

(1) Description of the engineering controls;

The Engineering Control consists of 12 feet of clean soil and an asphalt cap.

(2) The objective of the engineering controls; and

The objective of the controls is to prevent contact with soils containing hexavalent chromium above the level established in the NJDEP Chromium Policy of 20 mg/kg.

(3) How the engineering controls are intended to function.

The soil engineering controls are intended to function as a barrier to underlying and adjacent soils containing hexavalent chromium above 20 mg/kg. Monitoring requirements for the engineering controls are set forth in the applicable portions of the LTMP.

(B) Description of the operation and maintenance necessary to ensure that:

(1) Periodic inspections of each engineering control are performed in order to determine its integrity, operability, and effectiveness;

Honeywell will perform monitoring by visual inspection of the Property pursuant to the Consent Decree. Other monitoring activities shall be performed as set forth in the applicable portions of the LTMP developed pursuant to the Consent Decree.

(2) Each engineering control continues as designed and intended to protect the public health and safety and the environment;

Same as (B)(1) above.

(3) Each alteration, excavation or disturbance of any engineering control is timely and appropriately addressed to maintain the integrity of the engineering controls;

Same as (B)(1) above. Also, see the Consent Decree and subsections 7A Alterations, Improvements, Disturbances, and 7B Emergencies of this Deed Notice for additional information.

(4) The engineering controls are being inspected and maintained and their integrity remains so that the remedial action continues to be protective of the public health and safety and of the environment;

Same as (B)(1) above.

(5) A record of the self-inspection dates, name of the inspector, results of the inspection and condition(s) of the engineering controls. Sampling, for example, may be necessary if it is not possible to visually evaluate the integrity/performance of the engineering controls; and

Records of the inspections are to be maintained as listed in (5). Other monitoring activities shall be performed as set forth in the applicable portions of the LTMP developed pursuant to the Consent Decree.

(6) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice, and conduct the necessary sampling.

A review of any new standards, regulations, or laws will be conducted. Should the review indicate that other activities are necessary, those activities will be listed and executed.

(C) Description of the following items that will be included in the biennial certification:

(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice;

(2) The engineering controls continues to operate as designed; and

(3) The remedial action that includes the engineering control continues to be protective of the public health and safety and of the environment.

The monitoring report will be included in the biennial certification. Components of the monitoring report will include the following:

- ***A report of all conditions set forth in sections (A) and (B) above to assure that they have been adhered to, including an evaluation to determine whether or not the engineering controls are continuing to meet the original objective and intended function.***

- ***A report to determine whether or not the engineering controls continue to operate as designed.***
- ***A report to determine whether or not the engineering controls continue to be protective of the public health and safety and of the environment.***

Appendix I
Consent Decree

APPENDIX I

UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY

JERSEY CITY MUNICIPAL UTILITIES AUTHORITY, Plaintiff, v. HONEYWELL INTERNATIONAL INC., Defendant.	Civil Action No. 05-5955 Consolidated under Docket No. 95-2097 (DMC)
JERSEY CITY INCINERATOR AUTHORITY Plaintiff, v. HONEYWELL INTERNATIONAL INC., Defendant.	Civil Action No. 05-5993 Consolidated under Docket No. 05-5955 (DMC) under Docket No. 95-2097 (DMC)
HACKENSACK RIVERKEEPER, INC., *et al.* Plaintiffs, v. HONEYWELL INTERNATIONAL INC., *et al.* Defendants.	Civil Action No. 06-22 Consolidated under Docket No. 05-5955 (DMC) under Docket No. 95-2097 (DMC)

FIRST AMENDED CONSENT DECREE REGARDING REMEDIATION AND REDEVELOPMENT OF STUDY AREA 6 NORTH

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RECITALS

Whereas, on June 30, 2003, the district court for the District of New Jersey issued a Final Judgment in *Interfaith Community Organization v. Honeywell International Inc.*, Civ. No. 95-2097 (DMC) (*"ICO v. Honeywell"*), ordering the remediation of an area designated by the New Jersey Department of Environmental Protection ("NJDEP") as Study Area 7 by excavation of all chromium contamination on the property, under the oversight of a court-appointed Special Master;

Whereas, on or about December 23, 2005, the Jersey City Municipal Utilities Authority ("JCMUA") filed litigation styled *Jersey City Municipal Utilities Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5955 (DMC), bringing claims against Honeywell International Inc. ("Honeywell") under, *inter alia*, Section 6972 of the Resource Conservation and Recovery Act ("RCRA"), and seeking remediation of chromium contamination on property owned by JCMUA and other relief;

Whereas, on or about December 28, 2005, the Jersey City Incinerator Authority ("JCIA") filed litigation styled *Jersey City Incinerator Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5993 (DMC), bringing claims against Honeywell under, *inter alia*, Section 6972 of RCRA, and seeking remediation of chromium contamination on property owned by JCIA and other relief;

Whereas, on or about January 4, 2006, the Hackensack Riverkeeper, Inc., Captain William Sheehan, Reverend Winston Clarke, and Lawrence Baker ("Riverkeeper") filed litigation styled *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.,* D.N.J., Civ. No. 06-022 (DMC), bringing a claim against Honeywell under RCRA and seeking remediation of chromium contamination to soils, groundwater, surface waters, and sediments associated with various properties collectively designated by NJDEP as Study Areas 5, 6 North, and 6 South;

Whereas, Study Areas 6 North and South are directly adjacent to Study Area 7 on the north and south sides, respectively;

Whereas, Study Area 5 is comprised of properties to the east of Study Areas 6 North, 6 South, and 7 across Route 440;

Whereas, the property owned by JCIA and JCMUA and collectively the subject of *JCMUA v. Honeywell* and *JCIA v. Honeywell* comprises a part of Study Area 6 North;

Whereas, the City of Jersey City ("Jersey City") also owns property that comprises a part of Study Area 6 North;

Whereas, Riverkeeper also named as defendants in *Riverkeeper v. Honeywell* Jersey City, JCMUA, and JCIA (collectively the "Jersey City Entities");

Whereas, the Jersey City Entities and Honeywell also asserted cross-claims against each other in *Riverkeeper v. Honeywell*;

Whereas, *JCMUA v. Honeywell*, *JCIA v. Honeywell,* and *Riverkeeper v. Honeywell* were consolidated by the United States District Court for the District of New Jersey (hereinafter the "Consolidated Litigation");

Whereas, in the Consolidated Litigation, the Jersey City Entities and Riverkeeper have alleged that Honeywell bears responsibility for the presence and remediation of chromite ore processing residue ("COPR") and chromium in soils and groundwater on the Study Area 6 North property;

Whereas, in the Consolidated Litigation, Honeywell has alleged that the Jersey City Entities bear full responsibility for lead and other contamination on the Study Area 6 North property, and also bear an equitable share of liability for the presence and remediation of COPR and chromium in soils and groundwater on the Study Area 6 North property and for chromium and other contamination in Hackensack River sediments in the vicinity of Study Area 6 North;

Whereas, on October 9, 2007, Honeywell and Riverkeeper submitted the Consent Order on Sediment Remediation and Financial Assurances ("Sediment Consent Order"), resolving issues related to the remediation of chromium contaminated sediments in the Hackensack River in the vicinity of Study Areas 5, 6, and 7;

Whereas, the Parties to this Consent Decree each believe that it is in their mutual interest to move forward productively to resolve their differences so that they can implement environmental remediation at Study Area 6 North that ensures the continued protection of human health and the environment and so that Study Area 6 and Study Area 7 can be redeveloped in keeping with Jersey City's vision for a revitalized West Side;

Whereas, the Local Redevelopment and Housing Law, N.J.S.A. 40A:12A-1, *et seq.*, as amended and supplemented (the "Redevelopment Law") provides for municipalities to participate in the redevelopment and improvement of areas in need of redevelopment;

Whereas, the portions of Study Area 6 and Study Area 7 (i) which are owned by the Jersey City Entities, (ii) which are owned by Honeywell, (iii) as to which Honeywell has a purchase and sale agreement with the current owner, or (iv) which hereafter will be acquired by a Jersey City Entity and/or Honeywell are parcels which by ordinance adopted by the City Council of Jersey City on February 27, 2008, have been determined to be "areas in need of redevelopment" under the criteria of the Redevelopment Law because of conditions prevalent on those parcels;

Whereas, the settlement which is the subject matter of this Consent Decree contemplates the environmental remediation of Study Area 6 North and redevelopment of the parcels that comprise Study Areas 6 and 7 to create a major mixed use project in an important section of Jersey City;

Whereas, each of the actions to implement this Consent Decree have been fully considered by the Parties as a means to accomplish the aforesaid purposes of this settlement;

Whereas, the consent of each of the Jersey City Entities to this Consent Decree was considered at a duly noticed and appropriate meeting of their respective governing bodies, open to the public, at which members of the public were provided an opportunity to comment on all aspects of the settlement, including, without limitation, the commitments made by the Jersey City Entities herein; and

Whereas, Honeywell and the Jersey City Entities are settling their claims, cross-claims, or counter-claims in the Consolidated Litigation against each other in the *Settlement Consent Order by and between the Jersey City Entities and Honeywell International Inc.* (hereafter "Jersey City/Honeywell Consent Order"), filed in the Consolidated Litigation simultaneously with this Consent Decree and attached as Exhibit A to this Consent Decree:

NOW, THEREFORE, IT IS HEREBY ORDERED AND DECREED AS FOLLOWS:

ARTICLE I: DEFINITIONS

For purposes of this Consent Decree, the following terms shall have the meanings set forth in this Article:

1. **AOC 1** shall mean that area of Study Area 6 North in which the hexavalent chromium concentration in the top 20 feet of soil below existing ground surfaces exceeds concentrations of 20 mg/kg and the Chromium Remedy will be implemented pursuant to Article III. AOC 1 is shown on Exhibit B.

2. **AOC 1 Additional Excavation Areas** shall mean those areas of Study Area 6 North which require excavation pursuant to paragraph 57. The AOC 1 Additional Excavation Areas are not contiguous to AOC 1. The AOC 1 Additional Excavation Areas are shown on Exhibit B.

3. **AOC 1 Open Space Area** shall mean the AOC 1 Open Space Area, as defined by paragraph 53, consisting of approximately 11 acres enclosed by the hydraulic barrier walls constructed under the Chromium Remedy, and which shall be subject to paragraph 60. The AOC 1 Open Space Area is shown on Exhibit B.

4. **AOC 2** shall mean that area of Study Area 6 North on which the Historic Fill Remedy will be implemented pursuant to Article II.B of the Jersey City/Honeywell Consent Order. AOC 2 is shown on Exhibit B.

5. **Bayfront Redevelopment LLC** shall have the meaning set forth in paragraph 4.1 of the Jersey City/Honeywell Consent Order.

6. **COPR** shall mean Chromite Ore Processing Residue.

7. **Chromium Remedy** or **Chromium Remediation** shall mean the remedy set forth in Article III.

8. **Consolidated Litigation** shall mean *Jersey City Municipal Utility Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5955 (DMC), *Jersey City Incinerator Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5993 (DMC), and *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.,* D.N.J., Civ. No. 06-022 (DMC).

9. The **Court** shall mean the United States District Court of the District of New Jersey, which has jurisdiction over the Consolidated Litigation.

10. **Deep Groundwater Remedy** shall mean the deep overburden and bedrock groundwater pump and treat remedy as required by the Order Approving the Deep Overburden Groundwater Remediation, entered on October 6, 2006, and the Stipulation on Consent Regarding the Schedule for Implementation of Deep Groundwater Remedial Actions, currently pending before the Special Master in *ICO v. Honeywell.* In the event that Riverkeeper and Honeywell reach a settlement on source control issues, the Deep Groundwater Remedy shall

include the remedy to which Riverkeeper and Honeywell have agreed. In the event that Riverkeeper and Honeywell do not reach a settlement on source control issues, the Deep Groundwater Remedy shall include the remedy ordered by the Special Master or the Court in *ICO v. Honeywell* for source control.

11. **Hackensack River Watershed Land Trust** shall mean the dedicated fund of the Hackensack Riverkeeper, Inc., established under Section 501(c) of the Internal Revenue Code for the purpose of acquiring and preserving open space within the Hackensack River watershed and administered by the Board of Trustees of the Hackensack Riverkeeper, Inc.

12. **Historic Fill** shall have the definition provided in the NJDEP Technical Requirements for Site Remediation.

13. **Historic Fill Remedy or Historic Fill Remediation** shall mean the remedy set forth in Article II.B of the Jersey City/Honeywell Consent Order, except that the Historic Fill Remedy shall not be limited to the remedy set forth in Article II.B of the Jersey City/Honeywell Consent Order if NJDEP requires a more stringent remedy.

14. **Honeywell** shall mean Honeywell International Inc. and its affiliates, including Kellogg Street 80 Property LLC, Kellogg Street 60 Property LLC, and Kellogg Street/440 Property LLC.

15. **Honeywell's Treatment Plant** shall mean the treatment plant currently located at 80 Kellogg Street that is used to treat, *inter alia*, chromium contaminated groundwater.

16. ***ICO v. Honeywell*** shall mean *Interfaith Community Organization v. Honeywell International Inc.*, D.N.J., Civ. No. 95-2097 (DMC).

17. **Including** shall mean including, but not limited to.

18. **JCIA** shall mean the Jersey City Incinerator Authority.

19. **JCMUA** shall mean the Jersey City Municipal Utilities Authority.

20. **JCRA** shall mean the Jersey City Redevelopment Agency.

21. **Jersey City Entities** shall mean the City of Jersey City, including the Department of Public Works ("DPW") and other agencies and branches thereof, the JCIA, and the JCMUA.

22. **Jersey City/Honeywell Consent Order** shall mean the *Settlement Consent Order by and between the Jersey City Entities and Honeywell International Inc.* entered in the Consolidated Litigation simultaneously with this Consent Decree.

23. **NJDEP** shall mean the New Jersey Department of Environmental Protection.

24. **NJDEP Chromium Directive** shall mean the Chromium Directive issued by NJDEP on February 8, 2007, and attached as Exhibit C.

25. **Party or Parties** shall mean any one or all of the signatories to this Consent Decree.

26. **RCRA** shall mean the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et seq.*, as amended.

27. **Redevelopment Agreement** shall have the meaning set forth in paragraph 4.11(e) of the Jersey City/Honeywell Consent Order.

28. **Redevelopment Area** shall mean Study Area 6 North, Study Area 6 South, and Study Area 7, collectively.

29. **Redevelopment Law** shall mean the New Jersey Local Redevelopment and Housing Law, N.J.S.A. 40A:12A1, *et seq.*, as amended and supplemented.

30. **Redevelopment Plan** shall mean the Bayfront I Redevelopment Plan as adopted by Jersey City on March 12, 2008.

31. **Riverkeeper** shall mean the plaintiffs in *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.*, D.N.J., Civ. No. 06-22 (DMC), and includes the Hackensack Riverkeeper, Inc., William Sheehan, Reverend Winston Clarke, and Lawrence Baker.

32. **Sediment Consent Order** shall mean the Consent Order on Sediment Remediation and Financial Assurances, which the Parties expect will be entered by the Court in *ICO v. Honeywell* and this Consolidated Litigation.

33. **Shallow Groundwater** or **Shallow Level of Groundwater** shall mean groundwater above the meadow mat, groundwater at stratigraphically equivalent depths in locations where there is no meadow mat, and groundwater that is contaminated by recent contact with COPR or other chromium soil contamination above the meadow mat and subsequently flows downward through or past the meadow mat into the upper portion of the lacustrine sediments. This does not include groundwater found in the bedrock, the deep zone, or any plume of contamination that is in both the intermediate and deep zones, as those zones are defined in the Final Groundwater Investigation Report, prepared in *ICO v. Honeywell*, dated February 2007, p. 1-2.

34. **Site** shall mean Study Area 6 North.

35. **Site Preparation Activities** shall have the meaning set forth in paragraph 3.1 of the Jersey City/Honeywell Consent Order.

36. **Site Preparation Plan** shall have the meaning set forth in paragraph 3.2 of the Jersey City/Honeywell Consent Order.

37. **Soil** shall mean soils, historic fill, and/or COPR.

38. The **Special Master** shall mean Senator Robert G. Torricelli, appointed as the Special Master in *ICO v. Honeywell* and the Consolidated Litigation, and his successors or whomever the Court may appoint as Special Master.

39. **Stratum O** shall mean the layer composed of soft brown silty fine sand interlayered with soft gray silty clay and fine sandy to clayey silt generally located above the meadow mat below the Historic Fill and/or COPR.

40. **Study Area 6 North** shall mean that property comprising Sites 87 and 88 of the Chromate Chemical Production Waste Sites designated by NJDEP, comprising approximately 41.58 acres and including: (a) all such property owned by JCMUA located at 555 Route 440, Jersey City, New Jersey, (b) all such property owned by JCIA located at 501 Route 440, Jersey City, New Jersey; (c) all such property owned by Jersey City or its Department of Public Works and located at 575 Route 440, Jersey City, New Jersey; and (d) all such property owned by Paul Trenk consisting of Block 1290.1, Lot 2A, Jersey City, New Jersey. Such properties are more fully described in Exhibit H to the Jersey City/Honeywell Consent Order.

41. **Study Area 6 South** shall mean (a) that property currently owned by 425/445 Route 440 Property LLC consisting of Site 73, located at 200 Kellogg Street Jersey City, Hudson County, New Jersey; (b) that property currently owned by Kellogg Street 80 Property LLC consisting of Site 134, located at 100 Kellogg Street Jersey City, Hudson County, New Jersey; (c) that property currently owned by Kellogg Street 80 Property LLC consisting of Site 140 located at 80 Kellogg Street Jersey City, Hudson County, New Jersey; (d) that property currently owned by Kellogg Street 60 LLC consisting of Site 125, located at 60 Kellogg Street Jersey City, Hudson County, New Jersey; (e) that property currently owned by Kellogg Street/440 Property LLC consisting of Site 124, Jersey City, Hudson County, New Jersey; (f) that property currently owned by Kellogg St/Harsimus Cove Realty located at 150 Kellogg Street, Jersey City, Hudson County, New Jersey, (g) that property currently owned by Cordova Enterprises Ltd located at 38 Kellogg Street, Jersey City, Hudson County, New Jersey, and (g) that property currently owned by Cordova Enterprises Ltd located at 28 Kellogg Street, Jersey City, Hudson County, New Jersey. Such properties are more fully described in Exhibit H to the Jersey City/Honeywell Consent Order.

42. **Study Area 6** shall mean Study Area 6 North and Study Area 6 South, collectively.

43. **Study Area 7** shall mean (a) that property currently owned by 425/445 Route 440 Property LLC located at 425 and 445 Route 440, Jersey City, Hudson County, New Jersey, and (b) that property currently owned by Roned Realty/Edward Navlen located at 465 Route 440, Jersey City, Hudson County, New Jersey. Such properties are more fully described in Exhibit H to the Jersey City/Honeywell Consent Order.

44. **Technical Requirements for Site Remediation** shall mean the NJDEP Technical Requirements for Site Remediation, N.J.A.C. Chapter 26E, as duly and properly promulgated and amended.

45. **Unrestricted Use** shall mean that the contaminated medium is restored to a condition or quality suitable for all uses.

ARTICLE II: SCOPE OF THE CONSENT DECREE, JURISDICTION, AND CLAIMS RESOLVED

46. Except as provided in this paragraph, the terms of the Jersey City/Honeywell Consent Order shall remain in full force and effect. To the extent that any provision in the Jersey City/Honeywell Consent Order refers to the Chromium Remedy or Chromium Remediation, it shall be construed as referring to Article III of this Decree. In the event of any conflict or inconsistency between the terms of this Decree and the Jersey City/Honeywell Consent Order, the terms of this Decree govern. In the event that any action taken pursuant to the Jersey City/Honeywell Consent Order is in conflict with or inconsistent with the terms of this Decree, the terms of this Decree shall govern.

47. This Court has jurisdiction over the Parties and subject matter of the Consolidated Litigation pursuant to Section 6972 of RCRA.

48. For purposes of this Consent Decree, the Complaints in the Consolidated Litigation each state claims upon which relief may be granted against Honeywell.

49. In the event that this Decree is not terminated by one or more Parties pursuant to paragraph 100, this Consent Decree resolves, settles, and satisfies all claims by Riverkeeper against Honeywell with respect to soils and shallow groundwater at Study Area 6 North. This Consent Decree does not resolve any claims by Riverkeeper against Honeywell with respect to Study Area 6 South, Study Area 5, or groundwater at Study Area 6 North other than shallow groundwater.

50. Nothing in this Consent Decree shall be construed or interpreted to waive any claim or defense any Party has asserted or may assert against any third party in the Consolidated Litigation except as explicitly stated herein.

51. This Consent Decree does not constitute an admission of liability on the part of any Party with respect to any claims, cross-claims, or counter-claims in the Consolidated Litigation.

ARTICLE III: CHROMIUM REMEDIATION

A. Chromium Remedy

52. **Responsibility for Implementation of Chromium Remediation.** As between the Parties, Honeywell shall be responsible for and shall undertake remediation of COPR and chromium present in Study Area 6 North at Honeywell's sole cost and expense. Remediation of COPR and chromium present in Study Area 6 North shall be undertaken in accordance with the terms of this Consent Decree.

53. **AOC 1 and AOC 2.** For the purposes of remediation, Study Area 6 North shall consist of two Areas of Concern ("AOCs"), designated as AOC 1 and AOC 2 as shown on Exhibit B. AOC 1 is set forth on Exhibit B and consists of that portion of Study Area 6 North for which chromium remediation is required pursuant to paragraphs 55, 56, and 57. AOC 2 consists of the entirety of Study Area 6 North, including AOC 1, to the extent that historic fill is present in any area of Study Area 6 North. For AOC 1, the intended land use will determine the types

of remedial measures taken in the Chromium Remedy. There are two distinct land uses for AOC 1: open space and residential. As a result, AOC 1 will be further subdivided into:

(a) The AOC 1 Open Space Area, which shall comprise that portion of AOC 1 for which future use shall be restricted as provided in paragraph 60. The AOC 1 Open Space Area is shown on Exhibit B;

(b) The AOC 1 Residential Area, which shall comprise that portion of AOC 1 for which future use shall allow for residential and/or commercial and retail uses, but for which the remedial measures shall assume only a residential use . The AOC 1 Residential Area is shown on Exhibit B; and

(c) The AOC 1 Additional Excavation Areas, which consist of those portions of Study Area 6 North that require remediation pursuant to paragraph 57. The planned land use for the AOC 1 Additional Excavation Areas is residential and/or commercial and retail uses, but the remedial measures shall assume only a residential use.

54. **Scope and General Requirements of the Chromium Remedy.** The Chromium Remedy shall address shallow groundwater and soil containing hexavalent chromium in AOC 1, and shall be consistent with the requirements set forth in this Article. The Chromium Remedy set forth in this Consent Decree addresses only the shallow level of groundwater (see paragraph 58). The deep overburden and bedrock groundwater remediation, including source control, shall be addressed in a separate consent order, which shall place these issues within the jurisdiction of the Special Master in conjunction with the groundwater remedies for Study Area 7.

(a) The Chromium Remedy shall be consistent with the NJDEP Technical Requirements for Site Remediation, the Chromium Directive as issued by NJDEP on February 8, 2007 ("the NJDEP Chromium Directive"), and the Remedial Action Work Plan (with addenda) approved by NJDEP on or about February 19, 2008. This Consent Decree shall have precedence

over the Remedial Action Work Plan in the event of any inconsistency.

(b) The Chromium Remedy shall be carried out diligently, and the development and implementation of the Historic Fill Remedy shall not delay satisfaction of the milestones in the Schedule established pursuant to this paragraph. Honeywell shall propose a master Schedule for the implementation of the Chromium Remedy within 90 days of the entry of this Consent Decree, which shall include, at a minimum, the following milestones:

(i) Submission to the Special Master for all documents subject to review by the Special Master pursuant to paragraph 72(c);

(ii) Relocation of the Jersey City Entities' Study Area 6 North Operations as shall be required prior to the implementation of the Chromium Remedy;

(iii) Completion of those Site Preparation Activities necessary for the implementation of the Chromium Remedy, including remediation of the AOC 1 Additional Excavation Areas;

(iv) A final date for Honeywell's proposal of *in situ* treatment for any part of the AOC 1 Residential Area pursuant to paragraph 55(d) and a date for the final decision as to whether excavation or *in situ* treatment shall be used in the event of such a proposal;

(v) The initiation of work related to the Chromium Remedy;

(vi) The date for completion of the installation of the Chromium Remedy;

(vii) Implementation of the long-term protections of the AOC 1 Open Space Area established pursuant to paragraph 60; and

(viii) Transfer of the AOC 1 Open Space Area to Jersey City pursuant to paragraph 60(a)(iii).

(c) **Demolition and Grading Activities.** During demolition and grading activities, adequate protective measures shall be taken to protect site workers and the community

from airborne dusts and exposures to contaminated soils.

(d) **Vegetation of Clean Fill.** All clean soil fill in areas that will not involve paved roads, sidewalks, paths, walkways, or building structures shall be vegetated in such a manner to protect and maintain the required depth of clean soil fill.

55. **AOC 1 Residential Area Soil Remedy.** In the AOC 1 Residential Area, soils containing hexavalent chromium at concentrations greater than 20 mg/kg shall be excavated to a depth of 20 feet below the current ground surface in accordance with the NJDEP Chromium Directive.

(a) Those soils excavated from the AOC 1 Residential Area in which hexavalent chromium concentrations exceed 240 mg/kg shall be disposed of off-site at a waste disposal facility licensed to accept such waste.

(b) Those soils excavated from the AOC 1 Residential Area in which the hexavalent chromium concentration is less than 240 mg/kg, but greater than 20 mg/kg, shall be consolidated within the AOC 1 Open Space Area. However, any such soils which would require venting of gases shall be disposed of off-site.

(c) Soils excavated from the AOC 1 Residential Area shall be replaced with existing soils from AOC 2 or backfill soil. Any backfill soil brought to the Site shall either meet all applicable federal and NJDEP criteria, including NJDEP residential soil criteria, or comply with a beneficial soil reuse plan that is approved by NJDEP and subject to review and comment by the Parties and approval by the Special Master.

(d) In the AOC 1 Residential Area, excavation of soils containing hexavalent chromium greater than 20 mg/kg shall be the presumptive remedy. Around remaining active underground utilities or other structures, such as the bulkhead, *in situ* treatment may be considered in lieu of excavation only if Honeywell demonstrates, and all Parties, the Special

Master, and NJDEP agree that (1) excavation is technically impracticable and (2) treatment will result in hexavalent chromium concentrations of 20 mg/kg or less and no rebound will occur. If no treatment option is available, Honeywell shall propose an alternative remedial approach, subject to review and comment by the Parties and approval by the Special Master.

(e) Honeywell shall excavate all soils containing hexavalent chromium greater than 20 mg/kg in conjunction with the placement of the piping for the Deep Groundwater Remedy. Honeywell shall not propose treatment in lieu of excavation based on the location of the pipes for the Deep Groundwater Remedy or any apparent impracticability of excavating in conjunction with their installation.

56. **AOC 1 Open Space Area Soil Remedy.** In the AOC 1 Open Space Area, the soil remedy shall consist of an engineered RCRA cap to isolate contaminated soils, with gas venting, if necessary, to address the generation of methane and other naturally occurring gases in the Stratum O and/or Stratum D in the Open Space AOC. Soils consolidated under the cap, shall not require gas venting and shall not be the basis for the inclusion of gas venting as a component of the cap. The cap shall be designed and constructed so that:

(a) The cap shall consist of gas collection system, if gas venting is necessary, a base protective layer, an impervious geomembrane liner with a minimum thickness of 40 mil; a geocomposite drainage layer; a filter fabric; and a distinctive colored warning layer with markings in English and Spanish that would deter penetration of the cap in the event that digging occurred in the vicinity of the cap;

(b) All utilities, including those supporting the pump-and-treat system for groundwater remediation, with the exception of any extraction wells or collection trenches, shall be placed above the cap (but may be below the ground surface and/or contained within utility corridors). In the event that above-cap-grade gas collection and treatment is selected or is

needed to meet current or future regulatory requirements, such collection and treatment facilities are prohibited in the Open Space AOC, except for piping to connect the sub-liner collection system with the treatment facilities. Honeywell shall configure the cap so that all active piping for the wastewater treatment system operated by JCMUA, including all force mains and any connections to the emergency outfall, shall be outside the capped area. Honeywell may propose, subject to the review process in paragraph 72, to use treatment in lieu of excavation in the vicinity of the emergency outfall line if the criteria of paragraph 55(d) are satisfied; and

(c) Exclusive of roadways, the cap shall be overlain by layers of clean fill, backfill and/or overburden with an average depth of at least three feet and a minimum depth of at least two feet provided that any layer that incorporates overburden shall be below at least two feet of clean fill. Any clean fill or backfill soil brought to the Site will either meet all applicable federal and NJDEP criteria, including NJDEP residential soil criteria, or comply with a beneficial soil reuse plan that is approved by NJDEP and subject to review and comment by the Parties and approval by the Special Master. One foot of clean fill, covered with bituminous blacktop, shall be sufficient cover where roads, walkways, or other paved surfaces are located within the AOC 1 Open Space Area. All clean soil fill in areas that will not involve paved roads, walkways, or other paved surfaces shall be vegetated in such a manner as to protect and maintain the required depth of the clean soil fill and to ensure that such vegetation shall not cause any interference with or penetration of the cap.

(d) The existing overburden soils in the AOC 1 Open Space Area shall first be stripped off and set aside for use. If hexavalent chromium concentrations in the overburden exceed 20 mg/kg, the overburden shall be placed under the cap. If hexavalent chromium concentrations in the overburden do not exceed 20 mg/kg, the overburden may be placed above the cap but below the two feet of clean fill required by paragraph 56(c). Excavated hexavalent

chromium impacted soils (with concentrations between 20 mg/kg and 240 mg/kg) from the AOC 1 Residential Area shall be placed and spread in the AOC 1 Open Space Area under the cap. Excavated hexavalent chromium impacted soils (with concentrations between 20 mg/kg and 240 mg/kg) from the Study Area 6 South Development AOC (as defined in the First Amended Consent Decree Regarding Remediation and Redevelopment of Study Area 6 South and including only those portions of Study Area 6 South for which the future uses of the property may include commercial or residential development) may be placed and spread in the AOC 1 Open Space Area under the cap, provided that such soils do not require venting of gases and shall not serve as the basis for the inclusion of gas venting as part of the Study Area 6 North AOC 1 Open Space Area remedy. Both the chromium impacted soils and the previously stripped overburden shall be suitably compacted according to design specifications. Debris, to the extent it would interfere with the compaction specification requirements of the 100% Design, shall not be placed under the cap. The engineered cap shall be installed over the chromium-impacted soils exceeding 20 mg/kg hexavalent chromium.

57. **AOC 1 Additional Excavation Areas Remedy.** For those AOC 1 Additional Excavation Areas, soils containing hexavalent chromium at concentrations greater than 20 mg/kg shall be excavated to a depth of 20 feet below the current ground surface in accordance with the NJDEP Chromium Directive. Excavation of those areas comprising the AOC 1 Additional Excavation Areas shall initially be conducted in the 50-foot by 50-foot area planned in the RAWP but shall not be so limited in the event that confirmation sampling indicates that hexavalent chromium concentrations continue to exceed 20 mg/kg. Honeywell shall excavate laterally and vertically (to depths of up to 20 feet below current ground surface) until the hexavalent chromium is less than 20 mg/kg based on the results of confirmation sampling. Confirmation sampling for the AOC 1 Additional Excavation Areas shall be taken from the side

walls and bottom of the excavation, in accordance with the Technical Requirements for Site Remediation, to confirm complete removal of contaminated soils.

58. **Shallow Groundwater Remedy.** The shallow groundwater remedy shall consist of hydraulic barriers with a pump-and-treat system designed to isolate shallow groundwater and to intercept and treat shallow groundwater flowing above the meadow mat in the AOC 1 Open Space Area. The shallow groundwater remedy shall consist of the following:

(a) The existing soil/cement/bentonite wall on the boundary of Study Area 6 North and Study Area 7 shall be incorporated into the other engineering controls;

(b) Subterranean slurry walls or other hydraulic barriers shall be installed along the northern, eastern and western sides of the AOC 1 Open Space Area and keyed into the meadow mat or Stratum O or to comparable depths below ground surface;

(c) A groundwater extraction system shall be established that will consist of (i) one or more shallow extraction wells, sumps, or french drains within the AOC 1 Open Space Area; (ii) pumps; and (iii) underground piping to convey any extracted water to Honeywell's Treatment Plant;

(d) The capture zone for the shallow groundwater remedy shall include at least the entire area of contaminated shallow groundwater (except for shallow groundwater that penetrates the meadow mat and is captured by the Deep Groundwater Remedy);

(e) A plan for control of water levels shall be developed;

(f) In the event that underground structures are demolished, the plans shall address the need for special attention for structures that extend below the meadow mat in order to control needed water levels; and

(g) Honeywell shall submit such information as is required to allow NJDEP to establish a classification exception area for groundwater at the Site, in accordance with NJDEP

regulations.

59. **Permits and Authorizations.** Honeywell shall obtain all necessary federal, state, and local permits and authorizations to carry out the Chromium Remedy as set forth in this Article. The Jersey City Entities agree to cooperate with Honeywell in the applications for any such permits, authorizations, or approvals. Such cooperation shall include providing information or data with respect to permit applications, co-signing permit applications, and allowing access to Study Area 6 North to obtain information necessary for the permits.

B. Long-Term Monitoring, Maintenance, and Protection of Engineering and Institutional Controls

60. **Protection of the AOC 1 Open Space Area.** Except as provided in paragraphs 60(j) and 60(k), development in the AOC 1 Open Space Area shall be prohibited. The AOC 1 Open Space Area shall be protected against activities that may jeopardize the integrity of the cap and/or the groundwater remedial measures that shall be installed in the AOC 1 Open Space Area pursuant to the Chromium Remedy or that may impede the long-term monitoring and maintenance of the cap and/or groundwater remedial measures. It is the intention of the Parties to implement different layers of protection, which alone or in concert, impose restrictions on development, run with the land, and survive all parties. Accordingly, the following actions shall be taken pursuant to the Schedule provided in paragraph 54(b):

(a) **Ownership of and Access to the AOC 1 Open Space Area.** Ownership of and access to the AOC 1 Open Space Area shall be in accordance with the following:

(i) Pursuant to the terms of this Consent Decree and paragraph 4.3 of the Jersey City/Honeywell Consent Order, Bayfront Redevelopment LLC shall become the owner in fee simple absolute of all of the property that comprises the AOC 1 Open Space Area and shall not convey any rights or interests in such property except as provided in this Decree. At the time

of the conveyance from JCRA to Bayfront Redevelopment LLC, Bayfront Redevelopment LLC shall give Jersey City an option to buy AOC 1 Open Space Area prior to the planned transfer pursuant to paragraph 60(a)(iii). Such option to buy shall be subject to the conservation restriction imposed pursuant to paragraph 60(b). Jersey City shall exercise the option to buy the AOC 1 Open Space Area in the event that the conditions allowing for withdrawal of funds from the financial assurance mechanisms under paragraphs 84(c) or 84(d) are met;

(ii) At the time the JCRA conveys the Study Area 6 North property to Bayfront Redevelopment LLC pursuant to paragraph 4.3 of the Jersey City/Honeywell Consent Order, Bayfront Redevelopment LLC shall grant a conservation restriction for the AOC 1 Open Space Area pursuant to the requirements of paragraph 60(b);

(iii) Upon the final construction of all roads and utility corridors within the AOC 1 Open Space Area, Bayfront Development LLC shall donate good and marketable title to all the land comprising the AOC 1 Open Space Area to Jersey City. In conjunction with such donation, Bayfront Redevelopment LLC shall petition to subdivide the properties within Study Area 6 North to create a new parcel(s) comprising the AOC 1 Open Space Area. At the time of the donation, Jersey City shall grant Honeywell an easement for the purpose of monitoring and maintaining the Chromium Remedy. Jersey City shall also grant Honeywell all necessary access to the AOC 1 Open Space Area by license or such other mechanisms as may be appropriate for purposes of monitoring and maintaining the Chromium Remedy. After it acquires title pursuant to this paragraph, Jersey City shall retain ownership of the AOC 1 Open Space Area unless and until it shall have complied with the requirements of paragraph 60(a)(iv);

(iv) After it acquires title pursuant to this paragraph, Jersey City shall not convey or enter into any lease of the AOC 1 Open Space Area to any other person or entity unless it has first satisfied either of the following conditions:

(1) Jersey City has obtained the Special Master's (or if the Special Master's appointment has expired, the Court's) approval to convey the AOC 1 Open Space Area to a government entity that has the capacity and willingness to fulfill Jersey City's obligations under the Consent Decree with respect to the AOC 1 Open Space Area and such entity agrees to submit to the Court's jurisdiction and to be bound by the requirements of the Consent Decree that Jersey City has committed to fulfill with respect to protection of the AOC 1 Open Space Area pursuant to this paragraph and routine maintenance of the permissible development in the AOC 1 Open Space Area pursuant to paragraph 64(d); or

(2) The AOC 1 Open Space Area has been remediated such that no hexavalent or total chromium contamination remains in the AOC 1 Open Space Area, whether in soils or in groundwater, in excess of the levels specified for Unrestricted Use in the NJDEP Chromium Directive or any more restrictive standards for Unrestricted Use in place at the time, whichever is more restrictive, and Jersey City has demonstrated to the Special Master and/or the Court, as appropriate, that such remediation has been completed in accordance with all applicable requirements.

(b) **Conservation Restriction.** At the time the JCRA conveys the Study Area 6 North property to Bayfront Redevelopment LLC pursuant to paragraph 4.3 of the Jersey City/Honeywell Consent Order, but prior to the grant of the option to buy pursuant to paragraph 60(a)(i), Bayfront Redevelopment LLC shall grant an open space conservation restriction, pursuant to N.J.S.A. 13:8-B-1, *et seq.*, over the AOC 1 Open Space Area substantially in the form set forth in Exhibit D. Exhibit D is a conservation restriction that is consistent with the terms of this paragraph and this Consent Decree. The conservation restriction shall allow for the implementation, maintenance, monitoring, repair and replacement of the Chromium Remedy and development consistent with paragraphs 60(j) and 60(k), including the construction and

placement of roads and utilities. The Hackensack River Watershed Land Trust shall be the primary holder of the conservation restriction, with all rights of monitoring and enforcement. Riverkeeper shall propose an entity to serve as the secondary holder of the conservation restriction subject to comment by the Parties and review by the Special Master. The secondary holder shall have secondary rights of monitoring and enforcement.

(i) The conservation restriction shall be incorporated into this Consent Decree and made part of this Consent Decree. The final, executed conservation restriction shall be lodged with the Court and entered as an order of the Court. The conservation restriction shall be enforceable in this Court, in the same manner as this Consent Decree.

(ii) The conservation restrictions provided under this Consent Decree shall be consistent with the prohibited and permitted development of the AOC 1 Open Space Area as set forth in paragraphs 60(j) and 60(k) below.

(iii) Jersey City shall not take any action, whether through exercise of any power of eminent domain, application to the State of New Jersey for approval of a diversion of public park or recreation land, legal challenge to the validity or enforceability of the conservation restriction, or otherwise, the effect of which would be to in any way terminate, abrogate, or diminish the terms, conditions, or purposes of the conservation restriction. If, notwithstanding the preceding sentence, Jersey City proceeds with a condemnation or other action, the result of which would be to terminate, abrogate, or otherwise diminish the terms, conditions, or purposes of the conservation restriction, Jersey City shall, before taking any such action satisfy all of the conditions set forth in paragraph60(a)(iv)(2).

(iv) Notwithstanding the foregoing, the conservation restriction may be terminated upon application of any Party when no hexavalent or total chromium contamination remains in the AOC 1 Open Space Area, whether in soils or in groundwater, in excess of the

levels specified for Unrestricted Use in the NJDEP Chromium Directive or any more restrictive standards for Unrestricted Use in place at the time, whichever is more restrictive.

(c) **Deed Notice.** Upon completion of the Chromium Remedy, the AOC 1 Open Space Area shall be subjected to the deed notice substantially in the form set forth in Exhibit E that restricts future activities on the AOC 1 Open Space Area. Nothing in the deed notice shall be construed as preventing the imposition of more stringent restrictions on the development allowed in the AOC 1 Open Space Area pursuant to this paragraph and, in particular, the conservation restriction provided for in paragraph 60(b).

(d) **Recording of the Consent Decree, Conservation Restriction, and Deed Notice.** This Consent Decree, the conservation restriction imposed pursuant to paragraph 60(b), and the deed notice imposed pursuant to paragraph 60(c) shall be recorded, pursuant to N.J.S.A. 46:15-1.1, 46:16-1.1, and 46:16-2, in the office of the Hudson County Register and a conspicuous reference to the Consent Decree, conservation restriction, and deed notice shall be included in all instruments concerning title to the AOC 1 Open Space Area. Any Party shall have the right, periodically, but no more than once every 25 years, to record memoranda or other instruments that reference, incorporate, or attach this Consent Decree, the conservation restriction, the deed notice, and/or any further orders of the Court related to the AOC 1 Open Space Area in the real estate records related to the AOC 1 Open Space Area.

(e) **Zoning.** Pursuant to the Redevelopment Plan, the AOC 1 Open Space Area is designated for open space and park. Jersey City shall not amend or change this designation unless it first satisfies the requirements of paragraph 60(a)(iv)(2).

(f) **Recreation and Open Space Inventory.** Upon acquiring fee simple absolute title to the AOC 1 Open Space, Jersey City shall add those portions of the AOC 1 Open Space Area not covered by roads, the pedestrian thoroughfare, and utility corridors adjacent to

roads onto its Green Acres Program Recreation and Open Space Inventory ("ROSI") pursuant to N.J.A.C. 7:36 and shall specify in such listing that it is subject to (i) Honeywell's prior easement to monitor, maintain, repair, and replace the Chromium Remedy; (ii) the actions necessary to implement, monitor, maintain, repair, and replace the Chromium Remedy; (iii) the actions necessary to install any development permissible under paragraphs 60(j) and 60(k); and (iv) the conservation restriction imposed pursuant to paragraph 60(b). Jersey City shall also take all steps necessary or appropriate to notify the New Jersey Green Acres Program that such portions of the AOC 1 Open Space Area have been added to its ROSI, such that those portions of the AOC 1 Open Space Area shall thereafter be subject to all procedural and regulatory requirements applicable under the Green Acres Program, including prohibitions against diversion.

(g) **Eminent Domain.** If all or part of the AOC 1 Open Space Area is taken in exercise of the power of eminent domain, or acquired by purchase in lieu of condemnation, by any public, corporate, or other authority so as to terminate, abrogate, or limit the restrictions created by this Consent Decree or the conservation restriction imposed pursuant to paragraph 60(b), in whole or in part, any Party may take appropriate actions to challenge such taking if there is a reasonable legal basis for doing so. In the event that the Parties are unable to prevent a taking notwithstanding their reasonable and appropriate efforts, any Party may take appropriate actions to recover the full value of the interests in the AOC 1 Open Space Area subject to the taking or in lieu purchase, and all direct and incidental damages, costs, and fees occasioned thereby.

(h) **Environmental Covenant.** In the event that New Jersey enacts the Uniform Environmental Covenants Act or its substantial equivalent, the Parties shall address the issue of whether an environmental covenant shall be established for the AOC 1 Open Space Area under the statute. If the Parties are unable to reach agreement on establishment of an environmental

covenant, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. The Special Master shall recommend adoption of an environmental covenant if it would provide substantial additional protection for the AOC 1 Open Space Area without unreasonably harming the interests of any Party. Any Party shall have the right to seek review by the Court of the Special Master's recommendation or consideration by the Court of the dispute in the event that the Special Master's appointment has expired.

(i) **Future Protections.** Any Party shall have the right to propose consideration of additional or substitute protections for the AOC 1 Open Space Area. If the Parties are unable to reach agreement with regard to the proposal, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. The Special Master shall recommend adoption of additional or substitute protections for the AOC 1 Open Space Area if they would provide substantial additional protection for the AOC 1 Open Space Area without unreasonably harming the interests of any Party. Any Party shall have the right to seek review by the Court of the Special Master's recommendation or consideration by the Court of the dispute in the event that the Special Master's appointment has expired.

(j) **Prohibited Development in AOC 1 Open Space Area.** Only development satisfying the requirements of this paragraph and paragraph 60(k) shall be permitted in the AOC 1 Open Space Area. All other development in the AOC 1 Open Space Area shall be prohibited.

(i) Honeywell shall establish Open Space Design Standards that shall govern all development in the AOC 1 Open Space Area regardless of when the construction or installation of permissible development occurs. The Open Space Design Standards shall satisfy each of the requirements set forth in paragraph 60(j)(v) and shall set forth the requirements for development that are necessary for the protection of the integrity of the Chromium Remedy.

(ii) The Initial Development in the AOC 1 Open Space Area shall be the

development undertaken following the completion of the Chromium Remedy in the AOC 1 Open Space Area. The Initial Development may occur in one or more phases. Honeywell and Bayfront Redevelopment LLC shall prepare a Development Plan before the initiation of each phase of the Initial Development. The Initial Development Period for each phase shall consist of the period covered by the Initial Development, plus a period of 10 years following the submission of the as-built documentation for the phase pursuant to paragraph 60(j)(viii).

(iii) The Special Master shall have jurisdiction to review the Open Space Design Standards and the Development Plan(s) solely for the purpose of ensuring that any development undertaken during the Initial Development Period is consistent with this Consent Decree and with protection of the integrity of the Chromium Remedy. The Special Master's jurisdiction with regard to development in the AOC 1 Open Space Area shall run through the Initial Development Period for each phase.

(iv) Honeywell shall ensure that the requirements of this paragraph and paragraph 60(k) are satisfied with regard to any development undertaken within the Initial Development Period. Honeywell shall also ensure that any development undertaken within the Initial Development Period is designed and installed in a manner consistent with this Consent Decree and with protection of the integrity of the Chromium Remedy.

(v) Any development undertaken in the AOC 1 Open Space Area, regardless of when undertaken, shall satisfy each of the following requirements:

(1) It shall not jeopardize the integrity of the Chromium Remedy;

(2) It shall be limited to the types of development permitted under paragraph 60(k);

(3) It shall be consistent with this Consent Decree, including the conservation restriction imposed pursuant to paragraph 60(b), and the Redevelopment Plan;

however, in the event of any conflict or inconsistency between this Decree and the Redevelopment Plan, this Decree shall govern;

(4) In total, at least 75% of the AOC 1 Open Space Area, exclusive of the acreage used for roads and the pedestrian thoroughfare, shall be comprised of landscaping, as defined by paragraph 60(k)(xi);

(5) The portion of the Open Space Design Standards necessary for protection of the Chromium Remedy as related to all roads, the pedestrian thoroughfare and associated utility corridors as well as the general location of such items shall be included in the 100% Design of the Chromium Remedy;

(6) If the lowest elevation for the bedding for any utility line, including irrigation or sprinkler lines, is two feet from the top of the warning layer of the cap, the utility line shall be placed in a utility corridor;

(7) In any event, there shall be two feet of soil or more between the warning layer of the cap and the lowest elevation of the bedding for any irrigation or sprinkler lines; and

(8) No permanent concession facilities shall be permitted.

(vi) Honeywell shall submit the Open Space Design Standards and the Development Plan(s) for any development undertaken during the Initial Development Period pursuant to the requirements of paragraph 72(c), except that such documents need not be submitted to NJDEP. Following Honeywell's submission of such documents, the procedures of paragraphs 72(d) and 72(e) shall apply, except that the Special Master need not provide notice to NJDEP.

(vii) During the Initial Development Period, any development in the AOC 1 Open Space Area shall require the preparation and submission of a Development Plan pursuant

to paragraph 60(j)(vi) and such Development Plan shall be subject to review by the Special Master pursuant to paragraph 60(j)(iii).

(viii) Upon completion of each phase of the Initial Development, Honeywell shall provide as-built documentation for the Initial Development to the Special Master, Riverkeeper, and the Jersey City Entities. Upon completion of any further development during the Initial Development Period for the phase, Honeywell shall also provide as-built documentation to the Special Master, Riverkeeper, and the Jersey City Entities for the additional development. Such additional as-built documentation for a phase shall not affect the running of the Initial Development Period for the phase.

(ix) During the Initial Development Period, replacement in-kind of development features or facilities included in the Initial Development or minor modifications to the development features or facilities included in the Initial Development shall not require the preparation of a Development Plan or be subject to review by the Special Master, provided that such replacement or modification satisfies the requirements of the Open Space Design Standards, the applicable Development Plan, and paragraphs 60(j)(v) and 60(j)(x)(3)(notice requirement).

(x) After the Initial Development Period, all development is prohibited unless one of the following conditions is met:

(1) Jersey City satisfies the conditions set forth in paragraph 60(a)(iv)(2);

(2) The development is a replacement in-kind and such replacement is made in conformance with the specifications of the Open Space Design Standards, the applicable Development Plan, and paragraph 60(j)(v); or

(3) The development meets the requirements of paragraphs 60(j)(v) and 60(j)(xi), and Jersey City provides notice of its intention to alter or add to the

development undertaken in the Initial Development Period. Such notice shall be provided in writing to Honeywell, Riverkeeper, and the holders of the conservation restriction established pursuant to paragraph 60(b) at least 30 days prior to Jersey City's alteration or addition to development undertaken in the Initial Development Period. Honeywell, Riverkeeper, or any holder of the conservation restriction shall have the right to move the Court to prohibit such alteration or addition.

(xi) If any of the development features or facilities that Jersey City seeks to add pursuant to paragraph 60(j)(x) require utilities that would require utility corridors other than the utility corridors installed during the Initial Development Period, Jersey City shall obtain approval from the Court before installing such new utility corridors.

(xii) Jersey City shall provide Honeywell, Riverkeeper, and the holders of the conservation restriction established pursuant to paragraph 60(b) with an annual report that describes any alterations or additions, including those activities under paragraph 60(j)(x)(2), to the development undertaken during the Initial Development Period.

(xiii) All development features or facilities, whether included in the Initial Development or added subsequent thereto, are subject to demolition and/or removal to the extent necessary to maintain, replace, or repair the Chromium Remedy.

(k) **Permissible Development in the AOC 1 Open Space Area.** The Initial Development or any subsequent addition or alteration thereto may include any or all of the following types of development features or facilities, provided that such development features or facilities satisfy the conditions set forth in paragraph 60(j)(v):

(i) Roads and the pedestrian thoroughfare -- both crossing and running along the AOC 1 Open Space Area, but no more extensive than provided for in the diagram on page 39 of the Redevelopment Plan;

(ii) Curbing and fences;

(iii) Sidewalks, paths, walkways, and nature trails;

(iv) Utilities and utility corridors, lighting, and restrooms;

(v) Irrigation or sprinkler components or systems;

(vi) Water features;

(vii) Above-ground storm water cisterns;

(viii) Signs, including the signs or display required by paragraph 60(l);

(ix) Benches, trash receptacles, and bicycle racks;

(x) Recreational facilities, such as playground equipment, bocce ball courts, tennis courts, basketball courts, and athletic fields; and

(xi) Landscaping, including natural grasses, small trees, shrubbery, flowers, and potted plants, provided that such landscaping and the anticipated root structure of each landscaping component do not and will not jeopardize the integrity of the Chromium Remedy. Any portion of an athletic field that is covered in natural grass shall be considered landscaping for purposes of the percentage set forth in paragraph 60(j)(v)(4).

(l) **Signs or Displays.** Honeywell shall develop a permanent plan for informing visitors to the AOC 1 Open Space Area of the history of the chromium production, contamination, and its remediation. Such plan shall provide for appropriate signs or displays that communicate this information. Such plan shall be subject to review and comment by the Parties and approval by the Special Master.

61. **Honeywell's Ongoing Responsibility.** Honeywell shall be responsible for implementing, monitoring, maintaining, repairing and replacing the Chromium Remedy in perpetuity. Honeywell shall satisfy this responsibility through establishment and implementation of a Long-Term Monitoring Plan. In the event that Honeywell ceases to exist without a

successor-in-interest or its obligations under this Consent Decree are stayed or limited due to a bankruptcy petition, the Court shall appoint an independent third-party fiduciary who shall be responsible for implementing, monitoring, maintaining, repairing and replacing the Chromium Remedy pursuant to the requirements of this Consent Decree and the Long-Term Monitoring Plan, unless Jersey City volunteers to assume these responsibilities for the Chromium Remedy.

62. **Long-Term Monitoring Plan.** In consultation with the Parties, and subject to approval by the Special Master and NJDEP, Honeywell shall develop a Long-Term Monitoring Plan to ensure the ongoing effectiveness of the Chromium Remedy to meet the objectives set forth in paragraphs 56, 58, and 63. The Long-Term Monitoring Plan shall be consistent with the applicable EPA policies and guidance, including, among others, EPA's Comprehensive Five Year Review Guidance (2001) (or any subsequent revision) and with NJDEP's Technical Requirements for Site Remediation (or any subsequent revision).

63. **Long-Term Monitoring Plan Objectives.** Honeywell shall design the Long-Term Monitoring Plan to satisfy each of the following objectives:

(a) Provide monitoring to ensure that the integrity and effectiveness of the Chromium Remedy are maintained; and

(b) Provide monitoring to ensure that the restrictions of the institutional controls are being satisfied, including the prohibition on development in the AOC 1 Open Space Area.

64. **Monitoring and Remediation Under the Long-Term Monitoring Plan.** The Long-Term Monitoring Plan shall include the monitoring and remediation activities set forth in this paragraph and other monitoring and remediation activities, if necessary, to meet the objectives of paragraph 63. Honeywell shall provide Riverkeeper, the Jersey City Entities, the Special Master, and NJDEP with annual reports on activities conducted under the Long-Term Monitoring Plan.

(a) **Monitoring Activities in the Long-Term Monitoring Plan.** Honeywell shall undertake the following monitoring activities at intervals to be specified in the Long-Term Monitoring Plan, but no less frequently than set forth below, and, if the monitoring shows it is necessary, Honeywell shall also undertake the remediation activities as set forth below:

(i) Quarterly visual inspection monitoring of the AOC 1 Open Space Area to ensure that it is not being put to any use that is inconsistent with paragraphs 60(j) and 60(k) or any use that may compromise the integrity of the Chromium Remedy. The Long-Term Monitoring Plan shall include an inventory of the prohibited and permissible uses pursuant to paragraph 60 and a corresponding checklist to be used by the individuals conducting the monitoring. If Honeywell determines that the AOC 1 Open Space Area is being used in a manner inconsistent with the protections or the integrity and effectiveness of the Chromium Remedy, Honeywell shall act as soon as possible to cause such use to cease and, if there has been damage to the Chromium Remedy, to repair or replace it to original specifications or to a level of protection equivalent to the original Chromium Remedy;

(ii) Quarterly visual inspection monitoring of the AOC 1 Open Space Area grade and slope to identify whether erosion has occurred or is occurring. Honeywell shall remediate any significant erosion.

(iii) Quarterly visual inspection monitoring to determine whether noticeable differential settlement or subsidence has occurred or is occurring in the AOC 1 Open Space Area such that the integrity of the Chromium Remedy may be materially impaired. If evidence of differential settlement or subsidence is found, Honeywell shall propose further investigative measures. Honeywell shall remediate any differential settlement or subsidence that is beyond the degree of differential settlement/subsidence allowed for in the 100% Design

and repair the cap and/or the overlying layers to original 100% Design specifications or to a level of protection at least equivalent to the original Chromium Remedy;

(iv) A baseline topographic survey at the completion of the Chromium Remedy and three additional surveys conducted at five-year intervals beginning five years after the conduct of the baseline survey. The topographic survey shall be of sufficient precision and accuracy to present the results as one-foot contours;

(v) Quarterly visual inspection monitoring to determine whether the Chromium Remedy in the AOC 1 Open Space Area has been disturbed. Any evidence of the distinctive warning layer materials or any other cap materials as described in paragraph 56(a) at the surface is an indication that the cap has been disturbed. In such an event, Honeywell shall propose further investigative measures to evaluate whether the integrity of the cap has been compromised. In the event that the investigative measures show that the cap integrity has been compromised, Honeywell shall repair or replace the cap and the overlying layers to original 100% Design specifications or to a level of protection at least equivalent to the original Chromium Remedy;

(vi) Quarterly visual inspection monitoring to ensure that burrowing animals are not materially impairing the integrity of the Chromium Remedy. If evidence of burrowing animals is found, Honeywell shall follow humane removal procedures and repair or replace the cap and the overlying layers to original 100% Design specifications or to a level of protection at least equivalent to the original Chromium Remedy;

(vii) Quarterly visual inspection monitoring of the vegetative cover in the AOC 1 Open Space Area to ensure that vegetative cover is in conformance with the landscaping provisions of the 100% Design and the Redevelopment Plan and will not materially impair the integrity of the Chromium Remedy. Maintenance of the vegetative cover shall include, at a

minimum, mowing to ensure that tree species cannot become established and removal of any other vegetation with the potential to damage the Chromium Remedy;

(viii) Quarterly groundwater monitoring to ensure that groundwater levels are maintained in accordance with the requirement to maintain an outward gradient from Study Area 7 and in accordance with the water level control plan developed pursuant to paragraph 58(e);

(ix) Monitoring of vented gases and the gas venting system to ensure proper operation of the system, to evaluate any degradation of the system, to assess the need for treatment of vented gases, either initial, subsequent, or further depending on whether treatment has been previously provided, and to detect any condition that might endanger public health or safety. Such monitoring shall be conducted on a monthly basis for at least one year and, if the readings are stable, such monitoring may be conducted thereafter on a quarterly basis; and

(x) Any additional monitoring as required by specific details added in the design phase of the AOC 1 Open Space Area.

(b) **Procedures for Proposing Changes to the Long-Term Monitoring Plan.** Any Party may, from time to time, propose changes to the scope of the monitoring activities under the Long-Term Monitoring Plan. If the Parties agree, the Long-Monitoring Plan shall be so changed subject to approval by NJDEP and by the Special Master, if his appointment has not terminated, or otherwise, by the Court. If the Parties are unable to reach agreement over alterations to the monitoring and the Special Master's appointment has not terminated under this Consent Decree, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. Any Party shall have the right to seek review by the Court of the Special Master's recommendation. In the event that the dispute arises after the Special Master's appointment has terminated, any Party may file a motion seeking a resolution of the dispute by

the Court.

(c) **Contingency Plan.** As part of the Long-Term Monitoring Plan, Honeywell shall develop a contingency plan to ensure the integrity of the remediation in the event of any planned penetration of the cap or otherwise planned activity that compromises the cap or any unplanned event or accident that penetrates the cap or otherwise compromises the integrity of the Chromium Remedy. The contingency plan shall include, at a minimum, an annually updated plan to notify the relevant persons, including the Special Master, NJDEP, and the Parties, of (i) the event penetrating the cap, compromising the cap, or compromising the integrity of the Chromium Remedy; (ii) the general steps to be taken to identify the extent of the problem; and (iii) the standards for remedying the problem.

(d) **Routine Maintenance.** The title owner of the AOC 1 Open Space Area shall conduct maintenance of the AOC 1 Open Space Area features or facilities that are permissible under paragraphs 60(j) and 60(k). The maintenance workers shall be trained in maintenance procedures that do not jeopardize the integrity of the Chromium Remedy. The training shall include the identification and reporting of any uses or features that are not permissible in the AOC 1 Open Space Area or that may jeopardize the integrity of the Chromium Remedy. Honeywell shall provide all training materials. The title owner of AOC 1 Open Space Area shall annually provide to the other Parties and the Special Master a report describing the training which has been provided to its maintenance workers. The title owner of the AOC 1 Open Space Area shall also provide to the Parties and the Special Master notice of any violations of the restrictions relating to the AOC 1 Open Space Area identified by its workers during routine maintenance.

(e) **Recordkeeping.** Honeywell shall maintain written logs or other records of those monitoring and remediation activities undertaken pursuant to the Long-Term Monitoring

Plan. Such logs shall be provided to Riverkeeper and the Jersey City Entities on a quarterly basis.

65. **Monitoring and Reporting to Riverkeeper and Jersey City Entities.** Riverkeeper and Jersey City Entities shall be provided with all documents submitted to NJDEP and/or the Special Master with respect to the Chromium Remedy, including the documents identified in paragraph 72(c).

66. **Notice to Stakeholders.** All residents, regardless of whether they are owners or lessees, and all commercial tenants on Study Areas 6 and 7 are hereby deemed stakeholders. Honeywell shall ensure that all stakeholders shall be provided at the time of their purchase or lease with notice of the contamination, the remedial actions that have been undertaken or are planned, and the importance of reporting activities that may appear to jeopardize the integrity of the engineering controls. Notice shall be accomplished in the following manner:

(a) Bold or otherwise conspicuous language on the first page of the deed provided to all purchasers in the Residential Area;

(b) A summary notice of the Chromium Remedy which:

(i) Has been subject to review and comment by the Parties and approval by the Special Master; and

(ii) Provides a reference to public websites and libraries and/or the future equivalents thereof, where the following can be found:

(1) Zoning and other Jersey City maps showing the AOC 1 Open Space Area; and

(2) Documents describing the contamination and the remediation, including:

(a) This Consent Decree;

(b) The Remedial Investigation Report and the Final Remedial Action Report,

(c) The annual reports on long-term monitoring and maintenance and repair activities as required by paragraph 64 and annual reports on changes to the Initial Development as required by paragraph 60(j)(xii); and

(d) The Long-Term Monitoring Plan.

(c) The provision of the maps and documents referred to in paragraph 66(b)(ii) to the public via websites and libraries and/or the future equivalents thereof; and

(d) Notices to lessees and commercial tenants in all lease documents.

67. **Annual Letter to Riverkeeper and Jersey City Entities on Notice to Stakeholders.** Each year beginning one year after the issuance of the first notice in a deed or lease pursuant to paragraph 66, Honeywell shall provide a letter to the Riverkeeper and the Jersey City Entities documenting its compliance with paragraph 66.

68. **Future Notice to Stakeholders.** Honeywell shall ensure that all stakeholders are provided with notice, at least annually, of long-term monitoring activities and any additional remediation activities undertaken with respect to the Chromium Remedy. Such notice shall be accomplished by notices on websites or future equivalents thereof, including Jersey City websites, any websites created to provide information about the Chromium Remediation or redevelopment of the Redevelopment Area, and one or more of the following:

(a) Any community message board or other similar site used and/or maintained by stakeholders or the manager(s) of the Redevelopment Area;

(b) Mailings to all stakeholders; and

(c) Posters and flyers throughout the Redevelopment Area.

69. **Stakeholder Enforcement.** Any stakeholder shall have the right to enforce the

remedial obligations of this Consent Decree in the Court, including post-implementation monitoring and maintenance obligations, and the terms of any deed notice or use restriction.

C. Oversight and Enforcement by the Special Master and NJDEP

70. **Federal Court Jurisdiction.** The Court shall retain jurisdiction for the purpose of overseeing and enforcing this Consent Decree and to review any issue or dispute which is not resolved through the oversight process described in Article III.C.

71. **Appointment and Jurisdiction of the Special Master.** The Chromium Remedy provided for in this Consent Decree is hereby referred to a Special Master pursuant to Rule 53 of the Federal Rules of Civil Procedure. The Special Master is appointed in the Consolidated Litigation for the purpose of overseeing and enforcing the Chromium Remedy, the first five years of long-term monitoring of the Chromium Remedy, financial assurances for the Chromium Remedy, and the Initial Development Period for each phase of development in the AOC 1 Open Space Area. The Special Master is also appointed in the Consolidated Litigation for the limited purpose of ensuring that the scheduling and implementation of the Historic Fill Remedy, the site preparation activities, and the site redevelopment activities described in the Jersey City/Honeywell Consent Order, Articles II.B, III, and IV, do not undermine the integrity of, unreasonably interfere with, or unnecessarily delay the effectuation of the Chromium Remedy, the Study Area 7 remedies, and other remedies within his jurisdiction as of the date of entry of this Consent Decree. The Special Master shall have jurisdiction over all matters for which he is appointed.

72. **Oversight of the Chromium Remedy.**

(a) **NJDEP Authority.** NJDEP shall retain its full statutory and regulatory authority with respect to the Study Area 6 North site, including (i) permitting authority; (ii) authority to review and approve the Remedial Action Work Plan, 100% Design, and final

Remedial Action Report for the Chromium Remedy; and (iii) authority to issue a no further action letter.

(b) **Special Master Responsibilities.** The Special Master shall have the following responsibilities:

(i) Ensuring that Honeywell's implementation of the Chromium Remedy satisfies the requirements of this Consent Decree;

(ii) Ensuring that Honeywell's implementation of the Chromium Remedy conforms with federal, state, and local permit requirements;

(iii) Establishing a reasonable schedule for the implementation of the Chromium Remedy and monitoring conformance with it;

(iv) Reviewing monthly progress reports and conducting periodic meetings with the Parties to review the progress of the implementation of the Chromium Remedy. NJDEP shall be invited, but not required, to participate in these meetings and the decision as to whether to participate shall be left to NJDEP's sole discretion;

(v) Submitting quarterly progress reports to the Court;

(vi) Overseeing the financial assurances established pursuant to paragraphs 77 through 86, and, until the expiration of his term pursuant to paragraph 76, overseeing the financial assurances established pursuant to paragraphs 87 through 98;

(vii) Coordinating review of the documents as provided in paragraphs 72(c) through 72(f);

(viii) Overseeing all development undertaken in the AOC 1 Open Space Area during the Initial Development Period pursuant to paragraph 60(j)(iii); and

(ix) To the extent that, in matters within the jurisdiction of the Special Master as set forth herein, a dispute arises between the Parties with respect to implementation of the Chromium Remedy, issuing a recommendation to the Court with respect to the dispute.

(c) **Submission of Documents by Honeywell.** Honeywell shall submit the following documents to Riverkeeper, the Jersey City Entities, the Special Master, and NJDEP:

(i) An overall schedule with milestones for the design and implementation of the remedy ("Schedule");

(ii) Design drawings and specifications at the 50% level;

(iii) Design drawings and specifications at the 100% level (after selection of the contractor) (hereafter "100% Design");

(iv) The data validation plan, including quality control and quality assurance protocols;

(v) The site-wide master health and safety plan;

(vi) The Long-Term Monitoring Plan;

(vii) The final Remedial Action Report or final construction report (including as-built drawings and such other reports as may be prepared of the remedy as implemented);

(viii) A report reviewing measured groundwater levels for the groundwater remedy;

(ix) Documents required during the Initial Development Period pursuant to paragraphs 60(j)(vi), 60(j)(vii), and 60(j)(viii) ; and

(x) Other post-implementation monitoring reports as required by the Long-Term Monitoring Plan.

(d) **Comment on Submitted Documents.** For each of the documents submitted by Honeywell pursuant to paragraph 72(c), the Special Master shall establish a schedule for the submission of comments and responses to comments. For each of the documents submitted, Riverkeeper, the Jersey City Entities, the Special Master, and NJDEP shall have the right to submit comments to Honeywell. Honeywell shall address all received comments and submit a revised document. The revised document shall be submitted by Honeywell to Riverkeeper, the Jersey City Entities, the Special Master, and NJDEP. The revised document shall be subject to review and approval pursuant to paragraph 72(e).

(e) **Review and Approval of the Submitted/Revised Document**

(i) **Scope of Review.** All documents submitted by Honeywell, pursuant to paragraph 72(c) and 72(d), shall be subject to review and approval by the Special Master in accordance with the following procedure. All such documents, except the Schedule and the 100% Design, shall be subject to the review and approval process and shall not require an order of the Court. The Schedule and 100% Design documents shall be subject to the review and approval process, but shall also require an order of the Court as provided in paragraph 72(f). A document shall be approved if the document (1) complies with this Consent Decree; (2) complies with the Remedial Action Work Plan for the Chromium Remedy; and (3) complies with the Schedule and 100% Design.

(ii) **Procedure.** Prior to making a decision on a document, the Special Master shall notify NJDEP of his intention to rule on the document or make a recommendation to the Court on the document. Such notice shall notify NJDEP that the Special Master will consider any comments NJDEP wishes to submit on the document if such comments are submitted within 30 days of NJDEP's receipt of the notice. NJDEP shall in its sole discretion determine whether to submit comments to the Special Master.

(iii) **Court Review.** If any Party objects to the Special Master's recommendation to the Court or approval of any document pursuant to this paragraph, that Party may seek further relief from the Court with respect to the document.

(f) **Schedule and 100% Design Documents.** As to the Schedule and the 100% Design documents, Honeywell shall have the responsibility, within 30 days of the Special Master's approval of each document, of (i) moving for entry of an order by the Court approving the document as approved by the Special Master; or (ii) filing objections with the Court to the Special Master's approval (and any recommendations contained therein) and moving for entry of the Schedule or 100% Design (including any such recommendations of the Special Master to which Honeywell agrees). Riverkeeper and the Jersey City Entities shall have the right in these proceedings to raise any objections they might have to the Schedule or 100% Design as approved by the Special Master or to the submission by Honeywell to the Court. NJDEP shall receive notice of any motion filed with respect to the Schedule or the 100% Design.

(g) **Flexibility in 50% and 100% Design Documents**. The Parties recognize that work conducted to implement the Chromium Remedy may be conducted by Honeywell contractors and that Honeywell may establish performance-based criteria or specifications for its contractors. As a result, the Parties recognize that the 50% Design and 100% Design documents for the Chromium Remedy may include performance-based standards, criteria, and specifications. These documents shall be sufficiently prescriptive to enable the Parties and the Special Master to evaluate their conformance with the Remedial Action Work Plan and this Consent Decree. The Parties also recognize that the 100% Design will be completed after Honeywell has selected a contractor. The Parties further recognize that completing the 100% Design after the selection of the contractor(s) shall not make the 100% Design subject to any less

stringent or more deferential review. Honeywell's commitment to the contractor(s) shall not be cause to limit review by the Parties and the Special Master.

(h) **Changes to the Schedule**. The Parties recognize that changes to individual line items in the Schedule will occur. To the extent that (i) the Parties and the Special Master agree that such changes do not have a material impact on satisfaction of the Schedule milestones established for items set forth in paragraph 54(b); and (ii) such changes do not require modifications to any necessary permits or authorizations for the Chromium Remedy, such changes may be made upon agreement of the Parties and the Special Master without further order of the Court.

73. **Retention of Professionals.** The Special Master may retain the services of professionals and/or other technical personnel, as reasonably needed, to fulfill his obligations under this Consent Decree, and for which he will be reimbursed pursuant to paragraph 75.

74. **Insurance for the Special Master.** The Special Master shall obtain insurance coverage relating to the performance of the Special Master's duties and responsibilities under this Consent Decree. Such coverage shall be similar to the Special Master's existing coverage in *ICO v. Honeywell*, procured pursuant to the Court's November 11, 2005 Stipulation and Order Regarding Special Master's Application to Procure Insurance Coverage, and as extended to the Consolidated Litigation by the Consent Order on Sediment Remediation and Financial Assurances ("Sediment Consent Order"). The insurance coverage shall be sufficiently extended in duration and scope to cover all additional duties and responsibilities as set forth hereunder. Honeywell shall pay the premiums and other administrative costs of the Special Master's insurance.

75. **Reimbursement of Special Master Fees and Expenses.** The Special Master shall submit fee applications to the Court for approval of reasonable fees and expenses incurred in the

oversight of matters referred to him pursuant to this Consent Decree. Any Party may raise with the Court objections to such fee applications. Upon approval of a fee application by the Court, the reimbursement of the Special Master's fees and expenses shall be made from the escrow fund previously established by Honeywell for the purpose of paying the Special Master's fees and expenses in *ICO v. Honeywell* pursuant to this Court's September 15, 2003 Order Setting Financial Assurances and extended to the Consolidated Litigation by the Sediment Consent Order.

76. **Expiration of Special Master's Appointment.** The Special Master's appointment under this Consent Decree shall expire after Honeywell has completed the first five years of long-term monitoring of the Chromium Remedy and the Initial Development Period for each phase of development has been concluded as provided in paragraph 60(j)(ii). However, solely to the extent that the Special Master is still supervising other portions of the Consolidated Litigation or *ICO v. Honeywell* after Honeywell has completed the first five years of long-term monitoring of the Chromium Remedy or the Initial Development Period for each phase of development as provided in paragraph 60(j)(ii), whichever is later, the Special Master shall continue to have jurisdiction under this Consent Decree until he has completed his specifically enumerated responsibilities under the Final Judgment in *ICO v. Honeywell*, the Sediment Consent Order, the Deep Groundwater Consent Order, and any other future orders, decrees, or judgments in *ICO v. Honeywell* and the Consolidated Litigation. Enumerated responsibilities under any order, decree, or judgment shall include only those tasks specifically assigned to the Special Master in the order, decree, or judgment. Enumerated responsibilities shall not include any continued jurisdiction exercised over long-term monitoring beyond the initial period specified in the order, decree, or judgment. For example, the Special Master has jurisdiction over the first five years of long-term monitoring under the Sediment Consent Order. Oversight during these five years shall

be an enumerated responsibility, but any continued oversight of long-term monitoring, pursuant to the extension of the Special Master's jurisdiction beyond the first five years, as provided in paragraph 60 of the Sediment Consent Order, shall not be an enumerated responsibility. Such extensions of jurisdiction shall be effective only so long as specific enumerated responsibilities in any order, decree, or judgment have not been fulfilled.

D. Initial Financial Assurances

77. **Chromium Remedy Letter of Credit.** Honeywell shall obtain a one-year, irrevocable letter of credit (the "Chromium Remedy Letter of Credit") to be automatically renewed annually in an amount equal to the "Remedial Costs Subject to Financial Assurance."

(a) Remedial Costs Subject to Financial Assurance shall mean:

(i) The costs of implementing the Chromium Remedy;

(ii) The costs of monitoring and maintenance activities, as required by the Long-Term Monitoring Plan, for five years; and

(iii) A contingency of 25% with respect to those costs listed in paragraphs 77(a)(i) and 77(a)(ii).

(b) The Chromium Remedy Letter of Credit shall be issued by a financial institution domiciled in the United States or by a United States subsidiary of a non-U.S. financial institution, provided that in either case, the financial institution shall be acceptable to the Special Master.

78. **Procedures for Review of the Proposed Chromium Remedy Letter of Credit.** No later than 60 days after entry by the Court of this Consent Decree, Honeywell shall submit to Riverkeeper, Jersey City Entities, and the Special Master for their review the proposed (a) amount of the Chromium Remedy Letter of Credit; (b) form of the Chromium Remedy Letter of Credit; and (c) name of the institution that will issue the Chromium Remedy Letter of Credit. If

Riverkeeper or the Jersey City Entities do not agree to the terms of the Chromium Remedy Letter of Credit, the Parties shall meet and confer in an effort to resolve their differences. If the Parties are unable to reach agreement over the terms of the Chromium Remedy Letter of Credit, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. Any Party shall have the right to seek review by the Court of the Special Master's recommendation regarding the terms of the Chromium Remedy Letter of Credit.

79. **Automatic Renewal.** The Chromium Remedy Letter of Credit shall be automatically renewed annually unless (a) no later than 120 days prior to the anniversary of the Chromium Remedy Letter of Credit issue date, the issuer provides notice of nonrenewal or (b) Honeywell seeks a reduction in the Chromium Remedy Letter of Credit, pursuant to paragraph 80, to correspond to the reduced estimate of Remedial Costs Subject to Financial Assurances. If the issuer provides notice of nonrenewal, Honeywell shall obtain a replacement irrevocable Chromium Remedy Letter of Credit at least 95 days prior to the expiration date of the existing Chromium Remedy Letter of Credit. If Honeywell is not otherwise in default as provided in Article III.D, the Special Master shall direct the cancellation of the prior Chromium Remedy Letter of Credit within 91 days after delivery to the Special Master of any replacement of a Chromium Remedy Letter of Credit. In the event that the Special Master is entitled to draw upon a Chromium Remedy Letter of Credit because there are two Chromium Remedy Letters of Credit currently in place, the Special Master shall not draw an aggregate amount in excess of the highest valued Chromium Remedy Letter of Credit. Upon Honeywell's request, the Special Master may, at his option, decide not to require overlapping letters of credit in any year based on Honeywell's financial strength in that year, provided that Honeywell has submitted all necessary information so that the Special Master can make his determination at least 150 days prior to the expiration of the Chromium Remedy Letter of Credit.

80. **Annual Right to Seek Reduction in Amount of Chromium Remedy Letter of Credit.** Honeywell shall have the right annually to seek a reduction in the Chromium Remedy Letter of Credit. At the time of seeking such reduction, Honeywell shall submit to the Riverkeeper, the Jersey City Entities, and the Special Master an estimate of the remaining Remedial Costs Subject to Financial Assurance, including the contingency as described in paragraph 77(a)(iii), and shall seek adjustment of the Chromium Remedy Letter of Credit so that the total estimated amount of remaining Remedial Costs Subject to Financial Assurance are covered by the Chromium Remedy Letter of Credit. However, the adjustment shall not result in reducing the Chromium Remedy Letter of Credit to an amount below the remaining estimated costs under paragraphs 77(a)(i) and 77(a)(ii), plus a contingency of 25% of the remaining estimated costs under paragraphs 77(a)(i) and 77(a)(ii), and shall not result in reducing the Chromium Remedy Letter of Credit to an amount less than $20,000,000 as expressed in 2008 dollars unless long-term financial assurances are in place pursuant to Article III.E. Before making any request to reduce the amount or modify the terms of the Chromium Remedy Letter of Credit, Honeywell shall first confer with the Riverkeeper and the Jersey City Entities in an effort to reach agreement on the modified amount or terms of the Chromium Remedy Letter of Credit. If the Parties are unable to reach agreement over the modified amount or terms of the Chromium Remedy Letter of Credit, the Parties shall submit the dispute to the Special Master, who shall resolve the dispute. Any Party shall have the right to seek review by the Court of the Special Master's decision regarding the modified amount or terms of the Chromium Remedy Letter of Credit. Upon agreement on the amount of the reduction or modified terms of the Chromium Remedy Letter of Credit (or upon order of the Court directing that the Chromium Remedy Letter of Credit be reduced to an identified amount or otherwise modified), Honeywell shall obtain a replacement Chromium Remedy Letter of Credit in such amount and with such

terms. If Honeywell is not otherwise in default as provided in Article III.D and the issuer of the primary Chromium Remedy Letter of Credit has not provided notice of non-renewal, within 30 days after delivery to the Special Master of any replacement of a Chromium Remedy Letter of Credit, the Special Master shall direct the cancellation of the prior Chromium Remedy Letter of Credit.

81. **Bankruptcy Protection.** Neither the Chromium Remedy Letter of Credit nor the proceeds of the Chromium Remedy Letter of Credit shall be considered the property of Honeywell or property of the estate in the event of Honeywell's bankruptcy. The Chromium Remedy Letter of Credit shall contain the language necessary to assure that neither the Chromium Remedy Letter of Credit nor the proceeds of the Chromium Remedy Letter of Credit shall be affected or restricted in any way by operation of the automatic stay in 11 U.S.C. 362.

82. **Exclusive Court Jurisdiction.** The Chromium Remedy Letter of Credit shall recite that the issuer submits to the exclusive jurisdiction of this Court for any and all disputes arising under the Letter of Credit.

83. **Application of New York Law.** The provisions of the Uniform Customs and Practice ("UCP") for Documentary Credits (1993 Revision) International Chamber of Commerce Publication #500 and New York law shall apply to the Chromium Remedy Letter of Credit.

84. **Procedures upon Honeywell's Material Default of Its Obligations.** During the period in which the Special Master has jurisdiction pursuant to paragraph 71, the Chromium Remedy Letter of Credit shall be payable to the Special Master and shall not, prior to its expiration date, be revoked or terminated except consistent with this Consent Decree and with the consent of the Special Master and approval by the Court. The Special Master's ability to draw upon the Chromium Remedy Letter of Credit shall not be limited by any agreement between Honeywell and the issuer. The Special Master may, without further order or notice to

this Court, draw upon the Chromium Remedy Letter of Credit upon the occurrence of default by Honeywell, which shall include:

(a) The failure of Honeywell, in the event that notice is given pursuant to paragraph 79 to deliver a replacement Chromium Remedy Letter of Credit at least 95 days prior to the expiration date of the existing Chromium Remedy Letter of Credit;

(b) The material failure of Honeywell to proceed with diligence and in good faith to carry out the terms of this Consent Decree and the continuance of such a material breach for a period of 15 days after written notice to Honeywell thereof and either (i) Honeywell, in the opinion of the Special Master without further input from the Parties, shall have failed to cure the breach; (ii) during the 15-day period, the Court has not entered an order to prevent the Special Master from drawing on the Chromium Remedy Letter of Credit; or (iii) the Court or the Special Master has not granted Honeywell additional time to cure the breach;

(c) The filing by Honeywell of a petition seeking relief, or the granting of relief, under the Federal Bankruptcy Code or any similar federal or state statute; any assignment for the benefit of creditors made by Honeywell; the involuntary filing of any of the foregoing against Honeywell if involuntary filing has not been dismissed within 60 days; the appointment of a custodian, receiver, liquidator, or trustee, or other similar official for Honeywell or for a substantial part of Honeywell's property; any action by Honeywell to effect any of the foregoing; or if Honeywell becomes insolvent as defined in Section 101(32) of the Federal Bankruptcy Code; or

(d) The dissolution, liquidation, merger, consolidation, or reorganization of Honeywell or the institution of any proceeding to effect any of the foregoing, other than under paragraph 84(c) above, and the failure of Honeywell to provide assurance to the Special Master, within 15 days after written notice, that such an event will not impair Honeywell's ability to

carry out the terms of this Consent Decree.

85. **Placement of Proceeds in Court Registry Investment System Account.** In the event that the Special Master draws upon the Chromium Remedy Letter of Credit due to an event of default, the Special Master shall place the proceeds of the Chromium Remedy Letter of Credit which represent the remaining estimated Chromium Remedy costs under paragraphs 77(a)(i), plus a contingency of 25% of the remaining estimated costs under paragraph 77(a)(i), in an account with the Court Registry Investment System in accordance with Local Civil Rule 67.1 and not expend the proceeds of the Letter of Credit without further order of this Court. The Special Master shall place all additional proceeds of the Chromium Remedy Letter of Credit in a trust fund pursuant to paragraph 90(b)(v).

86. **Termination of Chromium Remedy Letter of Credit.** The Chromium Remedy Letter of Credit may be withdrawn in its entirety upon the satisfaction of all of the following:

(a) The implementation of the Chromium Remedy; and

(b) Establishment of long-term financial assurance pursuant to Article III.E.

E. Long-Term Financial Assurances

87. **Long-Term Financial Assurances.** Honeywell shall fund long-term financial assurances to ensure that the activities set forth in paragraph 89(a) are carried out regardless of whether Honeywell is financially able to carry out such activities in perpetuity.

88. **Resolution of the Amount of Long-Term Financial Assurances.** The Parties have agreed to the following options with regard to how the long-term financial assurances shall be determined:

(a) If the Parties agree that the current amount necessary to cover the costs to be subject to long-term financial assurances, as set forth in paragraph 89(b), is $10,000,000 or less,

and agree on the amount of funding needed, Honeywell shall provide long-term financial assurances as required by Article III.E.

(b) If the Parties agree that the current amount necessary to cover the costs to be subject to long-term financial assurances, as set forth in paragraph 89(b), is $10,000,000 or less, but disagree on the amount of funding needed, Honeywell shall provide long-term financial assurances as required by Article III.E except that the dispute as to the amount of the long-term financial assurances shall be submitted to the Special Master pursuant to paragraph 91.

(c) If the Parties do not agree that the current amount necessary to cover the costs to be subject to long-term financial assurances, as set forth in paragraph 89(b), is $10,000,000 or less, or the Parties agree that the current amount necessary to cover the costs to be subject to long-term financial assurances, as set forth in paragraph 89(b), is greater than $10,000,000, the Parties shall seek resolution by the Court of the long-term financial assurances issues, including (i) the type of financial assurances to be provided; (ii) the scope of the financial assurances; (iii) the amount of the financial assurances; and (iv) the duration of the financial assurances. In the event that the Parties seek resolution by the Court, the provisions of paragraphs 90 through 98 shall not apply.

(d) Within 60 days of the entry of this Consent Decree, the Parties shall determine which option under this paragraph shall apply. In the event that the Parties determine that paragraph 88(c) applies, Riverkeeper shall initiate the proceedings by moving the Court for the imposition of long-term financial assurances.

(e) If the Parties determine that they are proceeding under paragraph 88(c), Honeywell shall maintain the Chromium Remedy Letter of Credit required by paragraph 77 in an amount equal to at least $20,000,000 in 2008 dollars until such time as the long-term financial assurances ordered by the Court are in place. In the event of any default by Honeywell pursuant

to paragraph 84 while the Chromium Remedy Letter of Credit is in place, the provisions of paragraph 90(b)(v) for the placement of the proceeds that exceed the remaining estimated Chromium Remedy costs under paragraph 77(a)(i) plus a contingency of 25% of the remaining estimated costs under paragraph 77(a)(i), shall apply.

89. **Costs Subject to Long-Term Financial Assurances.**

(a) Long-term financial assurances shall provide enough funds to cover the costs of the following activities:

(i) Perpetual monitoring and maintenance of the Chromium Remedy, including installation, operation and monitoring of any above-cap-grade gas collection and/or treatment system as may be necessary, but such system is not part of the 100% Design;

(ii) Perpetual operation of the shallow groundwater pump-and-treat remedy;

(iii) Perpetual repair of the cap;

(iv) Perpetual replacement of the cap on a 75-year replacement interval; and

(v) In the event that Honeywell selects a trust fund pursuant to paragraph 90(a), the perpetual administration of the trust fund.

(b) The costs that shall be subject to financial assurances is an amount that will provide the full payment for each of the activities set forth in paragraphs 89(a)(i) through 89(a)(v) plus a 25% contingency when the activities in paragraphs 89(a)(i) through 89(a)(v) are expected to be performed. The costs subject to financial assurances are forward looking because they state an amount valued at the time the funds are needed. As such, they shall be stated in contemporary time as the present value (calculated on the basis of a discount rate of 4.75%) of

the estimated future costs of the activities specified in paragraphs 89(a)(i) through 89(a)(v), plus a 25% contingency on those costs.

90. **Long-Term Financial Assurance Mechanisms.** Honeywell shall provide long-term financial assurances in the amount of the costs subject to long-term financial assurances in the form of a trust fund, a letter of credit, or some combination of the two. The selected mechanism(s) shall satisfy the following requirements:

(a) **Trust Fund.** In the event that Honeywell selects a trust fund, Honeywell shall create a trust fund such that it can provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary.

(i) The trust fund shall be at arm's length from Honeywell and shall not be considered the property of Honeywell or property of the estate in the event of Honeywell's bankruptcy, dissolution, privatization, or sale. The trust fund agreement shall contain the language necessary to assure that neither the trust fund nor the earnings of the trust fund shall be affected or restricted in any way by operation of the automatic stay in 11 U.S.C. 362.

(ii) The trust fund shall be managed by a financial institution domiciled in the United States or by a United States subsidiary of a non-U.S. financial institution acceptable to Riverkeeper and the Jersey City Entities or approved by the Court. In the event that the financial institution managing the trust fund declares bankruptcy, the Court shall withdraw the funds and appoint another financial institution meeting the requirements of this paragraph to manage the trust.

(iii) No more frequently than once per year, Honeywell may apply to the Court for an order directing the trust manager to reimburse Honeywell for any costs that it has incurred to carry out the activities set forth in paragraphs 89(a)(i) through 89(a)(iv).

(b) **Long-Term Letter of Credit.** In the event that Honeywell selects a letter of credit, Honeywell shall obtain a one-year irrevocable letter of credit (the "Long-Term Letter of Credit") to be automatically renewed annually in an amount that provides sufficient funds such that a trust fund, separate from any trust fund created under paragraph 90(a) but satisfying the requirements of paragraph 90(a), could be created. The Long-Term Letter of Credit-funded trust, plus any trust fund established under paragraph 90(a), shall provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary. The amount of any Long-Term Letter of Credit shall therefore be adjusted periodically as the cap replacement interval is approached because, for example, the money needed in the 10th year to fund a trust that can provide for replacement of the cap in the 75th year is much less than the money that would be needed in the 40th year. Such periodic adjustments shall be proposed and approved by the Court in conjunction with the adjustments under paragraph 92.

(i) Neither the Long-Term Letter of Credit nor the proceeds of the Long-Term Letter of Credit shall be considered the property of Honeywell or property of the estate in the event of Honeywell's bankruptcy, dissolution, privatization, or sale. The Long-Term Letter of Credit shall contain the language necessary to assure that neither the Long-Term Letter of Credit nor the proceeds of the Long-Term Letter of Credit shall be affected or restricted in any way by operation of the automatic stay in 11 U.S.C. 362.

(ii) The Long-Term Letter of Credit shall be issued by a financial institution domiciled in the United States or by a United States subsidiary of a non-U.S. financial institution acceptable to Riverkeeper and the Jersey City Entities or approved by the Court. In the event that the financial institution issuing the Long-Term Letter of Credit declares bankruptcy, the Court shall authorize the drawing of funds from the Long-Term Letter of Credit

and shall deposit those funds in a trust fund, separate from any trust fund created under paragraph 90(a) but satisfying the requirements of paragraph 90(a).

(iii) The provisions of the Uniform Customs and Practice ("UCP") for Documentary Credits (1993 Revision) International Chamber of Commerce Publication #500 and New York law shall apply to the Long-Term Letter of Credit.

(iv) The Long-Term Letter of Credit shall be automatically renewed annually, unless, no later than 120 days prior to the anniversary of the Long-Term Letter of Credit issue date, the issuer provides notice of non-renewal. If the issuer provides notice of non-renewal, Honeywell shall obtain a replacement irrevocable Long-Term Letter of Credit at least 95 days prior to the expiration date of the existing Long-Term Letter of Credit. If Honeywell is not otherwise in default as provided in this Article, the Court shall direct the cancellation of the prior Long-Term Letter of Credit within 91 days after delivery to the Court of any replacement of a Long-Term Letter of Credit. In the event that the Court is entitled to draw upon a Long-Term Letter of Credit when there are two Letters of Credit currently in place, the Court shall not draw an aggregate amount in excess of the highest valued Long-Term Letter of Credit.

(v) Prior to the expiration of the Special Master's appointment pursuant to paragraph 76, the Long-Term Letter of Credit shall be payable to the Special Master. During the time the Long-Term Letter of Credit is payable to the Special Master, the Special Master may draw on the Long-Term Letter of Credit as provided in paragraph 84. In the event that the Special Master draws upon the Long-Term Letter of Credit due to an event of default, the Special Master shall place the proceeds of the Long-Term Letter of Credit in a trust fund, separate from any trust fund created under paragraph 90(a) but satisfying the requirements of paragraph 90(a). After the Special Master's appointment expires pursuant to paragraph 76, the Long-Term Letter of Credit shall be payable to the Court and, in the event that the Court draws

on the Long-Term Letter of Credit, the Court shall place the proceeds of the Long-Term Letter of Credit in a trust fund, separate from any trust fund created under paragraph 90(a) but satisfying the requirements of paragraph 90(a).

(vi) Whether the Long-Term Letter of Credit is payable to the Special Master or the Court, it shall not, prior to its expiration date, be revoked or terminated by Honeywell except consistent with this Consent Decree and with the approval of the Court. The ability of the Special Master or the Court to draw upon the Long-Term Letter of Credit shall not be limited by any agreement between Honeywell and the issuer.

(vii) In the event that the Long-Term Letter of Credit is drawn upon and invested pursuant to paragraph 90(b)(ii), 90(b)(v) or 95 and Honeywell has also selected a trust fund pursuant to paragraph 90(a), resulting in the existence of two trust funds, the two trust funds shall be managed so as to ensure that the combined amount of the trust funds is sufficient to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary.

(c) **Combination.** Honeywell may use some combination of a trust fund and a letter of credit to achieve the requirements of this paragraph. However, if a combination is used, Honeywell shall ensure that the combined amount of financial assurances is sufficient to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary. The trust fund and the letter of credit shall otherwise satisfy all the requirements of paragraphs 90(a) and 90(b).

91. **Procedures for Review of the Proposed Long-Term Financial Assurances.** In the event that the Parties have determined that they are proceeding pursuant to paragraph 88(a) or 88(b), no later than 120 days after the determination under paragraph 88(d), Honeywell shall submit to Riverkeeper, the Jersey City Entities, and the Special Master, for their review (a) the

amount of the proposed long-term financial assurances; (b) the form(s) of the proposed long-term financial assurance mechanisms; and (c) the name(s) of the institution proposed to manage or issue the long-term financial assurances. If Riverkeeper and the Jersey City Entities agree to the terms of the proposed long-term financial assurances, within 60 days of such agreement, Honeywell shall create a trust fund and/or secure a Long-Term Letter of Credit on those terms. If the Parties are unable to reach agreement over the terms of the long-term financial assurances, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. Any Party shall have the right to seek review by the Court of the Special Master's recommendation regarding the terms of the financial assurances. In any event, until the long-term financial assurances have been put into place, Honeywell shall maintain the Chromium Remedy Letter of Credit and the requirements of paragraphs 88(e) and 90(b)(v) shall apply to the Chromium Remedy Letter of Credit.

92. **Adjustment of Amount Held in Long-Term Financial Assurances.** Every five years as marked from the establishment of the first long-term financial assurances pursuant to paragraph 90, the Parties shall report to the Court whether the long-term financial assurances are adequately funded to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary. At such time as the Parties report to the Court, any Party may seek an adjustment in the amount of the long-term financial assurances. The Party seeking an adjustment must demonstrate that the long-term financial assurances are under-funded or over-funded to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary. Such demonstration shall reflect the actual costs of implementing the remedy and/or any replacement of the remedy, once such actual costs are available. The demonstration shall also reflect the costs of work completed to date and the actual lifetime of the cap, once the

cap has been replaced or has passed a replacement interval without requiring replacement. The demonstration shall further reflect the actual performance of the fund and its ability to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary. Any demonstration shall be forward looking and shall be based upon estimates of what the activities in paragraphs 89(a)(i) through 89(a)(v) are expected to cost at the time they must be performed and the amount of funding projected to be available to undertake such activities at the time they must be performed. If, after reviewing the submission(s) received from the Parties, the Court determines that the long-term financial assurances are under-funded or over-funded to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary, the Court shall order an adjustment in the amount held in the long-term financial assurances to overcome the shortage or overage. In the event that the Court determines that the long-term financial assurances are under-funded, it shall order Honeywell to increase the amount held in the long-term financial assurances. In the event that the Court determines that any trust fund established pursuant to paragraph 90(a) is over-funded, the Court shall issue an order directing the trust manager to pay the overage to Honeywell. In the event that the Court determines that the Long-Term Letter of Credit is over-funded, the Court shall issue an order permitting Honeywell to reduce the amount covered during the next annual renewal of the Long-Term Letter of Credit pursuant to paragraph 90(b)(iv). Any adjustment to the amount of the Long-Term Letter of Credit pursuant to this paragraph shall be in addition to any adjustment of the amount of the Long-Term Letter of Credit required pursuant to paragraph 90(b).

93. **Exclusive Court Jurisdiction.** The trust fund agreement and/or the Long-Term Letter of Credit shall recite that the trust fund manager and/or issuer of the Long-Term Letter of Credit submit to the exclusive jurisdiction of this Court for any and all disputes arising under the

trust fund or the Long-Term Letter of Credit. The requirements of this paragraph shall apply whether the trust fund is established pursuant to paragraph 90(a), 90(b)(ii), 90(b)(v), or 95.

94. **Procedures upon Honeywell's Material Default of Its Obligations after the Special Master's Appointment Has Expired.** Upon the occurrence of default by Honeywell, after the Special Master's appointment has expired, Riverkeeper or the Jersey City Entities may move the Court on an expedited basis for an order to withdraw funds from the trust fund or to draw on the Long-Term Letter of Credit. Default shall include:

(a) The failure of Honeywell, in the event that notice is given pursuant to paragraph 90(b)(iv) to deliver a replacement Long-Term Letter of Credit at least 95 days prior to the expiration date of the existing Long-Term Letter of Credit;

(b) The material failure of Honeywell to proceed with diligence and in good faith to carry out the terms of this Consent Decree and the continuance of such a material breach for a period of 30 days after written notice by Riverkeeper or the Jersey City Entities to Honeywell of the alleged material failure, unless Honeywell cures the alleged breach within the 30-day notice period or such longer period as the Parties may agree to or the Court may order;

(c) The filing by Honeywell of a petition seeking relief, or the granting of relief, under the Federal Bankruptcy Code or any similar federal or state statute; any assignment for the benefit of creditors made by Honeywell; the involuntary filing of any of the foregoing against Honeywell if the involuntary filing is not dismissed within 60 days; the appointment of a custodian, receiver, liquidator, trustee, or other similar official for Honeywell or for a substantial part of Honeywell's property; any action by Honeywell to effect any of the foregoing; or if Honeywell becomes insolvent as defined in Section 101(32) of the Federal Bankruptcy Code; or

(d) The dissolution, liquidation, merger, consolidation, or reorganization of Honeywell or the institution of any proceeding to effect any of the foregoing, other than under

paragraph 94(c), if Honeywell fails to provide assurance to Riverkeeper, the Jersey City Entities, and the Court, within 15 days after written notice, that such an event will not impair Honeywell's ability to carry out the terms of this Consent Decree.

95. **Drawing on the Long-Term Letter of Credit in the Event of Honeywell's Default.** If the Court grants any motion by Riverkeeper or the Jersey City Entities pursuant to paragraph 94 to draw on the Long-Term Letter of Credit, the sum approved by the Court's order granting the motion shall be paid from the Long-Term Letter of Credit into a trust fund, separate from any trust fund created under paragraph 90(a) but satisfying the requirements of paragraph 90(a).

96. **Use of the Trust Fund in the Event of Honeywell's Default**. In the event of Honeywell's default, the money in the trust fund established pursuant to paragraph 90(a) shall be available to meet the obligations of paragraph 89(a). Riverkeeper and/or the Jersey City Entities shall file motions with the Court seeking orders directing how the money in the trust fund shall be used. The Court shall consider motions on an expedited basis and shall enter appropriate orders. The Court may enter an order allowing for automatic withdrawal of regular expenses without separate motion to the Court by Riverkeeper or the Jersey City Entities.

97. **Use of a Trust Fund Established Pursuant to Paragraph 85, 90(b)(ii), 90(b)(v), or 95.** In the event that a trust fund is established pursuant to paragraph 85, 90(b)(ii), 90(b)(v), or 95, the money in the trust fund shall be available to meet the obligations of paragraph 89(a). Riverkeeper and/or the Jersey City Entities shall file motions with the Court seeking orders directing how the money in the trust fund shall be used. The Court shall consider motions on an expedited basis and shall enter appropriate orders. The Court may enter an order allowing for automatic withdrawal of regular expenses without separate motion to the Court by Riverkeeper or the Jersey City Entities.

98. **Termination of the Long-Term Financial Assurances.** Honeywell's obligations

under Article III.E shall be terminated and the long-term financial assurance mechanisms shall be terminated when the Court finds that no hexavalent or total chromium contamination remains in the AOC 1 Open Space Area or on the Site, whether in soils or in groundwater, in excess of the levels specified for Unrestricted Use in the NJDEP Chromium Directive or any more restrictive standards for Unrestricted Use in place at the time, whichever is more restrictive. Upon determining that long-term financial assurances may be terminated, the Court shall order that any Long-Term Letter of Credit may be withdrawn in its entirety and any trust fund may be terminated. In conjunction with its order terminating any trust fund, the Court in its discretion shall designate a recipient(s) of any remaining trust funds.

ARTICLE IV: IMPLEMENTATION SCHEDULE AND TERMINATION

99. **Schedule for Remedy and Site Preparation Implementation Activities.** The Chromium Remedy under Article III and the Historic Fill Remedy under Article II.B of the Jersey City/Honeywell Consent Order and Site Preparation Activities under Article III of the Jersey City/Honeywell Consent Order shall be undertaken by the Parties in accordance with the following anticipated schedule, recognizing that this schedule may be further modified in writing by agreement of the Parties and with the approval of the Court:

(a) By October 1, 2008, the Jersey City Entities and Honeywell shall develop a Site Preparation Plan, pursuant to paragraph 3.2 of the Jersey City/Honeywell Consent Order, for all Site Preparation Activities necessary to undertake the Chromium Remedy;

(b) No later than June 18, 2009, Honeywell shall submit to NJDEP a remedial design document for the Chromium Remedy;

(c) No later than September 1, 2009, Honeywell shall submit all applications for permits and authorizations for the performance of the Chromium Remedy to all appropriate local, state, and federal government entities;

(d) Honeywell shall use its best efforts to complete the Chromium Remedy no later than four years after all appropriate applications and authorizations for the performance of the Chromium Remedy have been obtained;

(e) By May 1, 2008, Honeywell and the Jersey City Entities shall submit a work plan for further Remedial Investigation for AOC 2 to NJDEP; and

(f) By December 1, 2008, Honeywell and the Jersey City Entities shall submit a Remedial Action Selection Report and Remedial Action Workplan for the Historic Fill Remedy set forth in Article II.B of the Jersey City/Honeywell Consent Order. The Workplan shall contain a schedule for implementation of the Historic Fill Remedy.

100. **Termination of this Consent Decree.** This Consent Decree shall terminate upon the withdrawal of any Party as provided for in this paragraph. Any Party may elect to withdraw from this Consent Decree due to the occurrence of one or more of the following events, provided that such Party provides written notice of withdrawal to the other Parties pursuant to paragraph 108:

(a) The Court fails to enter the Jersey City/Honeywell Consent Order or this Consent Decree or either the Jersey City/Honeywell Consent Order or this Consent Decree is determined to be invalid on appeal;

(b) JCRA fails to take those actions required under paragraphs 4.11(a), (b), and (c) of the Jersey City/Honeywell Consent Order within nine months of entry of this Consent Decree; or

(c) JCRA fails to approve a Redevelopment Agreement between Bayfront Redevelopment LLC and JCRA pursuant to paragraph 4.11(e) of the Jersey City/Honeywell Consent Order within 12 months of entry of this Consent Decree.

101. **Procedures for Withdrawal and Termination.** Any Party electing to withdraw pursuant to paragraph 100 and thereby terminate this Consent Decree shall provide written notice of such withdrawal and termination to all other Parties within 30 days of the occurrence giving rise to the decision to withdraw. If any Party objects to termination of the Consent Decree, or believes that the conditions set forth in paragraph 100 have not been met, such objecting Party may move the Court for an expedited hearing on the issue of whether the conditions for termination have been effectuated.

102. **Good-Faith Obligation to Avoid Termination.** The Parties agree that they will each endeavor to fulfill the terms of this Consent Decree, that they will work diligently and in good faith to meet their obligations hereunder, and that they will promptly and timely take all reasonable steps to give effect to this Consent Decree and to avoid termination under paragraph 100.

103. **Effect of Termination.** If this Consent Decree is terminated pursuant to paragraph 100, the Consent Decree shall no longer be binding on the Parties and shall be of no further effect. In the event that this Consent Decree is terminated by one or more Parties pursuant to paragraph 100, each Party to this Consent Decree reserves all of its rights, claims, and defenses (both legal and factual) against the other Parties with respect to the matters at issue in the Consolidated Litigation and each Party remains free to pursue such rights, claims, and defenses.

ARTICLE V: ADDITIONAL PROVISIONS RELATED TO HISTORIC FILL AND SITE PREPARATION AND REDEVELOPMENT

104. **Historic Fill Remedy**. This Consent Decree shall adopt and incorporate the terms of Article II.B of the Jersey City/Honeywell Consent Order with respect to the Historic Fill Remedy. The Historic Fill Remedy shall not be limited to the activities set forth in Article II.B of the Jersey City/Honeywell Consent Order in the event that NJDEP requires a more extensive remedy. The Historic Fill Remedy shall be compatible with the Chromium Remedy such that no

part of the Historic Fill Remedy shall interfere with the installation, maintenance, and monitoring of the Chromium Remedy. In addition, the Historic Fill Remedy for any discharge of non-chromium contaminants to the Hackensack River shall not interfere with the remedies under the Sediment Consent Order, including the source control remedies. In the event that Jersey City conducts the Historic Fill Remedy instead of Honeywell, the terms of this paragraph shall still apply.

105. **Oversight of Historic Fill Remedy**. Paragraph 2.11 of the Jersey City/Honeywell Consent Order shall apply only to the Historic Fill Remedy, not the Chromium Remedy. The Progress Reports provided for in paragraphs 2.12 and 3.7 of the Jersey City/Honeywell Consent Order shall be provided to Riverkeeper and the Special Master at the time they are submitted.

106. **Transfer of Title of Study Areas 6 North and 7 to and from Bayfront Redevelopment LLC**. The transfer of title of Study Area 6 North and Study Area 7 properties to Bayfront Redevelopment LLC pursuant to the Jersey City/Honeywell Consent Order and any subsequent transfers shall not impede Honeywell's obligations to (a) complete the remediation of Study Area 7 and implement the Final Judgment and subsequent orders in *ICO v. Honeywell* or (b) complete the Chromium Remedy and conduct long-term monitoring and fulfill its other obligations set forth in this Consent Decree. Such transfers of Study Areas 6 North and Study Area 7 shall not include a transfer of Honeywell's obligations to implement the Final Judgment and subsequent orders in *ICO v. Honeywell* or a transfer of Honeywell's obligations under this Consent Decree, but shall include a right of access or any other right required by Honeywell to complete the remediation. Any subsequent transfer of Study Area 6 North or Study Area 7 from Bayfront Redevelopment LLC to a redeveloper or other party shall provide all necessary agreements to allow Honeywell all necessary access to Study Area 6 North and Study Area 7 for purposes of completing Honeywell's obligations with respect to Study Area 6 North under this

Consent Decree and completing the Study Area 7 remediation and implementing the Final Judgment and subsequent orders in *ICO v. Honeywell.*

107. **Dispute Resolution Procedures.** The provisions of Article VIII of the Jersey City/Honeywell Consent Order do not apply to any disputes regarding or impacting the Chromium Remedy, which shall be resolved as provided in paragraph 72. The provisions of Article VIII of the Jersey City/Honeywell Consent Order shall apply to disputes between the Jersey City Entities and Honeywell regarding the Historic Fill Remedy and other obligations provided in the Jersey City/Honeywell Consent Order, except to the extent that such disputes may affect the Chromium Remedy. If any such dispute may affect the Chromium Remedy, it shall be resolved as provided in paragraph 72. Honeywell shall provide Riverkeeper with a copy of each notice of any breach provided under paragraph 8.1 of the Jersey City/Honeywell Consent Order within 10 days of Honeywell's receipt or issuance of such notice. Honeywell shall provide Riverkeeper with a copy of any written resolution of a dispute pursuant to paragraph 8.2 within 10 days of the resolution.

ARTICLE XI: NOTICE

108. **Notice.** Any and all notices given in connection with this Consent Decree shall be deemed adequately given only if in writing and addressed to the Party for whom such notices are intended at the addresses set forth in this paragraph. All notices shall be sent by Federal Express or other nationally recognized overnight messenger service or by first-class registered or certified mail, postage prepaid, return receipt requested. A written notice shall be deemed to have been given to the recipient party on the earlier of (a) the date it shall be delivered to the address set forth in this paragraph; (b) the date delivery shall have been refused at the address set forth in this paragraph; or (c) with respect to notices sent by mail, the date as of which the postal service shall have indicated such notice to be undeliverable at the address set forth in this paragraph.

Any and all notices referred to in this Consent Decree, or which any Party desires to give to the other, shall be addressed as follows:

If to Honeywell and/or
Bayfront Redevelopment LLC :

Tom Byrne, Esq.
Honeywell International Inc.
101 Columbia Road
Morristown, NJ 07962
(973) 455-2775

With copies to:

John Morris
Honeywell International Inc.
101 Columbia Road
Morristown, NJ 07962
(973) 455-4003

If to Riverkeeper:

Bruce J. Terris
Carolyn Smith Pravlik
Kathleen L. Millian
Terris, Pravlik & Millian, LLP
1121 12th St., N.W.
Washington, DC 20005-4632
(202) 682-2100

If to Jersey City:

William Matsikoudis
Corporation Counsel
City of Jersey City
280 Grove Street
Jersey City, NJ 07305
(201) 547-4667

If to JCIA:

David L. Isabel
Golub & Isabel, PC
160 Littleton Road
Parsippany, NJ 07054
(973) 968-3377

If to JCMUA:

Sam Della Fera Jr.
Trenk, DiPasquale, Webster,
Della Ferra & Sodono, P.C.
347 Mount Pleasant Ave.
West Orange, NJ 07052
(973) 243-8600

If to JCRA:

Robert Antonichello
Executive Director
30 Montgomery Street
Jersey City, NJ 07302
(201) 547-5810

Any party may change its designated recipients or addresses for notice in this paragraph by providing written notice of such change to all other Parties.

ARTICLE XII: RIVERKEEPER'S ATTORNEYS' FEES

109. **Payment of Past Fees and Expenses.** Within 30 days of the entry of this Consent Decree, Honeywell shall pay Terris, Pravlik & Millian, LLP the sum of $1,513,217.15 which represents the following:

(a) A compromise of the attorneys' fees incurred by Riverkeeper in the litigation of Study Area 6 North portion of *Riverkeeper v. Honeywell* through March 27, 2008; and

(b) $187,862.27 in out-of-pocket expenses representing 50% of the expenses incurred by Riverkeeper in *Riverkeeper v. Honeywell* from the inception of the litigation after deducting the expenses to be paid pursuant to the Sediment Consent Order.

Payment of the sum of $1,513,217.15 shall be in full satisfaction of all obligations, duties, and responsibilities of Honeywell with respect to the $1,556,747.46 in fees and expenses that Riverkeeper claimed with regard to the above described fees and expenses.

110. **Future Fees and Expenses.** Honeywell shall reimburse Riverkeeper's attorneys for reasonable fees and expenses incurred: (a) in negotiating this Consent Decree after March 27, 2008; (b) in the monitoring and enforcement of this Consent Decree; and (c) in participation in the Special Master process established pursuant to this Consent Decree. Honeywell shall also reimburse Riverkeeper for reasonable attorneys' fees and expenses for Riverkeeper's review of and participation in the Long-Term Monitoring Plan and monitoring and enforcement of this Consent Decree following the term of the Special Master. In the event that any dispute arises between the Parties under this Consent Decree that must be resolved by the Court, Riverkeeper shall be entitled to recover its attorneys' fees and expenses for litigation of the dispute to the extent allowed by federal law. Riverkeeper and Honeywell shall use the same informal procedure for attempting to settle fees issues as has been used for post-judgment monitoring fees in *ICO v. Honeywell*. In the event that Riverkeeper and Honeywell are unable to reach a

settlement on fees, Riverkeeper shall apply to the Court for an award of attorneys' fees and expenses. If Honeywell objects to only a portion of the Riverkeeper's statement of attorneys' fees and expenses, Honeywell shall pay the undisputed portion within 60 days of Riverkeeper's submittal of the statement to Honeywell. The Court shall resolve any objections to Riverkeeper's statement of attorneys' fees and expenses and shall enter an appropriate Order.

ARTICLE XIII: MISCELLANEOUS PROVISIONS

111. **Force Majeure.** Force Majeure, for the purposes of this Consent Decree, is defined as an event arising from causes beyond the control of any Party or Parties (or their agents, contractors, subcontractors, representatives, or assigns) which could not have been overcome by reasonable diligence and which delays or prevents the performance of any obligation under this Consent Decree. Examples of events which may constitute force majeure include the refusal of any federal or state governmental authority to grant a permit or authorization necessary for the completion of actions required by this Consent Decree, floods, hurricanes, tornadoes, and other extraordinary weather events, earthquakes and other natural disasters, terrorist attacks, war, and other national emergencies. Examples of events that are not force majeure events include normal inclement weather, increased costs or expense, the failure to timely and fully apply for a permit or authorization necessary for the completion of actions required by this Consent Decree, or financial difficulty of any Party. The Party claiming force majeure shall bear the burden of showing an event was a force majeure event.

112. **JCRA and Bayfront Redevelopment LLC as Parties.** As signatories to this Consent Decree, JCRA and Bayfront Redevelopment LLC subject themselves to the Court's jurisdiction for the purpose of enforcing this Consent Decree and agree to be bound by this Consent Decree. This Consent Decree shall be fully enforceable against JCRA and Bayfront Redevelopment LLC.

113. **Successors and Assigns.** This Consent Decree shall be binding upon and shall inure to the benefit of the successors, assigns, heirs, corporate parents, subsidiaries, and affiliates of each Party. No assignment or delegation of the obligations hereunder shall release the assigning Party from its obligations under this Consent Decree.

114. **Successors to Hackensack Riverkeeper, Inc.** In the event that Hackensack Riverkeeper, Inc. disbands or otherwise ceases operations, it shall assign its rights under this Consent Decree to another qualified nonprofit organization. A nonprofit organization shall be qualified for assignment under this Consent Decree if it is a charitable organization under Section 501(c)(3) of the Internal Revenue Code or its substantial equivalent and has an established record of working to enhance or preserve the ecology, natural habitat, or environment. Any such assignment shall be subject to approval by the Court and Honeywell shall have the right to object to any proposed assignment. Any successor organization shall have the duty to assign its rights under this Consent Decree to another qualified nonprofit organization in the event that the successor disbands or otherwise ceases operations. In the event that a successor is not appointed at any given time, the New Jersey Attorney General or equivalent officer shall appoint a successor subject to approval by the Court and objection by Honeywell.

115. **Reservation of Rights and Claims**. Except as set forth expressly herein, this Consent Decree does not affect in any way any of the Parties' claims or defenses against third parties who have not signed the Consent Decree.

116. **Governing Law and Continuing Jurisdiction.** The Court shall retain jurisdiction over the matters addressed in this Consent Decree for purposes of enabling the Parties to apply to the Court for any further order as may be necessary to construe, carry out, or enforce the terms of this Consent Decree. This Consent Decree shall be interpreted and enforced under the laws of

the United States and the State of New Jersey by the United States District Court for the District of New Jersey.

117. **Construction.** Questions regarding the interpretation of this Consent Decree shall not be resolved against any Party on the ground that this Consent Decree has been drafted by that Party. This Consent Decree is the result of review, negotiation, and compromise by each Party.

118. **Authority to Enter into Agreement.** The undersigned representative for each Party represents, certifies, and warrants that he or she is duly authorized by the Party whom he or she represents to enter into the terms of this Consent Decree and bind such Party legally to this Consent Decree.

119. **Measures to Effectuate This Consent Decree.** The Jersey City Entities and JCRA shall take all appropriate steps to ensure that this Consent Decree has been (and that actions required hereunder will be) duly considered, ratified, and approved. Such steps include consideration of this Consent Decree at a meeting of the City Council, open to the public, at which members of the public have the opportunity to comment on all aspects of the Settlement, including the commitments made by Jersey City; and consideration by and approval of the commissioners of the JCIA, JCMUA, and JCRA.

120. **Modifications.** This Consent Decree may be modified by mutual agreement of the Parties but such agreement must be in writing, duly and properly signed by all Parties, and shall be submitted to the Court for approval.

121. **Severability.** Each of the provisions in paragraph 60 of this Consent Decree shall be deemed severable and, in the event that one or more of such provisions is deemed invalid or unenforceable, it shall not affect the validity or enforceability of the other provisions of the Consent Decree.

122. **Signatures.** This Consent Decree may be signed simultaneously or in counterparts by the respective signatories, which shall be as fully valid and binding as if a single document was signed by all of the signatories. This Consent Decree may be signed electronically by any or all signatories, and such electronic signature shall be as fully valid and binding as a hand-written signature.

Consented to and approved for entry:

s/Aurelio Vincitore

William Matsikoudis
Aurelio Vincitore
Corporation Counsel
City of Jersey City
280 Grove Street
Jersey City, NY 07305
(201) 547-4667

Counsel for the City of Jersey City

s/David L. Isabel

David L. Isabel
Golub & Isabel, PC
160 Littleton Road
Parsippany, NJ 07054
(973) 968-3377

Counsel for Jersey City Incinerator Authority

s/ Joni Noble McDonnell

Joni Noble McDonnell
Genova, Bruns & Giantomasi
4974 Broad Street
Newark, NJ 07102
973-535-4435

Counsel for Jersey City Municipal Utilities Authority

Robert Antonichello
Executive Director
30 Montgomery Street
Jersey City, NJ 07302
(201) 547-5810

Executive Director of Jersey City Redevelopment Agency

s/ David Sheehan

David Sheehan
Baker Hostetler
45 Rockefeller Plaza
11th Floor
New York, NY 10111
(212) 589-4200

Michael D. Daneker
Arnold & Porter LLP
555 12th Street N.W.
Washington, DC 20004
(202) 942-5000

Counsel for Honeywell International Inc. and Bayfront Redevelopment LLC

s/ Edward Lloyd

Edward Lloyd
Columbia Law School
435 West 116th Street, Room 831
New York, NY 10027
(212) 854-4376

Bruce J. Terris
Carolyn Smith Pravlik
Kathleen L. Millian
Terris, Pravlik & Millian, LLP
1121 12th Street N.W.
Washington, DC 20005-4632
(202) 682-2100

Counsel for the Hackensack Riverkeeper, William Sheehan, Reverend Winston Clarke, and Lawrence Baker

APPROVED AND ENTERED as an Order of this Court this ___ day of _____, 2012.

_____
Hon. Dennis M. Cavanaugh
United States District Judge

EXHIBITS

Exhibit A: Jersey City/Honeywell Consent Order

Exhibit B: Remedial AOC's and Remedial Approach Map

Exhibit C: NJDEP Chromium Policy

Exhibit D: Conservation Restriction

Exhibit E: Deed Notice

Deed Notice

Dated: _____, 2017

BAYFRONT REDEVELOPMENT LLC

Grantor(s).

Record and return to:

Waters, McPherson, McNeill, P.C.
P.O. Box 1560
300 Lighting Way
Secaucus, New Jersey 07096-1560

ATTN: _____, Esq

DRAFT DEED NOTICE

IN ACCORDANCE WITH N.J.S.A. 58:10B-13, THIS DOCUMENT IS TO BE RECORDED IN THE SAME MANNER AS ARE DEEDS AND OTHER INTERESTS IN REAL PROPERTY.

Prepared by: _____
[Signature]

_____
[Bayfront Redevelopment, LLC]

Recorded by:

_____
[Signature, Officer of County Recording Office]

_____
[Print name below signature]

DEED NOTICE CONCERNING CONTROLS INSTALLED FOR CHROMIUM CONTAMINATION UNDERLYING THE PROPERTY

This Deed Notice is made as of the __ day of _____, 2017, by ***Bayfront Redevelopment LLC, whose post office address is 115 Tabor Road, Morris Plains, New Jersey 07950***. "Owner" shall mean Bayfront Redevelopment, LLC together with its successors and assigns, including all successors in interest in the Property which is the subject of this Deed Notice as described fully below. Block 21901 Lot 5 is currently owned by Bayfront Redevelopment, LLC. The "Property" (also referenced herein as the "Deferred Area" or the "Restricted Area(s)") shall consist of those lands particularly described by metes and bounds in Exhibit A-2 attached hereto.

1. THE PROPERTY. Bayfront Redevelopment, LLC is the current owner in fee simple of certain real property designated the Deferred Area as portions of ***Block 21901, Lot 4 on the tax map of the City of Jersey City, Hudson County, New Jersey***[1]. The New Jersey Department of Environmental Protection (NJDEP) Program Interest Number for the contaminated site which includes this property is ***Hudson County Chromate Site No. 087 Program Interest ("PI") # G000008710*** (NJDEP PI# for non-chromium-related contaminants at the Property is #745719). The Property is part of Site 087 pursuant to the Consent Decree Regarding Remediation and Redevelopment of

[1] All references to Block 21901 Lot 4 in this Deed Notice shall mean the applicable portions of Block 21901 Lot 4 as shown in the metes and bounds description, regardless of whether the word "portion(s)" is specifically called out or not.

Study Area 6 North ("Consent Decree") which is attached hereto as Appendix I and is entered as an order of the Court in the following consolidated actions *JCMUA v. Honeywell International, Inc.*, D.N.J., Civ. No. 05-05955; *JCIA v. Honeywell International, Inc.*, D.N.J., Civ. No. 05-5993; and *Hackensack Riverkeeper, Inc. v. Honeywell International, Inc.*, D.N.J., Civ. No. 06-22 (consolidated under Civ. No. 95-2097).

2. REMEDIATION.

i. The Department's Bureau of State Case Management (BCM) is the entity within the Department that is responsible for the oversight of the remediation of the SA-6 North. The matter was Case No. Hudson County Chromate Site No. 087 PI# G000008710. The Department has approved this Deed Notice as an institutional control for the Property, which is part of the remediation of the Property.

ii. N.J.A.C. 7:26-C-7 requires the Owner, among other persons, including the responsible party Honeywell International Inc. ("Honeywell"), to obtain a soil remedial action permit for the soil remedial action at the Property. That permit will contain the monitoring, maintenance and biennial certification requirements that apply to the Property.

3. SOIL AND GROUNDWATER CONTAMINATION. Honeywell, a corporation of the State of Delaware, licensed to do business in the State of New Jersey whose post office address is 115 Tabor Road, Morris Plains, New Jersey 07950, has remediated SA-6 North to address chromium-related soil and shallow groundwater contamination, except for the Property and certain other deed noticed areas where engineering controls were implemented. The Remedial Action Work Plan ("RAWP") was approved by the Department on February 19, 2009 for Hudson County Chromate Site Nos. 087 and 088, which included the Property. Remedial actions were further approved pursuant to the Consent Decree.

Under both the Consent Decree and the RAWP soil contamination remains in the Property which contains contaminants in concentrations that do not allow for the unrestricted use of the Property. A Remedial Action Report ("RAR") for SA-6 North was submitted to the Department on March 16, 2017. The Department approved the RAR on June 1, 2017. A Construction Completion Report ("CCR") for SA-6 North to document the implementation of the Chromium Remedy pursuant to Article III of the Consent Decree (the "Chromium Remedy") to address chromium-impacted soil and groundwater for SA-6 North was entered by the Court on [DATE], [CITE TO DOCKET AND DOCKET #].

The Property consists of two small areas on SA-6 North adjacent to the Route 440 Right-Of-Way ("ROW") where the Public Service Electric & Gas ("PSE&G") gas main is located north and east of the SA-6 North Open Space Area. The Property is comprised of two tracts of land; Tract 1 is near Culver Circle at the Route 440 ROW and Tract 2 is further south along the Route 440 ROW closer to the SA-6 North Open Space Area. Tract 1 is an approximately 1,408 square foot area. Tract 2 is an approximately 971 square foot area. Both tracts include chromium only. Excavations in this part of SA-6 North were limited in these areas by the PSE&G gas main and will be deferred until after the Route 440 ROW widening project. Thus, these areas are termed "Deferred Areas." This deed notice is for both Tracts 1 and 2 together. Once the remediation of these areas is completed consistent with Article III of the Consent Decree, Honeywell will terminate this Deed

Notice pursuant to Paragraph 13 below. In the meantime, the provisions of the Long Term Monitoring Plan ("LTMP"), developed pursuant to the Consent Decree, will apply to the Property.

It is not anticipated that implementation of the Bayfront I Redevelopment Plan will impact the Property. Because this area is so narrow, is proximate to the Route 440 ROW, and the gas main is located within the area, remediation of the Property will need to be deferred until the gas main is relocated.

The soil contamination is described, including the type, concentration and specific location of such contaminants, in Exhibit B, which is attached hereto and made a part hereof. Groundwater contaminant concentrations and restrictions for SA-6 North in its entirety are addressed in the Classification Exception Area (CEA) approved by the NJDEP on February 16, 2012 and in a forthcoming Remedial Action Permit for Groundwater (recent groundwater samples from the Property do not indicate shallow groundwater contamination). As a result of the remaining soil contamination, there is a statutory requirement for this Deed Notice and engineering controls in accordance with N.J.S.A. 58:10B-13. Under the terms of the Consent Decree and this Deed Notice, Honeywell is responsible for monitoring and maintaining the soil remediation for the Property in perpetuity or until remediation is implemented that renders this Deed Notice unnecessary.

4. CONSIDERATION. In accordance with the Department's approval of the chromium RAWP for the remediation of Hudson County Chromate Site Nos. 087 and 088 which includes the Property, and in consideration of the terms and conditions of that approval, and in accordance with the Consent Decree, and other good and valuable considerations, Owner has agreed to subject the Property to certain statutory and regulatory requirements which impose restrictions upon the use of the Property, to restrict certain uses of the Property, and to provide notice to subsequent owners, lessees and operators of the restrictions and the monitoring, maintenance, and biennial certification requirements outlined in this Deed Notice and required by law, as set forth herein.

5A. RESTRICTED AREAS. Due to the presence of contamination remaining at concentrations that do not allow for unrestricted use, Owner has agreed, as part of the remedial action for the Property, to restrict the use of the Property (the "Restricted Areas"); a narrative description of these restrictions, along with the associated monitoring and maintenance activities and the biennial certification requirements are provided in Exhibit C, which is attached hereto and made a part hereof. Owner will develop a binder containing a list of these restrictions which will be maintained at either the onsite trailers or within the Groundwater Treatment Plant building, available for review and inspection by governmental enforcement officials if requested.

5B. RESTRICTED LAND USES. The following land use restrictions apply to the Property:

i. The Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-12.g(10), prohibits the conversion of a contaminated site, remediated to non-residential soil remediation standards that require the maintenance of engineering or institutional controls, to a child care facility, or public, private, or charter school without the Department's prior written approval, unless a presumptive remedy is implemented;

ii. The Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-12.g(12), prohibits the conversion of a landfill, with gas venting systems and or leachate collection systems, to a single-family residence or a child care facility without the Department's prior written approval; and

iii. The Consent Decree, paragraph 53, prohibits the unrestricted use of the Property until the Chromium Remedy set forth in Article III of the Consent Decree is implemented and the concentration of hexavalent chromium in soil is less than 20 mg/kg to a depth of 20 feet below ground surface.

5C. ENGINEERING CONTROLS. Due to the presence and concentration of these contaminants, the Owner has also agreed, as part of the remedial action for the Property, to the placement of certain engineering controls within the Property. The engineering controls include clean cover materials to a depth of at least 12-inches below ground surface. A narrative description of these engineering controls, along with the associated monitoring and maintenance activities and the biennial certification requirements are provided in Exhibit C. Honeywell shall be responsible for monitoring and maintenance of engineering controls and biennial certification requirements as specified in the Consent Decree, the LTMP, and Paragraphs 8A and 8B herein.

5D. LONG TERM MONITORING PLAN. Pursuant to the Consent Decree, Honeywell has developed a LTMP which sets forth requirements for monitoring, maintaining, and repairing or replacing the soil and groundwater chromium remedial measures including engineering controls within the Property, and requirements for notification and reporting pursuant to the Consent Decree, Deed Notice, and Soil Remedial Action Permit. A copy of the LTMP is maintained by Honeywell at 115 Tabor Road, Morris Plains, NJ 07950. This Deed Notice is appended to the LTMP.

5F. WORKER TRAINING MATERIALS. All maintenance workers engaged in maintenance at the Property shall be trained in maintenance procedures that do not jeopardize the integrity of the Chromium Remedy. Workers shall be trained using materials developed by Honeywell pursuant to the Consent Decree.

6A. CHANGE IN OWNERSHIP AND REZONING.

i. The Owner and the subsequent owners and lessees, shall cause all leases, grants, and other written transfers of an interest in the Restricted Areas to contain a provision expressly requiring all holders thereof to take the Property subject to the restrictions contained herein and to comply with all, and not to violate any of the conditions of this Deed Notice. Nothing contained in this Paragraph shall be construed as limiting any obligation of any person to provide any notice required by any law, regulation, or order of any governmental authority.

ii. The Owner and the subsequent owners shall provide written notice to the Department of Environmental Protection on a form provided by the Department and available at www.nj.gov/srp/forms within thirty (30) calendar days after the effective date of any conveyance, grant, gift, or other transfer, in whole or in part, of the owner's interest in the Restricted Area.

iii. The Owner and the subsequent owners shall provide written notice to the Department, on a form available from the Department at www.nj.gov/srp/forms, within thirty (30) calendar days after the owner's petition for or filing of any document initiating a rezoning of the Property to residential.

6B. SUCCESSORS AND ASSIGNS. This Deed Notice shall be binding upon Owner and upon Owner's successors and assigns, and subsequent owners, lessees, and operators while each is an owner, lessee, or operator of the Property.

7A. ALTERATIONS, IMPROVEMENTS, AND DISTURBANCES.

i. The Owner and all subsequent owners and lessees shall notify any person of whom it has knowledge, including, without limitation, tenants, employees of tenants, developers, and contractors, intending to conduct invasive work or excavate within the Property, of the nature and location of known contamination in the Property, and, of the precautions necessary to protect the engineering controls and minimize potential human exposure to contaminants.

ii. Except as provided in the Consent Decree and Paragraph 7B below, no person shall make, or allow to be made, any alteration, improvement, or disturbance in, to, or about the Property which disturbs any engineering control at the Property except as (a) permitted in the Consent Decree and (b) without first obtaining a Soil Remedial Action Permit modification from the Department. Nothing herein shall constitute a waiver of the obligation of any person to comply with all applicable laws and regulations including, without limitation, the applicable rules of the Occupational Safety and Health Administration.

iii. Notwithstanding subparagraph 7A.ii.(b), above, a Soil Remedial Action Permit modification is not required for any alteration, improvement, or disturbance provided that:

(A) Such action is taken in conformance with the Consent Decree and this Deed Notice; and

(B) The Department of Environmental Protection is notified of the activity by calling the DEP Hotline, at 1-877-WARN-DEP or 1-877-927-6337, within twenty-four (24) hours after the beginning of each alteration, improvement, or disturbance; and

(C) Honeywell is notified of the activity by calling 855-727-2658; and

(D) Honeywell and/or the owner restores any disturbance of an engineering control to pre-disturbance conditions, consistent with the requirements of the Consent Decree and LTMP, within sixty (60) calendar days after the initiation of the alteration, improvement or disturbance; and

(E) All applicable worker health and safety laws and regulations are followed during the alteration, improvement, or disturbance, and during the restoration; and

(F) Appropriate measures are taken so that human exposure, and exposure of the environment outside the containment of the engineering controls, to contamination in excess of the applicable remediation standards does not occur; and

(G) The next biennial certification includes a description of the nature of the alteration, improvement, or disturbance, the dates and duration of the alteration, improvement, or disturbance, the name of key individuals and their affiliations conducting the alteration, improvement, or disturbance, a description of the notice the Owner gave to those persons prior to the disturbance, the amounts of soil generated for disposal, if any, the final disposition and any precautions taken to prevent exposure.

7B. EMERGENCIES. In the event of an emergency which presents, or may present, an unacceptable risk to the public health and safety, or to the environment, or immediate environmental concern, see N.J.S.A. 58:10C-2, any person may temporarily breach an engineering control provided that:

i. The Department of Environmental Protection is immediately notified of the emergency, by calling the DEP Hotline at 1-877-WARNDEP or 1-877-927-6337; and

ii. Immediately after notifying NJDEP, Honeywell is notified of the emergency by calling 855-727-2658; and

iii. Both the actual disturbance and the time needed for the disturbance are limited to the minimum reasonably necessary to adequately respond to the emergency; and

iv. All measures necessary to limit actual or potential, present or future risk of exposure to humans or the environment to the contamination are implemented; and

v. The Department of Environmental Protection is notified when the emergency has ended by calling the DEP Hotline at 1-877-WARNDEP or 1-877-927-6337; and

vi. Honeywell is notified when the emergency has ended by calling 855-727-2658; and

vii. Honeywell restores the engineering control to the pre-emergency conditions, consistent with the requirements of the Consent Decree and LTMP, as soon as possible, and submits a written report to the Department of Environmental Protection of such emergency and restoration efforts within sixty (60) calendar days after completion of the restoration of the engineering control. The report must include all information pertinent to the emergency, potential discharges of contaminants, and restoration measures that were implemented, which, at a minimum, should specify: (a) the nature and likely cause of the emergency, (b) the potential discharges of or exposures to contaminants, if any, that may have occurred, (c) the measures that have been taken to mitigate the effects of the emergency on human health and the environment, (d) the measures completed or implemented to restore the engineering control, and (e) the changes to the engineering control or site operation and maintenance plan to prevent recurrence of such conditions in the future. Honeywell shall submit the report to:

Department of Environmental Protection
Division of Remediation Management and Response
Bureau of Operation, Maintenance and Monitoring
Deed Notice Inspection Program
P.O. Box 413
401 E. State Street
Trenton, NJ 08625-0413

8A. MONITORING AND MAINTENANCE OF DEED NOTICE, AND PROTECTIVENESS CERTIFICATION. The persons in any way responsible, pursuant to the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11a et seq., for the hazardous substances that remain at the Property, the persons responsible for conducting the remediation, Honeywell, the Owner, and the subsequent owners, lessees, and operators, shall monitor and maintain this Deed Notice. The subsequent owners, lessees and operators have this obligation only during their ownership, tenancy, or operation. Honeywell shall certify to the Department on a biennial basis that the remedial action that includes this Deed Notice remains protective of the public health and safety and of the environment. The specific obligations to monitor and maintain the deed notice shall include all of the following:

i. Monitoring and maintaining this Deed Notice according to the requirements in Article III of the Consent Decree and Exhibit C herein, to ensure that the remedial action that includes the Deed Notice continues to be protective of the public health and safety and of the environment, pursuant to Paragraph 8B below; and

ii. Conducting any additional remedial investigations and implementing any additional remedial actions, that are necessary to correct, mitigate, or abate each problem related to the protectiveness of the remedial action for the Property prior to the date that the certification is due to the Department pursuant to iii, below, so that the remedial action that includes this Deed Notice remains protective of the public health and safety and of the environment, pursuant to Paragraph 8B below; and

iii. Certifying to the Department of Environmental Protection the continued protectiveness of the remedial action that includes this Deed Notice, on a form provided by the Department and consistent with N.J.A.C. 7:26C-1.2 (a)1, every two years on the anniversary of the date stamped on the Deed Notice that indicates when the Deed Notice was recorded, pursuant to Paragraph 8B below.

8B. MONITORING AND MAINTENANCE OF ENGINEERING CONTROLS, AND PROTECTIVENESS CERTIFICATION. Honeywell shall maintain all engineering controls at the Property and certify to the Department on a biennial basis that the remedial action of which each engineering control is a part remains protective of the public health and safety and of the environment. The specific obligations to monitor and maintain the engineering controls shall include the following:

i. Monitoring and maintaining each engineering control according to the requirements in Article III of the Consent Decree, the LTMP, and Exhibit C herein, so that the remedial action that

includes the engineering control continues to be protective of the public health and safety and of the environment; and

ii. Conducting any additional remedial investigations and implementing any additional remedial actions, that are necessary to correct, mitigate, or abate each problem related to the protectiveness of the remedial action for the Property prior to the date that the certification is due to the Department pursuant to iii, below, so that the remedial action that includes the engineering control remains protective of the public health and safety and of the environment; and

iii. Certifying to the Department of Environmental Protection the continued protectiveness of the remedial action that includes the engineering control, on a form provided by the Department and consistent with N.J.A.C. 7:26C-1.2 (a)1, every two years on the anniversary of the date stamped on the Deed Notice that indicates when the Deed Notice was recorded.

9. ACCESS. The Owner, subsequent owners, lessees, and operators, agree to allow the Department, its agents and representatives access to the Property to inspect and evaluate the continued protectiveness of the remedial action that includes this Deed Notice and to conduct additional remediation to ensure the protection of the public health and safety and of the environment if the persons responsible for monitoring the protectiveness of the remedial action, as described in Paragraph 8, above, fail to conduct such remediation pursuant to this Deed Notice as required by law. The Owner, and the subsequent owners and lessees, shall also cause all leases, subleases, grants, and other written transfers of an interest in the Property to contain a provision expressly requiring that all holders thereof provide such access to the Department.

10. NOTICES.

i. Owner shall cause all leases, grants, and other written transfers of an interest in the Property to contain a provision expressly requiring all holders thereof to take the Property subject to the restrictions contained herein and to comply with all, and not to violate any of the conditions of this Deed Notice. Nothing contained in this Paragraph shall be construed as limiting any obligation of any person to provide any notice required by any law, regulation, or order of any governmental authority.

ii. Honeywell or the Owner shall notify any person intending to conduct invasive work or excavate within the Property of the nature and location of contamination and, of the precautions necessary to minimize potential human exposure, and exposure of the environment outside the containment of the engineering controls, to contaminants.

iii. Owner shall provide written notice to the Department of Environmental Protection at least thirty (30) calendar days before the effective date of any conveyance, grant, gift, or other transfer, in whole or in part, of the owner's interest in the Property. Any such conveyance, grant or gift must be consistent with the terms of the Consent Decree.

iv. Owner shall provide written notice to the Department within thirty (30) calendar days following the Owner's receiving notice of any petition for a rezoning of the Property. Any such

rezoning must be consistent with the terms of the Consent Decree. The Owner shall submit the written notice to:

Department of Environmental Protection
Division of Remediation Management and Response
Bureau of Operation, Maintenance and Monitoring
Deed Notice Inspection Program
P.O. Box 413
401 E. State Street
Trenton, NJ 08625-0413.

11. ENFORCEMENT OF VIOLATIONS.

i. This Deed Notice itself is not intended to create any interest in real estate in favor of the Department of Environmental Protection, nor to create a lien against the Property, but merely is intended to provide notice of certain conditions and restrictions on the Property and to reflect the regulatory and statutory obligations imposed as a conditional remedial action for this Property.

ii. The restrictions provided herein may be enforceable by the Department against any person who violates this Deed Notice. To enforce violations of this Deed Notice, the Department may initiate one or more enforcement actions pursuant to N.J.S.A. 58:10-23.11, and N.J.S.A. 58:10C, and require additional remediation and assess damages pursuant to N.J.S.A. 58:10-23.11, and N.J.S.A. 58:10C.

iii. This Deed Notice is also enforceable in the United States District Court for the District of New Jersey by all residents, owners, lessees, and all commercial tenants on Study Areas 6 and 7 pursuant to paragraphs 66 and 69 of the Consent Decree.

12. SEVERABILITY. If any court of competent jurisdiction determines that any provision of this Deed Notice requires modification, such provision shall be deemed to have been modified automatically to conform to such requirements. If a court of competent jurisdiction determines that any provision of this Deed Notice is invalid or unenforceable and the provision is of such a nature that it cannot be modified, the provision shall be deemed deleted from this instrument as if the provision had never been included herein. In either case, the remaining provisions of this Deed Notice shall remain in full force and effect.

13. MODIFICATION AND TERMINATION.

i. Any person may request in writing, at any time, that the Department modify this Deed Notice where performance of subsequent remedial actions, a change of conditions at the Property, or the adoption of revised remediation standards suggest that modification of the Deed Notice would be appropriate, provided that any such modification is consistent with the requirements of the Consent Decree.

ii. Any person may request in writing, at any time, that the Department terminate this Deed Notice because the conditions which triggered the need for this Deed Notice are no longer applicable.

iii. Any person seeking a modification or termination of this Deed Notice must also have such modification approved by the United States District Court for the District of New Jersey pursuant to the Consent Decree until such time as the Consent Decree terminates with regard to the Property pursuant to the Consent Decree.

iv. If the United States District Court for the District of New Jersey and NJDEP have concluded that this Deed Notice shall be modified or terminated, such modification or termination will only be effective upon the filing of a Termination of Deed Notice, available at N.J.A.C. 7:26C Appendix C, with the office of the Register of Deeds of Hudson County, New Jersey, expressly modifying or terminating this Deed Notice.

v. Within thirty (30) calendar days after the filing of a Termination of Deed Notice, the owner of the Property shall apply to the Department for modification or termination of the Soil Remedial Action Permit pursuant to N.J.A.C. 7:26C-7.

vi. This Deed Notice may be modified only if it has first been terminated pursuant to subparagraphs 13v above, and upon filing of a modified Deed Notice, executed by the Owner of the Property, in the office of the Register of Deeds of Hudson County, New Jersey.

14A. EXHIBIT A. Exhibit A includes the following maps of the Property and the vicinity:

i. Exhibit A-1: Vicinity Map - A map that identifies by name the roads, and other important geographical features in the vicinity of the Property;

ii. Exhibit A-2: Metes and Bounds Description - A metes and bounds description of the Property, including reference to tax lot and block numbers for the Property and a Tax Map;

iii. Exhibit A-3: Property Map - A scaled map of the Property, scaled at one inch to 200 feet or less, and if more than one map is submitted, the maps shall be presented as overlays, keyed to a base map; the map(s) shall include diagrams of major surface topographical features such as buildings, roads, and parking lots. Unless this Deed Notice has been terminated pursuant to Paragraph 13, after development of the Property, this Deed Notice shall be modified to show topographical features constructed on the Property such as buildings, roads, and parking lots.

14B. EXHIBIT B. Exhibit B includes the following descriptions of the Restricted Areas:

i. Exhibit B-1: Restricted Area Map - Maps for the Property that include, as applicable:

(A) As-built diagrams of each engineering control, including caps, fences, hydraulic barrier walls, ground water monitoring wells, and ground water pumping system including trenches and pumps;

(B) As-built diagrams of any buildings, roads, parking lots, utility corridors, and other structures that function as engineering controls; and

(C) Designation of all soil and/or sediment sample locations within the restricted areas that exceed any soil or sediment standard that are keyed into one of the tables described below.

ii. Exhibit B-2 (Table B-2): Restricted Area Data Tables - Table for the Property that includes:

(A) Sample location designation from Restricted Area maps (Exhibit B-1);

(B) Sample elevation based upon mean sea level;

(C) Name and chemical abstract service registry number of each contaminant with a concentration that exceeds the unrestricted use standard;

(D) The restricted and unrestricted use standards for each contaminant in the table; and

(E) The remaining concentration of each contaminant at each sample location at each elevation (or if historic fill, include data from the Department's default concentrations at N.J.A.C. 7:26E-4.6, Table 4-2).

14C. EXHIBIT C. Exhibit C includes narrative descriptions of the institutional controls and engineering controls as follows:

i. Exhibit C-1A through C-1C. Exhibit C-1A: Deed Notice as Institutional Control; Exhibit C-1B: Consent Decree as Institutional Control; Exhibit C-1C: Zoning as Institutional Control: Exhibit C-1 includes a narrative description of the restrictions and obligations of this Deed Notice that are in addition to those described above, as follows:

(A) General Description of the Institutional Control:
(1) Description and estimated size of the Restricted Areas as described above;
(2) Description of the restrictions on the Property by operation of this Deed Notice and the other Institutional Controls; and
(3) The objective of the restrictions;

(B) Description of the monitoring necessary to determine whether:
(1) Any disturbances of the soil in the Restricted Areas resulted in the unacceptable exposure to the soil contamination;
(2) There have been any land use changes subsequent to the filing of this Deed Notice and the other Institutional Controls or the most recent biennial certification, whichever is more recent;
(3) The current land use on the Property is consistent with the restrictions in this Deed Notice and the other Institutional Controls;
(4) Any newly promulgated or modified requirements of applicable regulations or laws apply to the Property; and
(5) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice and the other Institutional Controls, and conduct the necessary sampling; and

(C) Description of the following items that will be included in the biennial certification:

(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice and the other Institutional Controls;

(2) Land use at the Property is consistent with the restrictions in this Deed Notice and the other Institutional Controls; and

(3) The remedial action that includes this Deed Notice and the other Institutional Controls continues to be protective of the public health and safety and of the environment.

ii. Exhibit C-2. Exhibit C-2: Engineering Controls: 1 foot of clean soil at the northern-most restricted area and a cap consisting of a geotextile demarcation fabric overlain by 6-inches of gravel at the southern-most restricted area

Exhibit C-2 includes a narrative description of the engineering controls as follows:

(A) General Description of the engineering control:

(1) Description of the engineering control;

(2) The objective of the engineering control; and

(3) How the engineering control is intended to function.

(B) Description of the operation and maintenance necessary to ensure that:

(1) Periodic inspections of each engineering control are performed in order to determine its integrity, operability, and effectiveness;

(2) Each engineering control continues as designed and intended to protect the public health and safety and the environment;

(3) Each alteration, excavation or disturbance of any engineering control is timely and appropriately addressed to maintain the integrity of the engineering control;

(4) The engineering control is being inspected and maintained and its integrity remains so that the remedial action continues to be protective of the public health and safety and of the environment;

(5) A record of the self-inspection dates, name of the inspector, results of the inspection and condition(s) of the engineering control. Sampling, for example, may be necessary if it is not possible to visually evaluate the integrity/performance of the engineering control; and

(6) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice, and conduct the necessary sampling; and

(C) Description of the following items that will be included in the biennial certification:

(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice;

(2) The engineering control continues to operate as designed; and
(3) The remedial action that includes the engineering control continues to be protective of the public health and safety and of the environment.

15. SIGNATURES. IN WITNESS WHEREOF, Owner has executed this Deed Notice as of the date first written above.

ATTEST: , LLC

_____ By_____
[Signature] [Signature]

_____ _____
[Print name and title] [Print name and title]

STATE OF NEW JERSEY SS.:
COUNTY OF _____

I certify that on _____ ___, 2017, _____ personally came before me, and this person acknowledged under oath, to my satisfaction, that:

(a) this person is the _____ of _____, LLC, the Limited Liability Corporation named in this document;

(b) this person is the attesting witness to the signing of this document by the proper corporate officer who is the _____ of the Limited Liability Corporation;

(c) this document was signed and delivered by the Limited Liability Corporation as its voluntary act and was duly authorized;

(d) this person knows the proper seal of the Limited Liability Corporation which was affixed to this document; and

(e) this person signed this proof to attest to the truth of these facts.

_____
[Signature]

_____
[Print name and title of attesting witness]

Signed and sworn before me on _____, 20__

_____, Notary Public

_____
[Print name and title]

EXHIBIT A
Deed Notice #9 SA-6 North Deferred Area (Former Trenk Property)

A-1 Vicinity Map

A-2 Metes and Bounds Description and Tax Map

A-3 Property Map Portions of Block 21901, Lot 4, City of Jersey City, New Jersey

Exhibit A-1 Vicinity Map consists of a road map for the vicinity of the Property.

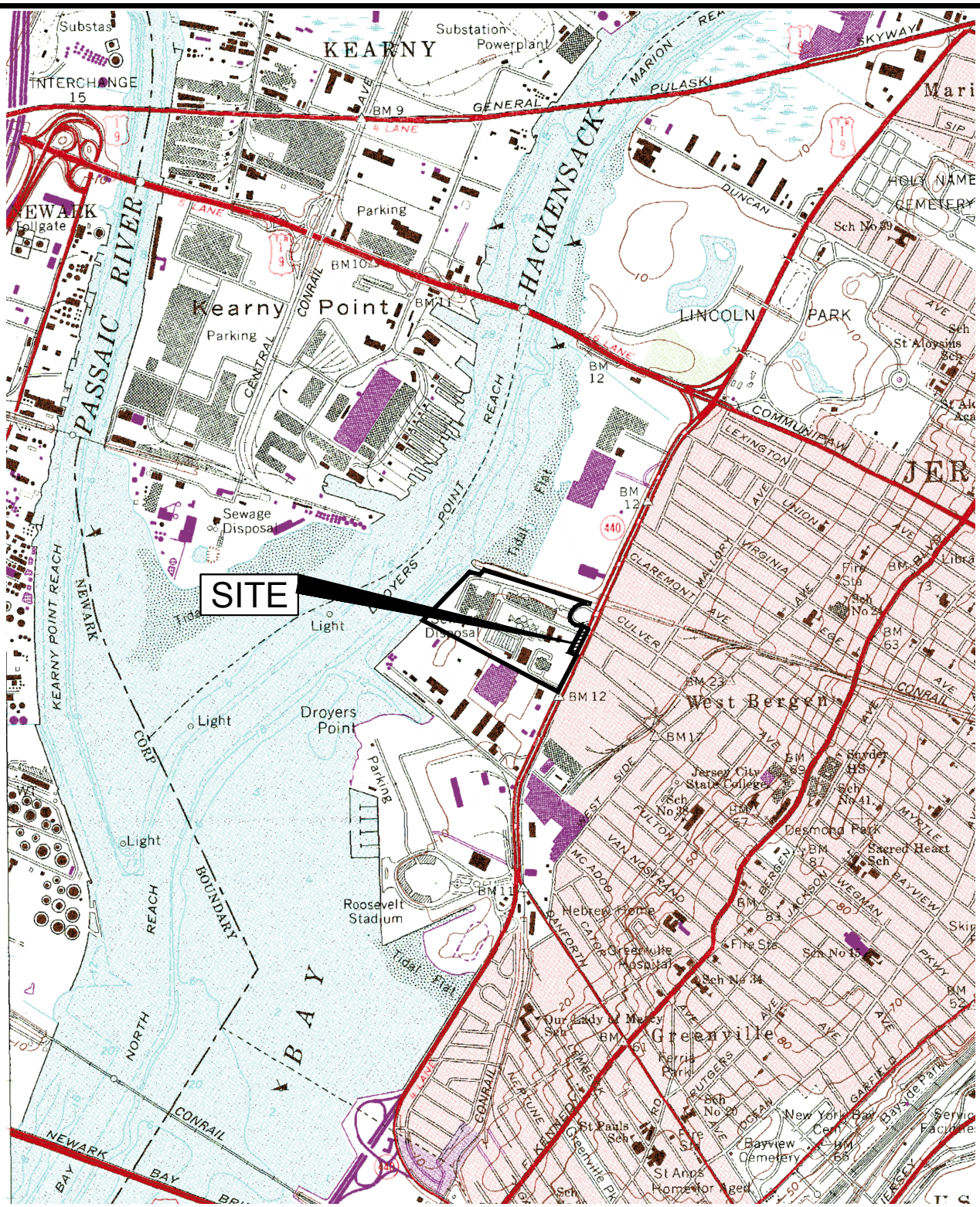
Exhibit A-2 consists of metes and bounds and a tax map for the Property.

Exhibit A-3 Property Map consists of a figure indicating major surface features and engineering control for the Property. Unless this Deed Notice has been terminated pursuant to Paragraph 13, after development of this Property, this Deed Notice shall be modified to show topographical features constructed on the Property such as buildings, roads, and parking lots.

Exhibit A-1
Site Vicinity Map
Jersey City, New Jersey

EXHIBIT A-1
SITE VICINITY MAP
PORTIONS OF STUDY AREA 6 NORTH SITE 087
JERSEY CITY, NEW JERSEY

CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (II) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN DELIVERED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.



SOURCE: USGS QUADRANGLE MAP, 7.5 MIN SERIES
JERSEY CITY, NJ-NY 1967, PHOTO REVISED 1981

RESTRICTED AREA

DRAFT

0 1000 2000 4000
SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150450 *DRAWING:* 3480150487-6100-A109-0000	amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT A-1** VICINITY MAP BLOCK 21901 LOT 4 SA-6 NORTH JERSEY CITY, NEW JERSEY DEED NOTICE #9
PREPARED/DATE: STR 12/15/16 | *CHECKED/DATE:* NW 01/31/17		

P:\CADD\HONEYWELL\JERSEY CITY\SA 6 NORTH\3480150487\6100\610001\DEED NOTICE\DN 9\3480150487-6100-A109-0000.dwg Fri, 10 Mar 2017 - 1:48pm scott.rudkin

Exhibit A-2
Deed Notice #9 SA-6 North Deferred Area (Former Trenk Property)

Metes and Bounds Description of Property: See Attached

A-2 Metes and Bounds Description of Property Portions of Block 21901, Lot 4
City of Jersey City, New Jersey

If there is any discrepancy between the Metes and Bounds and the tax map or any other maps attached hereto, the Metes and Bounds prevails.

The Property is identified as portions of Block 21901, Lot 4 on the City of Jersey City tax maps, the Property being presently owned by Bayfront Redevelopment, LLC. A copy of the current tax map which includes the Property is attached as Exhibit A-2.

MASER CONSULTING P.A.
Consulting, Municipal & Environmental Engineers
Planners • Surveyors • Landscape Architects

331 Newman Springs Road
Suite 203
Red Bank, NJ 07701
Tel: 732.383.1950 • Fax: 732.383.1984

DESCRIPTION OF PROPERTY
CITY OF JERSEY CITY
HUDSON COUNTY, NEW JERSEY
PROJECT NO. 10000292R

DEED NOTICE AREA 9
BLOCK 21901, LOT 4
MAY 18, 2016
REVISED OCTOBER 13, 2016

All those certain lots, tracts or parcels of land situate lying and being in the City of Jersey, in the County of Hudson and State of New Jersey, and being a portion of Lot 4 in Block 21901, designated as Deed Notice Area 9 as shown on an exhibit entitled, "Deed Notice Area 9, SA6 North, Block 21901, Lot 4, City of Jersey City, Hudson County, New Jersey," prepared by Maser Consulting P.A., dated May 12, 2016, last revised October 7, 2016 and being more particularly bounded and described as follows, to wit:

TRACT I

COMMENCING at the intersection of the westerly line of New Jersey State Highway Route 440 (112 foot wide right of way), with the northeasterly corner of Lot 4 in Block 21901, lands now or formerly of Paul Trenk; thence –

A) **S 24° 46' 55" W, 22.21 feet** along said westerly line to the True Point of **BEGINNING**, as shown on the aforesaid exhibit and running; thence –

1. Along said westerly line of Route 440, **S 24° 46' 55" W, 137.98 feet**; thence –

Running through a portion of Lot 4 in Block 21601, the following four (4) courses:

2. **N 39° 23' 38" W, 11.11 feet**; thence –
3. **N 24° 46' 55" E, 138.43 feet**; thence –
4. **N 84° 58' 58" E, 5.43 feet;** thence –
5. **S 08° 44' 20" E, 9.57 feet,** to the Point and Place of **BEGINNING.**

CONTAINING: 1,408 S.F. of land more or less or 0.032 acre of land more or less.

TRACT II

BEGINNING at the intersection of the westerly line of New Jersey State Highway Route 440 (112 foot wide right of way), with the southeasterly corner of Lot 4 in Block 21901, lands now or formerly of Paul Trenk and running; thence –

1. Along the southerly line of Lot 4 in Block 21901, **N 49° 08' 25" W, 15.61 feet**; thence –

Running through a portion of said Lot 4 in Block 21601, the following four (4) courses:

2. **N 24° 46' 55" E, 67.80 feet**; thence –

3. **S 18° 52' 12" E, 8.39 feet**; thence –

4. **S 59° 15' 07" E, 9.26 feet**, to the aforesaid westerly line of New Jersey State Highway Route 440; thence –

6. Along said westerly line of Route 440, **S 24° 46' 55" W, 65.09 feet,** to the Point and Place of **BEGINNING.**

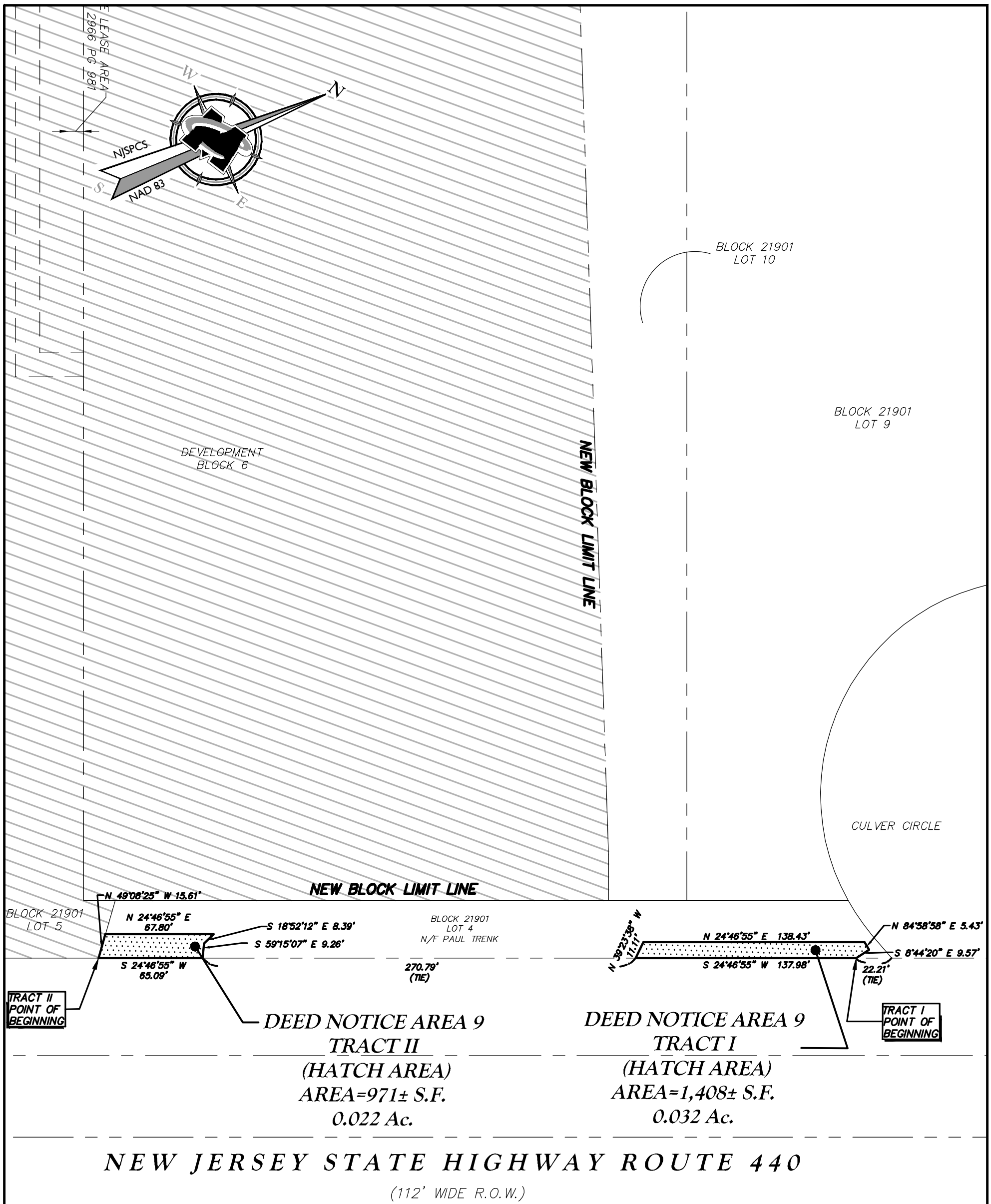
CONTAINING: 971 S.F. of land more or less or 0.022 acre of land more or less.

10/13/16

GLEN J. LLOYD, P.L.S.
NEW JERSEY PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS037598

DATE SIGNED

\\HQFAS1\General\Projects\2010\10000292R\Survey\Description\Metes & Bounds-Deed Notice 9_REV.docx



60 48 36 24 12 0 30 60 120

SCALE : 1" = 60'

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- Albany, NY
- Chestnut Ridge, NY
- Newburgh, NY
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- Lehigh Valley, PA
- Exton, PA
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REV	DATE	DRAWN BY	DESCRIPTION
1	10/7/16	KAN	ADD PORTION FROM DN 6 TO DN 9 AS REQUESTED
2	1/11/17	KAN	REVISED BLOCK 6
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.

DEED NOTICE AREA 9
SA6 NORTH

BLOCK 21901
LOT 4

CITY OF JERSEY CITY
HUDSON COUNTY
NEW JERSEY

811 Know what's below. Call before you dig.

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

RED BANK OFFICE
Corporate Headquarters
331 Newman Springs Road
Suite 203
Red Bank, NJ 07701
Phone: 732.383.1950
Fax: 732.383.1984

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	5/12/16	KAN	CJK

PROJECT NUMBER: 201011000
DRAWING NAME: V-EXBT-DN-9-REV

SHEET TITLE:
DEED NOTICE EXHIBIT

SHEET NUMBER:
1 of 1

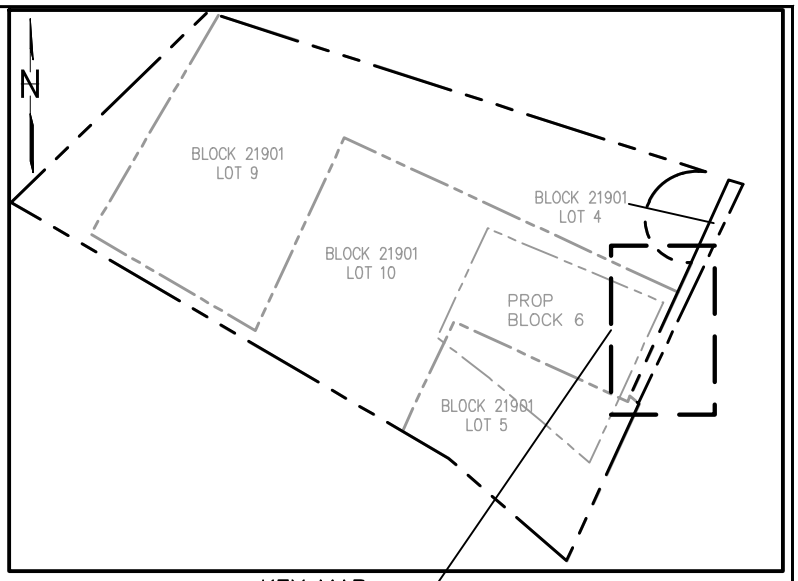
Exhibit A-3
Property Map

UNLESS OTHERWISE AGREED IN A WRITTEN CONTRACT BETWEEN AMEC FOSTER WHEELER AND ITS CLIENT: (I) THIS DOCUMENT CONTAINS INFORMATION, DATA AND DESIGN THAT IS CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (II) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN DELIVERED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.

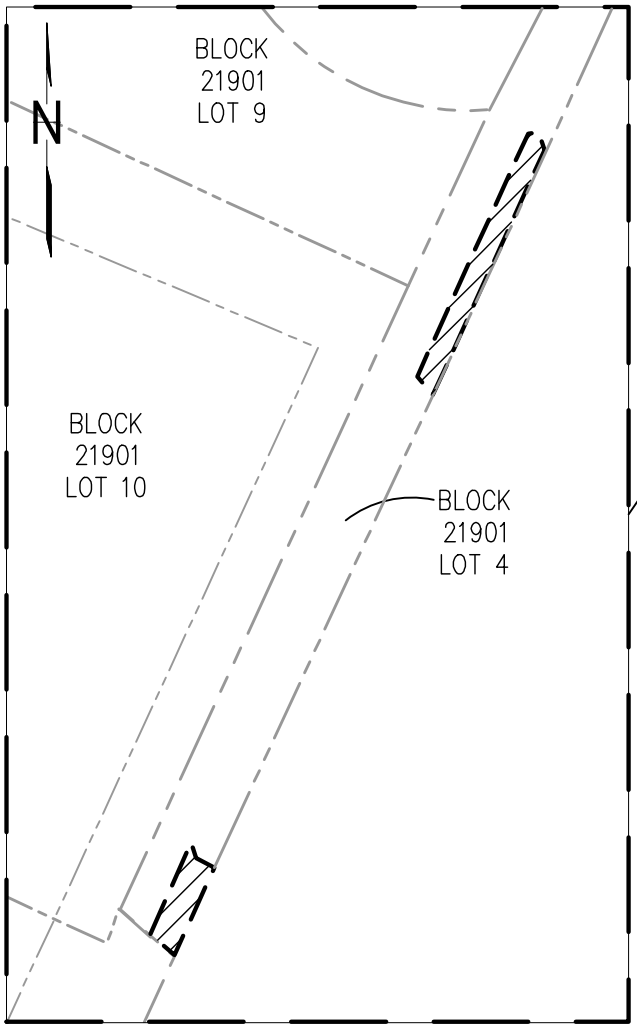
LEGEND

PROPERTY BOUNDARY

RESTRICTED AREA



KEY MAP
SCALE: 1" = 600'



SOURCE REFERENCE:

DRAWING TITLED: "ALTA/ASCM LAND TITLE SURVEY FOR BAYFRONT REDEVELOPMENT, LLC., BLOCK 21901 LOTS 5 THRU 10, PREPARED BY MASER CONSULTING, P.A. DATED 10/16/15 CITY OF JERSEY CITY, HUDSON COUNTY, NEW JERSEY

DATUM:
HORIZONTAL DATUM: NAD83
VERTICAL DATUM: NGVD29

0 50 100 200
SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150487 *DRAWING:* 3480150487-6100-A309-0000	amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT A-3** PROPERTY AREA MAP BLOCK 21901, LOT 4 SA-6 NORTH JERSEY CITY, NEW JERSEY DEED NOTICE #9
PREPARED/DATE: STR 12/15/16 | *CHECKED/DATE:* NW 01/31/17		

P:\CADD\VONCWELL\JERSEY CITY\SA 6 NORTH\3480150487\6100\010001\DEED NOTICE\DN #\3480150487-6100-A309-0000.dwg Fri, 10 Mar 2017 - 1:48pm scott.cutlin Layout: Layout1

EXHIBIT B
Deed Notice #9 SA-6 North Deferred Area (Former Trenk Property)

B-1 Restricted Area Maps
B-2 Restricted Area Data Table
Portions of Block 21901, Lot 4
City of Jersey City, New Jersey

Exhibit B-1 Restricted Area Maps include Exhibit B-1A (Restricted Area Soil Sample Locations), Exhibit B-2B (Cap System Detail), and Exhibit B-1C (As-Built Restoration Plan).

Exhibit B-2 is a Restricted Area Data Table indicating soil sample locations with concentrations of hexavalent chromium remaining above the level established in the New Jersey Department of Environmental Protection's (NJDEP) Chromium Policy of 20 milligrams per kilogram (mg/kg).

Restricted Area Map Notes:

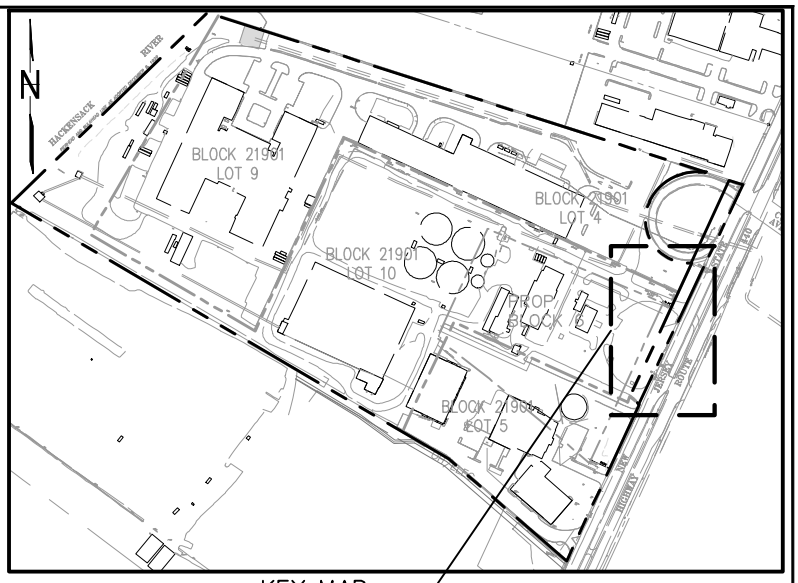
Exhibit B-1 indicates engineering controls. For soils with hexavalent chromium concentrations above 20 mg/kg, the engineering controls include a cap consisting of 1 foot of clean soil at the northern-most restricted area and a cap consisting of a geotextile demarcation fabric overlain by 6-inches of gravel at the southern-most restricted area.

Exhibit B-1
Restricted Area Maps

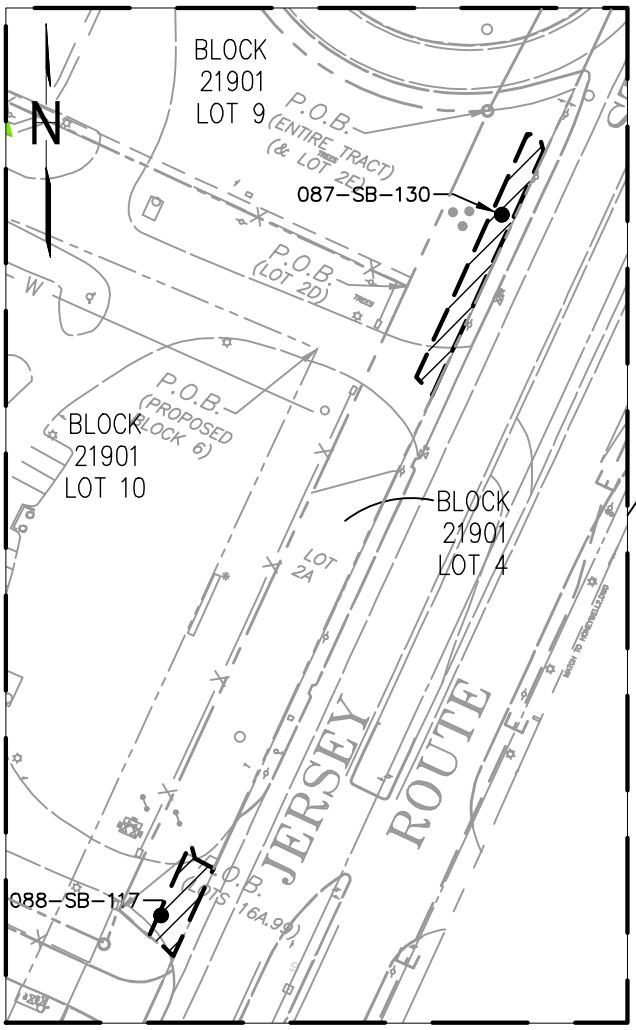
UNLESS OTHERWISE AGREED IN A WRITTEN CONTRACT BETWEEN AMEC FOSTER WHEELER AND ITS CLIENT: (I) THIS DOCUMENT CONTAINS INFORMATION, DATA AND DESIGN THAT IS CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (II) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN DELIVERED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.

LEGEND

- SOIL SAMPLE LOCATION HEXAVALENT CHROMIUM > 20mg/kg (SEE EXHIBIT B-2)
- PROPERTY BOUNDARY
- RESTRICTED AREA



KEY MAP
SCALE: 1" = 600'



SOURCE REFERENCE:

DRAWING TITLED: "ALTA/ASCM LAND TITLE SURVEY FOR BAYFRONT REDEVELOPMENT, LLC., BLOCK 21901 LOTS 5 THRU 10, PREPARED BY MASER CONSULTING, P.A. DATED 10/16/15 CITY OF JERSEY CITY, HUDSON COUNTY, NEW JERSEY

DATUM:
HORIZONTAL DATUM: NAD83
VERTICAL DATUM: NGVD29

DRAFT

0 50 100 200
SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150487 *DRAWING:* 3480150487-6100-B009-0000	amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT B-1A** RESTRICTED AREA MAP BLOCK 21901, LOT 4 SA-6 NORTH JERSEY CITY, NEW JERSEY DEED NOTICE #9
PREPARED/DATE: STR 12/15/16	*CHECKED/DATE:* NW 01/31/17	

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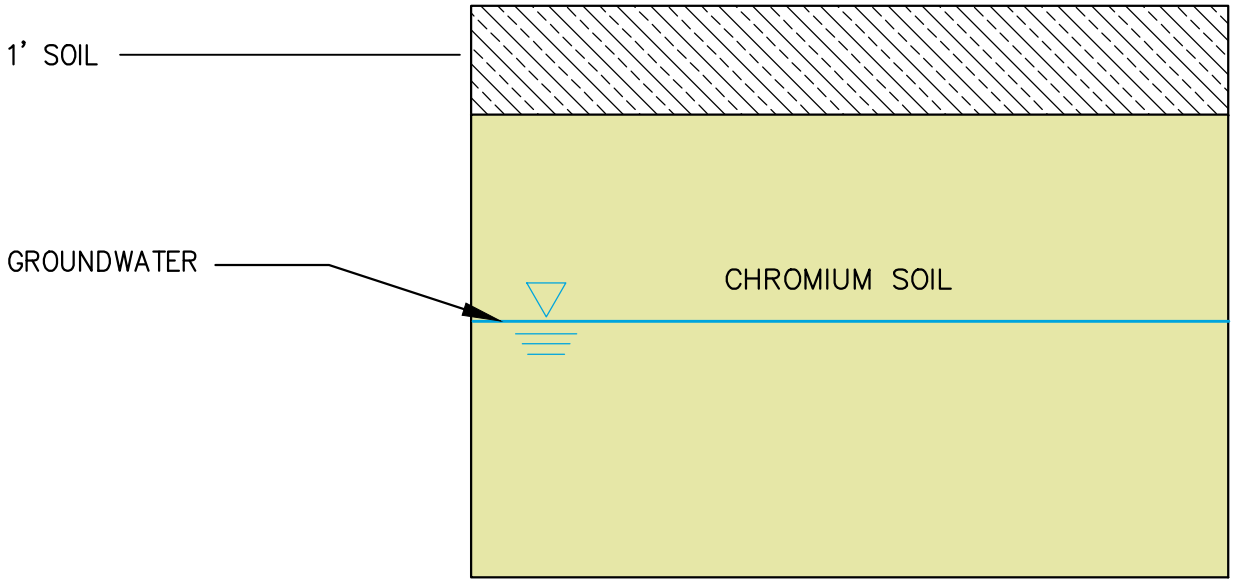
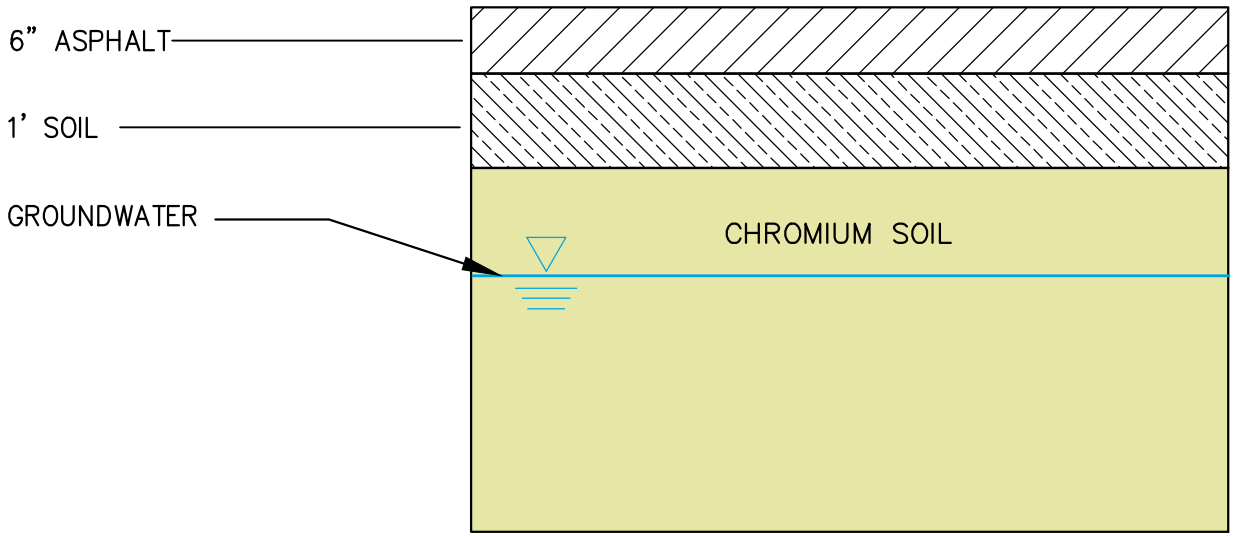


CAP SYSTEM DETAIL
(NORTHERN PARCEL)
NTS



CAP SYSTEM DETAIL
(SOUTHERN PARCEL)
NTS

DRAFT

Amec Foster Wheeler PROJECT No. 3480150488 *DRAWING:* 3480150487-6100-B209-0000	amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT B-1B** CAP SYSTEM DETAIL BLOCK 21901; LOT 4 SA-6 NORTH JERSEY CITY, NEW JERSEY DEED NOTICE #9
PREPARED/DATE: STR 01/25/17 | *CHECKED/DATE:* NW 10/24/17		

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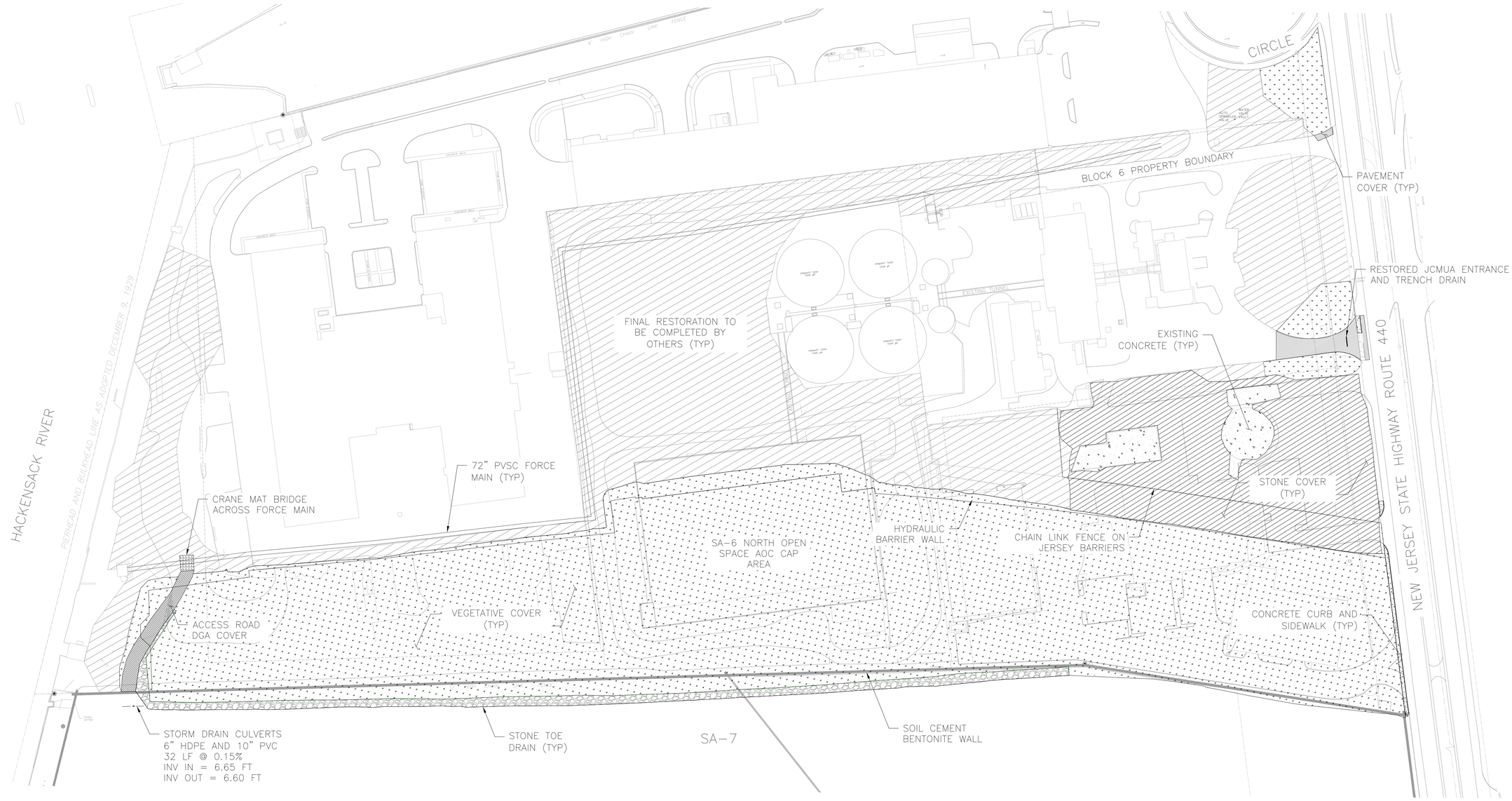
P:\CADD\HONEYWELL\JERSEY CITY\SA 6 NORTH\3480150487\6100\610001\DEED NOTICE\DN 9\3480150487-6100-B209-0000.dwg Tue, 24 Oct 2017 - 1:28pm charles.wingfield



NOTE:

1. REFER TO CONSTRUCTION CONTROL GRID FIGURE AND ATTACHED TABLES FOR SURVEY DOCUMENTATION OF 6 INCH GRAVEL HISTORIC FILL CAP INSTALLATION.
2. OPEN SPACE CAP AREA WITHIN LIMITS OF THE BARRIER WALLS IS COVERED WITH CLEAN IMPORTED SOILS TO THE DEPTHS IDENTIFIED IN THE DESIGN. THE VEGETATED SLOPE WITHIN THE DEVELOPMENT AREA IS COVERED WITH A MINIMUM OF 12 INCHES OF CLEAN IMPORTED FILL. THE VEGETATED SLOPE ALONG SA-7 WAS CONSTRUCTED ENTIRELY FROM CLEAN IMPORTED FILL.
3. REMAINING RESTORATION AREAS IDENTIFIED ON THE CHROMIUM REMEDY 100% DESIGN DRAWINGS WILL BE ADDRESSED AS PART OF THE NON CHROMIUM REMEDIATION WORK CURRENTLY BEING COMPLETED. FINAL RESTORATION OF ALL AREAS IS SCHEDULED TO BE COMPLETE IN MARCH 2017.

EXHIBIT B-1C

STONE COVER
VEGETATED COVER
PAVEMENT COVER
CONCRETE COVER
DGA COVER
RESTORATION BY OTHERS
STONE TOE DRAIN
SD STORM DRAIN PIPE

0 80 160 FEET
SCALE

REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	1/7/17	EJP	AE	AE	AS BUILT RESTORATION PLAN

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
AS BUILT RESTORATION PLAN
SA-6 NORTH - SHEET 001
1/6/17

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Exhibit B-2: Table B-2
Soil Sample Data Table (Hexavalent Chromium)

EXHIBIT B-2
Restricted Area Data Table
Study Area 6 North
Portions of Block 21901, Lot 4
Deed Notice 9, SA-6 North, Deferred Area (Former Trenk Property)
Jersey City, New Jersey

Location ID	Sample Date	Sample Depth (feet bgs)	Sample Elevation (feet msl NAVD88)	Contaminant	CASR#	NJDEP Chromium SCC (mg/kg)	CONC	Q
087-SB-130	06/02/2008	1 - 1.5	0	Hexavalent Chromium	18540-29-9	20	**24.3**	
088-SB-117	06/02/2008	6.5 - 7	0	Hexavalent Chromium	18540-29-9	20	**4670**	

Notes:
Results reported in mg/kg.

Data Qualifiers:
J - Data indicates the presence of a compound that meets the identification criteria. The concentration given is an approximate value.

Abbreviations:
Feet bgs - Feet below ground surface
mg/kg - milligrams per kilogram
feet msl = feet mean sea level NAVD88 - North American Vertical Datum of 1988
NJDEP Chromium SCC - New Jersey Department of Environmental Protection Chromium Soil Cleanup Criteria, revised April 2010

EXHIBIT C
Deed Notice #9 SA-6 North Route 440 Deferred Area

C-1 Institutional Controls
C-2 Engineering Controls
Portions of Block 21901, Lot 4
City of Jersey City, New Jersey

C-1 Institutional Controls

C-1 Deed Notice, Consent Decree, Zoning as Institutional Controls: Exhibit C-1 (A through C) for portions of Block 21901, Lot 4, City of Jersey City, New Jersey known as the Deferred Area

i. Exhibits C-1A through C-1C. Exhibit C-1A: Deed Notice as Institutional Control; Exhibit C-1B: Consent Decree as Institutional Control; Exhibit C-1C Zoning as Institutional Control Exhibits C-1 include a narrative description of the restrictions and obligations of this Deed Notice and the other Institutional Controls that are in addition to those described above, as follows:

(A) General Description of the Institutional Control:
The Property consists of two small areas on SA-6 North adjacent to the Route 440 ROW where the PSE&G gas main is located north of the SA-6 North Open Space Area. The Property is comprised of two tracts of land; Tract 1 is near Culver Circle at the Route 440 ROW and Tract 2 is further south along the Route 440 ROW closer to the SA-6 North Open Space Area. Tract 1 is an approximately 1,408 square foot area. Tract 2 is an approximately 971 square foot area. Both tracts include chromium only. Excavations in this part of SA-6 North were limited in these areas by the PSE&G gas main and will be deferred until after the Route 440 ROW widening project. Thus, these areas are termed "Deferred Areas." This deed notice is for both Tracts 1 and 2 together. Once the remediation of these areas is completed consistent with Article III of the Consent Decree, Honeywell will terminate this Deed Notice pursuant to Paragraph 13 above. In the meantime, the provisions of the LTMP, developed pursuant to the Consent Decree, will apply to the Property.

(1) Description and estimated size of the Restricted Areas as described above;

The Property constitutes portions of Block 21901, Lot 4. The estimated size of the Area containing chromium-impacted soils (hexavalent chromium above 20 mg/kg) as identified on Exhibit B-1 is estimated at approximately 2,370 square feet or approximately 0.05 acres.

(2) Description of the restrictions on the Property by operation of the Institutional Control;

The Property shall only be used for activities consistent with this Deed Notice, the Consent Decree, and the applicable zoning standards. Intrusive activities (i.e., excavation or digging) that breach the engineering controls (as described in

Exhibit C-2) will not be permitted on the Property except in compliance with the terms of the Consent Decree and the applicable portions of the LTMP developed thereunder, and this Deed Notice. See subsections 7A Alterations, Improvements, Disturbances, and 7B Emergencies for additional information. A copy of the LTMP is maintained by Honeywell at 115 Tabor Road, Morris Plains, NJ 07950.

(3) The objective of the restrictions;

The restrictions will prohibit contact with soils containing hexavalent chromium above the level established in the NJDEP Chromium Policy of 20 mg/kg.

(B) Description of the monitoring necessary to determine whether:

(1) Any disturbances of the soil in the Restricted Areas resulted in the unacceptable exposure to the soil contamination;

Visual inspections of the Property and other monitoring as set forth in the Consent Decree and the applicable portions of the LTMP developed thereunder.

(2) There have been any land use changes subsequent to the filing of this Deed Notice or the most recent biennial certification, whichever is more recent;

Same as (B)(1).

(3) The current land use on the Property is consistent with the restrictions in this Deed Notice;

Same as (B)(1).

(4) Any newly promulgated or modified requirements of applicable regulations or laws apply to the site; and

Review of newly promulgated or modified requirements of applicable regulations or laws that potentially may apply to the site.

(5) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice, and conduct the necessary sampling; and

Same as (B)(4).

(C) Description of the following items that will be included in the biennial certification:

(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice;

(2) Land use at the Property is consistent with the restrictions in the Consent Decree, this Deed Notice, the applicable zoning standards; and

(3) The remedial action that includes this Deed Notice continues to be protective of the public health and safety and of the environment.

The monitoring report will be included in the biennial certification. Components of the monitoring report will include the following:

- ***A report of all conditions set forth in sections (A) and (B) above to assure that they have been adhered to, including evaluation of any available documents as a result of changes in land use or incidents.***
- ***A report that determines whether or not the land use at the Property has remained consistent with the restrictions in the Consent Decree, this Deed Notice*, and *the applicable zoning standards.***
- ***A report that determines whether or not the Deed Notice continues to be protective of the public health and safety and the environment.***

C-2 Engineering Controls
Deed Notice #9 SA-6 North Route 440 Deferred Area

Portions of Block 21901, Lot 4
City of Jersey City, New Jersey

ii. Exhibits C-2A through C: Narrative description of the Engineering Controls including Clean Fill as follows:

(A) General Description of the engineering controls:

(1) Description of the engineering controls;

The Engineering Controls consist of a cap consisting of 1 foot of clean soil at the northern-most restricted area and a cap consisting of a geotextile demarcation fabric overlain by 6-inches of gravel at the southern-most restricted area.

(2) The objective of the engineering controls; and

The objective of the controls is to prevent contact with soils containing hexavalent chromium above the level established in the NJDEP Chromium Policy of 20 mg/kg.

(3) How the engineering controls are intended to function.

The soil engineering controls are intended to function as a barrier to underlying and adjacent soils containing hexavalent chromium above 20 mg/kg within the Property. Monitoring requirements for the engineering controls are set forth in the applicable portions of the LTMP.

(B) Description of the operation and maintenance necessary to ensure that:

(1) Periodic inspections of each engineering control are performed in order to determine its integrity, operability, and effectiveness;

Honeywell will perform monitoring by visual inspection of the Property pursuant to the Consent Decree. Other monitoring activities shall be performed as set forth in the applicable portions of the LTMP developed pursuant to the Consent Decree.

(2) Each engineering control continues as designed and intended to protect the public health and safety and the environment;

Same as (B)(1) above.

(3) Each alteration, excavation or disturbance of any engineering control is timely and appropriately addressed to maintain the integrity of the engineering controls;

Same as (B)(1) above. Also, see the Consent Decree and subsections 7A Alterations, Improvements, Disturbances, and 7B Emergencies for additional information.

(4) The engineering controls are being inspected and maintained and their integrity remains so that the remedial action continues to be protective of the public health and safety and of the environment;

Same as (B)(1) above. Other monitoring activities shall be performed as set forth in the applicable portions of the LTMP developed pursuant to the Consent Decree.

(5) A record of the self-inspection dates, name of the inspector, results of the inspection and condition(s) of the engineering controls. Sampling, for example, may be necessary if it is not possible to visually evaluate the integrity/performance of the engineering controls; and

Records of the inspections are to be maintained as listed in (5). Other monitoring activities shall be performed as set forth in the applicable portions of the LTMP developed pursuant to the Consent Decree.

(6) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice, and conduct the necessary sampling; and

A review of any new standards, regulations, or laws will be conducted. Should the review indicate that other activities are necessary, those activities will be listed and executed.

(C) Description of the following items that will be included in the biennial certification:

(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice;

(2) The engineering controls continues to operate as designed; and

(3) The remedial action that includes the engineering control continues to be protective of the public health and safety and of the environment.

The monitoring report will be included in the biennial certification. Components of the monitoring report will include the following:

- ***A report of all conditions set forth in sections (A) and (B) above to assure that they have been adhered to, including an evaluation to determine***

whether or not the engineering controls are continuing to meet the original objective and intended function.

- ***A report to determine whether or not the engineering controls continue to operate as designed.***
- ***A report to determine whether or not the engineering controls continue to be protective of the public health and safety and of the environment.***

Appendix I
Consent Decree

APPENDIX I

UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY

JERSEY CITY MUNICIPAL UTILITIES AUTHORITY, Plaintiff, v. HONEYWELL INTERNATIONAL INC., Defendant.	Civil Action No. 05-5955 Consolidated under Docket No. 95-2097 (DMC)
JERSEY CITY INCINERATOR AUTHORITY Plaintiff, v. HONEYWELL INTERNATIONAL INC., Defendant.	Civil Action No. 05-5993 Consolidated under Docket No. 05-5955 (DMC) under Docket No. 95-2097 (DMC)
HACKENSACK RIVERKEEPER, INC., *et al.* Plaintiffs, v. HONEYWELL INTERNATIONAL INC., *et al.* Defendants.	Civil Action No. 06-22 Consolidated under Docket No. 05-5955 (DMC) under Docket No. 95-2097 (DMC)

FIRST AMENDED CONSENT DECREE REGARDING REMEDIATION AND REDEVELOPMENT OF STUDY AREA 6 NORTH

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RECITALS

Whereas, on June 30, 2003, the district court for the District of New Jersey issued a Final Judgment in *Interfaith Community Organization v. Honeywell International Inc.*, Civ. No. 95-2097 (DMC) (*"ICO v. Honeywell"*), ordering the remediation of an area designated by the New Jersey Department of Environmental Protection ("NJDEP") as Study Area 7 by excavation of all chromium contamination on the property, under the oversight of a court-appointed Special Master;

Whereas, on or about December 23, 2005, the Jersey City Municipal Utilities Authority ("JCMUA") filed litigation styled *Jersey City Municipal Utilities Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5955 (DMC), bringing claims against Honeywell International Inc. ("Honeywell") under, *inter alia*, Section 6972 of the Resource Conservation and Recovery Act ("RCRA"), and seeking remediation of chromium contamination on property owned by JCMUA and other relief;

Whereas, on or about December 28, 2005, the Jersey City Incinerator Authority ("JCIA") filed litigation styled *Jersey City Incinerator Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5993 (DMC), bringing claims against Honeywell under, *inter alia*, Section 6972 of RCRA, and seeking remediation of chromium contamination on property owned by JCIA and other relief;

Whereas, on or about January 4, 2006, the Hackensack Riverkeeper, Inc., Captain William Sheehan, Reverend Winston Clarke, and Lawrence Baker ("Riverkeeper") filed litigation styled *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.,* D.N.J., Civ. No. 06-022 (DMC), bringing a claim against Honeywell under RCRA and seeking remediation of chromium contamination to soils, groundwater, surface waters, and sediments associated with various properties collectively designated by NJDEP as Study Areas 5, 6 North, and 6 South;

Whereas, Study Areas 6 North and South are directly adjacent to Study Area 7 on the north and south sides, respectively;

Whereas, Study Area 5 is comprised of properties to the east of Study Areas 6 North, 6 South, and 7 across Route 440;

Whereas, the property owned by JCIA and JCMUA and collectively the subject of *JCMUA v. Honeywell* and *JCIA v. Honeywell* comprises a part of Study Area 6 North;

Whereas, the City of Jersey City ("Jersey City") also owns property that comprises a part of Study Area 6 North;

Whereas, Riverkeeper also named as defendants in *Riverkeeper v. Honeywell* Jersey City, JCMUA, and JCIA (collectively the "Jersey City Entities");

Whereas, the Jersey City Entities and Honeywell also asserted cross-claims against each other in *Riverkeeper v. Honeywell*;

Whereas, *JCMUA v. Honeywell*, *JCIA v. Honeywell,* and *Riverkeeper v. Honeywell* were consolidated by the United States District Court for the District of New Jersey (hereinafter the "Consolidated Litigation");

Whereas, in the Consolidated Litigation, the Jersey City Entities and Riverkeeper have alleged that Honeywell bears responsibility for the presence and remediation of chromite ore processing residue ("COPR") and chromium in soils and groundwater on the Study Area 6 North property;

Whereas, in the Consolidated Litigation, Honeywell has alleged that the Jersey City Entities bear full responsibility for lead and other contamination on the Study Area 6 North property, and also bear an equitable share of liability for the presence and remediation of COPR and chromium in soils and groundwater on the Study Area 6 North property and for chromium and other contamination in Hackensack River sediments in the vicinity of Study Area 6 North;

Whereas, on October 9, 2007, Honeywell and Riverkeeper submitted the Consent Order on Sediment Remediation and Financial Assurances ("Sediment Consent Order"), resolving issues related to the remediation of chromium contaminated sediments in the Hackensack River in the vicinity of Study Areas 5, 6, and 7;

Whereas, the Parties to this Consent Decree each believe that it is in their mutual interest to move forward productively to resolve their differences so that they can implement environmental remediation at Study Area 6 North that ensures the continued protection of human health and the environment and so that Study Area 6 and Study Area 7 can be redeveloped in keeping with Jersey City's vision for a revitalized West Side;

Whereas, the Local Redevelopment and Housing Law, N.J.S.A. 40A:12A-1, *et seq.*, as amended and supplemented (the "Redevelopment Law") provides for municipalities to participate in the redevelopment and improvement of areas in need of redevelopment;

Whereas, the portions of Study Area 6 and Study Area 7 (i) which are owned by the Jersey City Entities, (ii) which are owned by Honeywell, (iii) as to which Honeywell has a purchase and sale agreement with the current owner, or (iv) which hereafter will be acquired by a Jersey City Entity and/or Honeywell are parcels which by ordinance adopted by the City Council of Jersey City on February 27, 2008, have been determined to be "areas in need of redevelopment" under the criteria of the Redevelopment Law because of conditions prevalent on those parcels;

Whereas, the settlement which is the subject matter of this Consent Decree contemplates the environmental remediation of Study Area 6 North and redevelopment of the parcels that comprise Study Areas 6 and 7 to create a major mixed use project in an important section of Jersey City;

Whereas, each of the actions to implement this Consent Decree have been fully considered by the Parties as a means to accomplish the aforesaid purposes of this settlement;

Whereas, the consent of each of the Jersey City Entities to this Consent Decree was considered at a duly noticed and appropriate meeting of their respective governing bodies, open to the public, at which members of the public were provided an opportunity to comment on all aspects of the settlement, including, without limitation, the commitments made by the Jersey City Entities herein; and

Whereas, Honeywell and the Jersey City Entities are settling their claims, cross-claims, or counter-claims in the Consolidated Litigation against each other in the *Settlement Consent Order by and between the Jersey City Entities and Honeywell International Inc.* (hereafter "Jersey City/Honeywell Consent Order"), filed in the Consolidated Litigation simultaneously with this Consent Decree and attached as Exhibit A to this Consent Decree:

NOW, THEREFORE, IT IS HEREBY ORDERED AND DECREED AS FOLLOWS:

ARTICLE I: DEFINITIONS

For purposes of this Consent Decree, the following terms shall have the meanings set forth in this Article:

1. **AOC 1** shall mean that area of Study Area 6 North in which the hexavalent chromium concentration in the top 20 feet of soil below existing ground surfaces exceeds concentrations of 20 mg/kg and the Chromium Remedy will be implemented pursuant to Article III. AOC 1 is shown on Exhibit B.

2. **AOC 1 Additional Excavation Areas** shall mean those areas of Study Area 6 North which require excavation pursuant to paragraph 57. The AOC 1 Additional Excavation Areas are not contiguous to AOC 1. The AOC 1 Additional Excavation Areas are shown on Exhibit B.

3. **AOC 1 Open Space Area** shall mean the AOC 1 Open Space Area, as defined by paragraph 53, consisting of approximately 11 acres enclosed by the hydraulic barrier walls constructed under the Chromium Remedy, and which shall be subject to paragraph 60. The AOC 1 Open Space Area is shown on Exhibit B.

4. **AOC 2** shall mean that area of Study Area 6 North on which the Historic Fill Remedy will be implemented pursuant to Article II.B of the Jersey City/Honeywell Consent Order. AOC 2 is shown on Exhibit B.

5. **Bayfront Redevelopment LLC** shall have the meaning set forth in paragraph 4.1 of the Jersey City/Honeywell Consent Order.

6. **COPR** shall mean Chromite Ore Processing Residue.

7. **Chromium Remedy** or **Chromium Remediation** shall mean the remedy set forth in Article III.

8. **Consolidated Litigation** shall mean *Jersey City Municipal Utility Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5955 (DMC), *Jersey City Incinerator Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5993 (DMC), and *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.,* D.N.J., Civ. No. 06-022 (DMC).

9. The **Court** shall mean the United States District Court of the District of New Jersey, which has jurisdiction over the Consolidated Litigation.

10. **Deep Groundwater Remedy** shall mean the deep overburden and bedrock groundwater pump and treat remedy as required by the Order Approving the Deep Overburden Groundwater Remediation, entered on October 6, 2006, and the Stipulation on Consent Regarding the Schedule for Implementation of Deep Groundwater Remedial Actions, currently pending before the Special Master in *ICO v. Honeywell.* In the event that Riverkeeper and Honeywell reach a settlement on source control issues, the Deep Groundwater Remedy shall

include the remedy to which Riverkeeper and Honeywell have agreed. In the event that Riverkeeper and Honeywell do not reach a settlement on source control issues, the Deep Groundwater Remedy shall include the remedy ordered by the Special Master or the Court in *ICO v. Honeywell* for source control.

11. **Hackensack River Watershed Land Trust** shall mean the dedicated fund of the Hackensack Riverkeeper, Inc., established under Section 501(c) of the Internal Revenue Code for the purpose of acquiring and preserving open space within the Hackensack River watershed and administered by the Board of Trustees of the Hackensack Riverkeeper, Inc.

12. **Historic Fill** shall have the definition provided in the NJDEP Technical Requirements for Site Remediation.

13. **Historic Fill Remedy or Historic Fill Remediation** shall mean the remedy set forth in Article II.B of the Jersey City/Honeywell Consent Order, except that the Historic Fill Remedy shall not be limited to the remedy set forth in Article II.B of the Jersey City/Honeywell Consent Order if NJDEP requires a more stringent remedy.

14. **Honeywell** shall mean Honeywell International Inc. and its affiliates, including Kellogg Street 80 Property LLC, Kellogg Street 60 Property LLC, and Kellogg Street/440 Property LLC.

15. **Honeywell's Treatment Plant** shall mean the treatment plant currently located at 80 Kellogg Street that is used to treat, *inter alia*, chromium contaminated groundwater.

16. ***ICO v. Honeywell*** shall mean *Interfaith Community Organization v. Honeywell International Inc.*, D.N.J., Civ. No. 95-2097 (DMC).

17. **Including** shall mean including, but not limited to.

18. **JCIA** shall mean the Jersey City Incinerator Authority.

19. **JCMUA** shall mean the Jersey City Municipal Utilities Authority.

20. **JCRA** shall mean the Jersey City Redevelopment Agency.

21. **Jersey City Entities** shall mean the City of Jersey City, including the Department of Public Works ("DPW") and other agencies and branches thereof, the JCIA, and the JCMUA.

22. **Jersey City/Honeywell Consent Order** shall mean the *Settlement Consent Order by and between the Jersey City Entities and Honeywell International Inc.* entered in the Consolidated Litigation simultaneously with this Consent Decree.

23. **NJDEP** shall mean the New Jersey Department of Environmental Protection.

24. **NJDEP Chromium Directive** shall mean the Chromium Directive issued by NJDEP on February 8, 2007, and attached as Exhibit C.

25. **Party or Parties** shall mean any one or all of the signatories to this Consent Decree.

26. **RCRA** shall mean the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et seq.*, as amended.

27. **Redevelopment Agreement** shall have the meaning set forth in paragraph 4.11(e) of the Jersey City/Honeywell Consent Order.

28. **Redevelopment Area** shall mean Study Area 6 North, Study Area 6 South, and Study Area 7, collectively.

29. **Redevelopment Law** shall mean the New Jersey Local Redevelopment and Housing Law, N.J.S.A. 40A:12A1, *et seq.*, as amended and supplemented.

30. **Redevelopment Plan** shall mean the Bayfront I Redevelopment Plan as adopted by Jersey City on March 12, 2008.

31. **Riverkeeper** shall mean the plaintiffs in *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.*, D.N.J., Civ. No. 06-22 (DMC), and includes the Hackensack Riverkeeper, Inc., William Sheehan, Reverend Winston Clarke, and Lawrence Baker.

32. **Sediment Consent Order** shall mean the Consent Order on Sediment Remediation and Financial Assurances, which the Parties expect will be entered by the Court in *ICO v. Honeywell* and this Consolidated Litigation.

33. **Shallow Groundwater** or **Shallow Level of Groundwater** shall mean groundwater above the meadow mat, groundwater at stratigraphically equivalent depths in locations where there is no meadow mat, and groundwater that is contaminated by recent contact with COPR or other chromium soil contamination above the meadow mat and subsequently flows downward through or past the meadow mat into the upper portion of the lacustrine sediments. This does not include groundwater found in the bedrock, the deep zone, or any plume of contamination that is in both the intermediate and deep zones, as those zones are defined in the Final Groundwater Investigation Report, prepared in *ICO v. Honeywell*, dated February 2007, p. 1-2.

34. **Site** shall mean Study Area 6 North.

35. **Site Preparation Activities** shall have the meaning set forth in paragraph 3.1 of the Jersey City/Honeywell Consent Order.

36. **Site Preparation Plan** shall have the meaning set forth in paragraph 3.2 of the Jersey City/Honeywell Consent Order.

37. **Soil** shall mean soils, historic fill, and/or COPR.

38. The **Special Master** shall mean Senator Robert G. Torricelli, appointed as the Special Master in *ICO v. Honeywell* and the Consolidated Litigation, and his successors or whomever the Court may appoint as Special Master.

39. **Stratum O** shall mean the layer composed of soft brown silty fine sand interlayered with soft gray silty clay and fine sandy to clayey silt generally located above the meadow mat below the Historic Fill and/or COPR.

40. **Study Area 6 North** shall mean that property comprising Sites 87 and 88 of the Chromate Chemical Production Waste Sites designated by NJDEP, comprising approximately 41.58 acres and including: (a) all such property owned by JCMUA located at 555 Route 440, Jersey City, New Jersey, (b) all such property owned by JCIA located at 501 Route 440, Jersey City, New Jersey; (c) all such property owned by Jersey City or its Department of Public Works and located at 575 Route 440, Jersey City, New Jersey; and (d) all such property owned by Paul Trenk consisting of Block 1290.1, Lot 2A, Jersey City, New Jersey. Such properties are more fully described in Exhibit H to the Jersey City/Honeywell Consent Order.

41. **Study Area 6 South** shall mean (a) that property currently owned by 425/445 Route 440 Property LLC consisting of Site 73, located at 200 Kellogg Street Jersey City, Hudson County, New Jersey; (b) that property currently owned by Kellogg Street 80 Property LLC consisting of Site 134, located at 100 Kellogg Street Jersey City, Hudson County, New Jersey; (c) that property currently owned by Kellogg Street 80 Property LLC consisting of Site 140 located at 80 Kellogg Street Jersey City, Hudson County, New Jersey; (d) that property currently owned by Kellogg Street 60 LLC consisting of Site 125, located at 60 Kellogg Street Jersey City, Hudson County, New Jersey; (e) that property currently owned by Kellogg Street/440 Property LLC consisting of Site 124, Jersey City, Hudson County, New Jersey; (f) that property currently owned by Kellogg St/Harsimus Cove Realty located at 150 Kellogg Street, Jersey City, Hudson County, New Jersey, (g) that property currently owned by Cordova Enterprises Ltd located at 38 Kellogg Street, Jersey City, Hudson County, New Jersey, and (g) that property currently owned by Cordova Enterprises Ltd located at 28 Kellogg Street, Jersey City, Hudson County, New Jersey. Such properties are more fully described in Exhibit H to the Jersey City/Honeywell Consent Order.

42. **Study Area 6** shall mean Study Area 6 North and Study Area 6 South, collectively.

43. **Study Area 7** shall mean (a) that property currently owned by 425/445 Route 440 Property LLC located at 425 and 445 Route 440, Jersey City, Hudson County, New Jersey, and (b) that property currently owned by Roned Realty/Edward Navlen located at 465 Route 440, Jersey City, Hudson County, New Jersey. Such properties are more fully described in Exhibit H to the Jersey City/Honeywell Consent Order.

44. **Technical Requirements for Site Remediation** shall mean the NJDEP Technical Requirements for Site Remediation, N.J.A.C. Chapter 26E, as duly and properly promulgated and amended.

45. **Unrestricted Use** shall mean that the contaminated medium is restored to a condition or quality suitable for all uses.

ARTICLE II: SCOPE OF THE CONSENT DECREE, JURISDICTION, AND CLAIMS RESOLVED

46. Except as provided in this paragraph, the terms of the Jersey City/Honeywell Consent Order shall remain in full force and effect. To the extent that any provision in the Jersey City/Honeywell Consent Order refers to the Chromium Remedy or Chromium Remediation, it shall be construed as referring to Article III of this Decree. In the event of any conflict or inconsistency between the terms of this Decree and the Jersey City/Honeywell Consent Order, the terms of this Decree govern. In the event that any action taken pursuant to the Jersey City/Honeywell Consent Order is in conflict with or inconsistent with the terms of this Decree, the terms of this Decree shall govern.

47. This Court has jurisdiction over the Parties and subject matter of the Consolidated Litigation pursuant to Section 6972 of RCRA.

48. For purposes of this Consent Decree, the Complaints in the Consolidated Litigation each state claims upon which relief may be granted against Honeywell.

49. In the event that this Decree is not terminated by one or more Parties pursuant to paragraph 100, this Consent Decree resolves, settles, and satisfies all claims by Riverkeeper against Honeywell with respect to soils and shallow groundwater at Study Area 6 North. This Consent Decree does not resolve any claims by Riverkeeper against Honeywell with respect to Study Area 6 South, Study Area 5, or groundwater at Study Area 6 North other than shallow groundwater.

50. Nothing in this Consent Decree shall be construed or interpreted to waive any claim or defense any Party has asserted or may assert against any third party in the Consolidated Litigation except as explicitly stated herein.

51. This Consent Decree does not constitute an admission of liability on the part of any Party with respect to any claims, cross-claims, or counter-claims in the Consolidated Litigation.

ARTICLE III: CHROMIUM REMEDIATION

A. Chromium Remedy

52. **Responsibility for Implementation of Chromium Remediation.** As between the Parties, Honeywell shall be responsible for and shall undertake remediation of COPR and chromium present in Study Area 6 North at Honeywell's sole cost and expense. Remediation of COPR and chromium present in Study Area 6 North shall be undertaken in accordance with the terms of this Consent Decree.

53. **AOC 1 and AOC 2.** For the purposes of remediation, Study Area 6 North shall consist of two Areas of Concern ("AOCs"), designated as AOC 1 and AOC 2 as shown on Exhibit B. AOC 1 is set forth on Exhibit B and consists of that portion of Study Area 6 North for which chromium remediation is required pursuant to paragraphs 55, 56, and 57. AOC 2 consists of the entirety of Study Area 6 North, including AOC 1, to the extent that historic fill is present in any area of Study Area 6 North. For AOC 1, the intended land use will determine the types

of remedial measures taken in the Chromium Remedy. There are two distinct land uses for AOC 1: open space and residential. As a result, AOC 1 will be further subdivided into:

(a) The AOC 1 Open Space Area, which shall comprise that portion of AOC 1 for which future use shall be restricted as provided in paragraph 60. The AOC 1 Open Space Area is shown on Exhibit B;

(b) The AOC 1 Residential Area, which shall comprise that portion of AOC 1 for which future use shall allow for residential and/or commercial and retail uses, but for which the remedial measures shall assume only a residential use . The AOC 1 Residential Area is shown on Exhibit B; and

(c) The AOC 1 Additional Excavation Areas, which consist of those portions of Study Area 6 North that require remediation pursuant to paragraph 57. The planned land use for the AOC 1 Additional Excavation Areas is residential and/or commercial and retail uses, but the remedial measures shall assume only a residential use.

54. **Scope and General Requirements of the Chromium Remedy.** The Chromium Remedy shall address shallow groundwater and soil containing hexavalent chromium in AOC 1, and shall be consistent with the requirements set forth in this Article. The Chromium Remedy set forth in this Consent Decree addresses only the shallow level of groundwater (see paragraph 58). The deep overburden and bedrock groundwater remediation, including source control, shall be addressed in a separate consent order, which shall place these issues within the jurisdiction of the Special Master in conjunction with the groundwater remedies for Study Area 7.

(a) The Chromium Remedy shall be consistent with the NJDEP Technical Requirements for Site Remediation, the Chromium Directive as issued by NJDEP on February 8, 2007 ("the NJDEP Chromium Directive"), and the Remedial Action Work Plan (with addenda) approved by NJDEP on or about February 19, 2008. This Consent Decree shall have precedence

over the Remedial Action Work Plan in the event of any inconsistency.

(b) The Chromium Remedy shall be carried out diligently, and the development and implementation of the Historic Fill Remedy shall not delay satisfaction of the milestones in the Schedule established pursuant to this paragraph. Honeywell shall propose a master Schedule for the implementation of the Chromium Remedy within 90 days of the entry of this Consent Decree, which shall include, at a minimum, the following milestones:

(i) Submission to the Special Master for all documents subject to review by the Special Master pursuant to paragraph 72(c);

(ii) Relocation of the Jersey City Entities' Study Area 6 North Operations as shall be required prior to the implementation of the Chromium Remedy;

(iii) Completion of those Site Preparation Activities necessary for the implementation of the Chromium Remedy, including remediation of the AOC 1 Additional Excavation Areas;

(iv) A final date for Honeywell's proposal of *in situ* treatment for any part of the AOC 1 Residential Area pursuant to paragraph 55(d) and a date for the final decision as to whether excavation or *in situ* treatment shall be used in the event of such a proposal;

(v) The initiation of work related to the Chromium Remedy;

(vi) The date for completion of the installation of the Chromium Remedy;

(vii) Implementation of the long-term protections of the AOC 1 Open Space Area established pursuant to paragraph 60; and

(viii) Transfer of the AOC 1 Open Space Area to Jersey City pursuant to paragraph 60(a)(iii).

(c) **Demolition and Grading Activities.** During demolition and grading activities, adequate protective measures shall be taken to protect site workers and the community

from airborne dusts and exposures to contaminated soils.

(d) **Vegetation of Clean Fill.** All clean soil fill in areas that will not involve paved roads, sidewalks, paths, walkways, or building structures shall be vegetated in such a manner to protect and maintain the required depth of clean soil fill.

55. **AOC 1 Residential Area Soil Remedy.** In the AOC 1 Residential Area, soils containing hexavalent chromium at concentrations greater than 20 mg/kg shall be excavated to a depth of 20 feet below the current ground surface in accordance with the NJDEP Chromium Directive.

(a) Those soils excavated from the AOC 1 Residential Area in which hexavalent chromium concentrations exceed 240 mg/kg shall be disposed of off-site at a waste disposal facility licensed to accept such waste.

(b) Those soils excavated from the AOC 1 Residential Area in which the hexavalent chromium concentration is less than 240 mg/kg, but greater than 20 mg/kg, shall be consolidated within the AOC 1 Open Space Area. However, any such soils which would require venting of gases shall be disposed of off-site.

(c) Soils excavated from the AOC 1 Residential Area shall be replaced with existing soils from AOC 2 or backfill soil. Any backfill soil brought to the Site shall either meet all applicable federal and NJDEP criteria, including NJDEP residential soil criteria, or comply with a beneficial soil reuse plan that is approved by NJDEP and subject to review and comment by the Parties and approval by the Special Master.

(d) In the AOC 1 Residential Area, excavation of soils containing hexavalent chromium greater than 20 mg/kg shall be the presumptive remedy. Around remaining active underground utilities or other structures, such as the bulkhead, *in situ* treatment may be considered in lieu of excavation only if Honeywell demonstrates, and all Parties, the Special

Master, and NJDEP agree that (1) excavation is technically impracticable and (2) treatment will result in hexavalent chromium concentrations of 20 mg/kg or less and no rebound will occur. If no treatment option is available, Honeywell shall propose an alternative remedial approach, subject to review and comment by the Parties and approval by the Special Master.

(e) Honeywell shall excavate all soils containing hexavalent chromium greater than 20 mg/kg in conjunction with the placement of the piping for the Deep Groundwater Remedy. Honeywell shall not propose treatment in lieu of excavation based on the location of the pipes for the Deep Groundwater Remedy or any apparent impracticability of excavating in conjunction with their installation.

56. **AOC 1 Open Space Area Soil Remedy.** In the AOC 1 Open Space Area, the soil remedy shall consist of an engineered RCRA cap to isolate contaminated soils, with gas venting, if necessary, to address the generation of methane and other naturally occurring gases in the Stratum O and/or Stratum D in the Open Space AOC. Soils consolidated under the cap, shall not require gas venting and shall not be the basis for the inclusion of gas venting as a component of the cap. The cap shall be designed and constructed so that:

(a) The cap shall consist of gas collection system, if gas venting is necessary, a base protective layer, an impervious geomembrane liner with a minimum thickness of 40 mil; a geocomposite drainage layer; a filter fabric; and a distinctive colored warning layer with markings in English and Spanish that would deter penetration of the cap in the event that digging occurred in the vicinity of the cap;

(b) All utilities, including those supporting the pump-and-treat system for groundwater remediation, with the exception of any extraction wells or collection trenches, shall be placed above the cap (but may be below the ground surface and/or contained within utility corridors). In the event that above-cap-grade gas collection and treatment is selected or is

needed to meet current or future regulatory requirements, such collection and treatment facilities are prohibited in the Open Space AOC, except for piping to connect the sub-liner collection system with the treatment facilities. Honeywell shall configure the cap so that all active piping for the wastewater treatment system operated by JCMUA, including all force mains and any connections to the emergency outfall, shall be outside the capped area. Honeywell may propose, subject to the review process in paragraph 72, to use treatment in lieu of excavation in the vicinity of the emergency outfall line if the criteria of paragraph 55(d) are satisfied; and

(c) Exclusive of roadways, the cap shall be overlain by layers of clean fill, backfill and/or overburden with an average depth of at least three feet and a minimum depth of at least two feet provided that any layer that incorporates overburden shall be below at least two feet of clean fill. Any clean fill or backfill soil brought to the Site will either meet all applicable federal and NJDEP criteria, including NJDEP residential soil criteria, or comply with a beneficial soil reuse plan that is approved by NJDEP and subject to review and comment by the Parties and approval by the Special Master. One foot of clean fill, covered with bituminous blacktop, shall be sufficient cover where roads, walkways, or other paved surfaces are located within the AOC 1 Open Space Area. All clean soil fill in areas that will not involve paved roads, walkways, or other paved surfaces shall be vegetated in such a manner as to protect and maintain the required depth of the clean soil fill and to ensure that such vegetation shall not cause any interference with or penetration of the cap.

(d) The existing overburden soils in the AOC 1 Open Space Area shall first be stripped off and set aside for use. If hexavalent chromium concentrations in the overburden exceed 20 mg/kg, the overburden shall be placed under the cap. If hexavalent chromium concentrations in the overburden do not exceed 20 mg/kg, the overburden may be placed above the cap but below the two feet of clean fill required by paragraph 56(c). Excavated hexavalent

chromium impacted soils (with concentrations between 20 mg/kg and 240 mg/kg) from the AOC 1 Residential Area shall be placed and spread in the AOC 1 Open Space Area under the cap. Excavated hexavalent chromium impacted soils (with concentrations between 20 mg/kg and 240 mg/kg) from the Study Area 6 South Development AOC (as defined in the First Amended Consent Decree Regarding Remediation and Redevelopment of Study Area 6 South and including only those portions of Study Area 6 South for which the future uses of the property may include commercial or residential development) may be placed and spread in the AOC 1 Open Space Area under the cap, provided that such soils do not require venting of gases and shall not serve as the basis for the inclusion of gas venting as part of the Study Area 6 North AOC 1 Open Space Area remedy. Both the chromium impacted soils and the previously stripped overburden shall be suitably compacted according to design specifications. Debris, to the extent it would interfere with the compaction specification requirements of the 100% Design, shall not be placed under the cap. The engineered cap shall be installed over the chromium-impacted soils exceeding 20 mg/kg hexavalent chromium.

57. **AOC 1 Additional Excavation Areas Remedy.** For those AOC 1 Additional Excavation Areas, soils containing hexavalent chromium at concentrations greater than 20 mg/kg shall be excavated to a depth of 20 feet below the current ground surface in accordance with the NJDEP Chromium Directive. Excavation of those areas comprising the AOC 1 Additional Excavation Areas shall initially be conducted in the 50-foot by 50-foot area planned in the RAWP but shall not be so limited in the event that confirmation sampling indicates that hexavalent chromium concentrations continue to exceed 20 mg/kg. Honeywell shall excavate laterally and vertically (to depths of up to 20 feet below current ground surface) until the hexavalent chromium is less than 20 mg/kg based on the results of confirmation sampling. Confirmation sampling for the AOC 1 Additional Excavation Areas shall be taken from the side

walls and bottom of the excavation, in accordance with the Technical Requirements for Site Remediation, to confirm complete removal of contaminated soils.

58. **Shallow Groundwater Remedy.** The shallow groundwater remedy shall consist of hydraulic barriers with a pump-and-treat system designed to isolate shallow groundwater and to intercept and treat shallow groundwater flowing above the meadow mat in the AOC 1 Open Space Area. The shallow groundwater remedy shall consist of the following:

(a) The existing soil/cement/bentonite wall on the boundary of Study Area 6 North and Study Area 7 shall be incorporated into the other engineering controls;

(b) Subterranean slurry walls or other hydraulic barriers shall be installed along the northern, eastern and western sides of the AOC 1 Open Space Area and keyed into the meadow mat or Stratum O or to comparable depths below ground surface;

(c) A groundwater extraction system shall be established that will consist of (i) one or more shallow extraction wells, sumps, or french drains within the AOC 1 Open Space Area; (ii) pumps; and (iii) underground piping to convey any extracted water to Honeywell's Treatment Plant;

(d) The capture zone for the shallow groundwater remedy shall include at least the entire area of contaminated shallow groundwater (except for shallow groundwater that penetrates the meadow mat and is captured by the Deep Groundwater Remedy);

(e) A plan for control of water levels shall be developed;

(f) In the event that underground structures are demolished, the plans shall address the need for special attention for structures that extend below the meadow mat in order to control needed water levels; and

(g) Honeywell shall submit such information as is required to allow NJDEP to establish a classification exception area for groundwater at the Site, in accordance with NJDEP

regulations.

59. **Permits and Authorizations.** Honeywell shall obtain all necessary federal, state, and local permits and authorizations to carry out the Chromium Remedy as set forth in this Article. The Jersey City Entities agree to cooperate with Honeywell in the applications for any such permits, authorizations, or approvals. Such cooperation shall include providing information or data with respect to permit applications, co-signing permit applications, and allowing access to Study Area 6 North to obtain information necessary for the permits.

B. Long-Term Monitoring, Maintenance, and Protection of Engineering and Institutional Controls

60. **Protection of the AOC 1 Open Space Area.** Except as provided in paragraphs 60(j) and 60(k), development in the AOC 1 Open Space Area shall be prohibited. The AOC 1 Open Space Area shall be protected against activities that may jeopardize the integrity of the cap and/or the groundwater remedial measures that shall be installed in the AOC 1 Open Space Area pursuant to the Chromium Remedy or that may impede the long-term monitoring and maintenance of the cap and/or groundwater remedial measures. It is the intention of the Parties to implement different layers of protection, which alone or in concert, impose restrictions on development, run with the land, and survive all parties. Accordingly, the following actions shall be taken pursuant to the Schedule provided in paragraph 54(b):

(a) **Ownership of and Access to the AOC 1 Open Space Area.** Ownership of and access to the AOC 1 Open Space Area shall be in accordance with the following:

(i) Pursuant to the terms of this Consent Decree and paragraph 4.3 of the Jersey City/Honeywell Consent Order, Bayfront Redevelopment LLC shall become the owner in fee simple absolute of all of the property that comprises the AOC 1 Open Space Area and shall not convey any rights or interests in such property except as provided in this Decree. At the time

of the conveyance from JCRA to Bayfront Redevelopment LLC, Bayfront Redevelopment LLC shall give Jersey City an option to buy AOC 1 Open Space Area prior to the planned transfer pursuant to paragraph 60(a)(iii). Such option to buy shall be subject to the conservation restriction imposed pursuant to paragraph 60(b). Jersey City shall exercise the option to buy the AOC 1 Open Space Area in the event that the conditions allowing for withdrawal of funds from the financial assurance mechanisms under paragraphs 84(c) or 84(d) are met;

(ii) At the time the JCRA conveys the Study Area 6 North property to Bayfront Redevelopment LLC pursuant to paragraph 4.3 of the Jersey City/Honeywell Consent Order, Bayfront Redevelopment LLC shall grant a conservation restriction for the AOC 1 Open Space Area pursuant to the requirements of paragraph 60(b);

(iii) Upon the final construction of all roads and utility corridors within the AOC 1 Open Space Area, Bayfront Development LLC shall donate good and marketable title to all the land comprising the AOC 1 Open Space Area to Jersey City. In conjunction with such donation, Bayfront Redevelopment LLC shall petition to subdivide the properties within Study Area 6 North to create a new parcel(s) comprising the AOC 1 Open Space Area. At the time of the donation, Jersey City shall grant Honeywell an easement for the purpose of monitoring and maintaining the Chromium Remedy. Jersey City shall also grant Honeywell all necessary access to the AOC 1 Open Space Area by license or such other mechanisms as may be appropriate for purposes of monitoring and maintaining the Chromium Remedy. After it acquires title pursuant to this paragraph, Jersey City shall retain ownership of the AOC 1 Open Space Area unless and until it shall have complied with the requirements of paragraph 60(a)(iv);

(iv) After it acquires title pursuant to this paragraph, Jersey City shall not convey or enter into any lease of the AOC 1 Open Space Area to any other person or entity unless it has first satisfied either of the following conditions:

(1) Jersey City has obtained the Special Master's (or if the Special Master's appointment has expired, the Court's) approval to convey the AOC 1 Open Space Area to a government entity that has the capacity and willingness to fulfill Jersey City's obligations under the Consent Decree with respect to the AOC 1 Open Space Area and such entity agrees to submit to the Court's jurisdiction and to be bound by the requirements of the Consent Decree that Jersey City has committed to fulfill with respect to protection of the AOC 1 Open Space Area pursuant to this paragraph and routine maintenance of the permissible development in the AOC 1 Open Space Area pursuant to paragraph 64(d); or

(2) The AOC 1 Open Space Area has been remediated such that no hexavalent or total chromium contamination remains in the AOC 1 Open Space Area, whether in soils or in groundwater, in excess of the levels specified for Unrestricted Use in the NJDEP Chromium Directive or any more restrictive standards for Unrestricted Use in place at the time, whichever is more restrictive, and Jersey City has demonstrated to the Special Master and/or the Court, as appropriate, that such remediation has been completed in accordance with all applicable requirements.

(b) **Conservation Restriction.** At the time the JCRA conveys the Study Area 6 North property to Bayfront Redevelopment LLC pursuant to paragraph 4.3 of the Jersey City/Honeywell Consent Order, but prior to the grant of the option to buy pursuant to paragraph 60(a)(i), Bayfront Redevelopment LLC shall grant an open space conservation restriction, pursuant to N.J.S.A. 13:8-B-1, *et seq.*, over the AOC 1 Open Space Area substantially in the form set forth in Exhibit D. Exhibit D is a conservation restriction that is consistent with the terms of this paragraph and this Consent Decree. The conservation restriction shall allow for the implementation, maintenance, monitoring, repair and replacement of the Chromium Remedy and development consistent with paragraphs 60(j) and 60(k), including the construction and

placement of roads and utilities. The Hackensack River Watershed Land Trust shall be the primary holder of the conservation restriction, with all rights of monitoring and enforcement. Riverkeeper shall propose an entity to serve as the secondary holder of the conservation restriction subject to comment by the Parties and review by the Special Master. The secondary holder shall have secondary rights of monitoring and enforcement.

(i) The conservation restriction shall be incorporated into this Consent Decree and made part of this Consent Decree. The final, executed conservation restriction shall be lodged with the Court and entered as an order of the Court. The conservation restriction shall be enforceable in this Court, in the same manner as this Consent Decree.

(ii) The conservation restrictions provided under this Consent Decree shall be consistent with the prohibited and permitted development of the AOC 1 Open Space Area as set forth in paragraphs 60(j) and 60(k) below.

(iii) Jersey City shall not take any action, whether through exercise of any power of eminent domain, application to the State of New Jersey for approval of a diversion of public park or recreation land, legal challenge to the validity or enforceability of the conservation restriction, or otherwise, the effect of which would be to in any way terminate, abrogate, or diminish the terms, conditions, or purposes of the conservation restriction. If, notwithstanding the preceding sentence, Jersey City proceeds with a condemnation or other action, the result of which would be to terminate, abrogate, or otherwise diminish the terms, conditions, or purposes of the conservation restriction, Jersey City shall, before taking any such action satisfy all of the conditions set forth in paragraph60(a)(iv)(2).

(iv) Notwithstanding the foregoing, the conservation restriction may be terminated upon application of any Party when no hexavalent or total chromium contamination remains in the AOC 1 Open Space Area, whether in soils or in groundwater, in excess of the

levels specified for Unrestricted Use in the NJDEP Chromium Directive or any more restrictive standards for Unrestricted Use in place at the time, whichever is more restrictive.

(c) **Deed Notice.** Upon completion of the Chromium Remedy, the AOC 1 Open Space Area shall be subjected to the deed notice substantially in the form set forth in Exhibit E that restricts future activities on the AOC 1 Open Space Area. Nothing in the deed notice shall be construed as preventing the imposition of more stringent restrictions on the development allowed in the AOC 1 Open Space Area pursuant to this paragraph and, in particular, the conservation restriction provided for in paragraph 60(b).

(d) **Recording of the Consent Decree, Conservation Restriction, and Deed Notice.** This Consent Decree, the conservation restriction imposed pursuant to paragraph 60(b), and the deed notice imposed pursuant to paragraph 60(c) shall be recorded, pursuant to N.J.S.A. 46:15-1.1, 46:16-1.1, and 46:16-2, in the office of the Hudson County Register and a conspicuous reference to the Consent Decree, conservation restriction, and deed notice shall be included in all instruments concerning title to the AOC 1 Open Space Area. Any Party shall have the right, periodically, but no more than once every 25 years, to record memoranda or other instruments that reference, incorporate, or attach this Consent Decree, the conservation restriction, the deed notice, and/or any further orders of the Court related to the AOC 1 Open Space Area in the real estate records related to the AOC 1 Open Space Area.

(e) **Zoning.** Pursuant to the Redevelopment Plan, the AOC 1 Open Space Area is designated for open space and park. Jersey City shall not amend or change this designation unless it first satisfies the requirements of paragraph 60(a)(iv)(2).

(f) **Recreation and Open Space Inventory.** Upon acquiring fee simple absolute title to the AOC 1 Open Space, Jersey City shall add those portions of the AOC 1 Open Space Area not covered by roads, the pedestrian thoroughfare, and utility corridors adjacent to

roads onto its Green Acres Program Recreation and Open Space Inventory ("ROSI") pursuant to N.J.A.C. 7:36 and shall specify in such listing that it is subject to (i) Honeywell's prior easement to monitor, maintain, repair, and replace the Chromium Remedy; (ii) the actions necessary to implement, monitor, maintain, repair, and replace the Chromium Remedy; (iii) the actions necessary to install any development permissible under paragraphs 60(j) and 60(k); and (iv) the conservation restriction imposed pursuant to paragraph 60(b). Jersey City shall also take all steps necessary or appropriate to notify the New Jersey Green Acres Program that such portions of the AOC 1 Open Space Area have been added to its ROSI, such that those portions of the AOC 1 Open Space Area shall thereafter be subject to all procedural and regulatory requirements applicable under the Green Acres Program, including prohibitions against diversion.

(g) **Eminent Domain.** If all or part of the AOC 1 Open Space Area is taken in exercise of the power of eminent domain, or acquired by purchase in lieu of condemnation, by any public, corporate, or other authority so as to terminate, abrogate, or limit the restrictions created by this Consent Decree or the conservation restriction imposed pursuant to paragraph 60(b), in whole or in part, any Party may take appropriate actions to challenge such taking if there is a reasonable legal basis for doing so. In the event that the Parties are unable to prevent a taking notwithstanding their reasonable and appropriate efforts, any Party may take appropriate actions to recover the full value of the interests in the AOC 1 Open Space Area subject to the taking or in lieu purchase, and all direct and incidental damages, costs, and fees occasioned thereby.

(h) **Environmental Covenant.** In the event that New Jersey enacts the Uniform Environmental Covenants Act or its substantial equivalent, the Parties shall address the issue of whether an environmental covenant shall be established for the AOC 1 Open Space Area under the statute. If the Parties are unable to reach agreement on establishment of an environmental

covenant, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. The Special Master shall recommend adoption of an environmental covenant if it would provide substantial additional protection for the AOC 1 Open Space Area without unreasonably harming the interests of any Party. Any Party shall have the right to seek review by the Court of the Special Master's recommendation or consideration by the Court of the dispute in the event that the Special Master's appointment has expired.

(i) **Future Protections.** Any Party shall have the right to propose consideration of additional or substitute protections for the AOC 1 Open Space Area. If the Parties are unable to reach agreement with regard to the proposal, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. The Special Master shall recommend adoption of additional or substitute protections for the AOC 1 Open Space Area if they would provide substantial additional protection for the AOC 1 Open Space Area without unreasonably harming the interests of any Party. Any Party shall have the right to seek review by the Court of the Special Master's recommendation or consideration by the Court of the dispute in the event that the Special Master's appointment has expired.

(j) **Prohibited Development in AOC 1 Open Space Area.** Only development satisfying the requirements of this paragraph and paragraph 60(k) shall be permitted in the AOC 1 Open Space Area. All other development in the AOC 1 Open Space Area shall be prohibited.

(i) Honeywell shall establish Open Space Design Standards that shall govern all development in the AOC 1 Open Space Area regardless of when the construction or installation of permissible development occurs. The Open Space Design Standards shall satisfy each of the requirements set forth in paragraph 60(j)(v) and shall set forth the requirements for development that are necessary for the protection of the integrity of the Chromium Remedy.

(ii) The Initial Development in the AOC 1 Open Space Area shall be the

development undertaken following the completion of the Chromium Remedy in the AOC 1 Open Space Area. The Initial Development may occur in one or more phases. Honeywell and Bayfront Redevelopment LLC shall prepare a Development Plan before the initiation of each phase of the Initial Development. The Initial Development Period for each phase shall consist of the period covered by the Initial Development, plus a period of 10 years following the submission of the as-built documentation for the phase pursuant to paragraph 60(j)(viii).

(iii) The Special Master shall have jurisdiction to review the Open Space Design Standards and the Development Plan(s) solely for the purpose of ensuring that any development undertaken during the Initial Development Period is consistent with this Consent Decree and with protection of the integrity of the Chromium Remedy. The Special Master's jurisdiction with regard to development in the AOC 1 Open Space Area shall run through the Initial Development Period for each phase.

(iv) Honeywell shall ensure that the requirements of this paragraph and paragraph 60(k) are satisfied with regard to any development undertaken within the Initial Development Period. Honeywell shall also ensure that any development undertaken within the Initial Development Period is designed and installed in a manner consistent with this Consent Decree and with protection of the integrity of the Chromium Remedy.

(v) Any development undertaken in the AOC 1 Open Space Area, regardless of when undertaken, shall satisfy each of the following requirements:

(1) It shall not jeopardize the integrity of the Chromium Remedy;

(2) It shall be limited to the types of development permitted under paragraph 60(k);

(3) It shall be consistent with this Consent Decree, including the conservation restriction imposed pursuant to paragraph 60(b), and the Redevelopment Plan;

however, in the event of any conflict or inconsistency between this Decree and the Redevelopment Plan, this Decree shall govern;

(4) In total, at least 75% of the AOC 1 Open Space Area, exclusive of the acreage used for roads and the pedestrian thoroughfare, shall be comprised of landscaping, as defined by paragraph 60(k)(xi);

(5) The portion of the Open Space Design Standards necessary for protection of the Chromium Remedy as related to all roads, the pedestrian thoroughfare and associated utility corridors as well as the general location of such items shall be included in the 100% Design of the Chromium Remedy;

(6) If the lowest elevation for the bedding for any utility line, including irrigation or sprinkler lines, is two feet from the top of the warning layer of the cap, the utility line shall be placed in a utility corridor;

(7) In any event, there shall be two feet of soil or more between the warning layer of the cap and the lowest elevation of the bedding for any irrigation or sprinkler lines; and

(8) No permanent concession facilities shall be permitted.

(vi) Honeywell shall submit the Open Space Design Standards and the Development Plan(s) for any development undertaken during the Initial Development Period pursuant to the requirements of paragraph 72(c), except that such documents need not be submitted to NJDEP. Following Honeywell's submission of such documents, the procedures of paragraphs 72(d) and 72(e) shall apply, except that the Special Master need not provide notice to NJDEP.

(vii) During the Initial Development Period, any development in the AOC 1 Open Space Area shall require the preparation and submission of a Development Plan pursuant

to paragraph 60(j)(vi) and such Development Plan shall be subject to review by the Special Master pursuant to paragraph 60(j)(iii).

(viii) Upon completion of each phase of the Initial Development, Honeywell shall provide as-built documentation for the Initial Development to the Special Master, Riverkeeper, and the Jersey City Entities. Upon completion of any further development during the Initial Development Period for the phase, Honeywell shall also provide as-built documentation to the Special Master, Riverkeeper, and the Jersey City Entities for the additional development. Such additional as-built documentation for a phase shall not affect the running of the Initial Development Period for the phase.

(ix) During the Initial Development Period, replacement in-kind of development features or facilities included in the Initial Development or minor modifications to the development features or facilities included in the Initial Development shall not require the preparation of a Development Plan or be subject to review by the Special Master, provided that such replacement or modification satisfies the requirements of the Open Space Design Standards, the applicable Development Plan, and paragraphs 60(j)(v) and 60(j)(x)(3)(notice requirement).

(x) After the Initial Development Period, all development is prohibited unless one of the following conditions is met:

(1) Jersey City satisfies the conditions set forth in paragraph 60(a)(iv)(2);

(2) The development is a replacement in-kind and such replacement is made in conformance with the specifications of the Open Space Design Standards, the applicable Development Plan, and paragraph 60(j)(v); or

(3) The development meets the requirements of paragraphs 60(j)(v) and 60(j)(xi), and Jersey City provides notice of its intention to alter or add to the

development undertaken in the Initial Development Period. Such notice shall be provided in writing to Honeywell, Riverkeeper, and the holders of the conservation restriction established pursuant to paragraph 60(b) at least 30 days prior to Jersey City's alteration or addition to development undertaken in the Initial Development Period. Honeywell, Riverkeeper, or any holder of the conservation restriction shall have the right to move the Court to prohibit such alteration or addition.

(xi) If any of the development features or facilities that Jersey City seeks to add pursuant to paragraph 60(j)(x) require utilities that would require utility corridors other than the utility corridors installed during the Initial Development Period, Jersey City shall obtain approval from the Court before installing such new utility corridors.

(xii) Jersey City shall provide Honeywell, Riverkeeper, and the holders of the conservation restriction established pursuant to paragraph 60(b) with an annual report that describes any alterations or additions, including those activities under paragraph 60(j)(x)(2), to the development undertaken during the Initial Development Period.

(xiii) All development features or facilities, whether included in the Initial Development or added subsequent thereto, are subject to demolition and/or removal to the extent necessary to maintain, replace, or repair the Chromium Remedy.

(k) **Permissible Development in the AOC 1 Open Space Area.** The Initial Development or any subsequent addition or alteration thereto may include any or all of the following types of development features or facilities, provided that such development features or facilities satisfy the conditions set forth in paragraph 60(j)(v):

(i) Roads and the pedestrian thoroughfare -- both crossing and running along the AOC 1 Open Space Area, but no more extensive than provided for in the diagram on page 39 of the Redevelopment Plan;

(ii) Curbing and fences;

(iii) Sidewalks, paths, walkways, and nature trails;

(iv) Utilities and utility corridors, lighting, and restrooms;

(v) Irrigation or sprinkler components or systems;

(vi) Water features;

(vii) Above-ground storm water cisterns;

(viii) Signs, including the signs or display required by paragraph 60(l);

(ix) Benches, trash receptacles, and bicycle racks;

(x) Recreational facilities, such as playground equipment, bocce ball courts, tennis courts, basketball courts, and athletic fields; and

(xi) Landscaping, including natural grasses, small trees, shrubbery, flowers, and potted plants, provided that such landscaping and the anticipated root structure of each landscaping component do not and will not jeopardize the integrity of the Chromium Remedy. Any portion of an athletic field that is covered in natural grass shall be considered landscaping for purposes of the percentage set forth in paragraph 60(j)(v)(4).

(l) **Signs or Displays.** Honeywell shall develop a permanent plan for informing visitors to the AOC 1 Open Space Area of the history of the chromium production, contamination, and its remediation. Such plan shall provide for appropriate signs or displays that communicate this information. Such plan shall be subject to review and comment by the Parties and approval by the Special Master.

61. **Honeywell's Ongoing Responsibility.** Honeywell shall be responsible for implementing, monitoring, maintaining, repairing and replacing the Chromium Remedy in perpetuity. Honeywell shall satisfy this responsibility through establishment and implementation of a Long-Term Monitoring Plan. In the event that Honeywell ceases to exist without a

successor-in-interest or its obligations under this Consent Decree are stayed or limited due to a bankruptcy petition, the Court shall appoint an independent third-party fiduciary who shall be responsible for implementing, monitoring, maintaining, repairing and replacing the Chromium Remedy pursuant to the requirements of this Consent Decree and the Long-Term Monitoring Plan, unless Jersey City volunteers to assume these responsibilities for the Chromium Remedy.

62. **Long-Term Monitoring Plan.** In consultation with the Parties, and subject to approval by the Special Master and NJDEP, Honeywell shall develop a Long-Term Monitoring Plan to ensure the ongoing effectiveness of the Chromium Remedy to meet the objectives set forth in paragraphs 56, 58, and 63. The Long-Term Monitoring Plan shall be consistent with the applicable EPA policies and guidance, including, among others, EPA's Comprehensive Five Year Review Guidance (2001) (or any subsequent revision) and with NJDEP's Technical Requirements for Site Remediation (or any subsequent revision).

63. **Long-Term Monitoring Plan Objectives.** Honeywell shall design the Long-Term Monitoring Plan to satisfy each of the following objectives:

(a) Provide monitoring to ensure that the integrity and effectiveness of the Chromium Remedy are maintained; and

(b) Provide monitoring to ensure that the restrictions of the institutional controls are being satisfied, including the prohibition on development in the AOC 1 Open Space Area.

64. **Monitoring and Remediation Under the Long-Term Monitoring Plan.** The Long-Term Monitoring Plan shall include the monitoring and remediation activities set forth in this paragraph and other monitoring and remediation activities, if necessary, to meet the objectives of paragraph 63. Honeywell shall provide Riverkeeper, the Jersey City Entities, the Special Master, and NJDEP with annual reports on activities conducted under the Long-Term Monitoring Plan.

(a) **Monitoring Activities in the Long-Term Monitoring Plan.** Honeywell shall undertake the following monitoring activities at intervals to be specified in the Long-Term Monitoring Plan, but no less frequently than set forth below, and, if the monitoring shows it is necessary, Honeywell shall also undertake the remediation activities as set forth below:

(i) Quarterly visual inspection monitoring of the AOC 1 Open Space Area to ensure that it is not being put to any use that is inconsistent with paragraphs 60(j) and 60(k) or any use that may compromise the integrity of the Chromium Remedy. The Long-Term Monitoring Plan shall include an inventory of the prohibited and permissible uses pursuant to paragraph 60 and a corresponding checklist to be used by the individuals conducting the monitoring. If Honeywell determines that the AOC 1 Open Space Area is being used in a manner inconsistent with the protections or the integrity and effectiveness of the Chromium Remedy, Honeywell shall act as soon as possible to cause such use to cease and, if there has been damage to the Chromium Remedy, to repair or replace it to original specifications or to a level of protection equivalent to the original Chromium Remedy;

(ii) Quarterly visual inspection monitoring of the AOC 1 Open Space Area grade and slope to identify whether erosion has occurred or is occurring. Honeywell shall remediate any significant erosion.

(iii) Quarterly visual inspection monitoring to determine whether noticeable differential settlement or subsidence has occurred or is occurring in the AOC 1 Open Space Area such that the integrity of the Chromium Remedy may be materially impaired. If evidence of differential settlement or subsidence is found, Honeywell shall propose further investigative measures. Honeywell shall remediate any differential settlement or subsidence that is beyond the degree of differential settlement/subsidence allowed for in the 100% Design

and repair the cap and/or the overlying layers to original 100% Design specifications or to a level of protection at least equivalent to the original Chromium Remedy;

(iv) A baseline topographic survey at the completion of the Chromium Remedy and three additional surveys conducted at five-year intervals beginning five years after the conduct of the baseline survey. The topographic survey shall be of sufficient precision and accuracy to present the results as one-foot contours;

(v) Quarterly visual inspection monitoring to determine whether the Chromium Remedy in the AOC 1 Open Space Area has been disturbed. Any evidence of the distinctive warning layer materials or any other cap materials as described in paragraph 56(a) at the surface is an indication that the cap has been disturbed. In such an event, Honeywell shall propose further investigative measures to evaluate whether the integrity of the cap has been compromised. In the event that the investigative measures show that the cap integrity has been compromised, Honeywell shall repair or replace the cap and the overlying layers to original 100% Design specifications or to a level of protection at least equivalent to the original Chromium Remedy;

(vi) Quarterly visual inspection monitoring to ensure that burrowing animals are not materially impairing the integrity of the Chromium Remedy. If evidence of burrowing animals is found, Honeywell shall follow humane removal procedures and repair or replace the cap and the overlying layers to original 100% Design specifications or to a level of protection at least equivalent to the original Chromium Remedy;

(vii) Quarterly visual inspection monitoring of the vegetative cover in the AOC 1 Open Space Area to ensure that vegetative cover is in conformance with the landscaping provisions of the 100% Design and the Redevelopment Plan and will not materially impair the integrity of the Chromium Remedy. Maintenance of the vegetative cover shall include, at a

minimum, mowing to ensure that tree species cannot become established and removal of any other vegetation with the potential to damage the Chromium Remedy;

(viii) Quarterly groundwater monitoring to ensure that groundwater levels are maintained in accordance with the requirement to maintain an outward gradient from Study Area 7 and in accordance with the water level control plan developed pursuant to paragraph 58(e);

(ix) Monitoring of vented gases and the gas venting system to ensure proper operation of the system, to evaluate any degradation of the system, to assess the need for treatment of vented gases, either initial, subsequent, or further depending on whether treatment has been previously provided, and to detect any condition that might endanger public health or safety. Such monitoring shall be conducted on a monthly basis for at least one year and, if the readings are stable, such monitoring may be conducted thereafter on a quarterly basis; and

(x) Any additional monitoring as required by specific details added in the design phase of the AOC 1 Open Space Area.

(b) **Procedures for Proposing Changes to the Long-Term Monitoring Plan.** Any Party may, from time to time, propose changes to the scope of the monitoring activities under the Long-Term Monitoring Plan. If the Parties agree, the Long-Monitoring Plan shall be so changed subject to approval by NJDEP and by the Special Master, if his appointment has not terminated, or otherwise, by the Court. If the Parties are unable to reach agreement over alterations to the monitoring and the Special Master's appointment has not terminated under this Consent Decree, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. Any Party shall have the right to seek review by the Court of the Special Master's recommendation. In the event that the dispute arises after the Special Master's appointment has terminated, any Party may file a motion seeking a resolution of the dispute by

the Court.

(c) **Contingency Plan.** As part of the Long-Term Monitoring Plan, Honeywell shall develop a contingency plan to ensure the integrity of the remediation in the event of any planned penetration of the cap or otherwise planned activity that compromises the cap or any unplanned event or accident that penetrates the cap or otherwise compromises the integrity of the Chromium Remedy. The contingency plan shall include, at a minimum, an annually updated plan to notify the relevant persons, including the Special Master, NJDEP, and the Parties, of (i) the event penetrating the cap, compromising the cap, or compromising the integrity of the Chromium Remedy; (ii) the general steps to be taken to identify the extent of the problem; and (iii) the standards for remedying the problem.

(d) **Routine Maintenance.** The title owner of the AOC 1 Open Space Area shall conduct maintenance of the AOC 1 Open Space Area features or facilities that are permissible under paragraphs 60(j) and 60(k). The maintenance workers shall be trained in maintenance procedures that do not jeopardize the integrity of the Chromium Remedy. The training shall include the identification and reporting of any uses or features that are not permissible in the AOC 1 Open Space Area or that may jeopardize the integrity of the Chromium Remedy. Honeywell shall provide all training materials. The title owner of AOC 1 Open Space Area shall annually provide to the other Parties and the Special Master a report describing the training which has been provided to its maintenance workers. The title owner of the AOC 1 Open Space Area shall also provide to the Parties and the Special Master notice of any violations of the restrictions relating to the AOC 1 Open Space Area identified by its workers during routine maintenance.

(e) **Recordkeeping.** Honeywell shall maintain written logs or other records of those monitoring and remediation activities undertaken pursuant to the Long-Term Monitoring

Plan. Such logs shall be provided to Riverkeeper and the Jersey City Entities on a quarterly basis.

65. **Monitoring and Reporting to Riverkeeper and Jersey City Entities.** Riverkeeper and Jersey City Entities shall be provided with all documents submitted to NJDEP and/or the Special Master with respect to the Chromium Remedy, including the documents identified in paragraph 72(c).

66. **Notice to Stakeholders.** All residents, regardless of whether they are owners or lessees, and all commercial tenants on Study Areas 6 and 7 are hereby deemed stakeholders. Honeywell shall ensure that all stakeholders shall be provided at the time of their purchase or lease with notice of the contamination, the remedial actions that have been undertaken or are planned, and the importance of reporting activities that may appear to jeopardize the integrity of the engineering controls. Notice shall be accomplished in the following manner:

(a) Bold or otherwise conspicuous language on the first page of the deed provided to all purchasers in the Residential Area;

(b) A summary notice of the Chromium Remedy which:

(i) Has been subject to review and comment by the Parties and approval by the Special Master; and

(ii) Provides a reference to public websites and libraries and/or the future equivalents thereof, where the following can be found:

(1) Zoning and other Jersey City maps showing the AOC 1 Open Space Area; and

(2) Documents describing the contamination and the remediation, including:

(a) This Consent Decree;

(b) The Remedial Investigation Report and the Final Remedial Action Report,

(c) The annual reports on long-term monitoring and maintenance and repair activities as required by paragraph 64 and annual reports on changes to the Initial Development as required by paragraph 60(j)(xii); and

(d) The Long-Term Monitoring Plan.

(c) The provision of the maps and documents referred to in paragraph 66(b)(ii) to the public via websites and libraries and/or the future equivalents thereof; and

(d) Notices to lessees and commercial tenants in all lease documents.

67. **Annual Letter to Riverkeeper and Jersey City Entities on Notice to Stakeholders.** Each year beginning one year after the issuance of the first notice in a deed or lease pursuant to paragraph 66, Honeywell shall provide a letter to the Riverkeeper and the Jersey City Entities documenting its compliance with paragraph 66.

68. **Future Notice to Stakeholders.** Honeywell shall ensure that all stakeholders are provided with notice, at least annually, of long-term monitoring activities and any additional remediation activities undertaken with respect to the Chromium Remedy. Such notice shall be accomplished by notices on websites or future equivalents thereof, including Jersey City websites, any websites created to provide information about the Chromium Remediation or redevelopment of the Redevelopment Area, and one or more of the following:

(a) Any community message board or other similar site used and/or maintained by stakeholders or the manager(s) of the Redevelopment Area;

(b) Mailings to all stakeholders; and

(c) Posters and flyers throughout the Redevelopment Area.

69. **Stakeholder Enforcement.** Any stakeholder shall have the right to enforce the

remedial obligations of this Consent Decree in the Court, including post-implementation monitoring and maintenance obligations, and the terms of any deed notice or use restriction.

C. Oversight and Enforcement by the Special Master and NJDEP

70. **Federal Court Jurisdiction.** The Court shall retain jurisdiction for the purpose of overseeing and enforcing this Consent Decree and to review any issue or dispute which is not resolved through the oversight process described in Article III.C.

71. **Appointment and Jurisdiction of the Special Master.** The Chromium Remedy provided for in this Consent Decree is hereby referred to a Special Master pursuant to Rule 53 of the Federal Rules of Civil Procedure. The Special Master is appointed in the Consolidated Litigation for the purpose of overseeing and enforcing the Chromium Remedy, the first five years of long-term monitoring of the Chromium Remedy, financial assurances for the Chromium Remedy, and the Initial Development Period for each phase of development in the AOC 1 Open Space Area. The Special Master is also appointed in the Consolidated Litigation for the limited purpose of ensuring that the scheduling and implementation of the Historic Fill Remedy, the site preparation activities, and the site redevelopment activities described in the Jersey City/Honeywell Consent Order, Articles II.B, III, and IV, do not undermine the integrity of, unreasonably interfere with, or unnecessarily delay the effectuation of the Chromium Remedy, the Study Area 7 remedies, and other remedies within his jurisdiction as of the date of entry of this Consent Decree. The Special Master shall have jurisdiction over all matters for which he is appointed.

72. **Oversight of the Chromium Remedy.**

(a) **NJDEP Authority.** NJDEP shall retain its full statutory and regulatory authority with respect to the Study Area 6 North site, including (i) permitting authority; (ii) authority to review and approve the Remedial Action Work Plan, 100% Design, and final

Remedial Action Report for the Chromium Remedy; and (iii) authority to issue a no further action letter.

(b) **Special Master Responsibilities.** The Special Master shall have the following responsibilities:

(i) Ensuring that Honeywell's implementation of the Chromium Remedy satisfies the requirements of this Consent Decree;

(ii) Ensuring that Honeywell's implementation of the Chromium Remedy conforms with federal, state, and local permit requirements;

(iii) Establishing a reasonable schedule for the implementation of the Chromium Remedy and monitoring conformance with it;

(iv) Reviewing monthly progress reports and conducting periodic meetings with the Parties to review the progress of the implementation of the Chromium Remedy. NJDEP shall be invited, but not required, to participate in these meetings and the decision as to whether to participate shall be left to NJDEP's sole discretion;

(v) Submitting quarterly progress reports to the Court;

(vi) Overseeing the financial assurances established pursuant to paragraphs 77 through 86, and, until the expiration of his term pursuant to paragraph 76, overseeing the financial assurances established pursuant to paragraphs 87 through 98;

(vii) Coordinating review of the documents as provided in paragraphs 72(c) through 72(f);

(viii) Overseeing all development undertaken in the AOC 1 Open Space Area during the Initial Development Period pursuant to paragraph 60(j)(iii); and

(ix) To the extent that, in matters within the jurisdiction of the Special Master as set forth herein, a dispute arises between the Parties with respect to implementation of the Chromium Remedy, issuing a recommendation to the Court with respect to the dispute.

(c) **Submission of Documents by Honeywell.** Honeywell shall submit the following documents to Riverkeeper, the Jersey City Entities, the Special Master, and NJDEP:

(i) An overall schedule with milestones for the design and implementation of the remedy ("Schedule");

(ii) Design drawings and specifications at the 50% level;

(iii) Design drawings and specifications at the 100% level (after selection of the contractor) (hereafter "100% Design");

(iv) The data validation plan, including quality control and quality assurance protocols;

(v) The site-wide master health and safety plan;

(vi) The Long-Term Monitoring Plan;

(vii) The final Remedial Action Report or final construction report (including as-built drawings and such other reports as may be prepared of the remedy as implemented);

(viii) A report reviewing measured groundwater levels for the groundwater remedy;

(ix) Documents required during the Initial Development Period pursuant to paragraphs 60(j)(vi), 60(j)(vii), and 60(j)(viii) ; and

(x) Other post-implementation monitoring reports as required by the Long-Term Monitoring Plan.

(d) **Comment on Submitted Documents.** For each of the documents submitted by Honeywell pursuant to paragraph 72(c), the Special Master shall establish a schedule for the submission of comments and responses to comments. For each of the documents submitted, Riverkeeper, the Jersey City Entities, the Special Master, and NJDEP shall have the right to submit comments to Honeywell. Honeywell shall address all received comments and submit a revised document. The revised document shall be submitted by Honeywell to Riverkeeper, the Jersey City Entities, the Special Master, and NJDEP. The revised document shall be subject to review and approval pursuant to paragraph 72(e).

(e) **Review and Approval of the Submitted/Revised Document**

(i) **Scope of Review.** All documents submitted by Honeywell, pursuant to paragraph 72(c) and 72(d), shall be subject to review and approval by the Special Master in accordance with the following procedure. All such documents, except the Schedule and the 100% Design, shall be subject to the review and approval process and shall not require an order of the Court. The Schedule and 100% Design documents shall be subject to the review and approval process, but shall also require an order of the Court as provided in paragraph 72(f). A document shall be approved if the document (1) complies with this Consent Decree; (2) complies with the Remedial Action Work Plan for the Chromium Remedy; and (3) complies with the Schedule and 100% Design.

(ii) **Procedure.** Prior to making a decision on a document, the Special Master shall notify NJDEP of his intention to rule on the document or make a recommendation to the Court on the document. Such notice shall notify NJDEP that the Special Master will consider any comments NJDEP wishes to submit on the document if such comments are submitted within 30 days of NJDEP's receipt of the notice. NJDEP shall in its sole discretion determine whether to submit comments to the Special Master.

(iii) **Court Review.** If any Party objects to the Special Master's recommendation to the Court or approval of any document pursuant to this paragraph, that Party may seek further relief from the Court with respect to the document.

(f) **Schedule and 100% Design Documents.** As to the Schedule and the 100% Design documents, Honeywell shall have the responsibility, within 30 days of the Special Master's approval of each document, of (i) moving for entry of an order by the Court approving the document as approved by the Special Master; or (ii) filing objections with the Court to the Special Master's approval (and any recommendations contained therein) and moving for entry of the Schedule or 100% Design (including any such recommendations of the Special Master to which Honeywell agrees). Riverkeeper and the Jersey City Entities shall have the right in these proceedings to raise any objections they might have to the Schedule or 100% Design as approved by the Special Master or to the submission by Honeywell to the Court. NJDEP shall receive notice of any motion filed with respect to the Schedule or the 100% Design.

(g) **Flexibility in 50% and 100% Design Documents**. The Parties recognize that work conducted to implement the Chromium Remedy may be conducted by Honeywell contractors and that Honeywell may establish performance-based criteria or specifications for its contractors. As a result, the Parties recognize that the 50% Design and 100% Design documents for the Chromium Remedy may include performance-based standards, criteria, and specifications. These documents shall be sufficiently prescriptive to enable the Parties and the Special Master to evaluate their conformance with the Remedial Action Work Plan and this Consent Decree. The Parties also recognize that the 100% Design will be completed after Honeywell has selected a contractor. The Parties further recognize that completing the 100% Design after the selection of the contractor(s) shall not make the 100% Design subject to any less

stringent or more deferential review. Honeywell's commitment to the contractor(s) shall not be cause to limit review by the Parties and the Special Master.

(h) **Changes to the Schedule**. The Parties recognize that changes to individual line items in the Schedule will occur. To the extent that (i) the Parties and the Special Master agree that such changes do not have a material impact on satisfaction of the Schedule milestones established for items set forth in paragraph 54(b); and (ii) such changes do not require modifications to any necessary permits or authorizations for the Chromium Remedy, such changes may be made upon agreement of the Parties and the Special Master without further order of the Court.

73. **Retention of Professionals.** The Special Master may retain the services of professionals and/or other technical personnel, as reasonably needed, to fulfill his obligations under this Consent Decree, and for which he will be reimbursed pursuant to paragraph 75.

74. **Insurance for the Special Master.** The Special Master shall obtain insurance coverage relating to the performance of the Special Master's duties and responsibilities under this Consent Decree. Such coverage shall be similar to the Special Master's existing coverage in *ICO v. Honeywell*, procured pursuant to the Court's November 11, 2005 Stipulation and Order Regarding Special Master's Application to Procure Insurance Coverage, and as extended to the Consolidated Litigation by the Consent Order on Sediment Remediation and Financial Assurances ("Sediment Consent Order"). The insurance coverage shall be sufficiently extended in duration and scope to cover all additional duties and responsibilities as set forth hereunder. Honeywell shall pay the premiums and other administrative costs of the Special Master's insurance.

75. **Reimbursement of Special Master Fees and Expenses.** The Special Master shall submit fee applications to the Court for approval of reasonable fees and expenses incurred in the

oversight of matters referred to him pursuant to this Consent Decree. Any Party may raise with the Court objections to such fee applications. Upon approval of a fee application by the Court, the reimbursement of the Special Master's fees and expenses shall be made from the escrow fund previously established by Honeywell for the purpose of paying the Special Master's fees and expenses in *ICO v. Honeywell* pursuant to this Court's September 15, 2003 Order Setting Financial Assurances and extended to the Consolidated Litigation by the Sediment Consent Order.

76. **Expiration of Special Master's Appointment.** The Special Master's appointment under this Consent Decree shall expire after Honeywell has completed the first five years of long-term monitoring of the Chromium Remedy and the Initial Development Period for each phase of development has been concluded as provided in paragraph 60(j)(ii). However, solely to the extent that the Special Master is still supervising other portions of the Consolidated Litigation or *ICO v. Honeywell* after Honeywell has completed the first five years of long-term monitoring of the Chromium Remedy or the Initial Development Period for each phase of development as provided in paragraph 60(j)(ii), whichever is later, the Special Master shall continue to have jurisdiction under this Consent Decree until he has completed his specifically enumerated responsibilities under the Final Judgment in *ICO v. Honeywell*, the Sediment Consent Order, the Deep Groundwater Consent Order, and any other future orders, decrees, or judgments in *ICO v. Honeywell* and the Consolidated Litigation. Enumerated responsibilities under any order, decree, or judgment shall include only those tasks specifically assigned to the Special Master in the order, decree, or judgment. Enumerated responsibilities shall not include any continued jurisdiction exercised over long-term monitoring beyond the initial period specified in the order, decree, or judgment. For example, the Special Master has jurisdiction over the first five years of long-term monitoring under the Sediment Consent Order. Oversight during these five years shall

be an enumerated responsibility, but any continued oversight of long-term monitoring, pursuant to the extension of the Special Master's jurisdiction beyond the first five years, as provided in paragraph 60 of the Sediment Consent Order, shall not be an enumerated responsibility. Such extensions of jurisdiction shall be effective only so long as specific enumerated responsibilities in any order, decree, or judgment have not been fulfilled.

D. Initial Financial Assurances

77. **Chromium Remedy Letter of Credit.** Honeywell shall obtain a one-year, irrevocable letter of credit (the "Chromium Remedy Letter of Credit") to be automatically renewed annually in an amount equal to the "Remedial Costs Subject to Financial Assurance."

(a) Remedial Costs Subject to Financial Assurance shall mean:

(i) The costs of implementing the Chromium Remedy;

(ii) The costs of monitoring and maintenance activities, as required by the Long-Term Monitoring Plan, for five years; and

(iii) A contingency of 25% with respect to those costs listed in paragraphs 77(a)(i) and 77(a)(ii).

(b) The Chromium Remedy Letter of Credit shall be issued by a financial institution domiciled in the United States or by a United States subsidiary of a non-U.S. financial institution, provided that in either case, the financial institution shall be acceptable to the Special Master.

78. **Procedures for Review of the Proposed Chromium Remedy Letter of Credit.** No later than 60 days after entry by the Court of this Consent Decree, Honeywell shall submit to Riverkeeper, Jersey City Entities, and the Special Master for their review the proposed (a) amount of the Chromium Remedy Letter of Credit; (b) form of the Chromium Remedy Letter of Credit; and (c) name of the institution that will issue the Chromium Remedy Letter of Credit. If

Riverkeeper or the Jersey City Entities do not agree to the terms of the Chromium Remedy Letter of Credit, the Parties shall meet and confer in an effort to resolve their differences. If the Parties are unable to reach agreement over the terms of the Chromium Remedy Letter of Credit, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. Any Party shall have the right to seek review by the Court of the Special Master's recommendation regarding the terms of the Chromium Remedy Letter of Credit.

79. **Automatic Renewal.** The Chromium Remedy Letter of Credit shall be automatically renewed annually unless (a) no later than 120 days prior to the anniversary of the Chromium Remedy Letter of Credit issue date, the issuer provides notice of nonrenewal or (b) Honeywell seeks a reduction in the Chromium Remedy Letter of Credit, pursuant to paragraph 80, to correspond to the reduced estimate of Remedial Costs Subject to Financial Assurances. If the issuer provides notice of nonrenewal, Honeywell shall obtain a replacement irrevocable Chromium Remedy Letter of Credit at least 95 days prior to the expiration date of the existing Chromium Remedy Letter of Credit. If Honeywell is not otherwise in default as provided in Article III.D, the Special Master shall direct the cancellation of the prior Chromium Remedy Letter of Credit within 91 days after delivery to the Special Master of any replacement of a Chromium Remedy Letter of Credit. In the event that the Special Master is entitled to draw upon a Chromium Remedy Letter of Credit because there are two Chromium Remedy Letters of Credit currently in place, the Special Master shall not draw an aggregate amount in excess of the highest valued Chromium Remedy Letter of Credit. Upon Honeywell's request, the Special Master may, at his option, decide not to require overlapping letters of credit in any year based on Honeywell's financial strength in that year, provided that Honeywell has submitted all necessary information so that the Special Master can make his determination at least 150 days prior to the expiration of the Chromium Remedy Letter of Credit.

80. **Annual Right to Seek Reduction in Amount of Chromium Remedy Letter of Credit.** Honeywell shall have the right annually to seek a reduction in the Chromium Remedy Letter of Credit. At the time of seeking such reduction, Honeywell shall submit to the Riverkeeper, the Jersey City Entities, and the Special Master an estimate of the remaining Remedial Costs Subject to Financial Assurance, including the contingency as described in paragraph 77(a)(iii), and shall seek adjustment of the Chromium Remedy Letter of Credit so that the total estimated amount of remaining Remedial Costs Subject to Financial Assurance are covered by the Chromium Remedy Letter of Credit. However, the adjustment shall not result in reducing the Chromium Remedy Letter of Credit to an amount below the remaining estimated costs under paragraphs 77(a)(i) and 77(a)(ii), plus a contingency of 25% of the remaining estimated costs under paragraphs 77(a)(i) and 77(a)(ii), and shall not result in reducing the Chromium Remedy Letter of Credit to an amount less than $20,000,000 as expressed in 2008 dollars unless long-term financial assurances are in place pursuant to Article III.E. Before making any request to reduce the amount or modify the terms of the Chromium Remedy Letter of Credit, Honeywell shall first confer with the Riverkeeper and the Jersey City Entities in an effort to reach agreement on the modified amount or terms of the Chromium Remedy Letter of Credit. If the Parties are unable to reach agreement over the modified amount or terms of the Chromium Remedy Letter of Credit, the Parties shall submit the dispute to the Special Master, who shall resolve the dispute. Any Party shall have the right to seek review by the Court of the Special Master's decision regarding the modified amount or terms of the Chromium Remedy Letter of Credit. Upon agreement on the amount of the reduction or modified terms of the Chromium Remedy Letter of Credit (or upon order of the Court directing that the Chromium Remedy Letter of Credit be reduced to an identified amount or otherwise modified), Honeywell shall obtain a replacement Chromium Remedy Letter of Credit in such amount and with such

terms. If Honeywell is not otherwise in default as provided in Article III.D and the issuer of the primary Chromium Remedy Letter of Credit has not provided notice of non-renewal, within 30 days after delivery to the Special Master of any replacement of a Chromium Remedy Letter of Credit, the Special Master shall direct the cancellation of the prior Chromium Remedy Letter of Credit.

81. **Bankruptcy Protection.** Neither the Chromium Remedy Letter of Credit nor the proceeds of the Chromium Remedy Letter of Credit shall be considered the property of Honeywell or property of the estate in the event of Honeywell's bankruptcy. The Chromium Remedy Letter of Credit shall contain the language necessary to assure that neither the Chromium Remedy Letter of Credit nor the proceeds of the Chromium Remedy Letter of Credit shall be affected or restricted in any way by operation of the automatic stay in 11 U.S.C. 362.

82. **Exclusive Court Jurisdiction.** The Chromium Remedy Letter of Credit shall recite that the issuer submits to the exclusive jurisdiction of this Court for any and all disputes arising under the Letter of Credit.

83. **Application of New York Law.** The provisions of the Uniform Customs and Practice ("UCP") for Documentary Credits (1993 Revision) International Chamber of Commerce Publication #500 and New York law shall apply to the Chromium Remedy Letter of Credit.

84. **Procedures upon Honeywell's Material Default of Its Obligations.** During the period in which the Special Master has jurisdiction pursuant to paragraph 71, the Chromium Remedy Letter of Credit shall be payable to the Special Master and shall not, prior to its expiration date, be revoked or terminated except consistent with this Consent Decree and with the consent of the Special Master and approval by the Court. The Special Master's ability to draw upon the Chromium Remedy Letter of Credit shall not be limited by any agreement between Honeywell and the issuer. The Special Master may, without further order or notice to

this Court, draw upon the Chromium Remedy Letter of Credit upon the occurrence of default by Honeywell, which shall include:

(a) The failure of Honeywell, in the event that notice is given pursuant to paragraph 79 to deliver a replacement Chromium Remedy Letter of Credit at least 95 days prior to the expiration date of the existing Chromium Remedy Letter of Credit;

(b) The material failure of Honeywell to proceed with diligence and in good faith to carry out the terms of this Consent Decree and the continuance of such a material breach for a period of 15 days after written notice to Honeywell thereof and either (i) Honeywell, in the opinion of the Special Master without further input from the Parties, shall have failed to cure the breach; (ii) during the 15-day period, the Court has not entered an order to prevent the Special Master from drawing on the Chromium Remedy Letter of Credit; or (iii) the Court or the Special Master has not granted Honeywell additional time to cure the breach;

(c) The filing by Honeywell of a petition seeking relief, or the granting of relief, under the Federal Bankruptcy Code or any similar federal or state statute; any assignment for the benefit of creditors made by Honeywell; the involuntary filing of any of the foregoing against Honeywell if involuntary filing has not been dismissed within 60 days; the appointment of a custodian, receiver, liquidator, or trustee, or other similar official for Honeywell or for a substantial part of Honeywell's property; any action by Honeywell to effect any of the foregoing; or if Honeywell becomes insolvent as defined in Section 101(32) of the Federal Bankruptcy Code; or

(d) The dissolution, liquidation, merger, consolidation, or reorganization of Honeywell or the institution of any proceeding to effect any of the foregoing, other than under paragraph 84(c) above, and the failure of Honeywell to provide assurance to the Special Master, within 15 days after written notice, that such an event will not impair Honeywell's ability to

carry out the terms of this Consent Decree.

85. **Placement of Proceeds in Court Registry Investment System Account.** In the event that the Special Master draws upon the Chromium Remedy Letter of Credit due to an event of default, the Special Master shall place the proceeds of the Chromium Remedy Letter of Credit which represent the remaining estimated Chromium Remedy costs under paragraphs 77(a)(i), plus a contingency of 25% of the remaining estimated costs under paragraph 77(a)(i), in an account with the Court Registry Investment System in accordance with Local Civil Rule 67.1 and not expend the proceeds of the Letter of Credit without further order of this Court. The Special Master shall place all additional proceeds of the Chromium Remedy Letter of Credit in a trust fund pursuant to paragraph 90(b)(v).

86. **Termination of Chromium Remedy Letter of Credit.** The Chromium Remedy Letter of Credit may be withdrawn in its entirety upon the satisfaction of all of the following:

(a) The implementation of the Chromium Remedy; and

(b) Establishment of long-term financial assurance pursuant to Article III.E.

E. Long-Term Financial Assurances

87. **Long-Term Financial Assurances.** Honeywell shall fund long-term financial assurances to ensure that the activities set forth in paragraph 89(a) are carried out regardless of whether Honeywell is financially able to carry out such activities in perpetuity.

88. **Resolution of the Amount of Long-Term Financial Assurances.** The Parties have agreed to the following options with regard to how the long-term financial assurances shall be determined:

(a) If the Parties agree that the current amount necessary to cover the costs to be subject to long-term financial assurances, as set forth in paragraph 89(b), is $10,000,000 or less,

and agree on the amount of funding needed, Honeywell shall provide long-term financial assurances as required by Article III.E.

(b) If the Parties agree that the current amount necessary to cover the costs to be subject to long-term financial assurances, as set forth in paragraph 89(b), is $10,000,000 or less, but disagree on the amount of funding needed, Honeywell shall provide long-term financial assurances as required by Article III.E except that the dispute as to the amount of the long-term financial assurances shall be submitted to the Special Master pursuant to paragraph 91.

(c) If the Parties do not agree that the current amount necessary to cover the costs to be subject to long-term financial assurances, as set forth in paragraph 89(b), is $10,000,000 or less, or the Parties agree that the current amount necessary to cover the costs to be subject to long-term financial assurances, as set forth in paragraph 89(b), is greater than $10,000,000, the Parties shall seek resolution by the Court of the long-term financial assurances issues, including (i) the type of financial assurances to be provided; (ii) the scope of the financial assurances; (iii) the amount of the financial assurances; and (iv) the duration of the financial assurances. In the event that the Parties seek resolution by the Court, the provisions of paragraphs 90 through 98 shall not apply.

(d) Within 60 days of the entry of this Consent Decree, the Parties shall determine which option under this paragraph shall apply. In the event that the Parties determine that paragraph 88(c) applies, Riverkeeper shall initiate the proceedings by moving the Court for the imposition of long-term financial assurances.

(e) If the Parties determine that they are proceeding under paragraph 88(c), Honeywell shall maintain the Chromium Remedy Letter of Credit required by paragraph 77 in an amount equal to at least $20,000,000 in 2008 dollars until such time as the long-term financial assurances ordered by the Court are in place. In the event of any default by Honeywell pursuant

to paragraph 84 while the Chromium Remedy Letter of Credit is in place, the provisions of paragraph 90(b)(v) for the placement of the proceeds that exceed the remaining estimated Chromium Remedy costs under paragraph 77(a)(i) plus a contingency of 25% of the remaining estimated costs under paragraph 77(a)(i), shall apply.

89. **Costs Subject to Long-Term Financial Assurances.**

(a) Long-term financial assurances shall provide enough funds to cover the costs of the following activities:

(i) Perpetual monitoring and maintenance of the Chromium Remedy, including installation, operation and monitoring of any above-cap-grade gas collection and/or treatment system as may be necessary, but such system is not part of the 100% Design;

(ii) Perpetual operation of the shallow groundwater pump-and-treat remedy;

(iii) Perpetual repair of the cap;

(iv) Perpetual replacement of the cap on a 75-year replacement interval; and

(v) In the event that Honeywell selects a trust fund pursuant to paragraph 90(a), the perpetual administration of the trust fund.

(b) The costs that shall be subject to financial assurances is an amount that will provide the full payment for each of the activities set forth in paragraphs 89(a)(i) through 89(a)(v) plus a 25% contingency when the activities in paragraphs 89(a)(i) through 89(a)(v) are expected to be performed. The costs subject to financial assurances are forward looking because they state an amount valued at the time the funds are needed. As such, they shall be stated in contemporary time as the present value (calculated on the basis of a discount rate of 4.75%) of

the estimated future costs of the activities specified in paragraphs 89(a)(i) through 89(a)(v), plus a 25% contingency on those costs.

90. **Long-Term Financial Assurance Mechanisms.** Honeywell shall provide long-term financial assurances in the amount of the costs subject to long-term financial assurances in the form of a trust fund, a letter of credit, or some combination of the two. The selected mechanism(s) shall satisfy the following requirements:

(a) **Trust Fund.** In the event that Honeywell selects a trust fund, Honeywell shall create a trust fund such that it can provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary.

(i) The trust fund shall be at arm's length from Honeywell and shall not be considered the property of Honeywell or property of the estate in the event of Honeywell's bankruptcy, dissolution, privatization, or sale. The trust fund agreement shall contain the language necessary to assure that neither the trust fund nor the earnings of the trust fund shall be affected or restricted in any way by operation of the automatic stay in 11 U.S.C. 362.

(ii) The trust fund shall be managed by a financial institution domiciled in the United States or by a United States subsidiary of a non-U.S. financial institution acceptable to Riverkeeper and the Jersey City Entities or approved by the Court. In the event that the financial institution managing the trust fund declares bankruptcy, the Court shall withdraw the funds and appoint another financial institution meeting the requirements of this paragraph to manage the trust.

(iii) No more frequently than once per year, Honeywell may apply to the Court for an order directing the trust manager to reimburse Honeywell for any costs that it has incurred to carry out the activities set forth in paragraphs 89(a)(i) through 89(a)(iv).

(b) **Long-Term Letter of Credit.** In the event that Honeywell selects a letter of credit, Honeywell shall obtain a one-year irrevocable letter of credit (the "Long-Term Letter of Credit") to be automatically renewed annually in an amount that provides sufficient funds such that a trust fund, separate from any trust fund created under paragraph 90(a) but satisfying the requirements of paragraph 90(a), could be created. The Long-Term Letter of Credit-funded trust, plus any trust fund established under paragraph 90(a), shall provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary. The amount of any Long-Term Letter of Credit shall therefore be adjusted periodically as the cap replacement interval is approached because, for example, the money needed in the 10th year to fund a trust that can provide for replacement of the cap in the 75th year is much less than the money that would be needed in the 40th year. Such periodic adjustments shall be proposed and approved by the Court in conjunction with the adjustments under paragraph 92.

(i) Neither the Long-Term Letter of Credit nor the proceeds of the Long-Term Letter of Credit shall be considered the property of Honeywell or property of the estate in the event of Honeywell's bankruptcy, dissolution, privatization, or sale. The Long-Term Letter of Credit shall contain the language necessary to assure that neither the Long-Term Letter of Credit nor the proceeds of the Long-Term Letter of Credit shall be affected or restricted in any way by operation of the automatic stay in 11 U.S.C. 362.

(ii) The Long-Term Letter of Credit shall be issued by a financial institution domiciled in the United States or by a United States subsidiary of a non-U.S. financial institution acceptable to Riverkeeper and the Jersey City Entities or approved by the Court. In the event that the financial institution issuing the Long-Term Letter of Credit declares bankruptcy, the Court shall authorize the drawing of funds from the Long-Term Letter of Credit

and shall deposit those funds in a trust fund, separate from any trust fund created under paragraph 90(a) but satisfying the requirements of paragraph 90(a).

(iii) The provisions of the Uniform Customs and Practice ("UCP") for Documentary Credits (1993 Revision) International Chamber of Commerce Publication #500 and New York law shall apply to the Long-Term Letter of Credit.

(iv) The Long-Term Letter of Credit shall be automatically renewed annually, unless, no later than 120 days prior to the anniversary of the Long-Term Letter of Credit issue date, the issuer provides notice of non-renewal. If the issuer provides notice of non-renewal, Honeywell shall obtain a replacement irrevocable Long-Term Letter of Credit at least 95 days prior to the expiration date of the existing Long-Term Letter of Credit. If Honeywell is not otherwise in default as provided in this Article, the Court shall direct the cancellation of the prior Long-Term Letter of Credit within 91 days after delivery to the Court of any replacement of a Long-Term Letter of Credit. In the event that the Court is entitled to draw upon a Long-Term Letter of Credit when there are two Letters of Credit currently in place, the Court shall not draw an aggregate amount in excess of the highest valued Long-Term Letter of Credit.

(v) Prior to the expiration of the Special Master's appointment pursuant to paragraph 76, the Long-Term Letter of Credit shall be payable to the Special Master. During the time the Long-Term Letter of Credit is payable to the Special Master, the Special Master may draw on the Long-Term Letter of Credit as provided in paragraph 84. In the event that the Special Master draws upon the Long-Term Letter of Credit due to an event of default, the Special Master shall place the proceeds of the Long-Term Letter of Credit in a trust fund, separate from any trust fund created under paragraph 90(a) but satisfying the requirements of paragraph 90(a). After the Special Master's appointment expires pursuant to paragraph 76, the Long-Term Letter of Credit shall be payable to the Court and, in the event that the Court draws

on the Long-Term Letter of Credit, the Court shall place the proceeds of the Long-Term Letter of Credit in a trust fund, separate from any trust fund created under paragraph 90(a) but satisfying the requirements of paragraph 90(a).

(vi) Whether the Long-Term Letter of Credit is payable to the Special Master or the Court, it shall not, prior to its expiration date, be revoked or terminated by Honeywell except consistent with this Consent Decree and with the approval of the Court. The ability of the Special Master or the Court to draw upon the Long-Term Letter of Credit shall not be limited by any agreement between Honeywell and the issuer.

(vii) In the event that the Long-Term Letter of Credit is drawn upon and invested pursuant to paragraph 90(b)(ii), 90(b)(v) or 95 and Honeywell has also selected a trust fund pursuant to paragraph 90(a), resulting in the existence of two trust funds, the two trust funds shall be managed so as to ensure that the combined amount of the trust funds is sufficient to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary.

(c) **Combination.** Honeywell may use some combination of a trust fund and a letter of credit to achieve the requirements of this paragraph. However, if a combination is used, Honeywell shall ensure that the combined amount of financial assurances is sufficient to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary. The trust fund and the letter of credit shall otherwise satisfy all the requirements of paragraphs 90(a) and 90(b).

91. **Procedures for Review of the Proposed Long-Term Financial Assurances.** In the event that the Parties have determined that they are proceeding pursuant to paragraph 88(a) or 88(b), no later than 120 days after the determination under paragraph 88(d), Honeywell shall submit to Riverkeeper, the Jersey City Entities, and the Special Master, for their review (a) the

amount of the proposed long-term financial assurances; (b) the form(s) of the proposed long-term financial assurance mechanisms; and (c) the name(s) of the institution proposed to manage or issue the long-term financial assurances. If Riverkeeper and the Jersey City Entities agree to the terms of the proposed long-term financial assurances, within 60 days of such agreement, Honeywell shall create a trust fund and/or secure a Long-Term Letter of Credit on those terms. If the Parties are unable to reach agreement over the terms of the long-term financial assurances, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. Any Party shall have the right to seek review by the Court of the Special Master's recommendation regarding the terms of the financial assurances. In any event, until the long-term financial assurances have been put into place, Honeywell shall maintain the Chromium Remedy Letter of Credit and the requirements of paragraphs 88(e) and 90(b)(v) shall apply to the Chromium Remedy Letter of Credit.

92. **Adjustment of Amount Held in Long-Term Financial Assurances.** Every five years as marked from the establishment of the first long-term financial assurances pursuant to paragraph 90, the Parties shall report to the Court whether the long-term financial assurances are adequately funded to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary. At such time as the Parties report to the Court, any Party may seek an adjustment in the amount of the long-term financial assurances. The Party seeking an adjustment must demonstrate that the long-term financial assurances are under-funded or over-funded to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary. Such demonstration shall reflect the actual costs of implementing the remedy and/or any replacement of the remedy, once such actual costs are available. The demonstration shall also reflect the costs of work completed to date and the actual lifetime of the cap, once the

cap has been replaced or has passed a replacement interval without requiring replacement. The demonstration shall further reflect the actual performance of the fund and its ability to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary. Any demonstration shall be forward looking and shall be based upon estimates of what the activities in paragraphs 89(a)(i) through 89(a)(v) are expected to cost at the time they must be performed and the amount of funding projected to be available to undertake such activities at the time they must be performed. If, after reviewing the submission(s) received from the Parties, the Court determines that the long-term financial assurances are under-funded or over-funded to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary, the Court shall order an adjustment in the amount held in the long-term financial assurances to overcome the shortage or overage. In the event that the Court determines that the long-term financial assurances are under-funded, it shall order Honeywell to increase the amount held in the long-term financial assurances. In the event that the Court determines that any trust fund established pursuant to paragraph 90(a) is over-funded, the Court shall issue an order directing the trust manager to pay the overage to Honeywell. In the event that the Court determines that the Long-Term Letter of Credit is over-funded, the Court shall issue an order permitting Honeywell to reduce the amount covered during the next annual renewal of the Long-Term Letter of Credit pursuant to paragraph 90(b)(iv). Any adjustment to the amount of the Long-Term Letter of Credit pursuant to this paragraph shall be in addition to any adjustment of the amount of the Long-Term Letter of Credit required pursuant to paragraph 90(b).

93. **Exclusive Court Jurisdiction.** The trust fund agreement and/or the Long-Term Letter of Credit shall recite that the trust fund manager and/or issuer of the Long-Term Letter of Credit submit to the exclusive jurisdiction of this Court for any and all disputes arising under the

trust fund or the Long-Term Letter of Credit. The requirements of this paragraph shall apply whether the trust fund is established pursuant to paragraph 90(a), 90(b)(ii), 90(b)(v), or 95.

94. **Procedures upon Honeywell's Material Default of Its Obligations after the Special Master's Appointment Has Expired.** Upon the occurrence of default by Honeywell, after the Special Master's appointment has expired, Riverkeeper or the Jersey City Entities may move the Court on an expedited basis for an order to withdraw funds from the trust fund or to draw on the Long-Term Letter of Credit. Default shall include:

(a) The failure of Honeywell, in the event that notice is given pursuant to paragraph 90(b)(iv) to deliver a replacement Long-Term Letter of Credit at least 95 days prior to the expiration date of the existing Long-Term Letter of Credit;

(b) The material failure of Honeywell to proceed with diligence and in good faith to carry out the terms of this Consent Decree and the continuance of such a material breach for a period of 30 days after written notice by Riverkeeper or the Jersey City Entities to Honeywell of the alleged material failure, unless Honeywell cures the alleged breach within the 30-day notice period or such longer period as the Parties may agree to or the Court may order;

(c) The filing by Honeywell of a petition seeking relief, or the granting of relief, under the Federal Bankruptcy Code or any similar federal or state statute; any assignment for the benefit of creditors made by Honeywell; the involuntary filing of any of the foregoing against Honeywell if the involuntary filing is not dismissed within 60 days; the appointment of a custodian, receiver, liquidator, trustee, or other similar official for Honeywell or for a substantial part of Honeywell's property; any action by Honeywell to effect any of the foregoing; or if Honeywell becomes insolvent as defined in Section 101(32) of the Federal Bankruptcy Code; or

(d) The dissolution, liquidation, merger, consolidation, or reorganization of Honeywell or the institution of any proceeding to effect any of the foregoing, other than under

paragraph 94(c), if Honeywell fails to provide assurance to Riverkeeper, the Jersey City Entities, and the Court, within 15 days after written notice, that such an event will not impair Honeywell's ability to carry out the terms of this Consent Decree.

95. **Drawing on the Long-Term Letter of Credit in the Event of Honeywell's Default.** If the Court grants any motion by Riverkeeper or the Jersey City Entities pursuant to paragraph 94 to draw on the Long-Term Letter of Credit, the sum approved by the Court's order granting the motion shall be paid from the Long-Term Letter of Credit into a trust fund, separate from any trust fund created under paragraph 90(a) but satisfying the requirements of paragraph 90(a).

96. **Use of the Trust Fund in the Event of Honeywell's Default**. In the event of Honeywell's default, the money in the trust fund established pursuant to paragraph 90(a) shall be available to meet the obligations of paragraph 89(a). Riverkeeper and/or the Jersey City Entities shall file motions with the Court seeking orders directing how the money in the trust fund shall be used. The Court shall consider motions on an expedited basis and shall enter appropriate orders. The Court may enter an order allowing for automatic withdrawal of regular expenses without separate motion to the Court by Riverkeeper or the Jersey City Entities.

97. **Use of a Trust Fund Established Pursuant to Paragraph 85, 90(b)(ii), 90(b)(v), or 95.** In the event that a trust fund is established pursuant to paragraph 85, 90(b)(ii), 90(b)(v), or 95, the money in the trust fund shall be available to meet the obligations of paragraph 89(a). Riverkeeper and/or the Jersey City Entities shall file motions with the Court seeking orders directing how the money in the trust fund shall be used. The Court shall consider motions on an expedited basis and shall enter appropriate orders. The Court may enter an order allowing for automatic withdrawal of regular expenses without separate motion to the Court by Riverkeeper or the Jersey City Entities.

98. **Termination of the Long-Term Financial Assurances.** Honeywell's obligations

under Article III.E shall be terminated and the long-term financial assurance mechanisms shall be terminated when the Court finds that no hexavalent or total chromium contamination remains in the AOC 1 Open Space Area or on the Site, whether in soils or in groundwater, in excess of the levels specified for Unrestricted Use in the NJDEP Chromium Directive or any more restrictive standards for Unrestricted Use in place at the time, whichever is more restrictive. Upon determining that long-term financial assurances may be terminated, the Court shall order that any Long-Term Letter of Credit may be withdrawn in its entirety and any trust fund may be terminated. In conjunction with its order terminating any trust fund, the Court in its discretion shall designate a recipient(s) of any remaining trust funds.

ARTICLE IV: IMPLEMENTATION SCHEDULE AND TERMINATION

99. **Schedule for Remedy and Site Preparation Implementation Activities.** The Chromium Remedy under Article III and the Historic Fill Remedy under Article II.B of the Jersey City/Honeywell Consent Order and Site Preparation Activities under Article III of the Jersey City/Honeywell Consent Order shall be undertaken by the Parties in accordance with the following anticipated schedule, recognizing that this schedule may be further modified in writing by agreement of the Parties and with the approval of the Court:

(a) By October 1, 2008, the Jersey City Entities and Honeywell shall develop a Site Preparation Plan, pursuant to paragraph 3.2 of the Jersey City/Honeywell Consent Order, for all Site Preparation Activities necessary to undertake the Chromium Remedy;

(b) No later than June 18, 2009, Honeywell shall submit to NJDEP a remedial design document for the Chromium Remedy;

(c) No later than September 1, 2009, Honeywell shall submit all applications for permits and authorizations for the performance of the Chromium Remedy to all appropriate local, state, and federal government entities;

(d) Honeywell shall use its best efforts to complete the Chromium Remedy no later than four years after all appropriate applications and authorizations for the performance of the Chromium Remedy have been obtained;

(e) By May 1, 2008, Honeywell and the Jersey City Entities shall submit a work plan for further Remedial Investigation for AOC 2 to NJDEP; and

(f) By December 1, 2008, Honeywell and the Jersey City Entities shall submit a Remedial Action Selection Report and Remedial Action Workplan for the Historic Fill Remedy set forth in Article II.B of the Jersey City/Honeywell Consent Order. The Workplan shall contain a schedule for implementation of the Historic Fill Remedy.

100. **Termination of this Consent Decree.** This Consent Decree shall terminate upon the withdrawal of any Party as provided for in this paragraph. Any Party may elect to withdraw from this Consent Decree due to the occurrence of one or more of the following events, provided that such Party provides written notice of withdrawal to the other Parties pursuant to paragraph 108:

(a) The Court fails to enter the Jersey City/Honeywell Consent Order or this Consent Decree or either the Jersey City/Honeywell Consent Order or this Consent Decree is determined to be invalid on appeal;

(b) JCRA fails to take those actions required under paragraphs 4.11(a), (b), and (c) of the Jersey City/Honeywell Consent Order within nine months of entry of this Consent Decree; or

(c) JCRA fails to approve a Redevelopment Agreement between Bayfront Redevelopment LLC and JCRA pursuant to paragraph 4.11(e) of the Jersey City/Honeywell Consent Order within 12 months of entry of this Consent Decree.

101. **Procedures for Withdrawal and Termination.** Any Party electing to withdraw pursuant to paragraph 100 and thereby terminate this Consent Decree shall provide written notice of such withdrawal and termination to all other Parties within 30 days of the occurrence giving rise to the decision to withdraw. If any Party objects to termination of the Consent Decree, or believes that the conditions set forth in paragraph 100 have not been met, such objecting Party may move the Court for an expedited hearing on the issue of whether the conditions for termination have been effectuated.

102. **Good-Faith Obligation to Avoid Termination.** The Parties agree that they will each endeavor to fulfill the terms of this Consent Decree, that they will work diligently and in good faith to meet their obligations hereunder, and that they will promptly and timely take all reasonable steps to give effect to this Consent Decree and to avoid termination under paragraph 100.

103. **Effect of Termination.** If this Consent Decree is terminated pursuant to paragraph 100, the Consent Decree shall no longer be binding on the Parties and shall be of no further effect. In the event that this Consent Decree is terminated by one or more Parties pursuant to paragraph 100, each Party to this Consent Decree reserves all of its rights, claims, and defenses (both legal and factual) against the other Parties with respect to the matters at issue in the Consolidated Litigation and each Party remains free to pursue such rights, claims, and defenses.

ARTICLE V: ADDITIONAL PROVISIONS RELATED TO HISTORIC FILL AND SITE PREPARATION AND REDEVELOPMENT

104. **Historic Fill Remedy**. This Consent Decree shall adopt and incorporate the terms of Article II.B of the Jersey City/Honeywell Consent Order with respect to the Historic Fill Remedy. The Historic Fill Remedy shall not be limited to the activities set forth in Article II.B of the Jersey City/Honeywell Consent Order in the event that NJDEP requires a more extensive remedy. The Historic Fill Remedy shall be compatible with the Chromium Remedy such that no

part of the Historic Fill Remedy shall interfere with the installation, maintenance, and monitoring of the Chromium Remedy. In addition, the Historic Fill Remedy for any discharge of non-chromium contaminants to the Hackensack River shall not interfere with the remedies under the Sediment Consent Order, including the source control remedies. In the event that Jersey City conducts the Historic Fill Remedy instead of Honeywell, the terms of this paragraph shall still apply.

105. **Oversight of Historic Fill Remedy**. Paragraph 2.11 of the Jersey City/Honeywell Consent Order shall apply only to the Historic Fill Remedy, not the Chromium Remedy. The Progress Reports provided for in paragraphs 2.12 and 3.7 of the Jersey City/Honeywell Consent Order shall be provided to Riverkeeper and the Special Master at the time they are submitted.

106. **Transfer of Title of Study Areas 6 North and 7 to and from Bayfront Redevelopment LLC**. The transfer of title of Study Area 6 North and Study Area 7 properties to Bayfront Redevelopment LLC pursuant to the Jersey City/Honeywell Consent Order and any subsequent transfers shall not impede Honeywell's obligations to (a) complete the remediation of Study Area 7 and implement the Final Judgment and subsequent orders in *ICO v. Honeywell* or (b) complete the Chromium Remedy and conduct long-term monitoring and fulfill its other obligations set forth in this Consent Decree. Such transfers of Study Areas 6 North and Study Area 7 shall not include a transfer of Honeywell's obligations to implement the Final Judgment and subsequent orders in *ICO v. Honeywell* or a transfer of Honeywell's obligations under this Consent Decree, but shall include a right of access or any other right required by Honeywell to complete the remediation. Any subsequent transfer of Study Area 6 North or Study Area 7 from Bayfront Redevelopment LLC to a redeveloper or other party shall provide all necessary agreements to allow Honeywell all necessary access to Study Area 6 North and Study Area 7 for purposes of completing Honeywell's obligations with respect to Study Area 6 North under this

Consent Decree and completing the Study Area 7 remediation and implementing the Final Judgment and subsequent orders in *ICO v. Honeywell.*

107. **Dispute Resolution Procedures.** The provisions of Article VIII of the Jersey City/Honeywell Consent Order do not apply to any disputes regarding or impacting the Chromium Remedy, which shall be resolved as provided in paragraph 72. The provisions of Article VIII of the Jersey City/Honeywell Consent Order shall apply to disputes between the Jersey City Entities and Honeywell regarding the Historic Fill Remedy and other obligations provided in the Jersey City/Honeywell Consent Order, except to the extent that such disputes may affect the Chromium Remedy. If any such dispute may affect the Chromium Remedy, it shall be resolved as provided in paragraph 72. Honeywell shall provide Riverkeeper with a copy of each notice of any breach provided under paragraph 8.1 of the Jersey City/Honeywell Consent Order within 10 days of Honeywell's receipt or issuance of such notice. Honeywell shall provide Riverkeeper with a copy of any written resolution of a dispute pursuant to paragraph 8.2 within 10 days of the resolution.

ARTICLE XI: NOTICE

108. **Notice.** Any and all notices given in connection with this Consent Decree shall be deemed adequately given only if in writing and addressed to the Party for whom such notices are intended at the addresses set forth in this paragraph. All notices shall be sent by Federal Express or other nationally recognized overnight messenger service or by first-class registered or certified mail, postage prepaid, return receipt requested. A written notice shall be deemed to have been given to the recipient party on the earlier of (a) the date it shall be delivered to the address set forth in this paragraph; (b) the date delivery shall have been refused at the address set forth in this paragraph; or (c) with respect to notices sent by mail, the date as of which the postal service shall have indicated such notice to be undeliverable at the address set forth in this paragraph.

Any and all notices referred to in this Consent Decree, or which any Party desires to give to the other, shall be addressed as follows:

If to Honeywell and/or
Bayfront Redevelopment LLC :

Tom Byrne, Esq.
Honeywell International Inc.
101 Columbia Road
Morristown, NJ 07962
(973) 455-2775

With copies to:

John Morris
Honeywell International Inc.
101 Columbia Road
Morristown, NJ 07962
(973) 455-4003

If to Riverkeeper:

Bruce J. Terris
Carolyn Smith Pravlik
Kathleen L. Millian
Terris, Pravlik & Millian, LLP
1121 12th St., N.W.
Washington, DC 20005-4632
(202) 682-2100

If to Jersey City:

William Matsikoudis
Corporation Counsel
City of Jersey City
280 Grove Street
Jersey City, NJ 07305
(201) 547-4667

If to JCIA:

David L. Isabel
Golub & Isabel, PC
160 Littleton Road
Parsippany, NJ 07054
(973) 968-3377

If to JCMUA:

Sam Della Fera Jr.
Trenk, DiPasquale, Webster,
Della Ferra & Sodono, P.C.
347 Mount Pleasant Ave.
West Orange, NJ 07052
(973) 243-8600

If to JCRA:

Robert Antonichello
Executive Director
30 Montgomery Street
Jersey City, NJ 07302
(201) 547-5810

Any party may change its designated recipients or addresses for notice in this paragraph by providing written notice of such change to all other Parties.

ARTICLE XII: RIVERKEEPER'S ATTORNEYS' FEES

109. **Payment of Past Fees and Expenses.** Within 30 days of the entry of this Consent Decree, Honeywell shall pay Terris, Pravlik & Millian, LLP the sum of $1,513,217.15 which represents the following:

(a) A compromise of the attorneys' fees incurred by Riverkeeper in the litigation of Study Area 6 North portion of *Riverkeeper v. Honeywell* through March 27, 2008; and

(b) $187,862.27 in out-of-pocket expenses representing 50% of the expenses incurred by Riverkeeper in *Riverkeeper v. Honeywell* from the inception of the litigation after deducting the expenses to be paid pursuant to the Sediment Consent Order.

Payment of the sum of $1,513,217.15 shall be in full satisfaction of all obligations, duties, and responsibilities of Honeywell with respect to the $1,556,747.46 in fees and expenses that Riverkeeper claimed with regard to the above described fees and expenses.

110. **Future Fees and Expenses.** Honeywell shall reimburse Riverkeeper's attorneys for reasonable fees and expenses incurred: (a) in negotiating this Consent Decree after March 27, 2008; (b) in the monitoring and enforcement of this Consent Decree; and (c) in participation in the Special Master process established pursuant to this Consent Decree. Honeywell shall also reimburse Riverkeeper for reasonable attorneys' fees and expenses for Riverkeeper's review of and participation in the Long-Term Monitoring Plan and monitoring and enforcement of this Consent Decree following the term of the Special Master. In the event that any dispute arises between the Parties under this Consent Decree that must be resolved by the Court, Riverkeeper shall be entitled to recover its attorneys' fees and expenses for litigation of the dispute to the extent allowed by federal law. Riverkeeper and Honeywell shall use the same informal procedure for attempting to settle fees issues as has been used for post-judgment monitoring fees in *ICO v. Honeywell*. In the event that Riverkeeper and Honeywell are unable to reach a

settlement on fees, Riverkeeper shall apply to the Court for an award of attorneys' fees and expenses. If Honeywell objects to only a portion of the Riverkeeper's statement of attorneys' fees and expenses, Honeywell shall pay the undisputed portion within 60 days of Riverkeeper's submittal of the statement to Honeywell. The Court shall resolve any objections to Riverkeeper's statement of attorneys' fees and expenses and shall enter an appropriate Order.

ARTICLE XIII: MISCELLANEOUS PROVISIONS

111. **Force Majeure.** Force Majeure, for the purposes of this Consent Decree, is defined as an event arising from causes beyond the control of any Party or Parties (or their agents, contractors, subcontractors, representatives, or assigns) which could not have been overcome by reasonable diligence and which delays or prevents the performance of any obligation under this Consent Decree. Examples of events which may constitute force majeure include the refusal of any federal or state governmental authority to grant a permit or authorization necessary for the completion of actions required by this Consent Decree, floods, hurricanes, tornadoes, and other extraordinary weather events, earthquakes and other natural disasters, terrorist attacks, war, and other national emergencies. Examples of events that are not force majeure events include normal inclement weather, increased costs or expense, the failure to timely and fully apply for a permit or authorization necessary for the completion of actions required by this Consent Decree, or financial difficulty of any Party. The Party claiming force majeure shall bear the burden of showing an event was a force majeure event.

112. **JCRA and Bayfront Redevelopment LLC as Parties.** As signatories to this Consent Decree, JCRA and Bayfront Redevelopment LLC subject themselves to the Court's jurisdiction for the purpose of enforcing this Consent Decree and agree to be bound by this Consent Decree. This Consent Decree shall be fully enforceable against JCRA and Bayfront Redevelopment LLC.

113. **Successors and Assigns.** This Consent Decree shall be binding upon and shall inure to the benefit of the successors, assigns, heirs, corporate parents, subsidiaries, and affiliates of each Party. No assignment or delegation of the obligations hereunder shall release the assigning Party from its obligations under this Consent Decree.

114. **Successors to Hackensack Riverkeeper, Inc.** In the event that Hackensack Riverkeeper, Inc. disbands or otherwise ceases operations, it shall assign its rights under this Consent Decree to another qualified nonprofit organization. A nonprofit organization shall be qualified for assignment under this Consent Decree if it is a charitable organization under Section 501(c)(3) of the Internal Revenue Code or its substantial equivalent and has an established record of working to enhance or preserve the ecology, natural habitat, or environment. Any such assignment shall be subject to approval by the Court and Honeywell shall have the right to object to any proposed assignment. Any successor organization shall have the duty to assign its rights under this Consent Decree to another qualified nonprofit organization in the event that the successor disbands or otherwise ceases operations. In the event that a successor is not appointed at any given time, the New Jersey Attorney General or equivalent officer shall appoint a successor subject to approval by the Court and objection by Honeywell.

115. **Reservation of Rights and Claims**. Except as set forth expressly herein, this Consent Decree does not affect in any way any of the Parties' claims or defenses against third parties who have not signed the Consent Decree.

116. **Governing Law and Continuing Jurisdiction.** The Court shall retain jurisdiction over the matters addressed in this Consent Decree for purposes of enabling the Parties to apply to the Court for any further order as may be necessary to construe, carry out, or enforce the terms of this Consent Decree. This Consent Decree shall be interpreted and enforced under the laws of

the United States and the State of New Jersey by the United States District Court for the District of New Jersey.

117. **Construction.** Questions regarding the interpretation of this Consent Decree shall not be resolved against any Party on the ground that this Consent Decree has been drafted by that Party. This Consent Decree is the result of review, negotiation, and compromise by each Party.

118. **Authority to Enter into Agreement.** The undersigned representative for each Party represents, certifies, and warrants that he or she is duly authorized by the Party whom he or she represents to enter into the terms of this Consent Decree and bind such Party legally to this Consent Decree.

119. **Measures to Effectuate This Consent Decree.** The Jersey City Entities and JCRA shall take all appropriate steps to ensure that this Consent Decree has been (and that actions required hereunder will be) duly considered, ratified, and approved. Such steps include consideration of this Consent Decree at a meeting of the City Council, open to the public, at which members of the public have the opportunity to comment on all aspects of the Settlement, including the commitments made by Jersey City; and consideration by and approval of the commissioners of the JCIA, JCMUA, and JCRA.

120. **Modifications.** This Consent Decree may be modified by mutual agreement of the Parties but such agreement must be in writing, duly and properly signed by all Parties, and shall be submitted to the Court for approval.

121. **Severability.** Each of the provisions in paragraph 60 of this Consent Decree shall be deemed severable and, in the event that one or more of such provisions is deemed invalid or unenforceable, it shall not affect the validity or enforceability of the other provisions of the Consent Decree.

122. **Signatures.** This Consent Decree may be signed simultaneously or in counterparts by the respective signatories, which shall be as fully valid and binding as if a single document was signed by all of the signatories. This Consent Decree may be signed electronically by any or all signatories, and such electronic signature shall be as fully valid and binding as a hand-written signature.

Consented to and approved for entry:

s/Aurelio Vincitore

William Matsikoudis
Aurelio Vincitore
Corporation Counsel
City of Jersey City
280 Grove Street
Jersey City, NY 07305
(201) 547-4667

Counsel for the City of Jersey City

s/David L. Isabel

David L. Isabel
Golub & Isabel, PC
160 Littleton Road
Parsippany, NJ 07054
(973) 968-3377

Counsel for Jersey City Incinerator Authority

s/ Joni Noble McDonnell

Joni Noble McDonnell
Genova, Bruns & Giantomasi
4974 Broad Street
Newark, NJ 07102
973-535-4435

Counsel for Jersey City Municipal Utilities Authority

Robert Antonichello
Executive Director
30 Montgomery Street
Jersey City, NJ 07302
(201) 547-5810

Executive Director of Jersey City Redevelopment Agency

s/ David Sheehan

David Sheehan
Baker Hostetler
45 Rockefeller Plaza
11th Floor
New York, NY 10111
(212) 589-4200

Michael D. Daneker
Arnold & Porter LLP
555 12th Street N.W.
Washington, DC 20004
(202) 942-5000

Counsel for Honeywell International Inc. and Bayfront Redevelopment LLC

s/ Edward Lloyd

Edward Lloyd
Columbia Law School
435 West 116th Street, Room 831
New York, NY 10027
(212) 854-4376

Bruce J. Terris
Carolyn Smith Pravlik
Kathleen L. Millian
Terris, Pravlik & Millian, LLP
1121 12th Street N.W.
Washington, DC 20005-4632
(202) 682-2100

Counsel for the Hackensack Riverkeeper, William Sheehan, Reverend Winston Clarke, and Lawrence Baker

APPROVED AND ENTERED as an Order of this Court this ___ day of _____, 2012.

_____
Hon. Dennis M. Cavanaugh
United States District Judge

EXHIBITS

Exhibit A: Jersey City/Honeywell Consent Order

Exhibit B: Remedial AOC's and Remedial Approach Map

Exhibit C: NJDEP Chromium Policy

Exhibit D: Conservation Restriction

Exhibit E: Deed Notice

Deed Notice

Dated: _____, 2017

BAYFRONT REDEVELOPMENT LLC

Grantor(s).

Record and return to:

Waters, McPherson, McNeill, P.C.
P.O. Box 1560
300 Lighting Way
Secaucus, New Jersey 07096-1560

ATTN: _____, Esq

DRAFT DEED NOTICE

IN ACCORDANCE WITH N.J.S.A. 58:10B-13, THIS DOCUMENT IS TO BE RECORDED IN THE SAME MANNER AS ARE DEEDS AND OTHER INTERESTS IN REAL PROPERTY.

Prepared by: _____
[Signature]

_____
[Bayfront Redevelopment, LLC]

Recorded by:

_____
[Signature, Officer of County Recording Office]

_____
[Print name below signature]

DEED NOTICE CONCERNING CONTROLS INSTALLED FOR CHROMIUM CONTAMINATION UNDERLYING THE PROPERTY

This Deed Notice is made as of the __ day of _____, 2017, by ***Jersey City Municipal Utilities Authority ("JCMUA") whose mailing address is 555 NJ Route 440, Jersey City, NJ 07304***. "Owner" shall mean JCMUA, together with its successors and assigns, including all successors in interest in the Property which is the subject of this Deed Notice as described fully below. The "Property" (also referenced herein as the "Restricted Area(s)") shall consist of those lands particularly described by metes and bounds in Exhibit A-2 attached hereto.

1. THE PROPERTY. JCMUA is the current owner in fee simple of certain real property designated as a portion of ***Block 21901, Lot 10 on the tax map of the City of Jersey City, Hudson County, New Jersey***[1]. The New Jersey Department of Environmental Protection ("NJDEP") Program Interest ("PI") Number for the contaminated site which includes this property is ***Hudson County Chromate Site No. 087 PI # G000008710*** (NJDEP PI# for non-chromium-related contaminants at the Property is #745719). The Property is also part of the as Site 087 pursuant to the First Amended Consent Decree Regarding the Remediation and Redevelopment of Study Area 6 North ("Consent Decree") which is attached hereto as Appendix I and is entered as an order of

[1] All references to Block 21901 Lot 10 in this Deed Notice shall mean the applicable portions of Block 21901 Lot 10 as shown in the metes and bounds description, regardless of whether the word "portion(s)" is specifically called out or not.

the Court in the following consolidated actions *JCMUA v. Honeywell International, Inc.,* D.N.J., Civ. No. 05-05955; *JCIA v. Honeywell International, Inc.,* D.N.J., Civ. No. 05-5993; and *Hackensack Riverkeeper, Inc. v. Honeywell International, Inc.,* D.N.J., Civ. No. 06-22 (consolidated under Civ. No. 95-2097). The Consent Decree restricts transfer, use and development of the Property. To the extent that there is any conflict or inconsistency between the terms of this Deed Notice and the terms of the Consent Decree, the Consent Decree shall govern.

2. REMEDIATION.

i. The Department's Bureau of State Case Management ("BCM") is the entity within the Department that is responsible for the oversight of the remediation of the SA-6 North. The matter is Case No. Hudson County Chromate Site No. 087 PI# G000008710. The Department has approved this Deed Notice as an institutional control for the Property, which is part of the remediation of the Property.

ii. N.J.A.C. 7:26-C-7 requires the Owner, among other persons, including the responsible party Honeywell International Inc. ("Honeywell"), to obtain a soil remedial action permit for the soil remedial action at the Property. That permit will contain the monitoring, maintenance and biennial certification requirements that apply to the Property.

3. SOIL AND GROUNDWATER CONTAMINATION. Honeywell, a corporation of the State of Delaware, licensed to do business in the State of New Jersey whose post office address is 115 Tabor Road, Morris Plains, New Jersey 07950, has remediated SA-6 North to address chromium-related soil and shallow groundwater contamination, except for the Property and certain other deed noticed areas where engineering controls were implemented. The Remedial Action Work Plan ("RAWP") was approved by the Department on February 19, 2009 for Hudson County Chromate Site Nos. 087 and 088, which included portions of the Property. Remedial actions were further approved pursuant to the Consent Decree.

Under both the Consent Decree and the RAWP soil contamination remains in the Property at concentrations that do not allow for the unrestricted use of the Property. A Remedial Action Report ("RAR") for SA-6 North was submitted to the Department on March 16, 2017. The Department approved the RAR on June 1, 2017. A Construction Completion Report ("CCR") for SA-6 North to document the implementation of the Chromium Remedy pursuant to Article III of the Consent Decree (the "Chromium Remedy") to address chromium-impacted soil and groundwater for SA-6 North was entered by the Court on [DATE], [CITE TO DOCKET AND DOCKET #].

The Property encompasses the In-situ Treatment Area 7 ("TA-7"), an area where a limited amount of shallow soils exceeds 20 milligrams per kilogram ("mg/kg") for hexavalent chromium. This area includes chromium only. This area consists of aboveground storage tanks connected by underground piping to a pump island with fuel-dispensing cabinets/pumps which JCMUA uses to fuel vehicles. To prevent disruption to the JCMUA fueling system and due to the depth of chromium-impacted soil and the proximity of the nearby 72-inch forcemain, in-situ treatment was implemented in this area in lieu of excavation. The in-situ treatment reduced the chromium-impacted soils to below 20 mg/kg for hexavalent chromium throughout the area except for at one recalcitrant location which is an approximately 559 square foot area. As part of facility upgrades,

JCMUA plans on relocating their fueling system. Once they do, the limited area where hexavalent chromium soil remains above 20 mg/kg will be excavated and the deed notice terminated consistent with paragraph 13 below. In the meantime, the provisions of the Long Term Monitoring Plan ("LTMP"), developed pursuant to the Consent Decree, will apply to the Property.

The soil contamination is described, including the type, concentration and specific location of such contaminants, in Exhibit B, which is attached hereto and made a part hereof. Groundwater contaminant concentrations and restrictions for SA-6 North in its entirety are addressed in the Classification Exception Area (CEA) approved by the NJDEP on February 16, 2012 and in a forthcoming Remedial Action Permit for Groundwater (recent groundwater samples for the Property do not indicate shallow groundwater contamination). As a result of the remaining soil contamination, there is a statutory requirement for this Deed Notice and engineering controls in accordance with N.J.S.A. 58:10B-13. Under the terms of the Consent Decree and this Deed Notice, Honeywell is responsible for monitoring and maintaining the soil remediation for the Property in perpetuity or until remediation is implemented that renders this Deed Notice unnecessary.

4. CONSIDERATION. In accordance with the Department's approval of the chromium RAWP for the remediation for the Hudson County Chromate Site Nos. 087 and 088 which includes the Property, and in consideration of the terms and conditions of that approval, and in accordance with the Consent Decree, and other good and valuable considerations, Owner has agreed to subject the Property to certain statutory and regulatory requirements which impose restrictions upon the use of the Property, to restrict certain uses of the Property, and to provide notice to subsequent owners, lessees and operators of the restrictions and the monitoring, maintenance, and biennial certification requirements outlined in this Deed Notice and required by law, as set forth herein.

5A. RESTRICTED AREAS. Due to the presence of these contaminants, Owner has agreed, as part of the remedial action for the Property, to restrict the use of the Property (the "Restricted Areas"); a narrative description of these restrictions, along with the associated monitoring and maintenance activities and the biennial certification requirements are provided in Exhibit C, which is attached hereto and made a part hereof. Owner will develop a binder containing a list of these restrictions which will be maintained at either the onsite trailers or within the Groundwater Treatment Plant building, available for review and inspection by governmental enforcement officials if requested.

5B. RESTRICTED LAND USES. The following land use restrictions apply to the Property:

i. The Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-12.g(10), prohibits the conversion of a contaminated site, remediated to non-residential soil remediation standards that require the maintenance of engineering or institutional controls, to a child care facility, or public, private, or charter school without the Department's prior written approval, unless a presumptive remedy is implemented;

ii. The Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-12.g(12), prohibits the conversion of a landfill, with gas venting systems and or leachate collection systems, to a single-family residence or a child care facility without the Department's prior written approval; and

iii. The Consent Decree, paragraph 53, prohibits the unrestricted use of the Property until the Chromium Remedy set forth in Article III of the Consent Decree is implemented and the concentration of hexavalent chromium in soil is less than 20 mg/kg to a depth of 20 feet below ground surface.

5C. ENGINEERING CONTROLS. Due to the presence and concentration of these contaminants, the Owner has also agreed, as part of the remedial action for the Property, to the placement of certain engineering controls within the Property. The engineering controls include clean cover materials to a depth of at least two-feet below ground surface. A narrative description of these engineering controls, along with the associated monitoring and maintenance activities and the biennial certification requirements are provided in Exhibit C. Honeywell shall be responsible for monitoring and maintenance of engineering controls and biennial certification requirements as specified in the Consent Decree, LTMP, and Paragraphs 8A and 8B herein.

5D. LONG TERM MONITORING PLAN. Pursuant to the Consent Decree, Honeywell has developed an LTMP pursuant to the Consent Decree which sets forth requirements for monitoring, maintaining, and repairing or replacing the soil and groundwater chromium remedial measures including engineering controls within the Property, and requirements for notification and reporting pursuant to the Consent Decree, Deed Notice, and Soil Remedial Action Permit. A copy of the LTMP is maintained by Honeywell at 115 Tabor Road, Morris Plains, NJ 07950. This Deed Notice is appended to the LTMP.

5F. WORKER TRAINING MATERIALS. All maintenance workers engaged in maintenance at the Property shall be trained in maintenance procedures that do not jeopardize the integrity of the Chromium Remedy. Workers shall be trained using materials developed by Honeywell pursuant to the Consent Decree.

6A. CHANGE IN OWNERSHIP AND REZONING.

i. The Owner and the subsequent owners and lessees, shall cause all leases, grants, and other written transfers of an interest in the Restricted Areas to contain a provision expressly requiring all holders thereof to take the Property subject to the restrictions contained herein and to comply with all, and not to violate any of the conditions of this Deed Notice. Nothing contained in this Paragraph shall be construed as limiting any obligation of any person to provide any notice required by any law, regulation, or order of any governmental authority.

ii. The Owner and the subsequent owners shall provide written notice to the Department of Environmental Protection on a form provided by the Department and available at www.nj.gov/srp/forms within thirty (30) calendar days after the effective date of any conveyance, grant, gift, or other transfer, in whole or in part, of the owner's interest in the Restricted Area.

iii. The Owner and the subsequent owners shall provide written notice to the Department, on a form available from the Department at www.nj.gov/srp/forms, within thirty (30) calendar days after the owner's petition for or filing of any document initiating a rezoning of the Property to residential.

6B. SUCCESSORS AND ASSIGNS. This Deed Notice shall be binding upon Owner and upon Owner's successors and assigns, and subsequent owners, lessees, and operators while each is an owner, lessee, or operator of the Property.

7A. ALTERATIONS, IMPROVEMENTS, AND DISTURBANCES.

i. The Owner and all subsequent owners and lessees shall notify any person of whom it has knowledge, including, without limitation, tenants, employees of tenants, developers, and contractors, intending to conduct invasive work or excavate within the Property, of the nature and location of known contamination in the Property, and, of the precautions necessary to protect the engineering controls and minimize potential human exposure to contaminants.

ii. Except as provided in the Consent Decree and Paragraph 7B below, no person shall make, or allow to be made, any alteration, improvement, or disturbance in, to, or about the Property which disturbs any engineering control at the Property except as (a) permitted in the Consent Decree and (b) without first obtaining a Soil Remedial Action Permit modification from the Department. Nothing herein shall constitute a waiver of the obligation of any person to comply with all applicable laws and regulations including, without limitation, the applicable rules of the Occupational Safety and Health Administration.

iii. Notwithstanding subparagraph 7A.ii.(b), above, a Soil Remedial Action Permit modification is not required for any alteration, improvement, or disturbance provided that:

(A) Such action is taken in conformance with the Consent Decree and this Deed Notice; and

(B) The Department of Environmental Protection is notified of the activity by calling the DEP Hotline, at 1-877-WARN-DEP or 1-877-927-6337, within twenty-four (24) hours after the beginning of each alteration, improvement, or disturbance; and

(C) Honeywell is notified of the activity by calling 855-727-2658; and

(D) Honeywell and/or the owner restores any disturbance of an engineering control to pre-disturbance conditions, consistent with the requirements of the Consent Decree and LTMP, within sixty (60) calendar days after the initiation of the alteration, improvement or disturbance; and

(E) All applicable worker health and safety laws and regulations are followed during the alteration, improvement, or disturbance, and during the restoration; and

(F) Appropriate measures are taken so that human exposure and exposure of the environment outside the containment of the engineering controls, to contamination in excess of the applicable remediation standards does not occur; and

(G) The next biennial certification includes a description of the nature of the alteration, improvement, or disturbance, the dates and duration of the alteration, improvement, or disturbance, the name of key individuals and their affiliations conducting the alteration, improvement, or disturbance, a description of the notice the Owner gave to those persons prior to the disturbance, the amounts of soil generated for disposal, if any, the final disposition and any precautions taken to prevent exposure.

7B. EMERGENCIES. In the event of an emergency which presents, or may present, an unacceptable risk to the public health and safety, or to the environment, or immediate environmental concern, see N.J.S.A. 58:10C-2, any person may temporarily breach an engineering control provided that:

i. The Department of Environmental Protection is immediately notified of the emergency, by calling the DEP Hotline at 1-877-WARNDEP or 1-877-927-6337; and

ii. Immediately after notifying NJDEP, Honeywell is notified of the emergency by calling 855-727-2658; and

iii. Both the actual disturbance and the time needed for the disturbance are limited to the minimum reasonably necessary to adequately respond to the emergency; and

iv. All measures necessary to limit actual or potential, present or future risk of exposure to humans or the environment to the contamination are implemented; and

v. The Department of Environmental Protection is notified when the emergency has ended by calling the DEP Hotline at 1-877-WARNDEP or 1-877-927-6337; and

vi. Honeywell is notified when the emergency has ended by calling 855-727-2658; and

vii. Honeywell restores the engineering control to the pre-emergency conditions, consistent with the requirements of the Consent Decree and LTMP, as soon as possible, and submits a written report to the Department of Environmental Protection of such emergency and restoration efforts within sixty (60) calendar days after completion of the restoration of the engineering control. The report must include all information pertinent to the emergency, potential discharges of contaminants, and restoration measures that were implemented, which, at a minimum, should specify: (a) the nature and likely cause of the emergency, (b) the potential discharges of or exposures to contaminants, if any, that may have occurred, (c) the measures that have been taken to mitigate the effects of the emergency on human health and the environment, (d) the measures completed or implemented to restore the engineering control, and (e) the changes to the engineering control or site operation and maintenance plan to prevent recurrence of such conditions in the future. Honeywell shall submit the report to:

Department of Environmental Protection
Division of Remediation Management and Response
Bureau of Operation, Maintenance and Monitoring
Deed Notice Inspection Program

P.O. Box 413
401 E. State Street
Trenton, NJ 08625-0413

8A. MONITORING AND MAINTENANCE OF DEED NOTICE, AND PROTECTIVENESS CERTIFICATION. The persons in any way responsible, pursuant to the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11a et seq., for the hazardous substances that remain at the Property, the persons responsible for conducting the remediation, Honeywell, the Owner, and the subsequent owners, lessees, and operators, shall monitor and maintain this Deed Notice. The subsequent owners, lessees and operators have this obligation only during their ownership, tenancy, or operation. Honeywell shall certify to the Department on a biennial basis that the remedial action that includes this Deed Notice remains protective of the public health and safety and of the environment. The specific obligations to monitor and maintain the deed notice shall include all of the following:

i. Monitoring and maintaining this Deed Notice according to the requirements in Article III of the Consent Decree and Exhibit C herein, to ensure that the remedial action that includes the Deed Notice continues to be protective of the public health and safety and of the environment; and

ii. Conducting any additional remedial investigations and implementing any additional remedial actions, that are necessary to correct, mitigate, or abate each problem related to the protectiveness of the remedial action for the Property prior to the date that the certification is due to the Department pursuant to iii, below, so that the remedial action that includes this Deed Notice remains protective of the public health and safety and of the environment; and

iii. Certifying to the Department of Environmental Protection the continued protectiveness of the remedial action that includes this Deed Notice, on a form provided by the Department and consistent with N.J.A.C. 7:26C-1.2 (a)1, every two years on the anniversary of the date stamped on the Deed Notice that indicates when the Deed Notice was recorded.

8B. MONITORING AND MAINTENANCE OF ENGINEERING CONTROLS, AND PROTECTIVENESS CERTIFICATION. Honeywell shall maintain all engineering controls at the Property and certify to the Department on a biennial basis that the remedial action of which each engineering control is a part remains protective of the public health and safety and of the environment. The specific obligations to monitor and maintain the engineering controls shall include the following:

i. Monitoring and maintaining each engineering control according to the requirements in Article III of the Consent Decree, the LTMP, and Exhibit C herein, so that the remedial action that includes the engineering control continues to be protective of the public health and safety and of the environment; and

ii. Conducting any additional remedial investigations and implementing any additional remedial actions, that are necessary to correct, mitigate, or abate each problem related to the protectiveness of the remedial action for the Property prior to the date that the certification is due to

the Department pursuant to iii, below, so that the remedial action that includes the engineering control remains protective of the public health and safety and of the environment; and

iii. Certifying to the Department of Environmental Protection the continued protectiveness of the remedial action that includes the engineering control, on a form provided by the Department and consistent with N.J.A.C. 7:26C-1.2 (a)1, every two years on the anniversary of the date stamped on the Deed Notice that indicates when the Deed Notice was recorded.

9. ACCESS. The Owner, subsequent owners, lessees, and operators, agree to allow the Department, its agents and representatives access to the Property to inspect and evaluate the continued protectiveness of the remedial action that includes this Deed Notice and to conduct additional remediation to ensure the protection of the public health and safety and of the environment if the persons responsible for monitoring the protectiveness of the remedial action, as described in Paragraph 8, above, fail to conduct such remediation pursuant to this Deed Notice as required by law. The Owner, and the subsequent owners and lessees, shall also cause all leases, subleases, grants, and other written transfers of an interest in the Property to contain a provision expressly requiring that all holders thereof provide such access to the Department.

10. NOTICES.

i. Owner shall cause all leases, grants, and other written transfers of an interest in the Property to contain a provision expressly requiring all holders thereof to take the Property subject to the restrictions contained herein and to comply with all, and not to violate any of the conditions of this Deed Notice. Nothing contained in this Paragraph shall be construed as limiting any obligation of any person to provide any notice required by any law, regulation, or order of any governmental authority.

ii. Honeywell or the Owner shall notify any person intending to conduct invasive work or excavate within the Property of the nature and location of contamination and, of the precautions necessary to minimize potential human exposure, and exposure of the environment outside the containment of the engineering controls, to contaminants.

iii. Owner shall provide written notice to the Department of Environmental Protection at least thirty (30) calendar days before the effective date of any conveyance, grant, gift, or other transfer, in whole or in part, of the owner's interest in the Property. Any such conveyance, grant or gift must be consistent with the terms of the Consent Decree.

iv. Owner shall provide written notice to the Department within thirty (30) calendar days following the Owner's receiving notice of any petition for a rezoning of the Property. Any such rezoning must be consistent with the terms of the Consent Decree. The Owner shall submit the written notice to:

Department of Environmental Protection
Division of Remediation Management and Response
Bureau of Operation, Maintenance and Monitoring
Deed Notice Inspection Program

P.O. Box 413
401 E. State Street
Trenton, NJ 08625-0413.

11. ENFORCEMENT OF VIOLATIONS.

i. This Deed Notice itself is not intended to create any interest in real estate in favor of the Department of Environmental Protection, nor to create a lien against the Property, but merely is intended to provide notice of certain conditions and restrictions on the Property and to reflect the regulatory and statutory obligations imposed as a conditional remedial action for this Property.

ii. The restrictions provided herein may be enforceable by the Department against any person who violates this Deed Notice. To enforce violations of this Deed Notice, the Department may initiate one or more enforcement actions pursuant to N.J.S.A. 58:10-23.11, and N.J.S.A. 58:10C, and require additional remediation and assess damages pursuant to N.J.S.A. 58:10-23.11, and N.J.S.A. 58:10C.

iii. This Deed Notice is also enforceable in the United States District Court for the District of New Jersey by all residents, owners, lessees, and all commercial tenants on Study Areas 6 and 7 pursuant to paragraphs 66 and 69 of the Consent Decree.

12. SEVERABILITY. If any court of competent jurisdiction determines that any provision of this Deed Notice requires modification, such provision shall be deemed to have been modified automatically to conform to such requirements. If a court of competent jurisdiction determines that any provision of this Deed Notice is invalid or unenforceable and the provision is of such a nature that it cannot be modified, the provision shall be deemed deleted from this instrument as if the provision had never been included herein. In either case, the remaining provisions of this Deed Notice shall remain in full force and effect.

13. MODIFICATION AND TERMINATION.

i. Any person may request in writing, at any time, that the Department modify this Deed Notice where performance of subsequent remedial actions, a change of conditions at the Property, or the adoption of revised remediation standards suggest that modification of the Deed Notice would be appropriate, provided that any such modification is consistent with the requirements of the Consent Decree.

ii. Any person may request in writing, at any time, that the Department terminate this Deed Notice because the conditions which triggered the need for this Deed Notice are no longer applicable.

iii. Any person seeking a modification or termination of this Deed Notice must also have such modification approved by the United States District Court for the District of New Jersey pursuant to the Consent Decree until such time as the Consent Decree terminates with regard to the Property pursuant to the Consent Decree.

iv. If the United States District Court for the District of New Jersey and NJDEP have concluded that this Deed Notice shall be modified or terminated, such modification or termination will only be effective upon the filing of a Termination of Deed Notice, available at N.J.A.C. 7:26C Appendix C, with the office of the Register of Deeds of Hudson County, New Jersey, expressly modifying or terminating this Deed Notice.

v. Within thirty (30) calendar days after the filing of a Termination of Deed Notice, the owner of the Property shall apply to the Department for modification or termination of the Soil Remedial Action Permit pursuant to N.J.A.C. 7:26C-7.

vi. This Deed Notice may be modified only if it has first been terminated pursuant to subparagraphs 13v above, and upon filing of a modified Deed Notice, executed by the Owner of the Property, in the office of the Register of Deeds of Hudson County, New Jersey.

14A. EXHIBIT A. Exhibit A includes the following maps of the Property and the vicinity:

i. Exhibit A-1: Vicinity Map - A map that identifies by name the roads, and other important geographical features in the vicinity of the Property;

ii. Exhibit A-2: Metes and Bounds Description - A metes and bounds description of the Property, including reference to tax lot and block numbers for the Property and a Tax Map;

iii. Exhibit A-3: Property Map - A scaled map of the Property, scaled at one inch to 200 feet or less, and if more than one map is submitted, the maps shall be presented as overlays, keyed to a base map; the map(s) shall include diagrams of major surface topographical features such as buildings, roads, and parking lots. Unless this Deed Notice has been terminated pursuant to Paragraph 13, after development of the Property, this Deed Notice shall be modified to show topographical features constructed on the Property such as buildings, roads, and parking lots.

14B. EXHIBIT B. Exhibit B includes the following descriptions of the Restricted Areas:

i. Exhibit B-1: Restricted Area Map - Maps for the Property that include, as applicable:

(A) As-built diagrams of each engineering control, including caps, fences, hydraulic barrier walls, ground water monitoring wells, and ground water pumping system including trenches and pumps;

(B) As-built diagrams of any buildings, roads, parking lots, utility corridors, and other structures that function as engineering controls; and

(C) Designation of all soil and/or sediment sample locations within the restricted areas that exceed any soil or sediment standard that are keyed into one of the tables described below.

ii. Exhibit B-2 (Table B-2): Restricted Area Data Tables - Table for the Property that includes:

(A) Sample location designation from Restricted Area maps (Exhibit B-1);

(B) Sample elevation based upon mean sea level;

(C) Name and chemical abstract service registry number of each contaminant with a concentration that exceeds the unrestricted use standard;

(D) The restricted and unrestricted use standards for each contaminant in the table; and

(E) The remaining concentration of each contaminant at each sample location at each elevation (or if historic fill, include data from the Department's default concentrations at N.J.A.C. 7:26E-4.6, Table 4-2).

14C. EXHIBIT C. Exhibit C includes narrative descriptions of the institutional controls and engineering controls as follows:

i. Exhibit C-1A through C-1C. Exhibit C-1-A: Deed Notice as Institutional Control; Exhibit C-1-B: Consent Decree as Institutional Control; and Exhibit C-1C Zoning as Institutional Control: Exhibit C-1 includes a narrative description of the restrictions and obligations of this Deed Notice that are in addition to those described above, as follows:

(A) General Description of the Institutional Control:
(1) Description and estimated size of the Restricted Areas as described above;
(2) Description of the restrictions on the Property by operation of this Deed Notice and the other Institutional Controls; and
(3) The objective of the restrictions;

(B) Description of the monitoring necessary to determine whether:
(1) Any disturbances of the soil in the Restricted Areas resulted in the unacceptable exposure to the soil contamination;
(2) There have been any land use changes subsequent to the filing of this Deed Notice and the other Institutional Controls or the most recent biennial certification, whichever is more recent;
(3) The current land use on the Property is consistent with the restrictions in this Deed Notice and the other Institutional Controls;
(4) Any newly promulgated or modified requirements of applicable regulations or laws apply to the Property; and
(5) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice and the other Institutional Controls, and conduct the necessary sampling; and

(C) Description of the following items that will be included in the biennial certification:

(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice and the other Institutional Controls;
(2) Land use at the Property is consistent with the restrictions in this Deed Notice and the other Institutional Controls; and
(3) The remedial action that includes this Deed Notice and the other Institutional Controls continues to be protective of the public health and safety and of the environment.

ii. Exhibit C-2. Exhibit C-2: Engineering Controls: Asphalt Cover;

Exhibit C-2 includes a narrative description of the engineering controls as follows:

(A) General Description of the engineering control:
(1) Description of the engineering control;
(2) The objective of the engineering control; and
(3) How the engineering control is intended to function.

(B) Description of the operation and maintenance necessary to ensure that:
(1) Periodic inspections of each engineering control are performed in order to determine its integrity, operability, and effectiveness;
(2) Each engineering control continues as designed and intended to protect the public health and safety and the environment;
(3) Each alteration, excavation or disturbance of any engineering control is timely and appropriately addressed to maintain the integrity of the engineering control;
(4) The engineering control is being inspected and maintained and its integrity remains so that the remedial action continues to be protective of the public health and safety and of the environment;
(5) A record of the self-inspection dates, name of the inspector, results of the inspection and condition(s) of the engineering control. Sampling, for example, may be necessary if it is not possible to visually evaluate the integrity/performance of the engineering control; and
(6) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice, and conduct the necessary sampling; and

(C) Description of the following items that will be included in the biennial certification:
(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice;
(2) The engineering control continues to operate as designed; and
(3) The remedial action that includes the engineering control continues to be protective of the public health and safety and of the environment.

15. SIGNATURES. IN WITNESS WHEREOF, Owner has executed this Deed Notice as of the date first written above.

ATTEST: , LLC

_____ By_____
[Signature] [Signature]

_____ _____
[Print name and title] [Print name and title]

STATE OF NEW JERSEY SS.:
COUNTY OF _____

I certify that on _____ ___, 2017, _____ personally came before me, and this person acknowledged under oath, to my satisfaction, that:

(a) this person is the _____ of _____, LLC, the Limited Liability Corporation named in this document;

(b) this person is the attesting witness to the signing of this document by the proper corporate officer who is the _____ of the Limited Liability Corporation;

(c) this document was signed and delivered by the Limited Liability Corporation as its voluntary act and was duly authorized;

(d) this person knows the proper seal of the Limited Liability Corporation which was affixed to this document; and

(e) this person signed this proof to attest to the truth of these facts.

_____
[Signature]

_____
[Print name and title of attesting witness]

Signed and sworn before me on _____, 20__

_____, Notary Public

_____
[Print name and title]

16. SIGNATURES. IN WITNESS WHEREOF, Owner has executed this Deed Notice as of the date first written above.

[If Owner is a corporation]

ATTEST: [Name of corporation]

_____ By_____

_____ _____
[Print name and title] [Signature]

STATE OF NEW JERSEY SS.:
COUNTY OF HUDSON

I certify that on _____, 20__, [Name of person executing document on behalf of Owner] personally came before me, and this person acknowledged under oath, to my satisfaction, that:

(a) this person is the [secretary/assistant secretary] of [Owner], the corporation named in this document;

(b) this person is the attesting witness to the signing of this document by the proper corporate officer who is the [president/vice president] of the corporation;

(c) this document was signed and delivered by the corporation as its voluntary act and was duly authorized;

(d) this person knows the proper seal of the corporation which was affixed to this document; and

(e) this person signed this proof to attest to the truth of these facts.

_____
[Signature]

_____
[Print name and title of attesting witness]

Signed and sworn before me on _____, 20__

_____, Notary Public

_____
[Print name and title]

EXHIBIT A
Deed Notice #10 SA-6 North TA-7 (JCMUA)

A-1 Vicinity Map

A-2 Metes and Bounds Description and Tax Map

A-3 Property Map Portions of Block 21901, Lot 10, City of Jersey City, New Jersey

Exhibit A-1 Vicinity Map consists of a road map for the vicinity of the Property.

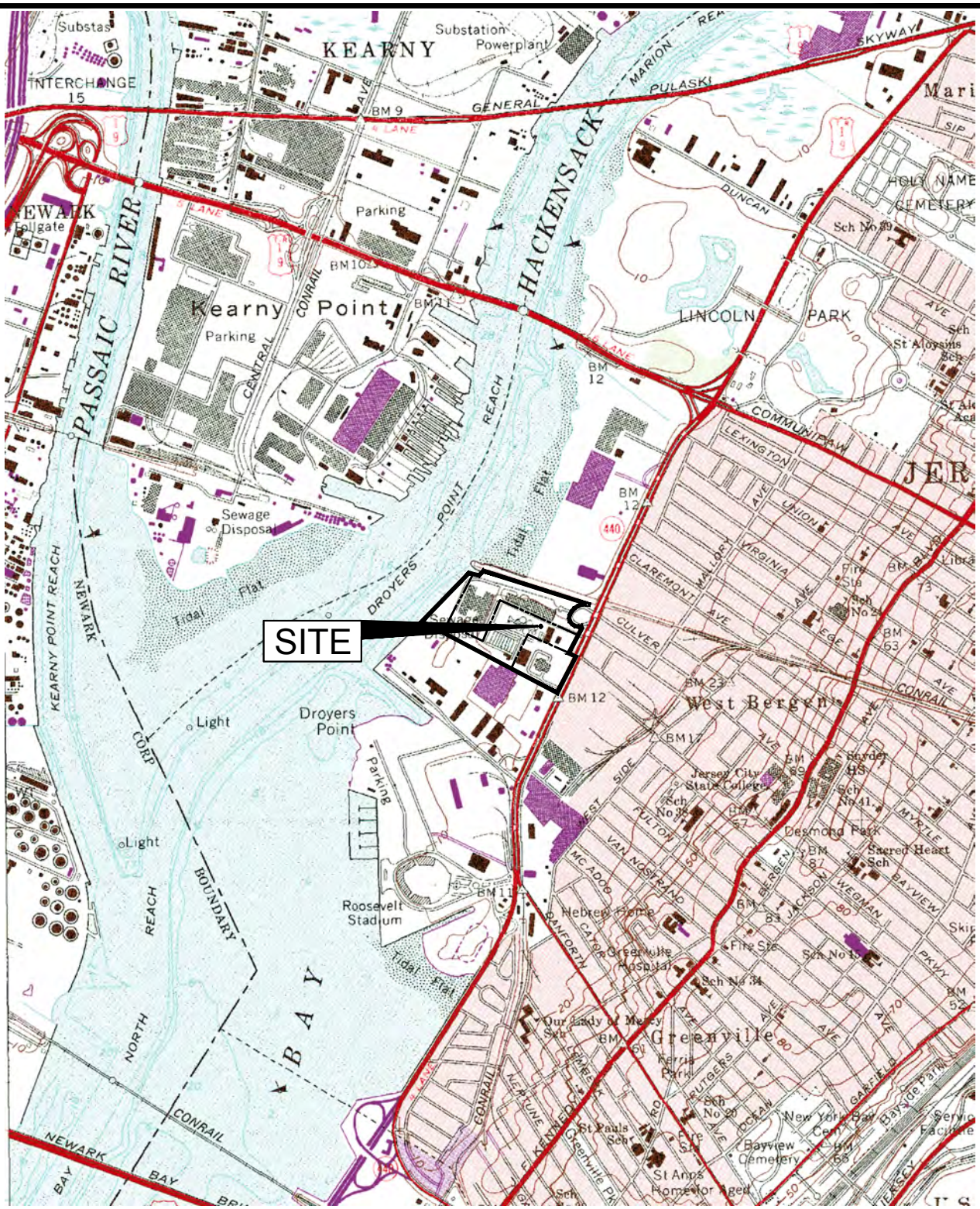
Exhibit A-2 consists of metes and bounds and a tax map for the Property.

Exhibit A-3 Property Map consists of a figure indicating major surface features and engineering control for the Property. Unless this Deed Notice has been terminated pursuant to Paragraph 13, after development of the Property, this Deed Notice shall be modified to show topographical features constructed on the Property such as buildings, roads, and parking lots.

Exhibit A-1
Site Vicinity Map
Jersey City, New Jersey

EXHIBIT A-1
SITE VICINITY MAP
PORTIONS OF STUDY AREA 6 NORTH SITE 087
JERSEY CITY, NEW JERSEY

CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (II) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN DELIVERED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.



SOURCE: USGS QUADRANGLE MAP, 7.5 MIN SERIES
JERSEY CITY, NJ-NY 1967, PHOTO REVISED 1981

RESTRICTED AREA

DRAFT

0 1000 2000 4000
SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150483 *DRAWING:* 3480150487-6100-A110-0000	amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT A-1** VICINITY MAP BLOCK 21901, LOT 10 SA-6 NORTH JERSEY CITY, NEW JERSEY DEED NOTICE #10
PREPARED/DATE: STR 12/15/16 | *CHECKED/DATE:* NW 01/31/17		

P:\CADD\HONEYWELL\JERSEY CITY\SA 6 NORTH\3480150487\6100\610001\DEED NOTICE\DN 10\3480150487-6100-A110-0000.dwg Fri, 10 Mar 2017 - 1:49pm scott.rudkin

Exhibit A-2
Deed Notice #10 SA-6 North TA-7 (JCMUA)

Metes and Bounds Description of Property: See Attached
Tax Map: See Attached

A-2 Metes and Bounds Description of Property Portions of Block 21901, Lot 10
City of Jersey City, New Jersey

If there is any discrepancy between the Metes and Bounds and the tax map or any other maps attached hereto, the Metes and Bounds prevails.

The Property is identified as a portion of Block 21901, Lot 10 on the City of Jersey City tax maps, the Property being presently owned by JCMUA. A copy of the current tax map which includes the TA-7 Property is attached as Exhibit A-2.

MASER CONSULTING P.A.
Consulting, Municipal & Environmental Engineers
Planners • Surveyors • Landscape Architects

331 Newman Springs Road
Suite 203
Red Bank, NJ 07701
Tel: 732.383.1950 • Fax: 732.383.1984

DESCRIPTION OF PROPERTY
CITY OF JERSEY CITY
HUDSON COUNTY, NEW JERSEY
PROJECT NO. 10000292R

DEED NOTICE AREA 10
LOT 10 BLOCK 21901
OCTOBER 13, 2016

All that certain lot, tract or parcel of land situate lying and being in the City of Jersey, in the County of Hudson and State of New Jersey, and being a portion of Lot 10 in Block 21901, designated as Deed Notice Area 10 as shown on an exhibit entitled, "Deed Notice Area 10, SA6 North, Block 21901 Lot 10, City of Jersey City, Hudson County, New Jersey," prepared by Maser Consulting P.A., dated October 12, 2016 and being more particularly bounded and described as follows, to wit:

COMMENCING at the intersection of the division line between Lots 9 and 10 in Block 21901 with the northwesterly line of Lot 4 in Block 21901, as shown on the aforesaid exhibit; thence-

A. **S 24° 46'55" W, 49.08 feet**, along said northwesterly line to the intersection of the same with the northerly line of proposed Block 6; thence-

B. **N 67° 01'59" E, 567.84 feet**, along said northerly line; thence-

C. **S 22° 52' 09" W, 1.33 feet**, running through said proposed Block 6 to the True Point of **BEGINNING**, and running; thence-

Continuing through said proposed Block 6 the following four (4) courses:

1. **S 40° 08' 40" E, 25.46 feet**; thence-
2. **S 48° 14' 31" W, 22.69 feet,** thence -
3. **N 44° 42' 54" W, 21.93 feet,** thence –
4. **N 39° 59' 38" E, 24.79 feet,** to the Point and Place of **BEGINNING.**

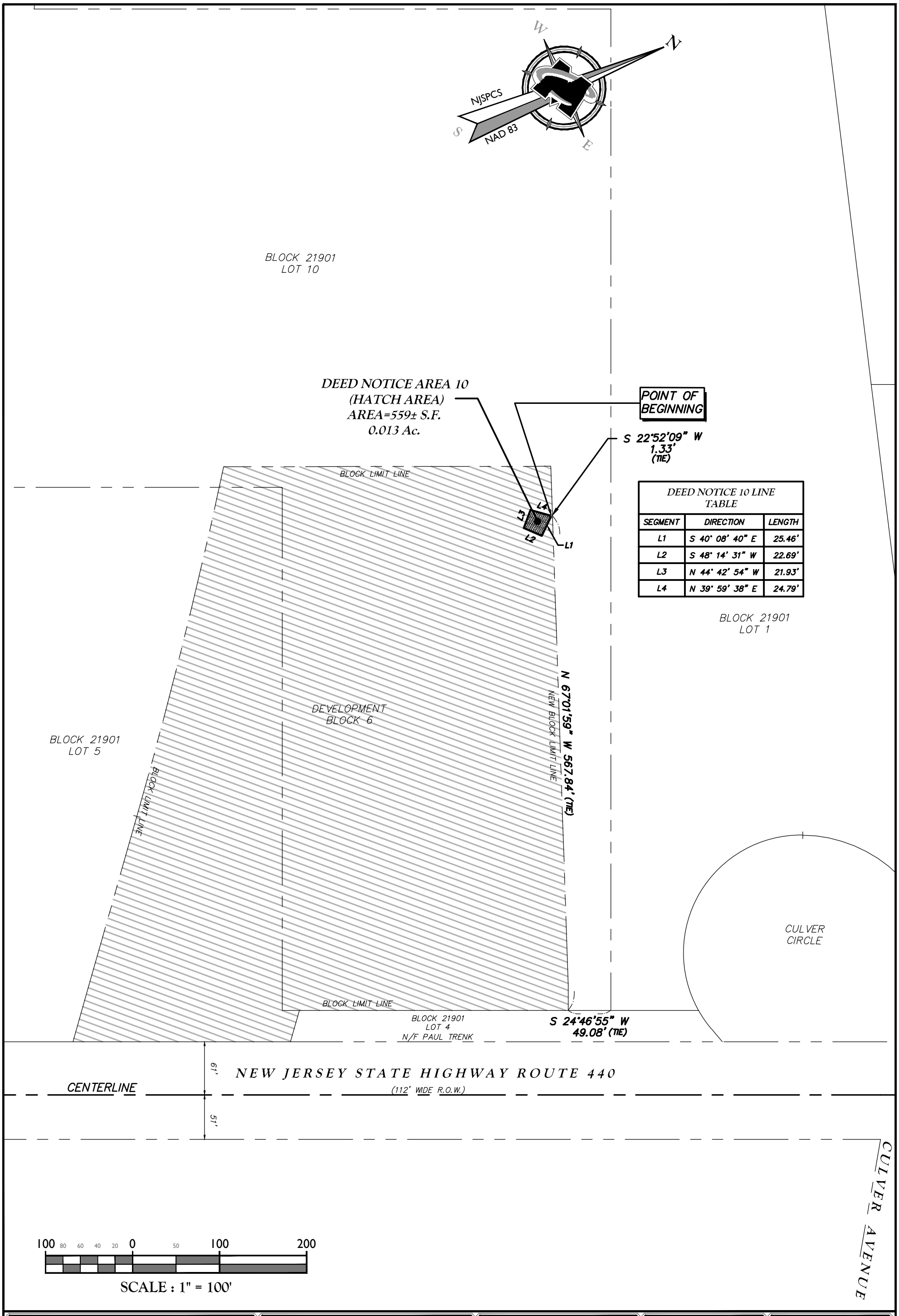
CONTAINING: 559 S.F. of land more or less or 0.013 acre of land more or less.

10/13/16

GLEN J. LLOYD, P.L.S.
NEW JERSEY PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS037598

DATE SIGNED

\\HQFAS1\General\Projects\2010\10000292R\Survey\Description\Metes & Bounds-Deed Notice 10.docx



DEED NOTICE 10 LINE TABLE		
SEGMENT	DIRECTION	LENGTH
L1	S 40° 08' 40" E	25.46'
L2	S 48° 14' 31" W	22.69'
L3	N 44° 42' 54" W	21.93'
L4	N 39° 59' 38" E	24.79'

MASER CONSULTING P.A.

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State of N.J. Cert. of Authorization: 24GA27986500

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REV	DATE	DRAWN BY	DESCRIPTION
1	1/13/17	KAN	BLOCK 6
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.

DEED NOTICE AREA 10 SA6
NORTH

BLOCK 21901
LOT 10

CITY OF JERSEY CITY
HUDSON COUNTY
NEW JERSEY

811 Know what's below, Call before you dig.

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

RED BANK OFFICE
Corporate Headquarters
331 Newman Springs Road
Suite 203
Red Bank, NJ 07701
Phone: 732.383.1950
Fax: 732.383.1984

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	10/07/16	KAN	GJL

PROJECT NUMBER: 2010\1000
DRAWING NAME: V-EXBT-DN-10

SHEET TITLE:
DEED NOTICE EXHIBIT

SHEET NUMBER:
1 of 1

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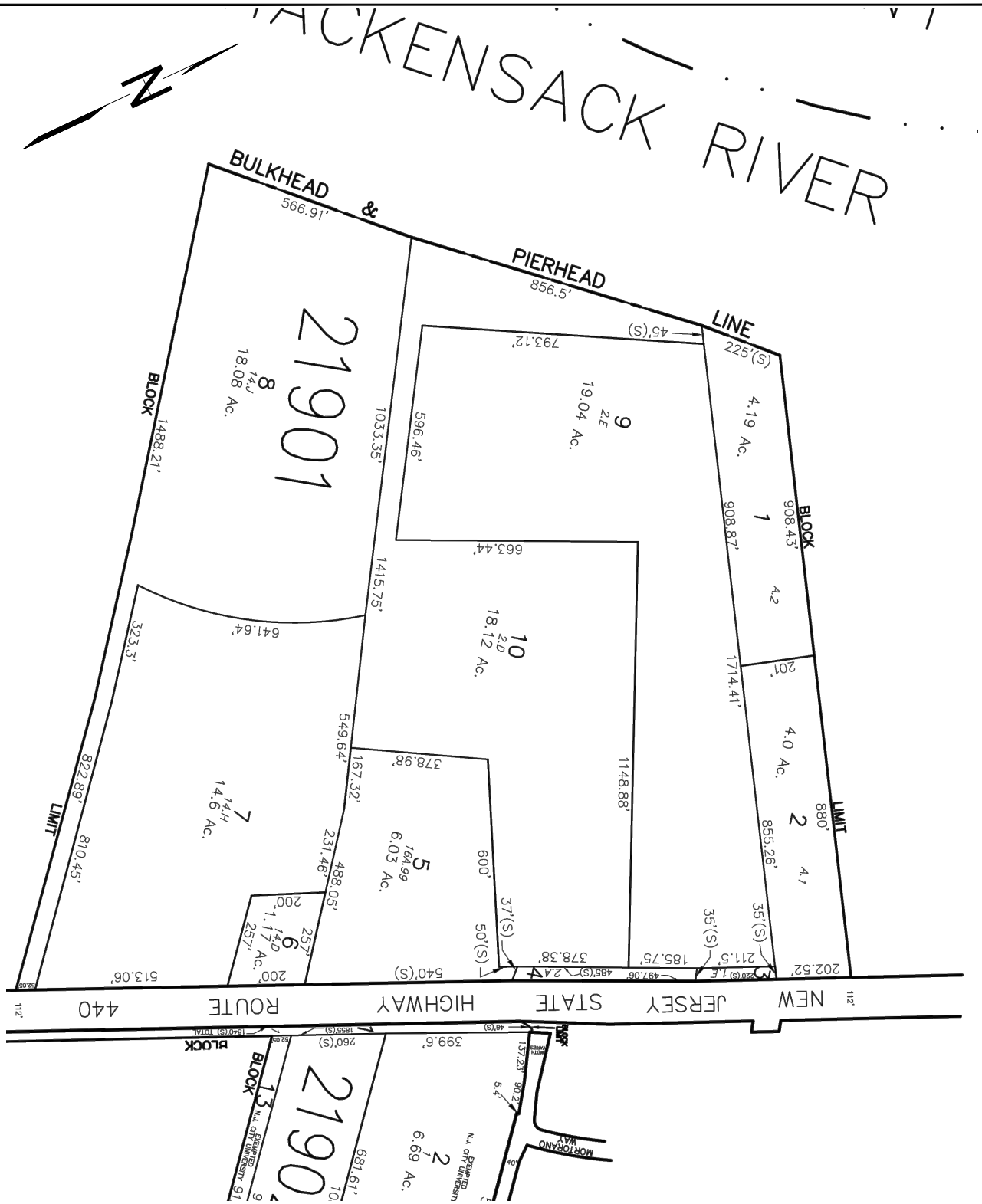

SOURCE:
DRAWING TITLED: "TAX MAP CITY OF JERSEY CITY", PREPARED BY T&M ASSOCIATED, MIDDLETOWN TWP., NJ SHEET 219, DATED AUGUST, 2006; NEW JERSEY DEPARTMENT OF THE TREASURY DIVISION OF TAXATION PROPERTY ADMINISTRATION DATED MAY 8, 2009 SERIAL NO.: 934.

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Amec Foster Wheeler PROJECT No. 3480150487 *DRAWING:* 3480150487-6100-A210-0000		amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT A-2** TAX MAP BLOCK 21901, LOT 10 SA-6 NORTH JERSEY CITY, NEW JERSEY DEED NOTICE #10
PREPARED/DATE: STR 12/15/16	*CHECKED/DATE:* NW 01/31/17		

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Exhibit A-3
Property Map

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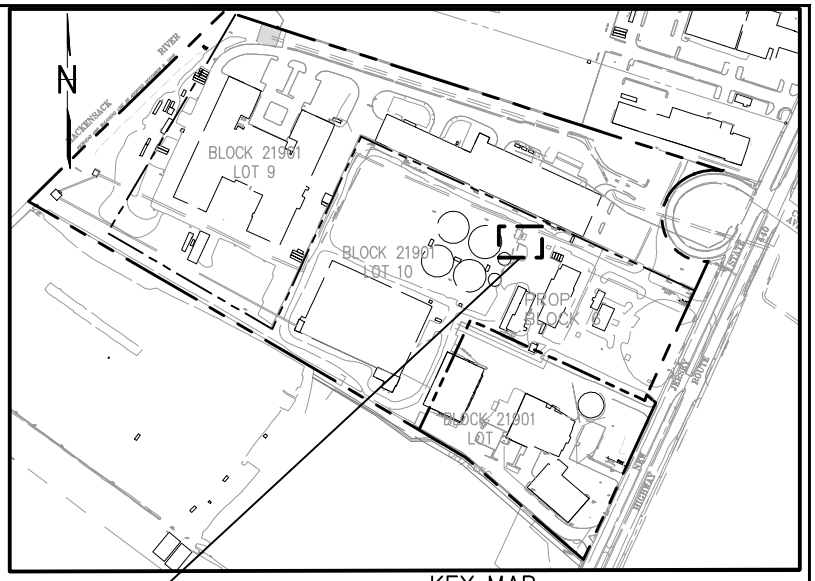
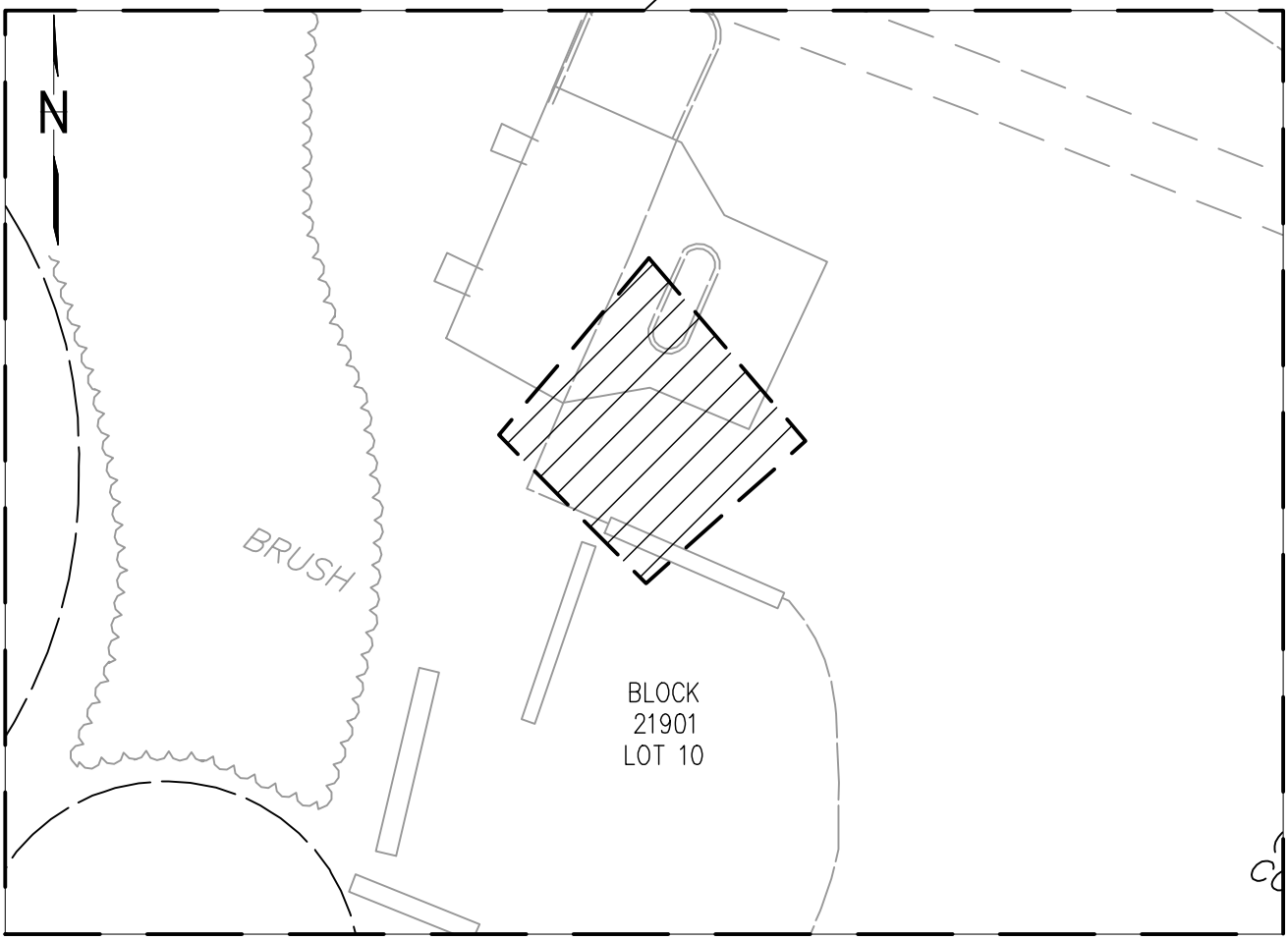
LEGEND

PROPERTY BOUNDARY

RESTRICTED AREA



KEY MAP
SCALE: 1" = 600'



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SOURCE REFERENCE:

DRAWING TITLED: "ALTA/ASCM LAND TITLE SURVEY FOR BAYFRONT REDEVELOPMENT, LLC., BLOCK 21901 LOTS 5 THRU 10, PREPARED BY MASER CONSULTING, P.A. DATED 10/16/15 CITY OF JERSEY CITY, HUDSON COUNTY, NEW JERSEY

DATUM:
HORIZONTAL DATUM: NAD83
VERTICAL DATUM: NGVD29

Amec Foster Wheeler PROJECT No. 3480150487 *DRAWING:* 3480150487-6100-A310-0000		
PREPARED/DATE: STR 12/15/16	*CHECKED/DATE:* NW 01/31/17	

amec foster wheeler

ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

EXHIBIT A-3
PROPERTY AREA MAP
BLOCK 21901, LOT 10
SA-6 NORTH
JERSEY CITY, NEW JERSEY
DEED NOTICE #10

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EXHIBIT B
Deed Notice #10 SA-6 North TA-7 (JCMUA)

B-1 Restricted Area Maps
B-2 Restricted Area Data Table
Portions of Block 21901, Lot 10
City of Jersey City, New Jersey

Exhibit B-1 Restricted Area Maps include Exhibit B-1A (Restricted Area Soil Sample Locations), Exhibit B-1B (Cap System Detail), and Exhibit B-1C (As-Built Restoration Plan).

Exhibit B-2 is a Restricted Area Data Table indicating soil sample locations with concentrations of hexavalent chromium remaining above the level established in the New Jersey Department of Environmental Protection's (NJDEP) Chromium Policy of 20 milligrams per kilogram (mg/kg).

Restricted Area Map Notes:

Exhibit B-1 indicates engineering controls chromium remedy components. For soils with hexavalent chromium concentrations above 20 mg/kg, the engineering control consists of 2 feet of clean soil and an asphalt/concrete cap.

Exhibit B-1
Restricted Area Maps

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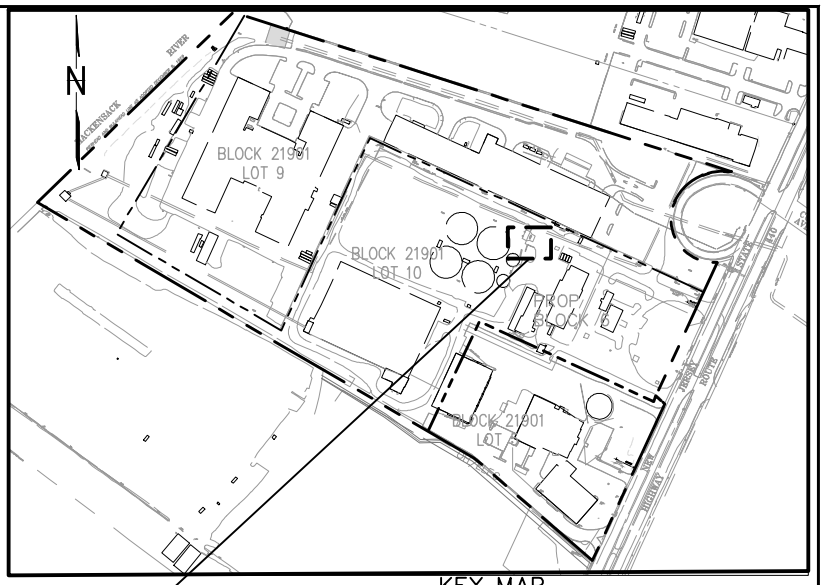
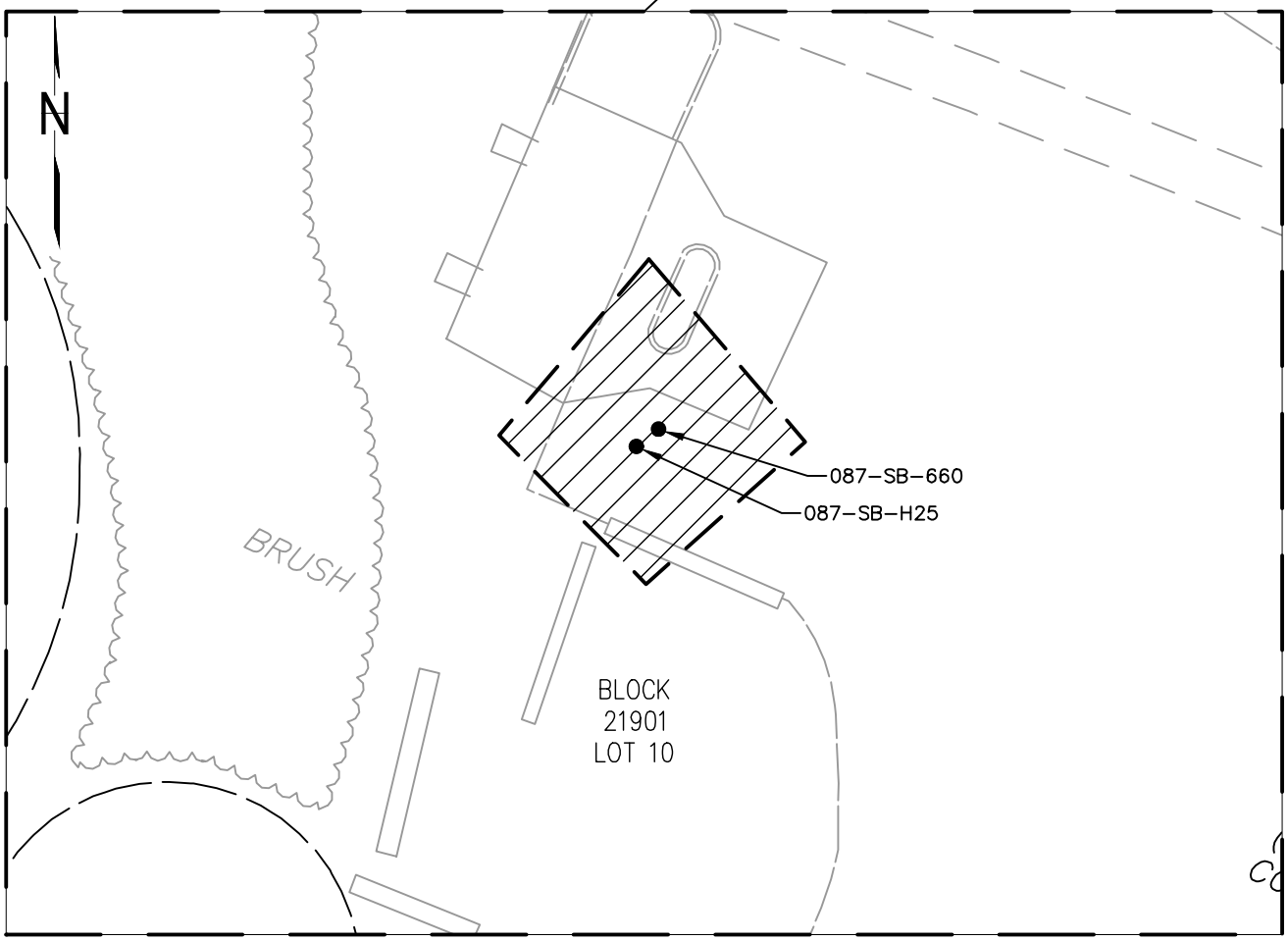
LEGEND

- SOIL SAMPLE LOCATION HEXAVALENT CHROMIUM > 20 mg/kg (SEE EXHIBIT B-2)
- PROPERTY BOUNDARY
- RESTRICTED AREA



KEY MAP
SCALE: 1" = 600'



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SOURCE REFERENCE:

DRAWING TITLED: "ALTA/ASCM LAND TITLE SURVEY FOR BAYFRONT REDEVELOPMENT, LLC., BLOCK 21901 LOTS 5 THRU 10, PREPARED BY MASER CONSULTING, P.A. DATED 10/16/15 CITY OF JERSEY CITY, HUDSON COUNTY, NEW JERSEY

DATUM:
HORIZONTAL DATUM: NAD83
VERTICAL DATUM: NGVD29

Amec Foster Wheeler PROJECT No. 3480150487 *DRAWING:* 3480150487-6100-B010-0000		amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619
PREPARED/DATE: STR 12/15/16	*CHECKED/DATE:* NW 01/31/17	

EXHIBIT B-1A
RESTRICTED AREA MAP
BLOCK 21901; LOT 10
SA-6 NORTH
JERSEY CITY, NEW JERSEY
DEED NOTICE #10

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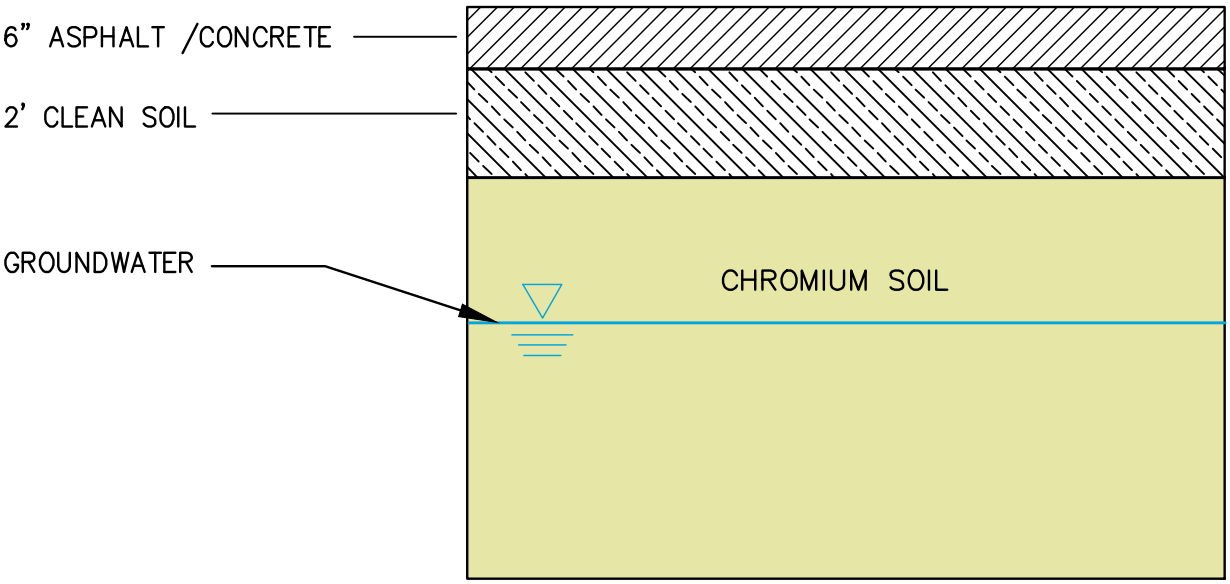

CAP SYSTEM DETAIL

NTS

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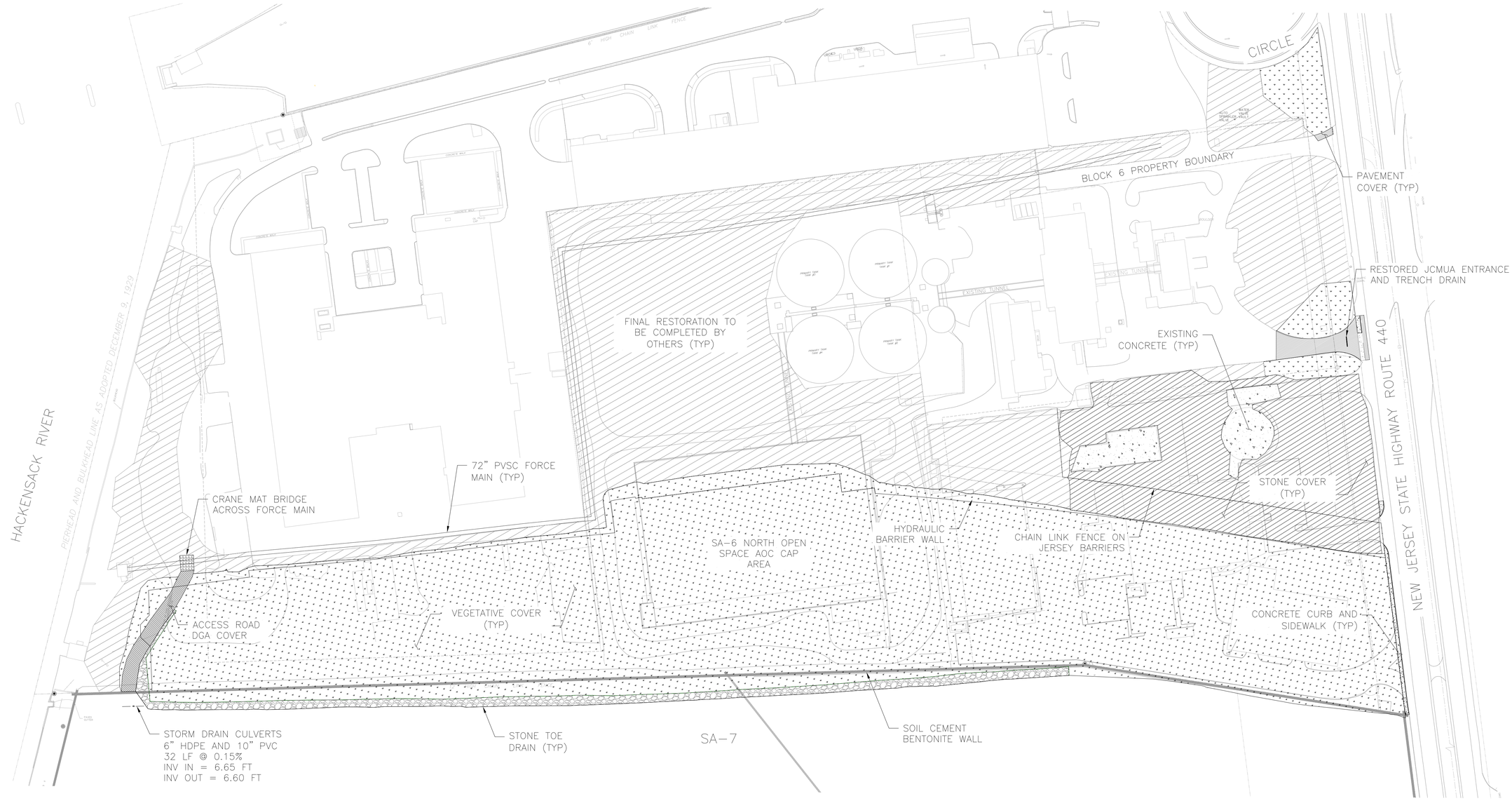
Amec Foster Wheeler PROJECT No. 3480150488 *DRAWING:* 3480150487-6100-B210-0000		amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT B-1B** CAP SYSTEM DETAIL BLOCK 21901; LOT 10 SA-6 NORTH JERSEY CITY, NEW JERSEY DEED NOTICE #10
PREPARED/DATE: STR 01/25/17	*CHECKED/DATE:* NW 01/31/17		



NOTE:

1. REFER TO CONSTRUCTION CONTROL GRID FIGURE AND ATTACHED TABLES FOR SURVEY DOCUMENTATION OF 6 INCH GRAVEL HISTORIC FILL CAP INSTALLATION.
2. OPEN SPACE CAP AREA WITHIN LIMITS OF THE BARRIER WALLS IS COVERED WITH CLEAN IMPORTED SOILS TO THE DEPTHS IDENTIFIED IN THE DESIGN. THE VEGETATED SLOPE WITHIN THE DEVELOPMENT AREA IS COVERED WITH A MINIMUM OF 12 INCHES OF CLEAN IMPORTED FILL. THE VEGETATED SLOPE ALONG SA-7 WAS CONSTRUCTED ENTIRELY FROM CLEAN IMPORTED FILL.
3. REMAINING RESTORATION AREAS IDENTIFIED ON THE CHROMIUM REMEDY 100% DESIGN DRAWINGS WILL BE ADDRESSED AS PART OF THE NON CHROMIUM REMEDIATION WORK CURRENTLY BEING COMPLETED. FINAL RESTORATION OF ALL AREAS IS SCHEDULED TO BE COMPLETE IN MARCH 2017.

EXHIBIT B-1C

STONE COVER
VEGETATED COVER
PAVEMENT COVER
CONCRETE COVER
DGA COVER
RESTORATION BY OTHERS
STONE TOE DRAIN
SD STORM DRAIN PIPE

0 80 160 FEET
SCALE

REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	1/7/17	EJP	AE	AE	AS BUILT RESTORATION PLAN

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
AS BUILT RESTORATION PLAN
SA-6 NORTH - SHEET 001
1/6/17

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Exhibit B-2: Table B-2
Soil Sample Data Table (Hexavalent Chromium)

EXHIBIT B-2
Restricted Area Data Table
Study Area 6 North
Portions of Block 21901, Lot 10
Deed Notice #10 TA-7 (JCMUA)
Jersey City, New Jersey

Location ID	Sample Depth (feet bgs)	Sample Elevation (feet msl NAVD88)	Contaminant	CASR#	NJDEP Chromium SCC (mg/kg)	Concentration (mg/kg)	Q
087-SB-660	2-3	10	Hexavalent Chromium	18540-29-9	20	**26.3**	
087-SB-H25	2-3	10	Hexavalent Chromium	18540-29-9	20	**43.6**	J

Notes:
Results reported in milligrams/kilogram (mg/kg).

Data Qualifiers:
J - Data indicates the presence of a compound that meets the identification criteria. The concentration given is an approximate value.

Abbreviations:
Feet bgs - Feet below ground surface
feet msl = feet mean sea level NAVD88 - North American Vertical Datum of 1988
NJDEP Chromium SCC - New Jersey Department of Environmental Protection Chromium Soil Cleanup Criteria, revised April 2010
CASR# - Chemical Abstract Service Number

EXHIBIT C
Deed Notice #10 SA-6 North TA-7

C-1 Institutional Controls
C-2 Engineering Controls
Portion of Block 21901, Lot 10
City of Jersey City, New Jersey

C-1 Institutional Controls

C-1 Deed Notice, Consent Decree, Zoning as Institutional Controls: Exhibit C-1 (A through C) for that portion of Block 21901, Lot 10, City of Jersey City, New Jersey known as the Deferred Area

Exhibits C-1A through C-1C. Exhibit C-1-A: Deed Notice as Institutional Control; Exhibit C-1-B: Consent Decree as Institutional Control; Exhibit C-1C Zoning as Institutional Control: Exhibits C-1A through C-1C include a narrative description of the restrictions and obligations of this Deed Notice and the other Institutional Controls that are in addition to those described above, as follows:

(A) General Description of the Institutional Control:
The Property encompasses the In-situ Treatment Area 7 ("TA-7"), an area where a limited amount of shallow soils exceeds 20 mg/kg for hexavalent chromium. This deed notice area includes chromium only. This area consists of aboveground storage tanks connected by underground piping to a pump island with fuel-dispensing cabinets/pumps which JCMUA uses to fuel vehicles. To prevent disruption to the JCMUA fueling system and due to the depth of chromium-impacted soil and the proximity of the nearby 72-inch forcemain, in-situ treatment was implemented in this area in lieu of excavation. The in-situ treatment implemented reduced the chromium-impacted soils to below 20 mg/kg for hexavalent chromium throughout the area except for one approximately 559 square foot area. As part of facility upgrades, JCMUA plans on relocating their fueling system. Once they do, the limited area where hexavalent chromium soil remains above 20 mg/kg will be excavated and the deed notice terminated consistent with paragraph 13 above. In the meantime, the provisions of the LTMP, developed pursuant to the Consent Decree, will apply to the Property.

(1) Description and estimated size of the Restricted Areas as described above;

The Property constitutes a portion of Block 21901, Lot 10. The estimated size of the Area containing chromium-impacted soils (hexavalent chromium above 20 mg/kg) is identified on Exhibit B-1 is estimated at approximately 560 square feet or approximately 0.013 acres.

(2) Description of the restrictions on the Property by operation of the Institutional Control;

The Property shall only be used for activities consistent with this Deed Notice, the Consent Decree and the applicable zoning standards. Intrusive activities (i.e., excavation or digging) that breach the engineering controls (as described in Exhibit C-2) will not be permitted on the Property except in compliance with the terms of the Consent Decree and the applicable portions of the LTMP developed thereunder, and this Deed Notice. See subsections 7A Alterations, Improvements, Disturbances, and 7B Emergencies for additional information. A copy of the LTMP is maintained by Honeywell at 115 Tabor Road, Morris Plains, NJ 07950.

(3) The objective of the restrictions;

The restrictions will prohibit contact with soils containing hexavalent chromium above the level established in the NJDEP Chromium Policy of 20 mg/kg.

(B) Description of the monitoring necessary to determine whether:

(1) Any disturbances of the soil in the Restricted Areas resulted in the unacceptable exposure to the soil contamination;

Visual inspections of the Property and other monitoring as set forth in the Consent Decree and the applicable portions of the LTMP developed thereunder.

(2) There have been any land use changes subsequent to the filing of this Deed Notice or the most recent biennial certification, whichever is more recent;

Same as (B)(1).

(3) The current land use on the Property is consistent with the restrictions in this Deed Notice;

Same as (B)(1).

(4) Any newly promulgated or modified requirements of applicable regulations or laws apply to the site; and

Review of newly promulgated or modified requirements of applicable regulations or laws that potentially may apply to the site.

(5) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice, and conduct the necessary sampling; and

Same as (B)(4).

(C) Description of the following items that will be included in the biennial certification:

(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice;

(2) Land use at the Property is consistent with the restrictions in the Consent Decree, this Deed Notice, the applicable zoning standards; and

(3) The remedial action that includes this Deed Notice continues to be protective of the public health and safety and of the environment.

The monitoring report will be included in the biennial certification. Components of the monitoring report will include the following:

- ***A report of all conditions set forth in sections (A) and (B) above to assure that they have been adhered to, including evaluation of any available documents as a result of changes in land use or incidents.***
- ***A report that determines whether or not the land use at the Property has remained consistent with the restrictions in the Consent Decree, this Deed Notice*, and *the applicable zoning standards.***
- ***A report that determines whether or not the Deed Notice continues to be protective of the public health and safety and the environment.***

C-2 Engineering Controls
Deed Notice #10 SA-6 North TA-7

Portion of Block 21901, Lot 10
City of Jersey City, New Jersey

ii. Exhibits C-2A through C: Narrative description of the Engineering Controls including Clean Fill as follows:

(A) General Description of the engineering controls:

(1) Description of the engineering controls;

The Engineering Control consists of 2 feet of clean soil and an asphalt/concrete cap.

(2) The objective of the engineering controls; and

The objective of the controls is to prevent contact with soils containing hexavalent chromium above the level established in the NJDEP Chromium Policy of 20 mg/kg.

(3) How the engineering controls are intended to function.

The soil engineering controls are intended to function as a barrier to underlying and adjacent soils containing hexavalent chromium above20 mg/kg within the Property. Monitoring requirements for the engineering controls are set forth in the applicable portions of the LTMP.

(B) Description of the operation and maintenance necessary to ensure that:

(1) Periodic inspections of each engineering control are performed in order to determine its integrity, operability, and effectiveness;

Honeywell will perform monitoring by visual inspection of the Property pursuant to the Consent Decree. Other monitoring activities shall be performed as set forth in the applicable portions of the LTMP developed pursuant to the Consent Decree.

(2) Each engineering control continues as designed and intended to protect the public health and safety and the environment;

Same as (B)(1) above.

(3) Each alteration, excavation or disturbance of any engineering control is timely and appropriately addressed to maintain the integrity of the engineering controls;

Same as (B)(1) above. Also, see the Consent Decree and subsections 7A Alterations, Improvements, Disturbances, and 7B Emergencies for additional information.

(4) The engineering controls are being inspected and maintained and their integrity remains so that the remedial action continues to be protective of the public health and safety and of the environment;

Same as (B)(1) above.

(5) A record of the self-inspection dates, name of the inspector, results of the inspection and condition(s) of the engineering controls. Sampling, for example, may be necessary if it is not possible to visually evaluate the integrity/performance of the engineering controls; and

Records of the inspections are to be maintained as listed in (5). Other monitoring activities shall be performed as set forth in the applicable portions of the LTMP developed pursuant to the Consent Decree.

(6) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice, and conduct the necessary sampling; and

A review of any new standards, regulations, or laws will be conducted. Should the review indicate that other activities are necessary, those activities will be listed and executed.

(C) Description of the following items that will be included in the biennial certification:

(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice;

(2) The engineering controls continues to operate as designed; and

(3) The remedial action that includes the engineering control continues to be protective of the public health and safety and of the environment.

The monitoring report will be included in the biennial certification. Components of the monitoring report will include the following:

- ***A report of all conditions set forth in sections (A) and (B) above to assure that they have been adhered to, including an evaluation to determine whether or not the engineering controls are continuing to meet the original objective and intended function.***

- ***A report to determine whether or not the engineering controls continue to operate as designed.***
- ***A report to determine whether or not the engineering controls continue to be protective of the public health and safety and of the environment***

Appendix I
Consent Decree

APPENDIX I

UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY

JERSEY CITY MUNICIPAL UTILITIES AUTHORITY, Plaintiff, v. HONEYWELL INTERNATIONAL INC., Defendant.	Civil Action No. 05-5955 Consolidated under Docket No. 95-2097 (DMC)
JERSEY CITY INCINERATOR AUTHORITY Plaintiff, v. HONEYWELL INTERNATIONAL INC., Defendant.	Civil Action No. 05-5993 Consolidated under Docket No. 05-5955 (DMC) under Docket No. 95-2097 (DMC)
HACKENSACK RIVERKEEPER, INC., *et al.* Plaintiffs, v. HONEYWELL INTERNATIONAL INC., *et al.* Defendants.	Civil Action No. 06-22 Consolidated under Docket No. 05-5955 (DMC) under Docket No. 95-2097 (DMC)

FIRST AMENDED CONSENT DECREE REGARDING REMEDIATION AND REDEVELOPMENT OF STUDY AREA 6 NORTH

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RECITALS

Whereas, on June 30, 2003, the district court for the District of New Jersey issued a Final Judgment in *Interfaith Community Organization v. Honeywell International Inc.*, Civ. No. 95-2097 (DMC) (*"ICO v. Honeywell"*), ordering the remediation of an area designated by the New Jersey Department of Environmental Protection ("NJDEP") as Study Area 7 by excavation of all chromium contamination on the property, under the oversight of a court-appointed Special Master;

Whereas, on or about December 23, 2005, the Jersey City Municipal Utilities Authority ("JCMUA") filed litigation styled *Jersey City Municipal Utilities Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5955 (DMC), bringing claims against Honeywell International Inc. ("Honeywell") under, *inter alia*, Section 6972 of the Resource Conservation and Recovery Act ("RCRA"), and seeking remediation of chromium contamination on property owned by JCMUA and other relief;

Whereas, on or about December 28, 2005, the Jersey City Incinerator Authority ("JCIA") filed litigation styled *Jersey City Incinerator Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5993 (DMC), bringing claims against Honeywell under, *inter alia*, Section 6972 of RCRA, and seeking remediation of chromium contamination on property owned by JCIA and other relief;

Whereas, on or about January 4, 2006, the Hackensack Riverkeeper, Inc., Captain William Sheehan, Reverend Winston Clarke, and Lawrence Baker ("Riverkeeper") filed litigation styled *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.,* D.N.J., Civ. No. 06-022 (DMC), bringing a claim against Honeywell under RCRA and seeking remediation of chromium contamination to soils, groundwater, surface waters, and sediments associated with various properties collectively designated by NJDEP as Study Areas 5, 6 North, and 6 South;

Whereas, Study Areas 6 North and South are directly adjacent to Study Area 7 on the north and south sides, respectively;

Whereas, Study Area 5 is comprised of properties to the east of Study Areas 6 North, 6 South, and 7 across Route 440;

Whereas, the property owned by JCIA and JCMUA and collectively the subject of *JCMUA v. Honeywell* and *JCIA v. Honeywell* comprises a part of Study Area 6 North;

Whereas, the City of Jersey City ("Jersey City") also owns property that comprises a part of Study Area 6 North;

Whereas, Riverkeeper also named as defendants in *Riverkeeper v. Honeywell* Jersey City, JCMUA, and JCIA (collectively the "Jersey City Entities");

Whereas, the Jersey City Entities and Honeywell also asserted cross-claims against each other in *Riverkeeper v. Honeywell*;

Whereas, *JCMUA v. Honeywell*, *JCIA v. Honeywell,* and *Riverkeeper v. Honeywell* were consolidated by the United States District Court for the District of New Jersey (hereinafter the "Consolidated Litigation");

Whereas, in the Consolidated Litigation, the Jersey City Entities and Riverkeeper have alleged that Honeywell bears responsibility for the presence and remediation of chromite ore processing residue ("COPR") and chromium in soils and groundwater on the Study Area 6 North property;

Whereas, in the Consolidated Litigation, Honeywell has alleged that the Jersey City Entities bear full responsibility for lead and other contamination on the Study Area 6 North property, and also bear an equitable share of liability for the presence and remediation of COPR and chromium in soils and groundwater on the Study Area 6 North property and for chromium and other contamination in Hackensack River sediments in the vicinity of Study Area 6 North;

Whereas, on October 9, 2007, Honeywell and Riverkeeper submitted the Consent Order on Sediment Remediation and Financial Assurances ("Sediment Consent Order"), resolving issues related to the remediation of chromium contaminated sediments in the Hackensack River in the vicinity of Study Areas 5, 6, and 7;

Whereas, the Parties to this Consent Decree each believe that it is in their mutual interest to move forward productively to resolve their differences so that they can implement environmental remediation at Study Area 6 North that ensures the continued protection of human health and the environment and so that Study Area 6 and Study Area 7 can be redeveloped in keeping with Jersey City's vision for a revitalized West Side;

Whereas, the Local Redevelopment and Housing Law, N.J.S.A. 40A:12A-1, *et seq.*, as amended and supplemented (the "Redevelopment Law") provides for municipalities to participate in the redevelopment and improvement of areas in need of redevelopment;

Whereas, the portions of Study Area 6 and Study Area 7 (i) which are owned by the Jersey City Entities, (ii) which are owned by Honeywell, (iii) as to which Honeywell has a purchase and sale agreement with the current owner, or (iv) which hereafter will be acquired by a Jersey City Entity and/or Honeywell are parcels which by ordinance adopted by the City Council of Jersey City on February 27, 2008, have been determined to be "areas in need of redevelopment" under the criteria of the Redevelopment Law because of conditions prevalent on those parcels;

Whereas, the settlement which is the subject matter of this Consent Decree contemplates the environmental remediation of Study Area 6 North and redevelopment of the parcels that comprise Study Areas 6 and 7 to create a major mixed use project in an important section of Jersey City;

Whereas, each of the actions to implement this Consent Decree have been fully considered by the Parties as a means to accomplish the aforesaid purposes of this settlement;

Whereas, the consent of each of the Jersey City Entities to this Consent Decree was considered at a duly noticed and appropriate meeting of their respective governing bodies, open to the public, at which members of the public were provided an opportunity to comment on all aspects of the settlement, including, without limitation, the commitments made by the Jersey City Entities herein; and

Whereas, Honeywell and the Jersey City Entities are settling their claims, cross-claims, or counter-claims in the Consolidated Litigation against each other in the *Settlement Consent Order by and between the Jersey City Entities and Honeywell International Inc.* (hereafter "Jersey City/Honeywell Consent Order"), filed in the Consolidated Litigation simultaneously with this Consent Decree and attached as Exhibit A to this Consent Decree:

NOW, THEREFORE, IT IS HEREBY ORDERED AND DECREED AS FOLLOWS:

ARTICLE I: DEFINITIONS

For purposes of this Consent Decree, the following terms shall have the meanings set forth in this Article:

1. **AOC 1** shall mean that area of Study Area 6 North in which the hexavalent chromium concentration in the top 20 feet of soil below existing ground surfaces exceeds concentrations of 20 mg/kg and the Chromium Remedy will be implemented pursuant to Article III. AOC 1 is shown on Exhibit B.

2. **AOC 1 Additional Excavation Areas** shall mean those areas of Study Area 6 North which require excavation pursuant to paragraph 57. The AOC 1 Additional Excavation Areas are not contiguous to AOC 1. The AOC 1 Additional Excavation Areas are shown on Exhibit B.

3. **AOC 1 Open Space Area** shall mean the AOC 1 Open Space Area, as defined by paragraph 53, consisting of approximately 11 acres enclosed by the hydraulic barrier walls constructed under the Chromium Remedy, and which shall be subject to paragraph 60. The AOC 1 Open Space Area is shown on Exhibit B.

4. **AOC 2** shall mean that area of Study Area 6 North on which the Historic Fill Remedy will be implemented pursuant to Article II.B of the Jersey City/Honeywell Consent Order. AOC 2 is shown on Exhibit B.

5. **Bayfront Redevelopment LLC** shall have the meaning set forth in paragraph 4.1 of the Jersey City/Honeywell Consent Order.

6. **COPR** shall mean Chromite Ore Processing Residue.

7. **Chromium Remedy** or **Chromium Remediation** shall mean the remedy set forth in Article III.

8. **Consolidated Litigation** shall mean *Jersey City Municipal Utility Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5955 (DMC), *Jersey City Incinerator Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5993 (DMC), and *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.,* D.N.J., Civ. No. 06-022 (DMC).

9. The **Court** shall mean the United States District Court of the District of New Jersey, which has jurisdiction over the Consolidated Litigation.

10. **Deep Groundwater Remedy** shall mean the deep overburden and bedrock groundwater pump and treat remedy as required by the Order Approving the Deep Overburden Groundwater Remediation, entered on October 6, 2006, and the Stipulation on Consent Regarding the Schedule for Implementation of Deep Groundwater Remedial Actions, currently pending before the Special Master in *ICO v. Honeywell.* In the event that Riverkeeper and Honeywell reach a settlement on source control issues, the Deep Groundwater Remedy shall

include the remedy to which Riverkeeper and Honeywell have agreed. In the event that Riverkeeper and Honeywell do not reach a settlement on source control issues, the Deep Groundwater Remedy shall include the remedy ordered by the Special Master or the Court in *ICO v. Honeywell* for source control.

11. **Hackensack River Watershed Land Trust** shall mean the dedicated fund of the Hackensack Riverkeeper, Inc., established under Section 501(c) of the Internal Revenue Code for the purpose of acquiring and preserving open space within the Hackensack River watershed and administered by the Board of Trustees of the Hackensack Riverkeeper, Inc.

12. **Historic Fill** shall have the definition provided in the NJDEP Technical Requirements for Site Remediation.

13. **Historic Fill Remedy or Historic Fill Remediation** shall mean the remedy set forth in Article II.B of the Jersey City/Honeywell Consent Order, except that the Historic Fill Remedy shall not be limited to the remedy set forth in Article II.B of the Jersey City/Honeywell Consent Order if NJDEP requires a more stringent remedy.

14. **Honeywell** shall mean Honeywell International Inc. and its affiliates, including Kellogg Street 80 Property LLC, Kellogg Street 60 Property LLC, and Kellogg Street/440 Property LLC.

15. **Honeywell's Treatment Plant** shall mean the treatment plant currently located at 80 Kellogg Street that is used to treat, *inter alia*, chromium contaminated groundwater.

16. ***ICO v. Honeywell*** shall mean *Interfaith Community Organization v. Honeywell International Inc.*, D.N.J., Civ. No. 95-2097 (DMC).

17. **Including** shall mean including, but not limited to.

18. **JCIA** shall mean the Jersey City Incinerator Authority.

19. **JCMUA** shall mean the Jersey City Municipal Utilities Authority.

20. **JCRA** shall mean the Jersey City Redevelopment Agency.

21. **Jersey City Entities** shall mean the City of Jersey City, including the Department of Public Works ("DPW") and other agencies and branches thereof, the JCIA, and the JCMUA.

22. **Jersey City/Honeywell Consent Order** shall mean the *Settlement Consent Order by and between the Jersey City Entities and Honeywell International Inc.* entered in the Consolidated Litigation simultaneously with this Consent Decree.

23. **NJDEP** shall mean the New Jersey Department of Environmental Protection.

24. **NJDEP Chromium Directive** shall mean the Chromium Directive issued by NJDEP on February 8, 2007, and attached as Exhibit C.

25. **Party or Parties** shall mean any one or all of the signatories to this Consent Decree.

26. **RCRA** shall mean the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et seq.*, as amended.

27. **Redevelopment Agreement** shall have the meaning set forth in paragraph 4.11(e) of the Jersey City/Honeywell Consent Order.

28. **Redevelopment Area** shall mean Study Area 6 North, Study Area 6 South, and Study Area 7, collectively.

29. **Redevelopment Law** shall mean the New Jersey Local Redevelopment and Housing Law, N.J.S.A. 40A:12A1, *et seq.*, as amended and supplemented.

30. **Redevelopment Plan** shall mean the Bayfront I Redevelopment Plan as adopted by Jersey City on March 12, 2008.

31. **Riverkeeper** shall mean the plaintiffs in *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.*, D.N.J., Civ. No. 06-22 (DMC), and includes the Hackensack Riverkeeper, Inc., William Sheehan, Reverend Winston Clarke, and Lawrence Baker.

32. **Sediment Consent Order** shall mean the Consent Order on Sediment Remediation and Financial Assurances, which the Parties expect will be entered by the Court in *ICO v. Honeywell* and this Consolidated Litigation.

33. **Shallow Groundwater** or **Shallow Level of Groundwater** shall mean groundwater above the meadow mat, groundwater at stratigraphically equivalent depths in locations where there is no meadow mat, and groundwater that is contaminated by recent contact with COPR or other chromium soil contamination above the meadow mat and subsequently flows downward through or past the meadow mat into the upper portion of the lacustrine sediments. This does not include groundwater found in the bedrock, the deep zone, or any plume of contamination that is in both the intermediate and deep zones, as those zones are defined in the Final Groundwater Investigation Report, prepared in *ICO v. Honeywell*, dated February 2007, p. 1-2.

34. **Site** shall mean Study Area 6 North.

35. **Site Preparation Activities** shall have the meaning set forth in paragraph 3.1 of the Jersey City/Honeywell Consent Order.

36. **Site Preparation Plan** shall have the meaning set forth in paragraph 3.2 of the Jersey City/Honeywell Consent Order.

37. **Soil** shall mean soils, historic fill, and/or COPR.

38. The **Special Master** shall mean Senator Robert G. Torricelli, appointed as the Special Master in *ICO v. Honeywell* and the Consolidated Litigation, and his successors or whomever the Court may appoint as Special Master.

39. **Stratum O** shall mean the layer composed of soft brown silty fine sand interlayered with soft gray silty clay and fine sandy to clayey silt generally located above the meadow mat below the Historic Fill and/or COPR.

40. **Study Area 6 North** shall mean that property comprising Sites 87 and 88 of the Chromate Chemical Production Waste Sites designated by NJDEP, comprising approximately 41.58 acres and including: (a) all such property owned by JCMUA located at 555 Route 440, Jersey City, New Jersey, (b) all such property owned by JCIA located at 501 Route 440, Jersey City, New Jersey; (c) all such property owned by Jersey City or its Department of Public Works and located at 575 Route 440, Jersey City, New Jersey; and (d) all such property owned by Paul Trenk consisting of Block 1290.1, Lot 2A, Jersey City, New Jersey. Such properties are more fully described in Exhibit H to the Jersey City/Honeywell Consent Order.

41. **Study Area 6 South** shall mean (a) that property currently owned by 425/445 Route 440 Property LLC consisting of Site 73, located at 200 Kellogg Street Jersey City, Hudson County, New Jersey; (b) that property currently owned by Kellogg Street 80 Property LLC consisting of Site 134, located at 100 Kellogg Street Jersey City, Hudson County, New Jersey; (c) that property currently owned by Kellogg Street 80 Property LLC consisting of Site 140 located at 80 Kellogg Street Jersey City, Hudson County, New Jersey; (d) that property currently owned by Kellogg Street 60 LLC consisting of Site 125, located at 60 Kellogg Street Jersey City, Hudson County, New Jersey; (e) that property currently owned by Kellogg Street/440 Property LLC consisting of Site 124, Jersey City, Hudson County, New Jersey; (f) that property currently owned by Kellogg St/Harsimus Cove Realty located at 150 Kellogg Street, Jersey City, Hudson County, New Jersey, (g) that property currently owned by Cordova Enterprises Ltd located at 38 Kellogg Street, Jersey City, Hudson County, New Jersey, and (g) that property currently owned by Cordova Enterprises Ltd located at 28 Kellogg Street, Jersey City, Hudson County, New Jersey. Such properties are more fully described in Exhibit H to the Jersey City/Honeywell Consent Order.

42. **Study Area 6** shall mean Study Area 6 North and Study Area 6 South, collectively.

43. **Study Area 7** shall mean (a) that property currently owned by 425/445 Route 440 Property LLC located at 425 and 445 Route 440, Jersey City, Hudson County, New Jersey, and (b) that property currently owned by Roned Realty/Edward Navlen located at 465 Route 440, Jersey City, Hudson County, New Jersey. Such properties are more fully described in Exhibit H to the Jersey City/Honeywell Consent Order.

44. **Technical Requirements for Site Remediation** shall mean the NJDEP Technical Requirements for Site Remediation, N.J.A.C. Chapter 26E, as duly and properly promulgated and amended.

45. **Unrestricted Use** shall mean that the contaminated medium is restored to a condition or quality suitable for all uses.

ARTICLE II: SCOPE OF THE CONSENT DECREE, JURISDICTION, AND CLAIMS RESOLVED

46. Except as provided in this paragraph, the terms of the Jersey City/Honeywell Consent Order shall remain in full force and effect. To the extent that any provision in the Jersey City/Honeywell Consent Order refers to the Chromium Remedy or Chromium Remediation, it shall be construed as referring to Article III of this Decree. In the event of any conflict or inconsistency between the terms of this Decree and the Jersey City/Honeywell Consent Order, the terms of this Decree govern. In the event that any action taken pursuant to the Jersey City/Honeywell Consent Order is in conflict with or inconsistent with the terms of this Decree, the terms of this Decree shall govern.

47. This Court has jurisdiction over the Parties and subject matter of the Consolidated Litigation pursuant to Section 6972 of RCRA.

48. For purposes of this Consent Decree, the Complaints in the Consolidated Litigation each state claims upon which relief may be granted against Honeywell.

49. In the event that this Decree is not terminated by one or more Parties pursuant to paragraph 100, this Consent Decree resolves, settles, and satisfies all claims by Riverkeeper against Honeywell with respect to soils and shallow groundwater at Study Area 6 North. This Consent Decree does not resolve any claims by Riverkeeper against Honeywell with respect to Study Area 6 South, Study Area 5, or groundwater at Study Area 6 North other than shallow groundwater.

50. Nothing in this Consent Decree shall be construed or interpreted to waive any claim or defense any Party has asserted or may assert against any third party in the Consolidated Litigation except as explicitly stated herein.

51. This Consent Decree does not constitute an admission of liability on the part of any Party with respect to any claims, cross-claims, or counter-claims in the Consolidated Litigation.

ARTICLE III: CHROMIUM REMEDIATION

A. Chromium Remedy

52. **Responsibility for Implementation of Chromium Remediation.** As between the Parties, Honeywell shall be responsible for and shall undertake remediation of COPR and chromium present in Study Area 6 North at Honeywell's sole cost and expense. Remediation of COPR and chromium present in Study Area 6 North shall be undertaken in accordance with the terms of this Consent Decree.

53. **AOC 1 and AOC 2.** For the purposes of remediation, Study Area 6 North shall consist of two Areas of Concern ("AOCs"), designated as AOC 1 and AOC 2 as shown on Exhibit B. AOC 1 is set forth on Exhibit B and consists of that portion of Study Area 6 North for which chromium remediation is required pursuant to paragraphs 55, 56, and 57. AOC 2 consists of the entirety of Study Area 6 North, including AOC 1, to the extent that historic fill is present in any area of Study Area 6 North. For AOC 1, the intended land use will determine the types

of remedial measures taken in the Chromium Remedy. There are two distinct land uses for AOC 1: open space and residential. As a result, AOC 1 will be further subdivided into:

(a) The AOC 1 Open Space Area, which shall comprise that portion of AOC 1 for which future use shall be restricted as provided in paragraph 60. The AOC 1 Open Space Area is shown on Exhibit B;

(b) The AOC 1 Residential Area, which shall comprise that portion of AOC 1 for which future use shall allow for residential and/or commercial and retail uses, but for which the remedial measures shall assume only a residential use . The AOC 1 Residential Area is shown on Exhibit B; and

(c) The AOC 1 Additional Excavation Areas, which consist of those portions of Study Area 6 North that require remediation pursuant to paragraph 57. The planned land use for the AOC 1 Additional Excavation Areas is residential and/or commercial and retail uses, but the remedial measures shall assume only a residential use.

54. **Scope and General Requirements of the Chromium Remedy.** The Chromium Remedy shall address shallow groundwater and soil containing hexavalent chromium in AOC 1, and shall be consistent with the requirements set forth in this Article. The Chromium Remedy set forth in this Consent Decree addresses only the shallow level of groundwater (see paragraph 58). The deep overburden and bedrock groundwater remediation, including source control, shall be addressed in a separate consent order, which shall place these issues within the jurisdiction of the Special Master in conjunction with the groundwater remedies for Study Area 7.

(a) The Chromium Remedy shall be consistent with the NJDEP Technical Requirements for Site Remediation, the Chromium Directive as issued by NJDEP on February 8, 2007 ("the NJDEP Chromium Directive"), and the Remedial Action Work Plan (with addenda) approved by NJDEP on or about February 19, 2008. This Consent Decree shall have precedence

over the Remedial Action Work Plan in the event of any inconsistency.

(b) The Chromium Remedy shall be carried out diligently, and the development and implementation of the Historic Fill Remedy shall not delay satisfaction of the milestones in the Schedule established pursuant to this paragraph. Honeywell shall propose a master Schedule for the implementation of the Chromium Remedy within 90 days of the entry of this Consent Decree, which shall include, at a minimum, the following milestones:

(i) Submission to the Special Master for all documents subject to review by the Special Master pursuant to paragraph 72(c);

(ii) Relocation of the Jersey City Entities' Study Area 6 North Operations as shall be required prior to the implementation of the Chromium Remedy;

(iii) Completion of those Site Preparation Activities necessary for the implementation of the Chromium Remedy, including remediation of the AOC 1 Additional Excavation Areas;

(iv) A final date for Honeywell's proposal of *in situ* treatment for any part of the AOC 1 Residential Area pursuant to paragraph 55(d) and a date for the final decision as to whether excavation or *in situ* treatment shall be used in the event of such a proposal;

(v) The initiation of work related to the Chromium Remedy;

(vi) The date for completion of the installation of the Chromium Remedy;

(vii) Implementation of the long-term protections of the AOC 1 Open Space Area established pursuant to paragraph 60; and

(viii) Transfer of the AOC 1 Open Space Area to Jersey City pursuant to paragraph 60(a)(iii).

(c) **Demolition and Grading Activities.** During demolition and grading activities, adequate protective measures shall be taken to protect site workers and the community

from airborne dusts and exposures to contaminated soils.

(d) **Vegetation of Clean Fill.** All clean soil fill in areas that will not involve paved roads, sidewalks, paths, walkways, or building structures shall be vegetated in such a manner to protect and maintain the required depth of clean soil fill.

55. **AOC 1 Residential Area Soil Remedy.** In the AOC 1 Residential Area, soils containing hexavalent chromium at concentrations greater than 20 mg/kg shall be excavated to a depth of 20 feet below the current ground surface in accordance with the NJDEP Chromium Directive.

(a) Those soils excavated from the AOC 1 Residential Area in which hexavalent chromium concentrations exceed 240 mg/kg shall be disposed of off-site at a waste disposal facility licensed to accept such waste.

(b) Those soils excavated from the AOC 1 Residential Area in which the hexavalent chromium concentration is less than 240 mg/kg, but greater than 20 mg/kg, shall be consolidated within the AOC 1 Open Space Area. However, any such soils which would require venting of gases shall be disposed of off-site.

(c) Soils excavated from the AOC 1 Residential Area shall be replaced with existing soils from AOC 2 or backfill soil. Any backfill soil brought to the Site shall either meet all applicable federal and NJDEP criteria, including NJDEP residential soil criteria, or comply with a beneficial soil reuse plan that is approved by NJDEP and subject to review and comment by the Parties and approval by the Special Master.

(d) In the AOC 1 Residential Area, excavation of soils containing hexavalent chromium greater than 20 mg/kg shall be the presumptive remedy. Around remaining active underground utilities or other structures, such as the bulkhead, *in situ* treatment may be considered in lieu of excavation only if Honeywell demonstrates, and all Parties, the Special

Master, and NJDEP agree that (1) excavation is technically impracticable and (2) treatment will result in hexavalent chromium concentrations of 20 mg/kg or less and no rebound will occur. If no treatment option is available, Honeywell shall propose an alternative remedial approach, subject to review and comment by the Parties and approval by the Special Master.

(e) Honeywell shall excavate all soils containing hexavalent chromium greater than 20 mg/kg in conjunction with the placement of the piping for the Deep Groundwater Remedy. Honeywell shall not propose treatment in lieu of excavation based on the location of the pipes for the Deep Groundwater Remedy or any apparent impracticability of excavating in conjunction with their installation.

56. **AOC 1 Open Space Area Soil Remedy.** In the AOC 1 Open Space Area, the soil remedy shall consist of an engineered RCRA cap to isolate contaminated soils, with gas venting, if necessary, to address the generation of methane and other naturally occurring gases in the Stratum O and/or Stratum D in the Open Space AOC. Soils consolidated under the cap, shall not require gas venting and shall not be the basis for the inclusion of gas venting as a component of the cap. The cap shall be designed and constructed so that:

(a) The cap shall consist of gas collection system, if gas venting is necessary, a base protective layer, an impervious geomembrane liner with a minimum thickness of 40 mil; a geocomposite drainage layer; a filter fabric; and a distinctive colored warning layer with markings in English and Spanish that would deter penetration of the cap in the event that digging occurred in the vicinity of the cap;

(b) All utilities, including those supporting the pump-and-treat system for groundwater remediation, with the exception of any extraction wells or collection trenches, shall be placed above the cap (but may be below the ground surface and/or contained within utility corridors). In the event that above-cap-grade gas collection and treatment is selected or is

needed to meet current or future regulatory requirements, such collection and treatment facilities are prohibited in the Open Space AOC, except for piping to connect the sub-liner collection system with the treatment facilities. Honeywell shall configure the cap so that all active piping for the wastewater treatment system operated by JCMUA, including all force mains and any connections to the emergency outfall, shall be outside the capped area. Honeywell may propose, subject to the review process in paragraph 72, to use treatment in lieu of excavation in the vicinity of the emergency outfall line if the criteria of paragraph 55(d) are satisfied; and

(c) Exclusive of roadways, the cap shall be overlain by layers of clean fill, backfill and/or overburden with an average depth of at least three feet and a minimum depth of at least two feet provided that any layer that incorporates overburden shall be below at least two feet of clean fill. Any clean fill or backfill soil brought to the Site will either meet all applicable federal and NJDEP criteria, including NJDEP residential soil criteria, or comply with a beneficial soil reuse plan that is approved by NJDEP and subject to review and comment by the Parties and approval by the Special Master. One foot of clean fill, covered with bituminous blacktop, shall be sufficient cover where roads, walkways, or other paved surfaces are located within the AOC 1 Open Space Area. All clean soil fill in areas that will not involve paved roads, walkways, or other paved surfaces shall be vegetated in such a manner as to protect and maintain the required depth of the clean soil fill and to ensure that such vegetation shall not cause any interference with or penetration of the cap.

(d) The existing overburden soils in the AOC 1 Open Space Area shall first be stripped off and set aside for use. If hexavalent chromium concentrations in the overburden exceed 20 mg/kg, the overburden shall be placed under the cap. If hexavalent chromium concentrations in the overburden do not exceed 20 mg/kg, the overburden may be placed above the cap but below the two feet of clean fill required by paragraph 56(c). Excavated hexavalent

chromium impacted soils (with concentrations between 20 mg/kg and 240 mg/kg) from the AOC 1 Residential Area shall be placed and spread in the AOC 1 Open Space Area under the cap. Excavated hexavalent chromium impacted soils (with concentrations between 20 mg/kg and 240 mg/kg) from the Study Area 6 South Development AOC (as defined in the First Amended Consent Decree Regarding Remediation and Redevelopment of Study Area 6 South and including only those portions of Study Area 6 South for which the future uses of the property may include commercial or residential development) may be placed and spread in the AOC 1 Open Space Area under the cap, provided that such soils do not require venting of gases and shall not serve as the basis for the inclusion of gas venting as part of the Study Area 6 North AOC 1 Open Space Area remedy. Both the chromium impacted soils and the previously stripped overburden shall be suitably compacted according to design specifications. Debris, to the extent it would interfere with the compaction specification requirements of the 100% Design, shall not be placed under the cap. The engineered cap shall be installed over the chromium-impacted soils exceeding 20 mg/kg hexavalent chromium.

57. **AOC 1 Additional Excavation Areas Remedy.** For those AOC 1 Additional Excavation Areas, soils containing hexavalent chromium at concentrations greater than 20 mg/kg shall be excavated to a depth of 20 feet below the current ground surface in accordance with the NJDEP Chromium Directive. Excavation of those areas comprising the AOC 1 Additional Excavation Areas shall initially be conducted in the 50-foot by 50-foot area planned in the RAWP but shall not be so limited in the event that confirmation sampling indicates that hexavalent chromium concentrations continue to exceed 20 mg/kg. Honeywell shall excavate laterally and vertically (to depths of up to 20 feet below current ground surface) until the hexavalent chromium is less than 20 mg/kg based on the results of confirmation sampling. Confirmation sampling for the AOC 1 Additional Excavation Areas shall be taken from the side

walls and bottom of the excavation, in accordance with the Technical Requirements for Site Remediation, to confirm complete removal of contaminated soils.

58. **Shallow Groundwater Remedy.** The shallow groundwater remedy shall consist of hydraulic barriers with a pump-and-treat system designed to isolate shallow groundwater and to intercept and treat shallow groundwater flowing above the meadow mat in the AOC 1 Open Space Area. The shallow groundwater remedy shall consist of the following:

(a) The existing soil/cement/bentonite wall on the boundary of Study Area 6 North and Study Area 7 shall be incorporated into the other engineering controls;

(b) Subterranean slurry walls or other hydraulic barriers shall be installed along the northern, eastern and western sides of the AOC 1 Open Space Area and keyed into the meadow mat or Stratum O or to comparable depths below ground surface;

(c) A groundwater extraction system shall be established that will consist of (i) one or more shallow extraction wells, sumps, or french drains within the AOC 1 Open Space Area; (ii) pumps; and (iii) underground piping to convey any extracted water to Honeywell's Treatment Plant;

(d) The capture zone for the shallow groundwater remedy shall include at least the entire area of contaminated shallow groundwater (except for shallow groundwater that penetrates the meadow mat and is captured by the Deep Groundwater Remedy);

(e) A plan for control of water levels shall be developed;

(f) In the event that underground structures are demolished, the plans shall address the need for special attention for structures that extend below the meadow mat in order to control needed water levels; and

(g) Honeywell shall submit such information as is required to allow NJDEP to establish a classification exception area for groundwater at the Site, in accordance with NJDEP

regulations.

59. **Permits and Authorizations.** Honeywell shall obtain all necessary federal, state, and local permits and authorizations to carry out the Chromium Remedy as set forth in this Article. The Jersey City Entities agree to cooperate with Honeywell in the applications for any such permits, authorizations, or approvals. Such cooperation shall include providing information or data with respect to permit applications, co-signing permit applications, and allowing access to Study Area 6 North to obtain information necessary for the permits.

B. Long-Term Monitoring, Maintenance, and Protection of Engineering and Institutional Controls

60. **Protection of the AOC 1 Open Space Area.** Except as provided in paragraphs 60(j) and 60(k), development in the AOC 1 Open Space Area shall be prohibited. The AOC 1 Open Space Area shall be protected against activities that may jeopardize the integrity of the cap and/or the groundwater remedial measures that shall be installed in the AOC 1 Open Space Area pursuant to the Chromium Remedy or that may impede the long-term monitoring and maintenance of the cap and/or groundwater remedial measures. It is the intention of the Parties to implement different layers of protection, which alone or in concert, impose restrictions on development, run with the land, and survive all parties. Accordingly, the following actions shall be taken pursuant to the Schedule provided in paragraph 54(b):

(a) **Ownership of and Access to the AOC 1 Open Space Area.** Ownership of and access to the AOC 1 Open Space Area shall be in accordance with the following:

(i) Pursuant to the terms of this Consent Decree and paragraph 4.3 of the Jersey City/Honeywell Consent Order, Bayfront Redevelopment LLC shall become the owner in fee simple absolute of all of the property that comprises the AOC 1 Open Space Area and shall not convey any rights or interests in such property except as provided in this Decree. At the time

of the conveyance from JCRA to Bayfront Redevelopment LLC, Bayfront Redevelopment LLC shall give Jersey City an option to buy AOC 1 Open Space Area prior to the planned transfer pursuant to paragraph 60(a)(iii). Such option to buy shall be subject to the conservation restriction imposed pursuant to paragraph 60(b). Jersey City shall exercise the option to buy the AOC 1 Open Space Area in the event that the conditions allowing for withdrawal of funds from the financial assurance mechanisms under paragraphs 84(c) or 84(d) are met;

(ii) At the time the JCRA conveys the Study Area 6 North property to Bayfront Redevelopment LLC pursuant to paragraph 4.3 of the Jersey City/Honeywell Consent Order, Bayfront Redevelopment LLC shall grant a conservation restriction for the AOC 1 Open Space Area pursuant to the requirements of paragraph 60(b);

(iii) Upon the final construction of all roads and utility corridors within the AOC 1 Open Space Area, Bayfront Development LLC shall donate good and marketable title to all the land comprising the AOC 1 Open Space Area to Jersey City. In conjunction with such donation, Bayfront Redevelopment LLC shall petition to subdivide the properties within Study Area 6 North to create a new parcel(s) comprising the AOC 1 Open Space Area. At the time of the donation, Jersey City shall grant Honeywell an easement for the purpose of monitoring and maintaining the Chromium Remedy. Jersey City shall also grant Honeywell all necessary access to the AOC 1 Open Space Area by license or such other mechanisms as may be appropriate for purposes of monitoring and maintaining the Chromium Remedy. After it acquires title pursuant to this paragraph, Jersey City shall retain ownership of the AOC 1 Open Space Area unless and until it shall have complied with the requirements of paragraph 60(a)(iv);

(iv) After it acquires title pursuant to this paragraph, Jersey City shall not convey or enter into any lease of the AOC 1 Open Space Area to any other person or entity unless it has first satisfied either of the following conditions:

(1) Jersey City has obtained the Special Master's (or if the Special Master's appointment has expired, the Court's) approval to convey the AOC 1 Open Space Area to a government entity that has the capacity and willingness to fulfill Jersey City's obligations under the Consent Decree with respect to the AOC 1 Open Space Area and such entity agrees to submit to the Court's jurisdiction and to be bound by the requirements of the Consent Decree that Jersey City has committed to fulfill with respect to protection of the AOC 1 Open Space Area pursuant to this paragraph and routine maintenance of the permissible development in the AOC 1 Open Space Area pursuant to paragraph 64(d); or

(2) The AOC 1 Open Space Area has been remediated such that no hexavalent or total chromium contamination remains in the AOC 1 Open Space Area, whether in soils or in groundwater, in excess of the levels specified for Unrestricted Use in the NJDEP Chromium Directive or any more restrictive standards for Unrestricted Use in place at the time, whichever is more restrictive, and Jersey City has demonstrated to the Special Master and/or the Court, as appropriate, that such remediation has been completed in accordance with all applicable requirements.

(b) **Conservation Restriction.** At the time the JCRA conveys the Study Area 6 North property to Bayfront Redevelopment LLC pursuant to paragraph 4.3 of the Jersey City/Honeywell Consent Order, but prior to the grant of the option to buy pursuant to paragraph 60(a)(i), Bayfront Redevelopment LLC shall grant an open space conservation restriction, pursuant to N.J.S.A. 13:8-B-1, *et seq.*, over the AOC 1 Open Space Area substantially in the form set forth in Exhibit D. Exhibit D is a conservation restriction that is consistent with the terms of this paragraph and this Consent Decree. The conservation restriction shall allow for the implementation, maintenance, monitoring, repair and replacement of the Chromium Remedy and development consistent with paragraphs 60(j) and 60(k), including the construction and

placement of roads and utilities. The Hackensack River Watershed Land Trust shall be the primary holder of the conservation restriction, with all rights of monitoring and enforcement. Riverkeeper shall propose an entity to serve as the secondary holder of the conservation restriction subject to comment by the Parties and review by the Special Master. The secondary holder shall have secondary rights of monitoring and enforcement.

(i) The conservation restriction shall be incorporated into this Consent Decree and made part of this Consent Decree. The final, executed conservation restriction shall be lodged with the Court and entered as an order of the Court. The conservation restriction shall be enforceable in this Court, in the same manner as this Consent Decree.

(ii) The conservation restrictions provided under this Consent Decree shall be consistent with the prohibited and permitted development of the AOC 1 Open Space Area as set forth in paragraphs 60(j) and 60(k) below.

(iii) Jersey City shall not take any action, whether through exercise of any power of eminent domain, application to the State of New Jersey for approval of a diversion of public park or recreation land, legal challenge to the validity or enforceability of the conservation restriction, or otherwise, the effect of which would be to in any way terminate, abrogate, or diminish the terms, conditions, or purposes of the conservation restriction. If, notwithstanding the preceding sentence, Jersey City proceeds with a condemnation or other action, the result of which would be to terminate, abrogate, or otherwise diminish the terms, conditions, or purposes of the conservation restriction, Jersey City shall, before taking any such action satisfy all of the conditions set forth in paragraph60(a)(iv)(2).

(iv) Notwithstanding the foregoing, the conservation restriction may be terminated upon application of any Party when no hexavalent or total chromium contamination remains in the AOC 1 Open Space Area, whether in soils or in groundwater, in excess of the

levels specified for Unrestricted Use in the NJDEP Chromium Directive or any more restrictive standards for Unrestricted Use in place at the time, whichever is more restrictive.

(c) **Deed Notice.** Upon completion of the Chromium Remedy, the AOC 1 Open Space Area shall be subjected to the deed notice substantially in the form set forth in Exhibit E that restricts future activities on the AOC 1 Open Space Area. Nothing in the deed notice shall be construed as preventing the imposition of more stringent restrictions on the development allowed in the AOC 1 Open Space Area pursuant to this paragraph and, in particular, the conservation restriction provided for in paragraph 60(b).

(d) **Recording of the Consent Decree, Conservation Restriction, and Deed Notice.** This Consent Decree, the conservation restriction imposed pursuant to paragraph 60(b), and the deed notice imposed pursuant to paragraph 60(c) shall be recorded, pursuant to N.J.S.A. 46:15-1.1, 46:16-1.1, and 46:16-2, in the office of the Hudson County Register and a conspicuous reference to the Consent Decree, conservation restriction, and deed notice shall be included in all instruments concerning title to the AOC 1 Open Space Area. Any Party shall have the right, periodically, but no more than once every 25 years, to record memoranda or other instruments that reference, incorporate, or attach this Consent Decree, the conservation restriction, the deed notice, and/or any further orders of the Court related to the AOC 1 Open Space Area in the real estate records related to the AOC 1 Open Space Area.

(e) **Zoning.** Pursuant to the Redevelopment Plan, the AOC 1 Open Space Area is designated for open space and park. Jersey City shall not amend or change this designation unless it first satisfies the requirements of paragraph 60(a)(iv)(2).

(f) **Recreation and Open Space Inventory.** Upon acquiring fee simple absolute title to the AOC 1 Open Space, Jersey City shall add those portions of the AOC 1 Open Space Area not covered by roads, the pedestrian thoroughfare, and utility corridors adjacent to

roads onto its Green Acres Program Recreation and Open Space Inventory ("ROSI") pursuant to N.J.A.C. 7:36 and shall specify in such listing that it is subject to (i) Honeywell's prior easement to monitor, maintain, repair, and replace the Chromium Remedy; (ii) the actions necessary to implement, monitor, maintain, repair, and replace the Chromium Remedy; (iii) the actions necessary to install any development permissible under paragraphs 60(j) and 60(k); and (iv) the conservation restriction imposed pursuant to paragraph 60(b). Jersey City shall also take all steps necessary or appropriate to notify the New Jersey Green Acres Program that such portions of the AOC 1 Open Space Area have been added to its ROSI, such that those portions of the AOC 1 Open Space Area shall thereafter be subject to all procedural and regulatory requirements applicable under the Green Acres Program, including prohibitions against diversion.

(g) **Eminent Domain.** If all or part of the AOC 1 Open Space Area is taken in exercise of the power of eminent domain, or acquired by purchase in lieu of condemnation, by any public, corporate, or other authority so as to terminate, abrogate, or limit the restrictions created by this Consent Decree or the conservation restriction imposed pursuant to paragraph 60(b), in whole or in part, any Party may take appropriate actions to challenge such taking if there is a reasonable legal basis for doing so. In the event that the Parties are unable to prevent a taking notwithstanding their reasonable and appropriate efforts, any Party may take appropriate actions to recover the full value of the interests in the AOC 1 Open Space Area subject to the taking or in lieu purchase, and all direct and incidental damages, costs, and fees occasioned thereby.

(h) **Environmental Covenant.** In the event that New Jersey enacts the Uniform Environmental Covenants Act or its substantial equivalent, the Parties shall address the issue of whether an environmental covenant shall be established for the AOC 1 Open Space Area under the statute. If the Parties are unable to reach agreement on establishment of an environmental

covenant, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. The Special Master shall recommend adoption of an environmental covenant if it would provide substantial additional protection for the AOC 1 Open Space Area without unreasonably harming the interests of any Party. Any Party shall have the right to seek review by the Court of the Special Master's recommendation or consideration by the Court of the dispute in the event that the Special Master's appointment has expired.

(i) **Future Protections.** Any Party shall have the right to propose consideration of additional or substitute protections for the AOC 1 Open Space Area. If the Parties are unable to reach agreement with regard to the proposal, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. The Special Master shall recommend adoption of additional or substitute protections for the AOC 1 Open Space Area if they would provide substantial additional protection for the AOC 1 Open Space Area without unreasonably harming the interests of any Party. Any Party shall have the right to seek review by the Court of the Special Master's recommendation or consideration by the Court of the dispute in the event that the Special Master's appointment has expired.

(j) **Prohibited Development in AOC 1 Open Space Area.** Only development satisfying the requirements of this paragraph and paragraph 60(k) shall be permitted in the AOC 1 Open Space Area. All other development in the AOC 1 Open Space Area shall be prohibited.

(i) Honeywell shall establish Open Space Design Standards that shall govern all development in the AOC 1 Open Space Area regardless of when the construction or installation of permissible development occurs. The Open Space Design Standards shall satisfy each of the requirements set forth in paragraph 60(j)(v) and shall set forth the requirements for development that are necessary for the protection of the integrity of the Chromium Remedy.

(ii) The Initial Development in the AOC 1 Open Space Area shall be the

development undertaken following the completion of the Chromium Remedy in the AOC 1 Open Space Area. The Initial Development may occur in one or more phases. Honeywell and Bayfront Redevelopment LLC shall prepare a Development Plan before the initiation of each phase of the Initial Development. The Initial Development Period for each phase shall consist of the period covered by the Initial Development, plus a period of 10 years following the submission of the as-built documentation for the phase pursuant to paragraph 60(j)(viii).

(iii) The Special Master shall have jurisdiction to review the Open Space Design Standards and the Development Plan(s) solely for the purpose of ensuring that any development undertaken during the Initial Development Period is consistent with this Consent Decree and with protection of the integrity of the Chromium Remedy. The Special Master's jurisdiction with regard to development in the AOC 1 Open Space Area shall run through the Initial Development Period for each phase.

(iv) Honeywell shall ensure that the requirements of this paragraph and paragraph 60(k) are satisfied with regard to any development undertaken within the Initial Development Period. Honeywell shall also ensure that any development undertaken within the Initial Development Period is designed and installed in a manner consistent with this Consent Decree and with protection of the integrity of the Chromium Remedy.

(v) Any development undertaken in the AOC 1 Open Space Area, regardless of when undertaken, shall satisfy each of the following requirements:

(1) It shall not jeopardize the integrity of the Chromium Remedy;

(2) It shall be limited to the types of development permitted under paragraph 60(k);

(3) It shall be consistent with this Consent Decree, including the conservation restriction imposed pursuant to paragraph 60(b), and the Redevelopment Plan;

however, in the event of any conflict or inconsistency between this Decree and the Redevelopment Plan, this Decree shall govern;

(4) In total, at least 75% of the AOC 1 Open Space Area, exclusive of the acreage used for roads and the pedestrian thoroughfare, shall be comprised of landscaping, as defined by paragraph 60(k)(xi);

(5) The portion of the Open Space Design Standards necessary for protection of the Chromium Remedy as related to all roads, the pedestrian thoroughfare and associated utility corridors as well as the general location of such items shall be included in the 100% Design of the Chromium Remedy;

(6) If the lowest elevation for the bedding for any utility line, including irrigation or sprinkler lines, is two feet from the top of the warning layer of the cap, the utility line shall be placed in a utility corridor;

(7) In any event, there shall be two feet of soil or more between the warning layer of the cap and the lowest elevation of the bedding for any irrigation or sprinkler lines; and

(8) No permanent concession facilities shall be permitted.

(vi) Honeywell shall submit the Open Space Design Standards and the Development Plan(s) for any development undertaken during the Initial Development Period pursuant to the requirements of paragraph 72(c), except that such documents need not be submitted to NJDEP. Following Honeywell's submission of such documents, the procedures of paragraphs 72(d) and 72(e) shall apply, except that the Special Master need not provide notice to NJDEP.

(vii) During the Initial Development Period, any development in the AOC 1 Open Space Area shall require the preparation and submission of a Development Plan pursuant

to paragraph 60(j)(vi) and such Development Plan shall be subject to review by the Special Master pursuant to paragraph 60(j)(iii).

(viii) Upon completion of each phase of the Initial Development, Honeywell shall provide as-built documentation for the Initial Development to the Special Master, Riverkeeper, and the Jersey City Entities. Upon completion of any further development during the Initial Development Period for the phase, Honeywell shall also provide as-built documentation to the Special Master, Riverkeeper, and the Jersey City Entities for the additional development. Such additional as-built documentation for a phase shall not affect the running of the Initial Development Period for the phase.

(ix) During the Initial Development Period, replacement in-kind of development features or facilities included in the Initial Development or minor modifications to the development features or facilities included in the Initial Development shall not require the preparation of a Development Plan or be subject to review by the Special Master, provided that such replacement or modification satisfies the requirements of the Open Space Design Standards, the applicable Development Plan, and paragraphs 60(j)(v) and 60(j)(x)(3)(notice requirement).

(x) After the Initial Development Period, all development is prohibited unless one of the following conditions is met:

(1) Jersey City satisfies the conditions set forth in paragraph 60(a)(iv)(2);

(2) The development is a replacement in-kind and such replacement is made in conformance with the specifications of the Open Space Design Standards, the applicable Development Plan, and paragraph 60(j)(v); or

(3) The development meets the requirements of paragraphs 60(j)(v) and 60(j)(xi), and Jersey City provides notice of its intention to alter or add to the

development undertaken in the Initial Development Period. Such notice shall be provided in writing to Honeywell, Riverkeeper, and the holders of the conservation restriction established pursuant to paragraph 60(b) at least 30 days prior to Jersey City's alteration or addition to development undertaken in the Initial Development Period. Honeywell, Riverkeeper, or any holder of the conservation restriction shall have the right to move the Court to prohibit such alteration or addition.

(xi) If any of the development features or facilities that Jersey City seeks to add pursuant to paragraph 60(j)(x) require utilities that would require utility corridors other than the utility corridors installed during the Initial Development Period, Jersey City shall obtain approval from the Court before installing such new utility corridors.

(xii) Jersey City shall provide Honeywell, Riverkeeper, and the holders of the conservation restriction established pursuant to paragraph 60(b) with an annual report that describes any alterations or additions, including those activities under paragraph 60(j)(x)(2), to the development undertaken during the Initial Development Period.

(xiii) All development features or facilities, whether included in the Initial Development or added subsequent thereto, are subject to demolition and/or removal to the extent necessary to maintain, replace, or repair the Chromium Remedy.

(k) **Permissible Development in the AOC 1 Open Space Area.** The Initial Development or any subsequent addition or alteration thereto may include any or all of the following types of development features or facilities, provided that such development features or facilities satisfy the conditions set forth in paragraph 60(j)(v):

(i) Roads and the pedestrian thoroughfare -- both crossing and running along the AOC 1 Open Space Area, but no more extensive than provided for in the diagram on page 39 of the Redevelopment Plan;

(ii) Curbing and fences;

(iii) Sidewalks, paths, walkways, and nature trails;

(iv) Utilities and utility corridors, lighting, and restrooms;

(v) Irrigation or sprinkler components or systems;

(vi) Water features;

(vii) Above-ground storm water cisterns;

(viii) Signs, including the signs or display required by paragraph 60(l);

(ix) Benches, trash receptacles, and bicycle racks;

(x) Recreational facilities, such as playground equipment, bocce ball courts, tennis courts, basketball courts, and athletic fields; and

(xi) Landscaping, including natural grasses, small trees, shrubbery, flowers, and potted plants, provided that such landscaping and the anticipated root structure of each landscaping component do not and will not jeopardize the integrity of the Chromium Remedy. Any portion of an athletic field that is covered in natural grass shall be considered landscaping for purposes of the percentage set forth in paragraph 60(j)(v)(4).

(l) **Signs or Displays.** Honeywell shall develop a permanent plan for informing visitors to the AOC 1 Open Space Area of the history of the chromium production, contamination, and its remediation. Such plan shall provide for appropriate signs or displays that communicate this information. Such plan shall be subject to review and comment by the Parties and approval by the Special Master.

61. **Honeywell's Ongoing Responsibility.** Honeywell shall be responsible for implementing, monitoring, maintaining, repairing and replacing the Chromium Remedy in perpetuity. Honeywell shall satisfy this responsibility through establishment and implementation of a Long-Term Monitoring Plan. In the event that Honeywell ceases to exist without a

successor-in-interest or its obligations under this Consent Decree are stayed or limited due to a bankruptcy petition, the Court shall appoint an independent third-party fiduciary who shall be responsible for implementing, monitoring, maintaining, repairing and replacing the Chromium Remedy pursuant to the requirements of this Consent Decree and the Long-Term Monitoring Plan, unless Jersey City volunteers to assume these responsibilities for the Chromium Remedy.

62. **Long-Term Monitoring Plan.** In consultation with the Parties, and subject to approval by the Special Master and NJDEP, Honeywell shall develop a Long-Term Monitoring Plan to ensure the ongoing effectiveness of the Chromium Remedy to meet the objectives set forth in paragraphs 56, 58, and 63. The Long-Term Monitoring Plan shall be consistent with the applicable EPA policies and guidance, including, among others, EPA's Comprehensive Five Year Review Guidance (2001) (or any subsequent revision) and with NJDEP's Technical Requirements for Site Remediation (or any subsequent revision).

63. **Long-Term Monitoring Plan Objectives.** Honeywell shall design the Long-Term Monitoring Plan to satisfy each of the following objectives:

(a) Provide monitoring to ensure that the integrity and effectiveness of the Chromium Remedy are maintained; and

(b) Provide monitoring to ensure that the restrictions of the institutional controls are being satisfied, including the prohibition on development in the AOC 1 Open Space Area.

64. **Monitoring and Remediation Under the Long-Term Monitoring Plan.** The Long-Term Monitoring Plan shall include the monitoring and remediation activities set forth in this paragraph and other monitoring and remediation activities, if necessary, to meet the objectives of paragraph 63. Honeywell shall provide Riverkeeper, the Jersey City Entities, the Special Master, and NJDEP with annual reports on activities conducted under the Long-Term Monitoring Plan.

(a) **Monitoring Activities in the Long-Term Monitoring Plan.** Honeywell shall undertake the following monitoring activities at intervals to be specified in the Long-Term Monitoring Plan, but no less frequently than set forth below, and, if the monitoring shows it is necessary, Honeywell shall also undertake the remediation activities as set forth below:

(i) Quarterly visual inspection monitoring of the AOC 1 Open Space Area to ensure that it is not being put to any use that is inconsistent with paragraphs 60(j) and 60(k) or any use that may compromise the integrity of the Chromium Remedy. The Long-Term Monitoring Plan shall include an inventory of the prohibited and permissible uses pursuant to paragraph 60 and a corresponding checklist to be used by the individuals conducting the monitoring. If Honeywell determines that the AOC 1 Open Space Area is being used in a manner inconsistent with the protections or the integrity and effectiveness of the Chromium Remedy, Honeywell shall act as soon as possible to cause such use to cease and, if there has been damage to the Chromium Remedy, to repair or replace it to original specifications or to a level of protection equivalent to the original Chromium Remedy;

(ii) Quarterly visual inspection monitoring of the AOC 1 Open Space Area grade and slope to identify whether erosion has occurred or is occurring. Honeywell shall remediate any significant erosion.

(iii) Quarterly visual inspection monitoring to determine whether noticeable differential settlement or subsidence has occurred or is occurring in the AOC 1 Open Space Area such that the integrity of the Chromium Remedy may be materially impaired. If evidence of differential settlement or subsidence is found, Honeywell shall propose further investigative measures. Honeywell shall remediate any differential settlement or subsidence that is beyond the degree of differential settlement/subsidence allowed for in the 100% Design

and repair the cap and/or the overlying layers to original 100% Design specifications or to a level of protection at least equivalent to the original Chromium Remedy;

(iv) A baseline topographic survey at the completion of the Chromium Remedy and three additional surveys conducted at five-year intervals beginning five years after the conduct of the baseline survey. The topographic survey shall be of sufficient precision and accuracy to present the results as one-foot contours;

(v) Quarterly visual inspection monitoring to determine whether the Chromium Remedy in the AOC 1 Open Space Area has been disturbed. Any evidence of the distinctive warning layer materials or any other cap materials as described in paragraph 56(a) at the surface is an indication that the cap has been disturbed. In such an event, Honeywell shall propose further investigative measures to evaluate whether the integrity of the cap has been compromised. In the event that the investigative measures show that the cap integrity has been compromised, Honeywell shall repair or replace the cap and the overlying layers to original 100% Design specifications or to a level of protection at least equivalent to the original Chromium Remedy;

(vi) Quarterly visual inspection monitoring to ensure that burrowing animals are not materially impairing the integrity of the Chromium Remedy. If evidence of burrowing animals is found, Honeywell shall follow humane removal procedures and repair or replace the cap and the overlying layers to original 100% Design specifications or to a level of protection at least equivalent to the original Chromium Remedy;

(vii) Quarterly visual inspection monitoring of the vegetative cover in the AOC 1 Open Space Area to ensure that vegetative cover is in conformance with the landscaping provisions of the 100% Design and the Redevelopment Plan and will not materially impair the integrity of the Chromium Remedy. Maintenance of the vegetative cover shall include, at a

minimum, mowing to ensure that tree species cannot become established and removal of any other vegetation with the potential to damage the Chromium Remedy;

(viii) Quarterly groundwater monitoring to ensure that groundwater levels are maintained in accordance with the requirement to maintain an outward gradient from Study Area 7 and in accordance with the water level control plan developed pursuant to paragraph 58(e);

(ix) Monitoring of vented gases and the gas venting system to ensure proper operation of the system, to evaluate any degradation of the system, to assess the need for treatment of vented gases, either initial, subsequent, or further depending on whether treatment has been previously provided, and to detect any condition that might endanger public health or safety. Such monitoring shall be conducted on a monthly basis for at least one year and, if the readings are stable, such monitoring may be conducted thereafter on a quarterly basis; and

(x) Any additional monitoring as required by specific details added in the design phase of the AOC 1 Open Space Area.

(b) **Procedures for Proposing Changes to the Long-Term Monitoring Plan.** Any Party may, from time to time, propose changes to the scope of the monitoring activities under the Long-Term Monitoring Plan. If the Parties agree, the Long-Monitoring Plan shall be so changed subject to approval by NJDEP and by the Special Master, if his appointment has not terminated, or otherwise, by the Court. If the Parties are unable to reach agreement over alterations to the monitoring and the Special Master's appointment has not terminated under this Consent Decree, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. Any Party shall have the right to seek review by the Court of the Special Master's recommendation. In the event that the dispute arises after the Special Master's appointment has terminated, any Party may file a motion seeking a resolution of the dispute by

the Court.

(c) **Contingency Plan.** As part of the Long-Term Monitoring Plan, Honeywell shall develop a contingency plan to ensure the integrity of the remediation in the event of any planned penetration of the cap or otherwise planned activity that compromises the cap or any unplanned event or accident that penetrates the cap or otherwise compromises the integrity of the Chromium Remedy. The contingency plan shall include, at a minimum, an annually updated plan to notify the relevant persons, including the Special Master, NJDEP, and the Parties, of (i) the event penetrating the cap, compromising the cap, or compromising the integrity of the Chromium Remedy; (ii) the general steps to be taken to identify the extent of the problem; and (iii) the standards for remedying the problem.

(d) **Routine Maintenance.** The title owner of the AOC 1 Open Space Area shall conduct maintenance of the AOC 1 Open Space Area features or facilities that are permissible under paragraphs 60(j) and 60(k). The maintenance workers shall be trained in maintenance procedures that do not jeopardize the integrity of the Chromium Remedy. The training shall include the identification and reporting of any uses or features that are not permissible in the AOC 1 Open Space Area or that may jeopardize the integrity of the Chromium Remedy. Honeywell shall provide all training materials. The title owner of AOC 1 Open Space Area shall annually provide to the other Parties and the Special Master a report describing the training which has been provided to its maintenance workers. The title owner of the AOC 1 Open Space Area shall also provide to the Parties and the Special Master notice of any violations of the restrictions relating to the AOC 1 Open Space Area identified by its workers during routine maintenance.

(e) **Recordkeeping.** Honeywell shall maintain written logs or other records of those monitoring and remediation activities undertaken pursuant to the Long-Term Monitoring

Plan. Such logs shall be provided to Riverkeeper and the Jersey City Entities on a quarterly basis.

65. **Monitoring and Reporting to Riverkeeper and Jersey City Entities.** Riverkeeper and Jersey City Entities shall be provided with all documents submitted to NJDEP and/or the Special Master with respect to the Chromium Remedy, including the documents identified in paragraph 72(c).

66. **Notice to Stakeholders.** All residents, regardless of whether they are owners or lessees, and all commercial tenants on Study Areas 6 and 7 are hereby deemed stakeholders. Honeywell shall ensure that all stakeholders shall be provided at the time of their purchase or lease with notice of the contamination, the remedial actions that have been undertaken or are planned, and the importance of reporting activities that may appear to jeopardize the integrity of the engineering controls. Notice shall be accomplished in the following manner:

(a) Bold or otherwise conspicuous language on the first page of the deed provided to all purchasers in the Residential Area;

(b) A summary notice of the Chromium Remedy which:

(i) Has been subject to review and comment by the Parties and approval by the Special Master; and

(ii) Provides a reference to public websites and libraries and/or the future equivalents thereof, where the following can be found:

(1) Zoning and other Jersey City maps showing the AOC 1 Open Space Area; and

(2) Documents describing the contamination and the remediation, including:

(a) This Consent Decree;

(b) The Remedial Investigation Report and the Final Remedial Action Report,

(c) The annual reports on long-term monitoring and maintenance and repair activities as required by paragraph 64 and annual reports on changes to the Initial Development as required by paragraph 60(j)(xii); and

(d) The Long-Term Monitoring Plan.

(c) The provision of the maps and documents referred to in paragraph 66(b)(ii) to the public via websites and libraries and/or the future equivalents thereof; and

(d) Notices to lessees and commercial tenants in all lease documents.

67. **Annual Letter to Riverkeeper and Jersey City Entities on Notice to Stakeholders.** Each year beginning one year after the issuance of the first notice in a deed or lease pursuant to paragraph 66, Honeywell shall provide a letter to the Riverkeeper and the Jersey City Entities documenting its compliance with paragraph 66.

68. **Future Notice to Stakeholders.** Honeywell shall ensure that all stakeholders are provided with notice, at least annually, of long-term monitoring activities and any additional remediation activities undertaken with respect to the Chromium Remedy. Such notice shall be accomplished by notices on websites or future equivalents thereof, including Jersey City websites, any websites created to provide information about the Chromium Remediation or redevelopment of the Redevelopment Area, and one or more of the following:

(a) Any community message board or other similar site used and/or maintained by stakeholders or the manager(s) of the Redevelopment Area;

(b) Mailings to all stakeholders; and

(c) Posters and flyers throughout the Redevelopment Area.

69. **Stakeholder Enforcement.** Any stakeholder shall have the right to enforce the

remedial obligations of this Consent Decree in the Court, including post-implementation monitoring and maintenance obligations, and the terms of any deed notice or use restriction.

C. Oversight and Enforcement by the Special Master and NJDEP

70. **Federal Court Jurisdiction.** The Court shall retain jurisdiction for the purpose of overseeing and enforcing this Consent Decree and to review any issue or dispute which is not resolved through the oversight process described in Article III.C.

71. **Appointment and Jurisdiction of the Special Master.** The Chromium Remedy provided for in this Consent Decree is hereby referred to a Special Master pursuant to Rule 53 of the Federal Rules of Civil Procedure. The Special Master is appointed in the Consolidated Litigation for the purpose of overseeing and enforcing the Chromium Remedy, the first five years of long-term monitoring of the Chromium Remedy, financial assurances for the Chromium Remedy, and the Initial Development Period for each phase of development in the AOC 1 Open Space Area. The Special Master is also appointed in the Consolidated Litigation for the limited purpose of ensuring that the scheduling and implementation of the Historic Fill Remedy, the site preparation activities, and the site redevelopment activities described in the Jersey City/Honeywell Consent Order, Articles II.B, III, and IV, do not undermine the integrity of, unreasonably interfere with, or unnecessarily delay the effectuation of the Chromium Remedy, the Study Area 7 remedies, and other remedies within his jurisdiction as of the date of entry of this Consent Decree. The Special Master shall have jurisdiction over all matters for which he is appointed.

72. **Oversight of the Chromium Remedy.**

(a) **NJDEP Authority.** NJDEP shall retain its full statutory and regulatory authority with respect to the Study Area 6 North site, including (i) permitting authority; (ii) authority to review and approve the Remedial Action Work Plan, 100% Design, and final

Remedial Action Report for the Chromium Remedy; and (iii) authority to issue a no further action letter.

(b) **Special Master Responsibilities.** The Special Master shall have the following responsibilities:

(i) Ensuring that Honeywell's implementation of the Chromium Remedy satisfies the requirements of this Consent Decree;

(ii) Ensuring that Honeywell's implementation of the Chromium Remedy conforms with federal, state, and local permit requirements;

(iii) Establishing a reasonable schedule for the implementation of the Chromium Remedy and monitoring conformance with it;

(iv) Reviewing monthly progress reports and conducting periodic meetings with the Parties to review the progress of the implementation of the Chromium Remedy. NJDEP shall be invited, but not required, to participate in these meetings and the decision as to whether to participate shall be left to NJDEP's sole discretion;

(v) Submitting quarterly progress reports to the Court;

(vi) Overseeing the financial assurances established pursuant to paragraphs 77 through 86, and, until the expiration of his term pursuant to paragraph 76, overseeing the financial assurances established pursuant to paragraphs 87 through 98;

(vii) Coordinating review of the documents as provided in paragraphs 72(c) through 72(f);

(viii) Overseeing all development undertaken in the AOC 1 Open Space Area during the Initial Development Period pursuant to paragraph 60(j)(iii); and

(ix) To the extent that, in matters within the jurisdiction of the Special Master as set forth herein, a dispute arises between the Parties with respect to implementation of the Chromium Remedy, issuing a recommendation to the Court with respect to the dispute.

(c) **Submission of Documents by Honeywell.** Honeywell shall submit the following documents to Riverkeeper, the Jersey City Entities, the Special Master, and NJDEP:

(i) An overall schedule with milestones for the design and implementation of the remedy ("Schedule");

(ii) Design drawings and specifications at the 50% level;

(iii) Design drawings and specifications at the 100% level (after selection of the contractor) (hereafter "100% Design");

(iv) The data validation plan, including quality control and quality assurance protocols;

(v) The site-wide master health and safety plan;

(vi) The Long-Term Monitoring Plan;

(vii) The final Remedial Action Report or final construction report (including as-built drawings and such other reports as may be prepared of the remedy as implemented);

(viii) A report reviewing measured groundwater levels for the groundwater remedy;

(ix) Documents required during the Initial Development Period pursuant to paragraphs 60(j)(vi), 60(j)(vii), and 60(j)(viii) ; and

(x) Other post-implementation monitoring reports as required by the Long-Term Monitoring Plan.

(d) **Comment on Submitted Documents.** For each of the documents submitted by Honeywell pursuant to paragraph 72(c), the Special Master shall establish a schedule for the submission of comments and responses to comments. For each of the documents submitted, Riverkeeper, the Jersey City Entities, the Special Master, and NJDEP shall have the right to submit comments to Honeywell. Honeywell shall address all received comments and submit a revised document. The revised document shall be submitted by Honeywell to Riverkeeper, the Jersey City Entities, the Special Master, and NJDEP. The revised document shall be subject to review and approval pursuant to paragraph 72(e).

(e) **Review and Approval of the Submitted/Revised Document**

(i) **Scope of Review.** All documents submitted by Honeywell, pursuant to paragraph 72(c) and 72(d), shall be subject to review and approval by the Special Master in accordance with the following procedure. All such documents, except the Schedule and the 100% Design, shall be subject to the review and approval process and shall not require an order of the Court. The Schedule and 100% Design documents shall be subject to the review and approval process, but shall also require an order of the Court as provided in paragraph 72(f). A document shall be approved if the document (1) complies with this Consent Decree; (2) complies with the Remedial Action Work Plan for the Chromium Remedy; and (3) complies with the Schedule and 100% Design.

(ii) **Procedure.** Prior to making a decision on a document, the Special Master shall notify NJDEP of his intention to rule on the document or make a recommendation to the Court on the document. Such notice shall notify NJDEP that the Special Master will consider any comments NJDEP wishes to submit on the document if such comments are submitted within 30 days of NJDEP's receipt of the notice. NJDEP shall in its sole discretion determine whether to submit comments to the Special Master.

(iii) **Court Review.** If any Party objects to the Special Master's recommendation to the Court or approval of any document pursuant to this paragraph, that Party may seek further relief from the Court with respect to the document.

(f) **Schedule and 100% Design Documents.** As to the Schedule and the 100% Design documents, Honeywell shall have the responsibility, within 30 days of the Special Master's approval of each document, of (i) moving for entry of an order by the Court approving the document as approved by the Special Master; or (ii) filing objections with the Court to the Special Master's approval (and any recommendations contained therein) and moving for entry of the Schedule or 100% Design (including any such recommendations of the Special Master to which Honeywell agrees). Riverkeeper and the Jersey City Entities shall have the right in these proceedings to raise any objections they might have to the Schedule or 100% Design as approved by the Special Master or to the submission by Honeywell to the Court. NJDEP shall receive notice of any motion filed with respect to the Schedule or the 100% Design.

(g) **Flexibility in 50% and 100% Design Documents**. The Parties recognize that work conducted to implement the Chromium Remedy may be conducted by Honeywell contractors and that Honeywell may establish performance-based criteria or specifications for its contractors. As a result, the Parties recognize that the 50% Design and 100% Design documents for the Chromium Remedy may include performance-based standards, criteria, and specifications. These documents shall be sufficiently prescriptive to enable the Parties and the Special Master to evaluate their conformance with the Remedial Action Work Plan and this Consent Decree. The Parties also recognize that the 100% Design will be completed after Honeywell has selected a contractor. The Parties further recognize that completing the 100% Design after the selection of the contractor(s) shall not make the 100% Design subject to any less

stringent or more deferential review. Honeywell's commitment to the contractor(s) shall not be cause to limit review by the Parties and the Special Master.

(h) **Changes to the Schedule**. The Parties recognize that changes to individual line items in the Schedule will occur. To the extent that (i) the Parties and the Special Master agree that such changes do not have a material impact on satisfaction of the Schedule milestones established for items set forth in paragraph 54(b); and (ii) such changes do not require modifications to any necessary permits or authorizations for the Chromium Remedy, such changes may be made upon agreement of the Parties and the Special Master without further order of the Court.

73. **Retention of Professionals.** The Special Master may retain the services of professionals and/or other technical personnel, as reasonably needed, to fulfill his obligations under this Consent Decree, and for which he will be reimbursed pursuant to paragraph 75.

74. **Insurance for the Special Master.** The Special Master shall obtain insurance coverage relating to the performance of the Special Master's duties and responsibilities under this Consent Decree. Such coverage shall be similar to the Special Master's existing coverage in *ICO v. Honeywell*, procured pursuant to the Court's November 11, 2005 Stipulation and Order Regarding Special Master's Application to Procure Insurance Coverage, and as extended to the Consolidated Litigation by the Consent Order on Sediment Remediation and Financial Assurances ("Sediment Consent Order"). The insurance coverage shall be sufficiently extended in duration and scope to cover all additional duties and responsibilities as set forth hereunder. Honeywell shall pay the premiums and other administrative costs of the Special Master's insurance.

75. **Reimbursement of Special Master Fees and Expenses.** The Special Master shall submit fee applications to the Court for approval of reasonable fees and expenses incurred in the

oversight of matters referred to him pursuant to this Consent Decree. Any Party may raise with the Court objections to such fee applications. Upon approval of a fee application by the Court, the reimbursement of the Special Master's fees and expenses shall be made from the escrow fund previously established by Honeywell for the purpose of paying the Special Master's fees and expenses in *ICO v. Honeywell* pursuant to this Court's September 15, 2003 Order Setting Financial Assurances and extended to the Consolidated Litigation by the Sediment Consent Order.

76. **Expiration of Special Master's Appointment.** The Special Master's appointment under this Consent Decree shall expire after Honeywell has completed the first five years of long-term monitoring of the Chromium Remedy and the Initial Development Period for each phase of development has been concluded as provided in paragraph 60(j)(ii). However, solely to the extent that the Special Master is still supervising other portions of the Consolidated Litigation or *ICO v. Honeywell* after Honeywell has completed the first five years of long-term monitoring of the Chromium Remedy or the Initial Development Period for each phase of development as provided in paragraph 60(j)(ii), whichever is later, the Special Master shall continue to have jurisdiction under this Consent Decree until he has completed his specifically enumerated responsibilities under the Final Judgment in *ICO v. Honeywell*, the Sediment Consent Order, the Deep Groundwater Consent Order, and any other future orders, decrees, or judgments in *ICO v. Honeywell* and the Consolidated Litigation. Enumerated responsibilities under any order, decree, or judgment shall include only those tasks specifically assigned to the Special Master in the order, decree, or judgment. Enumerated responsibilities shall not include any continued jurisdiction exercised over long-term monitoring beyond the initial period specified in the order, decree, or judgment. For example, the Special Master has jurisdiction over the first five years of long-term monitoring under the Sediment Consent Order. Oversight during these five years shall

be an enumerated responsibility, but any continued oversight of long-term monitoring, pursuant to the extension of the Special Master's jurisdiction beyond the first five years, as provided in paragraph 60 of the Sediment Consent Order, shall not be an enumerated responsibility. Such extensions of jurisdiction shall be effective only so long as specific enumerated responsibilities in any order, decree, or judgment have not been fulfilled.

D. Initial Financial Assurances

77. **Chromium Remedy Letter of Credit.** Honeywell shall obtain a one-year, irrevocable letter of credit (the "Chromium Remedy Letter of Credit") to be automatically renewed annually in an amount equal to the "Remedial Costs Subject to Financial Assurance."

(a) Remedial Costs Subject to Financial Assurance shall mean:

(i) The costs of implementing the Chromium Remedy;

(ii) The costs of monitoring and maintenance activities, as required by the Long-Term Monitoring Plan, for five years; and

(iii) A contingency of 25% with respect to those costs listed in paragraphs 77(a)(i) and 77(a)(ii).

(b) The Chromium Remedy Letter of Credit shall be issued by a financial institution domiciled in the United States or by a United States subsidiary of a non-U.S. financial institution, provided that in either case, the financial institution shall be acceptable to the Special Master.

78. **Procedures for Review of the Proposed Chromium Remedy Letter of Credit.** No later than 60 days after entry by the Court of this Consent Decree, Honeywell shall submit to Riverkeeper, Jersey City Entities, and the Special Master for their review the proposed (a) amount of the Chromium Remedy Letter of Credit; (b) form of the Chromium Remedy Letter of Credit; and (c) name of the institution that will issue the Chromium Remedy Letter of Credit. If

Riverkeeper or the Jersey City Entities do not agree to the terms of the Chromium Remedy Letter of Credit, the Parties shall meet and confer in an effort to resolve their differences. If the Parties are unable to reach agreement over the terms of the Chromium Remedy Letter of Credit, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. Any Party shall have the right to seek review by the Court of the Special Master's recommendation regarding the terms of the Chromium Remedy Letter of Credit.

79. **Automatic Renewal.** The Chromium Remedy Letter of Credit shall be automatically renewed annually unless (a) no later than 120 days prior to the anniversary of the Chromium Remedy Letter of Credit issue date, the issuer provides notice of nonrenewal or (b) Honeywell seeks a reduction in the Chromium Remedy Letter of Credit, pursuant to paragraph 80, to correspond to the reduced estimate of Remedial Costs Subject to Financial Assurances. If the issuer provides notice of nonrenewal, Honeywell shall obtain a replacement irrevocable Chromium Remedy Letter of Credit at least 95 days prior to the expiration date of the existing Chromium Remedy Letter of Credit. If Honeywell is not otherwise in default as provided in Article III.D, the Special Master shall direct the cancellation of the prior Chromium Remedy Letter of Credit within 91 days after delivery to the Special Master of any replacement of a Chromium Remedy Letter of Credit. In the event that the Special Master is entitled to draw upon a Chromium Remedy Letter of Credit because there are two Chromium Remedy Letters of Credit currently in place, the Special Master shall not draw an aggregate amount in excess of the highest valued Chromium Remedy Letter of Credit. Upon Honeywell's request, the Special Master may, at his option, decide not to require overlapping letters of credit in any year based on Honeywell's financial strength in that year, provided that Honeywell has submitted all necessary information so that the Special Master can make his determination at least 150 days prior to the expiration of the Chromium Remedy Letter of Credit.

80. **Annual Right to Seek Reduction in Amount of Chromium Remedy Letter of Credit.** Honeywell shall have the right annually to seek a reduction in the Chromium Remedy Letter of Credit. At the time of seeking such reduction, Honeywell shall submit to the Riverkeeper, the Jersey City Entities, and the Special Master an estimate of the remaining Remedial Costs Subject to Financial Assurance, including the contingency as described in paragraph 77(a)(iii), and shall seek adjustment of the Chromium Remedy Letter of Credit so that the total estimated amount of remaining Remedial Costs Subject to Financial Assurance are covered by the Chromium Remedy Letter of Credit. However, the adjustment shall not result in reducing the Chromium Remedy Letter of Credit to an amount below the remaining estimated costs under paragraphs 77(a)(i) and 77(a)(ii), plus a contingency of 25% of the remaining estimated costs under paragraphs 77(a)(i) and 77(a)(ii), and shall not result in reducing the Chromium Remedy Letter of Credit to an amount less than $20,000,000 as expressed in 2008 dollars unless long-term financial assurances are in place pursuant to Article III.E. Before making any request to reduce the amount or modify the terms of the Chromium Remedy Letter of Credit, Honeywell shall first confer with the Riverkeeper and the Jersey City Entities in an effort to reach agreement on the modified amount or terms of the Chromium Remedy Letter of Credit. If the Parties are unable to reach agreement over the modified amount or terms of the Chromium Remedy Letter of Credit, the Parties shall submit the dispute to the Special Master, who shall resolve the dispute. Any Party shall have the right to seek review by the Court of the Special Master's decision regarding the modified amount or terms of the Chromium Remedy Letter of Credit. Upon agreement on the amount of the reduction or modified terms of the Chromium Remedy Letter of Credit (or upon order of the Court directing that the Chromium Remedy Letter of Credit be reduced to an identified amount or otherwise modified), Honeywell shall obtain a replacement Chromium Remedy Letter of Credit in such amount and with such

terms. If Honeywell is not otherwise in default as provided in Article III.D and the issuer of the primary Chromium Remedy Letter of Credit has not provided notice of non-renewal, within 30 days after delivery to the Special Master of any replacement of a Chromium Remedy Letter of Credit, the Special Master shall direct the cancellation of the prior Chromium Remedy Letter of Credit.

81. **Bankruptcy Protection.** Neither the Chromium Remedy Letter of Credit nor the proceeds of the Chromium Remedy Letter of Credit shall be considered the property of Honeywell or property of the estate in the event of Honeywell's bankruptcy. The Chromium Remedy Letter of Credit shall contain the language necessary to assure that neither the Chromium Remedy Letter of Credit nor the proceeds of the Chromium Remedy Letter of Credit shall be affected or restricted in any way by operation of the automatic stay in 11 U.S.C. 362.

82. **Exclusive Court Jurisdiction.** The Chromium Remedy Letter of Credit shall recite that the issuer submits to the exclusive jurisdiction of this Court for any and all disputes arising under the Letter of Credit.

83. **Application of New York Law.** The provisions of the Uniform Customs and Practice ("UCP") for Documentary Credits (1993 Revision) International Chamber of Commerce Publication #500 and New York law shall apply to the Chromium Remedy Letter of Credit.

84. **Procedures upon Honeywell's Material Default of Its Obligations.** During the period in which the Special Master has jurisdiction pursuant to paragraph 71, the Chromium Remedy Letter of Credit shall be payable to the Special Master and shall not, prior to its expiration date, be revoked or terminated except consistent with this Consent Decree and with the consent of the Special Master and approval by the Court. The Special Master's ability to draw upon the Chromium Remedy Letter of Credit shall not be limited by any agreement between Honeywell and the issuer. The Special Master may, without further order or notice to

this Court, draw upon the Chromium Remedy Letter of Credit upon the occurrence of default by Honeywell, which shall include:

(a) The failure of Honeywell, in the event that notice is given pursuant to paragraph 79 to deliver a replacement Chromium Remedy Letter of Credit at least 95 days prior to the expiration date of the existing Chromium Remedy Letter of Credit;

(b) The material failure of Honeywell to proceed with diligence and in good faith to carry out the terms of this Consent Decree and the continuance of such a material breach for a period of 15 days after written notice to Honeywell thereof and either (i) Honeywell, in the opinion of the Special Master without further input from the Parties, shall have failed to cure the breach; (ii) during the 15-day period, the Court has not entered an order to prevent the Special Master from drawing on the Chromium Remedy Letter of Credit; or (iii) the Court or the Special Master has not granted Honeywell additional time to cure the breach;

(c) The filing by Honeywell of a petition seeking relief, or the granting of relief, under the Federal Bankruptcy Code or any similar federal or state statute; any assignment for the benefit of creditors made by Honeywell; the involuntary filing of any of the foregoing against Honeywell if involuntary filing has not been dismissed within 60 days; the appointment of a custodian, receiver, liquidator, or trustee, or other similar official for Honeywell or for a substantial part of Honeywell's property; any action by Honeywell to effect any of the foregoing; or if Honeywell becomes insolvent as defined in Section 101(32) of the Federal Bankruptcy Code; or

(d) The dissolution, liquidation, merger, consolidation, or reorganization of Honeywell or the institution of any proceeding to effect any of the foregoing, other than under paragraph 84(c) above, and the failure of Honeywell to provide assurance to the Special Master, within 15 days after written notice, that such an event will not impair Honeywell's ability to

carry out the terms of this Consent Decree.

85. **Placement of Proceeds in Court Registry Investment System Account.** In the event that the Special Master draws upon the Chromium Remedy Letter of Credit due to an event of default, the Special Master shall place the proceeds of the Chromium Remedy Letter of Credit which represent the remaining estimated Chromium Remedy costs under paragraphs 77(a)(i), plus a contingency of 25% of the remaining estimated costs under paragraph 77(a)(i), in an account with the Court Registry Investment System in accordance with Local Civil Rule 67.1 and not expend the proceeds of the Letter of Credit without further order of this Court. The Special Master shall place all additional proceeds of the Chromium Remedy Letter of Credit in a trust fund pursuant to paragraph 90(b)(v).

86. **Termination of Chromium Remedy Letter of Credit.** The Chromium Remedy Letter of Credit may be withdrawn in its entirety upon the satisfaction of all of the following:

(a) The implementation of the Chromium Remedy; and

(b) Establishment of long-term financial assurance pursuant to Article III.E.

E. Long-Term Financial Assurances

87. **Long-Term Financial Assurances.** Honeywell shall fund long-term financial assurances to ensure that the activities set forth in paragraph 89(a) are carried out regardless of whether Honeywell is financially able to carry out such activities in perpetuity.

88. **Resolution of the Amount of Long-Term Financial Assurances.** The Parties have agreed to the following options with regard to how the long-term financial assurances shall be determined:

(a) If the Parties agree that the current amount necessary to cover the costs to be subject to long-term financial assurances, as set forth in paragraph 89(b), is $10,000,000 or less,

and agree on the amount of funding needed, Honeywell shall provide long-term financial assurances as required by Article III.E.

(b) If the Parties agree that the current amount necessary to cover the costs to be subject to long-term financial assurances, as set forth in paragraph 89(b), is $10,000,000 or less, but disagree on the amount of funding needed, Honeywell shall provide long-term financial assurances as required by Article III.E except that the dispute as to the amount of the long-term financial assurances shall be submitted to the Special Master pursuant to paragraph 91.

(c) If the Parties do not agree that the current amount necessary to cover the costs to be subject to long-term financial assurances, as set forth in paragraph 89(b), is $10,000,000 or less, or the Parties agree that the current amount necessary to cover the costs to be subject to long-term financial assurances, as set forth in paragraph 89(b), is greater than $10,000,000, the Parties shall seek resolution by the Court of the long-term financial assurances issues, including (i) the type of financial assurances to be provided; (ii) the scope of the financial assurances; (iii) the amount of the financial assurances; and (iv) the duration of the financial assurances. In the event that the Parties seek resolution by the Court, the provisions of paragraphs 90 through 98 shall not apply.

(d) Within 60 days of the entry of this Consent Decree, the Parties shall determine which option under this paragraph shall apply. In the event that the Parties determine that paragraph 88(c) applies, Riverkeeper shall initiate the proceedings by moving the Court for the imposition of long-term financial assurances.

(e) If the Parties determine that they are proceeding under paragraph 88(c), Honeywell shall maintain the Chromium Remedy Letter of Credit required by paragraph 77 in an amount equal to at least $20,000,000 in 2008 dollars until such time as the long-term financial assurances ordered by the Court are in place. In the event of any default by Honeywell pursuant

to paragraph 84 while the Chromium Remedy Letter of Credit is in place, the provisions of paragraph 90(b)(v) for the placement of the proceeds that exceed the remaining estimated Chromium Remedy costs under paragraph 77(a)(i) plus a contingency of 25% of the remaining estimated costs under paragraph 77(a)(i), shall apply.

89. **Costs Subject to Long-Term Financial Assurances.**

(a) Long-term financial assurances shall provide enough funds to cover the costs of the following activities:

(i) Perpetual monitoring and maintenance of the Chromium Remedy, including installation, operation and monitoring of any above-cap-grade gas collection and/or treatment system as may be necessary, but such system is not part of the 100% Design;

(ii) Perpetual operation of the shallow groundwater pump-and-treat remedy;

(iii) Perpetual repair of the cap;

(iv) Perpetual replacement of the cap on a 75-year replacement interval; and

(v) In the event that Honeywell selects a trust fund pursuant to paragraph 90(a), the perpetual administration of the trust fund.

(b) The costs that shall be subject to financial assurances is an amount that will provide the full payment for each of the activities set forth in paragraphs 89(a)(i) through 89(a)(v) plus a 25% contingency when the activities in paragraphs 89(a)(i) through 89(a)(v) are expected to be performed. The costs subject to financial assurances are forward looking because they state an amount valued at the time the funds are needed. As such, they shall be stated in contemporary time as the present value (calculated on the basis of a discount rate of 4.75%) of

the estimated future costs of the activities specified in paragraphs 89(a)(i) through 89(a)(v), plus a 25% contingency on those costs.

90. **Long-Term Financial Assurance Mechanisms.** Honeywell shall provide long-term financial assurances in the amount of the costs subject to long-term financial assurances in the form of a trust fund, a letter of credit, or some combination of the two. The selected mechanism(s) shall satisfy the following requirements:

(a) **Trust Fund.** In the event that Honeywell selects a trust fund, Honeywell shall create a trust fund such that it can provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary.

(i) The trust fund shall be at arm's length from Honeywell and shall not be considered the property of Honeywell or property of the estate in the event of Honeywell's bankruptcy, dissolution, privatization, or sale. The trust fund agreement shall contain the language necessary to assure that neither the trust fund nor the earnings of the trust fund shall be affected or restricted in any way by operation of the automatic stay in 11 U.S.C. 362.

(ii) The trust fund shall be managed by a financial institution domiciled in the United States or by a United States subsidiary of a non-U.S. financial institution acceptable to Riverkeeper and the Jersey City Entities or approved by the Court. In the event that the financial institution managing the trust fund declares bankruptcy, the Court shall withdraw the funds and appoint another financial institution meeting the requirements of this paragraph to manage the trust.

(iii) No more frequently than once per year, Honeywell may apply to the Court for an order directing the trust manager to reimburse Honeywell for any costs that it has incurred to carry out the activities set forth in paragraphs 89(a)(i) through 89(a)(iv).

(b) **Long-Term Letter of Credit.** In the event that Honeywell selects a letter of credit, Honeywell shall obtain a one-year irrevocable letter of credit (the "Long-Term Letter of Credit") to be automatically renewed annually in an amount that provides sufficient funds such that a trust fund, separate from any trust fund created under paragraph 90(a) but satisfying the requirements of paragraph 90(a), could be created. The Long-Term Letter of Credit-funded trust, plus any trust fund established under paragraph 90(a), shall provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary. The amount of any Long-Term Letter of Credit shall therefore be adjusted periodically as the cap replacement interval is approached because, for example, the money needed in the 10th year to fund a trust that can provide for replacement of the cap in the 75th year is much less than the money that would be needed in the 40th year. Such periodic adjustments shall be proposed and approved by the Court in conjunction with the adjustments under paragraph 92.

(i) Neither the Long-Term Letter of Credit nor the proceeds of the Long-Term Letter of Credit shall be considered the property of Honeywell or property of the estate in the event of Honeywell's bankruptcy, dissolution, privatization, or sale. The Long-Term Letter of Credit shall contain the language necessary to assure that neither the Long-Term Letter of Credit nor the proceeds of the Long-Term Letter of Credit shall be affected or restricted in any way by operation of the automatic stay in 11 U.S.C. 362.

(ii) The Long-Term Letter of Credit shall be issued by a financial institution domiciled in the United States or by a United States subsidiary of a non-U.S. financial institution acceptable to Riverkeeper and the Jersey City Entities or approved by the Court. In the event that the financial institution issuing the Long-Term Letter of Credit declares bankruptcy, the Court shall authorize the drawing of funds from the Long-Term Letter of Credit

and shall deposit those funds in a trust fund, separate from any trust fund created under paragraph 90(a) but satisfying the requirements of paragraph 90(a).

(iii) The provisions of the Uniform Customs and Practice ("UCP") for Documentary Credits (1993 Revision) International Chamber of Commerce Publication #500 and New York law shall apply to the Long-Term Letter of Credit.

(iv) The Long-Term Letter of Credit shall be automatically renewed annually, unless, no later than 120 days prior to the anniversary of the Long-Term Letter of Credit issue date, the issuer provides notice of non-renewal. If the issuer provides notice of non-renewal, Honeywell shall obtain a replacement irrevocable Long-Term Letter of Credit at least 95 days prior to the expiration date of the existing Long-Term Letter of Credit. If Honeywell is not otherwise in default as provided in this Article, the Court shall direct the cancellation of the prior Long-Term Letter of Credit within 91 days after delivery to the Court of any replacement of a Long-Term Letter of Credit. In the event that the Court is entitled to draw upon a Long-Term Letter of Credit when there are two Letters of Credit currently in place, the Court shall not draw an aggregate amount in excess of the highest valued Long-Term Letter of Credit.

(v) Prior to the expiration of the Special Master's appointment pursuant to paragraph 76, the Long-Term Letter of Credit shall be payable to the Special Master. During the time the Long-Term Letter of Credit is payable to the Special Master, the Special Master may draw on the Long-Term Letter of Credit as provided in paragraph 84. In the event that the Special Master draws upon the Long-Term Letter of Credit due to an event of default, the Special Master shall place the proceeds of the Long-Term Letter of Credit in a trust fund, separate from any trust fund created under paragraph 90(a) but satisfying the requirements of paragraph 90(a). After the Special Master's appointment expires pursuant to paragraph 76, the Long-Term Letter of Credit shall be payable to the Court and, in the event that the Court draws

on the Long-Term Letter of Credit, the Court shall place the proceeds of the Long-Term Letter of Credit in a trust fund, separate from any trust fund created under paragraph 90(a) but satisfying the requirements of paragraph 90(a).

(vi) Whether the Long-Term Letter of Credit is payable to the Special Master or the Court, it shall not, prior to its expiration date, be revoked or terminated by Honeywell except consistent with this Consent Decree and with the approval of the Court. The ability of the Special Master or the Court to draw upon the Long-Term Letter of Credit shall not be limited by any agreement between Honeywell and the issuer.

(vii) In the event that the Long-Term Letter of Credit is drawn upon and invested pursuant to paragraph 90(b)(ii), 90(b)(v) or 95 and Honeywell has also selected a trust fund pursuant to paragraph 90(a), resulting in the existence of two trust funds, the two trust funds shall be managed so as to ensure that the combined amount of the trust funds is sufficient to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary.

(c) **Combination.** Honeywell may use some combination of a trust fund and a letter of credit to achieve the requirements of this paragraph. However, if a combination is used, Honeywell shall ensure that the combined amount of financial assurances is sufficient to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary. The trust fund and the letter of credit shall otherwise satisfy all the requirements of paragraphs 90(a) and 90(b).

91. **Procedures for Review of the Proposed Long-Term Financial Assurances.** In the event that the Parties have determined that they are proceeding pursuant to paragraph 88(a) or 88(b), no later than 120 days after the determination under paragraph 88(d), Honeywell shall submit to Riverkeeper, the Jersey City Entities, and the Special Master, for their review (a) the

amount of the proposed long-term financial assurances; (b) the form(s) of the proposed long-term financial assurance mechanisms; and (c) the name(s) of the institution proposed to manage or issue the long-term financial assurances. If Riverkeeper and the Jersey City Entities agree to the terms of the proposed long-term financial assurances, within 60 days of such agreement, Honeywell shall create a trust fund and/or secure a Long-Term Letter of Credit on those terms. If the Parties are unable to reach agreement over the terms of the long-term financial assurances, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. Any Party shall have the right to seek review by the Court of the Special Master's recommendation regarding the terms of the financial assurances. In any event, until the long-term financial assurances have been put into place, Honeywell shall maintain the Chromium Remedy Letter of Credit and the requirements of paragraphs 88(e) and 90(b)(v) shall apply to the Chromium Remedy Letter of Credit.

92. **Adjustment of Amount Held in Long-Term Financial Assurances.** Every five years as marked from the establishment of the first long-term financial assurances pursuant to paragraph 90, the Parties shall report to the Court whether the long-term financial assurances are adequately funded to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary. At such time as the Parties report to the Court, any Party may seek an adjustment in the amount of the long-term financial assurances. The Party seeking an adjustment must demonstrate that the long-term financial assurances are under-funded or over-funded to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary. Such demonstration shall reflect the actual costs of implementing the remedy and/or any replacement of the remedy, once such actual costs are available. The demonstration shall also reflect the costs of work completed to date and the actual lifetime of the cap, once the

cap has been replaced or has passed a replacement interval without requiring replacement. The demonstration shall further reflect the actual performance of the fund and its ability to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary. Any demonstration shall be forward looking and shall be based upon estimates of what the activities in paragraphs 89(a)(i) through 89(a)(v) are expected to cost at the time they must be performed and the amount of funding projected to be available to undertake such activities at the time they must be performed. If, after reviewing the submission(s) received from the Parties, the Court determines that the long-term financial assurances are under-funded or over-funded to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 89(b), at the time those funds are necessary, the Court shall order an adjustment in the amount held in the long-term financial assurances to overcome the shortage or overage. In the event that the Court determines that the long-term financial assurances are under-funded, it shall order Honeywell to increase the amount held in the long-term financial assurances. In the event that the Court determines that any trust fund established pursuant to paragraph 90(a) is over-funded, the Court shall issue an order directing the trust manager to pay the overage to Honeywell. In the event that the Court determines that the Long-Term Letter of Credit is over-funded, the Court shall issue an order permitting Honeywell to reduce the amount covered during the next annual renewal of the Long-Term Letter of Credit pursuant to paragraph 90(b)(iv). Any adjustment to the amount of the Long-Term Letter of Credit pursuant to this paragraph shall be in addition to any adjustment of the amount of the Long-Term Letter of Credit required pursuant to paragraph 90(b).

93. **Exclusive Court Jurisdiction.** The trust fund agreement and/or the Long-Term Letter of Credit shall recite that the trust fund manager and/or issuer of the Long-Term Letter of Credit submit to the exclusive jurisdiction of this Court for any and all disputes arising under the

trust fund or the Long-Term Letter of Credit. The requirements of this paragraph shall apply whether the trust fund is established pursuant to paragraph 90(a), 90(b)(ii), 90(b)(v), or 95.

94. **Procedures upon Honeywell's Material Default of Its Obligations after the Special Master's Appointment Has Expired.** Upon the occurrence of default by Honeywell, after the Special Master's appointment has expired, Riverkeeper or the Jersey City Entities may move the Court on an expedited basis for an order to withdraw funds from the trust fund or to draw on the Long-Term Letter of Credit. Default shall include:

(a) The failure of Honeywell, in the event that notice is given pursuant to paragraph 90(b)(iv) to deliver a replacement Long-Term Letter of Credit at least 95 days prior to the expiration date of the existing Long-Term Letter of Credit;

(b) The material failure of Honeywell to proceed with diligence and in good faith to carry out the terms of this Consent Decree and the continuance of such a material breach for a period of 30 days after written notice by Riverkeeper or the Jersey City Entities to Honeywell of the alleged material failure, unless Honeywell cures the alleged breach within the 30-day notice period or such longer period as the Parties may agree to or the Court may order;

(c) The filing by Honeywell of a petition seeking relief, or the granting of relief, under the Federal Bankruptcy Code or any similar federal or state statute; any assignment for the benefit of creditors made by Honeywell; the involuntary filing of any of the foregoing against Honeywell if the involuntary filing is not dismissed within 60 days; the appointment of a custodian, receiver, liquidator, trustee, or other similar official for Honeywell or for a substantial part of Honeywell's property; any action by Honeywell to effect any of the foregoing; or if Honeywell becomes insolvent as defined in Section 101(32) of the Federal Bankruptcy Code; or

(d) The dissolution, liquidation, merger, consolidation, or reorganization of Honeywell or the institution of any proceeding to effect any of the foregoing, other than under

paragraph 94(c), if Honeywell fails to provide assurance to Riverkeeper, the Jersey City Entities, and the Court, within 15 days after written notice, that such an event will not impair Honeywell's ability to carry out the terms of this Consent Decree.

95. **Drawing on the Long-Term Letter of Credit in the Event of Honeywell's Default.** If the Court grants any motion by Riverkeeper or the Jersey City Entities pursuant to paragraph 94 to draw on the Long-Term Letter of Credit, the sum approved by the Court's order granting the motion shall be paid from the Long-Term Letter of Credit into a trust fund, separate from any trust fund created under paragraph 90(a) but satisfying the requirements of paragraph 90(a).

96. **Use of the Trust Fund in the Event of Honeywell's Default**. In the event of Honeywell's default, the money in the trust fund established pursuant to paragraph 90(a) shall be available to meet the obligations of paragraph 89(a). Riverkeeper and/or the Jersey City Entities shall file motions with the Court seeking orders directing how the money in the trust fund shall be used. The Court shall consider motions on an expedited basis and shall enter appropriate orders. The Court may enter an order allowing for automatic withdrawal of regular expenses without separate motion to the Court by Riverkeeper or the Jersey City Entities.

97. **Use of a Trust Fund Established Pursuant to Paragraph 85, 90(b)(ii), 90(b)(v), or 95.** In the event that a trust fund is established pursuant to paragraph 85, 90(b)(ii), 90(b)(v), or 95, the money in the trust fund shall be available to meet the obligations of paragraph 89(a). Riverkeeper and/or the Jersey City Entities shall file motions with the Court seeking orders directing how the money in the trust fund shall be used. The Court shall consider motions on an expedited basis and shall enter appropriate orders. The Court may enter an order allowing for automatic withdrawal of regular expenses without separate motion to the Court by Riverkeeper or the Jersey City Entities.

98. **Termination of the Long-Term Financial Assurances.** Honeywell's obligations

under Article III.E shall be terminated and the long-term financial assurance mechanisms shall be terminated when the Court finds that no hexavalent or total chromium contamination remains in the AOC 1 Open Space Area or on the Site, whether in soils or in groundwater, in excess of the levels specified for Unrestricted Use in the NJDEP Chromium Directive or any more restrictive standards for Unrestricted Use in place at the time, whichever is more restrictive. Upon determining that long-term financial assurances may be terminated, the Court shall order that any Long-Term Letter of Credit may be withdrawn in its entirety and any trust fund may be terminated. In conjunction with its order terminating any trust fund, the Court in its discretion shall designate a recipient(s) of any remaining trust funds.

ARTICLE IV: IMPLEMENTATION SCHEDULE AND TERMINATION

99. **Schedule for Remedy and Site Preparation Implementation Activities.** The Chromium Remedy under Article III and the Historic Fill Remedy under Article II.B of the Jersey City/Honeywell Consent Order and Site Preparation Activities under Article III of the Jersey City/Honeywell Consent Order shall be undertaken by the Parties in accordance with the following anticipated schedule, recognizing that this schedule may be further modified in writing by agreement of the Parties and with the approval of the Court:

(a) By October 1, 2008, the Jersey City Entities and Honeywell shall develop a Site Preparation Plan, pursuant to paragraph 3.2 of the Jersey City/Honeywell Consent Order, for all Site Preparation Activities necessary to undertake the Chromium Remedy;

(b) No later than June 18, 2009, Honeywell shall submit to NJDEP a remedial design document for the Chromium Remedy;

(c) No later than September 1, 2009, Honeywell shall submit all applications for permits and authorizations for the performance of the Chromium Remedy to all appropriate local, state, and federal government entities;

(d) Honeywell shall use its best efforts to complete the Chromium Remedy no later than four years after all appropriate applications and authorizations for the performance of the Chromium Remedy have been obtained;

(e) By May 1, 2008, Honeywell and the Jersey City Entities shall submit a work plan for further Remedial Investigation for AOC 2 to NJDEP; and

(f) By December 1, 2008, Honeywell and the Jersey City Entities shall submit a Remedial Action Selection Report and Remedial Action Workplan for the Historic Fill Remedy set forth in Article II.B of the Jersey City/Honeywell Consent Order. The Workplan shall contain a schedule for implementation of the Historic Fill Remedy.

100. **Termination of this Consent Decree.** This Consent Decree shall terminate upon the withdrawal of any Party as provided for in this paragraph. Any Party may elect to withdraw from this Consent Decree due to the occurrence of one or more of the following events, provided that such Party provides written notice of withdrawal to the other Parties pursuant to paragraph 108:

(a) The Court fails to enter the Jersey City/Honeywell Consent Order or this Consent Decree or either the Jersey City/Honeywell Consent Order or this Consent Decree is determined to be invalid on appeal;

(b) JCRA fails to take those actions required under paragraphs 4.11(a), (b), and (c) of the Jersey City/Honeywell Consent Order within nine months of entry of this Consent Decree; or

(c) JCRA fails to approve a Redevelopment Agreement between Bayfront Redevelopment LLC and JCRA pursuant to paragraph 4.11(e) of the Jersey City/Honeywell Consent Order within 12 months of entry of this Consent Decree.

101. **Procedures for Withdrawal and Termination.** Any Party electing to withdraw pursuant to paragraph 100 and thereby terminate this Consent Decree shall provide written notice of such withdrawal and termination to all other Parties within 30 days of the occurrence giving rise to the decision to withdraw. If any Party objects to termination of the Consent Decree, or believes that the conditions set forth in paragraph 100 have not been met, such objecting Party may move the Court for an expedited hearing on the issue of whether the conditions for termination have been effectuated.

102. **Good-Faith Obligation to Avoid Termination.** The Parties agree that they will each endeavor to fulfill the terms of this Consent Decree, that they will work diligently and in good faith to meet their obligations hereunder, and that they will promptly and timely take all reasonable steps to give effect to this Consent Decree and to avoid termination under paragraph 100.

103. **Effect of Termination.** If this Consent Decree is terminated pursuant to paragraph 100, the Consent Decree shall no longer be binding on the Parties and shall be of no further effect. In the event that this Consent Decree is terminated by one or more Parties pursuant to paragraph 100, each Party to this Consent Decree reserves all of its rights, claims, and defenses (both legal and factual) against the other Parties with respect to the matters at issue in the Consolidated Litigation and each Party remains free to pursue such rights, claims, and defenses.

ARTICLE V: ADDITIONAL PROVISIONS RELATED TO HISTORIC FILL AND SITE PREPARATION AND REDEVELOPMENT

104. **Historic Fill Remedy**. This Consent Decree shall adopt and incorporate the terms of Article II.B of the Jersey City/Honeywell Consent Order with respect to the Historic Fill Remedy. The Historic Fill Remedy shall not be limited to the activities set forth in Article II.B of the Jersey City/Honeywell Consent Order in the event that NJDEP requires a more extensive remedy. The Historic Fill Remedy shall be compatible with the Chromium Remedy such that no

part of the Historic Fill Remedy shall interfere with the installation, maintenance, and monitoring of the Chromium Remedy. In addition, the Historic Fill Remedy for any discharge of non-chromium contaminants to the Hackensack River shall not interfere with the remedies under the Sediment Consent Order, including the source control remedies. In the event that Jersey City conducts the Historic Fill Remedy instead of Honeywell, the terms of this paragraph shall still apply.

105. **Oversight of Historic Fill Remedy**. Paragraph 2.11 of the Jersey City/Honeywell Consent Order shall apply only to the Historic Fill Remedy, not the Chromium Remedy. The Progress Reports provided for in paragraphs 2.12 and 3.7 of the Jersey City/Honeywell Consent Order shall be provided to Riverkeeper and the Special Master at the time they are submitted.

106. **Transfer of Title of Study Areas 6 North and 7 to and from Bayfront Redevelopment LLC**. The transfer of title of Study Area 6 North and Study Area 7 properties to Bayfront Redevelopment LLC pursuant to the Jersey City/Honeywell Consent Order and any subsequent transfers shall not impede Honeywell's obligations to (a) complete the remediation of Study Area 7 and implement the Final Judgment and subsequent orders in *ICO v. Honeywell* or (b) complete the Chromium Remedy and conduct long-term monitoring and fulfill its other obligations set forth in this Consent Decree. Such transfers of Study Areas 6 North and Study Area 7 shall not include a transfer of Honeywell's obligations to implement the Final Judgment and subsequent orders in *ICO v. Honeywell* or a transfer of Honeywell's obligations under this Consent Decree, but shall include a right of access or any other right required by Honeywell to complete the remediation. Any subsequent transfer of Study Area 6 North or Study Area 7 from Bayfront Redevelopment LLC to a redeveloper or other party shall provide all necessary agreements to allow Honeywell all necessary access to Study Area 6 North and Study Area 7 for purposes of completing Honeywell's obligations with respect to Study Area 6 North under this

Consent Decree and completing the Study Area 7 remediation and implementing the Final Judgment and subsequent orders in *ICO v. Honeywell.*

107. **Dispute Resolution Procedures.** The provisions of Article VIII of the Jersey City/Honeywell Consent Order do not apply to any disputes regarding or impacting the Chromium Remedy, which shall be resolved as provided in paragraph 72. The provisions of Article VIII of the Jersey City/Honeywell Consent Order shall apply to disputes between the Jersey City Entities and Honeywell regarding the Historic Fill Remedy and other obligations provided in the Jersey City/Honeywell Consent Order, except to the extent that such disputes may affect the Chromium Remedy. If any such dispute may affect the Chromium Remedy, it shall be resolved as provided in paragraph 72. Honeywell shall provide Riverkeeper with a copy of each notice of any breach provided under paragraph 8.1 of the Jersey City/Honeywell Consent Order within 10 days of Honeywell's receipt or issuance of such notice. Honeywell shall provide Riverkeeper with a copy of any written resolution of a dispute pursuant to paragraph 8.2 within 10 days of the resolution.

ARTICLE XI: NOTICE

108. **Notice.** Any and all notices given in connection with this Consent Decree shall be deemed adequately given only if in writing and addressed to the Party for whom such notices are intended at the addresses set forth in this paragraph. All notices shall be sent by Federal Express or other nationally recognized overnight messenger service or by first-class registered or certified mail, postage prepaid, return receipt requested. A written notice shall be deemed to have been given to the recipient party on the earlier of (a) the date it shall be delivered to the address set forth in this paragraph; (b) the date delivery shall have been refused at the address set forth in this paragraph; or (c) with respect to notices sent by mail, the date as of which the postal service shall have indicated such notice to be undeliverable at the address set forth in this paragraph.

Any and all notices referred to in this Consent Decree, or which any Party desires to give to the other, shall be addressed as follows:

If to Honeywell and/or
Bayfront Redevelopment LLC :

Tom Byrne, Esq.
Honeywell International Inc.
101 Columbia Road
Morristown, NJ 07962
(973) 455-2775

With copies to:

John Morris
Honeywell International Inc.
101 Columbia Road
Morristown, NJ 07962
(973) 455-4003

If to Riverkeeper:

Bruce J. Terris
Carolyn Smith Pravlik
Kathleen L. Millian
Terris, Pravlik & Millian, LLP
1121 12th St., N.W.
Washington, DC 20005-4632
(202) 682-2100

If to Jersey City:

William Matsikoudis
Corporation Counsel
City of Jersey City
280 Grove Street
Jersey City, NJ 07305
(201) 547-4667

If to JCIA:

David L. Isabel
Golub & Isabel, PC
160 Littleton Road
Parsippany, NJ 07054
(973) 968-3377

If to JCMUA:

Sam Della Fera Jr.
Trenk, DiPasquale, Webster,
Della Ferra & Sodono, P.C.
347 Mount Pleasant Ave.
West Orange, NJ 07052
(973) 243-8600

If to JCRA:

Robert Antonichello
Executive Director
30 Montgomery Street
Jersey City, NJ 07302
(201) 547-5810

Any party may change its designated recipients or addresses for notice in this paragraph by providing written notice of such change to all other Parties.

ARTICLE XII: RIVERKEEPER'S ATTORNEYS' FEES

109. **Payment of Past Fees and Expenses.** Within 30 days of the entry of this Consent Decree, Honeywell shall pay Terris, Pravlik & Millian, LLP the sum of $1,513,217.15 which represents the following:

(a) A compromise of the attorneys' fees incurred by Riverkeeper in the litigation of Study Area 6 North portion of *Riverkeeper v. Honeywell* through March 27, 2008; and

(b) $187,862.27 in out-of-pocket expenses representing 50% of the expenses incurred by Riverkeeper in *Riverkeeper v. Honeywell* from the inception of the litigation after deducting the expenses to be paid pursuant to the Sediment Consent Order.

Payment of the sum of $1,513,217.15 shall be in full satisfaction of all obligations, duties, and responsibilities of Honeywell with respect to the $1,556,747.46 in fees and expenses that Riverkeeper claimed with regard to the above described fees and expenses.

110. **Future Fees and Expenses.** Honeywell shall reimburse Riverkeeper's attorneys for reasonable fees and expenses incurred: (a) in negotiating this Consent Decree after March 27, 2008; (b) in the monitoring and enforcement of this Consent Decree; and (c) in participation in the Special Master process established pursuant to this Consent Decree. Honeywell shall also reimburse Riverkeeper for reasonable attorneys' fees and expenses for Riverkeeper's review of and participation in the Long-Term Monitoring Plan and monitoring and enforcement of this Consent Decree following the term of the Special Master. In the event that any dispute arises between the Parties under this Consent Decree that must be resolved by the Court, Riverkeeper shall be entitled to recover its attorneys' fees and expenses for litigation of the dispute to the extent allowed by federal law. Riverkeeper and Honeywell shall use the same informal procedure for attempting to settle fees issues as has been used for post-judgment monitoring fees in *ICO v. Honeywell*. In the event that Riverkeeper and Honeywell are unable to reach a

settlement on fees, Riverkeeper shall apply to the Court for an award of attorneys' fees and expenses. If Honeywell objects to only a portion of the Riverkeeper's statement of attorneys' fees and expenses, Honeywell shall pay the undisputed portion within 60 days of Riverkeeper's submittal of the statement to Honeywell. The Court shall resolve any objections to Riverkeeper's statement of attorneys' fees and expenses and shall enter an appropriate Order.

ARTICLE XIII: MISCELLANEOUS PROVISIONS

111. **Force Majeure.** Force Majeure, for the purposes of this Consent Decree, is defined as an event arising from causes beyond the control of any Party or Parties (or their agents, contractors, subcontractors, representatives, or assigns) which could not have been overcome by reasonable diligence and which delays or prevents the performance of any obligation under this Consent Decree. Examples of events which may constitute force majeure include the refusal of any federal or state governmental authority to grant a permit or authorization necessary for the completion of actions required by this Consent Decree, floods, hurricanes, tornadoes, and other extraordinary weather events, earthquakes and other natural disasters, terrorist attacks, war, and other national emergencies. Examples of events that are not force majeure events include normal inclement weather, increased costs or expense, the failure to timely and fully apply for a permit or authorization necessary for the completion of actions required by this Consent Decree, or financial difficulty of any Party. The Party claiming force majeure shall bear the burden of showing an event was a force majeure event.

112. **JCRA and Bayfront Redevelopment LLC as Parties.** As signatories to this Consent Decree, JCRA and Bayfront Redevelopment LLC subject themselves to the Court's jurisdiction for the purpose of enforcing this Consent Decree and agree to be bound by this Consent Decree. This Consent Decree shall be fully enforceable against JCRA and Bayfront Redevelopment LLC.

113. **Successors and Assigns.** This Consent Decree shall be binding upon and shall inure to the benefit of the successors, assigns, heirs, corporate parents, subsidiaries, and affiliates of each Party. No assignment or delegation of the obligations hereunder shall release the assigning Party from its obligations under this Consent Decree.

114. **Successors to Hackensack Riverkeeper, Inc.** In the event that Hackensack Riverkeeper, Inc. disbands or otherwise ceases operations, it shall assign its rights under this Consent Decree to another qualified nonprofit organization. A nonprofit organization shall be qualified for assignment under this Consent Decree if it is a charitable organization under Section 501(c)(3) of the Internal Revenue Code or its substantial equivalent and has an established record of working to enhance or preserve the ecology, natural habitat, or environment. Any such assignment shall be subject to approval by the Court and Honeywell shall have the right to object to any proposed assignment. Any successor organization shall have the duty to assign its rights under this Consent Decree to another qualified nonprofit organization in the event that the successor disbands or otherwise ceases operations. In the event that a successor is not appointed at any given time, the New Jersey Attorney General or equivalent officer shall appoint a successor subject to approval by the Court and objection by Honeywell.

115. **Reservation of Rights and Claims**. Except as set forth expressly herein, this Consent Decree does not affect in any way any of the Parties' claims or defenses against third parties who have not signed the Consent Decree.

116. **Governing Law and Continuing Jurisdiction.** The Court shall retain jurisdiction over the matters addressed in this Consent Decree for purposes of enabling the Parties to apply to the Court for any further order as may be necessary to construe, carry out, or enforce the terms of this Consent Decree. This Consent Decree shall be interpreted and enforced under the laws of

the United States and the State of New Jersey by the United States District Court for the District of New Jersey.

117. **Construction.** Questions regarding the interpretation of this Consent Decree shall not be resolved against any Party on the ground that this Consent Decree has been drafted by that Party. This Consent Decree is the result of review, negotiation, and compromise by each Party.

118. **Authority to Enter into Agreement.** The undersigned representative for each Party represents, certifies, and warrants that he or she is duly authorized by the Party whom he or she represents to enter into the terms of this Consent Decree and bind such Party legally to this Consent Decree.

119. **Measures to Effectuate This Consent Decree.** The Jersey City Entities and JCRA shall take all appropriate steps to ensure that this Consent Decree has been (and that actions required hereunder will be) duly considered, ratified, and approved. Such steps include consideration of this Consent Decree at a meeting of the City Council, open to the public, at which members of the public have the opportunity to comment on all aspects of the Settlement, including the commitments made by Jersey City; and consideration by and approval of the commissioners of the JCIA, JCMUA, and JCRA.

120. **Modifications.** This Consent Decree may be modified by mutual agreement of the Parties but such agreement must be in writing, duly and properly signed by all Parties, and shall be submitted to the Court for approval.

121. **Severability.** Each of the provisions in paragraph 60 of this Consent Decree shall be deemed severable and, in the event that one or more of such provisions is deemed invalid or unenforceable, it shall not affect the validity or enforceability of the other provisions of the Consent Decree.

122. **Signatures.** This Consent Decree may be signed simultaneously or in counterparts by the respective signatories, which shall be as fully valid and binding as if a single document was signed by all of the signatories. This Consent Decree may be signed electronically by any or all signatories, and such electronic signature shall be as fully valid and binding as a hand-written signature.

Consented to and approved for entry:

s/Aurelio Vincitore

William Matsikoudis
Aurelio Vincitore
Corporation Counsel
City of Jersey City
280 Grove Street
Jersey City, NY 07305
(201) 547-4667

Counsel for the City of Jersey City

s/David L. Isabel

David L. Isabel
Golub & Isabel, PC
160 Littleton Road
Parsippany, NJ 07054
(973) 968-3377

Counsel for Jersey City Incinerator Authority

s/ Joni Noble McDonnell

Joni Noble McDonnell
Genova, Bruns & Giantomasi
4974 Broad Street
Newark, NJ 07102
973-535-4435

Counsel for Jersey City Municipal Utilities Authority

Robert Antonichello
Executive Director
30 Montgomery Street
Jersey City, NJ 07302
(201) 547-5810

Executive Director of Jersey City Redevelopment Agency

s/ David Sheehan

David Sheehan
Baker Hostetler
45 Rockefeller Plaza
11th Floor
New York, NY 10111
(212) 589-4200

Michael D. Daneker
Arnold & Porter LLP
555 12th Street N.W.
Washington, DC 20004
(202) 942-5000

Counsel for Honeywell International Inc. and Bayfront Redevelopment LLC

s/ Edward Lloyd

Edward Lloyd
Columbia Law School
435 West 116th Street, Room 831
New York, NY 10027
(212) 854-4376

Bruce J. Terris
Carolyn Smith Pravlik
Kathleen L. Millian
Terris, Pravlik & Millian, LLP
1121 12th Street N.W.
Washington, DC 20005-4632
(202) 682-2100

Counsel for the Hackensack Riverkeeper, William Sheehan, Reverend Winston Clarke, and Lawrence Baker

APPROVED AND ENTERED as an Order of this Court this ___ day of _____, 2012.

_____
Hon. Dennis M. Cavanaugh
United States District Judge

EXHIBITS

Exhibit A: Jersey City/Honeywell Consent Order

Exhibit B: Remedial AOC's and Remedial Approach Map

Exhibit C: NJDEP Chromium Policy

Exhibit D: Conservation Restriction

Exhibit E: Deed Notice

Deed Notice

Dated: _____, 2017

BAYFRONT REDEVELOPMENT LLC

Grantor(s).

Record and return to:

Waters, McPherson, McNeill, P.C.
P.O. Box 1560
300 Lighting Way
Secaucus, New Jersey 07096-1560

ATTN: _____, Esq

APPENDIX T

PART 15 OF 22

DESIGN CHANGE BULLETINS
PART 1

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 001 Minor (a) Effective Date: 2/26/14
Project Location: SA-6 NORTH, SA6-SOUTH	Associated RFI:
Title: Surcharge Instrumentation Revision	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): Entact	

Description of Change/Modification:

1. **72 inch force main**. The Surcharge Monitoring Plan (Appendix N of 100% Design Report) has been modified to match the changes in surcharge pile geometry associated with the relocation of the Hydraulic Barrier Wall near the 72" force main. The Barrier wall has been moved to a minimum distance of 25 feet from the centerline of the force main. The surcharge pile has also been reconfigured so that the surcharge will not result in any stress increase on the 72 inch force main. Details of changes to the Design Drawings stemming from the Barrier Wall Relocation are included in DCB-002. Details related to changes to the Surcharge Monitoring Instrumentation are included in this DCB 001.
2. **Station Relocations due to interferences.** In addition to the changes related to the 72 inch force main Amec has relocated some instrument location on both SA6 North and SA-6 South to avoid foundations and traffic routes. Relocated instruments are in the same general area and will serve the same objectives as the original locations.
3. **Form revisions.** Amec has modified several of the reporting forms to allow for direct entry using a tablet application. Templates for the Daily Report Form, Instrument Installation and Monitoring Data Forms are attached.

SUMMARY OF CHANGES

- SA-6 North Area 1 Figure B1
  - Half setups 6 and 8 have been removed due to the reduced footprint of the surcharge pile.
  - Settlement Platforms # 4-10 along the force main have been eliminated - no fill is being placed over the force main and therefore no settlement platforms are required.
  - Survey Points on the FM will be reduced from 3 to 2. Survey Points are no longer required; however, two points will be retained for background information (See Figure B1)
  - 6 Acoustical Sensors have been added along the JCMUA 72" force main. Acoustical Monitoring is not part of Honeywell/Amec's Scope. PVSC/HMM/Pure Technologies will conduct the Acoustical Monitoring. Pure Technology is monitoring the system remotely and will advise PVSC/HMM if there is any noise detected during sheetpile driving and surcharging activities that would be attributable to failure of the wire wrap. Any detected wire breaks will initiate actions per the PVSC Response Plan.
  - Inclinometers. Inclinometers are no longer required however they have been retained as a contingency monitoring measure. Due to the change in role of these instruments a trigger level will no longer be required.
  - Vibration Monitoring. Vibration Monitoring will be conducted during sheetpile driving. HMM concluded that the force main should be able to tolerate accelerations of up to 1.9 in/sec. Honeywell/PVSC have agreed to an Upper Limit of 1 inch/second to provide a Factor of Safety of approximately 2.
- Figures C1 and D1 for SA-6 North
  - Figures have been updated to only show the instrument locations in the specific Area. For example on the original issue Figure C1 included the instrument locations for Area 2 and also the instrument locations for Area 1 and Area 3. In this revision Fig. C1 only shows the Area 2 instrumentation locations.
  - Half setup locations in Figure D1 were relabeled.
- Figures F1, G1 and H1 for SA-6 South
  - Figures have been updated to only show the instrument locations in the specific Area (1-3).
  - Figures have been updated to show changes in instrument locations made to avoid foundations and traffic routes.

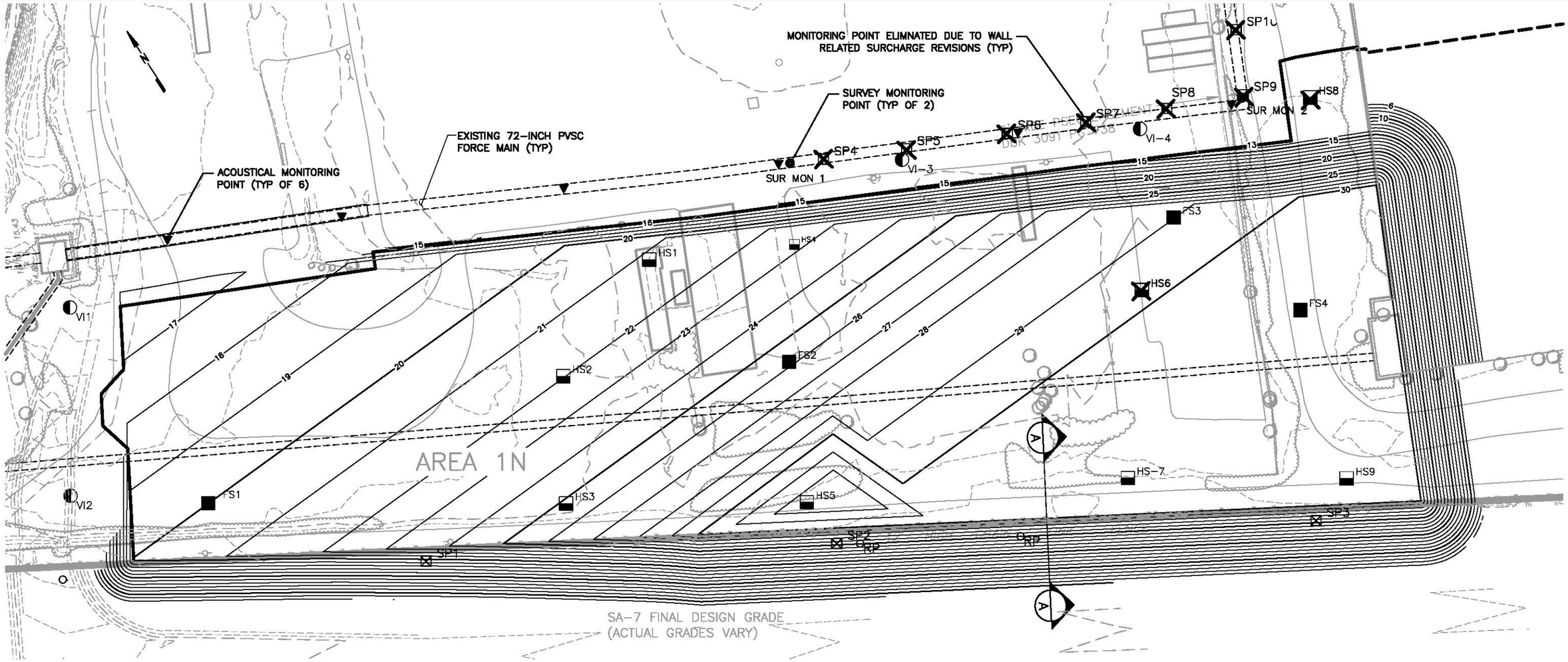
Reason for Change/Modification:	Explanation or Reason: Modified due to changes in surcharge adjacent to the 72" force main
☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Attachments: ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: The Figures showing instrument locations have also be updated to reflect minor adjustments made in field to avoid conflicts with foundations and traffic routing. Field forms contain the same information. The forms have been reformatted to allow for tablet data entry.	Design Documents Affected: Appendix N: Surcharge Monitoring Plan

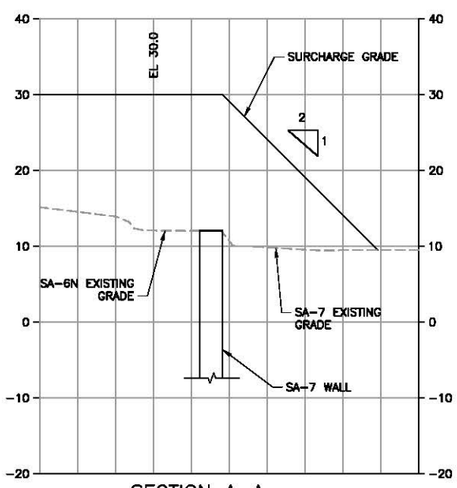
Honeywell (AP) Review:

Individual	Discipline	Initial	Date

(Name / Signature):	Does DCB Result in CCO? ☐ Yes (b) ☑ No
Samuel G Shallard	Date:
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





SECTION A–A

SETTLEMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
VI–1	686123	602109
VI–2	686029	602048
VI–3	685960.00	602503.63
VI–4	685865.62	602701.07
FS1	685981	602115.11
FS2	685863.13	602450.59
FS3	685810.51	602689.13
FS4	685723.32	602722.54
HS1	685959.45	602413.93
HS2	685929.16	602333.31
HS3	685864.91	602293.50
HS4	685919.95	602491.27
HS5	685787.46	602414.04
~~HS6~~	~~685784.69~~	~~602649.88~~
HS7	685695.59	602582.07
~~HS8~~	~~685828.15~~	~~602796.09~~
HS9	685624.48	602691.07

SP1	685881.42	602204.89
SP2	685757.23	602415.64
SP3	685613.33	602662.16
~~SP4~~	~~685953.03~~	~~602533.30~~
~~SP5~~	~~685931.28~~	~~602578.16~~
~~SP6~~	~~685906.49~~	~~602633.51~~
~~SP7~~	~~685886.78~~	~~602676.31~~
~~SP8~~	~~685867.20~~	~~602721.11~~
~~SP9~~	~~685849.22~~	~~602763.68~~
~~SP10~~	~~685883.92~~	~~602781.17~~

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA–7 FENCE AND SA–7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. COMMENCE FILL AT THE SEDIMENTATION BASIN AND WORK TOWARDS THE HACKENSACK RIVER.
5. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
6. LOCATION OF SA–7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

VI–2	INCLINOMETER LOCATION
FS–1–1	SETTLEMENT MONITORING POINT FULL – SETUP
HS–1–1	SETTLEMENT MONITORING POINT HALF – SETUP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA–7 PERIMETER POOL RISER PIPE (SEE NOTE 6)
▼	72–INCH FM ACOUSTICAL MONITORING POINT
SUR MON 1	72–INCH FM SURVEY MONITORING POINT
X	STATION RELOCATED OR ELIMINATED DUE TO SURCHARGE PILE RECONFIGURATION

0 15 30 60
SCALE IN FEET

Revised/Date: TDD 02/28/14
Checked/Date: SGS 02/28/14

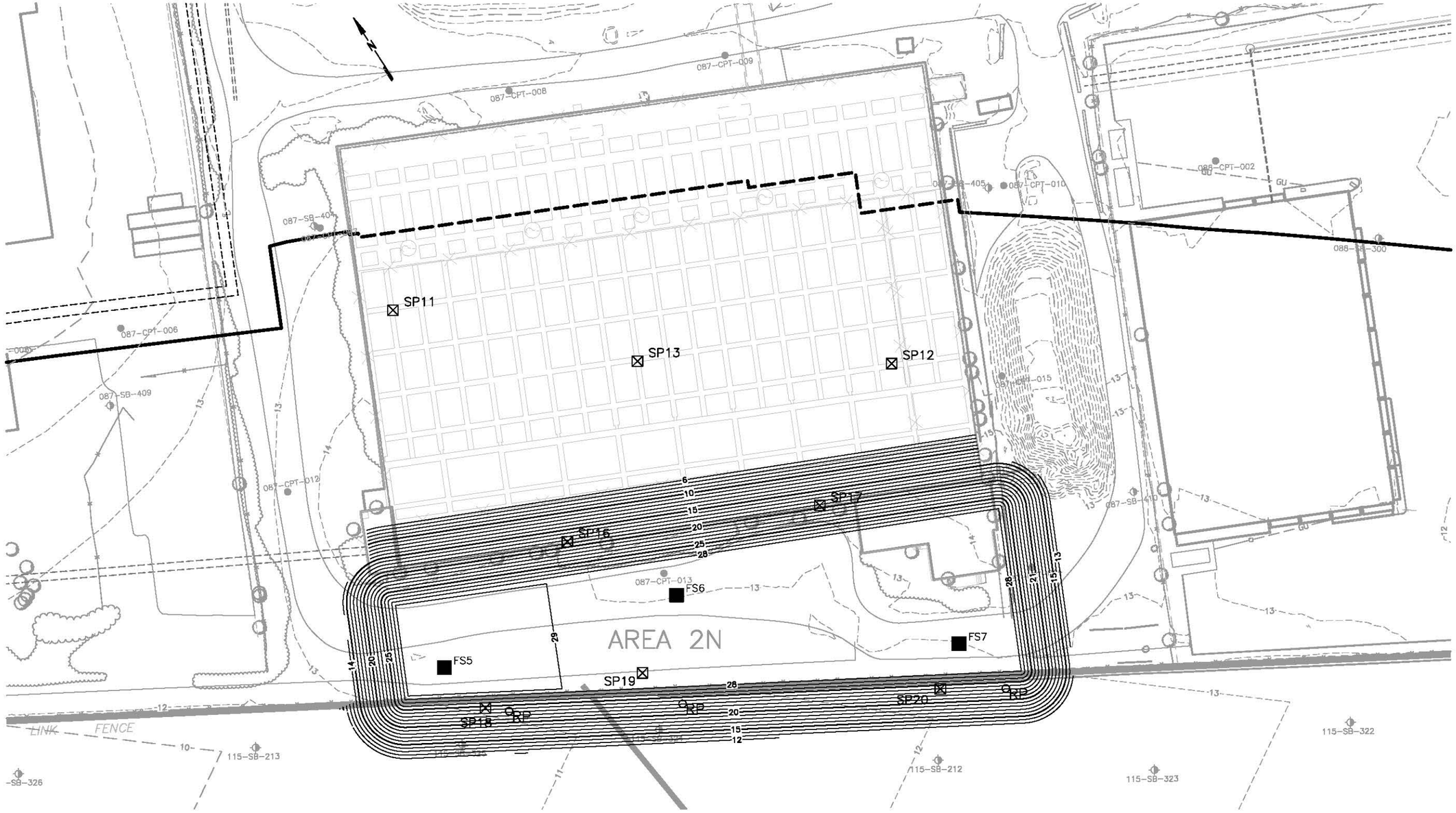
Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec

INSTRUMENTATION LOCATION PLAN
AREA 1N
Project 3480-09-0006
Figure B1

Z:\Projects\HONEYWELL\JERSEY CITY\Chp Sedgn-SA6-A3\DAT\SAM\100 Percent\Figure 1 Surcharge Settling Monitoring Plan - Area 1.dwg Wed, 26 Feb 2014 - 11:15am tony.dickson



SETTLEMENT MONITORING POINT		
DESCRIPTION	NORTHING	EASTING
FS5	685595	602745
FS6	685557	602880
FS7	685445	603001
SP11	685784	602832
SP12	685602	603057
SP13	685683	602935
SP16	685618	602844
SP17	685556	602977
SP18	685563	602752
SP19	685531	602839
SP20	685429	602978

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
5. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

I_{1-2}	INCLINOMETER LOCATION
FS-1-1	SETTLEMENT MONITORING POINT FULL – SET UP
HS12	SETTLEMENT MONITORING POINT HALF – SET UP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 5)

Revised/Date: TDD 02/26/14
Checked/Date: SGS 02/28/14

0 15 30 60
SCALE IN FEET

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JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

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INSTRUMENTATION LOCATION PLAN
AREA 2N
Project 3480-09-0006
Figure C1

SETTLEMENT MONITORING POINT		
DESCRIPTION	NORTHING	EASTING
FS8	685406.37	603094.37
FS9	685500.70	603127.23
FS10	685585.02	603165.50
FS11	685387.04	603338.90
HS10	685499.90	603327.97
HS11	685329.97	603205.81
HS12	685428.53	603407.96
HS13	685253.14	603316.22
SP14	685625	603120
SP15	685568	603093
SP21	685302.66	603197.35

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
5. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

I_{1-2}	INCLINOMETER LOCATION
FS-1-1	SETTLEMENT MONITORING POINT FULL - SET UP
HS-1-1	SETTLEMENT MONITORING POINT HALF - SET UP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 5)

Revised/Date: TDD 02/26/14
Checked/Date: SGS 02/26/14

0 15 30 60
SCALE IN FEET

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JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

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INSTRUMENTATION LOCATION PLAN
AREA 3N
Project 3480-09-0006
Figure D1

SETTELMENT MONITORING POINT		
DESCRIPTION	NORTHING	EASTING
FS12	685304	603419
FS13	685207	603369
SP22	685186	603357
SP23	685368	603473
SP24	685357	603491
SP25	685077	603485

Φ_{VI-2}	INCLINOMETER LOCATION
FS12	SETTLEMENT MONITORING POINT FULL – SET UP
HS12	SETTLEMENT MONITORING POINT HALF – SET UP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 5)

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
5. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

0 15 30 60
SCALE IN FEET

Revised/Date: TDD 02/28/14
Checked/Date: SGS 02/28/14

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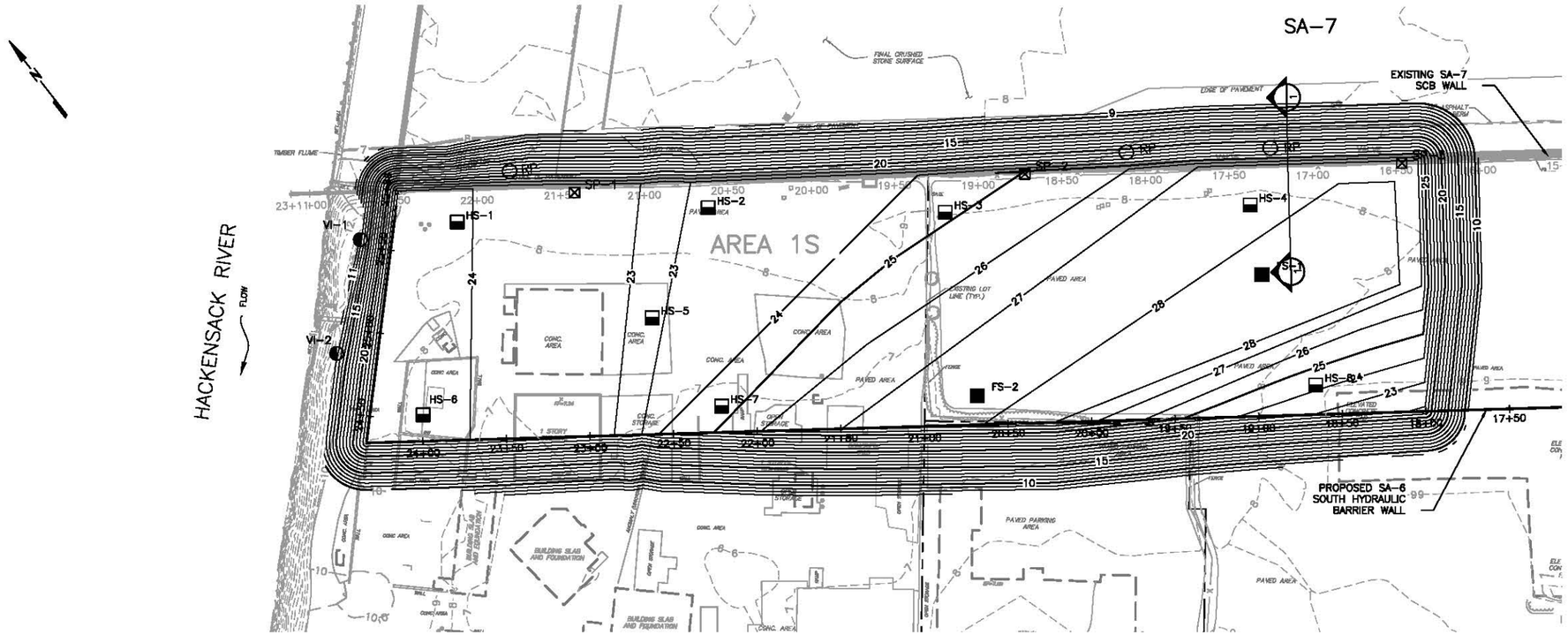
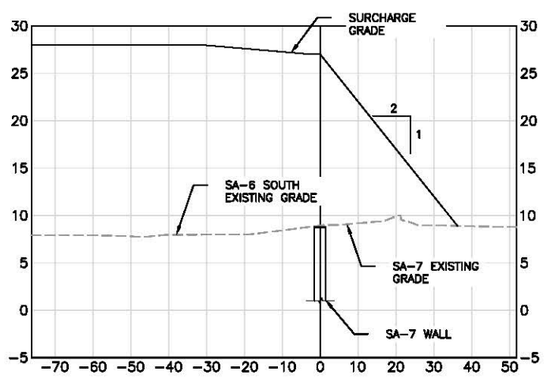
CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec

INSTRUMENTATION LOCATION PLAN
AREA 4N
Project 3480-09-0006
Figure E1





SECTION A-A

SETTELMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
FS-1	685276	601927
FS-2	685324	601749
HS-1	685597	601567
HS-2	685511	601691
HS-3	685422	601801
HS-4	685313	601947
HS-5	685480	601624
HS-6	685519	601480
HS-7	685413	601624
HS-8	685204	601912
VI-1	685624	601515
VI-2	685580	601462
SP-1	685568	601633
SP-2	685411	601852
SP-3	685277	602034

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. COMMENCE FILL AT THE HACKENSACK RIVER AND WORK EAST TOWARD ROUTE 440.
4. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.
5. AFTER COMPLETION OF AREAS 1 AND 3 SURCHARGE LOADING, REMAINING FILL FROM THESE AREAS WILL BE COMBINED TO FORM THE SURCHARGE AREA 2.

VI-2	INCLINOMETER LOCATION
FS-1-1	SETTLEMENT MONITORING POINT FULL - SET UP
HS-1-1	SETTLEMENT MONITORING POINT HALF - SET UP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 7)

0 20 40 80
SCALE IN FEET

Prepared/Date: TDD 02/28/14
Checked/Date: SGS 02/28/14

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

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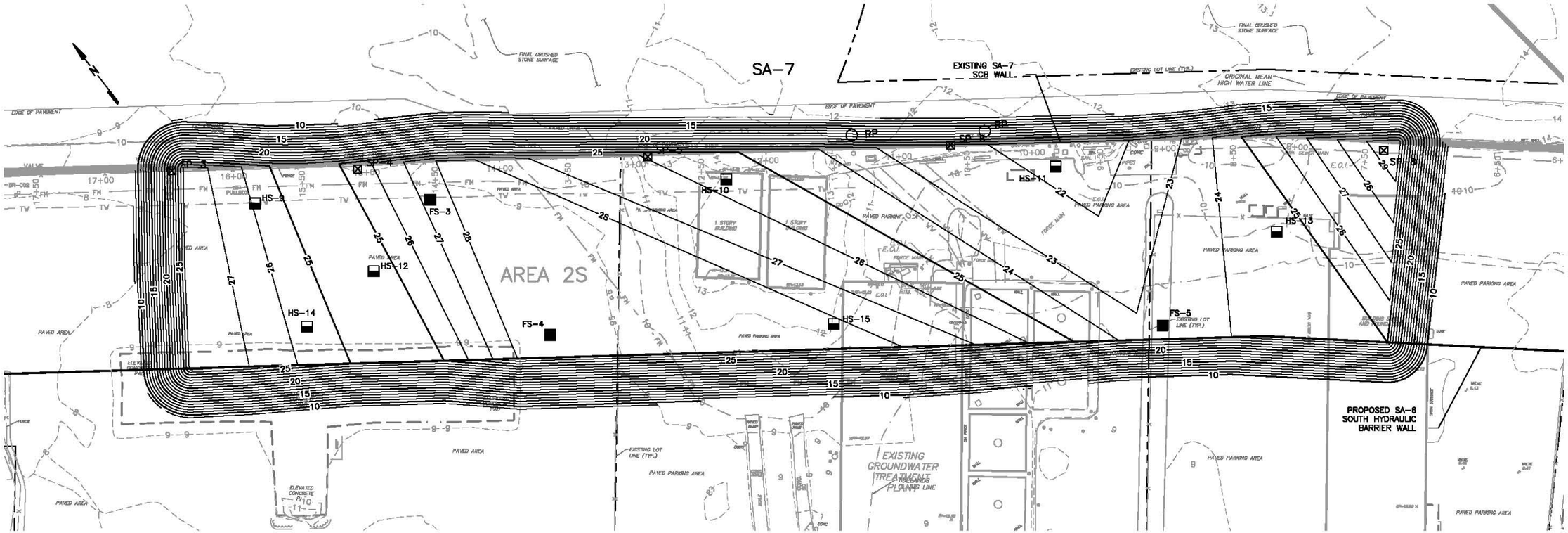
INSTRUMENTATION LOCATION PLAN
AREA 1S
Project 3480-12-0317
Figure F1

Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-CD3\CAD\SA6\Figure - Surcharge Area1 Instrumentation Plan.dwg Wed, 26 Feb 2014 - 9:44am tony.dickson



NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.
4. AFTER COMPLETION OF AREAS 1 AND 3 SURCHARGE LOADING, REMAINING FILL FROM THESE AREAS WILL BE COMBINED TO FORM THE SURCHARGE FOR AREA 2.

SETTLEMENT MONITORING POINTS

DESCRIPTION	NORTHING	EASTING
FS-3	685147	602186
FS-4	685000	602180
FS-5	684747	602531
HS-9	685226	602078
HS-10	685015	602358
HS-11	684873	602566
HS-12	685122	602109
HS-13	684729	602660
HS-14	685108	602032
HS-15	684880	602355
SP-4	685192	602145
SP-5	685065	602322
SP-6	684932	602507
SP-7	684732	602766
SP-8	684728	602761

VI-2 INCLINOMETER LOCATION

FS-1 SETTLEMENT MONITORING POINT FULL – SET UP

HS-1 SETTLEMENT MONITORING POINT HALF – SET UP

SP-12 SETTLEMENT MONITORING PLATFORM

RP APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 7)

0 20 40 80
SCALE IN FEET

Prepared/Date: TDD 02/28/14
Checked/Date: SGS 02/28/14

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STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

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INSTRUMENTATION LOCATION PLAN
AREA 2S
Project 3480-12-0317
Figure G1

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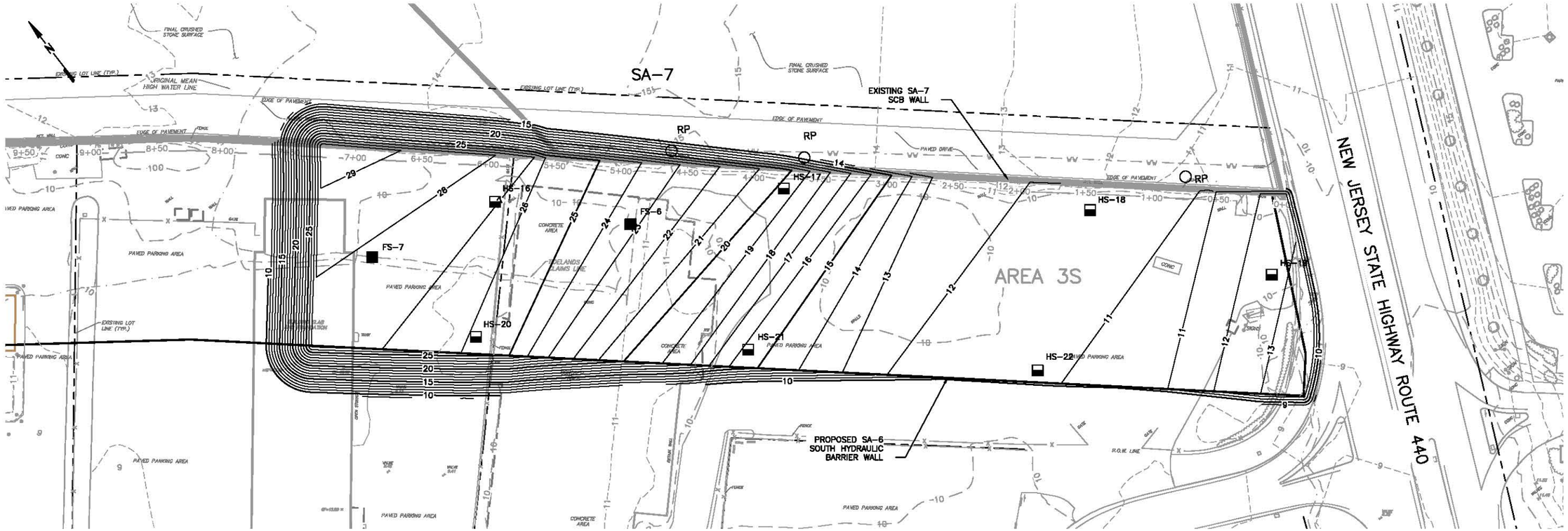


NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. COMMENCE FILL AT THE HACKENSACK RIVER AND WORK EAST TOWARDS ROUTE 440.
4. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.
5. AFTER COMPLETION OF AREAS 1 AND 3 SURCHARGE LOADING, REMAINING FILL FROM THESE AREAS WILL BE COMBINED TO FORM THE SURCHARGE FOR AREA 2.

SETTLEMENT MONITORING POINTS

DESCRIPTION	NORTHING	EASTING
FS-6	684538	602919
FS-7	684638	602751
HS-16	684678	602808
HS-17	684488	603027
HS-18	684333	603198
HS-19	684211	603276
HS-20	684542	602775
HS-21	684409	602931
HS-22	684263	603093

VI-2	INCLINOMETER LOCATION
FS-1	SETTLEMENT MONITORING POINT FULL – SET UP
HS-1	SETTLEMENT MONITORING POINT HALF – SET UP
SP-12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 7)

0 20 40 80
SCALE IN FEET

Prepared/Date: TDD 02/26/14
Checked/Date: SGB 02/26/14

Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec

INSTRUMENTATION LOCATION PLAN
AREA 3S
Project 3480-12-0317
Figure H1

J:\Projects\VARCHETTI\JERSEY CITY\Dsp Design-SGB-CSR\DAR\SAMEY\Figure - Surcharge Areas2 Instrumentation Plan.dwg Wed, 26 Feb 2014 - 10:50am terry.dunnam

amec	**Project:**	Study Area 6	**Report Date**
	Location:	Jersey City, New Jersey	**Report By**
	Client:	Honeywell	

DAILY FIELD REPORT

SURCHARGE MONITORING PROGRAM

General Information		Today's Areas of Activity	
Active Surcharge Areas		**General Fill Placement Areas**	
Weather Conditions		**Instrument Reading Areas**	

FILL PLACEMENT

General Fill Placement Locations

Area 1N	Area 2N	Area 3N	Area 4N	Sed. Basin

Area 1S	Area 2S	Area 3S

Details of Today's Fill Placement

Photos Taken?	1N	2N	3N	4N	Sed. Basin	1S	2S	

Area 1N	Area 2N	Area 3N	Area 4N	Sed. Basin

Area 1S	Area 2S	Area 3S

Today's Fill Material Description	**In-Place Density of Fill (tested)**	**In-Place Density of Fill (est.)**

INSTRUMENT READINGS

Today's Instrument Types Read (By Area)

Area 1N	Area 2N	Area 3N	Area 4N	Sed. Basin

Area 1S	Area 2S	Area 3S

Instrument Damage/Concerns

SLOPE STABILITY/SETTLEMENT OBSERVATIONS

Existing Fill Slopes Stable (Y/N)	**Excess Settlement (Y/N)**

ADDITIONAL NOTES/DISCUSSIONS

	Project:	Study Area 6	SETTLEMENT PLATFORM #
amec	Location:	Jersey City, New Jersey	
	Client:	Honeywell	

SETTLEMENT PLATFORM - FIELD DATA SHEET

Baseline Location	
Northing:	
Easting:	
Date/Recorded By:	

Baseline Elevations	
Existing Ground Surface Elev.[1,2] (ft):	
Initial Reference Clamp Elev.[1] (ft):	
Date/Recorded By:	

Survey the Reference Clamp Elevation
BEFORE and AFTER adding riser pipe!

Date	Recorded by	Settlement Platform	Fill Placement	Notes
		Reference Clamp Elevation[1] (ft)	Ground Surface Elevation[1,3] (ft)	(note when riser pipe is added)

Notes:

1. Measure/record elevations to the nearest 0.01 feet.
2. At installation, record existing ground surface elev. at/proximate to the installed platform; for determining fill thickness above existing grade.
3. During surcharge fill placement/monitoring period, record existing ground surface elev. (i.e., top of fill) at/proximate to the installed platform.

	Project:	Study Area 6	STANDPIPE PIEZOMETER #
amec	Location:	Jersey City, New Jersey	
	Client:	Honeywell	

STANDPIPE PIEZOMETER - INSTALLATION SHEET

Baseline Location/Elevation	
Northing:	
Easting:	
Existing Ground Surface Elev.[1](ft):	
Initial Top of Riser (TOR) Elev.[1] (ft):	
Date/Recorded By:	

Piezometer Construction Details[2]				
Item	Depth		Elevation	
	Top[2] (ft bgs)	Bottom[2] (ft bgs)	Top[2] (ft)	Bottom[2] (ft)
Riser:	(-)			
Grout:				
Bentonite Plug:				
Sand:				
Screen:				

Baseline Readings			
Date	Recorded By	Depth to Water[1] (ft btor)	Notes

Notes:

1. Measure/record elevations and groundwater depths to the nearest 0.01 feet.
2. Measure/record piezometer construction details to the nearest 0.01 feet.

	Project:	Study Area 6	SONDEX SYSTEM #
amec	Location:	Jersey City, New Jersey	
	Client:	Honeywell	

SONDEX SYSTEM - INSTALLATION DATA SHEET

Baseline Survey Location & Elevation	
Northing:	
Easting:	
Top of Riser (TOR) Elev. (ft):	
Date/Recorded By:	

Baseline Depths and Elevations		
Item	Depth (ft bgs)[1]	Elevation (ft)[1]
Riser Stick-Up (ft):	(-)	-
Existing Ground Surface:	-	
Top O:		
Bottom O/Top D:		
Bottom D:		
GWT:		
Bottom of Sondex:		

Ring Installation					
Ring Number	Target Depth (ft bgs)[1]	Target Stratum	Baseline Depth Readings		
			Reading No. 1 (ft btor)[1]	Reading No. 2 (ft btor)[1]	Reading No. 3 (ft btor)[1]
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Notes: 1. Measure/record to nearest 0.01 feet.

amec	Project:	Study Area 6	MONITORING POINT (STATION) #
	Location:	Jersey City, New Jersey	
	Client:	Honeywell	

VIBRATING WIRE PIEZOMETERS - INSTALLATION DATA SHEET

Baseline Locations (VWP Shallow Boring No. 1)	
Northing:	
Easting:	
Ground Elev.:	
Date/Recorded By:	

Baseline Locations (VWP Shallow Boring No. 2, if applicable)	
Northing:	
Easting:	
Ground Elev.:	
Date/Recorded By:	

Baseline Locations (VWP Deep/RC Boring, if applicable)	
Northing:	
Easting:	
Ground Elev.:	
Date/Recorded By:	

Baseline Strata Depths/Elevations		
Item	Depth (ft bgs)[1]	Elevation (ft)[1,2]
Existing Ground Surface:	-	
Top of Stratum O:		
Bottom O / Top D:		
Bottom of Stratum D:		
Top of Stratum RC:		
Bottome of Stratum RC:		
Groundwater Table		

VWP Installation Record					
VWP Designation	VWP Serial No.	Depth (ft bgs)[1]	Elevation (ft)[1,2]	Stratum	VWP Boring No.
				Center O	
				Upper D	
				Center D	
				Lower D	
				RC	

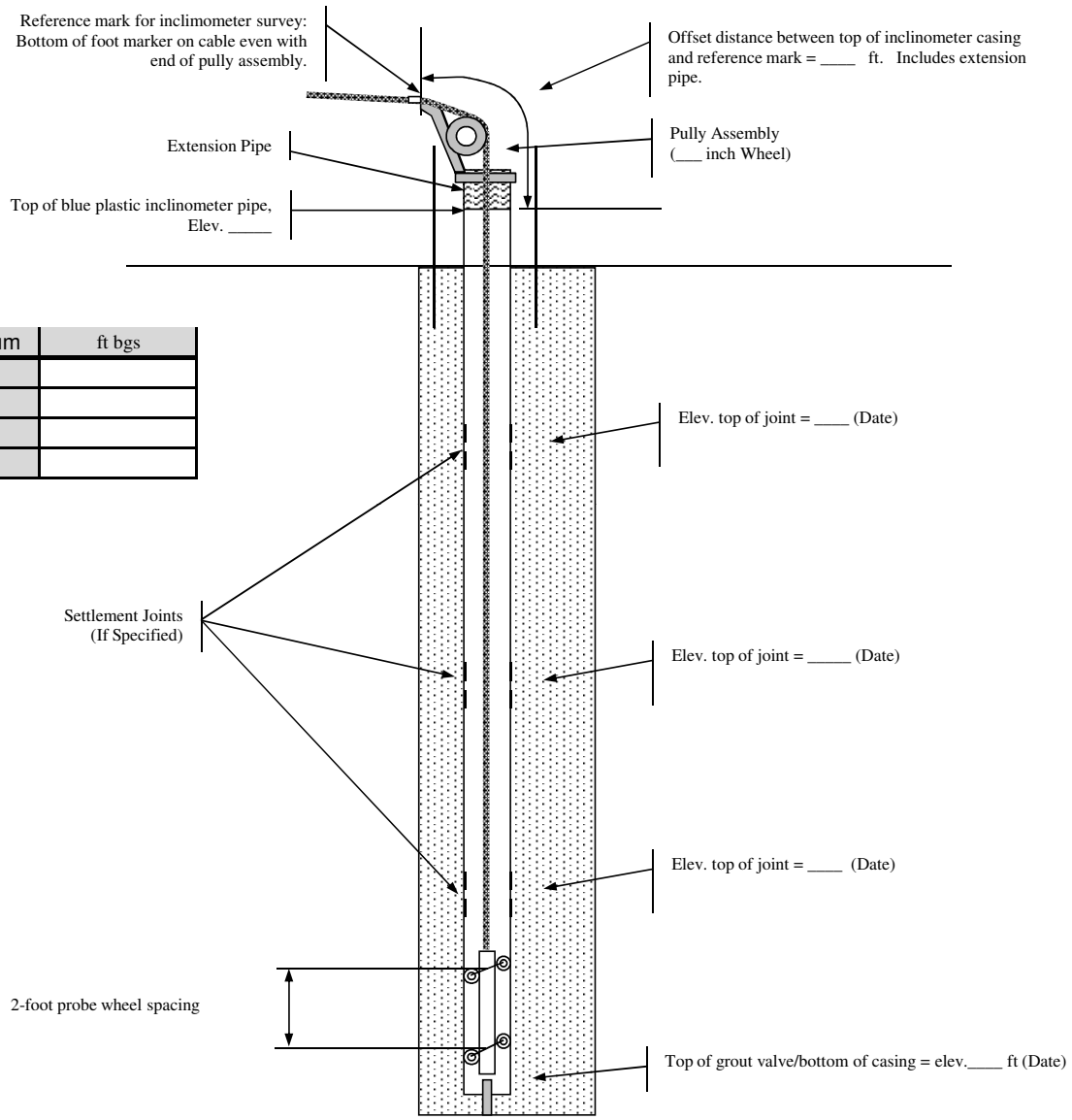
VWP Baseline Readings														
VWP Designation:														Notes
VWP Serial No.:														
Date	Recorded By:	Ground Surface Elev. (ft)[1]	Frequency (Hz)	Temperature (deg C)	Frequency (Hz)	Temperature (deg C)	Frequency (Hz)	Temperature (deg C)	Frequency (Hz)	Temperature (deg C)	Frequency (Hz)	Temperature (deg C)		

Notes:
1. Measure/record to nearest 0.01 feet.
2. Establish a single/representative baseline ground surface elevation (to the extent practical), based on elevation of associated Settlement Platform and compilation of VWP Borings.

amec	**Project:**	Study Area 6 South	**Inclinometer #**
	Location:	Jersey City, New Jersey	
	Client:	Honeywell	

INCLINOMETER - INSTALLATION DATA SHEET

Existing Grade (ft.):		Cable No.:	
Reference Elevation (ft):		Cable Length:	
Date:		Readout SN:	
Time (start):		Probe SN:	
Time (finish):		Read By:	
Installation Date:		Datamate File Name:	



Stratum	ft bgs
Fill	
O	
D	
S1	

Bottom Depth Readings

	Initial	Current
A0		
A180		
B0		
B180		

Settlement Joint Readings

Depth to Joint No 1:	
Depth to Joint No 2:	
Depth to Joint No 3:	
Depth to bottom of Inclinometer:	

Notes:

Northing:_____

Easting:_____

A+ Axis Orientation:_____

	Project:	Study Area 6	SETTLEMENT PLATFORM #
amec	Location:	Jersey City, New Jersey	
	Client:	Honeywell	

SETTLEMENT PLATFORM - FIELD DATA SHEET

Baseline Location	
Northing:	
Easting:	
Date/Recorded By:	

Baseline Elevations	
Existing Ground Surface Elev.[1,2] (ft):	
Initial Reference Clamp Elev.[1] (ft):	
Date/Recorded By:	

Survey the Reference Clamp Elevation
BEFORE and AFTER adding riser pipe!

Date	Recorded by	Settlement Platform	Fill Placement	Notes
		Reference Clamp Elevation[1] (ft)	Ground Surface Elevation[1,3] (ft)	(note when riser pipe is added)

Notes:

1. Measure/record elevations to the nearest 0.01 feet.
2. At installation, record existing ground surface elev. at/proximate to the installed platform; for determining fill thickness above existing grade.
3. During surcharge fill placement/monitoring period, record existing ground surface elev. (i.e., top of fill) at/proximate to the installed platform.

	Project:	Study Area 6	STANDPIPE PIEZOMETER #
	Location:	Jersey City, New Jersey	
	Client:	Honeywell	

STANDPIPE PIEZOMETER - FIELD DATA SHEET

Date	Recorded By	Depth to Water [1] (ft btor)	Riser Added Today? (Yes/No)	Depth to Water [1, 2] (ft btor)	Riser Surveyed? [3] (Yes/No)	Riser Elevation [4] (ft)

Notes:

1. Measure/record groundwater depths to the nearest 0.01 feet.
2. If riser is added on this date, re-measure the depth to water after adding riser.
3. **Measure/record TOR elev. periodically.**
4. Measure/record elevations to the nearest 0.01 feet.

amec	**Project:**	Study Area 6	**SONDEX SYSTEM #**
	Location:	Jersey City, New Jersey	
	Client:	Honeywell	

SONDEX SYSTEM - FIELD DATA SHEET

Date:								
Recorded By:								
Ring Number	**Depth (ft below top of riser)[1]**							
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								

Notes:
1. Measure/record to nearest 0.01 feet.
2. Note when riser pipe is added.
3. **Take Sondex depth readings immediately BEFORE (all) and AFTER (a few rings) adding riser pipe.**

amec	**Project:**	Study Area 6	**MONITORING POINT (STATION) #**
	Location:	Jersey City, New Jersey	
	Client:	Honeywell	

VIBRATING WIRE PIEZOMETERS - FIELD DATA SHEET

VWP Readings												
VWP Designation:												**Notes**
VWP Serial No.:												
Date	**Recorded By:**	**Frequency (Hz)**	**Temp. (deg C)**	**Frequency (Hz)**	**Temp. (deg C)**	**Frequency (Hz)**	**Temp. (deg C)**	**Frequency (Hz)**	**Temp. (deg C)**	**Frequency (Hz)**	**Temp. (deg C)**	

Honeywell RES

Honeywell.com

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 002 Major (a)(b) Effective Date: 8/14/13
Project Location: SA-6 NORTH	Associated RFI:
Title: Hydraulic Barrier/Surcharge Relocation adjacent to 72 inch FM SA-6 North	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): Entact	

Description of Change/Modification:

The Barrier Wall alignment and Surcharge Program from Station 14+50 to Station 22+13 has been modified to address the concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of the 72 inch forcemain. The relocation also impacts subgrade/liner grading and final grades for the Chromium Remedy. Design Drawings have to be modified and design calculations revised in support of the design modification. The Surcharge Monitoring Plan has also been amended and acoustical monitoring will be installed by PVSC.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Modified due to barrier wall relocation in conjunction with 72-in FM protection. Attachments: ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments: Major DCB anticipated, requires review and approval by third parties.	Design Documents Affected: Drawings – 8-11,13-15, 20,29, 31-35, 45-53, 54, 55, 56, 58, 59

Honeywell (AP) Review:

Individual	Discipline	Initial	Date

(Name / Signature): Samuel G Shallard	Does DCB Result in CCO? ☐ Yes Yes (b) ☑ No Date:

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

DESIGN CHANGE BULLETIN			
Sheet #	**Drawing #**	**Drawing Title**	**Comments**
14	CN-109	Cap Area Surcharge Grading Plan Area 1N	Drawings Revised due to Hydraulic Barrier realignment
29	CN-124	Geomembrane Grading Plan	Drawings Revised due to Hydraulic Barrier realignment
31	CN-126	Interim Grading, Drainage, and Soil Erosion Sediment Control Plan	Drawings Revised due to Hydraulic Barrier realignment
51	CN-515	Utility Corridor Locations	Drawings Revised due to Hydraulic Barrier realignment
55	SN-202	Hydraulic Barrier Plan and Profile	Drawings Revised due to Hydraulic Barrier realignment
56	SN-203	Hydraulic Barrier Plan and Profile	Drawings Revised due to Hydraulic Barrier realignment
59	SN-206	72 Inch Force Main Protection Plan and Details	Drawings Revised due to Hydraulic Barrier realignment
8	C-103	Existing Conditions Plan	Drawings with incidental line work changes
9	C-104	General Remedy Plan	Drawings with incidental line work changes
10	C-105	Subgrade Demolition Plan	Drawings with incidental line work changes
11	C-106	Civil Traffic Control and Decontamination Plan	Drawings with incidental line work changes
13	C-108	Civil Cap Area Surcharge Grading Plan Area 1S	Drawings with incidental line work changes
15	C-110	Civil Cap Area Surcharge Grading Plan Area 3S	Drawings with incidental line work changes
20	C-115	Civil Chromium Excavation Interval 4	Drawings with incidental line work changes

32	C-127	Civil Remediation Final Grading, Drainage, and Soil Erosion Sediment Control Plan	Drawings with incidental line work changes
33	C-128	Civil Restoration Plan	Drawings with incidental line work changes
34	C-201	Civil Contingent Groundwater Extraction System Plan and Profile	Drawings with incidental line work changes
35	C-202	Civil Contingent Groundwater Extraction System Plan and Profile	Drawings with incidental line work changes
45	C-309	Miscellaneous Details	Drawings with incidental line work changes
46	C-501	Cap Cross Section Plan	Drawings with incidental line work changes
47	C-502	Cap Cross Sections	Drawings with incidental line work changes
48	C-503	Cap Cross Sections	Drawings with incidental line work changes
49	C-504	Cap Cross Sections	Drawings with incidental line work changes
50	C-505	Cap Profile	Drawings with incidental line work changes
52	C-517	Structural Fill Under Roadways	Drawings with incidental line work changes
53	S-201	Hydraulic Barrier Plan and Profile	Drawings with incidental line work changes
54	S-202	Hydraulic Barrier Plan and Profile	Drawings with incidental line work changes
58	S-206	Existing SA-7 SCB Wall Plan and Profile	Drawings with incidental line work changes
62	S-504	Temporary Support of Excavation Plans	Drawings with incidental line work changes

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 005 Minor(a) Effective Date: 9/24/13
Project Location: SA-6 NORTH SA6-SOUTH	Associated RFI:
Title: Analytical Testing Frequency for Imported Borrow Materials	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): Entact	

Description of Change/Modification:

The testing frequency for analytic parameters for imported borrow materials is to be modified to 1 test/ 5,000 CY of borrow material anticipated to be needed.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☑ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Honeywell directed modification. Attachments: ☐ Yes ☑ No Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: The original specified minimum frequency was 1 sample per source. The frequency was increased to 1 sample per 5000 CY at the request of Honeywell, consistent with frequencies tested on imported virgin source materials on SA7.	Design Documents Affected: Technical Specifications Section 02315-10 2.13 Borrow Source Testing A. 1,2,3 Frequency

Honeywell (AP) Review:

Individual	Discipline	Initial	Date

(Name / Signature): Samuel G. Schuller	Does DCB Result in CCO? ☐ Yes(b) ☑ No Date: 5/2/14

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

placed. Horizon B soils will be a uniform sandy loam having the following properties:

Sandy loam classification having 80% sand, ≤ 10% silt, 10% clay.
Ph range 5.5 – 7.0.
Organic Matter (by weight) 1.5-3.5%.

C. Soil Horizon C – During Interim Grading Horizon C Soil will be placed between the root barrier and the Horizon A soil. The first 6 inches of Horizon C soils to be placed directly above the root barrier will be compacted to a minimum 90% of Standard Proctor. To meet Final Grading and planting requirements Horizon A soils will be stripped as necessary and Horizon C soils shall be re-graded to provide an appropriate depth of 18 inches. Horizon C soil shall consist of uniform sandy loam having the following properties:
   1. Sandy loam classification with 70-80% sand, ≤ 10% silt, 15-20% clay.
   2. pH range 5.0 – 7.5.
   3. Organic Matter (by weight) 1 % max.

2.13 BORROW SOURCE TESTING

A. Borrow source testing, including geotechnical characterization requirements, shall be conducted on all soil materials proposed for construction. Minimum third-party geotechnical laboratory testing requirements and frequency for materials are listed as follows:
   1. Common Borrow, Geocomposite Drainage Layer Cover Soil, Cushion Fill, Dense Graded Aggregate, Planting Soils (Horizons B and C):

Test	Methodology[1]	Frequency[2]
Particle-Size Analysis	ASTM D 422	1 test/5000 cy/material (to #200 Sieve)
Standard Proctor	ASTM D 698	Min. 3 test/source/material 1 test/5000 cy

   2. Topsoil (Horizon A):
      Refer to Section 02900, "Topsoil and Seeding".
   3. Crushed Stone:

Test	Methodology[1]	Frequency[2]
Particle-Size Analysis	ASTM D 422	1 test/5000 cy/material (to #200 Sieve)

B. Borrow Source Testing Notes:
   1. Other testing methods may be considered acceptable, based on prior approval of the Engineer.
   2. Testing frequency shall be as listed, at any change in borrow source, or at any discernable change in material delivered to the site (as determined by the Engineer).
      a. Common Borrow shall be certified clean from the borrow source or origin, based on analytical testing data, as approved by the Engineer.
         1. Soils shall be tested and certified "clean" relative to the NJDEP Technical Requirements pursuant to 7:26E 5.2(d) 2.

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB Type: Major (a) Effective Date: 3/25/14
Project Location: SA-6 NORTH, SA6-SOUTH	Associated RFI:
Title: CONTINGENT GW EXTRACTION SYSTEM	☐ Yes, RFI No. ___ ☑ None
REPLACE WELLS WITH TRENCHES	Project No.: 3480130377
Contractor (Subcontractor): Entact	

The 100% Design included a Conceptual Design for the Groundwater Extraction system that was based on use of 9 extraction wells in each open space area and common header system. This Bulletin describes a major change to that extraction system and explains the basis for that change.

Section 10.2 of the Design Report stated “Honeywell reserves the right to propose alternative groundwater extraction designs capable of meeting the criteria stated in Article III.A (58) of the Consent Decree. Additionally, Note 3 on the Contingent GW Extraction System Drawings SA-6 South C-201,202 and 203 and SA-6 North CN-201, 202 and 203 further elaborated that “Honeywell will continue to evaluate pertinent information gathered through dewatering and other construction operations. This information will be used to calibrate the groundwater capture model. Subject to the results of that model calibration and evaluation of the system design Honeywell may propose alternative groundwater extraction designs”.

The SA-6 South Groundwater Modeling Report Appendix B Section 5 indicates that Honeywell evaluated various pumping scenarios including the option of French Drains/Central drain. The results of the central/French drain scenario were shown in Figure 5-3. From a modeling perspective it was concluded that the drain provided equivalent performance to the 9 wells.

Consistent with the approach indicated in the Design report, Honeywell has continued to evaluate data collected during the construction dewatering and excavation. Observations of the well point dewatering system have indicated a great deal of variability in hydraulic properties from point to point. Observation of the excavation has also shown significant variability in soil types and permeabilities.

Based on an evaluation of this variability and in consideration of the reduced maintenance advantages associated with the French drain system, Honeywell is proposing to modify the design to change the wells to a French Drain. This proposal is consistent with paragraph 58 of the First Amended Consent Decree on Remediation and Redevelopment of Study Area 6 North. This design change will impact drawings C-201, 202, 203 and CN-201,202,203. The use of trenches also

reduces the number of pumps, control panels, and cap penetrations. This will result in changes to the electrical drawings E-301, 302, 303 and EN-301-302 and 303.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Design changed based on information gathered during construction Attachments: ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected: Contingent GW system plans and Profiles 201-103 Electrical Drawings 301-303 C306 Well/Pump Detail
Honeywell (AP) Review: Individual Discipline	Initial [illegible] Date 12/20/16
(Name / Signature):	Does DCB Result in CCO? ☐ Yes (b) ☑ No Date:
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 007.2 Major Effective Date: 11/20/14
Project Location: SA-6 NORTH	Associated RFI:
Title: GW EXTRACTION SYSTEM	o Yes, RFI No. ____ þ None
REPLACE WELLS WITH TRENCHES	Project No.: 3480130377
Contractor (Subcontractor): Entact	

DCB-007.1 was issued for the trench detail portion of the modified groundwater system design. At the time of issue details for the SA-6N trench were subject to potential further modification. DCB-007.2 provides the final details for the SA-6N groundwater collection trenches and associated electrical supply and groundwater discharge piping.

The 100% Design included a Conceptual Design for the Groundwater Extraction system that was based on use of 9 extraction wells in each open space area and common header system. Section 10.3 of the Design Report stated "Honeywell reserves the right to propose alternative groundwater extraction designs capable of meeting the criteria stated in Article III.A (56) of the Consent Decree.

Details related to the Administrative basis for the change are provided in DCB 007.1.

DCB 007.2 is applicable to the SA-6N Groundwater Extraction System trench design.

The design was modeled by Cornerstone. The model results indicate that the design will achieve the required gradients. Figure 1, 2 and 3 from the model runs are attached for reference.

The changes impact the following drawings
The following Issued for Construction Drawings are deleted

- CN-201
- CN-202
- CN-203

These following drawings were added

Contingent Groundwater Extractions System Plan and Profile

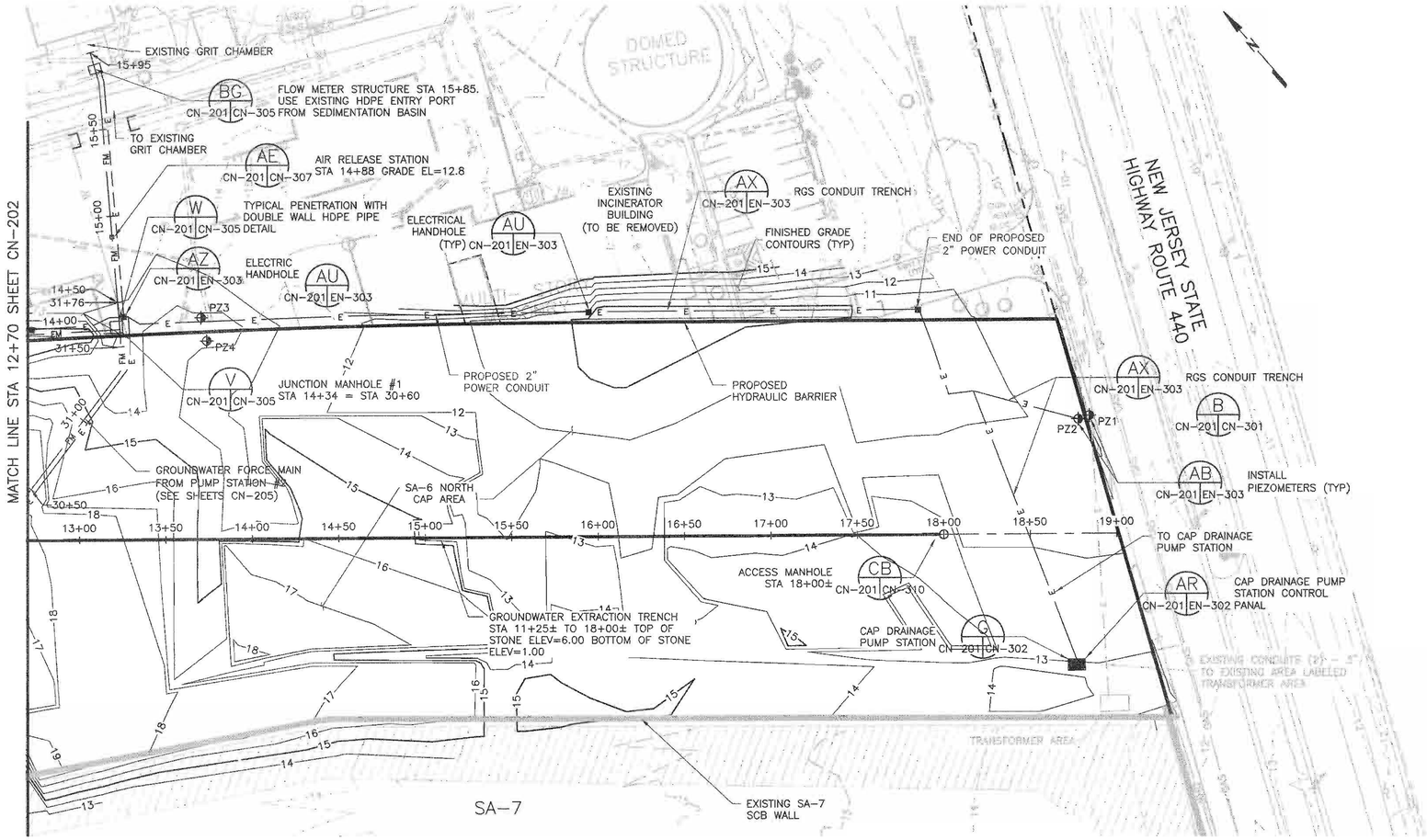
- CN-201
- CN-202
- CN-203
- CN-204 (discharge force main and electrical)
- CN-310 (Groundwater Extraction Trench Details).

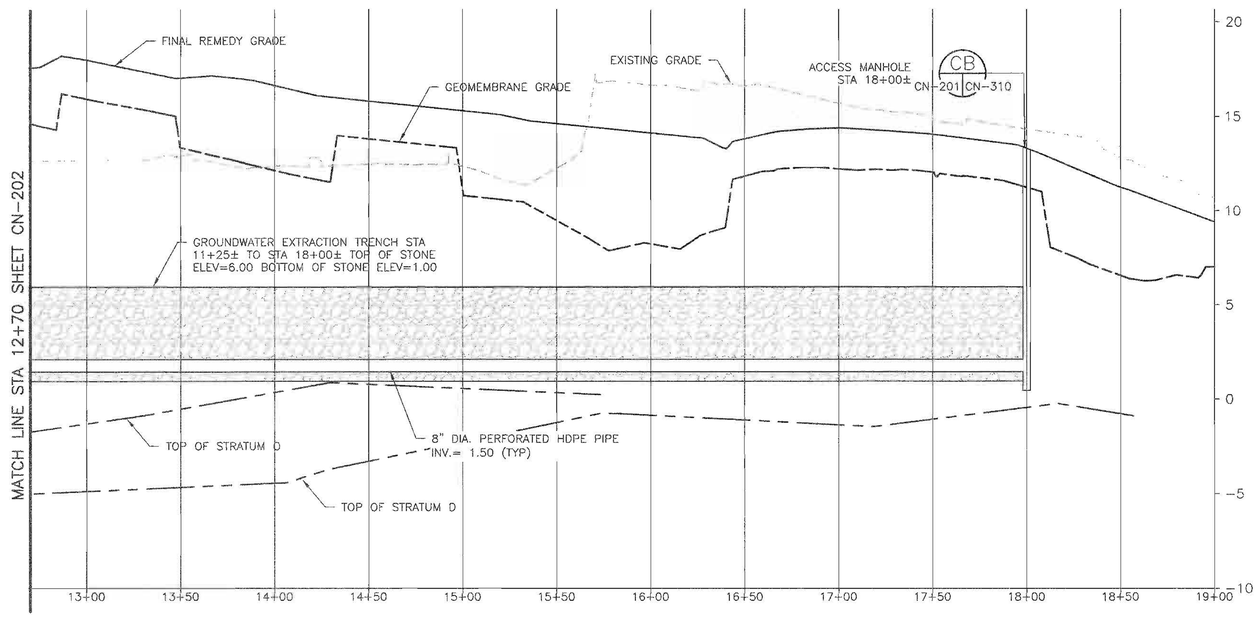
The changes from the well concept to the trench will also impact the Geomembrane Liner Grading CN-123 and CN-124. The Geomembrane liner changes will be issued separately.

It is noted that the 5 piezometric pairs on SA-6N are not included in this DCB. Amec is currently evaluating data collection and transmission options for the piezometers. The piezometer designs will be issued in a separate DCB.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Design changed based on information gathered during construction Attachments: ☑ Yes ☐ No Cost Implication: ☑ Yes ☐No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected: Contingent GW system plans and profiles-see drawing list in description
Honeywell (AP) Review: Individual Discipline Initial Date	
(Name / Signature):	Does DCB Result in CCO? ☑ Yes (b) ☐ No Date: 11/21/14
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FOR FORCE MAIN PROFILE INFORMATION SEE SHEET CN-204.
4. FINAL PLAN VIEW ALIGNMENT MAY BE ADJUSTED SUBJECT TO THE APPROVAL OF THE ENGINEER TO AVOID OBSTRUCTIONS SUCH AS EXISTING BUILDING FOUNDATIONS, ABANDONED UTILITIES AND PILES.
5. TRENCH INVERT HAS BEEN DESIGNED TO BE ABOVE STRATUM O AND STRATUM D. INVERTS MAY BE ADJUSTED DURING DESIGN DEVELOPMENT OR IN RESPONSE TO OBSERVED FIELD CONDITIONS SUBJECT TO THE APPROVAL OF THE ENGINEER AND GROUNDWATER MODELER.
6. PLACE STONE LOOSE IN GROUNDWATER COLLECTION TRENCH. RUN PLATE COMPACTOR OR EQUAL OVER TRENCH PRIOR TO INSTALLING GEOTEXTILE FABRIC.
7. BACKFILL ABOVE GEOTEXTILE FABRIC MAY BE COMPOSED OF EXCAVATED TRENCH SPOIL OR OTHER MATERIAL THAT CAN BE READILY COMPACTED. WET SOIL OVERSIZED DEBRIS OR OTHER MATERIALS AS DEEMED UNSUITABLE CONSISTENT WITH THE EARTHWORK SPECIFICATION 1.04.B. WILL NOT BE USED. BACKFILL WILL BE PLACED IN LIFTS CONSISTENT WITH THE EARTHWORKS SPECIFICATION 3.12.B.4.
8. FLEXIBLE COUPLINGS SHALL BE FLEXJOINT COUPLING AS MANUFACTURED BY ETHYLENE, LLC OR EQUAL. FLEXIBLE COUPLINGS SHALL HAVE A MINIMUM OF (2) BELLOWS AND BE TEFLON-LINED WITH 316 SS FLANGES (POWER BAKED EPOXY COATING APPLIED) AND VITON GASKETS.
9. PIEZOMETRIC PAIRS MAY BE INSTALLED USING SOLAR PANELS FOR POWER AND CELL TOWER OR SATELLITE DATA TRANSMITTING. DESIGN OF PIEZOMETRIC PAIR WILL BE ISSUED UNDER SEPARATE COVER.

VERTICAL SCALE
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SCALE IN FEET

HORIZONTAL SCALE
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SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43597

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
2	11/19/14					TDD	SGS
1	09/13/13					RJR	SGS
0	06/07/13					TDD	SGS
		TDD		RJR	TDD	SGS	

DCB 007.2
HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM
ISSUED FOR CONSTRUCTION
REVISION

Honeywell
101 COLUMBIA RD. BOX 2108, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, N.J. 08619
Phone: (609) 890-2020
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
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DATE	
PROJ	3480-12-0317
DWG	CN-201
SHEET	33 OF 70

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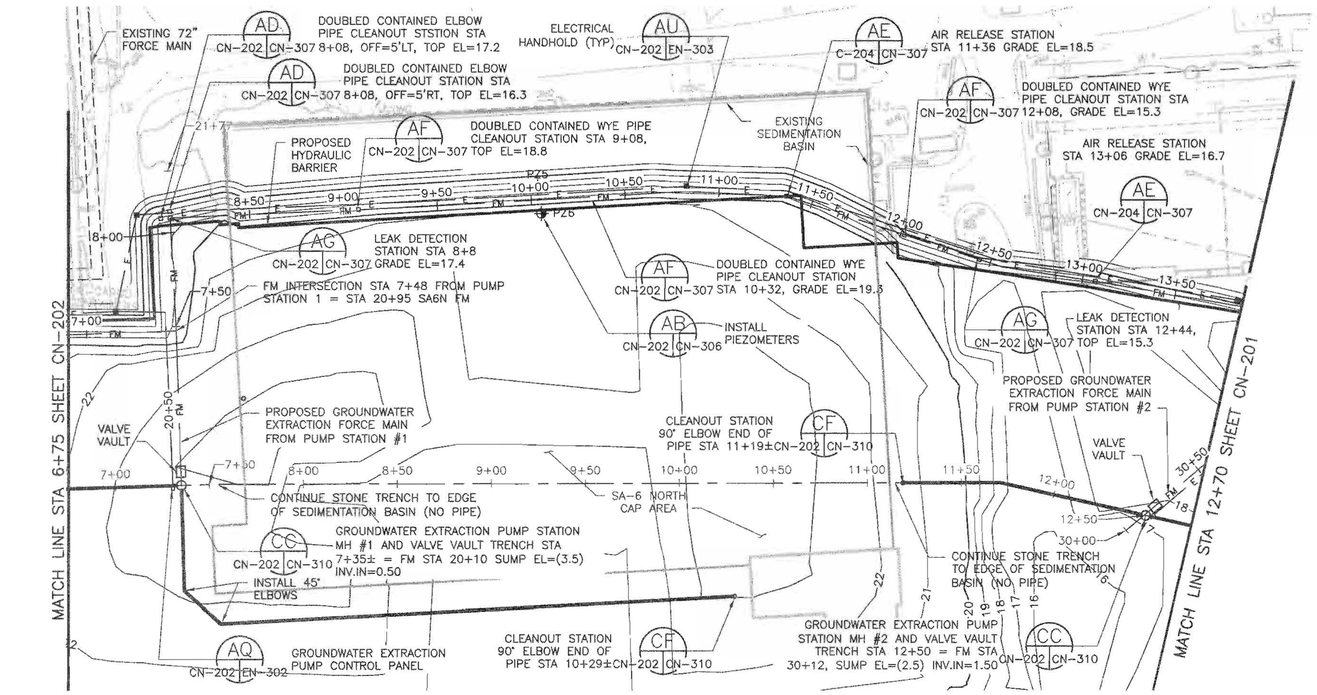
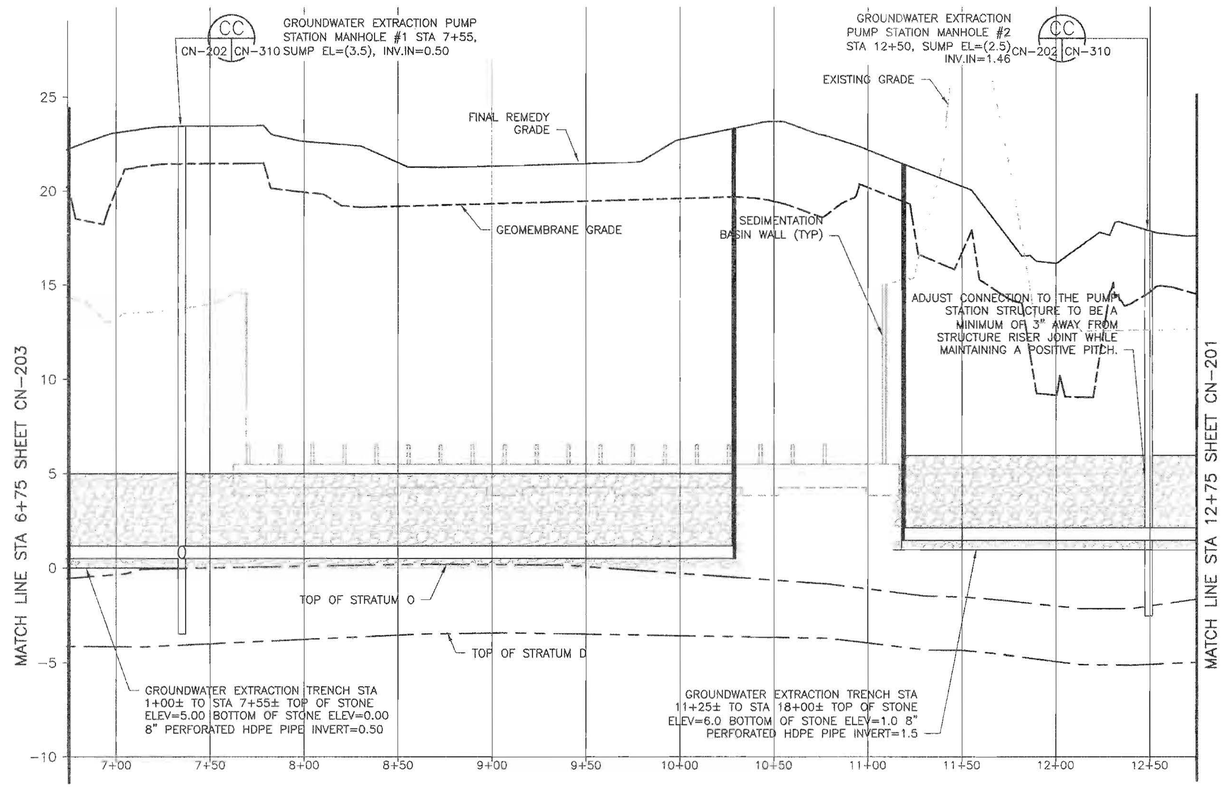
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\NCR33-CN-201-Cont Pump Well Sections.dwg PLOT DATE: Wed, 19 Nov 2014 PLOT TIME: 2:55 PM





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET CN-201 FOR NOTES.
4. BARRIER WALL ALIGNMENT SUBJECT TO FINAL LAYOUT CHANGES.

VERTICAL SCALE
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HORIZONTAL SCALE
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NO.	DATE	REVISION	BY	APVD
2	11/19/14	DCB 007.2	TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43567

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 28239
NJ Certificate of Authorization Number 24GA28019900

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PROJ	3480-12-0317
DWG	CN-202
SHEET	34 OF 70

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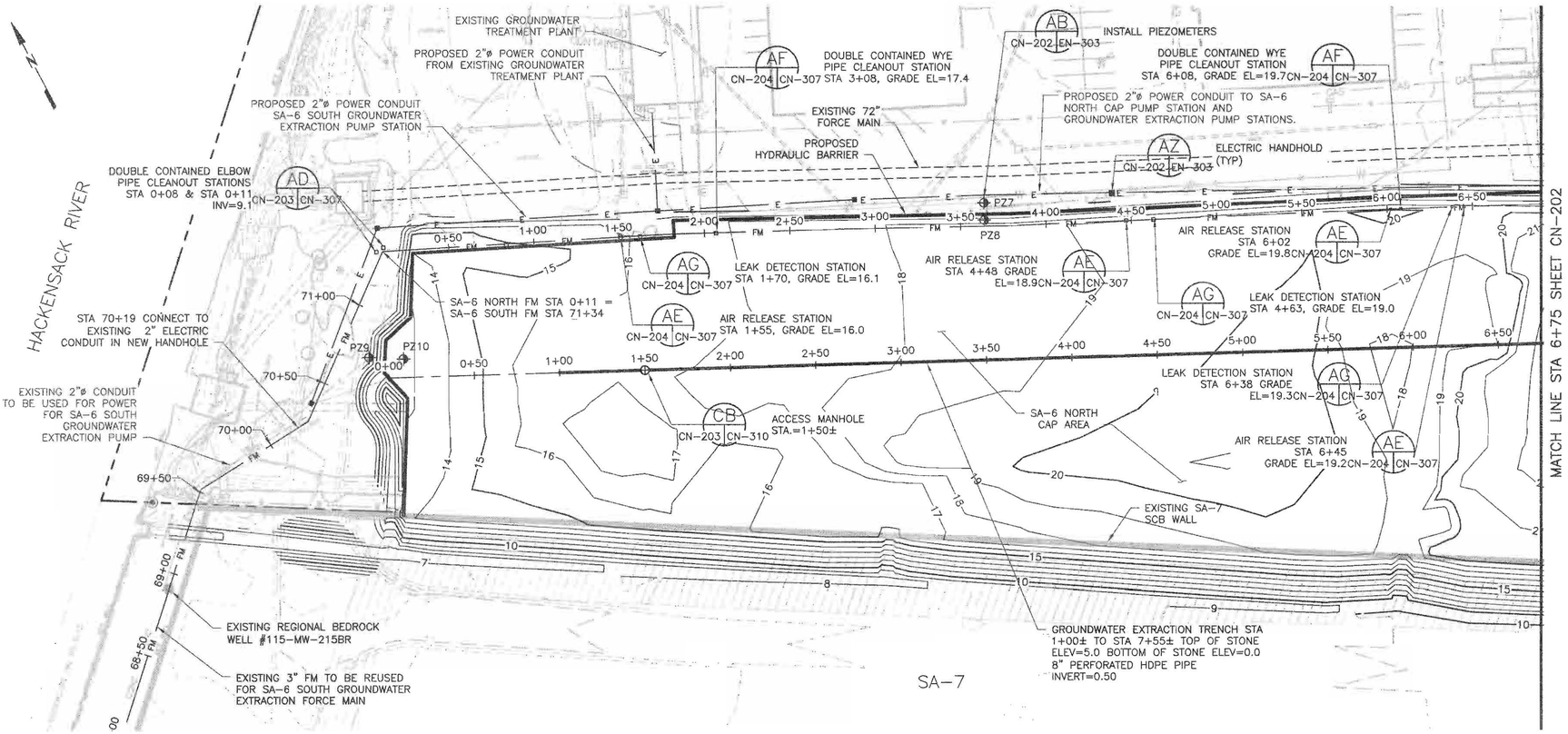
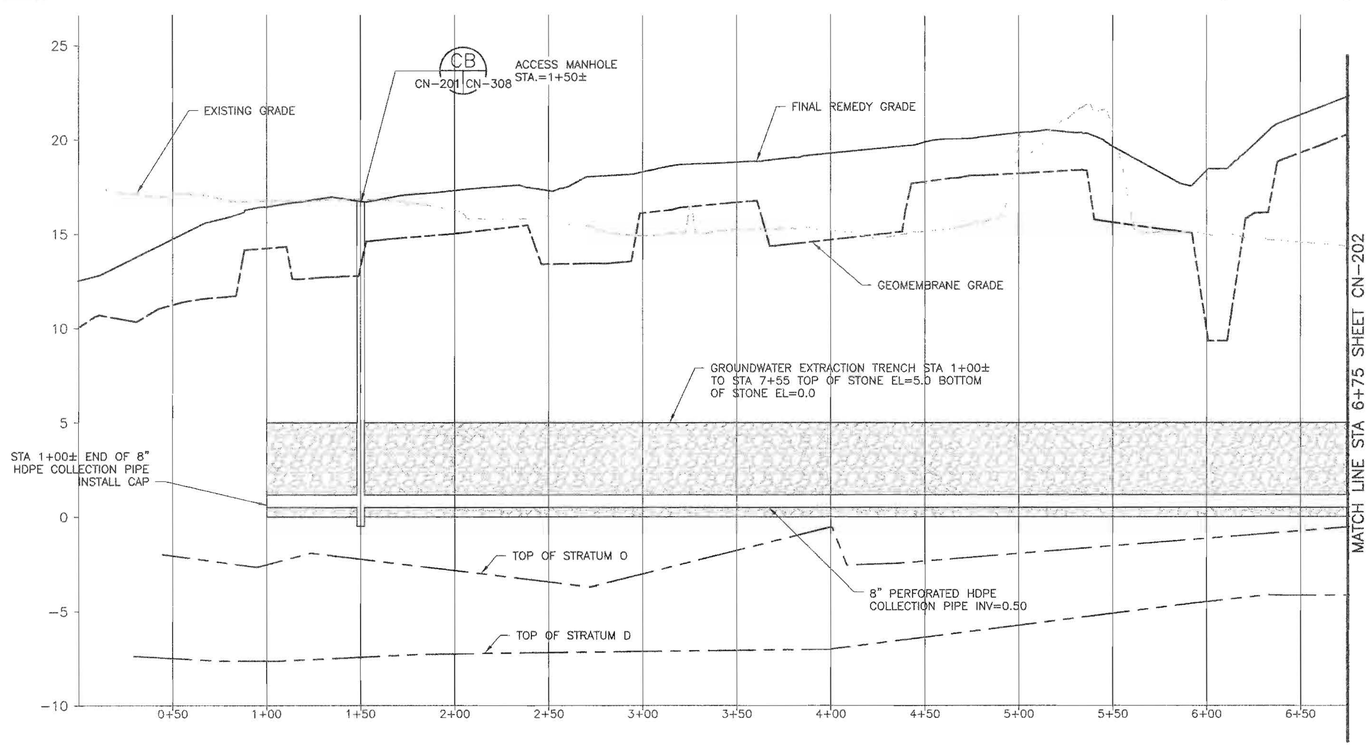
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\NCR34-CN-202-Cont_GWE_Trench.dwg PLOT DATE: Thu, 20 Nov 2014 PLOT TIME: 3:15 PM





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET CN-201 FOR NOTES.

VERTICAL SCALE
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HORIZONTAL SCALE
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NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
2	11/19/14	TDD	RJR	TDD	SGS	TDD	SGS
1	09/13/13	RJR	SGS				
0	06/07/13	TDD	SGS				

REVISION

DCB 007.2
HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM
ISSUED FOR CONSTRUCTION

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA29010500

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DATE	
PROJ	3480-12-0317
DWG	CN-203
SHEET	35 OF 70

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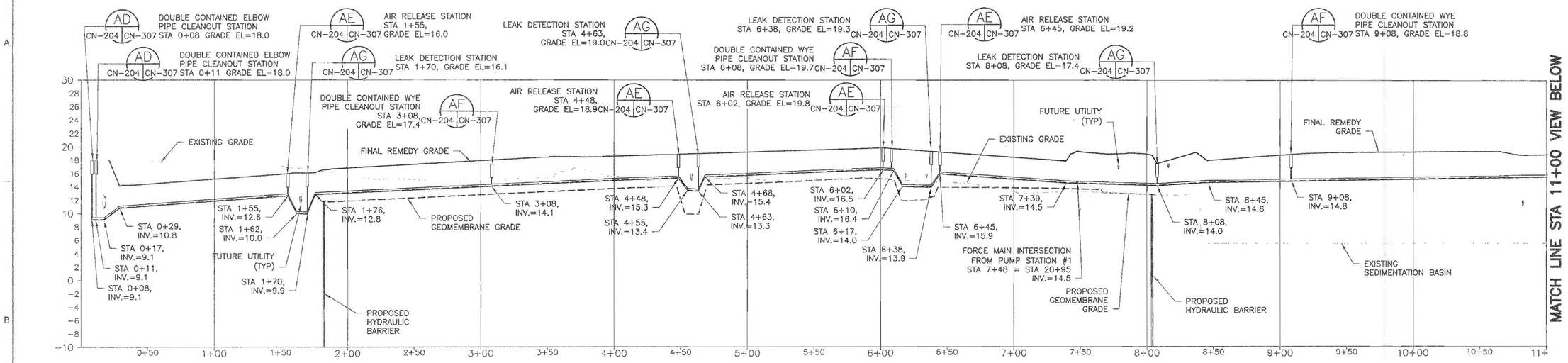
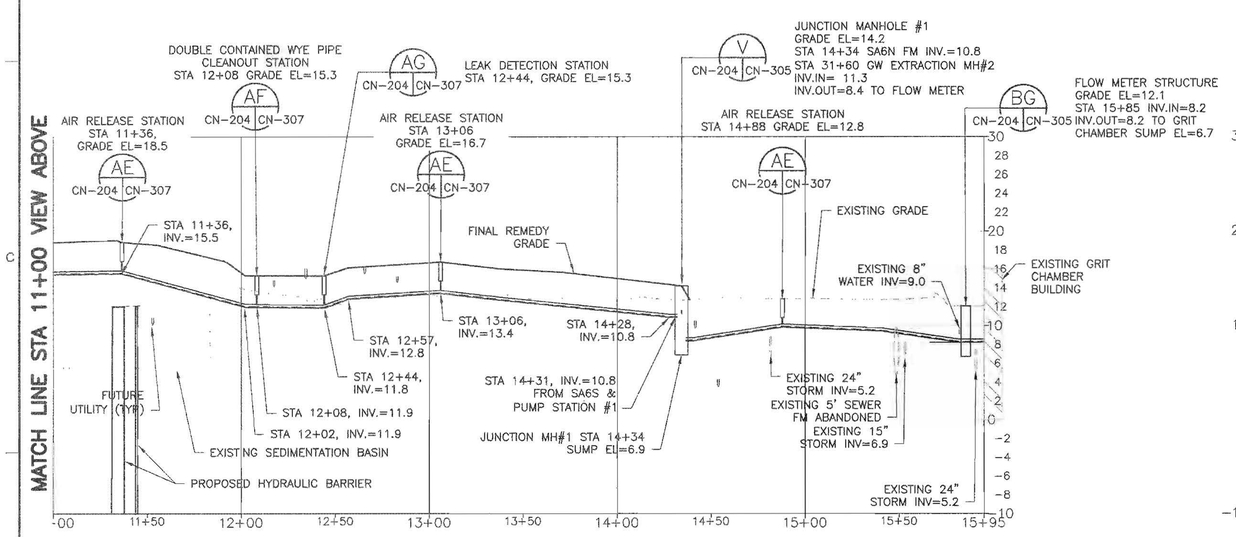
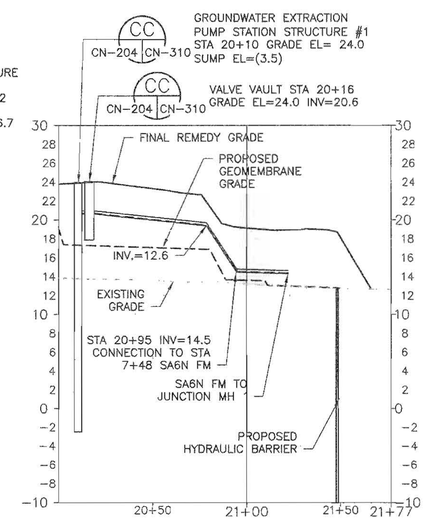
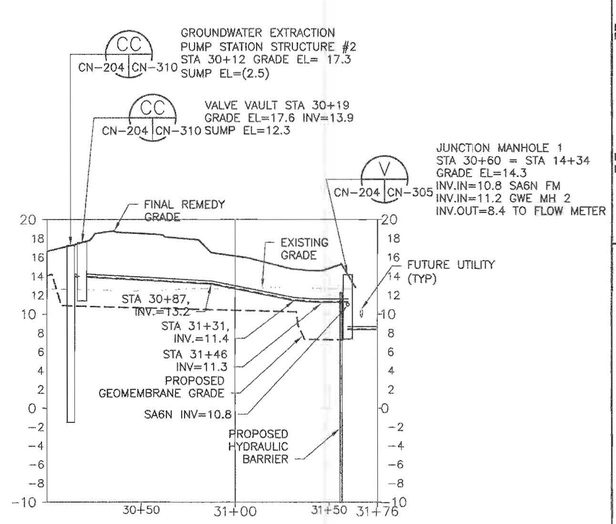
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\NCR35-CN-203-Cont_GWE_Trench.dwg PLOT DATE: Thu, 20 Nov 2014 PLOT TIME: 3:16 PM









NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. THE DESIGN OF THE CONTINGENT GROUNDWATER EXTRACTION SYSTEM IS CONCEPTUAL AND HAS BEEN BASED ON THE AVAILABLE HYDROGEOLOGIC INFORMATION. THE DESIGN IS BASED ON A THEORETICAL SCENARIO USING CONSERVATIVE ASSUMPTIONS. HONEYWELL WILL CONTINUE TO EVALUATE PERTINENT INFORMATION GATHERED THROUGH DEWATERING AND OTHER CONSTRUCTION OPERATIONS. THIS INFORMATION WILL BE USED TO CALIBRATE THE GROUNDWATER CAPTURE MODEL. SUBJECT TO RESULTS OF THAT MODEL CALIBRATION AND EVALUATION OF THE IMPACTS ON THE SYSTEM DESIGN HONEYWELL MAY PROPOSE ALTERNATIVE GROUNDWATER EXTRACTION DESIGNS CAPABLE OF MEETING THE CRITERIA STATED IN ARTICLE III A 58 OF THE CONSENT DECREE.

VERTICAL SCALE
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SCALE IN FEET

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
2	11/19/14	DCB 007.2	TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR TDD CHK RJR APVD TDD

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507
SGS

Honeywell
101 COLUMBIA RD., BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

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DATE	
PROJ	3480-12-0317
DWG	CN-204
SHEET	36 OF 70

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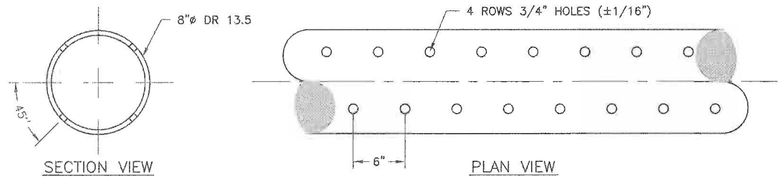
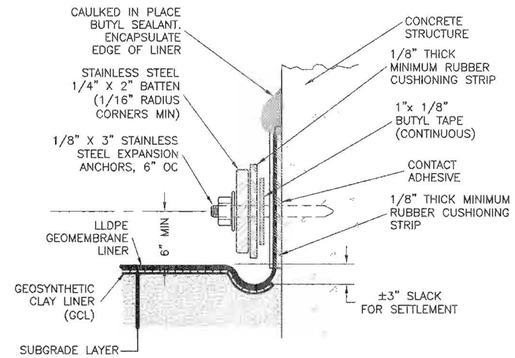
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\NCR36-CN-204-Cont_GWE_Trench.dwg PLOT DATE: Thu, 20 Nov 2014 PLOT TIME: 3:15 PM



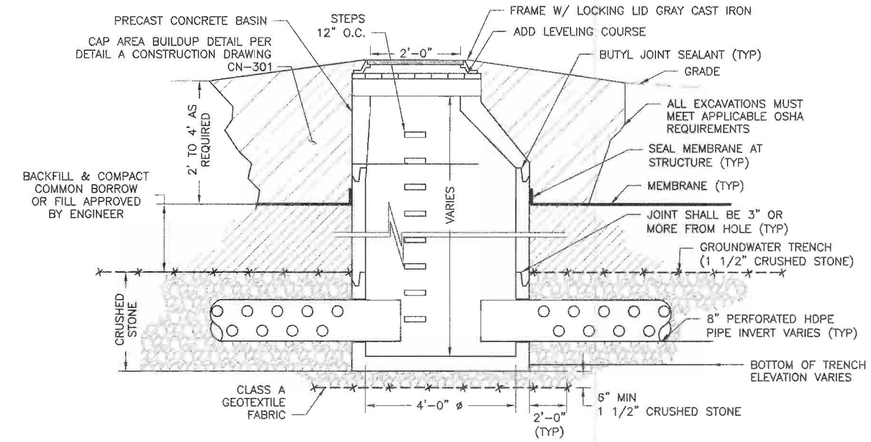
PIPE PERFORATIONS (CD)
NTS — TYP CN-310

CONSTRUCTION SEQUENCE

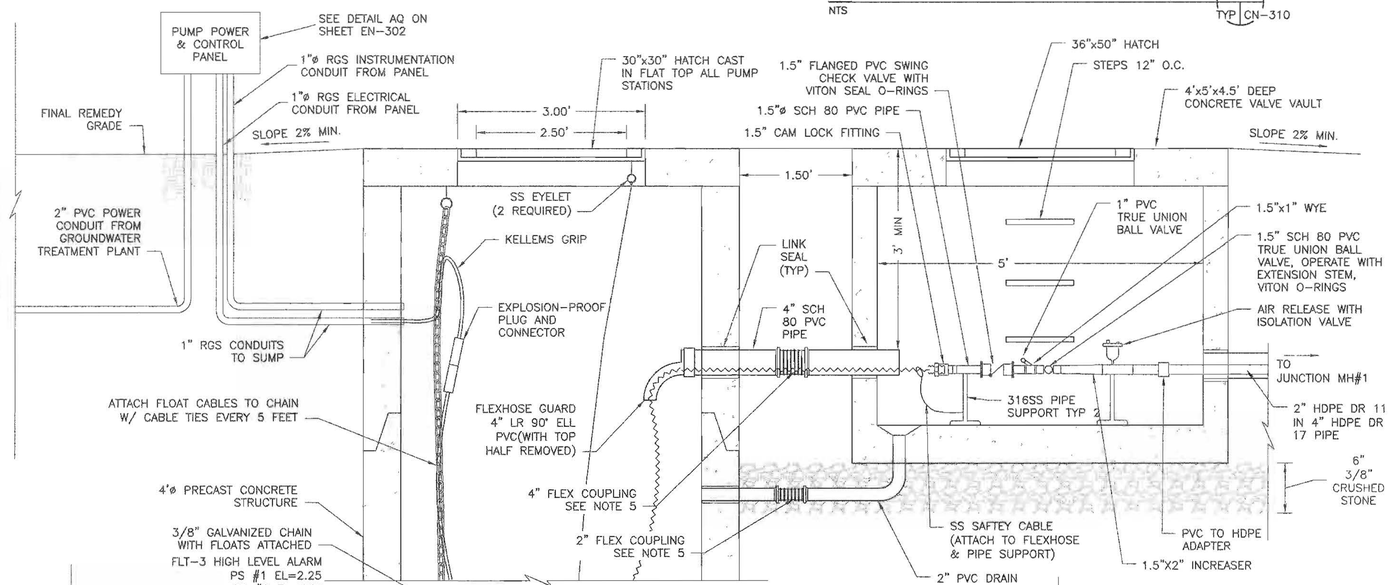
- SET MANHOLE BASE AND RISER SECTIONS.
- EXTEND RISER WITH SURCHARGE AND FILL PLACEMENT.
- PLACE TEMPORARY COVER.
- MEASURE TOP/ BOTTOM ELEVATION POST SURCHARGE.
- REVIEW RISER SECTIONS AND IF NECESSARY ORDER A NEW RISER TO MEET DESIGN GRADE.
- OR ADJUST DESIGN GRADE TO MATCH AVAILABLE RISERS – SUBJECT TO ENGINEERS APPROVAL.



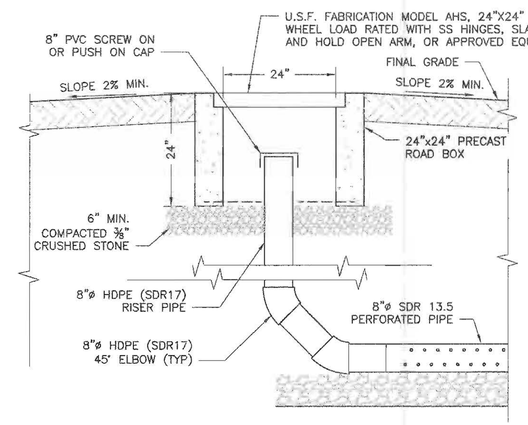
LINER ANCHOR TO CONCRETE STRUCTURE (CE)
NTS — TYP CN-310



TYPICAL ACCESS MANHOLE FINAL CONDITION (CB)
NTS STA=1+55±, AND STA=18+00± — CN-201 CN-203 CN-310



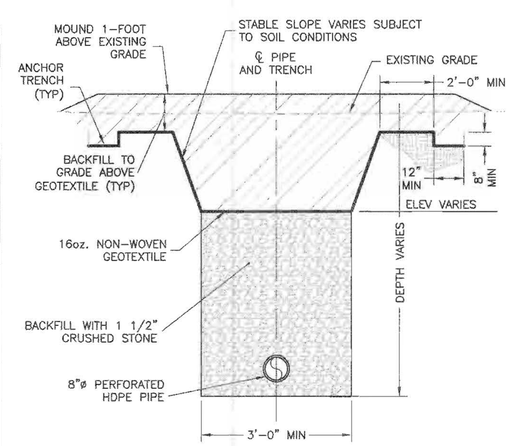
GROUNDWATER EXTRACTION PUMP STATION
STA 7+35± & STA 12+50± (CC)
NTS — CN-202 CN-203 CN-310



ELBOW PIPE CLEANOUT (CF)
NTS — CN-202 CN-310

PARTS LIST

ITEM	QTY	MANUFACTURER\ PART NO.	DESCRIPTION
30" X 30" PUMP STATION HATCH	1	ej FABRICATION PRODUCT H30303191 OR APPROVED EQUAL	SPRING LOADED ALUMINUM VAULT HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION
1.5" TRUE UNION BALL VALVE	1	CHEMTROL OR APPROVED EQUAL	TRUE UNION SERIES PVC VITON O RINGS AND TEFLON SEALS
1.5" DIA. FLEXHOSE	1	GRANGER OR APPROVED EQUAL	ITEM #3JT48 25' LENGTH EACH
1.5" DIA. CAMLOCK QUICK DISCONNECTS	1–MALE 1–FEMALE	GRANGER OR APPROVED EQUAL	ITEM #3LX22 ITEM #3LX14 (GET FROM GRANGER)
EXPLOSION–PROOF PLUG AND CONNECTOR	2–SETS	MELTRIC 22–14043 22–18043 OR APPROVED EQUAL	INLINE PLUG AND RECEPTACLE W/ MALE CAP, HANDLES AND FINGER DRAW PLATES
1" TRUE UNION BALL VALVE	1	CHEMTROL OR APPROVED EQUAL	TRUE UNION SERIES PVC WITH VITON O RINGS AND TEFLON SEALS
1.5" SWING CHECK VALVE	1	SPEARS OR APPROVED EQUAL	MODEL 4423–015 VITON SEAL AND O RINGS
36' X 50" VALVE VAULT HATCH	1	PENNSYLVANIA INSERT CORP STOCK# ATH3050D I*2 OR APPROVED EQUAL	SPRING LOADED ALUMINUM HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION
FLEX COUPLING	2	ETHYLENE, LLC OR APPROVED EQUAL	FLEXIJOINT COUPLING MIN. (2) BELLOWS, TEFLON–LINED W/ 316 SS FLANGES, POWER BAKED EPOXY COATING, AND VITON GASKETS



GROUNDWATER TRENCH SURCHARGE CONDITION (CA)
NTS — TYP CN-310

NO.	DATE	DSGN	DR	TDD	RJR	TDD	APVD	TDD	APVD	SGS
2	11/19/14	TDD	SGS							
1	05/14/14	TDD	SGS							

REVISION: DCB 007.2; DCB 007

BY: TDD, SGS

CHK: TDD, SGS

APVD: SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43607

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
GROUNDWATER EXTRACTION TRENCH DETAILS

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200 Airport Metro Blvd. Suite 113
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(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

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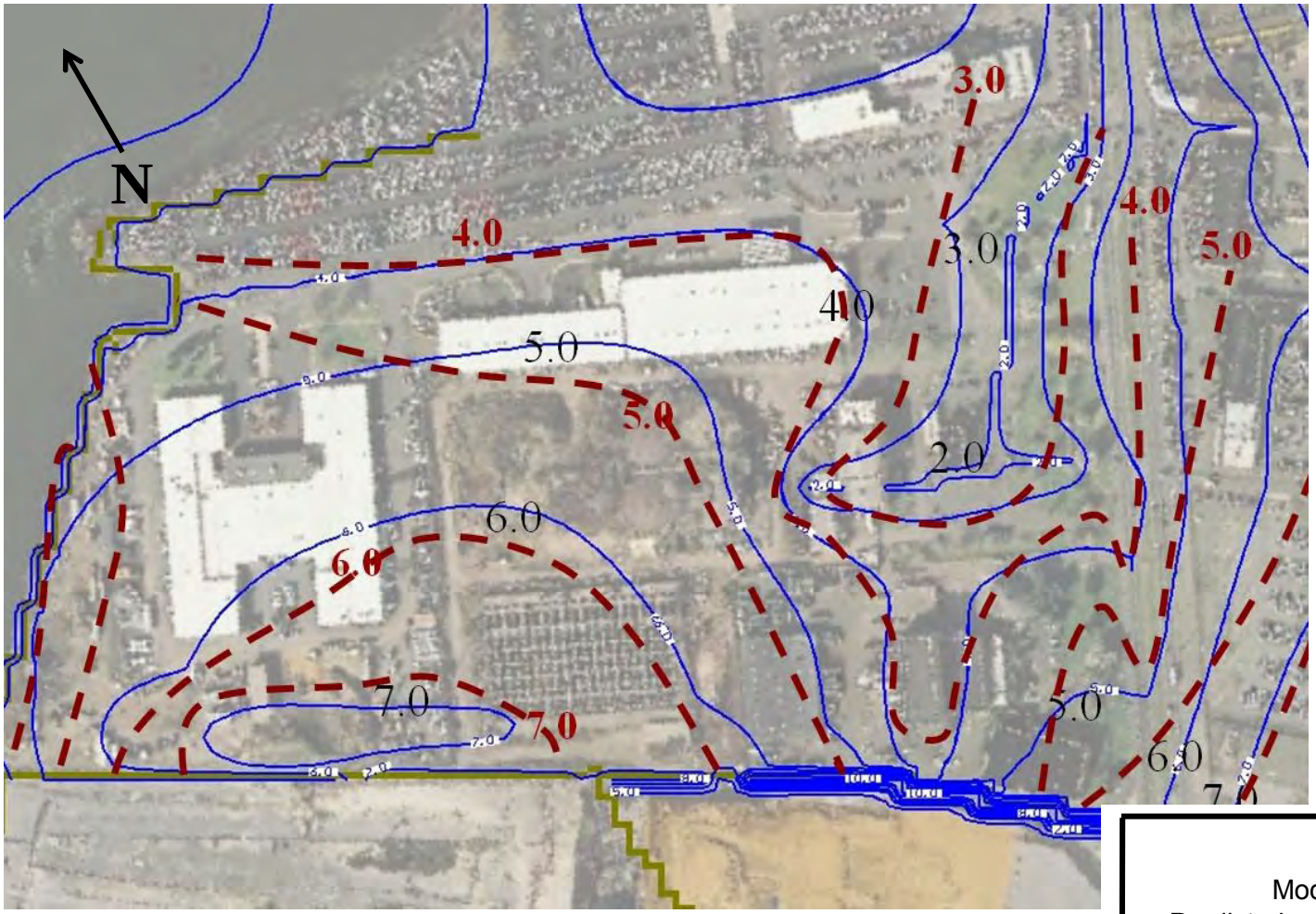


LEGEND

5.0 Predicted Heads

5.0 Measured Heads

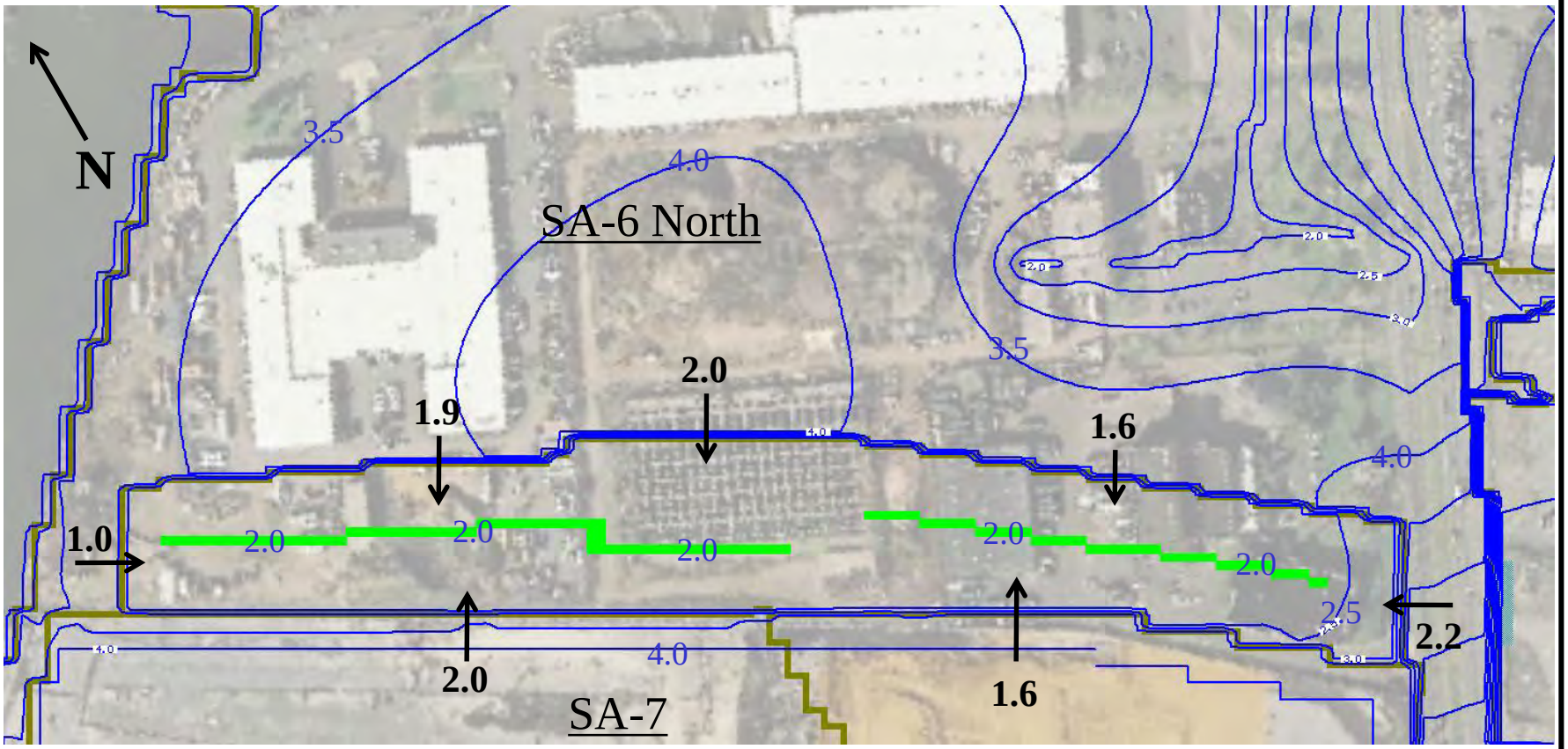
NTS

FIGURE 1

Model Calibration
Predicted versus Measured Heads
Model Layer 1 (Shallow Zone)

Study Area 6 North
Jersey City, NJ

cornerstone environmental



LEGEND

Contingent Pumping System Drain Line

3.2 ← Head Diff. Across Wall

5.0 Predicted Heads

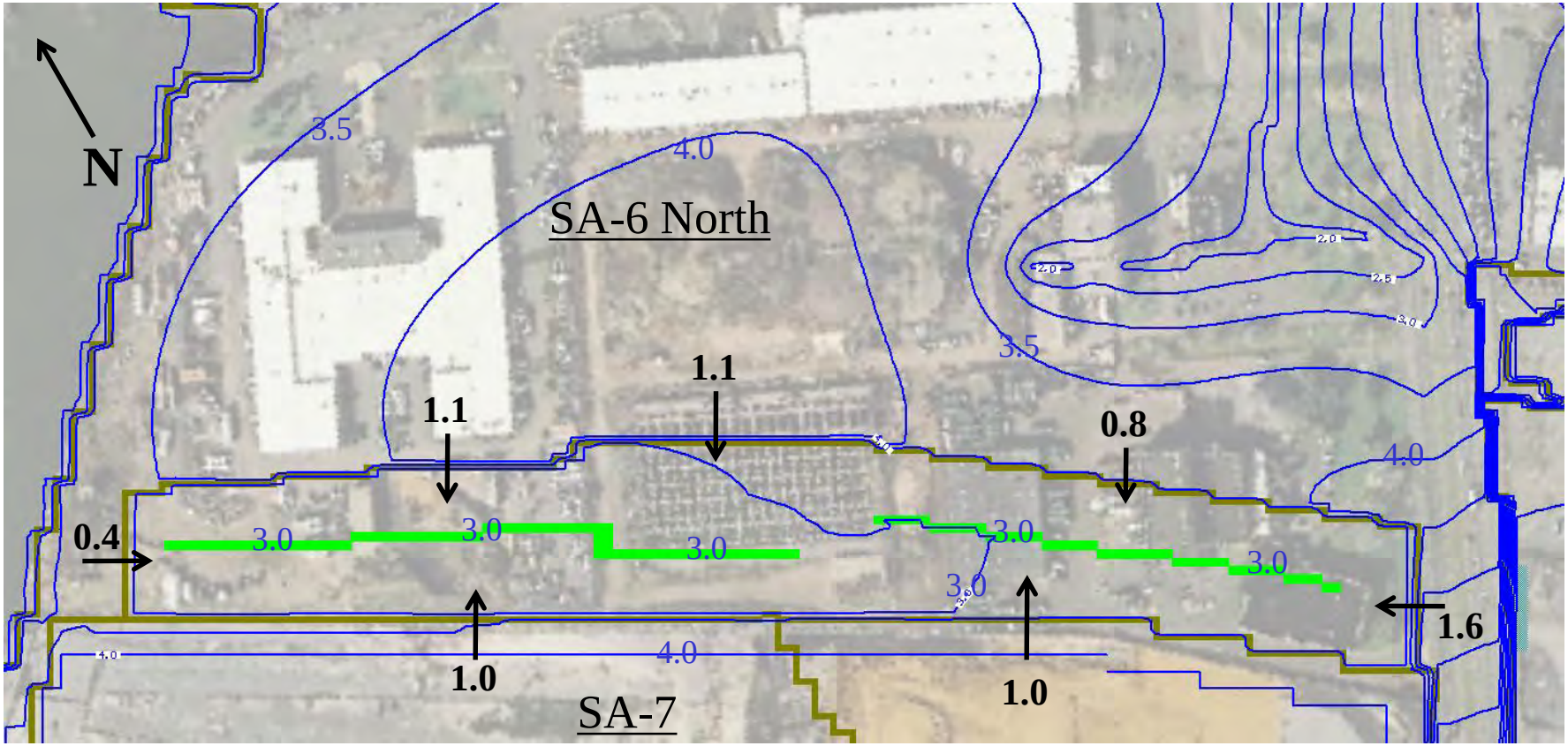
NTS

FIGURE 2

Post-development Predicted Heads
SA-7 Perimeter Pools Non-functioning
Head in Drain at +2.0'

Study Area 6 North
Jersey City, NJ

cornerstone environmental



LEGEND

Contingent Pumping System Drain Line

3.2 ← Head Diff. Across Wall

5.0 Predicted Heads

NTS

FIGURE 3

Post-development Predicted Heads
SA-7 Perimeter Pools Non-functioning
Head in Drain at +3.0'

Study Area 6 North
Jersey City, NJ

cornerstone environmental

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 7.2.2 **DCB Type:** Minor (a) **Effective Date:** 6/6/16
Project Location: SA-6 North	**Associated RFI:**
Title: GW Extraction System – FM and E&I	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description:

DCB-007.1, issued to Entact on 6/12/14, was provided for the trench detail portion of the modified groundwater system design. At the time of issue details for the SA-6N trench were subject to potential further modification.

DCB-007.2, issued to Entact on 11/24/14, provided the details for the SA-6N groundwater collection trenches and associated electrical supply and groundwater discharge piping.

DCB-007.2.1, draft prepared on 9/2/15, provided a revised version of 007.2. DCB-007.2.1 was not issued to Entact. However Entact was verbally briefed on the proposed changes, including elimination of E&I wiring from the scope, the same as for SA-6S. The revisions pertained to the following items:

- Electrical wiring and Instrumentation wire was eliminated
- Conduit sizes and type were updated.
- Conduit was shown terminating outside of the groundwater treatment plant
- Conduit and piping from Pump Station MH#2 was re-routed into the adjacent utility corridor to the west. The re-routing reduced excavation of subgrade and provided a more direct routing now that all discharge is to be routed to the GWTP.

DCB 007.2.2 was triggered by the following several changes in project scope:

- Re-re-routing of the Contingent Groundwater System Discharge for both SA-6N and SA-6S from the JCMUA grit chamber to the new GWTP.
- Revisions to the Cap grading and utility corridors which allowed for elimination of the Cap Drainage Pump Station.
- Running PS#1 FM as a separate line to the GWTP

The following drawings will be re-issued as part of DCB 7.2.2:

Contingent Groundwater Extractions System Plan and Profile and Details

- CN-201
- CN-202
- CN-203
- CN-204
- CN-305 (Groundwater Extraction System Details)
- CN-306 (Groundwater Extraction System Details)
- CN-310 (Groundwater Extraction Trench Details).

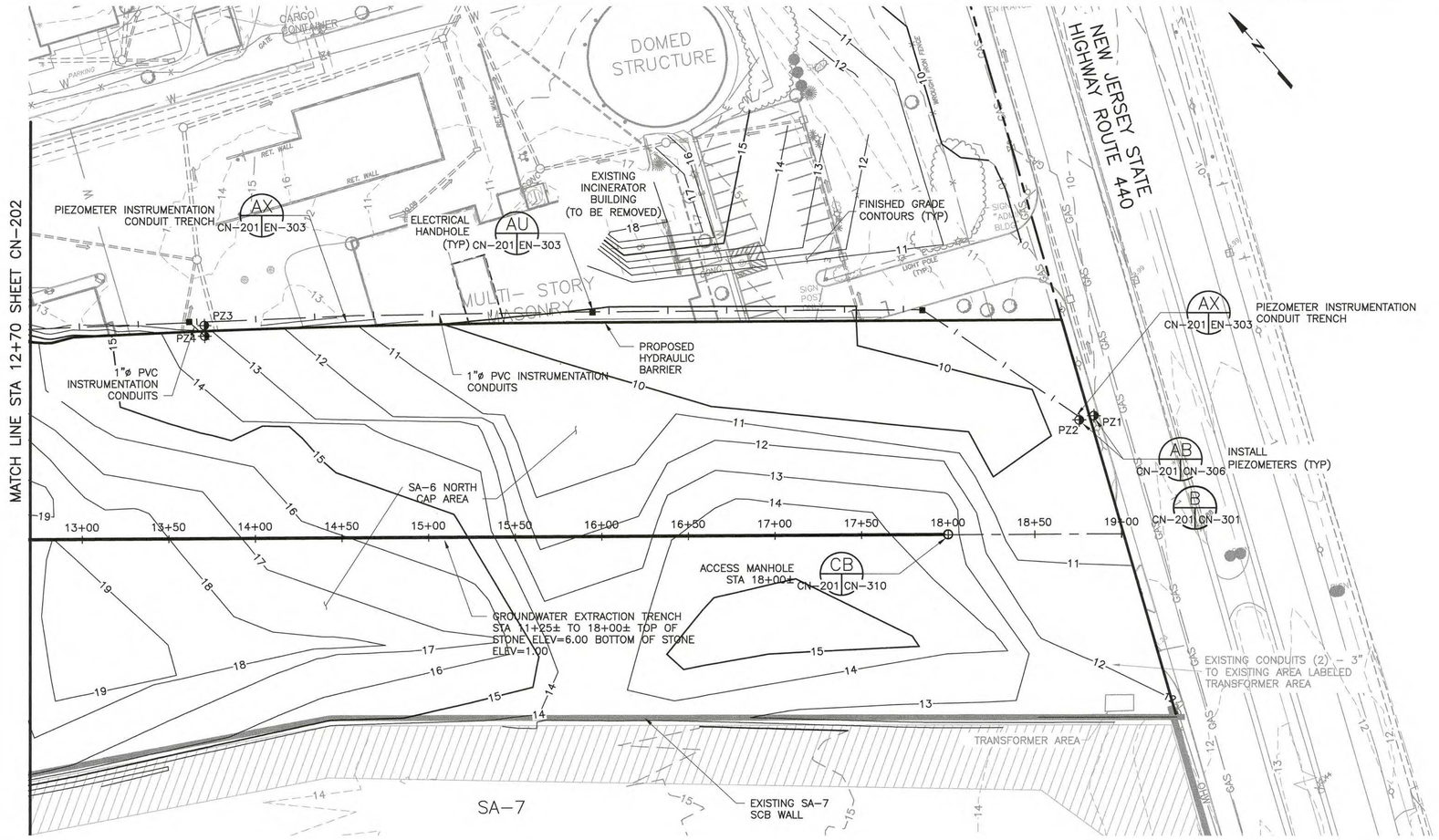
Electrical Drawings

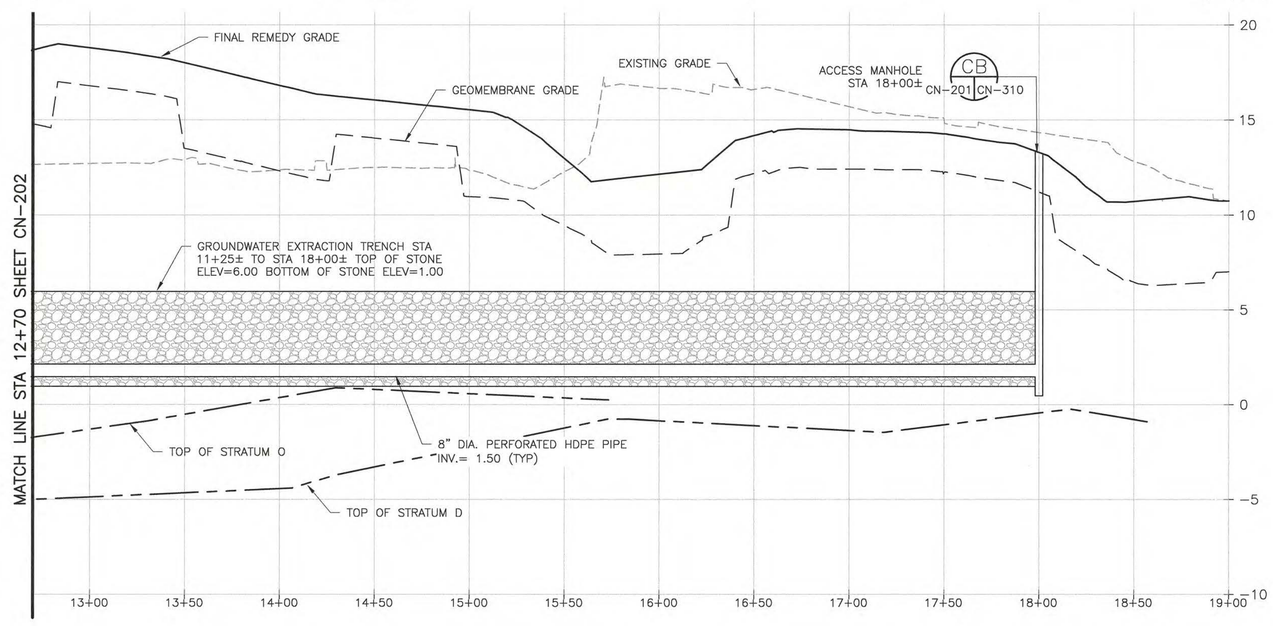
- EN-301 (Not for Construction)
- EN-302 (Not for Construction)
- EN-303

It is noted that the 5 piezometric pairs on SA-6N are not included in this DCB. The piezometers are to be installed by Amec Foster Wheeler. Access to each location will be provided by Entact.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** : Design changed based on information gathered during construction **Attachments:** ☑ Yes ☐ No CN-201, CN-202, CN-203, CN-204, CN-305, CN-306, CN-310, EN-301 (Not IFC), EN-302 (Not IFC), EN-303 Cost Implication: ☑ Yes ☐ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** CN-201, CN-202, CN-203, CN-204, CN-305, CN-306, CN-310, EN-301 (Not IFC), EN-302 (Not IFC), EN-303
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 6/10/16
(Name / Signature):	**Does DCB Result in CCO?** ☑ **Yes (b)** ☐ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FOR FORCE MAIN PROFILE INFORMATION SEE SHEET CN-204.
4. FINAL PLAN VIEW ALIGNMENT MAY BE ADJUSTED SUBJECT TO THE APPROVAL OF THE ENGINEER TO AVOID OBSTRUCTIONS SUCH AS EXISTING BUILDING FOUNDATIONS, ABANDONED UTILITIES AND PILES.
5. TRENCH INVERT HAS BEEN DESIGNED TO BE ABOVE STRATUM O AND STRATUM D. INVERTS MAY BE ADJUSTED DURING DESIGN DEVELOPMENT OR IN RESPONSE TO OBSERVED FIELD CONDITIONS SUBJECT TO THE APPROVAL OF THE ENGINEER AND GROUNDWATER MODELER.
6. PLACE STONE LOOSE IN GROUNDWATER COLLECTION TRENCH. RUN PLATE COMPACTOR OR EQUAL OVER TRENCH PRIOR TO INSTALLING GEOTEXTILE FABRIC.
7. BACKFILL ABOVE GEOTEXTILE FABRIC MAY BE COMPOSED OF EXCAVATED TRENCH SPOIL OR OTHER MATERIAL THAT CAN BE READILY COMPACTED. WET SOIL OVERSIZED DEBRIS OR OTHER MATERIALS AS DEEMED UNSUITABLE CONSISTENT WITH THE EARTHWORK SPECIFICATION 1.04.B. WILL NOT BE USED. BACKFILL WILL BE PLACED IN LIFTS CONSISTENT WITH THE EARTHWORKS SPECIFICATION 3.12.B.4.
8. FLEXIBLE COUPLINGS SHALL BE FLEXJOINT COUPLING AS MANUFACTURED BY ETHYLENE, LLC OR EQUAL. FLEXIBLE COUPLINGS SHALL HAVE A MINIMUM OF (2) BELLOWS AND BE TEFLON-LINED WITH 316 SS FLANGES (POWER BAKED EPOXY COATING APPLIED) AND VITON GASKETS.
9. CONCRETE ENCASEMENT REQUIRED ON E&I CONDUIT IF BURIAL DEPTH IS LESS THAN 24" OR OTHERWISE NOTED.

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
4	06/06/16	TDD	TDD	RJR	TDD	SGS	SGS
3	09/02/15	TDD	TDD	RJR	TDD	SGS	SGS
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1	09/13/13	RJR	TDD	RJR	TDD	SGS	SGS
0	06/07/13	TDD	TDD	RJR	TDD	SGS	SGS

REVISION

DCB 007.2.2
DCB 007.2.1
DCB 007.2
HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM
ISSUED FOR CONSTRUCTION

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

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PLAN AND PROFILE

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SHEET	33 OF 70

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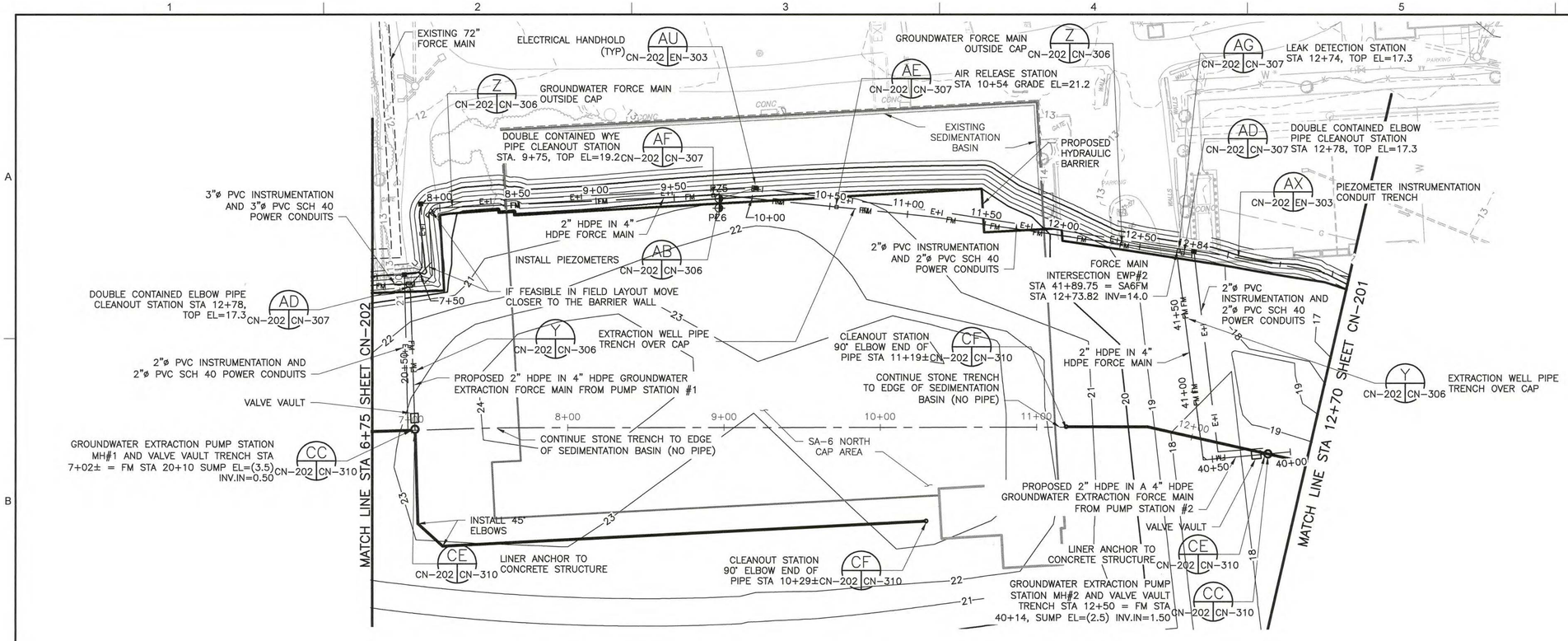
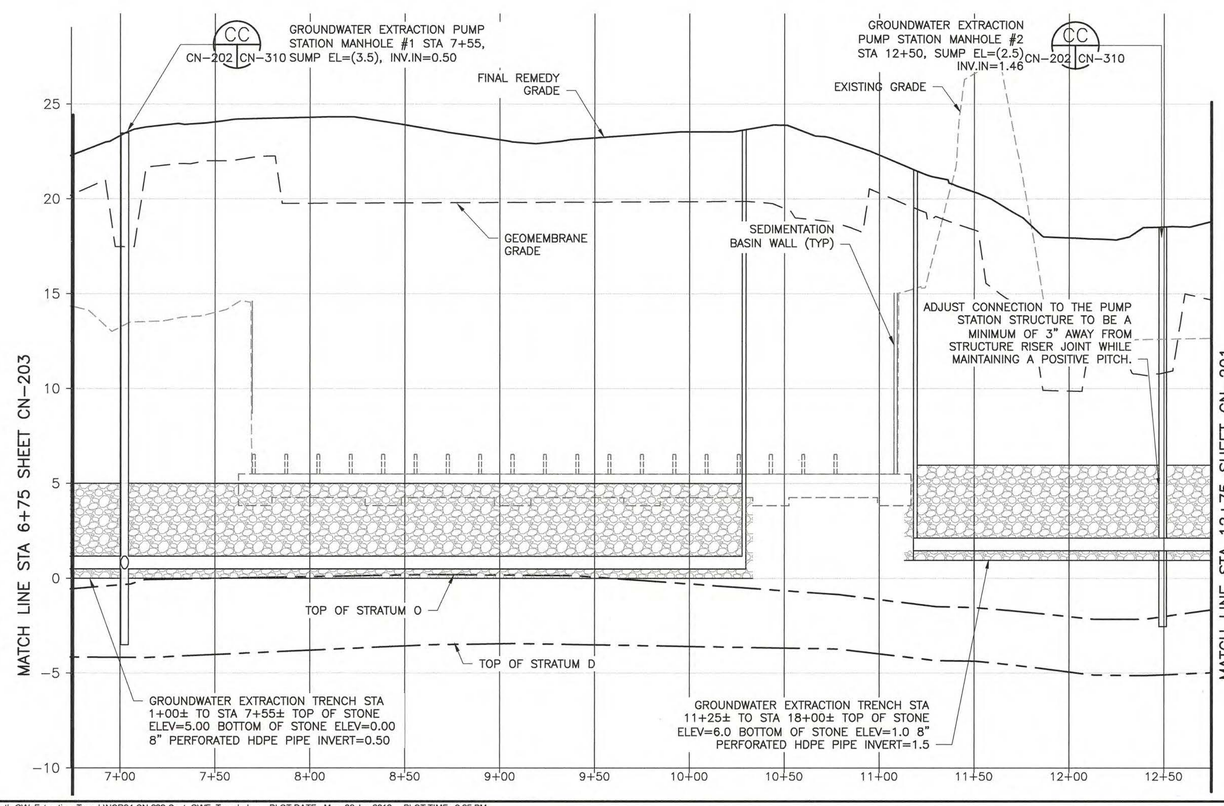
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\NCR33-CN-201-Cont_GWE_Trench.dwg PLOT DATE: Mon, 06 Jun 2016 PLOT TIME: 3:21 PM





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET CN-201 FOR NOTES.
4. ~~BARRIER WALL ALIGNMENT SUBJECT TO FINAL LAYOUT CHANGES.~~

VERTICAL SCALE 0 2 4 8 SCALE IN FEET

HORIZONTAL SCALE 0 20 40 80 SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
4	06/06/16	DCB 007.2.2	RJR	SGS
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DWG	CN-202
SHEET	34 OF 70

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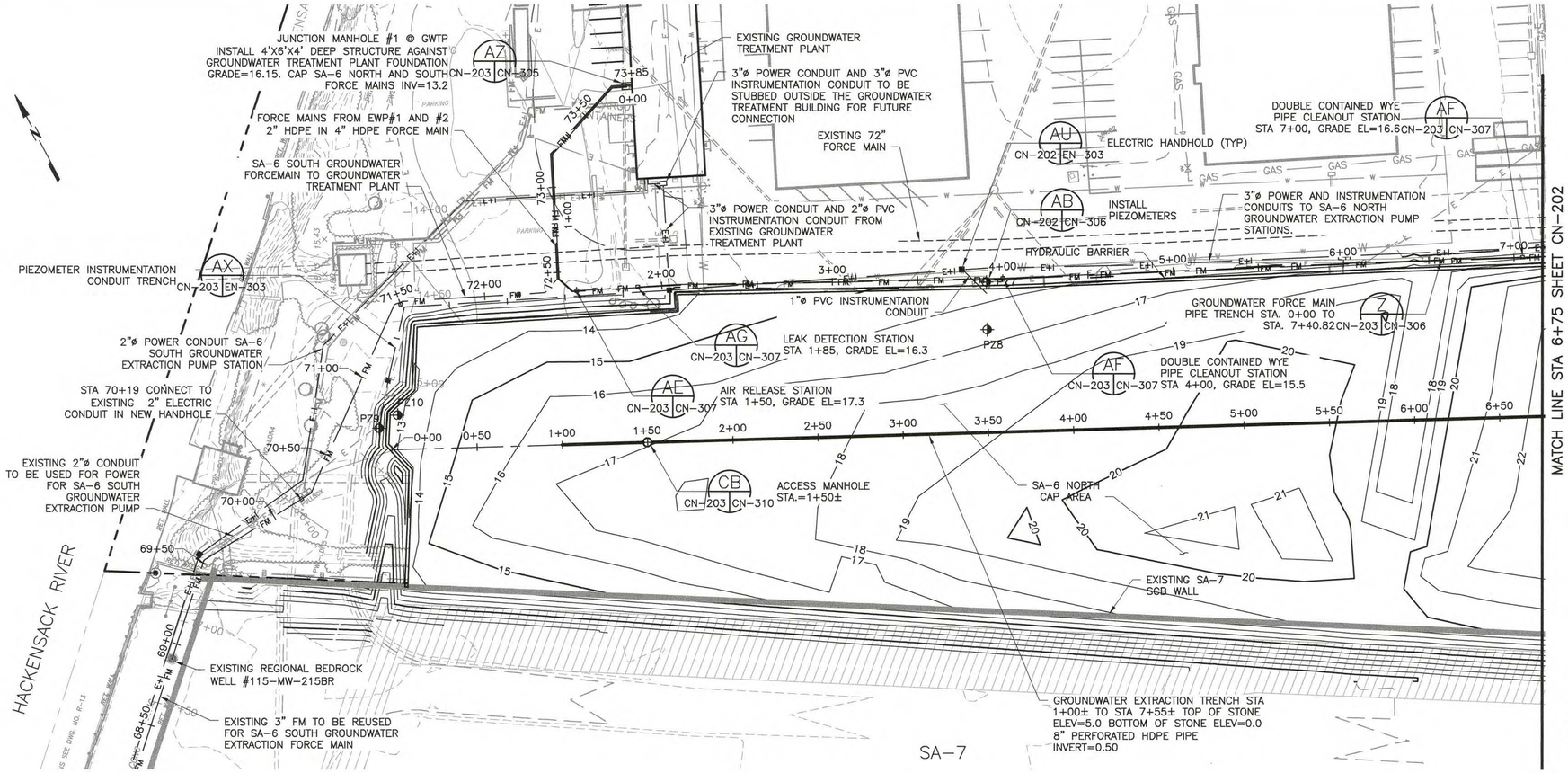

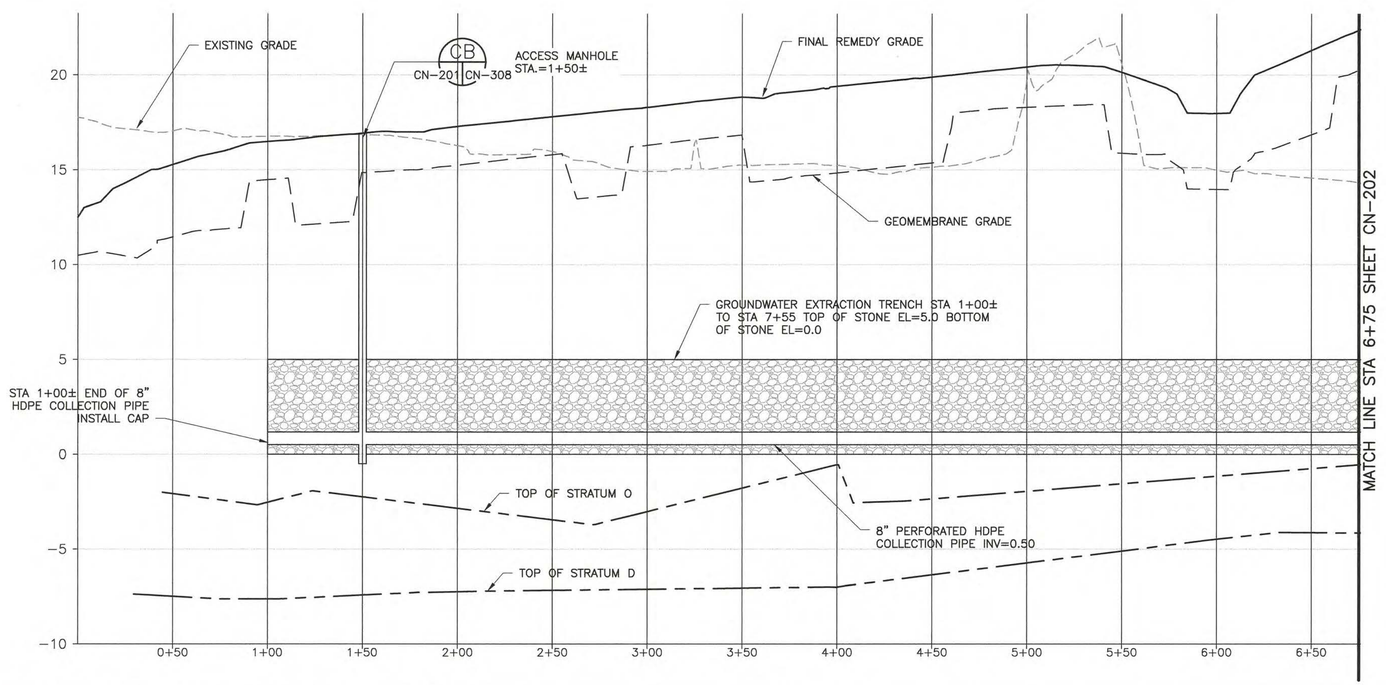

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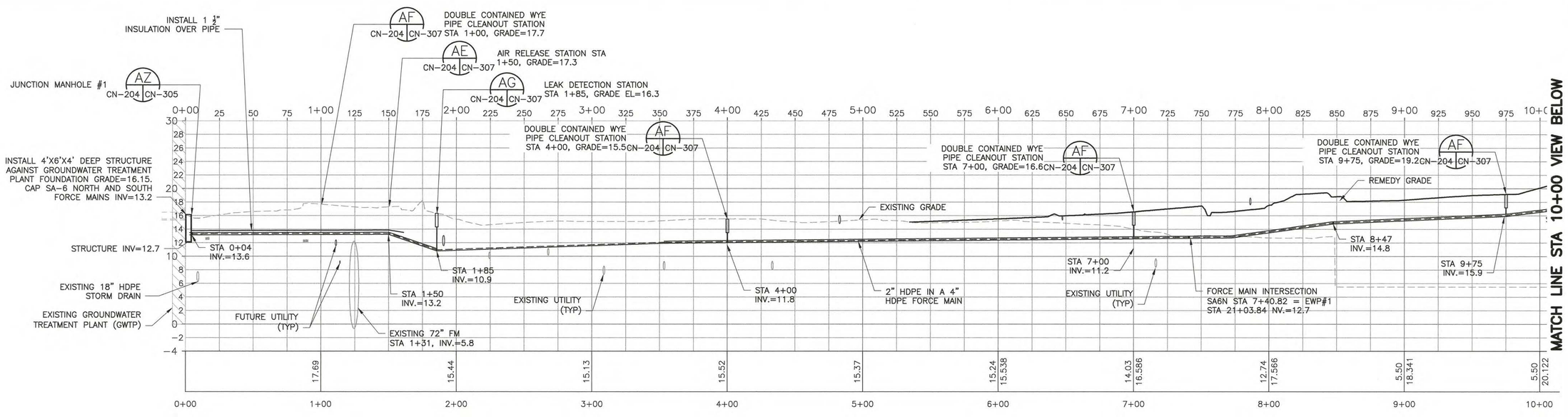
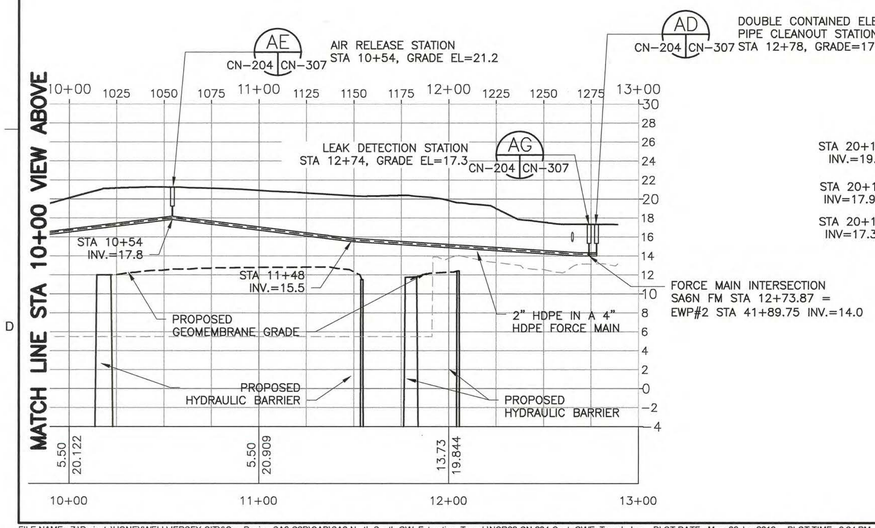


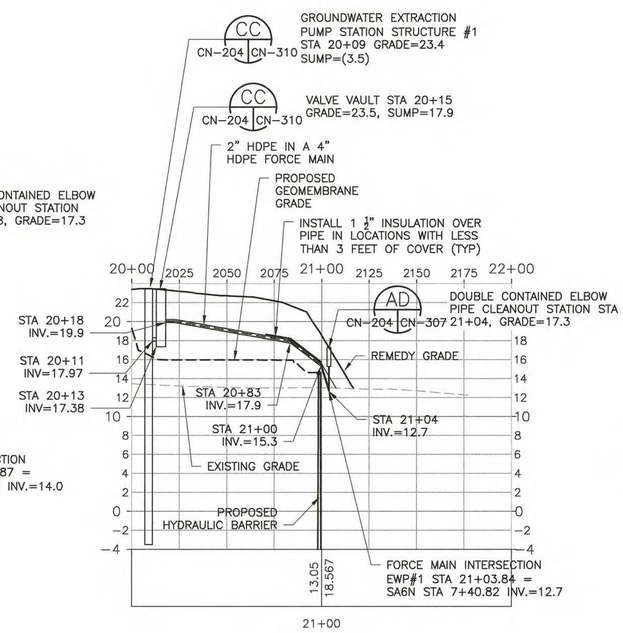
NOTE:

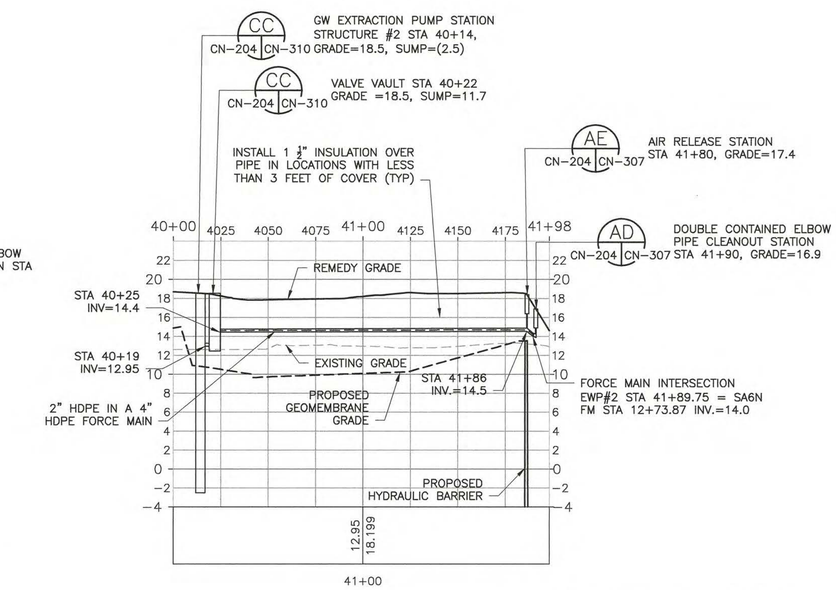
THE FM FROM MH#1 AND MH#2 OCCUPY THE SAME ALIGNMENT BETWEEN THE GWTP 0+00 AND STN. 7+40. THE FM (S) WILL BE INSTALLED ON THE SAME LINE AND GRADE WITH A NOMINAL 6 INCH PLAN VIEW SEPARATION. AIR RELEASE/LEAK DETECTION, AND WYE CLEANOUTS, FOR THE TWO FM'S SHOULD BE COLLOCATED IN THE SAME 2X2 STRUCTURES BETWEEN 0+00 AND 7+40

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. THE DESIGN OF THE CONTINGENT GROUNDWATER EXTRACTION SYSTEM IS CONCEPTUAL AND HAS BEEN BASED ON THE AVAILABLE HYDROGEOLOGIC INFORMATION. THE DESIGN IS BASED ON A THEORETICAL SCENARIO USING CONSERVATIVE ASSUMPTIONS. HONEYWELL WILL CONTINUE TO EVALUATE PERTINENT INFORMATION GATHERED THROUGH DEWATERING AND OTHER CONSTRUCTION OPERATIONS. THIS INFORMATION WILL BE USED TO CALIBRATE THE GROUNDWATER CAPTURE MODEL, SUBJECT TO RESULTS OF THAT MODEL CALIBRATION AND EVALUATION OF THE IMPACTS ON THE SYSTEM DESIGN HONEYWELL MAY PROPOSE ALTERNATIVE GROUNDWATER EXTRACTION DESIGNS CAPABLE OF MEETING THE CRITERIA STATED IN ARTICLE III A 58 OF THE CONSENT DECREE.







HORIZONTAL SCALE 0 20 40 80 SCALE IN FEET

VERTICAL SCALE 0 2 4 8 SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
4	06/06/16	DCB 007.2.2	RJR	SGS
3	09/02/15	DCB 007.2.1	TDD	SGS
2	11/19/14	DCB 007.2	TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR TDD CHK RJR APVD TDD APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-204
SHEET	36 OF 70

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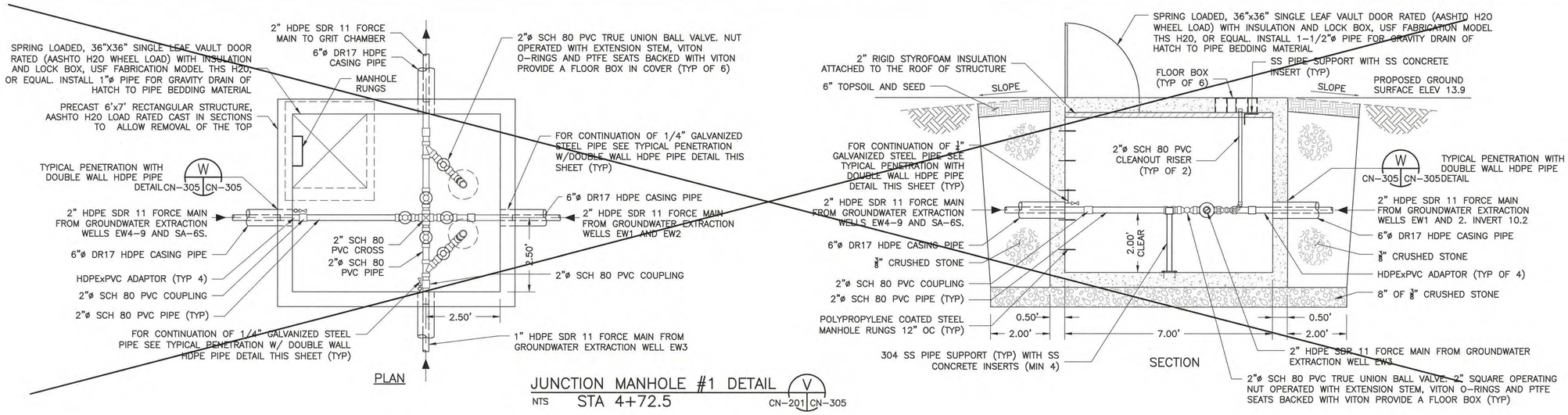
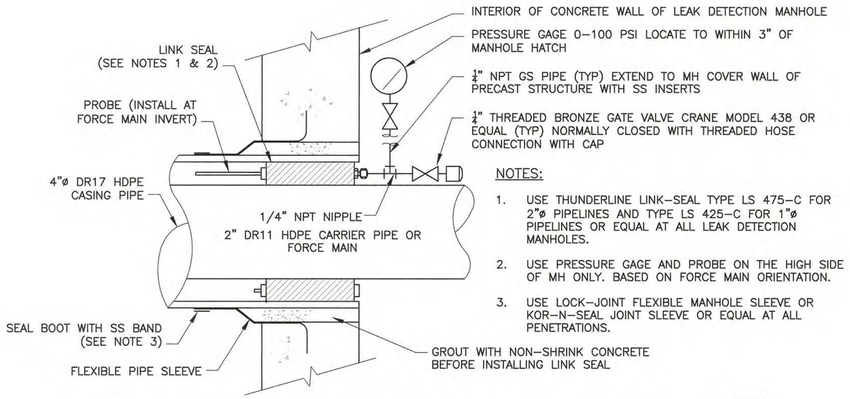


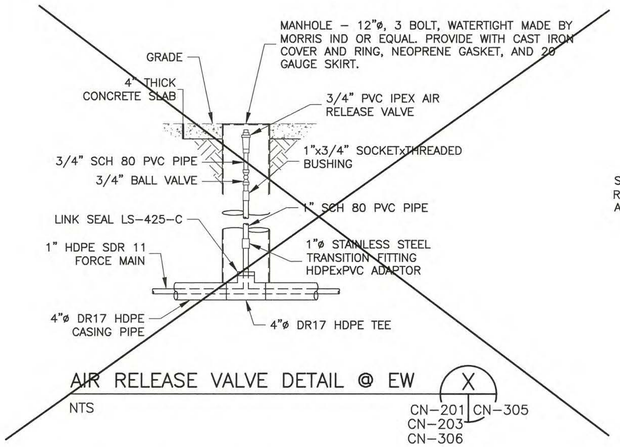
JUNCTION MANHOLE #1 DETAIL (V) CN-201 CN-305
NTS STA 4+72.5



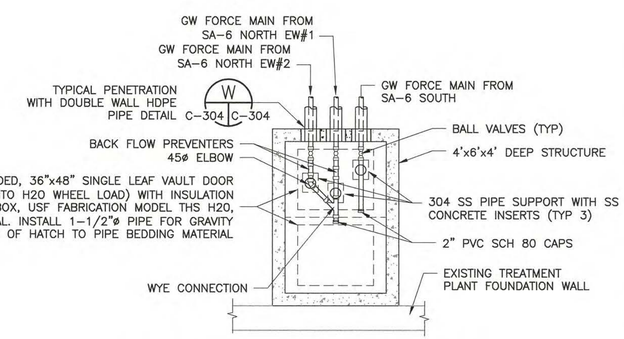
NOTES:

1. USE THUNDERLINE LINK-SEAL TYPE LS 475-C FOR 2"ø PIPELINES AND TYPE LS 425-C FOR 1"ø PIPELINES OR EQUAL AT ALL LEAK DETECTION MANHOLES.
2. USE PRESSURE GAGE AND PROBE ON THE HIGH SIDE OF MH ONLY. BASED ON FORCE MAIN ORIENTATION.
3. USE LOCK-JOINT FLEXIBLE MANHOLE SLEEVE OR KOR-N-SEAL JOINT SLEEVE OR EQUAL AT ALL PENETRATIONS.

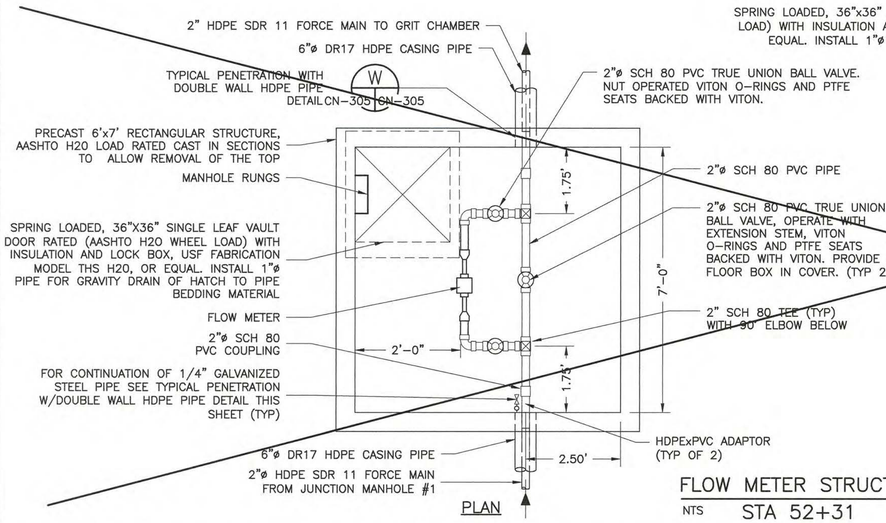
TYPICAL PENETRATION W/DOUBLE WALL HDPE PIPE DETAIL (W) CN-201 CN-305 CN-305
NTS

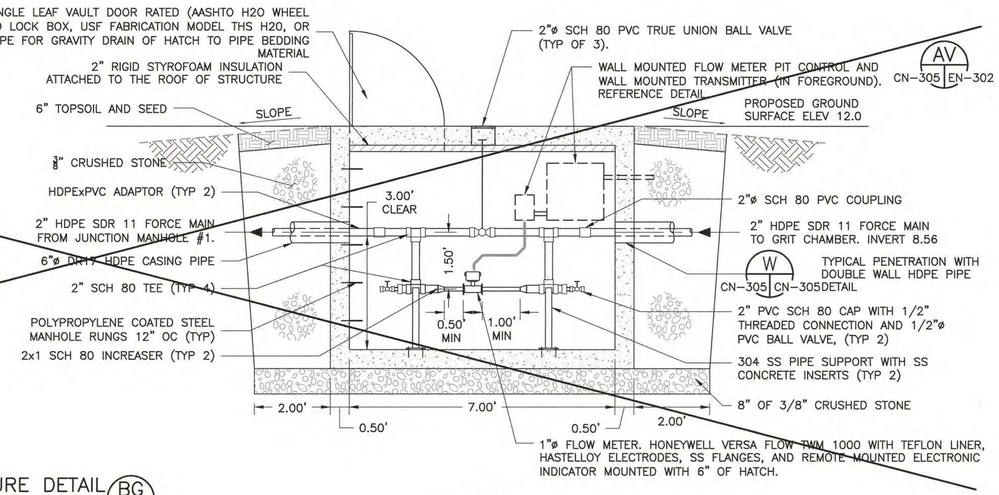


AIR RELEASE VALVE DETAIL @ EW (X) CN-201 CN-305 CN-203 CN-306
NTS



JUNCTION MANHOLE #1 @ GWTP (AZ) CN-204 CN-305
NTS





FLOW METER STRUCTURE DETAIL (BG) CN-201 CN-305
NTS STA 52+31

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. THE INSTALLATION CONTRACTOR SHALL PROVIDE A PERMANENT SIGN INDICATING THAT THE JUNCTION MANHOLE AND THE FLOW METER STRUCTURE IS A CONFINED SPACE ENTRY STRUCTURE.
4. ALL ALUMINUM HATCHES SHALL BE PROVIDED WITH SS HINGES, HOLD OPEN ARMS, AND SPRING ASSIST.

NO.	DATE	REVISION	DR	CHK	APVD
2	06/06/16	DCB 007.2.2	RJR	SGS	SGS
1	05/12/16	DCB 7.2	RJR	SGS	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	REO	SGS	APVD

DSGN REO RJR REO

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
115 TABOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 989 - 2829
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
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DATE	
PROJ	3480-12-0317
DWG	CN-305
SHEET	40 OF 70

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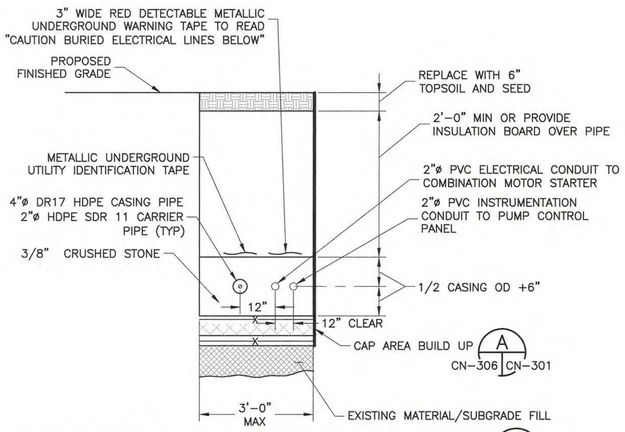
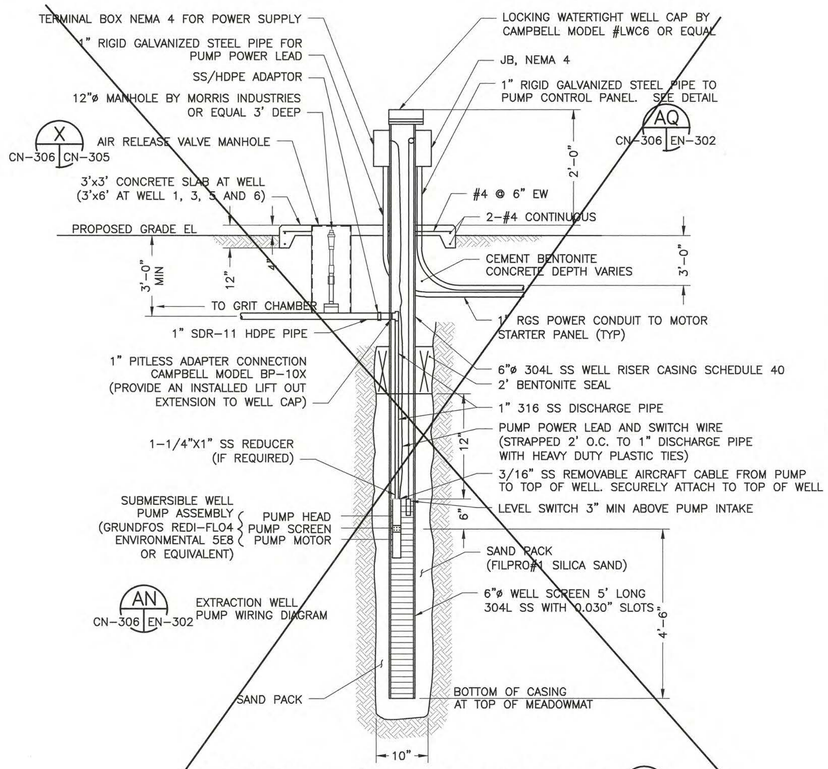
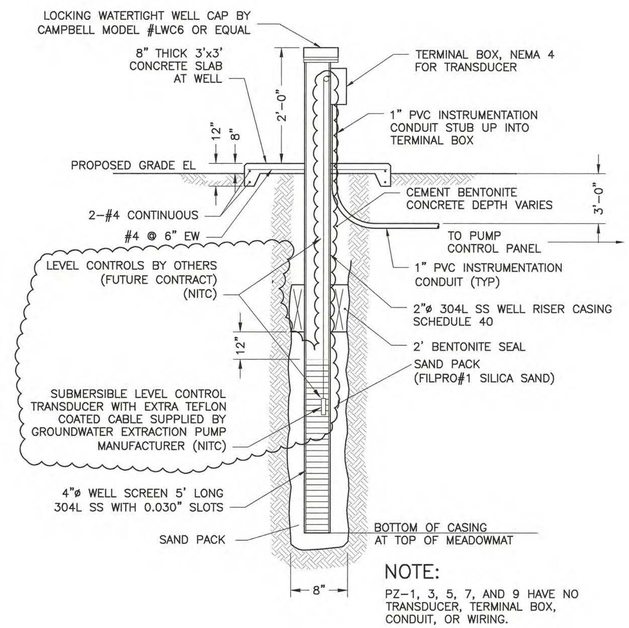


EXTRACTION WELL PIPE TRENCH OVER CAP (Y)
NTS
CN-202 CN-306
CN-304

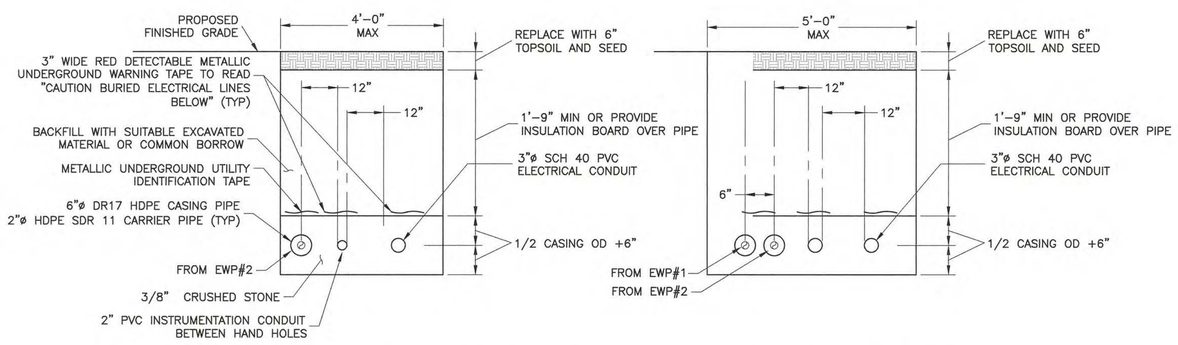


GROUNDWATER EXTRACTION WELL DETAIL (AA)
NTS
CN-201 CN-306
CN-202



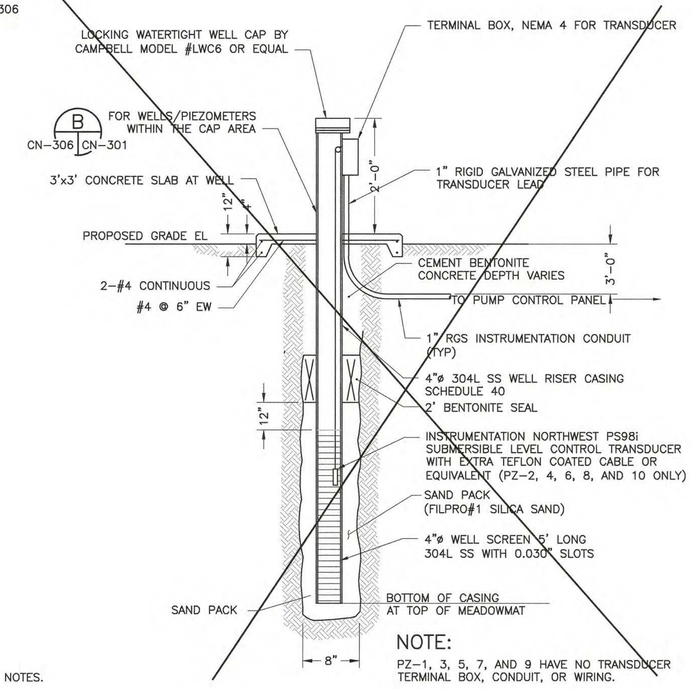
NOTE:
PZ-1, 3, 5, 7, AND 9 HAVE NO TRANSDUCER, TERMINAL BOX, CONDUIT, OR WIRING.

PIEZOMETER DETAIL (AB)
NTS
CN-201 CN-306
CN-202
CN-203



FROM STATION 7+40.82 TO 12+73.82 FROM STATION 0+00 TO 7+40.82.

GROUNDWATER FORCE MAIN PIPE TRENCH OUTSIDE CAP (Z)
NTS
CN-202 CN-306
CN-307



NOTE:
PZ-1, 3, 5, 7, AND 9 HAVE NO TRANSDUCER TERMINAL BOX, CONDUIT, OR WIRING.

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

NO.	DATE	DR	REO	CHK	RJR	APVD	REO
DSGN		REVISION					
1	06/06/16	DCB 007.2.2			RJR	BY	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION			REO	APVD	SGS

Honeywell
115 TABOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619 (609) 889 - 2529
NJ Cert of Authorization 24GA28001900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
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DATE	
PROJ	3480-12-0317
DWG	CN-306
SHEET	41 OF 70

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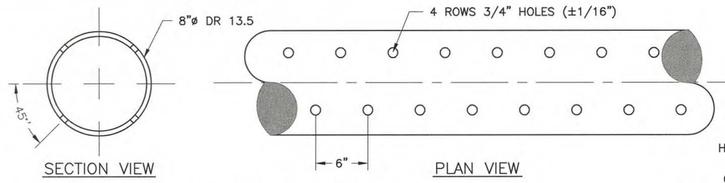
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR41-C-306 Extraction Well Details.dwg PLOT DATE: Mon, 06 Jun 2016 PLOT TIME: 1:47 PM

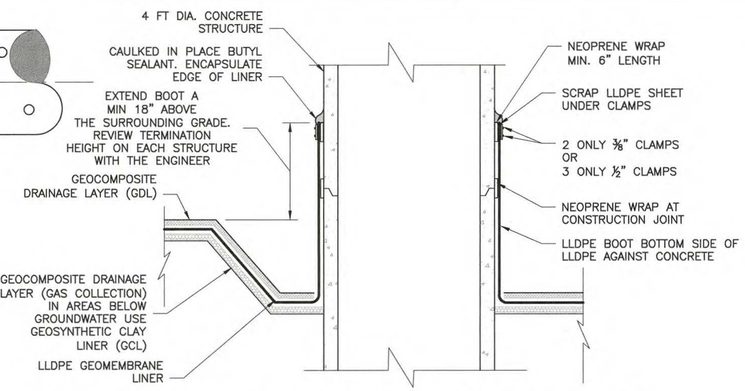


PIPE PERFORATIONS (CD)

NTS — TYP | CN-310

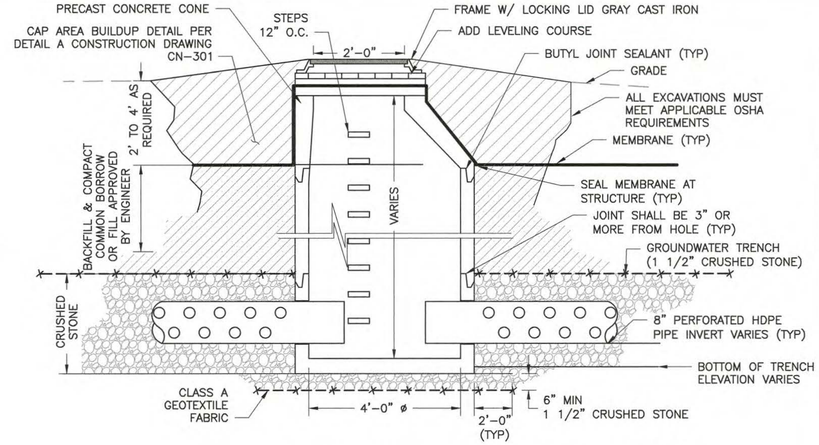
CONSTRUCTION SEQUENCE

- SET MANHOLE BASE AND RISER SECTIONS.
- EXTEND RISER WITH SURCHARGE AND FILL PLACEMENT.
- PLACE TEMPORARY COVER.
- MEASURE TOP/ BOTTOM ELEVATION POST SURCHARGE.
- REVIEW RISER SECTIONS AND IF NECESSARY ORDER A NEW RISER TO MEET DESIGN GRADE.
- OR ADJUST DESIGN GRADE TO MATCH AVAILABLE RISERS – SUBJECT TO ENGINEERS APPROVAL.



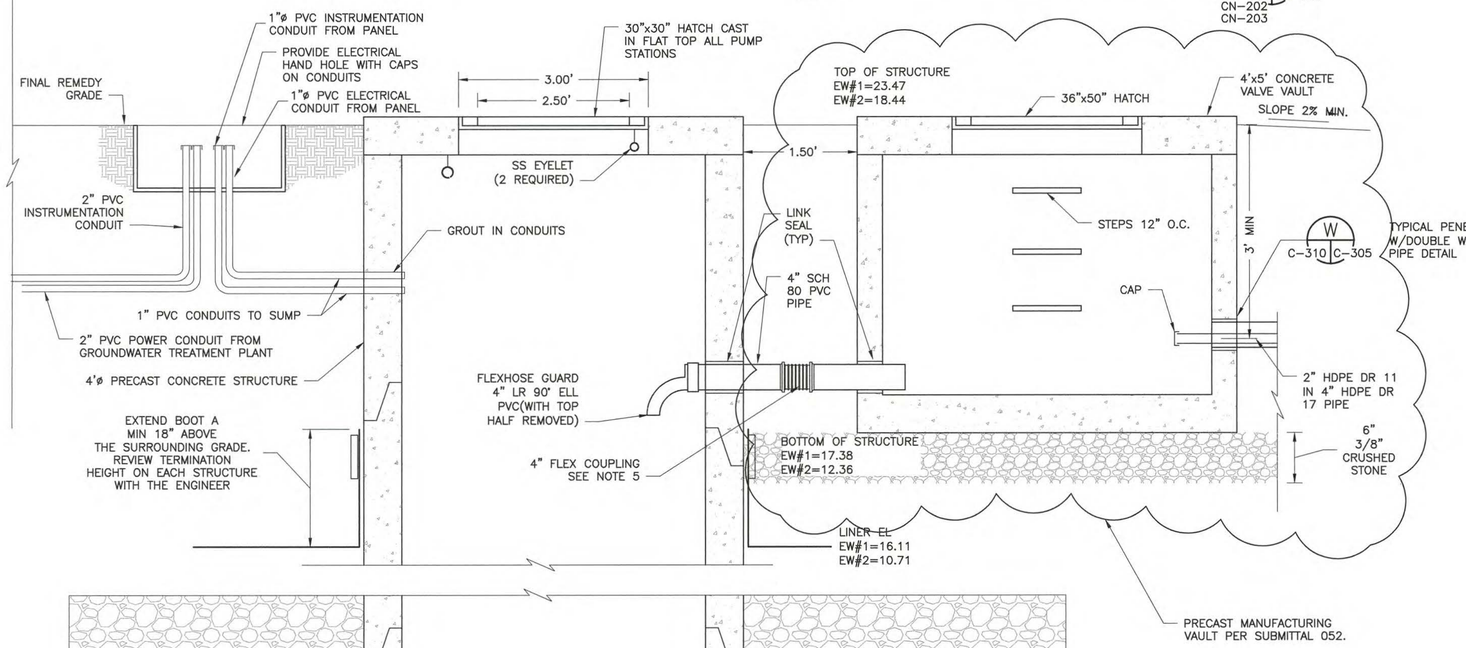
LINER ANCHOR TO CONCRETE STRUCTURE (CE)

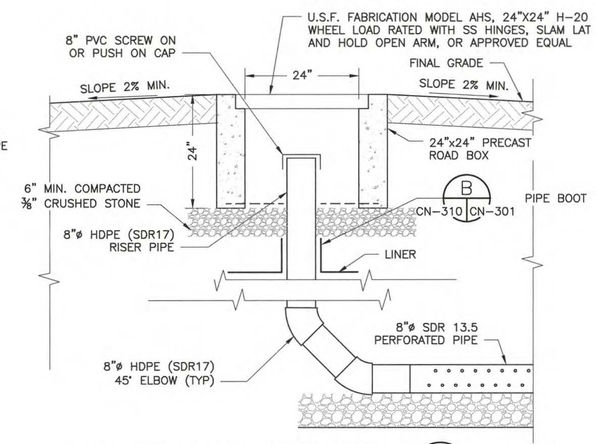
NTS — CN-201 | CN-310, CN-202, CN-203



TYPICAL ACCESS MANHOLE FINAL CONDITION (CB)

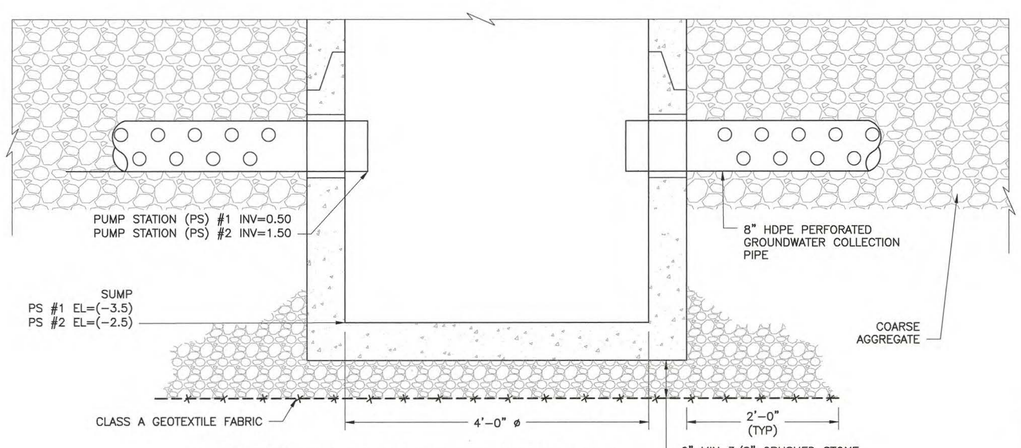
NTS STA=1+55±, AND STA=18+00± — CN-201 | CN-310, CN-203





ELBOW PIPE CLEANOUT (CF)

NTS — CN-202 | CN-310



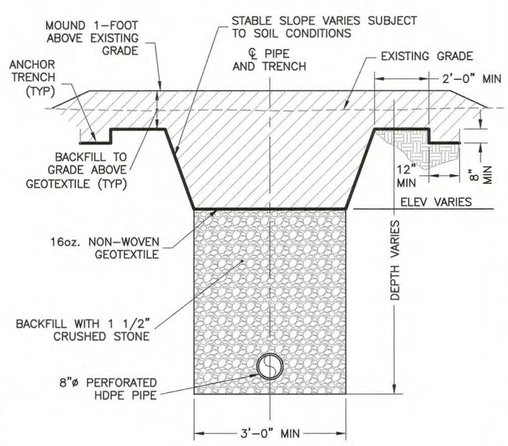
GROUNDWATER EXTRACTION PUMP STATION

STA 7+02± & STA 12+50± (CC)

NTS — CN-202 | CN-310, CN-203, CN-204

NOTE:

PUMPS, WIRING, CONTROLS BY OTHERS UNDER SEPERATE CONTRACT.



GROUNDWATER TRENCH SURCHARGE CONDITION (CA)

NTS — TYP | CN-310

PARTS LIST

ITEM	QTY	MANUFACTURER\ PART NO.	DESCRIPTION
30" X 30" PUMP STATION HATCH	1	ej FABRICATION PRODUCT H30303191 OR APPROVED EQUAL	SPRING LOADED ALUMINUM VAULT HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION
36' X 50" VALVE VAULT HATCH	1	PENNSYLVANIA INSERT CORP STOCK# ATH3050D I*2 OR APPROVED EQUAL	SPRING LOADED ALUMINUM HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION

SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	TDD	CHK	RJR	APVD	TDD	BY	APVD	SGS
4	06/06/16	TDD	DCB 007.2.2		REVISION				TDD	SGS	
3	09/02/15	TDD	DCB 007.2.1 DETAIL CE MODIFIED						TDD	SGS	
2	11/19/14	TDD	DCB 007.2						TDD	SGS	
1	05/14/14	TDD	DCB 007						TDD	SGS	

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Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

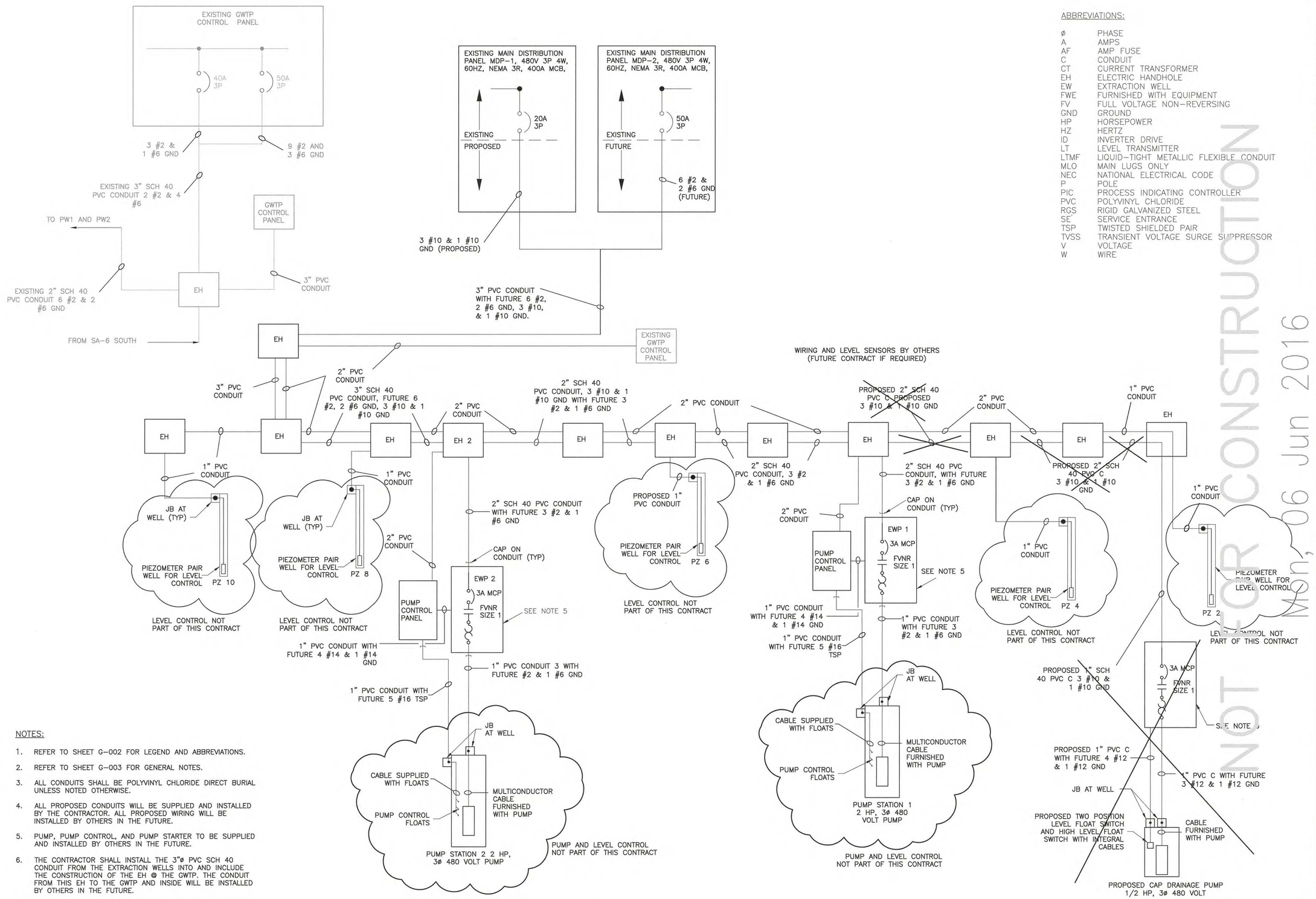
CIVIL

GROUNDWATER EXTRACTION TRENCH DETAILS

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 — 1"

DATE	
PROJ	3480-12-0317
DWG	CN-310
SHEET	45 OF 70



ABBREVIATIONS:

ø	PHASE
A	AMPS
AF	AMP FUSE
C	CONDUIT
CT	CURRENT TRANSFORMER
EH	ELECTRIC HANDHOLE
EW	EXTRACTION WELL
FWE	FURNISHED WITH EQUIPMENT
FV	FULL VOLTAGE NON-REVERSING
GND	GROUND
HP	HORSEPOWER
HZ	HERTZ
ID	INVERTER DRIVE
LT	LEVEL TRANSMITTER
LTMF	LIQUID-TIGHT METALLIC FLEXIBLE CONDUIT
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRICAL CODE
P	POLE
PIC	PROCESS INDICATING CONTROLLER
PVC	POLYVINYL CHLORIDE
RGS	RIGID GALVANIZED STEEL
SE	SERVICE ENTRANCE
TSP	TWISTED SHIELDED PAIR
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
V	VOLTAGE
W	WIRE

NOTES:

1. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.
2. REFER TO SHEET G-003 FOR GENERAL NOTES.
3. ALL CONDUITS SHALL BE POLYVINYL CHLORIDE DIRECT BURIAL UNLESS NOTED OTHERWISE.
4. ALL PROPOSED CONDUITS WILL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR. ALL PROPOSED WIRING WILL BE INSTALLED BY OTHERS IN THE FUTURE.
5. PUMP, PUMP CONTROL, AND PUMP STARTER TO BE SUPPLIED AND INSTALLED BY OTHERS IN THE FUTURE.
6. THE CONTRACTOR SHALL INSTALL THE 3"ø PVC SCH 40 CONDUIT FROM THE EXTRACTION WELLS INTO AND INCLUDE THE CONSTRUCTION OF THE EH @ THE GWTP. THE CONDUIT FROM THIS EH TO THE GWTP AND INSIDE WILL BE INSTALLED BY OTHERS IN THE FUTURE.

NOT FOR CONSTRUCTION
Mon, 06 Jun 2016

SAMUEL G. SHALLARD

NO.	DATE	REVISION	BY	APVD
2	05/06/16	DCB 007.2.2	TDD	SGS
1	09/02/15	DCB 007.2.1	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	GCP	SGS

DSGN GCP DR RJR CHK GCP APVD SGS

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ONE LINE DIAGRAM

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28070900

VERIFY SCALE
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DATE	
PROJ	3480-12-0317
DWG	EN-301
SHEET	67 OF 70

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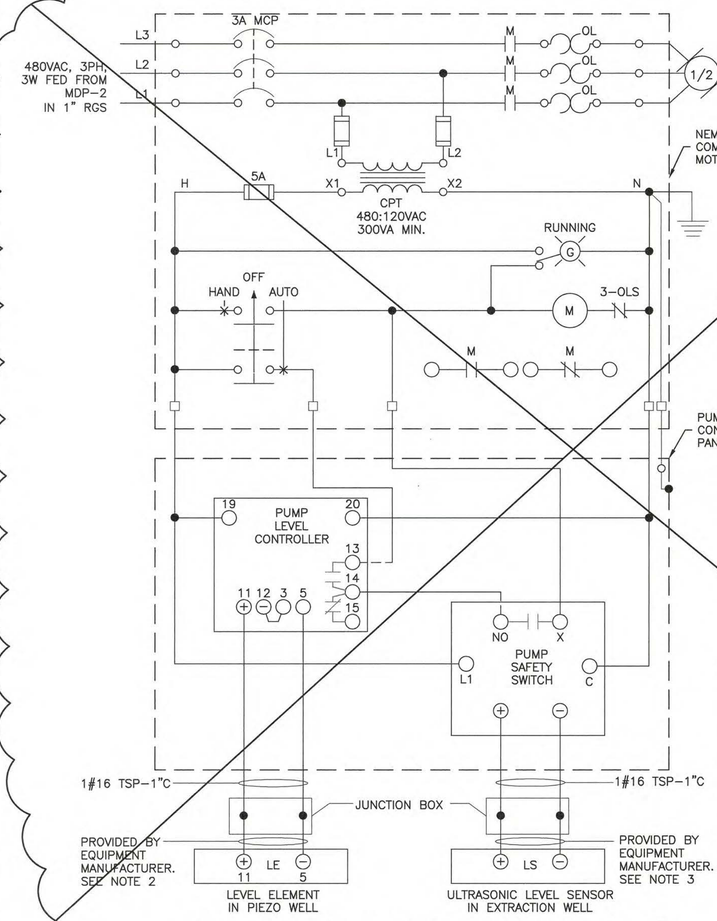


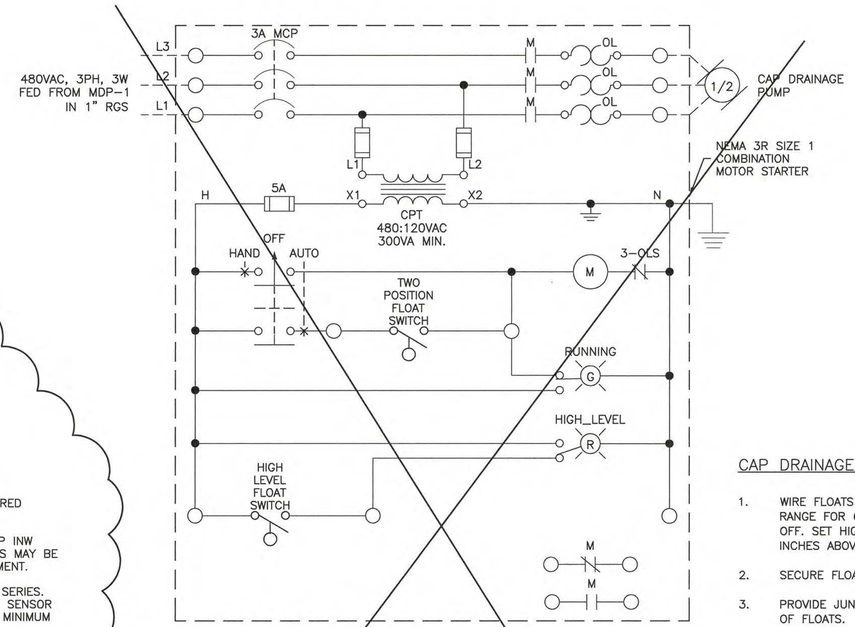
EXTRACTION WELL PUMP WIRING DIAGRAM (AN)
NTS TYPICAL FOR ONE LEVEL TRANSDUCER AND ONE EXTRACTION WELL PUMP CONTROL (SEE NOTE 9)
CN-126 EN-302

NOTE:
ALL 480V WIRING SHALL BE #12 AWG MINIMUM.
CONTROL WIRING SHALL BE #14 AWG MINIMUM

PUMP, PANEL, LEVEL CONTROL, AND WIRING NOT PART OF THIS CONTRACT

EXTRACTION WELL PUMP NOTES:

1. PUMP LEVEL CONTROLLER LOCATED IN THE EVEN NUMBERED PIEZOMETERS IS BASED ON MERCOID SERIES MPCJ.
2. LE ELEMENT BASED ON PS-98i MODEL 3C261T WITH FEP INW CABLE BY INSTRUMENTATION NORTHWEST. SEVERAL PUMPS MAY BE CONNECTED IN SERIES TO THE OUTPUT OF ONE LE ELEMENT.
3. ULTRASONIC LOW LEVEL SENSOR BASED ON OMEGA LVU SERIES. MATERIAL SHALL BE PFA OR EQUAL. SECURE CABLE AND SENSOR TO DISCHARGE PIPE AND SET SENSING POINT 3 INCHES MINIMUM ABOVE PUMP INTAKE.
4. PUMP SAFETY SWITCH BASED ON OMEGA MODEL LVCN.
5. PILOT LIGHTS TO BE PUSH TO TEST AS INDICATED.
6. PUMP CONTROL PANEL SHALL BE NEMA 3R WITH LOCKING HASP. SIZED AS REQUIRED FOR EQUIPMENT. MOUNT COMPONENTS ON DIN RAIL OR STANDARD 1/4 DIN MOUNTING HARDWARE. ALL COMPONENTS SHALL BE INTERNAL TO ENCLOSURE.
7. BOND WELL CASING TO GROUND CONDUCTOR.
8. CONNECT PUMP MOTOR TO GROUND CONDUCTOR.
9. WHEN ONE LEVEL TRANSDUCER IS USED TO CONTROL TWO OR THREE EXTRACTION WELL PUMPS, CONNECT EXTRACTION WELL PUMP PIC CONTROLLERS IN SERIES WITH THE ONE TRANSDUCER IN 4-20mA CURRENT LOOP.
10. ALL PANELS WILL BE DEAD FRONT, LOCKABLE AND WITH NO VISIBLE EXTERIOR LIGHTS.

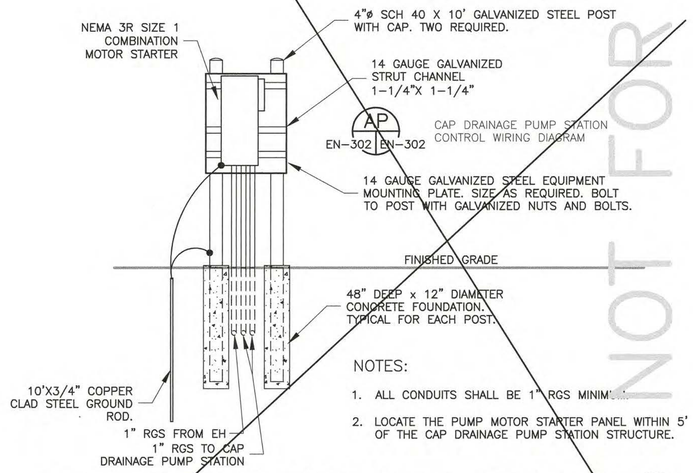


NOTE:
ALL 480V WIRING SHALL BE #12 AWG MINIMUM.
CONTROL WIRING SHALL BE #14 AWG MINIMUM

CAP DRAINAGE PUMP NOTES:

1. WIRE FLOATS FOR PUMP DOWN CONTROL. SET RANGE FOR 6 INCHES BETWEEN PUMP ON TO PUMP OFF. SET HIGH LEVEL SWITCH TO BE ACTIVE 6 INCHES ABOVE PUMP START.
2. SECURE FLOATS TO DISCHARGE PIPE.
3. PROVIDE JUNCTION BOX IN SUMP FOR CONNECTION OF FLOATS.
4. FLOAT SWITCH EQUAL TO DWYER RFW.
5. PILOT LIGHTS TO BE PUSH TO TEST AS INDICATED.
6. CONNECT PUMP MOTOR TO GROUND CONDUCTOR.
7. ALL PANELS WILL BE DEAD FRONT, LOCKABLE AND WITH NO VISIBLE EXTERIOR LIGHTS.

CAP DRAINAGE PUMP STATION CONTROL WIRING DIAGRAM (AP)
NTS
EN-302 EN-302



NOTES:

1. ALL CONDUITS SHALL BE 1" RGS MINIMUM.
2. LOCATE THE PUMP MOTOR STARTER PANEL WITHIN 5' OF THE CAP DRAINAGE PUMP STATION STRUCTURE.

CAP DRAINAGE PUMP STATION CONTROL PANEL DETAIL (AR)
NTS
CN-201 EN-302
CN-202

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. THE COMBINATION OF THE MOTOR CIRCUIT PROTECTOR AND THE OVERLOAD SHALL BE UL MOTOR COMBINATIONS.

NOT FOR CONSTRUCTION
Mon, 06 Jun 2016

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	RGR	CHK	APVD	BY	APVD
2	06/06/16	GCP	GCP	GCP	TDD	SGS	TDD	SGS
1	09/02/15				TDD	SGS	TDD	SGS
0	06/07/13				GCP	SGS	GCP	SGS

REVISION
ISSUED FOR CONSTRUCTION
DCB 007.2.1
DCB 007.2.2

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

WIRING DIAGRAMS

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	EN-302
SHEET	68 OF 70

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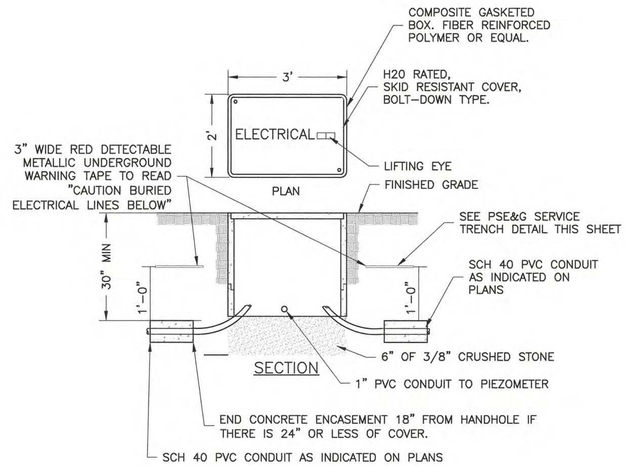
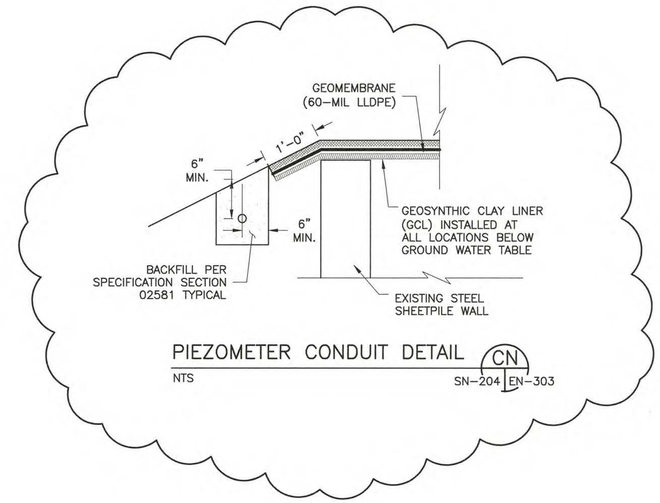
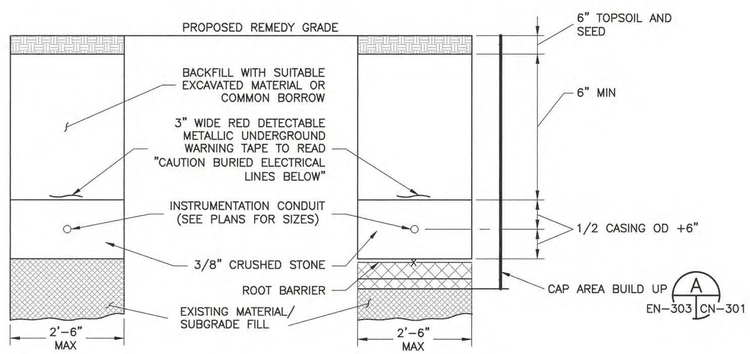


ELECTRICAL HANDHOLE DETAIL (AU)
NTS
CN-105 | EN-303
CN-201
CN-202



PIEZOMETER CONDUIT DETAIL (CN)
NTS
SN-204 | EN-303



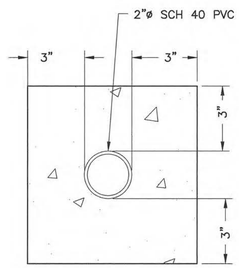
OUTSIDE CAP
(SEE DETAIL CN ON EN-303)

OVER CAP

PIEZOMETER INSTRUMENTATION CONDUIT TRENCH (AX)
NTS
CN-201 | EN-303
CN-202
CN-203

NOTE:

1. PROVIDE CONCRETE ENCASEMENT IF CONDUIT IS LESS THAN 24-INCHES BELOW DEVELOPMENT GRADE.
2. INSTALL PULL STRING/WIRE IN E&I CONDUIT FOR INSTALLATION OF PUMPS, WIRING, CONTROLS IN THE FUTURE BY OTHERS.



DUCT WAY NOTES:

1. ENCASED BURIAL REQUIRED IF THE COVER DEPTH IS LESS THAN 24" OR OTHERWISE SPECIFIED.
2. CONCRETE SHALL BE 3000 P.S.I. @ 28 DAYS, OR AS SPECIFIED.
3. PROVIDE REINFORCING RODS ON TOP OF DUCTS WHEN CROSSING OR PLACED IN ROADWAY WITH LESS THAN 24" OF COVER #4@12" OC MIN 2. EXTEND 4' BEYOND ROAD EDGE.
3. MINIMUM COVER TO TOP OF CONCRETE ENVELOPE SHALL BE 24" [610mm].
4. INSTALL IN A 4'-0" MAX WIDTH TRENCH SIMILAR TO DETAIL Z ON C-306.

DUCT BANK DETAILS (AW)
NTS
EN-303

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.

SAMUEL G. SHALLARD

NO.	DATE	REVISION	BY	APVD
2	06/06/16	DCB 007.2.2	TDD	SGS
1	09/02/15	DCB 007.2.1	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	GCP	SGS
DSGN	GCP	DR RJR	CHK GCP	APVD SGS

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

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Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL DETAILS

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689-2029
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	EN-303
SHEET	69 OF 70

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** DCB 7.4.2 **Type:** Minor(a) **Effective Date:** 12/20/2016
Project Location: SA-6 North and South	**Associated RFI:**
Title: Contingent GW E&I Revisions	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. The Contingent GW system was modified from wells to trenches. This resulted in a reduction in from 9 pumps on the North, and 9 pumps on the South, to 2 pump stations on North, and 1 pump station on South. The electrical and instrumentation (E&I) requirements and associated conduit runs changed accordingly.

This DCB documents a number of minor field changes that have been conveyed by the EOR to Entact during the course of the work and also includes revisions to the (E series) electrical drawings for both SA-6N and SA-6S.

The IFC conduit runs were designed to allow for hard wiring of the piezometric pairs used to monitor the gradients. The piezometric instrumentation conduit run has been eliminated on SA-6S. The piezometric pairs will initially be monitored manually. Manual monitoring may be supplemented by use of data loggers (Solinst Levelogger or similar) in selected wells. Based on the technical advancement in data loggers subsequent to the IFC design, data collection options that do not require hard wiring are a viable and preferred. Wireless data loggers eliminate the risk of damage and associated subsurface repair in the future. As a result, conduit runs for the piezometers were deleted from SA-6S. Due to the progress of work and scheduling, a piezometer conduit was installed on SA-6N; however, wiring has not been installed and it is the engineer's recommendation that wireless installation be used.

Investigation of existing conduit runs at the west end of SA-7 indicated that one 2-inch conduit shown on the IFC design as existing was not present. A new conduit run was added in its place.

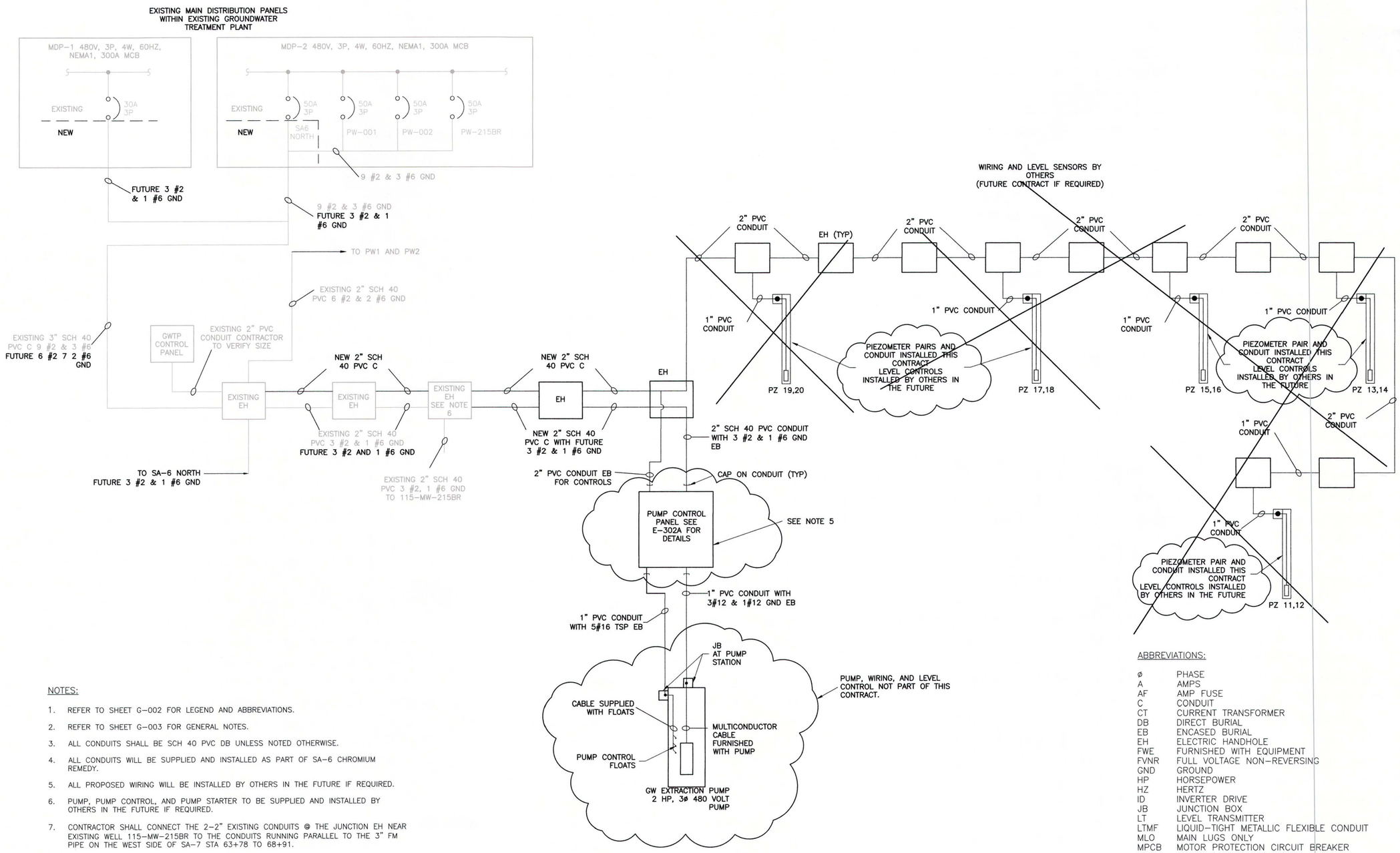
All pump stations, force-mains and E&I conduit runs except as noted above have been installed.

The reason for considering this a "Contingent" System is that modeling predictions indicate that **no pumping** will be required i.e. there is no technical design basis for determining a flow rate. In the absence of a theoretical or verified design flow the forcemains have been sized at 2 inches in diameter and the pumps and associated wiring to operate at 5 GPM. Larger pumps and wire sizes could be readily installed in the unlikely event they are required. As of the date of issue of this DCB, pumping has not been required. This covers a period of more than 12 months on SA-6S, and 4 months on SA-6N. To provide an allowance for pumping at some nominal flow rate, pumps and power have been sized assuming a steady 5 GPM flow rate. The pump and controls design is based on operation of only one pump station at a time. The 5 GPM is based on the capacity of the existing GWTP effluent pumps. The forcemain and pumps have been sized for greater capacity, and greater flows could be readily achieved, if the effluent pump capacity was increased. It is recommended that a final decision on pump sizes, and related wiring and instrumentation, be revisited if it is determined that pumping is required. The GWTP has been modified under separate contract with BSTI to accommodate the flow and E&I controls.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:**
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No

Additional Comments:	**Design Documents Affected:** E-301, E-302 and E-302A (SA-6S). EN-301, EN-302 and EN-302A (SA-6N)
Honeywell (AP) Review:	
Individual: Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 12/21/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.
2. REFER TO SHEET G-003 FOR GENERAL NOTES.
3. ALL CONDUITS SHALL BE SCH 40 PVC DB UNLESS NOTED OTHERWISE.
4. ALL CONDUITS WILL BE SUPPLIED AND INSTALLED AS PART OF SA-6 CHROMIUM REMEDY.
5. ALL PROPOSED WIRING WILL BE INSTALLED BY OTHERS IN THE FUTURE IF REQUIRED.
6. PUMP, PUMP CONTROL, AND PUMP STARTER TO BE SUPPLIED AND INSTALLED BY OTHERS IN THE FUTURE IF REQUIRED.
7. CONTRACTOR SHALL CONNECT THE 2-2" EXISTING CONDUITS @ THE JUNCTION EH NEAR EXISTING WELL 115-MW-215BR TO THE CONDUITS RUNNING PARALLEL TO THE 3" FM PIPE ON THE WEST SIDE OF SA-7 STA 63+78 TO 68+91.
8. PULL STRING/WIRE TO BE INSTALLED IN ALL E&I CONDUIT FOR WIRE INSTALLATION IN THE FUTURE BY OTHERS.
9. THE WIRE SIZING AND CONFIGURATION SHOWN IS BASED ON INFORMATION AVAILABLE AS OF DECEMBER 2016. IF IT IS DETERMINED THAT IT IS NECESSARY TO ACTIVATE THE CONTINGENT GROUNDWATER SYSTEM, PUMP SIZING AND CONTROLS SHOULD BE RE-EVALUATED BASED ON THE PROJECTED PUMPING RATES AND DURATION DETERMINED AT THAT TIME. PUMPS, CONDUITS AND WIRE HAVE BEEN SIZED CONSERVATIVELY. HEAVIER WIRE AND LARGER PUMPS COULD BE INSTALLED IN THE EXISTING CONDUIT IN THE EVENT IT WAS DEEMED NECESSARY.

ABBREVIATIONS:

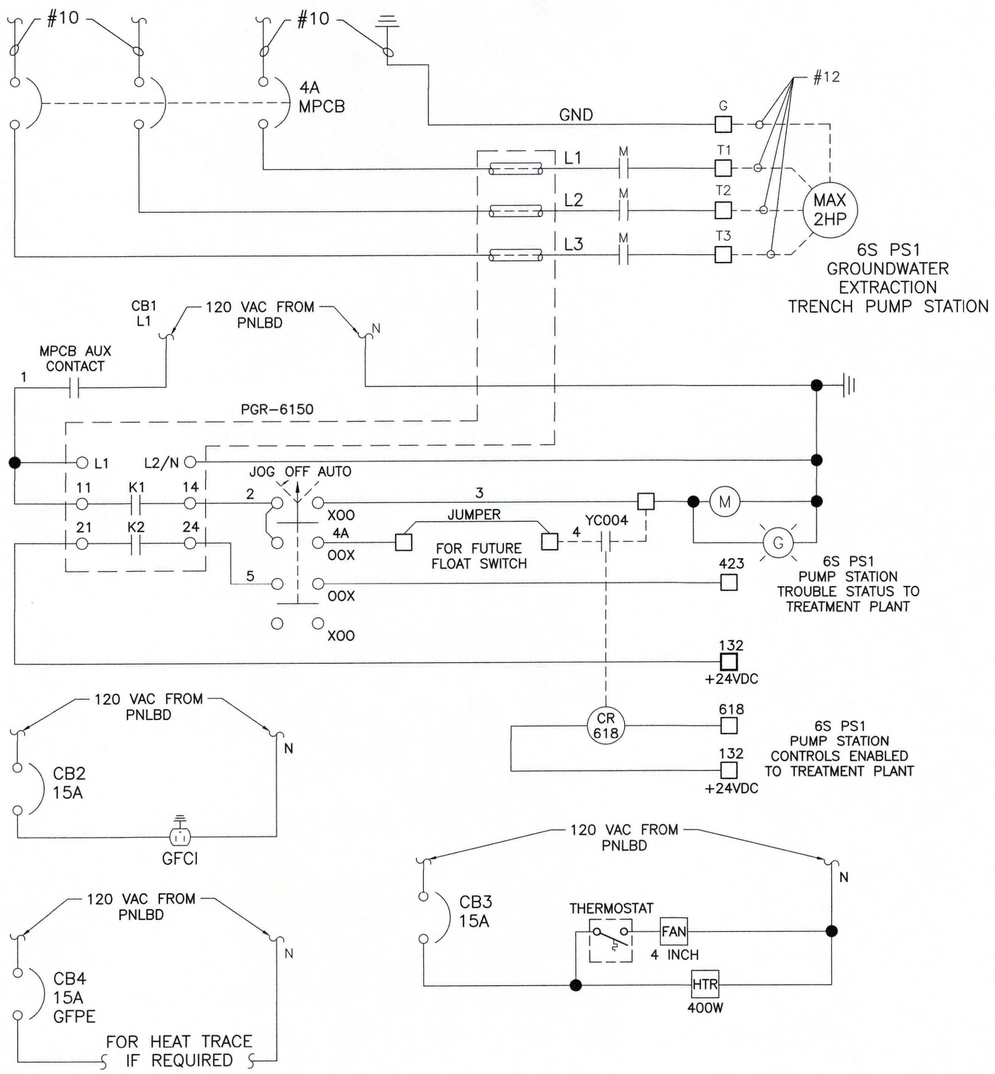
ø	PHASE
A	AMPS
AF	AMP FUSE
C	CONDUIT
CT	CURRENT TRANSFORMER
DB	DIRECT BURIAL
EB	ENCASED BURIAL
EH	ELECTRIC HANDHOLE
FWE	FURNISHED WITH EQUIPMENT
FVNR	FULL VOLTAGE NON-REVERSING
GND	GROUND
HP	HORSEPOWER
HZ	HERTZ
ID	INVERTER DRIVE
JB	JUNCTION BOX
LT	LEVEL TRANSMITTER
LTMF	LIQUID-TIGHT METALLIC FLEXIBLE CONDUIT
MLO	MAIN LUGS ONLY
MPCB	MOTOR PROTECTION CIRCUIT BREAKER
NEC	NATIONAL ELECTRICAL CODE
P	POLE
PIC	PROCESS INDICATING CONTROLLER
PVC	POLYVINYL CHLORIDE
RGS	RIGID GALVANIZED STEEL
SE	SERVICE ENTRANCE
SPD	SURGE PROTECTIVE DEVICE
TSP	TWISTED SHIELDED PAIR
V	VOLTAGE
W	WIRE

TIMOTHY C. KESSLER

NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE03749500

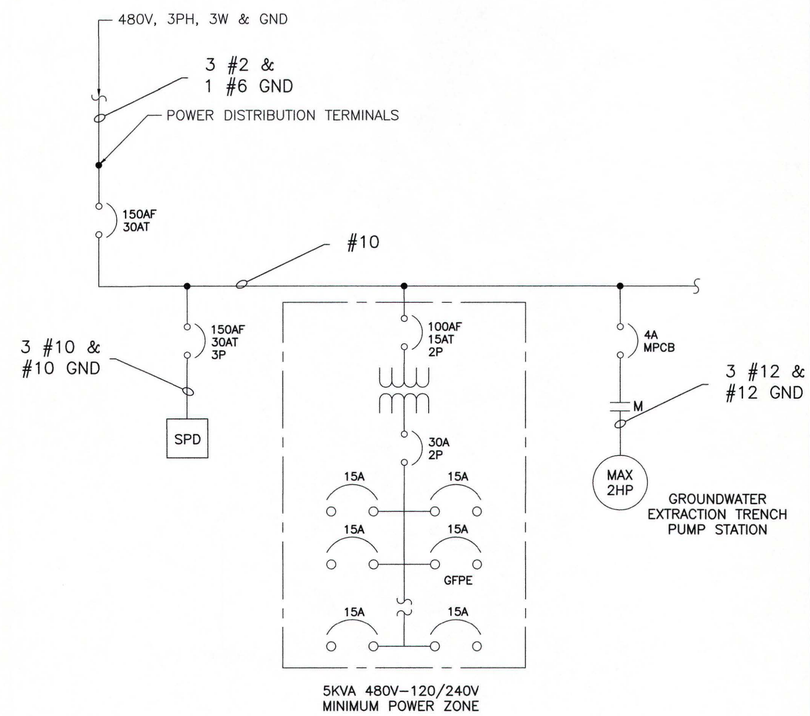
NO.	DATE	DSGN	DR	CHK	BY	APVD	REVISION
3	12/02/16	TDD	RJR	SGS	SGS	TCK	DCB 007.4.2
2	05/20/16	TDD		TDD	SGS	SGS	DCB 007.4.1
1	08/14/15	RJR		RJR	TDD	SHM	DCB 007.4
0	06/07/13	SGS		SGS	SGS	SGS	ISSUED FOR CONSTRUCTION

SGS | SGS | SGS |



6 SOUTH PUMP STATION CONTROL SCHEMATIC

NTS



TYPICAL PUMP STATION ONE LINE

NTS

NOTE:

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☐ TERMINAL IN PUMP PANEL

- - - - - - - - FIELD WIRING

TIMOTHY C. KESSLER, P.E.

NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE03749500

NO.	DATE	REVISION	BY	APVD
3	12/02/16	DCB 007.4.2	SGS	TCK
2	05/20/16	DCB 007.4.1	TDD	SGS
1	08/14/15	DCB 007.4	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD | DR RJR | CHK SHM | APVD SGS

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134,
140, AND 163
JERSEY CITY, NEW JERSEY

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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

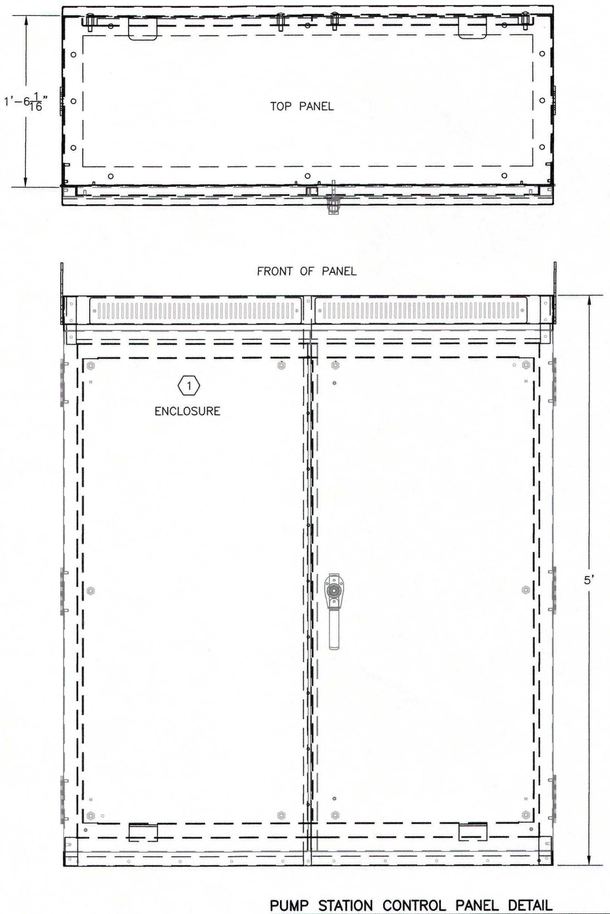
WIRING DIAGRAM

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number
24GA28010900

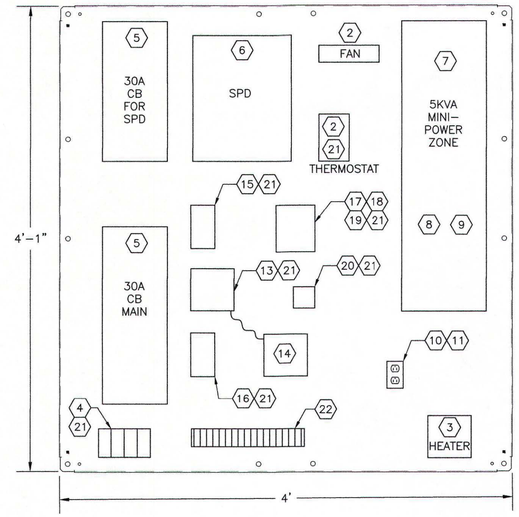
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	E-302
SHEET	65 OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR65-E-302 Wiring Diagram.dwg PLOT DATE: Mon, 05 Dec 2016 PLOT TIME: 6:14 AM



PUMP STATION CONTROL PANEL DETAIL
NTS



PUMP STATION CONTROL PANEL BACK DETAIL
NTS

NOTE:

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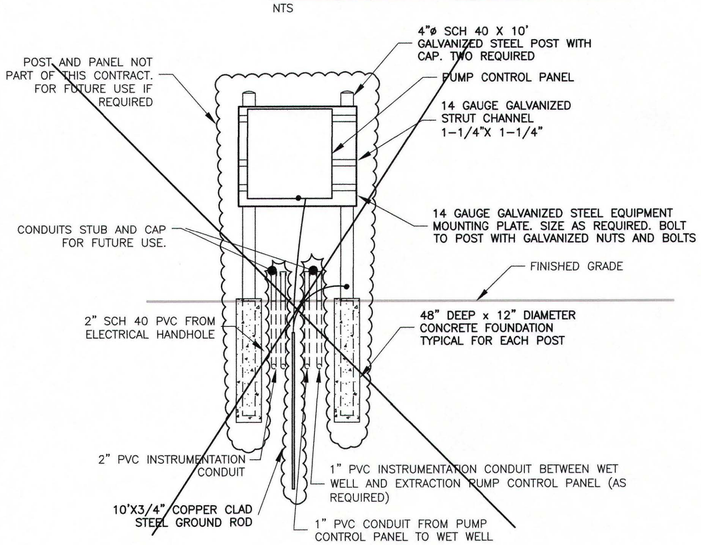
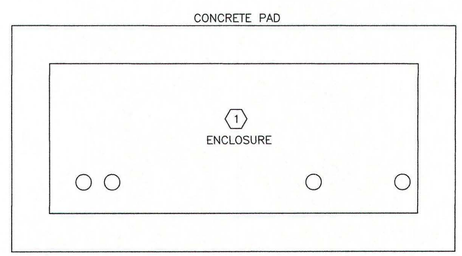
BILL OF MATERIALS

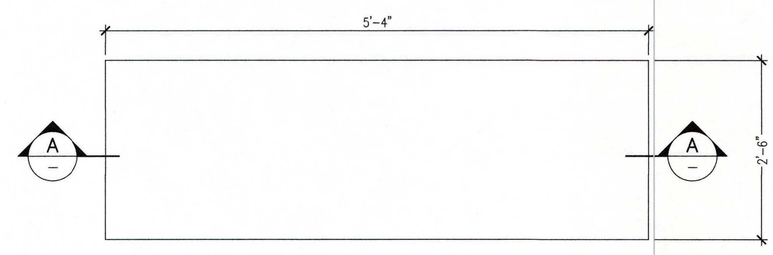
ITEM	QTY	DESCRIPTION	MFG	PART NO.
1	1	60" H x 52" W x 18" D 2-Door NEMA 3R Pad-Mount Enclosure with back panel	Hoffman or Equal	A60R5218FSLP & A49P48N
2	1	4 inch cooling fan with bracket and thermostat, 120 Vac	Hoffman or Equal	A4AXFN, ABRKT4, & ATEMNO
3	1	400 Watt heater with fan and thermostat, 120 Vac	Hoffman or Equal	DAH4001B
4	4	175A Power Distribution Terminal Block, #2/0 to #14 AWG Wire Size Range, IP20 Finger-Safe	Bussmann or Equal	PDBFS220
5	2	Square D H-Frame, 30A, 3P, 600V, Thermal-Magnetic Circuit Breaker and NEMA 1 Surface -Mount Enclosure	Square D or Equal	HDL36030 & J250S
6	1	Type 1 Surge Protective Device, 480V, 3 Phase Delta, 3-Wire + Ground with Transient Filter and Surge Counter	Joslyn or Equal	JSP240-3D480-FB
7	1	Square D Mini-Power Zone, 5kVA, 480V-240/120V, NEMA 3R Enclosure with Primary & Secondary Main Breakers	Square D or Equal	MPZ5S40F
8	5	Square D Type QO Plug-On Circuit Breaker, 15A, 1P, 120/240V for MPZ Panelboard	Square D or Equal	QO115
9	1	Square D Type QO Plug-On Circuit Breaker, 15A, 1P, 120/240V with 30 mA Ground Fault Protection for MPZ Panelboard	Square D or Equal	QO115EPD
10	1	Duplex 15A, 125V, GFCI Type Receptacle, Heavy Duty, 2P, 3-Wire Grounded, Ivory	Hubbell or Equal	GF15IL
11	1	Handy Box and Receptacle Cover	Raco or Equal	8660 & 864
12	1	Copper Bonded Steel Ground Rod, 3/4" Dia x 10 Ft Long	Erico or Equal	613400
13	1	3-Phase Motor Protection Relay, 120Vac Control Power, 13 Protective Functions, Trip and Alarm Fail-Safe Relays	Littelfuse Powr-Gard	PGR-6150-120
14	1	Operator Interface for Motor Protection Relay	Littelfuse Powr-Gard	PGR-6150-OPI
15	1	Motor Protection Circuit Breaker, Red/Yellow Lockable Knob, 480v, 3 PH, 60Hz 2.5 to 4A Adjustable Range with Front-Mounted N.O. Aux Contact	Allen-Bradley	140M-C2E-B40-KY & 140M-C-AFA10
16	1	IEC Contactor, 9A, 480V, 3 Ph, 60 Hz 120V, 1 N.O. Aux Contact, 60Hz Coil	Allen-Bradley	100-C09D10
17	1	3 Position Selector Switch, Spring-Return from Left, 2 Contact Blocks with Hand-Off-Auto Legend Plate	Allen-Bradley	800T-J4B & 800T-X511
18	1	Green LED Pilot Light, 120Vac, 60 Hz	Allen-Bradley	800T-QH2G
19	1	NEMA 4/13 Die Cast, 2-Hole Surface Mount Pushbutton Enclosure	Allen-Bradley	800T-2TZ
20	1	DPDT Plug-In Relay, 24VDC Coil, LED, Push-to-Test and Manual Override and Socket	Allen-Bradley	700-HA32Z24-3-4 & 700-HN100
21	Lot	DIN Rail #3 for Mounting Components as required	Allen-Bradley	199-DR1
22	Lot	DIN Rail, 30A Terminal Blocks, End Anchors, End Barriers as required	Allen-Bradley	1492-N22, 1492-HM1 1492-N23, 1492-NM36



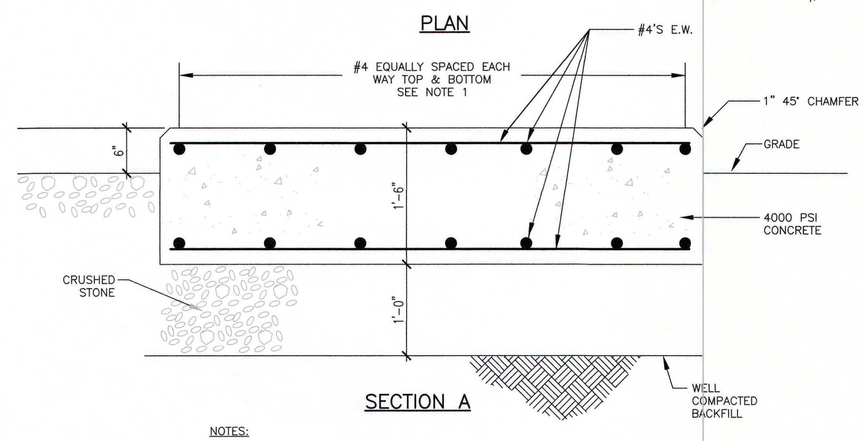
EXTRACTION WELL PUMP CONTROL PANEL DETAIL
NTS

AO
TYP E-302A





PLAN



SECTION A

NOTES:

1. 7 BARS PERPENDICULAR TO 5'-4" DIMENSION TOP AND BOTTOM.
   4 BARS PERPENDICULAR TO 2'-6" DIMENSION TOP AND BOTTOM

CONTROL PANEL PAD DETAIL
NTS

TIMOTHY C. KESSLER, P.E.

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
3	12/02/16	TDD	TDD	RJR	SHM	SGS	SGS
2	05/20/16	TDD					
1	08/14/15	RJR					
0	06/07/13	TDD					

REVISION

ISSUED FOR CONSTRUCTION

DCB 007.4.2

DCB 007.4.1

DCB 007.4

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

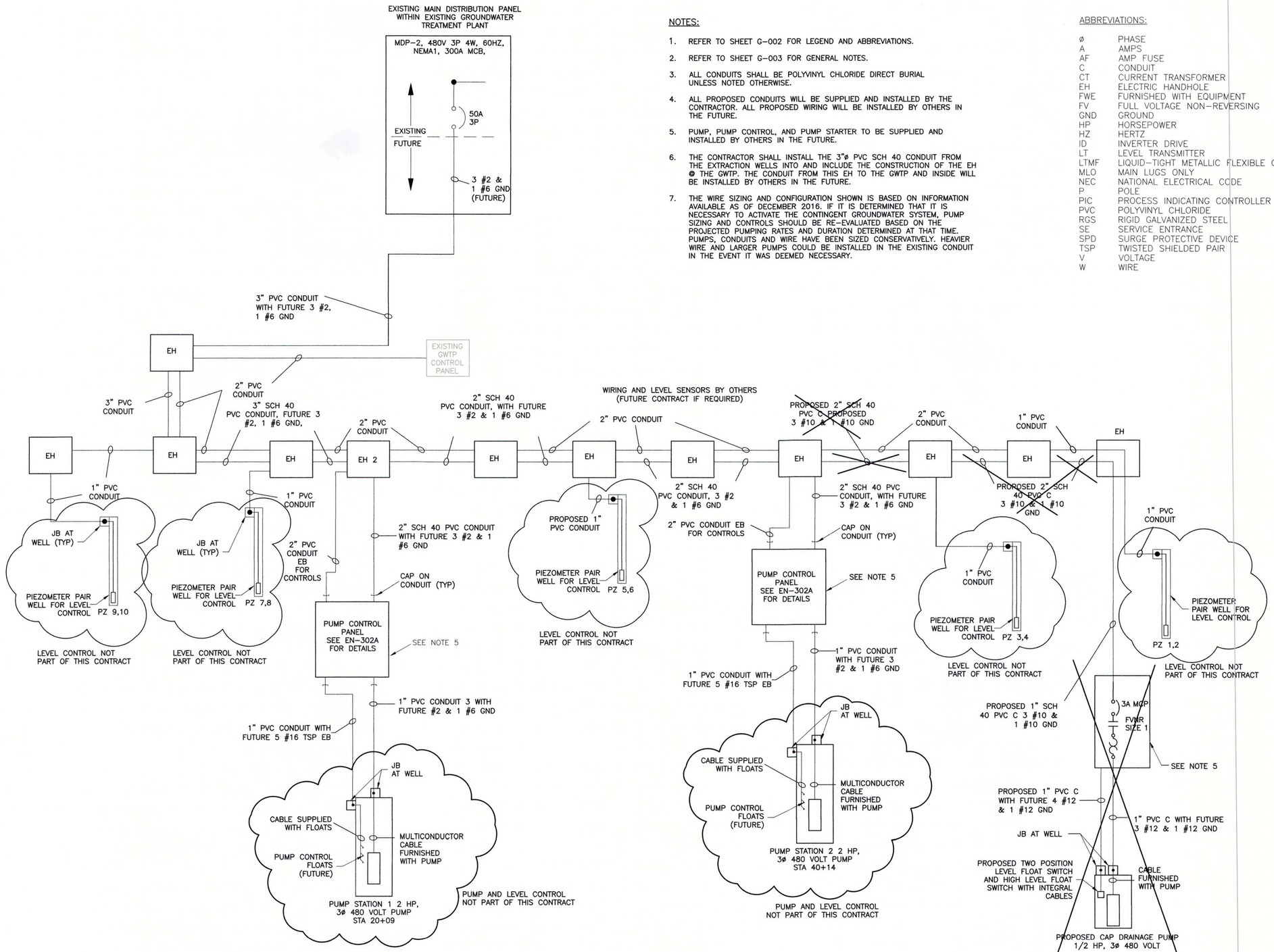
ELECTRICAL

WIRING DIAGRAM

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	E-302A
SHEET	65A OF 66



NOTES:

1. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.
2. REFER TO SHEET G-003 FOR GENERAL NOTES.
3. ALL CONDUITS SHALL BE POLYVINYL CHLORIDE DIRECT BURIAL UNLESS NOTED OTHERWISE.
4. ALL PROPOSED CONDUITS WILL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR. ALL PROPOSED WIRING WILL BE INSTALLED BY OTHERS IN THE FUTURE.
5. PUMP, PUMP CONTROL, AND PUMP STARTER TO BE SUPPLIED AND INSTALLED BY OTHERS IN THE FUTURE.
6. THE CONTRACTOR SHALL INSTALL THE 3"ø PVC SCH 40 CONDUIT FROM THE EXTRACTION WELLS INTO AND INCLUDE THE CONSTRUCTION OF THE EH @ THE GWTP. THE CONDUIT FROM THIS EH TO THE GWTP AND INSIDE WILL BE INSTALLED BY OTHERS IN THE FUTURE.
7. THE WIRE SIZING AND CONFIGURATION SHOWN IS BASED ON INFORMATION AVAILABLE AS OF DECEMBER 2016. IF IT IS DETERMINED THAT IT IS NECESSARY TO ACTIVATE THE CONTINGENT GROUNDWATER SYSTEM, PUMP SIZING AND CONTROLS SHOULD BE RE-EVALUATED BASED ON THE PROJECTED PUMPING RATES AND DURATION DETERMINED AT THAT TIME. PUMPS, CONDUITS AND WIRE HAVE BEEN SIZED CONSERVATIVELY. HEAVIER WIRE AND LARGER PUMPS COULD BE INSTALLED IN THE EXISTING CONDUIT IN THE EVENT IT WAS DEEMED NECESSARY.

ABBREVIATIONS:

ø	PHASE
A	AMPS
AF	AMP FUSE
C	CONDUIT
CT	CURRENT TRANSFORMER
EH	ELECTRIC HANDHOLE
FWE	FURNISHED WITH EQUIPMENT
FV	FULL VOLTAGE NON-REVERSING
GND	GROUND
HP	HORSEPOWER
HZ	HERTZ
ID	INVERTER DRIVE
LT	LEVEL TRANSMITTER
LTMF	LIQUID-TIGHT METALLIC FLEXIBLE CONDUIT
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRICAL CODE
P	POLE
PIC	PROCESS INDICATING CONTROLLER
PVC	POLYVINYL CHLORIDE
RGS	RIGID GALVANIZED STEEL
SE	SERVICE ENTRANCE
SPD	SURGE PROTECTIVE DEVICE
TSP	TWISTED SHIELDED PAIR
V	VOLTAGE
W	WIRE

NO.	DATE	REVISION	BY	APVD
3	12/02/16	DCB 007.4.2	SGS	TCK
2	05/06/16	DCB 007.2.2	TDD	SGS
1	09/02/15	DCB 007.2.1	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	GCP	SGS

DSGN GCP | DR RJR | CHK GCP | APVD SGS

TIMOTHY C. KESSLER
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE03749500

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CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

ONE LINE DIAGRAM

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Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28019900

VERIFY SCALE
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DATE	
PROJ	3480-12-0317
DWG	EN-301
SHEET	67 OF 70

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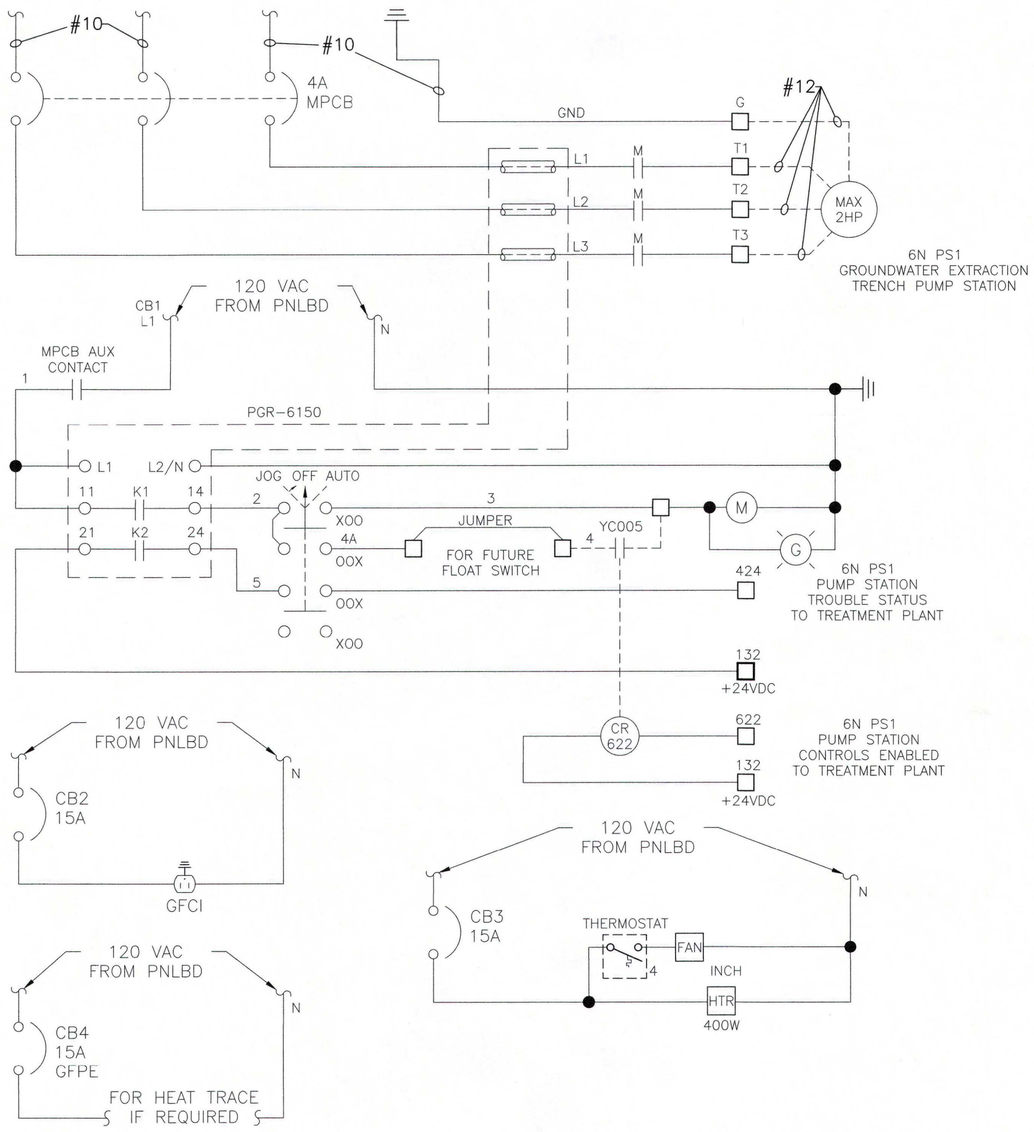
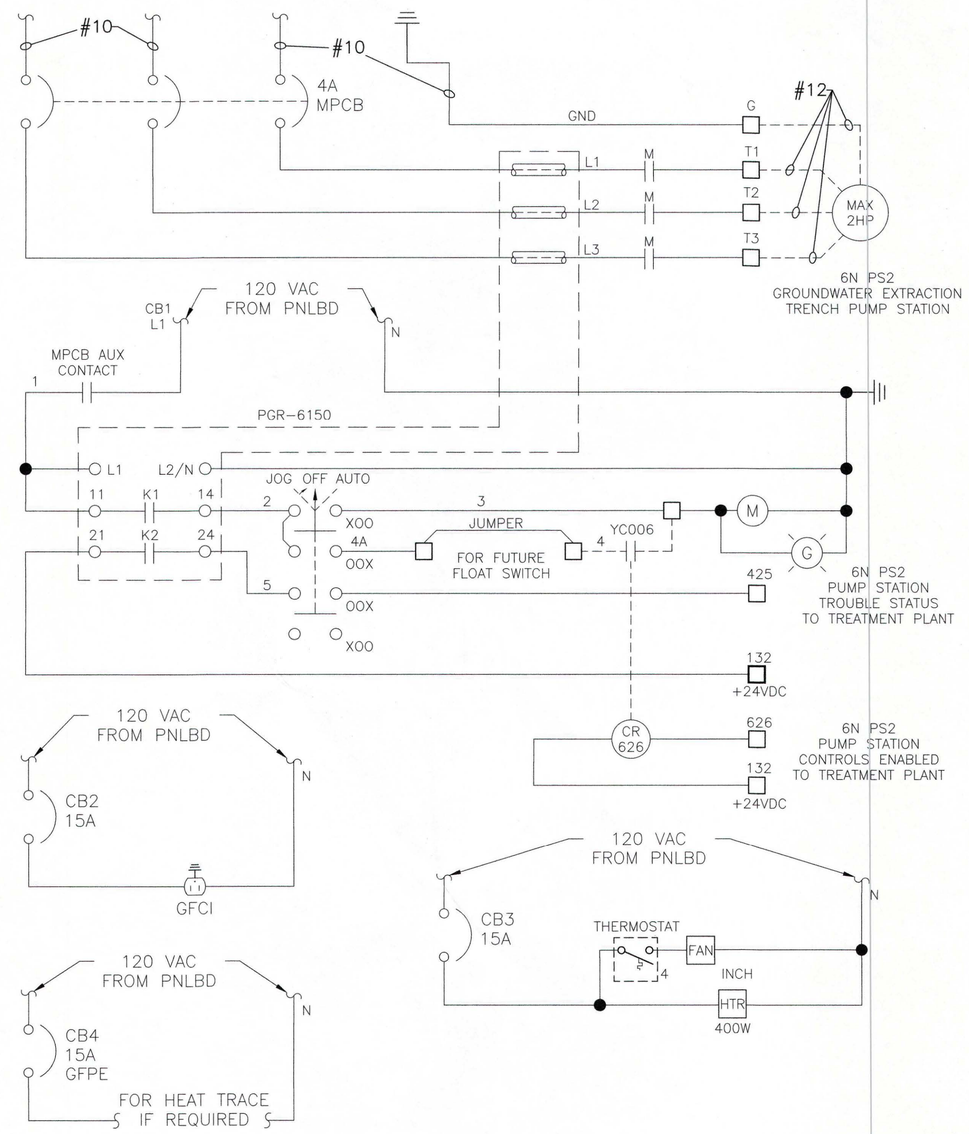
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\NCR67-EN-301 ONE LINE DIAGRAM.dwg PLOT DATE: Thu, 15 Dec 2016 PLOT TIME: 3:43 PM



6 NORTH PUMP STATION 1 CONTROL SCHEMATIC

NTS



6 NORTH PUMP STATION 2 CONTROL SCHEMATIC

NTS

NOTE:

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□ TERMINAL IN PUMP PANEL

- - - - - - - - - FIELD WIRING

NO.	DATE	DSGN	DR	CHK	APVD	BY	REVISION
3	12/02/16	SGS	TCK				DCB 007.4.2
2	05/06/16	TDD	SGS				DCB 007.2.2
1	09/02/15	TDD	SGS				DCB 007.2.1
0	06/07/13	GCP	SGS	GCP	APVD	SGS	ISSUED FOR CONSTRUCTION

TIMOTHY C. KESSLER
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE03749500

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STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

ONE LINE DIAGRAM

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NJ Certificate of Authorization Number
24GA28019900

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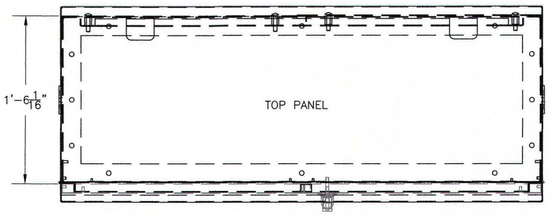
0 1"

DATE	
PROJ	3480-12-0317
DWG	EN-302
SHEET	68 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\NCR68-EN-302 WIRING DIAGRAM.dwg PLOT DATE: Fri, 02 Dec 2016 PLOT TIME: 2:05 PM



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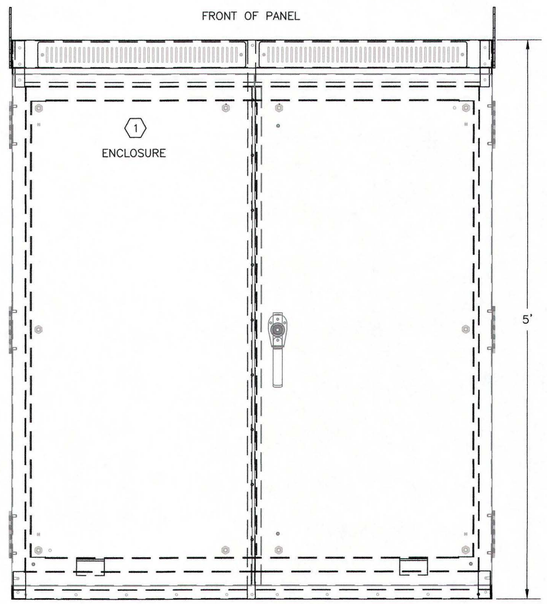
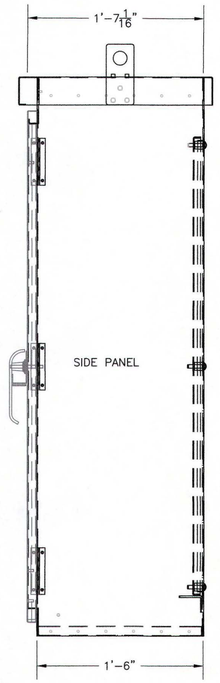
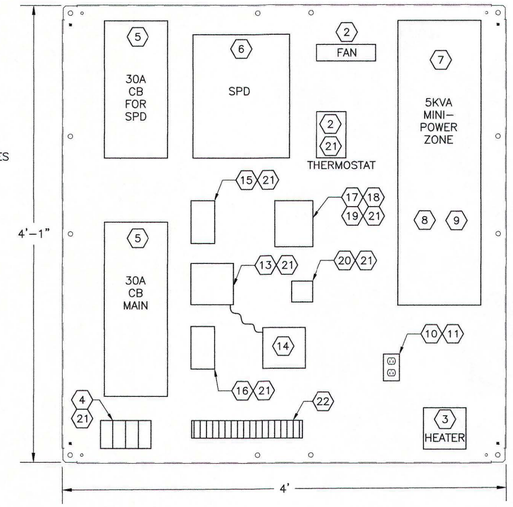




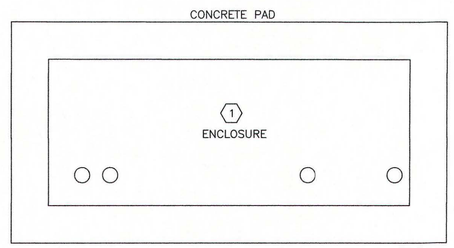
PUMP STATION CONTROL PANEL DETAIL

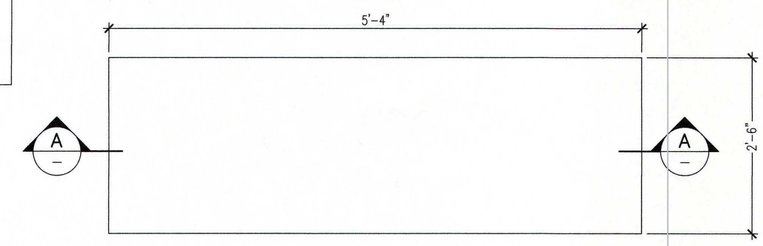
NTS



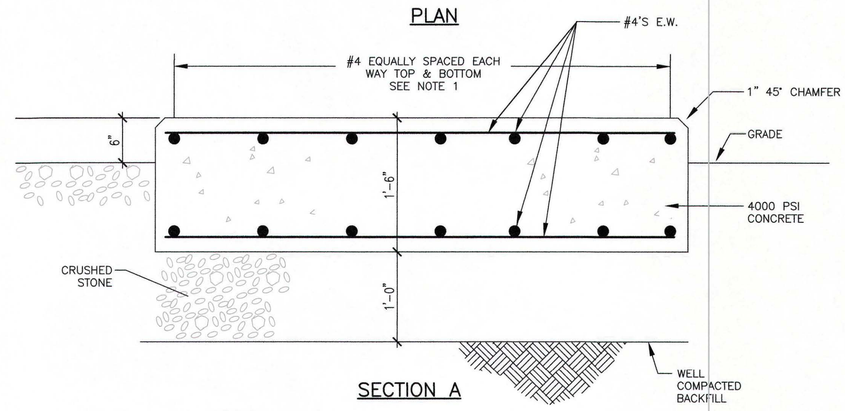
EXTRACTION WELL PUMP CONTROL PANEL BACK DETAIL

NTS





PLAN



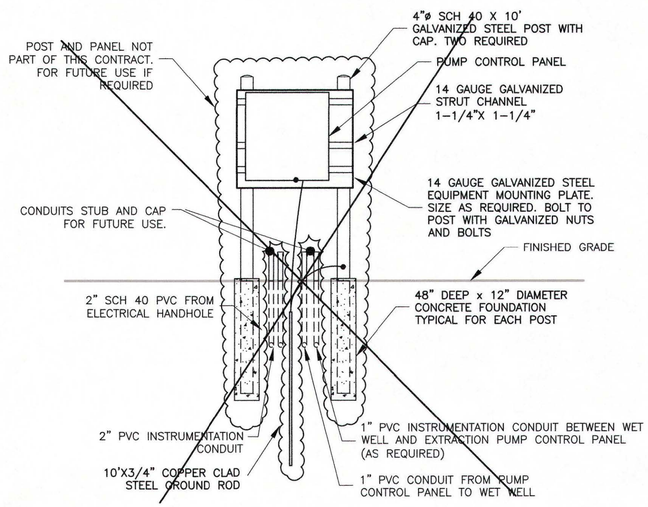
SECTION A

NOTES:

1. 7 BARS PERPENDICULAR TO 5'-4" DIMENSION TOP AND BOTTOM.
   4 BARS PERPENDICULAR TO 2'-6" DIMENSION TOP AND BOTTOM

CONTROL PANEL PAD DETAIL

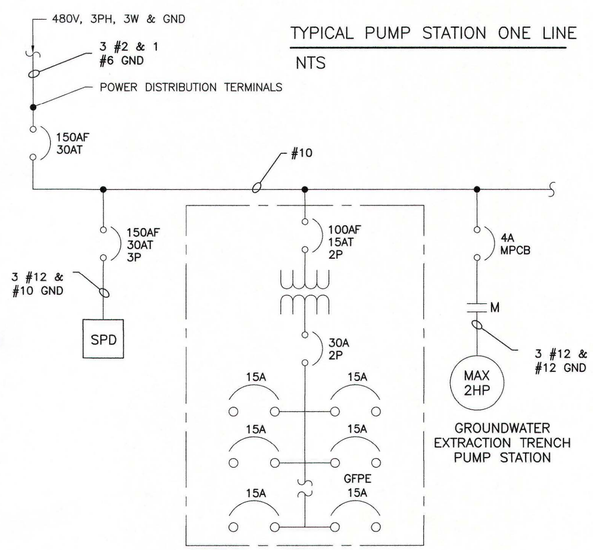
NTS



PUMP STATION CONTROL PANEL DETAIL

NTS

AQ
TYP E-302A



TYPICAL PUMP STATION ONE LINE

NTS

5KVA 480V-120/240V MINIMUM POWER ZONE

BILL OF MATERIALS

ITEM	QTY	DESCRIPTION	MFG	PART NO.
1	1	60" H x 52" W x 18" D 2-Door NEMA 3R Pad-Mount Enclosure with back panel	Hoffman or Equal	A60R5218FSLP & A49P48N
2	1	4 inch cooling fan with bracket and thermostat, 120 Vac	Hoffman or Equal	A4AXFN, ABRKT4, & ATEMNO
3	1	400 Watt heater with fan and thermostat, 120 Vac	Hoffman or Equal	DAH4001B
4	4	175A Power Distribution Terminal Block, #2/0 to #14 AWG Wire Size Range, IP20 Finger-Safe	Bussmann or Equal	PDBFS220
5	2	Square D H-Frame, 30A, 3P, 600V, Thermal-Magnetic Circuit Breaker and NEMA 1 Surface -Mount Enclosure	Square D or Equal	HDL36030 & J250S
6	1	Type 1 Surge Protective Device, 480V, 3 Phase Delta, 3-Wire + Ground with Transient Filter and Surge Counter	Joslyn or Equal	JSP240-3D480-FB
7	1	Square D Mini-Power Zone, 5kVA, 480V-240/120V, NEMA 3R Enclosure with Primary & Secondary Main Breakers	Square D or Equal	MPZ5S40F
8	5	Square D Type QO Plug-On Circuit Breaker, 15A, 1P, 120/240V for MPZ Panelboard	Square D or Equal	QO115
9	1	Square D Type QO Plug-On Circuit Breaker, 15A, 1P, 120/240V with 30 mA Ground Fault Protection for MPZ Panelboard	Square D or Equal	QO115EPD
10	1	Duplex 15A, 125V, GFCI Type Receptacle, Heavy Duty, 2P, 3-Wire Grounded, Ivory	Hubbell or Equal	GF15IL
11	1	Handy Box and Receptacle Cover	Raco or Equal	8660 & 864
12	1	Copper Bonded Steel Ground Rod, 3/4" Dia x 10 Ft Long	Erico or Equal	613400
13	1	3-Phase Motor Protection Relay, 120Vac Control Power, 13 Protective Functions, Trip and Alarm Fail-Safe Relays	Littelfuse Powr-Gard	PGR-6150-120
14	1	Operator Interface for Motor Protection Relay	Littelfuse Powr-Gard	PGR-6150-OPI
15	1	Motor Protection Circuit Breaker, Red/Yellow Lockable Knob, 480v, 3 PH, 60Hz 2.5 to 4A Adjustable Range with Front-Mounted N.O. Aux Contact	Allen-Bradley	140M-C2E-B40-KY & 140M-C-AFA10
16	1	IEC Contactor, 9A, 480V, 3 Ph, 60 Hz 120V, 1 N.O. Aux Contact, 60Hz Coil	Allen-Bradley	100-C09D10
17	1	3 Position Selector Switch, Spring-Return from Left, 2 Contact Blocks with Hand-Off-Auto Legend Plate	Allen-Bradley	800T-J4B & 800T-X511
18	1	Green LED Pilot Light, 120Vac, 60 Hz	Allen-Bradley	800T-QH2G
19	1	NEMA 4/13 Die Cast, 2-Hole Surface Mount Pushbutton Enclosure	Allen-Bradley	800T-2TZ
20	1	DPDT Plug-In Relay, 24VDC Coil, LED, Push-to-Test and Manual Override and Socket	Allen-Bradley	700-HA32Z24-3-4 & 700-HN100
21	Lot	DIN Rail #3 for Mounting Components as required	Allen-Bradley	199-DR1
22	Lot	DIN Rail, 30A Terminal Blocks, End Anchors, End Barriers as required	Allen-Bradley	1492-N22, 1492-HM1 1492-N23, 1492-NM36

TIMOTHY C. KESSLER, P.E.

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 24GE03749500

NO.	DATE	REVISION	BY	APVD
3	12/02/16	DCB 007.4.2	TDD	SGS
2	05/20/16	DCB 007.4.1	TDD	SGS
1	08/14/15	DCB 007.4	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD DR RJR CHK SHM APVD SGS

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

WIRING DIAGRAM

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(609) 587-2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
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0 1"

DATE	
PROJ	3480-12-0317
DWG	EN-302A
SHEET	65A OF 70

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 007.5 Major Effective Date: 02/24/15
Project Location: SA-6 SOUTH	
Title: GW EXTRACTION SYSTEM	
Revision to the Geomembrane/Subgrade surface.	Project No.: 3480130377
Contractor (Subcontractor): Entact	

DCB-007.1 was issued for the trench detail portion of the modified groundwater system design. At the time of issue details for the SA-6N trench were subject to potential further modification.

DCB-007.2 provided the final details for the SA-6N groundwater collection trenches and associated electrical supply and groundwater discharge piping.

DCB-007.3 provided the final details for the SA-6S groundwater collection trenches and associated electrical supply and groundwater discharge piping

DCB-007.4 issue pending. This DCB will provide the revised one line electrical drawings for SA-6N and SA-6S. In the revised design there is one extraction manhole on SA-6S and two extraction manholes in SA-6N.

DCB-007.5 provides a revised subgrade/Geomembrane surface as discussed below.

The 100% Design included a Conceptual Design for the Groundwater Extraction system that was based on use of 9 extraction wells in each Open Space Area and common header system. The trench design has one pump station in SA-6S and 2 pump stations in SA-6N.

Details related to the Administrative basis for the change are provided in DCB 007.1.

DCB 007.5 is applicable to the SA-6N and SA-6S subgrade/Geomembrane surface. The change from wells to trenches resulted in numerous changes in grading. There were typically depression in the subgrade around each well to allow for installation of control vaults at each well and associated force mains leading from each well. These depressions have been eliminated and the Geomembrane surface smoothed at these locations. A depressed area has been added at each pump station and associated force main. The changes simplify the grading and Geomembrane installation

The changes impact the following drawings.
For 6A-South:

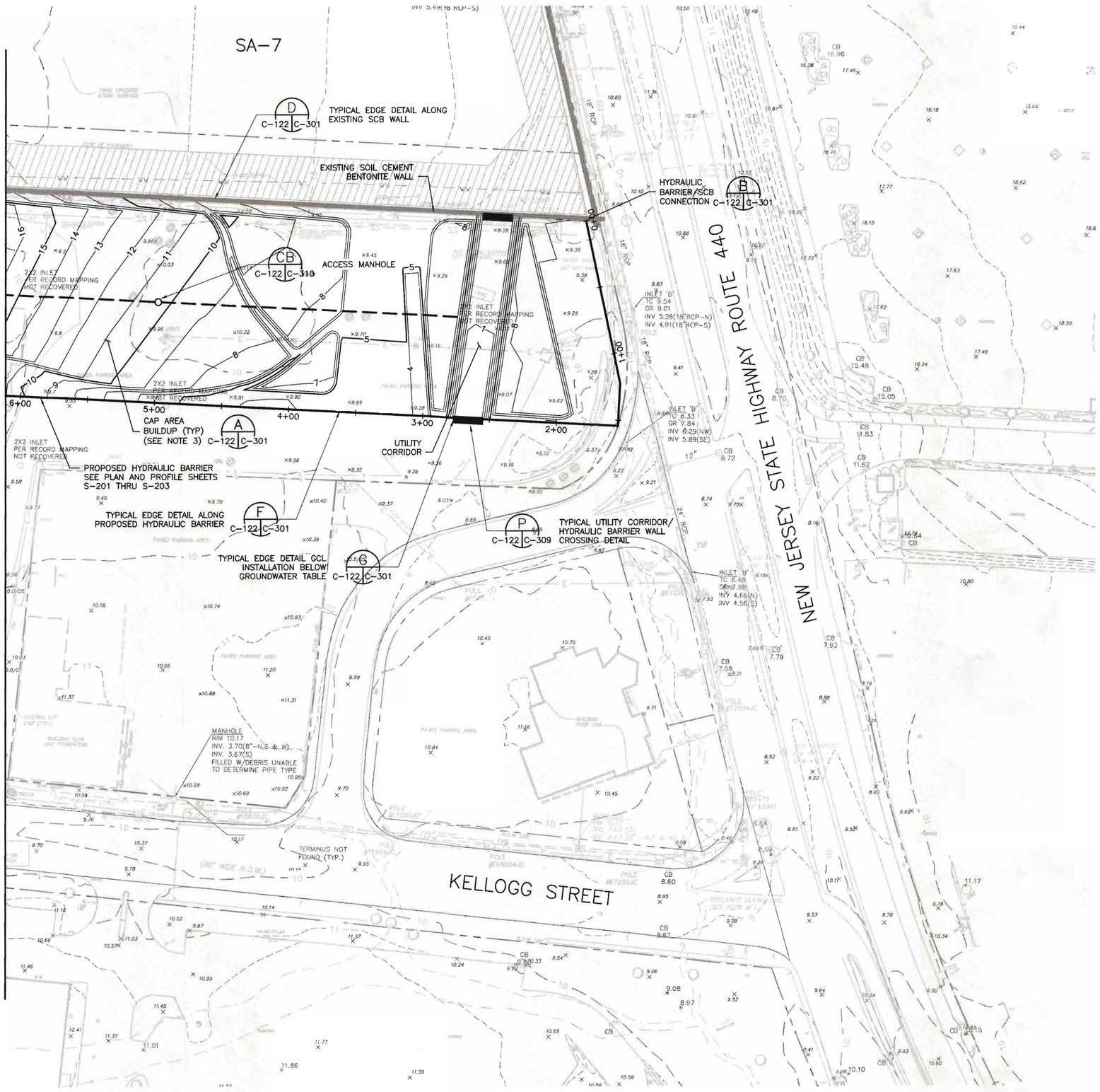
- C-122
- C-123
- C-124

For 6A-North:

- CN-123
- CN-124

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Design changed based on information gathered during construction Attachments: ☑ Yes ☐ No Cost Implication: ☑ Yes ☐No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected: Contingent GW system one line electrical design.
Honeywell (AP) Review: Individual Discipline	Initial Date
(Name / Signature): 2/24/15	Does DCB Result in CCO? ☑ Yes (b) ☐ No Date:
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. CONTOURS DEPICTED ON THIS SHEET REPRESENT THE SUBGRADE ELEVATIONS (NGVD 29) FOR LINER SYSTEM INSTALLATION

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	02/24/15	TDD	RJR	TDD	SHM	TDD	SGS
0	06/07/13	TDD	TDD	TDD	TDD	TDD	SHM

REVISION

DCB 007.5

ISSUED FOR CONSTRUCTION

SHM NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

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STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
GEOMEMBRANE GRADING PLAN

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Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28019900

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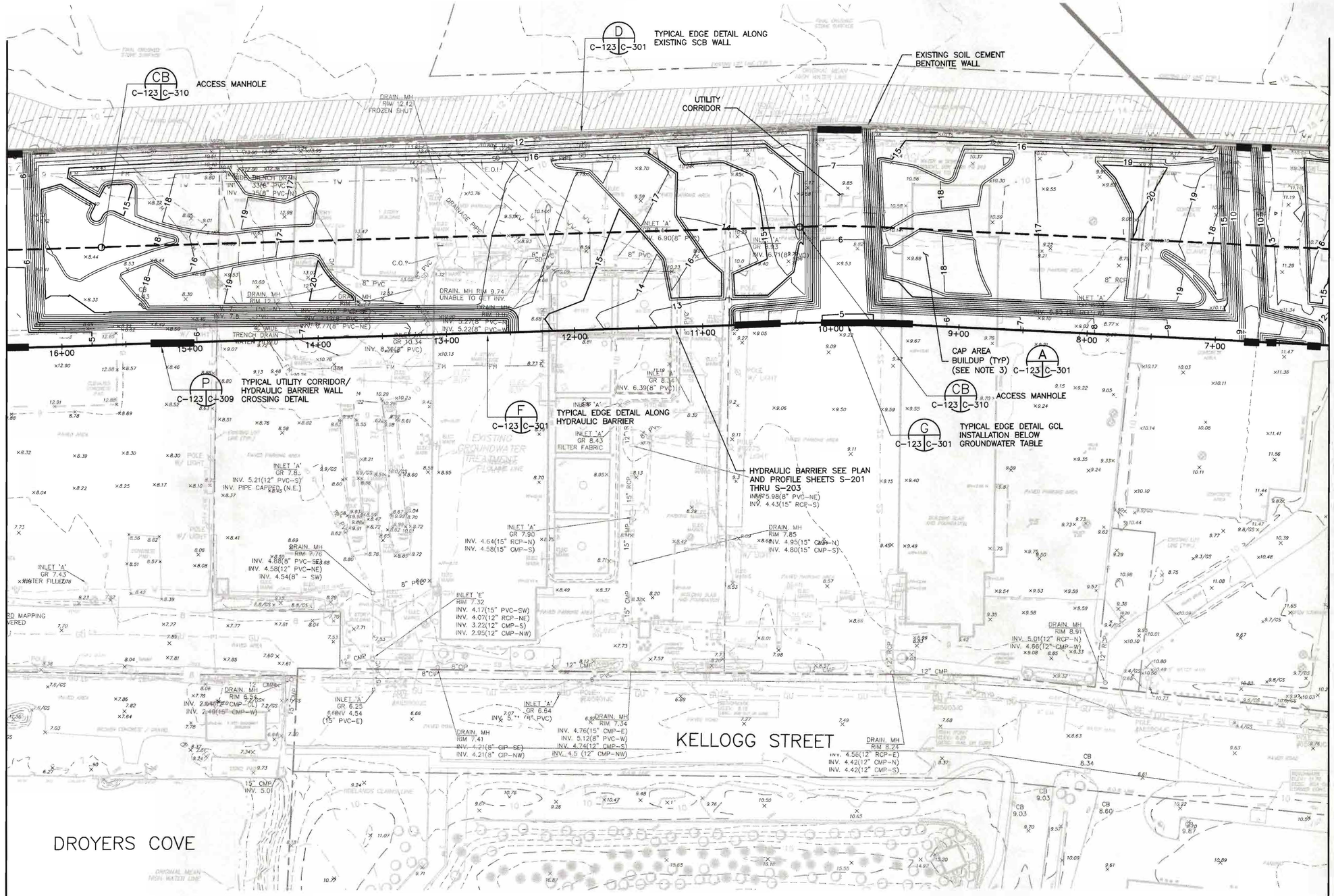
DATE	
PROJ	3480-12-0317
DWG	C-122
SHEET	27 OF 66



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NO.	DATE	DSGN	DR	CHK	APVD
1	02/24/15	TDD	TDD	TDD	SGS
0	06/07/13	TDD	SHM	SHM	APVD

REVISION BY

DCB 007.5
ISSUED FOR CONSTRUCTION

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
GEOMEMBRANE GRADING PLAN

amec
Environment & Infrastructure, Inc.
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Hamilton, NJ, 08619
(609) 989 - 2829
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VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-123
SHEET	28 OF 66

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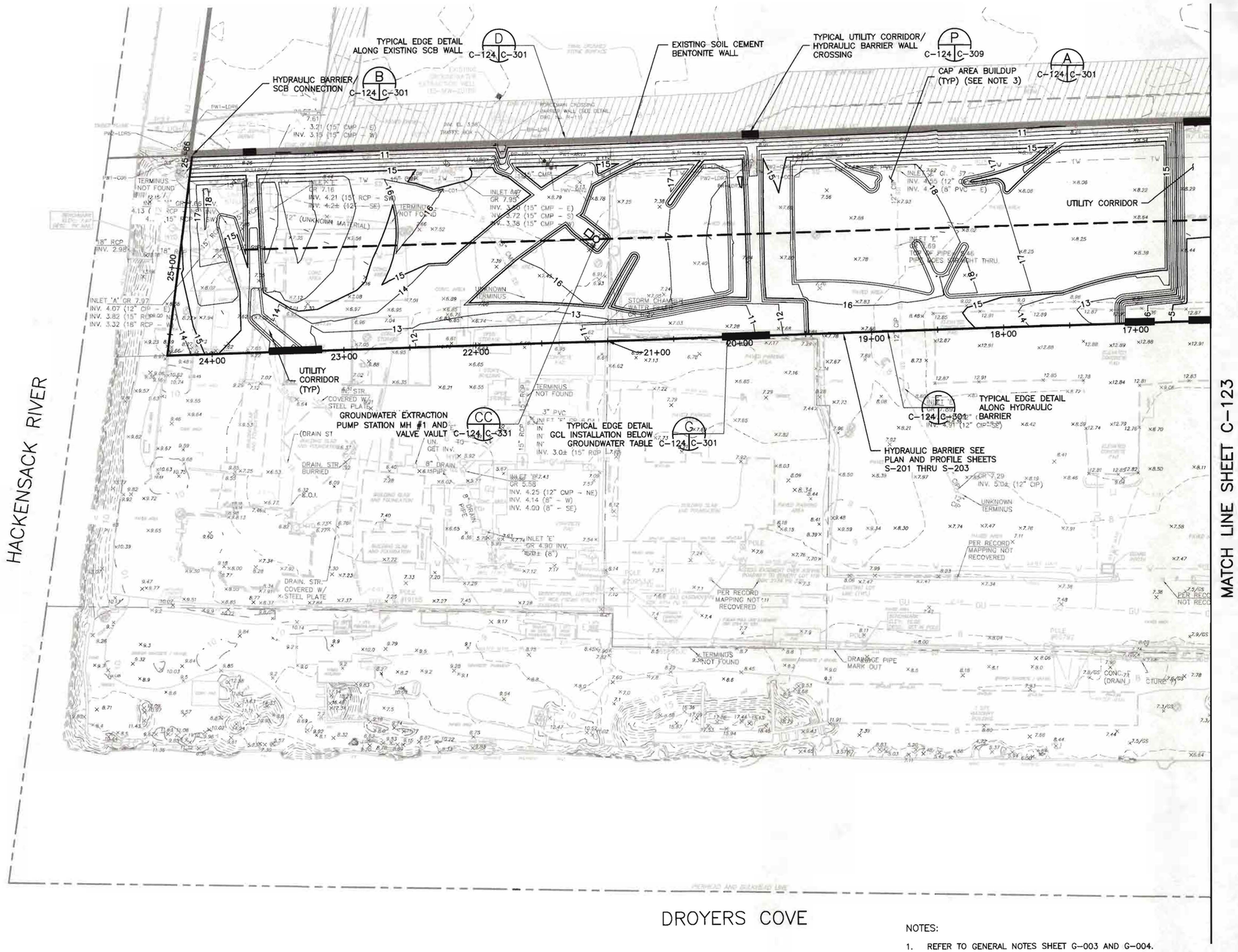
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR28-C-123 Geomembrane Grading Plan.dwg PLOT DATE: Tue, 24 Feb 2015 PLOT TIME: 2:25 PM



NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. CONTOURS DEPICTED ON THIS SHEET REPRESENT THE SUBGRADE ELEVATIONS (NGVD 29) FOR LINER SYSTEM INSTALLATION

0 20 40 80
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APV'D	BY	APV'D
2	02/24/15	TDD				TDD	SGS
1	10/11/13	RJR				RJR	SGS
0	06/07/13	TDD				TDD	SHM

DCB 007.5
MODIFIED BARRIER WALL ALIGNMENT
ISSUED FOR CONSTRUCTION
REVISION

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
SHM

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101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
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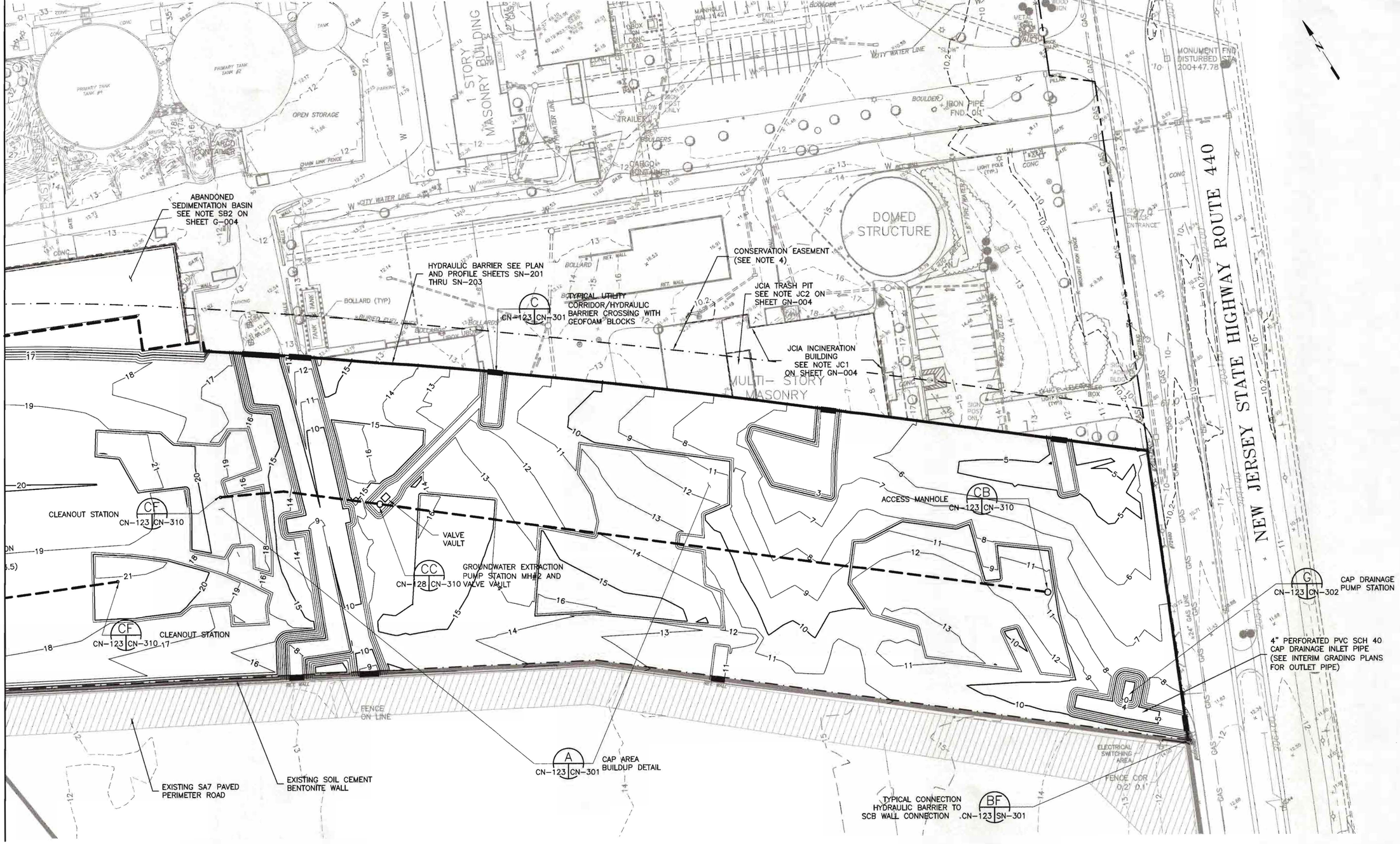
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR29-C-124 Geomembrane Grading Plan.dwg PLOT DATE: Tue, 24 Feb 2015 PLOT TIME: 2:29 PM



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE LINEAR LOW DENSITY POLYETHYLENE MEMBRANE (60 MIL) LINER/ TO OF SUBGRADE.
4. CONSERVATION EASEMENT REPRESENTS THE LIMIT OF THE RESTRICTED AREA PER THE CONSENT DECREE.

NO.	DATE	REVISION	BY	APVD
1	02/24/15	DCB 007.5	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

GEOMEMBRANE GRADING PLAN

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PROJ	3480-12-0317
DWG	CN-123
SHEET	28 OF 70

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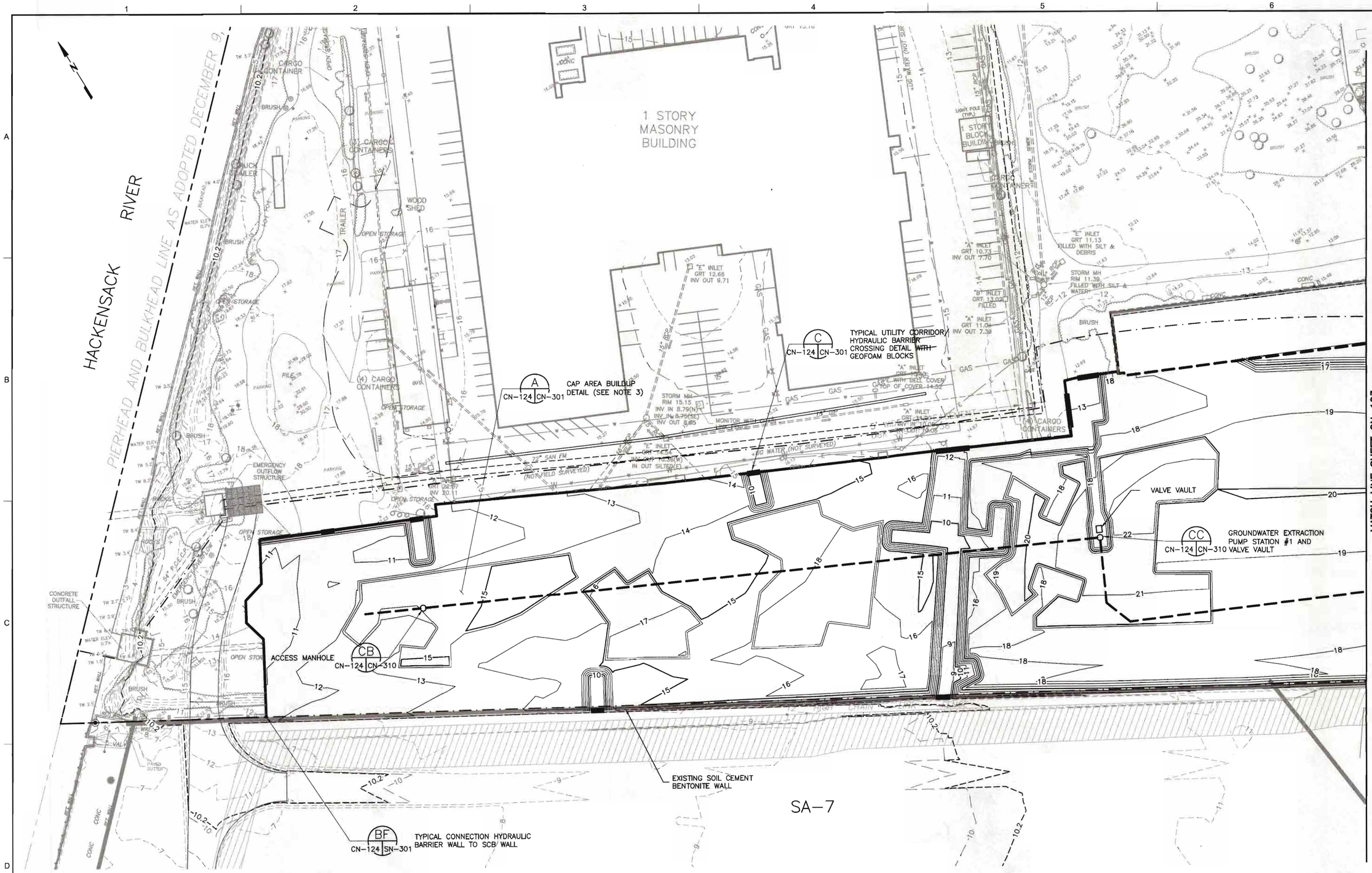
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR28-C-123 Geomembrane Grade.dwg PLOT DATE: Tue, 24 Feb 2015 PLOT TIME: 2:33 PM



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE LINEAR LOW DENSITY POLYETHYLENE MEMBRANE (60 MIL) LINER/ TOP OF SUBGRADE.
4. CONSERVATION EASEMENT REPRESENTS THE LIMIT OF THE RESTRICTED AREA PER THE CONSENT DECREE.

NO.	DATE	DSGN	DR	CHK	APVD	REVISION
2	02/24/15	TDD	TDD	RJR	TDD	DCB 007.5
1	09/13/13	RJR	SGS	SGS	SGS	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM
0	06/07/13	TDD	SGS	SGS	SGS	ISSUED FOR CONSTRUCTION

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
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DRAWING STATUS
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PROJ	3480-12-0317
DWG	CN-124
SHEET	29 OF 70

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR29-C-124 Geomembrane Grade.dwg PLOT DATE: Wed, 25 Feb 2015 PLOT TIME: 7:42 AM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6, Jersey City, New Jersey	**DCB No.: 011, Minor(a)** **Effective Date: 7/28/14**
Project Location: SA-6 North & South	**Associated RFI:**
Title: Revised Monitoring Well Abandonment Plan Tables	☐ Yes, RFI No. _____ ☒ None **Project No.: 3480130377**
Contractor (*Subcontractor*): ENTACT	

Description of Change/Modification:

Revised tables of wells to be abandoned and retained are provided. The designation (abandon/retain) of several wells has been modified to accommodate the changing site conditions and future work at the site.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☒ Design Revision ☐ Owner/Client Request ☐ Other (describe)	**Explanation or Reason:** Clarify well abandonment requirements **Attachments:** ☒ Yes ☐ No **Cost Implication:** ☐ Yes ☒ No **>$50K** ☐ Yes ☒ No **Schedule Impact** ☐ Yes ☒ No
Additional Comments:	**Design Documents Affected:** Appendix A-2, Monitoring Well Abandonment Plan Tables
Honeywell (AP) Review: **Individual: Geoff Shallard Discipline: EOR**	**Initial** GS **Date** 7/30/14
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☒ No **Date**

Distribution: Caroline Panico, ENTACT; Adam Ewert, ENTACT; Keith Goisse, ENTACT; Kurt Gimbel, ENTACT; Dennis Nagg, Amec; Stuart Bills, Amec; David Ambrose, Amec

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval.
(b) – If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

TABLE 1a
PROPOSED SHALLOW ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
SA-6 North	087	087-EW-4 (aka 087-MW-142)	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-EW-5	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-EW-6	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-EW-7	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-001	**Abandon**	S-3 Injection Program	Plaintiffs Requested Monitoring of this Well
		087-MW-101	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-102	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-103	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-104	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-105	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-106 (aka 087-MW-121)	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-106	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-107	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-108	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-109	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-110	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-111	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-112	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-113	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-114	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-115	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-116	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-117	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-118	**Retain**	Non-Cr - JCDPW-1B UST AOC	Post remediation GW monitoring
		087-MW-119	**Retain**	Non-Cr - JCDPW-1B UST AOC	Post remediation GW monitoring
		087-MW-120	**Retain**	Non-Cr - JCDPW-1B UST AOC	Post remediation GW monitoring
		087-MW-121 (aka 087-MW-106)		See Above	

* Retain if feasible, monitoring well is in excavation area.

TABLE 1a
PROPOSED SHALLOW ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
		087-MW-122	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-123	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-124	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-125	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-126	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-127	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-128	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-129	**Retain**	Non-Cr - JCMUA-1A UST AOC	UST AOC Monitoring
		087-MW-140	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-141	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-142 (aka 087-EW-4)	See Above		
		087-MW-A26	**Retain***	Site-wide LTMP	Shallow GW level monitoring near Rt. 440 sewers
		087-MW-I30	Retain	None	
		087-MW-O19	Abandon	None	
		087-MW-O23	**Retain**	Non-Cr - CEA	Monitoring for CEA
		087-MW-O29	**Retain**	In-Situ	Monitoring GW for In-Situ Program
		087-MW-S19	Abandon (hold off)	None	
		087-MW-U28	Abandon	None	
		087-MW-W25	Abandon	None	
		087-MW-Y20	Abandon	None	
		ME-02 (aka 087-SB-410)	Abandon	Geotech - Methane Monitoring	
		ME-03 (aka 087-SB-409)	Abandon	Geotech - Methane Monitoring	
		ME-04 (aka 087-SB-408)	Abandon	Geotech - Methane Monitoring	
		087-PZ-001	Abandon	None	
		087-PZ-003	Abandon	None	

* Retain if feasible, monitoring well is in excavation area.

TABLE 1a
PROPOSED SHALLOW ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
		087-PZ-005	Abandon	None	
	088	088-MW-001	**Retain***	Site-wide LTMP	Shallow GW level monitoring near Rt. 440 sewers
		088-MW-002	Abandon	None	
		088-MW-101	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	Monitoring for EAISB Program
		088-MW-102	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	Monitoring for EAISB Program
		088-MW-103	Abandon	Non-Cr - JCIA-1A UST AOC	Monitoring for EAISB Program
		088-MW-105	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-106	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-107	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-108	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-109	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-110	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-111	**Retain**	Non-Cr - JCIA-1B UST AOC	Post remediation GW monitoring
		088-MW-112	**Retain**	Non-Cr - JCIA-1B UST AOC	Post remediation GW monitoring
		088-MW-113	**Retain**	Non-Cr - JCIA-1B UST AOC	Post remediation GW monitoring
		088-MW-114	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-115	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-G19	Abandon	None	
		ME-01 (aka 088-SB-306)	Abandon	Geotech - Methane Monitoring	
		088-PZ-001	Abandon	None	
		088-PZ-003	Abandon	None	
SA-6 South	73	073-MW-3	**Retain**	None	
		073-MW-4	Abandon	None	
		073-MW-5	Abandon	None	
		073-MW-BB11	Abandon	None	
		073-MW-Y10	Abandon	None	
		073-PZ-001	Abandon	None	
	124	124-MW-01	Abandon		

* Retain if feasible, monitoring well is in excavation area.

TABLE 1a
PROPOSED SHALLOW ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
		124-MW-02	Abandon	None	
		124-MW-07	Abandon		
		124-MW-09	Abandon		
		124-MW-10	**Retain**	None	Potential additional offsite GW monitoring
		124-MW-11	**Retain**	None	Potential additional offsite GW monitoring
		ME-01 (aka 124-SB-503)	Abandon	Geotech - Methane Monitoring	
	125	125-MW-01	Abandon	None	
		ME-02 (aka 125-SB-501)	Abandon	Geotech - Methane Monitoring	
		125-PZ-001	Abandon	None	
		125-PZ-003	Abandon	None	
	134	134-MW-01	Abandon		
		134-MW-02	**Retain**	Non-Cr - CEA	Quarterly source area monitoring for MNA
		134-MW-Q08	Abandon	None	
		134-MW-V09	**Retain**	Non-Cr - CEA	Quarterly source area monitoring for MNA
		ME-03 (aka 134-SB-503)	Abandon	Geotech - Methane Monitoring	
		ME-04 (aka 134-SB-504)	Abandon	Geotech - Methane Monitoring	
		134-PZ-001	Abandon	None	
		134-PZ-003	Abandon	None	
	140	140-MW-01	Abandon		
		140-MW-04	**Retain**	Non-Cr - CEA	Monitor for previous owner's MNA/CEA program
		140-MW-06	Abandon	None	
		140-MW-07	Abandon	None	

* Retain if feasible, monitoring well is in excavation area.

TABLE 1a
PROPOSED SHALLOW ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
		140-MW-08	Retain	Non-Cr	In Non-Cr Former UST AOC Excavation
		140-MW-1R	**Retain**	Non-Cr - CEA	Monitor for previous owner's MNA/CEA program
		140-PZ-001	Abandon	None	
		140-MW-106	Abandon	None	
	163	163-MW-1	**Retain**	Non-Cr - CEA	Monitoring for CEA
		163-MW-CC8R	Abandon		
		163-MW-R05	Abandon	None	
		163-MW-2R	**Retain**	Non-Cr & Chromium	Quarterly monitoring of VOC plume fringe (See Table 1b)
		163-MW-Y6R	Abandon		

* Retain if feasible, monitoring well is in excavation area.

* Retain if feasible, monitoring well is in excavation area.

TABLE 1b
PROPOSED SHALLOW ZONE WELLS
FOR POST-REMEDY INSTALLATION

	Added to list of wells to be abandoned
	Removed from list of wells to be abandoned

Study Area	Well	New / Replace / Retain	Related Monitoring Program	Reason to Install
SA-6 North	115-W1-SO	Retain	SA-6 North LTMP	Monitor hydraulic gradients across SA-7 SCB
	115-W6-SO	Retain	SA-6 South LTMP	Monitor hydraulic gradients across SA-7 SCB
	115-E4-SO	Retain	SA-6 North LTMP	Monitor hydraulic gradients across SA-7 SCB
	115-E5-SO	Retain	SA-6 North LTMP	Monitor hydraulic gradients across SA-7 SCB
	SA6N-PZ1-SI	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ1-SO	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ2-SI	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ2-SO	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ3-SI	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ3-SO	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ4-SI	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ4SO	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ5-SI	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ5-SO	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
SA-6 South	115-E1-SO	Abandon	SA-6 South LTMP	Monitor hydraulic gradients across SA-7 SCB
	115-E1A-SO	Retain	SA-6 South LTMP	Monitor hydraulic gradients across SA-7 SCB
	115-W3-SO	Retain	SA-6 South LTMP	Monitor hydraulic gradients across SA-7 SCB
	115-W5-SO	Retain	SA-6 South LTMP	Monitor hydraulic gradients across SA-7 SCB
	SA6S-PZ1-SI	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ1-SO	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ2-SI	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ2-SO	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ3-SI	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ3-SO	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ4-SI	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ4SO	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier

* Retain if feasible, monitoring well is in excavation area.

TABLE 1b
PROPOSED SHALLOW ZONE WELLS
FOR POST-REMEDY INSTALLATION

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Well	New / Replace / Retain	Related Monitoring Program	Reason to Install
	SA6S-PZ5-SI	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ5-SO	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-MW-01	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-02	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-03	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-04	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-05	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-06	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-07	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-08	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-09	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-10	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-11	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	163-MW-2R (SA6S-MW-12)	Retain	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC

* Retain if feasible, monitoring well is in excavation area.

TABLE 2
PROPOSED INTERMEDIATE ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
SA-6 North	087	087-MW-13	**Retain**		
		087-MW-A26D	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		087-MW-W25D	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		087-MW-O29D	**Retain**	S-3 Injection	Monitor S-3 Injection
		087-MW-O19D	**Retain***	GWET LTMP	Annual GWET LTMP water quality sampling
		087-MW-35	Abandon	GWET LTMP	
		087-OBS-1D	**Retain**	GWET LTMP	
		087-OBS-1L	**Retain**	GWET LTMP	
		087-OBS-2D	**Retain**	GWET LTMP	
		087-OBS-3L	**Retain**	GWET LTMP	
		087-OBS-5D	**Retain**	GWET LTMP	
		087-OBS-6D	Abandon	GWET LTMP	
		087-PZ-002	Abandon	SA-6N Design Investigation	
		087-PZ-004	Abandon	SA-6N Design Investigation	
		087-PZ-006	Abandon	SA-6N Design Investigation	
	088	088-MW-15	**Retain**	GWET LTMP	Define regional flow direction quarterly
		088-PZ-002	Abandon	SA-6N Design Investigation	
		088-PZ-004	Abandon	SA-6N Design Investigation	
SA-6 South	73	073-PZ-002	Abandon	SA-6S Design Investigation	
	124	124-MW-102D	Abandon	Deep Overburden Invest.	
		124-MW-103D	Abandon	Deep Overburden Invest.	
		124-MW-104D	Abandon	Deep Overburden Invest.	
		124-MW-105D	Abandon	Deep Overburden Invest.	
		124-MW-GO2D	**Retain**	Deep Overburden Invest.	Define regional flow direction quarterly
	125	125-PZ-002	Abandon	SA-6S Design Investigation	
		125-PZ-004	Abandon	SA-6S Design Investigation	
	134	134-PZ-002	**Retain**	SA-6S Design Investigation	Define regional flow direction quarterly
		134-PZ-004	Abandon	SA-6S Design Investigation	
	140	140-PZ-002	Abandon	SA-6S Design Investigation	
		140-MW-P05D	**Retain**	Deep Overburden Invest.	Define regional flow direction quarterly

TABLE 2
PROPOSED INTERMEDIATE ZONE WELLS
FOR ABANDONMENT / RETAINMENT

SA-7	115	115-E1-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E1-DO	Abandon	SA-7 Perimeter Pools	
		115-E2-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E2-DO	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E3-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E3-DO	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E4-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E4-DO	Abandon	SA-7 Perimeter Pools	
		115-E5-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E5-DO	Abandon	SA-7 Perimeter Pools	
		115-E6-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E6-DO	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-MW-17	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-MW-20	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-MW-A12T	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-MW-E14D	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-MW-U14D	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-W1-DO	Abandon	SA-7 Perimeter Pools	
		115-W4-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-W4-DO	Abandon		

*Optionally, to be re-located north of the open space area

TABLE 3
PROPOSED DEEP ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
SA-6 North	087	087-MW-A26T	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		087-MW-W25T	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		087-OBS-1T	**Retain**		
		087-OBS-4T	**Retain**	GWET LTMP	Monitor GWET drawdown
		087-OBS-5T	**Retain**		
		087-MW-01	**Retain**	GWET LTMP	Monitor S-3 Injection
		087-MW-02	**Retain**		
		087-MW-03	Abandon	None	
		087-MW-08	**Retain**		
		087-MW-34	**Retain**		
		087-IW-01	**Retain**	S-3 Injection	Inject and monitor S-3 Injection
	088	088-MW-G19T	**Retain**	S-3 Injection	Monitor S-3 Injection
		088-IW-01	**Retain**	S-3 Injection	Inject and monitor S-3 Injection
		088-IW-02	**Retain**	S-3 Injection	Inject and monitor S-3 Injection
SA-6 South	124	124-MW-GO2T	**Retain**	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-102T	Abandon	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-103L	Abandon	Plume Diversion	Collect In-situ groundwater sample prior to capping
		124-MW-104T	Abandon*	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-104L	**Retain***	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-105T	**Retain***	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-106T	**Retain***	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-107T	Abandon	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-06	Abandon	None	
SA-7	115	115-MW-04	**Retain**		
		115-MW-05	**Retain**		

		115-MW-21	**Retain**		
		115-MW-E14T	**Retain**		
		115-MW-U14T	**Retain**		
Offsite, South of SA-6 South	119	119-MW-01T	**Retain**	Plume Diversion	"L-Well" Monitoring Plan Sampling
		119-MW-02T	**Retain**	Plume Diversion	"L-Well" Monitoring Plan Sampling

* Retain if feasible, monitoring well is in excavation area.
*Abandon: monitoring well could not be retained durnig excavation.

TABLE 4
PROPOSED BEDROCK WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
SA-6 North	087	087-MW-O29T	Abandon	None	
		087-MW-I30T	Abandon	None	
		087-MW-14	Abandon	None	
SA-6 South	073	073-MW-1BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		073-MW-10BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
	119	119-MW-16BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
	124	124-MW-8BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		124-MW-17BR-1	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		124-MW-17BR-2	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
	140	140-MW-9BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
SA-7	115	115-MW-208BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		115-MW-211BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		115-MW-215BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		115-MW-216BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling

Honeywell RES

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6, Jersey City, NJ	**DCB No.: 013** **DCB Type: Minor (a)** Effective Date: 8/13/14
Project Location: SA-6 NORTH, SA6-SOUTH	**Associated RFI:** ☐ Yes, RFI No. ____ ☑ None
Title: Barrier Wall Sedimentation Basin	
	Project No.: 3480130377
Contractor (Subcontractor): Entact	

Description of Change/Modification:

The Barrier wall will be realigned through the Sedimentation Basin to reduce the number of corners and reduce the potential for conflicts with the existing timber piles that support the sedimentation basin and over-pour of concrete at edge details. The alignment will be moved approximately 4 ft north of the existing alignment and 8 ft. east of the existing alignment as shown on the attached Durabond Steel drawing.

In addition where the Barrier Wall alignment is north of the centerline (as shown on Amec drawing CN-515 and the Dura-Bond Drawing), the top of the barrier wall will be installed at approximately elevation 12. The cap in the northern half of Stegman Ave would be depressed to approximately elevation 12 as shown on the annotated section Sta. 209+00. There are no proposed changes to the approved 100% Design detail of liner installation over the barrier wall.

These changes will provide a wider utility corridor in the future Stegman Boulevard and allow for additional clearance between the liner and future Bayfront utilities.

As noted in Section 10.1.9 of the Chromium Remedy 100% Design Report, it was contemplated that the barrier wall may be subject to further minor changes in alignment following pre-trenching and verification of pile locations.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	**Explanation or Reason:** Simplify barrier wall fabrication detailing and reduce potential conflict with future Bayfront utilities		
	Attachments:	☑ Yes	☐ No
	Cost Implication:	☐ Yes	☑ No
	>$50k	☐ Yes	☑ No
	Schedule Implication	☐ Yes	☑ No
Additional Comments:	**Design Documents Affected:** **CN-123, CN-124, SN-202, CN-503, CN-515, CN-516**		

Honeywell (AP) Review:

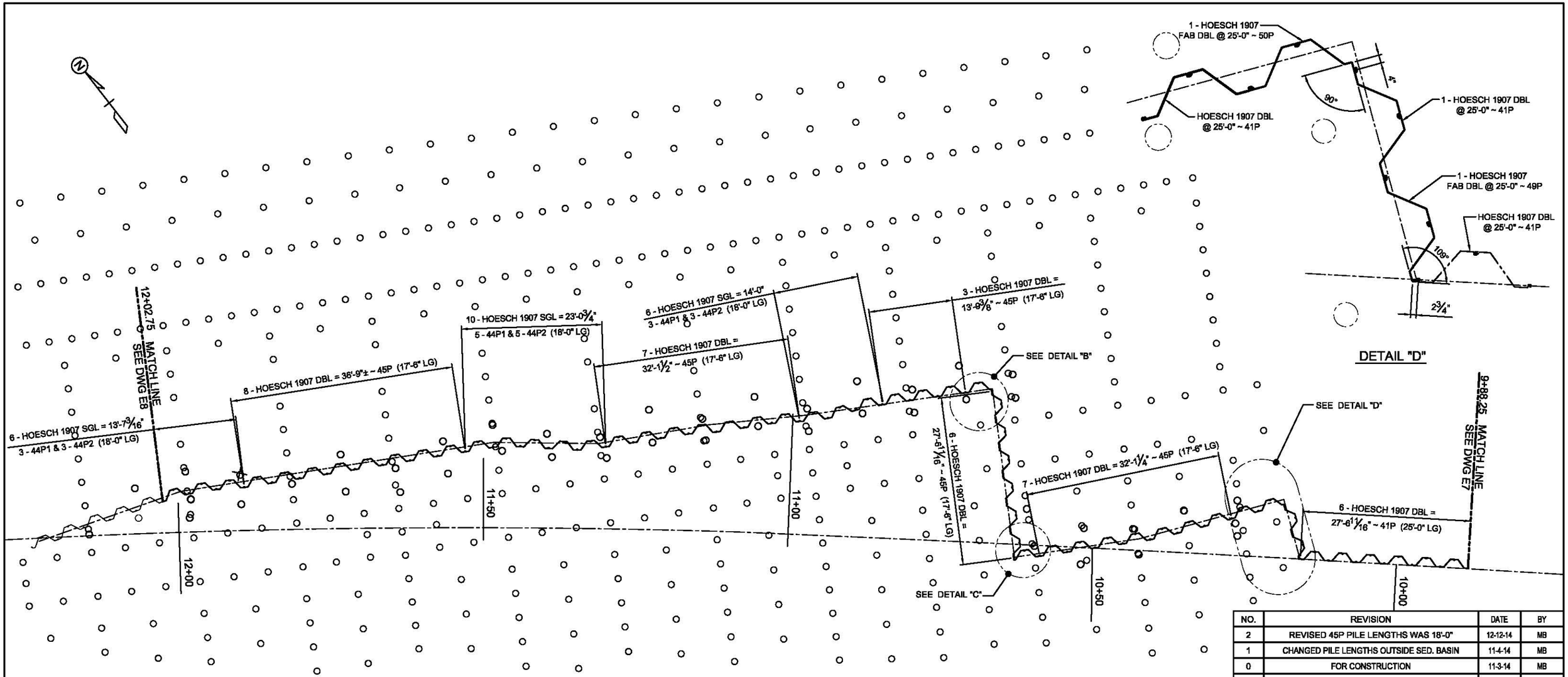
Individual:	**Discipline:**	**Initial**	**Date**

(Name / Signature):	**Does DCB Result in CCO?**	☐ Yes (b) ☑ No
		Date: 6/4/15

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval

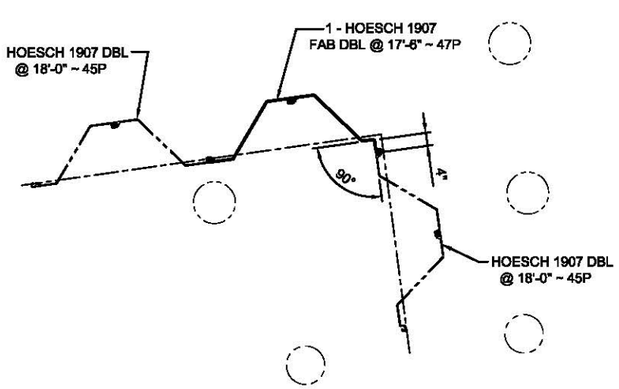
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



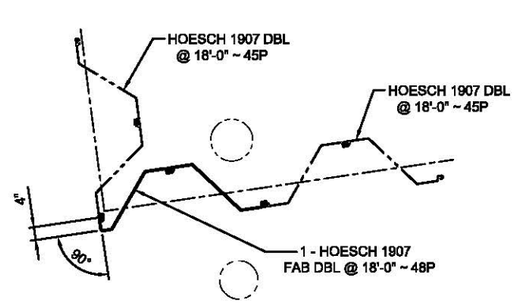
DETAIL "D"

PARTIAL SHEET PILE LAYOUT
SA-NORTH BARRIER WALL
(PER AMEC CAD FILE: HBW ALIGNMENT CHANGE LAYOUT)

FOR CONSTRUCTION
11-3-14



DETAIL "B"



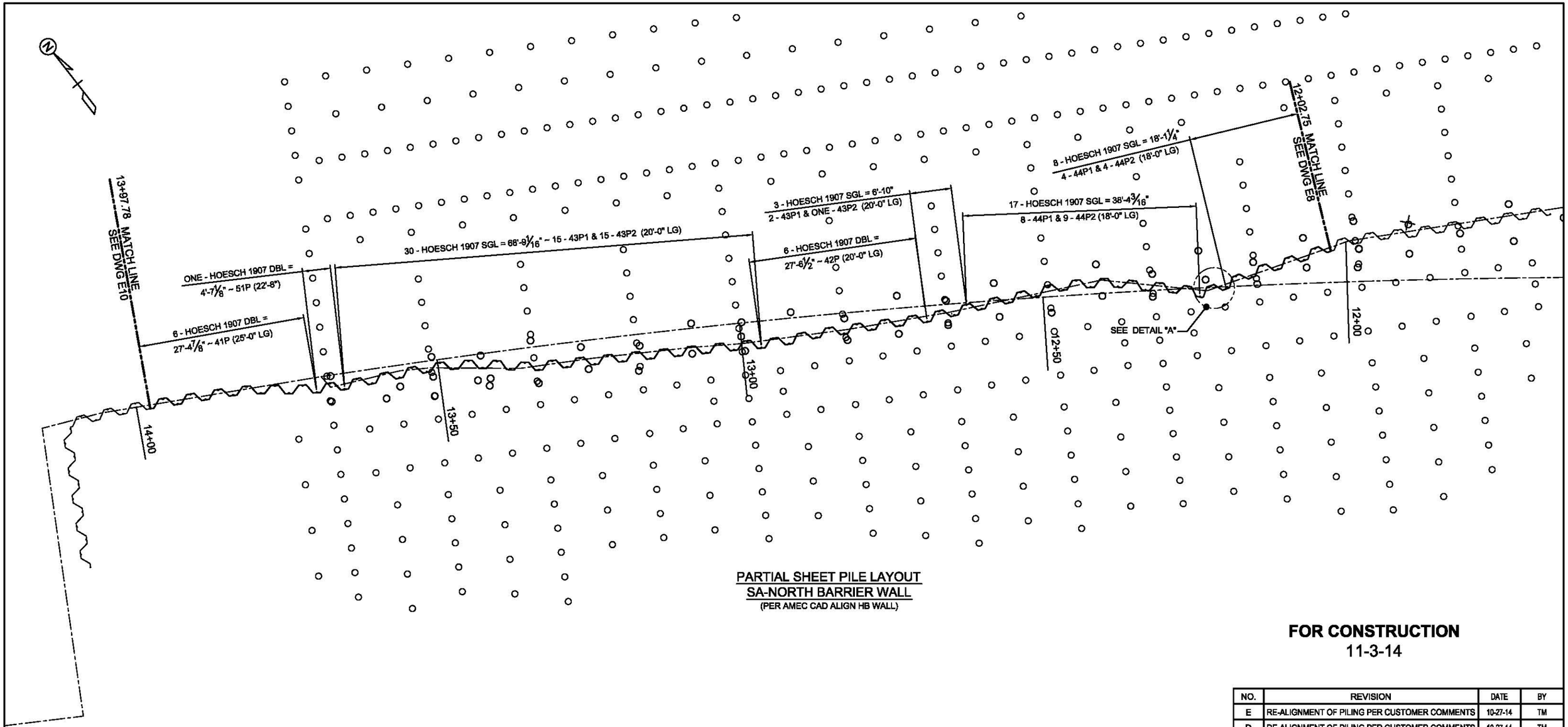
DETAIL "C"

LEGEND

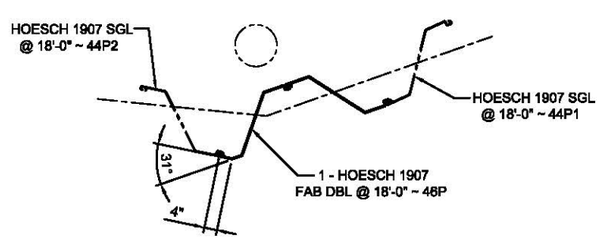
NO.	REVISION	DATE	BY
2	REVISED 45P PILE LENGTHS WAS 18'-0"	12-12-14	MB
1	CHANGED PILE LENGTHS OUTSIDE SED. BASIN	11-4-14	MB
0	FOR CONSTRUCTION	11-3-14	MB
G	RE-ALIGNMENT OF PILING PER CUSTOMER COMMENTS	10-27-14	TM
F	RE-ALIGNMENT OF PILING PER CUSTOMER COMMENTS	10-27-14	TM
E	REVISED ALIGNMENT OF PILING	10-16-14	TM
D	REVISED PILES LENGTHS	9-23-14	MB
C	REVISED PILE ORIENTATION DRIVING	9-1-14	MB
B	PER CUSTOMER COMMENTS	8-27-14	TM
A	REVISED PER DESIGN CHANGE	8-21-14	TM

Dura-Bond Steel
STEEL FABRICATION AND COATING SERVICES FOR THE CONSTRUCTION INDUSTRY
P.O. Drawer 518, 2658 Puckety Street
Export, Pennsylvania 15632
Phone: 724-327-0280 Fax: 724-327-0113
AISC CERTIFICATION

JOB: HONEYWELL
LOCATION: JERSEY CITY, NJ
CUSTOMER: J. D. FIELDS PO# .
ARCH./ENG: AMEC
DESCRIPTION: SA-6 SHEET PILE LAYOUT RUN - N8 - N13
BOLTS: N/A HOLES: N/A
WELD-A.W.S. CODE: N/A
PAINT: SEE DETAILS
DRN: MB 6-30-14
CHKD: TM 9-18-14
JOB NO.: 13-72-142 SHT. NO.: E8



PARTIAL SHEET PILE LAYOUT
SA-NORTH BARRIER WALL
(PER AMEC CAD ALIGN HB WALL)



DETAIL "A"

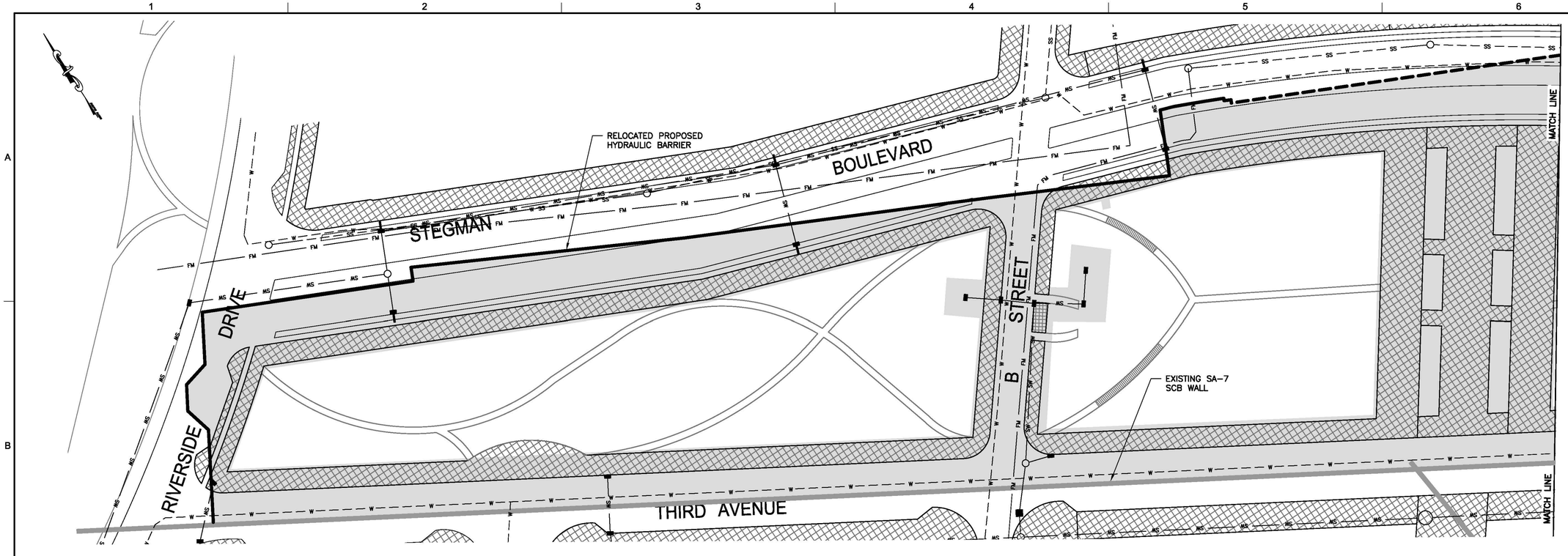
LEGEND

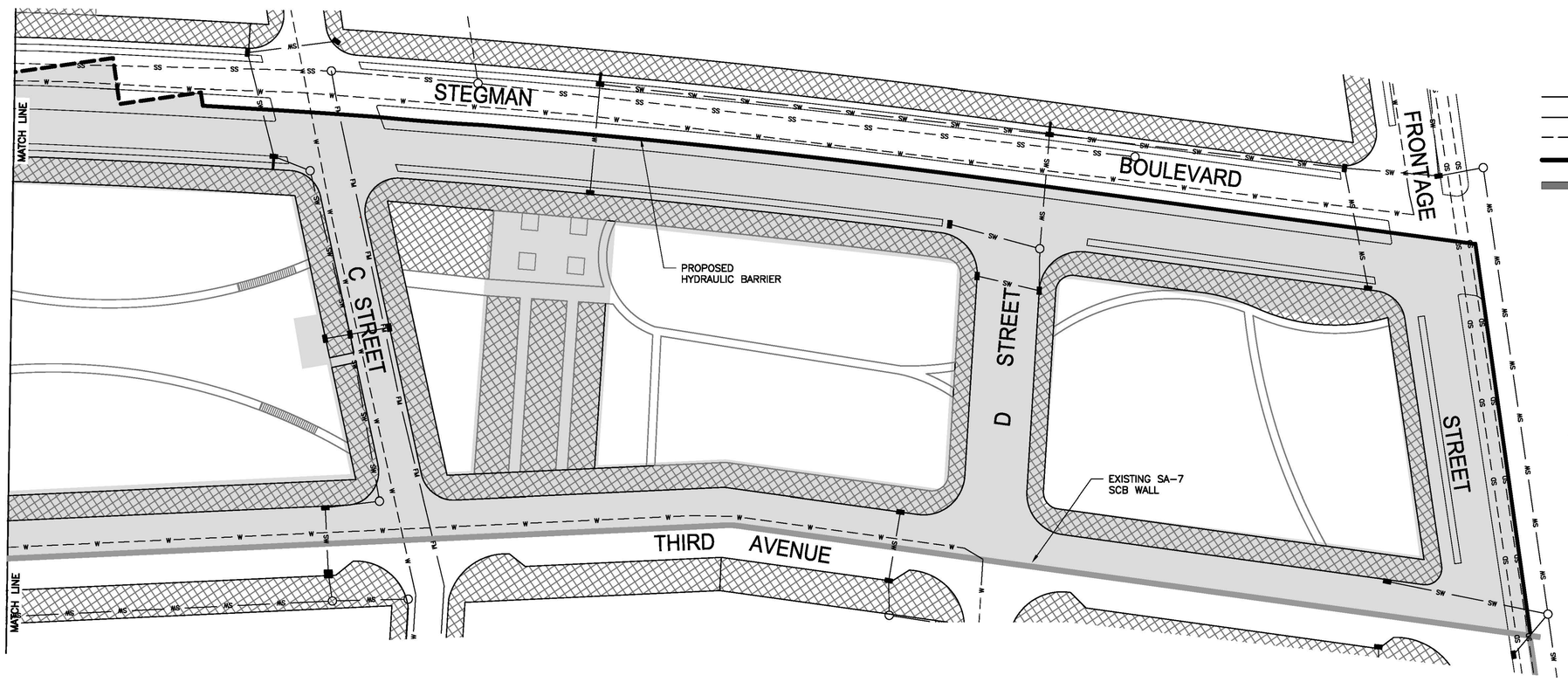
FOR CONSTRUCTION
11-3-14

NO.	REVISION	DATE	BY
E	RE-ALIGNMENT OF PILING PER CUSTOMER COMMENTS	10-27-14	TM
D	RE-ALIGNMENT OF PILING PER CUSTOMER COMMENTS	10-27-14	TM
C	REVISED ALIGNMENT OF PILING	10-16-14	TM
B	REVISED PILE LENGTHS & ADDED MAGNIFIED VIEW	9-23-14	MB
A	REVISED LAYOUT	8-27-14	MB

Dura-Bond Steel
STEEL FABRICATION AND COATING SERVICES FOR THE CONSTRUCTION INDUSTRY
P.O. Drawer 518, 2658 Puckety Street
Export, Pennsylvania 15632
Phone: 724-327-0280 Fax: 724-327-0113
AISC CERTIFICATION

JOB: HONEYWELL
LOCATION: JERSEY CITY, NJ
CUSTOMER: J. D. FIELDS PO# .
ARCH./ENG: AMEC
DESCRIPTION: SA-6 SHEET PILE LAYOUT RUN
BOLTS: N/A HOLES: N/A
WELD-A.W.S. CODE: N/A
PAINT: SEE DETAILS
DRN: MB 6-30-14
CHKD: TM 9-18-14
JOB NO.: 13-72-142 SHT. NO.: E9





LEGEND

- STORM SEWER
- FORCE MAIN
- WATER
- HYDRAULIC BARRIER
- SA-7 SCB WALL
- MANHOLE
- CATCH BASIN
- BRICK PAVING/SIDEWALK
- UTILITY CORRIDOR

NOTES:

1. UTILITY LOCATIONS REPRESENT PRELIMINARY UTILITY LAYOUTS PERFORMED BY CLOUGH HARBOR ASSOCIATES DATED JULY 28, 2011.
2. UTILITY CORRIDORS MAY BE SUBJECT TO AMENDMENT AS UTILITY DESIGNS ARE FINALIZED. AMENDED DESIGN WILL BE SUBJECT TO REVIEW AND APPROVAL CONSISTENT WITH THE CONSENT DECREE.

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
3	08/12/14	DCB 13 HYDRAULIC BARRIER REALIGNMENT	SGS	RJR
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR TDD CHK RJR APVD SGS

Honeywell
101 COLUMBIA RD., BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

UTILITY CORRIDOR LOCATIONS

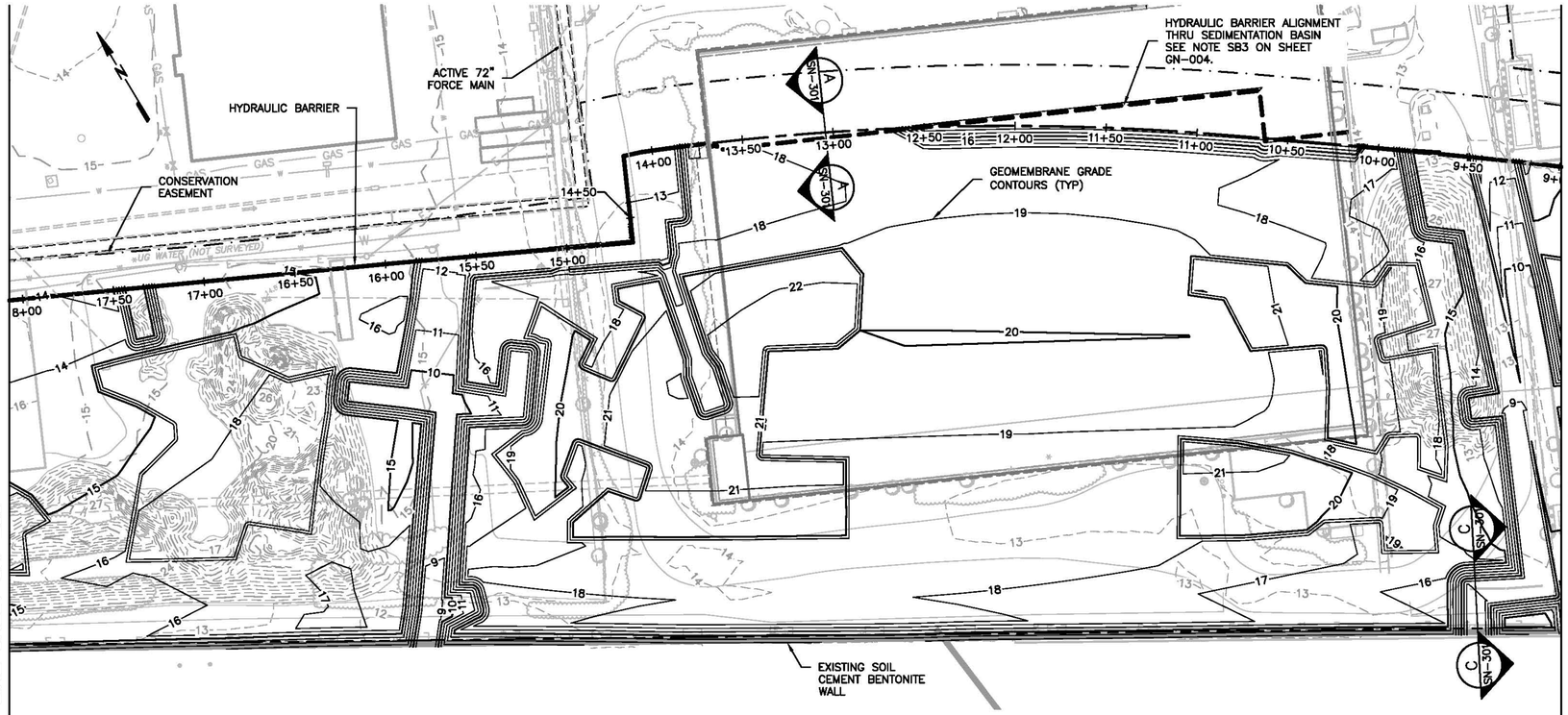
amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 890-2283
NJ Certificate of Authorization Number
24GA28019900

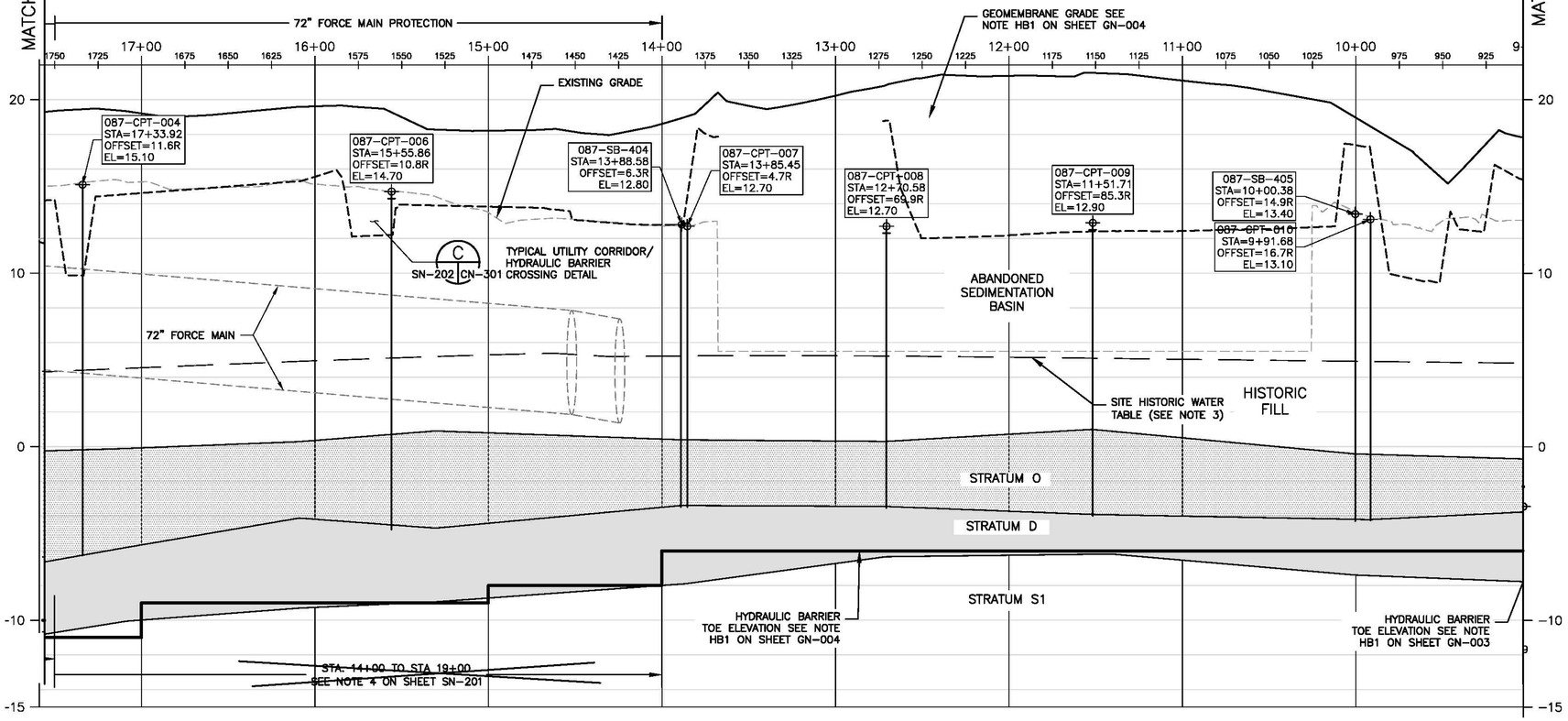
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-515
SHEET	51 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR51-C-515 Corridor Locations.dwg PLOT DATE: Tue, 12 Aug 2014 PLOT TIME: 12:18 PM





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET ON CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE
4. DCB 13. THE HYDRAULIC BARRIER HAS BEEN REALIGNED BETWEEN STA 10+12 TO STA 12+50. THE TOP OF WALL HAS ALSO BEEN LOWERED TO EFFECTIVELY INCREASE THE SIZE OF THE UTILITY CORRIDOR ON THE NORTHERN HALF OF STEGMAN BOULEVARD. REFER TO DRAWINGS CN-123 AND CN-124 FOR ASSOCIATED REVISIONS TO THE GEOMEMBRANE GRADING IN THIS LOCATION.

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700
NON STRUCTURAL	9+85	14+00	-6	AZ 19-700
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700

HORIZONTAL SCALE 0 20 40 80 SCALE IN FEET

VERTICAL SCALE 0 2 4 8 SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
2	08/12/14	DCB 13 HYDRAULIC BARRIER REALIGNMENT	SGS	RJR
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR TDD CHK RJR APVD BCO

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ., 08619
(609) 586-2500
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-202
SHEET	55 OF 70

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No: 014 DCB Type: Minor (a) Effective Date: 9/2/14
Project Location: SA-6 NORTH, SA6-SOUTH	Associated RFI:
Title: Re-align Barrier Wall due to 72 in. FM Field verified location	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): Entact	

In preparation for advancing the installation of the sheet pile barrier wall adjacent to the north/south run of the 72-inch force main a test pit was excavated and two points surveyed on the crown of the pipe which indicated that this run of the 72-inch force main near the sedimentation basin is located approximately 4 ft east of the position shown in the existing conditions drawing. In order to provide a clearance of 25 ft. between the centerline of the 72-inch force main and the barrier wall as previously agreed with PVSC , it is proposed that this small section of the barrier wall will be relocated approximately 4 ft. - 2in. east of the location shown in the 100% Design.

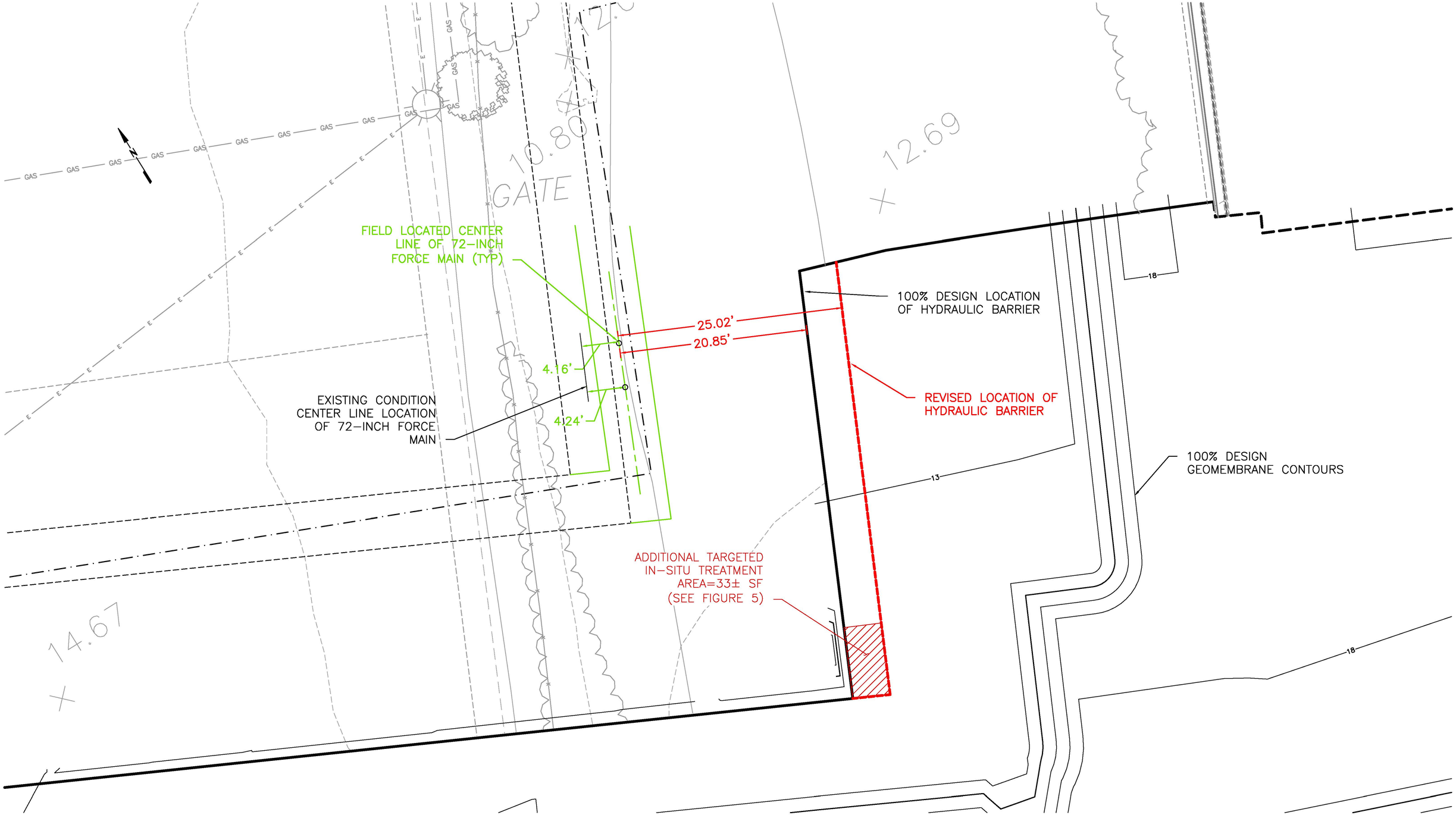
Note: 4 ft. - 2in. corresponds to the width of one sheet pile welded pair.

The proposed barrier wall realignment is shown in the attached Figure 1.

The proposed realignment in this section of the barrier wall will result in an area of approximately 60 sq. ft. where the greater than 20 PPM chromium impacted soils will be located outside of the barrier wall. It is further proposed that this 60 sq. ft. area be added to the area currently designated for in situ treatment because of its proximity to the 72-inch force main.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Modified due to verified location of 72" force main and 25ft set back requirement Attachments: ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected: Geomembrane Subgrade Interim (Final) Grade Barrier Wall Plan and Profile Insitu Treatment Plan
Honeywell (AP) Review: Individual Discipline	Initial Date
(Name / Signature): Samuel G. Shallard 6/4/15	Does DCB Result in CCO? ☐ Yes (b) ☑ No Date: 9/2/14
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

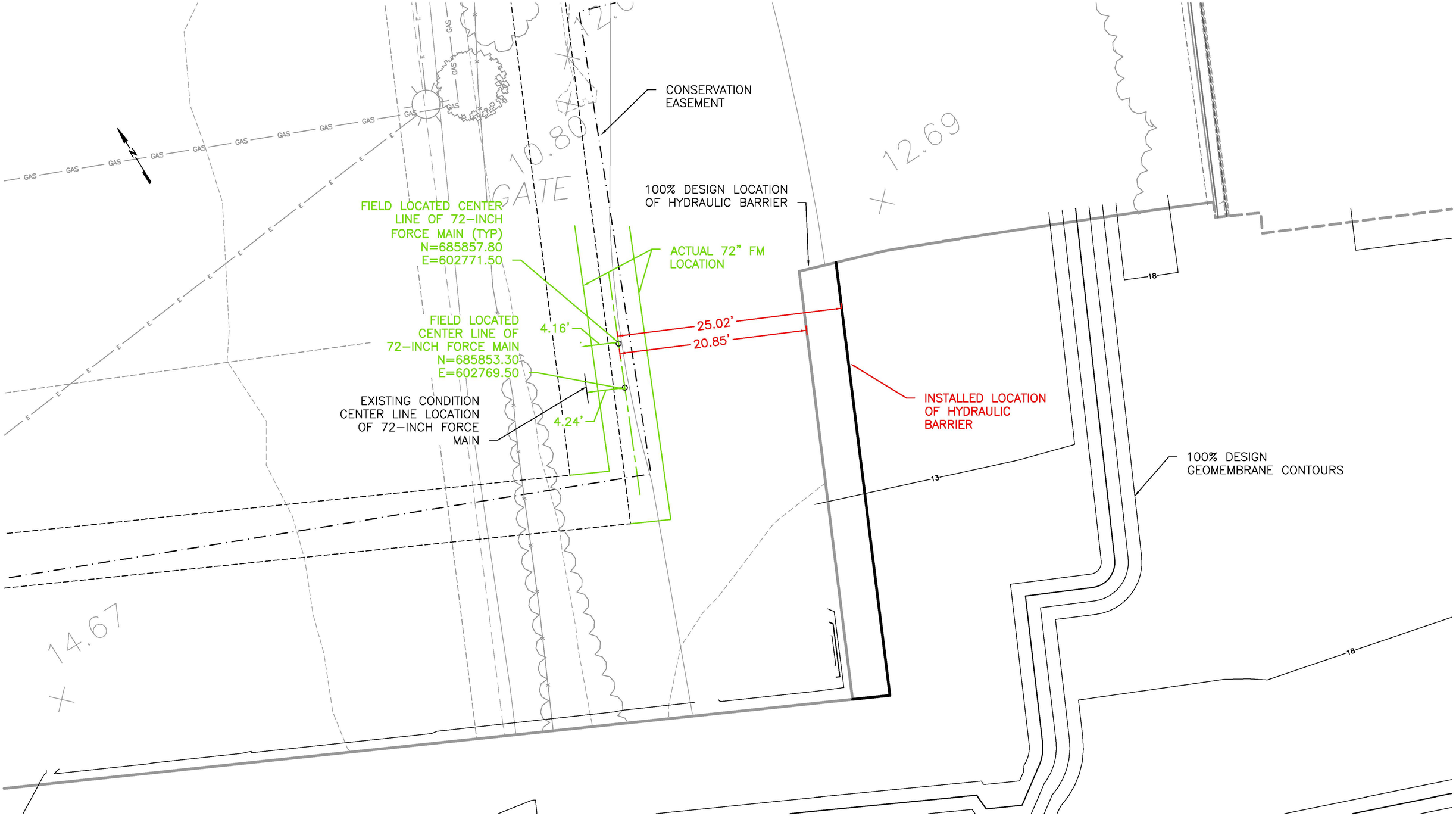
1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE LINEAR LOW DENSITY POLYETHYLENE MEMBRANE (60 MIL) LINER/ TOP OF SUBGRADE.
4. CONSERVATION EASEMENT REPRESENTS THE LIMIT OF THE RESTRICTED AREA PER THE CONSENT DECREE.

0 2.5 5 10
SCALE IN FEET

Prepared/Date: RJR 08/28/14
Checked/Date: SGS 08/28/14

Honeywell 101 COLUMBIA RD. BOX 2105 MORRISTOWN, NJ 07962	CHROMIUM REMEDY STUDY AREA 6 NORTH JERSEY CITY, NEW JERSEY HONEYWELL SITE ID - 37472	amec	DCB 14 HYDRAULIC BARRIER ADJUSTMENT Project 3480-13-0377 Figure 1

Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SAB-CSR\CAD\SAB\1.DB: Percent\Figure_DCB14_Hydraulic_Barrier.dwg Thu, 28 Aug 2014 - 12:49pm roger.foster



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE LINEAR LOW DENSITY POLYETHYLENE MEMBRANE (60 MIL) LINER/ TOP OF SUBGRADE.
4. CONSERVATION EASEMENT REPRESENTS THE LIMIT OF THE RESTRICTED AREA PER THE CONSENT DECREE.

0 2.5 5 10
SCALE IN FEET

Prepared/Date: RJR 12/08/14
Checked/Date: SGS 12/08/14

Honeywell 101 COLUMBIA RD., BOX 2105 MORRISTOWN, NJ 07962	CHROMIUM REMEDY STUDY AREA 6 NORTH JERSEY CITY, NEW JERSEY HONEYWELL SITE ID - 37472	amec	DCB 14 HYDRAULIC BARRIER ADJUSTMENT Project 3480-13-0377 Figure 1

Z:\Projects\HONEYWELL\JERSEY CITY\Dcp Design-SAE-CSS\CAD\SAMR\100 Percent\Figure_DCB14_Hydraulic_Barrier.dwg Mon, 08 Dec 2014 - 4:00pm roger.rigular

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No: 015; DCB Type: Minor(a)**
	Effective Date: 10/31/14
Project Location: SA-6 NORTH and SOUTH	**Associated RFI:**
Title: Asphalt / Concrete under the Cap	☐Yes, RFI No. ____ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): ENTACT	

Description of Change/Modification:

Amec has revised the Soil Management Plan (Appendix G – SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused onsite as backfill or placed underneath the cap.

Prior excavation on SA-6 South, sixteen (16) samples of the asphalt pavement were collected in-situ throughout the excavation footprint. Concentrations of arsenic in six (6) of the samples exceed the RDCSRS of 19 mg/kg for arsenic. Entact has removed the arsenic-impacted asphalt from the excavation area and stockpiled it in the cap area. Honeywell requested approval from NJDEP and Plaintiffs to consolidate the asphalt in either the SA-6 North or SA-6 South Open Space Areas, in lieu of disposing of the arsenic-impacted asphalt offsite. Placement of the arsenic-impacted asphalt in either the SA-6 North or SA-6 South Open Space Area was approved by the Plaintiffs in an email dated September 9, 2014 and by the NJDEP in an email dated October 15, 2014.

Therefore, Entact is hereby directed to consolidate the subject arsenic-impacted asphalt in either the SA-6 North or SA-6 South Open Space Areas in a footprint that does not exceed 44,000 SF and cover the asphalt with chromium-impacted soil prior to construction of the cap over the soils. The vertical and horizontal limits of these areas will be documented in the final remedial action report.

Placement and consolidation of concrete or asphalt underneath the cap will be conducted according to Specification 02315 – Earthwork.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	**Explanation or Reason:** NJDEP variance required to place impacted asphalt and concrete under the cap
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐ Yes ☑ No **>$50k** ☐ Yes ☑ No **Schedule Implication** ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** SA-6 North 100% Design Appendix G - Soil Management Plan

Honeywell (AP) Review:

Individual: Samuel G. Shallard **Discipline:** **Initial:** **Date:** 11/6/14

(Name / Signature): Samuel G. Shallard	**Does DCB Result in CCO?** ☐ Yes (b)☑ No **Date:**
Distribution: Caroline Panico, ENTACT; Adam Ewert, ENTACT; Keith Goisse, ENTACT; Kurt Gimbel, ENTACT; Dennis Nagg, Amec; Stuart Bills, Amec; David Ambrose, Amec	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

All above grade demolition activities will be conducted by Jersey City entities or by others.

Concrete and asphalt will be characterized by sampling per NJDEP's procedure on "Guidance for Characterization of Concrete and Clean Material Certification for Recycling" for recycling purposes pursuant to N.J.A.C. 7:26A or for beneficial reuse onsite pursuant to N.J.A.C. 7:26-1.7(g). Concrete determined to meet NJDEP reuse requirements, or which is granted a variance by NJDEP to meet reuse requirements, may be reused onsite as backfill in excavations or placed under the cap. Asphalt determined to meet NJDEP reuse requirements, or which is granted a variance by NJDEP to meet reuse requirements, may be used as sub-grade fill under new asphalt paved areas or placed under the cap. Concrete and asphalt that do not meet these NJDEP reuse or variance requirements will be disposed of offsite.

2.4 SA-6 SOUTH CONSTRUCTION DEBRIS MANAGEMENT

Asphalt and concrete removal at SA-6 South will be as shown on the Chromium Remedy Design Drawings. All concrete and asphalt materials will be managed in accordance with Section 02220 of the Technical Specifications. Honeywell has or is in the process of implementing demolition of building superstructures at SA-6 South prior to the implementation of the remedial actions. All buildings have been or will be demolished to their concrete slab foundations. All aboveground superstructure materials (concrete, steel, wood, etc) have or will be disposed of offsite. To the extent possible, any remaining concrete, asphalt and steel materials that do not interfere with remedial construction will be left in place. Concrete and asphalt will be generated during the remedial process from the following areas:

- Paved surfaces within the SA-6 South Open Space Area; and
- Paved surfaces and building slabs within the excavation areas within the SA-6 South Development Area.

Concrete and asphalt will be characterized by sampling per NJDEP's procedure on "Guidance for Characterization of Concrete and Clean Material Certification for Recycling" for recycling purposes pursuant to N.J.A.C. 7:26A or for beneficial reuse onsite pursuant to N.J.A.C. 7:26-1.7(g). Concrete determined to meet NJDEP reuse requirements, or which is granted a variance by NJDEP to meet reuse requirements, may be reused onsite as backfill in excavations or placed under the cap. Asphalt

determined to meet NJDEP reuse requirements, or which is granted a variance by NJDEP to meet reuse requirements, may be used as sub-grade fill under new asphalt paved areas or placed under the cap. Concrete and asphalt that do not meet these NJDEP reuse or variance requirements will be disposed of offsite.

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 017 Minor (a)
	Effective Date:
Project Location: SA-6 NORTH, SA6-SOUTH	Associated RFI:
Title: SA-6N Area 1N 2 ft. Cut Historic Fill	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): Entact	

The SA-6 North Remedial Action Work Plan, SA-6 100% Remedial Design Report, and the SA-6 North Consent Decree provides for the removal of the upper 2 ft., of historic fill from the SA-6 North Open Space Area. It is recognized that the original surface grade fluctuated significantly on SA-6N. For practical excavation control a more uniform excavation surface has been developed. That surface is based on a 2 ft. nominal cut +/- 1 ft. The areas selected for cut will be areas previously identified as historic fill with hexavalent chromium concentration of <20 mg/kg.

To increase capacity for movement of 20-240 mg/kg chromium impacted soils from SA-6 South to SA-6 North approximately 10,000 CY of historic fill will be excavated from SA-6 North. The final quantity may be adjusted based on survey quantities of impacted soils compacted and stockpiled in SA-6 South.

The excavation will be conducted to the lines and grades shown on Drawing CN XXX attached.

The bottom of excavation will be surveyed by a registered land surveyor.

Contractor shall stockpile the excavated material in designated location(s) mutually agreeable to Honeywell and Amec Foster Wheeler. The excavated materials will be sampled by Amec Foster Wheeler to determine the final disposition according to Section 2.2.4 of the Soil Management Plan (copy of section attached), as summarized as follows:

- Excavated materials that are confirmed <20 mg/kg for hexavalent chromium will be designated for reuse as backfill in excavations with the SA-6 North or SA-6 South Development Areas in accordance with the placement and compaction requirements of the Earthwork specifications (Section 02315) or may be placed above the cap but below the two feet of clean fill required by paragraph 56(c) of the SA-6 North Consent Decree.
- Excavated materials that are confirmed >20 mg/kg for hexavalent chromium will be designated for placement within the SA-6 North or SA-6 South Open Space Areas to be later covered with the cap.

The contractor will be notified by Amec Foster Wheeler as to the final disposition of the stockpiled excavated material.

Reason for Change/Modification:	Explanation or Reason: Increase impacted soil capacity under the SA-6N Open Space cap.
☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Attachments: ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected:

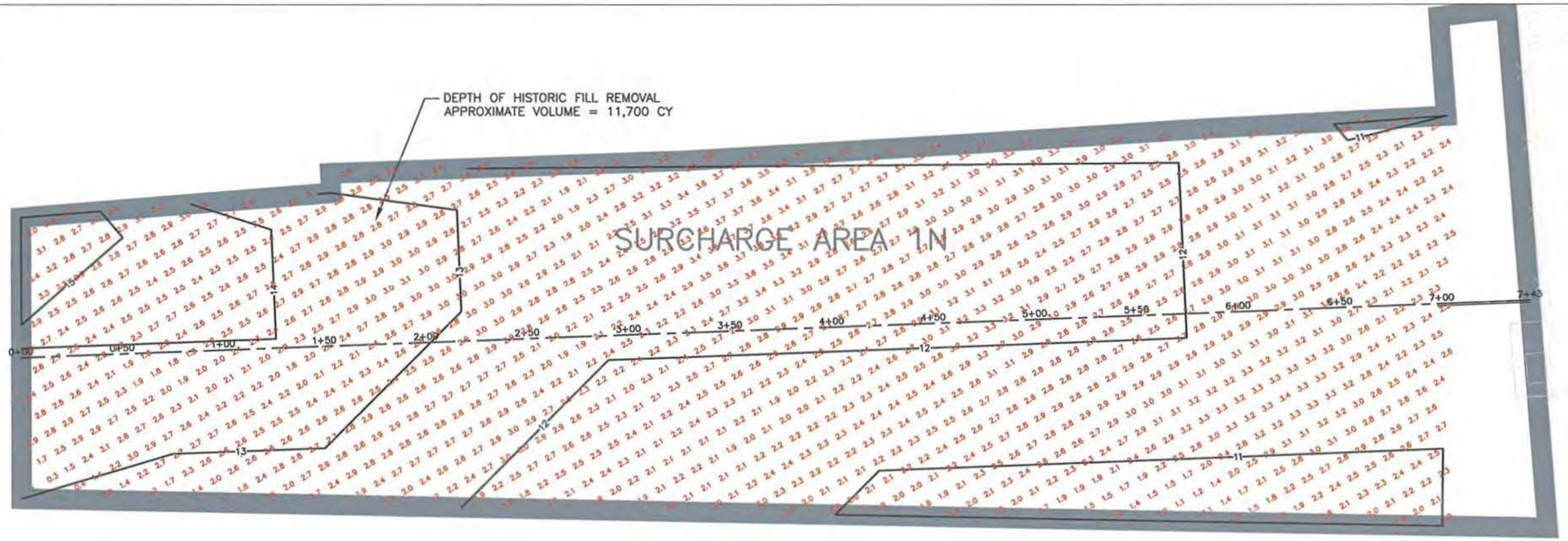
Honeywell (AP) Review:

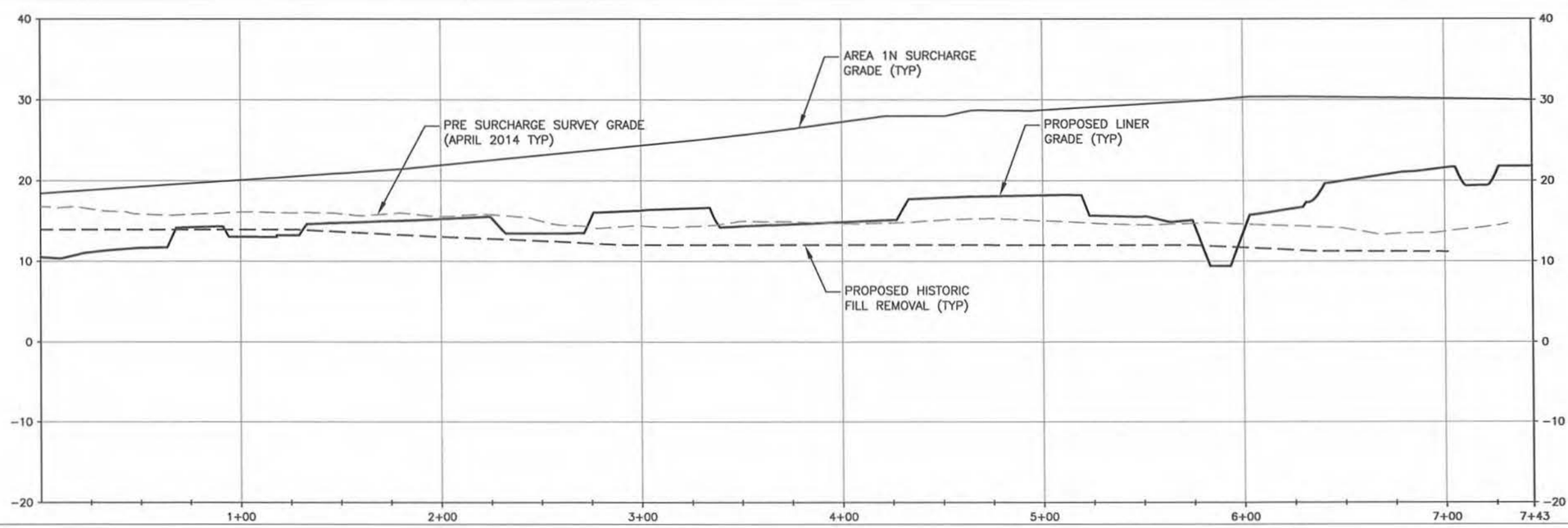
Individual	Discipline	Initial	Date

(Name / Signature):	Does DCB Result in CCO? ☐ Yes (b) ☑ No
Samuel G Shallard	Date: 3/20/15

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





NOTES:

1. CONTOURS SHOWN HEREON REPRESENT THE PROPOSED BOTTOM OF EXCAVATION TO REMOVE APPROXIMATELY 2 FEET OF HISTORIC FILL FROM SURCHARGE AREA 1N.
2. EXCAVATION OF HISTORICAL FILL WILL BEGIN UPON APPROVED REMOVAL OF ALL SURCHARGE MATERIAL AND COMPLETION OF A PRE-EXCAVATION SURVEY BY A REGISTERED LAND SURVEYOR.
3. BOTTOM OF EXCAVATION CONTOURS MAY BE ADJUSTED BASED ON PRE-EXCAVATION SURVEY AND VERIFICATION OF ACTUAL SURCHARGE SETTLEMENT.
4. EXCAVATED HISTORIC FILL MATERIAL WILL BE STOCKPILED IN AN AREA DESIGNATED BY AMEC PERSONNEL FOR UTILIZATION DURING FUTURE DEVEOPMENT OR SAMPLED IN ACCORDANCE WITH THE SOIL MANAGEMENT PLAN TO DETERMINE FINAL DISPOSITION.

0 15 30 60
SCALE IN FEET

FILE NAME: C:\Doravwri\SA-6 North\2013 Excavation Surfaces\Area 1N Historic Fill Removal\Area 1N Historic Fill Removal.dwg PLOT DATE: Thu, 19 Mar 2015 PLOT TIME: 3:46 PM

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
DSGN	TDD	DR TDD / CHK SGS	APVD SGS	

Honeywell
101 COLUMBIA RD. BOX 2108, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
SURCHARGE AREA 1N
HISTORIC FILL REMOVAL
GRADING PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 Airport Executive Park, Suite 113
Nanuet, NJ 08019
(609) 689 - 2929

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	2/26/15
PROJ	3480-13-0377
DWG	CN-101
SHEET	1 OF

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE REPORTS, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No: 019; DCB Type: Minor(a)** **Effective Date: 3/3/15**
Project Location: SA-6 NORTH and SOUTH **Title: MRCE Temporary Support of Excavation Design (Route 440)**	**Associated RFI:** ☐Yes, RFI No. ____ ☑ None
Contractor (Subcontractor): ENTACT	**Project No.: 3480130377**

Description of Change/Modification:

Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	**Explanation or Reason:** ENTACT revised construction details; GW levels higher than original design. See Additional Comments.
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐ Yes ☑ No **>$50k** ☐ Yes ☑ No **Schedule Implication** ☐ Yes ☑ No

Additional Comments: ENTACT requested redesign to replace most of the soldier pile/road plate design with sheetpile and soldier pile and lagging. In addition, groundwater levels reported in 2014 were up to 1.5 ft higher than used in the original design. Amec agrees that the design required revision for groundwater elevations. Amec considers the new approach to be less risky than ENTACT's original approach.	**Design Documents Affected:** SN-501, SN-502, SN-503, SN-504, SN-505
Honeywell (AP) Review: **Individual: Samuel G. Shallard** **Discipline: EOR**	**Initial:** **Date:**
(Name / Signature): Samuel G. Shallard	**Does DCB Result in CCO?** ☐Yes (b) ☑ No **Date:** 8/3/15
Distribution: Caroline Panico, ENTACT; Adam Ewert, ENTACT; Keith Goisse, ENTACT; Kurt Gimbel, ENTACT; Dennis Nagg, Amec; Stuart Bills, Amec; David Ambrose, Amec	

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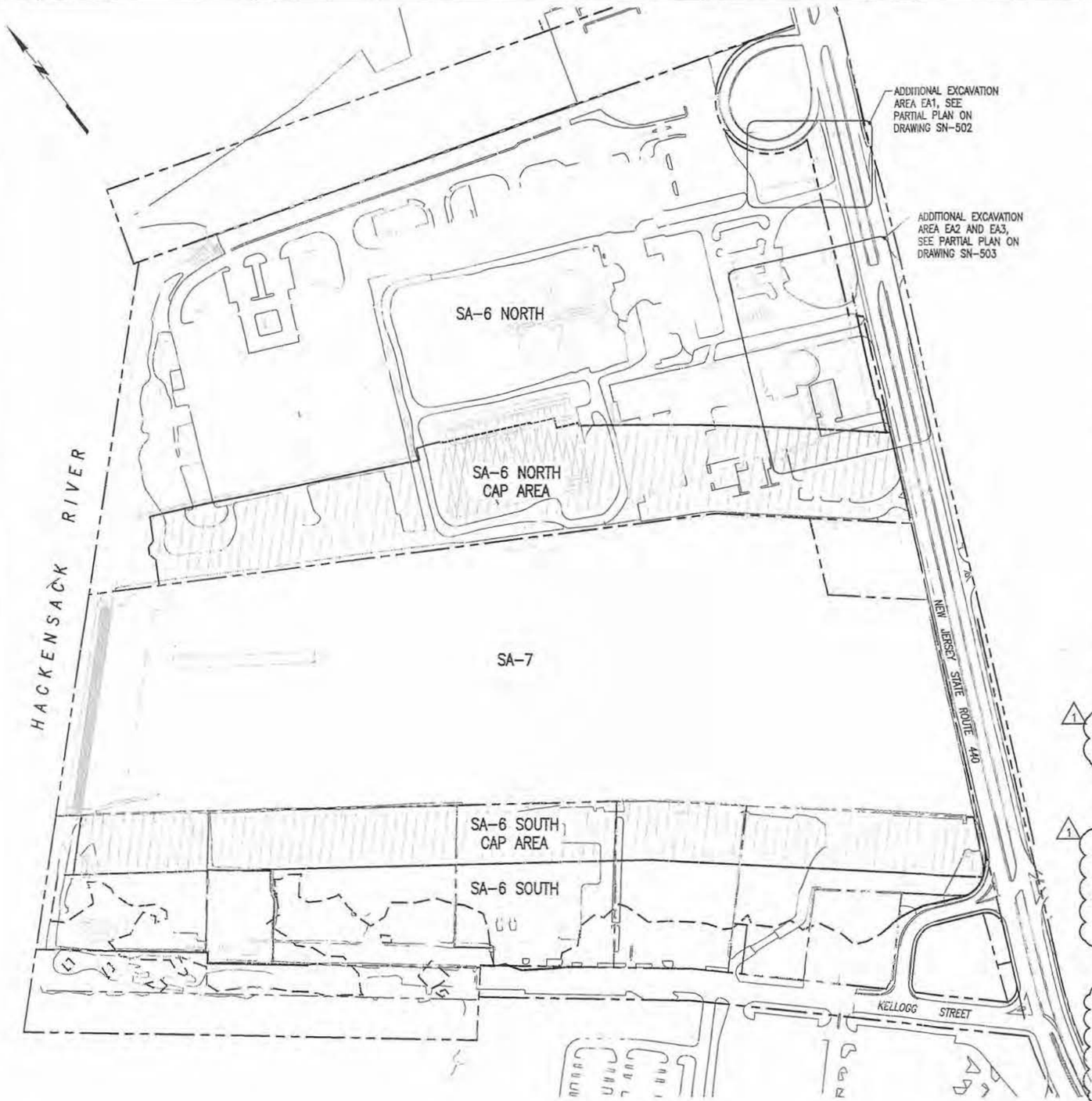
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



PLAN
SCALE: 1"=150'-0"
150' 75' 0 150' 300'

Notes:

1. The work requires installation of sheet piles, drilling, and excavation in close proximity to overhead power lines and underground utilities. Coordinate access and controls with utility companies having jurisdiction over buried and overhead utilities.
2. Re-mark utility control markings daily if removed by excavation.
3. Steel sheet piling shall be uncoated, new or used in good condition, and of the sizes shown on the drawings or structural equivalent.
4. See AMEC Environment and Infrastructure, Inc. drawings for excavation subgrade elevations.
5. The angle of repose shown on the drawings is based on the definition and requirements provided by PSE&G.
6. Final wall locations subject to location of gas main, determined by test pits.
7. Pre-excavate as required to remove obstructions within the fill prior to driving sheet piling.
8. Handle sheet piling in a manner which prevents damage to the sheet piling. Use standard safety lifting devices, use lifting holes or provide secondary support during lifting.
9. Discontinue spudding more than 5 ft. above the minimum tip elevations indicated herein.
10. Stage pile driving and step sheet piling tips as necessary to maintain interlocks. Remove and replace steel sheet piling found to be out of interlock, out of tolerance, damaged, or otherwise deficient.
11. Use drive templates and guides to maintain pile alignment and install piles plumb.
12. Sheet piling may be welded to adjacent sheets if required to control settlement during driving.
13. Spliced sheet piling shall be free sliding and able to obtain the maximum swing with contiguous piles. Splice welds shall develop the full structural strength of the member.
14. Drive templates: Prior to driving, provide template or driving frame suitable for aligning, supporting, and maintaining the sheet piling in the correct location and verticality during setting and driving. Fix template in place to prevent movement during sheet pile driving. Provide restraint necessary to prevent the sheets from warping or wandering from the alignment, or from racking along the alignment.
15. Provide continuous inspection of sheet pile driving. Inspect location and verticality when setting sheets, and when sheets are driven half depth.
16. Maintain pile driving inspection record for each pair driven. Indicate pile hammer, rate of operation, energy, use of drive helmet and cap, etc. Provide a unique number for each pair, and indicate location on alignment. Document installation date, set time, drive duration, and time drive completed, initial pile length, re-heading or cutting length(s), and any additional information required for record drawings. Record unusual conditions or problems observed during driving.
17. Soldier piles and wales shown are minimum sizes. Substitution with members of equivalent or higher capacity is allowed.
18. Shop and field welding procedures, electrode classification (E70XX), and preheat temperature shall conform to AWS D1.1. Welders shall be certified in accordance with AWS D1.1 criteria.
19. Drill soldier pile using methods approved by the Engineer.
20. Dewater excavations to provide stable subgrade and to remove all uplift pressure below all sewers, force mains or other active utilities as may be required, as determined by the Engineer. Install piezometer within 10 feet of 48 inch sewer to monitor groundwater level. (1)
21. Survey to establish construction station baseline and establish monitoring points.
22. Set permanent monitoring point on top of sheet piling and soldier piles. Grind smooth surface for point, if required. Mark point ID. At contractor option, DMP points may be reflective targets for total station surveys.
23. Survey location of monitoring point, (X, Y, Z) (baseline reading). (1)
24. Survey location (X, Y, Z) two additional times, on separate days, before performing excavation within 50 ft. of monitoring point.
25. Survey monitoring point (X, Y, Z) daily, or more often at Engineer direction, when excavating within 50 ft. of monitoring point. For each reading event document survey date, time, reading change from previous reading, and reading change from baseline. Provide readings for Construction Manager review during active excavation.
26. Monitor vibrations at the ground surface above the gas main, force main, and sewer under Route 440 adjacent to the excavations within 25 feet.
27. Advise the Construction Manager of vibration monitoring data. Limiting values are:
    Gas Main – 2.0 in/sec
    Sewer & F.M. – 1.0 in/sec

    If limiting values are exceeded, the contractor shall notify the CM and cease work until adequate measures are taken to reduce vibrations. (1)
28. Elevation are based on NGVD 1929 Datum.

NO.	DATE	DSGN	DR	CHK	APVD	
1	10/31/14	G.S.	B.B.	G.P.	APVD	ISSUED FOR NJDOT REVIEW
0	06/17/13					ISSUED FOR CONSTRUCTION

PETER W. DEMING
NJ PROFESSIONAL ENGINEER LICENSE NUMBER GE-48022
P.W.D. | B.Y. | APVD | GP | F.W.D.

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
TEMPORARY
SUPPORT OF EXCAVATION
KEY PLAN AND NOTES

FILE NUMBER 11173

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34TH STREET, NEW YORK, NY 10122

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-501
SHEET	62 OF 70

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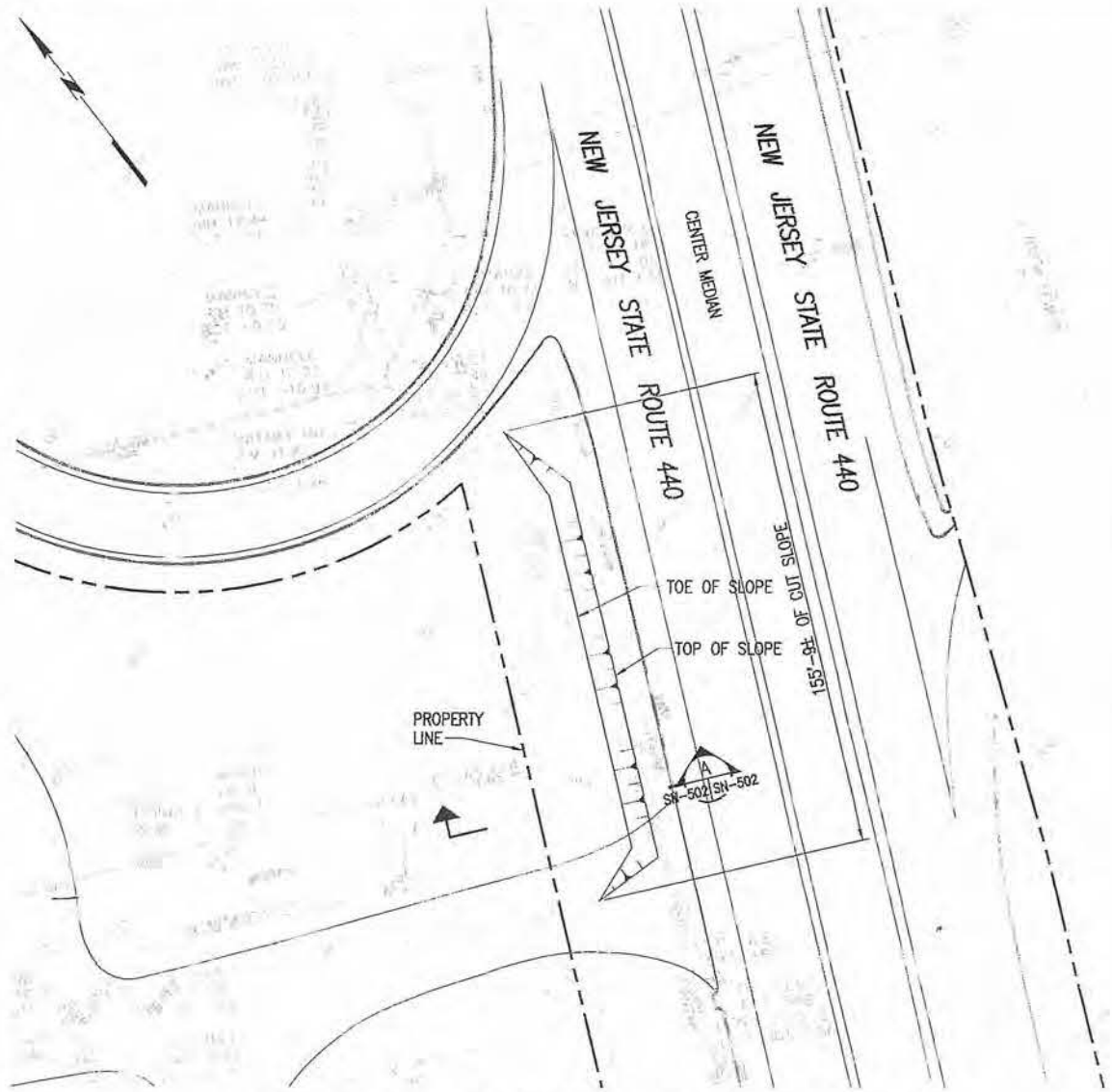
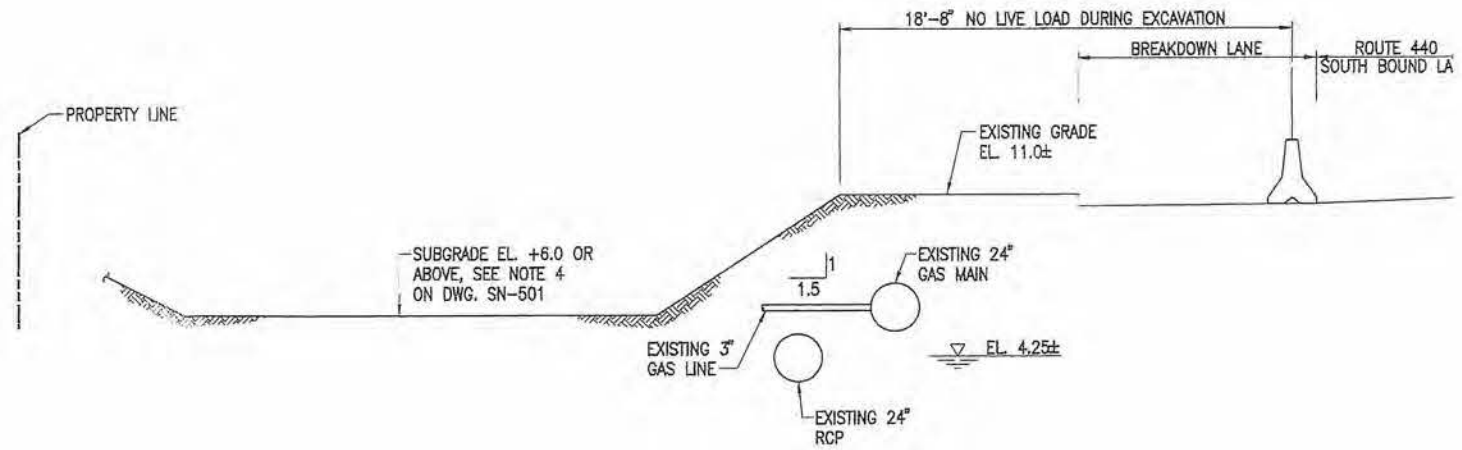


PARTIAL PLAN AT ADDITIONAL EXCAVATION AREA EA1

SCALE: 1"=30'-0"

30' 20' 10' 0 30' 60'



SECTION A

SCALE: 1/4"=1'-0" SN-502 SN-502

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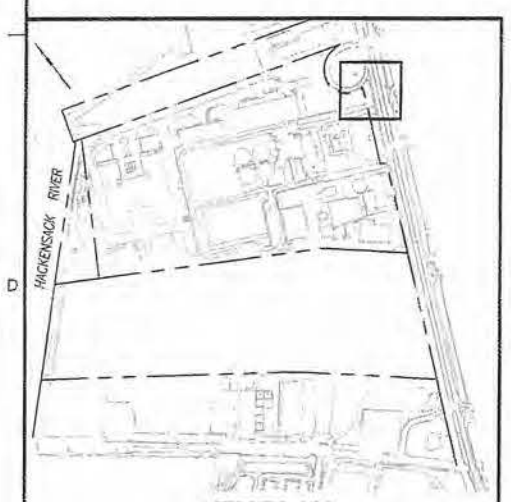

KEY PLAN

NO.	DATE	DSGN	DR	CHK	APVD	BY
0	06/17/13	G.S.	B.B.	G.P.	APVD	PWD

REVISION: ISSUED FOR CONSTRUCTION

PETER W. DEMING

NJ PROFESSIONAL ENGINEER LICENSE NUMBER GE 46522

P.W.D.

Honeywell

101 COLUMBIA RD., BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

TEMPORARY
SUPPORT OF EXCAVATION
PARTIAL PLAN AND SECTION

FILE NUMBER 11173

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34TH STREET, NEW YORK, NY 10122

amec

Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28910500

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3460-12-0317
DWG	SN-502
SHEET	63 OF 70

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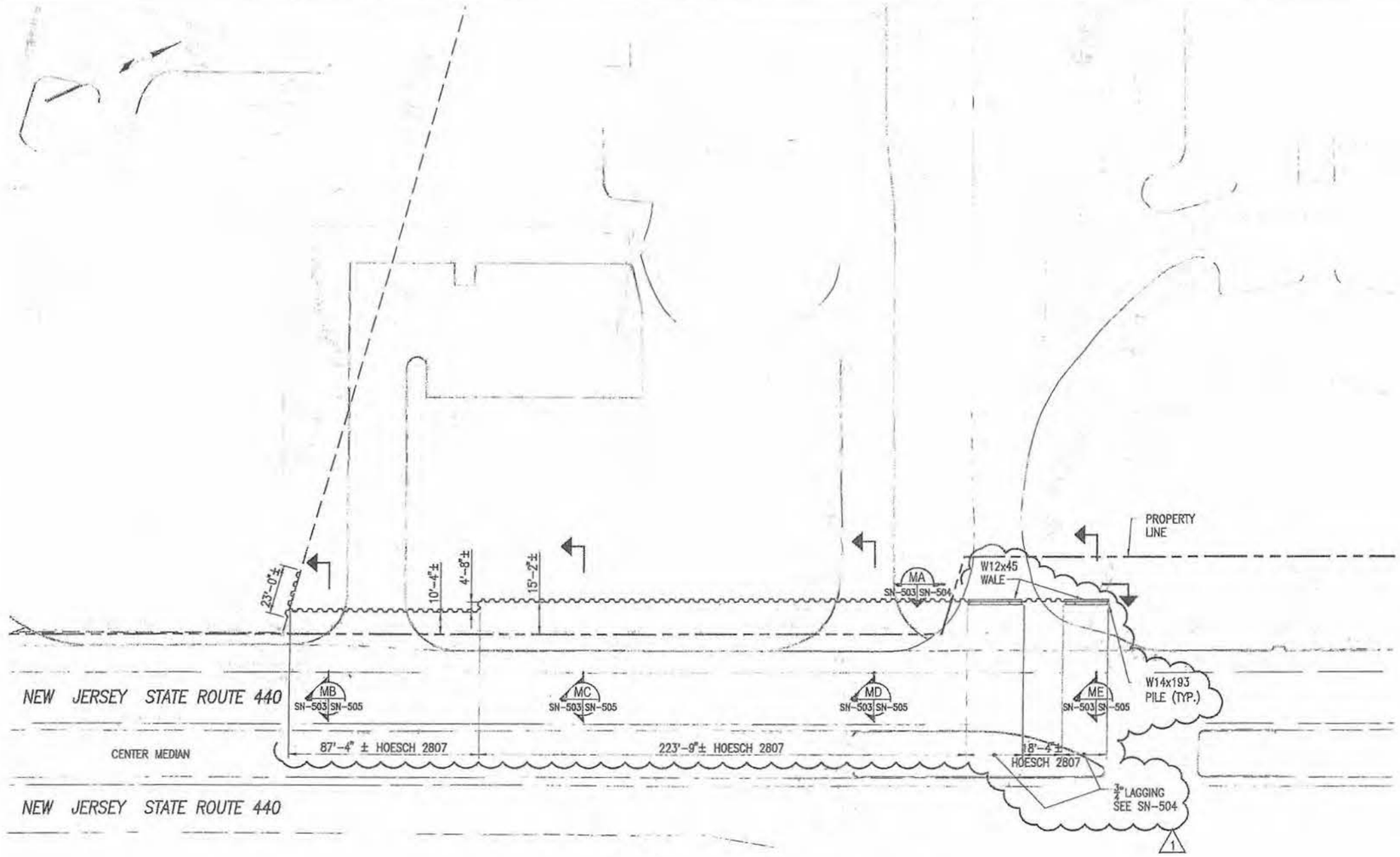
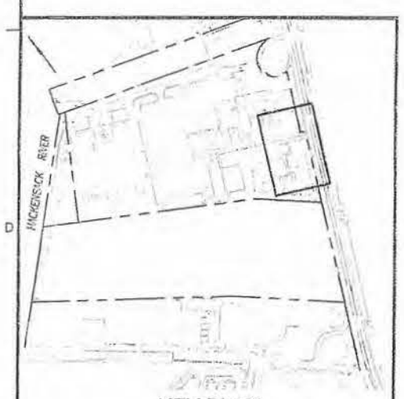
FILE NAME: G:\DWGS\11111\11173\SN-502.dwg PLOT DATE: Tue, 04 Nov 2014 PLOT TIME: 10:32 AM



PARTIAL PLAN AT
ADDITIONAL EXCAVATION AREAS EA2 AND EA3

SCALE: 1"=30'-0"

30' 20' 10' 0 30' 60'



KEY PLAN

NO.	DATE	DSGN	DR	CHK	APV'D	BY	APV'D
1	10-31-14	G.S.	B.B.	G.P.	G.P.	G.P.	P.W.D.
0	06/17/13						

REVISION
ISSUED FOR NJDOT REVIEW
ISSUED FOR CONSTRUCTION

PETER W. DEMING
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER GE 45512

Honeywell
101 COLUMBIA RD., POB 2105, MORRISTOWN, NJ 07960

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
TEMPORARY
SUPPORT OF EXCAVATION
PARTIAL PLAN

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34TH STREET, NEW YORK, NY 10122

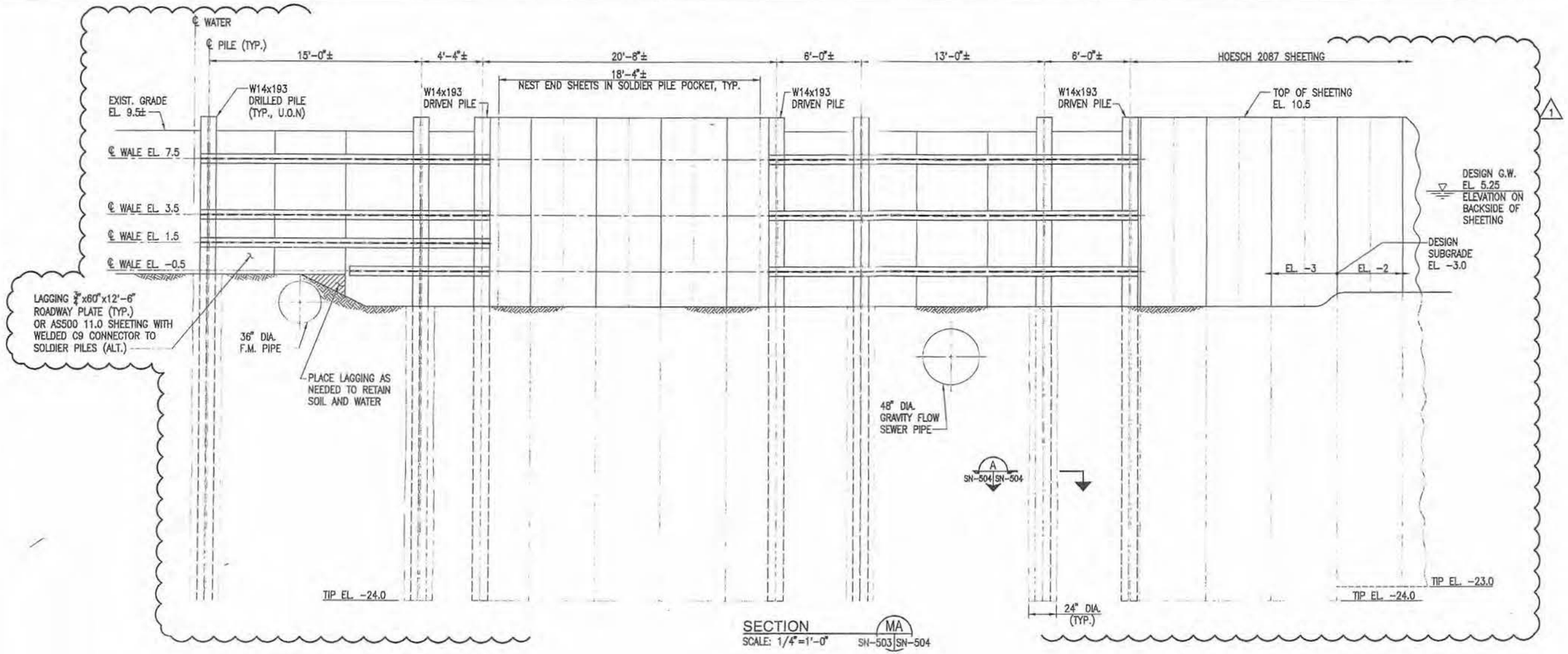
FILE NUMBER 11173

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 890-2329
NJ Certificate of Authorization Number 24GA28010200

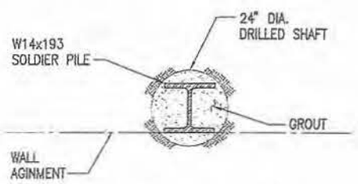
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-503
SHEET	64 OF 70

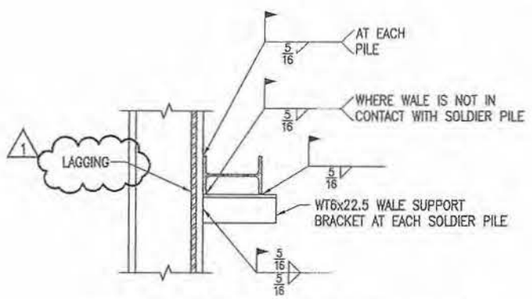
FILE NAME: G:\DWGS\11111\11173\SN-503.dwg PLOT DATE: Tue, 04 Nov 2014 PLOT TIME: 10:33 AM



SECTION MA
SCALE: 1/4"=1'-0" SN-503 SN-504



SECTION A
SCALE: 1/2"=1'-0" SN-504 SN-504



NOTE: SHIM BETWEEN LAGGING AND WALES (NOT SHOWN).

DETAIL 1
SCALE: 3/4"=1'-0" SN-505 SN-504

NO.	DATE	DSGN	DR	CHK	APVD	BY	(APVD)
1	10/31/14	G.S.	B.B.	G.P.	G.P.	G.P.	P.W.D.
0	06/17/13					PWD	

REVISION
ISSUED FOR NJDOT REVIEW
ISSUED FOR CONSTRUCTION

PETER W. DEMING
NJ PROFESSIONAL ENGINEER LICENSE NUMBER GE 45522

Honeywell
101 COLUMBIA RD., BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
TEMPORARY
SUPPORT OF EXCAVATION
SECTION

FILE NUMBER 11173

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA - 225 WEST 34TH STREET, NEW YORK, NY 10122

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010000

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE
PROJ 3480-12-0317
DWG SN-504
SHEET 65 OF 70

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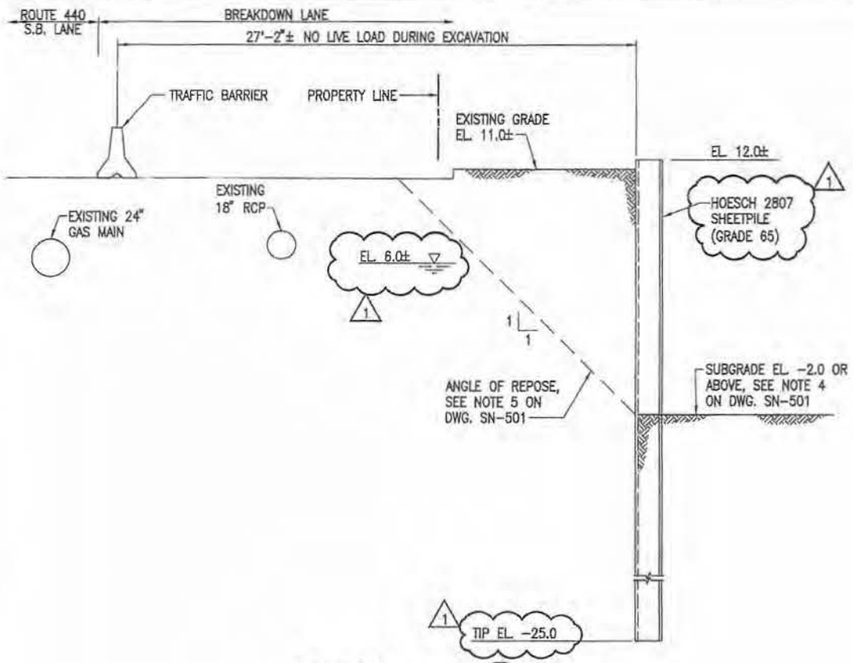
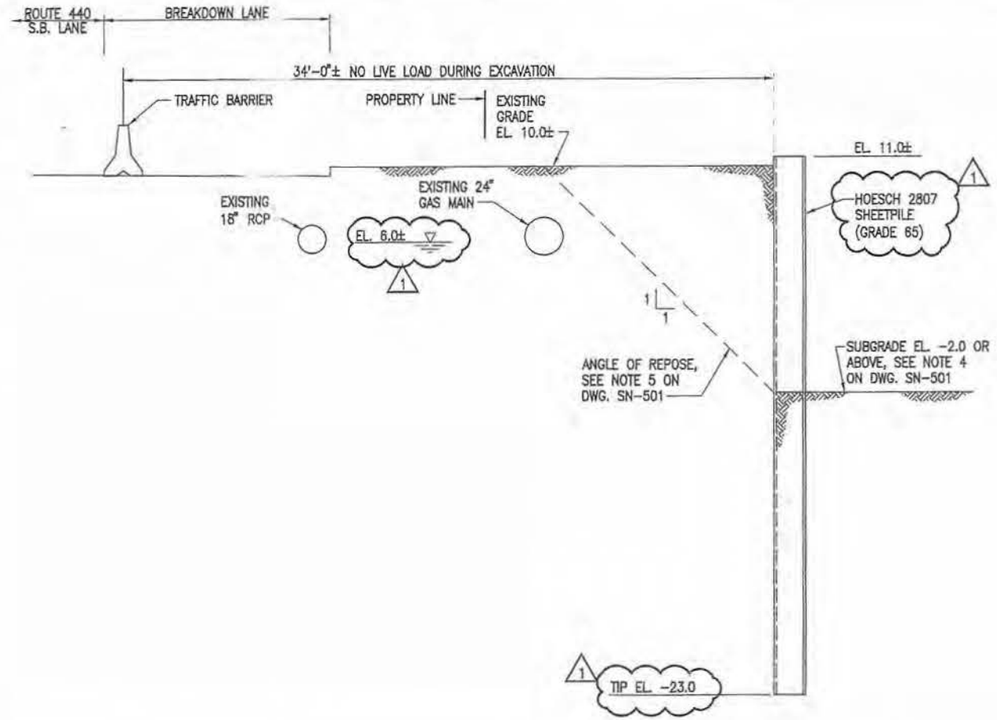
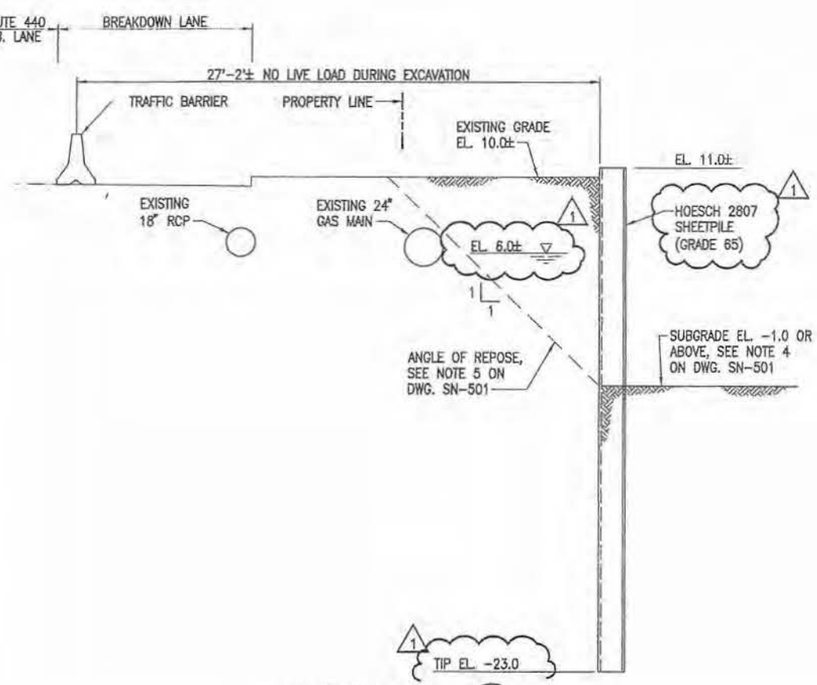
FILE NAME: G:\DWGS\11\11173\SN-504.dwg PLOT DATE: Wed, 12 Nov 2014 PLOT TIME: 11:12 AM



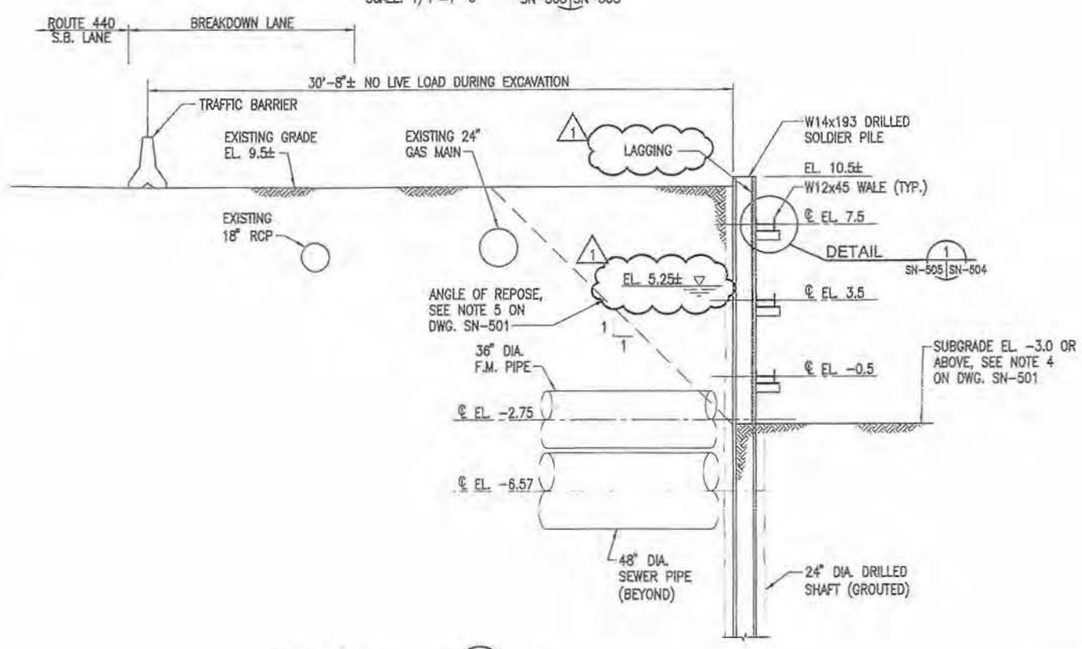
SECTION MB
SCALE: 1/4"=1'-0" SN-503 SN-505



SECTION MD
SCALE: 1/4"=1'-0" SN-503 SN-505



SECTION MC
SCALE: 1/4"=1'-0" SN-503 SN-505



SECTION ME
SCALE: 1/4"=1'-0" SN-503 SN-505

GRAPHIC SCALE
4' 2' 0 4' 8'

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	10/31/14	G.S.	B.B.	G.P.	G.P.	G.P.	PWD
0	06/17/13						

REVISION: 0 — ISSUED FOR NJDOT REVIEW; 1 — ISSUED FOR CONSTRUCTION

PETER W. DEMING
N.J. PROFESSIONAL ENGINEER
LICENSE NUMBER GE 46522
P.W.D.

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS:
100 PERCENT DESIGN DRAWINGS

CIVIL
TEMPORARY
SUPPORT OF EXCAVATION
SECTIONS

FILE NUMBER 11173

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34TH STREET, NEW YORK, NY 10122

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 889 - 2829
NJ Certificate of Authorization Number 24GA28010900

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0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-505
SHEET	66 OF 70

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STUDY AREA 6

Design of
Support of Excavation

For:
AMEC Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619

By:
Mueser Rutledge Consulting Engineers
14 Penn Plaza • 225 West 34th Street
New York, NY 10122

November 12, 2014

GE 46522

STUDY AREA 6

Design of
Support of Excavation

For:
AMEC Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619

By:
Mueser Rutledge Consulting Engineers
14 Penn Plaza • 225 West 34th Street
New York, NY 10122

November 12, 2014

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D Vertical Lagging Design

E Wale Design

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- Geotechnical Profile
- Groundwater Elevation Contours Plan
- Soil Parameters
- Hoesch Z Sheet Pile Specifications
- Ground Vibration Estimation Report
- Passive Pressure Coefficients for Granular Soils
- Horizontal Surcharge Load Estimation

STUDY AREA 6
JERSEY CITY, NJ

BASIS OF DESIGN
SUPPORT OF EXCAVATION – Rte. 440 (North of SA-7)

Prepared by:
Mueser Rutledge Consulting Engineers (MRCE)

Objective:

Design temporary support of excavation (SOE) to support remedial excavation and fill adjacent to Rte. 440. SOE is shown on attached MRCE Drawings SN-501 to SN505, Rev. 1, dated November 12, 2014.

Background Information:

SOE design generally consists of cantilevered steel sheet piling approximately 10 ft. west of the SA6 property line and 27ft. – 34 ft. west of the southbound lane of Rte. 440. The distance from the southbound lane to the SOE sheeting, which includes the highway breakdown lane, will have a load restriction (no live, vehicular or surcharge load) and will be isolated with traffic barriers.

The northern end (approx.. 60 ft.) of the SOE consists of soldier pile and steel lagging where two utilities, a 36 in. force main and 48 in. sewer diagonally cross the SOE. The gas main running parallel to the SOE beneath the breakdown lane, are outside a 1:1 angle of repose from the bottom of excavation, as per PSE&G requirements.

Reference Information:

1. Contract Drawings:
   a. Honeywell 100-Percent Chromium Remedy Design Drawings Study Area 6 North – Sites 087 and 088 Jersey City, NJ – Rev. C, June 11, 2012, by AMEC.

2. Geotechnical:
   a. MACTEC Figure 3.1 and Figure 3.3, Section 2-2; Borings 088-SB-303, 304 and 305.
   b. Soil design parameters for Honeywell – SA7, by MRCE.
   c. Groundwater elevation contours Figure No. 4-1, by Cornerstone Environmental Group, LLC, dated September 16, 2013.

3. Equipment:
   a. ABI Mobilram vibratory pile driver.
   b. Volker Steel Foundations Ground Vibration Estimation for vibratory hammers.

Design Data and Assumptions:

Reference the four design sections shown on Drawing SN-505.

- No live, surcharge or vehicular load within approximately 30 ft. of wall with excavated condition.
- Place traffic barriers and restrict access to breakdown lane during construction.
- Buried gas main east of the SOE will remain outside the angle of repose from the bottom of the excavation (PSE&G requirement).
- Design section soil strata, parameters and groundwater data are based on Reference Information Item #2 above; SOE design includes wall friction.
- Excavation depth based on AMEC Contract Drawings, Reference Information Item # 1.
- Estimated deflection criteria at top of cantilever sheet pile walls based on NJ DOT specifications; 1% of exposed wall height with a maximum of 2".
- Excavation dewatering utilizing sumps above the peat, except at the 36" and 48" utility crossings, where water pressure below peat will be relieved to 2 ft. below excavation subgrade.
- Sheeting will consist of available Hoesch 2807, Grade 65 steel sheet piling.
- SOE installation will be performed utilizing ABI Mobilram vibratory hammer, except drilled soldier piles shown on the drawings.
- Use of drilled soldier piles in grout within 10 ft. of utility alignment.
- Vibration monitoring criteria per Note # 27, Dwg. SN-501.

Design References:

1. Steel Sheet Pile Design Manual
2. AISC Manual of Steel Construction

Sheet Pile Design

Sheet _____ of _____

MUESER RUTLEDGE CONSULTING ENGINEERS

File 11173D

Made By JM Date 10/30/14

PROJECT STUDY AREA 6- NORTH WALL

Checked By MTR Date 10/30/14

SUBJECT **SUPPORT OF EXCAVATION (SHEETPILE DESIGN)**

SheetPile: HOESCH 2807 (GRADE 65)

SECTION	Grade Elevation	GROUND Water Elevation	Maximum Wall Moment M_{max} k-ft/ft	Maximum Pile Deflection in	Subgrade Elevation	Embedment Depth below Subgrade FS = 1.3 ft	Tip Elev. required
MB	11	6	**63.9**	1.92	-2.0	23.0	EL.-25
MC	10	6	39.9	0.96	-1.0	20.0	EL.-21
MD	10	6	51.6	1.32	-2.0	21.0	EL.-23
ME Between Driven Piles	10	5.25	54.6	1.44	-3.0	21.0	EL.-24

USE EL.-23 (CONSERV.)

Note: Bold face/Shaded values are maximum design values.

SheetPile Flexural Capacity Check: [F_y = 50 ksi]

Soldier Pile Section Modulus [S] = 51.4 in3 / ft

Allowable Flexural Strength [M_{all}] = [0.60F_y].[S] = 128.5 k-ft/ft

Stress Ratio [M_{max}/M_{all}] = **0.50** < 1.00 **OK**

MUESER RUTLEDGE CONSULTING ENGINEERS

SHEET ____ OF ____

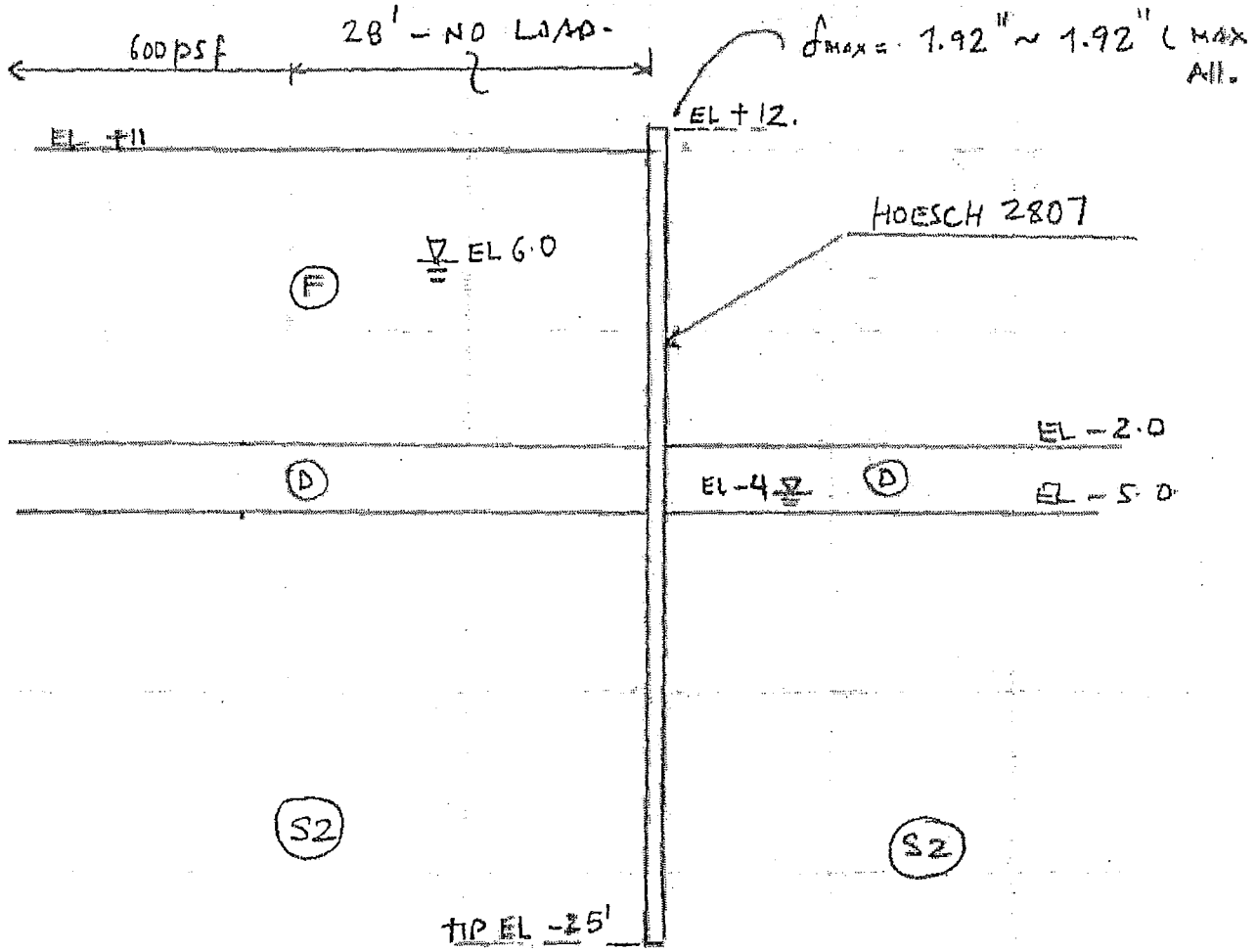
FILE 11173D

MADE BY JM DATE 10/24/14

CHECKED BY RTR DATE 11/07/14

PROJECT SA6 – N

SUBJECT SECTION MB – NO CUT



DEFL. ALLOW. $16' \times \frac{12''}{1'} \times 0.01 = 1.92''$

NOTE:

SCALE 1/8" = 1'-0"

1. STRATA D (FILL) IS ASSUMED TO PROVIDE OVERBURDEN PRESSURE ONLY (NO PASSIVE SUPPORT) ON EXCAVATION SIDE OF WALL. THE EXPOSED WALL HEIGHT IS ASSUMED FROM THE BOTTOM OF STRATA D. THIS IS TYPICAL AT ALL DESIGN SECTIONS (B, C, D, E)

Sheet No. _____ of _____

MUESER RUTLEDGE CONSULTING ENGINEERS

File **11173A**

Made By __JM_____ Date _10/29/14

FOR **STUDY AREA 6**

Checked By _____ Date _____

SUBJECT : **NORTHEAST EXCAVATION - EXCAVATE TO EL.-2** **SECTION B-B' NO GRADE CUT**

Lateral Earth Pressures: 600 psf Surcharge offset 28' Boring Log 088-SB-303 (Mactec)

DRIVING FORCES											RESISTING FORCES							Net Pressures	Elev.
Layer	Elev.	H	γ	σ_v	k_a	c	R_a	Active Pressures	Traffic Surcharge Pressures	Net Water Pressures	H	γ	σ_v	k_p	R_p	c	Passive Pressures		
	(ft.)	(ft.)	(pcf)	(psf)		(psf)		(psf)	(psf)	(psf)	(ft.)	(pcf)	(psf)			(psf)	(psf)	(psf)	(ft.)
F	11	0	115	0	0.333	0	1.0	0	50	0								50	11
F	6	5	115	575	0.333	0	1.0	191	50	0								241	6
F	6	0	52.6	575	0.333	0	1.0	191	50	0								241	6
F	-2	8	52.6	996	0.333	0	1.0	332	50	499								881	-2
D	-2	0	17.6	996	1	500	1.0	0	50	499	0	80	0	1.00	1.00	500	0	549	-2
D	-4	2	17.6	1031	1	500	1.0	31	50	624	2	80	160	1.00	1.00	500	0	705	-4
D	-4	0	17.6	1031	1	500	1.0	31	50	624	0	17.6	160	1.00	1.00	500	0	705	-4
D	-5	1	17.6	1049	1	500	1.0	49	50	624	1	17.6	178	1.00	1.00	500	0	723	-5
S2	-5	0	62.6	1049	0.26	0	1.0	273	50	624	0	62.6	178	6.94	1.00	0	-1233	-286	-5
S2	-9	4	62.6	1299	0.26	0	1.0	338	50	624	4	62.6	428	6.94	1.00	0	-2970	-1959	-9
S2	-9	0	62.6	1299	0.26	0	1.0	338	50	624	0	62.6	428	6.94	1.00	0	-2970	-1959	-9
S2	-34	25	62.6	2864	0.26	0	1.0	745	50	624	25	62.6	1993	6.94	1.00	0	-13831	-12413	-34

Active Pressures: $\sigma_a = \gamma \cdot H \cdot k_a - 2C\sqrt{k_a}$

Passive Pressures: $\sigma_p = \gamma \cdot H \cdot k_p + 2C\sqrt{k_p}$

NOTES:

* Top D layer on the excavation side is assumed to provide no passive resistance as it is a confined organic layer.
* S2: φ=36 deg and δ=14 deg → Kp= 6.94 (DM7-2)

Sheet No. _____ of _____

MUESER RUTLEDGE CONSULTING ENGINEERS

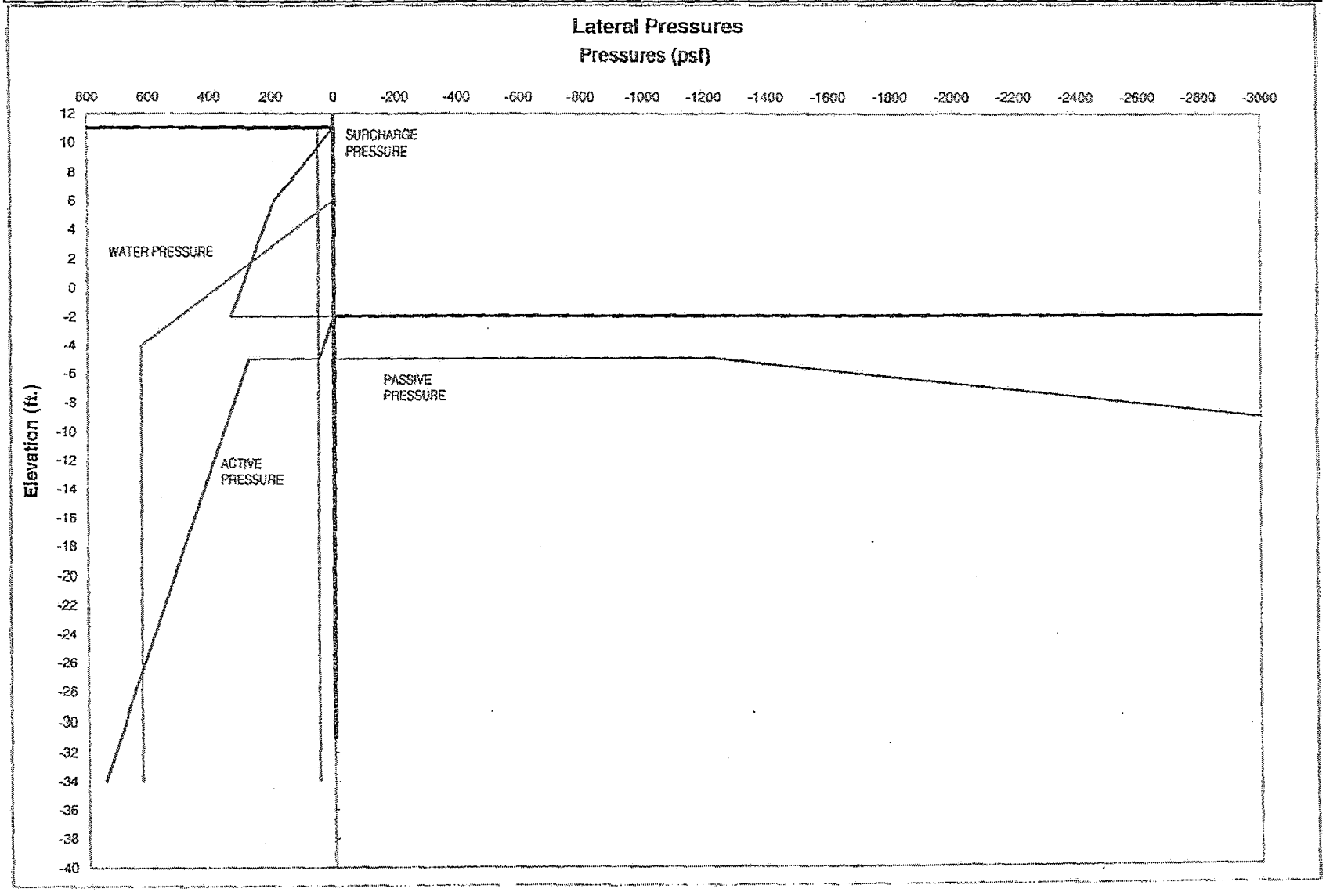
File **11173A**

Made By __JM_____ Date _10/29/14

FOR **STUDY AREA 6**

Checked By _____ Date _____

SUBJECT: **NORTHEAST EXCAVATION - EXCAVATE TO EL.-2** **SECTION B-B' NO GRADE CUT**

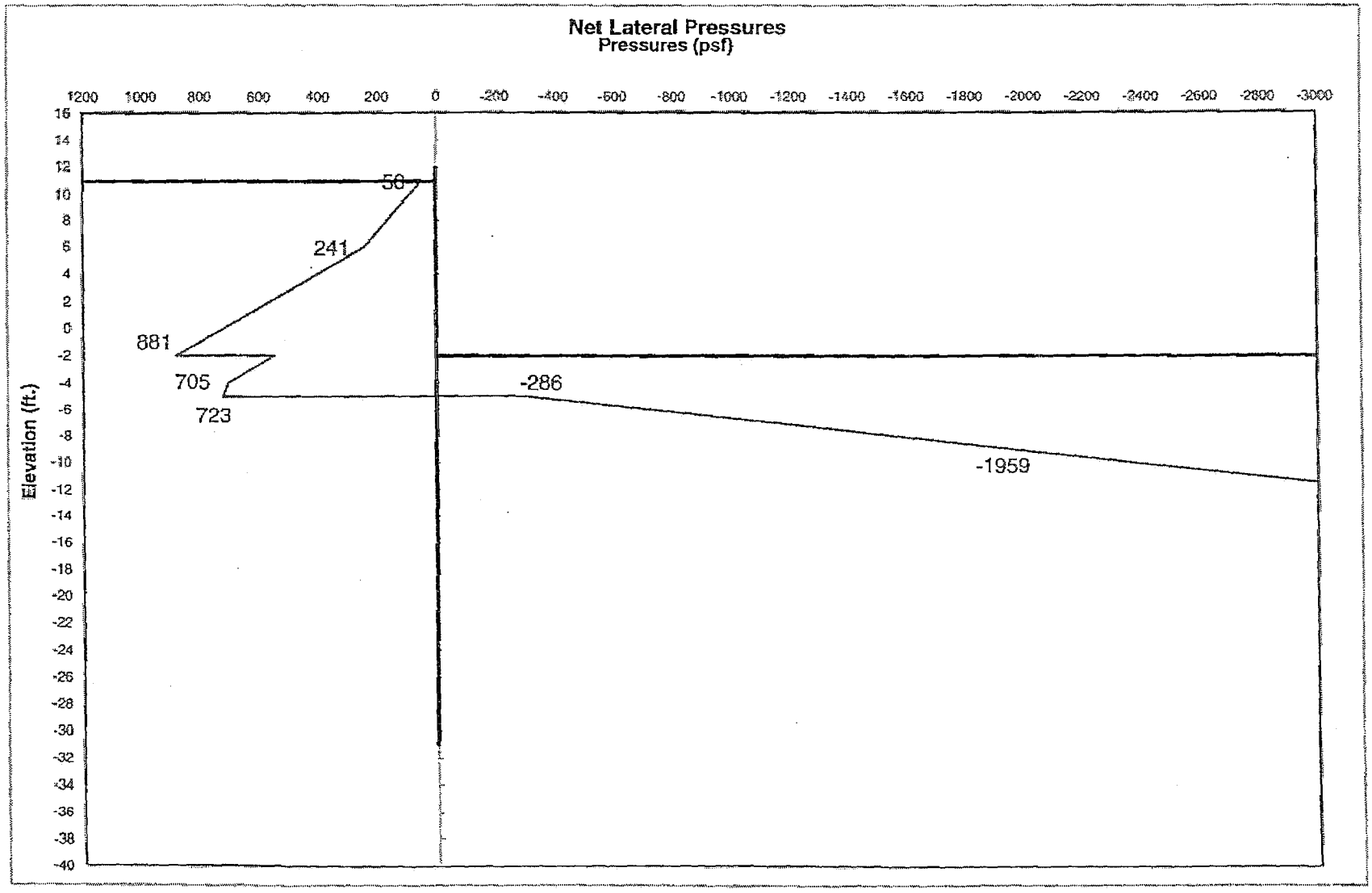


MUESER RUTLEDGE CONSULTING ENGINEERS

Sheet No. _____ of _____
File 11173A
Made By JM Date 10/29/14
Checked By _____ Date _____

FOR STUDY AREA 6

SUBJECT: **NORTHEAST EXCAVATION - EXCAVATE TO EL.-2** **SECTION B-B' NO GRADE CUT**



MUESER RUTLEDGE CONSULTING ENGINEERS

Cantilever v3.0 BETA for Windows, 32-bit

Subject: SECTION B- NO GRADE CUT

INPUT

P	Q	Interval Lengths
0.000	0.000	1.000
0.050	0.241	5.000
0.241	0.881	8.000
0.549	0.705	2.000
0.705	0.723	1.000

Passive pressure at subgrade : .286
Passive pressure slope : .418
Flexural rigidity : 89699 ← HOESCH 2807

$EI = \frac{(29\,000\ ksi)(454\ in^4/ft)}{144\ in^2/ft}$

$EI = 89699\ \frac{k\text{-}ft^2}{ft}$

OUTPUT

At end of int. 1, Shear= 0.00, Moment= 0.00
At end of int. 2, Shear= 0.73, Moment= 1.42
At end of int. 3, Shear= 5.22, Moment= 21.78
At end of int. 4, Shear= 6.47, Moment= 33.41
At end of int. 5, Shear= 7.18, Moment= 40.24

D= 11.41 embedment below subgrade with F.S.= 1 ← F.S = 1.3

$D = (11.41 + 3)(1.2)(1.3)$

$D = 22.5'$ below EL -2

B.O.P. EL = $-2 - 22.5 = -24.5$

REQ'D PILE LENGTH: $+12 - (-24.5) = 36.5'$

: ~37'

Total Length of sheetpile is 28.41

Depth of max. moment= 22.22
Max. moment= 63.93

Depth of max. shear= 28.41
Max. shear= 23.29

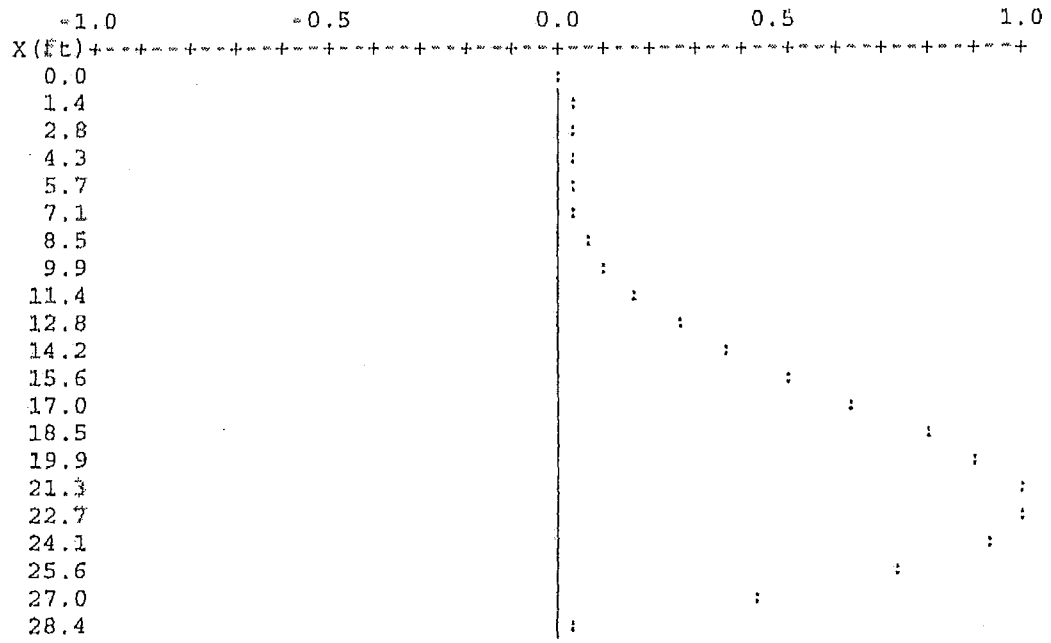
X	V	M	Defl.
0.00	0.00	0.00	0.16
1.42	0.02	0.00	0.15
2.84	0.16	0.12	0.14
4.26	0.37	0.49	0.13
5.68	0.65	1.20	0.12
7.10	1.04	2.39	0.11
8.52	1.59	4.24	0.09
9.94	2.30	6.98	0.08
11.36	3.17	10.85	0.07
12.78	4.20	16.07	0.06
14.21	5.33	22.86	0.05
15.63	6.21	31.04	0.04
17.05	7.17	40.57	0.03
18.47	6.31	50.25	0.02
19.89	4.62	58.11	0.02
21.31	2.07	62.96	0.01
22.73	-1.31	63.60	0.01
24.15	-5.54	58.83	0.00
25.57	-10.61	47.46	0.00
26.99	-16.53	28.28	0.00
28.41	-23.29	0.09	0.00

$\leftarrow \delta_{max} = 0.16' \times \frac{12''}{1'} = 1.92''$

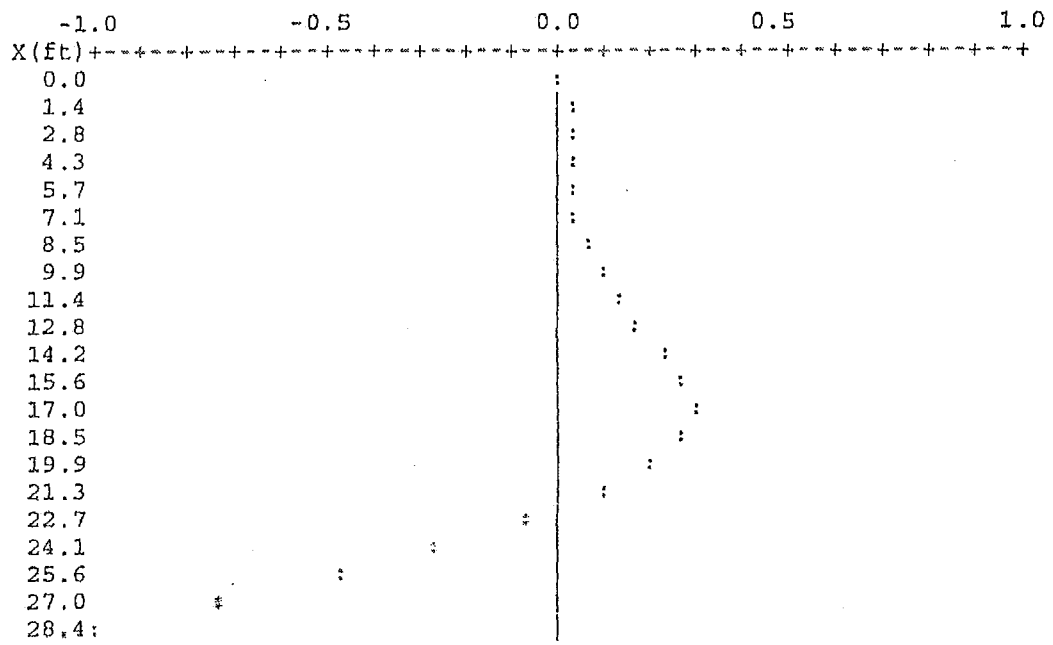
$$\delta_{max} \leq \begin{cases} 1\% \times 16' \times \frac{12''}{1'} = 1.92'' \\ 2'' \end{cases}$$

$\delta_{max} = 1.92'' \sim 1.92''$ (ok

Moment (M/Mmax)



Shear (V/Vmax)



MUESER RUTLEDGE CONSULTING ENGINEERS

SHEET ____ OF ____

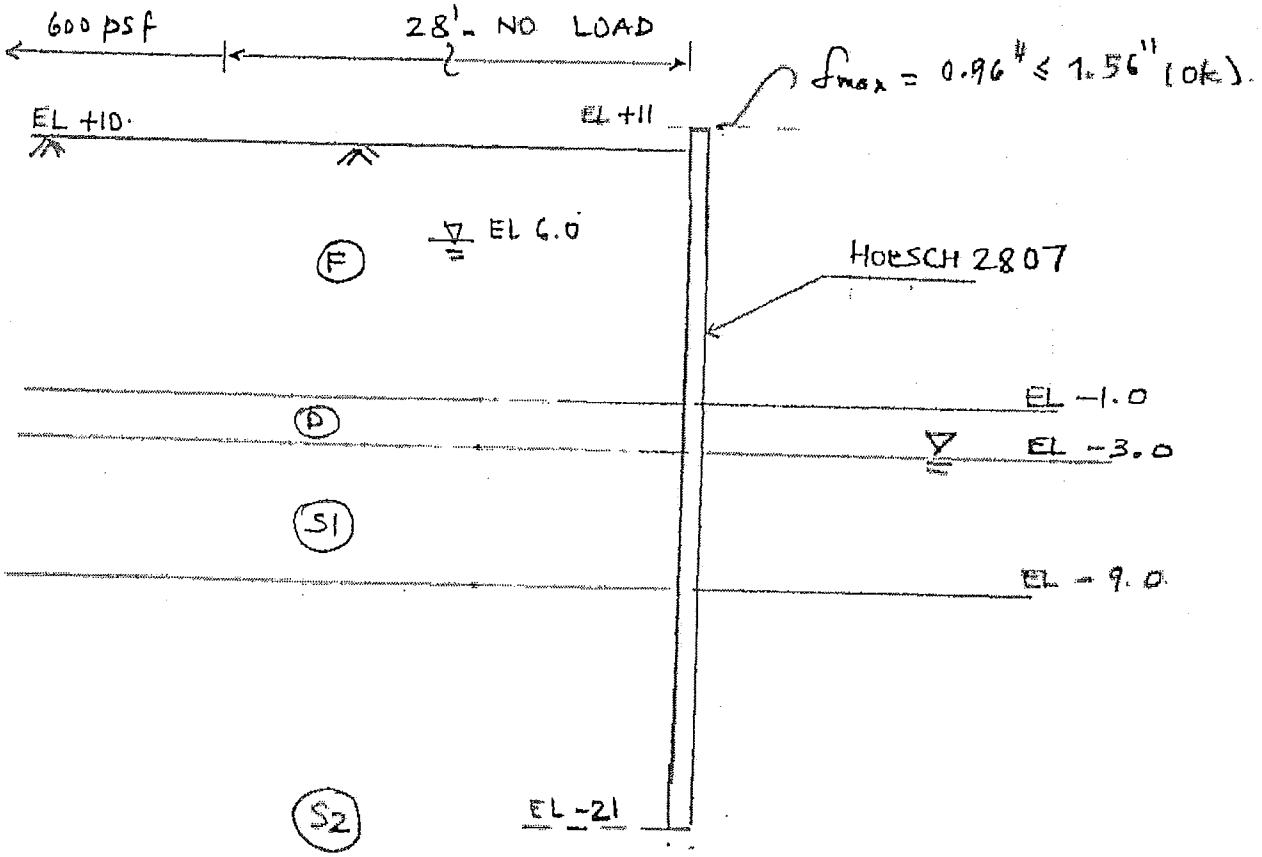
FILE 11173D

PROJECT SA6 – N

MADE BY JM DATE 10/29/14

CHECKED BY MTR DATE 11/07/14

SUBJECT SECTION MC



SCALE 1/8" = 1'–0"

* DEFL. ALLOW.: ACCORDING TO D.O.T.

$13' \times \frac{12''}{1'} \times 0.01 = 1.56''$

Sheet No. _____ of _____

MUESER RUTLEDGE CONSULTING ENGINEERS

File **11173A**

Made By ___JM___ Date _10/29/14

FOR **STUDY AREA 6**

Checked By _____ Date _____

SUBJECT : **NORTHEAST EXCAVATION - EXCAVATE TO EL.-1** **SECTION C-C'**

Lateral Earth Pressures: 600 psf Surcharge offset 28' Boring log 088-SB-304 (Mactec)

DRIVING FORCES											RESISTING FORCES							Net Pressures	Elev.
Layer	Elev.	H	γ	σ_v	k_a	c	R_a	Active Pressures	Traffic Surcharge Pressures	Net Water Pressures	H	γ	σ_v	k_p	R_p	c	Passive Pressures		
	(ft.)	(ft.)	(pcf)	(psf)		(psf)		(psf)	(psf)	(psf)	(ft.)	(pcf)	(psf)			(psf)	(psf)	(psf)	(ft.)
F	10	0	115	0	0.333	0	1.0	0	50	0								50	10
F	6	4	115	460	0.333	0	1.0	153	50	0								203	6
F	6	0	52.6	460	0.333	0	1.0	153	50	0								203	6
F	-1	7	52.6	828	0.333	0	1.0	276	50	437								763	-1
D	-1	0	17.6	828	1	500	1.0	0	50	437	0	80	0	1.00	1.0	500	0	487	-1
D	-3	2	17.6	863	1	500	1.0	0	50	562	2	80	160	1.00	1.0	500	0	612	-3
S1	-3	0	57.6	863	0.283	0	1.0	244	50	562	0	57.6	160	5.90	1.0	0	-944	-88	-3
S1	-5	2	57.6	979	0.283	0	1.0	277	50	562	2	57.6	275	5.90	1.0	0	-1624	-735	-5
S1	-9	4	57.6	1209	0.283	0	1.0	342	50	562	4	57.6	506	5.90	1.0	0	-2983	-2029	-9
S2	-9	0	62.6	1209	0.26	0	1.0	314	50	562	0	62.6	506	6.94	1.0	0	-3509	-2583	-9
S2	-34	25	62.6	2774	0.26	0	1.0	721	50	562	25	62.6	2071	6.94	1.0	0	-14370	-13037	-34

Active Pressures: $\sigma_a = \gamma \cdot H \cdot k_a - 2C\sqrt{k_a}$

Passive Pressures: $\sigma_p = \gamma \cdot H \cdot k_p + 2C\sqrt{k_p}$

NOTES:

* Top D layer on the excavation side is assumed to provide no passive resistance as it is a confined organic layer.
* S1: ϕ=34 deg and δ=14deg → Kp= 5.9 (DM7-2)
* S2: φ=36 deg and δ=14 deg → Kp= 6.94 (DM7-2)

Sheet No. _____ of _____

MUESER RUTLEDGE CONSULTING ENGINEERS

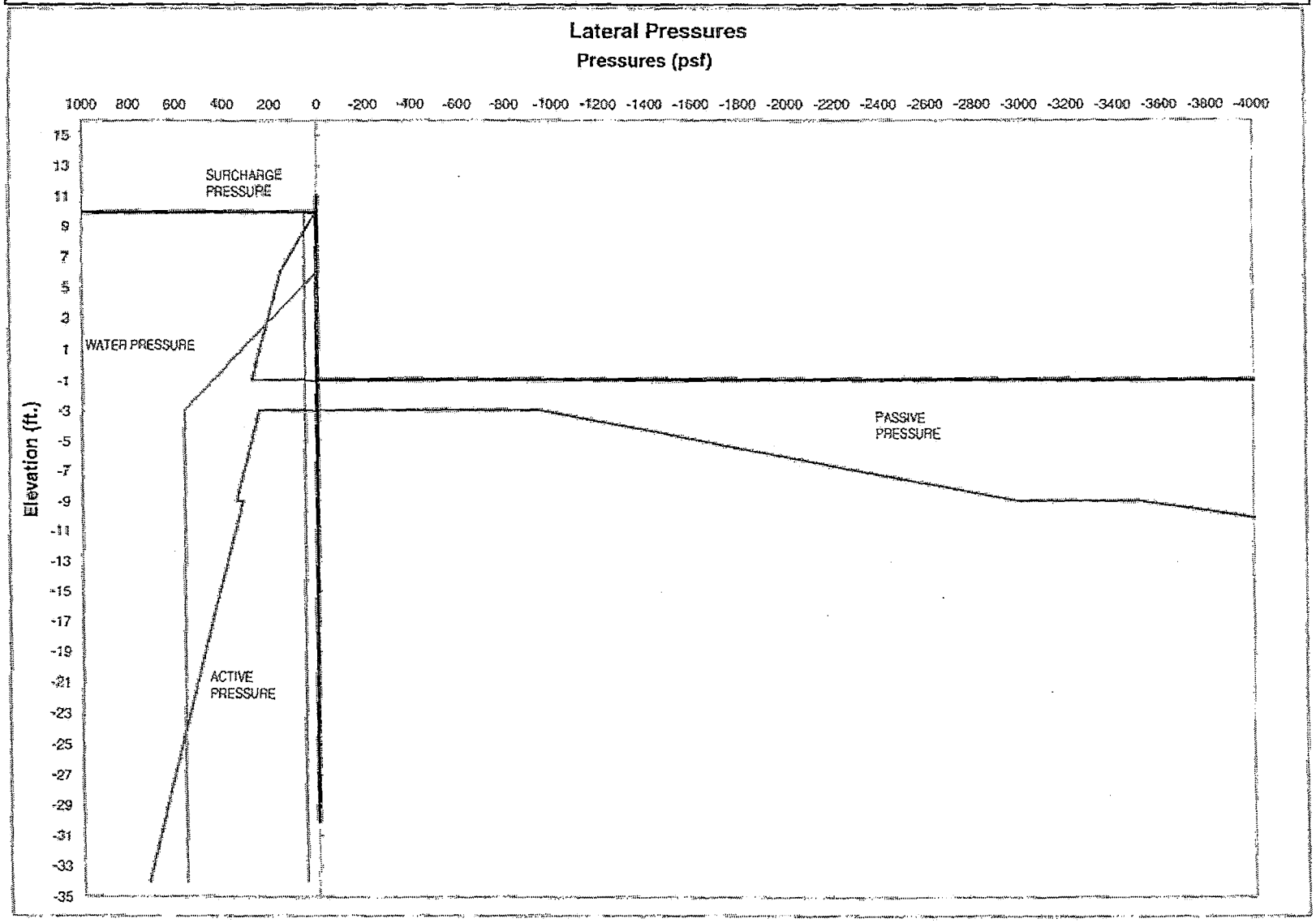
File **11173A**

Made By ____JM____ Date _10/29/14

FOR **STUDY AREA 6**

Checked By _____ Date _____

SUBJECT: **NORTHEAST EXCAVATION - EXCAVATE TO EL.-1** **SECTION C-C'**



MUESER RUTLEDGE CONSULTING ENGINEERS

Sheet No. _____ of _____

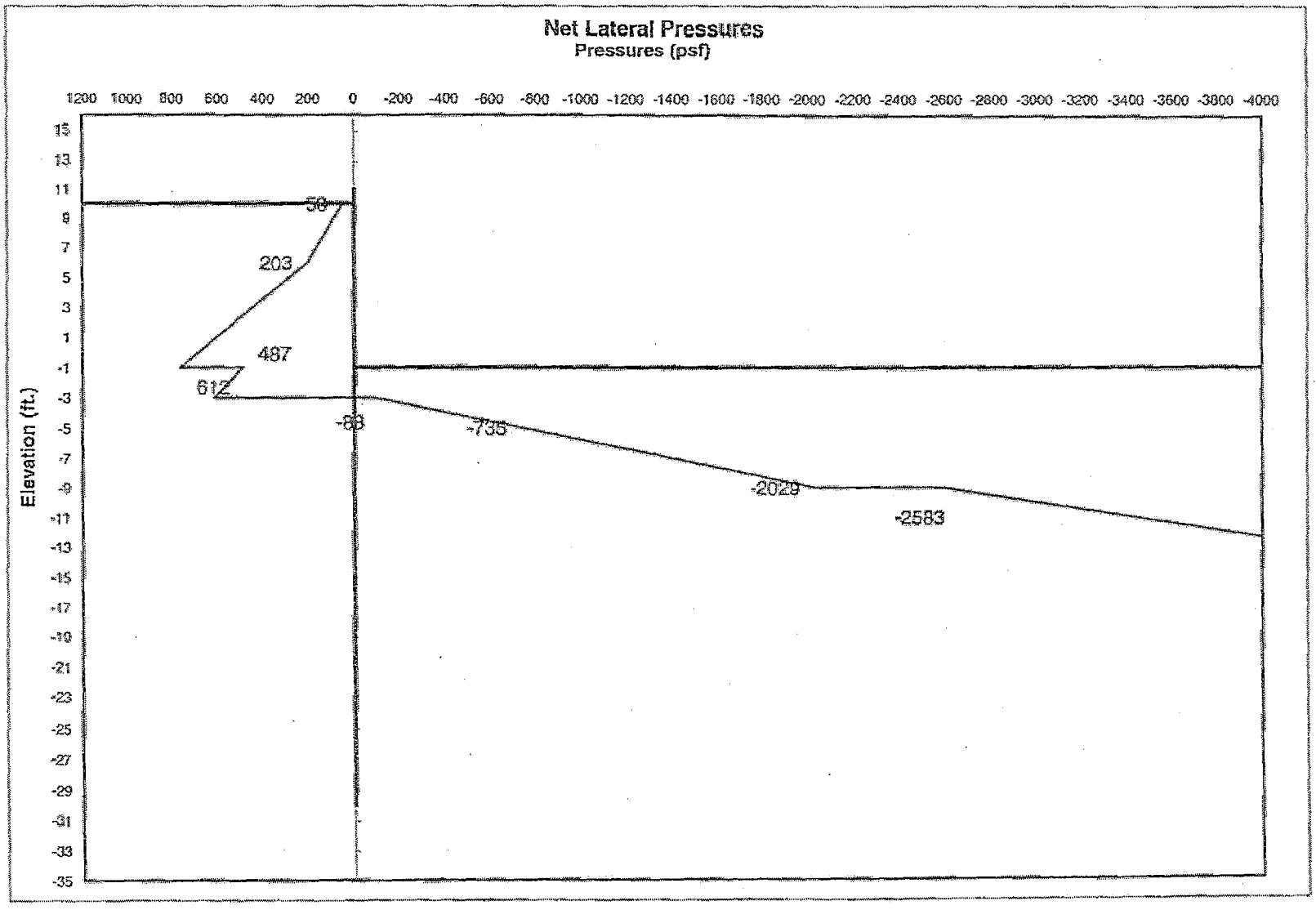
File 11173A

Made By ___JM___ Date _10/29/14

Checked By _____ Date _____

FOR STUDY AREA 6

SUBJECT: NORTHEAST EXCAVATION - EXCAVATE TO EL.-1 SECTION C-C'



MUESER RUTLEDGE CONSULTING ENGINEERS

Cantilever v3.0 BETA for Windows, 32-bit

Subject: SECTION C

INPUT

P	Q	Interval Lengths
0.000	0.000	1.000
0.050	0.203	4.000
0.203	0.763	7.000
0.487	0.612	2.000
-0.088	-2.029	6.000

Passive pressure at subgrade : 2.583
Passive pressure slope : .418
Flexural rigidity : 89699 ← HOESCH 2807

$EI = \frac{(29000\,ksi)(445.4\,in^4/ft)}{144\,in^2/1\,ft^2} = 89699\ k\text{-}ft^2/ft$

OUTPUT

At end of int. 1, Shear= 0.00, Moment= 0.00
At end of int. 2, Shear= 0.51, Moment= 0.81
At end of int. 3, Shear= 3.89, Moment= 13.90
At end of int. 4, Shear= 4.99, Moment= 22.73
At end of int. 5, Shear= -1.37, Moment= 39.41

D= 4.54 embedment below subgrade with F.S.= 1 ← FS = 1.3

Total Length of sheetpile is 24.54

$D = (4.54 + 2 + 6)(1.2)(1.3)$

Depth of max. moment= 19.29

$D \approx 19.6'$ below EL -1.0

Max. moment= 39.89

B.O.P. EL => $-20.6 \approx -21$

Depth of max. shear= 24.54
Max. shear= 17.41

Req'd PILE LENGTH $= 11 - (-21)$

$= 32'$

X	V	M	Defl.
0.00	0.00	0.00	0.08
1.23	0.01	0.00	0.07
2.45	0.11	0.07	0.07
3.68	0.27	0.30	0.06
4.91	0.49	0.76	0.06
6.14	0.79	1.53	0.05
7.36	1.21	2.75	0.04
8.59	1.75	4.55	0.04
9.82	2.41	7.09	0.03
11.04	3.19	10.52	0.03
12.27	4.02	14.97	0.02
13.50	4.69	20.30	0.02
14.73	4.84	26.30	0.01
15.95	4.20	31.89	0.01
17.18	3.07	36.40	0.01
18.41	1.46	39.23	0.00
19.63	-0.64	39.78	0.00
20.86	-3.74	37.24	0.00
22.09	-7.67	30.30	0.00
23.31	-12.22	18.16	0.00
24.54	-17.41	0.04	0.00

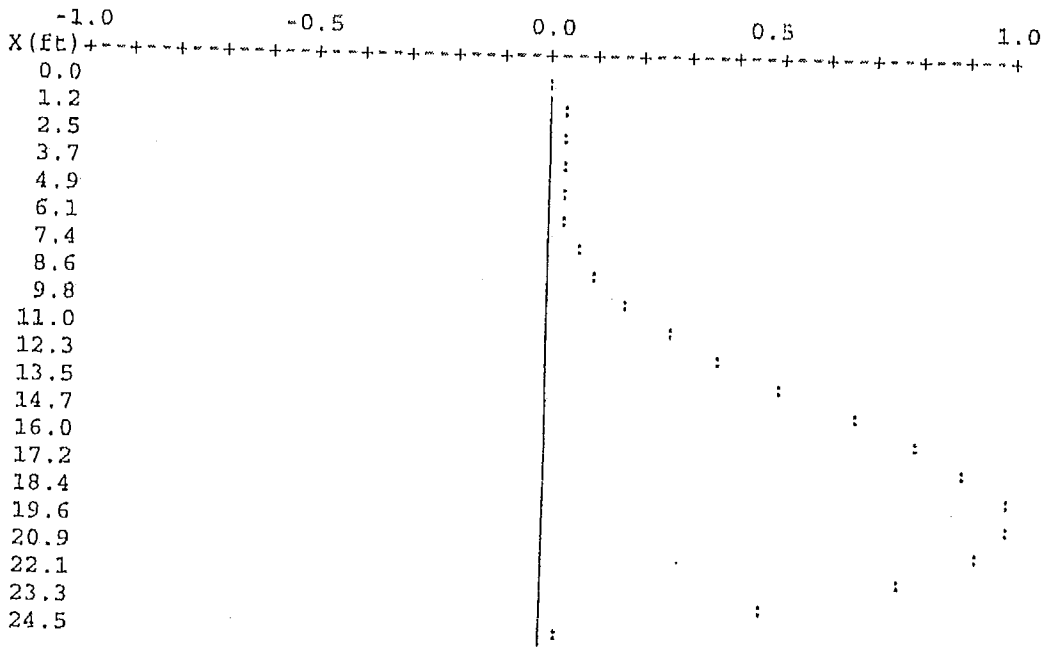
$\leftarrow \delta_{max} = 0.08' \times \frac{12''}{1'} = 0.96''$

Max allowable Deflection

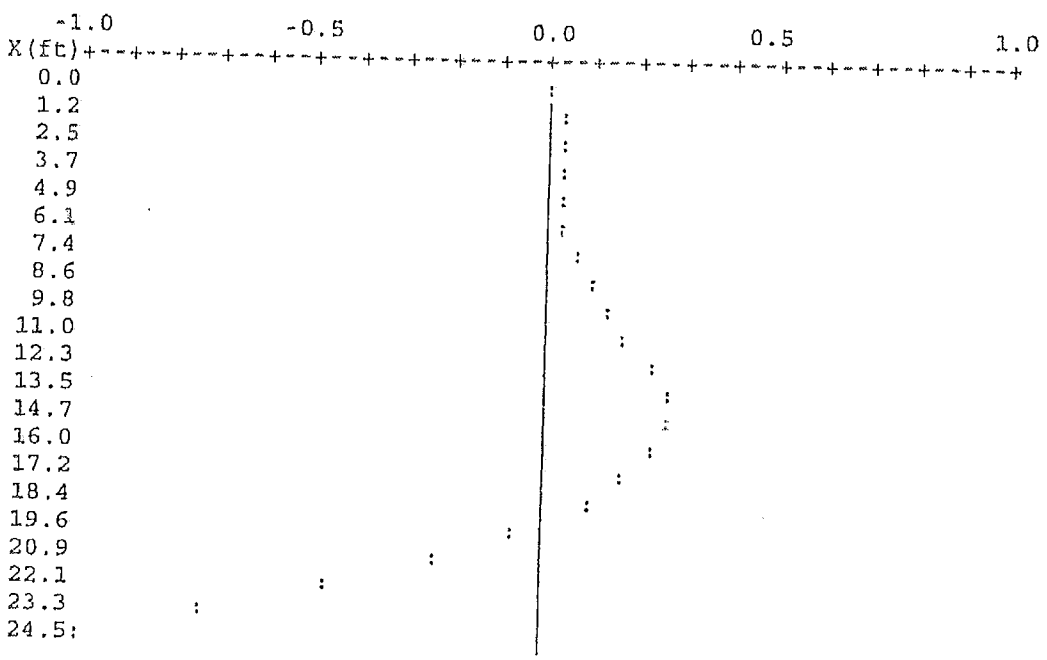
$1'/. \times 13' \times \frac{12''}{1'} = 1.56''$

$\delta_{max} = 0.96'' \leq 1.56''$ (ok)

Moment (M/Mmax)



Shear (V/Vmax)



MUESER RUTLEDGE CONSULTING ENGINEERS

SHEET ____ OF ____

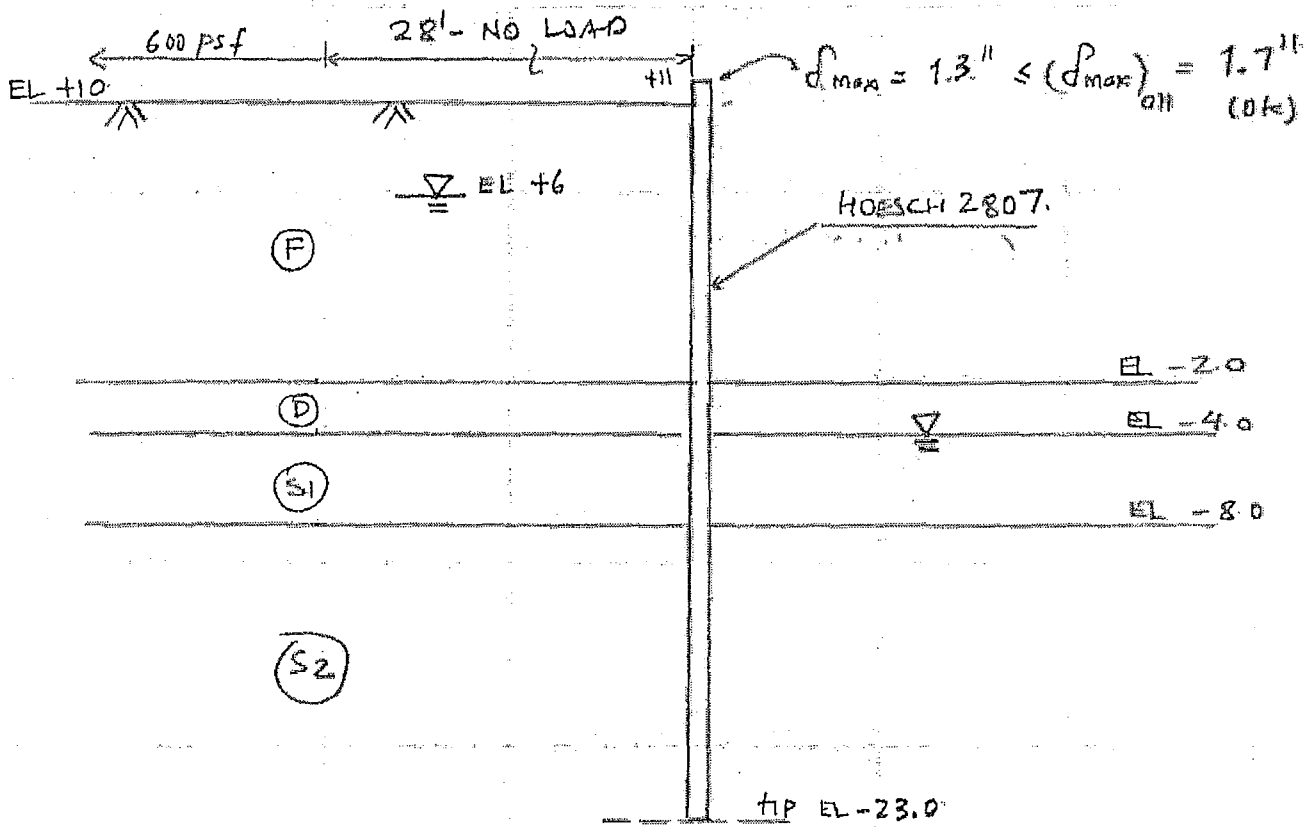
FILE 11173D

MADE BY JM DATE 10/29/14

CHECKED BY MTR DATE 11/07/14

PROJECT SA6 - N

SUBJECT SECTION MD



SCALE 1/8" = 1'-0"

* DEF. ALLOW ACCORDING TO DOT : $1\% \times 14' \times \frac{12''}{1'} = 1.7''$

Sheet No. _____ of _____

MUESER RUTLEDGE CONSULTING ENGINEERS File **11173A**

Made By ____JM____ Date _10/29/14

FOR **STUDY AREA 6 NORTH** Checked By _____ Date _____

SUBJECT: **NORTHEAST EXCAVATION - EXCAVATE TO EL.-2** **SECTION D-D'**

Lateral Earth Pressures: 600 psf Surcharge offset 28' Between Boring logs 088-SB-304 and 088-304-305 (Mactec)

DRIVING FORCES											RESISTING FORCES						
Layer	Elev.	H	γ	σ_v	k_a	c	R_a	Active Pressures	Traffic Surcharge Pressures	Net Water Pressures	H	γ	σ_v	k_p	R_p	c	Passive Pressures
	(ft.)	(ft.)	(pcf)	(psf)		(psf)		(psf)	(psf)	(psf)	(ft.)	(pcf)	(psf)			(psf)	(psf)
F	10	0	115	0	0.33	0	1.0	0	50	0							
F	6	4	115	460	0.33	0	1.0	153	50	0							
F	6	0	52.6	460	0.33	0	1.0	153	50	0							
F	-1	7	52.6	828	0.33	0	1.0	276	50	437							
F	-2	1	52.6	881	0.33	0	1.0	293	50	499							
D	-2	0	17.6	881	1.00	500	1.0	0	50	499	0	80	0	1.00	1.00	500	0
D	-3	1	17.6	898	1.00	500	1.0	0	50	562	1	80	80	1.00	1.00	500	0
D	-3	0	17.6	898	1.00	500	1.0	0	50	562	0	80	80	1.00	1.00	500	0
D	-4	1	17.6	916	1.00	500	1.0	0	50	624	1	80	160	1.00	1.00	500	0
S1	-4	0	57.6	916	0.28	0	1.0	259	50	624	0	57.6	160	5.90	1.00	0	-944
S1	-8	4	57.6	1146	0.28	0	1.0	324	50	624	4	57.6	390	5.90	1.00	0	-2303
S2	-8	0	62.6	1146	0.26	0	1.0	298	50	624	0	62.6	390	6.94	1.00	0	-2709
S2	-34	26	62.6	2774	0.26	0	1.0	721	50	624	26	62.6	2018	6.94	1.00	0	-14005

Net Pressures	Elev.
(psf)	(ft.)
50	10
203	6
203	6
763	-1
843	-2
549	-2
612	-3
612	-3
674	-4
-11	-4
-1305	-8
-1737	-8
-12610	-34

Active Pressures: $\sigma_a = \gamma \cdot H \cdot k_a - 2C \cdot \sqrt{k_a}$

Passive Pressures: $\sigma_p = \gamma \cdot H \cdot k_p + 2C \cdot \sqrt{k_p}$

NOTES:

* Top D layer on the excavation side is assumed to provide no passive resistance as it is a confined organic layer.
* S1: ϕ=34 deg and δ=14deg → Kp= 5.9 (DM7-2)
* S2: φ=36 deg and δ=14deg → Kp= 6.94 (DM7-2)

Sheet No. _____ of _____

MUESER RUTLEDGE CONSULTING ENGINEERS

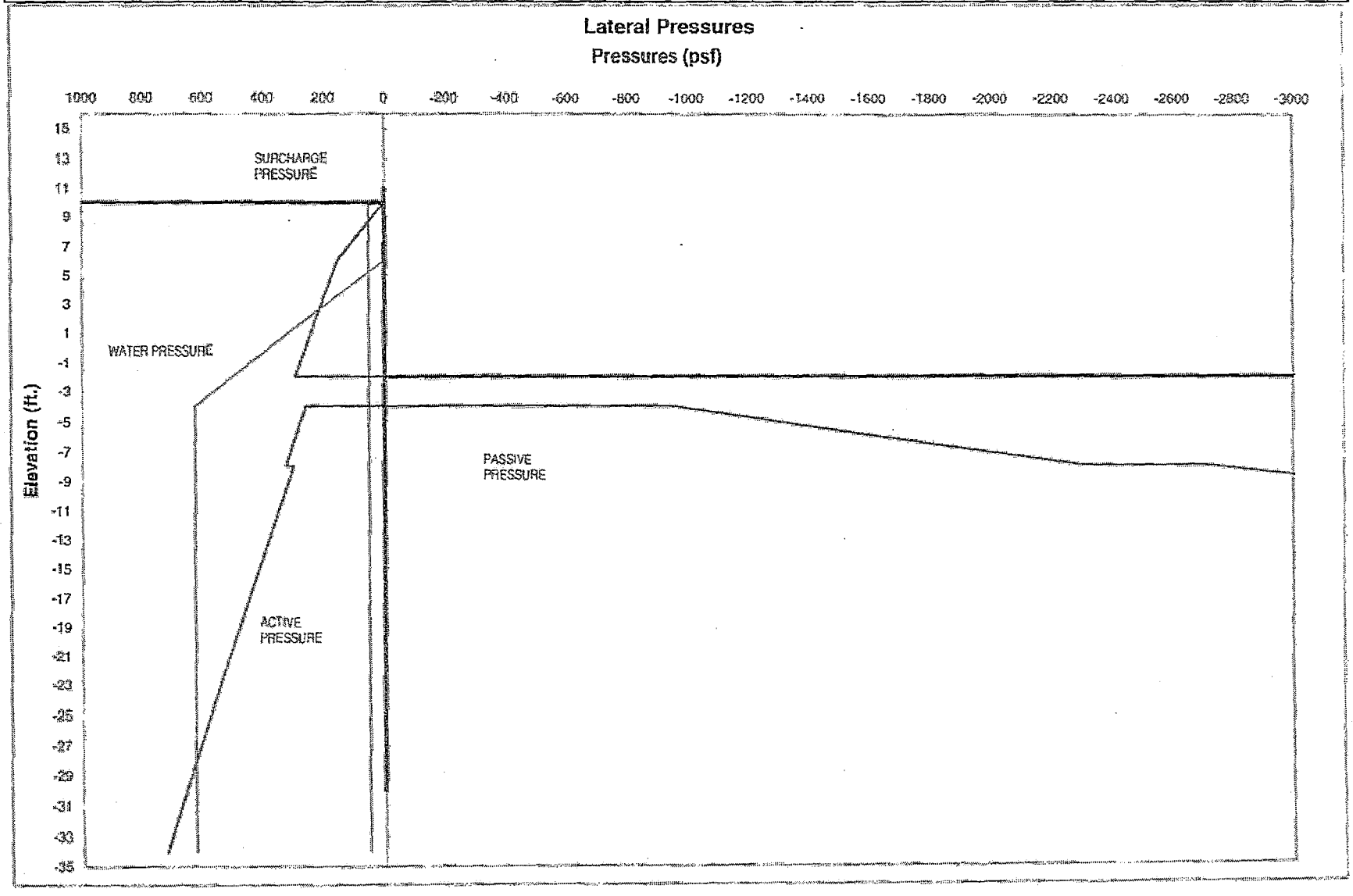
File **11173A**

Made By ____JM____ Date _10/29/14

FOR **STUDY AREA 6 NORTH**

Checked By _____ Date _____

SUBJECT: **NORTHEAST EXCAVATION - EXCAVATE TO EL.-2** **SECTION D-D'**



MUESER RUTLEDGE CONSULTING ENGINEERS

Sheet No. _____ of _____

File 11173A

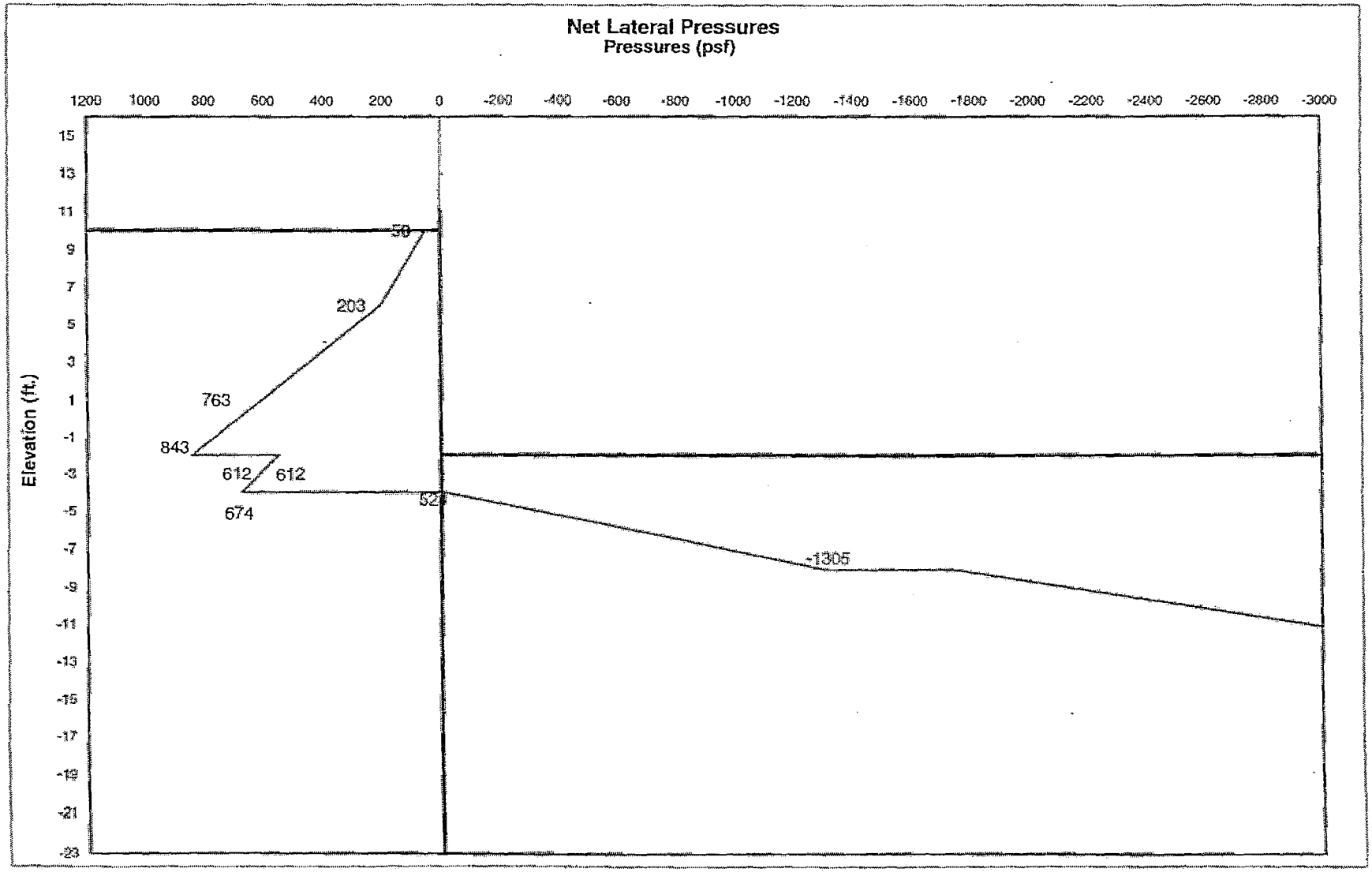
Made By ____JM____ Date _10/29/14

Checked By _____ Date _____

FOR STUDY AREA 6 NORTH

SUBJECT : NORTHEAST EXCAVATION - EXCAVATE TO EL.-2

SECTION D-D'



MUESER RUTLEDGE CONSULTING ENGINEERS

Cantilever v3.0 BETA for Windows, 32-bit

Subject: SECTION D

INPUT

P	Q	Interval Lengths
0.000	0.000	1.000
0.050	0.203	4.000
0.203	0.843	8.000
0.549	0.674	2.000
-0.011	-1.305	4.000

Passive pressure at subgrade : 1.737
Passive pressure slope : .418
Flexural rigidity : 89699 ← HOESCH 2807 (SEE CALC. FOR SECTION C)

OUTPUT

At end of int. 1, Shear= 0.00, Moment= 0.00
At end of int. 2, Shear= 0.51, Moment= 0.81
At end of int. 3, Shear= 4.69, Moment= 18.18
At end of int. 4, Shear= 5.91, Moment= 28.74
At end of int. 5, Shear= 3.28, Moment= 48.85

D= 7.26 embedment below subgrade with F.S.= 1 ← F.S = 1.3

Total Length of sheetpile is 26.26

$D = (7.26 + 4 + 2)(1.3)(1.2)$

$D = 20.7'$ below EL. -2

Depth of max. moment= 20.59
Max. moment= 51.59

B.O.P. EL = $-2 - 20.7 = -22.7$ ~-23

Depth of max. shear= 26.26
Max. shear= 20.37

Reqd Pile Length: $11 + 23 = 34'$

X	V	M	Defl.
0.00	0.00	0.00	0.11
1.31	0.02	0.00	0.11
2.63	0.13	0.09	0.10
3.94	0.31	0.38	0.09
5.25	0.56	0.94	0.08
6.57	0.92	1.90	0.07
7.88	1.42	3.42	0.07
9.19	2.06	5.70	0.06
10.51	2.84	8.90	0.05
11.82	3.75	13.21	0.04
13.13	4.76	18.80	0.04
14.45	5.55	25.56	0.03
15.76	5.81	33.20	0.02
17.07	5.20	40.49	0.02
18.39	4.02	46.60	0.01
19.70	1.97	50.70	0.01
21.01	-1.06	51.37	0.00
22.32	-4.80	47.60	0.00
23.64	-9.27	38.44	0.00
24.95	-14.46	22.94	0.00
26.26	-20.37	0.15	0.00

$\leftarrow \delta_{max} = 0.11' \times \frac{12''}{1'} = 1.32''$

MAX. Allowable DEFLECTION

$1\% \times 14' \times \frac{12''}{1'} = 1.7''$

$\delta_{max} = 1.32'' \leq 1.7''$ (OK)

Moment (M/Mmax)

```
   -1.0          -0.5          0.0          0.5          1.0
X(ft)+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+
  0.0                          :
  1.3                          |:
  2.6                          |:
  3.9                          |:
  5.3                          |:
  6.6                          |:
  7.9                          | :
  9.2                          |  :
 10.5                          |   :
 11.8                          |    :
 13.1                          |     :
 14.4                          |      :
 15.8                          |       :
 17.1                          |        :
 18.4                          |         :
 19.7                          |          :
 21.0                          |          :
 22.3                          |         :
 23.6                          |        :
 25.0                          |     :
 26.3                          |:
```

Shear (V/Vmax)

```
   -1.0          -0.5          0.0          0.5          1.0
X(ft)+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+
  0.0                          :
  1.3                          |:
  2.6                          |:
  3.9                          |:
  5.3                          |:
  6.6                          |:
  7.9                          | :
  9.2                          |  :
 10.5                          |   :
 11.8                          |    :
 13.1                          |     :
 14.4                          |      :
 15.8                          |       :
 17.1                          |      :
 18.4                          |    :
 19.7                          |  :
 21.0                        :  |
 22.3                      :    |
 23.6                  :        |
 25.0            :              |
 26.3:                          |
```

MUESER RUTLEDGE CONSULTING ENGINEERS

SHEET ____ OF ____

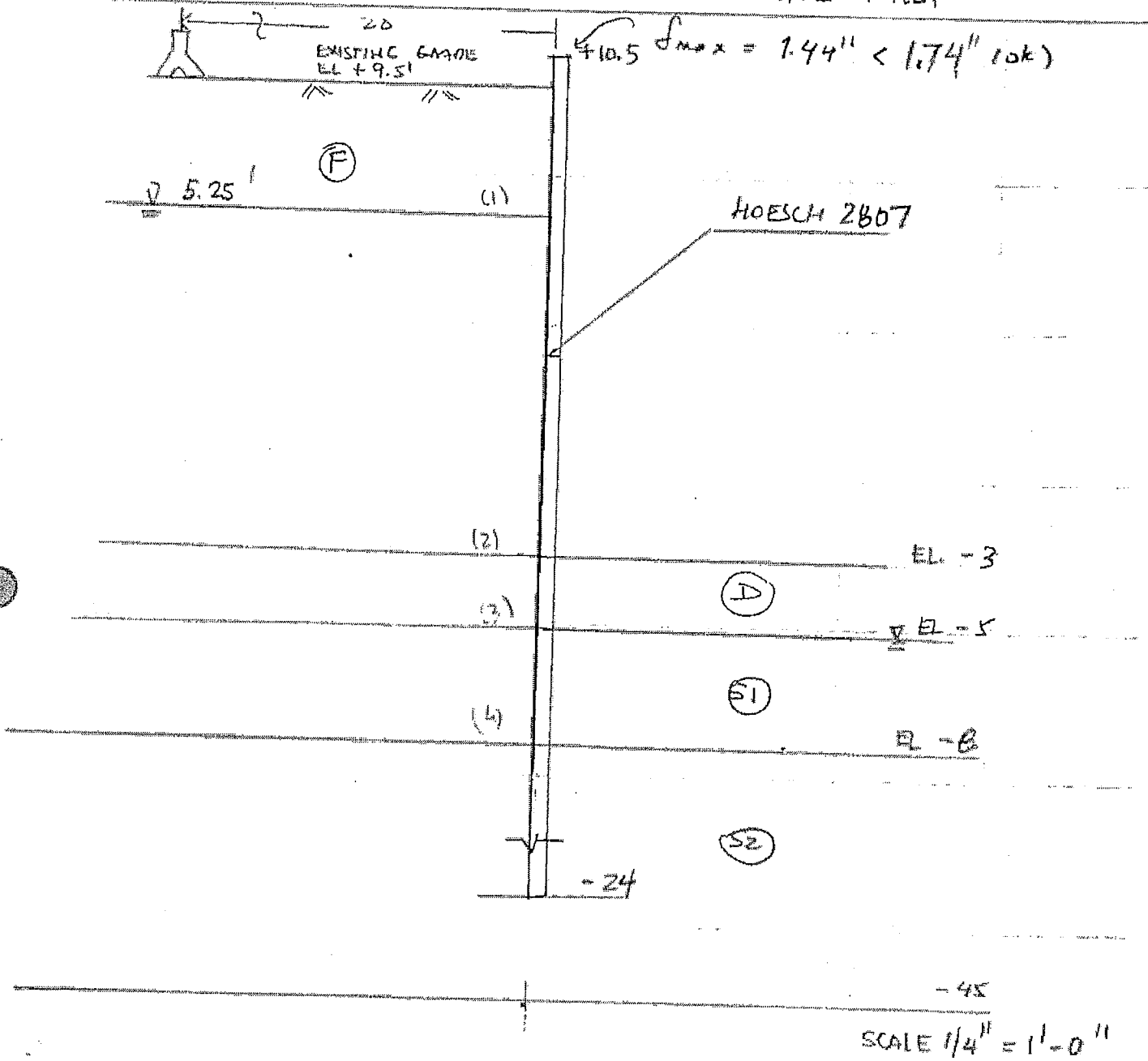
FILE 111730

PROJECT SA-6 NORTH.

MADE BY JM DATE 10/29/14

CHECKED BY MTR DATE 11/07/14

SUBJECT SETTING ME / SHEET PILES BETWEEN DRIVEN PILES



NOTE:

- DEF. ALLOW : $1\% \cdot 145'' \times \frac{12''}{1'} = 1.74''$

Sheet No. _____ of _____

MUESER RUTLEDGE CONSULTING ENGINEERS

File **11173D**

Made By ____JM___ Date : 10/30/2014

FOR **STUDY AREA 6**

Checked By _____ Date _____

SUBJECT : **NORTHEAST EXCAVATION - EXCAVATE TO EL.-3** **SECTION E-E' (SHEETPILE BETWEEN DRIVEN PILES)**

Lateral Earth Pressures: 600 psf Surcharge 28' offset Between Boring logs 088-SB-305

DRIVING FORCES											RESISTING FORCES						
Layer	Elev.	H	γ	σ_v	k_a	c	R_a	Active Pressures	Construction Surcharge Pressures	Net Water Pressures	H	γ	σ_v	k_p	R_p	c	Passive Pressures
	(ft.)	(ft.)	(pcf)	(psf)		(psf)		(psf)	(psf)	(psf)	(ft.)	(pcf)	(psf)			(psf)	(psf)
F	9.5	0	115	0	0.33	0	1.00	0	50	0							
F	5.25	4.25	115	489	0.33	0	1.00	163	50	0							
F	5.25	0	52.6	489	0.33	0	1.00	163	50	0							
F	4	1.25	52.6	555	0.33	0	1.00	185	50	78							
F	2	2	52.6	660	0.33	0	1.00	220	50	203							
F	-1	3	52.6	818	0.33	0	1.00	272	50	390							
F	-3	2	52.6	923	0.33	0	1.00	307	50	515							
D	-3	0	17.6	923	1.00	500	1.00	0	0	515	0	80	0	1	1.00	500	0
D	-5	2	17.6	958	1.00	500	1.00	0	0	640	2	80	160	1	1.00	500	0
S1	-5	0	57.6	958	0.28	0	1.00	271	0	640	0	57.6	160	5.90	1.00	0	-944
S1	-8	3	57.6	1131	0.28	0	1.00	320	0	640	3	57.6	333	5.90	1.00	0	-1964
S2	-8	0	62.6	1131	0.26	0	1.00	294	0	640	0	62.6	333	6.94	1.00	0	-2308
S2	-10	2	62.6	1256	0.26	0	1.00	327	0	640	2	62.6	458	6.94	1.00	0	-3177
S3	-20	10	62.6	1882	0.26	0	1.00	489	0	640	10	62.6	1084	6.94	1.00	0	-7519
S2	-45	25	62.6	3447	0.26	0	1.00	896	0	640	25	62.6	2649	6.94	1.00	0	-18373

Net Pressures	Elev.
(psf)	(ft.)
50	9.5
213	5.25
213	5.25
313	4
472	2
712	-1
872	-3
515	-3
640	-5
-33	-5
-1004	-8
-1375	-8
-2211	-10
-6390	-20
-16838	-45

Active Pressures: $\sigma_a = \gamma \cdot H \cdot k_a - 2C\sqrt{k_a}$

Passive Pressures: $\sigma_p = \gamma \cdot H \cdot k_p + 2C\sqrt{k_p}$

Sheet No. _____ 01 _____

MUESER RUTLEDGE CONSULTING ENGINEERS

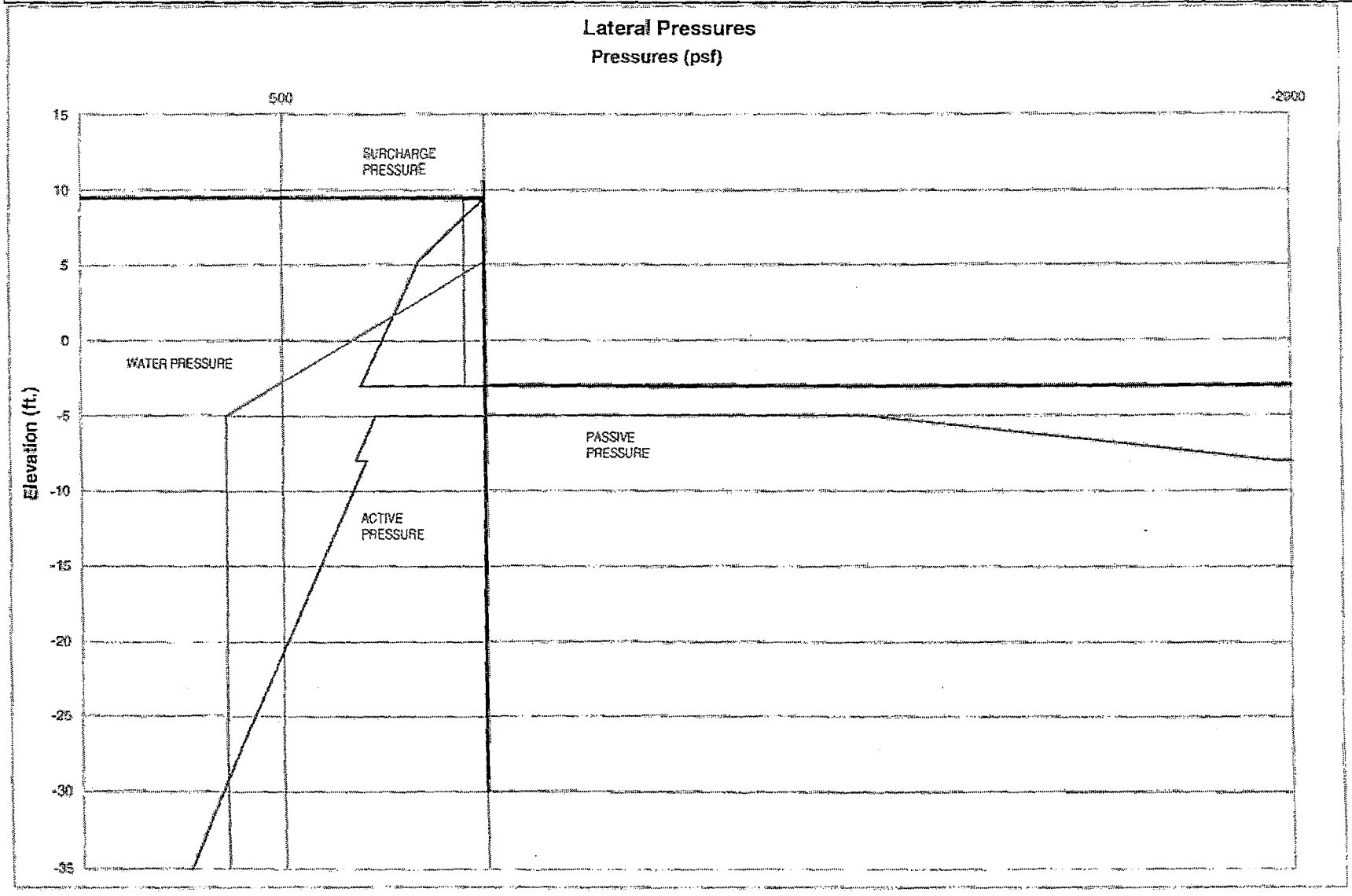
File 11173D

Made By ____JM___ Date : 10/30/2014

FOR STUDY AREA 6

Checked By _____ Date _____

SUBJECT : **NORTHEAST EXCAVATION - EXCAVATE TO EL.-3** **SECTION E-E' (SHEETPILE BETWEEN DRIVEN PILES)**

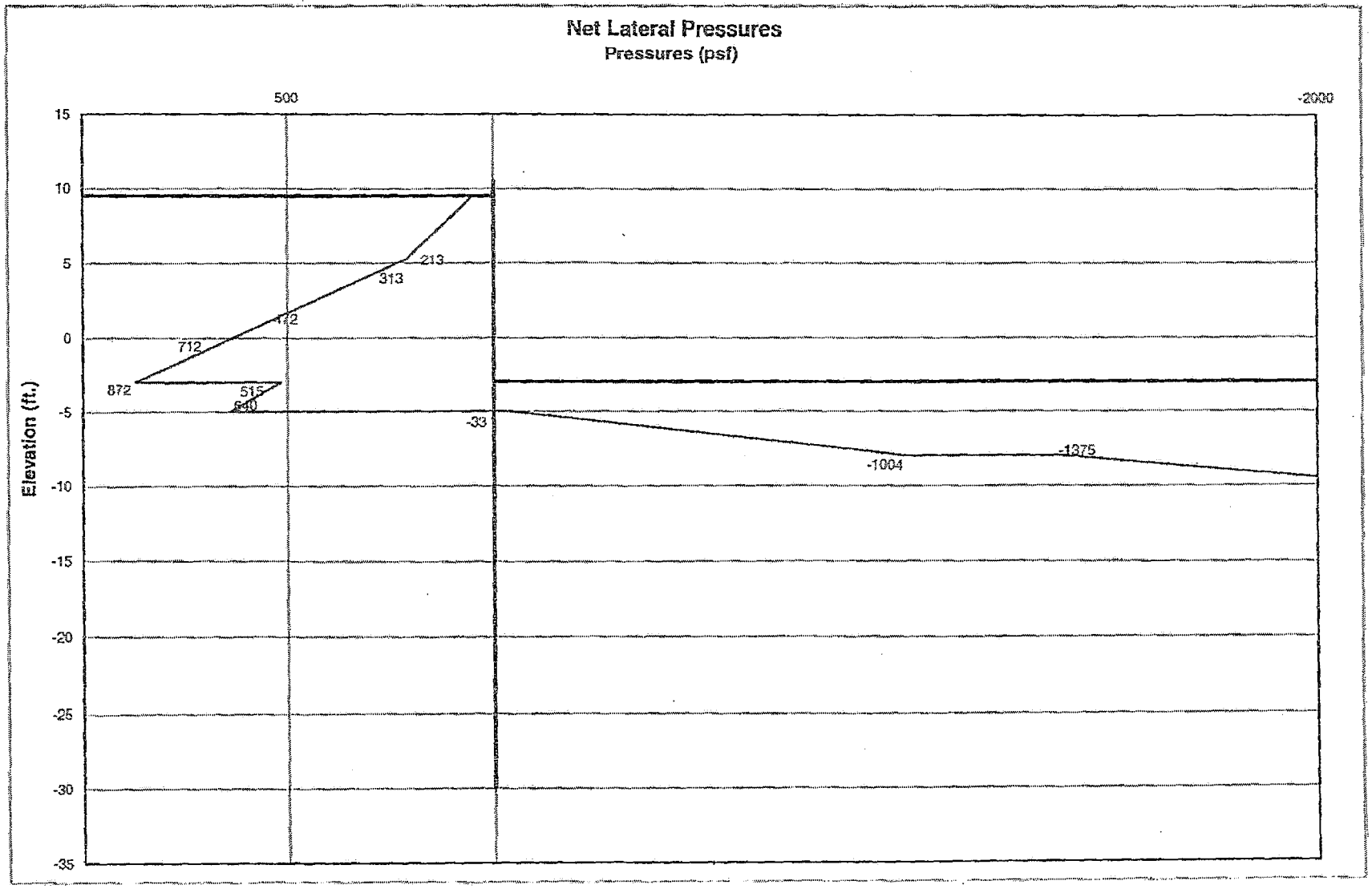


MUESER RUTLEDGE CONSULTING ENGINEERS

Sheet No. _____ of _____
File 11173D
Made By ____JM___ Date : 10/30/2014
Checked By _____ Date _____

FOR STUDY AREA 6

SUBJECT : NORTHEAST EXCAVATION - EXCAVATE TO EL.-3 SECTION E-E' (SHEETPILE BETWEEN DRIVEN PILES)



MUESER RUTLEDGE CONSULTING ENGINEERS

Cantilever v3.0 BETA for Windows, 32-bit

Subject: SECTION E- SHEETPILE BETWEEN DRIVEN PILES

INPUT

P	Q	Interval Lengths
0.000	0.000	1.000
0.050	0.213	4.250
0.213	0.872	8.250
0.515	0.640	2.000
-0.033	-1.004	3.000

Passive pressure at subgrade : 1.375
Passive pressure slope : .418
Flexural rigidity : 89699 ← HOESCH 2807

EI = 89699 $\frac{k\text{-}ft^2}{ft}$ (SEE CALCS IN SECTION C)

OUTPUT

At end of int. 1, Shear= 0.00, Moment= 0.00
At end of int. 2, Shear= 0.56, Moment= 0.94
At end of int. 3, Shear= 5.03, Moment= 20.28
At end of int. 4, Shear= 6.19, Moment= 31.46
At end of int. 5, Shear= 4.63, Moment= 48.42

D= 8.28 embedment below subgrade with F.S.= 1 ← F.S = 1.3

Total Length of sheetpile is 26.78 ←

D = (8.28 + 2 + 3)(1.2)(1.3)

D = 20.7' below EL -3

B.O.P. EL. = -3 - 20.7 ~ -24

Depth of max. moment= 20.95
Max. moment= 54.63

Depth of max. shear= 26.78
Max. shear= 21.07

Req'd PILE LENGTH: 10.5 + 24 = 34.5
~ 35'

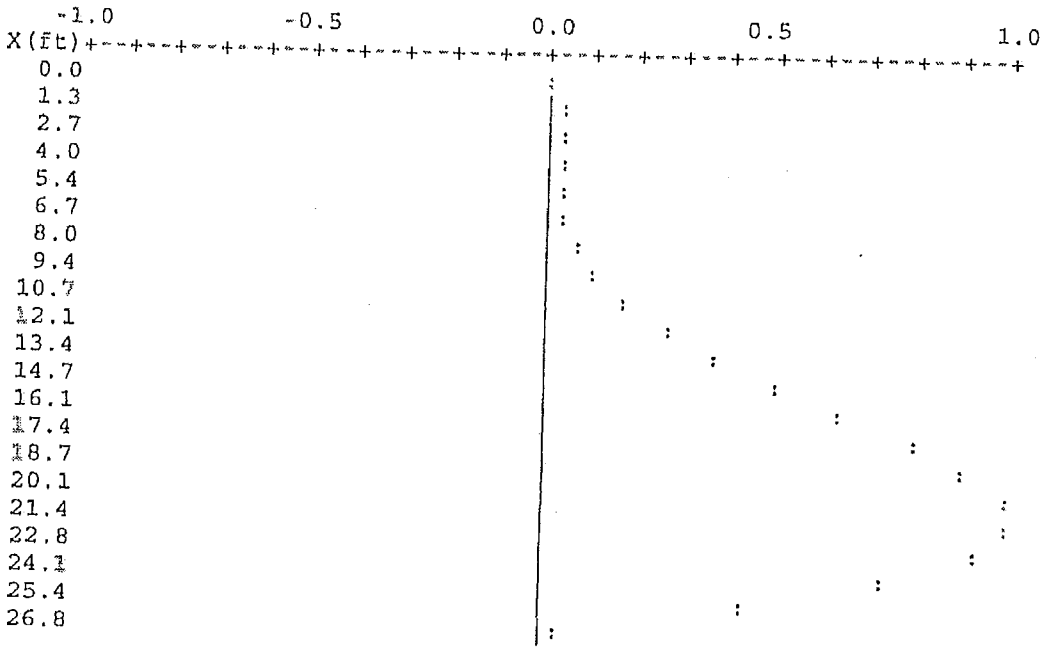
X	V	M	Defl.
0.00	0.00	0.00	0.12
1.34	0.02	0.00	0.12
2.68	0.14	0.10	0.11
4.02	0.33	0.40	0.10
5.36	0.58	1.00	0.09
6.69	0.95	2.01	0.08
8.03	1.46	3.61	0.07
9.37	2.12	5.99	0.06
10.71	2.91	9.34	0.05
12.05	3.85	13.85	0.05
13.39	4.94	19.72	0.04
14.73	5.71	26.87	0.03
16.07	6.12	34.95	0.02
17.41	5.54	42.82	0.02
18.74	4.28	49.51	0.01
20.08	1.93	53.76	0.01
21.42	-1.17	54.35	0.00
22.76	-5.02	50.29	0.00
24.10	-9.62	40.58	0.00
25.44	-14.97	24.19	0.00
26.78	-21.07	0.15	0.00

$\leftarrow \delta_{max} = 0.12' \times \frac{12''}{1'} = 1.44''$

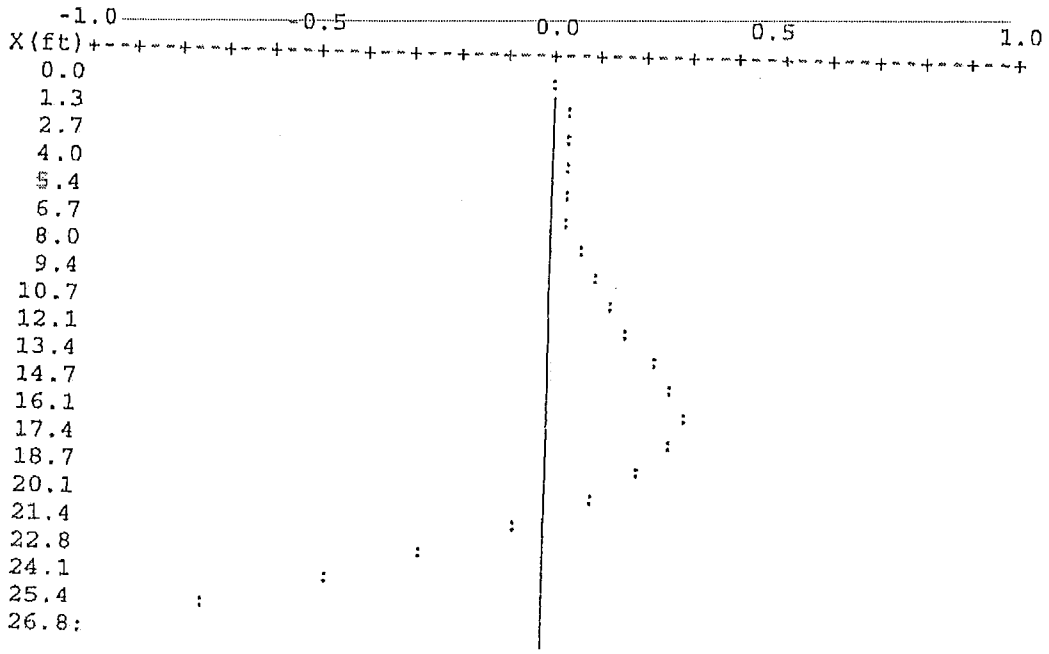
$\delta_{max} \leq \begin{cases} \frac{1}{100} \times 14.5' \times \frac{12''}{1'} = 1.74 \\ 2'' \end{cases}$

$\delta_{max} = 1.44'' < 1.74''$ (ok)

Moment (M/Mmax)



Shear (V/Vmax)



Soldier Pile Design

Sheet _____ of _____

MUESER RUTLEDGE CONSULTING ENGINEERS

File 11173D

Made By JM Date 11/07/14

PROJECT STUDY AREA 6- NORTH WALL

Checked By MTR Date 11/07/14

SUBJECT **SUPPORT OF EXCAVATION (SOLDIER PILE DESIGN)**

Soldier Pile: W14X193
[ASTM A992 Grade 50]

SECTION ME

	Grade Elevation	GROUND Water Elevation	Maximum Wall Moment	Maximum Wall Shear	Maximum Pile Deflection	Subgrade Elevation	Embedment Depth below Subgrade	Soldier Pile Tip Elev. required
			M_{max}	V_{max}			FS = 1.3	
			k-ft/ft	k/ft	in		ft	
DRILLED PILE	9.5	5.25	48.0	17.3	2.26	-3.0	13.5	EL.-16.5
DRIVEN PILE	9.5	5.25	45.6	17.4	1.20	-3.0	20.0	EL.-23

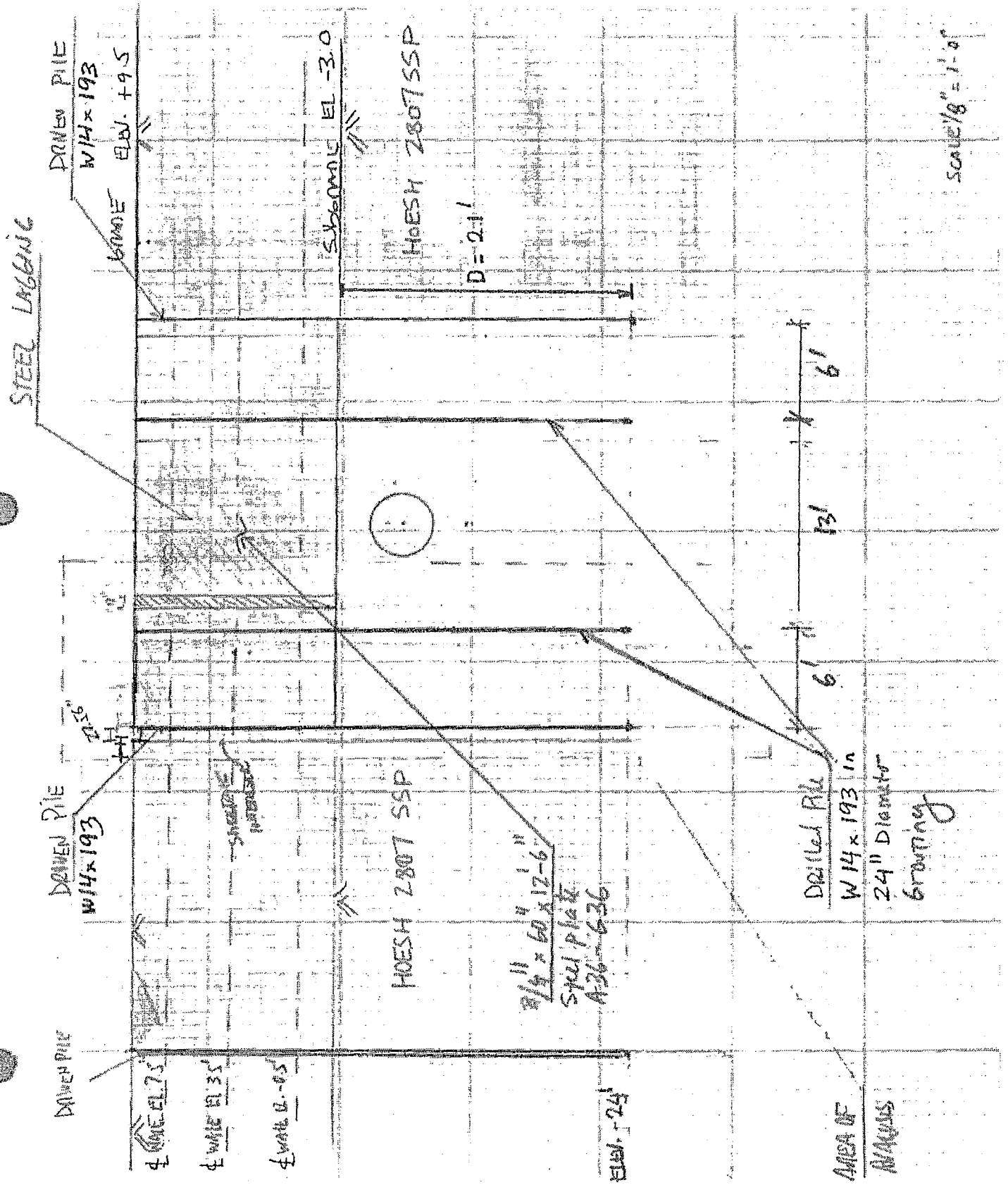
USE TIP EL -24
(SHEET PILE TIP ELEVATION)
(CONSERVATIVE).

MUESER RUTLEDGE CONSULTING ENGINEERS

SHEET ____ OF ____
FILE 11173 D
MADE BY JM DATE 10/29/14
CHECKED BY MTR DATE 11/07/14

PROJECT SA-6 NORTH

SUBJECT SECTION MA

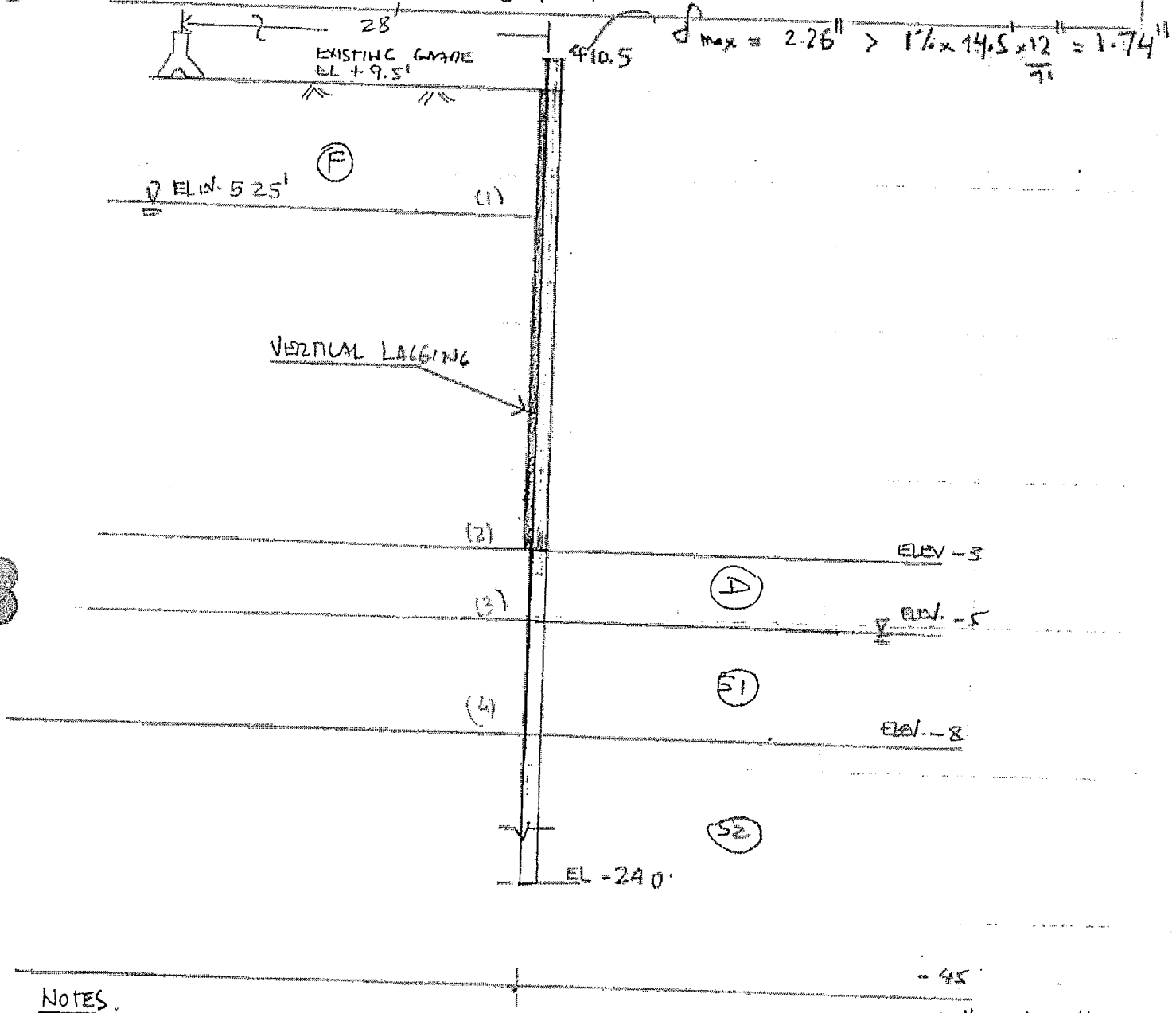


MUESER RUTLEDGE CONSULTING ENGINEERS

SHEET ____ OF ____
FILE 11173D
MADE BY JM DATE 10/29/14
CHECKED BY MTR DATE 11/07/14

PROJECT SA-6 NORTH.

SUBJECT SECTION ME - DRILLED PILE



NOTES.

SCALE 1/4" = 1'-0"

1) REDUCTION FACTOR DUE TO NOT LAGGING.

24" (I) · DRILLED PILE · $R_A = \frac{24}{9.5 \times 12} = 0.21$; $R_P = 3R_A = 0.63 < 1$ (OK)
S = 9.5'

Sheet No. _____ of _____

MUESER RUTLEDGE CONSULTING ENGINEERS

File 11173D

Made By ____JM___ Date :10/30/2014

FOR STUDY AREA 6

Checked By _____ Date _____

SUBJECT : **NORTHEAST EXCAVATION - EXCAVATE TO EL.-3 (PER SOLDIER PILE)** **SECTION E-E' (DRILLED PILE)**

Lateral Earth Pressures: 600 psf Surcharge 28' offset Between Boring logs 088-SB-305

DRIVING FORCES											RESISTING FORCES							Net Pressures	Elev.
Layer	Elev.	H	γ	σ_v	k_a	c	R_a	Active Pressures	Construction Surcharge Pressures	Net Water Pressures	H	γ	σ_v	k_p	R_p	c	Passive Pressures		
	(ft)	(ft)	(pcf)	(psf)		(psf)		(psf)	(psf)	(psf)	(ft)	(pcf)	(psf)			(psf)	(psf)	(psf)	(ft)
F	9.5	0	115	0	0.33	0	1.00	0	50	0								50	9.5
F	5.25	4.25	115	489	0.33	0	1.00	163	50	0								213	5.25
F	5.25	0	52.6	489	0.33	0	1.00	163	50	0								213	5.25
F	4	1.25	52.6	555	0.33	0	1.00	185	50	78								313	4
F	1.5	2.5	52.6	686	0.33	0	1.00	228	50	234								512	1.5
F	-1	2.5	52.6	818	0.33	0	1.00	272	50	390								712	-1
F	-3	2	52.6	923	0.33	0	1.00	307	50	515								872	-3
D	-3	0	17.6	923	1.00	500	0.21	0	0	515	0	80	0	1	0.63	500	0	108	-3
D	-5	2	17.6	958	1.00	500	0.21	0	0	640	2	80	160	1	0.63	500	0	134	-5
S1	-5	0	57.6	958	0.28	0	0.21	57	0	640	0	57.6	160	5.89	0.63	0	-594	-402	-5
S1	-8	3	57.6	1131	0.28	0	0.21	67	0	640	3	57.6	333	5.89	0.63	0	-1235	-1033	-8
S2	-8	0	62.6	1131	0.26	0	0.21	62	0	640	0	62.6	333	6.94	0.63	0	-1454	-1258	-8
S2	-10	2	62.6	1256	0.26	0	0.21	69	0	640	2	62.6	458	6.94	0.63	0	-2001	-1798	-10
S3	-20	10	62.6	1882	0.26	0	0.21	103	0	640	10	62.6	1084	6.94	0.63	0	-4737	-4500	-20
S2	-45	25	62.6	3447	0.26	0	0.21	188	0	640	25	62.6	2649	6.94	0.63	0	-11575	-11253	-45

Active Pressures: $\sigma_a = \gamma \cdot H \cdot k_a - 2C\sqrt{k_a}$

Passive Pressures: $\sigma_p = \gamma \cdot H \cdot k_p + 2C\sqrt{k_p}$

Sheet No. _____ of _____

MUESER RUTLEDGE CONSULTING ENGINEERS

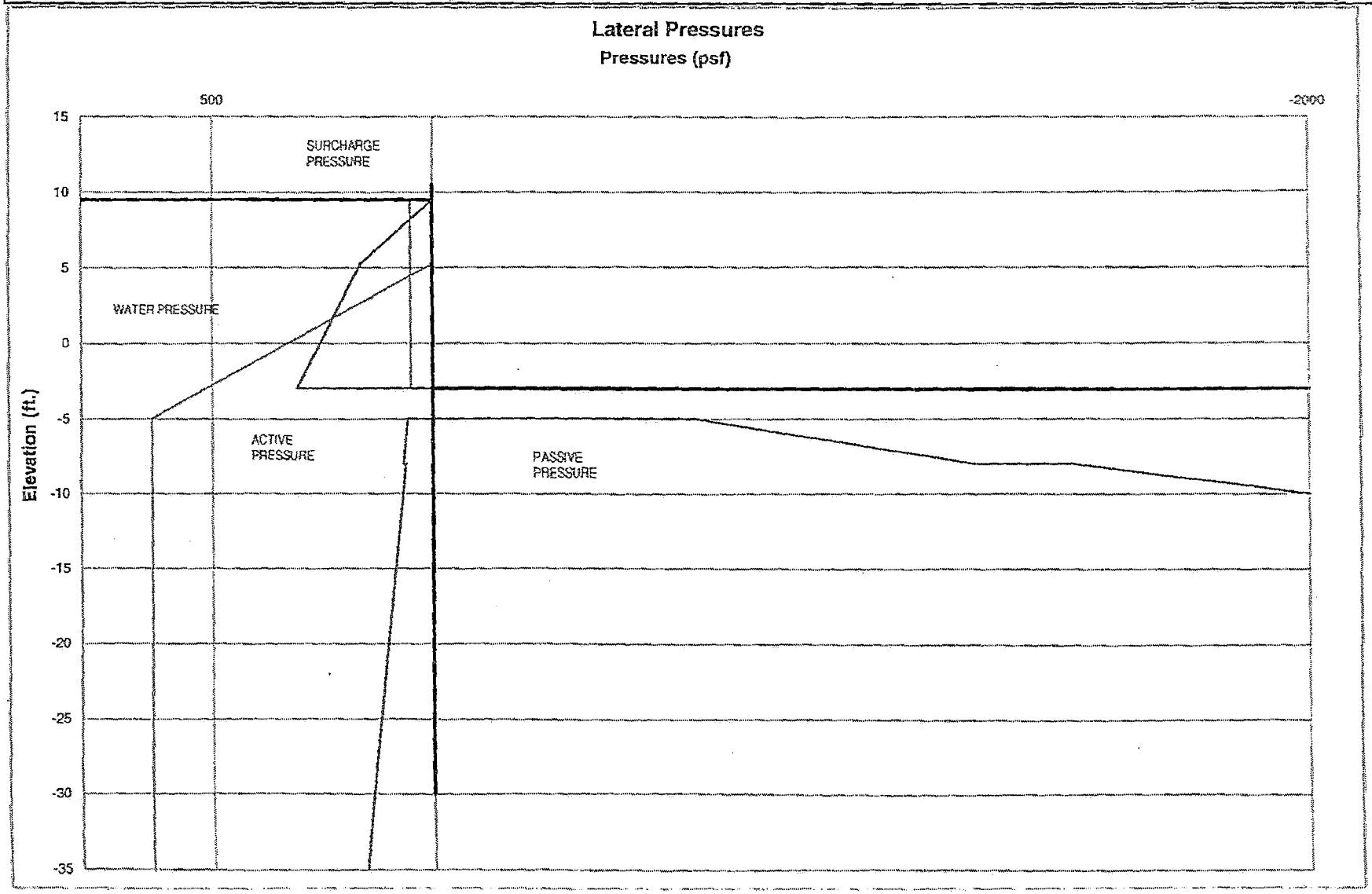
File 11173D

Made By ____JM___ Date :10/30/2014

FOR STUDY AREA 6

Checked By _____ Date _____

SUBJECT : **NORTHEAST EXCAVATION - EXCAVATE TO EL.-3 (PER SOLDIER PILE)** **SECTION E-E' (DRILLED PILE)**



Sheet No. _____ of _____

MUESER RUTLEDGE CONSULTING ENGINEERS

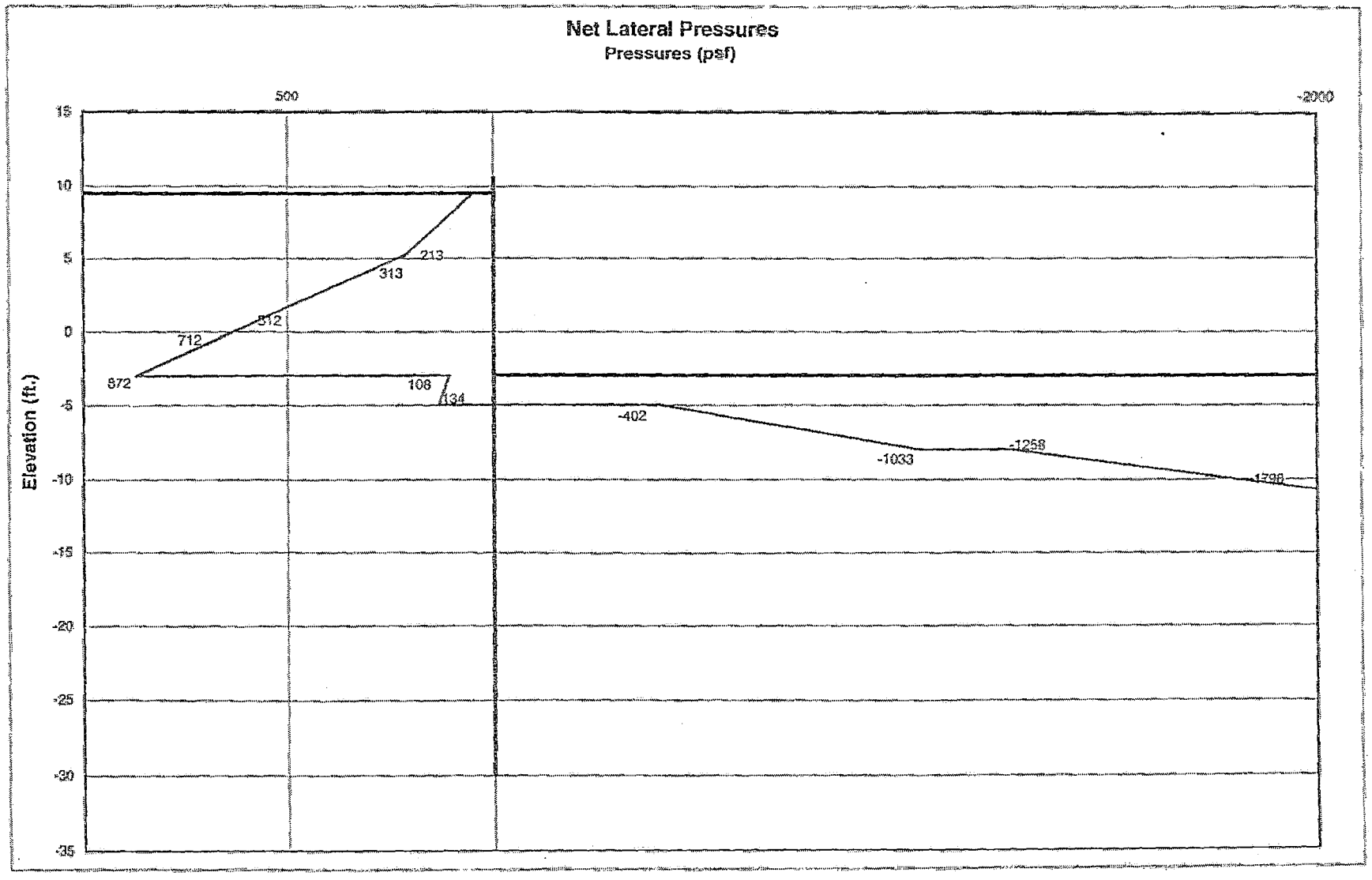
File 11173D

Made By ____JM___ Date :10/30/2014

FOR STUDY AREA 6

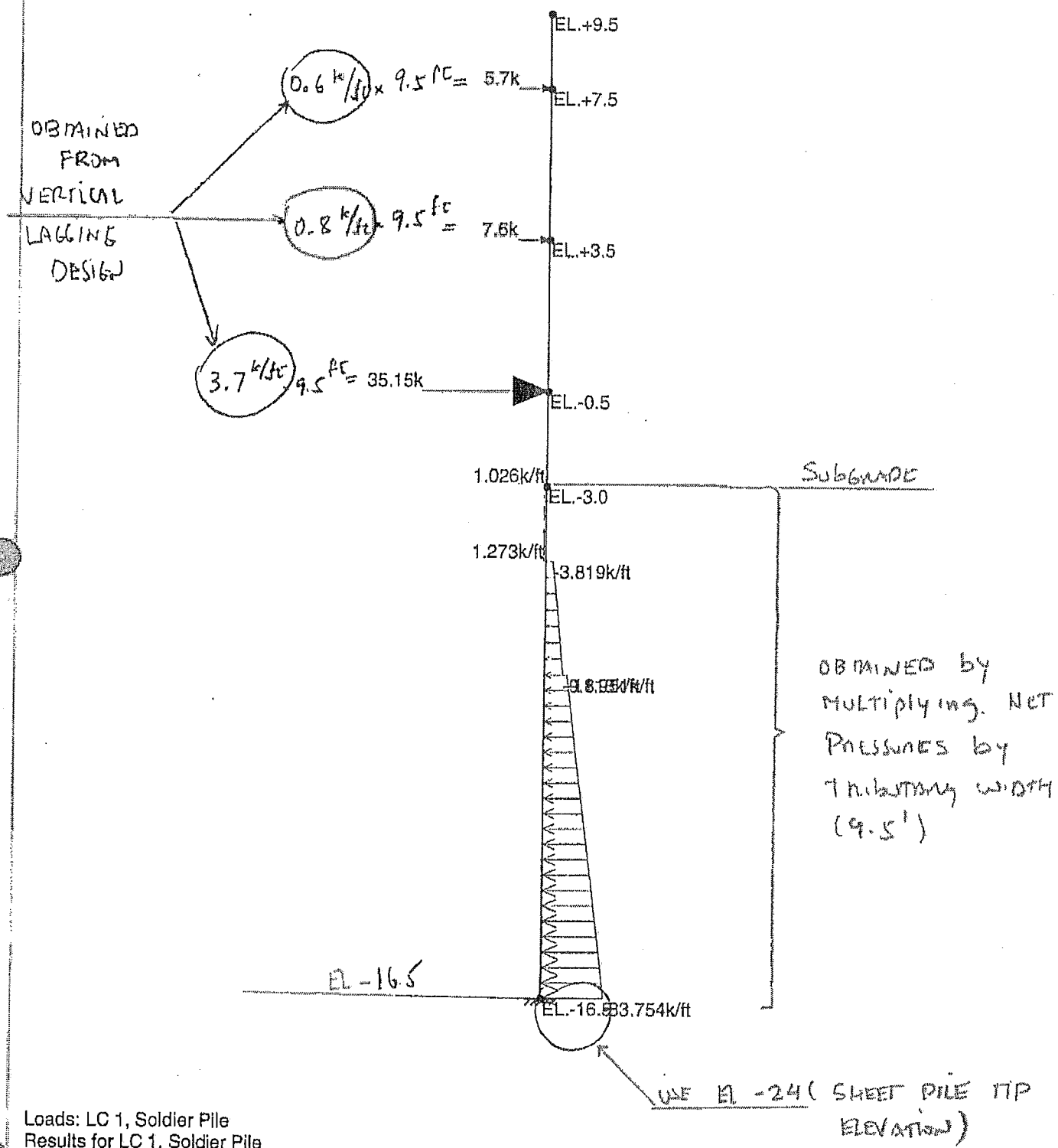
Checked By _____ Date _____

SUBJECT : NORTHEAST EXCAVATION - EXCAVATE TO EL.-3 (PER SOLDIER PILE) SECTION E-E' (DRILLED PILE)



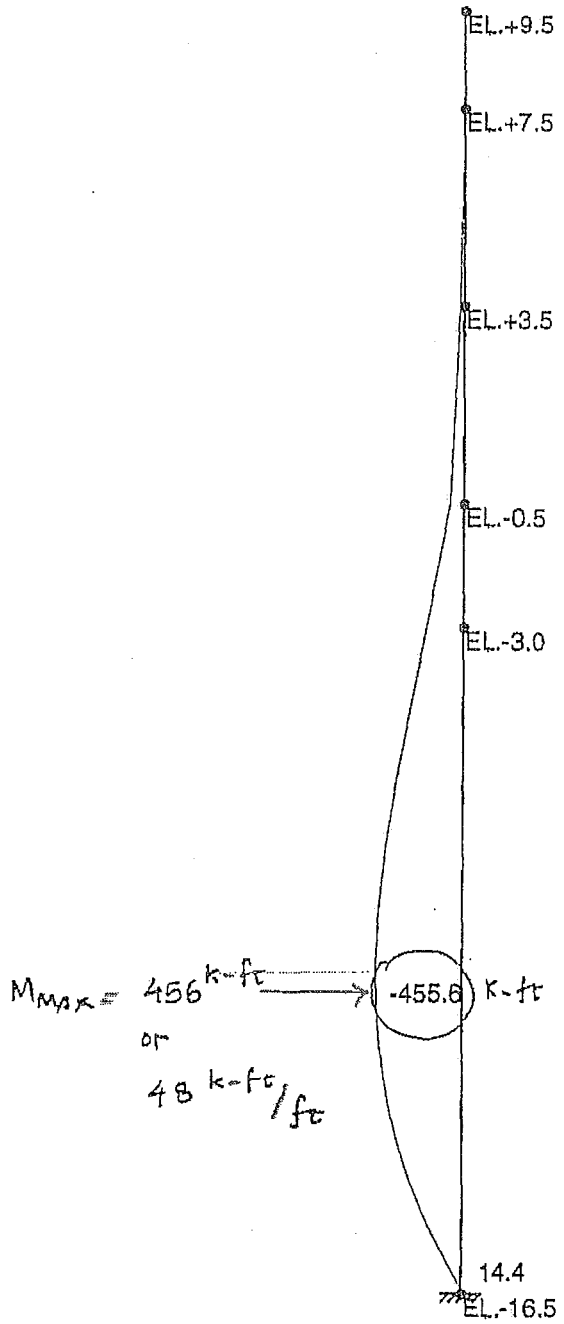
MADE BY: JM 11/07/14
CHK'D BY: MTR 11/07/14

TRIBUTARY WIDTH OF DRILLED PILE = 9.5'



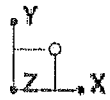
Loads: LC 1, Soldier Pile
Results for LC 1, Soldier Pile

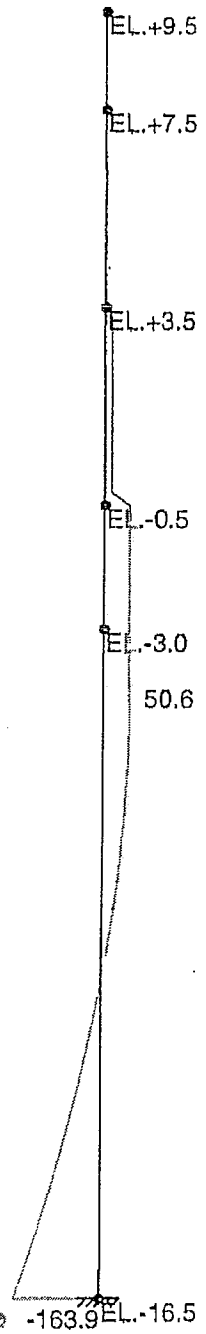
MRCE	Drilled Pile Analysis	
JM		Nov 7, 2014 at 2:14 PM
11173A	LOADING	Special Section - Soldier Piles_NO ...



Results for LC 1, Soldier Pile
Member Bending Moments (k-ft)

MRCE	Drilled Pile Analysis	
JM		Nov 7, 2014 at 2:13 PM
11173A	MOMENT DIAGRAM	Special Section - Soldier Piles_ND ...





$V_{max} = 164^k \rightarrow$

or

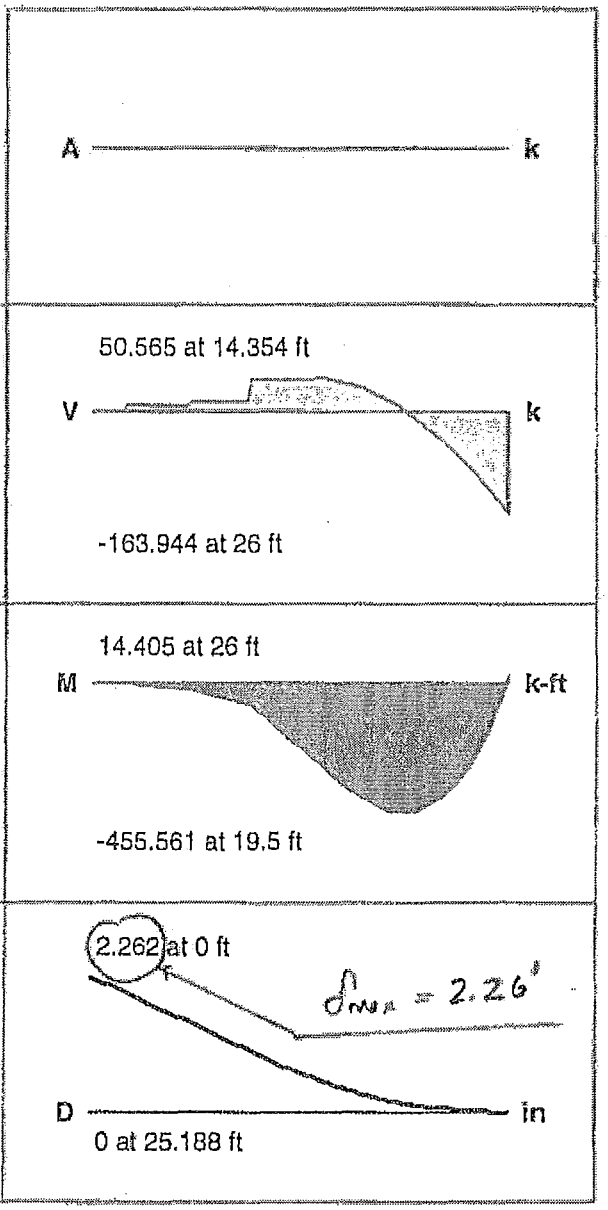
$17.26^k/ft$

Results for LC 1, Soldier Pile
Member Shear Forces (k)

MRCE	Drilled Pile Analysis	
JM		Nov 7, 2014 at 2:13 PM
11173A	SHEAR DIAGRAM	Special Section - Soldier Piles_NO ...

Beam: *M1*

Shape: **W14X193**
Material: **A572 Gr.50**
Length: **26 ft**
I Joint: **EL.+9.5**
J Joint: **EL.-16.5**
LC 1: Soldier Pile
Code Check: **0.595 (shear)**
Report Based On 97 Sections



AISC ASD 9th Ed. Code Check

Max Bending Check	**0.588**	Max Shear Check	**0.595**
Location	**19.5 ft**	Location	**26 ft**
Equation	**H1-2**	Max Defl Ratio	**L/138**

Compact

			Out Plane	In Plane
Fy	**50 ksi**			
Fa	**19.593 ksi**	Cm		**.85**
Ft	**30 ksi**	Lb	**26 ft**	**26 ft**
Fb	**30 ksi**	KL/r	**77.064**	**47.998**
Fv	**20 ksi**	Sway	**No**	**No**
Cb	**1**			

L Comp Flange **26 ft**

SHEET ____ OF ____

FILE ____

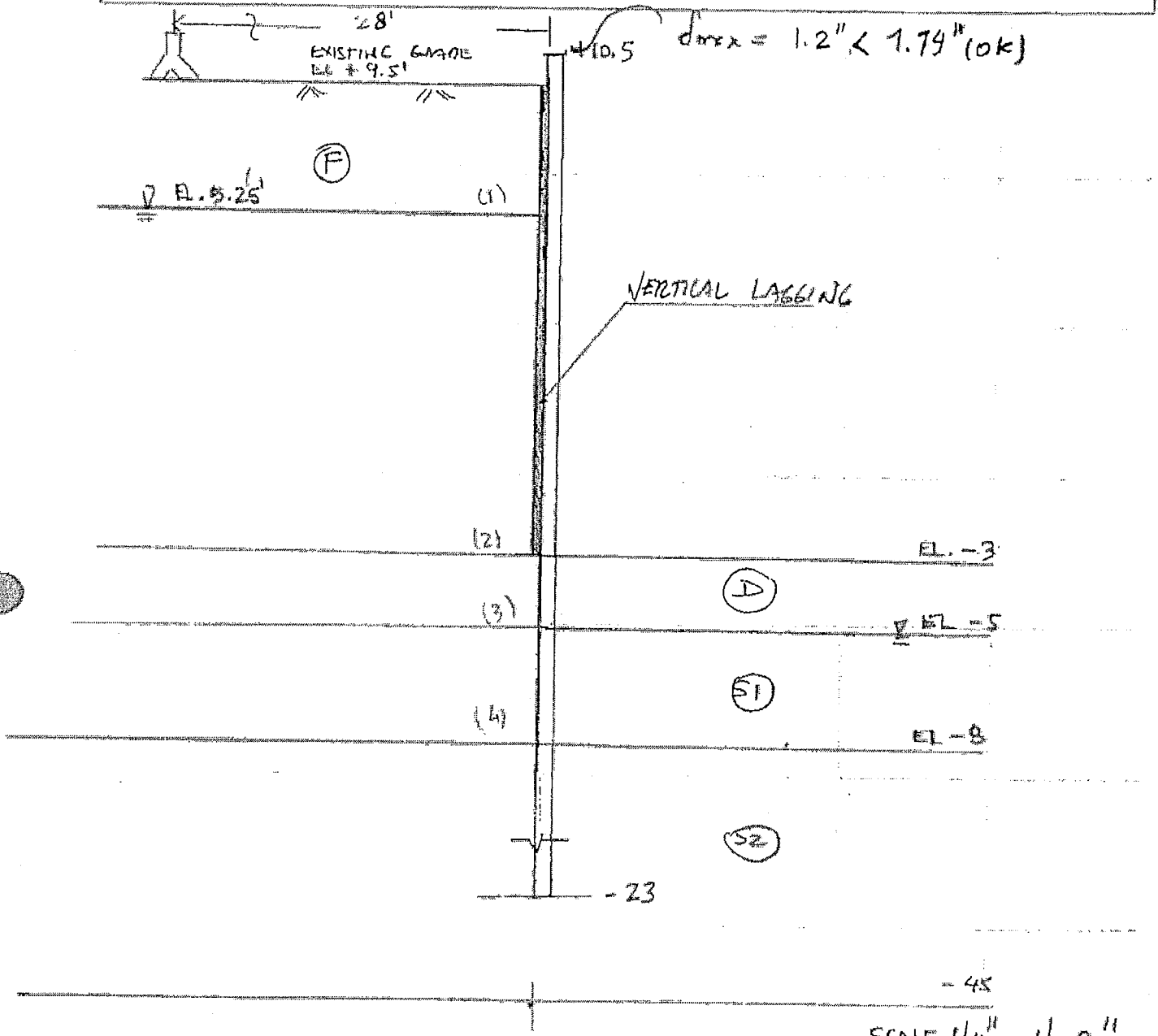
MUESER RUTLEDGE CONSULTING ENGINEERS

PROJECT SA-6 NORTH

MADE BY JM DATE 10/30/14

CHECKED BY MTR DATE 11/07/14

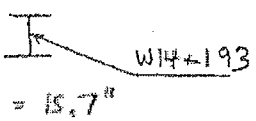
SUBJECT SETTLEMENT / DRIVEN PILE



SCALE 1/4" = 1'-0"

NOTES:

I)



$R_{\frac{1}{4}}$ = 15.7"

DRIVEN PILE:

$S = 27.56' + \frac{6'}{2} \times \frac{12''}{1'} = 5.3' = 63.56''$

$R_A = \frac{15.7}{63.56} = 0.25$, $R_P = 0.25(3) = 0.75 < 1$ (OK)

II) MAX ALLOWABLE DEFLECTION:

$1\% \times 14.5' \times \frac{12''}{1'} = 1.74''$

Sheet No. _____ of _____

MUESER RUTLEDGE CONSULTING ENGINEERS

File **11173D**

Made By ____JM___ Date : 10/30/14

FOR **STUDY AREA 6**

Checked By _____ Date _____

SUBJECT : **NORTHEAST EXCAVATION - EXCAVATE TO EL.-3 (PER SOLDIER PILE)** **SECTION E-E' (DRIVEN PILE)**

Lateral Earth Pressures: 600 psf Surcharge 28' offset Between Boring logs 088-SB-305

DRIVING FORCES											RESISTING FORCES							Net Pressures	Elev.
Layer	Elev.	H	γ	σ_v	k_a	c	R_a	Active Pressures	Construction Surcharge Pressures	Net Water Pressures	H	γ	σ_v	k_p	R_p	c	Passive Pressures		
	(ft.)	(ft.)	(pcf)	(psf)		(psf)		(psf)	(psf)	(psf)	(ft.)	(pcf)	(psf)			(psf)	(psf)	(psf)	(ft.)
F	9.5	0	115	0	0.33	0	1.00	0	50	0								50	9.5
F	5.25	4.25	115	489	0.33	0	1.00	163	50	0								213	5.25
F	5.25	0	52.6	489	0.33	0	1.00	163	50	0								213	5.25
F	4	1.25	52.6	555	0.33	0	1.00	185	50	78								313	4
F	2	2	52.6	660	0.33	0	1.00	220	50	203								472	2
F	-1	3	52.6	818	0.33	0	1.00	272	50	390								712	-1
F	-3	2	52.6	923	0.33	0	1.00	307	50	515								872	-3
D	-3	0	17.6	923	1.00	500	0.25	0	0	515	0	80	0	1	0.75	500	0	129	-3
D	-5	2	17.6	958	1.00	500	0.25	0	0	640	2	80	160	1	0.75	500	0	160	-5
S1	-5	0	57.6	958	0.28	0	0.25	68	0	640	0	57.6	160	5.89	0.75	0	-707	-479	-5
S1	-8	3	57.6	1131	0.28	0	0.25	80	0	640	3	57.6	333	5.89	0.75	0	-1470	-1230	-8
S2	-8	0	62.6	1131	0.26	0	0.25	73	0	640	0	62.6	333	6.94	0.75	0	-1731	-1498	-8
S2	-10	2	62.6	1256	0.26	0	0.25	82	0	640	2	62.6	458	6.94	0.75	0	-2383	-2141	-10
S3	-20	10	62.6	1882	0.26	0	0.25	122	0	640	10	62.6	1084	6.94	0.75	0	-5639	-5357	-20
S2	-45	25	62.6	3447	0.26	0	0.25	224	0	640	25	62.6	2649	6.94	0.75	0	-13780	-13396	-45

Active Pressures: $\sigma_a = \gamma \cdot H \cdot k_a - 2C\sqrt{k_a}$

Passive Pressures: $\sigma_p = \gamma \cdot H \cdot k_p + 2C\sqrt{k_p}$

MUESER RUTLEDGE CONSULTING ENGINEERS

Sheet No. _____ of _____

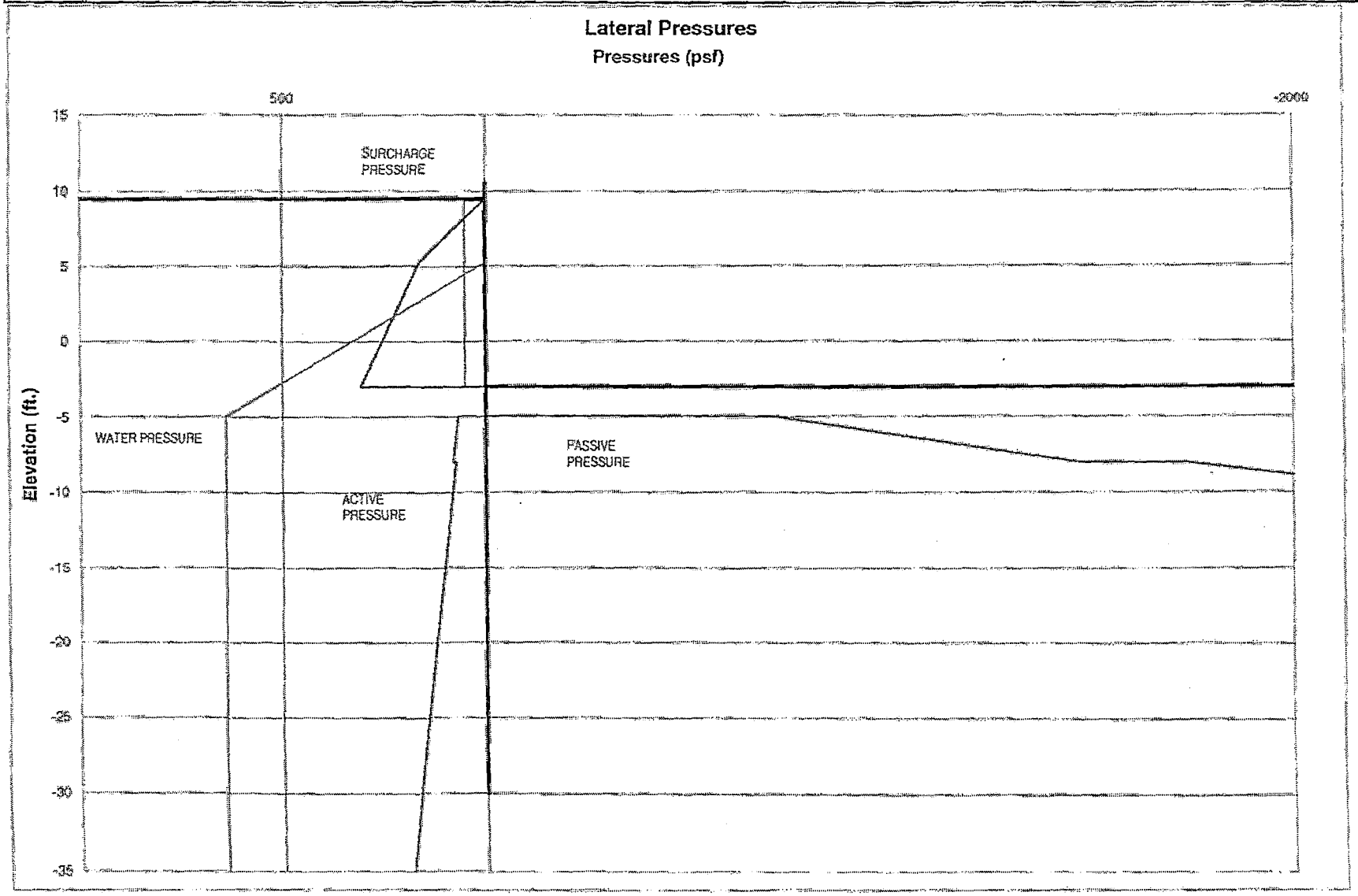
File 11173D

Made By ____JM____ Date : 10/30/14

FOR STUDY AREA 6

Checked By _____ Date _____

SUBJECT : NORTHEAST EXCAVATION - EXCAVATE TO EL.-3 (PER SOLDIER PILE) SECTION E-E' (DRIVEN PILE)



MUESER RUTLEDGE CONSULTING ENGINEERS

Sheet No. _____ of _____

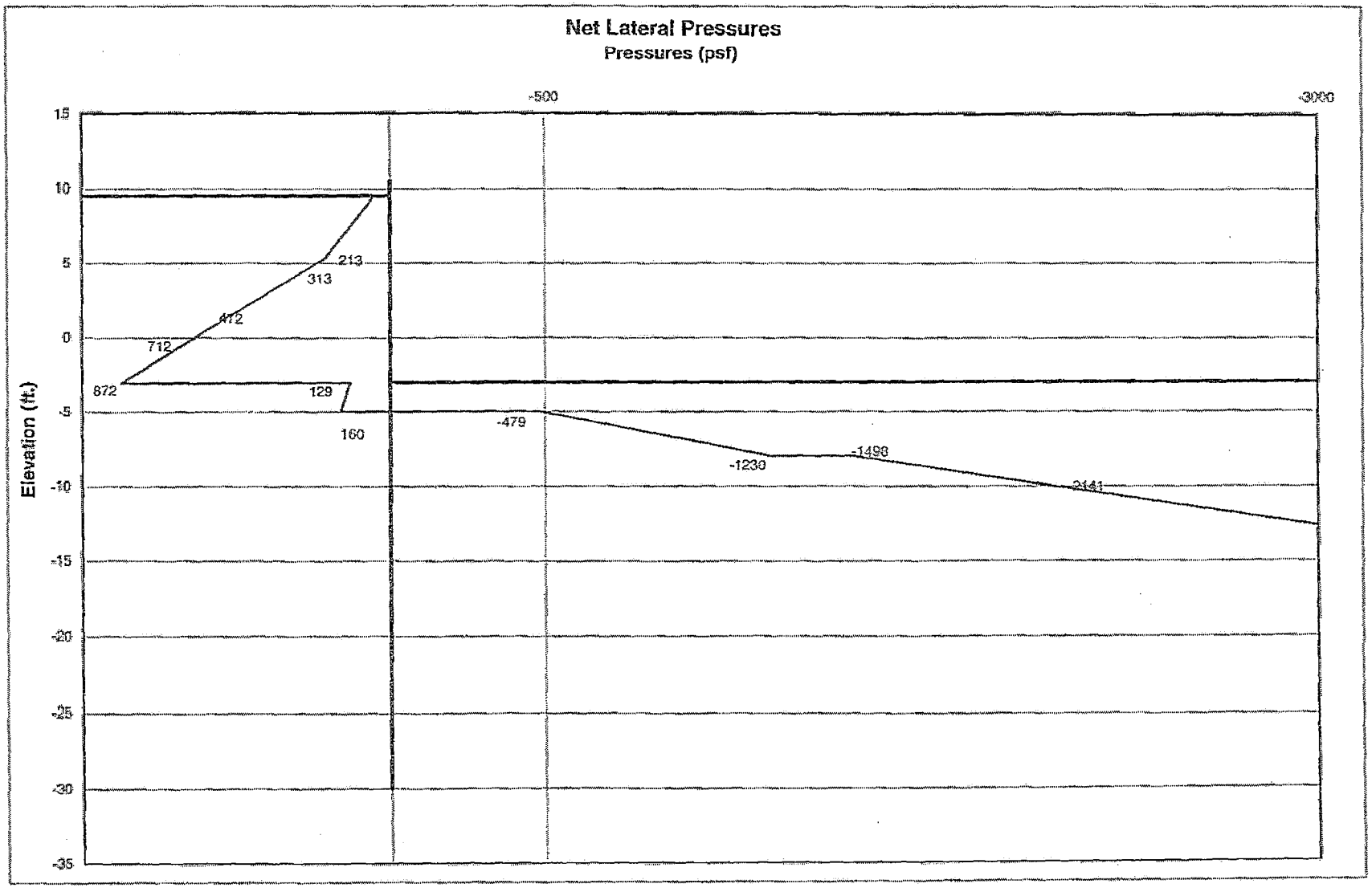
File 11173D

Made By ____JM___ Date : 10/30/14

Checked By _____ Date _____

FOR STUDY AREA 6

SUBJECT : NORTHEAST EXCAVATION - EXCAVATE TO EL.-3 (PER SOLDIER PILE) SECTION E-E' (DRIVEN PILE)



MUESER RUTLEDGE CONSULTING ENGINEERS

Cantilever v3.0 BETA for Windows, 32-bit

Subject: Driven Pile-Cantilever Analysis

INPUT

P	Q	Interval Lengths
0.000	0.000	1.000
0.050	0.213	4.250
0.213	0.872	8.250
0.129	0.160	2.000
-0.479	-1.230	3.000

Passive pressure at subgrade : 1.498
Passive pressure slope : .322
Flexural rigidity : 91252.4 ← $\frac{EI}{S} = \frac{(29000\ ksi)(2400\ in^4)}{(144\ in^2/ft^2)(63.56''/12)} = 912524\ \frac{k\text{-}ft^2}{ft}$

OUTPUT

At end of int. 1,	Shear= 0.00,	Moment=	0.00
At end of int. 2,	Shear= 0.56,	Moment=	0.94
At end of int. 3,	Shear= 5.03,	Moment=	20.28
At end of int. 4,	Shear= 5.32,	Moment=	30.62
At end of int. 5,	Shear= 2.76,	Moment=	43.31

D= 7.45 embedment below subgrade with F.S.= 1 ← FS = 1.3

Total Length of sheetpile is 25.95

$D = (7.45 + 2 + 3)(1.2)(1.3)$

$D = 19.42' \sim 20'$ below El -3

Depth of max. moment= 20.08
Max. moment= 45.59

USE EL. -24 → B.O.P = -3 - 20' = -23'

Depth of max. shear= 25.95
Max. shear= 17.35

REQ'D PILE LENGTH: 10.5 + 23 = 33.5'

a) MAXIMUM MOMENT PER SOLDIER PILE

$M_{MAX} = 45.6\ \frac{k\text{-}ft}{ft} \times 5.3' = 241.7\ k\text{-}ft$

b) MAXIMUM SHEAR PER SOLDIER PILE

$V_{MAX} = 17.4\ \frac{k}{ft} \times 5.3' = 92.2\ k$

X	V	M	Defl.
0.00	0.00	0.00	0.10
1.30	0.02	0.00	0.09
2.60	0.13	0.09	0.08
3.89	0.31	0.36	0.08
5.19	0.55	0.91	0.07
6.49	0.88	1.82	0.06
7.79	1.36	3.26	0.06
9.08	1.96	5.40	0.05
10.38	2.70	8.41	0.04
11.68	3.58	12.48	0.04
12.98	4.59	17.76	0.03
14.27	5.14	24.22	0.02
15.57	5.29	31.01	0.02
16.87	4.43	37.36	0.01
18.17	3.15	42.33	0.01
19.47	1.16	45.23	0.01
20.76	-1.46	45.10	0.00
22.06	-4.62	41.22	0.00
23.36	-8.32	32.89	0.00
24.66	-12.56	19.39	0.00
25.95	-17.35	0.04	0.00

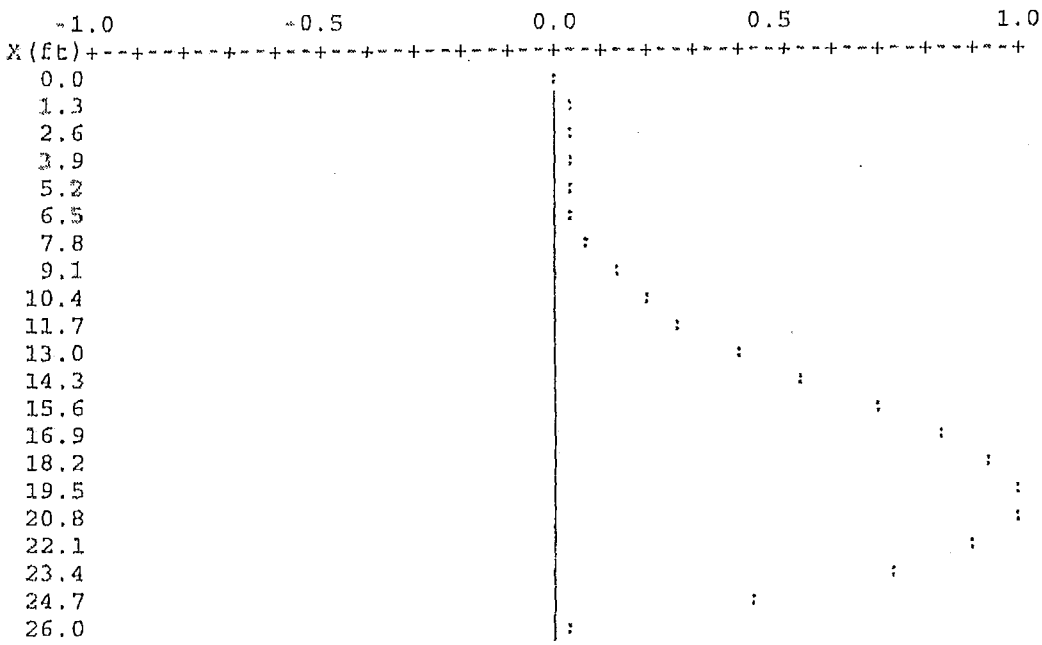
$\leftarrow \delta_{max} = 0.10' \times \frac{12''}{1'} = 1.2''$

Max allowable.

$1\% \times 14.5' \times \frac{12''}{1'} = 1.74''$

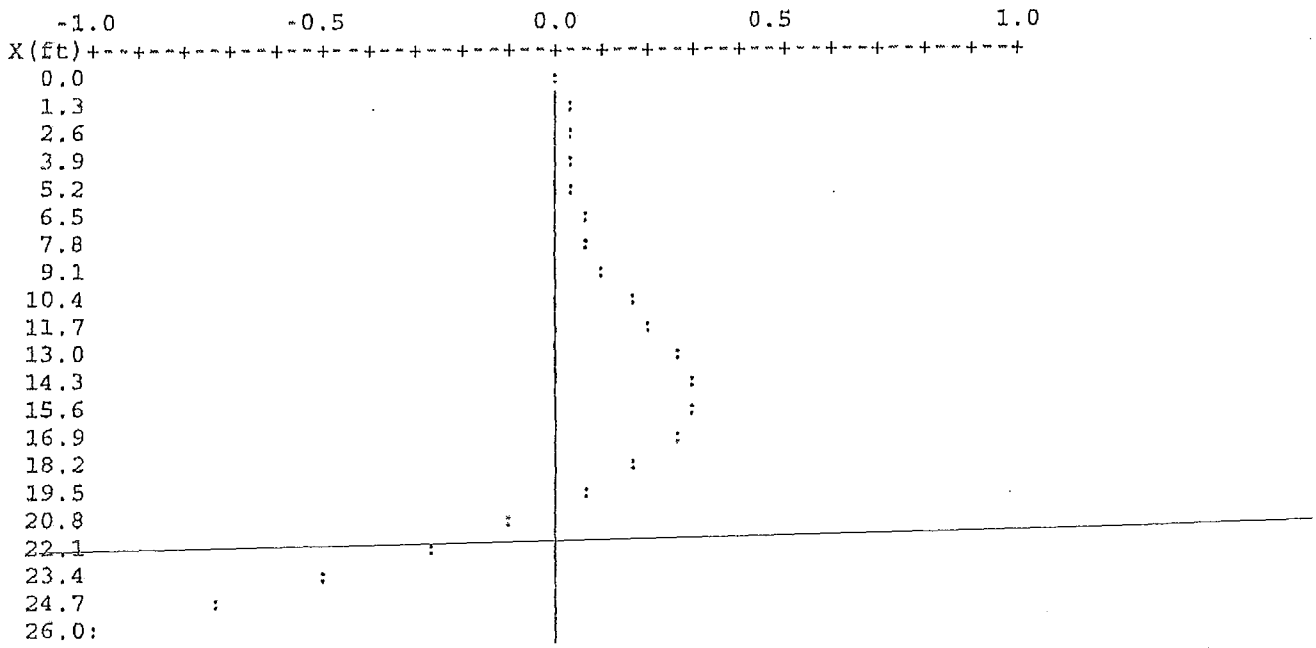
$\delta_{max} = 1.2'' < 1.74''$ (ok)

Moment (M/Mmax)



EL +9.5 (TOP
WAL
EL +7.5 (TOP
WAL
EL +3.5 (MIC
WA
EL -0.5 (BOT.
WALL

Shear (V/Vmax)



Sheet No. _____ of _____

MUESER RUTLEDGE CONSULTING ENGINEERS

File: 11173D

Made By: JM Date: 11/7/2014

For: SA-6 North Checked By: MTR Date: 11/7/14

Subject: **SOLDIER PILE DESIGN**

Beam Steel **Design Method:** (●) ASD - 14th Ed. ( ) LRFD - 14th Ed. ( ) ASD - 9th Ed. ( ) AASHTO

Add Self Weight: Yes

**** DATA INPUT **** (Enter unfactored loads for ASD and factored loads for LRFD and AASHTO)

Axial Force	P (kips):	0.0	
Bending Moment	Mx (kip-ft):	456.0	← MAX MOMENT (DRILLED PILE ANALYSIS)
Bending Moment	My (kip-ft):	0.0	
Shear	Vx (kips):	0.0	
Shear	Vy (kips):	164.0	← MAX SHEAR (DRILLED PILE ANALYSIS)
Unbraced Length	Lx (ft):	14.50	
Unbraced Length	Ly (ft):	14.50	
Unsupp.L.compr.flange	Lb (ft):	14.50	
Length Factor	Kx:	1.00	
Length Factor	Ky:	1.00	
Mem Angle w/hor	Alpha (deg):	90.00	
Web angle w/ ver	Beta (deg):	0.00	
Steel Strength	Fy (ksi):	50.00	

Bending Coefficient: Cb = 1.00

**** SECTION PROPERTIES ****

<<<<< **MEMBER IS W14x193** >>>>>

A (in^2) =	56.80	rts (in) =	4.59
d (in) =	15.50	tw (in) =	0.89
bf (in) =	15.70	tf (in) =	1.44
Sx (in^3) =	310.00	Zx (in^3) =	355.00
Sy (in^3) =	119.00	Zy (in^3) =	180.00

Unbraced Length Criteria

Lp (ft) = 14.31

Lr (ft) = 79.57

**** ANALYSIS RESULTS ****

Computed Moment	Mx (kip-ft):	456.0	Computed Shear	Vx (kip):	0.0
Computed Moment	My (kip-ft):	0.0	Computed Shear	Vy (kip):	164.0
Computed Axial	fa (ksi):	0.00			
Computed Bending	fbx (ksi):	17.65	Computed Shear Stress	fvx (ksi):	0.00
Computed Bending	fby (ksi):	0.00	Computed Shear Stress	fvy (ksi):	11.89
Axial Capacity	Pc (kip):	1485.9	P/Pc =	0.00	
Bending Capacity	Mcx (kip-ft):	884.7	Mx/Mcx =	0.52	
Bending Capacity	Mcy (kip-ft):	449.1	My/Mcy =	0.00	
Shear Capacity	Vcx (kip):	406.1	Vx/Vcx =	0.00	
Shear Capacity	Vcy (kip):	275.9	Vy/Vcy =	0.59	

**** COMBINED LOADING CHECK ****

For P/Pc < 0.2:

P/(2*Pc) + (Mx/Mcx + My/Mcy) = 0.52 >|

Vertical Lagging Design

Sheet No. _____ of _____

MUESER RUTLEDGE CONSULTING ENGINEERS

File **11173D**

Made By JM Date 11/07/14

FOR **STUDY AREA 6**

Checked By MTR Date 11/07/14

SUBJECT: **NORTHEAST EXCAVATION - EXCAVATE TO EL.-3 (VERTICAL LAGGING)** **SECTION E-E'**

Lateral Earth Pressures: 600 psf Surcharge 28' offset Boring log 088-SB-305

DRIVING FORCES											RESISTING FORCES						
Layer	Elev.	H	γ	σ_v	k_a	c	R_a	Active Pressures	Construction Surcharge Pressures	Net Water Pressures	H	γ	σ_v	k_p	R_p	c	Passive Pressures
	(ft.)	(ft.)	(pcf)	(psf)		(psf)		(psf)	(psf)	(psf)	(ft.)	(pcf)	(psf)			(psf)	(psf)
F	9.5	0	115	0	0.333	0	1.0	0	50	0							
F	5.25	4.25	115	489	0.333	0	1.0	163	50	0							
F	5.25	0	52.6	489	0.333	0	1.0	163	50	0							
F	-1	6.25	52.6	818	0.333	0	1.0	272	50	390							
F	-3	2	52.6	923	0.333	0	1.0	307	50	515							

Net Pressures	Elev.
(psf)	(ft.)
50	9.5
213	5.25
213	5.25
712	-1
872	-3

Active Pressures: $\sigma_a = \gamma \cdot H \cdot k_a - 2C \cdot \sqrt{k_a}$

Passive Pressures: $\sigma_p = \gamma \cdot H \cdot k_p + 2C \cdot \sqrt{k_p}$

MUESER RUTLEDGE CONSULTING ENGINEERS

Sheet No. _____ of _____

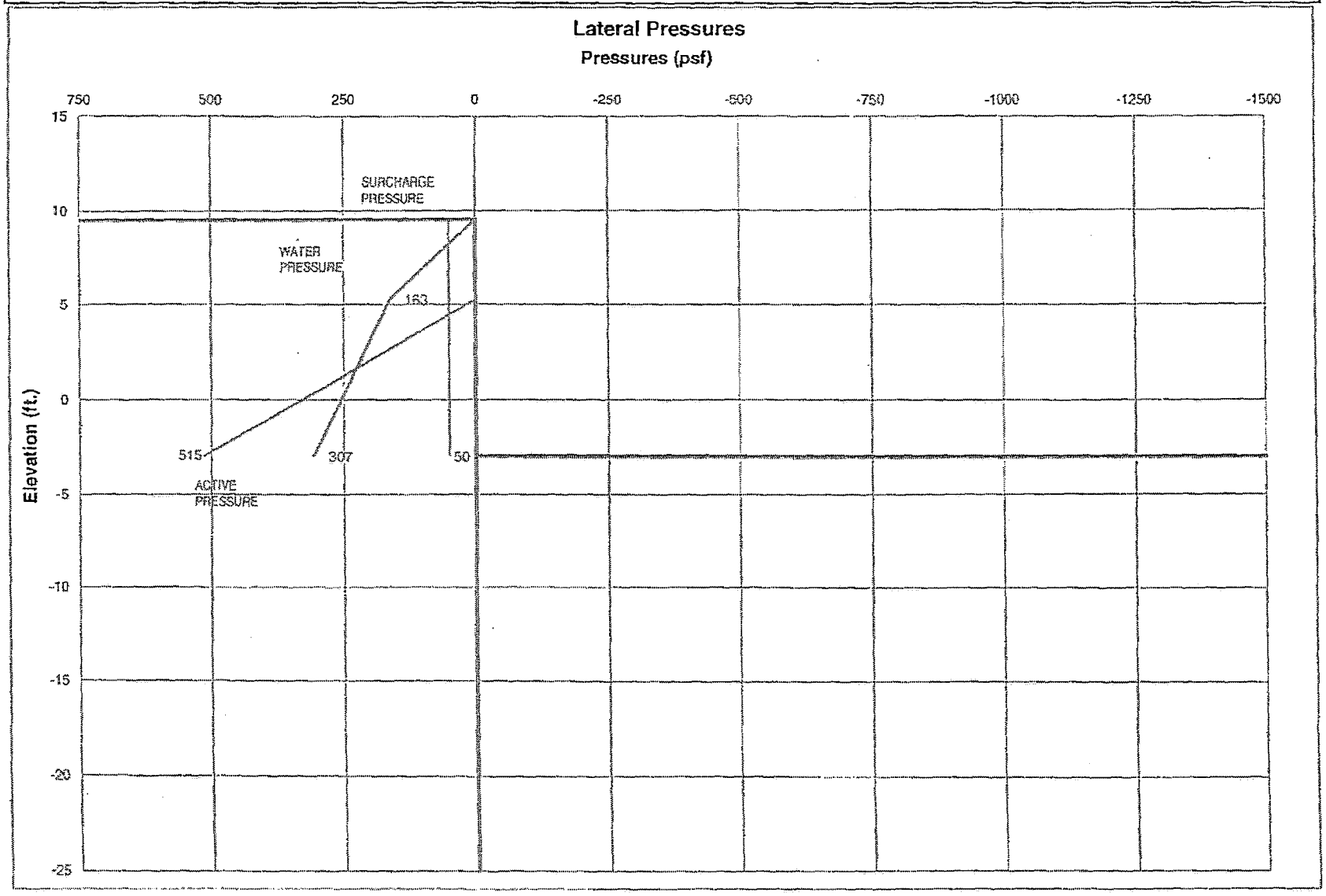
File **11173D**

Made By __JM Date _____

FOR **STUDY AREA 6**

Checked By _____ Date _____

SUBJECT : **NORTHEAST EXCAVATION - EXCAVATE TO EL.-3 (VERTICAL LAGGING)** **SECTION E-E'**



MUESER RUTLEDGE CONSULTING ENGINEERS

Sheet No. _____ of _____

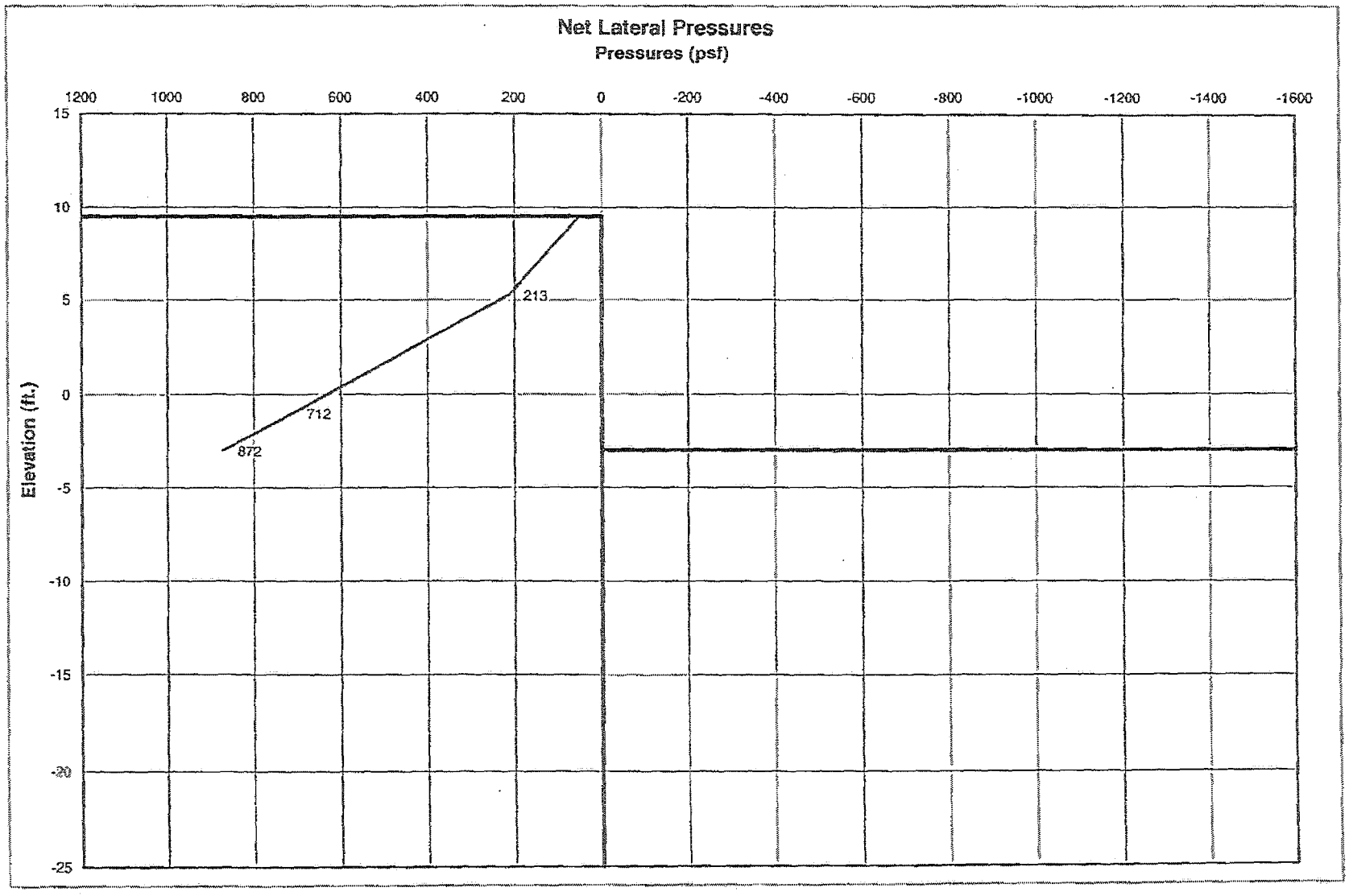
File 11173D

Made By JM Date _____

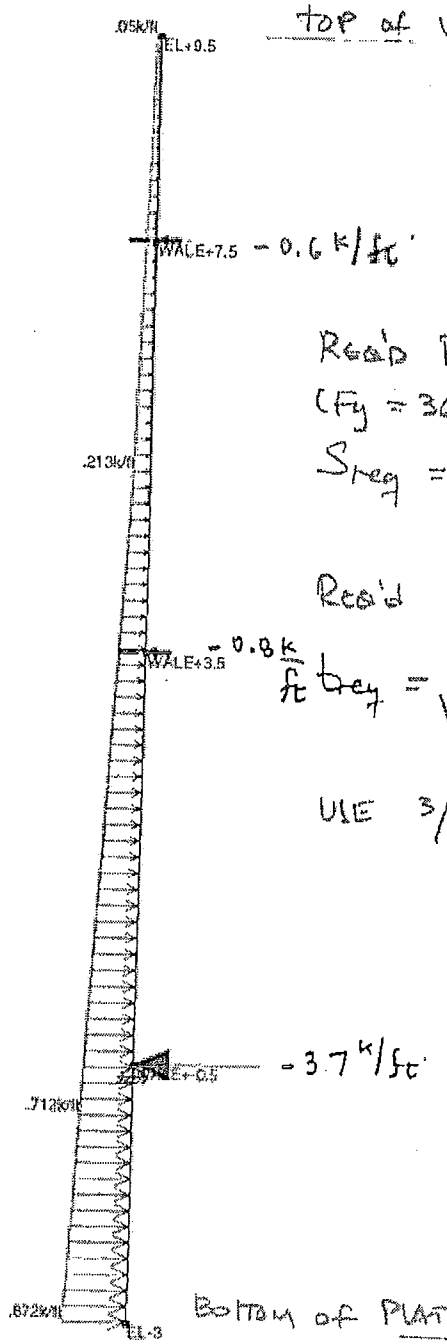
Checked By _____ Date _____

FOR STUDY AREA 6

SUBJECT : NORTHEAST EXCAVATION - EXCAVATE TO EL.-3 (VERTICAL LAGGING) SECTION E-E'



MADE BY: JM 11/07/1
CHEQ'd BY: MTR 11/07/1



TOP of VERTICAL LAGGING (GRADE).

- 0.6 k/ft

Req'd PLATE SECTION MODULUS:

(F_y = 36 ksi ; $F_b = 0.75 F_y$ = 27 ksi)

$$S_{req} = \frac{2.47\ k\text{-}ft/ft}{27\ ksi} \times \frac{12''}{1'} = 1.1\ \frac{in^3}{ft}$$

Req'd PLATE THICKNESS

- 0.8 k/ft

$$t_{req} = \sqrt{\frac{(6)(1.1\ in^3/ft)}{12\ in/ft}} = 0.74''$$

USE 3/4" inch PLATE

- 3.7 k/ft

BOTTOM of PLATE (SUBGRADE)

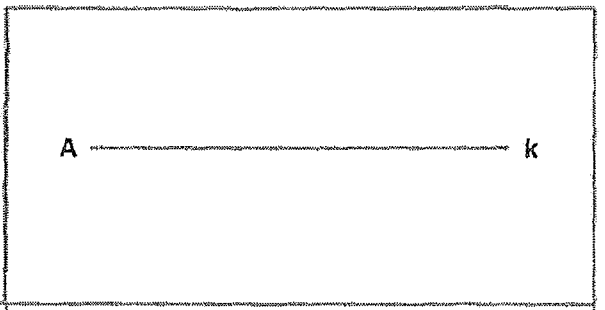
Loads: BLC 1,
Results for LC 1,
Reaction units are k and k-ft

VERTICAL STEEL LAGGING LOADING

Oct 30, 2014 at 5:47 PM
VERTICAL LAGGING ANALYSIS.r...

Column: *M1*

Shape: **STEEL PLATE**
Material: **A36 Gr.36**
Length: **12.5 ft**
I Joint: **EL+9.5**
J Joint: **EL-3**
LC 1:
Code Check: **2.193 (bending)**
Report Based On 97 Sections



AISC ASD 9th Ed. Code Check

Max Bending Check	**2.193**	Max Shear Check	**0.033**
Location	**10.026 ft**	Location	**10.026 ft**
Equation	**H1-2**	Max Defl Ratio	**L/33**

Compact

			Out Plane	In Plane
Fy	**36 ksi**			
Fa	**.138 ksi**	Cm		**.85**
Ft	**21.6 ksi**	Lb	**12.5 ft**	**12.5 ft**
Fb	**27 ksi**	KL/r	**43.301**	**1039.23**
Fv	**14.4 ksi**	Sway	**No**	**No**
Cb	**1.75**			

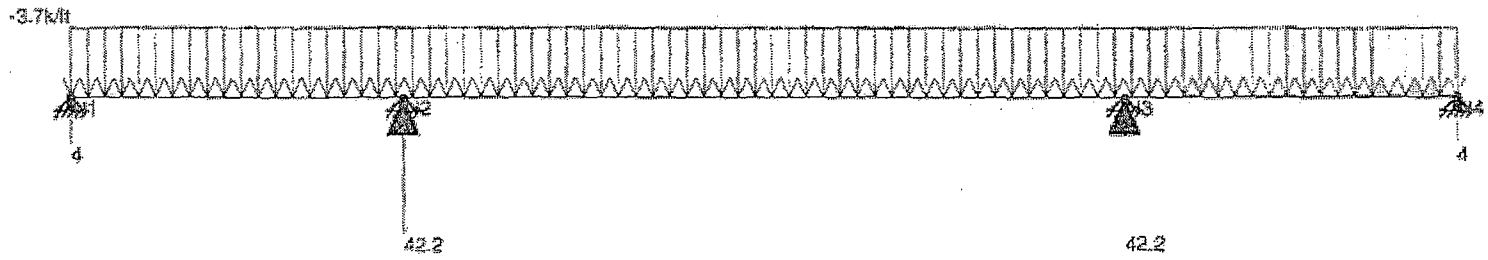
L Comp Flange **12.5 ft**

Wale Design

BEAM AT ELEVATION -0.5 (MAX. LINE LOAD):

$\boxed{w = 3.7\ \text{kif}}$

OBTAINED FROM VERTICAL LAGGING DESIGN



Loads: BLC 1,
Results for LC 1,
Reaction units are k and k-ft

MADE BY: JM 11/07/14
CHEC'D BY: MTR 11/07/14

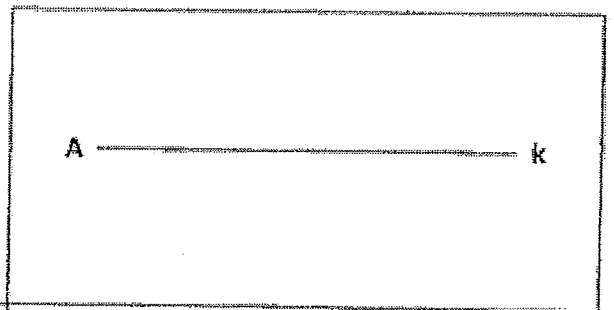
Nov 7, 2014 at 11:39 AM

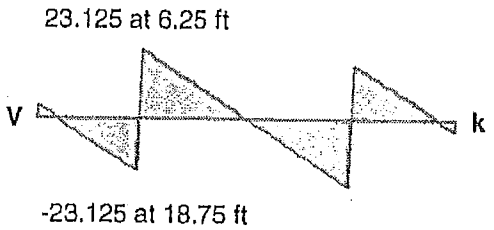
WALE DESIGN- LOADING

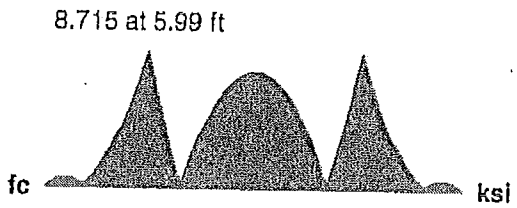
untitled.r2d

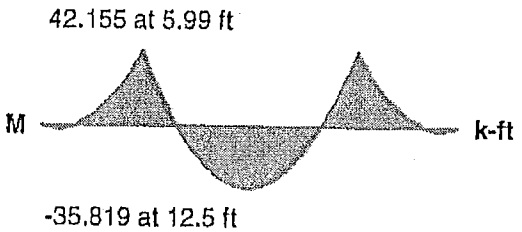
Beam: *M1*

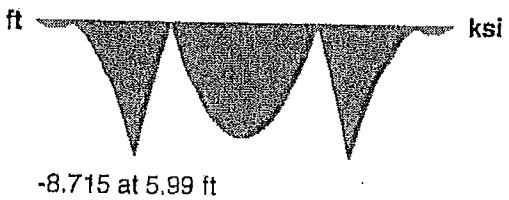
Shape: **W12X45**
Material: **A36 Gr.36**
Length: **25 ft**
I Joint: **N1**
J Joint: **N4**
LC 1:
Code Check: **0.568 (bending)**
Report Based On 97 Sections

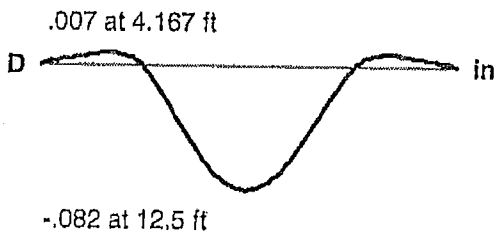












AISC ASD 9th Ed. Code Check

Max Bending Check	**0.568**	Max Shear Check	**0.397**
Location	**5.99 ft**	Location	**18.75 ft**
Equation	**H1-2**	Max Defl Ratio	**L/3660**

Compact

			Out Plane	In Plane
Fy	**36 ksi**			
Fa	**6.285 ksi**	Cm		**.85**
Ft	**21.6 ksi**	Lb	**25 ft**	**25 ft**
Fb	**15.343 ksi**	KL/r	**154.143**	**58.26**
Fv	**14.4 ksi**	Sway	**No**	**No**
Cb	**1**			

L Comp Flange **25 ft**

Sheet No. _____ of _____

MUESER RUTLEDGE CONSULTING ENGINEERS

File: 11173D

Made By: JM Date : 11/7/2014

For : Study Area 6 - North Wall Checked By: MTR Date : 11/7/14

Subject: **WALE DESIGN**

Beam Steel **Design Method:** ◉ ASD - 14th Ed. ○ LRFD - 14th Ed. ○ ASD - 9th Ed. ○ AASHTO

Add Self Weight: Yes

**** DATA INPUT **** (Enter unfactored loads for ASD and factored loads for LRFD and AASHTO)

Axial Force	P (kips):	0.0
Bending Moment	Mx (kip-ft):	42.2
Bending Moment	My (kip-ft):	0.0
Shear	Vx (kips):	0.0
Shear	Vy (kips):	23.2
Unbraced Length	Lx (ft):	13.00
Unbraced Length	Ly (ft):	13.00
Unsupp.L.compr.flange	Lb (ft):	13.00
Length Factor	Kx:	1.00
Length Factor	Ky:	1.00
Mem Angle w/hor	Alpha (deg):	0.00
Web angle w/ ver	Beta (deg):	90.00
Steel Strength	Fy (ksi):	50.00

Bending Coefficient: Cb = 1.00

**** SECTION PROPERTIES ****

<<<<< **MEMBER IS W12x45** >>>>>

A (in^2) =	13.10	rts (in) =	2.23
d (in) =	12.10	tw (in) =	0.34
bf (in) =	8.05	tf (in) =	0.58
Sx (in^3) =	57.70	Zx (in^3) =	64.20
Sy (in^3) =	12.40	Zy (in^3) =	19.00

Unbraced Length Criteria

Lp (ft) = 6.89

Lr (ft) = 22.40

**** ANALYSIS RESULTS ****

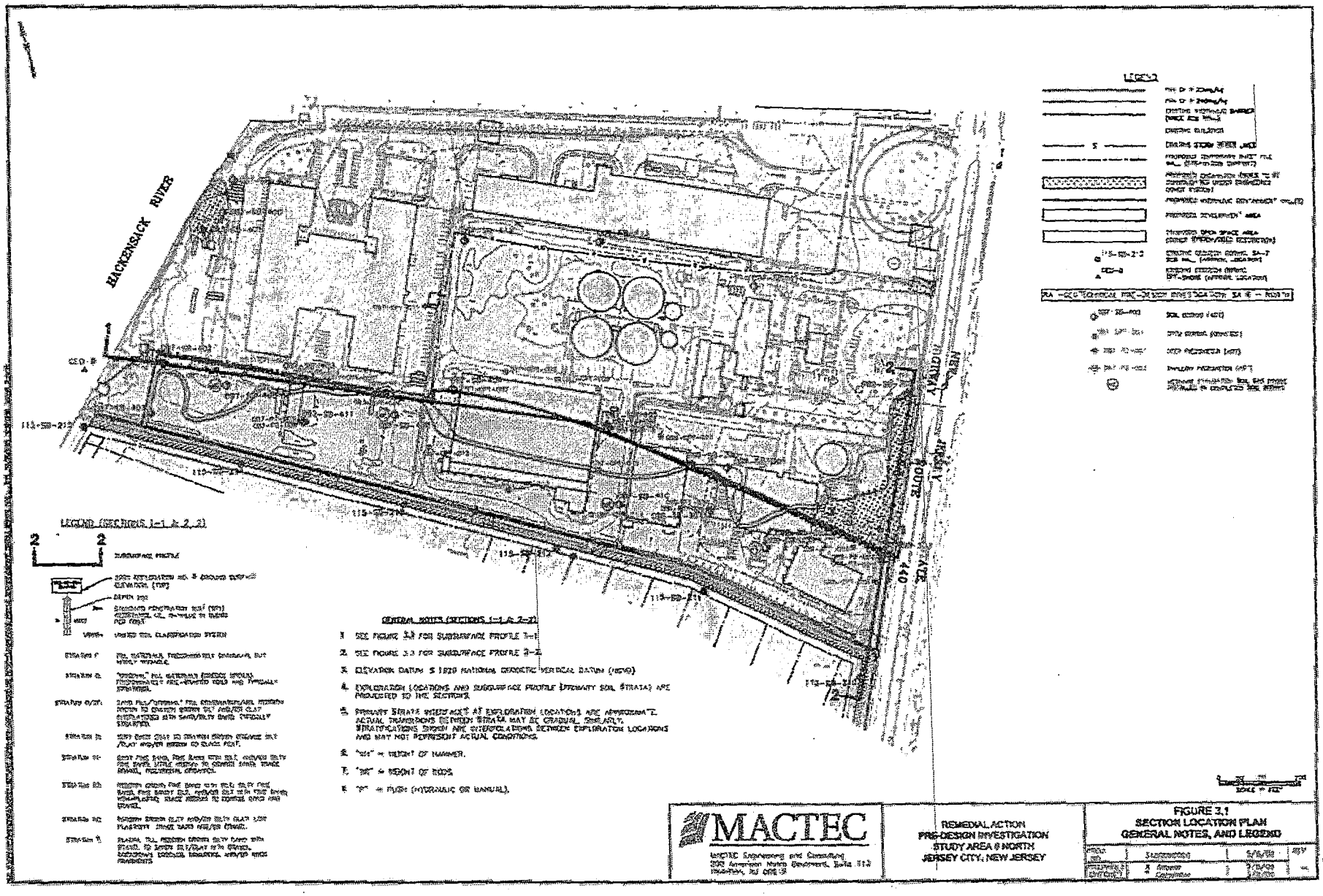
Computed Moment	Mx (kip-ft):	42.2	Computed Shear	Vx (kip):	0.3
Computed Moment	My (kip-ft):	1.0	Computed Shear	Vy (kip):	23.2
Computed Axial	fa (ksi):	0.00			
Computed Bending	fbx (ksi):	8.78	Computed Shear Stress	fvx (ksi):	0.06
Computed Bending	fby (ksi):	0.92	Computed Shear Stress	fvy (ksi):	5.72
Axial Capacity	Pc (kip):	245.6	P/Pc =	0.00	
Bending Capacity	Mcx (kip-ft):	136.8	Mx/Mcx =	0.31	
Bending Capacity	Mcy (kip-ft):	47.4	My/Mcy =	0.02	
Shear Capacity	Vcx (kip):	83.2	Vx/Vcx =	0.00	
Shear Capacity	Vcy (kip):	81.1	Vy/Vcy =	0.29	

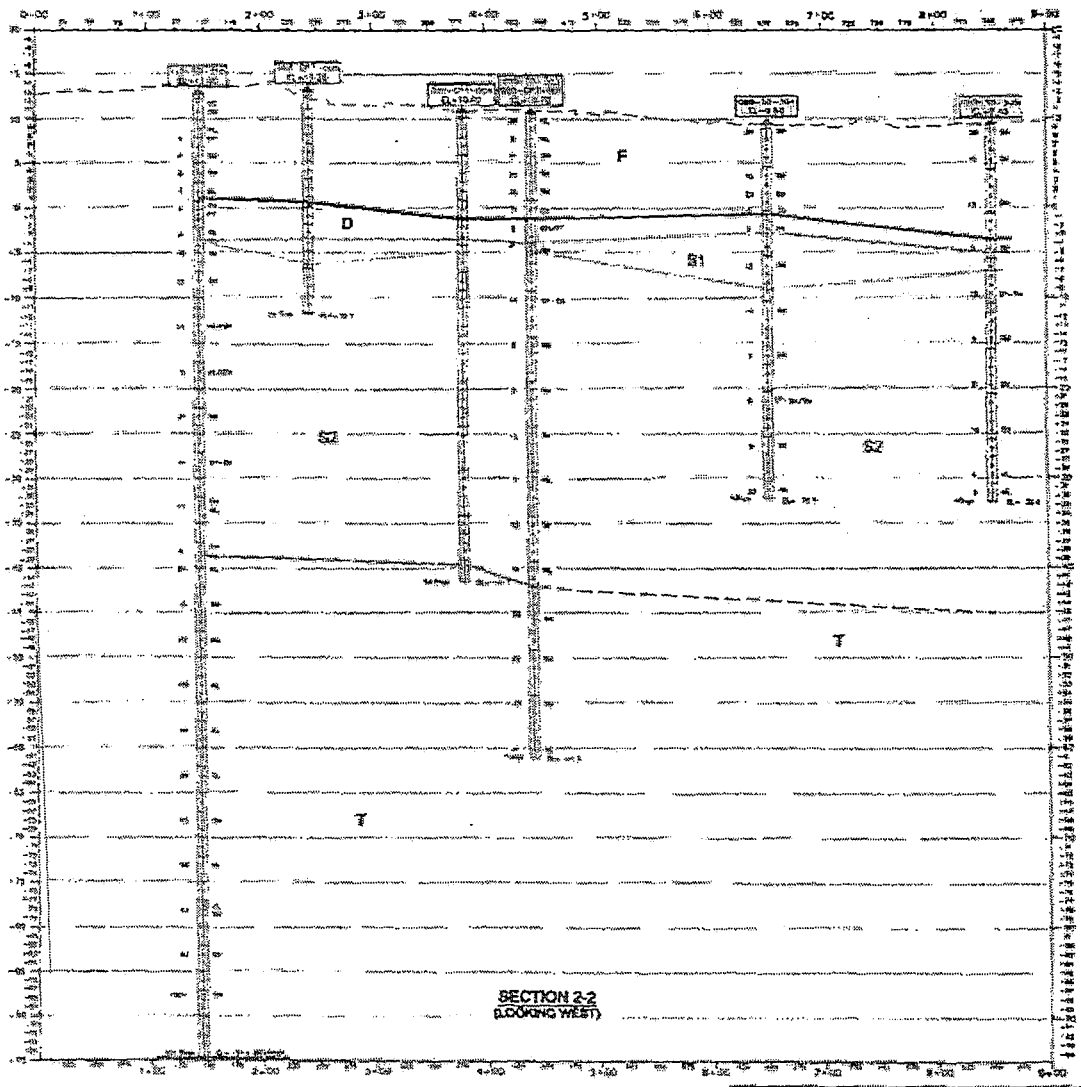
**** COMBINED LOADING CHECK ****

For P/Pc < 0.2:

P/(2*Pc) + (Mx/Mcx + My/Mcy) = 0.33

Exhibits


HACKENSACK RIVER
HIGHWAY
ROUTE
1-40
LEGEND
LEGEND (SECTIONS 1-1 & 2-2)
GENERAL NOTES (SECTIONS 1-1 & 2-2)
1. SEE FIGURE 3.3 FOR SUBSURFACE PROFILE 1-1
2. SEE FIGURE 3.3 FOR SUBSURFACE PROFILE 2-2
3. ELEVATION DATUM IS 1929 NATIONAL GEODETIC VERTICAL DATUM (NGVD)
4. EXPLORATION LOCATIONS AND SUBSURFACE PROFILE (PRIMARY SOIL STRATA) ARE PROJECTED TO THE SECTIONS
5. PRIMARY STRATA INTERFACES AT EXPLORATION LOCATIONS ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL, SPORADIC, STRATIFICATIONS SHOWN ARE INTERPOLATIONS BETWEEN EXPLORATION LOCATIONS AND MAY NOT REPRESENT ACTUAL CONDITIONS.
6. "HA" = HEIGHT OF HAMMER.
7. "BH" = HEIGHT OF BLOW.
8. "P" = PUSH (HYDRAULIC OR MANUAL).
MACTEC
REMEDIAL ACTION
PRE-DESIGN INVESTIGATION
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
FIGURE 3.1
SECTION LOCATION PLAN
GENERAL NOTES, AND LEGEND



NOTES:

1. SEE FIGURE 2.2 FOR EXPLORATION LOCATIONS
2. SEE FIGURE 2.1 FOR SECTION LOCATION, CENTRAL NOTES, AND LEGEND
3. SOIL BORING [illegible] BY MACTEC IN 2003 (SEE SUBSURFACE INVESTIGATION).

HORIZONTAL SCALE: 1" = 30'

VERTICAL SCALE: 1" = 5'

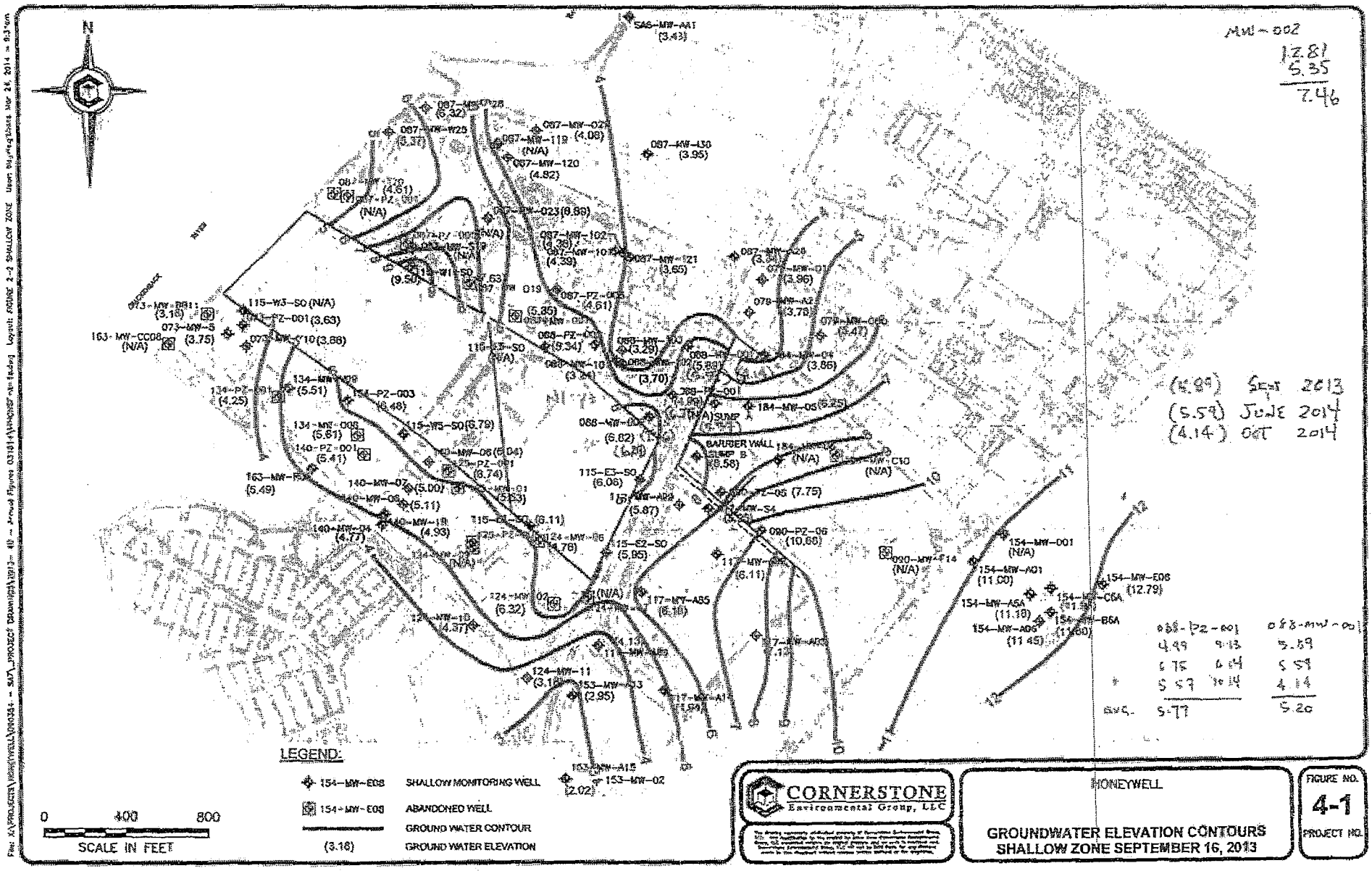
MACTEC

MACTEC Engineering and Consulting
200 Schulman Valley Boulevard, Suite 112
Morristown, NJ 07960

REMEDIAL ACTION
PRE-DESIGN INVESTIGATION
STUDY AREA 8 NORTH
JERSEY CITY, NEW JERSEY

FIGURE 3.3
SECTION 2-2

PROJ. NO.	[illegible]	5/19/03	REV.
DRAWN BY / CHECKED BY	[illegible] / [illegible]	5/19/03	



CORNERSTONE Environmental Group, LLC

HONEYWELL

GROUNDWATER ELEVATION CONTOURS
SHALLOW ZONE SEPTEMBER 16, 2013

FIGURE NO. 4-1

PROJECT NO.

MUESER RUTLEDGE CONSULTING ENGINEERS

SHEET NO. ____ OF ____
FILE 10025
MADE BY FV DATE 3/12/04
CHECKED BY ____ DATE ____

FOR HONEYWELL - SA7

SUBJECT SOIL/BOIL DESIGN PARAMETERS (62.4) γ_w
GEOLOGIC PROFILE

CONDITIONS OUTSIDE OF SHEETING.

F	$\phi = 30$, $\gamma = 115$	A	N(avg.) = 16	0.4' to 3.0'
	$\phi = 30$, $\gamma = 115$	B1	N(avg.) = 15	0.5' to 8.0'
	$\phi = 30$, $\gamma = 115$, $\gamma' =$	B2	N(avg.) = 24	1.0' to 7.0'
	$\phi = 30$, $\gamma = 115$, $\gamma' =$	C	N(avg.) = 5	0.5' to 14.0'
O1	[redacted] $c = 500$ PSF, $\gamma_T = 98$ 100, $\gamma' =$	E	~~N(avg.) = 4~~ EXCAVATE / LEAVE IN PLACE.	0.5' to 8.0' 1F (0) overstress allowance
O2	$c = 300$ PSF, $\gamma_T = 80$, $\gamma' =$	* D	N(avg.) = 2 EXCAVATE 1'	0.3' to 10.0' 4' avg
S	$\phi =$, $\gamma =$, $\gamma' =$	S1	$k_a = 0.283$, $k_p = 6.21$, N = 11 to 44, $\phi = 34°$, $\gamma = 120$ pcf	1.5' to 10.0'
	$\phi = 36°$, $\gamma = 125$ pcf, $\gamma' =$	S2	$k_a = 0.260$, N(avg.) = 35, $k_p = 7.26$, $\phi = 36°$, $\gamma = 125$ pcf	5.0' to 70.0'

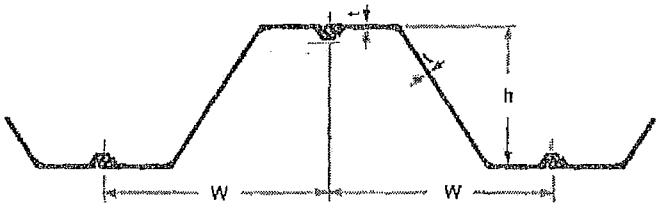
* MEADOW MAT

55 Waugh Drive, Suite 1250 | Houston, Texas 77007 | 281-558-7199 | jdfields-cp.com

JD FIELDS CONSTRUCTION PRODUCTS

HOESCH LARSSEN Z SERIES

Steel Sheet Pile Sections > Hot Rolled > Sections > Hoesch Z Sheet Pile Series



HOESCH LARSSEN Z SERIES

Section	Nominal Width Inch (mm)	Wall Depth (Height) Inch (mm)	Web Thickness Inch (mm)	Flange Thickness Inch (mm)	Per Single Section: Area Inch² (cm²)	Weight Pounds/Feet (kg/m)	Moment of Inertia Inch⁴ (cm⁴)	Section Modulus Inch³ (cm³)	Nominal Coating Area Feet²/Feet (m²/m)	Per Unit of Wall: Area Inch²/Foot (cm²/m)	Weight Pounds/Foot² (kg/m²)	Moment of Inertia Inch⁴/Foot (cm⁴/m)	Section Modulus Inch³/Foot (cm³/m)
1707	27.56 700	16.54 420	0.343 8.7	0.335 8.5	14.46 93.3	49.2 73.2	612.8 25505	74.10 1214	6.30 1.92	6.29 133.2	21.4 104.6	266.8 36435	32.3 1735
1807	27.56 700	16.54 420	0.362 9.2	0.354 9	15.11 97.5	51.4 76.5	635.7 26460	76.90 1260	6.30 1.92	6.58 139.2	22.4 109.3	276.8 37800	33.5 1800
1907	27.56 700	16.54 420	0.382 9.7	0.375 9.5	15.75 101.6	53.6 79.7	658.8 27420	79.70 1306	6.30 1.92	6.85 145.1	23.3 113.9	286.8 39165	34.7 1865
2007	27.56 700	16.54 420	0.406 10.3	0.398 10.1	16.49 106.4	56.2 83.6	685.9 28590	82.70 1355	6.30 1.92	7.19 152.3	24.5 119.4	298.7 40790	36.2 1945
2407	27.56 700	17.32 440	0.433 11	0.433 11	18.85 121.6	64.2 95.5	909.3 37850	104.90 1719	6.62 2.02	8.21 173.8	27.9 136.4	330.0 45070	45.8 2460
2507	27.56 700	17.32 440	0.453 11.5	0.453 11.5	19.55 126.1	66.5 99	934.3 38890	107.90 1768	6.62 2.02	8.51 180.1	29.0 141.4	406.8 55550	47.0 2525
2607	27.56 700	17.32 440	0.472 12	0.472 12	20.21 130.4	68.7 102.3	962.0 40040	111.10 1820	6.62 2.02	8.80 186.2	29.9 146.2	418.9 57200	48.4 2600
2707	27.56 700	17.32 440	0.500 12.7	0.500 12.7	21.14 136.4	72.0 107.1	1000.9 41660	115.60 1894	6.62 2.02	9.21 194.9	31.3 153	435.9 59520	50.3 2705
2807	27.56 700	17.32 440	0.516 13.1	0.516 13.1	21.65 139.7	73.7 109.7	1023.0 42580	118.10 1936	6.62 2.02	9.43 199.6	32.1 156.7	445.4 60830	51.4 2765
3607	27.56 700	19.69 500	0.661 16.8	0.425 10.8	23.16 149.4	78.8 117.2	1513.8 63010	153.60 2517	6.89 2.1	10.08 213.4	34.3 167.5	659.1 90000	67.0 3600
3807	27.56 700	19.69 500	0.709 18	0.472 12	24.85 160.3	84.6 125.9	1597.7 66500	162.30 2660	6.89 2.1	10.82 229	36.8 179.8	695.7 95000	70.7 3800
3907	27.56 700	19.69 500	0.736 18.7	0.500 12.7	25.81 166.5	87.8 130.7	1650.8 68710	167.40 2743	6.89 2.1	11.24 237.9	38.3 186.8	718.6 98125	73.0 3925
4007	27.56 700	19.69 500	0.748 19	0.512 13	30.43 196.3	89.3 132.9	1668.5 69450	169.50 2778	6.89 2.1	11.42 241.8	38.9 189.8	728.6 99500	74.0 3980

* Some sections are in Testing/development and will not be commercially available until later in 2012. Please check with your JD Fields Representative to verify section availability.

GR. 65

VolkerSteel Foundations

Ground Vibration Estimation (approximate)

Hammer MRZV 20V (TM 16/20) Type Vibro

Vibration

$$v = C\sqrt{(W)}/r$$

v = ppv in mm/s
C = soil/hammer parameter
W = hammer energy per blow/cycle (J/blow)
r = distance to point of interest (m)

Method	Ground conditions	C
Impact	Very stiff cohesive, dense granular, rock, fill with large obstructions	1.00
	Stiff cohesive, medium dense granular, compact fill	0.75
	Soft cohesive, loose granular, loose fill, organic soils	0.50
Vibro	All soils	0.70

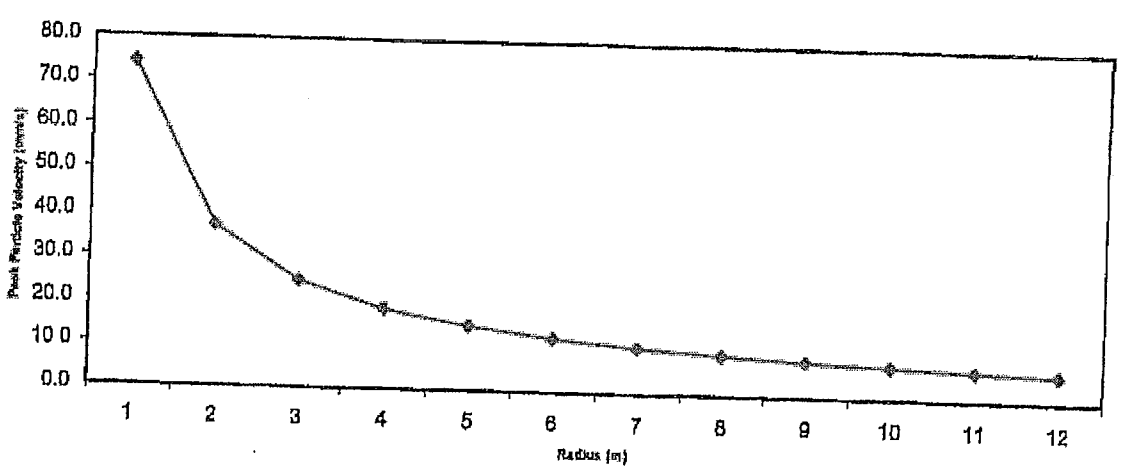
C = 0.70

r	W	v
m	J/cycle	mm/s
1	11236	74.2
2	11236	37.1
3	11236	24.7
4	11236	18.5
5	11236	14.8
6	11236	12.4
7	11236	10.6
8	11236	9.3
9	11236	8.2
10	11236	7.4
11	11236	6.7
12	11236	6.2
16	11236	4.6
20	11236	3.7
30	11236	2.5

Tolerance of building (not occupants)	ppv mm/s	Radius m
Ruins, buildings of architectural merit	2	37.1
Residential	5	14.8
Light commercial	10	7.4
Heavy Industrial	15	4.9
Buried Services (general)	25 ~ 1"	3.0 ~ 10'
Buried Services (old brick sewers)	12.5	5.9

Values from EC3:5 for cosmetic damage - dependant on hammer type

Vibration Estimates



MUESER RUTLEDGE CONSULTING ENGINEERS

File 11173A

Made By GS Date 04/02/13

FOR STUDY AREA 6 Checked By _____ Date _____

SUBJECT PASSIVE PRESSURE COEFFICIENTS WITH WALL FRICTION

Sand (S1): $\phi := 34 \cdot deg$ $\delta := 14 \cdot deg$ Friction angle for steel on sand DM7.2-63

Assuming wall friction for K_p

Slope of grade $\beta := 0 \cdot deg$ From DM 7.02, Figure 6 (attached), $K_p := 9.4$

For $\frac{\delta}{\phi} = 0.41$ Reduction factor $r_{30} := 0.686 + \frac{\left(\frac{\delta}{\phi} - 0.4\right) \cdot (0.746 - 0.686)}{(0.5 - 0.4)}$ $r_{30} = 0.693$

For $\frac{\delta}{\phi} = 0.41$ Reduction factor $r_{35} := 0.603 + \frac{\left(\frac{\delta}{\phi} - 0.4\right) \cdot (0.674 - 0.603)}{(0.5 - 0.4)}$ $r_{35} = 0.611$

For $\phi_1 := 30deg$

$\phi_2 := 35deg$

Thus, Reduction factor $r_{34} := r_{30} - \left[\frac{(\phi - \phi_1) \cdot (r_{30} - r_{35})}{(\phi_2 - \phi_1)}\right]$ $r_{34} = 0.628$

Therefore, effective Kp with wall friction is: $K_p := (r_{34}) \cdot (K_p)$ $\boxed{K_p = 5.9}$

Sand (S2): $\phi := 36 \cdot deg$ $\delta := 14 \cdot deg$ Friction angle for steel on silty sand DM7.2-63

Assuming wall friction for K_p

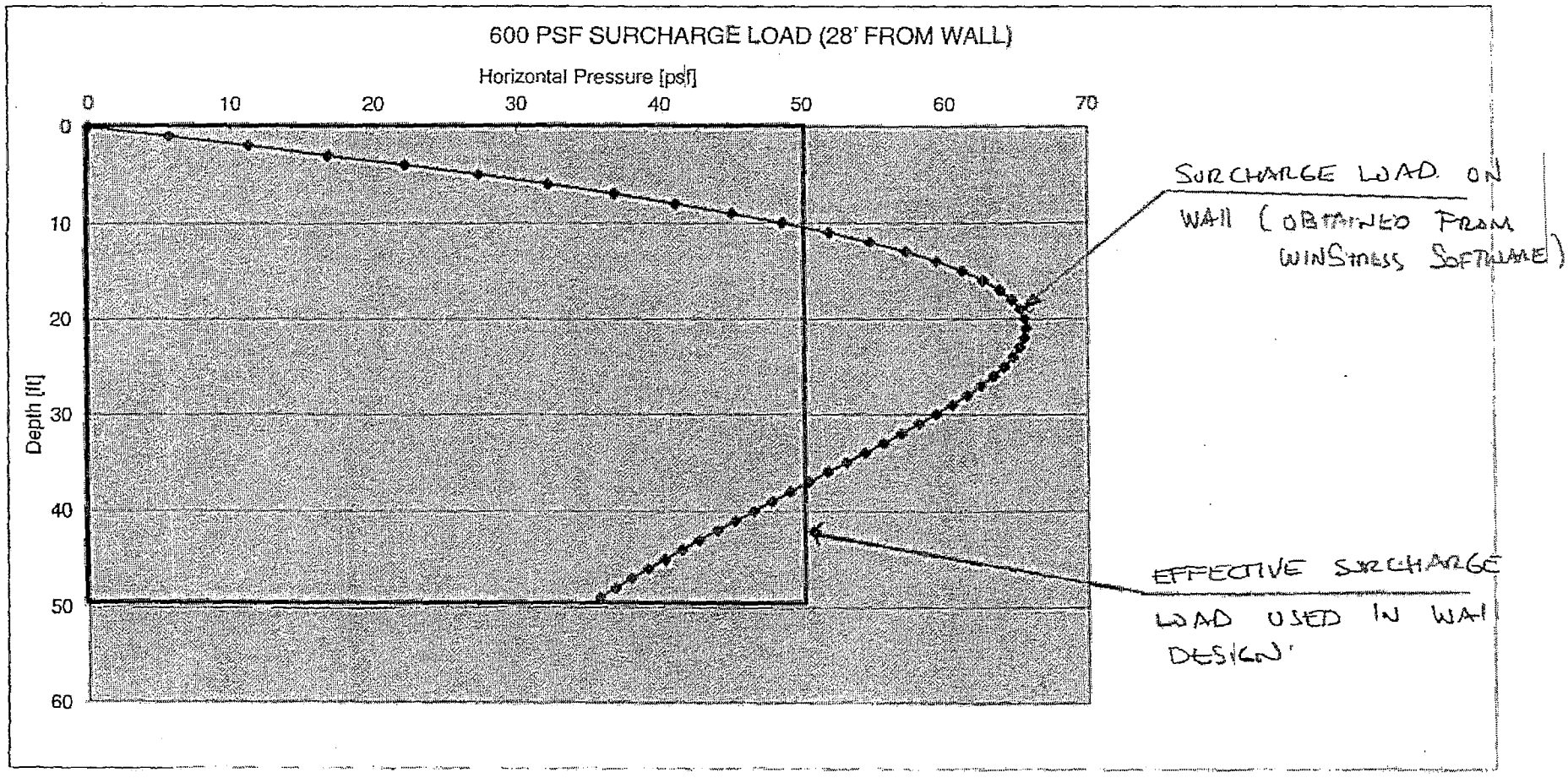
Slope of grade $\beta := 0 \cdot deg$ From DM 7.02, Figure 6 (attached), $K_p := 12$

For $\frac{\delta}{\phi} = 0.39$ Reduction factor $r_{30} := 0.686 + \frac{\left(\frac{\delta}{\phi} - 0.4\right) \cdot (0.746 - 0.686)}{(0.5 - 0.4)}$ $r_{30} = 0.679$

For $\frac{\delta}{\phi} = 0.39$ Reduction factor $r_{35} := 0.603 + \frac{\left(\frac{\delta}{\phi} - 0.4\right) \cdot (0.674 - 0.603)}{(0.5 - 0.4)}$ $r_{35} = 0.595$

Thus, Reduction factor $r_{32} := r_{30} - \left[\frac{(\phi - \phi_1) \cdot (r_{30} - r_{35})}{(\phi_2 - \phi_1)}\right]$ $r_{32} = 0.578$

Therefore, effective Kp with wall friction is: $K_p := (r_{32}) \cdot (K_p)$ $\boxed{K_p = 6.94}$


600 PSF SURCHARGE LOAD (28' FROM WALL)
Horizontal Pressure [psf]
0
10
20
30
40
50
60
70
Depth [ft]
0
10
20
30
40
50
60
SURCHARGE LOAD ON WALL (OBTAINED FROM WINSTRESS SOFTWARE)
EFFECTIVE SURCHARGE LOAD USED IN WALL DESIGN

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: Minor (a) Effective Date: 3/30/15
Project Location: SA-6 NORTH Title: Barrier Wall Realignment SA-6N Station 8+25	Associated RFI: ☐ Yes, RFI No. NA ☑ None
Contractor (Subcontractor): Entact	Project No.: 3480130377

A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.

The wall will deviate approx. 3 ft. south of the design alignment adjacent to the pile cap and arc back on both sides to the original alignment. The impacted alignment will be approximately 35 ft. in length.

Due to the minor nature of the change there will be no change or re-issue of the design drawings. The final location of the wall and the increased limit of EA-5 will be documented in the As-Built drawings.

The decision process effectively resulted in a one day delay in pile driving operations.

The change will have no impact on the Open Space development.

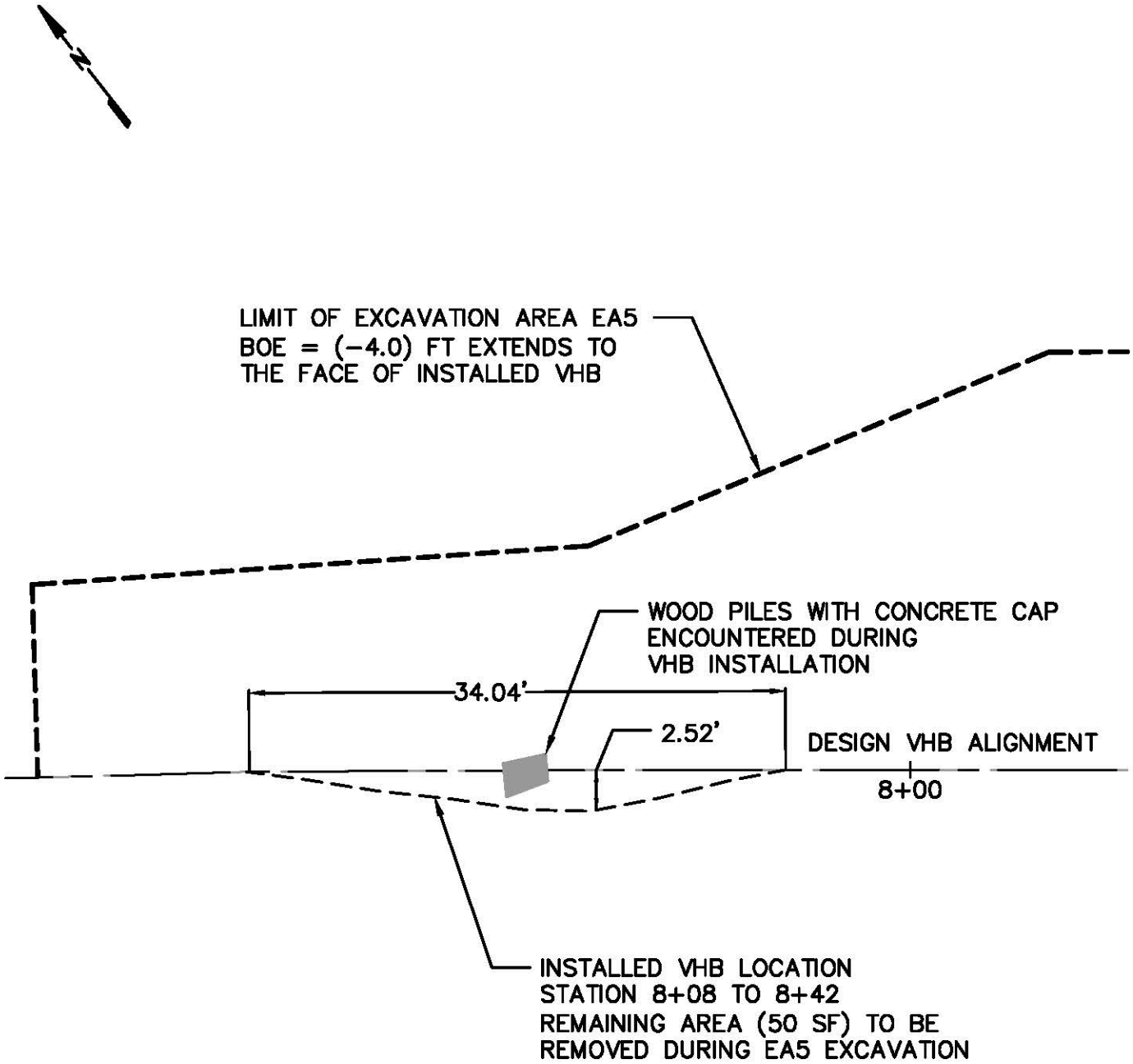
The reduction in cap area and increase in impacted soil excavation are considered to be “diminimus” values from a design perspective.

The deviation in alignment will increase the total wall length slightly. The design and current Durabond layout and fabrication drawings anticipate the use of a “Special” at the JCIA pit that will accommodate any changes in drive length. The slight increase in width of the special is not anticipated to change the cost of the special.

EA-5 excavation is immediately north of this section of wall. The excavation area will increase by an equivalent amount to the decrease in cap area. The Bottom of Excavation at elevation -4 will be extended to the Barrier Wall.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Necessary to realign wall due to differing conditions/timber piles on alignment Attachments: ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☑ Yes ☐ No
Additional Comments: Schedule impact was limited to approximately 1 day while evaluating options.	Design Documents Affected: None
Honeywell (AP) Review: Individual Discipline Initial Date	
(Name / Signature): Samuel Shallard	Does DCB Result in CCO? TBD Date:
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



0 5 10 20

SCALE IN FEET

Prepared/Date: TDD 3/30/15
Checked/Date: SGS 3/30/15

CHROMIUM REMEDY STUDY AREA 6 NORTH JERSEY CITY, NEW JERSEY	amec foster wheeler Environment & Infrastructure, Inc. 200 American Metro Blvd. Suite 113 Hamilton, NJ 08619 Phone: (609) 689 - 2829 NJ Certificate of Authorization Number 24GA28010900	FIGURE 1 VHB ALIGNMENT REVISION Project 3480-10-0027 DCB 20

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 022 DCB Type: Minor (a) Effective Date: 3/9/15
Project Location: SA-6 NORTH, SA6-SOUTH	Associated RFI:
Title: Utility Pole Inserts	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): Entact	

The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. Honeywell is responsible for the installation of "sleeves" to allow PSE&G to install the poles without concern for encountering chromium impacted soils.

PSE&G will stake the proposed location of the new poles.

Amec will notify DOT regarding the installations.

No special DOT requirements are anticipated. If DOT requires specific measures Entact will be advised accordingly.

Entact will conduct utility clearances and install the poles in accordance with the PSE&G sleeve details.

Soils from the sleeve installation will be considered to be chromium impacted. Such soils may be disposed of within the limits of the SA-6N cap or disposed offsite.

Work will be coordinated with PSE&G including potential for DOT inspection during sleeve excavation and sleeve installation.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason. Required as design was developed to address utility relocation details. Attachments: ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected: NA

Honeywell (AP) Review:

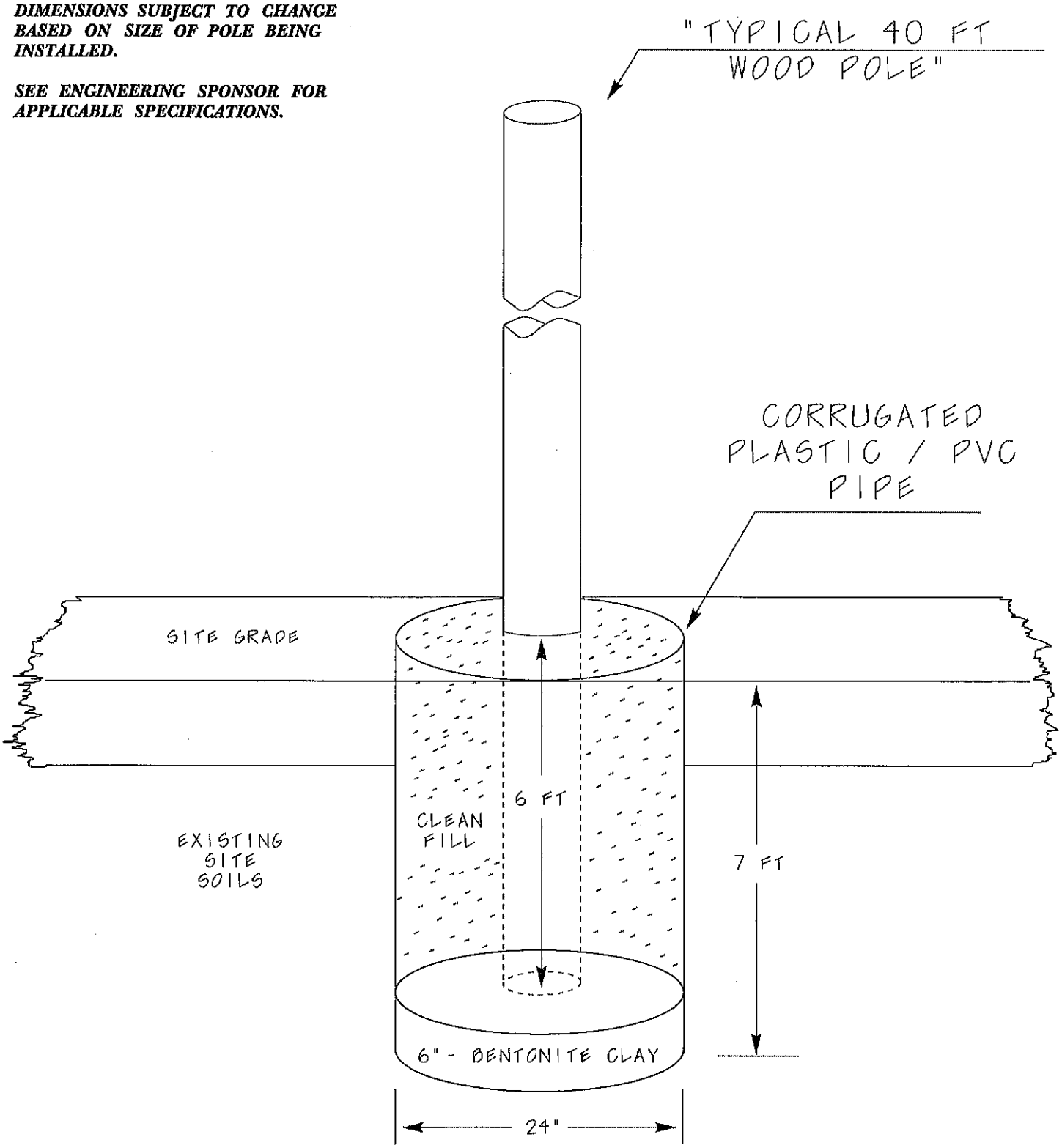
Individual	Discipline	Initial	Date

(Name / Signature):	Does DCB Result in CCO? ☐ Yes (b) ☑ No

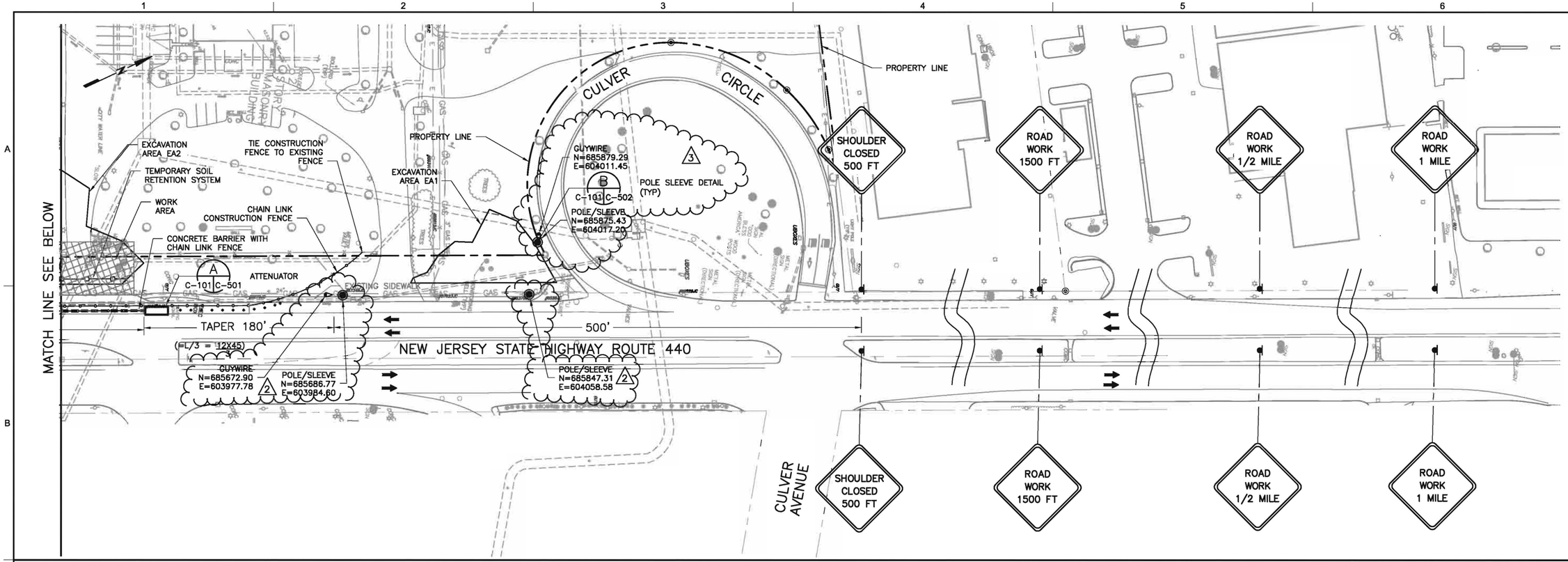
NOTE

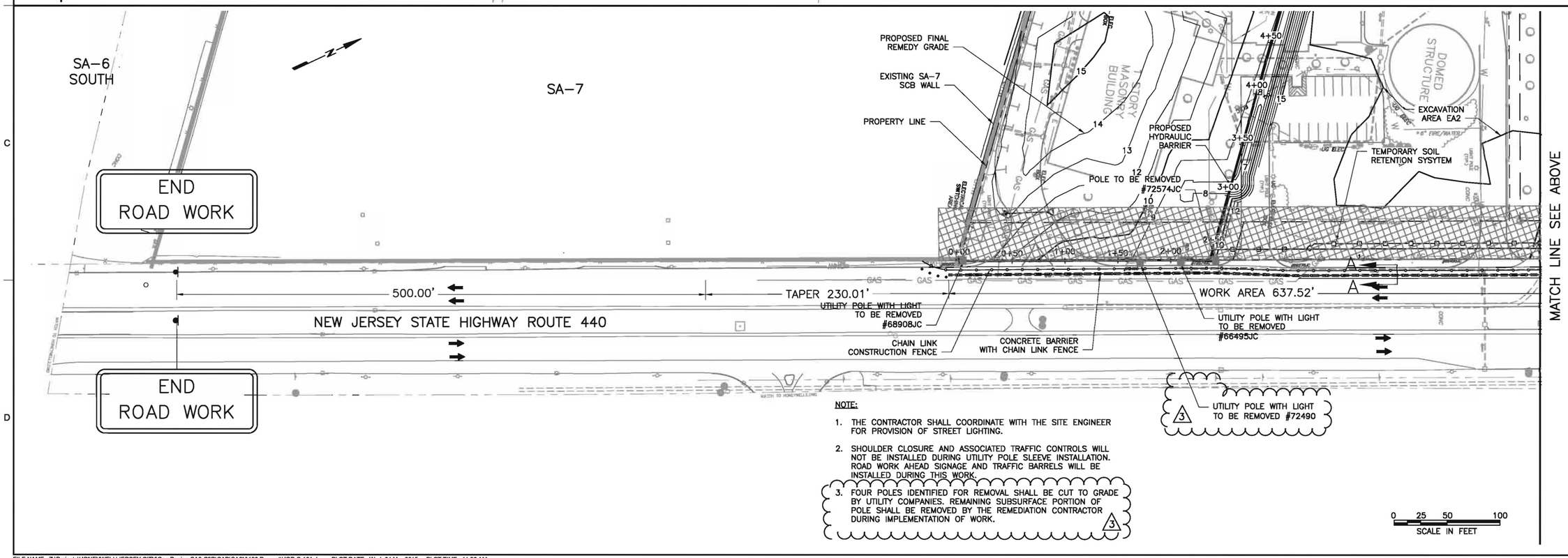
DIMENSIONS SUBJECT TO CHANGE BASED ON SIZE OF POLE BEING INSTALLED.

SEE ENGINEERING SPONSOR FOR APPLICABLE SPECIFICATIONS.



SUBJECT:	POLE INSTALLATION PLAN FOR CONTAMINATED SOIL					
LOCATION						MUNICIPALITY
DRAWN: D. PARIS	DATE 9-27-2002	APPROVED: J. BALLERINE	DATE 9-27-2002	REVISED: 1-26-2012	BY: D. PARIS	
NOT.#	PUBLIC SERVICE ELECTRIC AND GAS COMPANY				SKETCH NO.	





NOTE:

1. THE CONTRACTOR SHALL COORDINATE WITH THE SITE ENGINEER FOR PROVISION OF STREET LIGHTING.
2. SHOULDER CLOSURE AND ASSOCIATED TRAFFIC CONTROLS WILL NOT BE INSTALLED DURING UTILITY POLE SLEEVE INSTALLATION. ROAD WORK AHEAD SIGNAGE AND TRAFFIC BARRELS WILL BE INSTALLED DURING THIS WORK.
3. FOUR POLES IDENTIFIED FOR REMOVAL SHALL BE CUT TO GRADE BY UTILITY COMPANIES. REMAINING SUBSURFACE PORTION OF POLE SHALL BE REMOVED BY THE REMEDIATION CONTRACTOR DURING IMPLEMENTATION OF WORK.

NO.	DATE	REVISION	BY	APVD
3	03/03/15	REVISED SLEEVE LOCATION AND POLE REMOVAL	TDD	KCS
2	02/19/15	POLE SLEEVE/ANCHOR RELOCATION	TDD	KCS
1	09/08/14	REVISED AS PER NJDOT COMMENTS	RJR	NS

DSGN KCS DR RJR CHK NS APVD KCS

KIRTI C. SHAH
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 24GE04371200

Honeywell
101 COLUMBIA RD. BOX 2125, MORRISTOWN, NJ 07962

HIGHWAY OCCUPANCY PERMIT
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

OVERALL TRAFFIC CONTROL PLAN

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2029
NJ Certificate of Authorization Number 24GA28013900

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-101
SHEET	3 OF 7

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\HOP-C-101.dwg PLOT DATE: Wed, 04 Mar 2015 PLOT TIME: 11:26 AM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 23 DCB Type: Minor (a) Effective Date: 4/30/15
Project Location: SA-6	Associated RFI:
Title: JCIA Trash Pit Closure	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): Entact	

A concrete protuberance was encountered 12-13 ft below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched per the attached sections to clear the concrete. A series of 8" holes were augured and grouted starting at the JCIA pit and moving out along the alignment of the closure section to provide continuity with the pit. The closure sections were then lowered/pushed to the design depth.

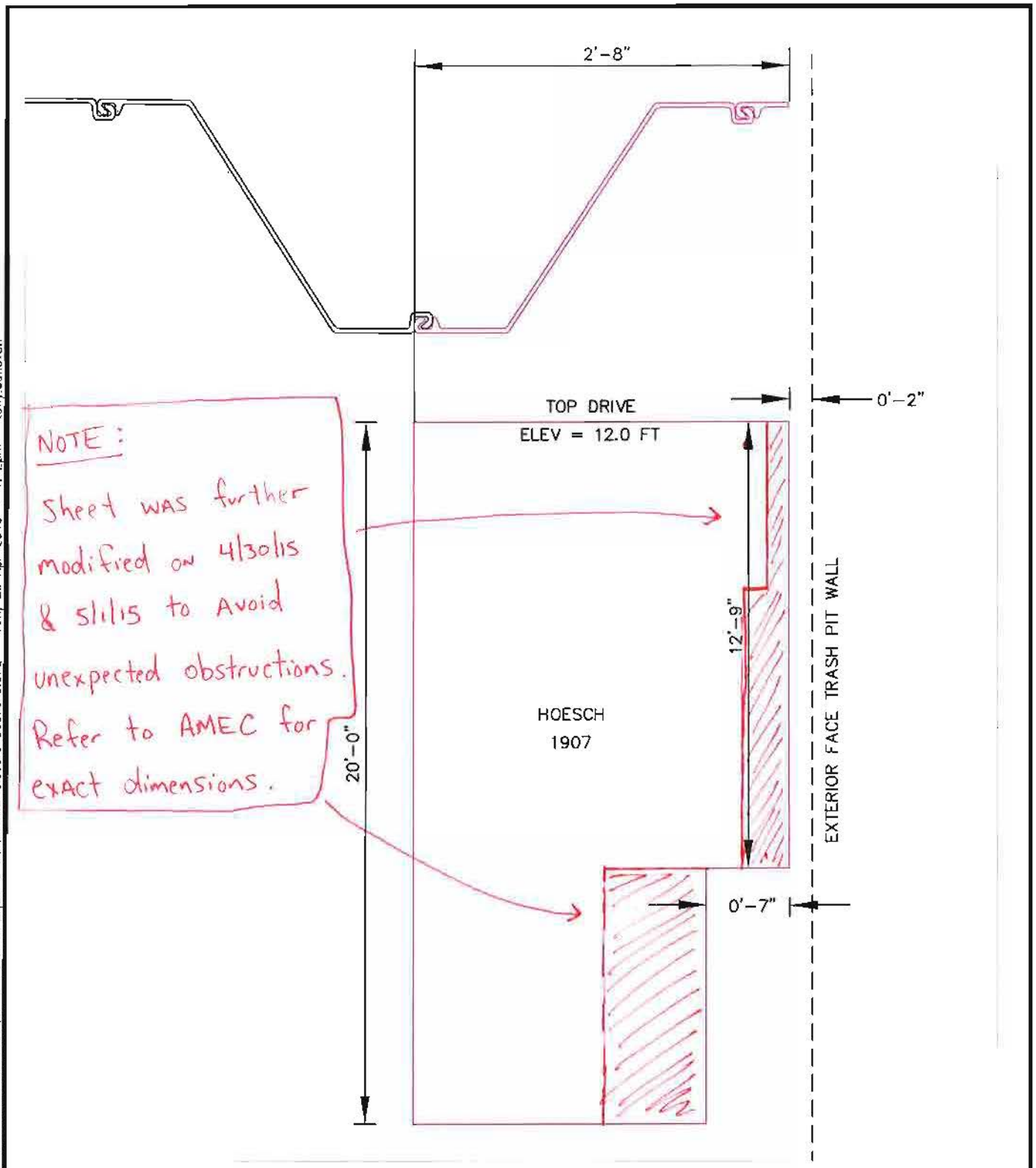
Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	Explanation or Reason: Obstruction encountered during HB sheetpile driving adjacent the JCIA trash pit Attachments: ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected:

Honeywell (AP) Review:

Individual	Discipline	Initial	Date
(Name / Signature):		Does DCB Result in CCO? ☐ Yes (b) ☑ No Date: ~~4/30/15~~ 6/8/15	

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

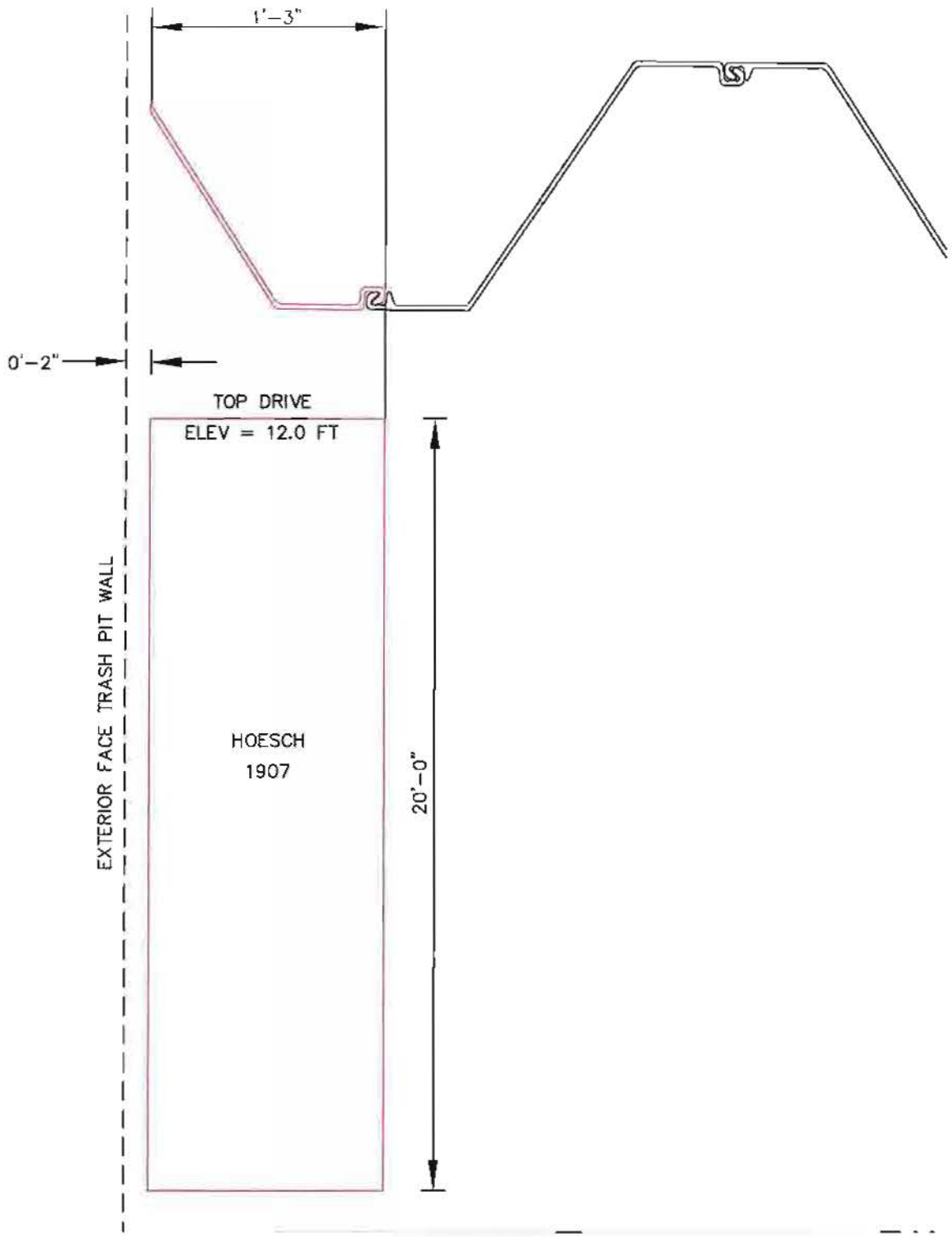


JCIA TRASH PIT – WEST CLOSURE
NTS

Prepared/Date: TDD 4/14/15
Checked/Date:

CHROMIUM REMEDY STUDY AREA 6 NORTH JERSEY CITY, NEW JERSEY	amec foster wheeler Environment & Infrastructure, Inc. 200 American Metro Blvd. Suite 113 Hamilton, NJ 08619 Phone: (609) 689 - 2829 NJ Certificate of Authorization Number 24GA28010900	FIGURE 1 VHB CLOSURE DETAIL Project 3480-10-0027

C:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North VHB\SA-6 North VHB Closure Sections.dwg Mon, 20 Apr 2015 - 1:42pm tony.donovan



JCIA TRASH PIT – EAST CLOSURE
NTS

Prepared/Date: TDD 4/14/15
Checked/Date:

CHROMIUM REMEDY STUDY AREA 6 NORTH JERSEY CITY, NEW JERSEY	amec foster wheeler Environment & Infrastructure, Inc 200 American Metro Blvd. Suite 113 Hamilton, NJ 08619 Phone: (609) 689 - 2829 NJ Certificate of Authorization Number 24GA28010900	FIGURE 2 VHB CLOSURE DETAIL Project 3480-10-0027

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Honeywell RES

→Honeywell.com

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No 026.1: Minor (a) Effective Date: 05/19/2015
Project Location: SA-6	Associated RFI:
Title: Contingent GW System Delete Pumps & Controls	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): Entact	

DCB 026.1 serves to provide notice to Entact that specific components related to the Contingent GW system are being removed from the scope. Associated drawing revisions and supplemental detail will be provided in DCB 026.2.

Supply and installation of items listed below will be deferred pending closure of the caps and stabilization of the groundwater levels and quality within the contingent groundwater system on both SA-6N and 6S. These changes impact the three Groundwater extraction Pump Stations and associated electrical and instrumentation wiring.

Revised Contingent Groundwater drawings will be issued under DCB 026.2

- DWG C-310 Detail CC
  - Submersible Grinder Pump Model HPGR200 and associated electrical wiring.
  - Level switches, level alarm, Pump Power Control Panel and associated electrical and instrumentation cable.
  - 1.5 inch flex discharge hose.
- DWG C-204. Flow Meter and Flow Meter Structure as detailed on DWG 306. Delete in its entirety including all associated instrument cable and conduit.

Contingent GW force mains, electrical and instrument conduit will be installed as shown with pull string/wire to permit installation of electrical and instrumentation wire by others.

Please Note that the above Geomembrane pump station including all pumps, wiring and controls will be installed as shown.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision √ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Attachments: ☐ Yes √ No Cost Implication: √ Yes ☐ No >$50k √ Yes ☐ No Schedule Implication ☐ Yes √ No
Additional Comments:	Design Documents Affected: C-204,C-310, E-301, E-302 CN-201,CN-301,CN-302 CN-305 EN-301, EN-302

Honeywell (AP) Review:

Individual	Discipline	Initial	Date
(Name / Signature): Samuel Shallaro		Does DCB Result in CCO? ☐ Yes (b) ☐ No Date: May 19, 2015	

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB Type:** Major (a) **Effective Date:** 6/18/15
Project Location: SA-6 North **Title:** SA-6 North, Site 087 In-situ Injections	**Associated RFI:** ☐ Yes, RFI No. ___ ☑ None
Contractor (Subcontractor): ERFS	**Project No.:** 3480150438.5710.571001

Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72-inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. See attached memorandum, figures, and Table 1 prepared by Amec Foster Wheeler. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved *Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil*, dated February 19, 2013.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** Focused injections north of 72-inch force main to avoid impact to concrete shell of pipeline. **Attachments:** ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** *Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil*, dated February 19, 2013 and *Work Plan for In-Situ Treatment of Chromium Impacted Soils*, dated January 29, 2014

Honeywell (AP) Review:

Individual: Dennis Nagg	**Discipline:**	**Initial:**	**Date:**
(Name / Signature):		**Does DCB Result in CCO?** ☑ **Yes (b)** ☐ **No** **Date:**	

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

DESIGN CHANGE BULLETIN

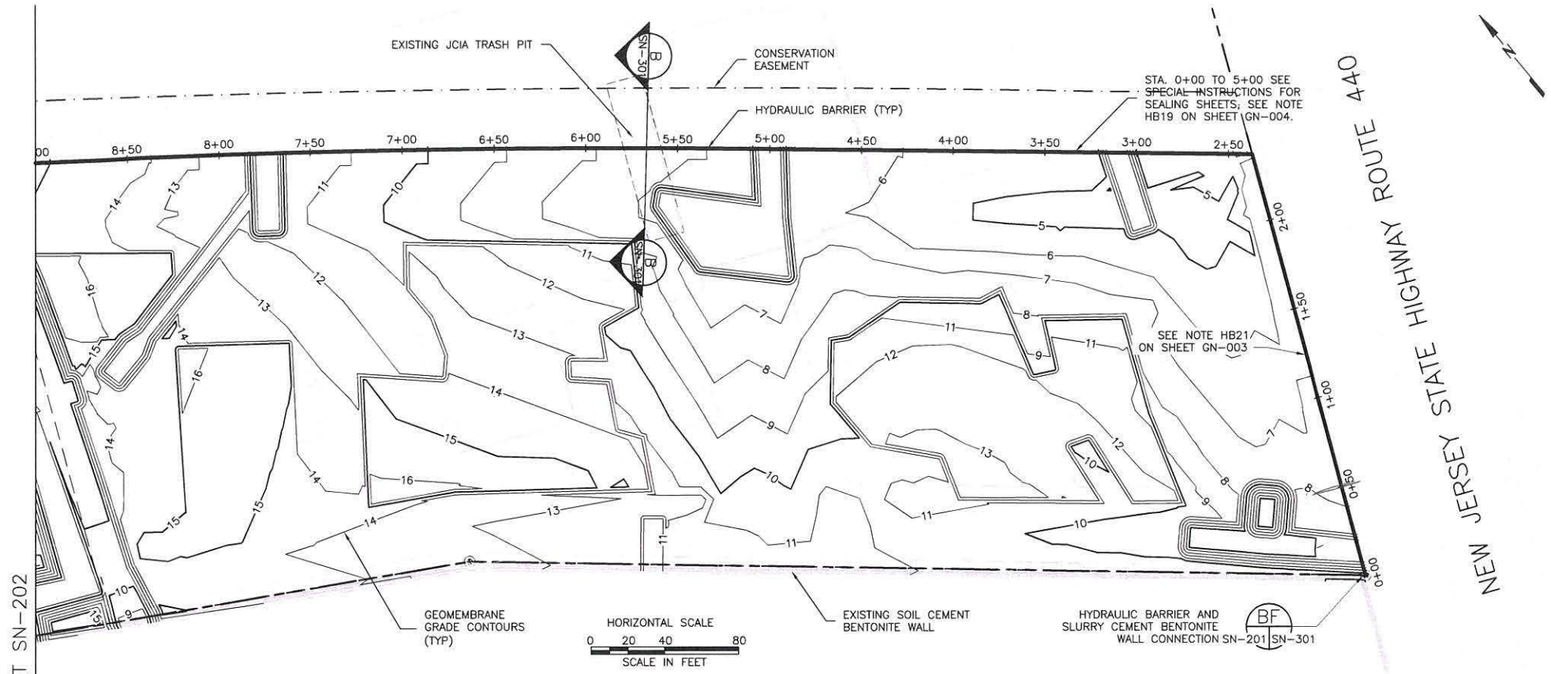
Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 38 **DCB Type:** Minor (a) **Effective Date:** 7/30/15
Project Location: SA-6 **Title:** SA-6 North HB Wall Station 0+50	**Associated RFI:** ☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description

The sheet pile pair is located at Sta. 0+50 (see attached annotated drawing). Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** See additional comments **Attachments:** ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** NA
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 7/29/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

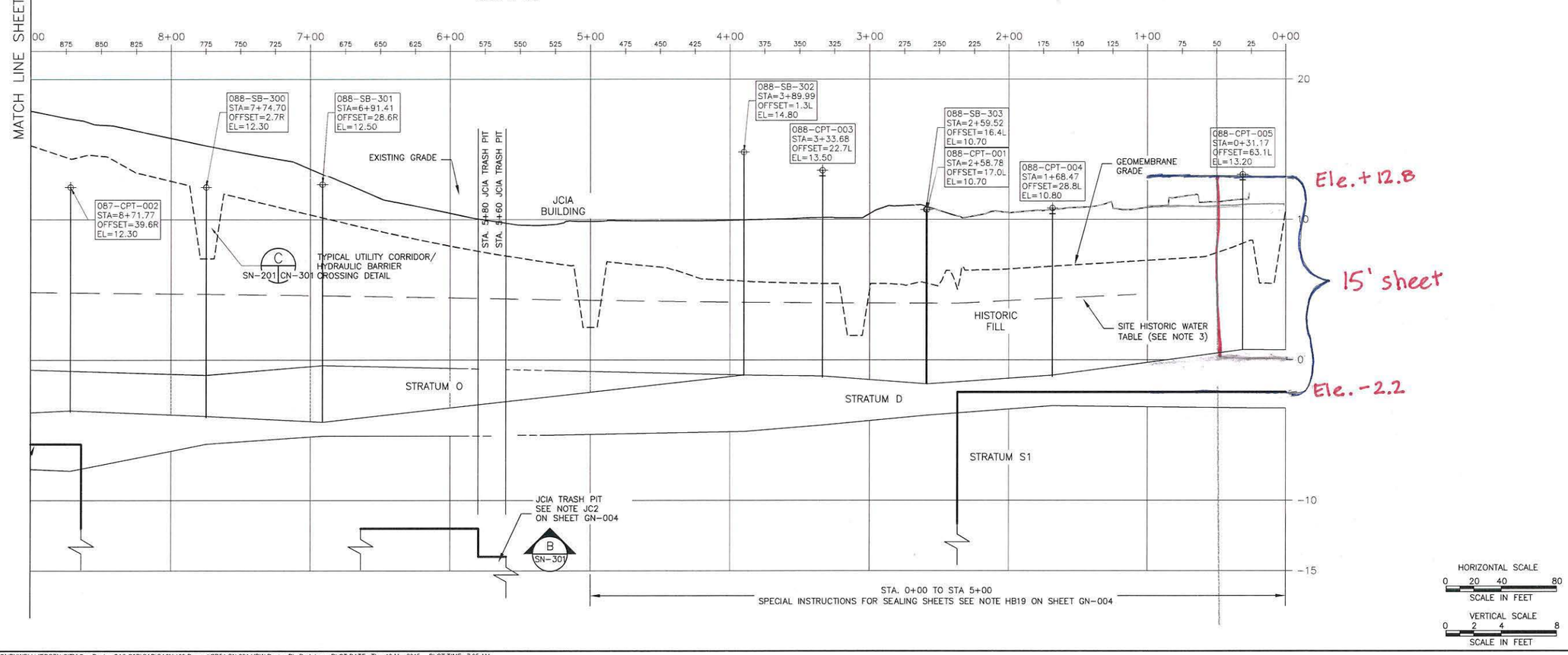
(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.
4. ~~STATION 14+00 TO 19+00 THE TOE OF THE SHEETPILE WILL BE DRIVEN TO THE TOP OF THE STRATUM S1.~~

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	0+00	2+37	-4	AZ 19-700
STRUCTURAL	2+37	5+60	-18	AZ 19-700
NON STRUCTURAL	5+60	5+80	-14	AZ 19-700
NON STRUCTURAL	5+80	6+64	-12	AZ 19-700
STRUCTURAL	6+64	8+64	-33	AZ 38-700N
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700



NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	10/10/13	TDD	TDD	RJR	TDD	RJR	SGS
0	06/07/13					TDD	SGS

REVISION — ISSUED FOR CONSTRUCTION — HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
SGS

Honeywell
101 COLUMBIA RD. BOX 2108, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 989 - 2829
NJ Cert of Authorization 24GA28019900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-201
SHEET	54 OF 70

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR54-SN-201 HBW Design Pln Prof.dwg PLOT DATE: Thu, 12 Mar 2015 PLOT TIME: 7:05 AM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 041 **DCB Type:** Minor (a) **Effective Date:8/19/15**
Project Location: SA-6	**Associated RFI:**
Title: Warning Tape with Do Not Dig Markings	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. Drawings C-301 1and CN-301 provide a Typical Utility Corridor/Hydraulic Barrier Wall Crossing Detail which calls for "Distinctive colored warning layer with markings in English and Spanish."

Entact Notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring).

As an option Entact proposed installing a standard direct burial utility marking tape.

AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking. The tape will be placed at no more than 5 ft. on center.

Reason for Change/Modification: ☐Unforeseen or Differing Site Conditions ☐Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** See comments **Attachments:** ☑ Yes ☐ No Revised Detail CE Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: The 6 inch wide yellow tape provides a greater contrast and higher visibility against the orange background than the black lettering printed on the orange fabric. It is considered to be "an or-equal" or better option and was approved accordingly.	**Design Documents Affected:** Attached PDF from tape manufacturer with size and lettering. Letters from manufacturer regarding suitability for application.
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 8/19/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

Systems Pack Inc.
649 E. HIGHLAND ROAD
MACEDONIA, OHIO 44056
"Manufacturers of Design Ideas"
(330) 467-5729
FAX (330) 468-2299

July 13, 2015

Adam Ewert
ENTACT, LLC
1 E. Oak Hill Drive, Suite 102
Westmont, IL 60559

RE: Warning Tape Certification/Warranty Statement

Dear Adam,

Please use this letter as confirmation that the polyethylene tape we have quoted for the Entact – Honeywell - Jersey City project is suitable for burial applications.

Polyethylene (PE resin) tapes are suitable for a buried warning barrier as they are inert and not biodegradable. Deterioration is only noted when PE is exposed to prolonged sunlight. PE does not migrate in soil and floats in water. PE produces no effects on aquatic or terra environments. When placed in landfills, they do not release gases or other compounds (known to pollute water resources.)

SPI warrants to the buyer that its products are free from defects in material and workmanship, but limits its obligation to replacement of the product. This warranty is in lieu of any other warranty, expresses or implied, including but not limited to any implied warranty of merchantability or fitness for a particular use, and of any other obligations or liability on SPI's part. SPI shall not be liable for any loss, damage, expense or consequential damages of any kind arising in connection with the use, or inability to use, its products.

If you have any questions or need further information on this or any of our products, please let Peter Daly @ IWT Cargoguard or myself know.

Best regards,

Trish Righetti

Trish Righetti

Systems Pack Inc.
649 E. HIGHLAND ROAD
MACEDONIA, OHIO 44056
"Manufacturers of Design Ideas"
(330) 467-5729
FAX (330) 468-2299

July 15, 2015

Adam Ewert
ENTACT, LLC
1 E. Oak Hill Drive, Suite 102
Westmont, IL 60559

RE: Warning Tape Certification/Warranty Statement – Inks and Printing

Dear Adam,

Please use this letter in conjunction with our initial Certification/Warranty as confirmation that the inks used to print polyethylene tape we have quoted for the Entact – Honeywell - Jersey City project is suitable for burial applications.

Solvent inks are permanently adhered to the polyethylene tapes and (once ink is dry) can only be removed by applied, chemical means. This particular tape and ink combination was designed and been used as an underground marking tape for over 25 years with no quality or sustainability issues. We are confident in its performance for your current application.

If you have any questions or need further information on this or any of our products, please let Peter Daly @ IWT Cargoguard or myself know.

Best regards,

Trish Righetti

Trish Righetti

Systems Pack Inc.
649 E. HIGHLAND ROAD
MACEDONIA, OHIO 44056

"Manufacturers of Design Ideas"

(330) 467-5729
FAX (330) 468-2299

4 mil Mil PE Barricade Tape

I. SPECIFICATIONS:
Barricade warning tapes will consist of high visibility safety yellow or red polyethylene with bold black letters. Standard letter height minimum of two inches (2"+). Tapes help prevent accidents by increasing visibility of hazards and can be tied, stapled or nailed in place.

II. TEST DATA:
Material Identification: Nominal 4 Mil Polyethylene,
6" wide
Test Procedure: ASTM-D-882, Method A
Specimen Conditions: 73ºF / 50% R.H.
Test Temperature: 73ºF
Elongation: 552%
Tensile Strength (Transverse): 2,100 psi
Tensile Strength (Longitudinal): 2,870 psi
Roll Weight (6" x 1000') 9.0 lbs.

Suitable for burial

Sales Order Number:	24106040 / 0030 v2	Material:	4 MIL POLYETHYLENE (PE)
Date:	07.10.2015	Colors:	yellow/black
Artist: RP Revised By:	RP	Size:	6" x 1000'

Prepared by Trish Righetti 7/10/2015
Revised by T. Righetti 7/15/2015 – Tape width and minimum print height

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 042 **DCB Type:** Minor(a) **Effective Date: 8/21/15**
Project Location: SA-6	**Associated RFI:**
Title: Anchor Trench Applicability	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA-6S Caps. As such, Paragraph 3.02 is no longer required and therefore the following is deleted in its entirety.

SECTION 02372

CAP GEOMEMBRANE LINER

3.02 ANCHOR TRENCH

A. The anchor trench shall be constructed as shown on the Drawings and/or as specified herein.

B. The anchor trench shall be adequately drained to prevent water ponding and softening of adjacent soils. The anchor trench shall be backfilled and compacted.

C. Geosynthetic material in the anchor trench shall be temporarily anchored with sandbags or other suitable materials until final approvals are obtained.

D. Backfilling of the anchor trench shall be conducted when the geomembrane is in its most contracted (taut) state.

E. Care shall be taken when backfilling and compacting the trenches to prevent any damage to the lining materials.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:**
	Attachments: ☐ Yes ☑ No
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** Delete Section 3.02 Anchor Trench from Spec 02372

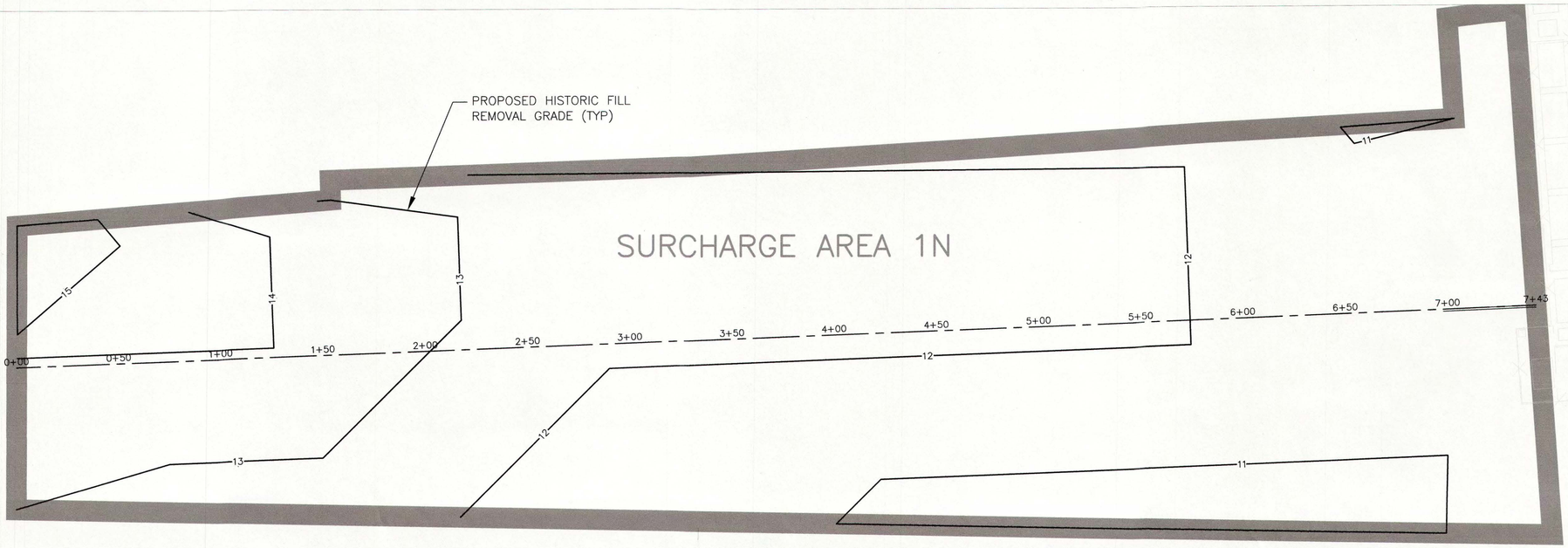
Honeywell (AP) Review:

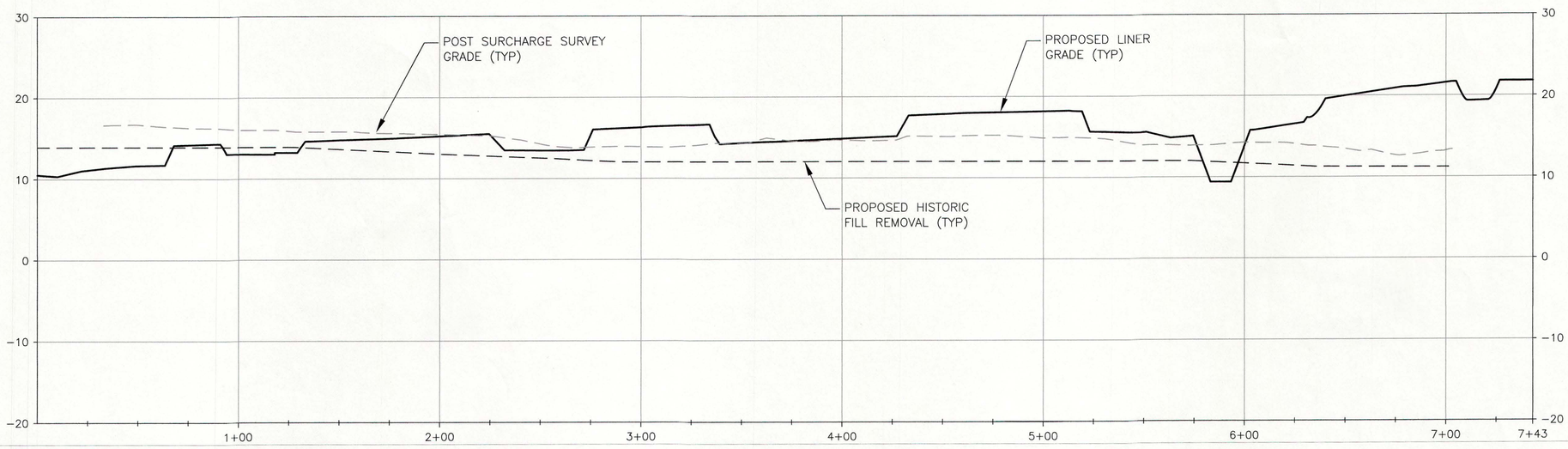
Individual: Geoff Shallard **Discipline:** EOR **Initial:** **Date:** 8/21

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 045 **DCB Type:** Minor(a) **Effective Date:** 9/02/15
Project Location: SA-6N **Title:** 2ft Cut Historic Fill Area 1N	**Associated RFI:** ☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377
Description. Remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N	
Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** See additional comments **Attachments:** ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☐ No
Additional Comments: Area 1N Surcharge has been completed and surcharge removed and the surface surveyed. Sampling conducted prior to the design indicates that Area 1N surficial soils are composed of <20 mg/kg Historic Fill. The attached drawing shows the proposed limits of removal of approximately 2 ft. of historic fill to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	**Design Documents Affected:** A new drawing CN-101A has been created to show the excavation limits
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 9/02/15
(Name / Signature):	**Does DCB result in CCO?** To be determined ☐ **Yes (b)** ☐ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





NOTES:

1. CONTOURS SHOWN HEREON REPRESENT THE PROPOSED BOTTOM OF EXCAVATION TO REMOVE APPROXIMATELY 2 FEET OF HISTORIC FILL FROM SURCHARGE AREA 1N.
2. EXCAVATED HISTORIC FILL MATERIAL WILL BE STOCKPILED IN AN AREA DESIGNATED BY AMEC PERSONNEL FOR UTILIZATION DURING FUTURE DEVELOPMENT OR SAMPLED IN ACCORDANCE WITH THE SOIL MANAGEMENT PLAN TO DETERMINE FINAL DISPOSITION.
3. ANY MATERIALS FAILING THE SOIL SAMPLING CRITERIA FOR REUSE WILL BE RETURNED AND PLACED UNDER THE CAP.
4. THE DRAWING AND FILES DEPICT A BOTTOM SURFACE AND THE CONTRACTOR WILL EXCAVATE TO THIS SURFACE WITH A MAXIMUM TOLERANCE 0.5 FEET BELOW THE DESIGN GRADES.
5. IF ANY VISUAL INDICATION OF CHROMIUM IMPACTED SOILS IS OBSERVED EXCAVATION WILL CEASE IN THAT LOCATION PENDING CONFIRMATION TESTING BY AMEC.

0 15 30 60
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
0	9/1/15	REMOVAL APPROXIMATELY 2 FT OF HISTORIC FILL	TDD	SGS

DSGN TDD DR TDD CHK SGS APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

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Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
SURCHARGE AREA 1N
HISTORIC FILL REMOVAL
GRADING PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 888 - 2829

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	9/1/15
PROJ	3480-13-0377
DWG	CN-101A
SHEET	OF

FILE NAME: C:\Donovan\SA-6 North\2013 Excavation Surfaces\Area 1N Historic Fill Removal\Area 1N Historic Fill Removal.dwg PLOT DATE: Tue, 01 Sep 2015 PLOT TIME: 2:26 PM

Honeywell RES

Honeywell.com

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 046 **DCB Type:** Minor (a) **Effective Date:** 9/17/15
Project Location: SA-6 **Title:** Planting Soil Specifications	**Associated RFI:** ☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377
Description. Revisions to the Planting soil Specifications.	
Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** See additional comments **Attachments:** ☑ Yes ☐ No Dr. Jason Grabosky letter Specification 02315, Section 2.12 , Table 1 Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: Extensive searching of available soil suppliers (including 6 identified by Dr. Grabosky/Rutgers University) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	**Design Documents Affected:** Specification 02315, Section 2.12
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** [signature] **Date:** 10/22/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

RUTGERS
School of Environmental
and Biological Sciences

Urban and Community Forestry Program
Dept. of Ecology Evolutionand Natural Resources
Environmental and Natural Resources Bld, Room 144
Rutgers, The State University of New Jersey
14 College Farm Road
New Brunswick, NJ 08901-8551

September 17, 2015

To whom it may concern:

I was contacted by the Mr Shallard of ***Amec Foster Wheeler Environment & Infrastructure, Inc*** with regard to questions on the soil materials available for a NJ Project. Honeywell/AmecFW submitted results of analysis of Planting Soil samples from multiple vendors, selected from a list provided by Rutgers, for Horizon A, B and C that are under consideration for use on the SA-6 Project (refer to attached excel table). These data were to be used to select the vendor and soil products available for each of the soil layers to be used on the project. It is my understanding that multiple vendors have been contacted including those provided by Rutgers (email May 13th 2015) as potential sources and, that the list and samples provided, is indicative of what is available in the market place at this time.

While the list of criteria (Sand/Silt/clay/organics/pH) is applicable to all samples the importance of each of these criteria varies due to the intended purpose of each Horizon.
In my review I have identified samples listed which I consider acceptable, or acceptable subject to minor modification, to meet the project goals. The following samples are acceptable to accomplish the goals of the many design demands on this system.

Horizon A topsoil:
Nature's Choice (NC-TS-002-NCCWS) as the preferred or Nature's Choice (NC-TS-002-NCCW).
Both exceed the gravel percentage component of the specification, however one might envision the percentages as targets, and the excess of gravel in these cases does not change the functional behavior of the material for plant growth or drainage potential. NCCW has a higher organic component which is high enough to exhibit shrinkage as the organic materials decompose, so while a functionally acceptable soil material for the purpose, the shrinkage will be noticed on landscape edges next to structures such as sidewalks, thus CCCWS is preferred. The acceptable gravel content of the specification should be revised upward from 5% to <10%.

Horizon B:
Nature’s Choice (NC-HC-001) would be a good choice, as the lower organic level is not problematic, and actually sets a natural layering and gradation as underlayment to the topsoil. The pH increases from 5.0 in the topsoil to 5.96, and I do not see this as an issue, several species may well prefer the nutrient availability afforded by the higher pH. One might consider adding some organic content and blending into the B horizon material. I am not in favor of the effort and expense, as the proposed layers will change in organic content and develop a natural progression on their own over time. The Sand % should be changed from a single number of 80% to a range of 80-90%. The pH maximum should be increased from 7 to 7.5. Organic content should be changed from a range of 1.5 - 3.5% to <4%.

Horizon C:
Nature's Choice Sample (NC-HC1-002) is very close to meeting the originally specified requirements. The Clay content is 12% as compared with the specified maximum of 15-20% and the pH was reported to be

7.57 as compared with the 7.5 specified. These deviations are not considered to be significant. This sample will meet the original design objectives. The Clay Content specification should be broadened to 10-20% and pH specification modified to less than 7.7 to provide for consistency between the sample and specifications.
Advanced Soil Technologies (AST-HB-002) is also a potential candidate if the sand content could be reduced to <80%. The organic level is elevated, but not problematic. Organic content should be changed from 1% maximum to <4%.

Table 1 attached summarizes the proposed changes.

In total the three layers would be very reasonable for acceptable landscape growth expectations, and provide available moisture for plants and drainage potential in a normal manner *as long as the materials are not heavily compacted after placement by construction equipment.*

As with any project, the key to success will ultimately be in the construction management/traffic controls/equipment storage planning as related to the protection of the soil investment after placement. This will be particularly important with the landscape contractor equipment in planting the trees and other landscape elements, as much as with the pavement contracting for sidewalks and structures.

Respectfully submitted,

Jason Grabosky
John and Eleanor Faculty Scholar in Urban and Community Forestry
Department of Ecology, Evolution and Natural Resources
Rutgers University
New Brunswick, NJ

Table 1 summarizes the modified criteria based on availability. Provision of soils meeting the criteria listed in Table 1 below will meet the objectives of providing soils that are suitable for the SA-6 project. These changes have been reviewed with the AmecFW Engineer of Record and it is recommended that both the project specification and Open Space Design Standard be amended as noted in the Table 1 below.

SA-6 Planting Soil Specification-TABLE 1						
Revision 1 September 2015						
Material SPEC 02315 SECT 2.12	**Description (USDA soil triangle)**	**% Sand**	**% Silt**	**% Clay**	**% Organic Matter**	**pH**
Horizon A Modified	Friable Fertile Sandy loam/loamy sand	60-80	◘20	<20	3.5-6	5-6.5
Horizon B Modified	Loamy sand	80-90	<10	10-15	<4%	5.5-7.5
Horizon C Modified	Sandy loam to loamy sand	70-80	<10	10-20	<4%	5-7.7

1. *Horizon C. Clay content lowered from a minimum of 15% to a minimum of 10%. Organic content increased from <1 to <4%. pH content maximum increased from 7.5 to 7.7.*
2. *Horizon B. Sand changed from a single number of 80% to a range of 80-90%. pH maximum increased from 7 to 7.5. Organic content changed from a range of 1.5- 3.5% to <4%.*
3. *Horizon A. Gravel content increased from 5% maximum to <10%.*
4. *Soil Descriptions. The Planting Soil specifications include soil descriptions based on the USDA Soil Texture Triangle. Soils provided should be consistent with the Soil Texture Triangle.*

SA-6 Planting Soil Specification-TABLE 1						
Revision 1 September 2015						
Material SPEC 02315 SECT 2.12	**Description (USDA soil triangle)**	**% Sand**	**% Silt**	**% Clay**	**% Organic Matter**	**pH**
Horizon A Topsoil	Friable fertile loam, fine sandy loam or sandy loam	--	--	--	3.5-6%	5.0-6.5
Horizon A Modified 9/16/15	Friable Fertile Sandy loam/loamy sand	60-80	<=20	<20	3.5-6	5-6.5
Horizon B	Sandy Loam	80-85%	≤10%	10-15%	1.5-3.5%	5.5-7.0
Horizon B Modified 9/16/15	Loamy sand	80-90	<10	10-15%	<4%	5.5-7.5
Horizon C	Uniform Sandy Loam	70-80%	≤10%	15-20%	1% max	5.0-7.5
Horizon C Modified 9/16/15	Sandy loam to loamy sand	70-80	<10	10 – 20%	<4%	5-7.7

1. *Soil Descriptions. The Planting Soil specifications include soil descriptions based on the USDA Soil Texture Triangle. Soils provided should be consistent with the Soil Texture Triangle.*

2.12 PLANTING SOILS

Planting Soils have been designated as Horizon A, B and C. Soil Horizon A – Topsoil will be a nominal thickness of 6 inches and shall conform to the requirement noted below.

A. Topsoil - Topsoil shall be placed over the Horizon B and C planting soils to final development grades shown in the design drawings. Topsoil will have a nominal depth of 6 inches. Topsoil shall be in accordance with Section 02900, "Topsoil and Seeding". Topsoil shall be certified clean from the borrow source or origin, based on analytical testing data, as approved by the Engineer. Topsoil shall be natural, friable, fertile loam, fine sandy loam or loamy sand with an organic matter content of 3.5% - 6% and a pH range of 5.0 – 6.5. Sand 60-80%, Silt ≤20%, Clay <20%. Specification 02900 requires that all materials pass a 1.5 inch sieve. Spec 02900 will be modified to allow <10% Gravel.

B. Soil Horizon B - soils will only be used in areas where the total depth of cover soils exceeds 36 inches. During the Interim Phase no Horizon B soil will be placed. Horizon B soils will be a loamy sand having the following properties:

Loamy Sand classification having ~~80~~ 80-90% sand, < 10% silt, 10-15% clay.
pH range 5.5 – 7.5 ~~7.0~~.
Organic Matter (by weight) ~~1.5-3.5~~ < 4 %

C. Soil Horizon C – During Interim Grading Horizon C Soil will be placed between the root barrier and the Horizon A soil. The first 6 inches of Horizon C soils to be placed directly above the root barrier will be compacted to a minimum 90% of Standard Proctor. To meet Final Grading and planting requirements Horizon A soils will be stripped as necessary and Horizon C soils shall be re-graded to provide an appropriate depth of 18 inches. Horizon C soil shall consist of sandy loam to loamy sand having the following properties:

1. Sandy loam to loamy sand classification with 70-80% sand, <10% silt, ~~10 – 15%~~ 10 - 20% clay.
2. pH range 5.0 – 7.7 ~~7.5~~.
3. Organic Matter (by weight) ~~1~~ < 4 % ~~max~~.

Horizon A Soils- Geotechnical Sample Results
Study Area 6
Jersey City, NJ

Sample Date	Material	% Sand	% Silt	% Clay	% Gravel[2]	% Organic Matter	pH
	Revised Specification Values[1]	**60 - 80%**	**≤20%**	**<20%**	**<10%**	**3.5 - 6%**	**5.0 - 6.5**
6/11/2015	Advanced Soil Technologies Topsoil (AST TS -001)	80.0%	10.0%	10.0%	11.7%	4.3%	7.84
6/15/2015	Natures Choice Topsoil (NC TS-001)	75.0%	13.0%	11.0%	21.6%	5.4%	7.33
6/29/2015	Advanced Soil Technologies (AST HA-002)	74.0%	14.0%	12.0%	11.4%	9.0%	7.48
7/6/2015	Nature's Choice (NC-HB1-002)	76.0%	10.0%	14.0%	13.3%	3.9%	7.46
7/7/2015	Nature's Choice (NC-TS-002-NCCWS)	68.0%	20.0%	12.0%	5.8%	3.8%	5
7/7/2015	Nature's Choice (NC-TS-002-NCCW)	64.0%	22.0%	14.0%	6.9%	6.4%	5

Notes:
1.) Specification values revised according to letter from Dr. Jason Grabosky of Rutgers University, dated September 17, 2015.
Samples deemed acceptable in Dr. Grabosky's letter are highlighted in green.
2.) Refer to Specification 02900 - Topsoil and Seeding, Section 2.01.B.2.

Horizon B Soils - Geotechnical Sample Results
Study Area 6
Jersey City, NJ

Sample Date	Material	% Sand	% Silt	% Clay	% Organic Matter	pH
	Revised Specification Values[1]	**80 - 90%**	**<10%**	**10 - 15%**	**<4%**	**5.5 - 7.5**
6/11/2015	Advanced Soils Technologies (AST HB-001)	87.0%	7.0%	6.0%	5.4%	7.19
6/11/2015	Advanced Soils Technologies (AST HC-001)	67.0%	20.0%	13.0%	2.3%	7.56
6/15/2015	Nature's Choice (NC-HB-001)	78.0%	8.0%	13.0%	2.9%	7.05
6/15/2015	Nature's Choice (NC-HC-001)	84.0%	3.0%	13.0%	0.2%	5.96
6/29/2015	Advanced Soils Technologies (AST HB-002)	87.0%	7.0%	6.0%	4.0%	7.4
6/29/2015	Advanced Soils Technologies (AST HC-002)	72.0%	14.0%	14.0%	0.9%	7.8
7/6/2015	Nature's Choice (NC-HB1-002)	76.0%	10.0%	14.0%	3.9%	6.66

Note:
1.) Specification values revised according to letter from Dr. Jason Grabosky of Rutgers University, dated September 17, 2015. Samples deemed acceptable in Dr. Grabosky's letter are highlighted in green.

Horizon C Soils - Geotechnical Sample Results
Study Area 6
Jersey City, NJ

Sample Date	Material	% Sand	% Silt	% Clay	% Organic Matter	pH
	Revised Specification Values[1]	**70 - 80%**	**<10%**	**10 - 20%**	**<4%**	**5.0 - 7.7**
6/11/2015	Advanced Soils Technologies (AST HB-001)	87.0%	7.0%	6.0%	5.4%	7.19
6/11/2015	Advanced Soils Technologies (AST HC-001)	67.0%	20.0%	13.0%	2.3%	7.56
6/15/2015	Nature's Choice (NC-HB-001)	78.0%	8.0%	13.0%	2.9%	7.05
6/15/2015	Nature's Choice (NC-HC-001)	84.0%	3.0%	13.0%	0.2%	5.96
6/29/2015	Advanced Soils Technologies (AST HB-002)	87.0%	7.0%	6.0%	4.0%	7.4
6/29/2015	Advanced Soils Technologies (AST HC-002)	72.0%	14.0%	14.0%	0.9%	7.8
7/6/2015	Nature's Choice (NC-HC1-002)	79.0%	9.0%	12.0%	0.3%	7.57
7/6/2015	Nature's Choice (NC-HC2-002)	85.0%	9.0%	6.0%	0.3%	8.25
7/6/2015	Nature's Choice (NC-HC3-002)	85.0%	11.0%	4.0%	0.1%	8.37

Note:
1.) Specification values revised according to letter from Dr. Jason Grabosky of Rutgers University, dated September 17, 2015.
Samples deemed acceptable in Dr. Grabosky's letter are highlighted in green.

APPENDIX T

PART 16 OF 22

DESIGN CHANGE BULLETINS
PART 2

Amec Foster Wheeler Environment & Infrastructure, Inc.
200 American Metro Blvd., Suite 113
Hamilton, NJ 08619
Phone: (609) 689-2829 Fax: (609) 689-2838

LETTER OF TRANSMITTAL

To: Caroline Panico, ENTACT **FROM:** Jenna Desiderio, Amec Foster Wheeler	**DATE: 9/15/15** **PROJ. NAME: SA-6 Chromium Remedy** **SUBJECT: DCB-047 – SA-6 N Additional Excavation Areas EA-8 Elevations & Redefined EA-2, EA-3, EA-5 Excavation Limits**

WE TRANSMIT TO YOU: ☒ HEREWITH ☐ UNDER SEPARATE COVER

SUBJECT:	**ACTION:**	**SENT BY:**
☒ DRAWINGS	☒ FOR YOUR INFORMATION	☒ MAIL (e-mail)
☐ SPECIFICATIONS	☐ FOR YOUR COMMENT OR APPROVAL	☐ CERTIFIED MAIL
☐ CALCULATIONS	☐ RETURNED FOR CORRECTION: RESUBMIT	☐ EXPRESS
☐ REPORT	☐ APPROVED AS NOTED	☐ COURIER
☐ COST ESTIMATE	☐ AS REQUESTED	☐ HAND DELIVERED
☐ CD		☐ FACSIMILE:

# of pages (including transmittal sheet)__3__

COPIES	DATE	DESCRIPTION
1	9/15/15	DCB-047 – SA-6 N Additional Excavation Areas EA-8 Elevations & Redefined EA-2, EA-3, EA-5 Excavation Limits

REMARKS: The attached drawings provides the excavation intervals for EA-8. These drawings also include delineation of internal boundaries of soil designated for offsite disposal in areas EA-2, EA-3, and EA-5.

CC: Adam Ewert, ENTACT
Keith Goisse, ENTACT
Geoff Shallard, Amec Foster Wheeler
Stuart Bills, Amec Foster Wheeler
Tony Donovan, Amec Foster Wheeler

By: Jenna Desiderio, Amec Foster Wheeler

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Honeywell RES

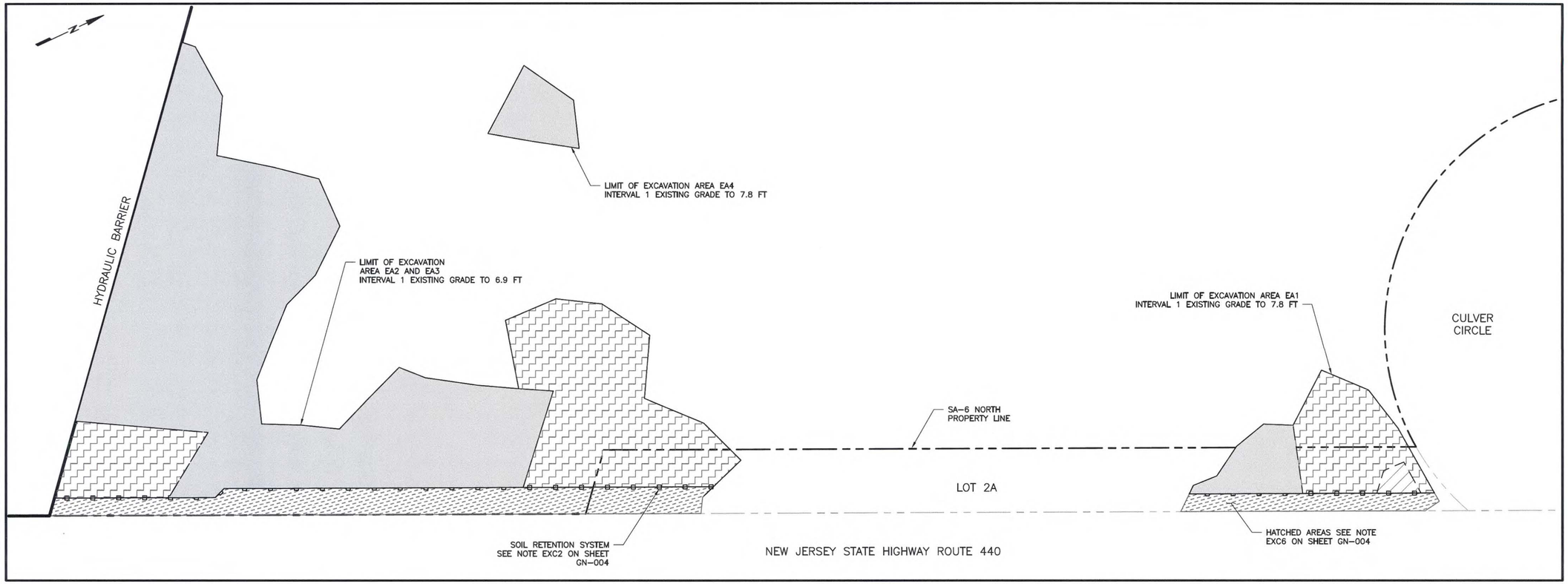
DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.: DCB 047 Type:** Major(a) **Effective Date: 9/04/15**
Project Location: SA-6 N	**Associated RFI:**
Title: Additional Excavation Areas EA-8 (define excavation limits below elevation 7, and EA-2, EA-3, and EA-5 (redefine soil classification limits for Non Hazardous Disposal.	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

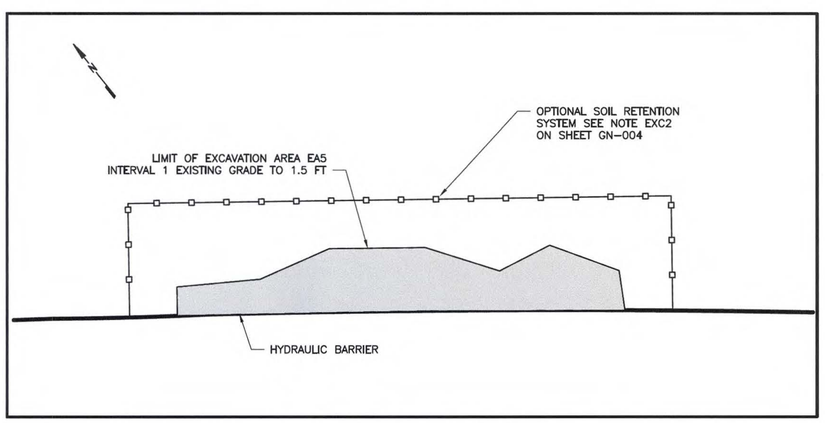
Description: EA-8 Additional Excavation Intervals below elevation 7.0 ft. have been included based on sampling results obtained after initial excavation activities as defined in the 100% Design.

EA-2, EA-3 and EA-5. Excavation limits by interval remain the same. The delineation of internal boundaries of soil designated for offsite disposal (>240 ppm soils-Hazardous and Non Hazardous) have been re-defined based on Waste Characterization Sampling. The total volume of offsite disposal is projected to be the same.

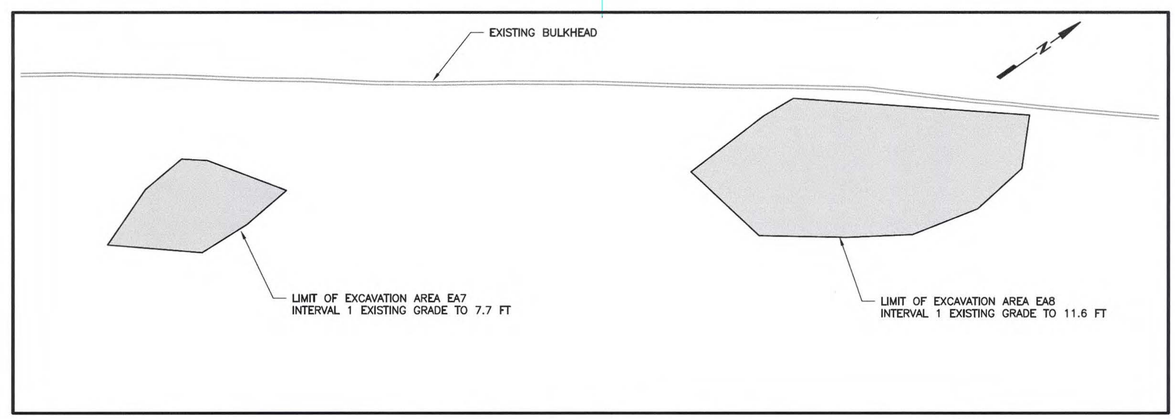
Reason for Change/Modification: ☐Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other. Additional Waste Classification Sample results obtained.	**Explanation or Reason:** See additional comments **Attachments:** ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☑ Yes ☐No Schedule Implication ☑ Yes ☐ No
Additional Comments: EA-8 100% Design limits were based on sampling limits that had been constrained by access to the Hackensack River embankment. The design required sampling after completing excavation to elevation 7.0 ft. Following excavation to elevation 7.0 ft. additional samples were collected consistent with the established and approved protocols. Analytical results from the additional samples were used to develop final excavation limits and depths within EA-8. Waste Characterization was completed on soil identified as >240 ppm in the 100% Design and designated for off-site disposal. Results indicated portions of this material can be classified as Non-Hazardous for off-site disposal. The actual limits of >240 ppm soil remain consistent with the 100% Design.	**Design Documents Affected:** Excavation Intervals EA-8 PDI table has been modified to include the expanded limits. CN-116, CN-117, CN-118, CN-119, CN-120, CN-121, CN-122.
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 9/14/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	



EXCAVATION AREAS EA1, EA2 3, AND EA4



EXCAVATION AREA EA5



EXCAVATION AREAS EA7 AND EA8

NOTES:
1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. IT HAS BEEN ASSUMED THAT 0-4 FOOT EXCAVATION CAN BE IMPLEMENTED WITH VERTICAL SIDE SLOPE SUBJECT TO ASSESSMENT OF SUPPORT OF UTILITIES AND ADJACENT STRUCTURES.

LEGEND
- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20-240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (HAZARDOUS OFF SITE DIPSOSAL)
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (NON HAZARDOUS OFF SITE DIPSOSAL)
- NO EXCAVATION REQUIRED

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6-INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

0 15 30 60
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
1	09/03/15	EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR TDD CHK RJR APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 1

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Cert of Authorization #GA28010900

VERIFY SCALE
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DATE	
PROJ	3480-12-0317
DWG	CN-116
SHEET	21 OF 70

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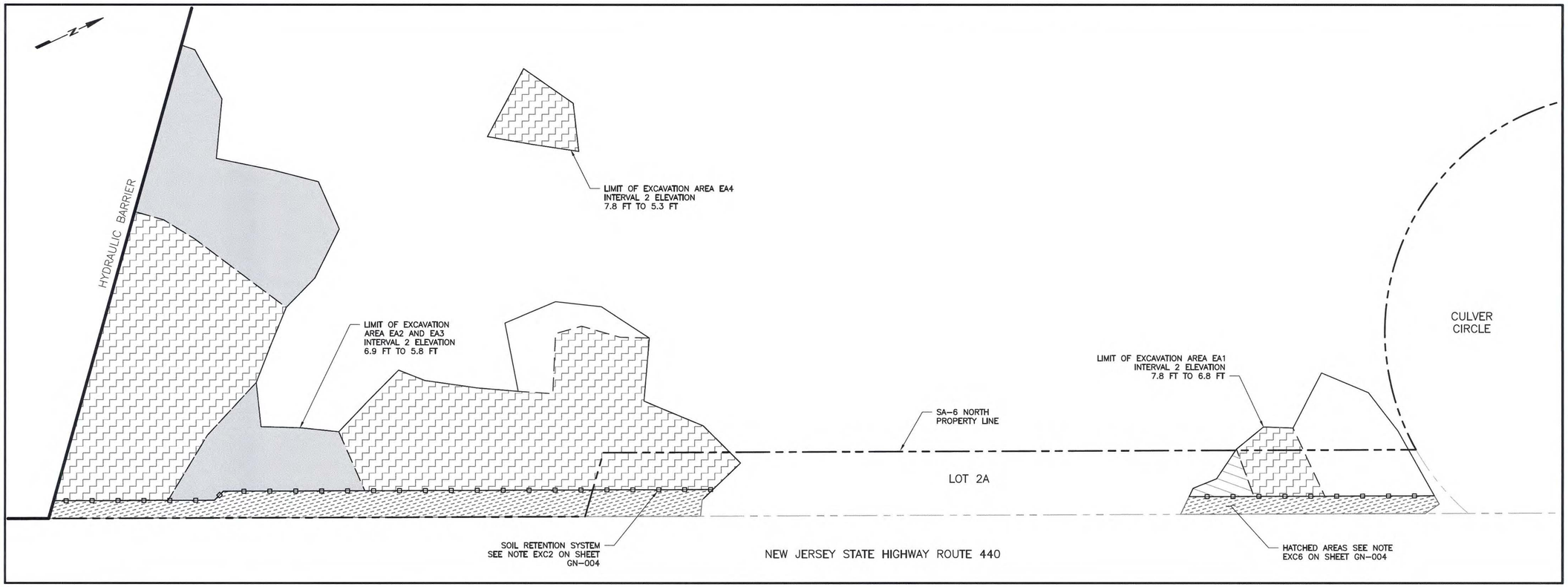
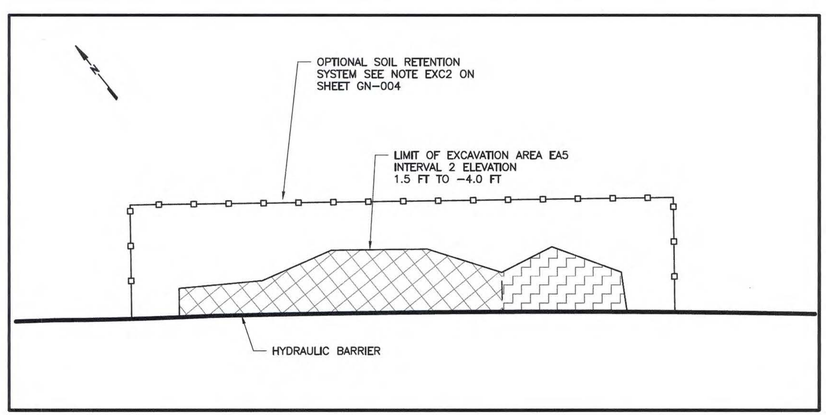
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR21-C-116 Chromium Excavation Interval 1.dwg PLOT DATE: Thu, 03 Sep 2015 PLOT TIME: 10:14 AM



EXCAVATION AREAS EA1, EA2 3, AND EA4



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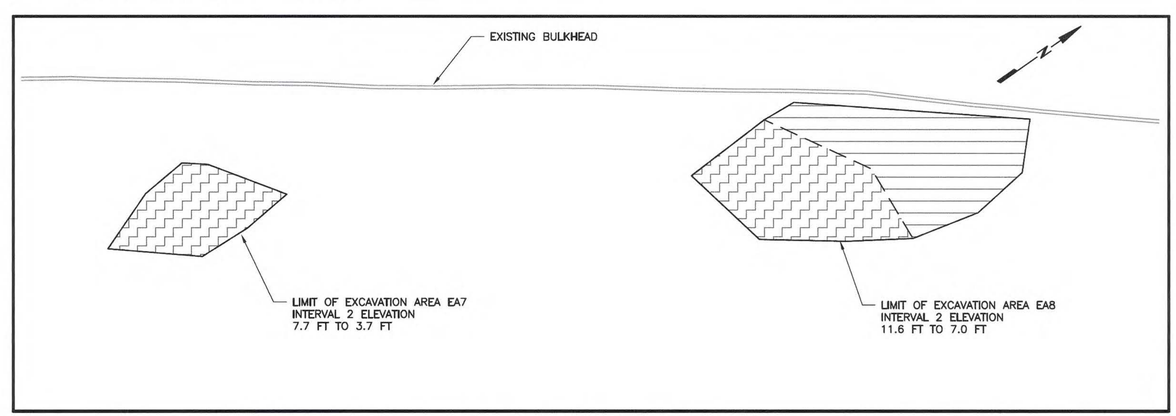

EXCAVATION AREAS EA7 AND EA8

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. IT HAS BEEN ASSUMED THAT 0-4 FOOT EXCAVATION CAN BE IMPLEMENTED WITH VERTICAL SIDE SLOPE SUBJECT TO ASSESSMENT OF SUPPORT OF UTILITIES AND ADJACENT STRUCTURES.

LEGEND

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- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20-240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (HAZARDOUS OFF SITE DIPSOSAL)
- NO EXCAVATION REQUIRED
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (NON HAZARDOUS OFF SITE DIPSOSAL)

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6-INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

0 15 30 60
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
1	09/03/15	EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 45507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 2

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, New Jersey 08619-3229
NJ Cert of Authorization 24GA28010900

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DATE	
PROJ	3480-12-0317
DWG	CN-117
SHEET	22 OF 70

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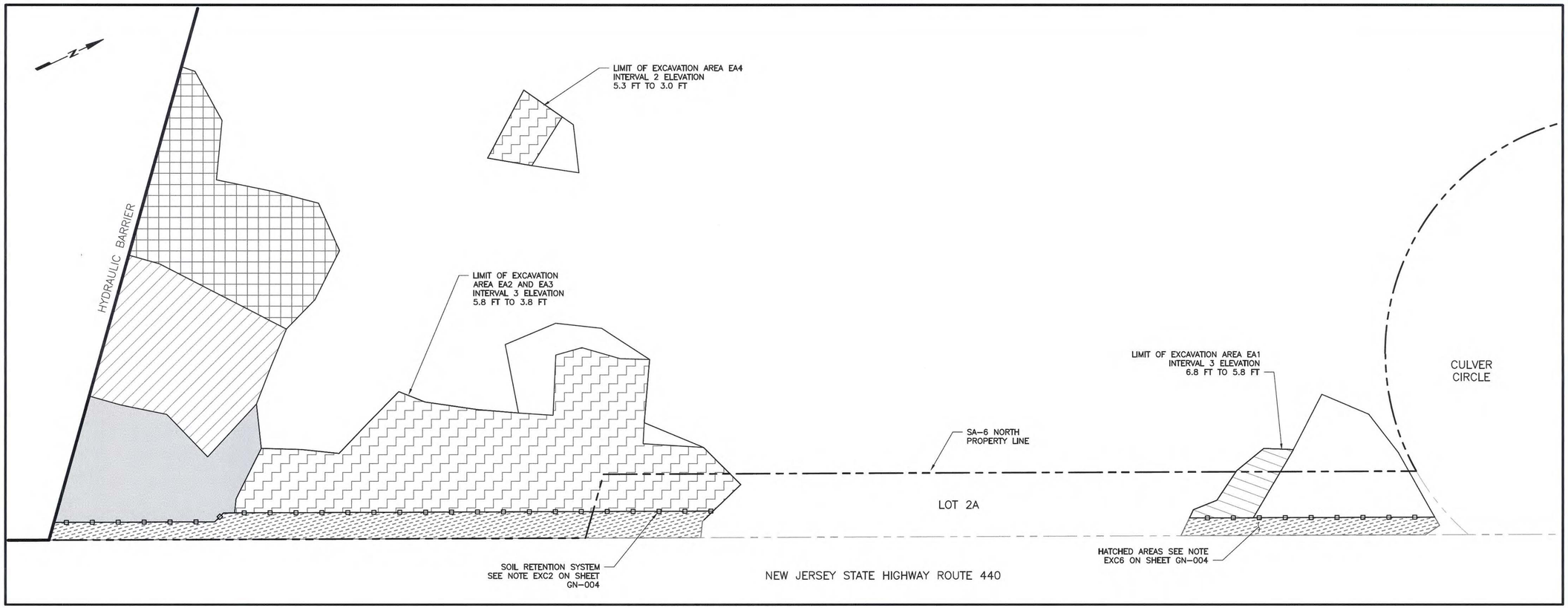
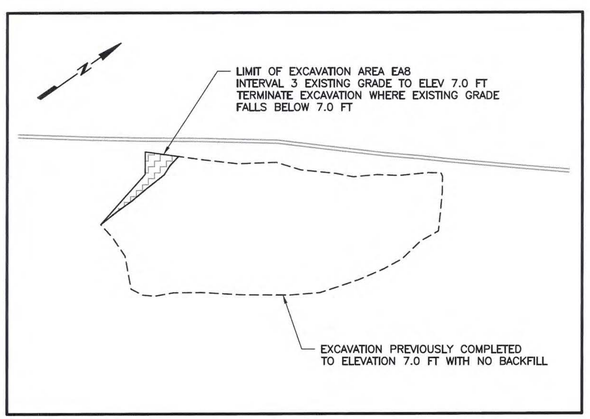
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR22-C-117 Chromium Excavation Interval 2.dwg PLOT DATE: Thu, 03 Sep 2015 PLOT TIME: 10:17 AM



EXCAVATION AREAS EA1, EA2 3, AND EA4



ADDITIONAL EXCAVATION AREA EA8

0 15 30 60
SCALE IN FEET

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6-INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

NOTES:

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2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
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- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (NON HAZARDOUS OFF SITE DIPSOSAL)
- NO EXCAVATION REQUIRED

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	09/03/15	EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS				TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION				TDD	SGS
		REVISION					
		TDD	RJR	TDD	SGS		

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SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 3

amec foster wheeler
Environment & Infrastructure, Inc.
2000 Lenox Drive, Lawrenceville, NJ 08648
Hamilton, NJ 08619, (609) 689-2329
NJ Cert of Authorization 24GA28010900

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DATE	
PROJ	3480-12-0317
DWG	CN-118
SHEET	23 OF 70

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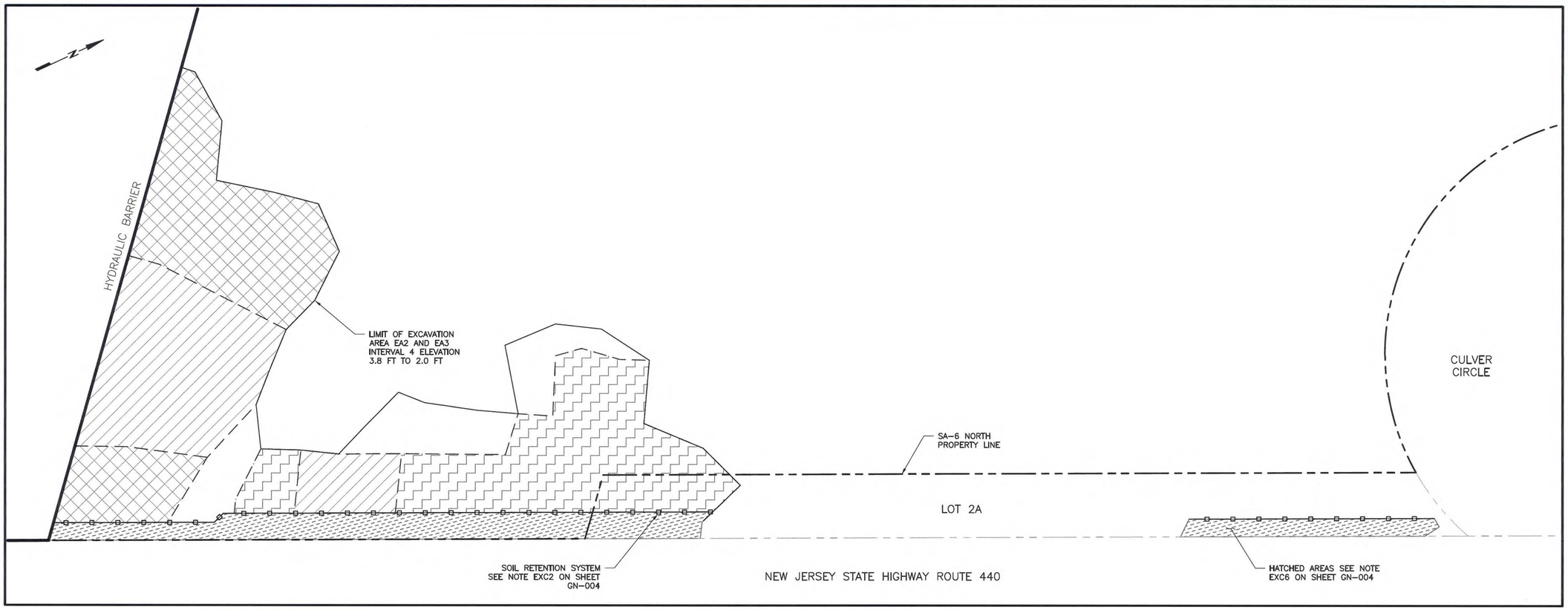
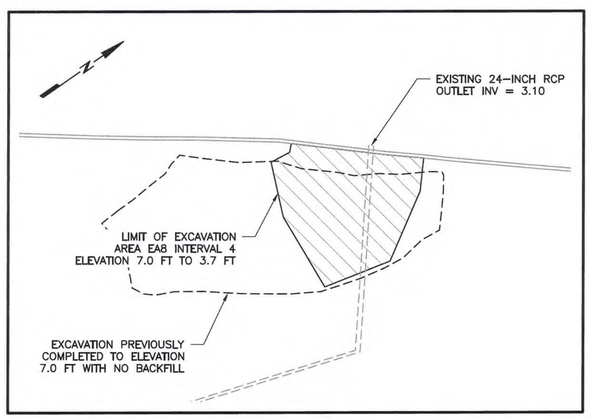


EXCAVATION AREA EA2 3



ADDITIONAL EXCAVATION AREA EA8

NOTE: REFER TO SHEET CN-120 FOR EA8 EXCAVATION AND BACKFILL REQUIREMENTS BELOW ELEVATION 7.0 FT

0 15 30 60
SCALE IN FEET

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SAMUEL G. SHALLARD

NO.	DATE	REVISION	BY	APV'D
1	09/03/15	EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APV'D SGS

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CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 4

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, N.J. 08619 (609) 890-7300
NJ Certificate of Authorization 24GA28010500

VERIFY SCALE
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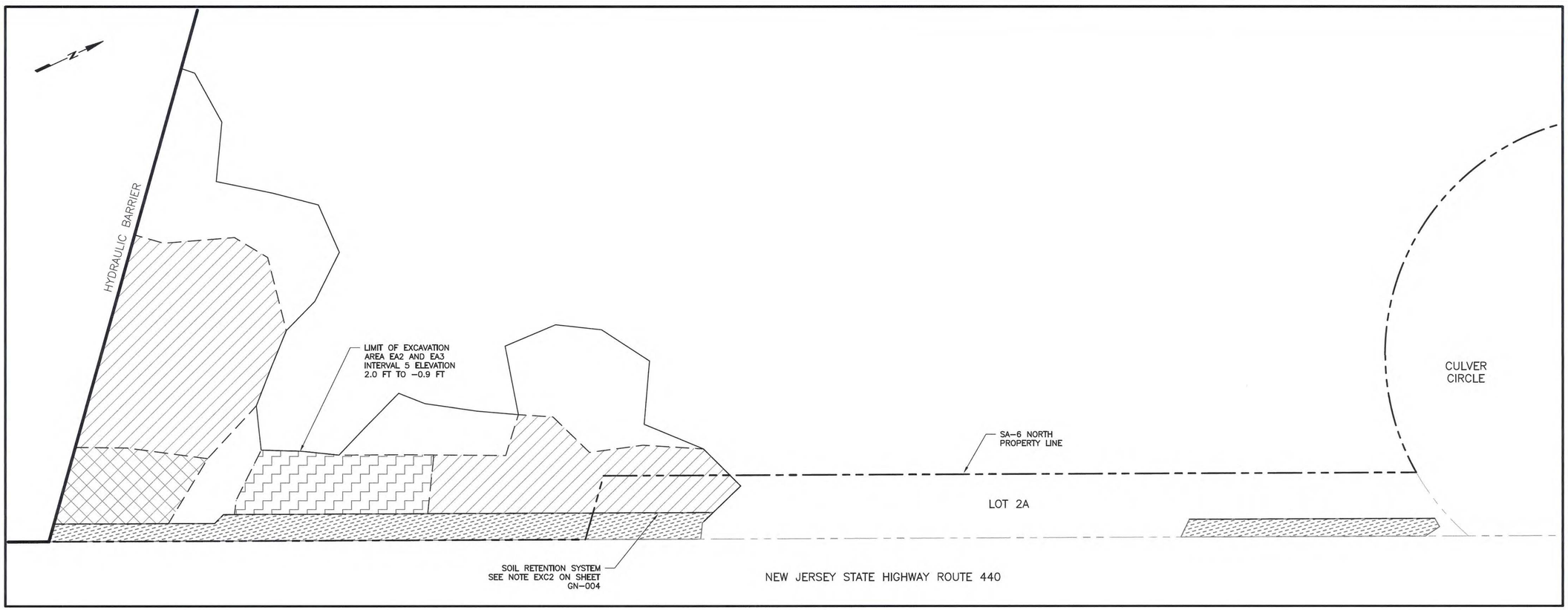
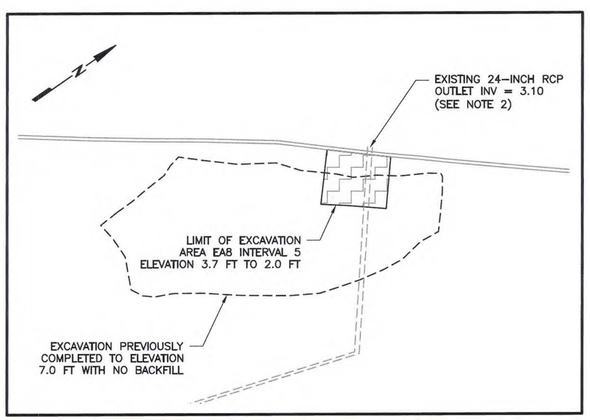
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-119
SHEET	24 OF 70



EXCAVATION AREAS EA2 3



ADDITIONAL EXCAVATION AREA EA8

SEE NOTES THIS SHEET

EA8 ADDTIONAL EXCAVATION NOTES

1. CONTRACTOR TO VERIFY AND MARK THE LOCATION OF THE 24–INCH STORM SEWER PRIOR TO EXCAVATION.
2. EXISTING 24–INCH RCP STORM SEWER WILL BE REMOVED IF NECESSARY TO COMPLETE THE EXCAVATION. THE RCP WILL BE REPLACED WITH DOUBLE WALL ADS N12 (WATER TIGHT JOINTS) OR EQUIVALENT AS APPROVED BY THE ENGINEER. CONTRACTOR SHALL ALSO PROVIDE A TRANSITION FITTING FOR CONNECTING RCP AND ADS N12 PIPE.
2. EXCAVATION ADJACENT TO BULKHEAD TO BE PERFORMED AT LOW TIDE.
3. INSPECT BULKHEAD FOR ANY INDICATION OF TIEBACKS PRIOR TO STARTING EXCAVATION.
4. INDEPENDENT OF INSPECTION RESULTS BE VIGILANT FOR THE PRESENCE OF STEEL TIE BACKS OR CRIBBING THAT MAY BE PROVIDING WALL RESTRAINT.
5. EXERCISE EXTREME CARE WHEN EXCAVATING IMMEDIATELY BEHIND THE BULKHEAD AND USE METHODS THAT DO NOT CREATE LOCALIZED LOAD.
6. PROVIDE PUMPS FOR LOCALIZED DEWATERING IF REQUIRED.
7. FOLLOW ESTABLISHED PROTOCOLS FOR DOCUMENTATION OF COMPLETION.
8. HAVE ON SITE APPROVED MATERIALS TO FACILITATE BACKFILL UPON APPROVAL OF EXCAVATION.
9. DRAPE SINGLE LAYER OF 8 OZ FILTER FABRIC OVER THE BULKHEAD AND 10 FT INTO THE EXCAVATION TO ASSIST IN PREVENTING FINES MIGRATION FROM THE EXCAVATION INTO THE RIVER DURING BACKFILL.
10. DO NOT OPERATE EQUIPMENT IN SUCH A WAY DURING EXCAVATION OF BACKFILL THAT ADDS LOAD TO THE BULKHEAD.
11. USE OF VIBRATORY COMPACTION EQUIPMENT IS PROHIBITED.
12. PLACE A LAYER OF 12 OZ GEOTEXTILE AT ELEVATION 5 TO ACT AS SOIL REINFORCEMENT. THE GEOTEXTILE WILL BE LAID AT RIGHT ANGLES TO THE SLOPE.

NOTES:

1. REFER TO SHEET GN–003 AND GN–004 FOR GENERAL NOTES.
2. REFER TO SHEET GN–002 FOR LEGEND AND ABBREVIATIONS.
3. IT HAS BEEN ASSUMED THAT 0–4 FOOT EXCAVATION CAN BE IMPLEMENTED WITH VERTICAL SIDE SLOPE SUBJECT TO ASSESSMENT OF SUPPORT OF UTILITIES AND ADJACENT STRUCTURES.

LEGEND

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0 15 30 60
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
1	09/03/15	EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

SAMUEL G. SHALLARD
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CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

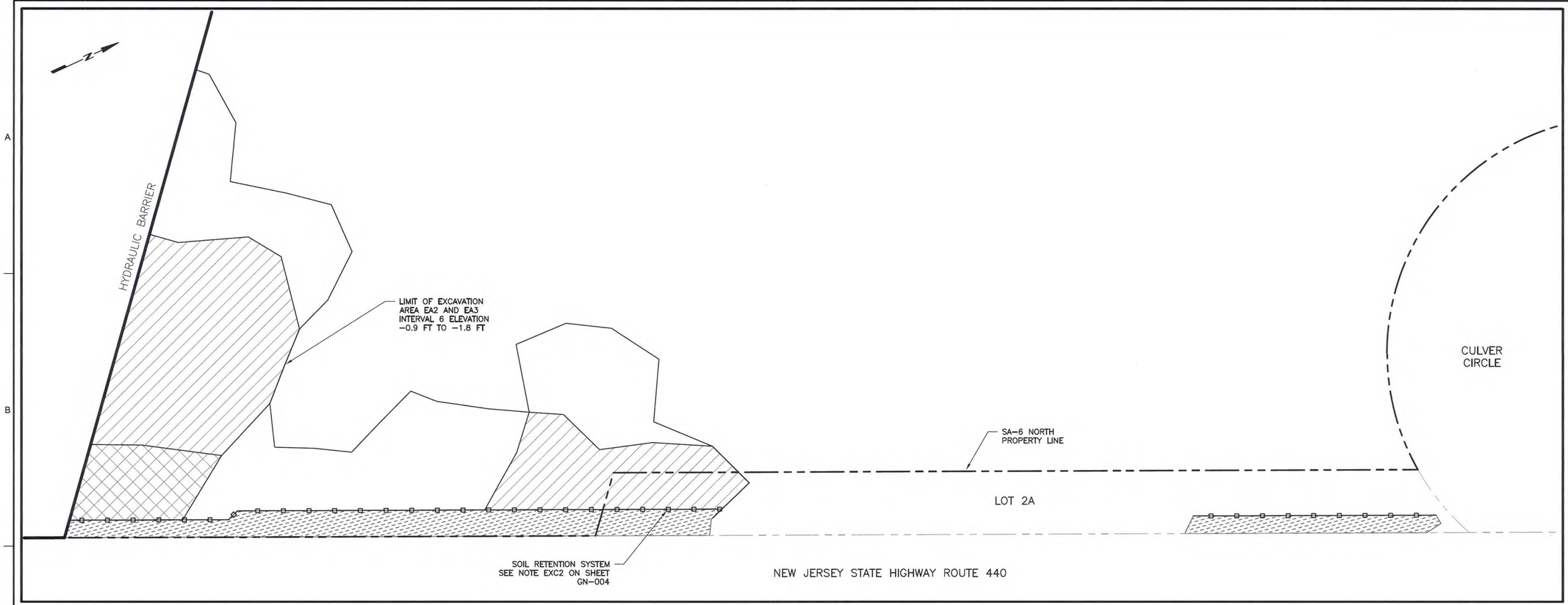
DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 5

amec foster wheeler
Environment & Infrastructure, Inc.
200 Connecticut Avenue, Suite 413
Hall Rice, NJ, 08619, (609) 888 - 2829
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-120
SHEET	25 OF 70



EXCAVATION AREAS EA2 3

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6−INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

NOTES:

1. REFER TO SHEET GN−003 AND GN−004 FOR GENERAL NOTES.
2. REFER TO SHEET GN−002 FOR LEGEND AND ABBREVIATIONS.
3. IT HAS BEEN ASSUMED THAT 0−4 FOOT EXCAVATION CAN BE IMPLEMENTED WITH VERTICAL SIDE SLOPE SUBJECT TO ASSESSMENT OF SUPPORT OF UTILITIES AND ADJACENT STRUCTURES.

LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20−240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (HAZARDOUS OFF SITE DIPSOSAL)
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (NON HAZARDOUS OFF SITE DIPSOSAL)
- NO EXCAVATION REQUIRED

0 15 30 60
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
1	09/03/15	EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2108, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 6

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 888 - 2029
NJ Cert of Authorization 24GA28015900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-121
SHEET	26 OF 70

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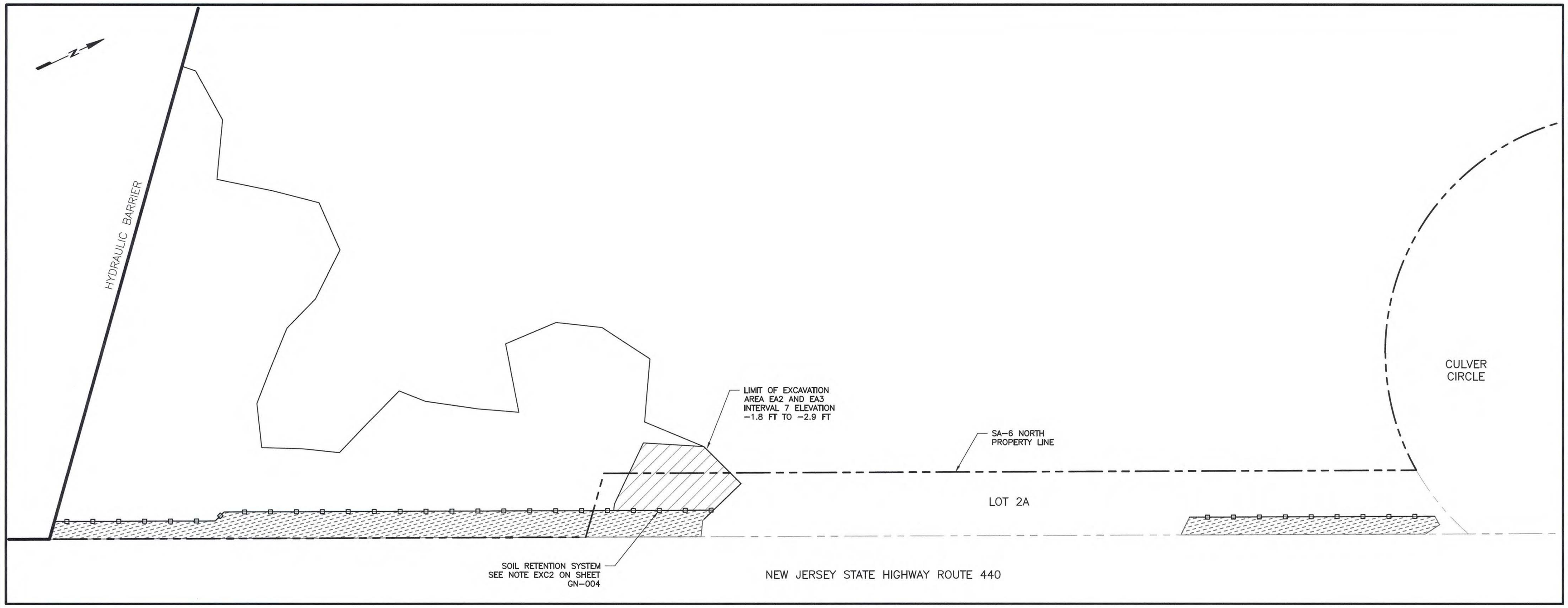

EXCAVATION AREAS EA2 3

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6-INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

0 15 30 60
SCALE IN FEET

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. IT HAS BEEN ASSUMED THAT 0-4 FOOT EXCAVATION CAN BE IMPLEMENTED WITH VERTICAL SIDE SLOPE SUBJECT TO ASSESSMENT OF SUPPORT OF UTILITIES AND ADJACENT STRUCTURES.

LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20-240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (HAZARDOUS OFF SITE DIPSOSAL)
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (NON HAZARDOUS OFF SITE DIPSOSAL)
- NO EXCAVATION REQUIRED

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD	
1	09/13/15	TDD	TDD	RJR	TDD	TDD	SGS	EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS
0	06/07/13					TDD	SGS	ISSUED FOR CONSTRUCTION

REVISION

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 13507

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CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 7

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 888 - 2829
NJ Cert of Authorization #24GA28010500

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-122
SHEET	27 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR27-C-122 Chromium Excavation Interval 7.dwg PLOT DATE: Thu, 03 Sep 2015 PLOT TIME: 2:35 PM

DESIGN CHANGE BULLETIN

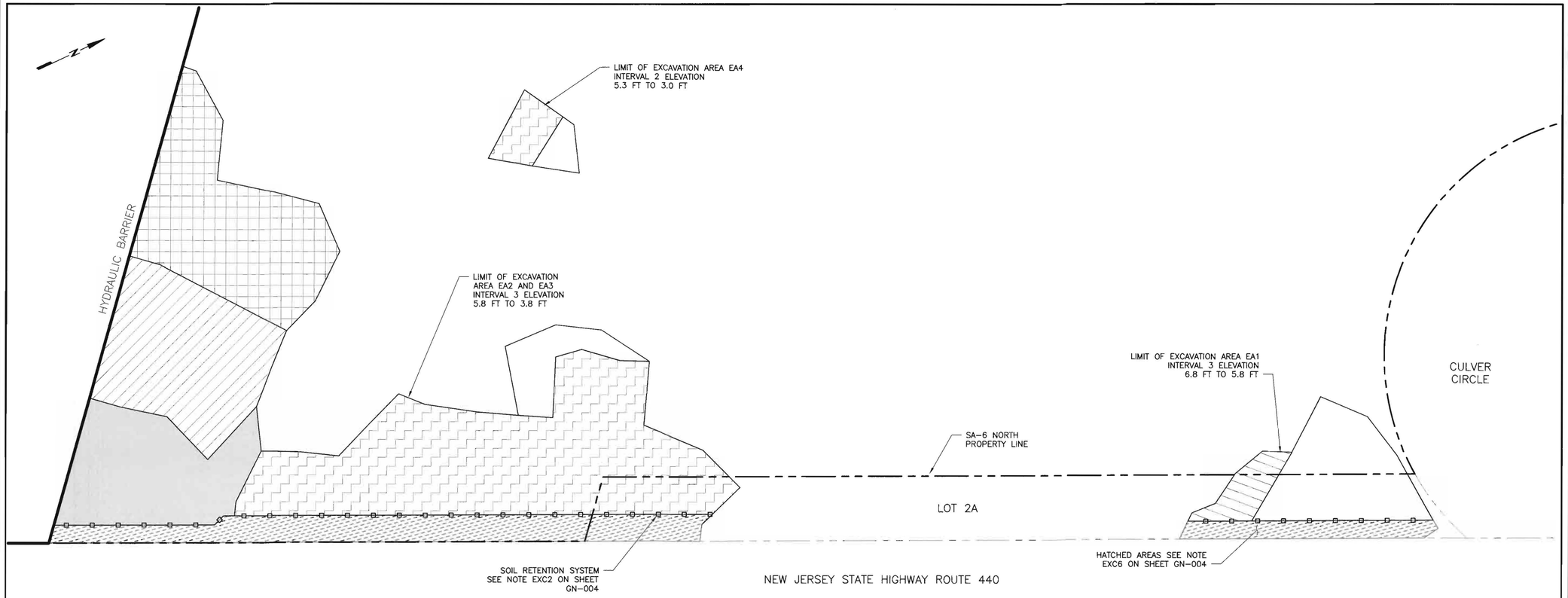
Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 047.1 **DCB Type:** Major(a) **Effective Date:** 11/18/15
Project Location: SA-6 North	**Associated RFI:**
Title: Additional Excavation Areas: EA-8 – Define expanded excavation limits below elevation 7 EA-2 & EA-3 – Correct Interval 3, 20-240 PPM hatch	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description: *EA-8 Additional Excavation Intervals below elevation 7.0 ft.* DCB 047 provided excavation limits below elevation 7 based on sampling results collected from elevation 7. Observation of the excavation and additional sampling resulted in a revision to the limits of excavation. Drawing CN-118 has been revised to show the additional excavation.

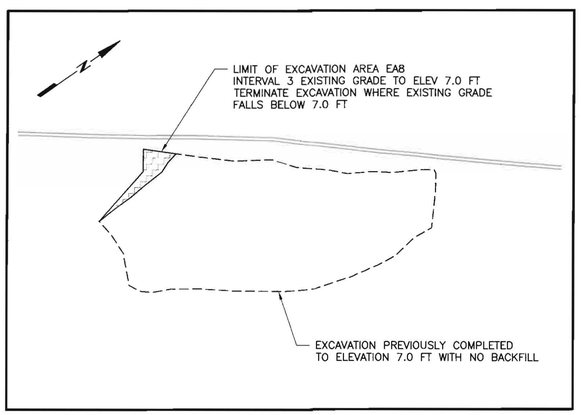
EA-2, EA-3. Review of DCB 047 Rev 1 indicated one small area where the 20-240 PPM hatch had not been carried to the outer limit of excavation. CN-118 Rev 2 (Interval 3) has been issued to correct the hatch designation. The result is an increase in the 20-240 ppm soils volume of approx. 11 CY.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other. Additional Waste Classification Sample results obtained.	**Explanation or Reason:** See Description. **Attachments:** ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☑No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** CN-118
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 11/18/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval



EXCAVATION AREAS EA1, EA2 3, AND EA4



ADDITIONAL EXCAVATION AREA EA8

0 15 30 60
SCALE IN FEET

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6-INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. IT HAS BEEN ASSUMED THAT 0-4 FOOT EXCAVATION CAN BE IMPLEMENTED WITH VERTICAL SIDE SLOPE SUBJECT TO ASSESSMENT OF SUPPORT OF UTILITIES AND ADJACENT STRUCTURES.

LEGEND

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- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20-240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (HAZARDOUS OFF SITE DIPSOSAL)
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (NON HAZARDOUS OFF SITE DIPSOSAL)
- NO EXCAVATION REQUIRED

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
2	11/17/15	EA2 / EA3 INTERNAL 20-240 PPM REVISION	TDD	SGS
1	09/03/15	EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

Honeywell
101 COLUMBIA RD. BOX 2109, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 3

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619 (609) 890-2999
NJ Cert of Authorization 24GA28019900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-118
SHEET	23 OF 70

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 50 **DCB Type:** Minor (a) **Effective Date:** 10/02/15
Project Location: SA-6 North and South	**Associated RFI:**
Title: Warning Tape above Root Barrier	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. ENTACT installed warning tape above the geocomposite drainage layer (GDL), as called for in Drawings C-301 and CN-301. As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.

The warning tape will be the same tape used above the orange GDL warning fabric, i.e. a 6 inch wide yellow PE tape with 3.5 inch bold back lettering which meets the specified requirements for a distinctive colored high-visibility marking. The tape will be placed at no more than 5 ft. on center.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** **Attachments:** ☐ Yes ☑ No Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:**
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 10/2/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 051 **DCB Type:** Minor (a) **Effective Date:** 10/22/15
Project Location: SA-6 North	**Associated RFI:**
Title: Move western Limit of Stratum D Repair	☑ Yes, RFI Nos. ☐ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the vinyl sheetpile alignment. The location with the most significant conflicts was along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D.

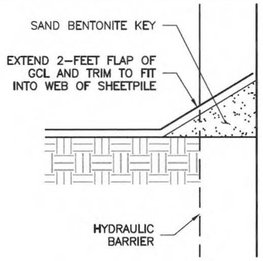
In lieu of removing sheetpile the western side was relocated approximately 6 ft. further west. The flexibility of the sheets was used to avoid piles at other locations. This will result in an expansion of the repair plan area from approximately 14,000 SF to, approximately 14,500 SF.

This change has no impact of the functionality of the chromium remedy or on the future site development.

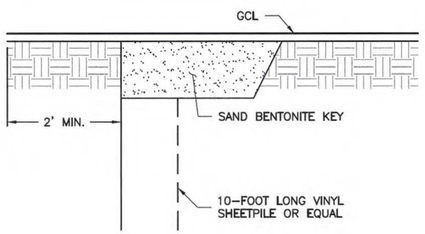
Drawing SN-302 has been amended to indicate the installed location of the vinyl sheetpile wall and the timber piles that were identified and left in place.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** **Attachments:** ☑ Yes ☐ No Cost Implication: ☑ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** Drawing SN-302 (Rev 01)
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** GS **Date:** 11/18/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

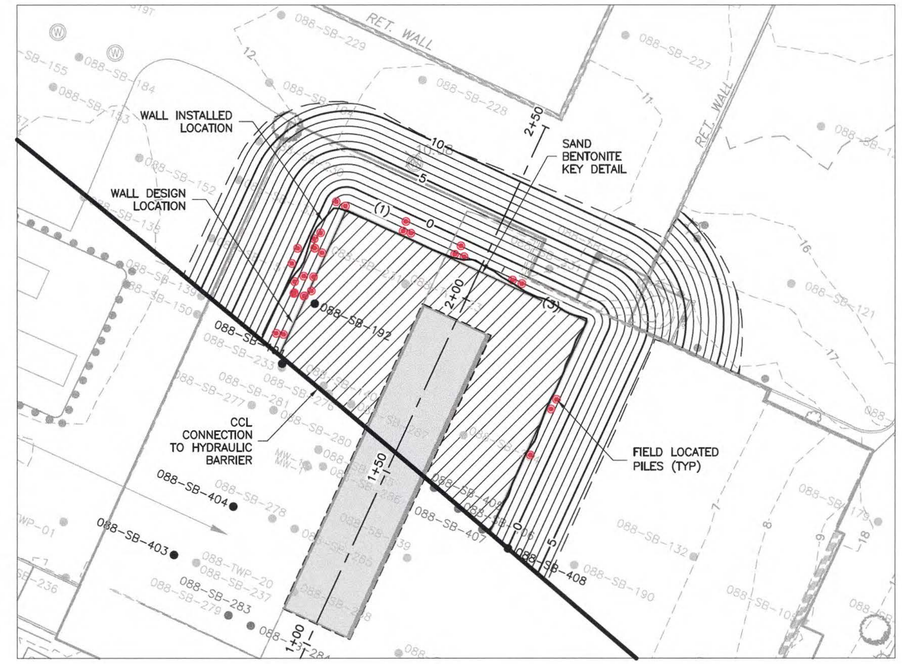
(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



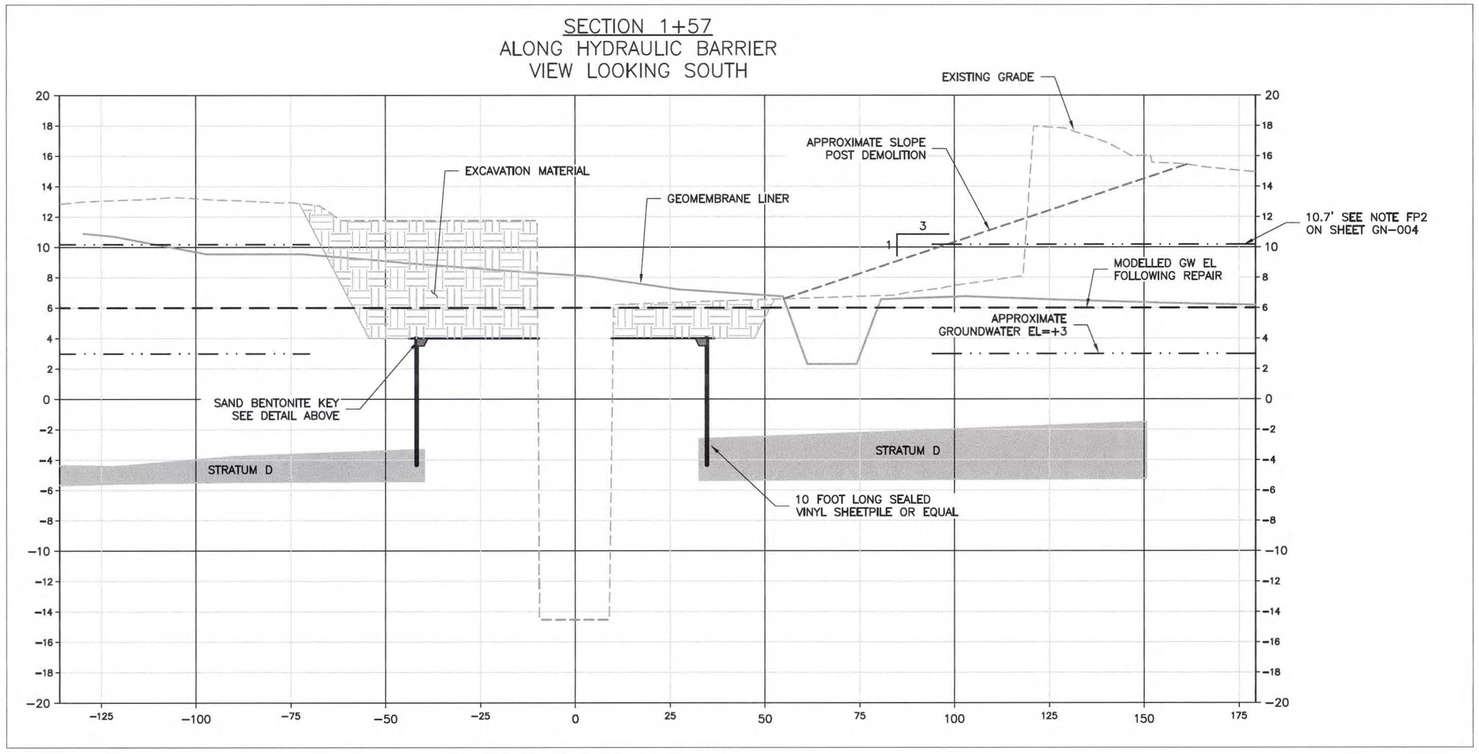
GCL CONNECTION TO HYDRAULIC BARRIER



SAND BENTONITE KEY DETAIL



OPEN EXCAVATION GCL BARRIER WALL OPTION



OPEN EXCAVATION OPTION

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.

SEQUENCE OF CONSTRUCTION

1. INSTALL HYDRAULIC BARRIER WALL.
2. EXCAVATE TO APRROXIMATELY ELEVATION 4 (APPROXIMATELY 1 FOOT OVER THE GROUNDWATER LEVEL).
3. INSTALL A SEALED VINLY SHEETPILE WALL AROUND THE PERIMETER OF THE REPAIR.
4. INSTALL A BENTONITE SAND CONNECTION DETAIL IN ACCORDANCE WITH DETAIL BI.
5. PLACE GCL LAYER OVER THE AREA OF THE REPAIR.
6. BACKFILL TO GRADE.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	11/16/15	DCB 051 MOVE SHEETPILE TO AVOID TIMBER PILES				TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION				TDD	SGS
			TDD	RJR	TDD		SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD., BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

STRATUM D REPAIR
JCIA TRASH PIT AREA

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619 (609) 890-1333
NJ Cert of Authorization 24GA28010300

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-302
SHEET	61 OF 70

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR61-SN-302 JCIA Pit Stratum D Restoration.dwg PLOT DATE: Mon, 16 Nov 2015 PLOT TIME: 12:20 PM

Honeywell RES

Honeywell.com

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** **Type:** Minor(a) **Effective Date:** 12/14/15
Project Location: SA-6 **Title:** Specification 02372 - Spark Testing	**Associated RFI:** ☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds that cannot be tested by other means. Spark testing will be performed in accordance with ASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative.

The QA Plan has been modified to reflect the specification change. QA plan revisions include the modification of the location specific boot testing forms including a Cross reference log between the boot Fabrication Form and Spark Testing documentation.

Specification 02372 has been reissued as 02372 Rev 2.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other (see Additional Comments)	**Explanation or Reason:** See Additional Comments **Attachments:** ☑ Yes ☐ No Specification 02372 Rev 2. Boot Fabrication/Spark testing forms. Langan Geosynthetics QA Plan Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	**Design Documents Affected:** Specification 02372 Geosynthetics QA Plan

Honeywell (AP) Review:	
Individual: Geoff Shallard **Discipline:** EOR	**Initial:** 5/18/16 **Date: 12/14/2015**
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

Revised Specification 02372

SECTION 02372

CAP GEOMEMBRANE LINER

PART 1 - GENERAL

1.01 DESCRIPTION

Work provided in this Section includes furnishing labor, materials, equipment and incidentals required to install a 60-mil textured (both sides) Linear Low Density Polyethylene (LLDPE) geomembrane as part of the multi-layer cap construction as shown on the Drawings and as specified herein.

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Section 01330: Submittal Procedures
B. Section 02315: Earthwork
C. Section 02374: Geocomposite Drainage Layer

1.03 REFERENCES

The publications listed below, latest edition unless otherwise noted, form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 698	Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbs/ft^3 (600 kN-m/m^3)
ASTM D 792	Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement
ASTM D 1004	Standard Test Method for Tear Resistance (Graves Tear) of Plastic Film and Sheeting
ASTM D 1238	Standard Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer
ASTM D 1505	Standard Test Method for Density of Plastics by the Density-Gradient Technique
ASTM D 1603	Standard Test Method for Carbon Black in Olefin Plastics
ASTM D 3895	Standard Test Method for Oxidative-Induction Time of Polyolefins By Differential Scanning Calorimetry
ASTM D 4218	Standard Test Method for Determination of Carbon Black Content in Polyethylene Compounds by the Muffle-Furnace Technique

ASTM D 4437	Standard Practice for Non-destructive Testing (NDT) Determining the Integrity of Field Seams Used in Joining Flexible Polymeric Sheet Geomembranes
ASTM D 4833	Standard Test Method for Index Puncture Resistance of Geotextile, Geomembranes and Related Products
ASTM D 5321	Standard Test Method for Determining the Coefficient of Soil and Geosynthetic or Geosynthetic and Geosynthetic Friction by the Direct Shear Method
ASTM D 5323	Standard Practice for Determination of 2% Secant Modulus for Polyethylene Geomembranes
ASTM D 5596	Standard Test Method for Microscopic Evaluation of the Dispersion of Carbon Black in Polyolefin Geosynthetics
ASTM D 5617	Standard Test Method for Multi-Axial Tension Test for Geosynthetics
ASTM D 5721	Standard Practice for Air-Oven Aging of Polyolefin Geomembranes
ASTM D 5885	Standard Test method for Oxidative Induction Time of Polyolefin Geosynthetics By High-Pressure Differential Scanning Calorimetry
ASTM D 5994	Standard Test Method for Measuring the Core Thickness of Textured Geomembrane
ASTM D 6365	Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. (Reapproved 2006)
ASTM D 6392	Standard Test Method for Determining the Integrity of Non-reinforced Geomembrane Seams Produced Using Thermo-Fusion Methods
ASTM D6693	Standard Test Method for Determining Tensile Properties of Non-reinforced Polyethylene and Non-reinforced Flexible Polypropylene Geomembranes

GEOSYNTHETIC RESEARCH INSTITUTE (GRI) STANDARDS

GRI GM11	Accelerated Weathering of Geomembranes using a Fluorescent UVA-Condensation Exposure Device
GRI GM12	Measurement of the Asperity Height of Textured Geomembranes Using a Depth Gage

GRI GM17 — Test Properties, Testing Frequency and Recommended Warranty for Linear Low Density Polyethylene (LLDPE) Smooth and Textured Geomembranes

GRI GM 19 — Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane

1.04 SUBMITTALS

Submit the following in accordance with Section 01330, "Submittal Procedures".

A. Submittals relating to liner Manufacturer and liner material:
   1. Manufacturing:
      a. List of material properties of the liner proposed for the project meeting the requirements herein with attached certified test results.
      b. Manufacturer's quality control program and manual including description of in-house laboratory facilities.
      c. A list of ten completed facilities totaling a minimum of ten million square feet, for which the Manufacturer has manufactured LLDPE geomembrane. The following information shall be provided for each facility.
         1. Name and purpose of facility, its location and date of installation.
         2. Name of Owner, Project Manager, Design Engineer and Installer.
         3. Geomembrane thickness and surface area.
      d. Qualifications statement in accordance with Section 1.06 "Qualifications".
      e. Manufacturer's recommendations for geomembrane installation procedures.
   2. The origin of the resin to be used in the manufacturing of geomembrane used on-site including the suppliers name and production plant, as well as brand name and tracking number.
   3. Copy of quality control certificates in conformance with Section 2.01. Certifications that the LLDPE geomembrane and extrudate produced for this project have compatible properties. Quality control reports for the time period materials were produced for this project.
   4. A "Sample Warranty" in accordance with Section 1.08.
   5. Prior to shipment of liner material to the site, provide 5 samples (roll width by 3 feet) from 5 random rolls to be provided. Only ship to site, material that is approved by the Contractor.
      Submittals relating to the Installer:
   6. Installation Capabilities:
      a. Information on equipment and personnel.
      b. Anticipated average daily production.
      c. Number of crews employed and number available for this work.
      d. Qualifications in accordance with Section 1.06 "Qualifications".
   7. A list of five completed facilities totaling 2 million square feet for which the Installer has installed LLDPE geomembrane. The following information shall be provided for each facility:

a. Name and purpose of facility, its location and date of installation.
b. Name of Owner, Design Engineer, Manufacturer and name and telephone number of Manufacturer's Representative at the facility who can discuss the project.
c. Surface area of the installed LLDPE geomembrane.
d. Type of seaming, patching and tacking equipment.
e. A copy of the Manufacturer's certification or approval letter.

8. As-built drawings reflecting the actual installation of geomembrane liner, including the location of seams, the location of destructive samples, and the location of repair work.

B. Within 10 days prior to liner installation submit the following:

1. Shop Drawings:
   a. Proposed panel layout showing the installation layout identifying field seams as well as any variance or additional details which deviate from the Drawings.
   b. Details of seaming the geomembrane, anchoring, connections, penetrations and other construction details, which deviate from these specifications.
2. Installation Quality Control:
   a. A quality control manual that specifically defines the quality control program during installation for this project. The manual shall include daily procedures, welding techniques, field testing procedures, lab testing procedures, specific steps that are to be taken in the event of a failure or defect, personnel requirements, levels of authority and other information necessary to ensure a high quality geomembrane installation consistent with Manufacturer recommendations and these specifications.
   b. Resume of the Installation Supervisor to be assigned to and on-site during the project.
   c. Resume of the Master Seamer to be assigned to and on-site during the project.
   d. A list of personnel performing field seaming operations along with pertinent experience information.

1.05 QUALITY CONTROL

A. In addition to Manufacturer and Installer requirements for qualifications and certification specified in Paragraph 1.06, Quality Control consists of conformance testing of the material prior to delivery to the site and field quality control during installation.

B. Manufacturer conformance testing requirements are specified in Paragraph 2.02. The purpose of conformance testing is to verify that the supplied material conforms to the Specifications and to the Manufacturer's quality control certificates.

C. Field quality control testing requirements are specified in Paragraph 3.06 and 3.07. The purpose of field quality control procedures is to verify that the geomembrane has been installed in accordance with the specifications and Manufacturer's recommendations.

D. Field Quality Control Forms:

The forms in attached Appendix A shall be used for field installation documentation. Alternative forms may be used for documentation as submitted and approved by the Contractor and Engineer.

E. Geomembrane Quality Control Documentation:

1. Project Files:

a. Two duplicate project files shall be maintained. One shall be maintained by the Contractor's Field Representative and the other shall be maintained by the Installer. The Installer shall provide the Contractor's Field Representative with complete daily documentation by the end of the following work day. At the end of each work week, the Contractor and Installer will update and check the files to assure that copies of pertinent project information are included in each file.

b. Blank copies of the project forms shall be available onsite throughout the duration of the project and are included in attached Appendix A.

1.06 QUALIFICATIONS

A. Manufacturer:

The Manufacturer of the lining material described hereunder shall have previously demonstrated its ability to produce this geomembrane by having at least 5 years continuous experience in the manufacturing of LLDPE geomembrane and successfully manufactured a minimum of 10 million square feet of similar material for hydraulic liner installations.

B. Installer:

The Installer shall be the Manufacturer or a Manufacturer approved Installer trained to install the Manufacturer's geomembrane. Installation shall be performed under the constant direction of a single Installation Supervisor who shall remain on site and be in responsible charge, through the subgrade approval, geomembrane installation, for geomembrane layout, seaming, patching, testing, repairs and other site activities required by the Installer. The Installer shall also provide a Master Seamer (who may also be the Installation Supervisor). The Installation Supervisor/Master Seamer shall have installed or supervised the installation and seaming of a minimum of two million square feet of LLDPE geomembrane liner.

1.07 DELIVERY, STORAGE AND HANDLING

A. The geomembrane rolls shall be packaged and shipped by appropriate means to prevent damage of the geomembrane rolls. Off-loading, handling, and storage of the geomembrane is the responsibility of the Installer. The Installer shall be responsible for replacing any damaged or unacceptable material at no additional cost to the Contractor.

B. Roll Identification:

The Manufacturer shall provide geomembrane rolls marked or tagged with the following information:

1. Manufacturer's name;
2. Product identification;
3. Thickness;
4. Roll dimensions;

5. Manufacturer's roll and lot number; and
6. Date of manufacture.

C Damage during off-loading shall be documented by the Contractor's Field Representative. Damaged rolls must be separated from the undamaged rolls and removed by the Manufacturer.

D. The geomembrane rolls shall be stored so as to be protected from puncture, dirt, grease, water, mud, mechanical abrasions and excessive heat or cold that may damage the geomembrane material. The rolls shall be stored on a prepared surface (not wooden pallets or hard abrasive surfaces) and shall not be stacked more than two rolls high.

1.08 MATERIAL WARRANTY

The LLDPE geomembrane Manufacturer shall warrant the geomembrane against manufacturing defects and material degradation under outdoor exposure for a period of 5 years on a prorated basis from the date of final payment and acceptance. The Manufacturer shall repair or replace, including material and labor, at no expense to Honeywell, any material which fails from the above causes within the warranty period. The Manufacturer shall furnish a written warranty covering the requirements of this Paragraph.

1.09 GUARANTEE

The Installer shall guarantee the LLDPE geomembrane against defects in installation and workmanship for the period of 1 year commencing with the date of final payment and acceptance by the Contractor. The guarantee shall include the services of qualified personnel, all materials required for the repairs and testing at no expense to the Contractor.

1.10 DEFINITIONS AND RESPONSIBILITIES

A. Contractor:
The Contractor is the firm or corporation with whom Honeywell has entered into agreement to construct the project. The Contractor is responsible for review of submittals by the Manufacturer and the Installer as required by the Specifications. The Contractor is also responsible for scheduling and coordination of the required work with the Manufacturer and the Installer to complete the project.

B. Contractor's Field Representative:
The Contractor's field representative shall oversee the installation of the geomembrane by the Installer. The Contractor's field representative will be responsible for inspections and reviewing testing results for conformance with the specified requirements. The Contractor's field representative will compile QC test results daily and document all QC activities in weekly reports.

C. Engineer:
The Engineer shall be the individual or firm responsible for the design and preparation of the project's Contract Drawings and Specifications and shall provide technical guidance and review when required.

D. Manufacturer:
The Manufacturer is the firm or corporation contracted by the Contractor for production of the geomembrane material to be used in the project. The Manufacturer shall produce a consistent product meeting or exceeding the project

specifications and shall provide quality control documentation for the product specified herein.

E. Installer:
The Installer is the firm or corporation contracted by the Contractor for installation of the geomembrane. The Installer shall be the Manufacturer or a Manufacturer approved Installer trained and certified to install the Manufacturer's geomembrane. The Installer shall be responsible for field handling, storing, placing, seaming, sampling, testing, protecting and other aspects of the geomembrane installation.

F. Quality Control Laboratory:
An independent Quality Control Laboratory (QCL) hired by the Contractor to perform conformance testing of the liner material with demonstrated qualifications for conducting required testing.

G. Quality Assurance (QA). QA inspections will be conducted by an Independent Third Party specializing in Geoemembrane QC/QA. The QA inspector will collect samples and conduct independent QA testing.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General:
1. The resin from which the geomembrane is made shall generally be in the density range of 0.926 g/cc or lower, and have a melt index value per ASTM D 1238 of less than 1.0 g/10 min. Formulated sheet density shall be 0.939 g/cc or lower.
2. The blended resin shall contain two to three percent carbon black, anti-oxidants and heat stabilizer, but no fillers or extenders. The resin shall be virgin material, with no more than ten (10) percent rework. If rework is used, it must be of the same formulation as the parent material. No post-consumer resin of any type shall be added to the formulation.
3. The geomembrane material shall be so produced as to be free of holes, blisters, thin areas, inconsistent texturing, undispersed raw materials, or any sign of contamination by foreign matter.
4. The sheets shall be manufactured in a minimum 15-ft seamless width.

B. Properties:
1. The geomembrane rolls shall be textured LLDPE and shall meet the specified physical, mechanical, and chemical property requirements listed in attached Table 02372-1. Manufacturing Quality Control testing shall be conducted at the frequencies recommended in GRI GM 17 unless otherwise noted.

C. Other Materials:
1. Extrudate welding rods (for fusion welds) shall be compatible and similar to the geomembrane and supplied by the Manufacturer and shall be delivered in the original sealed containers. Each container shall have a label bearing the brand name, Manufacturer's lot number and complete directions as to proper storage.
2. Boots and shrouds for pipe penetration shall fit snugly around the pipe. Prefabricated material shall be designed to fit site specific conditions for

the intended slope and size of pipe and be made of compatible and identical materials as the geomembrane.

2.02 CONFORMANCE TESTING

A. Tests:
Conformance testing shall be performed by the independent Quality Control Laboratory (QCL) provided and paid for by the Contractor. The Manufacturer shall obtain the samples from the roll, mark the machine direction and identification number and ship the samples to the QCL. The following conformance tests shall be conducted at the laboratory prior to shipment to the site:
1. Thickness
2. Density
3. Tensile properties
4. Tear resistance
5. Puncture resistance
6. Carbon black content
7. Carbon black dispersion
8. Asperity height
9. Interface Strength

B. Frequency:
These conformance tests shall be performed in accordance with Table 02372-1 and paragraph 2.1.B.2 for interface strength, at a frequency of one sample per 100,000 square feet unless otherwise noted or approved by the Contractor.

C. Acceptance or Rejection:
Conformance test results shall be reviewed by the Contractor and accepted or rejected, prior to shipment of the geomembrane. Test results shall meet, or exceed, the property values listed in Table 02372-1. The course of action implemented for retesting failing tests shall be approved by the Contractor. In case of failing test results, the Manufacturer may request that another sample be retested by the independent laboratory with Manufacturer's technical representative present during the testing procedures. This retesting shall be paid for by the Manufacturer. The Manufacturer may also have the sample retested at two different laboratories approved by the Contractor, paid for by the Manufacturer. If both laboratories report passing results, the material shall be accepted. If both laboratories do not report passing results, geomembrane material from the lot or bracketed square footage representing the failing sample will be considered out of specification and rejected.

PART 3 - EXECUTION

3.01 SUBGRADE PREPARATION

A. Preparation of the subgrade using cushion fill for the cover system geomembrane (60-mil geomembrane) shall be as specified in Section 02315, “Earthwork”.

B. The surface of the subgrade shall be smooth, uniform, relatively free from abrupt changes in grade, rocks and stones greater than 1/2-inch for 60-mil geomembrane, sharp objects, debris and deleterious materials. During actual placing and seaming of the geomembrane, the subgrade surface shall be kept free of standing water. If

the subgrade below the geomembrane becomes wet and unstable, it shall be recompacted in accordance with Section 02315, "Earthwork". Before the geomembrane installation begins, the Contractor and Installer shall verify and sign off that the surface area to be lined has been properly prepared.

3.03 GEOMEMBRANE PLACEMENT

A. Weather Conditions:
Geomembrane placement shall not proceed at an ambient temperature below 32 degrees F or above 104 degrees F unless otherwise authorized, in writing, by the Contractor. Geomembrane placement shall not be performed during precipitation, excessive moisture, in an area of ponded water, or excessive winds that adversely affect the geomembrane placement.

B. Method of Placement:

1. Each panel of the geomembrane shall be rolled out and installed in accordance with the approved shop drawings prepared by the Installer. The layout shall be designed to keep field seams of the LLDPE geomembrane liner to a minimum and consistent with proper methods of LLDPE geomembrane installation. Panel layout and deployment shall be such that seams run down slope (i.e., perpendicular to top of slope). End seams across slopes greater than 4:1 (4 horizontal and 1 vertical) shall be avoided. See additional seam requirements in Section 3.04.
2. Geomembrane rolls shall be placed in a manner to prevent the material from being stretched during deployment.
3. The Contractor's field representative shall inspect each panel, after placement and prior to seaming, for damage and/or defects. Also, inspect geomembrane prior to geocomposite drainage layer installation. Defective or damaged panels shall be replaced or repaired, in accordance with Section 3.07.G of the specifications.
4. The Installer shall avoid dragging the geomembrane sheets on rough soil subgrade.
5. Geomembrane shall be anchored as shown on the Drawings and/or consistent with Manufacturer's recommendations.
6. Personnel working on the geomembrane shall not smoke, wear damaging shoes or involve themselves in any activity that may damage the geomembrane.
7. Edges and large exposed areas of the geomembrane shall be properly weighted to avoid uplift due to wind and to prevent lateral movement of the geomembrane.
8. Vehicular traffic except for proper installation vehicles (ATVs) across the geomembrane shall not be allowed. Any vehicle used prior to or after liner placement shall be first approved by the Contractor's field representative.
9. Repaired areas and destructive sample locations shall be recorded and indicated on the as-built drawings.
10. When tying into previously installed geomembrane, excavation, if required, adjacent to installed liner shall be performed by hand to prevent damage.

11. The geomembrane shall be kept free of debris, unnecessary tools and materials. In general, the geomembrane area shall remain neat in appearance.
12. Equipment necessary to perform the installation (generators, compressors, etc) at a minimum shall have a scrap geomembrane sheet placed underneath to protect the installed geomembrane from possible damage.
13. No welder or testing equipment shall be allowed to remain on top of the installed geomembrane overnight. Equipment must be removed and stored off the installed geomembrane.
14. No fueling of equipment will be allowed on top of the installed geomembrane. No fuel containers shall be allowed on the geomembrane.

C. Liner Boots (Penetrations):
1. LLDPE boots or shrouds for liner penetrations shall be furnished and installed where indicated on the Drawings. The boot may be prefabricated offsite or field fabricated on site. Prefabricated material shall be designed to fit site specific conditions for the intended slope and size of pipe and be made of compatible and similar materials as the geomembrane. Field fabricated boots will be measured and fabricated to suit the location specific field conditions.
2. The geomembrane end of the boots shall terminate in a skirt section suitable for welding to the geomembrane liner. The overlap between the boot and the geomembrane shall be approximately 18-in. The boot shall be welded to the geomembrane as specified herein.
3. Boots and shrouds shall fit snugly around the pipe, pole, wells or vaults.
4. A neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure and secured with a 1-in wide stainless steel clamp. An LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection.
5. For pipes, poles, wells, vaults larger than 4-in diameter, a second clamp shall be used. The fastener of the second clamp shall be located on the opposite side from the first clamp, to compensate for uneven pressure and elongation.

3.04 FIELD SEAMS

A. Individual panels of geomembrane shall be laid out and overlapped by a minimum of 4-inches for fusion welding and 6 inches for extrusion welding prior to welding. The area to be welded shall be cleaned and prepared in accordance with the quality control welding procedures approved by the Contractor's field representative.
B. Double track hot wedge fusion welds shall be used for straight long seams to the maximum extent possible.
C. Extrusion welds shall be used in areas inaccessible for double track hot wedge fusion welding, including patches, repairs and penetration boots.
D. The welding equipment used shall be capable of continuously monitoring and controlling the temperatures in the zone of contact where the machine is actually fusing the geomembrane material so as to ensure that changes in environmental conditions will not affect the integrity of the weld.
E. No "fish mouths" or wrinkles will be allowed within the seam area. Where "fish mouths" or wrinkles occur, the material shall be cut, overlapped and an extrusion weld patch shall be applied. Welds upon completion of the work shall be tightly

bonded. Any geomembrane area showing injury due to excessive scuffing, puncture, or distress from any cause shall be replaced or repaired with an additional piece of geomembrane. The number of patches per 100-ft length of seam length shall not exceed five. If more than five patches per 100-ft length are necessary, then the entire 100-ft length of seam shall be removed. Further welding will cease at this time and the Contractor's field representative shall be notified.

F. Seams shall have a seam number that corresponds with the panel layout numbers. The numbering system shall be used in the development of the as-built drawings. Seam numbers shall be derived from the combination of the two panel numbers that are to be welded together. Patches, boots and repairs shall be numbered using a system that includes the panel number where the patch, boot or repair is located.

G. Fusion welded "T" seams (i.e., the result of the geomembrane panels placed perpendicular to each other) shall be double welded where possible. The extrusion process shall be used for the second weld.

H. Extrudate shall be free of dirt, dry and protected from damage.

I. If an extrusion welder is stopped for longer than one minute, it shall be purged to remove heat degraded extrudate. Purged extrudate shall not be placed on the installed geomembrane.

J. Seams constructed on sloped surfaces shall be perpendicular to the top and toe of the slope (vertical seams).

K. Panels placed on sloped surfaces (steeper than 4:1) shall extend a minimum of 5-ft inward (on the flat) from the top of slope or edge of trench.

L. End seams shall be staggered a minimum of 5-ft in length between contiguous panels. No end seams are allowed on slopes 4:1 (4 horizontal and 1 vertical) or greater, unless otherwise approved by the Contractor.

M. To prevent moisture buildup during fusion welding, it may be necessary to place a movable protective layer of plastic (skid sheet) directly below each overlap of geomembrane that is to be seamed.

N. Seam welds shall extend the full extent into the anchor trench.

O. Factory seams, field seams and repair welds shall meet seam strength requirements specified in Table 02372-2.

P. Seams shall be "shingled" or "rain-lapped."

3.05 SEAMING WEATHER CONDITIONS

A. Normal Weather Conditions:

1. The normal required weather conditions for seaming are:
   a. Ambient temperature higher than 32 degrees F and lower than 104 degrees F.
   b. No precipitation or other excessive moisture, such as fog or dew.
   c. No excessive winds.
2. These weather conditions shall be fulfilled during seaming process.

B. Cold Weather Conditions:
   1. If the ambient air temperature is below 32 degrees F seaming activity is to be avoided. If necessary, Contractor shall provide separate plan for approval.

C. Warm Weather Conditions:
   1. If the ambient air temperature is above 104 degrees F, no seaming of geomembrane shall be permitted unless the Installer can demonstrate, to the satisfaction of the Contractor's field representative that geomembrane seam quality is not adversely impacted.
   2. Test seams shall be performed under similar ambient air temperature conditions as the actual seams.
   3. Additional destructive tests shall be taken at the discretion of the Contractor's field representative.

3.06 FIELD QUALITY CONTROL

A. Start-up Testing:
   1. A test weld 3-ft long from each welding machine shall be run upon the beginning of each shift and every five hours thereafter, under the same conditions as exist for the geomembrane welding. The test weld shall be marked with date, time of day, Seamer's initials, temperature and speed settings (for fusion welds) or temperature and preheat settings (for extrusion welds), and machine number. The Installer shall provide a calibrated tensiometer, on-site before and during geomembrane installation for the purpose of testing samples. Six 1-in wide specimens shall be cut from each test weld and tested on-site in the presence of the Contractor's field representative (three for peel and three for shear strength) in accordance with Table 02372-2. To account for minor variations in conditions, the Seamer may reduce the weld speed by a maximum of 15% without the need to perform additional test welds.
   2. Test seams shall be performed under the same conditions as the actual seams and shall be at least 3-ft long and 1-ft wide after seaming. Material for test seams shall be cut out of the approved geomembrane rolls.

B. Nondestructive Seam Testing:
   1. The Installer shall perform a nondestructive test on field seams over their full length. The purpose of this test is to assure continuity and integrity of the seams. Vacuum, air pressure, and spark testing shall be used for nondestructive testing. The vacuum test shall be used for extrusion welds. The air pressure test shall be used for double track fusion welds. Spark Testing will be used on extrusion welds where accessibility precludes the use of the Vacuum test.
   2. Vacuum Testing:
      a. Equipment for testing extrusion seams shall be comprised of the following:
         1. A vacuum box assembly consisting of a rigid housing, a transparent viewing window, a soft rubber gasket attached to the bottom, port hole or valve assembly and a vacuum gauge.
         2. A vacuum tank and pump assembly equipped with a pressure controller and pipe connections.

3. A rubber pressure/vacuum hose with fittings and connections.
4. A plastic bucket and wide paint brush or mop.
5. A soapy solution.

b. The following procedures shall be followed by the Installer:
1. Excess sheet overlap shall be trimmed away.
2. Clean the window, gasket surfaces and check for leaks.
3. Energize the vacuum pump and reduce the tank pressure to approximately 5 psi.
4. Wet a strip of geomembrane approximately 12-in by 48-in (length of box) with the soapy solution.
5. Place the box over the wetted area and compress.
6. Close the bleed valve and open the vacuum valve.
7. Ensure that a leak-tight seal is created.
8. For a minimum period of 10 seconds, examine the geomembrane through the viewing window for the presence of soap bubbles.
9. If no bubbles appear after 10 seconds, close the vacuum valve and open the bleed valve, move the box over the next adjoining area with a minimum of 3-in overlap and repeat the process.
10. Areas where soap bubbles appear shall be marked and repaired in accordance with Paragraph 3.07.G and then retested.

c. ~~If the seam is not accessible to vacuum box equipment and cannot be tested prior to final installation, the seaming operations shall be observed by the Contractor's field representative for uniformity and completeness.~~

3. Air Pressure Testing (for double track fusion seams only):

a. The following procedures are applicable to those processes which produce a double seam with an enclosed space.

b. Equipment for testing double fusion seams shall be comprised of the following:
1. An air pump equipped with pressure gauge capable of generating and sustaining a pressure between 25 and 30 psi and mounted on a cushion to protect the geomembrane.
2. A manometer equipped with a sharp hollow needle, or other approved pressure feed device.

c. The following procedures shall be followed by the Installer:
1. Seal both ends of the seam to be tested. The length of seam shall not exceed 500-ft without approval by the Contractor's field representative.
2. Insert needle or other approved pressure feed device into the tunnel created by the double wedge fusion weld.
3. Energize the air pump to a pressure between 25 and 30 psi. After allowing two minutes for relaxation, the pressure shall be monitored over a test period not less than five minutes.

4. If the loss of pressure exceeds 4-psi or the pressure does not stabilize, the weld shall be considered faulty (unless the Installer can demonstrate that monitoring for an additional five minutes does not cause an additional loss in pressure in excess of 1 psi, and that the pressure stabilizes within the second monitoring period). Locate the faulty area, repair in accordance with Paragraph 3.07.G and retest.
5. If the pressure loss is less than 4 psi after five minutes, cut the air channel on the opposite end the pressure device to confirm there is no blockage and verify the length of the seam tested. Remove needle or other approved pressure feed device and seal penetrations with extrusion weld.

4. Spark Testing
   a. Spark testing will be used to test extrusion welds where accessibility or geomembrane geometry precludes the use of the vacuum test.

   b. Methane test results from SA-6S and at vents on SA-6N will be evaluated prior to spark testing. If methane is detected at > 1 %, spark testing will not be conducted. If spark testing is precluded due to methane or other flammable conditions the extrusion weld will be monitored visually by the Geosynthetics QA and QC representatives.

   c. Testing will be conducted consistent with the methods described in ASTM D6365. The Direct Current (DC) method will be used unless otherwise approved by the Engineer. The method requires adaption of parameters to the site specific conditions prior to testing. If there is no spark, the weld is considered to be leak free. A spark indicates a hole in the seam. In the event the test indicates a hole the faulty area shall be located, repaired and retested by the Geomembrane Installer.

   d. A location specific Spark Testing form will be prepared for each location where spark testing is undertaken. The Spark Test Form will be added to the QA forms used by the Independent Geosynthetics QA Inspector.

   e. If the seam is not accessible to Vacuum Box equipment, cannot be Air Pressure tested, and Methane is detected above the designated level of 1% for spark testing, the seaming operations shall be observed by the Contractor's field representative for uniformity and completeness.

3.07 DESTRUCTIVE SEAM TESTING

A. Purpose:

The purpose of the destructive testing is to evaluate seam strength properties. An initial minimum sampling interval of one test per 500-ft of performed seam length shall be used for a minimum start-up batch of 25 samples. With 0 to 1 failures out of 25 samples, the sampling interval may be increased to a maximum of one test per 1500-ft of seam length with the approval of the Contractor's field representative. With more than 2 failures out of 25 samples, the sampling interval may be decreased as determined by the Contractor's field representative. The location of samples shall be determined by the Contractor's field representative. Selection of such locations may be prompted by suspicion of overheating, contamination, or other potential cause that may adversely impact the welds. Location of samples shall not be revealed to Installer in advance. Sampling shall be performed by the Installer. Testing of field samples shall be performed by the Contractor's QCL.

B. Sampling Procedures:
   1. Samples shall be cut by the Installer at locations chosen by the Contractor's field representative as the seaming progresses.
   2. The seams shall not be covered by another material before they have been tested and accepted by Contractor's field representative.
   3. Upon obtaining each sample, assign a number to the sample and mark it accordingly.
   4. Record sample location on layout drawing.
   5. Record purpose of the sample, statistical routine or suspicious weld area.
   6. Holes in the geomembrane resulting from destructive seam testing shall be immediately repaired in accordance with Paragraph 3.07.G.

C. Size and Disposition of Samples:
   1. Two samples, 12-inch wide by 6-inch shall be taken for field testing. Each of these samples shall be cut with a 1-in wide die, with the seam centered parallel to the width. The distance between these two samples shall be 36-in. If all samples pass the field test described in Paragraph 3.07.D, a sample for laboratory testing shall be taken from the 36-inch portion.
   2. The laboratory sample shall be cut into three parts and distributed as follows:
      a. One portion to the Installer for optional laboratory testing, 12-in by 12-in.
      b. One portion for QCL testing, 12-in by 12-in.
      c. One portion to the Contractor for archive storage, 12-in by 12-in.

D. Field Testing:
   1. The following shall be performed by the Installer in the presence of the Contractor's field representative:
      a. The Installer shall cut six 1-in wide replicate specimens from the field testing samples to be tested for shear and peel strength, in accordance with the criteria set in Table 02372-2.
      b. The Installer shall test three specimens for shear seam strength and three for peel strength. Replicate test specimens shall pass for the seam to be acceptable.
      c. Samples shall be tested with a tensiometer equipped with a drive/pull apparatus adjusted to a pull rate of 20 inches per minute for both peel and sheer testing in accordance with ASTM D 6392. Each sample shall be tested until film tearing bond (FTB) is

achieved. At a minimum, the required pass criteria for peel shall be as specified in Appendix A.
(Note: The machine shall be capable of pulling the geomembrane seams at either 2 or 20 inches per minute. At the start of the first production work day. If the results are similar, both numerically and visually, the specified test speed shall be 20 inches per minute for all field and laboratory destructive seam tests. If it appears that the faster speed may be affecting the testing results, then the specified speed shall be 2 inches per minute for all field and laboratory destructive seam testing.)

d. Any specimen that fails through the weld or through the fusion at the weld sheet interface is a non-FTB break and shall be considered a failure even if it achieves the acceptable strengths.

e. A specimen that does not break at the full extent of the test apparatus will be considered a passing test.

f. Alternate testing to evaluate both sides of dual wedge welds.

E. Quality Control Laboratory Testing:

1. The Installer shall package and ship destructive test samples to the Contractor's independent Quality Control Laboratory (QCL) as directed by the Contractor's field representative by overnight delivery service. Shipping costs and destructive tests are to be paid by the Contractor.

2. Laboratory testing shall include shear and peel strength tests performed in accordance with ASTM D 6392. The minimum acceptable values obtained in these tests shall be in accordance with Table 02372-2.

3. At least five specimens shall be tested each for shear and peel strength. A passing test shall meet the minimum required values in the five specimens tested for each method.

4. The QCL shall provide verbal test results to the Contractor's field representative no more than 24 hours after they receive the samples. The Contractor's field representative shall review the laboratory results as soon as they become available.

F. Procedures for Destructive Test Failure:

1. The following procedures shall apply whenever a sample fails a destructive test, whether that test is conducted in the field or by the QCL. The Installer has two options:

a. The Installer can repair the seam between (1/2 distance or as directed by the Contractor's field representative) any two passing test locations in accordance with Paragraph 3.07.G.

b. The Installer can retrace the welding path to an intermediate location a minimum of 10-ft on each side of the failed sample. The sample shall be tested in the field. Subsequent failure of test samples shall cause the testing to move further down the seam until the extent of faulty seam has been determined.

2. Acceptable repaired seams shall be bound by two passing locations on each side of the original sample. In cases where repaired seam exceeds 150-ft, a sample taken from the zone in which the seam has been repaired must pass destructive testing. Repairs shall be made in accordance with Paragraph 3.07.G.

3. The Contractor's field representative shall document all actions taken in conjunction with destructive test failures.

G. Repair Procedures:

1. Any portion of the geomembrane exhibiting signs of any kind of defect, or failing a destructive or a nondestructive test, shall be repaired. Several procedures exist for the repair of these areas. The final decision as to the appropriate repair procedure shall be made by the Contractor's field representative.
2. The repair procedures available include:
   a. Patching, used to repair large holes, tears, undispersed raw materials and contamination by foreign matter.
   b. Spot welding or seaming, used to repair small tears, pinholes, or other minor, localized defects.
   c. Capping, is used to repair large lengths of failed seams.
   d. Removing bad seam and replacing with a strip of new material welded in place.
3. For any repair method, the following provisions shall be satisfied:
   a. Surfaces of the geomembrane which are to be repaired using extrusion methods shall be abraded no more than one hour prior to the repair.
   b. Surfaces shall be clean and dry at the time of the repair.
   c. Seaming equipment used in repairing procedures shall be qualified.
   d. Patches and caps shall extend at least 4-inches beyond the edge of the defect.
   e. Patches shall have rounded corners.

H. Repair Verification:

Each repair shall be numbered and logged by the Installer. Each repair shall be nondestructively tested using the methods described in Paragraph 3.6 as appropriate. Repairs which pass the nondestructive test shall be taken as an indication of an adequate repair. Repairs more than 150-ft long may be of sufficient length to require destructive test sampling, at the discretion of the Contractor's field representative. A failed test of the repaired section indicates that the repair shall be redone and retested until passing test results are achieved. The Contractor's field representative shall observe nondestructive testing of repairs. The Installer shall record the number of each repair, date and test outcome.

I. Wrinkles:

Large wrinkles that remain in the sheet as result of temperature expansion or uneven surface preparation may need removal as determined by the Contractor's field representative in consideration of applied loads on the wrinkle. Should the wrinkle need removing, the lower down-slope edge of the wrinkle shall be cut, overlapped and repaired as described in 3.7.G. Both ends of the wrinkle repair shall be patched. Caution must be taken in removing any wrinkles.

J. Sufficient slack shall be placed in the geomembrane to compensate for the coldest temperatures envisioned so that no tensile stresses are generated in the geomembrane or in its seams either during installation or subsequently after the geomembrane is covered.

K. The geomembrane shall have adequate slack such that is does not lift up off the subgrade or substrate material at any location within the facility, i.e., no "trampolining" of the geomembrane shall be allowed to occur at any time.

L. The geomembrane shall not have excessive slack to the point where creases fold over upon themselves either during placement and seaming, or when the protective soil or drainage materials are placed on the geomembrane.

M. Permanent (fold-over type) creases in the covered geomembrane should not be permitted at any time.

The amount of slack to be added to the deployed and seamed geomembrane should be carefully considered and calculated, taking into account the type of geomembrane and the geomembrane's temperature during installation versus its final temperature in the completed installation.

3.08 DISPOSAL OF WASTE MATERIAL

Upon completion of installation, the Installer shall properly remove and dispose of all trash, waste material, tools, and equipment used in connection with the performed work and shall leave the premises in a neat and acceptable condition.

3.09 AS-BUILT DRAWINGS AND INSTALLATION DOCUMENTATION

The Installer shall prepare and submit to the Contractor an as-built drawing reflecting the actual installation of geomembrane liner, including the location of seams, the location of destructive samples, and the location of repair work. The as-built drawing shall be submitted to the Contractor within seven days of the completion of the geomembrane. In addition, a copy of the complete installation documentation package will accompany the as-built drawing.

3.10 AS-BUILT DRAWINGS AND INSTALLATION DOCUMENTATION

Following QC approvals geosynthetic drainage layer will be placed directly over the liner. The GDL will be placed in accordance with section 02374 of the specifications. Fill placement and allowable loading will be as stated in section 02374 3.3G.

TABLE 02372-1
MATERIAL PROPERTIES
LINEAR LOW DENSITY POLYETHYLENE (LLDPE) GEOMEMBRANE
TEXTURED (Both Sides) SHEET

Property	Unit	Test Method	Value	Frequency
Thickness – specified	Mils	ASTM D 5994	60	
Thickness – min average.	Mils	ASTM D 5994	57	
• lowest individual for 8 of 10 values	Mils	ASTM D 5994	54	Per Roll
• lowest individual for any 10 values	Mils	ASTM D 5994	51	
Asperity height (min. avg.)[1, 2]	Mils	GRI GM12	10	Every second roll
Tensile Properties (min. avg.)[3]		ASTM D 6693 (Type IV)		
1. Break Strength	lb/in		90	20,000 lbs
2. Break Elongation	%		250	
Tear Resistance (min. avg.)	lb	ASTM D 1004	33	45,000 lbs
Puncture Resistance (min. avg.)	lb	ASTM D 4833	66	45,000 lbs
Density (max.)	g/cc	ASTM D 1505/D 792	0.92	200,000 lbs
Carbon Black Content (range)	%	ASTM D 1603[4]	2.0 to 3.0	20,000 lbs
Carbon Black Dispersion	N/A	ASTM D 5596	Note 5	45,000 lbs
Oxidative Induction Time (OIT) (min. avg.)[6]				
- Standard OIT		ASTM D 3895	100	100,000 lbs
or				
- High Pressure OIT		ASTM D 5885	400	
Axi-Symmetric Break Resistance Strain (min.)	%	ASTM D 5617	30	
Oven Aging at 85º C - retained after 90 days (min.		ASTM D 5721		

Property	Unit	Test Method	Value	Frequency
ave.) (9)				
- Standard OIT	%	ASTM D 3895	35	
- High Pressure OIT	%	ASTM D 5885	60	
UV Resistance – High Pressure OIT – retained after 1600 hrs (min. ave.) (7)(8)	%	ASTM D 5885	35	

Table 02372-1 Notes:

1. Of 10 readings, 8 of 10 must be ≥ 7 mils, and the lowest individual reading must be ≥ 5 mils.
2. Alternate the measurement side for double sided textured sheet.
3. Machine direction (MD) and cross machine direction (XMD) average values should be on the basis of 5 test specimens each direction. Break elongation is calculated using a gage length of 2.0 inches at 2.0 in./min.
4. Other methods such as ASTM D 4218 (muffle furnace) or microwave methods are acceptable if an appropriate correlation to ASTM D 1603 (tube furnace) can be established.
5. Carbon black dispersion (only near spherical agglomerates) for 10 different views: 9 in Categories 1 or 2 and 1 in Category 3.
6. The manufacturer has the option to select either one of the OIT methods listed to evaluate the antioxidant content in the geomembrane.
7. The condition of the test should be 20 hr. UV cycle at 75º C followed by 4 hr. condensation at 60º C.
8. UV resistance is based on percent retained value regardless of the original HP-OIT value.
9. It is also recommended to evaluate samples at 30 and 60 days to compare with the 90 day response.

The above tests shall be performed by the manufacturer of the LLDPE geomembrane for identification of the manufacturer's product. The above test results shall be submitted to the Contractor for approval of the product. The geomembrane to be supplied for the project shall meet these properties.

TABLE 02372-2

SEAM PROPERTIES
LINEAR LOW DENSITY POLYETHYLENE (LLDPE) GEOMEMBRANE
TEXTURED (Both Sides) SHEET

Property	Unit	Test Method	60-mil Value
Shear Strength (min. avg.)	lb/in	ASTM D 6392	90
Peel Strength (extrusion) (min. avg.)	lb/in	ASTM D 6392	66 & FTB
Peel Strength (hot wedge) (min. avg.)	lb/in	ASTM D 6392	75 & FTB

-- END OF SECTION --

SECTION 02372 - APPENDIX A

PROJECT FORMS
FOR
INSTALLATION OF
LINEAR LOW DENSITY POLYETHYLENE (LLDPE) GEOMEMBRANE

Geosynthetics Inventory and Certification Log

Sheet # _____

Project Name		Material Desc.						
Project No.		Layer	Primary		Secondary			Tertiary
Owner/Contr.		Material Type	HDPE	GN	GT	GC	GCL	OTHER
QA Monitor		Texture:	Smooth		Thickness:			Width:

	Roll Number	Lot/Batch Number	Roll Length	Roll Area	Date Roll Received	Date Cert.'s Received	Date Roll Approved
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
	Total		-	-			
	Running Total			-			

Notes, Observations, Comments:

MACTEC Representative _____ Date _____

Owner Representative _____ Date _____

CQA Form 001

Defect Log

Sheet # _____

Project Name		Material Desc.					
Project No.		Layer	Primary		Secondary		Tertiary
Owner/Contr.		Material Type	HDPE GN	GT	GC	GCL	OTHER
QA Monitor		CELL No.					

Seam or Panel No.	Date	Reason for Repair	Detailed Location of Repair	Repair's		QC NDT Result's		
				Date	Tech	Date	Tech	P/F
								P F
								P F
								P F
								P F
								P F
								P F
								P F
								P F
								P F
								P F
								P F
								P F
								P F
								P F
								P F
								P F
								P F
								P F
								P F

Retest of Failed Repairs		Defect No.					
Repair's	Date						
	Tech						
QC NDT Result's	Date						
	Tech						
	P/F	P F	P F	P F	P F	P F	P F

Sketch's:

Notes, Observations, Comments:

MACTEC Representative _____ Date _____

Owner Representative _____ Date _____

CQA Form 002

Seam Control and Non-Destructive Test Log

Sheet # _____

Project Name	Material Desc.	Machine/Operator
Project No.	Layer Primary Secondary Tertiary	Previous Cumulative
Owner/Contr.	Notes:	Last DS (LF)
QA Monitor	CELL No:	Next DS (LF)

Seam Control							Non-Destructive Testing									
Date Time	Seam No.	Seam Length Cumulative	Mach. Temp.	Mach. Speed	Amb. Temp.	Weather/ Winds	Test Date	Test Type	Tech. ID	Time Start	Time Finish	Pressure Start	Pressure Finish	Pressure Net	Test P/F	Defects/Destructive Samples & Comments
Finish Start Date								AT VB							P F	
								AT VB							P F	
								AT VB							P F	
Finish Start Date								AT VB							P F	
								AT VB							P F	
								AT VB							P F	
Finish Start Date								AT VB							P F	
								AT VB							P F	
								AT VB							P F	
Finish Start Date								AT VB							P F	
								AT VB							P F	
								AT VB							P F	
Finish Start Date								AT VB							P F	
								AT VB							P F	
								AT VB							P F	
Finish Start Date								AT VB							P F	
								AT VB							P F	
								AT VB							P F	
Finish Start Date								AT VB							P F	
								AT VB							P F	
								AT VB							P F	

MACTEC Representative _____ Date _____

Owner Representative _____ Date _____

CQA Form 003

Panel Placement Log

Sheet # _____

Project Name	Material Desc.
Project No.	Layer — Primary: HDPE, GN; Secondary: GT, GC, GCL; Tertiary: OTHER
Owner/Contr.	Material Type
QA Monitor	CELL No:

	Date	Panel No.	Roll No.	Panel Length	Panel SF	Panel Visual Condition, Inspection and Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
	Total					
	Running Total					

Notes, Observations, Comments:	Sketch's:

MACTEC Representative _____ Date _____

Owner Representative _____ Date _____

CQA Form 004

Daily Panel As-Built

Sheet # _____

Project Name	Material Desc.						
Project No.	Layer	Primary		Secondary			Tertiary
Owner/Contr.	Material Type	HDPE	GN	GT	GC	GCL	OTHER
QA Monitor	CELL No:						

Scale: Vertical Horizontal

Adjacent Sheet No. ____

Indicate North

Adjacent Sheet No. ____

Adjacent Sheet No. ____

Adjacent Sheet No. ____

MACTEC Representative _____ Date _____

Owner Representative _____ Date _____

CQA Form 005

Trial Weld Log

Sheet # _____

Project Name	Material Desc.	60 mil Texture				
Project No.	Layer	Primary		Secondary		Tertiary
Owner/Contr.	Material Type	HDPE	GN	GT	GC	OTHER
QA Monitor	CELL No:					

Date & Time	Weather/ Winds/ Temp.	Machine/ Operator	Machine Settings Fusion Extrusion	Peel (ppi)	Shear (ppi)	Result (P/F)	FTB (Y/N)	Test Number	Comments/ Observations
						P F	Y N		
						P F	Y N		
			Fusion Extrusion			P F	Y N		
						P F	Y N		
						P F	Y N		
			Fusion Extrusion			P F	Y N		
						P F	Y N		
						P F	Y N		
			Fusion Extrusion			P F	Y N		
						P F	Y N		
						P F	Y N		
			Fusion Extrusion			P F	Y N		
						P F	Y N		
						P F	Y N		
			Fusion Extrusion			P F	Y N		
						P F	Y N		
						P F	Y N		
			Fusion Extrusion			P F	Y N		
						P F	Y N		
						P F	Y N		
			Fusion Extrusion			P F	Y N		
						P F	Y N		
						P F	Y N		
			Fusion Extrusion			P F	Y N		
						P F	Y N		
						P F	Y N		
			Fusion Extrusion			P F	Y N		
						P F	Y N		
						P F	Y N		
			Fusion Extrusion			P F	Y N		

Notes, Observations, Comments:

MACTEC Representative _____ Date _____

Owner Representative _____ Date _____

CQA Form 006

Destructive Seam Field Test

Sheet # _____

Project Name		Material Desc.			
Project No.		Layer	Primary	Secondary	Tertiary
Owner/Contr.		Sheet Thickness	Top		Fusion
QA Monitor			Bottom		Extrusion

Seam Location	Temp. @ Test	Sample Size	1x4'

Sample ID	Date Welded	Seam No.	
Cumulative Weld Total	Date Tested	Welder ID	
Number of Destruct's	Test Location	QC Tester ID	

Reason for Test	Destructive Sampling Requirements

Coupon No.	Peel				Shear	
	Inside Track		Outside Track			
	Load (ppi)	Failure Mode	Load (ppi)	Failure Mode	Load (ppi)	Failure Mode
P1						
P2						
P3						
P4						
P5						
Average						

Tensiometer Gauge No.
ST-033

Pass	Fail

Material Strength Specifications		
Material Description	Peel (ppi)	Shear (ppi)
60 mil Smooth	78	120
60 mil Textured	78	120

Notes, Observations, Comments:

Tracking for Failed Samples

DS-_____ Original Sample DS-_____

_____ Compass Direction of Seam

MACTEC Representative _____ Date _____

Owner Representative _____ Date _____

CQA Form 007

Certificate of Soil Surface

Sheet # _____

Project Name		Material Desc.			
Project No.		General Desc.	Subgrade	Operations	LCRS
Owner/Contr.		CELL No.			
QA Monitor		Date			

Description of Soil Surface to be lined:

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

CQA Monitor	
Name:	
Date:	
Title:	
Representing:	
Signature:	

Installer Representative	
Name:	
Date:	
Title:	
Representing:	
Signature:	

Owner Representative	
Name:	
Date:	
Title:	
Representing:	
Signature:	

Notes, Observations, Comments:

CQA Form 008

Certificate of Completion

Sheet # _____

Project Name	Material Desc.			
Project No.	Layer	Primary	Secondary	Tertiary
Owner/Contr.	Type	Partial	Substantial	Final
QA Monitor	Date			

Description and Area of Work Being Certified:

I hereby certify that the above identified work has been inspected and it has been properly installed. I further certify all required testing has been completed and the results are acceptable to the CQA Officer. The liner system is suitable for its intended use.

CQA Monitor

Name:
Date:
Title:
Representing:
Signature:

Installer Representative

Name:
Date:
Title:
Representing:
Signature:

Owner Representative

Name:
Date:
Title:
Representing:
Signature:

Notes, Observations, Comments:

CQA Form 009

Daily Inspection Report

Sheet # _____

General Project Information		Site Condition		
Project Name		Weather		
Project No.		Type Precip. / Amount		
Owner/Contr.		Wind Speed / Direction		
Engineer		Liner Temperature	Max.	Min.
Sub-Contractor		Site Conditions		
QA Monitor				
Project Schedule		**Meetings**		
Date		Purpose		
Original Comp. Date				
Revised Comp. Date				
Construction Day	Working Day's Remaining	Attendees		
Contracted Working Days	Revised No. of Working Days			

Construction Activities	
Activities Started/Completed (by Contractor)	
Extra Works, Potential Change Orders	
Materials Delivered to Site	
Permanent Materials Installed	
Contractor and Crew Size	
Site Visitor's	
Additional Comments	

DUDEK Personnel Activity					
	Hours Onsite	Arrive	Depart	Hours Offsite	Total Hours
	Hours Onsite	Arrive	Depart	Hours Offsite	Total Hours

List Daily QA Documents					
	Sheet #'s	Comment		Sheet #'s	Comment
Inventory Log- CQA Form 001.			DS Tracking Summary- CQA Form 011.		
Defect Log- CQA Form 002.			Photo Log- CQA Form 012.		
Seam Control- CQA Form 003.			NC / Corrective Action- CQA Form 013.		
Panel Placement Log- CQA Form 004.			Laboratory Test Results		
Daily Panel As-Built- CQA Form 004.			*List Other:*		
Trial Welds- CQA Form 006.					
Destructive Field Sample- CQA Form 007.					
Subgrade Surface- CQA Form 008.					
Completion Certification- CQA Form 009.					

CQA Form 010

In-Use Construction Equipment (Include machine numbers and data) by Subcontractor	

Summary of Construction Activities

MACTEC Representative _____ Date _____

Owner Representative _____ Date _____

CQA Form 010

Destructive Sample Tracking Summary

Sheet # _____

Project Name Project No. Owner/Contr. QA Monitor	Material Desc. Layer Primary Secondary Tertiary	Notes, Observations, Comments:

DS No.	Seam No.	Machine/ Operator	Date Welded	Roll No.	Lot No.	QA Monitor	Average Test Results Lab (P/F) Peel	Lab (P/F) Shear	Field (P/F) Peel	Field (P/F) Shear	Overall (P/F)	Comments and Subsequent Tracking No.'s

MACTEC Representative _____ Date _____

Owner Representative _____ Date _____

CQA Form 011

Photograph Log

Sheet # _____

Project Name Project No. Owner/Contr. QA Monitor	Notes, Observations, Comments: CELL No:

Date/Time	Roll No.	Photo No.	Plant Area/Location *(Show Location of Photograph on Daily As-Built)*	Photo Description

MACTEC Representative _____ Date _____

Owner Representative _____ Date _____

CQA Form 012

Notice of Non-Compliance and Corrective Action

Sheet # _____

General Project Information	
Project Name	Date
Project No.	Contractor in NC
Owner/Contr.	Non-Compliance No.
QA Monitor	Notes:

Reference	
Item	Drawing No.
Specification Sec. No.	Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Contractor's Response

Follow Up Action Required

Recommended by:

DUDEK Representative _____ Date _____

Approved by:

Owner Representative _____ Date _____

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

MACTEC Representative _____ Date _____

Owner Representative _____ Date _____

CQA Form 013

SEAM TESTING
CHAIN OF CUSTODY FORM

SEND YOUR SEAMS TO

PROJECT NAME / PROJECT NUMBER: _____

PROJECT LOCATION: _____

No.	Seam ID (*include seam ID, panel ID, welder, etc.*)	MATERIAL DESCRIPTION	FUSION	EXTRUSION	Solvent Weld
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

TEST METHOD
(Please check which test method is applicable)

O SHEAR- ASTM D4437
PEEL - ASTM D4437

O SHEAR - ASTM D6214
PEEL - ASTM D6214

O SHEAR- ASTM D4437 NSF Modified
Crosshead Speed = 2"/min
PEEL - ASTM D4437 NSF Modified
Crosshead Speed = 2"/min

O SHEAR- ASTM D4437 NSF Modified
Crosshead Speed = 20"/min
PEE - ASTM D4437 NSF Modified
Crosshead Speed = 20"/min

O SHEAR- ASTM D6392
PEEL-ASTM D6392
HDPE

O SHEAR - ASTM D3083
Crosshead Speed = 20"/min
PEEL - ASTM D413
Crosshead Speed = 2"/min

O SHEAR - ASTM D6392
PEEL - ASTM D6392
LLDPE/PVC

O SHEAR - ASTM D751
PEEL - ASTM D413
Crosshead Speed = 2"/min

SPECIFICATIONS/NOTES:
OPEN on SATURDAYS for SEAM TESTING.
To ensure that your package is delivered/received on Saturdays; please fax, e-mail or call to let us know the AIRBILL # of your package. This helps us track for SATURDAY DELIVERY.

Thickness required? O Yes O NO
SOLVENT WELD
Curing Time:_____ Curing Temp:_____

REPORT TO:
NAME:_____
COMPANY:_____
ADDRESS:_____
_____
TEL NO:_____
FAX NO:_____
E-MAIL:_____

FIELD CONTACT:
NAME:_____
Pager:_____
Mobil:_____
Phone:_____
FAX:_____
E-mail:_____

RELEASED BY:
NAME:_____
COMPANY:_____
DATE/TIME:_____
RECEIVED BY:
NAME:_____
Precision Geosynthetic Labs
DATE/TIME:_____

Shipped Via
O Fedex
O UPS
O Airborne
O DHL
O US Mail
O Hand Carry
O Others

Page _____ of _____

white- REPORT/SAMPLE, yellow- LAB, pink- CLIENT

CONFORMANCE TEST CHAIN OF CUSTODY FORM

Page ____ of _____

PROJECT NAME / PROJECT NUMBER: _____

PROJECT LOCATION: _____

GEOMEMBRANE TESTING

SAMPLE ID	Thickness ASTM D5199 or D5994	Density ASTM D1505 or D792	Carbon Black Content ASTM D1603	Carbon Dispersion D3015/ D5596	Tensile ASTM D638 GM13 / NSF54	Tear Resistance ASTM D1004 (Die C)	Puncture D4833 /101CM2065	Melt Flow Index ASTM D1238, cond. E	Dimensional Stability ASTM D1204	Low Temp. Brittleness D746/ D1790	NCTL ASTM D5397 Hours____	Other ASTM____

NONWOVEN OR WOVEN GEOTEXTILE TESTING

SAMPLE ID	Thickness ASTM D5199 or D1777	Mass Per Area ASTM D5261 or D3776	Grab Tensile ASTM D4632	Trapezoid Tear ASTM D4533	Puncture Resistance ASTM D4833	Mullen Burst ASTM D3776	Permittivity ASTM D4491	AOS ASTM D4751	Wide Width Tensile ASTM D4595	UV (hrs____) ASTM D4355	Other ASTM____	Other ASTM____

GEOCOMPOSITE / GEONET / GEOGRID TESTING

SAMPLE ID	Thickness ASTM D5199 or D1777	Density ASTM D1505 or D792	Carbon Black Content ASTM D1603	Mass Per Area ASTM D5261 or D3776	Melt Flow Index ASTM D1238, cond. E	Peel ASTM D413, F904 or GRI-GC7	Transmissivity * ASTM D4716	Compression ASTM D1621	Tensile Strength ASTM D1682 or D5035	Wide Width Tensile ASTM D4595	Rib Tensile Strength GRI-GG1	Junction Strength GRI-GG2

* Transmissivity Test Parameters: Normal Load:_____, Gradient:_____, Seating Time:_____, Boundary Condition:_____

GCL TESTING

SAMPLE ID	Thickness ASTM D5199	Mass Per Area ASTM D5993	Grab Tensile ASTM D4632	Peel Strength ASTM D6496	Moisture Content ASTM D4643 or D2216	Hydraulic Conductivity ASTM D5084	Index Flux ASTM D5887	Swell Index ASTM D5890	Fluid Loss ASTM D5891	Internal Shear Strength ASTM D6243	Other ASTM____	Other ASTM____

SEND REPORT TO:
Name:_____
Company:_____
Address:_____
Phone:_____
Fax:_____
e-mail:_____

FIELD CONTACT:
Name:_____
Pager:_____
Mobil_____
Phone:_____
Fax:_____
e-mail:_____

Released by:
Name:_____
Date/Time_____

Received by:
Name:_____
PGL
Date/Time_____

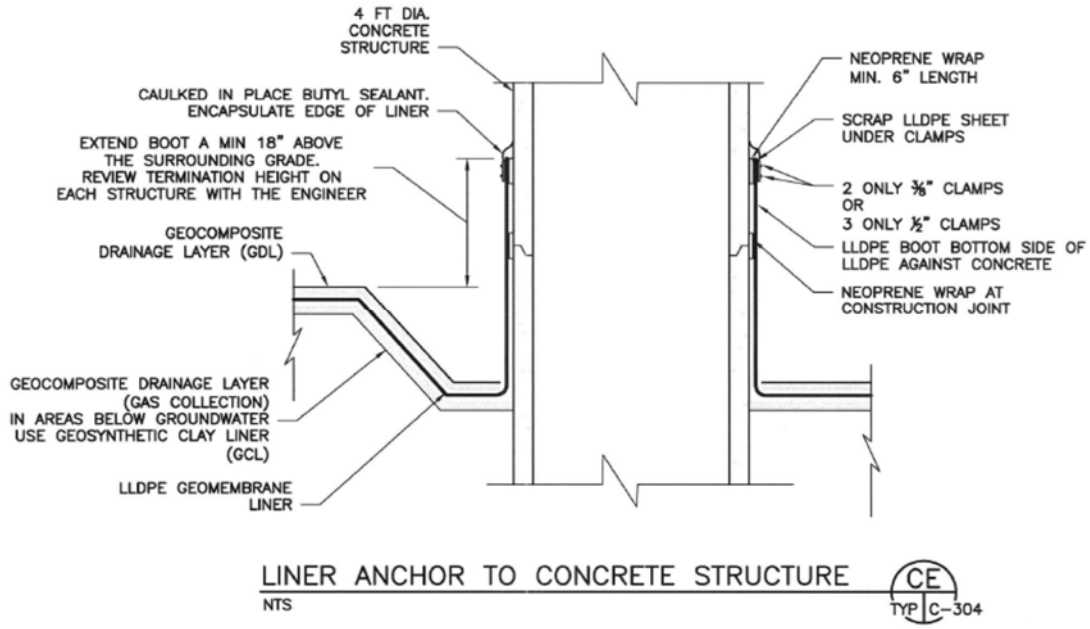
Shipped Via:
O Fedex
O UPS
O Airborne
O DHL
O US Mail
O Others

Boot Fabrication and Spark Testing Forms

Project: Study Area 6 North

Date: _____

QA – Manhole Boot Installation



***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☐ Field fabricated, spark test ☐ Field fabricated, visual

☐18-in. overlap between boot and geomembrane

☐ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☐ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☐ SS Band Clamps tightened and uniform

☐ Caulked Butyl Sealant around top edge of liner

☐ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

Location:

AmecFW QA Signature:

_____

Independent CQA Signature:

_____

Comments:

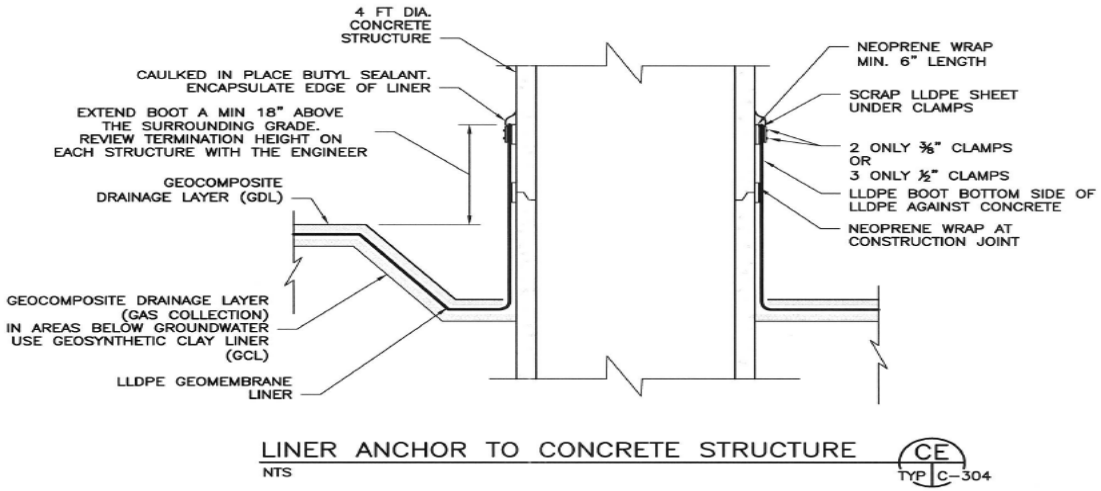
Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

Project: Study Area 6 North	**Date:** _____
Location:	**Repair Number**: _____ **Boot Log QA Form (cross-reference):** _____

QA – Spark Test Log – Manhole



Methane Testing: *Instrument:* _____ *Time:*_____

*% Methane*_____ ☐Methane < 1%; Proceed with spark testing ☐Methane > 1%; Visual observation of welds

Skirt to Panel Extrusion Weld: ☐Vacuum Box Tested ☐Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (kV)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot										
Vertical weld										

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

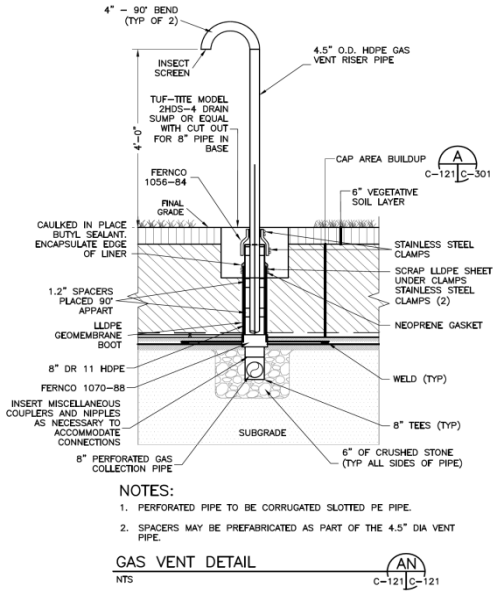
Comments:

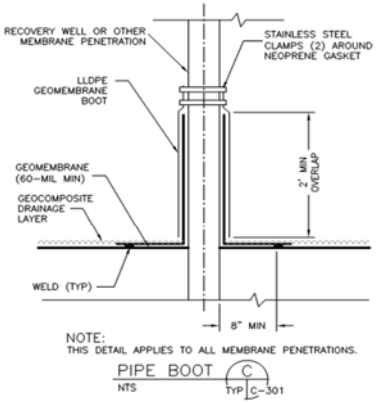
AmecFW QA Signature: _____

Independent CQA Monitor Signature: _____

Project: Study Area 6 North	**Date:** _____

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:** Boot Fabrication Details (check one) ☐ Pre-fabricated, no field test ☐ Field fabricated, spark test ☐ Field fabricated, visual ☐ 18-in. overlap between boot and geomembrane ☐ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure ☐ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection ☐ If penetration is greater than 4-in. in diameter, a second clamp shall be used. ☐ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds ☐ Caulked Butyl Sealant around top edge of liner	**Location:** **AmecFW QA Signature:** _____ **Independent CQA Monitor Signature:** _____

Comments:

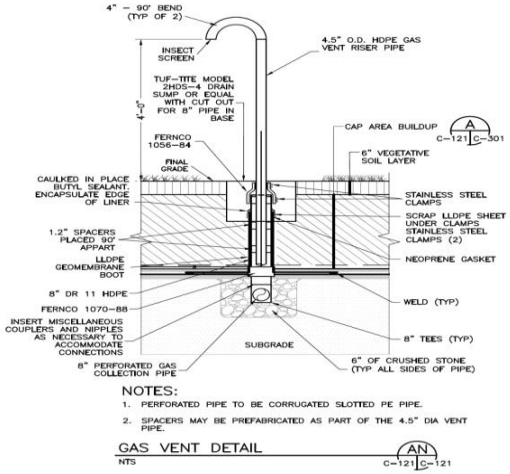
Honeywell

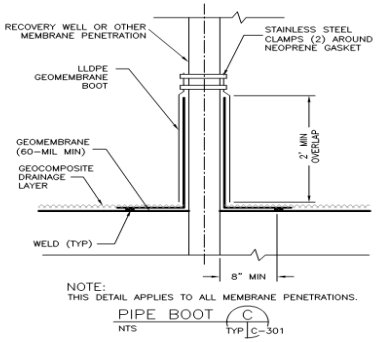
STUDY AREA 6 - CAP INSTALLATION

LANGAN

Project: Study Area 6 North **Location:**	**Date:** _____ **Repair Number:** _____ **Boot Log QA Form (cross-reference):** _____

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:*_____ *Time:*_____

*% Methane*_____ ☐Methane < 1%; Proceed with spark testing ☐Methane > 1%; Visual observation of welds

Skirt to Panel Extrusion Weld: ☐Vacuum Box Tested ☐Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (kV)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot										
Vertical weld										

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments:

AmecFW QA Signature: _____

Independent CQA Monitor Signature: _____

Revised Langan Construction Quality Assurance Plan

CONSTRUCTION QUALITY ASSURANCE (CQA) PLAN

for

Geosynthetic Cap Installation
Study Area 6
Jersey City, New Jersey

Prepared For:

Honeywell International, Inc.
101 Columbia Rd.
Box 2105
Morristown, NJ 07962

Prepared By:

Langan Engineering and Environmental Services, Inc.
River Drive Center 1, 619 River Drive
Elmwood Park, NJ 07407

July 2015
Revised January 2016

Langan Project No. 10053001

LANGAN

CONSTRUCTION QUALITY ASSURANCE (CQA) PLAN

Prepared By:
Langan Engineering & Environmental Services, Inc.
River Drive Center 1
619 River Drive
Elmwood Park, NJ 07407

Vikki Hon, EIT
Staff Engineer

Dan Bosworth
Senior Staff Engineer

Jeffrey Stoicescu, P.E.
Associate
New Jersey Professional Engineer License No. 24GE04504400

Rory Johnston, P.E.
Principal / Vice President
New Jersey Professional Engineer License No. GE04080500

LANGAN

LANGAN

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Tables

Table 1 – Geosynthetic Material Testing Methods & Frequency

TABLE 1: GEOSYNTHETIC MATERIAL TESTING METHODS & FREQUENCY
Honeywell SA6 South
Jersey City, New Jersey

Materials to be Tested	Sample Location	Parameter	Test Method	Frequency	Value	Specification/ Reference	Notes	QC Tests Needed	QC Tests Completed	QA Tests Completed	Material Quantity
60 mil LLDPE MicroSpike Double Sided Geomembrane	Manufacturer - AgruAmerica	*Conformance Testing:*									***394,910 Square Feet***
		Thickness	ASTM D5994	1/roll	57 MARV	02372-2.02 and Table 02372-1		34	0	0	***34 rolls***
		Density	ASTM D1505/D792	1/200,00 lbs	0.939 g/cc		Density value change approved per Submittal 091	1	0	0	***129,200 lbs***
		Tensile Properties	ASTM D6693	1/20,000 lbs	90 lbs/in (strength)/250% elongation			7	0	0	
		Tear Resistance	ASTM D1004	1/45,000 lbs	33 lbs			3	0	0	
		Puncture Resistance	ASTM D4833	1/45,000 lbs	66 lbs			3	0	0	
		Carbon Black Content	ASTM D1603	1/20,000 lbs	2%-3%			7	0	0	
		Carbon Black Dispersion	ASTM D5596	1/45,000 lbs	9 in Cat 1 or 2 and 1 in Cat 3			3	0	0	
		Asperity Height	ASTM D7466	1/Second roll	10 mils (min)		Asperity Test Method change approved per Submittal 091	17	0	0	
		Oxidative Induction Time	ASTM D3895	1/100,000 lbs	100 minutes			4	0	0	
	QC Laboratory - Geotechnics	*3rd Party Laboratory Testing*									
		Thickness	ASTM D5994	1/100,000 square feet	57 MARV	02372-2.02 and Table 02372-1		4	0	0	
		Density	ASTM D1505/D792	1/100,000 square feet	0.939 g/cc		Density value change approved per Submittal 091	4	0	0	
		Tensile Properties	ASTM D6693	1/100,000 square feet	90 lbs/in (strength)/250% elongation			4	0	0	
		Tear Resistance	ASTM D1004	1/100,000 square feet	33 lbs			4	0	0	
		Puncture Resistance	ASTM D4833	1/100,000 square feet	66 lbs			4	0	0	
		Carbon Black Content	ASTM D1603	1/100,000 square feet	2%-3%			4	0	0	
		Carbon Black Dispersion	ASTM D5596	1/100,000 square feet	9 in Cat 1 or 2 and 1 in Cat 3			4	0	0	
		Asperity Height	ASTM D7466	1/100,000 square feet	10 mils (min)		Asperity Test Method change approved per Submittal 091	4	0	0	
		Interface Strength	ASTM D5321	1/100,000 square feet	Peak = 26 degrees; Residual = 22.5 degrees			4	0	0	
		Field Quality Control Testing:									
		Start-Up Testing Peel (Tensiometer)	ASTM D6392	Start of each shift and every 5 hrs	66 lb/in & FTB (extrusion weld); 75 lb/in & FTB (fusion weld)	02372-3.06.A.1	Test 3 peel/3 shear	100%	0	0	
		Start-Up Testing Shear (Tensiometer)	ASTM D6392	Start of each shift and every 5 hrs	90 lb/in	02372-3.06.A.1	Test 3 peel/3 shear	100%	0	0	
		Non-Destructive Field Seam Continuity Testing	Vacuum Testing	Full seam length (extrusion weld)	No bubbles in viewing window for 10 seconds	02372-3.06.B.2		100%	0	0	
		Non-Destructive Field Seam Continuity Testing	Air Pressure Testing	Full seam length (fusion weld)	<4 psi pressure loss over 5 min @ 25-30 psi pressure	02372-3.06.B.3		100%	0	0	
		Non-Destructive Spark Test	ASTM D6365	1/boot (penetration)	No spark observed after passing electrode over weld	02372-3.06.B.4	Spark Testing change for SA-6 North approved per DCB	100%			
		Destructive Testing Shear (Tensiometer)	ASTM D6392	1/500 ft of seam	66 lb/in & FTB (extrusion weld); 75 lb/in & FTB (fusion weld)	02372-3.07.D	Test 3 peel/3 shear	35	0	0	
		Destructive Testing Peel (Tensiometer)	ASTM D6392	1/500 ft of seam	90 lb/in	02372-3.07.D	Test 3 peel/3 shear	35	0	0	
	Lab QC-Geotechnics	Destructive Testing Shear (Laboratory)	ASTM D6392	1/500 ft of seam	66 lb/in & FTB (extrusion weld); 75 lb/in & FTB (fusion weld)	02372-3.07.E	Test 5 peel/5 shear. 5 out of 5 must pass peel and shear	35	0	0	
		Destructive Testing Peel (Laboratory)	ASTM D6392	1/500 ft of seam	90 lb/in	02372-3.07.E	Test 5 peel/5 shear. 5 out of 5 must pass peel and shear	35	0	0	
Transnet 33-2-6 Geocomposite w/Warning Layer (Drainage Layer)	Manufacturer - SKAPS	*Conformance Testing:*				02374-2.2.A					***394,800 Square Feet***
		Resin									***141 Rolls***
		Polymer Density	ASTM D1505	1/lot	>0.94 g/cm3			TBD			
		Melt Flow Index	ASTM D1238	1/lot	≤1.0 g/10 min			TBD			
		Geonet									
		Thickness, min avg	ASTM D5199	1/50,000 sf	200 mil			8	0	0	
		Carbon Black Content	ASTM D1603/D4218	1/50,000 sf	2-3%			8	0	0	
		Tensile Strength, MD	ASTM D7179	1/50,000 sf	45 lbs/in		Most current ASTM test method for tensile strength	8	0	0	
		Geotextile									
		Mass/Unit Area, MARV	ASTM D5261	1/100,000 sf	6 oz/sy			4	0	0	
		Grab Tensile, MARV	ASTM D4632	1/100,000 sf	158 lbs			4	0	0	
		Tear Strength, MARV	ASTM D4533	1/100,000 sf	57 lbs			4	0	0	
		Puncture Strength, MARV	ASTM D4833	1/100,000 sf	57 lbs			4	0	0	
		Permittivity, MARV	ASTM D4491	1/500,000 sf	0.5 sec^{-1}			1	0	0	
		AOS, US Sieve	ASTM D4751	1/500,000 sf	0.25 mm			1	0	0	
		UV Resistance	ASTM D4355/G 154	1/resin formulation	90% retained after 500 hrs			1	0	0	
		Geocomposite									
		Transmissivitiy, min	ASTM D4716	1/200,000 sf	$8.0x10^{-4}$		Normal compressive load load should be 750 psf at gradient of 0.316	2	0	0	
		Ply Adhesion, min avg	ASTM D7005	1/100,000 sf	0.5 lbs/in		Ply AdhesionTest Method change approved per Submittal 081	4	0	0	
	QC Laboratory - Geotechnics	*Testing with Site Specific Soils*									
		Interface - GDL/Geomembrane	ASTM D5321	1/100,000 sf		02374-2.3	Peform test at normal pressure of 1.5, 3.0, 4.5 psi with displacement rate of 0.04 in/min (wet condition)	4	0	0	
		Interface - GDL/Cover Soil (Celgene)	ASTM D5321	1/100,000 sf	Peak = 26 degrees; Residual = 22.5 degrees		Peform test at normal pressure of 1.5, 3.0, 4.5 psi with displacement rate of 0.04 in/min (wet condition)	4	0	0	
		Transmissivity	ASTM D4716	1/100,000 sf	8.0x10-4		Normal compressive load load should be 750 psf at gradient of 0.316	4	0	0	

Materials to be Tested	Sample Location	Parameter	Test Method	Frequency	Value	Specification/ Reference	Notes	QC Tests Needed	QC Tests Completed	QA Tests Completed	Material Quantity
Transnet 22-2-6 Geocomposite (Gas Vent System)	Manufacturer - SKAPS	*Conformance Testing:*				02374-2.2.A					***311,750 Square Feet***
		Resin									***86 Rolls***
		Polymer Density	ASTM D1505	1/lot	>0.94 g/cm3			TBD	0	0	
		Melt Flow Index	ASTM D1238	1/lot	≤1.0 g/10 min			TBD	0	0	
		Geonet									
		Thickness, min avg	ASTM D5199	1/50,000 sf	200 mil			7	0	0	
		Carbon Black Content	ASTM D1603/D4218	1/50,000 sf	2-3%			7	0	0	
		Tensile Strength, MD	ASTM D7179	1/50,000 sf	45 lbs/in		Most current ASTM test method for tensile strength	7	0	0	
		Geotextile									
		Mass/Unit Area, MARV	ASTM D5261	1/100,000 sf	6 oz/sy			4	0	0	
		Grab Tensile, MARV	ASTM D4632	1/100,000 sf	158 lbs			4	0	0	
		Tear Strength, MARV	ASTM D4533	1/100,000 sf	57 lbs			4	0	0	
		Puncture Strength, MARV	ASTM D4833	1/100,000 sf	57 lbs			4	0	0	
		Permittivity, MARV	ASTM D4491	1/500,000 sf	0.5 sec^{-1}			1	0	0	
		AOS, US Sieve	ASTM D4751	1/500,000 sf	0.25 mm			1	0	0	
		UV Resistance	ASTM D4355/G 154	1/resin formulation	90% retained after 500 hrs			TBD			
		Geocomposite									
		Transmissivitiy, min	ASTM D4716	1/200,000 sf	$8.0x10^{-4}$		Transmissivity requirement for gas vent system deleted per Addendum #5; Clarification #3	2	0	0	
		Ply Adhesion, min avg	ASTM D7005	1/100,000 sf	0.5 lbs/in		Ply Adhesion Test Method change approved per Submittal 081	4	0	0	
	QC Laboratory Geotechnics	*Testing with Site Specific Soils*									
		Interface - GVS/Geomembrane	ASTM D5321	1/100,000 sf		02374-2.3	Peform test at normal pressure of 1.5, 3.0, 4.5 psi with displacement rate of 0.04 in/min (wet condition)	4	0	0	
		Interface - GVS/Subgrade Soil	ASTM D5321	1/100,000 sf	Peak = 26 degrees; Residual = 22.5 degrees		Peform test at normal pressure of 1.5, 3.0, 4.5 psi with displacement rate of 0.04 in/min (wet condition)	4	0	0	
Bentomat DN Geosynthetic Clay Liner	Manufacturer - CETCO	*Manufacturer Certification:*									***69,600***
		Geotextile				02375 - Tables 1 & 2					***32 Rolls***
		Mass/Unit Cap, MARV (Non-Woven)	ASTM D5261	1/200,000 sf	6.0 oz/sy			1	0	0	***83,200 lbs***
		Mass/Unit Carrier, MARV (Non-Woven)	ASTM D5261	1/200,000 sf	6.0 oz/sy			1	0	0	
		Bentonite									
		Swell Index	ASTM D5890	1/100,000 lb	24 ml min			1	0	0	
		Moisture Content	ASTM D4643	1/100,000 lb	35% max			1	0	0	
		Fluid Loss	ASTM D5891	1/100,000 lb	18 ml max			1	0	0	
		Finished GCL									
		Mass/Unit Area Bentonite	ASTM D5993	1/40,000 sf	0.75 lb/sf MARV			2	0	0	
		Tensile Strength, MD	ASTM D6768	1/40,000 sf	50 lb/in MARV		Testing frequency change approved per Submittal 092	2	0	0	
		Peel Strength	ASTM D6496	1/40,000 sf	12 lb/in MARV			2	0	0	
			ASTM D4632	1/40,000 sf	60 lb MARV			2	0	0	
		Hydraulic Conductivity	ASTM D5887	1/Week	5×10^{-11} m/sec			TBD			
		Index Flux	ASTM D5887	1/Week	1×10^{-8} $m^3/m^2/sec$			TBD			
		Internal Shear Strength	ASTM D6243	Periodically	150 psf Typical (non-slope areas); 500 psf Typical			1			

Appendix A17

Spark Test Log

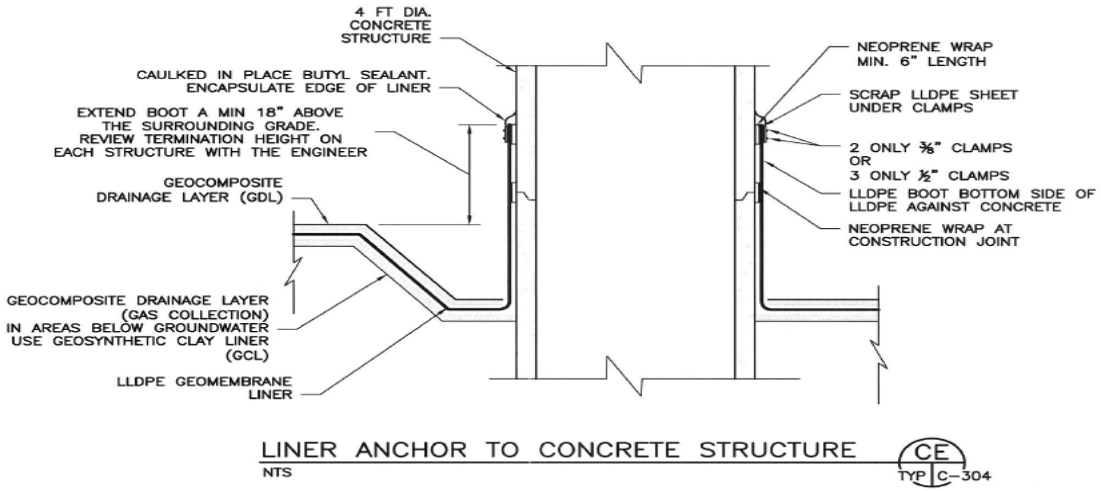
Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

Project: Study Area 6 North	**Date:** _____
Location:	**Repair Number**: _____ **Boot Log QA Form (cross-reference):** _____

QA – Spark Test Log – Manhole



Methane Testing: *Instrument:* _____ *Time:*_____

*% Methane*_____ ☐Methane < 1%; Proceed with spark testing ☐Methane > 1%; Visual observation of welds

Skirt to Panel Extrusion Weld: ☐Vacuum Box Tested ☐Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (kV)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot										
Vertical weld										

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments:

AmecFW QA Signature: _____

Independent CQA Monitor Signature: _____

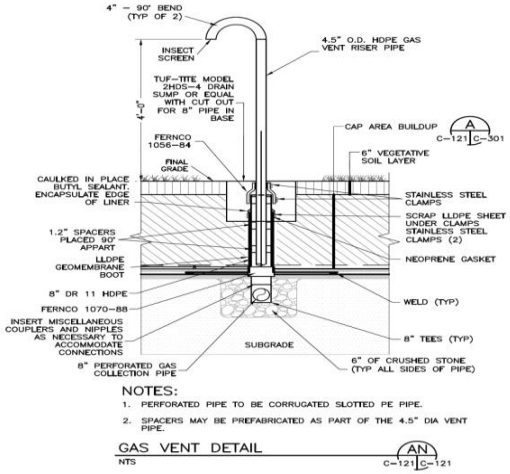
Honeywell

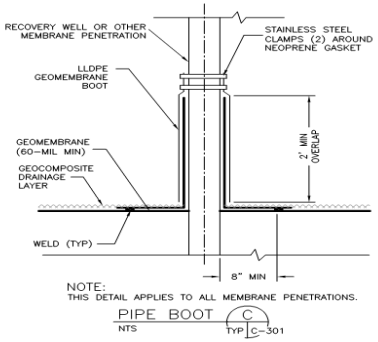
STUDY AREA 6 - CAP INSTALLATION

LANGAN

Project: Study Area 6 North **Location:**	**Date:** _____ **Repair Number:** _____ **Boot Log QA Form (cross-reference):** _____

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:*_____ *Time:*_____

*% Methane*_____ ☐Methane < 1%; Proceed with spark testing ☐Methane > 1%; Visual observation of welds

Skirt to Panel Extrusion Weld: ☐Vacuum Box Tested ☐Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (kV)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot										
Vertical weld										

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments:

AmecFW QA Signature: _____

Independent CQA Monitor Signature: _____

Honeywell RES → Honeywell.com

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.: 053 DCB** **Type:** Minor(a) **Effective Date:** 11/30/2015
Project Location: SA-6	**Associated RFI:**
Title: EA 2&3 Clarifications and EA-8 Supplemental Excavation	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation.

A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals.

EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits.

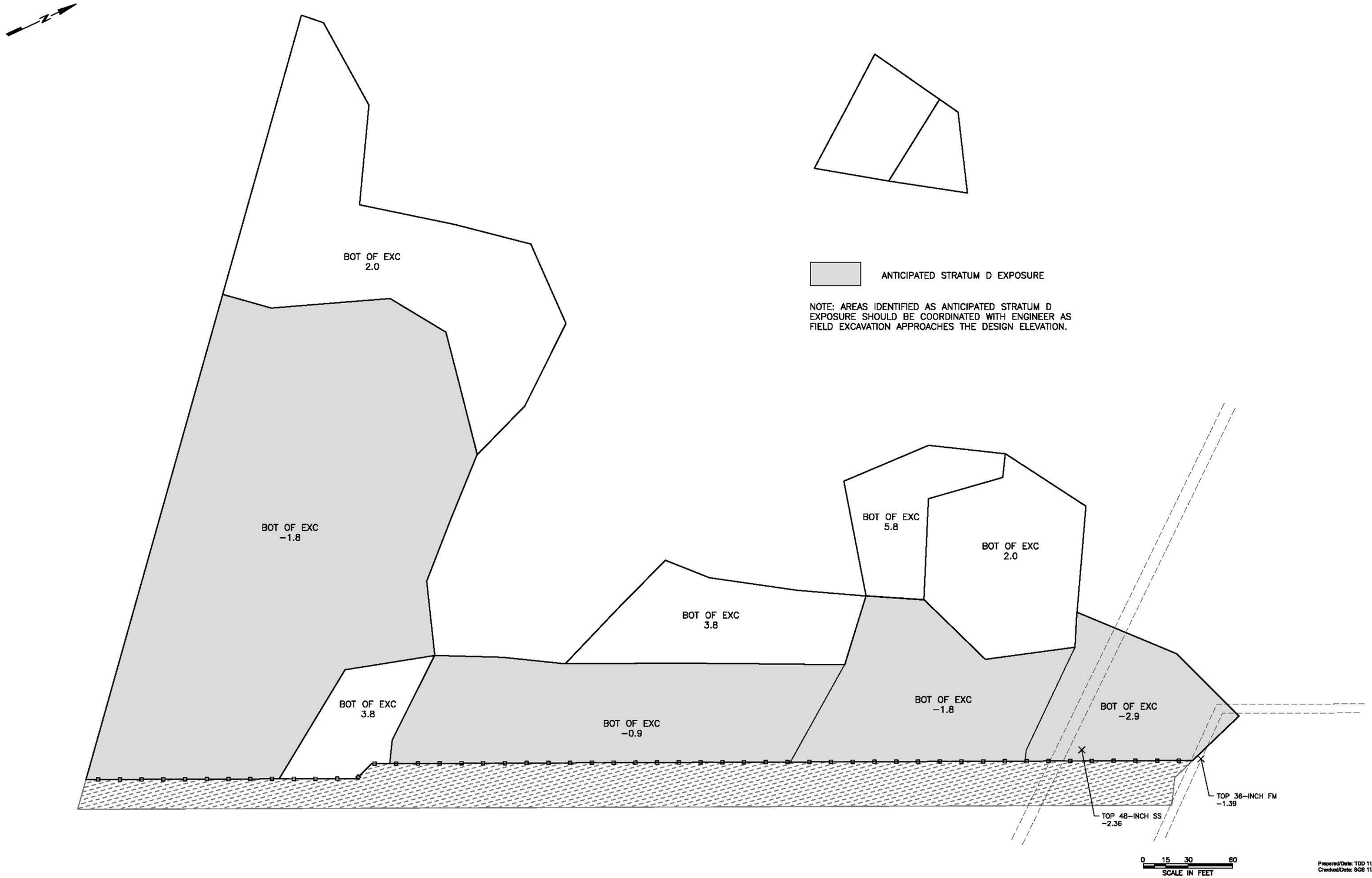
A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.

A Figure has been included for informational purposes defining those areas where it is anticipated that Stratum D will be encountered within EA 2&3. If Stratum D is encountered the surface will be cleaned and surveyed. No further excavation will be required.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** See description and additional comments. **Attachments:** ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: The protocols for establishing internal delineation of waste streams was refined on SA-6S after the IFC design. This DCB updates the SA-6N drawings to be consistent with steps taken on SA-6S per DCB 060. This includes the provision of the Stratum D drawing to aid field crew in decisions regarding excavation depths and to provide assistance to all parties observing the excavation.	**Design Documents Affected:** NA

Honeywell (AP) Review:	
Individual: Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 11/30/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



Prepared/Date: TDD 11/30/15
Checked/Date: SGB 11/30/15

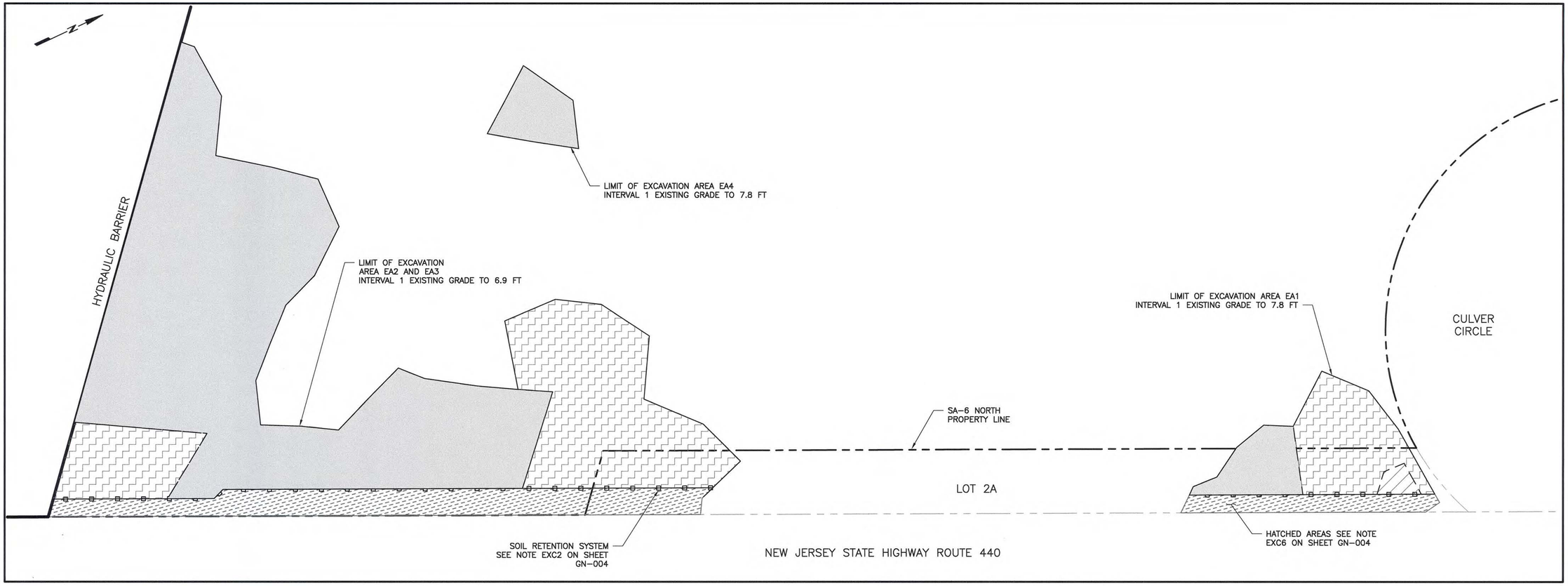
Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

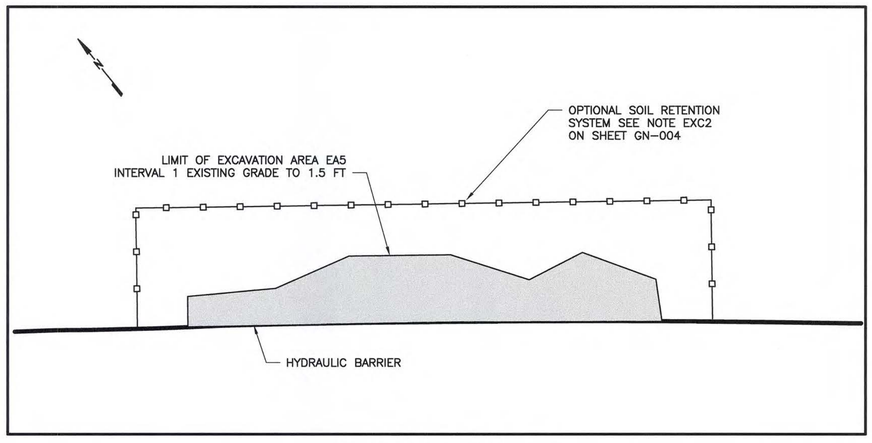
amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd., Suite 113
Hamilton, NJ 08619, (609) 890 - 2539
NJ Certificate of Authorization Number 24GA28013300

EXCAVATION AREA EA2 / EA3
STRATUM D EXPOSURE
Project 3480-13-0377
FIGURE 1

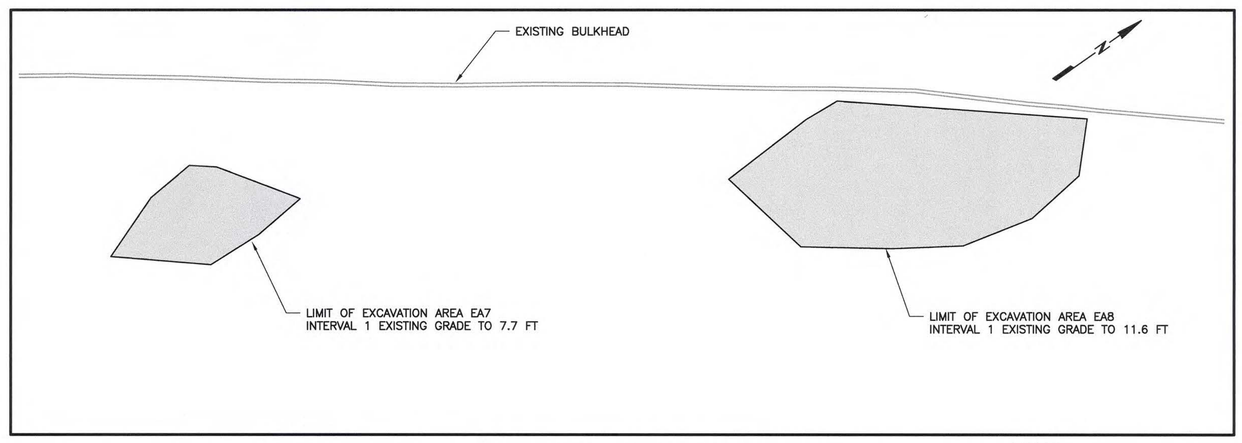
G:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North Excavation\Figure 1 SA-6 North Anticipated Massive Net Exposure.dwg Tue, 01 Dec 2015 - 9:43am tony.donovan



EXCAVATION AREAS EA1, EA2 3, AND EA4



EXCAVATION AREA EA5



EXCAVATION AREAS EA7 AND EA8

NOTES:
1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. IT HAS BEEN ASSUMED THAT 0-4 FOOT EXCAVATION CAN BE IMPLEMENTED WITH VERTICAL SIDE SLOPE SUBJECT TO ASSESSMENT OF SUPPORT OF UTILITIES AND ADJACENT STRUCTURES.

LEGEND
- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20-240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (HAZARDOUS OFF SITE DIPSOSAL)
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (NON HAZARDOUS OFF SITE DIPSOSAL)
- NO EXCAVATION REQUIRED

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6-INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

0 15 30 60
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
2	11/30/15	DCB 053 - ADDTIONAL EA8 AND EA2 CLARIFICATIONS	TDD	SGS
1	09/03/15	EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION INTERVAL 1

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619 (609) 890-2329
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-116
SHEET	21 OF 70

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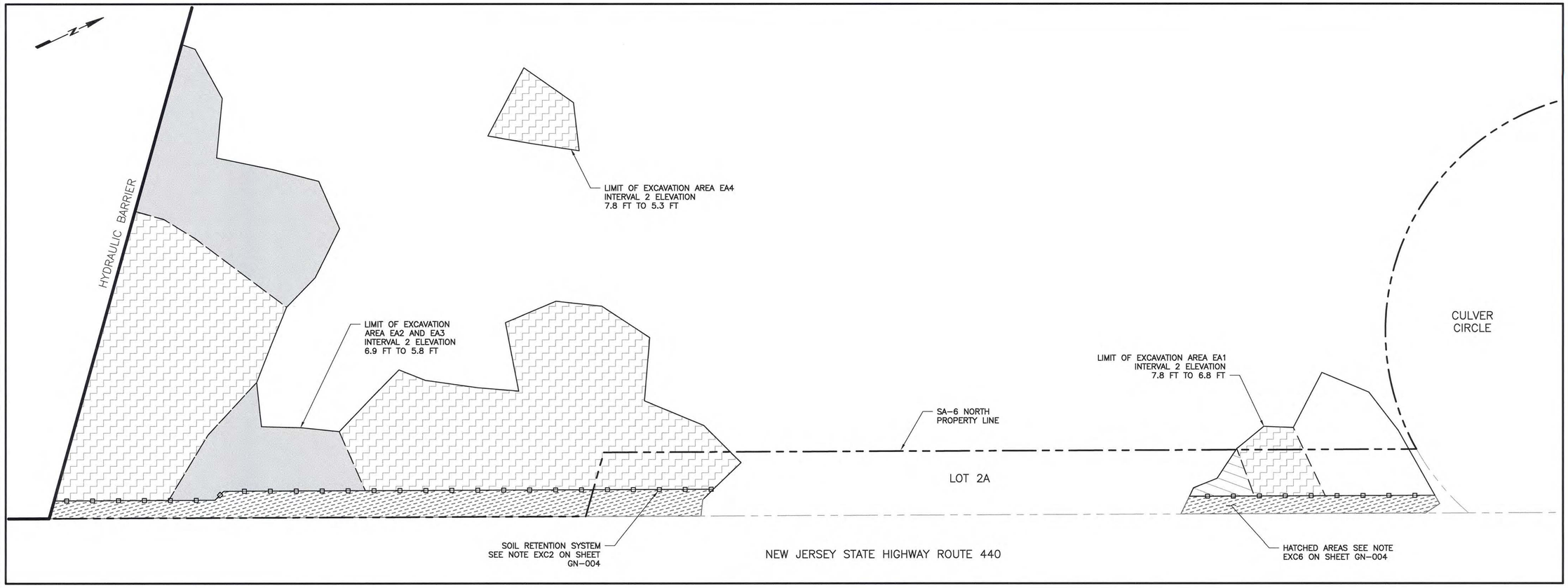
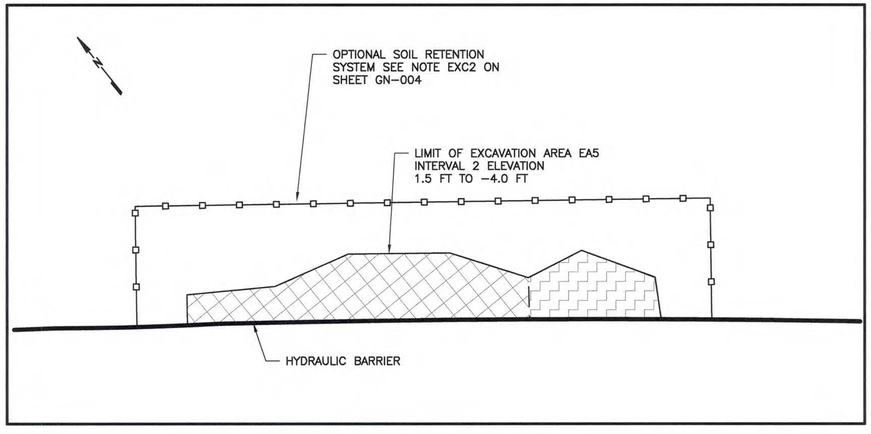
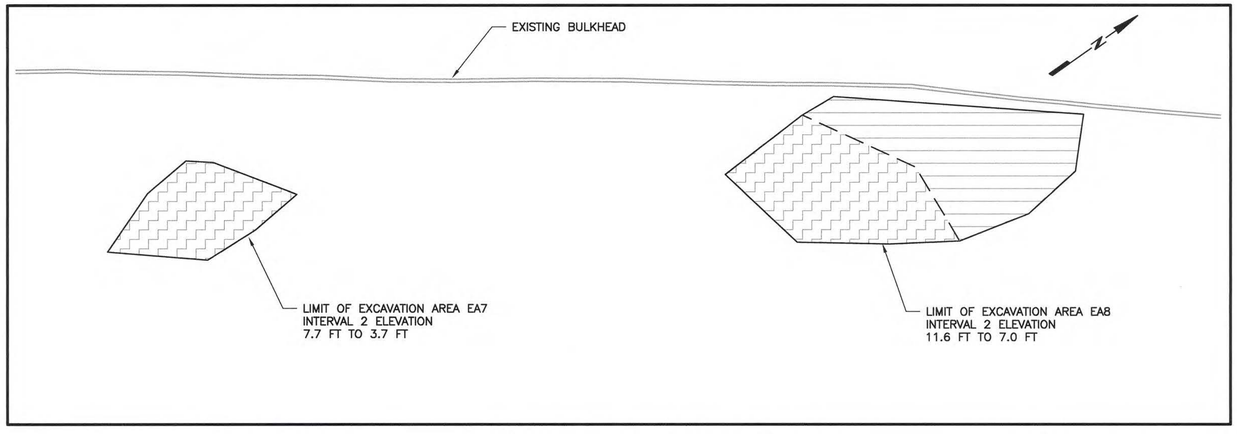
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR21-C-116 Chromium Excavation Interval 1.dwg PLOT DATE: Mon, 30 Nov 2015 PLOT TIME: 1:19 PM



EXCAVATION AREAS EA1, EA2 3, AND EA4



EXCAVATION AREA EA5



EXCAVATION AREAS EA7 AND EA8

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. IT HAS BEEN ASSUMED THAT 0-4 FOOT EXCAVATION CAN BE IMPLEMENTED WITH VERTICAL SIDE SLOPE SUBJECT TO ASSESSMENT OF SUPPORT OF UTILITIES AND ADJACENT STRUCTURES.

LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20-240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (HAZARDOUS OFF SITE DIPSOSAL)
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (NON HAZARDOUS OFF SITE DIPSOSAL)
- NO EXCAVATION REQUIRED

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6-INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

0 15 30 60
SCALE IN FEET

NO.	DATE	REVISION	DR	CHK	APVD
2	11/30/15	DCB 053 - ADDTIONAL EA8 AND EA2 CLARIFICATIONS	TDD	TDD	SGS
1	09/03/15	EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS	TDD	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	TDD	SGS

DSGN TDD RJR BY APVD

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2125, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 2

amec foster wheeler
Environment & Infrastructure, Inc.
200 Horizon Center Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689-2829
NJ Cert of Authorization 24GA28010500

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DATE	
PROJ	3480-12-0317
DWG	CN-117
SHEET	22 OF 70

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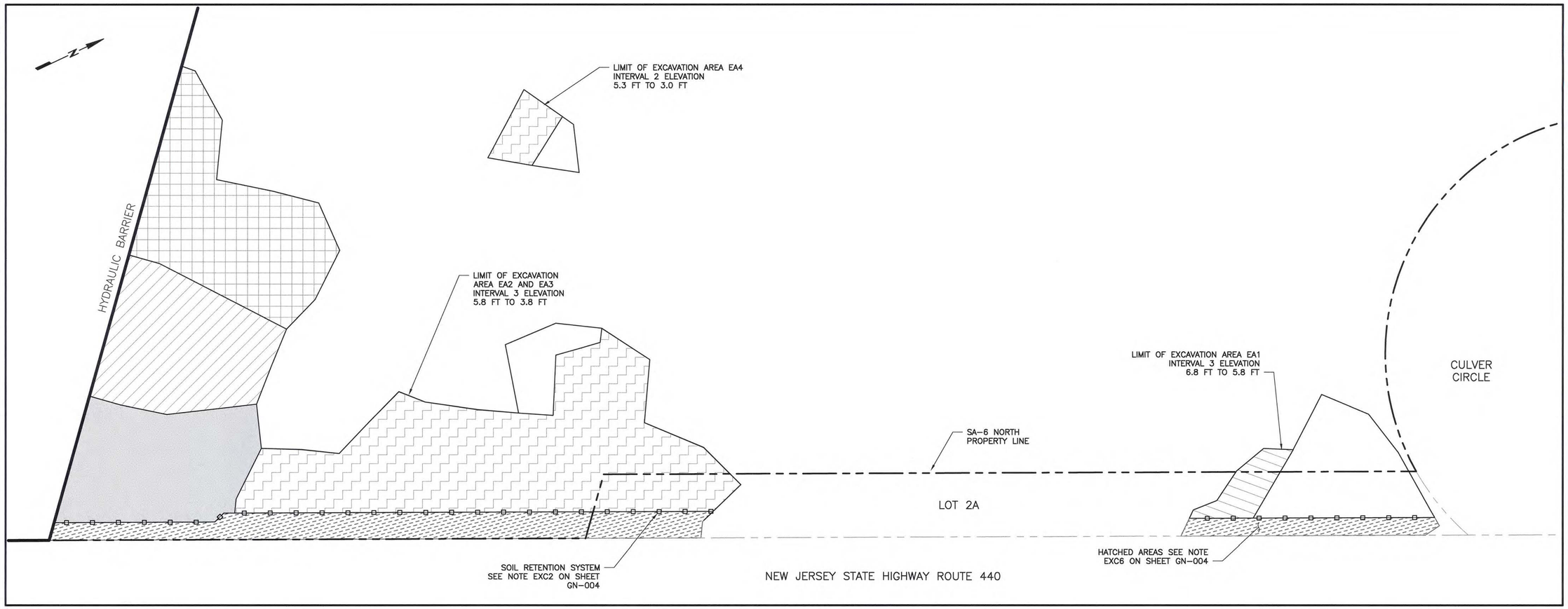
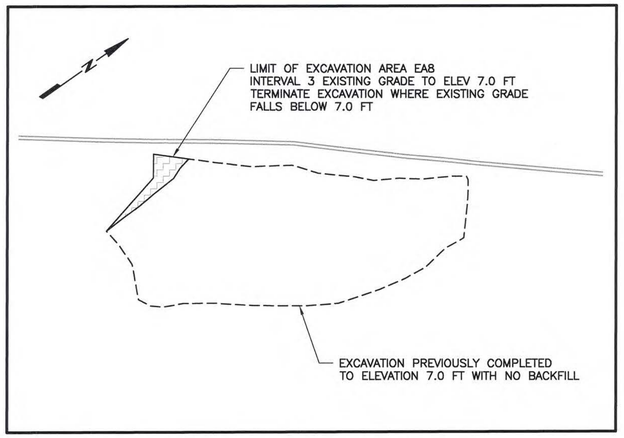
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR22-C-117 Chromium Excavation Interval 2.dwg PLOT DATE: Mon, 30 Nov 2015 PLOT TIME: 1:17 PM



EXCAVATION AREAS EA1, EA2 3, AND EA4



ADDITIONAL EXCAVATION AREA EA8

0 15 30 60
SCALE IN FEET

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6-INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

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3. IT HAS BEEN ASSUMED THAT 0-4 FOOT EXCAVATION CAN BE IMPLEMENTED WITH VERTICAL SIDE SLOPE SUBJECT TO ASSESSMENT OF SUPPORT OF UTILITIES AND ADJACENT STRUCTURES.

LEGEND

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- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20-240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (HAZARDOUS OFF SITE DIPSOSAL)
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- NO EXCAVATION REQUIRED

NO.	DATE	DR	CHK	APVD	BY	APVD
2	11/30/15	DCB 053 - ADDTIONAL EA8 AND EA2 CLARIFICATIONS			TDD	SGS
1	09/03/15	EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS			TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION			TDD	SGS
DSGN		TDD	RJR	TDD		SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 3

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619 Phone: 609-585-7939
NJ Cert of Authorization 24GA28010900

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PROJ	3480-12-0317
DWG	CN-118
SHEET	23 OF 70

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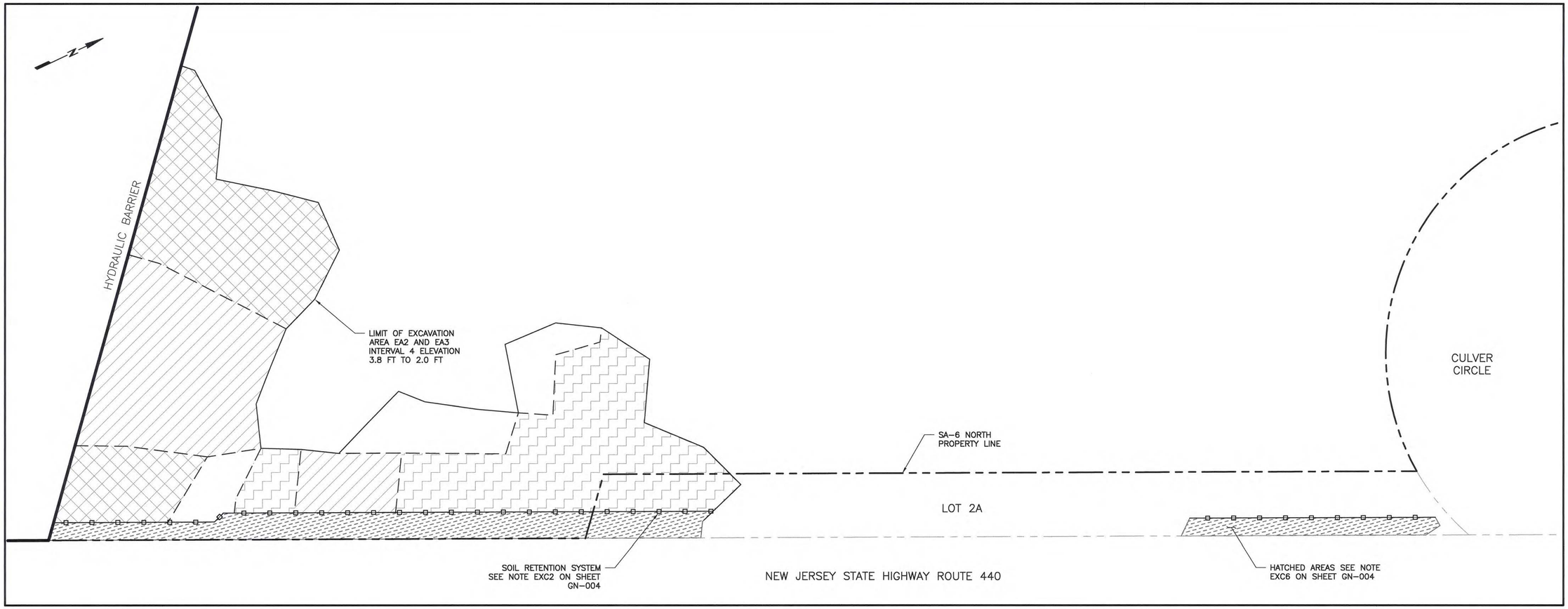
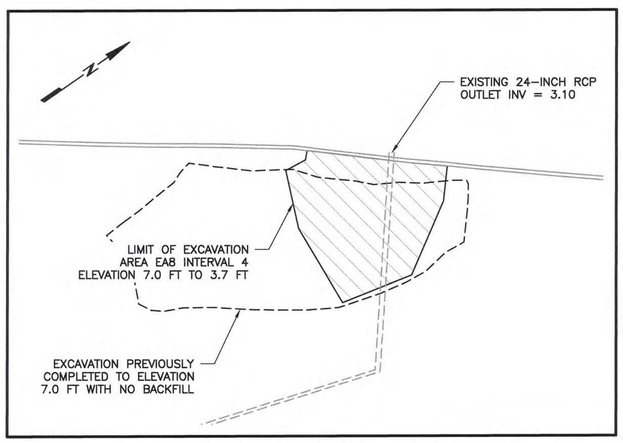


EXCAVATION AREA EA2 3



ADDITIONAL EXCAVATION AREA EA8

NOTE: REFER TO SHEET CN-120 FOR EA8 EXCAVATION AND BACKFILL REQUIREMENTS BELOW ELEVATION 7.0 FT

0 15 30 60
SCALE IN FEET

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SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
2	11/30/15	DCB 053 - ADDTIONAL EA8 AND EA2 CLARIFICATIONS	TDD	SGS
1	09/03/15	EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION INTERVAL 4

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Lawrence, NJ 08648 (609) 896-2329
NJ Cert of Authorization 24GA28019900

VERIFY SCALE
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0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-119
SHEET	24 OF 70

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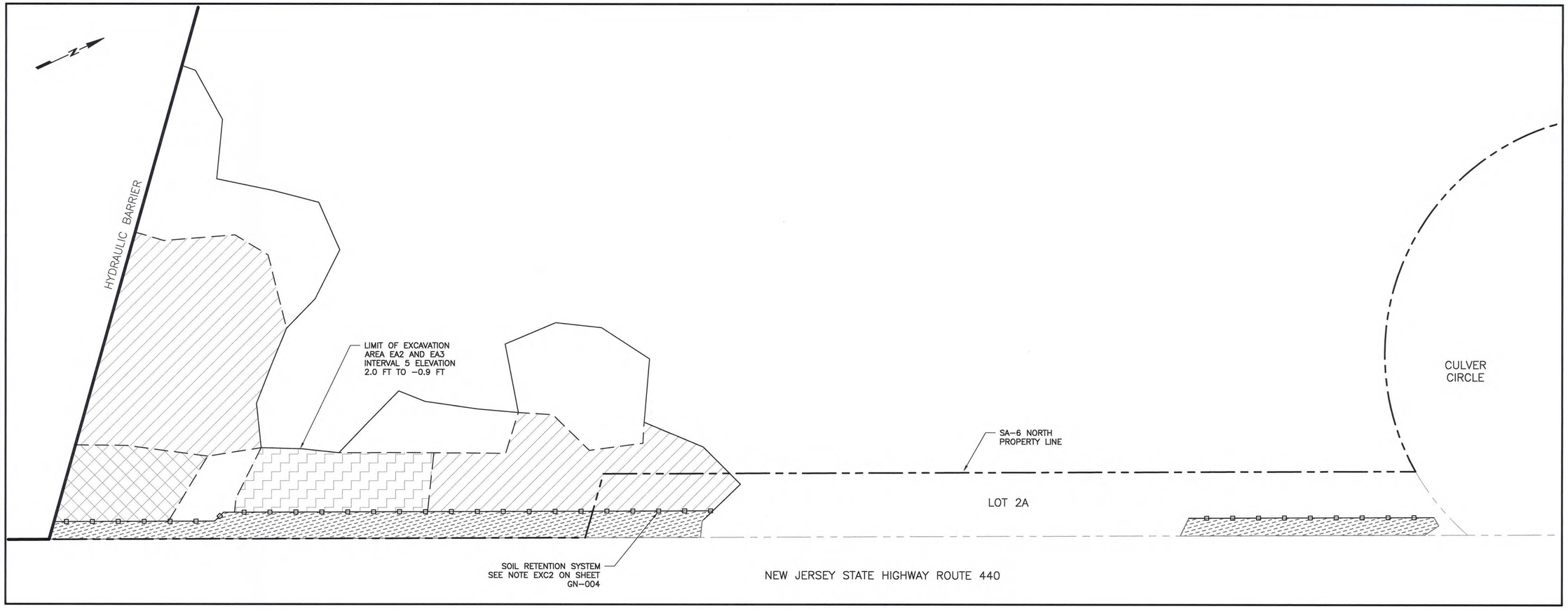
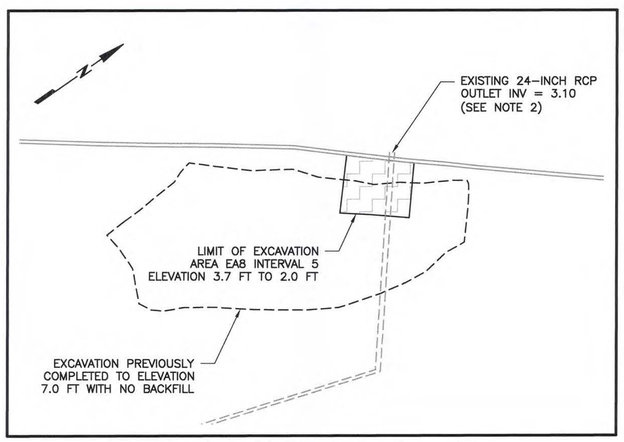


EXCAVATION AREAS EA2 3



ADDITIONAL EXCAVATION AREA EA8

SEE NOTES THIS SHEET

EA8 ADDTIONAL EXCAVATION NOTES

1. CONTRACTOR TO VERIFY AND MARK THE LOCATION OF THE 24−INCH STORM SEWER PRIOR TO EXCAVATION.
2. EXISTING 24−INCH RCP STORM SEWER WILL BE REMOVED IF NECESSARY TO COMPLETE THE EXCAVATION. THE RCP WILL BE REPLACED WITH DOUBLE WALL ADS N12 WITH WATER TIGHT JOINTS OR EQUIVALENT AS APPROVED BY THE ENGINEER.
3. EXCAVATION ADJACENT TO BULKHEAD TO BE PERFORMED AT LOW TIDE.
4. INSPECT BULKHEAD FOR ANY INDICATION OF TIEBACKS PRIOR TO STARTING EXCAVATION.
5. INDEPENDENT OF INSPECTION RESULTS BE VIGILANT FOR THE PRESENCE OF STEEL TIE BACKS OR CRIBBING THAT MAY BE PROVIDING WALL RESTRAINT.
6. EXERCISE EXTREME CARE WHEN EXCAVATING IMMEDIATELY BEHIND THE BULKHEAD AND USE METHODS THAT DO NOT CREATE LOCALIZED LOAD.
7. PROVIDE PUMPS FOR LOCALIZED DEWATERING IF REQUIRED.
8. FOLLOW ESTABLISHED PROTOCOLS FOR DOCUMENTATION OF COMPLETION.
9. HAVE ON SITE APPROVED MATERIALS TO FACILITATE BACKFILL UPON APPROVAL OF EXCAVATION.
10. DRAPE SINGLE LAYER OF 8 OZ FILTER FABRIC OVER THE BULKHEAD AND 10 FT INTO THE EXCAVATION TO ASSIST IN PREVENTING FINES MIGRATION FROM THE EXCAVATION INTO THE RIVER DURING BACKFILL.
11. DO NOT OPERATE EQUIPMENT IN SUCH A WAY DURING EXCAVATION OF BACKFILL THAT ADDS LOAD TO THE BULKHEAD.
12. USE OF VIBRATORY COMPACTION EQUIPMENT IS PROHIBITED.
13. PLACE A LAYER OF 12 OZ GEOTEXTILE AT ELEVATION 5 TO ACT AS SOIL REINFORCEMENT. THE GEOTEXTILE WILL BE LAID AT RIGHT ANGLES TO THE SLOPE.

LEGEND

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0 15 30 60
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
2	11/30/15	DCB 053 – ADDTIONAL EA8 AND EA2 CLARIFICATIONS	TDD	SGS
1	09/03/15	EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 5

amec foster wheeler
Environment & Infrastructure, Inc.
2000 Cornwallis Road, Suite 113
Hamilton, NJ 08619, (609) 689 - 2929
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
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0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-120
SHEET	25 OF 70

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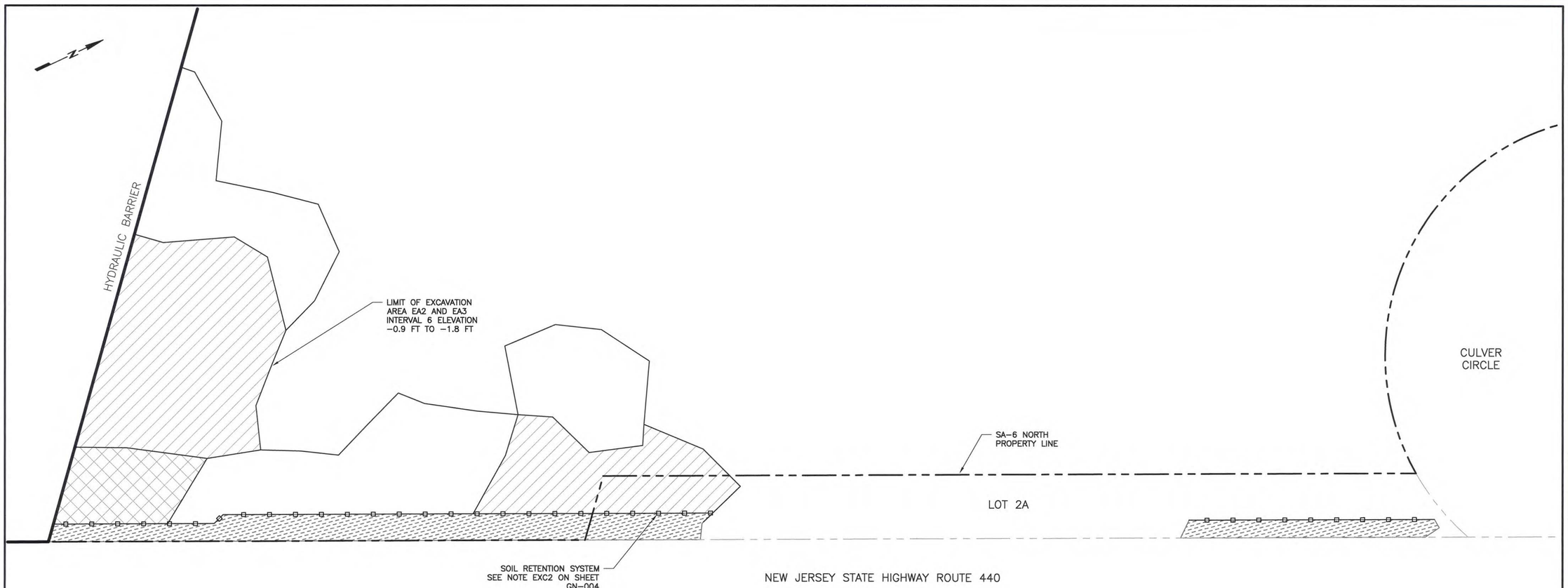
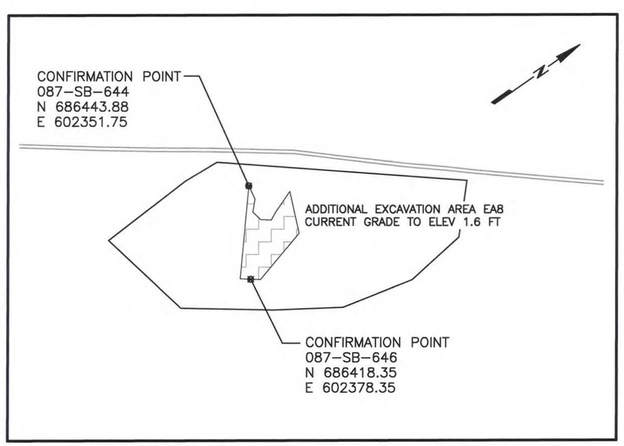


EXCAVATION AREAS EA2 3



ADDITIONAL EXCAVATION AREA EA8

0 15 30 60
SCALE IN FEET

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6−INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

NOTES:

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2. REFER TO SHEET GN−002 FOR LEGEND AND ABBREVIATIONS.
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LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
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- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (HAZARDOUS OFF SITE DIPSOSAL)
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NO.	DATE	REVISION	BY	APVD
2	11/30/15	DCB 053 - ADDITIONAL EA8 AND EA2 CLARIFICATIONS	TDD	SGS
1	09/03/15	EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2109, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 6

amec foster wheeler
Environment & Infrastructure, Inc.
200 Horizon Center Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-121
SHEET	26 OF 70

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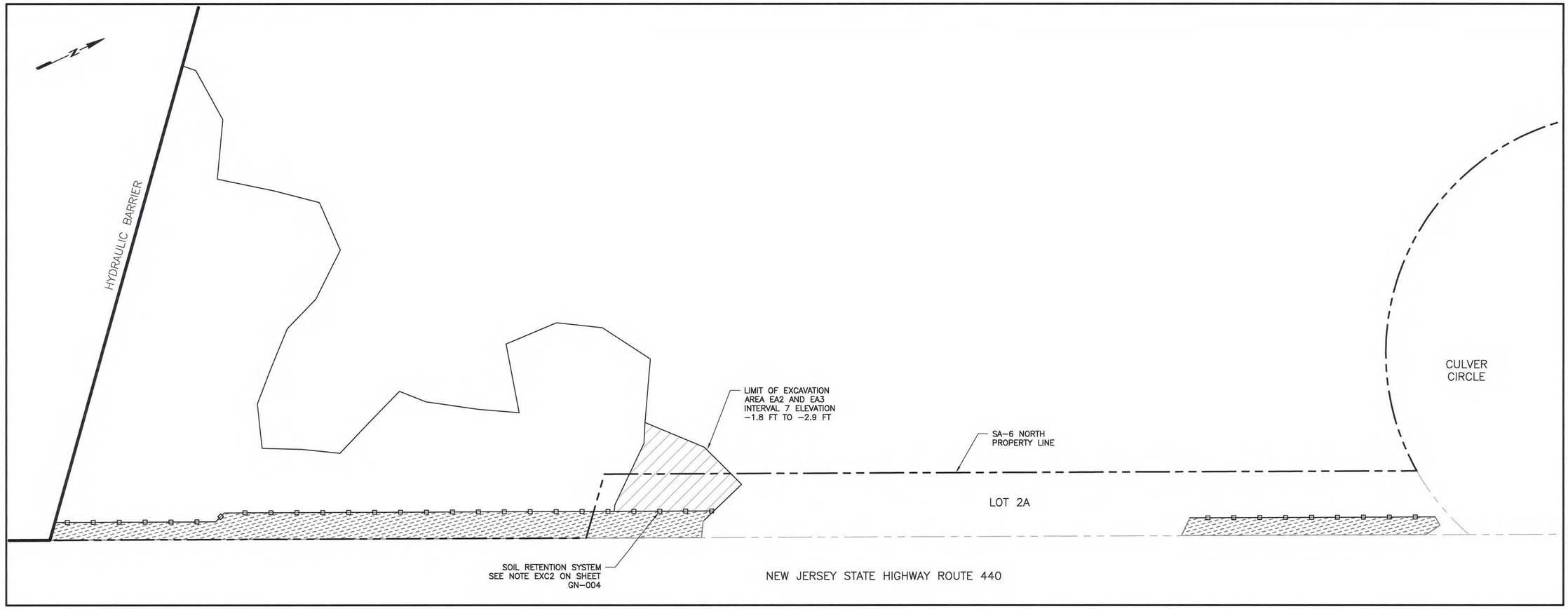


EXCAVATION AREAS EA2 3

NOTES:

1. REFER TO SHEET GN−003 AND GN−004 FOR GENERAL NOTES.
2. REFER TO SHEET GN−002 FOR LEGEND AND ABBREVIATIONS.
3. IT HAS BEEN ASSUMED THAT 0−4 FOOT EXCAVATION CAN BE IMPLEMENTED WITH VERTICAL SIDE SLOPE SUBJECT TO ASSESSMENT OF SUPPORT OF UTILITIES AND ADJACENT STRUCTURES.

LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20−240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (HAZARDOUS OFF SITE DIPSOSAL)
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (NON HAZARDOUS OFF SITE DIPSOSAL)
- NO EXCAVATION REQUIRED

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6−INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

0 15 30 60
SCALE IN FEET

NO.	DATE	REVISION	BY	APV'D
2	11/30/15	DCB 053 - ADDTIONAL EA8 AND EA2 CLARIFICATIONS	TDD	SGS
1	09/13/15	EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APV'D SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 7

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619, (609) 585-2929
NJ Cert of Authorization 24GA28001000

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-122
SHEET	27 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND TO BE CONDITIONED UPON THE USER'S AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** DCB-054 **Type:** Minor(a) **Effective Date:** 2/2/2016
Project Location: SA-6N **Title:** Increase grade 0.25' in Landscape Area	**Associated RFI:** ☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. The final grade in the landscape area has been raised by a nominal amount of 0.25'. Roadways and sidewalks have been retained at the IFC design elevations. The approach is consistent with that undertaken on SA-6S.

In the initial transmittal Amec is providing the electronic files for the subgrade/geomembrane surface and the top of SCB and sheetpile Barrier Wall. Hard copy of related drawing files will be submitted under separate cover. The subgrade surface has been extended 10 ft. beyond the Barrier Walls in consideration of Machine Control requirements.

Hard copy drawings will be issued in multiple phases. The first phase will be replacement of Geomembrane Grade drawings CN-123 and CN-124, and Barrier Wall Plan and Profiles SN-201, SN-202, SN-203, SN-204 and SN-205. Second phase will include the Interim Grading plans and associated details. The utility Corridor Drawing CN-515 will also be revised to reflect the latest CHA utility corridors. The location and dimension of the Geofoam blocks will be added to CN-515.

In the process of revision, Amec coordinated the subgrade design with CHA to reflect their latest utility plans. CHA has made a number of changes subsequent to the issue of Amec's IFC design. CHA changes included deletion of some structures and relocation of certain utilities. Amec has adjusted subgrade surfaces where these changes were made. Items of specific note include:

- *Elimination of the cap pump station*
- *Revision to the utility corridors*
- *Simplification of the Geomembrane grading*
- *Revision to the top of SCB/Sheetpile barrier wall at some locations*
- *The area of GCL has been expanded to elevation 7. The IFC design was based on a seasonal high groundwater of 5.5. Readings since that time have indicated that seasonal highs may be slightly higher (max 6.3).*
- *The location and extent of the Sand/Bentonite plug. Note: in locations where the barrier wall is at elevation 7 or higher no plug will be required.*

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** **Attachments:** ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** NA

Honeywell (AP) Review: **Individual:** Geoff Shallard	**Discipline:** EOR	**Initial:**	**Date:** 2/2/16
(Name / Signature):		**Does DCB Result in CCO?** **Date:**	☐ **Yes (b)** ☑ **No**
Distribution:			

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b) – If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 054.1 **DCB Type:** Minor(a) **Effective Date:** 2/22/16
Project Location: SA-6N	**Associated RFI:**
Title: Geomembrane Subgrade Revisions	☑ Yes, RFI #: 64 ☐ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description.

DCB 054 included issuance of a revised subgrade design that included changes resulting from raising the cap grades by 0.25 ft. in the landscaped areas and revisions to utility corridors to reflect the latest CHA utility design.

To accommodate Entact's request to relocate Pump Station #1 (RFI 64) it was necessary to revise the subgrade. Subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location.

In addition AmecFW reviewed the "driven" top of barrier elevations through the Sedimentation Basin. The underlying soils were found to be very soft under the sedimentation basin and Entact experienced difficulty in preventing the previously driven sheet from being drawn down by the next sheet driven. A significant number of sheets were recorded as being between 11.4 ft. and 12.0 ft. For grading purposes, it is necessary to have a reasonably uniform elevation. The attached plan is based on trimming the sections of wall that are below 12.0 to a uniform elevation of 11.5 ft. Trimmed sheets will require touch up of the epoxy coating.

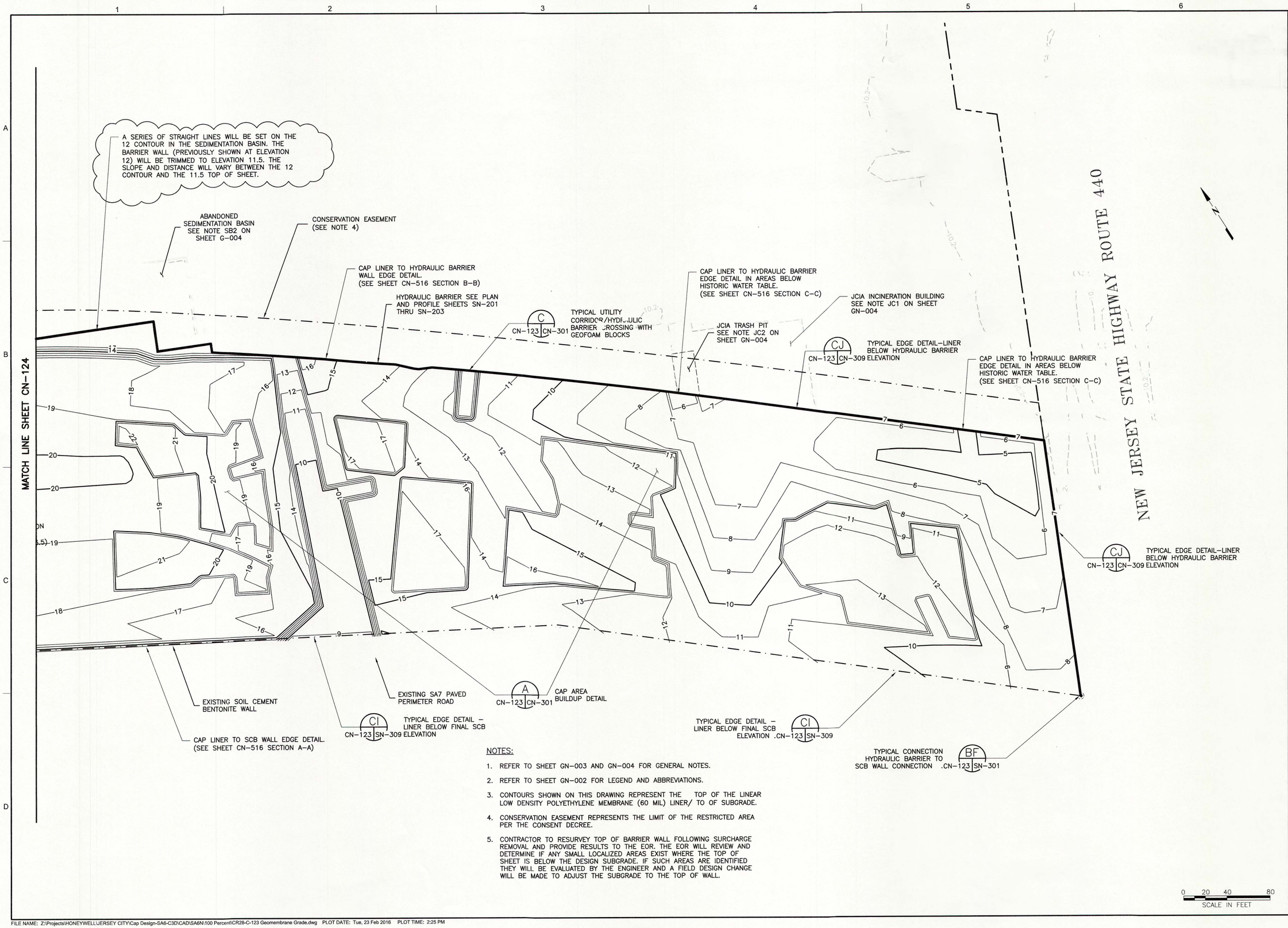
DCB 054 required that the top of wall elevations of the Barrier Wall should be checked following surcharge and prior to trimming the wall. If any discrepancies are observed, they should be immediately brought to the attention of the EOR for resolution.

Some field engineering is likely to be required to smooth the subgrade contours at the locations of the steps down into the Sedimentation Basin on both the east and west sides of the Sedimentation Basin.

The two revised subgrade drawings are attached to this DCB. The electronic files for the geomembrane subgrade and revised top of the barrier wall are also attached.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** Pump Station #1 relocation **Attachments:** ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: Changes were made to accommodate requested contractor change to Pump Station location and actual installed barrier wall elevations.	**Design Documents Affected:** Drawings CN-123, CN-124
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** GS **Date:** 2/23/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE LINEAR LOW DENSITY POLYETHYLENE MEMBRANE (60 MIL) LINER/ TO OF SUBGRADE.
4. CONSERVATION EASEMENT REPRESENTS THE LIMIT OF THE RESTRICTED AREA PER THE CONSENT DECREE.
5. CONTRACTOR TO RESURVEY TOP OF BARRIER WALL FOLLOWING SURCHARGE REMOVAL AND PROVIDE RESULTS TO THE EOR. THE EOR WILL REVIEW AND DETERMINE IF ANY SMALL LOCALIZED AREAS EXIST WHERE THE TOP OF SHEET IS BELOW THE DESIGN SUBGRADE. IF SUCH AREAS ARE IDENTIFIED THEY WILL BE EVALUATED BY THE ENGINEER AND A FIELD DESIGN CHANGE WILL BE MADE TO ADJUST THE SUBGRADE TO THE TOP OF WALL.

NO.	DATE	REVISION	BY	APVD
3	02/19/16	DCB 054.1 REVISED SED BASIN AND PS#1 SUBGRADE	TDD	SGS
2	02/01/16	DCB 054 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS
1	02/24/15	DCB 007.5	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

GEOMEMBRANE GRADING PLAN

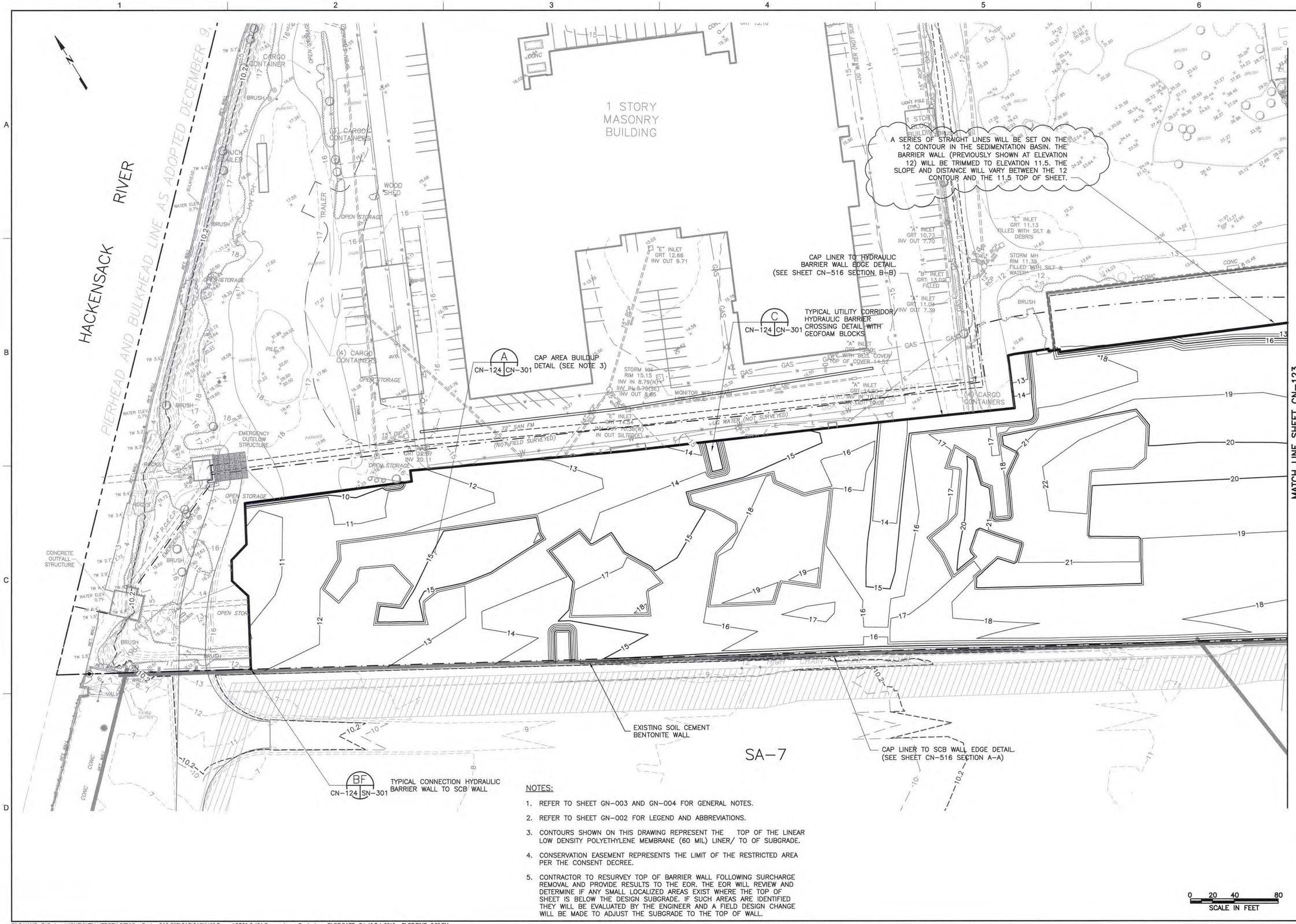
amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619 (609) 890-7300
NJ Cert of Authorization: 24GA28910900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-123
SHEET	28 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR28-C-123 Geomembrane Grade.dwg PLOT DATE: Tue, 23 Feb 2016 PLOT TIME: 2:25 PM



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE LINEAR LOW DENSITY POLYETHYLENE MEMBRANE (60 MIL) LINER/ TO OF SUBGRADE.
4. CONSERVATION EASEMENT REPRESENTS THE LIMIT OF THE RESTRICTED AREA PER THE CONSENT DECREE.
5. CONTRACTOR TO RESURVEY TOP OF BARRIER WALL FOLLOWING SURCHARGE REMOVAL AND PROVIDE RESULTS TO THE EOR. THE EOR WILL REVIEW AND DETERMINE IF ANY SMALL LOCALIZED AREAS EXIST WHERE THE TOP OF SHEET IS BELOW THE DESIGN SUBGRADE. IF SUCH AREAS ARE IDENTIFIED THEY WILL BE EVALUATED BY THE ENGINEER AND A FIELD DESIGN CHANGE WILL BE MADE TO ADJUST THE SUBGRADE TO THE TOP OF WALL.

NO.	DATE	REVISION	DSGN	DR	CHK	APVD
4	02/16/16	DCB 054.1 REVISED SED BASIN AND PS#1 SUBGRADE	TDD	TDD	RJR	APVD
3	02/01/16	DCB 054 INCREASE LANDSCAPE GRADE 0.25 FEET	TDD	TDD	SGS	
2	02/24/15	DCB 007.5	TDD	TDD	SGS	
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	RJR	SGS	
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	TDD	SGS	

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

GEOMEMBRANE GRADING PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Cert of Authorization 24GA28018300

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-124
SHEET	29 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR29-C-124 Geomembrane Grade.dwg PLOT DATE: Fri, 19 Feb 2016 PLOT TIME: 2:26 PM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 054.2 **DCB Type:** Minor(a)
	Effective Date: 2/25/16
Project Location: SA-6N	**Associated RFI:**
Title: Barrier Wall & SCB Wall Plan and Profile	☑ Yes, RFI Nos. 64 ☐ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. DCB 054 included issuance of a revised subgrade design that included changes resulting from raising the cap grades by 0.25 ft. in the landscaped areas and revisions to utility corridors to reflect the latest CHA utility design.

To accommodate Entact's request to relocate Pump Station #1 (RFI 64) it was necessary to revise the subgrade. Subgrade has been lowered at the new location to accommodate the vault and piping and raised in the original pump station location.

In addition, AmecFW reviewed the "driven" top of barrier elevations through the Sedimentation Basin. The underlying soils were found to be very soft under the sedimentation basin and Entact experienced difficulty in preventing the previously driven sheet from being drawn down by the next sheet driven. A significant number of sheets were recorded as being between 11.4 ft. and 12.0 ft. For grading purposes it is necessary to have a reasonably uniform elevation. The subgrade plan and barrier wall plan and profile are based on trimming the sections of wall that are below 12.0 to a uniform elevation of 11.5 ft. Trimmed sheets will require touch up of the epoxy coating.

DCB 054 required that the top of wall elevations of the Barrier Wall should be checked following surcharge and prior to trimming the wall. If any discrepancies are observed that should be immediately brought to the attention of the EOR for resolution.

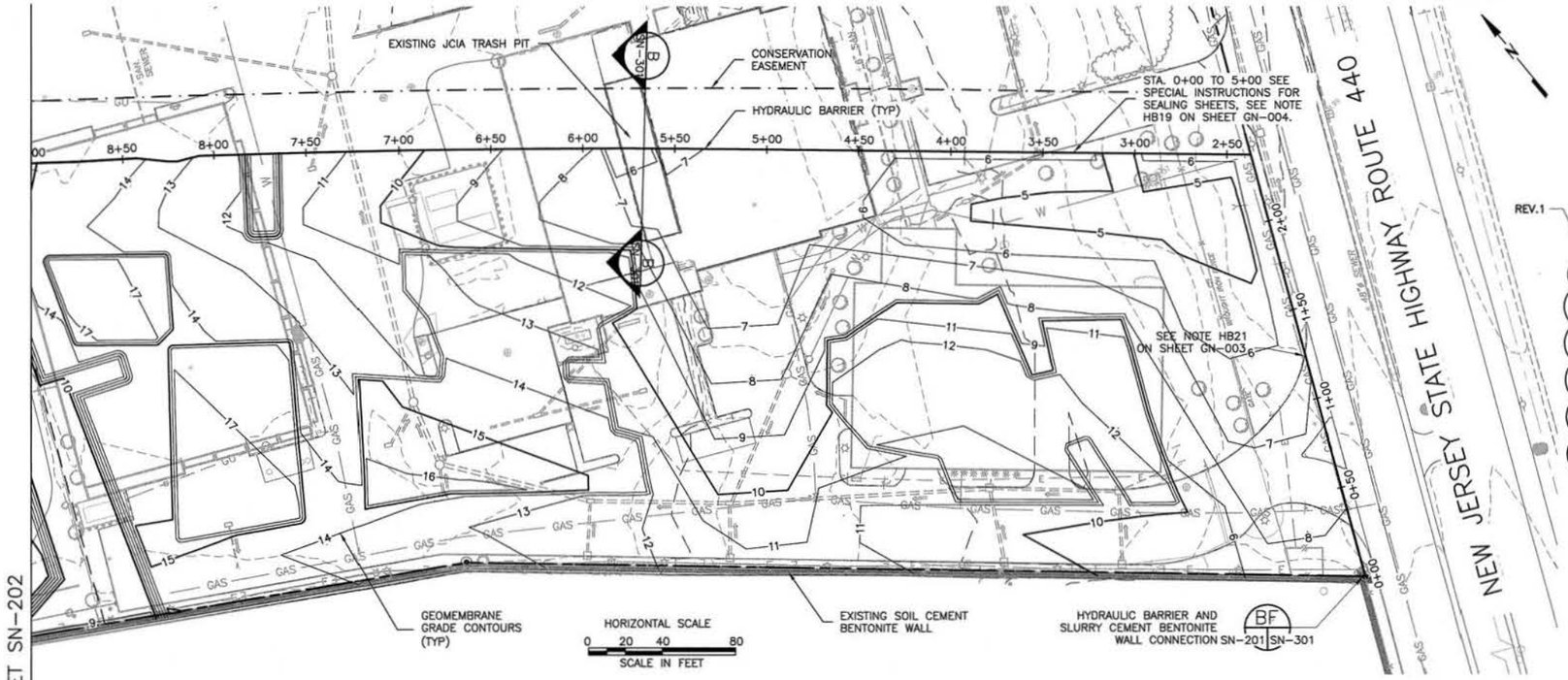
Some field engineering is likely to be required to smooth the subgrade contours at the locations of the steps down into the Sedimentation Basin on both the east and west sides of the Sedimentation Basin.

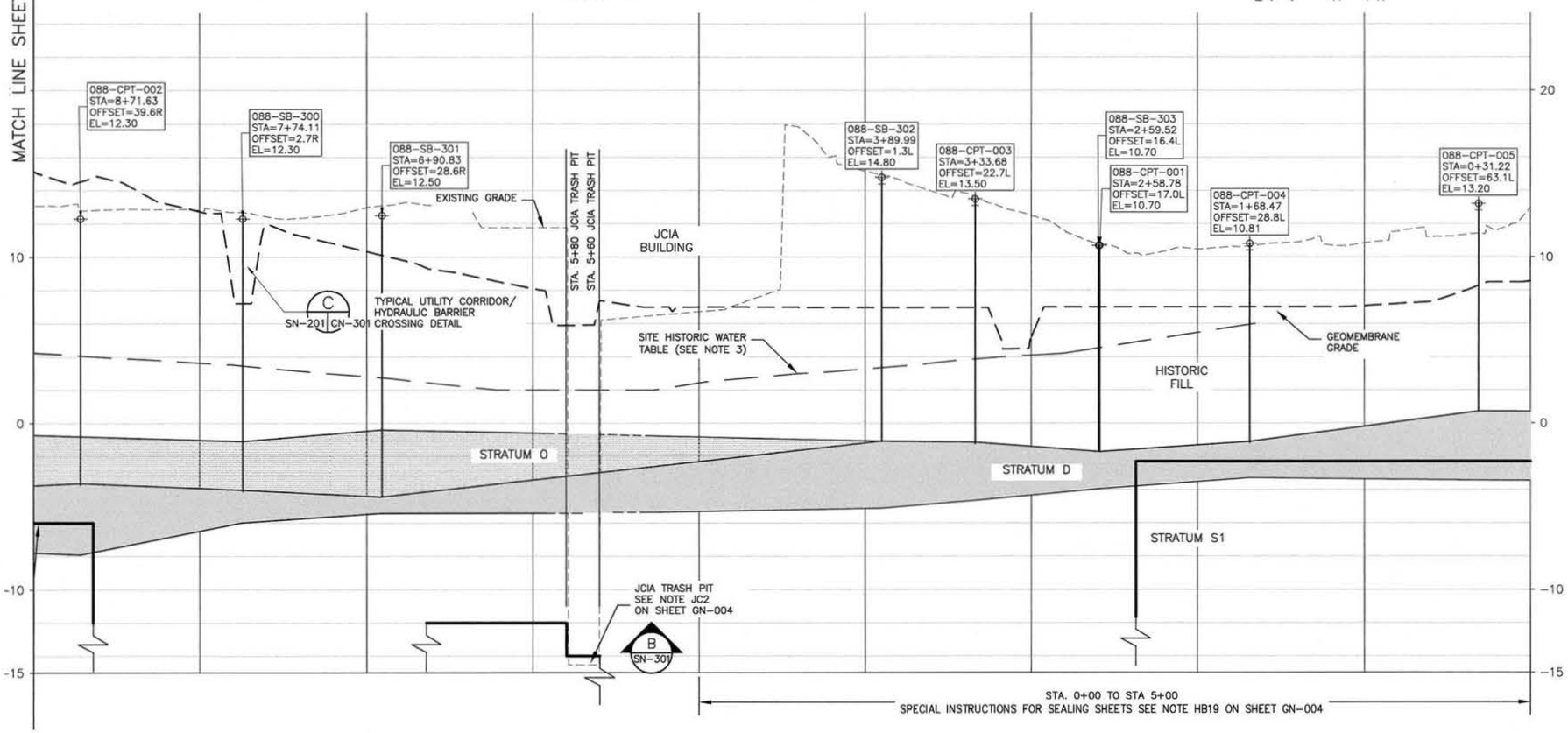
This DCB is limited to issue of the hard copy Signed and Sealed revisions to the SCB Wall and Barrier Wall Plan and Profile Sheets SN-201, SN-202, SN-203, SN-204 and SN-205.

The electronic files that provide the subgrade surface and top of barrier wall profile were provided with DCB 054.1.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** Pump Station#1 relocation **Attachments:** ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: Changes were made to accommodate requested contractor change to Pump Station location and actual installed barrier wall elevations.	**Design Documents Affected:** Drawings SN-201, SN-202, SN-203, SN-204 and SN-205
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** [illegible] **Date:** 3/3/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.
4. STATION ~~14+00 TO 19+00~~ THE TOE OF THE SHEETPILE WILL BE DRIVEN TO THE TOP OF THE ~~STRATUM S1~~.

REV.1

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	0+00	2+37	-4	AZ 19-700
STRUCTURAL	2+37	5+60	-18	AZ 19-700
NON STRUCTURAL	5+60	5+80	-14	AZ 19-700
NON STRUCTURAL	5+80	6+64	-12	AZ 19-700
STRUCTURAL	6+64	8+64	-33	AZ 38-700N
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700

5. REFER TO SHEET CN-125 AND CN-126 FOR INTERIM GRADE.
6. CONTRACTOR TO RESURVEY TOP OF BARRIER WALL FOLLOWING SURCHARGE REMOVAL AND PROVIDE RESULTS TO THE EOR. THE EOR WILL REVIEW AND DETERMINE IF ANY SMALL LOCALIZED AREAS EXIST WHERE THE TOP OF SHEET IS BELOW THE DESIGN SUBGRADE. IF SUCH AREAS ARE IDENTIFIED THEY WILL BE EVALUATED BY THE ENGINEER AND A FIELD DESIGN CHANGE WILL BE MADE TO ADJUST THE SUBGRADE TO THE TOP OF WALL.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
2	02/25/16	DCB 054.2 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS
1	10/10/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR TDD CHK RJR APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689-2829
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-201
SHEET	54 OF 70

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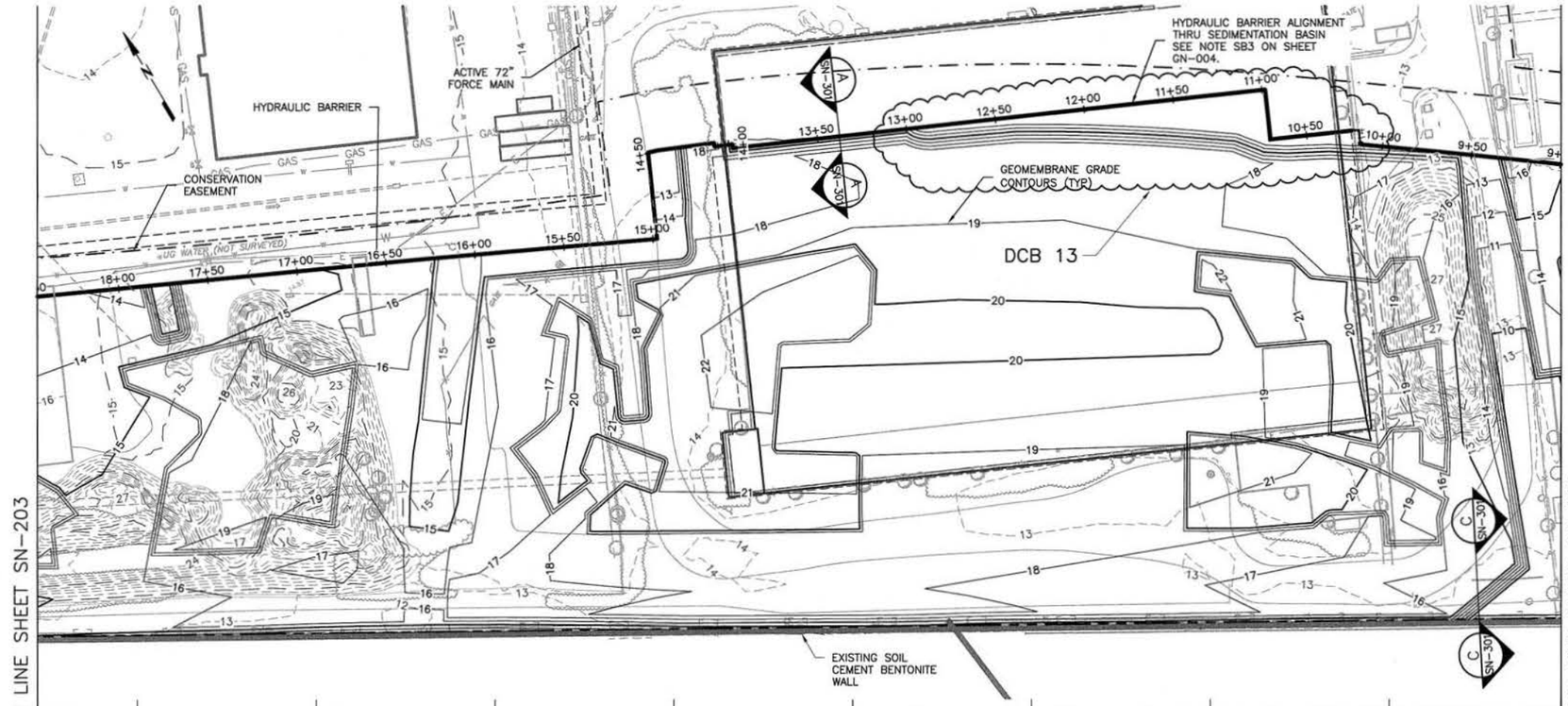
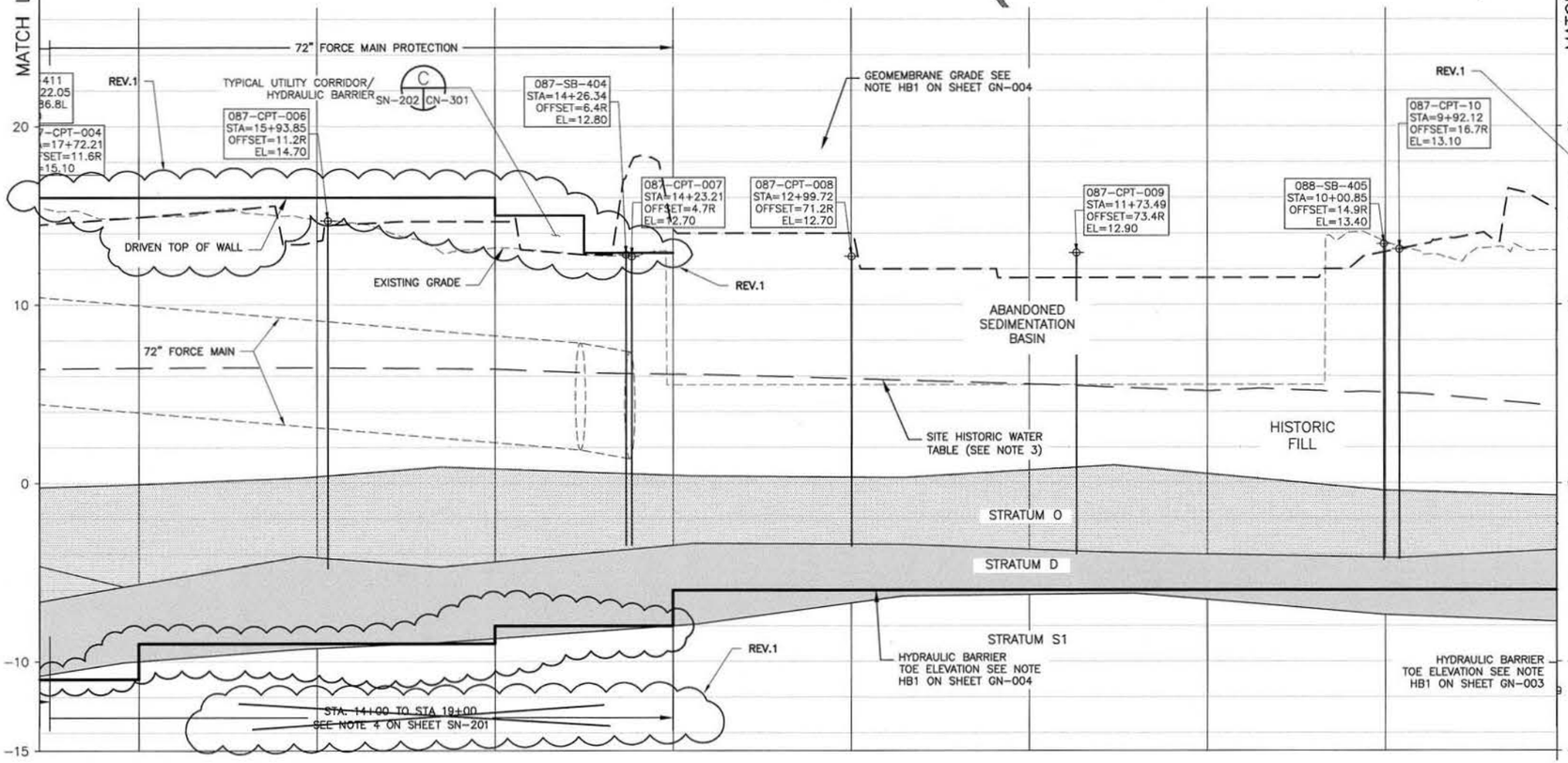
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR54-SN-201 HBW Design Pln Prof.dwg PLOT DATE: Fri, 04 Mar 2016 PLOT TIME: 11:44 AM





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET ON CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE
4. DCB 13. THE HYDRAULIC BARRIER HAS BEEN REALIGNED BETWEEN STA 10+12 TO STA 12+50. THE TOP OF WALL HAS ALSO BEEN LOWERED TO EFFECTIVELY INCREASE THE SIZE OF THE UTILITY CORRIDOR ON THE NORTHERN HALF OF STEGMAN BOULEVARD. REFER TO DRAWINGS CN-123 AND CN-124 FOR ASSOCIATED REVISIONS TO THE GEOMEMBRANE GRADING IN THIS LOCATION.

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700
NON STRUCTURAL	9+85	14+00	-6	AZ 19-700
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700

5. REFER TO SHEET CN-125 AND CN-126 FOR INTERIM GRADE.
6. CONTRACTOR TO RESURVEY TOP OF BARRIER WALL FOLLOWING SURCHARGE REMOVAL AND PROVIDE RESULTS TO THE EOR. THE EOR WILL REVIEW AND DETERMINE IF ANY SMALL LOCALIZED AREAS EXIST WHERE THE TOP OF SHEET IS BELOW THE DESIGN SUBGRADE. IF SUCH AREAS ARE IDENTIFIED THEY WILL BE EVALUATED BY THE ENGINEER AND A FIELD DESIGN CHANGE WILL BE MADE TO ADJUST THE SUBGRADE TO THE TOP OF WALL.

HORIZONTAL SCALE 0 20 40 80 SCALE IN FEET

VERTICAL SCALE 0 2 4 8 SCALE IN FEET

NO.	DATE	REVISION	BY	APV'D
3	02/25/16	DCB 054.2 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS
2	08/12/14	DCB 13 HYDRAULIC BARRIER REALIGNMENT	SGS	RJR
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APV'D BCO

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507
3/4/16

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ. 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2629
NJ Cert of Authorization: PA/CA28/10/0800

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-202
SHEET	55 OF 70

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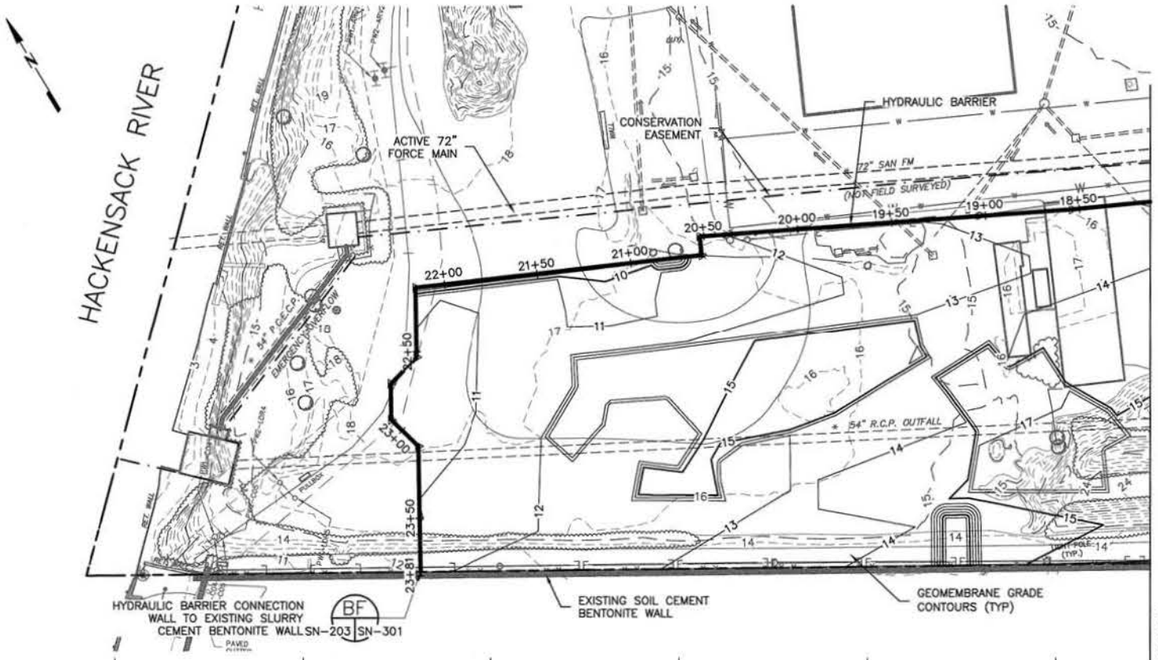
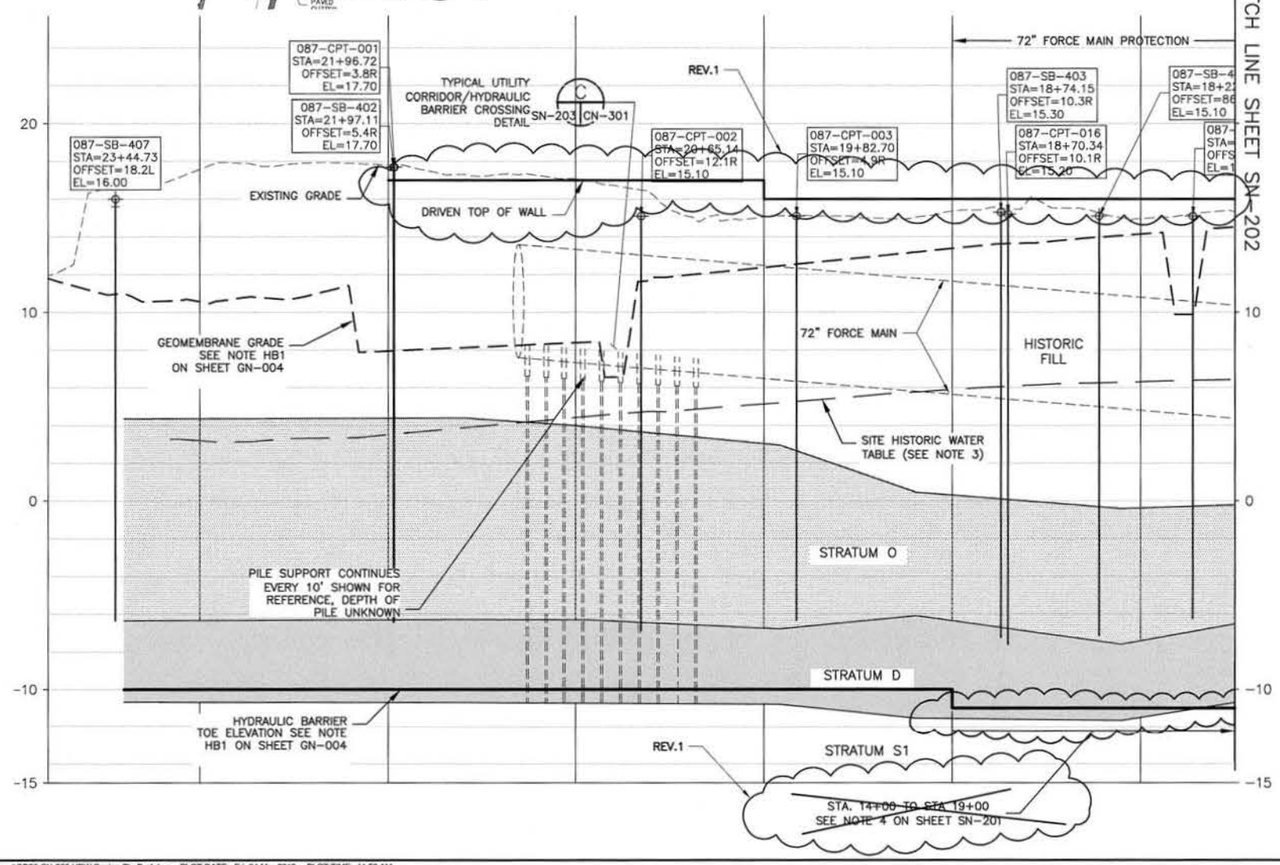
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR55-SN-202 HBW Design Pln Prof.dwg PLOT DATE: Fri, 04 Mar 2016 PLOT TIME: 11:51 AM





REV.1

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700
NON STRUCTURAL	19+00	23+38	-10	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.
4. REFER TO SHEET CN-125 AND CN-126 FOR INTERIM GRADE.
5. CONTRACTOR TO RESURVEY TOP OF BARRIER WALL FOLLOWING SURCHARGE REMOVAL AND PROVIDE RESULTS TO THE EOR. THE EOR WILL REVIEW AND DETERMINE IF ANY SMALL LOCALIZED AREAS EXIST WHERE THE TOP OF SHEET IS BELOW THE DESIGN SUBGRADE. IF SUCH AREAS ARE IDENTIFIED THEY WILL BE EVALUATED BY THE ENGINEER AND A FIELD DESIGN CHANGE WILL BE MADE TO ADJUST THE SUBGRADE TO THE TOP OF WALL.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
2	02/25/16	DCB 054.2 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2102, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Cert of Authorization 24GA28076500

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-203
SHEET	56 OF 70

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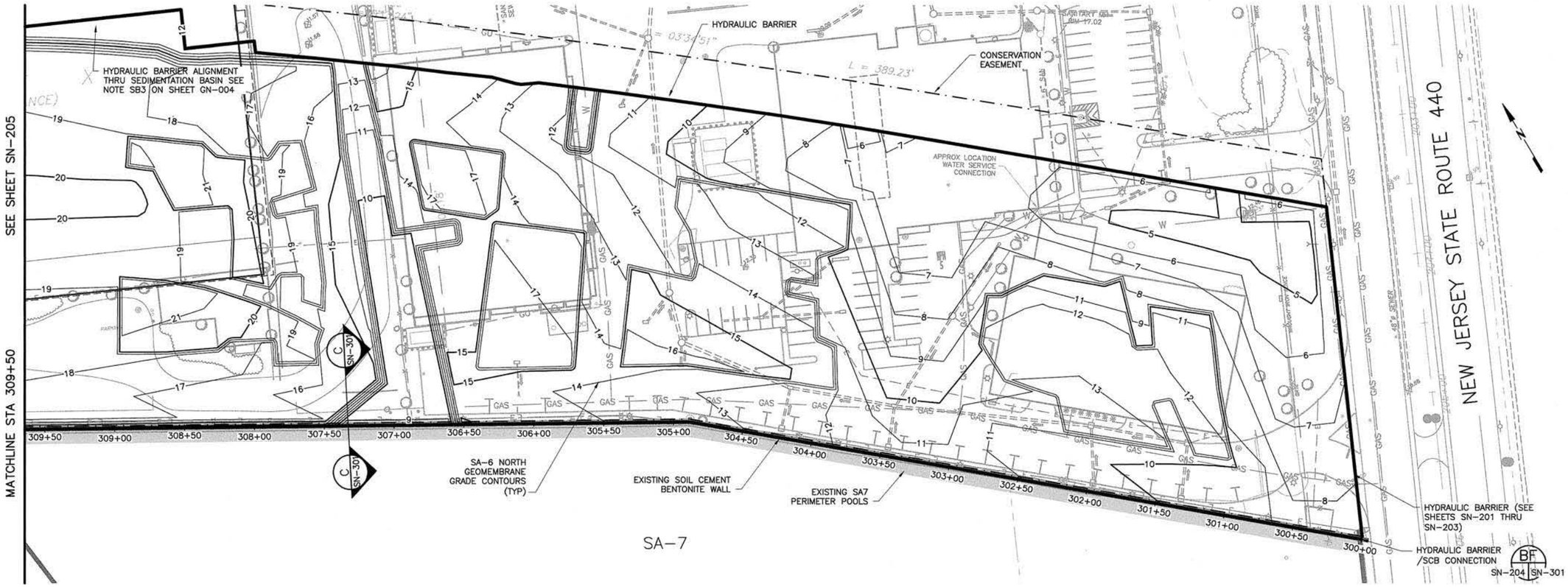
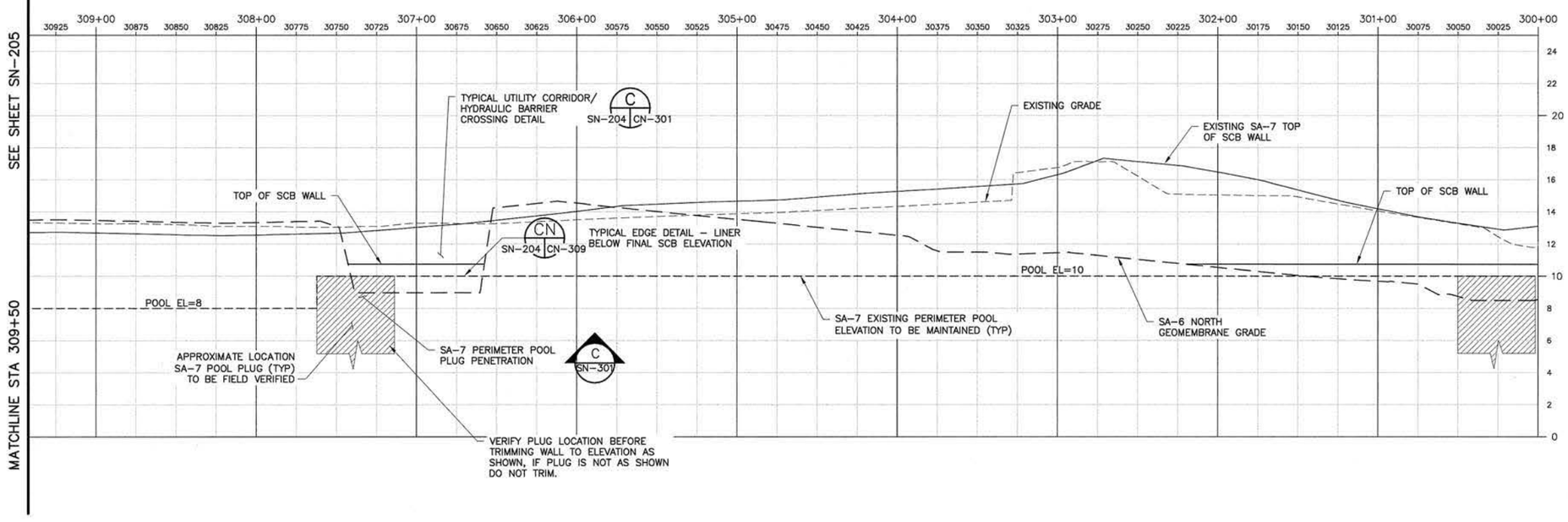
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR56-SN-203 HBW Design Pln Prof.dwg PLOT DATE: Fri, 04 Mar 2016 PLOT TIME: 11:58 AM



SA-7



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET CN-125 AND CN-126 FOR INTERIM GRADE.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
1	02/25/16	DCB 054.2 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR TDD CHK RJR APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

EXISTING SA-7 SCB WALL
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2929
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-204
SHEET	57 OF 70

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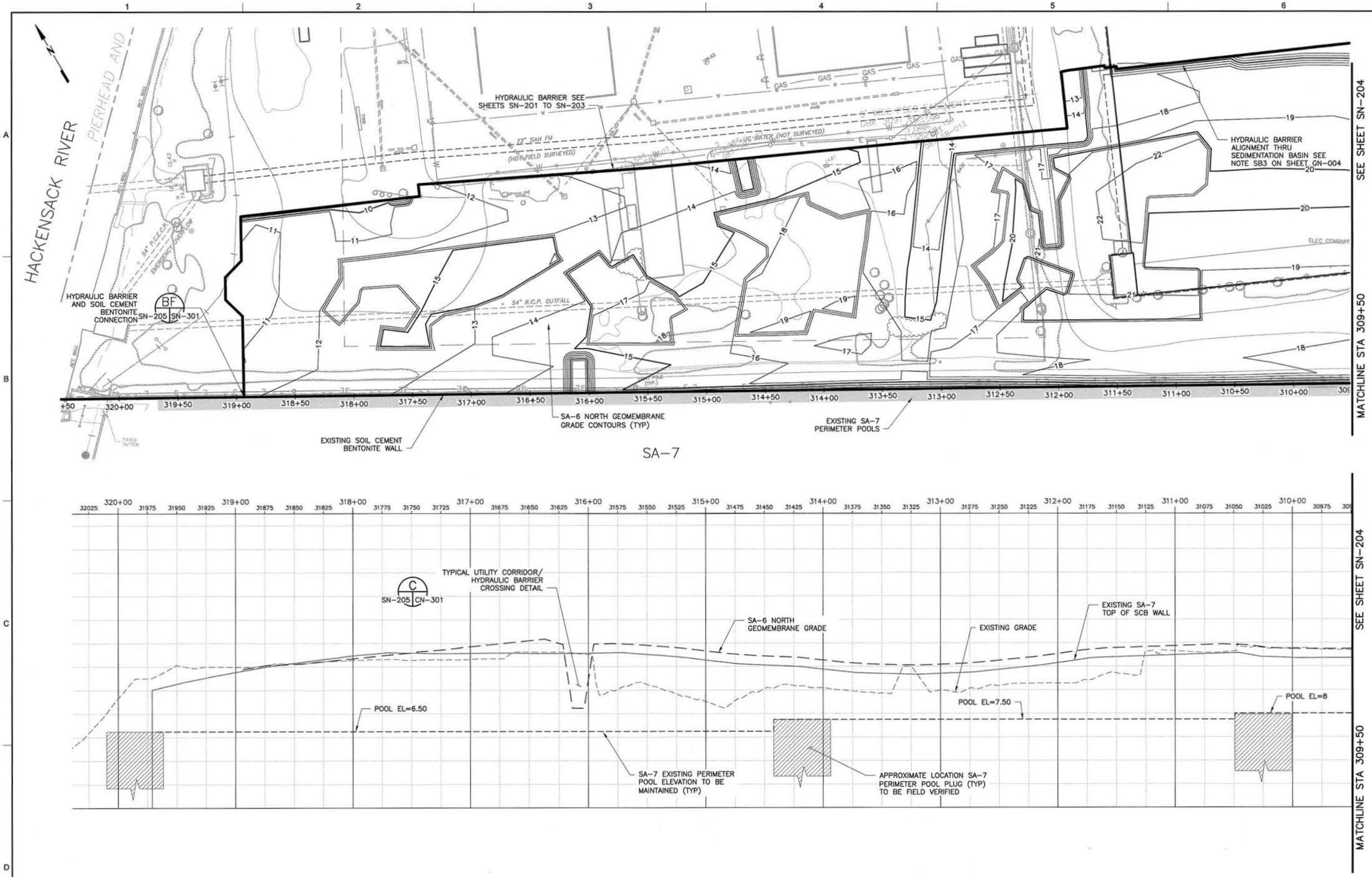
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR57-SN-204 SCB Plan and Profile.dwg PLOT DATE: Fri, 04 Mar 2016 PLOT TIME: 1:56 PM



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET CN-125 AND CN-126 FOR INTERIM GRADE.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	DSGN	BY	APVD
2	02/25/16	DCB 054.2 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

REVISION — DR: TDD — CHK: RJR — APVD: TDD

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507
3/8/16

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

EXISTING SA-7 SCB WALL
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2929
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VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-205
SHEET	58 OF 70

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR58-SN-205 SCB Plan and Profile.dwg PLOT DATE: Fri, 04 Mar 2016 PLOT TIME: 2:02 PM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 054.3 **DCB Type:** Minor(a) **Effective Date:** 5/11/16
Project Location: SA-6N	**Associated RFI:**
Title: Interim Grade Revisions	☐ Yes, RFI No.: ☐ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description.

DCB 054 included issuance of a revised subgrade design that included changes resulting from raising the cap grades by 0.25 ft. in the landscaped areas and revisions to utility corridors to reflect the latest CHA utility design.

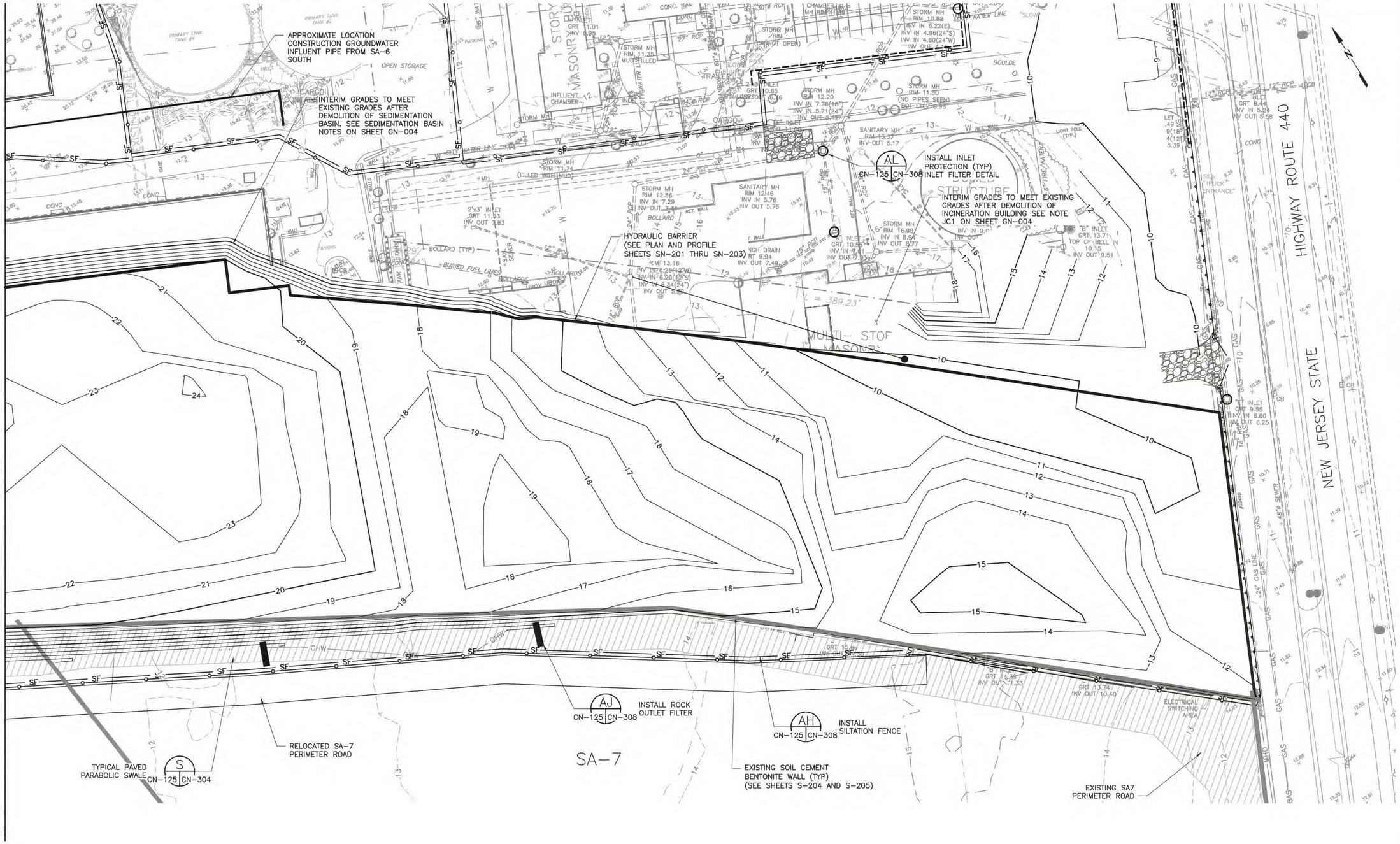
This change impacted the Geomembrane/Subgrade surface (DCB 054.1), Barrier Wall plan and profiles (DCB 054.2) and the Interim Grades (DCB 054.3)

The two revised interim grade drawings are attached to this DCB. The electronic files for the interim grade are also attached.

This file replaces the CAD file that was provided on May 02, 2016 for "Planning Purposes" and volume calculations. The changes in the file since that time has been limited to smoothing of contours to simplify grading.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** Subgrade was adjusted to increase capacity below the liner. **Attachments:** ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: To meet minimum cover requirements the Interim grade also required revision.	**Design Documents Affected:** Drawings CN-125, CN-126
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 5/26/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS BASED ON MINIMAL FILL THICKNESS REQUIREMENTS. FINAL GRADES MAY VARY AFTER CONSTRUCTIBILITY REVIEW.
4. REFER TO APPENDIX K CONCEPTUAL REDEVELOPMENT PLANS (100% REMEDIAL DESIGN REPORT) FOR FUTURE UTILITY ALIGNMENTS AND PRELIMINARY ALTERNATIVE GRADING CONCEPTS.

SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	05/13/16	TDD	TDD	TDD	SGS	TDD	SGS
0	06/07/13	TDD	RJR		SGS	TDD	SGS

REVISION

ISSUED FOR CONSTRUCTION

DCB 054.3

Honeywell
115 TABOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

INTERIM GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-125
SHEET	30 OF 70

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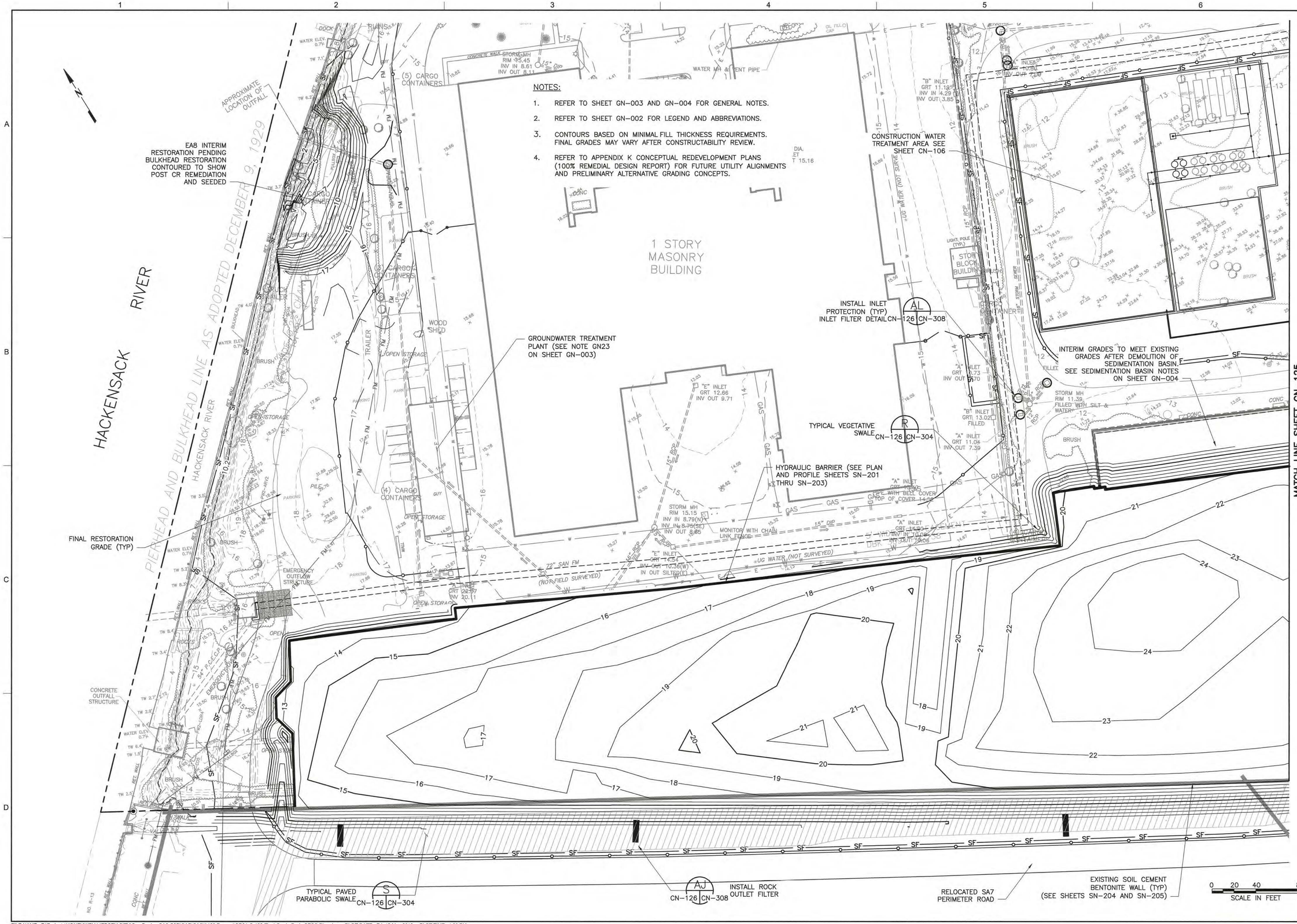
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR30-C-125 Final Grade Drain SESC Plan.dwg PLOT DATE: Fri, 13 May 2016 PLOT TIME: 1:37 PM

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS BASED ON MINIMAL FILL THICKNESS REQUIREMENTS. FINAL GRADES MAY VARY AFTER CONSTRUCTABILITY REVIEW.
4. REFER TO APPENDIX K CONCEPTUAL REDEVELOPMENT PLANS (100% REMEDIAL DESIGN REPORT) FOR FUTURE UTILITY ALIGNMENTS AND PRELIMINARY ALTERNATIVE GRADING CONCEPTS.



NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD	
2	05/13/16	TDD				TDD	SGS	
1	09/13/13	RJR	DCB 054.3 HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM			RJR	SGS	
0	06/07/13	TDD				TDD	SGS	
		TDD	RJR	TDD	APVD		SGS	

REVISION

SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
115 TABOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

INTERIM GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

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VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-126
SHEET	31 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR31-C-126 Final Grade Drain SESC Plan.dwg PLOT DATE: Fri, 13 May 2016 PLOT TIME: 1:38 PM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 054.4 **DCB Type:** Minor(a) **Effective Date:** 5/20/16
Project Location: SA-6N	**Associated RFI:**
Title: Geomembrane Subgrade Revisions - Pump Station #1 Corridor	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description.

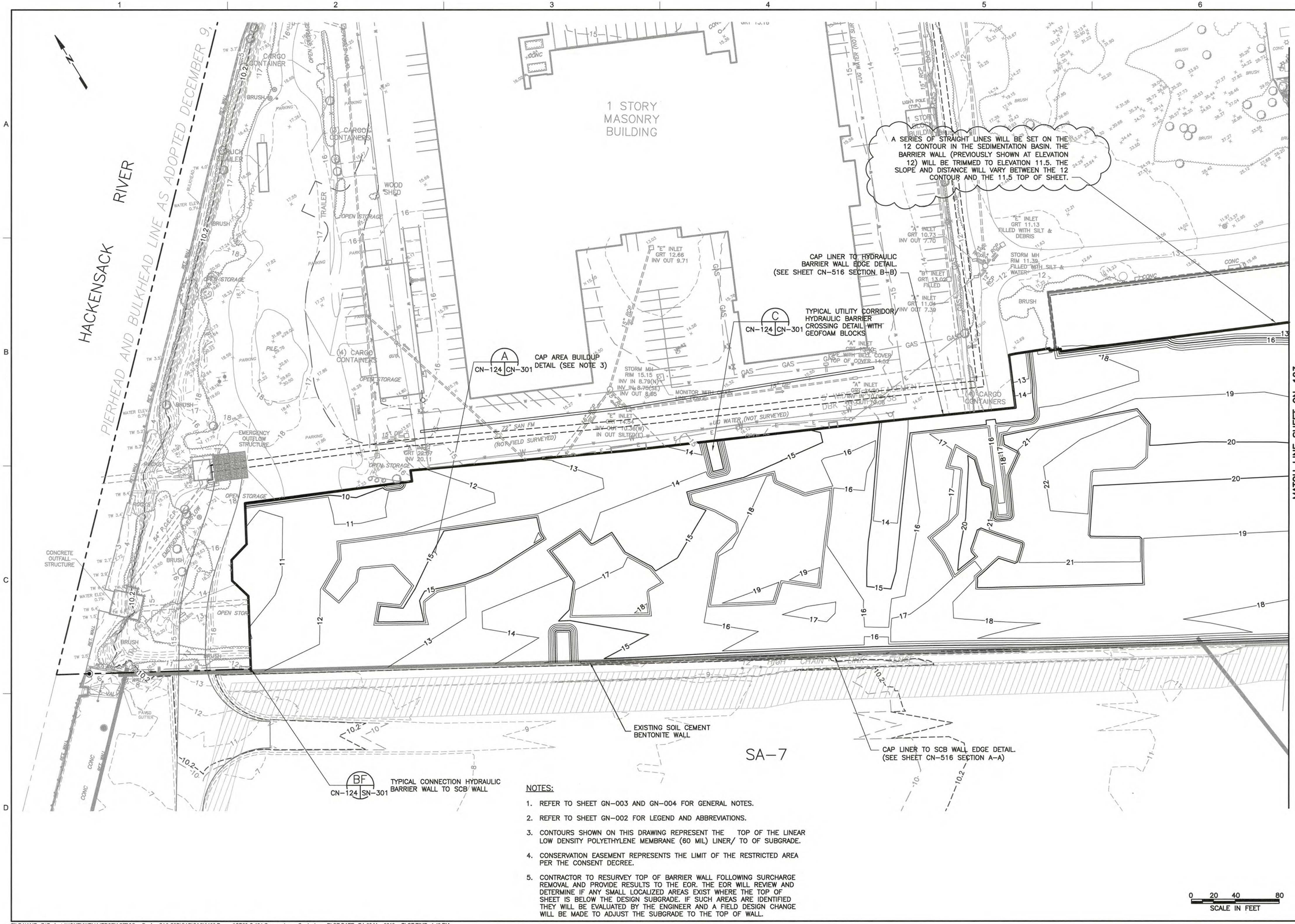
DCB 054 included issuance of a revised subgrade design that included changes resulting from raising the cap grades by 0.25 ft. in the landscaped areas and revisions to utility corridors to reflect the latest CHA utility design.

To accommodate Entact's request to relocate Pump Station #1 (RFI 64) it was necessary to revise the subgrade. The Subgrade was lowered at the new location to accommodate the vault and piping and raised in the original pump station location. An initial revision was made in DCB 054.1.

Following further review it was deemed necessary to lower the geomembrane in this area to provide additional separation between the geomembrane and bottom of the vault.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** Pump Station #1 relocation: increase subgrade clearance
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** Drawing CN-124
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** [signature] **Date:** 5/23/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE LINEAR LOW DENSITY POLYETHYLENE MEMBRANE (60 MIL) LINER/ TO OF SUBGRADE.
4. CONSERVATION EASEMENT REPRESENTS THE LIMIT OF THE RESTRICTED AREA PER THE CONSENT DECREE.
5. CONTRACTOR TO RESURVEY TOP OF BARRIER WALL FOLLOWING SURCHARGE REMOVAL AND PROVIDE RESULTS TO THE EOR. THE EOR WILL REVIEW AND DETERMINE IF ANY SMALL LOCALIZED AREAS EXIST WHERE THE TOP OF SHEET IS BELOW THE DESIGN SUBGRADE. IF SUCH AREAS ARE IDENTIFIED THEY WILL BE EVALUATED BY THE ENGINEER AND A FIELD DESIGN CHANGE WILL BE MADE TO ADJUST THE SUBGRADE TO THE TOP OF WALL.

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
5	05/20/16	DCB 054.4 PUMP STATION #1 CORRIDOR				TDD	SGS
4	02/16/16	DCB 054.1 REVISED SED BASIN AND PS#1 SUBGRADE				TDD	SGS
3	02/01/16	DCB 054 INCREASE LANDSCAPE GRADE 0.25 FEET				TDD	SGS
2	02/24/15	DCB 007.5				TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM				RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION				TDD	SGS
		REVISION					

SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
115 TABOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

GEOMEMBRANE GRADING PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
2001 American Metro Blvd, Suite 113
Hamilton, New Jersey 08619 (609) 890-2329
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-124
SHEET	29 OF 70

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR29-C-124 Geomembrane Grade.dwg PLOT DATE: Fri, 20 May 2016 PLOT TIME: 1:49 PM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 054.5 **Type:** Minor(a) **Effective Date:** 7/14/16
Project Location: SA-6 North	**Associated RFI:**
Title: North Cap - Field Engineered Subgrade Adjustments	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

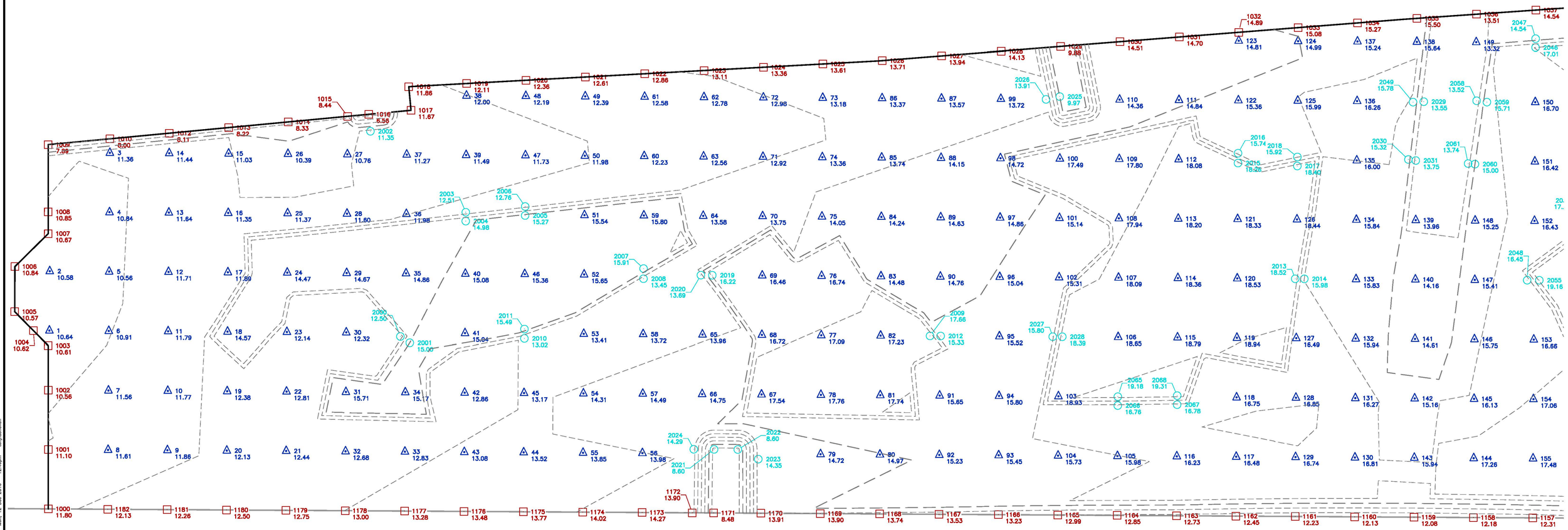
Description.

During the course of subgrade construction two field conditions were identified that resulted in the need for minor adjustments to several small localized areas of the subgrade to achieve positive drainage. In one area these field developed changes resulted in a change in elevation of the Construction Control Grid subgrade elevation.

In addition there were several minor changes in the top elevation of the Hydraulic Barrier wall. These changes were made to avoid major changes to the Construction Water Treatment forcemain and to address several locations where the final top elevations of driven sheets were slightly below the design levels. These changes did result in a very small reduction in capacity under the cap and had no impact on the containment and hydraulic requirements of the wall. The changes are so minor they are not be visible on the hard copy drawings. Revisions were issued to Entact in electronic format and will be incorporated in As Built documentation.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:**
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** Construction Control Grid. Top of Barrier Wall and Subgrade
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** [illegible] **Date:** 12/12/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



153 16.66 GRID POINT

2054 17.00 BREAK POINT

1157 12.31 BOUND POINT

0 10 20 40
SCALE IN FEET

DCB 054.5 – REVISED CONTROL GRID ELEVATIONS 12/12/16

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

NOTE: REFER TO FIGURE 1.3 FOR REVISED GRID POINT ELEVATION SUMMARY TABLE.

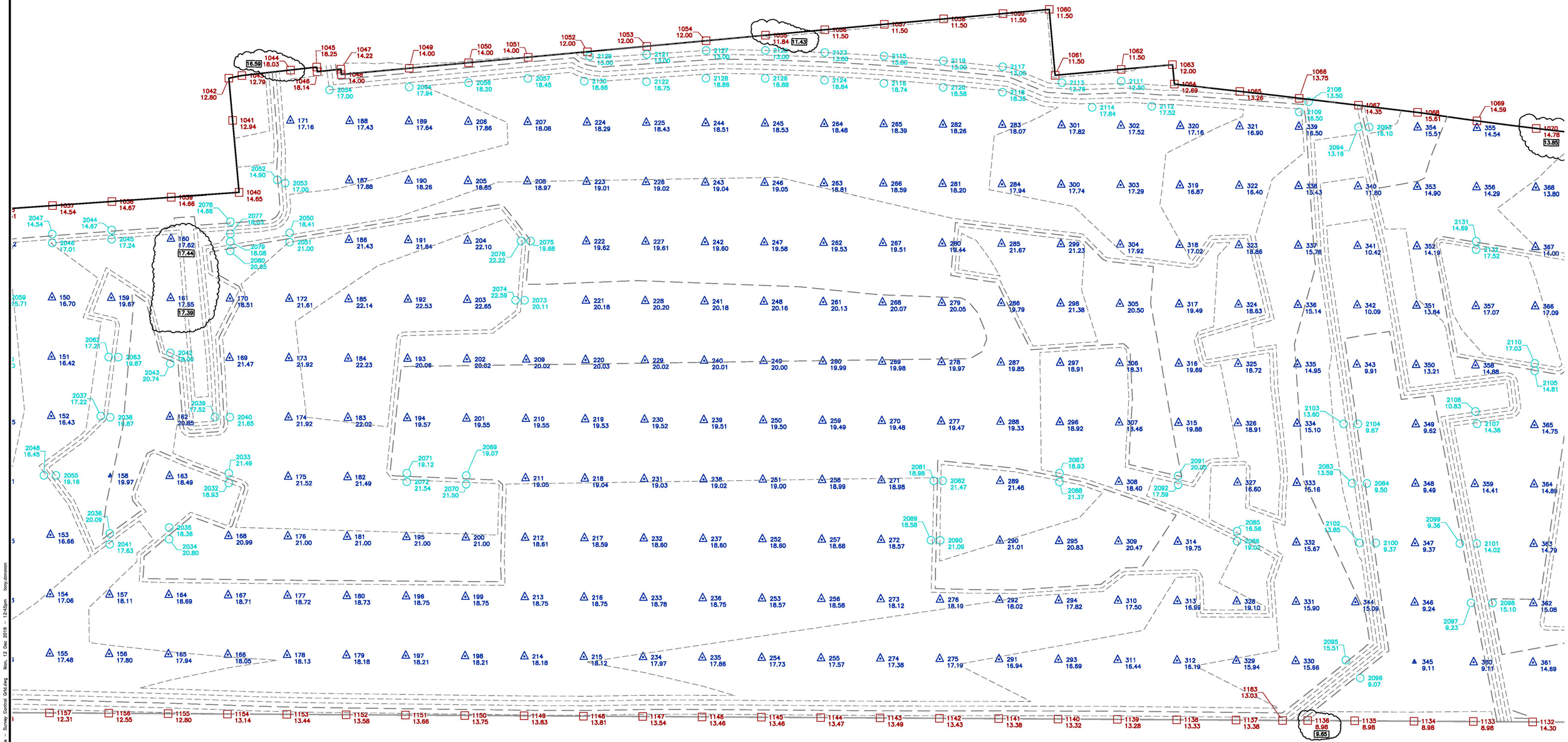
Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28001900

SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 1 OF 3
Project 3480-13-0377
Figure 1.1

C:\Donovan\SA- 6 North\2013 Excavation Surfaces\SA- 6 North Cap Surveys\Figure - Survey Control Grid.dwg Mon, 12 Dec 2016 - 12:46pm tony.donovan



GRID POINT

BREAK POINT

BOUND POINT

NOTE: REFER TO FIGURE 1.3 FOR REVISED GRID POINT ELEVATION SUMMARY TABLE.

0 10 20 40
SCALE IN FEET

DCB 054.5 – REVISED CONTROL GRID ELEVATIONS 12/12/16

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

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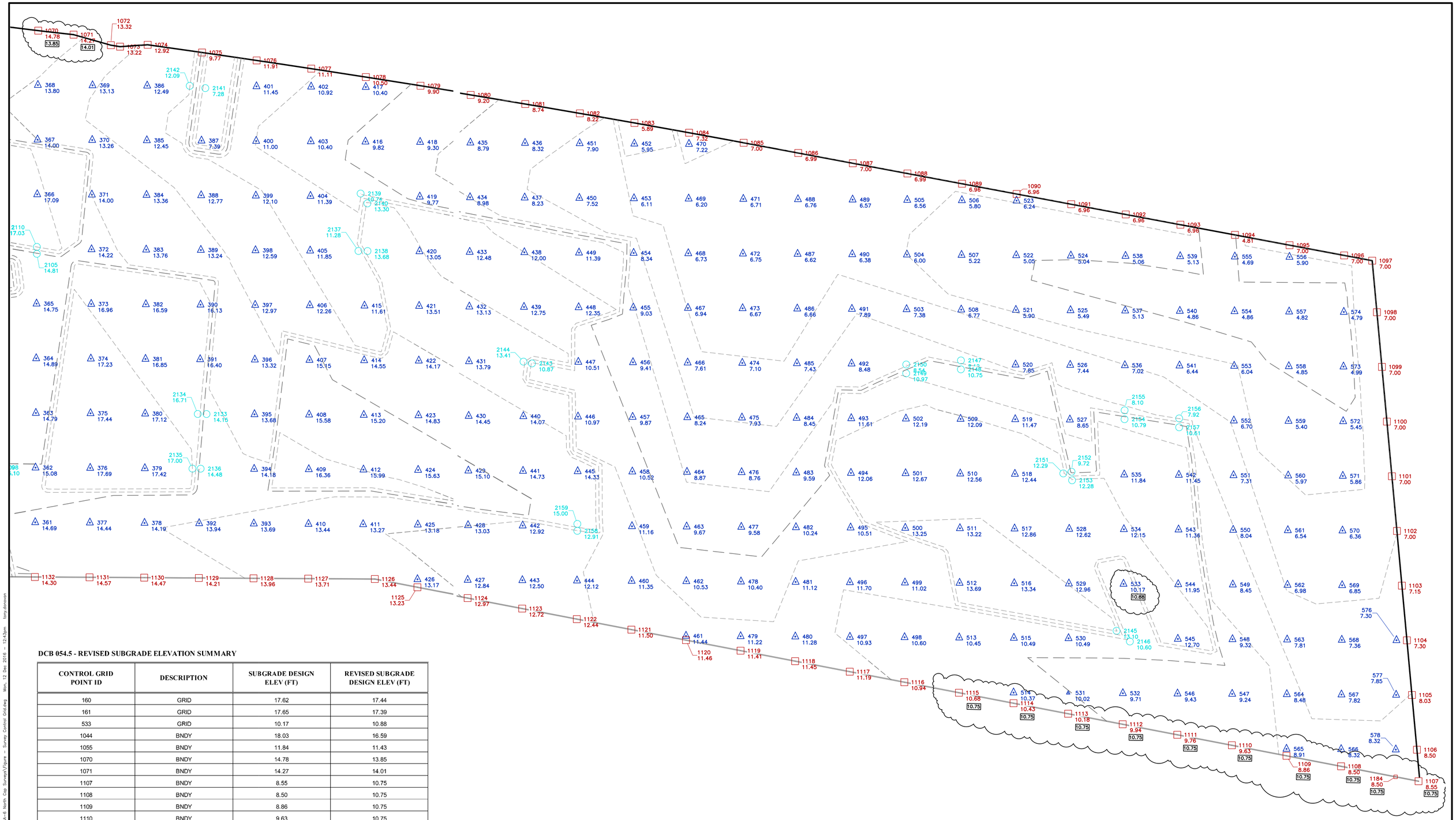
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28019900

SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 2 OF 3
Project 3480-13-0377
Figure 1.2

C:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North Cap Surveys\Figure - Survey Control G06.dwg Mon, 12 Dec 2016 - 12:45pm tony.donovan



DCB 054.5 - REVISED SUBGRADE ELEVATION SUMMARY

CONTROL GRID POINT ID	DESCRIPTION	SUBGRADE DESIGN ELEV (FT)	REVISED SUBGRADE DESIGN ELEV (FT)
160	GRID	17.62	17.44
161	GRID	17.65	17.39
533	GRID	10.17	10.88
1044	BNDY	18.03	16.59
1055	BNDY	11.84	11.43
1070	BNDY	14.78	13.85
1071	BNDY	14.27	14.01
1107	BNDY	8.55	10.75
1108	BNDY	8.50	10.75
1109	BNDY	8.86	10.75
1110	BNDY	9.63	10.75
1111	BNDY	9.76	10.75
1112	BNDY	9.94	10.75
1113	BNDY	10.18	10.75
1114	BNDY	10.43	10.75
1115	BNDY	10.68	10.75
1136	BNDY	8.98	9.65
1184	BNDY	8.50	10.75

153 16.66 GRID POINT

2054 17.00 BREAK POINT

1157 12.31 BOUND POINT

0 10 20 40
SCALE IN FEET

DCB 054.5 – REVISED CONTROL GRID ELEVATIONS 12/12/16

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 3 OF 3
Project 3480-13-0377
Figure 1.3

O:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North Cap Surveys\Figure - Survey Control Grid.dwg Mon, 12 Dec 2016 - 12:43pm tony.donovan

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 054.6 **Type:** Minor(a) **Effective Date:** September 2016
Project Location: SA-6 North	**Associated RFI:**
Title: Interim Grading SA-6N	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. This DCB includes several revisions to the interim/final grading and SESCP drawings on the SA-6 North Chromium Remedy. The changes are depicted on the listed Drawings. This DCB confirms directives issued to Entact in the field.

The minor Grading Changes include localized areas as noted below

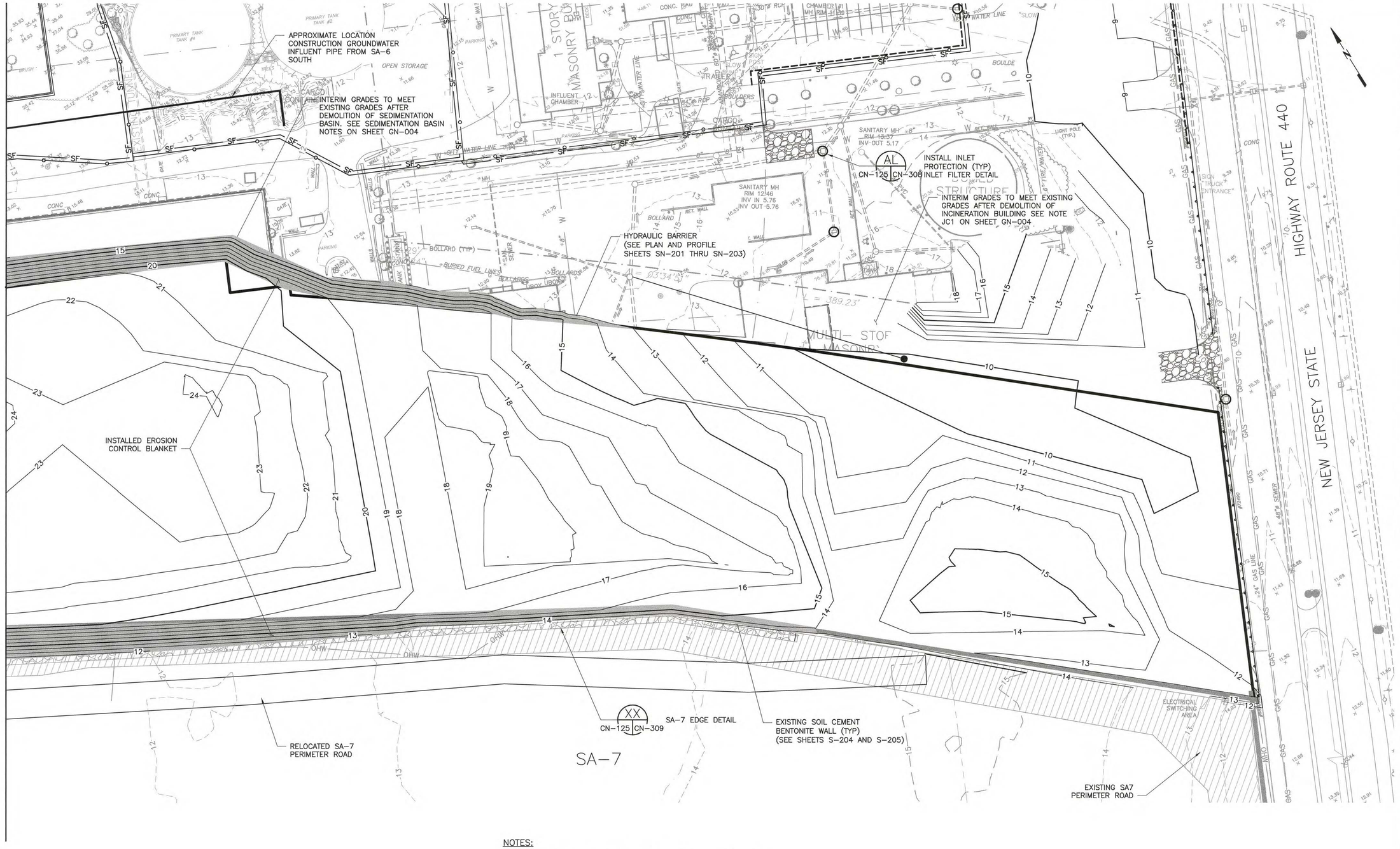
- Relocation and grading of the drainage swale along the temporary road at the west end of the Cap. Flow has been directed to the SA-7 outfall in lieu of sheet-flow over the Hackensack bulkhead embankment.
- Adding fill along the eastern 300 ft of the SA-7/SA-6N boundary on SA-6N to provide for a gradual transition from the SA-7 paved road to the SA-6N interim grades. This will be a temporary condition to improve surface drainage pending redevelopment.

SESCP changes include the following

- Installation of a crushed stone toe drain along SA-7 and use of the former asphalt roadway to conduct stormwater to the Hackensack River in lieu of the in-slope parabolic swale shown in the IFC design on both SA-6N.
- Installation of Erosion Control mat on the steep edge slopes on the north and south sides of both SA-6N. Conditions will continue to be observed and supplemental measures implemented if necessary
- Installation of supplemental diversion berms to direct water through the culverts under the temporary road.
- Installation/restoration of stone check dams near the surface water outfall to the Hackensack River on SA-7. The precise location and dimension of the check dams will be field engineered based on observed flow during storm events.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** **Attachments:** ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** Drawings: CN - 125 CN - 126
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 12/01/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes **(b)** ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS BASED ON MINIMAL FILL THICKNESS REQUIREMENTS. FINAL GRADES MAY VARY AFTER CONTRACTIBILITY REVIEW.
4. REFER TO APPENDIX K CONCEPTUAL REDEVELOPMENT PLANS (100% REMEDIAL DESIGN REPORT) FOR FUTURE UTILITY ALIGNMENTS AND PRELIMINARY ALTERNATIVE GRADING CONCEPTS.
5. THE PRECISE LOCATION AND DIMENSION OF THE CHECK DAMS AND DIVERSION DAMS WILL BE FIELD LOCATED/ENGINEERED BASED ON OBSERVED FLOW DURING STORM EVENTS.

NO.	DATE	DSGN	DR	REVISION	CHK	APVD
2	11/29/16	TDD	RJR	DCB 054.6	TDD	SGS
1	05/13/16	TDD	SGS	DCB 054.3	TDD	SGS
0	06/07/13	TDD	SGS	ISSUED FOR CONSTRUCTION	TDD	SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
115 TABOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

INTERIM GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Cert of Authorization 24GA28018000

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-125
SHEET	30 OF 70

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR30-C-125 Final Grade Drain SESC Plan.dwg PLOT DATE: Thu, 01 Dec 2016 PLOT TIME: 8:56 AM

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS BASED ON MINIMAL FILL THICKNESS REQUIREMENTS. FINAL GRADES MAY VARY AFTER CONTRACTIBILITY REVIEW.
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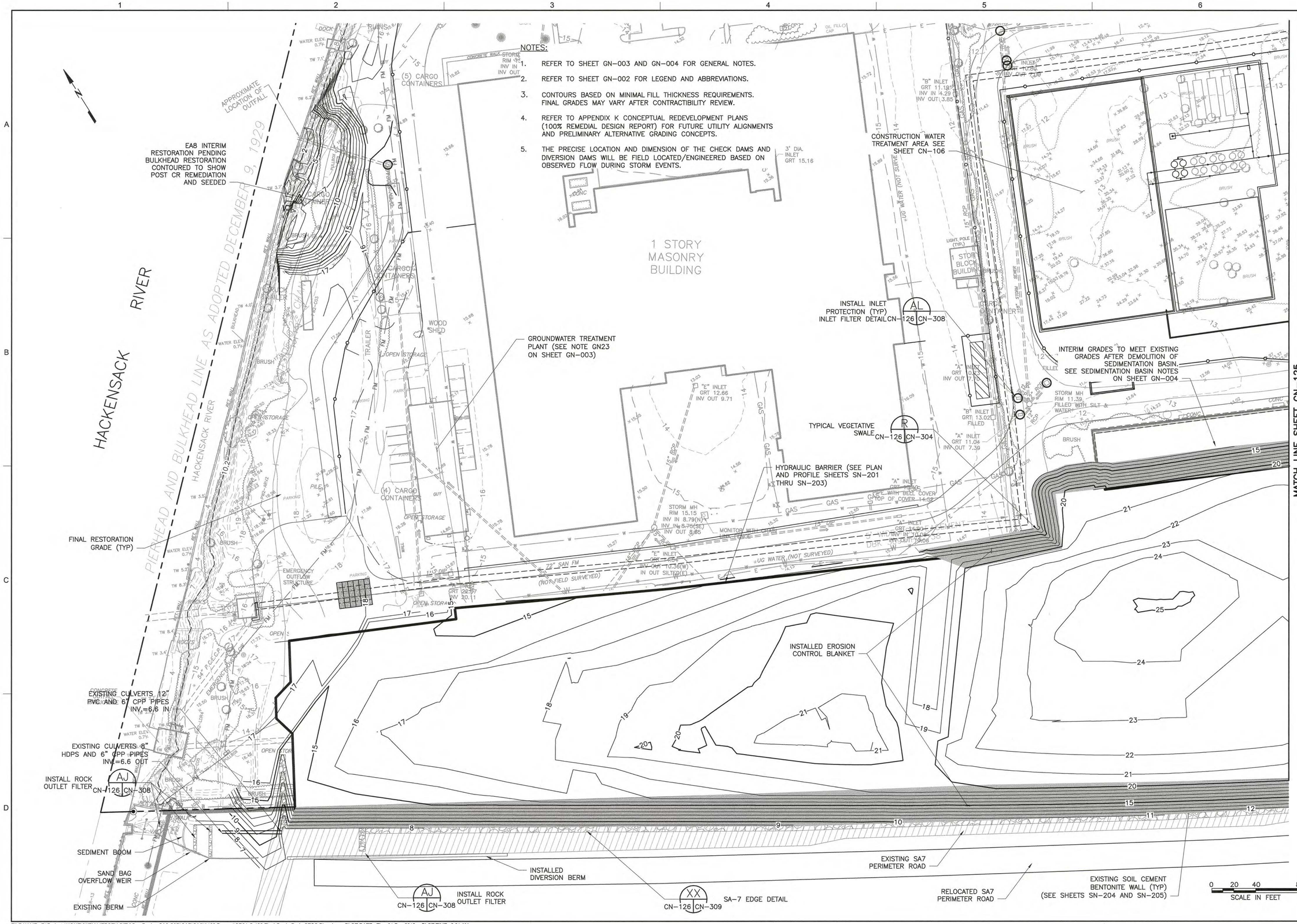
5. THE PRECISE LOCATION AND DIMENSION OF THE CHECK DAMS AND DIVERSION DAMS WILL BE FIELD LOCATED/ENGINEERED BASED ON OBSERVED FLOW DURING STORM EVENTS.



NO.	DATE	DR	CHK	APVD	REVISION
3	11/29/16	TDD	SGS		DCB 054.6
2	05/13/16	TDD	SGS		DCB 054.3
1	09/13/13	RJR	SGS		HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM
0	06/07/13	TDD	SGS		09/13/13

DSGN TDD | DR RJR | CHK TDD | APVD

BY APVD

SAMUEL G. SHALLARD

SGS NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
115 TABOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

INTERIM GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

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Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Cert of Authorization 24GA28018800

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DATE	
PROJ	3480-12-0317
DWG	CN-126
SHEET	31 OF 70

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR31-C-126 Final Grade Drain SESC Plan.dwg PLOT DATE: Thu, 01 Dec 2016 PLOT TIME: 9:01 AM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 55 **DCB Type:** Minor(a) **Effective Date:**
Project Location: SA-6	**Associated RFI:**
Title: Planting Soil Gradations USDA Clarification	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description.

The laboratory results of all gradations for planting soils shall be presented in terms of the USDA classification system rather than USCS.

The ASTM methodology, which includes hydrometer, remains the same, with the exception that a #270 sieve should be added to align with the USDA classification of silt at 0.05 mm.

The laboratory reports should clearly designate that the classification is based on USDA and any values stated for Gravel/Sand/Silt &Clay should also be calculated based on the USDA analysis.

The Specification values for the Horizon A, Horizon B and Horizon C soils are all defined based on the USDA Soil Classification. When calculating the Sand, Silt and Clay percentage, the Gravel component (% retained on the #10 sieve), should be removed from the calculation.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Otherp	**Explanation or Reason:**
	Attachments: ☑ Yes ☐ No USCS and USDA Classification Comparison
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** NA
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 4/20/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

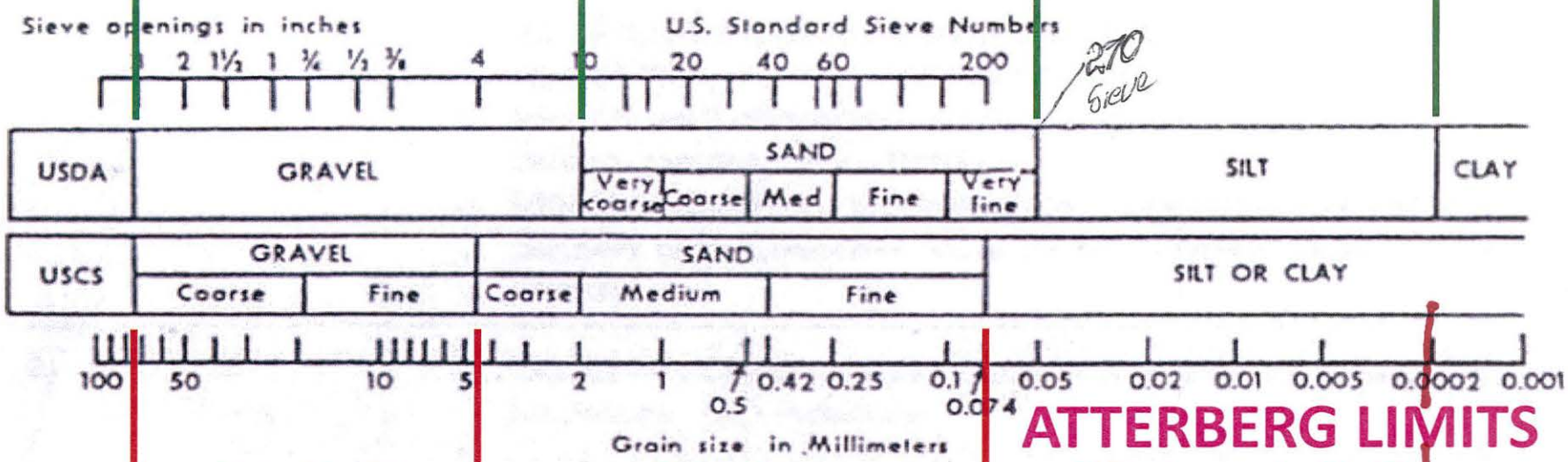
(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

USCS vs. USDA Particle Size Comparison

USDA Soil Classification System

75 mm 2.00 mm 0.05 mm 0.002 mm

GRAVEL SAND SILT CLAY



ATTERBERG LIMITS

GRAVEL SAND SILT and CLAY

75 mm 4.75 mm (#4 0.074 mm (#200 sieve)

Unified Soil Classification System

OhioEPA

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 057 **DCB Type:** Minor (a) **Effective Date:** 03/21/16
Project Location: SA-6 **Title:** Planting Soil Specifications (Nature's Choice - Horizon C ONLY)	**Associated RFI:** ☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377
Description. Revisions to the Horizon C planting soil specifications for the Nature's Choice Horizon C Soil Source Only.	
Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** See additional comments **Attachments:** ☑ Yes ☐ No Laboratory reports of chemical analysis Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: Nature's Choice was identified as the source that best met the physical requirements for Horizon C soils by Dr. Grabosky; however, several samples of Nature's Choice Horizon C soils have hexavalent chromium concentration >1.0 mg/kg. Consequently, Honeywell is proposing a design change to allow the hexavalent chromium concentration in Nature's Choice Horizon C soils to be less than 1.8 mg/kg, as agreed to by the Parties. For future sampling, hexavalent chromium soil samples will be composited from 10 grab sample locations per 5,000 CY (maximum). There are additional conditions in Attachment A that are part of this DCB and specific to Nature's Choice Horizon C soil. All other requirements specified in the 100% Design for imported soils will be met by the Nature's Choice Horizon C soils as amended in previous DCB 046.	**Design Documents Affected:** Specification 02315, Section 2.12.C Open Space Design Standards, Section 2.1.2
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 4/26/2016
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

Attachment A – Supplemental Requirements for DCB 057

During the March 17 teleconference, Honeywell explained that the proposed material would come from an excavation pit (with concentration characteristics similar to those from which data was previously collected). Based on the information provided by Honeywell, plaintiffs will accept Honeywell's proposal to use the Nature's Choice material as Horizon C soils at Study Areas 6 North and South so long as Honeywell agrees to the following conditions:

1. Plaintiffs' agreement to use soils in excess of the 100% Design 1 ppm hexavalent chromium standard is limited to the Nature's Choice materials in question for use as Horizon C soils and is not a modification of the 100% Design standards as they apply to any future fill, repair or restoration work. This limited deviation from the 100% Design is set forth in this Design Change Bulletin.

2. The Nature's Choice materials shall contain less than 1.8 mg/kg hexavalent chromium. In addition, Honeywell shall use best efforts to maintain an average hexavalent chromium concentration as estimated based on the upper limit of the 95th percentile confidence interval around the mean of 1.1 mg/kg in the Horizon C soils.

3. The Nature's Choice materials shall be sampled for hexavalent chromium no less frequently than once every 5,000 cubic yards. Hexavalent chromium sampling shall use composite samples that are made up of a minimum of 10 grab samples. The grab samples shall be collected as evenly as possible throughout the volume of material being sampled to ensure true representation of the hexavalent chromium concentrations coming onto the Study Area 6 sites.

4. All other sampling and analysis protocols will follow the customarily used NJDEP and USEPA protocols. To be consistent with the NJDEP protocols, one of the individual 10 grab samples will be used for all other required analytical parameters (VOCs, SVOCs, metals, etc.) to demonstrate compliance with clean fill requirements.

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 059 **DCB Type:** Minor (a) **Effective Date:** 4/20/16
Project Location: SA-6	**Associated RFI:**
Title: Planting Soil Specifications	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. Planting Soil Source Acceptance Variance for Select Horizon B and C Soils.

DCB-046 expanded the ranges of acceptable physical parameters (gradations, pH and organic content) in Horizon B and C soils that were included in the Earthwork Specification 02315. DCB-046 was accepted by all Parties and Specification 02315 was revised accordingly.

Subsequent to the acceptance of DCB-046, Entact encountered difficulty locating available Horizon B and C sources that comply with the revised Specification and meet hexavalent chromium design criteria of 1 mg/kg or less.

This DCB-059 was developed to document an agreement reached by all parties on the Special Master All-Hands monthly call on April 19, 2016. Based on the agreement, Honeywell will proceed to import fill material from suppliers as noted below to support the project needs for Horizon B and Horizon C soils to meet the demands for fill quantity and schedule for cover soils on SA-6 South and North.

It is noted that an exhaustive search of potential sources resulted in a short list of potentially viable Horizon B and C sources being recommended, following consultation with Dr. Grabosky who provided his recommendations in correspondence dated March 17, 2016. Dr. Grabosky's recommendation is attached and made part of this DCB. The specific sub set of soil sources agreed to by all parties is as follows:

Horizon B Approved Sources	Horizon C Approved Sources
Cedar Hill	Natures Choice (Per DCB-057)
EME - B001	Impact - AB33
Impact - AD17	Impact - AD25

DCB-059 applies to the completion of importing soils for SA-6 North and South grades as presented in the 100% design and does not permanently change the Earthwork Specification 02315 for physical parameters (gradations, pH and organic content) in Horizon B and C soils that were memorialized in DCB-046.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** **Attachments:** ☑ Yes ☐ No Dr. Jason Grabosky letter (3/17/16) Plaintiffs' letter dated 04/15/16. Cost Implication: ☐ Yes ☐ No >$50k ☐ Yes ☐ No Schedule Implication ☐ Yes ☐ No
Additional Comments: See DCB-057 for acceptability conditions of Nature's Choice Horizon C soils.	**Design Documents Affected:** Specification 02315, Section 2.12
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 4/26/2016
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

DR. JASON GRABOSKY RECOMMENDATION

RUTGERS
School of Environmental and Biological Sciences

Urban and Community Forestry Program
Dept. of Ecology Evolutionand Natural Resources
Environmental and Natural Resources Bld, Room 144
Rutgers, The State University of New Jersey
14 College Farm Road
New Brunswick, NJ 08901-8551

March 17, 2016

To all concerned:

I spoke on the phone with Geoff in between meetings during the past week. For all concerned, there was a delay in this set of conversations due to some snags in our e-mail communications (I was not getting e-mails through my server for some reason), but we developed some work arounds to share the soils tables under review and spoke during a brief conversation on Tuesday Morning from 8:00-8:15 a.m. once I had the soils tables in front of me while chatting over the phone.

There are issues with the Nature's choice source, in terms of supply and in terms of some testing results. For that reason, it has been necessary to identify alternative Horizon B and Horizon C sources. To reduce risks in material supply, chemistry and gradation, I have identified multiple sources/mixes for both Horizon B and Horizon C. In making specific recommendations I also considered both the expense of shipping, and the environmental cost (or the carbon footprint) in shipping, and the limitations in time management from the haulage/transportation logistics.

Horizon B:
In a technical sense, Nature's choice remains an approved and acceptable layer B material. However, there is an open question of availability of material in the volume needed for project execution.

The Cedar Hill material can fit the B Layer source designation. Clay is at 10% right at the lower end of the clay specification. As discussed with Geoff Shallard, in an engineering/drainage view, this is a good material. We would also have to consider a lower the min clay value in the specification to account for variability. The pH of this material (6.22) seems to be in line with the goals for the specification. Given a concession in lowering the clay content also opens consideration of the Impact Materials.

Impact AD17 : While the fines (silts and clays) are flipped from a best case scenario (and thus falling out of specification), the material would suit for the B horizon. In the clay component, this material is comparable to the Cedar Hill material. The silts exceed the specified maximum percentage. However, this maximum is largely in consideration of frost heave susceptibility. For the depths of the B layer relative to expected frost penetration to depth in Jersey City, especially in consideration of all future climate predictions of warmer temperatures, the frost potential is deemed less critical. Indeed, the pH is a tad high, but not so much as to consider it unworkable from a horticulture management sense. The sand portion of the Impact AD17 blend (which is the bulk of the blend) sits 10 minutes away from the site in Kearny, NJ and therefore has a low carbon footprint and ease of logistics. Additionally, it may yield a continuum in similarity if the C horizon also is determined to come from an Impact source.

EME B001-HORB: The EME grouping of materials benefit from a high level of control, and would be considered a useful source ***if*** the material could lower the organics to <4. Given the systems in question,

there is every possibility of shrinkage over time as the OM degrades, which could have negative impacts on the final developed site. A principal detraction of this source would be distance (about 65 miles), both in expense in shipping, the environmental cost (or carbon footprint if you will) in shipping from and the limitations in time management from the haulage/transportation logistics.

Horizon C

Impact AB33 and Impact AD25: While the fines (silts and clays) are flipped from a best case scenario (and thus falling out of specification), the materials would suit for the C horizon. pH is in line with the specification. I have a preference for the AB33 for the lower pH and slight increase in clay, but both would be suitable. Of the materials in the tables, a discussion with Geoff indicated the sands in the Impact materials are coarse and to our benefit in workability and drainage capacity, which for the level of construction traffic on site, works toward the stability of the system in a physical-mechanical sense. The sand portion which is the bulk of the Impact blends also is located in Kearny, NJ and therefore has a low carbon footprint and ease of logistics.

EME B002-HORC: The EME grouping of materials benefit from a high level of control, and would be considered a useful source ***if*** the material could lower the organics to <4. Given the systems in question, there is every possibility of shrinkage over time as the OM degrades, which could have negative impacts on the final developed site. A principal detraction of this source would be distance (about 65 miles), both in expense in shipping, the environmental cost (or carbon footprint if you will) in shipping from and the limitations in time management from the haulage/transportation logistics.

Recommendations:
I would retain EME as a Vendor option for both Horizon B and Horizon C with an assumption the organic fractions can be reduced. While the materials seem very good, the costs likely outweigh the advantages for the B and C horizons. The vast majority of the plant root systems are in the A horizon, thus the goals for the lower levels are about support, drainage and depth/distance to cap. Given the timing and the difficulty associated with getting materials into conformance I make the following recommendations. Pragmatically, one might argue I am siding on convenience. However, upon the consideration of developing a system, I feel what we develop from the recommendations provides a working solution, albeit with a higher system pH than originally targeted. The plant palette was chosen to bias toward shallower rooting species, and the higher ph will encourage the proliferation of roots where the mineral nutrition is available, which biases toward the surface with the increased pH of the lower layers. We provide a loamy-sand to sandy loam transition in the b to c horizon depths, which would provide a continuum for the water column through the layers provided compaction of each layer is not excessive and the interface blending described in the early documentation occurs. The increase of pH does not place the plant species selected into peril to my knowledge.

I would recommend:

Horizon B soils:

Adopt Impact AD17% as the primary source, and Cedar Hill as the secondary source. To accomplish this in specification language, adjust the B layer % Silt to <15% and % Clay to 5-15%. Raise acceptable pH to 7.6 from 7.5 or figure out how to lower the AD17 pH in the mix process.

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Horizon C soils:

Adopt Impact AB33% as the primary source. To accomplish this in specification language, adjust the C layer % Silt to <15% and % Clay to 5-15%. Retain the Impact AD25 as an alternative to Impact AB33%.

Respectfully submitted,

Jason Grabosky
John and Eleanor Kuser Faculty Scholar in Urban and Community Forestry
Director: S.E.B.S. General Honors Program
Co-Director: Center for Resilient Landscapes, a USDA FS/Rutgers Joint Venture
Editor-in-Chief; Arboriculture & Urban Forestry
Department of Ecology, Evolution and Natural Resources

PLAINTIFFS' RESPONSE LESTTER (4/15/16)

BRUCE J. TERRIS
CAROLYN SMITH PRAVLIK
KATHLEEN L. MILLIAN
ALICIA C. ALCORN
ZENIA SANCHEZ FUENTES
PATRICK A. SHELDON
TODD A. GLUCKMAN

TERRIS, PRAVLIK & MILLIAN, LLP
1121 12TH STREET, N.W.
WASHINGTON, D.C. 20005-4632
(202) 682-2100
FAX 202-289-6795
tpminfo@tpmlaw.com

MICHAEL L. HUANG
NICHOLAS SOARES
BENJAMIN S. DAVIS
STEPHANIE ANN MADISON

LYNN E. CUNNINGHAM
Of Counsel

April 15, 2016

VIA ELECTRONIC MAIL

Jeremy Karpatkin
Arnold & Porter, LLP
Thurman Arnold Building
555 12th Street, N.W.
Washington, DC 20004-1206

Re: Study Areas 6 North and South – DCB 2016-3-18 Horizon B and C Soil Specifications

Dear Jeremy:

We write to provide plaintiffs' position with respect to the Design Change Bulletin (DCB) DCB 2016-03-18 that seeks to modify the geotechnical specifications for Horizon B and C soils, which the parties previously modified in September 2015. We note that, like the September 2015 modification, the current proposal of Honeywell would apply to all Horizon B and C soils to be brought to the site, not just in the initial phases of development, but permanently. As set forth in the 100% Design and the Open Space Design Standards (OSDS), there is to be a distinction between the characteristics of the soils in Horizon B and Horizon C to ensure the growth of only appropriate types of vegetation and trees on top of the cap, so as not to endanger the cap. *See* Technical Specification 2315 Earthwork, 2.12 Planting Soils; OSDS 2.1.2 Restrictions on the Use and Placement of Fill, Subsection D Specific Requirements for Fill Soils in Landscaped Areas.

On April 7, 2016, plaintiffs requested additional information regarding the planned schedule for the importation and use of the Horizon B soils. Honeywell provided the requested information on April 12, 2016. Plaintiffs and their experts have reviewed the April 12 response. Plaintiffs agree with Honeywell's analysis that Horizon B soils may be imported and placed now in the Study Area 6 South Open Space, and that Horizon B soils cannot be placed in the Study Area 6 North Open Space until the redevelopment.

Plaintiffs understand that Honeywell wishes to have multiple sources of Horizon B and C soils available for use so that it will not incur delays such as those incurred this winter with respect to Horizon C soils. However, Honeywell is proposing to change permanently the geotechnical specifications for both Horizon B and C soils based on the analysis by Dr. Grabosky of particular sources for the Horizon B and C soils. Dr. Grabosky's analysis establishes that the particular soil sources that he recommends, based upon the potential sources

provided to him by Honeywell, will maintain the necessary distinction between the soil horizons even though the recommended sources may deviate slightly from the geotechnical specifications as modified in September 2015.

Based upon the recommendations of Dr. Grabosky as set forth in his correspondence of March 17, 2016, which was included with DCB 2016-03-18, as set forth below, plaintiffs will agree to the use at Study Area 6 of certain particular sources for Horizon B and C soils addressed by Dr. Grabosky, even though some of the sources may deviate slightly from the geotechnical specifications in the 100% Design for Horizon B and C soils. However, plaintiffs are not willing to agree to modify permanently the geotechnical specifications for the Horizon B and C soils of the 100% Design standards to accommodate use of the sources for Horizon B and C soils under consideration by Honeywell at this time.

Plaintiffs agree to the use of Horizon B soils for the Study Area 6 North and South Open Space areas from Nature's Choice, Cedar Hill, and EME (EME-B001 blend) because these sources meet the geotechnical specifications. In addition, plaintiffs agree to the use of Horizon B soils from Impact Environmental, which deviate from the geotechnical specifications, as a secondary source should the Nature's Choice, Cedar Hill, and EME (EME-B001 blend) soils not be available. Plaintiffs do not agree to the use of the EME (Horizon "B" Modified) soils because of the high organic material content of the soils.

Plaintiffs agree to the use of Horizon C soils for the Study Areas 6 North and South Open Space areas from Nature's Choice as set forth in DCB 2016-03-21. In addition, plaintiffs agree to the use of Horizon C soils from Impact Environmental (Impact AB33 and Impact AD25), which deviate from the geotechnical specifications, as secondary sources should Nature's Choice not be available. Plaintiffs do not agree to the use of the Horizon C soils from EME because Dr. Grabosky did not recommend the use of these sources and because of the high organic material content of those soils.

Plaintiffs' agreement to the use of certain Horizon B and C sources that deviate from the geotechnical standards, as set forth above, is not an agreement to modify the 100% Design standards as they apply to any future fill, repair, or restoration work. This more limited agreement to deviate from the 100% Design should be set forth in a modified Design Change Bulletin.

Please contact me with any questions. We look forward to your response.

Sincerely,

Bruce J. Terris
Kathleen L. Millian
Alicia C. Alcorn
Counsel for Plaintiffs

cc: Senator Robert Torricelli
Tom Lewis/Steve Egnaczyk
Michael Daneker
William Hague
John Morris
Kevin Coakley/Liza Walsh/Agnes Antonian
Jeremy Farrell/Jason Watson/Bhavini Doshi
Frank Borin/Kevin Kinsella
Davis Isabel/ Eric Tomaszewski

Honeywell RES

Honeywell.com

DESIGN CHANGE BULLETIN

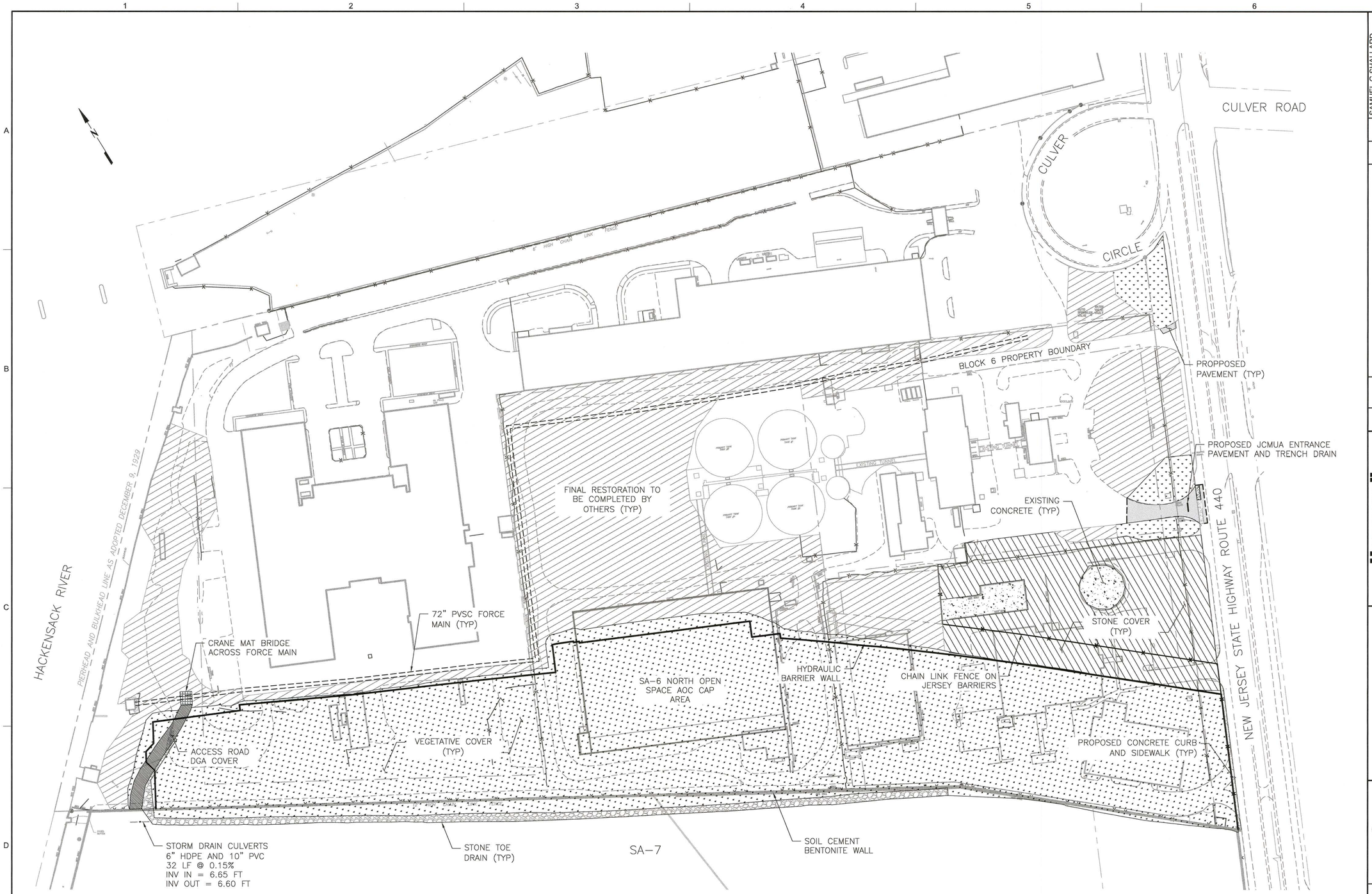
Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 61 **Type:** Minor(a) **Effective Date:** 11/9/16
Project Location: SA-6N **Title:** Site Restoration	**Associated RFI:** ☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. The limits and the type of restoration north of the SA-6N cap has been modified to be integrated with the SA-6N Non Chrome Remedy. This DCB information confirms direction provided to Entact following discussions with JCMUA and the SA-6N Non Chrome Remedy Contractor (OSC). A modified Restoration Drawing CN-127 is attached. The drawing includes the changes in scope that have occurred subsequent to the "IFC" drawings. The following items are specifically noted:

- EA-7 and EA-8: Final Grading of these areas and placement of Historic Fill Cover will be conducted as part of the Non Chrome remedy along the Hackensack River.
- The former JCIA property that has become part of the JCMUA owned Lot 6 will receive a geotextile demarcation layer and 6 inches of crushed stone cover over the historic fill. A survey control grid similar to that used on the SA-6S Development Area will be set out and submitted to AmecFW for approval. The grid will be used to document that the thickness requirements have been met. A survey grid matrix documenting the elevations and depth at each grid point will be provided along with a topographic survey of the surface of the restored area.
- Historic Fill stockpiles west of the former JCMUA digesters will be processed by others.
- The footprint of the Chromium Remedy Construction Water Treatment plant will be finished with crushed stone over an LLDPE demarcation layer.
- A temporary fence will be erected along the Lot 6 Boundary. JCMUA will install a new fence following their re-purposing of the former JCIA property in Lot 6.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** Changed limits of disturbance/interface with the Non Chrome scope and changes in Property Lines **Attachments:** ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** CN-127
Honeywell (AP) Review:	
Individual: Geoff Shallard **Discipline:** EOR	**Initial:** [signature] **Date:** 12/28/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTE:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.

NO.	DATE	REVISION	BY	APV'D
2	12/10/16	DCB 061 - REVISED RESTORATION LIMITS	TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APV'D SGS

SAMUEL G SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

RESTORATION PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd. Suite 113
Lawrenceville, New Jersey 08648-2709
NJ Cert of Authorization 24GA28010090

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-127
SHEET	32 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USER'S AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: C:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North RAR\SA-6 North Restoration AB.dwg PLOT DATE: Wed, 11 Jan 2017 PLOT TIME: 3:51 PM

Honeywell RES

→Honeywell.com

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 062 **Type:** Minor(a) **Effective Date:** 7/12/16
Project Location: SA-6 North	**Associated RFI:**
Title: Clarify location of Sand Bentonite Plug	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

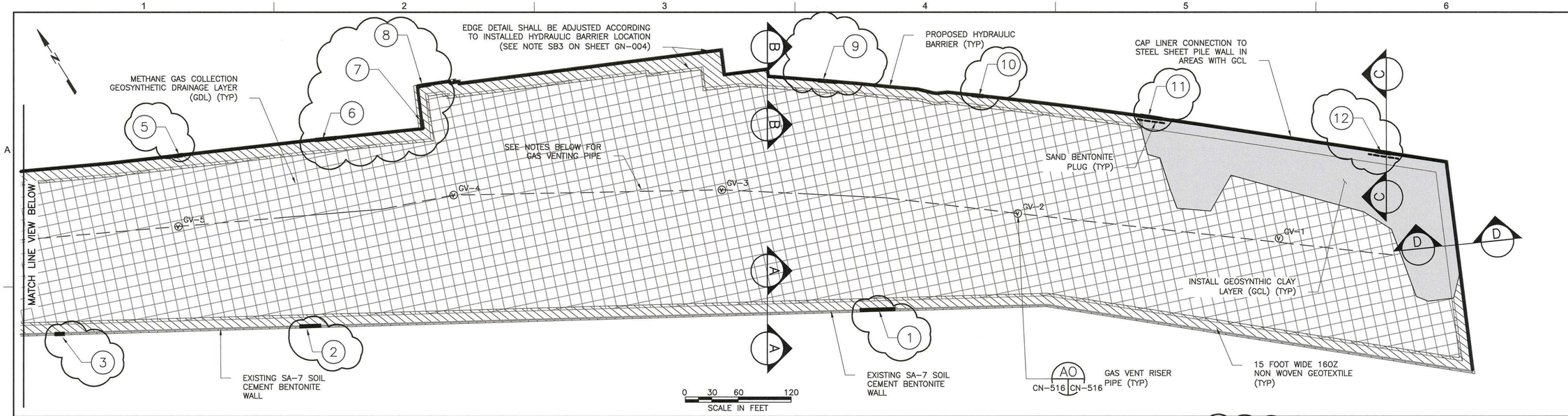
Description.

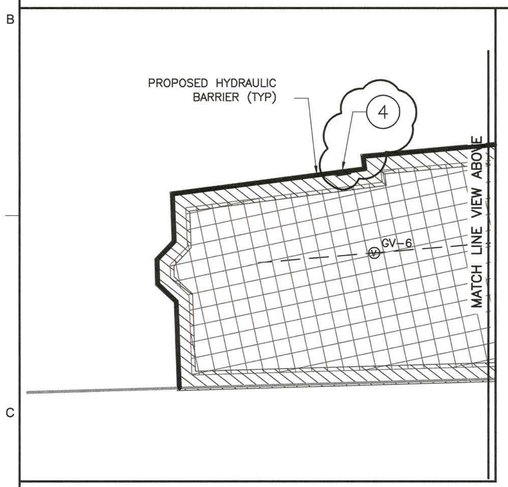
Drawing CN-516 indicates the limit of the GCL deployment. Where the top of the Barrier Wall is below elevation 7.0, a sand bentonite plug will be installed as shown on Section C-C. The intent of the plug is to provide a connection between the GCL and Barrier wall in locations where the cap may be below the groundwater. The plug is isolated to two utility corridors. The plug limits are noted on Section C-C.

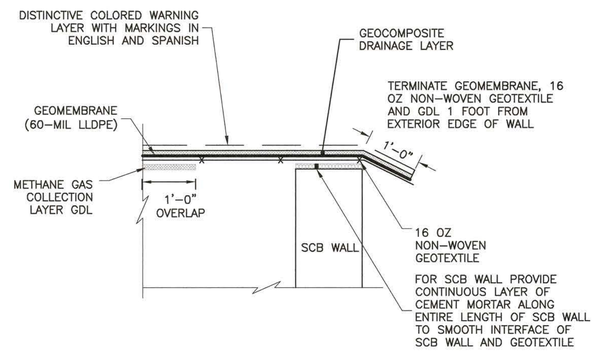
In the remainder of the areas where the Barrier Wall is at or above elevation 7.0, the GCL will be carried over the wall as shown in Section D-D. The GCL should be in intimate contact with the top of the Barrier Wall.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** Clarification of drawing CN-516, incorporated into DCB-054 in an e-mail to ENTACT dated 5/4/16 **Attachments:** ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** CN-516
Honeywell (AP) Review:	
Individual: Geoff Shallard **Discipline:** EOR	**Initial:** **Date:**
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

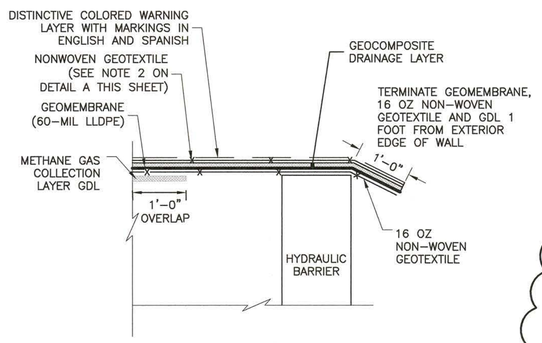
(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



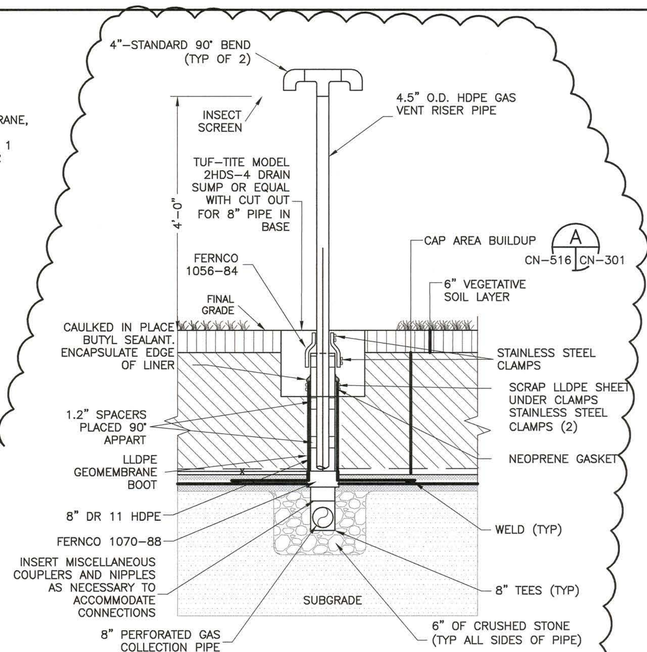




SECTION A–A
NTS



SECTION B–B
NTS



NOTES:

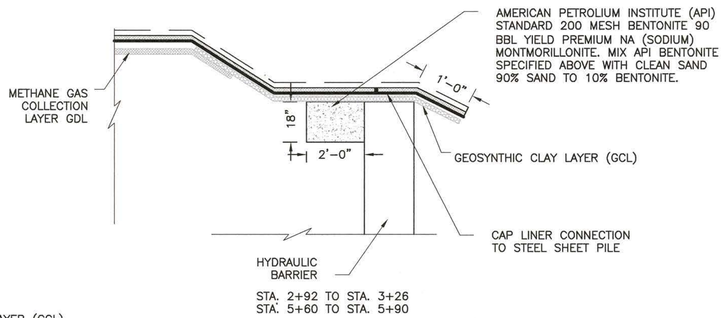
1. PERFORATED PIPE TO BE CORRUGATED SLOTTED PE PIPE.
2. SPACERS MAY BE PREFABRICATED AS PART OF THE 4.5" DIA VENT PIPE.

GAS VENT DETAIL
NTS
CN-516 CN-516

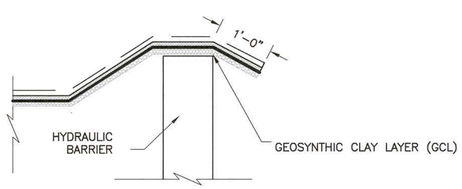
GEOFOAM BLOCK SUMMARY

NUMBER	LENGTH
1	40'
2	24'
3	11'
4	10'
5	10'
6	24'
7	10'
8	15'
9	21'
10	13'
11	25'
12	17'

GEOFOAM BLOCKS EPS 19 4' WIDE x 1' THICK LENGTH VARIES



SECTION C–C
(SAND BENTONITE PLUG)
NTS



SECTION D–D
(NO SAND BENTONITE PLUG)
NTS

NOTES:

1. HORIZONTAL GAS VENTING PIPE SHALL BE 8" ADS SINGLE WALL HEAVY DUTY PERPETRATED PIPE WITH ANNULAR INTERIOR AND EXTERIOR CORRUGATIONS OR APPROVED EQUAL.
2. PIPING JOINTS SHALL BE MADE WITH SPLIT OR SNAP COUPLINGS. STANDARD CONNECTIONS SHALL MEET THE REQUIREMENTS OF THE ASTM F405 OR ASTM F667. GASKETED CONNECTIONS SHALL INCORPORATE A CLOSED-CELL SYNTHETIC EXPANDED RUBBER GASKET MEETING THE REQUIREMENTS OF ASTM D1056 GRADE 2A2.
3. ALL PIPE FITTINGS SHALL CONFORM TO ASTM F405 OR ASTM F667.
4. PIPE AND FITTING MATERIAL SHALL BE HIGH DENSITY POLYETHYLENE CONFORMING WITH THE MINIMUM REQUIREMENTS OF CELL CLASSIFICATION 423410C AS DEFINED AND DESCRIBED IN THE LATEST VERSION OF ASTM D3350; OR ASTM D1248 TYPE III, CLASS C, CATEGORY 4, GRADE P33.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
4	07/12/16	DCB 062 SAND BENTONITE PLUG CLAIRIFICATION	TDD	SGS
3	02/01/16	DCB 054 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS
2	08/12/14	DCB 13 BARRIER WALL REALIGNMENT	RJR	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD | DR RJR | CHK TDD | APVD SGS

Honeywell
115 TABOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

GAS VENTING SYSTEM
AND DETAILS

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619 (609) 587-7293
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-516
SHEET	52 OF 70

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APPENDIX T

PART 1 OF 22

PROGRESS REPORTS

2014 MONTHLY REPORTS PART 1

SA-6 AND SA-7 COMBINED PROGRESS REPORT

APRIL 16, 2014

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

April 16, 2014 *Via Express Mail*

Honorable Robert G. Torricelli
Office of the Special Master
41 W. State St., Suite 2F
Trenton, NJ 08608

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2014-03

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from March 1 – March 31, 2014.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: March 2014 SA-6/7 Combined Monthly Progress Report No. 2014-03

cc: Joe Clifford - AMEC (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP

Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2014-03

Project SA-6 & 7 Remediation

March 2014

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
03/04/14	Two-Year Summary Report for In-Situ Chromium Mass Removal from S-3 Sand Study Area 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
03/12/14	Response to Comments Provided by Plaintiffs re. Combined Monthly Progress/Highlights Report Study Areas 6 and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
03/12/14	Design Change Bulletin – Surcharge Monitoring Plan Study Area 6, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
03/13/14	Combined Monthly Progress/Highlights Report No. 2014-02 Study Areas 6 and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
03/18/14	Response to Comments Provided by Dr. Ben Ross January 27, 2014, Revised Integrated Groundwater Sampling and Analysis Plan Study Areas 5, 6, and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
03/18/14	Discharge of Tannin Construction Water Customer ID# 31630005-1 Study Area 7, Jersey City, NJ	Andy Caltagirone PVSC
03/18/14	Bayfront Redevelopment at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 31630016	Andy Caltagirone PVSC
03/18/14	NJPDES Permit NJ0156311: February 2014 Surface Water Discharge Monitoring Report Study Area 7, Jersey City, NJ *(see **Attachment 12**)*	NJDEP Office of Permit Management Division of Water Quality
03/18/14	Response to Comments Provided by Dr. Ben Ross February 12, 2014 re. Recommendation Regarding Bedrock Monitoring Wells on Kearny Point and NJCU Study Area 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
03/25/14	Special Master All Hands Conference Call	N/A
03/25/14	Design Change Bulletin – Trench Layout for Contingent Groundwater Extraction System Study Area 6, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
03/26/14	Study Area 5 Shallow Groundwater Arnold & Porter RTC re Plaintiffs' 1/2/14 Correspondence re. Long-Term Monitoring and Controls	Honorable Robert G. Torricelli Office of the Special Master

Date	Submittal/Meeting	Recipient
03/31/14	Table D to the 3/18/14 Revised Integrated Groundwater Sampling and Analysis Plan Study Areas 5, 6, and 7 Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	03/09/2014	03/16/2014	03/23/2014	03/30/2014
Construction Management (AMEC)	10	10	10	10
Engineering (AMEC)	2	2	2	2
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	38	36	39	43
Arecon/US Ecology Subcontractors	4	5	5	5
OSC (-80 Kellogg Demolition	0	2	5	8
ENR (SA-6N GWTP Utilities)	5	5	0	0
BCA (SA-6N Building Construction)	0	0	0	0
Siemens	1	1	1	1
HBS (SA-6N GWTP Security System)	0	0	0	0
HPS (SA-6N GWTP Process Controls)	0	0	0	0
Other	0	0	0	0
TOTAL	**64**	**65**	**66**	**73**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Conducted quarterly LTMP groundwater level measurement round.
- Conducted S-3 Injection/Mass Removal Event No.12 in well 088-IW-01.
- Completed new Ground Water Treatment Plant (GWTP) commissioning activities.
- Continued perimeter air monitoring activities on SA-6S and SA-6N.
- Completed abandonment of former 54” Sedimentation Basin outfall pipe on SA-6N.
- Continued well abandonment activities in accordance with approved Monitoring Well Abandonment Plan.
- Began 80 Kellogg St GWTP demolition activities.

- Completed decommissioning activities associated with the 80 Kellogg GWTP to include exterior ModuTanks, sludge tanks, microfilters and miscellaneous equipment.
- Completed all scheduled crane lifts for 80 Kellogg salvage equipment removals, two (2) sludge tanks, one (1) filter press and one (1) generator.
- Collected March PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Non-chromium activities, ARCADIS continues to work with NJDEP on the modification to the existing NJDEP-Discharge to Groundwater Permit by Rule for additional Enhanced Anaerobic in-situ bioremediation (EAISB) injections planned for JCMUA and JCDPW UST Areas.

C. SA-6 N GROUND WATER TREATMENT PLANT

- Completed permanent connection of PW-2 to the GWTP.
- Complete permanent connection of PW-1 to the GWTP.
- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer tank using the original Siemens' formula (300 cc powder per 100 gallon drum batch).

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	03/09/2014	03/16/2014	03/23/2014	03/30/2014
Avg. Gallons Treated & Discharged (per day)	71,112	53,872	77,063	79,192
Average Flow (gpm) for Operating Period	49	43	54	55
Avg. Hours of Plant Operation	24	18	24	24
GWTP ModuTanks (gal.)	4,680	4,668	4,800	6,240

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart, Weekly Excavation and Survey Data, Backfill Compaction Locations, and Field Density Test Summary Log)*

- Continued excavation activities in Cells 43 through 56.
- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Continued compaction testing associated with imported backfill. Adjusted the frequency of testing in accordance with specifications.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/ FCI	Roll-Off	TSDF	Stablex-Canada	WWTP Filter Cake	1	21.3	21.3

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Entact/ Horowith	Tri-axle Dump	PA Transload	US Ecology	>1000 mg/kg Soils	110	21.69	2,386.93
Entact/ Horowith	Tri-axle Dump	PA Transload	US Ecology	240-1000 mg/kg soils	15	21.65	324.89
Entact/ Venerio	Tri-axle Dump	Middlesex City Landfill	NA	Petroleum Impacted Soils (non–haz)	42	24.53	1030.44
Entact/ Montecalvo	Tri-axle Dump	Bayshore Recycling	NA	Petroleum Impacted Soils (non-haz)	65	25.67	1669.12
Entact/ Montecalvo	30 cubic Yard Roll off	Bayshore Recycling	NA	Creosote Debris (non-haz)	1	8.1	8.1
Entact/Tilcon	Tri-axle Dump	Tilcon, Mt. Hope	NA	Asphalt	28	22.91	641.49

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Under Excavation	Cell Number(s) 55,56
Excavation Completed	Cell Number(s) 42 through 52 Volume Excavated - Total for Reporting Period: 10,712 CY/ Total to Date:41,592 CY
Backfill in Progress	Cell Number(s) 1 through 43

3. BACKFILL MATERIALS USED

Source	(Week Ending)			
	03/09/2014	03/16/2014	03/23/2014	03/30/2014
<20ppm re-use, CY	0	0	0	0
Weldon, Import-Tons	0	863.90	1,628.19	3,145.29
Tilcon, Import-Tons	518.04	3,973.37	2,801.16	908.06

E. SURCHARGE OPERATIONS *(see **Attachment 9**)*

- Area 1S: Instrumentation Installation ~60% complete. Access limitations due to ice and demolition materials. No Surcharge Initiated.
- Area 2S: Instrumentation Installation ~75% complete. Completion of instrument installation deferred pending completion of demolition activities. No Surcharge Initiated.
- Area 3S: Instrumentation Installation 100% complete as of November 6, 2013 and all baseline readings recorded. Temporary stockpiles in area. No Surcharge initiated.
- Area 1N: Instrumentation Installation ~100% complete. No Surcharge initiated.

- Area 2N: No instrumentation installed. Settlement platforms have been installed in the sedimentation basin to the north of Area 2 and portion of the Sedimentation Basin has been temporarily filled with screened materials that will be used for surcharging the designated Surcharge Areas.
- Area 3N: No activity in this area pending JCIA Demolition.
- Area 4N: No activity in this area pending JCIA Demolition.

F. SHEET PILE OPERATIONS *(see **Attachment 10**)*

- Hydraulic Barrier installation was completed adjacent to the 72-inch force main. Vibration Monitoring indicated maximum accelerations continue to be within allowable range (0.2 in/sec observed, while the allowable acceleration is 1.0 in/sec).
- Acoustical Monitoring. PVSC/Hatch Mott MacDonald (HMM) report that there was no wire breaks recorded during the current reporting period.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/15	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/12
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP	SA-6 Chromium Remedy	Obtained 3/26/2014	Renewal Not Needed	8/31/2018	-
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/15	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/14	9/11/2014	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/12	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/13	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Initiate placement of surcharge materials in SA-6N Area 1N.
- Continue dewatering of well points/sumps installed within the SA-6S open space area.
- Continue excavation activities in SA-6S Cells 56 through 60 and Cells 156 to 132.

- Continue stockpiling potential >1,000 mg/kg soils for sampling.
- Continue loadout and transportation and disposal activities at SA-6S.
- Continue backfill placement and associated compaction testing activities.
- Continue dewatering and storm-water management activities.
- Continue surcharge monitoring instrument installation activities on SA-6N and SA-6S.
- Initiate construction of SA-6S Contingent Groundwater Trench System.
- Continue demolition activities associated with 80 Kellogg.
- Continue SWPPP inspections.
- Complete PVSC compliance sampling.

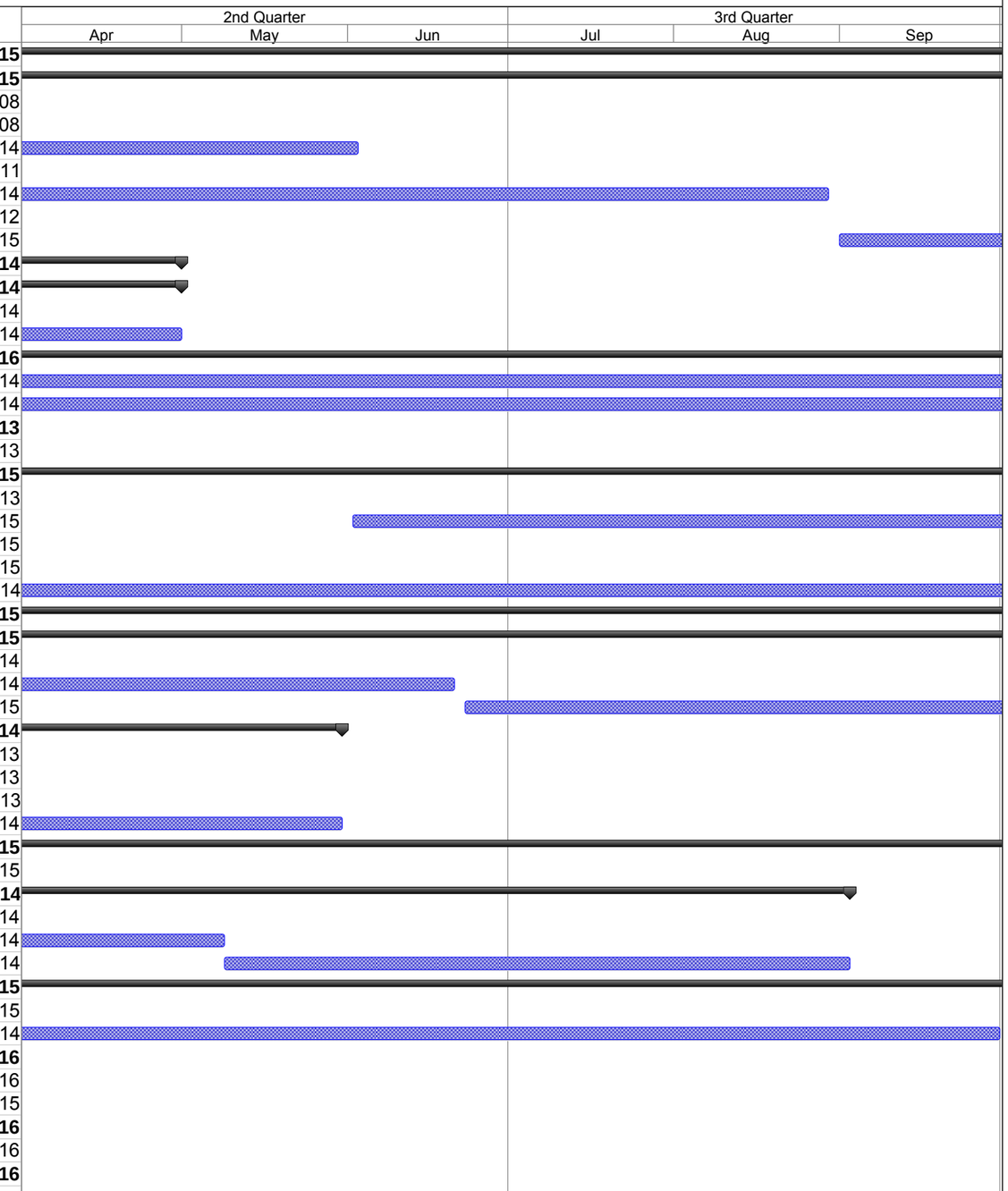
ATTACHMENTS:

1: Schedule – 6 Month Look Ahead
2: Site Photographs
3: Excavation and Backfill
   - Progression Chart
   - Excavation Bottom Elevations
   - Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/Sidewall Confirmatory Points
   - Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)
   - Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
4: Dewatering Operations Update
   - SA-6 South Dewatering Data (Headers)
   - SA-6 South Deep Well Data (DW-1)
   - SA-6 South Deep Well Data (DW-2)
5: SA-6 Construction Water Discharge Data (To PVSC)
6: Backfill Analytical Data
   - Stockpiled Material Tracking and Sampling Log
7: Perimeter Pools Update
8: Groundwater Quality Data in GWET Wells *(provided on a quarterly basis - not available as of this report date)*
9: Surcharge Monitoring Update
   - Instrumentation Location Plan 1N
   - Instrumentation Installation Data
10: Sheet Pile Update
   - Hydraulic Barrier Wall Plan & Profile
   - Sheet Deflection Along Open Excavation
   - Sheet Pile Repair Log
11: Weekly SWPPP Reports
12: 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (February 2014)

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**Fri 1/4/08**	**Mon 3/30/15**
18	**JCIA/JCDPW Relocation**	**1735 days**	**Mon 8/11/08**	**Mon 3/30/15**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08	Wed 10/1/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09	Mon 6/2/14
22	Relocation Contractor Procurement	392 days	Thu 4/15/10	Thu 10/13/11
23	JCIA and JCDPW Relocation	753 days	Mon 10/17/11	Fri 8/29/14
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11	Mon 4/30/12
24a	Demolition of JCIA Structures	151 days	Mon 9/1/14	Mon 3/30/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**	**Wed 4/30/14**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**	**Wed 4/30/14**
58	New GWTP Construction Completion	502 days	Mon 3/5/12	Thu 1/30/14
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11	Wed 4/30/14
60	**SA-6 North/South Field Implementation**	**838 days**	**Fri 3/1/13**	**Mon 5/16/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	Mon 6/17/13	Wed 12/31/14
60b	SA-6S (Site 163) In-Situ Treatment	294 days	Fri 11/15/13	Wed 12/31/14
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**	**Fri 6/28/13**
61a	Mobilization	87 days	Fri 3/1/13	Fri 6/28/13
62	**Surcharge Install/Instrumentation**	**620 days**	**Mon 6/17/13**	**Fri 10/30/15**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	Mon 6/17/13	Tue 12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	Mon 6/2/14	Fri 2/27/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Mon 3/2/15	Fri 10/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	Mon 10/20/14	Tue 6/30/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	Mon 3/3/14	Fri 11/28/14
63	**Barrier Wall Install**	**489 days**	**Mon 6/17/13**	**Thu 4/30/15**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**Mon 12/2/13**	**Thu 4/30/15**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	Mon 12/2/13	Fri 2/14/14
63c	SA-6N Stations 23+38 to 14+25	90 days	Mon 2/17/14	Fri 6/20/14
63d	SA-6N Stations 14+25 to 0+00	224 days	Mon 6/23/14	Thu 4/30/15
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**Mon 6/17/13**	**Fri 5/30/14**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	Mon 6/17/13	Thu 8/15/13
63h	SA-6S Stations 1+54 to 8+37	7 days	Fri 8/16/13	Mon 8/26/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	Thu 10/3/13	Fri 11/8/13
63j	SA-6S Stations 8+60 to 14+87	145 days	Mon 11/11/13	Fri 5/30/14
64	**Excavation**	**507 days**	**Tue 10/22/13**	**Wed 9/30/15**
64a	SA 6N Excavation	218 days	Mon 12/1/14	Wed 9/30/15
64b	**SA 6S Excavation**	**226 days**	**Tue 10/22/13**	**Tue 9/2/14**
64c	SA-6S Excavation of Cells 1 - 25	53 days	Tue 10/22/13	Thu 1/2/14
64d	SA-6S Excavation of Cells 26 - 60	90 days	Fri 1/3/14	Thu 5/8/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	Fri 5/9/14	Tue 9/2/14
65	**Backfill**	**493 days**	**Mon 11/11/13**	**Wed 9/30/15**
65a	SA 6N Backfill	218 days	Mon 12/1/14	Wed 9/30/15
65b	SA 6S Backfill	232 days	Mon 11/11/13	Tue 9/30/14
66	**Capping and Cover Soil Placement**	**315 days**	**Mon 12/1/14**	**Fri 2/12/16**
66a	SA 6N Capping and Cover Soil Placement	119 days	Tue 9/1/15	Fri 2/12/16
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14	Wed 12/30/15
67	**Restoration**	**164 days**	**Tue 9/1/15**	**Fri 4/15/16**
67a	Restoration	164 days	Tue 9/1/15	Fri 4/15/16
68	**Demobilization**	**21 days**	**Mon 4/18/16**	**Mon 5/16/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			



Project: SA-6 Remediation Schedule
Revision 3
Date: Tue 4/1/14

Task | Milestone | Summary | Critical

Attachment 2: Site Photographs

Site Photograph 1: Former timber piles removed as part of excavation.

Site Photograph 2: Standing water removed prior to backfilling.

Site Photograph 3: Excavation reaches the 60 Kellogg warehouse foundation.

Site Photograph 4: Installation of stormwater control measures on Kellogg St Properties.

Site Photograph 5: Contractor crushes concrete debris at JC Properties.

Site Photograph 6: 80 Kellogg St WWTP tank cleanout prior to demo.

Site Photograph 7: Salvage of tanks for reuse at other facilities.

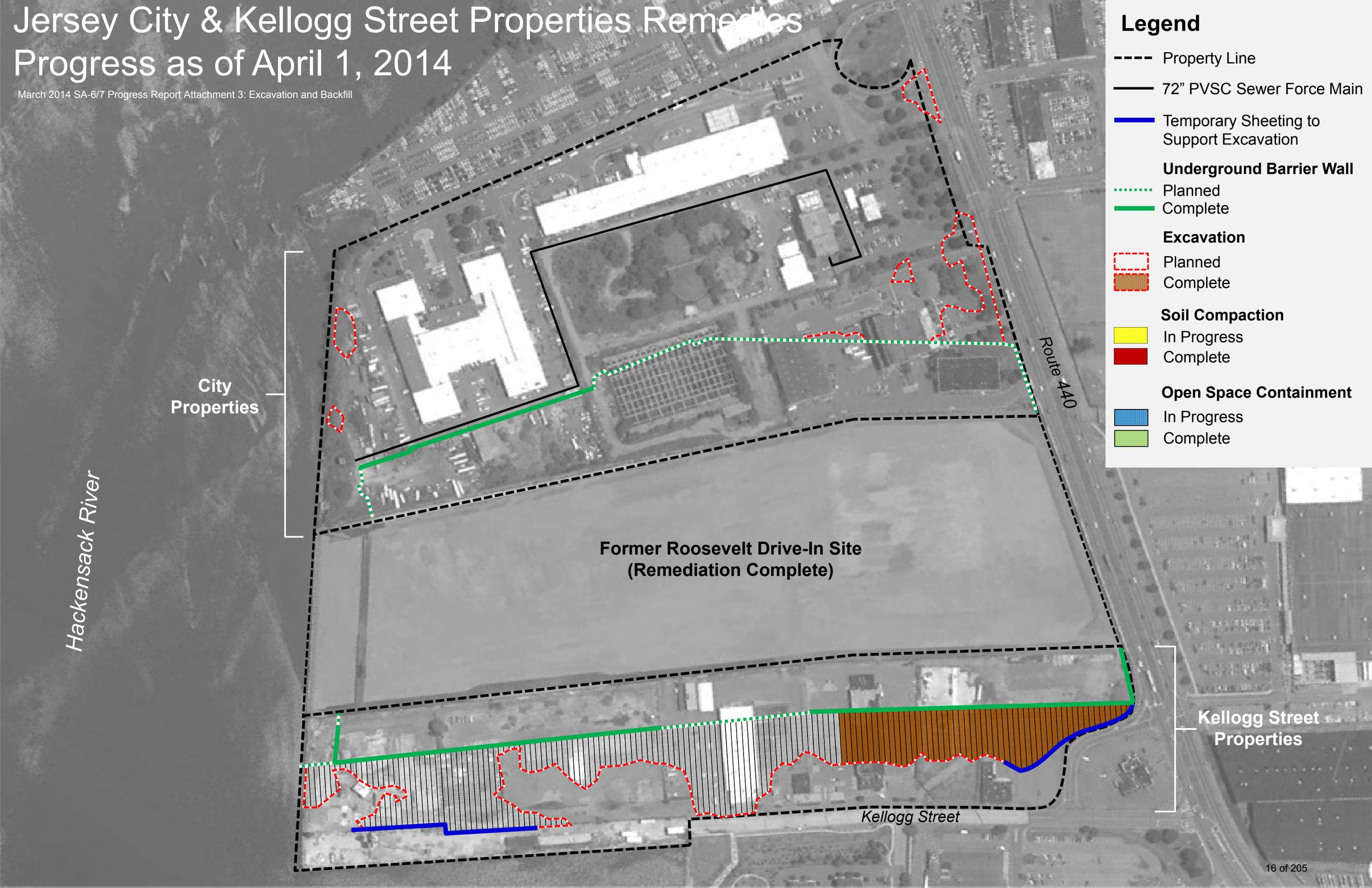
Site Photograph 8: Sheetpile installation along Sewer Line at JC Properties.

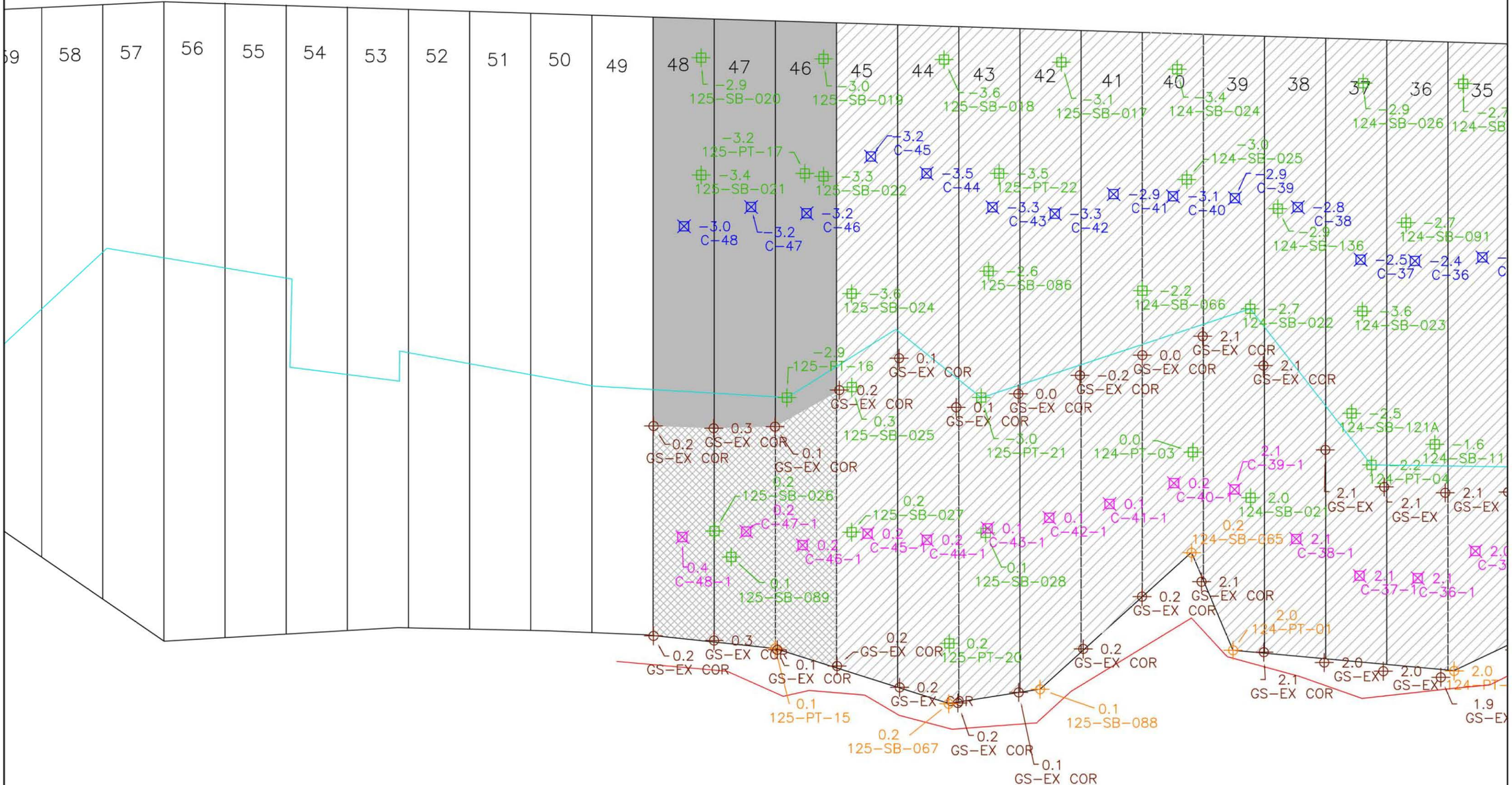
Attachment 3: Excavation and Backfill

- Progression Chart
- Excavation Bottom Elevations
- Maser Survey Tables (SA-6 South Excavation: Confirmatory/Center/Sidewall Confirmatory Points)
- Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)
- Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)

Jersey City & Kellogg Street Properties Remedies Progress as of April 1, 2014

March 2014 SA-6/7 Progress Report Attachment 3: Excavation and Backfill





LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- BOTTOM CENTER POINT ELEVATION STRATUM D
- BOTTOM CENTER POINT ELEVATION <20 PPM
- BOTTOM CORNER POINT ELEVATION <20 PPM
- DESIGNED STRATUM 0 EXCAVATION LIMIT
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- CURRENT EXCAVATION TO <20 PPM
- TOP OF EXCAVATION SLOPE

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS
PERIOD 03-14-14 TO 03-20-14

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

MASER CONSULTING P.A.

Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

156 Stagecoach Road
Marmora, NJ 08223
T: 609.390.1927
F: 609.390.0040
www.maserconsulting.com

SA-6 South Excavation: Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684123.8	603224.1	-0.8	124-SB-043R	1	10/24/2013	-1.7*	Stratum D Reached
684134.6	603208.6	-0.8	124-SB-130	2	10/24/2013	-1.2	Stratum D Reached
684150.2	603204.3	-1.4	124-SB-037	3	10/31/2013	-0.8	Stratum D Reached
684138.4	603182.8	-0.8	124-SB-043R	4	10/31/2013	-0.5*	Stratum D Reached
684146.2	603165.7	-0.8	124-SB-043R	5	10/31/2013	-0.6*	Stratum D Reached
684145.4	603158.6	-0.8	124-SB-038	6	11/5/2013	-0.7	Stratum D Reached
684186.5	603160.3	-2.1	124-SB-036	7	11/5/2013	-0.8	Stratum D Reached
684142.9	603119.3	0.7	124-SB-079	7	11/7/2013	-0.7	Stratum D Reached
684156.2	603128.2	-1.8	124-SB-045	8	11/7/2013	-1.3	Stratum D Reached
684180.8	603117.2	-1.3	124-SB-033	9	11/7/2013	-1.3	Stratum D Reached
684208.6	603119.4	-4.5	124-SB-C04	10	11/14/2013	-1.4	Stratum D Reached
684204.6	603115.9	-1.6	124-SB-138	10	11/14/2013	-1.3	Stratum D Reached
684221.9	603112.3	-2.9	124-SB-067	11	11/14/2013	-1.3	Stratum D Reached
684191.5	603080.1	-3.1	124-SB-044	12	11/14/2013	-2.0	Stratum D Reached
684181.7	603072.3	-1.0	124-SB-078	12	11/14/2013	-0.2	Stratum D Reached
684217.2	603081.8	-2.0	124-SB-035	13	11/21/2013	-1.3	Stratum D Reached
684241.3	603065.1	-2.2	124-SB-122	14	11/21/2013	-1.3	Stratum D Reached
684196.6	603033.7	-2.2	124-SB-077	14	11/25/2013	-0.7	Stratum D Reached
684184.0	603001.0	-3.5	124-SB-013	15	12/5/2013	-0.8	Stratum D Reached
684258.4	603074.7	-2.6	124-SB-032	15	12/5/2013	-1.9	Stratum D Reached
684221.8	603013.0	-0.8	124-SB-043R	16	12/5/2013	-0.7*	Stratum D Reached
684262.7	603034.6	-1.7	124-SB-139	17	12/10/2013	-1.3	Stratum D Reached
684220.6	603006.7	0.8	124-SB-046	17	12/10/2013	-0.8	Stratum D Reached
684181.0	602955.9	1.7	124-SB-049	18	12/10/2013	-1.1	Stratum D Reached
684215.6	602967.4	0.4	124-SB-047	18	12/10/2013	-0.5	Stratum D Reached
684211.8	602961.2	-1.5	124-SB-125	19	12/10/2013	-0.6	Stratum D Reached
684304.7	603027.7	-2.5	124-SB-031	19	12/12/2013	-1.5	Stratum D Reached
684187.4	602932.2	2.4	124-SB-073R	19	12/12/2013	2.0*	Target Elevation Reached
684283.2	602988.7	-2.8	124-SB-068	20	12/12/2013	-1.7	Stratum D Reached

Note: Data shown is for recent months activity

SA-6 South Excavation: Confirmatory Points (Table 1.1)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684257.2	602964.2	0.7	124-SB-071	20	12/12/2013	-1.2	Stratum D Reached
684256.4	602965.5	-0.8	124-SB-043	20	12/12/2013	-0.7	Stratum D Reached
684229.0	602947.0	-1.6	124-SB-012	20	12/12/2013	-1.5	Stratum D Reached
684217.9	602935.3	-1.8	124-SB-135	20	12/12/2013	-1.6	Stratum D Reached
684198.3	602920.8	2.4	124-SB-073R	20	12/12/2013	2.0*	Target Elevation Reached
684291.1	602978.2	-2.3	124-SB-134	21	12/19/2013	-2.1	Stratum D Reached
684200.8	602904.5	2.4	124-SB-073R	21	12/19/2013	1.9*	Target Elevation Reached
684204.7	602890.6	2.4	124-SB-073	22	1/9/2014	2.0	Target Elevation Reached
684218.2	602907.9	1.8	124-SB-054	22	1/9/2014	-0.1	Target Elevation Reached
684272.8	602944.8	-0.8	124-SB-043R	22	12/19/2013	-0.9*	Stratum D Reached
684258.9	602918.2	0.1	124-SB-053	23	12/19/2013	-0.8	Stratum D Reached
684338.0	602980.2	-2.9	124-SB-040	23	12/19/2013	-2.1	Stratum D Reached
684217.2	602879.5	2.4	124-SB-073R	23	12/19/2013	1.9*	Target Elevation Reached
684293.5	602922.8	-0.8	124-SB-043R	24	1/2/2014	-0.9*	Stratum D Reached
684227.9	602869.9	2.4	124-SB-073R	24	1/2/2014	2.1*	Target Elevation Reached
684338.6	602935.1	-3.4	124-SB-030	25	1/2/2014	-1.7	Stratum D Reached
684300.2	602911.6	0.3	124-SB-042	25	1/2/2014	-1.1	Stratum D Reached
684247.0	602862.1	1.6	124-SB-051R	25	1/2/2014	0.4*	Target Elevation Reached
684264.7	602869.3	0.0	124-SB-129	26	1/2/2014	-1.3	Stratum D Reached
684273.8	602864.2	1.6	124-SB-051R	26	1/16/2014	0.3*	Target Elevation Reached
684294.0	602874.0	1.4	124-SB-011	27	1/10/2014	-1.2	Stratum D Reached
684373.8	602937.7	-2.3	124-SB-133	27	1/10/2014	-2.4	Stratum D Reached
684285.9	602856.5	1.6	124-SB-051R	27	1/10/2014	0.4*	Target Elevation Reached
684296.4	602850.5	1.6	124-SB-051	28	1/16/2014	0.2	Target Elevation Reached
684308.9	602854.3	1.9	124-SB-127	28	1/16/2014	-1.7	Stratum D Reached
684398.5	602909.7	-2.7	124-SB-039	29	1/16/2014	-2.7	Stratum D Reached
684343.7	602873.5	-0.4	124-SB-069	29	1/16/2014	-1.7	Stratum D Reached
684305.4	602833.3	3.5	124-SB-021R	29	1/16/2014	2.1*	Target Elevation Reached

Note: Data shown is for recent months activity

SA-6 South Excavation: Confirmatory Points (Table 1.2)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684392.6	602878.7	-2.8	124-SB-123	30	1/23/2014	-2.4	Stratum D Reached
684311.9	602821.5	3.5	124-SB-021R	30	1/23/2014	1.9*	Target Elevation Reached
684381.0	602861.0	-2.3	124-SB-110	31	1/23/2014	-2.3	Stratum D Reached
684362.9	602837.4	3.2	124-SB-124	31	1/23/2014	-2.1	Stratum D Reached
684340.0	602818.0	3.2	124-SB-109	31	1/23/2014	-1.6	Stratum D Reached
684318.6	602806.8	3.5	124-SB-021R	31	1/23/2014	1.9*	Target Elevation Reached
684416.9	602861.1	-2.8	124-SB-029	32	1/30/2014	-2.5	Stratum D Reached
684335.2	602800.6	3.5	124-SB-021R	32	1/30/2014	2.0*	Target Elevation Reached
684411.9	602839.0	-2.2	124-SB-092	33	1/30/2014	-2.5	Stratum D Reached
684348.7	602791.2	3.5	124-SB-021R	33	1/30/2014	2.0*	Target Elevation Reached
684372.0	602797.0	2.6	124-PT-14	34	2/4/2014	-1.9	Stratum D Reached
684355.8	602781.0	3.5	124-SB-021R	34	2/4/2014	2.0	Target Elevation Reached
684458.4	602838.3	-2.3	124-SB-027	35	2/4/2014	-2.7	Stratum D Reached
684367.5	602768.5	3.5	124-SB-021R	35	2/4/2014	2.0	Target Elevation Reached
684440.8	602806.0	-2.8	124-SB-091	36	2/11/2014	-2.7	Stratum D Reached
684371.2	602753.4	3.5	124-SB-021R	36	2/11/2014	2.1*	Target Elevation Reached
684394.0	602777.3	4.7	124-SB-117A	36	2/11/2014	-1.6	Stratum D Reached
684473.9	602819.4	-2.8	124-SB-026	37	2/11/2014	-2.9	Stratum D Reached
684430.7	602784.0	-1.3	124-SB-023	37	2/11/2014	-3.6	Stratum D Reached
684412.9	602766.1	2.0	124-SB-121A	37	2/11/2014	-2.5	Stratum D Reached
684400.0	602762.0	-0.1	124-PT-04	37	2/11/2014	-2.2	Stratum D Reached
684380.7	602742.6	3.5	124-SB-021R	37	2/11/2014	2.1*	Target Elevation Reached
684463.2	602783.7	-2.3	124-SB-136	38	2/20/2014	-2.9	Stratum D Reached
684397.4	602736.2	3.5	124-SB-021R	38	2/20/2014	2.1	Target Elevation Reached
684448.4	602763.0	4.7	124-SB-022	39	2/20/2014	-2.7	Stratum D Reached
684412.3	602733.9	3.5	124-SB-021	39	2/20/2014	2.0	Target Elevation Reached
684505.3	602786.0	-2.8	124-SB-024	40	2/27/2014	-3.4	Stratum D Reached
684482.9	602770.8	-3.3	124-SB-025	40	2/27/2014	-3.0	Stratum D Reached
684430.0	602730.0	1.7	124-PT-03	40	2/27/2014	0.0	Target Elevation Reached
684468.5	602745.2	1.8	124-SB-066	40	2/27/2014	-2.2	Stratum D Reached
684491.3	602754.6	-2.3	124-SB-136R	41	2/27/2014	-2.9	Stratum D Reached
684432.9	602706.0	0.4	125-SB-029R	41	2/27/2014	0.1	Target Elevation Reached

Note: Data shown is for recent months activity

SA-6 South Excavation: Confirmatory Points (Table 1.3)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684524.5	602765.0	-3.5	125-SB-017	42	3/5/2014	-3.1	Stratum D Reached
684439.6	602692.4	0.4	125-SB-029R	42	3/5/2014	0.1	Target Elevation Reached
684513.0	602736.0	-4.3	125-PT-22	43	3/5/2014	-3.5	Stratum D Reached
684496.0	602718.9	-1.7	125-SB-086	43	3/5/2014	-2.6	Stratum D Reached
684473.0	602698.0	0.3	125-PT-21	43	3/17/2014	-3.0	Stratum D Reached
684446.6	602677.9	0.5	125-SB-028	43	3/5/2014	0.1	Target Elevation Reached
684543.1	602743.1	-3.9	125-SB-018	44	3/11/2014	-3.6	Stratum D Reached
684431.0	602654.0	0.7	125-PT-20	44	3/11/2014	0.2	Target Elevation Reached
684467.4	602652.6	1.0	125-SB-027	45	3/11/2014	0.2	Target Elevation Reached
684495.1	602674.9	0.4	125-SB-025	45	3/11/2014	0.3	Target Elevation Reached
684512.8	602689.3	0.3	125-SB-024	45	3/11/2014	-3.6	Stratum D Reached
684561.9	602720.2	-3.3	125-SB-019	46	3/17/2014	-3.0	Stratum D Reached
684543.0	602699.0	-4.7	125-PT-17	46	3/17/2014	-3.2	Stratum D Reached
684539.5	602702.1	-3.7	125-SB-022	46	3/17/2014	-3.3	Stratum D Reached
684503.0	602661.0	1.0	125-PT-16	46	3/17/2014	-2.9	Stratum D Reached
684472.4	602641.2	0.4	125-SB-029R	46	3/17/2014	0.2	Target Elevation Reached
684544.9	602683.5	-2.3	124-SB-136R	47	3/17/2014	-3.2	Stratum D Reached
684481.2	602625.7	1.7	125-SB-089	47	3/17/2014	0.1	Target Elevation Reached
684488.7	602626.5	1.3	125-SB-026	47	3/17/2014	0.2	Target Elevation Reached
684581.0	602697.1	-3.4	125-SB-020	48	3/20/2014	-2.9	Stratum D Reached
684558.6	602678.9	-4.0	125-SB-021	48	3/20/2014	-3.4	Stratum D Reached
684492.6	602619.5	0.4	125-SB-029R	48	3/20/2014	0.4	Target Elevation Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area. Coordinates come from Center Points within that specific cell.

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

Note: Data shown is for recent months activity

SA-6 South Excavation: Center Points (Table 2.0)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684123.8	603224.1	-1.2	C1	1	10/24/2013	-1.7	Stratum D Reached
684124.9	603209.0	-1.2	C2	2	10/31/2013	-0.9	Stratum D Reached
684132.1	603196.4	-1.2	C3	3	10/31/2013	-1.1	Stratum D Reached
684138.4	603182.8	-1.2	C4	4	10/31/2013	-0.5	Stratum D Reached
684146.2	603165.7	-1.2	C5	5	10/31/2013	-0.6	Stratum D Reached
684153.8	603153.9	-1.2	C6	6	11/5/2013	-0.6	Stratum D Reached
684163.6	603140.8	-1.2	C7	7	11/7/2013	-1.0	Stratum D Reached
684171.5	603131.4	-1.2	C8	8	11/7/2013	-1.1	Stratum D Reached
684179.9	603119.5	-1.2	C9	9	11/7/2013	-1.2	Stratum D Reached
684187.6	603106.3	-1.2	C10	10	11/14/2013	-1.4	Stratum D Reached
684195.7	603093.1	-1.2	C11	11	11/14/2013	-1.5	Stratum D Reached
684200.6	603078.4	-1.2	C12	12	11/14/2013	-1.8	Stratum D Reached
684206.7	603063.8	-1.2	C13	13	11/21/2013	-1.6	Stratum D Reached
684214.8	603050.6	-1.2	C14	14	11/21/2013	-1.7	Stratum D Reached
684222.7	603033.3	-1.2	C15	15	12/5/2013	-0.8	Stratum D Reached
684221.8	603013.0	-1.2	C16	16	12/5/2013	-0.7	Stratum D Reached
684234.5	603010.3	-1.2	C17	17	12/10/2013	-0.5	Stratum D Reached
684247.3	602999.0	-1.2	C18	18	12/10/2013	-0.5	Stratum D Reached
684238.6	602972.8	-1.2	C19	19	12/12/2013	-1.0	Stratum D Reached
684187.4	602932.2	2.1	C19-1	19	12/12/2013	2.0	Target Elevation Reached
684248.1	602961.0	-1.2	C20	20	12/12/2013	-1.7	Stratum D Reached
684198.3	602920.8	2.1	C20-1	20	12/12/2013	2.0	Target Elevation Reached
684267.7	602959.2	-1.2	C-21	21	12/19/2013	-0.9	Stratum D Reached
684200.8	602904.5	2.1	C-21-1	21	12/19/2013	1.9	Target Elevation Reached
684272.8	602944.8	-1.2	C-22	22	12/19/2013	-0.9	Stratum D Reached
684207.2	602890.0	2.1	C-22-1	22	1/9/2014	2.1	Target Elevation Reached
684281.0	602931.9	-1.2	C-23	23	12/19/2013	-0.9	Stratum D Reached
684217.2	602879.5	2.1	C-23-1	23	12/19/2013	1.9	Target Elevation Reached
684293.5	602922.8	-1.2	C-24	24	1/2/2014	-0.9	Stratum D Reached
684227.9	602869.9	2.1	C-24-1	24	1/2/2014	2.1	Target Elevation Reached
684302.0	602910.0	-1.2	C-25	25	1/2/2014	-1.1	Stratum D Reached
684247.0	602862.1	0.4	C-25-1	25	1/2/2014	0.4	Target Elevation Reached

Note: Data shown is for recent months activity

SA-6 South Excavation: Center Points (Table 2.1)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684325.2	602907.2	-1.2	C-26	26	1/10/2014	-1.5	Stratum D Reached
684273.8	602864.2	0.4	C-26-1	26	1/10/2014	0.3	Target Elevation Reached
684335.7	602896.8	-1.2	C-27	27	1/10/2014	-1.5	Stratum D Reached
684285.9	602856.5	0.4	C-27-1	27	1/10/2014	0.4	Target Elevation Reached
684347.4	602890.7	-1.2	C-28	28	1/16/2014	-1.8	Stratum D Reached
684295.1	602846.5	0.4	C-28-1	28	1/16/2014	0.3	Target Elevation Reached
684357.8	602876.2	-1.2	C-29	29	1/16/2014	-2.1	Stratum D Reached
684305.4	602833.3	2.1	C-29-1	29	1/16/2014	2.1	Target Elevation Reached
684373.5	602871.7	-2.5	C-30	30	1/23/2014	-2.1	Stratum D Reached
684311.9	602821.5	2.1	C-30-1	30	1/23/2014	1.9	Target Elevation Reached
684384.9	602861.2	-2.5	C-31	31	1/23/2014	-2.3	Stratum D Reached
684318.6	602806.8	2.1	C-31-1	31	1/23/2014	1.9	Target Elevation Reached
684383.8	602841.5	-2.5	C-32	32	1/30/2014	-1.8	Stratum D Reached
684335.2	602800.6	2.1	C-32-1	32	1/30/2014	2.0	Target Elevation Reached
684393.5	602830.6	-2.5	C-33	33	1/30/2014	-1.9	Stratum D Reached
684348.7	602791.2	2.1	C-33-1	33	1/30/2014	2.0	Target Elevation Reached
684412.7	602824.5	-2.5	C-34	34	2/4/2014	-2.1	Stratum D Reached
684355.8	602781.0	2.1	C-34-1	34	2/4/2014	2.0	Target Elevation Reached
684422.4	602815.2	-2.5	C-35	35	2/4/2014	-2.1	Stratum D Reached
684367.5	602768.5	2.1	C-35-1	35	2/4/2014	2.0	Target Elevation Reached
684432.1	602801.8	-2.5	C-36	36	2/11/2014	-2.4	Stratum D Reached
684371.2	602753.4	2.1	C-36-1	36	2/11/2014	2.1	Target Elevation Reached
684440.7	602791.6	-2.5	C-37	37	2/11/2014	-2.5	Stratum D Reached
684380.7	602742.6	2.1	C-37-1	37	2/11/2014	2.1	Target Elevation Reached
684460.4	602787.7	-2.5	C-38	38	2/20/2014	-2.8	Stratum D Reached
684397.4	602736.2	2.1	C-38-1	38	2/20/2014	2.1	Target Elevation Reached
684471.9	602777.2	-2.5	C-39	39	2/20/2014	-2.9	Stratum D Reached
684416.4	602732.1	2.1	C-39-1	39	2/20/2014	2.1	Target Elevation Reached
684481.8	602765.6	-2.5	C-40	40	2/27/2014	-3.1	Stratum D Reached
684427.0	602721.5	0.4	C-40-1	40	2/27/2014	0.2	Target Elevation Reached
684491.3	602754.6	-2.5	C-41	41	2/27/2014	-2.9	Stratum D Reached
684432.9	602706.0	0.4	C-41-1	41	2/27/2014	0.1	Target Elevation Reached

Note: Data shown is for recent months activity

SA-6 South Excavation: Center Points (Table 2.2)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684496.7	602740.4	-2.5	C-42	42	3/5/2014	-3.3	Stratum D Reached
684439.6	602692.4	0.4	C-42-1	42	3/5/2014	0.1	Target Elevation Reached
684507.5	602729.5	-2.5	C-43	43	3/5/2014	-3.3	Stratum D Reached
684447.1	602679.0	0.4	C-43-1	43	3/5/2014	0.1	Target Elevation Reached
684524.2	602722.2	-2.5	C-44	44	3/11/2014	-3.5	Stratum D Reached
684454.3	602665.7	0.4	C-44-1	44	3/11/2014	0.2	Target Elevation Reached
684536.0	602714.2	-2.5	C-45	45	3/11/2014	-3.2	Stratum D Reached
684464.6	602655.3	0.4	C-45-1	45	3/11/2014	0.2	Target Elevation Reached
684535.1	602693.1	-2.5	C-46	46	3/17/2014	-3.2	Stratum D Reached
684472.4	602641.2	0.4	C-46-1	46	3/17/2014	0.2	Target Elevation Reached
684544.9	602683.5	-2.5	C-47	47	3/17/2014	-3.2	Stratum D Reached
684483.8	602632.5	0.4	C-47-1	47	3/17/2014	0.2	Target Elevation Reached
684551.5	602667.8	-2.5	C-48	48	3/20/2014	-3.0	Stratum D Reached
684492.6	602619.5	0.4	C-48-1	48	3/20/2014	0.4	Target Elevation Reached

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

Note: Data shown is for recent months activity

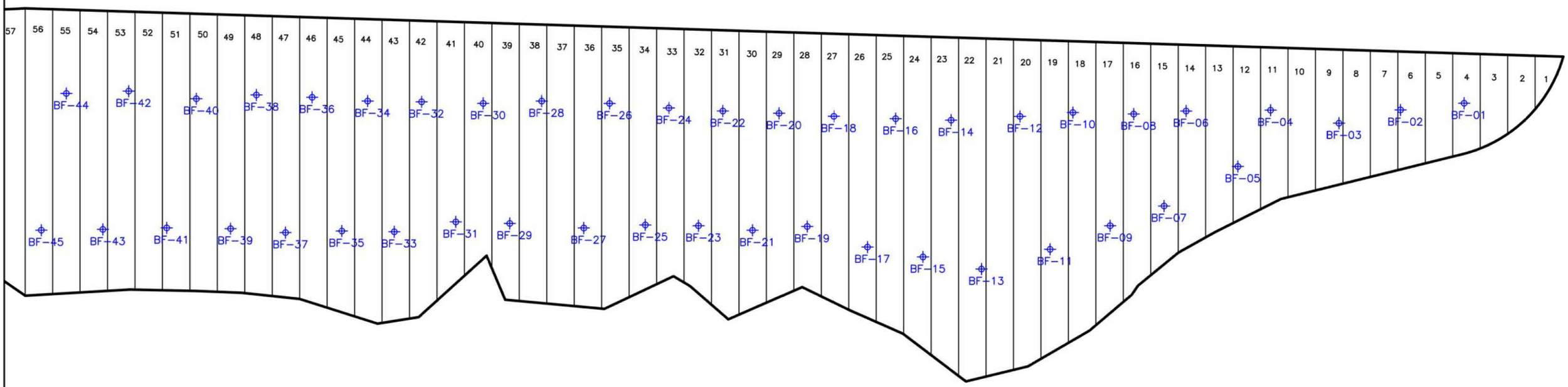
SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)							
Sidewall Target Coordinates					As-built Elevations		
Northing	Easting	Elevation	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684162.0	603071.0	4.9	124-SB-017	11	11/14/2013	-0.2	Stratum D Reached
684174.4	602980.6	1.2	124-SB-048	16	12/5/2013	-0.5	Stratum D Reached
684172.0	602944.6	4.3	124-SB-126	18	12/10/2013	-0.9	Stratum D Reached
684178.0	602906.0	4.5	124-SB-014	20	12/12/2013	2.0	Stratum D Reached
684192.9	602874.5	3.8	124-SB-090	22	12/19/2013	2.1	Target Elevation Reached
684234.9	602864.2	0.9	124-SB-019	25	1/2/2014	0.5	Target Elevation Reached
684289.2	602837.4	2.9	124-SB-050	28	1/16/2014	0.3	Target Elevation Reached
684301.0	602795.0	2.6	124-SB-108	31	1/23/2014	1.9	Target Elevation Reached
684328.2	602790.2	3.3	124-SB-063	32	1/30/2014	1.8	Target Elevation Reached
684338.1	602786.6	4.7	124-SB-056	33	1/30/2014	1.7	Target Elevation Reached
684348.0	602746.0	3.4	124-PT-02	35	2/4/2014	2.0	Target Elevation Reached
684386.0	602707.0	3.3	124-PT-01	39	2/20/2014	2.0	Target Elevation Reached
684411.1	602714.2	3.9	124-SB-065	40	2/27/2014	0.2	Target Elevation Reached
684408.4	602664.2	2.2	125-SB-088	42	3/5/2014	0.1	Target Elevation Reached
684419.7	602644.6	1.8	125-SB-067	44	3/11/2014	0.2	Target Elevation Reached
684457.0	602620.0	1.1	125-PT-15	47	3/17/2014	0.1	Target Elevation Reached

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR
LICENSE NO. 36737

Note: Data shown is for recent months activity



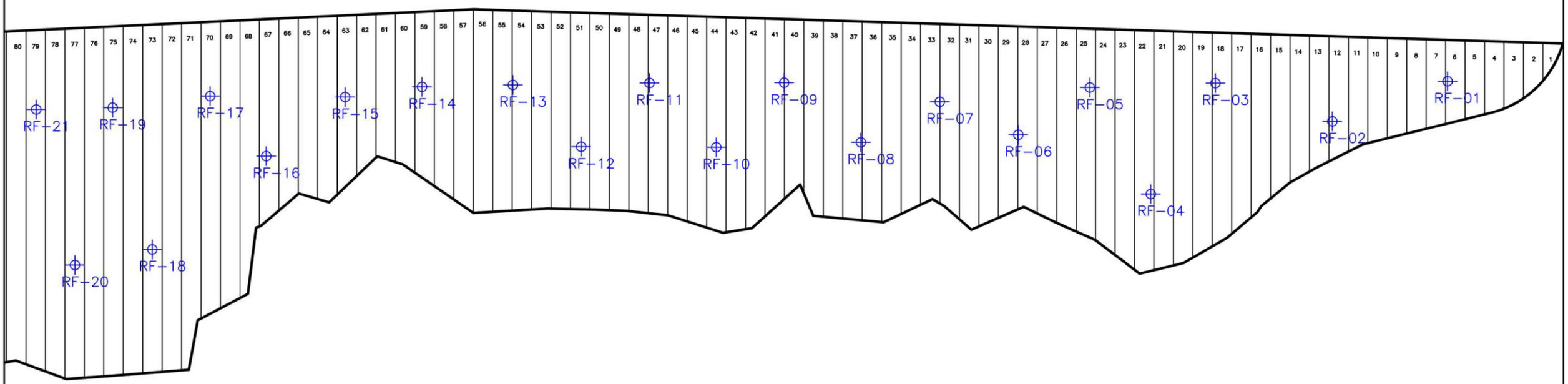
NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS 5 TESTS PER ACRE

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-01		684138.40	603182.30	-0.5						4	Crushed concrete	Bottom of excavation elevation	
2	BF-01-01	12/5/2013	684144.22	603184.16	1.0	136.4	3.7	142.6	7.8	96	4	Weldon WC QP		Sor
3	BF-01-02	12/5/2013	684137.77	603181.67	1.9	139.9	4.3	142.6	7.8	98	4	Weldon WC QP		Sor
4	BF-01-03	12/6/2013	684140.20	603182.66	2.5	141.2	5.0	142.6	7.8	99	4	Weldon WC QP		Sor
5	BF-01-04	12/6/2013	684136.62	603189.99	3.5	141.2	5.6	142.6	7.8	99	4	Weldon WC QP		Sor
6	BF-01-05	12/6/2013	684134.87	603186.67	4.5	143.2	4.8	142.6	7.8	100	4	Weldon WC QP		Sor
7	BF-01-06	12/6/2013	684141.06	603182.62	5.8	139.6	6.0	142.6	7.8	98	4	Weldon WC QP		Sor
8	BF-01-07	12/10/2013	684147.62	603186.80	6.2	146.7	5.1	142.6	7.8	103	4	Weldon WC QP		Sor
9	BF-01-08	12/10/2013	684140.19	603189.62	7.1	120.1	3.4	128.9	12.1	93	4	Weldon WC Screenings	recompact lift	Sor
9	BF-01-08R	12/10/2013	684140.19	603189.62	7.1	129.9	4.9	128.9	12.1	101	4	Weldon WC Screenings	second reading after addl compaction	Sor
10	BF-01-09	12/12/2013	684130.07	603175.51	8.1	126.4	3.3	128.9	12.1	98	4	Weldon WC Screenings		Sor
11	BF-01-10	12/31/2013	684140.00	603184.30	9.0	139.6	7.4	128.9	12.1	108	4	Weldon WC Screenings		Sor
1	BF-02		684153.80	603153.90	-0.6						6	Crushed concrete	Bottom of excavation elevation	
2	BF-02-01	12/5/2013	684162.75	603161.31	1.4	138.2	5.7	142.6	7.8	97	6	Weldon WC QP		Sor
3	BF-02-02	12/5/2013	684160.82	603162.33	2.4	136.2	4.5	142.6	7.8	96	6	Weldon WC QP		Sor
4	BF-02-03	12/6/2013	684157.71	603161.30	2.7	147.2	5.6	142.6	7.8	103	6	Weldon WC QP		Sor
5	BF-02-04	12/6/2013	684145.73	603162.11	3.7	143.5	5.0	142.6	7.8	101	6	Weldon WC QP		Sor
6	BF-02-05	12/6/2013	684156.93	603171.05	4.4	145.7	4.1	142.6	7.8	102	6	Weldon WC QP		Sor
7	BF-02-06	12/6/2013	684150.07	603155.35	5.6	140.4	4.6	142.6	7.8	98	6	Weldon WC QP		Sor
8	BF-02-07	12/10/2013	684135.46	603153.45	6.1	149.4	4.0	142.6	7.8	105	6	Weldon WC QP		Sor
9	BF-02-08	12/10/2013	684157.93	603174.92	7.2	125.8	5.2	128.9	12.1	98	6	Weldon WC Screenings		Sor
1	BF-03		684179.90	603119.50	-1.2						9	Crushed concrete	Bottom of excavation elevation	
2	BF-03										9	Type A Material	No compaction testing required	
3	BF-03-01	11/22/2013	684198.06	603131.60	0.2	133.3	3.4	142.6	7.8	93	9	Weldon WC QP		Sor
4	BF-03-02	11/22/2013	684155.72	603111.63	1.5	130.8	2.8	142.6	7.8	92	9	Weldon WC QP		Sor
5	BF-03-03	12/5/2013	684177.45	603121.50	2.5	135.7	2.0	128.9	12.1	105	9	Weldon WC Screenings		Sor
6	BF-03-04	12/12/2013	684180.46	603126.88	4.6	124.7	3.2	128.9	12.1	97	9	Weldon WC Screenings		Sor
7	BF-03-05	12/12/2013	684177.07	603132.39	5.3	132.5	2.8	128.9	12.1	103	9	Weldon WC Screenings		Sor
8	BF-03-06	12/16/2013	684172.40	603128.53	6.4	128.3	2.9	128.9	12.1	100	9	Weldon WC Screenings		Sor
9	BF-03-07	1/6/2014	684177.12	603113.81	6.6	131.2	10.4	128.9	12.1	102	9	Weldon WC Screenings		Sor
10	BF-03-08	1/9/2014	684178.20	603121.80	8.2	128.2	5.9	128.9	12.1	99	9	Weldon WC Screenings		Sor
1	BF-04		684195.70	603093.10	-1.5						11	Crushed concrete	Bottom of excavation elevation	
2	BF-04										11	Type A Material	No compaction testing required	
3	BF-04-01	12/5/2013	684198.04	603094.76	2.6	131.0	3.6	128.9	12.1	102	11	Weldon WC Screenings		Sor
4	BF-04-02	12/12/2013	684206.60	603104.72	3.5	125.8	3.9	128.9	12.1	98	11	Weldon WC Screenings		Sor
5	BF-04-03	12/16/2013	684217.51	603111.14	4.9	129.9	2.9	128.9	12.1	101	11	Weldon WC Screenings		Sor
6	BF-04-04	12/31/2013	684213.60	603115.00	5.9	124.6	3.2	128.9	12.1	97	11	Weldon WC Screenings		Sor
7	BF-04-05	1/9/2014	684195.80	603100.00	8.2	131.2	4.8	128.9	12.1	102	11	Weldon WC Screenings		Sor
1	BF-05		684200.80	603078.40	-1.8						12	Crushed concrete	Bottom of excavation elevation	
2	BF-05										12	Type A Material	No compaction testing required	
3	BF-05-01	12/5/2013	684185.18	603057.89	2.6	133.8	4.7	128.9	12.1	104	12	Weldon WC Screenings		Sor
4	BF-05-02	12/12/2013	684179.86	603057.68	3.0	121.5	3.0	128.9	12.1	94	12	Weldon WC Screenings	recompact lift	Sor
4	BF-05-02R	12/16/2013	684186.21	603070.22	3.1	133.0	9.3	128.9	12.1	103	12	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-05-03	12/31/2013	684181.60	603060.80	4.5	124.7	2.9	128.9	12.1	97	12	Weldon WC Screenings		Sor
6	BF-05-04	1/9/2013	684186.10	603053.50	5.8	129.7	3.3	128.9	12.1	101	12	Weldon WC Screenings		Sor
7	BF-05-05	1/9/2013	684180.60	603048.60	6.5	131.1	3.4	128.9	12.1	102	12	Weldon WC Screenings		Sor
8	BF-05-06	3/19/2014	684180.60	603060.40	7.5	122.5	4.9	128.9	21.1	95	12	Weldon WC Screenings		Sor
1	BF-06		684214.80	603050.60	-1.7						14	Crushed concrete	Bottom of excavation elevation	
2	BF-06										14	Crushed concrete	No compaction testing required	
3	BF-06-01	12/31/2013	684229.90	603061.30	2.2	137.7	3.4	128.9	12.1	107	14	Weldon WC Screenings		Sor
4	BF-06-02	12/31/2013	684228.80	603062.80	3.5	133.1	3.4	128.9	12.1	103	14	Weldon WC Screenings		Sor
5	BF-06-03	1/6/2014	684234.03	603066.82	4.2	123.7	9.5	128.9	12.1	96	14	Weldon WC Screenings		Sor
6	BF-06-04	1/9/2014	684230.80	603071.30	6.2	133.1	4.2	128.9	12.1	103	14	Weldon WC Screenings		Sor
7	BF-06-05	1/9/2014	684213.90	603095.70	7.3	133.8	5.0	128.9	12.1	104	14	Weldon WC Screenings		Sor
1	BF-07		684222.70	603033.30	-0.8						15	Crushed concrete	Bottom of excavation elevation	
2	BF-07										15	Crushed concrete	No compaction testing required	
3	BF-07-01	12/31/2013	684196.20	603014.90	2.5	133.1	2.6	128.9	12.1	103	15	Weldon WC Screenings		Sor
4	BF-07-02	12/31/2013	684192.80	603021.10	3.9	133.2	3.4	128.9	12.1	103	15	Weldon WC Screenings	Numbering error; skipped from 02 to 04	Sor
6	BF-07-04	1/9/2014	684196.90	603018.80	5.7	118.5	3.9	128.9	12.1	92	15	Weldon WC Screenings	recompact lift	Sor
6	BF-07-04R	1/9/2014	684196.90	603018.80	5.7	122.6	4.3	128.9	12.1	95	15	Weldon WC Screenings	second reading after addl compaction	Sor
7	BF-07-05	1/9/2014	684195.00	603021.00	6.4	128.4	6.7	128.9	12.1	100	15	Weldon WC Screenings		Sor
1	BF-08		684221.80	603013.00	-0.7						16	Crushed concrete	Bottom of excavation elevation	
2	BF-08										16	Crushed concrete	No compaction testing required	
3	BF-08-01	12/31/2013	684246.90	603039.80	2.0	127.2	3.2	128.9	12.1	99	16	Weldon WC Screenings		Sor
4	BF-08-02	12/31/2013	684240.50	603043.20	3.1	132.7	2.9	128.9	12.1	103	16	Weldon WC Screenings		Sor

Note: Data shown is for recent months activity

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
5	BF-08-03	1/6/2014	684231.74	603038.78	3.9	127.0	8.4	128.9	12.1	99	16	Weldon WC Screenings		Sor
6	BF-08-04	1/9/2014	684242.30	603046.80	5.4	130.1	4.2	128.9	12.1	101	16	Weldon WC Screenings		Sor
7	BF-08-05	1/9/2014	684236.30	603066.00	7.1	129.8	6.2	128.9	12.1	101	16	Weldon WC Screenings		Sor
1	BF-09		684208.50	602989.40	-0.5						17	Crushed concrete	Bottom of excavation elevation	
2	BF-09										17	Crushed concrete	No compaction testing required	
3	BF-09-01	1/28/2014	684209.70	602987.60	2.5	124.0	7.9	128.9	12.1	96	17	Weldon WC Screenings		Sor
4	BF-09-02	1/28/2014	684213.60	602980.40	3.4	123.4	6.1	128.9	12.1	96	17	Weldon WC Screenings		Sor
5	BF-09-03	1/28/2014	684204.20	602981.50	4.2	124.9	7.1	128.9	12.1	97	17	Weldon WC Screenings		Sor
1	BF-10		684269.00	603014.00	-0.5						18	Crushed concrete	Bottom of excavation elevation	
2	BF-10										18	Crushed concrete	No compaction testing required	
3	BF-10-01	1/20/2014	684275.40	603018.20	2.2	133.1	7.7	128.9	12.1	103	18	Weldon WC Screenings		Sor
4	BF-10-02	1/28/2014	684267.50	603026.10	3.2	118.8	3.1	128.9	12.1	92	18	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-10-02R	1/28/2014	684267.50	603026.10	3.2	133.3	6.1	128.9	12.1	103	18	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-10-03	1/28/2014	684271.80	603014.40	4.1	125.7	5.4	128.9	12.1	98	18	Weldon WC Screenings		Sor
6	BF-10-04	3/21/2014	684267.90	603017.50	5.2	126.4	6.8	128.9	12.1	98	18	Weldon WC Screenings		Sor
1	BF-11		684208.50	602989.40	-1.0						19	Crushed concrete	Bottom of excavation elevation	
2	BF-11										19	Crushed concrete	No compaction testing required	
3	BF-11-01	1/28/2014	684216.60	602952.70	2.1	125.2	8.8	128.9	12.1	97	19	Weldon WC Screenings		Sor
4	BF-11-02	1/28/2014	684223.40	602953.80	3.4	129.8	4.2	128.9	12.1	101	19	Weldon WC Screenings		Sor
5	BF-11-03	1/28/2014	684211.60	602949.00	4.0	123.4	6.6	128.9	12.1	96	19	Weldon WC Screenings		Sor
1	BF-12		684286.70	602988.60	-1.7						20	Crushed concrete	Bottom of excavation elevation	
2	BF-12										20	Crushed concrete	No compaction testing required	
3	BF-12-01	1/20/2014	684291.70	602995.20	1.8	133.3	8.3	128.9	12.1	103	20	Weldon WC Screenings		Sor
4	BF-12-02	1/28/2014	684288.50	602989.80	2.9	121.6	4.0	128.9	12.1	94	20	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-12-02R	1/28/2014	684288.50	602989.80	2.9	128.5	5.8	128.9	12.1	100	20	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-12-03	1/28/2014	684291.30	602995.40	3.7	136.9	7.5	128.9	12.1	106	20	Weldon WC Screenings		Sor
1	BF-13		684235.70	602919.60	-0.9						22	Crushed concrete	Bottom of excavation elevation	
2	BF-13										22	Crushed concrete	No compaction testing required	
3	BF-13-01	1/28/2014	684235.60	602919.10	2.1	130.1	5.8	128.9	12.1	101	22	Weldon WC Screenings		Sor
3	BF-13-01R	3/12/2014	684238.50	602922.00	2.1	132.0	2.9	135.8	6.4	97	22	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	Vertical 5
4	BF-13-02	3/12/2014	684238.40	602918.20	3.4	133.0	1.4	135.8	6.4	98	22	Tilcon MH DGA		Vertical 5
5	BF-13-03	3/19/2014	684235.10	602916.00	4.5	124.0	3.7	128.9	12.1	96	22	Weldon WC Screenings		Vertical 5
1	BF-14		684312.10	602956.00	-0.9						23	Crushed concrete	Bottom of excavation elevation	
2	BF-14										23	Crushed concrete	No compaction testing required	
3	BF-14-01	1/20/2014	684312.70	602965.20	1.8	133.9	7.0	128.9	12.1	104	23	Weldon WC Screenings		Sor
3	BF-14-01R	3/13/2013	684289.60	602935.70	1.8	132.0	1.7	135.8	6.4	97	23	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	Vertical 5
4	BF-14-02	3/14/2014	684301.90	602952.70	2.6	133.0	1.6	135.8	6.4	98	23	Tilcon MH DGA		Vertical 5
1	BF-15		684260.70	602896.70	-0.9						24	Crushed concrete	Bottom of excavation elevation	
2	BF-15										24	Crushed concrete	No compaction testing required	
3	BF-15-01	1/28/2014	684259.00	602897.10	2.1	123.6	9.0	128.9	12.1	96	24	Weldon WC Screenings		Sor
3	BF-15-01R	3/12/2014	684264.50	602902.20	2.1	131.0	2.4	135.8	6.4	96	24	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	Vertical 5
4	BF-15-02	3/12/2014	684260.50	602900.20	2.8	133.0	1.3	135.8	6.4	98	24	Tilcon MH DGA		Vertical 5
1	BF-16		684326.70	602937.00	-1.1						25	Crushed concrete	Bottom of excavation elevation	
2	BF-16										25	Crushed concrete	No compaction testing required	
3	BF-16-01	1/20/2014	684331.90	602942.70	1.6	136.1	7.4	128.9	12.1	106	25	Weldon WC Screenings		Sor
3	BF-16-01R	3/13/2014	6844330.00	602937.20	1.8	132.2	1.4	135.8	6.4	97	25	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	Vertical 5
4	BF-16-02	3/14/2014	684326.70	602930.00	2.5	134.0	1.2	135.8	6.4	99	25	Tilcon MH DGA		Vertical 5
1	BF-17		684283.70	602879.00	0.4						26	Crushed concrete	Bottom of excavation elevation-Stratum O	
2	BF-17										26	Crushed concrete	No compaction testing required	
3	BF-17-01	3/12/2014	684284.60	602882.10	2.1	130.0	2.9	135.8	6.4	96	26	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	Vertical 5
4	BF-17-02	3/14/2014	684273.70	602879.10	3.1	132.0	2.2	135.8	6.4	97	26	Tilcon MH DGA		Vertical 5
1	BF-18		684350.80	602909.60	-1.5						27	Crushed concrete	Bottom of excavation elevation	
2	BF-18										27	Crushed concrete	No compaction testing required	
3	BF-18-01	3/13/2014	684313.50	602885.60	1.5	132.4	1.4	135.8	6.4	97	27	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	Vertical 5
4	BF-18-02	3/14/2014	684344.00	602911.50	2.7	134.0	1.1	135.8	6.4	99	27	Tilcon MH DGA		Vertical 5
1	BF-19		684313.20	602860.40	0.3						28	Crushed concrete	Bottom of excavation elevation - Stratum O	
2	BF-19											Crushed concrete	No compaction testing required	
3	BF-19-01	3/14/2014	684322.10	602872.70	2.8	134.0	0.9	135.8	6.4	99	28	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	Vertical 5
4	BF-19-02	3/17/2014	684301.40	602851.50	3.6	133.0	1.3	135.8	6.4	98	28	Tilcon MH DGA		Vertical 5
1	BF-20		684370.90	602887.40	-1.7						29	Crushed concrete	Bottom of excavation elevation	
2	BF-20										29	Crushed concrete	No compaction testing required	
3	BF-20-01	3/17/2014	6843640.50	602862.10	2.0	133.0	1.7	135.8	6.4	98	29	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	Vertical 5
1	BF-21		684330.40	602835.90	1.9						30	Crushed concrete	Bottom of excavation elevation - Startum O	
2	BF-21-01	3/14/2014	684343.30	602842.20	2.4	132.0	1.6	135.8	6.4	97	30	Tilcon MH DGA	Removed wet screenings to crushed concrete and placed Bridge Lift	Vertical 5
3	BF-21-02	3/17/2014	684307.40	602827.30	3.3	134.0	0.8	135.8	6.4	99	30	Tilcon MH DGA	Bridge Lift over Stratum O	Vertical 5

Note: Data shown is for recent months activity

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
4	BF-21-03	3/19/2014	684314.60	602830.90	3.9	122.5	5.1	128.9	12.1	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	Vertical 5
5	BF-21-04	3/20/2014	684314.40	602815.10	4.5	122.5	4.9	128.9	12.1	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	Vertical 5
6	BF-21-05	3/20/2014	684321.10	602814.10	5.2	124.0	3.9	128.9	12.1	96	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	Vertical 5
7	BF-21-06	3/20/2014	684308.30	602802.20	5.8	122.5	5.0	128.9	12.1	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	Vertical 5
8	BF-21-07	3/20/2014	684305.80	602806.30	6.7	123.3	4.0	128.9	12.1	96	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	Vertical 5
9	BF-21-08	3/20/2014	684314.40	602804.80	7.6	122.5	4.9	128.9	12.1	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	Vertical 5
10	BF-21-09	3/20/2014	684310.50	602806.60	8.4	132.5	1.9	135.8	6.4	98	30	Tilcon MH DGA	Truck Ramp to Kellogg Street	Vertical 5
1	BF-22		684391.20	602864.30	-2.3						31	Crushed concrete	Bottom of excavation elevation	
2	BF-22										31	Crushed concrete	No compaction testing required	
3	BF-22-01	3/17/2014	684387.30	602845.00	1.4	134.0	0.8	135.8	6.4	99	31	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	Vertical 5
1	BF-23		684350.90	602814.50	-1.6						32	Crushed concrete	Bottom of excavation elevation	
2	BF-23										32	Crushed concrete	No compaction testing required	
3	BF-23-01	3/14/2014	684360.90	602818.80	2.4	132.0	2.0	135.8	6.4	97	32	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	Vertical 5
4	BF-23-02	3/17/2014	684339.80	602809.60	3.5	134.0	1.1	135.8	6.4	99	32	Tilcon MH DGA		Vertical 5
1	BF-24		684411.00	602842.40	-1.8						33	Crushed concrete	Bottom of excavation elevation	
2	BF-24										33	Crushed concrete	No compaction testing required	
3	BF-24-01	3/17/2014	684402.40	602827.40	1.1	134.0	0.8	135.8	6.4	99	33	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	Vertical 5
1	BF-25		684369.50	602729.20	-1.8						34	Crushed concrete	Bottom of excavation elevation	
2	BF-25										34	Crushed concrete	No compaction testing required	
3	BF-25-01	3/14/2014	684379.50	602796.30	2.0	131.0	2.1	135.8	6.4	96	34	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	Vertical 5
4	BF-25-02	3/17/2014	684354.80	602790.50	3.4	133.0	1.5	135.8	6.4	98	34	Tilcon MH DGA		Vertical 5
1	BF-26		684433.40	602818.80	-2.1						35	Crushed concrete	Bottom of excavation elevation	
2	BF-26										35	Crushed concrete	No compaction testing required	
3	BF-26-01	3/18/2014	684433.90	602828.30	0.3	134.0	0.8	135.8	6.4	99	35	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	Vertical 5
4	BF-26-02	3/18/2014	684431.70	602817.70	0.8	133.0	1.3	135.8	6.4	98	35	Tilcon MH DGA		Vertical 5
1	BF-27		684389.40	602765.00	-1.8						36	Crushed concrete	Bottom of excavation elevation	
2	BF-27										36	Crushed concrete	No compaction testing required	
3	BF-27-01	3/14/2014	684398.20	602773.80	1.8	133.0	1.6	135.8	6.4	98	36	Tilcon MH DGA		Vertical 5
0	BF-28		684457.00	602790.80	-2.8						38	Stratum D	Bottom of excavation elevation	
1	BF-28-01	3/12/2014	684461.20	602789.30	-0.4	133.2	1.0	135.8	6.4	98	38	Tilcon MH DGA		Vertical 5
0	BF-29		684418.80	602735.20	2.1						39	Stratum O	Bottom of excavation elevation - Stratum O	
1	BF-29-01	3/26/2014	684404.60	602731.30	3.3	134.0	1.2	135.8	6.4	99	39	Tilcon MH DGA		Vertical 5
0	BF-30		684476.80	602765.10	-3.1						40	Stratum D	Bottom of excavation elevation	
2	BF-30-01	3/12/2014	684478.90	602766.20	-0.7	133.2	1.1	135.8	6.4	98	40	Tilcon MH DGA		Vertical 5
0	BF-31		684436.00	602712.80	0.1						41	Stratum O	Bottom of excavation elevation	
0	BF-32		684498.70	602739.50	-2.2						42	Stratum D	Bottom of excavation elevation	
1	BF-32-01	3/12/2014	684496.60	602743.00	-0.9	131.0	2.3	135.8	6.4	96	42	Tilcon MH DGA		Vertical 5
0	BF-33		684453.00	602683.20	0.1						43	Stratum O	Bottom of excavation elevation	
0	BF-34		684517.50	602716.80	-2.5						44	Stratum D	Bottom of excavation elevation	
1	BF-34-01	3/12/2014	684515.60	602715.40	-1.1	131.0	2.0	135.8	6.4	96	44	Tilcon MH DGA		Vertical 5
0	BF-35		684471.30	602661.20	0.2						45	Stratum O	Bottom of excavation elevation	
0	BF-36		684538.20	602694.60	-3.0						46	Stratum D	Bottom of excavartion elevation	
1	BF-36-01	3/18/2014	684535.10	602700.70	-1.9	134.5	0.5	135.8	6.4	99	46	Tilcon MH DGA		Vertical 5
0	BF-37		684490.00	602636.80	0.2						47	Stratum O		
0	BF-38		684558.40	602671.70	-3.0						48	Stratum D	Bottom of excavation elevation	
1	BF-38-01	3/21/2014	684551.40	602683.60	-1.7	131.9	1.9	135.8	6.4	97	48	Tilcon MH DGA		Vertical 5
0	BF-39		684510.60	602614.80	0.4						49	Stratum O	Bottom of excavation elevation	
0	BF-40		684557.40	602644.90	-3.6						50	Stratum D	Bottom of excavation elevation	
	BF-40-01	3/26/2014	684572.20	602653.50	-1.4	134.8	0.5	135.8	6.4	99	50	Tilcon MH DGA		Vertical 5
	BF-41										51	Crushed concrete		

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.
Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.
Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b
Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C
Bottom of excavation elevation based on Maser survey data (Center Point elevations)
Sample ID BF-01-01 where:
BF = Backfill (At frequency of 1 test/2500 SF)
01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again

Note: Data shown is for recent months activity

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
	RF-01		684158.60	603152.40							6			
	RF-02		684190.60	603063.90							12			
	RF-03		684270.20	603012.00							18			
7	RF-03-01	3/21/2014	684267.90	603017.50	6.1	124.0	3.6	128.9	12.1	96	18	Weldon WC Screenings		V5N
	RF-04		684235.20	602919.80							22			
6	RF-04-01	3/21/2014	684227.00	602916.60	5.5	124.0	3.6	128.9	12.1	96	22	Weldon WC Screenings		V5N
7	RF-04-02	3/26/2014	684266.50	602908.50	6.2	123.6	3.7	128.9	12.1	96	22	Weldon WC Screenings		V5N
8	RF-04-03	4/1/2014	684384.80	602904.90	7.1	125.8	3.0	128.9	12.1	98	22	Weldon WC Screenings		V5N
9	RF-04-04	4/3/2014	684220.80	602926.90	8.2	120.0	3.6	128.9	12.1	93	22	Weldon WC Screenings	Recompact lift	V5N
9	RF-04-04R	4/3/2014	684220.80	602926.90	8.2	125.0	4.1	128.9	12.1	97	22	Weldon WC Screenings	Second reading after re-rolling	V5N
	RF-05		684328.50	602935.00							25			
5	RF-05-01	3/24/2014	684347.10	602947.50	3.3	122.5	4.5	128.9	12.1	95	25	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
6	RF-05-02	3/26/2014	684348.12	602942.00	4.1	123.5	3.7	128.9	12.1	96	25	Weldon WC Screenings		V5N
7	RF-05-03	4/1/2014	684351.40	602937.80	5.4	125.0	2.6	128.9	12.1	97	25	Weldon WC Screenings		V5N
8	RF-05-04	4/3/2014	684339.00	602933.40	6.4	128.9	4.7	128.9	12.1	100	25	Weldon WC Screenings		V5N
	RF-06		684334.97	602869.13							25			
2	RF-06-01	4/1/2014	684383.70	602908.80	3.0	126.0	2.7	128.9	12.1	98	29	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
3	RF-06-02	4/1/2014	684384.80	602904.90	4.1	125.0	2.8	128.9	12.1	97	29	Weldon WC Screenings		V5N
4	RF-06-03	4/3/2014	684358.90	602890.50	5.9	127.6	4.0	128.9	12.1	99	29	Weldon WC Screenings		V5N
	RF-07		684392.90	602838.10							32			
4	RF-07-01	4/3/2014	684425.20	602890.40	3.0	125.3	5.1	128.9	12.1	97	32	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-07-02	4/3/2014	684418.60	602854.90	4.1	126.3	5.5	128.9	12.1	98	32	Weldon WC Screenings		V5N
	RF-08		684406.90	602771.10							36			
4	RF-08-01	4/3/2014	684421.70	602797.10	2.9	129.0	6.0	128.9	12.1	100	36	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

Sample ID RF-01-01 where:

RF = Reduced Frequency

01 = Test Location (as noted on Backfill Compaction Location Figure)

01 = Number of test performed at that location (sequential)

R = Will be placed after sample ID if the test location is reworked and the compaction test is run again

Note: Data shown is for recent months activity

Attachment 4: Dewatering Operations Update

- SA-6 South Dewatering Data (Headers)
- SA-6 South Deep Well Data (DW-1)
- SA-6 South Deep Well Data (DW-2)

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) DAILY	EXTRACTED VOLUME (Gal) TOTAL	AVERAGE FLOW RATE (gpm)	COMMENTS
02/03/14	1	72	6,7,EPS	51	268,122	292,592	24,470	1,097,387	5.7	
02/04/14	1	24	6,7,EPS	51	292,592	299,040	6,448	1,103,835	4.5	
02/05/14	1	24	6,7,EPS	51	299,040	309,154	10,114	1,113,949	7.0	
02/06/14	1	24	6,7,EPS	51	309,154	318,585	9,431	1,123,380	6.5	
02/07/14	1	24	6,7,EPS	51	318,585	328,074	9,489	1,132,869	6.6	
02/10/14	1	72	6,7,EPS	51	328,074	344,536	16,462	1,149,331	3.8	
02/11/14	1	24	6,7,EPS	51	344,536	347,331	2,795	1,152,126	1.9	
02/12/14	1	24	6,7,EPS	47	347,331	349,076	1,745	1,153,871	1.2	System Temporarily Disable for Relocation
02/18/14	1	144	6,7,EPS	47	349,076	349,084	8	1,153,879	0.0	Pump maintenance and Freezing Delays
02/19/14	1	24	6,7,EPS	47	349,084	351,236	2,152	1,156,031	1.5	
02/20/14	1	24	6,7,EPS	47	351,236	358,591	7,355	1,163,386	5.1	
02/21/14	1	24	6,7,8,EPS	65	358,591	369,538	10,947	1,174,333	7.6	
02/24/14	1	72	7,8,EPS	59	369,538	385,722	16,184	1,190,517	3.7	
02/25/14	1	24	7,8,EPS	59	385,722	389,100	3,378	1,193,895	2.3	
02/26/14	1	24	7,8,EPS	59	389,100	392,185	3,085	1,196,980	2.1	
02/27/14	1	24	7,8,EPS	59	392,185	394,083	1,898	1,198,878	1.3	
02/28/14	1	24	7,8,EPS	59	394,083	394,858	775	1,199,653	0.5	
03/03/14	1	72	7,8,9,EPS	66	N/A	N/A	12,100	1,211,753	2.8	Flowmeter Frozen (Read by Gauging Tank)
03/04/14	1	24	7,8,9,EPS	66	N/A	N/A	4,600	1,216,353	3.2	
03/05/14	1	24	7,8,9,EPS	66	N/A	N/A	3,900	1,220,253	2.7	
03/06/14	1	24	7,8,9,EPS	66	N/A	N/A	3,700	1,223,953	2.6	
03/07/14	1	24	7,8,9,EPS	66	N/A	N/A	2,500	1,226,453	1.7	
03/10/14	1	72	7,8,9,EPS	66	N/A	N/A	1,700	1,228,153	0.4	
03/11/14	1	24	7,8,9,EPS	66	394858	394,948	90	1,228,243	0.1	
03/12/14	1	24	7,8,9,EPS	66	394948	395,094	146	1,228,389	0.1	Flowmeter Blockage Cleared and Reset
03/14/14	1	24	7,8,9,EPS	67	0	8,194	8,194	1,236,583	5.7	
03/17/14	1	72	8,9,EPS	56	8,194	32,805	24,611	1,261,194	5.7	
03/18/14	1	24	8,9,EPS	52	32,805	41,005	8,200	1,269,394	5.7	
03/19/14	1	24	8,9,EPS	52	41,005	53,281	12,276	1,281,670	8.5	
03/20/14	1	24	8,9,EPS	52	53,281	68,164	14,883	1,296,553	10.3	
03/21/14	1	24	8,9,EPS	44	68,164	82,672	14,508	1,311,061	10.1	
03/24/14	1	72	9,EPS	44	82,672	112,690	30,018	1,341,079	6.9	
03/25/14	1	24	9,EPS	14	112,690	136,290	23,600	1,364,679	16.4	
03/26/14	1	24	9,EPS	14	136,290	159,720	23,430	1,388,109	16.3	
03/27/14	1	24	9,EPS	14	159,720	173,928	14,208	1,402,317	9.9	
03/28/14	1	24	9,EPS	14	173,928	188,251	14,323	1,416,640	9.9	
03/31/14	1	72	9,EPS	14	188,251	234,816	46,565	1,463,205	10.8	
04/01/14	1	24	9,EPS	14	234,816	254,072	19,256	1,482,461	13.4	

Notes: Active Header Numbers refer to H-1, H-2, H-3, etc., as shown on Figure 6 Well Point Dewatering System
EPS - East Perimeter System
WPS - West Perimeter System
Vac plant #2 taken out of service in October, 2013

Note: Data shown is for recent months activity

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-1)

DATE	HOURS OF OPERATION	DEEP WELL FLOW METER START (Gal)	DEEP WELL FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) DAILY	EXTRACTED VOLUME (Gal) TOTAL	AVERAGE FLOW RATE (GPM)	COMMENTS
01/02/14	48	678,171	697,609	19,438	681,074	6.7	
01/06/14	96	697,609	733,339	35,730	716,804	6.2	Well Taken Offline
03/11/14	24	0	13,985	13,985	730,789	9.7	Well Online
03/12/14	24	13,985	28,186	14,201	744,990	9.9	
03/13/14	24	28,186	29,780	1,594	746,584	1.1	
03/14/14	24	29,780	31,460	1,680	748,264	1.2	
03/17/14	72	31,460	36,200	4,740	753,004	1.1	
03/18/14	24	36,200	37,460	1,260	754,264	0.9	
03/19/14	24	37,460	46,700	9,240	763,504	6.4	
03/20/14	24	46,700	55,760	9,060	772,564	6.3	
03/21/14	24	55,760	63,390	7,630	780,194	5.3	
03/24/14	72	63,390	96,110	32,720	812,914	7.6	
03/25/14	24	96,110	107,450	11,340	824,254	7.9	
03/26/14	24	107,450	116,401	8,951	833,205	6.2	Well Taken Offline

Note: Data shown is for recent months activity

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-2)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) DAILY	VOLUME (Gal) TOTAL	FLOW RATE (GPM)	COMMENTS
02/03/14	72	782,573	827,501	44,928	897,390	10.4	
02/04/14	24	827,501	838,572	11,071	908,461	7.7	
02/05/14	24	838,572	853,159	14,587	923,048	10.1	
02/06/14	24	853,159	866,882	13,723	936,771	9.5	
02/07/14	24	866,882	881,016	14,134	950,905	9.8	
02/10/14	72	881,016	923,079	42,063	992,968	9.7	
02/11/14	24	923,079	936,961	13,882	1,006,850	9.6	
02/12/14	24	936,961	950,902	13,941	1,020,791	9.7	
02/13/14	24	950,902	976,618	25,716	1,046,507	17.9	
02/14/14	24	976,618	990,724	14,106	1,060,613	9.8	
02/18/14	86	990,724	1,051,980	61,256	1,121,869	11.9	
02/19/14	24	1,053,780	1,073,780	20,000	1,141,869	13.9	
02/20/14	24	1,073,780	1,083,940	10,160	1,152,029	7.1	
02/21/14	24	1,083,940	1,114,610	30,670	1,182,699	21.3	
02/24/14	72	1,114,610	1,163,430	48,820	1,231,519	11.3	
02/25/14	24	1,163,430	1,184,280	20,850	1,252,369	14.5	
02/26/14	24	0	4,180	4,180	1,256,549	2.9	Flowmeter Reset
02/27/14	24	4,180	9,643	5,463	1,262,012	3.8	
02/28/14	24	9,643	14,717	5,074	1,267,086	3.5	
03/03/14	72	14,717	43,855	29,138	1,296,224	6.7	
03/04/14	24	43,855	50,452	6,597	1,302,821	4.6	
03/05/14	24	50,452	61,014	10,562	1,313,383	7.3	
03/06/14	24	61,014	71,934	10,920	1,324,303	7.6	Well Taken Offline for Excavation
03/27/14	8	71,934	74,639	2,705	1,327,008	5.6	Well Online
03/28/14	24	74,639	85,721	11,082	1,338,090	7.7	
03/31/14	72	85,721	123,254	37,533	1,375,623	8.7	
04/01/14	24	0	17,708	17,708	1,393,331	12.3	Flowmeter Reset

Note: Data shown is for recent months activity

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	HOURS OF OPERATION	DISCHARGE FLOW METER START (KGal)	DISCHARGE FLOW METER FINISH (KGal)	DISCHARGED VOLUME (Gal) DAILY	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
02/04/14	8.0	3,516.69	3,628.15	111,460	3,627,700	PVSC Compliance Sample collected
02/07/14	8.0	3,628.15	3,733.31	105,160	3,732,860	
02/11/14	8.0	3,733.31	3,854.45	121,140	3,854,000	
02/12/14	2.0	3,854.45	3,884.29	29,840	3,883,840	
02/14/14	6.0	3,884.29	3,933.69	49,400	3,933,240	
02/15/14	8.0	3,933.69	4,032.69	99,000	4,032,240	
02/18/14	8.0	4,032.69	4,123.91	91,220	4,123,460	
02/20/14	8.0	4,123.91	4,251.33	127,420	4,250,880	
02/21/14	8.0	4,251.33	4,412.37	161,040	4,411,920	
02/22/14	8.0	4,412.37	4,536.78	124,410	4,536,330	
02/24/14	8.0	4,536.78	4,660.60	123,820	4,660,150	
02/25/14	8.0	4,660.60	4,850.50	189,900	4,850,050	
02/26/14	8.0	4,850.50	4,970.69	120,190	4,970,240	
03/04/14	8.0	4,970.69	5,064.73	94,040	5,064,280	PVSC Compliance Sample collected
03/05/14	8.0	5,064.73	5,170.07	105,340	5,169,620	
03/10/14	8.0	5,170.07	5,299.77	129,700	5,299,320	
03/11/14	8.0	5,299.77	5,368.86	69,090	5,368,410	
03/12/14	8.0	5,368.86	5,433.63	64,770	5,433,180	
03/17/14	8.0	5,433.63	5,590.00	156,370	5,589,550	
03/18/14	8.0	5,590.00	5,690.00	100,000	5,689,550	
03/19/14	8.0	5,690.00	5,849.46	159,460	5,849,010	
03/20/14	8.0	5,849.46	5,912.45	62,990	5,912,000	
03/21/14	8.0	5,912.45	6,024.94	112,490	6,024,490	
03/24/14	8.0	6,024.94	6,125.64	100,700	6,125,190	
03/25/14	8.0	6,125.64	6,175.64	50,000	6,175,190	
03/26/14	8.0	6,175.64	6,248.89	73,250	6,248,440	
03/27/14	8.0	6,248.89	6,310.44	61,550	6,309,990	
03/28/14	8.0	6,310.44	6,380.45	70,010	6,380,000	
03/31/14	8.0	6,380.45	6,575.85	195,400	6,575,400	

Note: Data shown is for recent months activity

Attachment 6: Backfill Analytical Data

- Stockpiled Material Tracking and Sampling Log

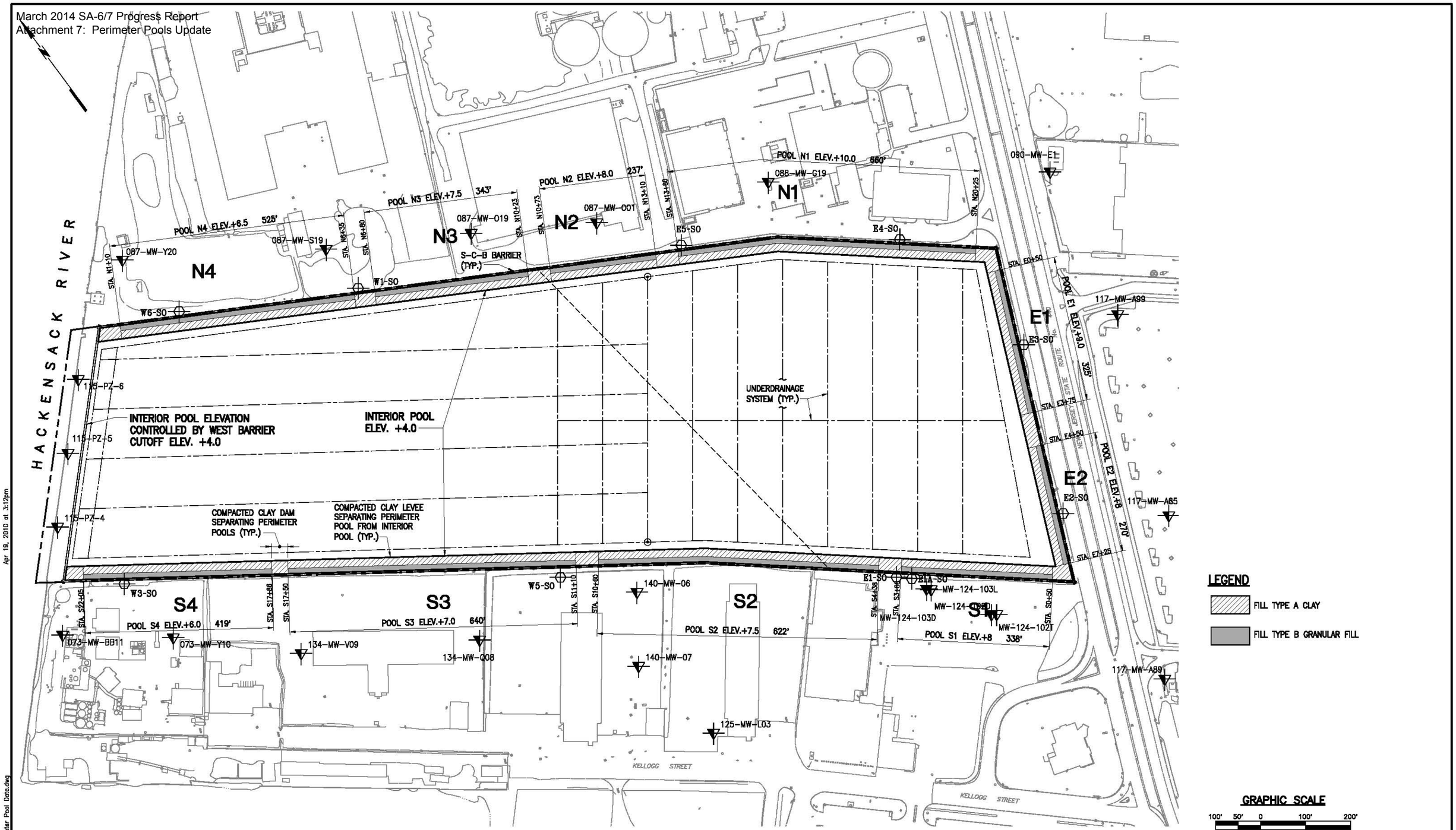
SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL*		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
30-41	>1000	41-1000-a	750	124-41-1000-a1	2/25/2014	12:40	1,750			Yes
				124-41-1000-a2	2/25/2014	12:45	3,690			Yes
				124-41-1000-a3	2/25/2014	12:50	3,410			Yes
				124-41-1000-a4	2/25/2014	12:55	453		Yes	
30-41	>1000	41-1000-b	750	124-41-1000-b1	2/25/2014	13:00	490		Yes	
				124-41-1000-b2	2/25/2014	13:05	1,110			Yes
				124-41-1000-b3	2/25/2014	13:10	669		Yes	
				124-41-1000-b4	2/25/2014	13:15	1,920			Yes
37-46	<20	46-20-a	750	124-46-20-a1	3/12/2014	14:00	3.2	**		
				124-46-20-a2	3/12/2014	14:05	2.2	**		
				124-46-20-a3	3/12/2014	14:10	3.9	**		
				124-46-20-a4	3/12/2014	14:15	2	**		
37-46	<20	46-20-b	750	124-46-20-b1	3/12/2014	14:20	2.9	**		
				124-46-20-b2	3/12/2014	14:25	3.8	**		
				124-46-20-b3	3/12/2014	14:30	2.2	**		
				124-46-20-b4	3/12/2014	14:35	2.6	**		
41-49	>1000	124-49-1000-a	1000	124-49-1000-a1	3/24/2014	9:15	3490			Pending
				124-49-1000-a2	3/24/2014	9:20	3850			Pending
				124-49-1000-a3	3/24/2014	9:25	2580			Pending
				124-49-1000-a4	3/24/2014	9:30	5570			Pending
41-49	>1000	124-49-1000-b	1000	124-49-1000-b1	3/24/2014	9:35	8840			Pending
				124-49-1000-b2	3/24/2014	9:40	2340			Pending
				124-49-1000-b3	3/24/2014	9:45	2		Pending	
				124-49-1000-b4	3/24/2014	9:50	4250			Pending

Notes:
*Material placement locations are approximate.
**Material currently stockpiled.

Note: Data shown is for recent months activity

Attachment 7: Perimeter Pools Update



IN PROGRESS

04-19-2010

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

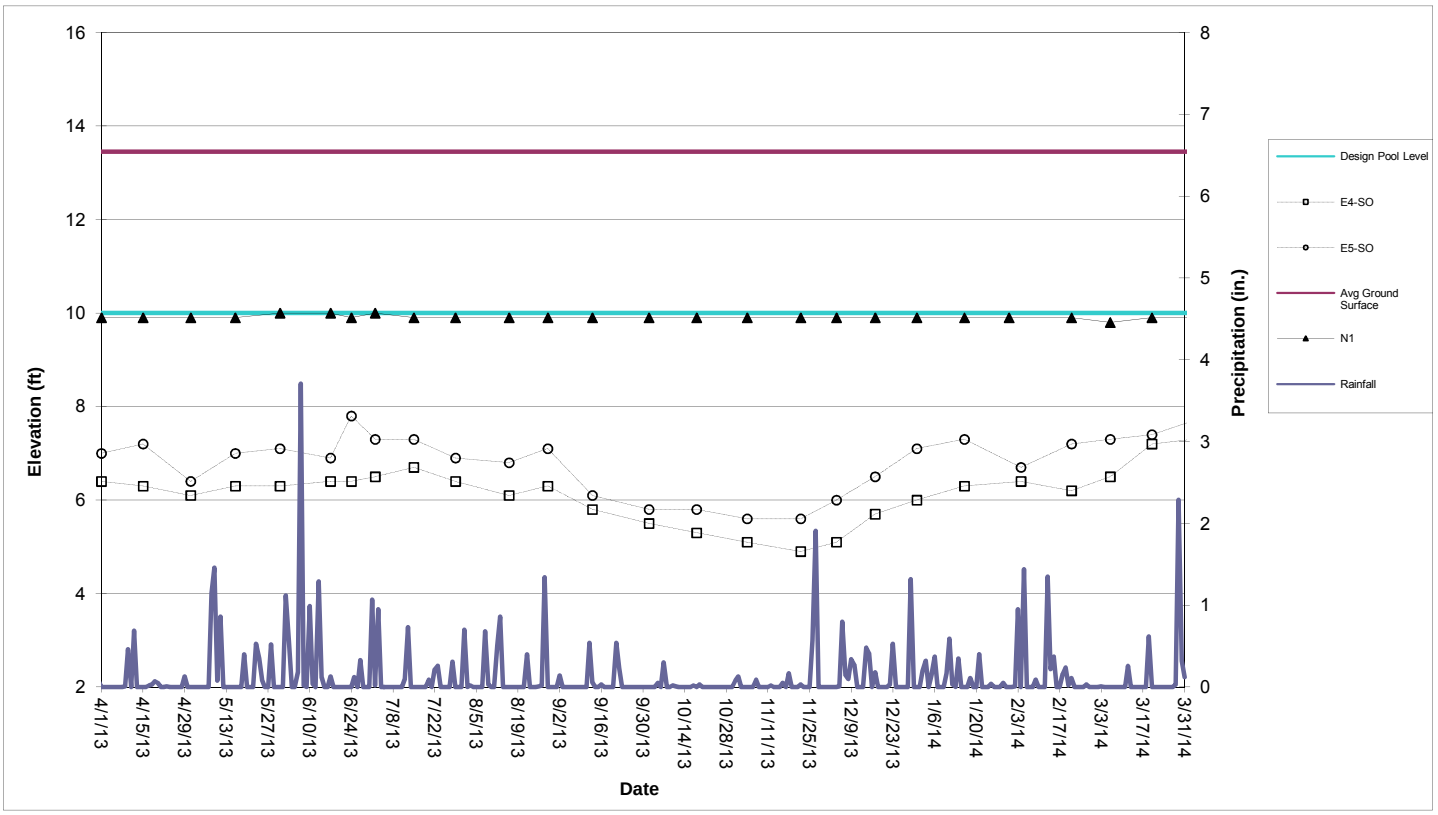
NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

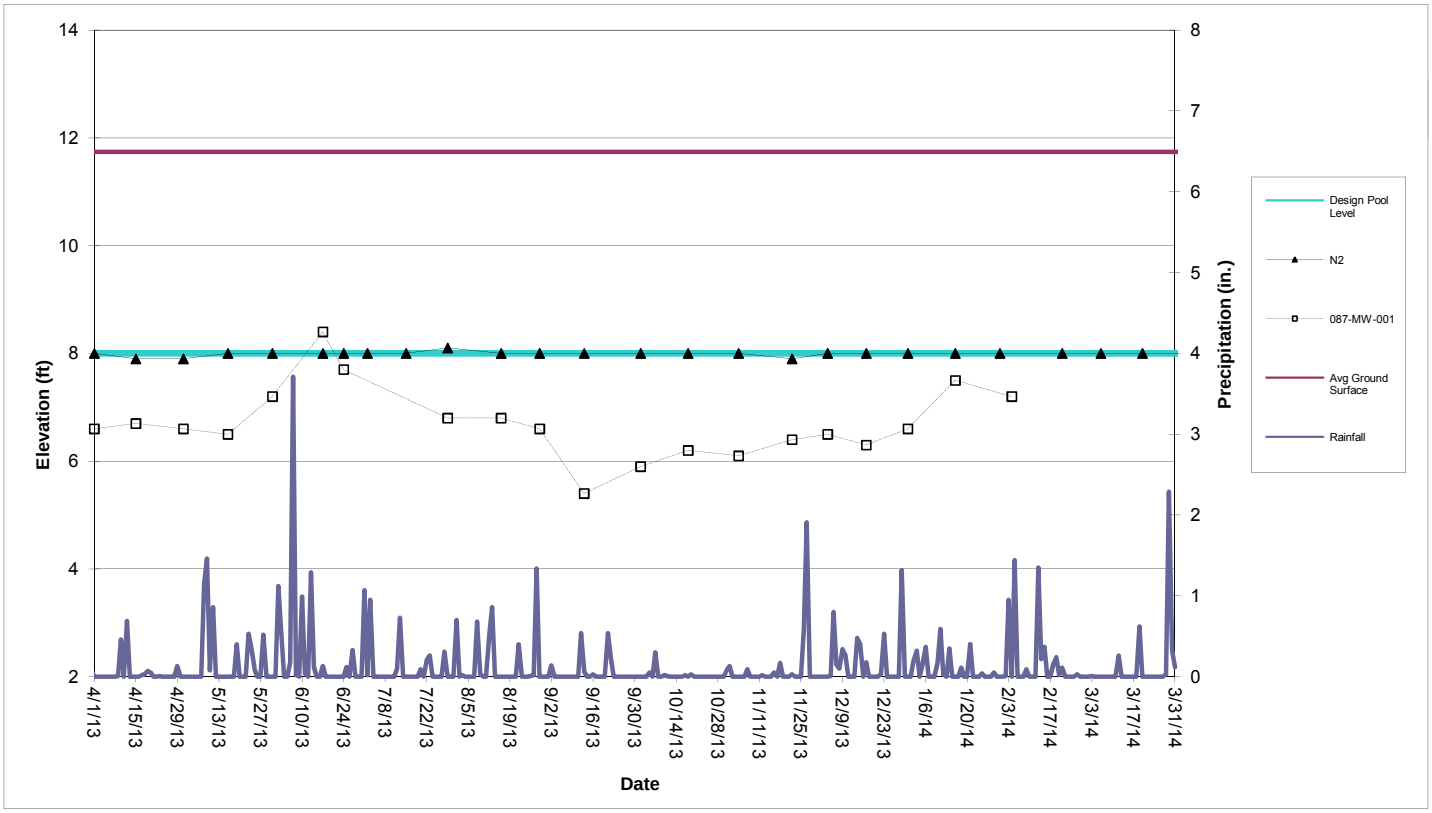
FILE NO. 10210
DRAWING NO. PP-1

Apr 19, 2010 at 3:12pm

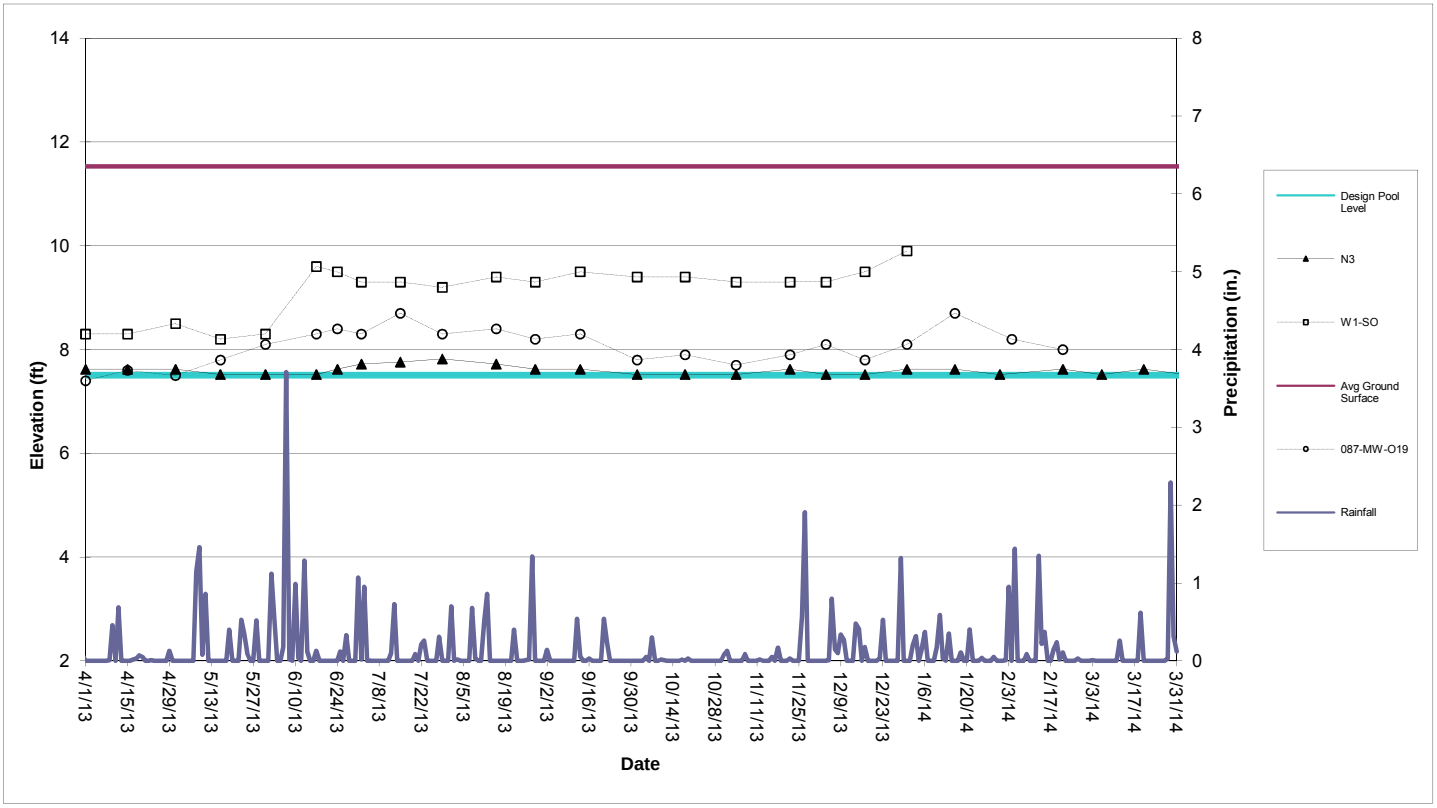
G:\DWGS\102\10210\Dewatering\Perimeter Pool Data.dwg



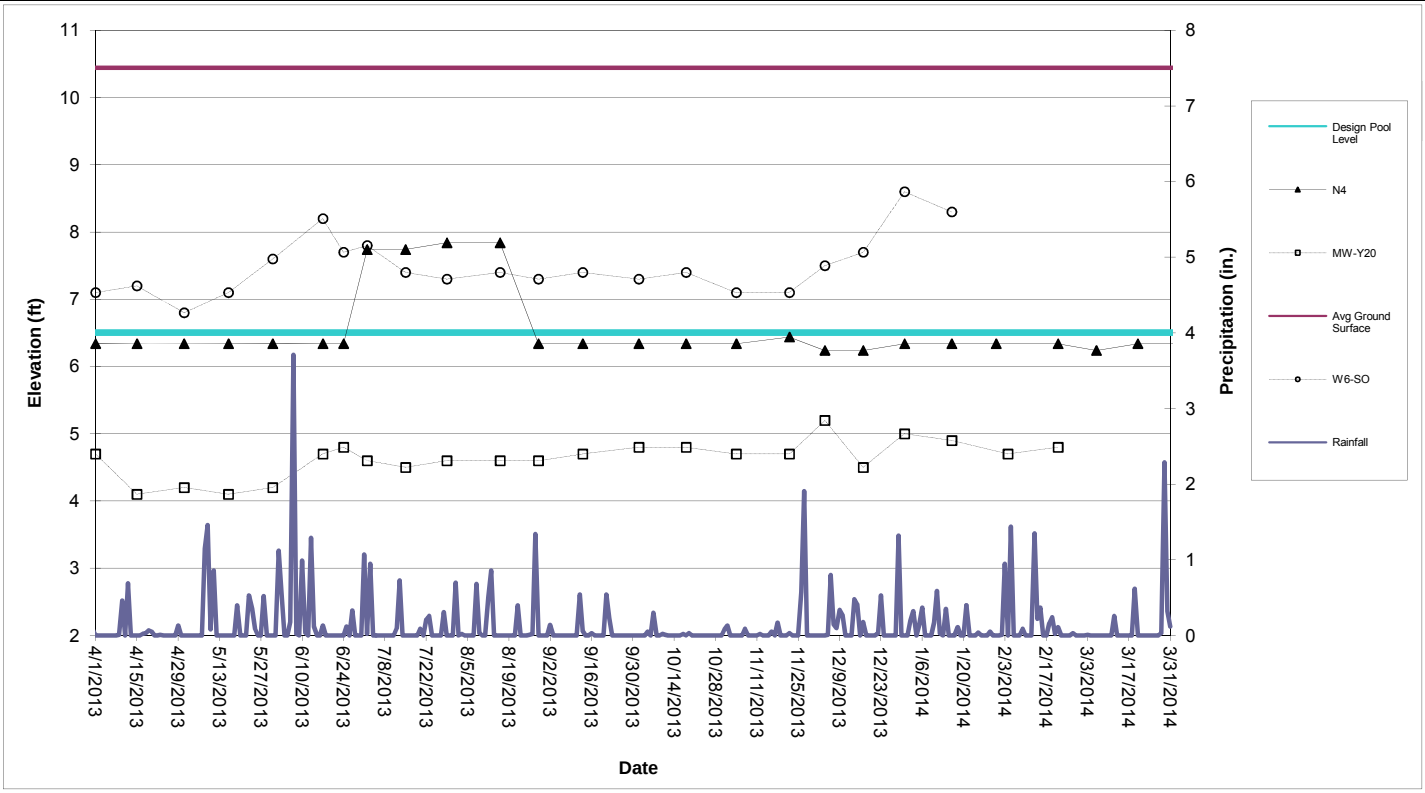
Perimeter Pool N1 (Sta. N13+60 to N20+25)



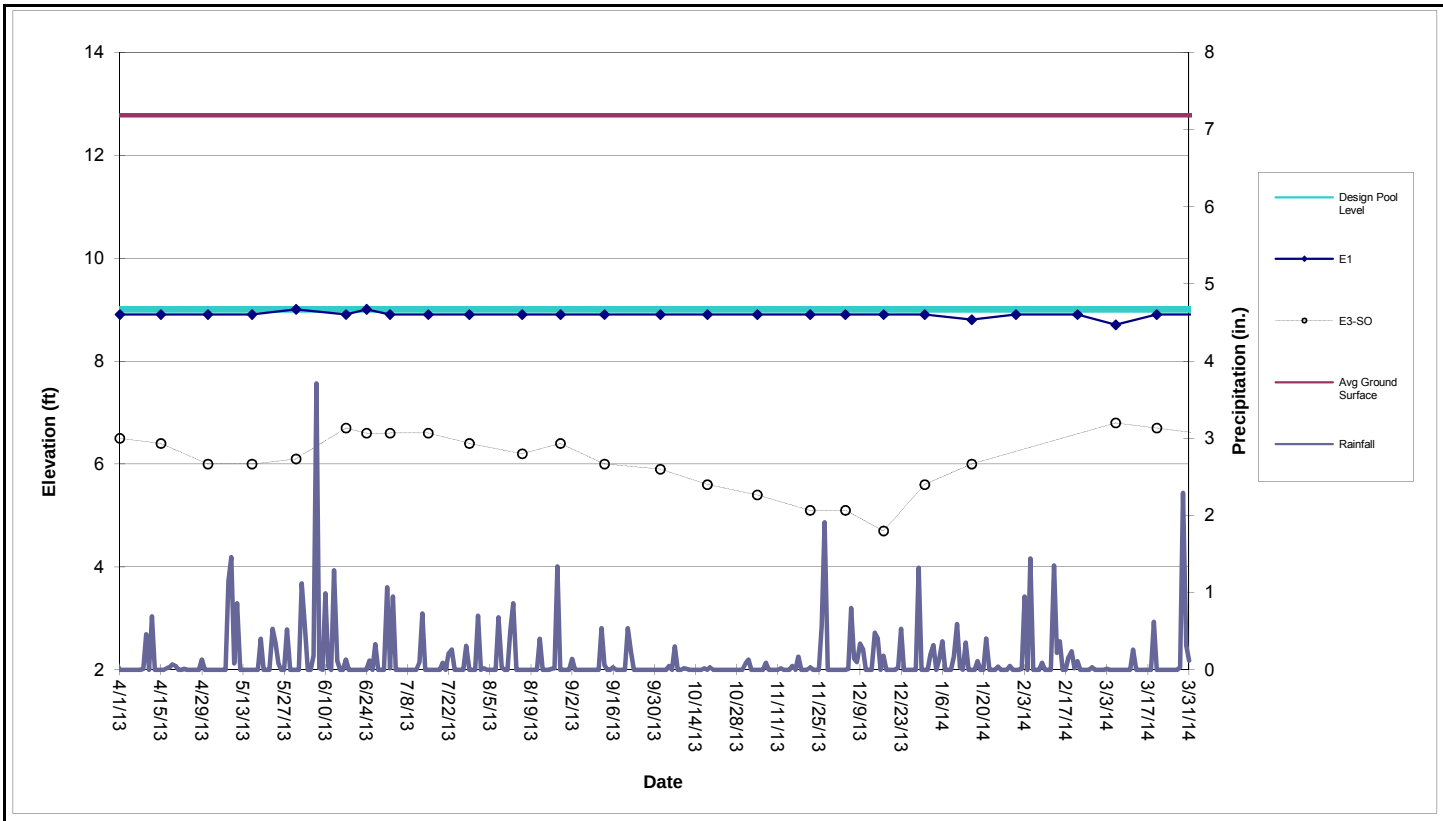
Perimeter Pool N2 (Sta. N10+73 to N13+10)



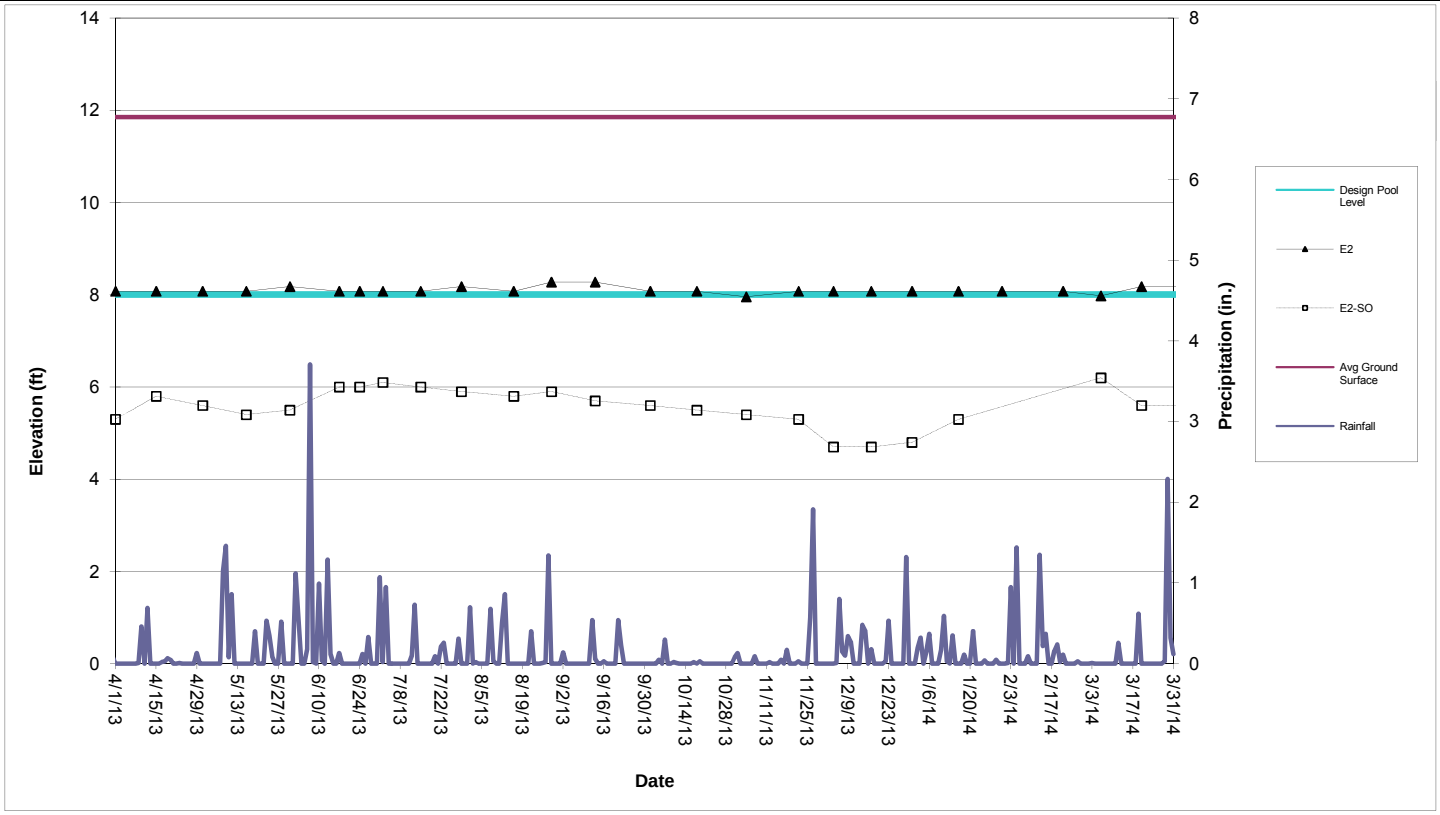
Perimeter Pool N3 (Sta. N6+80 to N10+23)



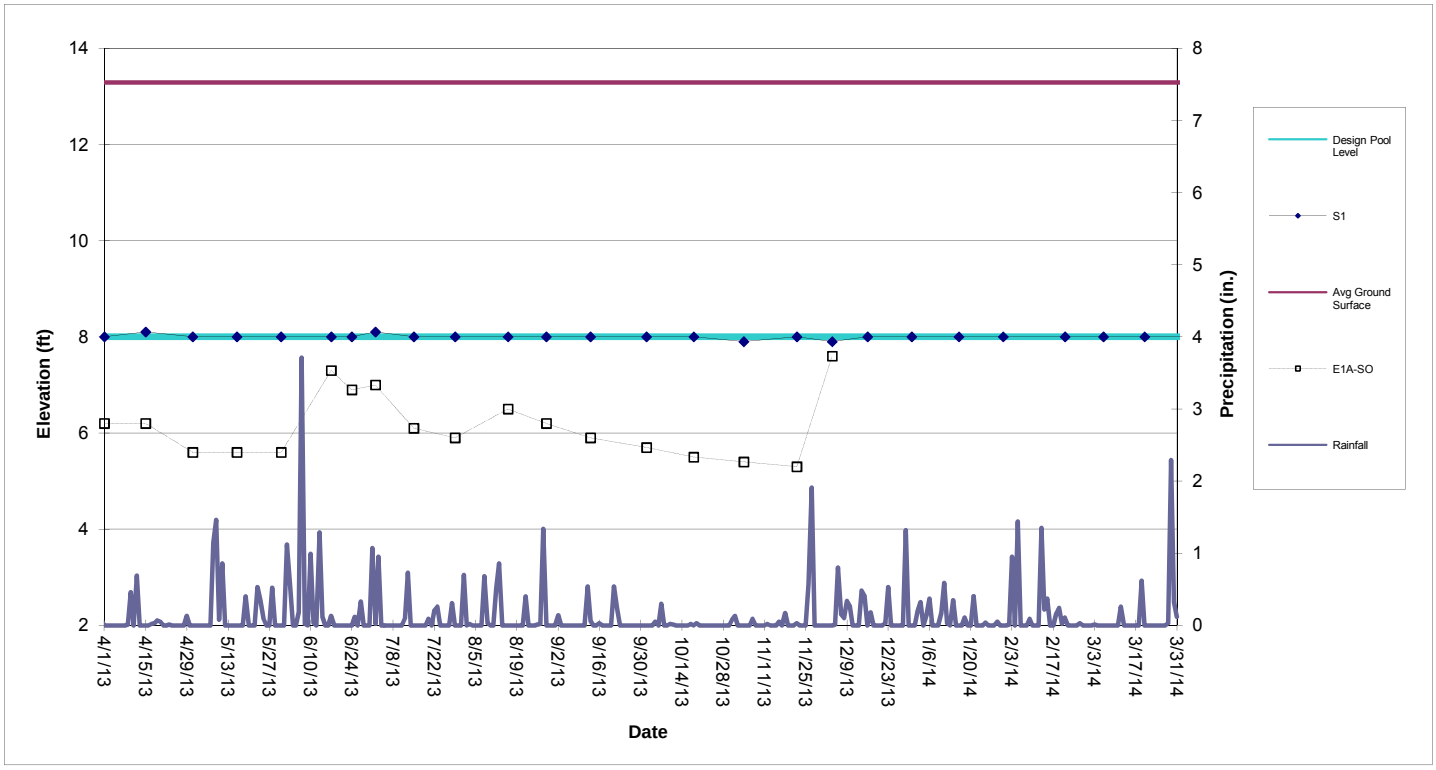
Perimeter Pool N4 (Sta. N6+80 to N10+23)



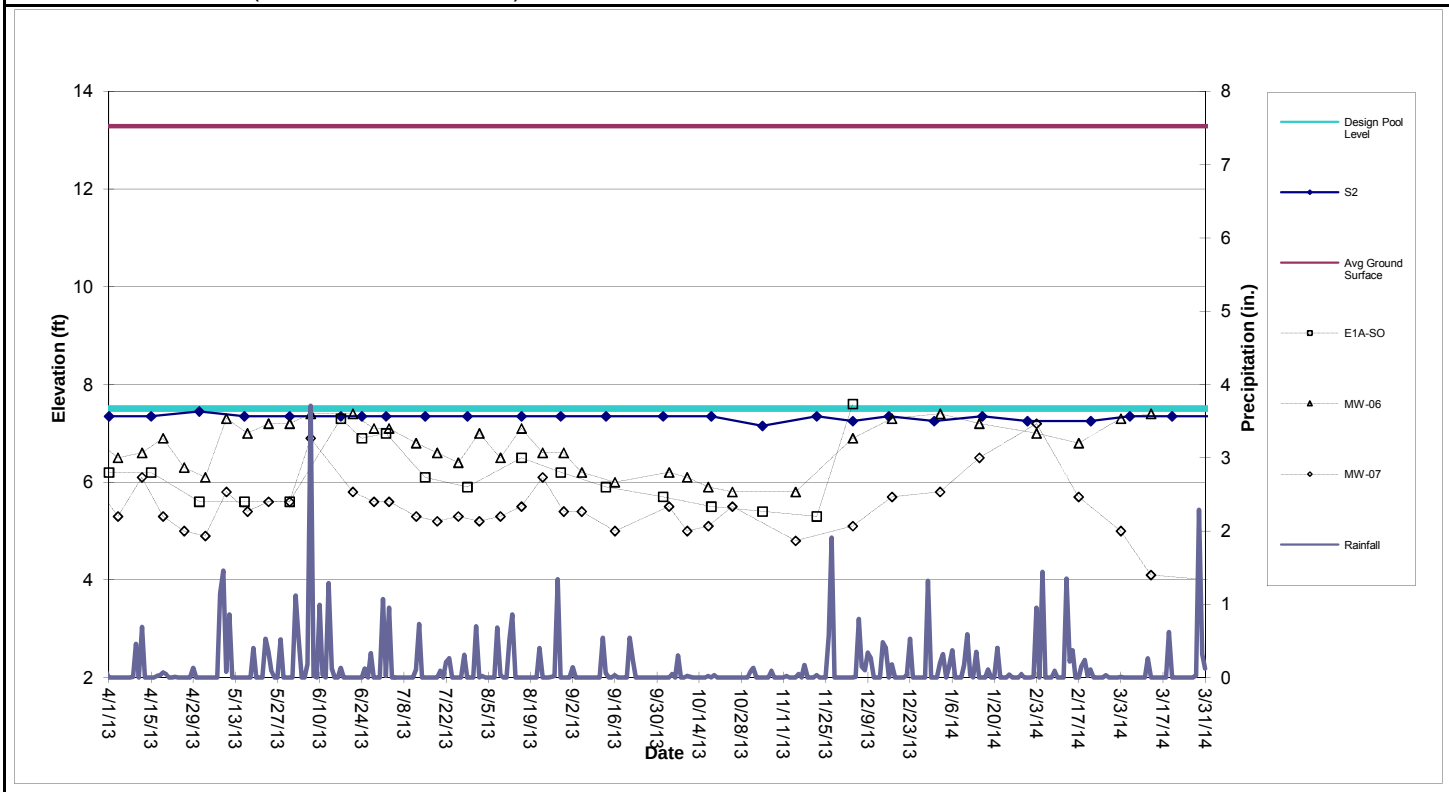
Perimeter Pool E1 (Sta. E0+50 to E3+75)



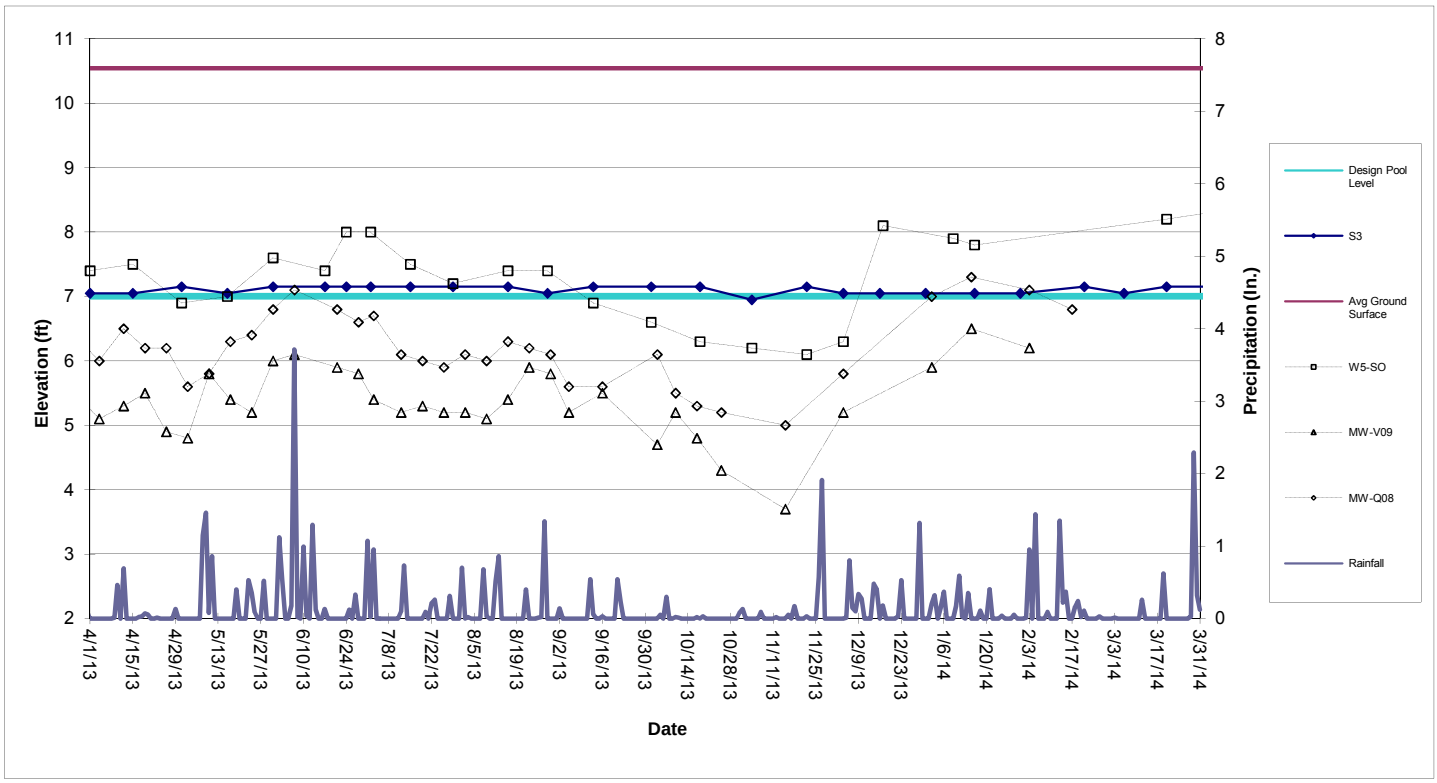
Perimeter Pool E2 (Sta. E4+50 to E7+25)



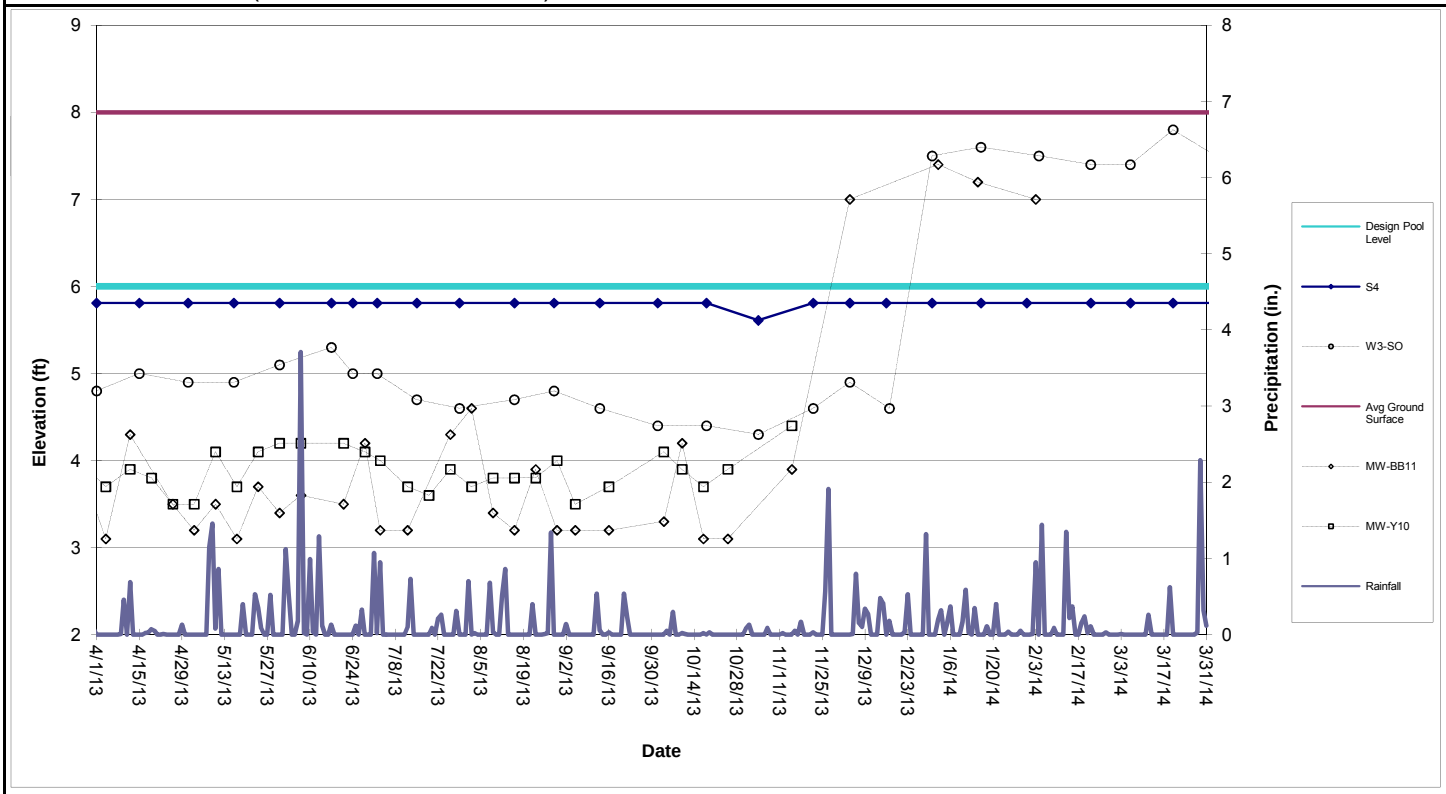
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										087-MW-			134-MW-		073-MW-		140-	
	** E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	** W1-SO	W3-SO	W5-SO	** W6-SO	* Y20	* 001	* O19	** V09	* Q08	* BB-11	Y10	MW-06	MW-07
Date																		
9/5/2013													5.2	5.6	3.2	3.5	6.2	5.4
9/13/2013	5.9	5.7	6.0	5.8	6.1	9.5	4.6	6.9	7.4	4.7	5.4	8.3						
9/16/2013													5.5	5.6	3.2	3.7	6.0	5.0
10/2/2013	5.7	5.6	5.9	5.5	5.8	9.4	4.4	6.6	7.3	4.8	5.9	7.8						
10/4/2013													4.7	6.1	3.3	4.1	6.2	5.5
10/10/2013													5.2	5.5	4.2	3.9	6.1	5.0
10/17/2013													4.8	5.3	3.1	3.7	5.9	5.1
10/18/2013	5.5	5.5	5.6	5.3	5.8	9.4	4.4	6.3	7.4	4.8	6.2	7.9						
10/25/2013													4.3	5.2	3.1	3.9	5.8	5.5
11/4/2013	5.4	5.4	5.4	5.1	5.6	9.3	4.3	6.2	7.1	4.7	6.1	7.7						
11/15/2013													3.7	5.0	3.9	4.4	5.8	4.8
11/22/2013	5.3	5.3	5.1	4.9	5.6	9.3	4.6	6.1	7.1	4.7	6.4	7.9						
12/4/2013	7.6	4.7	5.1	5.1	6.0	9.3	4.9	6.3	7.5	5.2	6.5	8.1	5.2	5.8	7.0		6.9	5.1
12/17/2013		4.7	4.7	5.7	6.5	9.5	4.6	8.1	7.7	4.5	6.3	7.8					7.3	5.7
12/31/2013		4.8	5.6	6.0	7.1	9.9	7.5		8.6	5.0	6.6	8.1						
1/2/2014													5.9	7.0	7.4		7.4	5.8
1/9/2014								7.9										
1/15/2014													6.5	7.3	7.2		7.2	6.5
1/16/2014		5.3	6.0	6.3	7.3		7.6	7.8	8.3	4.9	7.5	8.7						
2/3/2014													6.2	7.1	7.0		7.0	7.2
2/4/2014				6.4	6.7		7.5			4.7	7.2	8.2						
2/17/2014														6.8			6.8	5.7
2/21/2014				6.2	7.2		7.4			4.8		8.0						
3/3/2014																	7.3	5.0
3/6/2014		6.2	6.8	6.5	7.3		7.4											
3/13/2014																	7.4	4.1
3/20/2014		5.6	6.7	7.2	7.4		7.8	8.2										

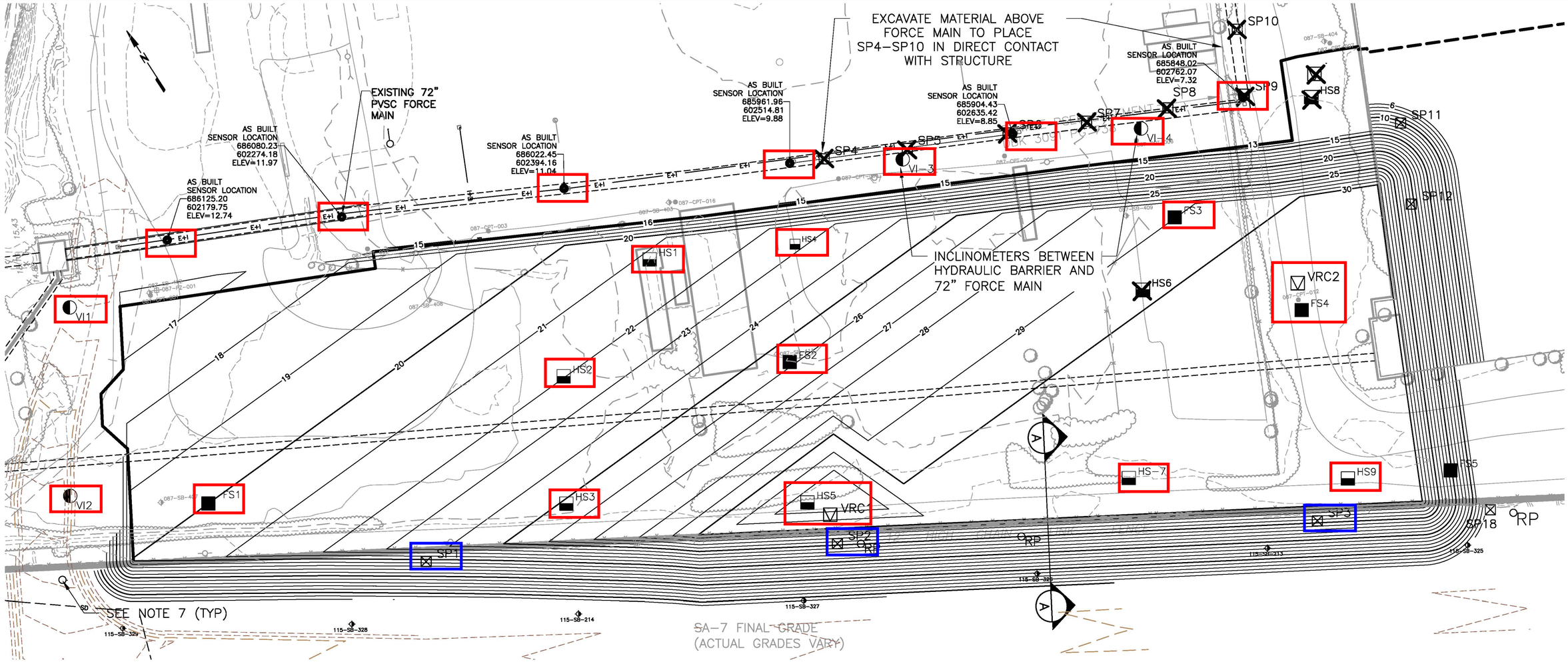
* Monitoring well abandoned per 100% Design Report
** Temporarily unavailable due to construction activities

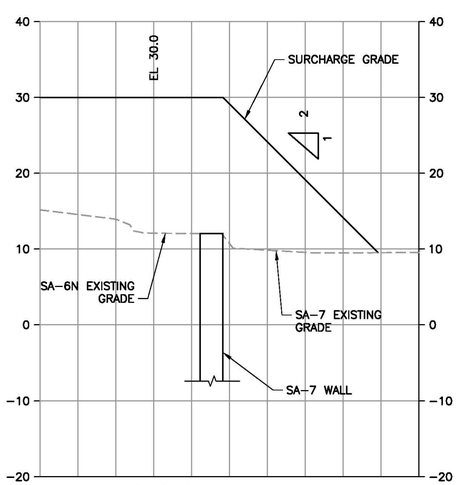
Attachment 8: Quality and Level Data in GWET Wells

(Not available as of this report date - provided on a quarterly basis)

Attachment 9: Surcharge Monitoring Update

- Instrumentation Location Plan 1N
- Instrumentation Installation Data

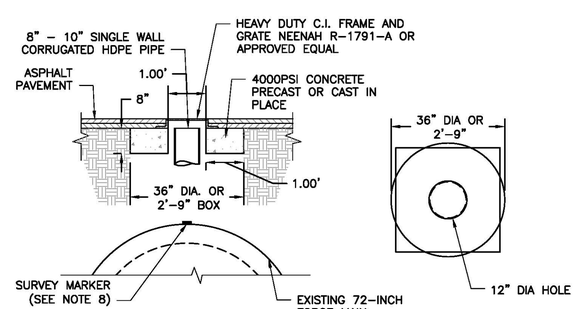




SECTION A–A

SETTLEMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
VI–1	686123	602109
VI–2	686029	602048
VI–3	685927	602572
VI–4	685866	602701
FS1	685981	602115
FS2	685863	602451
FS3	685811	602689
FS4	685723	602723
HS1	685959	602414
HS2	685929	602333
HS3	685865	602294
HS4	685920	602491
HS5	685787	602414
~~HS6~~	~~685785~~	~~602650~~
HS7	685696	602582
~~HS8~~	~~685826~~	~~602796~~
HS9	685624	602691

SP1	685881	602205
SP2	685757	602416
SP3	685613	602662
~~SP4~~	~~685953~~	~~602533~~
~~SP5~~	~~685931~~	~~602578~~
~~SP6~~	~~685906~~	~~602634~~
~~SP7~~	~~685887~~	~~602676~~
~~SP8~~	~~685867~~	~~602721~~
~~SP9~~	~~685849~~	~~602764~~
~~SP10~~	~~685884~~	~~602781~~



NOTES:

1. PRIOR TO SURCHARGING REMOVE SA–7 FENCE AND SA–7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. SURCHARGE PILE GEOMETRY IS BASED ON THE ASSUMPTION THAT THE SEDIMENTATION BASIN WALLS ARE IN PLACE AT THE TIME OF SURCHARGING.
5. COMMENCE FILL AT THE SEDIMENTATION BASIN AND WORK TOWARDS THE HACKENSACK RIVER.
6. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
7. LOCATION OF SA–7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.
8. AT ALL SURVEY LOCATIONS CLEAN ADEQUATELY A SUFFICIENT AREA ON THE TOP SURFACE OF THE 72 INCH FORCE MAIN TO EPOXY THE SURVEY MARKER AND ELECTRONIC EQUIPMENT.

Installed Instrumentation Locations

Instrumentation Locations Not Installed

VI–2	INCLINOMETER LOCATION
FS–1–1	SETTLEMENT MONITORING POINT FULL – SETUP
HS–1–1	SETTLEMENT MONITORING POINT HALF – SETUP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA–7 PERIMETER POOL RISER PIPE (SEE NOTE 7)
VRC1	VIBRATING WIRE PIEZOMETER IN STRATUM RC
A1	ACOUSTICAL LOCATION FOR DISCUSSION PURPOSES ONLY
AS3	ACOUSTICAL/SURVEY LOCATION FOR DISCUSSION PURPOSES ONLY
X	STATION RELOCATED OR ELIMINATED DUE TO SURCHARGE PILE RECONFIGURATION

0 15 30 60
SCALE IN FEET

Prepared/Date: RJR 08/16/13
Checked/Date: AE 08/16/13

Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec

INSTRUMENTATION LOCATION PLAN 1N
Project 3480-09-0006
Figure B1

SURCHARGE AREA N1

INSTRUMENT INSTALLATION DATA

FS-01

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✿ ORG (%) 10 20 30 40 50 60 70 80 90	DEPTH (ft)
0	FILL - 0.0' to 18.0' bgs: No geotechnical testing/sampling performed. Description(s) based on observation of drilling and/or interpretation of nearby pre-design geotechnical explorations.		16.2					0
5			11.2					5
10			6.2					10
15			1.2					15
	Reddish-brown, silty sand (SM), wet: FILL			S3-01	a	20-24-20-24 (N = 44)		
20			-3.8				0 10 20 30 40 50 60 70 80 90 100	20

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER: B&B
RIG TYPE: B-61 Mobile
METHOD: Rotary Wash with Water (Cased)
HOLE DIAM.: 4"
SPTs: Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS: Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.

LOGGED BY: AE CHECKED BY/DATE: TCC/04-07-14

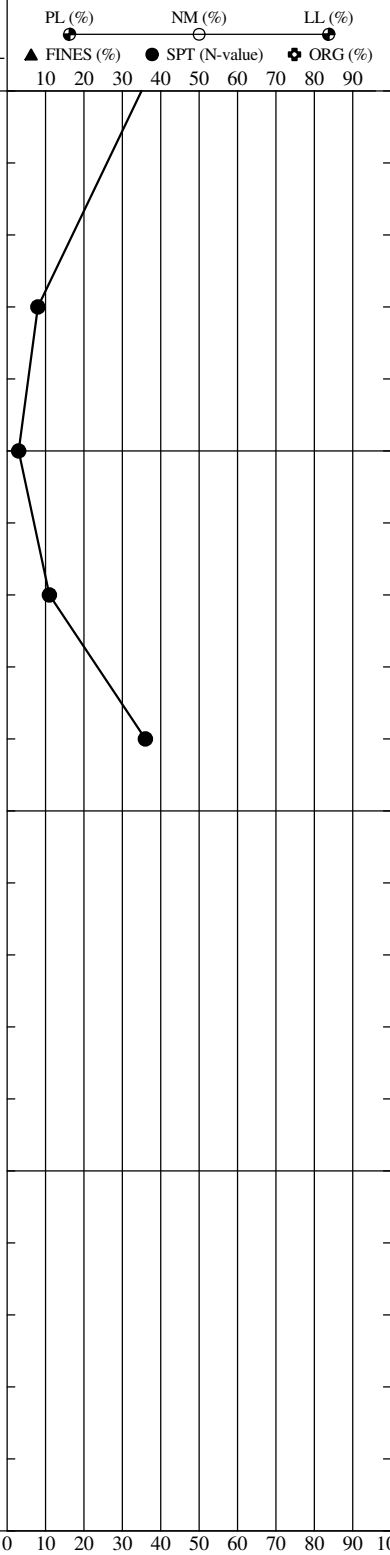
THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.: N_FS-01_VWP
DRILLED: 12/20/13
PROJECT: SA-6 Surcharge Monitoring
LOCATION: Jersey City, New Jersey
PROJECT NO.: 3480130377 **PAGE** 1 **OF** 2

amec

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT (1st 6" / 2nd 6" / 3rd 6" / 4th 6") Or RQD % REC
20	Reddish-brown, silty sand (SM), wet: FILL		-3.8			
	Reddish-brown, SILT (ML): STRATUM O			S3-02	a	6-5-3-3 (N = 8)
	Black/brown, ORGANIC SILT (OH): STRATUM D					
25			-8.8	S3-03	a	WH-1-2-1 (N = 3)
	- 27.0' bgs: VWP installed (N_FS-01_VWP-D)			S3-04	a	3-4-7-7 (N = 11)
	Brown, fine to medium SAND (SP): STRATUM S1			S3-05	a	5-11-25-40 (N = 36)
30	End of exploration at 30.0' bgs		-13.8			
35			-18.8			
40			-23.8			



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-01_VWP
DRILLED:	12/20/13
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

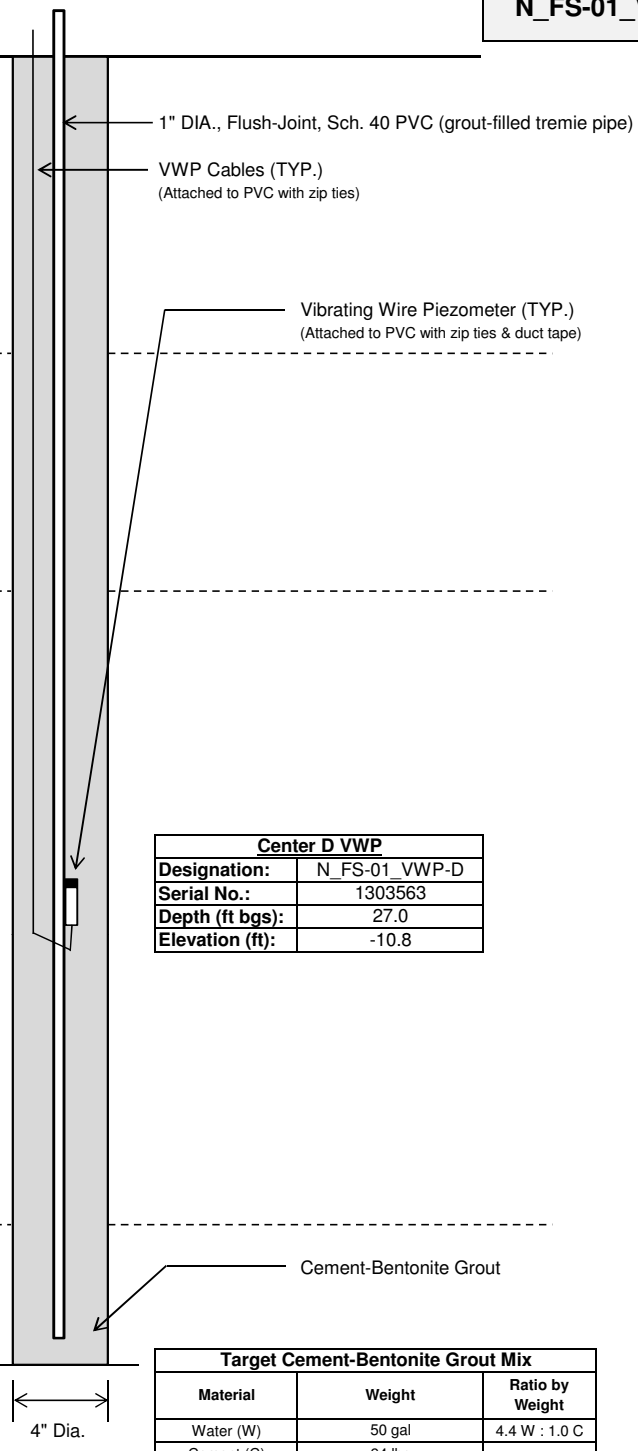
PAGE 2 **OF** 2

amec

N_FS-01_VWP

Baseline Ground Surface Elevation = 16.2 ft

Northing: 685981.34
Easting: 602114.98



FILL

Top of Stratum O — Depth 22.0 ft bgs; Elevation -5.8 ft

STRATUM O

Bottom of Stratum O — Depth 24.0 ft bgs; Elevation -7.8 ft

Top of Stratum D — Depth 24.0 ft bgs; Elevation -7.8 ft

STRATUM D

Center D VWP	
Designation:	N_FS-01_VWP-D
Serial No.:	1303563
Depth (ft bgs):	27.0
Elevation (ft):	-10.8

Bottom of Stratum D — Depth 29.0 ft bgs; Elevation -12.8 ft

Top of Stratum S1 — Depth 29.0 ft bgs; Elevation -12.8 ft

STRATUM S1

Bottom of Boring — Depth 30.0 ft bgs; Elevation -13.8 ft

Target Cement-Bentonite Grout Mix		
Material	**Weight**	**Ratio by Weight**
Water (W)	50 gal	4.4 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	30-39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. VWPs manufactured by Slope Indicator; Part No. 52611028.
4. Refer to Boring Record N_FS-01_VWP for subsurface conditions encountered.

amec	**Title:**	VWP Construction Diagram	**Client:**	Honeywell	**By/Date:**	NDL/12-30-13
	Boring No.:	N_FS-01_VWP	**Project:**	SA-6	**Ck/Date:**	TCC/4-7-14
	Date Installed:	12/20/2013	**Project No.:**	3480-13-0377	**Scale:**	NTS

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✿ ORG (%) 10 20 30 40 50 60 70 80 90	DEPTH (ft)
0	FILL - 0.0' to 29.0' bgs: No geotechnical testing/sampling performed. Refer to N_FS-01_VWP for soil descriptions/stratigraphy and geotechnical testing/sampling.		16.2					0
5			11.2					5
10			6.2					10
15			1.2					15
20			-3.8				0 10 20 30 40 50 60 70 80 90 100	20

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash (Variable)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to 29' bgs. Casing flushed. Then mud rotary to depth. Installed Sondex System. CB grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.
LOGGED BY:	AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

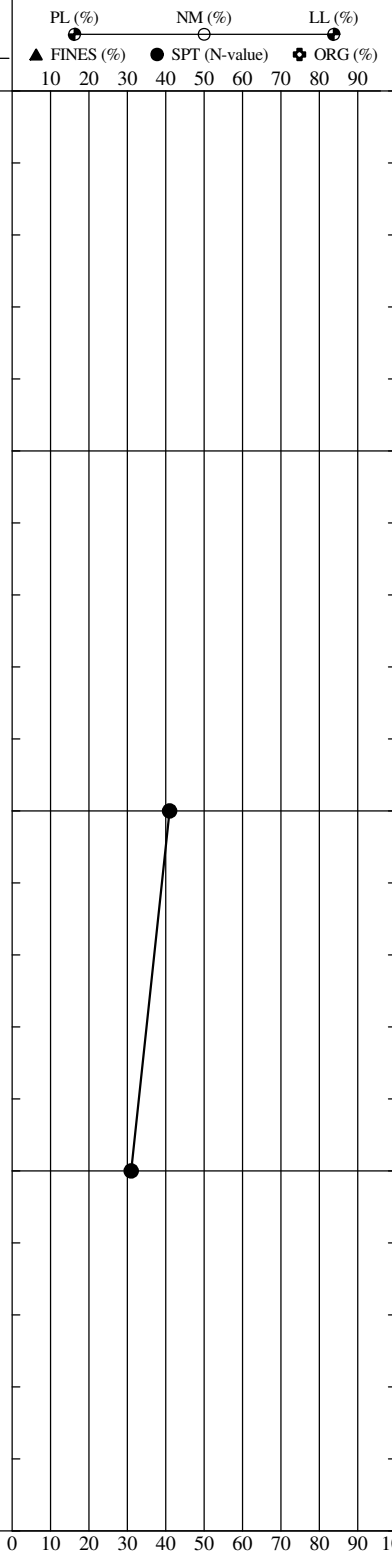
GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-01_SS
DRILLED:	12/23/13 - 12/24/13
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

PAGE 1 **OF** 2

amec

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✿ ORG (%)	DEPTH (ft)
20	FILL		-3.8					20
	STRATUM O							
	STRATUM D							
25			-8.8					25
	Brown/gray, fine to medium SAND (SP), dense: STRATUM S1							
30			-13.8	SS-01		12-17-24-34 (N = 41)		30
35			-18.8	SS-02		8-17-14-21 (N = 31)		35
	End of exploration at 36.0' bgs							
40			-23.8					40



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash (Variable)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to 29' bgs. Casing flushed. Then mud rotary to depth. Installed Sondex System. CB grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-01_SS
DRILLED:	12/23/13 - 12/24/13
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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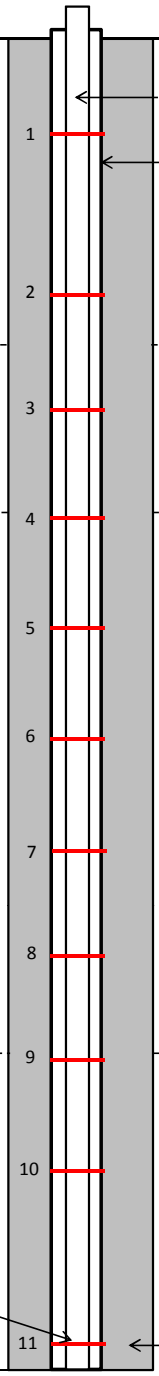
amec

N_FS-01_SS

Initial Top of Inner Casing Elevation = 20.3 ft
Baseline Ground Surface Elevation = 16.2 ft

Northing: 685985.38
Easting: 602120.90



2" DIA., Flush-Joint, Sch. 40 PVC Inner Casing

3" DIA. Corrugated Pipe Outer Casing

FILL

Ring 1 Depth 5.2 ft bgs; Elevation 11.0 ft

Ring 2 Depth 15.1 ft bgs; Elevation 1.1 ft

Top of Stratum O: Depth 22.0 ft bgs; Elevation -5.8 ft

STRATUM O

Ring 3 Depth 23.2 ft bgs; Elevation -7.0 ft

Bottom of Stratum O: Depth 24.0 ft bgs; Elevation -7.8 ft

Top of Stratum D: Depth 24.0 ft bgs; Elevation -7.8 ft

Ring 4 Depth 24.2 ft bgs; Elevation -8.0 ft

Ring 5 Depth 25.2 ft bgs; Elevation -9.0 ft

STRATUM D

Ring 6 Depth 26.2 ft bgs; Elevation -10.0 ft

Ring 7 Depth 27.2 ft bgs; Elevation -11.0 ft

Ring 8 Depth 28.2 ft bgs; Elevation -12.0 ft

Bottom of Stratum D: Depth 29.0 ft bgs; Elevation -12.8 ft

Top of Stratum S1/S2: Depth 29.0 ft bgs; Elevation -12.8 ft

Ring 9 Depth 29.1 ft bgs; Elevation -12.9 ft

Ring 10 Depth 30.1 ft bgs; Elevation -14.0 ft

STRATUM S1 or S2

Ring 11 Depth 34.9 ft bgs; Elevation -18.8 ft

Sensing Ring (TYP.)

Cement-Bentonite Grout

Bottom of Sondex: Depth 36.0 ft bgs; Elevation -19.8 ft

6" DIA.

Cement-Bentonite Grout Mix

Material	Weight	Ratio by Weight
Water (W)	75 gal	6.6 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. Sondex System manufactured by Slope Indicator.
4. Refer to Boring Record N_FS-01_SS for subsurface conditions encountered.

amec	**Title:**	Sondex System Construction Diagram	**Client:**	Honeywell	**By/Date:** NDL/1-8-14
	Boring No.:	N_FS-01_SS	**Project:**	SA-6	**Ck/Date:** TCC/4-7-14
	Date Installed:	12/24/2013	**Project No.:**	3480-13-0377	**Scale:** NTS

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✿ ORG (%) 10 20 30 40 50 60 70 80 90	DEPTH (ft)
0	FILL		16.2					0
	- No geotechnical testing/sampling was performed in this boring.							
	- Refer to N_FS-01_VWP and N_FS-01_SS for soil descriptions/stratigraphy and geotechnical testing/sampling for this monitoring point.							
5			11.2					5
10			6.2					10
15			1.2					15
20	End of exploration at 20.0' bgs		-3.8				0 10 20 30 40 50 60 70 80 90 100	20

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER: B&B
RIG TYPE: Gustech Brat 22
METHOD: Hollow-Stem Augers
HOLE DIAM.: 4.25" ID
SPTs: N/A
REMARKS: Installed standpipe piezometer. Drill cuttings containerized upon completion.

LOGGED BY: AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.: N_FS-01_SPP
DRILLED: 12/30/13
PROJECT: SA-6 Surcharge Monitoring
LOCATION: Jersey City, New Jersey
PROJECT NO.: 3480130377 **PAGE** 1 **OF** 2

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DEPTH (ft)	SOIL DESCRIPTION AND REMARKS SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✿ ORG (%) 10 20 30 40 50 60 70 80 90	DEPTH (ft)
20			-3.8					20
25			-8.8					25
30			-13.8					30
35			-18.8					35
40			-23.8				0 10 20 30 40 50 60 70 80 90 100	40

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER: B&B
RIG TYPE: Gustech Brat 22
METHOD: Hollow-Stem Augers
HOLE DIAM.: 4.25" ID
SPTs: N/A
REMARKS: Installed standpipe piezometer. Drill cuttings containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

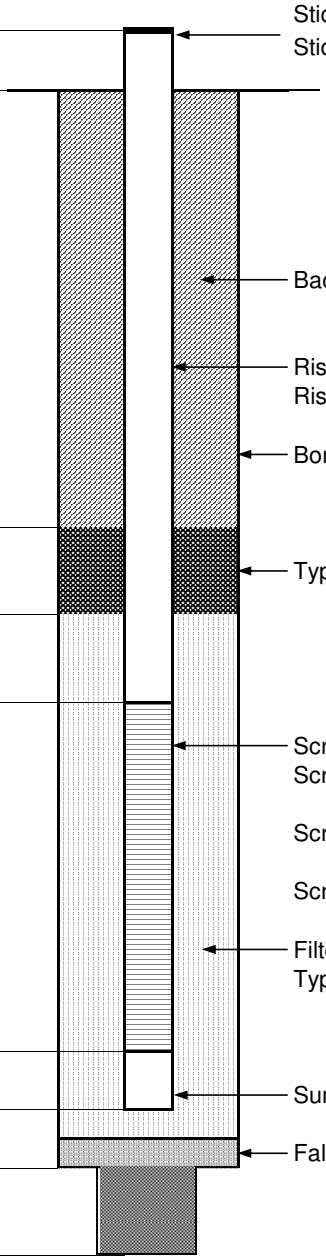
GEOTECHNICAL BORING RECORD

BORING NO.: N_FS-01_SPP
DRILLED: 12/30/13
PROJECT: SA-6 Surcharge Monitoring
LOCATION: Jersey City, New Jersey
PROJECT NO.: 3480130377 **PAGE** 2 **OF** 2

amec

AMEC E&I, Inc.				STANDPIPE PIEZOMETER CONSTRUCTION DIAGRAM
Project:	SA-6 Surcharge Monitoring	**Project Number:**	3480130377	
Location:	Jersey City, NJ			**N_FS-01_SPP**
Client:	Honeywell	**Date:**	3/13/2014	
Drilling Method:	4.25-inch ID HSA			**Measuring Point**
Installed Date:	12/30/2013			**Type:** Top of Riser
Installed By:	AE			**Elevation (ft):** 21.1

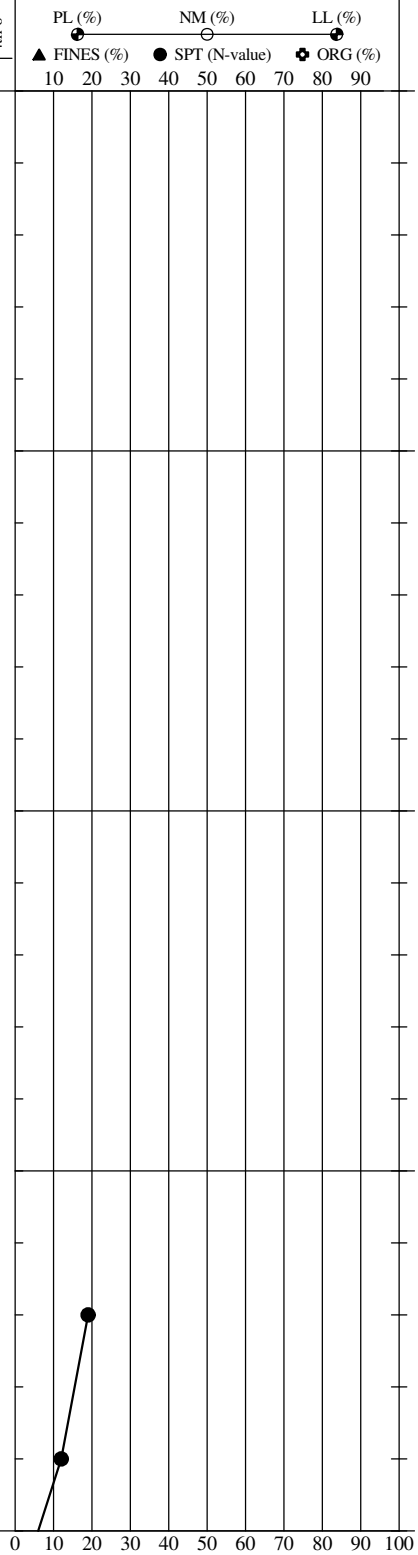
Item	Depth (ft bgs)	Elevation (ft)	Legend	Description	
Top of Riser	-4.9	21.1		Stickup Type:	PVC (sch. 40)
				Stickup Diameter:	1-inch
Ground Surface	0.0	16.2			
				Backfill/Grout Type:	N.J.A.C. 7:9D-2.9 Table 2
				Riser Pipe Type:	PVC (sch. 40)
				Riser Pipe ID:	1-inch
				Borehole Diameter:	9-inches
Top of Seal	5.0	11.2			
				Type of Seal:	Bentonite Chips
Top of Filter Pack	8.0	8.2			
Top of Screen	10.0	6.2			
				Screen Type:	PVC (sch. 40)
				Screen ID:	1-inch
				Screen Slot Size:	0.010-inch
				Screen Length:	10 feet
				Filter/Sand Pack Type:	Filter Sand (#1)
Base of Screen	20.0	-3.8			
End Cap	20.0	-3.8		Sump:	N/A
Drilled Depth	20.0	-3.8		Fallback/Backfill:	N/A
Total Depth	20.0	-3.8			



Notes: 1. Elevation Datum NGVD 29.

FS-02

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✿ ORG (%)
0	FILL		14.8				
	- 0.0' to 16.0' bgs: No geotechnical testing/sampling performed. Description(s) based on observation of drilling and/or interpretation of nearby pre-design geotechnical explorations.						
5			9.8				
10			4.8				
15			-0.3				
	Light brown/yellow, silt (MH): FILL / Possible COPR						
				S3-01	a	4-5-14-16 (N = 19)	
	Brown, clayey SILT (ML): STRATUM O						
	Brown, silty fine to medium SAND (SM): STRATUM O						
	Brown, SILT (ML), trace fine to medium sand, wet: STRTAUM O						
	- 19.25' bgs: VWP installed (N_FS-02_VWP-O)			S3-02	a	5-4-8-5 (N = 12)	
20			-5.3				



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 2 VWPs. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.
LOGGED BY: AE	CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-02_VWP
DRILLED:	01/13/14 - 01/14/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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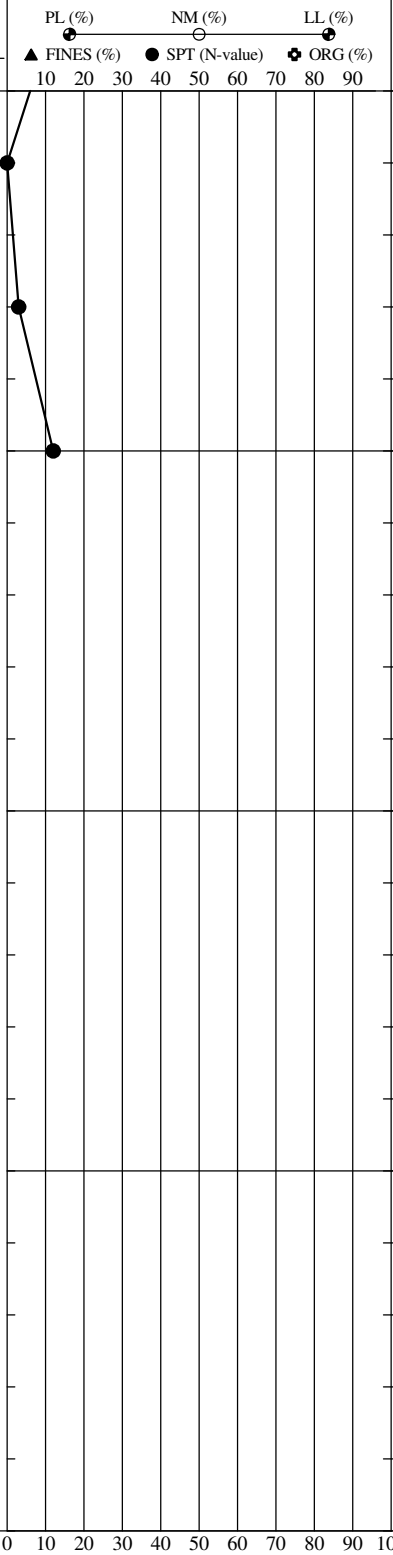
DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC
20	Brown, SILT (ML), trace fine to medium sand, wet: STRTAUM O		-5.3			
	Dark gray/black, ORGANIC SILT (OH): STRATUM D			S3-03	a	WH-WH-1-3
	- 23.0' bgs: VWP installed (N_FS-02_VWP-D)			S3-04	a	2-2-1-1 (N = 3)
	Dark brown, PEAT (PT), some silt: STRATUM D					
25	Brown/gray, fine to medium SAND (SP): STRATUM S1		-10.3	S3-05	a	4-6-6-14 (N = 12)
	End of exploration at 26.0' bgs					
30			-15.3			
35			-20.3			
40			-25.3			



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 2 VWPs. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-02_VWP
DRILLED:	01/13/14 - 01/14/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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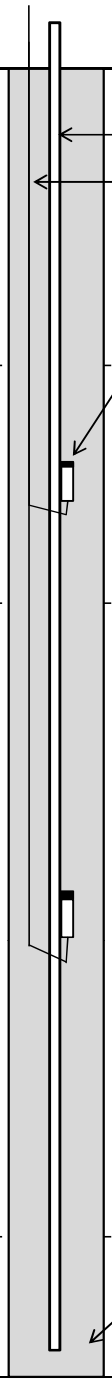
amec

N_FS-02_VWP

Baseline Ground Surface Elevation = 14.8 ft

Northing: 685853.14
Easting: 602468.74



FILL

Top of Stratum O/COPR — Depth 17.2 ft bgs; Elevation -2.5 ft

STRATUM O

Center O VWP	
Designation:	N_FS-02_VWP-O
Serial No.:	1303630
Depth (ft bgs):	19.3
Elevation (ft):	-4.5

Bottom of Stratum O — Depth 20.8 ft bgs; Elevation -6.0 ft

Top of Stratum D — Depth 20.8 ft bgs; Elevation -6.0 ft

STRATUM D

Center D VWP	
Designation:	N_FS-02_VWP-D
Serial No.:	1303336
Depth (ft bgs):	23.0
Elevation (ft):	-8.3

Bottom of Stratum D — Depth 25.2 ft bgs; Elevation -10.5 ft

Top of Stratum S1 — Depth 25.2 ft bgs; Elevation -10.5 ft

STRATUM S1

Bottom of Boring — Depth 26.0 ft bgs; Elevation -11.3 ft

Target Cement-Bentonite Grout Mix		
Material	**Weight**	**Ratio by Weight**
Water (W)	50 gal	4.4 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	30-39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. VWPs manufactured by Slope Indicator; Part No. 52611028.
4. Refer to Boring Record N_FS-02_VWP for subsurface conditions encountered.

amec	**Title:**	VWP Construction Diagram	**Client:**	Honeywell	**By/Date:**	NDL/1/14/14
	Boring No.:	N_FS-02_VWP	**Project:**	SA-6	**Ck/Date:**	TCC/4-7-14
	Date Installed:	1/14/2014	**Project No.:**	3480-13-0377	**Scale:**	NTS

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS	LEGEND	ELEV (ft)	SAMPLES: IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✿ ORG (%) 10 20 30 40 50 60 70 80 90	DEPTH (ft)
0	FILL - 0.0' to 28.0' bgs: No geotechnical testing/sampling performed. Refer to N_FS-02_VWP for soil descriptions/stratigraphy and geotechnical testing/sampling.		14.8					0
5			9.8					5
10			4.8					10
15			-0.3					15
	STRATUM O							
20			-5.3				0 10 20 30 40 50 60 70 80 90 100	20

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash (Variable)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to 28' bgs. Casing flushed. Then mud rotary to depth. Installed Sondex System. CB grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.
LOGGED BY:	AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-02_SS
DRILLED:	01/15/14 - 01/16/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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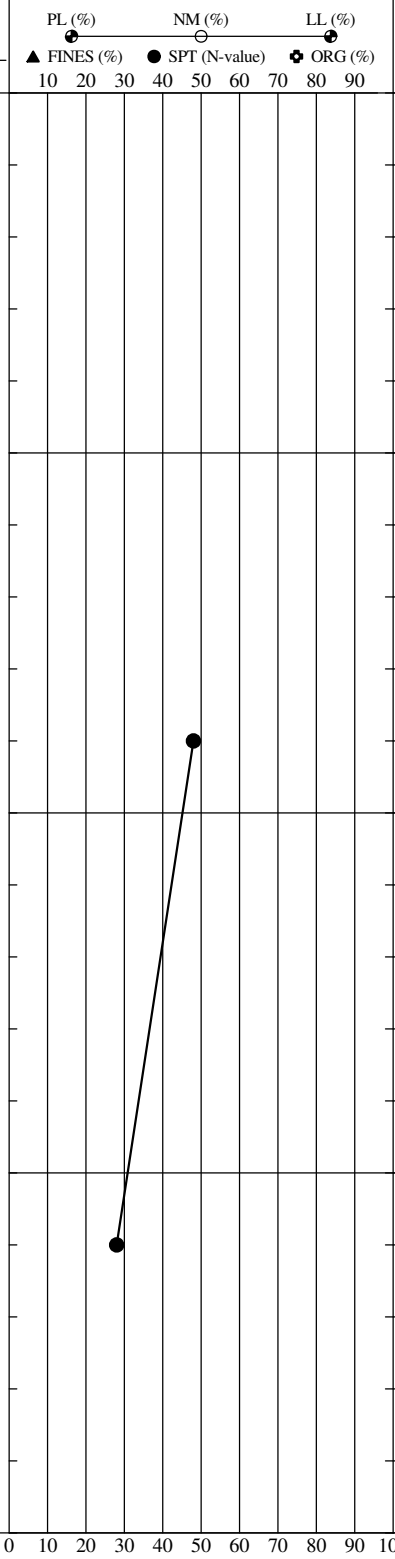
amec

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLE IDENT	TYPE	BLOW COUNT (1st 6" / 2nd 6" / 3rd 6" / 4th 6") Or RQD % REC
20	STRATUM O		-5.3			
	STRATUM D					
25			-10.3			
	Gray, fine SAND (SP), dense: STRATUM S1			SS-01		28-27-21-29 (N = 48)
30			-15.3			
35	Reddish-brown, fine to medium SAND (SP), medium dense: STRATUM S2		-20.3	SS-02		8-11-17-15 (N = 28)
	End of exploration at 37.0' bgs					
40			-25.3			



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash (Variable)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to 28' bgs. Casing flushed. Then mud rotary to depth. Installed Sondex System. CB grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-02_SS
DRILLED:	01/15/14 - 01/16/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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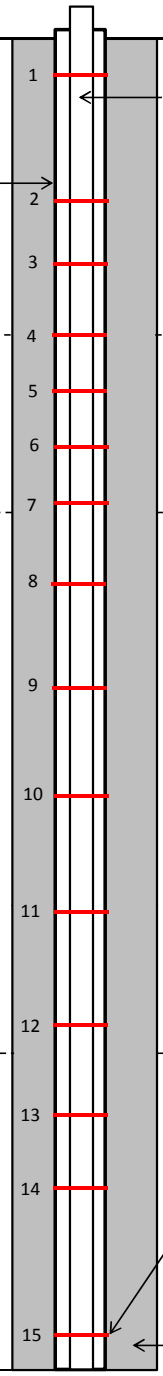
amec

N_FS-02_SS

Initial Top of Inner Casing Elevation = 18.0 ft
Baseline Ground Surface Elevation = 14.8 ft

Northing: 685860.14
Easting: 602456.81



2" DIA., Flush-Joint, Sch. 40 PVC Inner Casing

3" DIA. Corrugated Pipe Outer Casing

FILL

STRATUM O

STRATUM D

STRATUM S1 or S2

Top of Stratum O — Depth 17.2 ft bgs; Elevation -2.5 ft

Bottom of Stratum O — Depth 20.8 ft bgs; Elevation -6.0 ft

Top of Stratum D — Depth 20.8 ft bgs; Elevation -6.0 ft

Bottom of Stratum D — Depth 25.2 ft bgs; Elevation -10.5 ft

Top of Stratum S1/S2 — Depth 25.2 ft bgs; Elevation -10.5 ft

Bottom of Sondex — Depth 37.0 ft bgs; Elevation -22.3 ft

6" DIA.

	Depth (ft bgs)	Elevation (ft)
Ring 1	7.3	7.4
Ring 2	15.4	-0.6
Ring 3	16.3	-1.6
Ring 4	17.3	-2.6
Ring 5	18.3	-3.5
Ring 6	19.2	-4.5
Ring 7	20.2	-5.4
Ring 8	21.2	-6.5
Ring 9	22.2	-7.4
Ring 10	23.2	-8.4
Ring 11	24.2	-9.5
Ring 12	25.2	-10.5
Ring 13	26.2	-11.4
Ring 14	27.1	-12.4
Ring 15	35.9	-21.1

Sensing Ring (TYP.)

Cement-Bentonite Grout

Cement-Bentonite Grout Mix

Material	Weight	Ratio by Weight
Water (W)	75 gal	6.6 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. Sondex System manufactured by Slope Indicator.
4. Refer to Boring Record N_FS-02_SS for subsurface conditions encountered.

amec	**Title:**	Sondex System Construction Diagram	**Client:**	Honeywell	**By/Date:** NDL/3-27-14
	Boring No.:	N_FS-02_SS	**Project:**	SA-6	**Ck/Date:** TCC/4-7-14
	Date Installed:	1/16/2014	**Project No.:**	3480-13-0377	**Scale:** NTS

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS	LEGEND	ELEV (ft)	SAMPLES: IDENT	TYPE	BLOW COUNT (1st 6" / 2nd 6" / 3rd 6" / 4th 6") Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✿ ORG (%) (10 20 30 40 50 60 70 80 90)	DEPTH (ft)
0	FILL		14.8					0
	- No geotechnical testing/sampling was performed in this boring.							
	- Refer to N_FS-02_VWP and N_FS-02_SS for soil descriptions/stratigraphy and geotechnical testing/sampling for this monitoring point.							
5			9.8					5
10			4.8					10
15			-0.3					15
	STRATUM O							
	End of exploration at 20.0' bgs							
20			-5.3				0 10 20 30 40 50 60 70 80 90 100	20

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER: B&B
RIG TYPE: B-61 Mobile
METHOD: Hollow-Stem Augers
HOLE DIAM.: 4.25" ID
SPTs: N/A
REMARKS: Installed standpipe piezometer. Drill cuttings containerized upon completion.

LOGGED BY: AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.: N_FS-02_SPP
DRILLED: 01/14/14 - 01/15/14
PROJECT: SA-6 Surcharge Monitoring
LOCATION: Jersey City, New Jersey
PROJECT NO.: 3480130377 **PAGE** 1 **OF** 2

amec

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✿ ORG (%) 10 20 30 40 50 60 70 80 90	DEPTH (ft)
20			-5.3					20
25			-10.3					25
30			-15.3					30
35			-20.3					35
40			-25.3				0 10 20 30 40 50 60 70 80 90 100	40

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER: B&B
RIG TYPE: B-61 Mobile
METHOD: Hollow-Stem Augers
HOLE DIAM.: 4.25" ID
SPTs: N/A
REMARKS: Installed standpipe piezometer. Drill cuttings containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

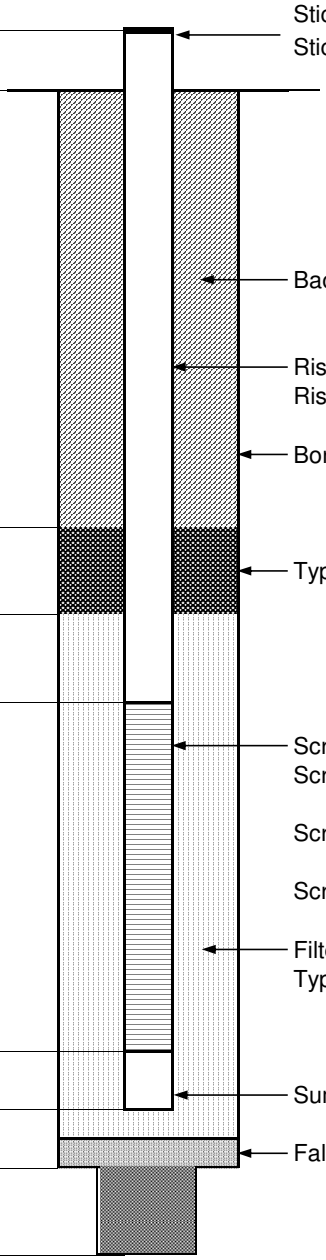
GEOTECHNICAL BORING RECORD

BORING NO.: N_FS-02_SPP
DRILLED: 01/14/14 - 01/15/14
PROJECT: SA-6 Surcharge Monitoring
LOCATION: Jersey City, New Jersey
PROJECT NO.: 3480130377 **PAGE** 2 **OF** 2

amec

AMEC E&I, Inc.				STANDPIPE PIEZOMETER CONSTRUCTION DIAGRAM
Project:	SA-6 Surcharge Monitoring	**Project Number:**	3480130377	
Location:	Jersey City, NJ			**N_FS-02_SPP**
Client:	Honeywell	**Date:**	3/13/2014	
Drilling Method:	4.25-inch ID HSA			**Measuring Point**
Installed Date:	1/15/2014			**Type:** Top of Riser
Installed By:	AE			**Elevation (ft):** 19.4

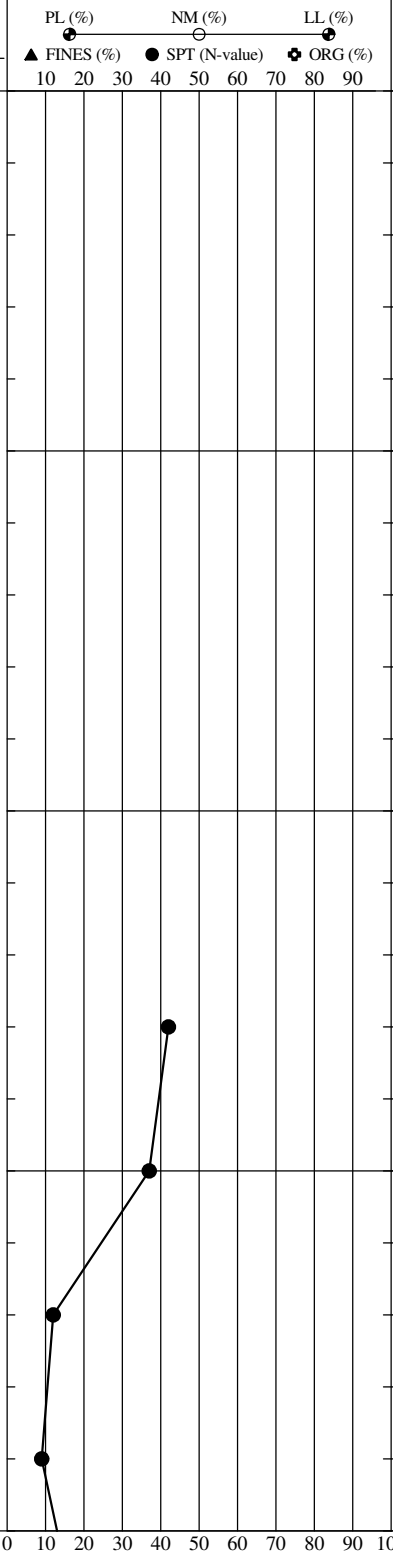
Item	Depth (ft bgs)	Elevation (ft)	Description	
Top of Riser	-4.7	19.4	Stickup Type:	PVC (sch. 40)
			Stickup Diameter:	1-inch
Ground Surface	0.0	14.8		
			Backfill/Grout Type:	N.J.A.C. 7:9D-2.9 Table 2
			Riser Pipe Type:	PVC (sch. 40)
			Riser Pipe ID:	1-inch
			Borehole Diameter:	9-inches
Top of Seal	5.0	9.8		
			Type of Seal:	Bentonite Chips
Top of Filter Pack	8.0	6.8		
Top of Screen	10.0	4.8		
			Screen Type:	PVC (sch. 40)
			Screen ID:	1-inch
			Screen Slot Size:	0.010-inch
			Screen Length:	10 feet
			Filter/Sand Pack Type:	Filter Sand (#1)
Base of Screen	20.0	-5.3		
End Cap	20.0	-5.3	Sump:	N/A
Drilled Depth	20.0	-5.3	Fallback/Backfill:	N/A
Total Depth	20.0	-5.3		



Notes: 1. Elevation Datum NGVD 29.

FS-03

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✪ ORG (%)
0	FILL		14.3				
	- 0.0' to 12.0' bgs: No geotechnical testing/sampling performed. Description(s) based on observation of drilling and/or interpretation of nearby pre-design geotechnical explorations.						
5			9.3				
10			4.3				
	Dark brown, sand (SP), few gravel: FILL				a		
				S3-01		21-23-19-15 (N = 42)	
	Brown/yellow/orange, silt (MH): FILL / Possible COPR				a		
15			-0.7	S3-02		38-22-15-17 (N = 37)	
	Brown/reddish-brown, SILT (ML): STRATUM O				a		
	- 17.25' bgs: VWP installed (N_FS-03_VWP-O)			S3-03		5-7-5-5 (N = 12)	
					a		
	Black/gray, ORGANIC SILT (OH): STRATUM D			S3-04		5-5-4-5 (N = 9)	
20			-5.7				



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 2 VWPs. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.
LOGGED BY: AE	CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-03_VWP
DRILLED:	01/21/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

PAGE 1 **OF** 2

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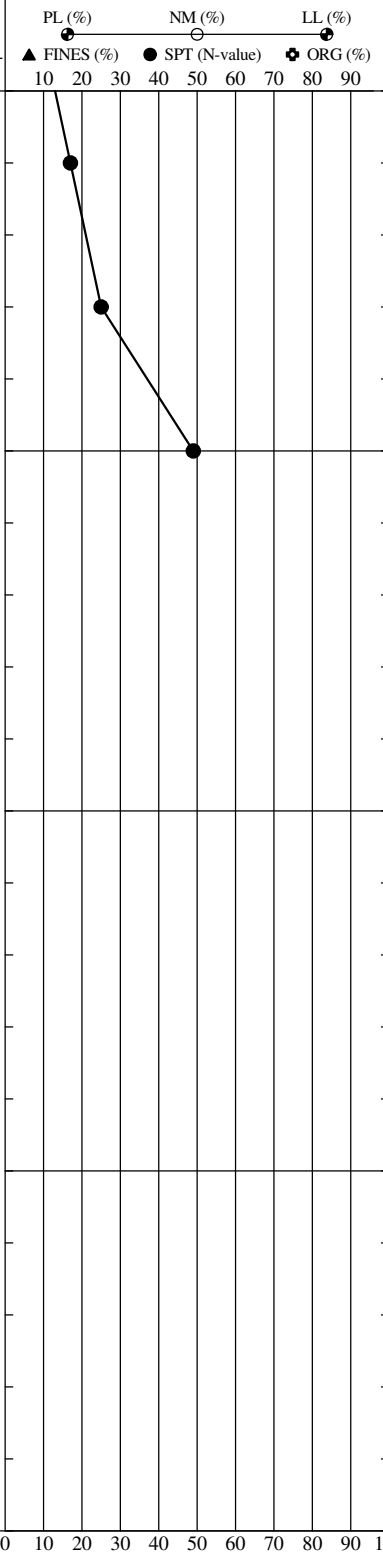
DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC
20	Black/gray, ORGANIC SILT (OH): STRATUM D		-5.7			
				S3-05	a	6-8-9-16 (N = 17)
	Dark brown, PEAT (PT): STRATUM D - 21.5' bgs: VWP installed (N_FS-03_VWP-D)					
	Brown, silty SAND (SM) / sandy SILT (ML): STRATUM S1			S3-06	a	19-15-10-9 (N = 25)
	Brown/gray, fine to medium SAND (SP): STRATUM S1 - 24.0' to 24.4' bgs: few clay					
25			-10.7	S3-07	a	11-24-25-30 (N = 49)
	End of exploration at 26.0' bgs					
30			-15.7			
35			-20.7			
40			-25.7			



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 2 VWPs. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-03_VWP
DRILLED:	01/21/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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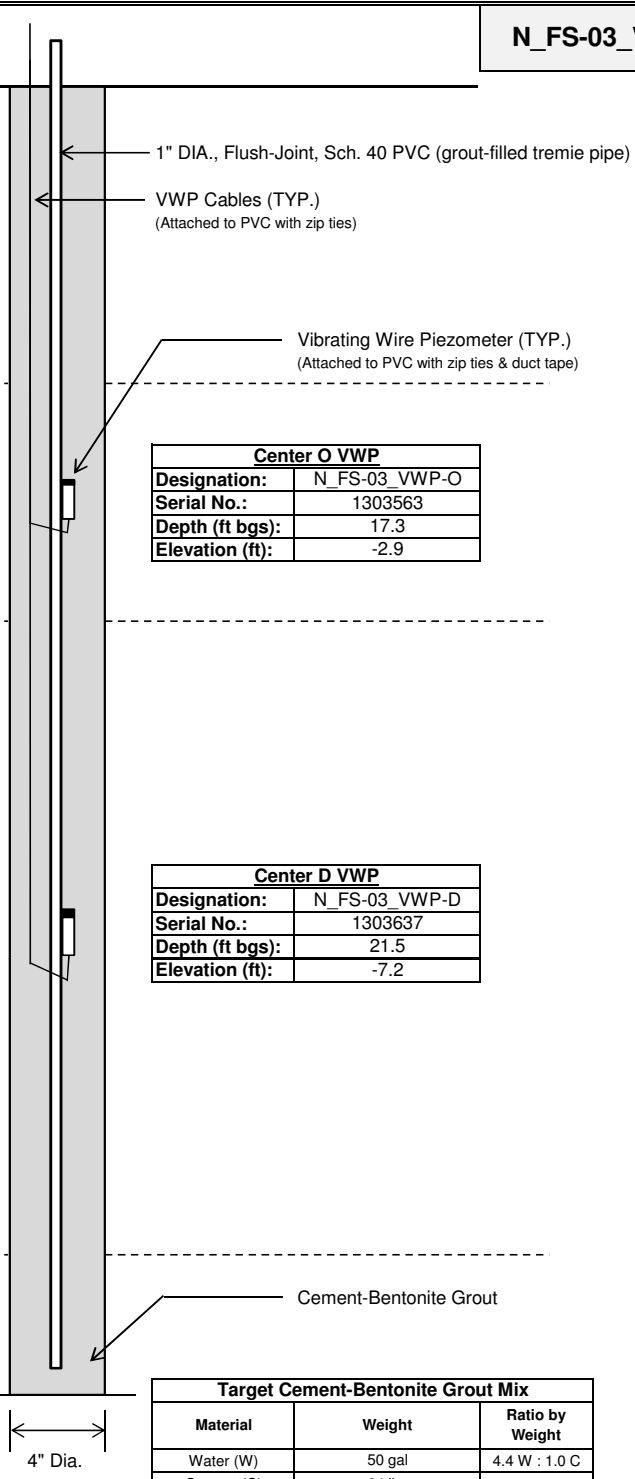
amec

N_FS-03_VWP

Baseline Ground Surface Elevation = 14.3 ft

Northing: 685777.17
Easting: 602682.83



Top of Stratum O — Depth 16.5 ft bgs; Elevation -2.2 ft

Bottom of Stratum O — Depth 19.0 ft bgs; Elevation -4.7 ft

Top of Stratum D — Depth 19.0 ft bgs; Elevation -4.7 ft

Bottom of Stratum D — Depth 22.4 ft bgs; Elevation -8.1 ft

Top of Stratum S1 — Depth 22.4 ft bgs; Elevation -8.1 ft

Bottom of Boring — Depth 26.0 ft bgs; Elevation -11.7 ft

Center O VWP	
Designation:	N_FS-03_VWP-O
Serial No.:	1303563
Depth (ft bgs):	17.3
Elevation (ft):	-2.9

Center D VWP	
Designation:	N_FS-03_VWP-D
Serial No.:	1303637
Depth (ft bgs):	21.5
Elevation (ft):	-7.2

Target Cement-Bentonite Grout Mix		
Material	**Weight**	**Ratio by Weight**
Water (W)	50 gal	4.4 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	30-39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. VWPs manufactured by Slope Indicator; Part No. 52611028.
4. Refer to Boring Record N_FS-03_VWP for subsurface conditions encountered.

amec	**Title:**	VWP Construction Diagram	**Client:**	Honeywell	**By/Date:** NDL/1/24/14
	Boring No.:	N_FS-03_VWP	**Project:**	SA-6	**Ck/Date:** TCC/4-7-14
	Date Installed:	1/21/2014	**Project No.:**	3480-13-0377	**Scale:** NTS

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✿ ORG (%) 10 20 30 40 50 60 70 80 90	DEPTH (ft)
0	FILL - 0.0' to 25.0' bgs: No geotechnical testing/sampling performed. Refer to N_FS-03_VWP for soil descriptions/stratigraphy and geotechnical testing/sampling.		14.3					0
5			9.3					5
10			4.3					10
15			-0.7					15
	STRATUM O							
	STRATUM D							
20			-5.7				0 10 20 30 40 50 60 70 80 90 100	20

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash (Variable)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to 23.5' bgs. Casing flushed. Then mud rotary to depth. Installed Sondex System. CB grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.
LOGGED BY: MS	CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-03_SS
DRILLED:	1/30/14 - 1/31/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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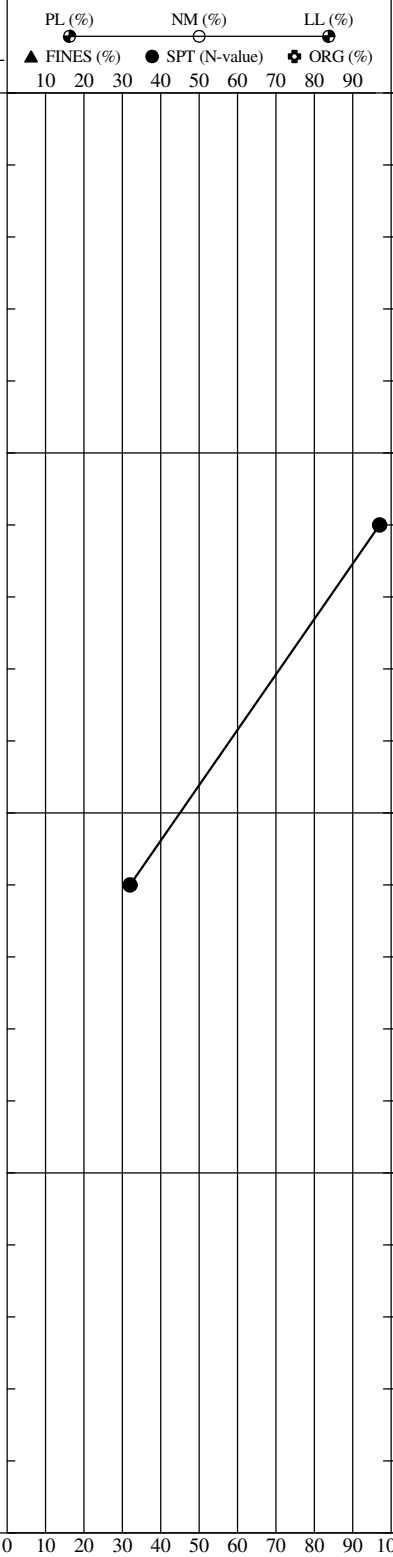
DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC
20	STRATUM D		-5.7			
25	Brown, fine SAND (SP), dense, moist: STRATUM S1		-10.7			
	Reddish-brown, fine SAND (SP), dense to very dense, moist: STRATUM S2			SS-01		22-38-59-53 (N = 97)
30			-15.7	SS-02		15-16-16-18 (N = 32)
	End of exploration at 32.0' bgs					
35			-20.7			
40			-25.7			



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash (Variable)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to 23.5' bgs. Casing flushed. Then mud rotary to depth. Installed Sondex System. CB grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-03_SS
DRILLED:	1/30/14 - 1/31/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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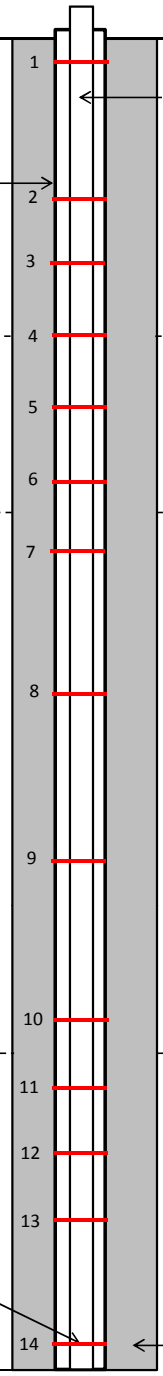
amec

N_FS-03_SS

Initial Top of Inner Casing Elevation = 17.6 ft
Baseline Ground Surface Elevation = 14.3 ft

Northing: 685781.89
Easting: 602679.24



2" DIA., Flush-Joint, Sch. 40 PVC Inner Casing

FILL / Possible COPR

3" DIA. Corrugated Pipe Outer Casing

Top of Stratum O — Depth 16.5 ft bgs; Elevation -2.2 ft

STRATUM O

Bottom of Stratum O — Depth 19.0 ft bgs; Elevation -4.7 ft

Top of Stratum D — Depth 19.0 ft bgs; Elevation -4.7 ft

STRATUM D

Bottom of Stratum D — Depth 22.4 ft bgs; Elevation -8.1 ft

Top of Stratum S1/S2 — Depth 22.4 ft bgs; Elevation -8.1 ft

STRATUM S1 or S2

Sensing Ring (TYP.)

Cement-Bentonite Grout

Bottom of Sondex — Depth 32.0 ft bgs; Elevation -17.7 ft

Ring 1	Depth	5.0	ft bgs
	Elevation	9.3	ft
Ring 2	Depth	14.0	ft bgs
	Elevation	0.3	ft
Ring 3	Depth	15.0	ft bgs
	Elevation	-0.7	ft
Ring 4	Depth	16.0	ft bgs
	Elevation	-1.7	ft
Ring 5	Depth	17.0	ft bgs
	Elevation	-2.7	ft
Ring 6	Depth	18.0	ft bgs
	Elevation	-3.7	ft
Ring 7	Depth	19.0	ft bgs
	Elevation	-4.7	ft
Ring 8	Depth	20.0	ft bgs
	Elevation	-5.7	ft
Ring 9	Depth	21.0	ft bgs
	Elevation	-6.7	ft
Ring 10	Depth	22.0	ft bgs
	Elevation	-7.6	ft
Ring 11	Depth	22.9	ft bgs
	Elevation	-8.6	ft
Ring 12	Depth	23.9	ft bgs
	Elevation	-9.6	ft
Ring 13	Depth	25.0	ft bgs
	Elevation	-10.6	ft
Ring 14	Depth	30.7	ft bgs
	Elevation	-16.4	ft

Cement-Bentonite Grout Mix

Material	Weight	Ratio by Weight
Water (W)	75 gal	6.6 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. Sondex System manufactured by Slope Indicator.
4. Refer to Boring Record N_FS-03_SS for subsurface conditions encountered.

amec	**Title:**	Sondex System Construction Diagram	**Client:**	Honeywell	**By/Date:** NDL/3-27-14
	Boring No.:	N_FS-03_SS	**Project:**	SA-6	**Ck/Date:** TCC/4-7-14
	Date Installed:	1/31/2014	**Project No.:**	3480-13-0377	**Scale:** NTS

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✿ ORG (%) 10 20 30 40 50 60 70 80 90	DEPTH (ft)
0	FILL - No geotechnical testing/sampling was performed in this boring. - Refer to N_FS-03_VWP and N_FS-03_SS for soil descriptions/stratigraphy and geotechnical testing/sampling for this monitoring point.		14.3					0
5			9.3					5
10			4.3					10
15			-0.7					15
	STRATUM O							
	End of exploration at 18.0' bgs							
20			-5.7				0 10 20 30 40 50 60 70 80 90 100	20

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER: B&B
RIG TYPE: Gustech Brat 22
METHOD: Hollow-Stem Augers
HOLE DIAM.: 4.25" ID
SPTs: N/A
REMARKS: Installed standpipe piezometer. Drill cuttings containerized upon completion.

LOGGED BY: AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.: N_FS-03_SPP
DRILLED: 1/30/14
PROJECT: SA-6 Surcharge Monitoring
LOCATION: Jersey City, New Jersey
PROJECT NO.: 3480130377 **PAGE** 1 **OF** 1

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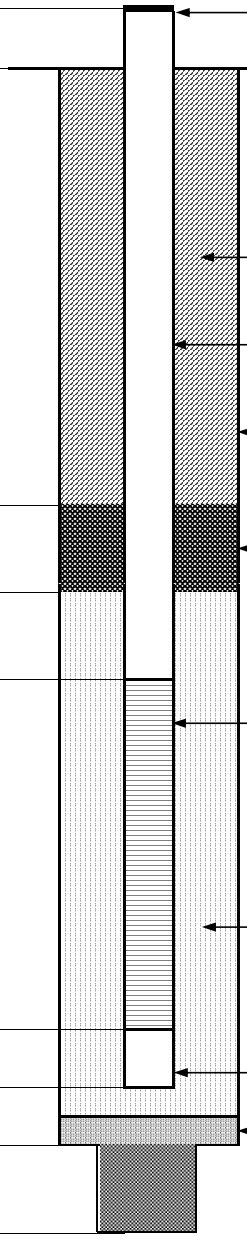
AMEC E&I, Inc.				STANDPIPE PIEZOMETER CONSTRUCTION DIAGRAM	
Project:	SA-6 Surcharge Monitoring	**Project Number:**			
Location:	Jersey City, NJ	3480130377		N_FS-03_SPP	
Client:	Honeywell	**Date:**	3/13/2014		
Drilling Method:	4.25-inch ID HSA			**Measuring Point**	
Installed Date:	1/30/2014			**Type:**	Top of Riser
Installed By:	AE			**Elevation (ft):**	16.2

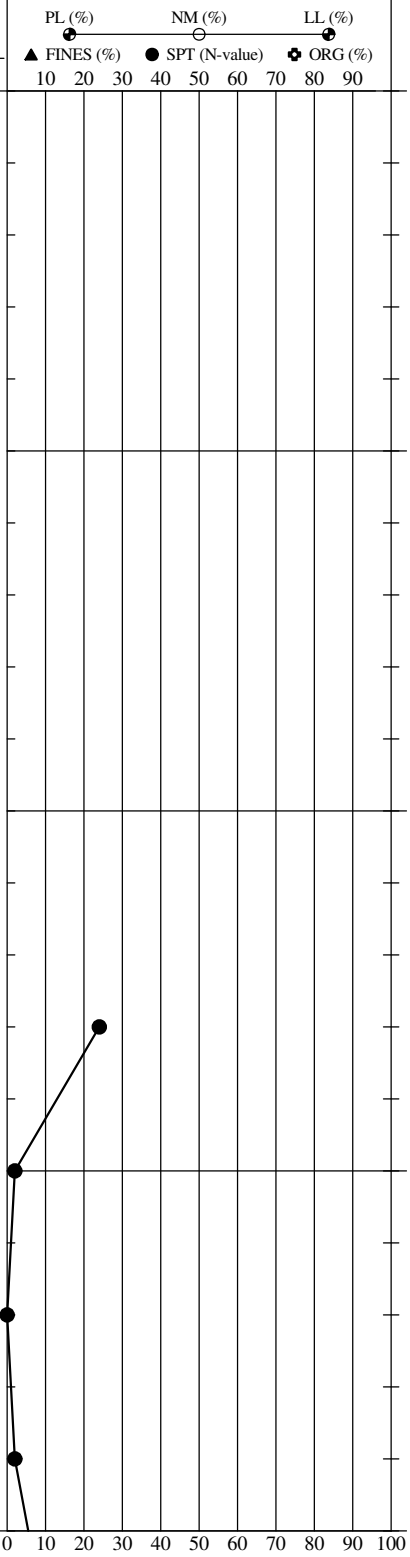
Item	Depth (ft bgs)	Elevation (ft)	Legend	Description	
Top of Riser	-1.9	16.2		Stickup Type:	PVC (sch. 40)
				Stickup Diameter:	1-inch
Ground Surface	0.0	14.3			
				Backfill/Grout Type:	N.J.A.C. 7:9D-2.9 Table 2
				Riser Pipe Type:	PVC (sch. 40)
				Riser Pipe ID:	1-inch
				Borehole Diameter:	9-inches
Top of Seal	3.0	11.3			
				Type of Seal:	Bentonite Chips
Top of Filter Pack	6.0	8.3			
Top of Screen	8.0	6.3			
				Screen Type:	PVC (sch. 40)
				Screen ID:	1-inch
				Screen Slot Size:	0.010-inch
				Screen Length:	10 ft
				Filter/Sand Pack Type:	Filter Sand (#1)
Base of Screen	18.0	-3.7			
End Cap	18.0	-3.7		Sump:	N/A
Drilled Depth	18.0	-3.7		Fallback/Backfill:	N/A
Total Depth	18.0	-3.7			



Notes: 1. Elevation Datum NGVD 29.

FS-04

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC
0	FILL		13.3			
	- 0.0' to 12.0' bgs: No geotechnical testing/sampling performed. Description(s) based on observation of drilling and/or interpretation of nearby pre-design geotechnical explorations.					
5			8.3			
10			3.3			
	Dark brown, silty sand (SM): FILL - occasional debris					
	Yellow, silt (MH): FILL/ Possible COPR			S3-01	a	8-12-12-11 (N = 24)
15	Light to dark brown, SILT (ML), wet: STRATUM O		-1.7	S3-02	a	1-1-1-4 (N = 2)
	- 15.5' bgs: VWP installed (N_FS-04_VWP-O)			S3-03	a	WH-WH-5-8
	Dark gray/black, ORGANIC SILT (OH): STRATUM D			S3-04	a	1-1-1-4 (N = 2)
20	- 19.75' bgs: VWP installed (N_FS-04_VWP-D)		-6.7			



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER: B&B
RIG TYPE: B-61 Mobile
METHOD: Rotary Wash with Water (Cased)
HOLE DIAM.: 4"
SPTs: Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS: Installed 2 VWPs. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.

LOGGED BY: AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.: N_FS-04_VWP
DRILLED: 02/18/14 - 02/19/14
PROJECT: SA-6 Surcharge Monitoring
LOCATION: Jersey City, New Jersey
PROJECT NO.: 3480130377 **PAGE** 1 **OF** 2

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DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✪ ORG (%)	DEPTH (ft)
20	Dark gray/black, ORGANIC SILT (OH): STRATUM D		-6.7					20
	Dark brown, PEAT (PT): STRATUM D			S3-05	a	2-4-5-10 (N = 9)		
	Gray, SAND (SP): STRATUM S1							
	End of exploration at 22.0' bgs							
25			-11.7					25
30			-16.7					30
35			-21.7					35
40			-26.7					40

Scale: 10 20 30 40 50 60 70 80 90; 0 10 20 30 40 50 60 70 80 90 100

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER: B&B
RIG TYPE: B-61 Mobile
METHOD: Rotary Wash with Water (Cased)
HOLE DIAM.: 4"
SPTs: Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS: Installed 2 VWPs. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

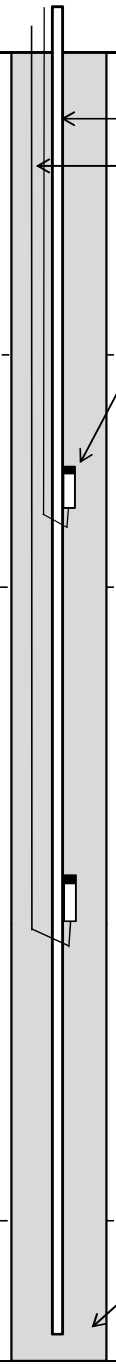
BORING NO.: N_FS-04_VWP
DRILLED: 02/18/14 - 02/19/14
PROJECT: SA-6 Surcharge Monitoring
LOCATION: Jersey City, New Jersey
PROJECT NO.: 3480130377 **PAGE** 2 **OF** 2

amec

N_FS-04_VWP

Baseline Ground Surface Elevation = 13.3 ft

Northing: 685726.41
Easting: 602706.34



FILL

Top of Stratum O/COPR — Depth 12.8 ft bgs; Elevation 0.5 ft

STRATUM O / COPR

Bottom of Stratum O — Depth 18.2 ft bgs; Elevation -4.9 ft

Top of Stratum D — Depth 18.2 ft bgs; Elevation -4.9 ft

STRATUM D

Bottom of Stratum D — Depth 21.4 ft bgs; Elevation -8.1 ft

Top of Stratum S1 — Depth 21.4 ft bgs; Elevation -8.1 ft

STRATUM S1

Bottom of Boring — Depth 22.0 ft bgs; Elevation -8.7 ft

Center O VWP	
Designation:	N_FS-04_VWP-O
Serial No.:	1303321
Depth (ft bgs):	15.5
Elevation (ft):	-2.2

Center D VWP	
Designation:	N_FS-04_VWP-D
Serial No.:	1303344
Depth (ft bgs):	19.8
Elevation (ft):	-6.5

Target Cement-Bentonite Grout Mix

Material	Weight	Ratio by Weight
Water (W)	50 gal	4.4 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	30-39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. VWPs manufactured by Slope Indicator; Part No. 52611028.
4. Refer to Boring Record N_FS-04_VWP for subsurface conditions encountered.

amec	**Title:**	VWP Construction Diagram	**Client:**	Honeywell	**By/Date:** NDL/3-27-14
	Boring No.:	N_FS-04_VWP	**Project:**	SA-6	**Ck/Date:** TCC/4-7-14
	Date Installed:	2/19/2014	**Project No.:**	3480-13-0377	**Scale:** NTS

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✿ ORG (%) 10 20 30 40 50 60 70 80 90	DEPTH (ft)
0	FILL - 0.0' to 56.0' bgs: No geotechnical testing/sampling performed. Description(s) based on observation of drilling and/or interpretation of nearby pre-design geotechnical explorations.		13.3					0
5			8.3					5
10			3.3					10
15	STRATUM O		-1.7					15
	STRATUM D							
20			-6.7				0 10 20 30 40 50 60 70 80 90 100	20

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER: B&B
RIG TYPE: B-61 Mobile
METHOD: Rotary Wash with Water (Cased)
HOLE DIAM.: 4"
SPTs: Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS: 4" casing into Stratum D. Casing flushed. 4" casing advanced to Stratum RC. Installed 1 VWP. CB grout pumped from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.
LOGGED BY: MS CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.: N_FS-04_VWP-RC
DRILLED: 02/19/14 - 02/20/14
PROJECT: SA-6 Surcharge Monitoring
LOCATION: Jersey City, New Jersey
PROJECT NO.: 3480130377 **PAGE** 1 **OF** 4

amec

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS	LEGEND	ELEV (ft)	SAMPLES: IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✪ ORG (%) 10 20 30 40 50 60 70 80 90	DEPTH (ft)
20	STRATUM D		-6.7					20
	STRATUM S1							
25	STRATUM S2		-11.7					25
30			-16.7					30
35			-21.7					35
40			-26.7				0 10 20 30 40 50 60 70 80 90 100	40

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER: B&B
RIG TYPE: B-61 Mobile
METHOD: Rotary Wash with Water (Cased)
HOLE DIAM.: 4"
SPTs: Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS: 4" casing into Stratum D. Casing flushed. 4" casing advanced to Stratum RC. Installed 1 VWP. CB grout pumped from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.: N_FS-04_VWP-RC
DRILLED: 02/19/14 - 02/20/14
PROJECT: SA-6 Surcharge Monitoring
LOCATION: Jersey City, New Jersey
PROJECT NO.: 3480130377 **PAGE** 2 **OF** 4

amec

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✿ ORG (%) 10 20 30 40 50 60 70 80 90	DEPTH (ft)
40	STRATUM S2		-26.7					40
45			-31.7					45
50			-36.7					50
55	Reddish-brown, CLAY (CL): STRATUM RC - 56.5' bgs: VWP installed (N_FS-04_VWP-RC)		-41.7	S3-01	a	7-7-11-16 (N = 18)		55
	Reddish-brown, fine sandy SILT (ML) / silty fine SAND (SM): STRATUM S2			S3-02	a	7-24-42-50 (N = 66)		
60			-46.7				0 10 20 30 40 50 60 70 80 90 100	60

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	4" casing into Stratum D. Casing flushed. 4" casing advanced to Stratum RC. Installed 1 VWP. CB grout pumped from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-04_VWP-RC
DRILLED:	02/19/14 - 02/20/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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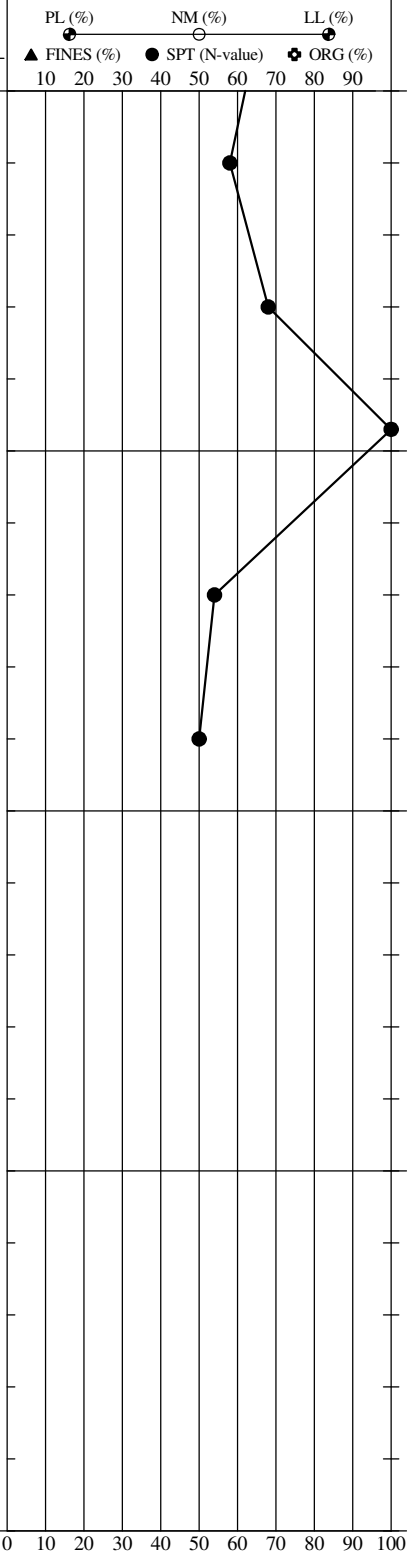
amec

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC
60	Reddish-brown, fine sandy SILT (ML) / silty fine SAND (SM): STRATUM S2		-46.7			
				S3-03	a	13-22-36-34 (N = 58)
				S3-04	a	15-28-40-74 (N = 68)
				S3-05	a	36-85-150/0.4'
65			-51.7			
				S3-06	a	21-25-29-46 (N = 54)
				S3-07	a	20-25-25-28 (N = 50)
70	End of exploration at 70.0' bgs		-56.7			
75			-61.7			
80			-66.7			



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	4" casing into Stratum D. Casing flushed. 4" casing advanced to Stratum RC. Installed 1 VWP. CB grout pumped from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-04_VWP-RC
DRILLED:	02/19/14 - 02/20/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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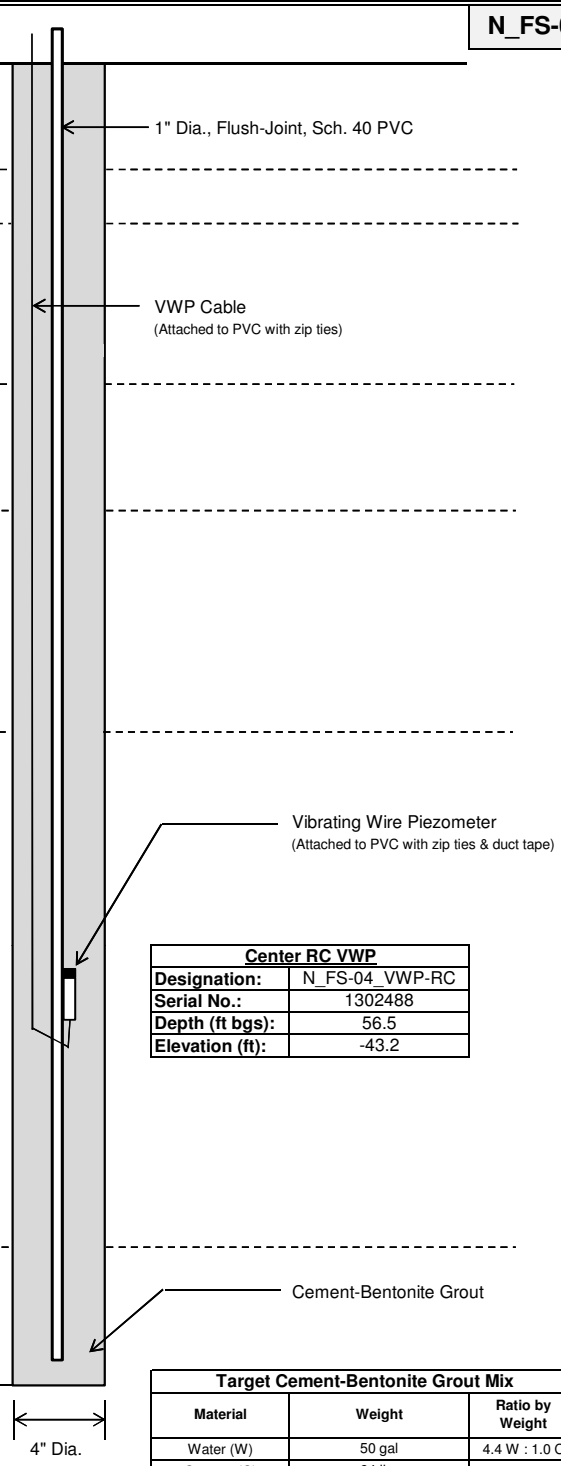
amec

N_FS-04_VWP-RC

Baseline Ground Surface Elevation = 13.3 ft

Northing: 685727.56
Easting: 602712.11



Top of Stratum RC — Depth 54.0 ft bgs; Elevation -40.7 ft

Bottom of Stratum RC — Depth 58.8 ft bgs; Elevation -45.5 ft

Bottom of Boring — Depth 70.0 ft bgs; Elevation -56.7 ft

Center RC VWP	
Designation:	N_FS-04_VWP-RC
Serial No.:	1302488
Depth (ft bgs):	56.5
Elevation (ft):	-43.2

Target Cement-Bentonite Grout Mix

Material	Weight	Ratio by Weight
Water (W)	50 gal	4.4 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	30-39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. VWPs manufactured by Slope Indicator; Part No. 52611024.
4. Refer to Boring Record N_FS-04_VWP-RC for subsurface conditions encountered.

amec	**Title:**	VWP Construction Diagram	**Client:**	Honeywell	**By/Date:** NDL/3-27-14
	Boring No.:	N_FS-04_VWP-RC	**Project:**	SA-6	**Ck/Date:** TCC/4-7-14
	Date Installed:	2/20/2014	**Project No.**	3480-13-0377	**Scale:** NTS

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✿ ORG (%) 10 20 30 40 50 60 70 80 90	DEPTH (ft)
0	FILL / Possible COPR		13.3					0
	- 0.0' to 22.0' bgs: No geotechnical testing/sampling performed. Refer to N_FS-04_VWP for soil descriptions/stratigraphy and geotechnical testing/sampling.							
5			8.3					5
10			3.3					10
	STRATUM O							
15			-1.7					15
	STRATUM D							
20			-6.7				0 10 20 30 40 50 60 70 80 90 100	20

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER: B&B
RIG TYPE: B-61 Mobile
METHOD: Rotary Wash (Variable)
HOLE DIAM.: 6"
SPTs: Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS: 6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Installed Sondex System. CB grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.
LOGGED BY: MS CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.: N_FS-04_SS
DRILLED: 02/21/14 - 02/24/14
PROJECT: SA-6 Surcharge Monitoring
LOCATION: Jersey City, New Jersey
PROJECT NO.: 3480130377 **PAGE** 1 **OF** 2

amec

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✿ ORG (%) (10 20 30 40 50 60 70 80 90)	DEPTH (ft)
20	STRATUM D		-6.7					20
	Gray, fine to medium SAND (SP), loose, wet: STRATUM S1			SS-01		3-2-5-6 (N = 7)		
25			-11.7					25
	Reddish-brown, fine SAND (SP), dense, wet: STRATUM S2			SS-02		11-17-23-24 (N = 40)		
30			-16.7	SS-03		14-14-17-18 (N = 31)		30
	End of exploration at 32.0' bgs							
35			-21.7					35
40			-26.7				0 10 20 30 40 50 60 70 80 90 100	40

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash (Variable)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Installed Sondex System. CB grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-04_SS
DRILLED:	02/21/14 - 02/24/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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amec

N_FS-04_SS

Initial Top of Inner Casing Elevation = 16.4 ft
Baseline Ground Surface Elevation = 13.3 ft

Northing: 685719.89
Easting: 602707.10

2" DIA., Flush-Joint, Sch. 40 PVC Inner Casing

FILL / Possible COPR

3" DIA. Corrugated Pipe Outer Casing

Top of Stratum O — Depth 14.6 ft bgs; Elevation -1.3 ft

STRATUM O

Bottom of Stratum O — Depth 18.2 ft bgs; Elevation -4.9 ft

Top of Stratum D — Depth 18.2 ft bgs; Elevation -4.9 ft

STRATUM D

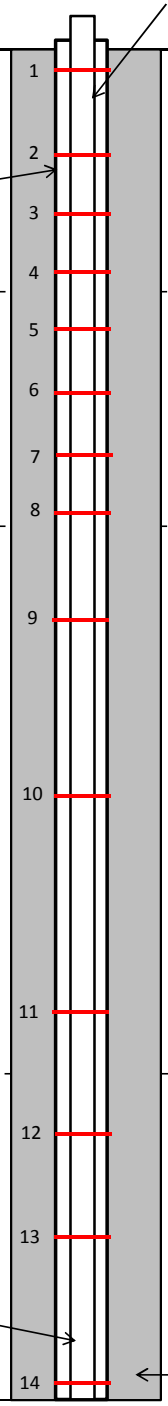
Bottom of Stratum D — Depth 21.4 ft bgs; Elevation -8.1 ft

Top of Stratum S1/S2 — Depth 21.4 ft bgs; Elevation -8.1 ft

STRATUM S1 or S2

Sensing Ring (TYP.)

Bottom of Sondex — Depth 32.0 ft bgs; Elevation -18.7 ft



	Depth (ft bgs)	Elevation (ft)
Ring 1	5.1	8.2
Ring 2	12.2	1.1
Ring 3	13.1	0.2
Ring 4	14.1	-0.8
Ring 5	15.1	-1.8
Ring 6	16.1	-2.8
Ring 7	17.1	-3.8
Ring 8	18.1	-4.8
Ring 9	19.1	-5.8
Ring 10	20.1	-6.8
Ring 11	21.1	-7.8
Ring 12	22.1	-8.8
Ring 13	23.1	-9.8
Ring 14	30.9	-17.6

Cement-Bentonite Grout

Cement-Bentonite Grout Mix

Material	Weight	Ratio by Weight
Water (W)	75 gal	6.6 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. Sondex System manufactured by Slope Indicator.
4. Refer to Boring Record N_FS-04_SS for subsurface conditions encountered.

amec	**Title:**	Sondex System Construction Diagram	**Client:**	Honeywell	**By/Date:** NDL/3-27-14
	Boring No.:	N_FS-04_SS	**Project:**	SA-6	**Ck/Date:** TCC/4-7-14
	Date Installed:	2/24/2014	**Project No.:**	3480-13-0377	**Scale:** NTS

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✿ ORG (%) 10 20 30 40 50 60 70 80 90	DEPTH (ft)
0	FILL - No geotechnical testing/sampling was performed in this boring. - Refer to N_FS-04_VWP and N_FS-04_SS for soil descriptions/stratigraphy and geotechnical testing/sampling for this monitoring point.		13.3					0
5			8.3					5
10			3.3					10
	End of exploration at 12.5' bgs							
15			-1.7					15
20			-6.7				0 10 20 30 40 50 60 70 80 90 100	20

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER: B&B
RIG TYPE: B-61 Mobile
METHOD: Hollow-Stem Augers
HOLE DIAM.: 4.25" ID
SPTs: N/A
REMARKS: Installed standpipe piezometer. Drill cuttings containerized upon completion.

LOGGED BY: AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

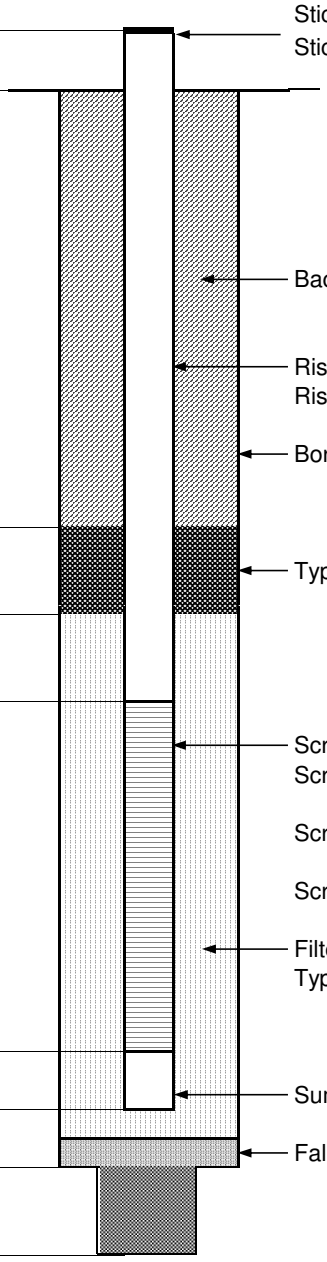
GEOTECHNICAL BORING RECORD

BORING NO.: N_FS-04_SPP
DRILLED: 02/21/14
PROJECT: SA-6 Surcharge Monitoring
LOCATION: Jersey City, New Jersey
PROJECT NO.: 3480130377 **PAGE** 1 **OF** 1

amec

AMEC E&I, Inc.				STANDPIPE PIEZOMETER CONSTRUCTION DIAGRAM
Project:	SA-6 Surcharge Monitoring	**Project Number:**	3480130377	
Location:	Jersey City, NJ			**N_FS-04_SPP**
Client:	Honeywell	**Date:**	3/13/2014	
Drilling Method:	4.25-inch ID HSA			**Measuring Point**
Installed Date:	2/21/2014			**Type:** Top of Riser
Installed By:	AE			**Elevation (ft):** 15.8

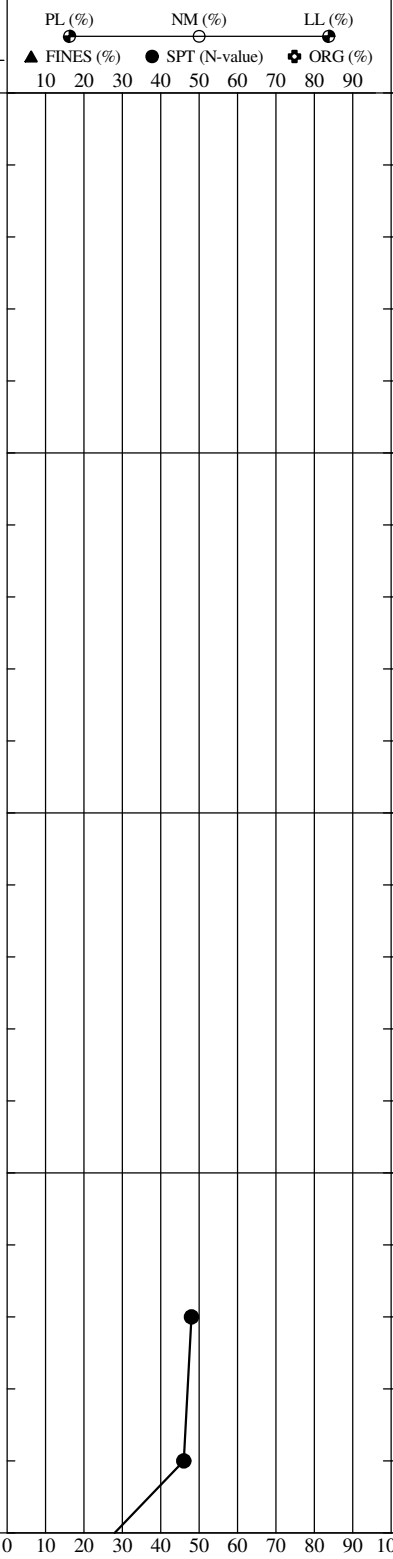
Item	Depth (ft bgs)	Elevation (ft)	Legend	Description	
Top of Riser	-2.5	15.8		Stickup Type:	PVC (sch. 40)
				Stickup Diameter:	1-inch
Ground Surface	0.0	13.3			
				Backfill/Grout Type:	N.J.A.C. 7:9D-2.9 Table 2
				Riser Pipe Type:	PVC (sch. 40)
				Riser Pipe ID:	1-inch
				Borehole Diameter:	9-inches
Top of Seal	2.5	10.8			
				Type of Seal:	Bentonite Chips
Top of Filter Pack	5.5	7.8			
Top of Screen	7.5	5.8			
				Screen Type:	PVC (sch. 40)
				Screen ID:	1-inch
				Screen Slot Size:	0.010-inch
				Screen Length:	5 feet
				Filter/Sand Pack Type:	Filter Sand (#1)
Base of Screen	12.5	0.8			
End Cap	12.5	0.8		Sump:	N/A
Drilled Depth	12.5	0.8		Fallback/Backfill:	N/A
Total Depth	12.5	0.8			



Notes: 1. Elevation Datum NGVD 29.

HS-01

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC
0	FILL		15.5			
	- 0.0' to 16.0' bgs: No geotechnical testing/sampling performed. Description(s) based on observation of drilling and/or interpretation of nearby pre-design geotechnical explorations.					
5			10.5			
10			5.5			
15			0.4			
	Black/gray, silt (ML): FILL					
	- 16.0' to 19.0' bgs: some wood and debris			S3-01	a	16-24-24-23 (N = 48)
				S3-02	a	11-19-27-21 (N = 46)
	Brown, silty fine SAND (SM) / SILT (ML): STRATUM O					
20			-4.6			



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.
LOGGED BY: AE	CHECKED BY/DATE: TCC/04-07-14

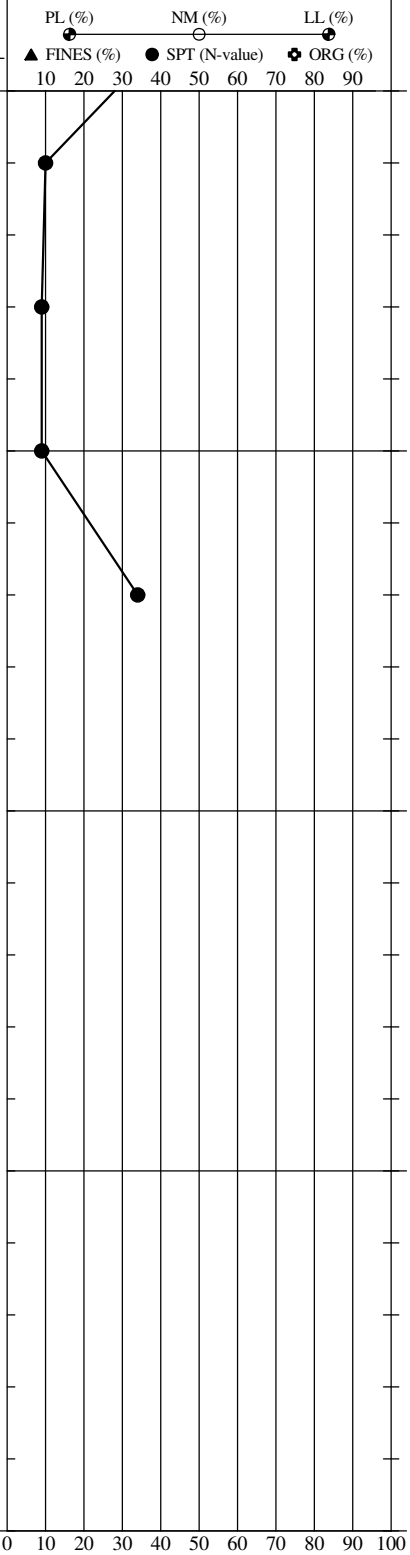
THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.: N_HS-01_VWP
DRILLED: 03/25/14
PROJECT: SA-6 Surcharge Monitoring
LOCATION: Jersey City, New Jersey
PROJECT NO.: 3480130377 **PAGE** 1 **OF** 2

amec

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	ELEV (ft)	SAMPLE IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC
20	Brown, silty fine SAND (SM) / SILT (ML): STRATUM O	-4.6			
	Brown/light brown, SILT (ML) / CLAY (CL): STRATUM O		S3-03	a	8-5-5-7 (N = 10)
	Black/dark gray, ORGANIC SILT (OH): STRATUM D		S3-04	a	3-4-5-9 (N = 9)
	- 25.0' bgs: VWP installed (N_HS-01_VWP-D)			a	
25		-9.6	S3-05		2-3-6-11 (N = 9)
	Dark brown, PEAT (PT): STRATUM D			a	
			S3-06		4-14-20-33 (N = 34)
	Gray, fine to medium SAND (SP): STRATUM S1				
	End of exploration at 28.0' bgs				
30		-14.6			
35		-19.6			
40		-24.6			



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-01_VWP
DRILLED:	03/25/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

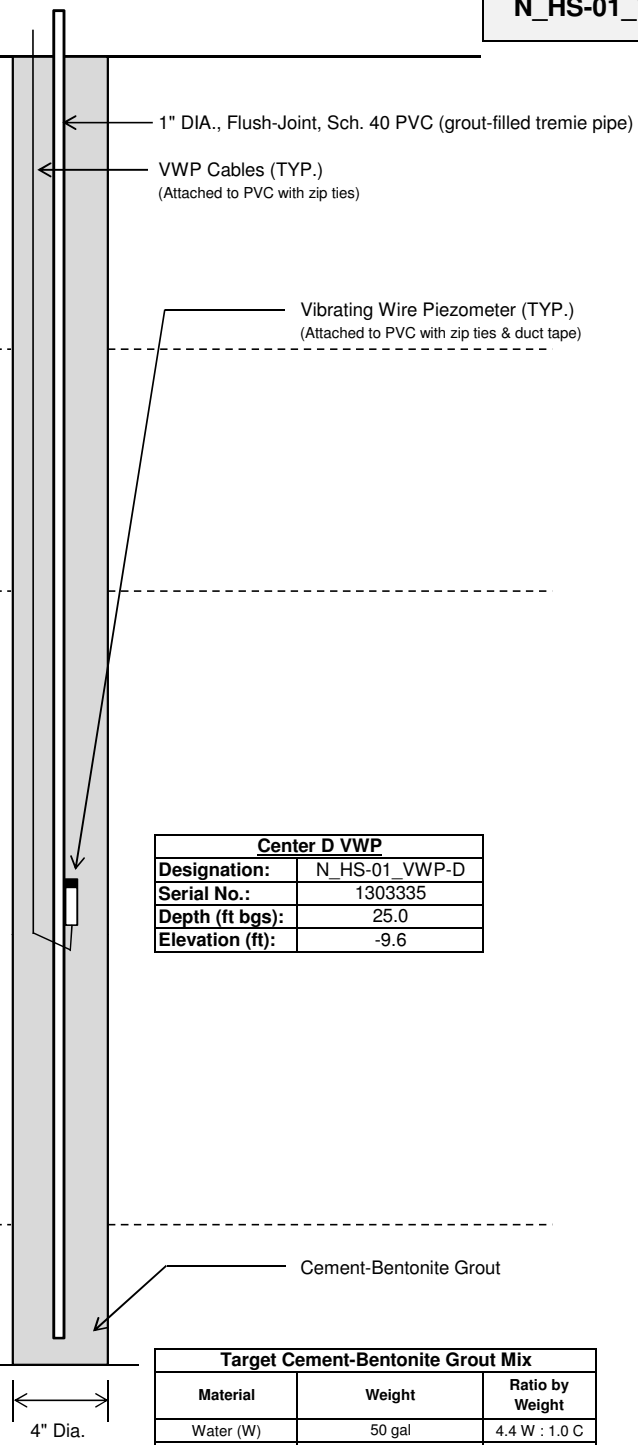
PAGE 2 **OF** 2

amec

N_HS-01_VWP

Baseline Ground Surface Elevation = 15.5 ft

Northing: _____
Easting: _____



Top of Stratum O — Depth 19.0 ft bgs; Elevation -3.6 ft

Bottom of Stratum O — Depth 22.5 ft bgs; Elevation -7.1 ft

Top of Stratum D — Depth 22.5 ft bgs; Elevation -7.1 ft

Bottom of Stratum D — Depth 27.7 ft bgs; Elevation -12.3 ft

Top of Stratum S1 — Depth 27.7 ft bgs; Elevation -12.3 ft

Bottom of Boring — Depth 28.0 ft bgs; Elevation -12.6 ft

Center D VWP	
Designation:	N_HS-01_VWP-D
Serial No.:	1303335
Depth (ft bgs):	25.0
Elevation (ft):	-9.6

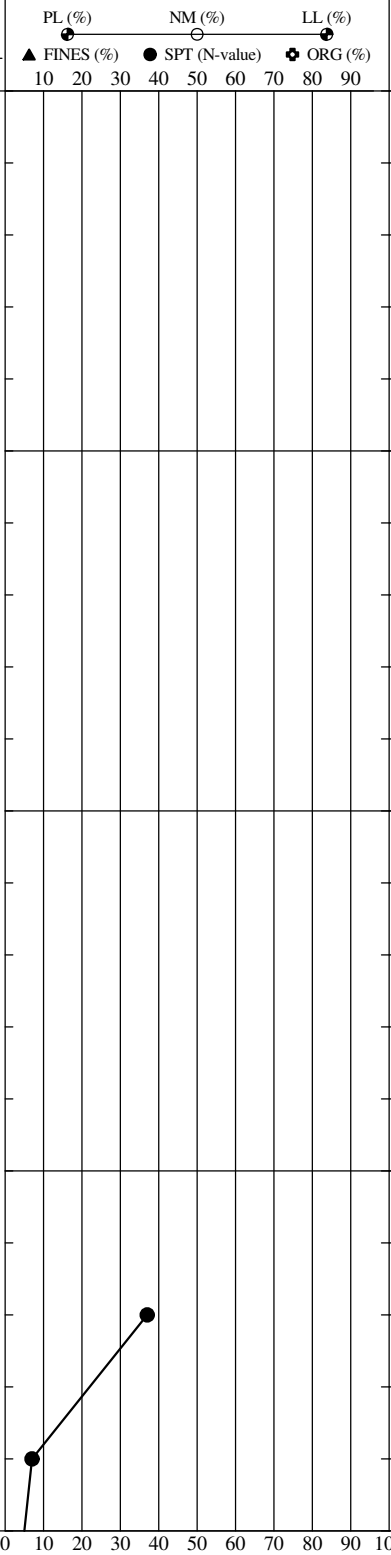
Target Cement-Bentonite Grout Mix		
Material	**Weight**	**Ratio by Weight**
Water (W)	50 gal	4.4 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	30-39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. VWPs manufactured by Slope Indicator; Part No. 52611028.
4. Refer to Boring Record N_HS-01_VWP for subsurface conditions encountered.

amec	**Title:**	VWP Construction Diagram	**Client:**	Honeywell	**By/Date:**	NDL/4-1-14
	Boring No.:	N_HS-01_VWP	**Project:**	SA-6	**Ck/Date:**	TCC/4-7-14
	Date Installed:	3/25/2014	**Project No.:**	3480-13-0377	**Scale:**	NTS

HS-02

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✿ ORG (%)
0	FILL		14.3				
	- 0.0' to 16.0' bgs: No geotechnical testing/sampling performed. Description(s) based on observation of drilling and/or interpretation of nearby pre-design geotechnical explorations.						
5			9.3				
10			4.3				
15			-0.7				
	Brown, silty fine to medium sand (SM): FILL			S3-01	a	15-17-20-26 (N = 37)	
	Brown, SILT (ML), trace clay, wet: STRATUM O			S3-02	a	6-3-4-4 (N = 7)	
20			-5.7				



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.
LOGGED BY: AE	CHECKED BY/DATE: TCC/04-07-14

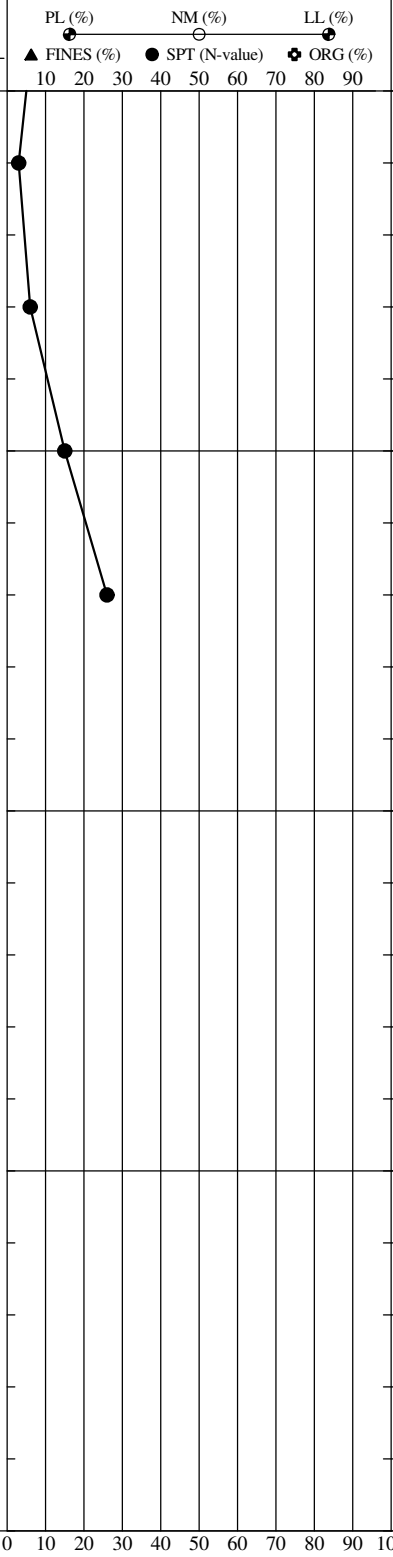
THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.: N_HS-02_VWP
DRILLED: 01/13/14
PROJECT: SA-6 Surcharge Monitoring
LOCATION: Jersey City, New Jersey
PROJECT NO.: 3480130377 **PAGE** 1 **OF** 2

amec

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT (1st 6" / 2nd 6" / 3rd 6" / 4th 6") Or RQD % REC
20	Brown, SILT (ML), trace clay, wet: STRATUM O		-5.7			
				S3-03	a	WR-1-2-4 (N = 3)
	Black/gray, ORGANIC SILT (OH), wet: STRATUM D					
				S3-04	a	1-2-4-5 (N = 6)
	- 23.5' bgs: VWP installed (N_HS-02_VWP-D)					
	Dark brown, PEAT (PT), some silt: STRATUM D					
25			-10.7	S3-05	a	5-7-8-10 (N = 15)
	Gray, fine to medium SAND (SP): STRATUM S1					
				S3-06	a	10-13-13-20 (N = 26)
	End of exploration at 28.0' bgs					
30			-15.7			
35			-20.7			
40			-25.7			



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-02_VWP
DRILLED:	01/13/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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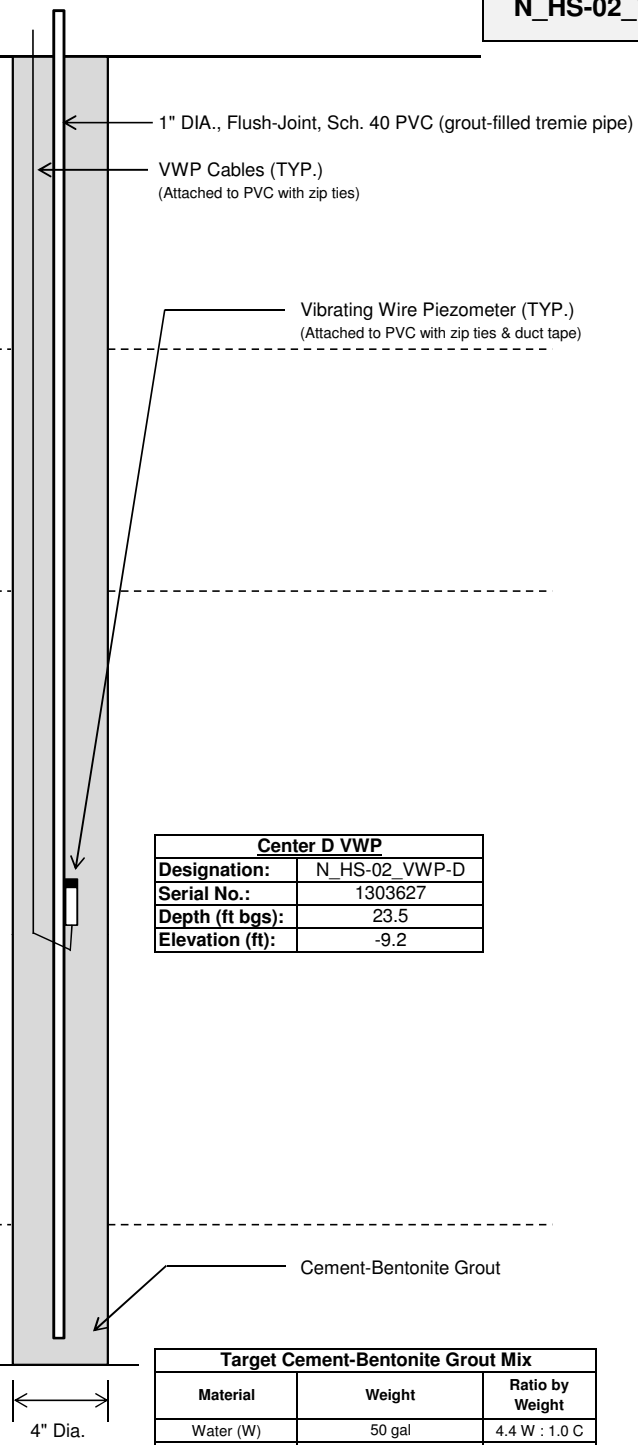
N_HS-02_VWP

Baseline Ground Surface Elevation = 14.3 ft

Northing: 685923.59
Easting: 602331.69



FILL

Top of Stratum O — Depth 18.0 ft bgs; Elevation -3.7 ft

STRATUM O

Bottom of Stratum O — Depth 21.3 ft bgs; Elevation -7.0 ft

Top of Stratum D — Depth 21.3 ft bgs; Elevation -7.0 ft

STRATUM D

Center D VWP	
Designation:	N_HS-02_VWP-D
Serial No.:	1303627
Depth (ft bgs):	23.5
Elevation (ft):	-9.2

Bottom of Stratum D — Depth 26.0 ft bgs; Elevation -11.7 ft

Top of Stratum S1 — Depth 26.0 ft bgs; Elevation -11.7 ft

STRATUM S1

Bottom of Boring — Depth 28.0 ft bgs; Elevation -13.7 ft

Target Cement-Bentonite Grout Mix		
Material	**Weight**	**Ratio by Weight**
Water (W)	50 gal	4.4 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	30-39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. VWPs manufactured by Slope Indicator; Part No. 52611028.
4. Refer to Boring Record N_HS-02_VWP for subsurface conditions encountered.

amec	**Title:**	VWP Construction Diagram	**Client:**	Honeywell	**By/Date:**	NDL/1-13-14
	Boring No.:	N_HS-02_VWP	**Project:**	SA-6	**Ck/Date:**	TCC/4-7-14
	Date Installed:	1/13/2014	**Project No.:**	3480-13-0377	**Scale:**	NTS

HS-03

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✪ ORG (%) 10 20 30 40 50 60 70 80 90	DEPTH (ft)
0	FILL		14.8					0
	- 0.0' to 15.0' bgs: No geotechnical testing/sampling performed. Description(s) based on observation of drilling and/or interpretation of nearby pre-design geotechnical explorations.							
5			9.8					5
10			4.8					10
15			-0.2					15
	Gray/yellow, silt (MH): FILL / Possible COPR			S3-01	a	29-13-6-14 (N = 19)		
	Reddish-brown, SILT (ML), few gravel: STRATUM O							
	Reddish-brown/gray, silty fine to medium SAND (SM): STRATUM O							
	Brown, SILT (ML), wet: STRATUM O			S3-02	a	7-7-5-4 (N = 12)		
20			-5.2	S3-03	a	8-4-3-5 (N = 7)		20

0 10 20 30 40 50 60 70 80 90 100

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.
LOGGED BY: AE	CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-03_VWP
DRILLED:	12/31/13 - 01/02/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

PAGE 1 **OF** 2

amec

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT (1st 6" / 2nd 6" / 3rd 6" / 4th 6") Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✿ ORG (%) (10 20 30 40 50 60 70 80 90)	DEPTH (ft)
	Black/gray, ORGANIC SILT (OH): STRATUM D							
				S3-04	a	2-1-3-4 (N = 4)		
	- 23.5' bgs: VWP installed (N_HS-03_VWP-D)			S3-05	a	1-2-3-11 (N = 5)		
	Black, PEAT (PT): STRATUM D							
25			-10.2					25
				S3-06	a	8-5-7-16 (N = 12)		
	Gray, fine to medium SAND (SP): STRATUM S1							
	End of exploration at 27.0' bgs							
30			-15.2					30
35			-20.2					35
40			-25.2					40

0 10 20 30 40 50 60 70 80 90 100

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-03_VWP
DRILLED:	12/31/13 - 01/02/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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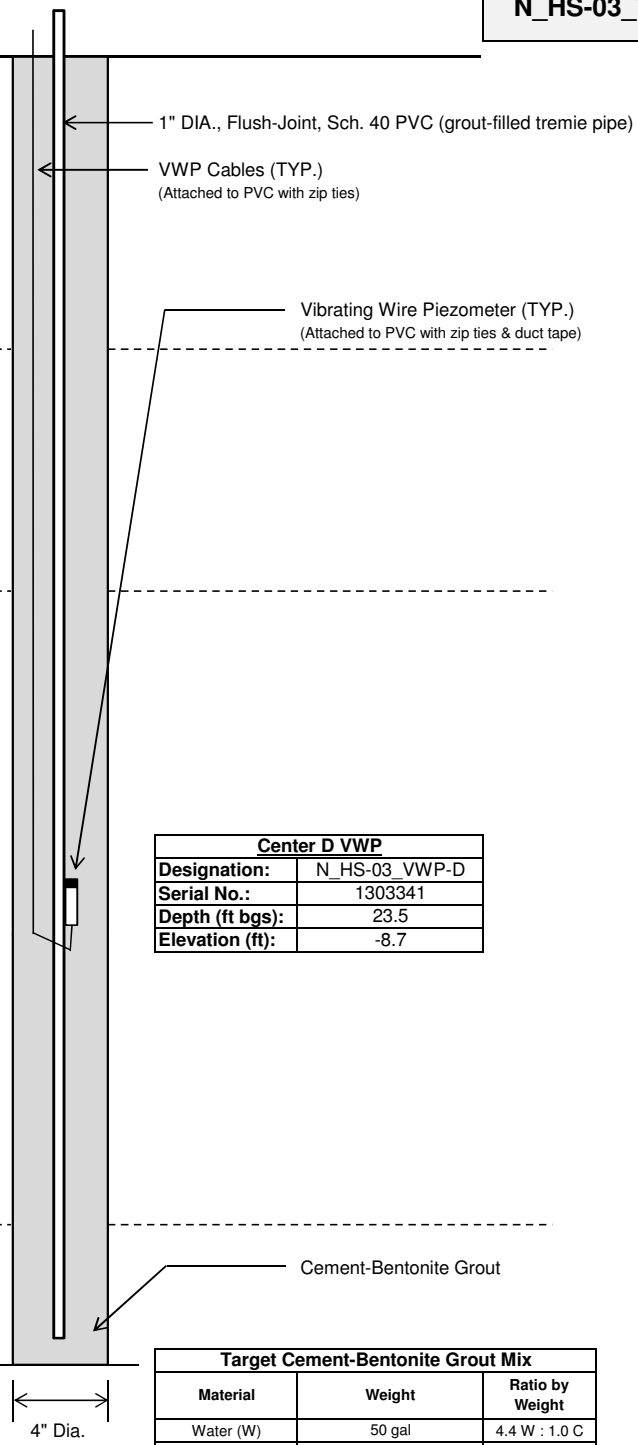
amec

N_HS-03_VWP

Baseline Ground Surface Elevation = 14.8 ft

Northing: 685872.29
Easting: 602298.81



FILL

Top of Stratum O — Depth 16.5 ft bgs; Elevation -1.7 ft

STRATUM O

Bottom of Stratum O — Depth 21.0 ft bgs; Elevation -6.2 ft

Top of Stratum D — Depth 21.0 ft bgs; Elevation -6.2 ft

STRATUM D

Center D VWP	
Designation:	N_HS-03_VWP-D
Serial No.:	1303341
Depth (ft bgs):	23.5
Elevation (ft):	-8.7

Bottom of Stratum D — Depth 26.3 ft bgs; Elevation -11.4 ft

Top of Stratum S1 — Depth 26.3 ft bgs; Elevation -11.4 ft

STRATUM S1

Bottom of Boring — Depth 27.0 ft bgs; Elevation -12.2 ft

Target Cement-Bentonite Grout Mix

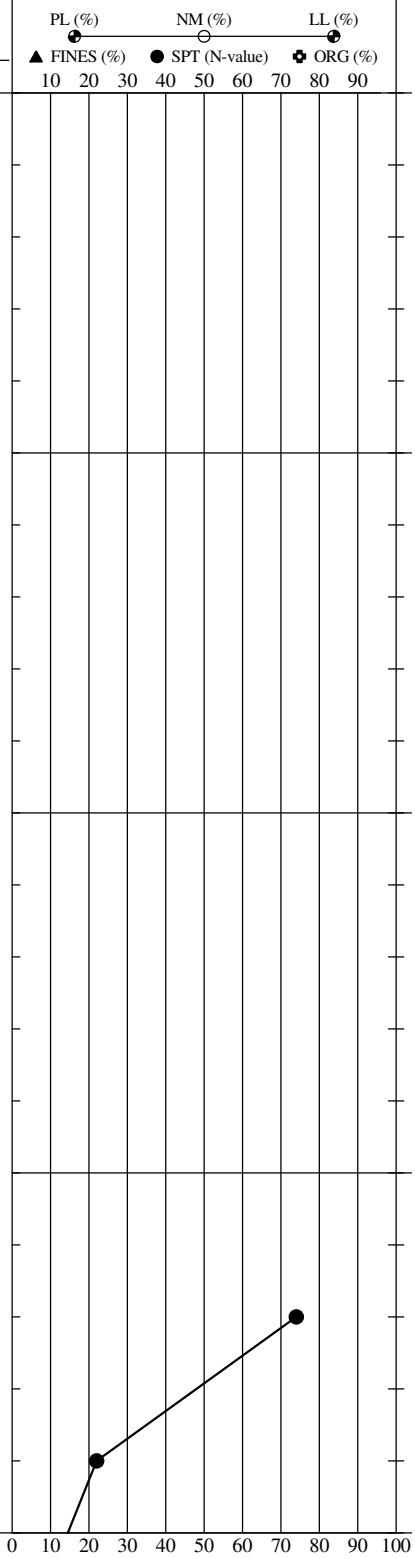
Material	Weight	Ratio by Weight
Water (W)	50 gal	4.4 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	30-39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. VWPs manufactured by Slope Indicator; Part No. 52611028.
4. Refer to Boring Record N_HS-03_VWP for subsurface conditions encountered.

amec	**Title:**	VWP Construction Diagram	**Client:**	Honeywell	**By/Date:**	NDL/1-7-14
	Boring No.:	N_HS-03_VWP	**Project:**	SA-6	**Ck/Date:**	TCC/4-7-14
	Date Installed:	1/2/2014	**Project No.:**	3480-13-0377	**Scale:**	NTS

HS-04

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC
0	FILL		14.9			
	- 0.0' to 16.0' bgs: No geotechnical testing/sampling performed. Description(s) based on observation of drilling and/or interpretation of nearby pre-design geotechnical explorations.					
5			9.9			
10			4.9			
15			-0.1			
	Brown, silt (ML), few gravel: FILL					
	- some debris, glass			S3-01	a	30-44-30-30 (N = 74)
	Brown, SILT (ML): STRATUM O					
				S3-02	a	8-10-12-11 (N = 22)
20			-5.1			



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.
LOGGED BY: AE	CHECKED BY/DATE: TCC/04-07-14

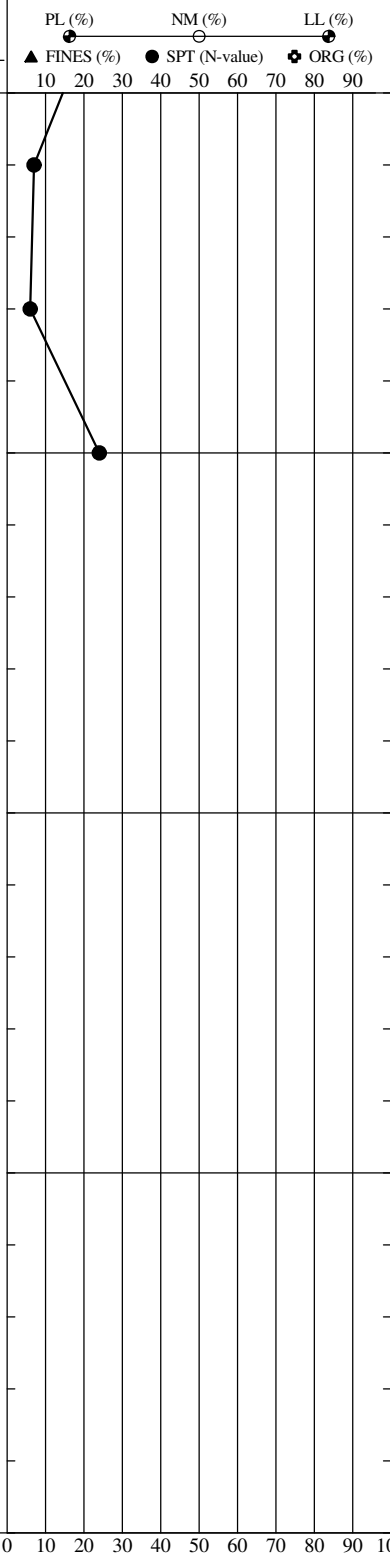
THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.: N_HS-04_VWP
DRILLED: 03/26/14
PROJECT: SA-6 Surcharge Monitoring
LOCATION: Jersey City, New Jersey
PROJECT NO.: 3480130377 **PAGE** 1 **OF** 2

amec

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC
20	Brown, SILT (ML): STRATUM O		-5.1			
				S3-03	a	4-3-4-6 (N = 7)
	Black/dark gray, ORGANIC SILT (OH): STRATUM D					
	- 23.5' bgs: VWP installed (N_HS-04_VWP-D)			S3-04	a	2-3-3-9 (N = 6)
	Dark brown, PEAT (PT): STRATUM D					
25			-10.1	S3-05	a	5-7-17-58 (N = 24)
	Gray, fine to medium SAND (SP): STRATUM S1					
	End of exploration at 26.0' bgs					
30			-15.1			
35			-20.1			
40			-25.1			



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-04_VWP
DRILLED:	03/26/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

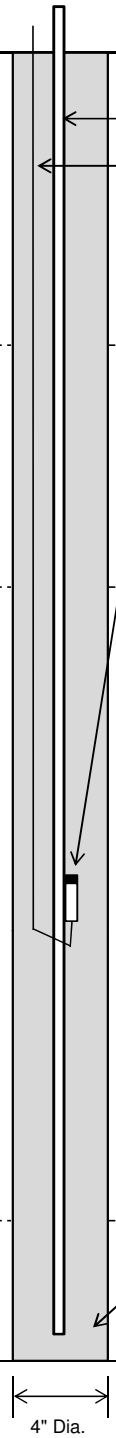
PAGE 2 **OF** 2

amec

N_HS-04_VWP

Baseline Ground Surface Elevation = 14.9 ft

Northing: _____
Easting: _____



FILL

Top of Stratum O — Depth 18.0 ft bgs; Elevation -3.1 ft

STRATUM O

Bottom of Stratum O — Depth 21.3 ft bgs; Elevation -6.4 ft

Top of Stratum D — Depth 21.3 ft bgs; Elevation -6.4 ft

STRATUM D

Center D VWP	
Designation:	N_HS-04_VWP-D
Serial No.:	1303329
Depth (ft bgs):	23.5
Elevation (ft):	-8.6

Bottom of Stratum D — Depth 25.5 ft bgs; Elevation -10.6 ft

Top of Stratum S1 — Depth 25.5 ft bgs; Elevation -10.6 ft

STRATUM S1

Bottom of Boring — Depth 26.0 ft bgs; Elevation -11.1 ft

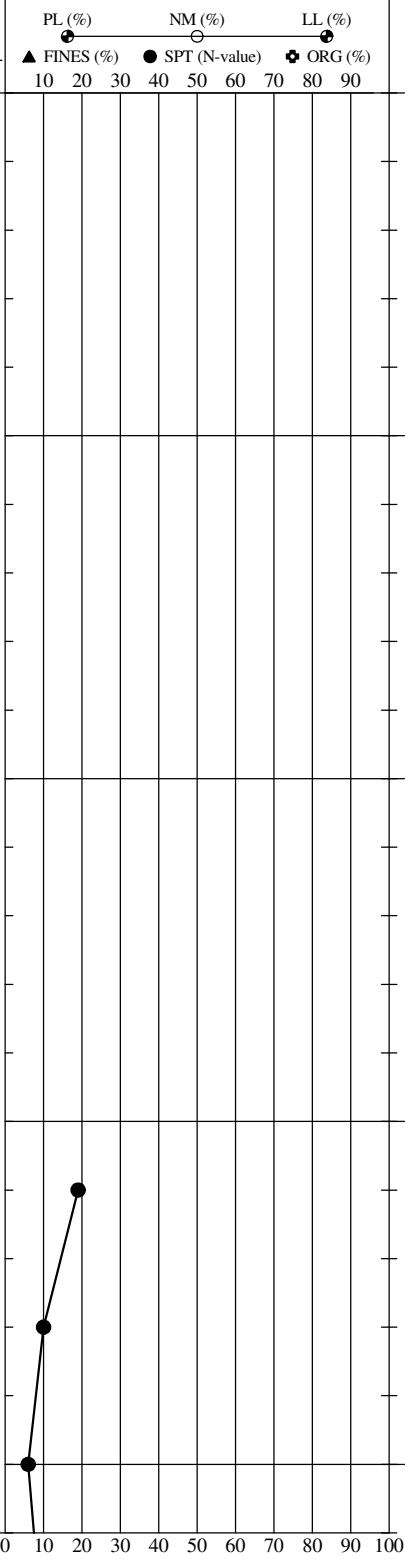
Target Cement-Bentonite Grout Mix		
Material	**Weight**	**Ratio by Weight**
Water (W)	50 gal	4.4 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	30-39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. VWPs manufactured by Slope Indicator; Part No. 52611028.
4. Refer to Boring Record N_HS-04_VWP for subsurface conditions encountered.

amec	**Title:**	VWP Construction Diagram	**Client:**	Honeywell	**By/Date:**	NDL/4-1-14
	Boring No.:	N_HS-04_VWP	**Project:**	SA-6	**Ck/Date:**	TCC/4-7-14
	Date Installed:	3/26/2014	**Project No.:**	3480-13-0377	**Scale:**	NTS

HS-05

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC
0	FILL		13.3			
	- 0.0' to 15.0' bgs: No geotechnical testing/sampling performed. Description(s) based on observation of drilling and/or interpretation of nearby pre-design geotechnical explorations.					
5			8.3			
10			3.3			
15			-1.7			
	Dark brown, fine sandy SILT (ML), wet, stratified: STRATUM O			S3-01	a	17-11-8-8 (N = 19)
				S3-02	a	7-7-3-6 (N = 10)
20			-6.7	S3-03	a	5-3-3-6 (N = 6)
	Black/gray, ORGANIC SILT (OH): STRATUM D					



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.
LOGGED BY: AE	CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-05_VWP
DRILLED:	01/02/14 - 01/06/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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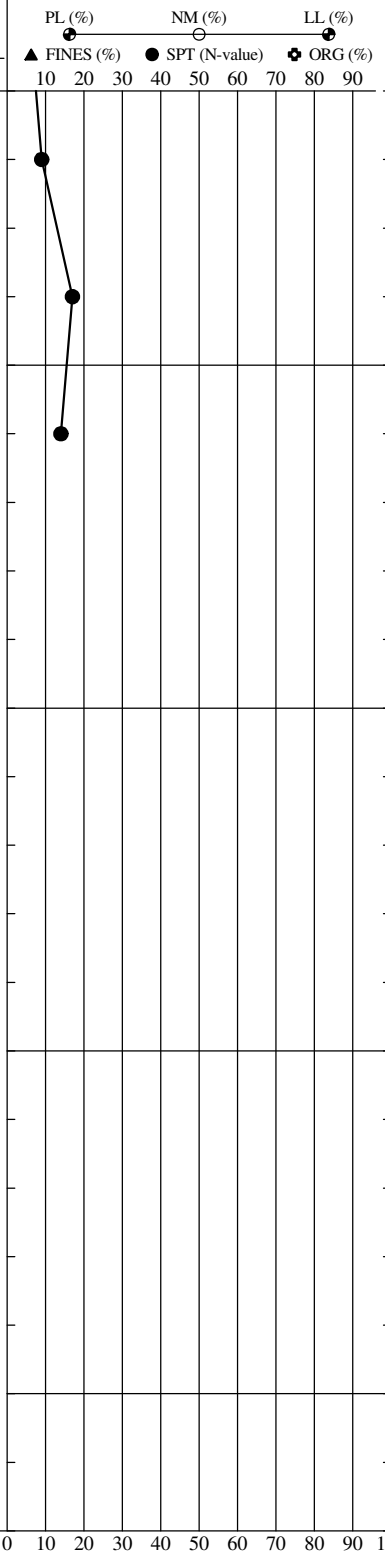
amec

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC
	Black/gray, ORGANIC SILT (OH): STRATUM D			S3-04	a	4-4-5-7 (N = 9)
	- 23.25' bgs: VWP installed (N_HS-05_VWP-D)			S3-05	a	4-7-10-16 (N = 17)
25	Dark reddish-brown, PEAT (PT), some gray fine sand: STRATUM D		-11.7	S3-06	a	4-8-6-47 (N = 14)
	Gray, fine to medium SAND (SP): STRATUM S1					
	End of exploration at 27.0' bgs					
30			-16.7			
35			-21.7			
40			-26.7			



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-05_VWP
DRILLED:	01/02/14 - 01/06/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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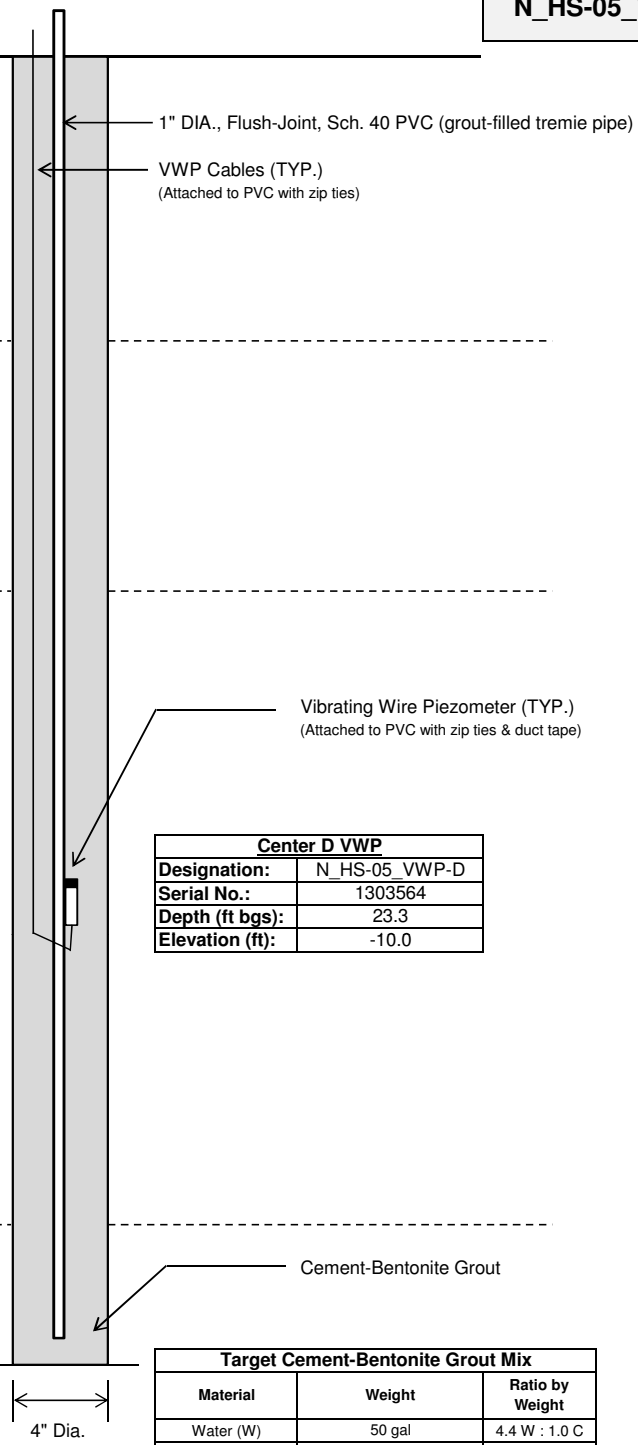
amec

N_HS-05_VWP

Baseline Ground Surface Elevation = 13.3 ft

Northing: 685786.96
Easting: 602412.69



Top of Stratum O — Depth 16.5 ft bgs; Elevation -3.2 ft

STRATUM O

Bottom of Stratum O — Depth 20.5 ft bgs; Elevation -7.2 ft

Top of Stratum D — Depth 20.5 ft bgs; Elevation -7.2 ft

Center D VWP	
Designation:	N_HS-05_VWP-D
Serial No.:	1303564
Depth (ft bgs):	23.3
Elevation (ft):	-10.0

Bottom of Stratum D — Depth 26.0 ft bgs; Elevation -12.7 ft

Top of Stratum S1 — Depth 26.0 ft bgs; Elevation -12.7 ft

Bottom of Boring — Depth 27.0 ft bgs; Elevation -13.7 ft

Target Cement-Bentonite Grout Mix		
Material	**Weight**	**Ratio by Weight**
Water (W)	50 gal	4.4 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	30-39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. VWPs manufactured by Slope Indicator; Part No. 52611028.
4. Refer to Boring Record N_HS-05_VWP for subsurface conditions encountered.

amec	**Title:**	VWP Construction Diagram	**Client:**	Honeywell	**By/Date:**	NDL/1-7-14
	Boring No.:	N_HS-05_VWP	**Project:**	SA-6	**Ck/Date:**	TCC/4-7-14
	Date Installed:	1/6/2014	**Project No.:**	3480-13-0377	**Scale:**	NTS

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✿ ORG (%) 10 20 30 40 50 60 70 80 90	DEPTH (ft)
0	FILL - 0.0' to 55.0' bgs: No geotechnical testing/sampling performed. Description(s) based on observation of drilling, N_HS-05_VWP, and/or interpretation of nearby pre-design geotechnical explorations.		13.3					0
5			8.3					5
10			3.3					10
15			-1.7					15
	STRATUM O							
20			-6.7					20
	STRATUM D							

0 10 20 30 40 50 60 70 80 90 100

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	4" casing into Stratum D. Casing flushed. 4" casing advanced to Stratum RC. Installed 1 VWP. CB grout pumped from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.
LOGGED BY:	AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-05_VWP-RC
DRILLED:	01/06/14 - 01/10/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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amec

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✿ ORG (%) 10 20 30 40 50 60 70 80 90	DEPTH (ft)
	STRATUM D							
25			-11.7					25
	STRATUM S1							
30	STRATUM S2		-16.7					30
35			-21.7					35
40			-26.7					40

0 10 20 30 40 50 60 70 80 90 100

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER: B&B
RIG TYPE: B-61 Mobile
METHOD: Rotary Wash with Water (Cased)
HOLE DIAM.: 4"
SPTs: Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS: 4" casing into Stratum D. Casing flushed. 4" casing advanced to Stratum RC. Installed 1 VWP. CB grout pumped from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.

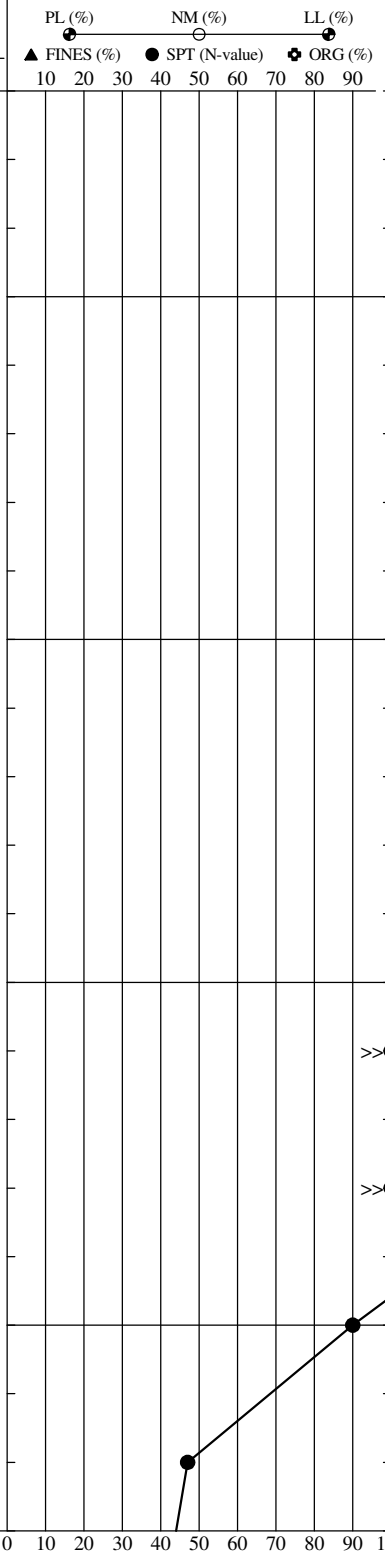
THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.: N_HS-05_VWP-RC
DRILLED: 01/06/14 - 01/10/14
PROJECT: SA-6 Surcharge Monitoring
LOCATION: Jersey City, New Jersey
PROJECT NO.: 3480130377 **PAGE** 2 **OF** 4

amec

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✪ ORG (%)	DEPTH (ft)
	STRATUM S2							
45			-31.7					45
50			-36.7					50
55	Reddish-brown, SILT (ML): STRATUM S2		-41.7					55
				S3-01	a	31-50-68-88 (N = 118)	>>	
				S3-02	a	31-62-76-84 (N = 138)	>>	
60			-46.7	S3-03	a	22-46-44-43 (N = 90)		60
	Reddish-brown, CLAY (CL): STRTAUM RC							
	Reddish-brown, SILT (ML): STRATUM S2			S3-04	a	10-21-26-29 (N = 47)		



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	4" casing into Stratum D. Casing flushed. 4" casing advanced to Stratum RC. Installed 1 VWP. CB grout pumped from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-05_VWP-RC
DRILLED:	01/06/14 - 01/10/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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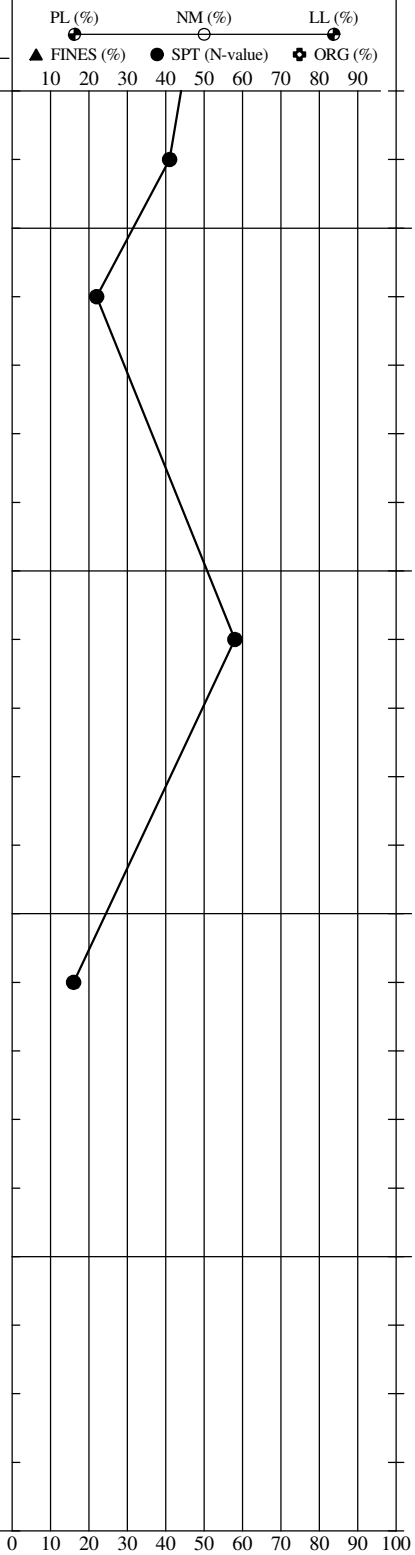
amec

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✪ ORG (%)
	Reddish-brown, SILT (ML): STRATUM S2			S3-05	a	27-22-19-21 (N = 41)	
65	Reddish-brown, CLAY (CL): STRATUM RC		-51.7	S3-06	a	12-8-14-9 (N = 22)	
	- 68.0' bgs: VWP installed (N_HS-05_VWP-RC)						
70			-56.7	S3-07	a	7-17-41-59 (N = 58)	
	Reddish-brown, SILT (ML): STRATUM S2						
75	Reddish-brown, CLAY (CL): STRATUM RC		-61.7	S3-08	a	6-8-8-14 (N = 16)	
	End of exploration at 77.0' bgs						
80			-66.7				



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	4" casing into Stratum D. Casing flushed. 4" casing advanced to Stratum RC. Installed 1 VWP. CB grout pumped from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-05_VWP-RC
DRILLED:	01/06/14 - 01/10/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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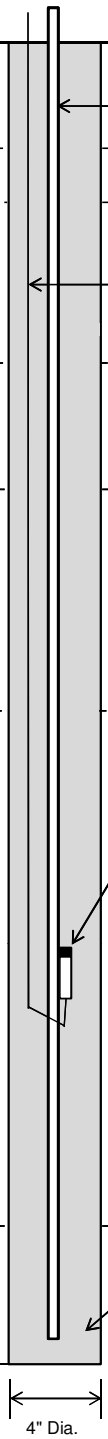
amec

N_HS-05_VWP-RC

Baseline Ground Surface Elevation = 13.3 ft

Northing: 685784.04
Easting: 602418.56



FILL

STRATUM O

STRATUM D

STRATUM S1

STRATUM S2

Top of Stratum RC — Depth 65.0 ft bgs; Elevation -51.7 ft

STRATUM RC

Center RC VWP	
Designation:	N_HS-05_VWP-RC
Serial No.:	1302491
Depth (ft bgs):	68.0
Elevation (ft):	-54.7

Bottom of Stratum RC — Depth 71.0 ft bgs; Elevation -57.7 ft

STRATUM S2

Bottom of Boring — Depth 77.0 ft bgs; Elevation -63.7 ft

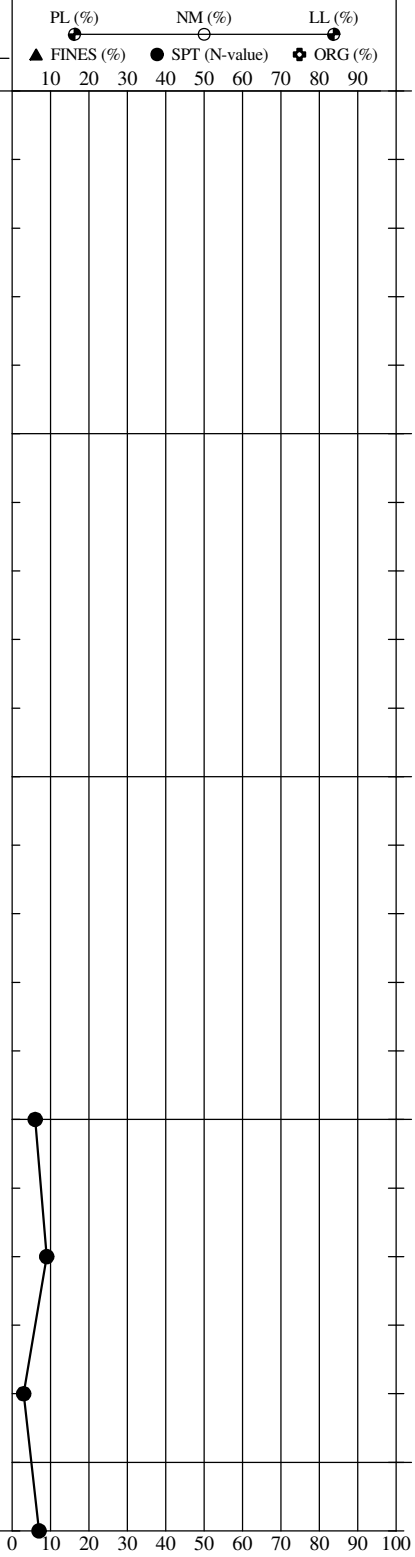
Target Cement-Bentonite Grout Mix		
Material	**Weight**	**Ratio by Weight**
Water (W)	50 gal	4.4 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	30-39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. VWPs manufactured by Slope Indicator; Part No. 52611024.
4. Refer to Boring Record N_HS-05_VWP-RC for subsurface conditions encountered.

amec	**Title:**	VWP Construction Diagram	**Client:**	Honeywell	**By/Date:**	NDL/1-13-14
	Boring No.:	N_HS-05_VWP-RC	**Project:**	SA-6	**Ck/Date:**	TCC/4-7-14
	Date Installed:	1/10/2014	**Project No.**	3480-13-0377	**Scale:**	NTS

HS-07

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✪ ORG (%)
0	FILL - 0.0' to 14.0' bgs: No geotechnical testing/sampling performed. Description(s) based on observation of drilling and/or interpretation of nearby pre-design geotechnical explorations.		12.4				
5			7.4				
10			2.4				
15	Brown, SILT (ML): STRATUM O		-2.6	S3-01	a	1-3-3-4 (N = 6)	
				S3-02	a	7-5-4-4 (N = 9)	
	Black/gray, ORGANIC SILT (OH): STRATUM D			S3-03	a	1-1-2-3 (N = 3)	
20	Dark brown, PEAT (PT), some silt: STRATUM D - 20.0' bgs: VWP installed (N_HS-07_VWP-D)		-7.6		a		



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.
LOGGED BY: AE	CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-07_VWP
DRILLED:	01/17/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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amec

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" / Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✪ ORG (%) (10 20 30 40 50 60 70 80 90)	DEPTH (ft)
	Gray, fine to medium SAND (SP): STRATUM S1			S3-04	a	3-2-5-14 (N = 7)		
	- trace to frequent organics			S3-05	a	12-24-31-34 (N = 55)		
	End of exploration at 24.0' bgs							
25			-12.6					25
30			-17.6					30
35			-22.6					35
40			-27.6					40

0 10 20 30 40 50 60 70 80 90 100

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER: B&B
RIG TYPE: B-61 Mobile
METHOD: Rotary Wash with Water (Cased)
HOLE DIAM.: 4"
SPTs: Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS: Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.: N_HS-07_VWP
DRILLED: 01/17/14
PROJECT: SA-6 Surcharge Monitoring
LOCATION: Jersey City, New Jersey
PROJECT NO.: 3480130377 **PAGE** 2 **OF** 2

amec

N_HS-07_VWP

Baseline Ground Surface Elevation = 12.4 ft

Northing: 685699.07
Easting: 602585.06

1" DIA., Flush-Joint, Sch. 40 PVC (grout-filled tremie pipe)

VWP Cables (TYP.)
(Attached to PVC with zip ties)

FILL

Top of Stratum O — Depth 14.0 ft bgs; Elevation -1.6 ft

STRATUM O

Bottom of Stratum O — Depth 17.5 ft bgs; Elevation -5.1 ft

Top of Stratum D — Depth 17.5 ft bgs; Elevation -5.1 ft

Vibrating Wire Piezometer (TYP.)
(Attached to PVC with zip ties & duct tape)

STRATUM D

Center D VWP	
Designation:	N_HS-07_VWP-D
Serial No.:	1303633
Depth (ft bgs):	20.0
Elevation (ft):	-7.6

Bottom of Stratum D — Depth 21.0 ft bgs; Elevation -8.6 ft

Top of Stratum S1 — Depth 21.0 ft bgs; Elevation -8.6 ft

Cement-Bentonite Grout

STRATUM S1

Bottom of Boring — Depth 24.0 ft bgs; Elevation -11.6 ft

4" Dia.

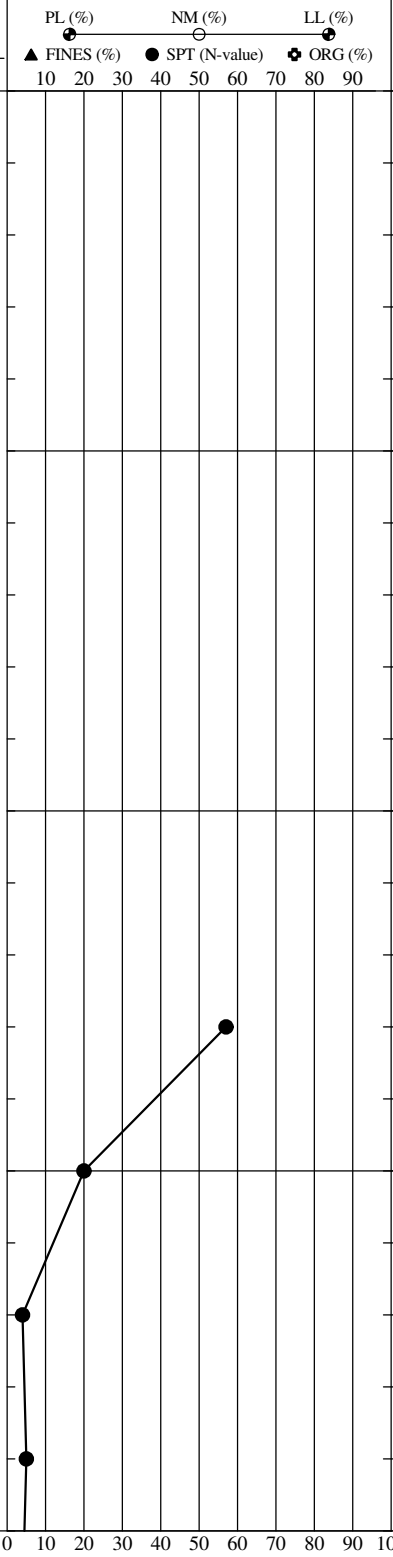
Target Cement-Bentonite Grout Mix		
Material	**Weight**	**Ratio by Weight**
Water (W)	50 gal	4.4 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	30-39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. VWPs manufactured by Slope Indicator; Part No. 52611028.
4. Refer to Boring Record N_HS-07_VWP for subsurface conditions encountered.

amec	**Title:**	VWP Construction Diagram	**Client:**	Honeywell	**By/Date:**	NDL/1-20-14
	Boring No.:	N_HS-07_VWP	**Project:**	SA-6	**Ck/Date:**	TCC/4-7-14
	Date Installed:	1/17/2014	**Project No.:**	3480-13-0377	**Scale:**	NTS

HS-09

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC
0	FILL		13.8			
	- 0.0' to 12.0' bgs: No geotechnical testing/sampling performed. Description(s) based on observation of drilling and/or interpretation of nearby pre-design geotechnical explorations.					
5			8.8			
10			3.8			
	Yellowish-brown, silt (MH): FILL / Possible COPR					
				S3-01	a	21-26-31-34 (N = 57)
15			-1.3	S3-02	a	12-12-8-7 (N = 20)
	Brown, SILT (ML), wet: STRATUM O					
				S3-03	a	1-2-2-2 (N = 4)
	Black/gray, ORGANIC SILT (OH): STRATUM D			S3-04	a	3-1-4-5 (N = 5)
20			-6.3			



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.
LOGGED BY: AE	CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-09_VWP
DRILLED:	01/20/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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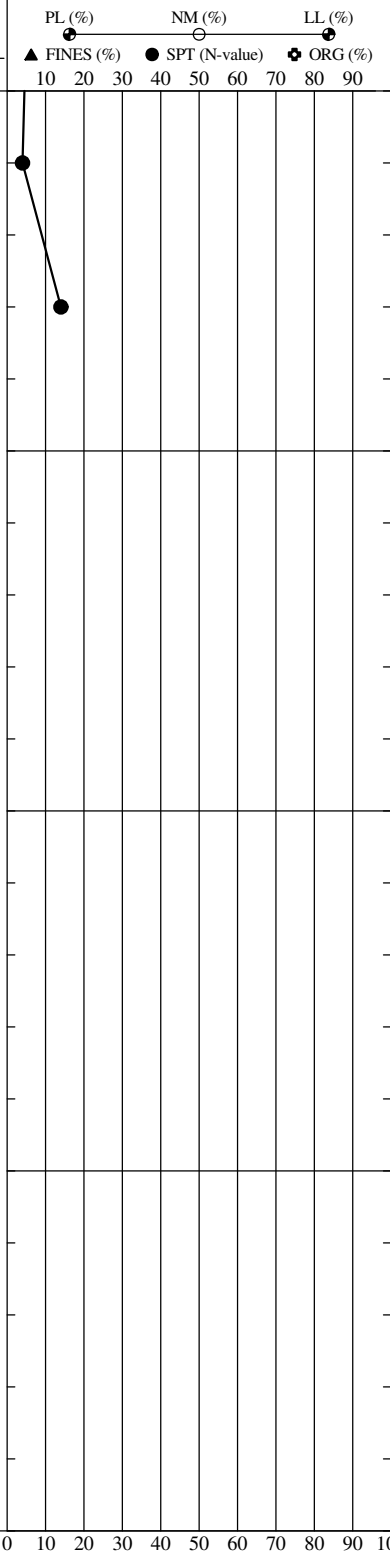
amec

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC
20	Black/gray, ORGANIC SILT (OH): STRATUM D		-6.3			
	- 21.0' bgs: VWP installed (N_HS-09_VWP-D)			S3-05	a	1-1-3-8 (N = 4)
	Dark brown, PEAT (PT), some silt: STRATUM D					
				S3-06	a	1-5-9-13 (N = 14)
	Gray, fine to medium SAND (SP): STRATUM S1					
	End of exploration at 24.0' bgs					
25			-11.3			
30			-16.3			
35			-21.3			
40			-26.3			



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-09_VWP
DRILLED:	01/20/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

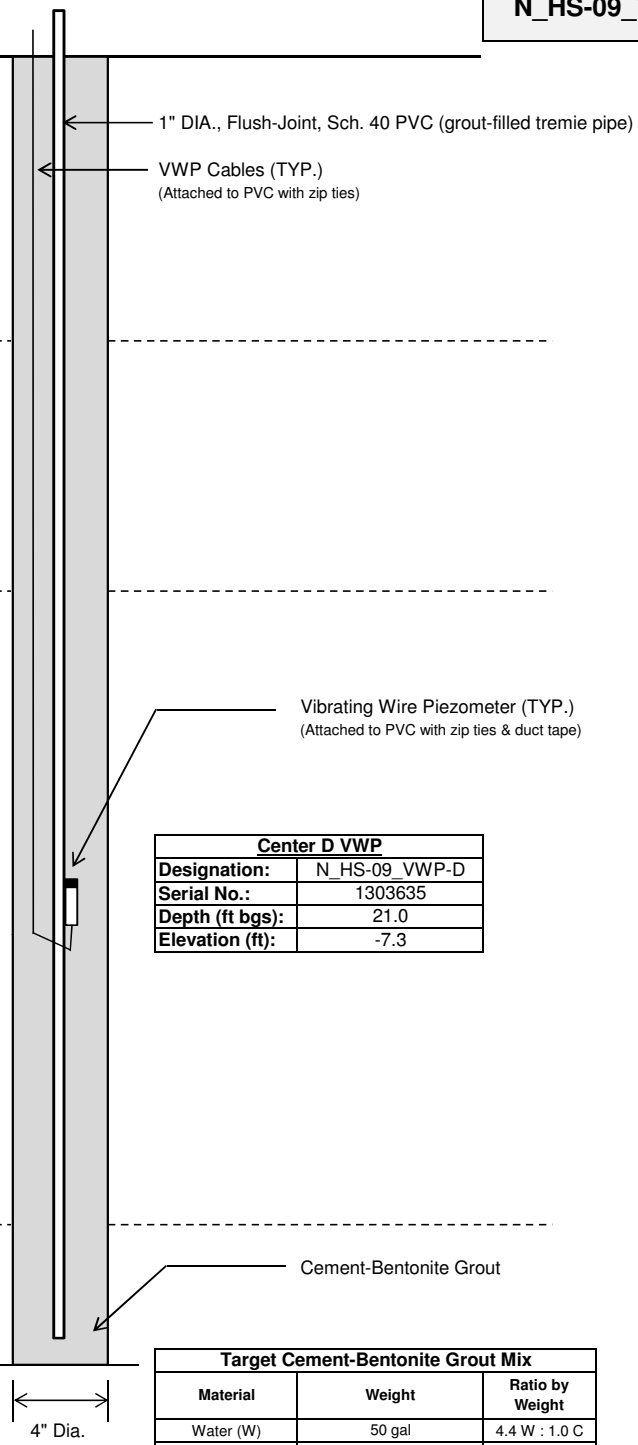
PAGE 2 **OF** 2

amec

N_HS-09_VWP

Baseline Ground Surface Elevation = 13.8 ft

Northing: 685629.42
Easting: 602682.40



Top of Stratum O — Depth 15.5 ft bgs; Elevation -1.8 ft

STRATUM O

Bottom of Stratum O — Depth 19.0 ft bgs; Elevation -5.3 ft

Top of Stratum D — Depth 19.0 ft bgs; Elevation -5.3 ft

Center D VWP	
Designation:	N_HS-09_VWP-D
Serial No.:	1303635
Depth (ft bgs):	21.0
Elevation (ft):	-7.3

Bottom of Stratum D — Depth 23.3 ft bgs; Elevation -9.5 ft

Top of Stratum S1 — Depth 23.3 ft bgs; Elevation -9.5 ft

Bottom of Boring — Depth 24.0 ft bgs; Elevation -10.3 ft

Target Cement-Bentonite Grout Mix

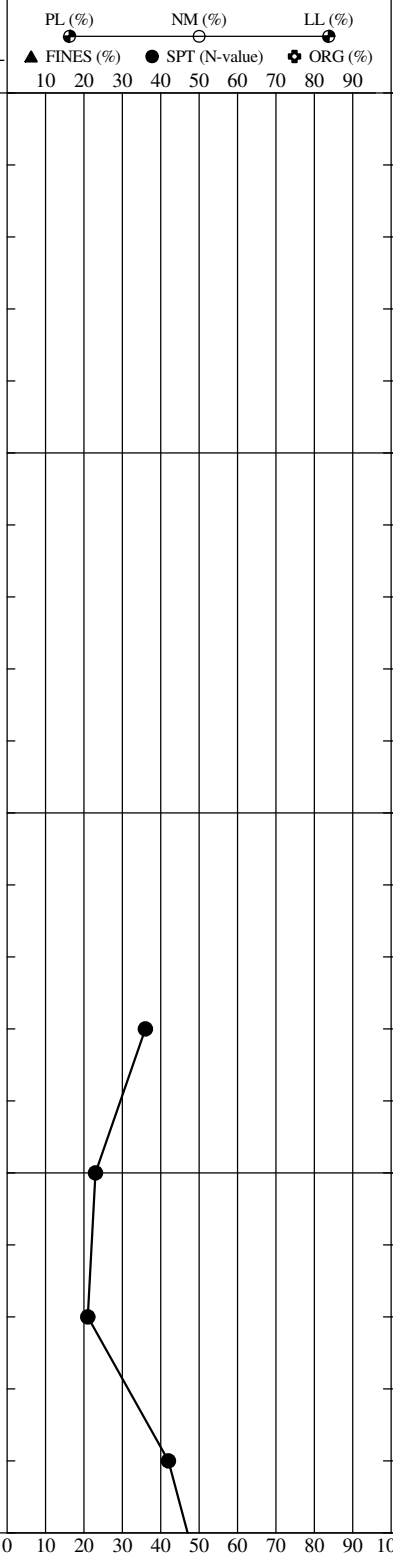
Material	Weight	Ratio by Weight
Water (W)	50 gal	4.4 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	30-39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. VWPs manufactured by Slope Indicator; Part No. 52611028.
4. Refer to Boring Record N_HS-09_VWP for subsurface conditions encountered.

amec	**Title:**	VWP Construction Diagram	**Client:**	Honeywell	**By/Date:** NDL/1-21-14
	Boring No.:	N_HS-09_VWP	**Project:**	SA-6	**Ck/Date:** TCC/4-7-14
	Date Installed:	1/20/2014	**Project No.:**	3480-13-0377	**Scale:** NTS

VI-01

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	ELEV (ft)	SAMPLE IDENT	TYPE	BLOW COUNT (1st 6" / 2nd 6" / 3rd 6" / 4th 6") Or RQD % REC
0	- 0.0' to 12.0' bgs: No geotechnical testing/sampling performed. Description(s) based on observation of drilling and/or interpretation of nearby pre-design geotechnical explorations.	17.9			
5		12.9			
10		7.9			
	Dark brown, silt (ML), few sand and gravel: FILL				
	- 12.5' to 14.0' bgs: probable wood		S3-01	a	72-18-18-25 (N = 36)
15		2.9	S3-02	a	8-12-11-11 (N = 23)
	Red/black, medium sand (SP): FILL				
	- 17.0' to 18.0' bgs: trace gravel		S3-03	a	6-10-11-22 (N = 21)
			S3-04	a	15-20-22-25 (N = 42)
	Black, gravel (GP): FILL				
	Light brown, fine to medium sand (SP-SM), few silt: FILL				
20		-2.1			



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Restored as Inclinometer. CB grout placed (pumped) via tremie pipe. Drill cuttings/fluids containerized upon completion.
LOGGED BY:	AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.: N_VI-01
DRILLED: 03/14/14 - 03/17/14
PROJECT: SA-6 Surcharge Monitoring
LOCATION: Jersey City, New Jersey
PROJECT NO.: 3480130377 **PAGE** 1 **OF** 4

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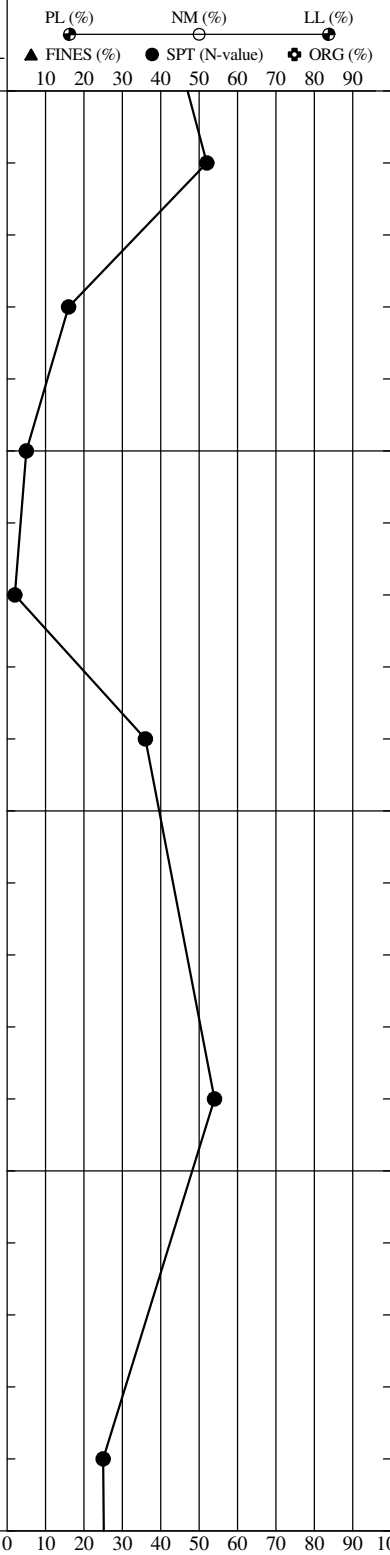
DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	ELEV (ft)	SAMPLE IDENT	TYPE	BLOW COUNT (1st 6" 2nd 6" 3rd 6" 4th 6") Or RQD % REC
20	Light brown, fine to medium sand (SP-SM), few silt: FILL	-2.1	S3-05	a	12-23-29-27 (N = 52)
			S3-06	a	9-8-8-11 (N = 16)
	Gray/dark gray, fine to medium sand (SP): FILL - 24.0' to 26.0' bgs: trace gravel and debris				
25		-7.1	S3-07	a	3-3-2-3 (N = 5)
	Black, ORGANIC SILT (OH), trace sand: STRATUM D		S3-08	a	1-1-1-4 (N = 2)
	Light brown/light gray, fine to medium SAND (SP), few gravel, medium dense to very dense: STRATUM S1		S3-09	a	1-9-27-56 (N = 36)
30		-12.1			
			SS-10		17-27-27-34 (N = 54)
35		-17.1			
			SS-11		10-13-12-15 (N = 25)
40		-22.1			



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Restored as Inclinometer. CB grout placed (pumped) via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

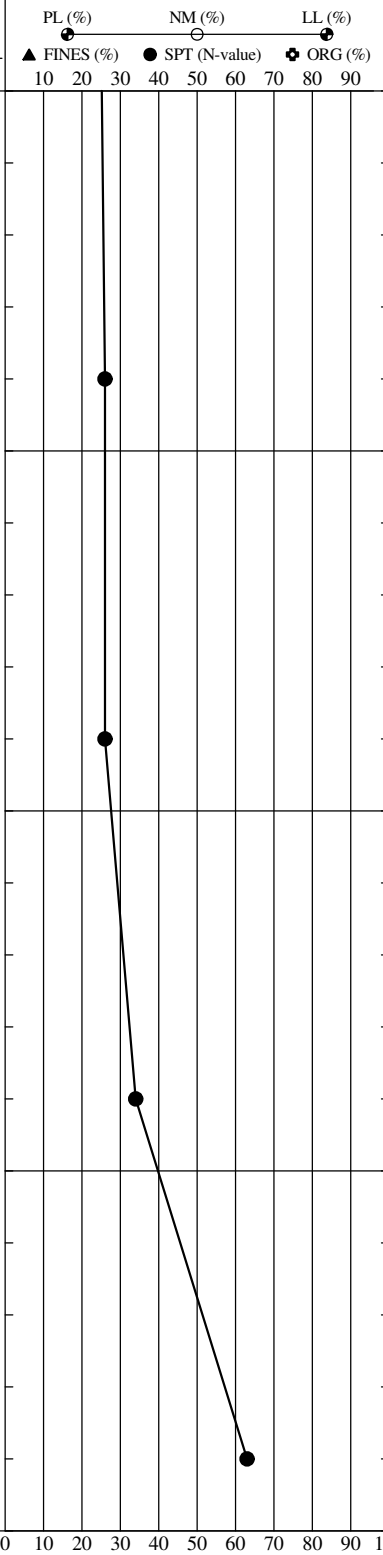
GEOTECHNICAL BORING RECORD

BORING NO.:	N_VI-01
DRILLED:	03/14/14 - 03/17/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

PAGE 2 **OF** 4

amec

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	ELEV (ft)	SAMPLE IDENT	TYPE	BLOW COUNT (1st 6" / 2nd 6" / 3rd 6" / 4th 6") Or RQD % REC
40	Light brown/light gray, fine to medium SAND (SP), few gravel, medium dense to very dense: STRATUM S1	-22.1			
	Reddish-brown, silty fine SAND (SM), medium dense to very dense: STRATUM S2				
			SS-12		18-13-13-14 (N = 26)
45		-27.1			
			SS-13		18-14-12-23 (N = 26)
50		-32.1			
			SS-14		18-14-20-26 (N = 34)
55		-37.1			
			SS-15		26-31-32-37 (N = 63)
60	End of exploration at 60.0' bgs	-42.1			



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Restored as Inclinometer. CB grout placed (pumped) via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_VI-01
DRILLED:	03/14/14 - 03/17/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

PAGE 3 **OF** 4

amec

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✿ ORG (%) 10 20 30 40 50 60 70 80 90	DEPTH (ft)
60			-42.1					60
65			-47.1					65
70			-52.1					70
75			-57.1					75
80			-62.1				0 10 20 30 40 50 60 70 80 90 100	80

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER: B&B
RIG TYPE: B-61 Mobile
METHOD: Rotary Wash with Water (Cased)
HOLE DIAM.: 6"
SPTs: Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS: 6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Restored as Inclinometer. CB grout placed (pumped) via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

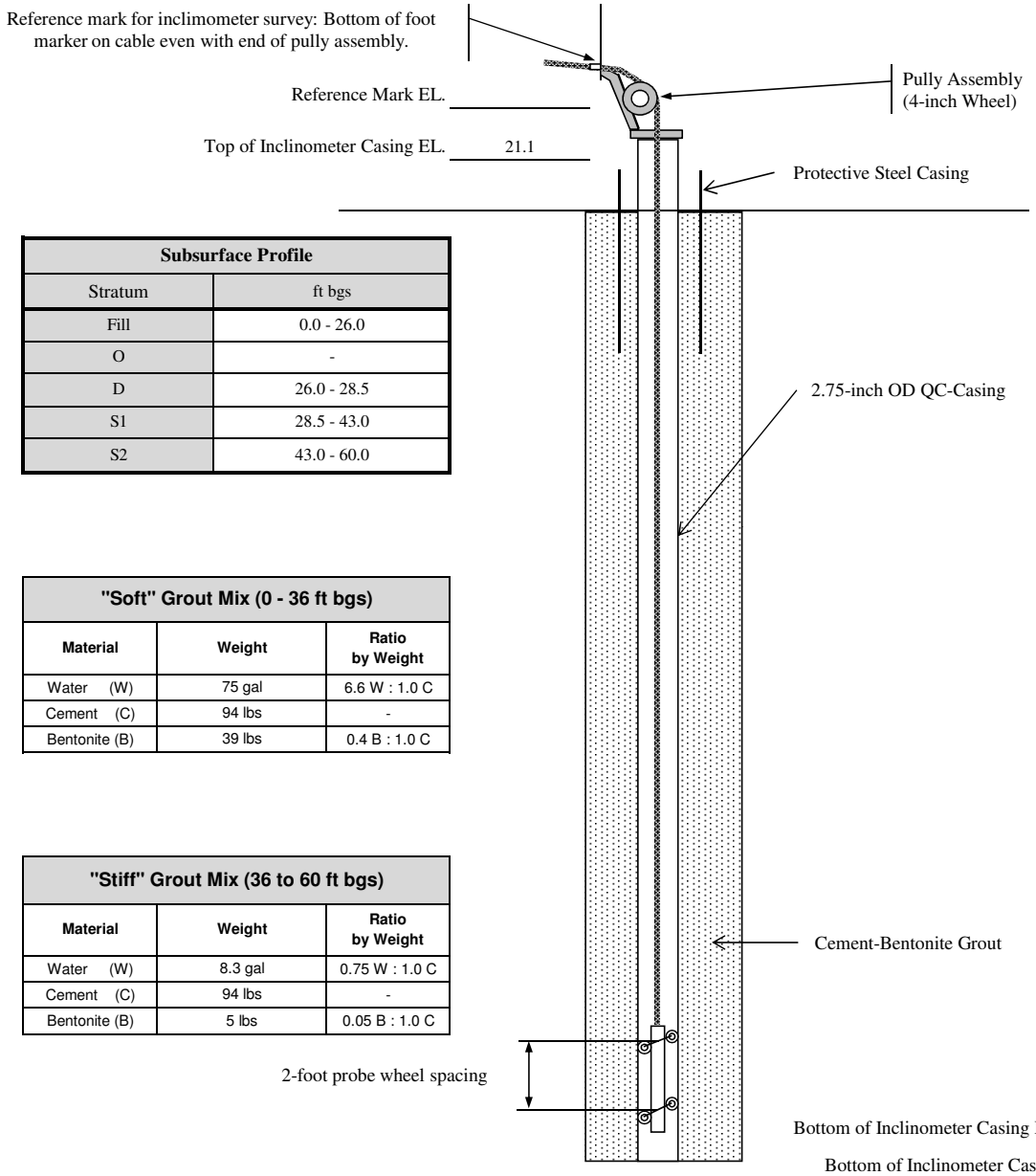
BORING NO.: N_VI-01
DRILLED: 03/14/14 - 03/17/14
PROJECT: SA-6 Surcharge Monitoring
LOCATION: Jersey City, New Jersey
PROJECT NO.: 3480130377 **PAGE** 4 **OF** 4

amec

Project:	Study Area 6	**Inclinometer #**
Location:	Jersey City, New Jersey	
Client:	Honeywell	**N_VI-01**

INCLINOMETER CONSTRUCTION DIAGRAM

Existing Grade (ft.):	17.9	**Cable No.:**	2448
A+ Axis Orientation:	Perpendicular to bulkhead	**Cable Length:**	140 feet
Installation Date:	3/17/2014	**Readout SN:**	10412
Northing:	686110.45	**Probe SN:**	29233
Easting:	602120.77	**Installed By:**	AE



Subsurface Profile	
Stratum	ft bgs
Fill	0.0 - 26.0
O	-
D	26.0 - 28.5
S1	28.5 - 43.0
S2	43.0 - 60.0

"Soft" Grout Mix (0 - 36 ft bgs)		
Material	**Weight**	**Ratio by Weight**
Water (W)	75 gal	6.6 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	39 lbs	0.4 B : 1.0 C

"Stiff" Grout Mix (36 to 60 ft bgs)		
Material	**Weight**	**Ratio by Weight**
Water (W)	8.3 gal	0.75 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	5 lbs	0.05 B : 1.0 C

Bottom of Inclinometer Casing Depth:	60.0	ft bgs
Bottom of Inclinometer Casing EL.	-42.1	ft

Notes:
1. Elevation Datum NGVD 29.
2. Inclinometer manufactured by Slope Indicator.
3. Refer to Boring Record N_VI-01 for subsurface conditions encountered.

VI-02

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✿ ORG (%) 10 20 30 40 50 60 70 80 90	DEPTH (ft)
0	FILL - 0.0' to 20.0' bgs: No geotechnical testing/sampling performed. Description(s) based on observation of drilling and/or interpretation of nearby pre-design geotechnical explorations.		17.5					0
5			12.5					5
10			7.5					10
15			2.5					15
20			-2.5				0 10 20 30 40 50 60 70 80 90 100	20

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Restored as Inclinometer. CB grout placed (pumped) via tremie pipe. Drill cuttings/fluids containerized upon completion.
LOGGED BY:	AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

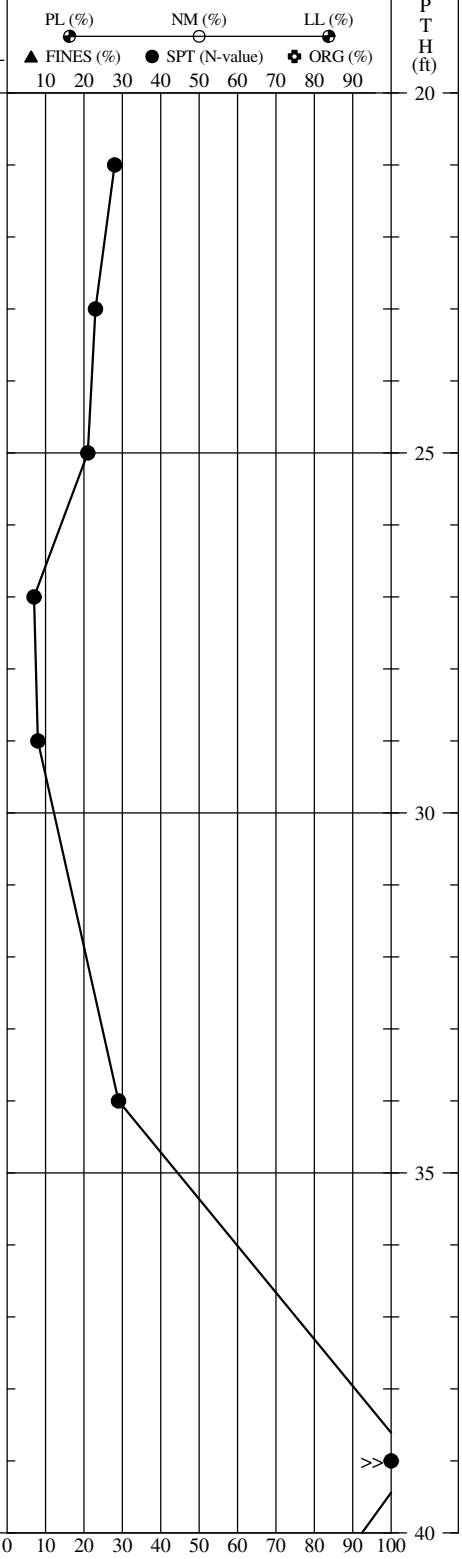
GEOTECHNICAL BORING RECORD

BORING NO.:	N_VI-02
DRILLED:	03/18/14 - 03/19/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

PAGE 1 **OF** 3

amec

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLE IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC
20	Gray, sandy clay (SC): FILL - occasional debris		-2.5	S3-01	a	12-15-13-14 (N = 28)
	Grayish-brown, fine sandy silt (ML): FILL					
	Gray/grayish-brown, fine to medium sand (SP): FILL			S3-02	a	9-11-12-14 (N = 23)
	Reddish-brown, fine sand (SP-SM), few silt: FILL					
25			-7.5	S3-03	a	12-11-10-12 (N = 21)
	Black/dark gray, ORGANIC SILT (OH): STRATUM D			S3-04	a	3-3-4-8 (N = 7)
	Brown, SILT (ML/OH), few fine sand: STRATUM D			S3-05	a	3-2-6-18 (N = 8)
	Gray, fine to medium SAND (SP), medium dense: STRATUM S1					
30			-12.5			
				SS-06		12-10-19-24 (N = 29)
35			-17.5			
	Reddish-brown, silty fine SAND (SM), medium dense to very dense: STRATUM S2			SS-07		32-47-59-49 (N = 106)
40			-22.5			



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Restored as Inclinometer. CB grout placed (pumped) via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_VI-02
DRILLED:	03/18/14 - 03/19/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

PAGE 2 **OF** 3

amec

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✿ ORG (%) 10 20 30 40 50 60 70 80 90	DEPTH (ft)
40	Reddish-brown, silty fine SAND (SM), medium dense to very dense: STRATUM S2		-22.5					40
				SS-08		22-18-20-22 (N = 38)		
45			-27.5					45
				SS-09		13-13-14-17 (N = 27)		
50	End of exploration at 50.0' bgs		-32.5					50
55			-37.5					55
60			-42.5				0 10 20 30 40 50 60 70 80 90 100	60

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER: B&B
RIG TYPE: B-61 Mobile
METHOD: Rotary Wash with Water (Cased)
HOLE DIAM.: 6"
SPTs: Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS: 6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Restored as Inclinometer. CB grout placed (pumped) via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

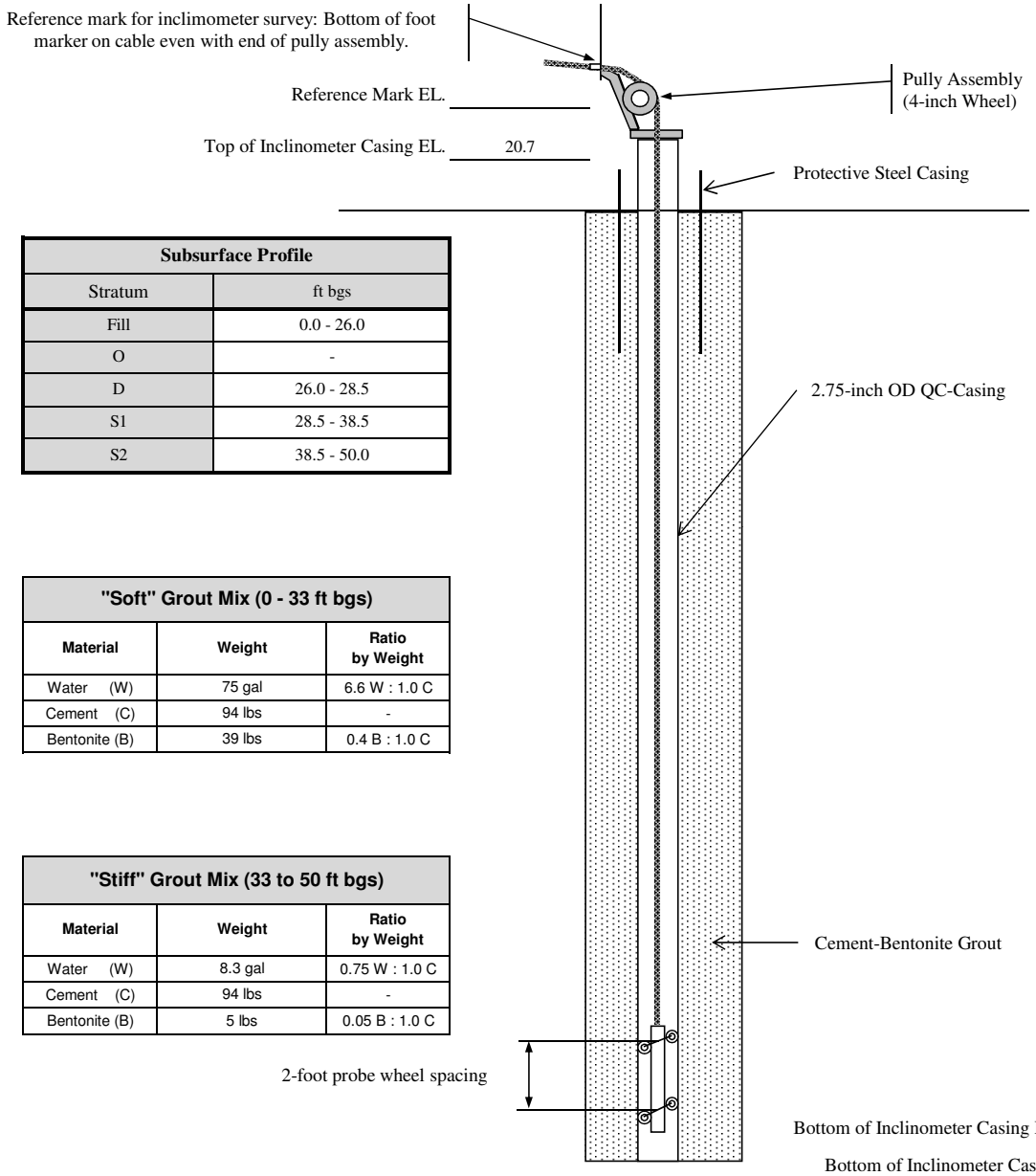
BORING NO.: N_VI-02
DRILLED: 03/18/14 - 03/19/14
PROJECT: SA-6 Surcharge Monitoring
LOCATION: Jersey City, New Jersey
PROJECT NO.: 3480130377 **PAGE** 3 **OF** 3

amec

amec	**Project:** Study Area 6	**Inclinometer #**
	Location: Jersey City, New Jersey	
	Client: Honeywell	**N_VI-02**

INCLINOMETER CONSTRUCTION DIAGRAM

Existing Grade (ft.):	17.5	**Cable No.:**	2448
A+ Axis Orientation:	Perpendicular to bulkhead	**Cable Length:**	140 feet
Installation Date:	3/19/2014	**Readout SN:**	10412
Northing:	686042.24	**Probe SN:**	29233
Easting:	602032.58	**Installed By:**	AE



Subsurface Profile	
Stratum	ft bgs
Fill	0.0 - 26.0
O	-
D	26.0 - 28.5
S1	28.5 - 38.5
S2	38.5 - 50.0

"Soft" Grout Mix (0 - 33 ft bgs)		
Material	**Weight**	**Ratio by Weight**
Water (W)	75 gal	6.6 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	39 lbs	0.4 B : 1.0 C

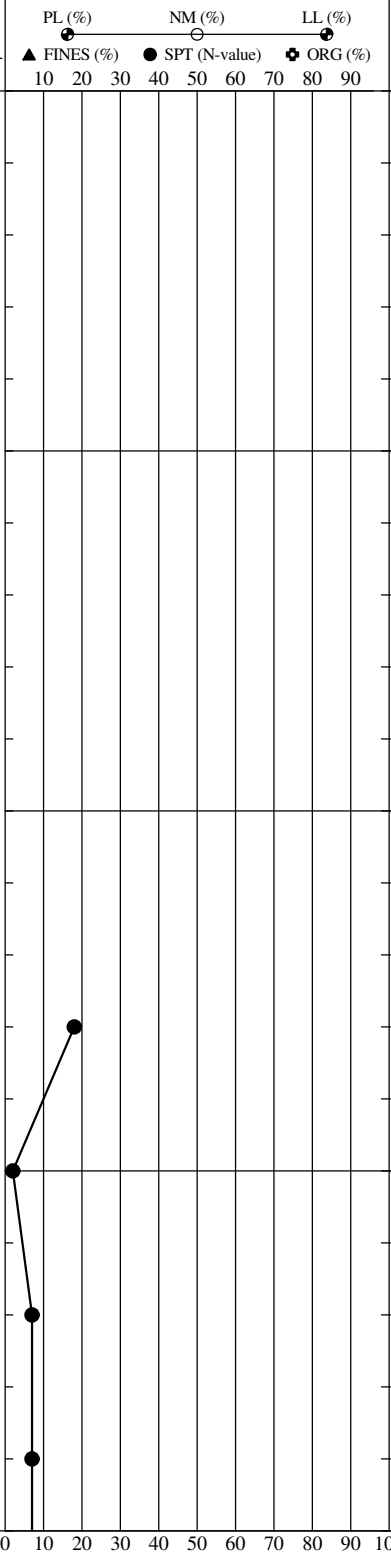
"Stiff" Grout Mix (33 to 50 ft bgs)		
Material	**Weight**	**Ratio by Weight**
Water (W)	8.3 gal	0.75 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	5 lbs	0.05 B : 1.0 C

Bottom of Inclinometer Casing Depth:	50.0	ft bgs
Bottom of Inclinometer Casing EL.	-32.5	ft

Notes:
1. Elevation Datum NGVD 29.
2. Inclinometer manufactured by Slope Indicator.
3. Refer to Boring Record N_VI-02 for subsurface conditions encountered.

VI-03

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	ELEV (ft)	SAMPLE IDENT	TYPE	BLOW COUNT (1st 6" / 2nd 6" / 3rd 6" / 4th 6") Or RQD % REC
0	FILL	15.1			
	- 0.0' to 12.0' bgs: No geotechnical testing/sampling performed. Description(s) based on observation of drilling and/or interpretation of nearby pre-design geotechnical explorations.				
5		10.1			
10		5.1			
	Dark brown, silty fine sand (SM): FILL				
	- occasional debris		S3-01	a	13-9-9-7 (N = 18)
	Gray, SILT (ML) / silty fine SAND (SM): STRATUM O / Possible COPR			a	
15	Light brown/gray, SILT (ML), wet: STRATUM O	0.1	S3-02		WH-1-1-2 (N = 2)
	- 16.4' to 16.9' bgs: few, yellow, fine to medium sand (possible COPR)			a	
	Light brown, silty fine SAND (SM) / SILT (ML): STRATUM O		S3-03		1-1-6-12 (N = 7)
				a	
			S3-04		6-3-4-4 (N = 7)
	Black/gray, ORGANIC SILT (OH): STRATUM D				
20		-4.9			



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Restored as Inclinometer. CB grout placed (pumped) via tremie pipe. Drill cuttings/fluids containerized upon completion.
LOGGED BY: AE	CHECKED BY/DATE: TCC/04-07-14

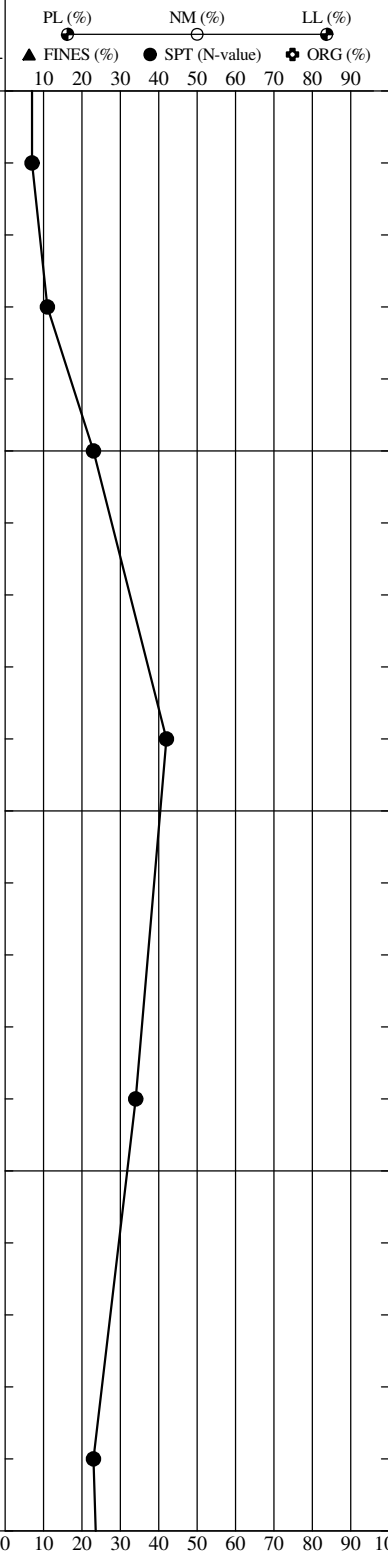
THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.: N_VI-03
DRILLED: 03/19/14 - 03/21/14
PROJECT: SA-6 Surcharge Monitoring
LOCATION: Jersey City, New Jersey
PROJECT NO.: 3480130377 **PAGE** 1 **OF** 3

amec

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	ELEV (ft)	SAMPLE IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC
20	Black/gray, ORGANIC SILT (OH): STRATUM D	-4.9	S3-05	a	2-3-4-6 (N = 7)
	Dark brown, PEAT (PT): STRATUM D		S3-06	a	2-4-7-12 (N = 11)
	Light brown/light gray, fine to medium SAND (SP), medium dense to dense: STRATUM S1				
25		-9.9	S3-07	a	4-8-15-34 (N = 23)
			SS-08		17-21-21-26 (N = 42)
30		-14.9			
			SS-09		10-17-17-19 (N = 34)
35		-19.9			
			SS-10		12-11-12-16 (N = 23)
40		-24.9			



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Restored as Inclinometer. CB grout placed (pumped) via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

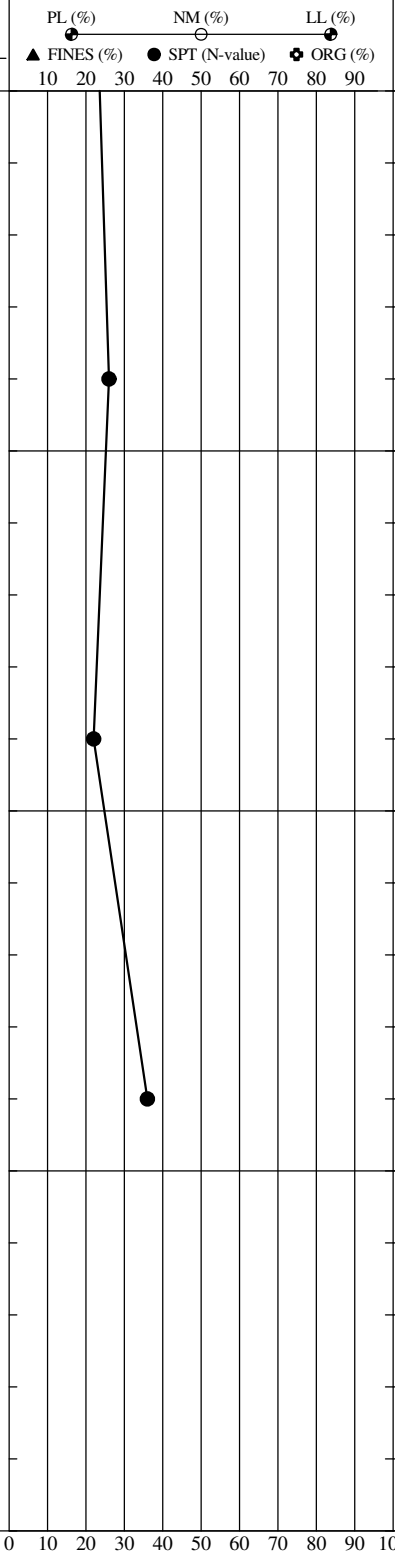
GEOTECHNICAL BORING RECORD

BORING NO.:	N_VI-03
DRILLED:	03/19/14 - 03/21/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

PAGE 2 **OF** 3

amec

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC
40	Light brown/light gray, fine to medium SAND (SP), medium dense to dense: STRATUM S1		-24.9			
	Reddish-brown, fine SAND (SP), medium dense to dense: STRATUM S2			SS-11		10-13-13-15 (N = 26)
45			-29.9			
				SS-12		10-10-12-17 (N = 22)
50			-34.9			
				SS-13		12-16-20-30 (N = 36)
55	End of exploration at 55.0' bgs		-39.9			
60			-44.9			



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Restored as Inclinometer. CB grout placed (pumped) via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_VI-03
DRILLED:	03/19/14 - 03/21/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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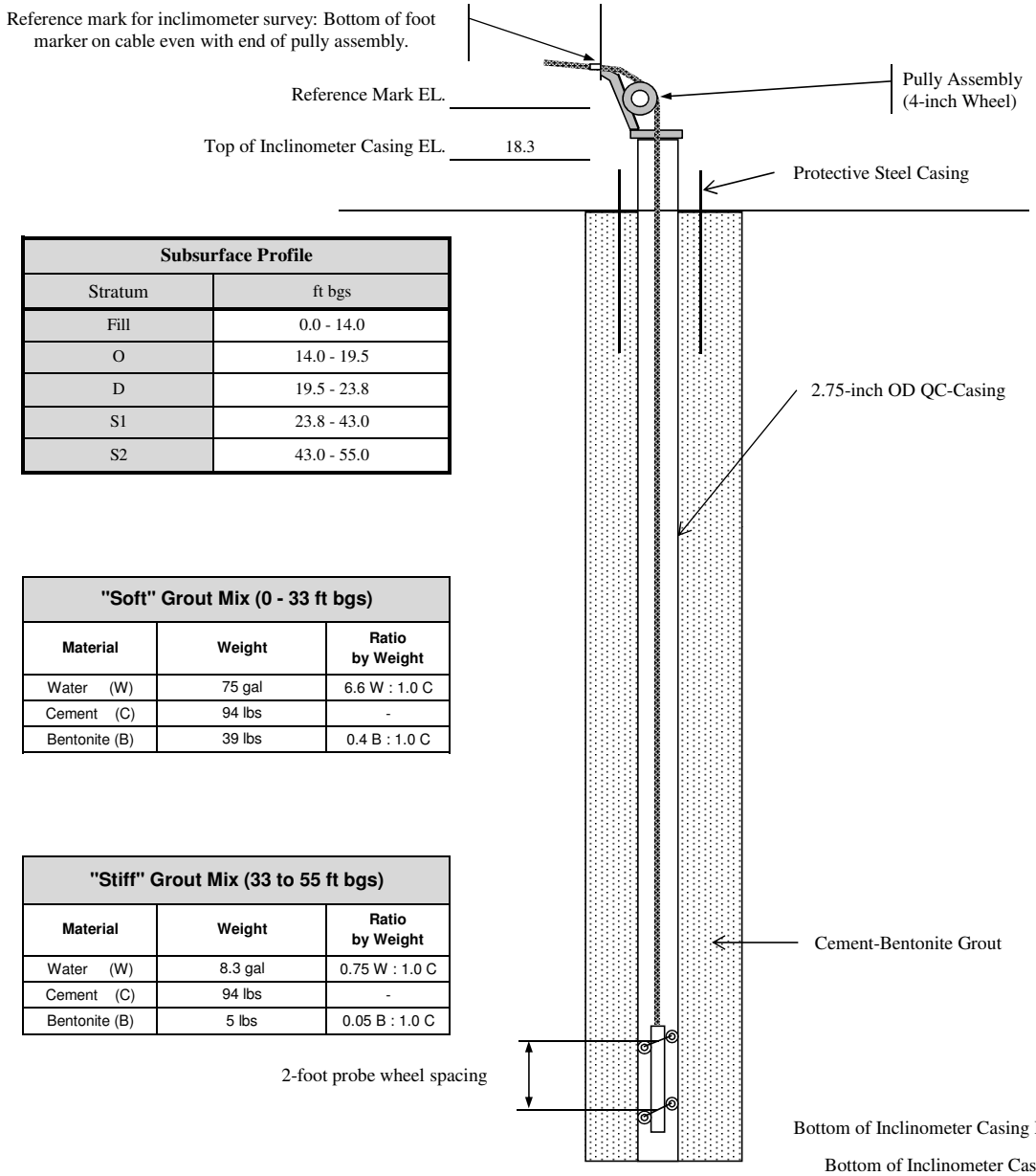
amec

Project:	Study Area 6	**Inclinometer #**
Location:	Jersey City, New Jersey	
Client:	Honeywell	**N_VI-03**

INCLINOMETER CONSTRUCTION DIAGRAM

Existing Grade (ft.):	15.1	**Cable No.:**	2448
A+ Axis Orientation:	Perpendicular to forcemain	**Cable Length:**	140 feet
Installation Date:	3/21/2014	**Readout SN:**	10412
Northing:	685921.65	**Probe SN:**	29233
Easting:	602571.16	**Installed By:**	AE



Subsurface Profile	
Stratum	ft bgs
Fill	0.0 - 14.0
O	14.0 - 19.5
D	19.5 - 23.8
S1	23.8 - 43.0
S2	43.0 - 55.0

"Soft" Grout Mix (0 - 33 ft bgs)		
Material	**Weight**	**Ratio by Weight**
Water (W)	75 gal	6.6 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	39 lbs	0.4 B : 1.0 C

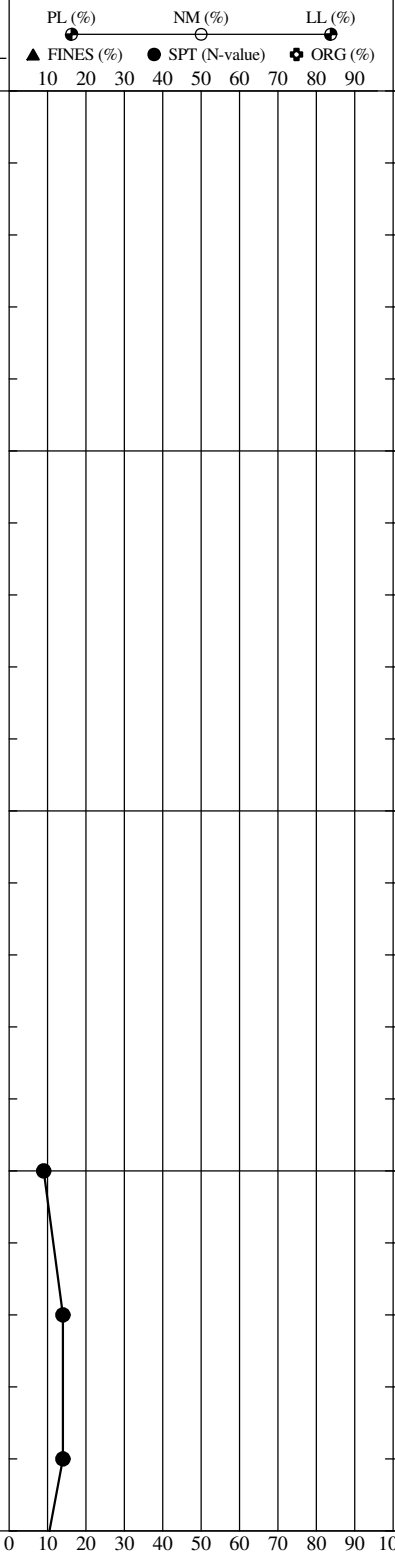
"Stiff" Grout Mix (33 to 55 ft bgs)		
Material	**Weight**	**Ratio by Weight**
Water (W)	8.3 gal	0.75 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	5 lbs	0.05 B : 1.0 C

Bottom of Inclinometer Casing Depth:	55.0	ft bgs
Bottom of Inclinometer Casing EL.	-39.9	ft

Notes:
1. Elevation Datum NGVD 29.
2. Inclinometer manufactured by Slope Indicator.
3. Refer to Boring Record N_VI-03 for subsurface conditions encountered.

VI-04

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT (1st 6" / 2nd 6" / 3rd 6" / 4th 6") Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✿ ORG (%)	DEPTH (ft)
0	FILL - 0.0' to 14.0' bgs: No geotechnical testing/sampling performed. Description(s) based on observation of drilling and/or interpretation of nearby pre-design geotechnical explorations.		14.5					0
5			9.5					5
10			4.5					10
	Brown/brownish-gray, SILT (ML), wet: STRATUM O - 14.0' to 18.0' bgs: occasional debris/scrap metal							
15			-0.5	S3-01	a	7-4-5-3 (N = 9)		15
				S3-02	a	5-8-6-4 (N = 14)		
				S3-03	a	8-8-6-7 (N = 14)		
	Black/dark gray, ORGANIC SILT (OH): STRATUM D							
20			-5.5					20



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Restored as Inclinometer. CB grout placed (pumped) via tremie pipe. Drill cuttings/fluids containerized upon completion.
LOGGED BY:	AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

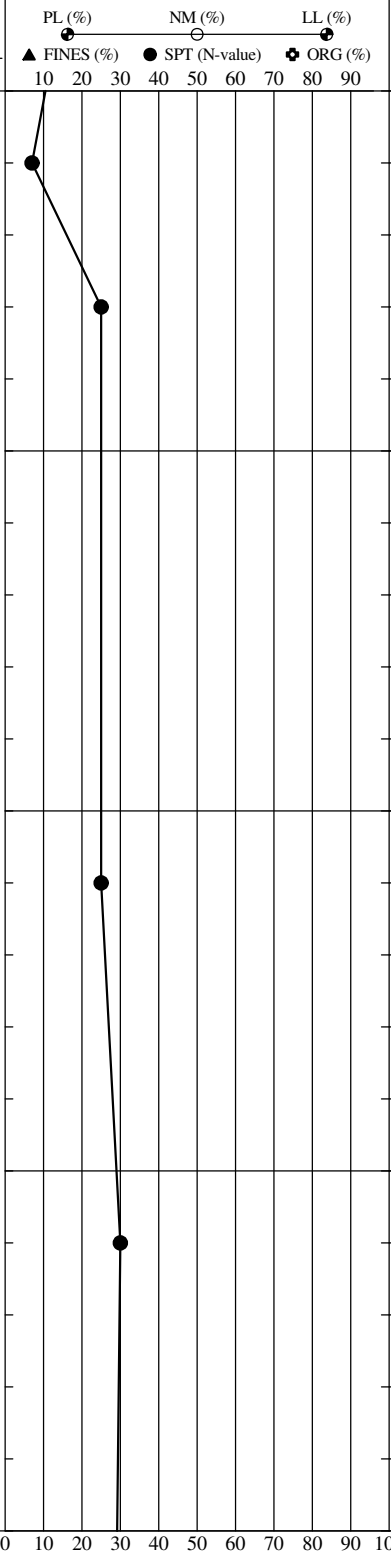
GEOTECHNICAL BORING RECORD

BORING NO.:	N_VI-04
DRILLED:	03/21/14 - 03/24/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

PAGE 1 **OF** 3

amec

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	ELEV (ft)	SAMPLE IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC
20	Black/dark gray, ORGANIC SILT (OH): STRATUM D	-5.5	S3-04	a	3-3-4-12 (N = 7)
	Dark brown, PEAT (PT): STRATUM D		S3-05	a	4-10-15-29 (N = 25)
	Gray, fine to medium SAND (SP): STRATUM S1				
25		-10.5			
	Reddish-brown, silty fine SAND (SM) / fine sandy SILT (ML), medium dense to dense: STRATUM S2				
30		-15.5	SS-06		13-12-13-15 (N = 25)
35		-20.5	SS-07		15-15-15-17 (N = 30)
40		-25.5			



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Restored as Inclinometer. CB grout placed (pumped) via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_VI-04
DRILLED:	03/21/14 - 03/24/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

amec

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS (SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS)	LEGEND	ELEV (ft)	SAMPLES IDENT	TYPE	BLOW COUNT 1st 6" 2nd 6" 3rd 6" 4th 6" Or RQD % REC	PL (%) NM (%) LL (%) ▲ FINES (%) ● SPT (N-value) ✿ ORG (%) 10 20 30 40 50 60 70 80 90	DEPTH (ft)
40	Reddish-brown, silty fine SAND (SM) / fine sandy SILT (ML), medium dense to dense: STRATUM S2		-25.5					40
				SS-08		11-13-16-21 (N = 29)		
45			-30.5					45
				SS-09		15-15-19-24 (N = 34)		
	End of exploration at 47.0' bgs							
50			-35.5					50
55			-40.5					55
60			-45.5				0 10 20 30 40 50 60 70 80 90 100	60

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER: B&B
RIG TYPE: B-61 Mobile
METHOD: Rotary Wash with Water (Cased)
HOLE DIAM.: 6"
SPTs: Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS: 6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Restored as Inclinometer. CB grout placed (pumped) via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

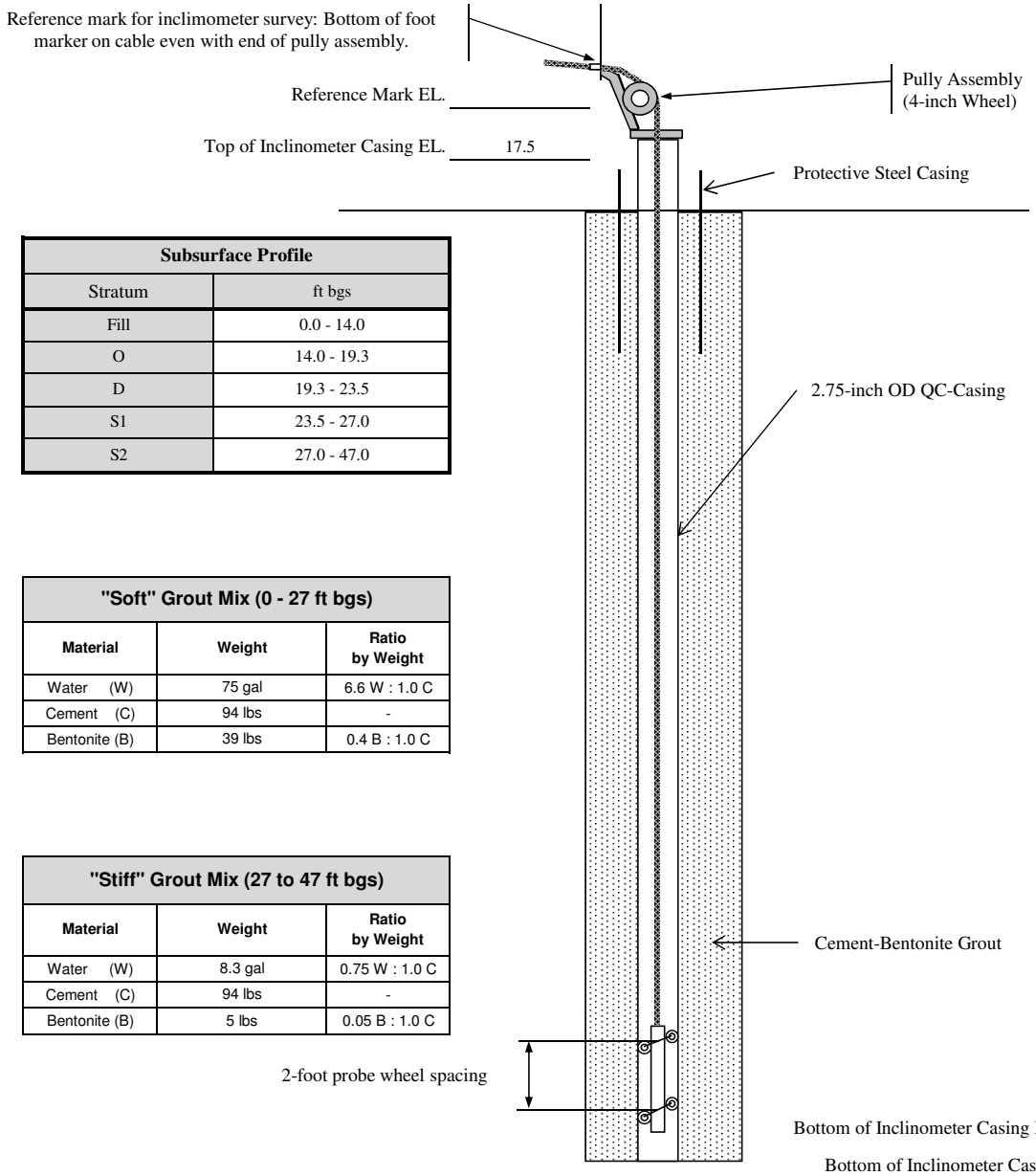
BORING NO.: N_VI-04
DRILLED: 03/21/14 - 03/24/14
PROJECT: SA-6 Surcharge Monitoring
LOCATION: Jersey City, New Jersey
PROJECT NO.: 3480130377 **PAGE** 3 **OF** 3

amec

amec	**Project:** Study Area 6	**Inclinometer #**
	Location: Jersey City, New Jersey	
	Client: Honeywell	**N_VI-04**

INCLINOMETER CONSTRUCTION DIAGRAM

Existing Grade (ft.):	14.5	**Cable No.:**	2448
A+ Axis Orientation:	Perpendicular to forcemain	**Cable Length:**	140 feet
Installation Date:	3/24/2014	**Readout SN:**	10412
Northing:	685859.50	**Probe SN:**	29233
Easting:	602702.68	**Installed By:**	AE



Subsurface Profile	
Stratum	ft bgs
Fill	0.0 - 14.0
O	14.0 - 19.3
D	19.3 - 23.5
S1	23.5 - 27.0
S2	27.0 - 47.0

"Soft" Grout Mix (0 - 27 ft bgs)		
Material	Weight	Ratio by Weight
Water (W)	75 gal	6.6 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	39 lbs	0.4 B : 1.0 C

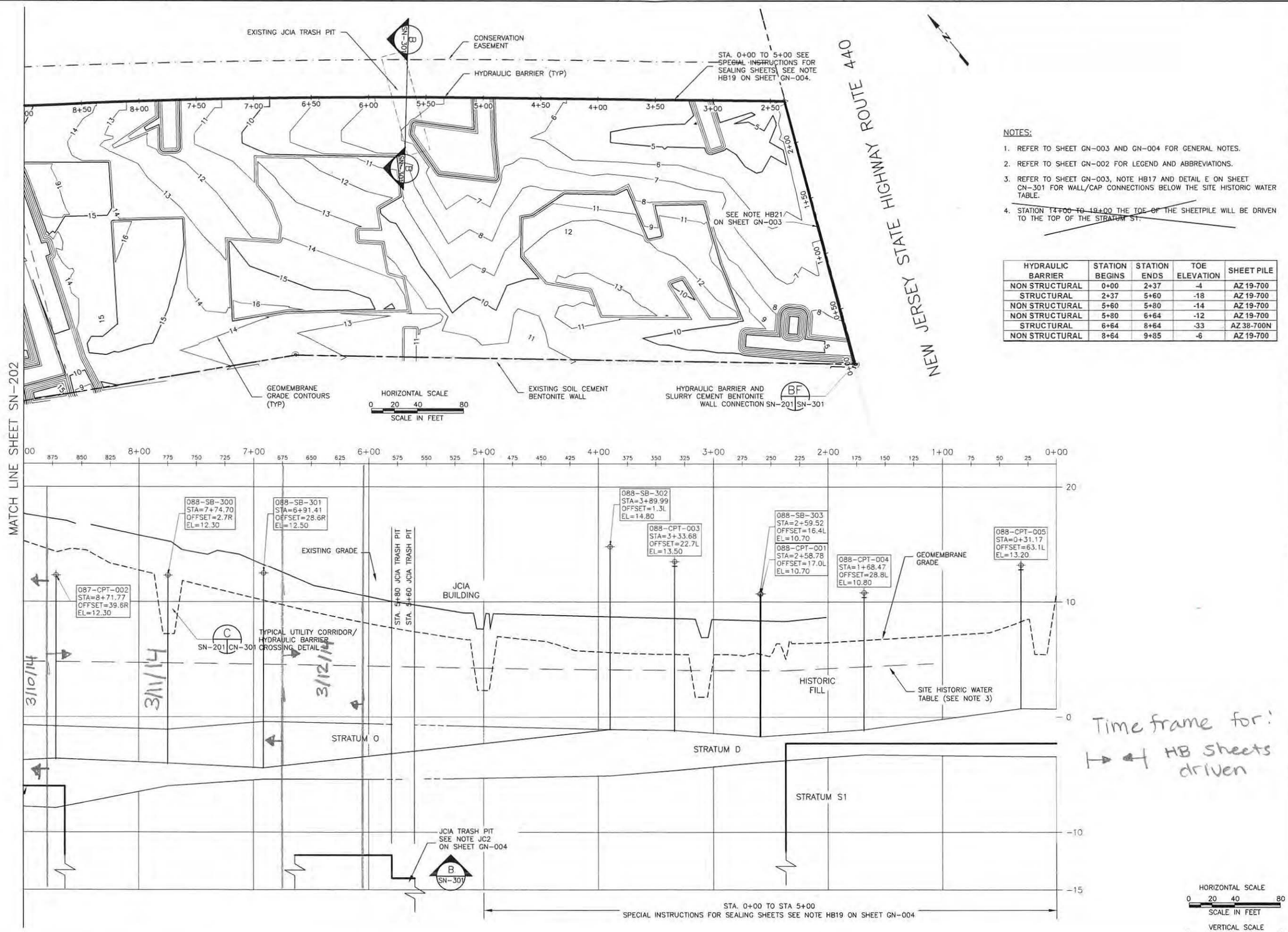
"Stiff" Grout Mix (27 to 47 ft bgs)		
Material	Weight	Ratio by Weight
Water (W)	8.3 gal	0.75 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	5 lbs	0.05 B : 1.0 C

Bottom of Inclinometer Casing Depth:	47.0	ft bgs
Bottom of Inclinometer Casing EL.	-32.5	ft

Notes:
1. Elevation Datum NGVD 29.
2. Inclinometer manufactured by Slope Indicator.
3. Refer to Boring Record N_VI-04 for subsurface conditions encountered.

Attachment 10: Sheet Pile Update

- Hydraulic Barrier Wall Plan & Profile
- Sheet Deflection Along Open Excavation
- Sheet Pile Repair Log



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.
4. ~~STATION 14+00 TO 19+00 THE TOE OF THE SHEETPILE WILL BE DRIVEN TO THE TOP OF THE STRATUM S1.~~

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	0+00	2+37	-4	AZ 19-700
STRUCTURAL	2+37	5+60	-18	AZ 19-700
NON STRUCTURAL	5+60	5+80	-14	AZ 19-700
NON STRUCTURAL	5+80	6+64	-12	AZ 19-700
STRUCTURAL	6+64	8+64	-33	AZ 38-700N
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700

NO.	DATE	REVISION	BY	APVD
1	10/10/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR TDD CHK RJR APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2125, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

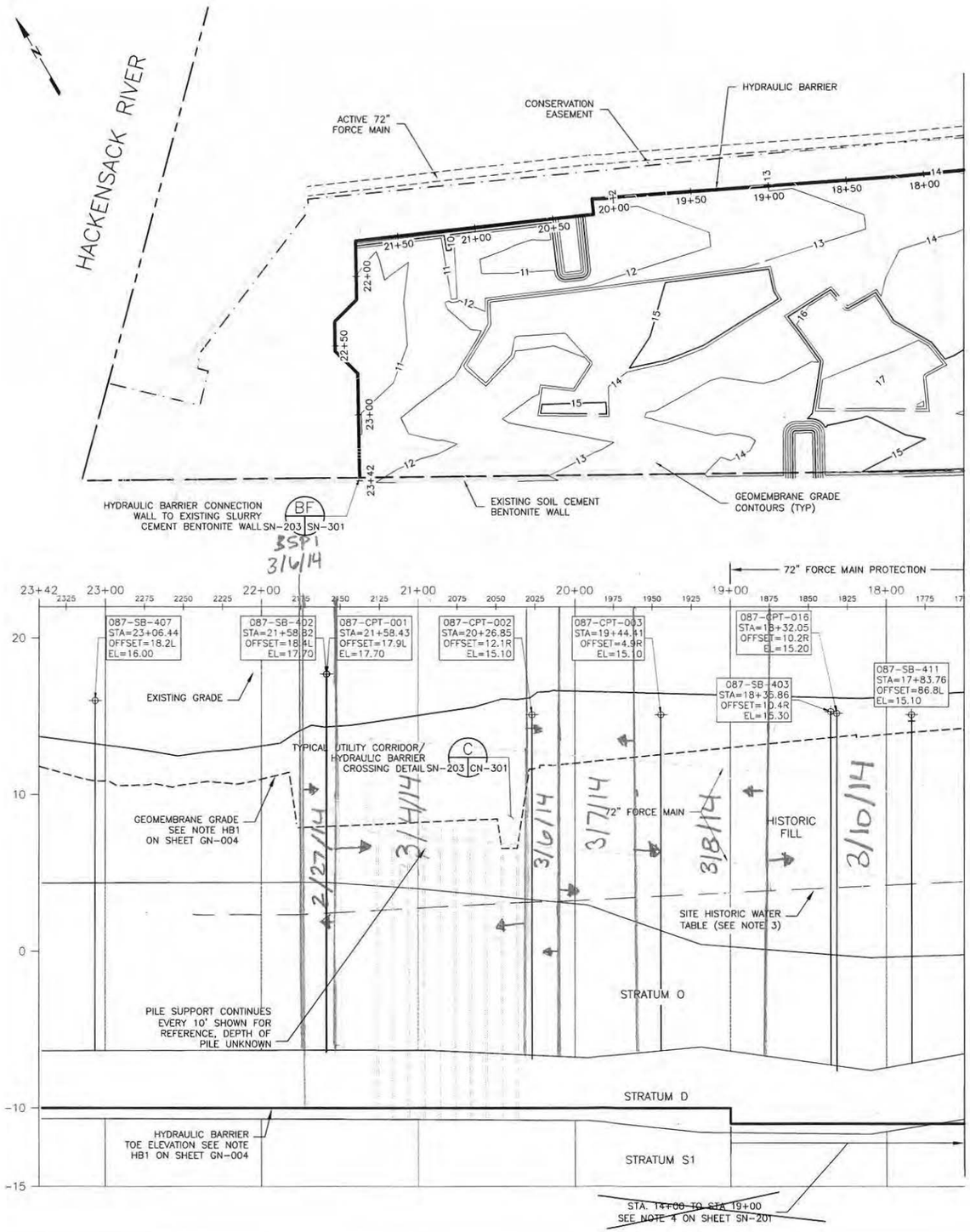
amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-201
SHEET	54 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR54-SN-201 HBW Design Pln Prof.dwg PLOT DATE: Mon, 07 Oct 2013 PLOT TIME: 4:04 PM



HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700
NON STRUCTURAL	19+00	23+38	-10	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR CHK RJR APVD TDD

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507
SGS

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 585-2200
NJ Certificate of Authorization Number 24GA28010900

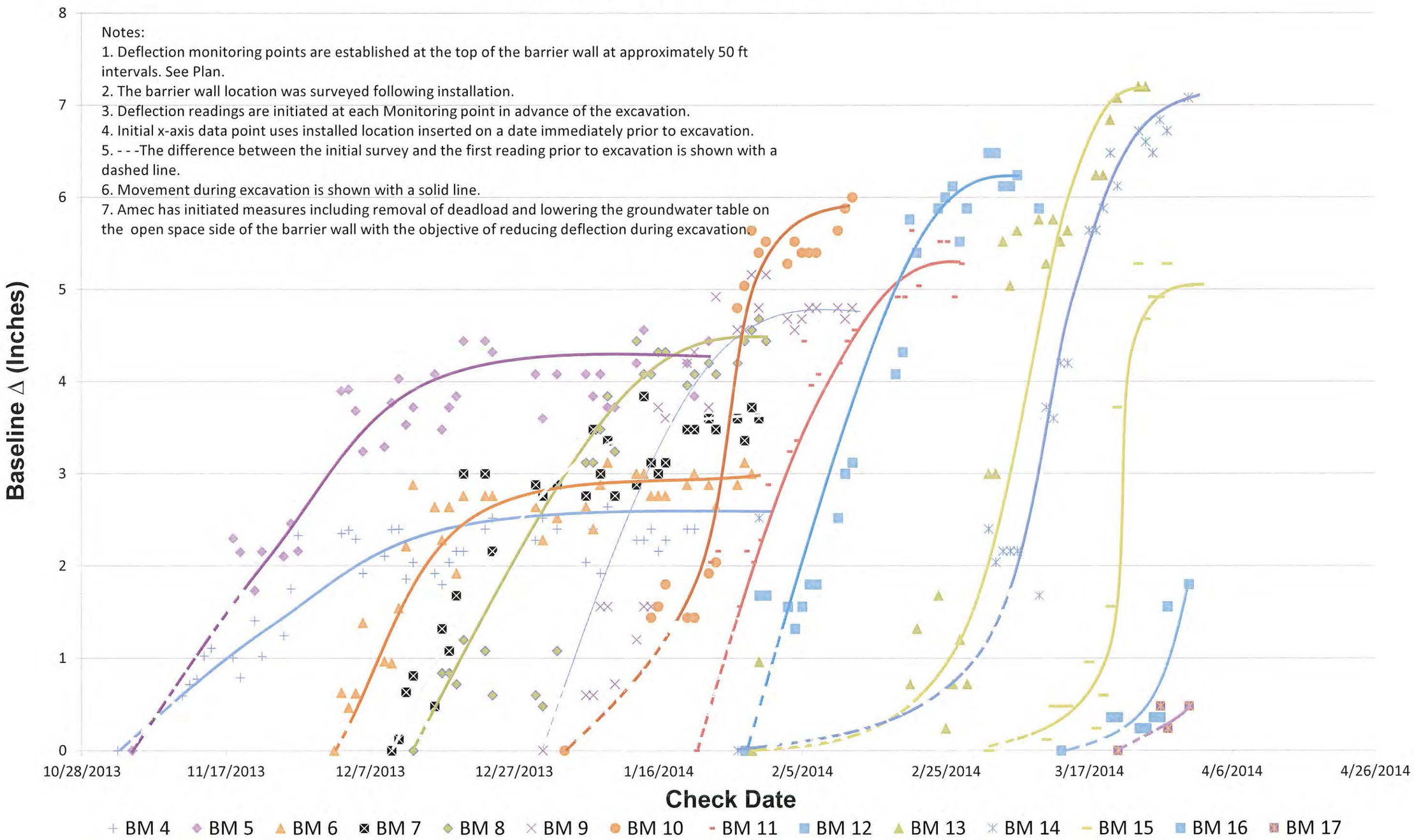
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

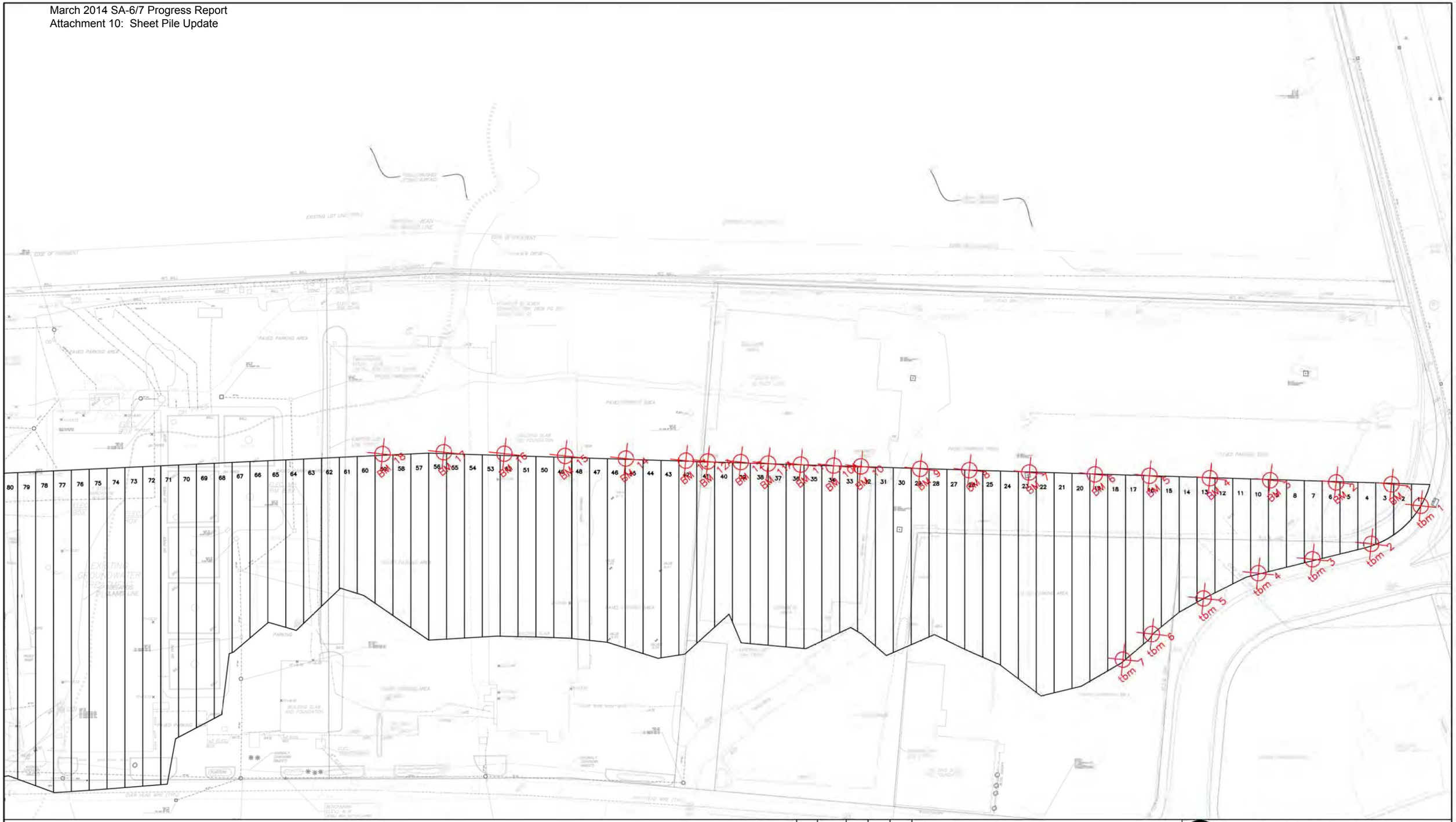
DATE	
PROJ	3480-12-0317
DWG	SN-203
SHEET	56 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR56-SN-203 HBW Design Pln Prof.dwg PLOT DATE: Fri, 18 Oct 2013 PLOT TIME: 10:37 AM

Sheet Deflection Along Open Excavation





NOTES:

- Survey data collected with Trimble SPS882 and TSC2 Data Collector.
- Horizontal accuracy of 0.026 ft.
- Deflection measured at the top of the sheet.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SHEET MONITORING LOCATIONS 03-12-14

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-6

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-7

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-8

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-9

Date Exposed:

Describe Damage:

AE

~~Damage by bucket during excavation~~

Damaged by dozer during backfill

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SPI-10

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SPI-11

Date Exposed:

Describe Damage:

AE

~~Damage by bucket during excavation~~

Damaged by dozer during backfill

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SPI-12

Date Exposed:

Describe Damage:

AE

~~Damage by bucket during excavation~~

Damaged by dozer during backfill

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SPI-13

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SPI-14

Date Exposed:

Describe Damage:

~~Damage by bucket during excavation~~ AE

Damaged by dozer during backfill

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: ~~[illegible]~~ AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SPI-15

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SPI-16

Date Exposed:

Describe Damage:

~~Damage by bucket during excavation~~ AE

Damaged by dozer during backfill

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SPI-17

Date Exposed:

Describe Damage:

~~Damage by bucket during excavation~~ AE

Damaged by dozer during backfill

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SPI-18

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SPI-19

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SPI-20

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SPI-21

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-22

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-23

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-24

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-25

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-26

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-27

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-28

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-29

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-30

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-31

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-32

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-33

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-34

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-37

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-38

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-41

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SPI-42

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SPI-43

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SPI-44

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 6PI-1

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 6P1-2

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 6P1-3

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 6P1-5

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 6P1-6

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 6P1-7

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 6P1-8

Date Exposed:

Describe Damage:

Damage by bucked during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 6P1-9

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 6P1-10

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 6P1-11

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 6P1-12

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 6P1-13

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 6P1-14

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 6P1-15

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 6P1-16

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 6P1-17

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 6P1-18

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: MS

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: 3/25/14

Date:

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 6P1-19

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: MS

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 6P1-20

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: MS

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 6P1-21

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: MS

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 6P1-22

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: MS

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 7P1-1

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 7P1-2

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 7P1-3

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 7P1-4

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, repair

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 7PI-5

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 7PI-6

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 7PI-7

Date Exposed:

Describe Damage:

Damaged by bucket during excavation.

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 7PI-8

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 7P1-9

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 7P1-10

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 7P1-11

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 7P1-12

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 7P1-13

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8-P1-1

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-2

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-3

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: BP1-4

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: MM

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: BP1-5

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: MM

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: BP1-6

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: MM

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: BP1-7

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: MM

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-8

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-9

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-10

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-11

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-12

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-13

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-14

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-15

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-16

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-17

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-18

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-19

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-20

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-21

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-22

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-23

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-24

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-25

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-26

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: March 5, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		2
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		3
Storm Drain Protection			X	
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		4
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			

NOTE: All comments are numbered for reference and included on the comment section below.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 03/05/14

SWPPP Observer: (G. Pfeiffer)
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Wednesday, March 05, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Entact- The Western Exclusion Zone fencing on the former Old Dominion property requires maintenance, particularly the western face.
2	IA2Q4A1AL8, EHWG3RTMXR	Entact- The silt fence to the north of the CWTP requires maintenance- *Repeat*. ENR- The silt fence at SW corner of SA-6 North requires maintenance/re-installation.
3	IA2Q4A1AL8	Entact- Warning fencing along southern perimeter of the former MUA settlement tank requires maintenance.
4	IA2Q4A1AL8	Entact- The silt fence surrounding the former SES stockpile area requires maintenance/re-installation at locations on all four sides.
5		
6		
7		

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature Date: 03/05/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Entact- Tighten fencing, re-install along the western perimeter	3-10-14 RAD
2	Entact- *Repeat Item.* Confirm proper installation buried fabric toe. ENR- Repair or replace. Confirm that fabric is toed-in.	3-11-14 RAD
3	Entact- Orange construction fencing along the SA-6 North haul road is sagging/down. Re-install.	3-10-14 RAD
4	Entact- Repair or replace silt fencing, confirming proper toed-in installation.	3-11-14 RAD

Construction Manager: _____ Date: 03/12/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: March 12, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		1
Stockpile Tarping/Containment		X		2
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		3
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		4
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		5
Storm Drain Protection			X	
Ponded Storm Water	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			

NOTE: All comments are numbered for reference and included on the comment section below.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 03/13/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Wednesday, March 12, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	A lubricant drums which is currently in use is not on a spill pallet or other form of secondary containment.
2	IA2Q4A1AL8	The containment measures surrounding the western non-haz material staging area require maintenance.
3	IA2Q4A1AL8	Ponded storm water should be pumped, treated and discharged to PVSC.
4	EHWG3RTMXR	**Repeat Item:** Silt fence at the southwestern corner of Study Area 6 North requires maintenance/repair.
5	IA2Q4A1AL8	Fencing along the western perimeter of the former sedimentation basin must be modified/enhanced to mitigate a fall hazard of greater than 6 feet.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: G. Pfeiffer **Date:** 03/13/14
Signature

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	All product drums are to be protected by some form of secondary containment.	3-13-14 RAD
2	The fabric and liner has become detached from the bin blocks on the northern perimeter of the non-haz staging area.	3-13-14 RAD
3	The fabric and liner has become detached from the bin blocks on the northern perimeter of the non-haz staging area.	3-14-14 RAD
4	Surface water from the melting snow and ice has ponded on the former Teal property. Remove the ponded water from both sides of the sheet pile hydraulic barrier.	3-14-14 RAD
5	Fencing along the western perimeter of the sed basin does not hinder access to a fall hazard of greater than 6 feet. Reposition the existing or install additional fencing.	3-14-14 RAD

Construction Manager: **Date:** 03/17/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: March 19, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		2
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		4
Ponded Storm Water	X			

NOTE: All comments are numbered for reference and included on the comment section below.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 03/19/14

SWPPP Observer: (G. Pfeiffer)
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Wednesday, March 19, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	**Repeat Item:** Ponded storm water on the former Degen Oil property requires pumping to the Construction Water Treatment Plant.
2	EHWG3RTMXR	**Repeat Item:** Silt fence at the southwestern corner of Study Area 6 North requires maintenance/repair EN R
3	IA2Q4A1AL8	Silt fence surrounding the sediment remedy stockpile area on SA-7 requires repair.
4	IA2Q4A1AL8	Filter baskets in two storm water catch basins on the eastern SA-7 perimeter haul road require replacement.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature **Date:** 03/19/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	**REPEAT ITEM** Surface water from storm events has ponded on the former Teal property. Remove the ponded water.	3-24-14 RAD
2	REPEAT ITEM ~~The silt fence along a section of the Hackensack riverfront requires repair.~~	EN R
3	The silt fence surrounding the sed. remedy stockpile area has sustained wind damage.	3-24-14 RAD
4	Filter fabric in two catch basins on the eastern raceway is blinded. Replace.	3-24-14 RAD

Construction Manager: _____ **Date:** 03/25/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: March 26, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☑ Other Wind
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		1
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		2
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and intact		X		4
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		5
Storm Drain Protection	X			
Ponded Storm Water	X			

NOTE: All comments are numbered for reference and included on the comment section below.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 03/27/14

SWPPP Observer: (G. Pfeiffer)
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Wednesday, March 26, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	**Entact-** Material spilled over containment on southern edge of non-haz stockpile area.
2	IA2Q4A1AL8	**Entact-** Ponded water on haul road at northwest corner of haz containment area.
3	EHWG3RTMXR	**ENRC- Repeat** Silt fence in southwest corner of Study Area 6 North requires maintenance.
4	IA2Q4A1AL8	**Entact-** Silt fence surrounding the sediment remedy stockpile area requires maintenance. Blown down in today's high winds.
5	IA2Q4A1AL8	**Entact-** Windscreen on the perimeter fence bordering the JCIA property requires maintenance/repair.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature **Date:** 03/27/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Material to be shoveled back into containment area. Edges of stockpiles should not extend more than 1/2 way up the containment structures.	3-28-14 RAD
2	Stone should be placed in the areas where ponded water occurs.	3-28-14 RAD
3	~~Repeat Item- Repair and maintain silt fence until such time as the disturbed soil in the area is stabilized.~~	ENR
4	Silt fence to be maintained until the permit is closed out. Stock piles being removed	3-31-14 RAD
5	Re-secure the windscreen material to the perimeter fence.	3-28-14 RAD

Construction Manager: _____ **Date:** 04/01/14

Attachment 12: 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (February 2014)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

March 18, 2014

Mr. Brian Salvo
Department of Environmental Protection
Division of Water Quality
Bureau of Permit Management
P.O. Box 029
Trenton, NJ 08625-0029

RE: NJPDES Permit NJ0156311: February 2014 Surface Water Discharge Monitoring Report
Study Area 7, Jersey City, NJ

Dear Mr. Salvo:

In accordance with the Honeywell International NJPDES Permit NJ0156311, enclosed please find the February 2014 Surface Water Discharge Monitoring Report for Outfall 001A. This is the last DMR for Permit NJ0156311.

Please be advised that the Groundwater Treatment Plant's last day of discharge was February 28, 2014. The Plant is currently being demolished. A new Groundwater Treatment Plant has been built and is treating groundwater for discharge to the Passaic Valley Sewerage Commission treatment plant.

Please contact me at 973-455-2989 should you have any questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Program Manager
Fahy Associates
c/o Honeywell International

Enc.

cc: Scott Serino - GWTT
Frank Schroyer - Parsons
Angle Trujillo, Operator, Evoqua

PI 234822

New Jersey Department of Environmental Protection
Division of Water Quality

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD							MONITORED LOCATION:
	Month	Day	Year		Month	Day	Year	
NJG0156311	2	1	2014	To	2	28	2014	001A - Remediated Groundwater

PERMITTEE:
HONEYWELL INTERNATIONAL INC
101 COLUMBIA RD
MORRISTOWN, NJ 07962

LOCATION OF ACTIVITY:
HONEYWELL STUDY AREA 7
441 RT 440 S
JERSEY CITY, NJ 07305

REPORT RECIPIENT:
Honeywell International Inc
ATT: HELEN FAHY
101 COLUMBIA ROAD
MORRISTOWN, NJ 07962

REGION / COUNTY: Northern / Hudson County

CHECK IF APPLICABLE: ☐ **No Discharge this Monitoring Period** ☒ **Monitoring Report Comments Attached**

WHO MUST SIGN The highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility shall sign the certification or, in his absence a person designated by that person. For a local agency, the highest ranking operator of the treatment works shall sign the certification. Where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that reponsibility or person designated by that person shall also sign the second certification at the bottom of this page. If the local agency has contracted with another entity to operate the treatment works, the highest-ranking official of the contracted entity shall sign the certification.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and/or imprisonment, pursuant to N.J.A.C. 7:14A-6.9(B). The New Jersey Water Pollution Control Act provides for penalties up to $50,000 per violation.

John J Morris, Remediation Director — —
NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR **GRADE AND REGISTRY NUMBER (IF APPLICABLE)**

John J Morris 3/14/2014 973.455.4003
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR **DATE** **AREA CODE/PHONE NUMBER**

**For a local agency where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall sign the following certification:*

I certify under penalty of law and in accordance with N.J.S.A. 58:10A-6F(5) that I have received and reviewed the attached discharge monitoring reports.

John J Morris, Remediation Director John J Morris 3/14/2014 973.455.4003
NAME AND TITLE **SIGNATURE** **DATE** **AREA CODE/PHONE NUMBER**

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	2/1/2014 TO 2/28/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant 50050 1 Effluent Gross Value	SAMPLE MEASUREMENT	44,372	106,632	GPD	******	******	******	******	0	Continuous	Meter
	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX		******	******	******			1/Month	METER
	QL	******	******		******	******	******				
pH 00400 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	7.76	******	7.76	SU	0	1/Month	Grab
	PERMIT REQUIREMENT	******	******		6.0 01MOMN	******	9.0 01MOMX			1/Month	GRAB
	QL	******	******		******	******	******				
LC50 Statre 96hr Acu Mysid Bahia TAN3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	CODE N *	******	******	%EFFL	0	1/Year	Compos
	PERMIT REQUIREMENT	******	******		50 01RPMN	******	******			1/Year	COMPOS
	RQL	******	******		******	******	******				
IC25 Statre 7day Chr Mysid Bahia TBP3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	CODE N *	******	******	%EFFL	0	1/Year	Compos
	PERMIT REQUIREMENT	******	******		REPORT 01RPMN	******	******			1/Year	COMPOS
	QL	******	******		******	******	******				
Petroleum Hydrocarbons 00551 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	ND, <5.0	ND, <5.0	MG/L	0	1/Month	GRAB
	PERMIT REQUIREMENT	******	******		******	10 01MOAV	15 01RPINMX			1/Month	GRAB
	QL	******	******		******	******	******				
Carbon, Tot Organic (TOC) 00680 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	4.7	4.7	MG/L	0	1/Month	GRAB
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	20 01WKAV			1/Month	GRAB
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

* See attached letters

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	2/1/2014 TO 2/28/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Chromium Trivalent (as Cr) Total Recov. *PS06 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	CODE N	CODE N	UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX			1/Quarter	COMP24
	QL	******	******		******	******	******				
Cyanide, Total (as CN) 00720 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	CODE N	CODE N	UG/L	0	1/Quarter	Grab
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	40	40				
Nickel, Total Recoverable 01074 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	CODE N	CODE N	UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.3 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Zinc, Total Recoverable 01094 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	CODE N	CODE N	UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	30	30				
Lead, Total Recoverable 01114 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	CODE N	CODE N	UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	79 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Chromium, Total Recoverable 01118 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	31.0	31.0	UG/L	0	1/Month	Comp 24
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX			1/Month	COMP24
	RQL	******	******		******	10	10				

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Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	2/1/2014 TO 2/28/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Copper, Total Recoverable 01119 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Chromium, Hexavalent Dissolved (as Cr) 01220 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX			1/Quarter	COMP24
	QL	******	******		******	******	******				
Mercury Total Recoverable 71901 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	0.025 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	1	1				
Carbon Tetrachloride 32102 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L	0	1/Quarter	Grab
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.8 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	6	6				
Chloroform 32106 2 Effluent Net Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L	0	1/Quarter	Grab
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	46 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	5	5				
Trichloroethylene 39180 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L	0	1/Quarter	Grab
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	54 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	5	5				

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Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	2/1/2014 TO 2/28/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Lab Certification #	SAMPLE MEASUREMENT	12028	03547	-	-	-	-	-	-	-	-
99999 99 Lab	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #	-	REPORT Lab #	REPORT Lab #	REPORT Lab #			Not Applic	NOT AP
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Graham, Stephanie

From: Fahy, Helen
Sent: Monday, March 10, 2014 6:32 PM
To: Graham, Stephanie
Subject: SA7; WWTP Bioassay Lab Failure

Stephanie,
We need to add this e-mail to the February DMR, please.
Thank you,

Helen Fahy
Fahy Associates
Remediation Manager
c/o Honeywell
101 Columbia Rd
Morristown, NJ 07962
Tel: 973-455-2989
Cell: 814-571-4912
<mailto:helen.fahy@honeywell.com>

From: Schroyer, Franklin [mailto:Franklin.Schroyer@parsons.com]
Sent: Tuesday, February 11, 2014 1:45 PM
To: Fahy, Helen
Cc: Bills, Stuart B; Kessler, Timothy; Mojka, John
Subject: SA7; WWTP Bioassay Lab Failure

Helen,

I was informed about noon today by QC Laboratories' manager Robert Martino that their Southampton, PA lab was without power and phone for several days last week due to extreme storm conditions. Consequently they lost all bioassays then in progress, including ours.

We will be getting an official notification of the failure from QC in the next several days.

Regards,
Frank
(973) 722-5240

QC LABORATORIES

February 10th, 2014

Dear Valued Customer,

QC Laboratories was without power for approximately between February 4th and 6th due to the ice storm that took out power lines feeding our laboratory.

Although generators were employed we were unable to maintain the required test condition specified in EPA and state regulations. It was decided to invalidate all studies running that week. Although a costly decision, it was the only one we could make that would ensure that no client would be negatively impacted.

All studies affected have been or are in the process of being rescheduled. It was been a tough winter and we certainly appreciate your patience in this matter.

Regards,
Robert Martino
Director, Aquatic Toxicology and Sciences

1205 Industrial Blvd., P.O. Box 514, Southampton, PA 18966-0514 · Toll Free: 800-289-8378 · Phone: 215-355-3900 · Fax: 215-355-7231 · www.qclaboratories.com

Honeywell Flume Flow Daily Totals

Year:	2014
Month:	February

Day	Meter Reading	Flows (gpm)	Volume Treated (gpd)	Run Time (hr/day)
2/1/2014	345885178	168.06	90,754	9
2/2/2014	345975932	173.57	83,312	8
2/3/2014	346059244	162.58	87,792	9
2/4/2014	346147036	177.72	106,632	10
2/5/2014	346253668	171.58	82,360	8
2/6/2014	346336028	149.11	89,464	10
2/7/2014	346425492	171.06	82,110	8
2/8/2014	346507602	152.06	82,110	9
2/9/2014	346589712	153.03	73,452	8
2/10/2014	346663164	143.12	34,348	4
2/11/2014	346697512	119.47	21,504	3
2/12/2014	346719016	147.00	26,460	3
2/13/2014	346745476	118.53	21,336	3
2/14/2014	346766812	164.90	39,576	4
2/15/2014	346806388	89.58	16,124	3
2/16/2014	346822512	100.47	18,084	3
2/17/2014	346840596	85.98	15,476	3
2/18/2014	346856072	66.84	12,032	3
2/19/2014	346868104	109.96	19,792	3
2/20/2014	346887896	103.16	18,568	3
2/21/2014	346906464	106.43	57,472	9
2/22/2014	346963936	147.30	17,676	2
2/23/2014	346981612	132.73	23,892	3
2/24/2014	347005504	181.37	43,528	4
2/25/2014	347049032	123.70	29,688	4
2/26/2014	347078720	104.98	18,896	3
2/27/2014	347097616	166.58	19,216	3
2/28/2014	347127600	59.82	10,768	3
Totals	1242422			145
Average		133.95	44,372	
Maximum			106,632	

Arecon Ltd (NJ Lab Cert. # 03547)
90 US Highway Route 130
Bordentown, NJ 08505
(609)-298-0770, Fax: (609-)291-8386

Chain Of Custody / Analysis Request

COC #:
Lab Use Only
Lab Proj #
Lab ID 03547
PAGE 1 of 1
Job No.

Privileged & Confidential: Y
PWS ID #:
Site Name: Honeywell
Location of Site: GWTP
Sampler:
PO #:
Analysis Turnaround Time:
Standard -
Rush Charges Authorized for -
2 weeks -
1 week -
Next Day -

Client Contact: (name, co., address)
Helen Fahy
101 Columbia Road
Morristown, NJ 07961
Helen.Fahy@honeywell.com

Hardcopy Report to: Helen Fahy
Invoice to: Helen Fahy

	Sample Identification: Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Grab/Composite	Field Filtered Sample?	Preservative															Lab Sample Numbers
													0	0	0	0	0											
														pH														
											Units		mg/kg	-														
1	WTP			EFFLUENT	2/11/14	0736	GRAB	WATER	pH					X														
2																												
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												

pH @ 7.76 @ 14.9°C

Relinquished by	Arecon	Company		Received by	Company		Condition		Custody Seals Intact
		Date/Time	2/11/14 0730		Date/Time		Cooler Temp.		
Relinquished by		Company		Received by	Company		Condition		Custody Seals Intact
		Date/Time			Date/Time		Cooler Temp.		

Preservatives: 0 = None; 1 = HCL; 2 = HNO3; 3 = H2SO4; 4 = NaOH; 5 = Zn. Acetate; 6 = MeOH; 7 = NaHSO4; 8 = Other (specify):

SA-6 AND SA-7 COMBINED PROGRESS REPORT

MAY 14, 2014

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

May 14, 2014 *Via Express Mail*

Honorable Robert G. Torricelli
Office of the Special Master
41 W. State St., Suite 2F
Trenton, NJ 08608

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2014-04

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from April 1 – April 30, 2014.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: April 2014 SA-6/7 Combined Monthly Progress Report No. 2014-04

cc: Joe Clifford - AMEC (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP

Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2014-04

Project SA-6 & 7 Remediation

April 2014

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
04/09/14	Integrated Annual Groundwater Performance Report for 2013 Study Areas 5, 6, and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
04/14/14	Deflection of Barrier Wall Study Area 6 South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
04/15/14	NJPDES Permit NJ0156311: March 2014 Surface Water Discharge Monitoring Report Study Area 7, Jersey City, NJ *(see **Attachment 12**)*	New Jersey Department of Environmental Protection Division of Water Quality
04/15/14	NJDEP Division of Water Quality New Jersey Pollutant Request for Permit Revocation Study Area 7, Jersey City, NJ *(see **Attachment 12**)*	New Jersey Department of Environmental Protection
04/15/14	Discharge of Tannin Construction Water Customer ID# 31630005-1 Study Area 7, Jersey City, NJ	Andy Caltagirone PVSC
04/15/14	Bayfront Redevelopment at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 31630016 *(see **Attachment 12**)*	Andy Caltagirone PVSC
04/16/14	Combined Monthly Progress Report No. 2014-03 Study Areas 6 and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
04/17/14	Response to Comments Provided by Plaintiffs, April 11, 2004 - Excavation of Cells 44 Through 52 Study Area 6 South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
04/22/14	Special Master All Hands Meeting	N/A
04/23/14	Response to Comments Provided by Plaintiffs, April 17, 2014 - Design Change Bulletin (DCB) – Trench Layout for Contingent Groundwater Extraction System Study Area 6 (SA-6) North and South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
04/24/14	Response to Comments Provided by Plaintiffs, March 13, 2014 - Revised In-Situ Work Plan for Treatment Area 10 Study Area 6 North, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
04/24/14	Response to Comments Provided by Plaintiffs, April 11, 2004 - Standard Operating Procedure for Confirmation of Excavation Limits	Honorable Robert G. Torricelli Office of the Special Master

Date	Submittal/Meeting	Recipient
	Study Area 6 South, Jersey City, NJ	
04/29/14	Response to Comments Provided by Dr. Ben Ross April 8, 2014 - Revised Integrated Groundwater Sampling and Analysis Plan Study Areas 5, 6, and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
04/30/14	Recommendations Regarding Bedrock Monitoring Wells 90-MW-18BR and KP-MW-6BR Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
04/30/14	Response to Comments Provided by Plaintiffs, April 17, 2014 - Design Change Bulletin (DCB) – Surcharge Plan Design Change Study Area 6 North and South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	04/06/014	04/13/2014	04/20/2014	04/27/2014
Construction Management (AMEC)	9	10	10	9
Engineering (AMEC)	2	2	2	2
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	42	40	35	40
Arecon/US Ecology Subcontractors	1	1	1	1
OSC (-80 Kellogg Demolition	0	0	4	5
ENR (SA-6N GWTP Utilities)	0	0	0	0
BCA (SA-6N Building Construction)	0	0	0	0
Siemens	1	1	1	1
HBS (SA-6N GWTP Security System)	1	0	0	0
HPS (SA-6N GWTP Process Controls)	0	0	0	0
Other	0	0	0	0
TOTAL	**60**	**58**	**57**	**62**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Conducted quarterly LTMP groundwater level measurement round.

- Conducted S-3 Injection/Mass Removal Event No.13 in well 088-IW-03.
- Continued new Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6S and SA-6N.
- Completed installation of the temporary SA-6 North Surcharge area dewatering system.
- Continued well abandonment activities in accordance with approved Monitoring Well Abandonment Plan.
- Continued former 80 Kellogg St GWTP and truck wash demolition activities.
- Collected April PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Based upon a final inspection the Hudson, Essex and Passaic Soil Conservation District issued a Report of Compliance on 4/21/2014 for the SA-7 Sediment Remediation Project.
- Non-chromium activities, ARCADIS continues to work with NJDEP on the modification to the existing NJDEP-Discharge to Groundwater Permit by Rule for additional Enhanced Anaerobic in-situ bioremediation (EAISB) injections planned for JCMUA and JCDPW UST Areas.

C. SA-6 N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received fully compliant monthly lab results for the GWTP effluent PVSC sampling conducted on March 28, 2014.
- Changed out sludge box from the ground water treatment plant.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	04/06/2014	04/13/2014	04/20/2014	04/27/2014
Avg. Gallons Treated & Discharged (per day)	78,664	78,458	77,874	78,925
Average Flow (gpm) for Operating Period	55	54	54	55
Avg. Hours of Plant Operation	24	24	24	24
GWTP InfluentTanks (gal.)	11,520	12,240	11,400	9,293

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart, Weekly Excavation and Survey Data, Backfill Compaction Locations, and Field Density Test Summary Log)*

- Continued excavation activities in Cells 56 through 59 and Cells 152A through 135A and 146B through 142B
- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.

- Continued compaction testing associated with imported backfill. Adjusted the frequency of testing in accordance with specifications.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/ FCI	Roll-Off	TSDF	Stablex-Canada	WWTP Filter Cake	1	15.92	15.92
Entact/ Horowith	Tri-axle Dump	PA Transload	US Ecology	>1000 mg/kg Soils	195	21.69	4,250.24
Entact/ Montecalvo	30 cubic Yard Roll off	Bayshore Recycling	NA	Creosote Debris (non- haz)	2	11.58	23.17
Entact/Tilcon	Tri-axle Dump	Tilcon, Mt. Hope	NA	Asphalt	37	24	890.20
OSC	30yd Roll Off	375 RT 1-9 South Jersey	IWS	C&D	33	TBD	TBD
OSC	40yd Roll Off	Cinelli JC	Cinelli	Light Iron	21	TBD	TBD

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Under Excavation	Cell Number(s) 146B-142B, 137A-135A
Excavation Completed	Cell Number(s) 55 through 58, 152A-140A Volume Excavated - Total for Reporting Period: 9,607CY/ Total to Date:51,199 CY
Backfill in Progress	Cell Number(s) 1 through 58, 152A-140A

3. BACKFILL MATERIALS USED

Source	(Week Ending)			
	04/6/2014	04/13/2014	04/20/2014	04/27/2014
<20ppm re-use, CY	0	0	0	1,598
Weldon, Import-Tons	4,592.86	5,195.18	6645.69	2,082.82
Tilcon, Import-Tons	0	0	50.61	308.24

E. SURCHARGE OPERATIONS *(see **Attachment 9**)*

- Area 1S: Instrumentation Installation ~85% complete. Instrumentation installation scheduled for completion in May 2014. No Surcharge initiated.
- Area 2S: Instrumentation Installation ~75% complete. Completion of instrument installation deferred pending completion of 80 Kellogg demolition activities. No Surcharge initiated.

- Area 3S: Instrumentation Installation 100% complete as of November 6, 2013 and all baseline readings recorded. Temporary stockpiles in area. No Surcharge initiated.
- Area 1N: Instrumentation Installation ~100% complete. Placement of surcharge material initiated on April 8, 2014.
- Area 2N: No instrumentation installed. Initial surcharge instrument data to be submitted under separate cover.
- Area 3N: No activity in this area pending JCIA Demolition.
- Area 4N: No activity in this area pending JCIA Demolition.

F. SHEET PILE OPERATIONS *(see **Attachment 10**)*

- Two (2) pairs driven on the hydraulic barrier wall at Sta 25+65 on SA-6 South.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Continue placement of surcharge materials in SA-6N Area 1N.
- Continue dewatering of well points/sumps installed within the SA-6S open space area.
- Continue excavation activities in SA-6S Cells 135-120.

- Continue stockpiling of potential <20 mg/kg and >1,000 mg/kg hexavalent chromium soils for sampling.
- Continue loadout and transportation and disposal activities at SA-6S.
- Continue backfill placement and associated compaction testing activities at SA-6S.
- Continue dewatering and storm-water management activities.
- Continue surcharge monitoring instrument installation activities on SA-6N and SA-6S.
- Complete demolition activities associated with the former 80 Kellogg Ground Water Treatment Plant and Truck Wash Building.
- Continue SWPPP inspections.
- Complete PVSC compliance sampling.

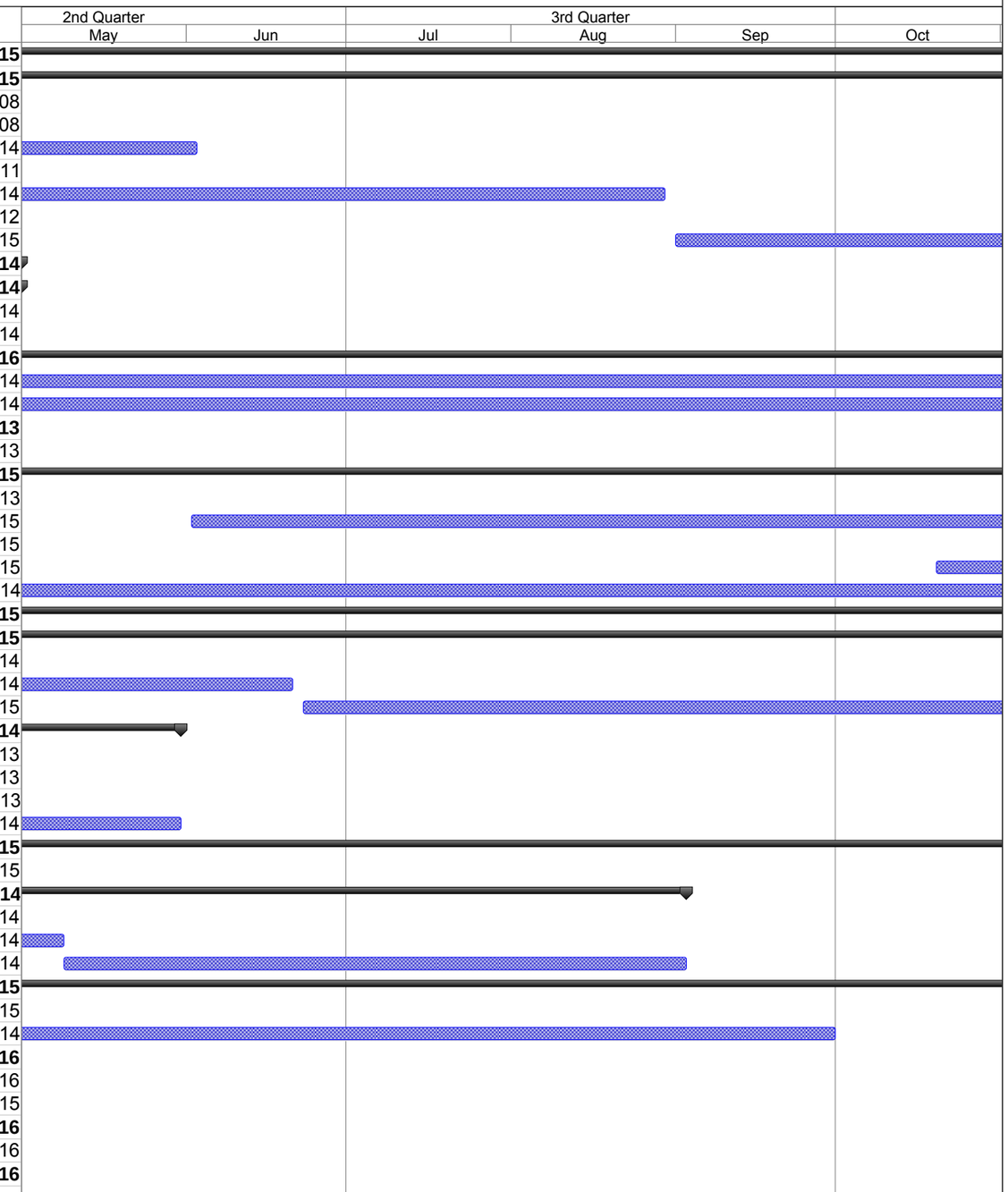
ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
   - Excavation Bottom Elevations
   - Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points
   - Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
   - Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)
4. Dewatering Operations Update
   - SA-6 South Dewatering Data (Headers)
   - SA-6 South Deep Well Data (DW-1)
   - SA-6 South Deep Well Data (DW-2)
   - SA-6 South Deep Well Data (DW-5)
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
   - Stockpiled Material Tracking and Sampling Log
7. Perimeter Pools Update
8. Groundwater Quality Data Surcharge Monitoring Update
   - Summary of Groundwater Quality Data from GWET Wells
   - Quarterly Water Wells
   - Trichloroethene//Chloroform/Hexavalent Chromium in GWET Wells
9. Surcharge Monitoring Update
   - Instrumentation Location Plan 1N
   - Instrumentation Location Plan 1S
10. Sheet Pile Update
    - Hydraulic Barrier Wall Plan & Profile
    - Sheet Deflection Along Open Excavation
    - Sheet Pile Repair Log
11. Weekly SWPPP Reports
12. GWTP Update
    - 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (March 2014)
    - Request to NJDEP re Permit NJG0156311 Permit Revocation
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (March 2014)

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**Fri 1/4/08**	**Mon 3/30/15**
18	**JCIA/JCDPW Relocation**	**1735 days**	**Mon 8/11/08**	**Mon 3/30/15**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08	Wed 10/1/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09	Mon 6/2/14
22	Relocation Contractor Procurement	392 days	Thu 4/15/10	Thu 10/13/11
23	JCIA and JCDPW Relocation	753 days	Mon 10/17/11	Fri 8/29/14
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11	Mon 4/30/12
24a	Demolition of JCIA Structures	151 days	Mon 9/1/14	Mon 3/30/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**	**Wed 4/30/14**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**	**Wed 4/30/14**
58	New GWTP Construction Completion	502 days	Mon 3/5/12	Thu 1/30/14
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11	Wed 4/30/14
60	**SA-6 North/South Field Implementation**	**838 days**	**Fri 3/1/13**	**Mon 5/16/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	Mon 6/17/13	Wed 12/31/14
60b	SA-6S (Site 163) In-Situ Treatment	294 days	Fri 11/15/13	Wed 12/31/14
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**	**Fri 6/28/13**
61a	Mobilization	87 days	Fri 3/1/13	Fri 6/28/13
62	**Surcharge Install/Instrumentation**	**620 days**	**Mon 6/17/13**	**Fri 10/30/15**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	Mon 6/17/13	Tue 12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	Mon 6/2/14	Fri 2/27/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Mon 3/2/15	Fri 10/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	Mon 10/20/14	Tue 6/30/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	Mon 3/3/14	Fri 11/28/14
63	**Barrier Wall Install**	**489 days**	**Mon 6/17/13**	**Thu 4/30/15**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**Mon 12/2/13**	**Thu 4/30/15**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	Mon 12/2/13	Fri 2/14/14
63c	SA-6N Stations 23+38 to 14+25	90 days	Mon 2/17/14	Fri 6/20/14
63d	SA-6N Stations 14+25 to 0+00	224 days	Mon 6/23/14	Thu 4/30/15
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**Mon 6/17/13**	**Fri 5/30/14**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	Mon 6/17/13	Thu 8/15/13
63h	SA-6S Stations 1+54 to 8+37	7 days	Fri 8/16/13	Mon 8/26/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	Thu 10/3/13	Fri 11/8/13
63j	SA-6S Stations 8+60 to 14+87	145 days	Mon 11/11/13	Fri 5/30/14
64	**Excavation**	**507 days**	**Tue 10/22/13**	**Wed 9/30/15**
64a	SA 6N Excavation	218 days	Mon 12/1/14	Wed 9/30/15
64b	**SA 6S Excavation**	**226 days**	**Tue 10/22/13**	**Tue 9/2/14**
64c	SA-6S Excavation of Cells 1 - 25	53 days	Tue 10/22/13	Thu 1/2/14
64d	SA-6S Excavation of Cells 26 - 60	90 days	Fri 1/3/14	Thu 5/8/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	Fri 5/9/14	Tue 9/2/14
65	**Backfill**	**493 days**	**Mon 11/11/13**	**Wed 9/30/15**
65a	SA 6N Backfill	218 days	Mon 12/1/14	Wed 9/30/15
65b	SA 6S Backfill	232 days	Mon 11/11/13	Tue 9/30/14
66	**Capping and Cover Soil Placement**	**315 days**	**Mon 12/1/14**	**Fri 2/12/16**
66a	SA 6N Capping and Cover Soil Placement	119 days	Tue 9/1/15	Fri 2/12/16
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14	Wed 12/30/15
67	**Restoration**	**164 days**	**Tue 9/1/15**	**Fri 4/15/16**
67a	Restoration	164 days	Tue 9/1/15	Fri 4/15/16
68	**Demobilization**	**21 days**	**Mon 4/18/16**	**Mon 5/16/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			



Project: SA-6 Remediation Schedule
Revision 3
Date: Mon 5/5/14

Task | Milestone | Summary | Critical

Attachment 2: Site Photographs

Site Photograph 1: Backfill is placed at the western end of the Kellogg St. excavation.

Site Photograph 2: Contractor breaks up concrete slab prior to excavation along Kellogg St.

Site Photograph 3: Contractor continues to backfill eastern area of excavation at Kellogg St.

Site Photograph 4: Contractor excavates against the temporary sheet pile along western portion of Kellogg St.

Site Photograph 5: Contractor loads soils for use as surcharge material on JC property.

Site Photograph 6: Contractor places surcharge soil over white geotextile fabric on JC property.

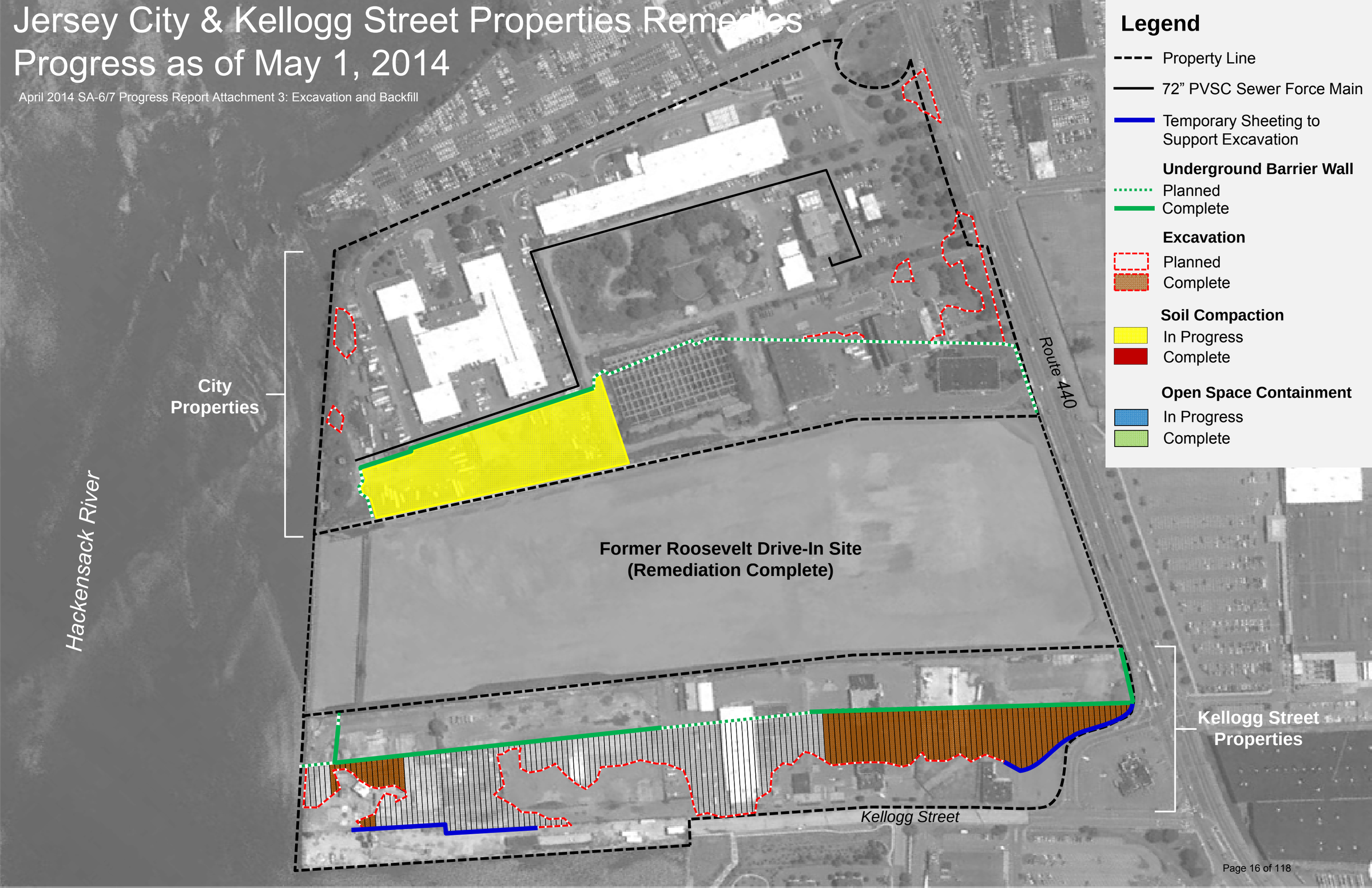
Site Photograph 7: Demolition of the 80 Kellogg building is started.

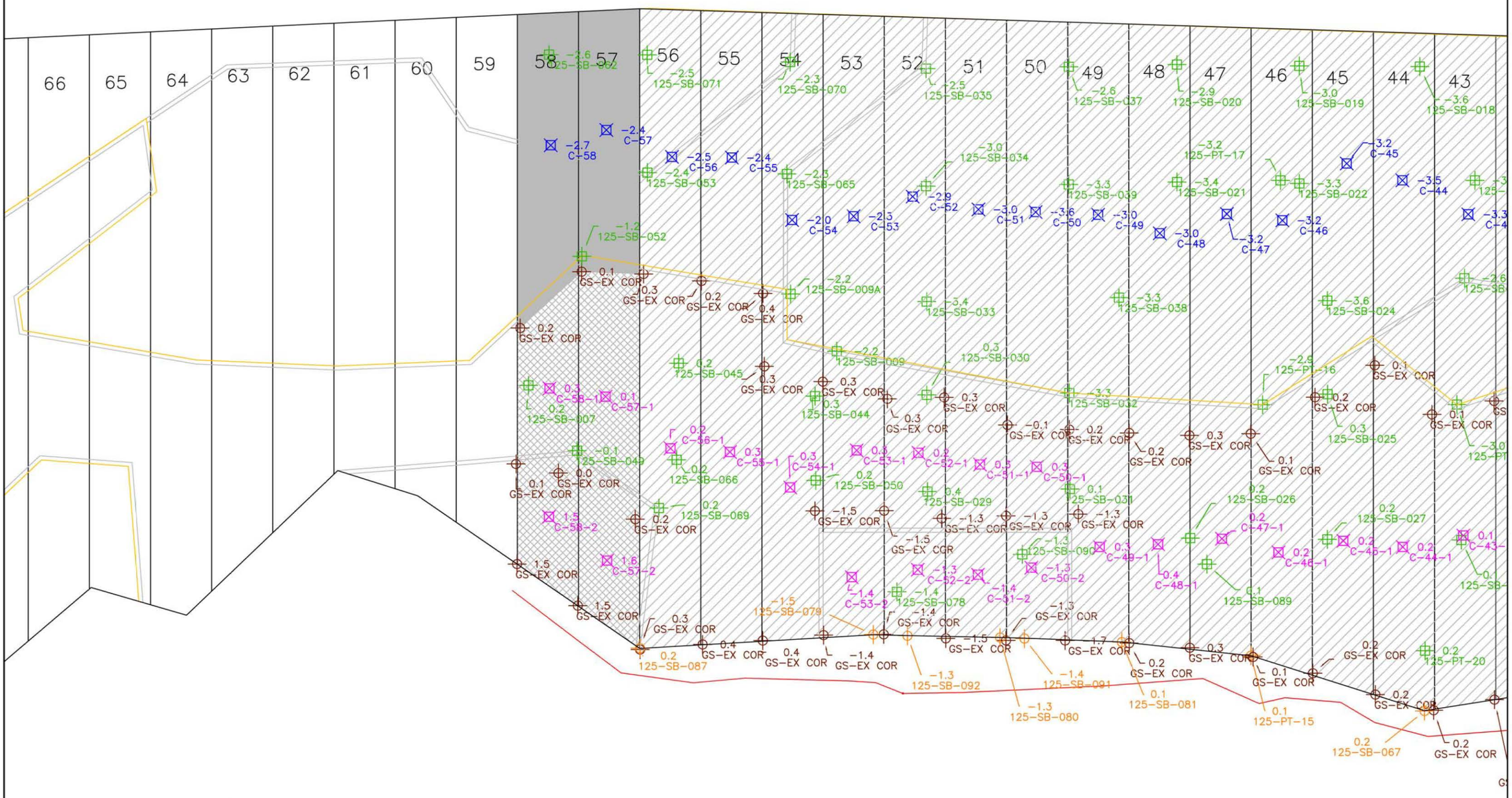
Attachment 3: Excavation and Backfill

- Progression Chart
- Excavation Bottom Elevations
- Maser Survey Tables (SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points)
- Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
- Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)

Jersey City & Kellogg Street Properties Remedies Progress as of May 1, 2014

April 2014 SA-6/7 Progress Report Attachment 3: Excavation and Backfill





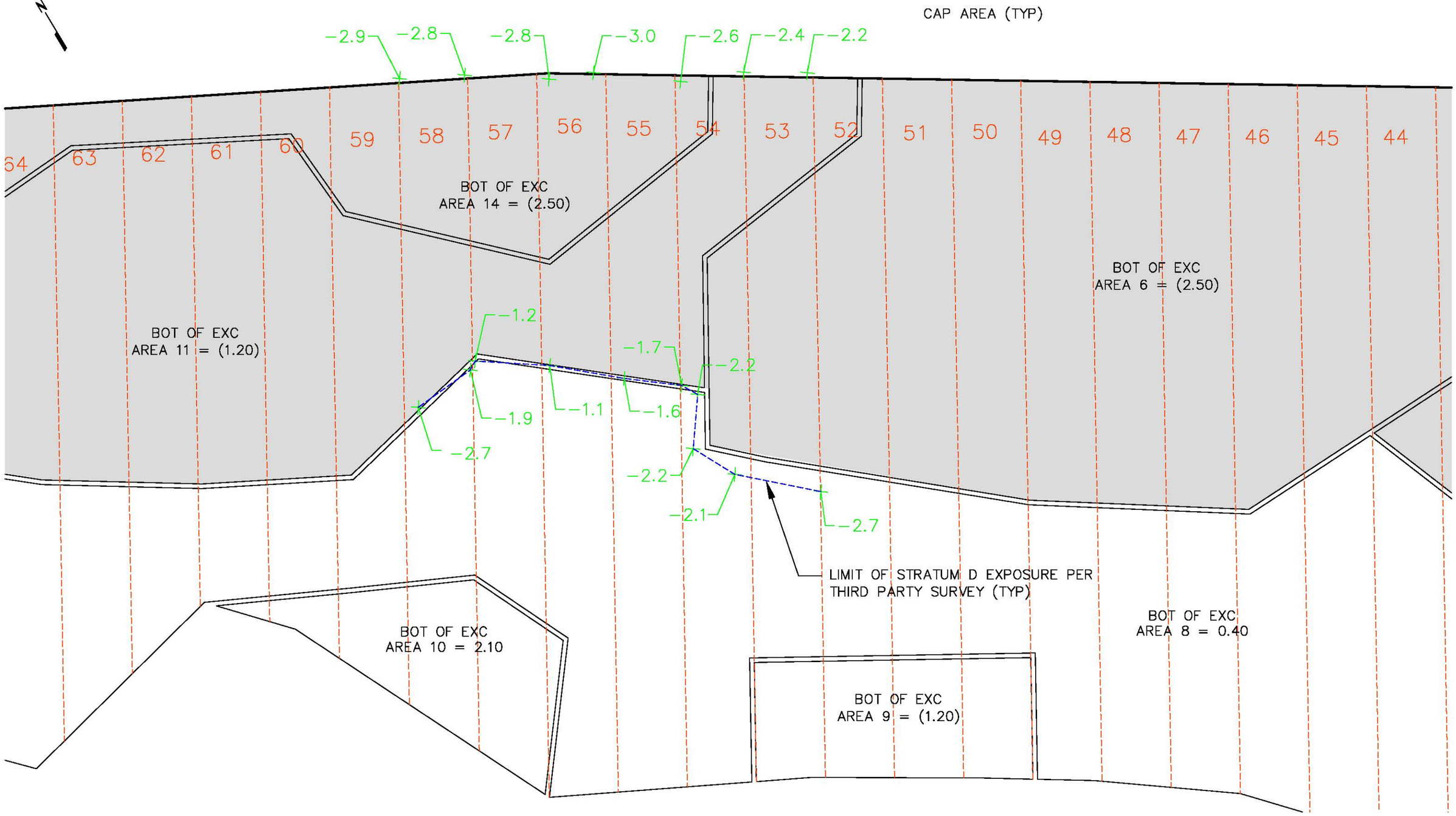
LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- BOTTOM CENTER POINT ELEVATION STRATUM D
- BOTTOM CENTER POINT ELEVATION <20 PPM
- BOTTOM CORNER POINT ELEVATION <20 PPM
- DESIGNED STRATUM O EXCAVATION LIMIT
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- CURRENT EXCAVATION TO <20 PPM
- TOP OF EXCAVATION SLOPE
- LIMIT OF EXCAVATION AREA

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: EXCAVATION BOTTOM ELEVATIONS PERIOD 04-07-14 TO 04-10-14

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



LIMIT OF ANTICIPATED STRATUM D EXPOSURE PER DESIGN (TYP)

-3.8 BOE ELEVATION AT EDGE OF STRATUM D PER THIRD PARTY SURVEY (TYP)

0 5 10 20
SCALE IN FEET

Prepared/Date: TDD 4/22/14
Checked/Date: SGS 4/22/14

Honeywell 101 COLUMBIA RD., BOX 2105 MORRISTOWN, NJ 07962	CHROMIUM REMEDY STUDY AREA 6 SOUTH JERSEY CITY, NEW JERSEY	amec	SA-6 SOUTH STRATUM D CELLS 53 THRU 58 FIGURE 1

MASER CONSULTING P.A.
Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

156 Stagecoach Road
Marmora, NJ 08223
T: 609.390.1927
F: 609.390.0040
www.maserconsulting.com

SA-6 South Excavation: Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684123.8	603224.1	-0.8	124-SB-043R	1	10/24/2013	-1.7*	Stratum D Reached
684134.6	603208.6	-0.8	124-SB-130	2	10/24/2013	-1.2	Stratum D Reached
684150.2	603204.3	-1.4	124-SB-037	3	10/31/2013	-0.8	Stratum D Reached
684138.4	603182.8	-0.8	124-SB-043R	4	10/31/2013	-0.5*	Stratum D Reached
684146.2	603165.7	-0.8	124-SB-043R	5	10/31/2013	-0.6*	Stratum D Reached
684145.4	603158.6	-0.8	124-SB-038	6	11/5/2013	-0.7	Stratum D Reached
684186.5	603160.3	-2.1	124-SB-036	7	11/5/2013	-0.8	Stratum D Reached
684142.9	603119.3	0.7	124-SB-079	7	11/7/2013	-0.7	Stratum D Reached
684156.2	603128.2	-1.8	124-SB-045	8	11/7/2013	-1.3	Stratum D Reached
684180.8	603117.2	-1.3	124-SB-033	9	11/7/2013	-1.3	Stratum D Reached
684208.6	603119.4	-4.5	124-SB-C04	10	11/14/2013	-1.4	Stratum D Reached
684204.6	603115.9	-1.6	124-SB-138	10	11/14/2013	-1.3	Stratum D Reached
684221.9	603112.3	-2.9	124-SB-067	11	11/14/2013	-1.3	Stratum D Reached
684191.5	603080.1	-3.1	124-SB-044	12	11/14/2013	-2.0	Stratum D Reached
684181.7	603072.3	-1.0	124-SB-078	12	11/14/2013	-0.2	Stratum D Reached
684217.2	603081.8	-2.0	124-SB-035	13	11/21/2013	-1.3	Stratum D Reached
684241.3	603065.1	-2.2	124-SB-122	14	11/21/2013	-1.3	Stratum D Reached
684196.6	603033.7	-2.2	124-SB-077	14	11/25/2013	-0.7	Stratum D Reached
684184.0	603001.0	-3.5	124-SB-013	15	12/5/2013	-0.8	Stratum D Reached
684258.4	603074.7	-2.6	124-SB-032	15	12/5/2013	-1.9	Stratum D Reached
684221.8	603013.0	-0.8	124-SB-043R	16	12/5/2013	-0.7*	Stratum D Reached
684262.7	603034.6	-1.7	124-SB-139	17	12/10/2013	-1.3	Stratum D Reached
684220.6	603006.7	0.8	124-SB-046	17	12/10/2013	-0.8	Stratum D Reached
684181.0	602955.9	1.7	124-SB-049	18	12/10/2013	-1.1	Stratum D Reached
684215.6	602967.4	0.4	124-SB-047	18	12/10/2013	-0.5	Stratum D Reached
684211.8	602961.2	-1.5	124-SB-125	19	12/10/2013	-0.6	Stratum D Reached
684304.7	603027.7	-2.5	124-SB-031	19	12/12/2013	-1.5	Stratum D Reached
684187.4	602932.2	2.4	124-SB-073R	19	12/12/2013	2.0*	Target Elevation Reached
684283.2	602988.7	-2.8	124-SB-068	20	12/12/2013	-1.7	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.1)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684257.2	602964.2	0.7	124-SB-071	20	12/12/2013	-1.2	Stratum D Reached
684256.4	602965.5	-0.8	124-SB-043	20	12/12/2013	-0.7	Stratum D Reached
684229.0	602947.0	-1.6	124-SB-012	20	12/12/2013	-1.5	Stratum D Reached
684217.9	602935.3	-1.8	124-SB-135	20	12/12/2013	-1.6	Stratum D Reached
684198.3	602920.8	2.4	124-SB-073R	20	12/12/2013	2.0*	Target Elevation Reached
684291.1	602978.2	-2.3	124-SB-134	21	12/19/2013	-2.1	Stratum D Reached
684200.8	602904.5	2.4	124-SB-073R	21	12/19/2013	1.9*	Target Elevation Reached
684204.7	602890.6	2.4	124-SB-073	22	1/9/2014	2.0	Target Elevation Reached
684218.2	602907.9	1.8	124-SB-054	22	1/9/2014	-0.1	Target Elevation Reached
684272.8	602944.8	-0.8	124-SB-043R	22	12/19/2013	-0.9*	Stratum D Reached
684258.9	602918.2	0.1	124-SB-053	23	12/19/2013	-0.8	Stratum D Reached
684338.0	602980.2	-2.9	124-SB-040	23	12/19/2013	-2.1	Stratum D Reached
684217.2	602879.5	2.4	124-SB-073R	23	12/19/2013	1.9*	Target Elevation Reached
684293.5	602922.8	-0.8	124-SB-043R	24	1/2/2014	-0.9*	Stratum D Reached
684227.9	602869.9	2.4	124-SB-073R	24	1/2/2014	2.1*	Target Elevation Reached
684338.6	602935.1	-3.4	124-SB-030	25	1/2/2014	-1.7	Stratum D Reached
684300.2	602911.6	0.3	124-SB-042	25	1/2/2014	-1.1	Stratum D Reached
684247.0	602862.1	1.6	124-SB-051R	25	1/2/2014	0.4*	Target Elevation Reached
684264.7	602869.3	0.0	124-SB-129	26	1/2/2014	-1.3	Stratum D Reached
684273.8	602864.2	1.6	124-SB-051R	26	1/16/2014	0.3*	Target Elevation Reached
684294.0	602874.0	1.4	124-SB-011	27	1/10/2014	-1.2	Stratum D Reached
684373.8	602937.7	-2.3	124-SB-133	27	1/10/2014	-2.4	Stratum D Reached
684285.9	602856.5	1.6	124-SB-051R	27	1/10/2014	0.4*	Target Elevation Reached
684296.4	602850.5	1.6	124-SB-051	28	1/16/2014	0.2	Target Elevation Reached
684308.9	602854.3	1.9	124-SB-127	28	1/16/2014	-1.7	Stratum D Reached
684398.5	602909.7	-2.7	124-SB-039	29	1/16/2014	-2.7	Stratum D Reached
684343.7	602873.5	-0.4	124-SB-069	29	1/16/2014	-1.7	Stratum D Reached
684305.4	602833.3	3.5	124-SB-021R	29	1/16/2014	2.1*	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.2)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684392.6	602878.7	-2.8	124-SB-123	30	1/23/2014	-2.4	Stratum D Reached
684311.9	602821.5	3.5	124-SB-021R	30	1/23/2014	1.9*	Target Elevation Reached
684381.0	602861.0	-2.3	124-SB-110	31	1/23/2014	-2.3	Stratum D Reached
684362.9	602837.4	3.2	124-SB-124	31	1/23/2014	-2.1	Stratum D Reached
684340.0	602818.0	3.2	124-SB-109	31	1/23/2014	-1.6	Stratum D Reached
684318.6	602806.8	3.5	124-SB-021R	31	1/23/2014	1.9*	Target Elevation Reached
684416.9	602861.1	-2.8	124-SB-029	32	1/30/2014	-2.5	Stratum D Reached
684335.2	602800.6	3.5	124-SB-021R	32	1/30/2014	2.0*	Target Elevation Reached
684411.9	602839.0	-2.2	124-SB-092	33	1/30/2014	-2.5	Stratum D Reached
684348.7	602791.2	3.5	124-SB-021R	33	1/30/2014	2.0*	Target Elevation Reached
684372.0	602797.0	2.6	124-PT-14	34	2/4/2014	-1.9	Stratum D Reached
684355.8	602781.0	3.5	124-SB-021R	34	2/4/2014	2.0	Target Elevation Reached
684458.4	602838.3	-2.3	124-SB-027	35	2/4/2014	-2.7	Stratum D Reached
684367.5	602768.5	3.5	124-SB-021R	35	2/4/2014	2.0	Target Elevation Reached
684440.8	602806.0	-2.8	124-SB-091	36	2/11/2014	-2.7	Stratum D Reached
684371.2	602753.4	3.5	124-SB-021R	36	2/11/2014	2.1*	Target Elevation Reached
684394.0	602777.3	4.7	124-SB-117A	36	2/11/2014	-1.6	Stratum D Reached
684473.9	602819.4	-2.8	124-SB-026	37	2/11/2014	-2.9	Stratum D Reached
684430.7	602784.0	-1.3	124-SB-023	37	2/11/2014	-3.6	Stratum D Reached
684412.9	602766.1	2.0	124-SB-121A	37	2/11/2014	-2.5	Stratum D Reached
684400.0	602762.0	-0.1	124-PT-04	37	2/11/2014	-2.2	Stratum D Reached
684380.7	602742.6	3.5	124-SB-021R	37	2/11/2014	2.1*	Target Elevation Reached
684463.2	602783.7	-2.3	124-SB-136	38	2/20/2014	-2.9	Stratum D Reached
684397.4	602736.2	3.5	124-SB-021R	38	2/20/2014	2.1	Target Elevation Reached
684448.4	602763.0	4.7	124-SB-022	39	2/20/2014	-2.7	Stratum D Reached
684412.3	602733.9	3.5	124-SB-021	39	2/20/2014	2.0	Target Elevation Reached
684505.3	602786.0	-2.8	124-SB-024	40	2/27/2014	-3.4	Stratum D Reached
684482.9	602770.8	-3.3	124-SB-025	40	2/27/2014	-3.0	Stratum D Reached
684430.0	602730.0	1.7	124-PT-03	40	2/27/2014	0.0	Target Elevation Reached
684468.5	602745.2	1.8	124-SB-066	40	2/27/2014	-2.2	Stratum D Reached
684491.3	602754.6	-2.3	124-SB-136R	41	2/27/2014	-2.9	Stratum D Reached
684432.9	602706.0	0.4	125-SB-029R	41	2/27/2014	0.1	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.3)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684524.5	602765.0	-3.5	125-SB-017	42	3/5/2014	-3.1	Stratum D Reached
684439.6	602692.4	0.4	125-SB-029R	42	3/5/2014	0.1	Target Elevation Reached
684513.0	602736.0	-4.3	125-PT-22	43	3/5/2014	-3.5	Stratum D Reached
684496.0	602718.9	-1.7	125-SB-086	43	3/5/2014	-2.6	Stratum D Reached
684473.0	602698.0	0.3	125-PT-21	43	3/17/2014	-3.0	Stratum D Reached
684446.6	602677.9	0.5	125-SB-028	43	3/5/2014	0.1	Target Elevation Reached
684543.1	602743.1	-3.9	125-SB-018	44	3/11/2014	-3.6	Stratum D Reached
684431.0	602654.0	0.7	125-PT-20	44	3/11/2014	0.2	Target Elevation Reached
684467.4	602652.6	1.0	125-SB-027	45	3/11/2014	0.2	Target Elevation Reached
684495.1	602674.9	0.4	125-SB-025	45	3/11/2014	0.3	Target Elevation Reached
684512.8	602689.3	0.3	125-SB-024	45	3/11/2014	-3.6	Stratum D Reached
684561.9	602720.2	-3.3	125-SB-019	46	3/17/2014	-3.0	Stratum D Reached
684543.0	602699.0	-4.7	125-PT-17	46	3/17/2014	-3.2	Stratum D Reached
684539.5	602702.1	-3.7	125-SB-022	46	3/17/2014	-3.3	Stratum D Reached
684503.0	602661.0	1.0	125-PT-16	46	3/17/2014	-2.9	Stratum D Reached
684472.4	602641.2	0.4	125-SB-029R	46	3/17/2014	0.2	Target Elevation Reached
684544.9	602683.5	-2.3	124-SB-136R	47	3/17/2014	-3.2	Stratum D Reached
684481.2	602625.7	1.7	125-SB-089	47	3/17/2014	0.1	Target Elevation Reached
684488.7	602626.5	1.3	125-SB-026	47	3/17/2014	0.2	Target Elevation Reached
684581.0	602697.1	-3.4	125-SB-020	48	3/20/2014	-2.9	Stratum D Reached
684558.6	602678.9	-4.0	125-SB-021	48	3/20/2014	-3.4	Stratum D Reached
684492.6	602619.5	0.4	125-SB-029R	48	3/20/2014	0.4	Target Elevation Reached
684545.6	602650.2	-3.3	125-SB-038	49	3/20/2014	-3.3	Stratum D Reached
684597.3	602676.1	-3.5	125-SB-037	49	3/25/2014	-2.6	Stratum D Reached
684574.9	602657.9	-3.4	125-SB-039	49	3/25/2014	-3.3	Stratum D Reached
684535.1	602625.9	0.6	125-SB-032	49	3/25/2014	-3.3	Stratum D Reached
684516.6	602611.2	1.1	125-SB-031	49	3/25/2014	0.1	Target Elevation Reached
684511.6	602592.1	-1.0	125-SB-090	50	3/25/2014	-1.3	Target Elevation Reached
684526.0	602608.3	0.4	125-SB-029R	50	3/25/2014	0.3	Target Elevation Reached
684574.8	602647.4	-2.3	124-SB-136R	50	3/25/2014	-3.6	Stratum D Reached
684514.6	602580.4	-1.0	125-SB-090R	51	3/28/2014	-1.4	Target Elevation Reached
684535.3	602597.8	0.4	125-SB-029R	51	3/28/2014	0.3	Target Elevation Reached
684584.1	602636.9	-2.3	124-SB-136R	51	3/28/2014	-3.0	Stratum D Reached
684619.0	602648.6	-1.5	125-SB-035	52	3/28/2014	-2.5	Stratum D Reached

684596.6	602630.5	-3.6	125-SB-034	52	3/28/2014	-3.0	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.4)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684574.5	602612.8	0.7	125-SB-033	52	3/28/2014	-3.4	Stratum D Reached
684556.8	602598.4	0.8	125-SB-030	52	3/28/2014	0.3	Target Elevation Reached
684538.3	602583.7	0.4	125-SB-029	52	3/28/2014	0.4	Target Elevation Reached
684523.8	602562.3	-0.9	125-SB-078	52	3/28/2014	-1.4	Target Elevation Reached
684579.0	602588.0	0.9	125-SB-009	53	4/1/2014	-2.2	Stratum D Reached
684557.0	602576.5	0.4	125-SB-029R	53	4/1/2014	0.3	Target Elevation Reached
684533.6	602556.0	-1.0	125-SB-090R	53	4/1/2014	-1.4	Target Elevation Reached
684620.4	602605.9	0.4	125-SB-065	54	4/1/2014	-2.3	Stratum D Reached
684641.2	602623.7	-2.1	125-SB-070	54	4/1/2014	-2.3	Stratum D Reached
684597.0	602588.0	-2.7	125-SB-009A	54	4/1/2014	-2.2	Stratum D Reached
684573.7	602577.0	0.7	125-SB-044	54	4/1/2014	0.3	Target Elevation Reached
684557.6	602564.1	1.2	125-SB-050	54	4/1/2014	0.2	Target Elevation Reached
684632.0	602597.9	-1.4	140-SB-083R	55	4/4/2014	-2.4	Stratum D Reached
684576.2	602552.1	0.4	125-SB-029R	55	4/4/2014	0.3	Target Elevation Reached
684664.6	602597.6	-3.3	125-SB-071	56	4/4/2014	-2.5	Stratum D Reached
684642.2	602579.5	0.2	125-SB-053	56	4/4/2014	-2.4	Stratum D Reached
684601.1	602556.0	3.1	125-SB-045	56	4/4/2014	0.2	Target Elevation Reached
684583.0	602540.8	0.6	125-SB-066	56	4/4/2014	0.2	Target Elevation Reached
684576.6	602529.9	2.1	125-SB-069	56	4/4/2014	0.2	Target Elevation Reached
684574.5	602511.9	2.1	125-SB-069R	57	4/9/2014	1.6	Target Elevation Reached
684606.0	602536.9	0.4	125-SB-029R	57	4/9/2014	0.1	Target Elevation Reached
684636.4	602554.1	-2.4	125-SB-052	57	4/9/2014	-1.2	Stratum D Reached
684591.8	602507.6	2.1	125-SB-069R	58	4/9/2014	1.5	Target Elevation Reached
684679.9	602578.9	-2.3	125-SB-062	58	4/9/2014	-2.6	Stratum D Reached
684620.0	602524.0	0.6	125-SB-007	58	4/9/2014	0.2	Target Elevation Reached
684600.1	602523.2	0.6	125-SB-049	58	4/9/2014	-0.1	Target Elevation Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area. Coordinates come from Center Points within that specific cell.

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

SA-6 South Excavation: Center Points (Table 2.0)

Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684123.8	603224.1	-1.2	C1	1	10/24/2013	-1.7	Stratum D Reached
684124.9	603209.0	-1.2	C2	2	10/31/2013	-0.9	Stratum D Reached
684132.1	603196.4	-1.2	C3	3	10/31/2013	-1.1	Stratum D Reached
684138.4	603182.8	-1.2	C4	4	10/31/2013	-0.5	Stratum D Reached
684146.2	603165.7	-1.2	C5	5	10/31/2013	-0.6	Stratum D Reached
684153.8	603153.9	-1.2	C6	6	11/5/2013	-0.6	Stratum D Reached
684163.6	603140.8	-1.2	C7	7	11/7/2013	-1.0	Stratum D Reached
684171.5	603131.4	-1.2	C8	8	11/7/2013	-1.1	Stratum D Reached
684179.9	603119.5	-1.2	C9	9	11/7/2013	-1.2	Stratum D Reached
684187.6	603106.3	-1.2	C10	10	11/14/2013	-1.4	Stratum D Reached
684195.7	603093.1	-1.2	C11	11	11/14/2013	-1.5	Stratum D Reached
684200.6	603078.4	-1.2	C12	12	11/14/2013	-1.8	Stratum D Reached
684206.7	603063.8	-1.2	C13	13	11/21/2013	-1.6	Stratum D Reached
684214.8	603050.6	-1.2	C14	14	11/21/2013	-1.7	Stratum D Reached
684222.7	603033.3	-1.2	C15	15	12/5/2013	-0.8	Stratum D Reached
684221.8	603013.0	-1.2	C16	16	12/5/2013	-0.7	Stratum D Reached
684234.5	603010.3	-1.2	C17	17	12/10/2013	-0.5	Stratum D Reached
684247.3	602999.0	-1.2	C18	18	12/10/2013	-0.5	Stratum D Reached
684238.6	602972.8	-1.2	C19	19	12/12/2013	-1.0	Stratum D Reached
684187.4	602932.2	2.1	C19-1	19	12/12/2013	2.0	Target Elevation Reached
684248.1	602961.0	-1.2	C20	20	12/12/2013	-1.7	Stratum D Reached
684198.3	602920.8	2.1	C20-1	20	12/12/2013	2.0	Target Elevation Reached
684267.7	602959.2	-1.2	C-21	21	12/19/2013	-0.9	Stratum D Reached
684200.8	602904.5	2.1	C-21-1	21	12/19/2013	1.9	Target Elevation Reached
684272.8	602944.8	-1.2	C-22	22	12/19/2013	-0.9	Stratum D Reached
684207.2	602890.0	2.1	C-22-1	22	1/9/2014	2.1	Target Elevation Reached
684281.0	602931.9	-1.2	C-23	23	12/19/2013	-0.9	Stratum D Reached
684217.2	602879.5	2.1	C-23-1	23	12/19/2013	1.9	Target Elevation Reached
684293.5	602922.8	-1.2	C-24	24	1/2/2014	-0.9	Stratum D Reached
684227.9	602869.9	2.1	C-24-1	24	1/2/2014	2.1	Target Elevation Reached
684302.0	602910.0	-1.2	C-25	25	1/2/2014	-1.1	Stratum D Reached
684247.0	602862.1	0.4	C-25-1	25	1/2/2014	0.4	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.1)

Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684325.2	602907.2	-1.2	C-26	26	1/10/2014	-1.5	Stratum D Reached
684273.8	602864.2	0.4	C-26-1	26	1/10/2014	0.3	Target Elevation Reached
684335.7	602896.8	-1.2	C-27	27	1/10/2014	-1.5	Stratum D Reached
684285.9	602856.5	0.4	C-27-1	27	1/10/2014	0.4	Target Elevation Reached
684347.4	602890.7	-1.2	C-28	28	1/16/2014	-1.8	Stratum D Reached
684295.1	602846.5	0.4	C-28-1	28	1/16/2014	0.3	Target Elevation Reached
684357.8	602876.2	-1.2	C-29	29	1/16/2014	-2.1	Stratum D Reached
684305.4	602833.3	2.1	C-29-1	29	1/16/2014	2.1	Target Elevation Reached
684373.5	602871.7	-2.5	C-30	30	1/23/2014	-2.1	Stratum D Reached
684311.9	602821.5	2.1	C-30-1	30	1/23/2014	1.9	Target Elevation Reached
684384.9	602861.2	-2.5	C-31	31	1/23/2014	-2.3	Stratum D Reached
684318.6	602806.8	2.1	C-31-1	31	1/23/2014	1.9	Target Elevation Reached
684383.8	602841.5	-2.5	C-32	32	1/30/2014	-1.8	Stratum D Reached
684335.2	602800.6	2.1	C-32-1	32	1/30/2014	2.0	Target Elevation Reached
684393.5	602830.6	-2.5	C-33	33	1/30/2014	-1.9	Stratum D Reached
684348.7	602791.2	2.1	C-33-1	33	1/30/2014	2.0	Target Elevation Reached
684412.7	602824.5	-2.5	C-34	34	2/4/2014	-2.1	Stratum D Reached
684355.8	602781.0	2.1	C-34-1	34	2/4/2014	2.0	Target Elevation Reached
684422.4	602815.2	-2.5	C-35	35	2/4/2014	-2.1	Stratum D Reached
684367.5	602768.5	2.1	C-35-1	35	2/4/2014	2.0	Target Elevation Reached
684432.1	602801.8	-2.5	C-36	36	2/11/2014	-2.4	Stratum D Reached
684371.2	602753.4	2.1	C-36-1	36	2/11/2014	2.1	Target Elevation Reached
684440.7	602791.6	-2.5	C-37	37	2/11/2014	-2.5	Stratum D Reached
684380.7	602742.6	2.1	C-37-1	37	2/11/2014	2.1	Target Elevation Reached
684460.4	602787.7	-2.5	C-38	38	2/20/2014	-2.8	Stratum D Reached
684397.4	602736.2	2.1	C-38-1	38	2/20/2014	2.1	Target Elevation Reached
684471.9	602777.2	-2.5	C-39	39	2/20/2014	-2.9	Stratum D Reached
684416.4	602732.1	2.1	C-39-1	39	2/20/2014	2.1	Target Elevation Reached
684481.8	602765.6	-2.5	C-40	40	2/27/2014	-3.1	Stratum D Reached
684427.0	602721.5	0.4	C-40-1	40	2/27/2014	0.2	Target Elevation Reached
684491.3	602754.6	-2.5	C-41	41	2/27/2014	-2.9	Stratum D Reached
684432.9	602706.0	0.4	C-41-1	41	2/27/2014	0.1	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.2)

Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684496.7	602740.4	-2.5	C-42	42	3/5/2014	-3.3	Stratum D Reached
684439.6	602692.4	0.4	C-42-1	42	3/5/2014	0.1	Target Elevation Reached
684507.5	602729.5	-2.5	C-43	43	3/5/2014	-3.3	Stratum D Reached
684447.1	602679.0	0.4	C-43-1	43	3/5/2014	0.1	Target Elevation Reached
684524.2	602722.2	-2.5	C-44	44	3/11/2014	-3.5	Stratum D Reached
684454.3	602665.7	0.4	C-44-1	44	3/11/2014	0.2	Target Elevation Reached
684536.0	602714.2	-2.5	C-45	45	3/11/2014	-3.2	Stratum D Reached
684464.6	602655.3	0.4	C-45-1	45	3/11/2014	0.2	Target Elevation Reached
684535.1	602693.1	-2.5	C-46	46	3/17/2014	-3.2	Stratum D Reached
684472.4	602641.2	0.4	C-46-1	46	3/17/2014	0.2	Target Elevation Reached
684544.9	602683.5	-2.5	C-47	47	3/17/2014	-3.2	Stratum D Reached
684483.8	602632.5	0.4	C-47-1	47	3/17/2014	0.2	Target Elevation Reached
684551.5	602667.8	-2.5	C-48	48	3/20/2014	-3.0	Stratum D Reached
684492.6	602619.5	0.4	C-48-1	48	3/20/2014	0.4	Target Elevation Reached
684564.6	602658.9	-2.5	C-49	49	3/25/2014	-3.0	Stratum D Reached
684501.1	602607.9	0.4	C-49-1	49	3/25/2014	0.3	Target Elevation Reached
684574.8	602647.4	-2.5	C-50	50	3/25/2014	-3.6	Stratum D Reached
684526.0	602608.3	0.4	C-50-1	50	3/25/2014	0.3	Target Elevation Reached
684507.7	602591.7	-1.2	C-50-2	50	3/25/2014	-1.3	Target Elevation Reached
684584.1	602636.9	-2.5	C-51	51	3/28/2014	-3.0	Stratum D Reached
684535.3	602597.8	0.4	C-51-1	51	3/28/2014	0.3	Target Elevation Reached
684514.6	602580.4	-1.2	C-51-2	51	3/28/2014	-1.4	Target Elevation Reached
684596.7	602626.3	-2.5	C-52	52	3/28/2014	-2.9	Stratum D Reached
684547.0	602587.9	0.4	C-52-1	52	3/28/2014	0.2	Target Elevation Reached
684524.8	602569.7	-1.2	C-52-2	52	3/28/2014	-1.3	Target Elevation Reached
684602.1	602612.0	-2.5	C-53	53	4/1/2014	-2.3	Stratum D Reached
684557.0	602576.5	0.4	C-53-1	53	4/1/2014	0.3	Target Elevation Reached
684533.6	602556.0	-1.2	C-53-2	53	4/1/2014	-1.4	Target Elevation Reached
684610.8	602599.7	-2.5	C-54	54	4/4/2014	-2.0	Stratum D Reached
684560.2	602558.1	0.4	C-54-1	54	4/4/2014	0.3	Target Elevation Reached
684632.0	602597.9	-2.5	C-55	55	4/4/2014	-2.4	Stratum D Reached
684576.2	602552.1	0.4	C-55-1	55	4/4/2014	0.3	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.3)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684641.4	602586.6	-2.5	C-56	56	4/4/2014	-2.5	Stratum D Reached
684586.1	602541.3	0.4	C-56-1	56	4/4/2014	0.2	Target Elevation Reached
684656.7	602578.2	-2.5	C-57	57	4/9/2014	-2.4	Stratum D Reached
684606.0	602536.9	0.4	C-57-1	57	4/9/2014	0.1	Target Elevation Reached
684574.5	602511.9	2.1	C-57-2	57	4/9/2014	1.6	Target Elevation Reached
684662.3	602565.2	-2.5	C-58	58	4/9/2014	-2.7	Stratum D Reached
684616.2	602527.5	0.4	C-58-1	58	4/9/2014	0.3	Target Elevation Reached
684591.8	602507.6	2.1	C-58-2	58	4/9/2014	1.5	Target Elevation Reached

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)

Sidewall Target Coordinates					As-built Elevations		
Northing	Easting	Elevation	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684162.0	603071.0	4.9	124-SB-017	11	11/14/2013	-0.2	Stratum D Reached
684174.4	602980.6	1.2	124-SB-048	16	12/5/2013	-0.5	Stratum D Reached
684172.0	602944.6	4.3	124-SB-126	18	12/10/2013	-0.9	Stratum D Reached
684178.0	602906.0	4.5	124-SB-014	20	12/12/2013	2.0	Stratum D Reached
684192.9	602874.5	3.8	124-SB-090	22	12/19/2013	2.1	Target Elevation Reached
684234.9	602864.2	0.9	124-SB-019	25	1/2/2014	0.5	Target Elevation Reached
684289.2	602837.4	2.9	124-SB-050	28	1/16/2014	0.3	Target Elevation Reached
684301.0	602795.0	2.6	124-SB-108	31	1/23/2014	1.9	Target Elevation Reached
684328.2	602790.2	3.3	124-SB-063	32	1/30/2014	1.8	Target Elevation Reached
684338.1	602786.6	4.7	124-SB-056	33	1/30/2014	1.7	Target Elevation Reached
684348.0	602746.0	3.4	124-PT-02	35	2/4/2014	2.0	Target Elevation Reached
684386.0	602707.0	3.3	124-PT-01	39	2/20/2014	2.0	Target Elevation Reached
684411.1	602714.2	3.9	124-SB-065	40	2/27/2014	0.2	Target Elevation Reached
684408.4	602664.2	2.2	125-SB-088	42	3/5/2014	0.1	Target Elevation Reached
684419.7	602644.6	1.8	125-SB-067	44	3/11/2014	0.2	Target Elevation Reached
684457.0	602620.0	1.1	125-PT-15	47	3/17/2014	0.1	Target Elevation Reached
684479.5	602597.5	3.7	125-SB-081	49	3/20/2014	0.1	Target Elevation Reached
684495.3	602579.6	0.8	125-SB-091	50	3/25/2014	-1.4	Target Elevation Reached
684499.2	602575.0	2.3	125-SB-080	51	3/28/2014	-1.3	Target Elevation Reached
684513.9	602557.6	0.6	125-SB-092	52	3/28/2014	-1.3	Target Elevation Reached
684519.3	602551.3	2.5	125-SB-079	53	4/1/2014	-1.5	Target Elevation Reached
684552.7	602504.6	3.5	125-SB-087	56	4/4/2014	0.2	Target Elevation Reached

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

R. Thomas Hugg 4/14/14

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR

LICENSE NO. 36737

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-01		684138.4	603182.3	-0.5						4	Crushed concrete	Bottom of excavation elevation	
2	BF-01-01	12/5/2013	684144.2	603184.2	1.0	136.4	3.7	142.6	7.8	96	4	Weldon WC QP		Sor
3	BF-01-02	12/5/2013	684137.8	603181.7	1.9	139.9	4.3	142.6	7.8	98	4	Weldon WC QP		Sor
4	BF-01-03	12/6/2013	684140.2	603182.7	2.5	141.2	5.0	142.6	7.8	99	4	Weldon WC QP		Sor
5	BF-01-04	12/6/2013	684136.6	603190.0	3.5	141.2	5.6	142.6	7.8	99	4	Weldon WC QP		Sor
6	BF-01-05	12/6/2013	684134.9	603186.7	4.5	143.2	4.8	142.6	7.8	100	4	Weldon WC QP		Sor
7	BF-01-06	12/6/2013	684141.1	603182.6	5.8	139.6	6.0	142.6	7.8	98	4	Weldon WC QP		Sor
8	BF-01-07	12/10/2013	684147.6	603186.8	6.2	146.7	5.1	142.6	7.8	103	4	Weldon WC QP		Sor
9	BF-01-08	12/10/2013	684140.2	603189.6	7.1	120.1	3.4	128.9	12.1	93	4	Weldon WC Screenings	recompact lift	Sor
9	BF-01-08R	12/10/2013	684140.2	603189.6	7.1	129.9	4.9	128.9	12.1	101	4	Weldon WC Screenings	second reading after addl compaction	Sor
10	BF-01-09	12/12/2013	684130.1	603175.5	8.1	126.4	3.3	128.9	12.1	98	4	Weldon WC Screenings		Sor
11	BF-01-10	12/31/2013	684140.0	603184.3	9.0	139.6	7.4	128.9	12.1	108	4	Weldon WC Screenings		Sor
1	BF-02		684153.8	603153.9	-0.6						6	Crushed concrete	Bottom of excavation elevation	
2	BF-02-01	12/5/2013	684162.8	603161.3	1.4	138.2	5.7	142.6	7.8	97	6	Weldon WC QP		Sor
3	BF-02-02	12/5/2013	684160.8	603162.3	2.4	136.2	4.5	142.6	7.8	96	6	Weldon WC QP		Sor
4	BF-02-03	12/6/2013	684157.7	603161.3	2.7	147.2	5.6	142.6	7.8	103	6	Weldon WC QP		Sor
5	BF-02-04	12/6/2013	684145.7	603162.1	3.7	143.5	5.0	142.6	7.8	101	6	Weldon WC QP		Sor
6	BF-02-05	12/6/2013	684156.9	603171.0	4.4	145.7	4.1	142.6	7.8	102	6	Weldon WC QP		Sor
7	BF-02-06	12/6/2013	684150.1	603155.4	5.6	140.4	4.6	142.6	7.8	98	6	Weldon WC QP		Sor
8	BF-02-07	12/10/2013	684135.5	603153.5	6.1	149.4	4.0	142.6	7.8	105	6	Weldon WC QP		Sor
9	BF-02-08	12/10/2013	684157.9	603174.9	7.2	125.8	5.2	128.9	12.1	98	6	Weldon WC Screenings		Sor
1	BF-03		684179.9	603119.5	-1.2						9	Crushed concrete	Bottom of excavation elevation	
2	BF-03										9	Type A Material	No compaction testing required	
3	BF-03-01	11/22/2013	684198.1	603131.6	0.2	133.3	3.4	142.6	7.8	93	9	Weldon WC QP		Sor
4	BF-03-02	11/22/2013	684155.7	603111.6	1.5	130.8	2.8	142.6	7.8	92	9	Weldon WC QP		Sor
5	BF-03-03	12/5/2013	684177.4	603121.5	2.5	135.7	2.0	128.9	12.1	105	9	Weldon WC Screenings		Sor
6	BF-03-04	12/12/2013	684180.5	603126.9	4.6	124.7	3.2	128.9	12.1	97	9	Weldon WC Screenings		Sor
7	BF-03-05	12/12/2013	684177.1	603132.4	5.3	132.5	2.8	128.9	12.1	103	9	Weldon WC Screenings		Sor
8	BF-03-06	12/16/2013	684172.4	603128.5	6.4	128.3	2.9	128.9	12.1	100	9	Weldon WC Screenings		Sor
9	BF-03-07	1/6/2014	684177.1	603113.8	6.6	131.2	10.4	128.9	12.1	102	9	Weldon WC Screenings		Sor
10	BF-03-08	1/9/2014	684178.2	603121.8	8.2	128.2	5.9	128.9	12.1	99	9	Weldon WC Screenings		Sor
1	BF-04		684195.7	603093.1	-1.5						11	Crushed concrete	Bottom of excavation elevation	
2	BF-04										11	Type A Material	No compaction testing required	
3	BF-04-01	12/5/2013	684198.0	603094.8	2.6	131.0	3.6	128.9	12.1	102	11	Weldon WC Screenings		Sor
4	BF-04-02	12/12/2013	684206.6	603104.7	3.5	125.8	3.9	128.9	12.1	98	11	Weldon WC Screenings		Sor
5	BF-04-03	12/16/2013	684217.5	603111.1	4.9	129.9	2.9	128.9	12.1	101	11	Weldon WC Screenings		Sor
6	BF-04-04	12/31/2013	684213.6	603115.0	5.9	124.6	3.2	128.9	12.1	97	11	Weldon WC Screenings		Sor
7	BF-04-05	1/9/2014	684195.8	603100.0	8.2	131.2	4.8	128.9	12.1	102	11	Weldon WC Screenings		Sor
1	BF-05		684200.8	603078.4	-1.8						12	Crushed concrete	Bottom of excavation elevation	
2	BF-05										12	Type A Material	No compaction testing required	
3	BF-05-01	12/5/2013	684185.2	603057.9	2.6	133.8	4.7	128.9	12.1	104	12	Weldon WC Screenings		Sor
4	BF-05-02	12/12/2013	684179.9	603057.7	3.0	121.5	3.0	128.9	12.1	94	12	Weldon WC Screenings	recompact lift	Sor
4	BF-05-02R	12/16/2013	684186.2	603070.2	3.1	133.0	9.3	128.9	12.1	103	12	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-05-03	12/31/2013	684181.6	603060.8	4.5	124.7	2.9	128.9	12.1	97	12	Weldon WC Screenings		Sor
6	BF-05-04	1/9/2013	684186.1	603053.5	5.8	129.7	3.3	128.9	12.1	101	12	Weldon WC Screenings		Sor
7	BF-05-05	1/9/2013	684180.6	603048.6	6.5	131.1	3.4	128.9	12.1	102	12	Weldon WC Screenings		Sor
8	BF-05-06	3/19/2014	684180.6	603060.4	7.5	122.5	4.9	128.9	21.1	95	12	Weldon WC Screenings		Sor
1	BF-06		684214.8	603050.6	-1.7						14	Crushed concrete	Bottom of excavation elevation	
2	BF-06										14	Crushed concrete	No compaction testing required	
3	BF-06-01	12/31/2013	684229.9	603061.3	2.2	137.7	3.4	128.9	12.1	107	14	Weldon WC Screenings		Sor
4	BF-06-02	12/31/2013	684228.8	603062.8	3.5	133.1	3.4	128.9	12.1	103	14	Weldon WC Screenings		Sor
5	BF-06-03	1/6/2014	684234.0	603066.8	4.2	123.7	9.5	128.9	12.1	96	14	Weldon WC Screenings		Sor
6	BF-06-04	1/9/2014	684230.8	603071.3	6.2	133.1	4.2	128.9	12.1	103	14	Weldon WC Screenings		Sor
7	BF-06-05	1/9/2014	684213.9	603095.7	7.3	133.8	5.0	128.9	12.1	104	14	Weldon WC Screenings		Sor
1	BF-07		684222.7	603033.3	-0.8						15	Crushed concrete	Bottom of excavation elevation	

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2	BF-07										15	Crushed concrete	No compaction testing required	
3	BF-07-01	12/31/2013	684196.2	603014.9	2.5	133.1	2.6	128.9	12.1	103	15	Weldon WC Screenings		Sor
4	BF-07-02	12/31/2013	684192.8	603021.1	3.9	133.2	3.4	128.9	12.1	103	15	Weldon WC Screenings	Numbering error; skipped from 02 to 04	Sor
6	BF-07-04	1/9/2014	684196.9	603018.8	5.7	118.5	3.9	128.9	12.1	92	15	Weldon WC Screenings	recompact lift	Sor
6	BF-07-04R	1/9/2014	684196.9	603018.8	5.7	122.6	4.3	128.9	12.1	95	15	Weldon WC Screenings	second reading after addl compaction	Sor
7	BF-07-05	1/9/2014	684195.0	603021.0	6.4	128.4	6.7	128.9	12.1	100	15	Weldon WC Screenings		Sor
1	BF-08		684221.8	603013.0	-0.7						16	Crushed concrete	Bottom of excavation elevation	
2	BF-08										16	Crushed concrete	No compaction testing required	
3	BF-08-01	12/31/2013	684246.9	603039.8	2.0	127.2	3.2	128.9	12.1	99	16	Weldon WC Screenings		Sor
4	BF-08-02	12/31/2013	684240.5	603043.2	3.1	132.7	2.9	128.9	12.1	103	16	Weldon WC Screenings		Sor
5	BF-08-03	1/6/2014	684231.7	603038.8	3.9	127.0	8.4	128.9	12.1	99	16	Weldon WC Screenings		Sor
6	BF-08-04	1/9/2014	684242.3	603046.8	5.4	130.1	4.2	128.9	12.1	101	16	Weldon WC Screenings		Sor
7	BF-08-05	1/9/2014	684236.3	603066.0	7.1	129.8	6.2	128.9	12.1	101	16	Weldon WC Screenings		Sor
1	BF-09		684208.5	602989.4	-0.5						17	Crushed concrete	Bottom of excavation elevation	
2	BF-09										17	Crushed concrete	No compaction testing required	
3	BF-09-01	1/28/2014	684209.7	602987.6	2.5	124.0	7.9	128.9	12.1	96	17	Weldon WC Screenings		Sor
4	BF-09-02	1/28/2014	684213.6	602980.4	3.4	123.4	6.1	128.9	12.1	96	17	Weldon WC Screenings		Sor
5	BF-09-03	1/28/2014	684204.2	602981.5	4.2	124.9	7.1	128.9	12.1	97	17	Weldon WC Screenings		Sor
1	BF-10		684269.0	603014.0	-0.5						18	Crushed concrete	Bottom of excavation elevation	
2	BF-10										18	Crushed concrete	No compaction testing required	
3	BF-10-01	1/20/2014	684275.4	603018.2	2.2	133.1	7.7	128.9	12.1	103	18	Weldon WC Screenings		Sor
4	BF-10-02	1/28/2014	684267.5	603026.1	3.2	118.8	3.1	128.9	12.1	92	18	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-10-02R	1/28/2014	684267.5	603026.1	3.2	133.3	6.1	128.9	12.1	103	18	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-10-03	1/28/2014	684271.8	603014.4	4.1	125.7	5.4	128.9	12.1	98	18	Weldon WC Screenings		Sor
6	BF-10-04	3/21/2014	684267.9	603017.5	5.2	126.4	6.8	128.9	12.1	98	18	Weldon WC Screenings		Sor
1	BF-11		684208.5	602989.4	-1.0						19	Crushed concrete	Bottom of excavation elevation	
2	BF-11										19	Crushed concrete	No compaction testing required	
3	BF-11-01	1/28/2014	684216.6	602952.7	2.1	125.2	8.8	128.9	12.1	97	19	Weldon WC Screenings		Sor
4	BF-11-02	1/28/2014	684223.4	602953.8	3.4	129.8	4.2	128.9	12.1	101	19	Weldon WC Screenings		Sor
5	BF-11-03	1/28/2014	684211.6	602949.0	4.0	123.4	6.6	128.9	12.1	96	19	Weldon WC Screenings		Sor
1	BF-12		684286.7	602988.6	-1.7						20	Crushed concrete	Bottom of excavation elevation	
2	BF-12										20	Crushed concrete	No compaction testing required	
3	BF-12-01	1/20/2014	684291.7	602995.2	1.8	133.3	8.3	128.9	12.1	103	20	Weldon WC Screenings		Sor
4	BF-12-02	1/28/2014	684288.5	602989.8	2.9	121.6	4.0	128.9	12.1	94	20	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-12-02R	1/28/2014	684288.5	602989.8	2.9	128.5	5.8	128.9	12.1	100	20	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-12-03	1/28/2014	684291.3	602995.4	3.7	136.9	7.5	128.9	12.1	106	20	Weldon WC Screenings		Sor
1	BF-13		684235.7	602919.6	-0.9						22	Crushed concrete	Bottom of excavation elevation	
2	BF-13										22	Crushed concrete	No compaction testing required	
3	BF-13-01	1/28/2014	684235.6	602919.1	2.1	130.1	5.8	128.9	12.1	101	22	Weldon WC Screenings		Sor
3	BF-13-01R	3/12/2014	684238.5	602922.0	2.1	132.0	2.9	135.8	6.4	97	22	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-13-02	3/12/2014	684238.4	602918.2	3.4	133.0	1.4	135.8	6.4	98	22	Tilcon MH DGA		V5N
5	BF-13-03	3/19/2014	684235.1	602916.0	4.5	124.0	3.7	128.9	12.1	96	22	Weldon WC Screenings		V5N
1	BF-14		684312.1	602956.0	-0.9						23	Crushed concrete	Bottom of excavation elevation	
2	BF-14										23	Crushed concrete	No compaction testing required	
3	BF-14-01	1/20/2014	684312.7	602965.2	1.8	133.9	7.0	128.9	12.1	104	23	Weldon WC Screenings		Sor
3	BF-14-01R	3/13/2013	684289.6	602935.7	1.8	132.0	1.7	135.8	6.4	97	23	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-14-02	3/14/2014	684301.9	602952.7	2.6	133.0	1.6	135.8	6.4	98	23	Tilcon MH DGA		V5N
1	BF-15		684260.7	602896.7	-0.9						24	Crushed concrete	Bottom of excavation elevation	
2	BF-15										24	Crushed concrete	No compaction testing required	
3	BF-15-01	1/28/2014	684259.0	602897.1	2.1	123.6	9.0	128.9	12.1	96	24	Weldon WC Screenings		Sor
3	BF-15-01R	3/12/2014	684264.5	602902.2	2.1	131.0	2.4	135.8	6.4	96	24	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-15-02	3/12/2014	684260.5	602900.2	2.8	133.0	1.3	135.8	6.4	98	24	Tilcon MH DGA		V5N
1	BF-16		684326.7	602937.0	-1.1						25	Crushed concrete	Bottom of excavation elevation	
2	BF-16										25	Crushed concrete	No compaction testing required	

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3	BF-16-01	1/20/2014	684331.9	602942.7	1.6	136.1	7.4	128.9	12.1	106	25	Weldon WC Screenings		Sor
3	BF-16-01R	3/13/2014	6844330.0	602937.2	1.8	132.2	1.4	135.8	6.4	97	25	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-16-02	3/14/2014	684326.7	602930.0	2.5	134.0	1.2	135.8	6.4	99	25	Tilcon MH DGA		V5N
1	BF-17		684283.7	602879.0	0.4						26	Crushed concrete	Bottom of excavation elevation-Stratum O	
2	BF-17										26	Crushed concrete	No compaction testing required	
3	BF-17-01	3/12/2014	684284.6	602882.1	2.1	130.0	2.9	135.8	6.4	96	26	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-17-02	3/14/2014	684273.7	602879.1	3.1	132.0	2.2	135.8	6.4	97	26	Tilcon MH DGA		V5N
1	BF-18		684350.8	602909.6	-1.5						27	Crushed concrete	Bottom of excavation elevation	
2	BF-18										27	Crushed concrete	No compaction testing required	
3	BF-18-01	3/13/2014	684313.5	602885.6	1.5	132.4	1.4	135.8	6.4	97	27	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-18-02	3/14/2014	684344.0	602911.5	2.7	134.0	1.1	135.8	6.4	99	27	Tilcon MH DGA		V5N
1	BF-19		684313.2	602860.4	0.3						28	Crushed concrete	Bottom of excavation elevation - Stratum O	
2	BF-19											Crushed concrete	No compaction testing required	
3	BF-19-01	3/14/2014	684322.1	602872.7	2.8	134.0	0.9	135.8	6.4	99	28	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-19-02	3/17/2014	684301.4	602851.5	3.6	133.0	1.3	135.8	6.4	98	28	Tilcon MH DGA		V5N
1	BF-20		684370.9	602887.4	-1.7						29	Crushed concrete	Bottom of excavation elevation	
2	BF-20										29	Crushed concrete	No compaction testing required	
3	BF-20-01	3/17/2014	6843640.5	602862.1	2.0	133.0	1.7	135.8	6.4	98	29	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-21		684330.4	602835.9	1.9						30	Crushed concrete	Bottom of excavation elevation - Startum O	
2	BF-21-01	3/14/2014	684343.3	602842.2	2.4	132.0	1.6	135.8	6.4	97	30	Tilcon MH DGA	Removed wet screenings to crushed concrete and placed Bridge Lift	V5N
3	BF-21-02	3/17/2014	684307.4	602827.3	3.3	134.0	0.8	135.8	6.4	99	30	Tilcon MH DGA	Bridge Lift over Stratum O	V5N
4	BF-21-03	3/19/2014	684314.6	602830.9	3.9	122.5	5.1	128.9	12.1	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
5	BF-21-04	3/20/2014	684314.4	602815.1	4.5	122.5	4.9	128.9	12.1	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
6	BF-21-05	3/20/2014	684321.1	602814.1	5.2	124.0	3.9	128.9	12.1	96	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
7	BF-21-06	3/20/2014	684308.3	602802.2	5.8	122.5	5.0	128.9	12.1	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
8	BF-21-07	3/20/2014	684305.8	602806.3	6.7	123.3	4.0	128.9	12.1	96	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
9	BF-21-08	3/20/2014	684314.4	602804.8	7.6	122.5	4.9	128.9	12.1	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
10	BF-21-09	3/20/2014	684310.5	602806.6	8.4	132.5	1.9	135.8	6.4	98	30	Tilcon MH DGA	Truck Ramp to Kellogg Street	V5N
1	BF-22		684391.2	602864.3	-2.3						31	Crushed concrete	Bottom of excavation elevation	
2	BF-22										31	Crushed concrete	No compaction testing required	
3	BF-22-01	3/17/2014	684387.3	602845.0	1.4	134.0	0.8	135.8	6.4	99	31	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-23		684350.9	602814.5	-1.6						32	Crushed concrete	Bottom of excavation elevation	
2	BF-23										32	Crushed concrete	No compaction testing required	
3	BF-23-01	3/14/2014	684360.9	602818.8	2.4	132.0	2.0	135.8	6.4	97	32	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-23-02	3/17/2014	684339.8	602809.6	3.5	134.0	1.1	135.8	6.4	99	32	Tilcon MH DGA		V5N
1	BF-24		684411.0	602842.4	-1.8						33	Crushed concrete	Bottom of excavation elevation	
2	BF-24										33	Crushed concrete	No compaction testing required	
3	BF-24-01	3/17/2014	684402.4	602827.4	1.1	134.0	0.8	135.8	6.4	99	33	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-25		684369.5	602729.2	-1.8						34	Crushed concrete	Bottom of excavation elevation	
2	BF-25										34	Crushed concrete	No compaction testing required	
3	BF-25-01	3/14/2014	684379.5	602796.3	2.0	131.0	2.1	135.8	6.4	96	34	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-25-02	3/17/2014	684354.8	602790.5	3.4	133.0	1.5	135.8	6.4	98	34	Tilcon MH DGA		V5N
1	BF-26		684433.4	602818.8	-2.1						35	Crushed concrete	Bottom of excavation elevation	
2	BF-26										35	Crushed concrete	No compaction testing required	
3	BF-26-01	3/18/2014	684433.9	602828.3	0.3	134.0	0.8	135.8	6.4	99	35	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-26-02	3/18/2014	684431.7	602817.7	0.8	133.0	1.3	135.8	6.4	98	35	Tilcon MH DGA		V5N
1	BF-27		684389.4	602765.0	-1.8						36	Crushed concrete	Bottom of excavation elevation	
2	BF-27										36	Crushed concrete	No compaction testing required	
3	BF-27-01	3/14/2014	684398.2	602773.8	1.8	133.0	1.6	135.8	6.4	98	36	Tilcon MH DGA		V5N
0	BF-28		684457.0	602790.8	-2.8						38	Stratum D	Bottom of excavation elevation	
1	BF-28-01	3/12/2014	684461.2	602789.3	-0.4	133.2	1.0	135.8	6.4	98	38	Tilcon MH DGA		V5N
0	BF-29		684418.8	602735.2	2.1						39	Stratum O	Bottom of excavation elevation - Stratum O	
1	BF-29-01	3/26/2014	684404.6	602731.3	3.3	134.0	1.2	135.8	6.4	99	39	Tilcon MH DGA		V5N
0	BF-30		684476.8	602765.1	-3.1						40	Stratum D	Bottom of excavation elevation	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-30-01	3/12/2014	684478.9	602766.2	-0.7	133.2	1.1	135.8	6.4	98	40	Tilcon MH DGA		V5N
0	BF-31		684436.0	602712.8	0.1						41	Stratum O	Bottom of excavation elevation	
0	BF-32		684498.7	602739.5	-2.2						42	Stratum D	Bottom of excavation elevation	
1	BF-32-01	3/12/2014	684496.6	602743.0	-0.9	131.0	2.3	135.8	6.4	96	42	Tilcon MH DGA		V5N
0	BF-33		684453.0	602683.2	0.1						43	Stratum O	Bottom of excavation elevation	
0	BF-34		684517.5	602716.8	-2.5						44	Stratum D	Bottom of excavation elevation	
1	BF-34-01	3/12/2014	684515.6	602715.4	-1.1	131.0	2.0	135.8	6.4	96	44	Tilcon MH DGA		V5N
0	BF-35		684471.3	602661.2	0.2						45	Stratum O	Bottom of excavation elevation	
0	BF-36		684538.2	602694.6	-3.0						46	Stratum D	Bottom of excavartion elevation	
1	BF-36-01	3/18/2014	684535.1	602700.7	-1.9	134.5	0.5	135.8	6.4	99	46	Tilcon MH DGA		V5N
0	BF-37		684490.0	602636.8	0.2						47	Stratum O	Bottom of excavation elevation	
0	BF-38		684558.4	602671.7	-3.0						48	Stratum D	Bottom of excavation elevation	
1	BF-38-01	3/21/2014	684551.4	602683.6	-1.7	131.9	1.9	135.8	6.4	97	48	Tilcon MH DGA		V5N
0	BF-39		684510.6	602614.8	0.4						49	Stratum O	Bottom of excavation elevation	
0	BF-40		684557.4	602644.9	-3.6						50	Stratum D	Bottom of excavation elevation	
1	BF-40-01	3/26/2014	684572.2	602653.5	-1.4	134.8	0.5	135.8	6.4	99	50	Tilcon MH DGA		V5N
0	BF-128		685382.2	601566.3	-2.5						140	Stratum O	Bottom of excavation elevation	
1	BF-128-01	4/29/2014	685369.8	601556.5	-1.8	130.0	1.2	135.8	6.4	96	140	Tilcon MH DGA		V5N
2	BF-128-02	4/29/2014	685381.4	601569.9	-0.8	132.2	1.5	135.8	6.4	97	140	Tilcon MH DGA		V5N
3	BF-128-03	4/29/2014	685382.7	601573.8	0.3	132.0	1.3	135.8	6.4	97	140	Tilcon MH DGA		V5N
4	BF-128-04	4/29/2014	685386.7	601571.4	1.5	132.3	1.3	135.8	6.4	97	140	Tilcon MH DGA		V5N
5	BF-128-05	4/29/2014	685389.9	601573.7	2.7	133.9	1.4	135.8	6.4	99	140	Tilcon MH DGA		V5N
0	BF-130		685401.7	601541.7	1.9						142 (No)	Stratum O	Bottom of excavation elevation	
1	BF-130-01	4/28/2014	685410.7	601558.5	2.7	132.0	2.2	135.8	6.4	97	142 (No)	Tilcon MH DGA		V5N
2	BF-130-02	4/28/2014	685414.5	601553.3	3.6	133.0	1.7	135.8	6.4	98	142 (No)	Tilcon MH DGA		V5N
3	BF-130-03	4/28/2014	685414.9	601555.5	4.8	136.0	1.6	135.8	6.4	100	142 (No)	Tilcon MH DGA		V5N
4	BF-130-04	4/28/2014	685420.1	601558.2	5.5	135.0	1.9	135.8	6.4	99	142 (No)	Tilcon MH DGA		V5N
0	BF-131		685426.9	601523.7	3.2						144	Stratum O	Bottom of excavation elevation	
1	BF-131-01	4/25/2014	685440.9	601531.9	5.9	120.0	1.4	135.8	6.4	88	144	Tilcon MH DGA	recompact lift	V5N
1	BF-131-01R	4/28/2014	685440.9	601531.9	5.9	139.9	1.4	135.8	6.4	103	144	Tilcon MH DGA	second reading after addl compaction	V5N
0	BF-132		685452.9	601506.1	5.6						146	Stratum O	Bottom of excavation elevation	
1	BF-132-01	4/25/2014	685438.7	601505.6	6.1	135.0	1.0	135.8	6.4	99	144	Tilcon MH DGA		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

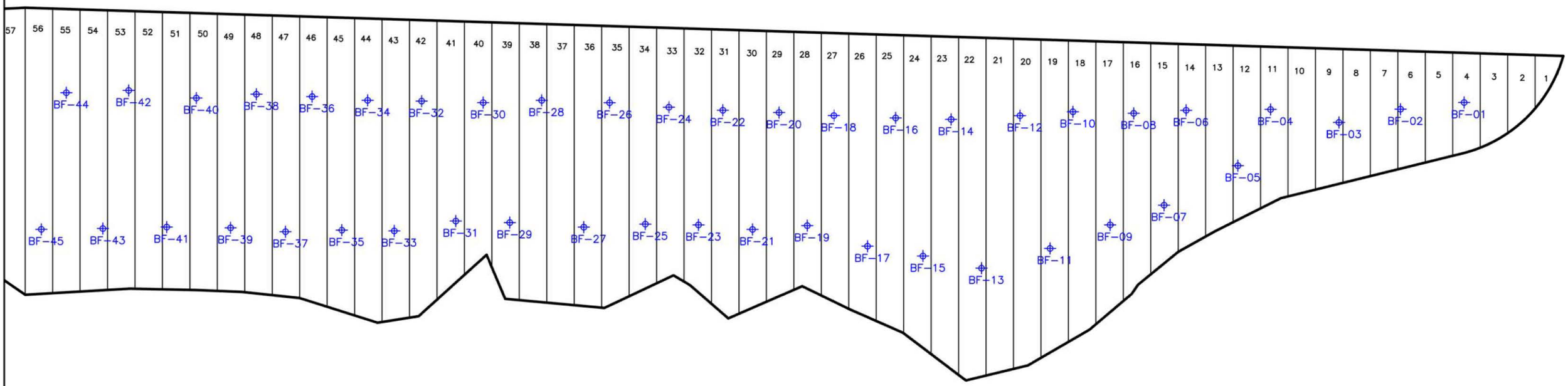
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

Sample ID BF-01-01 where:

BF = Backfill (At frequency of 1 test/2500 SF)
01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



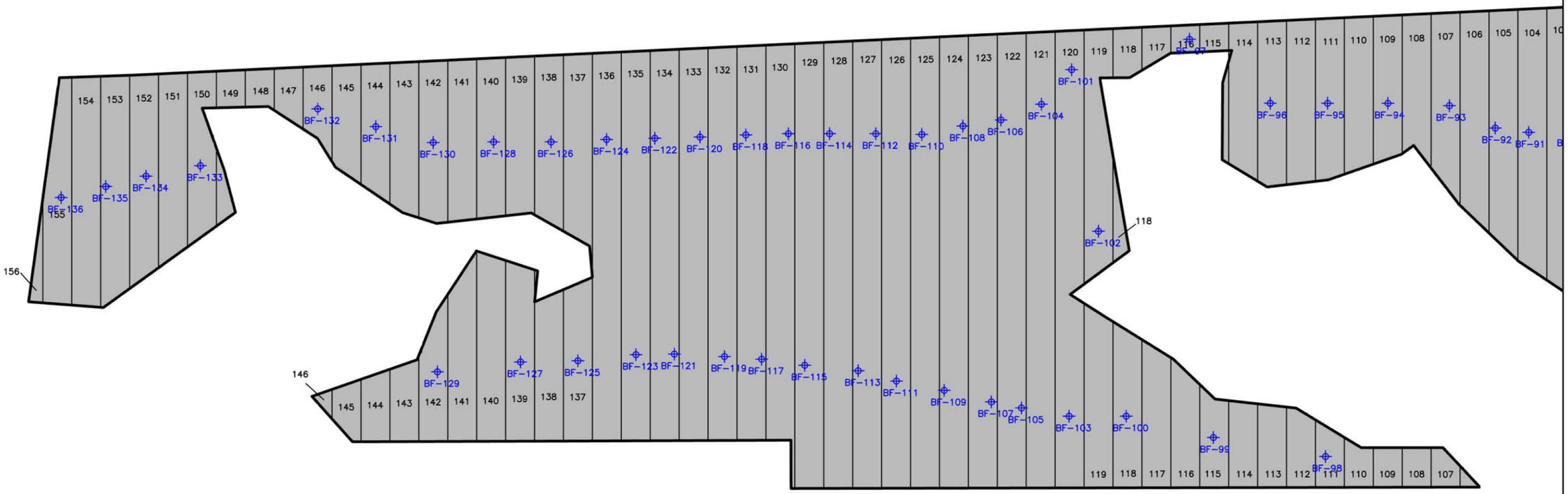
NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
BACKFILL COMPACTION LOCATIONS
EVERY 2,500 SF

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF BF-95 TO BF-136

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
	RF-01		684158.6	603152.4							6			
	RF-02		684190.6	603063.9							12			
	RF-03		684270.2	603012.0							18			
7	RF-03-01	3/21/2014	684267.9	603017.5	6.1	124.0	3.6	128.9	12.1	96	18	Weldon WC Screenings		V5N
8	RF-03-02	4/8/2014	684272.9	605018.7	7.6	122.4	8.1	128.9	12.1	95	18	Weldon WC Screenings		V5N
	RF-04		684235.2	602919.8							22			
6	RF-04-01	3/21/2014	684227.0	602916.6	5.5	124.0	3.6	128.9	12.1	96	22	Weldon WC Screenings		V5N
7	RF-04-02	3/26/2014	684266.5	602908.5	6.2	123.6	3.7	128.9	12.1	96	22	Weldon WC Screenings		V5N
8	RF-04-03	4/1/2014	684384.8	602904.9	7.1	125.8	3.0	128.9	12.1	98	22	Weldon WC Screenings		V5N
9	RF-04-04	4/3/2014	684220.8	602926.9	8.2	120.0	3.6	128.9	12.1	93	22	Weldon WC Screenings	Recompact lift	V5N
9	RF-04-04R	4/3/2014	684220.8	602926.9	8.2	125.0	4.1	128.9	12.1	97	22	Weldon WC Screenings	Second reading after re-rolling	V5N
10	RF-04-05	4/17/2014	684241.5	602924.2	8.8	130.0	3.0	128.9	12.1	101	22	Weldon WC Screenings		V5N
	RF-05		684328.5	602935.0							25			
5	RF-05-01	3/24/2014	684347.1	602947.5	3.3	122.5	4.5	128.9	12.1	95	25	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
6	RF-05-02	3/26/2014	684348.1	602942.0	4.1	123.5	3.7	128.9	12.1	96	25	Weldon WC Screenings		V5N
7	RF-05-03	4/1/2014	684351.4	602937.8	5.4	125.0	2.6	128.9	12.1	97	25	Weldon WC Screenings		V5N
8	RF-05-04	4/3/2014	684339.0	602933.4	6.4	128.9	4.7	128.9	12.1	100	25	Weldon WC Screenings		V5N
9	RF-05-05	4/8/2014	684327.1	602942.3	7.6	126.4	8.3	128.9	12.1	98	25	Weldon WC Screenings		V5N
10	RF-05-06	4/17/2014	684348.8	602945.1	8.2	135.0	6.4	128.9	12.1	105	25	Weldon WC Screenings		V5N
	RF-06		684335.0	602869.1							25			
2	RF-06-01	4/1/2014	684383.7	602908.8	3.0	126.0	2.7	128.9	12.1	98	29	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
3	RF-06-02	4/1/2014	684384.8	602904.9	4.1	125.0	2.8	128.9	12.1	97	29	Weldon WC Screenings		V5N
4	RF-06-03	4/3/2014	684358.9	602890.5	5.9	127.6	4.0	128.9	12.1	99	29	Weldon WC Screenings		V5N
5	RF-06-04	4/8/2014	684340.1	602867.1	6.9	123.0	4.6	128.9	12.1	95	29	Weldon WC Screenings		V5N
6	RF-06-05	4/14/2014	684340.1	602867.1	7.5	124.8	3.0	128.9	12.1	97	29	Weldon WC Screenings		V5N
7	RF-06-06	4/17/2014	684337.1	602897.4	8.5	118.5	3.0	128.9	12.1	92	29	Weldon WC Screenings	Recompact lift	V5N
7	RF-06-06R	4/17/2014	684337.1	602897.4	8.5	122.0	3.2	128.9	12.1	95	29	Weldon WC Screenings	Second reading after re-rolling	V5N
	RF-07		684392.9	602838.1							32			
4	RF-07-01	4/3/2014	684425.2	602890.4	3.0	125.3	5.1	128.9	12.1	97	32	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-07-02	4/3/2014	684418.6	602854.9	4.1	126.3	5.5	128.9	12.1	98	32	Weldon WC Screenings		V5N
6	RF-07-03	4/8/2014	684410.5	602847.3	5.6	122.7	2.5	128.9	12.1	95	32	Weldon WC Screenings		V5N
7	RF-07-04	4/14/2014	684410.5	602847.3	6.3	123.1	2.7	128.9	12.1	96	32	Weldon WC Screenings		V5N
8	RF-07-05	4/17/2014	684394.3	602842.1	7.1	135.0	6.1	128.9	12.1	105	32	Weldon WC Screenings		V5N
9	RF-07-06	4/21/2014	684394.8	602836.9	8.2	128.9	2.2	128.9	12.1	100	32	Weldon WC Screenings		V5N
	RF-08		684406.9	602771.1							36			
4	RF-08-01	4/3/2014	684421.7	602797.1	2.9	129.0	6.0	128.9	12.1	100	36	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-08-02	4/8/2014	684429.7	602790.1	4.0	124.9	3.0	128.9	12.1	97	36	Weldon WC Screenings		V5N
6	RF-08-03	4/15/2014	684439.0	602813.0	5.0	124.2	4.7	128.9	12.1	96	36	Weldon WC Screenings		V5N
7	RF-08-04	4/17/2014	684400.4	602773.4	6.1	137.0	5.6	128.9	12.1	106	36	Weldon WC Screenings		V5N
8	RF-08-05	4/21/2014	684429.8	602794.0	6.8	128.9	3.5	128.9	12.1	100	36	Weldon WC Screenings		V5N
9	RF-08-06	4/21/2014	684443.6	602550.4	8.0	122.5	6.9	128.9	12.1	95	36	Weldon WC Screenings		V5N
	RF-09		684479.9	602754.0							40			
3	RF-09-01	4/7/2014	684489.3	602750.3	0.8	128.7	6.8	128.9	12.1	100	40	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
4	RF-09-02	4/11/2014	684498.7	602757.9	2.1	122.4	3.0	128.9	12.1	95	40	Weldon WC Screenings		V5N
5	RF-09-03	4/11/2014	684503.3	602770.3	3.2	129.3	8.5	128.9	12.1	100	40	Weldon WC Screenings		V5N
6	RF-09-04	4/14/2014	684503.3	602770.3	4.1	128.9	5.7	128.9	12.1	100	40	Weldon WC Screenings		V5N
7	RF-09-05	4/21/2014	684479.1	602753.1	5.4	128.9	5.3	128.9	12.1	100	40	Weldon WC Screenings		V5N
8	RF-09-06	4/21/2014	684446.9	602799.1	6.4	123.0	2.0	128.9	12.1	95	40	Weldon WC Screenings		V5N
1	RF-10		684474.1	602682.1	0.2						44	Crushed Concrete	Bottom of excavation elevation	
2	RF-10		684474.1	602682.1							44	Type A Material	No compaction testing required	
3	RF-10-01	4/25/2014	684476.1	602679.3	2.5	138.0	1.4	128.9	12.1	107	44	Weldon WC Screenings	Placed on Tye A Material	V5N
2	RF-11		684545.0	602673.2							48	Type A Material	Placed on Tilcon MH DGA	
3	RF-11-01	4/11/2014	684533.0	602676.0	1.0	126.0	3.8	128.9	12.1	98	48	Weldon WC Screenings	Placed on Type A Material; Against HB wall	V5N
4	RF-11-02	4/11/2014	684575.1	602679.9	2.1	125.6	4.5	128.9	12.1	97	48	Weldon WC Screenings	Against HB wall	V5N
5	RF-11-03	4/14/2014	684575.1	602679.9	2.8	126.8	2.2	128.9	12.1	98	48	Weldon WC Screenings	Against HB wall	V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

6	RF-11-04	4/17/2014	684579.8	602684.6	3.8	122.5	3.0	128.9	12.1	95	48	Weldon WC Screenings	Against HB wall	V5N
7	RF-11-05	4/17/2014	684585.7	602686.5	4.5	126.8	4.0	128.9	12.1	98	48	Weldon WC Screenings	Against HB wall	V5N
1	RF-12		684540.0	602601.3	0.3						51	Crushed Concrete	Bottom of excavation elevation	
2	RF-12		684540.0	602601.3							51	Type A Material	No compaction testing required	
3	RF-12-01	4/25/2014	684557.9	602605.6	2.3	130.2	2.2	128.9	12.1	101	51	Weldon WC Screenings	Placed on Type A Material	V5N
1	RF-13		684610.2	602590.4	-2.3						54	Crushed Concrete	Bottom of excavation elevation	
2	RF-13		684610.2	602590.4							54	Type A Material	No compaction testing required	
3	RF-13-01	4/11/2014	684619.5	602515.3	1.6	126.5	7.8	128.9	12.1	98	54	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-13-02	4/14/2014	684619.5	602515.3	2.7	124.5	2.7	128.9	12.1	97	54	Weldon WC Screenings	Against HB	V5N
5	RF-13-03	4/17/2014	684641.5	602614.6	3.6	123.0	4.1	128.9	12.1	95	54	Weldon WC Screenings	Against HB	V5N
6	RF-13-04	4/17/2014	684646.7	602619.5	4.4	132.9	5.5	128.9	12.1	103	54	Weldon WC Screenings	Against HB	V5N
0	RF-39		685485.1	601397.7	3.8						152	Stratum O	Bottom of excavation elevation	
1	RF-39-01	5/5/2014	685451.1	601421.7	4.3	126.3	3.9	128.9	12.1	98	151	Weldon WC Screenings		V5N
2	RF-39-02	5/5/2014	685477.5	601397.7	5.6	123.3	4.1	128.9	12.1	96	151	Weldon WC Screenings		V5N
3	RF-39-04	5/5/2014	685492.5	601460.8	6.4	123.8	7.4	128.9	12.1	96	151	Weldon WC Screenings		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

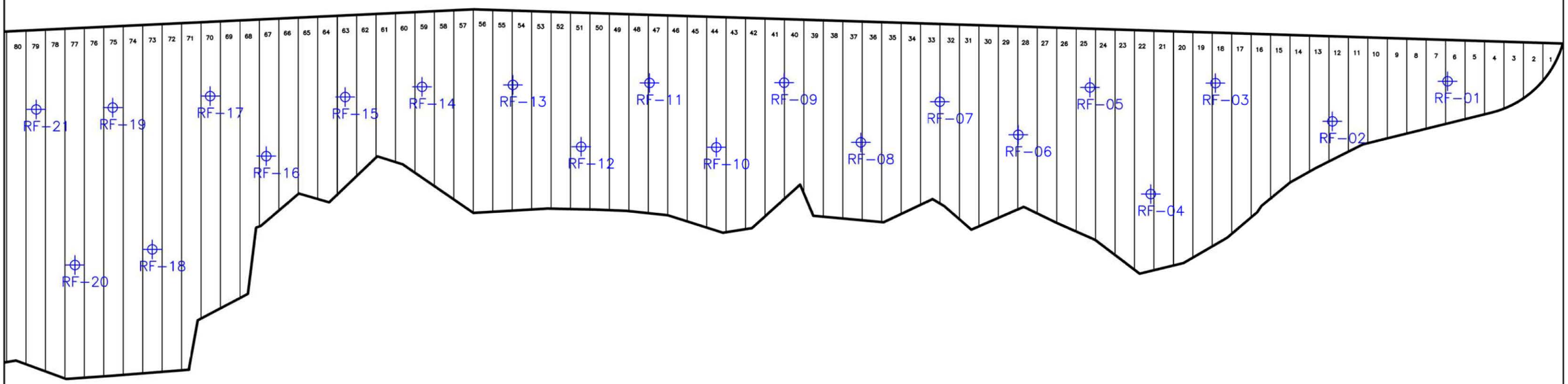
Sample ID RF-01-01 where:

RF = Reduced Frequency

01 = Test Location (as noted on Backfill Compaction Location Figure)

01 = Number of test performed at that location (sequential)

R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



NOTE:

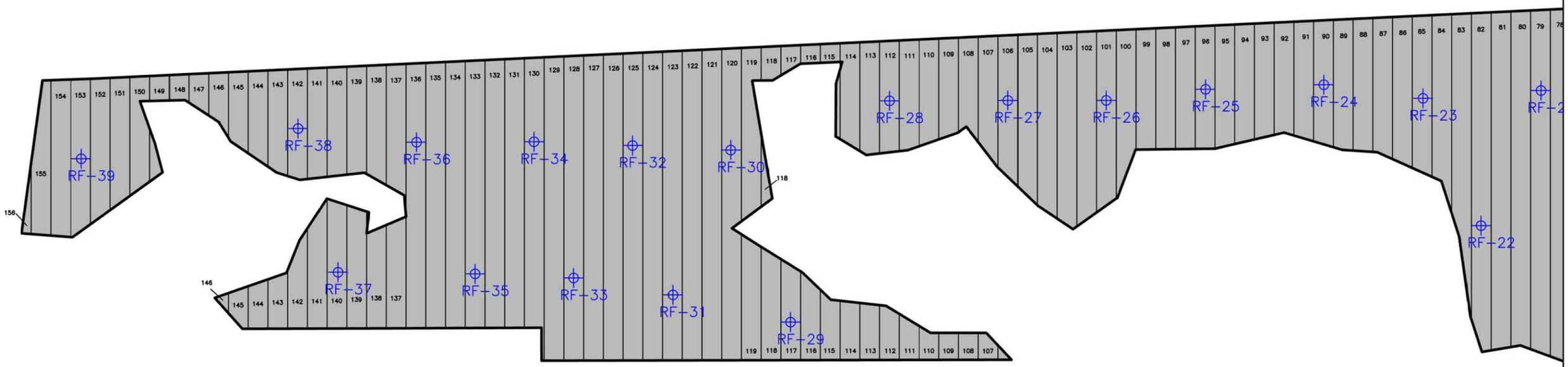
Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS 5 TESTS PER ACRE

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE
RF-22 TO RF-39

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Attachment 4: Dewatering Operations Update

- SA-6 South Dewatering Data (Headers)
- SA-6 South Deep Well Data (DW-1)
- SA-6 South Deep Well Data (DW-2)
- SA-6 South Deep Well Data (DW-5)

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) Daily	EXTRACTED VOLUME (Gal) Total	AVERAGE FLOW RATE (gpm)	COMMENTS
03/03/14	1	72	7,8,9,EPS	66	N/A	N/A	12,100	1,211,753	2.8	Flowmeter Frozen (Read by Gauging Tank)
03/04/14	1	24	7,8,9,EPS	66	N/A	N/A	4,600	1,216,353	3.2	
03/05/14	1	24	7,8,9,EPS	66	N/A	N/A	3,900	1,220,253	2.7	
03/06/14	1	24	7,8,9,EPS	66	N/A	N/A	3,700	1,223,953	2.6	
03/07/14	1	24	7,8,9,EPS	66	N/A	N/A	2,500	1,226,453	1.7	
03/10/14	1	72	7,8,9,EPS	66	N/A	N/A	1,700	1,228,153	0.4	
03/11/14	1	24	7,8,9,EPS	66	394858	394,948	90	1,228,243	0.1	
03/12/14	1	24	7,8,9,EPS	66	394948	395,094	146	1,228,389	0.1	Flowmeter Blockage Cleared and Reset
03/14/14	1	24	7,8,9,EPS	67	0	8,194	8,194	1,236,583	5.7	
03/17/14	1	72	8,9,EPS	56	8,194	32,805	24,611	1,261,194	5.7	
03/18/14	1	24	8,9,EPS	52	32,805	41,005	8,200	1,269,394	5.7	
03/19/14	1	24	8,9,EPS	52	41,005	53,281	12,276	1,281,670	8.5	
03/20/14	1	24	8,9,EPS	52	53,281	68,164	14,883	1,296,553	10.3	
03/21/14	1	24	8,9,EPS	44	68,164	82,672	14,508	1,311,061	10.1	
03/24/14	1	72	9,EPS	44	82,672	112,690	30,018	1,341,079	6.9	
03/25/14	1	24	9,EPS	14	112,690	136,290	23,600	1,364,679	16.4	
03/26/14	1	24	9,EPS	14	136,290	159,720	23,430	1,388,109	16.3	
03/27/14	1	24	9,EPS	14	159,720	173,928	14,208	1,402,317	9.9	
03/28/14	1	24	9,EPS	14	173,928	188,251	14,323	1,416,640	9.9	
03/31/14	1	72	9,EPS	14	188,251	234,816	46,565	1,463,205	10.8	
04/01/14	1	24	9,EPS	14	234,816	254,072	19,256	1,482,461	13.4	
04/02/14	1	24	9,EPS	14	254,072	272,724	18,652	1,501,113	13.0	
04/03/14	1	24	9,EPS	14	272,724	292,383	19,659	1,520,772	13.7	
04/04/14	1	24	9,EPS	14	292,383	310,862	18,479	1,539,251	12.8	
04/07/14	1	72	9,EPS	14	310,862	361,008	50,146	1,589,397	11.6	
04/08/14	1	24	9,EPS	14	361,008	375,723	14,715	1,604,112	10.2	
04/09/14	1	24	9,EPS	14	375,723	389,220	13,497	1,617,609	9.4	
04/10/14	1	24	9,EPS	14	389,220	403,320	14,100	1,631,709	9.8	
04/11/14	1	24	9,EPS	14	403,320	416,137	12,817	1,644,526	8.9	
04/14/14	1	72	9,EPS	14	416,137	453,580	37,443	1,681,969	8.7	
04/15/14	1	24	9,EPS	14	453,580	464,088	10,508	1,692,477	7.3	
04/16/14	1	24	9,EPS	14	464,088	473,709	9,621	1,702,098	6.7	
04/17/14	1	24	9,EPS	14	473,709	484,453	10,744	1,712,842	7.5	
04/18/14	1	24	9,EPS	14	484,453	492,855	8,402	1,721,244	5.8	
04/18/14	2	24	16,17,18,WPS-1	40	N/A	N/A	21,000	1,742,244	14.6	Flow meter not installed. Volumes based on tank gauging
04/21/14	1	72	9,EPS	14	492,855	518,050	25,195	1,767,439	5.8	
04/18/14	2	72	16,17,18,WPS-1	40	N/A	N/A	62,000	1,829,439	14.4	Flow meter not installed. Volumes based on tank gauging
04/22/14	1	24	9,EPS	14	518,050	523,548	5,498	1,834,937	3.8	
04/22/14	2	24	16,17,18,WPS-1	40	N/A	N/A	19,500	1,854,437	13.5	Flow meter not installed. Volumes based on tank gauging
04/23/14	1	24	9,EPS	14	523,548	528,369	4,821	1,859,258	3.3	
04/23/14	2	24	16,17,18,WPS-1	40	0	15,441	15,441	1,874,699	10.7	
04/24/14	1	24	9,EPS	14	528,369	532,995	4,626	1,879,325	3.2	
04/24/14	2	24	16,17,18,WPS-1	40	15,441	30,198	14,757	1,894,082	10.2	
04/25/14	1	24	9,EPS	14	532,995	537,006	4,011	1,898,093	2.8	
04/25/14	2	24	16,17,18,WPS-1	40	30,198	41,737	11,539	1,909,632	8.0	
04/28/14	1	72	9,EPS	12	537,006	552,302	15,296	1,924,928	3.5	
04/28/14	2	72	16,17	18	41,737	59,981	18,244	1,943,172	4.2	
04/29/14	1	24	9,EPS	12	552,302	555,724	3,422	1,946,594	2.4	
04/29/14	2	24	16,17	18	59,981	62,592	2,611	1,949,205	1.8	

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) Daily	EXTRACTED VOLUME (Gal) Total	AVERAGE FLOW RATE (gpm)	COMMENTS
04/30/14	1	24	9,EPS	12	555,724	560,143	4,419	1,953,624	3.1	
04/30/14	2	24	16,17	18	62,592	65,318	2,726	1,956,350	1.9	

Notes: Active Header Numbers refer to H-1, H-2, H-3, etc., as shown on Figure 6 Well Point Dewatering System
EPS - East Perimeter System
WPS - West Perimeter System
Vac plant #2 taken out of service in October, 2013
Previous information is trunketed. Only last month and current month information is provided.

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-1)

DATE	HOURS OF OPERATION	DEEP WELL FLOW METER START (Gal)	DEEP WELL FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) Daily	EXTRACTED VOLUME (Gal) Total	AVERAGE FLOW RATE (GPM)	COMMENTS
10/23/13	29	0	24,640	24,640	24,640	14.2	
10/24/13	24	24,640	31,757	7,117	31,757	4.9	
10/25/13	24	31,757	39,567	7,810	39,567	5.4	Slight blockage cleaned from meter
10/28/13	72	39,567	91,820	52,253	91,820	12.1	
10/29/13	24	91,820	101,672	9,852	101,672	6.8	
10/30/13	24	101,672	111,472	9,800	111,472	6.8	
10/31/13	24	111,472	120,558	9,086	120,558	6.3	
11/01/13	24	120,558	128,248	7,690	128,248	5.3	
11/04/13	72	128,248	162,721	34,473	162,721	8.0	
11/05/13	24	162,721	173,853	11,132	173,853	7.7	
11/06/13	24	173,853	189,770	15,917	189,770	11.1	
11/07/13	24	189,770	210,266	20,496	210,266	14.2	
11/08/13	24	210,266	220,964	10,698	220,964	7.4	
11/11/13	72	220,964	235,035	14,071	235,035	3.3	
11/12/13	24	235,035	254,720	19,685	254,720	13.7	
11/13/13	24	254,720	272,758	18,038	272,758	12.5	
11/14/13	24	272,758	275,336	2,578	275,336	1.8	
11/15/13	24	275,336	281,413	6,077	281,413	4.2	
11/18/13	72	281,413	318,812	37,399	318,812	8.7	
11/19/13	24	318,812	328,059	9,247	328,059	6.4	Well Taken Offline for Excavation
11/27/13	24	328,059	351,245	23,186	351,245	16.1	
12/02/13	120	351,245	414,031	62,786	414,031	8.7	Well Shut Off for Excavation Activities
12/04/13	24	430,536	446,631	16,095	430,126	11.2	
12/05/13	24	446,631	459,826	13,195	443,321	9.2	
12/06/13	24	459,826	468,837	9,011	452,332	6.3	
12/09/13	72	468,837	499,005	30,168	482,500	7.0	
12/10/13	24	499,005	508,914	9,909	492,409	6.9	
12/11/13	24	508,914	519,185	10,271	502,680	7.1	
12/12/13	24	519,185	528,500	9,315	511,995	6.5	
12/13/13	24	528,500	535,384	6,884	518,879	4.8	
12/16/13	72	535,384	555,625	20,241	539,120	4.7	
12/17/13	24	555,625	563,870	8,245	547,365	5.7	
12/18/13	24	563,870	572,558	8,688	556,053	6.0	
12/19/13	24	572,588	578,579	5,991	562,044	4.2	
12/20/13	24	578,579	585,086	6,507	568,551	4.5	
12/23/13	72	585,086	604,411	19,325	587,876	4.5	
12/24/13	24	604,411	613,829	9,418	597,294	6.5	
12/30/13	144	613,829	669,247	55,418	652,712	6.4	
12/31/13	24	669,247	678,171	8,924	661,636	6.2	
01/02/14	48	678,171	697,609	19,438	681,074	6.7	
01/06/14	96	697,609	733,339	35,730	716,804	6.2	Well Taken Offline
03/11/14	24	0	13,985	13,985	730,789	9.7	Well Online
03/12/14	24	13,985	28,186	14,201	744,990	9.9	
03/13/14	24	28,186	29,780	1,594	746,584	1.1	
03/14/14	24	29,780	31,460	1,680	748,264	1.2	
03/17/14	72	31,460	36,200	4,740	753,004	1.1	
03/18/14	24	36,200	37,460	1,260	754,264	0.9	
03/19/14	24	37,460	46,700	9,240	763,504	6.4	
03/20/14	24	46,700	55,760	9,060	772,564	6.3	
03/21/14	24	55,760	63,390	7,630	780,194	5.3	
03/24/14	72	63,390	96,110	32,720	812,914	7.6	
03/25/14	24	96,110	107,450	11,340	824,254	7.9	
03/26/14	24	107,450	116,401	8,951	833,205	6.2	Well Taken Offline

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-2)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
03/03/14	72	14,717	43,855	29,138	1,296,224	6.7	
03/04/14	24	43,855	50,452	6,597	1,302,821	4.6	
03/05/14	24	50,452	61,014	10,562	1,313,383	7.3	
03/06/14	24	61,014	71,934	10,920	1,324,303	7.6	Well Taken Offline for Excavation
03/27/14	8	71,934	74,639	2,705	1,327,008	5.6	Well Online
03/28/14	24	74,639	85,721	11,082	1,338,090	7.7	
03/31/14	72	85,721	123,254	37,533	1,375,623	8.7	
04/01/14	24	0	17,708	17,708	1,393,331	12.3	Flowmeter Reset
04/02/14	24	17,708	25,981	8,273	1,401,604	5.7	
04/03/14	24	25,981	32,617	6,636	1,408,240	4.6	
04/04/14	24	32,617	40,149	7,532	1,415,772	5.2	
04/07/14	72	40,149	67,243	27,094	1,442,866	6.3	
04/08/14	24	67,243	74,368	7,125	1,449,991	4.9	
04/09/14	24	74,368	81,094	6,726	1,456,717	4.7	
04/10/14	24	81,094	88,044	6,950	1,463,667	4.8	
04/11/14	24	88,044	98,156	10,112	1,473,779	7.0	
04/14/14	72	98,156	129,352	31,196	1,504,975	7.2	
04/15/14	24	0	19,074	19,074	1,524,049	13.2	Flowmeter Reset
04/16/14	24	19,074	29,017	9,943	1,533,993	6.9	
04/17/14	24	29,017	39,400	10,383	1,544,376	7.2	
04/18/14	24	39,400	41,632	2,232	1,546,608	1.6	
04/21/14	72	41,632	48,331	6,699	1,553,307	1.6	
04/22/14	24	48,331	50,392	2,061	1,555,368	1.4	
04/23/14	24	50,392	59,341	8,949	1,564,317	6.2	
04/24/14	24	59,341	67,205	7,864	1,572,181	5.5	Well Taken Offline

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-5)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
04/25/14	24	0	6,883	6,883	6,883	4.8	
04/28/14	72	6,883	30,393	23,510	30,393	5.4	
04/29/14	24	30,393	37,639	7,246	37,639	5.0	
04/30/14	24	37,639	43,518	5,879	43,518	4.1	

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	HOURS OF OPERATION	DISCHARGE FLOW METER START (KGal)	DISCHARGE FLOW METER FINISH (KGal)	DISCHARGED VOLUME (Gal) DAILY	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
03/04/14	8.0	4,970.69	5,064.73	94,040	5,064,280	PVSC Compliance Sample collected
03/05/14	8.0	5,064.73	5,170.07	105,340	5,169,620	
03/10/14	8.0	5,170.07	5,299.77	129,700	5,299,320	
03/11/14	8.0	5,299.77	5,368.86	69,090	5,368,410	
03/12/14	8.0	5,368.86	5,433.63	64,770	5,433,180	
03/17/14	8.0	5,433.63	5,590.00	156,370	5,589,550	
03/18/14	8.0	5,590.00	5,690.00	100,000	5,689,550	
03/19/14	8.0	5,690.00	5,849.46	159,460	5,849,010	
03/20/14	8.0	5,849.46	5,912.45	62,990	5,912,000	
03/21/14	8.0	5,912.45	6,024.94	112,490	6,024,490	
03/24/14	8.0	6,024.94	6,125.64	100,700	6,125,190	
03/25/14	8.0	6,125.64	6,175.64	50,000	6,175,190	
03/26/14	8.0	6,175.64	6,248.89	73,250	6,248,440	
03/27/14	8.0	6,248.89	6,310.44	61,550	6,309,990	
03/28/14	8.0	6,310.44	6,380.45	70,010	6,380,000	
03/31/14	8.0	6,380.45	6,575.85	195,400	6,575,400	
04/01/14	8.0	6,575.85	6,717.81	141,960	6,717,360	
04/02/14	8.0	6,717.81	6,951.38	233,570	6,950,930	
04/03/14	8.0	6,951.38	7,050.47	99,090	7,050,020	PVSC Compliance Sample collected
04/04/14	8.0	7,050.47	7,173.74	123,270	7,173,290	
04/05/14	8.0	7,173.74	7,250.14	76,400	7,249,690	
04/08/14	8.0	7,250.14	7,452.80	202,660	7,452,350	
04/09/14	8.0	7,452.80	7,538.06	85,260	7,537,610	
04/10/14	8.0	7,538.06	7,687.85	149,790	7,687,400	
04/11/14	8.0	7,687.85	7,810.35	122,500	7,809,900	
04/14/14	6.0	7,810.35	7,883.23	72,880	7,882,780	
04/15/14	6.0	7,883.23	7,948.35	65,120	7,947,900	
04/16/14	8.0	7,948.35	8,036.99	88,640	8,036,540	
04/17/14	8.0	8,036.99	8,120.52	83,530	8,120,070	
04/18/14	8.0	8,120.52	8,241.81	121,290	8,241,360	
04/19/14	8.0	8,241.81	8,416.26	174,450	8,415,810	
04/21/14	8.0	8,416.26	8,503.96	87,700	8,503,510	
04/22/14	8.0	8,503.96	8,649.60	145,640	8,649,150	
04/23/14	8.0	8,649.60	8,775.22	125,620	8,774,770	
04/24/14	8.0	8,775.22	8,877.66	102,440	8,877,210	
04/25/14	8.0	8,877.66	8,949.22	71,560	8,948,770	
04/26/14	8.0	8,949.22	9,030.24	81,020	9,029,790	
04/28/14	8.0	9,030.24	9,133.26	103,020	9,132,810	
04/29/14	8.0	9,133.26	9,211.40	78,140	9,210,950	
04/30/14	8.0	9,211.40	9,371.72	160,320	9,371,270	

Notes: Previous information is trunketed. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

- Stockpiled Material Tracking and Sampling Log

SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

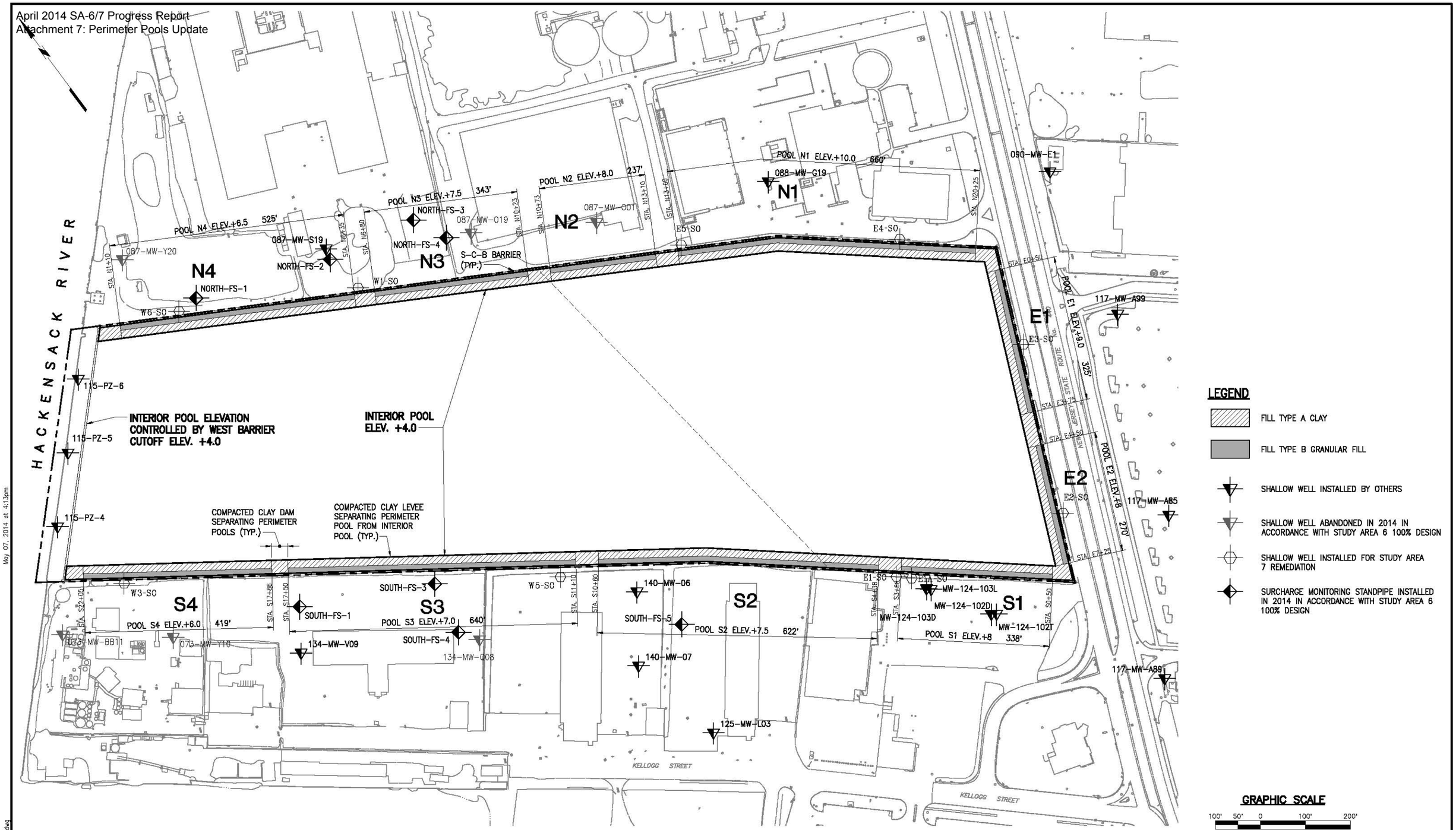
Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
1-7	<20	7-20-a	500	124-7-20-a1	10/31/2013	14:20	5.8	Yes		
				124-7-20-a2	10/31/2013	14:25	7.8	Yes		
				124-7-20-a3	10/31/2013	14:30	4.6	Yes		
				124-7-20-a4	10/31/2013	14:35	4.7	Yes		
7-12	<20	12-20-a	500	124-12-20-a1	11/26/2013	15:00	26.1		Yes	
				124-12-20-a2	11/26/2013	15:05	2.9	Yes		
				124-12-20-a3	11/26/2013	15:10	7.8	Yes		
				124-12-20-a4	11/26/2013	15:15	23.2		Yes	
7-12	<20	12-20-b	500	124-12-20-b1	11/26/2013	15:20	4.3	Yes		
				124-12-20-b2	11/26/2013	15:25	2.5	Yes		
				124-12-20-b3	11/26/2013	15:30	5.1	Yes		
				124-12-20-b4	11/26/2013	15:35	5.8	Yes		
12-22	<20	22-20-a	600	124-22-20-a1	12/13/2013	13:30	5.5	Yes		
				124-22-20-a2	12/13/2013	13:35	11.9	Yes		
				124-22-20-a3	12/13/2013	13:40	1.3	Yes		
				124-22-20-a4	12/13/2013	13:45	2.3	Yes		
12-25	<20	25-20-a	1000	124-25-20-a1	12/23/2013	9:00	1.6	Yes		
				124-25-20-a2	12/23/2013	9:05	1.7	Yes		
				124-25-20-a3	12/23/2013	9:10	10.8	Yes		
				124-25-20-a4	12/23/2013	9:15	17.4	Yes		
20-29	<20	29-20-a	500	124-29-20-a1	1/13/2014	14:00	0.31	Yes		
				124-29-20-a2	1/13/2014	14:05	0.84	Yes		
				124-29-20-a3	1/13/2014	14:10	3.4	Yes		
				124-29-20-a4	1/13/2014	14:15	1.9	Yes		
30-41	>1000	41-1000-a	750	124-41-1000-a1	2/25/2014	12:40	1,750			Yes
				124-41-1000-a2	2/25/2014	12:45	3,690			Yes
				124-41-1000-a3	2/25/2014	12:50	3,410			Yes
				124-41-1000-a4	2/25/2014	12:55	453		Yes	
30-41	>1000	41-1000-b	750	124-41-1000-b1	2/25/2014	13:00	490		Yes	
				124-41-1000-b2	2/25/2014	13:05	1,110			Yes
				124-41-1000-b3	2/25/2014	13:10	669		Yes	
				124-41-1000-b4	2/25/2014	13:15	1,920			Yes
37-46	<20	46-20-a	750	124-46-20-a1	3/12/2014	14:00	3.2	Yes		
				124-46-20-a2	3/12/2014	14:05	2.2	Yes		
				124-46-20-a3	3/12/2014	14:10	3.9	Yes		
				124-46-20-a4	3/12/2014	14:15	2	Yes		
37-46	<20	46-20-b	750	124-46-20-b1	3/12/2014	14:20	2.9	Yes		
				124-46-20-b2	3/12/2014	14:25	3.8	Yes		
				124-46-20-b3	3/12/2014	14:30	2.2	Yes		
				124-46-20-b4	3/12/2014	14:35	2.6	Yes		
41-49	>1000	124-49-1000-a	1000	124-49-1000-a1	3/24/2014	9:15	3490			Yes
				124-49-1000-a2	3/24/2014	9:20	3850			Yes
				124-49-1000-a3	3/24/2014	9:25	2580			Yes
				124-49-1000-a4	3/24/2014	9:30	5570			Yes
41-49	>1000	124-49-1000-b	1000	124-49-1000-b1	3/24/2014	9:35	8840			Yes
				124-49-1000-b2	3/24/2014	9:40	2340			Yes
				124-49-1000-b3	3/24/2014	9:45	2		Yes	
				124-49-1000-b4	3/24/2014	9:50	4250			Yes
47-57	<20	124-57-20-a	860	124-57-20-a1	4/4/2014	12:30	17.0	Yes		
				124-57-20-a2	4/4/2014	12:35	3.8	Yes		
				124-57-20-a3	4/4/2014	12:40	4.2	Yes		
				124-57-20-a4	4/4/2014	12:45	<0.52	Yes		

SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
47-57	<20	124-57-20-b	860	124-57-20-b1	4/4/2014	12:50	4.1	Yes		
				124-57-20-b2	4/4/2014	12:55	14.2	Yes		
				124-57-20-b3	4/4/2014	13:00	15.7	Yes		
				124-57-20-b4	4/4/2014	13:05	<0.49	Yes		
47-57	<20	124-57-20-c	860	124-57-20-c1	4/4/2014	13:10	10.3	Yes		
				124-57-20-c2	4/4/2014	13:15	11.6	Yes		
				124-57-20-c3	4/4/2014	13:20	8.9	Yes		
				124-57-20-c4	4/4/2014	13:25	41.4		Yes	
49-59	>1000	124-59-1000-a	800	124-59-1000-a1	4/11/2014	8:00	11,000			Yes
				124-59-1000-a2	4/11/2014	8:05	26,900			Yes
				124-59-1000-a3	4/11/2014	8:10	11,900			Yes
				124-59-1000-a4	4/11/2014	8:15	32,700			Yes
57,58 144-152	<20	124-152-20-a	800	124-152-20-a1	4/23/2014	15:00	0.73	Yes		
				124-152-20-a2	4/23/2014	15:05	0.76	Yes		
				124-152-20-a3	4/23/2014	15:10	0.42	Yes		
				124-152-20-a4	4/23/2014	15:15	1.2	Yes		

Notes:
**Material currently stockpiled.

Attachment 7: Perimeter Pools Update



IN PROGRESS

05-07-2014

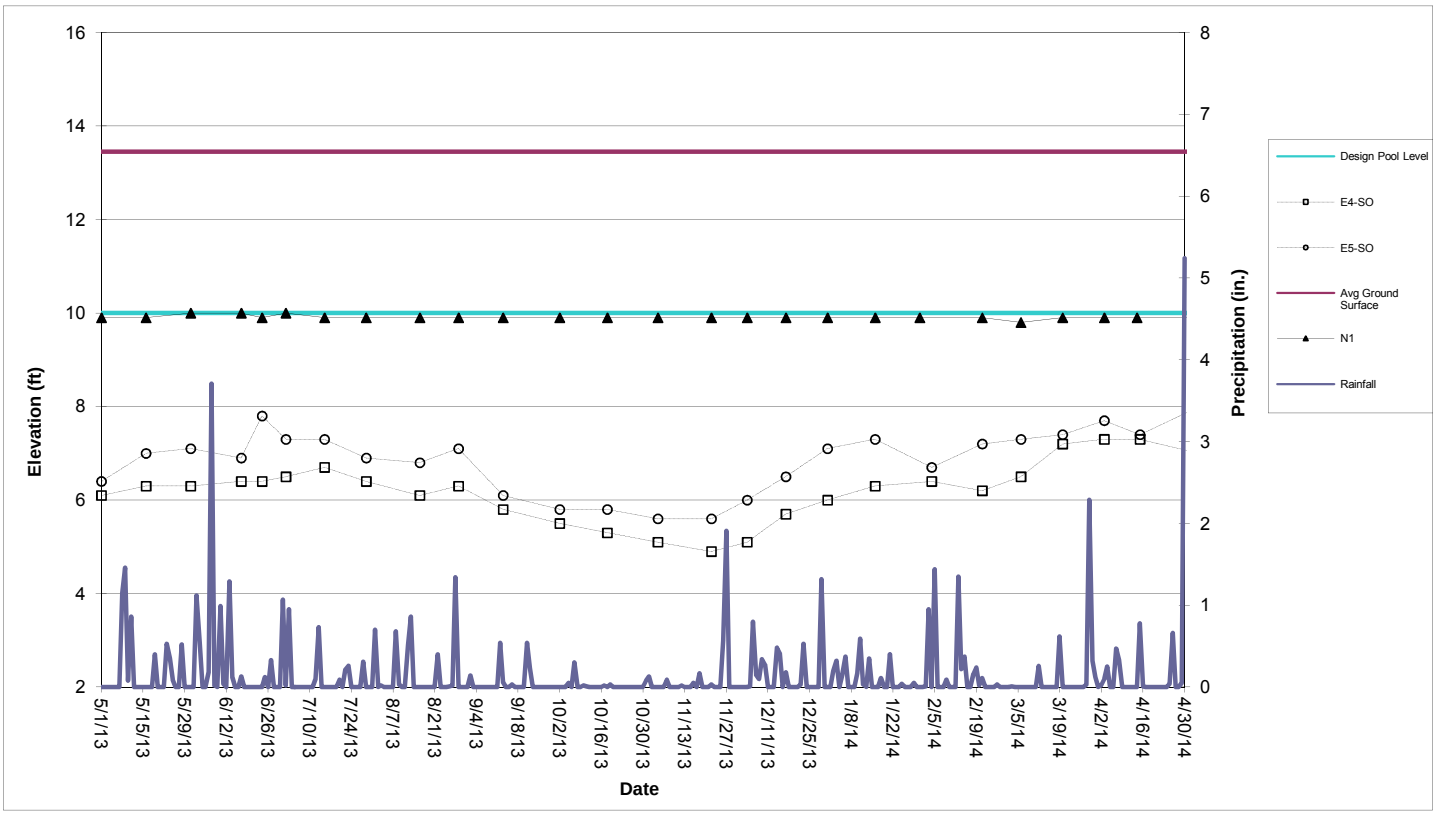
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

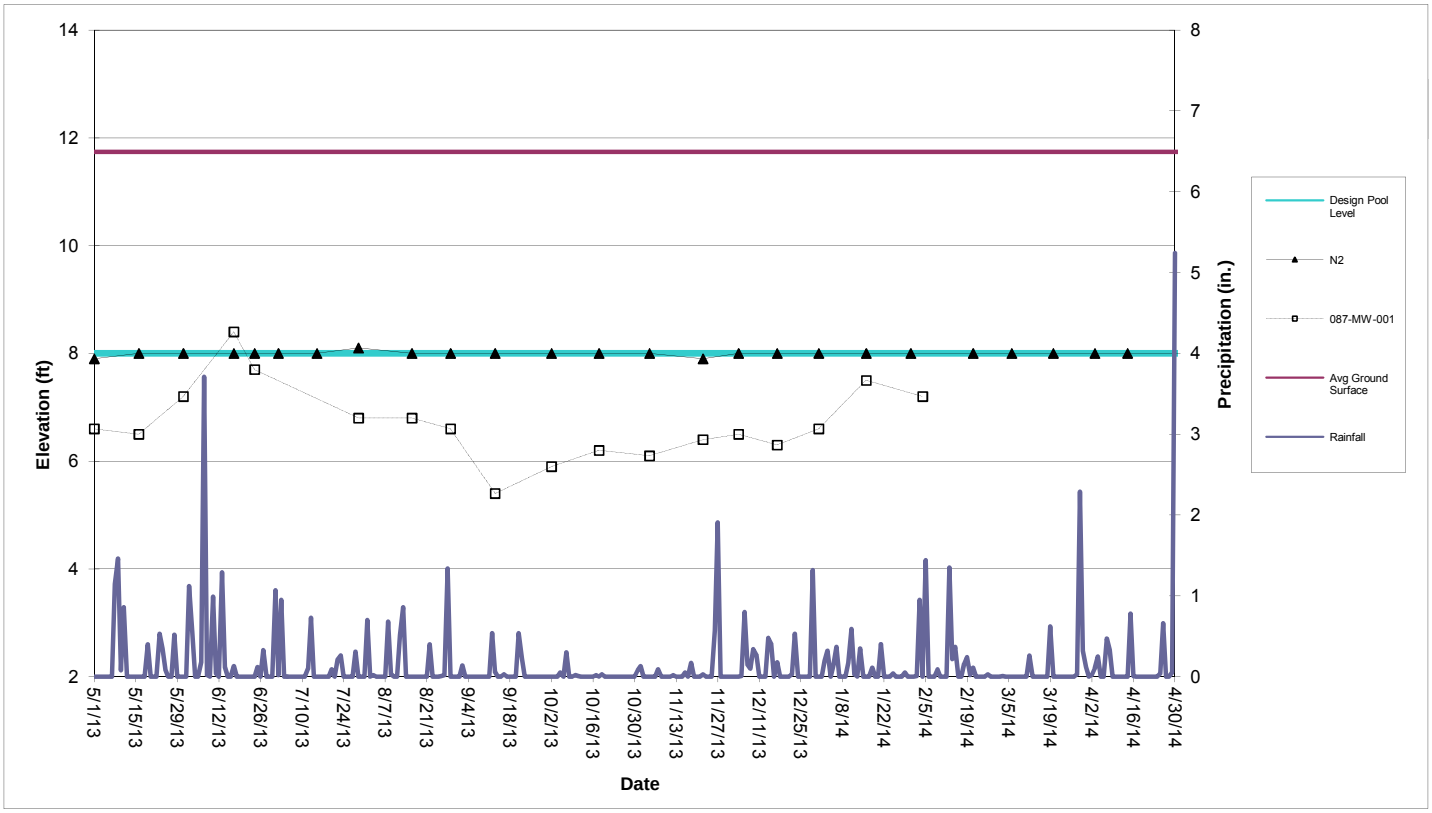
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP–1

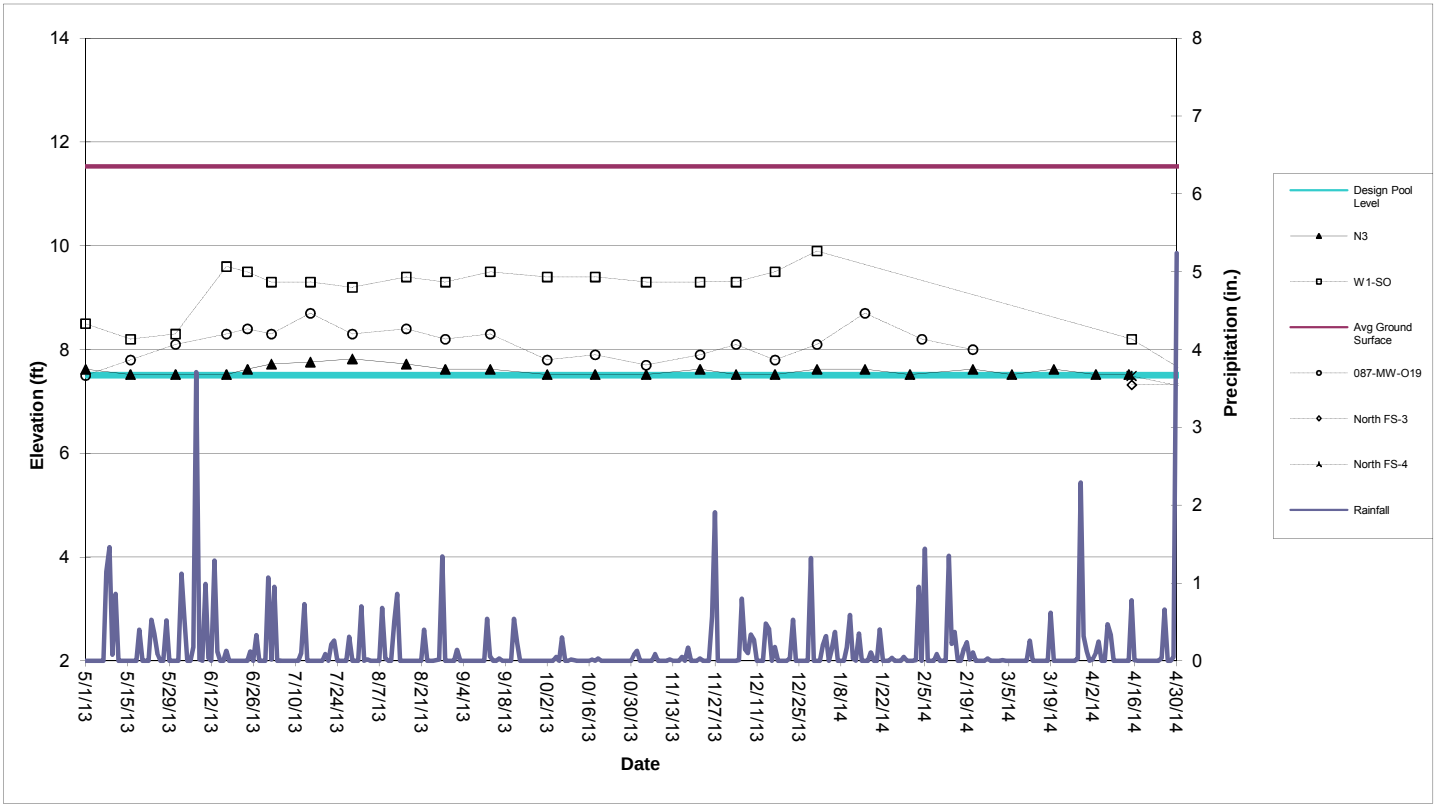
May 07, 2014 at 4:13pm
G:\DWGS\102\10210\Dewatering\PP-1.dwg
bboscaino



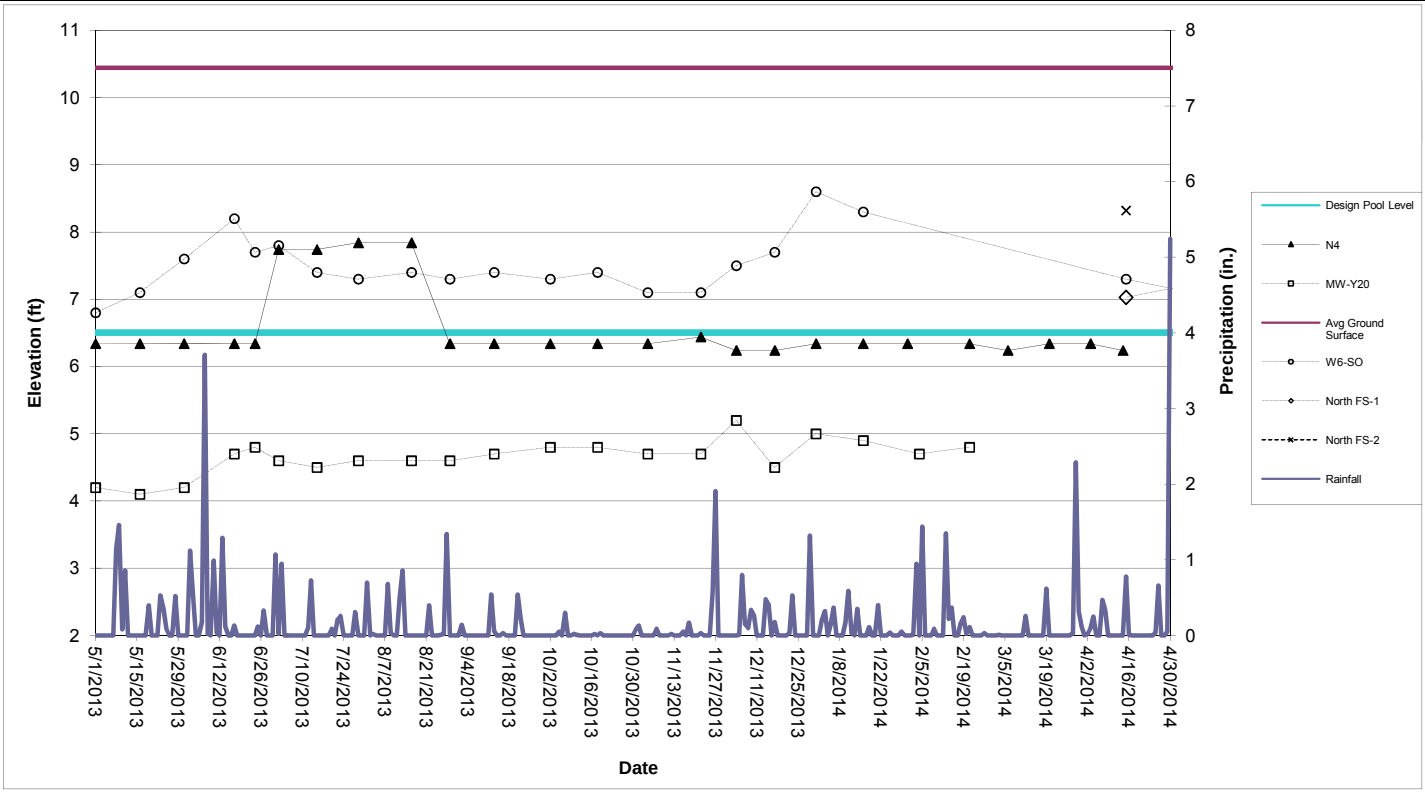
Perimeter Pool N1 (Sta. N13+60 to N20+25)



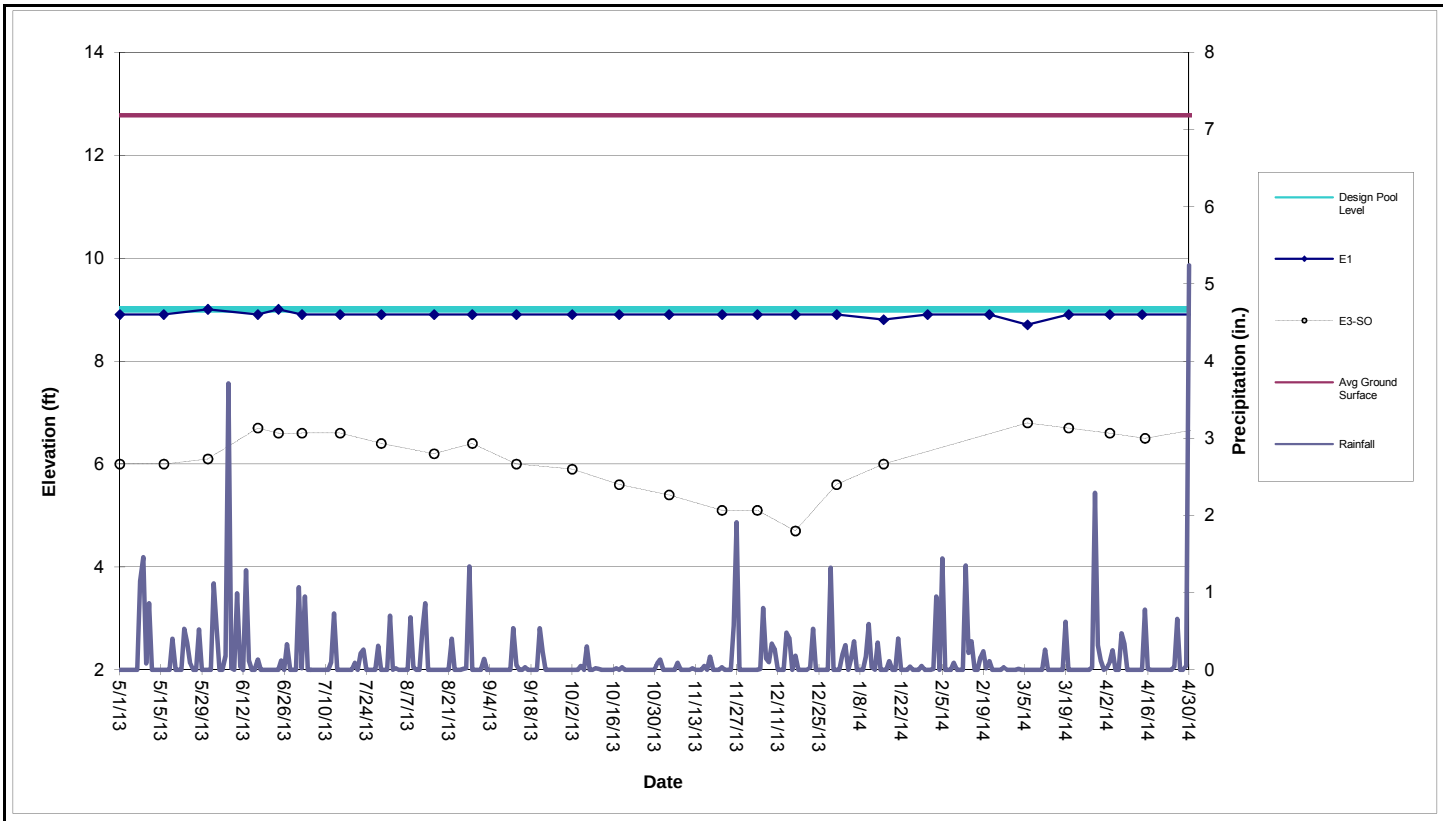
Perimeter Pool N2 (Sta. N10+73 to N13+10)



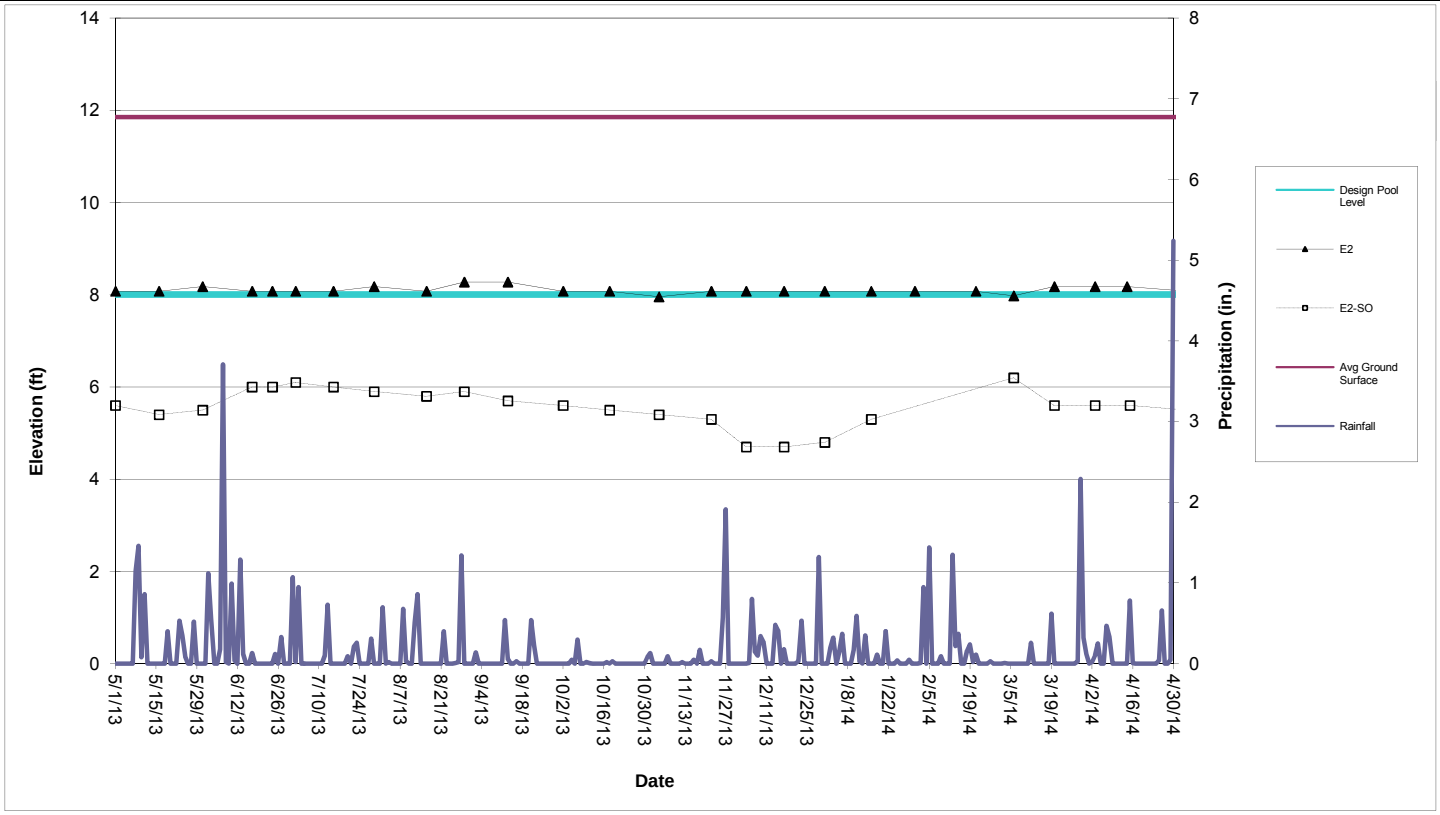
Perimeter Pool N3 (Sta. N6+80 to N10+23)



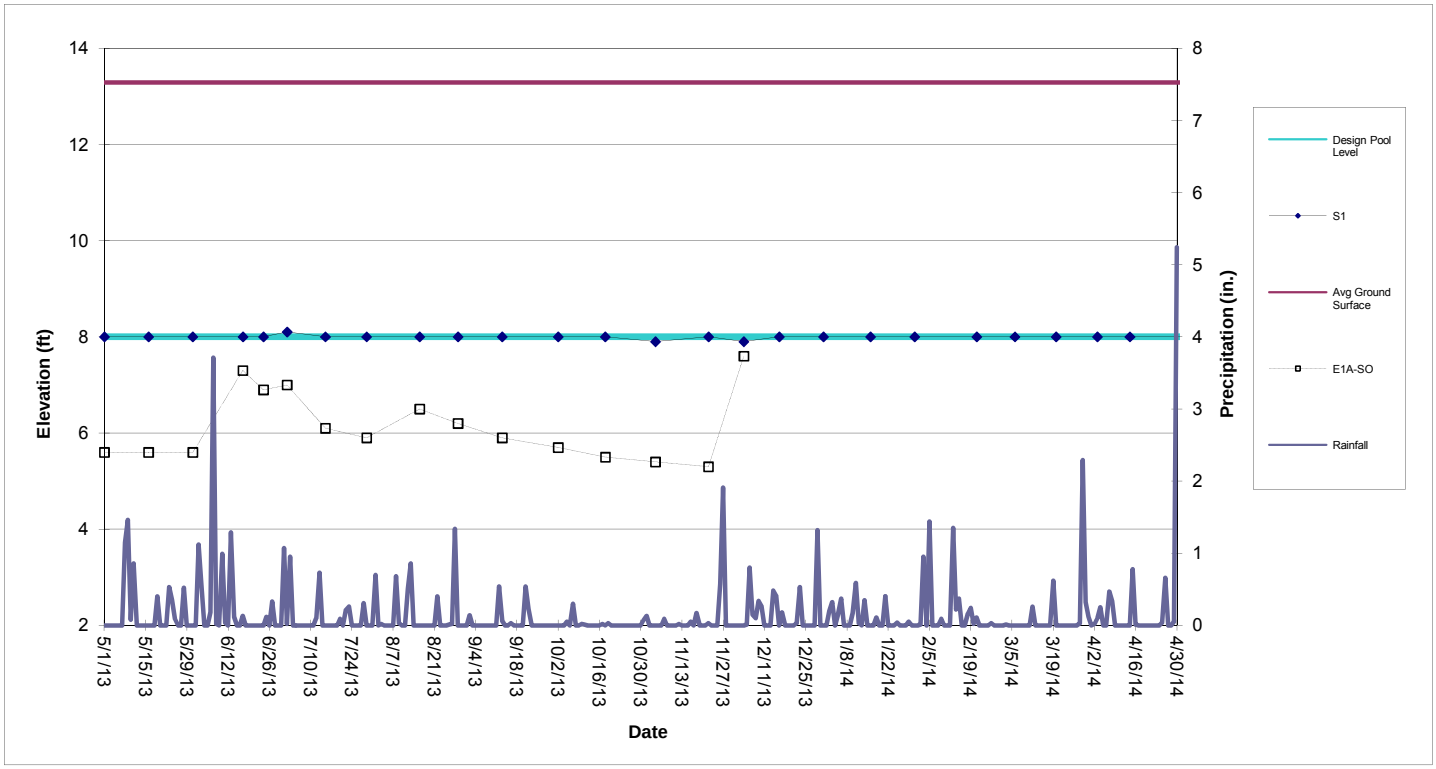
Perimeter Pool N4 (Sta. N6+80 to N10+23)



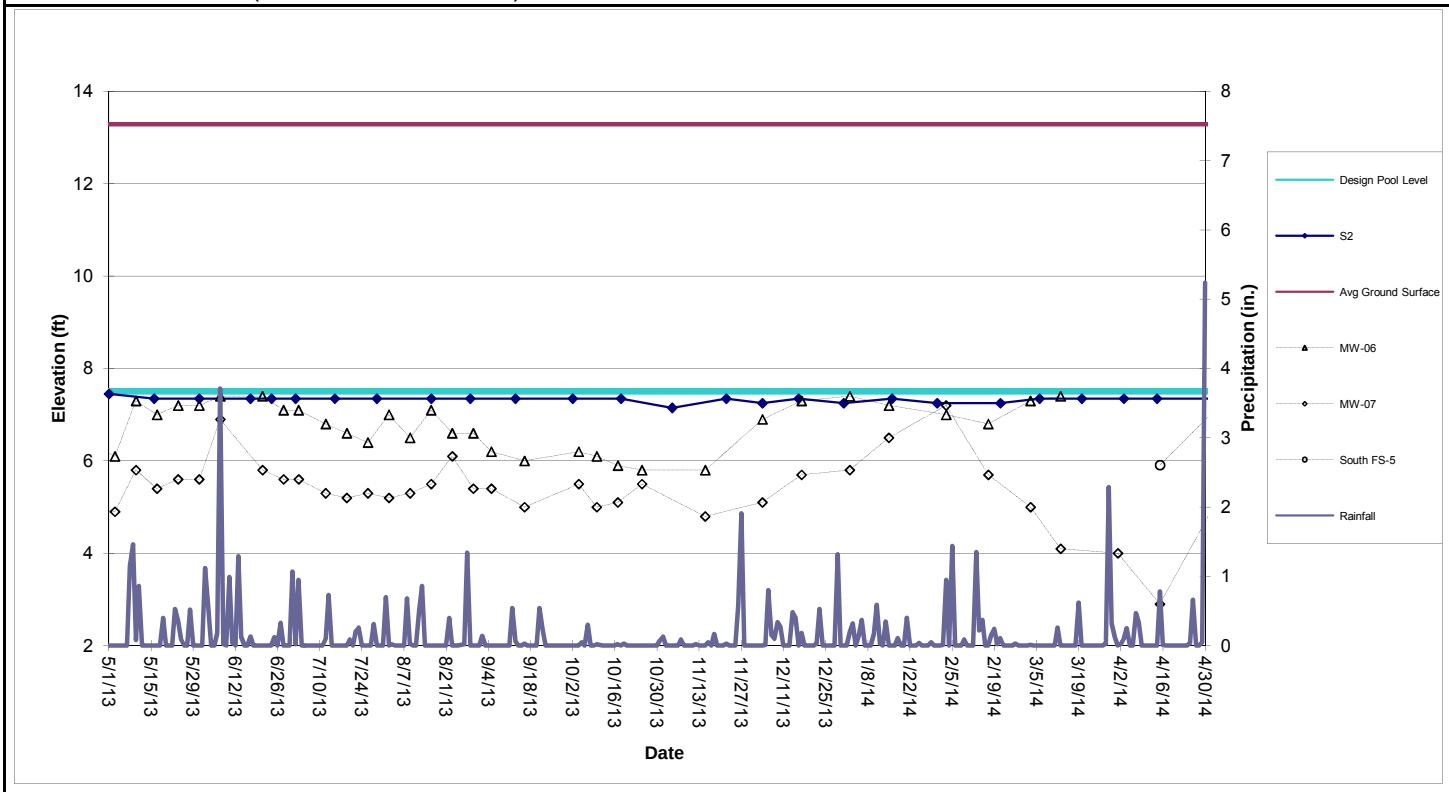
Perimeter Pool E1 (Sta. E0+50 to E3+75)



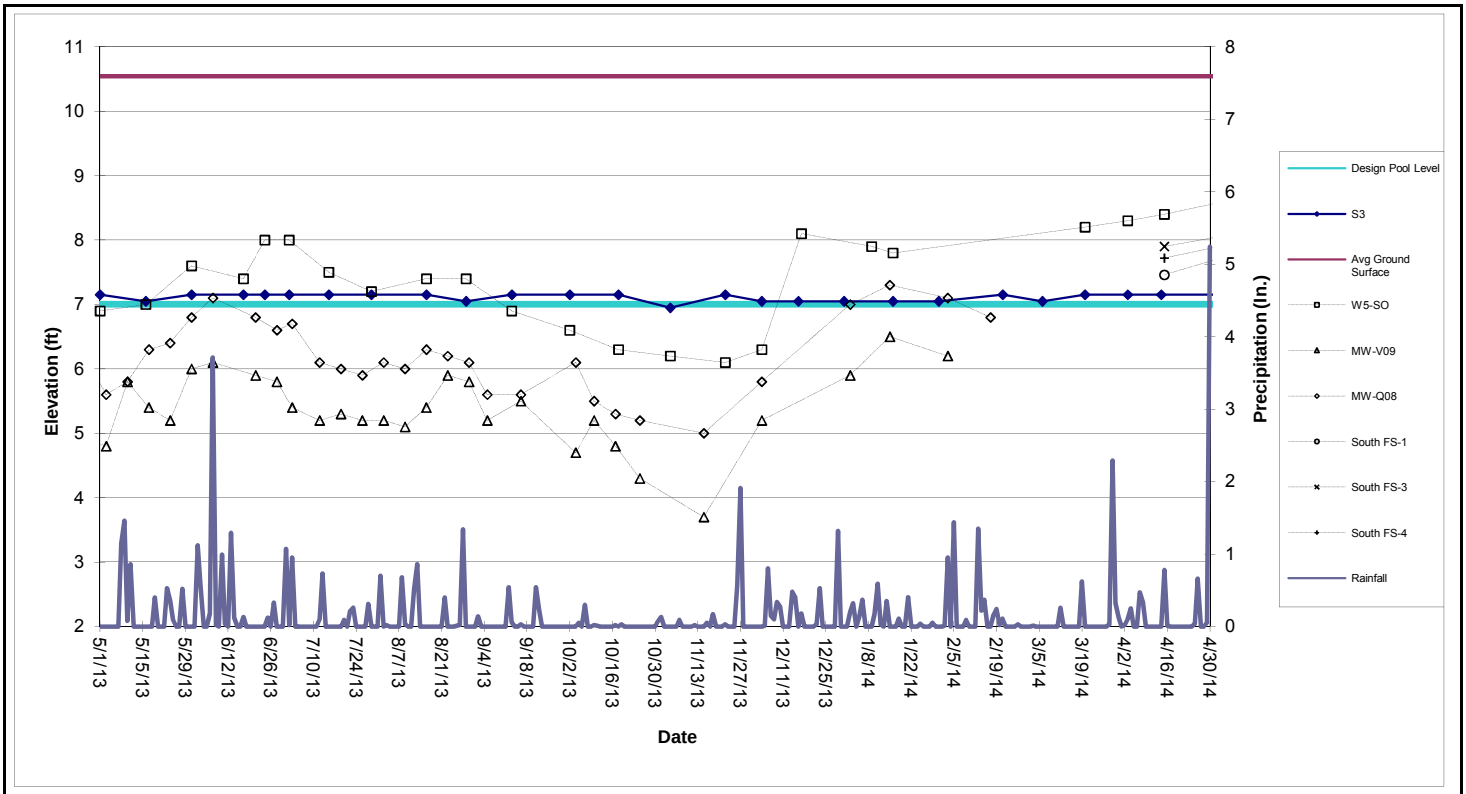
Perimeter Pool E2 (Sta. E4+50 to E7+25)



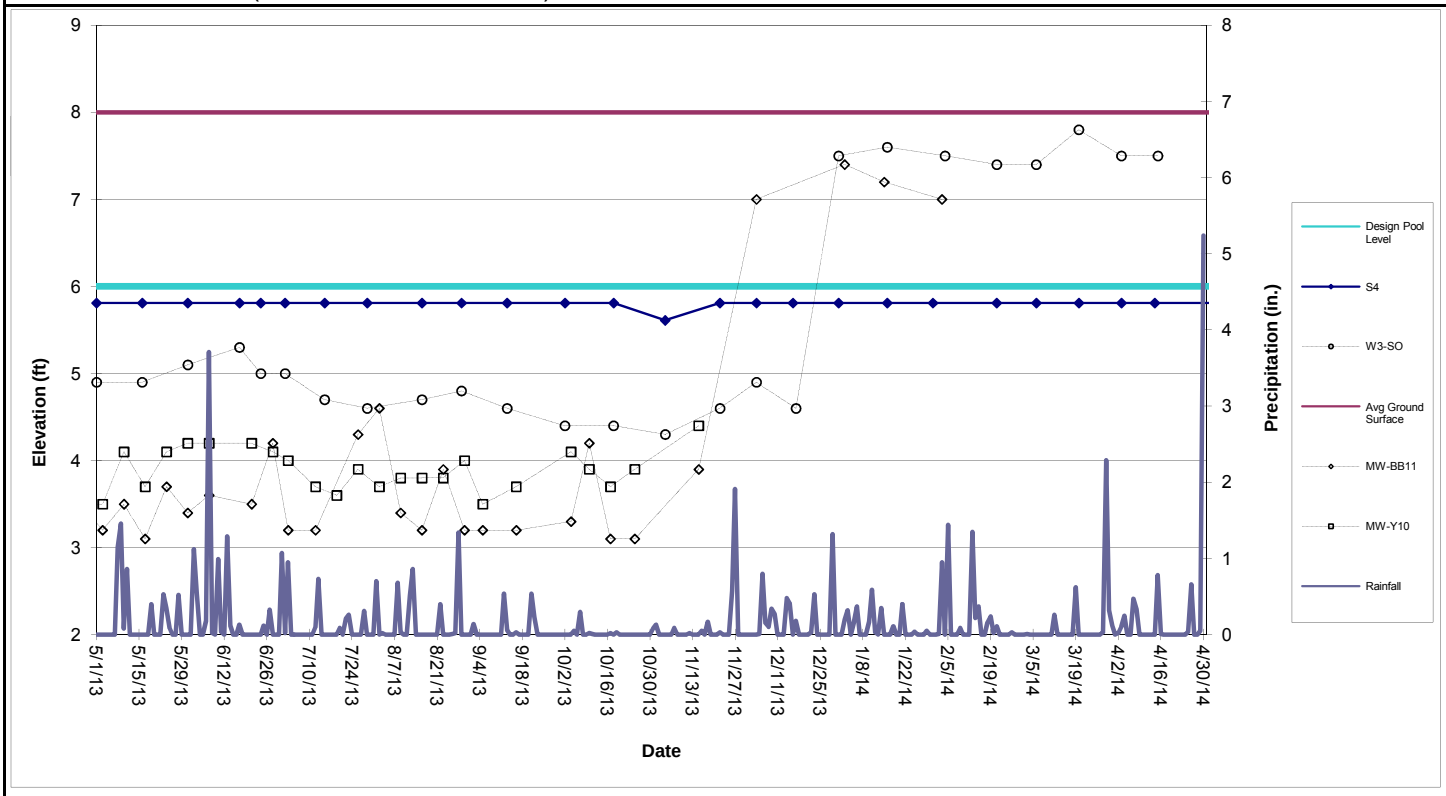
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										134-	140-		North				South			
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	MW-V09	MW-06	MW-07	FS-1	FS-2	FS-3	FS-4	FS-1	FS-3	FS-4	FS-5
Date																				
3/3/2014											7.3	5.0								
3/6/2014		6.2	6.8	6.5	7.3		7.4													
3/13/2014											7.4	4.1								
3/20/2014		5.6	6.7	7.2	7.4		7.8	8.2												
4/3/2014		5.6	6.6	7.3	7.7		7.5	8.3												
4/15/2014		5.6	6.5	7.3	7.4	8.2	7.5	8.4	7.3				7.0	8.3	7.3	7.5	7.5	7.9	7.7	5.9

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells and perimeter pool risers are temporarily inaccessible:
134-MW-V09, N3W, N4E, N4W, W3-SO, E1A-SO

Attachment 8: Quality and Level Data in GWET Wells

- Summary of Groundwater Quality Data from GWET Wells
- Quarterly Water Wells
- Trichloroethene//Chloroform/Hexavalent Chromium in GWET Wells

Table 1
Summary of Groundwater Quality Data from GWET Wells

Honeywell

Parameter	3-Jun-13			20-Sep-13			3-Dec-13			1-Apr-14		
	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-203BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-203BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-203BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)
Benzene	3.9	5.5	ND	3.1	4.4	ND	3.4	5.2	ND	2.9	4.0	ND
Carbon Tetrachloride	5.8	3.5	1.9	4.6	3.1	1.4	5.8	4.8	2.5	4.4J	2.8	1.9
Chloroform	30.3	27.2	ND	27.4	17.9	ND	31.0	16.8	ND	26.5	12.0	ND
1,1-Dichloroethene	0.82J	ND	ND	0.55	ND	ND	0.07	ND	ND	0.42J	ND	ND
cis-1,2-Dichloroethene	173	17.0	ND	148	13.8	ND	135	12.3	ND	96	8.1	ND
trans-1,2-Dichloroethene	5.8	0.47	ND	4.5	0.76	ND	4.9	0.35	ND	3.4	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	118	63.3	ND	95.1	52.6	ND	113.0	63.0	ND	91.3	43.4	ND
1,1-Dichloroethane	0.47	ND	ND	0.45	ND	ND	0.47	ND	ND	0.45J	ND	ND
Methylene chloride	1.3	0.76	ND	0.84	ND	ND	0.87	0.31	ND	0.77J	ND	ND
Vinyl chloride	10.6	4.4	ND	12.6	ND	ND	14.2	4.8	ND	13.5	2.7	ND
1,2-Dichlorobenzene	0.81	ND	ND	0.66	ND	ND	0.72	ND	ND	0.72J	ND	ND
Chlorobenzene	0.48	ND	ND	0.38	ND	ND	0.39	ND	ND	0.38J	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium	34,000	13,000	15,700	38,200	11,400	16,700	39,600	11,300	16,500	33,400	12,500	15,100
Total Chromium	48,500	28,000	21,000	39,900	13,500	17,000	34,200	10,600	14,900	36,900	16,400	16,600

NA = Not Available for Testing due to COPR excavation activities.
NT = Not Tested
ND = Not detected above reporting limit.

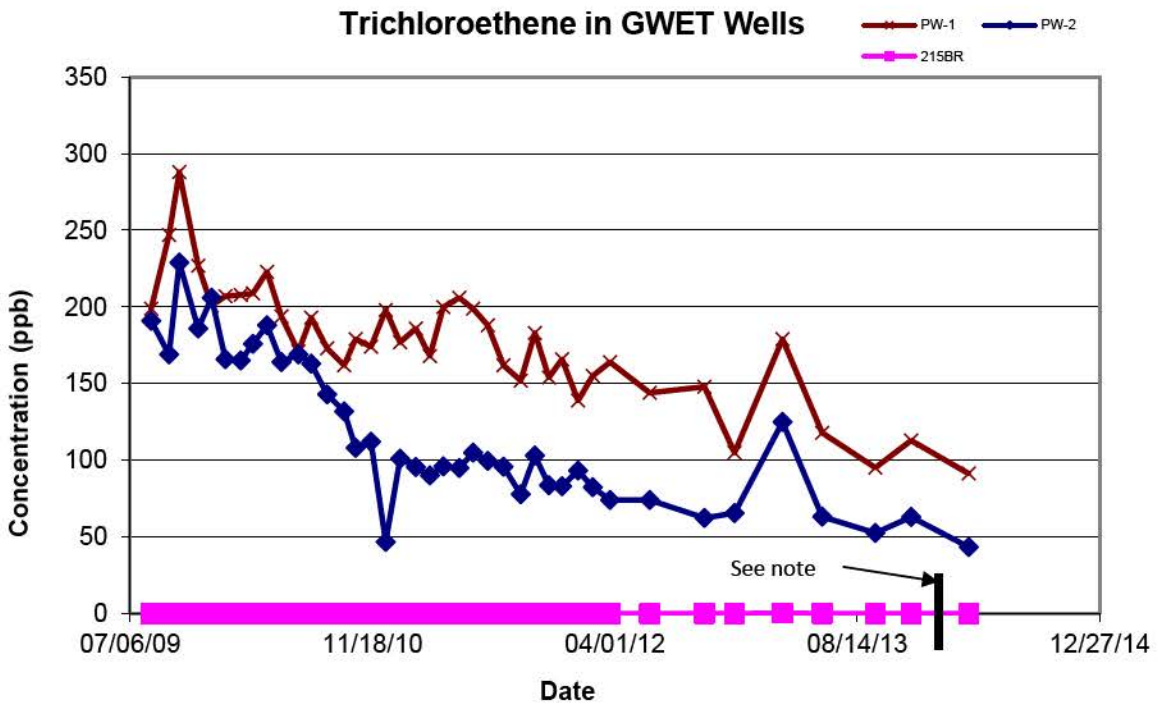
Note:
Starting with 1st quarter 2014, well 115-MW-215BR is being pumped and sampled.

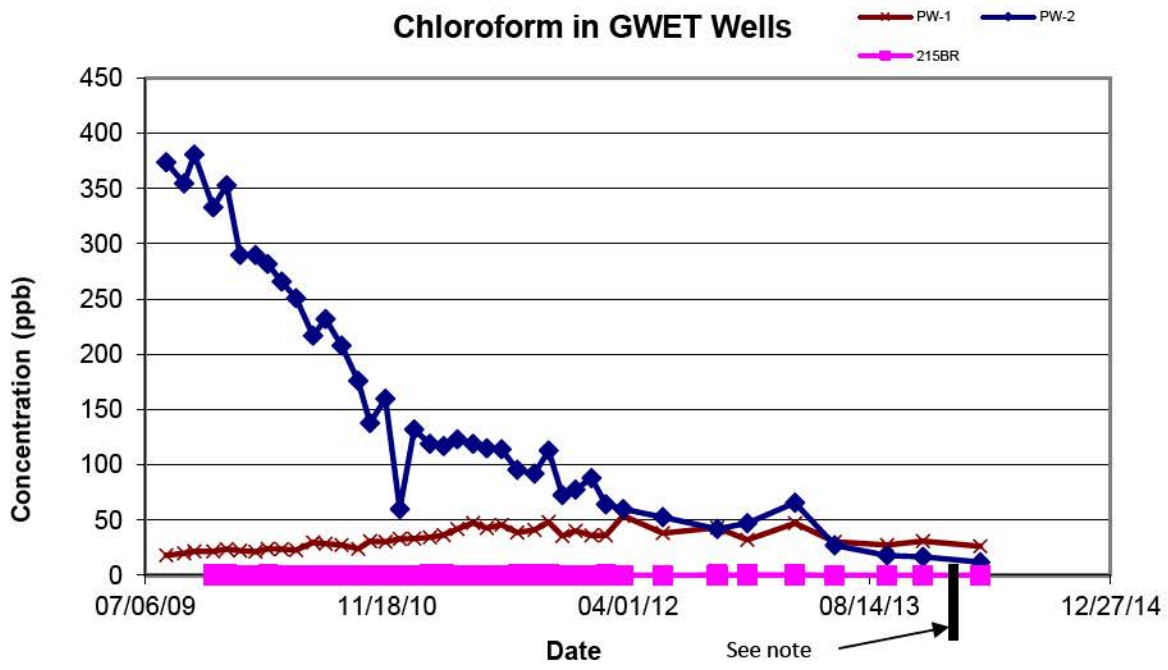
TABLE 2
Quarterly Water Levels
March 2014

Honeywell

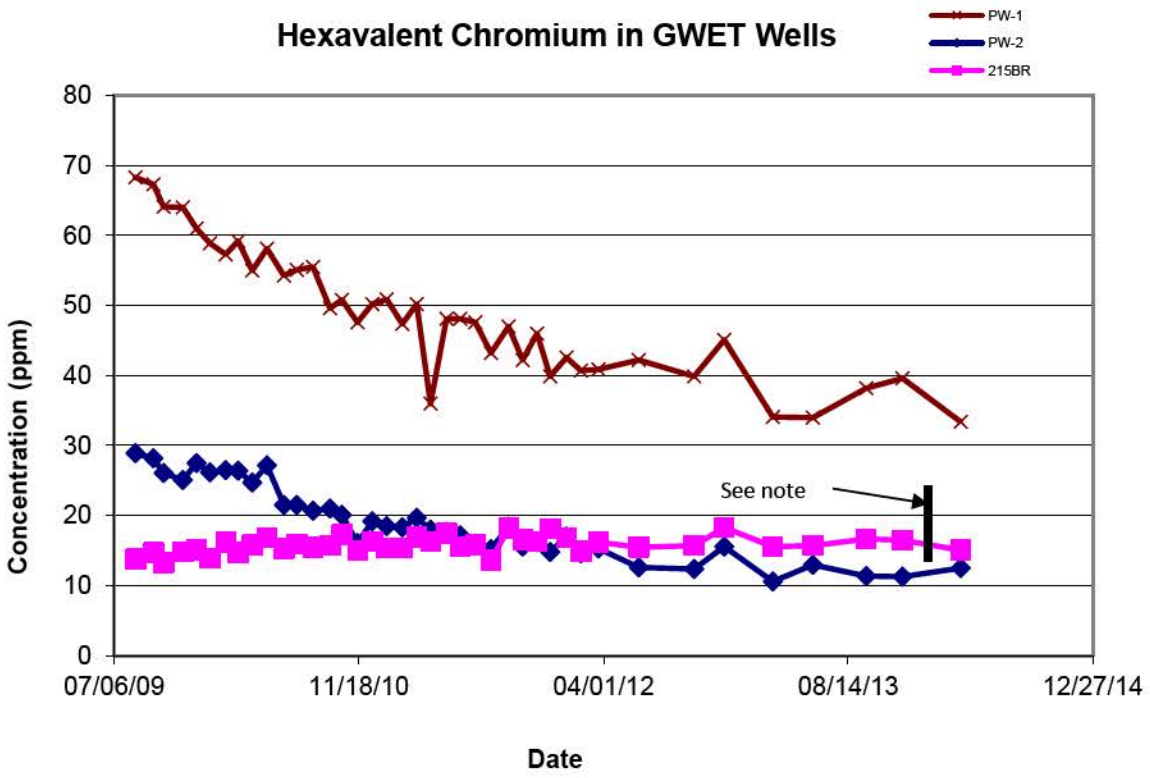
Wells Date: March 13, 2014	Top of Casing Elevation (ft. msl)	Depth to Water (ft., btoc)	Groundwater Elevation (ft., msl)	Comments
087-MW-25D	18.17	12.62	5.55	GW Elevations are not corrected for tidal influence
087-MW-25T	18.19	16.50	1.69	
087-MW-35	18.29	16.66	1.63	
087-OBS-1D	15.13	N/A	N/A	Well not accessible
087-OBS-1L	15.27	N/A	N/A	Well not accessible
087-OBS-1T	15.23	N/A	N/A	Well not accessible
087-PW-2	13.02	10.82	2.20	Well off line for maintanence
087-MW-08	12.98	10.78	2.20	
087-OBS-3L	12.88	10.72	2.16	
087-MW-13	12.93	10.65	2.28	
087-OBS-5D	12.72	10.68	2.04	
087-OBS-5T	12.62	11.78	0.84	
087-PW-1	12.66	33.51	-20.85	
087-MW-34	12.73	12.42	0.31	
087-OBS-2D	12.68	13.55	-0.87	
SA6-MW-AA1D	19.36	17.13	2.23	
SA6-MW-AA1T	15.31	13.33	1.98	
SA6-MW-5BR-1	17.06	14.85	2.21	
087-OBS-4T	11.6	10.07	1.53	
087-MW-O29D	10.32	8.08	2.24	
087-MW-O29T	9.98	7.48	2.50	
087-MW-03	13.77	N/A	N/A	Well not accessible
087-MW-02	12.57	N/A	N/A	
115-MW-203BR*	8.7	N/A	N/A	
073-MW-1BR-1	7.58	8.82	-1.24	
073-MW-10BR-1	6.67	7.17	-0.50	
115-MW-215BR*	8.82	12.75	-3.93	

* Reference point elevation to be confirmed.





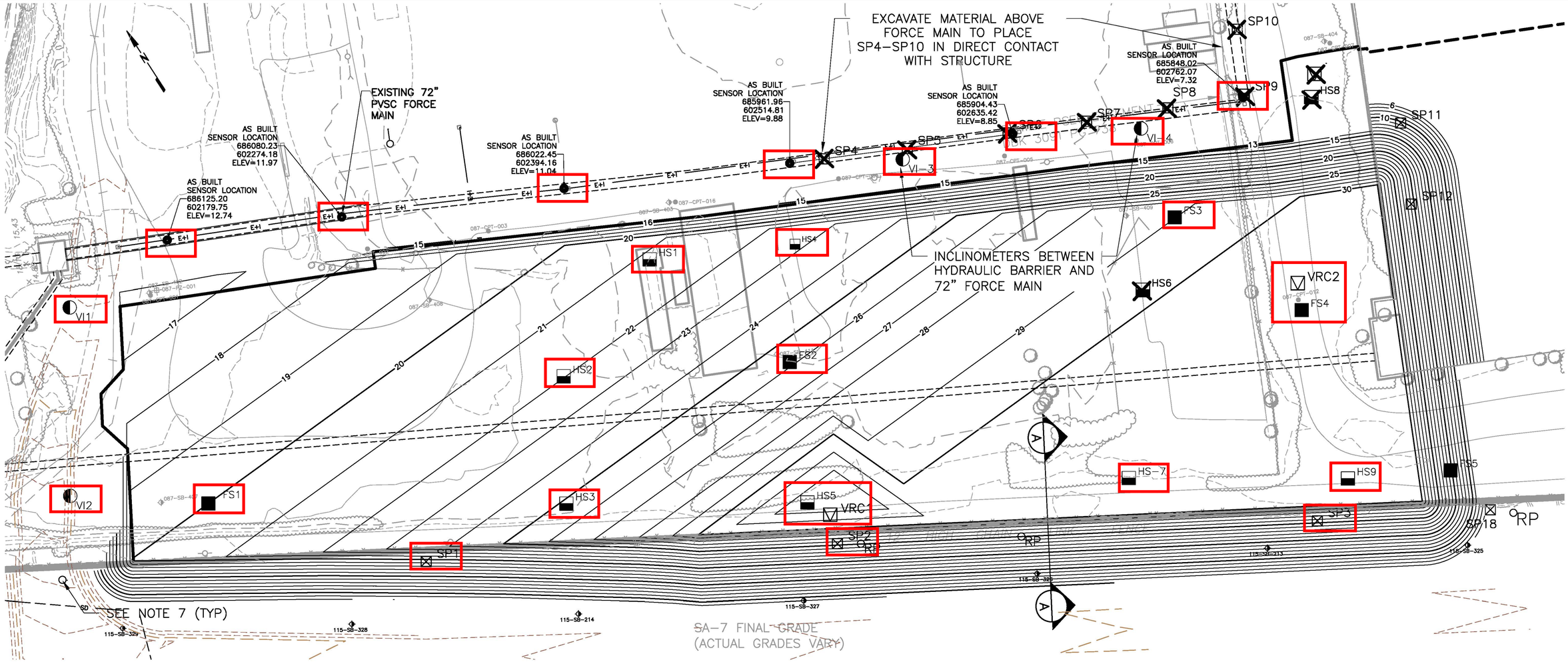
Note: Well 115-MW-203BR has been replaced with well 115-MW-215BR

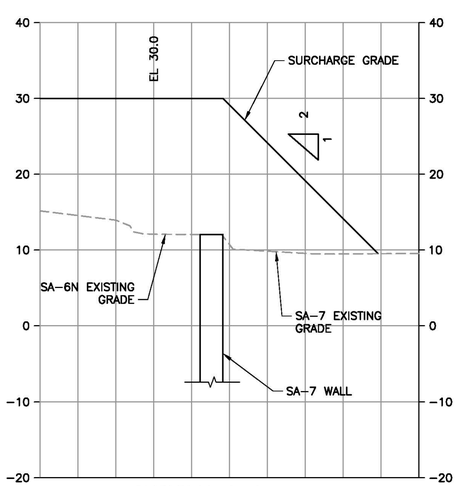


Note:
Well 115-MW-203BR has been replaced with well 115-MW-215BR

Attachment 9: Surcharge Monitoring Update

- Instrumentation Location Plan 1N
- Instrumentation Location Plan 1S

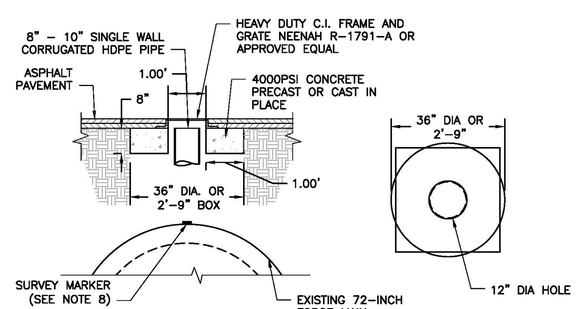




SECTION A–A

SETTLEMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
VI–1	686123	602109
VI–2	686029	602048
VI–3	685927	602572
VI–4	685866	602701
FS1	685981	602115
FS2	685863	602451
FS3	685811	602689
FS4	685723	602723
HS1	685959	602414
HS2	685929	602333
HS3	685865	602294
HS4	685920	602491
HS5	685787	602414
~~HS6~~	~~685785~~	~~602650~~
HS7	685696	602582
~~HS8~~	~~685826~~	~~602796~~
HS9	685624	602691

SP1	685881	602205
SP2	685757	602416
SP3	685613	602662
~~SP4~~	~~685953~~	~~602533~~
~~SP5~~	~~685931~~	~~602578~~
~~SP6~~	~~685906~~	~~602634~~
~~SP7~~	~~685887~~	~~602676~~
~~SP8~~	~~685867~~	~~602721~~
~~SP9~~	~~685849~~	~~602764~~
~~SP10~~	~~685884~~	~~602781~~



NOTES:

1. PRIOR TO SURCHARGING REMOVE SA–7 FENCE AND SA–7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. SURCHARGE PILE GEOMETRY IS BASED ON THE ASSUMPTION THAT THE SEDIMENTATION BASIN WALLS ARE IN PLACE AT THE TIME OF SURCHARGING.
5. COMMENCE FILL AT THE SEDIMENTATION BASIN AND WORK TOWARDS THE HACKENSACK RIVER.
6. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
7. LOCATION OF SA–7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.
8. AT ALL SURVEY LOCATIONS CLEAN ADEQUATELY A SUFFICIENT AREA ON THE TOP SURFACE OF THE 72 INCH FORCE MAIN TO EPOXY THE SURVEY MARKER AND ELECTRONIC EQUIPMENT.

Installed Instrumentation Locations

Instrumentation Locations Not Installed

VI–2	INCLINOMETER LOCATION
FS–1–1	SETTLEMENT MONITORING POINT FULL – SETUP
HS–1–1	SETTLEMENT MONITORING POINT HALF – SETUP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA–7 PERIMETER POOL RISER PIPE (SEE NOTE 7)
VRC1	VIBRATING WIRE PIEZOMETER IN STRATUM RC
A1	ACOUSTICAL LOCATION FOR DISCUSSION PURPOSES ONLY
AS3	ACOUSTICAL/SURVEY LOCATION FOR DISCUSSION PURPOSES ONLY
X	STATION RELOCATED OR ELIMINATED DUE TO SURCHARGE PILE RECONFIGURATION

0 15 30 60
SCALE IN FEET

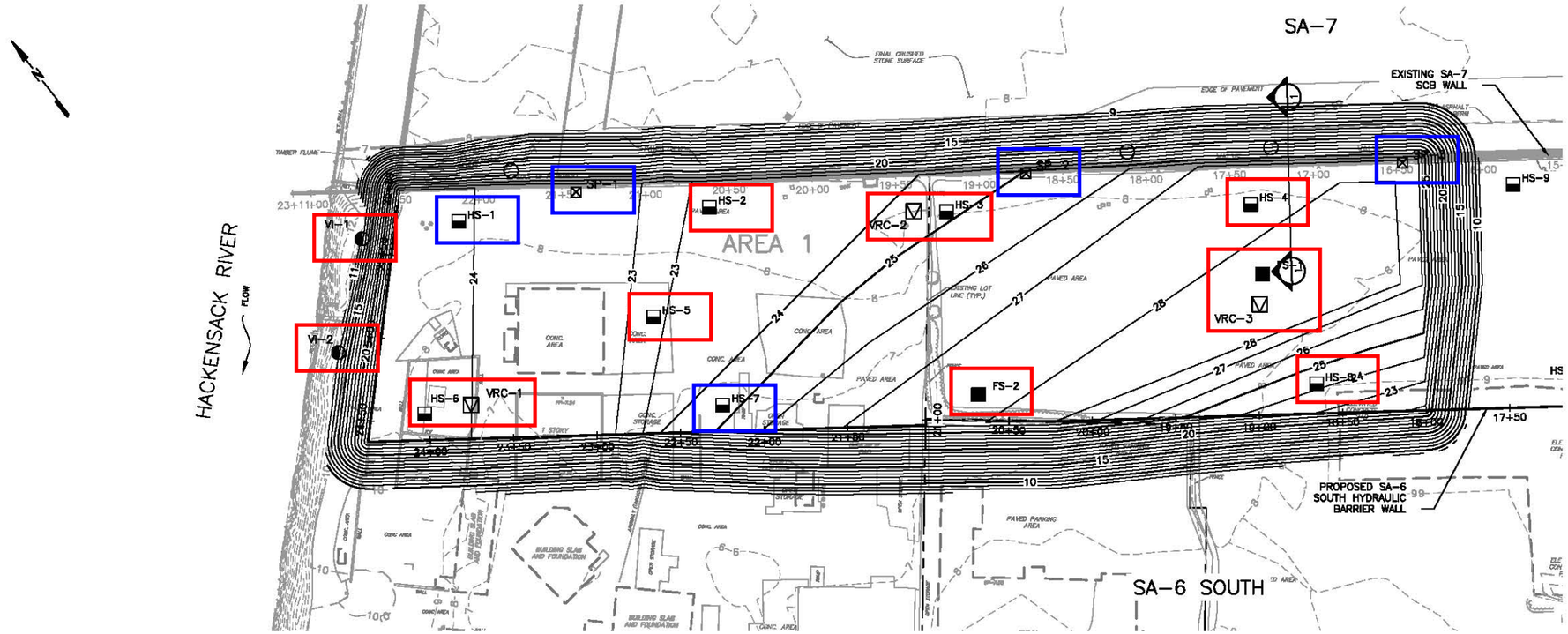
Prepared/Date: RJR 08/16/13
Checked/Date: AE 08/16/13

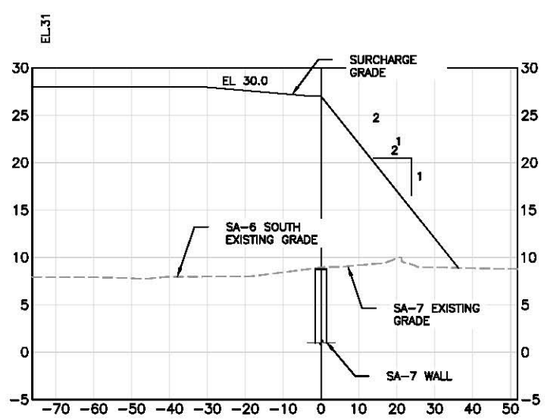
Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec

INSTRUMENTATION LOCATION PLAN 1N
Project 3480-09-0006
Figure B1





SECTION A-A

SETTELMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
FS-1	685276.02	601927.05
FS-2	685323.86	601748.51
HS-1	685597.02	601567.16
HS-2	685511.42	601690.72
HS-3	685421.98	601800.88
HS-4	685313.18	601947.19
HS-5	685480.23	601623.90
HS-6	685518.78	601480.25
HS-7	685413.06	601624.11
HS-8	685204.27	601911.97
VI-1	685624.44	601515.06
VI-2	685578.58	601462.08
VRC-1	685505.92	601505.39
VRC-2	685434.27	601785.68
VRC-3	685262.85	601914.43
SP-1	685567.71	601633.29
SP-2	685410.62	601852.31
SP-3	685276.93	602033.96

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. COMMENCE FILL AT THE HACKENSACK RIVER AND WORK EAST TOWARD ROUTE 440.
4. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.
5. AFTER COMPLETION OF AREAS 1 AND 3 SURCHARGE LOADING, REMAINING FILL FROM THESE AREAS WILL BE COMBINED TO FORM THE SURCHARGE AREA 2.

VI-2 INCLINOMETER LOCATION
FS-1-1 SETTLEMENT MONITORING POINT FULL – SET UP
HS-1-1 SETTLEMENT MONITORING POINT HALF – SET UP
SP12 SETTLEMENT MONITORING PLATFORM
RP APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 7)
VRC1 VIBRATING WIRE PIEZOMETER IN STRATUM RC

Installed Instrumentation Locations

Instrumentation Locations Not Installed

Revised DCB 001 7/29/13

0 20 40 80
SCALE IN FEET

Prepared/Date: RJR 07/19/13
Checked/Date: AE 07/19/13

Honeywell
101 COLUMBIA RD. BOX 2106
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

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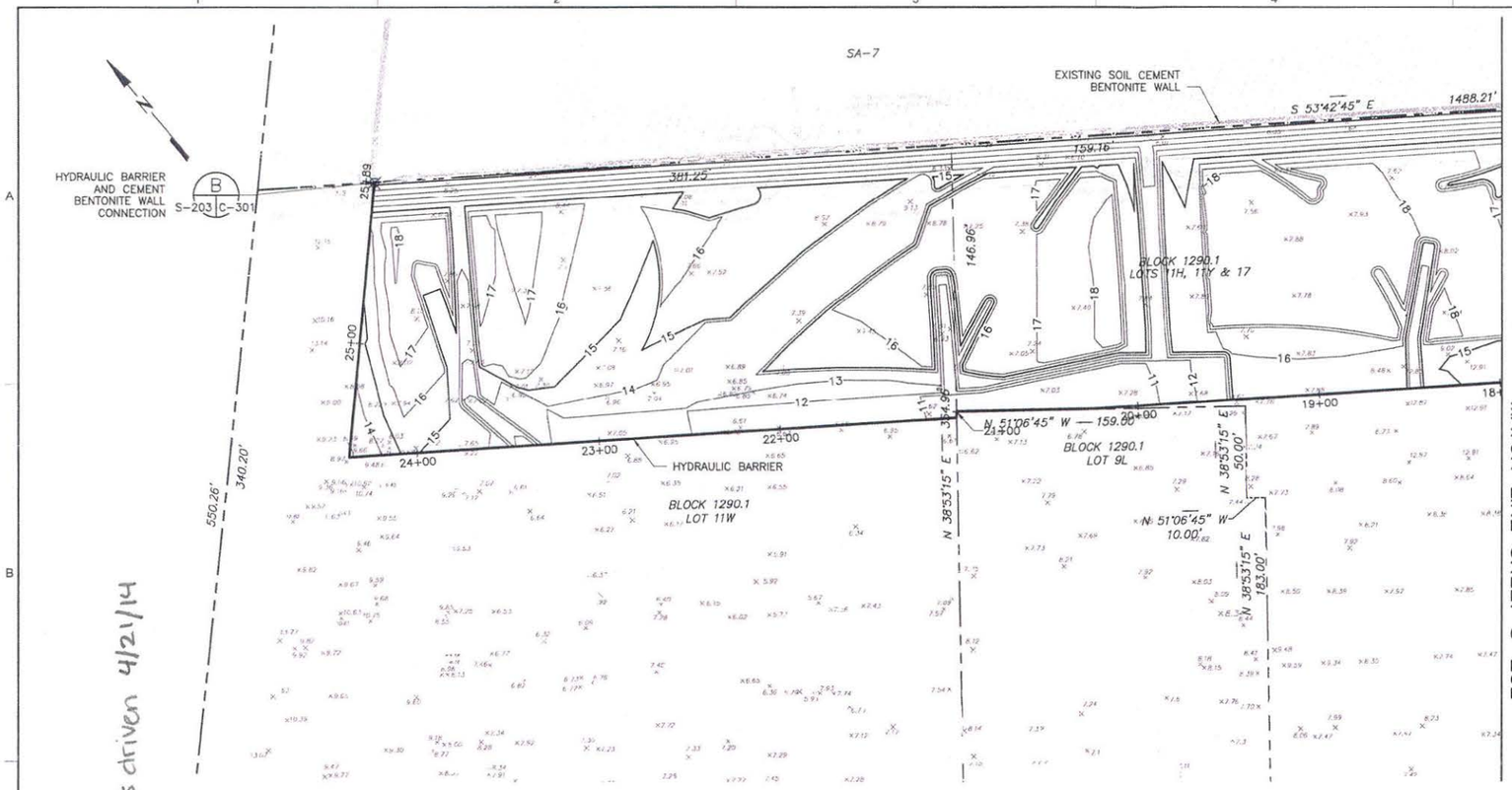
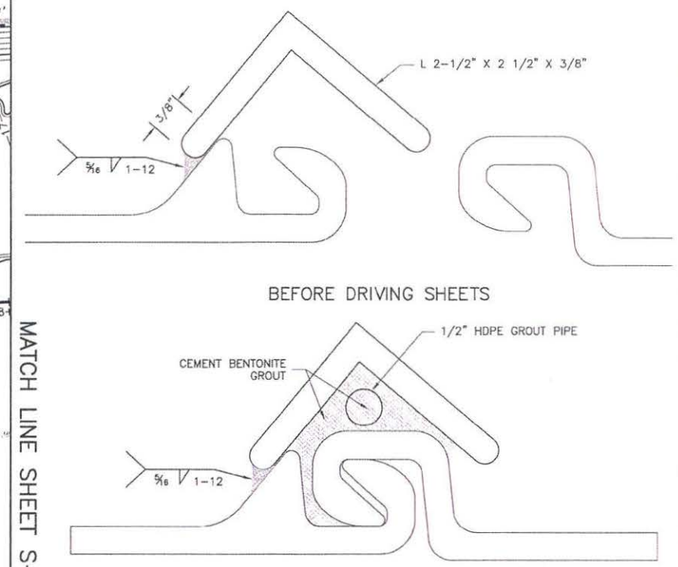
INSTRUMENTATION LOCATION PLAN 1S

Figure 5-1

Attachment 10: Sheet Pile Update

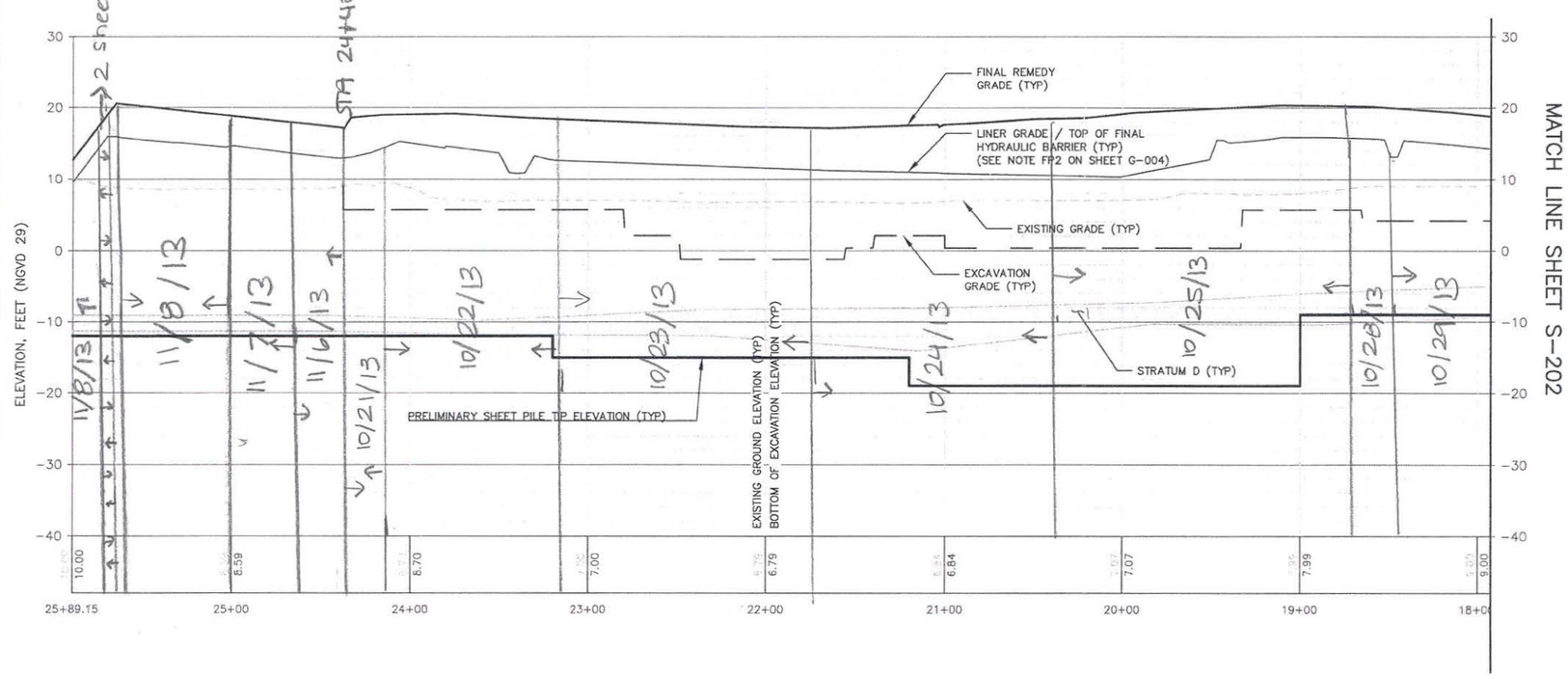
- Hydraulic Barrier Wall Plan & Profile
- Sheet Deflection Along Open Excavation
- Sheet Pile Repair Log





SHEET SEALING DETAIL (BF) TYP S-203
NTS

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	17+80	19+00	-9	AZ 19-700
STRUCTURAL	19+00	21+20	-19	AZ 19-700
STRUCTURAL	21+20	23+20	-15	AZ 19-700
STRUCTURAL	23+20	24+37	-12	AZ 19-700
NON STRUCTURAL	24+37	25+89	-12	AZ 19-700



NOTES:

1. REFER TO SHEET GN-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FUTURE UTILITIES WILL REQUIRE WALL PENETRATIONS AT THESE TWO LOCATIONS.
4. REFER TO SHEET G-003, NOTE HB19 AND DETAIL "BE" ON SHEET C-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

0 20 40 80 SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

0 5 10 20 SCALE IN FEET
VERTICAL SCALE: 1" = 10'

STEPHEN H. MITCHELL
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE04322400

NO.	DATE	DSGN	DR	CHK	APV'D	BY	APV'D
0	06/07/13	TDD	RJR	TDD		TDD	SHM

ISSUED FOR CONSTRUCTION
REVISION

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

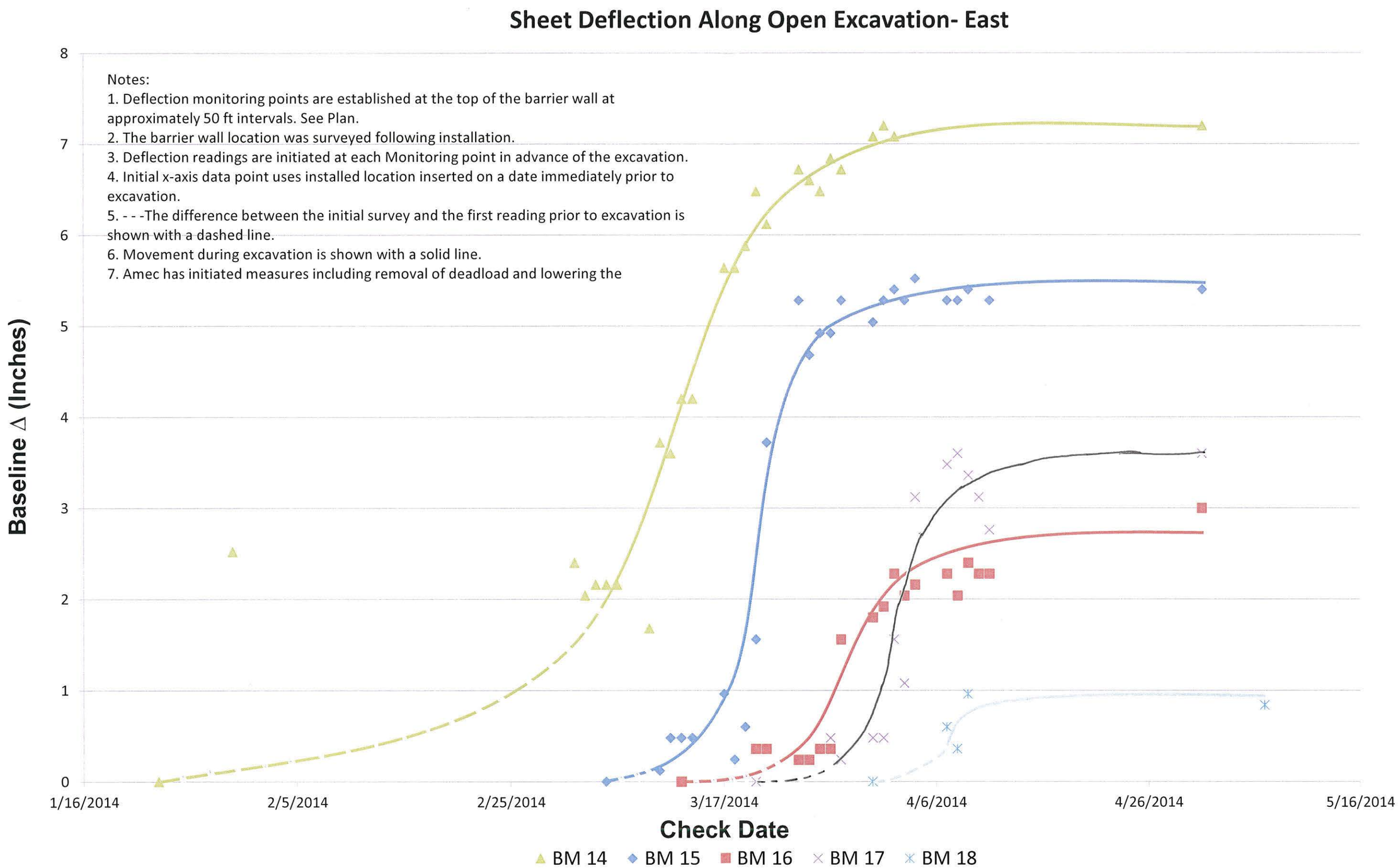
CIVIL
HYDRAULIC BARRIER
PLAN & PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 890-2929
NJ Certificate of Authorization Number 24GA28016900

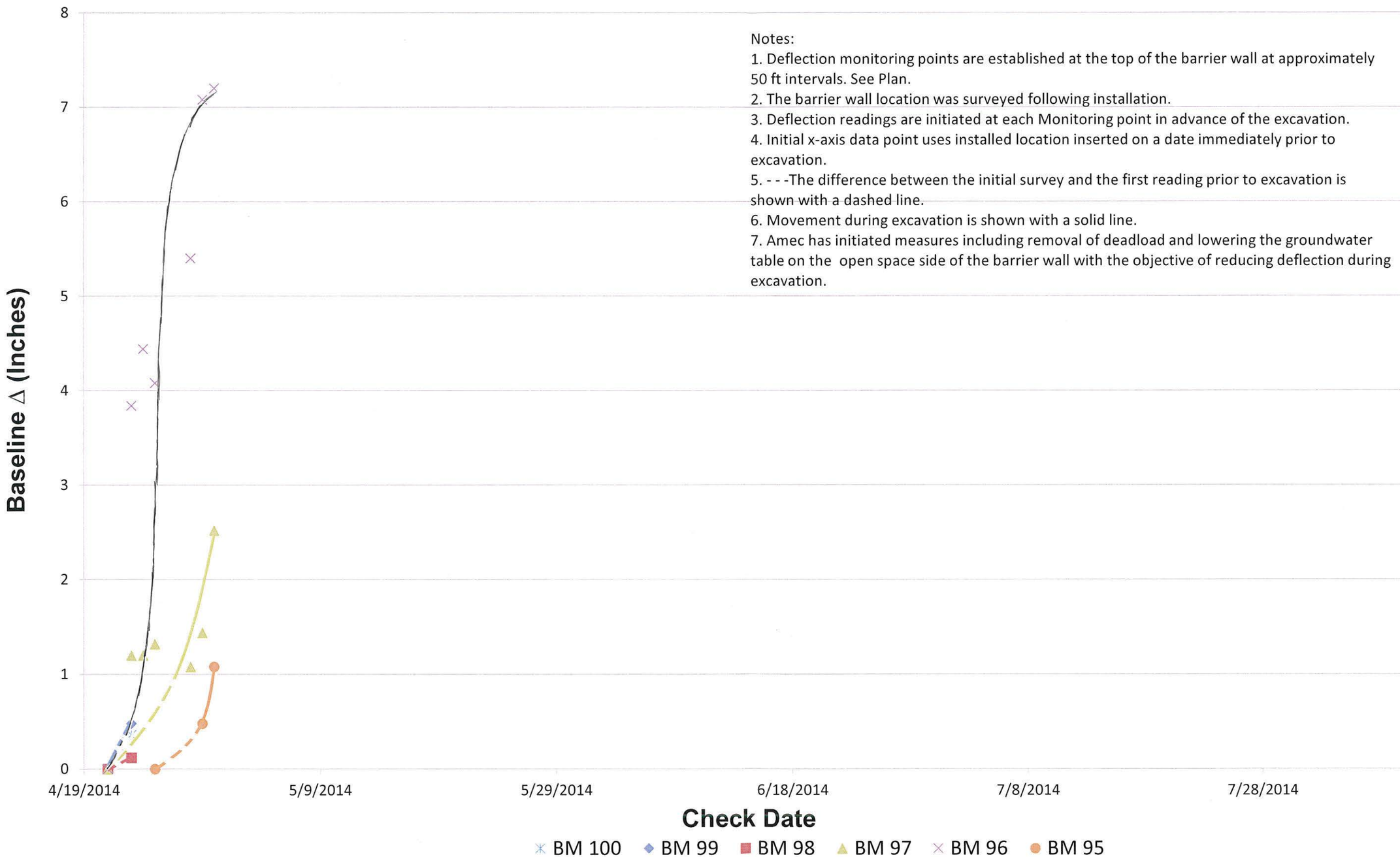
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	S-203
SHEET	55 OF 66

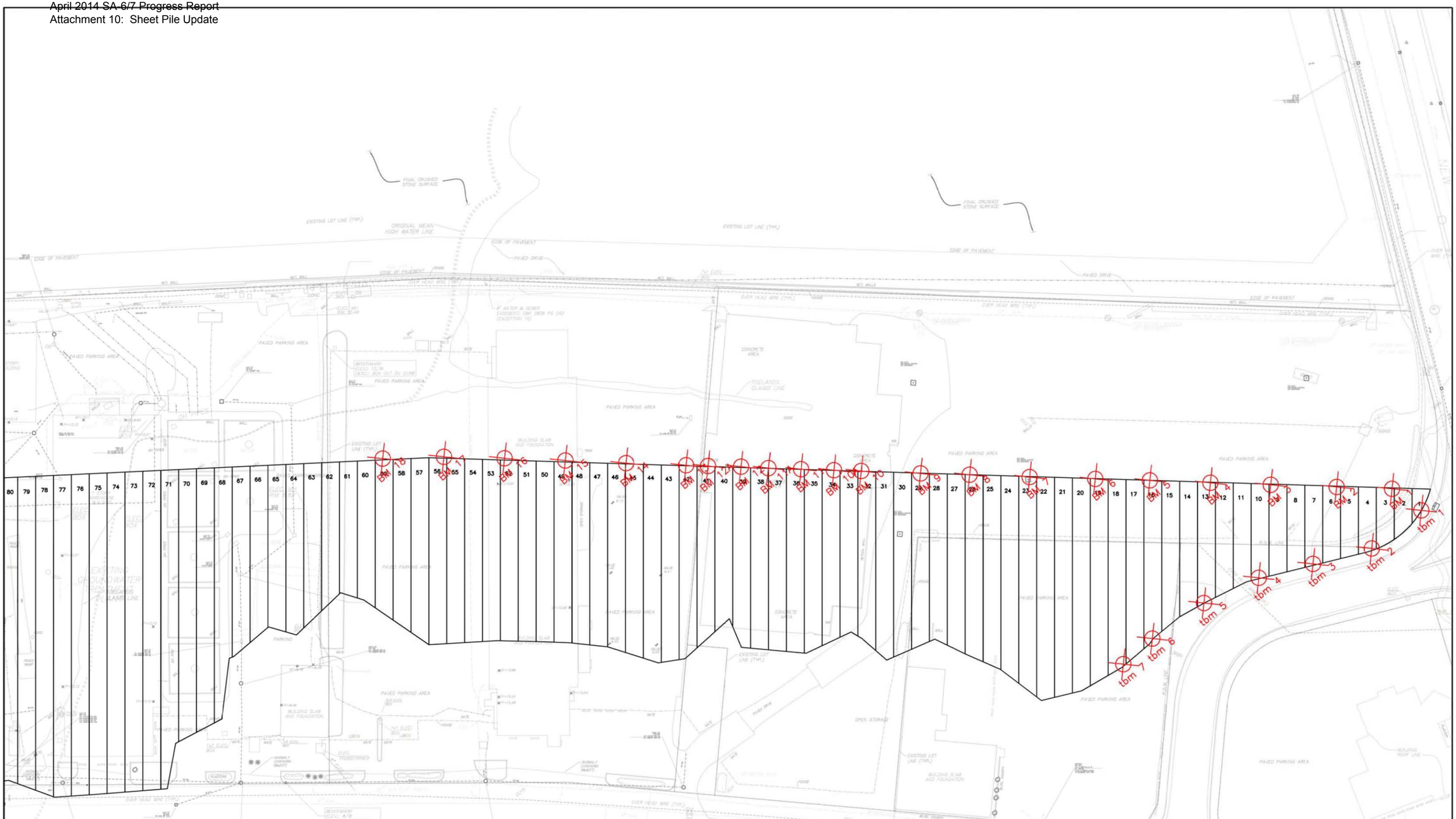
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR55-5-203 Hydraulic Barrier Wall Plan Profile.dwg PLOT DATE: Wed, 22 May 2013 PLOT TIME: 3:01 PM


Sheet Deflection Along Open Excavation- East
Notes:
1. Deflection monitoring points are established at the top of the barrier wall at approximately 50 ft intervals. See Plan.
2. The barrier wall location was surveyed following installation.
3. Deflection readings are initiated at each Monitoring point in advance of the excavation.
4. Initial x-axis data point uses installed location inserted on a date immediately prior to excavation.
5. - - -The difference between the initial survey and the first reading prior to excavation is shown with a dashed line.
6. Movement during excavation is shown with a solid line.
7. Amec has initiated measures including removal of deadload and lowering the
Baseline Δ (Inches)
0
1
2
3
4
5
6
7
8
1/16/2014
2/5/2014
2/25/2014
3/17/2014
4/6/2014
4/26/2014
5/16/2014
Check Date
BM 14
BM 15
BM 16
BM 17
BM 18

Sheet Deflection Along Open Excavation- West



Notes:
1. Deflection monitoring points are established at the top of the barrier wall at approximately 50 ft intervals. See Plan.
2. The barrier wall location was surveyed following installation.
3. Deflection readings are initiated at each Monitoring point in advance of the excavation.
4. Initial x-axis data point uses installed location inserted on a date immediately prior to excavation.
5. - - -The difference between the initial survey and the first reading prior to excavation is shown with a dashed line.
6. Movement during excavation is shown with a solid line.
7. Amec has initiated measures including removal of deadload and lowering the groundwater table on the open space side of the barrier wall with the objective of reducing deflection during excavation.



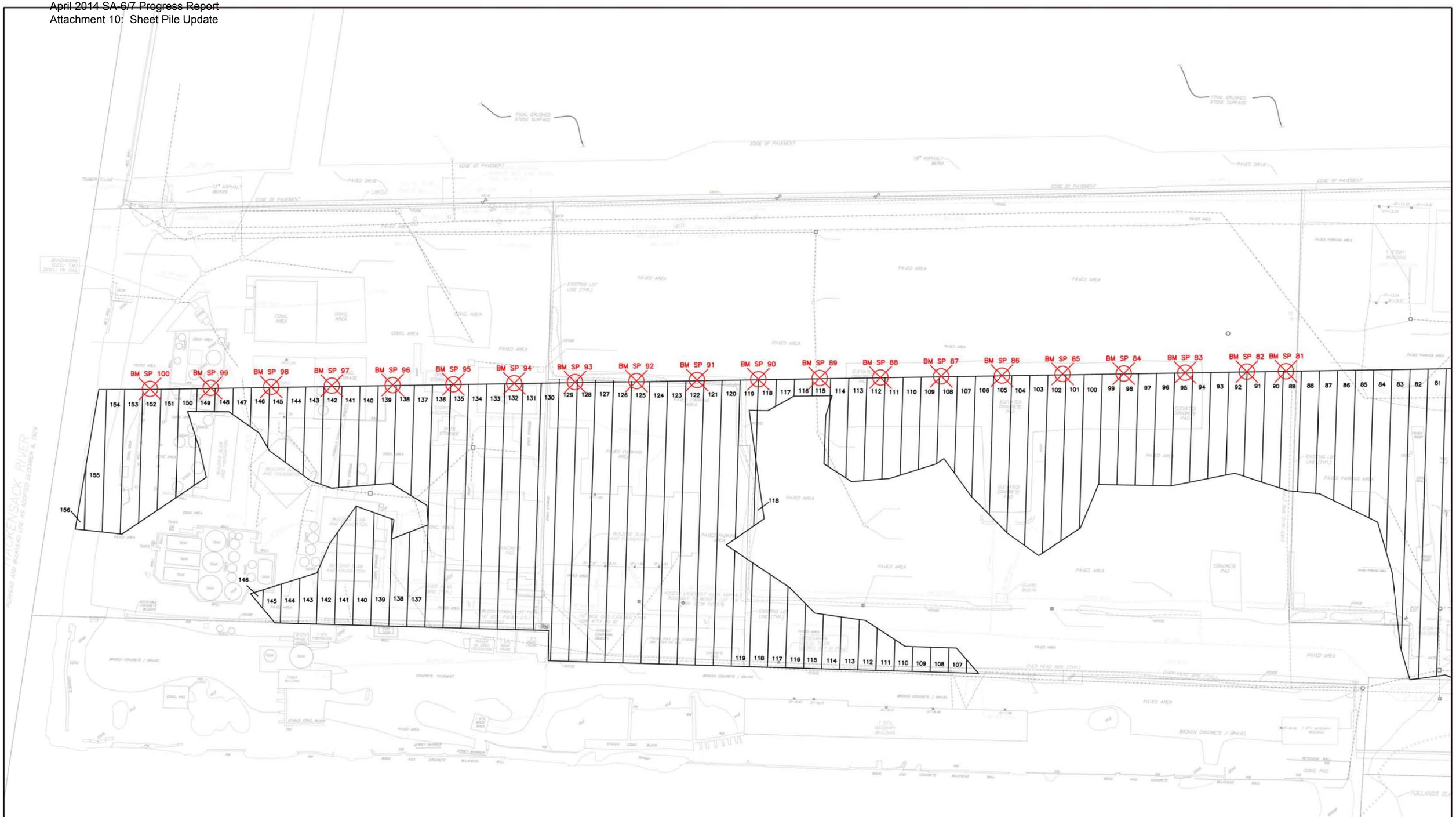
NOTES:

- Survey data collected with Trimble SPS882 and TSC2 Data Collector.
- Horizontal accuracy of 0.026 ft.
- Deflection measured at the top of the sheet.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SHEET MONITORING LOCATIONS 03-12-14

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTES:

- Survey data collected with Trimble SPS882 and TSC2 Data Collector.
- Horizontal accuracy of 0.026 ft.
- Deflection measured at the top of the sheet.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SHEET MONITORING LOCATIONS 03-20-14

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-24

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-25

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-26

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-27

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-28

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, repair (coat)

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-29

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, repair (coat)

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-30

Date Exposed:

Describe Damage:

Damaged by bucket during excavation.

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-31

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-32

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-33

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-34

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-35

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-36

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-37

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-38

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-39

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: BPI-40

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: BPI-41

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: BPI-42

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: BPI-43

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, repair

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 8P1-44

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 25P1-1

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 25P1-2

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 25P-3

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 2SP1-4

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 2SP1-5

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 2SP1-6

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 2SP1-7

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 2SP1-8

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 2SP1-9

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 2SP1-10

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 2SP1-11

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 2SP1-12

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 2SP1-13

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 2SP1-14

Date Exposed:

Describe Damage:

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID:

Date Exposed:

Describe Damage:

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired:

Inspected by:

Describe Repair:

Repair Log Closure: AMEC Signature:

Date:

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 2, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		1
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			

NOTE: All comments are numbered for reference and included on the comment section below.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 04/02/14

SWPPP Observer: (G. Pfeiffer)
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Wednesday, April 02, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Petroleum impacted soils in the eastern exclusion zone on SA-6 South are nearing the top of the containment walls on the side abutting the SA-7 SCB wall.
2	IA2Q4A1AL8	Ponded water has accumulated outside the northern perimeter of the >1000 ppm stockpile area on the west end of SA-6 South.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature **Date:** 04/02/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Excavate the edge of the stockpile to reduce the risk of material overtopping the containment barriers.	4/7/14 RAD.
2	Pump the storm water from the affected area, place stone in the low areas to prevent recurrence.	4/4/14 RAD

Construction Manager: _____ **Date:** 04/08/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 9, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage		X		2
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		4
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			

NOTE: All comments are numbered for reference and included on the comment section below.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 04/10/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Wednesday, April 09, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone fencing and signage is not in place along the southern perimeter of the >1000 PPM Cr stockpile area.
2	IA2Q4A1AL8	Gasoline cans are not collected at the end of each day and returned to the flammable liquid storage cabinet.
3	IA2Q4A1AL8	A pile of backfill material adjacent toe the Hackensack River bulkhead (remaining from snow removal efforts over the winter) has no erosion protection system in place.
4	IA2Q4A1AL8	The western side of the SA-7 to SA-6N ramp is no longer protected by a geotextile cover or other erosion prevention measures.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City New Jersey

SWAP Observer: Signature (George Pfeiffer) Date: 04/10/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install fencing and/or signage as appropriate to delineate the EZ as seen from the top of the former Teal Trucking warehouse slab.	4-11-14 ROD
2	Pump the storm water from the affected area, place stone in the low areas to prevent recurrence.	4-15-14 RAD
3	Place all gasoline cans in the flammable liquid storage cabinet at the end of each workday. Check for cans around pumps, generators, etc....	4-11-14 RAD
4	A cover system should be in place to prevent erosion of ramp material into the SA-7 North sluiceway.	4-11-14 RAD

Construction Manager: Date: 04/15/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 16, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		3
Storm Drain Protection			X	
Ponded Storm Water	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			

NOTE: All comments are numbered for reference and included on the comment section below.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 04/17/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Wednesday, April 16, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen at the Kellogg Steet jughandle requires maintenance.
2	IA2Q4A1AL8	The 80 Kellogg GWET sump is full of water
3	IA2Q4A1AL8	The newly-installed temporary perimeter fence on Study Area 6 North has a gap on its eastern end.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature Date: 04/17/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Refasten the windscreen to the perimeter fence.	4-18-14 RAD
2	Pump the sump water to the Construction Water Treatment System.	4-21-14 RAD
3	Install additional temporary fence panels on the east end of the new fenceline to close the gap by the southeast corner of the DPW H Building	4-18-14 RAD

Construction Manager: _____ Date: 04/21/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 23, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other Windy
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage		X		2
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			

NOTE: All comments are numbered for reference and included on the comment section below.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 04/24/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Wednesday, April 23, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	5 gallon gasoline cans stored in Entact's storage shed area overnight, outside of Flammable Storage Cabinet.
2	IA2Q4A1AL8	Exclusion Zone fencing at eastern EZ entrance/exit requires maintenance.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature Date: 04/24/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Review flammable liquid storage requirements with all Entact personnel and obtain an additional flammables cabinet if required to accommodate all gas cans on site	4-25-14 RAD
2	Repair and maintain orange EZ fencing surrounding the eastern EZ.	4-25-14 RAD

Construction Manager: _____ Date: 04/28/14

Attachment 12: GWTP Update

- 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (March 2014)
- Request to NJDEP re Permit NJG0156311 Permit Revocation
- 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (March 2014)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

April 15, 2014

New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Permit Management
P.O. Box 029
Trenton, NJ 08625-0029

RE: NJPDES Permit NJ0156311: March 2014 Surface Water Discharge Monitoring Report
Study Area 7, Jersey City, NJ

To Whom It May Concern:

In accordance with the Honeywell International NJPDES Permit NJ0156311, enclosed please find the March 2014 Surface Water Discharge Monitoring Report for Outfall 001A.

Please contact me at 973-455-2989 should you have any questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Program Manager
Fahy Associates
c/o Honeywell International

Enc.

cc: Angle Trujillo - Evoqua
Scott Serino - GWTT
Frank Schroyer - Parsons

PI 234822

New Jersey Department of Environmental Protection
Division of Water Quality

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD							MONITORED LOCATION:
	Month	Day	Year		Month	Day	Year	
NJG0156311	3	1	2014	To	3	31	2014	001A - Remediated Groundwater

PERMITTEE:
HONEYWELL INTERNATIONAL INC
101 COLUMBIA RD
MORRISTOWN, NJ 07962

LOCATION OF ACTIVITY:
HONEYWELL STUDY AREA 7
441 RT 440 S
JERSEY CITY, NJ 07305

REPORT RECIPIENT:
Honeywell International Inc
ATT: HELEN FAHY
101 COLUMBIA ROAD
MORRISTOWN, NJ 07962

REGION / COUNTY: Northern / Hudson County

CHECK IF APPLICABLE: ☒ **No Discharge this Monitoring Period** ☐ **Monitoring Report Comments Attached**

WHO MUST SIGN The highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility shall sign the certification or, in his absence a person designated by that person. For a local agency, the highest ranking operator of the treatment works shall sign the certification. Where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that reponsibility or person designated by that person shall also sign the second certification at the bottom of this page. If the local agency has contracted with another entity to operate the treatment works, the highest-ranking official of the contracted entity shall sign the certification.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and/or imprisonment, pursuant to N.J.A.C. 7:14A-6.9(B). The New Jersey Water Pollution Control Act provides for penalties up to $50,000 per violation.

John J. Morris, Remediation Director — —

NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR **GRADE AND REGISTRY NUMBER (IF APPLICABLE)**

John J Morris 4/15/2014 973.455.4003

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR **DATE** **AREA CODE/PHONE NUMBER**

**For a local agency where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall sign the following certification:*

I certify under penalty of law and in accordance with N.J.S.A. 58:10A-6F(5) that I have received and reviewed the attached discharge monitoring reports.

John J. Morris, Remediation Director John J Morris 4/15/2014 973.455.4003

NAME AND TITLE **SIGNATURE** **DATE** **AREA CODE/PHONE NUMBER**

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	3/1/2014 TO 3/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant 50050 1 Effluent Gross Value	SAMPLE MEASUREMENT			GPD	******	******	******	******			
	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX		******	******	******			1/Month	METER
	QL	******	******		******	******	******				
pH 00400 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******		SU			
	PERMIT REQUIREMENT	******	******		6.0 01MOMN	******	9.0 01MOMX			1/Month	GRAB
	QL	******	******		******	******	******				
LC50 Statre 96hr Acu Mysid Bahia TAN3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******	******	%EFFL			
	PERMIT REQUIREMENT	******	******		50 01RPMN	******	******			1/Year	COMPOS
	RQL	******	******		******	******	******				
IC25 Statre 7day Chr Mysid Bahia TBP3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******	******	%EFFL			
	PERMIT REQUIREMENT	******	******		REPORT 01RPMN	******	******			1/Year	COMPOS
	QL	******	******		******	******	******				
Petroleum Hydrocarbons 00551 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			MG/L			
	PERMIT REQUIREMENT	******	******		******	10 01MOAV	15 01RPINMX			1/Month	GRAB
	QL	******	******		******	******	******				
Carbon, Tot Organic (TOC) 00680 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			MG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	20 01WKAV			1/Month	GRAB
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	3/1/2014 TO 3/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Chromium Trivalent (as Cr) Total Recov. *PS06 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	COMP24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX				
	QL	******	******		******	******	******				
Cyanide, Total (as CN) 00720 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	GRAB
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX				
	RQL	******	******		******	40	40				
Nickel, Total Recoverable 01074 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	COMP24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.3 01DAMX				
	RQL	******	******		******	10	10				
Zinc, Total Recoverable 01094 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	COMP24
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX				
	RQL	******	******		******	30	30				
Lead, Total Recoverable 01114 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	COMP24
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	79 01DAMX				
	RQL	******	******		******	10	10				
Chromium, Total Recoverable 01118 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Month	COMP24
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX				
	RQL	******	******		******	10	10				

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Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	3/1/2014 TO 3/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Copper, Total Recoverable 01119 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	COMP24
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX				
	RQL	******	******		******	10	10				
Chromium, Hexavalent Dissolved (as Cr) 01220 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	COMP24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX				
	QL	******	******		******	******	******				
Mercury Total Recoverable 71901 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	COMP24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	0.025 01DAMX				
	RQL	******	******		******	1	1				
Carbon Tetrachloride 32102 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	GRAB
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.8 01DAMX				
	RQL	******	******		******	6	6				
Chloroform 32106 2 Effluent Net Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	GRAB
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	46 01DAMX				
	RQL	******	******		******	5	5				
Trichloroethylene 39180 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	GRAB
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	54 01DAMX				
	RQL	******	******		******	5	5				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	3/1/2014 TO 3/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Lab Certification #	SAMPLE MEASUREMENT										
99999 99 Lab	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #			Not Applic	NOT AP
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

April 15, 2014

New Jersey Department of Environmental Protection
Mail Code 401-02B
Permit Administration Section
Division of Water Quality
P.O. Box 420
Trenton, NJ 08625-0420

RE: NJDEP Division of Water Quality New Jersey Pollutant Request for Permit Revocation Study Area 7, Jersey City, NJ

To Whom It May Concern:

Attached please find the completed New Jersey Pollutant Discharge Elimination System request for permit revocation for NJPDES Permit NJG0156311.

Please contact me at 973-455-2989 should you have any questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy

Helen Fahy
Program Manager
Fahy Associates
c/o Honeywell International

Enc.

cc: Angle Trujillo - Evoqua
Scott Serino - GWTT
Frank Schroyer - Parsons

Reset Form

State of New Jersey
Department of Environmental Protection
Division of Water Quality
New Jersey Pollutant Discharge Elimination System

Request for Permit Revocation / Certification of Closure

1. APPLICANT(S)/OPERATING ENTITY(IES)

NJPDES Permit # NJG0156311 P.I. # 234822

Name Honeywell International Inc.

Mailing Address 101 Columbia Rd

City or Town Morristown State NJ Zip Code 07962

Telephone (973) 455-2989 E-Mail helen.fahy@honeywell.com

2. LOCATION OF FACILITY/SITE

Name of Facility/Site Honeywell Study Area 7

Street Address/Location 441 RT 440 S

City or Town Jersey City State NJ Zip Code 07305

3. FACILITY CONTACT (Person Familiar with the Facility/Site and this Application)

Name Helen Fahy Telephone (973) 455-2989

Affiliation Fahy Associates, Remediation Manager

Fax (973) 695-2444 E-Mail helen.fahy@honeywell.com

4. Treatment plant/units or storage units closed, including the date closed (e.g., sludge facilities, lagoons, equalization tanks, trickling filters, clarifiers, sludge digesters, etc.). If the entire plant has been closed write "entire." The units closed are as follows:

- entire
-
-
-
-
-
-
-

5. The plant or units described in Item 4 above have been closed because of one of the following:

- [x] Facility has been closed.
- [ ] Connection to Sewerage Entity (e.g., connection to another wastewater treatment plant).
- [ ] Other – Describe:

6. All wastes and components of the treatment plant or other units described in Item 4 above have been properly managed, disposed and secured as follows where applicable:

ACTIVITY	YES	N/A
• Influent and effluent pipes have been sealed.	✓	
• The affected units have been closed in such a manner so as to protect public safety and health, and to assure that no cont amination of ground or surface w ater will occur as a result of removing such facilities and equipment from service, either through the act of closure or through continuing the discharge of pollut ants into or through equipment; or through leaking, leaching, or discharge of pollutants from w astewater or residuals or other by-products remaining in facilities or equipment which has been removed or remains on site.	✓	
• All residual materials and all other solids from the treatment process including, but not limited to, liquid and dried sludges, grit and screenings, scum and sand bed materials have been removed and/or managed in a manner approved by the Department.	✓	
• Other, explain: _____		

After verifying that the applicant no longer requires a permit for the discharge, the appropriate Water Compliance and Enforcement Bureau will advise the Office of Permit Management to revoke the NJPDES permit or GP Authorization.

I understand that it is a violation of the "Water Pollution Control Act", N.J.S.A. 58:10A-1 et seq., to discharge pollutants except in conformity with a NJPDES permit and that I may be subject to significant civil/criminal penalties for said violation.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based upon my inquiry of the person(s) who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for purposely, knowingly, recklessly, or negligently submitting false information."

John J. Morris	4/15/2014	John J. Morris
Signature of/for Permittee	Date	Print or Type: Name
		Honeywell Remediation Director
		Print or Type: Position

WHO MUST SIGN?

A Responsible Official is defined in N.J.A.C. 7:14A – 4.9 as follows:

For a corporation: A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation; or the manager of one or more manufacturing, production, or operating facilities, provided:

(1) The manager is authorized to make management decisions that govern the operation of the regulated facility, including having the explicit or implicit duty of recommending major capital investment, initiating and directing comprehensive measures to assure long term compliance with environmental laws and regulations, and ensuring that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; or
(2) The authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

For a partnership or sole proprietorship: A general partner or the proprietor.

For a government agency: A ranking elected official; or the chief executive officer of the agency; or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator).

A duly authorized representative as defined in N.J.A.C. 7:14A-4.9(b).

Please send completed copies to:

Mail Code 401-02B
Permit Administration Section
Division of Water Quality
P.O. Box 420
Trenton, NJ 08625-0420

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

April 15, 2014

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Bayfront Redevelopment at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 31630016

Dear Mr. Caltagirone:

Honeywell is submitting the March 2014 discharge monitoring reports, MR 1 and MR 2, for the Bayfront Redevelopment treatment plant located at 525 & 575 Route 440 in Jersey City.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely

Helen Fahy

Helen Fahy
Remediation Manager
Fahy Associates

cc: Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Frank Schroyer - Parsons

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc., Bayfront Redevelopment

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 31630016 OLD OUTLET DESIGNATION:

MONITORING PERIOD

Start			End		
3	01	14	3	31	14
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow gal/day~~		
Total Flow-gal/day	70,682	97,341
		(see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	0.36	0.50	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.1	<5.1	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.08994	0.08994	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analytes are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

4/15/2014

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc., Bayfront Redevelopment
ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962
FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305
NEW CUSTOMER ID / OUTLET ID: 31630016 **OLD OUTLET DESIGNATION**

MONITORING PERIOD

Start			End		
3	01	14	3	31	14
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,191,140 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 3,310,963

DATE	BOD (mg/l)	TSS (mg/l)
3/28/2014	9.5	12.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE 4/15/2014

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG Honeywell Bayfront Redevelopment; GWTP (Permit #31630016) MONTH: March 2014

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
3/1/2014	Angel Trujillo	1119823	1210327	90,504	0.090504	7.40	0.616									0.46
3/2/2014	Angel Trujillo	1210327	1265848	55,521	0.055521	7.40	0.616									0.29
3/3/2014	Angel Trujillo	1265848	1324567	58,719	0.058719	7.43	0.616									0.30
3/4/2014	Angel Trujillo	1324567	1388969	64,402	0.064402	7.47	0.616									0.33
3/5/2014	Angel Trujillo	1388969	1457281	68,312	0.068312	7.45	0.616									0.35
3/6/2014	Angel Trujillo	1457281	1526001	68,720	0.06872	7.33	0.616									0.35
3/7/2014	Angel Trujillo	1526001	1593805	67,804	0.067804	7.34	0.616									0.35
3/8/2014	Angel Trujillo	1593805	1688090	94,285	0.094285	7.24	0.616									0.48
3/9/2014	Angel Trujillo	1688090	1749158	61,068	0.061068	7.35	0.616									0.31
3/10/2014	Angel Trujillo	1749158	1822349	73,191	0.073191	7.38	0.616									0.38
3/11/2014	Angel Trujillo	1822349	1853758	31,409	0.031409	7.19	0.616									0.16
3/12/2014	Angel Trujillo	1853758	1860986	7,228	0.007228	7.26	0.616									0.04
3/13/2014	Angel Trujillo	1860986	1905775	44,789	0.044789	7.41	0.616									0.23
3/14/2014	Angel Trujillo	1905775	1976617	70,842	0.070842	7.42	0.616									0.36
3/15/2014	Angel Trujillo	1976617	2061099	84,482	0.084482	7.40	0.616									0.43
3/16/2014	Angel Trujillo	2061099	2145582	84,483	0.084483	7.48	0.616									0.43
3/17/2014	Angel Trujillo	2145582	2217173	71,591	0.071591	7.46	0.616									0.37
3/18/2014	Angel Trujillo	2217173	2294552	77,379	0.077379	7.42	0.616									0.40
3/19/2014	Angel Trujillo	2294552	2374885	80,333	0.080333	7.52	0.616									0.41
3/20/2014	Angel Trujillo	2374885	2454558	79,673	0.079673	7.49	0.616									0.41
3/21/2014	Angel Trujillo	2454558	2532030	77,472	0.077472	7.50	0.616									0.40
3/22/2014	Angel Trujillo	2532030	2627583	95,553	0.095553	7.52	0.616									0.49
3/23/2014	Angel Trujillo	2627583	2693443	65,860	0.06586	7.27	0.616									0.34
3/24/2014	Angel Trujillo	2693443	2756617	63,174	0.063174	7.04	0.616									0.32
3/25/2014	Angel Trujillo	2756617	2839354	82,737	0.082737	7.41	0.616									0.43
3/26/2014	Angel Trujillo	2839354	2920077	80,723	0.080723	7.43	0.616	<5.1	9.5		<0.010	<0.030	<0.010	<0.0002	<0.020	0.41
3/27/2014	Angel Trujillo	2920077	3000078	80,001	0.0800	7.52	0.616									0.41
3/28/2014	Angel Trujillo	3000078	3078623	78,545	0.078545	7.51	0.616									0.40
3/29/2014	Angel Trujillo	3078623	3175964	97,341	0.097341	7.45	0.616									0.50
3/30/2014	Angel Trujillo	3175964	3241501	65,537	0.065537	7.46	0.616									0.34
3/31/2014	Angel Trujillo	3241501	3310963	69,462	0.069462	7.46	0.616									0.36
TOTAL				2,191,140	2.19114			<5.1	9.5		<0.010	<0.030	<0.010	<0.0002	<0.020	
			High:	97,341											High:	0.50
			Average:	70,682											Average:	0.36

WW

JB63247

E

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell

Chain Of Custody / Analysis Request

AESI Ref: 41720.30006
COC#: 087-WW 032814
Lab Proj # (SDG):
Lab ID: ACTD
Site ID: [illegible]
Lab Job #: HWNJM52815
Authorized User: Honeywell

Site Name: Hudson County
Location of Site: Jersey City, NJ
Phase: CS
Sampling Program: 087: JCIA

Sampling Co.: Persons
Client Contact: (name, co., address)
Helen Fahy P: (973) 455-2969 E: helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)

EDD To:
Sampler: Frank Schroyer
PO #
Analysis Turnaround Time (TAT): 3 Consultant CHRM
Full Report TAT: 28 Days

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Sample Identification				Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units		Total CHROMIUM (EPA 200.7)	EPA 200.7 Cd, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E8260A 8021+EM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list				Sampling Method (code)	Lab Sample Numbers
												3	3	3	1	2	2	0	0	2					
1	087-WW	1		087-WWE-032814-A	3/28/2014	14:45	WW	WATER	REG	3	comp	N	X	X	X	X			X	X			6.76			L21
2	087-WW	2		087-WWE-032814-B	3/28/2014	14:30	WW	WATER	REG	5	grab	N					X	X								V952
3	087-WW	3		087-WWI-032814	3/28/2014	14:20	WW	WATER	REG	3	grab	N									X					A30
4																										G27
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

ALL SAMPLES RECEIVED PRESERVED AS NOTED

Relinquished by	Company	Received by	Company	Condition	Custody Seals Intact
Frank Schroyer	Persons	Chris Lad	Accutest		
Date/Time	3/28/14	Date/Time	3/28/14 1589	Cooler Temp.	1.5°C
Relinquished by: Chris Lad	Company: Accutest	Received by	Company	Condition	Custody Seals Intact
Date/Time	3/28/14 1710		Date/Time 3/28 1710	Cooler Temp.	

PH = 6.70 S.U. FKS

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

Bors

D.G

Accutest LabLink@788347 10:55 08-Apr-2014

Report of Analysis

4.1 4

Client Sample ID:	087-WWE-032814-A		
Lab Sample ID:	JB63247-1	Date Sampled:	03/28/14
Matrix:	AQ - Water	Date Received:	03/28/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	616	10	ug/l	1	03/31/14	04/02/14	RR	EPA 200.7 [2]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	03/31/14	04/02/14	RR	EPA 200.7 [2]	EPA 200.7 [4]
Lead [a]	< 30	30	ug/l	10	03/31/14	04/03/14	ND	EPA 200.7 [3]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	03/31/14	03/31/14	DP	SW846 7470A [1]	SW846 7470A [5]
Nickel	< 10	10	ug/l	1	03/31/14	04/02/14	RR	EPA 200.7 [2]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	03/31/14	04/02/14	RR	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA33637
(2) Instrument QC Batch: MA33658
(3) Instrument QC Batch: MA33671
(4) Prep QC Batch: MP78641
(5) Prep QC Batch: MP78649

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@788347 10:55 08-Apr-2014

Report of Analysis

Client Sample ID:	087-WWE-032814-A		
Lab Sample ID:	JB63247-1	Date Sampled:	03/28/14
Matrix:	AQ - Water	Date Received:	03/28/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.1 4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	9.5	3.4	mg/l	1	03/28/14 19:17	LS	SM5210 B-01
Solids, Total Suspended	12.0	4.0	mg/l	1	03/31/14	KP	SM2540 D-11
pH [a]	6.75		su	1	03/28/14 17:35	MB	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@788347 10:55 08-Apr-2014

Report of Analysis

4.2 4

Client Sample ID:	087-WWE-032814-B		
Lab Sample ID:	JB63247-2	Date Sampled:	03/28/14
Matrix:	AQ - Water	Date Received:	03/28/14
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	T196385.D	1	03/31/14	DS	n/a	n/a	VT8000
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	2.1	ug/l	
107-13-1	Acrylonitrile	ND	10	1.3	ug/l	
71-43-2	Benzene	2.8	1.0	0.12	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.32	ug/l	
56-23-5	Carbon tetrachloride	3.9	1.0	0.16	ug/l	
108-90-7	Chlorobenzene	0.31	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.45	ug/l	
67-66-3	Chloroform	21.8	1.0	0.14	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.19	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	ug/l	
156-60-5	trans-1,2-Dichloroethene	4.4	1.0	0.24	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	1.0	0.16	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.093	ug/l	
75-09-2	Methylene chloride	0.63	1.0	0.20	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.13	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.15	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.29	ug/l	
79-01-6	Trichloroethene	56.1	1.0	0.17	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	97%		71-128%
2037-26-5	Toluene-D8 (SUR)	101%		79-117%
460-00-4	4-Bromofluorobenzene (SUR)	97%		81-114%
1868-53-7	Dibromofluoromethane (S)	98%		78-115%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest LabLink@788347 10:55 08-Apr-2014

Report of Analysis

Client Sample ID:	087-WWE-032814-B		
Lab Sample ID:	JB63247-2	Date Sampled:	03/28/14
Matrix:	AQ - Water	Date Received:	03/28/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.1	5.1	mg/l	1	03/30/14	JOO	EPA 1664A

RL = Reporting Limit

Accutest LabLink@788347 10:55 08-Apr-2014

Report of Analysis

4.3 4

Client Sample ID:	087-WWI-032814		
Lab Sample ID:	JB63247-3	Date Sampled:	03/28/14
Matrix:	AQ - Water	Date Received:	03/28/14
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	T196426.D	1	04/01/14	DS	n/a	n/a	VT8002
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	2.1	ug/l	
107-13-1	Acrylonitrile	ND	10	1.3	ug/l	
71-43-2	Benzene	3.4	1.0	0.12	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.32	ug/l	
56-23-5	Carbon tetrachloride	6.7	1.0	0.16	ug/l	
108-90-7	Chlorobenzene	0.38	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.45	ug/l	
67-66-3	Chloroform	25.6	1.0	0.14	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.19	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/l	
75-35-4	1,1-Dichloroethene	0.46	1.0	0.24	ug/l	J
156-60-5	trans-1,2-Dichloroethene	4.1	1.0	0.24	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	1.0	0.16	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.093	ug/l	
75-09-2	Methylene chloride	0.70	1.0	0.20	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.13	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.15	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.29	ug/l	
79-01-6	Trichloroethene	103	1.0	0.17	ug/l	
75-01-4	Vinyl chloride	14.9	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	95%		71-128%
2037-26-5	Toluene-D8 (SUR)	102%		79-117%
460-00-4	4-Bromofluorobenzene (SUR)	96%		81-114%
1868-53-7	Dibromofluoromethane (S)	96%		78-115%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

APPENDIX T

PART 2 OF 22

PROGRESS REPORTS

2014 MONTHLY REPORTS PART 2

SA-6 AND SA-7 COMBINED PROGRESS REPORT

JUNE 13, 2014

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

June 13, 2014 *Via Express Mail*

Honorable Robert G. Torricelli
Office of the Special Master
41 W. State St., Suite 2F
Trenton, NJ 08608

Subject: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2014-05

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from May 1 – May 31, 2014.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: May 2014 SA-6/7 Combined Monthly Progress Report No. 2014-05

cc: Joe Clifford - AMEC (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP

Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2014-05

Project SA-6 & 7 Remediation

May 2014

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
05/02/14	Summary of Hydrocarbon-Impacted Soil Encountered Study Area 6 South, Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
05/06/14	Summary of the Technical Evaluation Program of the SiteVision Technology Chromium Remedy In-Situ Treatment Program SA-6 South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
05/14/14	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2014-04 Study Areas 6 and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
05/15/14	NJPDES Permit NJ0156311: April 2014 Surface Water Discharge Monitoring Report Study Area 7, Jersey City, NJ *(see **Attachment 12**)*	New Jersey Department of Environmental Protection Division of Water Quality
05/15/14	Bayfront Redevelopment at 525 & 575 Route 440, Jersey City, MR 1 and MR 2 Permit ID# 31630016 *(see **Attachment 12**)*	Andy Caltagirone PVSC
05/15/14	Discharge of Tannin Construction Water Customer ID# 31630005-1 Study Area 7, Jersey City, NJ	Andy Caltagirone PVSC
05/16/14	Response to Comments Provided by Plaintiffs, April 8, 2014, Two-Year Summary Report for In-Situ Chromium Mass Removal from S-3 Sand Study Area 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
05/16/14	Surcharge Monitoring Plan – Monthly Report No. 1 Study Area 6 North and South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
05/19/14	Design Change Bulletin – Degen Deferred Area Study Area 6 South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
05/22/14	Special Master All Hands Conference Call	N/A
05/27/14	Documentation and Remedial Action Summary Report Study Area 7 Sediment Remedy, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
05/28/14	Long Term Monitoring Program - First Five Year Implementation Plan Study Area 7 Sediment Remedy, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending				
	05/04/2014	05/11/2014	05/18/2014	05/25/2014	06/01/2014
Construction Management (AMEC)	9	10	10	10	10
Engineering (AMEC)	2	2	2	1	1
Air Monitoring (Emilcott)	1	1	1	1	1
Security (Securitas)	3	3	3	3	3
Entact/Subcontractors	32	40	42	47	45
Arecon/US Ecology Subcontractors	1	1	1	1	1
OSC (80 Kellogg Demolition)	5	3	0	0	0
ENR (SA-6N GWTP Utilities)	0	0	0	1	3
Siemens	1	1	1	1	1
HBS (SA-6N GWTP Security System)	1	0	0	0	0
Other	0	0	0	0	0
TOTAL	**55**	**61**	**60**	**65**	**65**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued new Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6S and SA-6N.
- Continued well abandonment activities in accordance with approved Monitoring Well Abandonment Plan.
- Completed former 80 Kellogg St GWTP and truck wash demolition activities.
- Collected May PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Non-chromium activities, ARCADIS continues to work with NJDEP on the modification to the existing NJDEP-Discharge to Groundwater Permit by Rule for additional Enhanced Anaerobic in-situ bioremediation (EAISB) injections planned for JCMUA and JCDPW UST Areas.

C. SA-6 N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on April 23, 2014.

- Completed installation of asphalt ramps associated with the north and south tanker offloading pads and the roll off garage door

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending				
	05/04/2014	05/11/2014	05/18/2014	05/25/2014	06/01/2014
Avg. Gallons Treated & Discharged (per day)	79,342	78,825	79,068	81,360	78,896
Average Flow (gpm) for Operating Period	55	54	55	56	55
Avg. Hours of Plant Operation	24	24	24	24	24
GWTP InfluentTanks (gal.)	13,132	11,058	12,258	11,560	12,698

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart, Weekly Excavation and Survey Data, Backfill Compaction Locations, and Field Density Test Summary Log)*

- Continued excavation activities in Cells 139A through 125A and 146B through 126B.
- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Continued compaction testing associated with imported backfill. Adjusted the frequency of testing in accordance with specifications.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/ FCI	Roll-Off	TSDF	Stablex-Canada	WWTP Filter Cake	0	0	0
Entact/ Horowith	Tri-axle Dump	PA Transload	US Ecology	>1000 mg/kg Soils	223	21.8	4,868
Entact/ Montecalvo	Tri-axle Dump	Bayshore Recycling	NA	Non Haz Petroleum Soil	041	24.98	1,024.
Entact/ Montecalvo	30yd Roll Off	NJMC Landfill	NA	Non Haz Concrete	21	22.3	468
OSC	30yd Roll Off	375 RT 1-9 South Jersey	IWS	C&D	30	13.1	393
OSC	40yd Roll Off	Cinelli JC	Cinelli	Light Iron	9	6.1	55.6

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Under Excavation	Cell Number(s) 128B-126B, 126A-125A
Excavation Completed	Cell Number(s) 139A –127A, 146B-129B Volume Excavated - Total for Reporting Period: 11,420 CY/ Total to Date: 62,619 CY
Backfill in Progress	Cell Number(s) 1 through 58, 152-128A, 146B-136B

3. BACKFILL MATERIALS USED

Source	(Week Ending)				
	05/04/2014	05/11/2014	05/18/2014	05/25/2014	06/01/2014
<20ppm re-use, CY	1,755	3,489	0	0	315
Weldon, Import-Tons	1,550.	4,603	4,563	3,108	0
Tilcon, Import-Tons DGA	1,186	1,785	1,520	550	302
Tilcon, Import Tons – 1.5” Stone	0	0	126.07	0	201

E. SURCHARGE OPERATIONS *(see **Attachment 9**)*

- Area 1S: Instrumentation Installation ~90% complete. One instrument location and the settlement platforms over the perimeter pool remain to be installed. Completion of instrumentation installation is scheduled for June2014. No Surcharge initiated.
- Area 2S: Instrumentation Installation ~75% complete. Completion of instrument installation deferred pending completion of 80 Kellogg demolition activities. No Surcharge initiated.
- Area 3S: Instrumentation Installation 100% complete as of November 6, 2013 and all baseline readings recorded. Temporary stockpiles in area. No Surcharge initiated.
- Area 1N: Instrumentation Installation ~100% complete. Placement of surcharge material initiated on April 8, 2014. As of May 30th approx. 80% of surcharge has been placed. The results of the monitoring provided in Surcharge Monitoring Report #2 to be submitted under separate cover.
- Area 2N: No instrumentation installed. Initial surcharge instrument data to be submitted under separate cover.
- Area 3N: No activity in this area pending JCIA Demolition.
- Area 4N: No activity in this area pending JCIA Demolition.

F. SHEET PILE OPERATIONS *(see **Attachment 10**)*

- Forty Eight (48) pairs driven on the hydraulic barrier wall from Sta 12+70 to 14+90+65 on SA-6 South.
- The grout angle on one sheet pair (designated 20P-15) was dislodged from the sheet during driving. A new angle will be installed when the joint is exposed during excavation. The angle will be flushed and grouted following backfill.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete placement of surcharge materials in SA-6N Area 1N.
- Begin placement of surcharge materials in SA-6S Area 1S.
- Continue installation of the contingent groundwater system on SA-6S.
- Continue dewatering of well points/sumps installed within the SA-6S open space area.
- Continue excavation activities in SA-6S Cells 125to 108. Continue stockpiling of presumed <20 mg/kg for additional sampling.
- Continue loadout and transportation and disposal activities at SA-6S.
- Continue backfill placement and associated compaction testing activities at SA-6S.
- Continue dewatering and storm-water management activities.
- Continue surcharge monitoring instrument installation activities on SA-6N and SA-6S.
- Conduct S-3 Injection/Mass Removal Event No.14 in well 088-IW-03 (completed on June 1, 2014.)

- Conduct quarterly LTMP groundwater level measurement round.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.

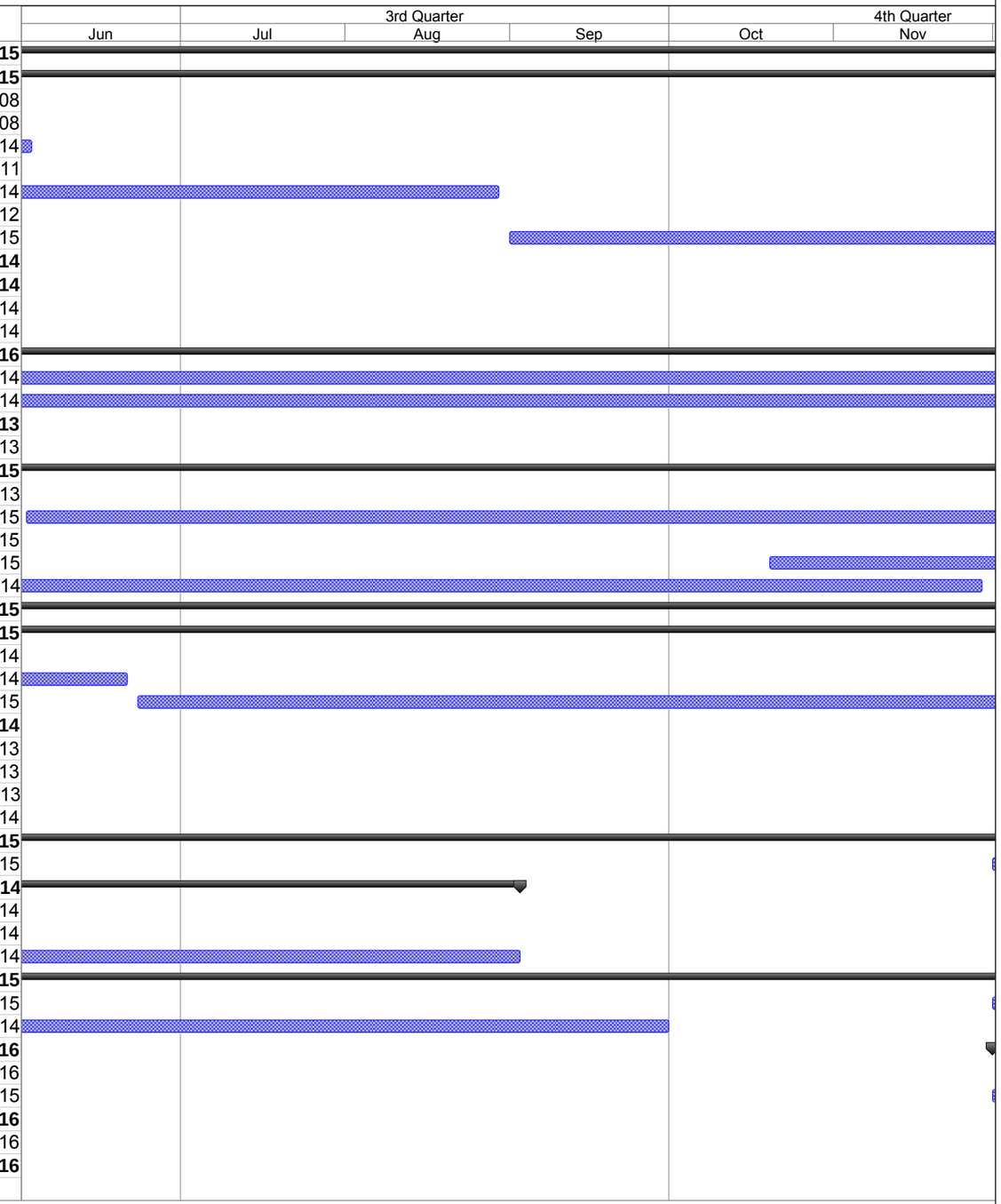
ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
   - Excavation Bottom Elevations
   - Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points
   - Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
   - Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)
4. Dewatering Operations Update
   - SA-6 South Dewatering Data (Headers)
   - SA-6 South Deep Well Data (DW-5)
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
   - Stockpiled Material Tracking and Sampling Log
7. Perimeter Pools Update
8. Groundwater Quality Data Surcharge Monitoring Update *(provided on a quarterly basis - not available as of this report date)*
   - Summary of Groundwater Quality Data from GWET Wells
   - Quarterly Water Wells
   - Trichloroethene//Chloroform/Hexavalent Chromium in GWET Wells
9. Surcharge Monitoring Update
   - Instrumentation Location Plan 1S
10. Sheet Pile Update
    - Hydraulic Barrier Wall Plan & Profile
    - Sheet Deflection Along Open Excavation
    - Sheet Pile Repair Log
    - Vibration Monitoring Update
11. Weekly SWPPP Reports
12. GWTP Update
    - 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (April 2014)
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (April 2014)
13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**Fri 1/4/08**	**Mon 3/30/15**
18	**JCIA/JCDPW Relocation**	**1735 days**	**Mon 8/11/08**	**Mon 3/30/15**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08	Wed 10/1/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09	Mon 6/2/14
22	Relocation Contractor Procurement	392 days	Thu 4/15/10	Thu 10/13/11
23	JCIA and JCDPW Relocation	753 days	Mon 10/17/11	Fri 8/29/14
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11	Mon 4/30/12
24a	Demolition of JCIA Structures	151 days	Mon 9/1/14	Mon 3/30/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**	**Wed 4/30/14**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**	**Wed 4/30/14**
58	New GWTP Construction Completion	502 days	Mon 3/5/12	Thu 1/30/14
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11	Wed 4/30/14
60	**SA-6 North/South Field Implementation**	**838 days**	**Fri 3/1/13**	**Mon 5/16/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	Mon 6/17/13	Wed 12/31/14
60b	SA-6S (Site 163) In-Situ Treatment	294 days	Fri 11/15/13	Wed 12/31/14
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**	**Fri 6/28/13**
61a	Mobilization	87 days	Fri 3/1/13	Fri 6/28/13
62	**Surcharge Install/Instrumentation**	**620 days**	**Mon 6/17/13**	**Fri 10/30/15**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	Mon 6/17/13	Tue 12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	Mon 6/2/14	Fri 2/27/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Mon 3/2/15	Fri 10/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	Mon 10/20/14	Tue 6/30/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	Mon 3/3/14	Fri 11/28/14
63	**Barrier Wall Install**	**489 days**	**Mon 6/17/13**	**Thu 4/30/15**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**Mon 12/2/13**	**Thu 4/30/15**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	Mon 12/2/13	Fri 2/14/14
63c	SA-6N Stations 23+38 to 14+25	90 days	Mon 2/17/14	Fri 6/20/14
63d	SA-6N Stations 14+25 to 0+00	224 days	Mon 6/23/14	Thu 4/30/15
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**Mon 6/17/13**	**Fri 5/30/14**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	Mon 6/17/13	Thu 8/15/13
63h	SA-6S Stations 1+54 to 8+37	7 days	Fri 8/16/13	Mon 8/26/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	Thu 10/3/13	Fri 11/8/13
63j	SA-6S Stations 8+60 to 14+87	145 days	Mon 11/11/13	Fri 5/30/14
64	**Excavation**	**507 days**	**Tue 10/22/13**	**Wed 9/30/15**
64a	SA 6N Excavation	218 days	Mon 12/1/14	Wed 9/30/15
64b	**SA 6S Excavation**	**226 days**	**Tue 10/22/13**	**Tue 9/2/14**
64c	SA-6S Excavation of Cells 1 - 25	53 days	Tue 10/22/13	Thu 1/2/14
64d	SA-6S Excavation of Cells 26 - 60	90 days	Fri 1/3/14	Thu 5/8/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	Fri 5/9/14	Tue 9/2/14
65	**Backfill**	**493 days**	**Mon 11/11/13**	**Wed 9/30/15**
65a	SA 6N Backfill	218 days	Mon 12/1/14	Wed 9/30/15
65b	SA 6S Backfill	232 days	Mon 11/11/13	Tue 9/30/14
66	**Capping and Cover Soil Placement**	**315 days**	**Mon 12/1/14**	**Fri 2/12/16**
66a	SA 6N Capping and Cover Soil Placement	119 days	Tue 9/1/15	Fri 2/12/16
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14	Wed 12/30/15
67	**Restoration**	**164 days**	**Tue 9/1/15**	**Fri 4/15/16**
67a	Restoration	164 days	Tue 9/1/15	Fri 4/15/16
68	**Demobilization**	**21 days**	**Mon 4/18/16**	**Mon 5/16/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			



Project: SA-6 Remediation Schedule
Revision 3
Date: Wed 5/28/14

Task | Milestone | Summary | Critical

Attachment 2: Site Photographs

Site Photograph 1: Backfill material is placed in the excavation.

Site Photograph 2: Contractor excavates materials in western area of Kellogg St.

Site Photograph 3: Contractor installs hydraulic barrier sheetpile on Kellogg St Properties.

Site Photograph 4: Contractor loads out soil for off-site disposal.

Site Photograph 5: Contractor loads surcharge material for use on JC Properties.

Site Photograph 6: Contractor performs compaction testing on Kellogg St Properties.

Site Photograph 7: Drilling contractor install settlement monitoring equipment.

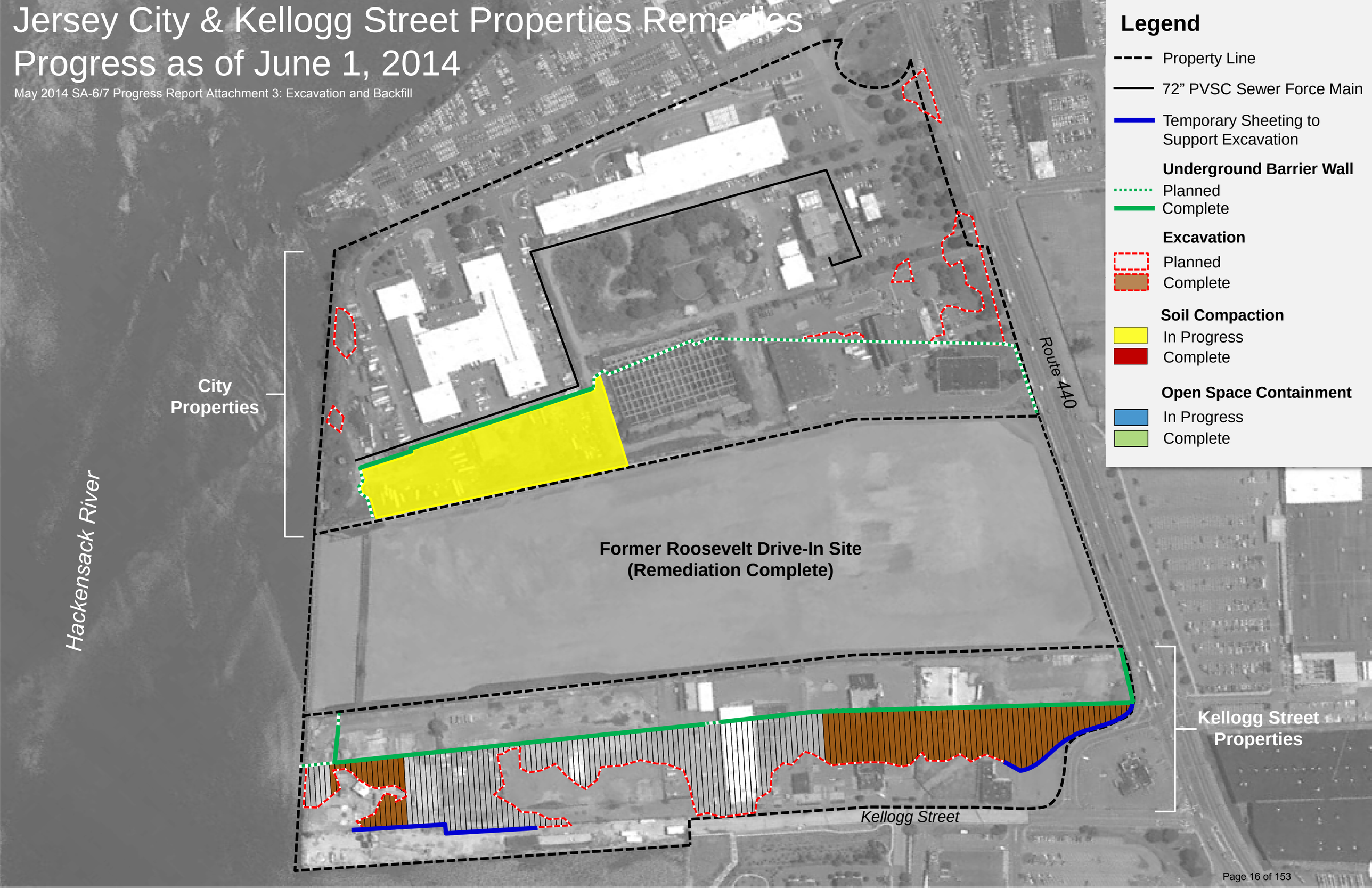
Site Photograph 8: Geotextile is placed in preparation for backfilling.

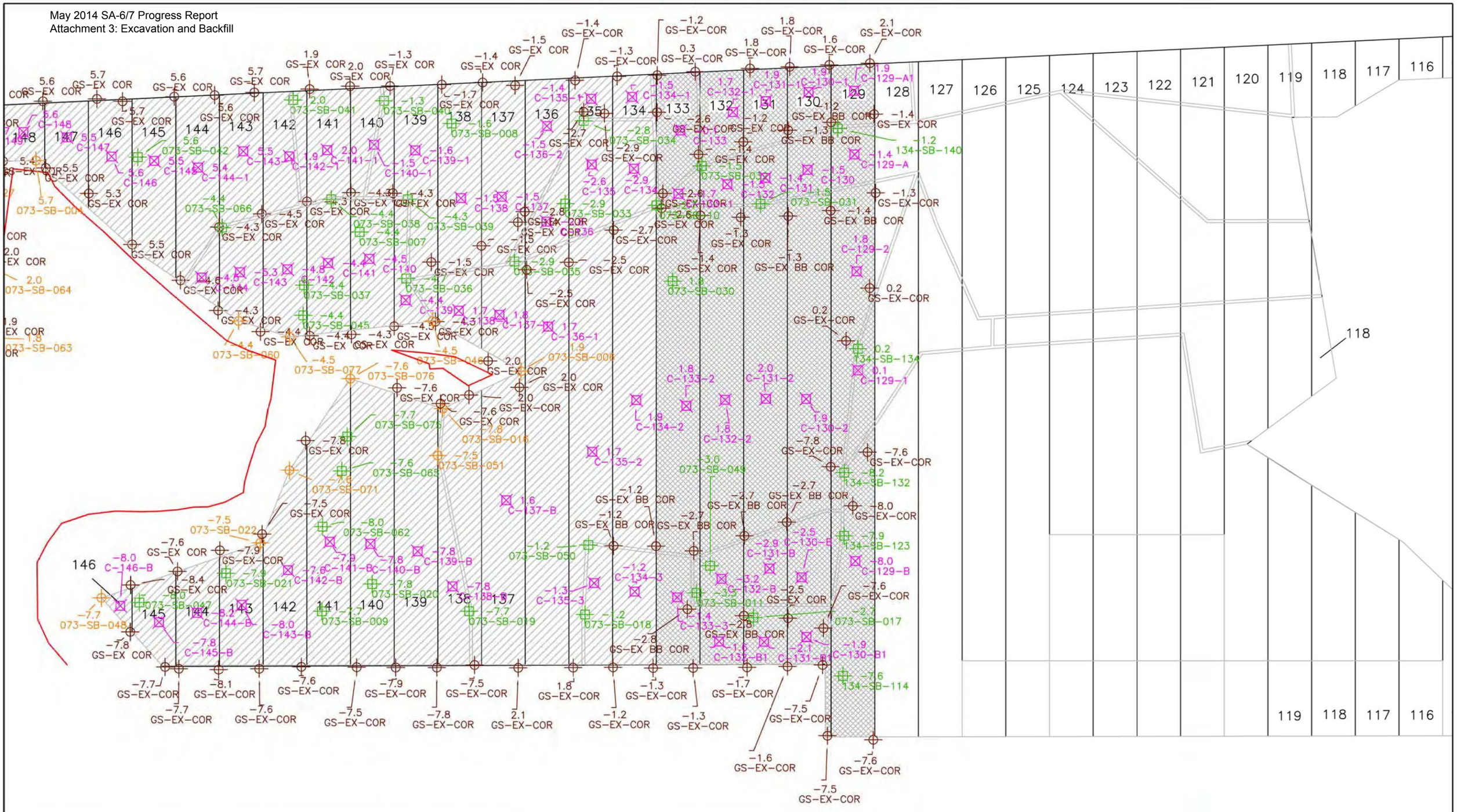
Attachment 3: Excavation and Backfill

- Progression Chart
- Excavation Bottom Elevations
- Maser Survey Tables (SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points)
- Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
- Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)

Jersey City & Kellogg Street Properties Remedies Progress as of June 1, 2014

May 2014 SA-6/7 Progress Report Attachment 3: Excavation and Backfill





LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- BOTTOM CENTER POINT ELEVATION STRATUM D
- BOTTOM CENTER POINT ELEVATION <20 PPM
- BOTTOM CORNER POINT ELEVATION <20 PPM
- DESIGNED STRATUM O EXCAVATION LIMIT
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- CURRENT EXCAVATION TO <20 PPM
- TOP OF EXCAVATION SLOPE
- LIMIT OF EXCAVATION AREA

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: EXCAVATION BOTTOM ELEVATIONS PERIOD 05-22-14 TO 06-05-14

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

MASER CONSULTING P.A.

Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

156 Stagecoach Road
Marmora, NJ 08223
T: 609.390.1927
F: 609.390.0040
www.maserconsulting.com

SA-6 South Excavation: Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685514.6	601446.5	3.8	073-SB-029	152	4/25/2014	3.0	* Target Elevation Reached
685482.2	601420.6	4.4	073-SB-054	152	4/24/2014	2.0	* Target Elevation Reached
685458.7	601392.0	7.5	073-SB-056	152	4/24/2014	3.8	* Target Elevation Reached
685474.8	601425.1	7.5	073-SB-057	151	4/24/2014	1.9	* Target Elevation Reached
685502.9	601465.5	3.3	073-SB-028	150	4/25/2014	3.0	* Target Elevation Reached
685463.0	601435.2	2.5	073-SB-059	150	4/24/2014	1.9	* Target Elevation Reached
685490.0	601478.5	6.0	073-SB-042R	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	6.0	073-SB-042R	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	6.0	073-SB-042R	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	6.0	073-SB-042R	146A	4/24/2014	5.6	Target Elevation Reached
685448.9	601515.0	6.0	073-SB-042	145A	4/24/2014	5.6	Target Elevation Reached
685433.1	601528.8	6.0	073-SB-042R	144A	4/24/2014	5.4	Target Elevation Reached
685403.0	601506.0	-4.2	073-SB-037R	144A	4/24/2014	-4.5	Target Elevation Reached
685411.9	601522.2	-0.6	073-SB-066	143A	4/24/2014	-4.4	Target Elevation Reached
685427.6	601544.4	6.0	073-SB-042R	143A	4/24/2014	5.5	Target Elevation Reached
685430.7	601568.7	3.8	073-SB-041	142A	4/24/2014	2.0	Target Elevation Reached
685378.8	601531.7	-4.2	073-SB-037	142A	4/24/2014	-4.4	Target Elevation Reached
685371.0	601525.0	-2.2	073-SB-045	142A	4/24/2014	-4.4	Target Elevation Reached
685395.8	601557.3	2.3	073-SB-038	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.3	073-SB-038R	141A	4/24/2014	2.0	Target Elevation Reached
685410.7	601592.8	0.2	073-SB-040	140A	4/24/2014	-1.3	Target Elevation Reached
685381.0	601558.0	-3.9	073-SB-007	140A	4/24/2014	-4.4	Target Elevation Reached
685379.3	601577.9	0.6	073-SB-039	139A	4/24/2014	-4.3	Target Elevation Reached
685358.5	601560.3	-1.0	073-SB-036	139A	4/24/2014	-4.7	Target Elevation Reached
685390.7	601590.5	-0.6	073-SB-008R	139A	4/24/2014	-1.6	Target Elevation Reached
685390.0	601606.0	-0.6	073-SB-008	138A	4/29/2014	-1.6	Target Elevation Reached
685338.6	601567.5	2.1	073-SB-030R	138A	4/29/2014	1.7	Target Elevation Reached
685339.7	601592.9	1.5	073-SB-035	137A	4/29/2014	-2.9	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.1)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685328.7	601577.4	2.1	073-SB-030R	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-6.7	073-SB-009R	146B	5/5/2014	-8.0	Target Elevation Reached
685329.7	601419.3	-6.9	073-SB-047	145B	5/5/2014	-8.0	Target Elevation Reached
685314.6	601432.4	-6.7	073-SB-009R	144B	5/8/2014	-8.2	Target Elevation Reached
685318.9	601448.7	-5.3	073-SB-021	143B	5/8/2014	-7.9	Target Elevation Reached
685306.3	601465.9	-6.7	073-SB-009R	142B	5/12/2014	-7.6	Target Elevation Reached
685329.1	601510.6	-5.2	073-SB-075	141B	5/12/2014	-7.7	Target Elevation Reached
685310.4	601484.5	-4.8	073-SB-062	141B	5/12/2014	-8.0	Target Elevation Reached
685321.1	601501.8	-5.0	073-SB-065	141B	5/12/2014	-7.6	Target Elevation Reached
685288.0	601466.0	-6.7	073-SB-009	141B	5/12/2014	-7.7	Target Elevation Reached
685284.5	601485.3	-5.3	073-SB-020	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-6.7	073-SB-009R	139B	5/14/2014	-7.8	Target Elevation Reached
685256.2	601505.4	-3.2	073-SB-019	138B	5/14/2014	-7.7	Target Elevation Reached
685277.8	601539.2	2.1	073-SB-030R	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-0.6	073-SB-008R	136	5/5/2014	-1.5	Target Elevation Reached
685344.3	601618.9	-1.8	073-SB-033	136	5/5/2014	-2.9	Target Elevation Reached
685315.0	601587.9	2.1	073-SB-030R	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-0.6	073-SB-008R	135	5/8/2014	-1.4	Target Elevation Reached
685362.2	601641.7	-0.2	073-SB-034	135	5/8/2014	-2.8	Target Elevation Reached
685272.1	601572.6	2.1	073-SB-030R	135	5/19/2014	1.7	Target Elevation Reached
685248.2	601551.5	0.3	073-SB-050	135	5/19/2014	-1.2	Target Elevation Reached
685230.4	601535.5	0.3	073-SB-018	135	5/19/2014	-1.2	Target Elevation Reached
685358.1	601659.9	-0.6	073-SB-008R	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-1.8	073-SB-033R	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	073-SB-030R	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	0.6	073-SB-017R	134	5/19/2014	-1.2	Target Elevation Reached
685212.0	601570.0	-1.4	073-SB-011	133	5/22/2014	-3.3	Target Elevation Reached
685324.0	601643.0	-0.4	073-SB-010	133	5/14/2014	-2.7	Target Elevation Reached
685300.3	601630.9	2.1	073-SB-030	133	5/14/2014	1.8	Target Elevation Reached
685338.7	601665.5	2.3	073-SB-032R	133	5/12/2014	-0.1	Target Elevation Reached
685322.3	601651.3	-1.2	134-SB-136R	133	5/14/2014	-1.7	Target Elevation Reached
685215.0	601563.9	0.6	073-SB-017R	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.3	073-SB-032R	132	5/12/2014	1.7	Target Elevation Reached
685257.3	601619.3	2.1	073-SB-030R	132	5/19/2014	1.8	Target Elevation Reached
685194.1	601565.5	0.6	073-SB-017R	132	5/22/2014	-1.6	Target Elevation Reached
685216.3	601579.5	1.1	073-SB-049	132	5/22/2014	-3.0	Target Elevation Reached
685324.7	601663.5	2.3	073-SB-032	132	5/14/2014	-1.5	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.2)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685193.1	601579.8	0.6	073-SB-017	131	5/22/2014	-2.7	Target Elevation Reached
685301.9	601671.1	0.1	073-SB-031	131	5/14/2014	-1.5	Target Elevation Reached
685328.1	601694.6	2.3	073-SB-032R	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	073-SB-030R	131	5/19/2014	2.0	Target Elevation Reached
685202.7	601594.7	-1.4	073-SB-011R	131	5/22/2014	-2.9	Target Elevation Reached
685321.3	601708.0	2.3	073-SB-032R	130	5/19/2014	1.9	Target Elevation Reached
685300.8	601690.9	-1.2	134-SB-136R	130	5/19/2014	-1.5	Target Elevation Reached
685240.0	601641.1	2.1	073-SB-030R	130	5/19/2014	1.9	Target Elevation Reached
685193.4	601601.4	-1.4	073-SB-011R	130	5/22/2014	-2.5	Target Elevation Reached
685176.5	601589.8	0.6	073-SB-017R	130	5/22/2014	-1.9	Target Elevation Reached
685195.4	601621.6	-2.7	134-SB-123	129	5/27/2014	-7.9	Target Elevation Reached
685212.1	601635.4	-0.6	134-SB-132	129	5/27/2014	-8.2	Target Elevation Reached
685242.2	601665.8	1.3	134-SB-134	129	5/27/2014	0.2	Target Elevation Reached
685305.3	601707.9	-1.2	134-SB-140	129	5/19/2014	-1.2	Target Elevation Reached
685158.2	601591.1	-6.6	134-SB-114	129	5/27/2014	-7.6	Target Elevation Reached
685311.8	601720.4	2.3	073-SB-032R	129	5/22/2014	1.9	Target Elevation Reached
685263.1	601682.1	2.1	073-SB-030R	129	5/22/2014	1.8	Target Elevation Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area. Coordinates come from Center Points within that specific cell.

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

* Target Reached. Over excavation conducted as directed by engineer.

SA-6 South Excavation: Center Points (Table 2.0)

Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685460.6	601379.6	5.7	C-153	153	4/24/2014	3.9	Target Elevation Reached- Cell only partially excavated
685497.5	601425.0	5.7	C-152	152	4/24/2014	4.2	Target Elevation Reached
685453.0	601392.1	5.7	C-152-1	152	4/24/2014	3.7	Target Elevation Reached
685467.8	601422.4	5.7	C-151	151	4/24/2014	1.9	Target Elevation Reached
685489.7	601438.8	5.7	C-151-1	151	4/24/2014	3.9	Target Elevation Reached
685448.1	601407.0	5.7	C-151-2	151	4/24/2014	4.0	Target Elevation Reached
685511.4	601454.1	3.3	C-151-3	151	4/25/2014	3.0	Target Elevation Reached
685455.0	601431.7	5.7	C-150	150	4/24/2014	2.1	Target Elevation Reached
685480.8	601450.0	5.7	C-150-1	150	4/24/2014	4.0	Target Elevation Reached
685502.2	601463.5	2.8	C-150-2	150	4/25/2014	2.8	Target Elevation Reached
685490.0	601478.5	5.7	C-149	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	5.7	C-148	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	5.7	C-147	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	5.7	C-146	146A	4/24/2014	5.6	Target Elevation Reached
685444.3	601518.5	5.7	C-145	145A	4/24/2014	5.5	Target Elevation Reached
685403.0	601506.0	-4.3	C-144	144A	4/24/2014	-4.5	Target Elevation Reached
685433.1	601528.8	5.7	C-144-1	144A	4/24/2014	5.4	Target Elevation Reached
685396.1	601517.4	-4.3	C-143	143A	4/24/2014	-5.3	Target Elevation Reached
685427.6	601544.4	5.7	C-143-1	143A	4/24/2014	5.5	Target Elevation Reached
685386.6	601530.7	-4.3	C-142	142A	4/24/2014	-4.8	Target Elevation Reached
685416.3	601555.6	5.7	C-142-1	142A	4/24/2014	1.9	Target Elevation Reached
685379.5	601542.9	-4.3	C-141	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.1	C-141-1	141A	4/24/2014	2.0	Target Elevation Reached
685371.7	601554.8	-4.3	C-140	140A	4/24/2014	-4.5	Target Elevation Reached
685401.1	601580.7	2.1	C-140-1	140A	4/24/2014	-1.5	Target Elevation Reached
685352.9	601555.6	-4.3	C-139	139A	4/24/2014	-4.4	Target Elevation Reached
685390.7	601590.5	-1.2	C-139-1	139A	4/24/2014	-1.6	Target Elevation Reached
685368.1	601592.3	-1.2	C-138	138A	4/29/2014	-1.5	Target Elevation Reached
685338.6	601567.5	2.1	C-138-1	138A	4/29/2014	1.7	Target Elevation Reached
685359.7	601603.5	-1.2	C-137	137A	4/29/2014	-1.5	Target Elevation Reached
685328.7	601577.4	2.1	C-137-1	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-7.5	C-146-B	146B	5/5/2014	-8.0	Target Elevation Reached
685320.3	601420.2	-7.5	C-145-B	145B	5/5/2014	-7.8	Target Elevation Reached
685314.6	601432.4	-7.5	C-144-B	144B	5/8/2014	-8.2	Target Elevation Reached
685307.0	601446.0	-7.5	C-143-B	143B	5/8/2014	-8.0	Target Elevation Reached
685306.3	601465.9	-7.5	C142-B	142B	5/12/2014	-7.6	Target Elevation Reached
685304.8	601483.2	-7.5	C-141-B	141B	5/12/2014	-7.9	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.1)

Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685295.5	601493.5	-7.5	C-140-B	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-7.5	C-139-B	139B	5/14/2014	-7.8	Target Elevation Reached
685266.5	601506.3	-7.5	C-138-B	138B	5/14/2014	-7.8	Target Elevation Reached
685277.8	601539.2	2.1	C-137-B	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-1.2	C-136-2	136	5/5/2014	-1.5	Target Elevation Reached
685343.4	601610.1	-2.5	C-136	136	5/5/2014	-2.8	Target Elevation Reached
685315.0	601587.9	2.1	C-136-1	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-1.2	C-135-1	135	5/8/2014	-1.4	Target Elevation Reached
685348.8	601634.5	-2.5	C-135	135	5/8/2014	-2.6	Target Elevation Reached
685272.1	601572.6	2.1	C-135-2	135	5/19/2014	1.7	Target Elevation Reached
685236.7	601544.8	-1.2	C-135-3	135	5/19/2014	-1.3	Target Elevation Reached
685358.1	601659.9	-1.2	C-134-1	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-2.5	C-134	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	C-134-2	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	-1.2	C-134-3	134	5/19/2014	-1.2	Target Elevation Reached
685322.3	601651.3	-1.2	C-133-1	133	5/14/2014	-1.7	Target Elevation Reached
685338.7	601665.5	0.4	C-133	133	5/12/2014	-0.1	Target Elevation Reached
685264.0	601607.6	2.1	C-133-2	133	5/19/2014	1.8	Target Elevation Reached
685215.0	601563.9	-1.2	C-133-3	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.1	C-132-1	132	5/12/2014	1.7	Target Elevation Reached
685314.3	601666.4	-1.2	C-132	132	5/14/2014	-1.5	Target Elevation Reached
685210.3	601579.7	-2.5	C-132-B	132	5/22/2014	-3.2	Target Elevation Reached
685194.1	601565.5	-1.2	C-132-B1	132	5/22/2014	-1.6	Target Elevation Reached
685257.3	601619.3	2.1	C-132-2	132	5/19/2014	1.8	Target Elevation Reached
685307.8	601677.9	-1.2	C-131	131	5/14/2014	-1.4	Target Elevation Reached
685202.7	601594.7	-2.5	C-131-B	131	5/22/2014	-2.9	Target Elevation Reached
685184.3	601577.4	-1.2	C-131-B1	131	5/22/2014	-2.1	Target Elevation Reached
685328.1	601694.6	2.1	C-131-1	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	C-131-2	131	5/19/2014	2.0	Target Elevation Reached
685193.4	601601.4	-2.5	C-130-B	130	5/22/2014	-2.5	Target Elevation Reached
685300.8	601690.9	-1.2	C-130	130	5/19/2014	-1.5	Target Elevation Reached
685176.5	601589.8	-1.2	C-130-B1	130	5/22/2014	-1.9	Target Elevation Reached
685240.0	601641.1	2.1	C-130-2	130	5/19/2014	1.9	Target Elevation Reached
685321.3	601708.0	2.1	C-130-1	130	5/19/2014	1.9	Target Elevation Reached
685294.8	601706.8	-1.2	C-129-A	129	5/22/2014	-1.4	Target Elevation Reached
685311.8	601720.4	2.1	C-129-A1	129	5/22/2014	1.9	Target Elevation Reached
685186.2	601619.2	-7.5	C-129-B	129	5/27/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.2)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685236.4	601661.1	0.4	C-129-1	129	5/27/2014	0.1	Target Elevation Reached
685263.1	601682.1	2.1	C-129-2	129	5/22/2014	1.8	Target Elevation Reached

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

Green shading indicates 100% Design Bottom Elevation Field Modified to reach < 20 PPM soils .

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)

Sidewall Target Coordinates					As-built Elevations		
685443.0	601355.0	5.8	073-SB-003	153	4/24/2014	4.0	Target Elevation Reached
685441.6	601380.0	6.7	073-SB-078	152	4/24/2014	3.9	Target Elevation Reached
685490.9	601459.8	7.8	073-SB-027	150	4/24/2014	3.8	Target Elevation Reached
685459.6	601448.4	5.9	073-SB-064	149	4/24/2014	2.0	Target Elevation Reached
685438.1	601430.2	8.8	073-SB-063	149	4/24/2014	1.8	Target Elevation Reached
685470.0	601487.0	5.9	073-SB-004	148	4/24/2014	5.7	Target Elevation Reached
685383.5	601506.5	0.9	073-SB-060	143A	4/24/2014	-4.4	Target Elevation Reached
685368.1	601516.7	0.4	073-SB-077	142A	4/24/2014	-4.5	Target Elevation Reached
685341.4	601558.3	2.9	073-SB-046	139A	4/24/2014	-4.5	Target Elevation Reached
685309.0	601571.0	3.8	073-SB-006	137A	4/29/2014	1.9	Target Elevation Reached
685339.2	601410.1	-5.7	073-SB-048	146B	5/5/2014	-7.7	Target Elevation Reached
685319.6	601464.4	-5.4	073-SB-022	143B	5/8/2014	-7.5	Target Elevation Reached
685332.6	601487.8	-3.6	073-SB-071	142B	5/12/2014	-7.6	Target Elevation Reached
685344.0	601523.8	-4.1	073-SB-076	141B	5/12/2014	-7.6	Target Elevation Reached
685316.0	601542.0	-6.2	073-SB-016	138B	5/14/2014	-7.8	Target Elevation Reached
685304.5	601530.7	-5.8	073-SB-051	138B	5/14/2014	-7.5	Target Elevation Reached

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

R. Thomas Hugg 6/6/14

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR

LICENSE NO. 36737

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-01		684138.4	603182.3	-0.5						4	Crushed concrete	Bottom of excavation elevation	
2	BF-01-01	12/5/2013	684144.2	603184.2	1.0	136.4	3.7	142.6	7.8	96	4	Weldon WC QP		Sor
3	BF-01-02	12/5/2013	684137.8	603181.7	1.9	139.9	4.3	142.6	7.8	98	4	Weldon WC QP		Sor
4	BF-01-03	12/6/2013	684140.2	603182.7	2.5	141.2	5.0	142.6	7.8	99	4	Weldon WC QP		Sor
5	BF-01-04	12/6/2013	684136.6	603190.0	3.5	141.2	5.6	142.6	7.8	99	4	Weldon WC QP		Sor
6	BF-01-05	12/6/2013	684134.9	603186.7	4.5	143.2	4.8	142.6	7.8	100	4	Weldon WC QP		Sor
7	BF-01-06	12/6/2013	684141.1	603182.6	5.8	139.6	6.0	142.6	7.8	98	4	Weldon WC QP		Sor
8	BF-01-07	12/10/2013	684147.6	603186.8	6.2	146.7	5.1	142.6	7.8	103	4	Weldon WC QP		Sor
9	BF-01-08	12/10/2013	684140.2	603189.6	7.1	120.1	3.4	128.9	12.1	93	4	Weldon WC Screenings	recompact lift	Sor
9	BF-01-08R	12/10/2013	684140.2	603189.6	7.1	129.9	4.9	128.9	12.1	101	4	Weldon WC Screenings	second reading after addl compaction	Sor
10	BF-01-09	12/12/2013	684130.1	603175.5	8.1	126.4	3.3	128.9	12.1	98	4	Weldon WC Screenings		Sor
11	BF-01-10	12/31/2013	684140.0	603184.3	9.0	139.6	7.4	128.9	12.1	108	4	Weldon WC Screenings		Sor
1	BF-02		684153.8	603153.9	-0.6						6	Crushed concrete	Bottom of excavation elevation	
2	BF-02-01	12/5/2013	684162.8	603161.3	1.4	138.2	5.7	142.6	7.8	97	6	Weldon WC QP		Sor
3	BF-02-02	12/5/2013	684160.8	603162.3	2.4	136.2	4.5	142.6	7.8	96	6	Weldon WC QP		Sor
4	BF-02-03	12/6/2013	684157.7	603161.3	2.7	147.2	5.6	142.6	7.8	103	6	Weldon WC QP		Sor
5	BF-02-04	12/6/2013	684145.7	603162.1	3.7	143.5	5.0	142.6	7.8	101	6	Weldon WC QP		Sor
6	BF-02-05	12/6/2013	684156.9	603171.0	4.4	145.7	4.1	142.6	7.8	102	6	Weldon WC QP		Sor
7	BF-02-06	12/6/2013	684150.1	603155.4	5.6	140.4	4.6	142.6	7.8	98	6	Weldon WC QP		Sor
8	BF-02-07	12/10/2013	684135.5	603153.5	6.1	149.4	4.0	142.6	7.8	105	6	Weldon WC QP		Sor
9	BF-02-08	12/10/2013	684157.9	603174.9	7.2	125.8	5.2	128.9	12.1	98	6	Weldon WC Screenings		Sor
1	BF-03		684179.9	603119.5	-1.2						9	Crushed concrete	Bottom of excavation elevation	
2	BF-03										9	Type A Material	No compaction testing required	
3	BF-03-01	11/22/2013	684198.1	603131.6	0.2	133.3	3.4	142.6	7.8	93	9	Weldon WC QP		Sor
4	BF-03-02	11/22/2013	684155.7	603111.6	1.5	130.8	2.8	142.6	7.8	92	9	Weldon WC QP		Sor
5	BF-03-03	12/5/2013	684177.4	603121.5	2.5	135.7	2.0	128.9	12.1	105	9	Weldon WC Screenings		Sor
6	BF-03-04	12/12/2013	684180.5	603126.9	4.6	124.7	3.2	128.9	12.1	97	9	Weldon WC Screenings		Sor
7	BF-03-05	12/12/2013	684177.1	603132.4	5.3	132.5	2.8	128.9	12.1	103	9	Weldon WC Screenings		Sor
8	BF-03-06	12/16/2013	684172.4	603128.5	6.4	128.3	2.9	128.9	12.1	100	9	Weldon WC Screenings		Sor
9	BF-03-07	1/6/2014	684177.1	603113.8	6.6	131.2	10.4	128.9	12.1	102	9	Weldon WC Screenings		Sor
10	BF-03-08	1/9/2014	684178.2	603121.8	8.2	128.2	5.9	128.9	12.1	99	9	Weldon WC Screenings		Sor
1	BF-04		684195.7	603093.1	-1.5						11	Crushed concrete	Bottom of excavation elevation	
2	BF-04										11	Type A Material	No compaction testing required	
3	BF-04-01	12/5/2013	684198.0	603094.8	2.6	131.0	3.6	128.9	12.1	102	11	Weldon WC Screenings		Sor
4	BF-04-02	12/12/2013	684206.6	603104.7	3.5	125.8	3.9	128.9	12.1	98	11	Weldon WC Screenings		Sor
5	BF-04-03	12/16/2013	684217.5	603111.1	4.9	129.9	2.9	128.9	12.1	101	11	Weldon WC Screenings		Sor
6	BF-04-04	12/31/2013	684213.6	603115.0	5.9	124.6	3.2	128.9	12.1	97	11	Weldon WC Screenings		Sor
7	BF-04-05	1/9/2014	684195.8	603100.0	8.2	131.2	4.8	128.9	12.1	102	11	Weldon WC Screenings		Sor
1	BF-05		684200.8	603078.4	-1.8						12	Crushed concrete	Bottom of excavation elevation	
2	BF-05										12	Type A Material	No compaction testing required	
3	BF-05-01	12/5/2013	684185.2	603057.9	2.6	133.8	4.7	128.9	12.1	104	12	Weldon WC Screenings		Sor
4	BF-05-02	12/12/2013	684179.9	603057.7	3.0	121.5	3.0	128.9	12.1	94	12	Weldon WC Screenings	recompact lift	Sor
4	BF-05-02R	12/16/2013	684186.2	603070.2	3.1	133.0	9.3	128.9	12.1	103	12	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-05-03	12/31/2013	684181.6	603060.8	4.5	124.7	2.9	128.9	12.1	97	12	Weldon WC Screenings		Sor
6	BF-05-04	1/9/2013	684186.1	603053.5	5.8	129.7	3.3	128.9	12.1	101	12	Weldon WC Screenings		Sor
7	BF-05-05	1/9/2013	684180.6	603048.6	6.5	131.1	3.4	128.9	12.1	102	12	Weldon WC Screenings		Sor
8	BF-05-06	3/19/2014	684180.6	603060.4	7.5	122.5	4.9	128.9	21.1	95	12	Weldon WC Screenings		Sor
1	BF-06		684214.8	603050.6	-1.7						14	Crushed concrete	Bottom of excavation elevation	
2	BF-06										14	Crushed concrete	No compaction testing required	
3	BF-06-01	12/31/2013	684229.9	603061.3	2.2	137.7	3.4	128.9	12.1	107	14	Weldon WC Screenings		Sor
4	BF-06-02	12/31/2013	684228.8	603062.8	3.5	133.1	3.4	128.9	12.1	103	14	Weldon WC Screenings		Sor
5	BF-06-03	1/6/2014	684234.0	603066.8	4.2	123.7	9.5	128.9	12.1	96	14	Weldon WC Screenings		Sor
6	BF-06-04	1/9/2014	684230.8	603071.3	6.2	133.1	4.2	128.9	12.1	103	14	Weldon WC Screenings		Sor
7	BF-06-05	1/9/2014	684213.9	603095.7	7.3	133.8	5.0	128.9	12.1	104	14	Weldon WC Screenings		Sor
1	BF-07		684222.7	603033.3	-0.8						15	Crushed concrete	Bottom of excavation elevation	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
2	BF-07										15	Crushed concrete	No compaction testing required	
3	BF-07-01	12/31/2013	684196.2	603014.9	2.5	133.1	2.6	128.9	12.1	103	15	Weldon WC Screenings		Sor
4	BF-07-02	12/31/2013	684192.8	603021.1	3.9	133.2	3.4	128.9	12.1	103	15	Weldon WC Screenings	Numbering error; skipped from 02 to 04	Sor
6	BF-07-04	1/9/2014	684196.9	603018.8	5.7	118.5	3.9	128.9	12.1	92	15	Weldon WC Screenings	recompact lift	Sor
6	BF-07-04R	1/9/2014	684196.9	603018.8	5.7	122.6	4.3	128.9	12.1	95	15	Weldon WC Screenings	second reading after addl compaction	Sor
7	BF-07-05	1/9/2014	684195.0	603021.0	6.4	128.4	6.7	128.9	12.1	100	15	Weldon WC Screenings		Sor
1	BF-08		684221.8	603013.0	-0.7						16	Crushed concrete	Bottom of excavation elevation	
2	BF-08										16	Crushed concrete	No compaction testing required	
3	BF-08-01	12/31/2013	684246.9	603039.8	2.0	127.2	3.2	128.9	12.1	99	16	Weldon WC Screenings		Sor
4	BF-08-02	12/31/2013	684240.5	603043.2	3.1	132.7	2.9	128.9	12.1	103	16	Weldon WC Screenings		Sor
5	BF-08-03	1/6/2014	684231.7	603038.8	3.9	127.0	8.4	128.9	12.1	99	16	Weldon WC Screenings		Sor
6	BF-08-04	1/9/2014	684242.3	603046.8	5.4	130.1	4.2	128.9	12.1	101	16	Weldon WC Screenings		Sor
7	BF-08-05	1/9/2014	684236.3	603066.0	7.1	129.8	6.2	128.9	12.1	101	16	Weldon WC Screenings		Sor
1	BF-09		684208.5	602989.4	-0.5						17	Crushed concrete	Bottom of excavation elevation	
2	BF-09										17	Crushed concrete	No compaction testing required	
3	BF-09-01	1/28/2014	684209.7	602987.6	2.5	124.0	7.9	128.9	12.1	96	17	Weldon WC Screenings		Sor
4	BF-09-02	1/28/2014	684213.6	602980.4	3.4	123.4	6.1	128.9	12.1	96	17	Weldon WC Screenings		Sor
5	BF-09-03	1/28/2014	684204.2	602981.5	4.2	124.9	7.1	128.9	12.1	97	17	Weldon WC Screenings		Sor
1	BF-10		684269.0	603014.0	-0.5						18	Crushed concrete	Bottom of excavation elevation	
2	BF-10										18	Crushed concrete	No compaction testing required	
3	BF-10-01	1/20/2014	684275.4	603018.2	2.2	133.1	7.7	128.9	12.1	103	18	Weldon WC Screenings		Sor
4	BF-10-02	1/28/2014	684267.5	603026.1	3.2	118.8	3.1	128.9	12.1	92	18	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-10-02R	1/28/2014	684267.5	603026.1	3.2	133.3	6.1	128.9	12.1	103	18	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-10-03	1/28/2014	684271.8	603014.4	4.1	125.7	5.4	128.9	12.1	98	18	Weldon WC Screenings		Sor
6	BF-10-04	3/21/2014	684267.9	603017.5	5.2	126.4	6.8	128.9	12.1	98	18	Weldon WC Screenings		Sor
1	BF-11		684208.5	602989.4	-1.0						19	Crushed concrete	Bottom of excavation elevation	
2	BF-11										19	Crushed concrete	No compaction testing required	
3	BF-11-01	1/28/2014	684216.6	602952.7	2.1	125.2	8.8	128.9	12.1	97	19	Weldon WC Screenings		Sor
4	BF-11-02	1/28/2014	684223.4	602953.8	3.4	129.8	4.2	128.9	12.1	101	19	Weldon WC Screenings		Sor
5	BF-11-03	1/28/2014	684211.6	602949.0	4.0	123.4	6.6	128.9	12.1	96	19	Weldon WC Screenings		Sor
1	BF-12		684286.7	602988.6	-1.7						20	Crushed concrete	Bottom of excavation elevation	
2	BF-12										20	Crushed concrete	No compaction testing required	
3	BF-12-01	1/20/2014	684291.7	602995.2	1.8	133.3	8.3	128.9	12.1	103	20	Weldon WC Screenings		Sor
4	BF-12-02	1/28/2014	684288.5	602989.8	2.9	121.6	4.0	128.9	12.1	94	20	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-12-02R	1/28/2014	684288.5	602989.8	2.9	128.5	5.8	128.9	12.1	100	20	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-12-03	1/28/2014	684291.3	602995.4	3.7	136.9	7.5	128.9	12.1	106	20	Weldon WC Screenings		Sor
1	BF-13		684235.7	602919.6	-0.9						22	Crushed concrete	Bottom of excavation elevation	
2	BF-13										22	Crushed concrete	No compaction testing required	
3	BF-13-01	1/28/2014	684235.6	602919.1	2.1	130.1	5.8	128.9	12.1	101	22	Weldon WC Screenings		Sor
3	BF-13-01R	3/12/2014	684238.5	602922.0	2.1	132.0	2.9	135.8	6.4	97	22	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-13-02	3/12/2014	684238.4	602918.2	3.4	133.0	1.4	135.8	6.4	98	22	Tilcon MH DGA		V5N
5	BF-13-03	3/19/2014	684235.1	602916.0	4.5	124.0	3.7	128.9	12.1	96	22	Weldon WC Screenings		V5N
1	BF-14		684312.1	602956.0	-0.9						23	Crushed concrete	Bottom of excavation elevation	
2	BF-14										23	Crushed concrete	No compaction testing required	
3	BF-14-01	1/20/2014	684312.7	602965.2	1.8	133.9	7.0	128.9	12.1	104	23	Weldon WC Screenings		Sor
3	BF-14-01R	3/13/2013	684289.6	602935.7	1.8	132.0	1.7	135.8	6.4	97	23	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-14-02	3/14/2014	684301.9	602952.7	2.6	133.0	1.6	135.8	6.4	98	23	Tilcon MH DGA		V5N
1	BF-15		684260.7	602896.7	-0.9						24	Crushed concrete	Bottom of excavation elevation	
2	BF-15										24	Crushed concrete	No compaction testing required	
3	BF-15-01	1/28/2014	684259.0	602897.1	2.1	123.6	9.0	128.9	12.1	96	24	Weldon WC Screenings		Sor
3	BF-15-01R	3/12/2014	684264.5	602902.2	2.1	131.0	2.4	135.8	6.4	96	24	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-15-02	3/12/2014	684260.5	602900.2	2.8	133.0	1.3	135.8	6.4	98	24	Tilcon MH DGA		V5N
1	BF-16		684326.7	602937.0	-1.1						25	Crushed concrete	Bottom of excavation elevation	
2	BF-16										25	Crushed concrete	No compaction testing required	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
3	BF-16-01	1/20/2014	684331.9	602942.7	1.6	136.1	7.4	128.9	12.1	106	25	Weldon WC Screenings		Sor
3	BF-16-01R	3/13/2014	6844330.0	602937.2	1.8	132.2	1.4	135.8	6.4	97	25	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-16-02	3/14/2014	684326.7	602930.0	2.5	134.0	1.2	135.8	6.4	99	25	Tilcon MH DGA		V5N
1	BF-17		684283.7	602879.0	0.4						26	Crushed concrete	Bottom of excavation elevation-Stratum O	
2	BF-17										26	Crushed concrete	No compaction testing required	
3	BF-17-01	3/12/2014	684284.6	602882.1	2.1	130.0	2.9	135.8	6.4	96	26	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-17-02	3/14/2014	684273.7	602879.1	3.1	132.0	2.2	135.8	6.4	97	26	Tilcon MH DGA		V5N
1	BF-18		684350.8	602909.6	-1.5						27	Crushed concrete	Bottom of excavation elevation	
2	BF-18										27	Crushed concrete	No compaction testing required	
3	BF-18-01	3/13/2014	684313.5	602885.6	1.5	132.4	1.4	135.8	6.4	97	27	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-18-02	3/14/2014	684344.0	602911.5	2.7	134.0	1.1	135.8	6.4	99	27	Tilcon MH DGA		V5N
1	BF-19		684313.2	602860.4	0.3						28	Crushed concrete	Bottom of excavation elevation - Stratum O	
2	BF-19											Crushed concrete	No compaction testing required	
3	BF-19-01	3/14/2014	684322.1	602872.7	2.8	134.0	0.9	135.8	6.4	99	28	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-19-02	3/17/2014	684301.4	602851.5	3.6	133.0	1.3	135.8	6.4	98	28	Tilcon MH DGA		V5N
1	BF-20		684370.9	602887.4	-1.7						29	Crushed concrete	Bottom of excavation elevation	
2	BF-20										29	Crushed concrete	No compaction testing required	
3	BF-20-01	3/17/2014	6843640.5	602862.1	2.0	133.0	1.7	135.8	6.4	98	29	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-21		684330.4	602835.9	1.9						30	Crushed concrete	Bottom of excavation elevation - Startum O	
2	BF-21-01	3/14/2014	684343.3	602842.2	2.4	132.0	1.6	135.8	6.4	97	30	Tilcon MH DGA	Removed wet screenings to crushed concrete and placed Bridge Lift	V5N
3	BF-21-02	3/17/2014	684307.4	602827.3	3.3	134.0	0.8	135.8	6.4	99	30	Tilcon MH DGA	Bridge Lift over Stratum O	V5N
4	BF-21-03	3/19/2014	684314.6	602830.9	3.9	122.5	5.1	128.9	12.1	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
5	BF-21-04	3/20/2014	684314.4	602815.1	4.5	122.5	4.9	128.9	12.1	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
6	BF-21-05	3/20/2014	684321.1	602814.1	5.2	124.0	3.9	128.9	12.1	96	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
7	BF-21-06	3/20/2014	684308.3	602802.2	5.8	122.5	5.0	128.9	12.1	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
8	BF-21-07	3/20/2014	684305.8	602806.3	6.7	123.3	4.0	128.9	12.1	96	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
9	BF-21-08	3/20/2014	684314.4	602804.8	7.6	122.5	4.9	128.9	12.1	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
10	BF-21-09	3/20/2014	684310.5	602806.6	8.4	132.5	1.9	135.8	6.4	98	30	Tilcon MH DGA	Truck Ramp to Kellogg Street	V5N
1	BF-22		684391.2	602864.3	-2.3						31	Crushed concrete	Bottom of excavation elevation	
2	BF-22										31	Crushed concrete	No compaction testing required	
3	BF-22-01	3/17/2014	684387.3	602845.0	1.4	134.0	0.8	135.8	6.4	99	31	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-23		684350.9	602814.5	-1.6						32	Crushed concrete	Bottom of excavation elevation	
2	BF-23										32	Crushed concrete	No compaction testing required	
3	BF-23-01	3/14/2014	684360.9	602818.8	2.4	132.0	2.0	135.8	6.4	97	32	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-23-02	3/17/2014	684339.8	602809.6	3.5	134.0	1.1	135.8	6.4	99	32	Tilcon MH DGA		V5N
1	BF-24		684411.0	602842.4	-1.8						33	Crushed concrete	Bottom of excavation elevation	
2	BF-24										33	Crushed concrete	No compaction testing required	
3	BF-24-01	3/17/2014	684402.4	602827.4	1.1	134.0	0.8	135.8	6.4	99	33	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-25		684369.5	602729.2	-1.8						34	Crushed concrete	Bottom of excavation elevation	
2	BF-25										34	Crushed concrete	No compaction testing required	
3	BF-25-01	3/14/2014	684379.5	602796.3	2.0	131.0	2.1	135.8	6.4	96	34	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-25-02	3/17/2014	684354.8	602790.5	3.4	133.0	1.5	135.8	6.4	98	34	Tilcon MH DGA		V5N
1	BF-26		684433.4	602818.8	-2.1						35	Crushed concrete	Bottom of excavation elevation	
2	BF-26										35	Crushed concrete	No compaction testing required	
3	BF-26-01	3/18/2014	684433.9	602828.3	0.3	134.0	0.8	135.8	6.4	99	35	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-26-02	3/18/2014	684431.7	602817.7	0.8	133.0	1.3	135.8	6.4	98	35	Tilcon MH DGA		V5N
1	BF-27		684389.4	602765.0	-1.8						36	Crushed concrete	Bottom of excavation elevation	
2	BF-27										36	Crushed concrete	No compaction testing required	
3	BF-27-01	3/14/2014	684398.2	602773.8	1.8	133.0	1.6	135.8	6.4	98	36	Tilcon MH DGA		V5N
0	BF-28		684457.0	602790.8	-2.8						38	Stratum D	Bottom of excavation elevation	
1	BF-28-01	3/12/2014	684461.2	602789.3	-0.4	133.2	1.0	135.8	6.4	98	38	Tilcon MH DGA		V5N
0	BF-29		684418.8	602735.2	2.1						39	Stratum O	Bottom of excavation elevation - Stratum O	
1	BF-29-01	3/26/2014	684404.6	602731.3	3.3	134.0	1.2	135.8	6.4	99	39	Tilcon MH DGA		V5N
0	BF-30		684476.8	602765.1	-3.1						40	Stratum D	Bottom of excavation elevation	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-30-01	3/12/2014	684478.9	602766.2	-0.7	133.2	1.1	135.8	6.4	98	40	Tilcon MH DGA		V5N
0	BF-31		684436.0	602712.8	0.1						41	Stratum O	Bottom of excavation elevation	
0	BF-32		684498.7	602739.5	-2.2						42	Stratum D	Bottom of excavation elevation	
1	BF-32-01	3/12/2014	684496.6	602743.0	-0.9	131.0	2.3	135.8	6.4	96	42	Tilcon MH DGA		V5N
0	BF-33		684453.0	602683.2	0.1						43	Stratum O	Bottom of excavation elevation	
0	BF-34		684517.5	602716.8	-2.5						44	Stratum D	Bottom of excavation elevation	
1	BF-34-01	3/12/2014	684515.6	602715.4	-1.1	131.0	2.0	135.8	6.4	96	44	Tilcon MH DGA		V5N
0	BF-35		684471.3	602661.2	0.2						45	Stratum O	Bottom of excavation elevation	
0	BF-36		684538.2	602694.6	-3.0						46	Stratum D	Bottom of excavartion elevation	
1	BF-36-01	3/18/2014	684535.1	602700.7	-1.9	134.5	0.5	135.8	6.4	99	46	Tilcon MH DGA		V5N
0	BF-37		684490.0	602636.8	0.2						47	Stratum O	Bottom of excavation elevation	
0	BF-38		684558.4	602671.7	-3.0						48	Stratum D	Bottom of excavation elevation	
1	BF-38-01	3/21/2014	684551.4	602683.6	-1.7	131.9	1.9	135.8	6.4	97	48	Tilcon MH DGA		V5N
0	BF-39		684510.6	602614.8	0.4						49	Stratum O	Bottom of excavation elevation	
0	BF-40		684557.4	602644.9	-3.6						50	Stratum D	Bottom of excavation elevation	
1	BF-40-01	3/26/2014	684572.2	602653.5	-1.4	134.8	0.5	135.8	6.4	99	50	Tilcon MH DGA		V5N
0	BF-124		685346.3	601612.6	-1.2						136	Stratum O	Bottom of excavation elevation	
1	BF-124-01	5/9/2014	685359.1	601618.5	0.3	130.8	1.3	135.8	6.4	96	136	Tilcon MH DGA		V5N
0	BF-126		685363.5	601589.4	-1.2						138	Stratum O	Bottom of excavation elevation	
1	BF-126-01	5/9/2014	685355.3	601576.3	0.2	128.0	3.3	128.9	12.1	99	138	Weldon WC Screenings		V5N
0	BF-128		685382.2	601566.3	-2.5						140 (No)	Stratum O	Bottom of excavation elevation	
1	BF-128-01	4/29/2014	685369.8	601556.5	-1.8	130.0	1.2	135.8	6.4	96	140	Tilcon MH DGA		V5N
2	BF-128-02	4/29/2014	685381.4	601569.9	-0.8	132.2	1.5	135.8	6.4	97	140	Tilcon MH DGA		V5N
3	BF-128-03	4/29/2014	685382.7	601573.8	0.3	132.0	1.3	135.8	6.4	97	140	Tilcon MH DGA		V5N
4	BF-128-04	4/29/2014	685386.7	601571.4	1.5	132.3	1.3	135.8	6.4	97	140	Tilcon MH DGA		V5N
5	BF-128-05	4/29/2014	685389.9	601573.7	2.7	133.9	1.4	135.8	6.4	99	140	Tilcon MH DGA		V5N
0	BF-129		685308.1	601468.7	-7.5						142 (So)	Stratum O	Bottom of excavation elevation	
1	BF-129-01	5/9/2014	685315.6	601465.0	-6.4	135.5	1.3	135.8	6.4	100		Tilcon MH DGA		V5N
0	BF-130		685401.7	601541.7	1.9						142 (No)	Stratum O	Bottom of excavation elevation	
1	BF-130-01	4/28/2014	685410.7	601558.5	2.7	132.0	2.2	135.8	6.4	97	142 (No)	Tilcon MH DGA		V5N
2	BF-130-02	4/28/2014	685414.5	601553.3	3.6	133.0	1.7	135.8	6.4	98	142 (No)	Tilcon MH DGA		V5N
3	BF-130-03	4/28/2014	685414.9	601555.5	4.8	136.0	1.6	135.8	6.4	100	142 (No)	Tilcon MH DGA		V5N
4	BF-130-04	4/28/2014	685420.1	601558.2	5.5	135.0	1.9	135.8	6.4	99	142 (No)	Tilcon MH DGA		V5N
0	BF-131		685426.9	601523.7	3.2						144	Stratum O	Bottom of excavation elevation	
1	BF-131-01	4/25/2014	685440.9	601531.9	5.9	120.0	1.4	135.8	6.4	88	144	Tilcon MH DGA	recompact lift	V5N
1	BF-131-01R	4/28/2014	685440.9	601531.9	5.9	139.9	1.4	135.8	6.4	103	144	Tilcon MH DGA	second reading after addl compaction	V5N
0	BF-132		685452.9	601506.1	5.6						146	Stratum O	Bottom of excavation elevation	
1	BF-132-01	4/25/2014	685438.7	601505.6	6.1	135.0	1.0	135.8	6.4	99	144	Tilcon MH DGA		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

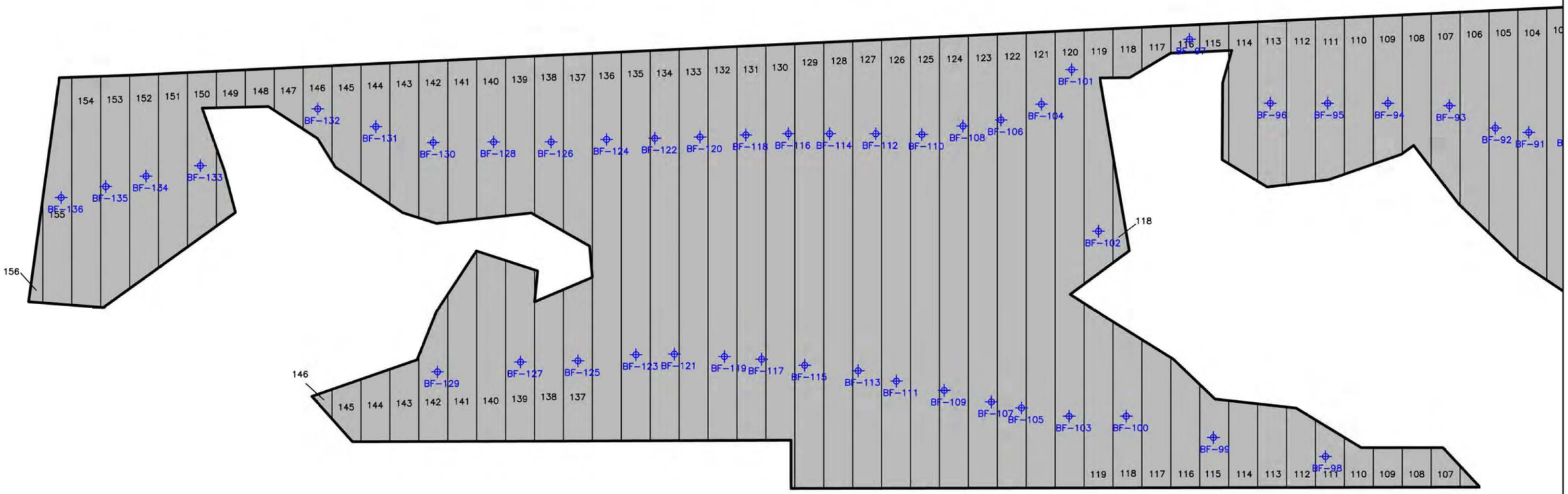
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

Sample ID BF-01-01 where:

BF = Backfill (At frequency of 1 test/2500 SF)
01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run agair



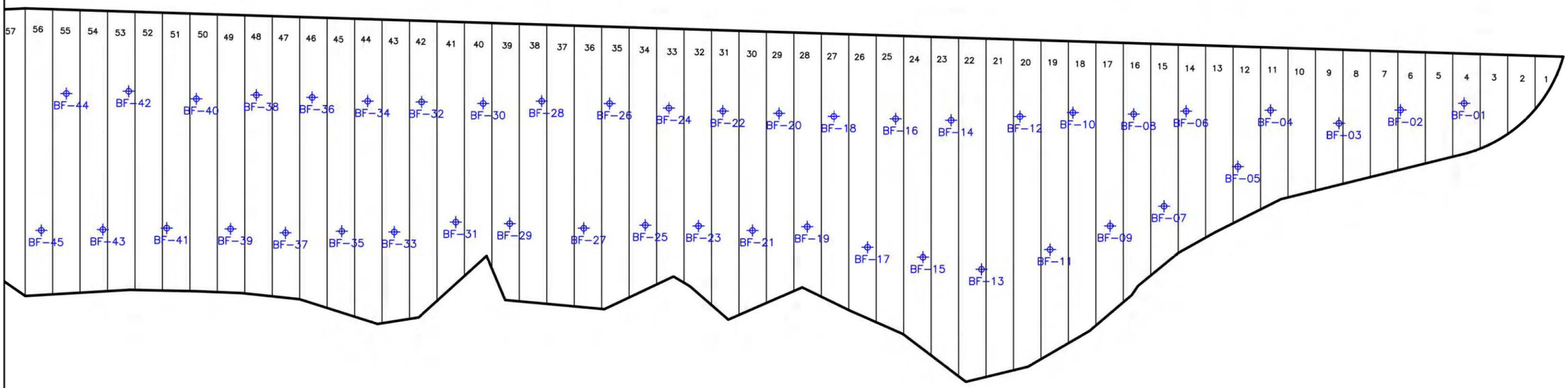
NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF BF-95 TO BF-136

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
	RF-01		684158.6	603152.4							6			
	RF-02		684190.6	603063.9							12			
	RF-03		684270.2	603012.0							18			
7	RF-03-01	3/21/2014	684267.9	603017.5	6.1	124.0	3.6	128.9	12.1	96	18	Weldon WC Screenings		V5N
8	RF-03-02	4/8/2014	684272.9	605018.7	7.6	122.4	8.1	128.9	12.1	95	18	Weldon WC Screenings		V5N
	RF-04		684235.2	602919.8							22			
6	RF-04-01	3/21/2014	684227.0	602916.6	5.5	124.0	3.6	128.9	12.1	96	22	Weldon WC Screenings		V5N
7	RF-04-02	3/26/2014	684266.5	602908.5	6.2	123.6	3.7	128.9	12.1	96	22	Weldon WC Screenings		V5N
8	RF-04-03	4/1/2014	684384.8	602904.9	7.1	125.8	3.0	128.9	12.1	98	22	Weldon WC Screenings		V5N
9	RF-04-04	4/3/2014	684220.8	602926.9	8.2	120.0	3.6	128.9	12.1	93	22	Weldon WC Screenings	Recompact lift	V5N
9	RF-04-04R	4/3/2014	684220.8	602926.9	8.2	125.0	4.1	128.9	12.1	97	22	Weldon WC Screenings	Second reading after re-rolling	V5N
10	RF-04-05	4/17/2014	684241.5	602924.2	8.8	130.0	3.0	128.9	12.1	101	22	Weldon WC Screenings		V5N
	RF-05		684328.5	602935.0							25			
5	RF-05-01	3/24/2014	684347.1	602947.5	3.3	122.5	4.5	128.9	12.1	95	25	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
6	RF-05-02	3/26/2014	684348.1	602942.0	4.1	123.5	3.7	128.9	12.1	96	25	Weldon WC Screenings		V5N
7	RF-05-03	4/1/2014	684351.4	602937.8	5.4	125.0	2.6	128.9	12.1	97	25	Weldon WC Screenings		V5N
8	RF-05-04	4/3/2014	684339.0	602933.4	6.4	128.9	4.7	128.9	12.1	100	25	Weldon WC Screenings		V5N
9	RF-05-05	4/8/2014	684327.1	602942.3	7.6	126.4	8.3	128.9	12.1	98	25	Weldon WC Screenings		V5N
10	RF-05-06	4/17/2014	684348.8	602945.1	8.2	135.0	6.4	128.9	12.1	105	25	Weldon WC Screenings		V5N
	RF-06		684335.0	602869.1							25			
2	RF-06-01	4/1/2014	684383.7	602908.8	3.0	126.0	2.7	128.9	12.1	98	29	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
3	RF-06-02	4/1/2014	684384.8	602904.9	4.1	125.0	2.8	128.9	12.1	97	29	Weldon WC Screenings		V5N
4	RF-06-03	4/3/2014	684358.9	602890.5	5.9	127.6	4.0	128.9	12.1	99	29	Weldon WC Screenings		V5N
5	RF-06-04	4/8/2014	684340.1	602867.1	6.9	123.0	4.6	128.9	12.1	95	29	Weldon WC Screenings		V5N
6	RF-06-05	4/14/2014	684340.1	602867.1	7.5	124.8	3.0	128.9	12.1	97	29	Weldon WC Screenings		V5N
7	RF-06-06	4/17/2014	684337.1	602897.4	8.5	118.5	3.0	128.9	12.1	92	29	Weldon WC Screenings	Recompact lift	V5N
7	RF-06-06R	4/17/2014	684337.1	602897.4	8.5	122.0	3.2	128.9	12.1	95	29	Weldon WC Screenings	Second reading after re-rolling	V5N
	RF-07		684392.9	602838.1							32			
4	RF-07-01	4/3/2014	684425.2	602890.4	3.0	125.3	5.1	128.9	12.1	97	32	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-07-02	4/3/2014	684418.6	602854.9	4.1	126.3	5.5	128.9	12.1	98	32	Weldon WC Screenings		V5N
6	RF-07-03	4/8/2014	684410.5	602847.3	5.6	122.7	2.5	128.9	12.1	95	32	Weldon WC Screenings		V5N
7	RF-07-04	4/14/2014	684410.5	602847.3	6.3	123.1	2.7	128.9	12.1	96	32	Weldon WC Screenings		V5N
8	RF-07-05	4/17/2014	684394.3	602842.1	7.1	135.0	6.1	128.9	12.1	105	32	Weldon WC Screenings		V5N
9	RF-07-06	4/21/2014	684394.8	602836.9	8.2	128.9	2.2	128.9	12.1	100	32	Weldon WC Screenings		V5N
	RF-08		684406.9	602771.1							36			
4	RF-08-01	4/3/2014	684421.7	602797.1	2.9	129.0	6.0	128.9	12.1	100	36	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-08-02	4/8/2014	684429.7	602790.1	4.0	124.9	3.0	128.9	12.1	97	36	Weldon WC Screenings		V5N
6	RF-08-03	4/15/2014	684439.0	602813.0	5.0	124.2	4.7	128.9	12.1	96	36	Weldon WC Screenings		V5N
7	RF-08-04	4/17/2014	684400.4	602773.4	6.1	137.0	5.6	128.9	12.1	106	36	Weldon WC Screenings		V5N
8	RF-08-05	4/21/2014	684429.8	602794.0	6.8	128.9	3.5	128.9	12.1	100	36	Weldon WC Screenings		V5N
9	RF-08-06	4/21/2014	684443.6	602550.4	8.0	122.5	6.9	128.9	12.1	95	36	Weldon WC Screenings		V5N
	RF-09		684479.9	602754.0							40			
3	RF-09-01	4/7/2014	684489.3	602750.3	0.8	128.7	6.8	128.9	12.1	100	40	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
4	RF-09-02	4/11/2014	684498.7	602757.9	2.1	122.4	3.0	128.9	12.1	95	40	Weldon WC Screenings		V5N
5	RF-09-03	4/11/2014	684503.3	602770.3	3.2	129.3	8.5	128.9	12.1	100	40	Weldon WC Screenings		V5N
6	RF-09-04	4/14/2014	684503.3	602770.3	4.1	128.9	5.7	128.9	12.1	100	40	Weldon WC Screenings		V5N
7	RF-09-05	4/21/2014	684479.1	602753.1	5.4	128.9	5.3	128.9	12.1	100	40	Weldon WC Screenings		V5N
8	RF-09-06	4/21/2014	684446.9	602799.1	6.4	123.0	2.0	128.9	12.1	95	40	Weldon WC Screenings		V5N
9	RF-09-07	5/15/2014	684479.0	602751.5	6.9	124.5	4.4	128.9	12.1	97	40	Weldon WC Screenings		V5N
10	RF-09-08	5/19/2014	684494.7	602760.2	8.1	122.5	5.9	128.9	12.1	95	40	Weldon WC Screenings		V5N
1	RF-10		684474.1	602682.1	0.2						44	Crushed Concrete	Bottom of excavation elevation	
2	RF-10		684474.1	602682.1							44	Type A Material	No compaction testing required	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
3	RF-10-01	4/25/2014	684476.1	602679.3	2.5	138.0	1.4	128.9	12.1	107	44	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-10-02	5/8/2014	684445.5	602680.1	5.8	132.0	6.6	128.9	12.1	102	44	Weldon WC Screenings		V5N
5	RF-10-03	5/15/2014	684463.8	602677.8	7.1	124.1	4.2	128.9	12.1	96	44	Weldon WC Screenings		V5N
6	RF-10-04	5/19/2014	684466.2	602672.2	8.2	122.5	6.8	128.9	12.1	95	44	Weldon WC Screenings		V5N
2	RF-11		684545.0	602673.2							48	Type A Material	Placed on Tilcon MH DGA	
3	RF-11-01	4/11/2014	684533.0	602676.0	1.0	126.0	3.8	128.9	12.1	98	48	Weldon WC Screenings	Placed on Type A Material; Against HB wall	V5N
4	RF-11-02	4/11/2014	684575.1	602679.9	2.1	125.6	4.5	128.9	12.1	97	48	Weldon WC Screenings	Against HB wall	V5N
5	RF-11-03	4/14/2014	684575.1	602679.9	2.8	126.8	2.2	128.9	12.1	98	48	Weldon WC Screenings	Against HB wall	V5N
6	RF-11-04	4/17/2014	684579.8	602684.6	3.8	122.5	3.0	128.9	12.1	95	48	Weldon WC Screenings	Against HB wall	V5N
7	RF-11-05	4/17/2014	684585.7	602686.5	4.5	126.8	4.0	128.9	12.1	98	48	Weldon WC Screenings	Against HB wall	V5N
8	RF-11-06	5/15/2014	684569.9	602672.5	7.3	126.8	4.5	124.5	12.1	102	48	Weldon WC Screenings	Against HB wall	V5N
9	RF-11-07	5/19/2014	685562.2	602686.4	8.3	124.5	3.5	124.5	12.1	100	48	Weldon WC Screenings	Against HB wall	V5N
1	RF-12		684540.0	602601.3	0.3						51	Crushed Concrete	Bottom of excavation elevation	
2	RF-12		684540.0	602601.3							51	Type A Material	No compaction testing required	
3	RF-12-01	4/25/2014	684557.9	602605.6	2.3	130.2	2.2	128.9	12.1	101	51	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-12-02	5/6/2014	684516.3	602580.6	6.0	128.6	5.6	128.9	12.1	100	51	Weldon WC Screenings		V5N
5	RF-12-03	5/15/2014	684526.7	602594.1	7.3	124.8	3.9	128.9	12.1	97	51	Weldon WC Screenings		V5N
6	RF-12-04	5/20/2014	684522.6	602585.3	8.1	121.3	7.1	128.9	12.1	94	51	Weldon WC Screenings	Recompact lift	V5N
6	RF-12-04R	5/20/2014	684522.6	602585.3	8.1	122.0	5.9	128.9	12.1	95	51	Weldon WC Screenings	Second reading after re-rolling	V5N
1	RF-13		684610.2	602590.4	-2.3						54	Crushed Concrete	Bottom of excavation elevation	
2	RF-13		684610.2	602590.4							54	Type A Material	No compaction testing required	
3	RF-13-01	4/11/2014	684619.5	602515.3	1.6	126.5	7.8	128.9	12.1	98	54	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-13-02	4/14/2014	684619.5	602515.3	2.7	124.5	2.7	128.9	12.1	97	54	Weldon WC Screenings	Against HB	V5N
5	RF-13-03	4/17/2014	684641.5	602614.6	3.6	123.0	4.1	128.9	12.1	95	54	Weldon WC Screenings	Against HB	V5N
6	RF-13-04	4/17/2014	684646.7	602619.5	4.4	132.9	5.5	128.9	12.1	103	54	Weldon WC Screenings	Against HB	V5N
7	RF-13-05	5/15/2014	684640.0	602620.1	5.4	125.0	3.7	128.9	12.1	97	54	Weldon WC Screenings	Against HB	V5N
8	RF-13-06	5/15/2014	684613.8	602605.5	6.9	125.0	4.5	128.9	12.1	97	54	Weldon WC Screenings		V5N
9	RF-13-07	5/20/2014	684614.3	602606.0	7.8	121.3	8.0	128.9	12.1	94	54	Weldon WC Screenings	Top lift. Will retest prior to final restoration	V5N
1	RF-37		685295.3	601495.2	-7.8						140 (B)	Crushed Concrete	Bottom of excavation elevation	
2	RF-37-01	5/15/2014	685286.1	601481.2	-5.1	132.0	2.5	135.8	6.4	97	140 (B)	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-37-02	5/21/2014	685294.5	601489.0	-4.2	122.5	5.0	128.9	12.1	95	140 (B)	Weldon WC Screenings		V5N
0	RF-38		685399.1	601540.2	-1.2						142 (A)	Stratum O	Bottom of excavation elevation	
1	RF-38-01	5/9/2014	685391.8	601532.2	-0.2	124.6	2.5	128.9	12.1	97	142 (A)	Weldon WC Screenings		V5N
2	RF-38-02	5/21/2014	685389.4	601534.3	0.2	122.5	5.6	128.9	12.1	95	142 (A)	Weldon WC Screenings		V5N
0	RF-39		685485.1	601397.7	3.8						152	Stratum O	Bottom of excavation elevation	
1	RF-39-01	5/5/2014	685451.1	601421.7	4.3	126.3	3.9	128.9	12.1	98	151	Weldon WC Screenings		V5N
2	RF-39-02	5/5/2014	685477.5	601397.7	5.6	123.3	4.1	128.9	12.1	96	151	Weldon WC Screenings		V5N
3	RF-39-04	5/5/2014	685492.5	601460.8	6.4	123.8	7.4	128.9	12.1	96	151	Weldon WC Screenings		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b.

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C.

Bottom of excavation elevation based on Maser survey data (Center Point elevations).

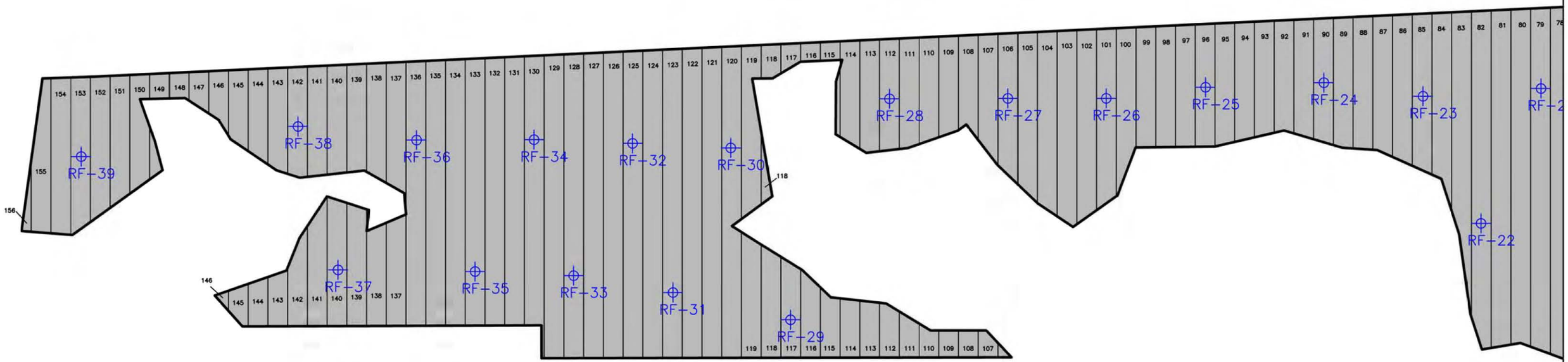
Sample ID RF-01-01 where:

RF = Reduced Frequency

01 = Test Location (as noted on Backfill Compaction Location Figure)

01 = Number of test performed at that location (sequential)

R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



NOTE:

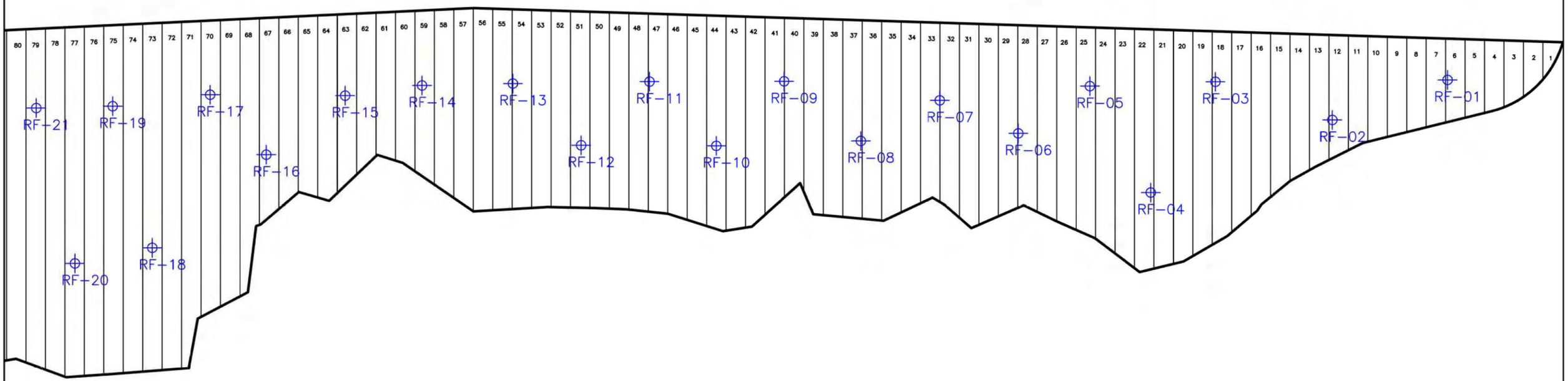
Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE
RF-22 TO RF-39

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS 5 TESTS PER ACRE

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

Attachment 4: Dewatering Operations Update

- SA-6 South Dewatering Data (Headers)
- SA-6 South Deep Well Data (DW-5)

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) Daily	EXTRACTED VOLUME (Gal) Total	AVERAGE FLOW RATE (gpm)	COMMENTS
04/01/14	1	24	9,EPS	14	234,816	254,072	19,256	1,482,461	13.4	
04/02/14	1	24	9,EPS	14	254,072	272,724	18,652	1,501,113	13.0	
04/03/14	1	24	9,EPS	14	272,724	292,383	19,659	1,520,772	13.7	
04/04/14	1	24	9,EPS	14	292,383	310,862	18,479	1,539,251	12.8	
04/07/14	1	72	9,EPS	14	310,862	361,008	50,146	1,589,397	11.6	
04/08/14	1	24	9,EPS	14	361,008	375,723	14,715	1,604,112	10.2	
04/09/14	1	24	9,EPS	14	375,723	389,220	13,497	1,617,609	9.4	
04/10/14	1	24	9,EPS	14	389,220	403,320	14,100	1,631,709	9.8	
04/11/14	1	24	9,EPS	14	403,320	416,137	12,817	1,644,526	8.9	
04/14/14	1	72	9,EPS	14	416,137	453,580	37,443	1,681,969	8.7	
04/15/14	1	24	9,EPS	14	453,580	464,088	10,508	1,692,477	7.3	
04/16/14	1	24	9,EPS	14	464,088	473,709	9,621	1,702,098	6.7	
04/17/14	1	24	9,EPS	14	473,709	484,453	10,744	1,712,842	7.5	
04/18/14	1	24	9,EPS	14	484,453	492,855	8,402	1,721,244	5.8	
04/18/14	2	24	16,17,18,WPS-1	40	N/A	N/A	21,000	1,742,244	14.6	Flow meter not installed. Volumes based on tank gauging
04/21/14	1	72	9,EPS	14	492,855	518,050	25,195	1,767,439	5.8	
04/18/14	2	72	16,17,18,WPS-1	40	N/A	N/A	62,000	1,829,439	14.4	Flow meter not installed. Volumes based on tank gauging
04/22/14	1	24	9,EPS	14	518,050	523,548	5,498	1,834,937	3.8	
04/22/14	2	24	16,17,18,WPS-1	40	N/A	N/A	19,500	1,854,437	13.5	Flow meter not installed. Volumes based on tank gauging
04/23/14	1	24	9,EPS	14	523,548	528,369	4,821	1,859,258	3.3	
04/23/14	2	24	16,17,18,WPS-1	40	0	15,441	15,441	1,874,699	10.7	
04/24/14	1	24	9,EPS	14	528,369	532,995	4,626	1,879,325	3.2	
04/24/14	2	24	16,17,18,WPS-1	40	15,441	30,198	14,757	1,894,082	10.2	
04/25/14	1	24	9,EPS	14	532,995	537,006	4,011	1,898,093	2.8	
04/25/14	2	24	16,17,18,WPS-1	40	30,198	41,737	11,539	1,909,632	8.0	
04/28/14	1	72	9,EPS	12	537,006	552,302	15,296	1,924,928	3.5	
04/28/14	2	72	16,17	18	41,737	59,981	18,244	1,943,172	4.2	
04/29/14	1	24	9,EPS	12	552,302	555,724	3,422	1,946,594	2.4	
04/29/14	2	24	16,17	18	59,981	62,592	2,611	1,949,205	1.8	
04/30/14	1	24	9,EPS	12	555,724	560,143	4,419	1,953,624	3.1	
04/30/14	2	24	16,17	18	62,592	65,318	2,726	1,956,350	1.9	
05/01/14	1	24	9,EPS	12	560,143	563,407	3,264	1,959,614	2.3	
05/01/14	2	24	16,17	18	65,318	67,350	2,032	1,961,646	1.4	
05/02/14	1	24	9,EPS	12	563,407	571,007	7,600	1,969,246	5.3	
05/02/14	2	24	16,17	18	67,350	69,321	1,971	1,971,217	1.4	
05/05/14	1	72	9,EPS	12	571,007	596,817	25,810	1,997,027	6.0	
05/05/14	2	72	16,17	18	69,321	75,193	5,872	2,002,899	1.4	
05/06/14	1	24	9,EPS	12	596,817	604,513	7,696	2,010,595	5.3	
05/06/14	2	24	16,17	18	75,193	77,224	2,031	2,012,626	1.4	
05/07/14	1	24	9,EPS	12	604,513	612,024	7,511	2,020,137	5.2	
05/07/14	2	24	16,17	18	0	361	361	2,020,498	0.3	Flowmeter Reset
05/08/14	1	24	9,EPS	12	612,024	617,958	5,934	2,026,432	4.1	
05/08/14	2	24	16	12	361	4,243	3,882	2,030,314	2.7	
05/09/14	1	24	9,EPS	12	617,958	618,262	304	2,030,618	0.2	
05/09/14	2	24	16	12	4,243	4,886	643	2,031,261	0.4	
05/12/14	1	72	9,EPS	12	618,262	618,262	0	2,031,261	0.0	
05/12/14	2	72	16	12	4,886	6,201	1,315	2,032,576	0.3	
05/13/14	1	24	9,EPS	12	618,262	618,262	0	2,032,576	0.0	
05/14/14	1	24	9,EPS	12	618,262	618,262	0	2,032,576	0.0	
05/15/14	1	24	9,EPS	12	618,262	618,262	0	2,032,576	0.0	
05/19/14	1	72	9,EPS	13	618,262	618,262	0	2,032,576	0.0	

Notes: Active Header Numbers refer to H-1, H-2, H-3, etc., as shown on Figure 6 Well Point Dewatering System
EPS - East Perimeter System
WPS - West Perimeter System
Vac plant #2 taken out of service in October, 2013; Vac plant #1 taken out of service May 19, 2014
Previous information is trunketed. Only last month and current month information is provided.

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-5)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
04/25/14	24	0	6,883	6,883	6,883	4.8	
04/28/14	72	6,883	30,393	23,510	30,393	5.4	
04/29/14	24	30,393	37,639	7,246	37,639	5.0	
04/30/14	24	37,639	43,518	5,879	43,518	4.1	
05/01/14	24	43,518	51,195	7,677	51,195	5.3	
05/02/14	24	51,195	57,459	6,264	57,459	4.4	
05/05/14	72	57,459	62,329	4,870	62,329	1.1	Flowmeter Reset
05/06/14	24	0	27,630	27,630	89,959	19.2	
05/07/14	24	27,630	31,613	3,983	93,942	2.8	
05/08/14	24	N/A	N/A	7,500	101,442	5.2	Flowmeter Blockage (Tank Measured)
05/09/14	24	N/A	N/A	8,000	109,442	5.6	Flowmeter Blockage (Tank Measured)
05/12/14	72	N/A	N/A	25,500	134,942	5.9	Flowmeter Blockage (Tank Measured)
05/13/14	24	31,613	32,142	529	135,471	0.4	
05/14/14	24	32,142	34,250	2,108	137,579	1.5	
05/15/14	24	34,250	36,358	2,108	139,687	1.5	Well Taken Offline for Excavation
05/29/14	24	0	4,322	4,322	144,009	3.0	
05/30/14	24	4,322	8,634	4,312	148,321	3.0	

Notes: Deep Wells DW-1 and DW-2 had no flows during May.

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	HOURS OF OPERATION	DISCHARGE FLOW METER START (KGal)	DISCHARGE FLOW METER FINISH (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
04/01/14	8.0	6,575.85	6,717.81	141,960	6,717,360	
04/02/14	8.0	6,717.81	6,951.38	233,570	6,950,930	
04/03/14	8.0	6,951.38	7,050.47	99,090	7,050,020	PVSC Compliance Sample collected
04/04/14	8.0	7,050.47	7,173.74	123,270	7,173,290	
04/05/14	8.0	7,173.74	7,250.14	76,400	7,249,690	
04/08/14	8.0	7,250.14	7,452.80	202,660	7,452,350	
04/09/14	8.0	7,452.80	7,538.06	85,260	7,537,610	
04/10/14	8.0	7,538.06	7,687.85	149,790	7,687,400	
04/11/14	8.0	7,687.85	7,810.35	122,500	7,809,900	
04/14/14	6.0	7,810.35	7,883.23	72,880	7,882,780	
04/15/14	6.0	7,883.23	7,948.35	65,120	7,947,900	
04/16/14	8.0	7,948.35	8,036.99	88,640	8,036,540	
04/17/14	8.0	8,036.99	8,120.52	83,530	8,120,070	
04/18/14	8.0	8,120.52	8,241.81	121,290	8,241,360	
04/19/14	8.0	8,241.81	8,416.26	174,450	8,415,810	
04/21/14	8.0	8,416.26	8,503.96	87,700	8,503,510	
04/22/14	8.0	8,503.96	8,649.60	145,640	8,649,150	
04/23/14	8.0	8,649.60	8,775.22	125,620	8,774,770	
04/24/14	8.0	8,775.22	8,877.66	102,440	8,877,210	
04/25/14	8.0	8,877.66	8,949.22	71,560	8,948,770	
04/26/14	8.0	8,949.22	9,030.24	81,020	9,029,790	
04/27/14	0.0	9,030.24	9,030.24	0	9,029,790	
04/28/14	8.0	9,030.24	9,133.26	103,020	9,132,810	
04/29/14	9.0	9,133.26	9,371.72	238,460	9,371,270	
04/30/14	0.0	9,371.72	9,371.72	0	9,371,270	
05/01/14	12.0	9,371.72	9,550.80	179,080	9,550,350	
05/02/14	23.5	9,665.35	9,775.14	224,340	9,774,690	Includes system operation from 05/01/12
05/03/14	21.0	9,921.23	10,020.57	245,430	10,020,120	Includes system operation from 05/02/13
05/05/14	37.0	10,377.22	10,584.99	564,420	10,584,540	Includes system operation through 5/3, 5/4 and 05/04/14
05/06/14	9.5	10,584.99	10,825.62	240,630	10,825,170	
05/07/14	7.5	10,825.62	11,006.06	180,440	11,005,610	PVSC Compliance Sample collected
05/08/14	4.5	11,006.06	11,112.94	106,880	11,112,490	
05/09/14	6.0	1,112.94	11,253.32	140,380	11,252,870	
05/12/14	7.0	11,253.32	11,439.87	186,550	11,439,420	
05/13/14	7.0	11,439.87	11,600.00	160,130	11,599,550	
05/14/14	6.5	11,600.00	11,712.86	112,860	11,712,410	
05/15/14	5.5	11,712.86	11,810.42	97,560	11,809,970	
05/16/14	6.0	11,810.42	11,885.46	75,040	11,885,010	
05/18/14	2.8	11,885.46	11,960.68	75,220	11,960,230	
05/19/14	7.0	11,960.68	12,098.90	138,220	12,098,450	
05/20/14	7.0	12,098.90	12,188.74	89,840	12,188,290	
05/21/14	5.0	12,188.74	12,262.55	73,810	12,262,100	
05/22/14	7.5	12,262.55	12,329.43	66,880	12,328,980	
05/23/14	7.5	12,329.43	12,405.66	76,230	12,405,210	
05/24/14	5.0	12,405.66	12,482.60	76,940	12,482,150	
05/25/14	2.0	12,482.60	12,527.46	44,860	12,527,010	
05/27/14	5.5	12,527.46	12,662.13	134,670	12,661,680	
05/28/14	2.0	12,662.13	12,696.70	34,570	12,696,250	
05/29/14	7.0	12,696.70	12,809.54	112,840	12,809,090	
05/30/14	7.0	12,809.54	12,906.92	97,380	12,906,470	

Notes: Previous Information is truncated. Only last month and current morth information is provided.
Yellow cells contain information that was revised after the 2014-04 Report submittal.

Attachment 6: Backfill Analytical Data

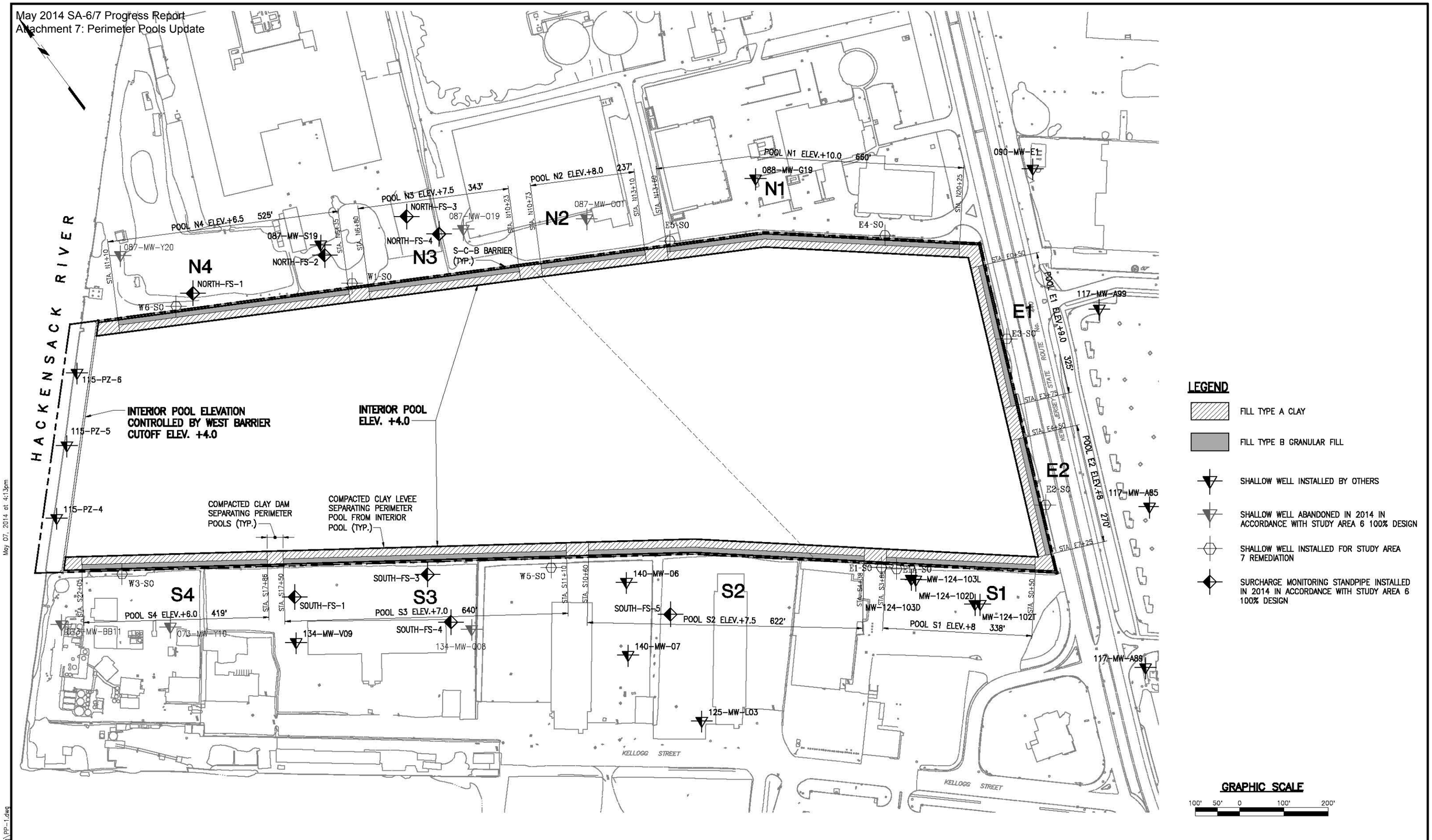
- Stockpiled Material Tracking and Sampling Log

SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
47-57	<20	124-57-20-a	860	124-57-20-a1	4/4/2014	12:30	17.0	Yes		
				124-57-20-a2	4/4/2014	12:35	3.8	Yes		
				124-57-20-a3	4/4/2014	12:40	4.2	Yes		
				124-57-20-a4	4/4/2014	12:45	<0.52	Yes		
47-57	<20	124-57-20-b	860	124-57-20-b1	4/4/2014	12:50	4.1	Yes		
				124-57-20-b2	4/4/2014	12:55	14.2	Yes		
				124-57-20-b3	4/4/2014	13:00	15.7	Yes		
				124-57-20-b4	4/4/2014	13:05	<0.49	Yes		
47-57	<20	124-57-20-c	860	124-57-20-c1	4/4/2014	13:10	10.3	Yes		
				124-57-20-c2	4/4/2014	13:15	11.6	Yes		
				124-57-20-c3	4/4/2014	13:20	8.9	Yes		
				124-57-20-c4	4/4/2014	13:25	41.4		Yes	
49-59	>1000	124-59-1000-a	800	124-59-1000-a1	4/11/2014	8:00	11,000			Yes
				124-59-1000-a2	4/11/2014	8:05	26,900			Yes
				124-59-1000-a3	4/11/2014	8:10	11,900			Yes
				124-59-1000-a4	4/11/2014	8:15	32,700			Yes
57,58 144-152	<20	124-152-20-a	800	124-152-20-a1	4/23/2014	15:00	0.73	Yes		
				124-152-20-a2	4/23/2014	15:05	0.76	Yes		
				124-152-20-a3	4/23/2014	15:10	0.42	Yes		
				124-152-20-a4	4/23/2014	15:15	1.2	Yes		
135,141,143-145	<20	124-145-20-a	675	124-145-20-a1	5/9/2014	9:00	22.8		Yes	
				124-145-20-a2	5/9/2014	9:05	0.4	Yes		
				124-145-20-a3	5/9/2014	9:10	5.4	Yes		
				124-145-20-a4	5/9/2014	9:15	3.0	Yes		
139-142B, 131-132A	<20	124-142-20-a	1000	124-142-20-a1	5/15/2014	11:00	2.1	Yes		
				124-142-20-a2	5/15/2014	11:05	8.7	Yes		
				124-142-20-a3	5/15/2014	11:10	5.9	Yes		
				124-142-20-a4	5/15/2014	11:15	4.3	Yes		
135-138B, 131A	<20	124-138-20-a, b	1500	124-138-20-a1	5/19/2014	10:45	4.0	Yes		
				124-138-20-a2	5/19/2014	10:50	10.2	Yes		
				124-138-20-a3	5/19/2014	10:55	5.7	Yes		
				124-138-20-a4	5/19/2014	11:00	3.9	Yes		
				124-138-20-b1	5/19/2014	11:05	1.2	Yes		
				124-138-20-b2	5/19/2014	11:10	4.9	Yes		
				124-138-20-b3	5/19/2014	11:15	2.7	Yes		
				124-138-20-b4	5/19/2014	11:20	5.4	Yes		
129-134	<20	124-134-20-a, b	1250	124-134-20-a1	5/21/2014	13:10	7.5	**		
				124-134-20-a2	5/21/2014	13:15	7.8	**		
				124-134-20-a3	5/21/2014	13:20	4.2	**		
				124-134-20-a4	5/21/2014	13:25	30.5		**	
				124-134-20-b1	5/21/2014	13:30	10.7	**		
				124-134-20-b2	5/21/2014	13:35	2.5	**		
				124-134-20-b3	5/21/2014	13:40	4.9	**		
				124-134-20-b4	5/21/2014	13:45	7.3	**		

Notes:
*Material currently stockpiled. Pending final placement.

Attachment 7: Perimeter Pools Update



IN PROGRESS
05-07-2014

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP–1

May 07, 2014 at 4:13pm
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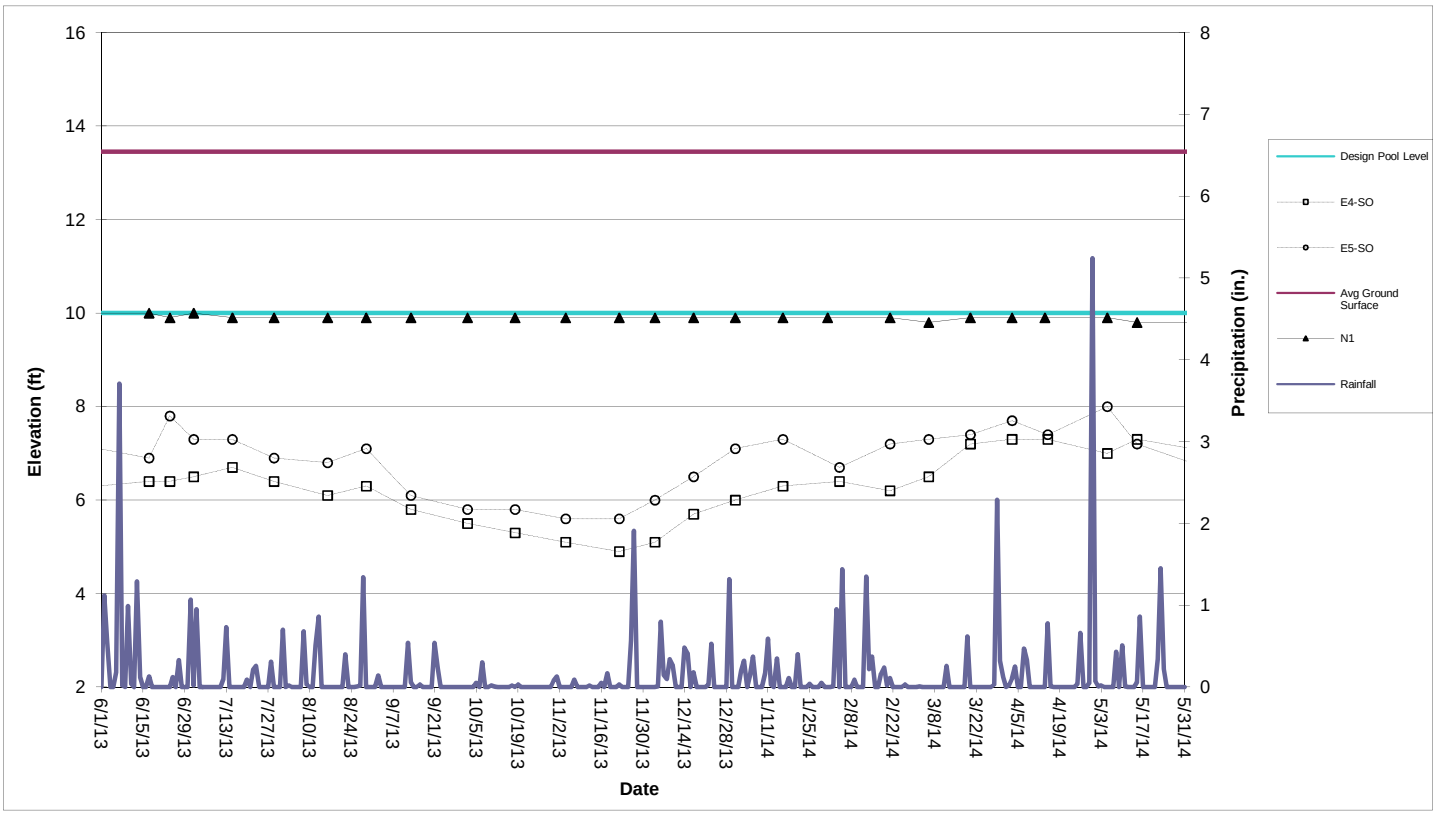
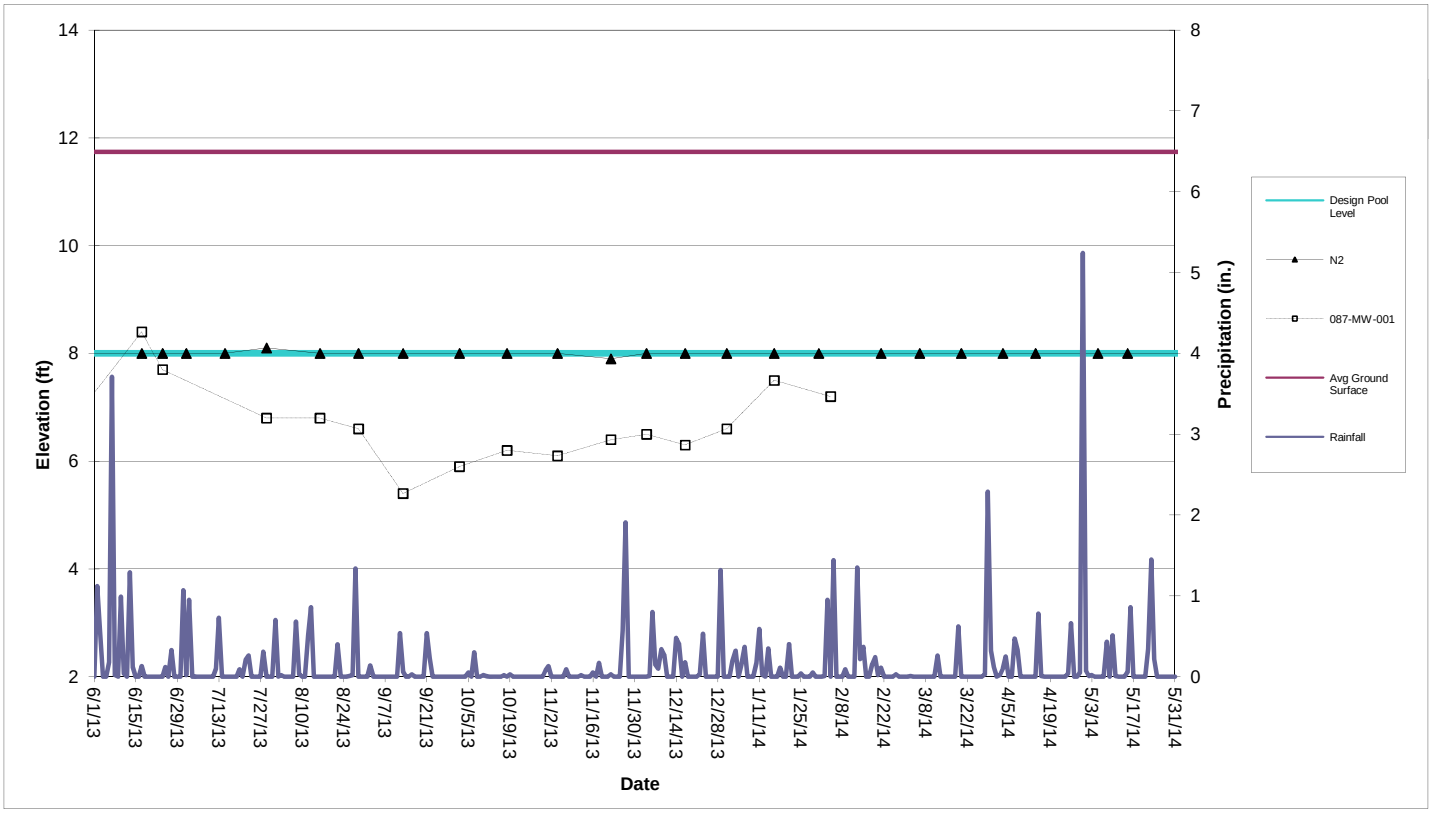
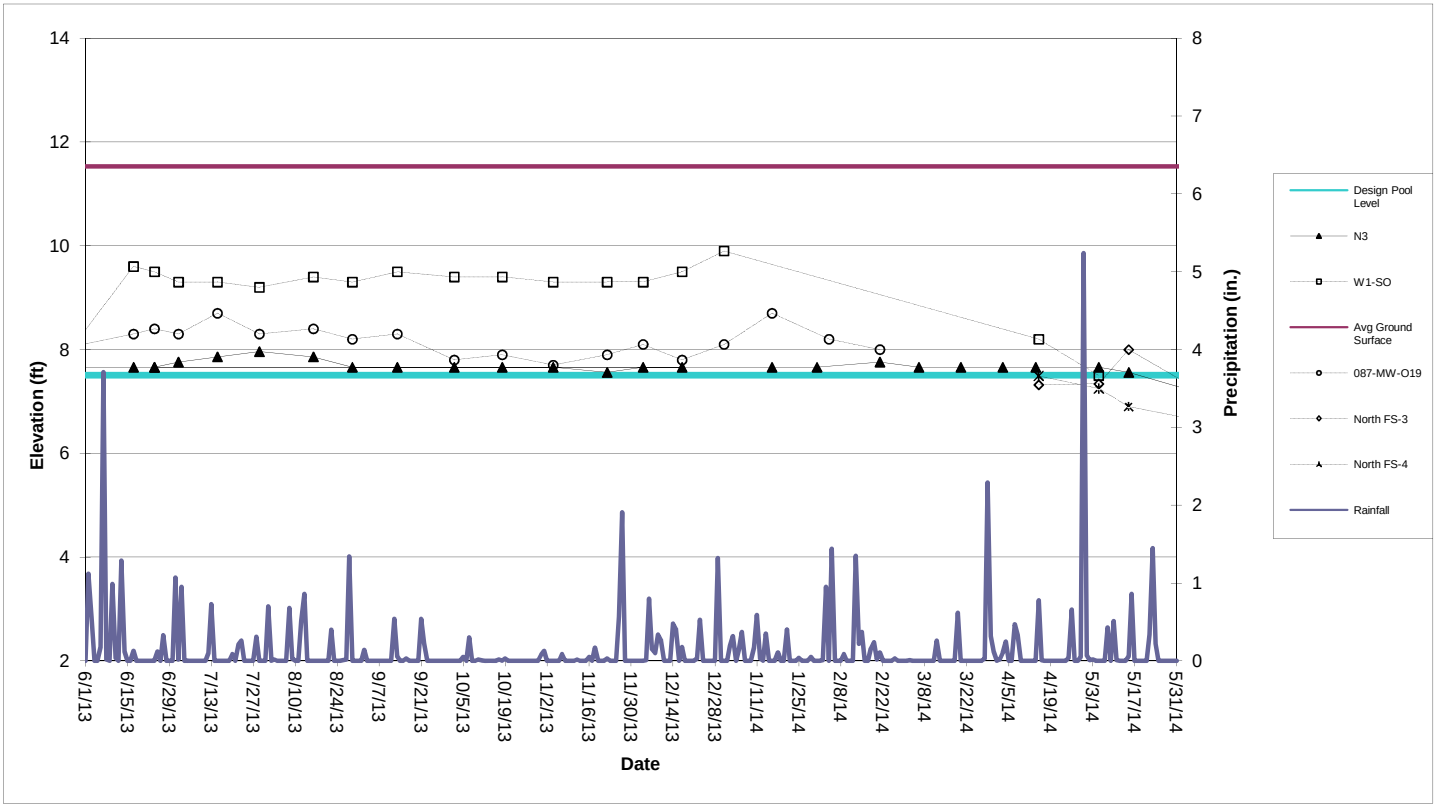


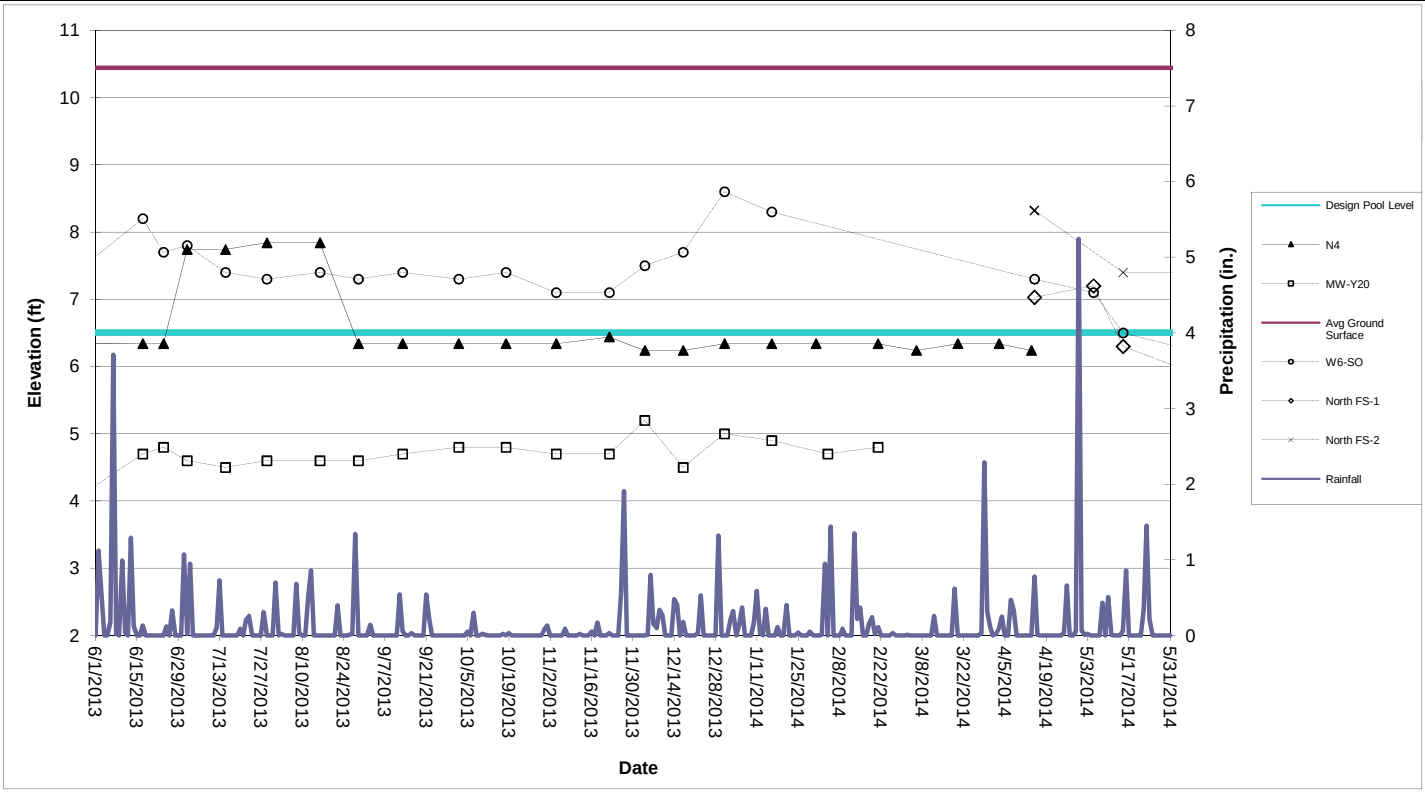
Perimeter Pool N1 (Sta. N13+60 to N20+25)



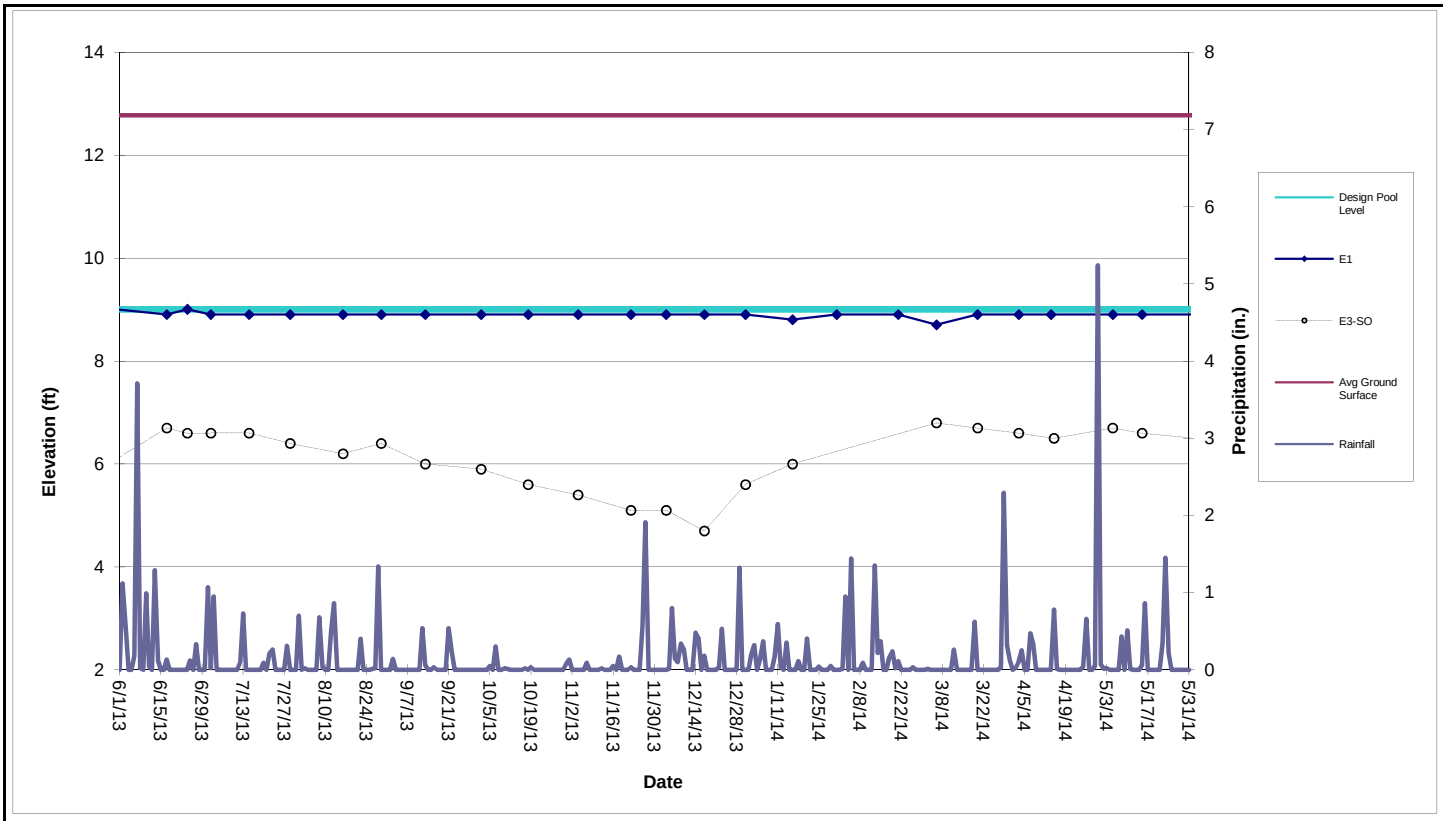
Perimeter Pool N2 (Sta. N10+73 to N13+10)



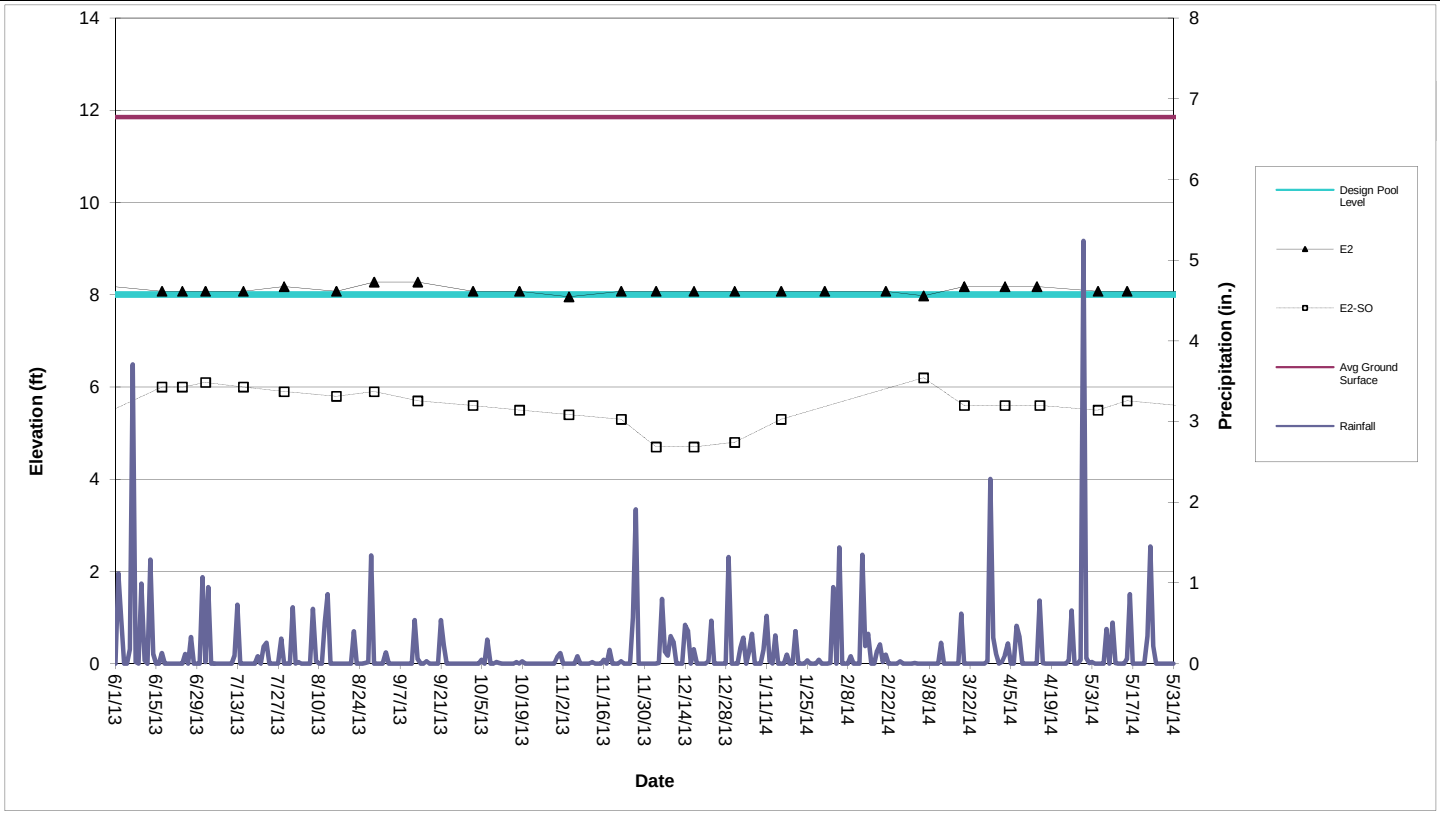
Perimeter Pool N3 (Sta. N6+80 to N10+23)



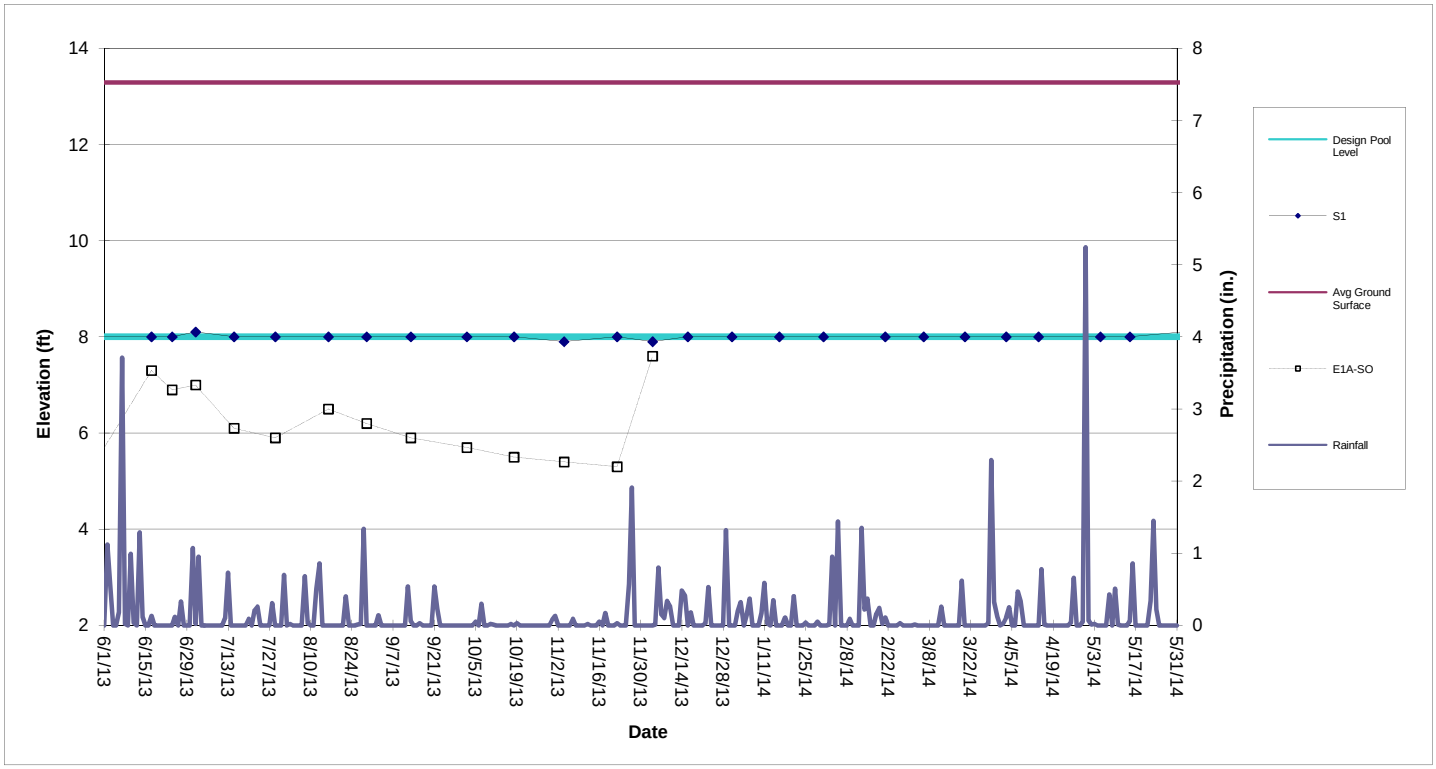
Perimeter Pool N4 (Sta. N6+80 to N10+23)



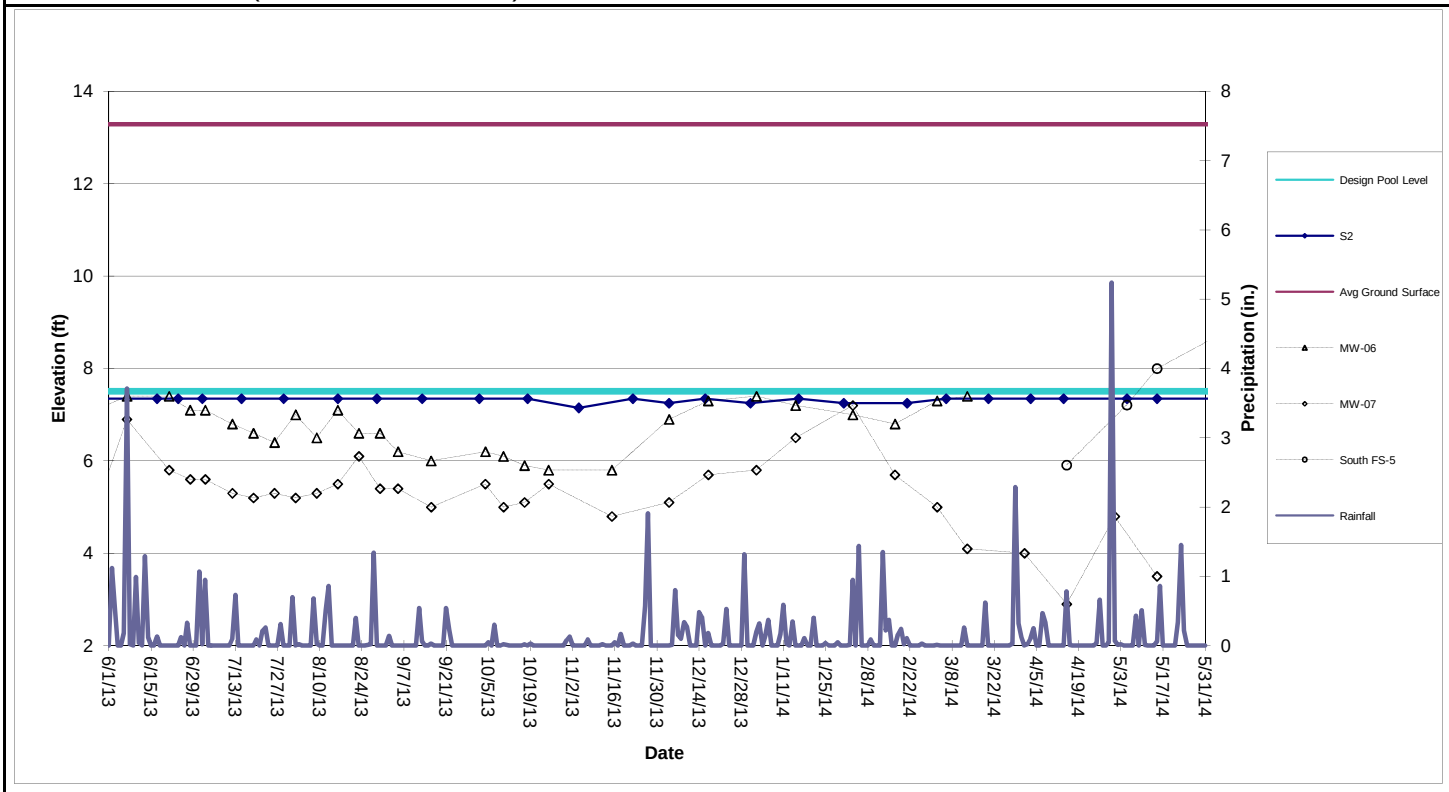
Perimeter Pool E1 (Sta. E0+50 to E3+75)



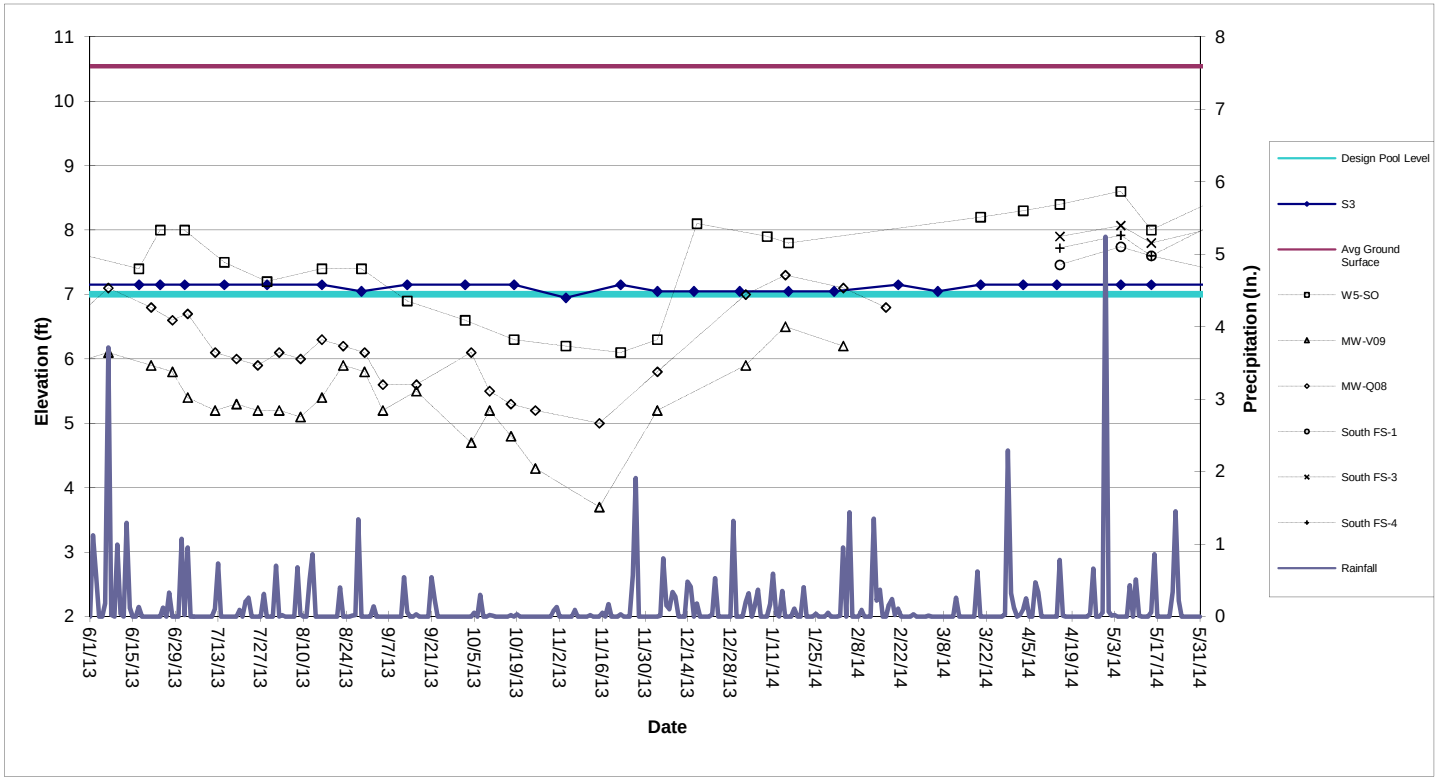
Perimeter Pool E2 (Sta. E4+50 to E7+25)



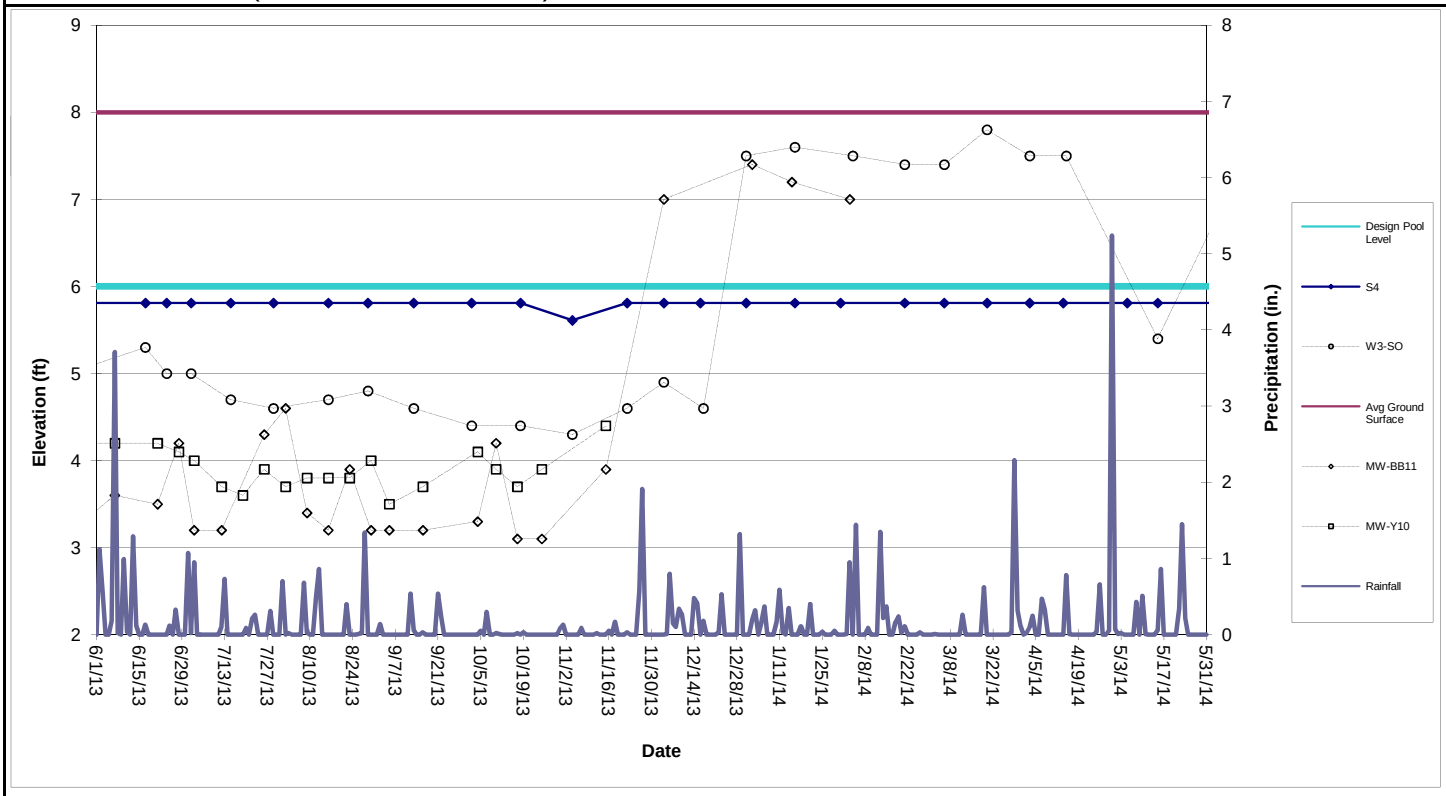
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										134-	140-		North				South			
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	MW-V09	MW-06	MW-07	FS-1	FS-2	FS-3	FS-4	FS-1	FS-3	FS-4	FS-5
Date																				
3/3/2014											7.3	5.0								
3/6/2014		6.2	6.8	6.5	7.3		7.4													
3/13/2014											7.4	4.1								
3/20/2014		5.6	6.7	7.2	7.4		7.8	8.2												
4/1/2014												4.0								
4/3/2014		5.6	6.6	7.3	7.7		7.5	8.3												
4/15/2014		5.6	6.5	7.3	7.4	8.2	7.5	8.4	7.3			2.9	7.0	8.3	7.3	7.5	7.5	7.9	7.7	5.9
5/1/2014												4.8								
5/5/2014		5.5	6.7	7.0	8.0	7.5		8.6	7.1				7.2		7.3	7.3	7.7	8.1	7.9	7.2
5/15/2014		5.7	6.6	7.3	7.2		5.4	8.0	6.5			3.5	6.3	7.4	8.0	6.9	7.6	7.8	7.6	8.0

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells and perimeter pool risers are temporarily inaccessible:
134-MW-V09, N3W, N4E, N4W, E1A-SO

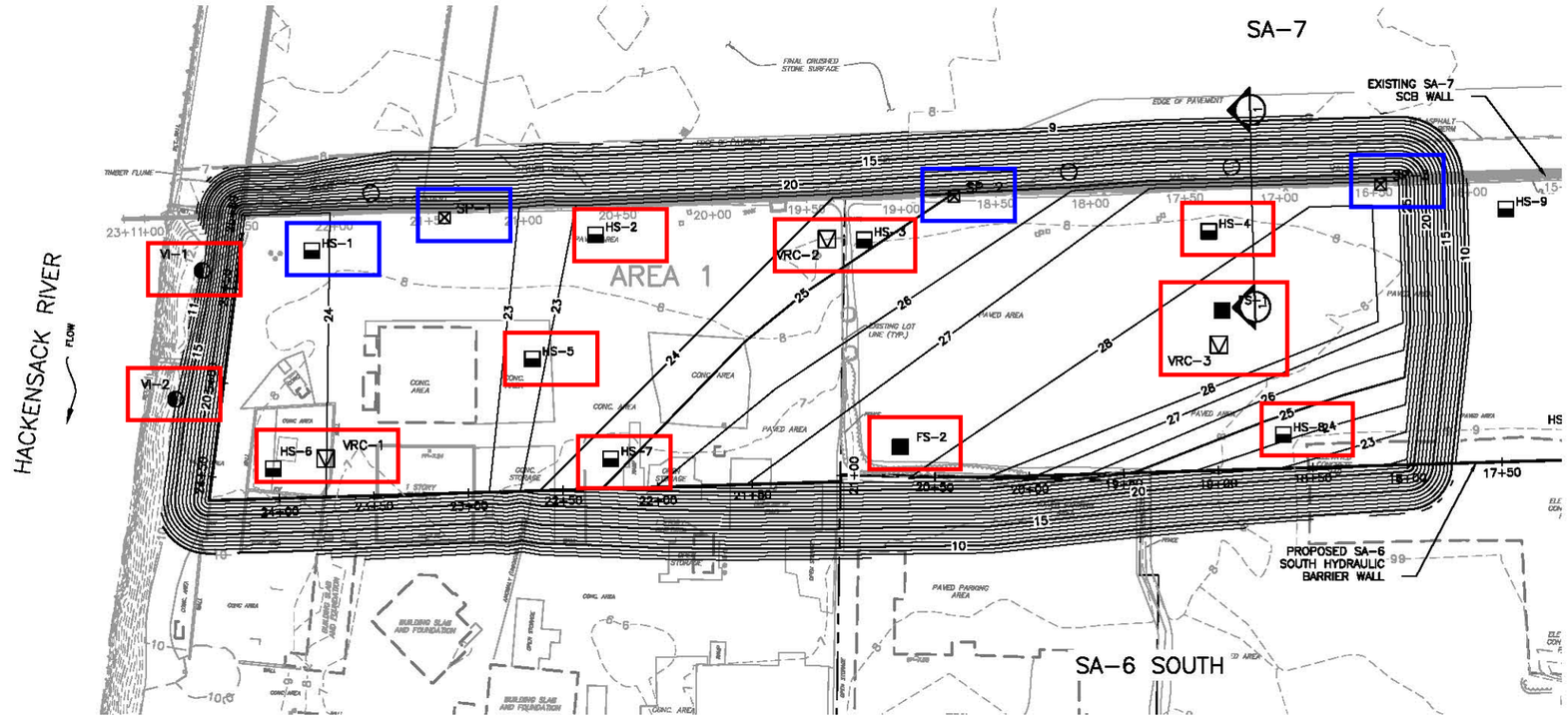
Attachment 8: Quality and Level Data in GWET Wells

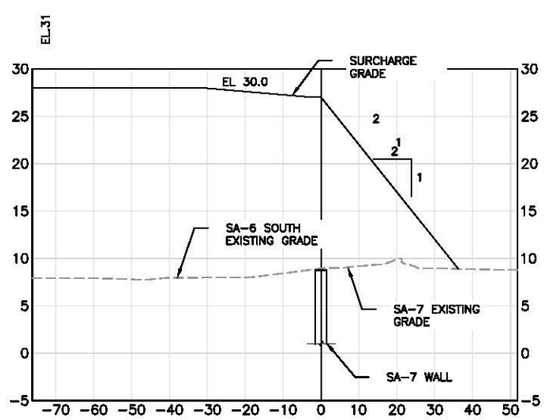
(not available as of this report date - provided on a quarterly basis)

- Summary of Groundwater Quality Data from GWET Wells
- Quarterly Water Wells
- Trichloroethene//Chloroform/Hexavalent Chromium in GWET Wells

Attachment 9: Surcharge Monitoring Update

- Instrumentation Location Plan 1S





SECTION A–A

SETTELMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
FS–1	685276.02	601927.05
FS–2	685323.86	601748.51
HS–1	685597.02	601567.16
HS–2	685511.42	601690.72
HS–3	685421.98	601800.88
HS–4	685313.18	601947.19
HS–5	685480.23	601623.90
HS–6	685518.78	601480.25
HS–7	685413.06	601624.11
HS–8	685204.27	601911.97
VI–1	685624.44	601515.06
VI–2	685578.58	601462.08
VRC–1	685505.92	601505.39
VRC–2	685434.27	601785.68
VRC–3	685262.85	601914.43
SP–1	685567.71	601633.29
SP–2	685410.62	601852.31
SP–3	685276.93	602033.96

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA–7 FENCE AND SA–7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. COMMENCE FILL AT THE HACKENSACK RIVER AND WORK EAST TOWARD ROUTE 440.
4. LOCATION OF SA–7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.
5. AFTER COMPLETION OF AREAS 1 AND 3 SURCHARGE LOADING, REMAINING FILL FROM THESE AREAS WILL BE COMBINED TO FORM THE SURCHARGE AREA 2.

VI–2 INCLINOMETER LOCATION
FS–1–1 SETTLEMENT MONITORING POINT FULL – SET UP
HS–1–1 SETTLEMENT MONITORING POINT HALF – SET UP
SP12 SETTLEMENT MONITORING PLATFORM
RP APPROXIMATE LOCATION OF SA–7 PERIMETER POOL RISER PIPE (SEE NOTE 7)
VRC1 VIBRATING WIRE PIEZOMETER IN STRATUM RC

Installed Instrumentation Locations

Instrumentation Locations Not Installed

Revised DCB 001 7/29/13

0 20 40 80
SCALE IN FEET

Prepared/Date: RJR 07/19/13
Checked/Date: AE 07/19/13

Honeywell
101 COLUMBIA RD. BOX 2108
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

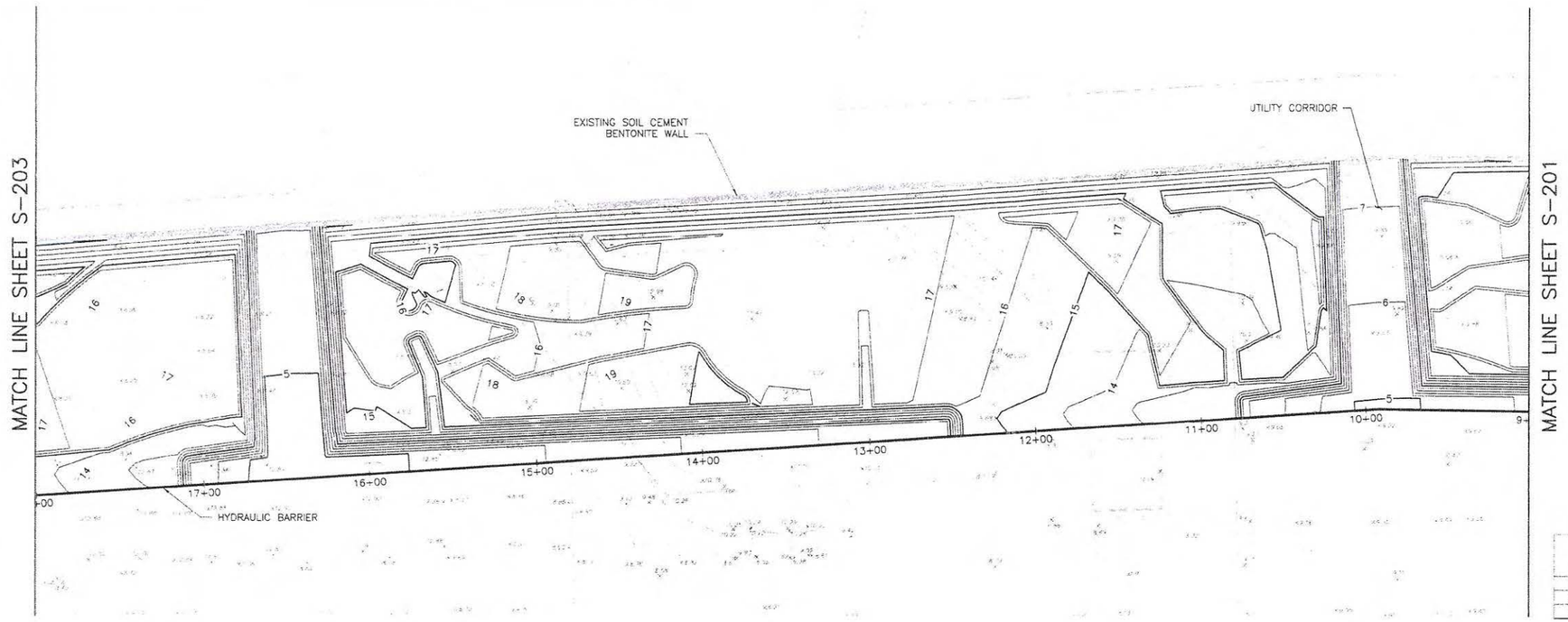
amec

INSTRUMENTATION LOCATION PLAN 1S

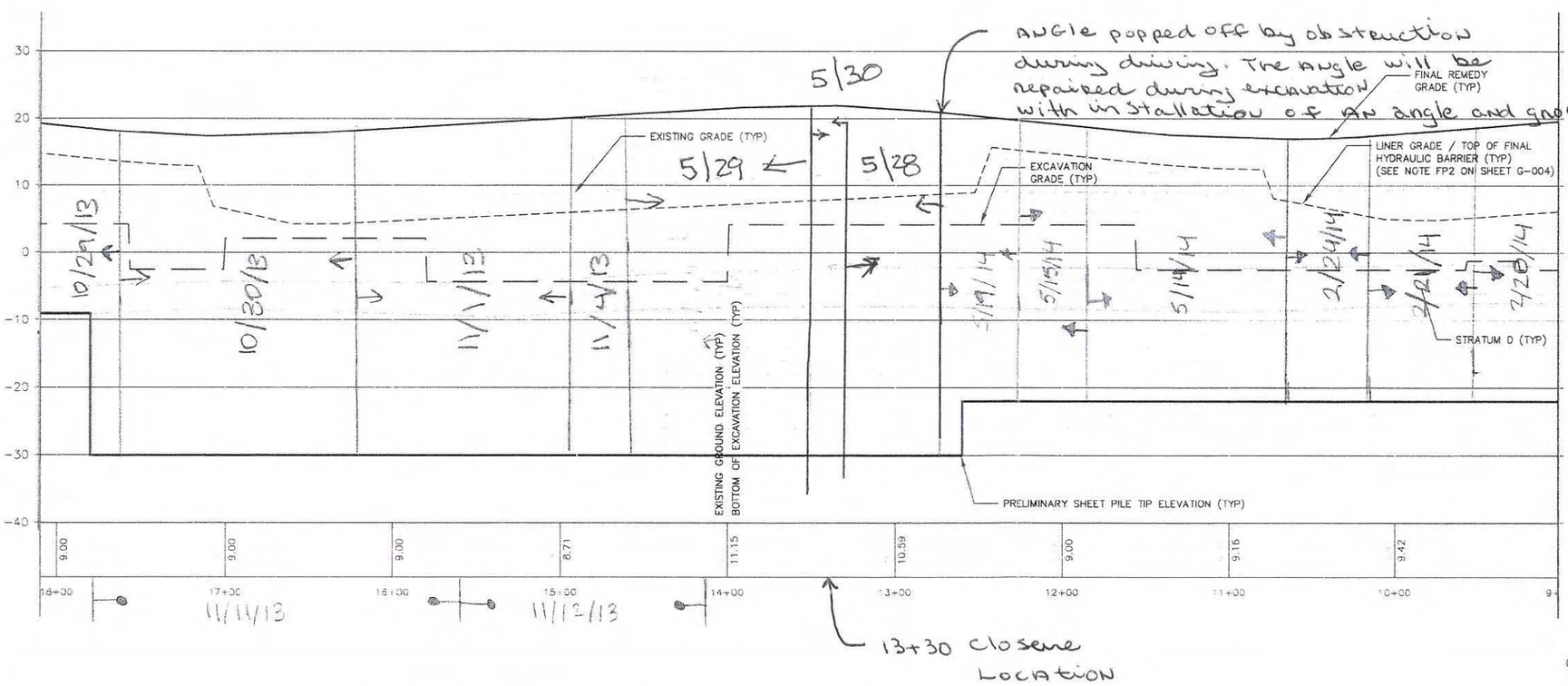
Figure F1

Attachment 10: Sheet Pile Update

- Hydraulic Barrier Wall Plan & Profile
- Sheet Deflection Along Open Excavation
- Sheet Monitoring Locations
- Sheet Pile Repair Log
- Vibration Monitoring Update



HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	5+00	12+60	-20'	AZ 19-700
STRUCTURAL	12+60	17+80	-30'	AZ 19-700
STRUCTURAL	17+80	19+00	-9	AZ 19-700



NOTES:

1. REFER TO SHEET GN-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FUTURE UTILITIES WILL REQUIRE WALL PENETRATIONS AT THESE TWO LOCATIONS.
4. REFER TO SHEET G-003, NOTE HB19 AND DETAIL "BE" ON SHEET C-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

SCALE IN FEET
VERTICAL SCALE: 1" = 10'

STEPHEN H MITCHELL
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE04392400

NO.	DATE	DSGN	DR	TDD	RJR	CHK	TDD	APVD	TDD	BY	SHM	APVD
0	06/07/13	TDD									SLM	

REVISION: ISSUED FOR CONSTRUCTION

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

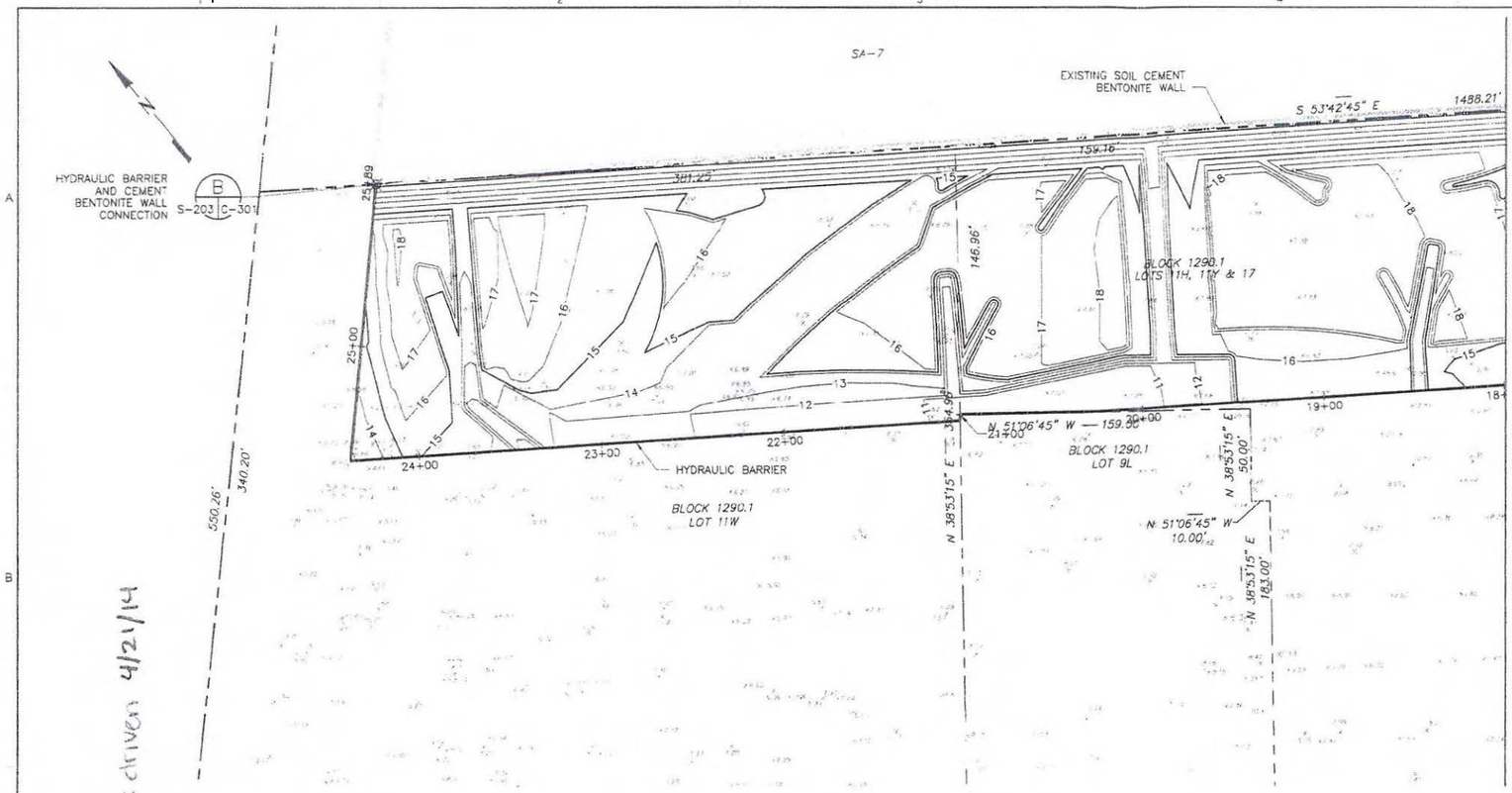
CIVIL
HYDRAULIC BARRIER
PLAN & PROFILE

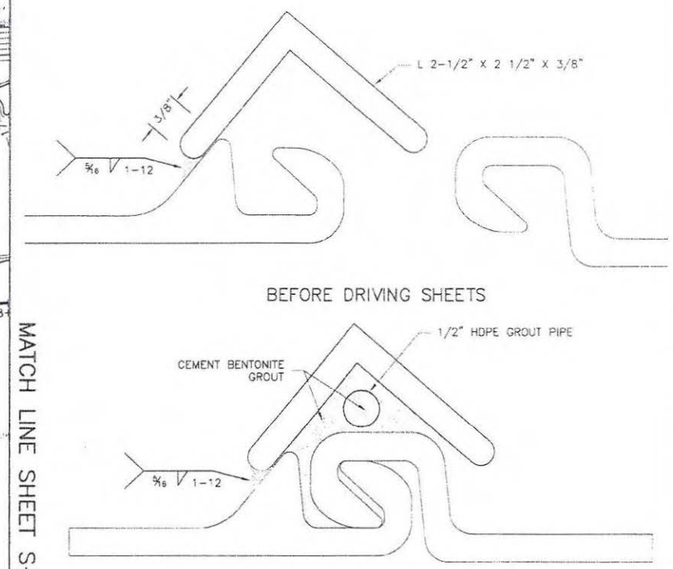
amec
Environment & Infrastructure, Inc
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 989 - 2829
NJ Certificate of Authorization Number 24GA28019900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	S-202
SHEET	54 OF 66

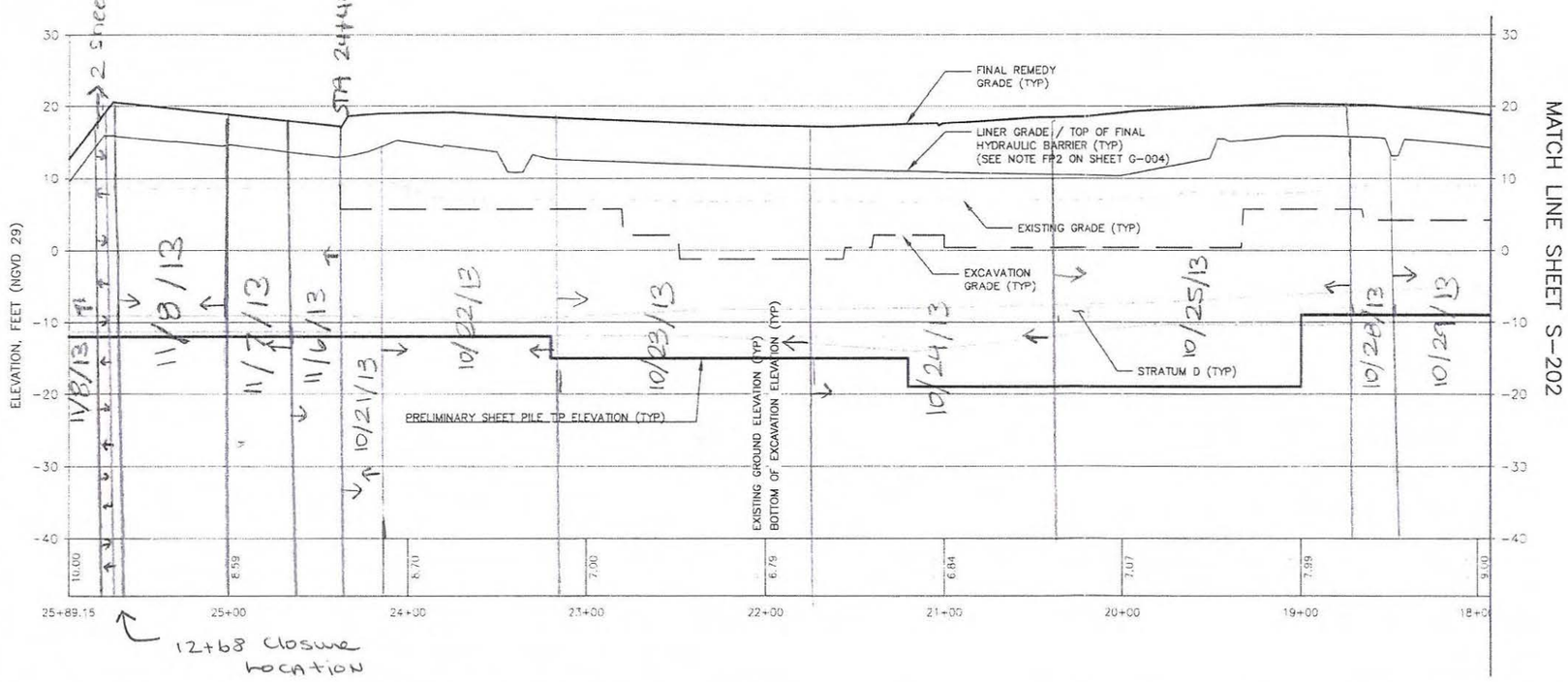
THIS DRAWING IS THE PROPERTY OF AMEC, INC. USING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USER'S AGREEMENT NOT TO REPRODUCE THE DRAWING IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.





SHEET SEALING DETAIL
NTS
BF
TYP S-203

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	17+80	19+00	-9	AZ 19-700
STRUCTURAL	19+00	21+20	-19	AZ 19-700
STRUCTURAL	21+20	23+20	-15	AZ 19-700
STRUCTURAL	23+20	24+37	-12	AZ 19-700
NON STRUCTURAL	24+37	25+89	-12	AZ 19-700



NOTES:

1. REFER TO SHEET GN-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FUTURE UTILITIES WILL REQUIRE WALL PENETRATIONS AT THESE TWO LOCATIONS.
4. REFER TO SHEET G-003, NOTE HB19 AND DETAIL "BE" ON SHEET C-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

0 20 40 80
SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

0 5 10 20
SCALE IN FEET
VERTICAL SCALE: 1" = 10'

STEPHEN H. MITCHELL
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE04032240

NO.	DATE	REVISION	BY	APVD
0	05/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD DR TDD CHK RJR APVD TDD SHM

Honeywell
101 COLUMBIA RD BOX 2105 MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS:
100 PERCENT DESIGN DRAWINGS

CIVIL
HYDRAULIC BARRIER
PLAN & PROFILE

amec
Environment & Infrastructure, Inc.
2200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28018100

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE
PROJ 3480-12-0317
DWG S-203
SHEET 55 OF 66

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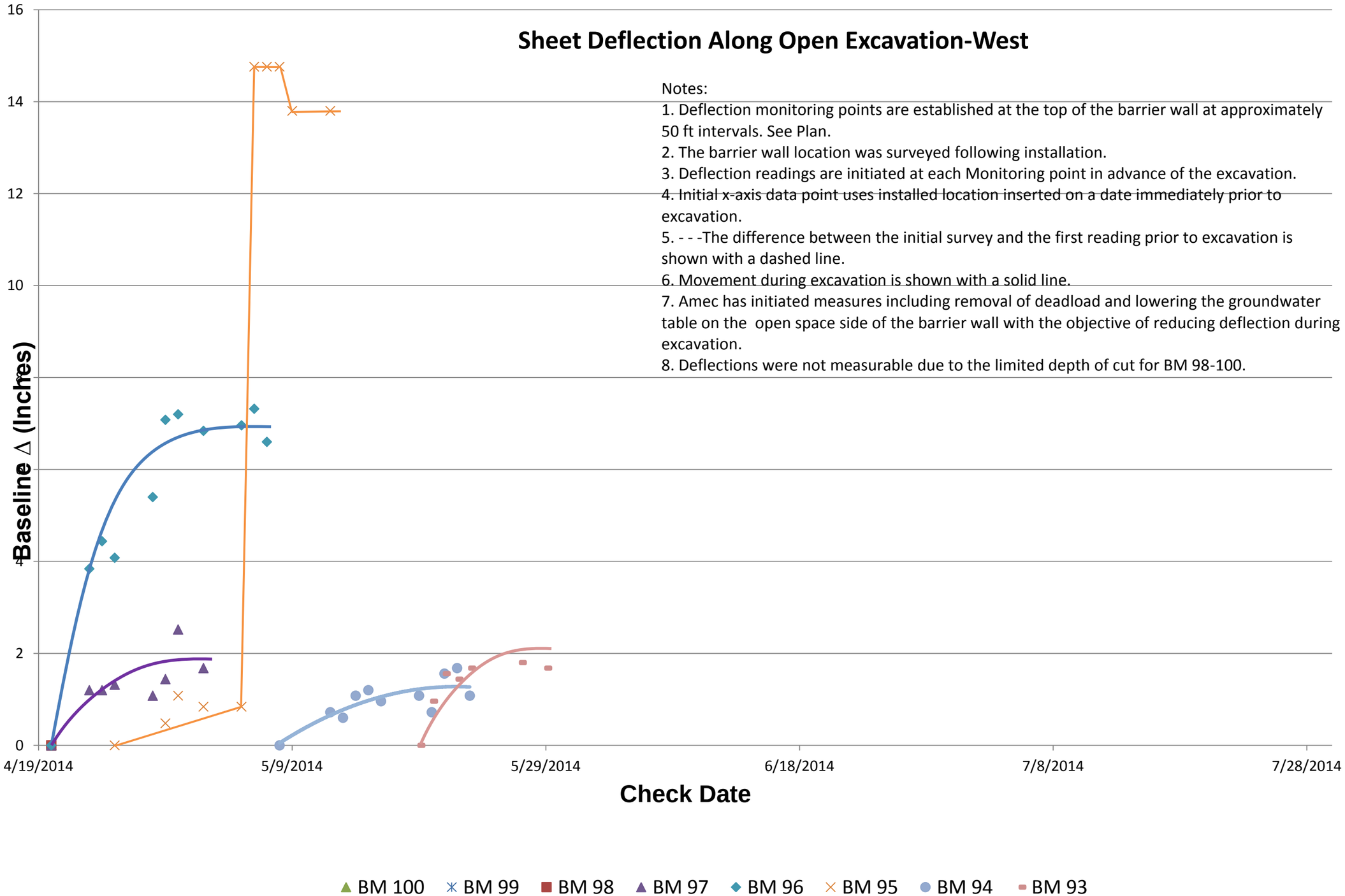
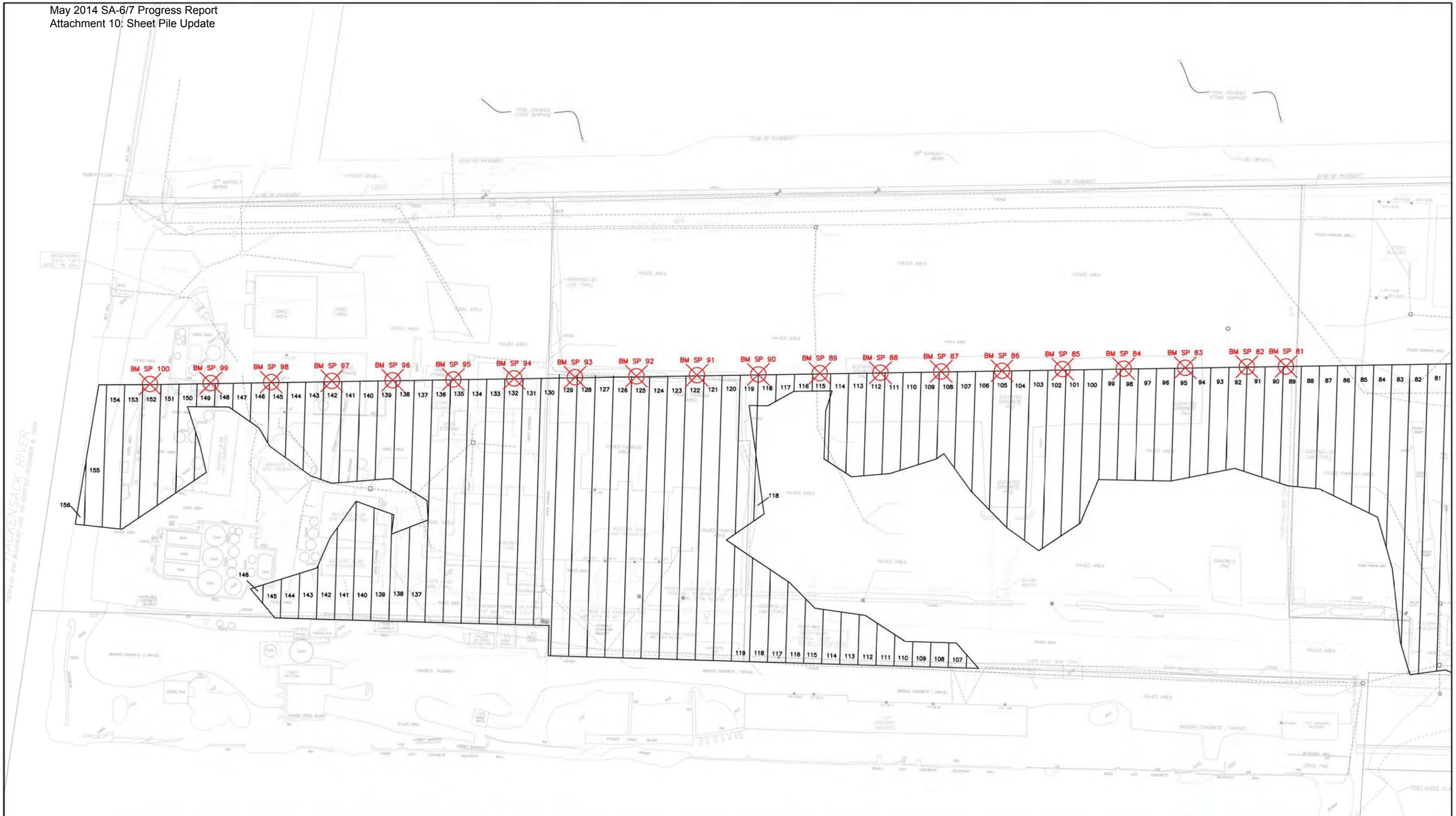
FILE NAME Z:\Projects\HONEYWELL JERSEY CITY\Civil Design\SA6 CD\CAD\SAM\C\S-203 Hydraulic Barrier Wall Plan Profile.dwg PLOT DATE Wed, 22 May 2013 PLOT TIME 3:01 PM



Notes:
1. Deflection monitoring points are established at the top of the barrier wall at approximately 50 ft intervals. See Plan.
2. The barrier wall location was surveyed following installation.
3. Deflection readings are initiated at each Monitoring point in advance of the excavation.
4. Initial x-axis data point uses installed location inserted on a date immediately prior to excavation.
5. - - -The difference between the initial survey and the first reading prior to excavation is shown with a dashed line.
6. Movement during excavation is shown with a solid line.
7. Amec has initiated measures including removal of deadload and lowering the groundwater table on the open space side of the barrier wall with the objective of reducing deflection during excavation.
8. Deflections were not measurable due to the limited depth of cut for BM 98-100.



NOTES:

- Survey data collected with Trimble SPS882 and TSC2 Data Collector.
- Horizontal accuracy of 0.026 ft.
- Deflection measured at the top of the sheet.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SHEET MONITORING LOCATIONS 03-20-14

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14P-7

Entact ID:

Date Exposed:

Describe Damage: (9) minor scrapes by excavator bucket - range in size from 1"Ø to 1"x10"

Damage Location (ft below top of sheet, inboard side outboard side): 7' - 10' outboard

Date Repaired: 5/5/14

Inspected by: Brian Shea

Describe Repair: Epoxy applied w/ 3" brush

Repair Log Closure: AMEC Signature: BSL

Date: 5/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14P-6

Entact ID:

Date Exposed:

Describe Damage: (5) minor scrapes by excavator bucket - Range in size from 1/2"Ø to 1"x8"

Damage Location (ft below top of sheet, inboard side outboard side): 7'-10' outboard

Date Repaired: 5/5/14

Inspected by: Brian Shea

Describe Repair: Epoxy applied w/ 3" Brush

Repair Log Closure: AMEC Signature: BSL

Date: 5/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14-P-8

Entact ID:

Date Exposed:

Describe Damage: (5) minor scapes by excavator bucket. Range in size 1/2"Ø to 1/2"x10"

Damage Location (ft below top of sheet, inboard side outboard side): 7' to 12' outboard

Date Repaired: 5/5/14

Inspected by: Brian Shea

Describe Repair: Epoxy applied w/ 3" brush

Repair Log Closure: AMEC Signature: BSL

Date: 5/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14P-9

Entact ID:

Date Exposed:

Describe Damage: (15) minor scrapes by excavator bucket. Range in size from

Damage Location (ft below top of sheet, inboard side outboard side): 6' to 12' outboard

Date Repaired: 5/5/14

Inspected by: Brian Shea

Describe Repair: Epoxy applied w/ 3" brush

Repair Log Closure: AMEC Signature: BSL

Date: 5/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14P-10

Entact ID:

Date Exposed:

Describe Damage: (13) minor scapes by excavator bucket - range in size from 1"Ø - 4"Ø

Damage Location (ft below top of sheet, inboard side outboard side): 6' - 12' outboard

Date Repaired: 5/5/14

Inspected by: Brian Shea

Describe Repair: Epoxy applied w/ 3" brush

Repair Log Closure: AMEC Signature: B Shea

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14P-11

Entact ID:

Date Exposed:

Describe Damage: (11) minor scrapes by excavator bucket - range in size from 2"Ø - ½" x 24"

Damage Location (ft below top of sheet, inboard side outboard side): 6' - 12' outboard

Date Repaired: 5/5/14

Inspected by: Brian Shea

Describe Repair: Epoxy applied w/ 3" paint brush

Repair Log Closure: AMEC Signature: B Shea

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14P-12

Entact ID:

Date Exposed:

Describe Damage: (11) minor scrapes by excavator bucket - range in size from 1"Ø - ½" x 24"

Damage Location (ft below top of sheet, inboard side outboard side): 6' - 12' outboard

Date Repaired: 5/5/14

Inspected by: Brian Shea

Describe Repair: Epoxy applied w/ 3" paint brush

Repair Log Closure: AMEC Signature: B Shea

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14P-13

Entact ID:

Date Exposed:

Describe Damage: (5) minor scrapes by excavator bucket - range in size from ½"Ø - 3" x 12"

Damage Location (ft below top of sheet, inboard side outboard side): 6' - 12' outboard

Date Repaired: 5/5/14

Inspected by: Brian Shea

Describe Repair: Carboline epoxy applied w/ 3" brush

Repair Log Closure: AMEC Signature: B Shea

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14-P-14

Entact ID:

Date Exposed: 5/7/14

Describe Damage

(1) Minor scrape by the excavator bucket - 1/2" x 2"

Damage Location (ft below top of sheet, inboard side outboard side)

9' outboard

Date Repaired: 5/8/14

Inspected by: Brian Shea

Describe Repair: ~~grinded~~ pressure wash, grind w/ wire brush, apply epoxy w/ 4" brush

Repair Log Closure: AMEC Signature: BShea

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14P-15

Entact ID:

Date Exposed

Describe Damage: 5/7/14

(5) Minor scrapes by the excavator bucket - 1/2" x 2", 1"Ø, 1/2"Ø

Damage Location (ft below top of sheet, inboard side outboard side)

6'-10' outboard

Date Repaired: 5/8/14

Inspected by: Brian Shea

Describe Repair: pressure washed, prepared w/ wire brush, epoxy applied w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14P-16

Entact ID:

Date Exposed: 5/7/14

Describe Damage

(1) Minor scrape by the excavator bucket - 1" x 4"

Damage Location (ft below top of sheet, inboard side outboard side)

8', outboard

Date Repaired: 5/8/14

Inspected by: Brian Shea

Describe Repair: pressure wash, grind w/ wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14P-17

Entact ID:

Date Exposed: 5/7/14

Describe Damage

(5) Minor scrapes by the excavator bucket - 1/2"Ø, 1"Ø, 1"x5", 1x2", 1/2"Ø

Damage Location (ft below top of sheet, inboard side outboard side)

range from 6' to 10' - outboard

Date Repaired: 5/8/14

Inspected by: Brian Shea

Describe Repair: pressure wash, grind w/ wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14P-18

Entact ID:

Date Exposed: 5/8/14

Describe Damage:

(3) minor scrapes by the excavator bucket to expose bare steel- 1x2", 1"Ø, 2"Ø

Damage Location (ft below top of sheet, inboard side outboard side): 8'-10' outboard

Date Repaired: 5/8/14

Inspected by: Brian Shea

Describe Repair: pressure wash, grind w/ wire brush, apply epoxy w/ 4" ~~area~~ brush

Repair Log Closure: AMEC Signature:

Date:

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14P-19

Entact ID:

Date Exposed: 5/8/14

Describe Damage:

(3) large scrapes by the excavator bucket- 1x6", 3x6", 5"Ø

Damage Location (ft below top of sheet, inboard side outboard side): 7-10' - outboard

Date Repaired: 5/8/14

Inspected by: Brian Shea

Describe Repair: pressure wash area, grind surface w/ wire brush, apply epoxy w/ 4" paintbrush

Repair Log Closure: AMEC Signature:

Date:

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14P-26

Entact ID:

Date Exposed: ~~5/12~~ 5/9

Describe Damage:

(2) minor scrapes by the excavator bucket to expose bare steel- 1/2Ø, 1"Ø

Damage Location (ft below top of sheet, inboard side outboard side): 11' outboard

Date Repaired:

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" brush

Repair Log Closure: AMEC Signature: BSL

Date: 5/22

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15P-1

Entact ID:

Date Exposed:

Describe Damage:

(5) scrapes by the excavator ~~[illegible]~~ 349E bucket to expose bare steel- 3" long, 1/2"Ø 4"x1/2", 1"x1/2", 3"x1/2"

Damage Location (ft below top of sheet, inboard side outboard side): 1'-10' outboard

Date Repaired:

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" brush

Repair Log Closure: AMEC Signature: BSL

Date: 5/22

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15P-2

Entact ID:

Date Exposed:

Describe Damage: (5) scrapes by the Cat 349E excavator bucket - 1"Ø, 3"x1/2", 1/2"Ø 2"x1", 7"x1/2"

Damage Location (ft below top of sheet, inboard side outboard side): 6'-9' outboard

Date Repaired:

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" brush

Repair Log Closure: AMEC Signature: BS

Date: 5/22

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15P-4

Entact ID:

Date Exposed:

Describe Damage: (4) minor scrapes by the excavator bucket - 1x2", 2"x6", 1/2"Ø, 1"Ø, ~~[illegible]~~

Damage Location (ft below top of sheet, inboard side outboard side): 5'-10' outboard

Date Repaired:

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BS

Date: 5/22

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15P-3

Entact ID:

Date Exposed:

Describe Damage: (10) scrapes by Cat 349E excavator bucket - 1"Ø, 3"x1/2", 1/2"Ø, 1"Ø, 7"x1", 2"Ø, 3"x1/2", 1/2"Ø, 1"x2", 1"x3"

Damage Location (ft below top of sheet, inboard side outboard side): 4-10' outboard

Date Repaired:

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" brush

Repair Log Closure: AMEC Signature: BS

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15P-5

Entact ID:

Date Exposed:

Describe Damage: (9) scrapes by Cat 349E excavator bucket - 1/2"Ø, 1/2"Ø, 1/4"x6", 1"Ø, 1/2"x3", 1"Ø, 1/4"x6", 2"Ø, 1/2"Ø

Damage Location (ft below top of sheet, inboard side outboard side): 4'-8' outboard

Date Repaired:

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BS

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15P-6

Entact ID:

Date Exposed:

Describe Damage:
(9) scrapes by Cat 349E excavator - ½"x4", 1"Ø, 1"x2", 1"Ø, ½"x24", ½"x3", ¼"x36", ½"Ø

Damage Location (ft below top of sheet, inboard side outboard side):
3' - 10' outboard

Date Repaired:

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" wire brush

Repair Log Closure: AMEC Signature: [signature]

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15P-7

Entact ID:

Date Exposed:

Describe Damage:
(4) minor scrapes by Cat 349E excavator bucket - 1/2"Ø, ½"Ø, 1"x3", 1"x6".

Damage Location (ft below top of sheet, inboard side outboard side):
6' - 10' outboard

Date Repaired:

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" wire brush

Repair Log Closure: AMEC Signature: [signature]

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15P-8

Entact ID:

Date Exposed:

Describe Damage:
(10) scrapes by the Cat 349E excavator bucket - ½"Ø, 1x2", 1"Ø, ½"x4", ½"Ø, 1"Ø, ½"x7", 1x2", ½"x12", ½"x18"

Damage Location (ft below top of sheet, inboard side outboard side): 7' - 10' outboard

Date Repaired:

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: [signature]

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15P-9

Entact ID:

Date Exposed:

Describe Damage:
(6) scrapes by the cat 349E excavator bucket - ¼"x6", 1"Ø, 1"Ø, 1/2"x6", 1x2", 1/2Ø

Damage Location (ft below top of sheet, inboard side outboard side):
6' - 10' outboard

Date Repaired:

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: [signature]

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

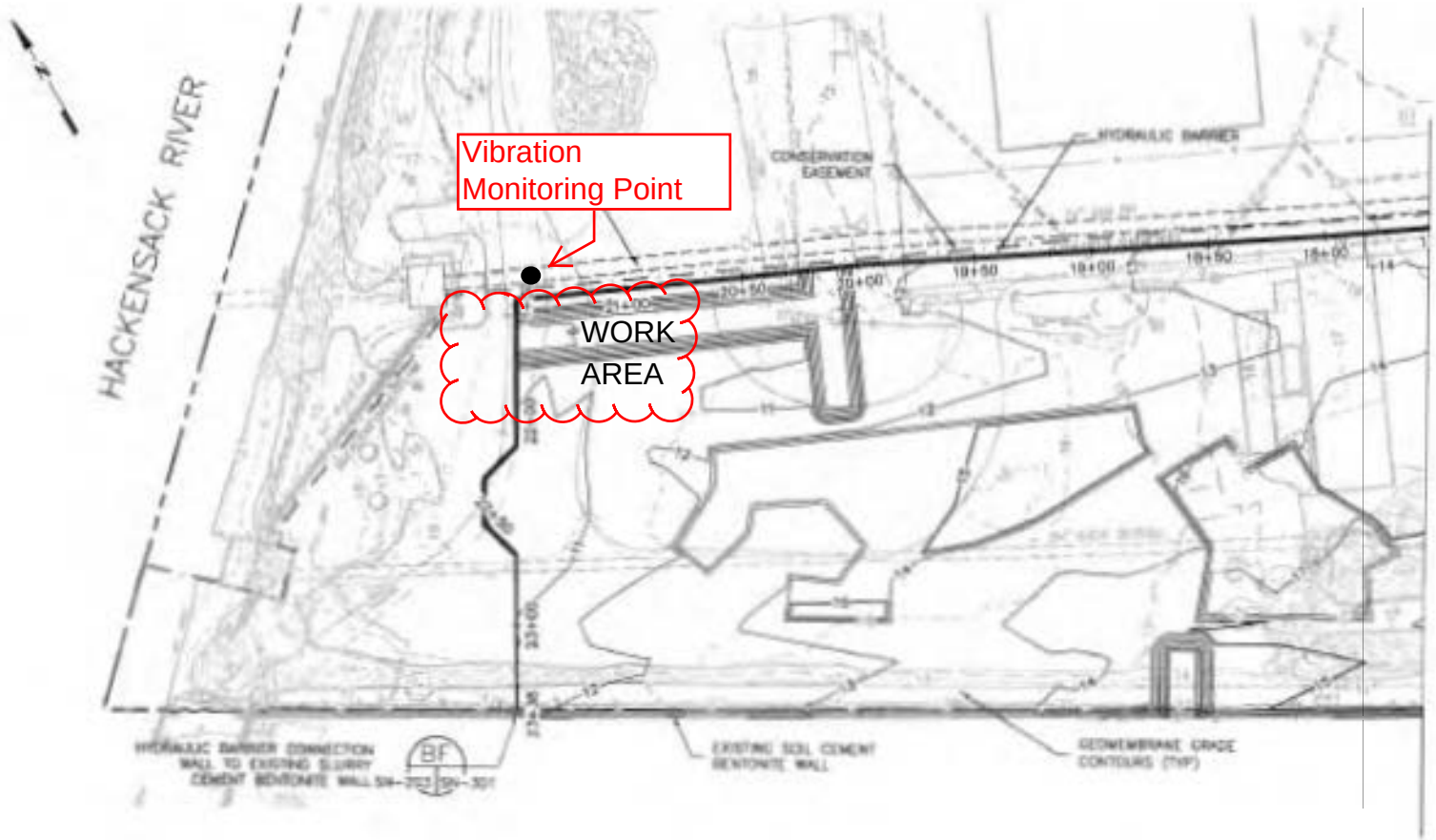
February 27th, 2014
For ENTACT, LLC

NOTES:

Summary of Work:
Sheet pile driving commenced at 2:12 PM until 3:12 PM. An Instantel Blastmate III was used to record vibrations via a geophone placed on the ground over the 72 inch force main.

Four sheets were driven, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at this location.

Trigger Level: 0.5 in/sec
Alert Level: 1.0 in/sec


HACKENSACK RIVER
Vibration
Monitoring Point
WORK
AREA
CONSERVATION
EASEMENT
HYDRAULIC BARRIER
EXISTING SOIL CEMENT
BENTONITE WALL
GEOMEMBRANE GRADE
CONTOURS (TYP)

Event Report

Histogram Start Time	14:12:45 February 27, 2014	**Serial Number**	BA15371 V 10.60-8.17 BlastMate III/8
Histogram Finish Time Number	15:12:38 February 27, 2014	**Battery Level**	6.9 Volts
of Intervals Range	766.00 at 5 seconds	**Unit Calibration**	January 29, 2014 by Instantel
Sample Rate	Geo:10.00 in/s	**File Name**	Q3715KE7.K90
Job Number:	1024sps		

Notes 1
Location: SA-6 North 72" in Force Main
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

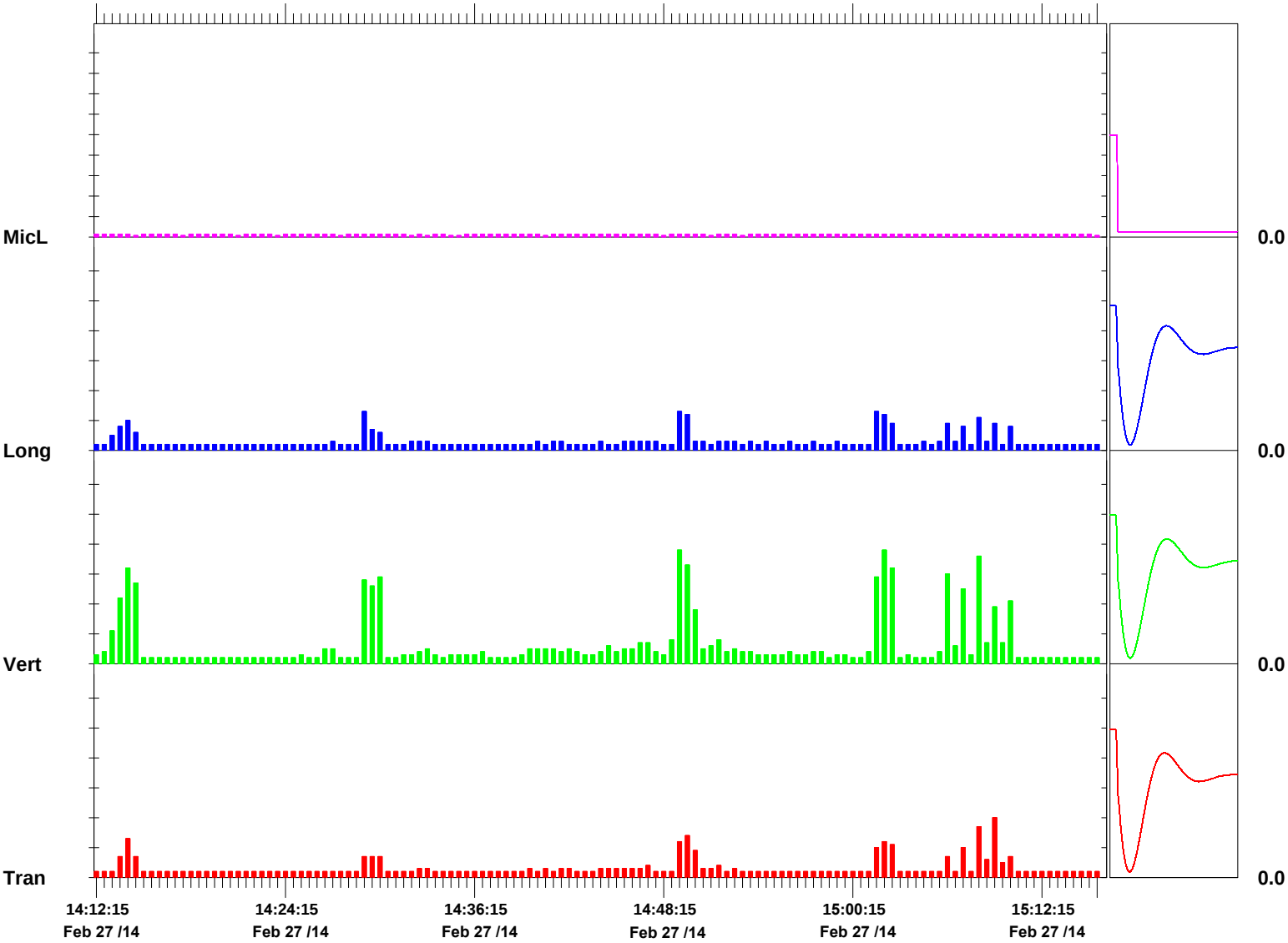
Post Event Notes

Extended Notes

Microphone
PSPL
ZC Freq
Channel Test

	Tran	Vert	Long	
PPV	0.1000	0.190	0.0650	in/s
ZC Freq	32	43	28	Hz
Date	Feb 27 /14	Feb 27 /14	Feb 27 /14	
Time	15:10:05	14:50:10	14:30:05	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.2	7.2	Hz
Overswing Ratio	4.2	4.1	4.2	

Peak Vector Sum 0.196 in/s on February 27, 2014 at 14:50:10



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Mic: 0.00050 psi(L)/div Sensor Check

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Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

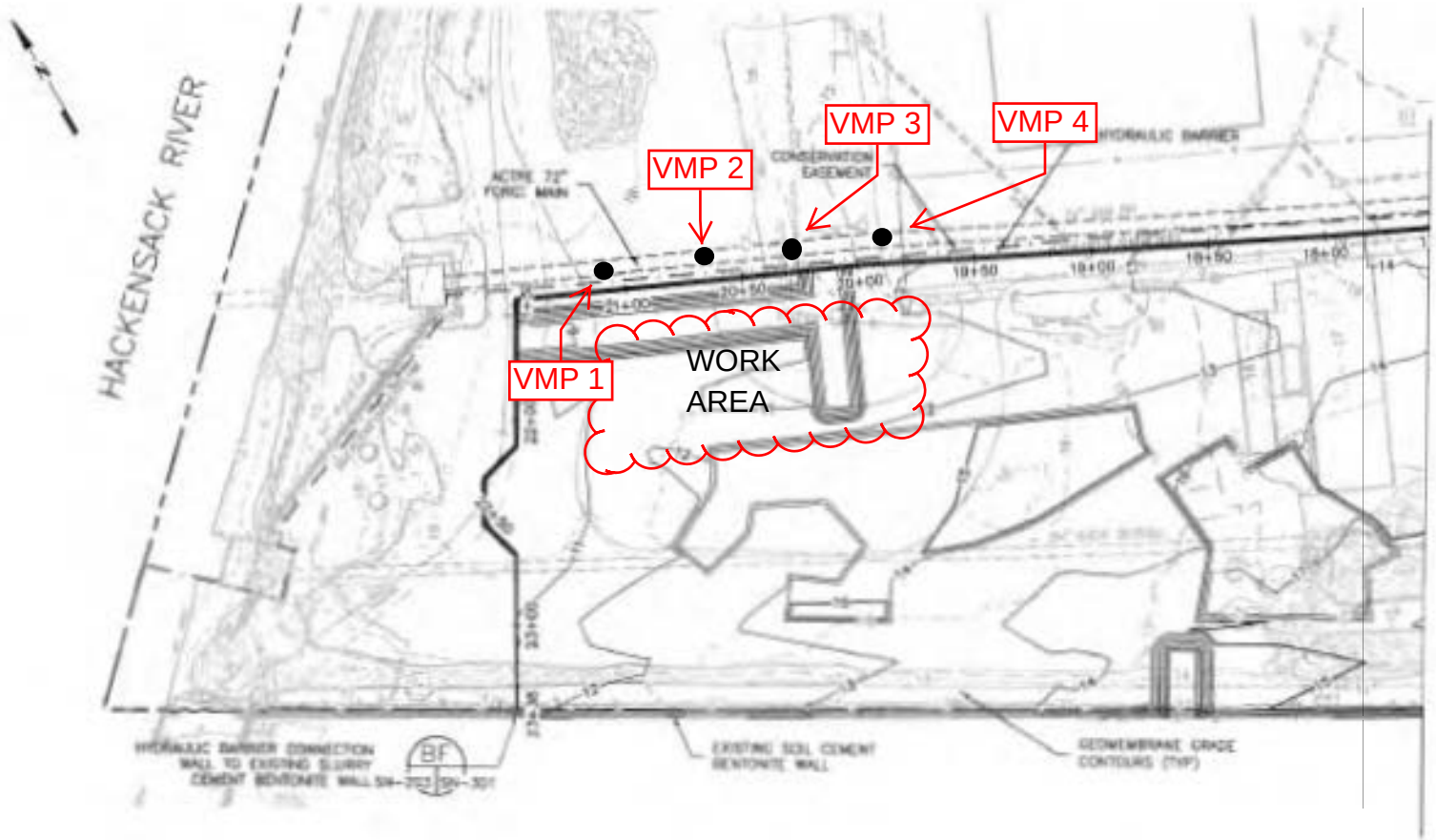
March 5th, 2014
For ENTACT, LLC

NOTES:

Summary of Work:
Sheet pile driving commenced at 10:00 AM until 5:15 PM. An Instantel Blastmate III was used to record vibrations via a geophone placed on the ground over the 72 inch force main.

26 sheets were driven, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at this location.

Trigger Level: 0.5 in/sec
Alert Level: 1.0 in/sec


HACKENSACK RIVER
VMP 1
VMP 2
VMP 3
VMP 4
WORK
AREA
CONSERVATION EASEMENT
HYDRAULIC BARRIER
ACME 72" FORC. MAIN
21+00
20+50
20+00
19+50
19+00
18+50
18+00
HYDRAULIC BARRIER CONNECTION WALL TO EXISTING SLURRY CEMENT BENTONITE WALL
BF
EXISTING SOIL CEMENT BENTONITE WALL
GEOMEMBRANE GRADE CONTOURS (TYP)

Event Report

Histogram Start Time	10:00 AM March 5, 2014	**Serial Number**	BA15371 V 10.60-8.17 BlastMate III/8
Histogram Finish Time	10:55 AM March 5, 2014	**Battery Level**	6.9 Volts
Number of Intervals	623.00 at 5 seconds	**Unit Calibration**	January 29, 2014 by Instantel
Range	Geo:10.00 in/s	**File Name**	Q3715KDW.3A0
Sample Rate	1024sps		
Job Number:	1		

Notes

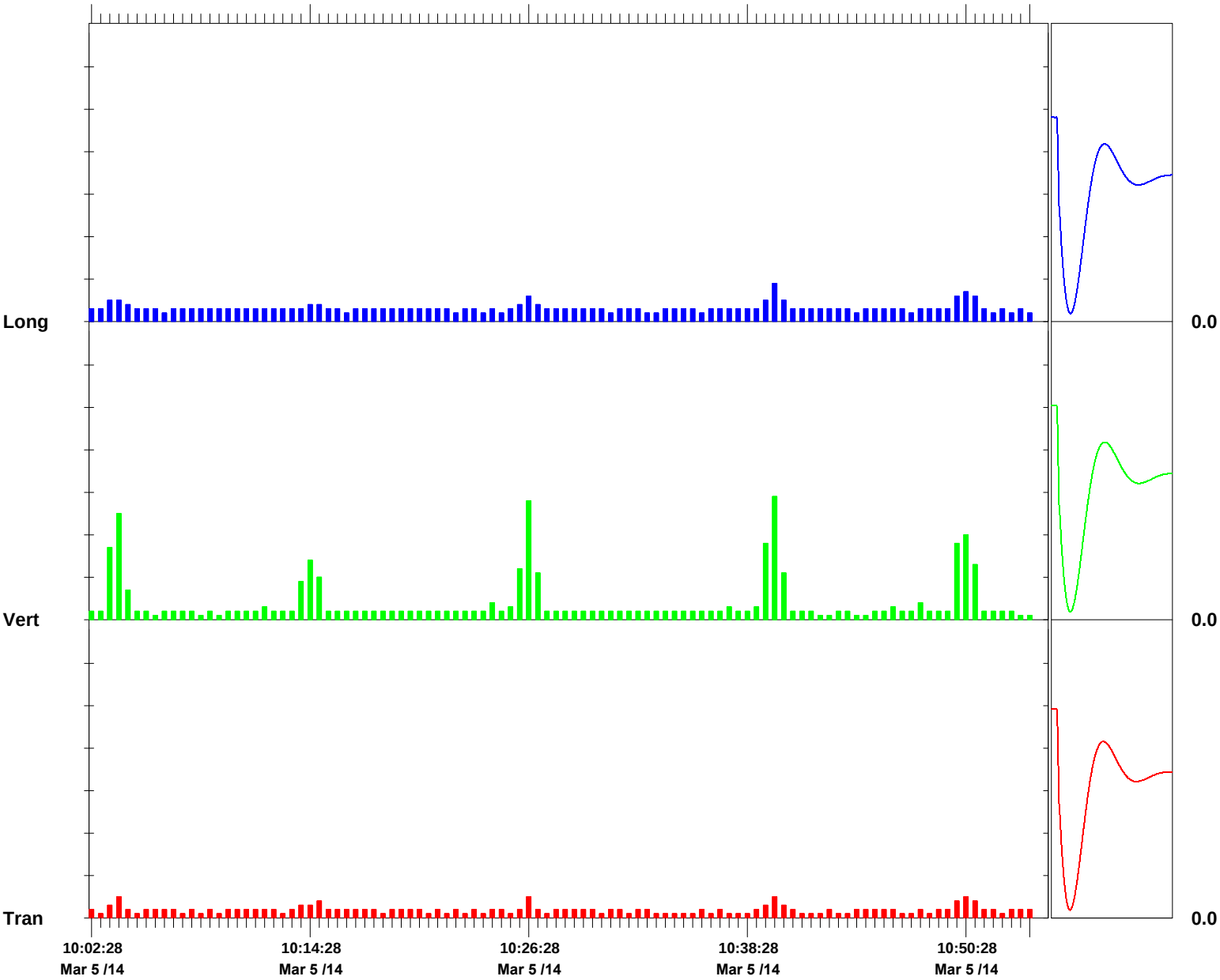
Location: SA 6 North 72" Forcemain
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

VMP 1

Extended Notes

	Tran	Vert	Long	
PPV	0.0250	0.145	0.0450	in/s
ZC Freq	39	30	27	Hz
Date	Mar 5 /14	Mar 5 /14	Mar 5 /14	
Time	10:03:53	10:39:58	10:39:58	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.3	Hz
Overswing Ratio	4.3	4.1	4.1	

Peak Vector Sum 0.146 in/s on September 1, 1995 at 12:39:58



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div

Sensor Check

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Event Report

Histogram Start Time	11:10:56 March 5, 2014
Histogram Finish Time	11:46:53 March 5, 2014
Number of Intervals	431.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.9 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F84C.E80

Notes

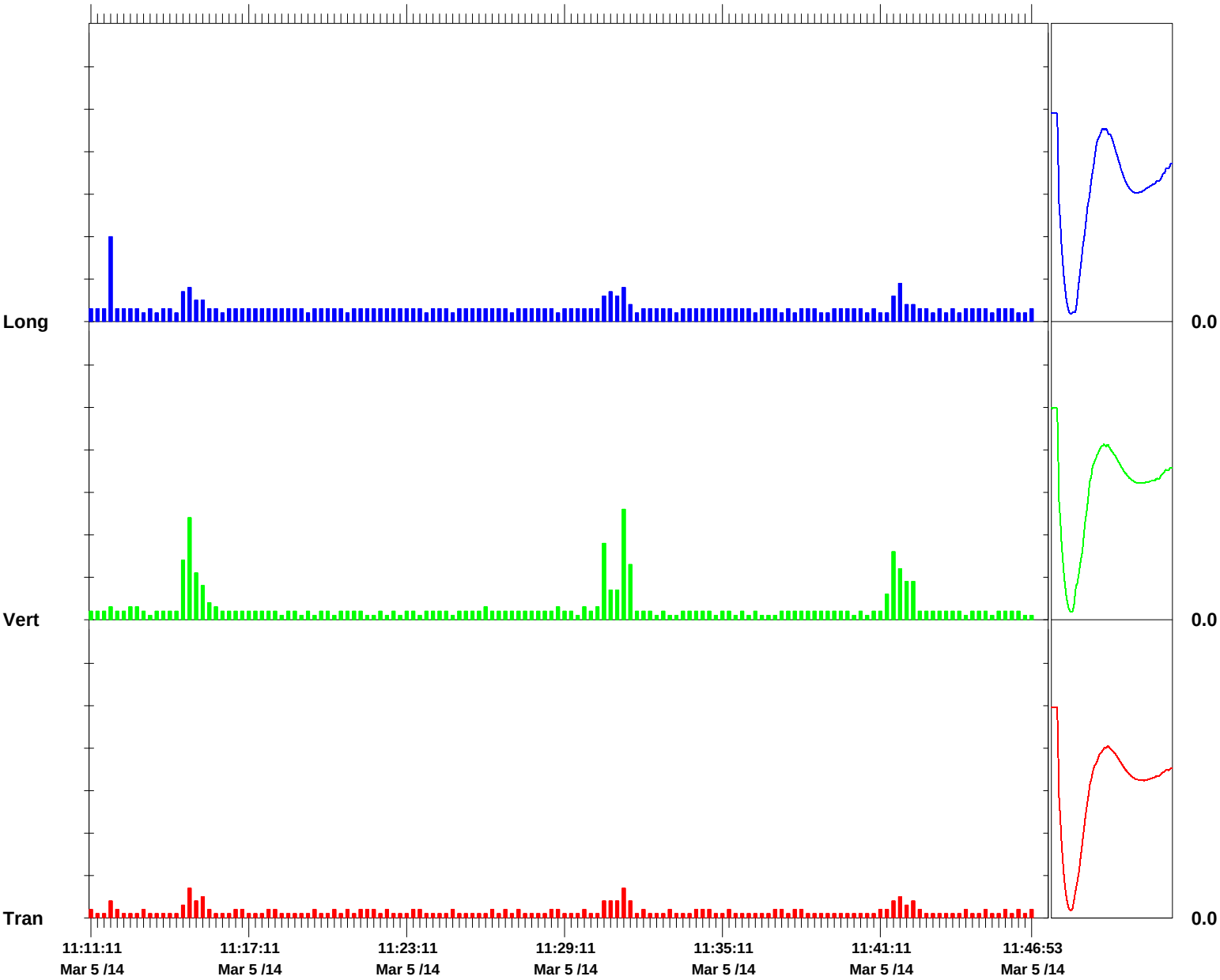
Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

Post Event Notes
VMP 2

Extended Notes

	Tran	Vert	Long	
PPV	0.0350	0.130	0.1000	in/s
ZC Freq	43	37	13	Hz
Date	Mar 5 /14	Mar 5 /14	Mar 5 /14	
Time	11:14:56	11:31:21	11:11:56	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.4	7.4	Hz
Overswing Ratio	5.0	4.4	2.8	

Peak Vector Sum 0.131 in/s on March 5, 2014 at 11:31:21



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	11:47:42 March 5, 2014
Histogram Finish Time	12:07:17 March 5, 2014
Number of Intervals	234.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.9 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F84E.3I0

Notes

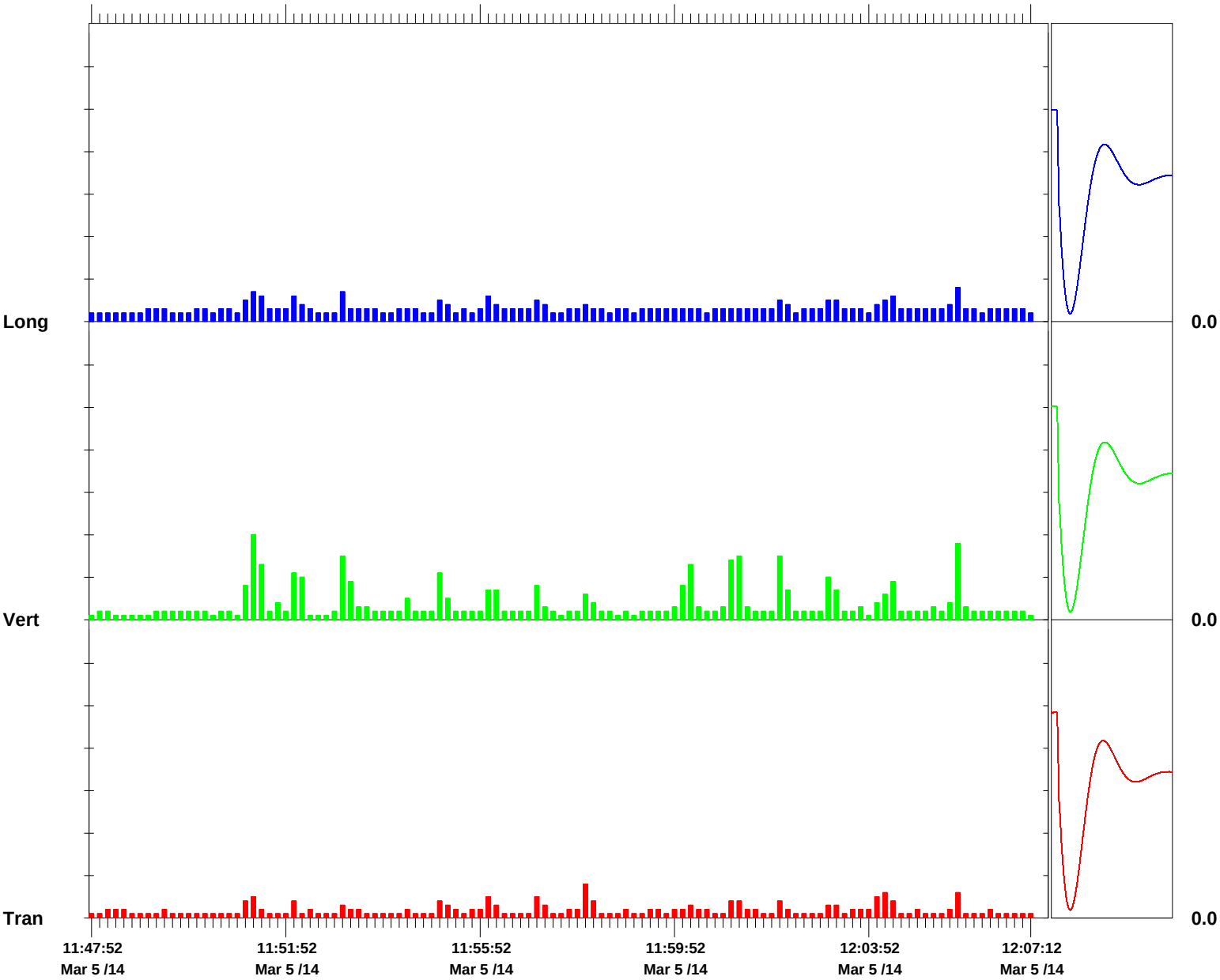
Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

Post Event Notes
VMP 2

Extended Notes

	Tran	Vert	Long	
PPV	0.0400	0.1000	0.0400	in/s
ZC Freq	34	39	28	Hz
Date	Mar 5 /14	Mar 5 /14	Mar 5 /14	
Time	11:58:02	11:51:07	12:05:37	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.3	Hz
Overswing Ratio	4.2	4.1	4.2	

Peak Vector Sum 0.100 in/s on March 5, 2014 at 11:51:07



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	13:15:00 March 5, 2014
Histogram Finish Time	15:38:45 March 5, 2014
Number of Intervals	1725.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.9 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F84I.500

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

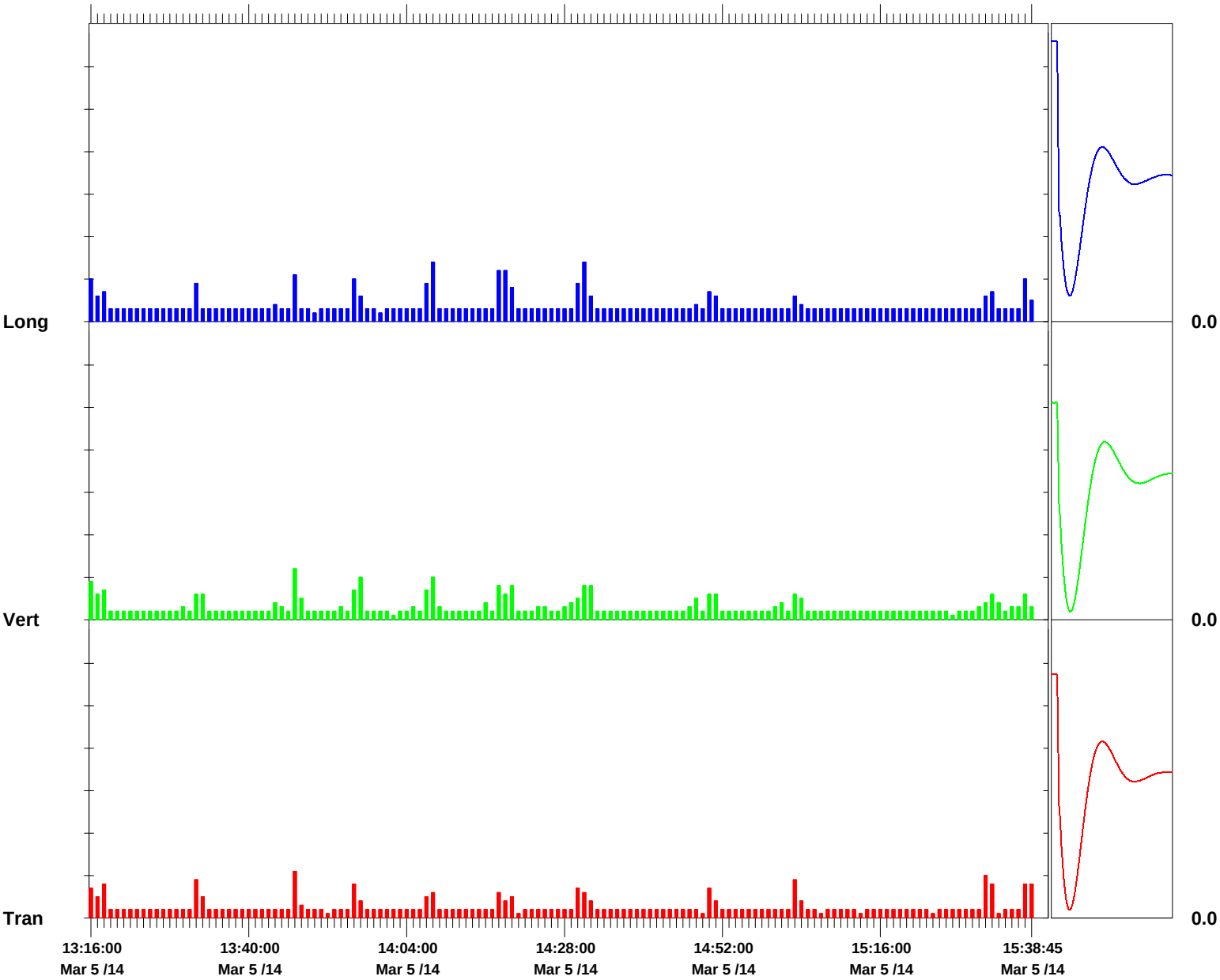
Post Event Notes

VMP 3

Extended Notes

	Tran	Vert	Long	
PPV	0.0550	0.0600	0.0700	in/s
ZC Freq	34	32	28	Hz
Date	Mar 5 /14	Mar 5 /14	Mar 5 /14	
Time	13:46:20	13:46:20	14:07:30	
Sensor Check	Passed	Passed	Check	
Frequency	7.6	7.3	7.8	Hz
Overswing Ratio	4.3	4.1	3.9	

Peak Vector Sum 0.0745 in/s on March 5, 2014 at 14:07:30



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	15:41:20 March 5, 2014
Histogram Finish Time	17:17:59 March 5, 2014
Number of Intervals	1159.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.9 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F84O.WW0

Notes

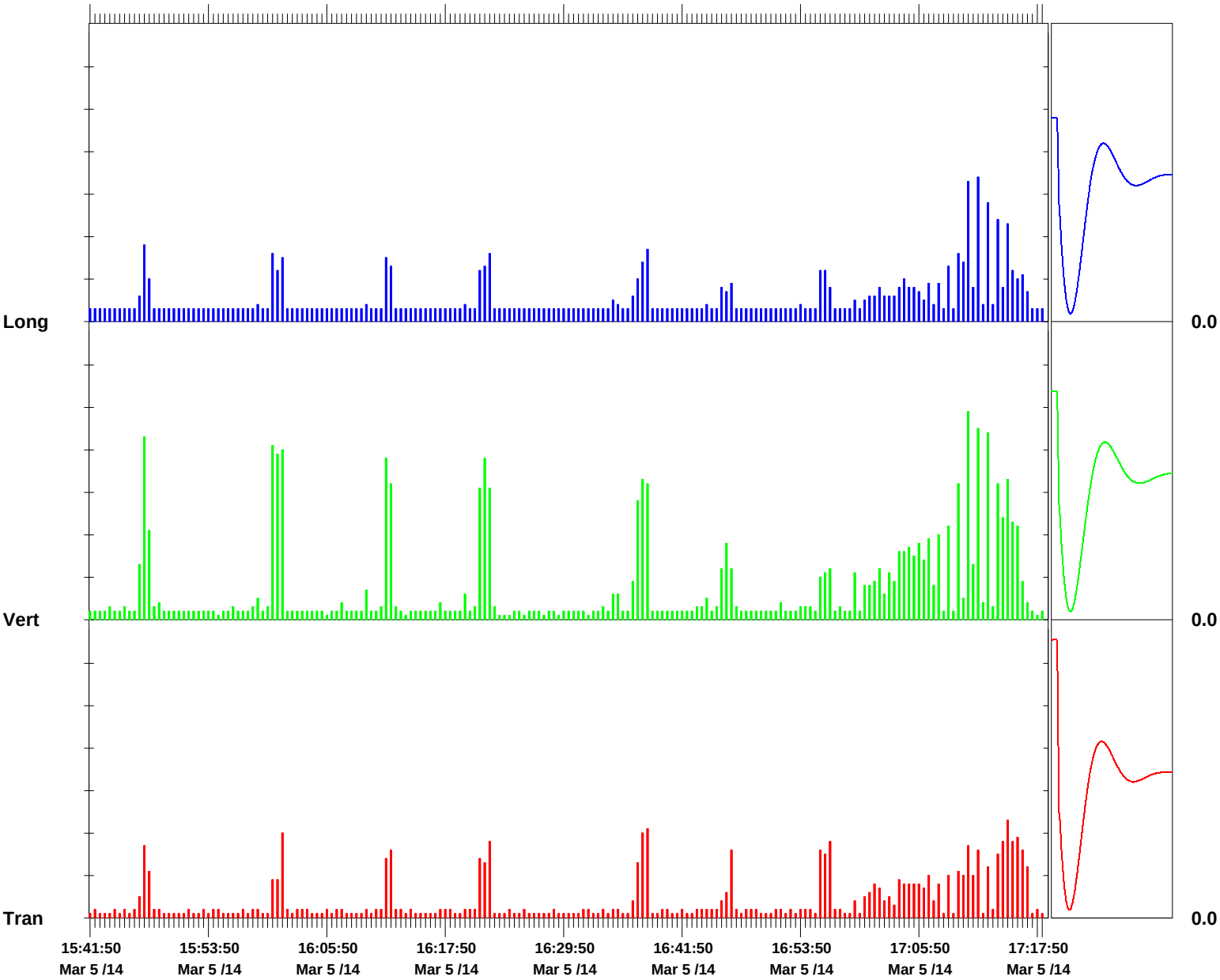
Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

Post Event Notes
VMP 4

Extended Notes

	Tran	Vert	Long	
PPV	0.115	0.245	0.170	in/s
ZC Freq	28	28	27	Hz
Date	Mar 5 /14	Mar 5 /14	Mar 5 /14	
Time	17:14:25	17:10:40	17:11:35	
Sensor Check	Check	Passed	Passed	
Frequency	7.8	7.3	7.5	Hz
Overswing Ratio	4.3	4.1	4.1	

Peak Vector Sum 0.266 in/s on March 5, 2014 at 17:11:35



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

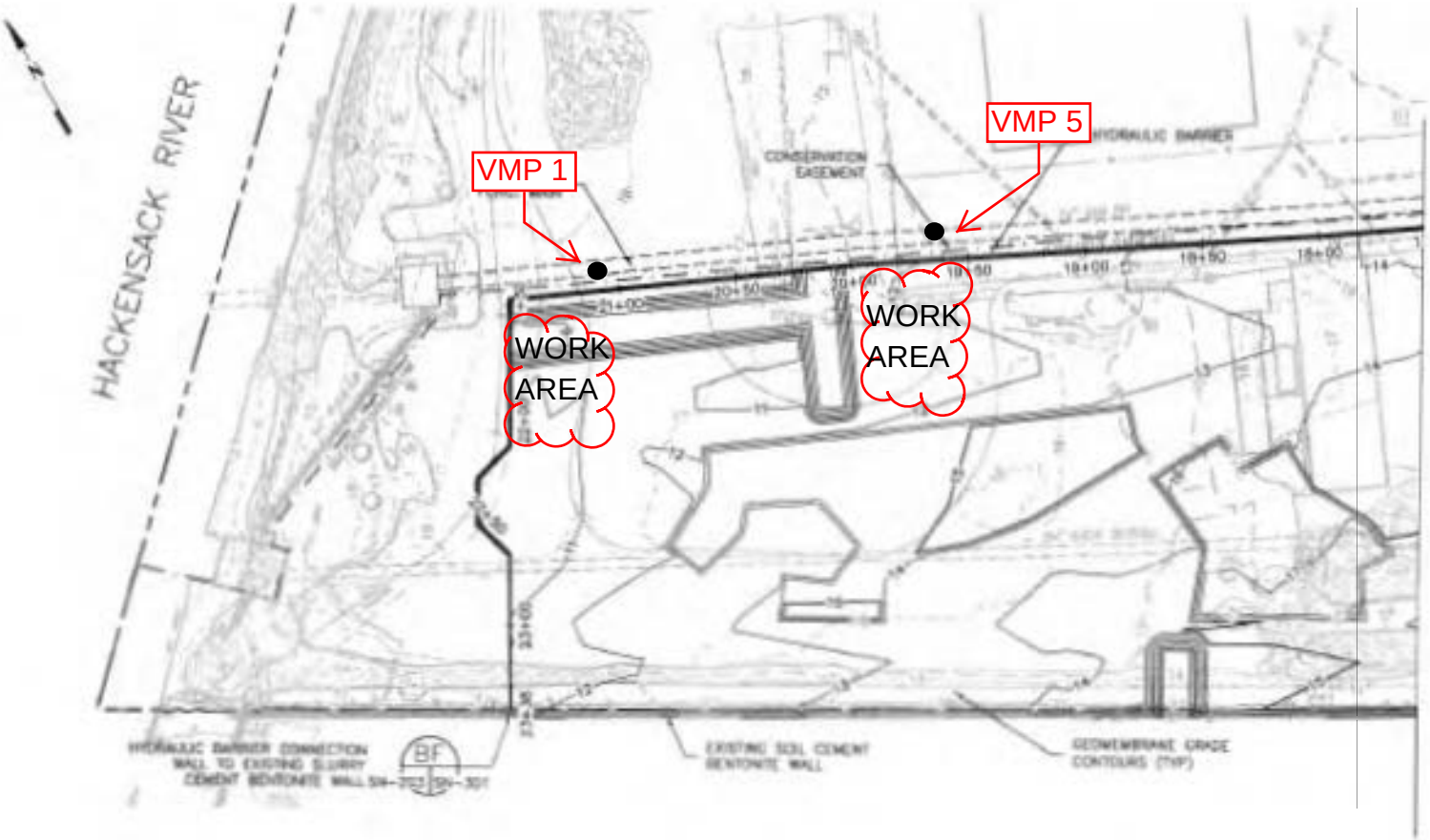
March 6th, 2014
For ENTACT, LLC

NOTES:

Summary of Work:
Sheet pile driving commenced at 1:20 PM until 3:30 PM. An Instantel Blastmate III was used to record vibrations via a geophone placed on the ground over the 72 inch force main.

Five sheets were driven, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at this location.

Trigger Level: 0.5 in/sec
Alert Level: 1.0 in/sec


HACKENSACK RIVER
VMP 1
VMP 5
WORK AREA
WORK AREA
CONSERVATION EASEMENT
HYDRAULIC BARRIER
EXISTING SOIL CEMENT BENTONITE WALL
GEOMEMBRANE GRADE CONTOURS (TYP)

Event Report

Histogram Start Time	13:24:41 March 6, 2014
Histogram Finish Time	13:37:26 March 6, 2014
Number of Intervals	153.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.9 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F86D.950

Notes

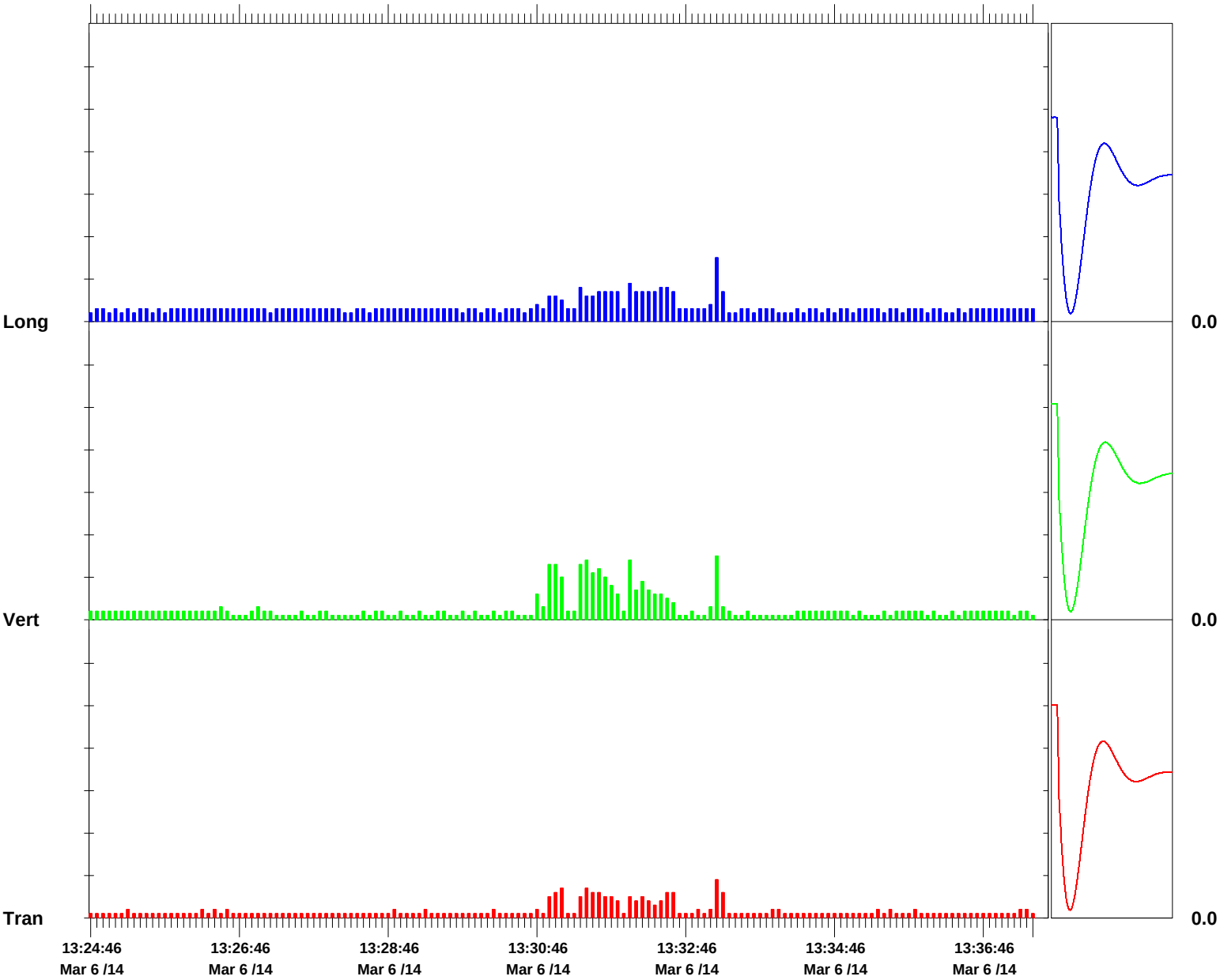
Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

Post Event Notes
VMP 1

Extended Notes

	Tran	Vert	Long	
PPV	0.0450	0.0750	0.0750	in/s
ZC Freq	43	28	27	Hz
Date	Mar 6 /14	Mar 6 /14	Mar 6 /14	
Time	13:33:11	13:33:11	13:33:11	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.3	Hz
Overswing Ratio	4.2	4.1	4.1	

Peak Vector Sum 0.0886 in/s on March 6, 2014 at 13:33:11



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	13:49:49 March 6, 2014
Histogram Finish Time	15:29:00 March 6, 2014
Number of Intervals	1190.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F86E.F10

Notes

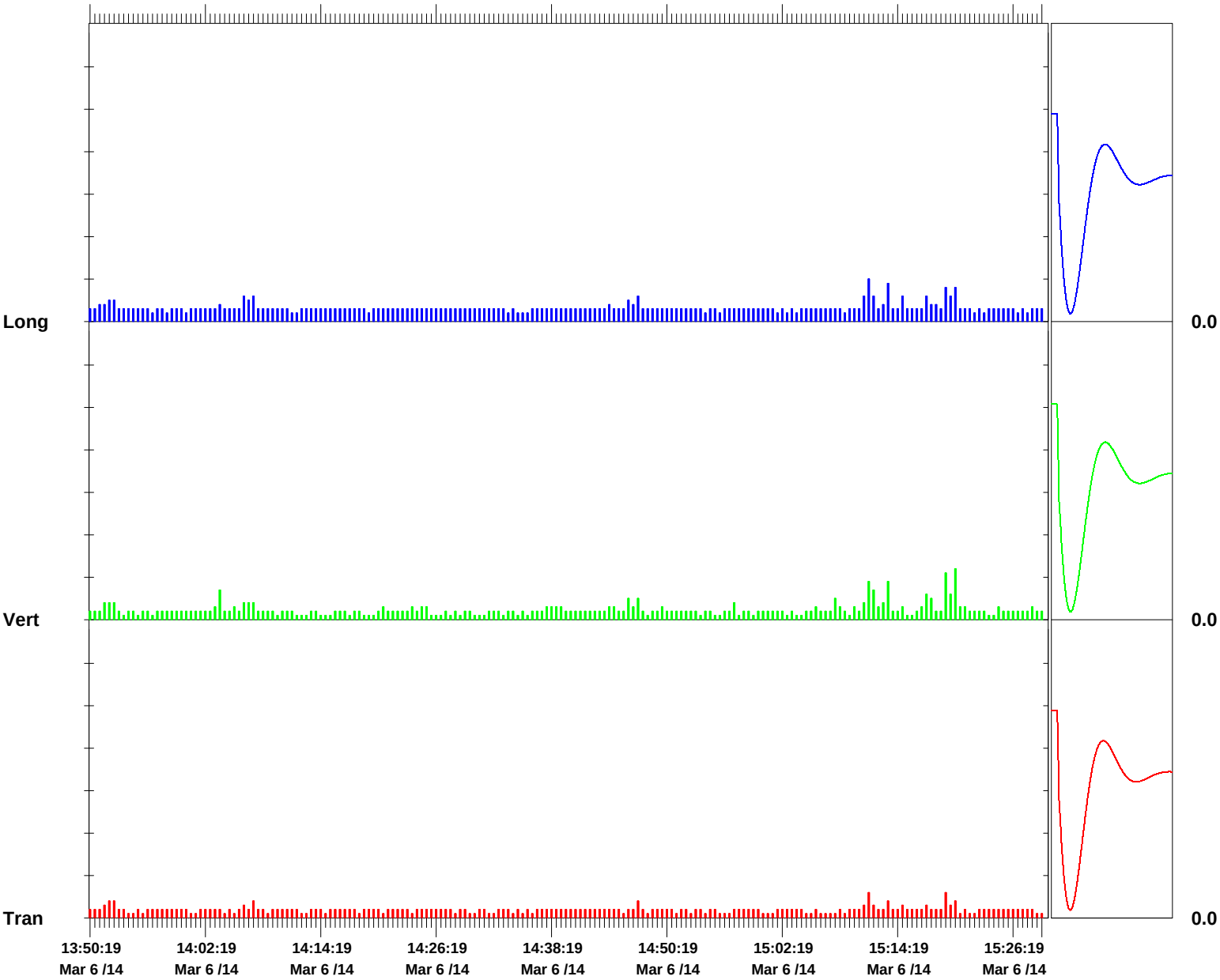
Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

Post Event Notes
VMP 5

Extended Notes

	Tran	Vert	Long	
PPV	0.0300	0.0600	0.0500	in/s
ZC Freq	37	34	28	Hz
Date	Mar 6 /14	Mar 6 /14	Mar 6 /14	
Time	15:11:19	15:20:09	15:11:19	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.2	7.2	Hz
Overswing Ratio	4.2	4.1	4.2	

Peak Vector Sum 0.0610 in/s on March 6, 2014 at 15:20:09



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

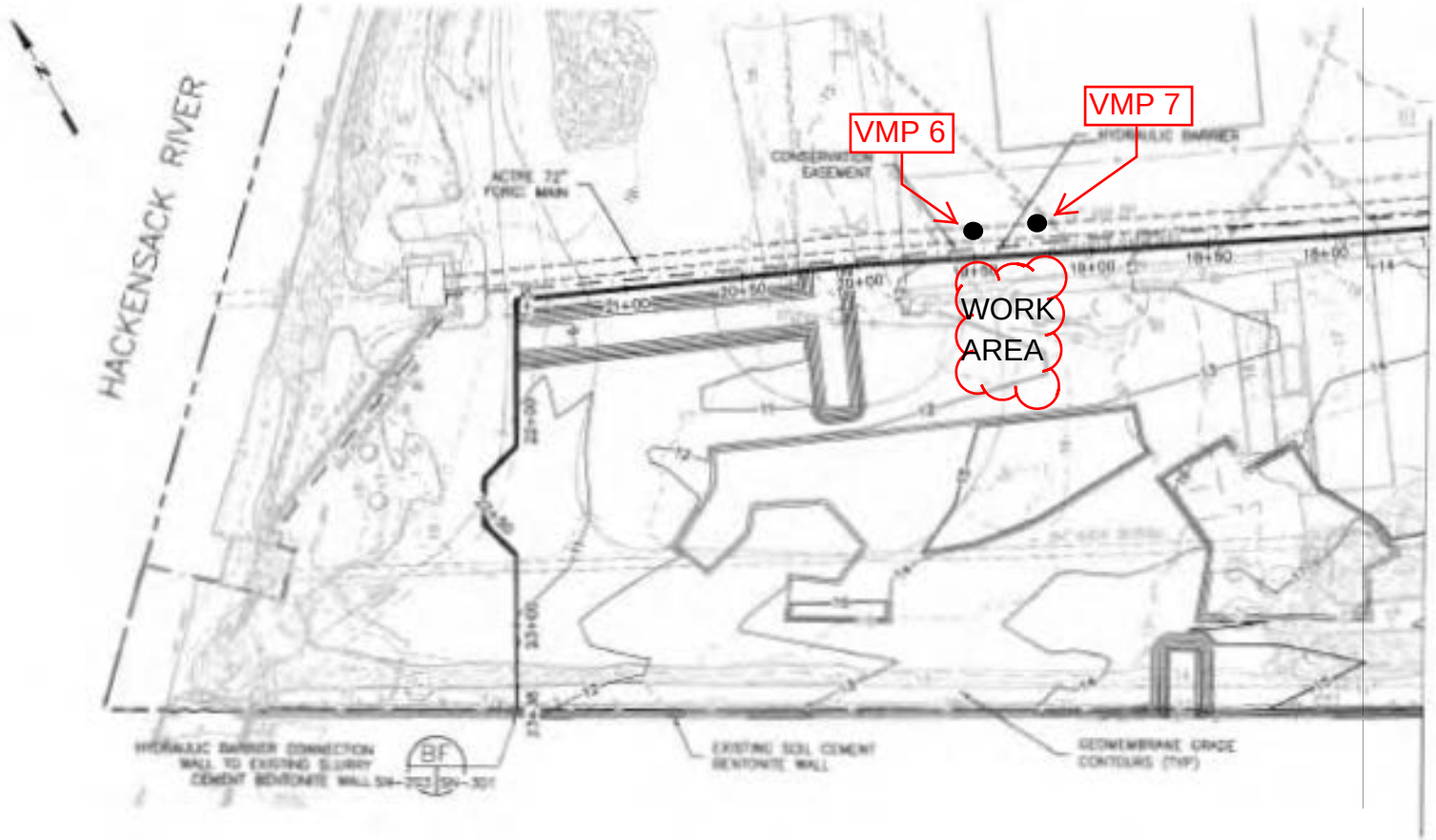
March 7th, 2014
For ENTACT, LLC

NOTES:

Summary of Work:
Sheet pile driving commenced at 9:45 AM until 3:30 PM. An Instantel Blastmate III was used to record vibrations via a geophone placed on the ground over the 72 inch force main.

Twelve sheets were driven, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at this location.

Trigger Level: 0.5 in/sec
Alert Level: 1.0 in/sec


HACKENSACK RIVER
VMP 6
VMP 7
WORK AREA
CONSERVATION EASEMENT
HYDRAULIC BARRIER
ACTIVE 72" FORC. MAIN
EXISTING SOIL CEMENT BENTONITE WALL
GEOMEMBRANE GRADE CONTOURS (TYP)
HYDRAULIC BARRIER CONNECTION WALL TO EXISTING SLURRY CEMENT BENTONITE WALL
BF

Event Report

Histogram Start Time	09:46:05 March 7, 2014
Histogram Finish Time	14:57:11 March 7, 2014
Number of Intervals	3733.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.9 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F87X.ST0

Notes

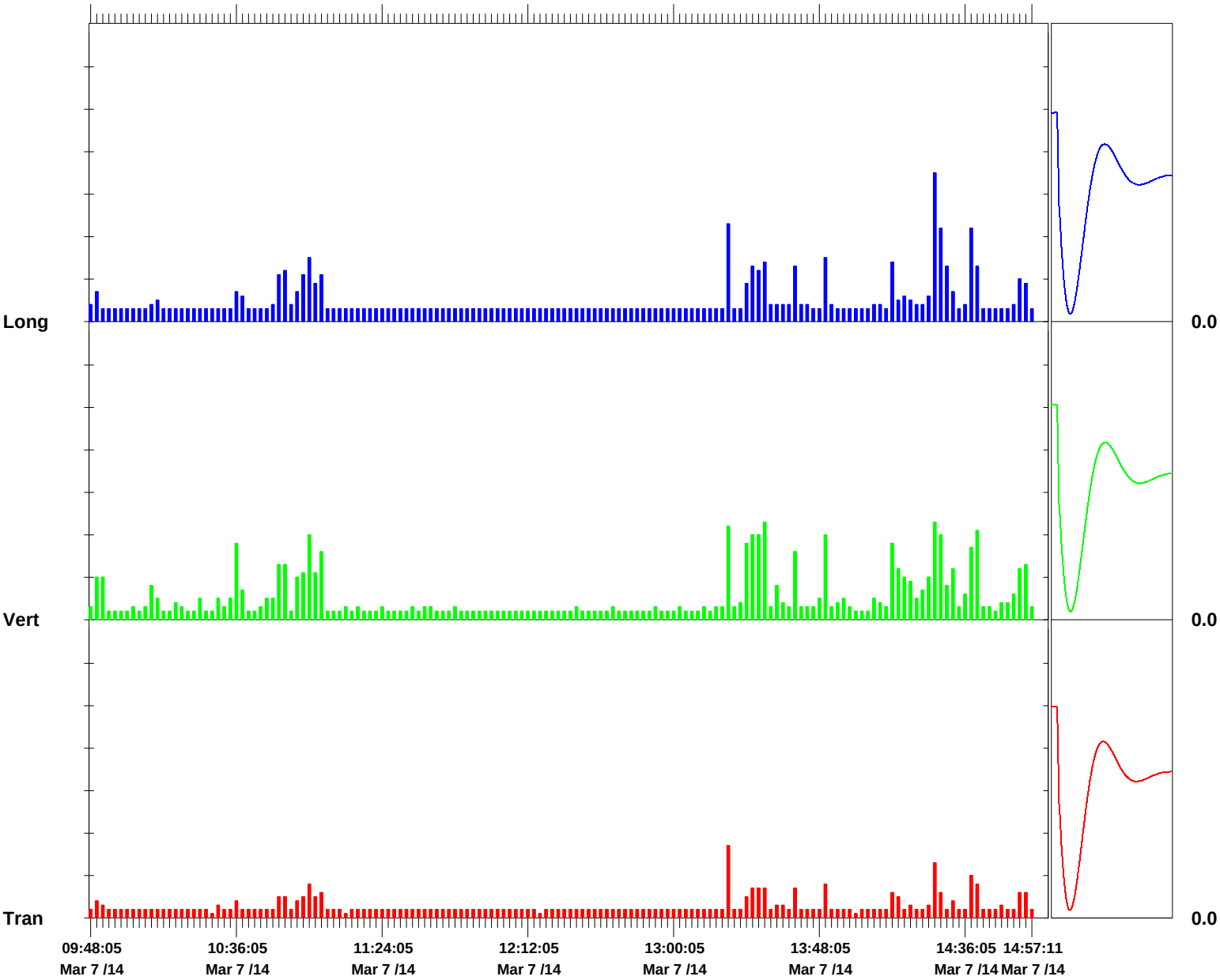
Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

Post Event Notes
VMP 6

Extended Notes

	Tran	Vert	Long	
PPV	0.0850	0.115	0.175	in/s
ZC Freq	43	26	28	Hz
Date	Mar 7 /14	Mar 7 /14	Mar 7 /14	
Time	13:16:35	13:28:20	14:25:15	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.2	7.3	Hz
Overswing Ratio	4.2	4.1	4.1	

Peak Vector Sum 0.183 in/s on March 7, 2014 at 14:25:15



Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	15:00:12 March 7, 2014
Histogram Finish Time	15:39:10 March 7, 2014
Number of Intervals	467.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.9 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F88C.CC0

Notes

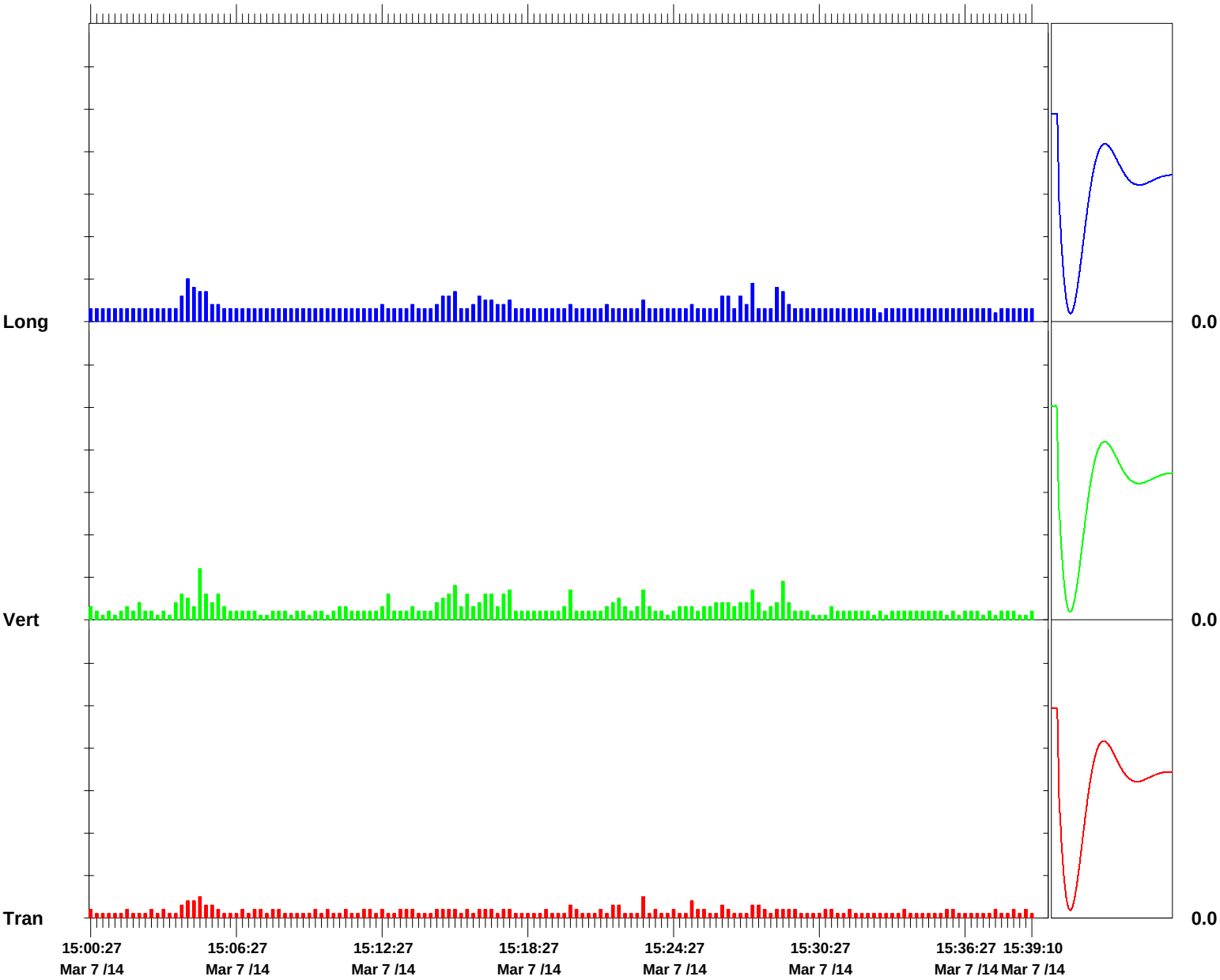
Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

Post Event Notes
VMP 7

Extended Notes

	Tran	Vert	Long	
PPV	0.0250	0.0600	0.0500	in/s
ZC Freq	47	39	28	Hz
Date	Mar 7 /14	Mar 7 /14	Mar 7 /14	
Time	15:04:47	15:04:47	15:04:27	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.3	7.3	Hz
Overswing Ratio	4.2	4.1	4.1	

Peak Vector Sum 0.0634 in/s on March 7, 2014 at 15:04:47



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

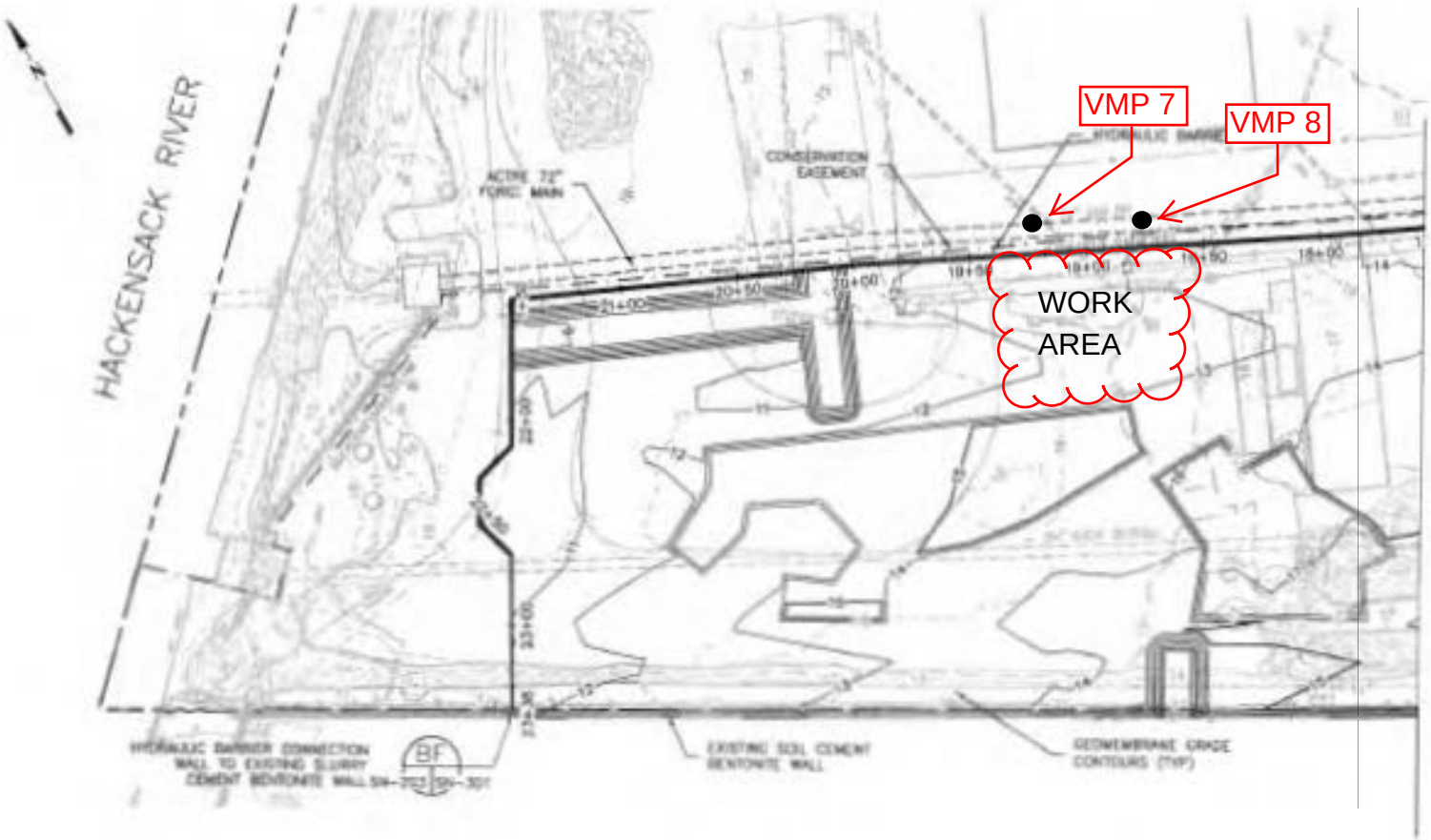
March 8th, 2014
For ENTACT, LLC

NOTES:

Summary of Work:
Sheet pile driving commenced at 8:50 AM until 12:35 PM. An Instantel Blastmate III was used to record vibrations via a geophone placed on the ground over the 72 inch force main.

19 sheets were driven, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at this location.

Trigger Level: 0.5 in/sec
Alert Level: 1.0 in/sec


HACKENSACK RIVER
VMP 7
VMP 8
WORK
AREA
CONSERVATION
EASEMENT
ACME 72"
FORC. MAIN
HYDRAULIC BARRIER CONNECTION
WALL TO EXISTING SLURRY
CEMENT BENTONITE WALL
EXISTING SOIL CEMENT
BENTONITE WALL
GEOMEMBRANE GRADE
CONTOURS (TYP)

Event Report

Histogram Start Time	08:50:20 March 8, 2014
Histogram Finish Time	10:40:45 March 8, 2014
Number of Intervals	1325.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F89P.VW0

Notes

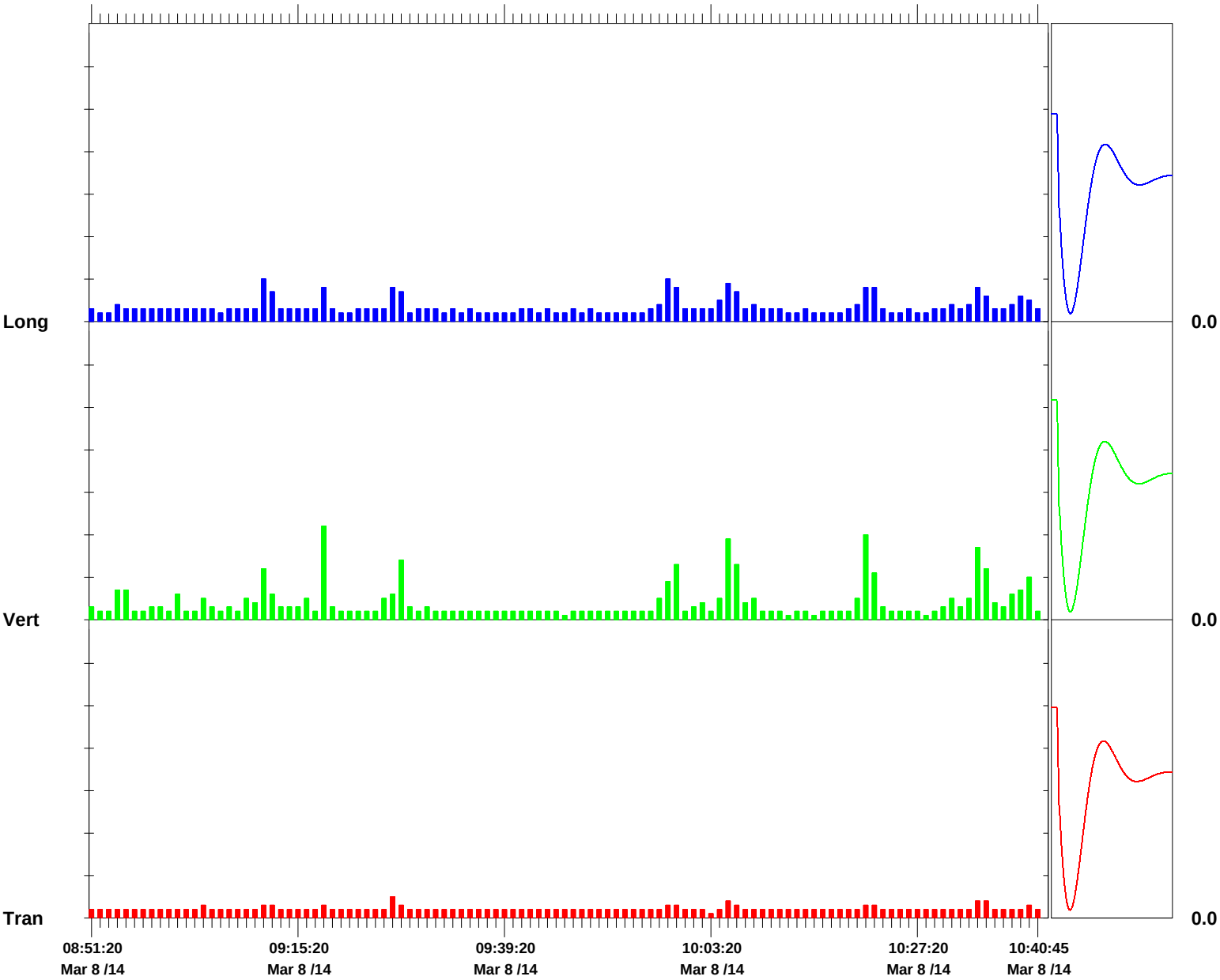
Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

Post Event Notes
VMP 7

Extended Notes

	Tran	Vert	Long	
PPV	0.0250	0.110	0.0500	in/s
ZC Freq	51	16	28	Hz
Date	Mar 8 /14	Mar 8 /14	Mar 8 /14	
Time	09:26:20	09:17:35	09:11:15	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.2	Hz
Overswing Ratio	4.2	4.1	4.2	

Peak Vector Sum 0.113 in/s on March 8, 2014 at 09:17:35



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	10:43:17 March 8, 2014
Histogram Finish Time	12:36:05 March 8, 2014
Number of Intervals	1353.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F89V.450

Notes

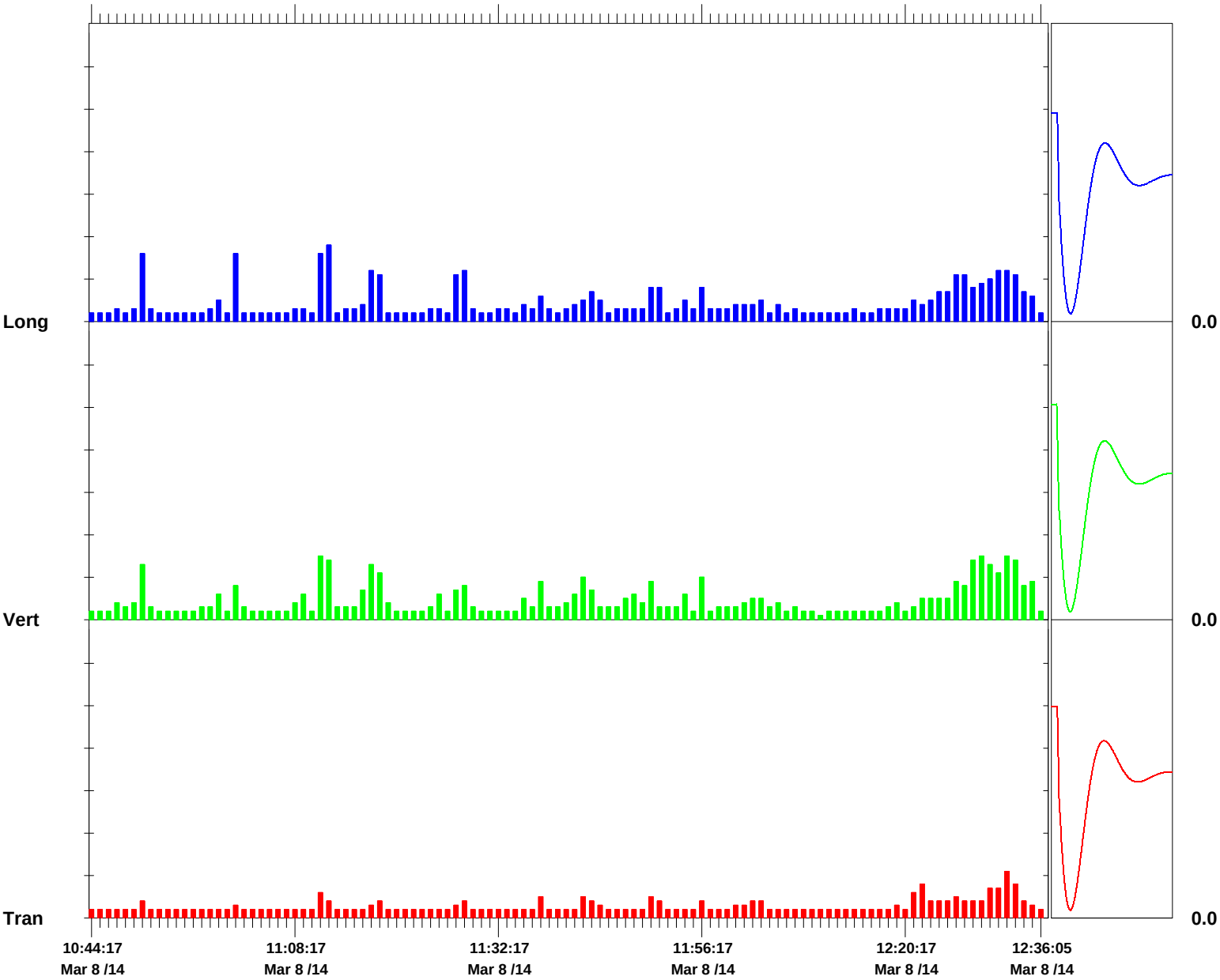
Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

Post Event Notes
VMP 8

Extended Notes

	Tran	Vert	Long	
PPV	0.0550	0.0750	0.0900	in/s
ZC Freq	30	13	30	Hz
Date	Mar 8 /14	Mar 8 /14	Mar 8 /14	
Time	12:31:52	11:10:52	11:11:22	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.3	7.2	Hz
Overswing Ratio	4.2	4.0	4.0	

Peak Vector Sum 0.0935 in/s on March 8, 2014 at 11:11:22



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

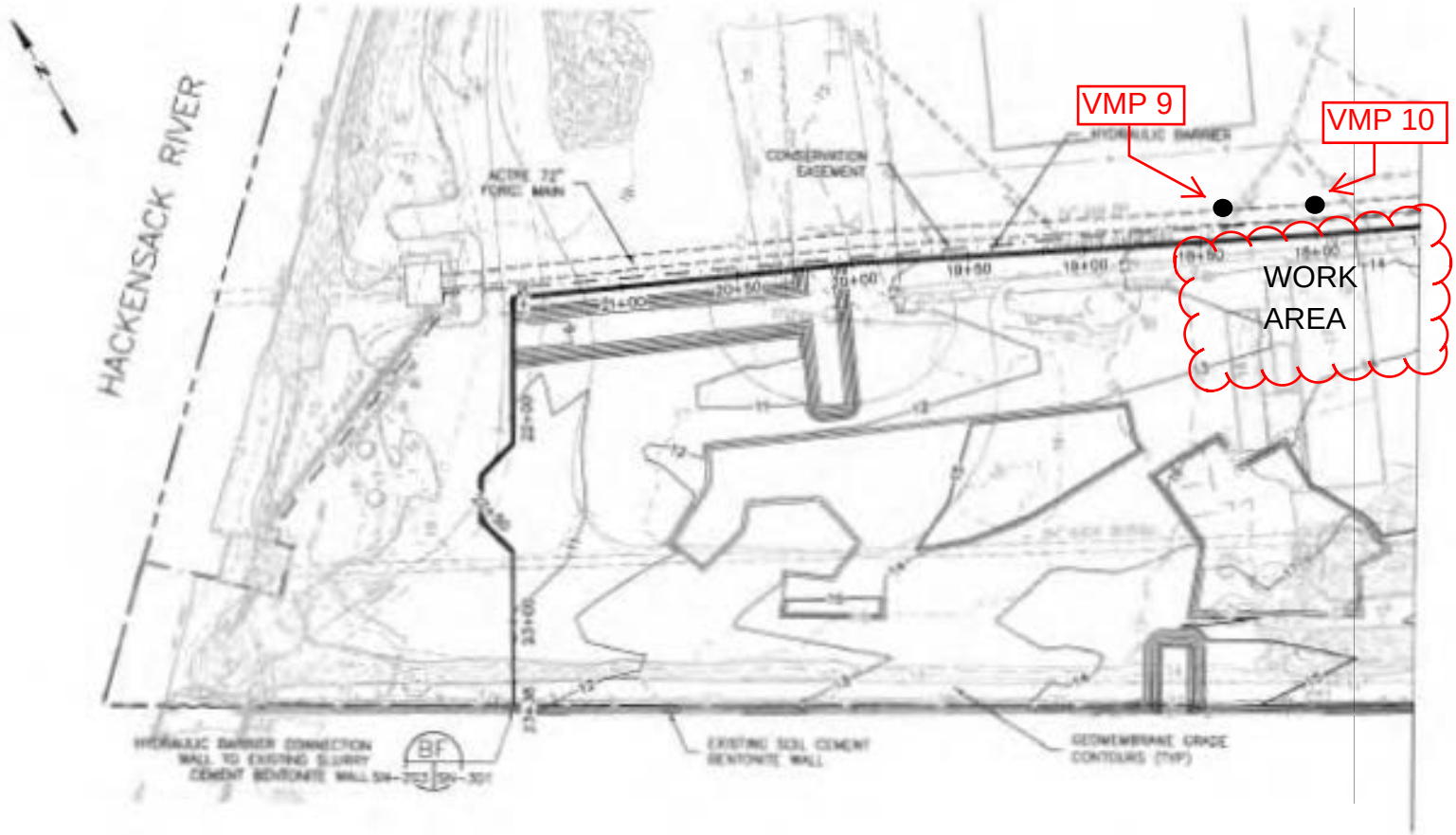
March 10th, 2014
For ENTACT, LLC

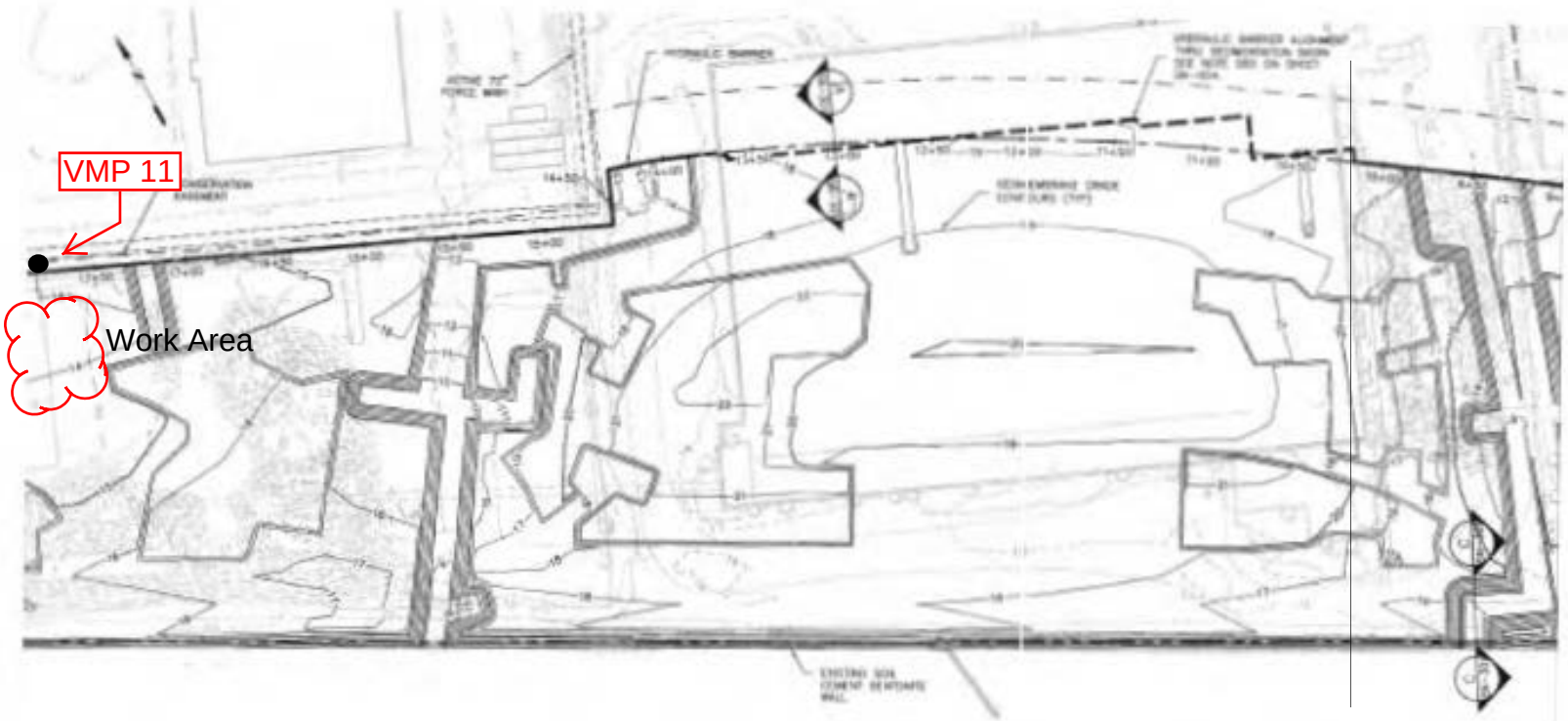
NOTES:

Summary of Work:
Sheet pile driving commenced at 11:30 AM and ended at 5:05 PM. An Instantel Blastmate III was used to record vibrations via a geophone placed on the ground over the 72 inch force main.

30 sheets were driven, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at this location.

Trigger Level: 0.5 in/sec
Alert Level: 1.0 in/sec


VMP 9
VMP 10
WORK
AREA
HACKENSACK RIVER
CONSERVATION EASEMENT
HYDRAULIC BARRIER
EXISTING SOIL CEMENT BENTONITE WALL
GEOMEMBRANE GRADE CONTOURS (TYP)


VMP 11
Work Area

Event Report

Histogram Start Time	11:30:36 March 10, 2014
Histogram Finish Time	13:38:03 March 10, 2014
Number of Intervals	1529.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F8DM.N00

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

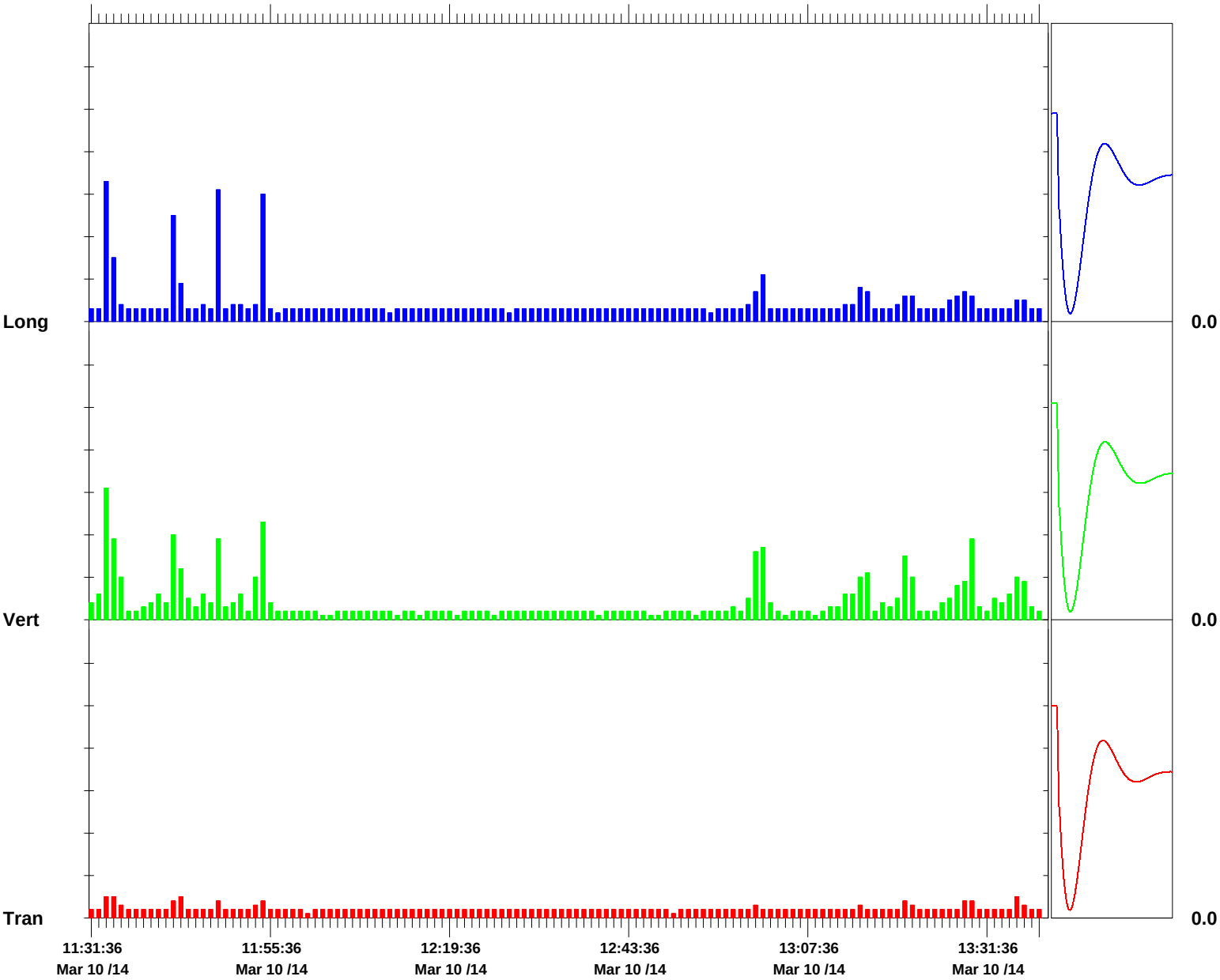
Post Event Notes

VMP 9

Extended Notes

	Tran	Vert	Long	
PPV	0.0250	0.155	0.165	in/s
ZC Freq	34	22	51	Hz
Date	Mar 10 /14	Mar 10 /14	Mar 10 /14	
Time	11:33:21	11:33:21	11:33:26	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.2	7.3	Hz
Overswing Ratio	4.1	4.1	4.1	

Peak Vector Sum 0.186 in/s on March 10, 2014 at 11:54:36



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

Format © 1995-2013 Xmark Corporation

Event Report

Histogram Start Time	13:40:24 March 10, 2014
Histogram Finish Time	15:15:31 March 10, 2014
Number of Intervals	1141.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F8DS.NC0

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

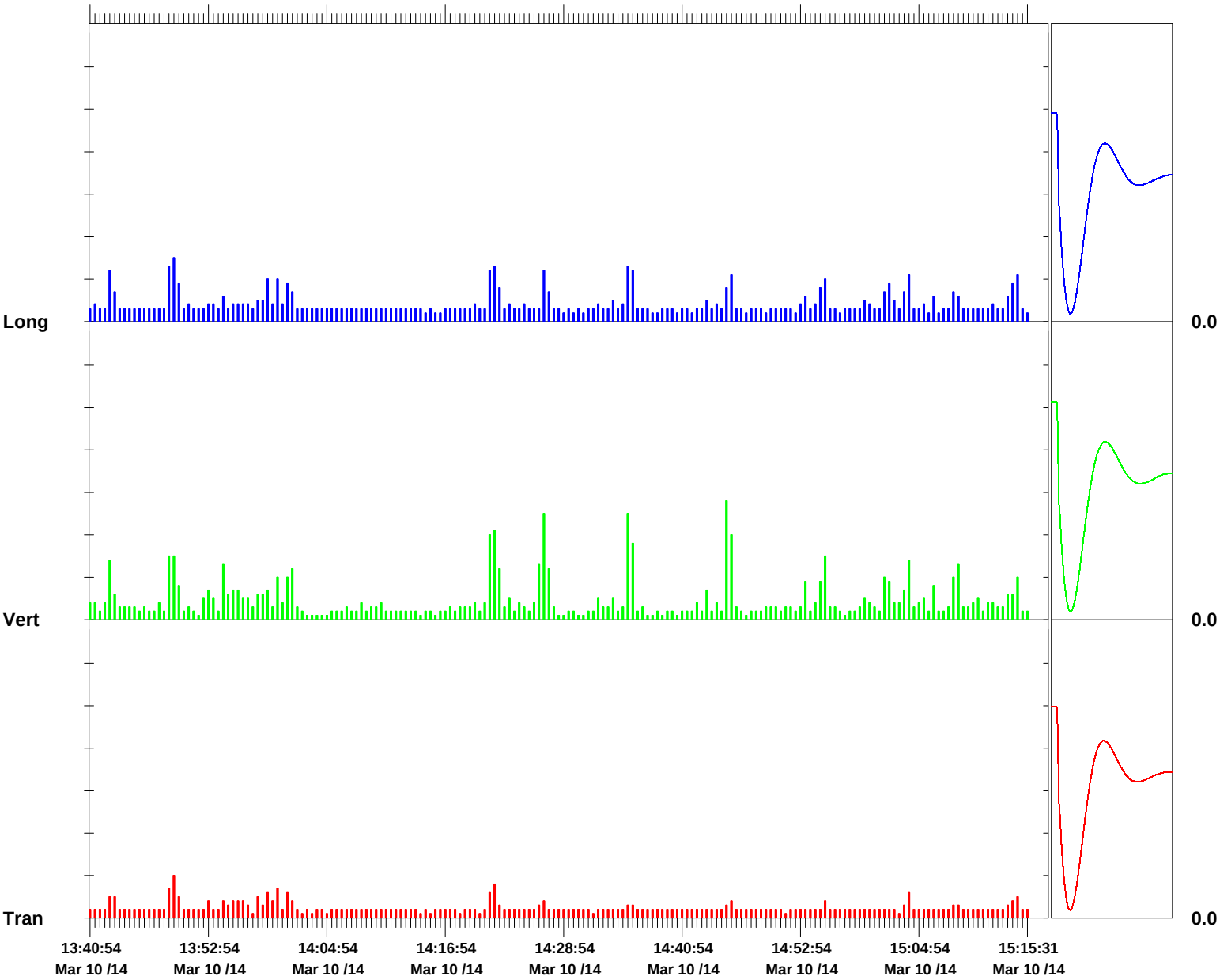
Post Event Notes

VMP 10

Extended Notes

	Tran	Vert	Long	
PPV	0.0500	0.140	0.0750	in/s
ZC Freq	34	32	32	Hz
Date	Mar 10 /14	Mar 10 /14	Mar 10 /14	
Time	13:48:59	14:45:24	13:49:04	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.2	7.2	Hz
Overswing Ratio	4.2	4.1	4.1	

Peak Vector Sum 0.146 in/s on March 10, 2014 at 14:45:24



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

Format © 1995-2013 Xmark Corporation

Event Report

Histogram Start Time	15:17:54 March 10, 2014
Histogram Finish Time	17:08:22 March 10, 2014
Number of Intervals	1325.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F8DX.5U0

Notes

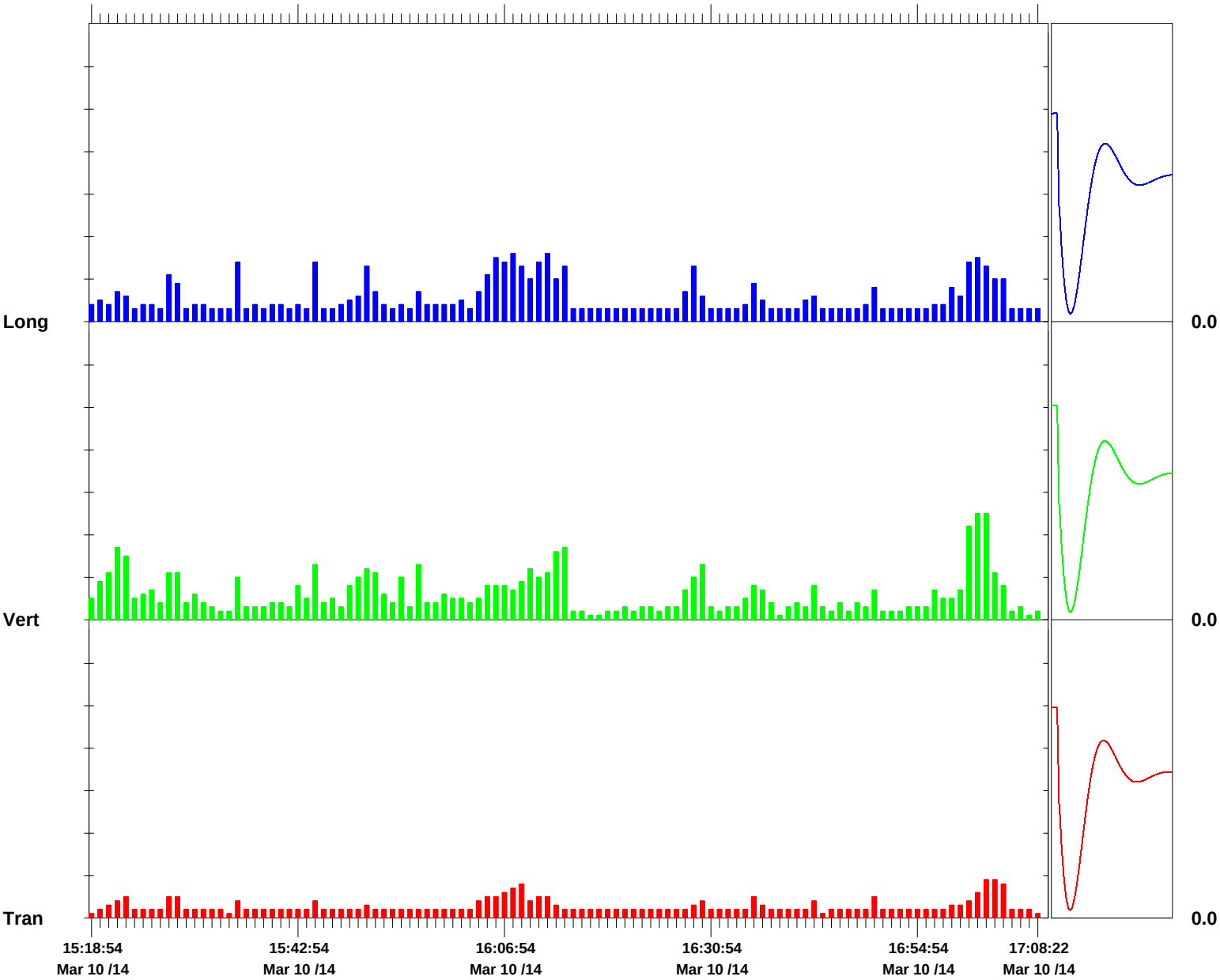
Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

Post Event Notes
VMP 11

Extended Notes

	Tran	Vert	Long	
PPV	0.0450	0.125	0.0800	in/s
ZC Freq	34	32	30	Hz
Date	Mar 10 /14	Mar 10 /14	Mar 10 /14	
Time	17:02:14	17:01:34	16:06:59	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.3	7.2	Hz
Overswing Ratio	4.1	4.0	4.1	

Peak Vector Sum 0.145 in/s on March 10, 2014 at 17:01:34



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

Format © 1995-2013 Xmark Corporation

Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

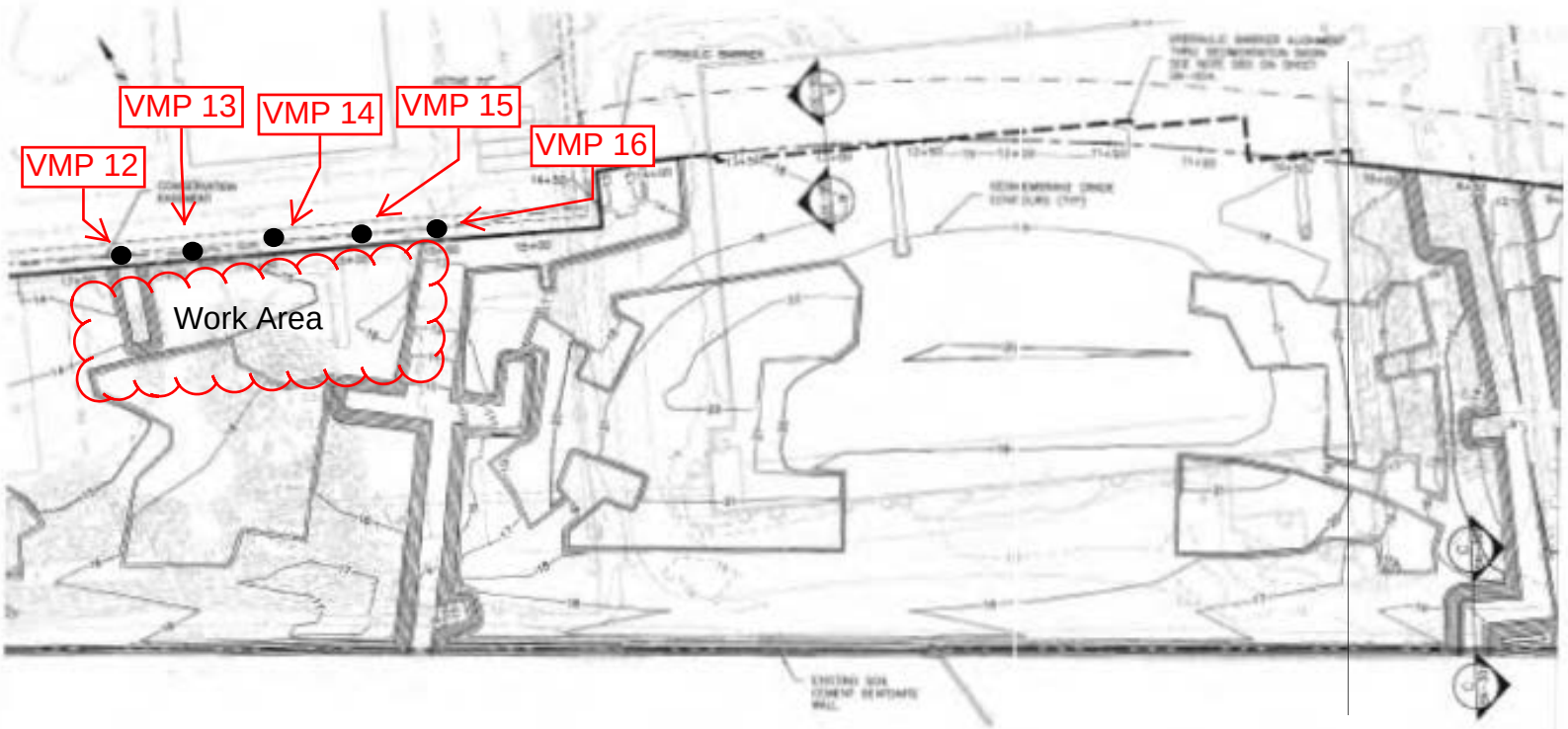
March 11th, 2014
For ENTACT, LLC

NOTES:

Summary of Work:
Sheet pile driving commenced at 8:10 AM and ended at 6:40 PM. An Instantel Blastmate III was used to record vibrations via a geophone placed on the ground over the 72 inch force main.

44 sheets were driven, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at this location.

Trigger Level: 0.5 in/sec
Alert Level: 1.0 in/sec


VMP 12
VMP 13
VMP 14
VMP 15
VMP 16
Work Area

Event Report

Histogram Start Time	08:07:50 March 11, 2014
Histogram Finish Time	09:59:23 March 11, 2014
Number of Intervals	1338.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.9 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F8F7.X20

Notes

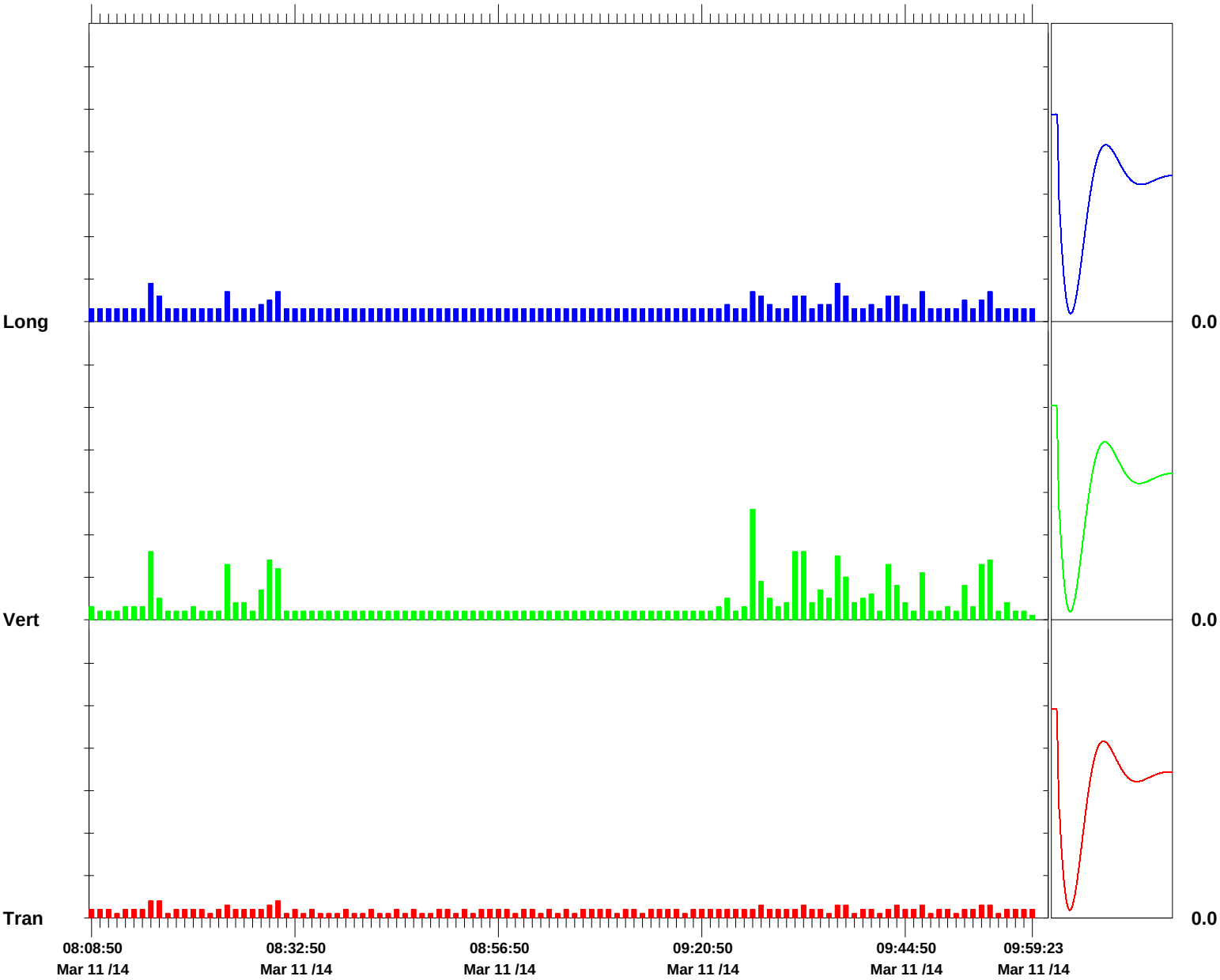
Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

Post Event Notes
VMP 12

Extended Notes

	Tran	Vert	Long	
PPV	0.0200	0.130	0.0450	in/s
ZC Freq	43	15	17	Hz
Date	Mar 11 /14	Mar 11 /14	Mar 11 /14	
Time	08:15:45	09:26:45	08:15:00	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.2	Hz
Overswing Ratio	4.2	4.1	4.2	

Peak Vector Sum 0.132 in/s on March 11, 2014 at 09:26:45



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	10:01:54 March 11, 2014
Histogram Finish Time	13:41:17 March 11, 2014
Number of Intervals	2632.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F8FD.760

Notes

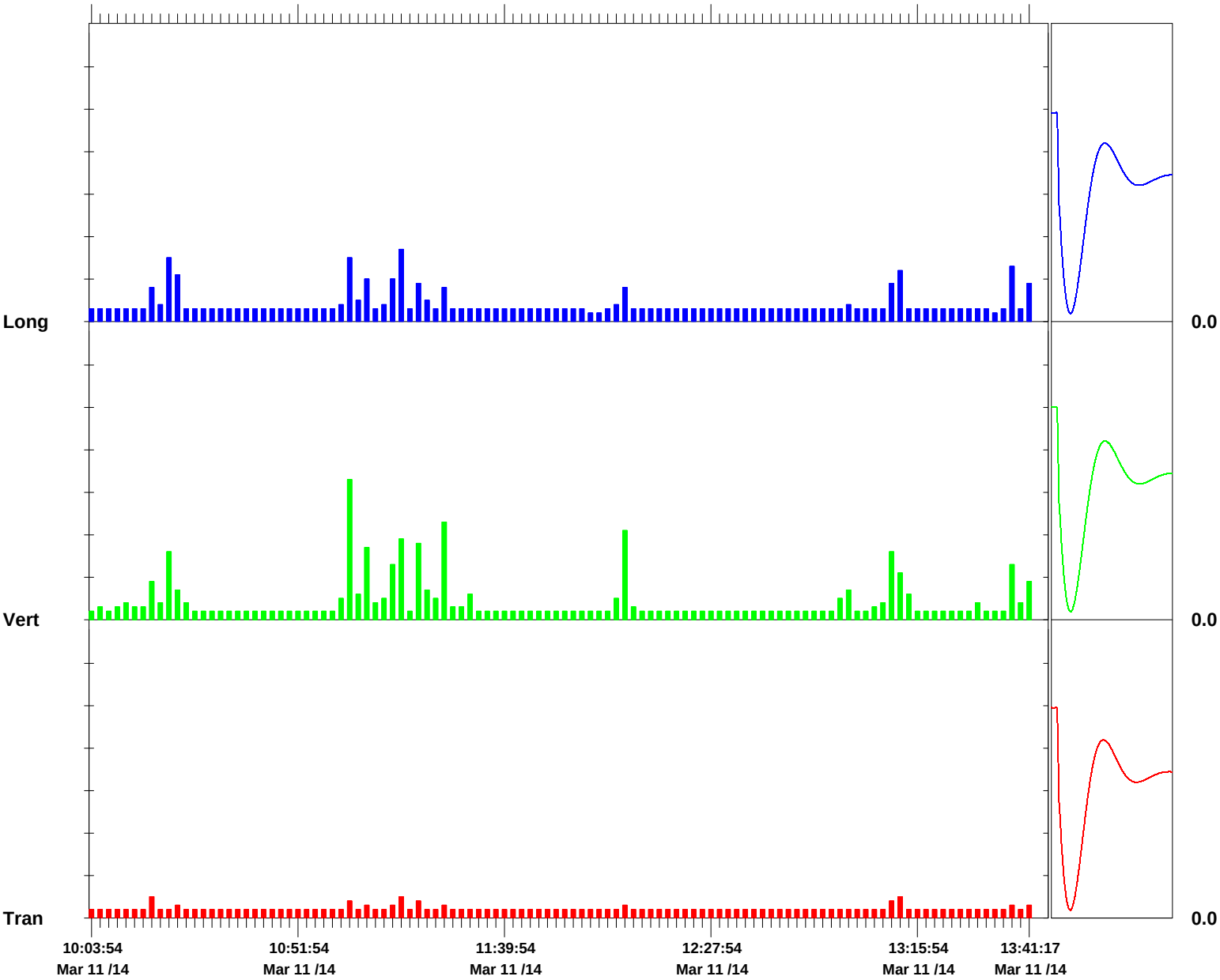
Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

Post Event Notes
VMP 13

Extended Notes

	Tran	Vert	Long	
PPV	0.0250	0.165	0.0850	in/s
ZC Freq	39	17	32	Hz
Date	Mar 11 /14	Mar 11 /14	Mar 11 /14	
Time	10:16:54	11:02:59	11:14:44	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.2	7.3	Hz
Overswing Ratio	4.1	4.0	4.0	

Peak Vector Sum 0.169 in/s on March 11, 2014 at 11:02:59



Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	13:43:06 March 11, 2014
Histogram Finish Time	15:14:40 March 11, 2014
Number of Intervals	1098.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F8FN.FU0

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

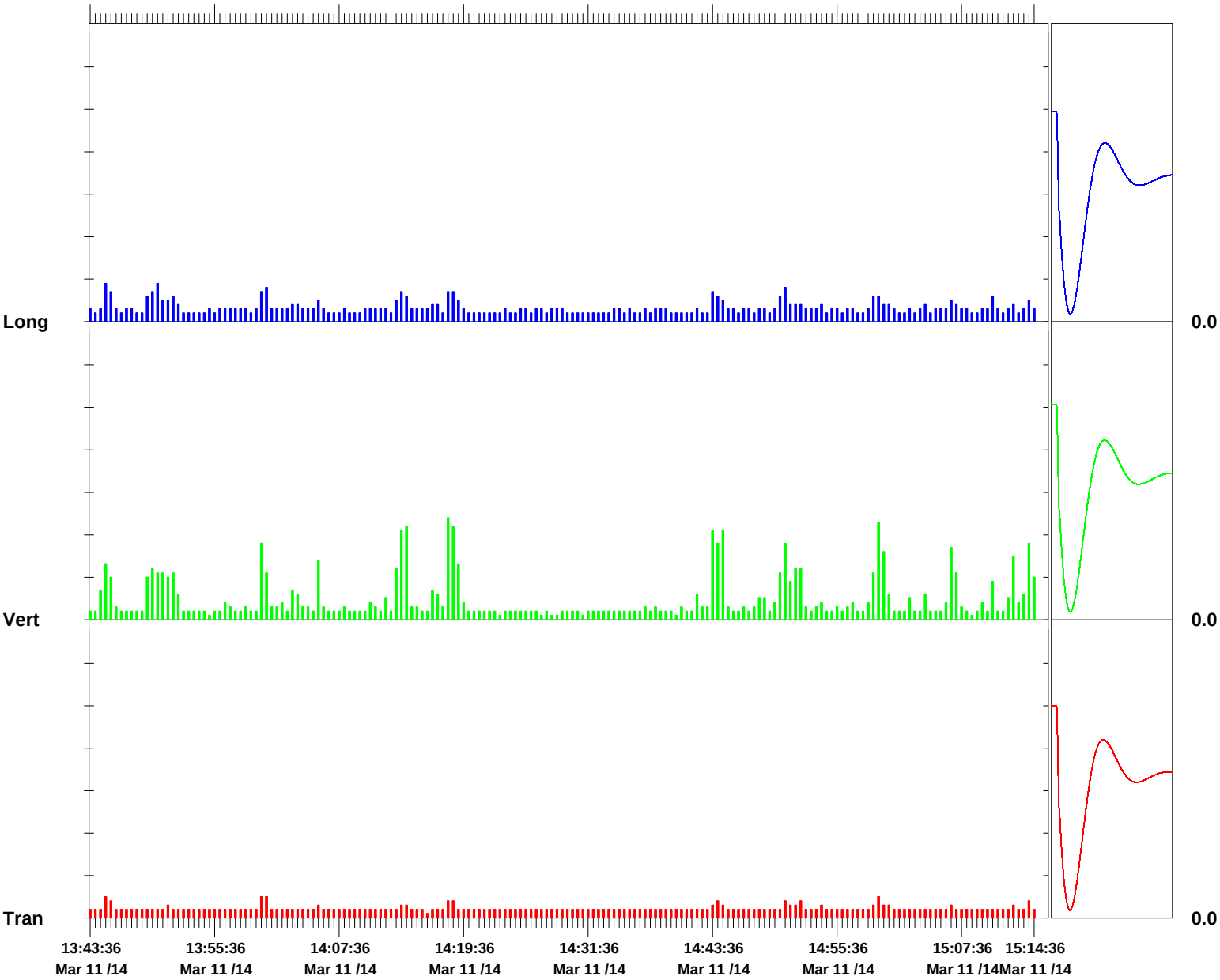
Post Event Notes

VMP 14

Extended Notes

	Tran	Vert	Long	
PPV	0.0250	0.120	0.0450	in/s
ZC Freq	39	30	30	Hz
Date	Mar 11 /14	Mar 11 /14	Mar 11 /14	
Time	13:45:06	14:18:06	13:45:06	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.3	Hz
Overswing Ratio	4.0	3.9	4.0	

Peak Vector Sum 0.122 in/s on March 11, 2014 at 14:18:06



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	15:17:04 March 11, 2014
Histogram Finish Time	15:55:36 March 11, 2014
Number of Intervals	462.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F8FR.SG0

Notes

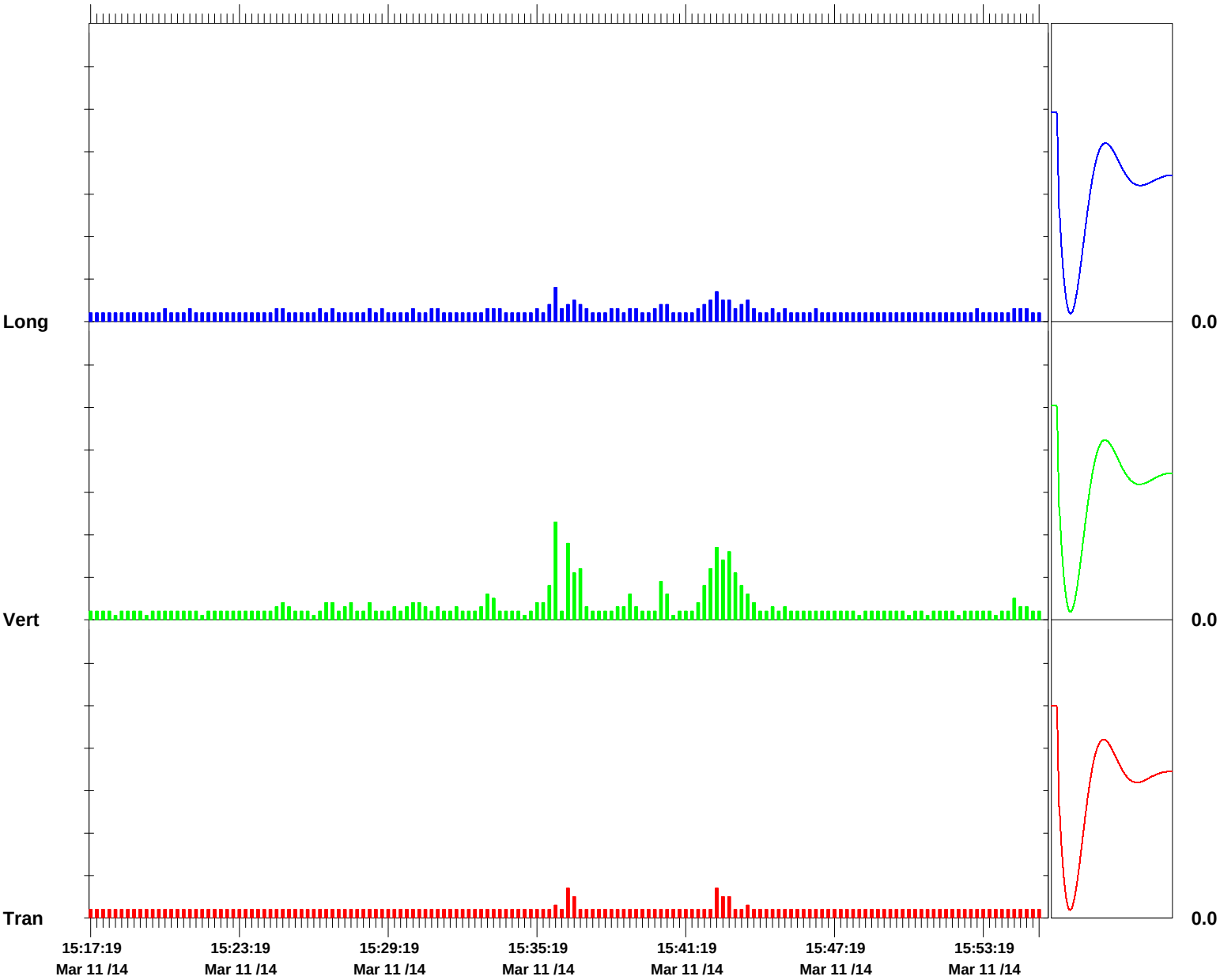
Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

Post Event Notes
VMP 15

Extended Notes

	Tran	Vert	Long	
PPV	0.0350	0.115	0.0400	in/s
ZC Freq	34	30	34	Hz
Date	Mar 11 /14	Mar 11 /14	Mar 11 /14	
Time	15:36:34	15:35:54	15:35:54	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.3	7.2	Hz
Overswing Ratio	4.0	3.9	4.0	

Peak Vector Sum 0.119 in/s on March 11, 2014 at 15:35:54



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

Format © 1995-2013 Xmark Corporation

Event Report

Histogram Start Time	15:57:20 March 11, 2014
Histogram Finish Time	16:30:19 March 11, 2014
Number of Intervals	395.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F8FT.NK0

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

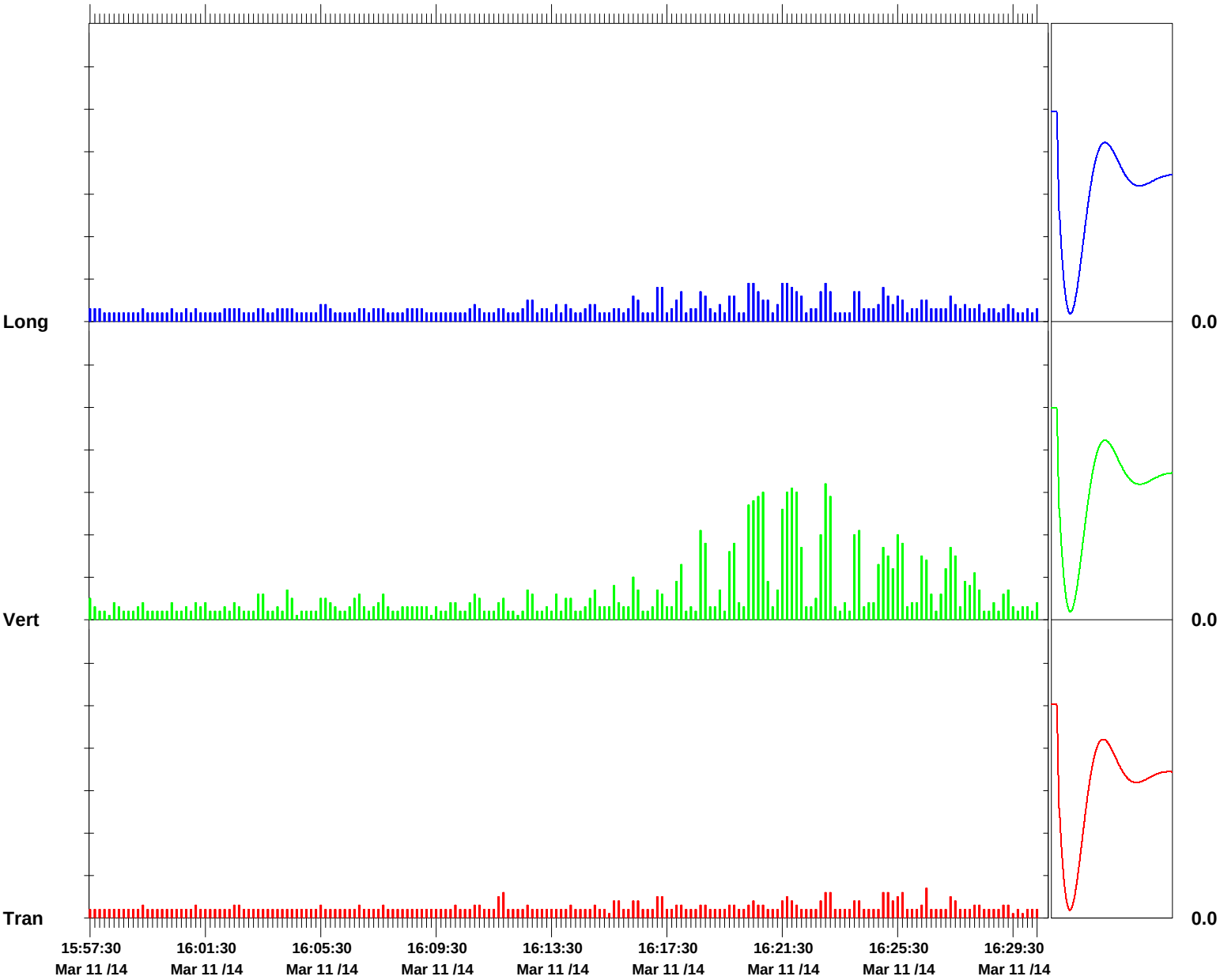
Post Event Notes

VMP 14

Extended Notes

	Tran	Vert	Long	
PPV	0.0350	0.160	0.0450	in/s
ZC Freq	39	30	30	Hz
Date	Mar 11 /14	Mar 11 /14	Mar 11 /14	
Time	16:26:30	16:23:00	16:20:20	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.3	Hz
Overswing Ratio	4.0	3.9	3.9	

Peak Vector Sum 0.164 in/s on March 11, 2014 at 16:23:00



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	16:32:48 March 11, 2014
Histogram Finish Time	17:59:40 March 11, 2014
Number of Intervals	1042.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F8FV.AO0

Notes

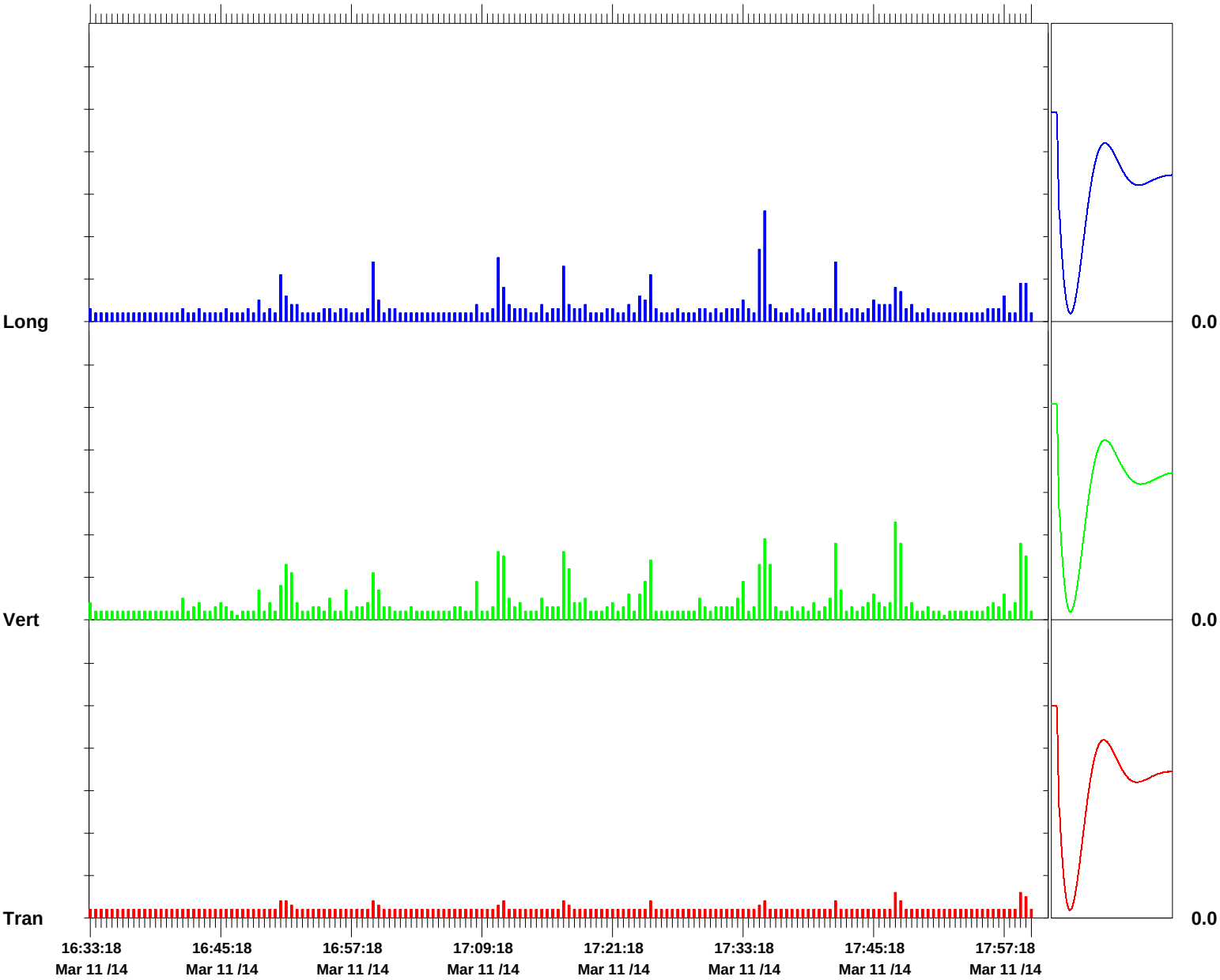
Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

Post Event Notes
VMP 15

Extended Notes

	Tran	Vert	Long	
PPV	0.0300	0.115	0.130	in/s
ZC Freq	37	30	30	Hz
Date	Mar 11 /14	Mar 11 /14	Mar 11 /14	
Time	17:47:13	17:47:13	17:34:53	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.3	7.2	Hz
Overswing Ratio	4.1	3.9	4.0	

Peak Vector Sum 0.161 in/s on March 11, 2014 at 17:34:53



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	18:01:28 March 11, 2014
Histogram Finish Time	18:40:22 March 11, 2014
Number of Intervals	466.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F8FZ.EG0

Notes

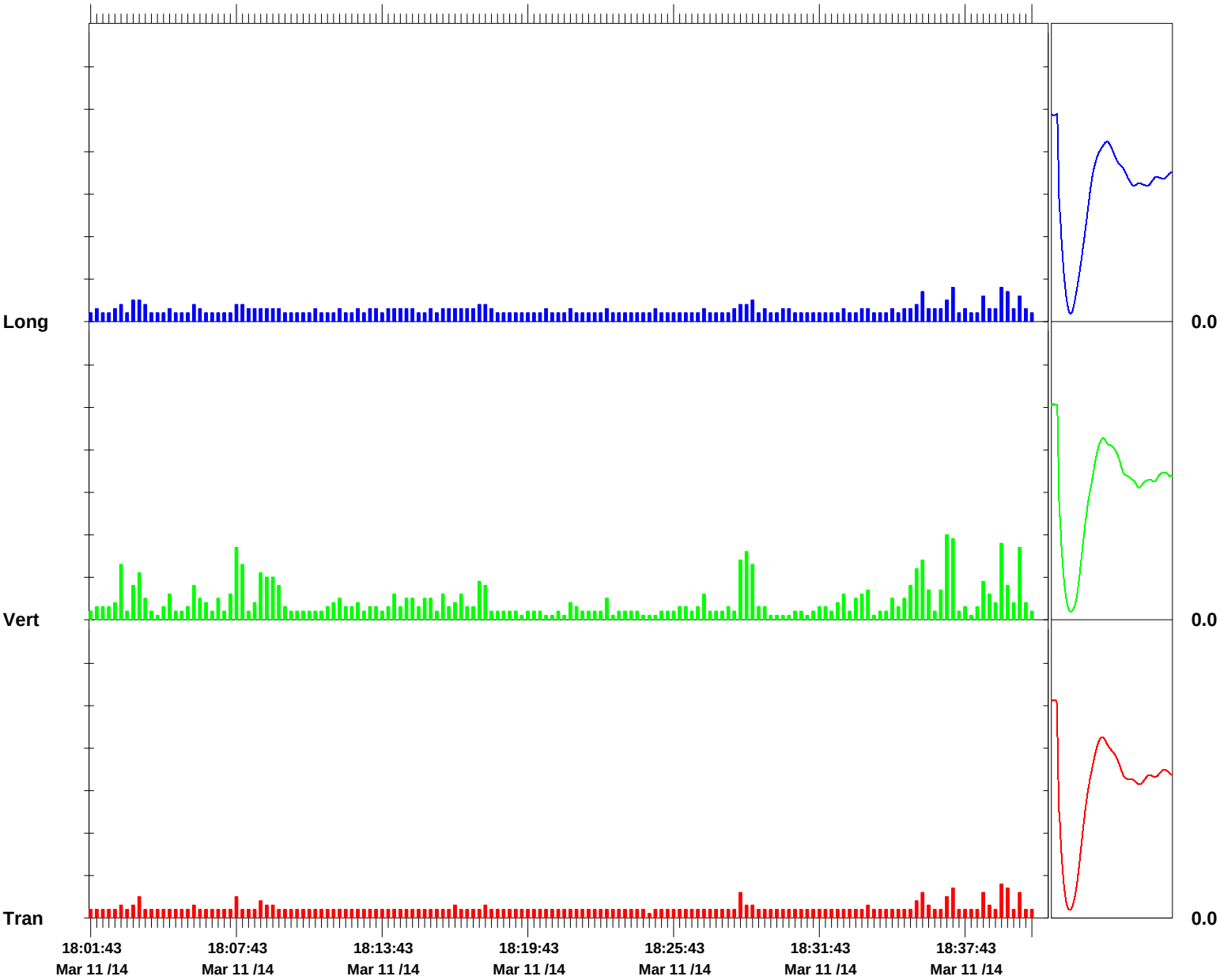
Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

Post Event Notes
VMP 16

Extended Notes

	Tran	Vert	Long	
PPV	0.0400	0.1000	0.0400	in/s
ZC Freq	34	30	32	Hz
Date	Mar 11 /14	Mar 11 /14	Mar 11 /14	
Time	18:39:03	18:36:58	18:37:08	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.2	7.4	Hz
Overswing Ratio	3.8	3.7	3.9	

Peak Vector Sum 0.100 in/s on March 11, 2014 at 18:36:58



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

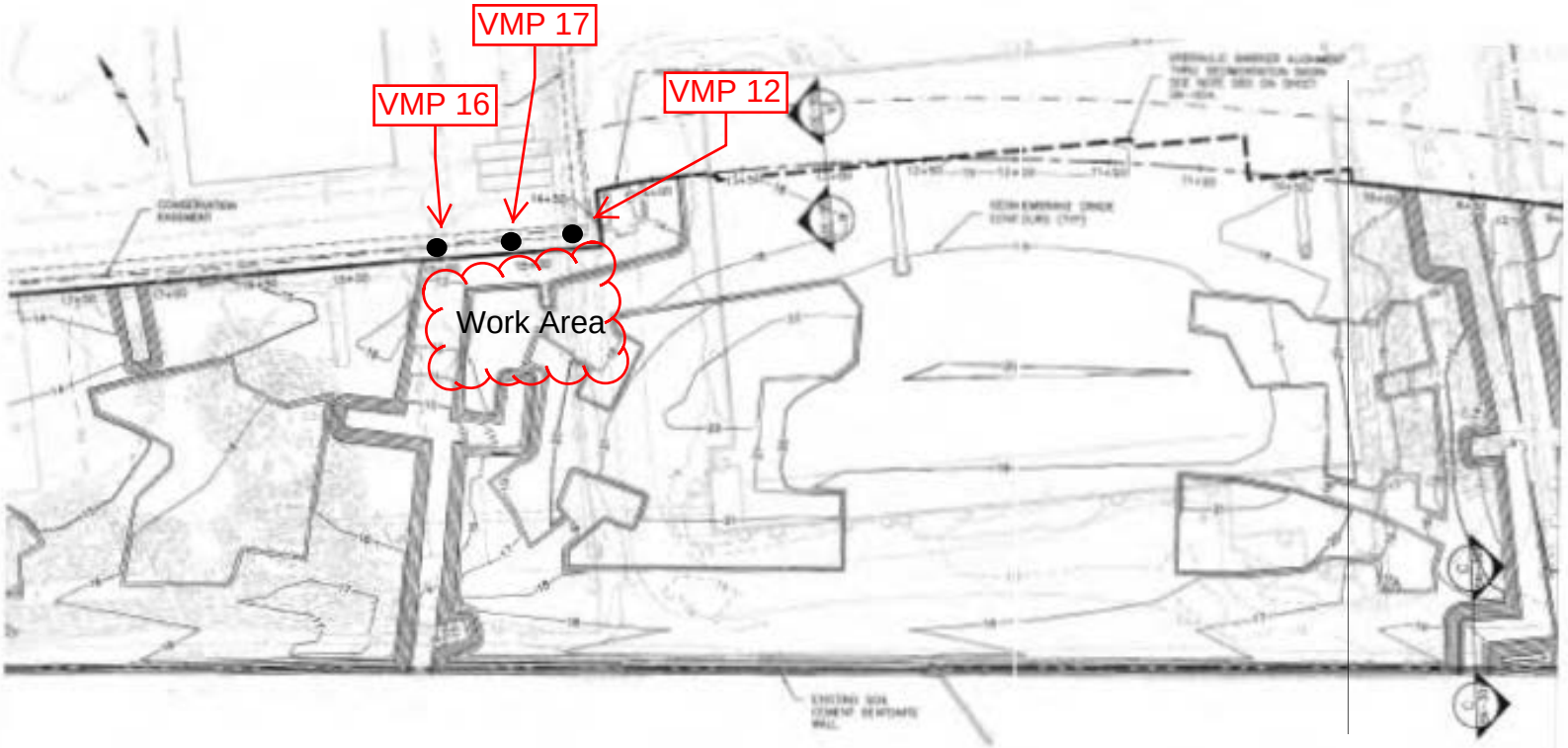
March 12th, 2014
For ENTACT, LLC

NOTES:

Summary of Work:
Sheet pile driving commenced at 8:00 AM and ended at 10:40 AM. An Instantel Blastmate III was used to record vibrations via a geophone placed on the ground over the 72 inch force main.

16 sheets were driven, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at this location.

Trigger Level: 0.5 in/sec
Alert Level: 1.0 in/sec


VMP 17
VMP 16
VMP 12
Work Area

Event Report

Histogram Start Time	07:50:17 March 12, 2014
Histogram Finish Time	08:43:20 March 12, 2014
Number of Intervals	636.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F8H1.RT0

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

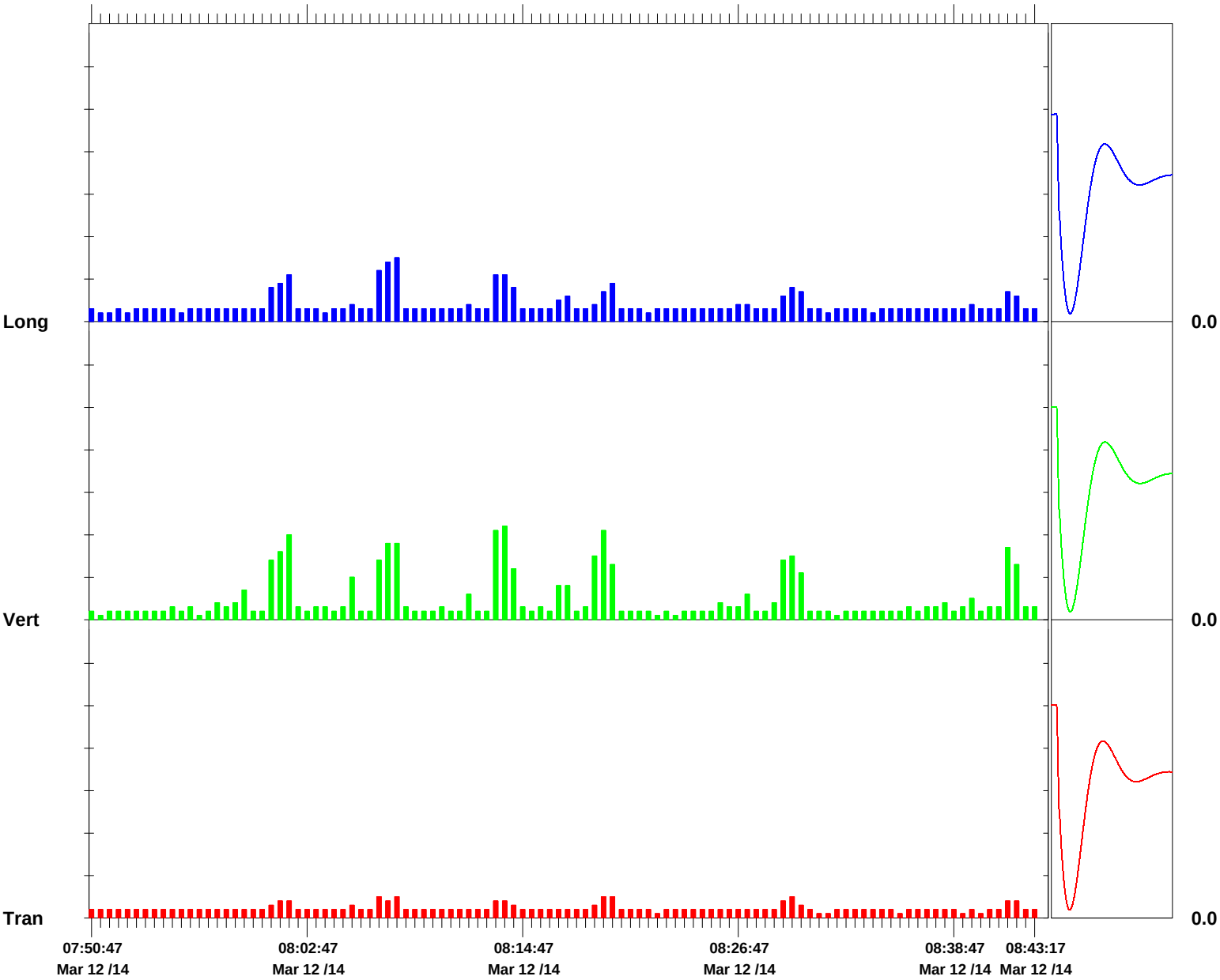
Post Event Notes

VMP 16

Extended Notes

	Tran	Vert	Long	
PPV	0.0250	0.110	0.0750	in/s
ZC Freq	51	32	30	Hz
Date	Mar 12 /14	Mar 12 /14	Mar 12 /14	
Time	08:06:47	08:13:22	08:07:22	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.2	7.3	Hz
Overswing Ratio	4.2	4.1	4.1	

Peak Vector Sum 0.119 in/s on March 12, 2014 at 08:13:12



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	08:45:37 March 12, 2014
Histogram Finish Time	09:50:52 March 12, 2014
Number of Intervals	783.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.9 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F8H4.C10

Notes

Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

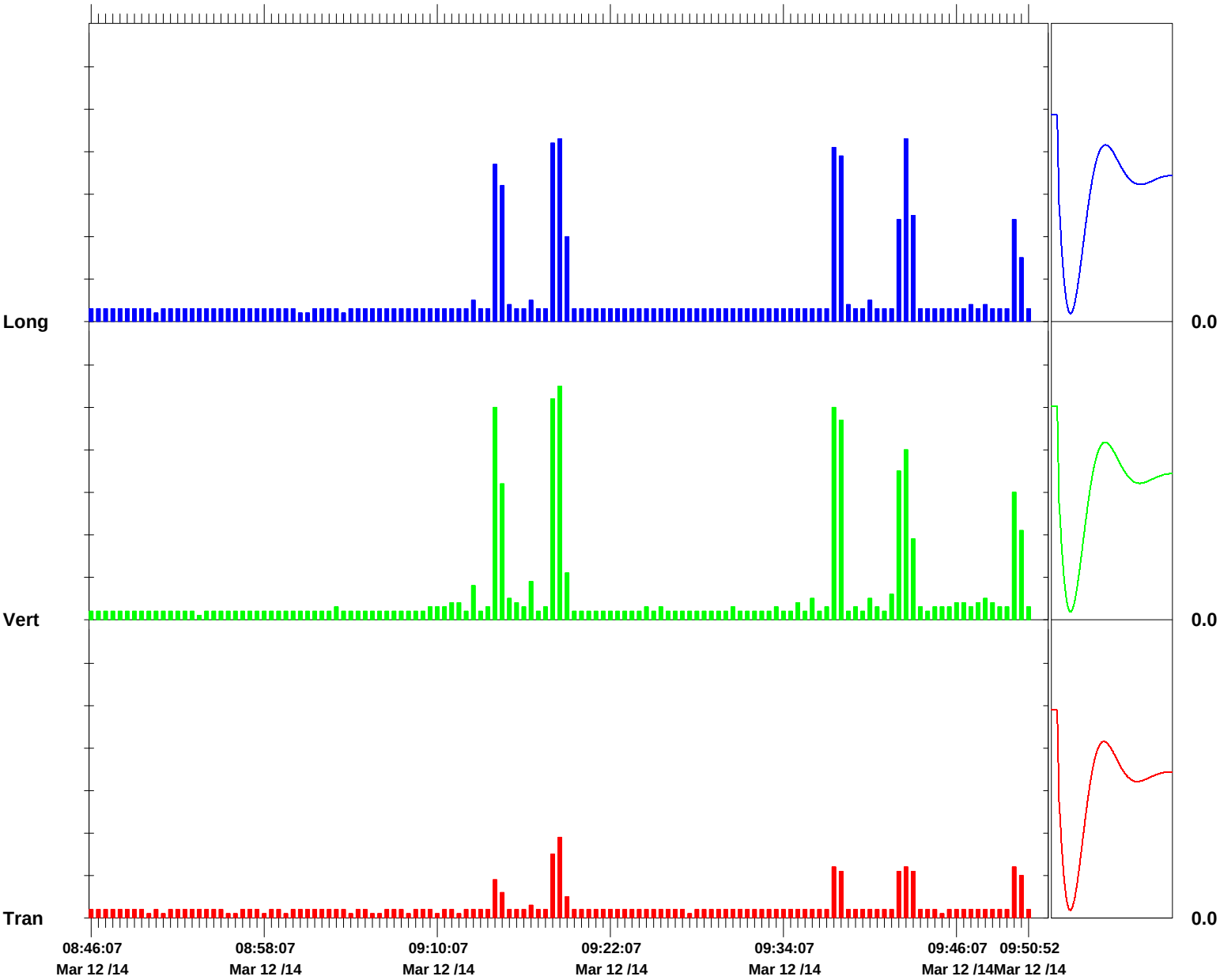
Post Event Notes

VMP 17

Extended Notes

	Tran	Vert	Long	
PPV	0.0950	0.275	0.215	in/s
ZC Freq	34	30	34	Hz
Date	Mar 12 /14	Mar 12 /14	Mar 12 /14	
Time	09:18:12	09:18:12	09:18:12	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.2	7.1	Hz
Overswing Ratio	4.3	4.1	4.2	

Peak Vector Sum 0.320 in/s on March 12, 2014 at 09:18:12



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	09:54:53 March 12, 2014
Histogram Finish Time	10:40:53 March 12, 2014
Number of Intervals	552.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.8 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371F8H7.JH0

Notes

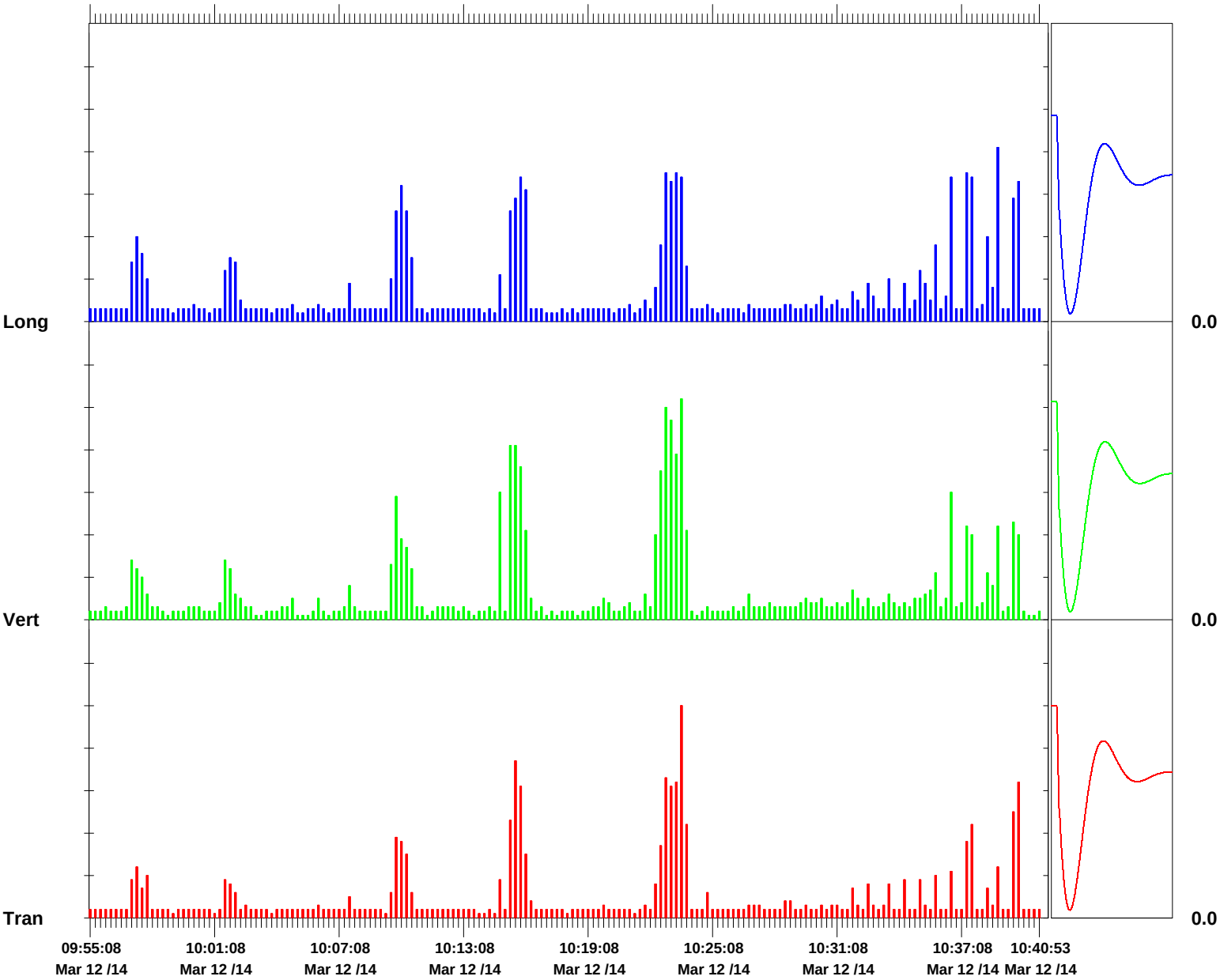
Location:	SA 6 North 72" Forcemain
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street and Route 440

Post Event Notes
VMP 18

Extended Notes

	Tran	Vert	Long	
PPV	0.250	0.260	0.205	in/s
ZC Freq	32	37	28	Hz
Date	Mar 12 /14	Mar 12 /14	Mar 12 /14	
Time	10:23:33	10:23:33	10:38:53	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.3	Hz
Overswing Ratio	4.2	4.1	4.1	

Peak Vector Sum 0.310 in/s on March 12, 2014 at 10:23:33



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 30, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☑ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		1
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		3
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		4
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		5

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/01/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Wednesday, April 30, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	There is ponded stormwater at several locations inside the SA-6 South exclusion zones.
2	IA2Q4A1AL8	A new access road has been constructed along the eastern side of the SA-6 North sedimentation basin. No fencing is present between the roadway and the sed basin.
3	EEPSQUO2YB	Stormwater runoff is overtopping the containment measures at the southwestern corner of the Novartis stockpile area
4	IA2Q4A1AL8	Windscreen on the eastern SA-7 perimeter fence requires maintenance.
5	IA2Q4A1AL8	Wind-blown garbage has accumulated along the inside of the eastern SA-7 perimeter fence.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature **Date:** 05/01/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Pump the ponded stormwater to the Construction Water Treatment Facility.	5-2-14 RAD
2	Install required fencing to protect pedestrian traffic in the area.	5-2-14 RAD
3	Regrade and/or install silt dams as necessary to alleviate sediment-laden runoff.	5-1-14 RAD
4	Repair windscreen on the Rt. 440 fenceline.	5-2-14 RAD
5	Remove wind-blown garbage from along the base of the Rt. 440 perimeter fence.	5-2-14 RAD

Construction Manager: _____ **Date:** 05/02/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: May 7, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		3
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		4
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		5
River Discharge Weir			X	
Swale Check Dams		X		6
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)				
Stockpile Tarping/Containment		X		7
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/08/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Wednesday, May 07, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	No erosion control at toe of woody debris/soil pile on SA-6 South.
2	IA2Q4A1AL8	Exclusion Zone fencing along the western edge of the active excavation in SA-6 South requires maintenance and additional signage.
3	IA2Q4A1AL8	Several of the Jersey barriers surrounding the new <20 PPM stockpile area on SA-6 South are not covered in geotextile.
4	IA2Q4A1AL8	There is ponded stormwater in the SA-6 South eastern Exclusion Zone.
5	IA2Q4A1AL8	Silt fence along the southern toe of the N-1 surcharge area on SA-7 requires maintenance.
6	EEPSQUO2YB	Hay bales western end of the South SA-7 swale require replacement.
7	EEPSQUO2YB	Novartis surcharge material has accumulated against the containment measures on the north side of the stockpile.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature **Date:** 05/08/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Place hay bales or silt fence along the toe of the stockpile.	5/8/14 RAD
2	Install/maintain EZ fencing to more clearly delineate work areas.	5/12/14 RAD
3	Install geotextile on Jersey barriers.	5/9/14 RAD
4	Pump ponded stormwater from the areas around the stockpiles in the eastern EZ.	5/12/14 RAD
5	Repair/maintain the silt fence surrounding the surcharge pile toe.	5/9/14 RAD
6	Replace the hay bales at the western end of the southern SA-7 swale.	5/9/14 RAD
7	Remove material from against the containment berm on the northern perimeter of the Novartis stockpile area to prevent storm water run-off from overtopping the containemnt.	5/9/14 RAD

Construction Manager: _____ **Date:** 05/12/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: May 14, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		1
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		2
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/15/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Wednesday, May 14, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Stockpiled <20 PPM material has overtopped the Jersey barrier/fabric containment structure which surrounds the new <200 PPM Stockpile Area.
2	IA2Q4A1AL8	Clay and soils are being tracked from the surcharge operation on SA-6 North onto the SA-7 North paved roadway.
3	IA2Q4A1AL8	**Repeat Item-** There is ponded storm water in the SA-6 South eastern Exclusion Zone.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: (signature) Date: 05/15/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Place the spilled material in the containment area and reshape the stockpile to prevent recurrence.	5-20-14 RAD
2	Modify the ramp and haul road to prevent excessive tracking of material by the off-road dump trucks.	5-20-14 RAD
3	Pump ponded stormwater from the areas around the stockpiles in the eastern EZ.	5-20-14 RAD

Construction Manager: Date: 05/20/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: May 22, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☑ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		2
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir			X	
Swale Check Dams		X		4
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		5
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/22/14

SWPPP Observer: (G. Pfeiffer)
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, May 22, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Erosion control measures are absent around the pretrench excavation to the west of the 80 Kellogg building slab.
2	IA2Q4A1AL8	Stormwater is present in the unused 80 Kellogg Steet GWTP influent sump.
3	IA2Q4A1AL8	Silt fence along the southern toe of the SA-6 North surcharge area requires maintenance.
4	IA2Q4A1AL8	Erosion control measures at the SA-7 North stormwater discharge weir structure require improvement.
5	IA2Q4A1AL8	The north roadway on SA-7 requires cleaning of sediment buildup resulting from the hauling of Novartis stockpile material.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature **Date:** 05/22/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install hay bales or waddle around pretrench spoils to prevent sediment run-off.	5-23-14 RAD
2	Pump the accumulated storm water from the unused GWTP influent sump located to the north of the 80 Kellogg slab. Secure the fencing to limit access to the sump.	5-27-14 RAD
3	Repair or reinstall the unsecured sections of silt fence along the southern toe of the N-1 surcharge area.	5-27-14 RAD
4	Install straw waddle in the northern SA-7 swale to the east of the discharge weir structure.	5-23-14 RAD
5	Clean roadway with water truck and/or street sweeper. Implement additional measures to minimize the tracking of soils/sediments.	5-23-14 RAD

Construction Manager: _____ **Date:** 05/27/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: May 29, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		1
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact				
River Discharge Weir			X	
Swale Check Dams				
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)				
Stockpile Tarping/Containment				
Proper Chemical Storage				
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation				
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		4
Perimeter Fencing/Windscreen		X		5
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/29/14

SWPPP Observer: (George Pfeiffer)
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, May 29, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
PERMIT CLOSED

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Sediment controls in a catch basin to the north of the original guard shack require maintenance/replacement.
2	IA2Q4A1AL8	The hose which supplies the shower trailer is leaking and requires repair
3	IA2Q4A1AL8	Silt fence along the north side of the N-1 surcharge pile is not properly installed.
4	IA2Q4A1AL8	The surcharge material haul road along the northern perimeter of Study Area 7 has excessive sediment/soil material on it's surface and requires cleaning/maintenance.
5	IA2Q4A1AL8	Fencing is needed at the southeast corner of the N-1 surcharge pile. The grade change due to surcharge material placement now allows access to the spill-over tank on the southern side of the sedimenation basin and fencing is required for safety.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature Date: 05/29/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Replace filter fabric in the catch basin.	6/3/14 RAD
2	Repair hose and/or hose bib.	5/30/14 RAD
3	Toe in silt fence as per specifications.	6/2/14 RAD
4	Clean the asphalt roadway and install hay bales as necessary to alleviate run-off of sediment.	6/3/14 RAD
5	Install fencing and/or restrict access to the spill-over tank located to the south of the sedimentation basin on SA-6 North.	6/3/14 RAD

Construction Manager: _____ Date: 06/04/14

Attachment 12: GWTP Update

- 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (April 2014)
- 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (April 2014)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

May 15, 2014

New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Permit Management
P.O. Box 029
Trenton, NJ 08625-0029

RE: NJPDES Permit NJ0156311: April 2014 Surface Water Discharge Monitoring Report
Study Area 7, Jersey City, NJ

To Whom It May Concern:

In accordance with the Honeywell International NJPDES Permit NJ0156311, enclosed please find the April 2014 Surface Water Discharge Monitoring Report for Outfall 001A. Please note that there was no discharge this monitoring period.

Please contact me at 973-455-2989 should you have any questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy

Helen Fahy
Program Manager
Fahy Associates
c/o Honeywell International

Enc.

cc: Angle Trujillo - Evoqua
Frank Schroyer - Parsons

PI 234822

New Jersey Department of Environmental Protection
Division of Water Quality

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD							MONITORED LOCATION:
	Month	Day	Year		Month	Day	Year	
NJG0156311	4	1	2014	To	4	30	2014	001A - Remediated Groundwater

PERMITTEE:
HONEYWELL INTERNATIONAL INC
101 COLUMBIA RD
MORRISTOWN, NJ 07962

LOCATION OF ACTIVITY:
HONEYWELL STUDY AREA 7
441 RT 440 S
JERSEY CITY, NJ 07305

REPORT RECIPIENT:
Honeywell International Inc
ATT: HELEN FAHY
101 COLUMBIA ROAD
MORRISTOWN, NJ 07962

REGION / COUNTY: Northern / Hudson County

CHECK IF APPLICABLE: ☒ **No Discharge this Monitoring Period** ☐ **Monitoring Report Comments Attached**

WHO MUST SIGN The highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility shall sign the certification or, in his absence a person designated by that person. For a local agency, the highest ranking operator of the treatment works shall sign the certification. Where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that reponsibility or person designated by that person shall also sign the second certification at the bottom of this page. If the local agency has contracted with another entity to operate the treatment works, the highest-ranking official of the contracted entity shall sign the certification.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and/or imprisonment, pursuant to N.J.A.C. 7:14A-6.9(B). The New Jersey Water Pollution Control Act provides for penalties up to $50,000 per violation.

John J. Morris, Remediation Director — —

NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR **GRADE AND REGISTRY NUMBER (IF APPLICABLE)**

John J. Morris 5/14/2014 973.455.4003

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR **DATE** **AREA CODE/PHONE NUMBER**

**For a local agency where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall sign the following certification:*

I certify under penalty of law and in accordance with N.J.S.A. 58:10A-6F(5) that I have received and reviewed the attached discharge monitoring reports.

John J. Morris, Remediation Director John J. Morris 5/14/2014 973.455.4003

NAME AND TITLE **SIGNATURE** **DATE** **AREA CODE/PHONE NUMBER**

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	4/1/2014 TO 4/30/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant 50050 1 Effluent Gross Value	SAMPLE MEASUREMENT			GPD	******	******	******	******			
	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX		******	******	******			1/Month	METER
	QL	******	******		******	******	******				
pH 00400 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******		SU			
	PERMIT REQUIREMENT	******	******		6.0 01MOMN	******	9.0 01MOMX			1/Month	GRAB
	QL	******	******		******	******	******				
LC50 Statre 96hr Acu Mysid Bahia TAN3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******	******	%EFFL			
	PERMIT REQUIREMENT	******	******		50 01RPMN	******	******			1/Year	COMPOS
	RQL	******	******		******	******	******				
IC25 Statre 7day Chr Mysid Bahia TBP3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******	******	%EFFL			
	PERMIT REQUIREMENT	******	******		REPORT 01RPMN	******	******			1/Year	COMPOS
	QL	******	******		******	******	******				
Petroleum Hydrocarbons 00551 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			MG/L			
	PERMIT REQUIREMENT	******	******		******	10 01MOAV	15 01RPINMX			1/Month	GRAB
	QL	******	******		******	******	******				
Carbon, Tot Organic (TOC) 00680 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			MG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	20 01WKAV			1/Month	GRAB
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	4/1/2014 TO 4/30/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Chromium Trivalent (as Cr) Total Recov. *PS06 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX			1/Quarter	COMP24
	QL	******	******		******	******	******				
Cyanide, Total (as CN) 00720 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	40	40				
Nickel, Total Recoverable 01074 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.3 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Zinc, Total Recoverable 01094 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	30	30				
Lead, Total Recoverable 01114 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	79 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Chromium, Total Recoverable 01118 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX			1/Month	COMP24
	RQL	******	******		******	10	10				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	4/1/2014 TO 4/30/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Copper, Total Recoverable 01119 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Chromium, Hexavalent Dissolved (as Cr) 01220 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX			1/Quarter	COMP24
	QL	******	******		******	******	******				
Mercury Total Recoverable 71901 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	0.025 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	1	1				
Carbon Tetrachloride 32102 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.8 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	6	6				
Chloroform 32106 2 Effluent Net Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	46 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	5	5				
Trichloroethylene 39180 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	54 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	5	5				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	4/1/2014 TO 4/30/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Lab Certification #	SAMPLE MEASUREMENT										
99999 99 Lab	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #			Not Applic	NOT AP
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

May 15, 2014

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Bayfront Redevelopment at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 31630016

Dear Mr. Caltagirone:

Honeywell is submitting the April 2014 discharge monitoring reports, MR 1 and MR 2, for the Bayfront Redevelopment treatment plant located at 525 & 575 Route 440 in Jersey City.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely

Helen Fahy

Helen Fahy
Remediation Manager
Fahy Associates

cc: Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Frank Schroyer - Parsons

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc., Bayfront Redevelopment

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 31630016 OLD OUTLET DESIGNATION:

MONITORING PERIOD

Start			End		
4	01	14	4	30	14
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	78,308	92,462 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	1.29	1.52	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.050	<0.050	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.2	<5.2	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.0839	0.0839	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analytes are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

May 14, 2014

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc., Bayfront Redevelopment
ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962
FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305
NEW CUSTOMER ID / OUTLET ID: 31630016 **OLD OUTLET DESIGNATION**

MONITORING PERIOD

Start			End		
4	01	14	4	30	14
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,349,250 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 5,660,213

DATE	BOD (mg/l)	TSS (mg/l)
4/23/2014	39.3	10.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J Morris	John J. Morris	(973) 455-4003
		DATE May 14, 2014

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG **Honeywell Bayfront Redevelopment; GWTP (Permit #31630016)** **MONTH: April 2014**

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits		5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
4/1/2014	Angel Trujillo	3310963	3392049	81,086	0.081086	7.37	1.970									1.33
4/2/2014	Angel Trujillo	3392049	3472201	80,152	0.080152	7.47	1.970									1.32
4/3/2014	Angel Trujillo	3472201	3551241	79,040	0.07904	7.31	1.970									1.30
4/4/2014	Angel Trujillo	3551241	3630423	79,182	0.079182	7.74	1.970									1.30
4/5/2014	Angel Trujillo	3630423	3722885	92,462	0.092462	7.59	1.970									1.52
4/6/2014	Angel Trujillo	3722885	3790127	67,242	0.067242	7.46	1.970									1.10
4/7/2014	Angel Trujillo	3790127	3861609	71,482	0.071482	7.52	1.970									1.17
4/8/2014	Angel Trujillo	3861609	3938419	76,810	0.07681	7.70	1.970									1.26
4/9/2014	Angel Trujillo	3938419	4015416	76,997	0.076997	7.69	1.970									1.27
4/10/2014	Angel Trujillo	4015416	4094327	78,911	0.078911	7.71	1.970									1.30
4/11/2014	Angel Trujillo	4094327	4168700	74,373	0.074373	7.70	1.970									1.22
4/12/2014	Angel Trujillo	4168700	4249999	81,299	0.081299	7.76	1.970									1.34
4/13/2014	Angel Trujillo	4249999	4336560	86,561	0.086561	7.74	1.970									1.42
4/14/2014	Angel Trujillo	4336560	4410816	74,256	0.074256	7.77	1.970									1.22
4/15/2014	Angel Trujillo	4410816	4484706	73,890	0.07389	7.75	1.970									1.21
4/16/2014	Angel Trujillo	4484706	4561960	77,254	0.077254	7.77	1.970									1.27
4/17/2014	Angel Trujillo	4561960	4640229	78,269	0.078269	7.74	1.970									1.29
4/18/2014	Angel Trujillo	4640229	4720310	80,081	0.080081	7.72	1.970									1.32
4/19/2014	Angel Trujillo	4720310	4803443	83,133	0.083133	7.67	1.970									1.37
4/20/2014	Angel Trujillo	4803443	4881981	78,538	0.078538	7.71	1.970									1.29
4/21/2014	Angel Trujillo	4881981	4955934	73,953	0.073953	7.73	1.970									1.22
4/22/2014	Angel Trujillo	4955934	5035774	79,840	0.07984	7.76	1.970									1.31
4/23/2014	Angel Trujillo	5035774	5115447	79,673	0.079673	7.10	1.970	<5.2	39.3		<0.010	<0.030	<0.050	<0.0002	<0.020	1.31
4/24/2014	Angel Trujillo	5115447	5194972	79,525	0.079525	7.74	1.970									1.31
4/25/2014	Angel Trujillo	5194972	5273422	78,450	0.07845	7.53	1.970									1.29
4/26/2014	Angel Trujillo	5273422	5353408	79,986	0.079986	7.54	1.970									1.31
4/27/2014	Angel Trujillo	5353408	5428101	74,693	0.0747	7.67	1.970									1.23
4/28/2014	Angel Trujillo	5428101	5508412	80,311	0.080311	7.33	1.970									1.32
4/29/2014	Angel Trujillo	5508412	5583939	75,527	0.075527	7.62	1.970									1.24
4/30/2014	Angel Trujillo	5583939	5660213	76,274	0.076274	7.51	1.970									1.25
TOTAL				**2,349,250**	**2.34925**			<5.2	39.3		<0.010	<0.030	<0.050	<0.0002	<0.020	
			High:	**92,462**											**High:**	**1.52**
			Average:	**78,308**											**Average:**	**1.29**

E

WW

JB65396

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell Chain Of Custody / Analysis Request

AESI Ref: 41782.33875
COC#
Lab Proj # (SDG):
Lab ID
Site ID
Lab Job # HWMA182015
Authorized User: Honeywell

Site Name: Hudson County
Location of Site: Jersey City, NJ
Phase: CS
Sampling Program: 087: JCIA

Sampling Co.: Parsons
EDD To:
Sampler: Frank Schroyer
PO #
Analysis Turnaround Time (TAT): 3 Coordinated CR2M
Full Report TAT: 28 Days

Client Contact: (name, co., address)
Helen Fahy P: (973) 455-2668 E: helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962

Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)

	Sample Identification				Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Matrix		Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	EPA 245.1 Hg	Method 1 Biochemical Oxygen Demand	EPA 524 TVOC	EPA 624 SGT-HEM	EPA 160.1 FN	SM2540 D Total Suspended Solids	EPA VOA-8L VOCs; see attached spreadsheet list					Sampling Method (code)	Lab Sample Numbers
	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID									3	3	3	1	2	2	0	0	2						
1	087-WW			087-WWE-042314-A	4/23/2014	14:50	WW	WATER	REG	3	comp	N	X	X	X	X			X	X		-1				6.84 pH	
2	087-WW			087-WWE-042314-B	4/23/2014	14:40	WW	WATER	REG	5	grab	N					X	X				-2					
3	087-WW			087-WWI-042314	4/23/2014	14:25	WW	WATER	REG	3	grab	N									X	-3					
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

L19
V72
A7
G23

Relinquished by: [signature] 4/23/14 Company: Parsons
Frank Schroyer pH = 7.10 s.u. Date/Time: 1
Received by: Chris Ford Company: Accutest Date/Time: 4/23/14 1600
Condition: Cooler Temp. 3.0C Custody Seals Intact:

Relinquished by: Chris Ford Company: Accutest Date/Time: 4/23/14 1726
Received by: [signature] Company: Accutest Date/Time: 4/23 1600
Condition: Cooler Temp. Custody Seals Intact:

Preservatives: (Other Specify): none

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

JK

Accutest LabLink@792117 07:28 29-Apr-2014 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-042314-A		
Lab Sample ID:	JB65396-1	Date Sampled:	04/23/14
Matrix:	AQ - Water	Date Received:	04/23/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1970	10	ug/l	1	04/24/14	04/25/14	ND	EPA 200.7 [2]	EPA 200.7 [5]
Copper	< 10	10	ug/l	1	04/24/14	04/25/14	ND	EPA 200.7 [2]	EPA 200.7 [5]
Lead [a]	< 30	30	ug/l	10	04/24/14	04/28/14	ND	EPA 200.7 [3]	EPA 200.7 [5]
Mercury	< 0.20	0.20	ug/l	1	04/25/14	04/25/14	JW	EPA 245.1 [1]	EPA 245.1 [4]
Nickel [a]	< 50	50	ug/l	5	04/24/14	04/28/14	ND	EPA 200.7 [3]	EPA 200.7 [5]
Zinc	< 20	20	ug/l	1	04/24/14	04/25/14	ND	EPA 200.7 [2]	EPA 200.7 [5]

(1) Instrument QC Batch: MA33870
(2) Instrument QC Batch: MA33871
(3) Instrument QC Batch: MA33890
(4) Prep QC Batch: MP79076
(5) Prep QC Batch: MP79129

(a) Elevated detection limit due to dilution required for matrix interference.

RL = Reporting Limit

Accutest LabLink@792117 07:28 29-Apr-2014 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-042314-A		
Lab Sample ID:	JB65396-1	Date Sampled:	04/23/14
Matrix:	AQ - Water	Date Received:	04/23/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	39.3	3.4	mg/l	1	04/23/14 19:29	LS	SM5210 B-01
Solids, Total Suspended	10.0	4.0	mg/l	1	04/25/14	KP	SM2540 D-11
pH [a]	6.84		su	1	04/23/14 17:35	OS	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@792117 07:28 29-Apr-2014 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-042314-B		
Lab Sample ID:	JB65396-2	Date Sampled:	04/23/14
Matrix:	AQ - Water	Date Received:	04/23/14
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N234196.D	1	04/24/14	DC	n/a	n/a	VN9917
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	2.1	ug/l	
107-13-1	Acrylonitrile	ND	10	1.3	ug/l	
71-43-2	Benzene	2.5	1.0	0.12	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.32	ug/l	
56-23-5	Carbon tetrachloride	3.3	1.0	0.16	ug/l	
108-90-7	Chlorobenzene	0.27	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.45	ug/l	
67-66-3	Chloroform	19.2	1.0	0.14	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.19	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	ug/l	
156-60-5	trans-1,2-Dichloroethene	2.8	1.0	0.24	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	1.0	0.16	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.093	ug/l	
75-09-2	Methylene chloride	0.60	1.0	0.20	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.13	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.15	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.29	ug/l	
79-01-6	Trichloroethene	55.2	1.0	0.17	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	81%		71-128%
2037-26-5	Toluene-D8 (SUR)	99%		79-117%
460-00-4	4-Bromofluorobenzene (SUR)	93%		81-114%
1868-53-7	Dibromofluoromethane (S)	95%		78-115%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@792117 07:28 29-Apr-2014 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-042314-B		
Lab Sample ID:	JB65396-2	Date Sampled:	04/23/14
Matrix:	AQ - Water	Date Received:	04/23/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.2	5.2	mg/l	1	04/28/14	LS	EPA 1664A

RL = Reporting Limit

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending May 2014

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area; Update the list of monitoring wells to be abandoned / retained	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead	Submitted to all Parties on May 19, 2014.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

SA-6 AND SA-7 COMBINED PROGRESS REPORT

JULY 11, 2014

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

July 11, 2014 *Via Express Mail*

Honorable Robert G. Torricelli
Office of the Special Master
41 W. State St., Suite 2F
Trenton, NJ 08608

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2014-06

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from June 1 – June30, 2014.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: June 2014 SA-6/7 Combined Monthly Progress Report No. 2014-06

cc: Joe Clifford - AMEC (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP

Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2014-06

Project SA-6 & 7 Remediation

June 2014

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
06/02/14	SA-6 - PVSC Permit - E-mail Notification Study Area 6, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
06/02/14	Responses to Comments Provided by Plaintiffs Summary of Hydrocarbon-Impacted Soil Encountered Study Area 6 South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
06/06/14	Response to Comments Provided by Plaintiffs, May 14, 2014, Design Change Bulletin (DCB) – Trench Layout for Contingent Groundwater Extraction System Study Area 6 North and South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
06/09/14	Bench Scale Work Plan to Test Efficacy of Treatment of Chromium-Impacted Soil Using 3DME Organic Substrate Study Area 6 North, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
06/12/14	Response to Comments Provided by Plaintiffs, June 3, 2014, Surcharge Plan Design Change Study Area 6 North and South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
06/13/14	Combined Monthly Progress/Highlights Report No. 2014-04 Study Areas 6 and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
06/17/14	Response to Comments – 2013 Annual Integrated GW Performance Report Study Areas 5, 6, and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
06/17/14	Surcharge Observation Proximate to PVSC Force Main Study Areas 6, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
06/18/14	NJPDES Permit NJ0156311: May 2014 Surface Water Discharge Monitoring Report Study Area 7, Jersey City, NJ *(see **Attachment 12**)*	NJ Department of Environmental Protection Division of Water Quality
06/18/14	Termination of Sewer Use Permit ID 31630005 80 Kellogg Street Study Area 6, Jersey City, NJ	Anthony Gammaro Passaic Valley Sewerage Commission
06/18/14	Court Ordered Regional Groundwater Remedy Treatment Plant - MR 1 and MR 2 Permit ID# 31630016 Located at 525 & 575 Route 440, Jersey City, NJ *(see **Attachment 12**)*	Andy Caltagirone Passaic Valley Sewerage Commission
06/19/14	Declarations for Performance Certifications Study Area 6 North and South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master

Date	Submittal/Meeting	Recipient
06/24/14	Special Master All Hands Meeting	N/A
06/25/14	PVSC - Acoustic Monitoring Reports Study Area 6 North, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	06/08/14	06/15/14	06/22/14	06/29/14
Construction Management (AMEC)	9	13	13	12
Engineering (AMEC)	1	2	2	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	44	42	37	37
Arecon/US Ecology Subcontractors	1	1	1	1
OSC (80 Kellogg Demolition)	0	0	0	0
ENR (SA-6N GWTP Utilities)	2	0	0	0
Siemens	1	1	1	1
HBS (SA-6N GWTP Security System)	0	0	0	0
Other	0	0	1	2
TOTAL	**62**	**63**	**59**	**58**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6S and SA-6N.
- Collected June PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- On June 11, met with JCIA and JCRA representatives to discuss relocation schedule and finalization of the bid documents for the Above-grade Demolition of the designated JCIA Structures.
- On June 30, excavation contractor encountered a previously unknown underground storage tank while excavating in Cell 114. The site designated LSRP was notified and is responsible for registering and closing the UST in accordance with NJDEP requirements as part of the non-chromium remedial action being conducted concurrently.

C. SA-6 N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on May 13, 2014.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	06/08/14	06/15/14	06/22/14	06/29/14
Avg. Gallons Treated & Discharged (per day)	76,998	80,687	78,742	79,710
Average Flow (gpm) for Operating Period	53	56	54	55
Avg. Hours of Plant Operation	24	24	24	24
GWTP InfluentTanks (gal.)	9,410	13,658	13,987	11,625

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart, Weekly Excavation and Survey Data, Backfill Compaction Locations, and Field Density Test Summary Log)*

- Continued excavation activities in cells 127B – 116B, 124A – 114A.
- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Continued compaction testing associated with imported backfill. Adjusted the frequency of testing in accordance with specifications.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/ FCI	Roll-Off	TSDF	Stablex-Canada	WWTP Filter Cake	0	0	0
Entact/ Horowith	Tri-axle Dump	PA Transload	US Ecology	>1000 mg/kg Soils	32	21.7	693.60
Entact/ Montecalvo	Tri-axle Dump	Bayshore Recycling	NA	Non Haz Petroleum Soil	105	25.7	2703.22

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Under Excavation	Cell Number(s) 127B – 116B, 124A – 114A
Excavation Completed	Cell Number(s) 128B – 118B, 125A – 115A Volume Excavated - Total for Reporting Period: 15,127 CY/ Total to Date: 77,746 CY
Backfill in Progress	Cell Number(s) 152A-114A, 146B-128B

3. BACKFILL MATERIALS USED

Source	Week Ending			
	06/08/14	06/15/14	06/22/14	06/29/14
<20ppm re-use, CY	1,779	968	1,037	1,531
Weldon, Import-Tons	0	4,603	811.11	2,125.7
Tilcon, Import-Tons DGA	1,260	359	0	0
Tilcon, Import Tons – 1.5” Stone	379.7	0	0	0
Weldon, Imported Tons - QP	0	250.34	1,367.7	3,290
Celgene - Loads	0	0	0	240
Tilcon, Imported Tons – 2.5” Stone	0	0	0	51.13

E. SURCHARGE OPERATIONS *(see **Attachment 9**)*

- Area 1S: Instrumentation Installation ~95% complete. The settlement platforms over the perimeter pool remain to be installed. They will be installed prior to construction of the slope. Surcharge initiated June 16th.
- Area 2S: Instrumentation Installation ~95% complete. The settlement platforms over the perimeter pool remain to be installed. They will be installed prior to construction of the slope.
- Area 3S: Instrumentation Installation 100% complete as of November 6, 2013 and all baseline readings recorded. Temporary stockpiles in area. No Surcharge initiated.
- Area 1N: Instrumentation Installation ~100% complete. Continued placement of surcharge material initiated on April 8, 2014. As of June 27th, ~95% of surcharge has been placed. The results of the monitoring provided in Surcharge Monitoring Report #3 to be submitted under separate cover. Surcharge placement was stopped due to detected movements and V1-4. Amec has been in regular communication with PVSC regarding these readings.
- Area 2N: Instrumentation Installation ~85% complete. Initial surcharge instrument data to be submitted under separate cover.
- Area 3N: No activity in this area pending JCIA Demolition.
- Area 4N: No activity in this area pending JCIA Demolition.

F. SHEET PILE OPERATIONS *(see **Attachment 10**)*

- Two single sheets driven on the hydraulic barrier wall at Sta 12+68 for the Closure Piece 1, SA-6 South.

PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013

G. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Initiate bidding process for the Above-grade Demolition of the four designated JCIA Structures.
- Complete placement of surcharge materials in SA-6N Area 1N.
- Continue placement of surcharge materials in SA-6S Area 1S.
- Begin placement of surcharge materials in SA-6N Area 2N.
- Continue installation of the contingent groundwater system on SA-6S.
- Continue dewatering of well points/sumps installed within the SA-6S open space area.
- Continue excavation activities in SA-6S Cells 108 to 88.
- Continue stockpiling of presumed <20 mg/kg for additional sampling.
- Continue loadout and transportation and disposal activities at SA-6S.
- Continue backfill placement and associated compaction testing activities at SA-6S.
- Continue dewatering and storm-water management activities.
- Continue surcharge monitoring instrument installation activities on SA-6N and SA-6S.
- Conduct S-3 Injection/Mass Removal Event No.15 in well 088-IW-01.
- Conduct quarterly LTMP groundwater level measurement round.

- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.

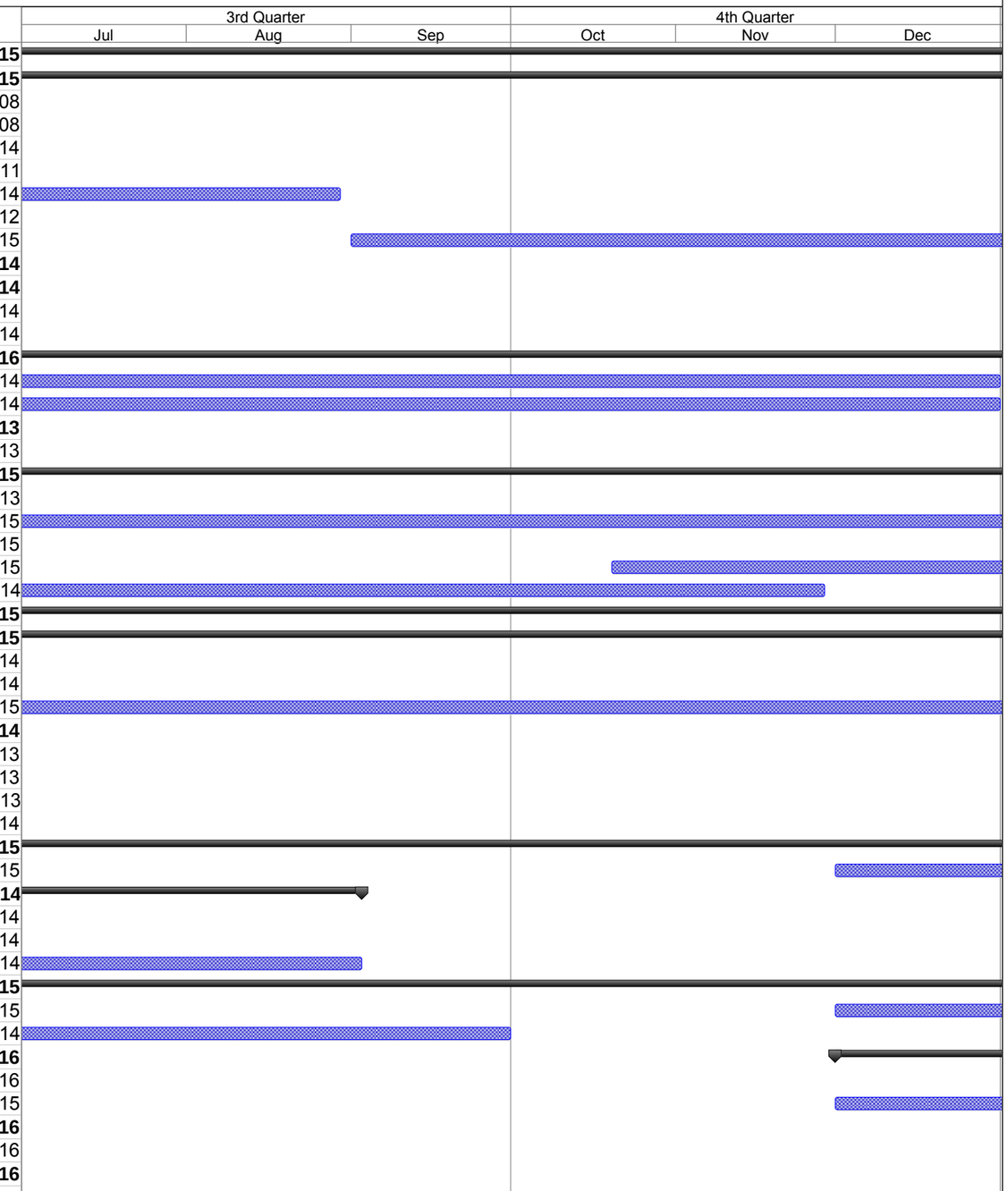
ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
   - Excavation Bottom Elevations
   - Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points
   - Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
   - Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)
4. Dewatering Operations Update
   - SA-6 South Dewatering Data (Headers)
   - SA-6 South Deep Well Data (DW-5)
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
   - Stockpiled Material Tracking and Sampling Log
7. Perimeter Pools Update
8. Groundwater Quality Data Update *(provided on a quarterly basis)*
   - Summary of Groundwater Quality Data from GWET Wells
   - Trichloroethene//Chloroform/Hexavalent Chromium in GWET Wells
9. Surcharge Monitoring Update
   - Instrumentation Location Plan 1S
   - Instrumentation Location Plan 2N
10. Sheet Pile Update
    - Hydraulic Barrier Wall Plan & Profile
    - Sheet Deflection Along Open Excavation
    - Sheet Pile Repair Log
11. Weekly SWPPP Reports
12. GWTP Update
    - 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (May 2014)
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (May 2014)
13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**Fri 1/4/08**	**Mon 3/30/15**
18	**JCIA/JCDPW Relocation**	**1735 days**	**Mon 8/11/08**	**Mon 3/30/15**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08	Wed 10/1/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09	Mon 6/2/14
22	Relocation Contractor Procurement	392 days	Thu 4/15/10	Thu 10/13/11
23	JCIA and JCDPW Relocation	753 days	Mon 10/17/11	Fri 8/29/14
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11	Mon 4/30/12
24a	Demolition of JCIA Structures	151 days	Mon 9/1/14	Mon 3/30/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**	**Wed 4/30/14**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**	**Wed 4/30/14**
58	New GWTP Construction Completion	502 days	Mon 3/5/12	Thu 1/30/14
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11	Wed 4/30/14
60	**SA-6 North/South Field Implementation**	**838 days**	**Fri 3/1/13**	**Mon 5/16/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	Mon 6/17/13	Wed 12/31/14
60b	SA-6S (Site 163) In-Situ Treatment	294 days	Fri 11/15/13	Wed 12/31/14
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**	**Fri 6/28/13**
61a	Mobilization	87 days	Fri 3/1/13	Fri 6/28/13
62	**Surcharge Install/Instrumentation**	**620 days**	**Mon 6/17/13**	**Fri 10/30/15**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	Mon 6/17/13	Tue 12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	Mon 6/2/14	Fri 2/27/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Mon 3/2/15	Fri 10/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	Mon 10/20/14	Tue 6/30/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	Mon 3/3/14	Fri 11/28/14
63	**Barrier Wall Install**	**489 days**	**Mon 6/17/13**	**Thu 4/30/15**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**Mon 12/2/13**	**Thu 4/30/15**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	Mon 12/2/13	Fri 2/14/14
63c	SA-6N Stations 23+38 to 14+25	90 days	Mon 2/17/14	Fri 6/20/14
63d	SA-6N Stations 14+25 to 0+00	224 days	Mon 6/23/14	Thu 4/30/15
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**Mon 6/17/13**	**Fri 5/30/14**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	Mon 6/17/13	Thu 8/15/13
63h	SA-6S Stations 1+54 to 8+37	7 days	Fri 8/16/13	Mon 8/26/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	Thu 10/3/13	Fri 11/8/13
63j	SA-6S Stations 8+60 to 14+87	145 days	Mon 11/11/13	Fri 5/30/14
64	**Excavation**	**507 days**	**Tue 10/22/13**	**Wed 9/30/15**
64a	SA 6N Excavation	218 days	Mon 12/1/14	Wed 9/30/15
64b	**SA 6S Excavation**	**226 days**	**Tue 10/22/13**	**Tue 9/2/14**
64c	SA-6S Excavation of Cells 1 - 25	53 days	Tue 10/22/13	Thu 1/2/14
64d	SA-6S Excavation of Cells 26 - 60	90 days	Fri 1/3/14	Thu 5/8/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	Fri 5/9/14	Tue 9/2/14
65	**Backfill**	**493 days**	**Mon 11/11/13**	**Wed 9/30/15**
65a	SA 6N Backfill	218 days	Mon 12/1/14	Wed 9/30/15
65b	SA 6S Backfill	232 days	Mon 11/11/13	Tue 9/30/14
66	**Capping and Cover Soil Placement**	**315 days**	**Mon 12/1/14**	**Fri 2/12/16**
66a	SA 6N Capping and Cover Soil Placement	119 days	Tue 9/1/15	Fri 2/12/16
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14	Wed 12/30/15
67	**Restoration**	**164 days**	**Tue 9/1/15**	**Fri 4/15/16**
67a	Restoration	164 days	Tue 9/1/15	Fri 4/15/16
68	**Demobilization**	**21 days**	**Mon 4/18/16**	**Mon 5/16/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			



Project: SA-6 Remediation Schedule
Revision 3
Date: Thu 7/3/14

Task | Milestone | Summary | Critical

Attachment 2: Site Photographs

Site Photograph 1: Backfill compaction activities.

Site Photograph 2: Contractor continues excavation activities.

Site Photograph 3: Contractor placing backfill with dozer.

Site Photograph 4: Spreading the first lift of DGA over fabric - facing southwest.

Site Photograph 5: Surcharge instrumentation installation at JC Properties.

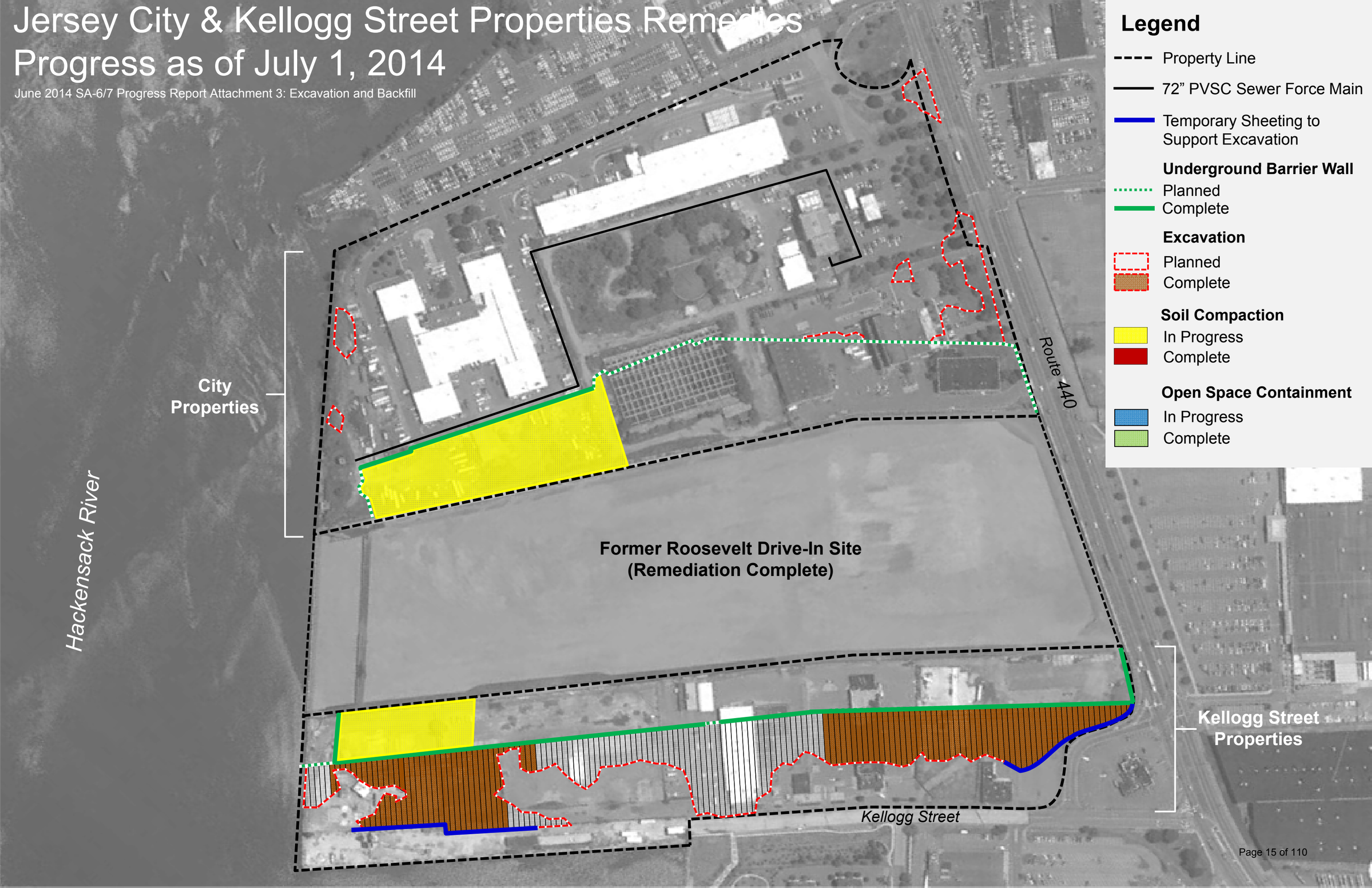
Site Photograph 6: The western excavation face.

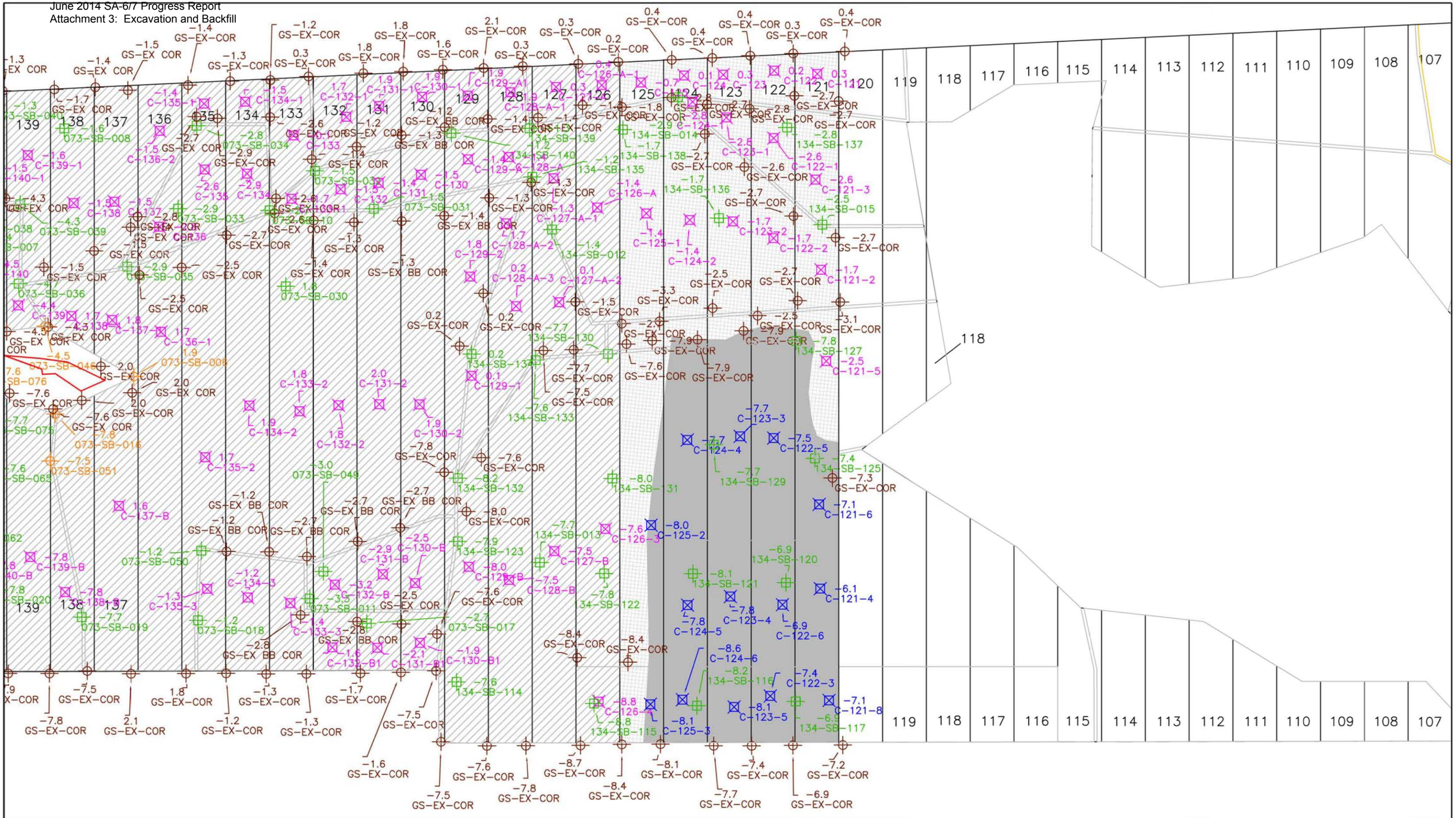
Attachment 3: Excavation and Backfill

- Progression Chart
- Excavation Bottom Elevations
- Maser Survey Tables (SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points)
- Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
- Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)

Jersey City & Kellogg Street Properties Remedies Progress as of July 1, 2014

June 2014 SA-6/7 Progress Report Attachment 3: Excavation and Backfill





LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- BOTTOM CENTER POINT ELEVATION STRATUM D
- BOTTOM CENTER POINT ELEVATION <20 PPM
- BOTTOM CORNER POINT ELEVATION <20 PPM
- DESIGNED STRATUM O EXCAVATION LIMIT
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- CURRENT EXCAVATION TO <20 PPM
- TOP OF EXCAVATION SLOPE
- LIMIT OF EXCAVATION AREA

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: EXCAVATION BOTTOM ELEVATIONS PERIOD 06-12-14 TO 06-26-14

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

MASER CONSULTING P.A.
Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

156 Stagecoach Road
Marmora, NJ 08223
T: 609.390.1927
F: 609.390.0040
www.maserconsulting.com

SA-6 South Excavation: Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685514.6	601446.5	3.8	073-SB-029	152	4/25/2014	3.0	* Target Elevation Reached
685482.2	601420.6	4.4	073-SB-054	152	4/24/2014	2.0	* Target Elevation Reached
685458.7	601392.0	7.5	073-SB-056	152	4/24/2014	3.8	* Target Elevation Reached
685474.8	601425.1	7.5	073-SB-057	151	4/24/2014	1.9	* Target Elevation Reached
685502.9	601465.5	3.3	073-SB-028	150	4/25/2014	3.0	* Target Elevation Reached
685463.0	601435.2	2.5	073-SB-059	150	4/24/2014	1.9	* Target Elevation Reached
685490.0	601478.5	6.0	073-SB-042R	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	6.0	073-SB-042R	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	6.0	073-SB-042R	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	6.0	073-SB-042R	146A	4/24/2014	5.6	Target Elevation Reached
685448.9	601515.0	6.0	073-SB-042	145A	4/24/2014	5.6	Target Elevation Reached
685433.1	601528.8	6.0	073-SB-042R	144A	4/24/2014	5.4	Target Elevation Reached
685403.0	601506.0	-4.2	073-SB-037R	144A	4/24/2014	-4.5	Target Elevation Reached
685411.9	601522.2	-0.6	073-SB-066	143A	4/24/2014	-4.4	Target Elevation Reached
685427.6	601544.4	6.0	073-SB-042R	143A	4/24/2014	5.5	Target Elevation Reached
685430.7	601568.7	3.8	073-SB-041	142A	4/24/2014	2.0	Target Elevation Reached
685378.8	601531.7	-4.2	073-SB-037	142A	4/24/2014	-4.4	Target Elevation Reached
685371.0	601525.0	-2.2	073-SB-045	142A	4/24/2014	-4.4	Target Elevation Reached
685395.8	601557.3	2.3	073-SB-038	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.3	073-SB-038R	141A	4/24/2014	2.0	Target Elevation Reached
685410.7	601592.8	0.2	073-SB-040	140A	4/24/2014	-1.3	Target Elevation Reached
685381.0	601558.0	-3.9	073-SB-007	140A	4/24/2014	-4.4	Target Elevation Reached
685379.3	601577.9	0.6	073-SB-039	139A	4/24/2014	-4.3	Target Elevation Reached
685358.5	601560.3	-1.0	073-SB-036	139A	4/24/2014	-4.7	Target Elevation Reached
685390.7	601590.5	-0.6	073-SB-008R	139A	4/24/2014	-1.6	Target Elevation Reached
685390.0	601606.0	-0.6	073-SB-008	138A	4/29/2014	-1.6	Target Elevation Reached
685338.6	601567.5	2.1	073-SB-030R	138A	4/29/2014	1.7	Target Elevation Reached
685339.7	601592.9	1.5	073-SB-035	137A	4/29/2014	-2.9	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.1)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685328.7	601577.4	2.1	073-SB-030R	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-6.7	073-SB-009R	146B	5/5/2014	-8.0	Target Elevation Reached
685329.7	601419.3	-6.9	073-SB-047	145B	5/5/2014	-8.0	Target Elevation Reached
685314.6	601432.4	-6.7	073-SB-009R	144B	5/8/2014	-8.2	Target Elevation Reached
685318.9	601448.7	-5.3	073-SB-021	143B	5/8/2014	-7.9	Target Elevation Reached
685306.3	601465.9	-6.7	073-SB-009R	142B	5/12/2014	-7.6	Target Elevation Reached
685329.1	601510.6	-5.2	073-SB-075	141B	5/12/2014	-7.7	Target Elevation Reached
685310.4	601484.5	-4.8	073-SB-062	141B	5/12/2014	-8.0	Target Elevation Reached
685321.1	601501.8	-5.0	073-SB-065	141B	5/12/2014	-7.6	Target Elevation Reached
685288.0	601466.0	-6.7	073-SB-009	141B	5/12/2014	-7.7	Target Elevation Reached
685284.5	601485.3	-5.3	073-SB-020	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-6.7	073-SB-009R	139B	5/14/2014	-7.8	Target Elevation Reached
685256.2	601505.4	-3.2	073-SB-019	138B	5/14/2014	-7.7	Target Elevation Reached
685277.8	601539.2	2.1	073-SB-030R	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-0.6	073-SB-008R	136	5/5/2014	-1.5	Target Elevation Reached
685344.3	601618.9	-1.8	073-SB-033	136	5/5/2014	-2.9	Target Elevation Reached
685315.0	601587.9	2.1	073-SB-030R	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-0.6	073-SB-008R	135	5/8/2014	-1.4	Target Elevation Reached
685362.2	601641.7	-0.2	073-SB-034	135	5/8/2014	-2.8	Target Elevation Reached
685272.1	601572.6	2.1	073-SB-030R	135	5/19/2014	1.7	Target Elevation Reached
685248.2	601551.5	0.3	073-SB-050	135	5/19/2014	-1.2	Target Elevation Reached
685230.4	601535.5	0.3	073-SB-018	135	5/19/2014	-1.2	Target Elevation Reached
685358.1	601659.9	-0.6	073-SB-008R	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-1.8	073-SB-033R	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	073-SB-030R	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	0.6	073-SB-017R	134	5/19/2014	-1.2	Target Elevation Reached
685212.0	601570.0	-1.4	073-SB-011	133	5/22/2014	-3.3	Target Elevation Reached
685324.0	601643.0	-0.4	073-SB-010	133	5/14/2014	-2.7	Target Elevation Reached
685300.3	601630.9	2.1	073-SB-030	133	5/14/2014	1.8	Target Elevation Reached
685338.7	601665.5	2.3	073-SB-032R	133	5/12/2014	-0.1	Target Elevation Reached
685322.3	601651.3	-1.2	134-SB-136R	133	5/14/2014	-1.7	Target Elevation Reached
685215.0	601563.9	0.6	073-SB-017R	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.3	073-SB-032R	132	5/12/2014	1.7	Target Elevation Reached
685257.3	601619.3	2.1	073-SB-030R	132	5/19/2014	1.8	Target Elevation Reached
685194.1	601565.5	0.6	073-SB-017R	132	5/22/2014	-1.6	Target Elevation Reached
685216.3	601579.5	1.1	073-SB-049	132	5/22/2014	-3.0	Target Elevation Reached
685324.7	601663.5	2.3	073-SB-032	132	5/14/2014	-1.5	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.2)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685193.1	601579.8	0.6	073-SB-017	131	5/22/2014	-2.7	Target Elevation Reached
685301.9	601671.1	0.1	073-SB-031	131	5/14/2014	-1.5	Target Elevation Reached
685328.1	601694.6	2.3	073-SB-032R	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	073-SB-030R	131	5/19/2014	2.0	Target Elevation Reached
685202.7	601594.7	-1.4	073-SB-011R	131	5/22/2014	-2.9	Target Elevation Reached
685321.3	601708.0	2.3	073-SB-032R	130	5/19/2014	1.9	Target Elevation Reached
685300.8	601690.9	-1.2	134-SB-136R	130	5/19/2014	-1.5	Target Elevation Reached
685240.0	601641.1	2.1	073-SB-030R	130	5/19/2014	1.9	Target Elevation Reached
685193.4	601601.4	-1.4	073-SB-011R	130	5/22/2014	-2.5	Target Elevation Reached
685176.5	601589.8	0.6	073-SB-017R	130	5/22/2014	-1.9	Target Elevation Reached
685195.4	601621.6	-2.7	134-SB-123	129	5/27/2014	-7.9	Target Elevation Reached
685212.1	601635.4	-0.6	134-SB-132	129	5/27/2014	-8.2	Target Elevation Reached
685242.2	601665.8	1.3	134-SB-134	129	5/27/2014	0.2	Target Elevation Reached
685305.3	601707.9	-1.2	134-SB-140	129	5/19/2014	-1.2	Target Elevation Reached
685158.2	601591.1	-6.6	134-SB-114	129	5/27/2014	-7.6	Target Elevation Reached
685311.8	601720.4	2.3	073-SB-032R	129	5/22/2014	1.9	Target Elevation Reached
685263.1	601682.1	2.1	073-SB-030R	129	5/22/2014	1.8	Target Elevation Reached
685289.8	601729.8	2.0	134-SB-139	128	5/27/2014	-1.3	Target Elevation Reached
685303.5	601732.5	2.3	073-SB-032R	128	5/22/2014	1.9	Target Elevation Reached
685269.5	601703.1	2.1	073-SB-030R	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	1.3	134-SB-134R	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-6.7	134-SB-129R	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	2.4	134-SB-014R	127	5/29/2014	0.3	Target Elevation Reached
685276.2	601720.2	4.5	134-SB-135	127	5/27/2014	-1.2	Target Elevation Reached
685237.1	601700.2	1.3	134-SB-134R	127	6/2/2014	0.1	Target Elevation Reached
685258.0	601714.0	-1.1	134-SB-012	127	5/29/2014	-1.4	Target Elevation Reached
685226.8	601681.6	-0.7	134-SB-133	127	6/2/2014	-7.6	Target Elevation Reached
685172.0	601639.0	-5.6	134-SB-013	127	6/5/2014	-7.7	Target Elevation Reached
685285.7	601758.3	2.4	134-SB-014R	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	134-SB-136R	126	6/2/2014	-1.4	Target Elevation Reached
685122.8	601623.1	-8.4	134-SB-115	126	6/10/2014	-8.8	Target Elevation Reached
685155.2	601653.8	-5.8	134-SB-122	126	6/10/2014	-7.8	Target Elevation Reached
685178.8	601676.4	-6.1	134-SB-131	126	6/10/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.3)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685212.9	601702.0	-0.7	134-SB-130	126	6/10/2014	-7.7	Target Elevation Reached
685277.9	601769.3	2.4	134-SB-014R	125	6/2/2014	-0.7	Target Elevation Reached
685269.3	601754.4	-1.1	134-SB-138	125	6/2/2014	-1.7	Target Elevation Reached
685158.0	601676.7	-6.7	134-SB-129R	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	134-SB-115R	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	2.4	134-SB-014R	124	6/10/2014	0.1	Target Elevation Reached
685266.0	601776.0	2.4	134-SB-014	124	6/10/2014	-2.9	Target Elevation Reached
685100.0	601650.0	1.2	134-SB-116	124	6/17/2014	-8.2	Stratum D Reached
685136.1	601677.4	-7.7	134-SB-121	124	6/17/2014	-8.1	Stratum D Reached
685262.3	601792.9	2.4	134-SB-014R	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-1.5	134-SB-137R	123	6/10/2014	-2.8	Target Elevation Reached
685225.1	601760.9	-1.3	134-SB-136	123	6/10/2014	-1.7	Target Elevation Reached
685165.9	601710.7	-6.7	134-SB-129	123	6/17/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	134-SB-120R	123	6/20/2014	-7.8	Stratum D Reached
685252.4	601807.4	2.4	134-SB-014R	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601798.5	-1.5	134-SB-137	122	6/17/2014	-2.8	Target Elevation Reached
685207.9	601771.1	-1.3	134-SB-136R	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-6.7	134-SB-129R	122	6/20/2014	-7.5	Stratum D Reached
685113.6	601700.2	-8.7	134-SB-120	122	6/20/2014	-6.9	Stratum D Reached
685242.2	601818.1	2.4	134-SB-014R	121	6/17/2014	0.3	Target Elevation Reached
685201.0	601787.0	-0.6	134-SB-015	121	6/20/2014	-2.5	Target Elevation Reached
685189.3	601776.9	-1.3	134-SB-136R	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.3	124-SB-124R	121	6/25/2014	-2.5	Target Elevation Reached
685175.7	601754.9	-4.5	134-SB-127	121	6/20/2014	-7.8	Stratum D Reached
685140.4	601734.6	-0.8	134-SB-125	121	6/20/2014	-7.4	Stratum D Reached
685104.7	601708.0	-8.7	134-SB-120R	121	6/25/2014	-6.1	Stratum D Reached
685079.9	601677.2	0.9	134-SB-117	121	6/20/2014	-6.9	Stratum D Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area. Coordinates come from Center Points within that specific cell.

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

* Target Reached. Over excavation conducted as directed by engineer.

SA-6 South Excavation: Center Points (Table 2.0)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685460.6	601379.6	5.7	C-153	153	4/24/2014	3.9	Target Elevation Reached- Cell only partially excavated
685497.5	601425.0	5.7	C-152	152	4/24/2014	4.2	Target Elevation Reached
685453.0	601392.1	5.7	C-152-1	152	4/24/2014	3.7	Target Elevation Reached
685467.8	601422.4	5.7	C-151	151	4/24/2014	1.9	Target Elevation Reached
685489.7	601438.8	5.7	C-151-1	151	4/24/2014	3.9	Target Elevation Reached
685448.1	601407.0	5.7	C-151-2	151	4/24/2014	4.0	Target Elevation Reached
685511.4	601454.1	3.3	C-151-3	151	4/25/2014	3.0	Target Elevation Reached
685455.0	601431.7	5.7	C-150	150	4/24/2014	2.1	Target Elevation Reached
685480.8	601450.0	5.7	C-150-1	150	4/24/2014	4.0	Target Elevation Reached
685502.2	601463.5	2.8	C-150-2	150	4/25/2014	2.8	Target Elevation Reached
685490.0	601478.5	5.7	C-149	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	5.7	C-148	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	5.7	C-147	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	5.7	C-146	146A	4/24/2014	5.6	Target Elevation Reached
685444.3	601518.5	5.7	C-145	145A	4/24/2014	5.5	Target Elevation Reached
685403.0	601506.0	-4.3	C-144	144A	4/24/2014	-4.5	Target Elevation Reached
685433.1	601528.8	5.7	C-144-1	144A	4/24/2014	5.4	Target Elevation Reached
685396.1	601517.4	-4.3	C-143	143A	4/24/2014	-5.3	Target Elevation Reached
685427.6	601544.4	5.7	C-143-1	143A	4/24/2014	5.5	Target Elevation Reached
685386.6	601530.7	-4.3	C-142	142A	4/24/2014	-4.8	Target Elevation Reached
685416.3	601555.6	5.7	C-142-1	142A	4/24/2014	1.9	Target Elevation Reached
685379.5	601542.9	-4.3	C-141	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.1	C-141-1	141A	4/24/2014	2.0	Target Elevation Reached
685371.7	601554.8	-4.3	C-140	140A	4/24/2014	-4.5	Target Elevation Reached
685401.1	601580.7	2.1	C-140-1	140A	4/24/2014	-1.5	Target Elevation Reached
685352.9	601555.6	-4.3	C-139	139A	4/24/2014	-4.4	Target Elevation Reached
685390.7	601590.5	-1.2	C-139-1	139A	4/24/2014	-1.6	Target Elevation Reached
685368.1	601592.3	-1.2	C-138	138A	4/29/2014	-1.5	Target Elevation Reached
685338.6	601567.5	2.1	C-138-1	138A	4/29/2014	1.7	Target Elevation Reached
685359.7	601603.5	-1.2	C-137	137A	4/29/2014	-1.5	Target Elevation Reached
685328.7	601577.4	2.1	C-137-1	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-7.5	C-146-B	146B	5/5/2014	-8.0	Target Elevation Reached
685320.3	601420.2	-7.5	C-145-B	145B	5/5/2014	-7.8	Target Elevation Reached
685314.6	601432.4	-7.5	C-144-B	144B	5/8/2014	-8.2	Target Elevation Reached
685307.0	601446.0	-7.5	C-143-B	143B	5/8/2014	-8.0	Target Elevation Reached
685306.3	601465.9	-7.5	C142-B	142B	5/12/2014	-7.6	Target Elevation Reached
685304.8	601483.2	-7.5	C-141-B	141B	5/12/2014	-7.9	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.1)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685295.5	601493.5	-7.5	C-140-B	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-7.5	C-139-B	139B	5/14/2014	-7.8	Target Elevation Reached
685266.5	601506.3	-7.5	C-138-B	138B	5/14/2014	-7.8	Target Elevation Reached
685277.8	601539.2	2.1	C-137-B	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-1.2	C-136-2	136	5/5/2014	-1.5	Target Elevation Reached
685343.4	601610.1	-2.5	C-136	136	5/5/2014	-2.8	Target Elevation Reached
685315.0	601587.9	2.1	C-136-1	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-1.2	C-135-1	135	5/8/2014	-1.4	Target Elevation Reached
685348.8	601634.5	-2.5	C-135	135	5/8/2014	-2.6	Target Elevation Reached
685272.1	601572.6	2.1	C-135-2	135	5/19/2014	1.7	Target Elevation Reached
685236.7	601544.8	-1.2	C-135-3	135	5/19/2014	-1.3	Target Elevation Reached
685358.1	601659.9	-1.2	C-134-1	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-2.5	C-134	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	C-134-2	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	-1.2	C-134-3	134	5/19/2014	-1.2	Target Elevation Reached
685322.3	601651.3	-1.2	C-133-1	133	5/14/2014	-1.7	Target Elevation Reached
685338.7	601665.5	0.4	C-133	133	5/12/2014	-0.1	Target Elevation Reached
685264.0	601607.6	2.1	C-133-2	133	5/19/2014	1.8	Target Elevation Reached
685215.0	601563.9	-1.2	C-133-3	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.1	C-132-1	132	5/12/2014	1.7	Target Elevation Reached
685314.3	601666.4	-1.2	C-132	132	5/14/2014	-1.5	Target Elevation Reached
685210.3	601579.7	-2.5	C-132-B	132	5/22/2014	-3.2	Target Elevation Reached
685194.1	601565.5	-1.2	C-132-B1	132	5/22/2014	-1.6	Target Elevation Reached
685257.3	601619.3	2.1	C-132-2	132	5/19/2014	1.8	Target Elevation Reached
685307.8	601677.9	-1.2	C-131	131	5/14/2014	-1.4	Target Elevation Reached
685202.7	601594.7	-2.5	C-131-B	131	5/22/2014	-2.9	Target Elevation Reached
685184.3	601577.4	-1.2	C-131-B1	131	5/22/2014	-2.1	Target Elevation Reached
685328.1	601694.6	2.1	C-131-1	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	C-131-2	131	5/19/2014	2.0	Target Elevation Reached
685193.4	601601.4	-2.5	C-130-B	130	5/22/2014	-2.5	Target Elevation Reached
685300.8	601690.9	-1.2	C-130	130	5/19/2014	-1.5	Target Elevation Reached
685176.5	601589.8	-1.2	C-130-B1	130	5/22/2014	-1.9	Target Elevation Reached
685240.0	601641.1	2.1	C-130-2	130	5/19/2014	1.9	Target Elevation Reached
685321.3	601708.0	2.1	C-130-1	130	5/19/2014	1.9	Target Elevation Reached
685294.8	601706.8	-1.2	C-129-A	129	5/22/2014	-1.4	Target Elevation Reached
685311.8	601720.4	2.1	C-129-A1	129	5/22/2014	1.9	Target Elevation Reached
685186.2	601619.2	-7.5	C-129-B	129	5/27/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.2)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685236.4	601661.1	0.4	C-129-1	129	5/27/2014	0.1	Target Elevation Reached
685263.1	601682.1	2.1	C-129-2	129	5/22/2014	1.8	Target Elevation Reached
685303.5	601732.5	2.1	C-128-A-1	128	5/22/2014	1.9	Target Elevation Reached
685286.6	601718.1	-1.2	C-128-A	128	5/22/2014	-1.4	Target Elevation Reached
685269.5	601703.1	2.1	C-128-A-2	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	0.4	C-128-A-3	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-7.5	C-128-B	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	0.4	C-127-A	127	5/29/2014	0.3	Target Elevation Reached
685271.3	601725.5	-1.2	C-127-A-1	127	5/29/2014	-1.3	Target Elevation Reached
685237.1	601700.2	0.4	C-127-A-2	127	6/2/2014	0.1	Target Elevation Reached
685171.9	601645.3	-7.5	C-127-B	127	6/5/2014	-7.5	Target Elevation Reached
685285.7	601758.3	0.4	C-126-A-1	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	C-126-A	126	6/2/2014	-1.4	Target Elevation Reached
685166.8	601663.7	-7.5	C-126-3	126	6/10/2014	-7.6	Target Elevation Reached
685122.3	601624.7	-8.4	C-126-4	126	6/10/2014	-8.8	Target Elevation Reached
685277.9	601769.3	0.4	C-125	125	6/2/2014	-0.7	Target Elevation Reached
685241.9	601742.6	-1.2	C-125-1	125	6/5/2014	-1.4	Target Elevation Reached
685158.0	601676.7	-7.5	C-125-2	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	C-125-3	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	0.4	C-124	124	6/10/2014	0.1	Target Elevation Reached
685261.7	601778.9	-2.5	C-124-1	124	6/10/2014	-2.8	Target Elevation Reached
685230.8	601752.7	-1.2	C-124-2	124	6/10/2014	-1.4	Target Elevation Reached
685172.8	601704.6	-7.5	C-124-4	124	6/17/2014	-7.7	Stratum D Reached
685128.8	601669.1	-8.7	C-124-5	124	6/17/2014	-7.8	Stratum D Reached
685104.8	601647.4	-7.5	C-124-6	124	6/17/2014	-8.6	Stratum D Reached
685262.3	601792.9	0.4	C-123	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-2.5	C-123-1	123	6/10/2014	-2.8	Target Elevation Reached
685221.2	601763.9	-1.2	C-123-2	123	6/10/2014	-1.7	Target Elevation Reached
685162.4	601719.5	-7.5	C-123-3	123	6/20/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	C-123-4	123	6/20/2014	-7.8	Stratum D Reached
685091.7	601659.6	-7.5	C-123-5	123	6/20/2014	-8.1	Stratum D Reached
685252.4	601807.4	0.4	C-122	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601792.7	-2.5	C-122-1	122	6/13/2014	-2.6	Target Elevation Reached
685207.9	601771.1	-1.2	C-122-2	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-7.5	C-122-5	122	6/20/2014	-7.5	Stratum D Reached
685108.5	601694.5	-8.7	C-122-6	122	6/20/2014	-6.9	Stratum D Reached
685086.9	601671.6	-7.5	C-122-3	122	6/20/2014	-7.4	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.3)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685242.2	601818.1	0.4	C-121	121	6/17/2014	0.3	Target Elevation Reached
685214.5	601794.9	-2.5	C-121-3	121	6/20/2014	-2.6	Target Elevation Reached
685189.3	601776.9	-1.2	C-121-2	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.5	C-121-5	121	6/25/2014	-2.5	Target Elevation Reached
685127.3	601725.9	-7.5	C-121-6	121	6/25/2014	-7.1	Stratum D Reached
685104.7	601708.0	-8.7	C-121-4	121	6/25/2014	-6.1	Stratum D Reached
685073.0	601686.3	-7.5	C-121-8	121	6/25/2014	-7.1	Stratum D Reached

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

Green shading indicates 100% Design Bottom Elevation Field Modified to reach < 20 PPM soils .

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)							
Sidewall Target Coordinates					As-built Elevations		
685443.0	601355.0	5.8	073-SB-003	153	4/24/2014	4.0	Target Elevation Reached
685441.6	601380.0	6.7	073-SB-078	152	4/24/2014	3.9	Target Elevation Reached
685490.9	601459.8	7.8	073-SB-027	150	4/24/2014	3.8	Target Elevation Reached
685459.6	601448.4	5.9	073-SB-064	149	4/24/2014	2.0	Target Elevation Reached
685438.1	601430.2	8.8	073-SB-063	149	4/24/2014	1.8	Target Elevation Reached
685470.0	601487.0	5.9	073-SB-004	148	4/24/2014	5.7	Target Elevation Reached
685383.5	601506.5	0.9	073-SB-060	143A	4/24/2014	-4.4	Target Elevation Reached
685368.1	601516.7	0.4	073-SB-077	142A	4/24/2014	-4.5	Target Elevation Reached
685341.4	601558.3	2.9	073-SB-046	139A	4/24/2014	-4.5	Target Elevation Reached
685309.0	601571.0	3.8	073-SB-006	137A	4/29/2014	1.9	Target Elevation Reached
685339.2	601410.1	-5.7	073-SB-048	146B	5/5/2014	-7.7	Target Elevation Reached
685319.6	601464.4	-5.4	073-SB-022	143B	5/8/2014	-7.5	Target Elevation Reached
685332.6	601487.8	-3.6	073-SB-071	142B	5/12/2014	-7.6	Target Elevation Reached
685344.0	601523.8	-4.1	073-SB-076	141B	5/12/2014	-7.6	Target Elevation Reached
685316.0	601542.0	-6.2	073-SB-016	138B	5/14/2014	-7.8	Target Elevation Reached
685304.5	601530.7	-5.8	073-SB-051	138B	5/14/2014	-7.5	Target Elevation Reached

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

R. Thomas Hugg 7/2/14

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR

LICENSE NO. 36737

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-01		684138.4	603182.3	-0.5							4	Crushed concrete	Bottom of excavation elevation	
2	BF-01-01	12/5/2013	684144.2	603184.2	1.0	136.4	3.7	142.6	7.8	96	95	4	Weldon WC QP		Sor
3	BF-01-02	12/5/2013	684137.8	603181.7	1.9	139.9	4.3	142.6	7.8	98	95	4	Weldon WC QP		Sor
4	BF-01-03	12/6/2013	684140.2	603182.7	2.5	141.2	5.0	142.6	7.8	99	95	4	Weldon WC QP		Sor
5	BF-01-04	12/6/2013	684136.6	603190.0	3.5	141.2	5.6	142.6	7.8	99	95	4	Weldon WC QP		Sor
6	BF-01-05	12/6/2013	684134.9	603186.7	4.5	143.2	4.8	142.6	7.8	100	95	4	Weldon WC QP		Sor
7	BF-01-06	12/6/2013	684141.1	603182.6	5.8	139.6	6.0	142.6	7.8	98	95	4	Weldon WC QP		Sor
8	BF-01-07	12/10/2013	684147.6	603186.8	6.2	146.7	5.1	142.6	7.8	103	95	4	Weldon WC QP		Sor
9	BF-01-08	12/10/2013	684140.2	603189.6	7.1	120.1	3.4	128.9	12.1	93	95	4	Weldon WC Screenings	recompact lift	Sor
9	BF-01-08R	12/10/2013	684140.2	603189.6	7.1	129.9	4.9	128.9	12.1	101	95	4	Weldon WC Screenings	second reading after addl compaction	Sor
10	BF-01-09	12/12/2013	684130.1	603175.5	8.1	126.4	3.3	128.9	12.1	98	95	4	Weldon WC Screenings		Sor
11	BF-01-10	12/31/2013	684140.0	603184.3	9.0	139.6	7.4	128.9	12.1	108	95	4	Weldon WC Screenings		Sor
1	BF-02		684153.8	603153.9	-0.6							6	Crushed concrete	Bottom of excavation elevation	
2	BF-02-01	12/5/2013	684162.8	603161.3	1.4	138.2	5.7	142.6	7.8	97	95	6	Weldon WC QP		Sor
3	BF-02-02	12/5/2013	684160.8	603162.3	2.4	136.2	4.5	142.6	7.8	96	95	6	Weldon WC QP		Sor
4	BF-02-03	12/6/2013	684157.7	603161.3	2.7	147.2	5.6	142.6	7.8	103	95	6	Weldon WC QP		Sor
5	BF-02-04	12/6/2013	684145.7	603162.1	3.7	143.5	5.0	142.6	7.8	101	95	6	Weldon WC QP		Sor
6	BF-02-05	12/6/2013	684156.9	603171.0	4.4	145.7	4.1	142.6	7.8	102	95	6	Weldon WC QP		Sor
7	BF-02-06	12/6/2013	684150.1	603155.4	5.6	140.4	4.6	142.6	7.8	98	95	6	Weldon WC QP		Sor
8	BF-02-07	12/10/2013	684135.5	603153.5	6.1	149.4	4.0	142.6	7.8	105	95	6	Weldon WC QP		Sor
9	BF-02-08	12/10/2013	684157.9	603174.9	7.2	125.8	5.2	128.9	12.1	98	95	6	Weldon WC Screenings		Sor
1	BF-03		684179.9	603119.5	-1.2							9	Crushed concrete	Bottom of excavation elevation	
2	BF-03											9	Type A Material	No compaction testing required	
3	BF-03-01	11/22/2013	684198.1	603131.6	0.2	133.3	3.4	142.6	7.8	93	95	9	Weldon WC QP		Sor
4	BF-03-02	11/22/2013	684155.7	603111.6	1.5	130.8	2.8	142.6	7.8	92	95	9	Weldon WC QP		Sor
5	BF-03-03	12/5/2013	684177.4	603121.5	2.5	135.7	2.0	128.9	12.1	105	95	9	Weldon WC Screenings		Sor
6	BF-03-04	12/12/2013	684180.5	603126.9	4.6	124.7	3.2	128.9	12.1	97	95	9	Weldon WC Screenings		Sor
7	BF-03-05	12/12/2013	684177.1	603132.4	5.3	132.5	2.8	128.9	12.1	103	95	9	Weldon WC Screenings		Sor
8	BF-03-06	12/16/2013	684172.4	603128.5	6.4	128.3	2.9	128.9	12.1	100	95	9	Weldon WC Screenings		Sor
9	BF-03-07	1/6/2014	684177.1	603113.8	6.6	131.2	10.4	128.9	12.1	102	95	9	Weldon WC Screenings		Sor
10	BF-03-08	1/9/2014	684178.2	603121.8	8.2	128.2	5.9	128.9	12.1	99	95	9	Weldon WC Screenings		Sor
1	BF-04		684195.7	603093.1	-1.5							11	Crushed concrete	Bottom of excavation elevation	
2	BF-04											11	Type A Material	No compaction testing required	
3	BF-04-01	12/5/2013	684198.0	603094.8	2.6	131.0	3.6	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
4	BF-04-02	12/12/2013	684206.6	603104.7	3.5	125.8	3.9	128.9	12.1	98	95	11	Weldon WC Screenings		Sor
5	BF-04-03	12/16/2013	684217.5	603111.1	4.9	129.9	2.9	128.9	12.1	101	95	11	Weldon WC Screenings		Sor
6	BF-04-04	12/31/2013	684213.6	603115.0	5.9	124.6	3.2	128.9	12.1	97	95	11	Weldon WC Screenings		Sor
7	BF-04-05	1/9/2014	684195.8	603100.0	8.2	131.2	4.8	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
1	BF-05		684200.8	603078.4	-1.8							12	Crushed concrete	Bottom of excavation elevation	
2	BF-05											12	Type A Material	No compaction testing required	
3	BF-05-01	12/5/2013	684185.2	603057.9	2.6	133.8	4.7	128.9	12.1	104	95	12	Weldon WC Screenings		Sor
4	BF-05-02	12/12/2013	684179.9	603057.7	3.0	121.5	3.0	128.9	12.1	94	95	12	Weldon WC Screenings	recompact lift	Sor
4	BF-05-02R	12/16/2013	684186.2	603070.2	3.1	133.0	9.3	128.9	12.1	103	95	12	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-05-03	12/31/2013	684181.6	603060.8	4.5	124.7	2.9	128.9	12.1	97	95	12	Weldon WC Screenings		Sor
6	BF-05-04	1/9/2013	684186.1	603053.5	5.8	129.7	3.3	128.9	12.1	101	95	12	Weldon WC Screenings		Sor
7	BF-05-05	1/9/2013	684180.6	603048.6	6.5	131.1	3.4	128.9	12.1	102	95	12	Weldon WC Screenings		Sor
8	BF-05-06	3/19/2014	684180.6	603060.4	7.5	122.5	4.9	128.9	21.1	95	95	12	Weldon WC Screenings		Sor
1	BF-06		684214.8	603050.6	-1.7							14	Crushed concrete	Bottom of excavation elevation	
2	BF-06											14	Crushed concrete	No compaction testing required	
3	BF-06-01	12/31/2013	684229.9	603061.3	2.2	137.7	3.4	128.9	12.1	107	95	14	Weldon WC Screenings		Sor
4	BF-06-02	12/31/2013	684228.8	603062.8	3.5	133.1	3.4	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
5	BF-06-03	1/6/2014	684234.0	603066.8	4.2	123.7	9.5	128.9	12.1	96	95	14	Weldon WC Screenings		Sor
6	BF-06-04	1/9/2014	684230.8	603071.3	6.2	133.1	4.2	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
7	BF-06-05	1/9/2014	684213.9	603095.7	7.3	133.8	5.0	128.9	12.1	104	95	14	Weldon WC Screenings		Sor
1	BF-07		684222.7	603033.3	-0.8							15	Crushed concrete	Bottom of excavation elevation	
2	BF-07											15	Crushed concrete	No compaction testing required	
3	BF-07-01	12/31/2013	684196.2	603014.9	2.5	133.1	2.6	128.9	12.1	103	95	15	Weldon WC Screenings		Sor
4	BF-07-02	12/31/2013	684192.8	603021.1	3.9	133.2	3.4	128.9	12.1	103	95	15	Weldon WC Screenings	Numbering error; skipped from 02 to 04	Sor
6	BF-07-04	1/9/2014	684196.9	603018.8	5.7	118.5	3.9	128.9	12.1	92	95	15	Weldon WC Screenings	recompact lift	Sor
6	BF-07-04R	1/9/2014	684196.9	603018.8	5.7	122.6	4.3	128.9	12.1	95	95	15	Weldon WC Screenings	second reading after addl compaction	Sor
7	BF-07-05	1/9/2014	684195.0	603021.0	6.4	128.4	6.7	128.9	12.1	100	95	15	Weldon WC Screenings		Sor

FIELD DENSITY TEST SUMMARY LOG
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LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-08		684221.8	603013.0	-0.7							16	Crushed concrete	Bottom of excavation elevation	
2	BF-08											16	Crushed concrete	No compaction testing required	
3	BF-08-01	12/31/2013	684246.9	603039.8	2.0	127.2	3.2	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
4	BF-08-02	12/31/2013	684240.5	603043.2	3.1	132.7	2.9	128.9	12.1	103	95	16	Weldon WC Screenings		Sor
5	BF-08-03	1/6/2014	684231.7	603038.8	3.9	127.0	8.4	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
6	BF-08-04	1/9/2014	684242.3	603046.8	5.4	130.1	4.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
7	BF-08-05	1/9/2014	684236.3	603066.0	7.1	129.8	6.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
1	BF-09		684208.5	602989.4	-0.5							17	Crushed concrete	Bottom of excavation elevation	
2	BF-09											17	Crushed concrete	No compaction testing required	
3	BF-09-01	1/28/2014	684209.7	602987.6	2.5	124.0	7.9	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
4	BF-09-02	1/28/2014	684213.6	602980.4	3.4	123.4	6.1	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
5	BF-09-03	1/28/2014	684204.2	602981.5	4.2	124.9	7.1	128.9	12.1	97	95	17	Weldon WC Screenings		Sor
1	BF-10		684269.0	603014.0	-0.5							18	Crushed concrete	Bottom of excavation elevation	
2	BF-10											18	Crushed concrete	No compaction testing required	
3	BF-10-01	1/20/2014	684275.4	603018.2	2.2	133.1	7.7	128.9	12.1	103	95	18	Weldon WC Screenings		Sor
4	BF-10-02	1/28/2014	684267.5	603026.1	3.2	118.8	3.1	128.9	12.1	92	95	18	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-10-02R	1/28/2014	684267.5	603026.1	3.2	133.3	6.1	128.9	12.1	103	95	18	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-10-03	1/28/2014	684271.8	603014.4	4.1	125.7	5.4	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
6	BF-10-04	3/21/2014	684267.9	603017.5	5.2	126.4	6.8	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
1	BF-11		684208.5	602989.4	-1.0							19	Crushed concrete	Bottom of excavation elevation	
2	BF-11											19	Crushed concrete	No compaction testing required	
3	BF-11-01	1/28/2014	684216.6	602952.7	2.1	125.2	8.8	128.9	12.1	97	95	19	Weldon WC Screenings		Sor
4	BF-11-02	1/28/2014	684223.4	602953.8	3.4	129.8	4.2	128.9	12.1	101	95	19	Weldon WC Screenings		Sor
5	BF-11-03	1/28/2014	684211.6	602949.0	4.0	123.4	6.6	128.9	12.1	96	95	19	Weldon WC Screenings		Sor
1	BF-12		684286.7	602988.6	-1.7							20	Crushed concrete	Bottom of excavation elevation	
2	BF-12											20	Crushed concrete	No compaction testing required	
3	BF-12-01	1/20/2014	684291.7	602995.2	1.8	133.3	8.3	128.9	12.1	103	95	20	Weldon WC Screenings		Sor
4	BF-12-02	1/28/2014	684288.5	602989.8	2.9	121.6	4.0	128.9	12.1	94	95	20	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-12-02R	1/28/2014	684288.5	602989.8	2.9	128.5	5.8	128.9	12.1	100	95	20	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-12-03	1/28/2014	684291.3	602995.4	3.7	136.9	7.5	128.9	12.1	106	95	20	Weldon WC Screenings		Sor
1	BF-13		684235.7	602919.6	-0.9							22	Crushed concrete	Bottom of excavation elevation	
2	BF-13											22	Crushed concrete	No compaction testing required	
3	BF-13-01	1/28/2014	684235.6	602919.1	2.1	130.1	5.8	128.9	12.1	101	95	22	Weldon WC Screenings		Sor
3	BF-13-01R	3/12/2014	684238.5	602922.0	2.1	132.0	2.9	135.8	6.4	97	95	22	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-13-02	3/12/2014	684238.4	602918.2	3.4	133.0	1.4	135.8	6.4	98	95	22	Tilcon MH DGA		V5N
5	BF-13-03	3/19/2014	684235.1	602916.0	4.5	124.0	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
1	BF-14		684312.1	602956.0	-0.9							23	Crushed concrete	Bottom of excavation elevation	
2	BF-14											23	Crushed concrete	No compaction testing required	
3	BF-14-01	1/20/2014	684312.7	602965.2	1.8	133.9	7.0	128.9	12.1	104	95	23	Weldon WC Screenings		Sor
3	BF-14-01R	3/13/2013	684289.6	602935.7	1.8	132.0	1.7	135.8	6.4	97	95	23	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-14-02	3/14/2014	684301.9	602952.7	2.6	133.0	1.6	135.8	6.4	98	95	23	Tilcon MH DGA		V5N
1	BF-15		684260.7	602896.7	-0.9							24	Crushed concrete	Bottom of excavation elevation	
2	BF-15											24	Crushed concrete	No compaction testing required	
3	BF-15-01	1/28/2014	684259.0	602897.1	2.1	123.6	9.0	128.9	12.1	96	95	24	Weldon WC Screenings		Sor
3	BF-15-01R	3/12/2014	684264.5	602902.2	2.1	131.0	2.4	135.8	6.4	96	95	24	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-15-02	3/12/2014	684260.5	602900.2	2.8	133.0	1.3	135.8	6.4	98	95	24	Tilcon MH DGA		V5N
1	BF-16		684326.7	602937.0	-1.1							25	Crushed concrete	Bottom of excavation elevation	
2	BF-16											25	Crushed concrete	No compaction testing required	
3	BF-16-01	1/20/2014	684331.9	602942.7	1.6	136.1	7.4	128.9	12.1	106	95	25	Weldon WC Screenings		Sor
3	BF-16-01R	3/13/2014	6844330.0	602937.2	1.8	132.2	1.4	135.8	6.4	97	95	25	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-16-02	3/14/2014	684326.7	602930.0	2.5	134.0	1.2	135.8	6.4	99	95	25	Tilcon MH DGA		V5N
1	BF-17		684283.7	602879.0	0.4							26	Crushed concrete	Bottom of excavation elevation-Stratum O	
2	BF-17											26	Crushed concrete	No compaction testing required	
3	BF-17-01	3/12/2014	684284.6	602882.1	2.1	130.0	2.9	135.8	6.4	96	95	26	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-17-02	3/14/2014	684273.7	602879.1	3.1	132.0	2.2	135.8	6.4	97	95	26	Tilcon MH DGA		V5N
1	BF-18		684350.8	602909.6	-1.5							27	Crushed concrete	Bottom of excavation elevation	
2	BF-18											27	Crushed concrete	No compaction testing required	
3	BF-18-01	3/13/2014	684313.5	602885.6	1.5	132.4	1.4	135.8	6.4	97	95	27	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-18-02	3/14/2014	684344.0	602911.5	2.7	134.0	1.1	135.8	6.4	99	95	27	Tilcon MH DGA		V5N
1	BF-19		684313.2	602860.4	0.3							28	Crushed concrete	Bottom of excavation elevation - Stratum O	

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LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
2	BF-19												Crushed concrete	No compaction testing required	
3	BF-19-01	3/14/2014	684322.1	602872.7	2.8	134.0	0.9	135.8	6.4	99	95	28	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-19-02	3/17/2014	684301.4	602851.5	3.6	133.0	1.3	135.8	6.4	98	95	28	Tilcon MH DGA		V5N
1	BF-20		684370.9	602887.4	-1.7							29	Crushed concrete	Bottom of excavation elevation	
2	BF-20											29	Crushed concrete	No compaction testing required	
3	BF-20-01	3/17/2014	6843640.5	602862.1	2.0	133.0	1.7	135.8	6.4	98	95	29	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-21		684330.4	602835.9	1.9							30	Crushed concrete	Bottom of excavation elevation - Startum O	
2	BF-21-01	3/14/2014	684343.3	602842.2	2.4	132.0	1.6	135.8	6.4	97	95	30	Tilcon MH DGA	Removed wet screenings to crushed concrete and placed Bridge Lift	V5N
3	BF-21-02	3/17/2014	684307.4	602827.3	3.3	134.0	0.8	135.8	6.4	99	95	30	Tilcon MH DGA	Bridge Lift over Stratum O	V5N
4	BF-21-03	3/19/2014	684314.6	602830.9	3.9	122.5	5.1	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
5	BF-21-04	3/20/2014	684314.4	602815.1	4.5	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
6	BF-21-05	3/20/2014	684321.1	602814.1	5.2	124.0	3.9	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
7	BF-21-06	3/20/2014	684308.3	602802.2	5.8	122.5	5.0	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
8	BF-21-07	3/20/2014	684305.8	602806.3	6.7	123.3	4.0	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
9	BF-21-08	3/20/2014	684314.4	602804.8	7.6	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
10	BF-21-09	3/20/2014	684310.5	602806.6	8.4	132.5	1.9	135.8	6.4	98	95	30	Tilcon MH DGA	Truck Ramp to Kellogg Street	V5N
1	BF-22		684391.2	602864.3	-2.3							31	Crushed concrete	Bottom of excavation elevation	
2	BF-22											31	Crushed concrete	No compaction testing required	
3	BF-22-01	3/17/2014	684387.3	602845.0	1.4	134.0	0.8	135.8	6.4	99	95	31	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-23		684350.9	602814.5	-1.6							32	Crushed concrete	Bottom of excavation elevation	
2	BF-23											32	Crushed concrete	No compaction testing required	
3	BF-23-01	3/14/2014	684360.9	602818.8	2.4	132.0	2.0	135.8	6.4	97	95	32	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-23-02	3/17/2014	684339.8	602809.6	3.5	134.0	1.1	135.8	6.4	99	95	32	Tilcon MH DGA		V5N
1	BF-24		684411.0	602842.4	-1.8							33	Crushed concrete	Bottom of excavation elevation	
2	BF-24											33	Crushed concrete	No compaction testing required	
3	BF-24-01	3/17/2014	684402.4	602827.4	1.1	134.0	0.8	135.8	6.4	99	95	33	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-25		684369.5	602729.2	-1.8							34	Crushed concrete	Bottom of excavation elevation	
2	BF-25											34	Crushed concrete	No compaction testing required	
3	BF-25-01	3/14/2014	684379.5	602796.3	2.0	131.0	2.1	135.8	6.4	96	95	34	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-25-02	3/17/2014	684354.8	602790.5	3.4	133.0	1.5	135.8	6.4	98	95	34	Tilcon MH DGA		V5N
1	BF-26		684433.4	602818.8	-2.1							35	Crushed concrete	Bottom of excavation elevation	
2	BF-26											35	Crushed concrete	No compaction testing required	
3	BF-26-01	3/18/2014	684433.9	602828.3	0.3	134.0	0.8	135.8	6.4	99	95	35	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-26-02	3/18/2014	684431.7	602817.7	0.8	133.0	1.3	135.8	6.4	98	95	35	Tilcon MH DGA		V5N
1	BF-27		684389.4	602765.0	-1.8							36	Crushed concrete	Bottom of excavation elevation	
2	BF-27											36	Crushed concrete	No compaction testing required	
3	BF-27-01	3/14/2014	684398.2	602773.8	1.8	133.0	1.6	135.8	6.4	98	95	36	Tilcon MH DGA		V5N
0	BF-28		684457.0	602790.8	-2.8							38	Stratum D	Bottom of excavation elevation	
1	BF-28-01	3/12/2014	684461.2	602789.3	-0.4	133.2	1.0	135.8	6.4	98	95	38	Tilcon MH DGA		V5N
0	BF-29		684418.8	602735.2	2.1							39	Stratum O	Bottom of excavation elevation - Stratum O	
1	BF-29-01	3/26/2014	684404.6	602731.3	3.3	134.0	1.2	135.8	6.4	99	95	39	Tilcon MH DGA		V5N
0	BF-30		684476.8	602765.1	-3.1							40	Stratum D	Bottom of excavation elevation	
1	BF-30-01	3/12/2014	684478.9	602766.2	-0.7	133.2	1.1	135.8	6.4	98	95	40	Tilcon MH DGA		V5N
0	BF-31		684436.0	602712.8	0.1							41	Stratum O	Bottom of excavation elevation	
0	BF-32		684498.7	602739.5	-2.2							42	Stratum D	Bottom of excavation elevation	
1	BF-32-01	3/12/2014	684496.6	602743.0	-0.9	131.0	2.3	135.8	6.4	96	95	42	Tilcon MH DGA		V5N
0	BF-33		684453.0	602683.2	0.1							43	Stratum O	Bottom of excavation elevation	
0	BF-34		684517.5	602716.8	-2.5							44	Stratum D	Bottom of excavation elevation	
1	BF-34-01	3/12/2014	684515.6	602715.4	-1.1	131.0	2.0	135.8	6.4	96	95	44	Tilcon MH DGA		V5N
0	BF-35		684471.3	602661.2	0.2							45	Stratum O	Bottom of excavation elevation	
0	BF-36		684538.2	602694.6	-3.0							46	Stratum D	Bottom of excavartion elevation	
1	BF-36-01	3/18/2014	684535.1	602700.7	-1.9	134.5	0.5	135.8	6.4	99	95	46	Tilcon MH DGA		V5N
0	BF-37		684490.0	602636.8	0.2							47	Stratum O	Bottom of excavation elevation	
0	BF-38		684558.4	602671.7	-3.0							48	Stratum D	Bottom of excavation elevation	
1	BF-38-01	3/21/2014	684551.4	602683.6	-1.7	131.9	1.9	135.8	6.4	97	95	48	Tilcon MH DGA		V5N
0	BF-39		684510.6	602614.8	0.4							49	Stratum O	Bottom of excavation elevation	
0	BF-40		684557.4	602644.9	-3.6							50	Stratum D	Bottom of excavation elevation	
1	BF-40-01	3/26/2014	684572.2	602653.5	-1.4	134.8	0.5	135.8	6.4	99	95	50	Tilcon MH DGA		V5N
0	BF-101		685222.6	601822.8	0.4							120 (No)	Stratum O	Bottom of excavation elevation	
1	BF-101-01	6/27/2014	685213.8	601814.2	1.0	136.0	3.4	142.6	7.6	95	95	120 (No)	Weldon WC QP		V5N

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HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
0	BF-102		685148.9	601780.9	-2.5							119	Stratum O	Bottom of excavation elevation	
1	BF-102-01	6/27/2014	685148.8	601788.7	-0.8	135.5	3.4	142.6	7.6	95	95	119	Weldon WC QP		V5N
1	BF-105		685102.9	601692.4	-7.5							122 (So)	Crushed concrete	Bottom of excavation elevation	
2		6/27/2014	685126.9	601702.6	-5.7	135.5	3.4	142.6	7.6	95	95		Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-104		685218.6	601799.3	-2.5								Stratum O	Bottom of excavation elevation	
1	BF-104-01	6/27/2014	685205.5	601790.7	0.9	135.5	3.4	142.6	7.6	95	95	121 (No)	Weldon WC QP		V5N
0	BF-106		685225.5	601777.9	-1.2							122 (No)	Stratum O	Bottom of excavation elevation	
1	BF 106-01	6/18/2014	685230.1	601784.7	0.5	140.0	1.7	142.6	7.6	98	95	122 (No)	Weldon WC QP		V5N
2	BF 106-02	6/27/2014	685221.4	601777.8	1.0	135.4	3.4	142.6	7.6	95	95	122 (No)	Weldon WC QP		V5N
1	BF-107		685115.2	601682.1	-7.5							123 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF 107-01	6/24/2014	685134.6	601695.5	-5.9	136.9	2.5	142.6	7.6	96	95	123 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-108		685235.5	601760.6	-1.2							124 (No)	Stratum O	Bottom of excavation elevation	
1	BF-108-01	6/18/2014	685235.2	601757.6	0.8	138.0	2.6	142.6	7.6	97	95		Weldon WC QP		V5N
2	BF-108-02	6/27/2014	685253.4	601761.5	1.4	135.0	3.4	142.6	7.6	95	95		Weldon WC QP		V5N
1	BF-109		685135.2	601666.9	-7.5							124 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-109-01	6/18/2014	685144.9	601672.5	-5.8	136.0	5.1	142.6	7.6	95	95		Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-111		685154.6	601650.7	-7.5							126 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-111-01	6/18/2014	685157.7	601655.0	-5.4	140.0	1.5	142.6	7.6	98	95		Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-124		685346.3	601612.6	-1.2							136	Stratum O	Bottom of excavation elevation	
1	BF-124-01	5/9/2014	685359.1	601618.5	0.3	130.8	1.3	135.8	6.4	96	95	136	Tilcon MH DGA		V5N
0	BF-126		685363.5	601589.4	-1.2							138	Stratum O	Bottom of excavation elevation	
1	BF-126-01	5/9/2014	685355.3	601576.3	0.2	128.0	3.3	128.9	12.1	99	95	138	Weldon WC Screenings		V5N
0	BF-128		685382.2	601566.3	-2.5							140 (No)	Stratum O	Bottom of excavation elevation	
1	BF-128-01	4/29/2014	685369.8	601556.5	-1.8	130.0	1.2	135.8	6.4	96	95	140	Tilcon MH DGA		V5N
2	BF-128-02	4/29/2014	685381.4	601569.9	-0.8	132.2	1.5	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
3	BF-128-03	4/29/2014	685382.7	601573.8	0.3	132.0	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
4	BF-128-04	4/29/2014	685386.7	601571.4	1.5	132.3	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
5	BF-128-05	4/29/2014	685389.9	601573.7	2.7	133.9	1.4	135.8	6.4	99	95	140	Tilcon MH DGA		V5N
0	BF-129		685308.1	601468.7	-7.5							142 (So)	Stratum O	Bottom of excavation elevation	
1	BF-129-01	5/9/2014	685315.6	601465.0	-6.4	135.5	1.3	135.8	6.4	100	95		Tilcon MH DGA		V5N
0	BF-130		685401.7	601541.7	1.9							142 (No)	Stratum O	Bottom of excavation elevation	
1	BF-130-01	4/28/2014	685410.7	601558.5	2.7	132.0	2.2	135.8	6.4	97	95	142 (No)	Tilcon MH DGA		V5N
2	BF-130-02	4/28/2014	685414.5	601553.3	3.6	133.0	1.7	135.8	6.4	98	95	142 (No)	Tilcon MH DGA		V5N
3	BF-130-03	4/28/2014	685414.9	601555.5	4.8	136.0	1.6	135.8	6.4	100	95	142 (No)	Tilcon MH DGA		V5N
4	BF-130-04	4/28/2014	685420.1	601558.2	5.5	135.0	1.9	135.8	6.4	99	95	142 (No)	Tilcon MH DGA		V5N
0	BF-131		685426.9	601523.7	3.2							144	Stratum O	Bottom of excavation elevation	
1	BF-131-01	4/25/2014	685440.9	601531.9	5.9	120.0	1.4	135.8	6.4	88	95	144	Tilcon MH DGA	recompact lift	V5N
1	BF-131-01R	4/28/2014	685440.9	601531.9	5.9	139.9	1.4	135.8	6.4	103	95	144	Tilcon MH DGA	second reading after addl compaction	V5N
0	BF-132		685452.9	601506.1	5.6							146	Stratum O	Bottom of excavation elevation	
1	BF-132-01	4/25/2014	685438.7	601505.6	6.1	135.0	1.0	135.8	6.4	99	95	144	Tilcon MH DGA		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

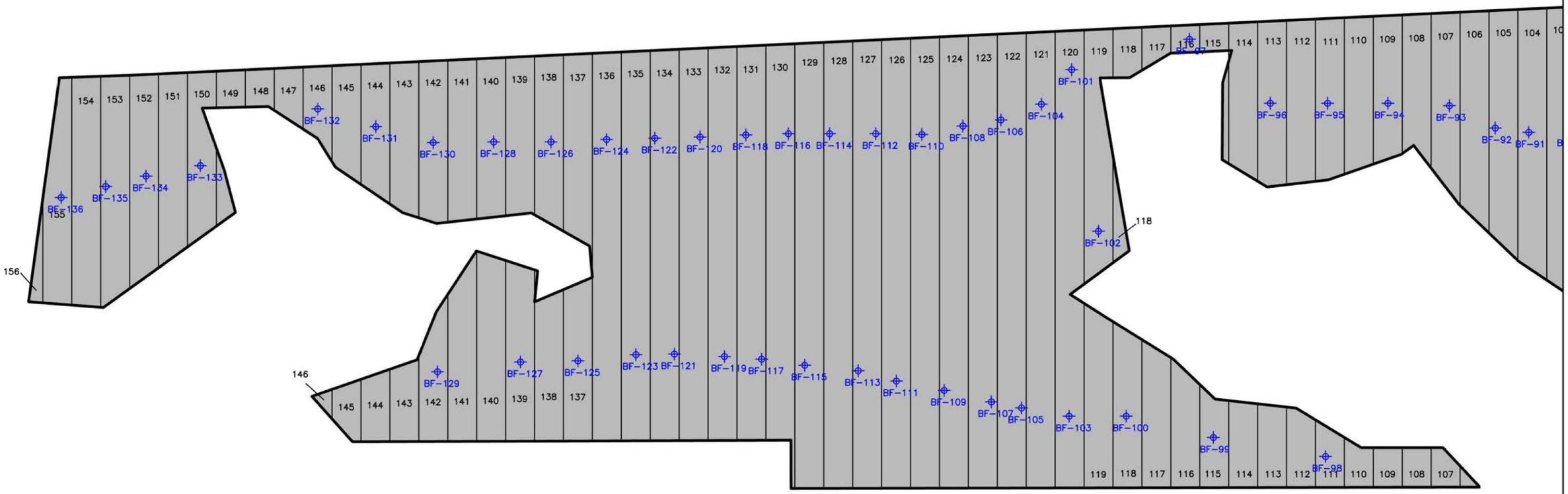
Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

Sample ID BF-01-01 where:

BF = Backfill (At frequency of 1 test/2500 SF)

01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



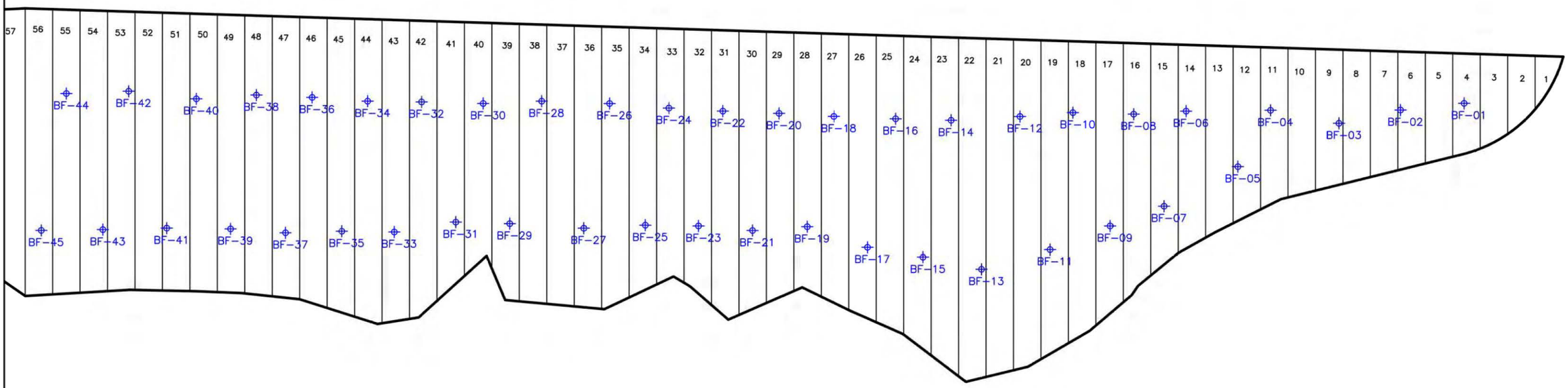
NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF BF-95 TO BF-136

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
	RF-03		684270.2	603012.0								18			
7	RF-03-01	3/21/2014	684267.9	603017.5	6.1	124.0	3.6	128.9	12.1	96	95	18	Weldon WC Screenings		V5N
8	RF-03-02	4/8/2014	684272.9	605018.7	7.6	122.4	8.1	128.9	12.1	95	95	18	Weldon WC Screenings		V5N
	RF-04		684235.2	602919.8								22			
6	RF-04-01	3/21/2014	684227.0	602916.6	5.5	124.0	3.6	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
7	RF-04-02	3/26/2014	684266.5	602908.5	6.2	123.6	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
8	RF-04-03	4/1/2014	684384.8	602904.9	7.1	125.8	3.0	128.9	12.1	98	95	22	Weldon WC Screenings		V5N
9	RF-04-04	4/3/2014	684220.8	602926.9	8.2	120.0	3.6	128.9	12.1	93	95	22	Weldon WC Screenings	Recompact lift	V5N
9	RF-04-04R	4/3/2014	684220.8	602926.9	8.2	125.0	4.1	128.9	12.1	97	95	22	Weldon WC Screenings	Second reading after re-rolling	V5N
10	RF-04-05	4/17/2014	684241.5	602924.2	8.8	130.0	3.0	128.9	12.1	101	95	22	Weldon WC Screenings		V5N
	RF-05		684328.5	602935.0								25			
5	RF-05-01	3/24/2014	684347.1	602947.5	3.3	122.5	4.5	128.9	12.1	95	95	25	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
6	RF-05-02	3/26/2014	684348.1	602942.0	4.1	123.5	3.7	128.9	12.1	96	95	25	Weldon WC Screenings		V5N
7	RF-05-03	4/1/2014	684351.4	602937.8	5.4	125.0	2.6	128.9	12.1	97	95	25	Weldon WC Screenings		V5N
8	RF-05-04	4/3/2014	684339.0	602933.4	6.4	128.9	4.7	128.9	12.1	100	95	25	Weldon WC Screenings		V5N
9	RF-05-05	4/8/2014	684327.1	602942.3	7.6	126.4	8.3	128.9	12.1	98	95	25	Weldon WC Screenings		V5N
10	RF-05-06	4/17/2014	684348.8	602945.1	8.2	135.0	6.4	128.9	12.1	105	95	25	Weldon WC Screenings		V5N
	RF-06		684335.0	602869.1								25			
2	RF-06-01	4/1/2014	684383.7	602908.8	3.0	126.0	2.7	128.9	12.1	98	95	29	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
3	RF-06-02	4/1/2014	684384.8	602904.9	4.1	125.0	2.8	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
4	RF-06-03	4/3/2014	684358.9	602890.5	5.9	127.6	4.0	128.9	12.1	99	95	29	Weldon WC Screenings		V5N
5	RF-06-04	4/8/2014	684340.1	602867.1	6.9	123.0	4.6	128.9	12.1	95	95	29	Weldon WC Screenings		V5N
6	RF-06-05	4/14/2014	684340.1	602867.1	7.5	124.8	3.0	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
7	RF-06-06	4/17/2014	684337.1	602897.4	8.5	118.5	3.0	128.9	12.1	92	95	29	Weldon WC Screenings	Recompact lift	V5N
7	RF-06-06R	4/17/2014	684337.1	602897.4	8.5	122.0	3.2	128.9	12.1	95	95	29	Weldon WC Screenings	Second reading after re-rolling	V5N
	RF-07		684392.9	602838.1								32			
4	RF-07-01	4/3/2014	684425.2	602890.4	3.0	125.3	5.1	128.9	12.1	97	95	32	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-07-02	4/3/2014	684418.6	602854.9	4.1	126.3	5.5	128.9	12.1	98	95	32	Weldon WC Screenings		V5N
6	RF-07-03	4/8/2014	684410.5	602847.3	5.6	122.7	2.5	128.9	12.1	95	95	32	Weldon WC Screenings		V5N
7	RF-07-04	4/14/2014	684410.5	602847.3	6.3	123.1	2.7	128.9	12.1	96	95	32	Weldon WC Screenings		V5N
8	RF-07-05	4/17/2014	684394.3	602842.1	7.1	135.0	6.1	128.9	12.1	105	95	32	Weldon WC Screenings		V5N
9	RF-07-06	4/21/2014	684394.8	602836.9	8.2	128.9	2.2	128.9	12.1	100	95	32	Weldon WC Screenings		V5N
	RF-08		684406.9	602771.1								36			
4	RF-08-01	4/3/2014	684421.7	602797.1	2.9	129.0	6.0	128.9	12.1	100	95	36	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-08-02	4/8/2014	684429.7	602790.1	4.0	124.9	3.0	128.9	12.1	97	95	36	Weldon WC Screenings		V5N
6	RF-08-03	4/15/2014	684439.0	602813.0	5.0	124.2	4.7	128.9	12.1	96	95	36	Weldon WC Screenings		V5N
7	RF-08-04	4/17/2014	684400.4	602773.4	6.1	137.0	5.6	128.9	12.1	106	95	36	Weldon WC Screenings		V5N
8	RF-08-05	4/21/2014	684429.8	602794.0	6.8	128.9	3.5	128.9	12.1	100	95	36	Weldon WC Screenings		V5N
9	RF-08-06	4/21/2014	684443.6	602550.4	8.0	122.5	6.9	128.9	12.1	95	95	36	Weldon WC Screenings		V5N
	RF-09		684479.9	602754.0								40			
3	RF-09-01	4/7/2014	684489.3	602750.3	0.8	128.7	6.8	128.9	12.1	100	95	40	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
4	RF-09-02	4/11/2014	684498.7	602757.9	2.1	122.4	3.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
5	RF-09-03	4/11/2014	684503.3	602770.3	3.2	129.3	8.5	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
6	RF-09-04	4/14/2014	684503.3	602770.3	4.1	128.9	5.7	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
7	RF-09-05	4/21/2014	684479.1	602753.1	5.4	128.9	5.3	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
8	RF-09-06	4/21/2014	684446.9	602799.1	6.4	123.0	2.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
9	RF-09-07	5/15/2014	684479.0	602751.5	6.9	124.5	4.4	128.9	12.1	97	95	40	Weldon WC Screenings		V5N
10	RF-09-08	5/19/2014	684494.7	602760.2	8.1	122.5	5.9	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
1	RF-10		684474.1	602682.1	0.2							44	Crushed Concrete	Bottom of excavation elevation	
2	RF-10		684474.1	602682.1								44	Type A Material	No compaction testing required	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
3	RF-10-01	4/25/2014	684476.1	602679.3	2.5	138.0	1.4	128.9	12.1	107	95	44	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-10-02	5/8/2014	684445.5	602680.1	5.8	132.0	6.6	128.9	12.1	102	95	44	Weldon WC Screenings		V5N
5	RF-10-03	5/15/2014	684463.8	602677.8	7.1	124.1	4.2	128.9	12.1	96	95	44	Weldon WC Screenings		V5N
6	RF-10-04	5/19/2014	684466.2	602672.2	8.2	122.5	6.8	128.9	12.1	95	95	44	Weldon WC Screenings		V5N
2	RF-11		684545.0	602673.2								48	Type A Material	Placed on Tilcon MH DGA	
3	RF-11-01	4/11/2014	684533.0	602676.0	1.0	126.0	3.8	128.9	12.1	98	95	48	Weldon WC Screenings	Placed on Type A Material; Against HB wall	V5N
4	RF-11-02	4/11/2014	684575.1	602679.9	2.1	125.6	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
5	RF-11-03	4/14/2014	684575.1	602679.9	2.8	126.8	2.2	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
6	RF-11-04	4/17/2014	684579.8	602684.6	3.8	122.5	3.0	128.9	12.1	95	95	48	Weldon WC Screenings	Against HB wall	V5N
7	RF-11-05	4/17/2014	684585.7	602686.5	4.5	126.8	4.0	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
8	RF-11-06	5/15/2014	684569.9	602672.5	7.3	126.8	4.5	124.5	12.1	102	95	48	Weldon WC Screenings	Against HB wall	V5N
9	RF-11-07	5/19/2014	685562.2	602686.4	8.3	124.5	3.5	124.5	12.1	100	95	48	Weldon WC Screenings	Against HB wall	V5N
1	RF-12		684540.0	602601.3	0.3							51	Crushed Concrete	Bottom of excavation elevation	
2	RF-12		684540.0	602601.3								51	Type A Material	No compaction testing required	
3	RF-12-01	4/25/2014	684557.9	602605.6	2.3	130.2	2.2	128.9	12.1	101	95	51	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-12-02	5/6/2014	684516.3	602580.6	6.0	128.6	5.6	128.9	12.1	100	95	51	Weldon WC Screenings		V5N
5	RF-12-03	5/15/2014	684526.7	602594.1	7.3	124.8	3.9	128.9	12.1	97	95	51	Weldon WC Screenings		V5N
6	RF-12-04	5/20/2014	684522.6	602585.3	8.1	121.3	7.1	128.9	12.1	94	95	51	Weldon WC Screenings	Recompact lift	V5N
6	RF-12-04R	5/20/2014	684522.6	602585.3	8.1	122.0	5.9	128.9	12.1	95	95	51	Weldon WC Screenings	Second reading after re-rolling	V5N
1	RF-13		684610.2	602590.4	-2.3							54	Crushed Concrete	Bottom of excavation elevation	
2	RF-13		684610.2	602590.4								54	Type A Material	No compaction testing required	
3	RF-13-01	4/11/2014	684619.5	602515.3	1.6	126.5	7.8	128.9	12.1	98	95	54	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-13-02	4/14/2014	684619.5	602515.3	2.7	124.5	2.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
5	RF-13-03	4/17/2014	684641.5	602614.6	3.6	123.0	4.1	128.9	12.1	95	95	54	Weldon WC Screenings	Against HB	V5N
6	RF-13-04	4/17/2014	684646.7	602619.5	4.4	132.9	5.5	128.9	12.1	103	95	54	Weldon WC Screenings	Against HB	V5N
7	RF-13-05	5/15/2014	684640.0	602620.1	5.4	125.0	3.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
8	RF-13-06	5/15/2014	684613.8	602605.5	6.9	125.0	4.5	128.9	12.1	97	95	54	Weldon WC Screenings		V5N
9	RF-13-07	5/20/2014	684614.3	602606.0	7.8	121.3	8.0	128.9	12.1	94	95	54	Weldon WC Screenings	Top lift. Will retest prior to final restoration	V5N
	RF-30		685179.4	601785.6	0.4							120 (No)			
2	RF-30-01	7/1/2014	685218.5	601814.2	2.0	122.0	7.5	128.9	12.1	95	95	120 (No)	Weldon WC Screenings	Placed on Weldon WC QP	V5N
0	RF-32		684498.6	602739.4	-1.2								Stratum O	Bottom of excavation elevation	
1	RF-32-01	6/12/2014	685241.5	601740.7	0.0	134.0	1.3	135.8	6.4	99	95	125	Tilcon MH DGA		V5N
2	RF-32-02	7/1/2014	685263.1	601755.8	2.6	122.4	7.3	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
1	RF-33		685179.1719	601631.6	-7.5							128	Crushed Concrete	Bottom of excavation elevation	
2	RF-33-01	6/5/2014	685182.8	601626.5	-5.1	132.0	3.7	135.8	6.4	97	95	128	Tilcon MH DGA	Placed on concrete bridge lift	V5N
0	RF-34		685278.423	601673.3	-1.2							130	Stratum O	Bottom of excavation elevation	
1	RF-34-01	6/5/2014	685303.0	601691.1	0.3	132.0	3.6	135.8	6.4	97	95	130	Tilcon MH DGA		V5N
2	RF-34-02	6/24/2014	685298.9	601690.4	1.6	122.0	5.5	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
3	RF-34-03	6/27/2014	685295.5	601692.8	2.5	122.5	7.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
0	RF-36		685334.4	601603.7	-1.2										
1	RF-36-01	6/24/2014	685349.2	601617.6	1.7	125.0	3.4	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
2	RF-36-02	6/27/2014	685330.9	601606.5	2.6	125.0	6.5	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
3	RF-36-03	6/27/2014	685339.9	601612.8	3.4	123.7	6.8	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
1	RF-37		685295.3	601495.2	-7.8							140 (So)	Crushed Concrete	Bottom of excavation elevation	
2	RF-37-01	5/15/2014	685286.1	601481.2	-5.1	132.0	2.5	135.8	6.4	97	95	140 (So)	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-37-02	5/21/2014	685294.5	601489.0	-4.2	122.5	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
0	RF-38		685399.1	601540.2	-1.2							142 (No)	Stratum O	Bottom of excavation elevation	
1	RF-38-01	5/9/2014	685391.8	601532.2	-0.2	124.6	2.5	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
2	RF-38-02	5/21/2014	685389.4	601534.3	0.2	122.5	5.6	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
LIFT			LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
3	RF-38-03	6/24/2014	685386.6	601538.7	4.0	125.0	3.4	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
4	RF-38-04	6/27/2014	685392.8	601538.8	5.3	124.0	6.0	128.9	12.1	96	95	142 (No)	Weldon WC Screenings		V5N
0	RF-39		685485.1	601397.7	3.8							152	Stratum O	Bottom of excavation elevation	
1	RF-39-01	5/5/2014	685451.1	601421.7	4.3	126.3	3.9	128.9	12.1	98	95	151	Weldon WC Screenings		V5N
2	RF-39-02	5/5/2014	685477.5	601397.7	5.6	123.3	4.1	128.9	12.1	96	95	151	Weldon WC Screenings		V5N
3	RF-39-03	5/5/2014	685492.5	601460.8	6.4	123.8	7.4	128.9	12.1	96	95	151	Weldon WC Screenings		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

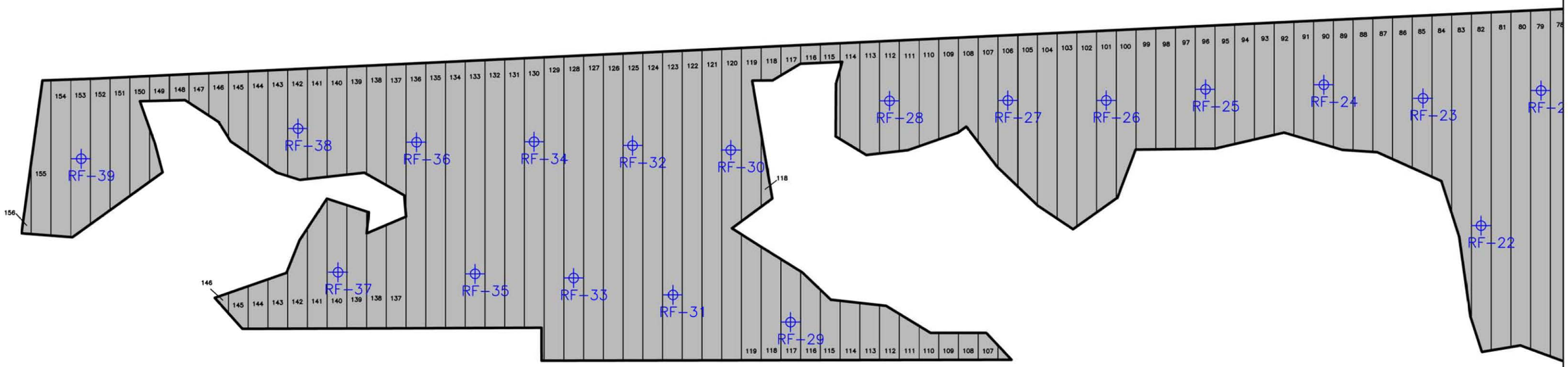
Sample ID RF-01-01 where:

RF = Reduced Frequency

01 = Test Location (as noted on Backfill Compaction Location Figure)

01 = Number of test performed at that location (sequential)

R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



NOTE:

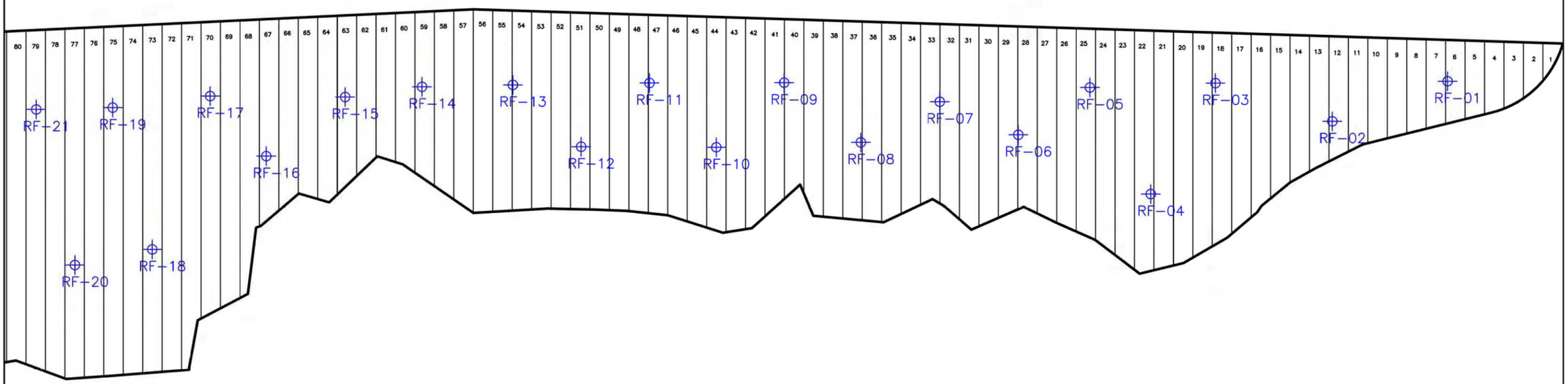
Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE
RF-22 TO RF-39

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS 5 TESTS PER ACRE

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

Attachment 4: Dewatering Operations Update

- SA-6 South Dewatering Data (Headers)
- SA-6 South Deep Well Data (DW-5)

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) DAILY	EXTRACTED VOLUME (Gal) TOTAL	AVERAGE FLOW RATE (gpm)	COMMENTS
05/01/14	1	24	9,EPS	12	560,143	563,407	3,264	1,959,614	2.3	
05/01/14	2	24	16,17	18	65,318	67,350	2,032	1,961,646	1.4	
05/02/14	1	24	9,EPS	12	563,407	571,007	7,600	1,969,246	5.3	
05/02/14	2	24	16,17	18	67,350	69,321	1,971	1,971,217	1.4	
05/05/14	1	72	9,EPS	12	571,007	596,817	25,810	1,997,027	6.0	
05/05/14	2	72	16,17	18	69,321	75,193	5,872	2,002,899	1.4	
05/06/14	1	24	9,EPS	12	596,817	604,513	7,696	2,010,595	5.3	
05/06/14	2	24	16,17	18	75,193	77,224	2,031	2,012,626	1.4	
05/07/14	1	24	9,EPS	12	604,513	612,024	7,511	2,020,137	5.2	
05/07/14	2	24	16,17	18	0	361	361	2,020,498	0.3	Flowmeter Reset
05/08/14	1	24	9,EPS	12	612,024	617,958	5,934	2,026,432	4.1	
05/08/14	2	24	16	12	361	4,243	3,882	2,030,314	2.7	
05/09/14	1	24	9,EPS	12	617,958	618,262	304	2,030,618	0.2	
05/09/14	2	24	16	12	4,243	4,886	643	2,031,261	0.4	
05/12/14	1	72	9,EPS	12	618,262	618,262	0	2,031,261	0.0	
05/12/14	2	72	16	12	4,886	6,201	1,315	2,032,576	0.3	
05/13/14	1	24	9,EPS	12	618,262	618,262	0	2,032,576	0.0	
05/14/14	1	24	9,EPS	12	618,262	618,262	0	2,032,576	0.0	
05/15/14	1	24	9,EPS	12	618,262	618,262	0	2,032,576	0.0	
05/19/14	1	72	9,EPS	13	618,262	618,262	0	2,032,576	0.0	
06/04/14	2	24	14, WPS-2	35	0	8,325	8,325	2,040,901	5.8	
06/05/14	2	24	14, WPS-2	35	8,325	13,042	4,717	2,045,618	3.3	
06/06/14	2	24	14, WPS-2	35	13,042	22,720	9,678	2,055,296	6.7	
06/09/14	2	72	14, WPS-2	35	22,720	41,093	18,373	2,073,669	4.3	
06/10/14	2	24	14, WPS-2	35	41,093	54,801	13,708	2,087,377	9.5	
06/11/14	2	24	14, WPS-2	35	54,801	61,975	7,174	2,094,551	5.0	
06/12/14	2	24	14, WPS-2	35	61,975	69,411	7,436	2,101,987	5.2	
06/13/14	2	24	14, WPS-2	35	69,411	75,445	6,034	2,108,021	4.2	
06/16/14	2	72	14, WPS-2	35	75,445	95,783	20,338	2,128,359	4.7	
06/17/14	2	24	14, WPS-2	35	95,783	102,708	6,925	2,135,284	4.8	
06/18/14	2	24	13,14, WPS-2	48	102,708	117,105	14,397	2,149,681	10.0	
06/19/14	2	24	13,14, WPS-2	48	117,105	131,389	14,284	2,163,965	9.9	
06/20/14	2	24	13,14, WPS-2	48	131,389	142,678	11,289	2,175,254	7.8	
06/23/14	2	72	13,14, WPS-2	48	142,678	172,492	29,814	2,205,068	6.9	
06/24/14	2	24	13,14, WPS-2	48	172,492	182,523	10,031	2,215,099	7.0	
06/25/14	2	24	13,14, WPS-2	48	182,523	191,134	8,611	2,223,710	6.0	
06/26/14	2	24	13,14, WPS-2	48	191,134	200,723	9,589	2,233,299	6.7	
06/27/14	2	24	13,14, WPS-2	48	200,723	212,575	11,852	2,245,151	8.2	
06/30/14	2	72	13,14, WPS-2	48	212,575	247,628	35,053	2,280,204	8.1	
07/01/14	2	24	13,14, WPS-2	48	247,628	259,680	12,052	2,292,256	8.4	

Notes: Active Header Numbers refer to H-1, H-2, H-3, etc., as shown on Figure 6 Well Point Dewatering System
EPS - East Perimeter System
WPS - West Perimeter System
Vac plant #2 taken out of service in October, 2013
Previous information is truncated. Only last month and current month information is provided.

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-5)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) DAILY	VOLUME (Gal) TOTAL	FLOW RATE (GPM)	COMMENTS
05/01/14	24	43,518	51,195	7,677	51,195	5.3	
05/02/14	24	51,195	57,459	6,264	57,459	4.4	
05/05/14	72	57,459	62,329	4,870	62,329	1.1	Flowmeter Reset
05/06/14	24	0	27,630	27,630	89,959	19.2	
05/07/14	24	27,630	31,613	3,983	93,942	2.8	
05/08/14	24	N/A	N/A	7,500	101,442	5.2	Flowmeter Blockage (Tank Measured)
05/09/14	24	N/A	N/A	8,000	109,442	5.6	Flowmeter Blockage (Tank Measured)
05/12/14	72	N/A	N/A	25,500	134,942	5.9	Flowmeter Blockage (Tank Measured)
05/13/14	24	31,613	32,142	529	135,471	0.4	
05/14/14	24	32,142	34,250	2,108	137,579	1.5	
05/15/14	24	34,250	36,358	2,108	139,687	1.5	Well Taken Offline for Excavation
05/29/14	24	0	4,322	4,322	144,009	3.0	
05/30/14	24	4,322	8,634	4,312	148,321	3.0	
06/02/14	72	8,634	20,324	11,690	160,011	2.7	
06/03/14	24	20,324	33,537	13,213	173,224	9.2	
06/04/14	24	33,537	61,661	28,124	201,348	19.5	
06/05/14	24	61,661	83,362	21,701	223,049	15.1	
06/06/14	24	83,362	90,354	6,992	230,041	4.9	
06/09/14	72	90,354	116,742	26,388	256,429	6.1	
06/10/14	24	0	11,717	11,717	268,146	8.1	Flowmeter Reset
06/11/14	24	N/A	N/A	10,500	278,646	7.3	Flowmeter Blockage (Tank Measured)
06/12/14	24	N/A	N/A	11,200	289,846	7.8	Flowmeter Blockage (Tank Measured)
06/13/14	24	N/A	N/A	11,100	300,946	7.7	Flowmeter Blockage (Tank Measured)
06/16/14	72	N/A	N/A	34,500	335,446	8.0	Flowmeter Blockage (Tank Measured)
06/17/14	24	0	12,405	12,405	347,851	8.6	Flowmeter Reset
06/18/14	24	12,405	20,193	7,788	355,639	5.4	
06/19/14	24	N/A	N/A	9,200	364,839	6.4	Flowmeter Blockage (Tank Measured)
06/20/14	24	20,193	23,966	3,773	368,612	2.6	
06/23/14	72	23,966	30,285	6,319	374,931	1.5	
06/24/14	24	N/A	N/A	2,500	377,431	1.7	Flowmeter Blockage (Tank Measured)
06/25/14	24	N/A	N/A	5,000	382,431	3.5	Flowmeter Blockage (Tank Measured)
06/26/14	24	N/A	N/A	5,100	387,531	3.5	Flowmeter Blockage (Tank Measured)
06/27/14	24	0	6,090	6,090	393,621	4.2	
06/30/14	72	6,090	24,309	18,219	411,840	4.2	

Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
05/01/14	12.0	9,371.72	9,550.80	179,080	9,550,350	
05/02/14	23.5	9,665.35	9,775.14	224,340	9,774,690	Includes system operation through 05/01/12
05/03/14	21.0	9,921.23	10,020.57	245,430	10,020,120	Includes system operation through 05/02/13
05/05/14	37.0	10,377.22	10,584.99	564,420	10,584,540	Includes system operation through 05/04/14
05/06/14	9.5	10,584.99	10,825.62	240,630	10,825,170	
05/07/14	7.5	10,825.62	11,006.06	180,440	11,005,610	PVSC Compliance Sample Collected
05/08/14	4.5	11,006.06	11,112.94	106,880	11,112,490	
05/09/14	6.0	1,112.94	11,253.32	140,380	11,252,870	
05/12/14	7.0	11,253.32	11,439.87	186,550	11,439,420	
05/13/14	7.0	11,439.87	11,600.00	160,130	11,599,550	
05/14/14	6.5	11,600.00	11,712.86	112,860	11,712,410	
05/15/14	5.5	11,712.86	11,810.42	97,560	11,809,970	
05/16/14	6.0	11,810.42	11,885.46	75,040	11,885,010	
05/18/14	2.8	11,885.46	11,960.68	75,220	11,960,230	
05/19/14	7.0	11,960.68	12,098.90	138,220	12,098,450	
05/20/14	7.0	12,098.90	12,188.74	89,840	12,188,290	
05/21/14	5.0	12,188.74	12,262.55	73,810	12,262,100	
05/22/14	7.5	12,262.55	12,329.43	66,880	12,328,980	
05/23/14	7.5	12,329.43	12,405.66	76,230	12,405,210	
05/24/14	5.0	12,405.66	12,482.60	76,940	12,482,150	
05/25/14	2.0	12,482.60	12,527.46	44,860	12,527,010	
05/27/14	5.5	12,527.46	12,662.13	134,670	12,661,680	
05/28/14	2.0	12,662.13	12,696.70	34,570	12,696,250	
05/29/14	7.0	12,696.70	12,809.54	112,840	12,809,090	
05/30/14	7.0	12,809.54	12,906.92	97,380	12,906,470	
06/02/14	6:30	12,906.92	13,081.94	175,020	13,081,490	
06/04/14	7:00	13,081.94	13,233.54	151,600	13,233,090	PVSC Compliance Sample Collected
06/05/14	8:30	13,233.54	13,391.28	157,740	13,390,830	
06/06/14	8:00	13,391.28	13,444.66	53,380	13,444,210	
06/08/14	5:00	13,444.66	13,498.28	53,620	13,497,830	
06/09/14	6:15	13,498.28	13,667.07	168,790	13,666,620	
06/10/14	5:40	13,667.07	13,839.23	172,160	13,838,780	
06/11/14	4:50	13,839.23	13,952.75	113,520	13,952,300	
06/12/14	6:50	13,952.75	14,138.23	185,480	14,137,780	
06/13/14	13:15	14,138.23	14,296.51	158,280	14,296,060	
06/14/14	7:50	14,296.51	14,447.78	151,270	14,447,330	
06/16/14	8:20	14,447.78	14,602.88	155,100	14,602,430	
06/17/14	7:55	14,602.88	14,717.27	114,390	14,716,820	
06/18/14	8:00	14,717.27	14,832.09	114,820	14,831,640	
06/19/14	7:20	14,832.09	14,937.60	105,510	14,937,150	
06/20/14	8:20	14,937.60	15,083.23	145,630	15,082,780	
06/21/14	3:00	15,083.23	15,127.76	44,530	15,127,310	
06/23/14	7:50	15,127.76	15,294.76	167,000	15,294,310	
06/24/14	8:30	15,294.76	15,348.15	53,390	15,347,700	
06/25/14	8:15	15,348.15	15,452.33	104,180	15,451,880	
06/26/14	7:50	15,452.33	15,551.63	99,300	15,551,180	
06/27/14	7:45	15,551.63	15,616.53	64,900	15,616,080	
06/30/14	8:00	15,616.53	15,754.00	137,470	15,753,550	

Notes: Previous information is trunketed. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

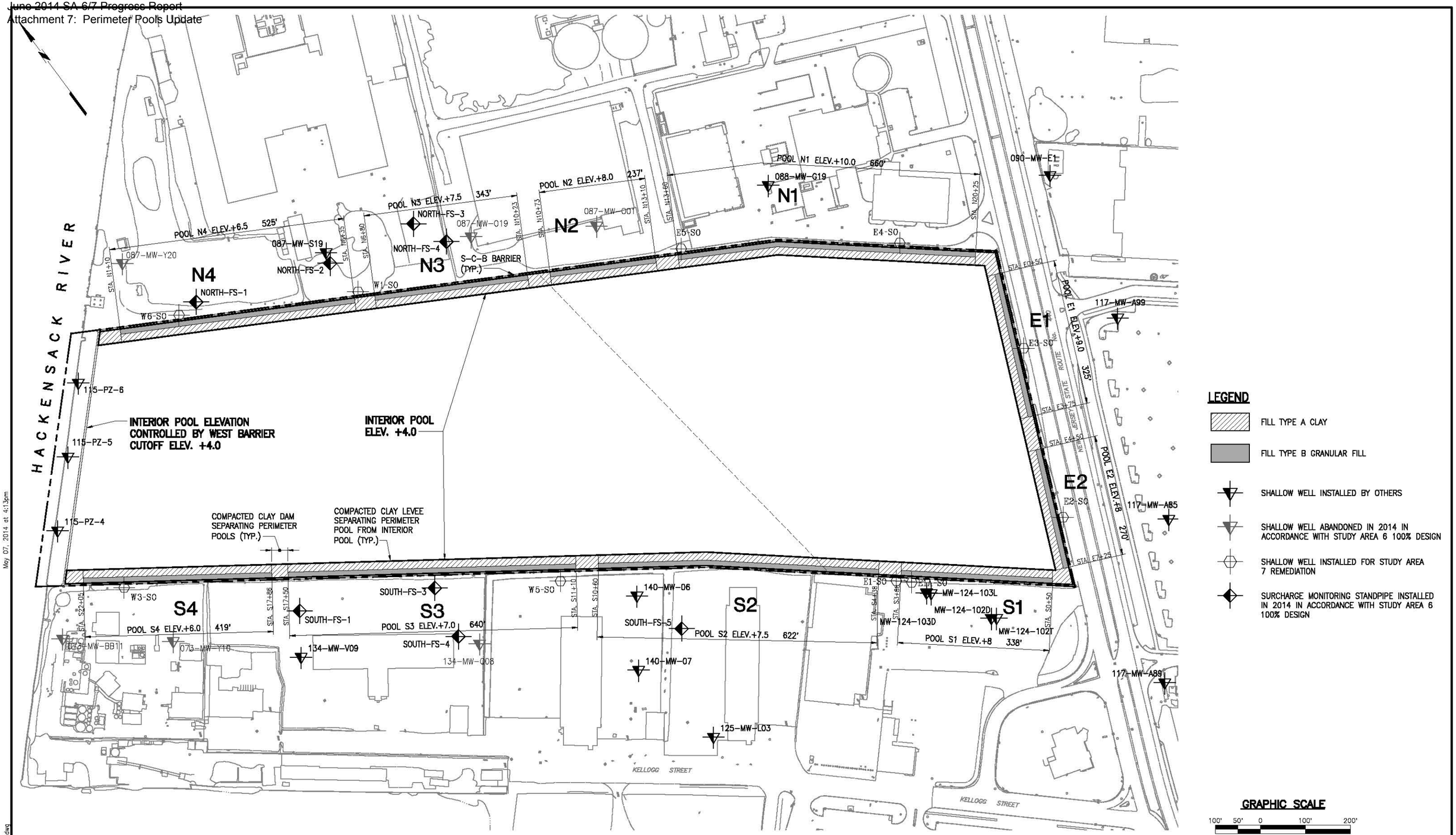
- Stockpiled Material Tracking and Sampling Log

SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
135,141,143-145	<20	124-145-20-a	675	124-145-20-a1	5/9/2014	9:00	22.8		Yes	
				124-145-20-a2	5/9/2014	9:05	0.4	Yes		
				124-145-20-a3	5/9/2014	9:10	5.4	Yes		
				124-145-20-a4	5/9/2014	9:15	3.0	Yes		
139-142B, 131-132A	<20	124-142-20-a	1000	124-142-20-a1	5/15/2014	11:00	2.1	Yes		
				124-142-20-a2	5/15/2014	11:05	8.7	Yes		
				124-142-20-a3	5/15/2014	11:10	5.9	Yes		
				124-142-20-a4	5/15/2014	11:15	4.3	Yes		
135-138B, 131A	<20	124-138-20-a, b	1500	124-138-20-a1	5/19/2014	10:45	4.0	Yes		
				124-138-20-a2	5/19/2014	10:50	10.2	Yes		
				124-138-20-a3	5/19/2014	10:55	5.7	Yes		
				124-138-20-a4	5/19/2014	11:00	3.9	Yes		
				124-138-20-b1	5/19/2014	11:05	1.2	Yes		
				124-138-20-b2	5/19/2014	11:10	4.9	Yes		
				124-138-20-b3	5/19/2014	11:15	2.7	Yes		
				124-138-20-b4	5/19/2014	11:20	5.4	Yes		
129-134	<20	124-134-20-a, b	1250	124-134-20-a1	5/21/2014	13:10	7.5	Yes		
				124-134-20-a2	5/21/2014	13:15	7.8	Yes		
				124-134-20-a3	5/21/2014	13:20	4.2	Yes		
				124-134-20-a4	5/21/2014	13:25	30.5		Yes	
				124-134-20-b1	5/21/2014	13:30	10.7	Yes		
				124-134-20-b2	5/21/2014	13:35	2.5	Yes		
				124-134-20-b3	5/21/2014	13:40	4.9	Yes		
				124-134-20-b4	5/21/2014	13:45	7.3	Yes		
139-142B, 131-132A	<20	124-128-20-a	1000	124-128-20-a1	6/3/2014	10:45	32.4		Yes	
				124-128-20-a2	6/3/2014	10:50	38.4		Yes	
				124-128-20-a3	6/3/2014	10:55	17.0	Yes		
				124-128-20-a4	6/3/2014	11:00	45.1		Yes	
124-126	<20	124-126-20-a, b	1450	124-126-20-a1	6/13/2014	11:00	41.1		Yes	
				124-126-20-a2	6/13/2014	11:05	13.9	Yes		
				124-126-20-a3	6/13/2014	11:10	15.0	Yes		
				124-126-20-a4	6/13/2014	11:15	2.9	Yes		
				124-126-20-b1	6/13/2014	11:20	12.9	Yes		
				124-126-20-b2	6/13/2014	11:25	8.6	Yes		
				124-126-20-b3	6/13/2014	11:30	59.4		Yes	
				124-126-20-b4	6/13/2014	11:35	8.0	Yes		
119-124	<20	124-124-20-a, b	2000	124-124-20-a1	6/25/2014	6:40	**			
				124-124-20-a2	6/25/2014	6:45	**			
				124-124-20-a3	6/25/2014	6:50	**			
				124-124-20-a4	6/25/2014	6:55	**			
				124-124-20-b1	6/25/2014	7:00	**			
				124-124-20-b2	6/25/2014	7:05	**			
				124-124-20-b3	6/25/2014	7:10	**			
				124-124-20-b4	6/25/2014	7:15	**			
119-125	>1000	124-125-1000-a	550	124-125-1000-a1	6/25/2014	6:15	**			
				124-125-1000-a2	6/25/2014	6:20	**			
				124-125-1000-a3	6/25/2014	6:25	**			
				124-125-1000-a4	6/25/2014	6:30	**			
115-119	<20	124-119-20-a	1000	124-119-20-a1	6/27/2014	13:00	**			
				124-119-20-a2	6/27/2014	13:05	**			
				124-119-20-a3	6/27/2014	13:10	**			
				124-119-20-a4	6/27/2014	13:15	**			

Notes:
*Material currently stockpiled. Pending final placement.
**Waiting on results from the laboratory.

Attachment 7: Perimeter Pools Update



IN PROGRESS
05-07-2014

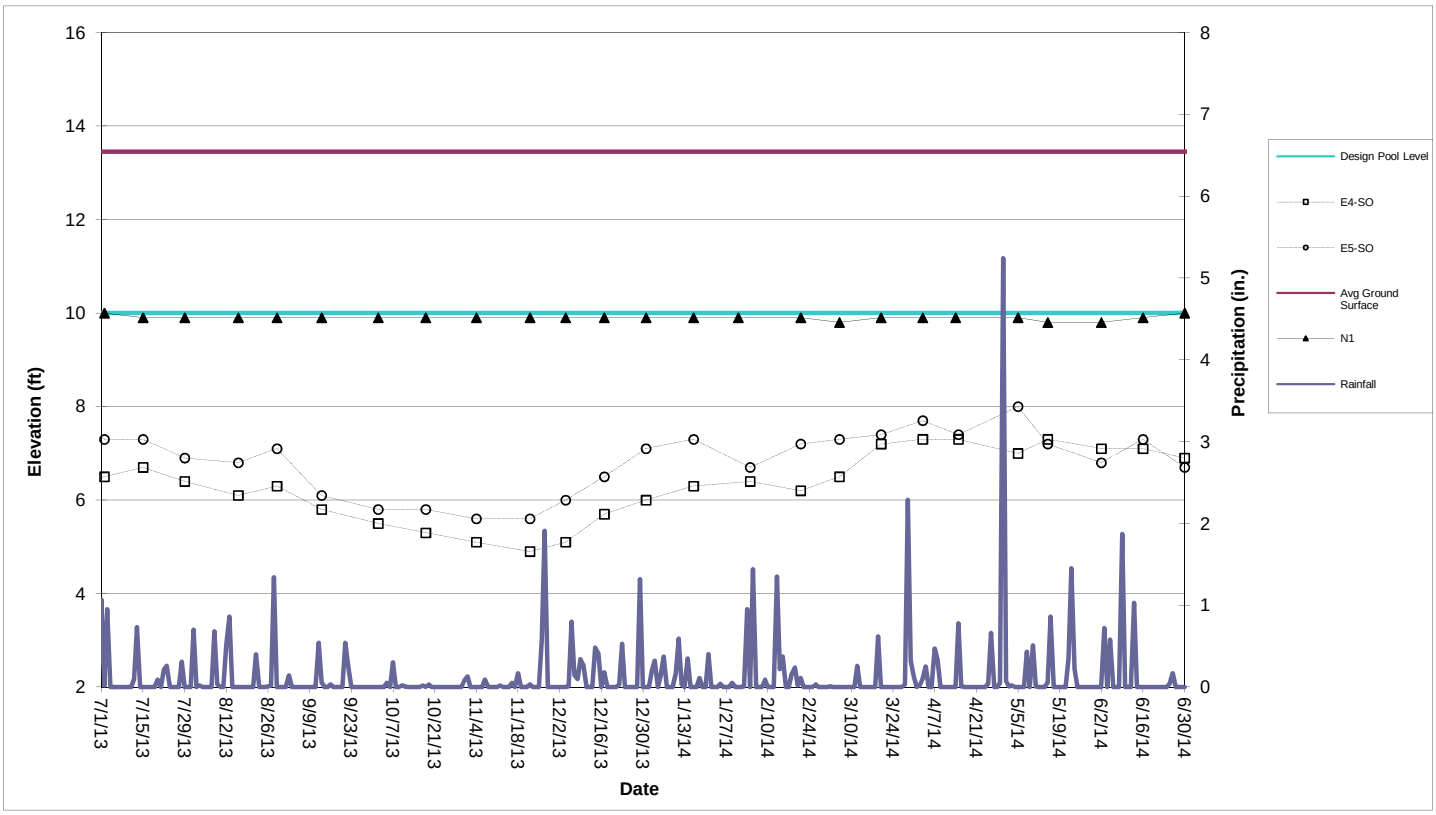
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

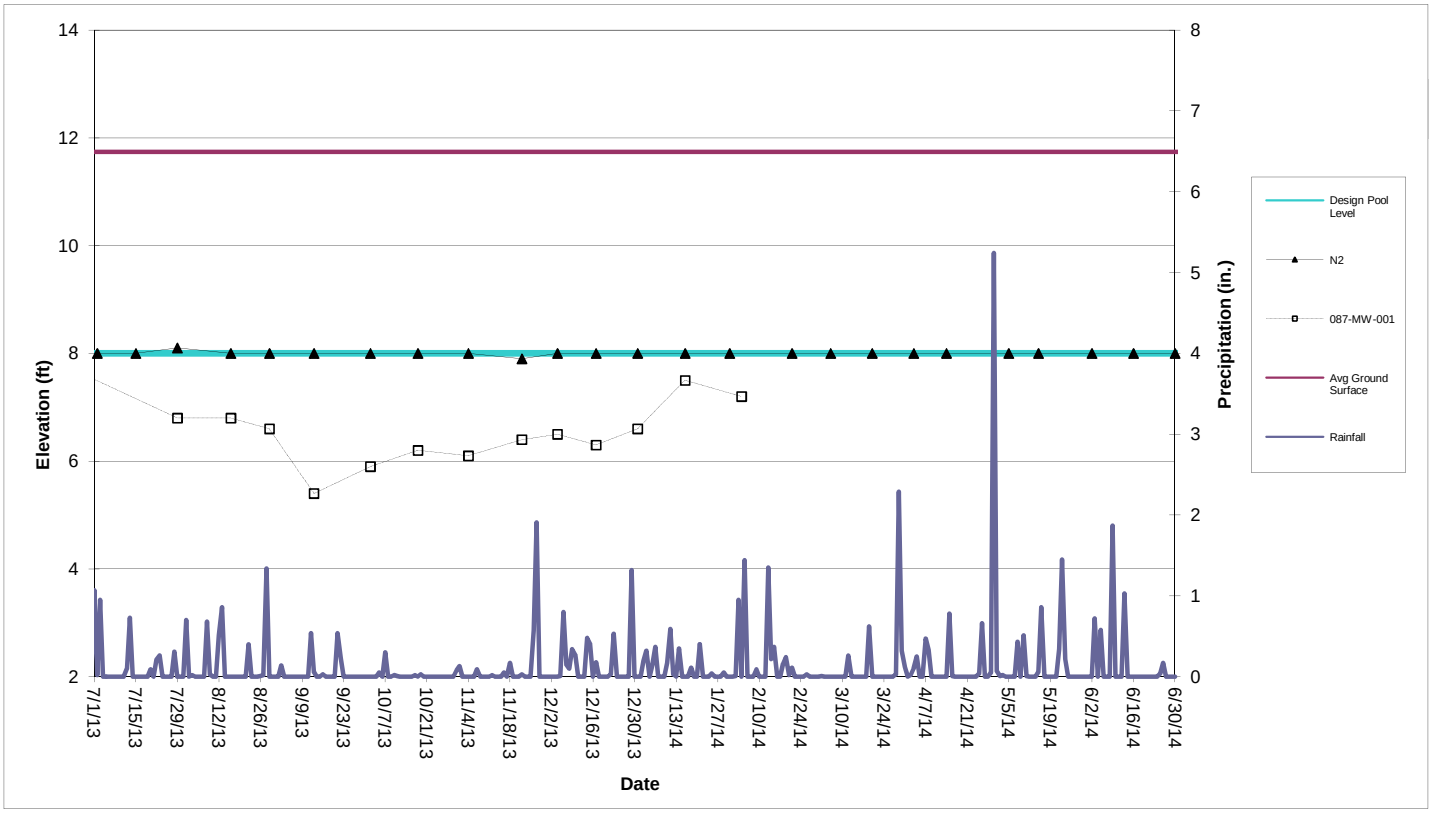
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP–1

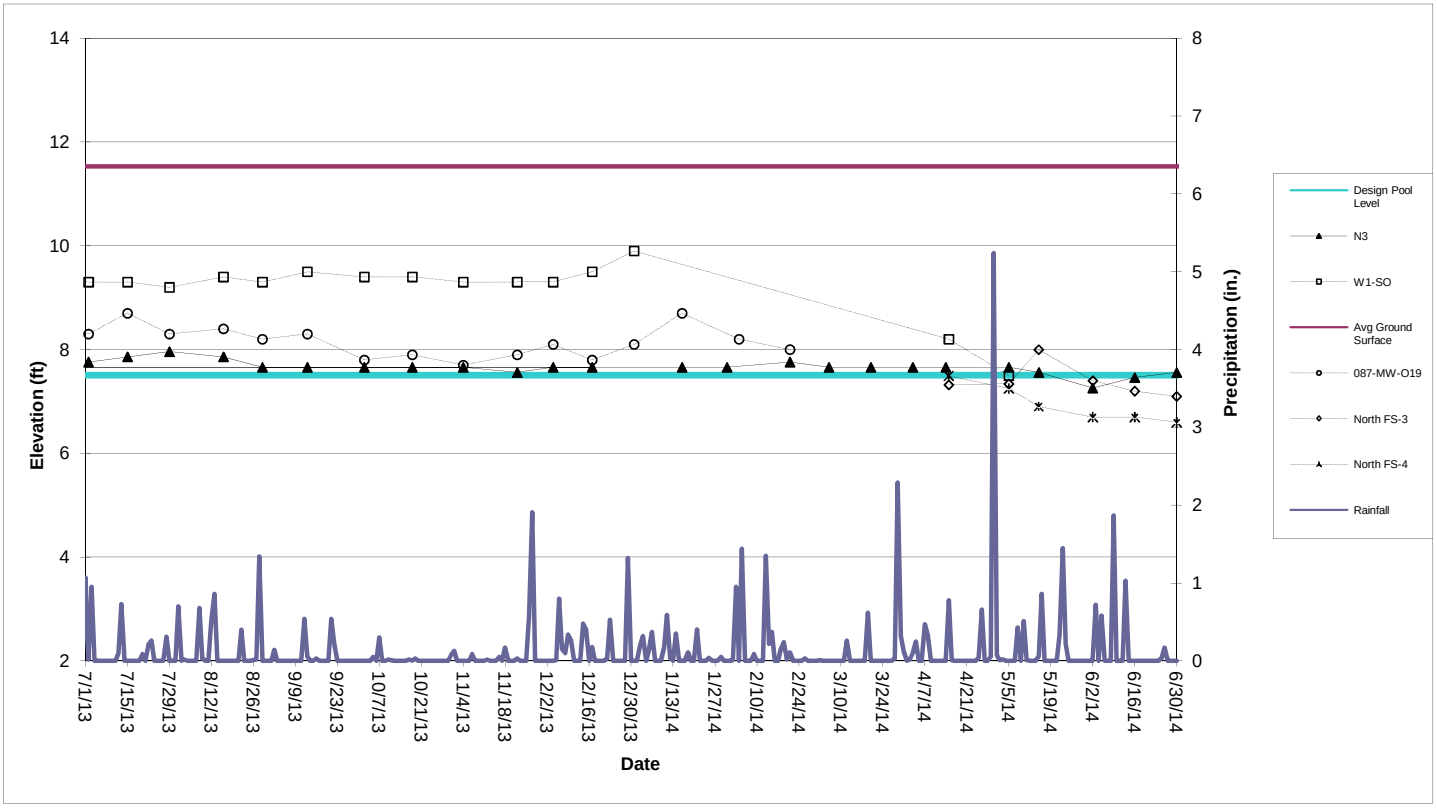
May 07, 2014 at 4:13pm
G:\DWGS\102\10210\Dewatering\PP-1.dwg
bboscaino



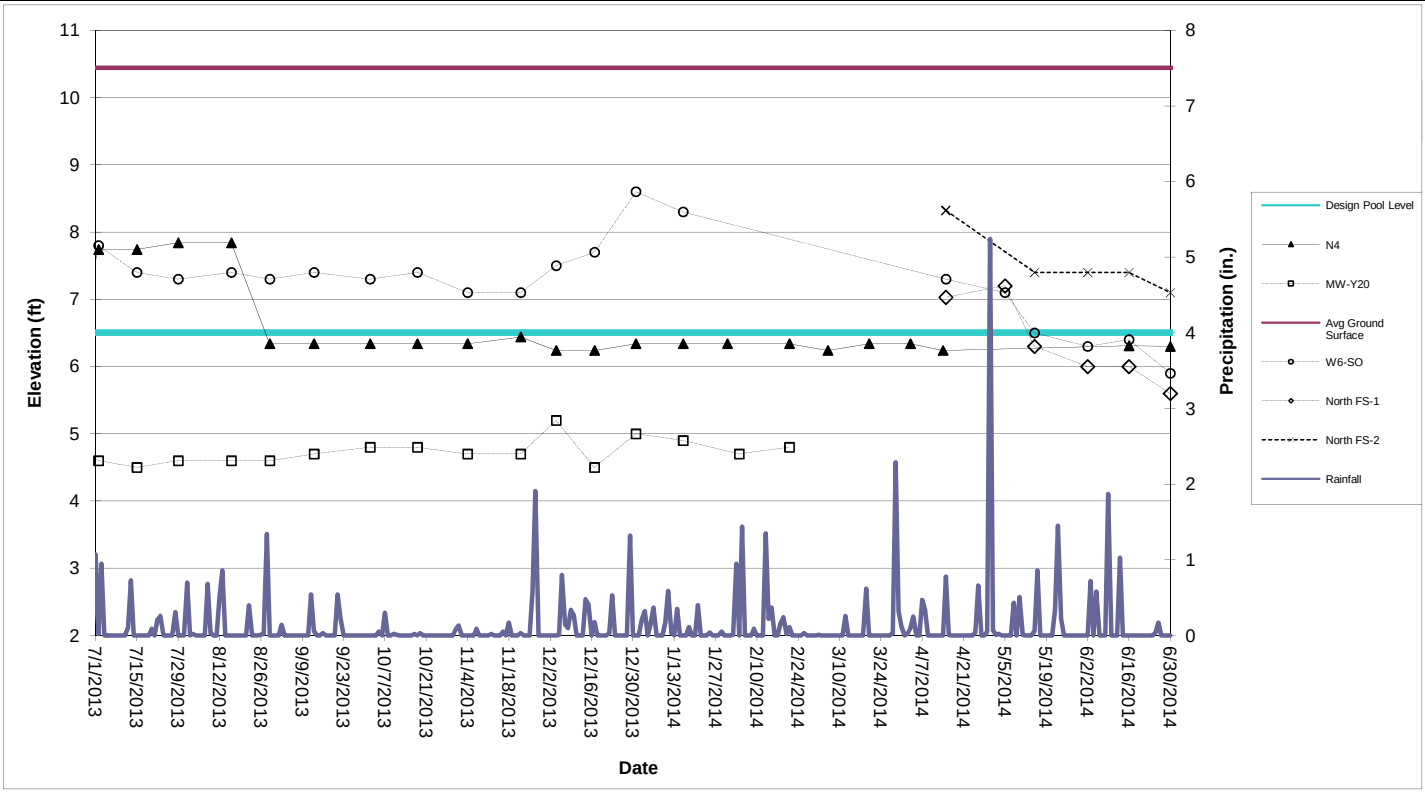
Perimeter Pool N1 (Sta. N13+60 to N20+25)



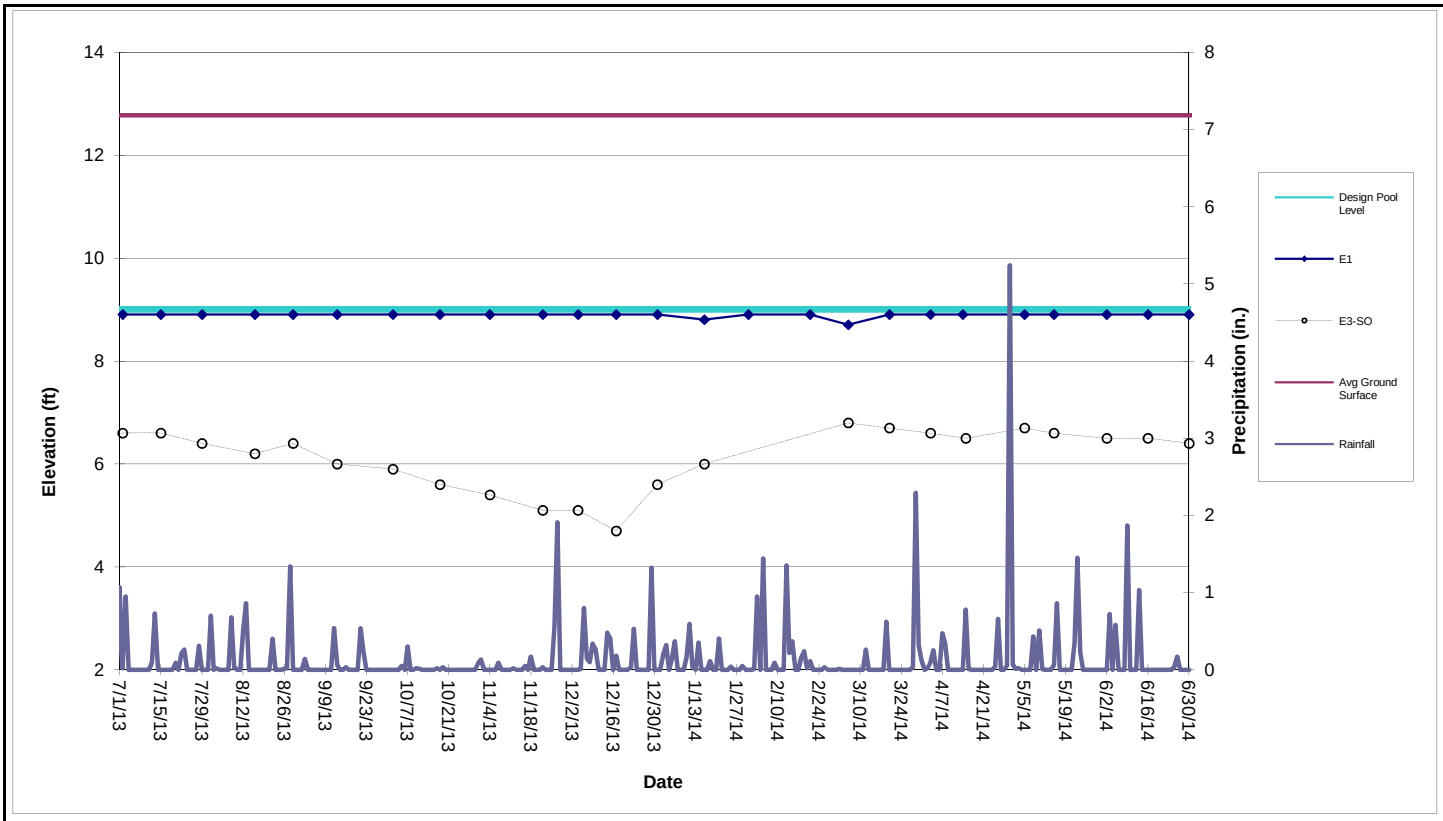
Perimeter Pool N2 (Sta. N10+73 to N13+10)



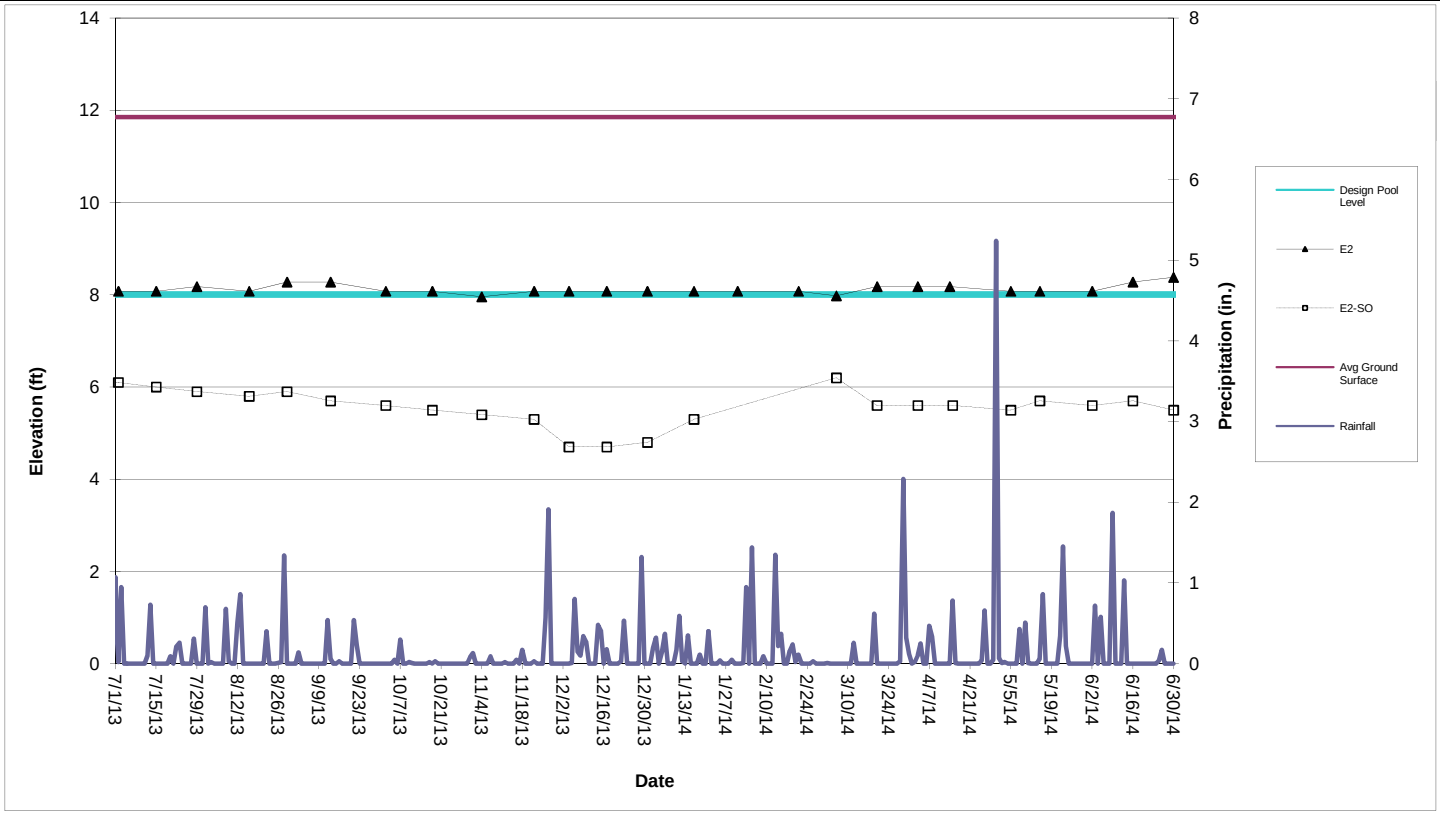
Perimeter Pool N3 (Sta. N6+80 to N10+23)



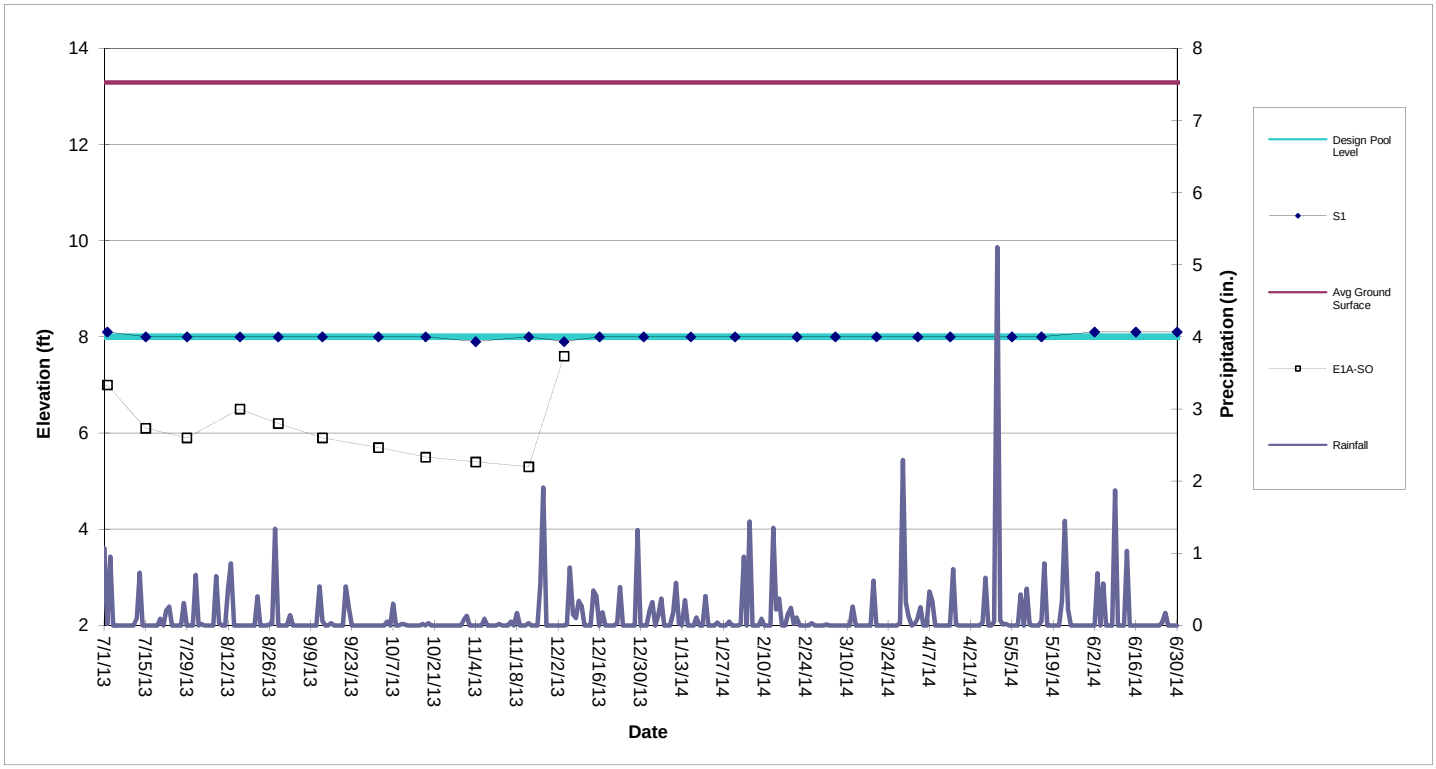
Perimeter Pool N4 (Sta. N6+80 to N10+23)



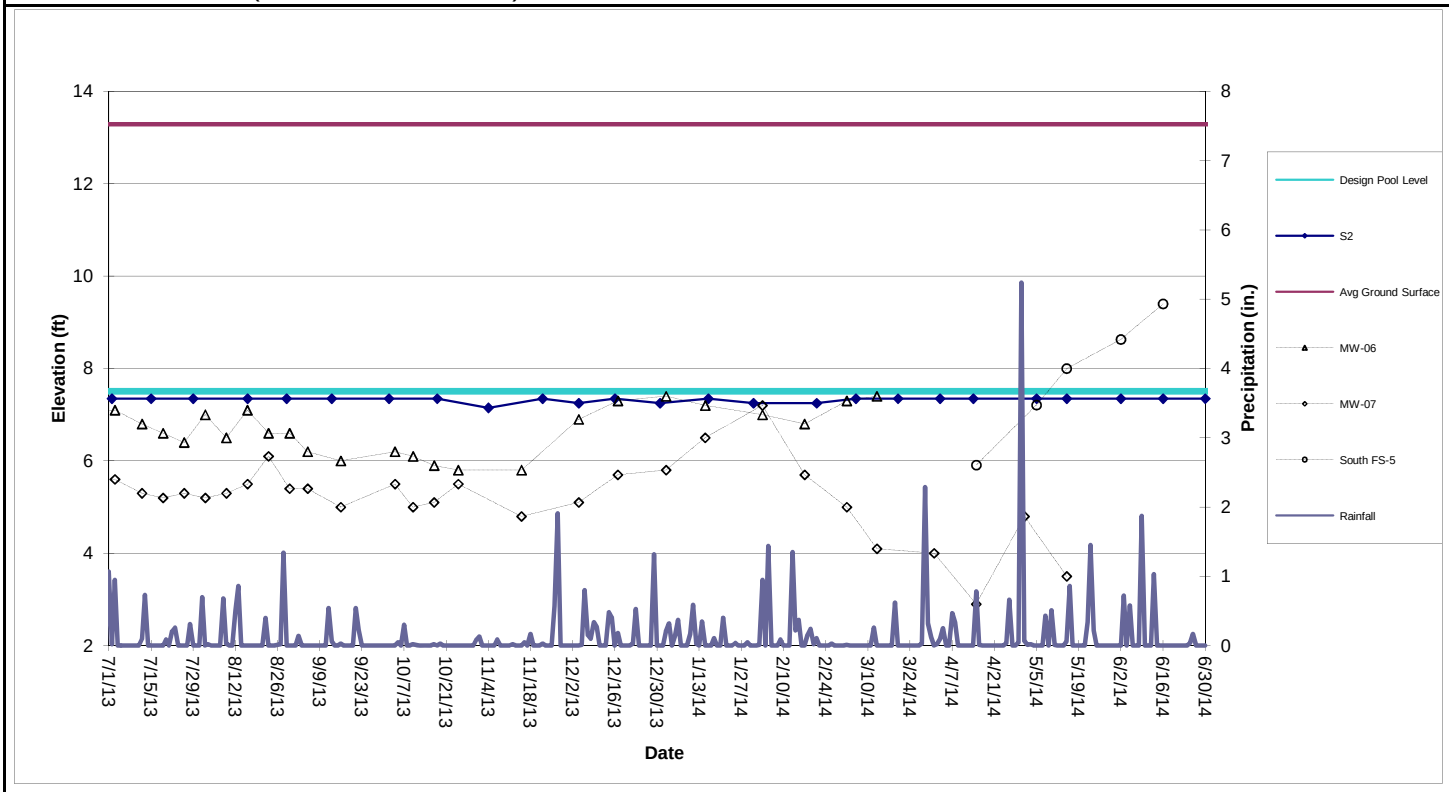
Perimeter Pool E1 (Sta. E0+50 to E3+75)



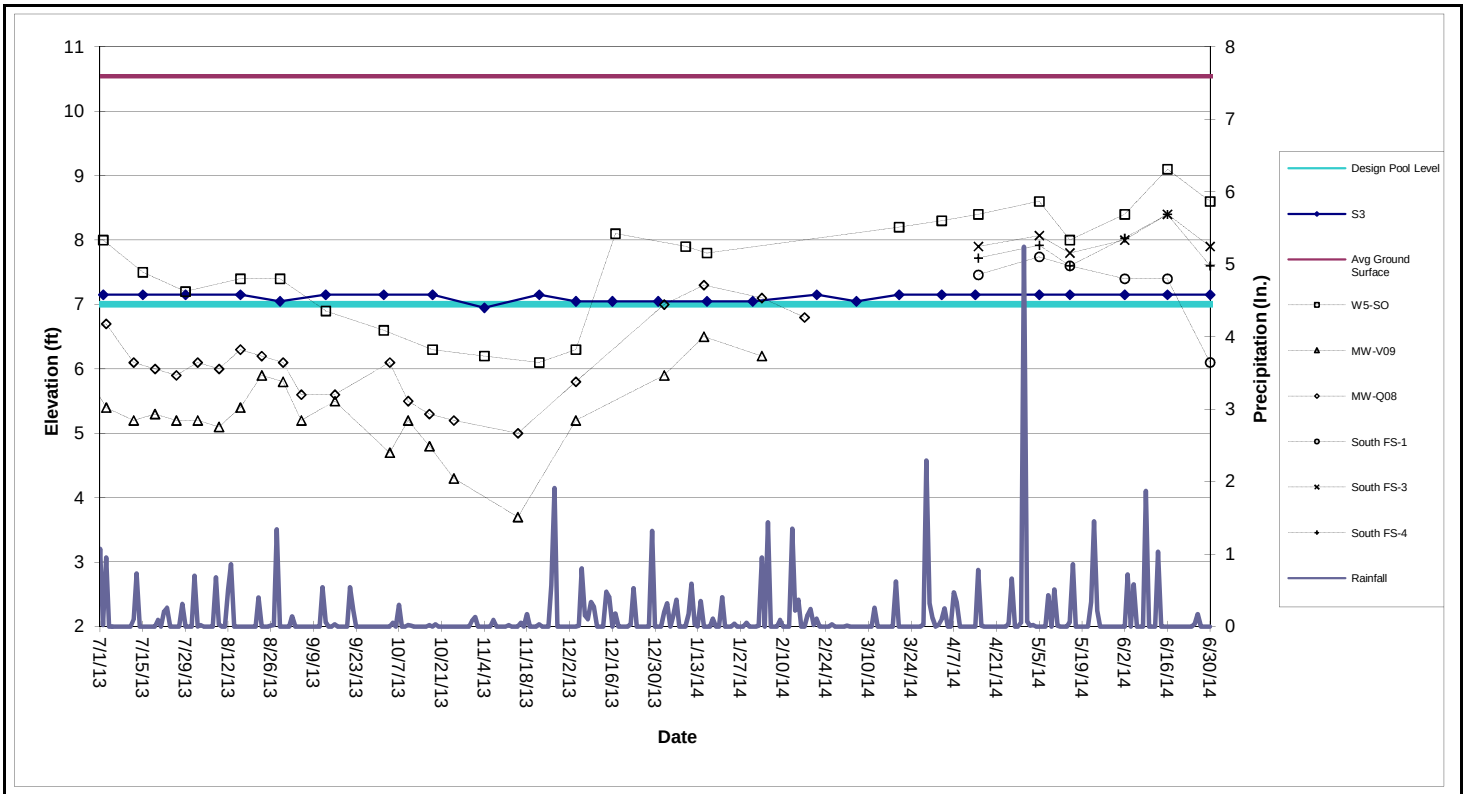
Perimeter Pool E2 (Sta. E4+50 to E7+25)



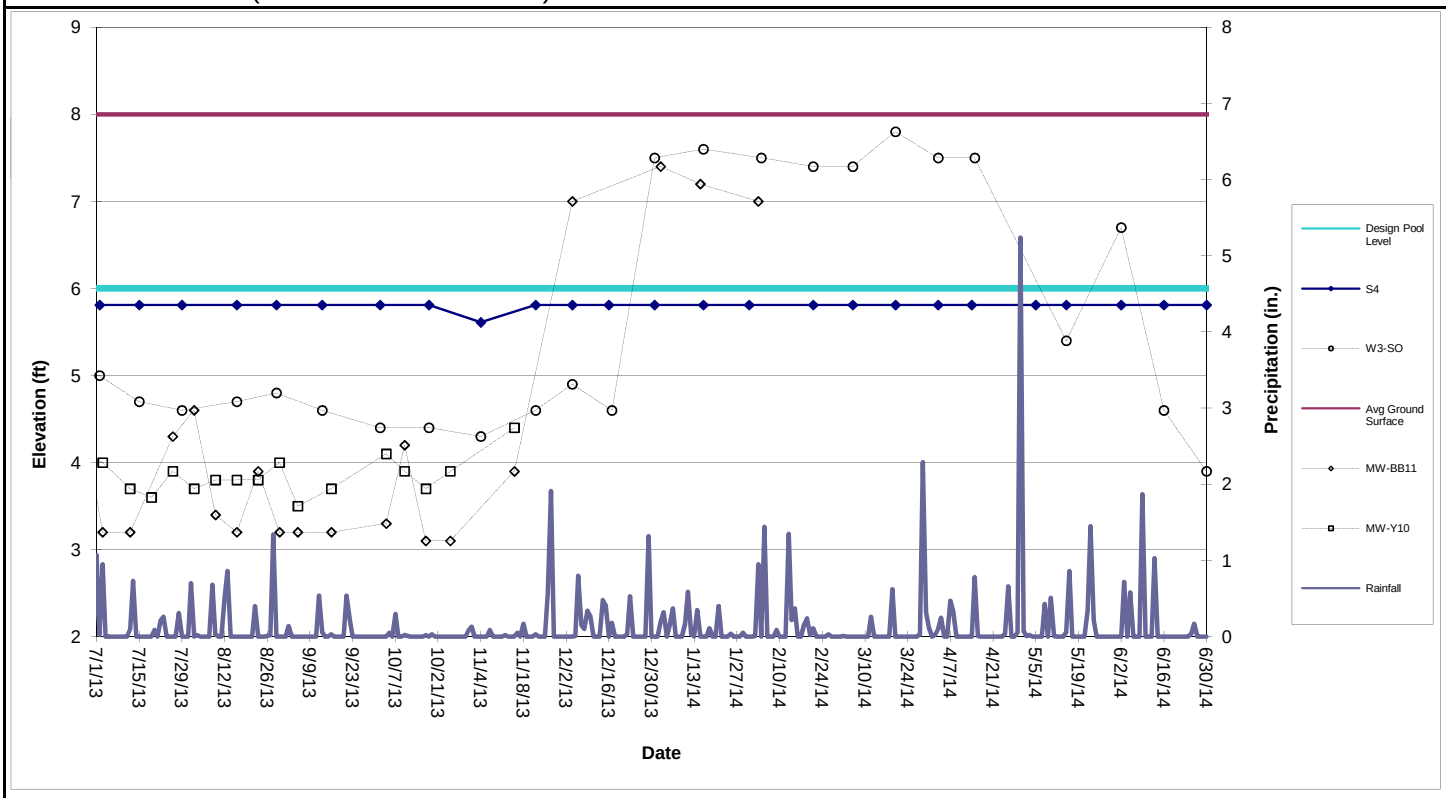
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										134-	140-		North				South			
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	MW-V09	MW-06	MW-07	FS-1	FS-2	FS-3	FS-4	FS-1	FS-3	FS-4	FS-5
Date																				
3/3/2014											7.3	5.0								
3/6/2014		6.2	6.8	6.5	7.3		7.4													
3/13/2014											7.4	4.1								
3/20/2014		5.6	6.7	7.2	7.4		7.8	8.2												
4/1/2014												4.0								
4/3/2014		5.6	6.6	7.3	7.7		7.5	8.3												
4/15/2014		5.6	6.5	7.3	7.4	8.2	7.5	8.4	7.3			2.9	7.0	8.3	7.3	7.5	7.5	7.9	7.7	5.9
5/1/2014												4.8								
5/5/2014		5.5	6.7	7.0	8.0	7.5		8.6	7.1				7.2		7.3	7.3	7.7	8.1	7.9	7.2
5/15/2014		5.7	6.6	7.3	7.2		5.4	8.0	6.5			3.5	6.3	7.4	8.0	6.9	7.6	7.8	7.6	8.0
6/2/2014		5.6	6.5	7.1	6.8		6.7	8.4	6.3				6.0	7.4	7.4	6.7	7.4	8.0	8.0	8.6
6/16/2014		5.7	6.5	7.1	7.3		4.6	9.1	6.4				6.0	7.4	7.2	6.7	7.4	8.4	8.4	9.4
6/30/2014		5.5	6.4	6.9	6.7		3.9	8.6	5.9				5.6	7.1	7.1	6.6	6.1	7.9	7.6	

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells are temporarily inaccessible:
134-MW-V09, E1A-SO

Attachment 8: Quality and Level Data in GWET Wells

(provided on a quarterly basis)

- Summary of Groundwater Quality Data from GWET Wells
- Trichloroethene//Chloroform/Hexavalent Chromium in GWET Wells

Table 1

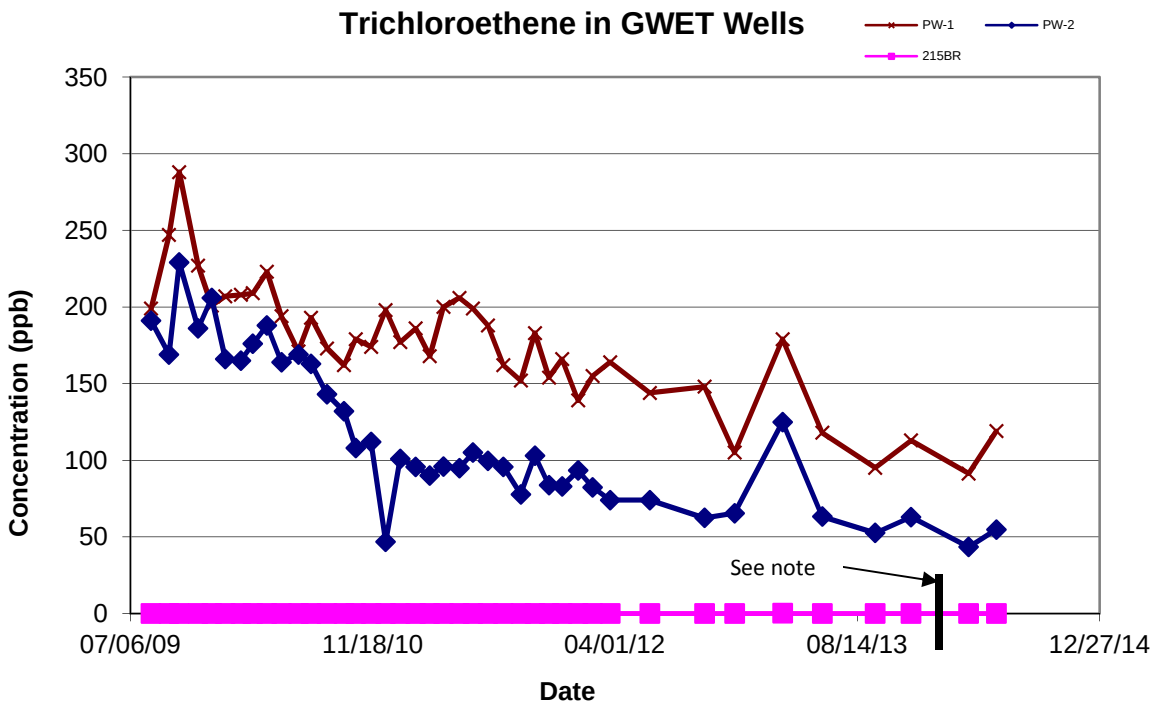
Summary of Groundwater Quality Data from GWET Wells

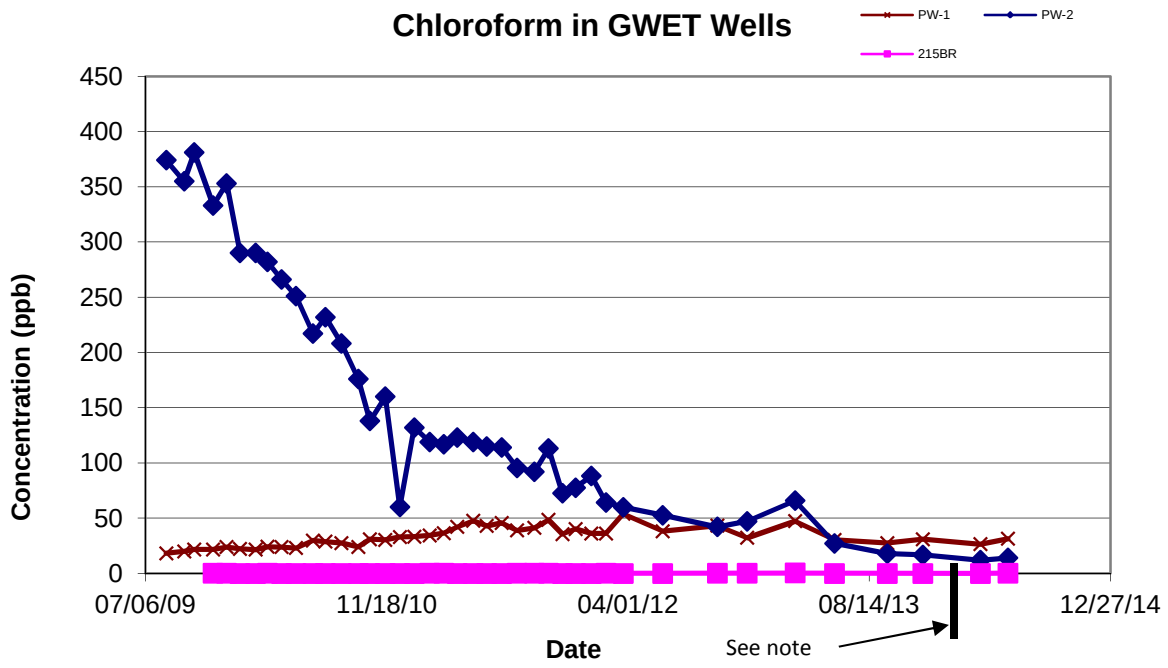
Honeywell

Parameter	20-Sep-13			3-Dec-13			1-Apr-14			28-May-14		
	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-203BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-203BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)
Benzene	3.1	4.4	ND	3.4	5.2	ND	2.9	4.0	ND	3.4	4.7	ND
Carbon Tetrachloride	4.6	3.1	1.4	5.8	4.8	2.5	4.4J	2.8	1.9	7.0	4.3	2.7
Chloroform	27.4	17.9	ND	31.0	16.8	ND	26.5	12.0	ND	31.3	14.0	0.25J
1,1-Dichloroethene	0.55	ND	ND	0.07	ND	ND	0.42J	ND	ND	0.77J	ND	ND
cis-1,2-Dichloroethene	148	13.8	ND	135	12.3	ND	96	8.1	ND	144	ND	ND
trans-1,2-Dichloroethene	4.5	0.76	ND	4.9	0.35	ND	3.4	ND	ND	5.3	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	95.1	52.6	ND	113.0	63.0	ND	91.3	43.4	ND	119	54.8	ND
1,1-Dichloroethane	0.45	ND	ND	0.47	ND	ND	0.45J	ND	ND	0.61J	ND	ND
Methylene chloride	0.84	ND	ND	0.87	0.31	ND	0.77J	ND	ND	0.92J	ND	ND
Vinyl chloride	12.6	ND	ND	14.2	4.8	ND	13.5	2.7	ND	21.2	3.8	ND
1,2-Dichlorobenzene	0.66	ND	ND	0.72	ND	ND	0.72J	ND	ND	0.70J	ND	ND
Chlorobenzene	0.38	ND	ND	0.39	ND	ND	0.38J	ND	ND	0.40J	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium	38,200	11,400	16,700	39,600	11,300	16,500	33,400	12,500	15,100	34,700	12,700	19,700
Total Chromium	39,900	13,500	17,000	34,200	10,600	14,900	36,900	16,400	16,600	35,500	14,500	19,600

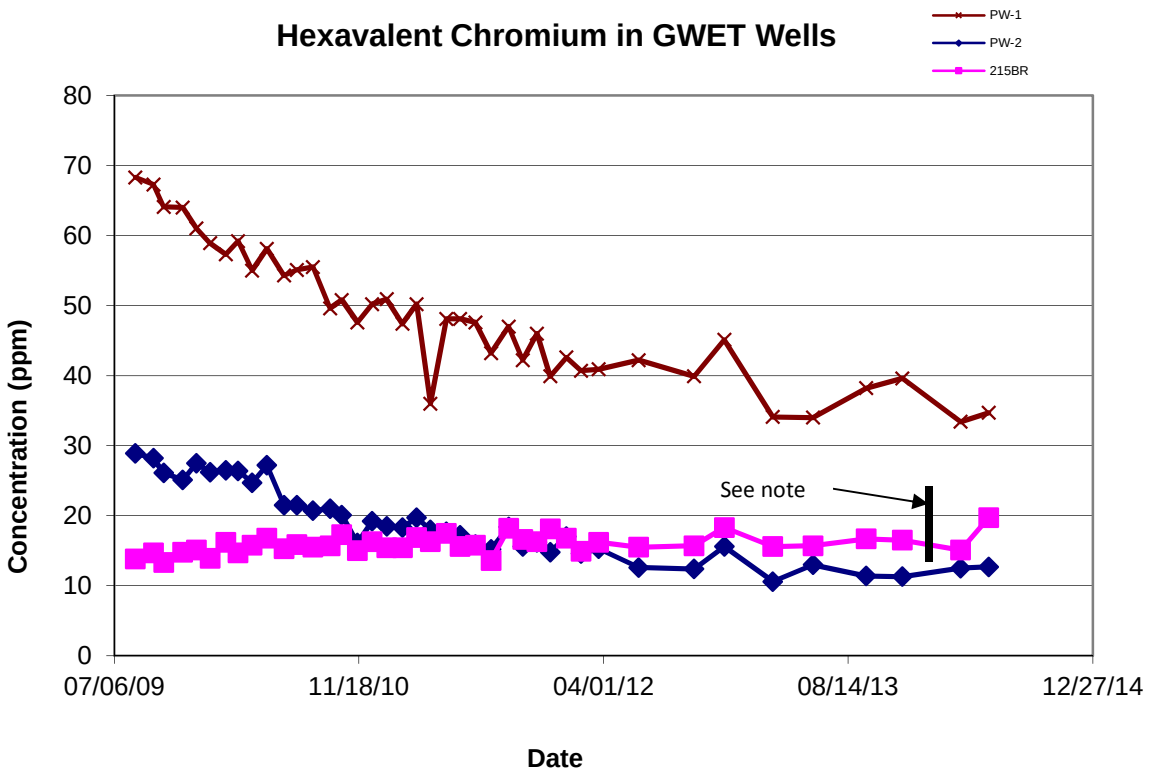
NA = Not Available for Testing due to COPR excavation activities.
NT = Not Tested
ND = Not detected above reporting limit.

Note:
Starting with 1st quarter 2014, well 115-MW-215BR is being pumped and sampled.





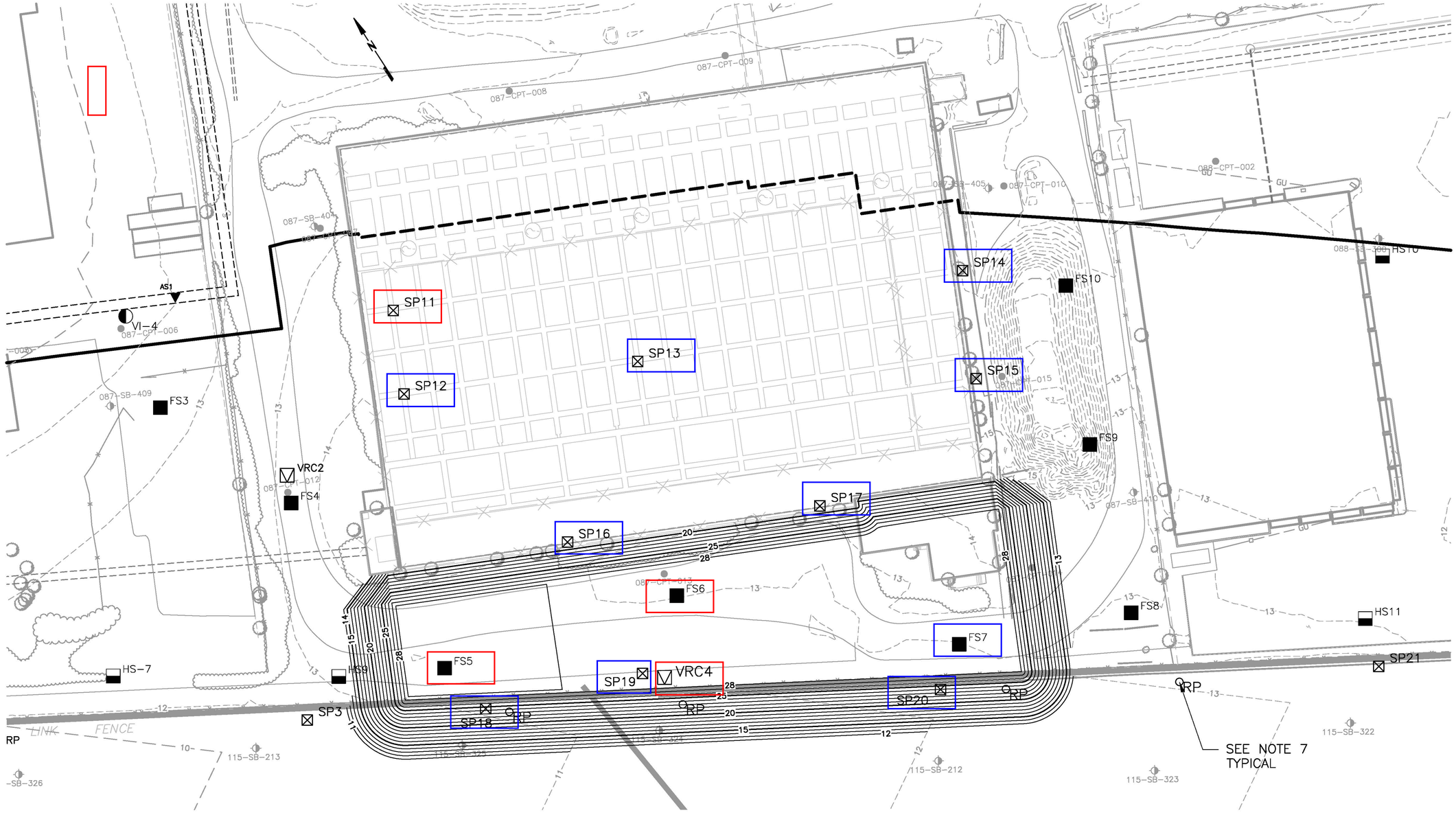
Note:
Well 115-MW-203BR has been replaced with well 115-MW-215BR



Note:
Well 115-MW-203BR has been replaced with well 115-MW-215BR

Attachment 9: Surcharge Monitoring Update

- Instrumentation Location Plan 1S
- Instrumentation Location Plan 2N



SETTLEMENT MONITORING POINT		
DESCRIPTION	NORTHING	EASTING
FS5	685595.33	602744.87
FS6	685557.42	602879.95
FS7	685445.18	603001.32
SP11	685784.33	602832.31
SP12	685740.52	602811.34
SP13	685682.87	602934.55
SP14	685624.73	603120.29
SP15	685568.20	603092.95
SP16	685617.61	602843.89
SP17	685555.82	602977.36
SP18	685562.79	602751.98
SP19	685530.51	602838.96
SP20	685429.14	602978.06
VRC4	685521.71	602848.37

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA–7 FENCE AND SA–7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. PILE GEOMETRY IS BASED ON THE ASSUMPTION THAT THE SEDIMENTATION BASIN WALLS ARE IN PLACE AT THE TIME OF SURCHARGING.
5. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
6. LOCATION OF SA–7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

VI–2	INCLINOMETER LOCATION
FS–1–1	SETTLEMENT MONITORING POINT FULL – SET UP
HS12	SETTLEMENT MONITORING POINT HALF – SET UP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA–7 PERIMETER POOL RISER PIPE (SEE NOTE 7)
VRC1	VIBRATING WIRE PIEZOMETER IN STRATUM RC

Installed Insturment Locations

Insturment Locations Not Installed

Prepared/Date: RJR 08/15/13
Checked/Date: AE 08/15/13

0 15 30 60
SCALE IN FEET

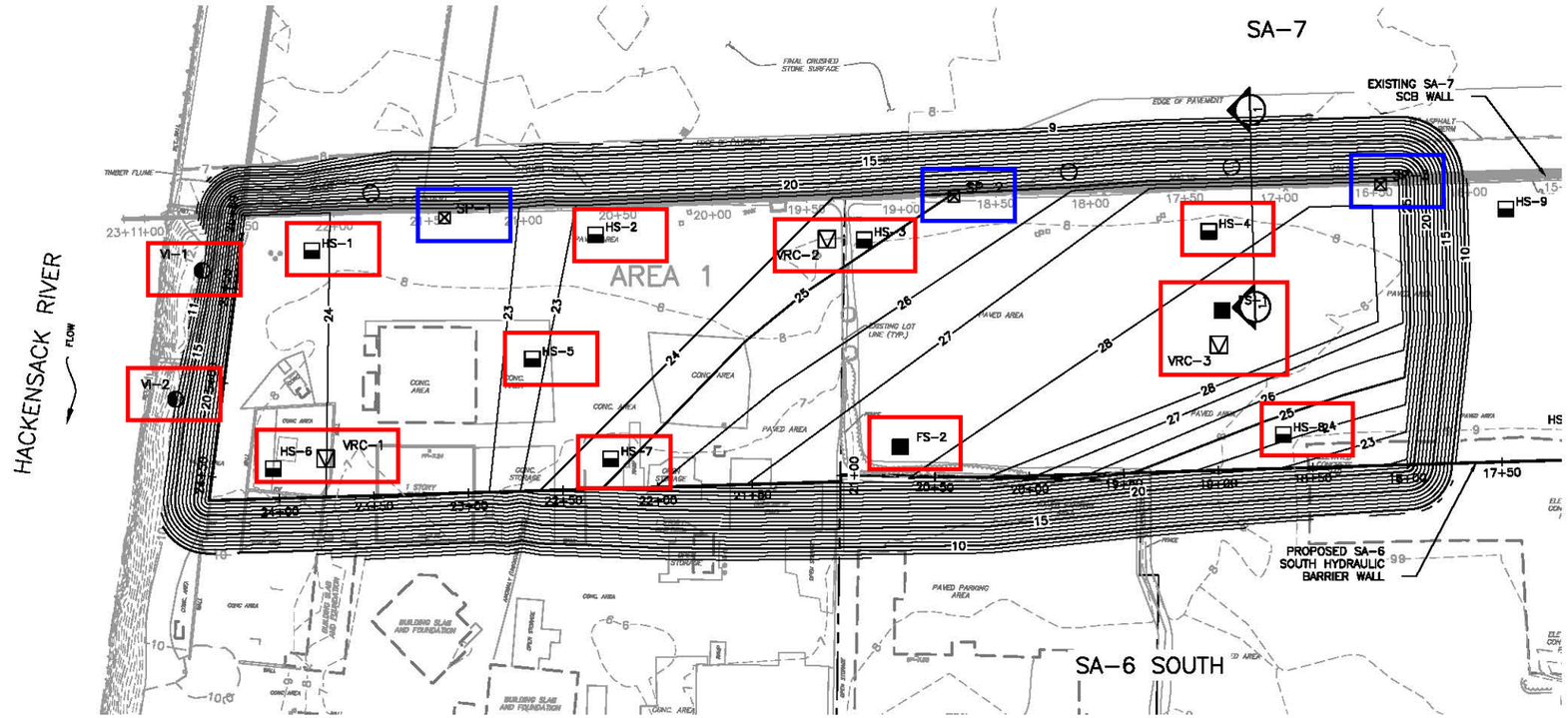
Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

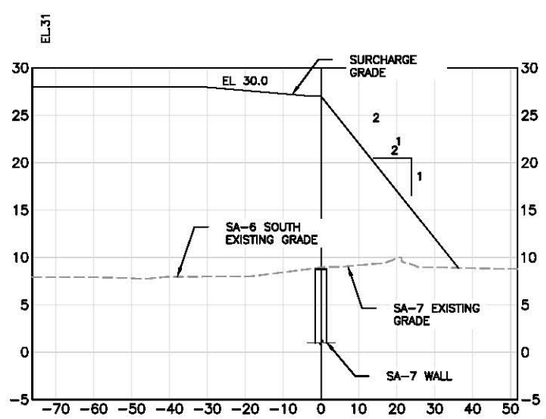
CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec

INSTRUMENTATION LOCATION PLAN 2N
Project 3480-09-0006
Figure C1

Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-6&7\DAD\SA6R\100 Percent\Figure 2 Surcharge Settling Monitoring Plan - Area 2.dwg Thu, 15 Aug 2013 - 4:07pm roger.hauler





SECTION A–A

Installed Instrumentation Locations

Instrumentation Locations Not Installed

SETTELMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
FS–1	685276.02	601927.05
FS–2	685323.86	601748.51
HS–1	685597.02	601567.16
HS–2	685511.42	601690.72
HS–3	685421.98	601800.88
HS–4	685313.18	601947.19
HS–5	685480.23	601623.90
HS–6	685518.78	601480.25
HS–7	685413.06	601624.11
HS–8	685204.27	601911.97
VI–1	685624.44	601515.06
VI–2	685578.58	601462.08
VRC–1	685505.92	601505.39
VRC–2	685434.27	601785.68
VRC–3	685262.85	601914.43
SP–1	685567.71	601633.29
SP–2	685410.62	601852.31
SP–3	685276.93	602033.96

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA–7 FENCE AND SA–7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. COMMENCE FILL AT THE HACKENSACK RIVER AND WORK EAST TOWARD ROUTE 440.
4. LOCATION OF SA–7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.
5. AFTER COMPLETION OF AREAS 1 AND 3 SURCHARGE LOADING, REMAINING FILL FROM THESE AREAS WILL BE COMBINED TO FORM THE SURCHARGE AREA 2.

VI–2 INCLINOMETER LOCATION
FS–1–1 SETTLEMENT MONITORING POINT FULL – SET UP
HS–1–1 SETTLEMENT MONITORING POINT HALF – SET UP
SP12 SETTLEMENT MONITORING PLATFORM
RP APPROXIMATE LOCATION OF SA–7 PERIMETER POOL RISER PIPE (SEE NOTE 7)
VRC1 VIBRATING WIRE PIEZOMETER IN STRATUM RC

0 20 40 80
SCALE IN FEET

Prepared/Date: RJR 07/19/13
Checked/Date: AE 07/19/13

Honeywell
101 COLUMBIA RD. BOX 2108
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

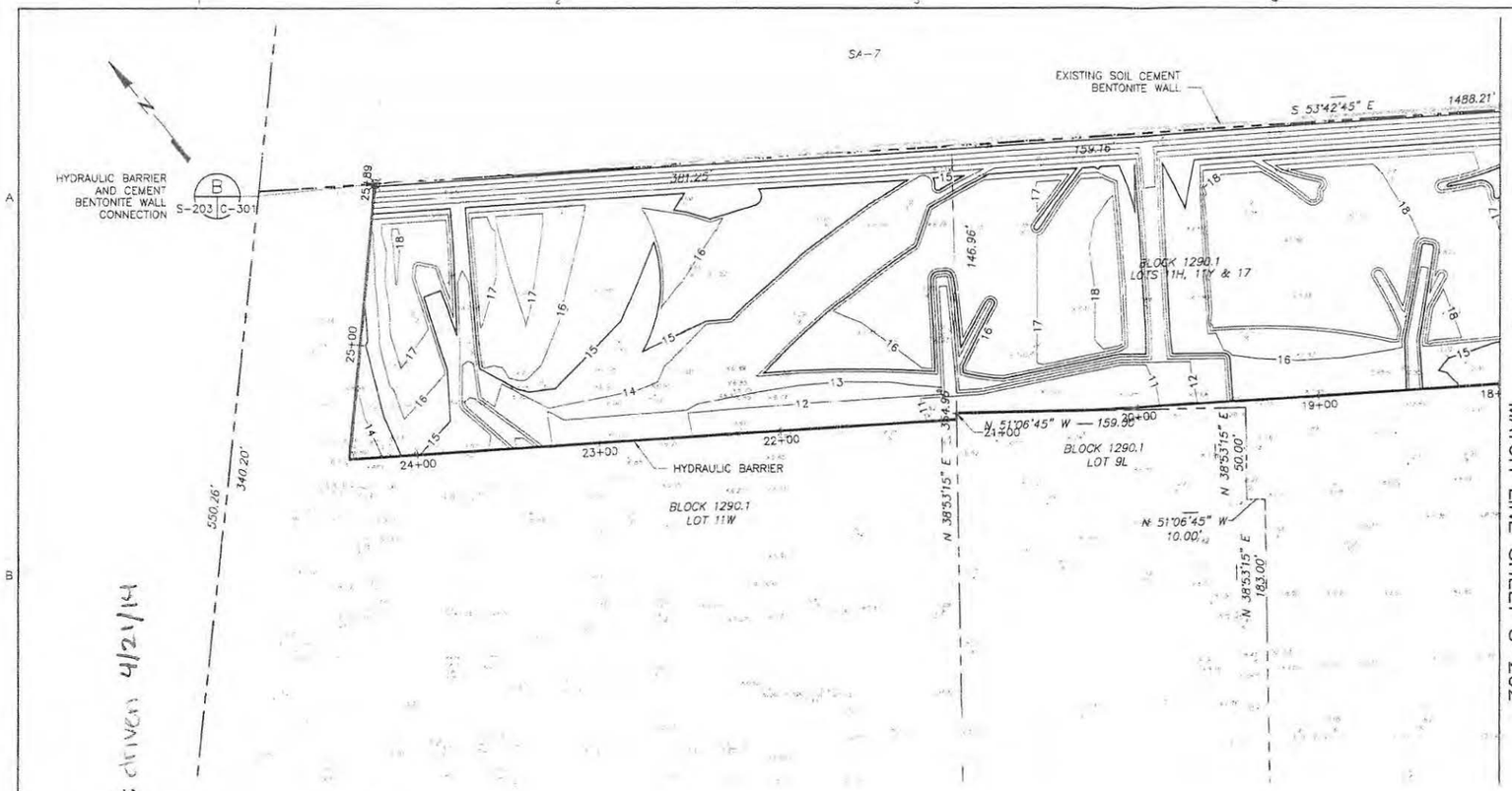
amec

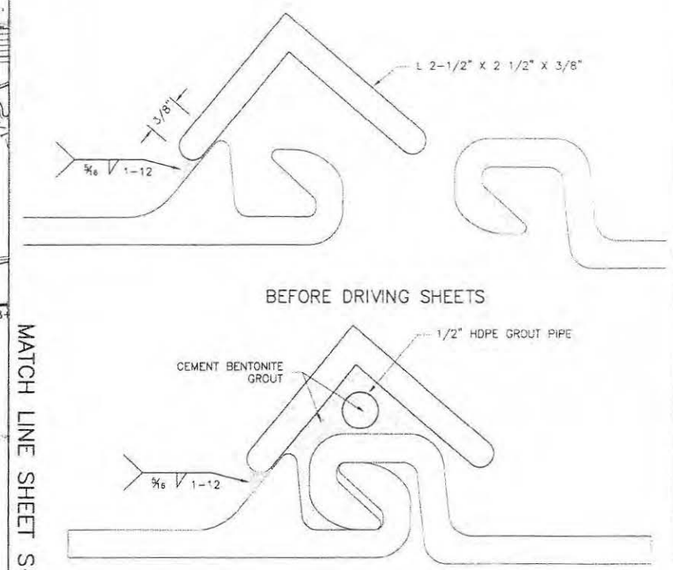
INSTRUMENTATION LOCATION PLAN 1S

Figure F1

Attachment 10: Sheet Pile Update

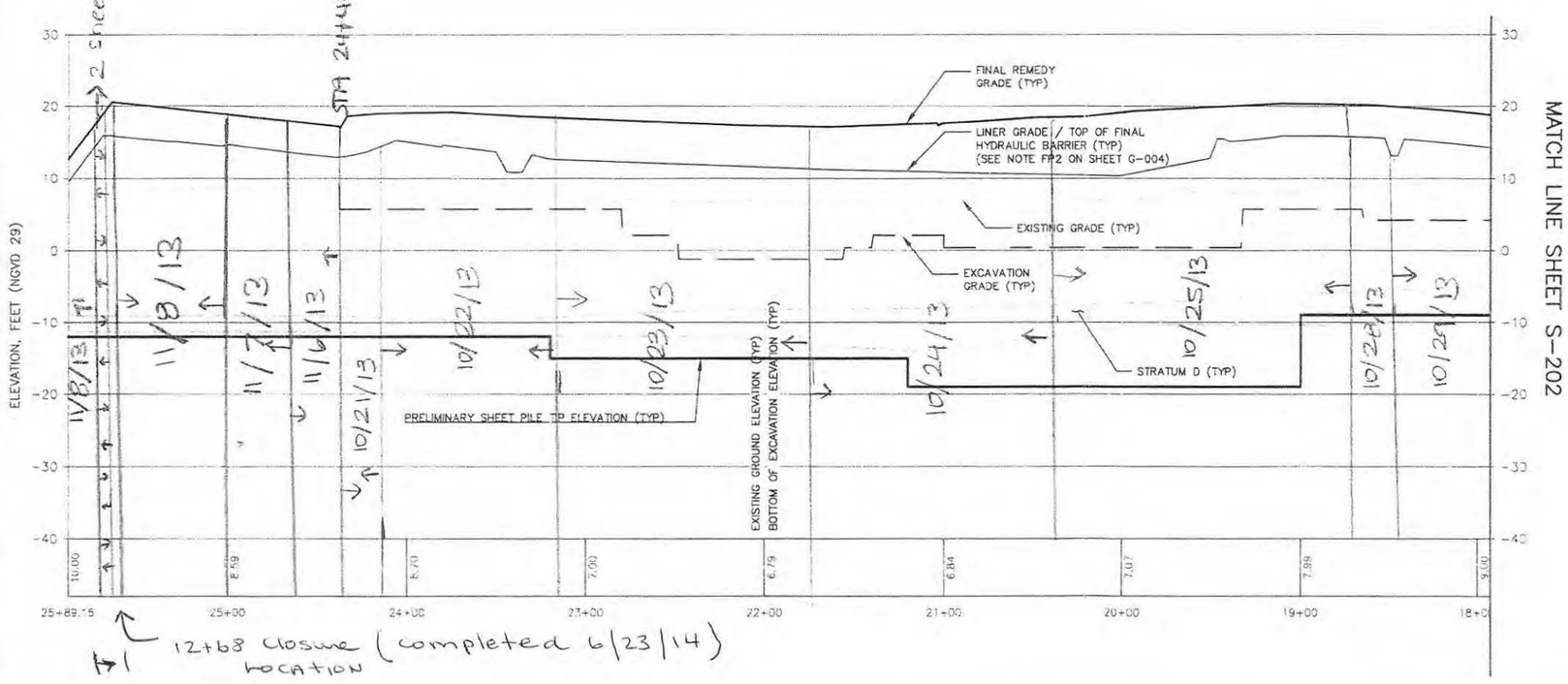
- Hydraulic Barrier Wall Plan & Profile
- Sheet Deflection Along Open Excavation
- Sheet Monitoring Locations
- Sheet Pile Repair Log





SHEET SEALING DETAIL (BF) TYP S-203
NTS

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	17+80	19+00	-8	AZ 19-700
STRUCTURAL	19+00	21+20	-19	AZ 19-700
STRUCTURAL	21+20	23+20	-15	AZ 19-700
STRUCTURAL	23+20	24+37	-12	AZ 19-700
NON STRUCTURAL	24+37	25+89	-12	AZ 19-700



NOTES:

1. REFER TO SHEET GN-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FUTURE UTILITIES WILL REQUIRE WALL PENETRATIONS AT THESE TWO LOCATIONS.
4. REFER TO SHEET G-003, NOTE HB19 AND DETAIL "BE" ON SHEET C-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

0 20 40 80
SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

0 5 10 20
SCALE IN FEET
VERTICAL SCALE: 1" = 10'

STEPHEN H. MITCHELL
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE04352400

NO.	DATE	REVISION	BY	APVD
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD DR RJR CHK TDD APVD SHM

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

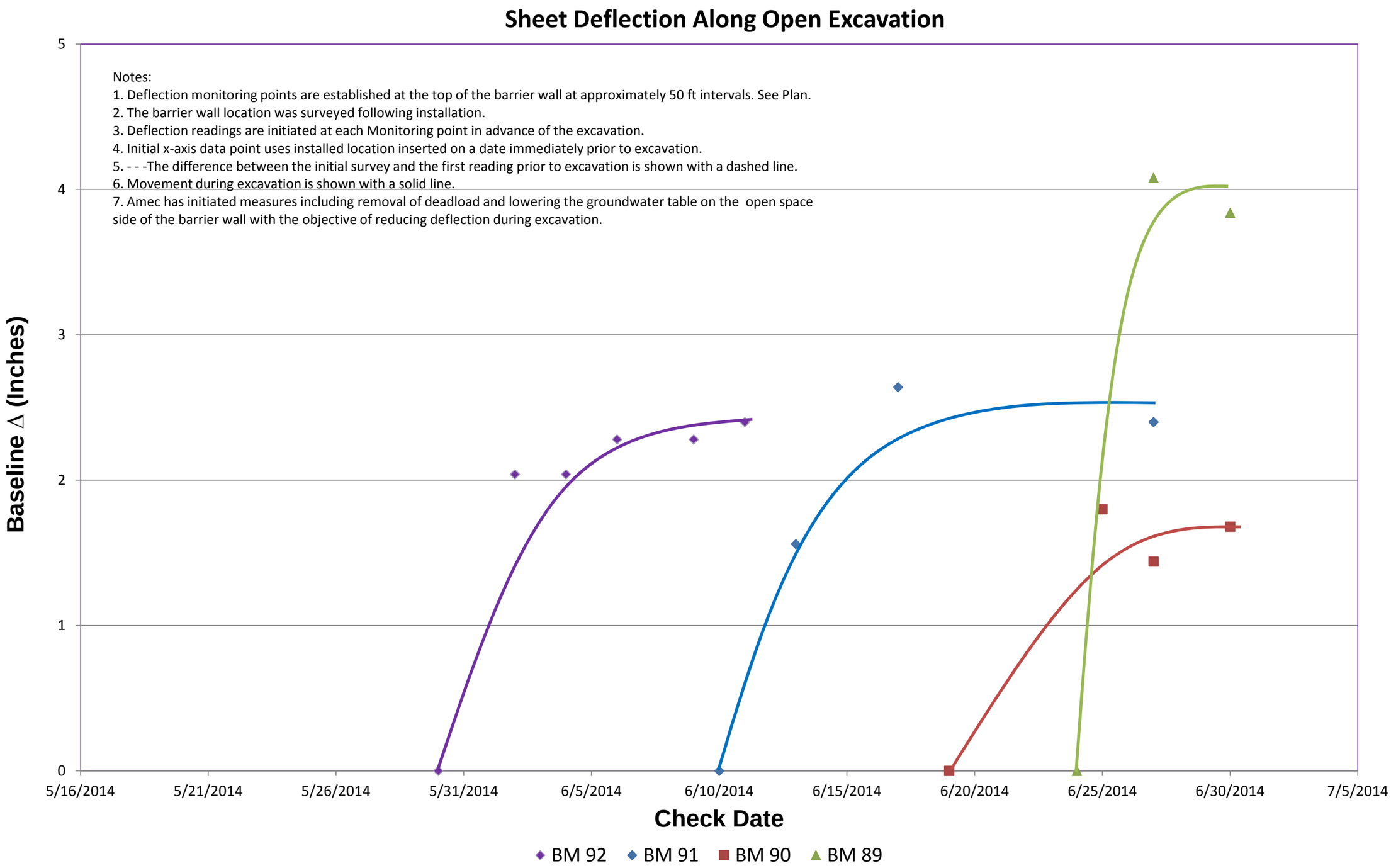
CIVIL
HYDRAULIC BARRIER
PLAN & PROFILE

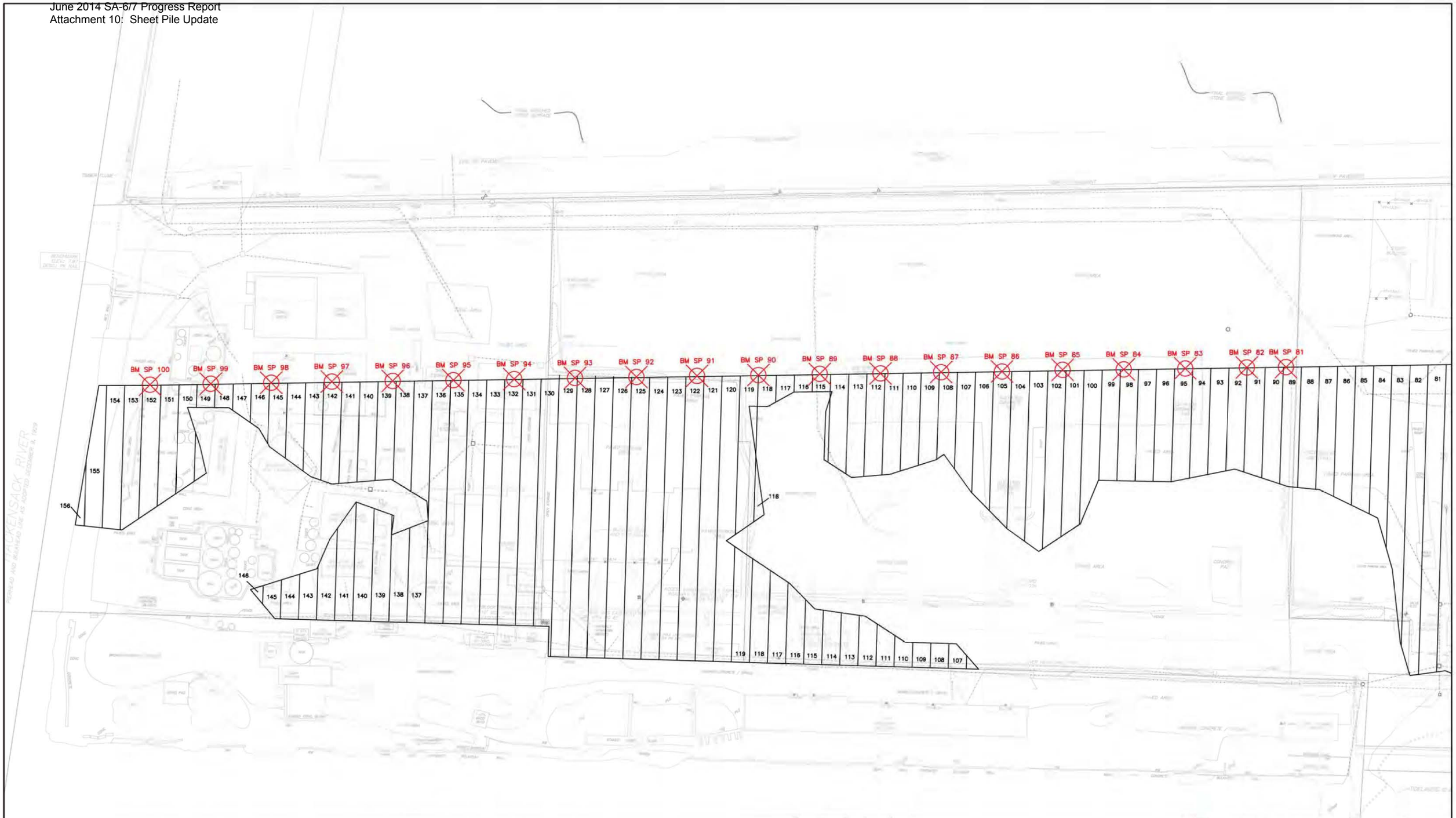
amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 585-7829
NJ Certificate of Authorization Number 24GA28019600

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE
PROJ 3480-12-0317
DWG S-203
SHEET 55 OF 66

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USER'S AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.


Sheet Deflection Along Open Excavation
Notes:
1. Deflection monitoring points are established at the top of the barrier wall at approximately 50 ft intervals. See Plan.
2. The barrier wall location was surveyed following installation.
3. Deflection readings are initiated at each Monitoring point in advance of the excavation.
4. Initial x-axis data point uses installed location inserted on a date immediately prior to excavation.
5. - - -The difference between the initial survey and the first reading prior to excavation is shown with a dashed line.
6. Movement during excavation is shown with a solid line.
7. Amec has initiated measures including removal of deadload and lowering the groundwater table on the open space side of the barrier wall with the objective of reducing deflection during excavation.
Baseline Δ (Inches)
0
1
2
3
4
5
5/16/2014
5/21/2014
5/26/2014
5/31/2014
6/5/2014
6/10/2014
6/15/2014
6/20/2014
6/25/2014
6/30/2014
7/5/2014
Check Date
BM 92
BM 91
BM 90
BM 89



NOTES:

- Survey data collected with Trimble SPS882 and TSC2 Data Collector.
- Horizontal accuracy of 0.026 ft.
- Deflection measured at the top of the sheet.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SHEET MONITORING LOCATIONS 03-20-14

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 15P-10

Entact ID:

Date Exposed: 5/21/14

Describe Damage: (6) Minor scrapes by the Cat 349E Excavator Bucket- Range from 1/2"Ø to 1"x3" (Cell 128)

Damage Location (ft below top of sheet, inboard side, outboard side): 7'-10' outboard side

Date Repaired: 6/2/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/5/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 15P-11

Entact ID:

Date Exposed: 5/21/14

Describe Damage: (5) Minor scrapes by the Cat 349E Excavator Bucket- (Cell 128)

Damage Location (ft below top of sheet, inboard side outboard side): 7'-10' outboard side

Date Repaired: 6/2/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/5/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 15P-12

Entact ID:

Date Exposed: 5/21/14

Describe Damage: (4) scrapes by the Cat 349E Excavator bucket - (Cell 128)

Damage Location (ft below top of sheet, inboard side outboard side): 5'-10' outboard

Date Repaired: 6/2/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/5/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 15P-13

Entact ID:

Date Exposed: 5/21/14

Describe Damage: (8) scrapes by the CAT349E Excavator Bucket - (Cell 128)

Damage Location (ft below top of sheet, inboard side outboard side): 6-10' outboard

Date Repaired: 6/2/14

Inspected by: Brian Shea

Describe Repair: Pressure Wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/5/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

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SHEET PILE REPAIR LOG*

Sheet Number/DB ID: 15P-14

Entact ID:

Date Exposed: 5/23

Describe Damage:

(3) minor scrapes by the Cat 349E Excavator bucket - cell 127

Damage Location (ft below top of sheet, inboard side outboard side):

6'-10' outboard

Date Repaired: 6/2/14

Inspected by: Mike Senna

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: B Shea

Date: 6/5/14

*A repair log is to be completed for each sheet pile section that is exposed and in need of repair

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SHEET PILE REPAIR LOG*

Sheet Number/DB ID: 15P-15

Entact ID:

Date Exposed: 5/23

Describe Damage:

(4) minor scrapes by the Cat 349E Excavator bucket - cell 127

Damage Location (ft below top of sheet, inboard side outboard side):

6'-10' outboard side

Date Repaired: 6/2/14

Inspected by: Mike Senna

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: B Shea

Date: 6/5/14

*A repair log is to be completed for each sheet pile section that is exposed and in need of repair

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SHEET PILE REPAIR LOG*

Sheet Number/DB ID: 15P-16

Entact ID:

Date Exposed: 5/23

Describe Damage:

(4) minor scrapes by the Cat 349E Excavator Bucket - (Cell 127)

Damage Location (ft below top of sheet, inboard side outboard side):

7-10' outboard side

Date Repaired: 6/2/14

Inspected by: Mike Senna

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: B Shea

Date: 6/5/14

*A repair log is to be completed for each sheet pile section that is exposed and in need of repair

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SHEET PILE REPAIR LOG*

Sheet Number/DB ID: 15P-17

Entact ID:

Date Exposed: 5/27/14

Describe Damage:

(3) Minor scrapes by the Cat 349E Excavator Bucket (Cell 126)

Damage Location (ft below top of sheet, inboard side outboard side):

6'-10' outboard

Date Repaired: 6/2/14

Inspected by: Mike Senna

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: B Shea

Date: 6/5/14

*A repair log is to be completed for each sheet pile section that is exposed and in need of repair

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15 P-18

Entact ID:

Date Exposed: 5/27/14

Describe Damage: Scrapes by Cat 349E excavator bucket- 1"Ø, 1/2"Ø; 1/2"x4" - Cell 126

Damage Location (ft below top of sheet, inboard side outboard side): 8-10' outboard

Date Repaired: 6/3/14

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, and apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/5/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15 P-19

Entact ID:

Date Exposed: 5/27/14

Describe Damage: (3) Scrapes by the Cat 349E excavator bucket- 1"Ø, 1/2x2", 2" - Cell 126

Damage Location (ft below top of sheet, inboard side outboard side): 7-9' outboard

Date Repaired: 6/3/14

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/5/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15P-20

Entact ID:

Date Exposed: 5/27/14

Describe Damage: (7) Scrapes by the Cat 349E excavator bucket - 1"Ø, 1x4", 1x5", 1/2"Ø, 1/2"Ø, 2"Ø, 1/2"x14", - Cell 125

Damage Location (ft below top of sheet, inboard side outboard side): 6-10' outboard

Date Repaired: 6/3/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" Paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/5/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15P-21

Entact ID:

Date Exposed: 5/27/14

Describe Damage: (4) scrapes by the Cat 349E Excavator bucket - 1/2"Ø, 1/2x6", 3"Ø, 2"Ø - Cell 125

Damage Location (ft below top of sheet, inboard side outboard side): 6-10' outboard

Date Repaired: 6/3/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire wash, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/5/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 15P-26

Entact ID:

Date Exposed: 6/5/14

Describe Damage: (7) minor scrapes by the Cat 349E Excavator bucket - 1/2"Ø, 1"Ø, 1"x3", 2"Ø, 1"x40", 1/2"Ø, 1"x2". (Cell 124)

Damage Location (ft below top of sheet, inboard side outboard side): 5-10' outboard

Date Repaired: 6/11/14

Inspected by: Brian Shea

Describe Repair: Pressure washed, wire brushed, epoxy applied w/ 4" paint brush

Repair Log Closure: AMEC Signature: B Shea

Date: 6/13/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 16P-1

Entact ID:

Date Exposed: 6/6/14

Describe Damage: (5) scrapes by the Cat 349E excavator bucket - 1"Ø, 1"x2", 1/2"Ø, 1/2"x3", 1/2"x50". (Cell 123)

Damage Location (ft below top of sheet, inboard side outboard side): 11'-15' outboard

Date Repaired: 6/11/14

Inspected by: Brian Shea

Describe Repair: Pressure washed, wire brushed, epoxy applied w/ 4" paint brush.

Repair Log Closure: AMEC Signature: B Shea

Date: 6/13/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 16P-2

Entact ID:

Date Exposed: 6/6/14

Describe Damage: (8) scrapes by Cat 349E excavator bucket - 1"Ø, 1"Ø, 1/2"Ø, 1"x2", 1"Ø, 2"Ø, 1"x36", 1/2"x24". (Cell 123)

Damage Location (ft below top of sheet, inboard side outboard side): 10'-15' outboard

Date Repaired: 6/11/14

Inspected by: Brian Shea

Describe Repair: Pressure washed, wire brushed, applied epoxy w/ 4" paint brush.

Repair Log Closure: AMEC Signature: B Shea

Date: 6/13/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 16P-6

Entact ID:

Date Exposed: 6/9/14

Describe Damage: (2) scrapes by the CAT 349E excavator bucket - 1/2"x36", 1"Ø (Cell 123)

Damage Location (ft below top of sheet, inboard side outboard side): 10'-15' outboard

Date Repaired: 6/13/14

Inspected by: Brian Shea

Describe Repair: pressure washed, iron brushed, epoxy applied w/ a 4" paint brush

Repair Log Closure: AMEC Signature: B Shea

Date: 6/13/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 16P-10

Entact ID:

Date Exposed: 6/9/14

Describe Damage: (9) scrapes by the Cat 349E excavator bucket - 1"x36", 5 - 1/2"Ø, 1"Ø, 1"x2", 1"x5". (Cell 123)

Damage Location (ft below top of sheet, inboard side outboard side): 10'-15' outboard

Date Repaired: 6/13/14

Inspected by: Brian Shea

Describe Repair: pressure washed, wire brushed, applied epoxy w/ a 4" paint brush

Repair Log Closure: AMEC Signature: B Shea

Date: 6/13/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 16P-16

Entact ID:

Date Exposed: 6/10/14

Describe Damage: (6) scrapes by the Cat 349E excavator bucket - 1"x24", 1"Ø, 2"Ø, 1/2"x3", 1/2"x5", 1/2"Ø (Cell 122)

Damage Location (ft below top of sheet, inboard side outboard side): 10'-15' outboard

Date Repaired: 6/13/14

Inspected by: Brian Shea

Describe Repair: pressure washed, wire brushed, applied epoxy w/ a 4" paint brush

Repair Log Closure: AMEC Signature: B Shea

Date: 6/13/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 16P-9

Entact ID:

Date Exposed: 6/13/14

Describe Damage: (9) scrapes by the Cat 349E excavator bucket - 2"x12", 2"Ø, 1"Ø, 2x2", 2"x6", 1"Ø, 1/2"Ø, 2"Ø, 1"Ø, 1/2"Ø (Cell 122)

Damage Location (ft below top of sheet, inboard side outboard side): 10'-15' outboard side

Date Repaired: 6/17/14

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: B Shea

Date: 6/18/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 16P-7

Entact ID:

Date Exposed: 6/13/14

Describe Damage: (6) scrapes by the Cat 349E excavator bucket - 1/2"Ø, 1"x3", 1/2"x18", 1/2"x12", 1"x24", 1"Ø (Cell 121)

Damage Location (ft below top of sheet, inboard side outboard side): 10'-15' outboard

Date Repaired: 6/17/14

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ a 4" paint brush

Repair Log Closure: AMEC Signature: B Shea

Date: 6/18/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 16P-8

Entact ID:

Date Exposed: 6/13/14

Describe Damage: (18) Scrapes by the Cat 349E excavator bucket - 1/2Ø, 1"Ø, 1"Ø, 2"x 10", 1"x6", 2"Ø, 1/2"x12", 1"x14", 1"x 20", 1/2"Ø, 1/2"Ø, 1"Ø, 1/2"Ø, 1"Ø, 1/2"Ø, 1"x 8", 2"Ø, 1/2"Ø

Damage Location (ft below top of sheet, inboard side outboard side): 10'-15' outboard side

Date Repaired: 6/17/14

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ a 4" paint brush

Repair Log Closure: AMEC Signature: B Shea

Date: 6/18/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 16P-9

Entact ID:

Date Exposed: 6/18/14

Describe Damage: (10) Scrapes by the Cat 349E excavator bucket - 1x8", 4x12", 1/2x10", 1"Ø, 1/2x6", 1x4" - Cell 121

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 6/19/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush

Repair Log Closure: AMEC Signature: B Shea

Date: 6/20/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 16P-10

Entact ID:

Date Exposed: 6/18/14

Describe Damage: (8) scrapes by the Cat 349E excavator bucket - 1x8", 1"Ø, 1x12", 1/2"Ø, 1x24", 1/2x8, 1/2x30", 1x5" - Cell 121/120

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 6/19/14

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: B Shea

Date: 6/20/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 16P-11

Entact ID:

Date Exposed: 6/18/14

Describe Damage: (9) scrapes by the cat 349E excavator bucket - 1"Ø, 1/2x3", 1x8", 1"Ø, 1"Ø, 1"Ø, 1x36", 1x40", 1/2"Ø - Cell 120

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 6/19/14

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ a 4" paint brush.

Repair Log Closure: AMEC Signature: B Shea

Date: 6/20/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 16P-12

Entact ID:

Date Exposed: 6/18/14

Describe Damage: (4) scrapes by the Cat 349E excavator bucket - 1/2"x8", 2"Ø, 2x6", 1/2"Ø - Cell 120

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 6/19/14

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: B Shea

Date: 6/20/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 16P-13

Entact ID:

Date Exposed: 6/18/14

Describe Damage: (9) scrapes by Cat 349E excavator bucket - 4x8", 1x18", (7) 1"Ø - Cell 120

Damage Location (ft below top of sheet, inboard side outboard side): 10'-15' outboard

Date Repaired: 6/24/14

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: B Shea

Date: 6/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 16P-14

Entact ID:

Date Exposed: 6/18/14

Describe Damage: (3) scrapes by Cat 349E excavator bucket - 1"Ø, 1/2"Ø, 1/2x6"

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 6/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: B Shea

Date: 6/24/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 16P-15

Entact ID:

Date Exposed:

Describe Damage: 6/18/14 (8) Scrapes by Cat 349E excavator bucket - 1"Ø, (3) 1/2"Ø, 1x24", 1/2"Ø, 2"Ø, 1"Ø

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 6/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: B Shea

Date: 6/24/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 16-P16

Entact ID:

Date Exposed: 6/19/14

Describe Damage:

(9) scrapes by Cat 349E excavator bucket - 1"Ø, 1/2×2", 1×4", 1×8", 1/2"Ø, 1×12", (3) 1/2"Ø

Damage Location (ft below top of sheet, inboard side outboard side):
10-15' outboard

Date Repaired: 6/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 16P-17

Entact ID:

Date Exposed: 6/19/14

Describe Damage:

(3) scrapes by Cat 349E excavator bucket- 1/2×18", 1/2"Ø, 1/2×10"

Damage Location (ft below top of sheet, inboard side outboard side):
10-13' outboard

Date Repaired: 6/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 16P-18

Entact ID:

Date Exposed: 6/19/14

Describe Damage:

(3) scrapes by Cat 349E excavator bucket - 1/2×6", 1/2×3", 1/2"×10"-

Damage Location (ft below top of sheet, inboard side outboard side):
12-15' outboard

Date Repaired: 6/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 16P-19

Entact ID:

Date Exposed: 6/19/14

Describe Damage:

(8) scrapes by the Cat 349E excavator bucket- 1"Ø, 1/2×18", 1/2×12", 1/2"Ø, 2"Ø, 1/2"Ø, 1/2×8, 2"Ø - Cell 118

Damage Location (ft below top of sheet, inboard side outboard side):
10-15' outboard

Date Repaired: 6/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" wire brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 16P-20

Entact ID:

Date Exposed: 6/23/14

Describe Damage: (5) scrapes by the Cat 349E excavator bucket- 2"Ø, 1/2"Ø, 1/2×48", 1/2×30", 1/2×8" - Cell 117

Damage Location (ft below top of sheet, inboard side outboard side): 9-15' outboard

Date Repaired: 6/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 16P-21

Entact ID:

Date Exposed: 6/23/14

Describe Damage: 6/23/14 (3) scrapes by the Cat 349E excavator bucket- 1/2×10", 1"×30", 2×3" - Cell 117

Damage Location (ft below top of sheet, inboard side outboard side): 10ft - 15ft outboard

Date Repaired: 6/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 16P-22

Entact ID:

Date Exposed: 6/23/14

Describe Damage: (14) scrapes by the Cat 349E excavator bucket- (5) 1/2"Ø, 1/4"×10", 1"Ø, 2"Ø, 1/2×18", 1"Ø, 1/2×30", 2×10", 1/4×4" - Cell 117

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 6/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P-1

Entact ID:

Date Exposed: 6/23/14

Describe Damage: 6/23/14 (6) scrapes by the Cat 349E excavator bucket- 1/2×18", 1×24", 1/2"Ø, 1"Ø, 1/2×10", 1/2"×24" - Cell 117

Damage Location (ft below top of sheet, inboard side outboard side): 9-15' outboard

Date Repaired: 6/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17Pr-2

Entact ID:

Date Exposed: 6/24/14

Describe Damage: (10) scrapes by the Cat 349E excavator bucket - 1x10", 1x6", 1"Ø, 1/2"Ø, 1"Ø, 1x2", 1/2x3", 5x30", 1x36" 1/2"Ø - Cell 116

Damage Location (ft below top of sheet, inboard side outboard side): 10/15' outboard

Date Repaired: 6/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17Pr-3

Entact ID:

Date Exposed: 6/24/14

Describe Damage: (13) scrapes by the cat 349E excavator bucket - (7) 1/2"Ø, (4) 1"Ø, 1x8", 1/2x60", - Cell 116

Damage Location (ft below top of sheet, inboard side outboard side): 9-15' outboard

Date Repaired: 6/26/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/26/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17Pl-4

Entact ID:

Date Exposed: 6/24/14

Describe Damage: (8) scrapes by Cat 349E excavator bucket - 1/2"x6", 1/4x3", 1x12", 2x10", 1/2x3", 1/2"Ø, 1/2x8", 12"Ø, - Cell 116

Damage Location (ft below top of sheet, inboard side outboard side): 10-15 outboard

Date Repaired: 6/26/14

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/26/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17Pl-5

Entact ID:

Date Exposed: 6/24/14

Describe Damage: (6) scrapes by the Cat 349E excavator bucket - 1x18", 1x30", 1/2x1", 1/2x4", 1/2x8", 12"Ø - cell 115

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 6/26/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/26/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P1-7

Entact ID:

Date Exposed: 6/24/14

Describe Damage:

(7) scrapes by the Cat 349E excavator bucket- 1/2x48", 1/2"Ø, 2x6", 2"Ø, 1x24", 2"Ø, 3"Ø.- Cell 115

Damage Location (ft below top of sheet, inboard side/outboard side): 10-15' outboard

Date Repaired: 6/26/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: B Shea

Date: 6/26/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P1-6

Entact ID:

Date Exposed: 6/24/14

Describe Damage:

(15) scrapes by the Cat 349E excavator bucket - 1/2x3", 1x4", 1/2x24", 1/2"Ø, 1/2"Ø, 1/2"Ø, 3x12", (4) 1"Ø, 1x18", 1x2", 1x4", 2"Ø,- Cell 115

Damage Location (ft below top of sheet, inboard side outboard side): 9-15' outboard

Date Repaired: 6/26/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: B Shea

Date: 6/26/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: June 5, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		1
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		2,3,4
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		5

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 06/05/14

SWPPP Observer: (George Pfeiffer)
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Thursday, June 05, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
PERMIT CLOSED

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	A catch basin to the west of the scalehouse requires silt protection.
2	IA2Q4A1AL8	A cut-out in the 18" asphalt berm which is located on the western edge of the western SA-7 roadway requires silt protection.
3	IA2Q4A1AL8	Silt fencing along the southern toe of the N-1 surcharge area requires maintenance.
4	IA2Q4A1AL8	Straw waddle on the northern SA-7 roadway requires replacement.
5	IA2Q4A1AL8	A small pile of backfill material located to the east of the SA-7 river bulkhead requires removal.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature **Date:** 06/05/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Replace filter fabric in the catch basin.	6-17-14
2	Place waddle or hay bales in the gap in the berm to prevent sediment run-off.	6-12-14
3	Maintain silt fence, restapling fabric to the stakes. Toe in fabric as required.	6-16-14
4	Replace the straw waddle on the northern SA-7 roadway.	6-12-14
5	Remove the small pile of quarry screening material from the SA-7 bulkhead area. Use light equipment and maintain a distance of at least 30' from the wooden bulkhead.	6-13-14

Construction Manager: _____ **Date:** 06/17/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: June 12, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		2,3
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		4
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		5

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 06/12/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, June 12, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
PERMIT CLOSED

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone signs on the orange fencing immediately west of the scale house are not needed and should be removed to avoid confusion.
2	IA2Q4A1AL8	REPEAT: A cut-out in the 18" asphalt berm which is located on the western edge of the western SA-7 roadway requires silt protection.
3	IA2Q4A1AL8	REPEAT: Silt fencing along the southern toe of the N-1 surcharge area requires maintenance.
4	IA2Q4A1AL8	The truck entrance/exit to the Novartis stockpile containment area requires additional measures to prevent the tracking of material out onto Study Area 7.
5	IA2Q4A1AL8	REPEAT: A small pile of backfill material located to the east of the SA-7 river bulkhead requires removal. The material was transported to this area during snow removal activities over the previous winter.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature Date: 06/12/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Remove the unnecessary signage from the orange fence. The area behind this section of fencing is not currently an Exclusion Zone.	6-13-14
2	Place waddle or hay bales in the gap in the berm to prevent sediment run-off.	6-12-14
3	Maintain silt fence, restapling fabric to the stakes. Toe in fabric as required.	6-16-14
4	Install a tracking pad or other control measures to minimize the tracking of surcharge material out of the containment area.	6-13-14
5	Remove the small pile of quarry screening material from the SA-7 bulkhead area. Use light equipment and maintain a distance of at least 30' from the wooden bulkhead.	6-13-14

Construction Manager: _____ Date: 06/17/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: June 19, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		2
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen		X		4
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams		X		5
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 06/20/14

SWPPP Observer: G Pfeiffer (G. Pfeiffer)
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, June 19, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
PERMIT CLOSED

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone fencing along the southern perimeter of the western excavation requires maintenance.
2	IA2Q4A1AL8	An electrical road box just to the west of the scale house has a collapsed lid.
3	IA2Q4A1AL8	There are no markers showing the southern edge of the N-1 surcharge pile or the ramp on its eastern end.
4	IA2Q4A1AL8	Orange warning fencing at the southwest corner of the sedimentation basin requires maintenance.
5	IA2Q4A1AL8	A semdiment check dam is needed in the swale at the southwest corner of Study Area 7.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature Date: 06/20/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair Exclusion Zone fencing to the south of the <20 ppm stockpile.	6-20-14
2	Repair the road box located in the southwestern haul road.	6-23-14
3	Place traffic cones or other appropriate markers at intervals along the top of the slope of the N-1 surcharge pile and along the edges of its eastern access ramp.	6-23-14
4	Repair the warning fence to block access from the N-1 surcharge pile to the concrete overflow tank abutting it.	6-23-14
5	Install a sediment check dam just to the east of the straw waddle in the southern SA-7 stormwater discharge weir.	6-20-14

Construction Manager: _____ Date: 06/24/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: June 26, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		2
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 06/27/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Thursday, June 26, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
PERMIT CLOSED

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone fencing along the southern perimeter of the western excavation requires maintenance.
2	IA2Q4A1AL8	Stone in the southeastern exit tracking pad is blinded and requires maintenance
3	IA2Q4A1AL8	A 10 MPH speed limit sign (or multiple signs) are required on the eastern SA-7 paved access road for the trucks delivering surcharge material.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature Date: 06/27/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair Exclusion Zone fencing along the southern perimeter of the excavation area.	7-1-14 RAD
2	Clean or replace the stone in the tracking pad located to the east of the 60 Kellogg building.	7-2-14 RAD
3	Install the reflective 10 MPH speed limit sign which is currently located under the Entact office trailer.	6-30-14 RAD

Construction Manager: _____ Date: 07/02/14

Attachment 12: GWTP Update

- 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (April 2014)
- 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (April 2014)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

June 18, 2014

New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Permit Management
P.O. Box 029
Trenton, NJ 08625-0029

RE: NJPDES Permit NJ0156311: May 2014 Surface Water Discharge Monitoring Report
Study Area 7, Jersey City, NJ

To Whom It May Concern:

In accordance with the Honeywell International NJPDES Permit NJ0156311, enclosed please find the May 2014 Surface Water Discharge Monitoring Report for Outfall 001A. Please note that there was no discharge this monitoring period.

Please contact me at 973-455-2989 should you have any questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Program Manager
Fahy Associates
c/o Honeywell International

Enc.

cc: Angle Trujillo - Evoqua
Frank Schroyer - Parsons

PI 234822

New Jersey Department of Environmental Protection
Division of Water Quality

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD							MONITORED LOCATION:
	Month	Day	Year		Month	Day	Year	
NJG0156311	5	1	2014	To	5	31	2014	001A - Remediated Groundwater

PERMITTEE:
HONEYWELL INTERNATIONAL INC
101 COLUMBIA RD
MORRISTOWN, NJ 07962

LOCATION OF ACTIVITY:
HONEYWELL STUDY AREA 7
441 RT 440 S
JERSEY CITY, NJ 07305

REPORT RECIPIENT:
Honeywell International Inc
ATT: HELEN FAHY
101 COLUMBIA ROAD
MORRISTOWN, NJ 07962

REGION / COUNTY: Northern / Hudson County

CHECK IF APPLICABLE: ☒ **No Discharge this Monitoring Period** ☐ **Monitoring Report Comments Attached**

WHO MUST SIGN The highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility shall sign the certification or, in his absence a person designated by that person. For a local agency, the highest ranking operator of the treatment works shall sign the certification. Where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that reponsibility or person designated by that person shall also sign the second certification at the bottom of this page. If the local agency has contracted with another entity to operate the treatment works, the highest-ranking official of the contracted entity shall sign the certification.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and/or imprisonment, pursuant to N.J.A.C. 7:14A-6.9(B). The New Jersey Water Pollution Control Act provides for penalties up to $50,000 per violation.

John J Morris, Remediation Director — —

NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR **GRADE AND REGISTRY NUMBER (IF APPLICABLE)**

John J. Morris JR — 06/17/2014 — 973.455.4003

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR **DATE** **AREA CODE/PHONE NUMBER**

**For a local agency where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall sign the following certification:*

I certify under penalty of law and in accordance with N.J.S.A. 58:10A-6F(5) that I have received and reviewed the attached discharge monitoring reports.

John J Morris, Remediation Director — John J. Morris JR — 06/17/2014 — 973.455.4003

NAME AND TITLE **SIGNATURE** **DATE** **AREA CODE/PHONE NUMBER**

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	5/1/2014 TO 5/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant 50050 1 Effluent Gross Value	SAMPLE MEASUREMENT			GPD	******	******	******	******			
	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX		******	******	******			1/Month	METER
	QL	******	******		******	******	******				
pH 00400 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******		SU			
	PERMIT REQUIREMENT	******	******		6.0 01MOMN	******	9.0 01MOMX			1/Month	GRAB
	QL	******	******		******	******	******				
LC50 Statre 96hr Acu Mysid Bahia TAN3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******	******	%EFFL			
	PERMIT REQUIREMENT	******	******		50 01RPMN	******	******			1/Year	COMPOS
	RQL	******	******		******	******	******				
IC25 Statre 7day Chr Mysid Bahia TBP3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******	******	%EFFL			
	PERMIT REQUIREMENT	******	******		REPORT 01RPMN	******	******			1/Year	COMPOS
	QL	******	******		******	******	******				
Petroleum Hydrocarbons 00551 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			MG/L			
	PERMIT REQUIREMENT	******	******		******	10 01MOAV	15 01RPINMX			1/Month	GRAB
	QL	******	******		******	******	******				
Carbon, Tot Organic (TOC) 00680 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			MG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	20 01WKAV			1/Month	GRAB
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	5/1/2014 TO 5/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Chromium Trivalent (as Cr) Total Recov. *PS06 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX			1/Quarter	COMP24
	QL	******	******		******	******	******				
Cyanide, Total (as CN) 00720 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	40	40				
Nickel, Total Recoverable 01074 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.3 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Zinc, Total Recoverable 01094 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	30	30				
Lead, Total Recoverable 01114 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	79 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Chromium, Total Recoverable 01118 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX			1/Month	COMP24
	RQL	******	******		******	10	10				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	5/1/2014 TO 5/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Copper, Total Recoverable 01119 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	COMP24
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX				
	RQL	******	******		******	10	10				
Chromium, Hexavalent Dissolved (as Cr) 01220 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	COMP24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX				
	QL	******	******		******	******	******				
Mercury Total Recoverable 71901 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	COMP24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	0.025 01DAMX				
	RQL	******	******		******	1	1				
Carbon Tetrachloride 32102 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	GRAB
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.8 01DAMX				
	RQL	******	******		******	6	6				
Chloroform 32106 2 Effluent Net Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	GRAB
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	46 01DAMX				
	RQL	******	******		******	5	5				
Trichloroethylene 39180 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	GRAB
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	54 01DAMX				
	RQL	******	******		******	5	5				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Pre-Print Creation Date: 4/1/2014

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	5/1/2014 TO 5/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Lab Certification #	SAMPLE MEASUREMENT										
99999 99 Lab	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #			Not Applic	NOT AP
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

June 18, 2014

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 31630016

Dear Mr. Caltagirone:

Honeywell is submitting the May 2014 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely

Helen Fahy

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA
Frank Schroyer - Parsons

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc., Bayfront Redevelopment

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 31630016 OLD OUTLET DESIGNATION:

MONITORING PERIOD

Start			End		
5	01	14	5	31	14
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow gal/day~~		
Total Flow-gal/day	79,469	88,443
		(see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	1.73	1.93	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.2	<5.2	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.077	0.077	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analytes are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

June 13, 2014

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc., Bayfront Redevelopment

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 31630016 **OLD OUTLET DESIGNATION**

MONITORING PERIOD

Start			End		
5	01	14	5	31	14
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD	
2,463,526	GALS
CU. FT X 7.48 - GALLONS	
EFFLUENT METER READING LAST DAY THIS PERIOD 8,123,739	

DATE	BOD (mg/l)	TSS (mg/l)
5/13/2014	<10	6.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J Morris	John J. Morris	(973) 455-4003
		DATE June 13, 2014

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG Honeywell Bayfront Redevelopment; GWTP (Permit #31630016) MONTH: May 2014

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
5/1/2014	Angel Trujillo	5660213	5741873	81,660	0.08166	7.61	2.610									1.78
5/2/2014	Angel Trujillo	5741873	5823281	81,408	0.081408	7.73	2.610									1.77
5/3/2014	Angel Trujillo	5823281	5909094	85,813	0.085813	7.64	2.610									1.87
5/4/2014	Angel Trujillo	5909094	5989437	80,343	0.080343	7.55	2.610									1.75
5/5/2014	Angel Trujillo	5989437	6063807	74,370	0.07437	7.59	2.610									1.62
5/6/2014	Angel Trujillo	6063807	6141420	77,613	0.077613	8.03	2.610									1.69
5/7/2014	Angel Trujillo	6141420	6220321	78,901	0.078901	8.01	2.610									1.72
5/8/2014	Angel Trujillo	6220321	6296105	75,784	0.075784	7.82	2.610									1.65
5/9/2014	Angel Trujillo	6296105	6377235	81,130	0.08113	7.61	2.610									1.77
5/10/2014	Angel Trujillo	6377235	6462763	85,528	0.085528	7.82	2.610									1.86
5/11/2014	Angel Trujillo	6462763	6540118	77,355	0.077355	7.76	2.610									1.68
5/12/2014	Angel Trujillo	6540118	6615585	75,467	0.075467	7.68	2.610									1.64
5/13/2014	Angel Trujillo	6615585	6692802	77,217	0.077217	7.53	2.610	<5.2	<10		<0.010	<0.030	<0.010	<0.0002	<0.020	1.68
5/14/2014	Angel Trujillo	6692802	6769848	77,046	0.077046	7.81	2.610									1.68
5/15/2014	Angel Trujillo	6769848	6849228	79,380	0.07938	7.70	2.610									1.73
5/16/2014	Angel Trujillo	6849228	6927706	78,478	0.078478	7.57	2.610									1.71
5/17/2014	Angel Trujillo	6927706	7012269	84,563	0.084563	7.86	2.610									1.84
5/18/2014	Angel Trujillo	7012269	7092708	80,439	0.080439	7.69	2.610									1.75
5/19/2014	Angel Trujillo	7092708	7169062	76,354	0.076354	7.64	2.610									1.66
5/20/2014	Angel Trujillo	7169062	7248209	79,147	0.079147	7.82	2.610									1.72
5/21/2014	Angel Trujillo	7248209	7328272	80,063	0.080063	7.18	2.610									1.74
5/22/2014	Angel Trujillo	7328272	7405612	77,340	0.07734	7.63	2.610									1.68
5/23/2014	Angel Trujillo	7405612	7484852	79,240	0.07924	7.78	2.610									1.72
5/24/2014	Angel Trujillo	7484852	7565811	80,959	0.080959	7.81	2.610									1.76
5/25/2014	Angel Trujillo	7565811	7641138	75,327	0.075327	7.92	2.610									1.64
5/26/2014	Angel Trujillo	7641138	7729581	88,443	0.088443	7.84	2.610									1.93
5/27/2014	Angel Trujillo	7729581	7805733	76,152	0.0762	7.58	2.610									1.66
5/28/2014	Angel Trujillo	7805733	7881663	75,930	0.07593	7.86	2.610									1.65
5/29/2014	Angel Trujillo	7881663	7960797	79,134	0.079134	7.69	2.610									1.72
5/30/2014	Angel Trujillo	7960797	8039909	79,112	0.079112	7.83	2.610									1.72
5/31/2014	Angel Trujillo	8039909	8123739	83,830	0.08383	7.84	2.610									1.82
TOTAL				2,463,526	2.463526			<5.2	<10		<0.010	<0.030	<0.010	<0.0002	<0.020	
			High:	88,443											High:	1.93
			Average:	79,469											Average:	1.73

WW

E

JB66860

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell

Chain Of Custody / Analysis Request

AESI Ref: 41772.44799
COC#:
Lab Proj # (SDG):
Lab ID:
Site ID:
Lab Job #: HWNJM82815
Authorized User: Honeywell

Privileged & Confidential

Site Name: Hudson County
Phase: CS
Location of Site: Jersey City, NJ
Sampling Program: 087: JCIA

Sampling Co.: Parsons
EDD To:
Client Contact: (name, co., address)
Helen Fahy P: (973) 455-2889 E: helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962
Sampler: Frank Schroyer
PO #:
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)
Full Report TAT: 28 Days

Preservative: 3, 3, 3, 1, 2, 2, 0, 0, 2

	Sample Identification: Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite	Field Filtered	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cr, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA 624/8260, VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
											Units																
1	087-WW	pH 2		087-WWE-051314-A	5/13/2014	14:55	WW	WATER	REG	3	comp	N	X	X	X	X			X	X		1					L27
2	087-WW			087-WWE-051314-B	5/13/2014	14:45	WW	WATER	REG	5	grab	N					X	X				2					V296
3	087-WW			087-WWI-051314	5/13/2014	14:30	WW	WATER	REG	3	grab	N									X	3					A17
4																											G13
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

Relinquished by pH = 7.53 GES	Company: Parsons	Received by:	Company: Accutest	Condition:		Custody Seals Intact:	
Frank Schroyer	Date/Time: 5/13/14		Date/Time: 5/13/14 1515	Cooler Temp:	2.0°C		
Relinquished by:	Company: Accutest	Received by:	Company:	Condition:		Custody Seals Intact:	
	Date/Time: 5/13/14 1645		Date/Time: 5-15-14	Cooler Temp:			

Preservatives: (Other; Specify): 9A

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

NLG

Accutest LabLink@798422 09:51 05-Jun-2014

Report of Analysis

4.1

4

Client Sample ID:	087-WWE-051314-A		
Lab Sample ID:	JB66860-1	Date Sampled:	05/13/14
Matrix:	AQ - Water	Date Received:	05/13/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	2610	10	ug/l	1	05/14/14	05/15/14	RR	EPA 200.7 [1]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	05/14/14	05/15/14	RR	EPA 200.7 [1]	EPA 200.7 [4]
Lead [a]	< 30	30	ug/l	10	05/14/14	05/16/14	RR	EPA 200.7 [3]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	05/16/14	05/16/14	DP	EPA 245.1 [2]	EPA 245.1 [5]
Nickel	< 10	10	ug/l	1	05/14/14	05/15/14	RR	EPA 200.7 [1]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	05/14/14	05/15/14	RR	EPA 200.7 [1]	EPA 200.7 [4]

(1) Instrument QC Batch: MA34018
(2) Instrument QC Batch: MA34034
(3) Instrument QC Batch: MA34036
(4) Prep QC Batch: MP79497
(5) Prep QC Batch: MP79511

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@798422 09:51 05-Jun-2014

Report of Analysis

4.1
4

Client Sample ID:	087-WWE-051314-A		
Lab Sample ID:	JB66860-1	Date Sampled:	05/13/14
Matrix:	AQ - Water	Date Received:	05/13/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	6.0	4.0	mg/l	1	05/15/14	RP	SM2540 D-11
pH [a]	7.07		su	1	05/13/14 16:53	IM	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@798422 09:51 05-Jun-2014

Report of Analysis

Client Sample ID:	087 WWE-051314-A		
Lab Sample ID:	JB66860-1A	Date Sampled:	05/13/14
Matrix:	AQ - Water	Date Received:	05/13/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.2 4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 10	10	mg/l	1	05/14/14 18:53	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@798422 09:51 05-Jun-2014

Report of Analysis

4.3

4

Client Sample ID:	087-WWE-051314-B		
Lab Sample ID:	JB66860-2	Date Sampled:	05/13/14
Matrix:	AQ - Water	Date Received:	05/13/14
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2C118845.D	1	05/16/14	TP	n/a	n/a	V2C5462
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	2.1	ug/l	
107-13-1	Acrylonitrile	ND	10	1.3	ug/l	
71-43-2	Benzene	2.1	1.0	0.12	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.32	ug/l	
56-23-5	Carbon tetrachloride	3.6	1.0	0.16	ug/l	
108-90-7	Chlorobenzene	0.26	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.45	ug/l	
67-66-3	Chloroform	18.1	1.0	0.14	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.19	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.4	1.0	0.24	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	1.0	0.16	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.093	ug/l	
75-09-2	Methylene chloride	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.13	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.15	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.29	ug/l	
79-01-6	Trichloroethene	49.5	1.0	0.17	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	105%		71-128%
2037-26-5	Toluene-D8 (SUR)	98%		79-117%
460-00-4	4-Bromofluorobenzene (SUR)	91%		81-114%
1868-53-7	Dibromofluoromethane (S)	98%		78-115%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@798422 09:51 05-Jun-2014

Report of Analysis

Client Sample ID:	087-WWE-051314-B		
Lab Sample ID:	JB66860-2	Date Sampled:	05/13/14
Matrix:	AQ - Water	Date Received:	05/13/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3

4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.2	5.2	mg/l	1	05/15/14	AA	EPA 1664A

RL = Reporting Limit

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending June 2014

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area; Update the list of monitoring wells to be abandoned / retained	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead	Submitted to all Parties on May 19, 2014.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

APPENDIX T

PART 3 OF 22

PROGRESS REPORTS

2014 MONTHLY REPORTS PART 3

SA-6 AND SA-7 COMBINED PROGRESS REPORT

AUGUST 14, 2014

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

August 14, 2014 *Via Express Mail*

Honorable Robert G. Torricelli
Office of the Special Master
41 W. State St., Suite 2F
Trenton, NJ 08608

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2014-07

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from July 1 – July 31, 2014.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: July 2014 SA-6/7 Combined Monthly Progress Report No. 2014-07

cc: Joe Clifford - AMEC (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP

Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2014-07

Project SA-6 & 7 Remediation

July 2014

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
07/01/14	Surcharge Monitoring Plan – Monthly Report No. 2 Study Area 6 North and South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
07/03/14	Response to Plaintiff's June 25, 2014 E-Mail Sediment Coring and Cap Thickness Determinations Study Area 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
07/03/14	New Source of Imported Clean Fill Study Area 6m Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
07/10/14	Design Change Bulletin – 1S Surcharge Pile Geometry Study Area 6 South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
07/10/14	Responses to Comments Provided by Plaintiffs Data Validation for Materials Excavated from Study Area 6 Study Areas 6 North and South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
07/10/14	NJPDES Permit NJ0156311: June 2014 Surface Water Discharge Monitoring Report Study Area 7, Jersey City, NJ *(see **Attachment 12**)*	New Jersey Department of Environmental Protection Division of Water Quality
07/10/14	Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 31630016 *(see **Attachment 12**)*	Andy Caltagirone Passaic Valley Sewerage Commission
07/10/14	PVSC - Acoustic Monitoring Report Study Area 6 North, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
07/11/14	Combined Monthly Progress/Highlights Report No. 2014-06 Study Areas 6 and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
07/22/14	Special Master All Hands Meeting	N/A
07/24/14	Hydrocarbon-Impacted Soil Summary Study Area 6 South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master

Date	Submittal/Meeting	Recipient
07/31/14	Surcharge Monitoring Plan – Monthly Report No. 3 Study Area 6 North and South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	07/06/14	07/13/14	07/20/14	07/27/14
Construction Management (AMEC)	12	13	13	12
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	36	37	37	42
Arecon/US Ecology Subcontractors	1	1	1	0
ERFS In Situ Treatment	0	0	0	2
ENR (SA-6N GWTP Utilities)	0	0	0	0
Siemens	1	1	1	1
HBS (SA-6N GWTP Security System)	0	0	0	0
Other	0	0	0	2
TOTAL	**55**	**57**	**57**	**64**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6S and SA-6N.
- Collected July PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Completed S-3 Injection/Mass Removal Event #15 in well 088-IW-01.
- On July 29, met with JCIA and JCRA representatives to discuss demolition and relocation schedule. Conducted pre- bid meetings on July 8th and July 15th for the JCIA structures demolition project.
- On, July 2nd and July 3rd the excavation contractor encountered two additional unknown underground storage tanks while excavating in Cells 114 to 111. The site designated LSRP was notified and observed removal of the tanks and associated sampling. The LSRP is responsible for registering and closing the UST in accordance with NJDEP requirements as part of the non-chromium remedial action being conducted concurrently.

- Initiated In-Situ treatment activities on SA6 South. Site 163. A total of 10 temporary well points were installed during the reporting period.

C. SA-6 N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on June 11, 2014.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	07/06/14	07/13/14	07/20/14	07/27/14
Avg. Gallons Treated & Discharged (per day)	74,039	79,231	78,632	78,615
Average Flow (gpm) for Operating Period	50	55	55	57
Avg. Hours of Plant Operation	24	24	24	24
GWTP InfluentTanks (gal.)	10,541	12,321	11,570	15,509

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart, Weekly Excavation and Survey Data, Backfill Compaction Locations, and Field Density Test Summary Log)*

- Continued excavation activities in cells 113A-103A, 115B – 106B.
- Continued storm-water management activities.
- Completed UST removal activities. A total of 3 UST were removed and staged on site for registration and disposal.
- Collected an additional soil bottom of excavation sample for hexavalent chromium analysis from the UST area (beneath the second UST). Laboratory data confirmed that the result is less than 20 mg/kg (2.1 mg/kg).
- Collected two additional sidewall soil samples for hexavalent chromium analysis from a visually suspect area along Cell 149. One of the samples was less than 20 mg/kg (4.7 mg/kg); however the second location was greater than 20 mg/kg (42.3 mg/kg) and resulted in minor additional material excavation up to 4 feet below grade. A subsequent sidewall sample was collected and data indicated that the less that 20 mg/kg was met (7.9 mg/kg).
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Continued compaction testing associated with imported backfill. Adjusted the frequency of testing in accordance with specifications.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/ FCI	Roll-Off	TSDF	Stablex-Canada	WWTP Filter Cake	0	0	0
Entact/ Horowith	Tri-axle Dump	PA Transload	US Ecology	>1000 mg/kg Soils	0	0	0
Entact/ Montecalvo	Tri-axle Dump	Bayshore Recycling	NA	Non Haz Petroleum Soil	0	0	0

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Under Excavation	Cell Number(s) 113A-103A, 115B – 106B
Excavation Completed	Cell Number(s) 114A-105A, 117B – 106B Volume Excavated - Total for Reporting Period: 11,199 CY/ Total to Date: 88,945 CY
Backfill in Progress	Cell Number(s) 146B – 106B, 152A – 105A

3. BACKFILL MATERIALS USED

Source	Week Ending			
	07/06/14	07/13/14	07/20/14	07/27/14
<20ppm re-use, CY	0	0	1,373	675
Weldon, Import-Tons Screenings	3,337	2,771	3,790	5,915
Tilcon, Import-Tons DGA	0	0	306	932
Tilcon, Import Tons – 1.5” Stone	308	759	30	0
Weldon, Imported Tons - QP	814	1,646	223	1,125
Celgene - Loads	611	946	802	777
Tilcon, Imported Tons – 2.5” Stone	0	0	0	0

E. SURCHARGE OPERATIONS *(see **Attachment 9**)*

- Area 1S: Surcharge subgrade placement continued though the month using soils with hexavalent chromium impacted soils.
- Area 2S: Surcharging continued from 1S into the western portion of 2 S. Settlement Platforms have been placed along the perimeter pools.
- Area 3S: Instrumentation installation is 100% complete as of November 6, 2013 and all baseline readings recorded. Temporary stockpiles in area. No Surcharge initiated.
- Area 1N: Surcharge material placement was completed to the design grade in the southeast quadrant the first week in July. Additional surcharge was placed on the north slope near HS-4 to bring that area to the surcharge design grade the during the week ending August 1st. Results

indicate that surcharge is now complete in Area 1N and fill materials are ready for removal by contractor. Details to be provided in the next Surcharge Monitoring Report.

- Area 2N: Instrumentation Installation 100 % complete. Initial surcharge instrument data to be submitted under separate cover.
- Area 3N: No activity in this area pending JCIA Demolition.
- Area 4N: No activity in this area pending JCIA Demolition.

F. SHEET PILE OPERATIONS *(see **Attachment 10**)*

- One single sheet driven on the hydraulic barrier wall at Sta 13+30 for the Closure Piece 2, SA-6S. This completes he hydraulic barrier wall installation on SA-6S.

PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013

G. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Finalize bidding process for the Above-grade Demolition of the four designated JCIA Structures. Bid opening scheduled for August 13, 2014.
- Complete In-Situ treatment activities at Site 163.
- Continue placement of surcharge materials in SA-6S Area 1S.

- Begin placement of surcharge materials in SA-6N Area 2N.
- Continue installation of the contingent groundwater system on SA-6S.
- Continue dewatering of well points/sumps installed within the SA-6S open space area.
- Continue excavation activities in SA-6S Cells 103 to 70.
- Continue stockpiling of presumed <20 mg/kg for additional sampling.
- Continue loadout and transportation and disposal activities at SA-6S.
- Continue backfill placement and associated compaction testing activities at SA-6S.
- Continue dewatering and storm-water management activities.
- Continue surcharge monitoring instrument installation activities on SA-6N and SA-6S.
- Conduct S-3 Injection/Mass Removal Event No.16 in well 088-IW-03.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.

ATTACHMENTS:

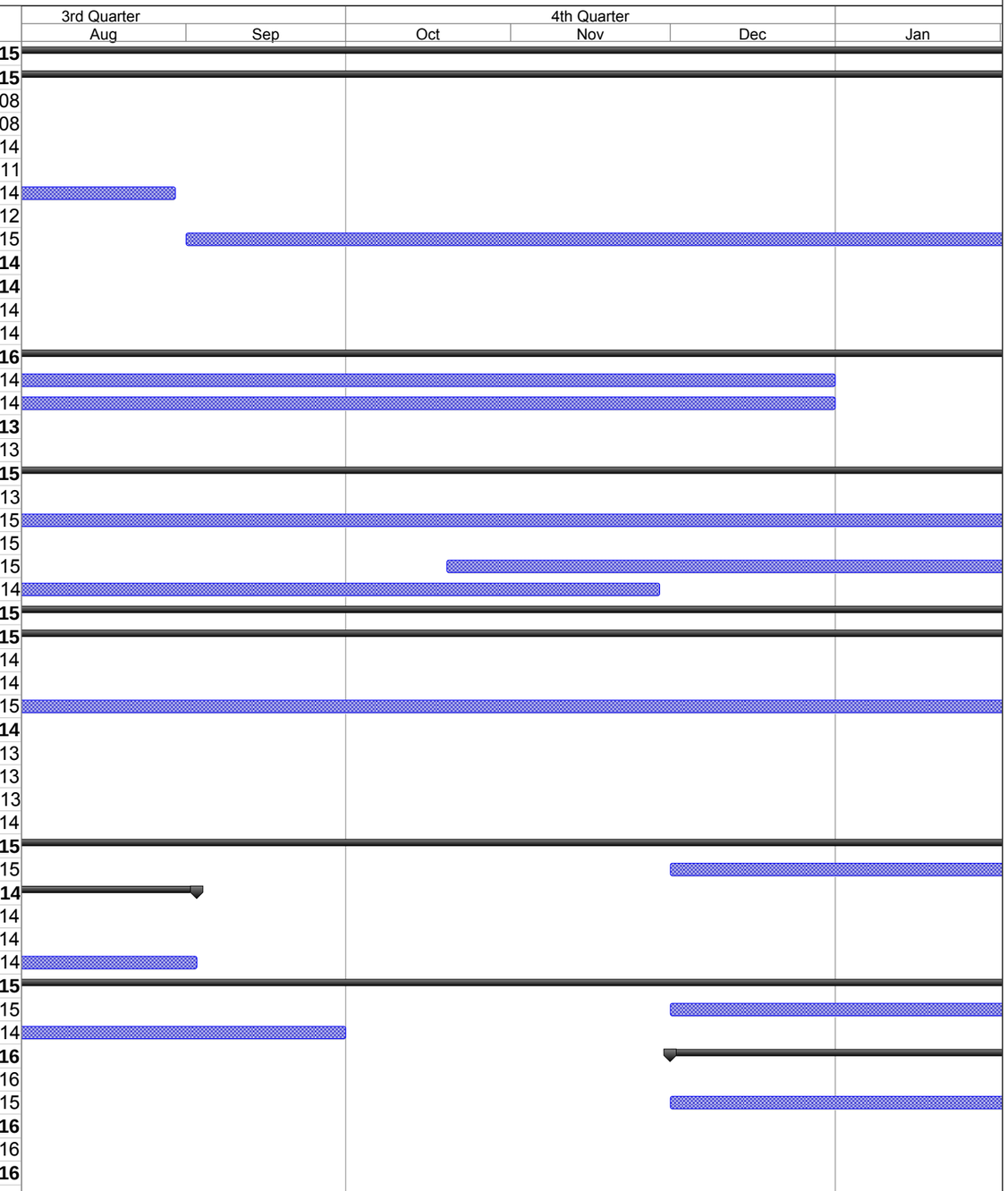
1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
   - Excavation Bottom Elevations
   - Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points
   - Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
   - Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)
4. Dewatering Operations Update
   - SA-6 South Dewatering Data (Headers)
   - SA-6 South Deep Well Data (DW-4)
   - SA-6 South Deep Well Data (DW-5)
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
   - Stockpiled Material Tracking and Sampling Log
7. Perimeter Pools Update
8. Groundwater Quality Data Surcharge Monitoring Update *(provided on a quarterly basis - not available as of this report date)*
   - Summary of Groundwater Quality Data from GWET Wells
   - Trichloroethene//Chloroform/Hexavalent Chromium in GWET Wells
9. Surcharge Monitoring Update
   - Instrumentation Location Plan 1S
10. Sheet Pile Update
    - Hydraulic Barrier Wall Plan & Profile
    - Sheet Deflection Along Open Excavation
    - Sheet Pile Repair Log
11. Weekly SWPPP Reports

12. GWTP Update
   - 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (June 2014)
   - 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (June 2014)
13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**Fri 1/4/08**	**Mon 3/30/15**
18	**JCIA/JCDPW Relocation**	**1735 days**	**Mon 8/11/08**	**Mon 3/30/15**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08	Wed 10/1/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09	Mon 6/2/14
22	Relocation Contractor Procurement	392 days	Thu 4/15/10	Thu 10/13/11
23	JCIA and JCDPW Relocation	753 days	Mon 10/17/11	Fri 8/29/14
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11	Mon 4/30/12
24a	Demolition of JCIA Structures	151 days	Mon 9/1/14	Mon 3/30/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**	**Wed 4/30/14**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**	**Wed 4/30/14**
58	New GWTP Construction Completion	502 days	Mon 3/5/12	Thu 1/30/14
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11	Wed 4/30/14
60	**SA-6 North/South Field Implementation**	**838 days**	**Fri 3/1/13**	**Mon 5/16/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	Mon 6/17/13	Wed 12/31/14
60b	SA-6S (Site 163) In-Situ Treatment	294 days	Fri 11/15/13	Wed 12/31/14
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**	**Fri 6/28/13**
61a	Mobilization	87 days	Fri 3/1/13	Fri 6/28/13
62	**Surcharge Install/Instrumentation**	**620 days**	**Mon 6/17/13**	**Fri 10/30/15**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	Mon 6/17/13	Tue 12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	Mon 6/2/14	Fri 2/27/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Mon 3/2/15	Fri 10/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	Mon 10/20/14	Tue 6/30/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	Mon 3/3/14	Fri 11/28/14
63	**Barrier Wall Install**	**489 days**	**Mon 6/17/13**	**Thu 4/30/15**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**Mon 12/2/13**	**Thu 4/30/15**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	Mon 12/2/13	Fri 2/14/14
63c	SA-6N Stations 23+38 to 14+25	90 days	Mon 2/17/14	Fri 6/20/14
63d	SA-6N Stations 14+25 to 0+00	224 days	Mon 6/23/14	Thu 4/30/15
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**Mon 6/17/13**	**Fri 5/30/14**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	Mon 6/17/13	Thu 8/15/13
63h	SA-6S Stations 1+54 to 8+37	7 days	Fri 8/16/13	Mon 8/26/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	Thu 10/3/13	Fri 11/8/13
63j	SA-6S Stations 8+60 to 14+87	145 days	Mon 11/11/13	Fri 5/30/14
64	**Excavation**	**507 days**	**Tue 10/22/13**	**Wed 9/30/15**
64a	SA 6N Excavation	218 days	Mon 12/1/14	Wed 9/30/15
64b	**SA 6S Excavation**	**226 days**	**Tue 10/22/13**	**Tue 9/2/14**
64c	SA-6S Excavation of Cells 1 - 25	53 days	Tue 10/22/13	Thu 1/2/14
64d	SA-6S Excavation of Cells 26 - 60	90 days	Fri 1/3/14	Thu 5/8/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	Fri 5/9/14	Tue 9/2/14
65	**Backfill**	**493 days**	**Mon 11/11/13**	**Wed 9/30/15**
65a	SA 6N Backfill	218 days	Mon 12/1/14	Wed 9/30/15
65b	SA 6S Backfill	232 days	Mon 11/11/13	Tue 9/30/14
66	**Capping and Cover Soil Placement**	**315 days**	**Mon 12/1/14**	**Fri 2/12/16**
66a	SA 6N Capping and Cover Soil Placement	119 days	Tue 9/1/15	Fri 2/12/16
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14	Wed 12/30/15
67	**Restoration**	**164 days**	**Tue 9/1/15**	**Fri 4/15/16**
67a	Restoration	164 days	Tue 9/1/15	Fri 4/15/16
68	**Demobilization**	**21 days**	**Mon 4/18/16**	**Mon 5/16/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			



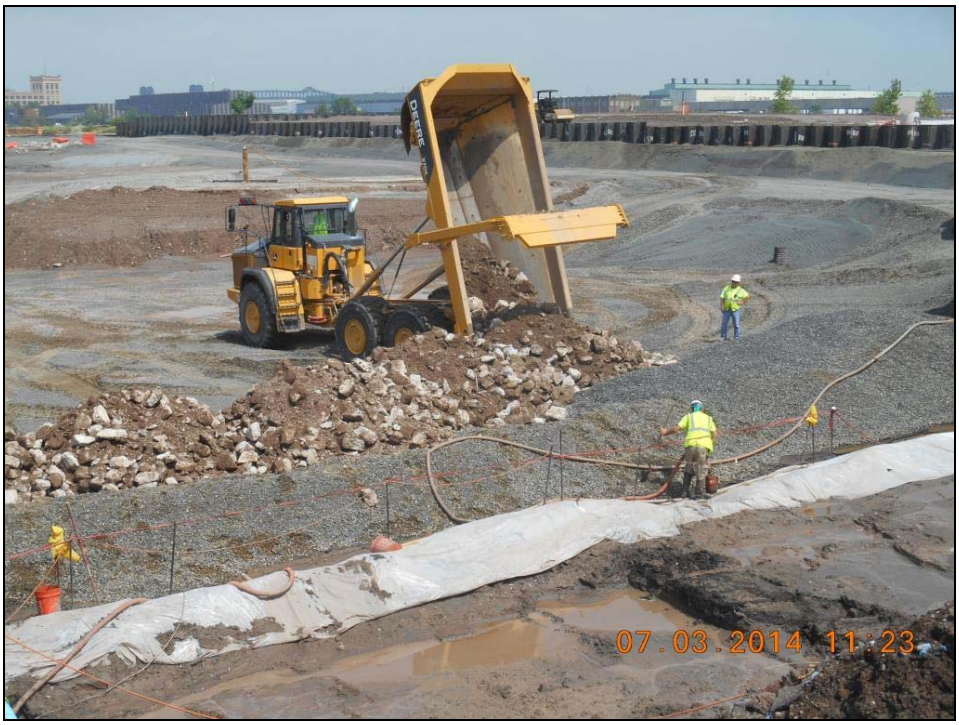
Project: SA-6 Remediation Schedule
Revision 3
Date: Wed 7/30/14

Task | Milestone | Summary | Critical

Attachment 2: Site Photographs

Site Photograph 1: Clean backfill is compacted.

Site Photograph 2: Clean backfill is spread.



Site Photograph 3: Clean concrete is reused as backfill.

Site Photograph 4: Excavation progress along Droyers Cove.

Site Photograph 5: Placement of separation fabric.

Site Photograph 6: Placing backfill around instrumentation station.

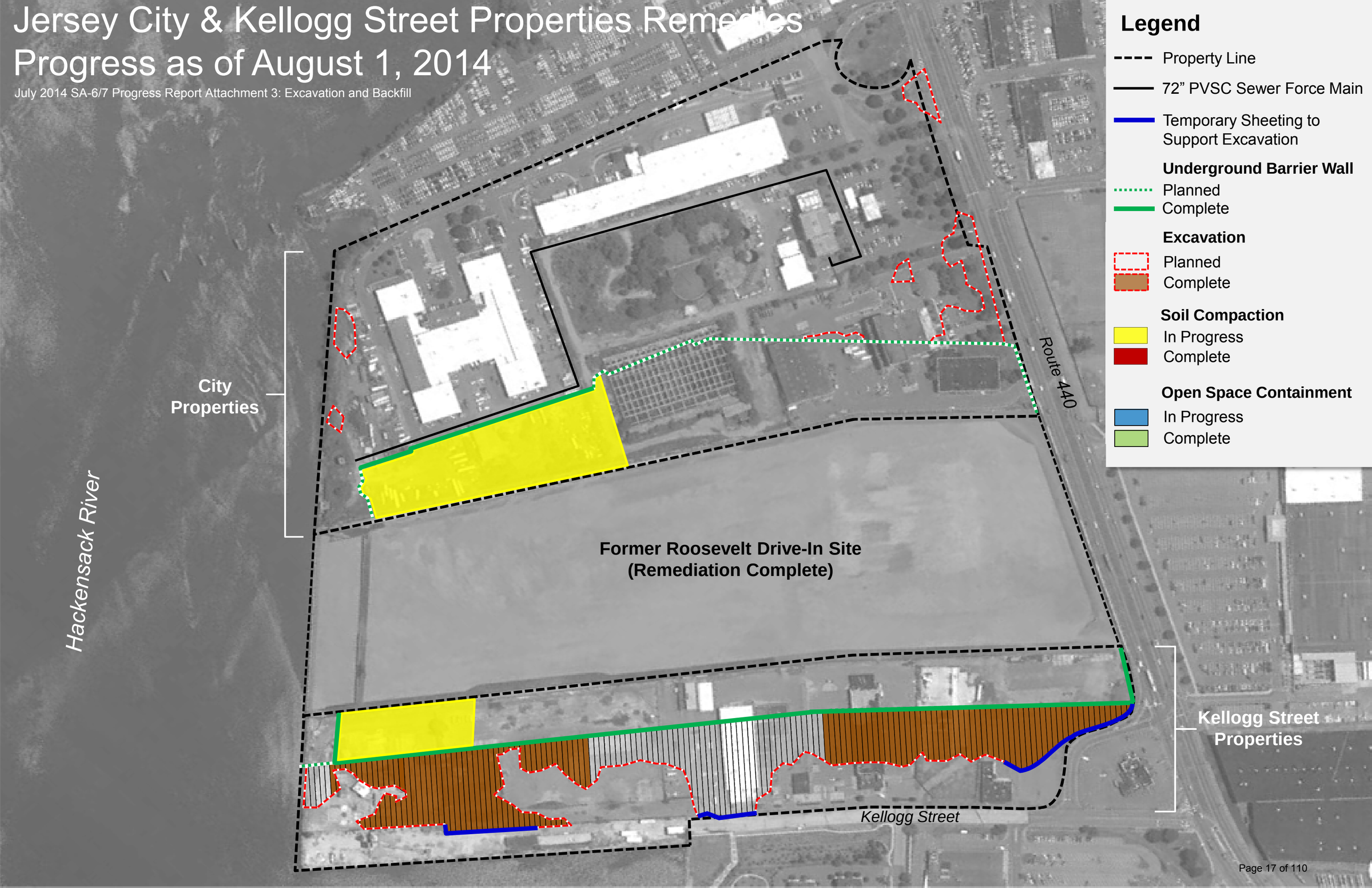
Site Photograph 7: Surcharge material is placed around well MW-1 BR.

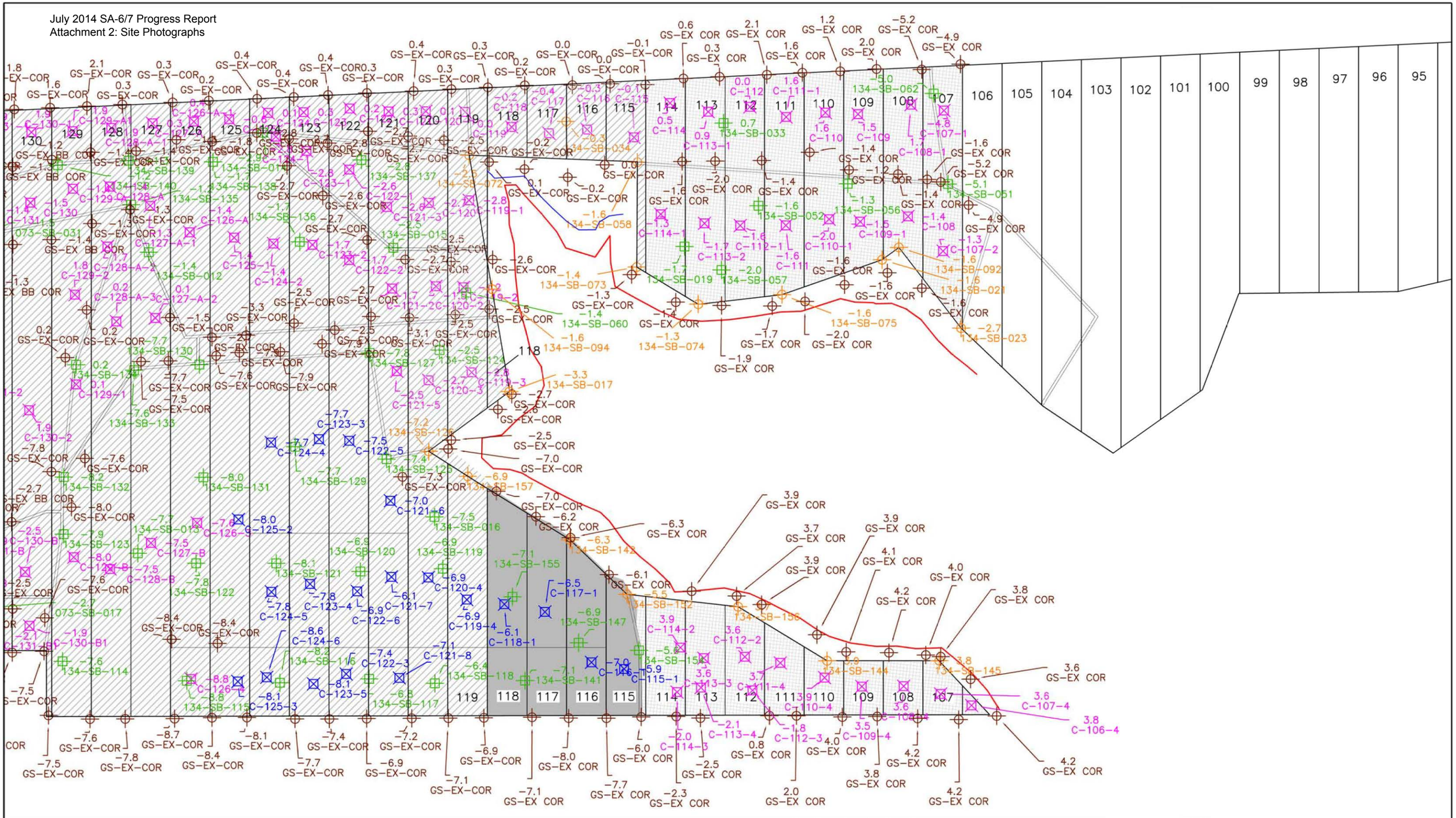
Attachment 3: Excavation and Backfill

- Progression Chart
- Excavation Bottom Elevations
- Maser Survey Tables (SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points)
- Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
- Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)

Jersey City & Kellogg Street Properties Remedies Progress as of August 1, 2014

July 2014 SA-6/7 Progress Report Attachment 3: Excavation and Backfill





ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS
PERIOD 07-03-14 TO 07-24-14

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

MASER CONSULTING P.A.
Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

156 Stagecoach Road
Marmora, NJ 08223
T: 609.390.1927
F: 609.390.0040
www.maserconsulting.com

SA-6 South Excavation: Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685514.6	601446.5	3.8	073-SB-029	152	4/25/2014	3.0	* Target Elevation Reached
685482.2	601420.6	4.4	073-SB-054	152	4/24/2014	2.0	* Target Elevation Reached
685458.7	601392.0	7.5	073-SB-056	152	4/24/2014	3.8	* Target Elevation Reached
685474.8	601425.1	7.5	073-SB-057	151	4/24/2014	1.9	* Target Elevation Reached
685502.9	601465.5	3.3	073-SB-028	150	4/25/2014	3.0	* Target Elevation Reached
685463.0	601435.2	2.5	073-SB-059	150	4/24/2014	1.9	* Target Elevation Reached
685490.0	601478.5	6.0	073-SB-042R	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	6.0	073-SB-042R	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	6.0	073-SB-042R	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	6.0	073-SB-042R	146A	4/24/2014	5.6	Target Elevation Reached
685448.9	601515.0	6.0	073-SB-042	145A	4/24/2014	5.6	Target Elevation Reached
685433.1	601528.8	6.0	073-SB-042R	144A	4/24/2014	5.4	Target Elevation Reached
685403.0	601506.0	-4.2	073-SB-037R	144A	4/24/2014	-4.5	Target Elevation Reached
685411.9	601522.2	-0.6	073-SB-066	143A	4/24/2014	-4.4	Target Elevation Reached
685427.6	601544.4	6.0	073-SB-042R	143A	4/24/2014	5.5	Target Elevation Reached
685430.7	601568.7	3.8	073-SB-041	142A	4/24/2014	2.0	Target Elevation Reached
685378.8	601531.7	-4.2	073-SB-037	142A	4/24/2014	-4.4	Target Elevation Reached
685371.0	601525.0	-2.2	073-SB-045	142A	4/24/2014	-4.4	Target Elevation Reached
685395.8	601557.3	2.3	073-SB-038	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.3	073-SB-038R	141A	4/24/2014	2.0	Target Elevation Reached
685410.7	601592.8	0.2	073-SB-040	140A	4/24/2014	-1.3	Target Elevation Reached
685381.0	601558.0	-3.9	073-SB-007	140A	4/24/2014	-4.4	Target Elevation Reached
685379.3	601577.9	0.6	073-SB-039	139A	4/24/2014	-4.3	Target Elevation Reached
685358.5	601560.3	-1.0	073-SB-036	139A	4/24/2014	-4.7	Target Elevation Reached
685390.7	601590.5	-0.6	073-SB-008R	139A	4/24/2014	-1.6	Target Elevation Reached
685390.0	601606.0	-0.6	073-SB-008	138A	4/29/2014	-1.6	Target Elevation Reached
685338.6	601567.5	2.1	073-SB-030R	138A	4/29/2014	1.7	Target Elevation Reached
685339.7	601592.9	1.5	073-SB-035	137A	4/29/2014	-2.9	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.1)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685328.7	601577.4	2.1	073-SB-030R	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-6.7	073-SB-009R	146B	5/5/2014	-8.0	Target Elevation Reached
685329.7	601419.3	-6.9	073-SB-047	145B	5/5/2014	-8.0	Target Elevation Reached
685314.6	601432.4	-6.7	073-SB-009R	144B	5/8/2014	-8.2	Target Elevation Reached
685318.9	601448.7	-5.3	073-SB-021	143B	5/8/2014	-7.9	Target Elevation Reached
685306.3	601465.9	-6.7	073-SB-009R	142B	5/12/2014	-7.6	Target Elevation Reached
685329.1	601510.6	-5.2	073-SB-075	141B	5/12/2014	-7.7	Target Elevation Reached
685310.4	601484.5	-4.8	073-SB-062	141B	5/12/2014	-8.0	Target Elevation Reached
685321.1	601501.8	-5.0	073-SB-065	141B	5/12/2014	-7.6	Target Elevation Reached
685288.0	601466.0	-6.7	073-SB-009	141B	5/12/2014	-7.7	Target Elevation Reached
685284.5	601485.3	-5.3	073-SB-020	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-6.7	073-SB-009R	139B	5/14/2014	-7.8	Target Elevation Reached
685256.2	601505.4	-3.2	073-SB-019	138B	5/14/2014	-7.7	Target Elevation Reached
685277.8	601539.2	2.1	073-SB-030R	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-0.6	073-SB-008R	136	5/5/2014	-1.5	Target Elevation Reached
685344.3	601618.9	-1.8	073-SB-033	136	5/5/2014	-2.9	Target Elevation Reached
685315.0	601587.9	2.1	073-SB-030R	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-0.6	073-SB-008R	135	5/8/2014	-1.4	Target Elevation Reached
685362.2	601641.7	-0.2	073-SB-034	135	5/8/2014	-2.8	Target Elevation Reached
685272.1	601572.6	2.1	073-SB-030R	135	5/19/2014	1.7	Target Elevation Reached
685248.2	601551.5	0.3	073-SB-050	135	5/19/2014	-1.2	Target Elevation Reached
685230.4	601535.5	0.3	073-SB-018	135	5/19/2014	-1.2	Target Elevation Reached
685358.1	601659.9	-0.6	073-SB-008R	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-1.8	073-SB-033R	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	073-SB-030R	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	0.6	073-SB-017R	134	5/19/2014	-1.2	Target Elevation Reached
685212.0	601570.0	-1.4	073-SB-011	133	5/22/2014	-3.3	Target Elevation Reached
685324.0	601643.0	-0.4	073-SB-010	133	5/14/2014	-2.7	Target Elevation Reached
685300.3	601630.9	2.1	073-SB-030	133	5/14/2014	1.8	Target Elevation Reached
685338.7	601665.5	2.3	073-SB-032R	133	5/12/2014	-0.1	Target Elevation Reached
685322.3	601651.3	-1.2	134-SB-136R	133	5/14/2014	-1.7	Target Elevation Reached
685215.0	601563.9	0.6	073-SB-017R	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.3	073-SB-032R	132	5/12/2014	1.7	Target Elevation Reached
685257.3	601619.3	2.1	073-SB-030R	132	5/19/2014	1.8	Target Elevation Reached
685194.1	601565.5	0.6	073-SB-017R	132	5/22/2014	-1.6	Target Elevation Reached
685216.3	601579.5	1.1	073-SB-049	132	5/22/2014	-3.0	Target Elevation Reached
685324.7	601663.5	2.3	073-SB-032	132	5/14/2014	-1.5	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.2)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685193.1	601579.8	0.6	073-SB-017	131	5/22/2014	-2.7	Target Elevation Reached
685301.9	601671.1	0.1	073-SB-031	131	5/14/2014	-1.5	Target Elevation Reached
685328.1	601694.6	2.3	073-SB-032R	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	073-SB-030R	131	5/19/2014	2.0	Target Elevation Reached
685202.7	601594.7	-1.4	073-SB-011R	131	5/22/2014	-2.9	Target Elevation Reached
685321.3	601708.0	2.3	073-SB-032R	130	5/19/2014	1.9	Target Elevation Reached
685300.8	601690.9	-1.2	134-SB-136R	130	5/19/2014	-1.5	Target Elevation Reached
685240.0	601641.1	2.1	073-SB-030R	130	5/19/2014	1.9	Target Elevation Reached
685193.4	601601.4	-1.4	073-SB-011R	130	5/22/2014	-2.5	Target Elevation Reached
685176.5	601589.8	0.6	073-SB-017R	130	5/22/2014	-1.9	Target Elevation Reached
685195.4	601621.6	-2.7	134-SB-123	129	5/27/2014	-7.9	Target Elevation Reached
685212.1	601635.4	-0.6	134-SB-132	129	5/27/2014	-8.2	Target Elevation Reached
685242.2	601665.8	1.3	134-SB-134	129	5/27/2014	0.2	Target Elevation Reached
685305.3	601707.9	-1.2	134-SB-140	129	5/19/2014	-1.2	Target Elevation Reached
685158.2	601591.1	-6.6	134-SB-114	129	5/27/2014	-7.6	Target Elevation Reached
685311.8	601720.4	2.3	073-SB-032R	129	5/22/2014	1.9	Target Elevation Reached
685263.1	601682.1	2.1	073-SB-030R	129	5/22/2014	1.8	Target Elevation Reached
685289.8	601729.8	2.0	134-SB-139	128	5/27/2014	-1.3	Target Elevation Reached
685303.5	601732.5	2.3	073-SB-032R	128	5/22/2014	1.9	Target Elevation Reached
685269.5	601703.1	2.1	073-SB-030R	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	1.3	134-SB-134R	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-6.7	134-SB-129R	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	2.4	134-SB-014R	127	5/29/2014	0.3	Target Elevation Reached
685276.2	601720.2	4.5	134-SB-135	127	5/27/2014	-1.2	Target Elevation Reached
685237.1	601700.2	1.3	134-SB-134R	127	6/2/2014	0.1	Target Elevation Reached
685258.0	601714.0	-1.1	134-SB-012	127	5/29/2014	-1.4	Target Elevation Reached
685226.8	601681.6	-0.7	134-SB-133	127	6/2/2014	-7.6	Target Elevation Reached
685172.0	601639.0	-5.6	134-SB-013	127	6/5/2014	-7.7	Target Elevation Reached
685285.7	601758.3	2.4	134-SB-014R	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	134-SB-136R	126	6/2/2014	-1.4	Target Elevation Reached
685122.8	601623.1	-8.4	134-SB-115	126	6/10/2014	-8.8	Target Elevation Reached
685155.2	601653.8	-5.8	134-SB-122	126	6/10/2014	-7.8	Target Elevation Reached
685178.8	601676.4	-6.1	134-SB-131	126	6/10/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.3)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685212.9	601702.0	-0.7	134-SB-130	126	6/10/2014	-7.7	Target Elevation Reached
685277.9	601769.3	2.4	134-SB-014R	125	6/2/2014	-0.6	Target Elevation Reached
685269.3	601754.4	-1.1	134-SB-138	125	6/2/2014	-1.7	Target Elevation Reached
685158.0	601676.7	-6.7	134-SB-129R	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	134-SB-115R	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	2.4	134-SB-014R	124	6/10/2014	0.1	Target Elevation Reached
685266.0	601776.0	2.4	134-SB-014	124	6/10/2014	-2.9	Target Elevation Reached
685100.0	601650.0	1.2	134-SB-116	124	6/17/2014	-8.2	Stratum D Reached
685136.1	601677.4	-7.7	134-SB-121	124	6/17/2014	-8.1	Stratum D Reached
685262.3	601792.9	2.4	134-SB-014R	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-1.5	134-SB-137R	123	6/10/2014	-2.8	Target Elevation Reached
685225.1	601760.9	-1.3	134-SB-136	123	6/10/2014	-1.7	Target Elevation Reached
685165.9	601710.7	-6.7	134-SB-129	123	6/17/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	134-SB-120R	123	6/20/2014	-7.8	Stratum D Reached
685252.4	601807.4	2.4	134-SB-014R	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601798.5	-1.5	134-SB-137	122	6/17/2014	-2.8	Target Elevation Reached
685207.9	601771.1	-1.3	134-SB-136R	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-6.7	134-SB-129R	122	6/20/2014	-7.5	Stratum D Reached
685113.6	601700.2	-8.7	134-SB-120	122	6/20/2014	-6.9	Stratum D Reached
685242.2	601818.1	2.4	134-SB-014R	121	6/17/2014	0.3	Target Elevation Reached
685201.0	601787.0	-0.6	134-SB-015	121	6/20/2014	-2.5	Target Elevation Reached
685189.3	601776.9	-1.3	134-SB-136R	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.3	124-SB-124R	121	6/25/2014	-2.5	Target Elevation Reached
685175.7	601754.9	-4.5	134-SB-127	121	6/20/2014	-7.8	Stratum D Reached
685140.4	601734.6	-0.8	134-SB-125	121	6/20/2014	-7.4	Stratum D Reached
685104.7	601708.0	-8.7	134-SB-120R	121	6/25/2014	-6.1	Stratum D Reached
685079.9	601677.2	0.9	134-SB-117	121	6/20/2014	-6.8	Stratum D Reached
685233.4	601829.1	2.4	134-SB-014R	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-1.5	134-SB-137R	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.3	134-SB-136R	120	6/20/2014	-1.5	Target Elevation Reached
685112.0	601735.0	-6.7	134-SB-016	120	6/25/2014	-7.5	Stratum D Reached
685094.8	601725.1	-5.2	134-SB-119	120	6/25/2014	-6.9	Stratum D Reached
685062.9	601695.5	-7.9	134-SB-118	120	6/25/2014	-6.4	Stratum D Reached
685159.9	601776.2	-2.3	134-SB-124	120	6/25/2014	-2.5	Target Elevation Reached
685223.8	601840.5	2.4	134-SB-014R	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-1.5	134-SB-137R	119	6/25/2014	-2.8	Target Elevation Reached
685170.4	601797.8	0.4	134-SB-060	119	6/25/2014	-1.4	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.4)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.7	601780.4	-2.3	124-SB-124R	119	6/25/2014	-2.8	Target Elevation Reached
685208.4	601850.6	2.4	134-SB-033R	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.4	134-SB-033R	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.4	134-SB-033R	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.4	134-SB-033R	115A	6/25/2014	-0.1	Target Elevation Reached
685069.9	601738.9	4.1	134-SB-155	118B	6/30/2014	-7.1	Stratum D Reached
685042.3	601722.7	-8.9	134-SB-141	118B	7/8/2014	-7.1	Stratum D Reached
685057.7	601744.9	-8.9	134-SB-141R	117B	7/8/2014	-6.5	Stratum D Reached
685040.6	601747.5	-6.8	134-SB-147	116B	7/8/2014	-6.9	Stratum D Reached
685024.0	601763.4	4.1	134-SB-154	115B	7/10/2014	-5.6	Stratum D Reached
685177.7	601903.0	2.4	134-SB-033R	114A	6/30/2014	0.5	Target Elevation Reached
685132.0	601873.0	-0.6	134-SB-019	114A	7/3/2014	-1.7	Target Elevation Reached
685014.9	601776.3	4.1	134-SB-154R	114B	7/10/2014	3.9	Target Elevation Reached
685159.0	601914.0	2.4	134-SB-033	113A	7/3/2014	0.7	Target Elevation Reached
685116.3	601878.4	0.8	134-SB-057	113A	7/3/2014	-2.0	Target Elevation Reached
685006.3	601780.6	4.1	134-SB-154R	113B	7/17/2014	3.6	Target Elevation Reached
685157.5	601925.6	2.4	134-SB-033R	112A	7/8/2014	0.0	Target Elevation Reached
685126.3	601904.5	-1.2	134-SB-052	112A	7/8/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.1	134-SB-154R	112B	7/17/2014	3.6	Target Elevation Reached
685145.9	601933.8	2.4	134-SB-033R	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	134-SB-052R	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.1	134-SB-154R	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.4	134-SB-033R	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	134-SB-052R	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.1	134-SB-154R	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.4	134-SB-033R	109A	7/10/2014	1.5	Target Elevation Reached
685111.5	601936.0	1.4	134-SB-056	109A	7/10/2014	-1.3	Target Elevation Reached
684960.2	601820.4	4.1	134-SB-154R	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.4	134-SB-033R	108A	7/17/2014	1.7	Target Elevation Reached
685087.5	601946.0	-1.2	134-SB-052R	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.1	134-SB-154R	108B	7/17/2014	3.6	Target Elevation Reached
685117.6	601982.8	0.9	134-SB-062	107A	7/17/2014	-5.0	Stratum D Reached
685087.5	601965.4	1.8	134-SB-051	107A	7/17/2014	-5.1	Stratum D Reached
684939.3	601841.8	4.1	134-SB-154R	107B	7/17/2014	3.6	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.5)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684928.5	601848.2	4.1	134-SB-154R	106B	7/17/2014	3.8	Target Elevation Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area. Coordinates come from Center Points within that specific cell.

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

* Target Reached. Over excavation conducted as directed by engineer.

SA-6 South Excavation: Center Points (Table 2.0)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685460.6	601379.6	5.7	C-153	153	4/24/2014	3.9	Target Elevation Reached- Cell only partially excavated
685497.5	601425.0	5.7	C-152	152	4/24/2014	4.2	Target Elevation Reached
685453.0	601392.1	5.7	C-152-1	152	4/24/2014	3.7	Target Elevation Reached
685467.8	601422.4	5.7	C-151	151	4/24/2014	1.9	Target Elevation Reached
685489.7	601438.8	5.7	C-151-1	151	4/24/2014	3.9	Target Elevation Reached
685448.1	601407.0	5.7	C-151-2	151	4/24/2014	4.0	Target Elevation Reached
685511.4	601454.1	3.3	C-151-3	151	4/25/2014	3.0	Target Elevation Reached
685455.0	601431.7	5.7	C-150	150	4/24/2014	2.1	Target Elevation Reached
685480.8	601450.0	5.7	C-150-1	150	4/24/2014	4.0	Target Elevation Reached
685502.2	601463.5	2.8	C-150-2	150	4/25/2014	2.8	Target Elevation Reached
685490.0	601478.5	5.7	C-149	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	5.7	C-148	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	5.7	C-147	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	5.7	C-146	146A	4/24/2014	5.6	Target Elevation Reached
685444.3	601518.5	5.7	C-145	145A	4/24/2014	5.5	Target Elevation Reached
685403.0	601506.0	-4.3	C-144	144A	4/24/2014	-4.5	Target Elevation Reached
685433.1	601528.8	5.7	C-144-1	144A	4/24/2014	5.4	Target Elevation Reached
685396.1	601517.4	-4.3	C-143	143A	4/24/2014	-5.3	Target Elevation Reached
685427.6	601544.4	5.7	C-143-1	143A	4/24/2014	5.5	Target Elevation Reached
685386.6	601530.7	-4.3	C-142	142A	4/24/2014	-4.8	Target Elevation Reached
685416.3	601555.6	5.7	C-142-1	142A	4/24/2014	1.9	Target Elevation Reached
685379.5	601542.9	-4.3	C-141	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.1	C-141-1	141A	4/24/2014	2.0	Target Elevation Reached
685371.7	601554.8	-4.3	C-140	140A	4/24/2014	-4.5	Target Elevation Reached
685401.1	601580.7	2.1	C-140-1	140A	4/24/2014	-1.5	Target Elevation Reached
685352.9	601555.6	-4.3	C-139	139A	4/24/2014	-4.4	Target Elevation Reached
685390.7	601590.5	-1.2	C-139-1	139A	4/24/2014	-1.6	Target Elevation Reached
685368.1	601592.3	-1.2	C-138	138A	4/29/2014	-1.5	Target Elevation Reached
685338.6	601567.5	2.1	C-138-1	138A	4/29/2014	1.7	Target Elevation Reached
685359.7	601603.5	-1.2	C-137	137A	4/29/2014	-1.5	Target Elevation Reached
685328.7	601577.4	2.1	C-137-1	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-7.5	C-146-B	146B	5/5/2014	-8.0	Target Elevation Reached
685320.3	601420.2	-7.5	C-145-B	145B	5/5/2014	-7.8	Target Elevation Reached
685314.6	601432.4	-7.5	C-144-B	144B	5/8/2014	-8.2	Target Elevation Reached
685307.0	601446.0	-7.5	C-143-B	143B	5/8/2014	-8.0	Target Elevation Reached
685306.3	601465.9	-7.5	C142-B	142B	5/12/2014	-7.6	Target Elevation Reached
685304.8	601483.2	-7.5	C-141-B	141B	5/12/2014	-7.9	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.1)

Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685295.5	601493.5	-7.5	C-140-B	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-7.5	C-139-B	139B	5/14/2014	-7.8	Target Elevation Reached
685266.5	601506.3	-7.5	C-138-B	138B	5/14/2014	-7.8	Target Elevation Reached
685277.8	601539.2	2.1	C-137-B	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-1.2	C-136-2	136	5/5/2014	-1.5	Target Elevation Reached
685343.4	601610.1	-2.5	C-136	136	5/5/2014	-2.8	Target Elevation Reached
685315.0	601587.9	2.1	C-136-1	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-1.2	C-135-1	135	5/8/2014	-1.4	Target Elevation Reached
685348.8	601634.5	-2.5	C-135	135	5/8/2014	-2.6	Target Elevation Reached
685272.1	601572.6	2.1	C-135-2	135	5/19/2014	1.7	Target Elevation Reached
685236.7	601544.8	-1.2	C-135-3	135	5/19/2014	-1.3	Target Elevation Reached
685358.1	601659.9	-1.2	C-134-1	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-2.5	C-134	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	C-134-2	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	-1.2	C-134-3	134	5/19/2014	-1.2	Target Elevation Reached
685322.3	601651.3	-1.2	C-133-1	133	5/14/2014	-1.7	Target Elevation Reached
685338.7	601665.5	0.4	C-133	133	5/12/2014	-0.1	Target Elevation Reached
685264.0	601607.6	2.1	C-133-2	133	5/19/2014	1.8	Target Elevation Reached
685215.0	601563.9	-1.2	C-133-3	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.1	C-132-1	132	5/12/2014	1.7	Target Elevation Reached
685314.3	601666.4	-1.2	C-132	132	5/14/2014	-1.5	Target Elevation Reached
685210.3	601579.7	-2.5	C-132-B	132	5/22/2014	-3.2	Target Elevation Reached
685194.1	601565.5	-1.2	C-132-B1	132	5/22/2014	-1.6	Target Elevation Reached
685257.3	601619.3	2.1	C-132-2	132	5/19/2014	1.8	Target Elevation Reached
685307.8	601677.9	-1.2	C-131	131	5/14/2014	-1.4	Target Elevation Reached
685202.7	601594.7	-2.5	C-131-B	131	5/22/2014	-2.9	Target Elevation Reached
685184.3	601577.4	-1.2	C-131-B1	131	5/22/2014	-2.1	Target Elevation Reached
685328.1	601694.6	2.1	C-131-1	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	C-131-2	131	5/19/2014	2.0	Target Elevation Reached
685193.4	601601.4	-2.5	C-130-B	130	5/22/2014	-2.5	Target Elevation Reached
685300.8	601690.9	-1.2	C-130	130	5/19/2014	-1.5	Target Elevation Reached
685176.5	601589.8	-1.2	C-130-B1	130	5/22/2014	-1.9	Target Elevation Reached
685240.0	601641.1	2.1	C-130-2	130	5/19/2014	1.9	Target Elevation Reached
685321.3	601708.0	2.1	C-130-1	130	5/19/2014	1.9	Target Elevation Reached
685294.8	601706.8	-1.2	C-129-A	129	5/22/2014	-1.4	Target Elevation Reached
685311.8	601720.4	2.1	C-129-A1	129	5/22/2014	1.9	Target Elevation Reached
685186.2	601619.2	-7.5	C-129-B	129	5/27/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.2)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685236.4	601661.1	0.4	C-129-1	129	5/27/2014	0.1	Target Elevation Reached
685263.1	601682.1	2.1	C-129-2	129	5/22/2014	1.8	Target Elevation Reached
685303.5	601732.5	2.1	C-128-A-1	128	5/22/2014	1.9	Target Elevation Reached
685286.6	601718.1	-1.2	C-128-A	128	5/22/2014	-1.4	Target Elevation Reached
685269.5	601703.1	2.1	C-128-A-2	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	0.4	C-128-A-3	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-7.5	C-128-B	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	0.4	C-127-A	127	5/29/2014	0.3	Target Elevation Reached
685271.3	601725.5	-1.2	C-127-A-1	127	5/29/2014	-1.3	Target Elevation Reached
685237.1	601700.2	0.4	C-127-A-2	127	6/2/2014	0.1	Target Elevation Reached
685171.9	601645.3	-7.5	C-127-B	127	6/5/2014	-7.5	Target Elevation Reached
685285.7	601758.3	0.4	C-126-A-1	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	C-126-A	126	6/2/2014	-1.4	Target Elevation Reached
685166.8	601663.7	-7.5	C-126-3	126	6/10/2014	-7.6	Target Elevation Reached
685122.3	601624.7	-8.4	C-126-4	126	6/10/2014	-8.8	Target Elevation Reached
685277.9	601769.3	0.4	C-125	125	6/2/2014	-0.6	Target Elevation Reached
685241.9	601742.6	-1.2	C-125-1	125	6/5/2014	-1.4	Target Elevation Reached
685158.0	601676.7	-7.5	C-125-2	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	C-125-3	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	0.4	C-124	124	6/10/2014	0.1	Target Elevation Reached
685261.7	601778.9	-2.5	C-124-1	124	6/10/2014	-2.8	Target Elevation Reached
685230.8	601752.7	-1.2	C-124-2	124	6/10/2014	-1.4	Target Elevation Reached
685172.8	601704.6	-7.5	C-124-4	124	6/17/2014	-7.7	Stratum D Reached
685128.8	601669.1	-8.7	C-124-5	124	6/17/2014	-7.8	Stratum D Reached
685104.8	601647.4	-7.5	C-124-6	124	6/17/2014	-8.6	Stratum D Reached
685262.3	601792.9	0.4	C-123	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-2.5	C-123-1	123	6/10/2014	-2.8	Target Elevation Reached
685221.2	601763.9	-1.2	C-123-2	123	6/10/2014	-1.7	Target Elevation Reached
685162.4	601719.5	-7.5	C-123-3	123	6/20/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	C-123-4	123	6/20/2014	-7.8	Stratum D Reached
685091.7	601659.6	-7.5	C-123-5	123	6/20/2014	-8.1	Stratum D Reached
685252.4	601807.4	0.4	C-122	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601792.7	-2.5	C-122-1	122	6/13/2014	-2.6	Target Elevation Reached
685207.9	601771.1	-1.2	C-122-2	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-7.5	C-122-5	122	6/20/2014	-7.5	Stratum D Reached
685108.5	601694.5	-8.7	C-122-6	122	6/20/2014	-6.9	Stratum D Reached
685086.9	601671.6	-7.5	C-122-3	122	6/20/2014	-7.4	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.3)

Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685242.2	601818.1	0.4	C-121	121	6/17/2014	0.3	Target Elevation Reached
685214.5	601794.9	-2.5	C-121-3	121	6/20/2014	-2.6	Target Elevation Reached
685189.3	601776.9	-1.2	C-121-2	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.5	C-121-5	121	6/25/2014	-2.5	Target Elevation Reached
685127.3	601725.9	-7.5	C-121-6	121	6/25/2014	-7.0	Stratum D Reached
685104.7	601708.0	-8.7	C-121-7	121	6/25/2014	-6.1	Stratum D Reached
685073.0	601686.3	-7.5	C-121-8	121	6/25/2014	-7.1	Stratum D Reached
685233.4	601829.1	0.4	C-120-1	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-2.5	C-120	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.2	C-120-2	120	6/20/2014	-1.5	Target Elevation Reached
685153.6	601765.8	-2.5	C-120-3	120	6/25/2014	-2.7	Target Elevation Reached
685095.6	601718.8	-7.5	C-120-4	120	6/25/2014	-6.9	Stratum D Reached
685223.8	601840.5	0.4	C-119	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-2.5	C-119-1	119	6/25/2014	-2.8	Target Elevation Reached
685172.6	601798.3	-1.2	C-119-2	119	6/25/2014	-1.2	Target Elevation Reached
685145.7	601780.4	-2.5	C-119-3	119	6/25/2014	-2.8	Target Elevation Reached
685080.0	601724.8	-7.5	C-119-4	119	6/30/2014	-6.9	Stratum D Reached
685208.4	601850.6	2.1	C-118	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.1	C-117	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.1	C-116	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.1	C-115	115A	6/25/2014	-0.1	Target Elevation Reached
685069.7	601734.8	-7.5	C-118-1	118B	6/30/2014	-6.1	Stratum D Reached
685057.7	601744.9	-7.5	C-117-1	117B	7/8/2014	-6.5	Stratum D Reached
685031.8	601746.6	-7.5	C-116-1	116B	7/8/2014	-7.0	Stratum D Reached
685022.1	601754.6	-7.5	C-115-1	115B	7/10/2014	-5.9	Stratum D Reached
685177.7	601903.0	2.1	C-114	114A	6/30/2014	0.5	Target Elevation Reached
685147.1	601873.7	-1.2	C-114-1	114A	6/30/2014	-1.3	Target Elevation Reached
685014.9	601776.3	4.2	C-114-2	114B	7/10/2014	3.9	Target Elevation Reached
685002.7	601764.7	4.2	C-114-3	114B	7/17/2014	-2.0	UST Area
685166.0	601912.1	2.1	C-113-1	113A	7/3/2014	0.9	Target Elevation Reached
685134.0	601884.4	-1.2	C-113-2	113A	7/3/2014	-1.7	Target Elevation Reached
685006.3	601780.6	4.2	C-113-3	113B	7/17/2014	3.6	Target Elevation Reached
684998.3	601772.8	4.2	C-113-4	113B	7/17/2014	-2.1	UST Area
685157.5	601925.6	2.1	C-112	112A	7/8/2014	0.0	Target Elevation Reached
685124.9	601894.4	-1.2	C-112-1	112A	7/3/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.2	C-112-2	112B	7/17/2014	3.6	Target Elevation Reached
684985.2	601787.3	4.2	C-112-3	112B	7/17/2014	-1.8	UST Area

SA-6 South Excavation: Center Points (Table 2.4)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.9	601933.8	2.1	C-111-1	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	C-111	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.2	C-111-4	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.1	C-110	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	C-110-1	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.2	C-110-4	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.1	C-109	109A	7/10/2014	1.5	Target Elevation Reached
685097.4	601930.7	-1.2	C-109-1	109A	7/10/2014	-1.5	Target Elevation Reached
684960.2	601820.4	4.2	C-109-4	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.1	C-108-1	108A	7/17/2014	1.7	Target Elevation Reached
685087.5	601946.0	-1.2	C-108	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.2	C-108-4	108B	7/17/2014	3.6	Target Elevation Reached
685110.1	601981.8	-4.3	C-107-1	107A	7/17/2014	-4.8	Stratum D Reached
685069.0	601948.1	-1.2	C-107-2	107A	7/17/2014	-1.3	Target Elevation Reached
684939.3	601841.8	4.2	C-107-4	107B	7/17/2014	3.6	Target Elevation Reached
684928.5	601848.2	4.2	C-106-4	106B	7/17/2014	3.8	Target Elevation Reached

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

Green shading indicates 100% Design Bottom Elevation Field Modified to reach < 20 PPM soils .

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)							
Sidewall Target Coordinates					As-built Elevations		
685443.0	601355.0	5.8	073-SB-003	153	4/24/2014	4.0	Target Elevation Reached
685441.6	601380.0	6.7	073-SB-078	152	4/24/2014	3.9	Target Elevation Reached
685490.9	601459.8	7.8	073-SB-027	150	4/24/2014	3.8	Target Elevation Reached
685459.6	601448.4	5.9	073-SB-064	149	4/24/2014	2.0	Target Elevation Reached
685438.1	601430.2	8.8	073-SB-063	149	4/24/2014	1.8	Target Elevation Reached
685470.0	601487.0	5.9	073-SB-004	148	4/24/2014	5.7	Target Elevation Reached
685383.5	601506.5	0.9	073-SB-060	143A	4/24/2014	-4.4	Target Elevation Reached
685368.1	601516.7	0.4	073-SB-077	142A	4/24/2014	-4.5	Target Elevation Reached
685341.4	601558.3	2.9	073-SB-046	139A	4/24/2014	-4.5	Target Elevation Reached
685309.0	601571.0	3.8	073-SB-006	137A	4/29/2014	1.9	Target Elevation Reached
685339.2	601410.1	-5.7	073-SB-048	146B	5/5/2014	-7.7	Target Elevation Reached
685319.6	601464.4	-5.4	073-SB-022	143B	5/8/2014	-7.5	Target Elevation Reached
685332.6	601487.8	-3.6	073-SB-071	142B	5/12/2014	-7.6	Target Elevation Reached
685344.0	601523.8	-4.1	073-SB-076	141B	5/12/2014	-7.6	Target Elevation Reached
685316.0	601542.0	-6.2	073-SB-016	138B	5/14/2014	-7.8	Target Elevation Reached
685304.5	601530.7	-5.8	073-SB-051	138B	5/14/2014	-7.5	Target Elevation Reached
685132.7	601748.9	-1.7	134-SB-126	120	6/25/2014	-7.2	Stratum D Reached
685210.2	601831.4	-0.8	134-SB-072	119	6/25/2014	-2.5	Target Elevation Reached
685116.0	601754.5	-6.0	134-SB-157	119	6/30/2014	-6.9	Stratum D Reached
685165.3	601806.2	3.5	134-SB-094	118B	6/25/2014	-1.6	Target Elevation Reached
685131.0	601787.0	-2.3	134-SB-017	118B	6/25/2014	-3.3	Target Elevation Reached
685197.0	601868.0	6.0	134-SB-034	117A	6/25/2014	-0.3	Target Elevation Reached
685073.0	601769.4	-6.5	134-SB-142	116B	7/8/2014	-6.3	Stratum D Reached
685168.1	601879.4	-0.7	134-SB-058	115A	6/30/2014	-1.6	Target Elevation Reached
685137.3	601854.1	2.7	134-SB-073	115A	6/30/2014	-1.4	Target Elevation Reached
685043.3	601773.2	6.0	134-SB-152	115B	7/10/2014	-5.5	Stratum D Reached
685111.7	601863.3	2.2	134-SB-074	113A	7/3/2014	-1.3	Target Elevation Reached
685013.2	601803.0	6.0	134-SB-156	112B	7/17/2014	3.7	Target Elevation Reached
685094.6	601890.3	2.2	134-SB-075	111A	7/8/2014	-1.6	Target Elevation Reached
685081.0	601928.0	-0.1	134-SB-021	109A	7/10/2014	-1.6	Target Elevation Reached
685080.6	601935.9	3.0	134-SB-092	108A	7/10/2014	-1.6	Target Elevation Reached
684976.1	601816.3	6.1	134-SB-144	110B	7/17/2014	3.9	Target Elevation Reached
684949.4	601849.3	6.1	134-SB-145	107B	7/17/2014	3.8	Target Elevation Reached
685042.0	601935.0	-0.3	134-SB-023	107A	7/17/2014	-2.7	Target Elevation Reached

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.1)	
Sidewall Target Coordinates	As-built Elevations

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

R. Thomas Hugg 7/28/14

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR

LICENSE NO. 36737

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-01		684138.4	603182.3	-0.5							4	Crushed concrete	Bottom of excavation elevation	
2	BF-01-01	12/5/2013	684144.2	603184.2	1.0	136.4	3.7	142.6	7.8	96	95	4	Weldon WC QP		Sor
3	BF-01-02	12/5/2013	684137.8	603181.7	1.9	139.9	4.3	142.6	7.8	98	95	4	Weldon WC QP		Sor
4	BF-01-03	12/6/2013	684140.2	603182.7	2.5	141.2	5.0	142.6	7.8	99	95	4	Weldon WC QP		Sor
5	BF-01-04	12/6/2013	684136.6	603190.0	3.5	141.2	5.6	142.6	7.8	99	95	4	Weldon WC QP		Sor
6	BF-01-05	12/6/2013	684134.9	603186.7	4.5	143.2	4.8	142.6	7.8	100	95	4	Weldon WC QP		Sor
7	BF-01-06	12/6/2013	684141.1	603182.6	5.8	139.6	6.0	142.6	7.8	98	95	4	Weldon WC QP		Sor
8	BF-01-07	12/10/2013	684147.6	603186.8	6.2	146.7	5.1	142.6	7.8	103	95	4	Weldon WC QP		Sor
9	BF-01-08	12/10/2013	684140.2	603189.6	7.1	120.1	3.4	128.9	12.1	93	95	4	Weldon WC Screenings	recompact lift	Sor
9	BF-01-08R	12/10/2013	684140.2	603189.6	7.1	129.9	4.9	128.9	12.1	101	95	4	Weldon WC Screenings	second reading after addl compaction	Sor
10	BF-01-09	12/12/2013	684130.1	603175.5	8.1	126.4	3.3	128.9	12.1	98	95	4	Weldon WC Screenings		Sor
11	BF-01-10	12/31/2013	684140.0	603184.3	9.0	139.6	7.4	128.9	12.1	108	95	4	Weldon WC Screenings		Sor
1	BF-02		684153.8	603153.9	-0.6							6	Crushed concrete	Bottom of excavation elevation	
2	BF-02-01	12/5/2013	684162.8	603161.3	1.4	138.2	5.7	142.6	7.8	97	95	6	Weldon WC QP		Sor
3	BF-02-02	12/5/2013	684160.8	603162.3	2.4	136.2	4.5	142.6	7.8	96	95	6	Weldon WC QP		Sor
4	BF-02-03	12/6/2013	684157.7	603161.3	2.7	147.2	5.6	142.6	7.8	103	95	6	Weldon WC QP		Sor
5	BF-02-04	12/6/2013	684145.7	603162.1	3.7	143.5	5.0	142.6	7.8	101	95	6	Weldon WC QP		Sor
6	BF-02-05	12/6/2013	684156.9	603171.0	4.4	145.7	4.1	142.6	7.8	102	95	6	Weldon WC QP		Sor
7	BF-02-06	12/6/2013	684150.1	603155.4	5.6	140.4	4.6	142.6	7.8	98	95	6	Weldon WC QP		Sor
8	BF-02-07	12/10/2013	684135.5	603153.5	6.1	149.4	4.0	142.6	7.8	105	95	6	Weldon WC QP		Sor
9	BF-02-08	12/10/2013	684157.9	603174.9	7.2	125.8	5.2	128.9	12.1	98	95	6	Weldon WC Screenings		Sor
1	BF-03		684179.9	603119.5	-1.2							9	Crushed concrete	Bottom of excavation elevation	
2	BF-03											9	Type A Material	No compaction testing required	
3	BF-03-01	11/22/2013	684198.1	603131.6	0.2	133.3	3.4	142.6	7.8	93	95	9	Weldon WC QP		Sor
4	BF-03-02	11/22/2013	684155.7	603111.6	1.5	130.8	2.8	142.6	7.8	92	95	9	Weldon WC QP		Sor
5	BF-03-03	12/5/2013	684177.4	603121.5	2.5	135.7	2.0	128.9	12.1	105	95	9	Weldon WC Screenings		Sor
6	BF-03-04	12/12/2013	684180.5	603126.9	4.6	124.7	3.2	128.9	12.1	97	95	9	Weldon WC Screenings		Sor
7	BF-03-05	12/12/2013	684177.1	603132.4	5.3	132.5	2.8	128.9	12.1	103	95	9	Weldon WC Screenings		Sor
8	BF-03-06	12/16/2013	684172.4	603128.5	6.4	128.3	2.9	128.9	12.1	100	95	9	Weldon WC Screenings		Sor
9	BF-03-07	1/6/2014	684177.1	603113.8	6.6	131.2	10.4	128.9	12.1	102	95	9	Weldon WC Screenings		Sor
10	BF-03-08	1/9/2014	684178.2	603121.8	8.2	128.2	5.9	128.9	12.1	99	95	9	Weldon WC Screenings		Sor
1	BF-04		684195.7	603093.1	-1.5							11	Crushed concrete	Bottom of excavation elevation	
2	BF-04											11	Type A Material	No compaction testing required	
3	BF-04-01	12/5/2013	684198.0	603094.8	2.6	131.0	3.6	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
4	BF-04-02	12/12/2013	684206.6	603104.7	3.5	125.8	3.9	128.9	12.1	98	95	11	Weldon WC Screenings		Sor
5	BF-04-03	12/16/2013	684217.5	603111.1	4.9	129.9	2.9	128.9	12.1	101	95	11	Weldon WC Screenings		Sor
6	BF-04-04	12/31/2013	684213.6	603115.0	5.9	124.6	3.2	128.9	12.1	97	95	11	Weldon WC Screenings		Sor
7	BF-04-05	1/9/2014	684195.8	603100.0	8.2	131.2	4.8	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
1	BF-05		684200.8	603078.4	-1.8							12	Crushed concrete	Bottom of excavation elevation	
2	BF-05											12	Type A Material	No compaction testing required	
3	BF-05-01	12/5/2013	684185.2	603057.9	2.6	133.8	4.7	128.9	12.1	104	95	12	Weldon WC Screenings		Sor
4	BF-05-02	12/12/2013	684179.9	603057.7	3.0	121.5	3.0	128.9	12.1	94	95	12	Weldon WC Screenings	recompact lift	Sor
4	BF-05-02R	12/16/2013	684186.2	603070.2	3.1	133.0	9.3	128.9	12.1	103	95	12	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-05-03	12/31/2013	684181.6	603060.8	4.5	124.7	2.9	128.9	12.1	97	95	12	Weldon WC Screenings		Sor
6	BF-05-04	1/9/2013	684186.1	603053.5	5.8	129.7	3.3	128.9	12.1	101	95	12	Weldon WC Screenings		Sor
7	BF-05-05	1/9/2013	684180.6	603048.6	6.5	131.1	3.4	128.9	12.1	102	95	12	Weldon WC Screenings		Sor
8	BF-05-06	3/19/2014	684180.6	603060.4	7.5	122.5	4.9	128.9	12.1	95	95	12	Weldon WC Screenings		Sor
1	BF-06		684214.8	603050.6	-1.7							14	Crushed concrete	Bottom of excavation elevation	
2	BF-06											14	Crushed concrete	No compaction testing required	
3	BF-06-01	12/31/2013	684229.9	603061.3	2.2	137.7	3.4	128.9	12.1	107	95	14	Weldon WC Screenings		Sor
4	BF-06-02	12/31/2013	684228.8	603062.8	3.5	133.1	3.4	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
5	BF-06-03	1/6/2014	684234.0	603066.8	4.2	123.7	9.5	128.9	12.1	96	95	14	Weldon WC Screenings		Sor
6	BF-06-04	1/9/2014	684230.8	603071.3	6.2	133.1	4.2	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
7	BF-06-05	1/9/2014	684213.9	603095.7	7.3	133.8	5.0	128.9	12.1	104	95	14	Weldon WC Screenings		Sor
1	BF-07		684222.7	603033.3	-0.8							15	Crushed concrete	Bottom of excavation elevation	
2	BF-07											15	Crushed concrete	No compaction testing required	
3	BF-07-01	12/31/2013	684196.2	603014.9	2.5	133.1	2.6	128.9	12.1	103	95	15	Weldon WC Screenings		Sor
4	BF-07-02	12/31/2013	684192.8	603021.1	3.9	133.2	3.4	128.9	12.1	103	95	15	Weldon WC Screenings	Numbering error; skipped from 02 to 04	Sor
6	BF-07-04	1/9/2014	684196.9	603018.8	5.7	118.5	3.9	128.9	12.1	92	95	15	Weldon WC Screenings	recompact lift	Sor
6	BF-07-04R	1/9/2014	684196.9	603018.8	5.7	122.6	4.3	128.9	12.1	95	95	15	Weldon WC Screenings	second reading after addl compaction	Sor
7	BF-07-05	1/9/2014	684195.0	603021.0	6.4	128.4	6.7	128.9	12.1	100	95	15	Weldon WC Screenings		Sor
1	BF-08		684221.8	603013.0	-0.7							16	Crushed concrete	Bottom of excavation elevation	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
2	BF-08											16	Crushed concrete	No compaction testing required	
3	BF-08-01	12/31/2013	684246.9	603039.8	2.0	127.2	3.2	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
4	BF-08-02	12/31/2013	684240.5	603043.2	3.1	132.7	2.9	128.9	12.1	103	95	16	Weldon WC Screenings		Sor
5	BF-08-03	1/6/2014	684231.7	603038.8	3.9	127.0	8.4	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
6	BF-08-04	1/9/2014	684242.3	603046.8	5.4	130.1	4.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
7	BF-08-05	1/9/2014	684236.3	603066.0	7.1	129.8	6.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
1	BF-09		684208.5	602989.4	-0.5							17	Crushed concrete	Bottom of excavation elevation	
2	BF-09											17	Crushed concrete	No compaction testing required	
3	BF-09-01	1/28/2014	684209.7	602987.6	2.5	124.0	7.9	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
4	BF-09-02	1/28/2014	684213.6	602980.4	3.4	123.4	6.1	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
5	BF-09-03	1/28/2014	684204.2	602981.5	4.2	124.9	7.1	128.9	12.1	97	95	17	Weldon WC Screenings		Sor
1	BF-10		684269.0	603014.0	-0.5							18	Crushed concrete	Bottom of excavation elevation	
2	BF-10											18	Crushed concrete	No compaction testing required	
3	BF-10-01	1/20/2014	684275.4	603018.2	2.2	133.1	7.7	128.9	12.1	103	95	18	Weldon WC Screenings		Sor
4	BF-10-02	1/28/2014	684267.5	603026.1	3.2	118.8	3.1	128.9	12.1	92	95	18	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-10-02R	1/28/2014	684267.5	603026.1	3.2	133.3	6.1	128.9	12.1	103	95	18	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-10-03	1/28/2014	684271.8	603014.4	4.1	125.7	5.4	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
6	BF-10-04	3/21/2014	684267.9	603017.5	5.2	126.4	6.8	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
1	BF-11		684208.5	602989.4	-1.0							19	Crushed concrete	Bottom of excavation elevation	
2	BF-11											19	Crushed concrete	No compaction testing required	
3	BF-11-01	1/28/2014	684216.6	602952.7	2.1	125.2	8.8	128.9	12.1	97	95	19	Weldon WC Screenings		Sor
4	BF-11-02	1/28/2014	684223.4	602953.8	3.4	129.8	4.2	128.9	12.1	101	95	19	Weldon WC Screenings		Sor
5	BF-11-03	1/28/2014	684211.6	602949.0	4.0	123.4	6.6	128.9	12.1	96	95	19	Weldon WC Screenings		Sor
1	BF-12		684286.7	602988.6	-1.7							20	Crushed concrete	Bottom of excavation elevation	
2	BF-12											20	Crushed concrete	No compaction testing required	
3	BF-12-01	1/20/2014	684291.7	602995.2	1.8	133.3	8.3	128.9	12.1	103	95	20	Weldon WC Screenings		Sor
4	BF-12-02	1/28/2014	684288.5	602989.8	2.9	121.6	4.0	128.9	12.1	94	95	20	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-12-02R	1/28/2014	684288.5	602989.8	2.9	128.5	5.8	128.9	12.1	100	95	20	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-12-03	1/28/2014	684291.3	602995.4	3.7	136.9	7.5	128.9	12.1	106	95	20	Weldon WC Screenings		Sor
1	BF-13		684235.7	602919.6	-0.9							22	Crushed concrete	Bottom of excavation elevation	
2	BF-13											22	Crushed concrete	No compaction testing required	
3	BF-13-01	1/28/2014	684235.6	602919.1	2.1	130.1	5.8	128.9	12.1	101	95	22	Weldon WC Screenings		Sor
3	BF-13-01R	3/12/2014	684238.5	602922.0	2.1	132.0	2.9	135.8	6.4	97	95	22	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-13-02	3/12/2014	684238.4	602918.2	3.4	133.0	1.4	135.8	6.4	98	95	22	Tilcon MH DGA		V5N
5	BF-13-03	3/19/2014	684235.1	602916.0	4.5	124.0	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
1	BF-14		684312.1	602956.0	-0.9							23	Crushed concrete	Bottom of excavation elevation	
2	BF-14											23	Crushed concrete	No compaction testing required	
3	BF-14-01	1/20/2014	684312.7	602965.2	1.8	133.9	7.0	128.9	12.1	104	95	23	Weldon WC Screenings		Sor
3	BF-14-01R	3/13/2013	684289.6	602935.7	1.8	132.0	1.7	135.8	6.4	97	95	23	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-14-02	3/14/2014	684301.9	602952.7	2.6	133.0	1.6	135.8	6.4	98	95	23	Tilcon MH DGA		V5N
1	BF-15		684260.7	602896.7	-0.9							24	Crushed concrete	Bottom of excavation elevation	
2	BF-15											24	Crushed concrete	No compaction testing required	
3	BF-15-01	1/28/2014	684259.0	602897.1	2.1	123.6	9.0	128.9	12.1	96	95	24	Weldon WC Screenings		Sor
3	BF-15-01R	3/12/2014	684264.5	602902.2	2.1	131.0	2.4	135.8	6.4	96	95	24	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-15-02	3/12/2014	684260.5	602900.2	2.8	133.0	1.3	135.8	6.4	98	95	24	Tilcon MH DGA		V5N
1	BF-16		684326.7	602937.0	-1.1							25	Crushed concrete	Bottom of excavation elevation	
2	BF-16											25	Crushed concrete	No compaction testing required	
3	BF-16-01	1/20/2014	684331.9	602942.7	1.6	136.1	7.4	128.9	12.1	106	95	25	Weldon WC Screenings		Sor
3	BF-16-01R	3/13/2014	6844330.0	602937.2	1.8	132.2	1.4	135.8	6.4	97	95	25	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-16-02	3/14/2014	684326.7	602930.0	2.5	134.0	1.2	135.8	6.4	99	95	25	Tilcon MH DGA		V5N
1	BF-17		684283.7	602879.0	0.4							26	Crushed concrete	Bottom of excavation elevation-Stratum O	
2	BF-17											26	Crushed concrete	No compaction testing required	
3	BF-17-01	3/12/2014	684284.6	602882.1	2.1	130.0	2.9	135.8	6.4	96	95	26	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-17-02	3/14/2014	684273.7	602879.1	3.1	132.0	2.2	135.8	6.4	97	95	26	Tilcon MH DGA		V5N
1	BF-18		684350.8	602909.6	-1.5							27	Crushed concrete	Bottom of excavation elevation	
2	BF-18											27	Crushed concrete	No compaction testing required	
3	BF-18-01	3/13/2014	684313.5	602885.6	1.5	132.4	1.4	135.8	6.4	97	95	27	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-18-02	3/14/2014	684344.0	602911.5	2.7	134.0	1.1	135.8	6.4	99	95	27	Tilcon MH DGA		V5N
1	BF-19		684313.2	602860.4	0.3							28	Crushed concrete	Bottom of excavation elevation - Stratum O	
2	BF-19												Crushed concrete	No compaction testing required	
3	BF-19-01	3/14/2014	684322.1	602872.7	2.8	134.0	0.9	135.8	6.4	99	95	28	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
4	BF-19-02	3/17/2014	684301.4	602851.5	3.6	133.0	1.3	135.8	6.4	98	95	28	Tilcon MH DGA		V5N
1	BF-20		684370.9	602887.4	-1.7							29	Crushed concrete	Bottom of excavation elevation	
2	BF-20											29	Crushed concrete	No compaction testing required	
3	BF-20-01	3/17/2014	6843640.5	602862.1	2.0	133.0	1.7	135.8	6.4	98	95	29	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-21		684330.4	602835.9	1.9							30	Crushed concrete	Bottom of excavation elevation - Startum O	
2	BF-21-01	3/14/2014	684343.3	602842.2	2.4	132.0	1.6	135.8	6.4	97	95	30	Tilcon MH DGA	Removed wet screenings to crushed concrete and placed Bridge Lift	V5N
3	BF-21-02	3/17/2014	684307.4	602827.3	3.3	134.0	0.8	135.8	6.4	99	95	30	Tilcon MH DGA	Bridge Lift over Stratum O	V5N
4	BF-21-03	3/19/2014	684314.6	602830.9	3.9	122.5	5.1	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
5	BF-21-04	3/20/2014	684314.4	602815.1	4.5	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
6	BF-21-05	3/20/2014	684321.1	602814.1	5.2	124.0	3.9	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
7	BF-21-06	3/20/2014	684308.3	602802.2	5.8	122.5	5.0	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
8	BF-21-07	3/20/2014	684305.8	602806.3	6.7	123.3	4.0	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
9	BF-21-08	3/20/2014	684314.4	602804.8	7.6	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
10	BF-21-09	3/20/2014	684310.5	602806.6	8.4	132.5	1.9	135.8	6.4	98	95	30	Tilcon MH DGA	Truck Ramp to Kellogg Street	V5N
1	BF-22		684391.2	602864.3	-2.3							31	Crushed concrete	Bottom of excavation elevation	
2	BF-22											31	Crushed concrete	No compaction testing required	
3	BF-22-01	3/17/2014	684387.3	602845.0	1.4	134.0	0.8	135.8	6.4	99	95	31	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-23		684350.9	602814.5	-1.6							32	Crushed concrete	Bottom of excavation elevation	
2	BF-23											32	Crushed concrete	No compaction testing required	
3	BF-23-01	3/14/2014	684360.9	602818.8	2.4	132.0	2.0	135.8	6.4	97	95	32	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-23-02	3/17/2014	684339.8	602809.6	3.5	134.0	1.1	135.8	6.4	99	95	32	Tilcon MH DGA		V5N
1	BF-24		684411.0	602842.4	-1.8							33	Crushed concrete	Bottom of excavation elevation	
2	BF-24											33	Crushed concrete	No compaction testing required	
3	BF-24-01	3/17/2014	684402.4	602827.4	1.1	134.0	0.8	135.8	6.4	99	95	33	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-25		684369.5	602729.2	-1.8							34	Crushed concrete	Bottom of excavation elevation	
2	BF-25											34	Crushed concrete	No compaction testing required	
3	BF-25-01	3/14/2014	684379.5	602796.3	2.0	131.0	2.1	135.8	6.4	96	95	34	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-25-02	3/17/2014	684354.8	602790.5	3.4	133.0	1.5	135.8	6.4	98	95	34	Tilcon MH DGA		V5N
1	BF-26		684433.4	602818.8	-2.1							35	Crushed concrete	Bottom of excavation elevation	
2	BF-26											35	Crushed concrete	No compaction testing required	
3	BF-26-01	3/18/2014	684433.9	602828.3	0.3	134.0	0.8	135.8	6.4	99	95	35	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-26-02	3/18/2014	684431.7	602817.7	0.8	133.0	1.3	135.8	6.4	98	95	35	Tilcon MH DGA		V5N
1	BF-27		684389.4	602765.0	-1.8							36	Crushed concrete	Bottom of excavation elevation	
2	BF-27											36	Crushed concrete	No compaction testing required	
3	BF-27-01	3/14/2014	684398.2	602773.8	1.8	133.0	1.6	135.8	6.4	98	95	36	Tilcon MH DGA		V5N
0	BF-28		684457.0	602790.8	-2.8							38	Stratum D	Bottom of excavation elevation	
1	BF-28-01	3/12/2014	684461.2	602789.3	-0.4	133.2	1.0	135.8	6.4	98	95	38	Tilcon MH DGA		V5N
0	BF-29		684418.8	602735.2	2.1							39	Stratum O	Bottom of excavation elevation - Stratum O	
1	BF-29-01	3/26/2014	684404.6	602731.3	3.3	134.0	1.2	135.8	6.4	99	95	39	Tilcon MH DGA		V5N
0	BF-30		684476.8	602765.1	-3.1							40	Stratum D	Bottom of excavation elevation	
1	BF-30-01	3/12/2014	684478.9	602766.2	-0.7	133.2	1.1	135.8	6.4	98	95	40	Tilcon MH DGA		V5N
0	BF-31		684436.0	602712.8	0.1							41	Stratum O	Bottom of excavation elevation	
0	BF-32		684498.7	602739.5	-2.2							42	Stratum D	Bottom of excavation elevation	
1	BF-32-01	3/12/2014	684496.6	602743.0	-0.9	131.0	2.3	135.8	6.4	96	95	42	Tilcon MH DGA		V5N
0	BF-33		684453.0	602683.2	0.1							43	Stratum O	Bottom of excavation elevation	
0	BF-34		684517.5	602716.8	-2.5							44	Stratum D	Bottom of excavation elevation	
1	BF-34-01	3/12/2014	684515.6	602715.4	-1.1	131.0	2.0	135.8	6.4	96	95	44	Tilcon MH DGA		V5N
0	BF-35		684471.3	602661.2	0.2							45	Stratum O	Bottom of excavation elevation	
0	BF-36		684538.2	602694.6	-3.0							46	Stratum D	Bottom of excavartion elevation	
1	BF-36-01	3/18/2014	684535.1	602700.7	-1.9	134.5	0.5	135.8	6.4	99	95	46	Tilcon MH DGA		V5N
0	BF-37		684490.0	602636.8	0.2							47	Stratum O	Bottom of excavation elevation	
0	BF-38		684558.4	602671.7	-3.0							48	Stratum D	Bottom of excavation elevation	
1	BF-38-01	3/21/2014	684551.4	602683.6	-1.7	131.9	1.9	135.8	6.4	97	95	48	Tilcon MH DGA		V5N
0	BF-39		684510.6	602614.8	0.4							49	Stratum O	Bottom of excavation elevation	
0	BF-40		684557.4	602644.9	-3.6							50	Stratum D	Bottom of excavation elevation	
1	BF-40-01	3/26/2014	684572.2	602653.5	-1.4	134.8	0.5	135.8	6.4	99	95	50	Tilcon MH DGA		V5N
0	BF-93		685084.9	601963.3	-1.2								Stratum O	Bottom of excavation elevation	
1	BF-93-01	7/18/2014	685112.8	601983.8	-0.4	136.5	3.5	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
1	BF-94		685105.9	601939.3	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-94-01	7/18/2014	685104.8	601941.5	1.7	136.0	3.8	142.6	7.8	95	95	109 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-95		685125.6	601915.0	-1.2							111 (No)	Crushed concrete	Bottom of excavation elevation	
2	BF-95-01	7/16/2014	685121.8	601910.5	1.7	135.0	3.6	142.6	7.8	95	95	111 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-96		685144.3	601891.9	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-96-01	7/10/2014	685150.5	601896.1	1.9	137.0	4.8	142.6	7.8	96	95	113 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-97		685196.4	601880.1	2.1								Stratum O	Bottom of excavati0n elevation	
1	BF-97-01	7/7/2014	685187.0	601867.3	2.7	135.5	4.6	142.6	7.8	95	95	116 (No)	Weldon WC QP		V5N
0	BF-101		685222.6	601822.8	0.4							120 (No)	Stratum O	Bottom of excavation elevation	
1	BF-101-01	6/27/2014	685213.8	601814.2	1.0	136.0	3.4	142.6	7.8	95	95	120 (No)	Weldon WC QP		V5N
0	BF-102		685148.9	601780.9	-2.5							119	Stratum O	Bottom of excavation elevation	
1	BF-102-01	6/27/2014	685148.8	601788.7	-0.8	135.5	3.4	142.6	7.8	95	95	119	Weldon WC QP		V5N
1	BF-103		685084.0	601708.8	-7.5							120 (S0)			
2	BF-103-01	7/1/2014	685102.8	601721.9	-4.9	137.5	2.5	142.6	7.8	96	95	120 (S0)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-105		685102.9	601692.4	-7.5							122 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-105-01	6/27/2014	685126.9	601702.6	-5.7	135.5	3.4	142.6	7.8	95	95	122 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-104		685218.6	601799.3	-2.5								Stratum O	Bottom of excavation elevation	
1	BF-104-01	6/27/2014	685205.5	601790.7	0.9	135.5	3.4	142.6	7.8	95	95	121 (No)	Weldon WC QP		V5N
0	BF-106		685225.5	601777.9	-1.2							122 (No)	Stratum O	Bottom of excavation elevation	
1	BF 106-01	6/18/2014	685230.1	601784.7	0.5	140.0	1.7	142.6	7.8	98	95	122 (No)	Weldon WC QP		V5N
2	BF 106-02	6/27/2014	685221.4	601777.8	1.0	135.4	3.4	142.6	7.8	95	95	122 (No)	Weldon WC QP		V5N
1	BF-107		685115.2	601682.1	-7.5							123 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF 107-01	6/24/2014	685134.6	601695.5	-5.9	136.9	2.5	142.6	7.8	96	95	123 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-108		685235.5	601760.6	-1.2							124 (No)	Stratum O	Bottom of excavation elevation	
1	BF-108-01	6/18/2014	685235.2	601757.6	0.8	138.0	2.6	142.6	7.8	97	95		Weldon WC QP		V5N
2	BF-108-02	6/27/2014	685253.4	601761.5	1.4	135.0	3.4	142.6	7.8	95	95		Weldon WC QP		V5N
1	BF-109		685135.2	601666.9	-7.5							124 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-109-01	6/18/2014	685144.9	601672.5	-5.8	136.0	5.1	142.6	7.8	95	95		Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-111		685154.6	601650.7	-7.5							126 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-111-01	6/18/2014	685157.7	601655.0	-5.4	140.0	1.5	142.6	7.8	98	95		Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-124		685346.3	601612.6	-1.2							136	Stratum O	Bottom of excavation elevation	
1	BF-124-01	5/9/2014	685359.1	601618.5	0.3	130.8	1.3	135.8	6.4	96	95	136	Tilcon MH DGA		V5N
0	BF-126		685363.5	601589.4	-1.2							138	Stratum O	Bottom of excavation elevation	
1	BF-126-01	5/9/2014	685355.3	601576.3	0.2	128.0	3.3	128.9	12.1	99	95	138	Weldon WC Screenings		V5N
0	BF-128		685382.2	601566.3	-2.5							140 (No)	Stratum O	Bottom of excavation elevation	
1	BF-128-01	4/29/2014	685369.8	601556.5	-1.8	130.0	1.2	135.8	6.4	96	95	140	Tilcon MH DGA		V5N
2	BF-128-02	4/29/2014	685381.4	601569.9	-0.8	132.2	1.5	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
3	BF-128-03	4/29/2014	685382.7	601573.8	0.3	132.0	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
4	BF-128-04	4/29/2014	685386.7	601571.4	1.5	132.3	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
5	BF-128-05	4/29/2014	685389.9	601573.7	2.7	133.9	1.4	135.8	6.4	99	95	140	Tilcon MH DGA		V5N
0	BF-129		685308.1	601468.7	-7.5							142 (So)	Stratum O	Bottom of excavation elevation	
1	BF-129-01	5/9/2014	685315.6	601465.0	-6.4	135.5	1.3	135.8	6.4	100	95		Tilcon MH DGA		V5N
0	BF-130		685401.7	601541.7	1.9							142 (No)	Stratum O	Bottom of excavation elevation	
1	BF-130-01	4/28/2014	685410.7	601558.5	2.7	132.0	2.2	135.8	6.4	97	95	142 (No)	Tilcon MH DGA		V5N
2	BF-130-02	4/28/2014	685414.5	601553.3	3.6	133.0	1.7	135.8	6.4	98	95	142 (No)	Tilcon MH DGA		V5N
3	BF-130-03	4/28/2014	685414.9	601555.5	4.8	136.0	1.6	135.8	6.4	100	95	142 (No)	Tilcon MH DGA		V5N
4	BF-130-04	4/28/2014	685420.1	601558.2	5.5	135.0	1.9	135.8	6.4	99	95	142 (No)	Tilcon MH DGA		V5N
0	BF-131		685426.9	601523.7	3.2							144	Stratum O	Bottom of excavation elevation	
1	BF-131-01	4/25/2014	685440.9	601531.9	5.9	120.0	1.4	135.8	6.4	88	95	144	Tilcon MH DGA	recompact lift	V5N
1	BF-131-01R	4/28/2014	685440.9	601531.9	5.9	139.9	1.4	135.8	6.4	103	95	144	Tilcon MH DGA	second reading after addl compaction	V5N
0	BF-132		685452.9	601506.1	5.6							146	Stratum O	Bottom of excavation elevation	
1	BF-132-01	4/25/2014	685438.7	601505.6	6.1	135.0	1.0	135.8	6.4	99	95	144	Tilcon MH DGA		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

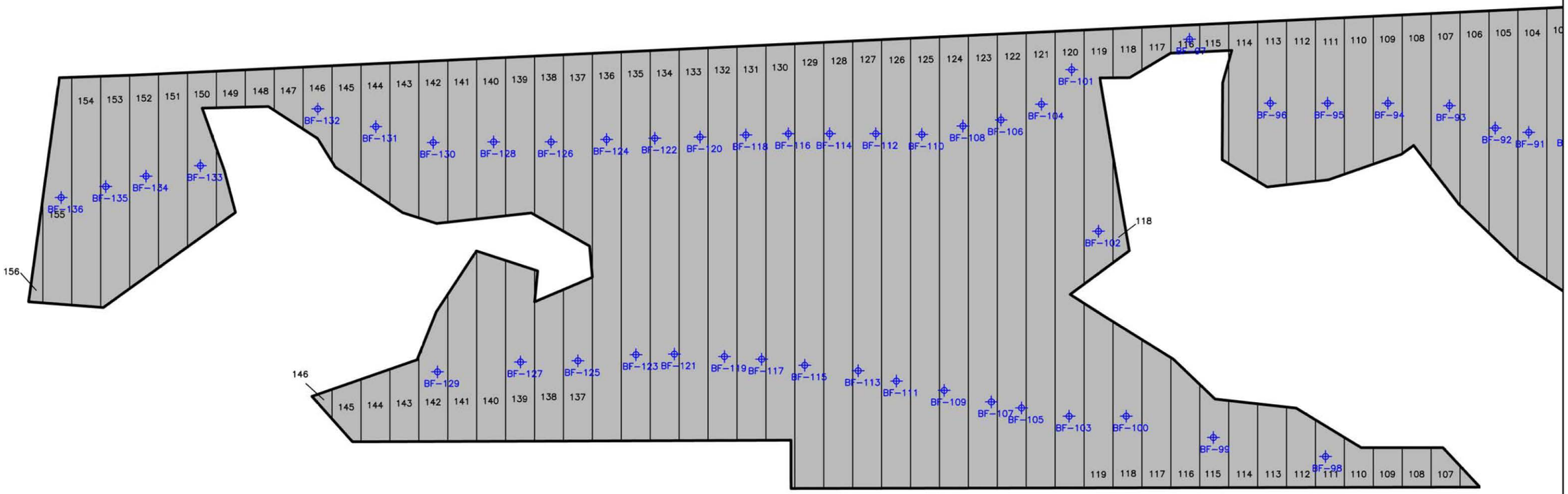
Sample ID BF-01-01 where:

BF = Backfill (At frequency of 1 test/2500 SF)

01 = Test Location (as noted on Backfill Compaction Location Figure)

01 = Number of test performed at that location (sequential)

R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



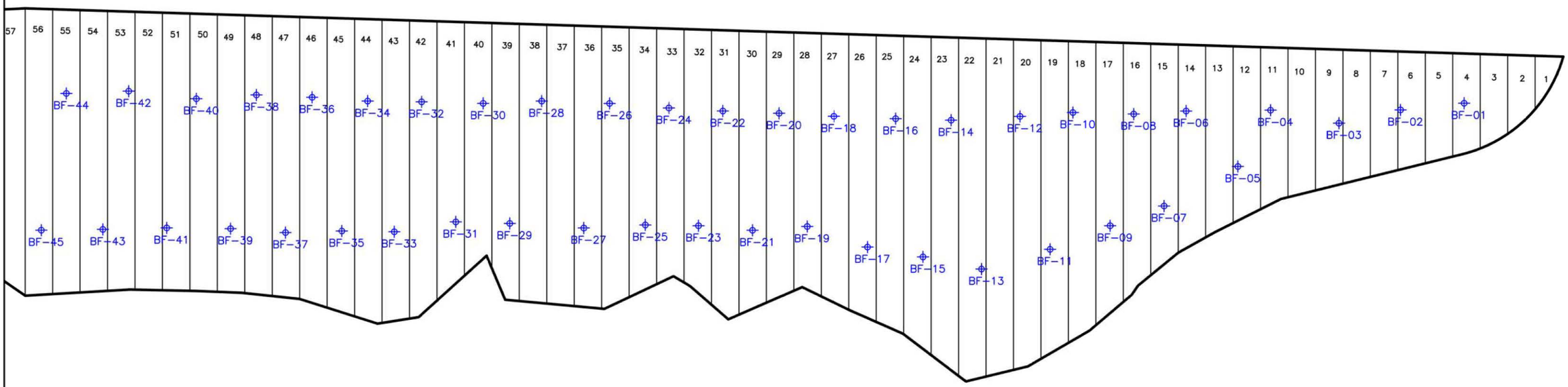
NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF BF-95 TO BF-136

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
BACKFILL COMPACTION LOCATIONS
EVERY 2,500 SF

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
	RF-03		684270.2	603012.0								18			
7	RF-03-01	3/21/2014	684267.9	603017.5	6.1	124.0	3.6	128.9	12.1	96	95	18	Weldon WC Screenings		V5N
8	RF-03-02	4/8/2014	684272.9	605018.7	7.6	122.4	8.1	128.9	12.1	95	95	18	Weldon WC Screenings		V5N
	RF-04		684235.2	602919.8								22			
6	RF-04-01	3/21/2014	684227.0	602916.6	5.5	124.0	3.6	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
7	RF-04-02	3/26/2014	684266.5	602908.5	6.2	123.6	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
8	RF-04-03	4/1/2014	684384.8	602904.9	7.1	125.8	3.0	128.9	12.1	98	95	22	Weldon WC Screenings		V5N
9	RF-04-04	4/3/2014	684220.8	602926.9	8.2	120.0	3.6	128.9	12.1	93	95	22	Weldon WC Screenings	Recompact lift	V5N
9	RF-04-04R	4/3/2014	684220.8	602926.9	8.2	125.0	4.1	128.9	12.1	97	95	22	Weldon WC Screenings	Second reading after re-rolling	V5N
10	RF-04-05	4/17/2014	684241.5	602924.2	8.8	130.0	3.0	128.9	12.1	101	95	22	Weldon WC Screenings		V5N
	RF-05		684328.5	602935.0								25			
5	RF-05-01	3/24/2014	684347.1	602947.5	3.3	122.5	4.5	128.9	12.1	95	95	25	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
6	RF-05-02	3/26/2014	684348.1	602942.0	4.1	123.5	3.7	128.9	12.1	96	95	25	Weldon WC Screenings		V5N
7	RF-05-03	4/1/2014	684351.4	602937.8	5.4	125.0	2.6	128.9	12.1	97	95	25	Weldon WC Screenings		V5N
8	RF-05-04	4/3/2014	684339.0	602933.4	6.4	128.9	4.7	128.9	12.1	100	95	25	Weldon WC Screenings		V5N
9	RF-05-05	4/8/2014	684327.1	602942.3	7.6	126.4	8.3	128.9	12.1	98	95	25	Weldon WC Screenings		V5N
10	RF-05-06	4/17/2014	684348.8	602945.1	8.2	135.0	6.4	128.9	12.1	105	95	25	Weldon WC Screenings		V5N
	RF-06		684335.0	602869.1								25			
2	RF-06-01	4/1/2014	684383.7	602908.8	3.0	126.0	2.7	128.9	12.1	98	95	29	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
3	RF-06-02	4/1/2014	684384.8	602904.9	4.1	125.0	2.8	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
4	RF-06-03	4/3/2014	684358.9	602890.5	5.9	127.6	4.0	128.9	12.1	99	95	29	Weldon WC Screenings		V5N
5	RF-06-04	4/8/2014	684340.1	602867.1	6.9	123.0	4.6	128.9	12.1	95	95	29	Weldon WC Screenings		V5N
6	RF-06-05	4/14/2014	684340.1	602867.1	7.5	124.8	3.0	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
7	RF-06-06	4/17/2014	684337.1	602897.4	8.5	118.5	3.0	128.9	12.1	92	95	29	Weldon WC Screenings	Recompact lift	V5N
7	RF-06-06R	4/17/2014	684337.1	602897.4	8.5	122.0	3.2	128.9	12.1	95	95	29	Weldon WC Screenings	Second reading after re-rolling	V5N
	RF-07		684392.9	602838.1								32			
4	RF-07-01	4/3/2014	684425.2	602890.4	3.0	125.3	5.1	128.9	12.1	97	95	32	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-07-02	4/3/2014	684418.6	602854.9	4.1	126.3	5.5	128.9	12.1	98	95	32	Weldon WC Screenings		V5N
6	RF-07-03	4/8/2014	684410.5	602847.3	5.6	122.7	2.5	128.9	12.1	95	95	32	Weldon WC Screenings		V5N
7	RF-07-04	4/14/2014	684410.5	602847.3	6.3	123.1	2.7	128.9	12.1	96	95	32	Weldon WC Screenings		V5N
8	RF-07-05	4/17/2014	684394.3	602842.1	7.1	135.0	6.1	128.9	12.1	105	95	32	Weldon WC Screenings		V5N
9	RF-07-06	4/21/2014	684394.8	602836.9	8.2	128.9	2.2	128.9	12.1	100	95	32	Weldon WC Screenings		V5N
	RF-08		684406.9	602771.1								36			
4	RF-08-01	4/3/2014	684421.7	602797.1	2.9	129.0	6.0	128.9	12.1	100	95	36	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-08-02	4/8/2014	684429.7	602790.1	4.0	124.9	3.0	128.9	12.1	97	95	36	Weldon WC Screenings		V5N
6	RF-08-03	4/15/2014	684439.0	602813.0	5.0	124.2	4.7	128.9	12.1	96	95	36	Weldon WC Screenings		V5N
7	RF-08-04	4/17/2014	684400.4	602773.4	6.1	137.0	5.6	128.9	12.1	106	95	36	Weldon WC Screenings		V5N
8	RF-08-05	4/21/2014	684429.8	602794.0	6.8	128.9	3.5	128.9	12.1	100	95	36	Weldon WC Screenings		V5N
9	RF-08-06	4/21/2014	684443.6	602550.4	8.0	122.5	6.9	128.9	12.1	95	95	36	Weldon WC Screenings		V5N
	RF-09		684479.9	602754.0								40			
3	RF-09-01	4/7/2014	684489.3	602750.3	0.8	128.7	6.8	128.9	12.1	100	95	40	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
4	RF-09-02	4/11/2014	684498.7	602757.9	2.1	122.4	3.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
5	RF-09-03	4/11/2014	684503.3	602770.3	3.2	129.3	8.5	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
6	RF-09-04	4/14/2014	684503.3	602770.3	4.1	128.9	5.7	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
7	RF-09-05	4/21/2014	684479.1	602753.1	5.4	128.9	5.3	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
8	RF-09-06	4/21/2014	684446.9	602799.1	6.4	123.0	2.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
9	RF-09-07	5/15/2014	684479.0	602751.5	6.9	124.5	4.4	128.9	12.1	97	95	40	Weldon WC Screenings		V5N
10	RF-09-08	5/19/2014	684494.7	602760.2	8.1	122.5	5.9	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
1	RF-10		684474.1	602682.1	0.2							44	Crushed Concrete	Bottom of excavation elevation	
2	RF-10		684474.1	602682.1								44	Type A Material	No compaction testing required	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
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JERSEY CITY, NEW JERSEY

3	RF-10-01	4/25/2014	684476.1	602679.3	2.5	138.0	1.4	128.9	12.1	107	95	44	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-10-02	5/8/2014	684445.5	602680.1	5.8	132.0	6.6	128.9	12.1	102	95	44	Weldon WC Screenings		V5N
5	RF-10-03	5/15/2014	684463.8	602677.8	7.1	124.1	4.2	128.9	12.1	96	95	44	Weldon WC Screenings		V5N
6	RF-10-04	5/19/2014	684466.2	602672.2	8.2	122.5	6.8	128.9	12.1	95	95	44	Weldon WC Screenings		V5N
2	RF-11		684545.0	602673.2								48	Type A Material	Placed on Tilcon MH DGA	
3	RF-11-01	4/11/2014	684533.0	602676.0	1.0	126.0	3.8	128.9	12.1	98	95	48	Weldon WC Screenings	Placed on Type A Material; Against HB wall	V5N
4	RF-11-02	4/11/2014	684575.1	602679.9	2.1	125.6	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
5	RF-11-03	4/14/2014	684575.1	602679.9	2.8	126.8	2.2	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
6	RF-11-04	4/17/2014	684579.8	602684.6	3.8	122.5	3.0	128.9	12.1	95	95	48	Weldon WC Screenings	Against HB wall	V5N
7	RF-11-05	4/17/2014	684585.7	602686.5	4.5	126.8	4.0	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
8	RF-11-06	5/15/2014	684569.9	602672.5	7.3	124.5	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
9	RF-11-07	5/19/2014	685562.2	602686.4	8.3	124.5	3.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
1	RF-12		684540.0	602601.3	0.3							51	Crushed Concrete	Bottom of excavation elevation	
2	RF-12		684540.0	602601.3								51	Type A Material	No compaction testing required	
3	RF-12-01	4/25/2014	684557.9	602605.6	2.3	130.2	2.2	128.9	12.1	101	95	51	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-12-02	5/6/2014	684516.3	602580.6	6.0	128.6	5.6	128.9	12.1	100	95	51	Weldon WC Screenings		V5N
5	RF-12-03	5/15/2014	684526.7	602594.1	7.3	124.8	3.9	128.9	12.1	97	95	51	Weldon WC Screenings		V5N
6	RF-12-04	5/20/2014	684522.6	602585.3	8.1	121.3	7.1	128.9	12.1	94	95	51	Weldon WC Screenings	Recompact lift	V5N
6	RF-12-04R	5/20/2014	684522.6	602585.3	8.1	122.0	5.9	128.9	12.1	95	95	51	Weldon WC Screenings	Second reading after re-rolling	V5N
1	RF-13		684610.2	602590.4	-2.3							54	Crushed Concrete	Bottom of excavation elevation	
2	RF-13		684610.2	602590.4								54	Type A Material	No compaction testing required	
3	RF-13-01	4/11/2014	684619.5	602515.3	1.6	126.5	7.8	128.9	12.1	98	95	54	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-13-02	4/14/2014	684619.5	602515.3	2.7	124.5	2.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
5	RF-13-03	4/17/2014	684641.5	602614.6	3.6	123.0	4.1	128.9	12.1	95	95	54	Weldon WC Screenings	Against HB	V5N
6	RF-13-04	4/17/2014	684646.7	602619.5	4.4	132.9	5.5	128.9	12.1	103	95	54	Weldon WC Screenings	Against HB	V5N
7	RF-13-05	5/15/2014	684640.0	602620.1	5.4	125.0	3.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
8	RF-13-06	5/15/2014	684613.8	602605.5	6.9	125.0	4.5	128.9	12.1	97	95	54	Weldon WC Screenings		V5N
9	RF-13-07	5/20/2014	684614.3	602606.0	7.8	121.3	8.0	128.9	12.1	94	95	54	Weldon WC Screenings	Top lift. Will retest prior to final restoration	V5N
1	RF-29		685049.3	601738.7	-4.3							117	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-29-01	7/16/2014	685064.7	601757.6	-2.9	131.7	3.5	135.8	6.4	97	95	117	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-29-02	7/22/2014	685068.9	601785.4	-0.8	125.0	3.4	128.9	12.1	97	95	117	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-29-03	7/28/2014	685071.0	601762.7	-0.1	122.5	7.7	128.9	12.1	95	95	117	Weldon WC Screenings	Placed on Type A Material	V5N
	RF-30		685179.4	601785.6	0.4							120			
2	RF-30-01	7/1/2014	685218.1	601814.2	2.0	122.0	7.5	128.9	12.1	95	95	120	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-30-02	7/25/2014	685216.3	601818.6	3.0	124.0	4.3	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
1	RF-31		685121.7	601682.3	-4.3								Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-31-01	7/22/2014	685126.3	601690.0	-2.2	126.3	3.4	128.9	6.4	98	95	123 (So)	Weldon WC Screenings		V5N
0	RF-32		684498.6	602739.4	-1.2							125	Stratum O	Bottom of excavation elevation	
1	RF-32-01	6/12/2014	685241.5	601740.7	0.0	134.0	1.3	135.8	6.4	99	95	125	Tilcon MH DGA		V5N
2	RF-32-02	7/16/2014	685227.6	601725.4	0.9	122.0	5.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
3	RF-32-03	7/16/2014	685239.4	601736.4	2.0	122.0	5.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
1	RF-33		685179.1719	601631.644	-7.5							128	Crushed Concrete	Bottom of excavation elevation	
2	RF-33-01	6/5/2014	685182.8	601626.5	-5.1	132.0	3.7	135.8	6.4	97	95	128	Tilcon MH DGA	Placed on concrete bridge lift	V5N
0	RF-34		685278.423	601673.304	-1.2							130	Stratum O	Bottom of excavation elevation	
1	RF-34-01	6/5/2014	685303.0	601691.1	0.3	132.0	3.6	135.8	6.4	97	95	130	Tilcon MH DGA		V5N
2	RF-34-02	6/24/2014	685298.9	601690.4	1.6	122.0	5.5	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
3	RF-34-03	6/27/2014	685295.5	601692.8	2.5	122.5	7.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
4	RF-34-04	7/16/2014	685293.1	601684.6	3.2	122.0	6.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
	RF-35		6852228.7	601575.4	2.1							133		Bottom of excavation elevation	
1	RF-35-01	7/16/2014	685219.7	601566.3	3.5	123.3	6.2	128.9	6.4	96	95	133	Weldon WC Screenings		V5N
2	RF-35-02	7/16/2014	685234.2	601582.4	4.3	124.9	4.9	128.9	6.4	97	95	133	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
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JERSEY CITY, NEW JERSEY

3	RF-35-03	7/25/2014	685238.5	601578.0	5.8	122.0	5.0	128.9	6.4	95	95	133	Weldon WC Screenings		V5N
0	RF-36		685334.4	601603.7	-1.2							136			
1	RF-36-01	6/24/2014	685349.2	601617.6	1.7	125.0	3.4	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
2	RF-36-02	6/27/2014	685330.9	601606.5	2.6	125.0	6.5	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
3	RF-36-03	6/27/2014	685339.9	601612.8	3.4	123.7	6.8	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
4	RF-36-04	7/16/2014	685343.2	601621.5	4.3	123.8	5.5	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
1	RF-37		685295.3	601495.2	-7.8							140 (So)	Crushed Concrete	Bottom of excavation elevation	
2	RF-37-01	5/15/2014	685286.1	601481.2	-5.1	132.0	2.5	135.8	6.4	97	95	140 (So)	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-37-02	5/21/2014	685294.5	601489.0	-4.2	122.5	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
4	RF-37-03	7/7/2014	685282.8	601485.7	4.5	128.9	6.1	128.9	12.1	100	95	140 (So)	Weldon WC Screenings	1st lift over Type A Material	V5N
0	RF-38		685399.1	601540.2	-1.2							142 (No)	Stratum O	Bottom of excavation elevation	
1	RF-38-01	5/9/2014	685391.8	601532.2	-0.2	124.6	2.5	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
2	RF-38-02	5/21/2014	685389.4	601534.3	0.2	122.5	5.6	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
3	RF-38-03	6/24/2014	685386.6	601538.7	4.0	125.0	3.4	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
4	RF-38-04	6/27/2014	685392.8	601538.8	5.3	124.0	6.0	128.9	12.1	96	95	142 (No)	Weldon WC Screenings		V5N
0	RF-39		685485.1	601397.7	3.8							153	Stratum O	Bottom of excavation elevation	
1	RF-39-01	5/5/2014	685451.1	601421.7	4.3	126.3	3.9	128.9	12.1	98	95	153	Weldon WC Screenings		V5N
2	RF-39-02	5/5/2014	685477.5	601397.7	5.6	123.3	4.1	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
3	RF-39-03	5/5/2014	685492.5	601460.8	6.4	123.8	7.4	128.9	12.1	96	95	153	Weldon WC Screenings		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

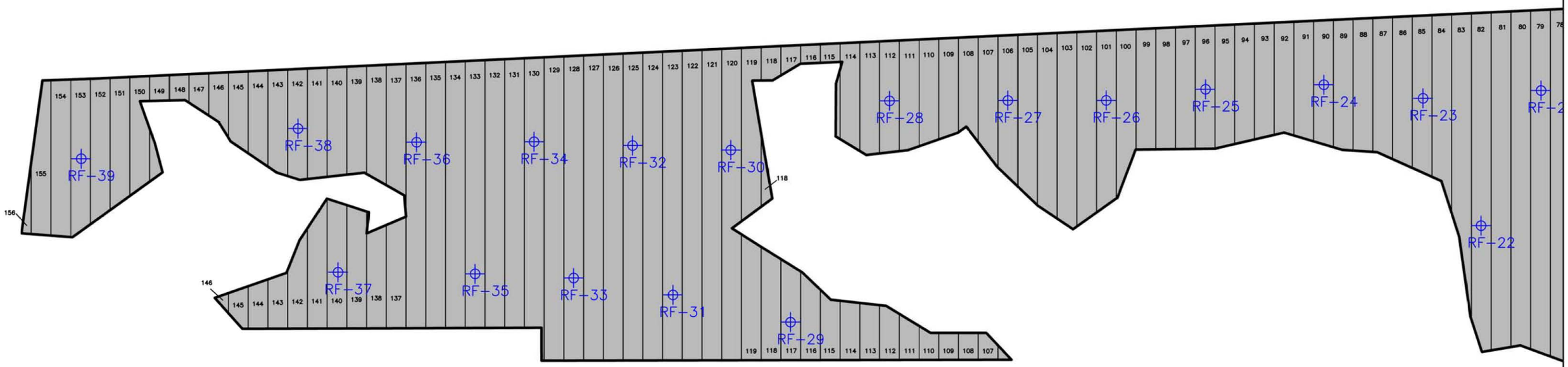
Sample ID RF-01-01 where:

RF = Reduced Frequency

01 = Test Location (as noted on Backfill Compaction Location Figure)

01 = Number of test performed at that location (sequential)

R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



NOTE:

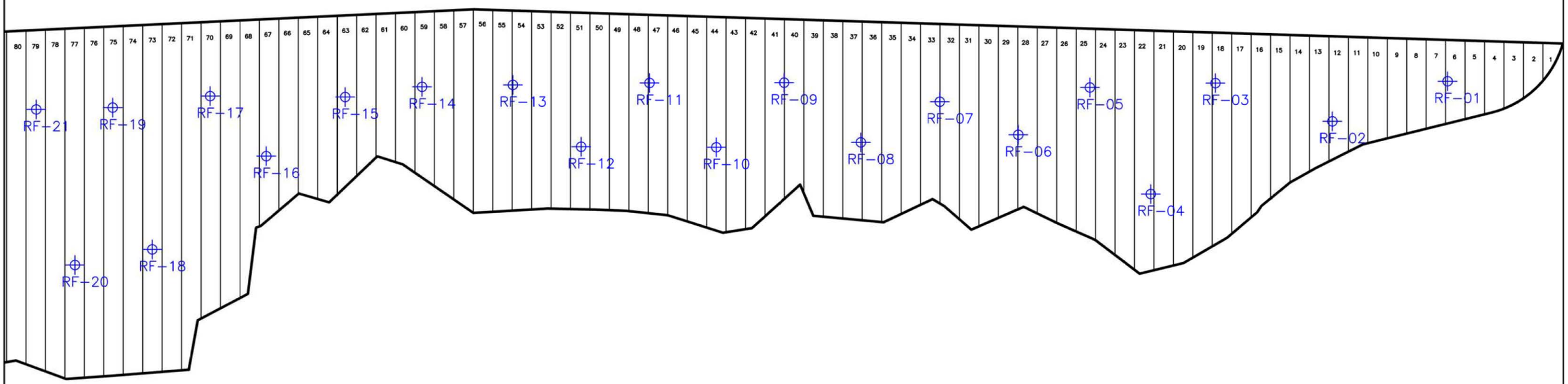
Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE
RF-22 TO RF-39

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS 5 TESTS PER ACRE

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

Attachment 4: Dewatering Operations Update

- SA-6 South Dewatering Data (Headers)
- SA-6 South Deep Well Data (DW-4)
- SA-6 South Deep Well Data (DW-5)

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) Daily	EXTRACTED VOLUME (Gal) Total	AVERAGE FLOW RATE (gpm)	COMMENTS
06/04/14	2	24	14, WPS-2	35	0	8,325	8,325	2,040,901	5.8	
06/05/14	2	24	14, WPS-2	35	8,325	13,042	4,717	2,045,618	3.3	
06/06/14	2	24	14, WPS-2	35	13,042	22,720	9,678	2,055,296	6.7	
06/09/14	2	72	14, WPS-2	35	22,720	41,093	18,373	2,073,669	4.3	
06/10/14	2	24	14, WPS-2	35	41,093	54,801	13,708	2,087,377	9.5	
06/11/14	2	24	14, WPS-2	35	54,801	61,975	7,174	2,094,551	5.0	
06/12/14	2	24	14, WPS-2	35	61,975	69,411	7,436	2,101,987	5.2	
06/13/14	2	24	14, WPS-2	35	69,411	75,445	6,034	2,108,021	4.2	
06/16/14	2	72	14, WPS-2	35	75,445	95,783	20,338	2,128,359	4.7	
06/17/14	2	24	14, WPS-2	35	95,783	102,708	6,925	2,135,284	4.8	
06/18/14	2	24	13,14, WPS-2	48	102,708	117,105	14,397	2,149,681	10.0	
06/19/14	2	24	13,14, WPS-2	48	117,105	131,389	14,284	2,163,965	9.9	
06/20/14	2	24	13,14, WPS-2	48	131,389	142,678	11,289	2,175,254	7.8	
06/23/14	2	72	13,14, WPS-2	48	142,678	172,492	29,814	2,205,068	6.9	
06/24/14	2	24	13,14, WPS-2	48	172,492	182,523	10,031	2,215,099	7.0	
06/25/14	2	24	13,14, WPS-2	48	182,523	191,134	8,611	2,223,710	6.0	
06/26/14	2	24	13,14, WPS-2	48	191,134	200,723	9,589	2,233,299	6.7	
06/27/14	2	24	13,14, WPS-2	48	200,723	212,575	11,852	2,245,151	8.2	
06/30/14	2	72	13,14, WPS-2	48	212,575	247,628	35,053	2,280,204	8.1	
07/01/14	2	24	13,14, WPS-2	48	247,628	259,680	12,052	2,292,256	8.4	
07/02/14	2	24	13,14, WPS-2	48	259,680	266,319	6,639	2,298,895	4.6	
03/13/00	2	24	13,14, WPS-2	48	266,319	270,103	3,784	2,302,679	2.6	
07/07/14	2	86	13,14, WPS-2	48	270,103	285,239	15,136	2,317,815	2.9	
07/08/14	2	24	13,14, WPS-2	45	285,239	288,158	2,919	2,320,734	2.0	
07/09/14	2	24	13,14, WPS-2	45	288,158	289,792	1,634	2,322,368	1.1	
07/10/14	2	24	13, WPS-2	27	289,792	292,235	2,443	2,324,811	1.7	
07/11/14	2	24	13, WPS-2	27	292,235	295,728	3,493	2,328,304	2.4	
07/14/14	2	72	13, WPS-2	27	295,728	306,209	10,481	2,338,785	2.4	
07/15/14	2	24	13, WPS-2	27	306,209	309,704	3,495	2,342,280	2.4	
07/16/14	2	24	13, WPS-2	27	309,704	311,299	1,595	2,343,875	1.1	
07/17/14	2	24	13, WPS-2	27	311,299	312,848	1,549	2,345,424	1.1	
07/18/14	2	24	13, WPS-2	27	312,848	313,958	1,110	2,346,534	0.8	
07/21/14	2	72	13, WPS-2	27	313,958	317,809	3,851	2,350,385	0.9	
07/22/14	2	24	13, WPS-2	27	317,809	318,844	1,035	2,351,420	0.7	
07/23/14	2	24	13, WPS-2	27	318,844	319,048	204	2,351,624	0.1	
07/24/14	2	24	13, WPS-2	22	319,048	319,062	14	2,351,638	0.0	
07/25/14	2	24	13, WPS-2	22	N/A	N/A	450	2,352,088	0.3	Flowmeter Blockage - Tank Measured
07/28/14	2	72	13, WPS-2	22	N/A	N/A	1,650	2,353,738	0.4	Flowmeter Blockage - Tank Measured
07/29/14	2	24	13, WPS-2	22	N/A	N/A	550	2,354,288	0.4	Flowmeter Blockage - Tank Measured
07/30/14	2	24	13, WPS-3	22	N/A	N/A	500	2,354,788	0.3	System Disabled or Relocation

Notes: Active Header Numbers refer to H-1, H-2, H-3, etc., as shown on Figure 6 Well Point Dewatering System
EPS - East Perimeter System
WPS - West Perimeter System

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-4)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
07/16/14	24	0	4,141	4,141	4,141	2.9	
07/17/14	24	4,141	8,184	4,043	8,184	2.8	
07/18/14	24	8,184	12,120	3,936	12,120	2.7	
07/21/14	72	0	16,253	16,253	28,373	3.8	Flowmeter Reset
07/22/14	24	16,253	19,898	3,645	32,018	2.5	
07/23/14	24	N/A	N/A	4,000	36,018	2.8	Flowmeter Blockage, Tank Measured
07/24/14	24	N/A	N/A	4,200	40,218	2.9	Pump Taken Offline for Excavation

Notes: DW-4 was activated on July 16, 2014.

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-5)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
05/30/14	24	4,322	8,634	4,312	148,321	3.0	
06/02/14	72	8,634	20,324	11,690	160,011	2.7	
06/03/14	24	20,324	33,537	13,213	173,224	9.2	
06/04/14	24	33,537	61,661	28,124	201,348	19.5	
06/05/14	24	61,661	83,362	21,701	223,049	15.1	
06/06/14	24	83,362	90,354	6,992	230,041	4.9	
06/09/14	72	90,354	116,742	26,388	256,429	6.1	
06/10/14	24	0	11,717	11,717	268,146	8.1	Flowmeter Reset
06/11/14	24	N/A	N/A	10,500	278,646	7.3	Flowmeter Blockage (Tank Measured)
06/12/14	24	N/A	N/A	11,200	289,846	7.8	Flowmeter Blockage (Tank Measured)
06/13/14	24	N/A	N/A	11,100	300,946	7.7	Flowmeter Blockage (Tank Measured)
06/16/14	72	N/A	N/A	34,500	335,446	8.0	Flowmeter Blockage (Tank Measured)
06/17/14	24	0	12,405	12,405	347,851	8.6	Flowmeter Reset
06/18/14	24	12,405	20,193	7,788	355,639	5.4	
06/19/14	24	N/A	N/A	9,200	364,839	6.4	Flowmeter Blockage (Tank Measured)
06/20/14	24	20,193	23,966	3,773	368,612	2.6	
06/23/14	72	23,966	30,285	6,319	374,931	1.5	
06/24/14	24	N/A	N/A	2,500	377,431	1.7	Flowmeter Blockage (Tank Measured)
06/25/14	24	N/A	N/A	5,000	382,431	3.5	Flowmeter Blockage (Tank Measured)
06/26/14	24	N/A	N/A	5,100	387,531	3.5	Flowmeter Blockage (Tank Measured)
06/27/14	24	0	6,090	6,090	393,621	4.2	Flowmeter Reset
06/30/14	72	6,090	24,309	18,219	411,840	4.2	
07/01/14	24	24,309	30,453	6,144	417,984	4.3	
07/02/14	24	30,453	40,122	9,669	427,653	6.7	
07/03/14	24	40,122	48,137	8,015	435,668	5.6	
07/07/14	86	48,137	80,200	32,063	467,731	6.2	
07/08/14	24	80,200	98,037	17,837	485,568	12.4	
07/09/14	24	98,037	98,557	520	486,088	0.4	
07/10/14	24	98,557	99,431	874	486,962	0.6	Well Taken Offline

Notes: Previous information is trunketed. Only last month and current month information is provided.

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
06/02/14	6:30	12,906.92	13,081.94	175,020	13,081,490	
06/04/14	7:00	13,081.94	13,233.54	151,600	13,233,090	PVSC Compliance Sample Collected
06/05/14	8:30	13,233.54	13,391.28	157,740	13,390,830	
06/06/14	8:00	13,391.28	13,444.66	53,380	13,444,210	
06/08/14	5:00	13,444.66	13,498.28	53,620	13,497,830	
06/09/14	6:15	13,498.28	13,667.07	168,790	13,666,620	
06/10/14	5:40	13,667.07	13,839.23	172,160	13,838,780	
06/11/14	4:50	13,839.23	13,952.75	113,520	13,952,300	
06/12/14	6:50	13,952.75	14,138.23	185,480	14,137,780	
06/13/14	13:15	14,138.23	14,296.51	158,280	14,296,060	
06/14/14	7:50	14,296.51	14,447.78	151,270	14,447,330	
06/16/14	8:20	14,447.78	14,602.88	155,100	14,602,430	
06/17/14	7:55	14,602.88	14,717.27	114,390	14,716,820	
06/18/14	8:00	14,717.27	14,832.09	114,820	14,831,640	
06/19/14	7:20	14,832.09	14,937.60	105,510	14,937,150	
06/20/14	8:20	14,937.60	15,083.23	145,630	15,082,780	
06/21/14	3:00	15,083.23	15,127.76	44,530	15,127,310	
06/23/14	7:50	15,127.76	15,294.76	167,000	15,294,310	
06/24/14	8:30	15,294.76	15,348.15	53,390	15,347,700	
06/25/14	8:15	15,348.15	15,452.33	104,180	15,451,880	
06/26/14	7:50	15,452.33	15,551.63	99,300	15,551,180	
06/27/14	7:45	15,551.63	15,616.53	64,900	15,616,080	
06/30/14	8:00	15,616.53	15,754.00	137,470	15,753,550	
07/02/14	8:30	15,754.00	15,879.17	125,170	15,878,720	PVSC Compliance Sample Collected
07/03/14	5:15	15,879.17	15,995.15	115,980	15,994,700	
07/04/14	7:15	15,995.15	16,174.96	179,810	16,174,510	
07/05/14	7:00	16,174.96	16,354.58	179,620	16,354,130	
07/06/14	5:55	16,354.58	16,443.35	88,770	16,442,900	
07/07/14	9:05	16,443.35	16,582.28	138,930	16,581,830	
07/08/14	8:05	16,582.28	16,719.12	136,840	16,718,670	
07/09/14	7:30	16,719.12	16,813.21	94,090	16,812,760	
07/10/14	7:15	16,813.21	16,861.07	47,860	16,860,620	
07/11/14	6:00	16,861.07	16,927.80	66,730	16,927,350	
07/14/14	7:35	17,039.50	17,039.50	111,700	17,039,050	
07/15/14	8:10	17,151.47	17,151.47	111,970	17,151,020	
07/16/14	7:30	17,151.47	17,277.51	126,040	17,277,060	
07/17/14	5:15	17,277.51	17,369.50	91,990	17,369,050	
07/18/14	7:45	17,369.50	17,470.26	100,760	17,469,810	
07/21/14	8:30	17,470.26	17,603.88	133,620	17,603,430	
07/22/14	8:00	17,603.88	17,697.76	93,880	17,697,310	
07/23/14	7:30	17,697.76	17,756.61	58,850	17,756,160	
07/24/14	7:30	17,756.61	17,794.18	37,570	17,793,730	
07/25/14	7:00	17,794.18	17,849.88	55,700	17,849,430	
07/28/14	8:00	17,849.88	17,964.12	114,240	17,963,670	
07/29/14	8:00	17,964.12	18,017.49	53,370	18,017,040	
07/30/14	7:50	18,017.49	18,060.14	42,650	18,059,690	

Notes: Previous information is trunketed. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

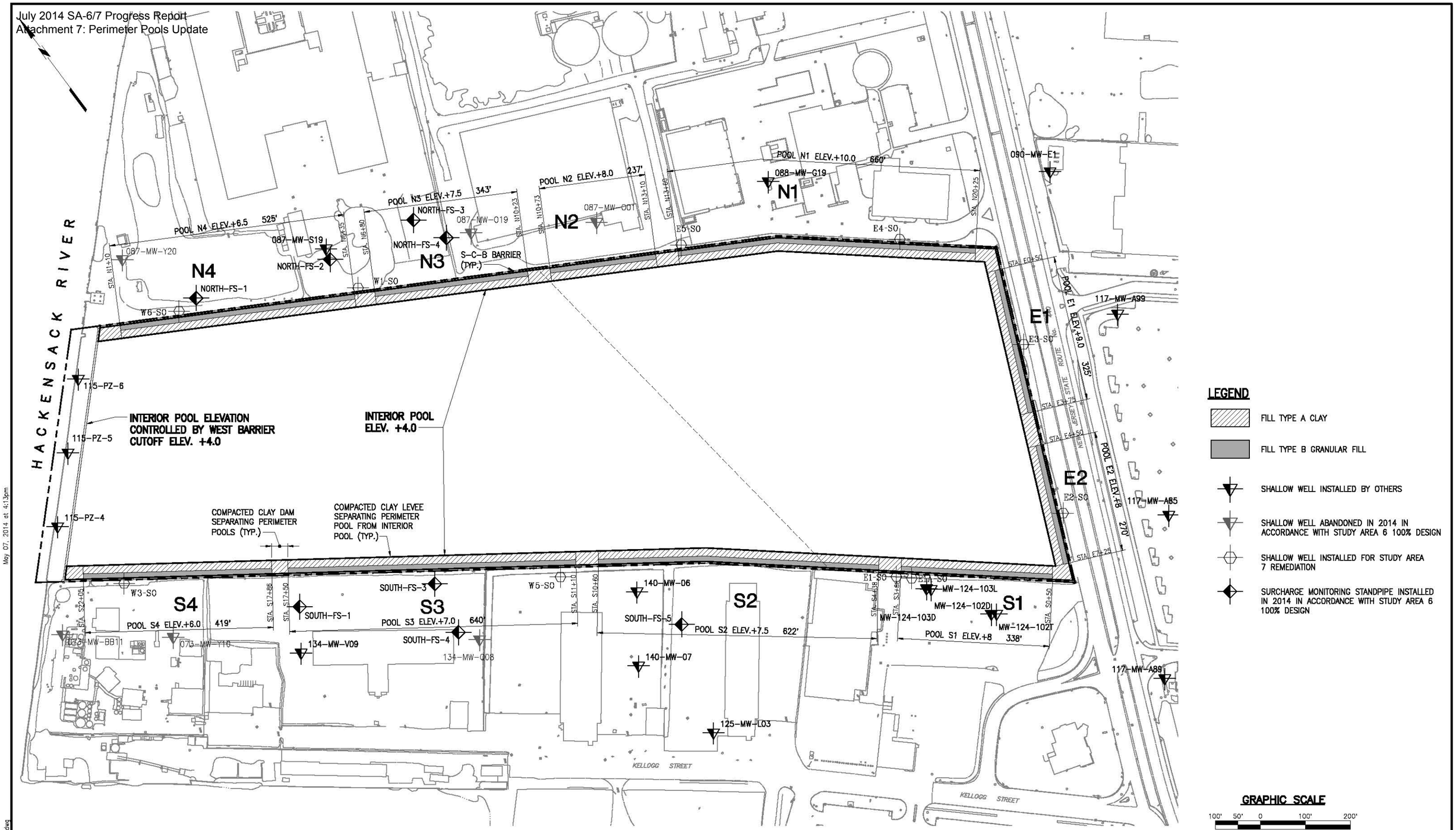
- Stockpiled Material Tracking and Sampling Log

SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
139-142B, 131-132A	<20	124-128-20-a	1000	124-128-20-a1	6/3/2014	10:45	32.4		Yes	
				124-128-20-a2	6/3/2014	10:50	38.4		Yes	
				124-128-20-a3	6/3/2014	10:55	17.0	Yes		
				124-128-20-a4	6/3/2014	11:00	45.1		Yes	
124-126	<20	124-126-20-a, b	1450	124-126-20-a1	6/13/2014	11:00	41.1		Yes	
				124-126-20-a2	6/13/2014	11:05	13.9	Yes		
				124-126-20-a3	6/13/2014	11:10	15.0	Yes		
				124-126-20-a4	6/13/2014	11:15	2.9	Yes		
				124-126-20-b1	6/13/2014	11:20	12.9	Yes		
				124-126-20-b2	6/13/2014	11:25	8.6	Yes		
				124-126-20-b3	6/13/2014	11:30	59.4		Yes	
				124-126-20-b4	6/13/2014	11:35	8.0	Yes		
119-124	<20	124-124-20-a, b	2000	124-124-20-a1	6/25/2014	6:40	11.2	Yes		
				124-124-20-a2	6/25/2014	6:45	14.6	Yes		
				124-124-20-a3	6/25/2014	6:50	12.2	Yes		
				124-124-20-a4	6/25/2014	6:55	8.0	Yes		
				124-124-20-b1	6/25/2014	7:00	19.4	Yes		
				124-124-20-b2	6/25/2014	7:05	4.8	Yes		
				124-124-20-b3	6/25/2014	7:10	2.1	Yes		
				124-124-20-b4	6/25/2014	7:15	10.5	Yes		
119-125	>1000	124-125-1000-a	550	124-125-1000-a1	6/25/2014	6:15	42.1		Yes	
				124-125-1000-a2	6/25/2014	6:20	652.0		Yes	
				124-125-1000-a3	6/25/2014	6:25	346.0		Yes	
				124-125-1000-a4	6/25/2014	6:30	400.0		Yes	
115-119	<20	124-119-20-a	1000	124-119-20-a1	6/27/2014	13:00	9.6	Yes		
				124-119-20-a2	6/27/2014	13:05	7.8	Yes		
				124-119-20-a3	6/27/2014	13:10	6.0	Yes		
				124-119-20-a4	6/27/2014	13:15	28.8		Yes	
110-118	<20	124-118-20-a	1000	124-118-20-a1	7/9/2014	13:00	20.3		Yes	
				124-118-20-a2	7/9/2014	13:05	19.7	Yes		
				124-118-20-a3	7/9/2014	13:10	37.1		Yes	
				124-118-20-a4	7/9/2014	13:15	61.1		Yes	

Notes:
*Material currently stockpiled. Pending final placement.
**Waiting on results from the laboratory.

Attachment 7: Perimeter Pools Update



IN PROGRESS

05-07-2014

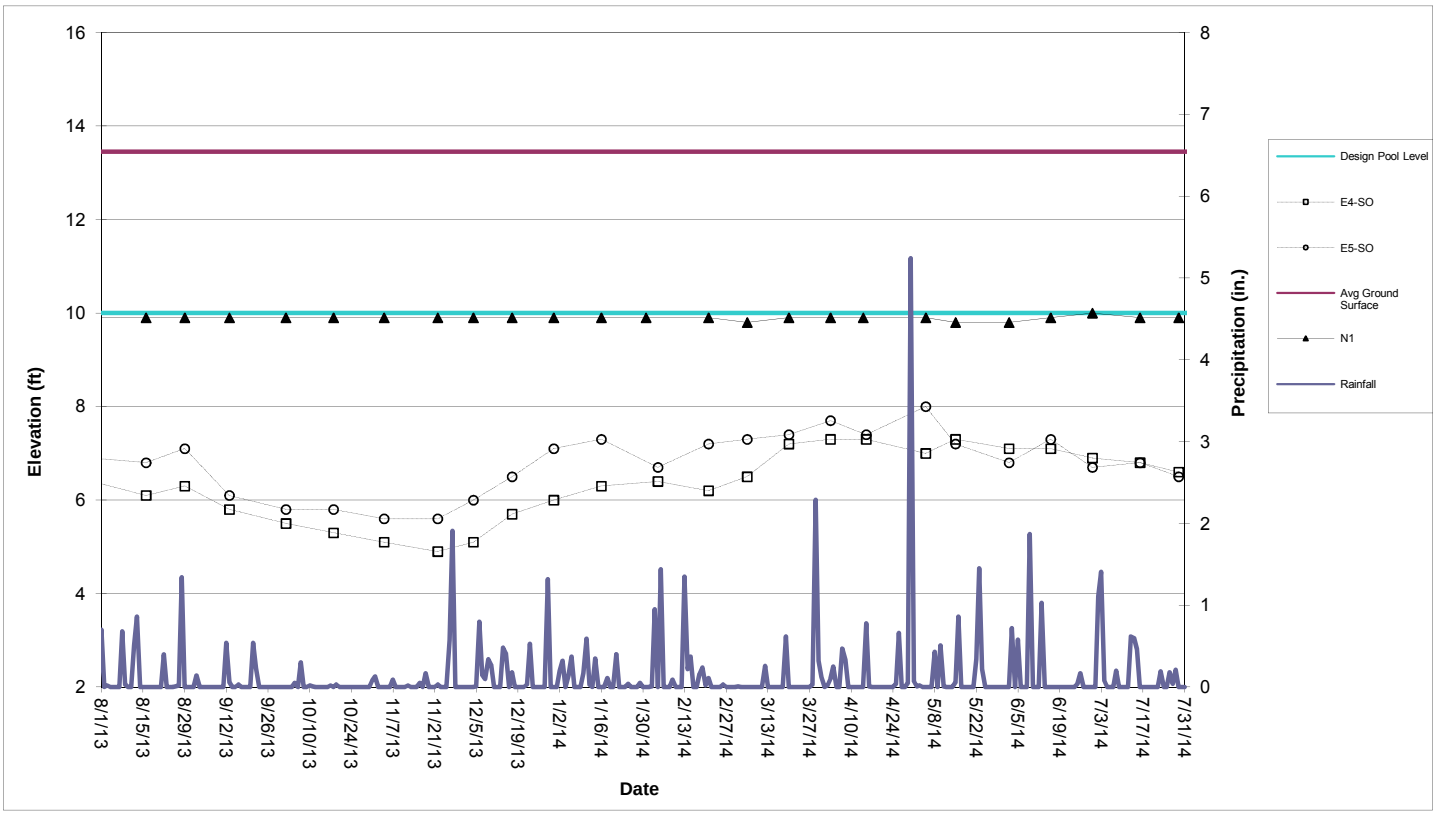
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

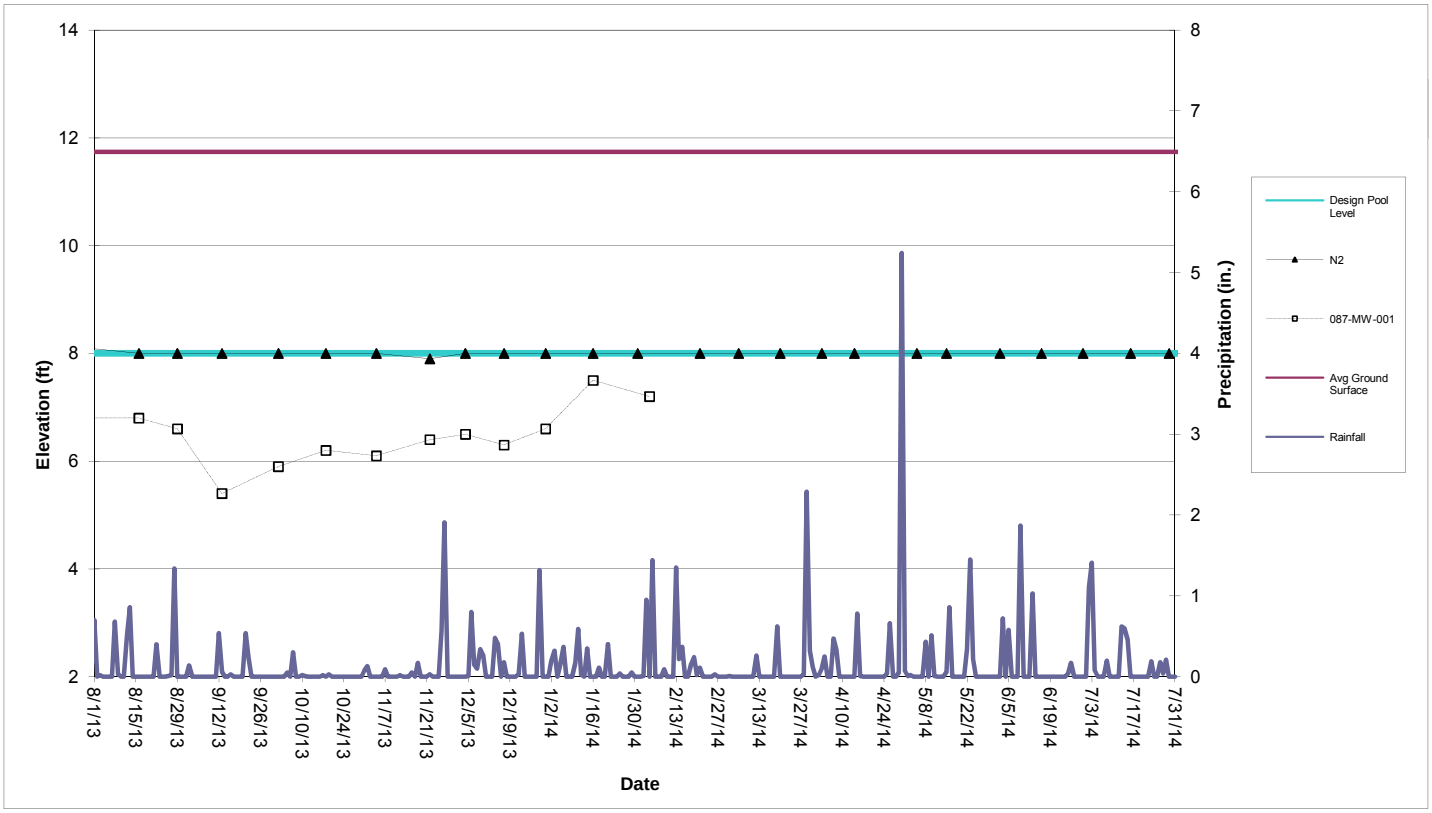
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP–1

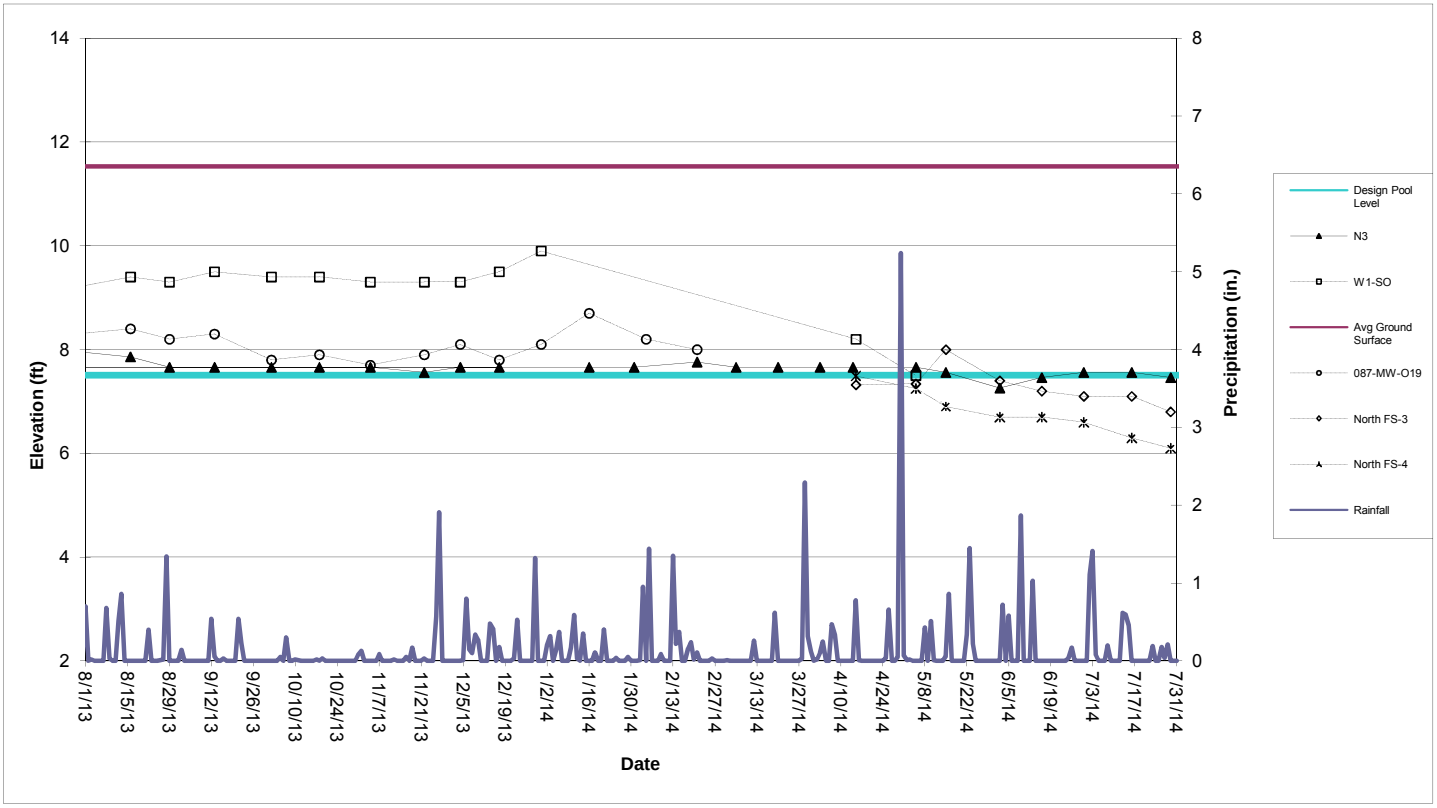
May 07, 2014 at 4:13pm
G:\DWGS\102\10210\Dewatering\PP-1.dwg
bboscaino



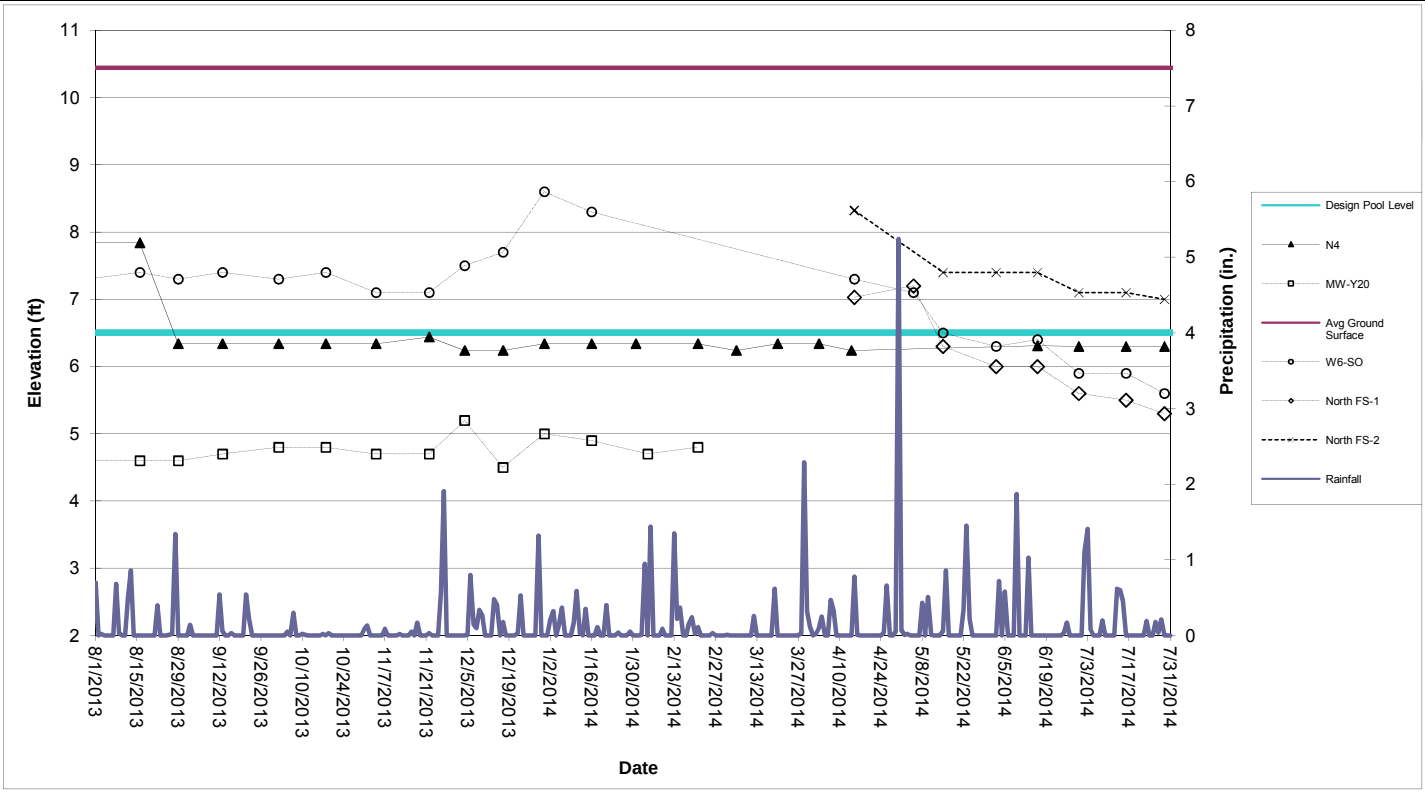
Perimeter Pool N1 (Sta. N13+60 to N20+25)



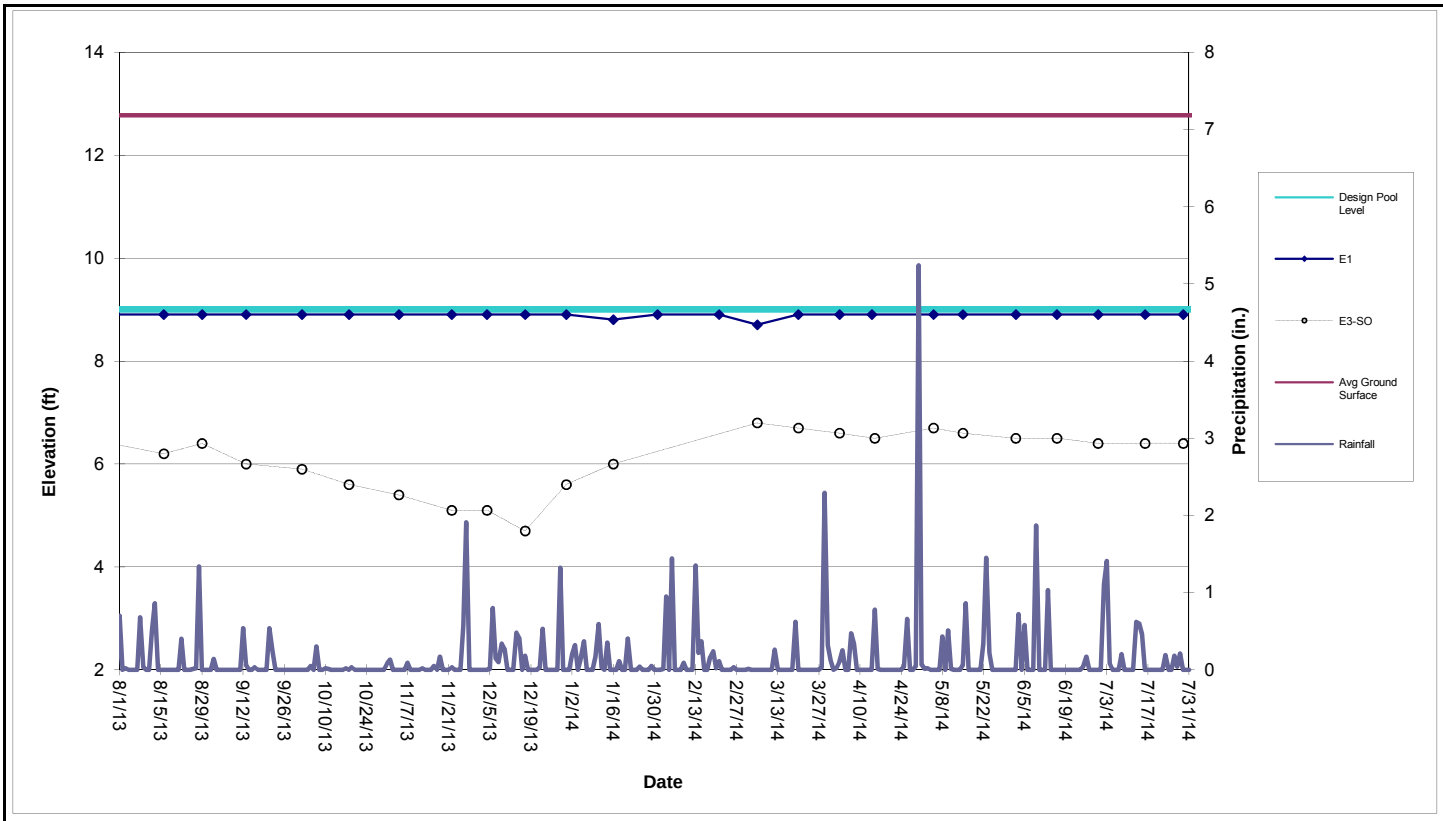
Perimeter Pool N2 (Sta. N10+73 to N13+10)



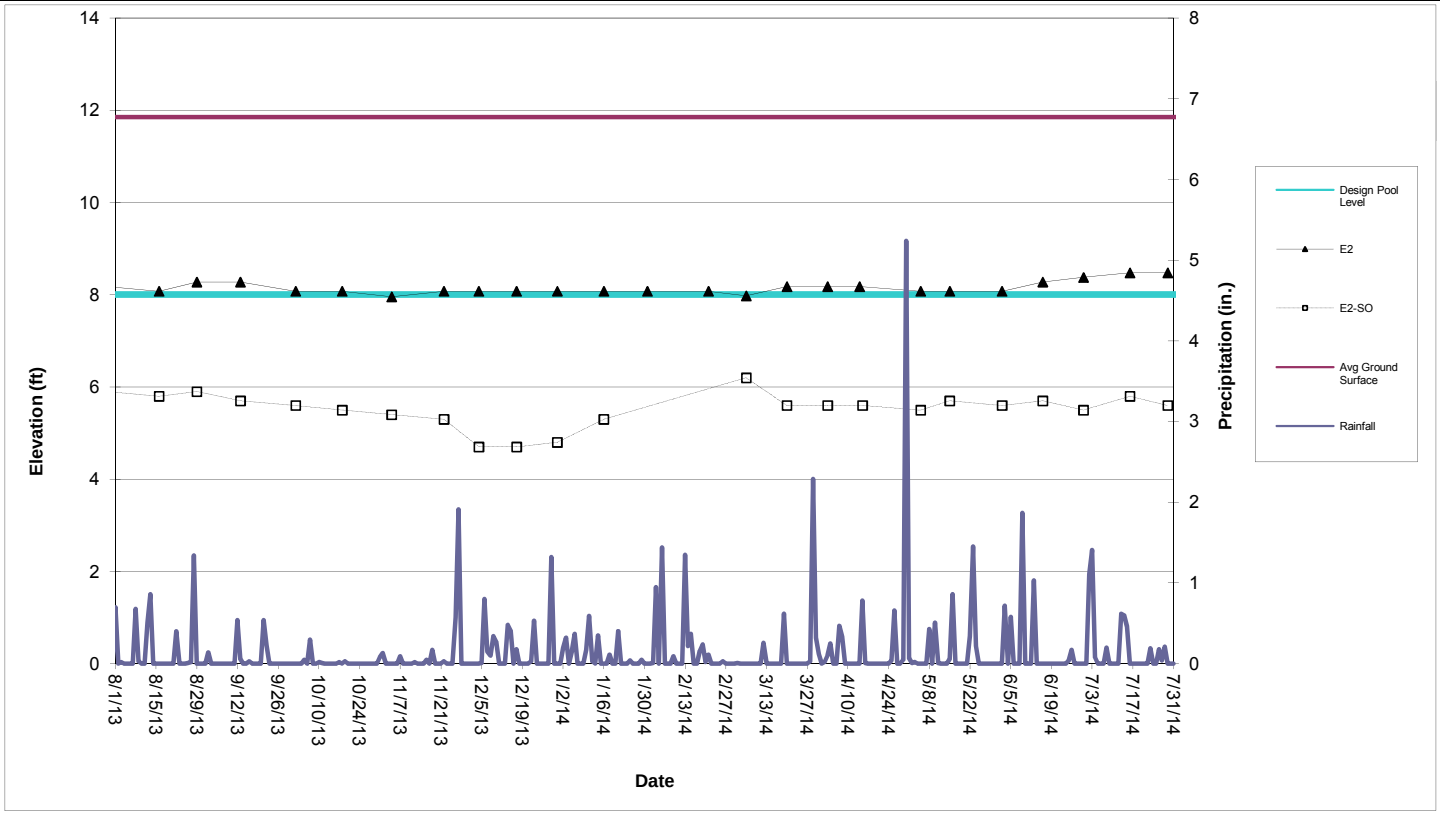
Perimeter Pool N3 (Sta. N6+80 to N10+23)



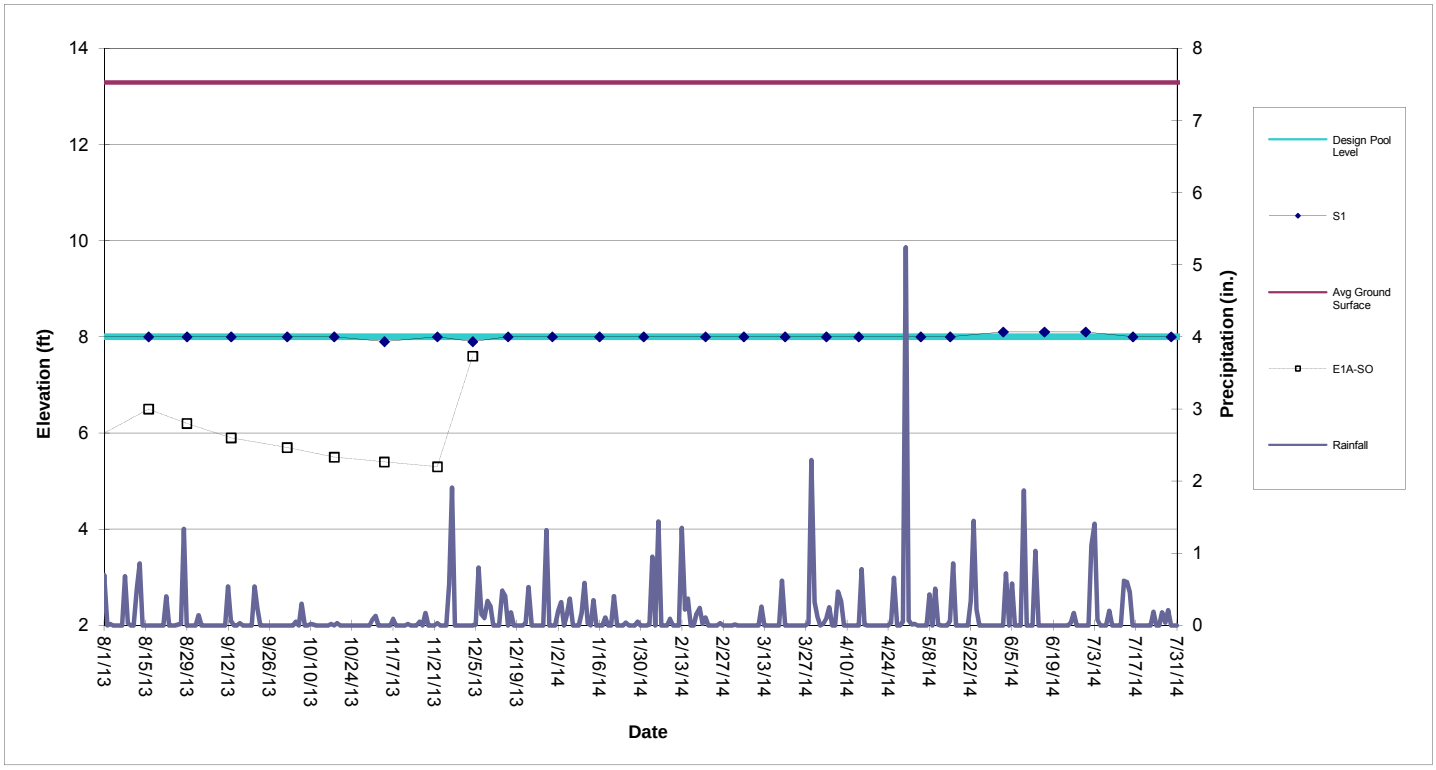
Perimeter Pool N4 (Sta. N6+80 to N10+23)



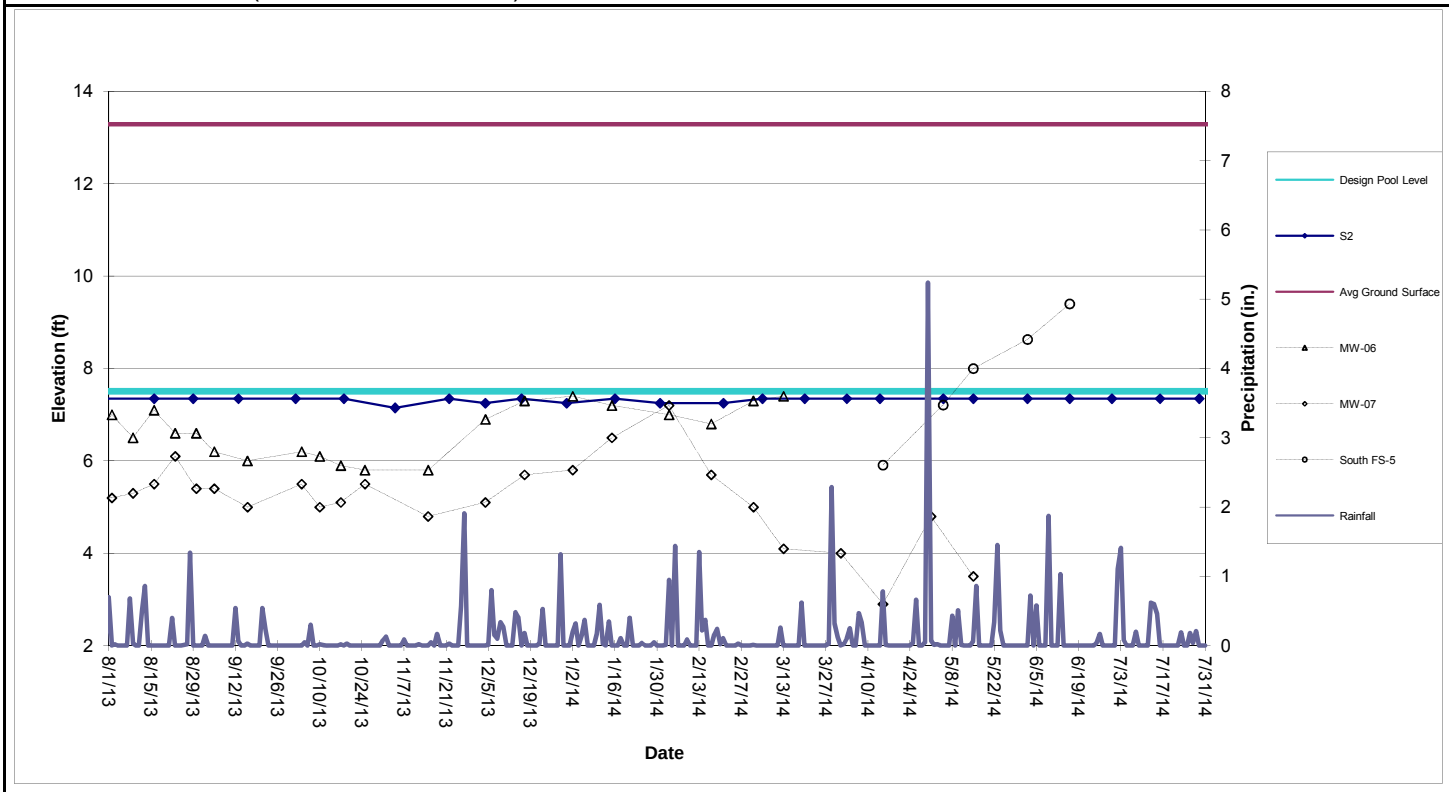
Perimeter Pool E1 (Sta. E0+50 to E3+75)



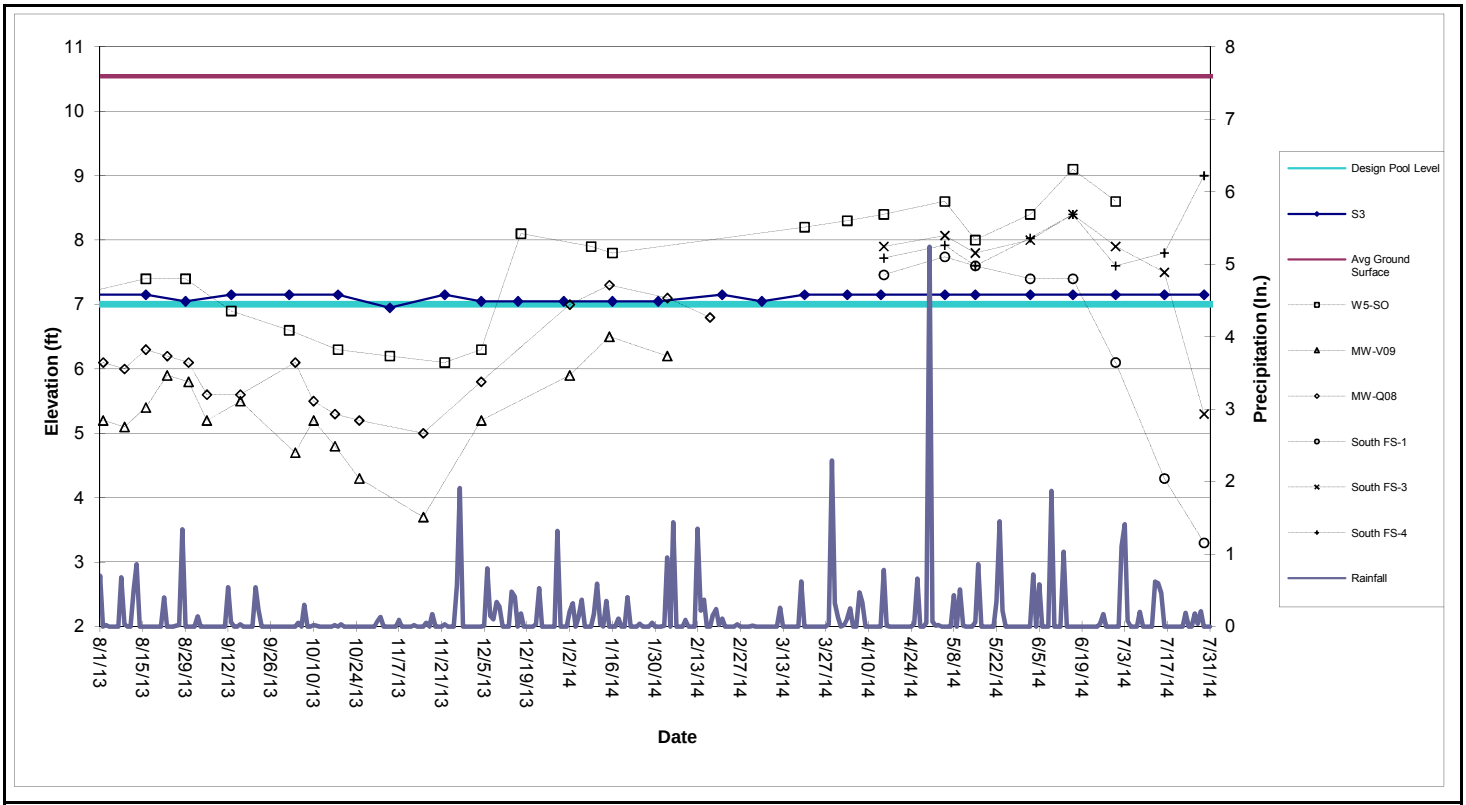
Perimeter Pool E2 (Sta. E4+50 to E7+25)



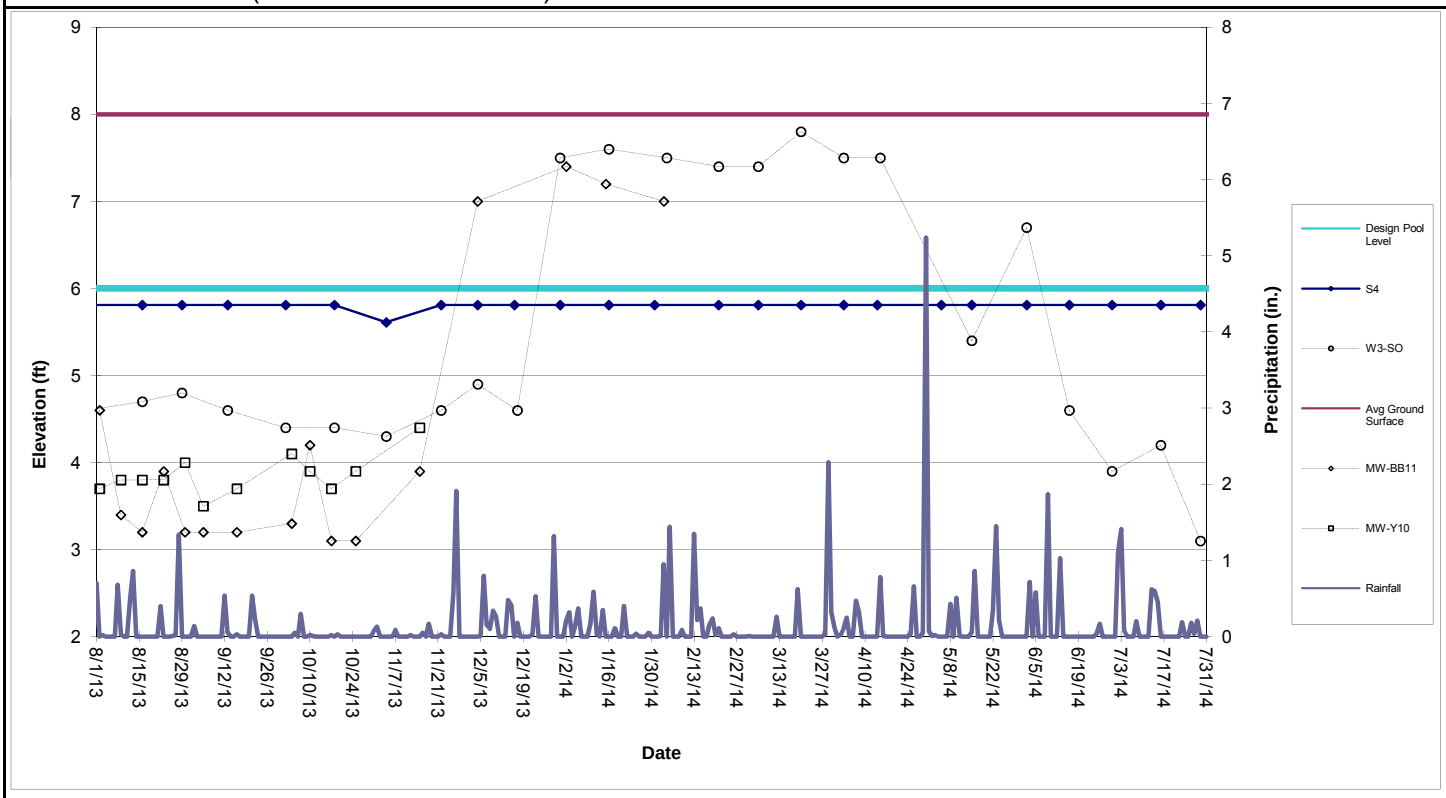
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										134-	140-		North				South			
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	MW-V09	MW-06	MW-07	FS-1	FS-2	FS-3	FS-4	FS-1	FS-3	FS-4	FS-5
Date																				
3/3/2014											7.3	5.0								
3/6/2014		6.2	6.8	6.5	7.3		7.4													
3/13/2014											7.4	4.1								
3/20/2014		5.6	6.7	7.2	7.4		7.8	8.2												
4/1/2014												4.0								
4/3/2014		5.6	6.6	7.3	7.7		7.5	8.3												
4/15/2014		5.6	6.5	7.3	7.4	8.2	7.5	8.4	7.3			2.9	7.0	8.3	7.3	7.5	7.5	7.9	7.7	5.9
5/1/2014												4.8								
5/5/2014		5.5	6.7	7.0	8.0	7.5		8.6	7.1				7.2		7.3	7.3	7.7	8.1	7.9	7.2
5/15/2014		5.7	6.6	7.3	7.2		5.4	8.0	6.5			3.5	6.3	7.4	8.0	6.9	7.6	7.8	7.6	8.0
6/2/2014		5.6	6.5	7.1	6.8		6.7	8.4	6.3				6.0	7.4	7.4	6.7	7.4	8.0	8.0	8.6
6/16/2014		5.7	6.5	7.1	7.3		4.6	9.1	6.4				6.0	7.4	7.2	6.7	7.4	8.4	8.4	9.4
6/30/2014		5.5	6.4	6.9	6.7		3.9	8.6	5.9				5.6	7.1	7.1	6.6	6.1	7.9	7.6	
7/16/2014		5.8	6.4	6.8	6.8		4.2		5.9				5.5	7.1	7.1	6.3	4.3	7.5	7.8	
7/29/2014		5.6	6.4	6.6	6.5		3.1		5.6				5.3	7.0	6.8	6.1	3.3	5.3	9.0	

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells are temporarily inaccessible:
134-MW-V09, E1A-SO, W1-SO, W5-SO, South FS-5

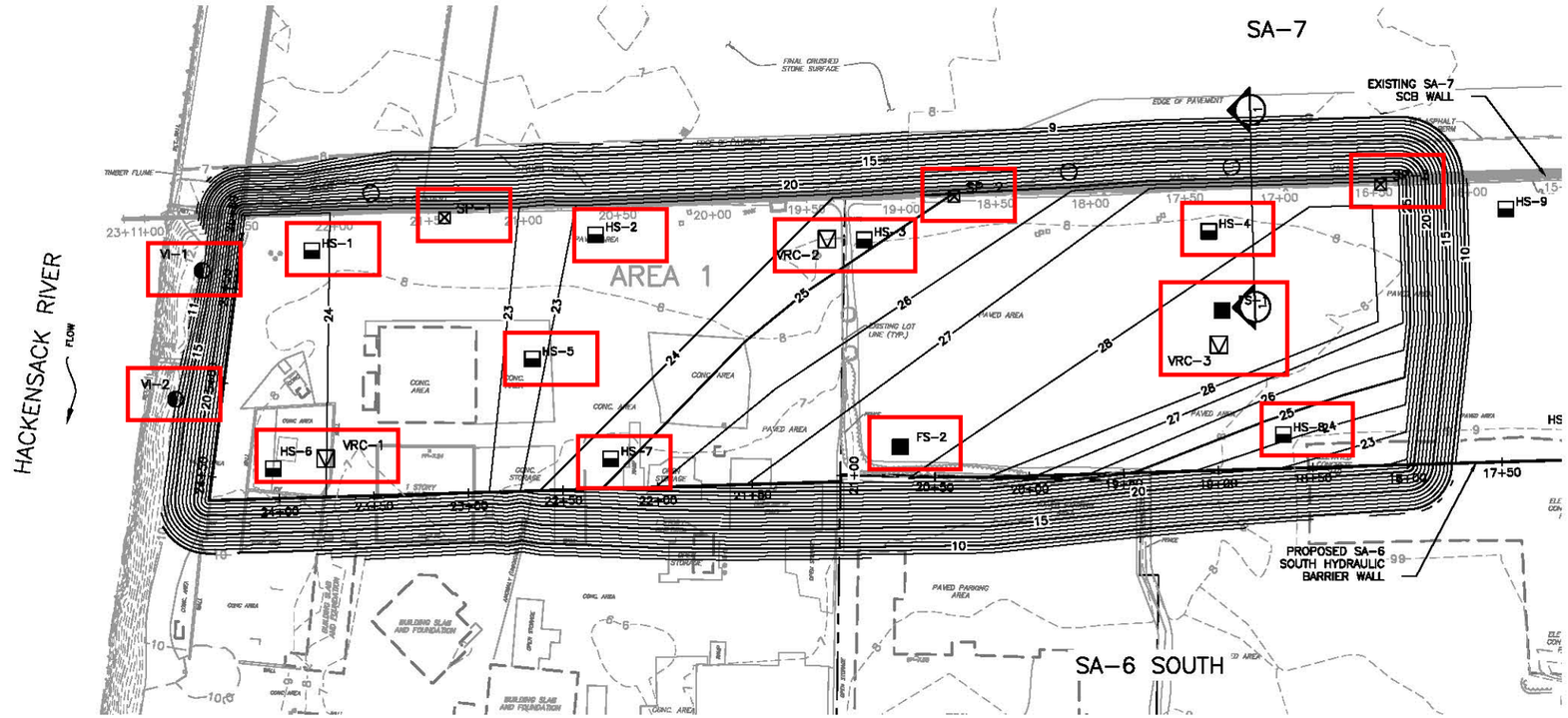
Attachment 8: Quality and Level Data in GWET Wells

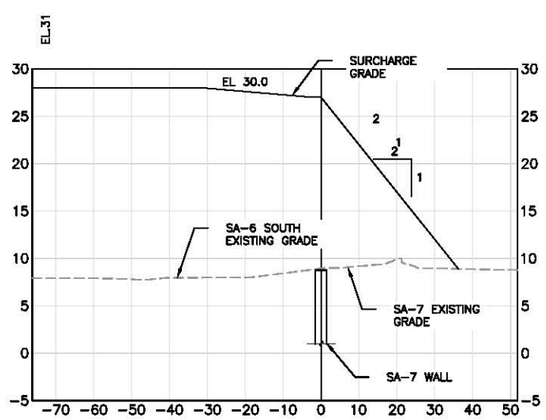
(not available as of this report date - provided on a quarterly basis)

- Summary of Groundwater Quality Data from GWET Wells
- Trichloroethene//Chloroform/Hexavalent Chromium in GWET Wells

Attachment 9: Surcharge Monitoring Update

- Instrumentation Location Plan 1S





SECTION A–A

SETTELMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
FS–1	685276.02	601927.05
FS–2	685323.86	601748.51
HS–1	685597.02	601567.16
HS–2	685511.42	601690.72
HS–3	685421.98	601800.88
HS–4	685313.18	601947.19
HS–5	685480.23	601623.90
HS–6	685518.78	601480.25
HS–7	685413.06	601624.11
HS–8	685204.27	601911.97
VI–1	685624.44	601515.06
VI–2	685578.58	601462.08
VRC–1	685505.92	601505.39
VRC–2	685434.27	601785.68
VRC–3	685262.85	601914.43
SP–1	685567.71	601633.29
SP–2	685410.62	601852.31
SP–3	685276.93	602033.96

Installed Instrumentation Locations

Instrumentation Locations Not Installed

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA–7 FENCE AND SA–7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. COMMENCE FILL AT THE HACKENSACK RIVER AND WORK EAST TOWARD ROUTE 440.
4. LOCATION OF SA–7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.
5. AFTER COMPLETION OF AREAS 1 AND 3 SURCHARGE LOADING, REMAINING FILL FROM THESE AREAS WILL BE COMBINED TO FORM THE SURCHARGE AREA 2.

VI–2 INCLINOMETER LOCATION
FS–1–1 SETTLEMENT MONITORING POINT FULL – SET UP
HS–1–1 SETTLEMENT MONITORING POINT HALF – SET UP
SP12 SETTLEMENT MONITORING PLATFORM
RP APPROXIMATE LOCATION OF SA–7 PERIMETER POOL RISER PIPE (SEE NOTE 7)
VRC1 VIBRATING WIRE PIEZOMETER IN STRATUM RC

0 20 40 80
SCALE IN FEET

Prepared/Date: RJR 07/19/13
Checked/Date: AE 07/19/13

Honeywell
101 COLUMBIA RD. BOX 2108
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

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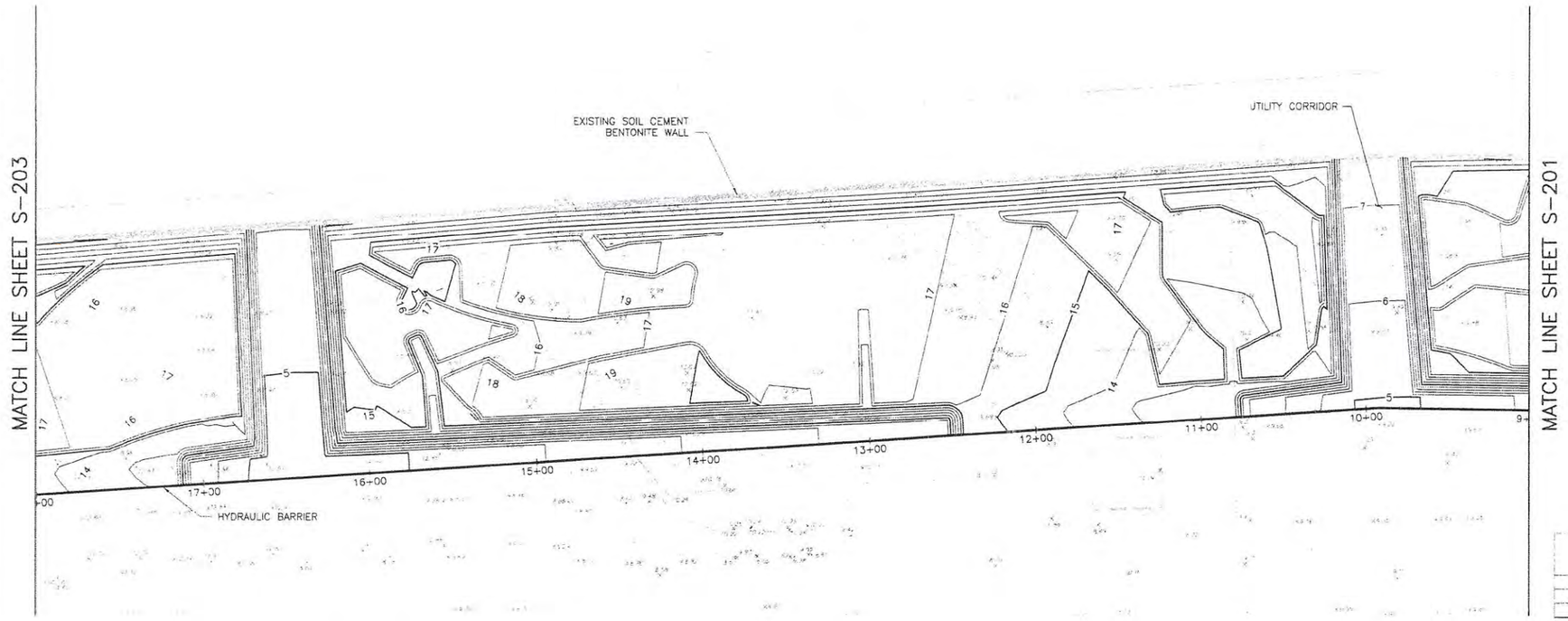
INSTRUMENTATION LOCATION PLAN 1S

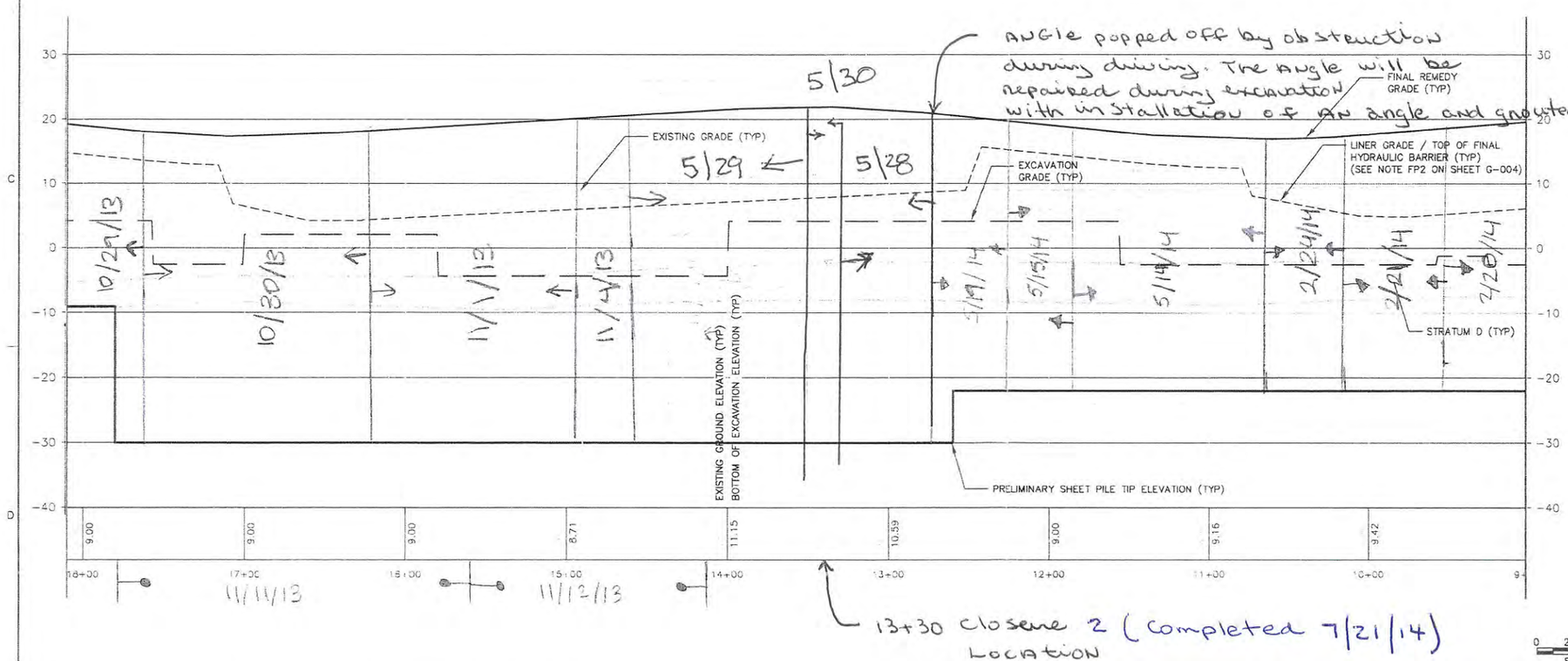
Figure F1

Attachment 10: Sheet Pile Update

- Hydraulic Barrier Wall Plan & Profile
- Sheet Deflection Along Open Excavation
- Sheet Monitoring Locations
- Sheet Pile Repair Log



HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	5+00	12+60	-22	AZ 19-700
STRUCTURAL	12+60	17+80	-30	AZ 19-700
STRUCTURAL	17+80	19+00	-9	AZ 19-700



NOTES:

1. REFER TO SHEET GN-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FUTURE UTILITIES WILL REQUIRE WALL PENETRATIONS AT THESE TWO LOCATIONS.
4. REFER TO SHEET G-003, NOTE HB19 AND DETAIL "BE" ON SHEET C-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

SCALE IN FEET (0 20 40 80) HORIZONTAL SCALE: 1" = 40'

SCALE IN FEET (0 5 10 20) VERTICAL SCALE: 1" = 10'

STEPHEN H MITCHELL
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE04322400

NO.	DATE	DSGN	DR	TDD	RJR	CHK	TDD	APVD	TDD	BY	APVD	SHM	SHM
0	06/07/13												

REVISION

ISSUED FOR CONSTRUCTION

Honeywell
101 COLUMBIA RD BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 153
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
HYDRAULIC BARRIER
PLAN & PROFILE

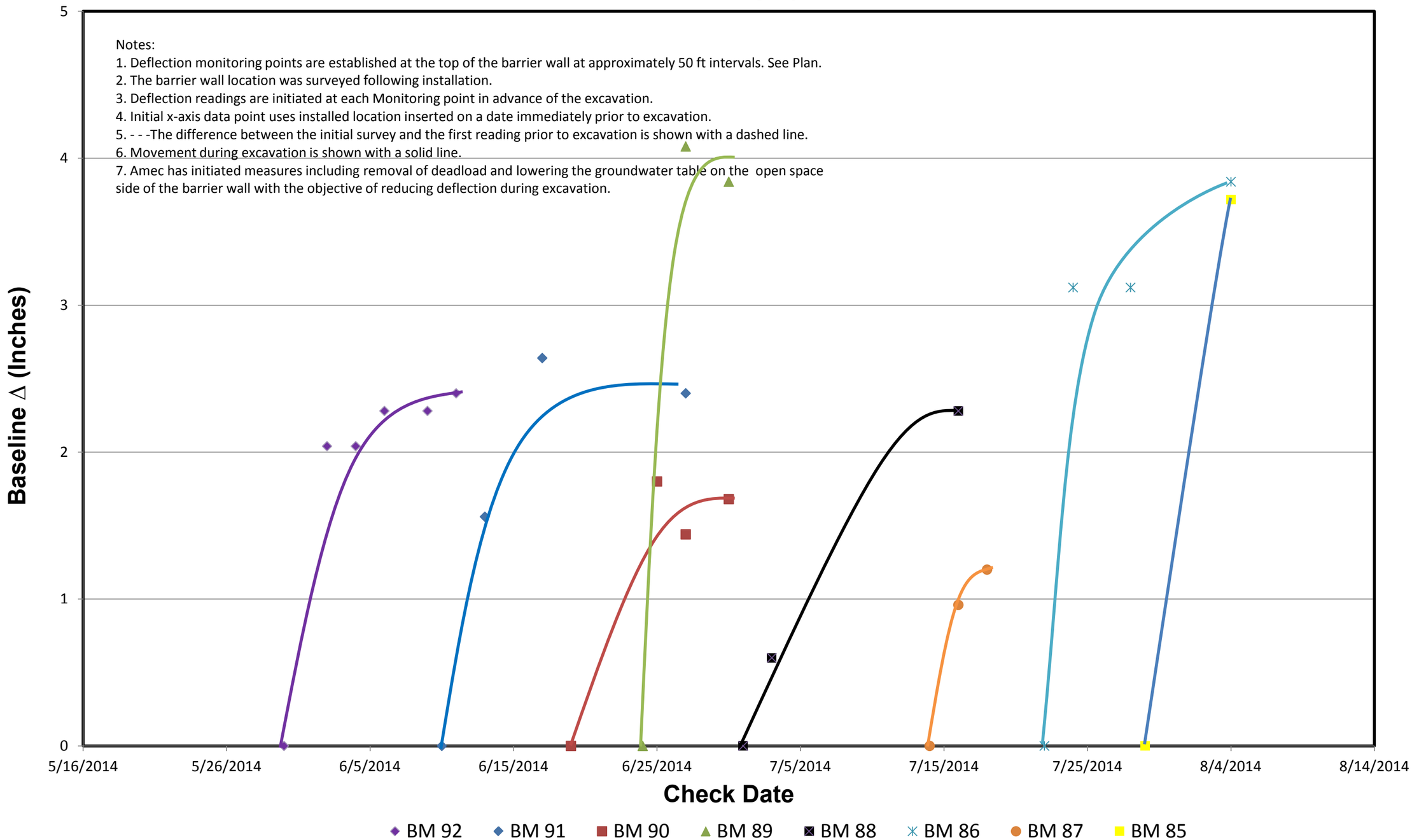
amec
Environment & Infrastructure, Inc
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28019300

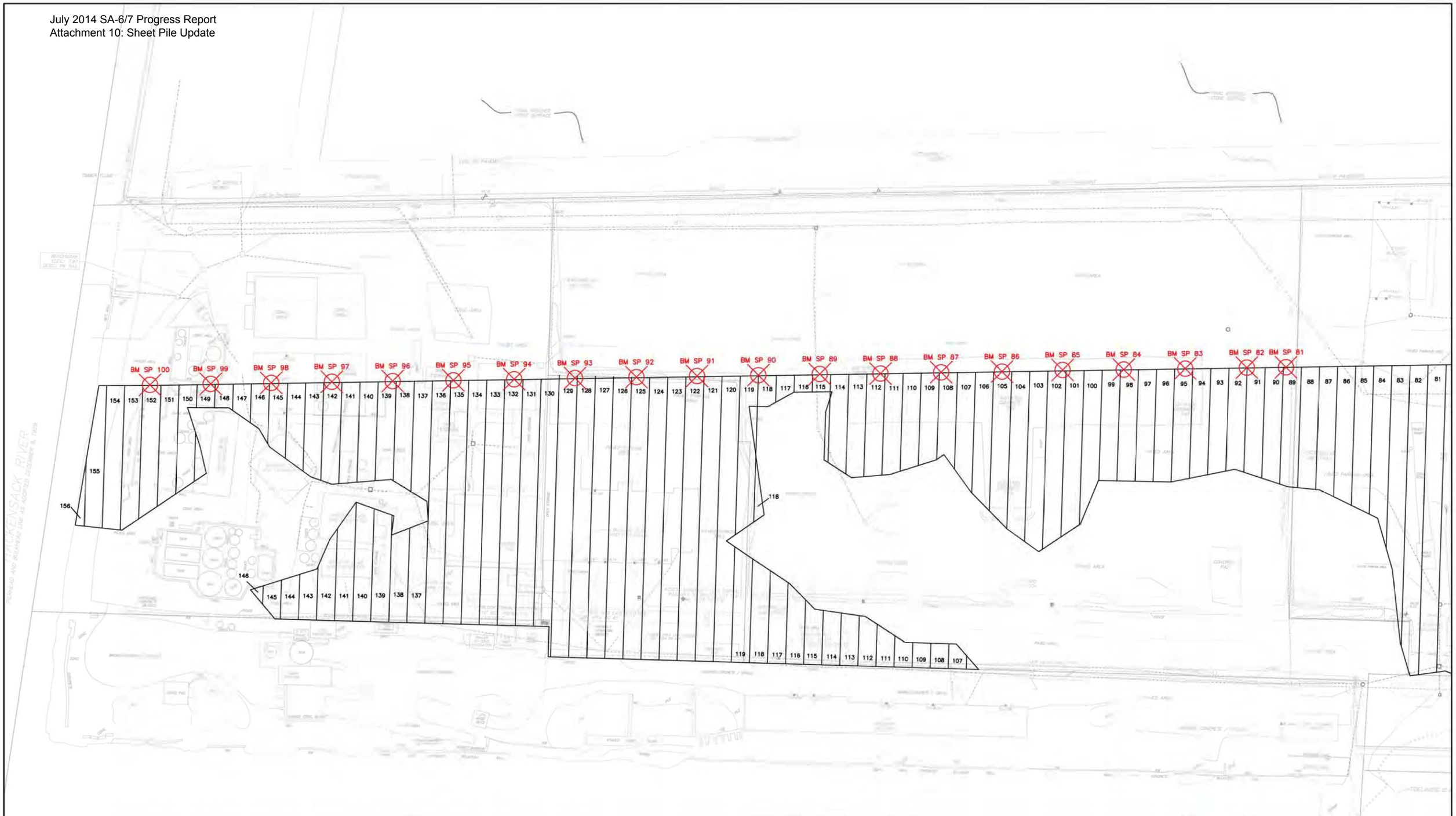
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	S-202
SHEET	54 OF 66

THIS DRAWING IS THE PROPERTY OF AMEC, INC. LIKING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING IN WHOLE OR PART, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

Sheet Deflection Along Open Excavation





NOTES:

- Survey data collected with Trimble SPS882 and TSC2 Data Collector.
- Horizontal accuracy of 0.026 ft.
- Deflection measured at the top of the sheet.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SHEET MONITORING LOCATIONS 03-20-14

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

amec

SHEET PILE REPAIR LOG*

Sheet Number/DB ID: 17P1-8

Entact ID:

Date Exposed: 6/27/14

Describe Damage:
(7) scrapes by Cat 349E excavator bucket - 1/2x4", 1/2"Ø, 1/2x8", 1"Ø, 1x3", 1/2x5", 1/4"x2" - (Cell 114)

Damage Location (ft below top of sheet, inboard side outboard side):
9-15' outboard

Date Repaired: 7/2/14

Inspected by: Brian Shea

Describe Repair: Pressure washed, wire brushed, epoxy applied w/ 4" Paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 7/2/14

* A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG*

Sheet Number/DB ID: 17P1-9

Entact ID:

Date Exposed: 6/27/14

Describe Damage:
(28) Scrapes by cat 349E excavator bucket - 1"x14", 1/2x10", 1"x24", 2-1"Ø, 1/2x10", 3"Ø, 2"x6", 1/4x1", 5x14", 1"x6", 1x8", 1x3", 15-1"Ø - Cell 114

Damage Location (ft below top of sheet, inboard side outboard side):
9-16' outboard

Date Repaired: 7/2/14

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, epoxy applied w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 7/2/14

* A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG*

Sheet Number/DB ID: 17P1-10

Entact ID:

Date Exposed: 6/27/14

Describe Damage:
(2) scrapes by the Cat 349E excavator bucket - 2"Ø, 2x4" (Cell 114)

Damage Location (ft below top of sheet, inboard side outboard side):
11-13' outboard

Date Repaired: 7/2/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 7/2/14

* A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG*

Sheet Number/DB ID: 17P1-11

Entact ID:

Date Exposed: 6/27/14

Describe Damage:
(1) scrape by the Cat 349E excavator bucket - Cell 113 - 84" scrape

Note: Sheet is covered w/ hardened grout from elv. 10.0' to the BOE.

Damage Location (ft below top of sheet, inboard side outboard side):
9'-16' outboard

Date Repaired: 7/2/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 7/2/14

* A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P2-1

Entact ID:

Date Exposed: 6/27/14

Describe Damage:
(4) scrapes by Cat 349E excavator bucket - 1x30", 1/2x6", 2"Ø, 1/2x10" (Cell 113)

Note: Sheet is covered w/ hardened grout from elv. 8.0' to the BoE.

Damage Location (ft below top of sheet, inboard side outboard side):
10' - 7' outboard

Date Repaired: 7/2/14

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 7/2/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P2-3

Entact ID:

Date Exposed: 7/2/14

Describe Damage:
(3) Scrapes by the Cat 349E excavator - 1x48", 1"Ø, 1x6". Cell 113/112.

Note: Sheet is covered w/ hardened grout from elv. 5.0' - 0.0'.

Damage Location (ft below top of sheet, inboard side outboard side):
7'-15' outboard

Date Repaired: 7/7/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 7/7/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P2-4

Entact ID:

Date Exposed: 7/2/14

Describe Damage:
(8) scrapes by the Cat 349E excavator bucket - 2"Ø, 1x3", 1"Ø, 1/2"Ø, 1x12", (2) 1/2x3", 2x4". Cell 112.

Note: Sheet is covered w/ hardened grout from elv. 8.0' to elv. 0.0 (BoE).

Damage Location (ft below top of sheet, inboard side outboard side):
10-15' outboard

Date Repaired: 7/7/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 7/7/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P2-5

Entact ID:

Date Exposed: 7/2/14

Describe Damage:
(6) scrapes by the Cat 349E Excavator bucket - 3"Ø, 1"x18", 1"Ø, 1/2"x10", 1"Ø, 1x4". Cell 112

Note: Sheet is covered w/ hardened grout from elv. 8.0 to the BoE.

Damage Location (ft below top of sheet, inboard side outboard side):
10-13' outboard

Date Repaired: 7/7/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 7/9/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 17P2-6

Entact ID:

Date Exposed: 7/2/14

Describe Damage: (10) scrapes by the cat 349E excavator bucket - (4) 1"Ø, 1x6", (3) 1/2"Ø, 1/2x14", 2"Ø. Cell 112. Note: sheet covered by hardened grout from elv. 6.0' to the BOE.

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 7/9/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure AMEC Signature: BShea

Date 7/9/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 17P2-7

Entact ID:

Date Exposed: 7/7/14

Describe Damage: (12) scrapes by the Cat 349E excavator bucket - (6) 1/2"Ø, 1/2"x12", 1x3", (2) 1"Ø, 1x2", 4"Ø - Cell 111. Note: Sheet is covered by hardened grout from elv. 5.0' to 1.0'.

Damage Location (ft below top of sheet, inboard side outboard side): 11-15' outboard

Date Repaired: 7/9/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 7/9/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 17P2-8

Entact ID:

Date Exposed: 7/7/14

Describe Damage: (9) scrapes by the cat 349E excavator bucket - 1/2"x6", 1"Ø, 2"Ø, 1/2x4", 1"x3", (4) 1/2"Ø, Cell 111. Note: Sheet is covered by hardened grout from elv. 5.0' to 1.0'.

Damage Location (ft below top of sheet, inboard side outboard side): 11-15' outboard

Date Repaired: 7/9/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush.

Repair Log Closure AMEC Signature: BShea

Date 7/9/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 17P2-9

Entact ID:

Date Exposed: 7/7/14

Describe Damage: (8) scrapes by Cat 349E excavator bucket - 1"Ø, 1/2x24", 1"Ø, 1x2", 1x4", 1/2x18", 2x4", 1/2x8". Cell 111. Note: Sheet is covered w/ hardened grout from elv. 5.0' to 1.0'.

Damage Location (ft below top of sheet, inboard side outboard side): 8-14' outboard

Date Repaired: 7/9/14

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure AMEC Signature: BShea

Date: 7/9/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P2-10

Entact ID:

Date Exposed: 7/9/14

Describe Damage: (4) Scrapes by the Cat 349E excavator bucket- 1"Ø, 2×6", 1/2×12", 2"Ø – Cell 110

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 7/10/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: B.Shea

Date: 7/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P2-11

Entact ID:

Date Exposed: 7/9/14

Describe Damage: (20) Scrapes by the Cat 349E excavator bucket- 1×18", 1/4×2", 1×6", 1/2"Ø, 1/2×36", 1/2×8", 1/4×3", 1"Ø, 2×10", 3×12", 4×8", 3×12", 1"Ø, (4) 1"Ø, 1/2×3", 2"Ø, 1/4×1" – Cell 110

Damage Location (ft below top of sheet, inboard side outboard side): 9-13' outboard

Date Repaired: 7/10/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: B.Shea

Date: 7/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P2-12

Entact ID:

Date Exposed: 7/9/14

Describe Damage: (11) Scrapes by the Cat 349E excavator bucket- 1/4"Ø, 1"Ø, 3×6", 3×8", 1×4", 2×10", 1/2×24", 1/2×3", 1"Ø, 2×8", 1/2×10" – cell 110

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 7/10/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: B.Shea

Date: 7/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P2-13

Entact ID:

Date Exposed: 7/9/14

Describe Damage: (15) scrapes by the Cat 349E excavator bucket- 1"Ø, 1×6", 1×3", 1/2"Ø, 1×5", 8"×18", 2×6", 1"×18", 1/2"Ø, 1"Ø, 1/2×3", 2"Ø, 1/2"Ø, 2×36", 3"Ø – Cell 110/109.

Damage Location (ft below top of sheet, inboard side outboard side): 9-15' outboard

Date Repaired: 7/10/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: B.Shea

Date: 7/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P2-14

Entact ID:

Date Exposed: 7/9/14

Describe Damage: (5) scrapes by the Cat 349E excavator bucket - (3) 1"ø, 1x2", 1/2"ø. Cell 109

Damage Location (ft below top of sheet, inboard side outboard side): 11-15' outboard

Date Repaired: 7/10/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 7/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P2-15

Entact ID:

Date Exposed: 7/9/14

Describe Damage: (14) scrapes by the Cat 349E excavator bucket - 1/2x4, 1/2x5", 1"ø, 1/2x2", (4) 1/2"ø, 3x24", 1x12", 2x18", 1/4x3", 2x6", 1"ø. cell 109

Damage Location (ft below top of sheet, inboard side outboard side): 5-12' outboard

Date Repaired: 7/10/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 7/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 18P-1

Entact ID:

Date Exposed: 7/16/14

Describe Damage: (5) scrapes by the Cat 349E excavator bucket - 1"x6", 1"ø, 1x8", 2"ø, 4"ø. Cell 109/108

Note: Sheet is covered w/ hardened epoxy from Elv 6.0' to 1.5'

Damage Location (ft below top of sheet, inboard side outboard side): 6'-12' outboard

Date Repaired: 7/18/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 7/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 18P-2

Entact ID:

Date Exposed: 7/16/14

Describe Damage: (12) scrapes by the Cat 349E excavator - 1/2x4", 1"ø, 2x4", 3"ø, 1x3", 1"ø, 3"ø, 1x4", 1/2x6", 1"ø, 1/2x3", 2x10"

Cell 108

N

Damage Location (ft below top of sheet, inboard side outboard side): 6-12' outboard

Date Repaired: 7/18/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4' paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 7/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 18P-3

Entact ID:

Date Exposed: 7/16/14

Describe Damage: (8) scrapes by the Cat 349E excavator bucket - 1/2×12", 2"Ø, 1"×6", 2×8", 1/2×6", 3×10", 1×14", 1"×18". Cell 108

Damage Location (ft below top of sheet, inboard side outboard side): 6-12' outboard

Date Repaired: 7/18/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date:

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 18P-4

Entact ID:

Date Exposed: 7/16/14

Describe Damage: (7) scrapes by the Cat 349E excavator bucket - 1×6", 3"Ø, 1/2×8", 1"Ø, 1"Ø, 1×3", 1/2×12". Cell 108

Damage Location (ft below top of sheet, inboard side outboard side): 8-17' outboard

Date Repaired: 7/18/18

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 7/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 18P-5

Entact ID:

Date Exposed: 7/16/14

Describe Damage: (11) scrapes by the Cat 349E excavator bucket - 1/2 × 24", 1×2", 2"Ø, 1/2×4", 1"Ø, 1"Ø, 2×4", 1/2×2, 1/2"Ø, 1×5", 1"Ø. Cell 108

Damage Location (ft below top of sheet, inboard side outboard side): 8-16' outboard

Date Repaired: 7/18/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 7/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 18P-6

Entact ID:

Date Exposed: 7/16/14

Describe Damage: (5) scrapes by the Cat 349E excavator bucket - 1/2×18", 1"Ø, 1×3", 1/2×6", 1×3". cell 107

Damage Location (ft below top of sheet, inboard side outboard side): 8-16' outboard

Date Repaired: 7/18/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 7/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG*

Sheet Number/DB ID: 18P-7

Entact ID:

Date Exposed: 7/16/14

Describe Damage: (4) Scrapes by the Cat 349E excavator bucket - 1"x6", 1"Ø, 1/2"Ø, 1/2x3", 1x3", Cell 107

Damage Location (ft below top of sheet, inboard side outboard side): 13-17' outboard

Date Repaired: 7/18/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/a 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 7/18/14

* A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG*

Sheet Number/DB ID: 18P-8

Entact ID:

Date Exposed: 7/16/14

Describe Damage: (5) Scrapes by the Cat 349E excavator bucket - 1/2x24", 1x5", 2"Ø, 1"Ø, 1/2x12". Cells 107/106

Damage Location (ft below top of sheet, inboard side outboard side): 12-17' outboard

Date Repaired: 7/18/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/a 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 7/18/14

* A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG*

Sheet Number/DB ID: 18P-9

Entact ID:

Date Exposed: 7/17/14

Describe Damage: (9) scrapes by the Cat 349E excavator bucket - 1/2x4", 3"Ø, 1/2x1", 1"Ø, 1/2x2", 1"Ø 1/2x12", 2"Ø, 1/2x18", Cell 106

Damage Location (ft below top of sheet, inboard side outboard side): 12-18' outboard

Date Repaired: 7/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 7/24/14

* A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG*

Sheet Number/DB ID: 18P-10

Entact ID:

Date Exposed: 7/17/14

Describe Damage: (16) scrapes by the cat 349E excavator bucket - (6) 1"Ø, 1/2x30", 1/2x6", 1x3", 2"Ø, 3x6", 1/2"Ø, 1/2"Ø, 1x8", 2x6", 2"Ø, Cell 106

Damage Location (ft below top of sheet, inboard side outboard side): 12-18' outboard

Date Repaired: 7/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 7/24/14

* A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 18P-11

Entact ID:

Date Exposed: 7/17/14

Describe Damage: (11) scrapes by the Cat 349E excavator bucket - (5) 1/2"Ø, (3) 1"Ø, 2x10", 1/2x36", 1"x 18". Cell 106/105

Damage Location (ft below top of sheet, inboard side outboard side): 13-18' outboard

Date Repaired: 7/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 7/24/14

* A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 18P-12

Entact ID:

Date Exposed: 7/21/14

Describe Damage: (8) scrapes by the Cat 349E excavator bucket - 1/2x12", 2"Ø, 1/2x8", 1/2x30", 1x12", 2x5", 1/2x60", 3"Ø. Cell 105

Damage Location (ft below top of sheet, inboard side outboard side): 11-18' outboard

Date Repaired: 7/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 7/24/14

* A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 18P-13

Entact ID:

Date Exposed: 7/21/14

Describe Damage: (6) scrapes by the Cat 349E excavator bucket - 1/2x4", 1"Ø, 1x5", 1x12", 2"Ø, 1/2"Ø. Cell 105

Note: sheet is covered by hardened grout from elv 8.0' - (2.5')

Damage Location (ft below top of sheet, inboard side outboard side): 14-17' outboard

Date Repaired: 7/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 7/24/14

* A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 18P-14

Entact ID:

Date Exposed: 7/21/14

Describe Damage: (7) scrapes by the Cat 349E excavator bucket - 1x8", (3) 1"Ø, 1/2x10", 1/2x24", 1/2x2", 1x4", 2"Ø. Cell 105.

Note: sheet is partially covered w/ hardened epoxy from elv. 1.0' - (4.0')

Damage Location (ft below top of sheet, inboard side outboard side): 14-18' outboard

Date Repaired: 7/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 7/24/14

* A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 3, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		1
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment		X		2
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 07/03/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, July 03, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
PERMIT CLOSED

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	The haul road to the west of Kellogg Street has several large potholes which accumulate stormwater and mud.
2	IA2Q4A1AL8	Sediment has escaped from the north side of the N-1 surcharge pile onto the DPW roadway.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: Signature Date: 07/03/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Place stone in the potholes to the west of the Kellogg Street gate to prevent the tracking of mud onto Kellogg Street.	7-7-14 RAD
2	Review/improve erosion control measures along the northern edge of the N-1 surcharge pile.	7-8-14 RAD

Construction Manager: Date: 07/08/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 10, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1,2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		3
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		4
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		5
Perimeter Fencing/Windscreen		X		6
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 07/11/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Thursday, July 10, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
PERMIT CLOSED

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	The restricted area warning tape along the top of the temporary sheet pile alignment must be extended to the east in order to keep workers a minimum of 6 feet from unprotected sheet pile wall (fall hazard).
2	IA2Q4A1AL8	Sediment must be removed from the asphalt surfaces in the areas of the SA-6 South western excavation which are not being excavated.
3	IA2Q4A1AL8	Sediment along the toes of material stockpiles in eastern SA-6 South is accumulating against the SA-7 SCB wall and must be cast back to prevent overtopping of the SCB wall and migration onto the SA-7 site.
4	IA2Q4A1AL8	Stone in the tracking pad at the truck exit gate is compacted and requires cleaning/reworking
5	IA2Q4A1AL8	A sinkhole has developed along the north side of the ramp which is located at the eastern end of the N-1 surcharge stockpile. This sinkhole requires repairs.
6	IA2Q4A1AL8	A section fo temporary fencing is open to the south of the JCDPW H-building. This opening should be closed off and the perimeter fencing in this area maintained.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature **Date:** 07/11/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Extend the caution tape which runs to the south of the sheetpile alignemnt eastwards to the point where the sheetpile ends.	7-16-14 RAD
2	Clean the asphalt surface with the longstick excavator/blade bucket.	7-11-14 RAD
3	Remove material to assure that storm water runoff from the SA-6 South stockpiles does not run onto SA-7.	7-11-14 RAD
4	Rework or replace the stone in the tracking pad.	7-15-14 RAD
5	Cut out and repair the sinkhole area. Cordon off the area until the work is complete.	7-15-14 RAD
6	Close and resecure the fencing panel.	7-11-14 RAD

Construction Manager: _____ **Date:** 07/16/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 17, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		1
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		2
Housekeeping		X		3
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		4
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		5
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 07/17/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, July 17, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
PERMIT CLOSED

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	The ramp between SA-6 South and SA-7 is muddy and has potholes.
2	IA2Q4A1AL8	Stormwater has ponded on the eastern backfill in SA-6 South.
3	IA2Q4A1AL8	Traffic barrels and orange fencing have blown down at the western edge of the excavation.
4	IA2Q4A1AL8	The ramp between SA-6 North and SA-7 is muddy and has potholes.
5	IA2Q4A1AL8	Erosion/sediment containment measures (hay bales, sediment dams) are damaged or missing along the northern side of the surcharge stockpile area on SA-7

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature Date: 07/17/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install stone or otherwise maintain the roadway to prevent the tracking of sediment onto SA-7.	7/21/14 RAD
2	Pump down the surface water and regrade to prevent ponding in the future.	7/21/14 RAD
3	Re-establish the warning barrier around the drop-off into the excavation.	7/18/14 RAD
4	Install stone or otherwise maintain the roadway to prevent the tracking of sediment onto SA-7	7/18/14 RAD
5	Re-stablish sediment controls along the northern edge of the Novartis/Celgene stockpile area.	7/21/14 RAD

Construction Manager: _____ Date: 07/21/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 24, 2014

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact				
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)				
Stockpile Tarping/Containment				
Proper Chemical Storage				
Containment Around Exclusion Zones				
Water Truck Wet- Down Operation				
Truck De-Con Operation				
Flood Protection				
Haul Road Maintenance				
Perimeter Fencing/Windscreen				
Storm Drain Protection				
Ponded Storm Water				
Housekeeping				
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		2
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)				

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment				
Proper Chemical Storage				
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation				
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		2 3
Perimeter Fencing/Windscreen				
Storm Drain Protection			X	
Ponded Storm Water				
Housekeeping				
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		4, 5
River Discharge Weir				
Swale Check Dams				
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)				
Stockpile Tarping/Containment				
Proper Chemical Storage				
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation				
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance				
Perimeter Fencing/Windscreen				
Storm Drain Protection				
Ponded Storm Water				
Housekeeping				

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 7-24-14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, July 24, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
PERMIT CLOSED

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	The exclusion zone fencing along Kellogg Street requires repair
2	IA2Q4A1AL8	Silt fence requires repair at the location indicated on the attached drawing
3	IA2Q4A1AL8	Observed build up of stone and sediment adjacent to the SA7 Northern raceway on the east side of the GTWT access ramp.
4	EEPSQUO2YB	Observed a section of hay bails missing at the NW corner of the Celgene stockpile.
5	EEPSQUO2YB	Build up of sediment observed along the southern perimeter of the stockpile.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: ~~Jersey City~~, New Jersey

SWAP Observer: Paul Chase — Signature — **Date:** 7/24/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair fencing as required	7/28/14 RAD
2	Repair silt fence as required	7/28/14 RAD
3	Clean up sediment and remove to opposite side of silt fence	7/29/14 RAD
4	Replace and repair hay bails at Norhwest corner of the Celgene stockpile	7/29/14 RAD
5	Remove sediment from inside of stockpile	7/30/14 RAD

Construction Manager: _____ **Date:** 07/30/14

Attachment 12: GWTP Update

- 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (June 2014)
- 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (June 2014)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

July 10, 2014

New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Permit Management
P.O. Box 029
Trenton, NJ 08625-0029

RE: NJPDES Permit NJ0156311: June 2014 Surface Water Discharge Monitoring Report
Study Area 7, Jersey City, NJ

To Whom It May Concern:

In accordance with the Honeywell International NJPDES Permit NJ0156311, enclosed please find the June 2014 Surface Water Discharge Monitoring Report for Outfall 001A. Please note that there was no discharge this monitoring period.

Please contact me at 973-455-2989 should you have any questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Program Manager
Fahy Associates
c/o Honeywell International

Enc.

cc: Angle Trujillo - Evoqua
Frank Schroyer - Parsons

PI 234822

New Jersey Department of Environmental Protection
Division of Water Quality

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD							MONITORED LOCATION:
	Month	Day	Year		Month	Day	Year	
NJG0156311	6	1	2014	To	6	30	2014	001A - Remediated Groundwater

PERMITTEE:
HONEYWELL INTERNATIONAL INC
101 COLUMBIA RD
MORRISTOWN, NJ 07962

LOCATION OF ACTIVITY:
HONEYWELL STUDY AREA 7
441 RT 440 S
JERSEY CITY, NJ 07305

REPORT RECIPIENT:
Honeywell International Inc
ATT: HELEN FAHY
101 COLUMBIA ROAD
MORRISTOWN, NJ 07962

REGION / COUNTY: Northern / Hudson County

CHECK IF APPLICABLE: ☒ **No Discharge this Monitoring Period** ☐ **Monitoring Report Comments Attached**

WHO MUST SIGN The highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility shall sign the certification or, in his absence a person designated by that person. For a local agency, the highest ranking operator of the treatment works shall sign the certification. Where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that reponsibility or person designated by that person shall also sign the second certification at the bottom of this page. If the local agency has contracted with another entity to operate the treatment works, the highest-ranking official of the contracted entity shall sign the certification.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and/or imprisonment, pursuant to N.J.A.C. 7:14A-6.9(B). The New Jersey Water Pollution Control Act provides for penalties up to $50,000 per violation.

John J Morris, Remediation Director — —
NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR — **GRADE AND REGISTRY NUMBER (IF APPLICABLE)**

John J. Morris HF — 7/9/2014 — 973.455.4003
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR — **DATE** — **AREA CODE/PHONE NUMBER**

**For a local agency where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall sign the following certification:*

I certify under penalty of law and in accordance with N.J.S.A. 58:10A-6F(5) that I have received and reviewed the attached discharge monitoring reports.

John J Morris, Remediation Director — John J Morris HF — 7/9/2014 — 973.455.4003
NAME AND TITLE — **SIGNATURE** — **DATE** — **AREA CODE/PHONE NUMBER**

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	6/1/2014 TO 6/30/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant 50050 1 Effluent Gross Value	SAMPLE MEASUREMENT			GPD	******	******	******	******			
	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX		******	******	******			1/Month	METER
	QL	******	******		******	******	******				
pH 00400 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******		SU			
	PERMIT REQUIREMENT	******	******		6.0 01MOMN	******	9.0 01MOMX			1/Month	GRAB
	QL	******	******		******	******	******				
LC50 Statre 96hr Acu Mysid Bahia TAN3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******	******	%EFFL			
	PERMIT REQUIREMENT	******	******		50 01RPMN	******	******			1/Year	COMPOS
	RQL	******	******		******	******	******				
IC25 Statre 7day Chr Mysid Bahia TBP3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******	******	%EFFL			
	PERMIT REQUIREMENT	******	******		REPORT 01RPMN	******	******			1/Year	COMPOS
	QL	******	******		******	******	******				
Petroleum Hydrocarbons 00551 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			MG/L			
	PERMIT REQUIREMENT	******	******		******	10 01MOAV	15 01RPINMX			1/Month	GRAB
	QL	******	******		******	******	******				
Carbon, Tot Organic (TOC) 00680 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			MG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	20 01WKAV			1/Month	GRAB
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	6/1/2014 TO 6/30/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Chromium Trivalent (as Cr) Total Recov. *PS06 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX			1/Quarter	COMP24
	QL	******	******		******	******	******				
Cyanide, Total (as CN) 00720 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	40	40				
Nickel, Total Recoverable 01074 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.3 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Zinc, Total Recoverable 01094 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	30	30				
Lead, Total Recoverable 01114 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	79 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Chromium, Total Recoverable 01118 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX			1/Month	COMP24
	RQL	******	******		******	10	10				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	6/1/2014 TO 6/30/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Copper, Total Recoverable 01119 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	COMP24
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX				
	RQL	******	******		******	10	10				
Chromium, Hexavalent Dissolved (as Cr) 01220 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	COMP24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX				
	QL	******	******		******	******	******				
Mercury Total Recoverable 71901 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	COMP24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	0.025 01DAMX				
	RQL	******	******		******	1	1				
Carbon Tetrachloride 32102 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	GRAB
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.8 01DAMX				
	RQL	******	******		******	6	6				
Chloroform 32106 2 Effluent Net Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	GRAB
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	46 01DAMX				
	RQL	******	******		******	5	5				
Trichloroethylene 39180 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	GRAB
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	54 01DAMX				
	RQL	******	******		******	5	5				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	6/1/2014 TO 6/30/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Lab Certification #	SAMPLE MEASUREMENT										
99999 99 Lab	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #			Not Applic	NOT AP
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

July 10, 2014

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 31630016

Dear Mr. Caltagirone:

Honeywell is submitting the June 2014 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely

Helen Fahy

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA
Frank Schroyer - Parsons

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 31630016 OLD OUTLET DESIGNATION:

MONITORING PERIOD

Start			End		
6	01	14	6	30	14
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	79,108	85,552 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	2.10	2.27	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.0	<5.0	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.0881	0.0881	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analytes are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

7/8/2014

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 31630016 **OLD OUTLET DESIGNATION**

MONITORING PERIOD

Start			End		
6	01	14	6	30	14
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD	
2,373,230	GALS
CU. FT X 7.48 - GALLONS	
EFFLUENT METER READING LAST DAY THIS PERIOD	10,496,969

DATE	BOD (mg/l)	TSS (mg/l)
6/11/2014	4.5	8.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J Morris	John J. Morris	(973) 455-4003
		DATE 7/8/2014

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG — Honeywell Jersey City GWTP; SA-6 North (Permit #31630016) — MONTH: June 2014

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits		5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
6/1/2014	Angel Trujillo	8123739	8202795	79,056	0.079056	7.62	3.180									2.10
6/2/2014	Angel Trujillo	8202795	8281386	78,591	0.078591	7.51	3.180									2.08
6/3/2014	Angel Trujillo	8281386	8348247	66,861	0.066861	7.56	3.180									1.77
6/4/2014	Angel Trujillo	8348247	8426865	78,618	0.078618	7.85	3.180									2.09
6/5/2014	Angel Trujillo	8426865	8504478	77,613	0.077613	7.53	3.180									2.06
6/6/2014	Angel Trujillo	8504478	8583582	79,104	0.079104	7.45	3.180									2.10
6/7/2014	Angel Trujillo	8583582	8663790	80,208	0.080208	7.79	3.180									2.13
6/8/2014	Angel Trujillo	8663790	8744324	80,534	0.080534	7.45	3.180									2.14
6/9/2014	Angel Trujillo	8744324	8820375	76,051	0.076051	7.55	3.180									2.02
6/10/2014	Angel Trujillo	8820375	8899484	79,109	0.079109	7.64	3.180									2.10
6/11/2014	Angel Trujillo	8899484	8978575	79,091	0.079091	7.05	3.180	<5.0	4.5		<0.010	<0.030	<0.010	<0.0002	<0.020	2.10
6/12/2014	Angel Trujillo	8978575	9064127	85,552	0.085552	7.99	3.180									2.27
6/13/2014	Angel Trujillo	9064127	9138884	74,757	0.074757	7.89	3.180									1.98
6/14/2014	Angel Trujillo	9138884	9222821	83,937	0.083937	8.05	3.180									2.23
6/15/2014	Angel Trujillo	9222821	9302595	79,774	0.079774	7.91	3.180									2.12
6/16/2014	Angel Trujillo	9302595	9379187	76,592	0.076592	7.81	3.180									2.03
6/17/2014	Angel Trujillo	9379187	9456705	77,518	0.077518	7.94	3.180									2.06
6/18/2014	Angel Trujillo	9456705	9536842	80,137	0.080137	7.91	3.180									2.13
6/19/2014	Angel Trujillo	9536842	9616176	79,334	0.079334	7.95	3.180									2.10
6/20/2014	Angel Trujillo	9616176	9697349	81,173	0.081173	7.73	3.180									2.15
6/21/2014	Angel Trujillo	9697349	9782475	85,126	0.085126	7.71	3.180									2.26
6/22/2014	Angel Trujillo	9782475	9862491	80,016	0.080016	7.76	3.180									2.12
6/23/2014	Angel Trujillo	9862491	9938998	76,507	0.076507	7.66	3.180									2.03
6/24/2014	Angel Trujillo	9938998	10020677	81,679	0.081679	7.71	3.180									2.17
6/25/2014	Angel Trujillo	10020677	10098524	77,847	0.077847	7.63	3.180									2.06
6/26/2014	Angel Trujillo	10098524	10177699	79,175	0.079175	7.64	3.180									2.10
6/27/2014	Angel Trujillo	10177699	10256990	79,291	0.0793	7.48	3.180									2.10
6/28/2014	Angel Trujillo	10256990	10338087	81,097	0.081097	7.82	3.180									2.15
6/29/2014	Angel Trujillo	10338087	10419275	81,188	0.081188	7.78	3.180									2.15
6/30/2014	Angel Trujillo	10419275	10496969	77,694	0.077694	7.55	3.180									2.06
TOTAL				**2,373,230**	**2.37323**			<5.0	4.5		<0.010	<0.030	<0.010	<0.0002	<0.020	
			High:	**85,552**											**High:**	**2.27**
			Average:	**79,108**											**Average:**	**2.10**

WW

JB69043

E

Honeywell — Chain Of Custody / Analysis Request

t Labs
E 130
8910
ro

AESI Ref: 41801.64518
COC#: 087-WW-061114

Co.: Parsons
Intact: (name, co., address)
P: (973) 455-2989 E: helen.fahy@honeywell.com
ternational
ia Road Morristown, NJ 07962
To: Helen Fahy (Honeywell)
Helen Fahy (Honeywell)

Chargeable to Consultant & Contractor
EDD To:
Sampler: Frank Schroyer
PO #
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Full Report TAT: 28 Days

Site Name: Hudson County
Location of Site: Jersey City, NJ
Phase: CS
Sampling Program: 087: JCIA

Lab Proj # (SDG):
Lab ID: ACID
Site ID: Hudson Co
Lab Job #: HWINJM32815
Authorized User: Honeywell

Copyright AESI: Version 3.0 Unauthorized use strictly prohibited.

Sample Identification: Station ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units	Composite Grab	Field Filtered Samples ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
													3	3	3	1	2	2	0	0	2						
7-WW			087-WWS-061114-A	6/11/2014	14:50	WW	WATER	REG	3	comp	N		X	X	X	X			X	X		1					L25
7-WW			087-WWS-061114-B	6/11/2014	14:45	WW	WATER	REG	5	grab	N						X	X				2					V706
7-WW			087-WWI-061114	6/11/2014	15:00	WW	WATER	REG	3	grab	N										X	3					A20
																											M19

ed by	Company	Parsons	Received by	Company	Accutest	Condition		Custody Seals Intact	
	Date/Time	6/11/14		Date/Time	6/11/14/1615	Cooler Temp.	3.0°C		
ed by	Company	Accutest	Received by	Company	Accutest	Condition		Custody Seals Intact	
=7.05 SU. RES	Date/Time	6/11/14/1715		Date/Time	6/11/14 1715	Cooler Temp.			
ives: (Other; Specify):			0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)							

ALL SAMPLES RECEIVED
PRESERVED AS APPLICABLE

pH = 7.20 @ 6/11/14

Accutest LabLink@801172 13:04 23-Jun-2014 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-061114-A		
Lab Sample ID:	JB69043-1	Date Sampled:	06/11/14
Matrix:	AQ - Water	Date Received:	06/11/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	3180	10	ug/l	1	06/12/14	06/13/14	RR	EPA 200.7 [1]	EPA 200.7 [5]
Copper	< 10	10	ug/l	1	06/12/14	06/13/14	RR	EPA 200.7 [1]	EPA 200.7 [5]
Lead [a]	< 30	30	ug/l	10	06/12/14	06/13/14	RR	EPA 200.7 [2]	EPA 200.7 [5]
Mercury	< 0.20	0.20	ug/l	1	06/13/14	06/13/14	JW	EPA 245.1 [3]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	06/12/14	06/13/14	RR	EPA 200.7 [1]	EPA 200.7 [5]
Zinc	< 20	20	ug/l	1	06/12/14	06/13/14	RR	EPA 200.7 [1]	EPA 200.7 [5]

(1) Instrument QC Batch: MA34228
(2) Instrument QC Batch: MA34234
(3) Instrument QC Batch: MA34237
(4) Prep QC Batch: MP79997
(5) Prep QC Batch: MP80019

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@801172 13:04 23-Jun-2014 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-061114-A		
Lab Sample ID:	JB69043-1	Date Sampled:	06/11/14
Matrix:	AQ - Water	Date Received:	06/11/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	8.0	4.0	mg/l	1	06/13/14	RP	SM2540 D-11
pH [a]	7.20		su	1	06/11/14 18:42	JK	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@801172 13:04 23-Jun-2014 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-061114-A		
Lab Sample ID:	JB69043-1A	Date Sampled:	06/11/14
Matrix:	AQ - Water	Date Received:	06/11/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	4.5	3.4	mg/l	1	06/11/14 19:23	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@801172 13:04 23-Jun-2014 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-061114-B		
Lab Sample ID:	JB69043-2	Date Sampled:	06/11/14
Matrix:	AQ - Water	Date Received:	06/11/14
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N235746.D	1	06/14/14	DC	n/a	n/a	VN10001
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	2.1	ug/l	
107-13-1	Acrylonitrile	ND	10	1.3	ug/l	
71-43-2	Benzene	2.5	1.0	0.12	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.32	ug/l	
56-23-5	Carbon tetrachloride	3.4	1.0	0.16	ug/l	
108-90-7	Chlorobenzene	0.26	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.45	ug/l	
67-66-3	Chloroform	19.9	1.0	0.14	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.19	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.4	1.0	0.24	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	1.0	0.16	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.093	ug/l	
75-09-2	Methylene chloride	0.55	1.0	0.20	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.13	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.15	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.29	ug/l	
79-01-6	Trichloroethene	56.7	1.0	0.17	ug/l	
75-01-4	Vinyl chloride	1.4	1.0	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	94%		71-128%
2037-26-5	Toluene-D8 (SUR)	100%		79-117%
460-00-4	4-Bromofluorobenzene (SUR)	106%		81-114%
1868-53-7	Dibromofluoromethane (S)	98%		78-115%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest LabLink@801172 13:04 23-Jun-2014 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-061114-B		
Lab Sample ID:	JB69043-2	Date Sampled:	06/11/14
Matrix:	AQ - Water	Date Received:	06/11/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.0	5.0	mg/l	1	06/16/14	CW	EPA 1664A

RL = Reporting Limit

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending June 2014

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Pending submittal
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to Contractor only.
DC 2014	Direction on the handling of petroleum soils under the cap.	Pending submittal
DC 2014	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Pending submittal

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

SA-6 AND SA-7 COMBINED PROGRESS REPORT

SEPTEMBER 12, 2014

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

September 12, 2014 *Via Express Mail*

Honorable Robert G. Torricelli
Office of the Special Master
41 W. State St., Suite 2F
Trenton, NJ 08608

Subject: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2014-08

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from August 1 – August 31, 2014.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: August 2014 SA-6/7 Combined Monthly Progress Report No. 2014-08

cc: Joe Clifford - AMEC (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP

Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2014-08

Project SA-6 & 7 Remediation

August 2014

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
08/14/14	Combined Monthly Progress/Highlights Report No. 2014-07 Study Areas 6 and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
08/14/14	NJPDES Permit NJ0156311: June 2014 Surface Water Discharge Monitoring Report Study Area 7, Jersey City, NJ *(see **Attachment 12**)*	New Jersey Department of Environmental Protection Division of Water Quality
08/14/14	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 31630016 June 2014 *(see **Attachment 12**)*	Andy Caltagirone Passaic Valley Sewerage Commission
08/18/14	Combined Monthly Progress/Highlights Report No. 2014-07 Perimeter Pool Update Correction Study Areas 6 and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
08/19/14	Special Master Conference Call	N/A
08/19/14	Design Change Bulletin – Barrier Wall Alignment Sedimentation Basin Study Area 6 North, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
08/19/14	SA-6 Chromium Remedy Asphalt Disposition Variance Study Area 6 North and South, Jersey City	Mr. David Doyle, Case Manager New Jersey Department of Environmental Protection
08/20/14	August 06, 2014 NJDEP E-mail Correspondence Accepting the Data Validation Revision (QAPP) Study Area 6, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
08/20/14	Variance for Consolidation of Asphalt on Study Area 6 (Arnold & Porter Correspondence) Study Area 6 North and South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
08/20/14	Response to Comments Provided by Plaintiffs, July 28,	Honorable Robert G. Torricelli

Date	Submittal/Meeting	Recipient
	2014 Surcharge Grading Design Change Area 1S Study Area 6 South, Jersey City, NJ	Office of the Special Master
08/21/14	Response to Plaintiffs' July 28, 2014 Comments Long Term Monitoring Program First Five Year Implementation Plan Study Area 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
08/21/14	PVSC - Acoustic Monitoring Report (Report 5 - JULY 08, 2014 TO AUGUST 20, 2014) Study Area 6 North, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
08/25/14	Surcharge Monitoring Plan – Monthly Report No. 4 Study Area 6 North and South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
08/25/14	August 06, 2014 NJDEP E-mail Correspondence Accepting the Data Validation Revision (QAPP) -- CORRECTION Study Area 6, Jersey City, NJ	Upload to LB SharePoint Site
08/28/14	Redevelopment of Injection Well 088-IW-01 Study Area 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
08/29/14	Incident No. 14-08-15-1405-34 Study Area 6 South Chromium Site 163 (aka Colonial Concrete Company) 75 Kellogg Street, Jersey City, NJ NJDEP PI#010374	Ms. Kirstin Pointin-Hahn Mr. David Doyle New Jersey Department of Environmental Protection

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending				
	8/3/14	8/10/14	8/17/14	8/24/14	8/31/14
Construction Management (AMEC)	12	13	12	11	9
Engineering (AMEC)	1	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1	1
Security (Securitas)	3	3	3	3	3
Entact/Subcontractors	40	40	45	46	45
Arecon/US Ecology Subcontractors	1	1	1	1	1
ERFS In Situ Treatment	3	4	4	2	0
Summit Drilling	3	2	2	1	0
Siemens	1	1	1	1	1
HBS (SA-6N GWTP Security System)	0	0	0	0	0
Other	0	0	0	1	1
TOTAL	**65**	**66**	**70**	**68**	**62**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6S and SA-6N.
- Collected August PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Completed S-3 Injection/Mass Removal Event #16 in well 088-IW-03.
- On August 13, 2014, participated in the public bid opening for the JCIA Structures Demolition project.
- Completed In-Situ treatment field implementation activities on SA6 South- Site 163. A total of 57 temporary well points and 119 injection points were installed. Successfully injected 2,228 gallons of stock 29% CAPs solution (62,492 gallons of diluted solution) in the 15 designated areas during the reporting period.
- On August15, 2014, daylighting of CAPs was observed in Droyer's Cove during one in-situ injection in Area F. Injection operations were stopped at this location, and the NJDEP hotline notified.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 2**0**1 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on August 22, 2014.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending				
	8/3/14	8/10/14	8/17/14	8/24/14	8/31/14
Avg. Gallons Treated & Discharged (per day)	79,753	78,183	78,219	78,087	78,149
Average Flow (gpm) for Operating Period	55	55	54	55	54
Avg. Hours of Plant Operation	24	24	24	24	24
GWTP InfluentTanks (gal.)	7,677	11,555	10,427	9,852	9,408

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart, Weekly Excavation and Survey Data, Backfill Compaction Locations, and Field Density Test Summary Log)*

- Continued excavation activities in cells 102-83.
- Continued storm-water management activities.
- On July 30, 2014, we collected a soil sample from a visually anomalous material observed in a thin lens located above Stratum D. Laboratory analysis received on August 18, 2014 indicated the result was 713 mg/kg. On August 19, 2014, Amec collected two additional soil samples for hexavalent chromium analysis from this lens above Stratum D in the southern portion of Cell 105.

Both of the sample results were greater than 20 mg/kg, (230 mg/kg) and (198 mg/kg). Further delineation and sampling of the anomaly is pending.

- Installed 44 pair of temporary sheets for excavation support along Kellogg Street.
- On July 30, 2014 a 12-inch diameter transite pipe was encounter during pre-trenching activities associated with installation of the temporary sheets along Kellogg Street. Excavation activities were suspended and an abatement contractor was mobilized to remove pipe. A total of 115 linear ft. of 12- inch diameter transite pipe was removed, wrapped in poly-sheeting, placed in a roll-off, and staged on site for future disposal.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Continued compaction testing associated with imported backfill. Adjusted the frequency of testing in accordance with specifications.

1. Off-Site Disposal Monthly Waste Materials Summary

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/ FCI	Roll-Off	TSDF	Stablex-Canada	WWTP Filter Cake	0	0	0
Entact/ Horowith	Tri-axle Dump	PA Transload	US Ecology	>1000 mg/kg Soils	20	21.51	430.2
Entact/ Montecalvo	30 cyd roll-off	Bayshore Recycling	NA	Non Haz Creosote Debris	8	10.9	87.10

2. Excavation & Backfill Progress

Description	Cells
Under Excavation	Cell Number(s) 102-83
Excavation Completed	Cell Number(s) 102-85 Volume Excavated - Total for Reporting Period: 18,482 CY/ Total to Date: 102,627 CY
Backfill in Progress	Cell Number(s) 129-85

3. Backfill Materials Used

Source	Week Ending				
	8/03/14	8/10/14	8/17/14	8/24/14	8/31/14
<20ppm re-use, CY	0	0	0	0	250
Weldon, Import-Tons Screenings	8,166	8,546	7,576	1,396	3,523
Tilcon, Import-Tons DGA	0	0	0	0	656
Tilcon, Import Tons – 1.5” Stone	0	0	259	0	487
Weldon, Imported Tons - QP	590	1,221	825	1,070	0
Weldon, Imported Tons - DGA	0	0	0	0	326
Celgene - Loads	411	724	0	0	0
Tilcon, Imported Tons – 2.5” Stone	0	0	309	0	0

E. SURCHARGE OPERATIONS

- Area 1S: Surcharge continued with placement of both chromium impacted soils to the design subgrade and imported Celgene soils between the subgrade and surcharge design grade. Surcharge placement is approximately 85% complete.
- Area 2S: Surcharging continued from 1S into the western portion of 2S. Surcharge placement consisted of subgrade fill and is approximately 15% complete.
- Area 3S: Instrumentation installation was completed as of November 6, 2013 and all baseline readings recorded. Temporary stockpiles are located in this area. No Surcharge has been initiated.
- Area 1N: Surcharge is completed. Surcharge removal is scheduled to commence in September. Details were provided in the August Surcharge Monitoring Report No. 4.
- Area 2N: Instrumentation Installation 100 % complete. Surcharge removed from 1N will be relocated to Area 2N.
- Area 3N: No activity in this area pending JCIA Demolition.
- Area 4N: No activity in this area pending JCIA Demolition.

F. SHEET PILE OPERATIONS *(see **Attachment 10**)*

- No sheets were driven associated with the hydraulic barrier wall during this reporting period.
- On August 27, 2014, a test pit was excavated to field verify the location of a 90 degree bend in the 72-inch force main. This activity identified that the actual location was approximately 4 feet farther to the east necessitating a design change bulletin to address the needed relocation of the barrier wall.

G. PERMIT STATUS

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Pre-construction meeting for the Above-grade Demolition of the four designated JCIA Structures scheduled for September 4, 2014.
- Complete In-Situ treatment injection/temporary monitoring point abandonment activities at Site 163.
- Continue placement of surcharge materials in SA-6S Area 1S and 2S.
- Begin off loading of surcharge materials from SA-6N Area 1N.
- Begin placement of surcharge materials in SA-6N Area 2N.
- Continue installation of the contingent groundwater system trench on SA-6S.
- Continue dewatering of well points/sumps installed within the SA-6S open space area.
- Continue excavation activities in SA-6S Cells 83-70.
- Continue stockpiling of presumed <20 mg/kg for additional sampling.
- Continue loadout and transportation and disposal activities at SA-6S.
- Continue backfill placement and associated compaction testing activities at SA-6S.
- Continue dewatering and storm-water management activities.
- Conduct S-3 Injection/Mass Removal Event No.17 in well 088-IW-02.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.

ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill

- Progression Chart
- Excavation Bottom Elevations

- Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points
- Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
- Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)

4. Dewatering Operations Update
- SA-6 South Dewatering Data (Headers)
- SA-6 South Deep Well Data (DW-3)
- SA-6 South Deep Well Data (DW-4)

5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
- Stockpiled Material Tracking and Sampling Log

7. Perimeter Pools Update
8. *Groundwater Quality Data Surcharge Monitoring Update (provided on a quarterly basis - not available as of this report date)*
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. Sheet Pile Update
- Sheet Deflection Along Open Excavation
- Sheet Monitoring Locations
- Sheet Pile Repair Log

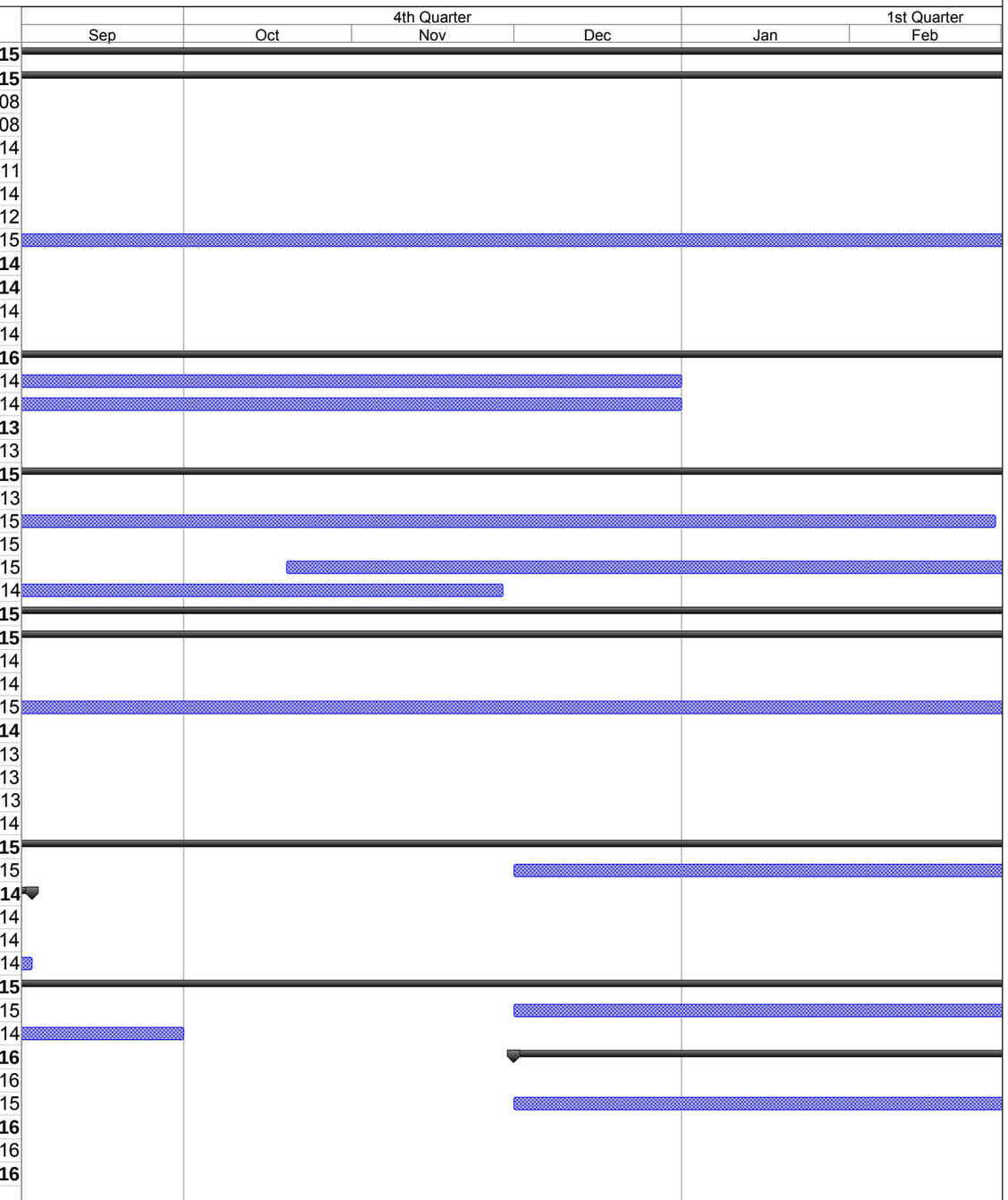
11. Weekly SWPPP Reports
12. GWTP Update
- 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (July 2014)
- 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (July 2014)

13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**Fri 1/4/08**	**Mon 3/30/15**
18	**JCIA/JCDPW Relocation**	**1735 days**	**Mon 8/11/08**	**Mon 3/30/15**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08	Wed 10/1/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09	Mon 6/2/14
22	Relocation Contractor Procurement	392 days	Thu 4/15/10	Thu 10/13/11
23	JCIA and JCDPW Relocation	753 days	Mon 10/17/11	Fri 8/29/14
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11	Mon 4/30/12
24a	Demolition of JCIA Structures	151 days	Mon 9/1/14	Mon 3/30/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**	**Wed 4/30/14**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**	**Wed 4/30/14**
58	New GWTP Construction Completion	502 days	Mon 3/5/12	Thu 1/30/14
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11	Wed 4/30/14
60	**SA-6 North/South Field Implementation**	**838 days**	**Fri 3/1/13**	**Mon 5/16/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	Mon 6/17/13	Wed 12/31/14
60b	SA-6S (Site 163) In-Situ Treatment	294 days	Fri 11/15/13	Wed 12/31/14
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**	**Fri 6/28/13**
61a	Mobilization	87 days	Fri 3/1/13	Fri 6/28/13
62	**Surcharge Install/Instrumentation**	**620 days**	**Mon 6/17/13**	**Fri 10/30/15**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	Mon 6/17/13	Tue 12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	Mon 6/2/14	Fri 2/27/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Mon 3/2/15	Fri 10/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	Mon 10/20/14	Tue 6/30/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	Mon 3/3/14	Fri 11/28/14
63	**Barrier Wall Install**	**489 days**	**Mon 6/17/13**	**Thu 4/30/15**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**Mon 12/2/13**	**Thu 4/30/15**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	Mon 12/2/13	Fri 2/14/14
63c	SA-6N Stations 23+38 to 14+25	90 days	Mon 2/17/14	Fri 6/20/14
63d	SA-6N Stations 14+25 to 0+00	224 days	Mon 6/23/14	Thu 4/30/15
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**Mon 6/17/13**	**Fri 5/30/14**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	Mon 6/17/13	Thu 8/15/13
63h	SA-6S Stations 1+54 to 8+37	7 days	Fri 8/16/13	Mon 8/26/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	Thu 10/3/13	Fri 11/8/13
63j	SA-6S Stations 8+60 to 14+87	145 days	Mon 11/11/13	Fri 5/30/14
64	**Excavation**	**507 days**	**Tue 10/22/13**	**Wed 9/30/15**
64a	SA 6N Excavation	218 days	Mon 12/1/14	Wed 9/30/15
64b	**SA 6S Excavation**	**226 days**	**Tue 10/22/13**	**Tue 9/2/14**
64c	SA-6S Excavation of Cells 1 - 25	53 days	Tue 10/22/13	Thu 1/2/14
64d	SA-6S Excavation of Cells 26 - 60	90 days	Fri 1/3/14	Thu 5/8/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	Fri 5/9/14	Tue 9/2/14
65	**Backfill**	**493 days**	**Mon 11/11/13**	**Wed 9/30/15**
65a	SA 6N Backfill	218 days	Mon 12/1/14	Wed 9/30/15
65b	SA 6S Backfill	232 days	Mon 11/11/13	Tue 9/30/14
66	**Capping and Cover Soil Placement**	**315 days**	**Mon 12/1/14**	**Fri 2/12/16**
66a	SA 6N Capping and Cover Soil Placement	119 days	Tue 9/1/15	Fri 2/12/16
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14	Wed 12/30/15
67	**Restoration**	**164 days**	**Tue 9/1/15**	**Fri 4/15/16**
67a	Restoration	164 days	Tue 9/1/15	Fri 4/15/16
68	**Demobilization**	**21 days**	**Mon 4/18/16**	**Mon 5/16/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			



Project: SA-6 Remediation Schedule
Revision 3
Date: Wed 9/3/14

Task | Milestone | Summary | Critical

Attachment 2: Site Photographs

Site Photograph 1: Cleaning the steel sheets during excavation.

Site Photograph 2: Construction Water Treatment Plant on Jersey City Properties.

Site Photograph 3: Contractor compacts clean fill on Kellogg St. Properties.

Site Photograph 4: Contractor places surcharge on western area of site.

Site Photograph 5: Contractor processes concrete for reuse.

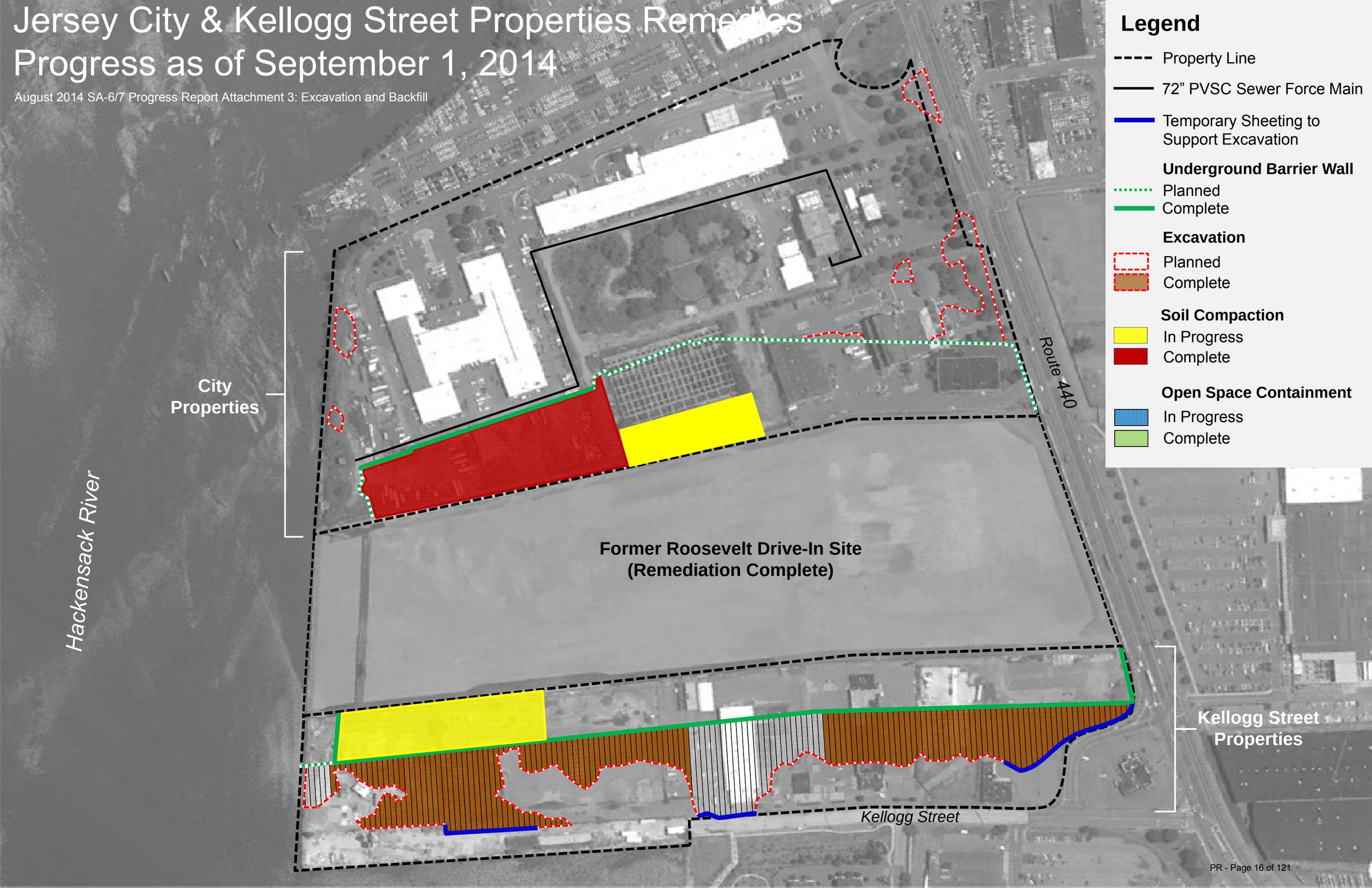
Site Photograph 6: Overview of Excavation and backfill operations.

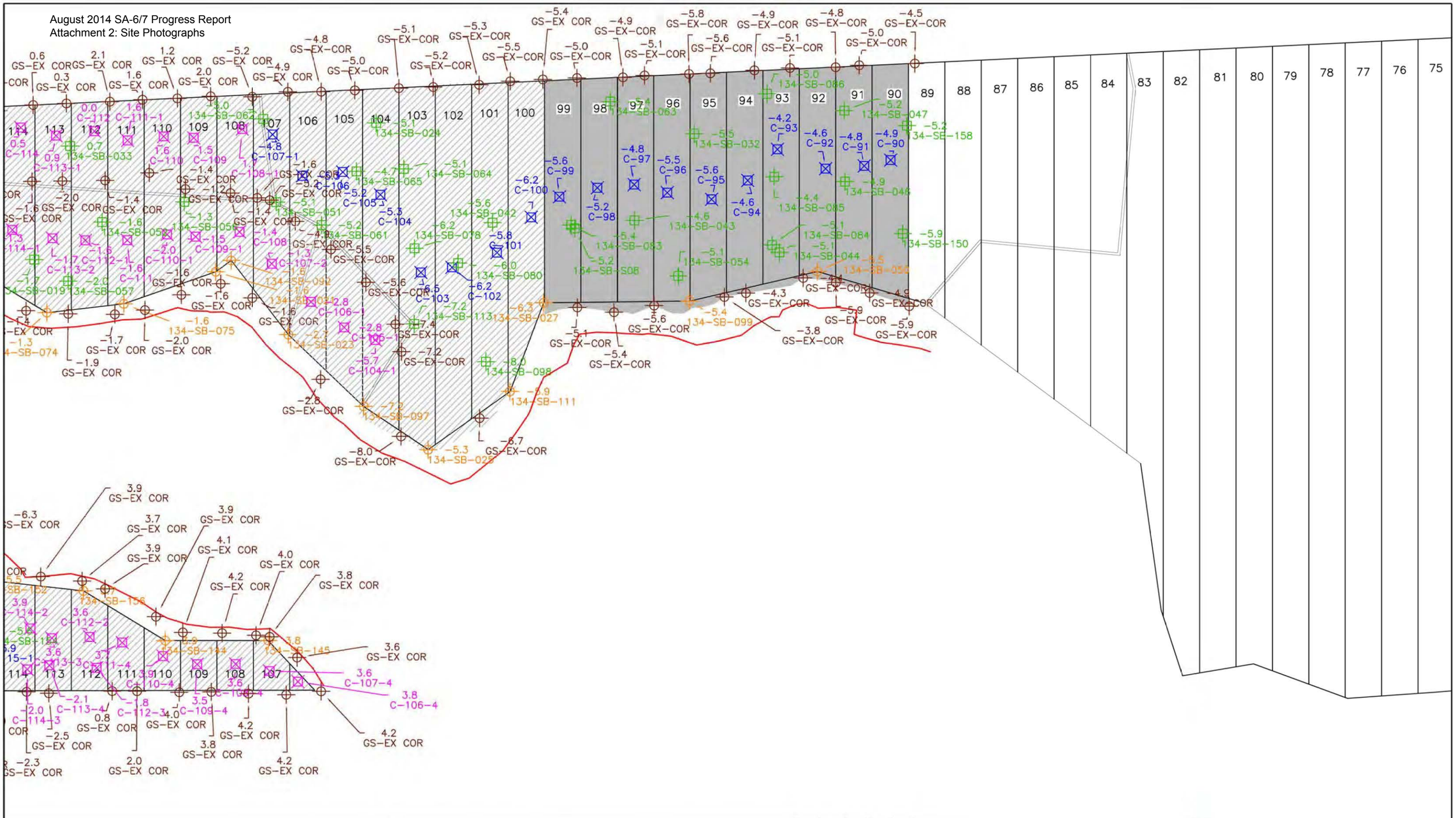
Attachment 3: Excavation and Backfill

- Progression Chart
- Excavation Bottom Elevations
- Maser Survey Tables (SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points)
- Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
- Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)

Jersey City & Kellogg Street Properties Remedies Progress as of September 1, 2014

August 2014 SA-6/7 Progress Report Attachment 3: Excavation and Backfill





ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS
PERIOD 08-07-14 TO 08-21-14

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

MASER CONSULTING P.A.

Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

156 Stagecoach Road
Marmora, NJ 08223
T: 609.390.1927
F: 609.390.0040
www.maserconsulting.com

SA-6 South Excavation: Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685514.6	601446.5	3.8	073-SB-029	152	4/25/2014	3.0	* Target Elevation Reached
685482.2	601420.6	4.4	073-SB-054	152	4/24/2014	2.0	* Target Elevation Reached
685458.7	601392.0	7.5	073-SB-056	152	4/24/2014	3.8	* Target Elevation Reached
685474.8	601425.1	7.5	073-SB-057	151	4/24/2014	1.9	* Target Elevation Reached
685502.9	601465.5	3.3	073-SB-028	150	4/25/2014	3.0	* Target Elevation Reached
685463.0	601435.2	2.5	073-SB-059	150	4/24/2014	1.9	* Target Elevation Reached
685490.0	601478.5	6.0	073-SB-042R	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	6.0	073-SB-042R	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	6.0	073-SB-042R	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	6.0	073-SB-042R	146A	4/24/2014	5.6	Target Elevation Reached
685448.9	601515.0	6.0	073-SB-042	145A	4/24/2014	5.6	Target Elevation Reached
685433.1	601528.8	6.0	073-SB-042R	144A	4/24/2014	5.4	Target Elevation Reached
685403.0	601506.0	-4.2	073-SB-037R	144A	4/24/2014	-4.5	Target Elevation Reached
685411.9	601522.2	-0.6	073-SB-066	143A	4/24/2014	-4.4	Target Elevation Reached
685427.6	601544.4	6.0	073-SB-042R	143A	4/24/2014	5.5	Target Elevation Reached
685430.7	601568.7	3.8	073-SB-041	142A	4/24/2014	2.0	Target Elevation Reached
685378.8	601531.7	-4.2	073-SB-037	142A	4/24/2014	-4.4	Target Elevation Reached
685371.0	601525.0	-2.2	073-SB-045	142A	4/24/2014	-4.4	Target Elevation Reached
685395.8	601557.3	2.3	073-SB-038	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.3	073-SB-038R	141A	4/24/2014	2.0	Target Elevation Reached
685410.7	601592.8	0.2	073-SB-040	140A	4/24/2014	-1.3	Target Elevation Reached
685381.0	601558.0	-3.9	073-SB-007	140A	4/24/2014	-4.4	Target Elevation Reached
685379.3	601577.9	0.6	073-SB-039	139A	4/24/2014	-4.3	Target Elevation Reached
685358.5	601560.3	-1.0	073-SB-036	139A	4/24/2014	-4.7	Target Elevation Reached
685390.7	601590.5	-0.6	073-SB-008R	139A	4/24/2014	-1.6	Target Elevation Reached
685390.0	601606.0	-0.6	073-SB-008	138A	4/29/2014	-1.6	Target Elevation Reached
685338.6	601567.5	2.1	073-SB-030R	138A	4/29/2014	1.7	Target Elevation Reached
685339.7	601592.9	1.5	073-SB-035	137A	4/29/2014	-2.9	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.1)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685328.7	601577.4	2.1	073-SB-030R	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-6.7	073-SB-009R	146B	5/5/2014	-8.0	Target Elevation Reached
685329.7	601419.3	-6.9	073-SB-047	145B	5/5/2014	-8.0	Target Elevation Reached
685314.6	601432.4	-6.7	073-SB-009R	144B	5/8/2014	-8.2	Target Elevation Reached
685318.9	601448.7	-5.3	073-SB-021	143B	5/8/2014	-7.9	Target Elevation Reached
685306.3	601465.9	-6.7	073-SB-009R	142B	5/12/2014	-7.6	Target Elevation Reached
685329.1	601510.6	-5.2	073-SB-075	141B	5/12/2014	-7.7	Target Elevation Reached
685310.4	601484.5	-4.8	073-SB-062	141B	5/12/2014	-8.0	Target Elevation Reached
685321.1	601501.8	-5.0	073-SB-065	141B	5/12/2014	-7.6	Target Elevation Reached
685288.0	601466.0	-6.7	073-SB-009	141B	5/12/2014	-7.7	Target Elevation Reached
685284.5	601485.3	-5.3	073-SB-020	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-6.7	073-SB-009R	139B	5/14/2014	-7.8	Target Elevation Reached
685256.2	601505.4	-3.2	073-SB-019	138B	5/14/2014	-7.7	Target Elevation Reached
685277.8	601539.2	2.1	073-SB-030R	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-0.6	073-SB-008R	136	5/5/2014	-1.5	Target Elevation Reached
685344.3	601618.9	-1.8	073-SB-033	136	5/5/2014	-2.9	Target Elevation Reached
685315.0	601587.9	2.1	073-SB-030R	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-0.6	073-SB-008R	135	5/8/2014	-1.4	Target Elevation Reached
685362.2	601641.7	-0.2	073-SB-034	135	5/8/2014	-2.8	Target Elevation Reached
685272.1	601572.6	2.1	073-SB-030R	135	5/19/2014	1.7	Target Elevation Reached
685248.2	601551.5	0.3	073-SB-050	135	5/19/2014	-1.2	Target Elevation Reached
685230.4	601535.5	0.3	073-SB-018	135	5/19/2014	-1.2	Target Elevation Reached
685358.1	601659.9	-0.6	073-SB-008R	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-1.8	073-SB-033R	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	073-SB-030R	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	0.6	073-SB-017R	134	5/19/2014	-1.2	Target Elevation Reached
685212.0	601570.0	-1.4	073-SB-011	133	5/22/2014	-3.3	Target Elevation Reached
685324.0	601643.0	-0.4	073-SB-010	133	5/14/2014	-2.7	Target Elevation Reached
685300.3	601630.9	2.1	073-SB-030	133	5/14/2014	1.8	Target Elevation Reached
685338.7	601665.5	2.3	073-SB-032R	133	5/12/2014	-0.1	Target Elevation Reached
685322.3	601651.3	-1.2	134-SB-136R	133	5/14/2014	-1.7	Target Elevation Reached
685215.0	601563.9	0.6	073-SB-017R	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.3	073-SB-032R	132	5/12/2014	1.7	Target Elevation Reached
685257.3	601619.3	2.1	073-SB-030R	132	5/19/2014	1.8	Target Elevation Reached
685194.1	601565.5	0.6	073-SB-017R	132	5/22/2014	-1.6	Target Elevation Reached
685216.3	601579.5	1.1	073-SB-049	132	5/22/2014	-3.0	Target Elevation Reached
685324.7	601663.5	2.3	073-SB-032	132	5/14/2014	-1.5	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.2)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685193.1	601579.8	0.6	073-SB-017	131	5/22/2014	-2.7	Target Elevation Reached
685301.9	601671.1	0.1	073-SB-031	131	5/14/2014	-1.5	Target Elevation Reached
685328.1	601694.6	2.3	073-SB-032R	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	073-SB-030R	131	5/19/2014	2.0	Target Elevation Reached
685202.7	601594.7	-1.4	073-SB-011R	131	5/22/2014	-2.9	Target Elevation Reached
685321.3	601708.0	2.3	073-SB-032R	130	5/19/2014	1.9	Target Elevation Reached
685300.8	601690.9	-1.2	134-SB-136R	130	5/19/2014	-1.5	Target Elevation Reached
685240.0	601641.1	2.1	073-SB-030R	130	5/19/2014	1.9	Target Elevation Reached
685193.4	601601.4	-1.4	073-SB-011R	130	5/22/2014	-2.5	Target Elevation Reached
685176.5	601589.8	0.6	073-SB-017R	130	5/22/2014	-1.9	Target Elevation Reached
685195.4	601621.6	-2.7	134-SB-123	129	5/27/2014	-7.9	Target Elevation Reached
685212.1	601635.4	-0.6	134-SB-132	129	5/27/2014	-8.2	Target Elevation Reached
685242.2	601665.8	1.3	134-SB-134	129	5/27/2014	0.2	Target Elevation Reached
685305.3	601707.9	-1.2	134-SB-140	129	5/19/2014	-1.2	Target Elevation Reached
685158.2	601591.1	-6.6	134-SB-114	129	5/27/2014	-7.6	Target Elevation Reached
685311.8	601720.4	2.3	073-SB-032R	129	5/22/2014	1.9	Target Elevation Reached
685263.1	601682.1	2.1	073-SB-030R	129	5/22/2014	1.8	Target Elevation Reached
685289.8	601729.8	2.0	134-SB-139	128	5/27/2014	-1.3	Target Elevation Reached
685303.5	601732.5	2.3	073-SB-032R	128	5/22/2014	1.9	Target Elevation Reached
685269.5	601703.1	2.1	073-SB-030R	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	1.3	134-SB-134R	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-6.7	134-SB-129R	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	2.4	134-SB-014R	127	5/29/2014	0.3	Target Elevation Reached
685276.2	601720.2	4.5	134-SB-135	127	5/27/2014	-1.2	Target Elevation Reached
685237.1	601700.2	1.3	134-SB-134R	127	6/2/2014	0.1	Target Elevation Reached
685258.0	601714.0	-1.1	134-SB-012	127	5/29/2014	-1.4	Target Elevation Reached
685226.8	601681.6	-0.7	134-SB-133	127	6/2/2014	-7.6	Target Elevation Reached
685172.0	601639.0	-5.6	134-SB-013	127	6/5/2014	-7.7	Target Elevation Reached
685285.7	601758.3	2.4	134-SB-014R	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	134-SB-136R	126	6/2/2014	-1.4	Target Elevation Reached
685122.8	601623.1	-8.4	134-SB-115	126	6/10/2014	-8.8	Target Elevation Reached
685155.2	601653.8	-5.8	134-SB-122	126	6/10/2014	-7.8	Target Elevation Reached
685178.8	601676.4	-6.1	134-SB-131	126	6/10/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.3)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685212.9	601702.0	-0.7	134-SB-130	126	6/10/2014	-7.7	Target Elevation Reached
685277.9	601769.3	2.4	134-SB-014R	125	6/2/2014	-0.6	Target Elevation Reached
685269.3	601754.4	-1.1	134-SB-138	125	6/2/2014	-1.7	Target Elevation Reached
685158.0	601676.7	-6.7	134-SB-129R	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	134-SB-115R	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	2.4	134-SB-014R	124	6/10/2014	0.1	Target Elevation Reached
685266.0	601776.0	2.4	134-SB-014	124	6/10/2014	-2.9	Target Elevation Reached
685100.0	601650.0	1.2	134-SB-116	124	6/17/2014	-8.2	Stratum D Reached
685136.1	601677.4	-7.7	134-SB-121	124	6/17/2014	-8.1	Stratum D Reached
685262.3	601792.9	2.4	134-SB-014R	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-1.5	134-SB-137R	123	6/10/2014	-2.8	Target Elevation Reached
685225.1	601760.9	-1.3	134-SB-136	123	6/10/2014	-1.7	Target Elevation Reached
685165.9	601710.7	-6.7	134-SB-129	123	6/17/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	134-SB-120R	123	6/20/2014	-7.8	Stratum D Reached
685252.4	601807.4	2.4	134-SB-014R	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601798.5	-1.5	134-SB-137	122	6/17/2014	-2.8	Target Elevation Reached
685207.9	601771.1	-1.3	134-SB-136R	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-6.7	134-SB-129R	122	6/20/2014	-7.5	Stratum D Reached
685113.6	601700.2	-8.7	134-SB-120	122	6/20/2014	-6.9	Stratum D Reached
685242.2	601818.1	2.4	134-SB-014R	121	6/17/2014	0.3	Target Elevation Reached
685201.0	601787.0	-0.6	134-SB-015	121	6/20/2014	-2.5	Target Elevation Reached
685189.3	601776.9	-1.3	134-SB-136R	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.3	124-SB-124R	121	6/25/2014	-2.5	Target Elevation Reached
685175.7	601754.9	-4.5	134-SB-127	121	6/20/2014	-7.8	Stratum D Reached
685140.4	601734.6	-0.8	134-SB-125	121	6/20/2014	-7.4	Stratum D Reached
685104.7	601708.0	-8.7	134-SB-120R	121	6/25/2014	-6.1	Stratum D Reached
685079.9	601677.2	0.9	134-SB-117	121	6/20/2014	-6.8	Stratum D Reached
685233.4	601829.1	2.4	134-SB-014R	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-1.5	134-SB-137R	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.3	134-SB-136R	120	6/20/2014	-1.5	Target Elevation Reached
685112.0	601735.0	-6.7	134-SB-016	120	6/25/2014	-7.5	Stratum D Reached
685094.8	601725.1	-5.2	134-SB-119	120	6/25/2014	-6.9	Stratum D Reached
685062.9	601695.5	-7.9	134-SB-118	120	6/25/2014	-6.4	Stratum D Reached
685159.9	601776.2	-2.3	134-SB-124	120	6/25/2014	-2.5	Target Elevation Reached
685223.8	601840.5	2.4	134-SB-014R	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-1.5	134-SB-137R	119	6/25/2014	-2.8	Target Elevation Reached
685170.4	601797.8	0.4	134-SB-060	119	6/25/2014	-1.4	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.4)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.7	601780.4	-2.3	124-SB-124R	119	6/25/2014	-2.8	Target Elevation Reached
685208.4	601850.6	2.4	134-SB-033R	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.4	134-SB-033R	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.4	134-SB-033R	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.4	134-SB-033R	115A	6/25/2014	-0.1	Target Elevation Reached
685069.9	601738.9	4.1	134-SB-155	118B	6/30/2014	-7.1	Stratum D Reached
685042.3	601722.7	-8.9	134-SB-141	118B	7/8/2014	-7.1	Stratum D Reached
685057.7	601744.9	-8.9	134-SB-141R	117B	7/8/2014	-6.5	Stratum D Reached
685040.6	601747.5	-6.8	134-SB-147	116B	7/8/2014	-6.9	Stratum D Reached
685024.0	601763.4	4.1	134-SB-154	115B	7/10/2014	-5.6	Stratum D Reached
685177.7	601903.0	2.4	134-SB-033R	114A	6/30/2014	0.5	Target Elevation Reached
685132.0	601873.0	-0.6	134-SB-019	114A	7/3/2014	-1.7	Target Elevation Reached
685014.9	601776.3	4.1	134-SB-154R	114B	7/10/2014	3.9	Target Elevation Reached
685159.0	601914.0	2.4	134-SB-033	113A	7/3/2014	0.7	Target Elevation Reached
685116.3	601878.4	0.8	134-SB-057	113A	7/3/2014	-2.0	Target Elevation Reached
685006.3	601780.6	4.1	134-SB-154R	113B	7/17/2014	3.6	Target Elevation Reached
685157.5	601925.6	2.4	134-SB-033R	112A	7/8/2014	0.0	Target Elevation Reached
685126.3	601904.5	-1.2	134-SB-052	112A	7/8/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.1	134-SB-154R	112B	7/17/2014	3.6	Target Elevation Reached
685145.9	601933.8	2.4	134-SB-033R	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	134-SB-052R	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.1	134-SB-154R	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.4	134-SB-033R	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	134-SB-052R	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.1	134-SB-154R	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.4	134-SB-033R	109A	7/10/2014	1.5	Target Elevation Reached
685111.5	601936.0	1.4	134-SB-056	109A	7/10/2014	-1.3	Target Elevation Reached
684960.2	601820.4	4.1	134-SB-154R	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.4	134-SB-033R	108A	7/17/2014	1.6	Target Elevation Reached
685087.5	601946.0	-1.2	134-SB-052R	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.1	134-SB-154R	108B	7/17/2014	3.6	Target Elevation Reached
685117.6	601982.8	0.9	134-SB-062	107A	7/17/2014	-5.0	Stratum D Reached
685087.5	601965.4	1.8	134-SB-051	107A	7/17/2014	-5.1	Stratum D Reached
684939.3	601841.8	4.1	134-SB-154R	107B	7/17/2014	3.6	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.5)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684928.5	601848.2	4.1	134-SB-154R	106B	7/17/2014	3.8	Target Elevation Reached
685068.5	601974.0	1.2	134-SB-061	106A	7/23/2014	-5.2	Stratum D Reached
685046.6	601950.7	1.2	134-SB-061R	106A	7/23/2014	-2.8	Target Elevation Reached
685076.6	601999.1	-6.7	134-SB-065	105	7/23/2014	-4.7	Stratum D Reached
685029.8	601954.8	1.2	134-SB-061R	105	7/23/2014	-2.8	Target Elevation Reached
685087.0	602018.0	-5.7	134-SB-024	104	7/29/2014	-5.1	Stratum D Reached
685017.7	601961.5	1.2	134-SB-061R	104	7/29/2014	-5.7	Stratum D Reached
685065.1	602014.9	-5.2	134-SB-064	103	7/29/2014	-5.1	Stratum D Reached
685036.9	601997.8	-5.2	134-SB-078	103	7/29/2014	-6.2	Stratum D Reached
685012.8	601978.1	-7.5	134-SB-113	103	7/29/2014	-7.2	Stratum D Reached
685021.0	602007.9	-7.9	134-SB-080	102	7/31/2014	-6.0	Stratum D Reached
685024.9	602029.4	-7.8	134-SB-042	101	8/4/2014	-5.6	Stratum D Reached
684982.2	601991.3	0.1	134-SB-098	101	8/4/2014	-8.0	Stratum D Reached
685016.6	602043.2	-6.1	134-SB-032R	100	8/6/2014	-6.2	Stratum D Reached
685003.8	602054.0	-6.4	134-SB-083	99	8/6/2014	-5.4	Stratum D Reached
685001.8	602054.2	-7.4	134-SB-S08	99	8/6/2014	-5.2	Stratum D Reached
685033.1	602098.5	-6.7	134-SB-063	98	8/8/2014	-5.4	Stratum D Reached
684988.8	602075.4	-7.4	134-SB-043	97	8/8/2014	-4.6	Stratum D Reached
684959.7	602075.1	-7.1	134-SB-054	96	8/12/2014	-5.1	Stratum D Reached
685001.0	602117.0	-6.1	134-SB-032	95	8/12/2014	-5.5	Stratum D Reached
684972.2	602122.1	-6.1	134-SB-032R	94	8/14/2014	-4.6	Stratum D Reached
684941.6	602113.9	-7.6	134-SB-044	93	8/14/2014	-5.1	Stratum D Reached
684945.3	602113.6	-5.6	134-SB-084	93	8/14/2014	-5.1	Stratum D Reached
684966.5	602131.5	-6.4	134-SB-085	93	8/14/2014	-4.4	Stratum D Reached
684994.9	602150.7	-6.4	134-SB-086	93	8/14/2014	-5.0	Stratum D Reached
684955.8	602150.0	-6.1	134-SB-032R	92	8/18/2014	-4.6	Stratum D Reached
684946.6	602152.9	-7.0	134-SB-046	91	8/18/2014	-4.9	Stratum D Reached
684969.5	602171.1	-6.5	134-SB-047	91	8/18/2014	-5.2	Stratum D Reached
684915.0	602157.9	-6.4	134-SB-150	90	8/20/2014	-5.9	Stratum D Reached
684948.5	602187.3	-5.8	134-SB-158	90	8/20/2014	-5.2	Stratum D Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area. Coordinates come from Center Points within that specific cell.

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

* Target Reached. Over excavation conducted as directed by engineer.

SA-6 South Excavation: Center Points (Table 2.0)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685460.6	601379.6	5.7	C-153	153	4/24/2014	3.9	Target Elevation Reached- Cell only partially excavated
685497.5	601425.0	5.7	C-152	152	4/24/2014	4.2	Target Elevation Reached
685453.0	601392.1	5.7	C-152-1	152	4/24/2014	3.7	Target Elevation Reached
685467.8	601422.4	5.7	C-151	151	4/24/2014	1.9	Target Elevation Reached
685489.7	601438.8	5.7	C-151-1	151	4/24/2014	3.9	Target Elevation Reached
685448.1	601407.0	5.7	C-151-2	151	4/24/2014	4.0	Target Elevation Reached
685511.4	601454.1	3.3	C-151-3	151	4/25/2014	3.0	Target Elevation Reached
685455.0	601431.7	5.7	C-150	150	4/24/2014	2.1	Target Elevation Reached
685480.8	601450.0	5.7	C-150-1	150	4/24/2014	4.0	Target Elevation Reached
685502.2	601463.5	2.8	C-150-2	150	4/25/2014	2.8	Target Elevation Reached
685490.0	601478.5	5.7	C-149	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	5.7	C-148	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	5.7	C-147	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	5.7	C-146	146A	4/24/2014	5.6	Target Elevation Reached
685444.3	601518.5	5.7	C-145	145A	4/24/2014	5.5	Target Elevation Reached
685403.0	601506.0	-4.3	C-144	144A	4/24/2014	-4.5	Target Elevation Reached
685433.1	601528.8	5.7	C-144-1	144A	4/24/2014	5.4	Target Elevation Reached
685396.1	601517.4	-4.3	C-143	143A	4/24/2014	-5.3	Target Elevation Reached
685427.6	601544.4	5.7	C-143-1	143A	4/24/2014	5.5	Target Elevation Reached
685386.6	601530.7	-4.3	C-142	142A	4/24/2014	-4.8	Target Elevation Reached
685416.3	601555.6	5.7	C-142-1	142A	4/24/2014	1.9	Target Elevation Reached
685379.5	601542.9	-4.3	C-141	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.1	C-141-1	141A	4/24/2014	2.0	Target Elevation Reached
685371.7	601554.8	-4.3	C-140	140A	4/24/2014	-4.5	Target Elevation Reached
685401.1	601580.7	2.1	C-140-1	140A	4/24/2014	-1.5	Target Elevation Reached
685352.9	601555.6	-4.3	C-139	139A	4/24/2014	-4.4	Target Elevation Reached
685390.7	601590.5	-1.2	C-139-1	139A	4/24/2014	-1.6	Target Elevation Reached
685368.1	601592.3	-1.2	C-138	138A	4/29/2014	-1.5	Target Elevation Reached
685338.6	601567.5	2.1	C-138-1	138A	4/29/2014	1.7	Target Elevation Reached
685359.7	601603.5	-1.2	C-137	137A	4/29/2014	-1.5	Target Elevation Reached
685328.7	601577.4	2.1	C-137-1	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-7.5	C-146-B	146B	5/5/2014	-8.0	Target Elevation Reached
685320.3	601420.2	-7.5	C-145-B	145B	5/5/2014	-7.8	Target Elevation Reached
685314.6	601432.4	-7.5	C-144-B	144B	5/8/2014	-8.2	Target Elevation Reached
685307.0	601446.0	-7.5	C-143-B	143B	5/8/2014	-8.0	Target Elevation Reached
685306.3	601465.9	-7.5	C142-B	142B	5/12/2014	-7.6	Target Elevation Reached
685304.8	601483.2	-7.5	C-141-B	141B	5/12/2014	-7.9	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.1)

Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685295.5	601493.5	-7.5	C-140-B	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-7.5	C-139-B	139B	5/14/2014	-7.8	Target Elevation Reached
685266.5	601506.3	-7.5	C-138-B	138B	5/14/2014	-7.8	Target Elevation Reached
685277.8	601539.2	2.1	C-137-B	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-1.2	C-136-2	136	5/5/2014	-1.5	Target Elevation Reached
685343.4	601610.1	-2.5	C-136	136	5/5/2014	-2.8	Target Elevation Reached
685315.0	601587.9	2.1	C-136-1	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-1.2	C-135-1	135	5/8/2014	-1.4	Target Elevation Reached
685348.8	601634.5	-2.5	C-135	135	5/8/2014	-2.6	Target Elevation Reached
685272.1	601572.6	2.1	C-135-2	135	5/19/2014	1.7	Target Elevation Reached
685236.7	601544.8	-1.2	C-135-3	135	5/19/2014	-1.3	Target Elevation Reached
685358.1	601659.9	-1.2	C-134-1	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-2.5	C-134	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	C-134-2	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	-1.2	C-134-3	134	5/19/2014	-1.2	Target Elevation Reached
685322.3	601651.3	-1.2	C-133-1	133	5/14/2014	-1.7	Target Elevation Reached
685338.7	601665.5	0.4	C-133	133	5/12/2014	-0.1	Target Elevation Reached
685264.0	601607.6	2.1	C-133-2	133	5/19/2014	1.8	Target Elevation Reached
685215.0	601563.9	-1.2	C-133-3	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.1	C-132-1	132	5/12/2014	1.7	Target Elevation Reached
685314.3	601666.4	-1.2	C-132	132	5/14/2014	-1.5	Target Elevation Reached
685210.3	601579.7	-2.5	C-132-B	132	5/22/2014	-3.2	Target Elevation Reached
685194.1	601565.5	-1.2	C-132-B1	132	5/22/2014	-1.6	Target Elevation Reached
685257.3	601619.3	2.1	C-132-2	132	5/19/2014	1.8	Target Elevation Reached
685307.8	601677.9	-1.2	C-131	131	5/14/2014	-1.4	Target Elevation Reached
685202.7	601594.7	-2.5	C-131-B	131	5/22/2014	-2.9	Target Elevation Reached
685184.3	601577.4	-1.2	C-131-B1	131	5/22/2014	-2.1	Target Elevation Reached
685328.1	601694.6	2.1	C-131-1	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	C-131-2	131	5/19/2014	2.0	Target Elevation Reached
685193.4	601601.4	-2.5	C-130-B	130	5/22/2014	-2.5	Target Elevation Reached
685300.8	601690.9	-1.2	C-130	130	5/19/2014	-1.5	Target Elevation Reached
685176.5	601589.8	-1.2	C-130-B1	130	5/22/2014	-1.9	Target Elevation Reached
685240.0	601641.1	2.1	C-130-2	130	5/19/2014	1.9	Target Elevation Reached
685321.3	601708.0	2.1	C-130-1	130	5/19/2014	1.9	Target Elevation Reached
685294.8	601706.8	-1.2	C-129-A	129	5/22/2014	-1.4	Target Elevation Reached
685311.8	601720.4	2.1	C-129-A1	129	5/22/2014	1.9	Target Elevation Reached
685186.2	601619.2	-7.5	C-129-B	129	5/27/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.2)

Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685236.4	601661.1	0.4	C-129-1	129	5/27/2014	0.1	Target Elevation Reached
685263.1	601682.1	2.1	C-129-2	129	5/22/2014	1.8	Target Elevation Reached
685303.5	601732.5	2.1	C-128-A-1	128	5/22/2014	1.9	Target Elevation Reached
685286.6	601718.1	-1.2	C-128-A	128	5/22/2014	-1.4	Target Elevation Reached
685269.5	601703.1	2.1	C-128-A-2	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	0.4	C-128-A-3	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-7.5	C-128-B	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	0.4	C-127-A	127	5/29/2014	0.3	Target Elevation Reached
685271.3	601725.5	-1.2	C-127-A-1	127	5/29/2014	-1.3	Target Elevation Reached
685237.1	601700.2	0.4	C-127-A-2	127	6/2/2014	0.1	Target Elevation Reached
685171.9	601645.3	-7.5	C-127-B	127	6/5/2014	-7.5	Target Elevation Reached
685285.7	601758.3	0.4	C-126-A-1	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	C-126-A	126	6/2/2014	-1.4	Target Elevation Reached
685166.8	601663.7	-7.5	C-126-3	126	6/10/2014	-7.6	Target Elevation Reached
685122.3	601624.7	-8.4	C-126-4	126	6/10/2014	-8.8	Target Elevation Reached
685277.9	601769.3	0.4	C-125	125	6/2/2014	-0.6	Target Elevation Reached
685241.9	601742.6	-1.2	C-125-1	125	6/5/2014	-1.4	Target Elevation Reached
685158.0	601676.7	-7.5	C-125-2	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	C-125-3	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	0.4	C-124	124	6/10/2014	0.1	Target Elevation Reached
685261.7	601778.9	-2.5	C-124-1	124	6/10/2014	-2.8	Target Elevation Reached
685230.8	601752.7	-1.2	C-124-2	124	6/10/2014	-1.4	Target Elevation Reached
685172.8	601704.6	-7.5	C-124-4	124	6/17/2014	-7.7	Stratum D Reached
685128.8	601669.1	-8.7	C-124-5	124	6/17/2014	-7.8	Stratum D Reached
685104.8	601647.4	-7.5	C-124-6	124	6/17/2014	-8.6	Stratum D Reached
685262.3	601792.9	0.4	C-123	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-2.5	C-123-1	123	6/10/2014	-2.8	Target Elevation Reached
685221.2	601763.9	-1.2	C-123-2	123	6/10/2014	-1.7	Target Elevation Reached
685162.4	601719.5	-7.5	C-123-3	123	6/20/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	C-123-4	123	6/20/2014	-7.8	Stratum D Reached
685091.7	601659.6	-7.5	C-123-5	123	6/20/2014	-8.1	Stratum D Reached
685252.4	601807.4	0.4	C-122	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601792.7	-2.5	C-122-1	122	6/13/2014	-2.6	Target Elevation Reached
685207.9	601771.1	-1.2	C-122-2	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-7.5	C-122-5	122	6/20/2014	-7.5	Stratum D Reached
685108.5	601694.5	-8.7	C-122-6	122	6/20/2014	-6.9	Stratum D Reached
685086.9	601671.6	-7.5	C-122-3	122	6/20/2014	-7.4	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.3)

Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685242.2	601818.1	0.4	C-121	121	6/17/2014	0.3	Target Elevation Reached
685214.5	601794.9	-2.5	C-121-3	121	6/20/2014	-2.6	Target Elevation Reached
685189.3	601776.9	-1.2	C-121-2	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.5	C-121-5	121	6/25/2014	-2.5	Target Elevation Reached
685127.3	601725.9	-7.5	C-121-6	121	6/25/2014	-7.0	Stratum D Reached
685104.7	601708.0	-8.7	C-121-7	121	6/25/2014	-6.1	Stratum D Reached
685073.0	601686.3	-7.5	C-121-8	121	6/25/2014	-7.1	Stratum D Reached
685233.4	601829.1	0.4	C-120-1	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-2.5	C-120	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.2	C-120-2	120	6/20/2014	-1.5	Target Elevation Reached
685153.6	601765.8	-2.5	C-120-3	120	6/25/2014	-2.7	Target Elevation Reached
685095.6	601718.8	-7.5	C-120-4	120	6/25/2014	-6.9	Stratum D Reached
685223.8	601840.5	0.4	C-119	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-2.5	C-119-1	119	6/25/2014	-2.8	Target Elevation Reached
685172.6	601798.3	-1.2	C-119-2	119	6/25/2014	-1.2	Target Elevation Reached
685145.7	601780.4	-2.5	C-119-3	119	6/25/2014	-2.8	Target Elevation Reached
685080.0	601724.8	-7.5	C-119-4	119	6/30/2014	-6.9	Stratum D Reached
685208.4	601850.6	2.1	C-118	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.1	C-117	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.1	C-116	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.1	C-115	115A	6/25/2014	-0.1	Target Elevation Reached
685069.7	601734.8	-7.5	C-118-1	118B	6/30/2014	-6.1	Stratum D Reached
685057.7	601744.9	-7.5	C-117-1	117B	7/8/2014	-6.5	Stratum D Reached
685031.8	601746.6	-7.5	C-116-1	116B	7/8/2014	-7.0	Stratum D Reached
685022.1	601754.6	-7.5	C-115-1	115B	7/10/2014	-5.9	Stratum D Reached
685177.7	601903.0	2.1	C-114	114A	6/30/2014	0.5	Target Elevation Reached
685147.1	601873.7	-1.2	C-114-1	114A	6/30/2014	-1.3	Target Elevation Reached
685014.9	601776.3	4.2	C-114-2	114B	7/10/2014	3.9	Target Elevation Reached
684985.2	601787.3	4.2	C-114-3	114B	7/17/2014	-1.8	UST Area
685166.0	601912.1	2.1	C-113-1	113A	7/3/2014	0.9	Target Elevation Reached
685134.0	601884.4	-1.2	C-113-2	113A	7/3/2014	-1.7	Target Elevation Reached
685006.3	601780.6	4.2	C-113-3	113B	7/17/2014	3.6	Target Elevation Reached
684998.3	601772.8	4.2	C-113-4	113B	7/17/2014	-2.1	UST Area
685157.5	601925.6	2.1	C-112	112A	7/8/2014	0.0	Target Elevation Reached
685124.9	601894.4	-1.2	C-112-1	112A	7/3/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.2	C-112-2	112B	7/17/2014	3.6	Target Elevation Reached
685002.7	601764.7	4.2	C-112-3	112B	7/17/2014	-2.0	UST Area

SA-6 South Excavation: Center Points (Table 2.4)

Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.9	601933.8	2.1	C-111-1	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	C-111	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.2	C-111-4	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.1	C-110	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	C-110-1	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.2	C-110-4	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.1	C-109	109A	7/10/2014	1.5	Target Elevation Reached
685097.4	601930.7	-1.2	C-109-1	109A	7/10/2014	-1.5	Target Elevation Reached
684960.2	601820.4	4.2	C-109-4	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.1	C-108-1	108A	7/17/2014	1.6	Target Elevation Reached
685087.5	601946.0	-1.2	C-108	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.2	C-108-4	108B	7/17/2014	3.6	Target Elevation Reached
685110.1	601981.8	-4.3	C-107-1	107A	7/17/2014	-4.8	Stratum D Reached
685069.0	601948.1	-1.2	C-107-2	107A	7/17/2014	-1.3	Target Elevation Reached
684939.3	601841.8	4.2	C-107-4	107B	7/17/2014	3.6	Target Elevation Reached
684928.5	601848.2	4.2	C-106-4	106B	7/17/2014	3.8	Target Elevation Reached
685089.2	601980.6	-4.3	C-106	106A	7/23/2014	-5.3	Stratum D Reached
685046.6	601950.7	-2.5	C-106-1	106A	7/23/2014	-2.8	Target Elevation Reached
685080.0	601994.5	-4.3	C-105	105	7/23/2014	-5.2	Stratum D Reached
685029.8	601954.8	-2.5	C-105-1	105	7/23/2014	-2.8	Target Elevation Reached
685062.9	602000.7	-4.3	C-104	104	7/29/2014	-5.3	Stratum D Reached
685017.7	601961.5	-2.5	C-104-1	104	7/29/2014	-5.7	Stratum D Reached
685027.6	601993.5	-4.3	C-103	103	7/29/2014	-6.5	Stratum D Reached
685021.1	602004.8	-4.3	C-102	102	7/31/2014	-6.1	Stratum D Reached
685014.2	602023.1	-4.3	C-101	101	8/4/2014	-5.8	Stratum D Reached
685016.6	602043.2	-4.3	C-100	100	8/6/2014	-6.2	Stratum D Reached
685015.8	602057.5	-4.3	C-99	99	8/6/2014	-5.6	Stratum D Reached
685008.9	602072.0	-4.3	C-98	98	8/8/2014	-5.2	Stratum D Reached
685000.4	602084.6	-4.3	C-97	97	8/8/2014	-4.8	Stratum D Reached
684989.2	602093.1	-4.3	C-96	96	8/12/2014	-5.5	Stratum D Reached
684975.6	602105.6	-4.3	C-95	95	8/12/2014	-5.6	Stratum D Reached
684972.2	602122.1	-4.3	C-94	94	8/14/2014	-4.6	Stratum D Reached
684974.5	602139.6	-4.3	C-93	93	8/14/2014	-4.2	Stratum D Reached
684955.8	602150.0	-4.3	C-92	92	8/18/2014	-4.6	Stratum D Reached
684946.7	602163.1	-4.3	C-91	91	8/18/2014	-4.8	Stratum D Reached
684941.7	602173.1	-4.3	C-90	90	8/20/2014	-4.9	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.5)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

Green shading indicates 100% Design Bottom Elevation Field Modified to reach < 20 PPM soils .

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)

Sidewall Target Coordinates					As-built Elevations		
685443.0	601355.0	5.8	073-SB-003	153	4/24/2014	4.0	Target Elevation Reached
685441.6	601380.0	6.7	073-SB-078	152	4/24/2014	3.9	Target Elevation Reached
685490.9	601459.8	7.8	073-SB-027	150	4/24/2014	3.8	Target Elevation Reached
685459.6	601448.4	5.9	073-SB-064	149	4/24/2014	2.0	Target Elevation Reached
685438.1	601430.2	8.8	073-SB-063	149	4/24/2014	1.8	Target Elevation Reached
685470.0	601487.0	5.9	073-SB-004	148	4/24/2014	5.7	Target Elevation Reached
685383.5	601506.5	0.9	073-SB-060	143A	4/24/2014	-4.4	Target Elevation Reached
685368.1	601516.7	0.4	073-SB-077	142A	4/24/2014	-4.5	Target Elevation Reached
685341.4	601558.3	2.9	073-SB-046	139A	4/24/2014	-4.5	Target Elevation Reached
685309.0	601571.0	3.8	073-SB-006	137A	4/29/2014	1.9	Target Elevation Reached
685339.2	601410.1	-5.7	073-SB-048	146B	5/5/2014	-7.7	Target Elevation Reached
685319.6	601464.4	-5.4	073-SB-022	143B	5/8/2014	-7.5	Target Elevation Reached
685332.6	601487.8	-3.6	073-SB-071	142B	5/12/2014	-7.6	Target Elevation Reached
685344.0	601523.8	-4.1	073-SB-076	141B	5/12/2014	-7.6	Target Elevation Reached
685316.0	601542.0	-6.2	073-SB-016	138B	5/14/2014	-7.8	Target Elevation Reached
685304.5	601530.7	-5.8	073-SB-051	138B	5/14/2014	-7.5	Target Elevation Reached
685132.7	601748.9	-1.7	134-SB-126	120	6/25/2014	-7.2	Stratum D Reached
685210.2	601831.4	-0.8	134-SB-072	119	6/25/2014	-2.5	Target Elevation Reached
685116.0	601754.5	-6.0	134-SB-157	119	6/30/2014	-6.9	Stratum D Reached
685165.3	601806.2	3.5	134-SB-094	118B	6/25/2014	-1.6	Target Elevation Reached
685131.0	601787.0	-2.3	134-SB-017	118B	6/25/2014	-3.3	Target Elevation Reached
685197.0	601868.0	6.0	134-SB-034	117A	6/25/2014	-0.3	Target Elevation Reached
685073.0	601769.4	-6.5	134-SB-142	116B	7/8/2014	-6.3	Stratum D Reached
685168.1	601879.4	-0.7	134-SB-058	115A	6/30/2014	-1.6	Target Elevation Reached
685137.3	601854.1	2.7	134-SB-073	115A	6/30/2014	-1.4	Target Elevation Reached
685043.3	601773.2	6.0	134-SB-152	115B	7/10/2014	-5.5	Stratum D Reached
685111.7	601863.3	2.2	134-SB-074	113A	7/3/2014	-1.3	Target Elevation Reached
685013.2	601803.0	6.0	134-SB-156	112B	7/17/2014	3.7	Target Elevation Reached
685094.6	601890.3	2.2	134-SB-075	111A	7/8/2014	-1.6	Target Elevation Reached
685081.0	601928.0	-0.1	134-SB-021	109A	7/10/2014	-1.6	Target Elevation Reached
685080.6	601935.9	3.0	134-SB-092	108A	7/10/2014	-1.6	Target Elevation Reached
684976.1	601816.3	6.1	134-SB-144	110B	7/17/2014	3.9	Target Elevation Reached
684949.4	601849.3	6.1	134-SB-145	107B	7/17/2014	3.8	Target Elevation Reached
685042.0	601935.0	-0.3	134-SB-023	107A	7/17/2014	-2.7	Target Elevation Reached
684999.7	601940.5	-0.5	134-SB-097	104	7/29/2014	-7.2	Stratum D Reached
684969.0	601950.0	-4.3	134-SB-025	103	7/31/2014	-5.3	Stratum D Reached
684966.4	601991.2	0.8	134-SB-111	100	8/4/2014	-5.8	Stratum D Reached
684986.0	602025.0	-2.7	134-SB-027	100	8/6/2014	-6.3	Stratum D Reached

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.1)							
Sidewall Target Coordinates					As-built Elevations		
684948.7	602072.2	-3.2	134-SB-099	96	8/12/2014	-5.4	Stratum D Reached
684925.0	602120.8	-4.2	134-SB-050	92	8/18/2014	-5.5	Stratum D Reached

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

R. Thomas Hugg 8/22/14

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR

LICENSE NO. 36737

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-01		684138.4	603182.3	-0.5							4	Crushed concrete	Bottom of excavation elevation	
2	BF-01-01	12/5/2013	684144.2	603184.2	1.0	136.4	3.7	142.6	7.8	96	95	4	Weldon WC QP		Sor
3	BF-01-02	12/5/2013	684137.8	603181.7	1.9	139.9	4.3	142.6	7.8	98	95	4	Weldon WC QP		Sor
4	BF-01-03	12/6/2013	684140.2	603182.7	2.5	141.2	5.0	142.6	7.8	99	95	4	Weldon WC QP		Sor
5	BF-01-04	12/6/2013	684136.6	603190.0	3.5	141.2	5.6	142.6	7.8	99	95	4	Weldon WC QP		Sor
6	BF-01-05	12/6/2013	684134.9	603186.7	4.5	143.2	4.8	142.6	7.8	100	95	4	Weldon WC QP		Sor
7	BF-01-06	12/6/2013	684141.1	603182.6	5.8	139.6	6.0	142.6	7.8	98	95	4	Weldon WC QP		Sor
8	BF-01-07	12/10/2013	684147.6	603186.8	6.2	146.7	5.1	142.6	7.8	103	95	4	Weldon WC QP		Sor
9	BF-01-08	12/10/2013	684140.2	603189.6	7.1	120.1	3.4	128.9	12.1	93	95	4	Weldon WC Screenings	recompact lift	Sor
9	BF-01-08R	12/10/2013	684140.2	603189.6	7.1	129.9	4.9	128.9	12.1	101	95	4	Weldon WC Screenings	second reading after addl compaction	Sor
10	BF-01-09	12/12/2013	684130.1	603175.5	8.1	126.4	3.3	128.9	12.1	98	95	4	Weldon WC Screenings		Sor
11	BF-01-10	12/31/2013	684140.0	603184.3	9.0	139.6	7.4	128.9	12.1	108	95	4	Weldon WC Screenings		Sor
1	BF-02		684153.8	603153.9	-0.6							6	Crushed concrete	Bottom of excavation elevation	
2	BF-02-01	12/5/2013	684162.8	603161.3	1.4	138.2	5.7	142.6	7.8	97	95	6	Weldon WC QP		Sor
3	BF-02-02	12/5/2013	684160.8	603162.3	2.4	136.2	4.5	142.6	7.8	96	95	6	Weldon WC QP		Sor
4	BF-02-03	12/6/2013	684157.7	603161.3	2.7	147.2	5.6	142.6	7.8	103	95	6	Weldon WC QP		Sor
5	BF-02-04	12/6/2013	684145.7	603162.1	3.7	143.5	5.0	142.6	7.8	101	95	6	Weldon WC QP		Sor
6	BF-02-05	12/6/2013	684156.9	603171.0	4.4	145.7	4.1	142.6	7.8	102	95	6	Weldon WC QP		Sor
7	BF-02-06	12/6/2013	684150.1	603155.4	5.6	140.4	4.6	142.6	7.8	98	95	6	Weldon WC QP		Sor
8	BF-02-07	12/10/2013	684135.5	603153.5	6.1	149.4	4.0	142.6	7.8	105	95	6	Weldon WC QP		Sor
9	BF-02-08	12/10/2013	684157.9	603174.9	7.2	125.8	5.2	128.9	12.1	98	95	6	Weldon WC Screenings		Sor
1	BF-03		684179.9	603119.5	-1.2							9	Crushed concrete	Bottom of excavation elevation	
2	BF-03											9	Type A Material	No compaction testing required	
3	BF-03-01	11/22/2013	684198.1	603131.6	0.2	133.3	3.4	142.6	7.8	93	95	9	Weldon WC QP		Sor
4	BF-03-02	11/22/2013	684155.7	603111.6	1.5	130.8	2.8	142.6	7.8	92	95	9	Weldon WC QP		Sor
5	BF-03-03	12/5/2013	684177.4	603121.5	2.5	135.7	2.0	128.9	12.1	105	95	9	Weldon WC Screenings		Sor
6	BF-03-04	12/12/2013	684180.5	603126.9	4.6	124.7	3.2	128.9	12.1	97	95	9	Weldon WC Screenings		Sor
7	BF-03-05	12/12/2013	684177.1	603132.4	5.3	132.5	2.8	128.9	12.1	103	95	9	Weldon WC Screenings		Sor
8	BF-03-06	12/16/2013	684172.4	603128.5	6.4	128.3	2.9	128.9	12.1	100	95	9	Weldon WC Screenings		Sor
9	BF-03-07	1/6/2014	684177.1	603113.8	6.6	131.2	10.4	128.9	12.1	102	95	9	Weldon WC Screenings		Sor
10	BF-03-08	1/9/2014	684178.2	603121.8	8.2	128.2	5.9	128.9	12.1	99	95	9	Weldon WC Screenings		Sor
1	BF-04		684195.7	603093.1	-1.5							11	Crushed concrete	Bottom of excavation elevation	
2	BF-04											11	Type A Material	No compaction testing required	
3	BF-04-01	12/5/2013	684198.0	603094.8	2.6	131.0	3.6	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
4	BF-04-02	12/12/2013	684206.6	603104.7	3.5	125.8	3.9	128.9	12.1	98	95	11	Weldon WC Screenings		Sor
5	BF-04-03	12/16/2013	684217.5	603111.1	4.9	129.9	2.9	128.9	12.1	101	95	11	Weldon WC Screenings		Sor
6	BF-04-04	12/31/2013	684213.6	603115.0	5.9	124.6	3.2	128.9	12.1	97	95	11	Weldon WC Screenings		Sor
7	BF-04-05	1/9/2014	684195.8	603100.0	8.2	131.2	4.8	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
1	BF-05		684200.8	603078.4	-1.8							12	Crushed concrete	Bottom of excavation elevation	
2	BF-05											12	Type A Material	No compaction testing required	
3	BF-05-01	12/5/2013	684185.2	603057.9	2.6	133.8	4.7	128.9	12.1	104	95	12	Weldon WC Screenings		Sor
4	BF-05-02	12/12/2013	684179.9	603057.7	3.0	121.5	3.0	128.9	12.1	94	95	12	Weldon WC Screenings	recompact lift	Sor
4	BF-05-02R	12/16/2013	684186.2	603070.2	3.1	133.0	9.3	128.9	12.1	103	95	12	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-05-03	12/31/2013	684181.6	603060.8	4.5	124.7	2.9	128.9	12.1	97	95	12	Weldon WC Screenings		Sor
6	BF-05-04	1/9/2013	684186.1	603053.5	5.8	129.7	3.3	128.9	12.1	101	95	12	Weldon WC Screenings		Sor
7	BF-05-05	1/9/2013	684180.6	603048.6	6.5	131.1	3.4	128.9	12.1	102	95	12	Weldon WC Screenings		Sor
8	BF-05-06	3/19/2014	684180.6	603060.4	7.5	122.5	4.9	128.9	12.1	95	95	12	Weldon WC Screenings		Sor
1	BF-06		684214.8	603050.6	-1.7							14	Crushed concrete	Bottom of excavation elevation	
2	BF-06											14	Crushed concrete	No compaction testing required	
3	BF-06-01	12/31/2013	684229.9	603061.3	2.2	137.7	3.4	128.9	12.1	107	95	14	Weldon WC Screenings		Sor
4	BF-06-02	12/31/2013	684228.8	603062.8	3.5	133.1	3.4	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
5	BF-06-03	1/6/2014	684234.0	603066.8	4.2	123.7	9.5	128.9	12.1	96	95	14	Weldon WC Screenings		Sor
6	BF-06-04	1/9/2014	684230.8	603071.3	6.2	133.1	4.2	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
7	BF-06-05	1/9/2014	684213.9	603095.7	7.3	133.8	5.0	128.9	12.1	104	95	14	Weldon WC Screenings		Sor
1	BF-07		684222.7	603033.3	-0.8							15	Crushed concrete	Bottom of excavation elevation	
2	BF-07											15	Crushed concrete	No compaction testing required	
3	BF-07-01	12/31/2013	684196.2	603014.9	2.5	133.1	2.6	128.9	12.1	103	95	15	Weldon WC Screenings		Sor
4	BF-07-02	12/31/2013	684192.8	603021.1	3.9	133.2	3.4	128.9	12.1	103	95	15	Weldon WC Screenings	Numbering error; skipped from 02 to 04	Sor
6	BF-07-04	1/9/2014	684196.9	603018.8	5.7	118.5	3.9	128.9	12.1	92	95	15	Weldon WC Screenings	recompact lift	Sor
6	BF-07-04R	1/9/2014	684196.9	603018.8	5.7	122.6	4.3	128.9	12.1	95	95	15	Weldon WC Screenings	second reading after addl compaction	Sor
7	BF-07-05	1/9/2014	684195.0	603021.0	6.4	128.4	6.7	128.9	12.1	100	95	15	Weldon WC Screenings		Sor

FIELD DENSITY TEST SUMMARY LOG
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JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-08		684221.8	603013.0	-0.7							16	Crushed concrete	Bottom of excavation elevation	
2	BF-08											16	Crushed concrete	No compaction testing required	
3	BF-08-01	12/31/2013	684246.9	603039.8	2.0	127.2	3.2	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
4	BF-08-02	12/31/2013	684240.5	603043.2	3.1	132.7	2.9	128.9	12.1	103	95	16	Weldon WC Screenings		Sor
5	BF-08-03	1/6/2014	684231.7	603038.8	3.9	127.0	8.4	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
6	BF-08-04	1/9/2014	684242.3	603046.8	5.4	130.1	4.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
7	BF-08-05	1/9/2014	684236.3	603066.0	7.1	129.8	6.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
1	BF-09		684208.5	602989.4	-0.5							17	Crushed concrete	Bottom of excavation elevation	
2	BF-09											17	Crushed concrete	No compaction testing required	
3	BF-09-01	1/28/2014	684209.7	602987.6	2.5	124.0	7.9	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
4	BF-09-02	1/28/2014	684213.6	602980.4	3.4	123.4	6.1	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
5	BF-09-03	1/28/2014	684204.2	602981.5	4.2	124.9	7.1	128.9	12.1	97	95	17	Weldon WC Screenings		Sor
1	BF-10		684269.0	603014.0	-0.5							18	Crushed concrete	Bottom of excavation elevation	
2	BF-10											18	Crushed concrete	No compaction testing required	
3	BF-10-01	1/20/2014	684275.4	603018.2	2.2	133.1	7.7	128.9	12.1	103	95	18	Weldon WC Screenings		Sor
4	BF-10-02	1/28/2014	684267.5	603026.1	3.2	118.8	3.1	128.9	12.1	92	95	18	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-10-02R	1/28/2014	684267.5	603026.1	3.2	133.3	6.1	128.9	12.1	103	95	18	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-10-03	1/28/2014	684271.8	603014.4	4.1	125.7	5.4	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
6	BF-10-04	3/21/2014	684267.9	603017.5	5.2	126.4	6.8	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
1	BF-11		684208.5	602989.4	-1.0							19	Crushed concrete	Bottom of excavation elevation	
2	BF-11											19	Crushed concrete	No compaction testing required	
3	BF-11-01	1/28/2014	684216.6	602952.7	2.1	125.2	8.8	128.9	12.1	97	95	19	Weldon WC Screenings		Sor
4	BF-11-02	1/28/2014	684223.4	602953.8	3.4	129.8	4.2	128.9	12.1	101	95	19	Weldon WC Screenings		Sor
5	BF-11-03	1/28/2014	684211.6	602949.0	4.0	123.4	6.6	128.9	12.1	96	95	19	Weldon WC Screenings		Sor
1	BF-12		684286.7	602988.6	-1.7							20	Crushed concrete	Bottom of excavation elevation	
2	BF-12											20	Crushed concrete	No compaction testing required	
3	BF-12-01	1/20/2014	684291.7	602995.2	1.8	133.3	8.3	128.9	12.1	103	95	20	Weldon WC Screenings		Sor
4	BF-12-02	1/28/2014	684288.5	602989.8	2.9	121.6	4.0	128.9	12.1	94	95	20	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-12-02R	1/28/2014	684288.5	602989.8	2.9	128.5	5.8	128.9	12.1	100	95	20	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-12-03	1/28/2014	684291.3	602995.4	3.7	136.9	7.5	128.9	12.1	106	95	20	Weldon WC Screenings		Sor
1	BF-13		684235.7	602919.6	-0.9							22	Crushed concrete	Bottom of excavation elevation	
2	BF-13											22	Crushed concrete	No compaction testing required	
3	BF-13-01	1/28/2014	684235.6	602919.1	2.1	130.1	5.8	128.9	12.1	101	95	22	Weldon WC Screenings		Sor
3	BF-13-01R	3/12/2014	684238.5	602922.0	2.1	132.0	2.9	135.8	6.4	97	95	22	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-13-02	3/12/2014	684238.4	602918.2	3.4	133.0	1.4	135.8	6.4	98	95	22	Tilcon MH DGA		V5N
5	BF-13-03	3/19/2014	684235.1	602916.0	4.5	124.0	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
1	BF-14		684312.1	602956.0	-0.9							23	Crushed concrete	Bottom of excavation elevation	
2	BF-14											23	Crushed concrete	No compaction testing required	
3	BF-14-01	1/20/2014	684312.7	602965.2	1.8	133.9	7.0	128.9	12.1	104	95	23	Weldon WC Screenings		Sor
3	BF-14-01R	3/13/2013	684289.6	602935.7	1.8	132.0	1.7	135.8	6.4	97	95	23	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-14-02	3/14/2014	684301.9	602952.7	2.6	133.0	1.6	135.8	6.4	98	95	23	Tilcon MH DGA		V5N
1	BF-15		684260.7	602896.7	-0.9							24	Crushed concrete	Bottom of excavation elevation	
2	BF-15											24	Crushed concrete	No compaction testing required	
3	BF-15-01	1/28/2014	684259.0	602897.1	2.1	123.6	9.0	128.9	12.1	96	95	24	Weldon WC Screenings		Sor
3	BF-15-01R	3/12/2014	684264.5	602902.2	2.1	131.0	2.4	135.8	6.4	96	95	24	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-15-02	3/12/2014	684260.5	602900.2	2.8	133.0	1.3	135.8	6.4	98	95	24	Tilcon MH DGA		V5N
1	BF-16		684326.7	602937.0	-1.1							25	Crushed concrete	Bottom of excavation elevation	
2	BF-16											25	Crushed concrete	No compaction testing required	
3	BF-16-01	1/20/2014	684331.9	602942.7	1.6	136.1	7.4	128.9	12.1	106	95	25	Weldon WC Screenings		Sor
3	BF-16-01R	3/13/2014	6844330.0	602937.2	1.8	132.2	1.4	135.8	6.4	97	95	25	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-16-02	3/14/2014	684326.7	602930.0	2.5	134.0	1.2	135.8	6.4	99	95	25	Tilcon MH DGA		V5N
1	BF-17		684283.7	602879.0	0.4							26	Crushed concrete	Bottom of excavation elevation-Stratum O	
2	BF-17											26	Crushed concrete	No compaction testing required	
3	BF-17-01	3/12/2014	684284.6	602882.1	2.1	130.0	2.9	135.8	6.4	96	95	26	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-17-02	3/14/2014	684273.7	602879.1	3.1	132.0	2.2	135.8	6.4	97	95	26	Tilcon MH DGA		V5N
1	BF-18		684350.8	602909.6	-1.5							27	Crushed concrete	Bottom of excavation elevation	
2	BF-18											27	Crushed concrete	No compaction testing required	
3	BF-18-01	3/13/2014	684313.5	602885.6	1.5	132.4	1.4	135.8	6.4	97	95	27	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-18-02	3/14/2014	684344.0	602911.5	2.7	134.0	1.1	135.8	6.4	99	95	27	Tilcon MH DGA		V5N
1	BF-19		684313.2	602860.4	0.3							28	Crushed concrete	Bottom of excavation elevation - Stratum O	

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2	BF-19											28	Crushed concrete	No compaction testing required	
3	BF-19-01	3/14/2014	684322.1	602872.7	2.8	134.0	0.9	135.8	6.4	99	95	28	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-19-02	3/17/2014	684301.4	602851.5	3.6	133.0	1.3	135.8	6.4	98	95	28	Tilcon MH DGA		V5N
1	BF-20		684370.9	602887.4	-1.7							29	Crushed concrete	Bottom of excavation elevation	
2	BF-20											29	Crushed concrete	No compaction testing required	
3	BF-20-01	3/17/2014	6843640.5	602862.1	2.0	133.0	1.7	135.8	6.4	98	95	29	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-21		684330.4	602835.9	1.9							30	Crushed concrete	Bottom of excavation elevation - Startum O	
2	BF-21-01	3/14/2014	684343.3	602842.2	2.4	132.0	1.6	135.8	6.4	97	95	30	Tilcon MH DGA	Removed wet screenings to crushed concrete and placed Bridge Lift	V5N
3	BF-21-02	3/17/2014	684307.4	602827.3	3.3	134.0	0.8	135.8	6.4	99	95	30	Tilcon MH DGA	Bridge Lift over Stratum O	V5N
4	BF-21-03	3/19/2014	684314.6	602830.9	3.9	122.5	5.1	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
5	BF-21-04	3/20/2014	684314.4	602815.1	4.5	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
6	BF-21-05	3/20/2014	684321.1	602814.1	5.2	124.0	3.9	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
7	BF-21-06	3/20/2014	684308.3	602802.2	5.8	122.5	5.0	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
8	BF-21-07	3/20/2014	684305.8	602806.3	6.7	123.3	4.0	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
9	BF-21-08	3/20/2014	684314.4	602804.8	7.6	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
10	BF-21-09	3/20/2014	684310.5	602806.6	8.4	132.5	1.9	135.8	6.4	98	95	30	Tilcon MH DGA	Truck Ramp to Kellogg Street	V5N
1	BF-22		684391.2	602864.3	-2.3							31	Crushed concrete	Bottom of excavation elevation	
2	BF-22											31	Crushed concrete	No compaction testing required	
3	BF-22-01	3/17/2014	684387.3	602845.0	1.4	134.0	0.8	135.8	6.4	99	95	31	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-23		684350.9	602814.5	-1.6							32	Crushed concrete	Bottom of excavation elevation	
2	BF-23											32	Crushed concrete	No compaction testing required	
3	BF-23-01	3/14/2014	684360.9	602818.8	2.4	132.0	2.0	135.8	6.4	97	95	32	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-23-02	3/17/2014	684339.8	602809.6	3.5	134.0	1.1	135.8	6.4	99	95	32	Tilcon MH DGA		V5N
1	BF-24		684411.0	602842.4	-1.8							33	Crushed concrete	Bottom of excavation elevation	
2	BF-24											33	Crushed concrete	No compaction testing required	
3	BF-24-01	3/17/2014	684402.4	602827.4	1.1	134.0	0.8	135.8	6.4	99	95	33	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-25		684369.5	602729.2	-1.8							34	Crushed concrete	Bottom of excavation elevation	
2	BF-25											34	Crushed concrete	No compaction testing required	
3	BF-25-01	3/14/2014	684379.5	602796.3	2.0	131.0	2.1	135.8	6.4	96	95	34	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-25-02	3/17/2014	684354.8	602790.5	3.4	133.0	1.5	135.8	6.4	98	95	34	Tilcon MH DGA		V5N
1	BF-26		684433.4	602818.8	-2.1							35	Crushed concrete	Bottom of excavation elevation	
2	BF-26											35	Crushed concrete	No compaction testing required	
3	BF-26-01	3/18/2014	684433.9	602828.3	0.3	134.0	0.8	135.8	6.4	99	95	35	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-26-02	3/18/2014	684431.7	602817.7	0.8	133.0	1.3	135.8	6.4	98	95	35	Tilcon MH DGA		V5N
1	BF-27		684389.4	602765.0	-1.8							36	Crushed concrete	Bottom of excavation elevation	
2	BF-27											36	Crushed concrete	No compaction testing required	
3	BF-27-01	3/14/2014	684398.2	602773.8	1.8	133.0	1.6	135.8	6.4	98	95	36	Tilcon MH DGA		V5N
0	BF-28		684457.0	602790.8	-2.8							38	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-28-01	3/12/2014	684461.2	602789.3	-0.4	133.2	1.0	135.8	6.4	98	95	38	Tilcon MH DGA		V5N
0	BF-29		684418.8	602735.2	2.1							39	Stratum O	Bottom of excavation elevation	
1	BF-29-01	3/26/2014	684404.6	602731.3	3.3	134.0	1.2	135.8	6.4	99	95	39	Tilcon MH DGA		V5N
0	BF-30		684476.8	602765.1	-3.1							40	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-30-01	3/12/2014	684478.9	602766.2	-0.7	133.2	1.1	135.8	6.4	98	95	40	Tilcon MH DGA		V5N
0	BF-31		684436.0	602712.8	0.1							41	Stratum O	Bottom of excavation elevation	
0	BF-32		684498.7	602739.5	-2.2							42	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-32-01	3/12/2014	684496.6	602743.0	-0.9	131.0	2.3	135.8	6.4	96	95	42	Tilcon MH DGA		V5N
0	BF-33		684453.0	602683.2	0.1							43	Stratum O	Bottom of excavation elevation	
0	BF-34		684517.5	602716.8	-2.5							44	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-34-01	3/12/2014	684515.6	602715.4	-1.1	131.0	2.0	135.8	6.4	96	95	44	Tilcon MH DGA		V5N
0	BF-35		684471.3	602661.2	0.2							45	Stratum O	Bottom of excavation elevation	
0	BF-36		684538.2	602694.6	-3.0							46	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-36-01	3/18/2014	684535.1	602700.7	-1.9	134.5	0.5	135.8	6.4	99	95	46	Tilcon MH DGA		V5N
0	BF-37		684490.0	602636.8	0.2							47	Stratum O	Bottom of excavation elevation	
0	BF-38		684558.4	602671.7	-3.0							48	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-38-01	3/21/2014	684551.4	602683.6	-1.7	131.9	1.9	135.8	6.4	97	95	48	Tilcon MH DGA		V5N
0	BF-39		684510.6	602614.8	0.4							49	Stratum O	Bottom of excavation elevation	
0	BF-40		684557.4	602644.9	-3.6							50	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-40-01	3/26/2014	684572.2	602653.5	-1.4	134.8	0.5	135.8	6.4	99	95	50	Tilcon MH DGA		V5N
0	BF-83		684941.9	602148.5	-4.8							91	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-83-1	8/26/2014	684958.8	602165.2	-3.0	129.7	7.0	131.9	9.5	98	95	91	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N

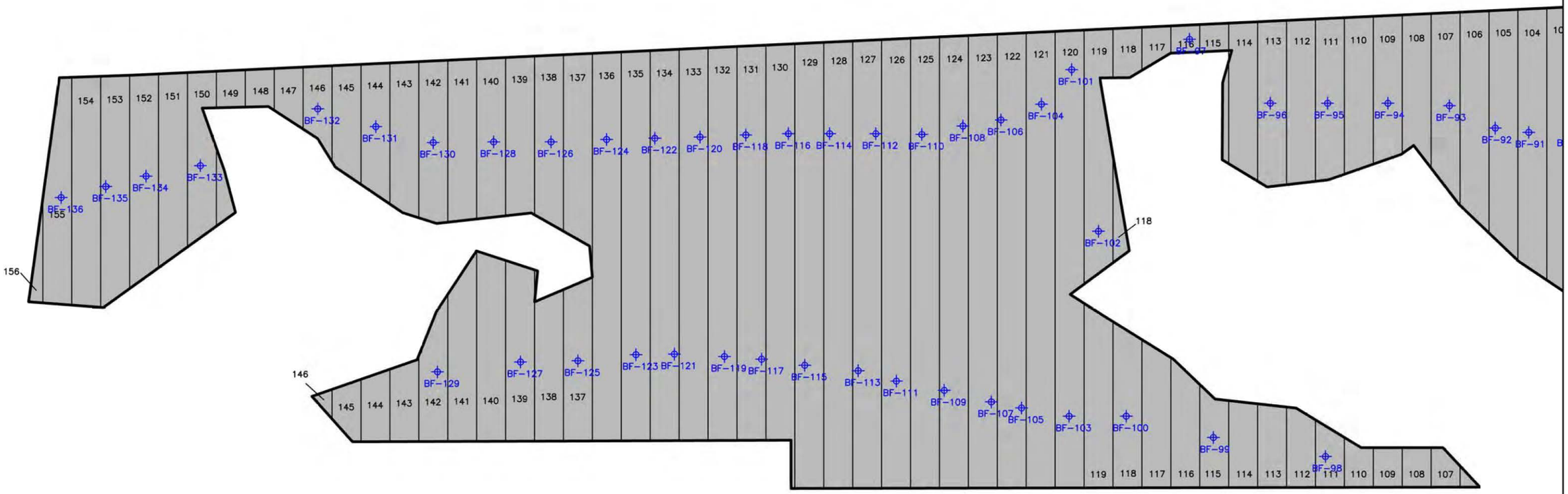
FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
0	BF-84		684959.7	602128.6	-4.2							93	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-84-1	8/15/2014	684969.1	602137.6	-3.2	129.3	3.2	131.9	9.5	98	95	93	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-85		684976.0	602107.0	-4.8							95	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-85-1	8/15/2014	684987.2	602117.0	-3.4	126.0	3.6	131.9	9.5	96	95	95	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-86		684993.0	602080.9	-4.8							97	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-86-1	8/15/2014	684999.9	602082.3	-3.4	126.0	3.7	131.9	9.5	96	95	97	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-87		685010.3	602052.3	-5.0							99	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-87-1	8/15/2014	685010.8	602056.6	-3.7	125.0	4.2	131.9	9.5	95	95	99	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-88		685019.7	602037.1	-5.1							100	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-88-1	8/8/2014	685025.4	602022.1	-3.9	126.6	3.9	131.9	9.5	96	95	100	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-89		685025.3	602021.0	-4.8							101	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-89-1	8/26/2014	685029.3	602037.1	-3.3	131.9	7.3	131.9	9.5	100	95	101	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-90		685035.2	602003.7	-5.1							103	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
1	BF-90-1	8/6/2014	685049.1	602012.4	-3.5	128.0	3.1	131.9	9.5	97	95	103	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-91		685048.2	601986.6	-5.2							104	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
1	BF-91-01	7/30/2014	685067.2	602016.2	-4.2	136.5	4.3	142.6	7.8	96	95	104	Weldon WC QP		V5N
2	BF-91-02	8/1/2014	685062.8	602085.0	-3.2	121.4	6.5	142.6	7.8	85	95	104	Weldon WC QP	New blast area. QP visually changed.	V5N
2	BF-91-02R	8/1/2014	685062.8	602085.0	-3.2	121.0	7.4	142.6	9.5	85	95	104	Weldon WC QP	Rerolled area still fails. Collect sample for Proctor	V5N
2	BF-91-02RR	8/4/2014	685062.8	602085.0	-2.9	125.3	7.4	131.9	9.5	95	95	104	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-93		685084.9	601963.3	-1.2								Stratum O	Bottom of excavation elevation	
1	BF-93-01	7/18/2014	685112.8	601983.8	-0.4	136.5	3.5	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
2	BF-93-02	7/30/2014	685091.5	601975.9	1.1	136.5	3.9	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
1	BF-94		685105.9	601939.3	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-94-01	7/18/2014	685104.8	601941.5	1.7	136.0	3.8	142.6	7.8	95	95	109 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-95		685125.6	601915.0	-1.2							111 (No)	Crushed concrete	Bottom of excavation elevation	
2	BF-95-01	7/16/2014	685121.8	601910.5	1.7	135.0	3.6	142.6	7.8	95	95	111 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-96		685144.3	601891.9	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-96-01	7/10/2014	685150.5	601896.1	1.9	137.0	4.8	142.6	7.8	96	95	113 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-97		685196.4	601880.1	2.1								Stratum O	Bottom of excavati0n elevation	
1	BF-97-01	7/7/2014	685187.0	601867.3	2.7	135.5	4.6	142.6	7.8	95	95	116 (No)	Weldon WC QP		V5N
0	BF-101		685222.6	601822.8	0.4							120 (No)	Stratum O	Bottom of excavation elevation	
1	BF-101-01	6/27/2014	685213.8	601814.2	1.0	136.0	3.4	142.6	7.8	95	95	120 (No)	Weldon WC QP		V5N
0	BF-102		685148.9	601780.9	-2.5							119	Stratum O	Bottom of excavation elevation	
1	BF-102-01	6/27/2014	685148.8	601788.7	-0.8	135.5	3.4	142.6	7.8	95	95	119	Weldon WC QP		V5N
1	BF-103		685084.0	601708.8	-7.5							120 (So)			
2	BF-103-01	7/1/2014	685102.8	601721.9	-4.9	137.5	2.5	142.6	7.8	96	95	120 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-105		685102.9	601692.4	-7.5							122 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-105-01	6/27/2014	685126.9	601702.6	-5.7	135.5	3.4	142.6	7.8	95	95	122 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-104		685218.6	601799.3	-2.5							121 (No)	Stratum O	Bottom of excavation elevation	
1	BF-104-01	6/27/2014	685205.5	601790.7	0.9	135.5	3.4	142.6	7.8	95	95	121 (No)	Weldon WC QP		V5N
0	BF-106		685225.5	601777.9	-1.2							122 (No)	Stratum O	Bottom of excavation elevation	
1	BF 106-01	6/18/2014	685230.1	601784.7	0.5	140.0	1.7	142.6	7.8	98	95	122 (No)	Weldon WC QP		V5N
2	BF 106-02	6/27/2014	685221.4	601777.8	1.0	135.4	3.4	142.6	7.8	95	95	122 (No)	Weldon WC QP		V5N
1	BF-107		685115.2	601682.1	-7.5							123 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF 107-01	6/24/2014	685134.6	601695.5	-5.9	136.9	2.5	142.6	7.8	96	95	123 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-108		685235.5	601760.6	-1.2							124 (No)	Stratum O	Bottom of excavation elevation	
1	BF-108-01	6/18/2014	685235.2	601757.6	0.8	138.0	2.6	142.6	7.8	97	95	124 (No)	Weldon WC QP		V5N
2	BF-108-02	6/27/2014	685253.4	601761.5	1.4	135.0	3.4	142.6	7.8	95	95	124 (No)	Weldon WC QP		V5N
1	BF-109		685135.2	601666.9	-7.5							124 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-109-01	6/18/2014	685144.9	601672.5	-5.8	136.0	5.1	142.6	7.8	95	95	124 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-111		685154.6	601650.7	-7.5							126 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-111-01	6/18/2014	685157.7	601655.0	-5.4	140.0	1.5	142.6	7.8	98	95	126 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-124		685346.3	601612.6	-1.2							136	Stratum O	Bottom of excavation elevation	
1	BF-124-01	5/9/2014	685359.1	601618.5	0.3	130.8	1.3	135.8	6.4	96	95	136	Tilcon MH DGA		V5N
0	BF-126		685363.5	601589.4	-1.2							138	Stratum O	Bottom of excavation elevation	
1	BF-126-01	5/9/2014	685355.3	601576.3	0.2	128.0	3.3	128.9	12.1	99	95	138	Weldon WC Screenings		V5N
0	BF-128		685382.2	601566.3	-2.5							140 (No)	Stratum O	Bottom of excavation elevation	
1	BF-128-01	4/29/2014	685369.8	601556.5	-1.8	130.0	1.2	135.8	6.4	96	95	140	Tilcon MH DGA		V5N
2	BF-128-02	4/29/2014	685381.4	601569.9	-0.8	132.2	1.5	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
3	BF-128-03	4/29/2014	685382.7	601573.8	0.3	132.0	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
4	BF-128-04	4/29/2014	685386.7	601571.4	1.5	132.3	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
5	BF-128-05	4/29/2014	685389.9	601573.7	2.7	133.9	1.4	135.8	6.4	99	95	140	Tilcon MH DGA		V5N
0	BF-129		685308.1	601468.7	-7.5							142 (So)	Stratum O	Bottom of excavation elevation	
1	BF-129-01	5/9/2014	685315.6	601465.0	-6.4	135.5	1.3	135.8	6.4	100	95	142 (So)	Tilcon MH DGA		V5N
0	BF-130		685401.7	601541.7	1.9							142 (No)	Stratum O	Bottom of excavation elevation	
1	BF-130-01	4/28/2014	685410.7	601558.5	2.7	132.0	2.2	135.8	6.4	97	95	142 (No)	Tilcon MH DGA		V5N
2	BF-130-02	4/28/2014	685414.5	601553.3	3.6	133.0	1.7	135.8	6.4	98	95	142 (No)	Tilcon MH DGA		V5N
3	BF-130-03	4/28/2014	685414.9	601555.5	4.8	136.0	1.6	135.8	6.4	100	95	142 (No)	Tilcon MH DGA		V5N
4	BF-130-04	4/28/2014	685420.1	601558.2	5.5	135.0	1.9	135.8	6.4	99	95	142 (No)	Tilcon MH DGA		V5N
0	BF-131		685426.9	601523.7	3.2							144	Stratum O	Bottom of excavation elevation	
1	BF-131-01	4/25/2014	685440.9	601531.9	5.9	120.0	1.4	135.8	6.4	88	95	144	Tilcon MH DGA	recompact lift	V5N
1	BF-131-01R	4/28/2014	685440.9	601531.9	5.9	139.9	1.4	135.8	6.4	103	95	144	Tilcon MH DGA	second reading after addl compaction	V5N
0	BF-132		685452.9	601506.1	5.6							146	Stratum O	Bottom of excavation elevation	
1	BF-132-01	4/25/2014	685438.7	601505.6	6.1	135.0	1.0	135.8	6.4	99	95	144	Tilcon MH DGA		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.
Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.
Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b
Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C
Bottom of excavation elevation based on Maser survey data (Center Point elevations)
Sample ID BF-01-01 where:
BF = Backfill (At frequency of 1 test/2500 SF)
01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



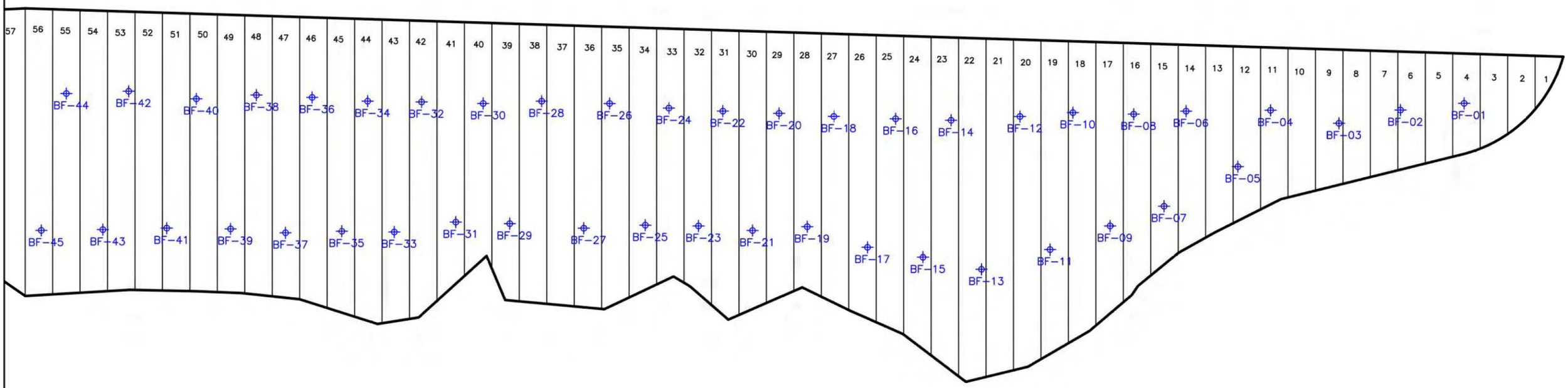
NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF BF-95 TO BF-136

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
	RF-03		684270.2	603012.0								18			
7	RF-03-01	3/21/2014	684267.9	603017.5	6.1	124.0	3.6	128.9	12.1	96	95	18	Weldon WC Screenings		V5N
8	RF-03-02	4/8/2014	684272.9	605018.7	7.6	122.4	8.1	128.9	12.1	95	95	18	Weldon WC Screenings		V5N
	RF-04		684235.2	602919.8								22			
6	RF-04-01	3/21/2014	684227.0	602916.6	5.5	124.0	3.6	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
7	RF-04-02	3/26/2014	684266.5	602908.5	6.2	123.6	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
8	RF-04-03	4/1/2014	684384.8	602904.9	7.1	125.8	3.0	128.9	12.1	98	95	22	Weldon WC Screenings		V5N
9	RF-04-04	4/3/2014	684220.8	602926.9	8.2	120.0	3.6	128.9	12.1	93	95	22	Weldon WC Screenings	Recompact lift	V5N
9	RF-04-04R	4/3/2014	684220.8	602926.9	8.2	125.0	4.1	128.9	12.1	97	95	22	Weldon WC Screenings	Second reading after re-rolling	V5N
10	RF-04-05	4/17/2014	684241.5	602924.2	8.8	130.0	3.0	128.9	12.1	101	95	22	Weldon WC Screenings		V5N
	RF-05		684328.5	602935.0								25			
5	RF-05-01	3/24/2014	684347.1	602947.5	3.3	122.5	4.5	128.9	12.1	95	95	25	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
6	RF-05-02	3/26/2014	684348.1	602942.0	4.1	123.5	3.7	128.9	12.1	96	95	25	Weldon WC Screenings		V5N
7	RF-05-03	4/1/2014	684351.4	602937.8	5.4	125.0	2.6	128.9	12.1	97	95	25	Weldon WC Screenings		V5N
8	RF-05-04	4/3/2014	684339.0	602933.4	6.4	128.9	4.7	128.9	12.1	100	95	25	Weldon WC Screenings		V5N
9	RF-05-05	4/8/2014	684327.1	602942.3	7.6	126.4	8.3	128.9	12.1	98	95	25	Weldon WC Screenings		V5N
10	RF-05-06	4/17/2014	684348.8	602945.1	8.2	135.0	6.4	128.9	12.1	105	95	25	Weldon WC Screenings		V5N
	RF-06		684335.0	602869.1								29			
2	RF-06-01	4/1/2014	684383.7	602908.8	3.0	126.0	2.7	128.9	12.1	98	95	29	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
3	RF-06-02	4/1/2014	684384.8	602904.9	4.1	125.0	2.8	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
4	RF-06-03	4/3/2014	684358.9	602890.5	5.9	127.6	4.0	128.9	12.1	99	95	29	Weldon WC Screenings		V5N
5	RF-06-04	4/8/2014	684340.1	602867.1	6.9	123.0	4.6	128.9	12.1	95	95	29	Weldon WC Screenings		V5N
6	RF-06-05	4/14/2014	684340.1	602867.1	7.5	124.8	3.0	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
7	RF-06-06	4/17/2014	684337.1	602897.4	8.5	118.5	3.0	128.9	12.1	92	95	29	Weldon WC Screenings	Recompact lift	V5N
7	RF-06-06R	4/17/2014	684337.1	602897.4	8.5	122.0	3.2	128.9	12.1	95	95	29	Weldon WC Screenings	Second reading after re-rolling	V5N
	RF-07		684392.9	602838.1								32			
4	RF-07-01	4/3/2014	684425.2	602890.4	3.0	125.3	5.1	128.9	12.1	97	95	32	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-07-02	4/3/2014	684418.6	602854.9	4.1	126.3	5.5	128.9	12.1	98	95	32	Weldon WC Screenings		V5N
6	RF-07-03	4/8/2014	684410.5	602847.3	5.6	122.7	2.5	128.9	12.1	95	95	32	Weldon WC Screenings		V5N
7	RF-07-04	4/14/2014	684410.5	602847.3	6.3	123.1	2.7	128.9	12.1	96	95	32	Weldon WC Screenings		V5N
8	RF-07-05	4/17/2014	684394.3	602842.1	7.1	135.0	6.1	128.9	12.1	105	95	32	Weldon WC Screenings		V5N
9	RF-07-06	4/21/2014	684394.8	602836.9	8.2	128.9	2.2	128.9	12.1	100	95	32	Weldon WC Screenings		V5N
	RF-08		684406.9	602771.1								36			
4	RF-08-01	4/3/2014	684421.7	602797.1	2.9	129.0	6.0	128.9	12.1	100	95	36	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-08-02	4/8/2014	684429.7	602790.1	4.0	124.9	3.0	128.9	12.1	97	95	36	Weldon WC Screenings		V5N
6	RF-08-03	4/15/2014	684439.0	602813.0	5.0	124.2	4.7	128.9	12.1	96	95	36	Weldon WC Screenings		V5N
7	RF-08-04	4/17/2014	684400.4	602773.4	6.1	137.0	5.6	128.9	12.1	106	95	36	Weldon WC Screenings		V5N
8	RF-08-05	4/21/2014	684429.8	602794.0	6.8	128.9	3.5	128.9	12.1	100	95	36	Weldon WC Screenings		V5N
9	RF-08-06	4/21/2014	684443.6	602550.4	8.0	122.5	6.9	128.9	12.1	95	95	36	Weldon WC Screenings		V5N
	RF-09		684479.9	602754.0								40			
3	RF-09-01	4/7/2014	684489.3	602750.3	0.8	128.7	6.8	128.9	12.1	100	95	40	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
4	RF-09-02	4/11/2014	684498.7	602757.9	2.1	122.4	3.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
5	RF-09-03	4/11/2014	684503.3	602770.3	3.2	129.3	8.5	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
6	RF-09-04	4/14/2014	684503.3	602770.3	4.1	128.9	5.7	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
7	RF-09-05	4/21/2014	684479.1	602753.1	5.4	128.9	5.3	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
8	RF-09-06	4/21/2014	684446.9	602799.1	6.4	123.0	2.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
9	RF-09-07	5/15/2014	684479.0	602751.5	6.9	124.5	4.4	128.9	12.1	97	95	40	Weldon WC Screenings		V5N
10	RF-09-08	5/19/2014	684494.7	602760.2	8.1	122.5	5.9	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
1	RF-10		684474.1	602682.1	0.2							44	Crushed Concrete	Bottom of excavation elevation	
2	RF-10		684474.1	602682.1								44	Type A Material	No compaction testing required	

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3	RF-10-01	4/25/2014	684476.1	602679.3	2.5	138.0	1.4	128.9	12.1	107	95	44	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-10-02	5/8/2014	684445.5	602680.1	5.8	132.0	6.6	128.9	12.1	102	95	44	Weldon WC Screenings		V5N
5	RF-10-03	5/15/2014	684463.8	602677.8	7.1	124.1	4.2	128.9	12.1	96	95	44	Weldon WC Screenings		V5N
6	RF-10-04	5/19/2014	684466.2	602672.2	8.2	122.5	6.8	128.9	12.1	95	95	44	Weldon WC Screenings		V5N
2	RF-11		684545.0	602673.2								48	Type A Material	Placed on Tilcon MH DGA	
3	RF-11-01	4/11/2014	684533.0	602676.0	1.0	126.0	3.8	128.9	12.1	98	95	48	Weldon WC Screenings	Placed on Type A Material; Against HB wall	V5N
4	RF-11-02	4/11/2014	684575.1	602679.9	2.1	125.6	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
5	RF-11-03	4/14/2014	684575.1	602679.9	2.8	126.8	2.2	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
6	RF-11-04	4/17/2014	684579.8	602684.6	3.8	122.5	3.0	128.9	12.1	95	95	48	Weldon WC Screenings	Against HB wall	V5N
7	RF-11-05	4/17/2014	684585.7	602686.5	4.5	126.8	4.0	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
8	RF-11-06	5/15/2014	684569.9	602672.5	7.3	124.5	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
9	RF-11-07	5/19/2014	685562.2	602686.4	8.3	124.5	3.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
1	RF-12		684540.0	602601.3	0.3							51	Crushed Concrete	Bottom of excavation elevation	
2	RF-12		684540.0	602601.3								51	Type A Material	No compaction testing required	
3	RF-12-01	4/25/2014	684557.9	602605.6	2.3	130.2	2.2	128.9	12.1	101	95	51	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-12-02	5/6/2014	684516.3	602580.6	6.0	128.6	5.6	128.9	12.1	100	95	51	Weldon WC Screenings		V5N
5	RF-12-03	5/15/2014	684526.7	602594.1	7.3	124.8	3.9	128.9	12.1	97	95	51	Weldon WC Screenings		V5N
6	RF-12-04	5/20/2014	684522.6	602585.3	8.1	121.3	7.1	128.9	12.1	94	95	51	Weldon WC Screenings	Recompact lift	V5N
6	RF-12-04R	5/20/2014	684522.6	602585.3	8.1	122.0	5.9	128.9	12.1	95	95	51	Weldon WC Screenings	Second reading after re-rolling	V5N
1	RF-13		684610.2	602590.4	-2.3							54	Crushed Concrete	Bottom of excavation elevation	
2	RF-13		684610.2	602590.4								54	Type A Material	No compaction testing required	
3	RF-13-01	4/11/2014	684619.5	602515.3	1.6	126.5	7.8	128.9	12.1	98	95	54	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-13-02	4/14/2014	684619.5	602515.3	2.7	124.5	2.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
5	RF-13-03	4/17/2014	684641.5	602614.6	3.6	123.0	4.1	128.9	12.1	95	95	54	Weldon WC Screenings	Against HB	V5N
6	RF-13-04	4/17/2014	684646.7	602619.5	4.4	132.9	5.5	128.9	12.1	103	95	54	Weldon WC Screenings	Against HB	V5N
7	RF-13-05	5/15/2014	684640.0	602620.1	5.4	125.0	3.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
8	RF-13-06	5/15/2014	684613.8	602605.5	6.9	125.0	4.5	128.9	12.1	97	95	54	Weldon WC Screenings		V5N
9	RF-13-07	5/20/2014	684614.3	602606.0	7.8	121.3	8.0	128.9	12.1	94	95	54	Weldon WC Screenings	Top lift. Will retest prior to final restoration	V5N
	RF-23		684878.7	602219.3	-5.6							85			
1	RF-23-01	9/2/2014	684887.1	602212.2	-4.2	133.0	2.0	135.8	6.4	98	95	85	Tilcon MH DGA		
	RF-24		684934.2	602167.2	-4.8							90			
1	RF-24-01	9/2/2014	684298.8	602165.1	-3.5	133.5	1.3	135.8	6.4	98	95	90	Tilcon MH DGA		
	RF-26		685029.1	602031.1	-4.8							101	Weldon WC QP	Bottom of excavation elevation	
2	RF-26-01	9/2/2014	685038.3	602036.1	-2.5	125.0	3.3	128.9	12.1	97	95	101	Weldon WC Screenings	Placed on Weldon WC QP	
	RF-28		685132.5	601902.9	2.1							112 (No)	Weldon WC QP	Bottom of excavation elevation	
3	RF-28-01	7/28/2014	685136.7	601901.8	3.7	122.5	6.1	128.9	12.1	95	95	112 (No)	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-28-02	9/2/2014	685126.1	601909.3	4.9	125.0	3.0	128.9	12.1	97	95	112 (No)	Weldon WC Screenings		V5N
1	RF-29		685049.3	601738.7	-4.3							117	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-29-01	7/16/2014	685064.7	601757.6	-2.9	131.7	3.5	135.8	6.4	97	95	117	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-29-02	7/22/2014	685068.9	601785.4	-0.8	125.0	3.4	128.9	12.1	97	95	117	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-29-03	7/28/2014	685071.0	601762.7	-0.1	122.5	7.7	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
5	RF-29-04	7/28/2014	685068.0	601754.7	0.8	117.0	9.0	128.9	12.1	91	95	117	Weldon WC Screenings		V5N
5	RF-29-04R	7/30/2014	685068.0	601754.7	0.8	122.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings	Re-rolled area and let dry	V5N
6	RF-29-05	7/30/2014	685070.3	601762.8	1.7	122.0	5.6	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
7	RF-29-06	8/1/2014	685079.5	601759.0	3.2	120.9	4.5	128.9	12.1	94	95	117	Weldon WC Screenings		V5N
7	RF-29-06R	8/1/2014	685079.5	601759.0	2.8	123.5	5.8	128.9	12.1	96	95	117	Weldon WC Screenings	Re-rolled area	V5N
8	RF-29-07	8/4/2014	685070.6	601753.8	3.7	126.1	7.2	128.9	12.1	98	95	117	Weldon WC Screenings		V5N
9	RF-29-08	8/6/2014	685072.8	601758.1	4.3	123.0	6.8	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
10	RF-29-09	8/8/2014	685074.4	601753.5	5.2	123.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
11	RF-29-10	8/11/2014	685078.3	601760.5	6.1	123.0	4.5	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
12	RF-29-11	8/15/2014	685079.8	601756.2	7.5	123.7	3.7	128.9	12.1	96	95	117	Weldon WC Screenings		V5N

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	RF-30		685179.4	601785.6	0.4							120			
2	RF-30-01	7/1/2014	685218.1	601814.2	2.0	122.0	7.5	128.9	12.1	95	95	120	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-30-02	7/25/2014	685216.3	601818.6	3.0	124.0	4.3	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
4	RF-30-03	7/30/2014	685213.1	601816.1	3.8	123.5	5.0	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
5	RF-30-04	8/6/2014	685205.4	601798.5	4.6	123.0	6.3	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
6	RF-30-05	8/8/2014	685215.8	601802.1	5.2	123.0	5.8	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
7	RF-30-06	8/11/2014	685218.8	601812.7	6.2	123.0	6.9	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
8	RF-30-07	8/15/2014	685216.3	6018806.8	7.2	123.0	5.4	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
1	RF-31		685121.7	601682.3	-4.3							123	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-31-01	7/22/2014	685126.3	601690.0	-2.2	126.3	3.4	128.9	12.1	98	95	123 (So)	Weldon WC Screenings		V5N
3	RF-31-02	7/28/2014	685124.5	601686.4	-0.1	122.5	7.7	128.9	12.1	95	95	123 (So)	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-31-03	7/30/2014	685115.0	601683.8	1.1	122.0	6.2	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
5	RF-31-04	7/30/2014	685123.7	601688.2	2.3	122.0	6.9	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
6	RF-31-05	8/1/2014	685120.9	601687.7	3.0	128.9	6.2	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
7	RF-31-06	8/4/2014	685122.7	601686.6	3.9	128.9	5.8	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
8	RF-31-07	8/6/2014	685132.5	601689.3	4.8	123.0	6.6	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
9	RF-31-08	8/8/2014	685118.7	601690.5	5.5	125.0	2.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
10	RF-31-09	8/11/2014	685136.4	601690.8	6.6	125.0	3.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
11	RF-31-10	8/15/2014	685122.6	601682.9	7.6	123.0	7.4	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
0	RF-32		684498.6	602739.4	-1.2							125	Stratum O	Bottom of excavation elevation	
1	RF-32-01	6/12/2014	685241.5	601740.7	0.0	134.0	1.3	135.8	6.4	99	95	125	Tilcon MH DGA		V5N
2	RF-32-02	7/16/2014	685227.6	601725.4	0.9	122.0	5.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
3	RF-32-03	7/16/2014	685239.4	601736.4	2.0	122.0	5.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
4	RF-32-04	7/30/2014	685248.5	601750.7	3.4	123.5	6.0	128.9	12.1	96	95	125	Weldon WC Screenings		V5N
5	RF-32-05	8/6/2014	685249.6	601745.6	4.6	123.0	5.9	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
6	RF-32-06	8/8/2014	685249.1	601742.7	5.6	123.0	5.7	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
7	RF-32-07	8/11/2014	685237.6	601735.2	6.5	123.0	6.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
8	RF-32-08	8/15/2014	685238.9	601747.0	7.3	123.0	7.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
1	RF-33		685179.1719	601631.644	-7.5							128	Crushed Concrete	Bottom of excavation elevation	
2	RF-33-01	6/5/2014	685182.8	601626.5	-5.1	132.0	3.7	135.8	6.4	97	95	128	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-33-02	7/28/2014	685146.0	601639.6	-0.9	123.7	6.4	128.9	12.1	96	95	128	Weldon WC Screenings	Placed on Type A Material/QP Ramp	V5N
4	RF-33-03	7/30/2014	685159.9	601630.8	0.8	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
5	RF-33-04	7/30/2014	685144.1	601632.9	1.3	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
6	RF-33-05	8/1/2014	685171.2	601638.5	3.2	128.9	6.0	128.9	12.1	100	95	128	Weldon WC Screenings		V5N
7	RF-33-06	8/1/2014	685156.8	601643.7	3.9	127.0	5.0	128.9	12.1	99	95	128	Weldon WC Screenings		V5N
8	RF-33-07	8/6/2014	685176.1	601633.1	4.7	123.0	6.6	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
9	RF-33-08	8/8/2014	685166.7	601630.5	5.5	123.0	6.2	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
10	RF-33-09	8/11/2014	685166.3	601631.6	6.6	123.0	6.0	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
11	RF-33-10	8/15/2014	685165.2	601633.6	7.9	123.0	6.9	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
0	RF-34		685278.423	601673.304	-1.2							130	Stratum O	Bottom of excavation elevation	
1	RF-34-01	6/5/2014	685303.0	601691.1	0.3	132.0	3.6	135.8	6.4	97	95	130	Tilcon MH DGA		V5N
2	RF-34-02	6/24/2014	685298.9	601690.4	1.6	122.0	5.5	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
3	RF-34-03	6/27/2014	685295.5	601692.8	2.5	122.5	7.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
4	RF-34-04	7/16/2014	685293.1	601684.6	3.2	122.0	6.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
5	RF-34-05	7/30/2014	685290.2	601690.3	4.5	123.5	6.5	128.9	12.1	96	95	130	Weldon WC Screenings		V5N
6	RF-34-06	8/8/2014	685289.5	601690.7	5.5	123.0	6.9	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
7	RF-34-07	8/8/2014	685292.7	601686.1	6.6	123.0	6.3	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
8	RF-34-08	8/15/2014	685286.1	601677.8	7.6	126.0	2.3	128.9	12.1	98	95	130	Weldon WC Screenings		V5N
0	RF-35		6852228.7	601575.4	2.1							133		Bottom of excavation elevation	
1	RF-35-01	7/16/2014	685219.7	601566.3	3.5	123.3	6.2	128.9	12.1	96	95	133	Weldon WC Screenings		V5N
2	RF-35-02	7/16/2014	685234.2	601582.4	4.3	124.9	4.9	128.9	12.1	97	95	133	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

3	RF-35-03	7/25/2014	685238.5	601578.0	5.8	122.0	5.0	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
4	RF-35-04	8/8/2014	685239.0	601569.1	6.9	123.0	6.6	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
0	RF-36		685334.4	601603.7	-1.2							136		Bottom of excavation elevation	
1	RF-36-01	6/24/2014	685349.2	601617.6	1.7	125.0	3.4	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
2	RF-36-02	6/27/2014	685330.9	601606.5	2.6	125.0	6.5	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
3	RF-36-03	6/27/2014	685339.9	601612.8	3.4	123.7	6.8	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
4	RF-36-04	7/16/2014	685343.2	601621.5	4.3	123.8	5.5	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
5	RF-36-05	7/28/2014	685346.6	601606.1	5.4	122.0	5.2	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
6	RF-36-06	8/8/2014	685345.5	601605.6	6.7	126.0	1.6	128.9	12.1	98	95	136	Weldon WC Screenings		V5N
7	RF-36-07	8/15/2014	685335.6	601611.4	7.7	123.0	6.4	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
1	RF-37		685295.3	601495.2	-7.8							140 (So)	Crushed Concrete	Bottom of excavation elevation	
2	RF-37-01	5/15/2014	685286.1	601481.2	-5.1	132.0	2.5	135.8	6.4	97	95	140 (So)	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-37-02	5/21/2014	685294.5	601489.0	-4.2	122.5	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
4	RF-37-03	7/7/2014	685282.8	601485.7	4.5	128.9	6.1	128.9	12.1	100	95	140 (So)	Weldon WC Screenings	1st lift over Type A Material	V5N
5	RF-37-04	7/28/2014	685281.8	601490.5	5.9	123.7	5.4	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
6	RF-37-05	7/28/2014	685310.0	601513.3	6.6	123.0	4.7	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
7	RF-37-06	8/8/2014	685297.5	601485.6	7.1	124.0	4.1	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
8	RF-37-07	8/15/2014	685288.7	601489.2	8.0	123.0	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
0	RF-38		685399.1	601540.2	-1.2							142 (No)	Stratum O	Bottom of excavation elevation	
1	RF-38-01	5/9/2014	685391.8	601532.2	-0.2	124.6	2.5	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
2	RF-38-02	5/21/2014	685389.4	601534.3	0.2	122.5	5.6	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
3	RF-38-03	6/24/2014	685386.6	601538.7	4.0	125.0	3.4	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
4	RF-38-04	6/27/2014	685392.8	601538.8	5.3	124.0	6.0	128.9	12.1	96	95	142 (No)	Weldon WC Screenings		V5N
5	RF-38-05	7/28/2014	685385.3	601533.9	6.3	122.0	6.4	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
6	RF-38-06	8/8/2014	685382.7	601533.1	7.1	125.0	3.2	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
7	RF-38-07	8/15/2014	685382.8	601528.2	7.9	123.0	6.0	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
0	RF-39		685485.1	601397.7	3.8							153	Stratum O	Bottom of excavation elevation	
1	RF-39-01	5/5/2014	685451.1	601421.7	4.3	126.3	3.9	128.9	12.1	98	95	153	Weldon WC Screenings		V5N
2	RF-39-02	5/5/2014	685477.5	601397.7	5.6	123.3	4.1	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
3	RF-39-03	5/5/2014	685492.5	601460.8	6.4	123.8	7.4	128.9	12.1	96	95	153	Weldon WC Screenings		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

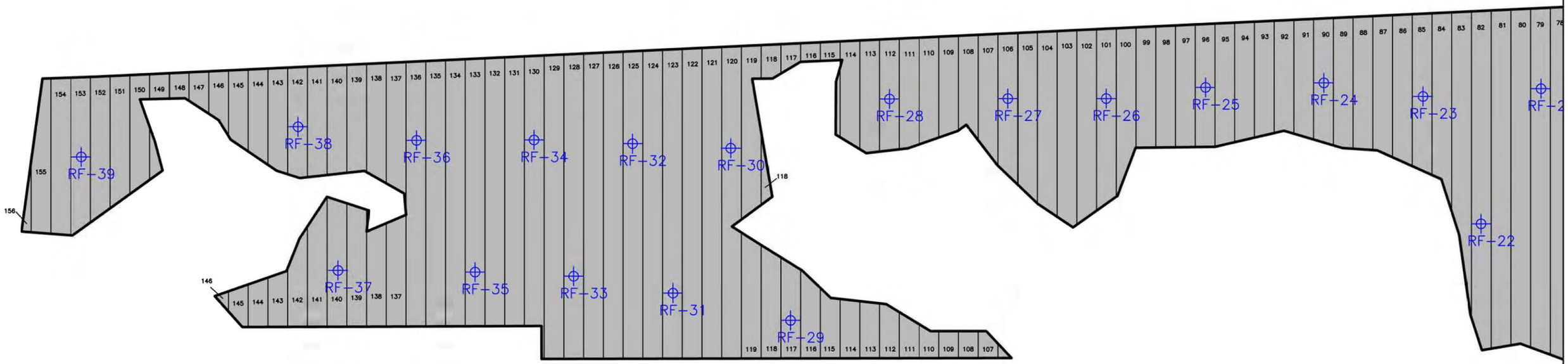
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

Sample ID RF-01-01 where:

RF = Reduced Frequency
01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



NOTE:

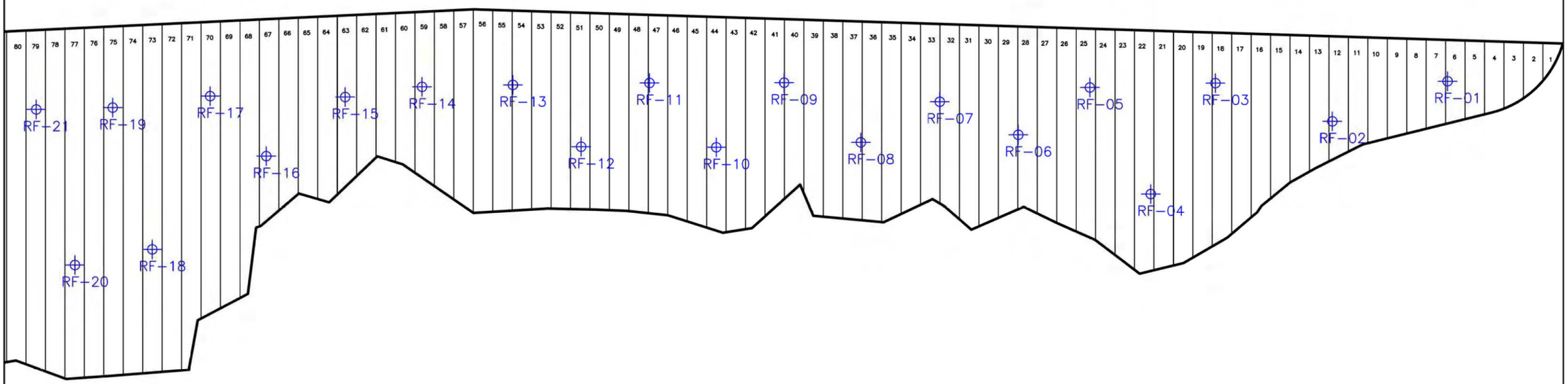
Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE
RF-22 TO RF-39

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS 5 TESTS PER ACRE

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

Attachment 4: Dewatering Operations Update

- SA-6 South Dewatering Data (Headers)
- SA-6 South Deep Well Data (DW-3)
- SA-6 South Deep Well Data (DW-4)

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) DAILY	EXTRACTED VOLUME (Gal) TOTAL	AVERAGE FLOW RATE (gpm)	COMMENTS
07/01/14	2	24	13,14, WPS-2	48	247,628	259,680	12,052	2,292,256	8.4	
07/02/14	2	24	13,14, WPS-2	48	259,680	266,319	6,639	2,298,895	4.6	
03/13/00	2	24	13,14, WPS-2	48	266,319	270,103	3,784	2,302,679	2.6	
07/07/14	2	86	13,14, WPS-2	48	270,103	285,239	15,136	2,317,815	2.9	
07/08/14	2	24	13,14, WPS-2	45	285,239	288,158	2,919	2,320,734	2.0	
07/09/14	2	24	13,14, WPS-2	45	288,158	289,792	1,634	2,322,368	1.1	
07/10/14	2	24	13, WPS-2	27	289,792	292,235	2,443	2,324,811	1.7	
07/11/14	2	24	13, WPS-2	27	292,235	295,728	3,493	2,328,304	2.4	
07/14/14	2	72	13, WPS-2	27	295,728	306,209	10,481	2,338,785	2.4	
07/15/14	2	24	13, WPS-2	27	306,209	309,704	3,495	2,342,280	2.4	
07/16/14	2	24	13, WPS-2	27	309,704	311,299	1,595	2,343,875	1.1	
07/17/14	2	24	13, WPS-2	27	311,299	312,848	1,549	2,345,424	1.1	
07/18/14	2	24	13, WPS-2	27	312,848	313,958	1,110	2,346,534	0.8	
07/21/14	2	72	13, WPS-2	27	313,958	317,809	3,851	2,350,385	0.9	
07/22/14	2	24	13, WPS-2	27	317,809	318,844	1,035	2,351,420	0.7	
07/23/14	2	24	13, WPS-2	27	318,844	319,048	204	2,351,624	0.1	
07/24/14	2	24	13, WPS-2	22	319,048	319,062	14	2,351,638	0.0	
07/25/14	2	24	13, WPS-2	22	N/A	N/A	450	2,352,088	0.3	Flowmeter Blockage - Tank Measured
07/28/14	2	72	13, WPS-2	22	N/A	N/A	1,650	2,353,738	0.4	Flowmeter Blockage - Tank Measured
07/29/14	2	24	13, WPS-2	22	N/A	N/A	550	2,354,288	0.4	Flowmeter Blockage - Tank Measured
07/30/14	2	24	13, WPS-2	22	N/A	N/A	500	2,354,788	0.3	System Disabled or Relocation
08/05/14	1	4	10, 11, 12, EPS	61	0	1,893	1,893	2,356,681	7.9	
08/06/14	1	24	10, 11, 12, EPS	61	1,893	23,795	21,902	2,378,583	15.2	
08/07/14	1	24	10, 11, 12, EPS	61	23,795	44,386	20,591	2,399,174	14.3	
08/08/14	1	24	10, 11, 12, EPS	61	0	8,014	8,014	2,407,188	5.6	
08/11/14	1	72	10, 11, 12, EPS	61	8,014	32,057	24,043	2,431,231	5.6	
08/12/14	1	24	10, 11, 12, EPS	61	32,057	40,072	8,015	2,439,246	5.6	
08/13/14	1	24	10, 11, 12, EPS	61	40,072	59,407	19,335	2,458,581	13.4	
08/14/14	1	24	10, 11, 12, EPS	61	59,407	89,000	29,593	2,488,174	20.6	
08/18/14	1	72	10, 11, 12, EPS	61	0	47,911	47,911	2,536,085	11.1	Flowmeter Reset
08/19/14	1	24	10, 11, 12, EPS	61	47,911	61,590	13,679	2,549,764	9.5	
08/20/14	1	24	10, 11, 12, EPS	61	61,590	75,268	13,678	2,563,442	9.5	
08/21/14	1	24	10, 11, 12, EPS	50	N/A	N/A	14,000	2,577,442	9.7	Flowmeter Blockage - Tank Measured
08/22/14	1	24	10, 11, 12, EPS	50	75,268	77,640	2,372	2,579,814	1.6	
08/25/14	1	72	10, 11, 12, EPS	50	0	20,218	20,218	2,600,032	4.7	Flowmeter Reset
08/26/14	1	24	10, 11, 12, EPS	50	20,218	42,158	21,940	2,621,972	15.2	
08/27/14	1	24	10, 11, 12, EPS	50	42,158	47,944	5,786	2,627,758	4.0	
08/28/14	1	24	10, 11, 12, EPS	50	47,944	54,589	6,645	2,634,403	4.6	
08/29/14	1	24	10, 11, 12, EPS	50	54,589	61,819	7,230	2,641,633	5.0	

Notes: Active Header Numbers refer to H-1, H-2, H-3, etc., as shown on Figure 6 Well Point Dewatering System
EPS - East Perimeter System
WPS - West Perimeter System

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-3)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) DAILY	VOLUME (Gal) TOTAL	FLOW RATE (GPM)	COMMENTS
08/06/14	24	0	1,340	1,340	1,340	0.9	
08/07/14	24	1,340	2,525	1,185	2,525	0.8	
08/08/14	24	N/A	N/A	5,500	8,025	3.8	Flowmeter blockage - Tank Measured
08/11/14	72	N/A	N/A	17,500	25,525	4.1	Flowmeter blockage - Tank Measured
08/12/14	24	0	3,528	3,528	29,053	2.5	Flowmeter Reset
08/13/14	24	N/A	N/A	5,500	34,553	3.8	Flowmeter blockage - Tank Measured
08/14/14	24	N/A	N/A	5,000	39,553	3.5	Flowmeter blockage - Tank Measured
08/15/14	24	N/A	N/A	5,500	45,053	3.8	Flowmeter blockage - Tank Measured
08/18/14	72	N/A	N/A	16,500	61,553	3.8	Flowmeter blockage - Tank Measured
08/19/14	24	N/A	N/A	6,000	67,553	4.2	Flowmeter Not Installed - Tank Measured
08/20/14	24	N/A	N/A	6,500	74,053	4.5	Flowmeter Not Installed - Tank Measured
08/21/14	24	N/A	N/A	6,000	80,053	4.2	Flowmeter Not Installed - Tank Measured
08/22/14	24	N/A	N/A	6,250	86,303	4.3	Flowmeter Not Installed - Tank Measured
08/25/14	72	N/A	N/A	17,500	103,803	4.1	Flowmeter Not Installed - Tank Measured
08/26/14	24	N/A	N/A	5,750	109,553	4.0	Flowmeter Not Installed - Tank Measured
08/27/14	24	N/A	N/A	5,700	115,253	4.0	Flowmeter Not Installed - Tank Measured
08/28/14	24	N/A	N/A	5,500	120,753	3.8	Flowmeter Not Installed - Tank Measured
08/29/14	24	N/A	N/A	5,500	126,253	3.8	Flowmeter Not Installed - Tank Measured

Note: Well DW-3 was activated on August 6, 2014.

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-4)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) DAILY	VOLUME (Gal) TOTAL	FLOW RATE (GPM)	COMMENTS
07/16/14	24	0	4,141	4,141	4,141	2.9	
07/17/14	24	4,141	8,184	4,043	8,184	2.8	
07/18/14	24	8,184	12,120	3,936	12,120	2.7	
07/21/14	72	0	16,253	16,253	28,373	3.8	Flowmeter Reset
07/22/14	24	16,253	19,898	3,645	32,018	2.5	
07/23/14	24	N/A	N/A	4,000	36,018	2.8	Flowmeter Blockage, Tank Measured
07/24/14	24	N/A	N/A	4,200	40,218	2.9	Pump Taken Offline for Excavation
08/13/14	24	N/A	N/A	6,000	46,218	4.2	Flowmeter Not Installed - Tank Measured
08/14/14	24	N/A	N/A	5,500	51,718	3.8	Flowmeter Not Installed - Tank Measured
08/15/14	24	N/A	N/A	5,500	57,218	3.8	Flowmeter Not Installed - Tank Measured
08/18/14	72	N/A	N/A	5,750	62,968	1.3	Flowmeter Not Installed - Tank Measured
08/19/14	24	N/A	N/A	5,750	68,718	4.0	Flowmeter Not Installed - Tank Measured
08/20/14	24	N/A	N/A	5,500	74,218	3.8	Pump Taken Offline

Notes: DW-4 was activated on July 16, 2014 and taken offline on August 20, 2014.

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
07/02/14	8:30	15,754.00	15,879.17	125,170	15,878,720	PVSC Compliance Sample Collected
07/03/14	5:15	15,879.17	15,995.15	115,980	15,994,700	
07/04/14	7:15	15,995.15	16,174.96	179,810	16,174,510	
07/05/14	7:00	16,174.96	16,354.58	179,620	16,354,130	
07/06/14	5:55	16,354.58	16,443.35	88,770	16,442,900	
07/07/14	9:05	16,443.35	16,582.28	138,930	16,581,830	
07/08/14	8:05	16,582.28	16,719.12	136,840	16,718,670	
07/09/14	7:30	16,719.12	16,813.21	94,090	16,812,760	
07/10/14	7:15	16,813.21	16,861.07	47,860	16,860,620	
07/11/14	6:00	16,861.07	16,927.80	66,730	16,927,350	
07/14/14	7:35	17,039.50	17,039.50	111,700	17,039,050	
07/15/14	8:10	17,151.47	17,151.47	111,970	17,151,020	
07/16/14	7:30	17,151.47	17,277.51	126,040	17,277,060	
07/17/14	5:15	17,277.51	17,369.50	91,990	17,369,050	
07/18/14	7:45	17,369.50	17,470.26	100,760	17,469,810	
07/21/14	8:30	17,470.26	17,603.88	133,620	17,603,430	
07/22/14	8:00	17,603.88	17,697.76	93,880	17,697,310	
07/23/14	7:30	17,697.76	17,756.61	58,850	17,756,160	
07/24/14	7:30	17,756.61	17,794.18	37,570	17,793,730	
07/25/14	7:00	17,794.18	17,849.88	55,700	17,849,430	
07/28/14	8:00	17,849.88	17,964.12	114,240	17,963,670	
07/29/14	8:00	17,964.12	18,017.49	53,370	18,017,040	
07/30/14	7:50	18,017.49	18,060.14	42,650	18,059,690	
08/04/14	2:15	18,060.14	18,144.28	84,140	18,143,830	
08/05/14	8:00	18,144.28	18,237.50	93,220	18,237,050	PVSC Compliance Sample Collected
08/06/14	7:45	18,237.50	18,289.93	52,430	18,289,480	
08/07/14	5:30	18,289.93	18,324.27	34,340	18,323,820	
08/08/14	7:20	18,324.27	18,357.38	33,110	18,356,930	
08/11/14	9:00	18,357.38	18,450.45	93,070	18,450,000	
08/12/14	7:00	18,450.45	18,524.19	73,740	18,523,740	
08/13/14	6:15	18,524.19	18,579.42	55,230	18,578,970	
08/14/14	7:00	18,579.42	18,610.35	30,930	18,609,900	
08/15/14	6:00	18,610.35	18,630.29	19,940	18,629,840	
08/17/14	6:00	18,630.29	18,701.73	71,440	18,701,280	
08/19/14	8:00	18,701.73	18,805.82	104,090	18,805,370	
08/20/14	6:00	18,805.82	18,884.84	79,020	18,884,390	
08/21/14	8:00	18,884.84	18,986.62	101,780	18,986,170	
08/22/14	7:45	18,986.62	19,094.08	107,460	19,093,630	
08/25/14	8:00	19,094.08	19,193.73	99,650	19,193,280	
08/26/14	8:45	19,193.73	19,298.14	104,410	19,297,690	
08/27/14	7:30	19,298.14	19,368.93	70,790	19,368,480	
08/28/14	8:45	19,368.93	19,461.76	92,830	19,461,310	
08/29/14	5:45	19,461.76	19,495.63	33,870	19,495,180	

Notes: Previous information is trunketed. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

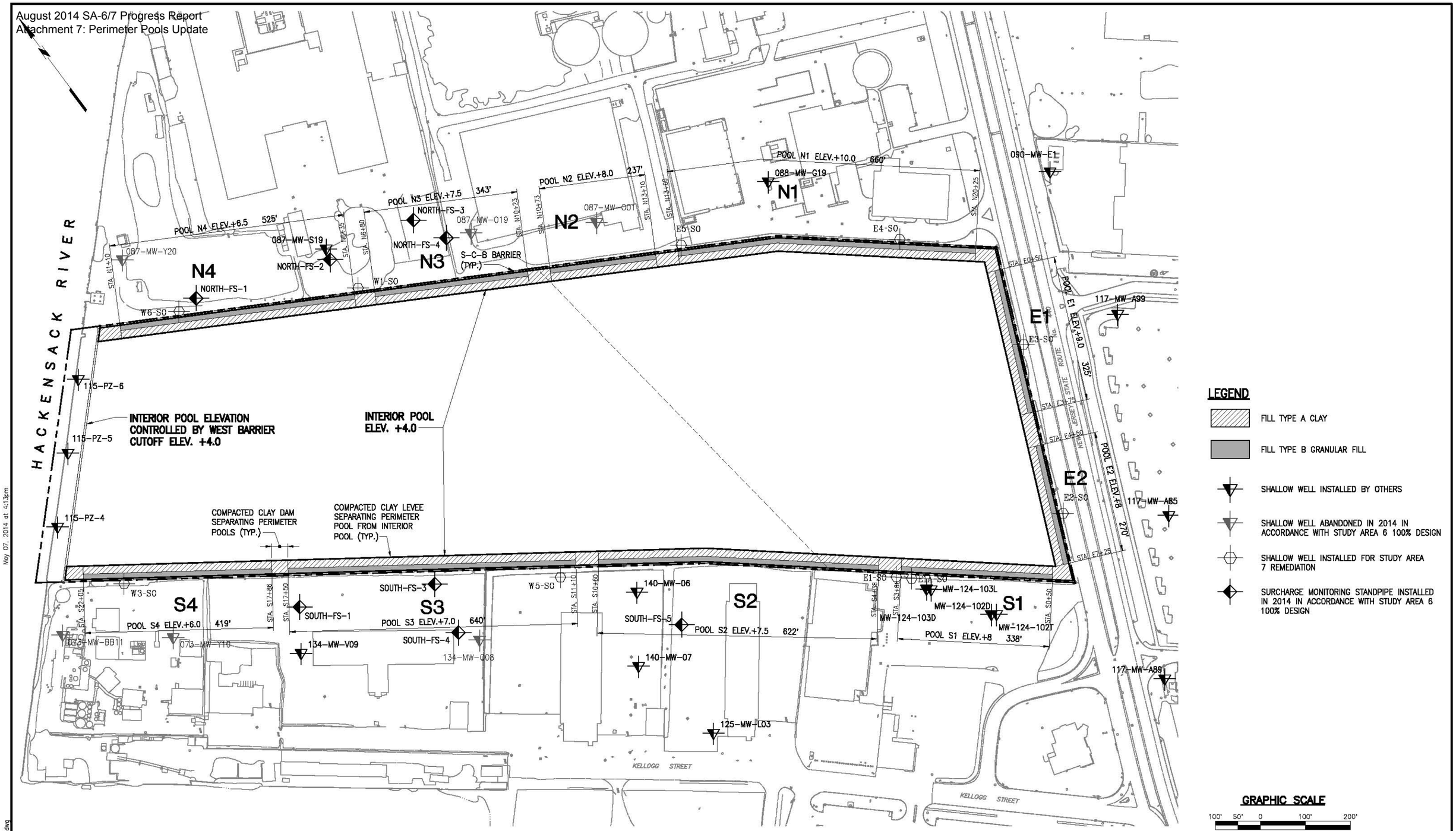
- Stockpiled Material Tracking and Sampling Log

SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
110-118	<20	124-118-20-a	1000	124-118-20-a1	7/9/2014	13:00	20.3		Yes	
				124-118-20-a2	7/9/2014	13:05	19.7	Yes		
				124-118-20-a3	7/9/2014	13:10	37.1		Yes	
				124-118-20-a4	7/9/2014	13:15	61.1		Yes	
102-119	>1000	124-119-1000-a	800	124-119-1000-a1	7/29/2014	11:00	174		Yes	
				124-119-1000-a2	7/29/2014	11:05	302		Yes	
				124-119-1000-a3	7/29/2014	11:10	149		Yes	
				124-119-1000-a4	7/29/2014	11:15	2,180			Yes
101-112	<20	124-112-20-a,b,c	2800	124-112-20-a1	7/30/2014	12:45	16.1	Yes		
				124-112-20-a2	7/30/2014	12:50	6.7	Yes		
				124-112-20-a3	7/30/2014	12:55	8.7	Yes		
				124-112-20-a4	7/30/2014	13:00	11.0	Yes		
				124-112-20-b1	7/30/2014	13:05	2.4	Yes		
				124-112-20-b2	7/30/2014	13:10	2.6	Yes		
				124-112-20-b3	7/30/2014	13:15	14.7	Yes		
				124-112-20-b4	7/30/2014	13:20	1.6	Yes		
				124-112-20-c1	7/30/2014	13:25	24.0		*	
				124-112-20-c2	7/30/2014	13:30	3.4	*		
				124-112-20-c3	7/30/2014	13:35	6.0	*		
				124-112-20-c4	7/30/2014	13:40	2.6	*		
92-102	>1000	124-102-1000-a,b	2100	124-102-1000-a1	8/14/2014	12:25	**			
				124-102-1000-a2	8/14/2014	12:30	**			
				124-102-1000-a3	8/14/2014	12:35	**			
				124-102-1000-a4	8/14/2014	12:40	**			
				124-102-1000-b1	8/14/2014	12:45	**			
				124-102-1000-b2	8/14/2014	12:50	**			
				124-102-1000-b3	8/14/2014	12:55	**			
				124-102-1000-b3	8/14/2014	13:00	**			
88-101	<20	124-101-20-a, b, c	2850	124-101-20-a1	8/22/2014	9:35	**			
				124-101-20-a2	8/22/2014	9:40	**			
				124-101-20-a3	8/22/2014	9:45	**			
				124-101-20-a4	8/22/2014	9:50	**			
				124-101-20-b1	8/22/2014	9:55	**			
				124-101-20-b2	8/22/2014	10:00	**			
				124-101-20-b3	8/22/2014	10:05	**			
				124-101-20-b4	8/22/2014	10:10	**			
				124-101-20-c1	8/22/2014	10:15	**			
				124-101-20-c2	8/22/2014	10:20	**			
				124-101-20-c3	8/22/2014	10:25	**			
				124-101-20-c4	8/22/2014	10:30	**			

*Material currently stockpiled. Pending final placement.
**Waiting on results from the laboratory.

Attachment 7: Perimeter Pools Update



IN PROGRESS

05-07-2014

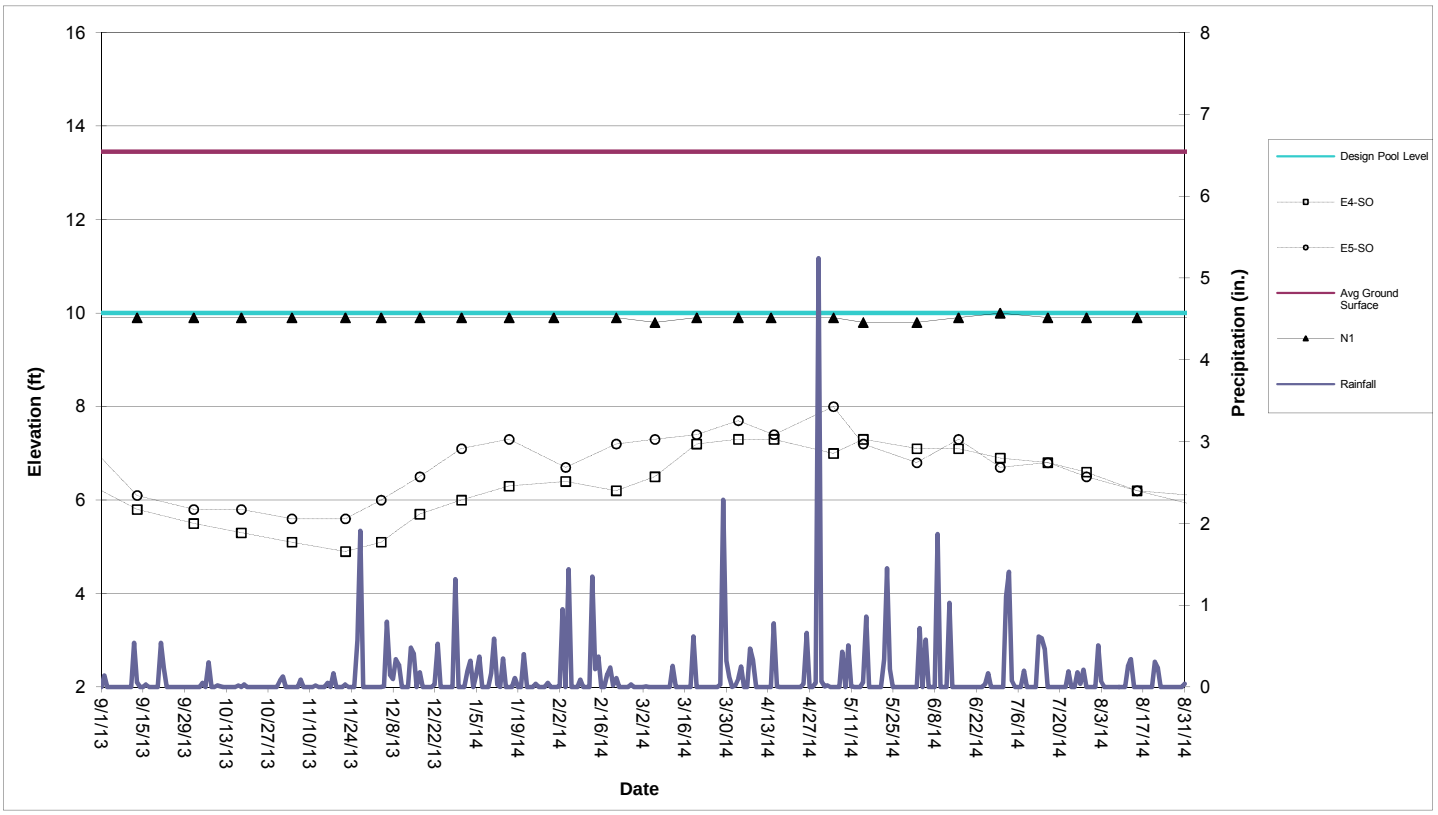
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

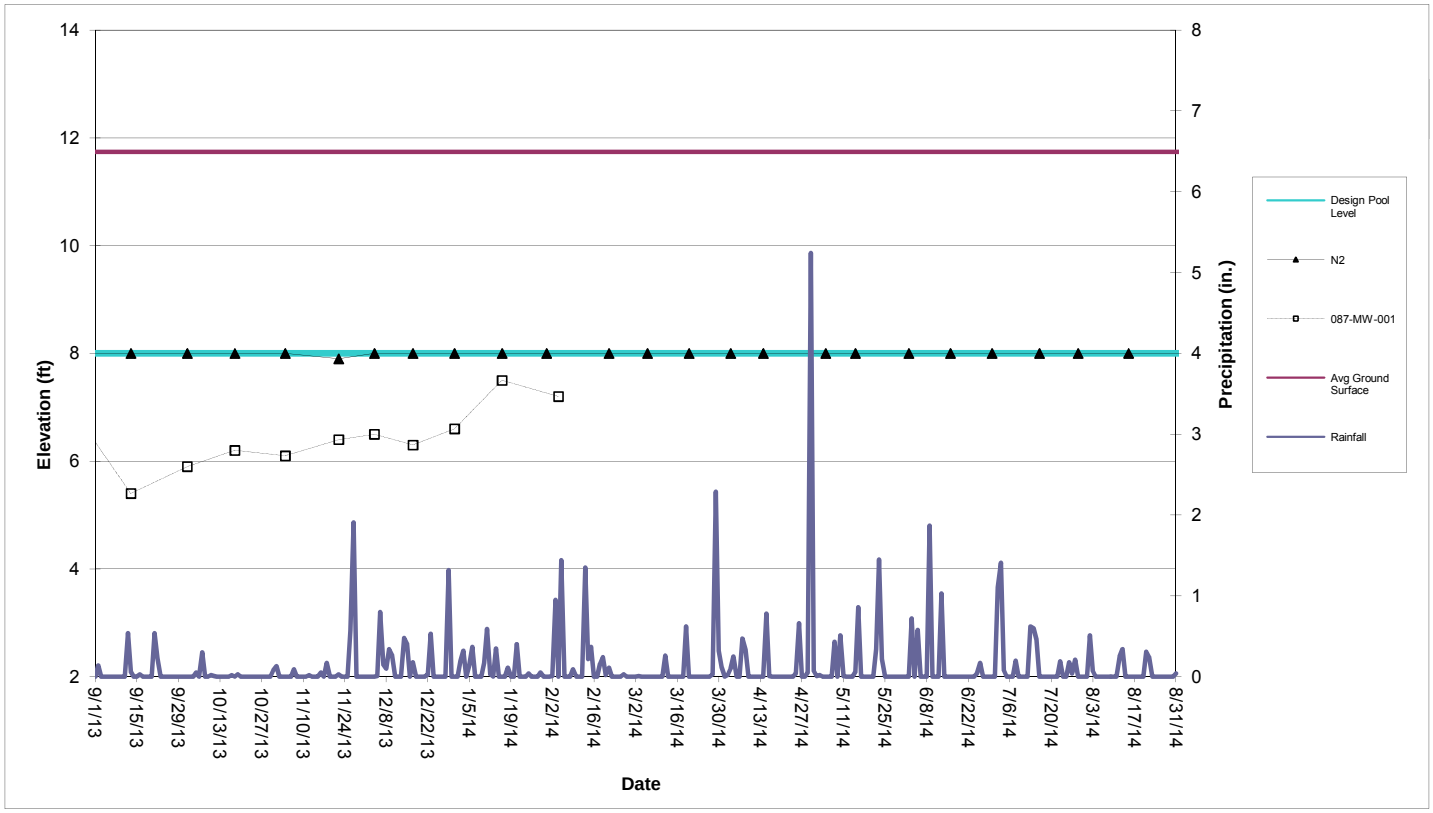
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP–1

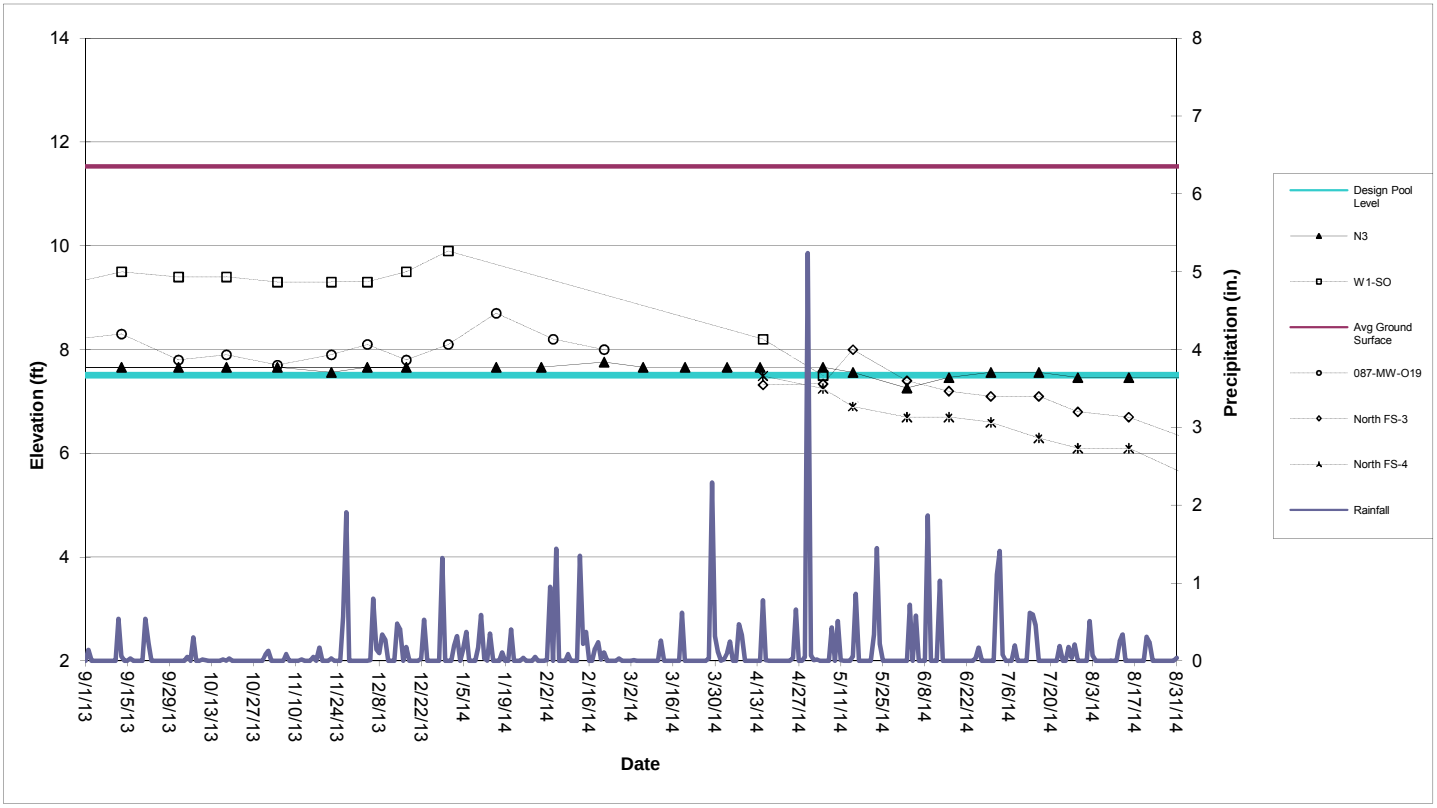
May 07, 2014 at 4:13pm
G:\DWGS\102\10210\Dewatering\PP-1.dwg
bboscaino



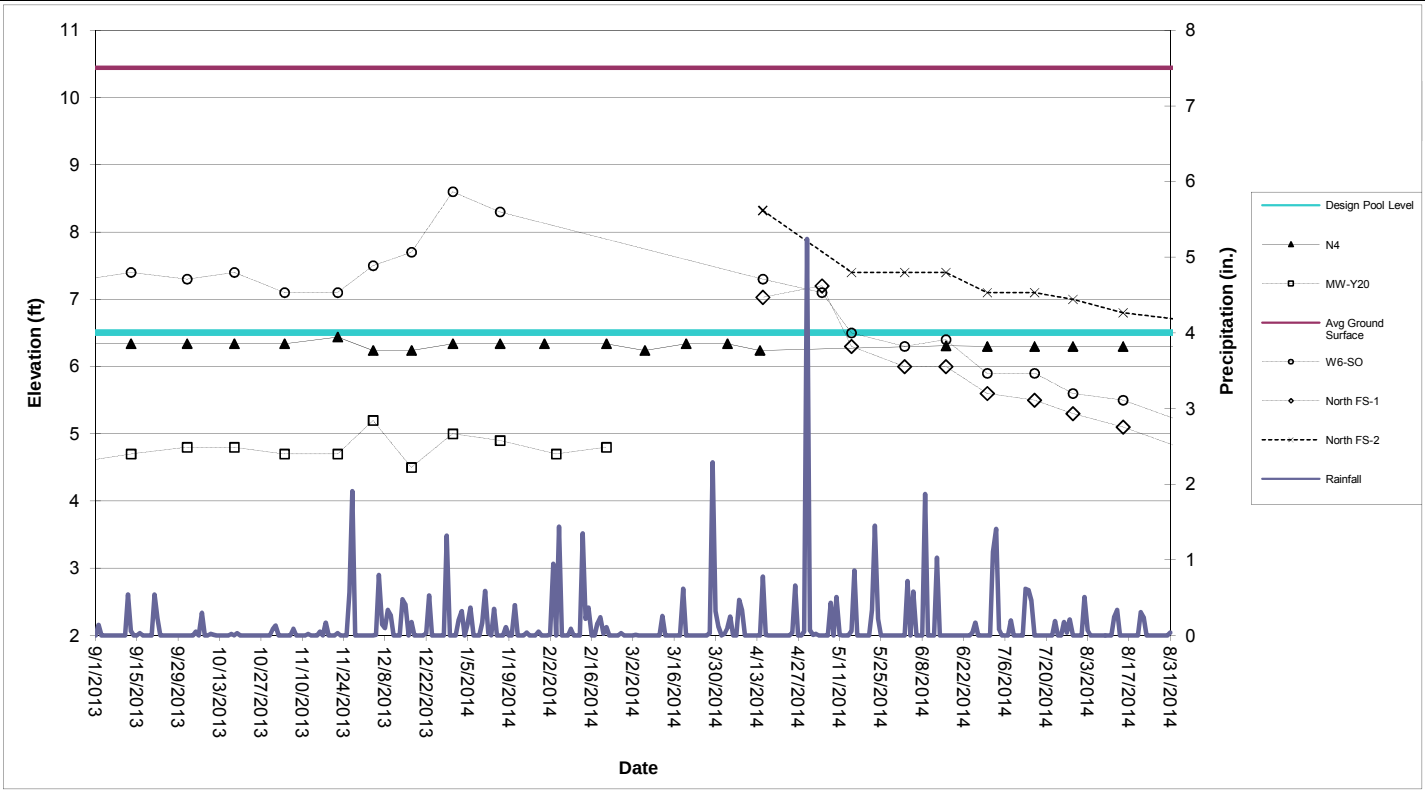
Perimeter Pool N1 (Sta. N13+60 to N20+25)



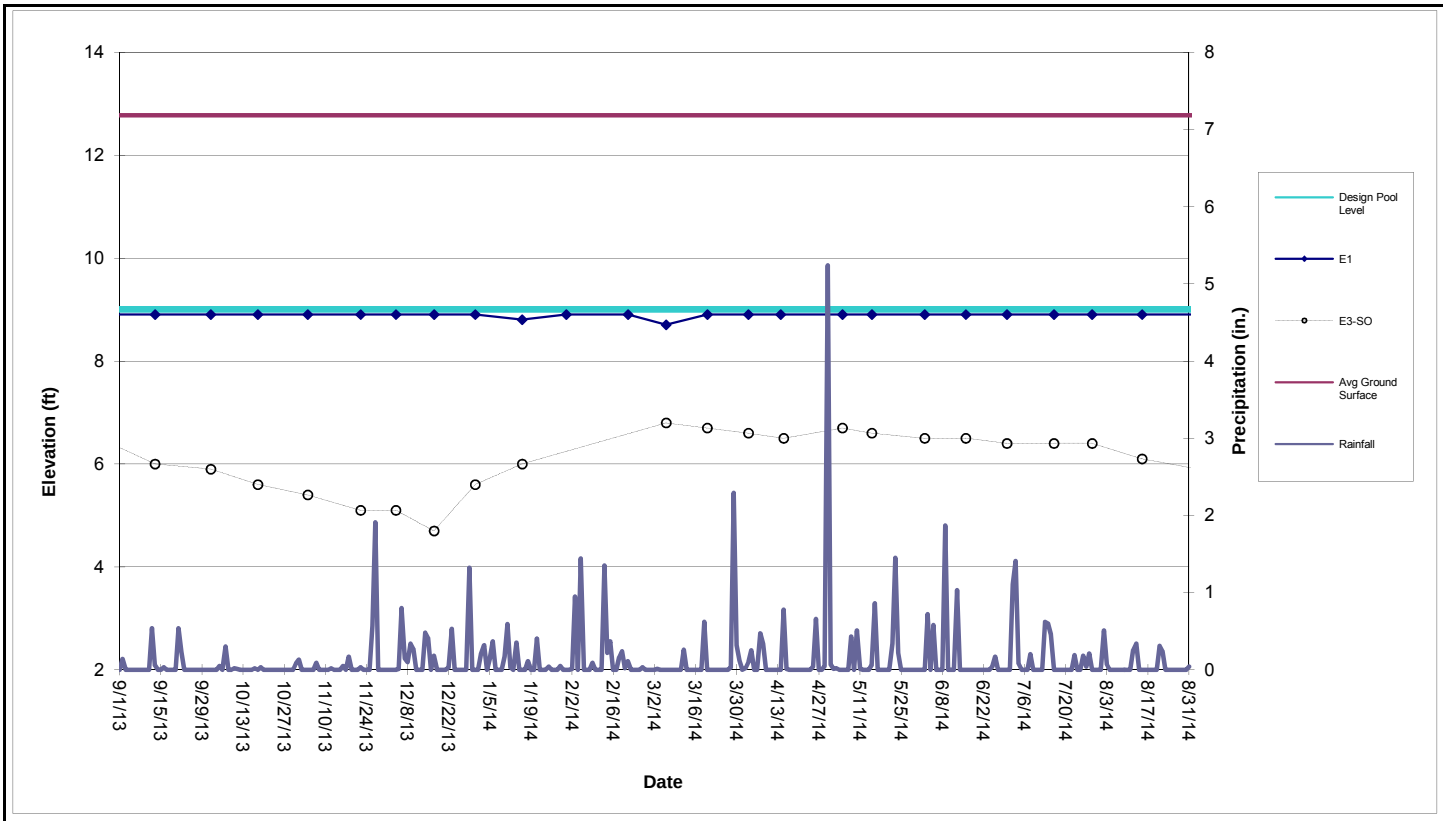
Perimeter Pool N2 (Sta. N10+73 to N13+10)



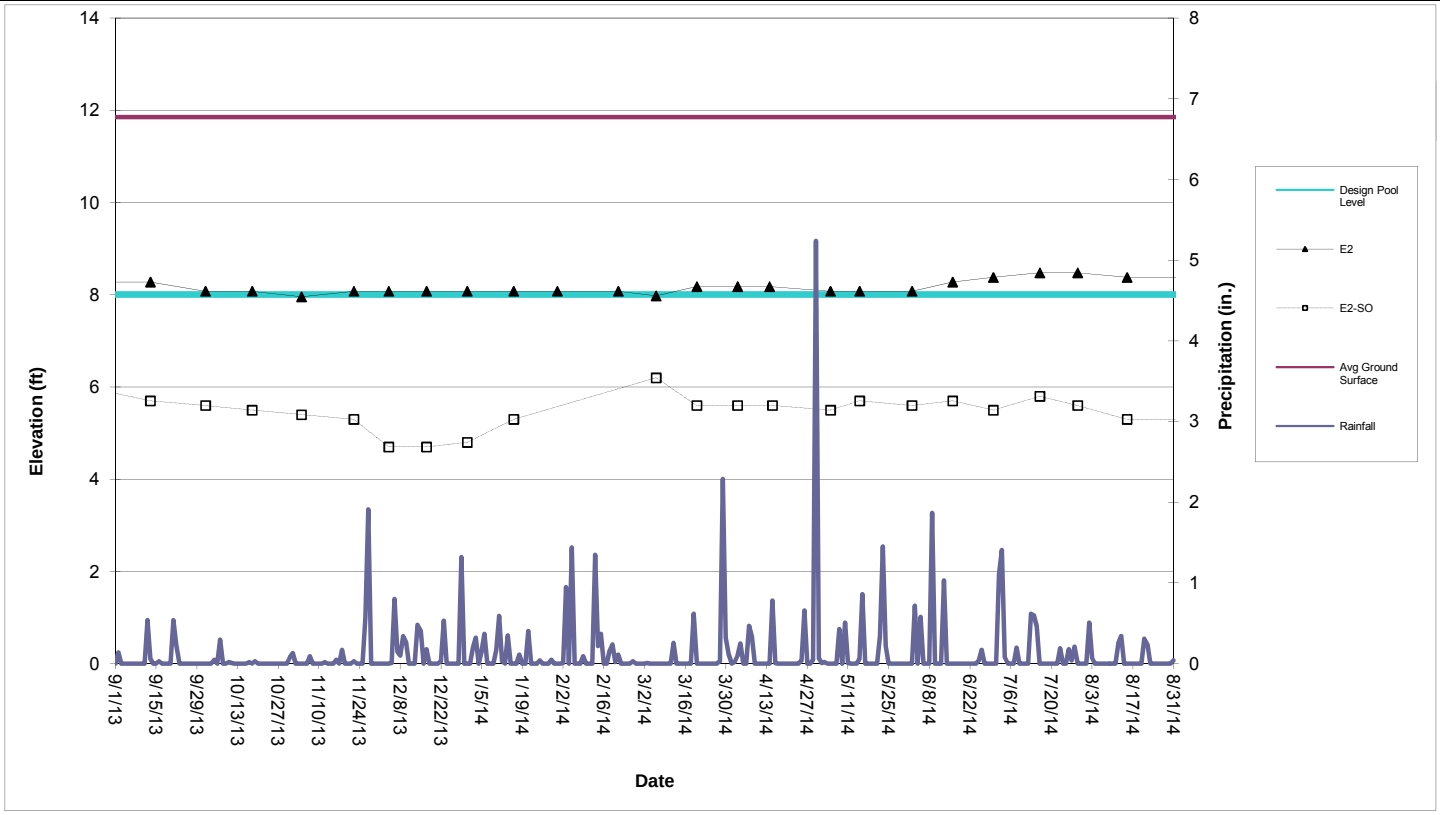
Perimeter Pool N3 (Sta. N6+80 to N10+23)



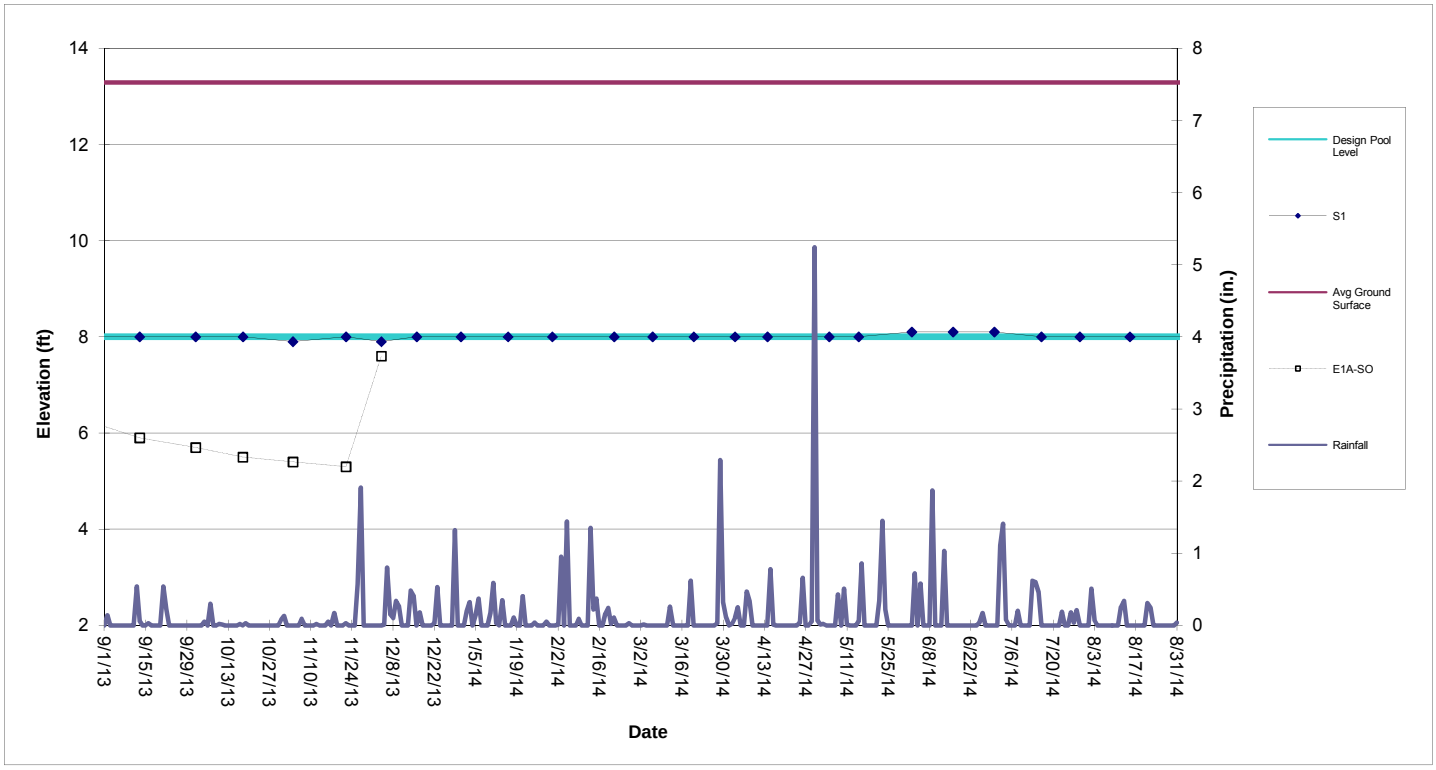
Perimeter Pool N4 (Sta. N6+80 to N10+23)



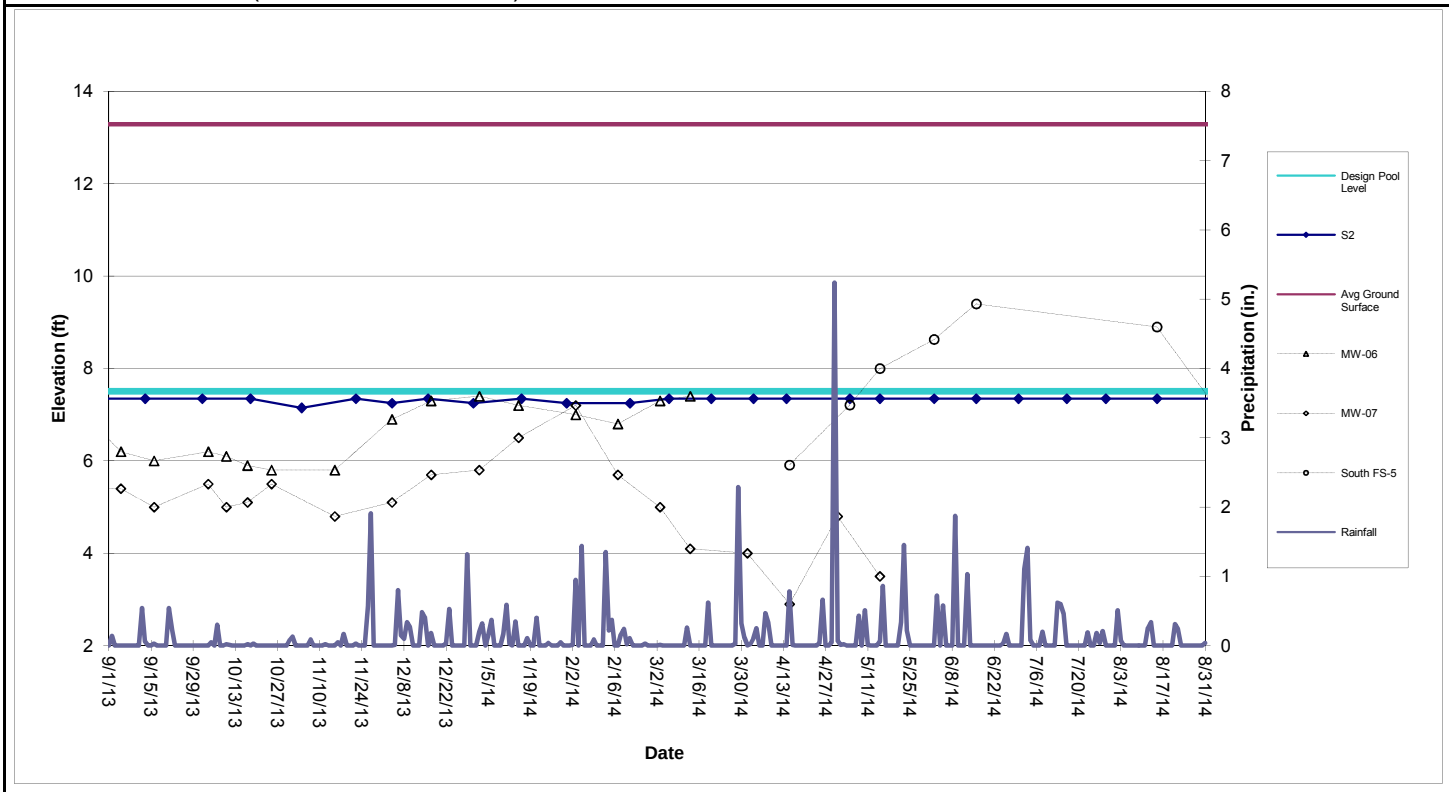
Perimeter Pool E1 (Sta. E0+50 to E3+75)



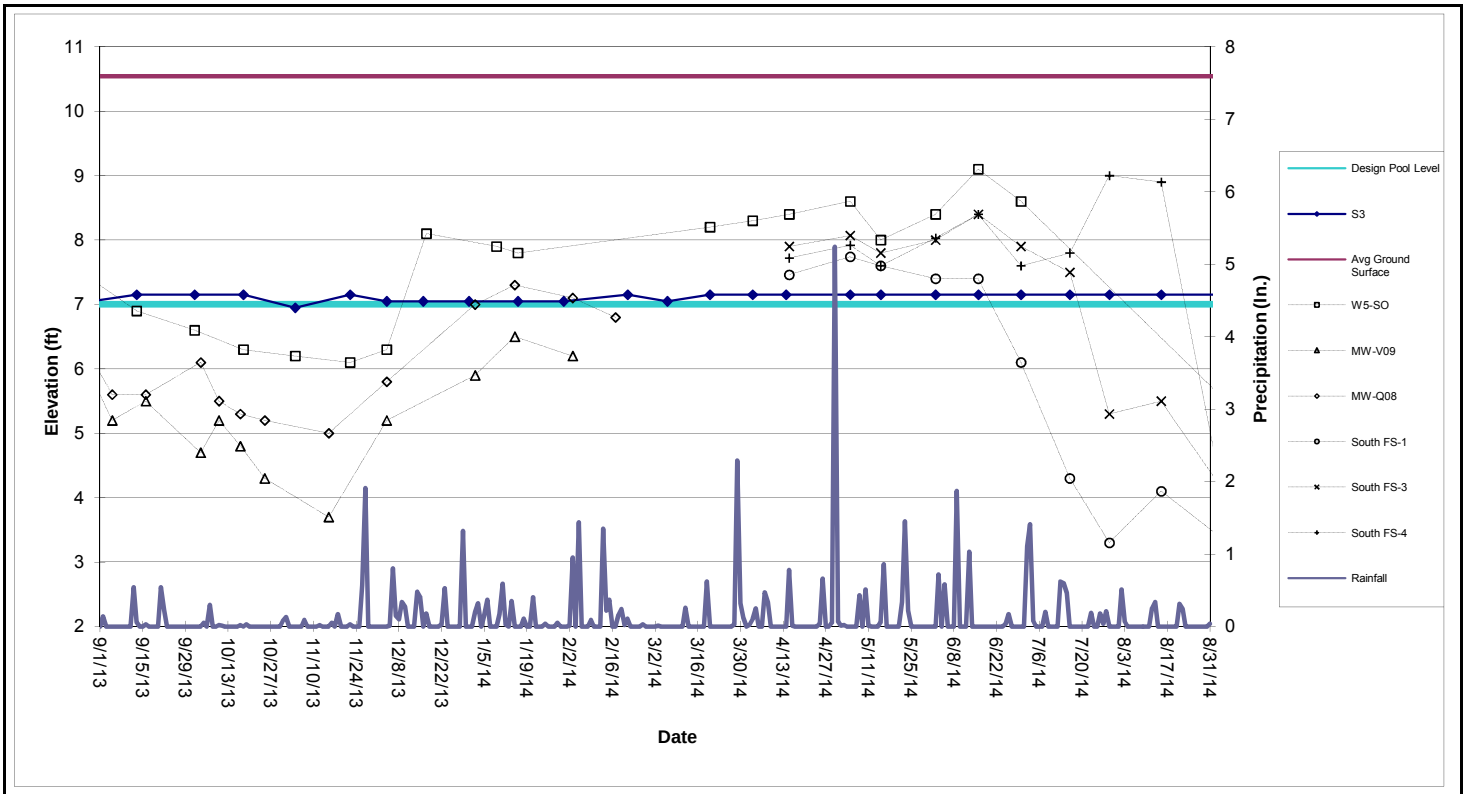
Perimeter Pool E2 (Sta. E4+50 to E7+25)



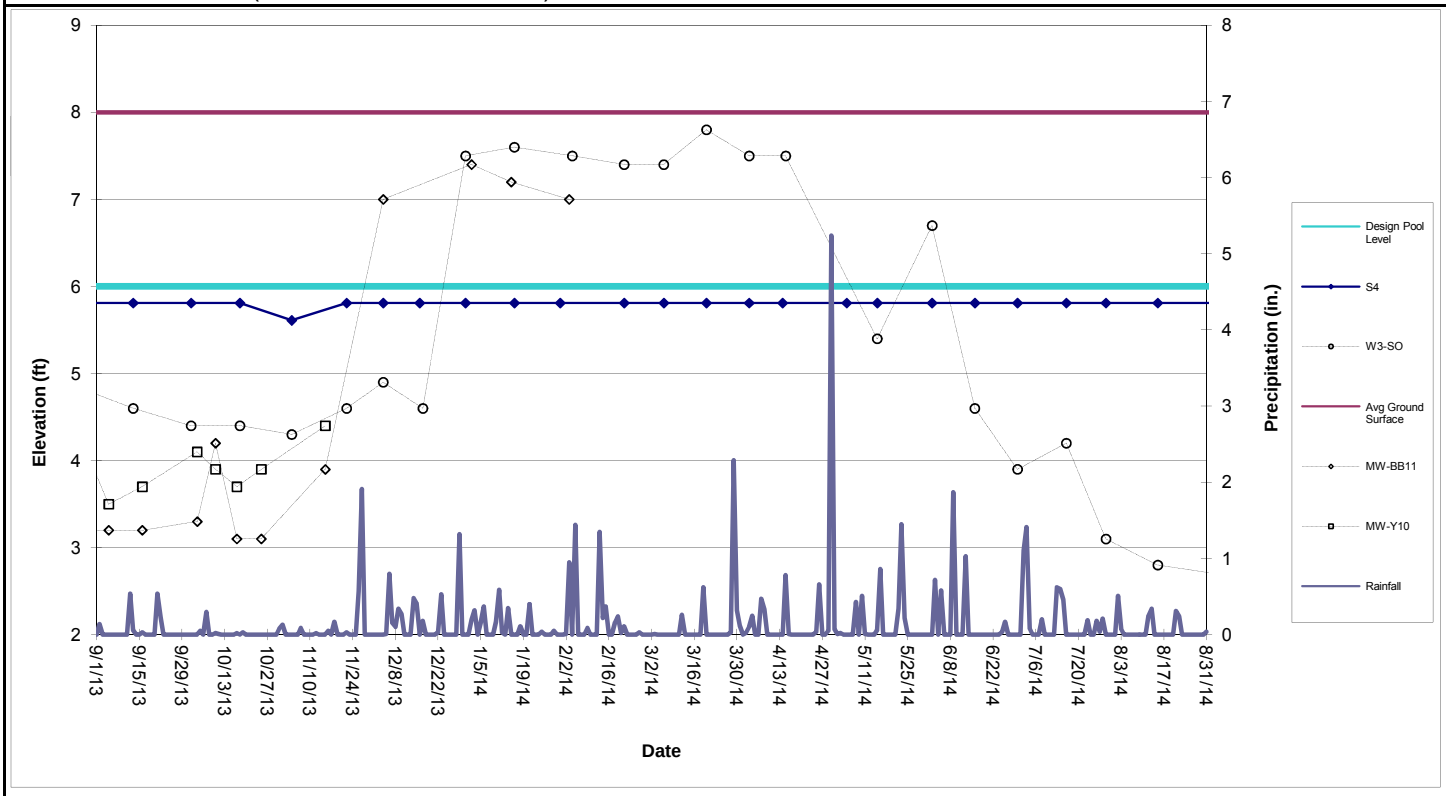
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										134-	140-		North				South			
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	MW-V09	MW-06	MW-07	FS-1	FS-2	FS-3	FS-4	FS-1	FS-3	FS-4	FS-5
Date																				
3/3/2014											7.3	5.0								
3/6/2014		6.2	6.8	6.5	7.3		7.4													
3/13/2014											7.4	4.1								
3/20/2014		5.6	6.7	7.2	7.4		7.8	8.2												
4/1/2014												4.0								
4/3/2014		5.6	6.6	7.3	7.7		7.5	8.3												
4/15/2014		5.6	6.5	7.3	7.4	8.2	7.5	8.4	7.3			2.9	7.0	8.3	7.3	7.5	7.5	7.9	7.7	5.9
5/1/2014												4.8								
5/5/2014		5.5	6.7	7.0	8.0	7.5		8.6	7.1				7.2		7.3	7.3	7.7	8.1	7.9	7.2
5/15/2014		5.7	6.6	7.3	7.2		5.4	8.0	6.5			3.5	6.3	7.4	8.0	6.9	7.6	7.8	7.6	8.0
6/2/2014		5.6	6.5	7.1	6.8		6.7	8.4	6.3				6.0	7.4	7.4	6.7	7.4	8.0	8.0	8.6
6/16/2014		5.7	6.5	7.1	7.3		4.6	9.1	6.4				6.0	7.4	7.2	6.7	7.4	8.4	8.4	9.4
6/30/2014		5.5	6.4	6.9	6.7		3.9	8.6	5.9				5.6	7.1	7.1	6.6	6.1	7.9	7.6	
7/16/2014		5.8	6.4	6.8	6.8		4.2		5.9				5.5	7.1	7.1	6.3	4.3	7.5	7.8	
7/29/2014		5.6	6.4	6.6	6.5		3.1		5.6				5.3	7.0	6.8	6.1	3.3	5.3	9.0	
8/15/2014		5.3	6.1	6.2	6.2		2.8		5.5				5.1	6.8	6.7	6.1	4.1	5.5	8.9	8.9

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells are temporarily inaccessible:
134-MW-V09, E1A-SO, W1-SO, W5-SO

Attachment 8: Quality and Level Data in GWET Wells

(not available as of this report date - provided on a quarterly basis)

- Summary of Groundwater Quality Data from GWET Wells
- Trichloroethene//Chloroform/Hexavalent Chromium in GWET Wells

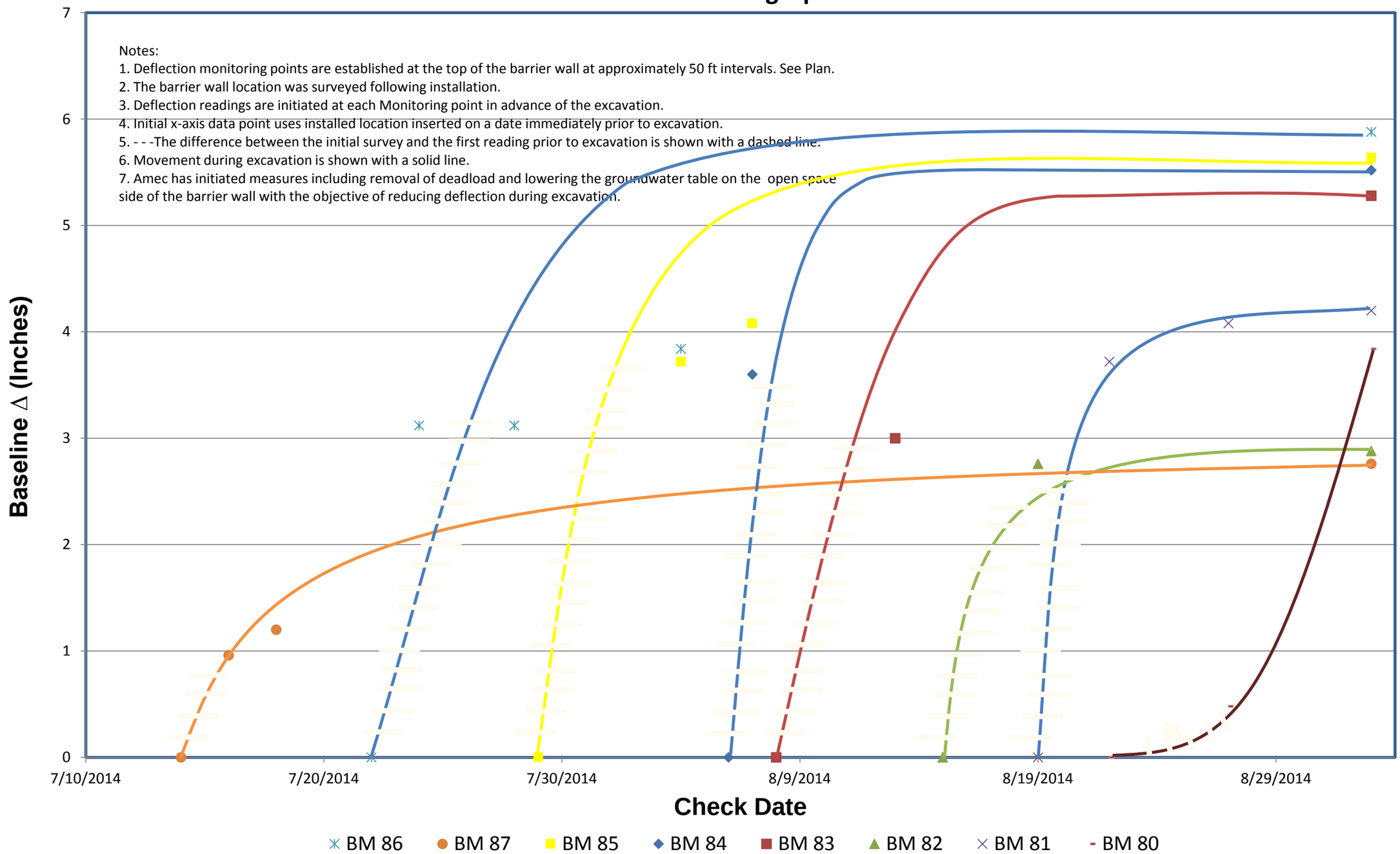
Attachment 9: Surcharge Monitoring Update

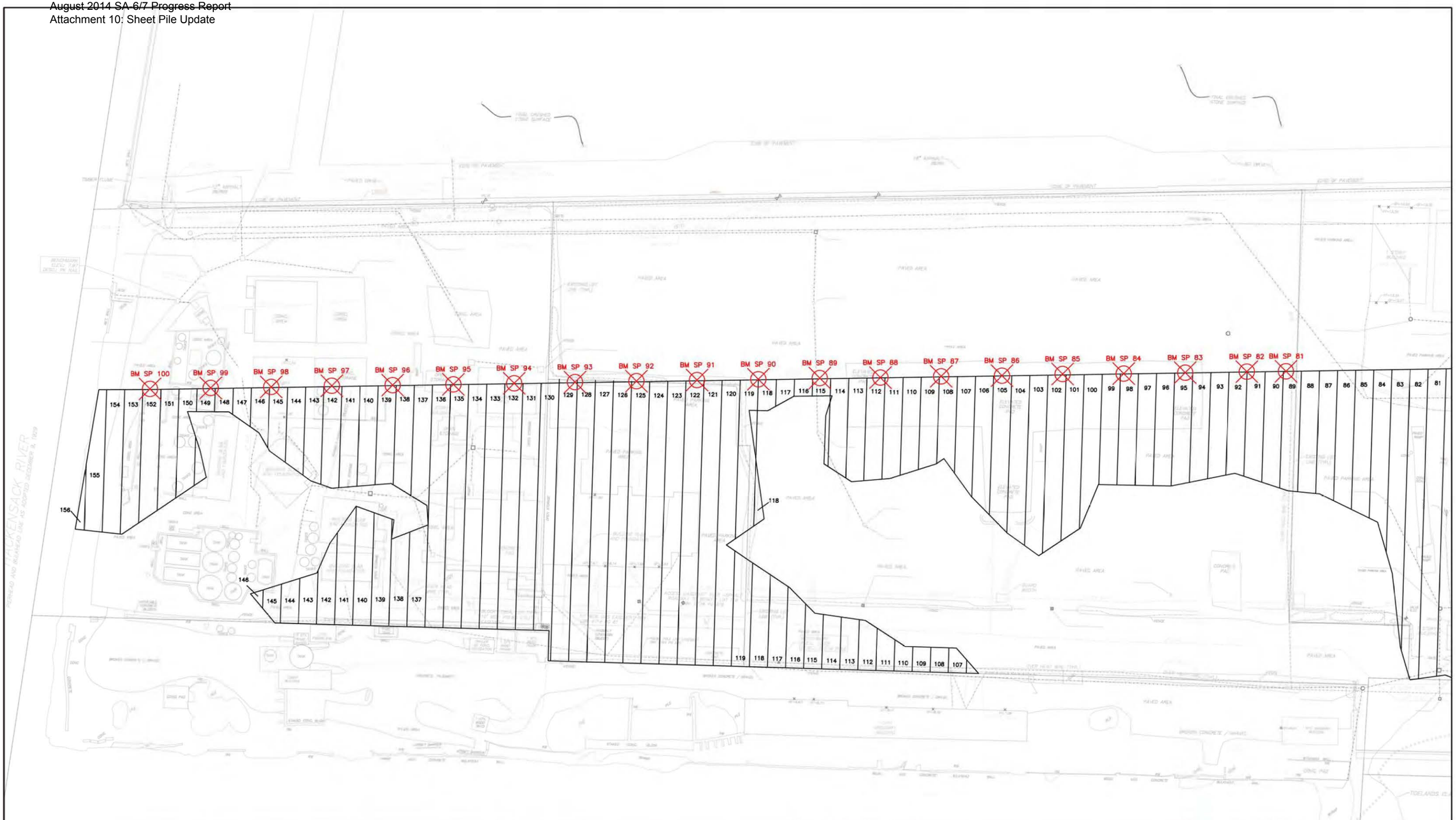
(not included in this reporting period)

Attachment 10: Sheet Pile Update

- Sheet Deflection Along Open Excavation
- Sheet Monitoring Locations
- Sheet Pile Repair Log

Sheet Deflection Along Open Excavation





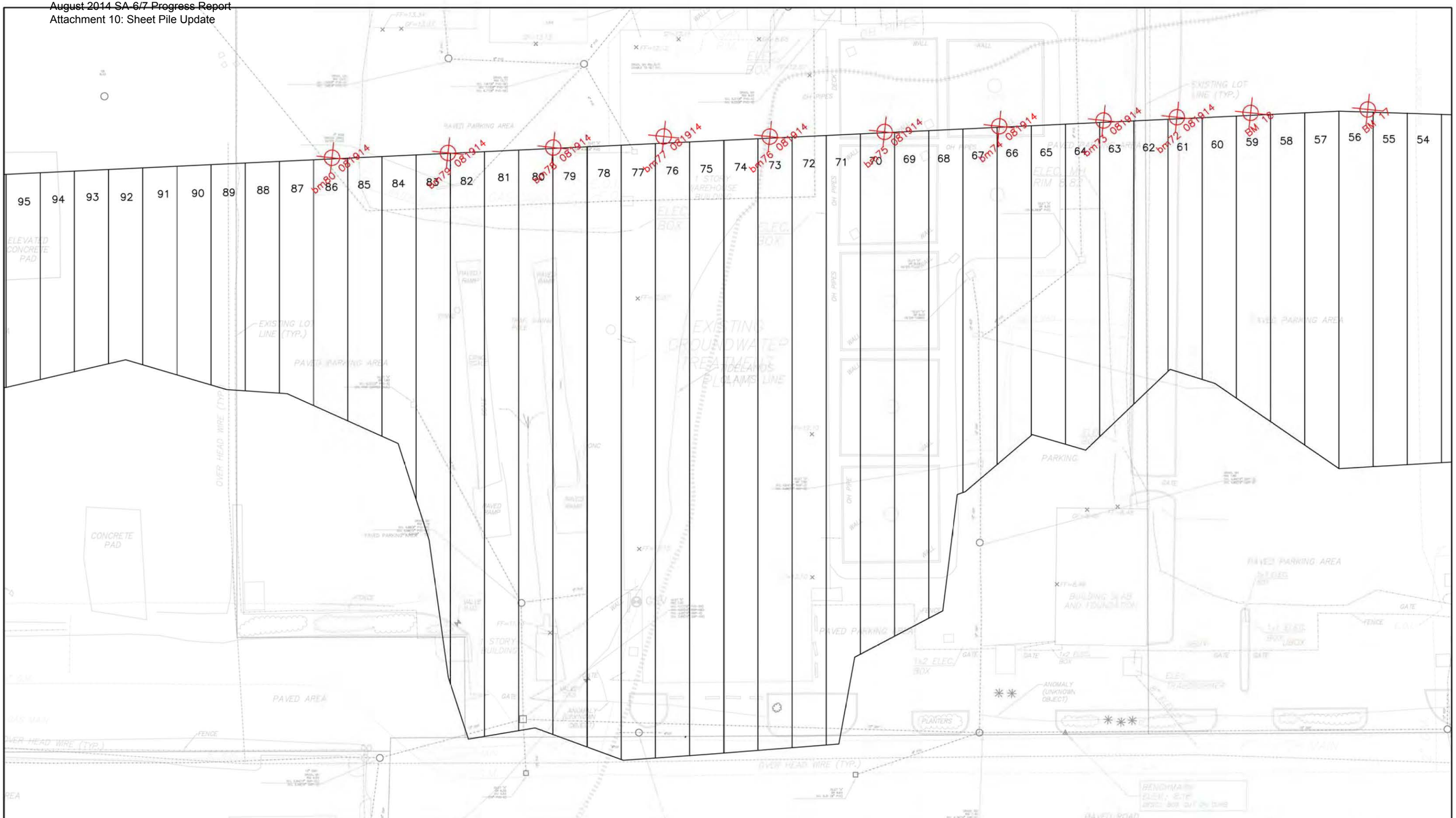
NOTES:

- Survey data collected with Trimble SPS882 and TSC2 Data Collector.
- Horizontal accuracy of 0.026 ft.
- Deflection measured at the top of the sheet.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SHEET MONITORING LOCATIONS 03-20-14

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTES:

- Survey data collected with Trimble SPS882 and TSC2 Data Collector.
- Horizontal accuracy of 0.026 ft.
- Deflection measured at the top of the sheet.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SHEET MONITORING LOCATIONS 08-19-14

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 18P-11

Entact ID:

Date Exposed: 7/17/14

Describe Damage: (11) Scrapes by the Cat 349E excavator bucket - (5) 1/2"Ø, (3) 1"Ø, 2×10", 1/2×36", 1×18". Cell 106/105

Damage Location (ft below top of sheet, inboard side outboard side): 13-18' outboard

Date Repaired: 7/24/14 Partial, 8/5/14 Remaining

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/5/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 18P-12

Entact ID:

Date Exposed: 7/17/14

Describe Damage: (8) Scrapes by the Cat 349E excavator bucket - 1/2×12", 2"Ø, 1/2×8", 1/2×30", 1×12", 2×5", 1/2×60", 3"Ø. Cell 105

Damage Location (ft below top of sheet, inboard side outboard side): 11-18' outboard

Date Repaired: 7/24/14 Partial, 8/5/14 Remaining

Inspected by: Brian Shea

Describe Repair: Pressure Wash, wire brush, apply epoxy w/ 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/5/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 18P-13

Entact ID:

Date Exposed: 7/21/14

Describe Damage: (6) scrapes by the Cat 349E excavator bucket - 1/2×4", 1"Ø, 1×5", 1×12", 2"Ø, 1/2"Ø. Cell 105. Sheet is covered w/ hardened grout from elv. 8.0' - (2.5')

Damage Location (ft below top of sheet, inboard side outboard side): 14-17' outboard

Date Repaired: 7/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 7/24/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID:

Date Exposed:

Describe Damage:

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired:

Inspected by:

Describe Repair:

Repair Log Closure: AMEC Signature:

Date:

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-1

Entact ID:

Date Exposed: 7/22/14

Describe Damage: (9) scrapes by the Cat 349E excavator bucket - (6) 1/2"Ø, 1/2×36", 1"Ø, 2"Ø. Cell 105/104

Damage Location (ft below top of sheet, inboard side outboard side): 8-12' outboard

Date Repaired: 7/29/14 Partial, 8/6/14 Remaining

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/5/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-2

Entact ID:

Date Exposed: 7/22/14

Describe Damage: (6) scrapes by the Cat 349E excavator bucket - 1×3", 2"Ø, 1/2×6", 3×12", (2) 1/2"Ø, Cell 104.

Damage Location (ft below top of sheet, inboard side outboard side): 8-14' outboard

Date Repaired: 7/29/14 Partial, 8/6/14 Remaining

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-3

Entact ID:

Date Exposed: 7/24/14

Describe Damage: (8) scrapes by the Cat 349E excavator bucket - 1/2×6", 2"Ø, 1/2×36", 1/2×3", 1×36", 1×18", 1/2×6", 1"Ø. Cell 104

Damage Location (ft below top of sheet, inboard side outboard side): 2-14' outboard

Date Repaired: 7/29/14 Partial, 8/6/14 remaining

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-4

Entact ID:

Date Exposed: 7/24/14

Describe Damage: (8) scrapes by the Cat 349E excavator bucket - 1/2×6", 1"Ø, 1/2×3", 2"Ø, 1/2×24", 1×12", 1×48", 1/2×48". C-104

Damage Location (ft below top of sheet, inboard side outboard side): 3-14' outboard

Date Repaired: 7/29/14 Partial, 8/6/14 Remaining

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-5

Entact ID:

Date Exposed: 7/25/14

Describe Damage: (6) scrapes by the Cat 349E excavator bucket - 1"Ø, 2"Ø, 1/2×8", 1/2×36", 1/2×2". 104/103.

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 7/29/14 Partial, 8/6/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-6

Entact ID:

Date Exposed: 7/25/14

Describe Damage: (5) scrapes by the Cat 349E excavator bucket - 1"×84", 1×48", 2×12", 1/2×18", 1"Ø. Cell 103 Sheet is covered w/ hardened grout from elv. 8.0' - 0.0'.

Damage Location (ft below top of sheet, inboard side outboard side): 1-10' outboard

Date Repaired: 7/29/14 Partial, 8/6/14 Remaining

Inspected by: Brian Shea

Describe Repair: Pressure washed, wire brushed, and applied epoxy w/ a 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-7

Entact ID:

Date Exposed: 7/25/14

Describe Damage: (8) scrapes by the Cat 349E excavator bucket - 5×60", (3) 1"Ø, 1/2×48", 1/2×24", 1×2", 1/2"Ø. Cell 103. Hardened grout covering sheet from elv. 8.0' to (2.0')

Damage Location (ft below top of sheet, inboard side outboard side): 1-15' outboard

Date Repaired: 7/29/14 Partial, 8/6/14 Remaining

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint

Repair Log Closure: AMEC Signature: BShea

Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-8

Entact ID:

Date Exposed: 7/28/14

Describe Damage: (6) scrapes by the Cat 349E excavator bucket - 1×24", 1/2×36", 1"Ø, (3) 1×3". Cell 103/102. Sheet is covered w/ hardened grout from elv. 9.0' to (3.0').

Damage Location (ft below top of sheet, inboard side outboard side): 6-15' outboard

Date Repaired: 7/29/14 Partial, 8/6/14 Remaining

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-9

Entact ID:

Date Exposed: 7/29/14

Describe Damage: (5) Scrapes by the Cat 349E excavator bucket - 1/2×18", 1"Ø, 1"Ø, 1/2×6", 1/2"Ø. Cell 102

Note: Sheet is covered w/ hardened grout from elv. 7.0' to (4.0').

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 8/5/14 Partial, 8/6/14 Remaining

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-10

Entact ID:

Date Exposed: 7/29/14

Describe Damage: (6) Scrapes by the Cat 349E excavator bucket - 1/2×30", 1×6", 1"Ø, 1/2"Ø, 1/2"Ø, 1×12". Cell 102.

Note: Sheet is covered w/ hardened grout from elv. 0.0' to (4.0').

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 8/5/14 Partial, 8/6/14 Remaining

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-11

Entact ID:

Date Exposed: 7/29/14

Describe Damage: (4) scrapes by the Cat 349E excavator bucket - 1×8", 1/2×12", 1/2×6", 2×4". Cell 102

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 8/5/14 Partial, 8/6/14 remaining

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-12

Entact ID:

Date Exposed: 7/30/14

Describe Damage: (8) scrapes by the Cat 349E excavator bucket - 1/2×36", 1"Ø, 2×8", 1/2×6", 1/4×3", 2×4", 4"Ø, 1/2×12".

Cell 101

Note. Sheet is covered by hardened grout from elv. 5.0' to (5.0').

Damage Location (ft below top of sheet, inboard side outboard side): 9-15' outboard

Date Repaired: 8/5/14 Partial, 8/6/14 Remaining

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-13

Entact ID:

Date Exposed: 7/30/14

Describe Damage: (8) Scrapes by the Cat 349E excavator bucket - 1x36", (2) 1/2"Ø, 10x14", 1x72", 1/2x3", 1x60", 1x36", and a small leak in the interlock weld. Cell 101

Damage Location (ft below top of sheet, inboard side outboard side): Scrapes 9-15' outboard leak 17' outboard

Date Repaired: 8/5/14 Partial, 8/6/14 Remaining

Inspected by: Brian Shea

Describe Repair: Scrapes - pressure washed and epoxy painted on w/ a 2" brush. Leak - cleaned, covered/welded by a 5" steel angle, covered w/ epoxy, backfilled, and grouted.

Repair Log Closure: AMEC Signature: BShea

Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-14

Entact ID:

Date Exposed: 7/30/14

Describe Damage: (10) Scrapes by the Cat 349E excavator bucket - 1x60", (3) 1"Ø, 4x8", (2) 1/2"Ø, 1x30", 1x48", 3"Ø, Cell 101

Damage Location (ft below top of sheet, inboard side outboard side): 2-16' outboard

Date Repaired: 8/5/14 Partial, 8/6/14 Remaining

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-15

Entact ID:

Date Exposed: 7/31/14

Describe Damage: (10) scrapes by the Cat 349E excavator bucket - (6) 1"Ø, 1/2x24", 1/2x3", 1/2x6", 1/2x48". Cell 101/100. Sheet is covered w/ hardened grout from elv. 8.0' to (4.0').

Damage Location (ft below top of sheet, inboard side outboard side): 2-16' outboard

Date Repaired: 8/5/14 Partial, 8/6/14 Remaining

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-16

Entact ID:

Date Exposed: 7/31/14

Describe Damage: (7) Scrapes by the Cat 349E excavator bucket - 1/2x4", 1/2x6", 1/2x24", 1x12", 1"Ø, 1x36", 1x12". Cell 100 Sheet is covered w/ hardened grout from elv. 7.0' to (4.0')

Damage Location (ft below top of sheet, inboard side outboard side): 1'-15' outboard

Date Repaired: 8/5/14 Partial, 8/6/14 Remaining

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-17

Entact ID:

Date Exposed: 8/5/14

Describe Damage: (15) Scrapes by the Cat 349E excavator bucket - (2) 1×60", 1×24", 1×72", (4) 1/2×12", (4) 1"ø, 1/2×8", 1/2×3, 3"ø. Cell 100

Damage Location (ft below top of sheet, inboard side, outboard side): 2-15' outboard

Date Repaired: 8/6/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure, wire brush, apply epoxy w/ 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-18

Entact ID:

Date Exposed: 8/5/14

Describe Damage: (12) Scrapes by the Cat 349E excavator bucket - 1/4×72", 1/2×24", 1×6", 1×6", 1"ø, 1/2×2", (2) 3"ø, (2) 1/2×12", (2) 1/2"ø. Cell 100. Sheet is covered w/ hardened grout from elv 5.0' to 1.0'

Damage Location (ft below top of sheet, inboard side, outboard side): 2-15' outboard

Date Repaired: 8/6/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-19

Entact ID:

Date Exposed: 8/5/14

Describe Damage: (11) Scrapes by the Cat 349E excavator bucket - (6) 1/2"ø, 1×8", 1/2×4", (2) 1×60", 3×8". Cell 99. Sheet is covered w/ hardened grout from elv. 7.0' to 3.0'.

Damage Location (ft below top of sheet, inboard side, outboard side): 1-15' outboard

Date Repaired: 8/6/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-20

Entact ID:

Date Exposed: 8/5/14

Describe Damage: (8) Scrapes by the Cat 349E excavator bucket - (4) 1"ø, 1×36", 1/2×60", (2) 1×12". Cell 99. Sheet is covered w/ hardened grout from elv. 6.0' to 1.0'

Damage Location (ft below top of sheet, inboard side, outboard side): 4-15' outboard

Date Repaired: 8/6/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-21

Entact ID:

Date Exposed: 8/6/14

Describe Damage: (6) Scrapes by the Cat 349E excavator bucket - 1"ø, 1"x24", 1x36", 1x12", 1/2x6", 3"ø. Cell 99

Damage Location (ft below top of sheet, inboard side outboard side): 2 - 12' outboard

Date Repaired: 8/6/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-22

Entact ID:

Date Exposed: 8/6/14

Describe Damage: (8) Scrapes by the Cat 349E excavator bucket - 1/2x12", 1/2x12", 1/2x8", 1/4x18", 4"ø, 1x6", 1/2"ø, 1/2x3". Cell 98

Damage Location (ft below top of sheet, inboard side outboard side): 2x12' outboard

Date Repaired: 8/6/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-23

Entact ID:

Date Exposed: 8/6/14

Describe Damage: (5) scrapes by the Cat 349E excavator bucket - 1x36", 1/2x8", 1x8", 1/2x48", 1/4x24". Cell 98.

Damage Location (ft below top of sheet, inboard side outboard side): 4-10' outboard

Date Repaired: 8/6/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-24

Entact ID:

Date Exposed: 8/6/14

Describe Damage: (12) Scrapes by the Cat 349E excavator bucket - (2) 1/2x14", 10"ø, 1/2x3", 1/2x6", 1/2x10", 1"ø, 1/2"ø, 2"ø, 1/2x36", 1"ø, 1/2x6". Cell 98

Damage Location (ft below top of sheet, inboard side outboard side): 2-10' outboard

Date Repaired: 8/6/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: B Shea

Date: 8/15/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-25

Eatact ID:

Date Exposed: 8/7/14

Describe Damage: (7) Scrapes by the Cat 349E excavator bucket - 1/2x48", (2) 1"ø, 1/2x12", 2x6", 2"ø, 1x12", Cell 97

Damage Location (ft below top of sheet, inboard side, outboard side): 3-13' outboard

Date Repaired: 8/13/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log should be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-26

Eatact ID:

Date Exposed: 8/7/14

Describe Damage: (6) Scrapes by the Cat 349E excavator bucket - (2) 1"ø, 1/2x18", 1/2x24", 1/2x8", 1x24". Cell 97

Damage Location (ft below top of sheet, inboard side, outboard side): 8-13' outboard

Date Repaired: 8/13/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log should be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-27

Eatact ID:

Date Exposed: 8/7/14

Describe Damage: (4) Scrapes by the Cat 349E and Cat 322C excavator buckets - 1/4x3", 1/2x4", 1/2x6", 1"ø. Cell 97. Sheet is covered w/ hardened grout from elv. 7.0' to (4.0')

Damage Location (ft below top of sheet, inboard side, outboard side): 10-14' outboard

Date Repaired: 8/13/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure washed, wire brushed, applied epoxy w/ 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log should be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-28

Eatact ID:

Date Exposed: 8/7/14

Describe Damage: (8) Scrapes by the Cat 349E and Cat 322C excavator buckets - 1/2x36", 1/2x24", 1"ø, 1x12", 1x12", 2x8", 1x14", 1/2"ø. Cell 96.

Damage Location (ft below top of sheet, inboard side, outboard side): 10-14' outboard

Date Repaired: 8/13/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure washed, wire brushed, applied epoxy w/ 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log should be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-29

Entact ID:

Date Exposed: 8/8/14

Describe Damage: (7) Scrapes by the Cat 349E and Cat 322C excavator buckets- 1/2 x 36", 1"Ø, 1 x 6", 12"Ø, 1/2 x 48", 1 x 18", 1/2 x 24". Cell 96.

Damage Location (ft below top of sheet, inboard side outboard side): 10-14' outboard

Date Repaired: 8/13/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" Paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-30

Entact ID:

Date Exposed: 8/8/14

Describe Damage: (9) scrapes by the Cat 349E and Cat 322C excavator buckets- 2 x 60", 1 x 36", 1 x 24", 10"Ø, 1 x 30", 2"Ø, 1 x 18", 1/2 x 36", 1/2 x 12".

Cell 96

Damage Location (ft below top of sheet, inboard side outboard side): 2-14' outboard.

Date Repaired: 8/13/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-31

Entact ID:

Date Exposed: 8/8/14

Describe Damage: (5) scrapes by the Cat 349E and Cat 322C excavator buckets- 1 x 36", 1 x 12", 2"Ø, 2 x 12", 1/2 x 24", cell 96/95

Damage Location (ft below top of sheet, inboard side outboard side): 6-15' outboard

Date Repaired: 8/13/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-32

Entact ID:

Date Exposed: 8/8/14

Describe Damage: (4) Scrapes by the Cat 349E excavator bucket - 1/2 x 60", 3"Ø, 1 x 24", 1 x 12", Cell 95.

Damage Location (ft below top of sheet, inboard side outboard side): 6-15' outboard

Date Repaired: 8/13/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-33

Entact ID:

Date Exposed: 8/11/14

Describe Damage: (8) Scrapes by the Cat 349E and Cat 322C excavator buckets- 1/2×2", 1×8", 1/2×4", 1×48", 3"Ø, 6"Ø, 2"×48", 1×12", Cell 95

Damage Location (ft below top of sheet, inboard side outboard side): 2-15' outboard

Date Repaired: 8/15/14 Partial, 8/21/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-34

Entact ID:

Date Exposed: 8/11/14

Describe Damage: (16) Scrapes by the Cat 349E and Cat 322C excavator buckets- 1×36", 1×48", 2"Ø, 3×8", 1×3", 1×8", 1/2"Ø, 1"Ø, 1×4", 1/4×6", (2) 2"Ø, 1×2", 1/2×36", 1/2"Ø, 1"Ø. Cell 95

Damage Location (ft below top of sheet, inboard side outboard side): 4-15' outboard

Date Repaired: 8/15/14 Partial, 8/21/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-35

Entact ID:

Date Exposed: 8/11/14

Describe Damage: (8) scrapes by the Cat 349E and 322C excavator buckets- 4×12", 1×12", 2×48", 1×18", 1/4×12", 3"Ø, 1/2×18", 1"Ø. Cell 94

Damage Location (ft below top of sheet, inboard side outboard side): 1-13' outboard

Date Repaired: 8/15/14 Partial, 8/21/14 Total

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-36

Entact ID:

Date Exposed: 8/11/14

Describe Damage: (10) scrapes by the Cat 349E and Cat 322C excavator buckets- 1×6", 1/2×6", 1"Ø, 1/2×36", 1/2×12", 2×5", 2×48", 1×18", 1×24", 2×36". Cell 94

Damage Location (ft below top of sheet, inboard side outboard side): 1-15' outboard

Date Repaired: 8/15/14 Partial, 8/21/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-37

Entact ID:

Date Exposed: 8/11/14

Describe Damage: (8) scrapes by the Cat 349E and Cat 322C excavator buckets- 2"Ø, 2×48", 1×6", 1"Ø, 1/2×12", 1/2×24", 1/2×3", 1/2×12". Cell 94

Damage Location (ft below top of sheet, inboard side outboard side): 4-14' outboard

Date Repaired: 8/15/14 Partial, 8/21/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-38

Entact ID:

Date Exposed: 8/13/14

Describe Damage: (10) scrapes by the Cat 349E and Cat 322C excavator buckets- 2"Ø, (3) 1"Ø, 1/2×60", 1/2×6", 3×24", 1/2×12", 1/2"Ø, 1/2×2". Cell 93

Damage Location (ft below top of sheet, inboard side outboard side): 9-15' outboard

Date Repaired: 8/15/14 Partial, 8/21/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-39

Entact ID:

Date Exposed: 8/13/14

Describe Damage: (9) Scrapes by the Cat 349E and Cat 322C excavator buckets- 7×24", 2×10", 1×3", (2) 1×24", 1/2×48", 2"Ø, 3"Ø, 1/4×4". Cell 93

Damage Location (ft below top of sheet, inboard side outboard side): 6-14' outboard

Date Repaired: 8/15/14 Partial, 8/21/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-40

Entact ID:

Date Exposed: 8/13/14

Describe Damage: (11) Scrapes by the Cat 349E and Cat 322C excavator buckets- (6) 1"Ø, (2) 1/2×24", 1/2×14", 1×3", 3"Ø. Cell 93/92

Damage Location (ft below top of sheet, inboard side outboard side): 4-15' outboard

Date Repaired: 8/15/14 Partial, 8/21/14 total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-41

Entact ID:

Date Exposed: 8/14/14

Describe Damage: (12) Scrapes by the Cat 349E and 322C excavator buckets- (5) 1"Ø, 1/2×12", 1/2×18", 2×12", 2×6", 1×36", (2) 3"Ø. Cell 92

Damage Location (ft below top of sheet, inboard side outboard side): 4-14' outboard

Date Repaired: 8/20/14 Partial, 8/21/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-42

Entact ID:

Date Exposed: 8/14/14

Describe Damage: (8) Scrapes by the Cat 349E and 322C excavator buckets- (2) 1/2×3", 1/2×24", (2) 1×48", 1×24", 3×8", 1/2×6". Cell 92

Damage Location (ft below top of sheet, inboard side outboard side): 2-14' outboard

Date Repaired: 8/20/14 Partial, 8/21/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-43

Entact ID:

Date Exposed: 8/14/14

Describe Damage: (8) Scrapes by the Cat 349E and 322C excavator buckets- 1×36", 1/2×6", 1/2×4", 1×2", 1×12", (3) 1"Ø. Cell 92

Damage Location (ft below top of sheet, inboard side outboard side): 1-14' outboard

Date Repaired: 8/20/14 Partial, 8/21/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-44

Entact ID:

Date Exposed: 8/14/14

Describe Damage: (9) Scrapes by the Cat 349E and 322C excavator buckets- (2) 2"Ø, 3"Ø, 1/2×8", (2) 1/2×6", 1×36", 2×5", 1/2×3". Cell 92/91

Damage Location (ft below top of sheet, inboard side outboard side): 2-15' outboard

Date Repaired: 8/20/14 Partial, 8/21/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-45

Entact ID:

Date Exposed: 8/18/14

Describe Damage: (4) Scrapes by the Cat 349E and 322C excavator buckets - (2) 3"Ø, 1×24", 1/2×12". Cell 91

Damage Location (ft below top of sheet, inboard side outboard side): 7-15' outboard

Date Repaired: 8/20/14 Partial, 8/21/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-46

Entact ID:

Date Exposed: 8/18/14

Describe Damage: (3) Scrapes by the Cat 349E and 322C excavator buckets - 1×6", 1×12", 1/4"×6". Cell 91

Damage Location (ft below top of sheet, inboard side outboard side): 9-15' outboard

Date Repaired: 8/20/14 Partial, 8/21/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-47

Entact ID:

Date Exposed: 8/18/14

Describe Damage: (8) Scrapes by the Cat 349E and 322C excavator buckets - (5) 1"Ø, 1×8", 1/2×6", 1/2×12". Cell 91

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 8/20/14 Partial, 8/21/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-48

Entact ID:

Date Exposed: 8/18/14

Describe Damage: (13) Scrapes by the Cat 349E and 322C excavator buckets - (2) 1/2×18", 2×6", 6×12", (5) 1"Ø, (3) 1/2"Ø, 1×8". Cell 90

Damage Location (ft below top of sheet, inboard side outboard side): 9-15' outboard

Date Repaired: 8/20/14 Partial, 8/21/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-49

Entact ID:

Date Exposed: 8/18/14

Describe Damage: (8) Scrapes by the Cat 349E excavator bucket - (2) 1"Ø, 2x12", 1/2x12", 1/4x4", 1/4"x8", 1x3", 1x12". Cell 90

Damage Location (ft below top of sheet, inboard side outboard side): 4-15' outboard

Date Repaired: 8/20/14 Partial, 8/21/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-50

Entact ID:

Date Exposed: 8/18/14

Describe Damage: (11) Scrapes by the Cat 349E and 322C excavator buckets - (3) 1"Ø, 1x12", 1x36", 1x18", 1/4x12", (2) 2x4", 1/2x24", 1/2x3". Cell 90

Damage Location (ft below top of sheet, inboard side outboard side): 4-15' outboard

Date Repaired: 8/20/14 Partial, 8/21/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-51

Entact ID:

Date Exposed: 8/19/14

Describe Damage: (10) Scrapes by the Cat 349E and 322C excavator buckets - 1/4x4", 1/2x12", 1/2x14", 2"Ø, 1"Ø, 1x18", 1/2x3", 1/2x6", 1/2x6", 1"Ø, 1/2"Ø. Cell 90/89.

Damage Location (ft below top of sheet, inboard side outboard side): 4-15' outboard

Date Repaired: 8/20/14 Partial, 8/21/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-52

Entact ID:

Date Exposed: 8/19/14

Describe Damage: (14) Scrapes by the Cat 349E and 322C excavator buckets - 12"Ø, (4) 1"Ø, 1x36", 1x12", 1/2x36", (4) 1/2x4", 1/4x6", 1/2"Ø. Cell 89

Damage Location (ft below top of sheet, inboard side outboard side): 4-15' outboard

Date Repaired: 8/20/14 Partial, 8/21/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 31, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		3
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		4
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 07/31/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, July 31, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Pretrenching and other activities along the western end of Kellogg Street may result in material or sediment washing into the street during storm events.
2	IA2Q4A1AL8	Exclusion Zone fencing around the Contamination Reduction Zone on SA-6 South requires maintenance.
3	IA2Q4A1AL8	Surcharge material at the west end of the SA-6 South cap area is close to the top of the sheet pile containment and erosion run-off from a storm may result in material washing into the backfill area or onto SA-7.
4	IA2Q4A1AL8	Used PPE is being stockpiled in plastic garbage bags at various locations throughout SA-6 South

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature **Date:** 07/31/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install silt dams or other erosion control measures along the southern perimeter of the pre-trench work zone to prevent sediment run-off onto Kellogg Street.	
2	Repair EZ fencing around the CRZ.	8-1-14 RAD
3	Install erosion control measures around the cap area EZ on SA-6 south as required to prevent sediment run-off onto the excavation area or SA-7.	8-4-14 RAD
4	Stockpile used PPE bags in one protected location. Dispose of the material as soon as practical.	8-5-14 RAD

Construction Manager: _____ **Date:** 08/05/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: August 7, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection		X		3
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		4
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		5
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping		X		6
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		7

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 08/07/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, August 07, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	silt fence installation is not yet complete along the top of Cap Area S-1
2	IA2Q4A1AL8	Exclusion Zone fencing around the Exclusion Zone and the Contamination Reduction Zone at the western end of SA-6 South requires maintenance. The CRZ should be labelled with additional signs.
3	IA2Q4A1AL8	Sections of flood protection for the western excavation were lost when Entact removed te temporary sheet pile in that area.
4	IA2Q4A1AL8	A soil pile associated with the relocation of a Kellogg Street fire hydrant blocks parking spaces in the employee parking area.
5	IA2Q4A1AL8	Roadways and ramps on the N-1 Surcharge Area require additional delineation.
6	IA2Q4A1AL8	Drums and other miscellaneouse debris are located on SA-6 North.
7	IA2Q4A1AL8	Drums and hoses are located near the recently-modified FLUT well on SA-7

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: Signature **Date:** 08/07/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Complete the silt fence installation to prevent run-off of sediment from the cap area.	8-11-14 RAD
2	Repair/maintain EZ fencing. Reconfigure the CRZ into a well-labelled corridor between the EZ and the support zone.	8-11-14 RAD
3	Evaluate the excavation area for flood protection requirements and determine a procedure for implementation in the event of a major weather event.	8-8-14 RAD
4	Remove the soil pile	8-8-14 RAD
5	Place traffic cones or other forms of delineation along the eastern ramp and along the top of the southern face of Surcharge Area N-1.	8-11-14 RAD
6	Remove the drums to a central staging area.	8-8-14 RAD
7	Remove the drums to a central staging area. Pick up the hoses.	8-8-14 RAD

Construction Manager: **Date:** 08/12/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: August 14, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		1
Stockpile Tarping/Containment	X			
Proper Chemical Storage		X		2
Containment Around Exclusion Zones		X		3
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		4
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		5

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

NOTE: All comments are numbered for reference and included on the included comment section.

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 08/14/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Thursday, August 14, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Water has accumulated in the secondary containment of the Entact waste oil tank.
2	IA2Q4A1AL8	The Entact conex box contains several unlabeled plastic containers dry chemical.
3	IA2Q4A1AL8	Sediment control measures at the Exclusion Zone entrance for the western excavation area are inadequate.
4	IA2Q4A1AL8	Many of the steel drums located in the eastern end of the Exclusion Zone and elsewhere on the site are damaged and no longer servicable.
5	IA2Q4A1AL8	Lengths of lay-flat hose remain on the ground at the SA-7 southwest spillway

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature **Date:** 08/14/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Remove the accumulated storm water from the secondary containment.	8-18-14 RAD
2	Properly label the chemical containers or else remove them from the site.	8-18-14 RAD
3	Instal silt dams or other comperable measures to prevent sediment from leaving the EZ during storm events.	8-20-14 RAD
4	Discard of any drums on site which are no longer used due to damge.	8-15-14 RAD
5	Remove the lengths of hose.	8-18-14 RAD

Construction Manager: _____ **Date:** 08/20/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: August 22, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☑ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage		X		2
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		3
Storm Drain Protection	X			
Ponded Storm Water		X		4
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment			X	
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 08/22/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Friday, August 22, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Orange Exclusion Zone fencing requires is damaged at several locations around the Study Area 6 South EZ.
2	IA2Q4A1AL8	A 55 gallon drum containing lubricant is improperly stored on a broken pallet in the mechanics area on SA-6 South.
3	IA2Q4A1AL8	Windscreen on the perimeter fence at the Kellogg Street jughandle is detached at the bottom.
4	IA2Q4A1AL8	Following last night's rain event, stormwater has ponded on the western end of Kellogg Street.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature **Date:** 08/22/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair or replace the orange EZ fencing as required.	8/25/14 RAD
2	Remove the broken pallet and store the drum properly (on a spill pallet if it is currently in use).	8/25/14 RAD
3	Re-attach the windscreen material along the bottom edge.	8/25/14 RAD
4	Pump the ponded storm water into the site for handling.	8/25/14 RAD

Construction Manager: _____ **Date:** 08/25/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: August 28, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams		X		1
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		3
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection		X		4
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment			X	
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 08/29/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Thursday, August 28, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	There are insufficient erosion control measures present between the recently-installed surcharge material on the outside of the SA-6 South hydraulic barrier and the swale in the northwestern corner of SA-6 South.
2	IA2Q4A1AL8	Exclusion Zone fencing surrounding the material stockpiles on the south side of the excavation is not continuous and the Exclusion Zone is open on the western perimeter.
3	IA2Q4A1AL8	Storm water has accumulated in the secondary containment of the waste oil storage tank.
4	IA2Q4A1AL8	Flood control measures are inadequate around the excavation and stockpile areas on SA-6 South.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: Signature **Date:** 08/29/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install a sufficient sediment check dam or silt fencing across the top of the SW corner swale which leads to the Hackensack River.	9/2/14 RAD
2	Install EZ fencing to properly delineate the perimeter of the Exclusion Zone.	9/3/14 RAD
3	Remove the accumulated storm water from the secondary containment basin, restoring it's capacity to a full tank volume.	9/3/14 RAD
4	Install/repair/update flood control measures on SA-6 South to meet contract requirements. Perform elevation checks on measures to confirm the they meet specs.	9/3/14 RAD

Construction Manager: **Date:** 09/03/14

Attachment 12: GWTP Update

- 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (July 2014)
- 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (July 2014)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

August 14, 2014

New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Permit Management
P.O. Box 029
Trenton, NJ 08625-0029

RE: NJPDES Permit NJ0156311: July 2014 Surface Water Discharge Monitoring Report
Study Area 7, Jersey City, NJ

To Whom It May Concern:

In accordance with the Honeywell International NJPDES Permit NJ0156311, enclosed please find the July 2014 Surface Water Discharge Monitoring Report for Outfall 001A. Please note that there was no discharge this monitoring period.

Please contact me at 973-455-2989 should you have any questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Program Manager
Fahy Associates
c/o Honeywell International

Enc.

cc: Angle Trujillo - Evoqua
Frank Schroyer - Parsons

PI 234822

New Jersey Department of Environmental Protection
Division of Water Quality

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD							MONITORED LOCATION:
	Month	Day	Year		Month	Day	Year	
NJG0156311	7	1	2014	To	7	31	2014	001A - Remediated Groundwater

PERMITTEE:
HONEYWELL INTERNATIONAL INC
101 COLUMBIA RD
MORRISTOWN, NJ 07962

LOCATION OF ACTIVITY:
HONEYWELL STUDY AREA 7
441 RT 440 S
JERSEY CITY, NJ 07305

REPORT RECIPIENT:
Honeywell International Inc
ATT: HELEN FAHY
101 COLUMBIA ROAD
MORRISTOWN, NJ 07962

REGION / COUNTY: Northern / Hudson County

CHECK IF APPLICABLE: ☒ **No Discharge this Monitoring Period** ☐ **Monitoring Report Comments Attached**

WHO MUST SIGN The highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility shall sign the certification or, in his absence a person designated by that person. For a local agency, the highest ranking operator of the treatment works shall sign the certification. Where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that reponsibility or person designated by that person shall also sign the second certification at the bottom of this page. If the local agency has contracted with another entity to operate the treatment works, the highest-ranking official of the contracted entity shall sign the certification.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and/or imprisonment, pursuant to N.J.A.C. 7:14A-6.9(B). The New Jersey Water Pollution Control Act provides for penalties up to $50,000 per violation.

John J Morris, Remediation Director — —
NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR **GRADE AND REGISTRY NUMBER (IF APPLICABLE)**

John J Morris 8/14/2014 973-455-4003
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR **DATE** **AREA CODE/PHONE NUMBER**

**For a local agency where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall sign the following certification:*

I certify under penalty of law and in accordance with N.J.S.A. 58:10A-6F(5) that I have received and reviewed the attached discharge monitoring reports.

John J. Morris, Remediation Director — John J Morris — 8/14/2014 — 973-455-4003
NAME AND TITLE **SIGNATURE** **DATE** **AREA CODE/PHONE NUMBER**

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	7/1/2014 TO 7/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant 50050 1 Effluent Gross Value	SAMPLE MEASUREMENT			GPD	******	******	******	******			
	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX		******	******	******			1/Month	METER
	QL	******	******		******	******	******				
pH 00400 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******		SU			
	PERMIT REQUIREMENT	******	******		6.0 01MOMN	******	9.0 01MOMX			1/Month	GRAB
	QL	******	******		******	******	******				
LC50 Statre 96hr Acu Mysid Bahia TAN3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******	******	%EFFL			
	PERMIT REQUIREMENT	******	******		50 01RPMN	******	******			1/Year	COMPOS
	RQL	******	******		******	******	******				
IC25 Statre 7day Chr Mysid Bahia TBP3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******	******	%EFFL			
	PERMIT REQUIREMENT	******	******		REPORT 01RPMN	******	******			1/Year	COMPOS
	QL	******	******		******	******	******				
Petroleum Hydrocarbons 00551 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			MG/L			
	PERMIT REQUIREMENT	******	******		******	10 01MOAV	15 01RPINMX			1/Month	GRAB
	QL	******	******		******	******	******				
Carbon, Tot Organic (TOC) 00680 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			MG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	20 01WKAV			1/Month	GRAB
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	7/1/2014 TO 7/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Chromium Trivalent (as Cr) Total Recov. *PS06 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX			1/Quarter	COMP24
	QL	******	******		******	******	******				
Cyanide, Total (as CN) 00720 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	40	40				
Nickel, Total Recoverable 01074 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.3 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Zinc, Total Recoverable 01094 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	30	30				
Lead, Total Recoverable 01114 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	79 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Chromium, Total Recoverable 01118 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX			1/Month	COMP24
	RQL	******	******		******	10	10				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	7/1/2014 TO 7/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Copper, Total Recoverable 01119 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Chromium, Hexavalent Dissolved (as Cr) 01220 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX			1/Quarter	COMP24
	QL	******	******		******	******	******				
Mercury Total Recoverable 71901 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	0.025 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	1	1				
Carbon Tetrachloride 32102 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.8 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	6	6				
Chloroform 32106 2 Effluent Net Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	46 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	5	5				
Trichloroethylene 39180 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	54 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	5	5				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	7/1/2014 TO 7/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Lab Certification #	SAMPLE MEASUREMENT										
99999 99 Lab	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #			Not Applic	NOT AP
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

August 14, 2014

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 31630016

Dear Mr. Caltagirone:

Honeywell is submitting the July 2014 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA
Frank Schroyer - Parsons

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 31630016 OLD OUTLET DESIGNATION:

MONITORING PERIOD

Start			End		
7	01	14	7	31	14
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow gal/day~~		
Total Flow-gal/day	77,957	84,291 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	0.91	0.98	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.015	<0.015	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.0	<5.0	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.0941	0.0941	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

8/14/14

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 31630016 **OLD OUTLET DESIGNATION**

MONITORING PERIOD

Start			End		
7	01	14	7	31	14
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD	
2,416,653	GALS
CU. FT X 7.48 - GALLONS	
EFFLUENT METER READING LAST DAY THIS PERIOD	12,913,622

DATE	BOD (mg/l)	TSS (mg/l)
7/22/2014	<10	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE 8/14/14

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG Honeywell Jersey City GWTP; SA-6 North (Permit #31630016) MONTH: July 2014

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
7/1/2014	Angel Trujillo	10496969	10575542	78,573	0.078573	7.22	1.400									0.92
7/2/2014	Angel Trujillo	10575542	10654885	79,343	0.079343	7.54	1.400									0.93
7/3/2014	Angel Trujillo	10654885	10732944	78,059	0.078059	7.85	1.400									0.91
7/4/2014	Angel Trujillo	10732944	10816023	83,079	0.083079	7.53	1.400									0.97
7/5/2014	Angel Trujillo	10816023	10871944	55,921	0.055921	7.89	1.400									0.65
7/6/2014	Angel Trujillo	10871944	10941902	69,958	0.069958	7.64	1.400									0.82
7/7/2014	Angel Trujillo	10941902	11015239	73,337	0.073337	7.57	1.400									0.86
7/8/2014	Angel Trujillo	11015239	11094128	78,889	0.078889	7.96	1.400									0.92
7/9/2014	Angel Trujillo	11094128	11173903	79,775	0.079775	7.65	1.400									0.93
7/10/2014	Angel Trujillo	11173903	11250619	76,716	0.076716	7.80	1.400									0.90
7/11/2014	Angel Trujillo	11250619	11331169	80,550	0.08055	7.68	1.400									0.94
7/12/2014	Angel Trujillo	11331169	11414478	83,309	0.083309	7.83	1.400									0.97
7/13/2014	Angel Trujillo	11414478	11492799	78,321	0.078321	7.54	1.400									0.91
7/14/2014	Angel Trujillo	11492799	11569859	77,060	0.07706	7.59	1.400									0.90
7/15/2014	Angel Trujillo	11569859	11650526	80,667	0.080667	7.57	1.400									0.94
7/16/2014	Angel Trujillo	11650526	11728824	78,298	0.078298	7.84	1.400									0.91
7/17/2014	Angel Trujillo	11728824	11805272	76,448	0.076448	7.43	1.400									0.89
7/18/2014	Angel Trujillo	11805272	11883969	78,697	0.078697	7.33	1.400									0.92
7/19/2014	Angel Trujillo	11883969	11965276	81,307	0.081307	7.35	1.400									0.95
7/20/2014	Angel Trujillo	11965276	12044437	79,161	0.079161	7.34	1.400									0.92
7/21/2014	Angel Trujillo	12044437	12120280	75,843	0.075843	7.24	1.400									0.89
7/22/2014	Angel Trujillo	12120280	12198999	78,719	0.078719	7.34	1.400	<5.0	<10		<0.010	<0.015	<0.010	<0.0002	<0.020	0.92
7/23/2014	Angel Trujillo	12198999	12268740	69,741	0.069741	7.28	1.400									0.81
7/24/2014	Angel Trujillo	12268740	12349396	80,656	0.080656	7.39	1.400									0.94
7/25/2014	Angel Trujillo	12349396	12427044	77,648	0.077648	7.24	1.400									0.91
7/26/2014	Angel Trujillo	12427044	12511335	84,291	0.084291	7.31	1.400									0.98
7/27/2014	Angel Trujillo	12511335	12593097	81,762	0.0818	7.37	1.400									0.95
7/28/2014	Angel Trujillo	12593097	12670158	77,061	0.077061	7.38	1.400									0.90
7/29/2014	Angel Trujillo	12670158	12752346	82,188	0.082188	7.64	1.400									0.96
7/30/2014	Angel Trujillo	12752346	12833164	80,818	0.080818	7.30	1.400									0.94
7/31/2014	Angel Trujillo	12833164	12913622	80,458	0.080458	7.32	1.400									0.94
TOTAL				2,416,653	2.416653			<5.0	<10		<0.010	<0.015	<0.010	<0.0002	<0.020	
			High:	84,291											High:	0.98
			Average:	77,957											Average:	0.91

WW

E

JB72245

st Labs
UTE 130
NJ 8810
0200

Honeywell

Chain Of Custody / Analysis Request

AESI Ref: 41842.41914
COC#: [redacted] 072214
Lab Proj # (SDG):
Lab ID: [redacted]
Site ID: [redacted]
Lab Job #: HWNJM22915
Authorized User: Honeywell

Site Name: Hudson County
Location of Site: Jersey City, NJ
Phase: CS
Sampling Program: 087: JCIA

EDD To:
Sampler: Frank Schroyer
PO #
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Full Report TAT: 28 Days

ng Co.: Parsons
Contact: (name, co., address)
hy P: (973) 455-2969 E: helen.fahy@honeywell.com
l International
mble Road Morristown, NJ 07962
py To: Helen Fahy (Honeywell)
To: Helen Fahy (Honeywell)

Sample Identification: Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite	Field Filtered (Dissolved)	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
										Units		3	3	3	1	2	2	0	0	2						
087-WW			087-WWE-072214-A	7/22/2014	14:45	WW	WATER	REG	3	comp	N	X	X	X	X			X	X		1				pH = 7.35	
087-WW			087-WWE-072214-B	7/22/2014	14:40	WW	WATER	REG	5	grab	N					X	X				2					
087-WW			087-WWI-072214	7/22/2014	15:00	WW	WATER	REG	3	grab	N									X	3					L27
																										U1217
																										A7
																										C45

ALL SAMPLES RECEIVED PRESERVED AS APPLICABLE JK

hed by pH = 7.34 FKS	Company	Parsons	Received by	Chris Land	Company	Accutest	Condition		Custody Seals Intact V #109
royer	Date/Time	7/22/14			Date/Time	7/22/14 1600	Cooler Temp.	2.5°C	
by	Company	Accutest	Received by		Company	Accutest	Condition		Custody Seals Intact
Chris Land	Date/Time	7/22/14 16:55			Date/Time	7/22/14 1655	Cooler Temp.		

tives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

A

JK

Accutest LabLink@807560 10:06 31-Jul-2014

Report of Analysis

Client Sample ID:	087-WWE-072214-A		
Lab Sample ID:	JB72245-1	Date Sampled:	07/22/14
Matrix:	AQ - Water	Date Received:	07/22/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.1

4

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1400	10	ug/l	1	07/23/14	07/24/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	07/23/14	07/24/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Lead [a]	< 15	15	ug/l	5	07/23/14	07/24/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	07/23/14	07/23/14	JW	EPA 245.1 [1]	EPA 245.1 [3]
Nickel	< 10	10	ug/l	1	07/23/14	07/24/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	07/23/14	07/24/14	ND	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA34518
(2) Instrument QC Batch: MA34535
(3) Prep QC Batch: MP80648
(4) Prep QC Batch: MP80810

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@807560 10:06 31-Jul-2014

Report of Analysis

4.1 4

Client Sample ID:	087-WWE-072214-A		
Lab Sample ID:	JB72245-1	Date Sampled:	07/22/14
Matrix:	AQ - Water	Date Received:	07/22/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	07/24/14	KP	SM2540 D-11
pH [a]	7.39		su	1	07/22/14 17:36	MB	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@807560 10:06 31-Jul-2014

Report of Analysis

Client Sample ID:	087-WWE-072214-A		
Lab Sample ID:	JB72245-1A	Date Sampled:	07/22/14
Matrix:	AQ - Water	Date Received:	07/22/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.2

4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 10	10	mg/l	1	07/23/14 16:24	KP	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@807560 10:06 31-Jul-2014

Report of Analysis

Client Sample ID:	087-WWE-072214-B		
Lab Sample ID:	JB72245-2	Date Sampled:	07/22/14
Matrix:	AQ - Water	Date Received:	07/22/14
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N237060.D	1	07/23/14	DC	n/a	n/a	VN10060
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	2.1	ug/l	
107-13-1	Acrylonitrile	ND	10	1.3	ug/l	
71-43-2	Benzene	2.7	1.0	0.12	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.32	ug/l	
56-23-5	Carbon tetrachloride	3.9	1.0	0.16	ug/l	
108-90-7	Chlorobenzene	0.27	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.45	ug/l	
67-66-3	Chloroform	20.2	1.0	0.14	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.19	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	ug/l	
156-60-5	trans-1,2-Dichloroethene	4.8	1.0	0.24	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	1.0	0.16	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.093	ug/l	
75-09-2	Methylene chloride	0.62	1.0	0.20	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.13	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.15	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.29	ug/l	
79-01-6	Trichloroethene	60.0	1.0	0.17	ug/l	
75-01-4	Vinyl chloride	1.6	1.0	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	98%		71-128%
2037-26-5	Toluene-D8 (SUR)	98%		79-117%
460-00-4	4-Bromofluorobenzene (SUR)	100%		81-114%
1868-53-7	Dibromofluoromethane (S)	101%		78-115%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@807560 10:06 31-Jul-2014

Report of Analysis

Client Sample ID:	087-WWE-072214-B		
Lab Sample ID:	JB72245-2	Date Sampled:	07/22/14
Matrix:	AQ - Water	Date Received:	07/22/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3 4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.0	5.0	mg/l	1	07/23/14	LS	EPA 1664A

RL = Reporting Limit

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending August 2014

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to Contractor only.
DC 2014	Direction on the handling of petroleum soils under the cap.	Pending submittal
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

APPENDIX T

PART 4 OF 22

PROGRESS REPORTS

2014 MONTHLY REPORTS PART 4

SA-6 AND SA-7 COMBINED PROGRESS REPORT

OCTOBER 14, 2014

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

October 14, 2014 ***Via Express Mail***

Honorable Robert G. Torricelli
Office of the Special Master
49 Bridge Street, Suite 2
Lambertville, NJ 08530

Subject: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2014-09

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from September 1 – September 30, 2014.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: September 2014 SA-6/7 Combined Monthly Progress Report No. 2014-09

cc: Joe Clifford - AMEC (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)

Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2014-09

Project SA-6 & 7 Remediation

September 2014

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
09/02/14	Droyers Cove Beneficial Environmental Project Pre-Application Meeting Study Area 7 Sediment, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
09/04/14	Design Change Bulletin: Re-align Barrier Wall Due to 72 in. FM Field Verified Location Study Area 6 North/South, Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
09/05/14	Summary of In-Situ Treatment of Hexavalent Chromium Impacted Soils (Site 163) Study Area 6 South Chromium Remedy, Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
09/05/14	Incident No. 14-08-15-1405-34 Chromium Site 163 (aka Colonial Concrete Company) NJDEP PI#010374 75 Kellogg Street Study Area 6 South, Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
09/12/14	SA-6 North Treatability – Areas 7 & 8 CAS Injection Test Results Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
09/12/14	Combined Monthly Progress/Highlights Report No. 2014-08 Study Areas 6 and 7, Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
09/15/14	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 31630016 June 2014 *(see **Attachment 12**)*	Andy Caltagirone Passaic Valley Sewerage Commission
09/15/14	NJPDES Permit NJ0156311: August 2014 Surface Water Discharge Monitoring Report Study Area 7, Jersey City, NJ *(see **Attachment 12**)*	New Jersey Department of Environmental Protection Division of Water Quality
09/15/14	Response to Plaintiffs' Comments on Study Area 6	Honorable Robert G. Torricelli

Date	Submittal/Meeting	Recipient
	North and South Request for Variance for Asphalt Consolidation and Proposed Revisions to Study Area 6 North and South Soil Management Plan (Arnold & Porter Correspondence) Jersey City, NJ	Office of the Special Master
09/16/14	Special Master Meeting	N/A
09/22/14	Study Area 6 South Consent Decree - Excavation Completion of Cells 100-104A Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
09/24/14	Study Area 6 (SA-6) North Treatability Program Bench Scale System Set Up Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
09/24/14	New Source of Imported Clean Fill Study Area 6 (SA-6) Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
09/30/14	Surcharge Monitoring Plan – Monthly Report No. 5 Study Area 6 North/South Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	9/7/14	9/14/14	9/21/14	9/28/14
Construction Management (AMEC)	11	11	11	12
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	47	49	49	47
Arecon/US Ecology Subcontractors	1	0	1	1
ERFS In Situ Treatment	1	0	0	0
Summit Drilling	1	0	0	0
Siemens	1	1	1	1
HBS (SA-6N GWTP Security System)	0	0	0	0
Other	0	0	0	1
TOTAL	**67**	**66**	**67**	**67**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6S and SA-6N.
- Collected September PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Completed S-3 Injection/Mass Removal Event #17 in well 088-IW-02.
- Conducted Pre-construction meeting for the Above-grade Demolition of the four designated JCIA Structures on September 4, 2014.
- Issued Limited Notice to Proceedto the JCRA demolition contractor on September 17, 2014.
- Collected groundwater parameter measurements from 15 selected temporary well points associated with the in situ treatment activities at Site 163.
- Abandoned all 57 temporary well points associated with the in situ treatment activities at Site 163.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 2**0**1 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on September 11, 2014.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	9/7/14	9/14/14	9/21/14	9/28/14
Avg. Gallons Treated & Discharged (per day)	77,717	76,980	77,592	76,809
Average Flow (gpm) for Operating Period	55	53	55	54
Avg. Hours of Plant Operation	24	24	24	24
GWTP InfluentTanks (gal.)	10,116	5,760	6,720	5,877

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart, Weekly Excavation and Survey Data, Backfill Compaction Locations, and Field Density Test Summary Log)*

- Continued excavation activities in cells 83-73.
- Continued storm-water management activities.
- Continued delineation activities associated with anomalous material in the southern portion of Cell 105. A summary of the results and boring locations is presented on attached figure.
- On September 23, 2014, an abatement contractor was mobilized to remove a total of 800 sq. ft.of ceramic and mastic ACM from the former footprint of the concrete plant garage.

- Excavated approximately 100 cubic yards of soil outside the temporary sheets as part of the non-chromium remedy.
- Continued installation of the Contingent Groundwater Extraction System Pipe.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Continued compaction testing associated with imported backfill. Adjusted the frequency of testing in accordance with specifications.

1. Off-Site Disposal Monthly Waste Materials Summary

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/ FCI	Roll-Off	TSDF	Stablex-Canada	WWTP Filter Cake	1	21.35	21.35
Entact/ Horowith	Tri-axle Dump	PA Transload	US Ecology	>1000 mg/kg Soils	20	21.33	426.68
Entact/ Montecalvo	30 cyd roll-off	Bayshore Recycling	NA	Non Haz Creosote Debris	3	13.01	39.03

2. Excavation & Backfill Progress

Description	Cells
Under Excavation	Cell Number(s) 83-73
Excavation Completed	Cell Number(s) 84-76 Volume Excavated - Total for Reporting Period: 14,495CY/ Total to Date: 117,122 CY
Backfill in Progress	Cell Number(s) 104-76

3. Backfill Materials Used

Source	Week Ending			
	9/7/14	9/14/14	9/21/14	9/28/14
<20ppm re-use, CY	0	68	721	720
Weldon, Import-Tons Screenings	3,245	4,367	2,073	4,666
Tilcon, Import-Tons DGA	608	0	0	0
Tilcon, Import Tons – 1.5” Stone	0	254	0	178
Weldon, Imported Tons - QP	590	1,221	1,999	0
Weldon, Imported Tons - DGA	0	0	0	0
Celgene - Loads	0	0	0	0
Tilcon, Imported Tons – 2.5” Stone	0	0	309	0

E. SURCHARGE OPERATIONS

- Area 1S: Surcharge continued with placement of imported Celgene soils between the subgrade and surcharge design grade. Surcharge placement is approximately 95% complete.
- Area 2S: Surcharging continued from 1S into the western portion of 2S. Surcharge placement consisted of both chromium impacted soils to the design subgrade and imported Celgene soils and is approximately 50% complete.
- Area 3S: Instrumentation installation was completed as of November 6, 2013 and all baseline readings recorded. Temporary stockpiles are located in this area. No Surcharge has been initiated.
- Area 1N: Began Surcharge removal activities on 8/29/14. Surcharge removal activities area approximately 50% complete. Details were provided in the September Surcharge Monitoring Report No. 5.
- Area 2N: Instrumentation Installation 100% complete. Surcharge being removed from Area 1N is being relocated to Area 2N. Surcharge placement is approximately 60% complete.
- Area 3N: No activity in this area pending JCIA Demolition.
- Area 4N: No activity in this area pending JCIA Demolition.

F. SHEET PILE OPERATIONS *(see **Attachment 10**)*

- A total of 14 pair of sheet pile was driven on SA6 North from Sta14+00 to 14+60.

G. PERMIT STATUS

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014, 1 yr. extension granted 10/6/14	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14	Pending	Pending	Pending
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14	Pending	Pending	Pending

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete final walkthrough of the Jersey City Incinerator Authority structures with representatives from JCIA and JCRA.
- Begin mobilization activities for the above grade demolition of the four designated JCIA Structures.
- Continue placement of surcharge materials in SA-6S Area 1S and 2S.
- Continue off loading of surcharge materials from SA-6N Area 1N.
- Continue placement of surcharge materials in SA-6N Area 2N.
- Continue installation of the contingent groundwater system trench on SA-6S.
- Continue dewatering of well points/sumps installed within the SA-6S open space area.
- Continue excavation activities in SA-6S Cells 71-59.
- Continue stockpiling of presumed <20 mg/kg for additional sampling.
- Continue loadout and transportation and disposal activities at SA-6S.
- Continue backfill placement and associated compaction testing activities at SA-6S.
- Begin excavation activities associated with Site 163.
- Continue dewatering and storm-water management activities.
- Conduct S-3 Injection/Mass Removal Event No. 18 in injection well to be determined.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Begin cap thickness verification inspections, pore water sampling, bathymetric surveys and biological sampling of SA7 sediments pursuant to Long Term Monitoring Plan.

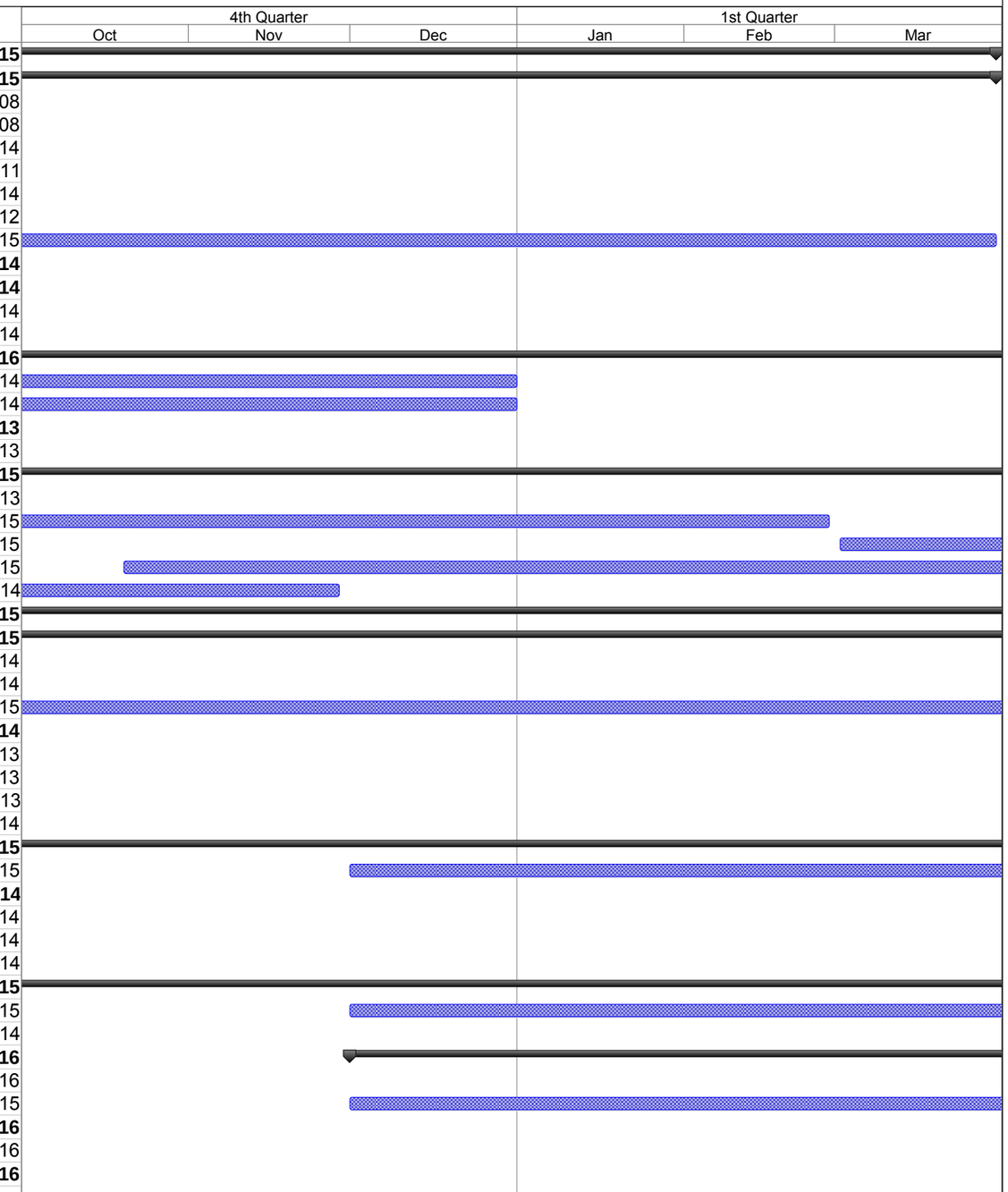
ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
   - Excavation Bottom Elevations
   - Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points
   - Lens of Anomalous Material – Supplemental Boring Locations
   - Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
   - Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)
4. Dewatering Operations Update
   - SA-6 South Dewatering Data (Headers)
   - SA-6 South Deep Well Data (DW-3)
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
   - Stockpiled Material Tracking and Sampling Log
7. Perimeter Pools Update
8. Groundwater Quality Data Surcharge Monitoring Update
   - Summary of Groundwater Quality Data from GWET Wells
   - Quarterly Water Wells
   - Trichloroethene/Chloroform/Hexavalent Chromium in GWET Wells
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. Sheet Pile Update
    - Hydraulic Barrier Wall Plan & Profile
    - Sheet Deflection Along Open Excavation
    - Sheet Monitoring Locations
    - Sheet Pile Repair Log
11. Weekly SWPPP Reports
12. GWTP Update
    - 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (August 2014)
    - 9/15/14 NJDEP Correspondence re: Administrative Revocation NJDPES Permit #NJG0156311
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (August 2014)
13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**Fri 1/4/08**	**Mon 3/30/15**
18	**JCIA/JCDPW Relocation**	**1735 days**	**Mon 8/11/08**	**Mon 3/30/15**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08	Wed 10/1/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09	Mon 6/2/14
22	Relocation Contractor Procurement	392 days	Thu 4/15/10	Thu 10/13/11
23	JCIA and JCDPW Relocation	753 days	Mon 10/17/11	Fri 8/29/14
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11	Mon 4/30/12
24a	Demolition of JCIA Structures	151 days	Mon 9/1/14	Mon 3/30/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**	**Wed 4/30/14**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**	**Wed 4/30/14**
58	New GWTP Construction Completion	502 days	Mon 3/5/12	Thu 1/30/14
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11	Wed 4/30/14
60	**SA-6 North/South Field Implementation**	**838 days**	**Fri 3/1/13**	**Mon 5/16/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	Mon 6/17/13	Wed 12/31/14
60b	SA-6S (Site 163) In-Situ Treatment	294 days	Fri 11/15/13	Wed 12/31/14
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**	**Fri 6/28/13**
61a	Mobilization	87 days	Fri 3/1/13	Fri 6/28/13
62	**Surcharge Install/Instrumentation**	**620 days**	**Mon 6/17/13**	**Fri 10/30/15**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	Mon 6/17/13	Tue 12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	Mon 6/2/14	Fri 2/27/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Mon 3/2/15	Fri 10/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	Mon 10/20/14	Tue 6/30/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	Mon 3/3/14	Fri 11/28/14
63	**Barrier Wall Install**	**489 days**	**Mon 6/17/13**	**Thu 4/30/15**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**Mon 12/2/13**	**Thu 4/30/15**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	Mon 12/2/13	Fri 2/14/14
63c	SA-6N Stations 23+38 to 14+25	90 days	Mon 2/17/14	Fri 6/20/14
63d	SA-6N Stations 14+25 to 0+00	224 days	Mon 6/23/14	Thu 4/30/15
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**Mon 6/17/13**	**Fri 5/30/14**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	Mon 6/17/13	Thu 8/15/13
63h	SA-6S Stations 1+54 to 8+37	7 days	Fri 8/16/13	Mon 8/26/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	Thu 10/3/13	Fri 11/8/13
63j	SA-6S Stations 8+60 to 14+87	145 days	Mon 11/11/13	Fri 5/30/14
64	**Excavation**	**507 days**	**Tue 10/22/13**	**Wed 9/30/15**
64a	SA 6N Excavation	218 days	Mon 12/1/14	Wed 9/30/15
64b	**SA 6S Excavation**	**226 days**	**Tue 10/22/13**	**Tue 9/2/14**
64c	SA-6S Excavation of Cells 1 - 25	53 days	Tue 10/22/13	Thu 1/2/14
64d	SA-6S Excavation of Cells 26 - 60	90 days	Fri 1/3/14	Thu 5/8/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	Fri 5/9/14	Tue 9/2/14
65	**Backfill**	**493 days**	**Mon 11/11/13**	**Wed 9/30/15**
65a	SA 6N Backfill	218 days	Mon 12/1/14	Wed 9/30/15
65b	SA 6S Backfill	232 days	Mon 11/11/13	Tue 9/30/14
66	**Capping and Cover Soil Placement**	**315 days**	**Mon 12/1/14**	**Fri 2/12/16**
66a	SA 6N Capping and Cover Soil Placement	119 days	Tue 9/1/15	Fri 2/12/16
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14	Wed 12/30/15
67	**Restoration**	**164 days**	**Tue 9/1/15**	**Fri 4/15/16**
67a	Restoration	164 days	Tue 9/1/15	Fri 4/15/16
68	**Demobilization**	**21 days**	**Mon 4/18/16**	**Mon 5/16/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			



Project: SA-6 Remediation Schedule
Revision 3
Date: Thu 10/2/14

Task | Milestone | Summary | Critical

Attachment 2: Site Photographs

Site Photograph 1: Contractor backfilling excavations on Kellogg St. property.

Site Photograph 2: Contractor completing excavation segment on Kellogg St. property.

Site Photograph 3: Contractor Demolishing a foundation on Kellogg St. property 9/17/14.

Photograph 4: Contractor places surcharge soils on Kellogg St Property.

Site Photograph 5: Contractor places surcharge soils on Jersey City Property.

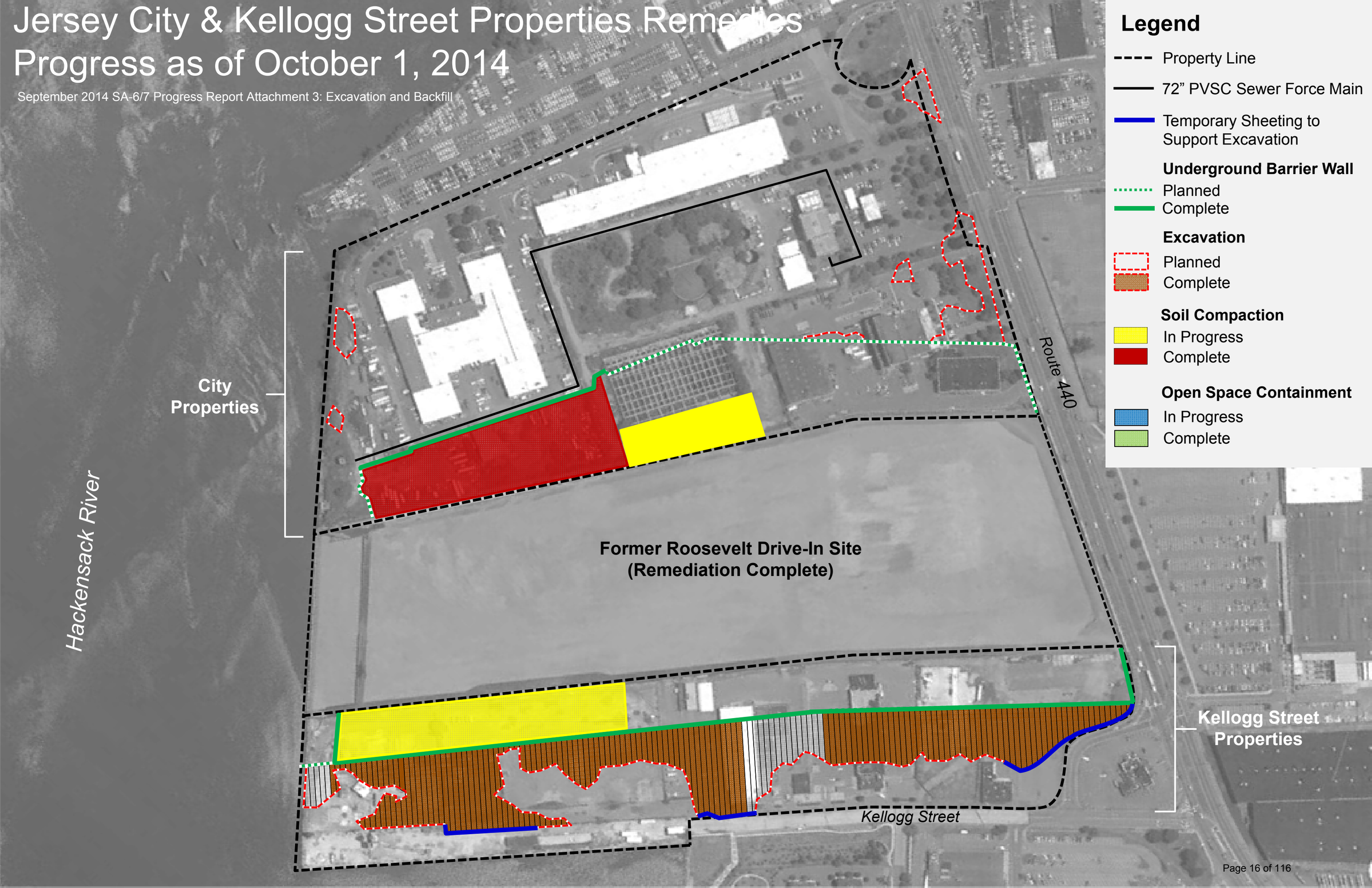
Site Photograph 6: Loading soils for onsite transport.

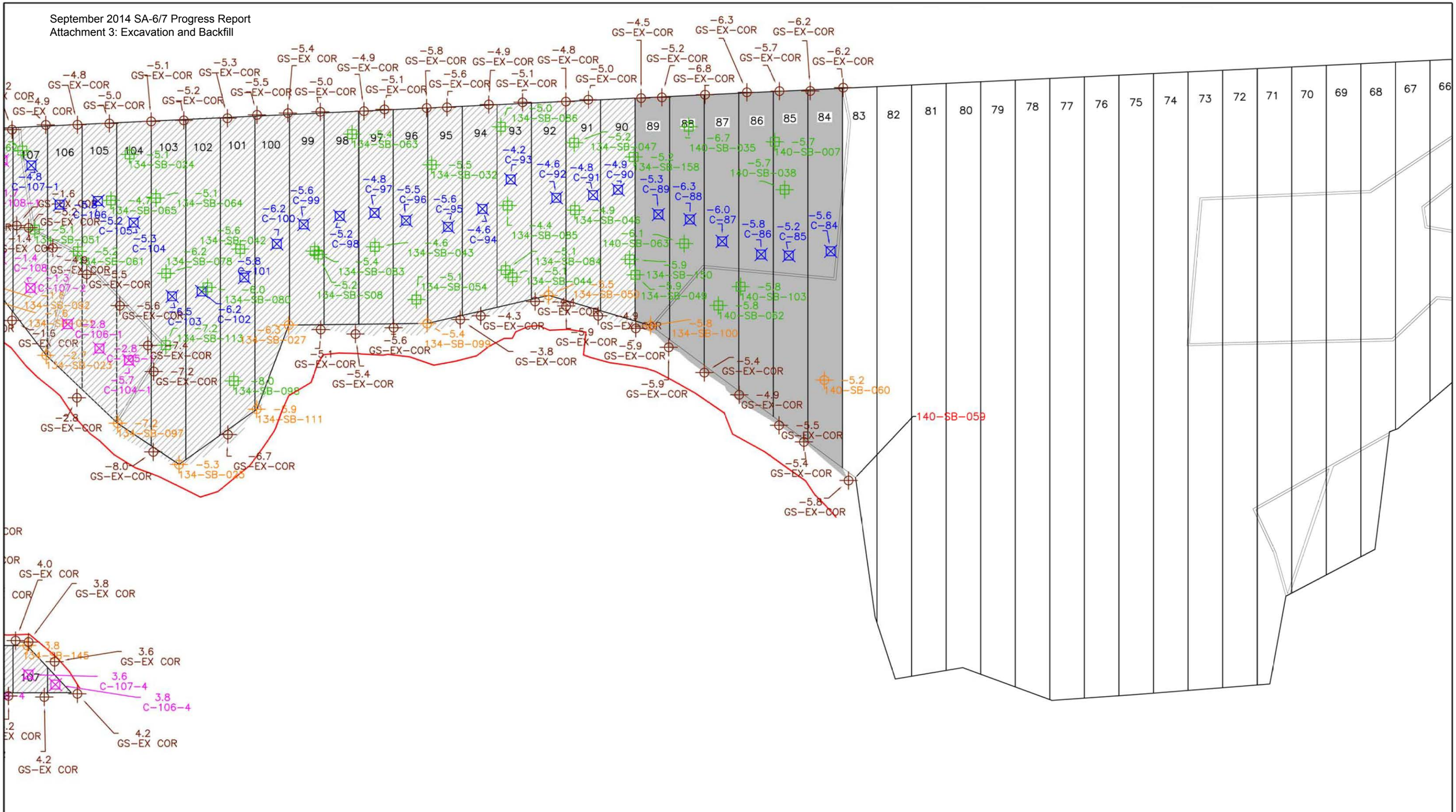
Attachment 3: Excavation and Backfill

- Progression Chart
- Excavation Bottom Elevations
- Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points
- Lens of Anomalous Material – Supplemental Boring Locations
- Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
- Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)

Jersey City & Kellogg Street Properties Remedies Progress as of October 1, 2014

September 2014 SA-6/7 Progress Report Attachment 3: Excavation and Backfill





LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- BOTTOM CENTER POINT ELEVATION STRATUM D
- BOTTOM CENTER POINT ELEVATION <20 PPM
- BOTTOM CORNER POINT ELEVATION <20 PPM
- DESIGNED STRATUM O EXCAVATION LIMIT
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- CURRENT EXCAVATION TO <20 PPM
- TOP OF EXCAVATION SLOPE
- LIMIT OF EXCAVATION AREA
- TOE OF CHLOROBENZENE AREA

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS
PERIOD 08-21-14 TO 09-04-14

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

MASER CONSULTING P.A.
Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

156 Stagecoach Road
Marmora, NJ 08223
T: 609.390.1927
F: 609.390.0040
www.maserconsulting.com

SA-6 South Excavation: Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685514.6	601446.5	3.8	073-SB-029	152	4/25/2014	3.0	* Target Elevation Reached
685482.2	601420.6	4.4	073-SB-054	152	4/24/2014	2.0	* Target Elevation Reached
685458.7	601392.0	7.5	073-SB-056	152	4/24/2014	3.8	* Target Elevation Reached
685474.8	601425.1	7.5	073-SB-057	151	4/24/2014	1.9	* Target Elevation Reached
685502.9	601465.5	3.3	073-SB-028	150	4/25/2014	3.0	* Target Elevation Reached
685463.0	601435.2	2.5	073-SB-059	150	4/24/2014	1.9	* Target Elevation Reached
685490.0	601478.5	6.0	073-SB-042R	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	6.0	073-SB-042R	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	6.0	073-SB-042R	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	6.0	073-SB-042R	146A	4/24/2014	5.6	Target Elevation Reached
685448.9	601515.0	6.0	073-SB-042	145A	4/24/2014	5.6	Target Elevation Reached
685433.1	601528.8	6.0	073-SB-042R	144A	4/24/2014	5.4	Target Elevation Reached
685403.0	601506.0	-4.2	073-SB-037R	144A	4/24/2014	-4.5	Target Elevation Reached
685411.9	601522.2	-0.6	073-SB-066	143A	4/24/2014	-4.4	Target Elevation Reached
685427.6	601544.4	6.0	073-SB-042R	143A	4/24/2014	5.5	Target Elevation Reached
685430.7	601568.7	3.8	073-SB-041	142A	4/24/2014	2.0	Target Elevation Reached
685378.8	601531.7	-4.2	073-SB-037	142A	4/24/2014	-4.4	Target Elevation Reached
685371.0	601525.0	-2.2	073-SB-045	142A	4/24/2014	-4.4	Target Elevation Reached
685395.8	601557.3	2.3	073-SB-038	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.3	073-SB-038R	141A	4/24/2014	2.0	Target Elevation Reached
685410.7	601592.8	0.2	073-SB-040	140A	4/24/2014	-1.3	Target Elevation Reached
685381.0	601558.0	-3.9	073-SB-007	140A	4/24/2014	-4.4	Target Elevation Reached
685379.3	601577.9	0.6	073-SB-039	139A	4/24/2014	-4.3	Target Elevation Reached
685358.5	601560.3	-1.0	073-SB-036	139A	4/24/2014	-4.7	Target Elevation Reached
685390.7	601590.5	-0.6	073-SB-008R	139A	4/24/2014	-1.6	Target Elevation Reached
685390.0	601606.0	-0.6	073-SB-008	138A	4/29/2014	-1.6	Target Elevation Reached
685338.6	601567.5	2.1	073-SB-030R	138A	4/29/2014	1.7	Target Elevation Reached
685339.7	601592.9	1.5	073-SB-035	137A	4/29/2014	-2.9	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.1)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685328.7	601577.4	2.1	073-SB-030R	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-6.7	073-SB-009R	146B	5/5/2014	-8.0	Target Elevation Reached
685329.7	601419.3	-6.9	073-SB-047	145B	5/5/2014	-8.0	Target Elevation Reached
685314.6	601432.4	-6.7	073-SB-009R	144B	5/8/2014	-8.2	Target Elevation Reached
685318.9	601448.7	-5.3	073-SB-021	143B	5/8/2014	-7.9	Target Elevation Reached
685306.3	601465.9	-6.7	073-SB-009R	142B	5/12/2014	-7.6	Target Elevation Reached
685329.1	601510.6	-5.2	073-SB-075	141B	5/12/2014	-7.7	Target Elevation Reached
685310.4	601484.5	-4.8	073-SB-062	141B	5/12/2014	-8.0	Target Elevation Reached
685321.1	601501.8	-5.0	073-SB-065	141B	5/12/2014	-7.6	Target Elevation Reached
685288.0	601466.0	-6.7	073-SB-009	141B	5/12/2014	-7.7	Target Elevation Reached
685284.5	601485.3	-5.3	073-SB-020	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-6.7	073-SB-009R	139B	5/14/2014	-7.8	Target Elevation Reached
685256.2	601505.4	-3.2	073-SB-019	138B	5/14/2014	-7.7	Target Elevation Reached
685277.8	601539.2	2.1	073-SB-030R	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-0.6	073-SB-008R	136	5/5/2014	-1.5	Target Elevation Reached
685344.3	601618.9	-1.8	073-SB-033	136	5/5/2014	-2.9	Target Elevation Reached
685315.0	601587.9	2.1	073-SB-030R	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-0.6	073-SB-008R	135	5/8/2014	-1.4	Target Elevation Reached
685362.2	601641.7	-0.2	073-SB-034	135	5/8/2014	-2.8	Target Elevation Reached
685272.1	601572.6	2.1	073-SB-030R	135	5/19/2014	1.7	Target Elevation Reached
685248.2	601551.5	0.3	073-SB-050	135	5/19/2014	-1.2	Target Elevation Reached
685230.4	601535.5	0.3	073-SB-018	135	5/19/2014	-1.2	Target Elevation Reached
685358.1	601659.9	-0.6	073-SB-008R	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-1.8	073-SB-033R	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	073-SB-030R	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	0.6	073-SB-017R	134	5/19/2014	-1.2	Target Elevation Reached
685212.0	601570.0	-1.4	073-SB-011	133	5/22/2014	-3.3	Target Elevation Reached
685324.0	601643.0	-0.4	073-SB-010	133	5/14/2014	-2.7	Target Elevation Reached
685300.3	601630.9	2.1	073-SB-030	133	5/14/2014	1.8	Target Elevation Reached
685338.7	601665.5	2.3	073-SB-032R	133	5/12/2014	-0.1	Target Elevation Reached
685322.3	601651.3	-1.2	134-SB-136R	133	5/14/2014	-1.7	Target Elevation Reached
685215.0	601563.9	0.6	073-SB-017R	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.3	073-SB-032R	132	5/12/2014	1.7	Target Elevation Reached
685257.3	601619.3	2.1	073-SB-030R	132	5/19/2014	1.8	Target Elevation Reached
685194.1	601565.5	0.6	073-SB-017R	132	5/22/2014	-1.6	Target Elevation Reached
685216.3	601579.5	1.1	073-SB-049	132	5/22/2014	-3.0	Target Elevation Reached
685324.7	601663.5	2.3	073-SB-032	132	5/14/2014	-1.5	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.2)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685193.1	601579.8	0.6	073-SB-017	131	5/22/2014	-2.7	Target Elevation Reached
685301.9	601671.1	0.1	073-SB-031	131	5/14/2014	-1.5	Target Elevation Reached
685328.1	601694.6	2.3	073-SB-032R	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	073-SB-030R	131	5/19/2014	2.0	Target Elevation Reached
685202.7	601594.7	-1.4	073-SB-011R	131	5/22/2014	-2.9	Target Elevation Reached
685321.3	601708.0	2.3	073-SB-032R	130	5/19/2014	1.9	Target Elevation Reached
685300.8	601690.9	-1.2	134-SB-136R	130	5/19/2014	-1.5	Target Elevation Reached
685240.0	601641.1	2.1	073-SB-030R	130	5/19/2014	1.9	Target Elevation Reached
685193.4	601601.4	-1.4	073-SB-011R	130	5/22/2014	-2.5	Target Elevation Reached
685176.5	601589.8	0.6	073-SB-017R	130	5/22/2014	-1.9	Target Elevation Reached
685195.4	601621.6	-2.7	134-SB-123	129	5/27/2014	-7.9	Target Elevation Reached
685212.1	601635.4	-0.6	134-SB-132	129	5/27/2014	-8.2	Target Elevation Reached
685242.2	601665.8	1.3	134-SB-134	129	5/27/2014	0.2	Target Elevation Reached
685305.3	601707.9	-1.2	134-SB-140	129	5/19/2014	-1.2	Target Elevation Reached
685158.2	601591.1	-6.6	134-SB-114	129	5/27/2014	-7.6	Target Elevation Reached
685311.8	601720.4	2.3	073-SB-032R	129	5/22/2014	1.9	Target Elevation Reached
685263.1	601682.1	2.1	073-SB-030R	129	5/22/2014	1.8	Target Elevation Reached
685289.8	601729.8	2.0	134-SB-139	128	5/27/2014	-1.3	Target Elevation Reached
685303.5	601732.5	2.3	073-SB-032R	128	5/22/2014	1.9	Target Elevation Reached
685269.5	601703.1	2.1	073-SB-030R	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	1.3	134-SB-134R	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-6.7	134-SB-129R	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	2.4	134-SB-014R	127	5/29/2014	0.3	Target Elevation Reached
685276.2	601720.2	4.5	134-SB-135	127	5/27/2014	-1.2	Target Elevation Reached
685237.1	601700.2	1.3	134-SB-134R	127	6/2/2014	0.1	Target Elevation Reached
685258.0	601714.0	-1.1	134-SB-012	127	5/29/2014	-1.4	Target Elevation Reached
685226.8	601681.6	-0.7	134-SB-133	127	6/2/2014	-7.6	Target Elevation Reached
685172.0	601639.0	-5.6	134-SB-013	127	6/5/2014	-7.7	Target Elevation Reached
685285.7	601758.3	2.4	134-SB-014R	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	134-SB-136R	126	6/2/2014	-1.4	Target Elevation Reached
685122.8	601623.1	-8.4	134-SB-115	126	6/10/2014	-8.8	Target Elevation Reached
685155.2	601653.8	-5.8	134-SB-122	126	6/10/2014	-7.8	Target Elevation Reached
685178.8	601676.4	-6.1	134-SB-131	126	6/10/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.3)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685212.9	601702.0	-0.7	134-SB-130	126	6/10/2014	-7.7	Target Elevation Reached
685277.9	601769.3	2.4	134-SB-014R	125	6/2/2014	-0.6	Target Elevation Reached
685269.3	601754.4	-1.1	134-SB-138	125	6/2/2014	-1.7	Target Elevation Reached
685158.0	601676.7	-6.7	134-SB-129R	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	134-SB-115R	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	2.4	134-SB-014R	124	6/10/2014	0.1	Target Elevation Reached
685266.0	601776.0	2.4	134-SB-014	124	6/10/2014	-2.9	Target Elevation Reached
685100.0	601650.0	1.2	134-SB-116	124	6/17/2014	-8.2	Stratum D Reached
685136.1	601677.4	-7.7	134-SB-121	124	6/17/2014	-8.1	Stratum D Reached
685262.3	601792.9	2.4	134-SB-014R	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-1.5	134-SB-137R	123	6/10/2014	-2.8	Target Elevation Reached
685225.1	601760.9	-1.3	134-SB-136	123	6/10/2014	-1.7	Target Elevation Reached
685165.9	601710.7	-6.7	134-SB-129	123	6/17/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	134-SB-120R	123	6/20/2014	-7.8	Stratum D Reached
685252.4	601807.4	2.4	134-SB-014R	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601798.5	-1.5	134-SB-137	122	6/17/2014	-2.8	Target Elevation Reached
685207.9	601771.1	-1.3	134-SB-136R	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-6.7	134-SB-129R	122	6/20/2014	-7.5	Stratum D Reached
685113.6	601700.2	-8.7	134-SB-120	122	6/20/2014	-6.9	Stratum D Reached
685242.2	601818.1	2.4	134-SB-014R	121	6/17/2014	0.3	Target Elevation Reached
685201.0	601787.0	-0.6	134-SB-015	121	6/20/2014	-2.5	Target Elevation Reached
685189.3	601776.9	-1.3	134-SB-136R	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.3	124-SB-124R	121	6/25/2014	-2.5	Target Elevation Reached
685175.7	601754.9	-4.5	134-SB-127	121	6/20/2014	-7.8	Stratum D Reached
685140.4	601734.6	-0.8	134-SB-125	121	6/20/2014	-7.4	Stratum D Reached
685104.7	601708.0	-8.7	134-SB-120R	121	6/25/2014	-6.1	Stratum D Reached
685079.9	601677.2	0.9	134-SB-117	121	6/20/2014	-6.8	Stratum D Reached
685233.4	601829.1	2.4	134-SB-014R	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-1.5	134-SB-137R	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.3	134-SB-136R	120	6/20/2014	-1.5	Target Elevation Reached
685112.0	601735.0	-6.7	134-SB-016	120	6/25/2014	-7.5	Stratum D Reached
685094.8	601725.1	-5.2	134-SB-119	120	6/25/2014	-6.9	Stratum D Reached
685062.9	601695.5	-7.9	134-SB-118	120	6/25/2014	-6.4	Stratum D Reached
685159.9	601776.2	-2.3	134-SB-124	120	6/25/2014	-2.5	Target Elevation Reached
685223.8	601840.5	2.4	134-SB-014R	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-1.5	134-SB-137R	119	6/25/2014	-2.8	Target Elevation Reached
685170.4	601797.8	0.4	134-SB-060	119	6/25/2014	-1.4	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.4)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.7	601780.4	-2.3	124-SB-124R	119	6/25/2014	-2.8	Target Elevation Reached
685208.4	601850.6	2.4	134-SB-033R	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.4	134-SB-033R	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.4	134-SB-033R	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.4	134-SB-033R	115A	6/25/2014	-0.1	Target Elevation Reached
685069.9	601738.9	4.1	134-SB-155	118B	6/30/2014	-7.1	Stratum D Reached
685042.3	601722.7	-8.9	134-SB-141	118B	7/8/2014	-7.1	Stratum D Reached
685057.7	601744.9	-8.9	134-SB-141R	117B	7/8/2014	-6.5	Stratum D Reached
685040.6	601747.5	-6.8	134-SB-147	116B	7/8/2014	-6.9	Stratum D Reached
685024.0	601763.4	4.1	134-SB-154	115B	7/10/2014	-5.6	Stratum D Reached
685177.7	601903.0	2.4	134-SB-033R	114A	6/30/2014	0.5	Target Elevation Reached
685132.0	601873.0	-0.6	134-SB-019	114A	7/3/2014	-1.7	Target Elevation Reached
685014.9	601776.3	4.1	134-SB-154R	114B	7/10/2014	3.9	Target Elevation Reached
685159.0	601914.0	2.4	134-SB-033	113A	7/3/2014	0.7	Target Elevation Reached
685116.3	601878.4	0.8	134-SB-057	113A	7/3/2014	-2.0	Target Elevation Reached
685006.3	601780.6	4.1	134-SB-154R	113B	7/17/2014	3.6	Target Elevation Reached
685157.5	601925.6	2.4	134-SB-033R	112A	7/8/2014	0.0	Target Elevation Reached
685126.3	601904.5	-1.2	134-SB-052	112A	7/8/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.1	134-SB-154R	112B	7/17/2014	3.6	Target Elevation Reached
685145.9	601933.8	2.4	134-SB-033R	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	134-SB-052R	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.1	134-SB-154R	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.4	134-SB-033R	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	134-SB-052R	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.1	134-SB-154R	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.4	134-SB-033R	109A	7/10/2014	1.5	Target Elevation Reached
685111.5	601936.0	1.4	134-SB-056	109A	7/10/2014	-1.3	Target Elevation Reached
684960.2	601820.4	4.1	134-SB-154R	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.4	134-SB-033R	108A	7/17/2014	1.6	Target Elevation Reached
685087.5	601946.0	-1.2	134-SB-052R	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.1	134-SB-154R	108B	7/17/2014	3.6	Target Elevation Reached
685117.6	601982.8	0.9	134-SB-062	107A	7/17/2014	-5.0	Stratum D Reached
685087.5	601965.4	1.8	134-SB-051	107A	7/17/2014	-5.1	Stratum D Reached
684939.3	601841.8	4.1	134-SB-154R	107B	7/17/2014	3.6	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.5)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684928.5	601848.2	4.1	134-SB-154R	106B	7/17/2014	3.8	Target Elevation Reached
685068.5	601974.0	1.2	134-SB-061	106A	7/23/2014	-5.2	Stratum D Reached
685046.6	601950.7	1.2	134-SB-061R	106A	7/23/2014	-2.8	Target Elevation Reached
685076.6	601999.1	-6.7	134-SB-065	105	7/23/2014	-4.7	Stratum D Reached
685029.8	601954.8	1.2	134-SB-061R	105	7/23/2014	-2.8	Target Elevation Reached
685087.0	602018.0	-5.7	134-SB-024	104	7/29/2014	-5.1	Stratum D Reached
685017.7	601961.5	1.2	134-SB-061R	104	7/29/2014	-5.7	Stratum D Reached
685065.1	602014.9	-5.2	134-SB-064	103	7/29/2014	-5.1	Stratum D Reached
685036.9	601997.8	-5.2	134-SB-078	103	7/29/2014	-6.2	Stratum D Reached
685012.8	601978.1	-7.5	134-SB-113	103	7/29/2014	-7.2	Stratum D Reached
685021.0	602007.9	-7.9	134-SB-080	102	7/31/2014	-6.0	Stratum D Reached
685024.9	602029.4	-7.8	134-SB-042	101	8/4/2014	-5.6	Stratum D Reached
684982.2	601991.3	0.1	134-SB-098	101	8/4/2014	-8.0	Stratum D Reached
685016.6	602043.2	-6.1	134-SB-032R	100	8/6/2014	-6.2	Stratum D Reached
685003.8	602054.0	-6.4	134-SB-083	99	8/6/2014	-5.4	Stratum D Reached
685001.8	602054.2	-7.4	134-SB-S08	99	8/6/2014	-5.2	Stratum D Reached
685033.1	602098.5	-6.7	134-SB-063	98	8/8/2014	-5.4	Stratum D Reached
684988.8	602075.4	-7.4	134-SB-043	97	8/8/2014	-4.6	Stratum D Reached
684959.7	602075.1	-7.1	134-SB-054	96	8/12/2014	-5.1	Stratum D Reached
685001.0	602117.0	-6.1	134-SB-032	95	8/12/2014	-5.5	Stratum D Reached
684972.2	602122.1	-6.1	134-SB-032R	94	8/14/2014	-4.6	Stratum D Reached
684941.6	602113.9	-7.6	134-SB-044	93	8/14/2014	-5.1	Stratum D Reached
684945.3	602113.6	-5.6	134-SB-084	93	8/14/2014	-5.1	Stratum D Reached
684966.5	602131.5	-6.4	134-SB-085	93	8/14/2014	-4.4	Stratum D Reached
684994.9	602150.7	-6.4	134-SB-086	93	8/14/2014	-5.0	Stratum D Reached
684955.8	602150.0	-6.1	134-SB-032R	92	8/18/2014	-4.6	Stratum D Reached
684946.6	602152.9	-7.0	134-SB-046	91	8/18/2014	-4.9	Stratum D Reached
684969.5	602171.1	-6.5	134-SB-047	91	8/18/2014	-5.2	Stratum D Reached
684915.0	602157.9	-6.4	134-SB-150	90	8/20/2014	-5.9	Stratum D Reached
684948.5	602187.3	-5.8	134-SB-158	90	8/20/2014	-5.2	Stratum D Reached
684908.2	602155.7	-8.0	134-SB-049	89	8/20/2014	-5.9	Stratum D Reached
684943.6	602214.1	-6.9	140-SB-035	88	8/25/2014	-6.7	Stratum D Reached
684905.5	602180.6	-7.8	140-SB-063	88	8/25/2014	-6.1	Stratum D Reached
684875.3	602175.3	-7.8	140-SB-062	87	8/25/2014	-5.8	Stratum D Reached
684875.5	602187.9	-7.3	140-SB-103	86	8/29/2014	-5.8	Stratum D Reached
684915.0	602239.0	-6.1	140-SB-007	85	8/29/2014	-5.7	Stratum D Reached
684896.1	602229.3	-6.6	140-SB-038	85	8/29/2014	-5.7	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.6)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684862.9	602228.0	-6.1	134-SB-032R	84	9/4/2014	-5.6	Stratum D Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area. Coordinates come from Center Points within that specific cell.

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

* Target Reached. Over excavation conducted as directed by engineer.

SA-6 South Excavation: Center Points (Table 2.0)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685460.6	601379.6	5.7	C-153	153	4/24/2014	3.9	Target Elevation Reached- Cell only partially excavated
685497.5	601425.0	5.7	C-152	152	4/24/2014	4.2	Target Elevation Reached
685453.0	601392.1	5.7	C-152-1	152	4/24/2014	3.7	Target Elevation Reached
685467.8	601422.4	5.7	C-151	151	4/24/2014	1.9	Target Elevation Reached
685489.7	601438.8	5.7	C-151-1	151	4/24/2014	3.9	Target Elevation Reached
685448.1	601407.0	5.7	C-151-2	151	4/24/2014	4.0	Target Elevation Reached
685511.4	601454.1	3.3	C-151-3	151	4/25/2014	3.0	Target Elevation Reached
685455.0	601431.7	5.7	C-150	150	4/24/2014	2.1	Target Elevation Reached
685480.8	601450.0	5.7	C-150-1	150	4/24/2014	4.0	Target Elevation Reached
685502.2	601463.5	2.8	C-150-2	150	4/25/2014	2.8	Target Elevation Reached
685490.0	601478.5	5.7	C-149	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	5.7	C-148	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	5.7	C-147	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	5.7	C-146	146A	4/24/2014	5.6	Target Elevation Reached
685444.3	601518.5	5.7	C-145	145A	4/24/2014	5.5	Target Elevation Reached
685403.0	601506.0	-4.3	C-144	144A	4/24/2014	-4.5	Target Elevation Reached
685433.1	601528.8	5.7	C-144-1	144A	4/24/2014	5.4	Target Elevation Reached
685396.1	601517.4	-4.3	C-143	143A	4/24/2014	-5.3	Target Elevation Reached
685427.6	601544.4	5.7	C-143-1	143A	4/24/2014	5.5	Target Elevation Reached
685386.6	601530.7	-4.3	C-142	142A	4/24/2014	-4.8	Target Elevation Reached
685416.3	601555.6	5.7	C-142-1	142A	4/24/2014	1.9	Target Elevation Reached
685379.5	601542.9	-4.3	C-141	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.1	C-141-1	141A	4/24/2014	2.0	Target Elevation Reached
685371.7	601554.8	-4.3	C-140	140A	4/24/2014	-4.5	Target Elevation Reached
685401.1	601580.7	2.1	C-140-1	140A	4/24/2014	-1.5	Target Elevation Reached
685352.9	601555.6	-4.3	C-139	139A	4/24/2014	-4.4	Target Elevation Reached
685390.7	601590.5	-1.2	C-139-1	139A	4/24/2014	-1.6	Target Elevation Reached
685368.1	601592.3	-1.2	C-138	138A	4/29/2014	-1.5	Target Elevation Reached
685338.6	601567.5	2.1	C-138-1	138A	4/29/2014	1.7	Target Elevation Reached
685359.7	601603.5	-1.2	C-137	137A	4/29/2014	-1.5	Target Elevation Reached
685328.7	601577.4	2.1	C-137-1	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-7.5	C-146-B	146B	5/5/2014	-8.0	Target Elevation Reached
685320.3	601420.2	-7.5	C-145-B	145B	5/5/2014	-7.8	Target Elevation Reached
685314.6	601432.4	-7.5	C-144-B	144B	5/8/2014	-8.2	Target Elevation Reached
685307.0	601446.0	-7.5	C-143-B	143B	5/8/2014	-8.0	Target Elevation Reached
685306.3	601465.9	-7.5	C142-B	142B	5/12/2014	-7.6	Target Elevation Reached
685304.8	601483.2	-7.5	C-141-B	141B	5/12/2014	-7.9	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.1)

Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685295.5	601493.5	-7.5	C-140-B	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-7.5	C-139-B	139B	5/14/2014	-7.8	Target Elevation Reached
685266.5	601506.3	-7.5	C-138-B	138B	5/14/2014	-7.8	Target Elevation Reached
685277.8	601539.2	2.1	C-137-B	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-1.2	C-136-2	136	5/5/2014	-1.5	Target Elevation Reached
685343.4	601610.1	-2.5	C-136	136	5/5/2014	-2.8	Target Elevation Reached
685315.0	601587.9	2.1	C-136-1	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-1.2	C-135-1	135	5/8/2014	-1.4	Target Elevation Reached
685348.8	601634.5	-2.5	C-135	135	5/8/2014	-2.6	Target Elevation Reached
685272.1	601572.6	2.1	C-135-2	135	5/19/2014	1.7	Target Elevation Reached
685236.7	601544.8	-1.2	C-135-3	135	5/19/2014	-1.3	Target Elevation Reached
685358.1	601659.9	-1.2	C-134-1	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-2.5	C-134	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	C-134-2	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	-1.2	C-134-3	134	5/19/2014	-1.2	Target Elevation Reached
685322.3	601651.3	-1.2	C-133-1	133	5/14/2014	-1.7	Target Elevation Reached
685338.7	601665.5	0.4	C-133	133	5/12/2014	-0.1	Target Elevation Reached
685264.0	601607.6	2.1	C-133-2	133	5/19/2014	1.8	Target Elevation Reached
685215.0	601563.9	-1.2	C-133-3	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.1	C-132-1	132	5/12/2014	1.7	Target Elevation Reached
685314.3	601666.4	-1.2	C-132	132	5/14/2014	-1.5	Target Elevation Reached
685210.3	601579.7	-2.5	C-132-B	132	5/22/2014	-3.2	Target Elevation Reached
685194.1	601565.5	-1.2	C-132-B1	132	5/22/2014	-1.6	Target Elevation Reached
685257.3	601619.3	2.1	C-132-2	132	5/19/2014	1.8	Target Elevation Reached
685307.8	601677.9	-1.2	C-131	131	5/14/2014	-1.4	Target Elevation Reached
685202.7	601594.7	-2.5	C-131-B	131	5/22/2014	-2.9	Target Elevation Reached
685184.3	601577.4	-1.2	C-131-B1	131	5/22/2014	-2.1	Target Elevation Reached
685328.1	601694.6	2.1	C-131-1	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	C-131-2	131	5/19/2014	2.0	Target Elevation Reached
685193.4	601601.4	-2.5	C-130-B	130	5/22/2014	-2.5	Target Elevation Reached
685300.8	601690.9	-1.2	C-130	130	5/19/2014	-1.5	Target Elevation Reached
685176.5	601589.8	-1.2	C-130-B1	130	5/22/2014	-1.9	Target Elevation Reached
685240.0	601641.1	2.1	C-130-2	130	5/19/2014	1.9	Target Elevation Reached
685321.3	601708.0	2.1	C-130-1	130	5/19/2014	1.9	Target Elevation Reached
685294.8	601706.8	-1.2	C-129-A	129	5/22/2014	-1.4	Target Elevation Reached
685311.8	601720.4	2.1	C-129-A1	129	5/22/2014	1.9	Target Elevation Reached
685186.2	601619.2	-7.5	C-129-B	129	5/27/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.2)

Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685236.4	601661.1	0.4	C-129-1	129	5/27/2014	0.1	Target Elevation Reached
685263.1	601682.1	2.1	C-129-2	129	5/22/2014	1.8	Target Elevation Reached
685303.5	601732.5	2.1	C-128-A-1	128	5/22/2014	1.9	Target Elevation Reached
685286.6	601718.1	-1.2	C-128-A	128	5/22/2014	-1.4	Target Elevation Reached
685269.5	601703.1	2.1	C-128-A-2	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	0.4	C-128-A-3	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-7.5	C-128-B	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	0.4	C-127-A	127	5/29/2014	0.3	Target Elevation Reached
685271.3	601725.5	-1.2	C-127-A-1	127	5/29/2014	-1.3	Target Elevation Reached
685237.1	601700.2	0.4	C-127-A-2	127	6/2/2014	0.1	Target Elevation Reached
685171.9	601645.3	-7.5	C-127-B	127	6/5/2014	-7.5	Target Elevation Reached
685285.7	601758.3	0.4	C-126-A-1	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	C-126-A	126	6/2/2014	-1.4	Target Elevation Reached
685166.8	601663.7	-7.5	C-126-3	126	6/10/2014	-7.6	Target Elevation Reached
685122.3	601624.7	-8.4	C-126-4	126	6/10/2014	-8.8	Target Elevation Reached
685277.9	601769.3	0.4	C-125	125	6/2/2014	-0.6	Target Elevation Reached
685241.9	601742.6	-1.2	C-125-1	125	6/5/2014	-1.4	Target Elevation Reached
685158.0	601676.7	-7.5	C-125-2	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	C-125-3	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	0.4	C-124	124	6/10/2014	0.1	Target Elevation Reached
685261.7	601778.9	-2.5	C-124-1	124	6/10/2014	-2.8	Target Elevation Reached
685230.8	601752.7	-1.2	C-124-2	124	6/10/2014	-1.4	Target Elevation Reached
685172.8	601704.6	-7.5	C-124-4	124	6/17/2014	-7.7	Stratum D Reached
685128.8	601669.1	-8.7	C-124-5	124	6/17/2014	-7.8	Stratum D Reached
685104.8	601647.4	-7.5	C-124-6	124	6/17/2014	-8.6	Stratum D Reached
685262.3	601792.9	0.4	C-123	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-2.5	C-123-1	123	6/10/2014	-2.8	Target Elevation Reached
685221.2	601763.9	-1.2	C-123-2	123	6/10/2014	-1.7	Target Elevation Reached
685162.4	601719.5	-7.5	C-123-3	123	6/20/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	C-123-4	123	6/20/2014	-7.8	Stratum D Reached
685091.7	601659.6	-7.5	C-123-5	123	6/20/2014	-8.1	Stratum D Reached
685252.4	601807.4	0.4	C-122	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601792.7	-2.5	C-122-1	122	6/13/2014	-2.6	Target Elevation Reached
685207.9	601771.1	-1.2	C-122-2	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-7.5	C-122-5	122	6/20/2014	-7.5	Stratum D Reached
685108.5	601694.5	-8.7	C-122-6	122	6/20/2014	-6.9	Stratum D Reached
685086.9	601671.6	-7.5	C-122-3	122	6/20/2014	-7.4	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.3)

Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685242.2	601818.1	0.4	C-121	121	6/17/2014	0.3	Target Elevation Reached
685214.5	601794.9	-2.5	C-121-3	121	6/20/2014	-2.6	Target Elevation Reached
685189.3	601776.9	-1.2	C-121-2	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.5	C-121-5	121	6/25/2014	-2.5	Target Elevation Reached
685127.3	601725.9	-7.5	C-121-6	121	6/25/2014	-7.0	Stratum D Reached
685104.7	601708.0	-8.7	C-121-7	121	6/25/2014	-6.1	Stratum D Reached
685073.0	601686.3	-7.5	C-121-8	121	6/25/2014	-7.1	Stratum D Reached
685233.4	601829.1	0.4	C-120-1	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-2.5	C-120	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.2	C-120-2	120	6/20/2014	-1.5	Target Elevation Reached
685153.6	601765.8	-2.5	C-120-3	120	6/25/2014	-2.7	Target Elevation Reached
685095.6	601718.8	-7.5	C-120-4	120	6/25/2014	-6.9	Stratum D Reached
685223.8	601840.5	0.4	C-119	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-2.5	C-119-1	119	6/25/2014	-2.8	Target Elevation Reached
685172.6	601798.3	-1.2	C-119-2	119	6/25/2014	-1.2	Target Elevation Reached
685145.7	601780.4	-2.5	C-119-3	119	6/25/2014	-2.8	Target Elevation Reached
685080.0	601724.8	-7.5	C-119-4	119	6/30/2014	-6.9	Stratum D Reached
685208.4	601850.6	2.1	C-118	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.1	C-117	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.1	C-116	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.1	C-115	115A	6/25/2014	-0.1	Target Elevation Reached
685069.7	601734.8	-7.5	C-118-1	118B	6/30/2014	-6.1	Stratum D Reached
685057.7	601744.9	-7.5	C-117-1	117B	7/8/2014	-6.5	Stratum D Reached
685031.8	601746.6	-7.5	C-116-1	116B	7/8/2014	-7.0	Stratum D Reached
685022.1	601754.6	-7.5	C-115-1	115B	7/10/2014	-5.9	Stratum D Reached
685177.7	601903.0	2.1	C-114	114A	6/30/2014	0.5	Target Elevation Reached
685147.1	601873.7	-1.2	C-114-1	114A	6/30/2014	-1.3	Target Elevation Reached
685014.9	601776.3	4.2	C-114-2	114B	7/10/2014	3.9	Target Elevation Reached
684985.2	601787.3	4.2	C-114-3	114B	7/17/2014	-1.8	UST Area
685166.0	601912.1	2.1	C-113-1	113A	7/3/2014	0.9	Target Elevation Reached
685134.0	601884.4	-1.2	C-113-2	113A	7/3/2014	-1.7	Target Elevation Reached
685006.3	601780.6	4.2	C-113-3	113B	7/17/2014	3.6	Target Elevation Reached
684998.3	601772.8	4.2	C-113-4	113B	7/17/2014	-2.1	UST Area
685157.5	601925.6	2.1	C-112	112A	7/8/2014	0.0	Target Elevation Reached
685124.9	601894.4	-1.2	C-112-1	112A	7/3/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.2	C-112-2	112B	7/17/2014	3.6	Target Elevation Reached
685002.7	601764.7	4.2	C-112-3	112B	7/17/2014	-2.0	UST Area

SA-6 South Excavation: Center Points (Table 2.4)

Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.9	601933.8	2.1	C-111-1	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	C-111	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.2	C-111-4	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.1	C-110	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	C-110-1	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.2	C-110-4	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.1	C-109	109A	7/10/2014	1.5	Target Elevation Reached
685097.4	601930.7	-1.2	C-109-1	109A	7/10/2014	-1.5	Target Elevation Reached
684960.2	601820.4	4.2	C-109-4	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.1	C-108-1	108A	7/17/2014	1.6	Target Elevation Reached
685087.5	601946.0	-1.2	C-108	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.2	C-108-4	108B	7/17/2014	3.6	Target Elevation Reached
685110.1	601981.8	-4.3	C-107-1	107A	7/17/2014	-4.8	Stratum D Reached
685069.0	601948.1	-1.2	C-107-2	107A	7/17/2014	-1.3	Target Elevation Reached
684939.3	601841.8	4.2	C-107-4	107B	7/17/2014	3.6	Target Elevation Reached
684928.5	601848.2	4.2	C-106-4	106B	7/17/2014	3.8	Target Elevation Reached
685089.2	601980.6	-4.3	C-106	106A	7/23/2014	-5.3	Stratum D Reached
685046.6	601950.7	-2.5	C-106-1	106A	7/23/2014	-2.8	Target Elevation Reached
685080.0	601994.5	-4.3	C-105	105	7/23/2014	-5.2	Stratum D Reached
685029.8	601954.8	-2.5	C-105-1	105	7/23/2014	-2.8	Target Elevation Reached
685062.9	602000.7	-4.3	C-104	104	7/29/2014	-5.3	Stratum D Reached
685017.7	601961.5	-2.5	C-104-1	104	7/29/2014	-5.7	Stratum D Reached
685027.6	601993.5	-4.3	C-103	103	7/29/2014	-6.5	Stratum D Reached
685021.1	602004.8	-4.3	C-102	102	7/31/2014	-6.1	Stratum D Reached
685014.2	602023.1	-4.3	C-101	101	8/4/2014	-5.8	Stratum D Reached
685016.6	602043.2	-4.3	C-100	100	8/6/2014	-6.2	Stratum D Reached
685015.8	602057.5	-4.3	C-99	99	8/6/2014	-5.6	Stratum D Reached
685008.9	602072.0	-4.3	C-98	98	8/8/2014	-5.2	Stratum D Reached
685000.4	602084.6	-4.3	C-97	97	8/8/2014	-4.8	Stratum D Reached
684989.2	602093.1	-4.3	C-96	96	8/12/2014	-5.5	Stratum D Reached
684975.6	602105.6	-4.3	C-95	95	8/12/2014	-5.6	Stratum D Reached
684972.2	602122.1	-4.3	C-94	94	8/14/2014	-4.6	Stratum D Reached
684974.5	602139.6	-4.3	C-93	93	8/14/2014	-4.2	Stratum D Reached
684955.8	602150.0	-4.3	C-92	92	8/18/2014	-4.6	Stratum D Reached
684946.7	602163.1	-4.3	C-91	91	8/18/2014	-4.8	Stratum D Reached
684941.7	602173.1	-4.3	C-90	90	8/20/2014	-4.9	Stratum D Reached
684922.3	602179.9	-4.3	C-89	89	8/20/2014	-5.3	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.5)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684912.0	602189.2	-4.3	C-88	88	8/25/2014	-6.3	Stratum D Reached
684895.8	602194.1	-4.3	C-87	87	8/25/2014	-6.0	Stratum D Reached
684880.8	602203.6	-4.3	C-86	86	8/29/2014	-5.8	Stratum D Reached
684872.8	602212.7	-4.3	C-85	85	8/29/2014	-5.2	Stratum D Reached
684862.9	602228.0	-4.3	C-84	84	9/4/2014	-5.6	Stratum D Reached

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

Green shading indicates 100% Design Bottom Elevation Field Modified to reach < 20 PPM soils .

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)

Sidewall Target Coordinates					As-built Elevations		
685443.0	601355.0	5.8	073-SB-003	153	4/24/2014	4.0	Target Elevation Reached
685441.6	601380.0	6.7	073-SB-078	152	4/24/2014	3.9	Target Elevation Reached
685490.9	601459.8	7.8	073-SB-027	150	4/24/2014	3.8	Target Elevation Reached
685459.6	601448.4	5.9	073-SB-064	149	4/24/2014	2.0	Target Elevation Reached
685438.1	601430.2	8.8	073-SB-063	149	4/24/2014	1.8	Target Elevation Reached
685470.0	601487.0	5.9	073-SB-004	148	4/24/2014	5.7	Target Elevation Reached
685471.0	601475.6	4.3	073-SB-079	148	7/31/2014	4.3	Target Elevation Reached
685451.0	601460.9	7.1	073-SB-082	148	7/31/2014	2.2	Target Elevation Reached
685383.5	601506.5	0.9	073-SB-060	143A	4/24/2014	-4.4	Target Elevation Reached
685368.1	601516.7	0.4	073-SB-077	142A	4/24/2014	-4.5	Target Elevation Reached
685341.4	601558.3	2.9	073-SB-046	139A	4/24/2014	-4.5	Target Elevation Reached
685309.0	601571.0	3.8	073-SB-006	137A	4/29/2014	1.9	Target Elevation Reached
685339.2	601410.1	-5.7	073-SB-048	146B	5/5/2014	-7.7	Target Elevation Reached
685319.6	601464.4	-5.4	073-SB-022	143B	5/8/2014	-7.5	Target Elevation Reached
685332.6	601487.8	-3.6	073-SB-071	142B	5/12/2014	-7.6	Target Elevation Reached
685344.0	601523.8	-4.1	073-SB-076	141B	5/12/2014	-7.6	Target Elevation Reached
685316.0	601542.0	-6.2	073-SB-016	138B	5/14/2014	-7.8	Target Elevation Reached
685304.5	601530.7	-5.8	073-SB-051	138B	5/14/2014	-7.5	Target Elevation Reached
685132.7	601748.9	-1.7	134-SB-126	120	6/25/2014	-7.2	Stratum D Reached
685210.2	601831.4	-0.8	134-SB-072	119	6/25/2014	-2.5	Target Elevation Reached
685116.0	601754.5	-6.0	134-SB-157	119	6/30/2014	-6.9	Stratum D Reached
685165.3	601806.2	3.5	134-SB-094	118B	6/25/2014	-1.6	Target Elevation Reached
685131.0	601787.0	-2.3	134-SB-017	118B	6/25/2014	-3.3	Target Elevation Reached
685197.0	601868.0	6.0	134-SB-034	117A	6/25/2014	-0.3	Target Elevation Reached
685073.0	601769.4	-6.5	134-SB-142	116B	7/8/2014	-6.3	Stratum D Reached
685168.1	601879.4	-0.7	134-SB-058	115A	6/30/2014	-1.6	Target Elevation Reached
685137.3	601854.1	2.7	134-SB-073	115A	6/30/2014	-1.4	Target Elevation Reached
685043.3	601773.2	6.0	134-SB-152	115B	7/10/2014	-5.5	Stratum D Reached
685111.7	601863.3	2.2	134-SB-074	113A	7/3/2014	-1.3	Target Elevation Reached
685013.2	601803.0	6.0	134-SB-156	112B	7/17/2014	3.7	Target Elevation Reached
685094.6	601890.3	2.2	134-SB-075	111A	7/8/2014	-1.6	Target Elevation Reached
685081.0	601928.0	-0.1	134-SB-021	109A	7/10/2014	-1.6	Target Elevation Reached
685080.6	601935.9	3.0	134-SB-092	108A	7/10/2014	-1.6	Target Elevation Reached
684976.1	601816.3	6.1	134-SB-144	110B	7/17/2014	3.9	Target Elevation Reached
684949.4	601849.3	6.1	134-SB-145	107B	7/17/2014	3.8	Target Elevation Reached
685042.0	601935.0	-0.3	134-SB-023	107A	7/17/2014	-2.7	Target Elevation Reached
684999.7	601940.5	-0.5	134-SB-097	104	7/29/2014	-7.2	Stratum D Reached
684969.0	601950.0	-4.3	134-SB-025	103	7/31/2014	-5.3	Stratum D Reached

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.1)							
Sidewall Target Coordinates					As-built Elevations		
684966.4	601991.2	0.8	134-SB-111	100	8/4/2014	-5.8	Stratum D Reached
684986.0	602025.0	-2.7	134-SB-027	100	8/6/2014	-6.3	Stratum D Reached
684948.7	602072.2	-3.2	134-SB-099	96	8/12/2014	-5.4	Stratum D Reached
684925.0	602120.8	-4.2	134-SB-050	92	8/18/2014	-5.5	Stratum D Reached
684887.0	602147.0	-2.1	134-SB-100	89	8/20/2014	-5.8	Stratum D Reached
684821.2	602190.7	-4.8	140-SB-060	84	9/4/2014	-5.2	Stratum D Reached

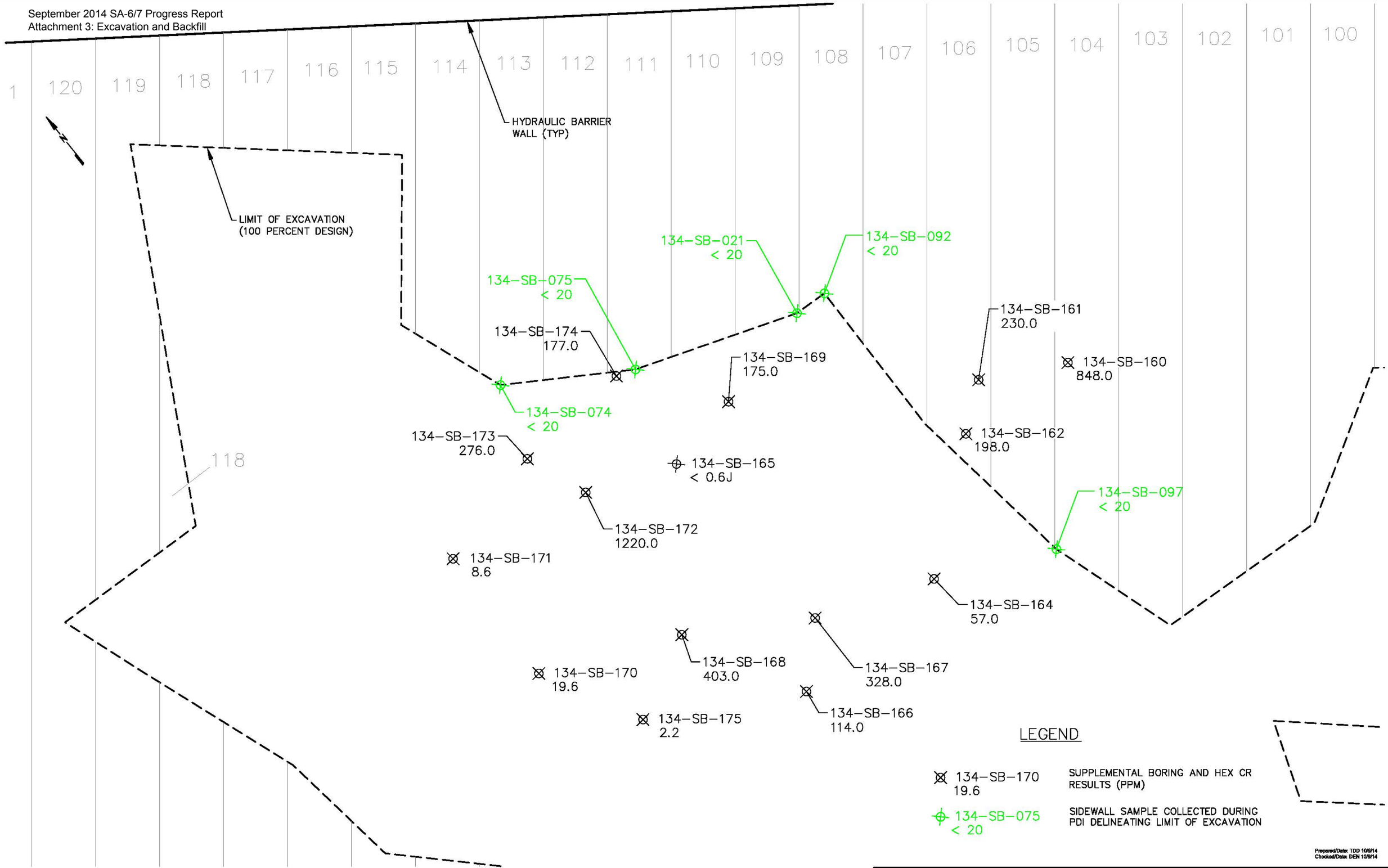
Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

R. Thomas Hugg 9/25/14

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR

LICENSE NO. 36737


1
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HYDRAULIC BARRIER WALL (TYP)
LIMIT OF EXCAVATION (100 PERCENT DESIGN)
134-SB-021 < 20
134-SB-092 < 20
134-SB-075 < 20
134-SB-174 177.0
134-SB-161 230.0
134-SB-169 175.0
134-SB-160 848.0
134-SB-074 < 20
134-SB-162 198.0
134-SB-173 276.0
134-SB-165 < 0.6J
134-SB-097 < 20
134-SB-172 1220.0
134-SB-171 8.6
134-SB-164 57.0
134-SB-168 403.0
134-SB-167 328.0
134-SB-170 19.6
134-SB-166 114.0
134-SB-175 2.2
LEGEND
134-SB-170 19.6 SUPPLEMENTAL BORING AND HEX CR RESULTS (PPM)
134-SB-075 < 20 SIDEWALL SAMPLE COLLECTED DURING PDI DELINEATING LIMIT OF EXCAVATION
0 5 10 20
SCALE IN FEET
Honeywell
101 COLUMBIA RD., BOX 2105 MORRISTOWN, NJ 07962
CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY
amec
LENS OF ANOMALOUS MATERIAL
SUPPLEMENTAL BORING LOCATIONS
FIGURE 1
Prepared/Date: TDD 10/9/14
Checked/Date: DEN 10/9/14

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-01		684138.4	603182.3	-0.5							4	Crushed concrete	Bottom of excavation elevation	
2	BF-01-01	12/5/2013	684144.2	603184.2	1.0	136.4	3.7	142.6	7.8	96	95	4	Weldon WC QP		Sor
3	BF-01-02	12/5/2013	684137.8	603181.7	1.9	139.9	4.3	142.6	7.8	98	95	4	Weldon WC QP		Sor
4	BF-01-03	12/6/2013	684140.2	603182.7	2.5	141.2	5.0	142.6	7.8	99	95	4	Weldon WC QP		Sor
5	BF-01-04	12/6/2013	684136.6	603190.0	3.5	141.2	5.6	142.6	7.8	99	95	4	Weldon WC QP		Sor
6	BF-01-05	12/6/2013	684134.9	603186.7	4.5	143.2	4.8	142.6	7.8	100	95	4	Weldon WC QP		Sor
7	BF-01-06	12/6/2013	684141.1	603182.6	5.8	139.6	6.0	142.6	7.8	98	95	4	Weldon WC QP		Sor
8	BF-01-07	12/10/2013	684147.6	603186.8	6.2	146.7	5.1	142.6	7.8	103	95	4	Weldon WC QP		Sor
9	BF-01-08	12/10/2013	684140.2	603189.6	7.1	120.1	3.4	128.9	12.1	93	95	4	Weldon WC Screenings	recompact lift	Sor
9	BF-01-08R	12/10/2013	684140.2	603189.6	7.1	129.9	4.9	128.9	12.1	101	95	4	Weldon WC Screenings	second reading after addl compaction	Sor
10	BF-01-09	12/12/2013	684130.1	603175.5	8.1	126.4	3.3	128.9	12.1	98	95	4	Weldon WC Screenings		Sor
11	BF-01-10	12/31/2013	684140.0	603184.3	9.0	139.6	7.4	128.9	12.1	108	95	4	Weldon WC Screenings		Sor
1	BF-02		684153.8	603153.9	-0.6							6	Crushed concrete	Bottom of excavation elevation	
2	BF-02-01	12/5/2013	684162.8	603161.3	1.4	138.2	5.7	142.6	7.8	97	95	6	Weldon WC QP		Sor
3	BF-02-02	12/5/2013	684160.8	603162.3	2.4	136.2	4.5	142.6	7.8	96	95	6	Weldon WC QP		Sor
4	BF-02-03	12/6/2013	684157.7	603161.3	2.7	147.2	5.6	142.6	7.8	103	95	6	Weldon WC QP		Sor
5	BF-02-04	12/6/2013	684145.7	603162.1	3.7	143.5	5.0	142.6	7.8	101	95	6	Weldon WC QP		Sor
6	BF-02-05	12/6/2013	684156.9	603171.0	4.4	145.7	4.1	142.6	7.8	102	95	6	Weldon WC QP		Sor
7	BF-02-06	12/6/2013	684150.1	603155.4	5.6	140.4	4.6	142.6	7.8	98	95	6	Weldon WC QP		Sor
8	BF-02-07	12/10/2013	684135.5	603153.5	6.1	149.4	4.0	142.6	7.8	105	95	6	Weldon WC QP		Sor
9	BF-02-08	12/10/2013	684157.9	603174.9	7.2	125.8	5.2	128.9	12.1	98	95	6	Weldon WC Screenings		Sor
1	BF-03		684179.9	603119.5	-1.2							9	Crushed concrete	Bottom of excavation elevation	
2	BF-03											9	Type A Material	No compaction testing required	
3	BF-03-01	11/22/2013	684198.1	603131.6	0.2	133.3	3.4	142.6	7.8	93	95	9	Weldon WC QP		Sor
4	BF-03-02	11/22/2013	684155.7	603111.6	1.5	130.8	2.8	142.6	7.8	92	95	9	Weldon WC QP		Sor
5	BF-03-03	12/5/2013	684177.4	603121.5	2.5	135.7	2.0	128.9	12.1	105	95	9	Weldon WC Screenings		Sor
6	BF-03-04	12/12/2013	684180.5	603126.9	4.6	124.7	3.2	128.9	12.1	97	95	9	Weldon WC Screenings		Sor
7	BF-03-05	12/12/2013	684177.1	603132.4	5.3	132.5	2.8	128.9	12.1	103	95	9	Weldon WC Screenings		Sor
8	BF-03-06	12/16/2013	684172.4	603128.5	6.4	128.3	2.9	128.9	12.1	100	95	9	Weldon WC Screenings		Sor
9	BF-03-07	1/6/2014	684177.1	603113.8	6.6	131.2	10.4	128.9	12.1	102	95	9	Weldon WC Screenings		Sor
10	BF-03-08	1/9/2014	684178.2	603121.8	8.2	128.2	5.9	128.9	12.1	99	95	9	Weldon WC Screenings		Sor
1	BF-04		684195.7	603093.1	-1.5							11	Crushed concrete	Bottom of excavation elevation	
2	BF-04											11	Type A Material	No compaction testing required	
3	BF-04-01	12/5/2013	684198.0	603094.8	2.6	131.0	3.6	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
4	BF-04-02	12/12/2013	684206.6	603104.7	3.5	125.8	3.9	128.9	12.1	98	95	11	Weldon WC Screenings		Sor
5	BF-04-03	12/16/2013	684217.5	603111.1	4.9	129.9	2.9	128.9	12.1	101	95	11	Weldon WC Screenings		Sor
6	BF-04-04	12/31/2013	684213.6	603115.0	5.9	124.6	3.2	128.9	12.1	97	95	11	Weldon WC Screenings		Sor
7	BF-04-05	1/9/2014	684195.8	603100.0	8.2	131.2	4.8	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
1	BF-05		684200.8	603078.4	-1.8							12	Crushed concrete	Bottom of excavation elevation	
2	BF-05											12	Type A Material	No compaction testing required	
3	BF-05-01	12/5/2013	684185.2	603057.9	2.6	133.8	4.7	128.9	12.1	104	95	12	Weldon WC Screenings		Sor
4	BF-05-02	12/12/2013	684179.9	603057.7	3.0	121.5	3.0	128.9	12.1	94	95	12	Weldon WC Screenings	recompact lift	Sor
4	BF-05-02R	12/16/2013	684186.2	603070.2	3.1	133.0	9.3	128.9	12.1	103	95	12	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-05-03	12/31/2013	684181.6	603060.8	4.5	124.7	2.9	128.9	12.1	97	95	12	Weldon WC Screenings		Sor
6	BF-05-04	1/9/2013	684186.1	603053.5	5.8	129.7	3.3	128.9	12.1	101	95	12	Weldon WC Screenings		Sor
7	BF-05-05	1/9/2013	684180.6	603048.6	6.5	131.1	3.4	128.9	12.1	102	95	12	Weldon WC Screenings		Sor
8	BF-05-06	3/19/2014	684180.6	603060.4	7.5	122.5	4.9	128.9	12.1	95	95	12	Weldon WC Screenings		Sor
1	BF-06		684214.8	603050.6	-1.7							14	Crushed concrete	Bottom of excavation elevation	
2	BF-06											14	Crushed concrete	No compaction testing required	
3	BF-06-01	12/31/2013	684229.9	603061.3	2.2	137.7	3.4	128.9	12.1	107	95	14	Weldon WC Screenings		Sor
4	BF-06-02	12/31/2013	684228.8	603062.8	3.5	133.1	3.4	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
5	BF-06-03	1/6/2014	684234.0	603066.8	4.2	123.7	9.5	128.9	12.1	96	95	14	Weldon WC Screenings		Sor
6	BF-06-04	1/9/2014	684230.8	603071.3	6.2	133.1	4.2	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
7	BF-06-05	1/9/2014	684213.9	603095.7	7.3	133.8	5.0	128.9	12.1	104	95	14	Weldon WC Screenings		Sor
1	BF-07		684222.7	603033.3	-0.8							15	Crushed concrete	Bottom of excavation elevation	
2	BF-07											15	Crushed concrete	No compaction testing required	
3	BF-07-01	12/31/2013	684196.2	603014.9	2.5	133.1	2.6	128.9	12.1	103	95	15	Weldon WC Screenings		Sor
4	BF-07-02	12/31/2013	684192.8	603021.1	3.9	133.2	3.4	128.9	12.1	103	95	15	Weldon WC Screenings	Numbering error; skipped from 02 to 04	Sor
6	BF-07-04	1/9/2014	684196.9	603018.8	5.7	118.5	3.9	128.9	12.1	92	95	15	Weldon WC Screenings	recompact lift	Sor
6	BF-07-04R	1/9/2014	684196.9	603018.8	5.7	122.6	4.3	128.9	12.1	95	95	15	Weldon WC Screenings	second reading after addl compaction	Sor
7	BF-07-05	1/9/2014	684195.0	603021.0	6.4	128.4	6.7	128.9	12.1	100	95	15	Weldon WC Screenings		Sor

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-08		684221.8	603013.0	-0.7							16	Crushed concrete	Bottom of excavation elevation	
2	BF-08											16	Crushed concrete	No compaction testing required	
3	BF-08-01	12/31/2013	684246.9	603039.8	2.0	127.2	3.2	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
4	BF-08-02	12/31/2013	684240.5	603043.2	3.1	132.7	2.9	128.9	12.1	103	95	16	Weldon WC Screenings		Sor
5	BF-08-03	1/6/2014	684231.7	603038.8	3.9	127.0	8.4	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
6	BF-08-04	1/9/2014	684242.3	603046.8	5.4	130.1	4.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
7	BF-08-05	1/9/2014	684236.3	603066.0	7.1	129.8	6.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
1	BF-09		684208.5	602989.4	-0.5							17	Crushed concrete	Bottom of excavation elevation	
2	BF-09											17	Crushed concrete	No compaction testing required	
3	BF-09-01	1/28/2014	684209.7	602987.6	2.5	124.0	7.9	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
4	BF-09-02	1/28/2014	684213.6	602980.4	3.4	123.4	6.1	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
5	BF-09-03	1/28/2014	684204.2	602981.5	4.2	124.9	7.1	128.9	12.1	97	95	17	Weldon WC Screenings		Sor
1	BF-10		684269.0	603014.0	-0.5							18	Crushed concrete	Bottom of excavation elevation	
2	BF-10											18	Crushed concrete	No compaction testing required	
3	BF-10-01	1/20/2014	684275.4	603018.2	2.2	133.1	7.7	128.9	12.1	103	95	18	Weldon WC Screenings		Sor
4	BF-10-02	1/28/2014	684267.5	603026.1	3.2	118.8	3.1	128.9	12.1	92	95	18	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-10-02R	1/28/2014	684267.5	603026.1	3.2	133.3	6.1	128.9	12.1	103	95	18	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-10-03	1/28/2014	684271.8	603014.4	4.1	125.7	5.4	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
6	BF-10-04	3/21/2014	684267.9	603017.5	5.2	126.4	6.8	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
1	BF-11		684208.5	602989.4	-1.0							19	Crushed concrete	Bottom of excavation elevation	
2	BF-11											19	Crushed concrete	No compaction testing required	
3	BF-11-01	1/28/2014	684216.6	602952.7	2.1	125.2	8.8	128.9	12.1	97	95	19	Weldon WC Screenings		Sor
4	BF-11-02	1/28/2014	684223.4	602953.8	3.4	129.8	4.2	128.9	12.1	101	95	19	Weldon WC Screenings		Sor
5	BF-11-03	1/28/2014	684211.6	602949.0	4.0	123.4	6.6	128.9	12.1	96	95	19	Weldon WC Screenings		Sor
1	BF-12		684286.7	602988.6	-1.7							20	Crushed concrete	Bottom of excavation elevation	
2	BF-12											20	Crushed concrete	No compaction testing required	
3	BF-12-01	1/20/2014	684291.7	602995.2	1.8	133.3	8.3	128.9	12.1	103	95	20	Weldon WC Screenings		Sor
4	BF-12-02	1/28/2014	684288.5	602989.8	2.9	121.6	4.0	128.9	12.1	94	95	20	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-12-02R	1/28/2014	684288.5	602989.8	2.9	128.5	5.8	128.9	12.1	100	95	20	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-12-03	1/28/2014	684291.3	602995.4	3.7	136.9	7.5	128.9	12.1	106	95	20	Weldon WC Screenings		Sor
1	BF-13		684235.7	602919.6	-0.9							22	Crushed concrete	Bottom of excavation elevation	
2	BF-13											22	Crushed concrete	No compaction testing required	
3	BF-13-01	1/28/2014	684235.6	602919.1	2.1	130.1	5.8	128.9	12.1	101	95	22	Weldon WC Screenings		Sor
3	BF-13-01R	3/12/2014	684238.5	602922.0	2.1	132.0	2.9	135.8	6.4	97	95	22	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-13-02	3/12/2014	684238.4	602918.2	3.4	133.0	1.4	135.8	6.4	98	95	22	Tilcon MH DGA		V5N
5	BF-13-03	3/19/2014	684235.1	602916.0	4.5	124.0	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
1	BF-14		684312.1	602956.0	-0.9							23	Crushed concrete	Bottom of excavation elevation	
2	BF-14											23	Crushed concrete	No compaction testing required	
3	BF-14-01	1/20/2014	684312.7	602965.2	1.8	133.9	7.0	128.9	12.1	104	95	23	Weldon WC Screenings		Sor
3	BF-14-01R	3/13/2013	684289.6	602935.7	1.8	132.0	1.7	135.8	6.4	97	95	23	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-14-02	3/14/2014	684301.9	602952.7	2.6	133.0	1.6	135.8	6.4	98	95	23	Tilcon MH DGA		V5N
1	BF-15		684260.7	602896.7	-0.9							24	Crushed concrete	Bottom of excavation elevation	
2	BF-15											24	Crushed concrete	No compaction testing required	
3	BF-15-01	1/28/2014	684259.0	602897.1	2.1	123.6	9.0	128.9	12.1	96	95	24	Weldon WC Screenings		Sor
3	BF-15-01R	3/12/2014	684264.5	602902.2	2.1	131.0	2.4	135.8	6.4	96	95	24	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-15-02	3/12/2014	684260.5	602900.2	2.8	133.0	1.3	135.8	6.4	98	95	24	Tilcon MH DGA		V5N
1	BF-16		684326.7	602937.0	-1.1							25	Crushed concrete	Bottom of excavation elevation	
2	BF-16											25	Crushed concrete	No compaction testing required	
3	BF-16-01	1/20/2014	684331.9	602942.7	1.6	136.1	7.4	128.9	12.1	106	95	25	Weldon WC Screenings		Sor
3	BF-16-01R	3/13/2014	6844330.0	602937.2	1.8	132.2	1.4	135.8	6.4	97	95	25	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-16-02	3/14/2014	684326.7	602930.0	2.5	134.0	1.2	135.8	6.4	99	95	25	Tilcon MH DGA		V5N
1	BF-17		684283.7	602879.0	0.4							26	Crushed concrete	Bottom of excavation elevation-Stratum O	
2	BF-17											26	Crushed concrete	No compaction testing required	
3	BF-17-01	3/12/2014	684284.6	602882.1	2.1	130.0	2.9	135.8	6.4	96	95	26	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-17-02	3/14/2014	684273.7	602879.1	3.1	132.0	2.2	135.8	6.4	97	95	26	Tilcon MH DGA		V5N
1	BF-18		684350.8	602909.6	-1.5							27	Crushed concrete	Bottom of excavation elevation	
2	BF-18											27	Crushed concrete	No compaction testing required	
3	BF-18-01	3/13/2014	684313.5	602885.6	1.5	132.4	1.4	135.8	6.4	97	95	27	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-18-02	3/14/2014	684344.0	602911.5	2.7	134.0	1.1	135.8	6.4	99	95	27	Tilcon MH DGA		V5N
1	BF-19		684313.2	602860.4	0.3							28	Crushed concrete	Bottom of excavation elevation - Stratum O	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
2	BF-19											28	Crushed concrete	No compaction testing required	
3	BF-19-01	3/14/2014	684322.1	602872.7	2.8	134.0	0.9	135.8	6.4	99	95	28	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-19-02	3/17/2014	684301.4	602851.5	3.6	133.0	1.3	135.8	6.4	98	95	28	Tilcon MH DGA		V5N
1	BF-20		684370.9	602887.4	-1.7							29	Crushed concrete	Bottom of excavation elevation	
2	BF-20											29	Crushed concrete	No compaction testing required	
3	BF-20-01	3/17/2014	6843640.5	602862.1	2.0	133.0	1.7	135.8	6.4	98	95	29	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-21		684330.4	602835.9	1.9							30	Crushed concrete	Bottom of excavation elevation - Startum O	
2	BF-21-01	3/14/2014	684343.3	602842.2	2.4	132.0	1.6	135.8	6.4	97	95	30	Tilcon MH DGA	Removed wet screenings to crushed concrete and placed Bridge Lift	V5N
3	BF-21-02	3/17/2014	684307.4	602827.3	3.3	134.0	0.8	135.8	6.4	99	95	30	Tilcon MH DGA	Bridge Lift over Stratum O	V5N
4	BF-21-03	3/19/2014	684314.6	602830.9	3.9	122.5	5.1	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
5	BF-21-04	3/20/2014	684314.4	602815.1	4.5	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
6	BF-21-05	3/20/2014	684321.1	602814.1	5.2	124.0	3.9	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
7	BF-21-06	3/20/2014	684308.3	602802.2	5.8	122.5	5.0	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
8	BF-21-07	3/20/2014	684305.8	602806.3	6.7	123.3	4.0	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
9	BF-21-08	3/20/2014	684314.4	602804.8	7.6	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
10	BF-21-09	3/20/2014	684310.5	602806.6	8.4	132.5	1.9	135.8	6.4	98	95	30	Tilcon MH DGA	Truck Ramp to Kellogg Street	V5N
1	BF-22		684391.2	602864.3	-2.3							31	Crushed concrete	Bottom of excavation elevation	
2	BF-22											31	Crushed concrete	No compaction testing required	
3	BF-22-01	3/17/2014	684387.3	602845.0	1.4	134.0	0.8	135.8	6.4	99	95	31	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-23		684350.9	602814.5	-1.6							32	Crushed concrete	Bottom of excavation elevation	
2	BF-23											32	Crushed concrete	No compaction testing required	
3	BF-23-01	3/14/2014	684360.9	602818.8	2.4	132.0	2.0	135.8	6.4	97	95	32	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-23-02	3/17/2014	684339.8	602809.6	3.5	134.0	1.1	135.8	6.4	99	95	32	Tilcon MH DGA		V5N
1	BF-24		684411.0	602842.4	-1.8							33	Crushed concrete	Bottom of excavation elevation	
2	BF-24											33	Crushed concrete	No compaction testing required	
3	BF-24-01	3/17/2014	684402.4	602827.4	1.1	134.0	0.8	135.8	6.4	99	95	33	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-25		684369.5	602729.2	-1.8							34	Crushed concrete	Bottom of excavation elevation	
2	BF-25											34	Crushed concrete	No compaction testing required	
3	BF-25-01	3/14/2014	684379.5	602796.3	2.0	131.0	2.1	135.8	6.4	96	95	34	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-25-02	3/17/2014	684354.8	602790.5	3.4	133.0	1.5	135.8	6.4	98	95	34	Tilcon MH DGA		V5N
1	BF-26		684433.4	602818.8	-2.1							35	Crushed concrete	Bottom of excavation elevation	
2	BF-26											35	Crushed concrete	No compaction testing required	
3	BF-26-01	3/18/2014	684433.9	602828.3	0.3	134.0	0.8	135.8	6.4	99	95	35	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-26-02	3/18/2014	684431.7	602817.7	0.8	133.0	1.3	135.8	6.4	98	95	35	Tilcon MH DGA		V5N
1	BF-27		684389.4	602765.0	-1.8							36	Crushed concrete	Bottom of excavation elevation	
2	BF-27											36	Crushed concrete	No compaction testing required	
3	BF-27-01	3/14/2014	684398.2	602773.8	1.8	133.0	1.6	135.8	6.4	98	95	36	Tilcon MH DGA		V5N
0	BF-28		684457.0	602790.8	-2.8							38	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-28-01	3/12/2014	684461.2	602789.3	-0.4	133.2	1.0	135.8	6.4	98	95	38	Tilcon MH DGA		V5N
0	BF-29		684418.8	602735.2	2.1							39	Stratum O	Bottom of excavation elevation	
1	BF-29-01	3/26/2014	684404.6	602731.3	3.3	134.0	1.2	135.8	6.4	99	95	39	Tilcon MH DGA		V5N
0	BF-30		684476.8	602765.1	-3.1							40	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-30-01	3/12/2014	684478.9	602766.2	-0.7	133.2	1.1	135.8	6.4	98	95	40	Tilcon MH DGA		V5N
0	BF-31		684436.0	602712.8	0.1							41	Stratum O	Bottom of excavation elevation	
0	BF-32		684498.7	602739.5	-2.2							42	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-32-01	3/12/2014	684496.6	602743.0	-0.9	131.0	2.3	135.8	6.4	96	95	42	Tilcon MH DGA		V5N
0	BF-33		684453.0	602683.2	0.1							43	Stratum O	Bottom of excavation elevation	
0	BF-34		684517.5	602716.8	-2.5							44	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-34-01	3/12/2014	684515.6	602715.4	-1.1	131.0	2.0	135.8	6.4	96	95	44	Tilcon MH DGA		V5N
0	BF-35		684471.3	602661.2	0.2							45	Stratum O	Bottom of excavation elevation	
0	BF-36		684538.2	602694.6	-3.0							46	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-36-01	3/18/2014	684535.1	602700.7	-1.9	134.5	0.5	135.8	6.4	99	95	46	Tilcon MH DGA		V5N
0	BF-37		684490.0	602636.8	0.2							47	Stratum O	Bottom of excavation elevation	
0	BF-38		684558.4	602671.7	-3.0							48	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-38-01	3/21/2014	684551.4	602683.6	-1.7	131.9	1.9	135.8	6.4	97	95	48	Tilcon MH DGA		V5N
0	BF-39		684510.6	602614.8	0.4							49	Stratum O	Bottom of excavation elevation	
0	BF-40		684557.4	602644.9	-3.6							50	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-40-01	3/26/2014	684572.2	602653.5	-1.4	134.8	0.5	135.8	6.4	99	95	50	Tilcon MH DGA		V5N
1	BF-74		684837.6	602270.4	-4.8							81 (No)	Concrete/DGA	Bottom of excavation elevation	
3	BF-74-1	9/18/2014	684834.9	602268.1	-1.5	126.0	4.5	131.9	9.5	96	95	81 (No)	Weldon WC QP	Placed on Type A Material	V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-75		684756.2	602190.9	-5.0							81 (So)	Concrete/DGA	Bottom of excavation elevation	
2	BF-75-1	9/18/2014	684755.1	602200.0	-2.4	128.0	3.6	131.9	9.5	97	95	81 (So)	Weldon WC QP		V5N
0	BF-76		684829.0	602234.8	-4.8							82		Bottom of excavation elevation	
2	BF-76-1	9/18/2014	684826.4	602234.0	-2.4	126.0	4.5	131.9	9.5	96	95	82	Weldon WC QP	Placed on processed concrete	V5N
1	BF-77		684848.6	602232.5	-4.5							83	Concrete/DGA	Bottom of excavation elevation	
3	BF-77-1	9/18/2014	684844.7	602224.8	-1.2	126.0	5.0	131.9	9.5	96	95	83	Weldon WC QP	Placed on Type A Material	V5N
1	BF-78		684864.2	602226.5	-5.6							84	Concrete/DGA	Bottom of excavation elevation	
3	BF-78-1	9/18/2014	684851.2	602210.9	-0.7	128.0	3.4	131.9	9.5	97	95	84	Weldon WC QP	Placed on Type A Material	V5N
0	BF-79		684877.8	602216.4	-5.2							85		Bottom of excavation elevation	
4	BF-79-1	9/18/2014	684856.5	602180.7	1.0	128.0	2.9	131.9	9.5	97	95	85	Weldon WC QP	Placed on Weldon WC Screenings	V5N
0	BF-80		684890.3	602202.5	-5.8							86		Bottom of excavation elevation	
4	BF-80-1	9/18/2014	684874.0	602174.3	1.3	125.0	3.9	131.9	9.5	95	95	86	Weldon WC QP	Placed on Weldon WC Screenings	V5N
0	BF-81		684904.5	602186.6	-6.1							88		Bottom of excavation elevation. Excavated to Meadow mat	
	BF-81-1	9/18/2014	684886.9	602163.0	1.8	128.0	3.1	131.9	9.5	97	95	88	Weldon WC QP		V5N
0	BF-82		684923.8	602171.9	-4.8							89	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
5	BF-82-1	9/18/2014	684898.0	602149.9	3.1	128.0	3.4	131.9	9.5	97	95	89	Weldon WC QP		V5N
0	BF-83		684941.9	602148.5	-4.8							91	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-83-1	8/26/2014	684958.8	602165.2	-3.0	129.7	7.0	131.9	9.5	98	95	91	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
	BF-83-2	9/18/2014	684920.6	602131.1	4.1	126.0	3.7	131.9	9.5	96	95	91	Weldon WC QP		V5N
0	BF-84		684959.7	602128.6	-4.2							93	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-84-1	8/15/2014	684969.1	602137.6	-3.2	129.3	3.2	131.9	9.5	98	95	93	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
4	BF-84-2	9/18/2014	684937.9	602110.2	4.7	126.0	3.6	131.9	9.5	96	95	93	Weldon WC QP		V5N
0	BF-85		684976.0	602107.0	-4.8							95	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-85-1	8/15/2014	684987.2	602117.0	-3.4	126.0	3.6	131.9	9.5	96	95	95	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-85-2	9/18/2014	684960.1	602086.7	4.8	125.0	4.9	131.9	9.5	95	95	95	Weldon WC QP		V5N
0	BF-86		684993.0	602080.9	-4.8							97	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-86-1	8/15/2014	684999.9	602082.3	-3.4	126.0	3.7	131.9	9.5	96	95	97	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-87		685010.3	602052.3	-5.0							99	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-87-1	8/15/2014	685010.8	602056.6	-3.7	125.0	4.2	131.9	9.5	95	95	99	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-88		685019.7	602037.1	-5.1							100	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-88-1	8/8/2014	685025.4	602022.1	-3.9	126.6	3.9	131.9	9.5	96	95	100	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-89		685025.3	602021.0	-4.8							101	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-89-1	8/26/2014	685029.3	602037.1	-3.3	131.9	7.3	131.9	9.5	100	95	101	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-90		685035.2	602003.7	-5.1							103	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
1	BF-90-1	8/6/2014	685049.1	602012.4	-3.5	128.0	3.1	131.9	9.5	97	95	103	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-91		685048.2	601986.6	-5.2							104	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
1	BF-91-01	7/30/2014	685067.2	602016.2	-4.2	136.5	4.3	142.6	7.8	96	95	104	Weldon WC QP		V5N
2	BF-91-02	8/1/2014	685062.8	602085.0	-3.2	121.4	6.5	142.6	7.8	85	95	104	Weldon WC QP	New blast area. QP visually changed.	V5N
2	BF-91-02R	8/1/2014	685062.8	602085.0	-3.2	121.0	7.4	142.6	9.5	85	95	104	Weldon WC QP	Rerolled area still fails. Collect sample for Proctor	V5N
2	BF-91-02RR	8/4/2014	685062.8	602085.0	-2.9	125.3	7.4	131.9	9.5	95	95	104	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-93		685084.9	601963.3	-1.2								Stratum O	Bottom of excavation elevation	
1	BF-93-01	7/18/2014	685112.8	601983.8	-0.4	136.5	3.5	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
2	BF-93-02	7/30/2014	685091.5	601975.9	1.1	136.5	3.9	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
1	BF-94		685105.9	601939.3	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-94-01	7/18/2014	685104.8	601941.5	1.7	136.0	3.8	142.6	7.8	95	95	109 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-95		685125.6	601915.0	-1.2							111 (No)	Crushed concrete	Bottom of excavation elevation	
2	BF-95-01	7/16/2014	685121.8	601910.5	1.7	135.0	3.6	142.6	7.8	95	95	111 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-96		685144.3	601891.9	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-96-01	7/10/2014	685150.5	601896.1	1.9	137.0	4.8	142.6	7.8	96	95	113 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-97		685196.4	601880.1	2.1								Stratum O	Bottom of excavati0n elevation	
1	BF-97-01	7/7/2014	685187.0	601867.3	2.7	135.5	4.6	142.6	7.8	95	95	116 (No)	Weldon WC QP		V5N
0	BF-101		685222.6	601822.8	0.4							120 (No)	Stratum O	Bottom of excavation elevation	
1	BF-101-01	6/27/2014	685213.8	601814.2	1.0	136.0	3.4	142.6	7.8	95	95	120 (No)	Weldon WC QP		V5N
0	BF-102		685148.9	601780.9	-2.5							119	Stratum O	Bottom of excavation elevation	
1	BF-102-01	6/27/2014	685148.8	601788.7	-0.8	135.5	3.4	142.6	7.8	95	95	119	Weldon WC QP		V5N
1	BF-103		685084.0	601708.8	-7.5							120 (So)			
2	BF-103-01	7/1/2014	685102.8	601721.9	-4.9	137.5	2.5	142.6	7.8	96	95	120 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-105		685102.9	601692.4	-7.5							122 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-105-01	6/27/2014	685126.9	601702.6	-5.7	135.5	3.4	142.6	7.8	95	95	122 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-104		685218.6	601799.3	-2.5							121 (No)	Stratum O	Bottom of excavation elevation	
1	BF-104-01	6/27/2014	685205.5	601790.7	0.9	135.5	3.4	142.6	7.8	95	95	121 (No)	Weldon WC QP		V5N

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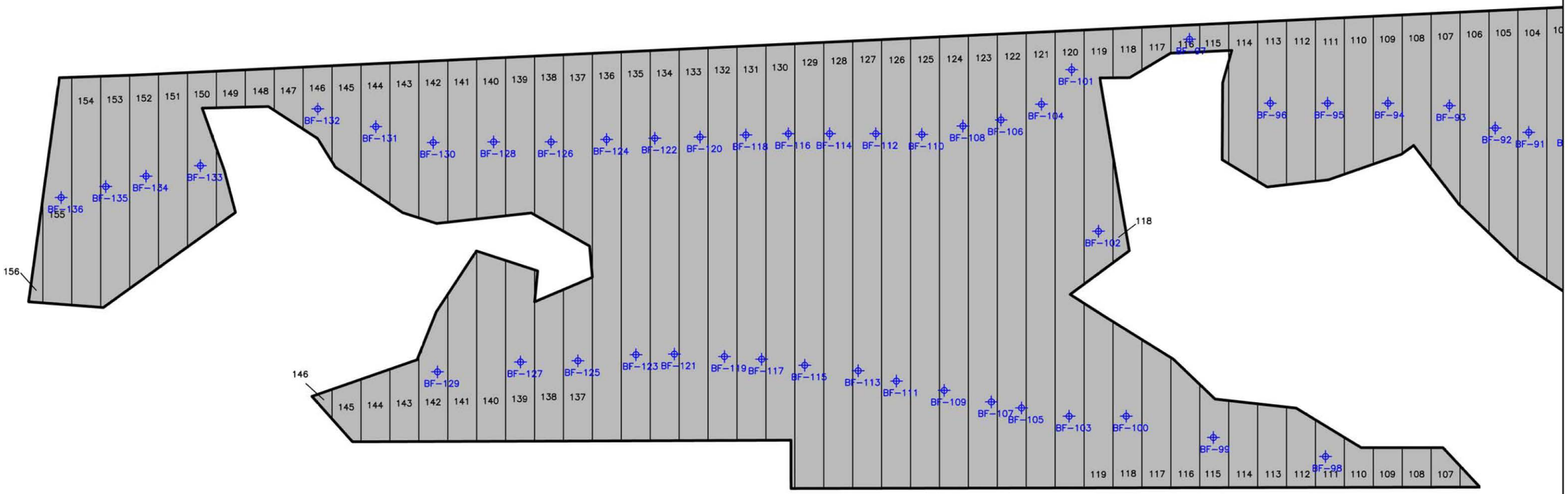
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
0	BF-106		685225.5	601777.9	-1.2							122 (No)	Stratum O	Bottom of excavation elevation	
1	BF 106-01	6/18/2014	685230.1	601784.7	0.5	140.0	1.7	142.6	7.8	98	95	122 (No)	Weldon WC QP		V5N
2	BF 106-02	6/27/2014	685221.4	601777.8	1.0	135.4	3.4	142.6	7.8	95	95	122 (No)	Weldon WC QP		V5N
1	BF-107		685115.2	601682.1	-7.5							123 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF 107-01	6/24/2014	685134.6	601695.5	-5.9	136.9	2.5	142.6	7.8	96	95	123 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-108		685235.5	601760.6	-1.2							124 (No)	Stratum O	Bottom of excavation elevation	
1	BF-108-01	6/18/2014	685235.2	601757.6	0.8	138.0	2.6	142.6	7.8	97	95	124 (No)	Weldon WC QP		V5N
2	BF-108-02	6/27/2014	685253.4	601761.5	1.4	135.0	3.4	142.6	7.8	95	95	124 (No)	Weldon WC QP		V5N
1	BF-109		685135.2	601666.9	-7.5							124 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-109-01	6/18/2014	685144.9	601672.5	-5.8	136.0	5.1	142.6	7.8	95	95	124 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-111		685154.6	601650.7	-7.5							126 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-111-01	6/18/2014	685157.7	601655.0	-5.4	140.0	1.5	142.6	7.8	98	95	126 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-124		685346.3	601612.6	-1.2							136	Stratum O	Bottom of excavation elevation	
1	BF-124-01	5/9/2014	685359.1	601618.5	0.3	130.8	1.3	135.8	6.4	96	95	136	Tilcon MH DGA		V5N
0	BF-126		685363.5	601589.4	-1.2							138	Stratum O	Bottom of excavation elevation	
1	BF-126-01	5/9/2014	685355.3	601576.3	0.2	128.0	3.3	128.9	12.1	99	95	138	Weldon WC Screenings		V5N
0	BF-128		685382.2	601566.3	-2.5							140 (No)	Stratum O	Bottom of excavation elevation	
1	BF-128-01	4/29/2014	685369.8	601556.5	-1.8	130.0	1.2	135.8	6.4	96	95	140	Tilcon MH DGA		V5N
2	BF-128-02	4/29/2014	685381.4	601569.9	-0.8	132.2	1.5	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
3	BF-128-03	4/29/2014	685382.7	601573.8	0.3	132.0	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
4	BF-128-04	4/29/2014	685386.7	601571.4	1.5	132.3	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
5	BF-128-05	4/29/2014	685389.9	601573.7	2.7	133.9	1.4	135.8	6.4	99	95	140	Tilcon MH DGA		V5N
0	BF-129		685308.1	601468.7	-7.5							142 (So)	Stratum O	Bottom of excavation elevation	
1	BF-129-01	5/9/2014	685315.6	601465.0	-6.4	135.5	1.3	135.8	6.4	100	95	142 (So)	Tilcon MH DGA		V5N
0	BF-130		685401.7	601541.7	1.9							142 (No)	Stratum O	Bottom of excavation elevation	
1	BF-130-01	4/28/2014	685410.7	601558.5	2.7	132.0	2.2	135.8	6.4	97	95	142 (No)	Tilcon MH DGA		V5N
2	BF-130-02	4/28/2014	685414.5	601553.3	3.6	133.0	1.7	135.8	6.4	98	95	142 (No)	Tilcon MH DGA		V5N
3	BF-130-03	4/28/2014	685414.9	601555.5	4.8	136.0	1.6	135.8	6.4	100	95	142 (No)	Tilcon MH DGA		V5N
4	BF-130-04	4/28/2014	685420.1	601558.2	5.5	135.0	1.9	135.8	6.4	99	95	142 (No)	Tilcon MH DGA		V5N
0	BF-131		685426.9	601523.7	3.2							144	Stratum O	Bottom of excavation elevation	
1	BF-131-01	4/25/2014	685440.9	601531.9	5.9	120.0	1.4	135.8	6.4	88	95	144	Tilcon MH DGA	recompact lift	V5N
1	BF-131-01R	4/28/2014	685440.9	601531.9	5.9	139.9	1.4	135.8	6.4	103	95	144	Tilcon MH DGA	second reading after addl compaction	V5N
0	BF-132		685452.9	601506.1	5.6							146	Stratum O	Bottom of excavation elevation	
1	BF-132-01	4/25/2014	685438.7	601505.6	6.1	135.0	1.0	135.8	6.4	99	95	144	Tilcon MH DGA		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.
Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.
Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b
Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C
Bottom of excavation elevation based on Maser survey data (Center Point elevations)
Sample ID BF-01-01 where:
BF = Backfill (At frequency of 1 test/2500 SF)
01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



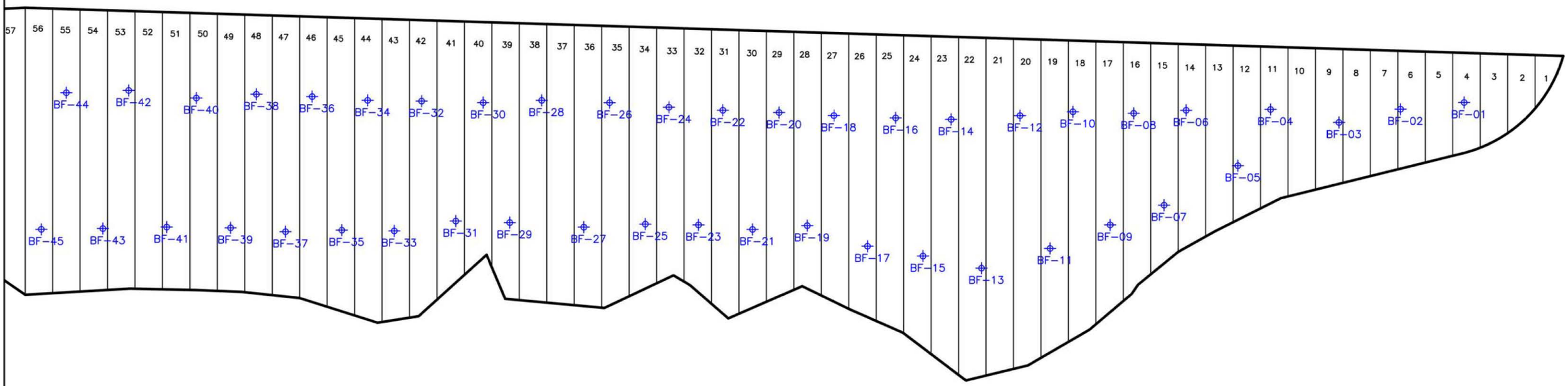
NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF BF-95 TO BF-136

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
BACKFILL COMPACTION LOCATIONS
EVERY 2,500 SF

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
	RF-03		684270.2	603012.0								18			
7	RF-03-01	3/21/2014	684267.9	603017.5	6.1	124.0	3.6	128.9	12.1	96	95	18	Weldon WC Screenings		V5N
8	RF-03-02	4/8/2014	684272.9	605018.7	7.6	122.4	8.1	128.9	12.1	95	95	18	Weldon WC Screenings		V5N
	RF-04		684235.2	602919.8								22			
6	RF-04-01	3/21/2014	684227.0	602916.6	5.5	124.0	3.6	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
7	RF-04-02	3/26/2014	684266.5	602908.5	6.2	123.6	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
8	RF-04-03	4/1/2014	684384.8	602904.9	7.1	125.8	3.0	128.9	12.1	98	95	22	Weldon WC Screenings		V5N
9	RF-04-04	4/3/2014	684220.8	602926.9	8.2	120.0	3.6	128.9	12.1	93	95	22	Weldon WC Screenings	Recompact lift	V5N
9	RF-04-04R	4/3/2014	684220.8	602926.9	8.2	125.0	4.1	128.9	12.1	97	95	22	Weldon WC Screenings	Second reading after re-rolling	V5N
10	RF-04-05	4/17/2014	684241.5	602924.2	8.8	130.0	3.0	128.9	12.1	101	95	22	Weldon WC Screenings		V5N
	RF-05		684328.5	602935.0								25			
5	RF-05-01	3/24/2014	684347.1	602947.5	3.3	122.5	4.5	128.9	12.1	95	95	25	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
6	RF-05-02	3/26/2014	684348.1	602942.0	4.1	123.5	3.7	128.9	12.1	96	95	25	Weldon WC Screenings		V5N
7	RF-05-03	4/1/2014	684351.4	602937.8	5.4	125.0	2.6	128.9	12.1	97	95	25	Weldon WC Screenings		V5N
8	RF-05-04	4/3/2014	684339.0	602933.4	6.4	128.9	4.7	128.9	12.1	100	95	25	Weldon WC Screenings		V5N
9	RF-05-05	4/8/2014	684327.1	602942.3	7.6	126.4	8.3	128.9	12.1	98	95	25	Weldon WC Screenings		V5N
10	RF-05-06	4/17/2014	684348.8	602945.1	8.2	135.0	6.4	128.9	12.1	105	95	25	Weldon WC Screenings		V5N
	RF-06		684335.0	602869.1								29			
2	RF-06-01	4/1/2014	684383.7	602908.8	3.0	126.0	2.7	128.9	12.1	98	95	29	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
3	RF-06-02	4/1/2014	684384.8	602904.9	4.1	125.0	2.8	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
4	RF-06-03	4/3/2014	684358.9	602890.5	5.9	127.6	4.0	128.9	12.1	99	95	29	Weldon WC Screenings		V5N
5	RF-06-04	4/8/2014	684340.1	602867.1	6.9	123.0	4.6	128.9	12.1	95	95	29	Weldon WC Screenings		V5N
6	RF-06-05	4/14/2014	684340.1	602867.1	7.5	124.8	3.0	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
7	RF-06-06	4/17/2014	684337.1	602897.4	8.5	118.5	3.0	128.9	12.1	92	95	29	Weldon WC Screenings	Recompact lift	V5N
7	RF-06-06R	4/17/2014	684337.1	602897.4	8.5	122.0	3.2	128.9	12.1	95	95	29	Weldon WC Screenings	Second reading after re-rolling	V5N
	RF-07		684392.9	602838.1								32			
4	RF-07-01	4/3/2014	684425.2	602890.4	3.0	125.3	5.1	128.9	12.1	97	95	32	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-07-02	4/3/2014	684418.6	602854.9	4.1	126.3	5.5	128.9	12.1	98	95	32	Weldon WC Screenings		V5N
6	RF-07-03	4/8/2014	684410.5	602847.3	5.6	122.7	2.5	128.9	12.1	95	95	32	Weldon WC Screenings		V5N
7	RF-07-04	4/14/2014	684410.5	602847.3	6.3	123.1	2.7	128.9	12.1	96	95	32	Weldon WC Screenings		V5N
8	RF-07-05	4/17/2014	684394.3	602842.1	7.1	135.0	6.1	128.9	12.1	105	95	32	Weldon WC Screenings		V5N
9	RF-07-06	4/21/2014	684394.8	602836.9	8.2	128.9	2.2	128.9	12.1	100	95	32	Weldon WC Screenings		V5N
	RF-08		684406.9	602771.1								36			
4	RF-08-01	4/3/2014	684421.7	602797.1	2.9	129.0	6.0	128.9	12.1	100	95	36	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-08-02	4/8/2014	684429.7	602790.1	4.0	124.9	3.0	128.9	12.1	97	95	36	Weldon WC Screenings		V5N
6	RF-08-03	4/15/2014	684439.0	602813.0	5.0	124.2	4.7	128.9	12.1	96	95	36	Weldon WC Screenings		V5N
7	RF-08-04	4/17/2014	684400.4	602773.4	6.1	137.0	5.6	128.9	12.1	106	95	36	Weldon WC Screenings		V5N
8	RF-08-05	4/21/2014	684429.8	602794.0	6.8	128.9	3.5	128.9	12.1	100	95	36	Weldon WC Screenings		V5N
9	RF-08-06	4/21/2014	684443.6	602550.4	8.0	122.5	6.9	128.9	12.1	95	95	36	Weldon WC Screenings		V5N
	RF-09		684479.9	602754.0								40			
3	RF-09-01	4/7/2014	684489.3	602750.3	0.8	128.7	6.8	128.9	12.1	100	95	40	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
4	RF-09-02	4/11/2014	684498.7	602757.9	2.1	122.4	3.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
5	RF-09-03	4/11/2014	684503.3	602770.3	3.2	129.3	8.5	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
6	RF-09-04	4/14/2014	684503.3	602770.3	4.1	128.9	5.7	128.9	12.1	100	95	40	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
7	RF-09-05	4/21/2014	684479.1	602753.1	5.4	128.9	5.3	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
8	RF-09-06	4/21/2014	684446.9	602799.1	6.4	123.0	2.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
9	RF-09-07	5/15/2014	684479.0	602751.5	6.9	124.5	4.4	128.9	12.1	97	95	40	Weldon WC Screenings		V5N
10	RF-09-08	5/19/2014	684494.7	602760.2	8.1	122.5	5.9	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
1	RF-10		684474.1	602682.1	0.2							44	Crushed Concrete	Bottom of excavation elevation	
2	RF-10		684474.1	602682.1								44	Type A Material	No compaction testing required	
3	RF-10-01	4/25/2014	684476.1	602679.3	2.5	138.0	1.4	128.9	12.1	107	95	44	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-10-02	5/8/2014	684445.5	602680.1	5.8	132.0	6.6	128.9	12.1	102	95	44	Weldon WC Screenings		V5N
5	RF-10-03	5/15/2014	684463.8	602677.8	7.1	124.1	4.2	128.9	12.1	96	95	44	Weldon WC Screenings		V5N
6	RF-10-04	5/19/2014	684466.2	602672.2	8.2	122.5	6.8	128.9	12.1	95	95	44	Weldon WC Screenings		V5N
2	RF-11		684545.0	602673.2								48	Type A Material	Placed on Tilcon MH DGA	
3	RF-11-01	4/11/2014	684533.0	602676.0	1.0	126.0	3.8	128.9	12.1	98	95	48	Weldon WC Screenings	Placed on Type A Material; Against HB wall	V5N
4	RF-11-02	4/11/2014	684575.1	602679.9	2.1	125.6	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
5	RF-11-03	4/14/2014	684575.1	602679.9	2.8	126.8	2.2	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
6	RF-11-04	4/17/2014	684579.8	602684.6	3.8	122.5	3.0	128.9	12.1	95	95	48	Weldon WC Screenings	Against HB wall	V5N
7	RF-11-05	4/17/2014	684585.7	602686.5	4.5	126.8	4.0	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
8	RF-11-06	5/15/2014	684569.9	602672.5	7.3	124.5	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
9	RF-11-07	5/19/2014	685562.2	602686.4	8.3	124.5	3.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
1	RF-12		684540.0	602601.3	0.3							51	Crushed Concrete	Bottom of excavation elevation	
2	RF-12		684540.0	602601.3								51	Type A Material	No compaction testing required	
3	RF-12-01	4/25/2014	684557.9	602605.6	2.3	130.2	2.2	128.9	12.1	101	95	51	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-12-02	5/6/2014	684516.3	602580.6	6.0	128.6	5.6	128.9	12.1	100	95	51	Weldon WC Screenings		V5N
5	RF-12-03	5/15/2014	684526.7	602594.1	7.3	124.8	3.9	128.9	12.1	97	95	51	Weldon WC Screenings		V5N
6	RF-12-04	5/20/2014	684522.6	602585.3	8.1	121.3	7.1	128.9	12.1	94	95	51	Weldon WC Screenings	Recompact lift	V5N
6	RF-12-04R	5/20/2014	684522.6	602585.3	8.1	122.0	5.9	128.9	12.1	95	95	51	Weldon WC Screenings	Second reading after re-rolling	V5N
1	RF-13		684610.2	602590.4	-2.3							54	Crushed Concrete	Bottom of excavation elevation	
2	RF-13		684610.2	602590.4								54	Type A Material	No compaction testing required	
3	RF-13-01	4/11/2014	684619.5	602515.3	1.6	126.5	7.8	128.9	12.1	98	95	54	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-13-02	4/14/2014	684619.5	602515.3	2.7	124.5	2.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
5	RF-13-03	4/17/2014	684641.5	602614.6	3.6	123.0	4.1	128.9	12.1	95	95	54	Weldon WC Screenings	Against HB	V5N
6	RF-13-04	4/17/2014	684646.7	602619.5	4.4	132.9	5.5	128.9	12.1	103	95	54	Weldon WC Screenings	Against HB	V5N
7	RF-13-05	5/15/2014	684640.0	602620.1	5.4	125.0	3.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
8	RF-13-06	5/15/2014	684613.8	602605.5	6.9	125.0	4.5	128.9	12.1	97	95	54	Weldon WC Screenings		V5N
9	RF-13-07	5/20/2014	684614.3	602606.0	7.8	121.3	8.0	128.9	12.1	94	95	54	Weldon WC Screenings	Top lift. Will retest prior to final restoration	V5N
	RF-21		684826.8	602292.8	-3.3							79		Bottom of excavation elevation	
1	RF-21-1	9/24/2014	684821.0	602290.8	-1.2	126.0	1.8	128.9	12.1	98	95	79	Weldon WC Screenings	Placed on concrete/QP bridge lift	V5N
	RF-22		684775.9	602192.8	-4.8							82		Bottom of excavation elevation	
3	RF-22-1	9/24/2014	684777.7	602191.8	-1.1	125.0	2.5	128.9	12.1	97	95	82	Weldon WC Screenings	Placed on concrete/QP bridge lift	V5N
	RF-23		684878.7	602219.3	-5.6							85		Bottom of excavation elevation	
1	RF-23-01	9/2/2014	684887.1	602212.2	-4.2	133.0	2.0	135.8	6.4	98	95	85	Tilcon MH DGA		V5N
2	RF-23-02	9/12/2014	684873.8	602198.8	-1.2	128.9	7.6	128.9	12.1	100	95	85	Weldon WC Screenings	Placed on Type A material	V5N
3	RF-23-03	9/24/2014	684867.7	602209.0	0.0	122.0	4.7	128.9	12.1	95	95	85	Weldon WC Screenings		V5N
	RF-24		684934.2	602167.2	-4.8							90		Bottom of excavation elevation	
1	RF-24-01	9/2/2014	684928.8	602165.1	-3.5	133.5	1.3	135.8	6.4	98	95	90	Tilcon MH DGA		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
2	RF-24-02	9/8/2014	684921.5	602154.5	-2.1	122.0	4.4	128.9	12.1	95	95	90	Weldon WC Screenings		V5N
3	RF-24-03	9/12/2014	684903.2	602144.2	0.9	128.9	6.2	128.9	12.1	100	95	90	Weldon WC Screenings		V5N
4	RF-24-04	9/24/2014	684931.9	602159.7	1.7	122.0	12.0	128.9	12.1	95	95	90	Weldon WC Screenings		V5N
	RF-25		684988.1	602095.1	-4.8							96	Weldon WC QP	Bottom of excavation elevation	
2	RF-25-01	9/8/2014	684973.3	602081.8	1.6	123.0	3.9	128.9	12.1	95	95	96	Weldon WC Screenings		V5N
3	RF-25-02	9/12/2014	684969.6	602072.9	3.7	122.5	5.6	128.9	12.1	95	95	96	Weldon WC Screenings	Placed on Type A Material	V5N
	RF-26		685029.1	602031.1	-4.8							101	Weldon WC QP	Bottom of excavation elevation	
2	RF-26-01	9/2/2014	685038.3	602030.1	-2.5	125.0	3.3	128.9	12.1	97	95	101	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-26-02	9/8/2014	685029.6	602011.4	1.4	122.0	4.2	128.9	12.1	95	95	101	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-26-03	9/12/2014	685013.2	602014.1	3.2	128.9	3.1	128.9	12.1	100	95	101	Weldon WC Screenings		V5N
	RF-27		685076.1	601973	-1.2							106	Weldon WC QP	Bottom of excavation elevation	
3	RF-27-01	9/8/2014	685054.4	601963.6	2.4	122.0	4.8	128.9	12.1	95	95	106	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-27-02	9/12/2014	685064.1	601957.1	3.5	128.9	4.1	128.9	12.1	100	95	106	Weldon WC Screenings		V5N
	RF-28		685132.5	601902.9	2.1							112 (No)	Weldon WC QP	Bottom of excavation elevation	
3	RF-28-01	7/28/2014	685136.7	601901.8	3.7	122.5	6.1	128.9	12.1	95	95	112 (No)	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-28-02	9/2/2014	685126.1	601909.3	4.9	125.0	3.0	128.9	12.1	97	95	112	Weldon WC Screenings		V5N
5	RF-28-03	9/8/2014	685135.2	601900.4	6.4	125.0	3.3	128.9	12.1	97	95	112 (No)	Weldon WC Screenings		V5N
1	RF-29		685049.3	601738.7	-4.3							117	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-29-01	7/16/2014	685064.7	601757.6	-2.9	131.7	3.5	135.8	6.4	97	95	117	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-29-02	7/22/2014	685068.9	601785.4	-0.8	125.0	3.4	128.9	12.1	97	95	117	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-29-03	7/28/2014	685071.0	601762.7	-0.1	122.5	7.7	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
5	RF-29-04	7/28/2014	685068.0	601754.7	0.8	117.0	9.0	128.9	12.1	91	95	117	Weldon WC Screenings		V5N
5	RF-29-04R	7/30/2014	685068.0	601754.7	0.8	122.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings	Re-rolled area and let dry	V5N
6	RF-29-05	7/30/2014	685070.3	601762.8	1.7	122.0	5.6	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
7	RF-29-06	8/1/2014	685079.5	601759.0	3.2	120.9	4.5	128.9	12.1	94	95	117	Weldon WC Screenings		V5N
7	RF-29-06R	8/1/2014	685079.5	601759.0	2.8	123.5	5.8	128.9	12.1	96	95	117	Weldon WC Screenings	Re-rolled area	V5N
8	RF-29-07	8/4/2014	685070.6	601753.8	3.7	126.1	7.2	128.9	12.1	98	95	117	Weldon WC Screenings		V5N
9	RF-29-08	8/6/2014	685072.8	601758.1	4.3	123.0	6.8	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
10	RF-29-09	8/8/2014	685074.4	601753.5	5.2	123.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
11	RF-29-10	8/11/2014	685078.3	601760.5	6.1	123.0	4.5	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
12	RF-29-11	8/15/2014	685079.8	601756.2	7.5	123.7	3.7	128.9	12.1	96	95	117	Weldon WC Screenings		V5N
	RF-30		685179.4	601785.6	0.4							120			
2	RF-30-01	7/1/2014	685218.1	601814.2	2.0	122.0	7.5	128.9	12.1	95	95	120	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-30-02	7/25/2014	685216.3	601818.6	3.0	124.0	4.3	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
4	RF-30-03	7/30/2014	685213.1	601816.1	3.8	123.5	5.0	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
5	RF-30-04	8/6/2014	685205.4	601798.5	4.6	123.0	6.3	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
6	RF-30-05	8/8/2014	685215.8	601802.1	5.2	123.0	5.8	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
7	RF-30-06	8/11/2014	685218.8	601812.7	6.2	123.0	6.9	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
8	RF-30-07	8/15/2014	685216.3	6018806.8	7.2	123.0	5.4	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
1	RF-31		685121.7	601682.3	-4.3							123	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-31-01	7/22/2014	685126.3	601690.0	-2.2	126.3	3.4	128.9	12.1	98	95	123 (So)	Weldon WC Screenings		V5N
3	RF-31-02	7/28/2014	685124.5	601686.4	-0.1	122.5	7.7	128.9	12.1	95	95	123 (So)	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-31-03	7/30/2014	685115.0	601683.8	1.1	122.0	6.2	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
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HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
5	RF-31-04	7/30/2014	685123.7	601688.2	2.3	122.0	6.9	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
6	RF-31-05	8/1/2014	685120.9	601687.7	3.0	128.9	6.2	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
7	RF-31-06	8/4/2014	685122.7	601686.6	3.9	128.9	5.8	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
8	RF-31-07	8/6/2014	685132.5	601689.3	4.8	123.0	6.6	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
9	RF-31-08	8/8/2014	685118.7	601690.5	5.5	125.0	2.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
10	RF-31-09	8/11/2014	685136.4	601690.8	6.6	125.0	3.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
11	RF-31-10	8/15/2014	685122.6	601682.9	7.6	123.0	7.4	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
0	RF-32		684498.6	602739.4	-1.2							125	Stratum O	Bottom of excavation elevation	
1	RF-32-01	6/12/2014	685241.5	601740.7	0.0	134.0	1.3	135.8	6.4	99	95	125	Tilcon MH DGA		V5N
2	RF-32-02	7/16/2014	685227.6	601725.4	0.9	122.0	5.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
3	RF-32-03	7/16/2014	685239.4	601736.4	2.0	122.0	5.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
4	RF-32-04	7/30/2014	685248.5	601750.7	3.4	123.5	6.0	128.9	12.1	96	95	125	Weldon WC Screenings		V5N
5	RF-32-05	8/6/2014	685249.6	601745.6	4.6	123.0	5.9	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
6	RF-32-06	8/8/2014	685249.1	601742.7	5.6	123.0	5.7	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
7	RF-32-07	8/11/2014	685237.6	601735.2	6.5	123.0	6.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
8	RF-32-08	8/15/2014	685238.9	601747.0	7.3	123.0	7.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
1	RF-33		685179.2	601631.6	-7.5							128	Crushed Concrete	Bottom of excavation elevation	
2	RF-33-01	6/5/2014	685182.8	601626.5	-5.1	132.0	3.7	135.8	6.4	97	95	128	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-33-02	7/28/2014	685146.0	601639.6	-0.9	123.7	6.4	128.9	12.1	96	95	128	Weldon WC Screenings	Placed on Type A Material/QP Ramp	V5N
4	RF-33-03	7/30/2014	685159.9	601630.8	0.8	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
5	RF-33-04	7/30/2014	685144.1	601632.9	1.3	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
6	RF-33-05	8/1/2014	685171.2	601638.5	3.2	128.9	6.0	128.9	12.1	100	95	128	Weldon WC Screenings		V5N
7	RF-33-06	8/1/2014	685156.8	601643.7	3.9	127.0	5.0	128.9	12.1	99	95	128	Weldon WC Screenings		V5N
8	RF-33-07	8/6/2014	685176.1	601633.1	4.7	123.0	6.6	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
9	RF-33-08	8/8/2014	685166.7	601630.5	5.5	123.0	6.2	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
10	RF-33-09	8/11/2014	685166.3	601631.6	6.6	123.0	6.0	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
11	RF-33-10	8/15/2014	685165.2	601633.6	7.9	123.0	6.9	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
0	RF-34		685278.4	601673.3	-1.2							130	Stratum O	Bottom of excavation elevation	
1	RF-34-01	6/5/2014	685303.0	601691.1	0.3	132.0	3.6	135.8	6.4	97	95	130	Tilcon MH DGA		V5N
2	RF-34-02	6/24/2014	685298.9	601690.4	1.6	122.0	5.5	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
3	RF-34-03	6/27/2014	685295.5	601692.8	2.5	122.5	7.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
4	RF-34-04	7/16/2014	685293.1	601684.6	3.2	122.0	6.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
5	RF-34-05	7/30/2014	685290.2	601690.3	4.5	123.5	6.5	128.9	12.1	96	95	130	Weldon WC Screenings		V5N
6	RF-34-06	8/8/2014	685289.5	601690.7	5.5	123.0	6.9	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
7	RF-34-07	8/8/2014	685292.7	601686.1	6.6	123.0	6.3	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
8	RF-34-08	8/15/2014	685286.1	601677.8	7.6	126.0	2.3	128.9	12.1	98	95	130	Weldon WC Screenings		V5N
0	RF-35		6852228.7	601575.4	2.1							133		Bottom of excavation elevation	
1	RF-35-01	7/16/2014	685219.7	601566.3	3.5	123.3	6.2	128.9	12.1	96	95	133	Weldon WC Screenings		V5N
2	RF-35-02	7/16/2014	685234.2	601582.4	4.3	124.9	4.9	128.9	12.1	97	95	133	Weldon WC Screenings		V5N
3	RF-35-03	7/25/2014	685238.5	601578.0	5.8	122.0	5.0	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
4	RF-35-04	8/8/2014	685239.0	601569.1	6.9	123.0	6.6	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
0	RF-36		685334.4	601603.7	-1.2							136		Bottom of excavation elevation	
1	RF-36-01	6/24/2014	685349.2	601617.6	1.7	125.0	3.4	128.9	12.1	97	95	136	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
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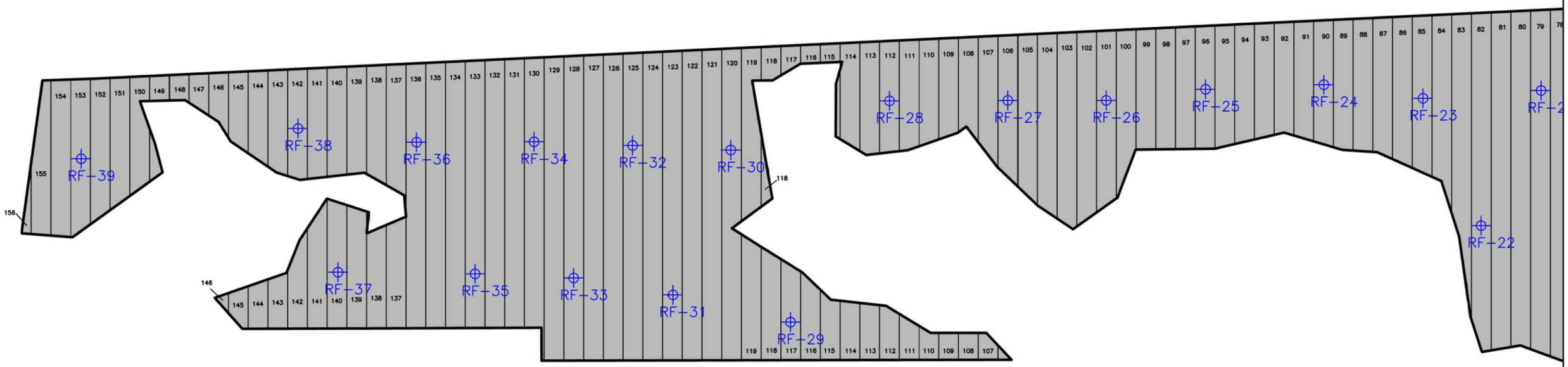
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
2	RF-36-02	6/27/2014	685330.9	601606.5	2.6	125.0	6.5	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
3	RF-36-03	6/27/2014	685339.9	601612.8	3.4	123.7	6.8	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
4	RF-36-04	7/16/2014	685343.2	601621.5	4.3	123.8	5.5	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
5	RF-36-05	7/28/2014	685346.6	601606.1	5.4	122.0	5.2	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
6	RF-36-06	8/8/2014	685345.5	601605.6	6.7	126.0	1.6	128.9	12.1	98	95	136	Weldon WC Screenings		V5N
7	RF-36-07	8/15/2014	685335.6	601611.4	7.7	123.0	6.4	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
1	RF-37		685295.3	601495.2	-7.8							140 (So)	Crushed Concrete	Bottom of excavation elevation	
2	RF-37-01	5/15/2014	685286.1	601481.2	-5.1	132.0	2.5	135.8	6.4	97	95	140 (So)	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-37-02	5/21/2014	685294.5	601489.0	-4.2	122.5	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
4	RF-37-03	7/7/2014	685282.8	601485.7	4.5	128.9	6.1	128.9	12.1	100	95	140 (So)	Weldon WC Screenings	1st lift over Type A Material	V5N
5	RF-37-04	7/28/2014	685281.8	601490.5	5.9	123.7	5.4	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
6	RF-37-05	7/28/2014	685310.0	601513.3	6.6	123.0	4.7	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
7	RF-37-06	8/8/2014	685297.5	601485.6	7.1	124.0	4.1	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
8	RF-37-07	8/15/2014	685288.7	601489.2	8.0	123.0	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
0	RF-38		685399.1	601540.2	-1.2							142 (No)	Stratum O	Bottom of excavation elevation	
1	RF-38-01	5/9/2014	685391.8	601532.2	-0.2	124.6	2.5	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
2	RF-38-02	5/21/2014	685389.4	601534.3	0.2	122.5	5.6	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
3	RF-38-03	6/24/2014	685386.6	601538.7	4.0	125.0	3.4	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
4	RF-38-04	6/27/2014	685392.8	601538.8	5.3	124.0	6.0	128.9	12.1	96	95	142 (No)	Weldon WC Screenings		V5N
5	RF-38-05	7/28/2014	685385.3	601533.9	6.3	122.0	6.4	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
6	RF-38-06	8/8/2014	685382.7	601533.1	7.1	125.0	3.2	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
7	RF-38-07	8/15/2014	685382.8	601528.2	7.9	123.0	6.0	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
0	RF-39		685485.1	601397.7	3.8							153	Stratum O	Bottom of excavation elevation	
1	RF-39-01	5/5/2014	685451.1	601421.7	4.3	126.3	3.9	128.9	12.1	98	95	153	Weldon WC Screenings		V5N
2	RF-39-02	5/5/2014	685477.5	601397.7	5.6	123.3	4.1	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
3	RF-39-03	5/5/2014	685492.5	601460.8	6.4	123.8	7.4	128.9	12.1	96	95	153	Weldon WC Screenings		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.
Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.
Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b
Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C
Bottom of excavation elevation based on Maser survey data (Center Point elevations)
Sample ID RF-01-01 where:

RF = Reduced Frequency
01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



NOTE:

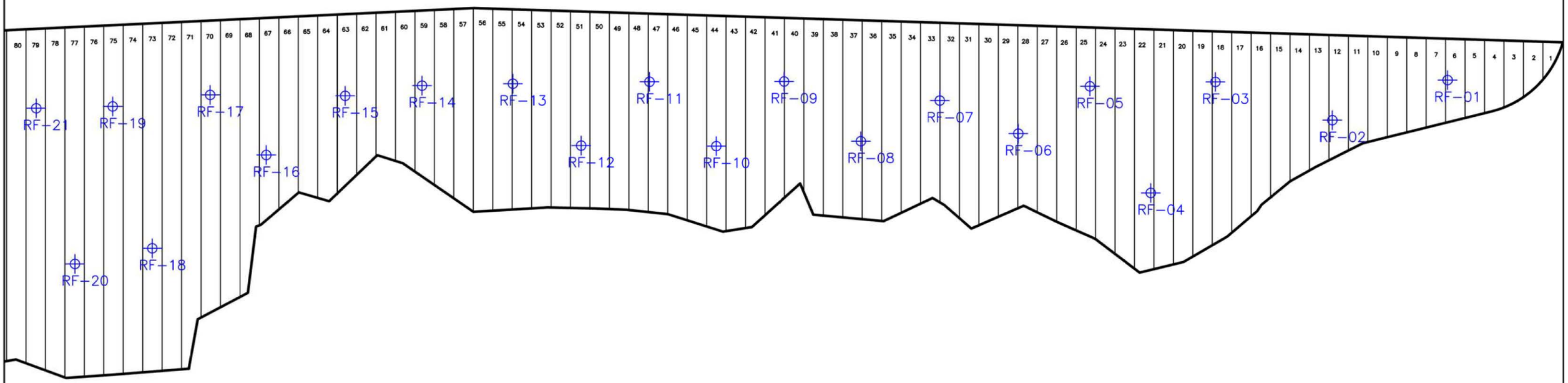
Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE
RF-22 TO RF-39

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS 5 TESTS PER ACRE

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

Attachment 4: Dewatering Operations Update

- SA-6 South Dewatering Data (Headers)
- SA-6 South Deep Well Data (DW-3)

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) DAILY	EXTRACTED VOLUME (Gal) TOTAL	AVERAGE FLOW RATE (gpm)	COMMENTS
08/05/14	1	4	10, 11, 12, EPS	61	0	1,893	1,893	2,356,681	7.9	
08/06/14	1	24	10, 11, 12, EPS	61	1,893	23,795	21,902	2,378,583	15.2	
08/07/14	1	24	10, 11, 12, EPS	61	23,795	44,386	20,591	2,399,174	14.3	
08/08/14	1	24	10, 11, 12, EPS	61	0	8,014	8,014	2,407,188	5.6	
08/11/14	1	72	10, 11, 12, EPS	61	8,014	32,057	24,043	2,431,231	5.6	
08/12/14	1	24	10, 11, 12, EPS	61	32,057	40,072	8,015	2,439,246	5.6	
08/13/14	1	24	10, 11, 12, EPS	61	40,072	59,407	19,335	2,458,581	13.4	
08/14/14	1	24	10, 11, 12, EPS	61	59,407	89,000	29,593	2,488,174	20.6	
08/18/14	1	72	10, 11, 12, EPS	61	0	47,911	47,911	2,536,085	11.1	Flowmeter Reset
08/19/14	1	24	10, 11, 12, EPS	61	47,911	61,590	13,679	2,549,764	9.5	
08/20/14	1	24	10, 11, 12, EPS	61	61,590	75,268	13,678	2,563,442	9.5	
08/21/14	1	24	10, 11, 12, EPS	50	N/A	N/A	14,000	2,577,442	9.7	Flowmeter Blockage - Tank Measured
08/22/14	1	24	10, 11, 12, EPS	50	75,268	77,640	2,372	2,579,814	1.6	
08/25/14	1	72	10, 11, 12, EPS	50	0	20,218	20,218	2,600,032	4.7	Flowmeter Reset
08/26/14	1	24	10, 11, 12, EPS	50	20,218	42,158	21,940	2,621,972	15.2	
08/27/14	1	24	10, 11, 12, EPS	50	42,158	47,944	5,786	2,627,758	4.0	
08/28/14	1	24	10, 11, 12, EPS	50	47,944	54,589	6,645	2,634,403	4.6	
08/29/14	1	24	10, 11, 12, EPS	50	54,589	61,819	7,230	2,641,633	5.0	
09/02/14	1	96	10,11,EPS	41	61,819	95,797	33,978	2,675,611	5.9	
09/03/14	1	24	10,11,EPS	41	95,797	103,042	7,245	2,682,856	5.0	
09/04/14	1	24	10,11,EPS	41	103,042	111,280	8,238	2,691,094	5.7	
09/05/14	1	24	10,11,EPS	41	111,280	120,132	8,852	2,699,946	6.1	
09/08/14	1	72	10,11,EPS	41	120,132	142,954	22,822	2,722,768	5.3	
09/09/14	1	24	10,11,EPS	41	142,954	149,419	6,465	2,729,233	4.5	
09/10/14	1	24	10,11,EPS	41	149,419	155,362	5,943	2,735,176	4.1	
09/11/14	1	24	10,11,EPS	41	155,362	160,305	4,943	2,740,119	3.4	
09/12/14	1	24	10,11,EPS	41	160,305	165,438	5,133	2,745,252	3.6	
09/15/14	1	72	10,11,EPS	41	165,438	182,610	17,172	2,762,424	4.0	
09/16/14	1	24	10,11,EPS	41	182,610	186,925	4,315	2,766,739	3.0	
09/17/14	1	24	10,11,EPS	41	186,925	191,256	4,331	2,771,070	3.0	
09/18/14	1	24	10,11,EPS	41	191,256	196,210	4,954	2,776,024	3.4	
09/19/14	1	24	10,11,EPS	41	196,210	201,455	5,245	2,781,269	3.6	
09/22/14	1	24	10,EPS	20	201,455	216,358	14,903	2,796,172	10.3	
09/23/14	1	24	10,EPS	20	216,358	220,880	4,522	2,800,694	3.1	
09/24/14	1	24	10,EPS	20	220,880	222,951	2,071	2,802,765	1.4	
09/25/14	1	24	10,EPS	20	222,951	226,142	3,191	2,805,956	2.2	
09/26/14	1	24	10,EPS	20	226,142	230,921	4,779	2,810,735	3.3	
09/29/14	1	72	10,EPS	20	230,921	236,427	5,506	2,816,241	1.3	
09/30/14	1	24	10,EPS	11	236,427	238,184	1,757	2,817,998	1.2	

Notes: Active Header Numbers refer to H-1, H-2, H-3, etc., as shown on Figure 6 Well Point Dewatering System
EPS - East Perimeter System
WPS - West Perimeter System
Vac plant #2 taken out of service in October, 2013

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-3)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) DAILY	VOLUME (Gal) TOTAL	FLOW RATE (GPM)	COMMENTS
08/06/14	24	0	1,340	1,340	1,340	0.9	
08/07/14	24	1,340	2,525	1,185	2,525	0.8	
08/08/14	24	N/A	N/A	5,500	8,025	3.8	Flowmeter blockage - Tank Measured
08/11/14	72	N/A	N/A	17,500	25,525	4.1	Flowmeter blockage - Tank Measured
08/12/14	24	0	3,528	3,528	29,053	2.5	Flowmeter Reset
08/13/14	24	N/A	N/A	5,500	34,553	3.8	Flowmeter blockage - Tank Measured
08/14/14	24	N/A	N/A	5,000	39,553	3.5	Flowmeter blockage - Tank Measured
08/15/14	24	N/A	N/A	5,500	45,053	3.8	Flowmeter blockage - Tank Measured
08/18/14	72	N/A	N/A	16,500	61,553	3.8	Flowmeter blockage - Tank Measured
08/19/14	24	N/A	N/A	6,000	67,553	4.2	Flowmeter Not Installed - Tank Measured
08/20/14	24	N/A	N/A	6,500	74,053	4.5	Flowmeter Not Installed - Tank Measured
08/21/14	24	N/A	N/A	6,000	80,053	4.2	Flowmeter Not Installed - Tank Measured
08/22/14	24	N/A	N/A	6,250	86,303	4.3	Flowmeter Not Installed - Tank Measured
08/25/14	72	N/A	N/A	17,500	103,803	4.1	Flowmeter Not Installed - Tank Measured
08/26/14	24	N/A	N/A	5,750	109,553	4.0	Flowmeter Not Installed - Tank Measured
08/27/14	24	N/A	N/A	5,700	115,253	4.0	Flowmeter Not Installed - Tank Measured
08/28/14	24	N/A	N/A	5,500	120,753	3.8	Flowmeter Not Installed - Tank Measured
08/29/14	24	N/A	N/A	5,500	126,253	3.8	Flowmeter Not Installed - Tank Measured
09/02/14	96	N/A	N/A	17,000	143,253	3.0	Flowmeter Not Installed - Tank Measured
09/03/14	24	N/A	N/A	5,000	148,253	3.5	Flowmeter Not Installed - Tank Measured
09/04/14	24	N/A	N/A	5,250	153,503	3.6	Flowmeter Not Installed - Tank Measured
09/05/14	24	N/A	N/A	5,500	159,003	3.8	Flowmeter Not Installed - Tank Measured
09/08/14	72	N/A	N/A	16,500	175,503	3.8	Flowmeter Not Installed - Tank Measured
09/09/14	24	N/A	N/A	5,000	180,503	3.5	Flowmeter Not Installed - Tank Measured
09/10/14	24	N/A	N/A	5,250	185,753	3.6	Flowmeter Not Installed - Tank Measured
09/11/14	24	N/A	N/A	5,000	190,753	3.5	Flowmeter Not Installed - Tank Measured
09/12/14	24	N/A	N/A	5,500	196,253	3.8	Flowmeter Not Installed - Tank Measured
09/15/14	72	N/A	N/A	17,500	213,753	4.1	Flowmeter Not Installed - Tank Measured
09/16/14	24	N/A	N/A	5,250	219,003	3.6	Flowmeter Not Installed - Tank Measured
09/17/14	24	N/A	N/A	5,000	224,003	3.5	Flowmeter Not Installed - Tank Measured
09/18/14	24	N/A	N/A	5,500	229,503	3.8	Flowmeter Not Installed - Tank Measured
09/19/14	24	N/A	N/A	5,500	235,003	3.8	Flowmeter Not Installed - Tank Measured
09/22/14	72	N/A	N/A	16,500	251,503	3.8	Flowmeter Not Installed - Tank Measured
09/23/14	24	N/A	N/A	5,250	256,753	3.6	Flowmeter Not Installed - Tank Measured
09/24/14	24	N/A	N/A	4,500	261,253	3.1	Flowmeter Not Installed - Tank Measured
09/25/14	24	N/A	N/A	4,500	265,753	3.1	Flowmeter Not Installed - Tank Measured
09/26/14	24	N/A	N/A	4,500	270,253	3.1	Flowmeter Not Installed - Tank Measured
09/29/14	72	N/A	N/A	12,300	282,553	2.8	Flowmeter Not Installed - Tank Measured
09/30/14	24	N/A	N/A	4,000	286,553	2.8	Flowmeter Not Installed - Tank Measured

Note: Well DW-3 was activated on August 6, 2014.

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
07/30/14	7:50	18,017.49	18,060.14	42,650	18,059,690	
08/04/14	2:15	18,060.14	18,144.28	84,140	18,143,830	
08/05/14	8:00	18,144.28	18,237.50	93,220	18,237,050	PVSC Compliance Sample Collected
08/06/14	7:45	18,237.50	18,289.93	52,430	18,289,480	
08/07/14	5:30	18,289.93	18,324.27	34,340	18,323,820	
08/08/14	7:20	18,324.27	18,357.38	33,110	18,356,930	
08/11/14	9:00	18,357.38	18,450.45	93,070	18,450,000	
08/12/14	7:00	18,450.45	18,524.19	73,740	18,523,740	
08/13/14	6:15	18,524.19	18,579.42	55,230	18,578,970	
08/14/14	7:00	18,579.42	18,610.35	30,930	18,609,900	
08/15/14	6:00	18,610.35	18,630.29	19,940	18,629,840	
08/17/14	6:00	18,630.29	18,701.73	71,440	18,701,280	
08/19/14	8:00	18,701.73	18,805.82	104,090	18,805,370	
08/20/14	6:00	18,805.82	18,884.84	79,020	18,884,390	
08/21/14	8:00	18,884.84	18,986.62	101,780	18,986,170	
08/22/14	7:45	18,986.62	19,094.08	107,460	19,093,630	
08/25/14	8:00	19,094.08	19,193.73	99,650	19,193,280	
08/26/14	8:45	19,193.73	19,298.14	104,410	19,297,690	
08/27/14	7:30	19,298.14	19,368.93	70,790	19,368,480	
08/28/14	8:45	19,368.93	19,461.76	92,830	19,461,310	
08/29/14	5:45	19,461.76	19,495.63	33,870	19,495,180	
08/31/14	5:00	19,495.63	19,566.27	70,640	19,565,820	
09/02/14	8:00	19,566.27	19,626.24	59,970	19,625,790	PVSC Compliance Sample Collected
09/03/14	6:00	19,626.24	19,683.38	57,140	19,682,930	
09/04/14	6:30	19,683.38	19,752.78	69,400	19,752,330	
09/05/14	3:30	19,752.78	19,779.42	26,640	19,778,970	
09/06/14	5:00	19,779.42	19,824.20	44,780	19,823,750	
09/07/14	5:00	19,824.20	19,853.23	29,030	19,852,780	
09/08/14	7:15	19,853.23	19,922.16	68,930	19,921,710	
09/11/14	8:45	19,922.16	20,004.70	82,540	20,004,250	
09/12/14	1:30	20,004.70	20,053.63	48,930	20,053,180	
09/14/14	3:30	20,053.63	20,068.27	14,640	20,067,820	
09/15/14	7:00	20,068.77	20,133.27	65,000	20,132,820	
09/16/14	7:30	20,133.27	20,179.69	46,420	20,179,240	
09/17/14	7:00	20,179.69	20,231.28	51,590	20,230,830	
09/18/14	7:30	20,231.28	20,263.94	32,660	20,263,490	
09/19/14	8:30	20,263.94	20,347.22	83,280	20,346,770	
09/21/14	4:00	20,347.22	20,396.72	49,500	20,396,270	
09/22/14	8:20	20,396.72	20,491.07	94,350	20,490,620	
09/23/14	8:30	20,491.07	20,558.92	67,850	20,558,470	
09/24/14	8:15	20,558.92	20,654.42	95,500	20,653,970	
09/25/14	5:00	20,654.42	20,703.09	48,670	20,702,640	
09/26/14	7:30	20,703.09	20,732.78	29,690	20,732,330	
09/29/14	8:00	20,732.78	20,810.38	77,600	20,809,930	
09/30/14	7:30	20,810.38	20,855.01	44,630	20,854,560	

Notes: Previous information is trunketed. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

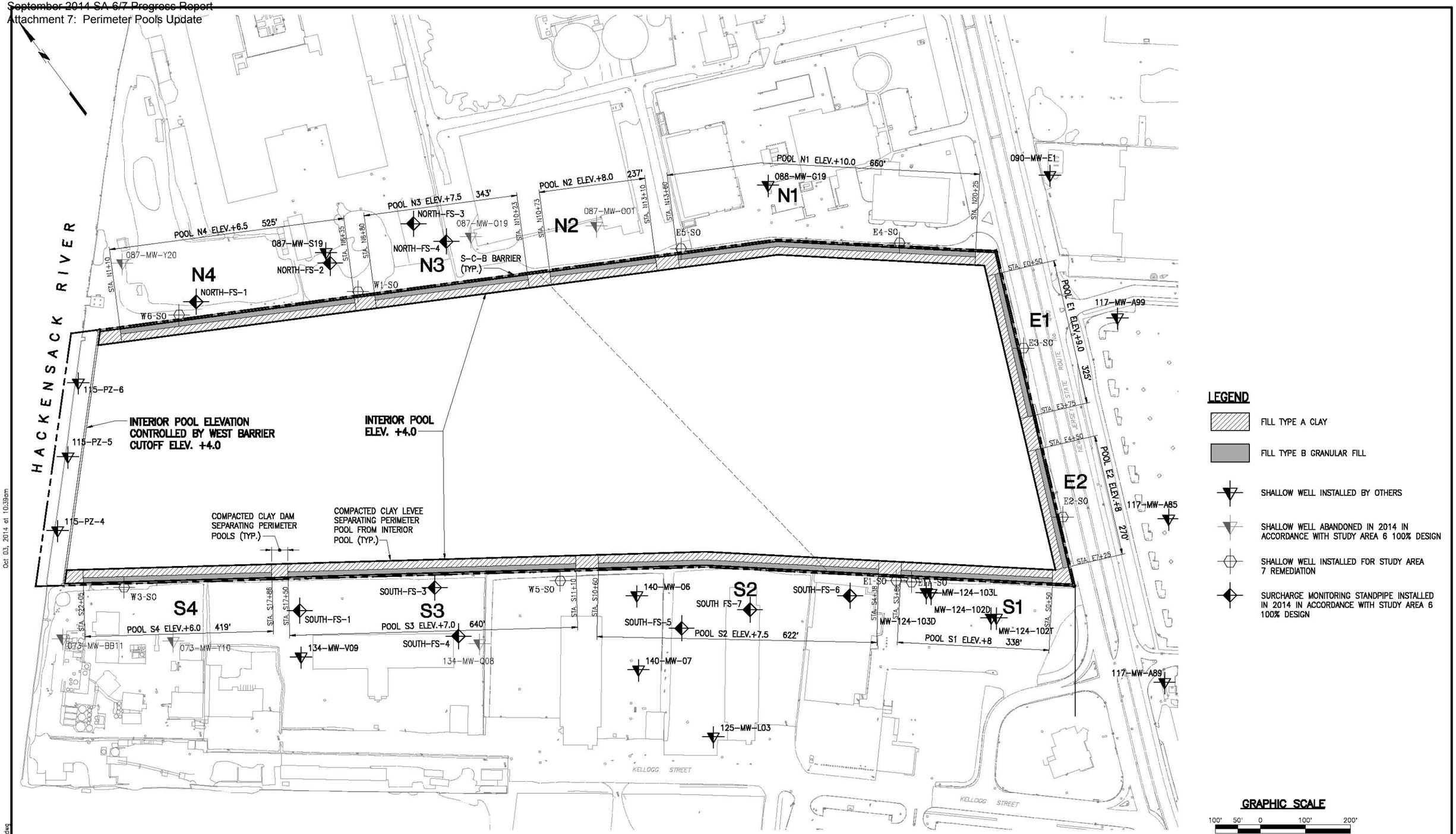
- Stockpiled Material Tracking and Sampling Log

SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
92-102	>1000	124-102-1000-a,b	2100	124-102-1000-a1	8/14/2014	12:25	1,680			Yes
				124-102-1000-a2	8/14/2014	12:30	487		Yes	
				124-102-1000-a3	8/14/2014	12:35	446		Yes	
				124-102-1000-a4	8/14/2014	12:40	299		Yes	
				124-102-1000-b1	8/14/2014	12:45	38.4		Yes	
				124-102-1000-b2	8/14/2014	12:50	139		Yes	
				124-102-1000-b3	8/14/2014	12:55	64.8		Yes	
				124-102-1000-b3	8/14/2014	13:00	663		Yes	
88-101	<20	124-101-20-a, b, c	2850	124-101-20-a1	8/22/2014	9:35	22.4		Yes	
				124-101-20-a2	8/22/2014	9:40	13.3	Yes		
				124-101-20-a3	8/22/2014	9:45	23.8		Yes	
				124-101-20-a4	8/22/2014	9:50	24.6		Yes	
				124-101-20-b1	8/22/2014	9:55	22.5		Yes	
				124-101-20-b2	8/22/2014	10:00	17.2	Yes		
				124-101-20-b3	8/22/2014	10:05	11.5	Yes		
				124-101-20-b4	8/22/2014	10:10	21.8		Yes	
				124-101-20-c1	8/22/2014	10:15	6.8	Yes		
				124-101-20-c2	8/22/2014	10:20	25.0		Yes	
				124-101-20-c3	8/22/2014	10:25	13.6	Yes		
				124-101-20-c4	8/22/2014	10:30	4.2	Yes		
83-88	<20	124-88-20-a,b,c (A24)	2800	124-88-20-a1	9/3/2014	7:10	7.1	*		
				124-88-20-a2	9/3/2014	7:15	10.9	*		
				124-88-20-a3	9/3/2014	7:20	15.4	Yes		
				124-88-20-a4	9/3/2014	7:25	3.3	Yes		
				124-88-20-b1	9/3/2014	7:30	9.6	*		
				124-88-20-b2	9/3/2014	7:35	26.6		*	
				124-88-20-b3	9/3/2014	7:40	6.9	Yes		
				124-88-20-b4	9/3/2014	7:45	4.4	Yes		
				124-88-20-c1	9/3/2014	7:50	18.3	Yes		
				124-88-20-c2	9/3/2014	7:55	2.6	Yes		
				124-88-20-c3	9/3/2014	8:00	9.4	Yes		
				124-88-20-c4	9/3/2014	8:05	16.2	Yes		
79-82	<20	124-82-20-a,b,c (A25)	2800	124-82-20-a1	9/17/2014	8:10	23.9		*	
				124-82-20-a2	9/17/2014	8:15	16.8	*		
				124-82-20-a3	9/17/2014	8:20	35.3		*	
				124-82-20-a4	9/17/2014	8:25	12.9	*		
				124-82-20-b1	9/17/2014	8:30	34.6		*	
				124-82-20-b2	9/17/2014	8:35	142.0		*	
				124-82-20-b3	9/17/2014	8:40	25.4		*	
				124-82-20-b4	9/17/2014	8:45	12.8	*		
				124-82-20-c1	9/17/2014	8:50	33.7		*	
				124-82-20-c2	9/17/2014	8:55	16.5	*		
				124-82-20-c3	9/17/2014	9:00	26.8		*	
				124-82-20-c4	9/17/2014	9:05	39.2		*	
73-78	<20	124-78-20-a,b,c (A26)	2300	124-78-20-a1	9/30/2014	7:45	**			
				124-78-20-a2	9/30/2014	7:50	**			
				124-78-20-a3	9/30/2014	7:55	**			
				124-78-20-a4	9/30/2014	8:00	**			
				124-78-20-b1	9/30/2014	8:05	**			
				124-78-20-b2	9/30/2014	8:10	**			
				124-78-20-b3	9/30/2014	8:15	**			
				124-78-20-b4	9/30/2014	8:20	**			
				124-78-20-c1	9/30/2014	8:25	**			
				124-78-20-c2	9/30/2014	8:30	**			
				124-78-20-c3	9/30/2014	8:35	**			
				124-78-20-c4	9/30/2014	8:40	**			

*Material currently stockpiled. Pending final placement.
**Waiting on results from the laboratory.

Attachment 7: Perimeter Pools Update



IN PROGRESS
10-02-2014

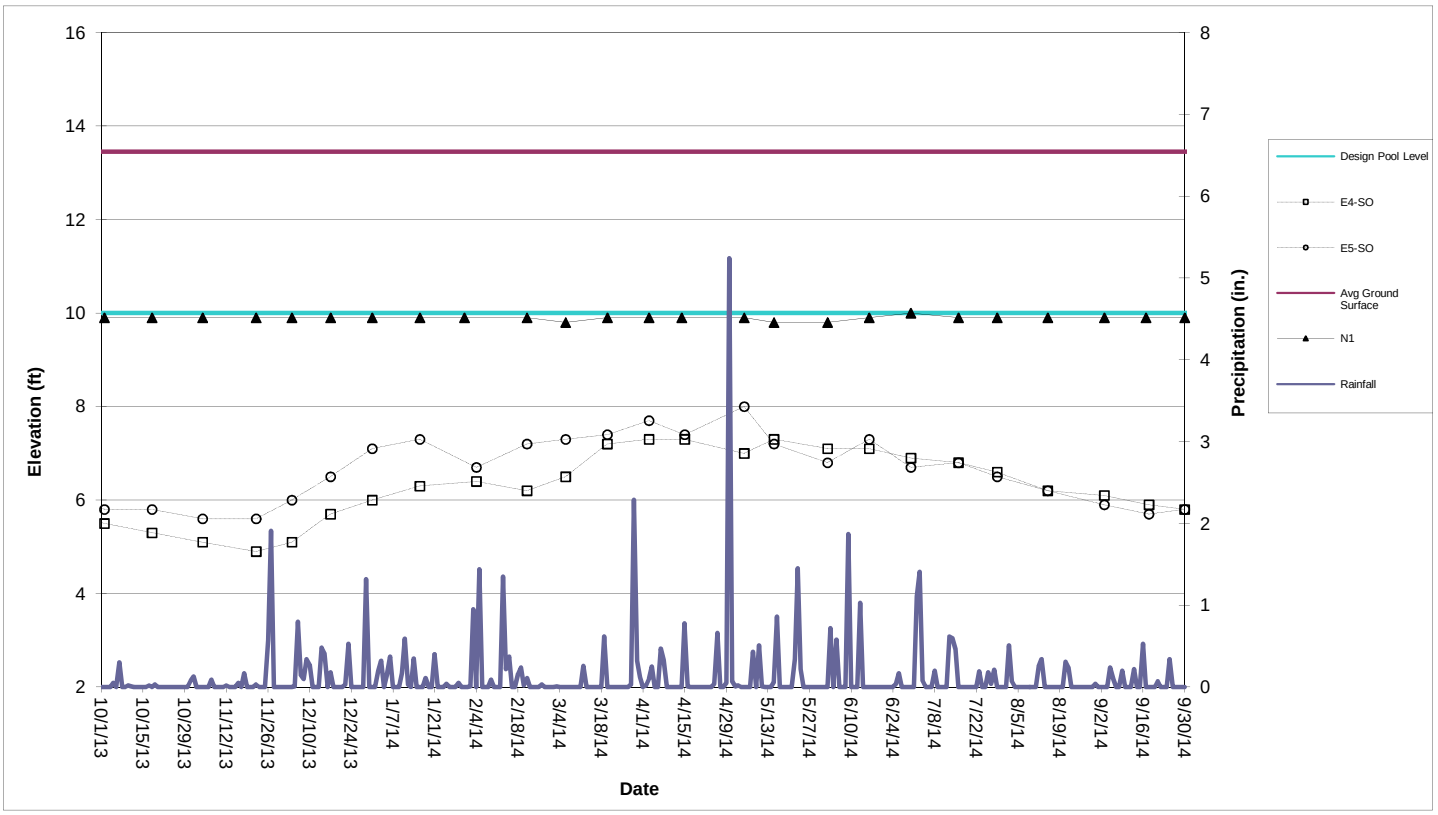
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

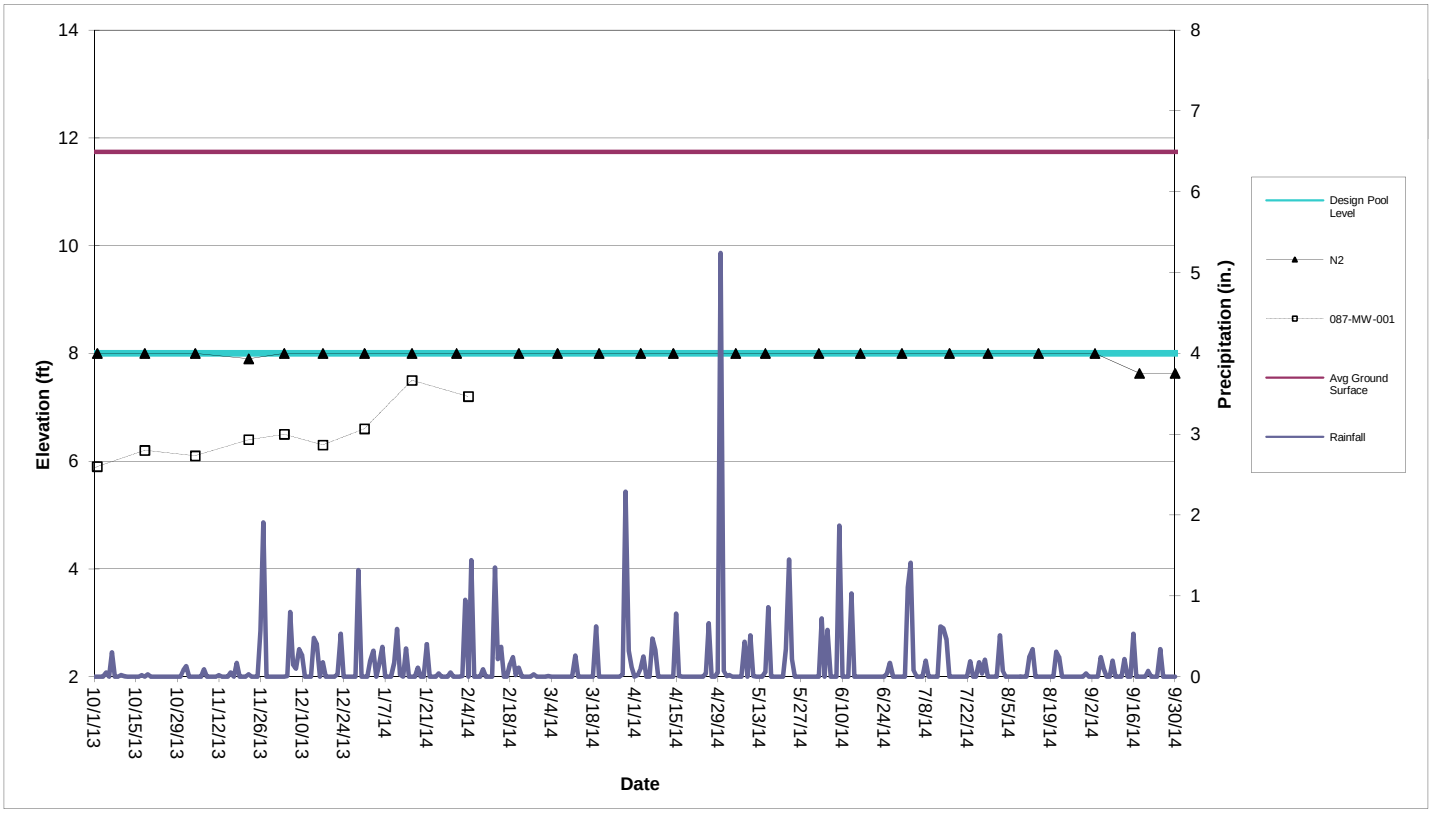
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP–1

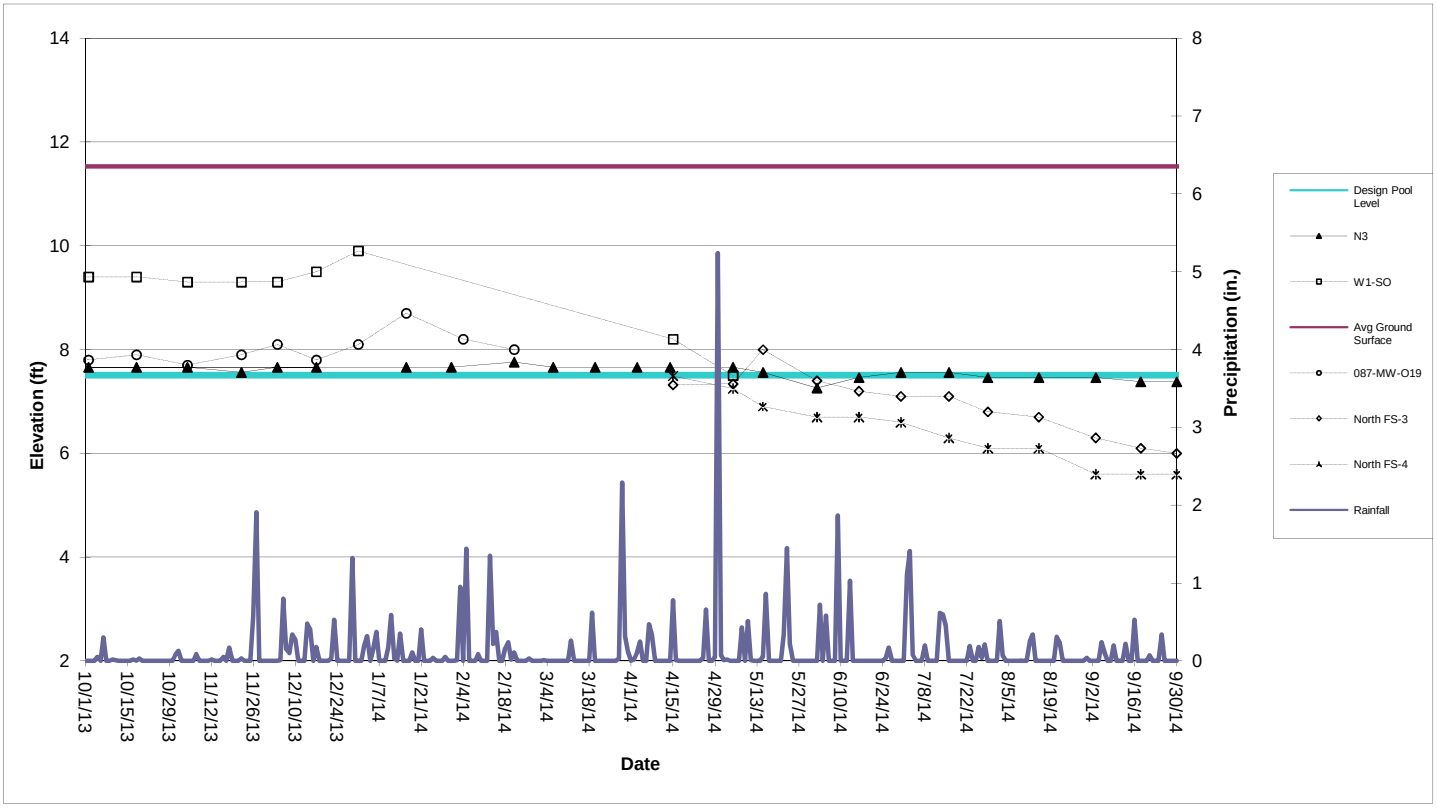
Oct 03, 2014 at 10:39am
G:\DWGS\102\10210\Dewatering\PP-1.dwg
edelossantos



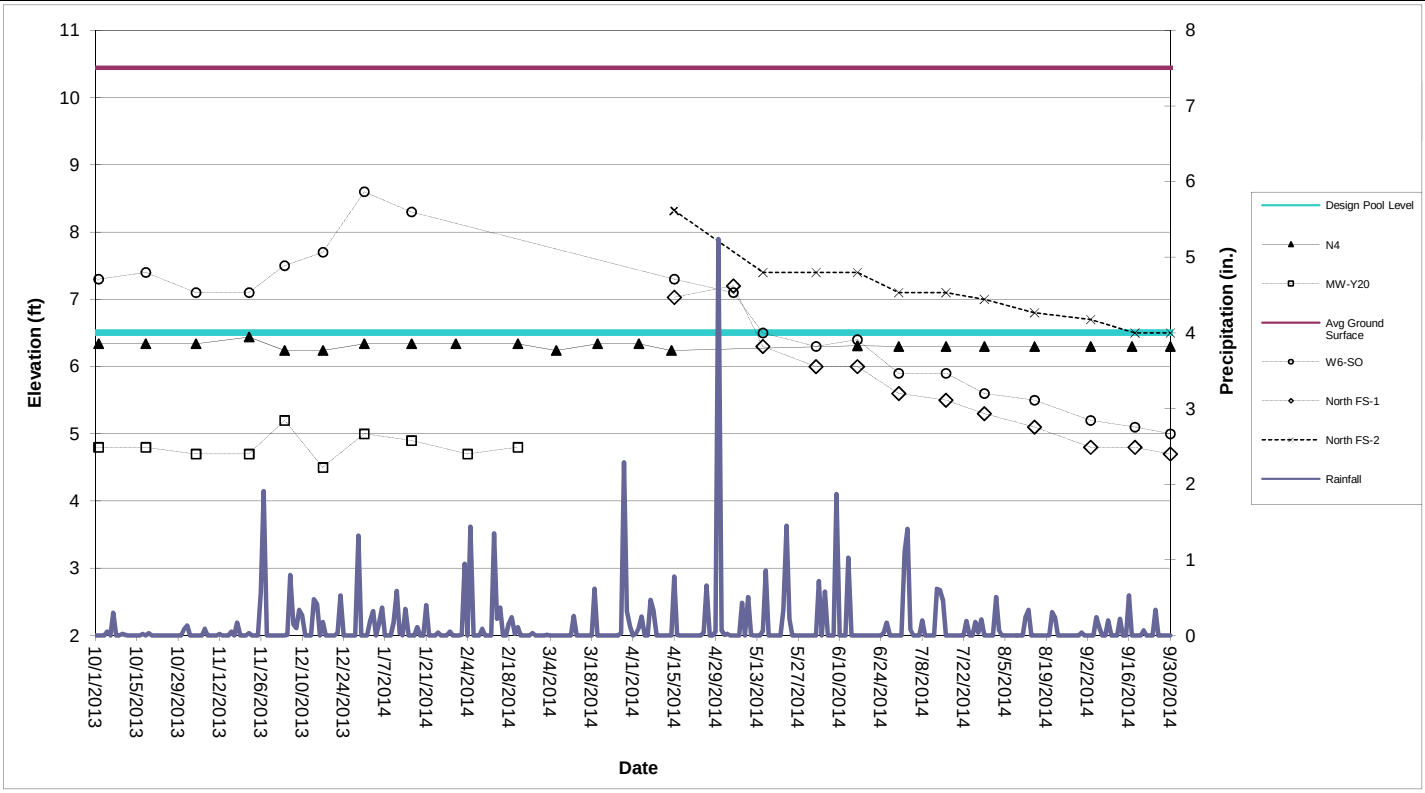
Perimeter Pool N1 (Sta. N13+60 to N20+25)



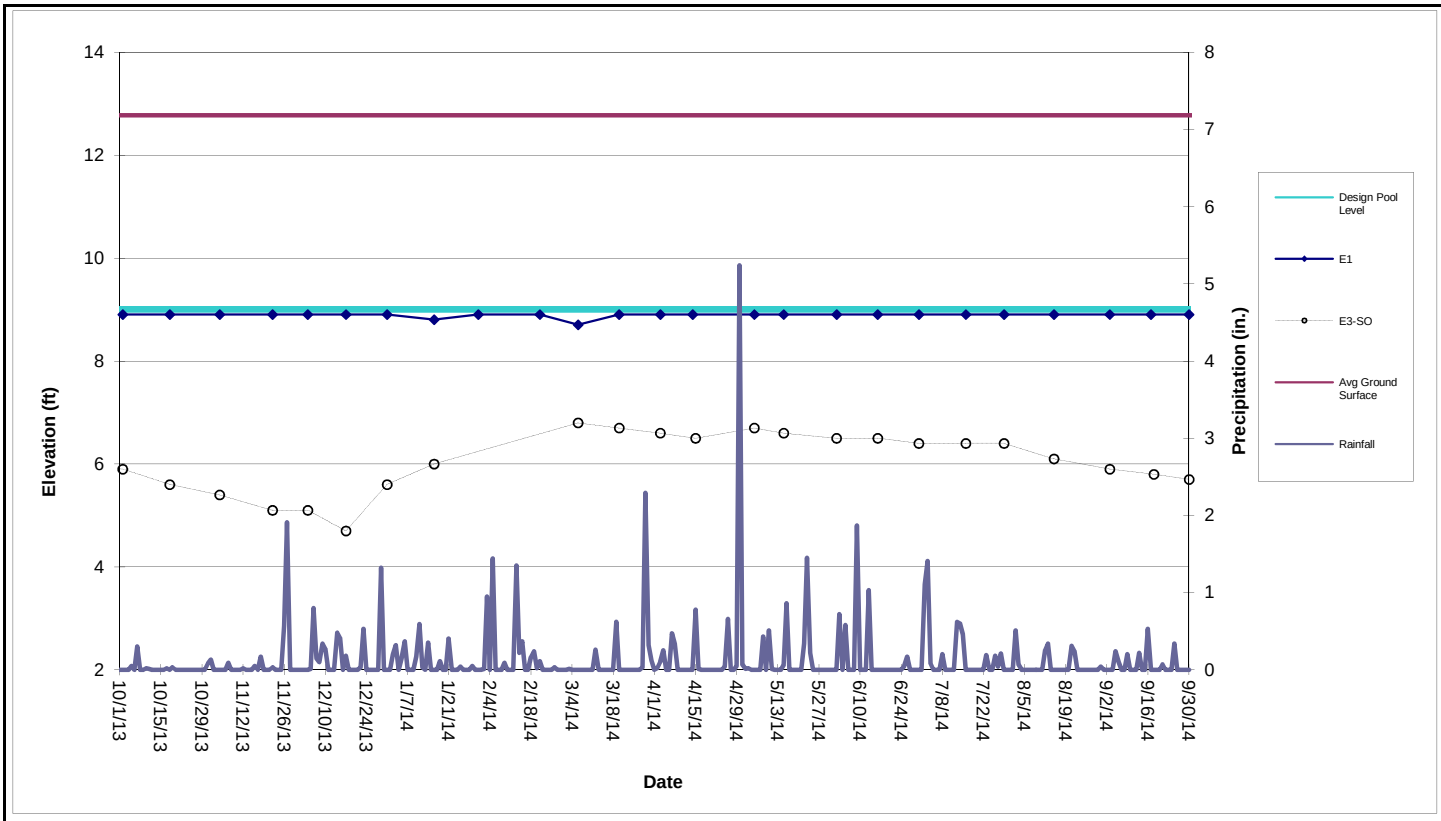
Perimeter Pool N2 (Sta. N10+73 to N13+10)



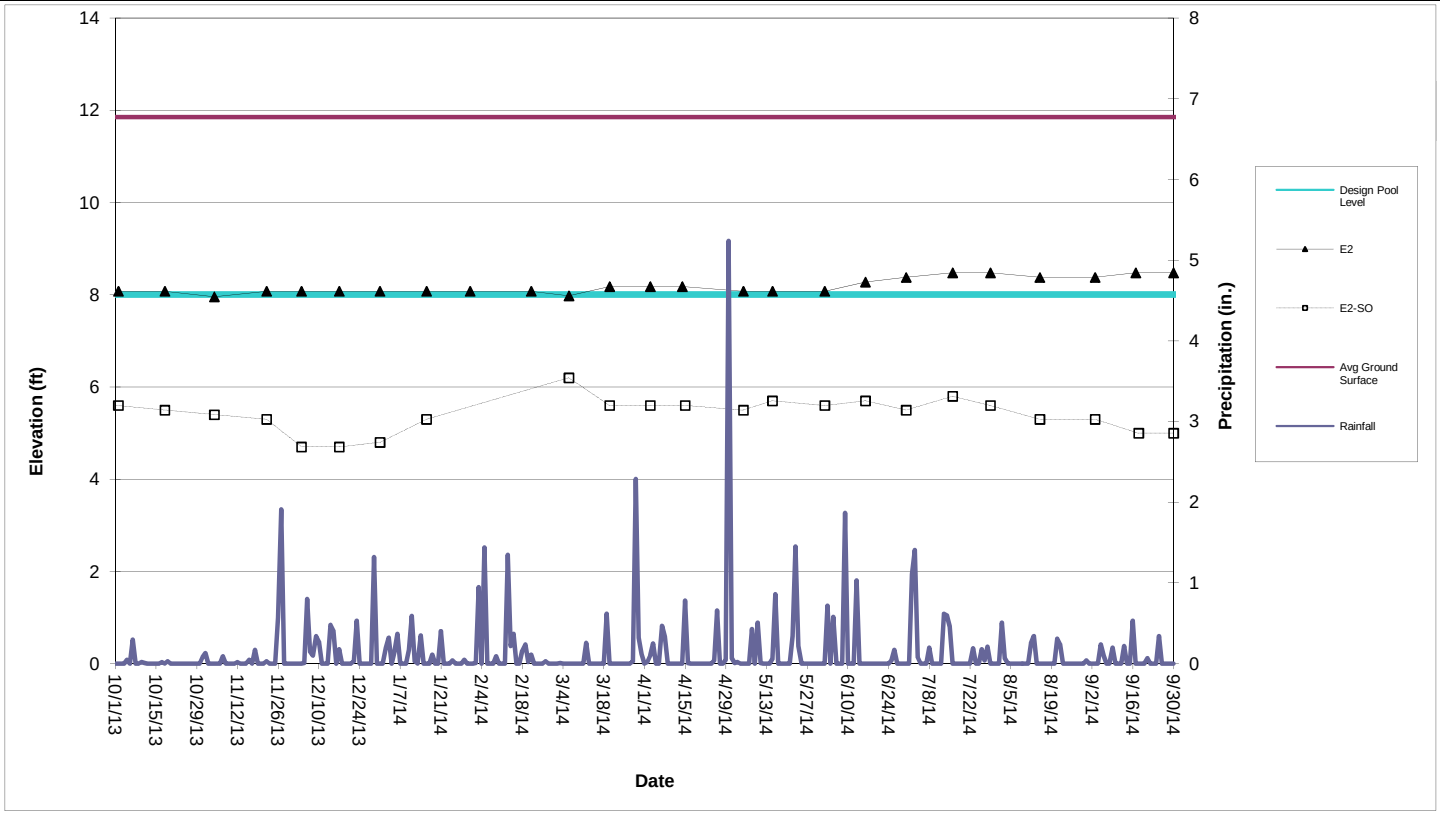
Perimeter Pool N3 (Sta. N6+80 to N10+23)



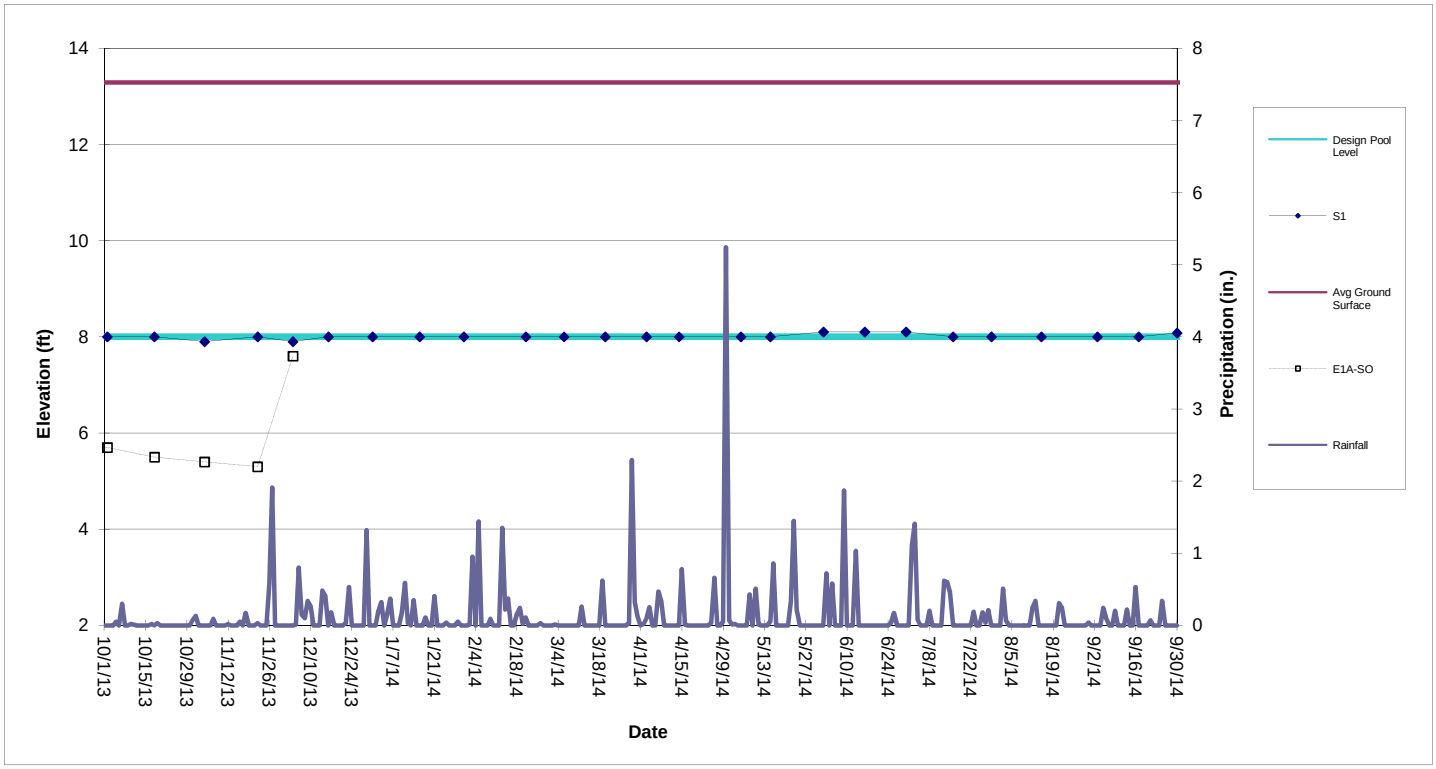
Perimeter Pool N4 (Sta. N6+80 to N10+23)



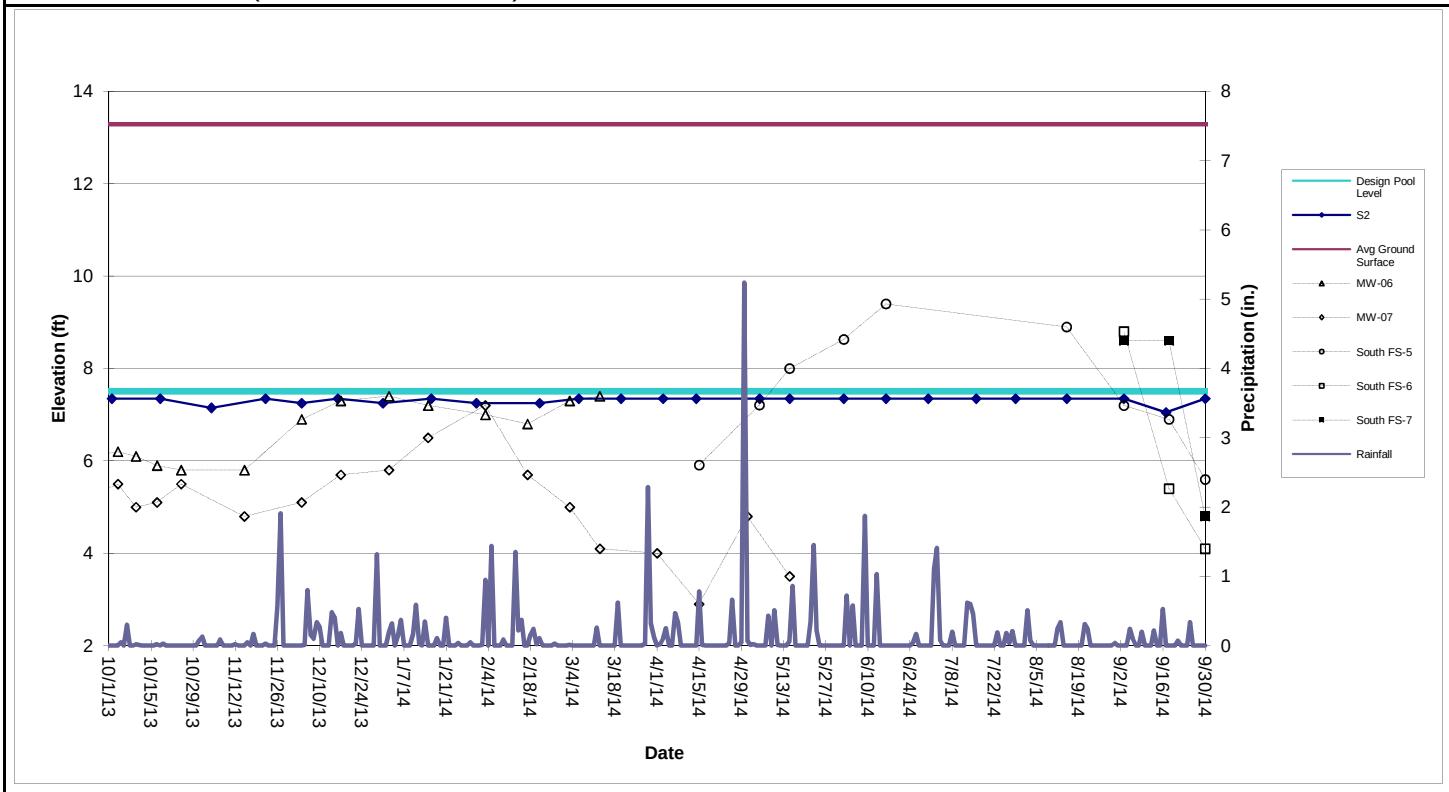
Perimeter Pool E1 (Sta. E0+50 to E3+75)



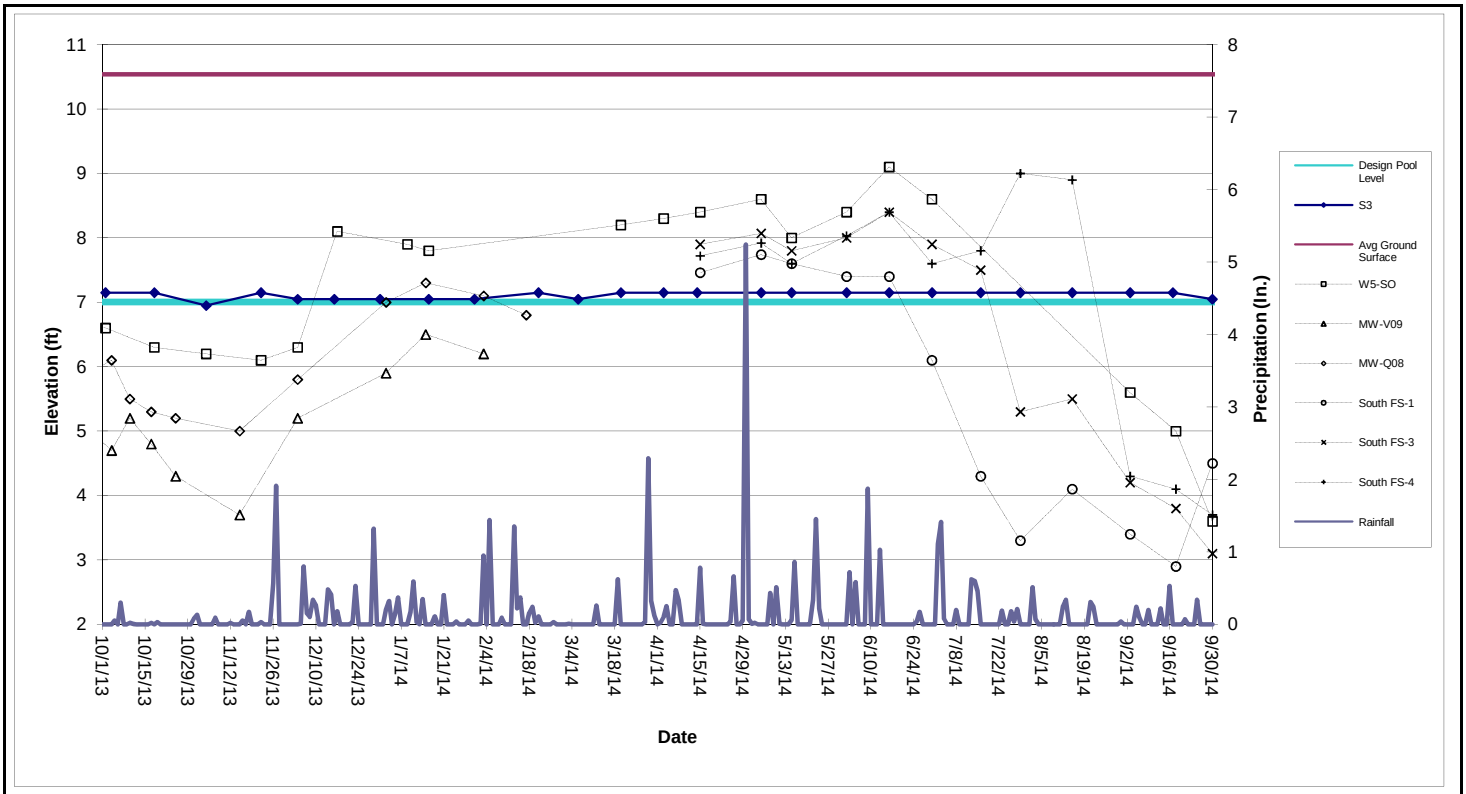
Perimeter Pool E2 (Sta. E4+50 to E7+25)



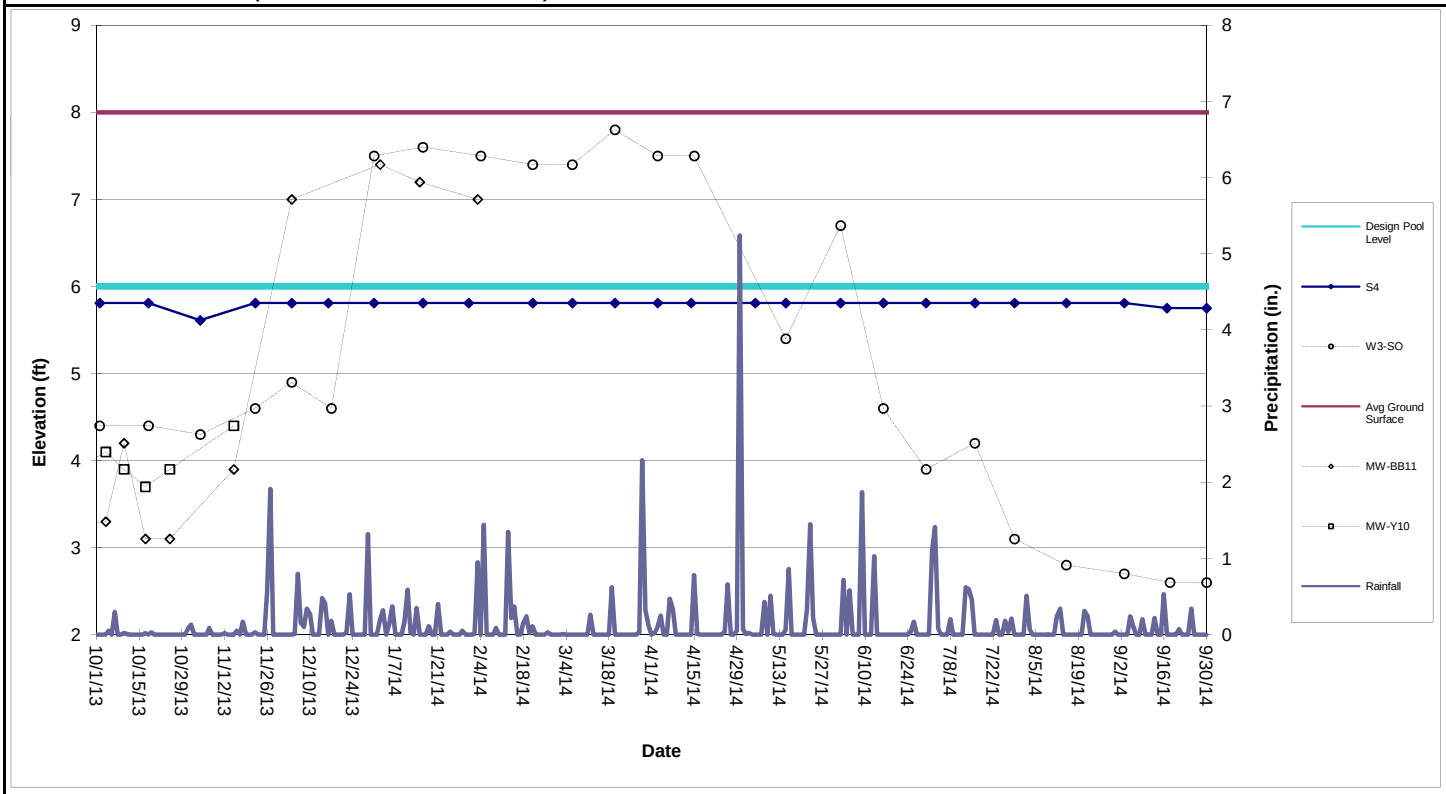
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										134-	140-		North				South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	MW-V09	MW-06	MW-07	FS-1	FS-2	FS-3	FS-4	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																						
3/3/2014											7.3	5.0										
3/6/2014		6.2	6.8	6.5	7.3		7.4															
3/13/2014											7.4	4.1										
3/20/2014		5.6	6.7	7.2	7.4		7.8	8.2														
4/1/2014												4.0										
4/3/2014		5.6	6.6	7.3	7.7		7.5	8.3														
4/15/2014		5.6	6.5	7.3	7.4	8.2	7.5	8.4	7.3			2.9	7.0	8.3	7.3	7.5	7.5	7.9	7.7	5.9		
5/1/2014												4.8										
5/5/2014		5.5	6.7	7.0	8.0	7.5		8.6	7.1				7.2		7.3	7.3	7.7	8.1	7.9	7.2		
5/15/2014		5.7	6.6	7.3	7.2		5.4	8.0	6.5			3.5	6.3	7.4	8.0	6.9	7.6	7.8	7.6	8.0		
6/2/2014		5.6	6.5	7.1	6.8		6.7	8.4	6.3				6.0	7.4	7.4	6.7	7.4	8.0	8.0	8.6		
6/16/2014		5.7	6.5	7.1	7.3		4.6	9.1	6.4				6.0	7.4	7.2	6.7	7.4	8.4	8.4	9.4		
6/30/2014		5.5	6.4	6.9	6.7		3.9	8.6	5.9				5.6	7.1	7.1	6.6	6.1	7.9	7.6			
7/16/2014		5.8	6.4	6.8	6.8		4.2		5.9				5.5	7.1	7.1	6.3	4.3	7.5	7.8			
7/29/2014		5.6	6.4	6.6	6.5		3.1		5.6				5.3	7.0	6.8	6.1	3.3	5.3	9.0			
8/15/2014		5.3	6.1	6.2	6.2		2.8		5.5				5.1	6.8	6.7	6.1	4.1	5.5	8.9	8.9		
9/3/2014		5.3	5.9	6.1	5.9		2.7	5.6	5.2				4.8	6.7	6.3	5.6	3.4	4.2	4.3	7.2	8.8	8.6
9/18/2014		5.0	5.8	5.9	5.7		2.6	5.0	5.1				4.8	6.5	6.1	5.6	2.9	3.8	4.1	6.9	5.4	8.6
9/30/2014		5.0	5.7	5.8	5.8		2.6	3.6	5.0				4.7	6.5	6.0	5.6	4.5	3.1	3.7	5.6	4.1	4.8

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells are temporarily inaccessible:
134-MW-V09, E1A-SO, W1-SO

Attachment 8: Groundwater Quality Data Surcharge Monitoring Update

- Summary of Groundwater Quality Data from GWET Wells
- Trichloroethene/Chloroform/Hexavalent Chromium in GWET Wells
- Quarterly Water Wells

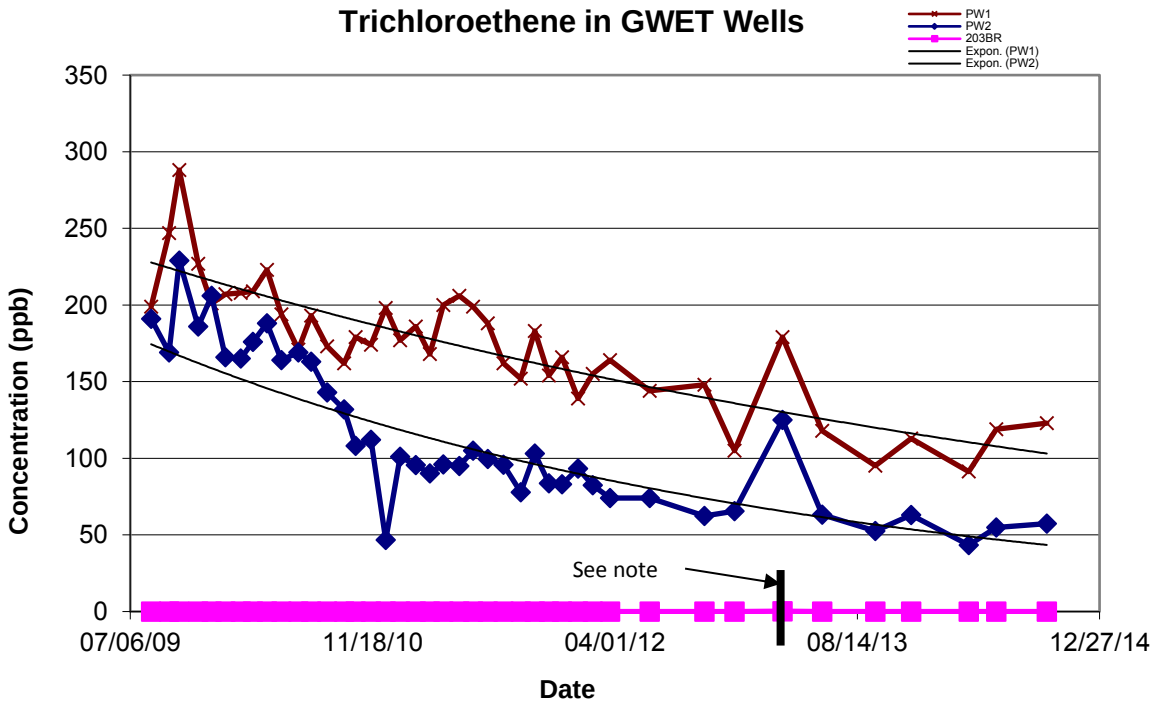
Honeywell

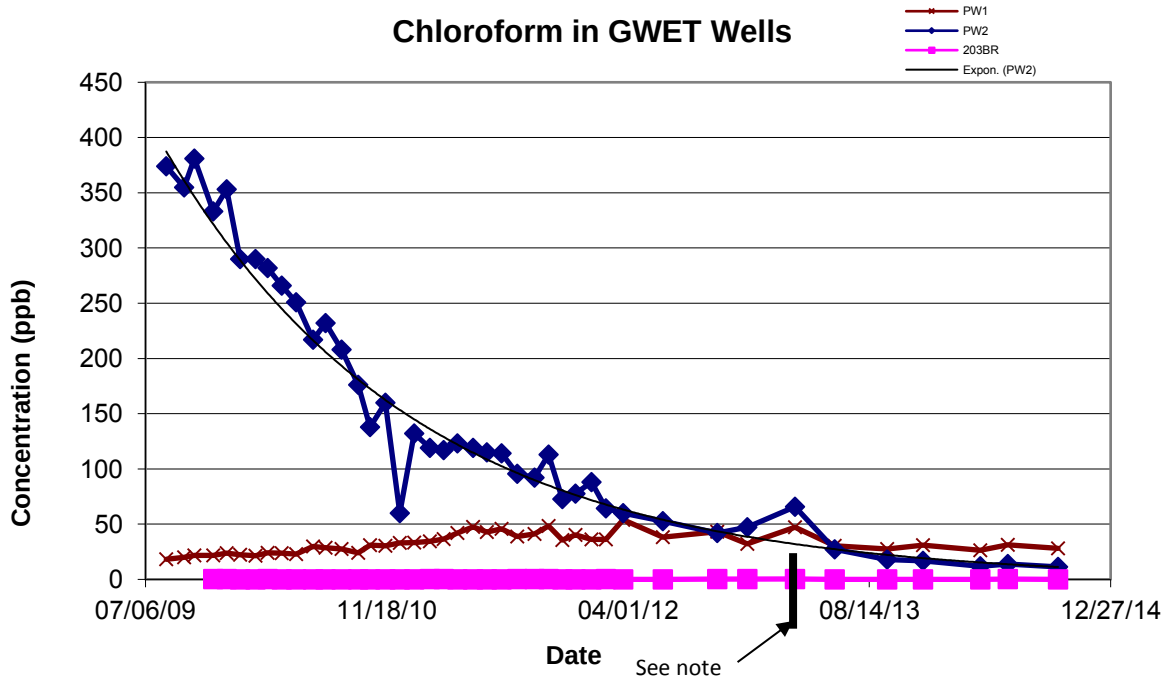
Summary of Groundwater Quality Data from GWET Wells

Parameter	3-Dec-13			1-Apr-14			28-May-14			9-Sep-14		
	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-203BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)
Benzene	3.4	5.2	ND	2.9	4.0	ND	3.4	4.7	ND	3.7	4.7	ND
Carbon Tetrachloride	5.8	4.8	2.5	4.4J	2.8	1.9	7.0	4.3	2.7	7.3	4.8	3.0
Chloroform	31.0	16.8	ND	26.5	12.0	ND	31.3	14.0	0.25J	28.1	11.3	ND
1,1-Dichloroethene	0.07	ND	ND	0.42J	ND	ND	0.77J	ND	ND	0.62J	ND	ND
cis-1,2-Dichloroethene	135	12.3	ND	96	8.1	ND	144	ND	ND	128	9.6	ND
trans-1,2-Dichloroethene	4.9	0.35	ND	3.4	ND	ND	5.3	ND	ND	4.5	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	113.0	63.0	ND	91.3	43.4	ND	119	54.8	ND	123	57.4	ND
1,1-Dichloroethane	0.47	ND	ND	0.45J	ND	ND	0.61J	ND	ND	0.55J	ND	ND
Methylene chloride	0.87	0.31	ND	0.77J	ND	ND	0.92J	ND	ND	0.74J	ND	ND
Vinyl chloride	14.2	4.8	ND	13.5	2.7	ND	21.2	3.8	ND	25.2	3.8	ND
1,2-Dichlorobenzene	0.72	ND	ND	0.72J	ND	ND	0.70J	ND	ND	0.82J	ND	ND
Chlorobenzene	0.39	ND	ND	0.38J	ND	ND	0.40J	ND	ND	0.42J	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium	39,600	11,300	16,500	33,400	12,500	15,100	34,700	12,700	19,700	34,200	11,100	15,700
Total Chromium	34,200	10,600	14,900	36,900	16,400	16,600	35,500	14,500	19,600	37,600	19,300	17,900

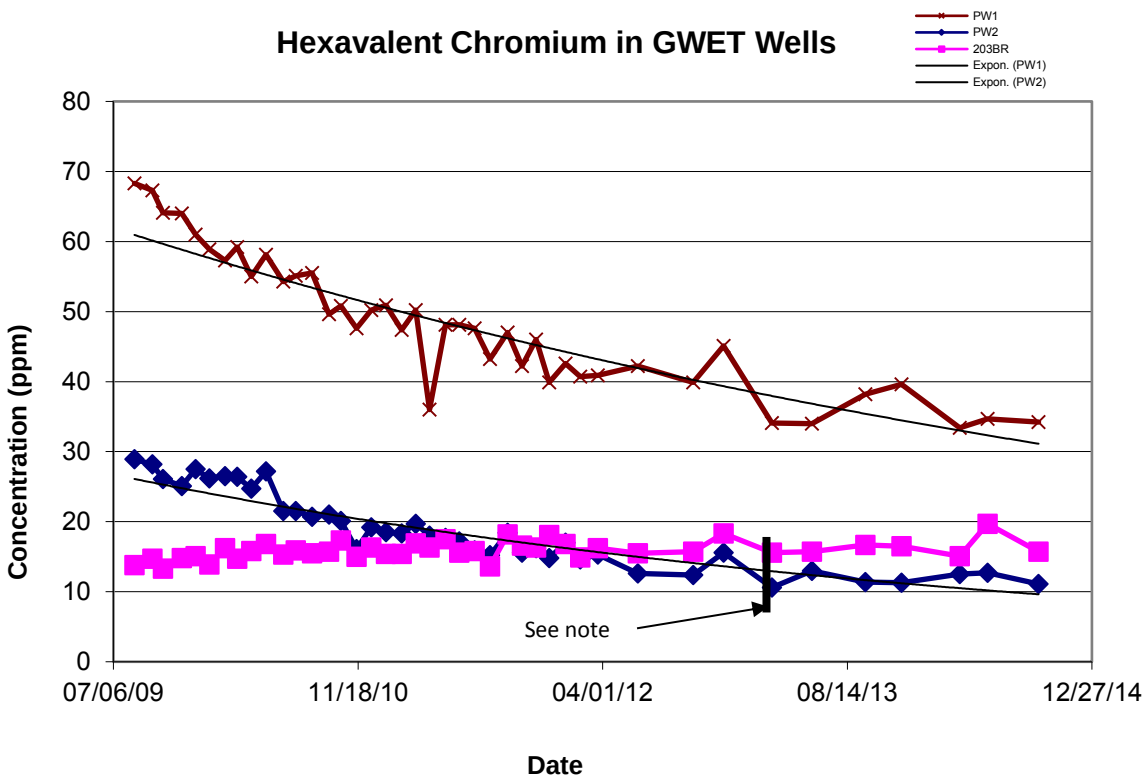
NA = Not Available for Testing due to COPR excavation activities.
NT = Not Tested
ND = Not detected above reporting limit.

Note:
Starting with 1st quarter 2014, well 115-MW-215BR is being pumped and sampled.





Note:
Well 115-MW-203BR has been replaced with well 115-MW-215BR



Note:
Well 115-MW-203BR has been replaced with well 115-MW-215BR

Honeywell

Quarterly Water Levels
September 2014

Wells Date: June XX, 2014	Top of Casing Elevation (ft. msl)	Depth to Water (ft., btoc)	Groundwater Elevation (ft., msl)	Comments
087-MW-25D	18.17	15.07	3.10	GW Elevations are not corrected for tidal influence
087-MW-25T	18.19	15.96	2.23	
087-MW-35	18.29	15.51	2.78	
087-OBS-1D	15.13	11.71	3.42	
087-OBS-1L	15.27	12.66	2.61	
087-OBS-1T	15.23	12.22	3.01	
087-PW-2	13.02	30.15	-17.13	
087-MW-08	12.98	10.76	2.22	
087-OBS-3L	12.88	12.25	0.63	
087-MW-13	12.93	12.78	0.15	
087-OBS-5D	12.72	10.70	2.02	
087-OBS-5T	12.62	11.90	0.72	
087-PW-1	12.66	27.35	-14.69	
087-MW-34	12.73	12.69	0.04	
087-OBS-2D	12.68	13.75	-1.07	
SA6-MW-AA1D	19.36	17.57	1.79	
SA6-MW-AA1T	15.31	13.72	1.59	
SA6-MW-5BR-1	17.06		17.06	
087-OBS-4T	11.6	10.60	1.00	
087-MW-O29D	10.32	8.68	1.64	
087-MW-O29T	9.98	7.82	2.16	
087-MW-03	13.77	N/A	N/A	Well not accessible
087-MW-02	12.57	N/A	N/A	
115-MW-203BR*	8.7	6.81	N/A*	
073-MW-1BR-1	7.58	25.12	N/A*	
073-MW-10BR-1	6.67	22.97	-16.30	
115-MW-215BR*	8.82	11.56	N/A*	

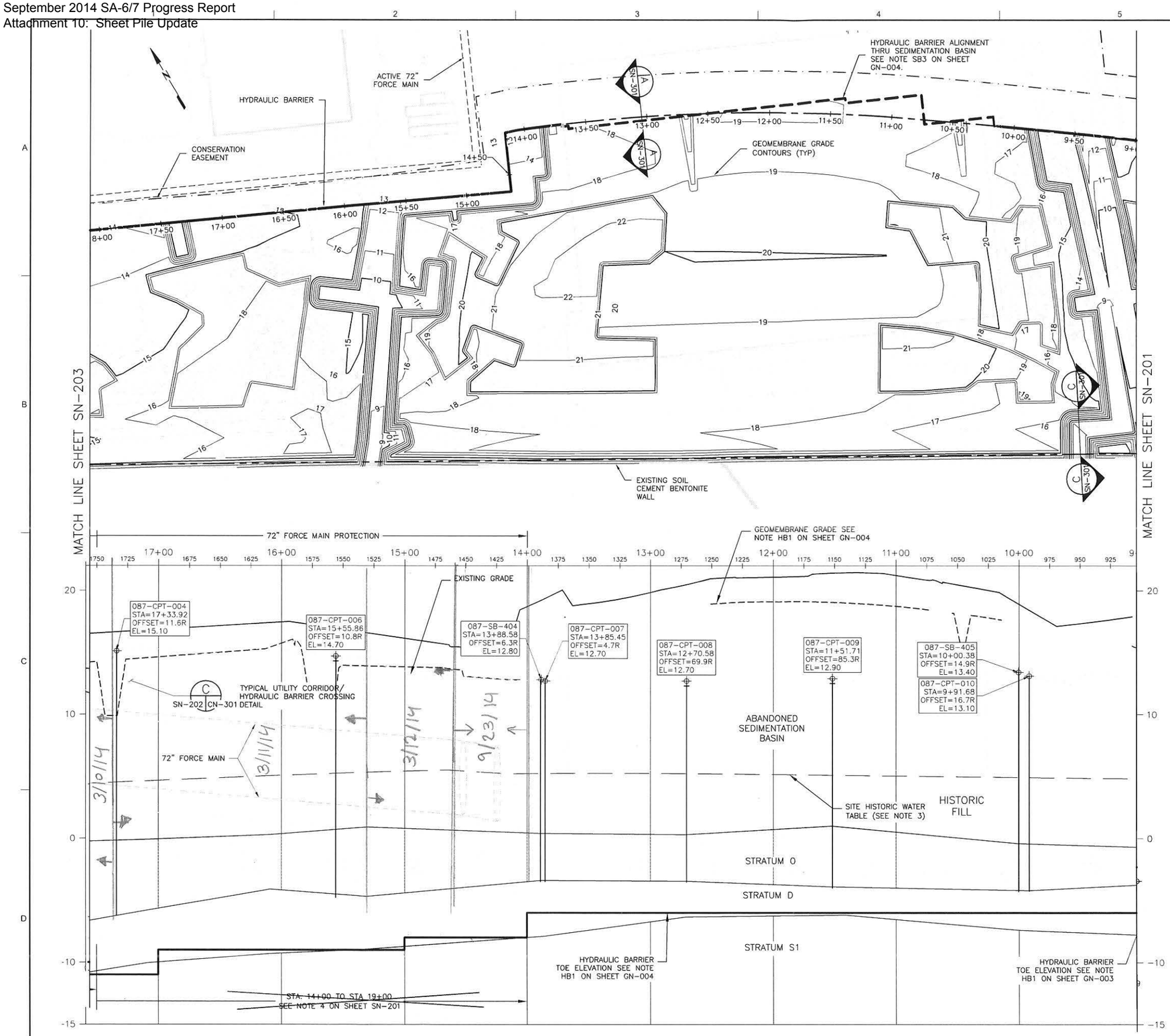
* Reference point elevation to be confirmed.

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

- Hydraulic Barrier Wall Plan & Profile
- Sheet Deflection Along Open Excavation
- Sheet Monitoring Locations
- Sheet Pile Repair Log



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET ON CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700
NON STRUCTURAL	9+85	14+00	-6	AZ 19-700
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700

Time frame for:
HB sheets driven

HORIZONTAL SCALE 0 20 40 80 SCALE IN FEET
VERTICAL SCALE 0 2 4 8 SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM				RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION				TDD	SGS
		REVISION					

TDD RJR TDD BCO

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2109, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metal Bldg., Suite 113
Hoboken, NJ 07030-5915
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

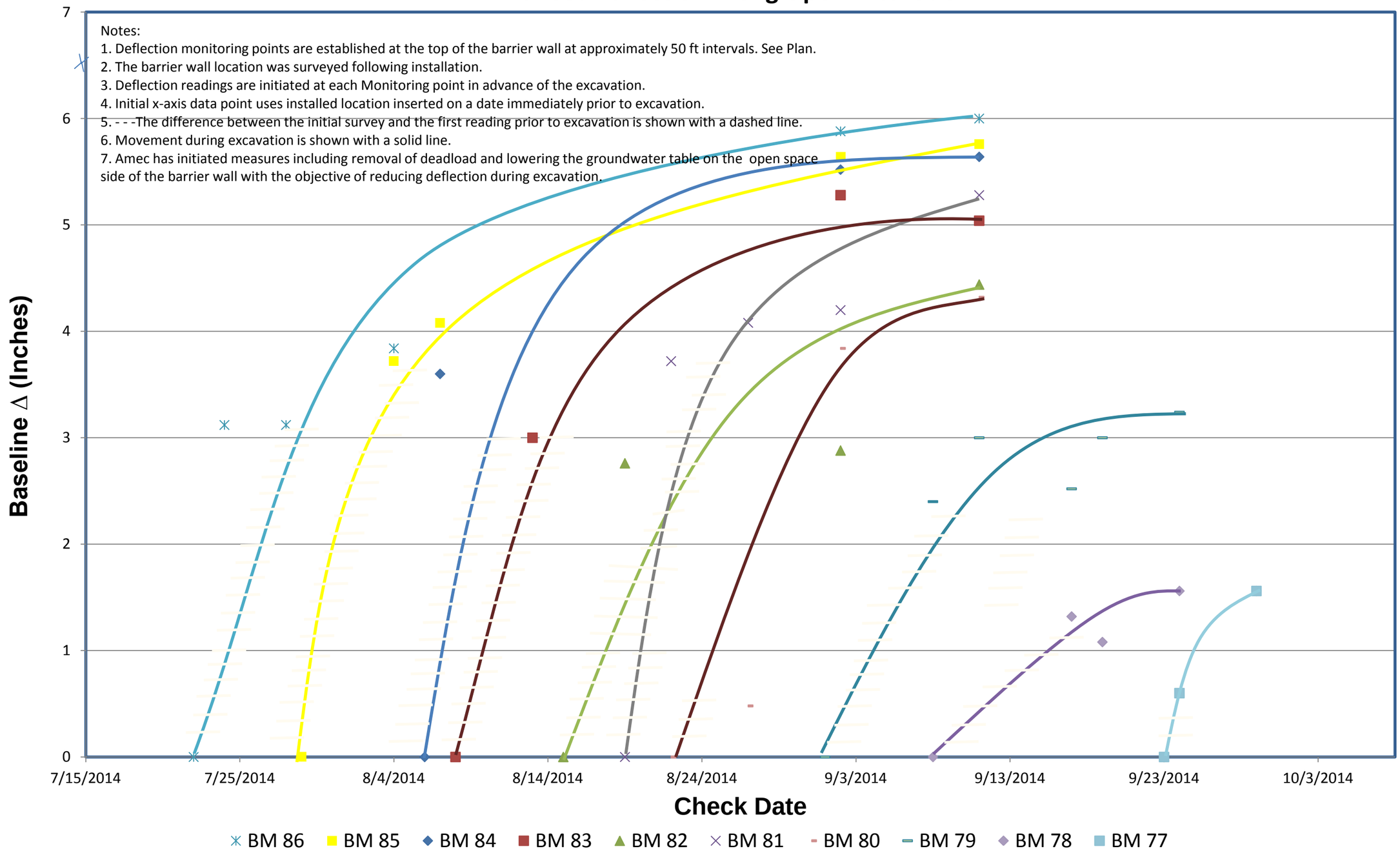
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

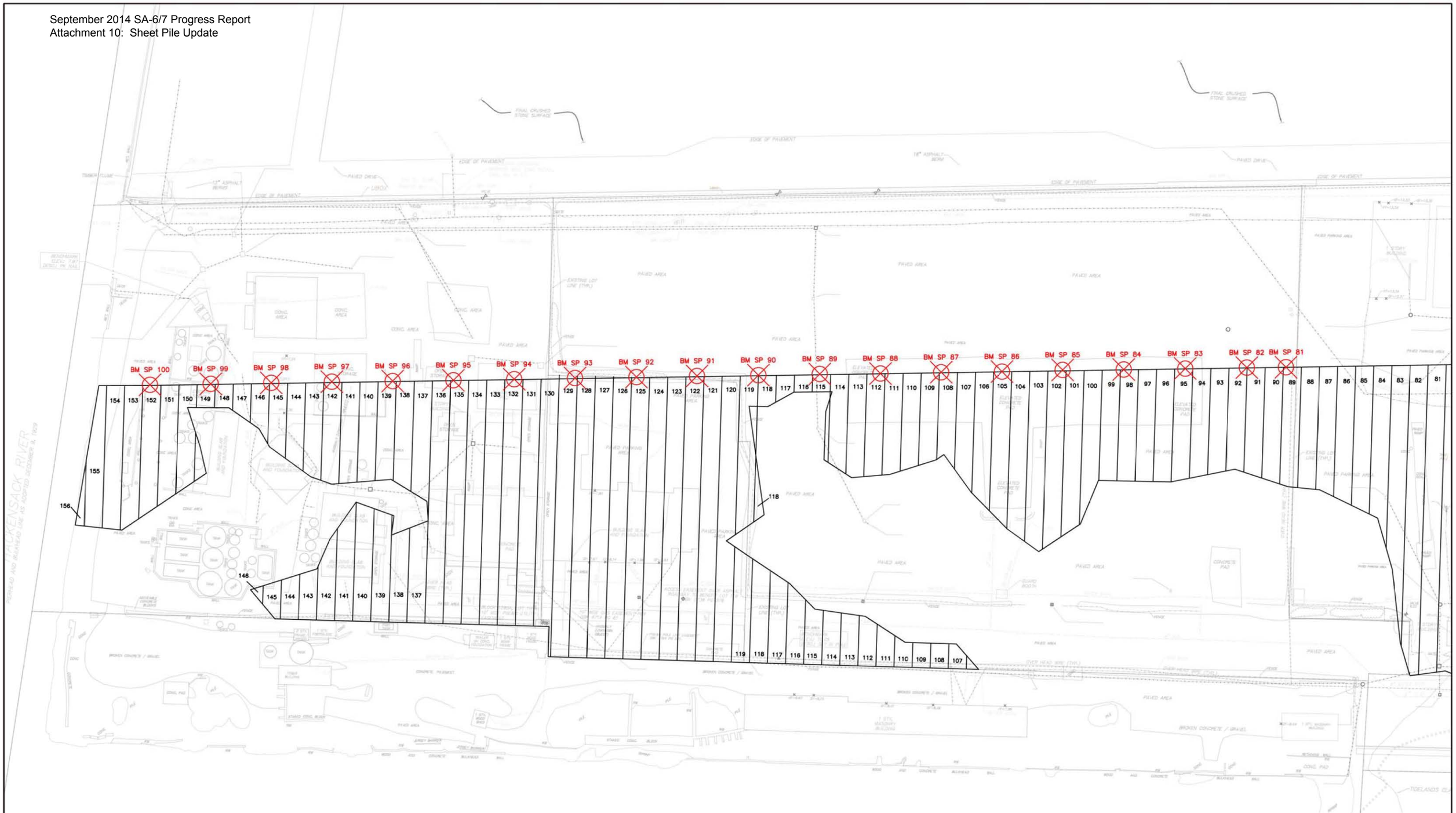
DATE	
PROJ	3480-12-0317
DWG	SN-202
SHEET	55 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR55-SN-202 HBW Design Pln Prof.dwg PLOT DATE: Fri, 18 Oct 2013 PLOT TIME: 10:35 AM

Sheet Deflection Along Open Excavation





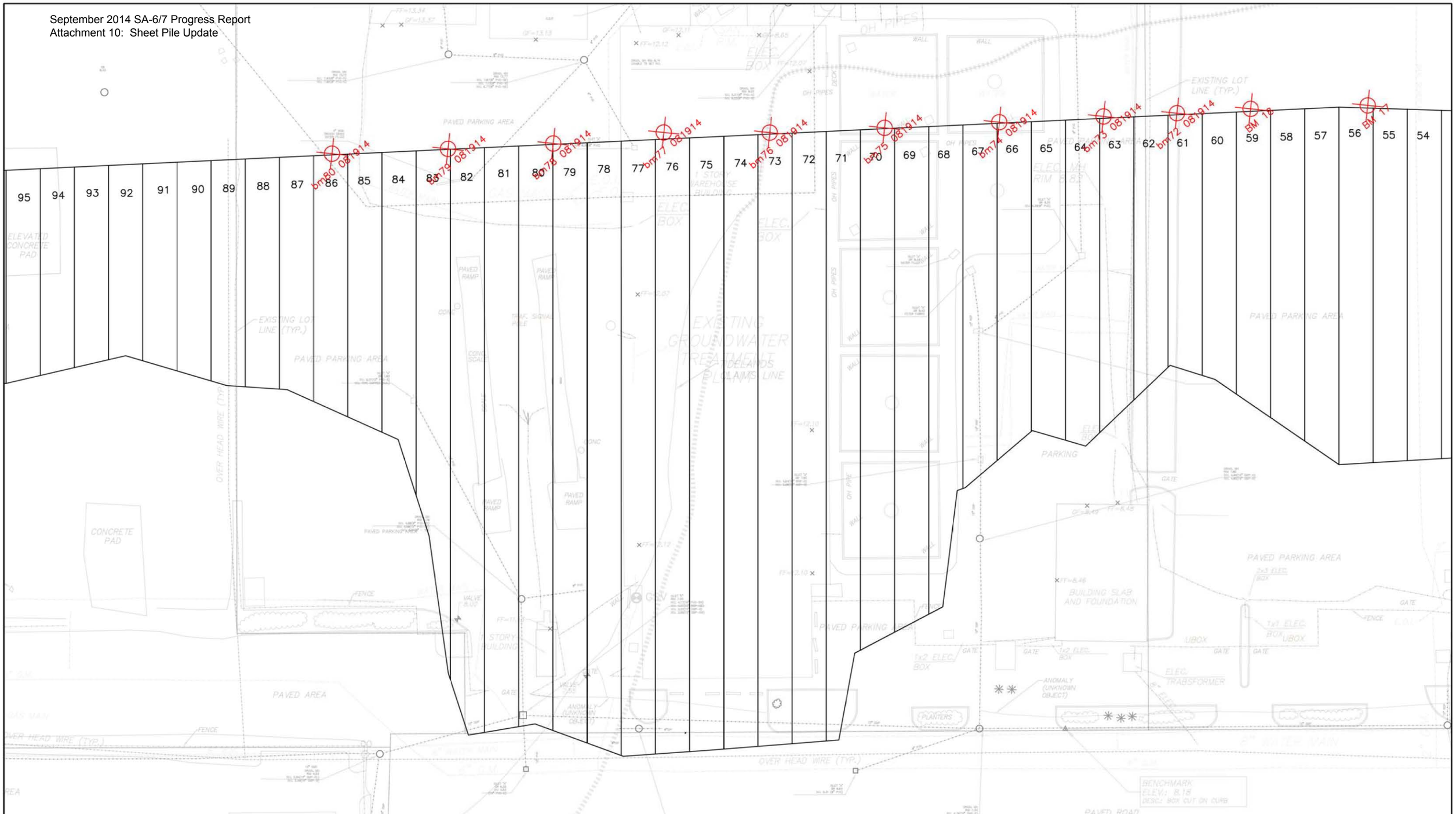
NOTES:

- Survey data collected with Trimble SPS882 and TSC2 Data Collector.
- Horizontal accuracy of 0.026 ft.
- Deflection measured at the top of the sheet.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SHEET MONITORING LOCATIONS 03-20-14

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTES:

- Survey data collected with Trimble SPS882 and TSC2 Data Collector.
- Horizontal accuracy of 0.026 ft.
- Deflection measured at the top of the sheet.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SHEET MONITORING LOCATIONS 08-19-14

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-53

Entact ID:

Date Exposed: 8/19/14

Describe Damage: (15) Scrapes by the Cat 349E and 322C excavator buckets- (10) 1"Ø, 1/2×24, 1×12", 1×6", 1/2×48", 1/2×3". Cell 89

Damage Location (ft below top of sheet, inboard side outboard side): 3-16' outboard

Date Repaired: 8/26/14, 9/11/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 9/11/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-54

Entact ID:

Date Exposed: 8/22/14

Describe Damage: (5) scrapes by the Cat 349E and 322C excavator buckets- 1×48", 1×8", 1×6", 1/2×36", 1×36". Cell 88

Damage Location (ft below top of sheet, inboard side outboard side): 2-16' outboard

Date Repaired: 8/26/14, 9/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 9/15/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-55

Entact ID:

Date Exposed: 8/22/14

Describe Damage: (5) Scrapes by the Cat 349E and 322C excavator buckets- 1/2×24", 1/4×48", 5"Ø, 2×4", 1×6". Cell 88

Damage Location (ft below top of sheet, inboard side outboard side): 2-15' outboard

Date Repaired: 8/26/14 Partial, 9/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 9/15/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-56

Entact ID:

Date Exposed: 8/22/14

Describe Damage: (16) scrapes by the Cat 349E and 322C excavator buckets- 4×10", (5) 1×6", 1×60", (2) 1"Ø, 2×36", 1×36", 2×4", 1/2×3", (2) 1×12", 1/4×12". Cell 88

Damage Location (ft below top of sheet, inboard side outboard side): 1-14' outboard

Date Repaired: 8/26/14 Partial, 9/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 9/15/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-57

Entact ID:

Date Exposed: 8/21/14

Describe Damage: (7) Scrapes by the Cat 349E and 322e excavator buckets - 1x60", 1x36", 1x12", (4) 1"Ø. Cell 88/87

Damage Location (ft below top of sheet, inboard side outboard side): 5-14' outboard

Date Repaired: 8/26/14 Partial, 9/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 9/15/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-58

Entact ID:

Date Exposed: 8/22/14

Describe Damage: (7) scrapes by the Cat 349E and 322C excavator buckets - (2) 1x8", 3x10", 1x48", 1/4x4", 2"Ø, 1/2x3". Cell 87

Damage Location (ft below top of sheet, inboard side outboard side): 10 - 15' outboard

Date Repaired: 8/26/14 Partial, 9/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 9/15/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-59

Entact ID:

Date Exposed: 8/22/14

Describe Damage: (14) Scrapes by the Cat 349E and 322C excavator buckets - 3x12", 4"x24", 1x60", 3"Ø, 5"Ø, (2) 1x3", (3) 1x6", 2x10", 1/2x18", 1/2x4", 1"Ø. Cell 87.

Damage Location (ft below top of sheet, inboard side outboard side): 3-14" outboard

Date Repaired: 8/26/14 Partial, 9/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 9/15/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-60

Entact ID:

Date Exposed: 8/22/14

Describe Damage: (13) scrapes by the Cat 349E and 322C excavator buckets - 1/4x24", 1/2x48", (3) 1/2x6", 1x48", (2) 3"Ø, 1/2x60", 1x24", (3) 1"Ø. Cell ~~87/88~~ 86

Damage Location (ft below top of sheet, inboard side outboard side): ~~8/15/~~ 8-15' outboard

Date Repaired: 8/29/14 Partial, 9/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 9/15/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-61

Entact ID:

Date Exposed: 8/25/14

Describe Damage: (18) Scrapes by the Cat 349E and 322C excavator buckets - 1x36", 2x60", 1/2x36", 1x24", (2) 1/2x24", (7) 1"Ø, (2) 3"Ø, 1/2x3", 1x5", 12"Ø. Cell 86

Damage Location (ft below top of sheet, inboard side outboard side): 6-15' outboard

Date Repaired: 8/29/14 Partial, 9/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 9/15/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-62

Entact ID:

Date Exposed: 8/26/14

Describe Damage: (15) Scrapes by the Cat 349E and 322C excavator buckets - (6) 1"Ø, 1x18", 1x36", 2x4", 10"Ø, (2) 1x24, 2"x36", 4"Ø, 1/4x84". Cell 86

Damage Location (ft below top of sheet, inboard side outboard side): 6-15' outboard

Date Repaired: 8/29/14 Partial, 9/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 9/15/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-63

Entact ID:

Date Exposed: 8/26/14

Describe Damage: (8) Scrapes by the Cat 349E and 322C excavator buckets - (2) 1/2x6", 2"Ø, 2x18", 1/2"Ø, 10x48", 1x24", 1x5". Cell 86/85

Damage Location (ft below top of sheet, inboard side outboard side): 2-15' outboard

Date Repaired: 8/29/14 Partial, 9/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 9/15/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-64

Entact ID:

Date Exposed: 8/26/14

Describe Damage: (13) scrapes by the Cat 349E and 322C excavator buckets - (4) 1"Ø, 1x24", 1x4", 2x48", 1x36", (2) 2"Ø, (2) 1x3", 12"Ø. Cell 85

Damage Location (ft below top of sheet, inboard side outboard side): 7-15' outboard

Date Repaired: 8/29/14 Partial, 9/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 9/15/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-65

Entact ID:

Date Exposed: 8/27/14

Describe Damage: (15) scrapes by the Cat 349E excavator bucket- (3) 1/2×12", (2) 1×36", 1×12, 10"Ø, 1×120", 2"Ø, 24"Ø, 1×18", 1/4×60", 1×3", (2) 1/2×6", Cell 85

Damage Location (ft below top of sheet, inboard side outboard side): 4-16' outboard

Date Repaired: 8/29/14 Partial, 9/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 9/15/14 Total

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-66

Entact ID:

Date Exposed: 8/27/14

Describe Damage: (9) scrapes by the Cat 349E and 322C excavator buckets - 1×48", 1×36", (4) 1×6", (2) 1×3"), 2"Ø. Cell 85/84

Damage Location (ft below top of sheet, inboard side outboard side): 1-15' outboard

Date Repaired: 9/4/14 Partial, 9/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 9/15/14 Total

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-67

Entact ID:

Date Exposed: 8/29/14

Describe Damage: (7) Scrapes by the Cat 349E and 322C excavator buckets- 1×96", 1×84", 1×36", (2) 2"Ø, 1×6", 1"Ø. Cell 84

Damage Location (ft below top of sheet, inboard side outboard side): 3-15' outboard

Date Repaired: 9/4/14 Partial, 9/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 9/15/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-68

Entact ID:

Date Exposed: 8/29/14

Describe Damage: (18) scrapes by the Cat 349E and 322C excavator buckets- (3) 1×3", (4) 1"Ø, (2) 12"Ø, 1×6", 2×6", 5"Ø, 3"Ø, 1×120", 1/2×24", 1×48", 1×8", 1/4×18", Cell 84

Damage Location (ft below top of sheet, inboard side outboard side): 6"-15' outboard

Date Repaired: 9/4/14 Partial, 9/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 9/15/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: September 4, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water		X		3
Housekeeping		X		4
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment			X	
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 09/04/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Thursday, September 04, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone fencing on the south side of the excavation is not continuous and the Exclusion Zone is open on the western perimeter.
2	IA2Q4A1AL8	Windscreen along the perimeter fenceline at the Kellogg Street jughandle is detached along the bottom edge.
3	IA2Q4A1AL8	Sediment has built up along the north side of Kellogg street by the 80 Kellogg slab.
4	IA2Q4A1AL8	Concrete parking space chocks have been pushed out of position outside of the 60 Kellogg building.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature **Date:** 09/04/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install EZ fencing to properly delineate the perimeter of the Exclusion Zone.	9-5-14 RAD
2	Repair and/or re-attach windscreen fabric on the perimeter fence.	9-5-14 RAD
3	Remove sediment from the north side of Kellogg Street.	9-8-14 RAD
4	Reposition parking space chocks.	9-8-14 RAD

Construction Manager: _____ **Date:** 09/09/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: September 11, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		2
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		4
Ponded Storm Water		X		5
Housekeeping				
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment			X	
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping		X		6
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 09/11/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Thursday, September 11, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone signs are absent along the sheet pile wall bordering the south side of the 1-S cap area.
2	IA2Q4A1AL8	Tarps have partially blown off of the >1000 PPM material stockpile
3	IA2Q4A1AL8	Sediment and mud are accumulating on the eastern haul road adjacent to Rt. 440.
4	IA2Q4A1AL8	A catch basin on Kellogg Street south of the 80 Kellogg slab does not have sediment protection.
5	IA2Q4A1AL8	Sediment and mud are accumulating along the south side of the western end of Kellogg Street.
6	IA2Q4A1AL8	Safety fencing around the western end of the sedimentation basin overflow structure requires maintenance.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature **Date:** 09/11/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Place Exclusion Zone signs on the hydraulic barrier wall where it borders exposed cap material.	9/15/14 RAD
2	Replace tarps over >1000 PPM material.	9/12/14 RAD
3	Clean up sediment and mud on the eastern SA-6 South haul road and re-cover the area with stone.	9/15/14 RAD
4	Place filter fabric under the catch basin grate for sediment protection.	9/16/14 RAD
5	Clean up all accumulated sediment from the south side of the western end of Kellogg Street	9/17/14 RAD
6	Repair or replace the orange warning fencing surrounding the western end of the sed basin overflow structure.	9/16/14 RAD

Construction Manager: _____ **Date:** 09/17/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: September 18, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		2
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		3,4
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		5
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment			X	
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance				
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		6
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 09/19/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, September 18, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone fencing is damaged at the eastern end of the EZ adjacent to Rt. 440.
2	IA2Q4A1AL8	Lubricant drums in the mechanics area are not placed on spill pallets.
3	IA2Q4A1AL8	Stone in the tracking pad located on the east side of the 60 Kellogg building has become blinded with backfill material.
4	IA2Q4A1AL8	Sediment which was removed from Kellogg Street has been dumped inside of the site to the north of the western-most Kellogg Street gate.
5	IA2Q4A1AL8	Two catch basins located along the north side of Kellogg Street adjacent to the 80 Kellogg slab do not have silt protection.
6	IA2Q4A1AL8	Silt fencing in the northwestern corner of surcharge area 1-S is not properly toed in.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature Date: 09/19/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair/replace orange fencing and/or the fence post in the northeast corner of the SA-6 South EZ.	9-19-14 RAD
2	Place drums in the mechanic's area on the unused spill pallet which is currentlly located by the Entact C-boxes.	9-22-14 RAD
3	Scarify the stone in the tracking pad at the eastern exit gate to restore the function of the pad.	9-22-14 RAD
4	Relocate the sediment/mud from the area of the western Kellogg Street gate.	9-22-14 RAD
5	Install filter fabric beneath the grates of the two unprotected catch basins to the south of the 80 Kellogg slab.	9-22-14 RAD
6	Completed the installation of silt fence at the northwestern corner of the 1-S surcharge area	9-22-14 RAD

Construction Manager: _____ Date: 09/22/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: September 24, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment			X	
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir	X			
Swale Check Dams		X		4
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		5
Proper Chemical Storage				
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 09/24/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Wednesday, September 24, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence at the western end if the north side of the 1-S surcharge pile is missing in one location.
2	IA2Q4A1AL8	The orange plastic warning fencing on the eastern side of the sedimentation basin requires maintenance/repair
3	IA2Q4A1AL8	The silt fence which runs along the bottom of the chain link perimeter fence in the southeast corner of Study Area 7 has accumulated sediment to within 6 inches of its top.
4	IA2Q4A1AL8	Straw waddle in on the north and south roadways of Study Area 7 is worn out and no longer effective.
5	IA2Q4A1AL8	The containment measures surrounding the Novartis stockpile area on Study Area 7 require maintenance/repair.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature **Date:** 09/24/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Replace or re-install the missing section of silt fence at the toe of the 1-S surcharge pile.	9/25/14 RAD
2	Replace or repair the orange warning fencing located on the eastern side of the sedimentation basin.	10/1/14 RAD
3	Remove accumulated sediment from against the silt fence in the southeast corner of Study Area 7 (along the Rt. 440 perimeter fence).	9/25/14 RAD
4	Replace straw waddle on the SA-7 roadways and protect with wood dunnage or other material.	9/25/14 RAD
5	Re-install plastic sheeting over the containment hay bales; replace degraded bales.	10/1/14 RAD

Construction Manager: _____ **Date:** 10/01/14

Attachment 12: GWTP Update

- 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (August 2014)
- 9/15/14 NJDEP Correspondence re: Administrative Revocation NJDPES Permit #NJG0156311
- 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (August 2014)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

September 15, 2014

New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Permit Management
P.O. Box 029
Trenton, NJ 08625-0029

RE: NJPDES Permit NJ0156311: August 2014 Surface Water Discharge Monitoring Report
Study Area 7, Jersey City, NJ

To Whom It May Concern:

In accordance with the Honeywell International NJPDES Permit NJ0156311, enclosed please find the August 2014 Surface Water Discharge Monitoring Report for Outfall 001A. Please note that there was no discharge this monitoring period.

Please contact me at 973-455-2989 should you have any questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Program Manager
Fahy Associates
c/o Honeywell International

Enc.

cc: Angle Trujillo - Evoqua
Frank Schroyer - Parsons

PI 234822

New Jersey Department of Environmental Protection
Division of Water Quality

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD							MONITORED LOCATION:
	Month	Day	Year		Month	Day	Year	
NJG0156311	8	1	2014	To	8	31	2014	001A - Remediated Groundwater

PERMITTEE:
HONEYWELL INTERNATIONAL INC
101 COLUMBIA RD
MORRISTOWN, NJ 07962

LOCATION OF ACTIVITY:
HONEYWELL STUDY AREA 7
441 RT 440 S
JERSEY CITY, NJ 07305

REPORT RECIPIENT:
Honeywell International Inc
ATT: HELEN FAHY
101 COLUMBIA ROAD
MORRISTOWN, NJ 07962

REGION / COUNTY: Northern / Hudson County

CHECK IF APPLICABLE: ☒ **No Discharge this Monitoring Period** ☐ **Monitoring Report Comments Attached**

WHO MUST SIGN The highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility shall sign the certification or, in his absence a person designated by that person. For a local agency, the highest ranking operator of the treatment works shall sign the certification. Where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that reponsibility or person designated by that person shall also sign the second certification at the bottom of this page. If the local agency has contracted with another entity to operate the treatment works, the highest-ranking official of the contracted entity shall sign the certification.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and/or imprisonment, pursuant to N.J.A.C. 7:14A-6.9(B). The New Jersey Water Pollution Control Act provides for penalties up to $50,000 per violation.

John J Morris, Remediation Director — —

NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR **GRADE AND REGISTRY NUMBER (IF APPLICABLE)**

John J Morris 9/4/2014 973.455.4003

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR **DATE** **AREA CODE/PHONE NUMBER**

***For a local agency where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall sign the following certification:**

I certify under penalty of law and in accordance with N.J.S.A. 58:10A-6F(5) that I have received and reviewed the attached discharge monitoring reports.

John J Morris, Remediation Director John J Morris 9/4/2014 973.455.4003

NAME AND TITLE **SIGNATURE** **DATE** **AREA CODE/PHONE NUMBER**

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	8/1/2014 TO 8/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant 50050 1 Effluent Gross Value	SAMPLE MEASUREMENT			GPD	******	******	******	******			
	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX		******	******	******			1/Month	METER
	QL	******	******		******	******	******				
pH 00400 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******		SU			
	PERMIT REQUIREMENT	******	******		6.0 01MOMN	******	9.0 01MOMX			1/Month	GRAB
	QL	******	******		******	******	******				
LC50 Statre 96hr Acu Mysid Bahia TAN3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******	******	%EFFL			
	PERMIT REQUIREMENT	******	******		50 01RPMN	******	******			1/Year	COMPOS
	RQL	******	******		******	******	******				
IC25 Statre 7day Chr Mysid Bahia TBP3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******	******	%EFFL			
	PERMIT REQUIREMENT	******	******		REPORT 01RPMN	******	******			1/Year	COMPOS
	QL	******	******		******	******	******				
Petroleum Hydrocarbons 00551 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			MG/L			
	PERMIT REQUIREMENT	******	******		******	10 01MOAV	15 01RPINMX			1/Month	GRAB
	QL	******	******		******	******	******				
Carbon, Tot Organic (TOC) 00680 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			MG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	20 01WKAV			1/Month	GRAB
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Pre-Print Creation Date: 7/1/2014

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	8/1/2014 TO 8/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Chromium Trivalent (as Cr) Total Recov. *PS06 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX			1/Quarter	COMP24
	QL	******	******		******	******	******				
Cyanide, Total (as CN) 00720 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	40	40				
Nickel, Total Recoverable 01074 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.3 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Zinc, Total Recoverable 01094 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	30	30				
Lead, Total Recoverable 01114 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	79 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Chromium, Total Recoverable 01118 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX			1/Month	COMP24
	RQL	******	******		******	10	10				

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Pre-Print Creation Date: 7/1/2014

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	8/1/2014 TO 8/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Copper, Total Recoverable 01119 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	COMP24
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX				
	RQL	******	******		******	10	10				
Chromium, Hexavalent Dissolved (as Cr) 01220 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	COMP24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX				
	QL	******	******		******	******	******				
Mercury Total Recoverable 71901 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	COMP24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	0.025 01DAMX				
	RQL	******	******		******	1	1				
Carbon Tetrachloride 32102 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	GRAB
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.8 01DAMX				
	RQL	******	******		******	6	6				
Chloroform 32106 2 Effluent Net Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	GRAB
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	46 01DAMX				
	RQL	******	******		******	5	5				
Trichloroethylene 39180 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	GRAB
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	54 01DAMX				
	RQL	******	******		******	5	5				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	8/1/2014 TO 8/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Lab Certification #	SAMPLE MEASUREMENT										
99999 99 Lab	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #			Not Applic	NOT AP
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

REC'D SEP 22 2014

State of New Jersey

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Mail Code - 401-02B
Division of Water Quality
Office of Permit Management
P.O. Box 420 – 401 E State St
Trenton, NJ 08625-0420
Phone: (609) 984-4428 / Fax: (609) 777-0432

BOB MARTIN
Commissioner

Notice of Administrative Revocation

September 15, 2014

JOHN MORRIS
HONEYWELL INTERNATIONAL INC
101 COLUMBIA RD
MORRISTOWN, NJ 07962

RE: Administrative Revocation
Discharge Category(s): BGR
NJPDES Permit #NJG0156311
HONEYWELL STUDY AREA 7
Jersey City, Hudson County

Dear Mr. Morris:

Please be advised that the Department has confirmed that you are no longer performing any activities requiring a permit under the New Jersey Pollutant Discharge Elimination System (NJPDES) permitting program. Therefore, your NJPDES permit is administratively revoked effective 04/29/2014.

The Water Pollution Control Act prohibits the discharge of pollutants except as authorized by a NJPDES permit. If you plan to discharge pollutants to the surface or ground waters of the state of New Jersey, you must submit a new application at least 180 days before proposing to discharge.

If you have any questions please contact me at (609) 984-4428 or via email at Terry.Beym@dep.nj.gov.

Sincerely,

Terry Beym

Terry Beym, Acting Section Chief
Office of Permit Management

c: Bureau of Surface Water Permitting, Brian Salvo
Central File-Correspondence – MF: 179223 / PI: 234822

New Jersey is an Equal Opportunity Employer
Recycled Paper

NEW JERSEY POLLUTANT DISCHARGE ELIMINATION SYSTEM

The New Jersey Department of Environmental Protection hereby grants you a NJPDES permit for the facility/activity named in this document. This permit is the regulatory mechanism used by the Department to help ensure your discharge will not harm the environment. By complying with the terms and conditions specified, you are assuming an important role in protecting New Jersey's valuable water resources. Your acceptance of this permit is an agreement to conform with all of its provisions when constructing, installing, modifying, or operating any facility for the collection, treatment, or discharge of pollutants to waters of the state. If you have any questions about this document, please feel free to contact the Department representative listed in the permit cover letter. Your cooperation in helping us protect and safeguard our state's environment is appreciated.

Permit Number: NJG0156311

Final: Surface Water GPA Revocation

Permittee:
HONEYWELL INTERNATIONAL INC
101 COLUMBIA RD
MORRISTOWN, NJ 07962

Co-Permittee:

Property Owner:
ECARG
5 BECKER FARM RD
ROSELAND, NJ 07068

Location Of Activity:
HONEYWELL STUDY AREA 7
441 RT 440 S
JERSEY CITY, NJ 07305

Authorization(s) Covered Under This Approval	Issuance Date	Effective Date	Status
BGR -General Remediation Clean-up (GP)	09/15/2014	04/29/2014	**Revoked**

By Authority of:
Commissioner's Office

DEP AUTHORIZATION
Melisse Carasia Auriti, Section Chief
Bureau of Surface Water Permitting
Division of Water Quality

(Terms, conditions and provisions attached hereto)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

September 15, 2014

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 31630016

Dear Mr. Caltagirone:

Honeywell is submitting the August 2014 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA
Frank Schroyer - Parsons

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 31630016 OLD OUTLET DESIGNATION:

MONITORING PERIOD

Start			End		
8	01	14	8	31	14
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	78,308	87,127 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	1.04	1.16	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.1	<5.1	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.082	0.082	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

Signature of Principal Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

09/04/2014

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 31630016 **OLD OUTLET DESIGNATION**

MONITORING PERIOD

Start			End		
8	01	14	8	31	14
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,427,535 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 15,341,157

DATE	BOD (mg/l)	TSS (mg/l)
8/22/2014	8.0	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J Morris	John J. Morris	(973) 455-4003
		DATE 09/04/2014

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG **Honeywell Jersey City GWTP; SA-6 North (Permit #31630016)** **MONTH: August 2014**

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
8/1/2014	Angel Trujillo	12913622	12992582	78,960	0.07896	7.30	1.600									1.05
8/2/2014	Angel Trujillo	12992582	13079709	87,127	0.087127	7.77	1.600									1.16
8/3/2014	Angel Trujillo	13079709	13156390	76,681	0.076681	7.71	1.600									1.02
8/4/2014	Angel Trujillo	13156390	13228426	72,036	0.072036	7.89	1.600									0.96
8/5/2014	Angel Trujillo	13228426	13308624	80,198	0.080198	7.84	1.600									1.07
8/6/2014	Angel Trujillo	13308624	13389741	81,117	0.081117	7.80	1.600									1.08
8/7/2014	Angel Trujillo	13389741	13468385	78,644	0.078644	7.26	1.600									1.05
8/8/2014	Angel Trujillo	13468385	13546827	78,442	0.078442	7.30	1.600									1.05
8/9/2014	Angel Trujillo	13546827	13628240	81,413	0.081413	7.24	1.600									1.09
8/10/2014	Angel Trujillo	13628240	13710561	82,321	0.082321	7.31	1.600									1.10
8/11/2014	Angel Trujillo	13710561	13775706	65,145	0.065145	7.10	1.600									0.87
8/12/2014	Angel Trujillo	13775706	13853562	77,856	0.077856	7.39	1.600									1.04
8/13/2014	Angel Trujillo	13853562	13934782	81,220	0.08122	7.31	1.600									1.08
8/14/2014	Angel Trujillo	13934782	14014289	79,507	0.079507	7.40	1.600									1.06
815/2014	Angel Trujillo	14014289	14091101	76,812	0.076812	7.40	1.600									1.02
8/16/2014	Angel Trujillo	14091101	14171774	80,673	0.080673	7.37	1.600									1.08
8/17/2014	Angel Trujillo	14171774	14253195	81,421	0.081421	7.36	1.600									1.09
8/18/2014	Angel Trujillo	14253195	14323236	70,041	0.070041	7.37	1.600									0.93
8/19/2014	Angel Trujillo	14323236	14401179	77,943	0.077943	7.50	1.600									1.04
8/20/2014	Angel Trujillo	14401179	14478608	77,429	0.077429	7.40	1.600									1.03
8/21/2014	Angel Trujillo	14478608	14556375	77,767	0.077767	7.48	1.600									1.04
8/22/2014	Angel Trujillo	14556375	14634647	78,272	0.078272	7.19	1.600	<5.1	8.0		<0.010	<0.030	<0.010	<0.0002	<0.020	1.04
8/23/2014	Angel Trujillo	14634647	14716994	82,347	0.082347	7.55	1.600									1.10
8/24/2014	Angel Trujillo	14716994	14794455	77,461	0.077461	7.52	1.600									1.03
8/25/2014	Angel Trujillo	14794455	14869844	75,389	0.075389	7.56	1.600									1.01
8/26/2014	Angel Trujillo	14869844	14946336	76,492	0.076492	7.59	1.600									1.02
8/27/2014	Angel Trujillo	14946336	15024505	78,169	0.0782	7.58	1.600									1.04
8/28/2014	Angel Trujillo	15024505	15102734	78,229	0.078229	7.56	1.600									1.04
8/29/2014	Angel Trujillo	15102734	15180860	78,126	0.078126	7.54	1.600									1.04
8/30/2014	Angel Trujillo	15180860	15261008	80,148	0.080148	7.54	1.600									1.07
8/31/2014	Angel Trujillo	15261008	15341157	80,149	0.080149	7.55	1.600									1.07
TOTAL				**2,427,535**	**2.427535**			<5.1	8.0		<0.010	<0.030	<0.010	<0.0002	<0.020	
			High:	**87,127**											**High:**	**1.16**
			Average:	**78,308**											**Average:**	**1.04**

E/

JB74827

Honeywell — Chain Of Custody / Analysis Request

est Labs
UTE 130
NJ 8810
8200

AESI Ref:	41873.63968
COC#	087-WW-082214
Lab Proj # (BDG):	
Lab ID	ACTD
Site ID	Hudson Co.
Lab Job #	HWNJM32815
Authorized User:	Honeywell

Project/Contract:		Site Name:	Hudson County
Phase:	CS	Location of Site:	Jersey City, NJ
Sampling Program	087: JCIA		

ng Co.: Persons
Contact: (name, co., address)
w P: (973) 455-2989 E: helen.fahy@honeywell.com
l International
ntible Road Morristown, NJ 07962
y To: Helen Fahy (Honeywell)
o: Helen Fahy (Honeywell)

EDD To:
Sampler: Frank Schroyer
PO #
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Full Report TAT: 28 Days

Preservative: 3 3 3 1 2 2 0 0 2

Sample Identification: Station ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite Grab	Field Filtered Samples 1	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA W24-SL VOCs; see attached special list	Sampling Method (code)	Lab Sample Numbers
										Units												
087-WW			087-WWE-082214-A	8/22/2014	13:45	WW	WATER	REG	3	comp	N	X	X	X	X			X	X			-1
087-WW			087-WWE-082214-B	8/22/2014	13:40	WW	WATER	REG	5	grab	N					X	X					-2
087-WW			087-WWI-082214	8/22/2014	14:00	WW	WATER	REG	3	grab	N									X		-3

A23 G48 L32 V375

ed by	pH=7.19 @ 5.6°C FWS	Company	Persons 1502	Received by		Company		Condition	Custody Seals Intact
royer		Date/Time	8/22/14			Date/Time 8/22 1502		Cooler Temp.	
ed by		Company		Received by		Company ACCUTEST		Condition	Custody Seals Intact
	8-22 1730	Date/Time				Date/Time 8/22/14 1730		Cooler Temp.	

ives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

04.5 IP

3NR

D.G.

Accutest LabLink@812392 10:40 02-Sep-2014

Report of Analysis

Client Sample ID:	087-WWE-082214-A		
Lab Sample ID:	JB74827-1	Date Sampled:	08/22/14
Matrix:	AQ - Water	Date Received:	08/22/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1600	10	ug/l	1	08/23/14	08/25/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	08/23/14	08/25/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Lead [a]	< 30	30	ug/l	10	08/23/14	08/27/14	ND	EPA 200.7 [3]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	08/25/14	08/25/14	JW	EPA 245.1 [1]	EPA 245.1 [5]
Nickel	< 10	10	ug/l	1	08/23/14	08/25/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	08/23/14	08/25/14	ND	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA34759
(2) Instrument QC Batch: MA34770
(3) Instrument QC Batch: MA34784
(4) Prep QC Batch: MP81266
(5) Prep QC Batch: MP81440

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@812392 10:40 02-Sep-2014

Report of Analysis

Client Sample ID:	087-WWE-082214-A		
Lab Sample ID:	JB74827-1	Date Sampled:	08/22/14
Matrix:	AQ - Water	Date Received:	08/22/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.1

4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	08/26/14	RP	SM2540 D-11
pH [a]	7.09		su	1	08/22/14 20:20	DG	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@812392 10:40 02-Sep-2014

Report of Analysis

Client Sample ID:	087-WWE-082214-A		
Lab Sample ID:	JB74827-1A	Date Sampled:	08/22/14
Matrix:	AQ - Water	Date Received:	08/22/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.2

4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	8.0	5.0	mg/l	1	08/22/14 20:28	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@812392 10:40 02-Sep-2014

Report of Analysis

Client Sample ID:	087-WWE-082214-B		
Lab Sample ID:	JB74827-2	Date Sampled:	08/22/14
Matrix:	AQ - Water	Date Received:	08/22/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3 4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.1	5.1	mg/l	1	08/27/14	AA	EPA 1664A

RL = Reporting Limit

Accutest LabLink@812392 10:40 02-Sep-2014

Report of Analysis

Client Sample ID:	087-WWE-082214-B		
Lab Sample ID:	JB74827-2	Date Sampled:	08/22/14
Matrix:	AQ - Water	Date Received:	08/22/14
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N238180.D	1	08/25/14	DC	n/a	n/a	VN10108
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	2.1	ug/l	
107-13-1	Acrylonitrile	ND	10	1.3	ug/l	
71-43-2	Benzene	2.3	1.0	0.12	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.32	ug/l	
56-23-5	Carbon tetrachloride	3.5	1.0	0.16	ug/l	
108-90-7	Chlorobenzene	0.23	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.45	ug/l	
67-66-3	Chloroform	18.4	1.0	0.14	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.19	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	ug/l	
156-60-5	trans-1,2-Dichloroethene	4.3	1.0	0.24	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	1.0	0.16	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.093	ug/l	
75-09-2	Methylene chloride	0.47	1.0	0.20	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.13	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.15	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.29	ug/l	
79-01-6	Trichloroethene	51.7	1.0	0.17	ug/l	
75-01-4	Vinyl chloride	1.1	1.0	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	99%		71-128%
2037-26-5	Toluene-D8 (SUR)	101%		79-117%
460-00-4	4-Bromofluorobenzene (SUR)	97%		81-114%
1868-53-7	Dibromofluoromethane (S)	99%		78-115%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending September 2014

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014. Responded on September 11, 2014 to Plaintiffs' September 9, 2014 request for clarification.
DC 2014	Direction on the handling of petroleum soils under the cap.	Pending submittal
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

SA-6 AND SA-7 COMBINED PROGRESS REPORT

NOVEMBER 14, 2014

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

November 14, 2014 *Via Express Mail*

Honorable Robert G. Torricelli
Office of the Special Master
49 Bridge Street, Suite 2
Lambertville, NJ 08530

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2014-10

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from October 1 – October 31, 2014.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: October 2014 SA-6/7 Combined Monthly Progress Report No. 2014-10

cc: Joe Clifford - AMEC (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)

Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2014-10

Project SA-6 & 7 Remediation

October 2014

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
10/09/14	NJDEP Correspondence re: Retraction for the December 20, 2013 Application for Certificate of Authority to Operate (CAO) a Beneficial Use Project for the Use of Concrete from Study Area 6 North and South Sites to be used On-site as Backfill Material located at 60/80 Kellogg Street, Jersey City, NJ 07305. PI No. NJD 002 144 57, CTO 130001 Study Area 6 North/South Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
10/09/14	Response to Special Master Comments Hydrocarbon-Impacted Soil Encountered Study Area 6 South Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
10/14/14	Arnold & Porter Correspondence: ICO v. Honeywell Consolidated Litigation Study Area 6 Financial Assurances	Honorable Robert G. Torricelli Office of the Special Master
10/14/14	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2014-09 Study Areas 6 and 7 Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
10/20/14	SA-6 Chromium Remedy - Asphalt Disposition Variance Study Areas 6 Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
10/20/14	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 31630016 June 2014 *(see **Attachment 12**)*	Andy Caltagirone Passaic Valley Sewerage Commission
10/21/14	Special Master Conference Call	N/A

Date	Submittal/Meeting	Recipient
10/22/14	Long Term Monitoring Program First Five Year Implementation Plan Study Area 7 Sediment Remedy Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending				
	10/5/14	10/12/14	10/19/14	10/26/14	11/2/14
Construction Management (AMEC)	11	11	11	12	12
Engineering (AMEC)	1	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1	1
Security (Securitas)	3	3	3	3	3
Entact/Subcontractors	50	48	47	43	44
Arecon/US Ecology Subcontractors	1	1	1	1	1
Evoqua	1	1	1	1	1
HBS (SA-6N GWTP Security System)	0	0	0	0	0
Other	0	0	0	0	0
TOTAL	**68**	**66**	**65**	**62**	**63**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6S and SA-6N.
- Collected October PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Completed S-3 Injection/Mass Removal Event #18 in well 088-IW-03.
- Issued Unrestricted Notice to Proceed to the JCIA demolition contractor on October 7, 2014.
- Began mobilization activities at the JCIA demolition project on October 9, 2014.
- Environ and Aquasurvey representatives performed long term monitoring activities in accordance with the sediment monitoring plan, including the bathometric survey, cap thickness verifications, sediment profile imaging (SPI), biological sampling, and pore water sampling.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on October 14, 2014.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending				
	10/5/14	10/12/14	10/19/14	10/26/14	11/2/14
Avg. Gallons Treated & Discharged (per day)	76,883	75,961	77,733	76,422	77,950
Average Flow (gpm) for Operating Period	55	53	55	53	54
Avg. Hours of Plant Operation	23	24	24	24	24
GWTP Influent Tanks (gal.)	10,900	7,821	12,463	11,147	14,262

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart, Weekly Excavation and Survey Data, Backfill Compaction Locations, and Field Density Test Summary Log)*

- Completed excavation activities in cells 73-59.
- Continued storm-water management activities.
- On October 8, 2014 we collected a soil sample from a visually anomalous material observed in a thin lens located in the southern portion of Cell 70. Laboratory analysis received on October 16, 2014 indicated the result was 6.5 mg/kg. No further action was required.
- Began Site 163 excavation activities.
- Continued installation of the Contingent Groundwater Extraction Trench Pipe.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Continued compaction testing associated with imported backfill. Adjusted the frequency of testing in accordance with specifications.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/ FCI	Roll-Off	TSDF	Stablex-Canada	WWTP Filter Cake	1	20.0	20.0
Entact/ Horwith	Tri-axle Dump	PA Transload	US Ecology	>1000 mg/kg Soils	0	0	0
Entact/ Montecalvo	30 cyd roll-off	Bayshore Recycling	NA	Non Haz Creosote Debris	3	14.14	42.42

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Entact/ FCI	30 cyd roll off	Tullytown, Pa	WM Grows	ACM Tile & Mastic	1	12.0	12.0
Entact/ FCI	Tri-axle Dump	Kearny, NJ	NJ Meadowlands	Dieldrin Stained Concrete	4	21.12	84.5
Entact/ Arecon	Tri-axle Dump	Keasbey, NJ	Bayshore	TCE Impacted Soil	9	26.1	235.6
Entact/ Arecon	Tri-axle Dump	Keasbey, NJ	Bayshore	Mercury Impacted Soil	3	26.36	79.09

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Under Excavation	Cell Number(s) 73-59
Excavation Completed	Cell Number(s) 75-59 Volume Excavated - Total for Reporting Period: 34,191 CY/ Total to Date: 151,313 CY
Backfill in Progress	Cell Number(s) 104-59

3. BACKFILL MATERIALS USED

Source	Week Ending				
	10/5/14	10/12/14	10/19/14	10/26/14	11/2/14
<20ppm re-use, CY	878	3,309	2,633	248	270
Weldon, Import-Tons Screenings	103	0	0	0	3,946
Tilcon, Import-Tons DGA	688	1,719	994	1,876	1,229
Tilcon, Import Tons – 1.5” Stone	317	26	0	0	101
Weldon, Imported Tons - QP	0	0	207	0	0
Weldon, Imported Tons - DGA	0	0	0	0	0
–Tilcon, Imported 6”-8” stone	0	0	0	0	92.08
Tilcon, Imported Tons – 2.5” Stone	0	0	0	50	0

E. SURCHARGE OPERATIONS

- Area 1S: Completed placement of imported Celgene soils between the sub-grade and surcharge design grade on the eastern portion. Began offloading western 100 ft. of 1S on October 24, 2014.
- Area 2S: Surcharging continued on Area 2S. Surcharge placement consisted of both chromium impacted soils to the design sub-grade and both imported Celgene and Novartis soils. Surcharge placement is approximately 80% complete.

- Area 3S: Instrumentation installation was completed as of November 6, 2013 and all baseline readings recorded. Temporary stockpiles are located in this area. No surcharge has been initiated.
- Area 1N: Continued surcharge removal activities. Surcharge removal activities area approximately 75% complete. Details were provided in the October 2014 Surcharge Monitoring Report No. 5.
- Area 2N: Instrumentation Installation 100% complete. Surcharge being removed from Area 1N is being relocated to Area 2N. Surcharge placement is approximately 95% complete.
- Area 3N: No activity in this area pending JCIA Demolition.
- Area 4N: No activity in this area pending JCIA Demolition.

F. SHEET PILE OPERATIONS *(see **Attachment 10**)*

- Began grouting angles of 19P1 Sheets.

G. PERMIT STATUS

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014, 1 yr. extension granted 10/6/14	-

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14	Pending	Pending	Pending

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14	Pending	Pending	Pending

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Continue JCIA Structures Demolition activities to include site preparation and abatement activities.
- Continue placement of surcharge materials in SA-6S Area 2S.
- Begin placement of surcharge material in SA-6S Area 3S.
- Continue off loading of surcharge materials from SA-6N Area 1N.
- Initiate off loading of surcharge materials from SA-6S Area 1S.
- Complete placement of surcharge materials in SA-6N Area 2N.
- Continue installation of the contingent groundwater system trench on SA-6S.
- Continue dewatering of well points/sumps installed within the SA-6S open space area.
- Complete Site 163 excavation and backfilling activities.
- Complete excavation of standalone Areas 41 and 43.
- Begin excavation of the lens of anomalous material proximate to Cell 104.
- Continue loadout and transportation and disposal activities at SA-6S.
- Continue backfill placement and associated compaction testing activities at SA-6S.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Complete sediment long term monitoring activities and final report preparation.

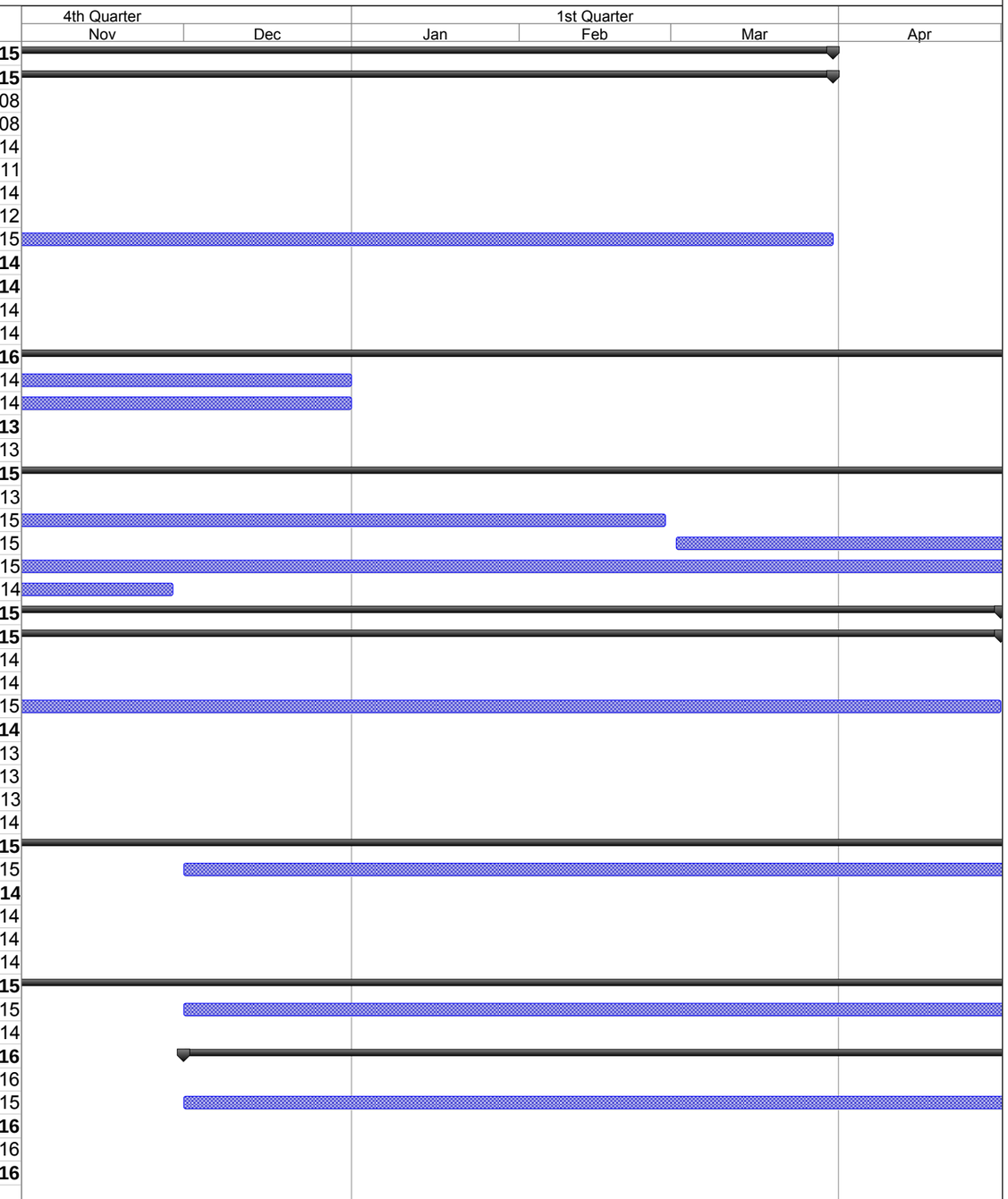
ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
   - Excavation Bottom Elevations
   - Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points
   - Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
   - Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)
4. Dewatering Operations Update
   - SA-6 South Dewatering Data (Headers)
   - SA-6 South Deep Well Data (DW-3)
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
   - Stockpiled Material Tracking and Sampling Log
7. Perimeter Pools Update
8. *Groundwater Quality Data Surcharge Monitoring Update (not included in this reporting period)*
9. Surcharge Monitoring Update
   - Figure C1: Instrumentation Location Plan 2N
   - Figure G1: Instrumentation Location Plan 2S
10. Sheet Pile Update
    - Hydraulic Barrier Wall Plan & Profile
    - Sheet Deflection Along Open Excavation
    - Sheet Monitoring Locations
    - Sheet Pile Repair Log
    - Sheet Pile Angle Grout Log
11. Weekly SWPPP Reports
12. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (September 2014)
13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**Fri 1/4/08**	**Mon 3/30/15**
18	**JCIA/JCDPW Relocation**	**1735 days**	**Mon 8/11/08**	**Mon 3/30/15**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08	Wed 10/1/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09	Mon 6/2/14
22	Relocation Contractor Procurement	392 days	Thu 4/15/10	Thu 10/13/11
23	JCIA and JCDPW Relocation	753 days	Mon 10/17/11	Fri 8/29/14
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11	Mon 4/30/12
24a	Demolition of JCIA Structures	151 days	Mon 9/1/14	Mon 3/30/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**	**Wed 4/30/14**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**	**Wed 4/30/14**
58	New GWTP Construction Completion	502 days	Mon 3/5/12	Thu 1/30/14
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11	Wed 4/30/14
60	**SA-6 North/South Field Implementation**	**838 days**	**Fri 3/1/13**	**Mon 5/16/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	Mon 6/17/13	Wed 12/31/14
60b	SA-6S (Site 163) In-Situ Treatment	294 days	Fri 11/15/13	Wed 12/31/14
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**	**Fri 6/28/13**
61a	Mobilization	87 days	Fri 3/1/13	Fri 6/28/13
62	**Surcharge Install/Instrumentation**	**620 days**	**Mon 6/17/13**	**Fri 10/30/15**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	Mon 6/17/13	Tue 12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	Mon 6/2/14	Fri 2/27/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Mon 3/2/15	Fri 10/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	Mon 10/20/14	Tue 6/30/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	Mon 3/3/14	Fri 11/28/14
63	**Barrier Wall Install**	**489 days**	**Mon 6/17/13**	**Thu 4/30/15**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**Mon 12/2/13**	**Thu 4/30/15**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	Mon 12/2/13	Fri 2/14/14
63c	SA-6N Stations 23+38 to 14+25	90 days	Mon 2/17/14	Fri 6/20/14
63d	SA-6N Stations 14+25 to 0+00	224 days	Mon 6/23/14	Thu 4/30/15
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**Mon 6/17/13**	**Fri 5/30/14**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	Mon 6/17/13	Thu 8/15/13
63h	SA-6S Stations 1+54 to 8+37	7 days	Fri 8/16/13	Mon 8/26/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	Thu 10/3/13	Fri 11/8/13
63j	SA-6S Stations 8+60 to 14+87	145 days	Mon 11/11/13	Fri 5/30/14
64	**Excavation**	**507 days**	**Tue 10/22/13**	**Wed 9/30/15**
64a	SA 6N Excavation	218 days	Mon 12/1/14	Wed 9/30/15
64b	**SA 6S Excavation**	**226 days**	**Tue 10/22/13**	**Tue 9/2/14**
64c	SA-6S Excavation of Cells 1 - 25	53 days	Tue 10/22/13	Thu 1/2/14
64d	SA-6S Excavation of Cells 26 - 60	90 days	Fri 1/3/14	Thu 5/8/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	Fri 5/9/14	Tue 9/2/14
65	**Backfill**	**493 days**	**Mon 11/11/13**	**Wed 9/30/15**
65a	SA 6N Backfill	218 days	Mon 12/1/14	Wed 9/30/15
65b	SA 6S Backfill	232 days	Mon 11/11/13	Tue 9/30/14
66	**Capping and Cover Soil Placement**	**315 days**	**Mon 12/1/14**	**Fri 2/12/16**
66a	SA 6N Capping and Cover Soil Placement	119 days	Tue 9/1/15	Fri 2/12/16
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14	Wed 12/30/15
67	**Restoration**	**164 days**	**Tue 9/1/15**	**Fri 4/15/16**
67a	Restoration	164 days	Tue 9/1/15	Fri 4/15/16
68	**Demobilization**	**21 days**	**Mon 4/18/16**	**Mon 5/16/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			



Project: SA-6 Remediation Schedule
Revision 3
Date: Tue 11/4/14

Task | Milestone | Summary | Critical

Attachment 2: Site Photographs

Site Photograph 1: Compacting backfill north of Kellogg Street.

Site Photograph 2: Contractor begins backfilling with a geotextile.

Site Photograph 3: Contractor constructs a new bermed area.

Photograph 4: Contractor loads surcharge material from the stockpile**.**

Site Photograph 5: Contractor places geotextile on the excavation bottom.

Site Photograph 6: Cutting former wooden pilings.

Site Photograph 7: Excavation continues in Kellogg Street properties.

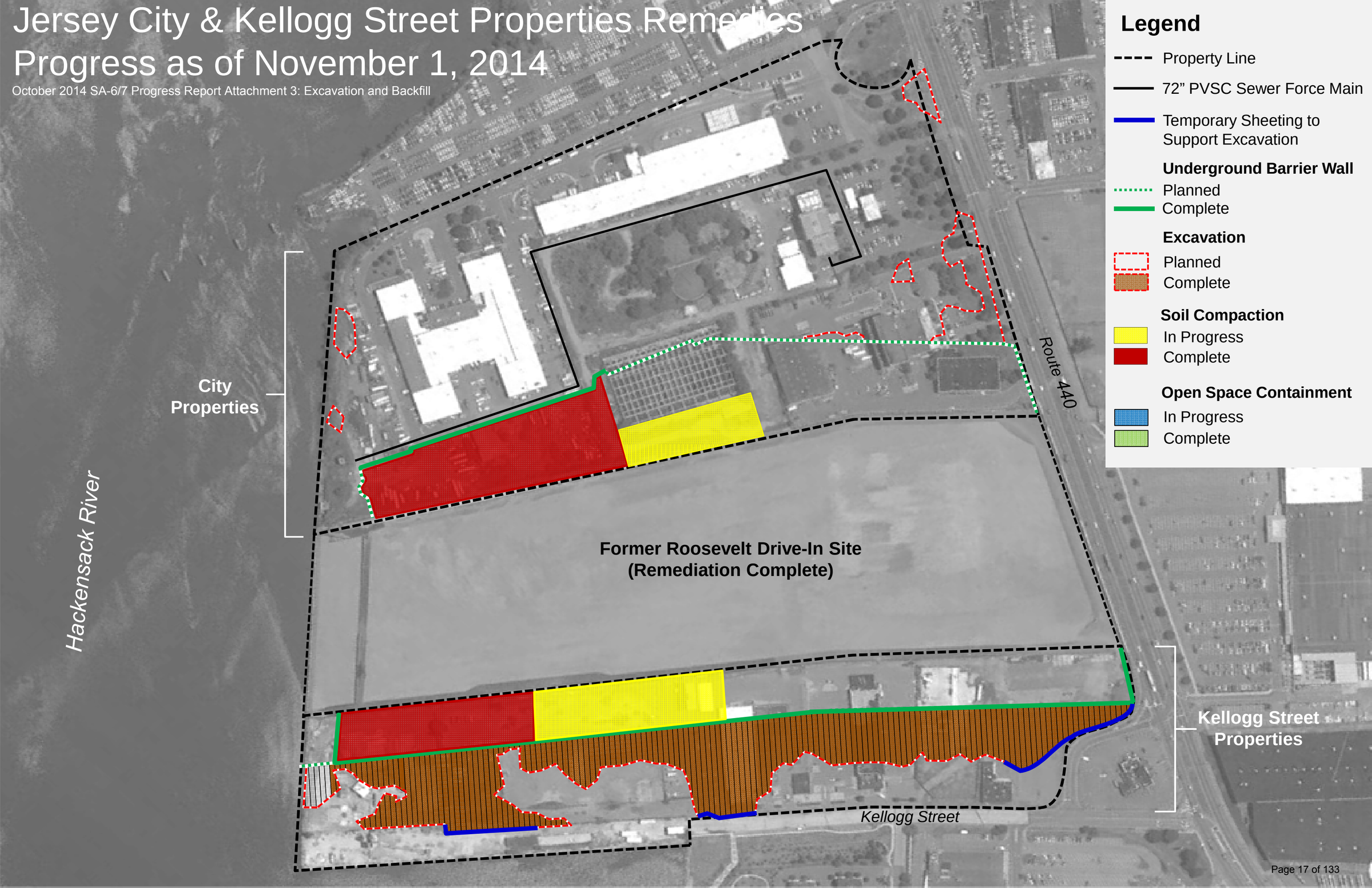
Site Photograph 8: Separation fabric placed for surcharge.

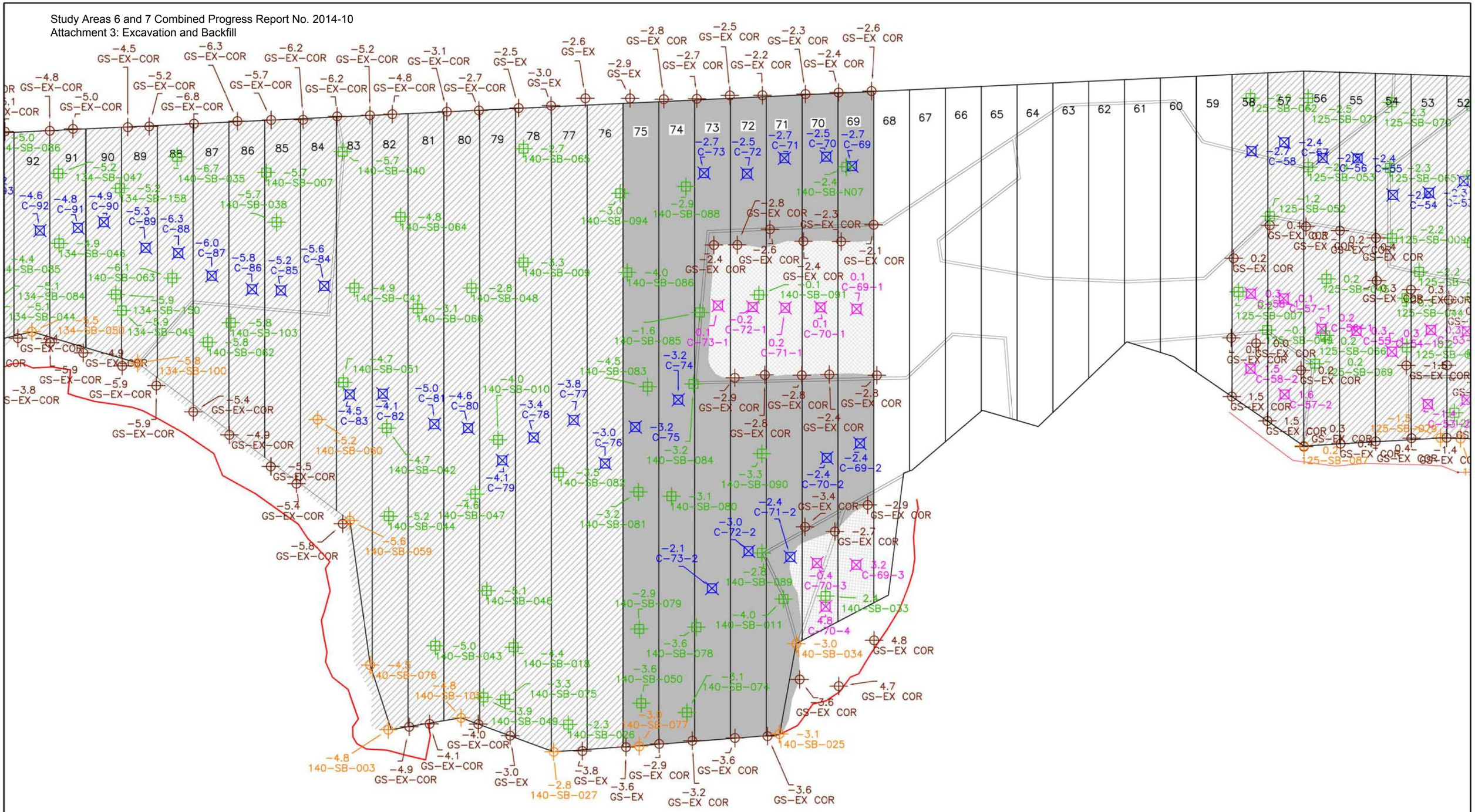
Attachment 3: Excavation and Backfill

- Progression Chart
- Excavation Bottom Elevations
- Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points
- Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
- Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)

Jersey City & Kellogg Street Properties Remedies Progress as of November 1, 2014

October 2014 SA-6/7 Progress Report Attachment 3: Excavation and Backfill





LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- BOTTOM CENTER POINT ELEVATION STRATUM D
- BOTTOM CENTER POINT ELEVATION <20 PPM
- BOTTOM CORNER POINT ELEVATION <20 PPM
- DESIGNED STRATUM O EXCAVATION LIMIT
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- CURRENT EXCAVATION TO <20 PPM
- TOP OF EXCAVATION SLOPE
- LIMIT OF EXCAVATION AREA
- TOE OF CHLOROBENZENE AREA

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: EXCAVATION BOTTOM ELEVATIONS PERIOD 10-02-14 TO 10-16-14

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

ENTACT
302 Unity Plaza
Latrobe, PA 15650

Letter of Transmittal
Honeywell SA6 North and South
Jersey City, New Jersey

To:	Eric Christodoulatis – AMEC
From:	Caroline Panico – ENTACT
CC:	Kurt Gimbel – ENTACT
	Keith Goisse – ENTACT
	Jim Hosgood – ENTACT
Project Number/Title:	E8140C/Honeywell SA6 North and South
Transmittal Title:	Survey Data and Verification
	Cells 75-69
Submission Date:	October 21, 2014

Documents Attached:

1) Excavation Confirmatory Points (Maser Consulting P.A.)
2) Excavation Bottom Elevations
3) Excavation Progress Map

Survey Data Verification:

Entact verifies that Maser Consulting P.A. has surveyed the bottom of excavations and that the final excavation grade(s) are at or below the design excavation grades throughout the corresponding excavation cells.

Signature: Caroline Panico **Date:** 10-21-14

Caroline Panico
ENTACT Quality Control

MASER CONSULTING P.A.
Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

156 Stagecoach Road
Marmora, NJ 08223
T: 609.390.1927
F: 609.390.0040
www.maserconsulting.com

SA-6 South Excavation: Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685514.6	601446.5	3.8	073-SB-029	152	4/25/2014	3.0	* Target Elevation Reached
685482.2	601420.6	4.4	073-SB-054	152	4/24/2014	2.0	* Target Elevation Reached
685458.7	601392.0	7.5	073-SB-056	152	4/24/2014	3.8	* Target Elevation Reached
685474.8	601425.1	7.5	073-SB-057	151	4/24/2014	1.9	* Target Elevation Reached
685502.9	601465.5	3.3	073-SB-028	150	4/25/2014	3.0	* Target Elevation Reached
685463.0	601435.2	2.5	073-SB-059	150	4/24/2014	1.9	* Target Elevation Reached
685490.0	601478.5	6.0	073-SB-042R	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	6.0	073-SB-042R	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	6.0	073-SB-042R	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	6.0	073-SB-042R	146A	4/24/2014	5.6	Target Elevation Reached
685448.9	601515.0	6.0	073-SB-042	145A	4/24/2014	5.6	Target Elevation Reached
685433.1	601528.8	6.0	073-SB-042R	144A	4/24/2014	5.4	Target Elevation Reached
685403.0	601506.0	-4.2	073-SB-037R	144A	4/24/2014	-4.5	Target Elevation Reached
685411.9	601522.2	-0.6	073-SB-066	143A	4/24/2014	-4.4	Target Elevation Reached
685427.6	601544.4	6.0	073-SB-042R	143A	4/24/2014	5.5	Target Elevation Reached
685430.7	601568.7	3.8	073-SB-041	142A	4/24/2014	2.0	Target Elevation Reached
685378.8	601531.7	-4.2	073-SB-037	142A	4/24/2014	-4.4	Target Elevation Reached
685371.0	601525.0	-2.2	073-SB-045	142A	4/24/2014	-4.4	Target Elevation Reached
685395.8	601557.3	2.3	073-SB-038	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.3	073-SB-038R	141A	4/24/2014	2.0	Target Elevation Reached
685410.7	601592.8	0.2	073-SB-040	140A	4/24/2014	-1.3	Target Elevation Reached
685381.0	601558.0	-3.9	073-SB-007	140A	4/24/2014	-4.4	Target Elevation Reached
685379.3	601577.9	0.6	073-SB-039	139A	4/24/2014	-4.3	Target Elevation Reached
685358.5	601560.3	-1.0	073-SB-036	139A	4/24/2014	-4.7	Target Elevation Reached
685390.7	601590.5	-0.6	073-SB-008R	139A	4/24/2014	-1.6	Target Elevation Reached
685390.0	601606.0	-0.6	073-SB-008	138A	4/29/2014	-1.6	Target Elevation Reached
685338.6	601567.5	2.1	073-SB-030R	138A	4/29/2014	1.7	Target Elevation Reached
685339.7	601592.9	1.5	073-SB-035	137A	4/29/2014	-2.9	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.1)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685328.7	601577.4	2.1	073-SB-030R	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-6.7	073-SB-009R	146B	5/5/2014	-8.0	Target Elevation Reached
685329.7	601419.3	-6.9	073-SB-047	145B	5/5/2014	-8.0	Target Elevation Reached
685314.6	601432.4	-6.7	073-SB-009R	144B	5/8/2014	-8.2	Target Elevation Reached
685318.9	601448.7	-5.3	073-SB-021	143B	5/8/2014	-7.9	Target Elevation Reached
685306.3	601465.9	-6.7	073-SB-009R	142B	5/12/2014	-7.6	Target Elevation Reached
685329.1	601510.6	-5.2	073-SB-075	141B	5/12/2014	-7.7	Target Elevation Reached
685310.4	601484.5	-4.8	073-SB-062	141B	5/12/2014	-8.0	Target Elevation Reached
685321.1	601501.8	-5.0	073-SB-065	141B	5/12/2014	-7.6	Target Elevation Reached
685288.0	601466.0	-6.7	073-SB-009	141B	5/12/2014	-7.7	Target Elevation Reached
685284.5	601485.3	-5.3	073-SB-020	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-6.7	073-SB-009R	139B	5/14/2014	-7.8	Target Elevation Reached
685256.2	601505.4	-3.2	073-SB-019	138B	5/14/2014	-7.7	Target Elevation Reached
685277.8	601539.2	2.1	073-SB-030R	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-0.6	073-SB-008R	136	5/5/2014	-1.5	Target Elevation Reached
685344.3	601618.9	-1.8	073-SB-033	136	5/5/2014	-2.9	Target Elevation Reached
685315.0	601587.9	2.1	073-SB-030R	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-0.6	073-SB-008R	135	5/8/2014	-1.4	Target Elevation Reached
685362.2	601641.7	-0.2	073-SB-034	135	5/8/2014	-2.8	Target Elevation Reached
685272.1	601572.6	2.1	073-SB-030R	135	5/19/2014	1.7	Target Elevation Reached
685248.2	601551.5	0.3	073-SB-050	135	5/19/2014	-1.2	Target Elevation Reached
685230.4	601535.5	0.3	073-SB-018	135	5/19/2014	-1.2	Target Elevation Reached
685358.1	601659.9	-0.6	073-SB-008R	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-1.8	073-SB-033R	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	073-SB-030R	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	0.6	073-SB-017R	134	5/19/2014	-1.2	Target Elevation Reached
685212.0	601570.0	-1.4	073-SB-011	133	5/22/2014	-3.3	Target Elevation Reached
685324.0	601643.0	-0.4	073-SB-010	133	5/14/2014	-2.7	Target Elevation Reached
685300.3	601630.9	2.1	073-SB-030	133	5/14/2014	1.8	Target Elevation Reached
685338.7	601665.5	2.3	073-SB-032R	133	5/12/2014	-0.1	Target Elevation Reached
685322.3	601651.3	-1.2	134-SB-136R	133	5/14/2014	-1.7	Target Elevation Reached
685215.0	601563.9	0.6	073-SB-017R	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.3	073-SB-032R	132	5/12/2014	1.7	Target Elevation Reached
685257.3	601619.3	2.1	073-SB-030R	132	5/19/2014	1.8	Target Elevation Reached
685194.1	601565.5	0.6	073-SB-017R	132	5/22/2014	-1.6	Target Elevation Reached
685216.3	601579.5	1.1	073-SB-049	132	5/22/2014	-3.0	Target Elevation Reached
685324.7	601663.5	2.3	073-SB-032	132	5/14/2014	-1.5	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.2)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685193.1	601579.8	0.6	073-SB-017	131	5/22/2014	-2.7	Target Elevation Reached
685301.9	601671.1	0.1	073-SB-031	131	5/14/2014	-1.5	Target Elevation Reached
685328.1	601694.6	2.3	073-SB-032R	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	073-SB-030R	131	5/19/2014	2.0	Target Elevation Reached
685202.7	601594.7	-1.4	073-SB-011R	131	5/22/2014	-2.9	Target Elevation Reached
685321.3	601708.0	2.3	073-SB-032R	130	5/19/2014	1.9	Target Elevation Reached
685300.8	601690.9	-1.2	134-SB-136R	130	5/19/2014	-1.5	Target Elevation Reached
685240.0	601641.1	2.1	073-SB-030R	130	5/19/2014	1.9	Target Elevation Reached
685193.4	601601.4	-1.4	073-SB-011R	130	5/22/2014	-2.5	Target Elevation Reached
685176.5	601589.8	0.6	073-SB-017R	130	5/22/2014	-1.9	Target Elevation Reached
685195.4	601621.6	-2.7	134-SB-123	129	5/27/2014	-7.9	Target Elevation Reached
685212.1	601635.4	-0.6	134-SB-132	129	5/27/2014	-8.2	Target Elevation Reached
685242.2	601665.8	1.3	134-SB-134	129	5/27/2014	0.2	Target Elevation Reached
685305.3	601707.9	-1.2	134-SB-140	129	5/19/2014	-1.2	Target Elevation Reached
685158.2	601591.1	-6.6	134-SB-114	129	5/27/2014	-7.6	Target Elevation Reached
685311.8	601720.4	2.3	073-SB-032R	129	5/22/2014	1.9	Target Elevation Reached
685263.1	601682.1	2.1	073-SB-030R	129	5/22/2014	1.8	Target Elevation Reached
685289.8	601729.8	2.0	134-SB-139	128	5/27/2014	-1.3	Target Elevation Reached
685303.5	601732.5	2.3	073-SB-032R	128	5/22/2014	1.9	Target Elevation Reached
685269.5	601703.1	2.1	073-SB-030R	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	1.3	134-SB-134R	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-6.7	134-SB-129R	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	2.4	134-SB-014R	127	5/29/2014	0.3	Target Elevation Reached
685276.2	601720.2	4.5	134-SB-135	127	5/27/2014	-1.2	Target Elevation Reached
685237.1	601700.2	1.3	134-SB-134R	127	6/2/2014	0.1	Target Elevation Reached
685258.0	601714.0	-1.1	134-SB-012	127	5/29/2014	-1.4	Target Elevation Reached
685226.8	601681.6	-0.7	134-SB-133	127	6/2/2014	-7.6	Target Elevation Reached
685172.0	601639.0	-5.6	134-SB-013	127	6/5/2014	-7.7	Target Elevation Reached
685285.7	601758.3	2.4	134-SB-014R	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	134-SB-136R	126	6/2/2014	-1.4	Target Elevation Reached
685122.8	601623.1	-8.4	134-SB-115	126	6/10/2014	-8.8	Target Elevation Reached
685155.2	601653.8	-5.8	134-SB-122	126	6/10/2014	-7.8	Target Elevation Reached
685178.8	601676.4	-6.1	134-SB-131	126	6/10/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.3)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685212.9	601702.0	-0.7	134-SB-130	126	6/10/2014	-7.7	Target Elevation Reached
685277.9	601769.3	2.4	134-SB-014R	125	6/2/2014	-0.6	Target Elevation Reached
685269.3	601754.4	-1.1	134-SB-138	125	6/2/2014	-1.7	Target Elevation Reached
685158.0	601676.7	-6.7	134-SB-129R	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	134-SB-115R	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	2.4	134-SB-014R	124	6/10/2014	0.1	Target Elevation Reached
685266.0	601776.0	2.4	134-SB-014	124	6/10/2014	-2.9	Target Elevation Reached
685100.0	601650.0	1.2	134-SB-116	124	6/17/2014	-8.2	Stratum D Reached
685136.1	601677.4	-7.7	134-SB-121	124	6/17/2014	-8.1	Stratum D Reached
685262.3	601792.9	2.4	134-SB-014R	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-1.5	134-SB-137R	123	6/10/2014	-2.8	Target Elevation Reached
685225.1	601760.9	-1.3	134-SB-136	123	6/10/2014	-1.7	Target Elevation Reached
685165.9	601710.7	-6.7	134-SB-129	123	6/17/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	134-SB-120R	123	6/20/2014	-7.8	Stratum D Reached
685252.4	601807.4	2.4	134-SB-014R	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601798.5	-1.5	134-SB-137	122	6/17/2014	-2.8	Target Elevation Reached
685207.9	601771.1	-1.3	134-SB-136R	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-6.7	134-SB-129R	122	6/20/2014	-7.5	Stratum D Reached
685113.6	601700.2	-8.7	134-SB-120	122	6/20/2014	-6.9	Stratum D Reached
685242.2	601818.1	2.4	134-SB-014R	121	6/17/2014	0.3	Target Elevation Reached
685201.0	601787.0	-0.6	134-SB-015	121	6/20/2014	-2.5	Target Elevation Reached
685189.3	601776.9	-1.3	134-SB-136R	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.3	124-SB-124R	121	6/25/2014	-2.5	Target Elevation Reached
685175.7	601754.9	-4.5	134-SB-127	121	6/20/2014	-7.8	Stratum D Reached
685140.4	601734.6	-0.8	134-SB-125	121	6/20/2014	-7.4	Stratum D Reached
685104.7	601708.0	-8.7	134-SB-120R	121	6/25/2014	-6.1	Stratum D Reached
685079.9	601677.2	0.9	134-SB-117	121	6/20/2014	-6.8	Stratum D Reached
685233.4	601829.1	2.4	134-SB-014R	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-1.5	134-SB-137R	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.3	134-SB-136R	120	6/20/2014	-1.5	Target Elevation Reached
685112.0	601735.0	-6.7	134-SB-016	120	6/25/2014	-7.5	Stratum D Reached
685094.8	601725.1	-5.2	134-SB-119	120	6/25/2014	-6.9	Stratum D Reached
685062.9	601695.5	-7.9	134-SB-118	120	6/25/2014	-6.4	Stratum D Reached
685159.9	601776.2	-2.3	134-SB-124	120	6/25/2014	-2.5	Target Elevation Reached
685223.8	601840.5	2.4	134-SB-014R	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-1.5	134-SB-137R	119	6/25/2014	-2.8	Target Elevation Reached
685170.4	601797.8	0.4	134-SB-060	119	6/25/2014	-1.4	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.4)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.7	601780.4	-2.3	124-SB-124R	119	6/25/2014	-2.8	Target Elevation Reached
685208.4	601850.6	2.4	134-SB-033R	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.4	134-SB-033R	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.4	134-SB-033R	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.4	134-SB-033R	115A	6/25/2014	-0.1	Target Elevation Reached
685069.9	601738.9	4.1	134-SB-155	118B	6/30/2014	-7.1	Stratum D Reached
685042.3	601722.7	-8.9	134-SB-141	118B	7/8/2014	-7.1	Stratum D Reached
685057.7	601744.9	-8.9	134-SB-141R	117B	7/8/2014	-6.5	Stratum D Reached
685040.6	601747.5	-6.8	134-SB-147	116B	7/8/2014	-6.9	Stratum D Reached
685024.0	601763.4	4.1	134-SB-154	115B	7/10/2014	-5.6	Stratum D Reached
685177.7	601903.0	2.4	134-SB-033R	114A	6/30/2014	0.5	Target Elevation Reached
685132.0	601873.0	-0.6	134-SB-019	114A	7/3/2014	-1.7	Target Elevation Reached
685014.9	601776.3	4.1	134-SB-154R	114B	7/10/2014	3.9	Target Elevation Reached
685159.0	601914.0	2.4	134-SB-033	113A	7/3/2014	0.7	Target Elevation Reached
685116.3	601878.4	0.8	134-SB-057	113A	7/3/2014	-2.0	Target Elevation Reached
685006.3	601780.6	4.1	134-SB-154R	113B	7/17/2014	3.6	Target Elevation Reached
685157.5	601925.6	2.4	134-SB-033R	112A	7/8/2014	0.0	Target Elevation Reached
685126.3	601904.5	-1.2	134-SB-052	112A	7/8/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.1	134-SB-154R	112B	7/17/2014	3.6	Target Elevation Reached
685145.9	601933.8	2.4	134-SB-033R	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	134-SB-052R	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.1	134-SB-154R	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.4	134-SB-033R	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	134-SB-052R	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.1	134-SB-154R	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.4	134-SB-033R	109A	7/10/2014	1.5	Target Elevation Reached
685111.5	601936.0	1.4	134-SB-056	109A	7/10/2014	-1.3	Target Elevation Reached
684960.2	601820.4	4.1	134-SB-154R	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.4	134-SB-033R	108A	7/17/2014	1.6	Target Elevation Reached
685087.5	601946.0	-1.2	134-SB-052R	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.1	134-SB-154R	108B	7/17/2014	3.6	Target Elevation Reached
685117.6	601982.8	0.9	134-SB-062	107A	7/17/2014	-5.0	Stratum D Reached
685087.5	601965.4	1.8	134-SB-051	107A	7/17/2014	-5.1	Stratum D Reached
684939.3	601841.8	4.1	134-SB-154R	107B	7/17/2014	3.6	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.5)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684928.5	601848.2	4.1	134-SB-154R	106B	7/17/2014	3.8	Target Elevation Reached
685068.5	601974.0	1.2	134-SB-061	106A	7/23/2014	-5.2	Stratum D Reached
685046.6	601950.7	1.2	134-SB-061R	106A	7/23/2014	-2.8	Target Elevation Reached
685076.6	601999.1	-6.7	134-SB-065	105	7/23/2014	-4.7	Stratum D Reached
685029.8	601954.8	1.2	134-SB-061R	105	7/23/2014	-2.8	Target Elevation Reached
685087.0	602018.0	-5.7	134-SB-024	104	7/29/2014	-5.1	Stratum D Reached
685017.7	601961.5	1.2	134-SB-061R	104	7/29/2014	-5.7	Stratum D Reached
685065.1	602014.9	-5.2	134-SB-064	103	7/29/2014	-5.1	Stratum D Reached
685036.9	601997.8	-5.2	134-SB-078	103	7/29/2014	-6.2	Stratum D Reached
685012.8	601978.1	-7.5	134-SB-113	103	7/29/2014	-7.2	Stratum D Reached
685021.0	602007.9	-7.9	134-SB-080	102	7/31/2014	-6.0	Stratum D Reached
685024.9	602029.4	-7.8	134-SB-042	101	8/4/2014	-5.6	Stratum D Reached
684982.2	601991.3	0.1	134-SB-098	101	8/4/2014	-8.0	Stratum D Reached
685016.6	602043.2	-6.1	134-SB-032R	100	8/6/2014	-6.2	Stratum D Reached
685003.8	602054.0	-6.4	134-SB-083	99	8/6/2014	-5.4	Stratum D Reached
685001.8	602054.2	-7.4	134-SB-S08	99	8/6/2014	-5.2	Stratum D Reached
685033.1	602098.5	-6.7	134-SB-063	98	8/8/2014	-5.4	Stratum D Reached
684988.8	602075.4	-7.4	134-SB-043	97	8/8/2014	-4.6	Stratum D Reached
684959.7	602075.1	-7.1	134-SB-054	96	8/12/2014	-5.1	Stratum D Reached
685001.0	602117.0	-6.1	134-SB-032	95	8/12/2014	-5.5	Stratum D Reached
684972.2	602122.1	-6.1	134-SB-032R	94	8/14/2014	-4.6	Stratum D Reached
684941.6	602113.9	-7.6	134-SB-044	93	8/14/2014	-5.1	Stratum D Reached
684945.3	602113.6	-5.6	134-SB-084	93	8/14/2014	-5.1	Stratum D Reached
684966.5	602131.5	-6.4	134-SB-085	93	8/14/2014	-4.4	Stratum D Reached
684994.9	602150.7	-6.4	134-SB-086	93	8/14/2014	-5.0	Stratum D Reached
684955.8	602150.0	-6.1	134-SB-032R	92	8/18/2014	-4.6	Stratum D Reached
684946.6	602152.9	-7.0	134-SB-046	91	8/18/2014	-4.9	Stratum D Reached
684969.5	602171.1	-6.5	134-SB-047	91	8/18/2014	-5.2	Stratum D Reached
684915.0	602157.9	-6.4	134-SB-150	90	8/20/2014	-5.9	Stratum D Reached
684948.5	602187.3	-5.8	134-SB-158	90	8/20/2014	-5.2	Stratum D Reached
684908.2	602155.7	-8.0	134-SB-049	89	8/20/2014	-5.9	Stratum D Reached
684943.6	602214.1	-6.9	140-SB-035	88	8/25/2014	-6.7	Stratum D Reached
684905.5	602180.6	-7.8	140-SB-063	88	8/25/2014	-6.1	Stratum D Reached
684875.3	602175.3	-7.8	140-SB-062	87	8/25/2014	-5.8	Stratum D Reached
684875.5	602187.9	-7.3	140-SB-103	86	8/29/2014	-5.8	Stratum D Reached
684915.0	602239.0	-6.1	140-SB-007	85	8/29/2014	-5.7	Stratum D Reached
684896.1	602229.3	-6.6	140-SB-038	85	8/29/2014	-5.7	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.6)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684862.9	602228.0	-6.1	134-SB-032R	84	9/4/2014	-5.6	Stratum D Reached
684901.7	602269.3	-5.3	140-SB-040	83	9/4/2014	-5.7	Stratum D Reached
684826.5	602208.8	-6.5	140-SB-051	83	9/4/2014	-4.7	Stratum D Reached
684854.3	602237.3	-6.7	140-SB-041	83	9/4/2014	-4.9	Stratum D Reached
684771.0	602188.4	-4.8	140-SB-044	82	9/10/2014	-5.2	Stratum D Reached
684800.2	602210.9	-6.5	140-SB-042	82	9/10/2014	-4.7	Stratum D Reached
684865.2	602271.1	-6.2	140-SB-064	82	9/10/2014	-4.8	Stratum D Reached
684830.9	602252.5	-6.3	140-SB-066	81	9/17/2014	-3.1	Stratum D Reached
684716.6	602169.4	-0.2	140-SB-043	81	9/17/2014	-5.0	Stratum D Reached
684755.4	602222.4	-5.7	140-SB-047	80	9/23/2014	-4.6	Stratum D Reached
684823.4	602275.4	-5.0	140-SB-048	80	9/17/2014	-2.8	Stratum D Reached
684687.1	602171.5	0.3	140-SB-049	79	9/23/2014	-3.9	Stratum D Reached
684721.0	602200.6	-4.2	140-SB-046	79	9/23/2014	-5.1	Stratum D Reached
684680.8	602178.0	-3.3	140-SB-075	79	9/23/2014	-3.3	Stratum D Reached
684695.5	602194.5	-4.8	140-SB-018	79	9/23/2014	-4.4	Stratum D Reached
684767.0	602244.0	-4.4	140-SB-010	79	9/23/2014	-4.0	Stratum D Reached
684818.0	602299.0	-5.4	140-SB-009	78	9/23/2014	-3.3	Stratum D Reached
684855.0	602329.0	-5.8	140-SB-065	78	9/23/2014	-2.7	Stratum D Reached
684656.0	602192.0	-2.7	140-SB-026	77	9/29/2014	-2.3	Stratum D Reached
684740.4	602255.2	-5.4	140-SB-082	77	9/29/2014	-3.5	Stratum D Reached
684815.0	602348.7	-3.4	140-SB-094	76	10/2/2014	-3.0	Stratum D Reached
684787.4	602330.2	-0.4	140-SB-086	75	10/2/2014	-4.0	Stratum D Reached
684744.9	602306.7	-1.4	140-SB-083	75	10/2/2014	-4.5	Stratum D Reached
684713.1	602276.0	-0.4	140-SB-081	75	10/2/2014	-3.2	Stratum D Reached
684668.4	602240.2	0.1	140-SB-079	75	10/2/2014	-2.9	Stratum D Reached
684643.7	602221.3	-4.2	140-SB-050	75	10/2/2014	-3.6	Stratum D Reached
684628.7	602233.7	-2.9	140-SB-074	74	10/2/2014	-3.1	Stratum D Reached
684703.0	602285.6	2.6	140-SB-080	74	10/2/2014	-3.1	Stratum D Reached
684733.7	602322.4	0.6	140-SB-084	74	10/2/2014	-3.2	Stratum D Reached
684799.9	602371.9	0.1	140-SB-088	74	10/2/2014	-2.9	Stratum D Reached
684653.9	602259.3	-1.4	140-SB-078	73	10/2/2014	-3.6	Stratum D Reached
684755.3	602343.3	0.6	140-SB-085	73	10/7/2014	-1.6	Stratum D Reached
684660.7	602300.1	0.9	140-SB-089	72	10/9/2014	-2.8	Stratum D Reached
684693.1	602326.3	-3.0	140-SB-090	72	10/7/2014	-3.3	Stratum D Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area. Coordinates come from Center Points within that specific cell.

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

* Target Reached. Over excavation conducted as directed by engineer.

SA-6 South Excavation: Confirmatory Points (Table 1.7)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684745.4	602367.1	1.0	140-SB-091	72	10/7/2014	-0.1	Target Elevation Reached
684640.0	602295.0	1.9	140-SB-011	71	10/9/2014	-4.0	Stratum D Reached
684734.3	602372.2	0.4	125-SB-029R	71	10/9/2014	0.2	Target Elevation Reached
684629.9	602309.5	5.8	140-SB-033	70	10/9/2014	2.4	Target Elevation Reached
684725.2	602383.8	0.4	125-SB-029R	70	10/9/2014	0.1	Target Elevation Reached
684642.9	602315.4	0.9	140-SB-089R	70	10/9/2014	-0.4	Target Elevation Reached
684764.0	602429.2	-7.0	140-SB-N07	69	10/14/2014	-2.4	Stratum D Reached
684715.1	602395.2	0.4	125-SB-029R	69	10/14/2014	0.1	Target Elevation Reached
684632.0	602327.7	5.8	140-SB-033R	69	10/14/2014	3.2	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.0)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685460.6	601379.6	5.7	C-153	153	4/24/2014	3.9	Target Elevation Reached- Cell only partially excavated
685497.5	601425.0	5.7	C-152	152	4/24/2014	4.2	Target Elevation Reached
685453.0	601392.1	5.7	C-152-1	152	4/24/2014	3.7	Target Elevation Reached
685467.8	601422.4	5.7	C-151	151	4/24/2014	1.9	Target Elevation Reached
685489.7	601438.8	5.7	C-151-1	151	4/24/2014	3.9	Target Elevation Reached
685448.1	601407.0	5.7	C-151-2	151	4/24/2014	4.0	Target Elevation Reached
685511.4	601454.1	3.3	C-151-3	151	4/25/2014	3.0	Target Elevation Reached
685455.0	601431.7	5.7	C-150	150	4/24/2014	2.1	Target Elevation Reached
685480.8	601450.0	5.7	C-150-1	150	4/24/2014	4.0	Target Elevation Reached
685502.2	601463.5	2.8	C-150-2	150	4/25/2014	2.8	Target Elevation Reached
685490.0	601478.5	5.7	C-149	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	5.7	C-148	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	5.7	C-147	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	5.7	C-146	146A	4/24/2014	5.6	Target Elevation Reached
685444.3	601518.5	5.7	C-145	145A	4/24/2014	5.5	Target Elevation Reached
685403.0	601506.0	-4.3	C-144	144A	4/24/2014	-4.5	Target Elevation Reached
685433.1	601528.8	5.7	C-144-1	144A	4/24/2014	5.4	Target Elevation Reached
685396.1	601517.4	-4.3	C-143	143A	4/24/2014	-5.3	Target Elevation Reached
685427.6	601544.4	5.7	C-143-1	143A	4/24/2014	5.5	Target Elevation Reached
685386.6	601530.7	-4.3	C-142	142A	4/24/2014	-4.8	Target Elevation Reached
685416.3	601555.6	5.7	C-142-1	142A	4/24/2014	1.9	Target Elevation Reached
685379.5	601542.9	-4.3	C-141	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.1	C-141-1	141A	4/24/2014	2.0	Target Elevation Reached
685371.7	601554.8	-4.3	C-140	140A	4/24/2014	-4.5	Target Elevation Reached
685401.1	601580.7	2.1	C-140-1	140A	4/24/2014	-1.5	Target Elevation Reached
685352.9	601555.6	-4.3	C-139	139A	4/24/2014	-4.4	Target Elevation Reached
685390.7	601590.5	-1.2	C-139-1	139A	4/24/2014	-1.6	Target Elevation Reached
685368.1	601592.3	-1.2	C-138	138A	4/29/2014	-1.5	Target Elevation Reached
685338.6	601567.5	2.1	C-138-1	138A	4/29/2014	1.7	Target Elevation Reached
685359.7	601603.5	-1.2	C-137	137A	4/29/2014	-1.5	Target Elevation Reached
685328.7	601577.4	2.1	C-137-1	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-7.5	C-146-B	146B	5/5/2014	-8.0	Target Elevation Reached
685320.3	601420.2	-7.5	C-145-B	145B	5/5/2014	-7.8	Target Elevation Reached
685314.6	601432.4	-7.5	C-144-B	144B	5/8/2014	-8.2	Target Elevation Reached
685307.0	601446.0	-7.5	C-143-B	143B	5/8/2014	-8.0	Target Elevation Reached
685306.3	601465.9	-7.5	C142-B	142B	5/12/2014	-7.6	Target Elevation Reached
685304.8	601483.2	-7.5	C-141-B	141B	5/12/2014	-7.9	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.1)

Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685295.5	601493.5	-7.5	C-140-B	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-7.5	C-139-B	139B	5/14/2014	-7.8	Target Elevation Reached
685266.5	601506.3	-7.5	C-138-B	138B	5/14/2014	-7.8	Target Elevation Reached
685277.8	601539.2	2.1	C-137-B	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-1.2	C-136-2	136	5/5/2014	-1.5	Target Elevation Reached
685343.4	601610.1	-2.5	C-136	136	5/5/2014	-2.8	Target Elevation Reached
685315.0	601587.9	2.1	C-136-1	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-1.2	C-135-1	135	5/8/2014	-1.4	Target Elevation Reached
685348.8	601634.5	-2.5	C-135	135	5/8/2014	-2.6	Target Elevation Reached
685272.1	601572.6	2.1	C-135-2	135	5/19/2014	1.7	Target Elevation Reached
685236.7	601544.8	-1.2	C-135-3	135	5/19/2014	-1.3	Target Elevation Reached
685358.1	601659.9	-1.2	C-134-1	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-2.5	C-134	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	C-134-2	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	-1.2	C-134-3	134	5/19/2014	-1.2	Target Elevation Reached
685322.3	601651.3	-1.2	C-133-1	133	5/14/2014	-1.7	Target Elevation Reached
685338.7	601665.5	0.4	C-133	133	5/12/2014	-0.1	Target Elevation Reached
685264.0	601607.6	2.1	C-133-2	133	5/19/2014	1.8	Target Elevation Reached
685215.0	601563.9	-1.2	C-133-3	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.1	C-132-1	132	5/12/2014	1.7	Target Elevation Reached
685314.3	601666.4	-1.2	C-132	132	5/14/2014	-1.5	Target Elevation Reached
685210.3	601579.7	-2.5	C-132-B	132	5/22/2014	-3.2	Target Elevation Reached
685194.1	601565.5	-1.2	C-132-B1	132	5/22/2014	-1.6	Target Elevation Reached
685257.3	601619.3	2.1	C-132-2	132	5/19/2014	1.8	Target Elevation Reached
685307.8	601677.9	-1.2	C-131	131	5/14/2014	-1.4	Target Elevation Reached
685202.7	601594.7	-2.5	C-131-B	131	5/22/2014	-2.9	Target Elevation Reached
685184.3	601577.4	-1.2	C-131-B1	131	5/22/2014	-2.1	Target Elevation Reached
685328.1	601694.6	2.1	C-131-1	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	C-131-2	131	5/19/2014	2.0	Target Elevation Reached
685193.4	601601.4	-2.5	C-130-B	130	5/22/2014	-2.5	Target Elevation Reached
685300.8	601690.9	-1.2	C-130	130	5/19/2014	-1.5	Target Elevation Reached
685176.5	601589.8	-1.2	C-130-B1	130	5/22/2014	-1.9	Target Elevation Reached
685240.0	601641.1	2.1	C-130-2	130	5/19/2014	1.9	Target Elevation Reached
685321.3	601708.0	2.1	C-130-1	130	5/19/2014	1.9	Target Elevation Reached
685294.8	601706.8	-1.2	C-129-A	129	5/22/2014	-1.4	Target Elevation Reached
685311.8	601720.4	2.1	C-129-A1	129	5/22/2014	1.9	Target Elevation Reached
685186.2	601619.2	-7.5	C-129-B	129	5/27/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.2)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685236.4	601661.1	0.4	C-129-1	129	5/27/2014	0.1	Target Elevation Reached
685263.1	601682.1	2.1	C-129-2	129	5/22/2014	1.8	Target Elevation Reached
685303.5	601732.5	2.1	C-128-A-1	128	5/22/2014	1.9	Target Elevation Reached
685286.6	601718.1	-1.2	C-128-A	128	5/22/2014	-1.4	Target Elevation Reached
685269.5	601703.1	2.1	C-128-A-2	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	0.4	C-128-A-3	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-7.5	C-128-B	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	0.4	C-127-A	127	5/29/2014	0.3	Target Elevation Reached
685271.3	601725.5	-1.2	C-127-A-1	127	5/29/2014	-1.3	Target Elevation Reached
685237.1	601700.2	0.4	C-127-A-2	127	6/2/2014	0.1	Target Elevation Reached
685171.9	601645.3	-7.5	C-127-B	127	6/5/2014	-7.5	Target Elevation Reached
685285.7	601758.3	0.4	C-126-A-1	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	C-126-A	126	6/2/2014	-1.4	Target Elevation Reached
685166.8	601663.7	-7.5	C-126-3	126	6/10/2014	-7.6	Target Elevation Reached
685122.3	601624.7	-8.4	C-126-4	126	6/10/2014	-8.8	Target Elevation Reached
685277.9	601769.3	0.4	C-125	125	6/2/2014	-0.6	Target Elevation Reached
685241.9	601742.6	-1.2	C-125-1	125	6/5/2014	-1.4	Target Elevation Reached
685158.0	601676.7	-7.5	C-125-2	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	C-125-3	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	0.4	C-124	124	6/10/2014	0.1	Target Elevation Reached
685261.7	601778.9	-2.5	C-124-1	124	6/10/2014	-2.8	Target Elevation Reached
685230.8	601752.7	-1.2	C-124-2	124	6/10/2014	-1.4	Target Elevation Reached
685172.8	601704.6	-7.5	C-124-4	124	6/17/2014	-7.7	Stratum D Reached
685128.8	601669.1	-8.7	C-124-5	124	6/17/2014	-7.8	Stratum D Reached
685104.8	601647.4	-7.5	C-124-6	124	6/17/2014	-8.6	Stratum D Reached
685262.3	601792.9	0.4	C-123	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-2.5	C-123-1	123	6/10/2014	-2.8	Target Elevation Reached
685221.2	601763.9	-1.2	C-123-2	123	6/10/2014	-1.7	Target Elevation Reached
685162.4	601719.5	-7.5	C-123-3	123	6/20/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	C-123-4	123	6/20/2014	-7.8	Stratum D Reached
685091.7	601659.6	-7.5	C-123-5	123	6/20/2014	-8.1	Stratum D Reached
685252.4	601807.4	0.4	C-122	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601792.7	-2.5	C-122-1	122	6/13/2014	-2.6	Target Elevation Reached
685207.9	601771.1	-1.2	C-122-2	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-7.5	C-122-5	122	6/20/2014	-7.5	Stratum D Reached
685108.5	601694.5	-8.7	C-122-6	122	6/20/2014	-6.9	Stratum D Reached
685086.9	601671.6	-7.5	C-122-3	122	6/20/2014	-7.4	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.3)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685242.2	601818.1	0.4	C-121	121	6/17/2014	0.3	Target Elevation Reached
685214.5	601794.9	-2.5	C-121-3	121	6/20/2014	-2.6	Target Elevation Reached
685189.3	601776.9	-1.2	C-121-2	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.5	C-121-5	121	6/25/2014	-2.5	Target Elevation Reached
685127.3	601725.9	-7.5	C-121-6	121	6/25/2014	-7.0	Stratum D Reached
685104.7	601708.0	-8.7	C-121-7	121	6/25/2014	-6.1	Stratum D Reached
685073.0	601686.3	-7.5	C-121-8	121	6/25/2014	-7.1	Stratum D Reached
685233.4	601829.1	0.4	C-120-1	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-2.5	C-120	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.2	C-120-2	120	6/20/2014	-1.5	Target Elevation Reached
685153.6	601765.8	-2.5	C-120-3	120	6/25/2014	-2.7	Target Elevation Reached
685095.6	601718.8	-7.5	C-120-4	120	6/25/2014	-6.9	Stratum D Reached
685223.8	601840.5	0.4	C-119	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-2.5	C-119-1	119	6/25/2014	-2.8	Target Elevation Reached
685172.6	601798.3	-1.2	C-119-2	119	6/25/2014	-1.2	Target Elevation Reached
685145.7	601780.4	-2.5	C-119-3	119	6/25/2014	-2.8	Target Elevation Reached
685080.0	601724.8	-7.5	C-119-4	119	6/30/2014	-6.9	Stratum D Reached
685208.4	601850.6	2.1	C-118	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.1	C-117	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.1	C-116	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.1	C-115	115A	6/25/2014	-0.1	Target Elevation Reached
685069.7	601734.8	-7.5	C-118-1	118B	6/30/2014	-6.1	Stratum D Reached
685057.7	601744.9	-7.5	C-117-1	117B	7/8/2014	-6.5	Stratum D Reached
685031.8	601746.6	-7.5	C-116-1	116B	7/8/2014	-7.0	Stratum D Reached
685022.1	601754.6	-7.5	C-115-1	115B	7/10/2014	-5.9	Stratum D Reached
685177.7	601903.0	2.1	C-114	114A	6/30/2014	0.5	Target Elevation Reached
685147.1	601873.7	-1.2	C-114-1	114A	6/30/2014	-1.3	Target Elevation Reached
685014.9	601776.3	4.2	C-114-2	114B	7/10/2014	3.9	Target Elevation Reached
684985.2	601787.3	4.2	C-114-3	114B	7/17/2014	-1.8	UST Area
685166.0	601912.1	2.1	C-113-1	113A	7/3/2014	0.9	Target Elevation Reached
685134.0	601884.4	-1.2	C-113-2	113A	7/3/2014	-1.7	Target Elevation Reached
685006.3	601780.6	4.2	C-113-3	113B	7/17/2014	3.6	Target Elevation Reached
684998.3	601772.8	4.2	C-113-4	113B	7/17/2014	-2.1	UST Area
685157.5	601925.6	2.1	C-112	112A	7/8/2014	0.0	Target Elevation Reached
685124.9	601894.4	-1.2	C-112-1	112A	7/3/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.2	C-112-2	112B	7/17/2014	3.6	Target Elevation Reached
685002.7	601764.7	4.2	C-112-3	112B	7/17/2014	-2.0	UST Area

SA-6 South Excavation: Center Points (Table 2.4)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.9	601933.8	2.1	C-111-1	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	C-111	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.2	C-111-4	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.1	C-110	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	C-110-1	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.2	C-110-4	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.1	C-109	109A	7/10/2014	1.5	Target Elevation Reached
685097.4	601930.7	-1.2	C-109-1	109A	7/10/2014	-1.5	Target Elevation Reached
684960.2	601820.4	4.2	C-109-4	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.1	C-108-1	108A	7/17/2014	1.6	Target Elevation Reached
685087.5	601946.0	-1.2	C-108	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.2	C-108-4	108B	7/17/2014	3.6	Target Elevation Reached
685110.1	601981.8	-4.3	C-107-1	107A	7/17/2014	-4.8	Stratum D Reached
685069.0	601948.1	-1.2	C-107-2	107A	7/17/2014	-1.3	Target Elevation Reached
684939.3	601841.8	4.2	C-107-4	107B	7/17/2014	3.6	Target Elevation Reached
684928.5	601848.2	4.2	C-106-4	106B	7/17/2014	3.8	Target Elevation Reached
685089.2	601980.6	-4.3	C-106	106A	7/23/2014	-5.3	Stratum D Reached
685046.6	601950.7	-2.5	C-106-1	106A	7/23/2014	-2.8	Target Elevation Reached
685080.0	601994.5	-4.3	C-105	105	7/23/2014	-5.2	Stratum D Reached
685029.8	601954.8	-2.5	C-105-1	105	7/23/2014	-2.8	Target Elevation Reached
685062.9	602000.7	-4.3	C-104	104	7/29/2014	-5.3	Stratum D Reached
685017.7	601961.5	-2.5	C-104-1	104	7/29/2014	-5.7	Stratum D Reached
685027.6	601993.5	-4.3	C-103	103	7/29/2014	-6.5	Stratum D Reached
685021.1	602004.8	-4.3	C-102	102	7/31/2014	-6.1	Stratum D Reached
685014.2	602023.1	-4.3	C-101	101	8/4/2014	-5.8	Stratum D Reached
685016.6	602043.2	-4.3	C-100	100	8/6/2014	-6.2	Stratum D Reached
685015.8	602057.5	-4.3	C-99	99	8/6/2014	-5.6	Stratum D Reached
685008.9	602072.0	-4.3	C-98	98	8/8/2014	-5.2	Stratum D Reached
685000.4	602084.6	-4.3	C-97	97	8/8/2014	-4.8	Stratum D Reached
684989.2	602093.1	-4.3	C-96	96	8/12/2014	-5.5	Stratum D Reached
684975.6	602105.6	-4.3	C-95	95	8/12/2014	-5.6	Stratum D Reached
684972.2	602122.1	-4.3	C-94	94	8/14/2014	-4.6	Stratum D Reached
684974.5	602139.6	-4.3	C-93	93	8/14/2014	-4.2	Stratum D Reached
684955.8	602150.0	-4.3	C-92	92	8/18/2014	-4.6	Stratum D Reached
684946.7	602163.1	-4.3	C-91	91	8/18/2014	-4.8	Stratum D Reached
684941.7	602173.1	-4.3	C-90	90	8/20/2014	-4.9	Stratum D Reached
684922.3	602179.9	-4.3	C-89	89	8/20/2014	-5.3	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.5)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684912.0	602189.2	-4.3	C-88	88	8/25/2014	-6.3	Stratum D Reached
684895.8	602194.1	-4.3	C-87	87	8/25/2014	-6.0	Stratum D Reached
684880.8	602203.6	-4.3	C-86	86	8/29/2014	-5.8	Stratum D Reached
684872.8	602212.7	-4.3	C-85	85	8/29/2014	-5.2	Stratum D Reached
684862.9	602228.0	-4.3	C-84	84	9/4/2014	-5.6	Stratum D Reached
684820.9	602207.7	-2.5	C-83	83	9/4/2014	-4.5	Stratum D Reached
684812.4	602218.7	-2.5	C-82	82	9/10/2014	-4.1	Stratum D Reached
684788.9	602227.5	-2.5	C-81	81	9/17/2014	-5.0	Stratum D Reached
684778.7	602237.4	-2.5	C-80	80	9/17/2014	-4.6	Stratum D Reached
684759.2	602240.0	-2.5	C-79	79	9/23/2014	-4.1	Stratum D Reached
684758.4	602256.3	-2.5	C-78	78	9/23/2014	-3.4	Stratum D Reached
684753.6	602273.9	-2.5	C-77	77	9/29/2014	-3.8	Stratum D Reached
684731.1	602272.7	-2.5	C-76	76	9/29/2014	-3.0	Stratum D Reached
684735.0	602292.1	-2.5	C-75	75	10/2/2014	-3.2	Stratum D Reached
684732.6	602313.2	-2.5	C-74	74	10/2/2014	-3.2	Stratum D Reached
684799.5	602381.3	-2.5	C-73	73	10/7/2014	-2.7	Stratum D Reached
684752.7	602351.0	0.4	C-73-1	73	10/7/2014	0.1	Target Elevation Reached
684662.4	602274.6	-2.5	C-73-2	73	10/7/2014	-2.1	Stratum D Reached
684788.0	602395.1	-2.5	C-72	72	10/7/2014	-2.5	Stratum D Reached
684743.1	602361.9	0.4	C-72-1	72	10/7/2014	-0.2	Target Elevation Reached
684664.8	602296.2	-2.5	C-72-2	72	10/7/2014	-3.0	Stratum D Reached
684783.1	602411.4	-2.5	C-71	71	10/9/2014	-2.7	Stratum D Reached
684734.3	602372.2	0.4	C-71-1	71	10/9/2014	0.2	Target Elevation Reached
684652.0	602308.3	-2.5	C-71-2	71	10/9/2014	-2.4	Stratum D Reached
684772.6	602425.4	-2.5	C-70	70	10/9/2014	-2.5	Stratum D Reached
684725.2	602383.8	0.4	C-70-1	70	10/9/2014	0.1	Target Elevation Reached
684674.6	602346.3	-2.5	C-70-2	70	10/9/2014	-2.4	Stratum D Reached
684642.9	602315.4	2.1	C-70-3	70	10/9/2014	-0.4	Target Elevation Reached
684626.5	602306.7	5.7	C-70-4	70	10/9/2014	4.8	Target Elevation Reached
684762.8	602431.3	-2.5	C-69	69	10/14/2014	-2.7	Stratum D Reached
684715.1	602395.2	0.4	C-69-1	69	10/14/2014	0.1	Target Elevation Reached
684670.5	602360.9	-2.5	C-69-2	69	10/14/2014	-2.4	Stratum D Reached
684632.0	602327.7	5.7	C-69-3	69	10/14/2014	3.2	Target Elevation Reached

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

Green shading indicates 100% Design Bottom Elevation Field Modified to reach < 20 PPM soils .

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)

Sidewall Target Coordinates					As-built Elevations		
685443.0	601355.0	5.8	073-SB-003	153	4/24/2014	4.0	Target Elevation Reached
685441.6	601380.0	6.7	073-SB-078	152	4/24/2014	3.9	Target Elevation Reached
685490.9	601459.8	7.8	073-SB-027	150	4/24/2014	3.8	Target Elevation Reached
685459.6	601448.4	5.9	073-SB-064	149	4/24/2014	2.0	Target Elevation Reached
685438.1	601430.2	8.8	073-SB-063	149	4/24/2014	1.8	Target Elevation Reached
685470.0	601487.0	5.9	073-SB-004	148	4/24/2014	5.7	Target Elevation Reached
685471.0	601475.6	4.3	073-SB-079	148	7/31/2014	4.3	Target Elevation Reached
685451.0	601460.9	7.1	073-SB-082	148	7/31/2014	2.2	Target Elevation Reached
685383.5	601506.5	0.9	073-SB-060	143A	4/24/2014	-4.4	Target Elevation Reached
685368.1	601516.7	0.4	073-SB-077	142A	4/24/2014	-4.5	Target Elevation Reached
685341.4	601558.3	2.9	073-SB-046	139A	4/24/2014	-4.5	Target Elevation Reached
685309.0	601571.0	3.8	073-SB-006	137A	4/29/2014	1.9	Target Elevation Reached
685339.2	601410.1	-5.7	073-SB-048	146B	5/5/2014	-7.7	Target Elevation Reached
685319.6	601464.4	-5.4	073-SB-022	143B	5/8/2014	-7.5	Target Elevation Reached
685332.6	601487.8	-3.6	073-SB-071	142B	5/12/2014	-7.6	Target Elevation Reached
685344.0	601523.8	-4.1	073-SB-076	141B	5/12/2014	-7.6	Target Elevation Reached
685316.0	601542.0	-6.2	073-SB-016	138B	5/14/2014	-7.8	Target Elevation Reached
685304.5	601530.7	-5.8	073-SB-051	138B	5/14/2014	-7.5	Target Elevation Reached
685132.7	601748.9	-1.7	134-SB-126	120	6/25/2014	-7.2	Stratum D Reached
685210.2	601831.4	-0.8	134-SB-072	119	6/25/2014	-2.5	Target Elevation Reached
685116.0	601754.5	-6.0	134-SB-157	119	6/30/2014	-6.9	Stratum D Reached
685165.3	601806.2	3.5	134-SB-094	118B	6/25/2014	-1.6	Target Elevation Reached
685131.0	601787.0	-2.3	134-SB-017	118B	6/25/2014	-3.3	Target Elevation Reached
685197.0	601868.0	6.0	134-SB-034	117A	6/25/2014	-0.3	Target Elevation Reached
685073.0	601769.4	-6.5	134-SB-142	116B	7/8/2014	-6.3	Stratum D Reached
685168.1	601879.4	-0.7	134-SB-058	115A	6/30/2014	-1.6	Target Elevation Reached
685137.3	601854.1	2.7	134-SB-073	115A	6/30/2014	-1.4	Target Elevation Reached
685043.3	601773.2	6.0	134-SB-152	115B	7/10/2014	-5.5	Stratum D Reached
685111.7	601863.3	2.2	134-SB-074	113A	7/3/2014	-1.3	Target Elevation Reached
685013.2	601803.0	6.0	134-SB-156	112B	7/17/2014	3.7	Target Elevation Reached
685094.6	601890.3	2.2	134-SB-075	111A	7/8/2014	-1.6	Target Elevation Reached
685081.0	601928.0	-0.1	134-SB-021	109A	7/10/2014	-1.6	Target Elevation Reached
685080.6	601935.9	3.0	134-SB-092	108A	7/10/2014	-1.6	Target Elevation Reached
684976.1	601816.3	6.1	134-SB-144	110B	7/17/2014	3.9	Target Elevation Reached
684949.4	601849.3	6.1	134-SB-145	107B	7/17/2014	3.8	Target Elevation Reached
685042.0	601935.0	-0.3	134-SB-023	107A	7/17/2014	-2.7	Target Elevation Reached
684999.7	601940.5	-0.5	134-SB-097	104	7/29/2014	-7.2	Stratum D Reached
684969.0	601950.0	-4.3	134-SB-025	103	7/31/2014	-5.3	Stratum D Reached

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.1)							
Sidewall Target Coordinates					As-built Elevations		
684966.4	601991.2	0.8	134-SB-111	100	8/4/2014	-5.8	Stratum D Reached
684986.0	602025.0	-2.7	134-SB-027	100	8/6/2014	-6.3	Stratum D Reached
684948.7	602072.2	-3.2	134-SB-099	96	8/12/2014	-5.4	Stratum D Reached
684925.0	602120.8	-4.2	134-SB-050	92	8/18/2014	-5.5	Stratum D Reached
684887.0	602147.0	-2.1	134-SB-100	89	8/20/2014	-5.8	Stratum D Reached
684821.2	602190.7	-4.8	140-SB-060	84	9/4/2014	-5.2	Stratum D Reached
684779.8	602174.6	-0.8	140-SB-059	83	9/10/2014	-5.6	Stratum D Reached
684727.5	602143.2	0.7	140-SB-076	83	9/10/2014	-4.5	Stratum D Reached
684701.3	602132.8	-0.8	140-SB-003	82	9/10/2014	-4.8	Stratum D Reached
684686.4	602158.8	-0.8	140-SB-105	80	9/17/2014	-4.8	Stratum D Reached
684651.0	602180.0	-2.1	140-SB-027	77	9/29/2014	-2.8	Stratum D Reached
684630.0	602210.0	-1.9	140-SB-077	75	10/2/2014	-3.0	Stratum D Reached
684622.2	602287.4	-2.0	140-SB-034	71	10/9/2014	-3.0	Stratum D Reached
684597.0	602258.0	-3.2	140-SB-025	71	10/9/2014	-3.1	Stratum D Reached

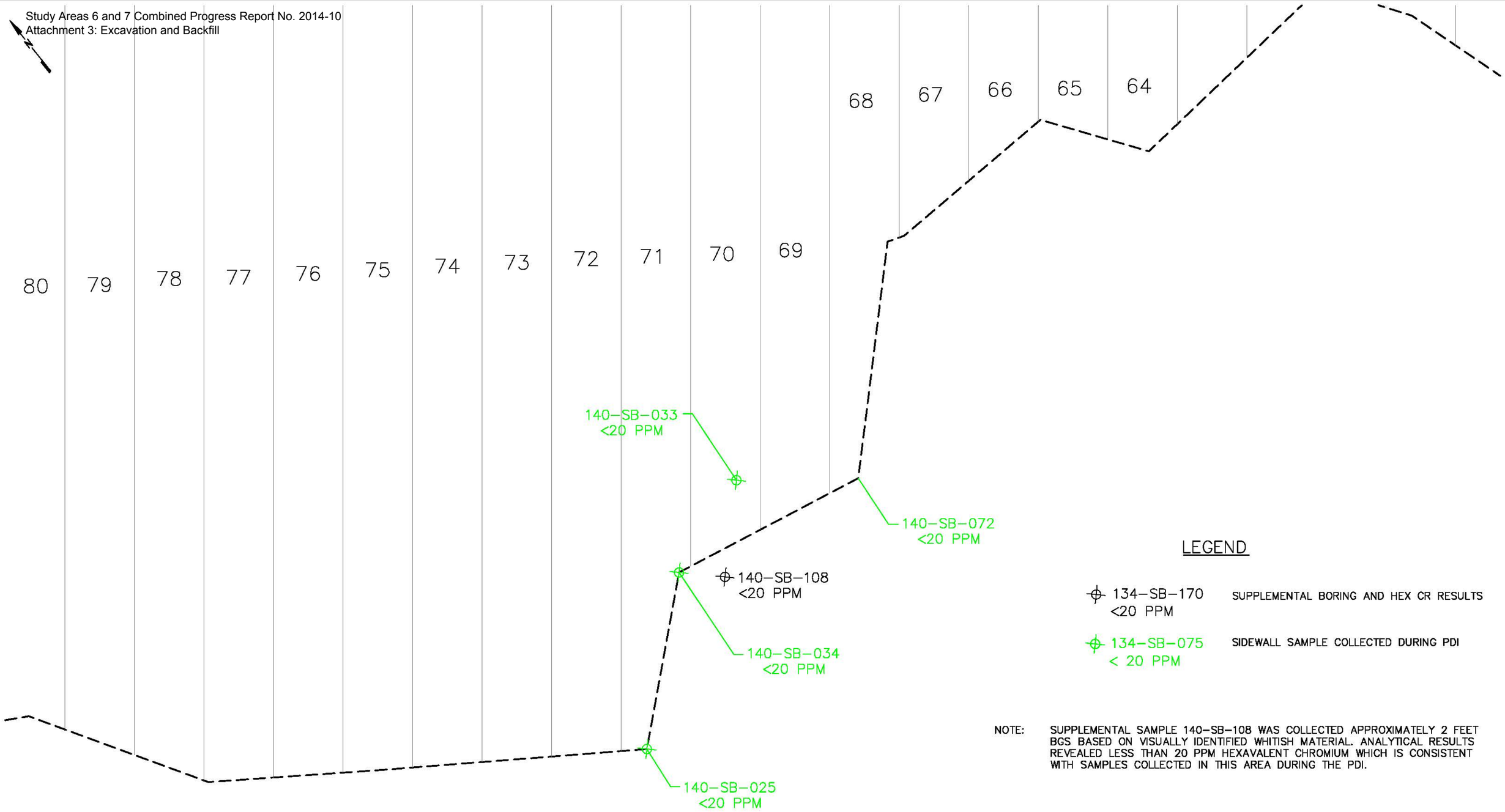
Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

R. Thomas Hugg 10/20/14

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR

LICENSE NO. 36737



LEGEND

134-SB-170 <20 PPM	SUPPLEMENTAL BORING AND HEX CR RESULTS
134-SB-075 < 20 PPM	SIDEWALL SAMPLE COLLECTED DURING PDI

NOTE: SUPPLEMENTAL SAMPLE 140-SB-108 WAS COLLECTED APPROXIMATELY 2 FEET BGS BASED ON VISUALLY IDENTIFIED WHITISH MATERIAL. ANALYTICAL RESULTS REVEALED LESS THAN 20 PPM HEXAVALENT CHROMIUM WHICH IS CONSISTENT WITH SAMPLES COLLECTED IN THIS AREA DURING THE PDI.

Prepared/Date: TDD 10/24/14
Checked/Date: SGS 10/24/14

0 5 10 20
SCALE IN FEET

Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec

LENS OF WHITE ANOMALOUS MATERIAL
SUPPLEMENTAL BORING LOCATION
FIGURE 1

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-01		684138.4	603182.3	-0.5							4	Crushed concrete	Bottom of excavation elevation	
2	BF-01-01	12/5/2013	684144.2	603184.2	1.0	136.4	3.7	142.6	7.8	96	95	4	Weldon WC QP		Sor
3	BF-01-02	12/5/2013	684137.8	603181.7	1.9	139.9	4.3	142.6	7.8	98	95	4	Weldon WC QP		Sor
4	BF-01-03	12/6/2013	684140.2	603182.7	2.5	141.2	5.0	142.6	7.8	99	95	4	Weldon WC QP		Sor
5	BF-01-04	12/6/2013	684136.6	603190.0	3.5	141.2	5.6	142.6	7.8	99	95	4	Weldon WC QP		Sor
6	BF-01-05	12/6/2013	684134.9	603186.7	4.5	143.2	4.8	142.6	7.8	100	95	4	Weldon WC QP		Sor
7	BF-01-06	12/6/2013	684141.1	603182.6	5.8	139.6	6.0	142.6	7.8	98	95	4	Weldon WC QP		Sor
8	BF-01-07	12/10/2013	684147.6	603186.8	6.2	146.7	5.1	142.6	7.8	103	95	4	Weldon WC QP		Sor
9	BF-01-08	12/10/2013	684140.2	603189.6	7.1	120.1	3.4	128.9	12.1	93	95	4	Weldon WC Screenings	recompact lift	Sor
9	BF-01-08R	12/10/2013	684140.2	603189.6	7.1	129.9	4.9	128.9	12.1	101	95	4	Weldon WC Screenings	second reading after addl compaction	Sor
10	BF-01-09	12/12/2013	684130.1	603175.5	8.1	126.4	3.3	128.9	12.1	98	95	4	Weldon WC Screenings		Sor
11	BF-01-10	12/31/2013	684140.0	603184.3	9.0	139.6	7.4	128.9	12.1	108	95	4	Weldon WC Screenings		Sor
1	BF-02		684153.8	603153.9	-0.6							6	Crushed concrete	Bottom of excavation elevation	
2	BF-02-01	12/5/2013	684162.8	603161.3	1.4	138.2	5.7	142.6	7.8	97	95	6	Weldon WC QP		Sor
3	BF-02-02	12/5/2013	684160.8	603162.3	2.4	136.2	4.5	142.6	7.8	96	95	6	Weldon WC QP		Sor
4	BF-02-03	12/6/2013	684157.7	603161.3	2.7	147.2	5.6	142.6	7.8	103	95	6	Weldon WC QP		Sor
5	BF-02-04	12/6/2013	684145.7	603162.1	3.7	143.5	5.0	142.6	7.8	101	95	6	Weldon WC QP		Sor
6	BF-02-05	12/6/2013	684156.9	603171.0	4.4	145.7	4.1	142.6	7.8	102	95	6	Weldon WC QP		Sor
7	BF-02-06	12/6/2013	684150.1	603155.4	5.6	140.4	4.6	142.6	7.8	98	95	6	Weldon WC QP		Sor
8	BF-02-07	12/10/2013	684135.5	603153.5	6.1	149.4	4.0	142.6	7.8	105	95	6	Weldon WC QP		Sor
9	BF-02-08	12/10/2013	684157.9	603174.9	7.2	125.8	5.2	128.9	12.1	98	95	6	Weldon WC Screenings		Sor
1	BF-03		684179.9	603119.5	-1.2							9	Crushed concrete	Bottom of excavation elevation	
2	BF-03											9	Type A Material	No compaction testing required	
3	BF-03-01	11/22/2013	684198.1	603131.6	0.2	133.3	3.4	142.6	7.8	93	95	9	Weldon WC QP		Sor
4	BF-03-02	11/22/2013	684155.7	603111.6	1.5	130.8	2.8	142.6	7.8	92	95	9	Weldon WC QP		Sor
5	BF-03-03	12/5/2013	684177.4	603121.5	2.5	135.7	2.0	128.9	12.1	105	95	9	Weldon WC Screenings		Sor
6	BF-03-04	12/12/2013	684180.5	603126.9	4.6	124.7	3.2	128.9	12.1	97	95	9	Weldon WC Screenings		Sor
7	BF-03-05	12/12/2013	684177.1	603132.4	5.3	132.5	2.8	128.9	12.1	103	95	9	Weldon WC Screenings		Sor
8	BF-03-06	12/16/2013	684172.4	603128.5	6.4	128.3	2.9	128.9	12.1	100	95	9	Weldon WC Screenings		Sor
9	BF-03-07	1/6/2014	684177.1	603113.8	6.6	131.2	10.4	128.9	12.1	102	95	9	Weldon WC Screenings		Sor
10	BF-03-08	1/9/2014	684178.2	603121.8	8.2	128.2	5.9	128.9	12.1	99	95	9	Weldon WC Screenings		Sor
1	BF-04		684195.7	603093.1	-1.5							11	Crushed concrete	Bottom of excavation elevation	
2	BF-04											11	Type A Material	No compaction testing required	
3	BF-04-01	12/5/2013	684198.0	603094.8	2.6	131.0	3.6	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
4	BF-04-02	12/12/2013	684206.6	603104.7	3.5	125.8	3.9	128.9	12.1	98	95	11	Weldon WC Screenings		Sor
5	BF-04-03	12/16/2013	684217.5	603111.1	4.9	129.9	2.9	128.9	12.1	101	95	11	Weldon WC Screenings		Sor
6	BF-04-04	12/31/2013	684213.6	603115.0	5.9	124.6	3.2	128.9	12.1	97	95	11	Weldon WC Screenings		Sor
7	BF-04-05	1/9/2014	684195.8	603100.0	8.2	131.2	4.8	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
1	BF-05		684200.8	603078.4	-1.8							12	Crushed concrete	Bottom of excavation elevation	
2	BF-05											12	Type A Material	No compaction testing required	
3	BF-05-01	12/5/2013	684185.2	603057.9	2.6	133.8	4.7	128.9	12.1	104	95	12	Weldon WC Screenings		Sor
4	BF-05-02	12/12/2013	684179.9	603057.7	3.0	121.5	3.0	128.9	12.1	94	95	12	Weldon WC Screenings	recompact lift	Sor
4	BF-05-02R	12/16/2013	684186.2	603070.2	3.1	133.0	9.3	128.9	12.1	103	95	12	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-05-03	12/31/2013	684181.6	603060.8	4.5	124.7	2.9	128.9	12.1	97	95	12	Weldon WC Screenings		Sor
6	BF-05-04	1/9/2013	684186.1	603053.5	5.8	129.7	3.3	128.9	12.1	101	95	12	Weldon WC Screenings		Sor
7	BF-05-05	1/9/2013	684180.6	603048.6	6.5	131.1	3.4	128.9	12.1	102	95	12	Weldon WC Screenings		Sor
8	BF-05-06	3/19/2014	684180.6	603060.4	7.5	122.5	4.9	128.9	12.1	95	95	12	Weldon WC Screenings		Sor
1	BF-06		684214.8	603050.6	-1.7							14	Crushed concrete	Bottom of excavation elevation	
2	BF-06											14	Crushed concrete	No compaction testing required	
3	BF-06-01	12/31/2013	684229.9	603061.3	2.2	137.7	3.4	128.9	12.1	107	95	14	Weldon WC Screenings		Sor
4	BF-06-02	12/31/2013	684228.8	603062.8	3.5	133.1	3.4	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
5	BF-06-03	1/6/2014	684234.0	603066.8	4.2	123.7	9.5	128.9	12.1	96	95	14	Weldon WC Screenings		Sor
6	BF-06-04	1/9/2014	684230.8	603071.3	6.2	133.1	4.2	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
7	BF-06-05	1/9/2014	684213.9	603095.7	7.3	133.8	5.0	128.9	12.1	104	95	14	Weldon WC Screenings		Sor
1	BF-07		684222.7	603033.3	-0.8							15	Crushed concrete	Bottom of excavation elevation	
2	BF-07											15	Crushed concrete	No compaction testing required	
3	BF-07-01	12/31/2013	684196.2	603014.9	2.5	133.1	2.6	128.9	12.1	103	95	15	Weldon WC Screenings		Sor
4	BF-07-02	12/31/2013	684192.8	603021.1	3.9	133.2	3.4	128.9	12.1	103	95	15	Weldon WC Screenings	Numbering error; skipped from 02 to 04	Sor
6	BF-07-04	1/9/2014	684196.9	603018.8	5.7	118.5	3.9	128.9	12.1	92	95	15	Weldon WC Screenings	recompact lift	Sor
6	BF-07-04R	1/9/2014	684196.9	603018.8	5.7	122.6	4.3	128.9	12.1	95	95	15	Weldon WC Screenings	second reading after addl compaction	Sor
7	BF-07-05	1/9/2014	684195.0	603021.0	6.4	128.4	6.7	128.9	12.1	100	95	15	Weldon WC Screenings		Sor

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-08		684221.8	603013.0	-0.7							16	Crushed concrete	Bottom of excavation elevation	
2	BF-08											16	Crushed concrete	No compaction testing required	
3	BF-08-01	12/31/2013	684246.9	603039.8	2.0	127.2	3.2	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
4	BF-08-02	12/31/2013	684240.5	603043.2	3.1	132.7	2.9	128.9	12.1	103	95	16	Weldon WC Screenings		Sor
5	BF-08-03	1/6/2014	684231.7	603038.8	3.9	127.0	8.4	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
6	BF-08-04	1/9/2014	684242.3	603046.8	5.4	130.1	4.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
7	BF-08-05	1/9/2014	684236.3	603066.0	7.1	129.8	6.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
1	BF-09		684208.5	602989.4	-0.5							17	Crushed concrete	Bottom of excavation elevation	
2	BF-09											17	Crushed concrete	No compaction testing required	
3	BF-09-01	1/28/2014	684209.7	602987.6	2.5	124.0	7.9	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
4	BF-09-02	1/28/2014	684213.6	602980.4	3.4	123.4	6.1	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
5	BF-09-03	1/28/2014	684204.2	602981.5	4.2	124.9	7.1	128.9	12.1	97	95	17	Weldon WC Screenings		Sor
1	BF-10		684269.0	603014.0	-0.5							18	Crushed concrete	Bottom of excavation elevation	
2	BF-10											18	Crushed concrete	No compaction testing required	
3	BF-10-01	1/20/2014	684275.4	603018.2	2.2	133.1	7.7	128.9	12.1	103	95	18	Weldon WC Screenings		Sor
4	BF-10-02	1/28/2014	684267.5	603026.1	3.2	118.8	3.1	128.9	12.1	92	95	18	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-10-02R	1/28/2014	684267.5	603026.1	3.2	133.3	6.1	128.9	12.1	103	95	18	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-10-03	1/28/2014	684271.8	603014.4	4.1	125.7	5.4	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
6	BF-10-04	3/21/2014	684267.9	603017.5	5.2	126.4	6.8	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
1	BF-11		684208.5	602989.4	-1.0							19	Crushed concrete	Bottom of excavation elevation	
2	BF-11											19	Crushed concrete	No compaction testing required	
3	BF-11-01	1/28/2014	684216.6	602952.7	2.1	125.2	8.8	128.9	12.1	97	95	19	Weldon WC Screenings		Sor
4	BF-11-02	1/28/2014	684223.4	602953.8	3.4	129.8	4.2	128.9	12.1	101	95	19	Weldon WC Screenings		Sor
5	BF-11-03	1/28/2014	684211.6	602949.0	4.0	123.4	6.6	128.9	12.1	96	95	19	Weldon WC Screenings		Sor
1	BF-12		684286.7	602988.6	-1.7							20	Crushed concrete	Bottom of excavation elevation	
2	BF-12											20	Crushed concrete	No compaction testing required	
3	BF-12-01	1/20/2014	684291.7	602995.2	1.8	133.3	8.3	128.9	12.1	103	95	20	Weldon WC Screenings		Sor
4	BF-12-02	1/28/2014	684288.5	602989.8	2.9	121.6	4.0	128.9	12.1	94	95	20	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-12-02R	1/28/2014	684288.5	602989.8	2.9	128.5	5.8	128.9	12.1	100	95	20	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-12-03	1/28/2014	684291.3	602995.4	3.7	136.9	7.5	128.9	12.1	106	95	20	Weldon WC Screenings		Sor
1	BF-13		684235.7	602919.6	-0.9							22	Crushed concrete	Bottom of excavation elevation	
2	BF-13											22	Crushed concrete	No compaction testing required	
3	BF-13-01	1/28/2014	684235.6	602919.1	2.1	130.1	5.8	128.9	12.1	101	95	22	Weldon WC Screenings		Sor
3	BF-13-01R	3/12/2014	684238.5	602922.0	2.1	132.0	2.9	135.8	6.4	97	95	22	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-13-02	3/12/2014	684238.4	602918.2	3.4	133.0	1.4	135.8	6.4	98	95	22	Tilcon MH DGA		V5N
5	BF-13-03	3/19/2014	684235.1	602916.0	4.5	124.0	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
1	BF-14		684312.1	602956.0	-0.9							23	Crushed concrete	Bottom of excavation elevation	
2	BF-14											23	Crushed concrete	No compaction testing required	
3	BF-14-01	1/20/2014	684312.7	602965.2	1.8	133.9	7.0	128.9	12.1	104	95	23	Weldon WC Screenings		Sor
3	BF-14-01R	3/13/2013	684289.6	602935.7	1.8	132.0	1.7	135.8	6.4	97	95	23	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-14-02	3/14/2014	684301.9	602952.7	2.6	133.0	1.6	135.8	6.4	98	95	23	Tilcon MH DGA		V5N
1	BF-15		684260.7	602896.7	-0.9							24	Crushed concrete	Bottom of excavation elevation	
2	BF-15											24	Crushed concrete	No compaction testing required	
3	BF-15-01	1/28/2014	684259.0	602897.1	2.1	123.6	9.0	128.9	12.1	96	95	24	Weldon WC Screenings		Sor
3	BF-15-01R	3/12/2014	684264.5	602902.2	2.1	131.0	2.4	135.8	6.4	96	95	24	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-15-02	3/12/2014	684260.5	602900.2	2.8	133.0	1.3	135.8	6.4	98	95	24	Tilcon MH DGA		V5N
1	BF-16		684326.7	602937.0	-1.1							25	Crushed concrete	Bottom of excavation elevation	
2	BF-16											25	Crushed concrete	No compaction testing required	
3	BF-16-01	1/20/2014	684331.9	602942.7	1.6	136.1	7.4	128.9	12.1	106	95	25	Weldon WC Screenings		Sor
3	BF-16-01R	3/13/2014	6844330.0	602937.2	1.8	132.2	1.4	135.8	6.4	97	95	25	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-16-02	3/14/2014	684326.7	602930.0	2.5	134.0	1.2	135.8	6.4	99	95	25	Tilcon MH DGA		V5N
1	BF-17		684283.7	602879.0	0.4							26	Crushed concrete	Bottom of excavation elevation-Stratum O	
2	BF-17											26	Crushed concrete	No compaction testing required	
3	BF-17-01	3/12/2014	684284.6	602882.1	2.1	130.0	2.9	135.8	6.4	96	95	26	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-17-02	3/14/2014	684273.7	602879.1	3.1	132.0	2.2	135.8	6.4	97	95	26	Tilcon MH DGA		V5N
1	BF-18		684350.8	602909.6	-1.5							27	Crushed concrete	Bottom of excavation elevation	
2	BF-18											27	Crushed concrete	No compaction testing required	
3	BF-18-01	3/13/2014	684313.5	602885.6	1.5	132.4	1.4	135.8	6.4	97	95	27	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-18-02	3/14/2014	684344.0	602911.5	2.7	134.0	1.1	135.8	6.4	99	95	27	Tilcon MH DGA		V5N
1	BF-19		684313.2	602860.4	0.3							28	Crushed concrete	Bottom of excavation elevation - Stratum O	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
2	BF-19											28	Crushed concrete	No compaction testing required	
3	BF-19-01	3/14/2014	684322.1	602872.7	2.8	134.0	0.9	135.8	6.4	99	95	28	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-19-02	3/17/2014	684301.4	602851.5	3.6	133.0	1.3	135.8	6.4	98	95	28	Tilcon MH DGA		V5N
1	BF-20		684370.9	602887.4	-1.7							29	Crushed concrete	Bottom of excavation elevation	
2	BF-20											29	Crushed concrete	No compaction testing required	
3	BF-20-01	3/17/2014	6843640.5	602862.1	2.0	133.0	1.7	135.8	6.4	98	95	29	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-21		684330.4	602835.9	1.9							30	Crushed concrete	Bottom of excavation elevation - Startum O	
2	BF-21-01	3/14/2014	684343.3	602842.2	2.4	132.0	1.6	135.8	6.4	97	95	30	Tilcon MH DGA	Removed wet screenings to crushed concrete and placed Bridge Lift	V5N
3	BF-21-02	3/17/2014	684307.4	602827.3	3.3	134.0	0.8	135.8	6.4	99	95	30	Tilcon MH DGA	Bridge Lift over Stratum O	V5N
4	BF-21-03	3/19/2014	684314.6	602830.9	3.9	122.5	5.1	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
5	BF-21-04	3/20/2014	684314.4	602815.1	4.5	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
6	BF-21-05	3/20/2014	684321.1	602814.1	5.2	124.0	3.9	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
7	BF-21-06	3/20/2014	684308.3	602802.2	5.8	122.5	5.0	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
8	BF-21-07	3/20/2014	684305.8	602806.3	6.7	123.3	4.0	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
9	BF-21-08	3/20/2014	684314.4	602804.8	7.6	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
10	BF-21-09	3/20/2014	684310.5	602806.6	8.4	132.5	1.9	135.8	6.4	98	95	30	Tilcon MH DGA	Truck Ramp to Kellogg Street	V5N
1	BF-22		684391.2	602864.3	-2.3							31	Crushed concrete	Bottom of excavation elevation	
2	BF-22											31	Crushed concrete	No compaction testing required	
3	BF-22-01	3/17/2014	684387.3	602845.0	1.4	134.0	0.8	135.8	6.4	99	95	31	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-23		684350.9	602814.5	-1.6							32	Crushed concrete	Bottom of excavation elevation	
2	BF-23											32	Crushed concrete	No compaction testing required	
3	BF-23-01	3/14/2014	684360.9	602818.8	2.4	132.0	2.0	135.8	6.4	97	95	32	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-23-02	3/17/2014	684339.8	602809.6	3.5	134.0	1.1	135.8	6.4	99	95	32	Tilcon MH DGA		V5N
1	BF-24		684411.0	602842.4	-1.8							33	Crushed concrete	Bottom of excavation elevation	
2	BF-24											33	Crushed concrete	No compaction testing required	
3	BF-24-01	3/17/2014	684402.4	602827.4	1.1	134.0	0.8	135.8	6.4	99	95	33	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-25		684369.5	602729.2	-1.8							34	Crushed concrete	Bottom of excavation elevation	
2	BF-25											34	Crushed concrete	No compaction testing required	
3	BF-25-01	3/14/2014	684379.5	602796.3	2.0	131.0	2.1	135.8	6.4	96	95	34	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-25-02	3/17/2014	684354.8	602790.5	3.4	133.0	1.5	135.8	6.4	98	95	34	Tilcon MH DGA		V5N
1	BF-26		684433.4	602818.8	-2.1							35	Crushed concrete	Bottom of excavation elevation	
2	BF-26											35	Crushed concrete	No compaction testing required	
3	BF-26-01	3/18/2014	684433.9	602828.3	0.3	134.0	0.8	135.8	6.4	99	95	35	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-26-02	3/18/2014	684431.7	602817.7	0.8	133.0	1.3	135.8	6.4	98	95	35	Tilcon MH DGA		V5N
1	BF-27		684389.4	602765.0	-1.8							36	Crushed concrete	Bottom of excavation elevation	
2	BF-27											36	Crushed concrete	No compaction testing required	
3	BF-27-01	3/14/2014	684398.2	602773.8	1.8	133.0	1.6	135.8	6.4	98	95	36	Tilcon MH DGA		V5N
0	BF-28		684457.0	602790.8	-2.8							38	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-28-01	3/12/2014	684461.2	602789.3	-0.4	133.2	1.0	135.8	6.4	98	95	38	Tilcon MH DGA		V5N
0	BF-29		684418.8	602735.2	2.1							39	Stratum O	Bottom of excavation elevation	
1	BF-29-01	3/26/2014	684404.6	602731.3	3.3	134.0	1.2	135.8	6.4	99	95	39	Tilcon MH DGA		V5N
0	BF-30		684476.8	602765.1	-3.1							40	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-30-01	3/12/2014	684478.9	602766.2	-0.7	133.2	1.1	135.8	6.4	98	95	40	Tilcon MH DGA		V5N
0	BF-31		684436.0	602712.8	0.1							41	Stratum O	Bottom of excavation elevation	
0	BF-32		684498.7	602739.5	-2.2							42	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-32-01	3/12/2014	684496.6	602743.0	-0.9	131.0	2.3	135.8	6.4	96	95	42	Tilcon MH DGA		V5N
0	BF-33		684453.0	602683.2	0.1							43	Stratum O	Bottom of excavation elevation	
0	BF-34		684517.5	602716.8	-2.5							44	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-34-01	3/12/2014	684515.6	602715.4	-1.1	131.0	2.0	135.8	6.4	96	95	44	Tilcon MH DGA		V5N
0	BF-35		684471.3	602661.2	0.2							45	Stratum O	Bottom of excavation elevation	
0	BF-36		684538.2	602694.6	-3.0							46	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-36-01	3/18/2014	684535.1	602700.7	-1.9	134.5	0.5	135.8	6.4	99	95	46	Tilcon MH DGA		V5N
0	BF-37		684490.0	602636.8	0.2							47	Stratum O	Bottom of excavation elevation	
0	BF-38		684558.4	602671.7	-3.0							48	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-38-01	3/21/2014	684551.4	602683.6	-1.7	131.9	1.9	135.8	6.4	97	95	48	Tilcon MH DGA		V5N
0	BF-39		684510.6	602614.8	0.4							49	Stratum O	Bottom of excavation elevation	
0	BF-40		684557.4	602644.9	-3.6							50	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-40-01	3/26/2014	684572.2	602653.5	-1.4	134.8	0.5	135.8	6.4	99	95	50	Tilcon MH DGA		V5N
0	BF-62		684776.7	602362.5	-2.5							73 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-62-1	10/15/2014	684764.3	602354.7	0.6	125.0	2.0	128.5	10.5	97	95	73 (No)	Weldon LH Screenings	Placed on Tilcon MH DGA	V5N

FIELD DENSITY TEST SUMMARY LOG
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HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
0	BF-64		684785.0	602349.9	-2.5							74 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
1	BF-64-1	10/3/2014	684773.5	602338.3	-1.2	128.5	4.7	128.5	10.5	100	95	74 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
3	BF-64-2	10/15/2014	684772.1	602344.3	0.6	126.0	2.2	128.5	10.5	98	95	74 (No)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-65		684701.4	602272.1	-2.5							75 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
1	BF-65-1	10/3/2014	684679.6	602257.6	-1.6	127.0	3.1	128.5	10.5	99	95	75 (So)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
0	BF-66		684793.7	602335.5	-2.5							75 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
1	BF-66-1	10/3/2014	684788.5	602328.1	-0.9	128.5	4.3	128.5	10.5	100	95	75 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
2	BF-66-2	10/15/2014	684783.5	602334.9	0.6	125.0	2.9	128.5	10.5	97	95	75 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
0	BF-67		684709.6	602254.1	-3.0							76 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-67-1	10/3/2014	684686.5	602239.8	-1.3	124.0	2.5	128.5	10.5	96	95	76 (So)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
5	BF-67-2	10/27/2014	684684.5	602237.6	5.3	122.5	3.5	128.5	10.5	95	95	76 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-68		684804.3	602317.4	-3.5							77 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-68-1	10/3/2014	684796.5	602311.9	-0.9	128.5	4.5	128.5	10.5	100	95	77 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
3	BF-68-2	10/15/2014	684800.9	602313.3	0.5	125.0	2.2	128.5	10.5	97	95	77 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
0	BF-69		684720.3	602238.4	-3.5							77 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-69-1	10/3/2014	684698.8	602228.5	-1.1	124.6	2.9	128.5	10.5	97	95	77 (So)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
5	BF-69-2	10/27/2014	684700.3	602225.0	5.5	122.0	3.2	128.5	10.5	95	95	77 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-70		684813.9	602301.9	-3.5							78 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-70-1	10/3/2014	685808.5	602301.5	-0.9	128.5	4.0	128.5	10.5	100	95	78 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
3	BF-70-2	10/15/2014	685811.9	602297.1	0.7	127.0	4.0	128.5	10.5	99	95	78 (No)	Weldon LH Screenings		V5N
0	BF-71		684732.5	602221.3	-3.3							79 (So)	Stratum D		
5	BF-71-1	10/27/2014	684725.0	602212.2	5.6	125.0	2.5	128.5	10.5	97	95	79 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-72		684824.9	602287.1	-3.3						95	79 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
3	BF-72-1	10/15/2014	684820.2	602286.1	0.4	125.5	1.9	128.5	10.5	98	95	79 (No)	Weldon LH Screenings	Placed on Weldon WC Screenings	V5N
0	BF-73		684742.6	602208.4	-5.0						95	80	Stratum D	Bottom of excavation elevation	
6	BF-73-1	10/27/2014	684743.1	602204.3	5.5	127.0	6.2	128.5	10.5	99	95	80	Weldon LH Screenings	Placed on Type A Material	V5N
1	BF-74		684837.6	602270.4	-4.8							81 (No)	Concrete/DGA	Bottom of excavation elevation	
3	BF-74-1	9/18/2014	684834.9	602268.1	-1.5	126.0	4.5	131.9	9.5	96	95	81 (No)	Weldon WC QP	Placed on Type A Material	V5N
1	BF-75		684756.2	602190.9	-5.0							81 (So)	Concrete/DGA	Bottom of excavation elevation	
2	BF-75-1	9/18/2014	684755.1	602200.0	-2.4	128.0	3.6	131.9	9.5	97	95	81 (So)	Weldon WC QP		V5N
6	BF-75-2	10/27/2014	684759.2	602193.9	5.4	128.5	6.5	128.5	10.5	100	95	81 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-76		684829.0	602234.8	-4.8							82		Bottom of excavation elevation	
2	BF-76-1	9/18/2014	684826.4	602234.0	-2.4	126.0	4.5	131.9	9.5	96	95	82	Weldon WC QP	Placed on processed concrete	V5N
6	BF-76-2	10/27/2014	684794.7	602203.1	5.5	128.0	4.6	128.5	10.5	100	95	82	Weldon LH Screenings	Placed on Type A Material	V5N
1	BF-77		684848.6	602232.5	-4.5							83	Concrete/DGA	Bottom of excavation elevation	
3	BF-77-1	9/18/2014	684844.7	602224.8	-1.2	126.0	5.0	131.9	9.5	96	95	83	Weldon WC QP	Placed on Type A Material	V5N
6	BF-77-2	10/27/2014	684807.1	609195.1	5.4	128.5	5.4	128.5	10.5	100	95	83	Weldon LH Screenings	Placed on Type A Material	V5N
1	BF-78		684864.2	602226.5	-5.6							84	Concrete/DGA	Bottom of excavation elevation	
3	BF-78-1	9/18/2014	684851.2	602210.9	-0.7	128.0	3.4	131.9	9.5	97	95	84	Weldon WC QP	Placed on Type A Material	V5N
7	BF-78-2	10/27/2014	684830.5	602190.3	5.4	128.5	7.1	128.5	10.5	100	95	84	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-79		684877.8	602216.4	-5.2							85		Bottom of excavation elevation	
4	BF-79-1	9/18/2014	684856.5	602180.7	1.0	128.0	2.9	131.9	9.5	97	95	85	Weldon WC QP	Placed on Weldon WC Screenings	V5N
0	BF-80		684890.3	602202.5	-5.8							86		Bottom of excavation elevation	
4	BF-80-1	9/18/2014	684874.0	602174.3	1.3	125.0	3.9	131.9	9.5	95	95	86	Weldon WC QP	Placed on Weldon WC Screenings	V5N
7	BF-80-2	10/27/2014	684873.1	602169.9	5.1	128.5	4.1	128.5	10.5	100	95	86	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-81		684904.5	602186.6	-6.1							88		Bottom of excavation elevation. Excavated to Meadow mat	
4	BF-81-1	9/18/2014	684886.9	602163.0	1.8	128.0	3.1	131.9	9.5	97	95	88	Weldon WC QP		V5N
7	BF-81-2	10/27/2014	684883.9	602156.7	5.0	127.0	4.7	128.5	10.5	99	95	88	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-82		684923.8	602171.9	-4.8							89	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
5	BF-82-1	9/18/2014	684898.0	602149.9	3.1	128.0	3.4	131.9	9.5	97	95	89	Weldon WC QP		V5N
6	BF-82-2	10/27/2014	684915.2	602163.5	5.3	128.5	3.2	128.5	10.5	100	95	89	Weldon LH Screenings		V5N
0	BF-83		684941.9	602148.5	-4.8							91	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-83-1	8/26/2014	684958.8	602165.2	-3.0	129.7	7.0	131.9	9.5	98	95	91	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
6	BF-83-2	9/18/2014	684920.6	602131.1	4.1	126.0	3.7	131.9	9.5	96	95	91	Weldon WC QP		V5N
7	BF-83-3	10/27/2014	684933.2	602141.4	5.6	128.5	3.6	128.5	10.5	100	95	91	Weldon LH Screenings		V5N
0	BF-84		684959.7	602128.6	-4.2							93	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-84-1	8/15/2014	684969.1	602137.6	-3.2	129.3	3.2	131.9	9.5	98	95	93	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-84-2	9/18/2014	684937.9	602110.2	4.7	126.0	3.6	131.9	9.5	96	95	93	Weldon WC QP		V5N
6	BF-84-3	10/27/2014	684953.2	602121.7	5.6	128.5	3.2	128.5	10.5	100	95	93	Weldon LH Screenings		V5N
0	BF-85		684976.0	602107.0	-4.8							95	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

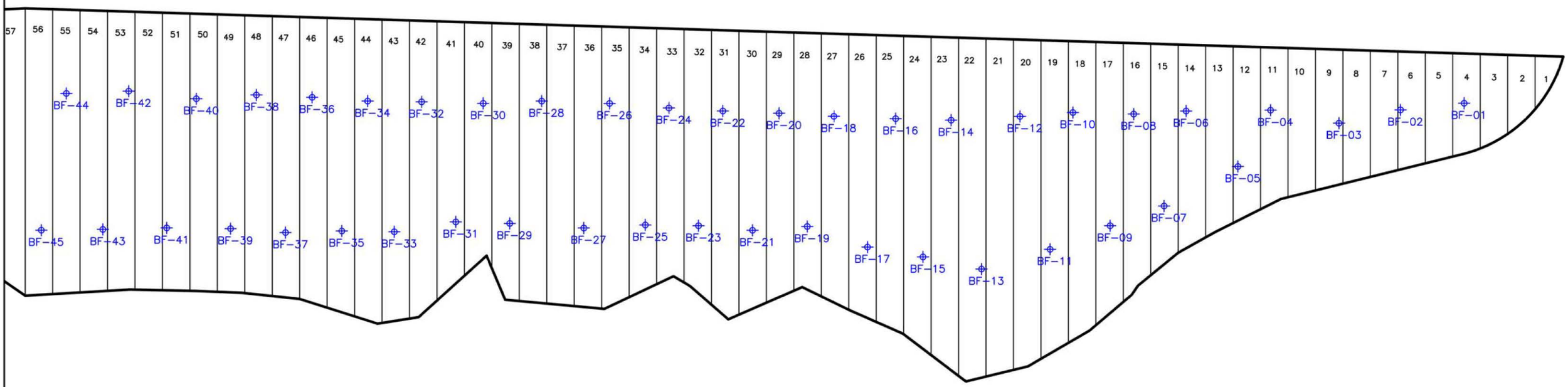
LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-85-1	8/15/2014	684987.2	602117.0	-3.4	126.0	3.6	131.9	9.5	96	95	95	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-85-2	9/18/2014	684960.1	602086.7	4.8	125.0	4.9	131.9	9.5	95	95	95	Weldon WC QP		V5N
6	BF-85-3	10/27/2014	684973.5	602102.2	5.7	128.5	5.7	128.5	10.5	100	95	95	Weldon LH Screenings		V5N
0	BF-86		684993.0	602080.9	-4.8							97	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-86-1	8/15/2014	684999.9	602082.3	-3.4	126.0	3.7	131.9	9.5	96	95	97	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-86-2	10/27/2014	684990.4	602076.5	5.5	128.5	5.7	128.5	10.5	100	95	97	Weldon LH Screenings		V5N
0	BF-87		685010.3	602052.3	-5.0							99	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-87-1	8/15/2014	685010.8	602056.6	-3.7	125.0	4.2	131.9	9.5	95	95	99	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-88		685019.7	602037.1	-5.1							100	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-88-1	8/8/2014	685025.4	602022.1	-3.9	126.6	3.9	131.9	9.5	96	95	100	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-89		685025.3	602021.0	-4.8							101	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-89-1	8/26/2014	685029.3	602037.1	-3.3	131.9	7.3	131.9	9.5	100	95	101	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-90		685035.2	602003.7	-5.1							103	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
1	BF-90-1	8/6/2014	685049.1	602012.4	-3.5	128.0	3.1	131.9	9.5	97	95	103	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-91		685048.2	601986.6	-5.2							104	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
1	BF-91-01	7/30/2014	685067.2	602016.2	-4.2	136.5	4.3	142.6	7.8	96	95	104	Weldon WC QP		V5N
2	BF-91-02	8/1/2014	685062.8	602085.0	-3.2	121.4	6.5	142.6	7.8	85	95	104	Weldon WC QP	New blast area. QP visually changed.	V5N
2	BF-91-02R	8/1/2014	685062.8	602085.0	-3.2	121.0	7.4	142.6	9.5	85	95	104	Weldon WC QP	Rerolled area still fails. Collect sample for Proctor	V5N
2	BF-91-02RR	8/4/2014	685062.8	602085.0	-2.9	125.3	7.4	131.9	9.5	95	95	104	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-93		685084.9	601963.3	-1.2								Stratum O	Bottom of excavation elevation	
1	BF-93-01	7/18/2014	685112.8	601983.8	-0.4	136.5	3.5	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
2	BF-93-02	7/30/2014	685091.5	601975.9	1.1	136.5	3.9	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
1	BF-94		685105.9	601939.3	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-94-01	7/18/2014	685104.8	601941.5	1.7	136.0	3.8	142.6	7.8	95	95	109 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-95		685125.6	601915.0	-1.2							111 (No)	Crushed concrete	Bottom of excavation elevation	
2	BF-95-01	7/16/2014	685121.8	601910.5	1.7	135.0	3.6	142.6	7.8	95	95	111 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-96		685144.3	601891.9	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-96-01	7/10/2014	685150.5	601896.1	1.9	137.0	4.8	142.6	7.8	96	95	113 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-97		685196.4	601880.1	2.1								Stratum O	Bottom of excavati0n elevation	
1	BF-97-01	7/7/2014	685187.0	601867.3	2.7	135.5	4.6	142.6	7.8	95	95	116 (No)	Weldon WC QP		V5N
0	BF-101		685222.6	601822.8	0.4							120 (No)	Stratum O	Bottom of excavation elevation	
1	BF-101-01	6/27/2014	685213.8	601814.2	1.0	136.0	3.4	142.6	7.8	95	95	120 (No)	Weldon WC QP		V5N
0	BF-102		685148.9	601780.9	-2.5							119	Stratum O	Bottom of excavation elevation	
1	BF-102-01	6/27/2014	685148.8	601788.7	-0.8	135.5	3.4	142.6	7.8	95	95	119	Weldon WC QP		V5N
1	BF-103		685084.0	601708.8	-7.5							120 (So)			
2	BF-103-01	7/1/2014	685102.8	601721.9	-4.9	137.5	2.5	142.6	7.8	96	95	120 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-105		685102.9	601692.4	-7.5							122 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-105-01	6/27/2014	685126.9	601702.6	-5.7	135.5	3.4	142.6	7.8	95	95	122 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-104		685218.6	601799.3	-2.5							121 (No)	Stratum O	Bottom of excavation elevation	
1	BF-104-01	6/27/2014	685205.5	601790.7	0.9	135.5	3.4	142.6	7.8	95	95	121 (No)	Weldon WC QP		V5N
0	BF-106		685225.5	601777.9	-1.2							122 (No)	Stratum O	Bottom of excavation elevation	
1	BF 106-01	6/18/2014	685230.1	601784.7	0.5	140.0	1.7	142.6	7.8	98	95	122 (No)	Weldon WC QP		V5N
2	BF 106-02	6/27/2014	685221.4	601777.8	1.0	135.4	3.4	142.6	7.8	95	95	122 (No)	Weldon WC QP		V5N
1	BF-107		685115.2	601682.1	-7.5							123 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF 107-01	6/24/2014	685134.6	601695.5	-5.9	136.9	2.5	142.6	7.8	96	95	123 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-108		685235.5	601760.6	-1.2							124 (No)	Stratum O	Bottom of excavation elevation	
1	BF-108-01	6/18/2014	685235.2	601757.6	0.8	138.0	2.6	142.6	7.8	97	95	124 (No)	Weldon WC QP		V5N
2	BF-108-02	6/27/2014	685253.4	601761.5	1.4	135.0	3.4	142.6	7.8	95	95	124 (No)	Weldon WC QP		V5N
1	BF-109		685135.2	601666.9	-7.5							124 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-109-01	6/18/2014	685144.9	601672.5	-5.8	136.0	5.1	142.6	7.8	95	95	124 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-111		685154.6	601650.7	-7.5							126 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-111-01	6/18/2014	685157.7	601655.0	-5.4	140.0	1.5	142.6	7.8	98	95	126 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-124		685346.3	601612.6	-1.2							136	Stratum O	Bottom of excavation elevation	
1	BF-124-01	5/9/2014	685359.1	601618.5	0.3	130.8	1.3	135.8	6.4	96	95	136	Tilcon MH DGA		V5N
0	BF-126		685363.5	601589.4	-1.2							138	Stratum O	Bottom of excavation elevation	
1	BF-126-01	5/9/2014	685355.3	601576.3	0.2	128.0	3.3	128.9	12.1	99	95	138	Weldon WC Screenings		V5N
0	BF-128		685382.2	601566.3	-2.5							140 (No)	Stratum O	Bottom of excavation elevation	
1	BF-128-01	4/29/2014	685369.8	601556.5	-1.8	130.0	1.2	135.8	6.4	96	95	140	Tilcon MH DGA		V5N
2	BF-128-02	4/29/2014	685381.4	601569.9	-0.8	132.2	1.5	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
3	BF-128-03	4/29/2014	685382.7	601573.8	0.3	132.0	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
4	BF-128-04	4/29/2014	685386.7	601571.4	1.5	132.3	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
5	BF-128-05	4/29/2014	685389.9	601573.7	2.7	133.9	1.4	135.8	6.4	99	95	140	Tilcon MH DGA		V5N
0	BF-129		685308.1	601468.7	-7.5							142 (So)	Stratum O	Bottom of excavation elevation	
1	BF-129-01	5/9/2014	685315.6	601465.0	-6.4	135.5	1.3	135.8	6.4	100	95	142 (So)	Tilcon MH DGA		V5N
0	BF-130		685401.7	601541.7	1.9							142 (No)	Stratum O	Bottom of excavation elevation	
1	BF-130-01	4/28/2014	685410.7	601558.5	2.7	132.0	2.2	135.8	6.4	97	95	142 (No)	Tilcon MH DGA		V5N
2	BF-130-02	4/28/2014	685414.5	601553.3	3.6	133.0	1.7	135.8	6.4	98	95	142 (No)	Tilcon MH DGA		V5N
3	BF-130-03	4/28/2014	685414.9	601555.5	4.8	136.0	1.6	135.8	6.4	100	95	142 (No)	Tilcon MH DGA		V5N
4	BF-130-04	4/28/2014	685420.1	601558.2	5.5	135.0	1.9	135.8	6.4	99	95	142 (No)	Tilcon MH DGA		V5N
0	BF-131		685426.9	601523.7	3.2							144	Stratum O	Bottom of excavation elevation	
1	BF-131-01	4/25/2014	685440.9	601531.9	5.9	120.0	1.4	135.8	6.4	88	95	144	Tilcon MH DGA	recompact lift	V5N
1	BF-131-01R	4/28/2014	685440.9	601531.9	5.9	139.9	1.4	135.8	6.4	103	95	144	Tilcon MH DGA	second reading after addl compaction	V5N
0	BF-132		685452.9	601506.1	5.6							146	Stratum O	Bottom of excavation elevation	
1	BF-132-01	4/25/2014	685438.7	601505.6	6.1	135.0	1.0	135.8	6.4	99	95	144	Tilcon MH DGA		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.
Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.
Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.
Maximum Dry Density for Weldon LH Screenings based on Vertical V Laboratory Report No. 12643 dated 9/29/14.
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b
Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C
Bottom of excavation elevation based on Maser survey data (Center Point elevations)
Sample ID BF-01-01 where:

BF = Backfill (At frequency of 1 test/2500 SF)
01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



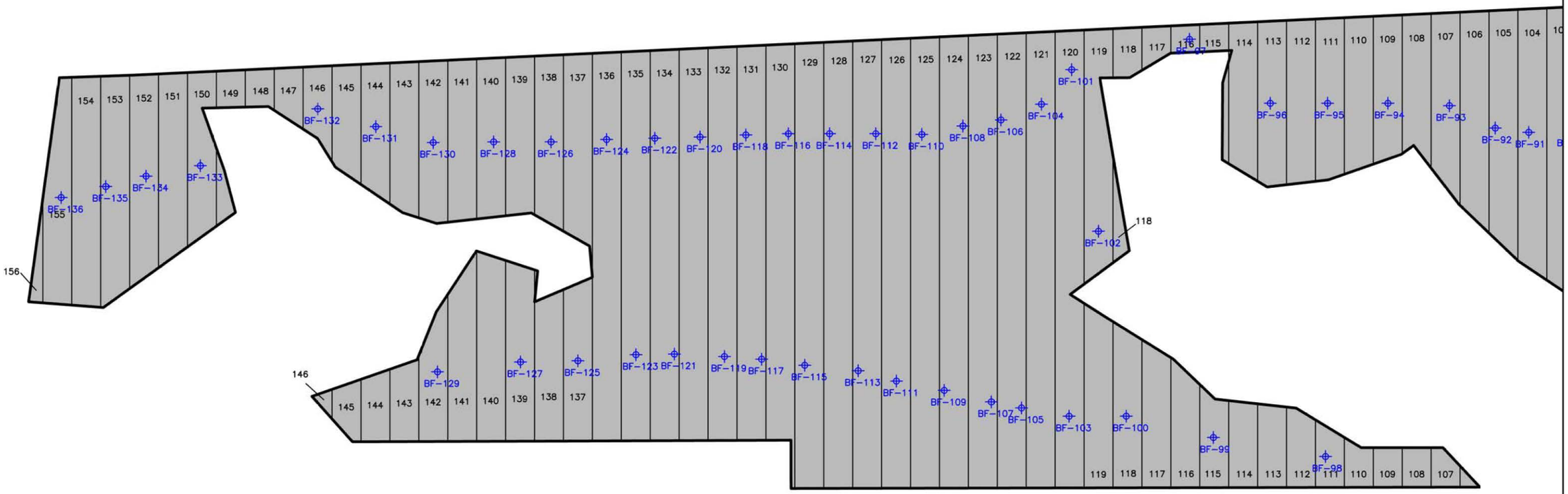
NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
BACKFILL COMPACTION LOCATIONS
EVERY 2,500 SF

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF BF-95 TO BF-136

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
	RF-03		684270.2	603012.0								18			
7	RF-03-01	3/21/2014	684267.9	603017.5	6.1	124.0	3.6	128.9	12.1	96	95	18	Weldon WC Screenings		V5N
8	RF-03-02	4/8/2014	684272.9	605018.7	7.6	122.4	8.1	128.9	12.1	95	95	18	Weldon WC Screenings		V5N
	RF-04		684235.2	602919.8								22			
6	RF-04-01	3/21/2014	684227.0	602916.6	5.5	124.0	3.6	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
7	RF-04-02	3/26/2014	684266.5	602908.5	6.2	123.6	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
8	RF-04-03	4/1/2014	684384.8	602904.9	7.1	125.8	3.0	128.9	12.1	98	95	22	Weldon WC Screenings		V5N
9	RF-04-04	4/3/2014	684220.8	602926.9	8.2	120.0	3.6	128.9	12.1	93	95	22	Weldon WC Screenings	Recompact lift	V5N
9	RF-04-04R	4/3/2014	684220.8	602926.9	8.2	125.0	4.1	128.9	12.1	97	95	22	Weldon WC Screenings	Second reading after re-rolling	V5N
10	RF-04-05	4/17/2014	684241.5	602924.2	8.8	130.0	3.0	128.9	12.1	101	95	22	Weldon WC Screenings		V5N
	RF-05		684328.5	602935.0								25			
5	RF-05-01	3/24/2014	684347.1	602947.5	3.3	122.5	4.5	128.9	12.1	95	95	25	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
6	RF-05-02	3/26/2014	684348.1	602942.0	4.1	123.5	3.7	128.9	12.1	96	95	25	Weldon WC Screenings		V5N
7	RF-05-03	4/1/2014	684351.4	602937.8	5.4	125.0	2.6	128.9	12.1	97	95	25	Weldon WC Screenings		V5N
8	RF-05-04	4/3/2014	684339.0	602933.4	6.4	128.9	4.7	128.9	12.1	100	95	25	Weldon WC Screenings		V5N
9	RF-05-05	4/8/2014	684327.1	602942.3	7.6	126.4	8.3	128.9	12.1	98	95	25	Weldon WC Screenings		V5N
10	RF-05-06	4/17/2014	684348.8	602945.1	8.2	135.0	6.4	128.9	12.1	105	95	25	Weldon WC Screenings		V5N
	RF-06		684335.0	602869.1								29			
2	RF-06-01	4/1/2014	684383.7	602908.8	3.0	126.0	2.7	128.9	12.1	98	95	29	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
3	RF-06-02	4/1/2014	684384.8	602904.9	4.1	125.0	2.8	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
4	RF-06-03	4/3/2014	684358.9	602890.5	5.9	127.6	4.0	128.9	12.1	99	95	29	Weldon WC Screenings		V5N
5	RF-06-04	4/8/2014	684340.1	602867.1	6.9	123.0	4.6	128.9	12.1	95	95	29	Weldon WC Screenings		V5N
6	RF-06-05	4/14/2014	684340.1	602867.1	7.5	124.8	3.0	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
7	RF-06-06	4/17/2014	684337.1	602897.4	8.5	118.5	3.0	128.9	12.1	92	95	29	Weldon WC Screenings	Recompact lift	V5N
7	RF-06-06R	4/17/2014	684337.1	602897.4	8.5	122.0	3.2	128.9	12.1	95	95	29	Weldon WC Screenings	Second reading after re-rolling	V5N
	RF-07		684392.9	602838.1								32			
4	RF-07-01	4/3/2014	684425.2	602890.4	3.0	125.3	5.1	128.9	12.1	97	95	32	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-07-02	4/3/2014	684418.6	602854.9	4.1	126.3	5.5	128.9	12.1	98	95	32	Weldon WC Screenings		V5N
6	RF-07-03	4/8/2014	684410.5	602847.3	5.6	122.7	2.5	128.9	12.1	95	95	32	Weldon WC Screenings		V5N
7	RF-07-04	4/14/2014	684410.5	602847.3	6.3	123.1	2.7	128.9	12.1	96	95	32	Weldon WC Screenings		V5N
8	RF-07-05	4/17/2014	684394.3	602842.1	7.1	135.0	6.1	128.9	12.1	105	95	32	Weldon WC Screenings		V5N
9	RF-07-06	4/21/2014	684394.8	602836.9	8.2	128.9	2.2	128.9	12.1	100	95	32	Weldon WC Screenings		V5N
	RF-08		684406.9	602771.1								36			
4	RF-08-01	4/3/2014	684421.7	602797.1	2.9	129.0	6.0	128.9	12.1	100	95	36	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-08-02	4/8/2014	684429.7	602790.1	4.0	124.9	3.0	128.9	12.1	97	95	36	Weldon WC Screenings		V5N
6	RF-08-03	4/15/2014	684439.0	602813.0	5.0	124.2	4.7	128.9	12.1	96	95	36	Weldon WC Screenings		V5N
7	RF-08-04	4/17/2014	684400.4	602773.4	6.1	137.0	5.6	128.9	12.1	106	95	36	Weldon WC Screenings		V5N
8	RF-08-05	4/21/2014	684429.8	602794.0	6.8	128.9	3.5	128.9	12.1	100	95	36	Weldon WC Screenings		V5N
9	RF-08-06	4/21/2014	684443.6	602550.4	8.0	122.5	6.9	128.9	12.1	95	95	36	Weldon WC Screenings		V5N
	RF-09		684479.9	602754.0								40			
3	RF-09-01	4/7/2014	684489.3	602750.3	0.8	128.7	6.8	128.9	12.1	100	95	40	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
4	RF-09-02	4/11/2014	684498.7	602757.9	2.1	122.4	3.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
5	RF-09-03	4/11/2014	684503.3	602770.3	3.2	129.3	8.5	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
6	RF-09-04	4/14/2014	684503.3	602770.3	4.1	128.9	5.7	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
7	RF-09-05	4/21/2014	684479.1	602753.1	5.4	128.9	5.3	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
8	RF-09-06	4/21/2014	684446.9	602799.1	6.4	123.0	2.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
9	RF-09-07	5/15/2014	684479.0	602751.5	6.9	124.5	4.4	128.9	12.1	97	95	40	Weldon WC Screenings		V5N
10	RF-09-08	5/19/2014	684494.7	602760.2	8.1	122.5	5.9	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
1	RF-10		684474.1	602682.1	0.2							44	Crushed Concrete	Bottom of excavation elevation	
2	RF-10		684474.1	602682.1								44	Type A Material	No compaction testing required	
3	RF-10-01	4/25/2014	684476.1	602679.3	2.5	138.0	1.4	128.9	12.1	107	95	44	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-10-02	5/8/2014	684445.5	602680.1	5.8	132.0	6.6	128.9	12.1	102	95	44	Weldon WC Screenings		V5N
5	RF-10-03	5/15/2014	684463.8	602677.8	7.1	124.1	4.2	128.9	12.1	96	95	44	Weldon WC Screenings		V5N
6	RF-10-04	5/19/2014	684466.2	602672.2	8.2	122.5	6.8	128.9	12.1	95	95	44	Weldon WC Screenings		V5N
2	RF-11		684545.0	602673.2								48	Type A Material	Placed on Tilcon MH DGA	
3	RF-11-01	4/11/2014	684533.0	602676.0	1.0	126.0	3.8	128.9	12.1	98	95	48	Weldon WC Screenings	Placed on Type A Material; Against HB wall	V5N
4	RF-11-02	4/11/2014	684575.1	602679.9	2.1	125.6	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
5	RF-11-03	4/14/2014	684575.1	602679.9	2.8	126.8	2.2	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
6	RF-11-04	4/17/2014	684579.8	602684.6	3.8	122.5	3.0	128.9	12.1	95	95	48	Weldon WC Screenings	Against HB wall	V5N
7	RF-11-05	4/17/2014	684585.7	602686.5	4.5	126.8	4.0	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
8	RF-11-06	5/15/2014	684569.9	602672.5	7.3	124.5	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
9	RF-11-07	5/19/2014	685562.2	602686.4	8.3	124.5	3.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
1	RF-12		684540.0	602601.3	0.3							51	Crushed Concrete	Bottom of excavation elevation	
2	RF-12		684540.0	602601.3								51	Type A Material	No compaction testing required	
3	RF-12-01	4/25/2014	684557.9	602605.6	2.3	130.2	2.2	128.9	12.1	101	95	51	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-12-02	5/6/2014	684516.3	602580.6	6.0	128.6	5.6	128.9	12.1	100	95	51	Weldon WC Screenings		V5N
5	RF-12-03	5/15/2014	684526.7	602594.1	7.3	124.8	3.9	128.9	12.1	97	95	51	Weldon WC Screenings		V5N
6	RF-12-04	5/20/2014	684522.6	602585.3	8.1	121.3	7.1	128.9	12.1	94	95	51	Weldon WC Screenings	Recompact lift	V5N
6	RF-12-04R	5/20/2014	684522.6	602585.3	8.1	122.0	5.9	128.9	12.1	95	95	51	Weldon WC Screenings	Second reading after re-rolling	V5N
1	RF-13		684610.2	602590.4	-2.3							54	Crushed Concrete	Bottom of excavation elevation	
2	RF-13		684610.2	602590.4								54	Type A Material	No compaction testing required	
3	RF-13-01	4/11/2014	684619.5	602515.3	1.6	126.5	7.8	128.9	12.1	98	95	54	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-13-02	4/14/2014	684619.5	602515.3	2.7	124.5	2.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
5	RF-13-03	4/17/2014	684641.5	602614.6	3.6	123.0	4.1	128.9	12.1	95	95	54	Weldon WC Screenings	Against HB	V5N
6	RF-13-04	4/17/2014	684646.7	602619.5	4.4	132.9	5.5	128.9	12.1	103	95	54	Weldon WC Screenings	Against HB	V5N
7	RF-13-05	5/15/2014	684640.0	602620.1	5.4	125.0	3.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
8	RF-13-06	5/15/2014	684613.8	602605.5	6.9	125.0	4.5	128.9	12.1	97	95	54	Weldon WC Screenings		V5N
9	RF-13-07	5/20/2014	684614.3	602606.0	7.8	121.3	8.0	128.9	12.1	94	95	54	Weldon WC Screenings	Top lift. Will retest prior to final restoration	V5N
0	RF-14		684653.1	602535.0	-2.6							59	Stratum D	Bottom of excavation elevation	
1	RF-14-1	10/30/2014	684656.5	602532.8	-1.3	133.0	2.0	135.8	6.4	98	95	59	Tilcon MH DGA	Bridge lift	V5N
0	RF-15		684684.3	602484.0	-2.2							63	Stratum D	Bottom of excavation elevation	
1	RF-15-1	10/27/2014	684656.4	602466.0	0.6	135.8	2.0	135.8	6.4	100	95	63	Tilcon MH DGA	Bridge lift	V5N

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LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
0	RF-16		684687.2	602408.0	-2.2							67	Stratum D	Bottom of excavation elevation	
1	RF-16-1	10/27/2014	684767.7	602426.9	0.3	129.0	2.3	135.8	6.4	95	95	67	Tilcon MH DGA	Bridge lift	V5N
0	RF-17		684750.4	602403.5	-2.2							70	Stratum D	Bottom of excavation elevation	
1	RF-17-1	10/10/2014	684773.5	602414.1	-0.8	134.5	1.0	135.8	6.4	99	95	70	Tilcon MH DGA	Bridge lift	V5N
0	RF-18		684686.8	602294.5	-2.4							73	Stratum D	Bottom of excavation elevation	
1	RF-18-1	10/10/2014	684659.1	602250.1	-1.3	134.5	1.0	135.8	6.4	99	95	73	Tilcon MH DGA	Bridge lift	V5N
	RF-21		684826.8	602292.8	-3.3							79		Bottom of excavation elevation	
2	RF-21-1	9/24/2014	684821.0	602290.8	-1.2	126.0	1.8	128.9	12.1	98	95	79	Weldon WC Screenings	Placed on concrete/QP bridge lift	V5N
	RF-22		684775.9	602192.8	-4.8							82		Bottom of excavation elevation	
3	RF-22-1	9/24/2014	684777.7	602191.8	-1.1	125.0	2.5	128.9	12.1	97	95	82	Weldon WC Screenings	Placed on concrete/QP bridge lift	V5N
	RF-23		684878.7	602219.3	-5.6							85		Bottom of excavation elevation	
1	RF-23-01	9/2/2014	684887.1	602212.2	-4.2	133.0	2.0	135.8	6.4	98	95	85	Tilcon MH DGA		V5N
2	RF-23-02	9/12/2014	684873.8	602198.8	-1.2	128.9	7.6	128.9	12.1	100	95	85	Weldon WC Screenings	Placed on Type A material	V5N
3	RF-23-03	9/24/2014	684867.7	602209.0	0.0	122.0	4.7	128.9	12.1	95	95	85	Weldon WC Screenings		V5N
	RF-24		684934.2	602167.2	-4.8							90		Bottom of excavation elevation	
1	RF-24-01	9/2/2014	684928.8	602165.1	-3.5	133.5	1.3	135.8	6.4	98	95	90	Tilcon MH DGA		V5N
2	RF-24-02	9/8/2014	684921.5	602154.5	-2.1	122.0	4.4	128.9	12.1	95	95	90	Weldon WC Screenings		V5N
3	RF-24-03	9/12/2014	684903.2	602144.2	0.9	128.9	6.2	128.9	12.1	100	95	90	Weldon WC Screenings		V5N
4	RF-24-04	9/24/2014	684931.9	602159.7	1.7	122.0	12.0	128.9	12.1	95	95	90	Weldon WC Screenings		V5N
	RF-25		684988.1	602095.1	-4.8							96	Weldon WC QP	Bottom of excavation elevation	
2	RF-25-01	9/8/2014	684973.3	602081.8	1.6	123.0	3.9	128.9	12.1	95	95	96	Weldon WC Screenings		V5N
4	RF-25-02	9/12/2014	684969.6	602072.9	3.7	122.5	5.6	128.9	12.1	95	95	96	Weldon WC Screenings	Placed on Type A Material	V5N
	RF-26		685029.1	602031.1	-4.8							101	Weldon WC QP	Bottom of excavation elevation	
2	RF-26-01	9/2/2014	685038.3	602030.1	-2.5	125.0	3.3	128.9	12.1	97	95	101	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-26-02	9/8/2014	685029.6	602011.4	1.4	122.0	4.2	128.9	12.1	95	95	101	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-26-03	9/12/2014	685013.2	602014.1	3.2	128.9	3.1	128.9	12.1	100	95	101	Weldon WC Screenings		V5N
	RF-27		685076.1	601973	-1.2							106	Weldon WC QP	Bottom of excavation elevation	
3	RF-27-01	9/8/2014	685054.4	601963.6	2.4	122.0	4.8	128.9	12.1	95	95	106	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-27-02	9/12/2014	685064.1	601957.1	3.5	128.9	4.1	128.9	12.1	100	95	106	Weldon WC Screenings		V5N
	RF-28		685132.5	601902.9	2.1							112 (No)	Weldon WC QP	Bottom of excavation elevation	
3	RF-28-01	7/28/2014	685136.7	601901.8	3.7	122.5	6.1	128.9	12.1	95	95	112 (No)	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-28-02	9/2/2014	685126.1	601909.3	4.9	125.0	3.0	128.9	12.1	97	95	112	Weldon WC Screenings		V5N
5	RF-28-03	9/8/2014	685135.2	601900.4	6.4	125.0	3.3	128.9	12.1	97	95	112 (No)	Weldon WC Screenings		V5N
1	RF-29		685049.3	601738.7	-4.3							117	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-29-01	7/16/2014	685064.7	601757.6	-2.9	131.7	3.5	135.8	6.4	97	95	117	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-29-02	7/22/2014	685068.9	601785.4	-0.8	125.0	3.4	128.9	12.1	97	95	117	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-29-03	7/28/2014	685071.0	601762.7	-0.1	122.5	7.7	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
5	RF-29-04	7/28/2014	685068.0	601754.7	0.8	117.0	9.0	128.9	12.1	91	95	117	Weldon WC Screenings		V5N
5	RF-29-04R	7/30/2014	685068.0	601754.7	0.8	122.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings	Re-rolled area and let dry	V5N
6	RF-29-05	7/30/2014	685070.3	601762.8	1.7	122.0	5.6	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
7	RF-29-06	8/1/2014	685079.5	601759.0	3.2	120.9	4.5	128.9	12.1	94	95	117	Weldon WC Screenings		V5N
7	RF-29-06R	8/1/2014	685079.5	601759.0	2.8	123.5	5.8	128.9	12.1	96	95	117	Weldon WC Screenings	Re-rolled area	V5N
8	RF-29-07	8/4/2014	685070.6	601753.8	3.7	126.1	7.2	128.9	12.1	98	95	117	Weldon WC Screenings		V5N

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JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
9	RF-29-08	8/6/2014	685072.8	601758.1	4.3	123.0	6.8	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
10	RF-29-09	8/8/2014	685074.4	601753.5	5.2	123.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
11	RF-29-10	8/11/2014	685078.3	601760.5	6.1	123.0	4.5	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
12	RF-29-11	8/15/2014	685079.8	601756.2	7.5	123.7	3.7	128.9	12.1	96	95	117	Weldon WC Screenings		V5N
	RF-30		685179.4	601785.6	0.4							120			
2	RF-30-01	7/1/2014	685218.1	601814.2	2.0	122.0	7.5	128.9	12.1	95	95	120	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-30-02	7/25/2014	685216.3	601818.6	3.0	124.0	4.3	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
4	RF-30-03	7/30/2014	685213.1	601816.1	3.8	123.5	5.0	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
5	RF-30-04	8/6/2014	685205.4	601798.5	4.6	123.0	6.3	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
6	RF-30-05	8/8/2014	685215.8	601802.1	5.2	123.0	5.8	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
7	RF-30-06	8/11/2014	685218.8	601812.7	6.2	123.0	6.9	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
8	RF-30-07	8/15/2014	685216.3	6018806.8	7.2	123.0	5.4	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
1	RF-31		685121.7	601682.3	-4.3							123	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-31-01	7/22/2014	685126.3	601690.0	-2.2	126.3	3.4	128.9	12.1	98	95	123 (So)	Weldon WC Screenings		V5N
3	RF-31-02	7/28/2014	685124.5	601686.4	-0.1	122.5	7.7	128.9	12.1	95	95	123 (So)	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-31-03	7/30/2014	685115.0	601683.8	1.1	122.0	6.2	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
5	RF-31-04	7/30/2014	685123.7	601688.2	2.3	122.0	6.9	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
6	RF-31-05	8/1/2014	685120.9	601687.7	3.0	128.9	6.2	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
7	RF-31-06	8/4/2014	685122.7	601686.6	3.9	128.9	5.8	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
8	RF-31-07	8/6/2014	685132.5	601689.3	4.8	123.0	6.6	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
9	RF-31-08	8/8/2014	685118.7	601690.5	5.5	125.0	2.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
10	RF-31-09	8/11/2014	685136.4	601690.8	6.6	125.0	3.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
11	RF-31-10	8/15/2014	685122.6	601682.9	7.6	123.0	7.4	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
0	RF-32		684498.6	602739.4	-1.2							125	Stratum O	Bottom of excavation elevation	
1	RF-32-01	6/12/2014	685241.5	601740.7	0.0	134.0	1.3	135.8	6.4	99	95	125	Tilcon MH DGA		V5N
2	RF-32-02	7/16/2014	685227.6	601725.4	0.9	122.0	5.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
3	RF-32-03	7/16/2014	685239.4	601736.4	2.0	122.0	5.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
4	RF-32-04	7/30/2014	685248.5	601750.7	3.4	123.5	6.0	128.9	12.1	96	95	125	Weldon WC Screenings		V5N
5	RF-32-05	8/6/2014	685249.6	601745.6	4.6	123.0	5.9	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
6	RF-32-06	8/8/2014	685249.1	601742.7	5.6	123.0	5.7	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
7	RF-32-07	8/11/2014	685237.6	601735.2	6.5	123.0	6.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
8	RF-32-08	8/15/2014	685238.9	601747.0	7.3	123.0	7.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
1	RF-33		685179.2	601631.6	-7.5							128	Crushed Concrete	Bottom of excavation elevation	
2	RF-33-01	6/5/2014	685182.8	601626.5	-5.1	132.0	3.7	135.8	6.4	97	95	128	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-33-02	7/28/2014	685146.0	601639.6	-0.9	123.7	6.4	128.9	12.1	96	95	128	Weldon WC Screenings	Placed on Type A Material/QP Ramp	V5N
4	RF-33-03	7/30/2014	685159.9	601630.8	0.8	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
5	RF-33-04	7/30/2014	685144.1	601632.9	1.3	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
6	RF-33-05	8/1/2014	685171.2	601638.5	3.2	128.9	6.0	128.9	12.1	100	95	128	Weldon WC Screenings		V5N
7	RF-33-06	8/1/2014	685156.8	601643.7	3.9	127.0	5.0	128.9	12.1	99	95	128	Weldon WC Screenings		V5N
8	RF-33-07	8/6/2014	685176.1	601633.1	4.7	123.0	6.6	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
9	RF-33-08	8/8/2014	685166.7	601630.5	5.5	123.0	6.2	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
10	RF-33-09	8/11/2014	685166.3	601631.6	6.6	123.0	6.0	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
11	RF-33-10	8/15/2014	685165.2	601633.6	7.9	123.0	6.9	128.9	12.1	95	95	128	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
0	RF-34		685278.4	601673.3	-1.2							130	Stratum O	Bottom of excavation elevation	
1	RF-34-01	6/5/2014	685303.0	601691.1	0.3	132.0	3.6	135.8	6.4	97	95	130	Tilcon MH DGA		V5N
2	RF-34-02	6/24/2014	685298.9	601690.4	1.6	122.0	5.5	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
3	RF-34-03	6/27/2014	685295.5	601692.8	2.5	122.5	7.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
4	RF-34-04	7/16/2014	685293.1	601684.6	3.2	122.0	6.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
5	RF-34-05	7/30/2014	685290.2	601690.3	4.5	123.5	6.5	128.9	12.1	96	95	130	Weldon WC Screenings		V5N
6	RF-34-06	8/8/2014	685289.5	601690.7	5.5	123.0	6.9	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
7	RF-34-07	8/8/2014	685292.7	601686.1	6.6	123.0	6.3	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
8	RF-34-08	8/15/2014	685286.1	601677.8	7.6	126.0	2.3	128.9	12.1	98	95	130	Weldon WC Screenings		V5N
0	RF-35		6852228.7	601575.4	2.1							133		Bottom of excavation elevation	
1	RF-35-01	7/16/2014	685219.7	601566.3	3.5	123.3	6.2	128.9	12.1	96	95	133	Weldon WC Screenings		V5N
2	RF-35-02	7/16/2014	685234.2	601582.4	4.3	124.9	4.9	128.9	12.1	97	95	133	Weldon WC Screenings		V5N
3	RF-35-03	7/25/2014	685238.5	601578.0	5.8	122.0	5.0	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
4	RF-35-04	8/8/2014	685239.0	601569.1	6.9	123.0	6.6	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
0	RF-36		685334.4	601603.7	-1.2							136		Bottom of excavation elevation	
1	RF-36-01	6/24/2014	685349.2	601617.6	1.7	125.0	3.4	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
2	RF-36-02	6/27/2014	685330.9	601606.5	2.6	125.0	6.5	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
3	RF-36-03	6/27/2014	685339.9	601612.8	3.4	123.7	6.8	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
4	RF-36-04	7/16/2014	685343.2	601621.5	4.3	123.8	5.5	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
5	RF-36-05	7/28/2014	685346.6	601606.1	5.4	122.0	5.2	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
6	RF-36-06	8/8/2014	685345.5	601605.6	6.7	126.0	1.6	128.9	12.1	98	95	136	Weldon WC Screenings		V5N
7	RF-36-07	8/15/2014	685335.6	601611.4	7.7	123.0	6.4	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
1	RF-37		685295.3	601495.2	-7.8							140 (So)	Crushed Concrete	Bottom of excavation elevation	
2	RF-37-01	5/15/2014	685286.1	601481.2	-5.1	132.0	2.5	135.8	6.4	97	95	140 (So)	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-37-02	5/21/2014	685294.5	601489.0	-4.2	122.5	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
4	RF-37-03	7/7/2014	685282.8	601485.7	4.5	128.9	6.1	128.9	12.1	100	95	140 (So)	Weldon WC Screenings	1st lift over Type A Material	V5N
5	RF-37-04	7/28/2014	685281.8	601490.5	5.9	123.7	5.4	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
6	RF-37-05	7/28/2014	685310.0	601513.3	6.6	123.0	4.7	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
7	RF-37-06	8/8/2014	685297.5	601485.6	7.1	124.0	4.1	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
8	RF-37-07	8/15/2014	685288.7	601489.2	8.0	123.0	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
0	RF-38		685399.1	601540.2	-1.2							142 (No)	Stratum O	Bottom of excavation elevation	
1	RF-38-01	5/9/2014	685391.8	601532.2	-0.2	124.6	2.5	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
2	RF-38-02	5/21/2014	685389.4	601534.3	0.2	122.5	5.6	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
3	RF-38-03	6/24/2014	685386.6	601538.7	4.0	125.0	3.4	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
4	RF-38-04	6/27/2014	685392.8	601538.8	5.3	124.0	6.0	128.9	12.1	96	95	142 (No)	Weldon WC Screenings		V5N
5	RF-38-05	7/28/2014	685385.3	601533.9	6.3	122.0	6.4	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
6	RF-38-06	8/8/2014	685382.7	601533.1	7.1	125.0	3.2	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
7	RF-38-07	8/15/2014	685382.8	601528.2	7.9	123.0	6.0	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
0	RF-39		685485.1	601397.7	3.8							153	Stratum O	Bottom of excavation elevation	
1	RF-39-01	5/5/2014	685451.1	601421.7	4.3	126.3	3.9	128.9	12.1	98	95	153	Weldon WC Screenings		V5N
2	RF-39-02	5/5/2014	685477.5	601397.7	5.6	123.3	4.1	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
3	RF-39-03	5/5/2014	685492.5	601460.8	6.4	123.8	7.4	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
0	Site 163-1				4.5							Site 163		Bottom of excavation elevation	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	Site 163-1-1	10/30/2014	685176.1	601448.3	5.7	126.0	2.4	128.9	12.1	98	95	Site 163	Weldon WC Screenings	Site 163 West Excavation	V5N
2	Site 163 -1-2	10/30/2014	685173.8	601449.0	7.4	123.0	5.3	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 West Excavation	V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

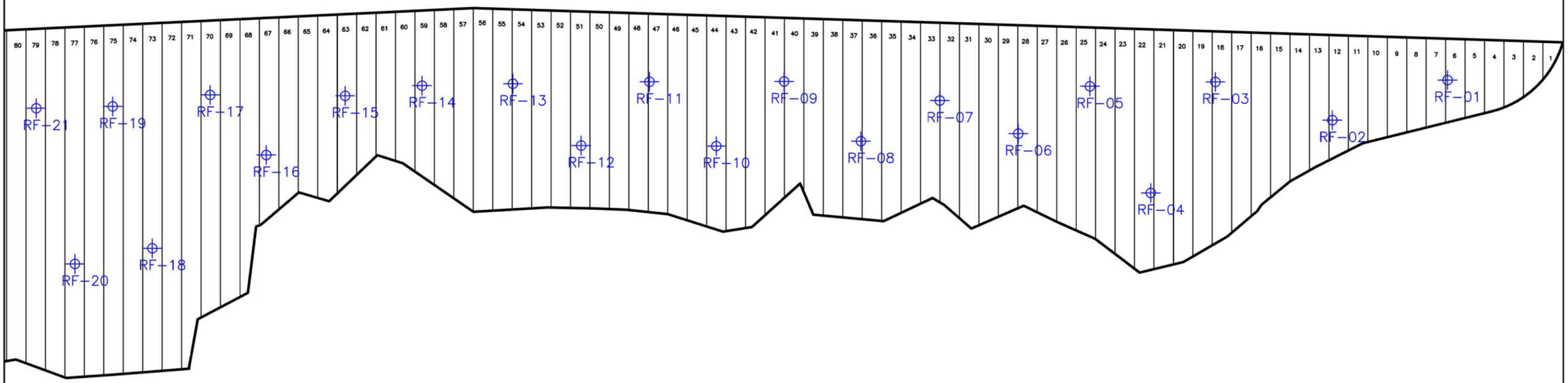
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

Sample ID RF-01-01 where:

RF = Reduced Frequency
01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



NOTE:

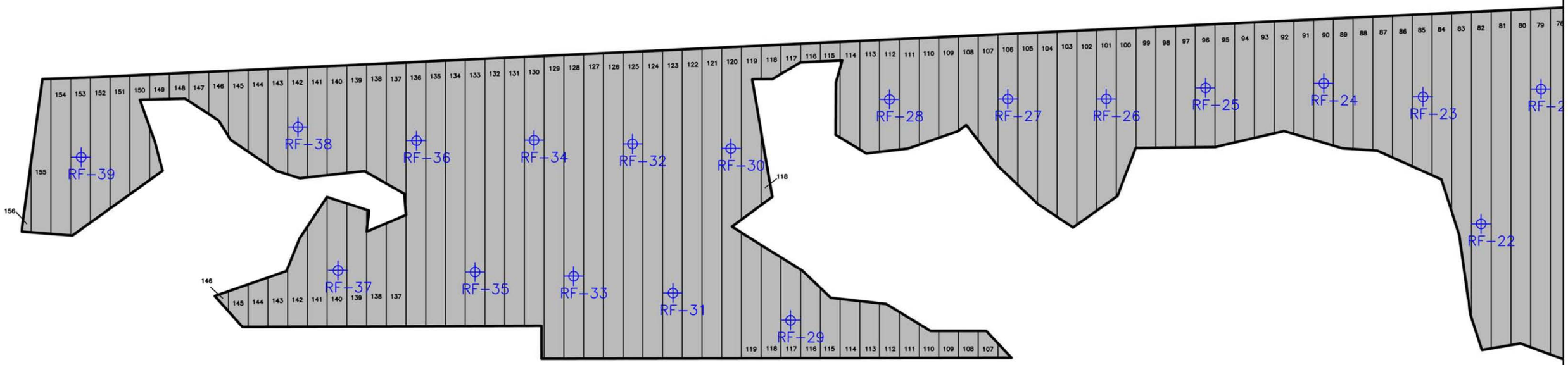
Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS 5 TESTS PER ACRE

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE
RF-22 TO RF-39

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Attachment 4: Dewatering Operations Update

- SA-6 South Dewatering Data (Headers)
- SA-6 South Deep Well Data (DW-3)

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) Daily	EXTRACTED VOLUME (Gal) Total	AVERAGE FLOW RATE (gpm)	COMMENTS
09/02/14	1	96	10,11,EPS	41	61,819	95,797	33,978	2,675,611	5.9	
09/03/14	1	24	10,11,EPS	41	95,797	103,042	7,245	2,682,856	5.0	
09/04/14	1	24	10,11,EPS	41	103,042	111,280	8,238	2,691,094	5.7	
09/05/14	1	24	10,11,EPS	41	111,280	120,132	8,852	2,699,946	6.1	
09/08/14	1	72	10,11,EPS	41	120,132	142,954	22,822	2,722,768	5.3	
09/09/14	1	24	10,11,EPS	41	142,954	149,419	6,465	2,729,233	4.5	
09/10/14	1	24	10,11,EPS	41	149,419	155,362	5,943	2,735,176	4.1	
09/11/14	1	24	10,11,EPS	41	155,362	160,305	4,943	2,740,119	3.4	
09/12/14	1	24	10,11,EPS	41	160,305	165,438	5,133	2,745,252	3.6	
09/15/14	1	72	10,11,EPS	41	165,438	182,610	17,172	2,762,424	4.0	
09/16/14	1	24	10,11,EPS	41	182,610	186,925	4,315	2,766,739	3.0	
09/17/14	1	24	10,11,EPS	41	186,925	191,256	4,331	2,771,070	3.0	
09/18/14	1	24	10,11,EPS	41	191,256	196,210	4,954	2,776,024	3.4	
09/19/14	1	24	10,11,EPS	41	196,210	201,455	5,245	2,781,269	3.6	
09/22/14	1	24	10,EPS	20	201,455	216,358	14,903	2,796,172	10.3	
09/23/14	1	24	10,EPS	20	216,358	220,880	4,522	2,800,694	3.1	
09/24/14	1	24	10,EPS	20	220,880	222,951	2,071	2,802,765	1.4	
09/25/14	1	24	10,EPS	20	222,951	226,142	3,191	2,805,956	2.2	
09/26/14	1	24	10,EPS	20	226,142	230,921	4,779	2,810,735	3.3	
09/29/14	1	72	10,EPS	20	230,921	236,427	5,506	2,816,241	1.3	
09/30/14	1	24	10,EPS	11	236,427	238,184	1,757	2,817,998	1.2	
10/01/14	1	24	10,EPS	11	238,184	239,452	1,268	2,819,266	0.9	
10/02/14	1	24	10,EPS	11	239,452	240,551	1,099	2,820,365	0.8	
10/03/14	1	24	10,EPS	11	240,551	241,824	1,273	2,821,638	0.9	
10/06/14	1	72	10,EPS	11	241,824	244,358	2,534	2,824,172	0.6	System taken offline for excavation

Notes: Active Header Numbers refer to H-1, H-2, H-3, etc., as shown on Figure 6 Well Point Dewatering System
EPS - East Perimeter System
WPS - West Perimeter System
Vac plant #2 taken out of service in October, 2013

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-3)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
09/02/14	96	N/A	N/A	17,000	143,253	3.0	Flowmeter Not Installed - Tank Measured
09/03/14	24	N/A	N/A	5,000	148,253	3.5	Flowmeter Not Installed - Tank Measured
09/04/14	24	N/A	N/A	5,250	153,503	3.6	Flowmeter Not Installed - Tank Measured
09/05/14	24	N/A	N/A	5,500	159,003	3.8	Flowmeter Not Installed - Tank Measured
09/08/14	72	N/A	N/A	16,500	175,503	3.8	Flowmeter Not Installed - Tank Measured
09/09/14	24	N/A	N/A	5,000	180,503	3.5	Flowmeter Not Installed - Tank Measured
09/10/14	24	N/A	N/A	5,250	185,753	3.6	Flowmeter Not Installed - Tank Measured
09/11/14	24	N/A	N/A	5,000	190,753	3.5	Flowmeter Not Installed - Tank Measured
09/12/14	24	N/A	N/A	5,500	196,253	3.8	Flowmeter Not Installed - Tank Measured
09/15/14	72	N/A	N/A	17,500	213,753	4.1	Flowmeter Not Installed - Tank Measured
09/16/14	24	N/A	N/A	5,250	219,003	3.6	Flowmeter Not Installed - Tank Measured
09/17/14	24	N/A	N/A	5,000	224,003	3.5	Flowmeter Not Installed - Tank Measured
09/18/14	24	N/A	N/A	5,500	229,503	3.8	Flowmeter Not Installed - Tank Measured
09/19/14	24	N/A	N/A	5,500	235,003	3.8	Flowmeter Not Installed - Tank Measured
09/22/14	72	N/A	N/A	16,500	251,503	3.8	Flowmeter Not Installed - Tank Measured
09/23/14	24	N/A	N/A	5,250	256,753	3.6	Flowmeter Not Installed - Tank Measured
09/24/14	24	N/A	N/A	4,500	261,253	3.1	Flowmeter Not Installed - Tank Measured
09/25/14	24	N/A	N/A	4,500	265,753	3.1	Flowmeter Not Installed - Tank Measured
09/26/14	24	N/A	N/A	4,500	270,253	3.1	Flowmeter Not Installed - Tank Measured
09/29/14	72	N/A	N/A	12,300	282,553	2.8	Flowmeter Not Installed - Tank Measured
09/30/14	24	N/A	N/A	4,000	286,553	2.8	Flowmeter Not Installed - Tank Measured
10/01/14	24	N/A	N/A	4,000	290,553	2.8	Flowmeter Not Installed - Tank Measured
10/02/14	24	N/A	N/A	4,000	294,553	2.8	Flowmeter Not Installed - Tank Measured
10/03/14	24	N/A	N/A	4,000	298,553	2.8	Flowmeter Not Installed - Tank Measured
10/06/14	72	N/A	N/A	15,500	314,053	3.6	Flowmeter Not Installed - Tank Measured
10/07/14	24	N/A	N/A	4,000	318,053	2.8	Flowmeter Not Installed - Tank Measured
10/08/14	24	N/A	N/A	4,000	322,053	2.8	Well Taken offline for Excavation

Note: Well DW-3 was activated on August 6, 2014.

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
09/02/14	8:00	19,566.27	19,626.24	59,970	19,625,790	PVSC Compliance Sample Collected
09/03/14	6:00	19,626.24	19,683.38	57,140	19,682,930	
09/04/14	6:30	19,683.38	19,752.78	69,400	19,752,330	
09/05/14	3:30	19,752.78	19,779.42	26,640	19,778,970	
09/06/14	5:00	19,779.42	19,824.20	44,780	19,823,750	
09/07/14	5:00	19,824.20	19,853.23	29,030	19,852,780	
09/08/14	7:15	19,853.23	19,922.16	68,930	19,921,710	
09/11/14	8:45	19,922.16	20,004.70	82,540	20,004,250	
09/12/14	1:30	20,004.70	20,053.63	48,930	20,053,180	
09/14/14	3:30	20,053.63	20,068.27	14,640	20,067,820	
09/15/14	7:00	20,068.77	20,133.27	65,000	20,132,820	
09/16/14	7:30	20,133.27	20,179.69	46,420	20,179,240	
09/17/14	7:00	20,179.69	20,231.28	51,590	20,230,830	
09/18/14	7:30	20,231.28	20,263.94	32,660	20,263,490	
09/19/14	8:30	20,263.94	20,347.22	83,280	20,346,770	
09/21/14	4:00	20,347.22	20,396.72	49,500	20,396,270	
09/22/14	8:20	20,396.72	20,491.07	94,350	20,490,620	
09/23/14	8:30	20,491.07	20,558.92	67,850	20,558,470	
09/24/14	8:15	20,558.92	20,654.42	95,500	20,653,970	
09/25/14	5:00	20,654.42	20,703.09	48,670	20,702,640	
09/26/14	7:30	20,703.09	20,732.78	29,690	20,732,330	
09/29/14	8:00	20,732.78	20,810.38	77,600	20,809,930	
09/30/14	7:30	20,810.38	20,855.01	44,630	20,854,560	
10/02/14	8:30	20,855.01	20,938.29	83,280	20,937,840	
10/03/14	6:00	20,938.29	20,977.59	39,300	20,977,140	
10/05/14	4:30	20,977.59	21,023.46	45,870	21,023,010	
10/06/14	7:45	21,023.46	21,102.23	78,770	21,101,780	
10/09/14	8:00	21,102.23	21,182.13	79,900	21,181,680	PVSC Compliance Sample Collected
10/10/14	7:30	21,182.13	21,208.69	26,560	21,208,240	
10/12/14	4:30	21,208.69	21,228.53	19,840	21,228,080	
10/13/14	6:30	21,228.53	21,289.72	61,190	21,289,270	
10/14/14	2:00	21,289.72	21,292.46	2,740	21,292,010	
10/15/14	8:00	21,292.46	21,349.49	57,030	21,349,040	
10/16/14	8:00	21,349.49	21,411.09	61,600	21,410,640	
10/17/14	7:00	21,411.09	21,463.04	51,950	21,462,590	
10/19/14	5:00	21,463.04	21,523.23	60,190	21,522,780	
10/21/14	7:00	21,523.23	21,574.85	51,620	21,574,400	
10/22/14	8:00	21,574.85	21,611.86	37,010	21,611,410	
10/23/14	9:30	21,611.86	21,728.57	116,710	21,728,120	
10/24/14	7:00	21,728.57	21,795.15	66,580	21,794,700	
10/25/14	4:00	21,795.15	21,836.74	41,590	21,836,290	
10/27/14	8:00	21,836.74	21,934.46	97,720	21,934,010	
10/29/14	4:15	21,934.46	21,979.83	45,370	21,979,380	
10/30/14	2:00	21,979.83	21,987.45	7,620	21,987,000	

Notes: Previous information is trunketed. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

- Stockpiled Material Tracking and Sampling Log

SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

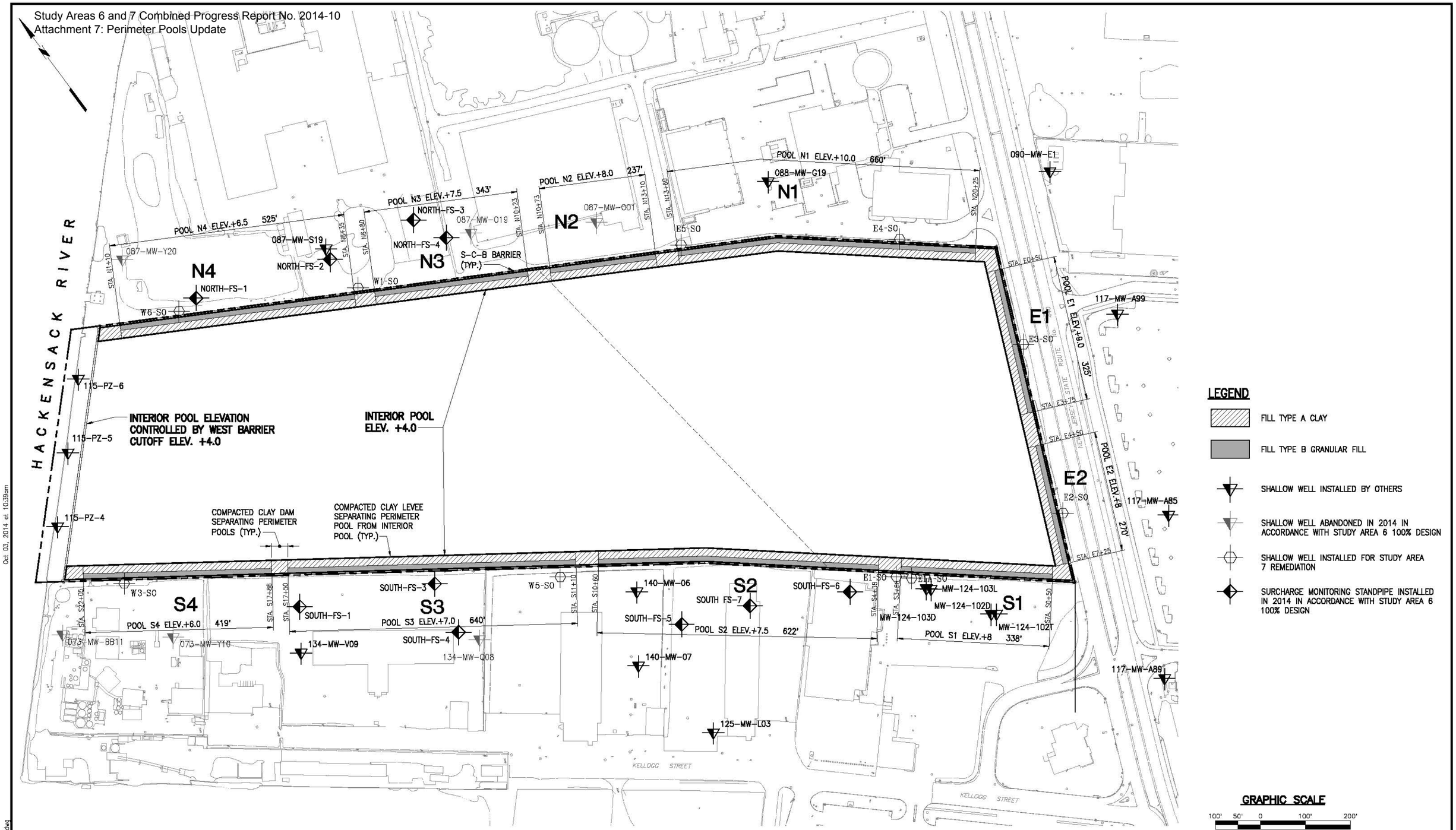
Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
83-88	<20	124-88-20-a,b,c (A24)	2800	124-88-20-a1	9/3/2014	7:10	7.1	Yes		
				124-88-20-a2	9/3/2014	7:15	10.9	Yes		
				124-88-20-a3	9/3/2014	7:20	15.4	Yes		
				124-88-20-a4	9/3/2014	7:25	3.3	Yes		
				124-88-20-b1	9/3/2014	7:30	9.6	Yes		
				124-88-20-b2	9/3/2014	7:35	26.6		Yes	
				124-88-20-b3	9/3/2014	7:40	6.9	Yes		
				124-88-20-b4	9/3/2014	7:45	4.4	Yes		
				124-88-20-c1	9/3/2014	7:50	18.3	Yes		
				124-88-20-c2	9/3/2014	7:55	2.6	Yes		
				124-88-20-c3	9/3/2014	8:00	9.4	Yes		
				124-88-20-c4	9/3/2014	8:05	16.2	Yes		
79-82	<20	124-82-20-a,b,c (A25)	2800	124-82-20-a1	9/17/2014	8:10	23.9		*	
				124-82-20-a2	9/17/2014	8:15	16.8	Yes		
				124-82-20-a3	9/17/2014	8:20	35.3		*	
				124-82-20-a4	9/17/2014	8:25	12.9	Yes		
				124-82-20-b1	9/17/2014	8:30	34.6		*	
				124-82-20-b2	9/17/2014	8:35	142.0		*	
				124-82-20-b3	9/17/2014	8:40	25.4		*	
				124-82-20-b4	9/17/2014	8:45	12.8	Yes		
				124-82-20-c1	9/17/2014	8:50	33.7		*	
				124-82-20-c2	9/17/2014	8:55	16.5	Yes		
				124-82-20-c3	9/17/2014	9:00	26.8		*	
				124-82-20-c4	9/17/2014	9:05	39.2		*	
75-78	<20	124-78-20-a,b,c (A26)	2300	124-78-20-a1	9/30/2014	7:45	9.2	Yes		
				124-78-20-a2	9/30/2014	7:50	23.3		*	
				124-78-20-a3	9/30/2014	7:55	15.3	Yes		
				124-78-20-a4	9/30/2014	8:00	11.9	Yes		
				124-78-20-b1	9/30/2014	8:05	15.7	Yes		
				124-78-20-b2	9/30/2014	8:10	9.3	Yes		
				124-78-20-b3	9/30/2014	8:15	25.8		*	
				124-78-20-b4	9/30/2014	8:20	21.2		*	
				124-78-20-c1	9/30/2014	8:25	19.5	Yes		
				124-78-20-c2	9/30/2014	8:30	20.4		*	
				124-78-20-c3	9/30/2014	8:35	25.4		*	
				124-78-20-c4	9/30/2014	8:40	39.0		*	
67-75	<20	124-75-20-a,b (A27)	1200	124-75-20-a1	10/16/2014	11:20	9.6	*		
				124-75-20-a2	10/16/2014	11:25	7.6	*		
				124-75-20-a3	10/16/2014	11:30	11.0	*		
				124-75-20-a4	10/16/2014	11:35	25.3		*	
				124-75-20-b1	10/16/2014	11:40	17.3	*		
				124-75-20-b2	10/16/2014	11:45	15.6	*		
				124-75-20-b3	10/16/2014	11:50	29.3		*	
				124-75-20-b4	10/16/2014	11:55	65.3		*	

SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
58-67	<20	124-67-20-a,b (A28)	1665	124-67-20-a1	10/28/2014	11:30	**			
				124-67-20-a2	10/28/2014	11:35	**			
				124-67-20-a3	10/28/2014	11:40	**			
				124-67-20-a4	10/28/2014	11:45	**			
				124-67-20-b1	10/28/2014	11:50	**			
				124-67-20-b2	10/28/2014	11:55	**			
				124-67-20-b3	10/28/2014	12:00	**			
				124-67-20-b4	10/28/2014	12:05	**			
75-58	>1000	124-75-1000-a,b	1600	124-75-1000-a1	10/29/2014	13:15	**			
				124-75-1000-a2	10/29/2014	13:20	**			
				124-75-1000-a3	10/29/2014	13:25	**			
				124-75-1000-a4	10/29/2014	13:30	**			
				124-75-1000-b1	10/29/2014	13:35	**			
				124-75-1000-b2	10/29/2014	13:40	**			
				124-75-1000-b3	10/29/2014	13:45	**			
				124-75-1000-b4	10/29/2014	13:50	**			

*Material currently stockpiled. Pending final placement.
**Waiting on results from the laboratory.

Attachment 7: Perimeter Pools Update



LEGEND

- FILL TYPE A CLAY
- FILL TYPE B GRANULAR FILL
- SHALLOW WELL INSTALLED BY OTHERS
- SHALLOW WELL ABANDONED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN
- SHALLOW WELL INSTALLED FOR STUDY AREA 7 REMEDIATION
- SURCHARGE MONITORING STANDPIPE INSTALLED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN

GRAPHIC SCALE

100' 50' 0 100' 200'

IN PROGRESS

10-02-2014

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

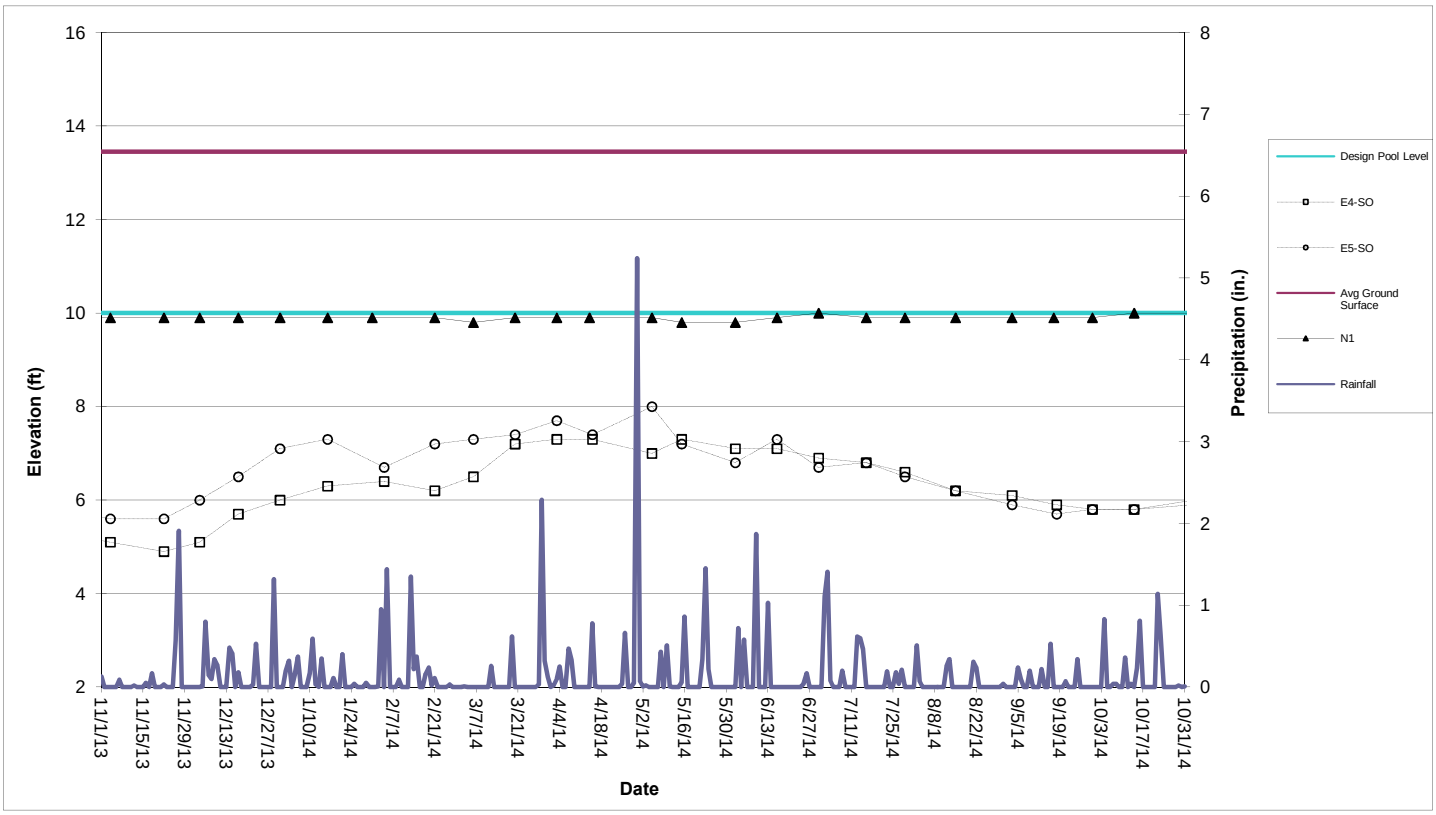
NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

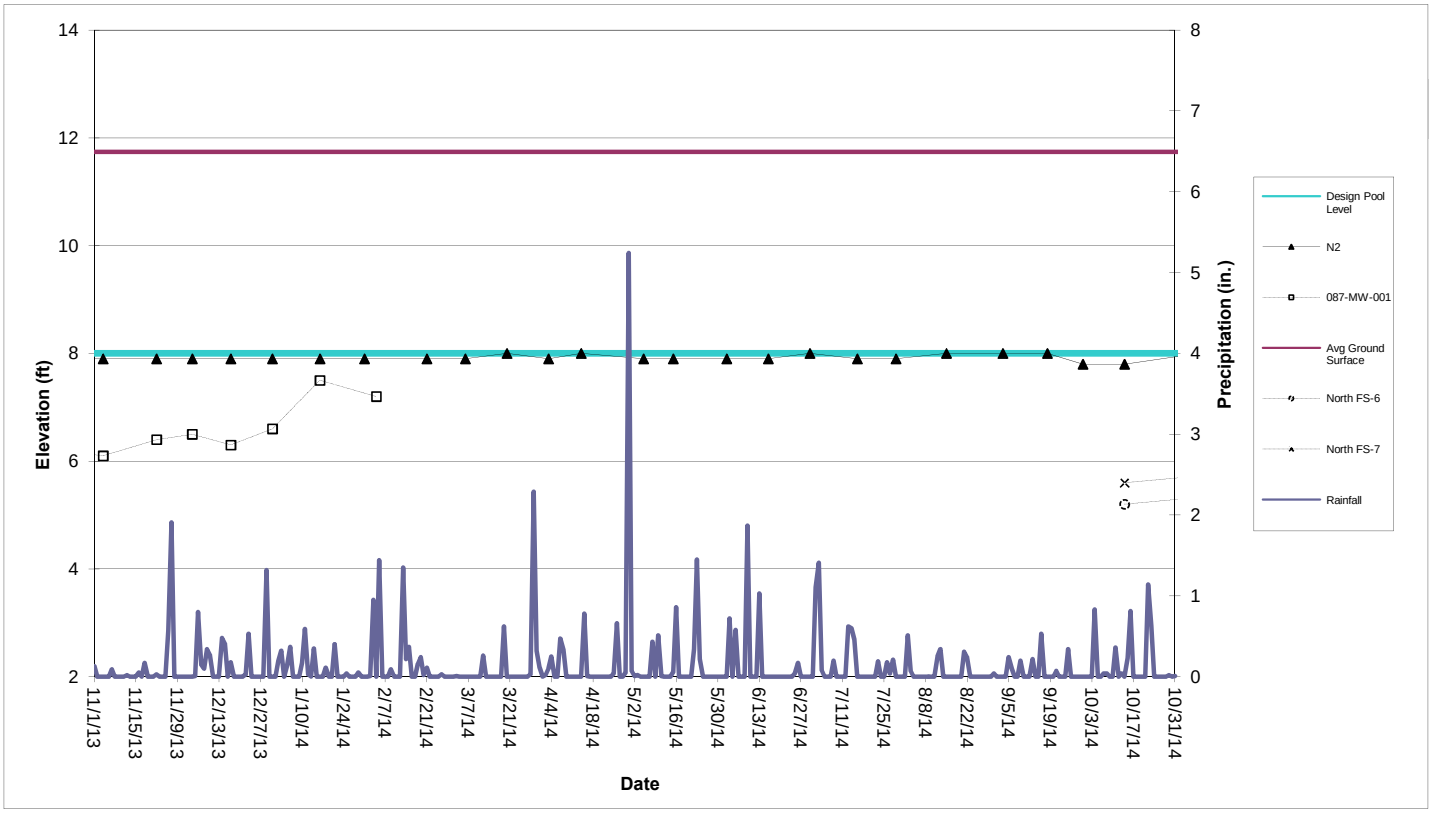
FILE NO. 10210
DRAWING NO. PP-1

Oct 03, 2014 at 10:39am
G:\DWGS\102\10210\Dewatering\PP-1.dwg
edelossantos

Perimeter Pools

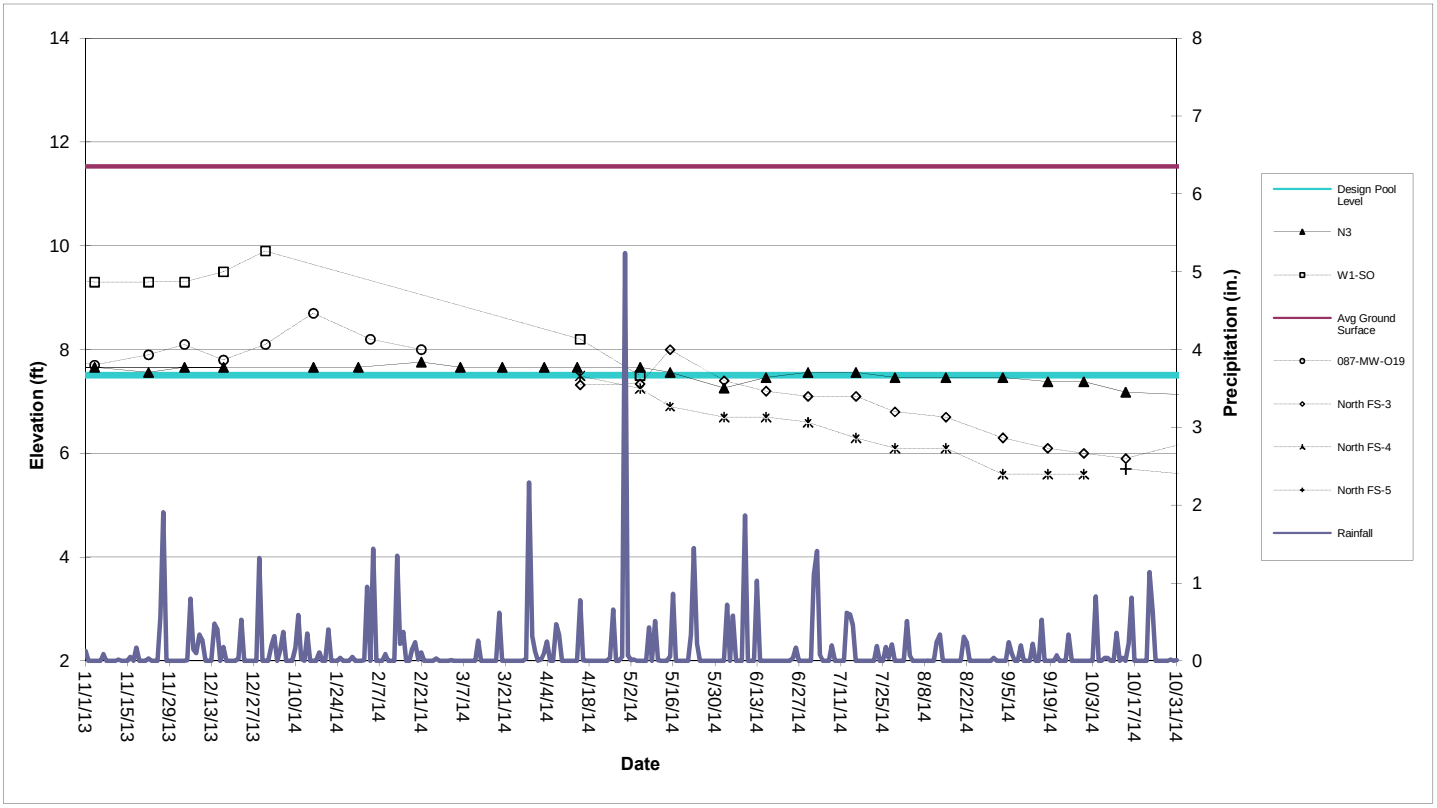


Perimeter Pool N1 (Sta. N13+60 to N20+25)

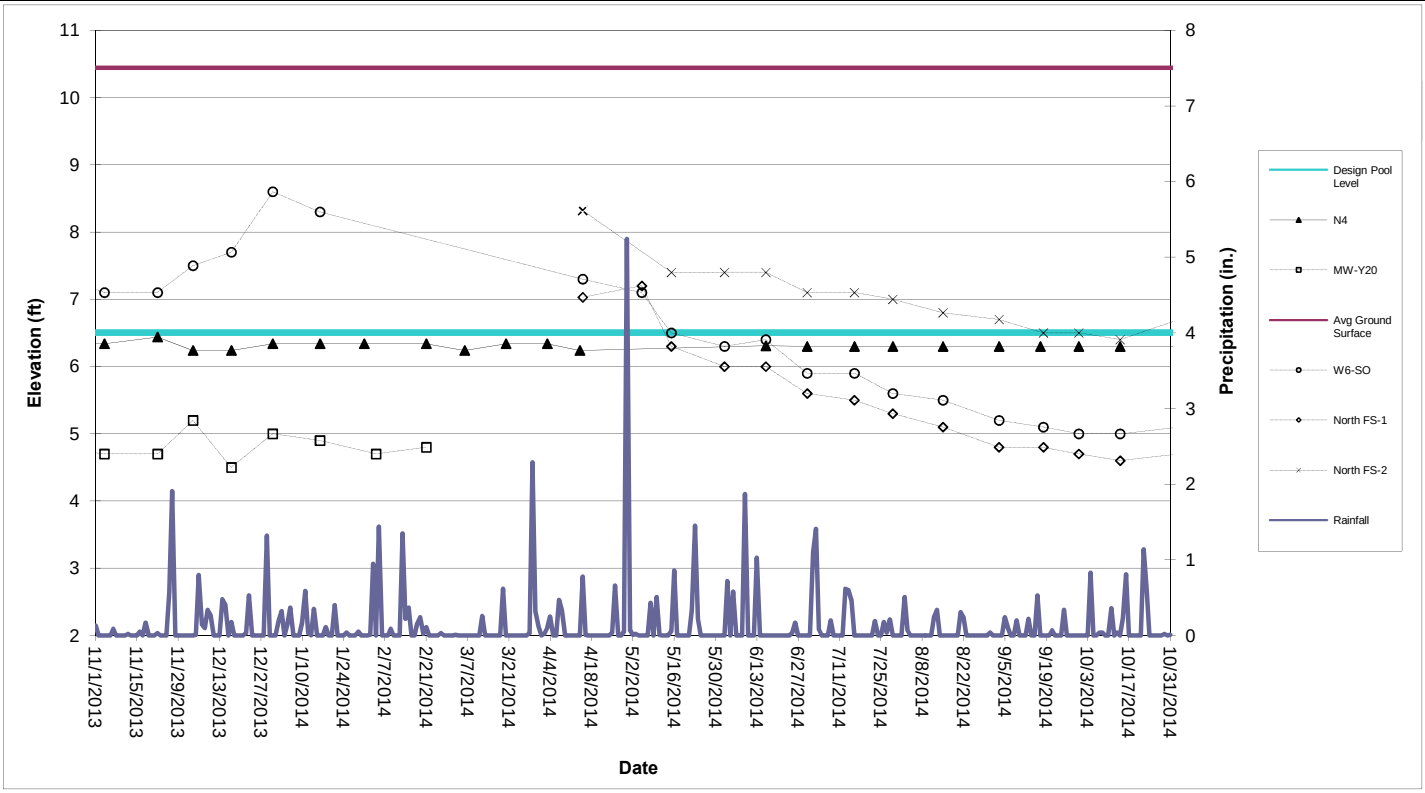


Perimeter Pool N2 (Sta. N10+73 to N13+10)

Perimeter Pools

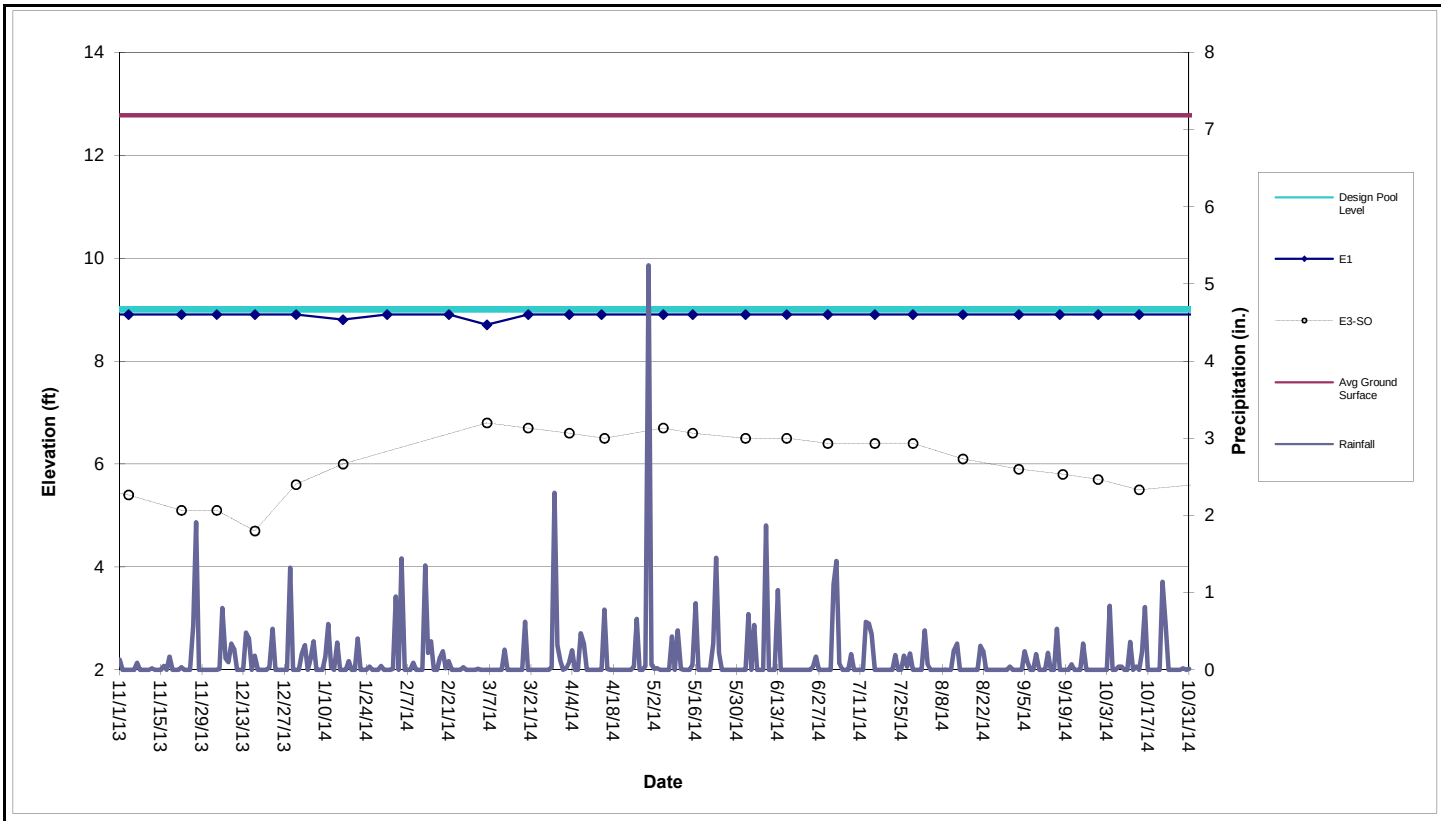


Perimeter Pool N3 (Sta. N6+80 to N10+23)

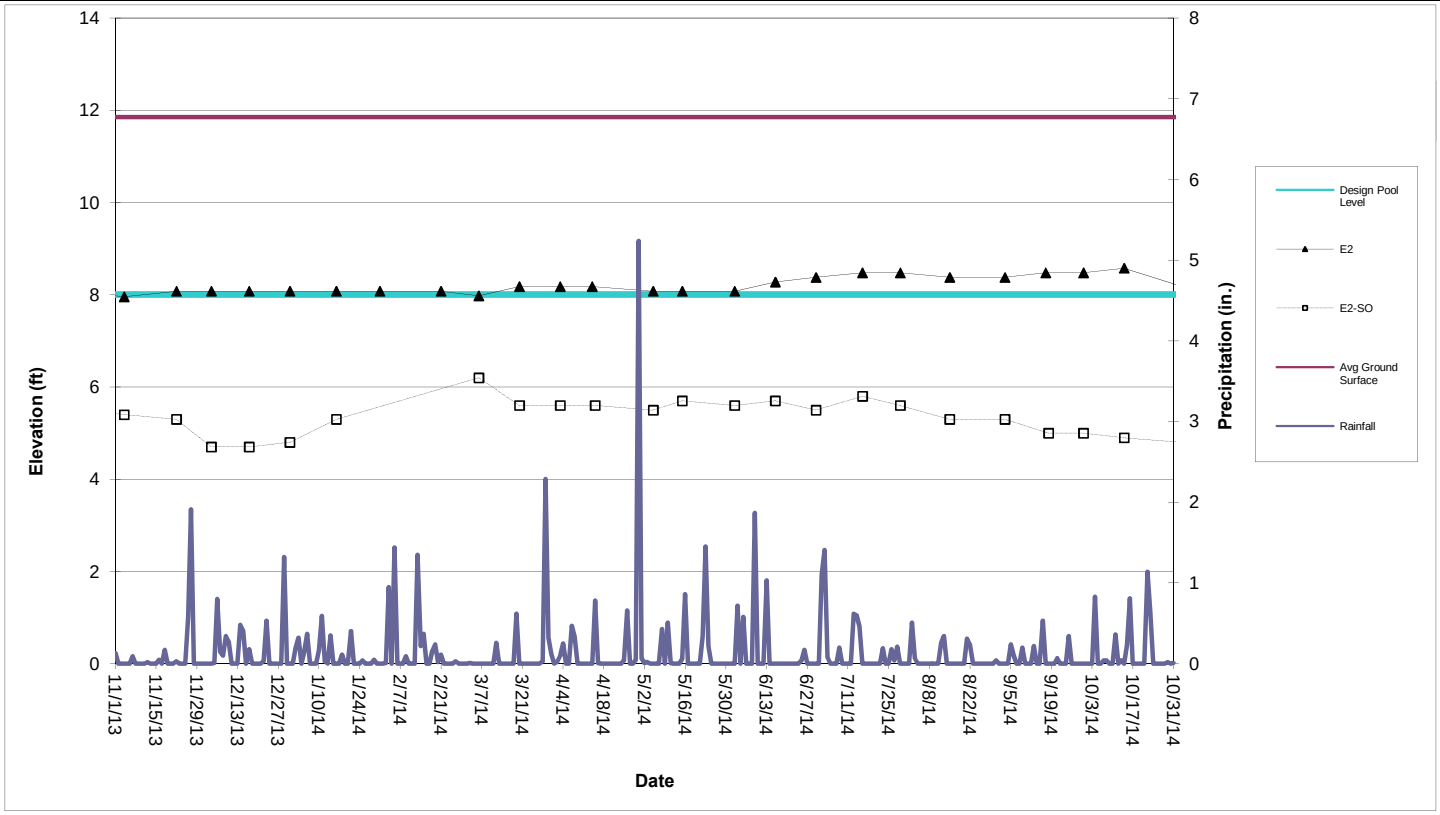


Perimeter Pool N4 (Sta. N6+80 to N10+23)

Perimeter Pools

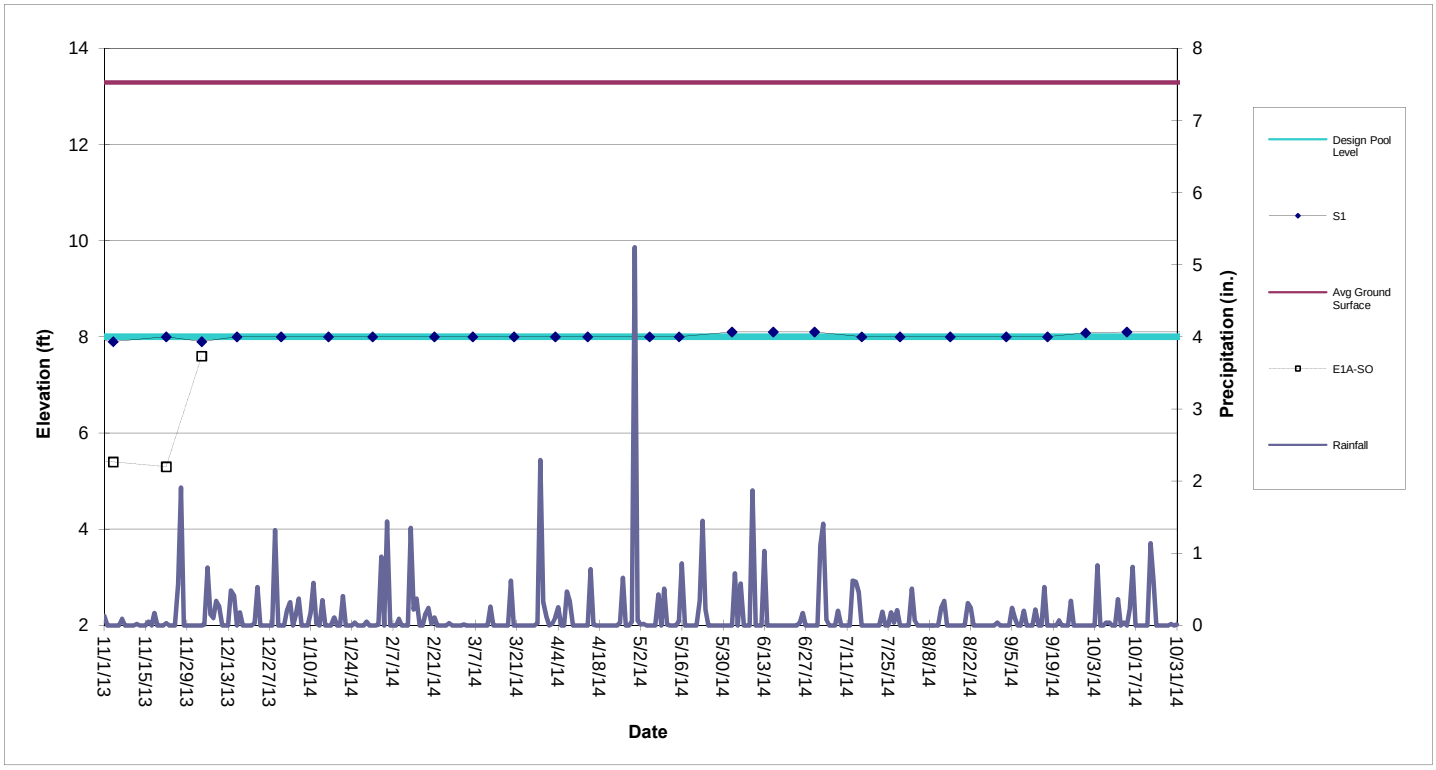


Perimeter Pool E1 (Sta. E0+50 to E3+75)

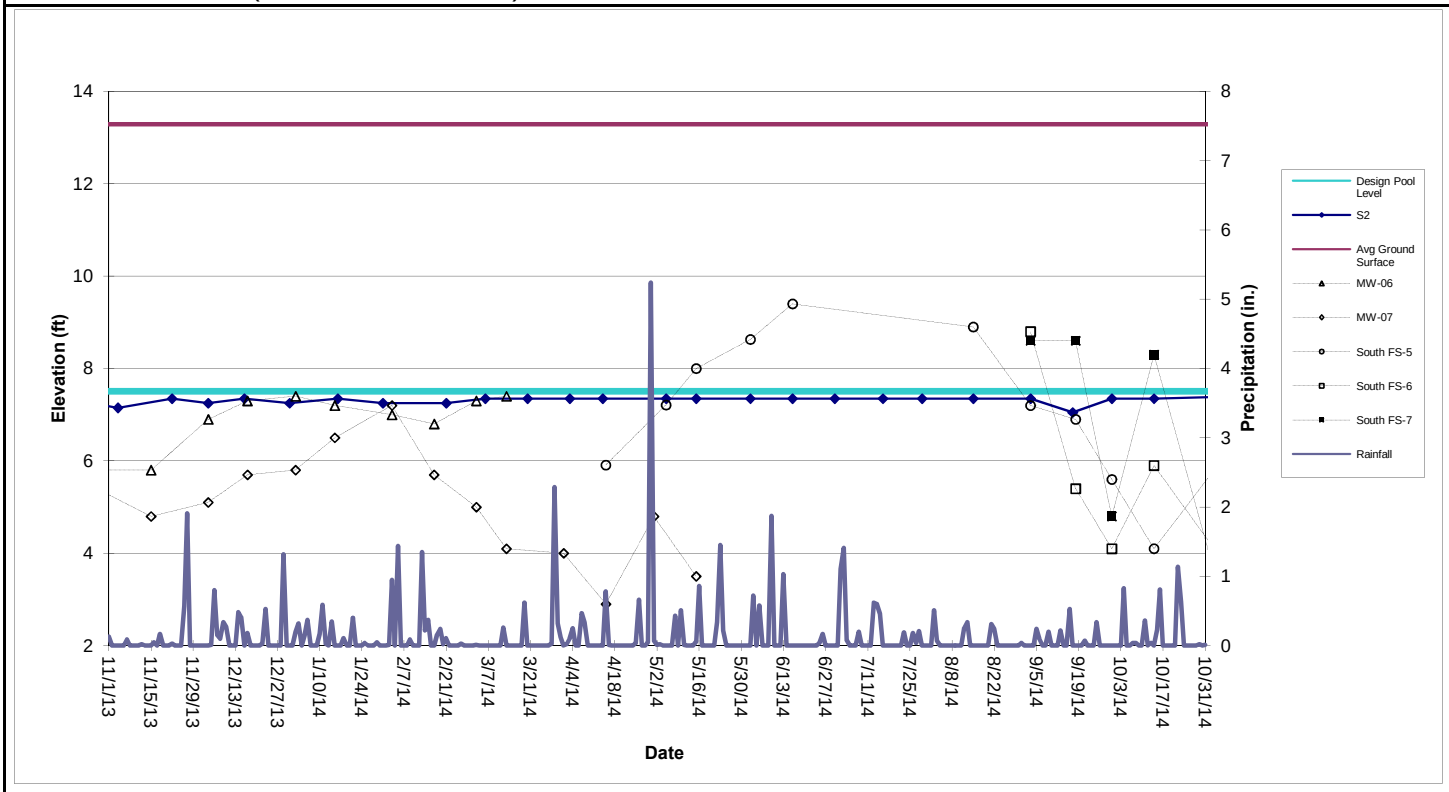


Perimeter Pool E2 (Sta. E4+50 to E7+25)

Perimeter Pools

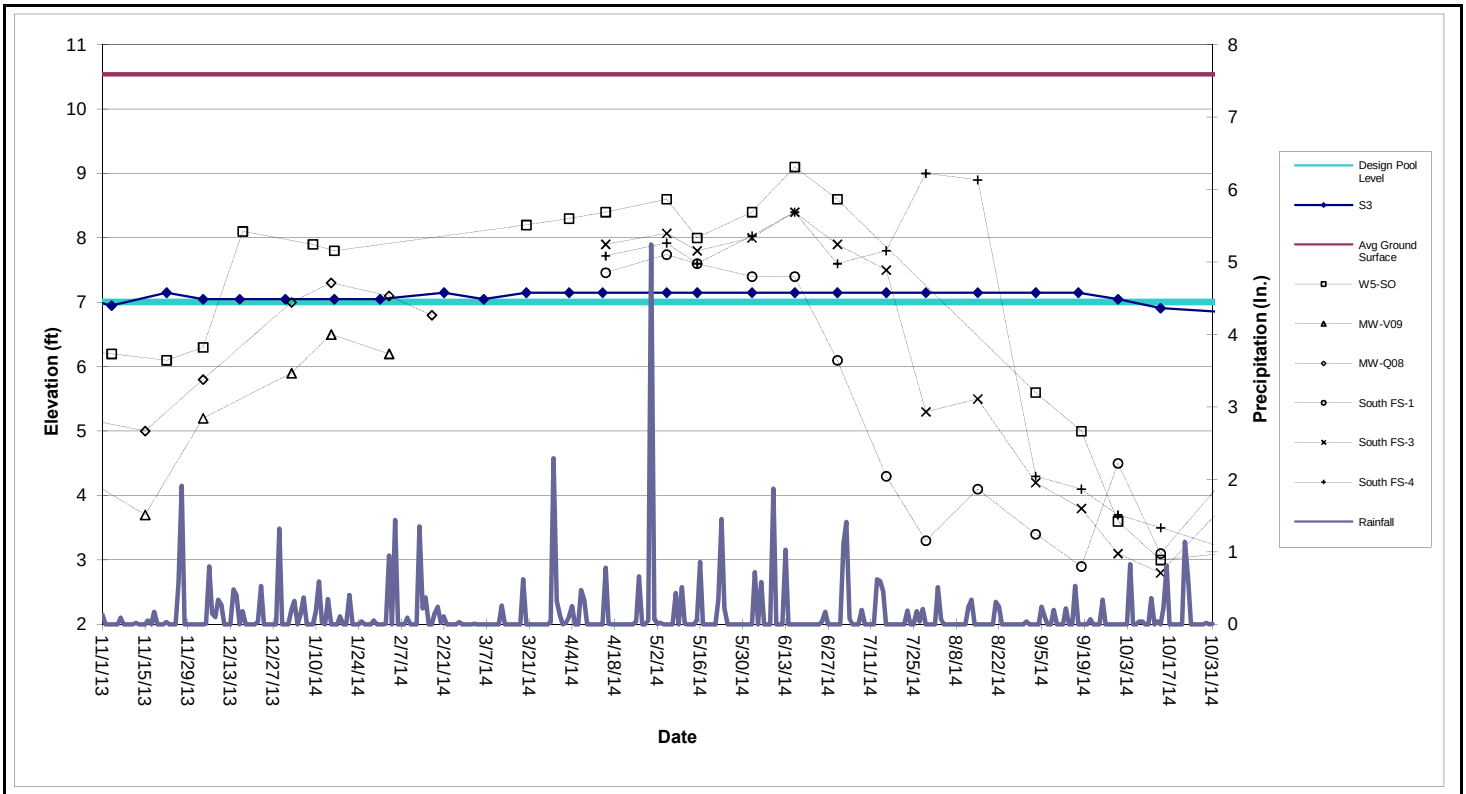


Perimeter Pool S1 (Sta. S0+50 to S3+88)

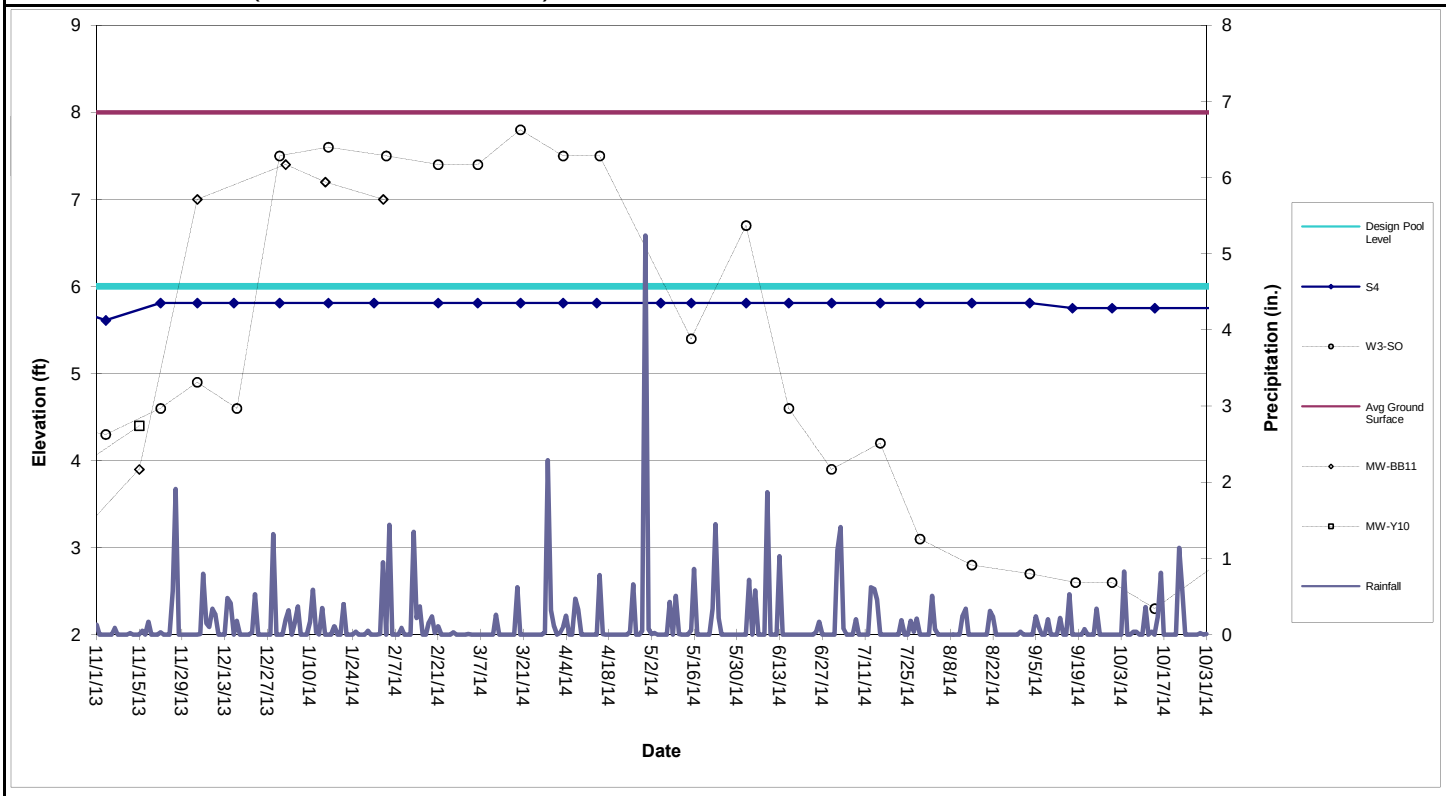


Perimeter Pool S2 (Sta. S4+38 to S10+60)

Perimeter Pools



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										134-	140-		North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	MW-V09	MW-06	MW-07	FS-1	FS-2	FS-3	FS-4	FS-5	FS-6	FS-7	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																									
3/3/2014											7.3	5.0													
3/6/2014		6.2	6.8	6.5	7.3		7.4																		
3/13/2014											7.4	4.1													
3/20/2014		5.6	6.7	7.2	7.4		7.8	8.2																	
4/1/2014												4.0													
4/3/2014		5.6	6.6	7.3	7.7		7.5	8.3																	
4/15/2014		5.6	6.5	7.3	7.4	8.2	7.5	8.4	7.3			2.9	7.0	8.3	7.3	7.5				7.5	7.9	7.7	5.9		
5/1/2014												4.8													
5/5/2014		5.5	6.7	7.0	8.0	7.5		8.6	7.1				7.2		7.3	7.3				7.7	8.1	7.9	7.2		
5/15/2014		5.7	6.6	7.3	7.2		5.4	8.0	6.5			3.5	6.3	7.4	8.0	6.9				7.6	7.8	7.6	8.0		
6/2/2014		5.6	6.5	7.1	6.8		6.7	8.4	6.3				6.0	7.4	7.4	6.7				7.4	8.0	8.0	8.6		
6/16/2014		5.7	6.5	7.1	7.3		4.6	9.1	6.4				6.0	7.4	7.2	6.7				7.4	8.4	8.4	9.4		
6/30/2014		5.5	6.4	6.9	6.7		3.9	8.6	5.9				5.6	7.1	7.1	6.6				6.1	7.9	7.6			
7/16/2014		5.8	6.4	6.8	6.8		4.2		5.9				5.5	7.1	7.1	6.3				4.3	7.5	7.8			
7/29/2014		5.6	6.4	6.6	6.5		3.1		5.6				5.3	7.0	6.8	6.1				3.3	5.3	9.0			
8/15/2014		5.3	6.1	6.2	6.2		2.8		5.5				5.1	6.8	6.7	6.1				4.1	5.5	8.9	8.9		
9/3/2014		5.3	5.9	6.1	5.9		2.7	5.6	5.2				4.8	6.7	6.3	5.6				3.4	4.2	4.3	7.2	8.8	8.6
9/18/2014		5.0	5.8	5.9	5.7		2.6	5.0	5.1				4.8	6.5	6.1	5.6				2.9	3.8	4.1	6.9	5.4	8.6
9/30/2014		5.0	5.7	5.8	5.8		2.6	3.6	5.0				4.7	6.5	6.0	5.6				4.5	3.1	3.7	5.6	4.1	4.8
10/14/2014		4.9	5.5	5.8	5.8		2.3	3.0	5.0				4.6	6.4	5.9		5.7	5.2	5.6	3.1	2.8	3.5	4.1	5.9	8.3

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells are temporarily inaccessible:
134-MW-V09, E1A-SO, W1-SO, FS-4

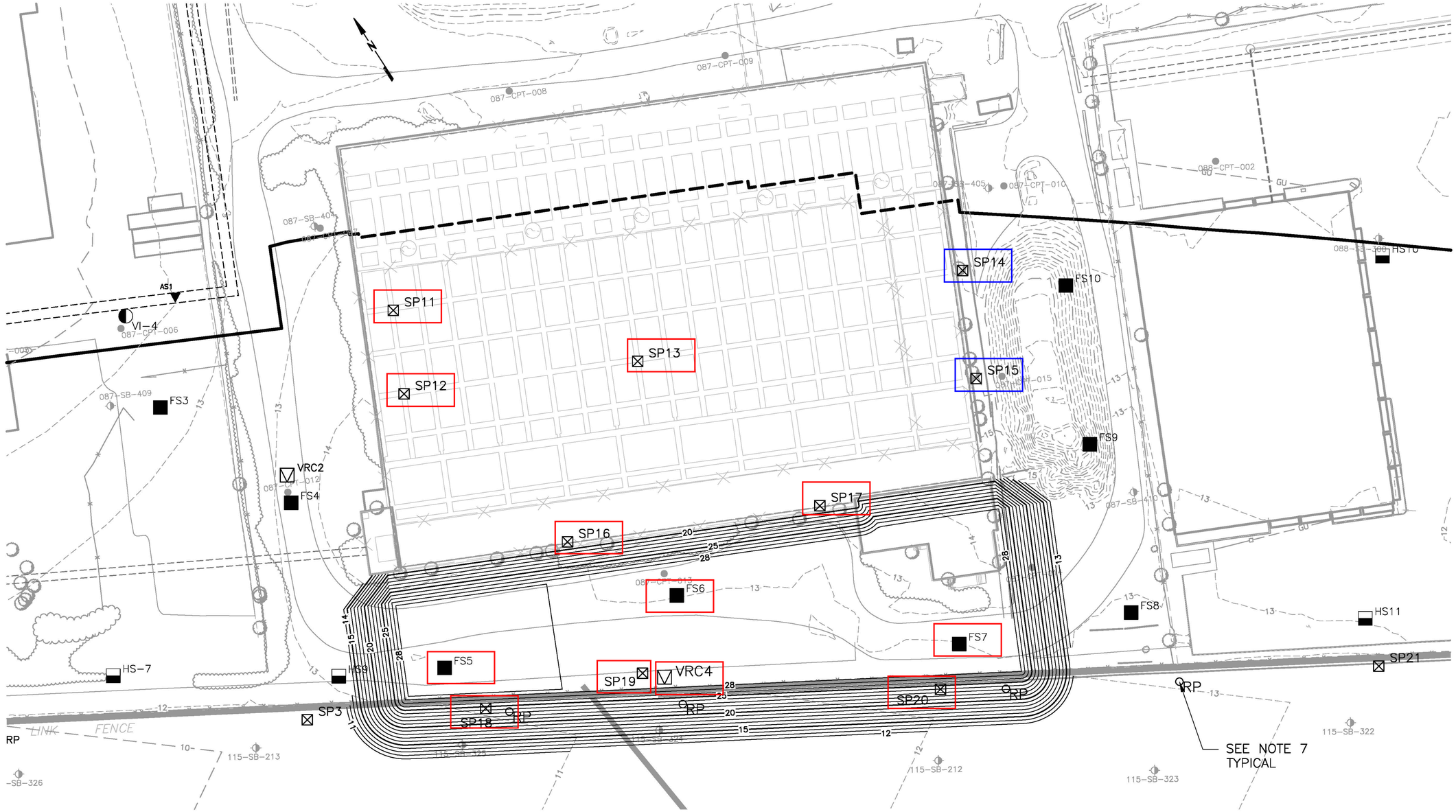
Attachment 8: Quality and Level Data in GWET Wells

(not available as of this report date - provided on a quarterly basis)

- Summary of Groundwater Quality Data from GWET Wells
- Trichloroethene//Chloroform/Hexavalent Chromium in GWET Wells

Attachment 9: Surcharge Monitoring Update

- Figure C1: Instrumentation Location Plan 2N
- Figure G1: Instrumentation Location Plan 2S



SETTLEMENT MONITORING POINT		
DESCRIPTION	NORTHING	EASTING
FS5	685595.33	602744.87
FS6	685557.42	602879.95
FS7	685445.18	603001.32
SP11	685784.33	602832.31
SP12	685740.52	602811.34
SP13	685682.87	602934.55
SP14	685624.73	603120.29
SP15	685568.20	603092.95
SP16	685617.61	602843.89
SP17	685555.82	602977.36
SP18	685562.79	602751.98
SP19	685530.51	602838.96
SP20	685429.14	602978.06
VRC4	685521.71	602848.37

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA–7 FENCE AND SA–7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. PILE GEOMETRY IS BASED ON THE ASSUMPTION THAT THE SEDIMENTATION BASIN WALLS ARE IN PLACE AT THE TIME OF SURCHARGING.
5. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
6. LOCATION OF SA–7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

VI–2	INCLINOMETER LOCATION
FS–1–1	SETTLEMENT MONITORING POINT FULL – SET UP
HS12	SETTLEMENT MONITORING POINT HALF – SET UP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA–7 PERIMETER POOL RISER PIPE (SEE NOTE 7)
VRC1	VIBRATING WIRE PIEZOMETER IN STRATUM RC

Installed Insturment Locations

Insturment Locations Not Installed

0 15 30 60
SCALE IN FEET

Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

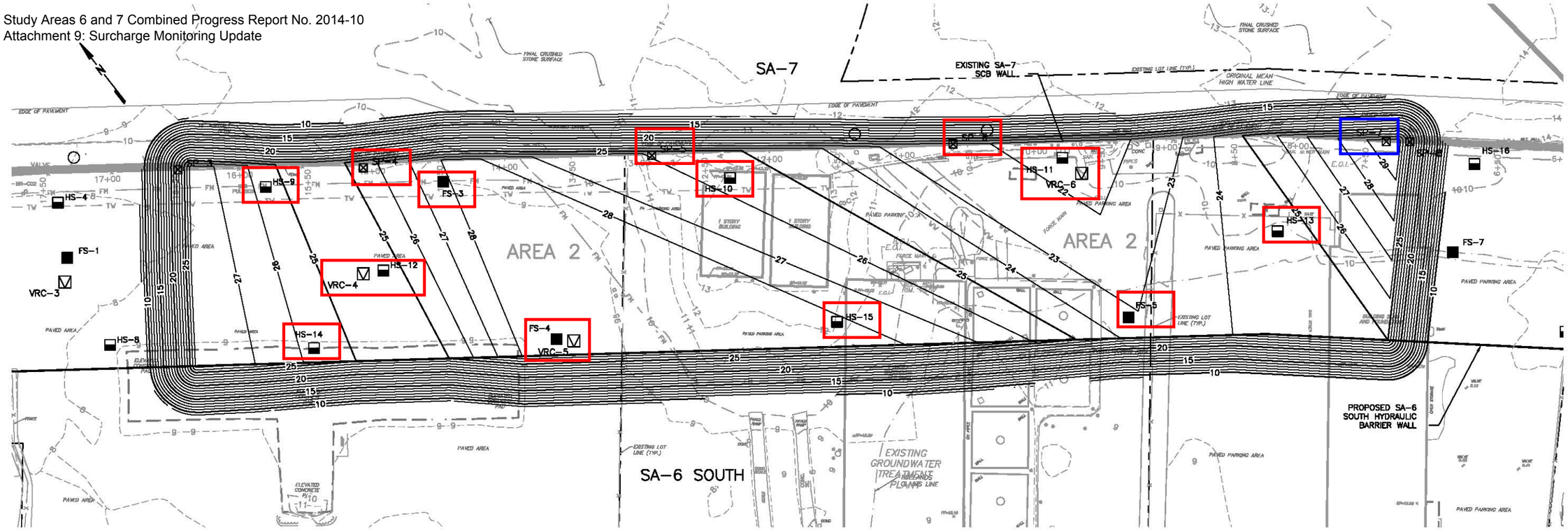
CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec

INSTRUMENTATION LOCATION PLAN 2N
Project 3480-09-0006
Figure C1

Prepared/Date: RJR 08/15/13
Checked/Date: AE 08/15/13

Z:\Project\HONEYWELL\JERSEY CITY\Cap Design-SA6-C30\CAD\SA6R\100 Percent\Figure 2 Surcharge Settling Monitoring Plan - Area 2.dwg Thu, 15 Aug 2013 - 4:07pm roger.hauler



Instrumentation Locations Not Installed

Installed Instrumentation Locations

*Settlement Platforms have not been installed.

SETTLEMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
FS-3	685146.51	602186.05
FS-4	685000.10	602180.49
FS-5	684747.04	602531.06
HS-9	685225.80	602078.13
HS-10	685015.29	602358.48
HS-11	684872.76	602565.65
HS-12	685121.52	602109.26
HS-13	684729.05	602659.63
HS-14	685107.56	602031.99
HS-15	684880.03	602355.29
SP-4	685191.86	602145.03
SP-5	685065.13	602322.45
SP-6	684931.76	602507.08
SP-7	684731.82	602765.99
VRC-4	685128.94	602095.79
VRC-5	684991.20	602189.91
VRC-6	684854.69	602569.90

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.
4. AFTER COMPLETION OF AREAS 1 AND 3 SURCHARGE LOADING, REMAINING FILL FROM THESE AREAS WILL BE COMBINED TO FORM THE SURCHARGE FOR AREA 2.

VI-2	INCLINOMETER LOCATION
FS-1	SETTLEMENT MONITORING POINT FULL – SET UP
HS-1	SETTLEMENT MONITORING POINT HALF – SET UP
SP-12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 7)
VRC1	VIBRATING WIRE PIEZOMETER IN STRATUM RC

0 20 40 80
SCALE IN FEET

Prepared/Date: RJR 07/19/13
Checked/Date: AE 07/19/13

Revised DCB 001 7/29/13

Honeywell
101 COLUMBIA RD., BOX 2108
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

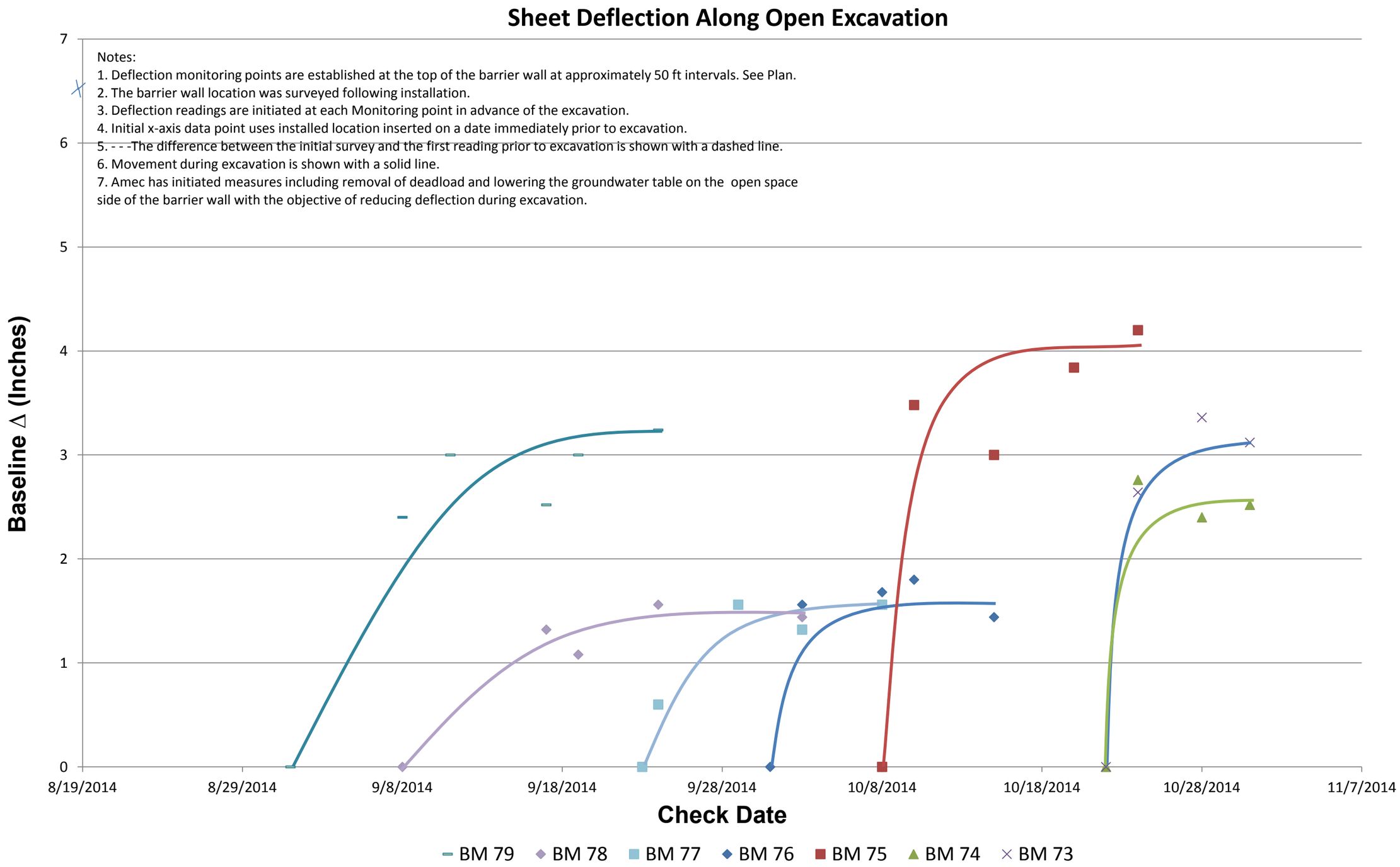
amec

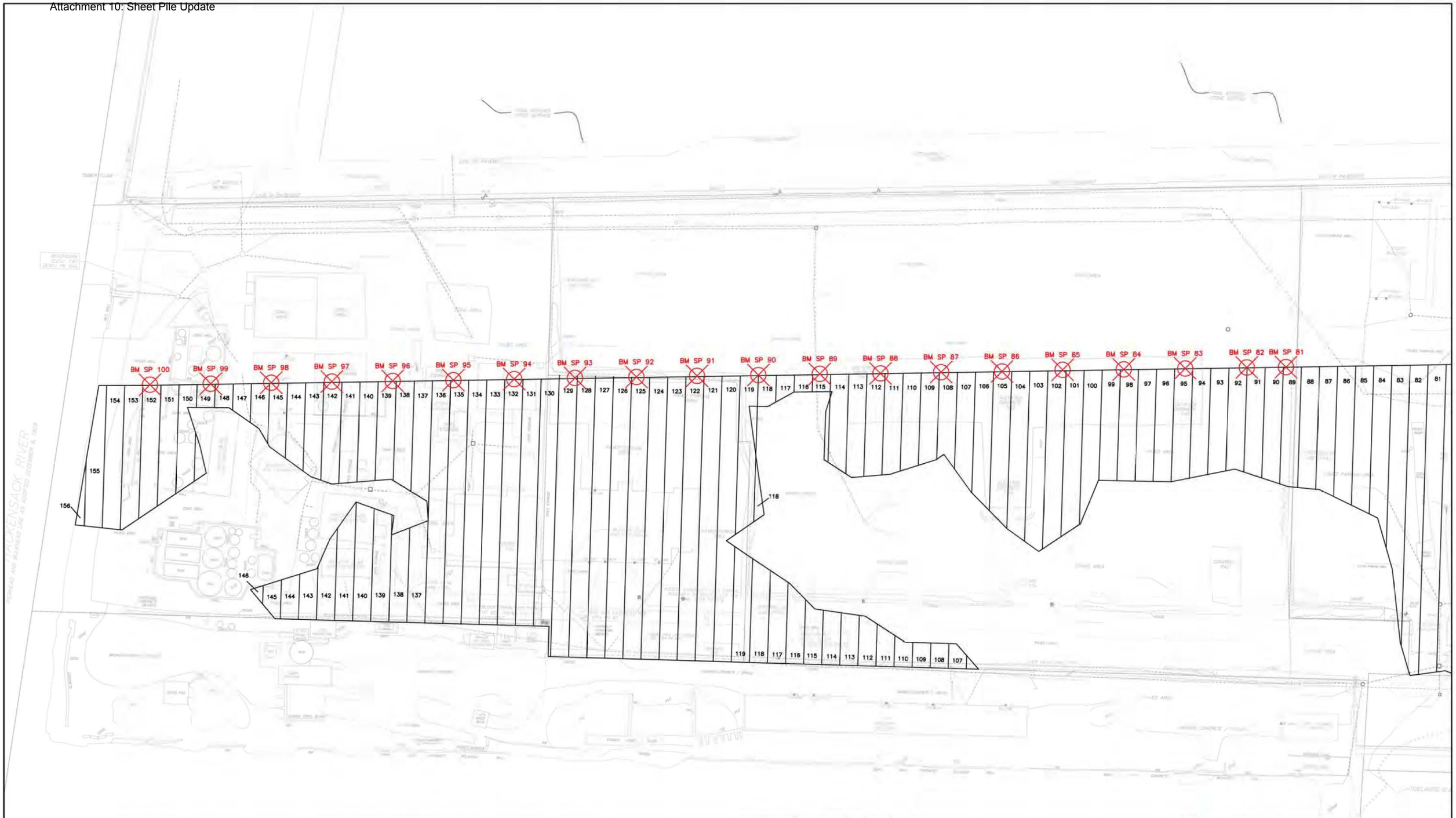
INSTRUMENTATION LOCATION PLAN 2S

Figure G1

Attachment 10: Sheet Pile Update

- Sheet Deflection Along Open Excavation
- Sheet Monitoring Locations
- Sheet Pile Repair Log
- Sheet Pile Angle Grout Log


Sheet Deflection Along Open Excavation
Notes:
1. Deflection monitoring points are established at the top of the barrier wall at approximately 50 ft intervals. See Plan.
2. The barrier wall location was surveyed following installation.
3. Deflection readings are initiated at each Monitoring point in advance of the excavation.
4. Initial x-axis data point uses installed location inserted on a date immediately prior to excavation.
5. - - -The difference between the initial survey and the first reading prior to excavation is shown with a dashed line.
6. Movement during excavation is shown with a solid line.
7. Amec has initiated measures including removal of deadload and lowering the groundwater table on the open space side of the barrier wall with the objective of reducing deflection during excavation.
Baseline Δ (Inches)
0
1
2
3
4
5
6
7
8/19/2014
8/29/2014
9/8/2014
9/18/2014
9/28/2014
10/8/2014
10/18/2014
10/28/2014
11/7/2014
Check Date
BM 79
BM 78
BM 77
BM 76
BM 75
BM 74
BM 73



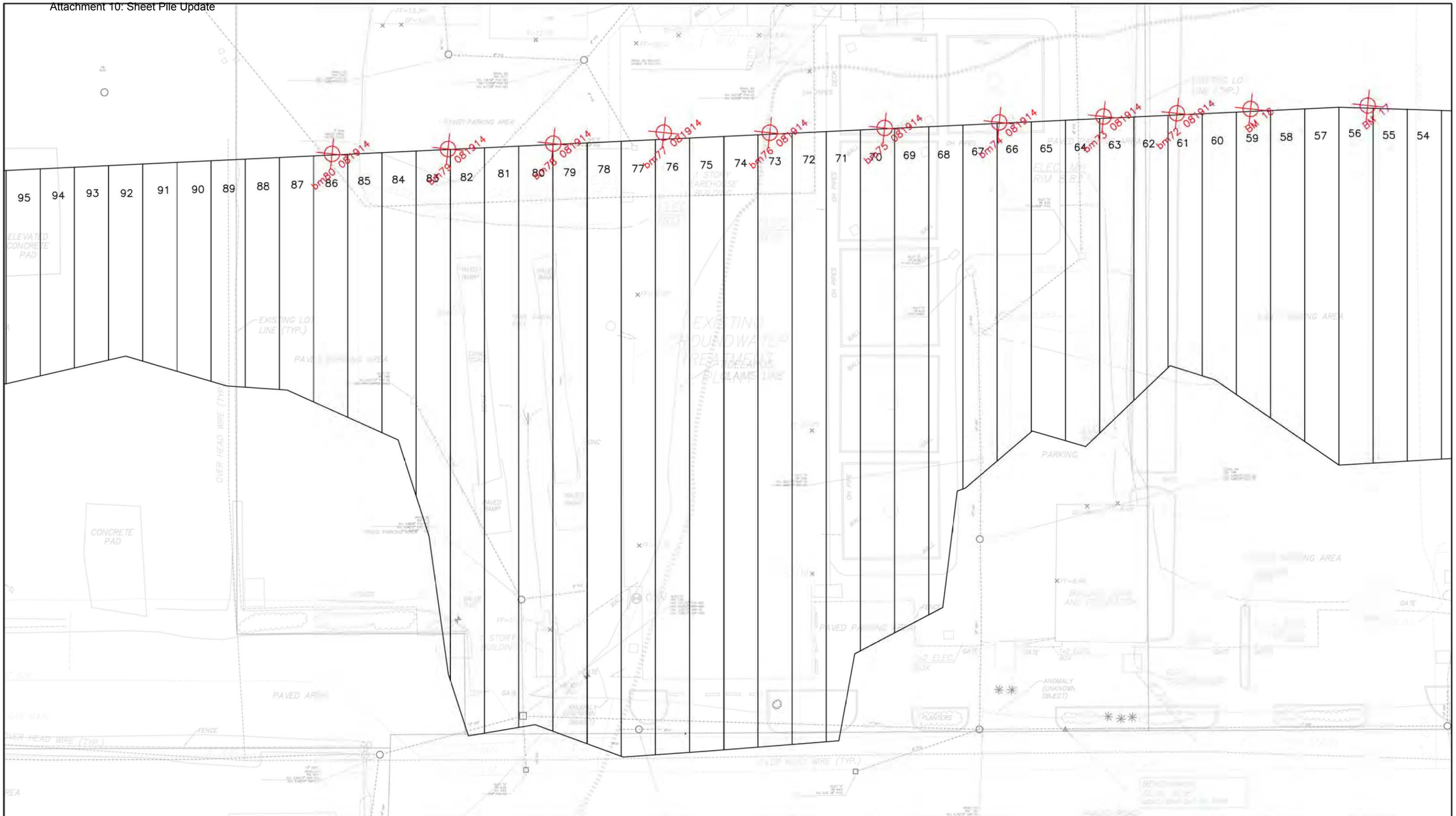
NOTES:

- Survey data collected with Trimble SPS882 and TSC2 Data Collector.
- Horizontal accuracy of 0.026 ft.
- Deflection measured at the top of the sheet.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SHEET MONITORING LOCATIONS 03-20-14

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTES:

- Survey data collected with Trimble SPS882 and TSC2 Data Collector.
- Horizontal accuracy of 0.026 ft.
- Deflection measured at the top of the sheet.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SHEET MONITORING LOCATIONS 08-19-14

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-69

Entact ID:

Date Exposed: 8/29/14

Describe Damage: (13) Scrapes by the Cat 349E and 322C excavator buckets - 12"×48", (3) 1"Ø, 1×8", 1/4×2", 1/2×3", 2"Ø, 1×48", 1/2×12", 1/2×6", 1×5", 1/4×8". Cell 84

Damage Location (ft below top of sheet, inboard side outboard side): 9-14' outboard

Date Repaired: 9-4-14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-70

Entact ID:

Date Exposed: 8/29/14

Describe Damage: (9) Scrapes by the Cat 349E & 322C excavator buckets - 1×72", 1×60", (4) 1"Ø, 1×3", 1/2×12", 1/2×8". Cell 83

Damage Location (ft below top of sheet, inboard side outboard side): 7-15' outboard

Date Repaired: 9/4/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-71

Entact ID:

Date Exposed: 8/29/14

Describe Damage: (8) Scrapes by the Cat 349E and 322C excavator buckets - (2) 2"Ø, 3"×48", 1×48", 1×8", 1×12", 1/2×36", 1/2×12". Cell 83

Damage Location (ft below top of sheet, inboard side outboard side): 7-15' outboard

Date Repaired: 9/4/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-72

Entact ID:

Date Exposed: 8/29/14

Describe Damage: (7) Scrapes by the Cat 349E and 322C excavator buckets - 3"Ø, 3×12", 1/2×3", 2×24", 2×12", 1×18", 1"Ø. Cell 83

Damage Location (ft below top of sheet, inboard side outboard side): 5-15' outboard

Date Repaired: 9/11/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-75

Entact ID:

Date Exposed: 9/2/14

Describe Damage: (10) scrapes by the Cat 349E and 322C excavator buckets - 1/2 x 48", (4) 1x12", 1x6", 1x60", 1/4 x 24", 3x24", 2"Ø. Cell 82

Damage Location (ft below top of sheet, inboard side outboard side): 7-15' outboard

Date Repaired: 9/11/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-76

Entact ID:

Date Exposed: 9/2/14

Describe Damage: (7) Scrapes by the Cat 349E and 322C excavator buckets - 12"Ø, 1/4 x 12", 1x4", 1x18", 1/2 x 2", 1/2 x 6", 1"Ø. Cell 82.

Damage Location (ft below top of sheet, inboard side outboard side): 7-15' outboard

Date Repaired: 9/11/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-73

Entact ID:

Date Exposed: 9/2/14

Describe Damage: (12) scrapes by the Cat 349E and 322C excavator buckets - (3) 1x12", 1x48", (4) 1"Ø, 1/2 x 24", (2) 2"Ø, 1x4". Cell 83/82

Damage Location (ft below top of sheet, inboard side outboard side): 8-15' outboard

Date Repaired: 9/11/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-74

Entact ID:

Date Exposed: 9/2/14

Describe Damage: (6) scrapes by the Cat 349E and 322C excavator buckets - 1x6", 1x12", 1/2 x 36", (2) 1/2 x 24", 1/4 x 12". Cell 82

Damage Location (ft below top of sheet, inboard side outboard side): 9-15' outboard

Date Repaired: 9/11/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-77

Entact ID:

Date Exposed: 9/9/14

Describe Damage: (9) Scrapes by the Cat 349E and 322C excavator buckets ~ 48x6", (3) 1"Ø, 1x12", 1/2x18", 1x48", 1/2x6", 3"Ø. Cell 81

Damage Location (ft below top of sheet, inboard side outboard side): 4-13' outboard

Date Repaired: 9/17/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-78

Entact ID:

Date Exposed: 9/9/14

Describe Damage: (3) Scrapes by the Cat 349E and Cat 322C excavator buckets ~ (2) 1"Ø, 1/2"Ø. Cell 81

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 9/17/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-79

Entact ID:

Date Exposed: 9/9/14

Describe Damage: (7) Scrapes by the Cat 349E and 322C excavator buckets ~ 1x6", 1/2x36", (3) 1"Ø, 1/2x12", 2"Ø. Cell 81

Damage Location (ft below top of sheet, inboard side outboard side): 4-13' outboard

Date Repaired: 10/3/14 Total, 9/17/14 Partial

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-80

Entact ID:

Date Exposed: 9/16/14

Describe Damage: (5) Scrapes by the Cat 349E and 322C excavator buckets ~ (2) 1/2x6", 1"Ø, 1x18", 4"Ø. Cell 80

Damage Location (ft below top of sheet, inboard side outboard side): 6-13' outboard

Date Repaired: 9/17/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-81

Entact ID:

Date Exposed: 9/16/14

Describe Damage: (10) Scrapes by the Cat 349E and 322C excavator buckets- (3) 1"Ø, (3) 1/2 x 12", 1x4", 6 x 36", 1/2x18", 3"Ø. Cell 80

Damage Location (ft below top of sheet, inboard side outboard side): 2-13' outboard

Date Repaired: 9/17/14 Partial, 9/25/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 9/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-82

Entact ID:

Date Exposed: 9/16/14

Describe Damage: (4) Scrapes by the Cat 349E Excavator bucket- 1/2 x 72", 1/2 x 60", 1" x 24", 1/2 x 12". Cell 80.

Damage Location (ft below top of sheet, inboard side outboard side): 4-13' outboard

Date Repaired: 9/17/14 Partial, 9/25/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 9/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-83

Entact ID:

Date Exposed: 9/17/14

Describe Damage: (7) Scrapes by the Cat 349E and 322 C excavator buckets- 1/2 x 60", (3) 1"Ø, 1/2 x 6", 3"Ø, 1 x 12". Cell 79

Damage Location (ft below top of sheet, inboard side outboard side): 2-11' outboard

Date Repaired: 9/23/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-1

Entact ID:

Date Exposed: 9/18/14

Describe Damage: (10) Scrapes by the Cat 349E and 322C excavator buckets - (4) 1"Ø, 1 x 24", 8"Ø, 1/2 x 36", 1/2 x 6", 2 x 4", 1/4 x 12". Cell 79.

Damage Location (ft below top of sheet, inboard side outboard side): 4-13' outboard

Date Repaired: 9/23/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-2

Entact ID:

Date Exposed: 9/18/14

Describe Damage: (6) scrapes by the Cat 349E and 322C excavator buckets- 6"Ø, (2) 1/2×12", 1/2×24", 1×4", 1×8". Cell 79

Damage Location (ft below top of sheet, inboard side outboard side): 3-13' outboard

Date Repaired: 9/23/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-3

Entact ID:

Date Exposed: 9/19/14

Describe Damage: (9) scrapes by the Cat 349E and 322C excavator buckets- 1×12", 1×48", 1/2×6", (3) 1"Ø, 1/4×60", 2×12", 3"Ø, 1×24". Cell 79/78

Damage Location (ft below top of sheet, inboard side outboard side): 5-12' outboard

Date Repaired: 9/23/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-4

Entact ID:

Date Exposed: 9/19/14

Describe Damage: (8) scrapes by the Cat 349E and 322C excavator buckets- (3) 1/2×24", 1/4×12", 1/4×24", 1×36", 5"Ø, 1/2×6". Cell 78

Damage Location (ft below top of sheet, inboard side outboard side): 2-12' outboard

Date Repaired: 9/23/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14 * x

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-5

Entact ID:

Date Exposed: 9/19/14

Describe Damage: (7) scrapes by the Cat 349E and 322C excavator buckets- (2) 1/2×36", (2) 1/2"Ø, 1/2×12", 1×12", 1×6". Cell 78.

Damage Location (ft below top of sheet, inboard side outboard side): 5-12' outboard

Date Repaired: 9/23/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-6

Entact ID:

Date Exposed: 9/19/14

Describe Damage: (8) scrapes by the Cat 349E and 322C excavator buckets - (3) 1"Ø, 1×48", 1×6, 1/2×18", 3×24", 12"Ø. Cell 78

Damage Location (ft below top of sheet, inboard side outboard side): 1 - 13' outboard

Date Repaired: 9/29/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-7

Entact ID:

Date Exposed: 9/23/14

Describe Damage: (12) scrapes by the Cat 349E and 322 C excavator buckets - 1/2×60", 2×24", 1/4×72", (2) 1/2"Ø, (2) 2Ø", 1×6", 3×6", 12"×36", 1/4×12", 3"Ø. Cell 77

Damage Location (ft below top of sheet, inboard side outboard side): 2-13' outboard

Date Repaired: 9/29/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-8

Entact ID:

Date Exposed: 9/23/14

Describe Damage: (12) scrapes by the Cat 349E and 322C excavator buckets - 1/2×48", 1×18", 3"Ø, 1×12", 1/4×48", (3) 1"Ø, (3) 2"Ø, 2×10". Cell 77.

Damage Location (ft below top of sheet, inboard side outboard side): 6" - 12' outboard

Date Repaired: 9/29/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-9

Entact ID:

Date Exposed: 9/23/14

Describe Damage: (11) scrapes by the Cat 349E and 322C excavator buckets - 1"Ø, 4"Ø, 1/2×2", 1/2×6", 1×36", 1×18", 1/2×24", 2×6", 2"Ø 1/4×3", 3×12". Cell 77/76

Damage Location (ft below top of sheet, inboard side outboard side): 3-12' outboard

Date Repaired: 9/29/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-10

Entact ID:

Date Exposed: 9/23/14

Describe Damage: (10) scrapes by the Cat 349E and 322C excavator buckets- 6x18", 1/2x48", 1/2x48", 1x24", 1x8", 2"ø, 1"ø, 1/2x72", 2x18", 1"ø,. Cell 76

Damage Location (ft below top of sheet, inboard side outboard side): 3-13' outboard

Date Repaired: 9/29/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: B Shea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-11

Entact ID:

Date Exposed: 9/23/14

Describe Damage: (7) Scrapes by the Cat 349E and 322C excavator buckets- 1/4x84", 1/2x72", 1x8", 4"ø, 1x12", 1/2"ø, 1x2". Cell 76

Damage Location (ft below top of sheet, inboard side outboard side): 4-13' outboard

Date Repaired: 9/29/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: B Shea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-12

Entact ID:

Date Exposed: 9/26/14

Describe Damage: (12) Scrapes by the Cat 349E and 322C excavator buckets- 1x18", 1x6", 1x12", 1x2", 1/2x48", (2) 1"ø, 1/2x24", (3) 1/2"ø, 2x6", Cell 76

Damage Location (ft below top of sheet, inboard side outboard side): 1-13' outboard

Date Repaired: 9/29/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: B Shea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-13

Entact ID:

Date Exposed: 9/26/14

Describe Damage: (8) Scrapes by the Cat 349E and 322C excavator buckets- 1/2x6", (2) 1/2x8", 1x12", 1x36", 4"ø, 18"ø, 1/4x24". Cell 75

Damage Location (ft below top of sheet, inboard side outboard side): 3-12' outboard

Date Repaired: 9/29/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: B Shea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-14

Entact ID:

Date Exposed: 9/29/14

Describe Damage: (10) scrapes by the Cat 349E and 322C excavator buckets- 1/2x2", 1/2x6", (3) 1/2"Ø, 2x12", 3x12", 1/2x24", 1/4x96", 1x4". Cell 75

Damage Location (ft below top of sheet, inboard side outboard side): 2-12' outboard

Date Repaired: 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 20P1-15

Entact ID:

Date Exposed: 9/29/14

Describe Damage: (9) scrapes by the Cat 349E and 322C excavator buckets- 1x48", (6) 1"Ø, 1x8", 2x8". Cell 75.

Damage Location (ft below top of sheet, inboard side outboard side): 4-13' outboard

Date Repaired: 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 23P1A-1

Entact ID:

Date Exposed: 9/29/14

Describe Damage: (13) scrapes by the Cat 349E and 322C excavator buckets- (5) 1"Ø, 1x36", 1/2x12", 1/2x36", 1x6", 2x4", 1/2"Ø, 1/4x48", 1/4x6". Cell 75/74

Angle damaged during driving process. New 5x5" angle welded back on and grouted.

Damage Location (ft below top of sheet, inboard side outboard side): 10-16' outboard

Date Repaired: 10/1/14 Partial, 10/10/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 21P1-1

Entact ID:

Date Exposed: 9/30/14

Describe Damage: (21) Scrapes by the Cat 349E excavator bucket - 6x24", (16) 1"Ø, 1/2x3", 1x4", 1/2x12", 1/4x84", 2"Ø. Cell 74

Damage Location (ft below top of sheet, inboard side outboard side): 7-16' outboard

Date Repaired: 10/1/14 Partial, 10/10/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 21P1-2

Entact ID:

Date Exposed: 10/1/14

Describe Damage: (10) Scrapes by the Cat 349E and 322C excavator buckets- 3"Ø, (4)1"Ø, 1"x84", 1x36", 2x18", 2x12", 3x6". Cell 74

Damage Location (ft below top of sheet, inboard side outboard side): 7-16' outboard

Date Repaired: 10/1/14 Partial, 10/10/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 21P1-3

Entact ID:

Date Exposed: 10/1/14

Describe Damage: (12) Scrapes by the Cat 349E and 322C excavator buckets- 1x2", 1x8", 1x36", 1/2x78", 1x72", 1/2x6", 2x12", 1/2x8", 1/2x24", 2"Ø, 1x4", 1x18". Cell 74/73

Damage Location (ft below top of sheet, inboard side outboard side): 5-17' outboard

Date Repaired: 10/7/14 Partial, 10/10/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 21P1-4

Entact ID:

Date Exposed: 10/1/14

Describe Damage: (16) scrapes by the Cat 349E and 322C excavator buckets- (9)1"Ø, 1x2", 1/2x12", 1/2x60", 3"x72", 1x36", 1x72", 2"Ø. Cell 73

Damage Location (ft below top of sheet, inboard side outboard side): 6-17' outboard

Date Repaired: 10/7/14 Partial, 10/10/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 21P1-5

Entact ID:

Date Exposed: 10/2/14

Describe Damage: (6) Scrapes by the Cat 349E and 322C excavator buckets- 1/4x24", 1x8", 1x3", 1x18", 1/4x4", 2x4". Cell 73

Damage Location (ft below top of sheet, inboard side outboard side): 10-17' outboard

Date Repaired: 10/7/14 Partial, 10/10/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 10/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 21P1-6

Entact ID:

Date Exposed: 10/2/14

Describe Damage: (9) scrapes by the Cat 349E and 322C excavator buckets- 1/2x3", 6x18", 1x12", 1/2x12", 1x12", 2x8", 1x8", 1/4x36", 6x24". Cell 73-72

Damage Location (ft below top of sheet, inboard side outboard side): 10-17' outboard

Date Repaired: 10/7/14 Partial, 10/10/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 21P1-7

Entact ID:

Date Exposed: 10/2/14

Describe Damage: (12) scrapes by the Cat 349E and 322C excavator buckets- 1/2x84", 1/2x36", 1"Ø, 1x24", 1"Ø, 3x12", 2"x48", (2)1x6", 1x2", 1/4x18", 1/4x12". Cell 72

Damage Location (ft below top of sheet, inboard side outboard side): 7-17 outboard

Date Repaired: 10/7/14 Partial, 10/10/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 21P1-8

Entact ID:

Date Exposed: 10/2/14

Describe Damage: (14) scrapes by the Cat 349E and 322C excavator buckets- 1x84", 2"Ø, (3)1x2", 1/2x72", 1/2x8", 1"Ø, 1x96", 1/4x24", 1/4x18", 4"Ø, 1x4", 1/4x12". Cell 72

Damage Location (ft below top of sheet, inboard side outboard side): 1-17 outboard

Date Repaired: 10/7/14 Partial, 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 21P1-9

Entact ID:

Date Exposed: 10/2/14

Describe Damage: (17) scrapes by the Cat 349E and 322 C excavator buckets- 2x6", (3)1"Ø, 1x84", 3x48", 1x12", 6x18", 1x3", 1/2x84", 1/2x36", 1x6", (2)1/2x12", (2)1/4x18", 6"Ø. Cell 72

Damage Location (ft below top of sheet, inboard side outboard side): 2-17 outboard

Date Repaired: 10/7/14 Partial, 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 21P1-10

Entact ID:

Date Exposed: 10/6/14

Describe Damage: (10) scrapes by the Cat 349E and 322C excavator buckets- 1"Ø, 2×18", 1×48", 1/2"Ø, 1×6", (3) 1×12", 1/2×84", 12"Ø. Cell 71

Damage Location (ft below top of sheet, inboard side outboard side): 7- 17" outboard

Date Repaired: 10/10/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 21P1-11

Entact ID:

Date Exposed: 10/6/14

Describe Damage: (11) scrapes by the Cat 349E and 322C excavator buckets- 1×120", 2"Ø, 1×36", 3"Ø, 1×18", 2×12", 1/2×60", 1/2×48", 1×6", 3×12", 1/2×4". Cell 71

Damage Location (ft below top of sheet, inboard side outboard side): 5-17' outboard

Date Repaired: 10/10/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 10/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 21P1-12

Entact ID:

Date Exposed: 10/6/14

Describe Damage: (16) scrapes by the Cat 349E and 322C excavator buckets- 2"Ø, 10"Ø, 1/2×48", 1"Ø, (3) 1/2"Ø, 1/4×2", 1/4×60", 1×48", 1×8", 1×3", 3"Ø, 6×18". Cell 71

Damage Location (ft below top of sheet, inboard side outboard side): 10-17' outboard

Date Repaired: 10/10/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 10/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 21P1-13

Entact ID:

Date Exposed: 10/6/14

Describe Damage: (10) scrapes by the Cat 349E and 322C excavator buckets- 18"Ø, 3"Ø, 1×18", 1/2×48", 1/4×96", 1/2×18", 1×36", (3) 1"Ø. Cell 71-70.

Damage Location (ft below top of sheet, inboard side outboard side): 6-17' outboard

Date Repaired: 10/10/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-1

Entact ID:

Date Exposed: 10/7/14

Describe Damage: (12) scrapes by the Cat 349E and 322C excavator buckets- (6) 1"Ø, 1/2 x 60", 1 x 8", 1/2 x 12", 2 x 12", 2 x 4", 1/4 x 18. Cell 70

Damage Location (ft below top of sheet, inboard side outboard side): 7-16' outboard

Date Repaired: 10/10/14 Partial, 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-2

Entact ID:

Date Exposed: 10/7/14

Describe Damage: (7) Scrapes by the Cat 349E and 322 C excavator buckets- 1/2 x 60", 1 x 36", (2) 1 x 12", 4 x 36", (2) 1"Ø. Cell 70

Damage Location (ft below top of sheet, inboard side outboard side): 6-16' outboard

Date Repaired: 10/10/14 Partial, 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-3

Entact ID:

Date Exposed: 10/8/14

Describe Damage: (13) Scrapes by the Cat 349E and 322C excavator buckets- 1/2 x 24", 1 x 24", 1 x 48", 1 x 8", 1/2 x 6", 1/2 x 36", (2) 1/2 x 12", 1/4 x 6", 1/4 x 24", 2 x 6", 1"Ø, 1/2 x 2". Cell 70/69

Damage Location (ft below top of sheet, inboard side outboard side): 4-13' outboard

Date Repaired: 10/14/14 Partial, 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-4

Entact ID:

Date Exposed: 10/8/14

Describe Damage: (12) scrapes by the Cat 349E and 322C excavator buckets- 2 x 48", 2 x 6", 1 x 30", 1 x 18", (2) 1"Ø, 1/2 x 36", 1/4 x 12", 1/4 x 4", 1/2 x 8", 3 x 8", 3"Ø. Cell 69.

Damage Location (ft below top of sheet, inboard side outboard side): 7-13' outboard

Date Repaired: 10/14/14 Partial, 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22PI-5

Entact ID:

Date Exposed: 10/10/14

Describe Damage: (15) Scrapes by the Cat 349E and 322C excavator buckets- 6×84", 2×36", 8"Ø, (3) 1"Ø, 1/4×48", 1/2×6", 1×4", 1/4×6", 1×24", 1/2×3", (2) 1/2"Ø, 4"Ø. Cell 69.

Damage Location (ft below top of sheet, inboard side outboard side): 6-16' outboard

Date Repaired: 10/14/14 Partial, 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22PI-6

Entact ID:

Date Exposed: 10/10/14

Describe Damage: (14) scrapes by the Cat 349E and 322C excavator buckets- (3) 1/2"Ø, 2×24", 4"Ø, 1/2×8", 1"Ø, 1×12", 1×36", 1×60", 1/4×60", 1×8", 1×6", 1/2×36". Cell 69.

Damage Location (ft below top of sheet, inboard side outboard side): 4-16' outboard

Date Repaired: 10/14/14 Partial, 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22PI-7

Entact ID:

Date Exposed: 10/10/14

Describe Damage: (16) scrapes by the Cat 349E and 322C excavator buckets- 1/4×48", 6"×120", (4) 1/2"Ø, (3) 1"Ø, 1/2×24", 1×8", 1×18", 1×48", 1/4×4", 1×3", 1×18". Cell 68.

Damage Location (ft below top of sheet, inboard side outboard side): 7-16' outboard

Date Repaired: 10/14/14 Partial, 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22PI-8

Entact ID:

Date Exposed: 10/10/14

Describe Damage: (12) scrapes by the Cat 349E and 322C excavator buckets- 1×120", 2"Ø, 2×48", 1×6", 1/2×4", (3) 1"Ø, 1×108", 1/2×18", 3"Ø, 1"Ø. Cell 68

Damage Location (ft below top of sheet, inboard side outboard side): 6-16' outboard

Date Repaired: 10/14/14 Partial, 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-9

Entact ID:

Date Exposed: 10/13/14

Describe Damage: (19) Scrapes by the Cat 349E and 322C excavator buckets - (8) 1"Ø, 1×12", 4"Ø, 4×84", 1/2×72", 2×12", 1/2×4", 1×4", (3) 1/2×8", 1/4×60". Cell 68.

Damage Location (ft below top of sheet, inboard side outboard side): 10-16' outboard

Date Repaired: 10/14/14 partial, 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-10

Entact ID:

Date Exposed: 10/13/14

Describe Damage: (13) scrapes by the Cat 349E and 322C excavator buckets - (6) 1"Ø, 1/2×84", (2) 1/2×12", 1×8", 1/4×36", (2) 1×4". Cell 67

Damage Location (ft below top of sheet, inboard side outboard side): 10-17' outboard

Date Repaired: 10/21/14 Partial, 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-11

Entact ID:

Date Exposed: 10/14/14

Describe Damage: (15) Scrapes by the Cat 349E and 322C excavator buckets - (4) 1/2"Ø, (3) 1"Ø, (2) 1×48", 1×18", 2×10", 1/2×6", 1/2×3", 4"Ø, 2"Ø. Cell 67

Damage Location (ft below top of sheet, inboard side outboard side): 10-17' outboard

Date Repaired: 10/21/14 Partial, 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-12

Entact ID:

Date Exposed: 10/14/14

Describe Damage: (10) scrapes by the Cat 349E and 322 C excavator buckets - 1/2×36", 1/2×24", 1×12, (4) 1/2"Ø, (2) 1×6", 1/4×24". Cell 67.

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 10/21/14 Partial, 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-13

Entact ID:

Date Exposed: 10/21/14

Describe Damage: (13) scrapes by the Cat 349E and 322C excavator buckets- (6) 1/2"Ø, (3) 1/2x12", 2x12", 1/2x18", 1/2x3", 3"Ø. Cell 67/66

Damage Location (ft below top of sheet, inboard side outboard side): 11-15' outboard

Date Repaired: 10/21/14 Partial, 10/29/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-14

Entact ID:

Date Exposed: 10/21/14

Describe Damage: (20) scrapes by the Cat 349E and 322C excavator buckets- (10) 1/2"Ø, 1x12", 1x6", 4"Ø, (3) 1"Ø, 1/2x6", 1/2x3", 1/2x12", 1x4". Cell 66.

Damage Location (ft below top of sheet, inboard side outboard side): 8-14' outboard

Date Repaired: 10/21/14 Partial, 10/29/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-15

Entact ID:

Date Exposed: 10/21/14

Describe Damage: (12) scrapes by the Cat 349E and 322C excavator buckets- (4) 1"Ø, 1/2"Ø, 1x12", 1/2x6", 1/2x24", 3x6", 1x2", 1/4x3", 1x4". Cell 66

Damage Location (ft below top of sheet, inboard side outboard side): 9-13' outboard

Date Repaired: 10/21/14 Partial, 10/29/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-16

Entact ID:

Date Exposed: 10/21/14

Describe Damage: (9) scrapes by the Cat 349E and 322C excavator buckets- 1x3, 1x4, (3) 1"Ø, (2) 1/2"Ø, 1x36", 1/2x24. Cell 66/65

Damage Location (ft below top of sheet, inboard side outboard side): 2-13' outboard

Date Repaired: 10/21/14 Partial, 10/29/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-17

Entact ID:

Date Exposed: 10/21/14

Describe Damage: (10) scrapes by the Cat 349E and 322C excavator buckets- 1/2x48", 1x12", 1x8", 1/2x3", 1/2x24", (4) 1"Ø, 6"Ø. Cell 65

Damage Location (ft below top of sheet, inboard side outboard side): 7-13' outboard

Date Repaired: 10/21/14 Partial, 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-18

Entact ID:

Date Exposed: 10/21/14

Describe Damage: (8) Scrapes by the Cat 349E and 322C excavator buckets- 1/2x12", 12x24", (2) 1/2x6", 1"Ø, 4"Ø, 1/2x36", 1x8". Cell 65

Damage Location (ft below top of sheet, inboard side outboard side): 3-13' outboard

Date Repaired: 10/21/14 Partial, 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-19

Entact ID:

Date Exposed: 10/21/14

Describe Damage: (8) scrapes by the Cat 349E and 322C excavator buckets- 1x18", 4x12", 3"Ø, (3) 1/2"Ø, 1x24, 1/4x24". Cell 65

Damage Location (ft below top of sheet, inboard side outboard side): 4-14' outboard

Date Repaired: 10/21/14 Partial, 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-20

Entact ID:

Date Exposed: 10/21/14

Describe Damage: (10) Scrapes by the Cat 349E and 322C excavator buckets- 8"Ø, (5) 1"Ø, 1/2x36", 1/2x8", 1/4x18", 3"Ø. Cell 64

Damage Location (ft below top of sheet, inboard side outboard side): 6-14' outboard

Date Repaired: 10/27/14 Partial, 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-21

Entact ID:

Date Exposed: 10/21/14

Describe Damage: (12) scrapes by the Cat 349E and 322C excavator buckets- 1×24", 1×18", 1/2×66", 2×8", 10"Ø, (4) 1"Ø, 1×48", (2) 1/2"Ø. Cell 64

Damage Location (ft below top of sheet, inboard side outboard side): 4-14' outboard

Date Repaired: 10/27/14 Partial, 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Presssure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-22

Entact ID:

Date Exposed: 10/21/14

Describe Damage: (11) Scrapes by the Cat 349E and 322C excavator buckets- 1/2×18", 1/2×2", 1/2×6", (2) 1×12", 3×18", 1/4×8, 1/4×12", 3"Ø, (2) 1/2"Ø. Cell 64/63

Damage Location (ft below top of sheet, inboard side outboard side): 5-14' outboard

Date Repaired: 10/27/14 Partial, 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-23

Entact ID:

Date Exposed: 10/24/14

Describe Damage: (14) scrapes by the Cat 349E ~~exc~~ 322 excavator buckets- 1/4×12", 2"Ø, 1×36", 1×18", 1"Ø, 1/2"Ø, (2) 1×6", 1/2×3", 1/4×48", (2) 1×4", 3"Ø, 3×12". Cell 63

Damage Location (ft below top of sheet, inboard side outboard side): 4-14' outboard

Date Repaired: 10/27/14 Partial, 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-24

Entact ID:

Date Exposed: 10/24/14

Describe Damage: (14) Scrapes by the Cat 349E and 322C excavator buckets- 1/2×12", (2) 1×36", 1/2×48", 1×6", 1×24", 1×36", 3"Ø, (4) 1"Ø, 1/2×12", 1/2×3". Cell 63

Damage Location (ft below top of sheet, inboard side outboard side): 2-14' outboard

Date Repaired: 10/27/14 Partial, 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-25

Entact ID:

Date Exposed: 10/24/14

Describe Damage: (19) scrapes by the Cat 349E and 322C excavator buckets - 1x36", 1x18", (2)3"Ø, 1/2x36", 3x8", 1x6", 1x8", (4)1/2x4", 6x36", (6)1"Ø. Cell 63

Damage Location (ft below top of sheet, inboard side outboard side): 3-13' outboard

Date Repaired: 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-26

Entact ID:

Date Exposed: 10/24/14

Describe Damage: (15) scrapes by the Cat 349E and 322C excavator buckets - (7)1"Ø, 4x72", (2)1x12", 1x6", 3x12", 1/2"Ø, (2)2"Ø. Cell 63/62.

Damage Location (ft below top of sheet, inboard side outboard side): 3-13' outboard

Date Repaired: 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-27

Entact ID:

Date Exposed: 10/24/14

Describe Damage: (21) scrapes by the Cat 349E and 322C excavator buckets - (11)1"Ø, 1x48", (2)1/2x36", (2)1x6", 1x3", 1/2x12", (3)2x4". Cell 62.

Damage Location (ft below top of sheet, inboard side outboard side): 4-13' outboard

Date Repaired: 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 24P1-1

Entact ID:

Date Exposed: 10/24/14

Describe Damage: (21) scrapes by the Cat 349E and 322C excavator buckets - (10)1"Ø, 1/2x2", 1/2x18", 1x36", 1x24", 1/4x8", 1x12", 2"Ø, 1x6", 1/2x12", 2x6", 1/4x6". Cell 62

Damage Location (ft below top of sheet, inboard side outboard side): 3-12' outboard

Date Repaired: 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 24P1-2

Entact ID:

Date Exposed: 10/24/14

Describe Damage: (12) Scrapes by the Cat 349E and 322C excavator buckets- 1x84", (4) 1"Ø, 1x36", 1/2x4", 1/2x2", 2x12", 1x6", (2) 1/2"Ø. Cell 62

Damage Location (ft below top of sheet, inboard side outboard side): 1-13 outboard

Date Repaired: 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 24P1-3

Entact ID:

Date Exposed: 10/28/14

Describe Damage: (19) Scrapes by the Cat 349E and 322C excavator buckets- (9) 1"Ø, 1x72", 1x18", 1/2x36", 1/2"x12", (2) 1x6", (2) 1/2x24", 1x48", 1/4x36". Cell 61

Damage Location (ft below top of sheet, inboard side outboard side): 2-13' outboard

Date Repaired: 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 24P1-4

Entact ID:

Date Exposed: 10/28/14

Describe Damage: (20) Scrapes by the Cat 349E and 322C excavator buckets- (4) 1x36", 1x72", (7) 1"Ø, (3) 1x6", 1/4x24", 1/4x8", 1/2x6", 1/2"3", 1/2"Ø. Cell 61

Damage Location (ft below top of sheet, inboard side outboard side): 1-12' outboard

Date Repaired: 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 24P1-5

Entact ID:

Date Exposed: 10/28/14

Describe Damage: (21) scrapes by the Cat 349E and 322C excavator buckets- (8) 1"Ø, (4) 1/2"Ø, (2) 1x6", 1/4x72", 2"Ø, 2x4", 1/2x6", 1/2x10", 2"Ø, 3"Ø. Cell 61

Damage Location (ft below top of sheet, inboard side outboard side): 2-13' outboard

Date Repaired: 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 24P1-6

Entact ID:

Date Exposed: 10/28/14

Describe Damage: (27) scrapes by the Cat 349E and 322C excavator buckets- (4) 1×12", (2) 1×48", 1/2×36", 3×12", (3) 1×6", 3×8", 3"Ø, (3) 2"Ø, (11) 1"Ø. Cell 61/60

Damage Location (ft below top of sheet, inboard side outboard side): 1-13' outboard

Date Repaired: 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 24P1-7

Entact ID:

Date Exposed: 10/28/14

Describe Damage: (27) scrapes by the Cat 349E & 322C excavator buckets- (6) 1×6", 3×18", (6) 1"Ø, 1/2×36", 2×18", 12"Ø, (3) 2"Ø, 1×24", 1/4×36", 1×3", (5) 1/2"Ø. Cell 60

Damage Location (ft below top of sheet, inboard side outboard side): 0 - 13' outboard

Date Repaired: 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 24P1-8

Entact ID:

Date Exposed: 10/28/14

Describe Damage: (29) Scrapes by the Cat 349E and 322C excavator buckets- (11) 1"Ø, (8) 1×6", (3) 1×24", 3×6", 2×18", 6"Ø, (4) 1/2"Ø. Cell 60.

Damage Location (ft below top of sheet, inboard side outboard side): 1-13' outboard

Date Repaired: 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 24P1-9

Entact ID:

Date Exposed: 10/28/14

Describe Damage: (39) scrapes by the Cat 349E and 322C excavator buckets- 24"Ø, (17) 1"Ø, 6"Ø, (3) 3"Ø, (9) 1×6", 1/2×48", 1/2×24", 1/4×36", 5"Ø, (4) 1/2"Ø. Cell 60/59

Damage Location (ft below top of sheet, inboard side outboard side): 1-13' outboard

Date Repaired: 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 24P1-10

Entact ID:

Date Exposed: 10/28/14

Describe Damage: (35) scrapes by the Cat 349E and 322C excavator buckets - 18×36", (15) 1"Ø, (3) 1/2"Ø, (2) 1×36", (3) 1×18", (5) 1×6", (2) 1/2×12", 2×8", 4"Ø, 2"Ø, 1/2×2". Cell 59.

Damage Location (ft below top of sheet, inboard side outboard side): 0 - 13' outboard

Date Repaired: 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: B. Shea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 24P1-11

Entact ID:

Date Exposed: 10/28/14

Describe Damage: (12) Scrapes by the Cat 349E and 322C excavator buckets - 6"Ø, 1×48", (2) 1×24", (3) 2"Ø, (3) 1×6", 1×18", 3×24". Cell 59

Damage Location (ft below top of sheet, inboard side outboard side): 5 - 13' outboard

Date Repaired: 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: B. Shea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID:

Date Exposed:

Describe Damage:

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired:

Inspected by:

Describe Repair:

Repair Log Closure: AMEC Signature:

Date:

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID:

Date Exposed:

Describe Damage:

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired:

Inspected by:

Describe Repair:

Repair Log Closure: AMEC Signature:

Date:

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

10/15/2014
SA-6 South Sheet Pile Angle Grout Log

Batch	Time	Sheets
89	9:11	19P1-52
90	9:18	19P1-53
90	9:21	19P1-55*
91	9:28	19P1-55*
91	9:30	19P1-56
92	9:32	19P1-57
92	9:34	19P1-58
92	9:35	19P1-59
92	9:37	19P1-60*
93	9:39	19P1-60*
93	9:41	19P1-61
93	9:42	19P1-62
93	9:43	19P1-66
94	9:52	19P1-68
94	9:55	19P1-69
94	9:56	19P1-70
94	10:00	19P1-71
95	10:10	Top off
		19P1-52 to
		19P1-71
95	10:14	19P1-73
95	10:16	19P1-74
96	13:45	19P1-63

Batch	Time	Sheets
97+98	13:55	Top off
		19P1-52 to
		19P1-74

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 3, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing		X		2,3,4
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		5
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		6,7
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment			X	
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams		X		8
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		9
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/03/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, October 03, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence on both the northern and the southern slopes of surcharge area 1-S is improperly toed in or requires maintenance.
2	IA2Q4A1AL8	Exclusion Zone signage on the temporary sheet pile at the west end of Kellogg Street is still in place after the area has been excavated and partially backfilled and is no longer considered an EZ.
3	IA2Q4A1AL8	Exclusion Zone fencing requires maintenance or is completely missing at several locations along the northern perimeter of SA-6 South EZ.
4	IA2Q4A1AL8	No Exclusion Zone signage or barrier is present between the clean surcharge area and the consolidated cap material in surcharge area 2-S.
5	IA2Q4A1AL8	No silt dams are present at the toe of the 2-S surcharge area along the north side.
6	IA2Q4A1AL8	An installed well vault in the SA-6 South backfill area sticks up 3"-4" above surrounding grade.
7	IA2Q4A1AL8	The stone on the roadway outside of the eastern exit of the SA-6 South Exclusion Zone is becoming blinded with sediment.
8	IA2Q4A1AL8	Straw wattle at the gaps in the 12" berm along the western SA-7 roadway has degraded and is no longer functional.
9	IA2Q4A1AL8	Sediment is present on the southern and northern SA-7 roadways.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature **Date:** 10/03/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair or re-install the missing or damaged sections of silt fence at the toe of the 1-S surcharge pile. Insure that all silt fence is properly toed in.	10-8-14 RAD
2	Remove all Exclusion Zone signage which is no longer required.	10-3-14 RAD
3	Repair or replace any sections of orange warning fencing which surrounds the SA-6 South EZ. Install fencing to eliminate any gaps which may be present.	10-3-14 RAD
4	Install Exclusion Zone signs to delineate the western edge of the EZ in surcharge area 2-S.	10-6-14 RAD
5	Construct silt dams or install acceptable erosion control measures along the northern edge of the 2-S surcharge area.	10-3-14 RAD
6	Install backfill material around the well vault in the western backfill area of SA-6 South, bringing it to grade and protecting the vault and/or vehicles from damage.	10-7-14 RAD
7	Remove and replace any stone containing sediment on the outside of the eastern SA-6 South CRZ.	10-7-14 RAD
8	Replace any degraded straw wattle along the western SA-7 roadway.	10-6-14 RAD
9	Clean the northern and southern SA-7 roadways.	10-8-14 RAD

Construction Manager: _____ **Date:** 10/08/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 9, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		2
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		3
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		4
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/09/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Thursday, October 09, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence on both the northern and the southern slopes of surcharge area 1-S is improperly toed in or missing and requires maintenance. Silt dams are not present at toe of slope.
2	IA2Q4A1AL8	Erosion control fabric on the western end of surcharge stockpile 1-S his blown loose around the edges and requires maintenance. Additional fabric is required on the northwest corner of the stockpile.
3	IA2Q4A1AL8	Material stockpiles in the eastern end of the SA-6 South exclusion zone are piled to within 6 inches of the top of their containment along the north side abutting SA-7.
4	IA2Q4A1AL8	Silt baskets in the storm water catch basins located on the eastern roadway of SA-7 are accumulating sediment.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature **Date:** 10/09/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair/Install the damaged or missing sections of silt fence at the toe of the 1-S surcharge pile. Install stone-filled silt dams along toes as required.	10/10/14 RAD
2	Re-anchor the erosion control fabric on the western end of the 1-S stockpile. Install additional fabric to protect the recently completed northwest corner of the pile.	10/14/14 RAD
3	Remove stockpile material that has accumulated to within 12" of the top of the northern containment wall.	10/14/14 RAD
4	Replace the filter fabric in the storm water catch basins located on the eastern SA-7 roadway.	10/15/14 RAD

Construction Manager: _____ **Date:** 10/15/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 16, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☑ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☑ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		1
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		2
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		4
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/16/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Thursday, October 16, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Storm water run-off has created approximately ten rills/gullies in the north face of the 1-S surcharge stockpile.
2	IA2Q4A1AL8	Storm water is ponded at various locations inside the eastern SA-6 South exclusion zone.
3	IA2Q4A1AL8	Silt fence along the toe of the north side of the 1-S surcharge pile has been compromised at several locations.
4	IA2Q4A1AL8	Silt dams along the toe of the 2-S surcharge pile are damaged at several locations.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature **Date:** 10/16/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Fill in the erosions in the northern face of the stockpile and tight-roll or otherwise stabilize the top of the pile and the slope face.	10/20/14 RAD
2	Pump ponded storm water to the Construction Water Treatment Plant for treatment and discharge to PVSC.	10/17/14 RAD
3	Repair/re-install silt fence as required. Install additional erosion control measures as necessary to prevent sediment from breaching protective measures in the area.	10/22/14 RAD
4	Replace or augment the damaged soil-filled sediment check dams at the northern toe of surcharge area 2-S with stone-filled check dams.	10/21/14 RAD

Construction Manager: _____ **Date:** 10/22/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 23, 2014

Type of Inspection: ☑ Regular ☑ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☑ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		3
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		4
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance		X		5
Perimeter Fencing/Windscreen		X		6
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		7
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		8
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		9
Perimeter Fencing/Windscreen		X		10
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/23/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, October 23, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence along the southern side of the 1-S surcharge stockpile requires maintenance/repair
2	IA2Q4A1AL8	Exclusion Zone fencing on the north side of the EZ requires maintenance/repair
3	IA2Q4A1AL8	Cover fabric on the western end of the 1-S surcharge stockpile has blown out of place.
4	IA2Q4A1AL8	Storm water is ponded at various locations on the backfill area and in the haul roads.
5	IA2Q4A1AL8	A stone tracking pad is required on the on the haul road which runs between SA-7 and SA-6 to the east of the sedimentation basin.
6	IA2Q4A1AL8	The perimeter fence at the northeastern corner of the sedimentation basin has gaps between fence panels.
7	IA2Q4A1AL8	Silt fence along the northern side of the 1-S surcharge stockpile requires maintenance/repair and the removal of accumulated sediment on the inboard side.
8	IA2Q4A1AL8	**REPEAT ITEM:** Sediment containment measures along the northern toe of the 1-S surcharge stockpile are inadequat and require substantial improvement.
9	IA2Q4A1AL8	Sediment has accumulated on the SA-7 access roadways.
10	IA2Q4A1AL8	Windscreen on the northern perimeter of SA-7 adjacent to the former JCIA facility requires maintenance.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature **Date:** 10/23/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Maintain or re-install silt fencing to contract specifications.	10/29/14 RAD
2	Maintain or repair orance EZ fencing. Check daily to confirm the integrity of the fenceline.	10/24/14 RAD
3	Repair/re-install silt fence as required. Install additional erosion control measures as necessary to prevent sediment from breaching protective measures in the area.	10/29/14 RAD
4	Replace or augment the damaged soil-filled sediment check dams at the northern toe of surcharge area 2-S with stone-filled check dams.	10/24/14
5	Install a stone tracking pad to reduce the tracking of sediment from SA-6 North to SA-7	10/23/14 RAD
6	Install additional fencing panels and/or wire the existing panels together to eliminate gaps in the perimeter fenceline.	10/24/14 RAD
7	Maintain/repair the silt fence. Remove accumulated sediment where required.	10/24/14 RAD
8	Install additional erosion control measures as required to prevent sediment from reaching the southern SA-7 roadway.	10/24/14 RAD
9	Remove accumulated sediment from all paved roadways on SA-7 and wash down with the water truck as needed.	10/27/14 RAD
10	Re-attach windscreen material where required.	10/24/14 RAD

Construction Manager: _____ Date: 10/29/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 30, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		2
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		4
Ponded Storm Water	X			
Housekeeping		X		5
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping		X		6
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/31/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, October 30, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone signs are still present on the eastern end of the recently completed excavation area.
2	IA2Q4A1AL8	The southwestern corner of the surcharge area 1-S stockpile has no protective fabric over the toe of slope or where it abuts the hydraulic barrier sheetpile wall.
3	IA2Q4A1AL8	The stone in the vehicle tracking pad at the western end of Kellogg Street has become blinded with sediment.
4	IA2Q4A1AL8	The sediment bags in the catch basins along Kellogg Street have become blinded with sediment.
5	IA2Q4A1AL8	Sediment is accumulating along the north side of Kellogg Street by the temporary sheetpile
6	IA2Q4A1AL8	No safety barrier is present between the sedimentation basin cap area and the concrete spill-over chamber to its south.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature Date: 10/31/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Remove Exclusion Zone signs.	11/3/14 RAD
2	Place protective fabric over the material in this area, covering the exposed toe and draping it over the sheetpile wall.	10/31/14 RAP
3	Clean or replace the stone in the tracking pad to restore function.	10/31/14 RAD
4	Replace the filter fabric in the catch basins at the western end of Kellogg Street.	11/4/14 RAD
5	Remove any accumulated sediment from the north side of Kellogg street adjacent to the excavation area.	11/5/14 RAD
6	Install fencing or a warning barrier along the northern edge of the spill-over chamber per OSHA requirements	11/5/14 RAD

Construction Manager: _____ Date 11/06/14

Attachment 12: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (September 2014)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

October 20, 2014

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 31630016

Dear Mr. Caltagirone:

Honeywell is submitting the September 2014 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA
Frank Schroyer - Parsons

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 31630016 OLD OUTLET DESIGNATION:

MONITORING PERIOD

Start			End		
9	01	14	9	30	14
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow gal/day~~		
Total Flow-gal/day	77,235	85,068 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	0.63	0.70	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.015	<0.015	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.0	<5.0	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.0824	0.0824	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analytes are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

10/17/2014

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 31630016 **OLD OUTLET DESIGNATION**

MONITORING PERIOD

Start			End		
9	01	14	9	30	14
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,317,052 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 17,658,209

DATE	BOD (mg/l)	TSS (mg/l)
9/11/2014	<7.0	5.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE 10/17/2014

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG **Honeywell Jersey City GWTP; SA-6 North (Permit #31630016)** **MONTH: September 2014**

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits		5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
9/1/2014	Angel Trujillo	15341157	15418889	77,732	0.077732	7.59	0.980									0.64
9/2/2014	Angel Trujillo	15418889	15494305	75,416	0.075416	7.63	0.980									0.62
9/3/2014	Angel Trujillo	15494305	15571551	77,246	0.077246	7.53	0.980									0.63
9/4/2014	Angel Trujillo	15571551	15646502	74,951	0.074951	7.04	0.980									0.61
9/5/2014	Angel Trujillo	15646502	15722895	76,393	0.076393	7.41	0.980									0.62
9/6/2014	Angel Trujillo	15722895	15807963	85,068	0.085068	7.04	0.980									0.70
9/7/2014	Angel Trujillo	15807963	15888130	80,167	0.080167	7.05	0.980									0.66
9/8/2014	Angel Trujillo	15888130	15962908	74,778	0.074778	7.06	0.980									0.61
9/9/2014	Angel Trujillo	15962908	16039741	76,833	0.076833	7.05	0.980									0.63
9/10/2014	Angel Trujillo	16039741	16116938	77,197	0.077197	7.06	0.980									0.63
9/11/2014	Angel Trujillo	16116938	16194384	77,446	0.077446	7.04	0.980	<5.0	<7.0		<0.010	<0.015	<0.010	<0.0002	<0.020	0.63
9/12/2014	Angel Trujillo	16194384	16271780	77,396	0.077396	7.03	0.980									0.63
9/13/2014	Angel Trujillo	16271780	16352187	80,407	0.080407	7.02	0.980									0.66
9/14/2014	Angel Trujillo	16352187	16430616	78,429	0.078429	6.98	0.980									0.64
9/15/2014	Angel Trujillo	16430616	16501766	71,150	0.07115	7.01	0.980									0.58
9/16/2014	Angel Trujillo	16501766	16577681	75,915	0.075915	7.00	0.980									0.62
9/17/2014	Angel Trujillo	16577681	16657169	79,488	0.079488	7.08	0.980									0.65
9/18/2014	Angel Trujillo	16657169	16736120	78,951	0.078951	7.11	0.980									0.65
9/19/2014	Angel Trujillo	16736120	16813598	77,478	0.077478	7.14	0.980									0.63
9/20/2014	Angel Trujillo	16813598	16892980	79,382	0.079382	7.04	0.980									0.65
9/21/2014	Angel Trujillo	16892980	16968566	75,586	0.075586	7.08	0.980									0.62
9/22/2014	Angel Trujillo	16968566	17044907	76,341	0.076341	7.05	0.980									0.62
9/23/2014	Angel Trujillo	17044907	17122232	77,325	0.077325	6.96	0.980									0.63
9/24/2014	Angel Trujillo	17122232	17199357	77,125	0.077125	7.02	0.980									0.63
9/25/2014	Angel Trujillo	17199357	17276081	76,724	0.076724	7.04	0.980									0.63
9/26/2014	Angel Trujillo	17276081	17351830	75,749	0.075749	7.38	0.980									0.62
9/27/2014	Angel Trujillo	17351830	17433664	81,834	0.0818	7.17	0.980									0.67
9/28/2014	Angel Trujillo	17433664	17513139	79,475	0.079475	7.18	0.980									0.65
9/29/2014	Angel Trujillo	17513139	17582573	69,434	0.069434	7.18	0.980									0.57
9/30/2014	Angel Trujillo	17582573	17658209	75,636	0.075636	6.87	0.980									0.62
TOTAL				**2,317,052**	**2.317052**			<5.0	<7.0		<0.010	<0.015	<0.010	<0.0002	<0.020	
			High:	**85,068**											**High:**	**0.70**
			Average:	**77,235**											**Average:**	**0.63**

WW

JB76317

E

Honeywell — Chain Of Custody / Analysis Request

AESI Ref: 41693.43398
COC#: 087-WW-091114
Lab Proj # (SDG):
Lab ID: [redacted]
Site ID: [redacted]
Lab Job #: HWNJ432815
Authorized User: Honeywell

Site Name: Hudson County
Location of Site: Jersey City, NJ
Phase: CS
Sampling Program: 087: JCIA

Company: Parsons
EDD To:
Contact: (name, co., address)
Sampler: Frank Schroyer
PO #:
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Full Report TAT: 28 Days
Helen Fahy (Honeywell)
Helen Fahy (Honeywell)

Sample Identification: Station ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units		Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list		Sampling Method (code)	Lab Sample Numbers
												3	3	3	1	2	2	0	0	2			
87-WW		PH 7.06 @	087-WWE-091114-A	9/11/2014	14:00	WW	WATER	REG	3	comp	N	X	X	X	X			X	X		-1		
87-WW			087-WWE-091114-B	9/11/2014	14:10	WW	WATER	REG	5	grab	N					X	X				-2		L27
87-WW			087-WWI-091114	9/11/2014	14:20	WW	WATER	REG	3	grab	N									X	-3		U614
																							A14
																							G13

d by pH=7.04 s.u. @	7.5°C	Company: Parsons	Received by:	Company:		Condition:	Custody Seals Intact:
		Date/Time: 9/11/14		Date/Time: 9/11/14 1510		Cooler Temp.	
		Company:	Received by:	Company:	9/11/14	Condition:	Custody Seals Intact:
		Date/Time: 9/11/14 1810		Date/Time:	1810	Cooler Temp. 4.0 °C-B	

ess (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 HC H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

9

NY

Accutest LabLink@815349 13:04 19-Sep-2014

Report of Analysis

Client Sample ID:	087-WWE-091114-A		
Lab Sample ID:	JB76317-1	Date Sampled:	09/11/14
Matrix:	AQ - Water	Date Received:	09/11/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	980	10	ug/l	1	09/12/14	09/13/14	ND	EPA 200.7 [1]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	09/12/14	09/13/14	ND	EPA 200.7 [1]	EPA 200.7 [4]
Lead [a]	< 15	15	ug/l	5	09/12/14	09/15/14	ND	EPA 200.7 [3]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	09/13/14	09/13/14	DP	EPA 245.1 [2]	EPA 245.1 [5]
Nickel	< 10	10	ug/l	1	09/12/14	09/13/14	ND	EPA 200.7 [1]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	09/12/14	09/13/14	ND	EPA 200.7 [1]	EPA 200.7 [4]

(1) Instrument QC Batch: MA34917
(2) Instrument QC Batch: MA34919
(3) Instrument QC Batch: MA34927
(4) Prep QC Batch: MP81875
(5) Prep QC Batch: MP81898

(a) Elevated detection limit due to dilution required for matrix interference.

RL = Reporting Limit

Accutest LabLink@815349 13:04 19-Sep-2014

Report of Analysis

Client Sample ID:	087-WWE-091114-A		
Lab Sample ID:	JB76317-1	Date Sampled:	09/11/14
Matrix:	AQ - Water	Date Received:	09/11/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.1

4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	5.0	4.0	mg/l	1	09/12/14	RP	SM2540 D-11
pH [a]	7.06		su	1	09/11/14 19:30	MB	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@815349 13:04 19-Sep-2014

Report of Analysis

4.2 4

Client Sample ID:	087-WWE-091114-A		
Lab Sample ID:	JB76317-1A	Date Sampled:	09/11/14
Matrix:	AQ - Water	Date Received:	09/11/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	<7.0	7.0	mg/l	1	09/12/14 18:48	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@815349 13:04 19-Sep-2014

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-091114-B		
Lab Sample ID:	JB76317-2	Date Sampled:	09/11/14
Matrix:	AQ - Water	Date Received:	09/11/14
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	T201464.D	1	09/13/14	DC	n/a	n/a	VT8254
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	2.1	ug/l	
107-13-1	Acrylonitrile	ND	10	1.3	ug/l	
71-43-2	Benzene	2.5	1.0	0.12	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.32	ug/l	
56-23-5	Carbon tetrachloride	3.3	1.0	0.16	ug/l	
108-90-7	Chlorobenzene	0.26	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.45	ug/l	
67-66-3	Chloroform	18.8	1.0	0.14	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.19	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	ug/l	
156-60-5	trans-1,2-Dichloroethene	4.0	1.0	0.24	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	1.0	0.16	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.093	ug/l	
75-09-2	Methylene chloride	0.40	1.0	0.20	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.13	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.15	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.29	ug/l	
79-01-6	Trichloroethene	53.1	1.0	0.17	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	99%		71-128%
2037-26-5	Toluene-D8 (SUR)	100%		79-117%
460-00-4	4-Bromofluorobenzene (SUR)	97%		81-114%
1868-53-7	Dibromofluoromethane (S)	100%		78-115%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest LabLink@815349 13:04 19-Sep-2014

Report of Analysis

Client Sample ID:	087-WWE-091114-B		
Lab Sample ID:	JB76317-2	Date Sampled:	09/11/14
Matrix:	AQ - Water	Date Received:	09/11/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.0	5.0	mg/l	1	09/16/14	AA	EPA 1664A

RL = Reporting Limit

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending October 2014

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014	Direction on the handling of petroleum soils under the cap.	Pending submittal to Parties' per request.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

APPENDIX T

PART 5 OF 22

PROGRESS REPORTS

2014 MONTHLY REPORTS PART 5

SA-6 AND SA-7 COMBINED PROGRESS REPORT

DECEMBER 15, 2014

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

December 15, 2014 *Via Express Mail*

Honorable Robert G. Torricelli
Office of the Special Master
49 Bridge Street, Suite 2
Lambertville, NJ 08530

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2014-11

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from November 1 – November 30, 2014.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: November 2014 SA-6/7 Combined Monthly Progress Report No. 2014-11

cc: Joe Clifford - AMEC (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)

Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2014-11

Project SA-6 & 7 Remediation

November 2014

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
11/07/14	Treatability Program Bench Scale System Set Up for Treatment Area 10 Study Area 6 North Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
11/11/14	Surcharge Monitoring Plan – Monthly Report No. 6 Study Area 6 North and South Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
11/13/14	Treatability Program Area 10 Barrier Wall Alignment Study Area 6 North Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
11/14/14	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2014-10 Study Areas 6 and 7 Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
11/17/14	Arnold & Porter Correspondence Long Term Financial Assurances	Honorable Robert G. Torricelli Office of the Special Master
11/18/14	Special Master Conference Call	N/A
11/19/14	Design Change Bulletin Hydrocarbon Soils in Cap Area Study Area 6 North and South Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
11/19/14	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 31630016 June 2014	Andy Caltagirone Passaic Valley Sewerage Commission

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	11/9/14	11/16/14	11/23/14	11/30/14
Construction Management (AMEC)	12	11	12	11
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	36	36	34	34
Arecon/US Ecology Subcontractors	1	1	1	1
Evoqua	1	1	1	1
HBS (SA-6N GWTP Security System)	0	0	0	0
Gramercy	21	20	17	22
TOTAL STAFF	**76**	**74**	**70**	**74**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected November PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- PVSC collected yearly compliance samples associated with the Construction Water Treatment Plant and the Ground Water Treatment Plant on November 5, 2014.
- Continued site preparation, universal waste removal and asbestos abatements activities at the JCIA demolition project.
- Environ and Aquasurvey representatives completed long term monitoring activities in accordance with the SA-7 sediment monitoring plan, including the bathometric survey, cap thickness verifications, sediment profile imaging (SPI), biological sampling, and pore water sampling on November 3, 2014.
- Completed bench testing of candidate redevelopment chemicals for use in injections well 088-IW-01.
- Continued to advance permit application and discussions with New Jersey Department of Transportation (NJDOT) regarding Highway Occupancy and Drainage Permits for upcoming SA-6 activities proximate to the Rt. 440 frontage.

- On December 8, 2014, a leaking diesel line was identified on a water truck. This necessitated several yards of surficial soil to be removed and segregated. The incident was called in to the NJDEP hotline and Incident no. for this non-emergency incident is: 14-12-08-1503-35.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on November 12, 2014.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	11/9/14	11/16/14	11/23/14	11/30/14
Avg. Gallons Treated & Discharged (per day)	74,758	76,857	76,584	75,300
Average Flow (gpm) for Operating Period	53	53	54	52
Avg. Hours of Plant Operation	24	24	24	24
GWTP Influent Tanks (gal.)	5,690	7,932	7,078	6,900

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart, Weekly Excavation and Survey Data, Backfill Compaction Locations, and Field Density Test Summary Log)*

- Continued storm-water management activities.
- Completed Site 163 shallow soil excavation activities on November 12, 2014.
- Collected a post-excavation sidewall sample, 134-SB-177, from the southeast side of the anomalous material excavation on December 2, 2014, results are pending and will be reported when final.
- On November 11 and 12, 2014, encountered and removed a former unidentified 550-gallon underground storage tank in the eastern portion of the Site 163 excavation. Peter Jaran, LSRP was contacted and a representative was onsite to oversee the UST removal and soil sampling in accordance with NJDEP requirements.
- Continued Site 163 backfill activities.
- Began excavation activities associated with the lens of anomalous material on SA-6 South proximate to Cell 104.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Continued compaction testing associated with imported backfill. Adjusted the frequency of testing in accordance with specifications.

1. Off-Site Disposal Monthly Waste Materials Summary

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/ FCI	Roll-Off	TSDF	Stablex-Canada	WWTP Filter Cake	0	0	0
Entact/ Horwith	Tri-axle Dump	PA Transload	US Ecology	>1000 mg/kg Soils	50	21.35	1,067.75
Entact/ Montecalvo	30 cyd roll-off	Bayshore Recycling	NA	Non Haz Creosote Debris	0	0	0
Entact/ FCI	30 cyd roll off	Tullytown, Pa	WM Grows	ACM Tile & Mastic	0	0	0
Entact/ FCI	Tri-axle Dump	Kearny, NJ	NJ Meadowlands	Dieldrin Stained Concrete	12	21.75	261
Entact/ Arecon	Tri-axle Dump	Keasbey, NJ	Bayshore	TCE Impacted Soil	0	0	0
Entact/ Arecon	Tri-axle Dump	Keasbey, NJ	Bayshore	Mercury Impacted Soil	0	0	0

2. Excavation & Backfill Progress

Description	Cells
Excavation Completed	Cell Number(s) 75-59 Volume Excavated - Total for Reporting Period: 0 CY/ Total to Date: 151,313 CY
Backfill in Progress	Cell Number(s) 104-59

3. Backfill Materials Used

Source	Week Ending			
	11/9/14	**11/16/14**	**11/23/14**	**11/30/14**
<20ppm re-use, CY	0	0	0	0
Weldon, Import-Tons Screenings	4,248	4,756	713	0
Tilcon, Import-Tons DGA	884	0	508	451
Tilcon, Import Tons – 1.5” Stone	0	0	0	0
Weldon, Imported Tons - QP	0	0	0	0
Weldon, Imported Tons - DGA	0	0	134	0
Tilcon, Imported 6”-8” stone	61	0	0	0
Tilcon, Imported Tons – 2.5” Stone	0	50	50	0

E. SURCHARGE OPERATIONS

- Area 1S: Continue offloading 1S from west to east, approximately 50% complete.
- Area 2S: Surcharging continued on Area 2S. Surcharge placement consisted of both chromium impacted soils to the design sub-grade and both imported Celgene and Novartis soils. Surcharge placement is approximately 85% complete.
- Area 3S: Instrumentation installation was completed as of November 6, 2013 and all baseline readings recorded. Temporary stockpiles are located in this area. Surcharge has been initiated and is approximately 10% complete surcharge
- Area 1N: Continued surcharge removal activities. Surcharge removal activities area approximately 75% complete. Details were provided in the November 2014 Surcharge Monitoring Report No. 6.
- Area 2N: Instrumentation Installation 100% complete. Surcharge placement is complete. Surcharge placement is 100% complete.
- Area 3N: No activity in this area pending JCIA Demolition.
- Area 4N: No activity in this area pending JCIA Demolition.

F. SHEET PILE OPERATIONS *(see **Attachment 10**)*

- Continue grouting angles of sheet pile at SA-6 South.
- Excavation proximate to the SA-6 South barrier wall was completed in October 28, 2014 and backfill has been progressed in all areas against the SA-6 South barrier wall. Deflection readings are therefore no longer required.

G. PERMIT STATUS

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014, 1 yr. extension granted 10/6/14	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14	Pending	Pending	Pending
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	Pending	Pending	Pending

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Continue JCIA Structures Demolition activities to include site preparation, abatement activities, and utility disconnect activities.
- Continue placement of surcharge materials in SA-6 South Area 2S and Area 3S.
- Continue off loading of surcharge materials from SA-6 South Area 1S.
- Continue installation of the contingent groundwater system trench on SA-6 South.
- Complete Site 163 excavation and backfilling activities.
- Complete excavation of standalone Areas 41 and 43.
- Complete excavation of the lens of anomalous material proximate to Cell 104.
- Continue loadout and transportation and disposal activities at SA-6 South.
- Continue backfill placement and associated compaction testing activities at SA-6 South.
- Begin accepting delivery of steel sheetpile for SA-6 North barrier wall installation.
- Complete well cleaning of injection well 088-IW-01 on SA-6N.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Complete sediment long term monitoring activities and final report preparation.

- Obtain NJDOT Highway Occupancy Permit for upcoming SA-6 North activities proximate to Rt. 440 frontage.
- Conduct semi-annual sampling of S-3 mass removal injection and related monitoring wells.

ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
   - Excavation Bottom Elevations
   - Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points
   - Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
   - Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)
4. Dewatering Operations Update
   - SA-6 South Deep Well Data (DW-4)
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
   - Stockpiled Material Tracking and Sampling Log
7. Perimeter Pools Update
8. *Groundwater Quality Data Surcharge Monitoring Update (not included in this reporting period)*
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. Sheet Pile Update
    - Sheet Pile Angle Grout Log
11. Weekly SWPPP Reports
12. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (October 2014)
13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**
18	**JCIA/JCDPW Relocation**	**1735 days**
19	Develop Site Relocation Master Plan	38 days
20	Submit Site Relocation Master Plan	0 days
21	JC Construction of New Facilities	1309 days
22	Relocation Contractor Procurement	392 days
23	JCIA and JCDPW Relocation	753 days
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days
24a	Demolition of JCIA Structures	151 days
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**
57	**SA-6 South Relocation**	**616 days**
58	New GWTP Construction Completion	502 days
59	Demolition of 80 Kellogg	857 days
60	**SA-6 North/South Field Implementation**	**838 days**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days
60b	SA-6S (Site 163) In-Situ Treatment	294 days
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**
61a	Mobilization	87 days
62	**Surcharge Install/Instrumentation**	**620 days**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days
62b	Place Stockpile Surcharge SA6N Western Areas	195 days
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days
62d	Place Stockpile Surcharge SA6S Western Areas	182 days
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days
63	**Barrier Wall Install**	**489 days**
63a	**SA 6N Installation of Barrier Wall**	**369 days**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days
63c	SA-6N Stations 23+38 to 14+25	90 days
63d	SA-6N Stations 14+25 to 0+00	224 days
63f	**SA 6S Installation of Barrier Wall**	**250 days**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days
63h	SA-6S Stations 1+54 to 8+37	7 days
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days
63j	SA-6S Stations 8+60 to 14+87	145 days
64	**Excavation**	**507 days**
64a	SA 6N Excavation	218 days
64b	**SA 6S Excavation**	**226 days**
64c	SA-6S Excavation of Cells 1 - 25	53 days
64d	SA-6S Excavation of Cells 26 - 60	90 days
64e	SA-6S Excavation of Cells 156 - 61	83 days
65	**Backfill**	**493 days**
65a	SA 6N Backfill	218 days
65b	SA 6S Backfill	232 days
66	**Capping and Cover Soil Placement**	**315 days**
66a	SA 6N Capping and Cover Soil Placement	119 days
66b	SA 6S Capping and Cover Soil Placement	283 days
67	**Restoration**	**164 days**
67a	Restoration	164 days
68	**Demobilization**	**21 days**
68a	Deferred Remediation of SA-6 South Along Bulkhead	

Project: SA-6 Remediation Schedule
Revision 3
Date: Fri 12/5/14

Task | Milestone | Summary | Critical

Attachment 2: Site Photographs

Site Photograph 1: Contractor begins abatement activities at former JC buildings.

Site Photograph 2: Contractor begins excavation along Droyers Cove.

Site Photograph 3: Contractor begins restoration of area along Droyers Cove.

Site Photograph 4: Excavation continues along Droyers Cove.

Photograph 5: Droyers Cove excavation backfilled and graded**.**

Site Photograph 6: Excavation continues along Kellogg St. properties.

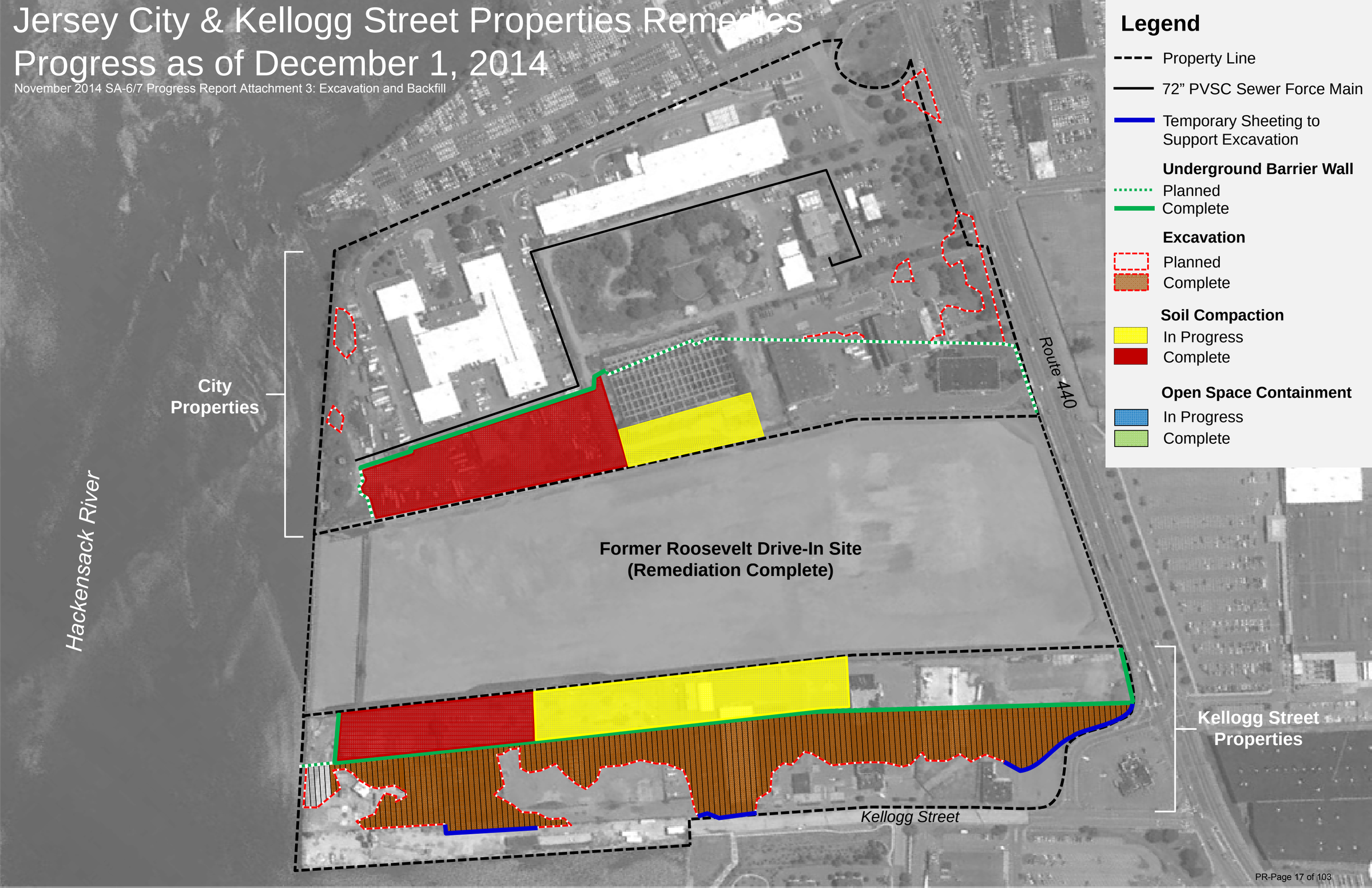
Site Photograph 7: The contractor removes a former tank.

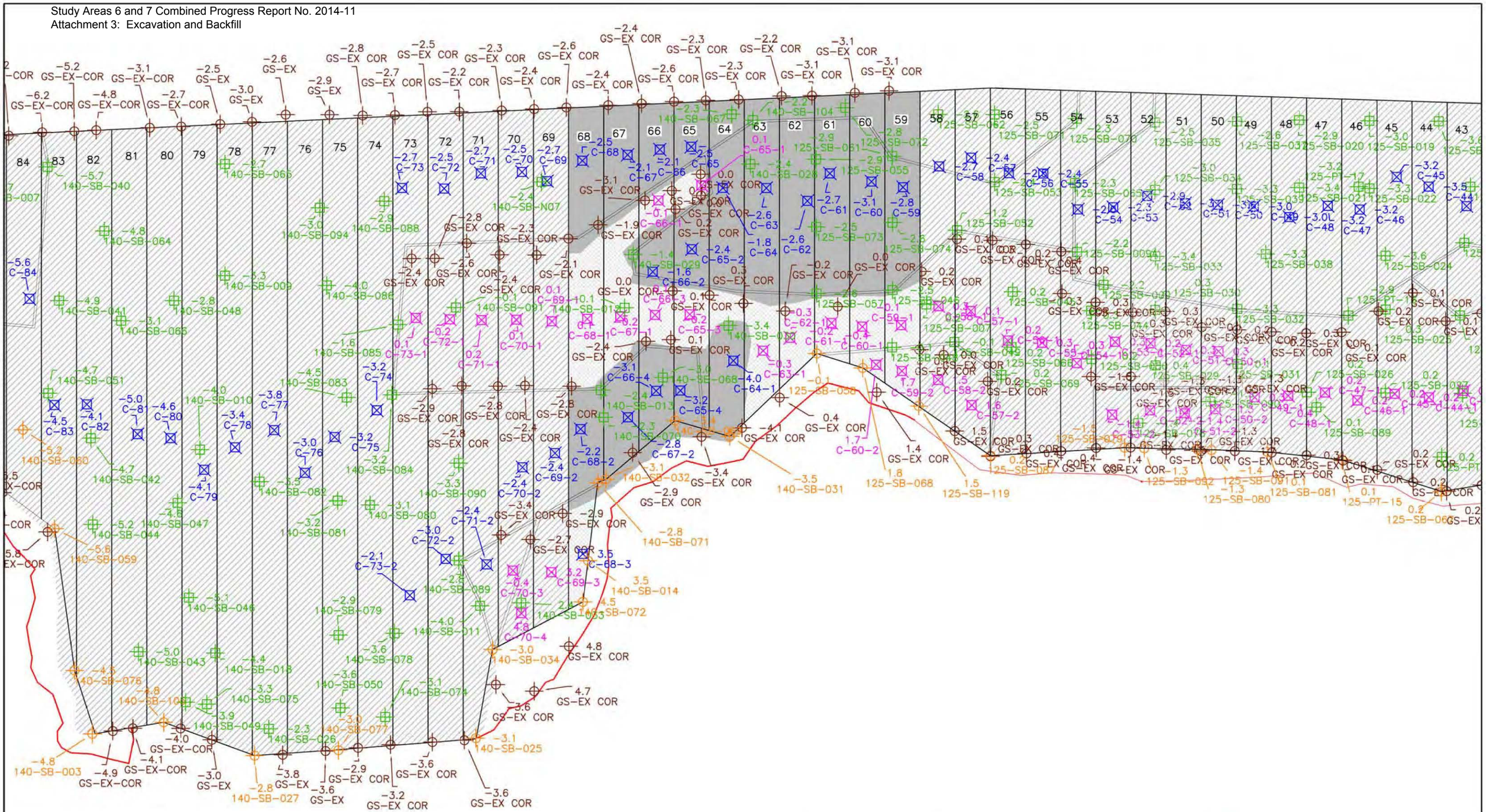
Attachment 3: Excavation and Backfill

- Progression Chart
- Excavation Bottom Elevations
- Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points
- Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
- Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)

Jersey City & Kellogg Street Properties Remedies Progress as of December 1, 2014

November 2014 SA-6/7 Progress Report Attachment 3: Excavation and Backfill





LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- BOTTOM CENTER POINT ELEVATION STRATUM D
- BOTTOM CENTER POINT ELEVATION <20 PPM
- BOTTOM CORNER POINT ELEVATION <20 PPM
- DESIGNED STRATUM O EXCAVATION LIMIT
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- CURRENT EXCAVATION TO <20 PPM
- TOP OF EXCAVATION SLOPE
- LIMIT OF EXCAVATION AREA
- TOE OF CHLOROBENZENE AREA

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS
PERIOD 10-16-14 TO 10-30-14

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

MASER CONSULTING P.A.
Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

156 Stagecoach Road
Marmora, NJ 08223
T: 609.390.1927
F: 609.390.0040
www.maserconsulting.com

SA-6 South Excavation: Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685514.6	601446.5	3.8	073-SB-029	152	4/25/2014	3.0	* Target Elevation Reached
685482.2	601420.6	4.4	073-SB-054	152	4/24/2014	2.0	* Target Elevation Reached
685458.7	601392.0	7.5	073-SB-056	152	4/24/2014	3.8	* Target Elevation Reached
685474.8	601425.1	7.5	073-SB-057	151	4/24/2014	1.9	* Target Elevation Reached
685502.9	601465.5	3.3	073-SB-028	150	4/25/2014	3.0	* Target Elevation Reached
685463.0	601435.2	2.5	073-SB-059	150	4/24/2014	1.9	* Target Elevation Reached
685490.0	601478.5	6.0	073-SB-042R	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	6.0	073-SB-042R	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	6.0	073-SB-042R	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	6.0	073-SB-042R	146A	4/24/2014	5.6	Target Elevation Reached
685448.9	601515.0	6.0	073-SB-042	145A	4/24/2014	5.6	Target Elevation Reached
685433.1	601528.8	6.0	073-SB-042R	144A	4/24/2014	5.4	Target Elevation Reached
685403.0	601506.0	-4.2	073-SB-037R	144A	4/24/2014	-4.5	Target Elevation Reached
685411.9	601522.2	-0.6	073-SB-066	143A	4/24/2014	-4.4	Target Elevation Reached
685427.6	601544.4	6.0	073-SB-042R	143A	4/24/2014	5.5	Target Elevation Reached
685430.7	601568.7	3.8	073-SB-041	142A	4/24/2014	2.0	Target Elevation Reached
685378.8	601531.7	-4.2	073-SB-037	142A	4/24/2014	-4.4	Target Elevation Reached
685371.0	601525.0	-2.2	073-SB-045	142A	4/24/2014	-4.4	Target Elevation Reached
685395.8	601557.3	2.3	073-SB-038	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.3	073-SB-038R	141A	4/24/2014	2.0	Target Elevation Reached
685410.7	601592.8	0.2	073-SB-040	140A	4/24/2014	-1.3	Target Elevation Reached
685381.0	601558.0	-3.9	073-SB-007	140A	4/24/2014	-4.4	Target Elevation Reached
685379.3	601577.9	0.6	073-SB-039	139A	4/24/2014	-4.3	Target Elevation Reached
685358.5	601560.3	-1.0	073-SB-036	139A	4/24/2014	-4.7	Target Elevation Reached
685390.7	601590.5	-0.6	073-SB-008R	139A	4/24/2014	-1.6	Target Elevation Reached
685390.0	601606.0	-0.6	073-SB-008	138A	4/29/2014	-1.6	Target Elevation Reached
685338.6	601567.5	2.1	073-SB-030R	138A	4/29/2014	1.7	Target Elevation Reached
685339.7	601592.9	1.5	073-SB-035	137A	4/29/2014	-2.9	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.1)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685328.7	601577.4	2.1	073-SB-030R	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-6.7	073-SB-009R	146B	5/5/2014	-8.0	Target Elevation Reached
685329.7	601419.3	-6.9	073-SB-047	145B	5/5/2014	-8.0	Target Elevation Reached
685314.6	601432.4	-6.7	073-SB-009R	144B	5/8/2014	-8.2	Target Elevation Reached
685318.9	601448.7	-5.3	073-SB-021	143B	5/8/2014	-7.9	Target Elevation Reached
685306.3	601465.9	-6.7	073-SB-009R	142B	5/12/2014	-7.6	Target Elevation Reached
685329.1	601510.6	-5.2	073-SB-075	141B	5/12/2014	-7.7	Target Elevation Reached
685310.4	601484.5	-4.8	073-SB-062	141B	5/12/2014	-8.0	Target Elevation Reached
685321.1	601501.8	-5.0	073-SB-065	141B	5/12/2014	-7.6	Target Elevation Reached
685288.0	601466.0	-6.7	073-SB-009	141B	5/12/2014	-7.7	Target Elevation Reached
685284.5	601485.3	-5.3	073-SB-020	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-6.7	073-SB-009R	139B	5/14/2014	-7.8	Target Elevation Reached
685256.2	601505.4	-3.2	073-SB-019	138B	5/14/2014	-7.7	Target Elevation Reached
685277.8	601539.2	2.1	073-SB-030R	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-0.6	073-SB-008R	136	5/5/2014	-1.5	Target Elevation Reached
685344.3	601618.9	-1.8	073-SB-033	136	5/5/2014	-2.9	Target Elevation Reached
685315.0	601587.9	2.1	073-SB-030R	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-0.6	073-SB-008R	135	5/8/2014	-1.4	Target Elevation Reached
685362.2	601641.7	-0.2	073-SB-034	135	5/8/2014	-2.8	Target Elevation Reached
685272.1	601572.6	2.1	073-SB-030R	135	5/19/2014	1.7	Target Elevation Reached
685248.2	601551.5	0.3	073-SB-050	135	5/19/2014	-1.2	Target Elevation Reached
685230.4	601535.5	0.3	073-SB-018	135	5/19/2014	-1.2	Target Elevation Reached
685358.1	601659.9	-0.6	073-SB-008R	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-1.8	073-SB-033R	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	073-SB-030R	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	0.6	073-SB-017R	134	5/19/2014	-1.2	Target Elevation Reached
685212.0	601570.0	-1.4	073-SB-011	133	5/22/2014	-3.3	Target Elevation Reached
685324.0	601643.0	-0.4	073-SB-010	133	5/14/2014	-2.7	Target Elevation Reached
685300.3	601630.9	2.1	073-SB-030	133	5/14/2014	1.8	Target Elevation Reached
685338.7	601665.5	2.3	073-SB-032R	133	5/12/2014	-0.1	Target Elevation Reached
685322.3	601651.3	-1.2	134-SB-136R	133	5/14/2014	-1.7	Target Elevation Reached
685215.0	601563.9	0.6	073-SB-017R	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.3	073-SB-032R	132	5/12/2014	1.7	Target Elevation Reached
685257.3	601619.3	2.1	073-SB-030R	132	5/19/2014	1.8	Target Elevation Reached
685194.1	601565.5	0.6	073-SB-017R	132	5/22/2014	-1.6	Target Elevation Reached
685216.3	601579.5	1.1	073-SB-049	132	5/22/2014	-3.0	Target Elevation Reached
685324.7	601663.5	2.3	073-SB-032	132	5/14/2014	-1.5	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.2)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685193.1	601579.8	0.6	073-SB-017	131	5/22/2014	-2.7	Target Elevation Reached
685301.9	601671.1	0.1	073-SB-031	131	5/14/2014	-1.5	Target Elevation Reached
685328.1	601694.6	2.3	073-SB-032R	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	073-SB-030R	131	5/19/2014	2.0	Target Elevation Reached
685202.7	601594.7	-1.4	073-SB-011R	131	5/22/2014	-2.9	Target Elevation Reached
685321.3	601708.0	2.3	073-SB-032R	130	5/19/2014	1.9	Target Elevation Reached
685300.8	601690.9	-1.2	134-SB-136R	130	5/19/2014	-1.5	Target Elevation Reached
685240.0	601641.1	2.1	073-SB-030R	130	5/19/2014	1.9	Target Elevation Reached
685193.4	601601.4	-1.4	073-SB-011R	130	5/22/2014	-2.5	Target Elevation Reached
685176.5	601589.8	0.6	073-SB-017R	130	5/22/2014	-1.9	Target Elevation Reached
685195.4	601621.6	-2.7	134-SB-123	129	5/27/2014	-7.9	Target Elevation Reached
685212.1	601635.4	-0.6	134-SB-132	129	5/27/2014	-8.2	Target Elevation Reached
685242.2	601665.8	1.3	134-SB-134	129	5/27/2014	0.2	Target Elevation Reached
685305.3	601707.9	-1.2	134-SB-140	129	5/19/2014	-1.2	Target Elevation Reached
685158.2	601591.1	-6.6	134-SB-114	129	5/27/2014	-7.6	Target Elevation Reached
685311.8	601720.4	2.3	073-SB-032R	129	5/22/2014	1.9	Target Elevation Reached
685263.1	601682.1	2.1	073-SB-030R	129	5/22/2014	1.8	Target Elevation Reached
685289.8	601729.8	2.0	134-SB-139	128	5/27/2014	-1.3	Target Elevation Reached
685303.5	601732.5	2.3	073-SB-032R	128	5/22/2014	1.9	Target Elevation Reached
685269.5	601703.1	2.1	073-SB-030R	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	1.3	134-SB-134R	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-6.7	134-SB-129R	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	2.4	134-SB-014R	127	5/29/2014	0.3	Target Elevation Reached
685276.2	601720.2	4.5	134-SB-135	127	5/27/2014	-1.2	Target Elevation Reached
685237.1	601700.2	1.3	134-SB-134R	127	6/2/2014	0.1	Target Elevation Reached
685258.0	601714.0	-1.1	134-SB-012	127	5/29/2014	-1.4	Target Elevation Reached
685226.8	601681.6	-0.7	134-SB-133	127	6/2/2014	-7.6	Target Elevation Reached
685172.0	601639.0	-5.6	134-SB-013	127	6/5/2014	-7.7	Target Elevation Reached
685285.7	601758.3	2.4	134-SB-014R	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	134-SB-136R	126	6/2/2014	-1.4	Target Elevation Reached
685122.8	601623.1	-8.4	134-SB-115	126	6/10/2014	-8.8	Target Elevation Reached
685155.2	601653.8	-5.8	134-SB-122	126	6/10/2014	-7.8	Target Elevation Reached
685178.8	601676.4	-6.1	134-SB-131	126	6/10/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.3)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685212.9	601702.0	-0.7	134-SB-130	126	6/10/2014	-7.7	Target Elevation Reached
685277.9	601769.3	2.4	134-SB-014R	125	6/2/2014	-0.6	Target Elevation Reached
685269.3	601754.4	-1.1	134-SB-138	125	6/2/2014	-1.7	Target Elevation Reached
685158.0	601676.7	-6.7	134-SB-129R	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	134-SB-115R	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	2.4	134-SB-014R	124	6/10/2014	0.1	Target Elevation Reached
685266.0	601776.0	2.4	134-SB-014	124	6/10/2014	-2.9	Target Elevation Reached
685100.0	601650.0	1.2	134-SB-116	124	6/17/2014	-8.2	Stratum D Reached
685136.1	601677.4	-7.7	134-SB-121	124	6/17/2014	-8.1	Stratum D Reached
685262.3	601792.9	2.4	134-SB-014R	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-1.5	134-SB-137R	123	6/10/2014	-2.8	Target Elevation Reached
685225.1	601760.9	-1.3	134-SB-136	123	6/10/2014	-1.7	Target Elevation Reached
685165.9	601710.7	-6.7	134-SB-129	123	6/17/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	134-SB-120R	123	6/20/2014	-7.8	Stratum D Reached
685252.4	601807.4	2.4	134-SB-014R	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601798.5	-1.5	134-SB-137	122	6/17/2014	-2.8	Target Elevation Reached
685207.9	601771.1	-1.3	134-SB-136R	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-6.7	134-SB-129R	122	6/20/2014	-7.5	Stratum D Reached
685113.6	601700.2	-8.7	134-SB-120	122	6/20/2014	-6.9	Stratum D Reached
685242.2	601818.1	2.4	134-SB-014R	121	6/17/2014	0.3	Target Elevation Reached
685201.0	601787.0	-0.6	134-SB-015	121	6/20/2014	-2.5	Target Elevation Reached
685189.3	601776.9	-1.3	134-SB-136R	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.3	124-SB-124R	121	6/25/2014	-2.5	Target Elevation Reached
685175.7	601754.9	-4.5	134-SB-127	121	6/20/2014	-7.8	Stratum D Reached
685140.4	601734.6	-0.8	134-SB-125	121	6/20/2014	-7.4	Stratum D Reached
685104.7	601708.0	-8.7	134-SB-120R	121	6/25/2014	-6.1	Stratum D Reached
685079.9	601677.2	0.9	134-SB-117	121	6/20/2014	-6.8	Stratum D Reached
685233.4	601829.1	2.4	134-SB-014R	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-1.5	134-SB-137R	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.3	134-SB-136R	120	6/20/2014	-1.5	Target Elevation Reached
685112.0	601735.0	-6.7	134-SB-016	120	6/25/2014	-7.5	Stratum D Reached
685094.8	601725.1	-5.2	134-SB-119	120	6/25/2014	-6.9	Stratum D Reached
685062.9	601695.5	-7.9	134-SB-118	120	6/25/2014	-6.4	Stratum D Reached
685159.9	601776.2	-2.3	134-SB-124	120	6/25/2014	-2.5	Target Elevation Reached
685223.8	601840.5	2.4	134-SB-014R	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-1.5	134-SB-137R	119	6/25/2014	-2.8	Target Elevation Reached
685170.4	601797.8	0.4	134-SB-060	119	6/25/2014	-1.4	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.4)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.7	601780.4	-2.3	124-SB-124R	119	6/25/2014	-2.8	Target Elevation Reached
685208.4	601850.6	2.4	134-SB-033R	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.4	134-SB-033R	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.4	134-SB-033R	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.4	134-SB-033R	115A	6/25/2014	-0.1	Target Elevation Reached
685069.9	601738.9	4.1	134-SB-155	118B	6/30/2014	-7.1	Stratum D Reached
685042.3	601722.7	-8.9	134-SB-141	118B	7/8/2014	-7.1	Stratum D Reached
685057.7	601744.9	-8.9	134-SB-141R	117B	7/8/2014	-6.5	Stratum D Reached
685040.6	601747.5	-6.8	134-SB-147	116B	7/8/2014	-6.9	Stratum D Reached
685024.0	601763.4	4.1	134-SB-154	115B	7/10/2014	-5.6	Stratum D Reached
685177.7	601903.0	2.4	134-SB-033R	114A	6/30/2014	0.5	Target Elevation Reached
685132.0	601873.0	-0.6	134-SB-019	114A	7/3/2014	-1.7	Target Elevation Reached
685014.9	601776.3	4.1	134-SB-154R	114B	7/10/2014	3.9	Target Elevation Reached
685159.0	601914.0	2.4	134-SB-033	113A	7/3/2014	0.7	Target Elevation Reached
685116.3	601878.4	0.8	134-SB-057	113A	7/3/2014	-2.0	Target Elevation Reached
685006.3	601780.6	4.1	134-SB-154R	113B	7/17/2014	3.6	Target Elevation Reached
685157.5	601925.6	2.4	134-SB-033R	112A	7/8/2014	0.0	Target Elevation Reached
685126.3	601904.5	-1.2	134-SB-052	112A	7/8/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.1	134-SB-154R	112B	7/17/2014	3.6	Target Elevation Reached
685145.9	601933.8	2.4	134-SB-033R	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	134-SB-052R	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.1	134-SB-154R	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.4	134-SB-033R	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	134-SB-052R	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.1	134-SB-154R	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.4	134-SB-033R	109A	7/10/2014	1.5	Target Elevation Reached
685111.5	601936.0	1.4	134-SB-056	109A	7/10/2014	-1.3	Target Elevation Reached
684960.2	601820.4	4.1	134-SB-154R	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.4	134-SB-033R	108A	7/17/2014	1.6	Target Elevation Reached
685087.5	601946.0	-1.2	134-SB-052R	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.1	134-SB-154R	108B	7/17/2014	3.6	Target Elevation Reached
685117.6	601982.8	0.9	134-SB-062	107A	7/17/2014	-5.0	Stratum D Reached
685087.5	601965.4	1.8	134-SB-051	107A	7/17/2014	-5.1	Stratum D Reached
684939.3	601841.8	4.1	134-SB-154R	107B	7/17/2014	3.6	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.5)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684928.5	601848.2	4.1	134-SB-154R	106B	7/17/2014	3.8	Target Elevation Reached
685068.5	601974.0	1.2	134-SB-061	106A	7/23/2014	-5.2	Stratum D Reached
685046.6	601950.7	1.2	134-SB-061R	106A	7/23/2014	-2.8	Target Elevation Reached
685076.6	601999.1	-6.7	134-SB-065	105	7/23/2014	-4.7	Stratum D Reached
685029.8	601954.8	1.2	134-SB-061R	105	7/23/2014	-2.8	Target Elevation Reached
685087.0	602018.0	-5.7	134-SB-024	104	7/29/2014	-5.1	Stratum D Reached
685017.7	601961.5	1.2	134-SB-061R	104	7/29/2014	-5.7	Stratum D Reached
685065.1	602014.9	-5.2	134-SB-064	103	7/29/2014	-5.1	Stratum D Reached
685036.9	601997.8	-5.2	134-SB-078	103	7/29/2014	-6.2	Stratum D Reached
685012.8	601978.1	-7.5	134-SB-113	103	7/29/2014	-7.2	Stratum D Reached
685021.0	602007.9	-7.9	134-SB-080	102	7/31/2014	-6.0	Stratum D Reached
685024.9	602029.4	-7.8	134-SB-042	101	8/4/2014	-5.6	Stratum D Reached
684982.2	601991.3	0.1	134-SB-098	101	8/4/2014	-8.0	Stratum D Reached
685016.6	602043.2	-6.1	134-SB-032R	100	8/6/2014	-6.2	Stratum D Reached
685003.8	602054.0	-6.4	134-SB-083	99	8/6/2014	-5.4	Stratum D Reached
685001.8	602054.2	-7.4	134-SB-S08	99	8/6/2014	-5.2	Stratum D Reached
685033.1	602098.5	-6.7	134-SB-063	98	8/8/2014	-5.4	Stratum D Reached
684988.8	602075.4	-7.4	134-SB-043	97	8/8/2014	-4.6	Stratum D Reached
684959.7	602075.1	-7.1	134-SB-054	96	8/12/2014	-5.1	Stratum D Reached
685001.0	602117.0	-6.1	134-SB-032	95	8/12/2014	-5.5	Stratum D Reached
684972.2	602122.1	-6.1	134-SB-032R	94	8/14/2014	-4.6	Stratum D Reached
684941.6	602113.9	-7.6	134-SB-044	93	8/14/2014	-5.1	Stratum D Reached
684945.3	602113.6	-5.6	134-SB-084	93	8/14/2014	-5.1	Stratum D Reached
684966.5	602131.5	-6.4	134-SB-085	93	8/14/2014	-4.4	Stratum D Reached
684994.9	602150.7	-6.4	134-SB-086	93	8/14/2014	-5.0	Stratum D Reached
684955.8	602150.0	-6.1	134-SB-032R	92	8/18/2014	-4.6	Stratum D Reached
684946.6	602152.9	-7.0	134-SB-046	91	8/18/2014	-4.9	Stratum D Reached
684969.5	602171.1	-6.5	134-SB-047	91	8/18/2014	-5.2	Stratum D Reached
684915.0	602157.9	-6.4	134-SB-150	90	8/20/2014	-5.9	Stratum D Reached
684948.5	602187.3	-5.8	134-SB-158	90	8/20/2014	-5.2	Stratum D Reached
684908.2	602155.7	-8.0	134-SB-049	89	8/20/2014	-5.9	Stratum D Reached
684943.6	602214.1	-6.9	140-SB-035	88	8/25/2014	-6.7	Stratum D Reached
684905.5	602180.6	-7.8	140-SB-063	88	8/25/2014	-6.1	Stratum D Reached
684875.3	602175.3	-7.8	140-SB-062	87	8/25/2014	-5.8	Stratum D Reached
684875.5	602187.9	-7.3	140-SB-103	86	8/29/2014	-5.8	Stratum D Reached
684915.0	602239.0	-6.1	140-SB-007	85	8/29/2014	-5.7	Stratum D Reached
684896.1	602229.3	-6.6	140-SB-038	85	8/29/2014	-5.7	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.6)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684862.9	602228.0	-6.1	134-SB-032R	84	9/4/2014	-5.6	Stratum D Reached
684901.7	602269.3	-5.3	140-SB-040	83	9/4/2014	-5.7	Stratum D Reached
684826.5	602208.8	-6.5	140-SB-051	83	9/4/2014	-4.7	Stratum D Reached
684854.3	602237.3	-6.7	140-SB-041	83	9/4/2014	-4.9	Stratum D Reached
684771.0	602188.4	-4.8	140-SB-044	82	9/10/2014	-5.2	Stratum D Reached
684800.2	602210.9	-6.5	140-SB-042	82	9/10/2014	-4.7	Stratum D Reached
684865.2	602271.1	-6.2	140-SB-064	82	9/10/2014	-4.8	Stratum D Reached
684830.9	602252.5	-6.3	140-SB-066	81	9/17/2014	-3.1	Stratum D Reached
684716.6	602169.4	-0.2	140-SB-043	81	9/17/2014	-5.0	Stratum D Reached
684755.4	602222.4	-5.7	140-SB-047	80	9/23/2014	-4.6	Stratum D Reached
684823.4	602275.4	-5.0	140-SB-048	80	9/17/2014	-2.8	Stratum D Reached
684687.1	602171.5	0.3	140-SB-049	79	9/23/2014	-3.9	Stratum D Reached
684721.0	602200.6	-4.2	140-SB-046	79	9/23/2014	-5.1	Stratum D Reached
684680.8	602178.0	-3.3	140-SB-075	79	9/23/2014	-3.3	Stratum D Reached
684695.5	602194.5	-4.8	140-SB-018	79	9/23/2014	-4.4	Stratum D Reached
684767.0	602244.0	-4.4	140-SB-010	79	9/23/2014	-4.0	Stratum D Reached
684818.0	602299.0	-5.4	140-SB-009	78	9/23/2014	-3.3	Stratum D Reached
684855.0	602329.0	-5.8	140-SB-065	78	9/23/2014	-2.7	Stratum D Reached
684656.0	602192.0	-2.7	140-SB-026	77	9/29/2014	-2.3	Stratum D Reached
684740.4	602255.2	-5.4	140-SB-082	77	9/29/2014	-3.5	Stratum D Reached
684815.0	602348.7	-3.4	140-SB-094	76	10/2/2014	-3.0	Stratum D Reached
684787.4	602330.2	-0.4	140-SB-086	75	10/2/2014	-4.0	Stratum D Reached
684744.9	602306.7	-1.4	140-SB-083	75	10/2/2014	-4.5	Stratum D Reached
684713.1	602276.0	-0.4	140-SB-081	75	10/2/2014	-3.2	Stratum D Reached
684668.4	602240.2	0.1	140-SB-079	75	10/2/2014	-2.9	Stratum D Reached
684643.7	602221.3	-4.2	140-SB-050	75	10/2/2014	-3.6	Stratum D Reached
684628.7	602233.7	-2.9	140-SB-074	74	10/2/2014	-3.1	Stratum D Reached
684703.0	602285.6	2.6	140-SB-080	74	10/2/2014	-3.1	Stratum D Reached
684733.7	602322.4	0.6	140-SB-084	74	10/2/2014	-3.2	Stratum D Reached
684799.9	602371.9	0.1	140-SB-088	74	10/2/2014	-2.9	Stratum D Reached
684653.9	602259.3	-1.4	140-SB-078	73	10/2/2014	-3.6	Stratum D Reached
684755.3	602343.3	0.6	140-SB-085	73	10/7/2014	-1.6	Stratum D Reached
684660.7	602300.1	0.9	140-SB-089	72	10/9/2014	-2.8	Stratum D Reached
684693.1	602326.3	-3.0	140-SB-090	72	10/7/2014	-3.3	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.7)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684745.4	602367.1	1.0	140-SB-091	72	10/7/2014	-0.1	Target Elevation Reached
684640.0	602295.0	1.9	140-SB-011	71	10/9/2014	-4.0	Stratum D Reached
684734.3	602372.2	0.4	125-SB-029R	71	10/9/2014	0.2	Target Elevation Reached
684629.9	602309.5	5.8	140-SB-033	70	10/9/2014	2.4	Target Elevation Reached
684725.2	602383.8	0.4	125-SB-029R	70	10/9/2014	0.1	Target Elevation Reached
684642.9	602315.4	0.9	140-SB-089R	70	10/9/2014	-0.4	Target Elevation Reached
684764.0	602429.2	-7.0	140-SB-N07	69	10/14/2014	-2.4	Stratum D Reached
684715.1	602395.2	0.4	125-SB-029R	69	10/14/2014	0.1	Target Elevation Reached
684632.0	602327.7	5.8	140-SB-033R	69	10/14/2014	3.2	Target Elevation Reached
684669.3	602386.6	-0.6	140-SB-070	68	10/21/2014	-2.3	Stratum D Reached
684679.0	602393.0	0.0	140-SB-013	68	10/14/2014	-2.4	Stratum D Reached
684760.1	602448.4	-1.4	140-SB-083R	68	10/14/2014	-2.5	Stratum D Reached
684706.4	602407.6	0.4	125-SB-029R	68	10/14/2014	0.1	Target Elevation Reached
684629.6	602343.1	5.8	140-SB-033R	68	10/14/2014	3.5	Target Elevation Reached
684749.9	602465.0	-1.4	140-SB-083R	67	10/21/2014	-2.1	Stratum D Reached
684700.0	602423.0	0.8	140-SB-012	67	10/21/2014	-0.1	Target Elevation Reached
684715.4	602440.1	-1.0	140-SB-029	67	10/21/2014	-1.4	Stratum D Reached
684662.8	602394.7	-1.4	140-SB-083R	67	10/21/2014	-2.8	Stratum D Reached
684743.0	602477.1	-1.4	140-SB-083R	66	10/21/2014	-2.1	Stratum D Reached
684726.5	602463.1	0.4	125-SB-029R	66	10/21/2014	-0.1	Target Elevation Reached
684704.4	602442.0	-1.2	125-SB-073R	66	10/21/2014	-1.6	Stratum D Reached
684689.4	602431.1	0.4	125-SB-029R	66	10/21/2014	0.1	Target Elevation Reached
684666.6	602417.0	-2.7	140-SB-068	66	10/21/2014	-3.0	Stratum D Reached
684735.5	602488.2	-1.4	140-SB-083R	65	10/24/2014	-2.5	Stratum D Reached
684719.9	602481.3	0.4	125-SB-029R	65	10/24/2014	0.1	Target Elevation Reached
684701.3	602460.9	-1.2	125-SB-073R	65	10/24/2014	-2.4	Stratum D Reached
684680.3	602442.8	0.4	125-SB-029R	65	10/21/2014	-0.2	Target Elevation Reached
684657.6	602419.2	-1.4	140-SB-083R	65	10/21/2014	-3.2	Stratum D Reached
684666.2	602452.6	2.5	140-SB-030	64	10/21/2014	-3.4	Stratum D Reached
684735.4	602510.4	-3.6	140-SB-067	64	10/24/2014	-2.3	Stratum D Reached
684713.8	602503.3	4.3	140-SB-028	63	10/27/2014	-2.4	Stratum D Reached
684727.7	602515.9	-2.0	140-SB-104	63	10/27/2014	-2.2	Stratum D Reached
684648.6	602457.4	0.4	125-SB-029R	63	10/21/2014	-0.3	Target Elevation Reached
684686.3	602512.3	-1.2	125-SB-073R	62	10/27/2014	-2.6	Stratum D Reached
684645.5	602469.8	0.4	125-SB-029R	62	10/21/2014	-0.3	Target Elevation Reached
684653.2	602490.5	0.2	125-SB-057	61	10/24/2014	-2.6	Stratum D Reached
684675.4	602508.2	-1.2	125-SB-073	61	10/27/2014	-2.5	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.8)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684697.8	602526.3	-2.2	125-SB-055	61	10/28/2014	-2.9	Stratum D Reached
684707.1	602549.9	-3.4	125-SB-072	61	10/28/2014	-2.8	Stratum D Reached
684639.4	602487.5	0.4	125-SB-029R	61	10/21/2014	-0.2	Target Elevation Reached
684675.5	602538.7	-1.2	125-SB-073R	60	10/28/2014	-3.1	Stratum D Reached
684629.9	602496.7	0.4	125-SB-029R	60	10/21/2014	-0.4	Target Elevation Reached
684613.5	602491.1	2.1	125-SB-069R	60	10/21/2014	1.7	Target Elevation Reached
684678.4	602552.4	-2.4	125-SB-061	59	10/28/2014	-2.9	Stratum D Reached
684615.0	602501.1	0.5	125-SB-048	59	10/21/2014	-0.1	Target Elevation Reached
684633.9	602516.6	0.6	125-SB-046	59	10/24/2014	-2.5	Stratum D Reached
684656.3	602534.7	-1.4	125-SB-074	59	10/27/2014	-2.6	Stratum D Reached
684604.5	602498.0	2.1	125-SB-069R	59	10/21/2014	1.7	Target Elevation Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area. Coordinates come from Center Points within that specific cell.

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

* Target Reached. Over excavation conducted as directed by engineer.

SA-6 South Excavation: Center Points (Table 2.0)

Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685460.6	601379.6	5.7	C-153	153	4/24/2014	3.9	Target Elevation Reached- Cell only partially excavated
685497.5	601425.0	5.7	C-152	152	4/24/2014	4.2	Target Elevation Reached
685453.0	601392.1	5.7	C-152-1	152	4/24/2014	3.7	Target Elevation Reached
685467.8	601422.4	5.7	C-151	151	4/24/2014	1.9	Target Elevation Reached
685489.7	601438.8	5.7	C-151-1	151	4/24/2014	3.9	Target Elevation Reached
685448.1	601407.0	5.7	C-151-2	151	4/24/2014	4.0	Target Elevation Reached
685511.4	601454.1	3.3	C-151-3	151	4/25/2014	3.0	Target Elevation Reached
685455.0	601431.7	5.7	C-150	150	4/24/2014	2.1	Target Elevation Reached
685480.8	601450.0	5.7	C-150-1	150	4/24/2014	4.0	Target Elevation Reached
685502.2	601463.5	2.8	C-150-2	150	4/25/2014	2.8	Target Elevation Reached
685490.0	601478.5	5.7	C-149	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	5.7	C-148	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	5.7	C-147	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	5.7	C-146	146A	4/24/2014	5.6	Target Elevation Reached
685444.3	601518.5	5.7	C-145	145A	4/24/2014	5.5	Target Elevation Reached
685403.0	601506.0	-4.3	C-144	144A	4/24/2014	-4.5	Target Elevation Reached
685433.1	601528.8	5.7	C-144-1	144A	4/24/2014	5.4	Target Elevation Reached
685396.1	601517.4	-4.3	C-143	143A	4/24/2014	-5.3	Target Elevation Reached
685427.6	601544.4	5.7	C-143-1	143A	4/24/2014	5.5	Target Elevation Reached
685386.6	601530.7	-4.3	C-142	142A	4/24/2014	-4.8	Target Elevation Reached
685416.3	601555.6	5.7	C-142-1	142A	4/24/2014	1.9	Target Elevation Reached
685379.5	601542.9	-4.3	C-141	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.1	C-141-1	141A	4/24/2014	2.0	Target Elevation Reached
685371.7	601554.8	-4.3	C-140	140A	4/24/2014	-4.5	Target Elevation Reached
685401.1	601580.7	2.1	C-140-1	140A	4/24/2014	-1.5	Target Elevation Reached
685352.9	601555.6	-4.3	C-139	139A	4/24/2014	-4.4	Target Elevation Reached
685390.7	601590.5	-1.2	C-139-1	139A	4/24/2014	-1.6	Target Elevation Reached
685368.1	601592.3	-1.2	C-138	138A	4/29/2014	-1.5	Target Elevation Reached
685338.6	601567.5	2.1	C-138-1	138A	4/29/2014	1.7	Target Elevation Reached
685359.7	601603.5	-1.2	C-137	137A	4/29/2014	-1.5	Target Elevation Reached
685328.7	601577.4	2.1	C-137-1	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-7.5	C-146-B	146B	5/5/2014	-8.0	Target Elevation Reached
685320.3	601420.2	-7.5	C-145-B	145B	5/5/2014	-7.8	Target Elevation Reached
685314.6	601432.4	-7.5	C-144-B	144B	5/8/2014	-8.2	Target Elevation Reached
685307.0	601446.0	-7.5	C-143-B	143B	5/8/2014	-8.0	Target Elevation Reached
685306.3	601465.9	-7.5	C142-B	142B	5/12/2014	-7.6	Target Elevation Reached
685304.8	601483.2	-7.5	C-141-B	141B	5/12/2014	-7.9	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.1)

Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685295.5	601493.5	-7.5	C-140-B	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-7.5	C-139-B	139B	5/14/2014	-7.8	Target Elevation Reached
685266.5	601506.3	-7.5	C-138-B	138B	5/14/2014	-7.8	Target Elevation Reached
685277.8	601539.2	2.1	C-137-B	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-1.2	C-136-2	136	5/5/2014	-1.5	Target Elevation Reached
685343.4	601610.1	-2.5	C-136	136	5/5/2014	-2.8	Target Elevation Reached
685315.0	601587.9	2.1	C-136-1	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-1.2	C-135-1	135	5/8/2014	-1.4	Target Elevation Reached
685348.8	601634.5	-2.5	C-135	135	5/8/2014	-2.6	Target Elevation Reached
685272.1	601572.6	2.1	C-135-2	135	5/19/2014	1.7	Target Elevation Reached
685236.7	601544.8	-1.2	C-135-3	135	5/19/2014	-1.3	Target Elevation Reached
685358.1	601659.9	-1.2	C-134-1	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-2.5	C-134	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	C-134-2	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	-1.2	C-134-3	134	5/19/2014	-1.2	Target Elevation Reached
685322.3	601651.3	-1.2	C-133-1	133	5/14/2014	-1.7	Target Elevation Reached
685338.7	601665.5	0.4	C-133	133	5/12/2014	-0.1	Target Elevation Reached
685264.0	601607.6	2.1	C-133-2	133	5/19/2014	1.8	Target Elevation Reached
685215.0	601563.9	-1.2	C-133-3	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.1	C-132-1	132	5/12/2014	1.7	Target Elevation Reached
685314.3	601666.4	-1.2	C-132	132	5/14/2014	-1.5	Target Elevation Reached
685210.3	601579.7	-2.5	C-132-B	132	5/22/2014	-3.2	Target Elevation Reached
685194.1	601565.5	-1.2	C-132-B1	132	5/22/2014	-1.6	Target Elevation Reached
685257.3	601619.3	2.1	C-132-2	132	5/19/2014	1.8	Target Elevation Reached
685307.8	601677.9	-1.2	C-131	131	5/14/2014	-1.4	Target Elevation Reached
685202.7	601594.7	-2.5	C-131-B	131	5/22/2014	-2.9	Target Elevation Reached
685184.3	601577.4	-1.2	C-131-B1	131	5/22/2014	-2.1	Target Elevation Reached
685328.1	601694.6	2.1	C-131-1	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	C-131-2	131	5/19/2014	2.0	Target Elevation Reached
685193.4	601601.4	-2.5	C-130-B	130	5/22/2014	-2.5	Target Elevation Reached
685300.8	601690.9	-1.2	C-130	130	5/19/2014	-1.5	Target Elevation Reached
685176.5	601589.8	-1.2	C-130-B1	130	5/22/2014	-1.9	Target Elevation Reached
685240.0	601641.1	2.1	C-130-2	130	5/19/2014	1.9	Target Elevation Reached
685321.3	601708.0	2.1	C-130-1	130	5/19/2014	1.9	Target Elevation Reached
685294.8	601706.8	-1.2	C-129-A	129	5/22/2014	-1.4	Target Elevation Reached
685311.8	601720.4	2.1	C-129-A1	129	5/22/2014	1.9	Target Elevation Reached
685186.2	601619.2	-7.5	C-129-B	129	5/27/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.2)

Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685236.4	601661.1	0.4	C-129-1	129	5/27/2014	0.1	Target Elevation Reached
685263.1	601682.1	2.1	C-129-2	129	5/22/2014	1.8	Target Elevation Reached
685303.5	601732.5	2.1	C-128-A-1	128	5/22/2014	1.9	Target Elevation Reached
685286.6	601718.1	-1.2	C-128-A	128	5/22/2014	-1.4	Target Elevation Reached
685269.5	601703.1	2.1	C-128-A-2	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	0.4	C-128-A-3	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-7.5	C-128-B	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	0.4	C-127-A	127	5/29/2014	0.3	Target Elevation Reached
685271.3	601725.5	-1.2	C-127-A-1	127	5/29/2014	-1.3	Target Elevation Reached
685237.1	601700.2	0.4	C-127-A-2	127	6/2/2014	0.1	Target Elevation Reached
685171.9	601645.3	-7.5	C-127-B	127	6/5/2014	-7.5	Target Elevation Reached
685285.7	601758.3	0.4	C-126-A-1	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	C-126-A	126	6/2/2014	-1.4	Target Elevation Reached
685166.8	601663.7	-7.5	C-126-3	126	6/10/2014	-7.6	Target Elevation Reached
685122.3	601624.7	-8.4	C-126-4	126	6/10/2014	-8.8	Target Elevation Reached
685277.9	601769.3	0.4	C-125	125	6/2/2014	-0.6	Target Elevation Reached
685241.9	601742.6	-1.2	C-125-1	125	6/5/2014	-1.4	Target Elevation Reached
685158.0	601676.7	-7.5	C-125-2	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	C-125-3	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	0.4	C-124	124	6/10/2014	0.1	Target Elevation Reached
685261.7	601778.9	-2.5	C-124-1	124	6/10/2014	-2.8	Target Elevation Reached
685230.8	601752.7	-1.2	C-124-2	124	6/10/2014	-1.4	Target Elevation Reached
685172.8	601704.6	-7.5	C-124-4	124	6/17/2014	-7.7	Stratum D Reached
685128.8	601669.1	-8.7	C-124-5	124	6/17/2014	-7.8	Stratum D Reached
685104.8	601647.4	-7.5	C-124-6	124	6/17/2014	-8.6	Stratum D Reached
685262.3	601792.9	0.4	C-123	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-2.5	C-123-1	123	6/10/2014	-2.8	Target Elevation Reached
685221.2	601763.9	-1.2	C-123-2	123	6/10/2014	-1.7	Target Elevation Reached
685162.4	601719.5	-7.5	C-123-3	123	6/20/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	C-123-4	123	6/20/2014	-7.8	Stratum D Reached
685091.7	601659.6	-7.5	C-123-5	123	6/20/2014	-8.1	Stratum D Reached
685252.4	601807.4	0.4	C-122	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601792.7	-2.5	C-122-1	122	6/13/2014	-2.6	Target Elevation Reached
685207.9	601771.1	-1.2	C-122-2	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-7.5	C-122-5	122	6/20/2014	-7.5	Stratum D Reached
685108.5	601694.5	-8.7	C-122-6	122	6/20/2014	-6.9	Stratum D Reached
685086.9	601671.6	-7.5	C-122-3	122	6/20/2014	-7.4	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.3)

Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685242.2	601818.1	0.4	C-121	121	6/17/2014	0.3	Target Elevation Reached
685214.5	601794.9	-2.5	C-121-3	121	6/20/2014	-2.6	Target Elevation Reached
685189.3	601776.9	-1.2	C-121-2	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.5	C-121-5	121	6/25/2014	-2.5	Target Elevation Reached
685127.3	601725.9	-7.5	C-121-6	121	6/25/2014	-7.0	Stratum D Reached
685104.7	601708.0	-8.7	C-121-7	121	6/25/2014	-6.1	Stratum D Reached
685073.0	601686.3	-7.5	C-121-8	121	6/25/2014	-7.1	Stratum D Reached
685233.4	601829.1	0.4	C-120-1	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-2.5	C-120	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.2	C-120-2	120	6/20/2014	-1.5	Target Elevation Reached
685153.6	601765.8	-2.5	C-120-3	120	6/25/2014	-2.7	Target Elevation Reached
685095.6	601718.8	-7.5	C-120-4	120	6/25/2014	-6.9	Stratum D Reached
685223.8	601840.5	0.4	C-119	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-2.5	C-119-1	119	6/25/2014	-2.8	Target Elevation Reached
685172.6	601798.3	-1.2	C-119-2	119	6/25/2014	-1.2	Target Elevation Reached
685145.7	601780.4	-2.5	C-119-3	119	6/25/2014	-2.8	Target Elevation Reached
685080.0	601724.8	-7.5	C-119-4	119	6/30/2014	-6.9	Stratum D Reached
685208.4	601850.6	2.1	C-118	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.1	C-117	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.1	C-116	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.1	C-115	115A	6/25/2014	-0.1	Target Elevation Reached
685069.7	601734.8	-7.5	C-118-1	118B	6/30/2014	-6.1	Stratum D Reached
685057.7	601744.9	-7.5	C-117-1	117B	7/8/2014	-6.5	Stratum D Reached
685031.8	601746.6	-7.5	C-116-1	116B	7/8/2014	-7.0	Stratum D Reached
685022.1	601754.6	-7.5	C-115-1	115B	7/10/2014	-5.9	Stratum D Reached
685177.7	601903.0	2.1	C-114	114A	6/30/2014	0.5	Target Elevation Reached
685147.1	601873.7	-1.2	C-114-1	114A	6/30/2014	-1.3	Target Elevation Reached
685014.9	601776.3	4.2	C-114-2	114B	7/10/2014	3.9	Target Elevation Reached
684985.2	601787.3	4.2	C-114-3	114B	7/17/2014	-1.8	UST Area
685166.0	601912.1	2.1	C-113-1	113A	7/3/2014	0.9	Target Elevation Reached
685134.0	601884.4	-1.2	C-113-2	113A	7/3/2014	-1.7	Target Elevation Reached
685006.3	601780.6	4.2	C-113-3	113B	7/17/2014	3.6	Target Elevation Reached
684998.3	601772.8	4.2	C-113-4	113B	7/17/2014	-2.1	UST Area
685157.5	601925.6	2.1	C-112	112A	7/8/2014	0.0	Target Elevation Reached
685124.9	601894.4	-1.2	C-112-1	112A	7/3/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.2	C-112-2	112B	7/17/2014	3.6	Target Elevation Reached
685002.7	601764.7	4.2	C-112-3	112B	7/17/2014	-2.0	UST Area

SA-6 South Excavation: Center Points (Table 2.4)

Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.9	601933.8	2.1	C-111-1	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	C-111	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.2	C-111-4	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.1	C-110	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	C-110-1	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.2	C-110-4	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.1	C-109	109A	7/10/2014	1.5	Target Elevation Reached
685097.4	601930.7	-1.2	C-109-1	109A	7/10/2014	-1.5	Target Elevation Reached
684960.2	601820.4	4.2	C-109-4	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.1	C-108-1	108A	7/17/2014	1.6	Target Elevation Reached
685087.5	601946.0	-1.2	C-108	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.2	C-108-4	108B	7/17/2014	3.6	Target Elevation Reached
685110.1	601981.8	-4.3	C-107-1	107A	7/17/2014	-4.8	Stratum D Reached
685069.0	601948.1	-1.2	C-107-2	107A	7/17/2014	-1.3	Target Elevation Reached
684939.3	601841.8	4.2	C-107-4	107B	7/17/2014	3.6	Target Elevation Reached
684928.5	601848.2	4.2	C-106-4	106B	7/17/2014	3.8	Target Elevation Reached
685089.2	601980.6	-4.3	C-106	106A	7/23/2014	-5.3	Stratum D Reached
685046.6	601950.7	-2.5	C-106-1	106A	7/23/2014	-2.8	Target Elevation Reached
685080.0	601994.5	-4.3	C-105	105	7/23/2014	-5.2	Stratum D Reached
685029.8	601954.8	-2.5	C-105-1	105	7/23/2014	-2.8	Target Elevation Reached
685062.9	602000.7	-4.3	C-104	104	7/29/2014	-5.3	Stratum D Reached
685017.7	601961.5	-2.5	C-104-1	104	7/29/2014	-5.7	Stratum D Reached
685027.6	601993.5	-4.3	C-103	103	7/29/2014	-6.5	Stratum D Reached
685021.1	602004.8	-4.3	C-102	102	7/31/2014	-6.1	Stratum D Reached
685014.2	602023.1	-4.3	C-101	101	8/4/2014	-5.8	Stratum D Reached
685016.6	602043.2	-4.3	C-100	100	8/6/2014	-6.2	Stratum D Reached
685015.8	602057.5	-4.3	C-99	99	8/6/2014	-5.6	Stratum D Reached
685008.9	602072.0	-4.3	C-98	98	8/8/2014	-5.2	Stratum D Reached
685000.4	602084.6	-4.3	C-97	97	8/8/2014	-4.8	Stratum D Reached
684989.2	602093.1	-4.3	C-96	96	8/12/2014	-5.5	Stratum D Reached
684975.6	602105.6	-4.3	C-95	95	8/12/2014	-5.6	Stratum D Reached
684972.2	602122.1	-4.3	C-94	94	8/14/2014	-4.6	Stratum D Reached
684974.5	602139.6	-4.3	C-93	93	8/14/2014	-4.2	Stratum D Reached
684955.8	602150.0	-4.3	C-92	92	8/18/2014	-4.6	Stratum D Reached
684946.7	602163.1	-4.3	C-91	91	8/18/2014	-4.8	Stratum D Reached
684941.7	602173.1	-4.3	C-90	90	8/20/2014	-4.9	Stratum D Reached
684922.3	602179.9	-4.3	C-89	89	8/20/2014	-5.3	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.5)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684912.0	602189.2	-4.3	C-88	88	8/25/2014	-6.3	Stratum D Reached
684895.8	602194.1	-4.3	C-87	87	8/25/2014	-6.0	Stratum D Reached
684880.8	602203.6	-4.3	C-86	86	8/29/2014	-5.8	Stratum D Reached
684872.8	602212.7	-4.3	C-85	85	8/29/2014	-5.2	Stratum D Reached
684862.9	602228.0	-4.3	C-84	84	9/4/2014	-5.6	Stratum D Reached
684820.9	602207.7	-2.5	C-83	83	9/4/2014	-4.5	Stratum D Reached
684812.4	602218.7	-2.5	C-82	82	9/10/2014	-4.1	Stratum D Reached
684788.9	602227.5	-2.5	C-81	81	9/17/2014	-5.0	Stratum D Reached
684778.7	602237.4	-2.5	C-80	80	9/17/2014	-4.6	Stratum D Reached
684759.2	602240.0	-2.5	C-79	79	9/23/2014	-4.1	Stratum D Reached
684758.4	602256.3	-2.5	C-78	78	9/23/2014	-3.4	Stratum D Reached
684753.6	602273.9	-2.5	C-77	77	9/29/2014	-3.8	Stratum D Reached
684731.1	602272.7	-2.5	C-76	76	9/29/2014	-3.0	Stratum D Reached
684735.0	602292.1	-2.5	C-75	75	10/2/2014	-3.2	Stratum D Reached
684732.6	602313.2	-2.5	C-74	74	10/2/2014	-3.2	Stratum D Reached
684799.5	602381.3	-2.5	C-73	73	10/7/2014	-2.7	Stratum D Reached
684752.7	602351.0	0.4	C-73-1	73	10/7/2014	0.1	Target Elevation Reached
684662.4	602274.6	-2.5	C-73-2	73	10/7/2014	-2.1	Stratum D Reached
684788.0	602395.1	-2.5	C-72	72	10/7/2014	-2.5	Stratum D Reached
684743.1	602361.9	0.4	C-72-1	72	10/7/2014	-0.2	Target Elevation Reached
684664.8	602296.2	-2.5	C-72-2	72	10/7/2014	-3.0	Stratum D Reached
684783.1	602411.4	-2.5	C-71	71	10/9/2014	-2.7	Stratum D Reached
684734.3	602372.2	0.4	C-71-1	71	10/9/2014	0.2	Target Elevation Reached
684652.0	602308.3	-2.5	C-71-2	71	10/9/2014	-2.4	Stratum D Reached
684772.6	602425.4	-2.5	C-70	70	10/9/2014	-2.5	Stratum D Reached
684725.2	602383.8	0.4	C-70-1	70	10/9/2014	0.1	Target Elevation Reached
684674.6	602346.3	-2.5	C-70-2	70	10/9/2014	-2.4	Stratum D Reached
684642.9	602315.4	2.1	C-70-3	70	10/9/2014	-0.4	Target Elevation Reached
684626.5	602306.7	5.7	C-70-4	70	10/9/2014	4.8	Target Elevation Reached
684762.8	602431.3	-2.5	C-69	69	10/14/2014	-2.7	Stratum D Reached
684715.1	602395.2	0.4	C-69-1	69	10/14/2014	0.1	Target Elevation Reached
684670.5	602360.9	-2.5	C-69-2	69	10/14/2014	-2.4	Stratum D Reached
684632.0	602327.7	5.7	C-69-3	69	10/14/2014	3.2	Target Elevation Reached
684760.1	602448.4	-2.5	C-68	68	10/14/2014	-2.5	Stratum D Reached
684706.4	602407.6	0.4	C-68-1	68	10/14/2014	0.1	Target Elevation Reached
684671.6	602375.8	-2.5	C-68-2	68	10/14/2014	-2.2	Stratum D Reached
684629.6	602343.1	5.7	C-68-3	68	10/14/2014	3.5	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.6)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684749.9	602465.0	-2.5	C-67	67	10/21/2014	-2.1	Stratum D Reached
684698.4	602419.3	0.4	C-67-1	67	10/21/2014	-0.2	Target Elevation Reached
684662.8	602394.7	-2.5	C-67-2	67	10/21/2014	-2.8	Stratum D Reached
684743.0	602477.1	-2.5	C-66	66	10/21/2014	-2.1	Stratum D Reached
684726.5	602463.1	0.4	C-66-1	66	10/21/2014	-0.1	Target Elevation Reached
684704.4	602442.0	-1.2	C-66-2	66	10/21/2014	-1.6	Stratum D Reached
684689.4	602431.1	0.4	C-66-3	66	10/21/2014	0.1	Target Elevation Reached
684664.0	602411.1	-2.5	C-66-4	66	10/21/2014	-3.1	Stratum D Reached
684735.5	602488.2	-2.5	C-65	65	10/24/2014	-2.5	Stratum D Reached
684719.9	602481.3	0.4	C-65-1	65	10/24/2014	0.1	Target Elevation Reached
684701.3	602460.9	-1.2	C-65-2	65	10/24/2014	-2.4	Stratum D Reached
684680.3	602442.8	0.4	C-65-3	65	10/21/2014	-0.2	Target Elevation Reached
684657.6	602419.2	-2.5	C-65-4	65	10/21/2014	-3.2	Stratum D Reached
684713.4	602487.7	-1.2	C-64	64	10/24/2014	-1.8	Stratum D Reached
684653.2	602444.8	0.4	C-64-1	64	10/21/2014	-4.0	Increased excavation depth - UST location
684701.6	602502.1	-1.2	C-63	63	10/27/2014	-2.6	Stratum D Reached
684648.6	602457.4	0.4	C-63-1	63	10/21/2014	-0.3	Target Elevation Reached
684686.3	602512.3	-1.2	C-62	62	10/27/2014	-2.6	Stratum D Reached
684645.5	602469.8	0.4	C-62-1	62	10/21/2014	-0.3	Target Elevation Reached
684689.4	602527.1	-1.2	C-61	61	10/28/2014	-2.7	Stratum D Reached
684639.4	602487.5	0.4	C-61-1	61	10/21/2014	-0.2	Target Elevation Reached
684675.5	602538.7	-1.2	C-60	60	10/28/2014	-3.1	Stratum D Reached
684629.9	602496.7	0.4	C-60-1	60	10/21/2014	-0.4	Target Elevation Reached
684613.5	602491.1	2.1	C-60-2	60	10/21/2014	1.7	Target Elevation Reached
684665.2	602547.7	-1.2	C-59	59	10/27/2014	-2.8	Stratum D Reached
684620.0	602510.0	0.4	C-59-1	59	10/21/2014	-0.1	Target Elevation Reached
684604.5	602498.0	2.1	C-59-2	59	10/21/2014	1.7	Target Elevation Reached

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

Green shading indicates 100% Design Bottom Elevation Field Modified to reach < 20 PPM soils .

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)

Sidewall Target Coordinates					As-built Elevations		
685443.0	601355.0	5.8	073-SB-003	153	4/24/2014	4.0	Target Elevation Reached
685441.6	601380.0	6.7	073-SB-078	152	4/24/2014	3.9	Target Elevation Reached
685490.9	601459.8	7.8	073-SB-027	150	4/24/2014	3.8	Target Elevation Reached
685459.6	601448.4	5.9	073-SB-064	149	4/24/2014	2.0	Target Elevation Reached
685438.1	601430.2	8.8	073-SB-063	149	4/24/2014	1.8	Target Elevation Reached
685470.0	601487.0	5.9	073-SB-004	148	4/24/2014	5.7	Target Elevation Reached
685471.0	601475.6	4.3	073-SB-079	148	7/31/2014	4.3	Target Elevation Reached
685451.0	601460.9	7.1	073-SB-082	148	7/31/2014	2.2	Target Elevation Reached
685383.5	601506.5	0.9	073-SB-060	143A	4/24/2014	-4.4	Target Elevation Reached
685368.1	601516.7	0.4	073-SB-077	142A	4/24/2014	-4.5	Target Elevation Reached
685341.4	601558.3	2.9	073-SB-046	139A	4/24/2014	-4.5	Target Elevation Reached
685309.0	601571.0	3.8	073-SB-006	137A	4/29/2014	1.9	Target Elevation Reached
685339.2	601410.1	-5.7	073-SB-048	146B	5/5/2014	-7.7	Target Elevation Reached
685319.6	601464.4	-5.4	073-SB-022	143B	5/8/2014	-7.5	Target Elevation Reached
685332.6	601487.8	-3.6	073-SB-071	142B	5/12/2014	-7.6	Target Elevation Reached
685344.0	601523.8	-4.1	073-SB-076	141B	5/12/2014	-7.6	Target Elevation Reached
685316.0	601542.0	-6.2	073-SB-016	138B	5/14/2014	-7.8	Target Elevation Reached
685304.5	601530.7	-5.8	073-SB-051	138B	5/14/2014	-7.5	Target Elevation Reached
685132.7	601748.9	-1.7	134-SB-126	120	6/25/2014	-7.2	Stratum D Reached
685210.2	601831.4	-0.8	134-SB-072	119	6/25/2014	-2.5	Target Elevation Reached
685116.0	601754.5	-6.0	134-SB-157	119	6/30/2014	-6.9	Stratum D Reached
685165.3	601806.2	3.5	134-SB-094	118B	6/25/2014	-1.6	Target Elevation Reached
685131.0	601787.0	-2.3	134-SB-017	118B	6/25/2014	-3.3	Target Elevation Reached
685197.0	601868.0	6.0	134-SB-034	117A	6/25/2014	-0.3	Target Elevation Reached
685073.0	601769.4	-6.5	134-SB-142	116B	7/8/2014	-6.3	Stratum D Reached
685168.1	601879.4	-0.7	134-SB-058	115A	6/30/2014	-1.6	Target Elevation Reached
685137.3	601854.1	2.7	134-SB-073	115A	6/30/2014	-1.4	Target Elevation Reached
685043.3	601773.2	6.0	134-SB-152	115B	7/10/2014	-5.5	Stratum D Reached
685111.7	601863.3	2.2	134-SB-074	113A	7/3/2014	-1.3	Target Elevation Reached
685013.2	601803.0	6.0	134-SB-156	112B	7/17/2014	3.7	Target Elevation Reached
685094.6	601890.3	2.2	134-SB-075	111A	7/8/2014	-1.6	Target Elevation Reached
685081.0	601928.0	-0.1	134-SB-021	109A	7/10/2014	-1.6	Target Elevation Reached
685080.6	601935.9	3.0	134-SB-092	108A	7/10/2014	-1.6	Target Elevation Reached
684976.1	601816.3	6.1	134-SB-144	110B	7/17/2014	3.9	Target Elevation Reached
684949.4	601849.3	6.1	134-SB-145	107B	7/17/2014	3.8	Target Elevation Reached
685042.0	601935.0	-0.3	134-SB-023	107A	7/17/2014	-2.7	Target Elevation Reached
684999.7	601940.5	-0.5	134-SB-097	104	7/29/2014	-7.2	Stratum D Reached
684969.0	601950.0	-4.3	134-SB-025	103	7/31/2014	-5.3	Stratum D Reached

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.1)							
Sidewall Target Coordinates					As-built Elevations		
684966.4	601991.2	0.8	134-SB-111	100	8/4/2014	-5.8	Stratum D Reached
684986.0	602025.0	-2.7	134-SB-027	100	8/6/2014	-6.3	Stratum D Reached
684948.7	602072.2	-3.2	134-SB-099	96	8/12/2014	-5.4	Stratum D Reached
684925.0	602120.8	-4.2	134-SB-050	92	8/18/2014	-5.5	Stratum D Reached
684887.0	602147.0	-2.1	134-SB-100	89	8/20/2014	-5.8	Stratum D Reached
684821.2	602190.7	-4.8	140-SB-060	84	9/4/2014	-5.2	Stratum D Reached
684779.8	602174.6	-0.8	140-SB-059	83	9/10/2014	-5.6	Stratum D Reached
684727.5	602143.2	0.7	140-SB-076	83	9/10/2014	-4.5	Stratum D Reached
684701.3	602132.8	-0.8	140-SB-003	82	9/10/2014	-4.8	Stratum D Reached
684686.4	602158.8	-0.8	140-SB-105	80	9/17/2014	-4.8	Stratum D Reached
684651.0	602180.0	-2.1	140-SB-027	77	9/29/2014	-2.8	Stratum D Reached
684630.0	602210.0	-1.9	140-SB-077	75	10/2/2014	-3.0	Stratum D Reached
684622.2	602287.4	-2.0	140-SB-034	71	10/9/2014	-3.0	Stratum D Reached
684597.0	602258.0	-3.2	140-SB-025	71	10/9/2014	-3.1	Stratum D Reached
684626.0	602343.0	6.8	140-SB-014	68	10/14/2014	3.5	Target Elevation Reached
684613.7	602330.2	6.1	140-SB-072	68	10/14/2014	4.5	Target Elevation Reached
684649.1	602367.2	-1.0	140-SB-071	68	10/14/2014	-2.8	Stratum D Reached
684648.1	602370.8	-0.8	140-SB-032	67	10/21/2014	-3.1	Stratum D Reached
684649.1	602409.4	-2.3	140-SB-069	65	10/21/2014	-3.4	Stratum D Reached
684629.1	602423.3	1.5	140-SB-031	64	10/21/2014	-3.5	Stratum D Reached
684633.2	602474.4	0.4	125-SB-058	61	10/21/2014	-0.1	Target Elevation Reached
684616.1	602485.8	3.0	125-SB-068	60	10/21/2014	1.8	Target Elevation Reached
684588.4	602494.2	100.0	125-SB-119	59	10/21/2014	1.5	Target Elevation Reached

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

R. Thomas Hugg 11/19/14

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR

LICENSE NO. 36737

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-01		684138.4	603182.3	-0.5							4	Crushed concrete	Bottom of excavation elevation	
2	BF-01-01	12/5/2013	684144.2	603184.2	1.0	136.4	3.7	142.6	7.8	96	95	4	Weldon WC QP		Sor
3	BF-01-02	12/5/2013	684137.8	603181.7	1.9	139.9	4.3	142.6	7.8	98	95	4	Weldon WC QP		Sor
4	BF-01-03	12/6/2013	684140.2	603182.7	2.5	141.2	5.0	142.6	7.8	99	95	4	Weldon WC QP		Sor
5	BF-01-04	12/6/2013	684136.6	603190.0	3.5	141.2	5.6	142.6	7.8	99	95	4	Weldon WC QP		Sor
6	BF-01-05	12/6/2013	684134.9	603186.7	4.5	143.2	4.8	142.6	7.8	100	95	4	Weldon WC QP		Sor
7	BF-01-06	12/6/2013	684141.1	603182.6	5.8	139.6	6.0	142.6	7.8	98	95	4	Weldon WC QP		Sor
8	BF-01-07	12/10/2013	684147.6	603186.8	6.2	146.7	5.1	142.6	7.8	103	95	4	Weldon WC QP		Sor
9	BF-01-08	12/10/2013	684140.2	603189.6	7.1	120.1	3.4	128.9	12.1	93	95	4	Weldon WC Screenings	recompact lift	Sor
9	BF-01-08R	12/10/2013	684140.2	603189.6	7.1	129.9	4.9	128.9	12.1	101	95	4	Weldon WC Screenings	second reading after addl compaction	Sor
10	BF-01-09	12/12/2013	684130.1	603175.5	8.1	126.4	3.3	128.9	12.1	98	95	4	Weldon WC Screenings		Sor
11	BF-01-10	12/31/2013	684140.0	603184.3	9.0	139.6	7.4	128.9	12.1	108	95	4	Weldon WC Screenings		Sor
1	BF-02		684153.8	603153.9	-0.6							6	Crushed concrete	Bottom of excavation elevation	
2	BF-02-01	12/5/2013	684162.8	603161.3	1.4	138.2	5.7	142.6	7.8	97	95	6	Weldon WC QP		Sor
3	BF-02-02	12/5/2013	684160.8	603162.3	2.4	136.2	4.5	142.6	7.8	96	95	6	Weldon WC QP		Sor
4	BF-02-03	12/6/2013	684157.7	603161.3	2.7	147.2	5.6	142.6	7.8	103	95	6	Weldon WC QP		Sor
5	BF-02-04	12/6/2013	684145.7	603162.1	3.7	143.5	5.0	142.6	7.8	101	95	6	Weldon WC QP		Sor
6	BF-02-05	12/6/2013	684156.9	603171.0	4.4	145.7	4.1	142.6	7.8	102	95	6	Weldon WC QP		Sor
7	BF-02-06	12/6/2013	684150.1	603155.4	5.6	140.4	4.6	142.6	7.8	98	95	6	Weldon WC QP		Sor
8	BF-02-07	12/10/2013	684135.5	603153.5	6.1	149.4	4.0	142.6	7.8	105	95	6	Weldon WC QP		Sor
9	BF-02-08	12/10/2013	684157.9	603174.9	7.2	125.8	5.2	128.9	12.1	98	95	6	Weldon WC Screenings		Sor
1	BF-03		684179.9	603119.5	-1.2							9	Crushed concrete	Bottom of excavation elevation	
2	BF-03											9	Type A Material	No compaction testing required	
3	BF-03-01	11/22/2013	684198.1	603131.6	0.2	133.3	3.4	142.6	7.8	93	95	9	Weldon WC QP		Sor
4	BF-03-02	11/22/2013	684155.7	603111.6	1.5	130.8	2.8	142.6	7.8	92	95	9	Weldon WC QP		Sor
5	BF-03-03	12/5/2013	684177.4	603121.5	2.5	135.7	2.0	128.9	12.1	105	95	9	Weldon WC Screenings		Sor
6	BF-03-04	12/12/2013	684180.5	603126.9	4.6	124.7	3.2	128.9	12.1	97	95	9	Weldon WC Screenings		Sor
7	BF-03-05	12/12/2013	684177.1	603132.4	5.3	132.5	2.8	128.9	12.1	103	95	9	Weldon WC Screenings		Sor
8	BF-03-06	12/16/2013	684172.4	603128.5	6.4	128.3	2.9	128.9	12.1	100	95	9	Weldon WC Screenings		Sor
9	BF-03-07	1/6/2014	684177.1	603113.8	6.6	131.2	10.4	128.9	12.1	102	95	9	Weldon WC Screenings		Sor
10	BF-03-08	1/9/2014	684178.2	603121.8	8.2	128.2	5.9	128.9	12.1	99	95	9	Weldon WC Screenings		Sor
1	BF-04		684195.7	603093.1	-1.5							11	Crushed concrete	Bottom of excavation elevation	
2	BF-04											11	Type A Material	No compaction testing required	
3	BF-04-01	12/5/2013	684198.0	603094.8	2.6	131.0	3.6	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
4	BF-04-02	12/12/2013	684206.6	603104.7	3.5	125.8	3.9	128.9	12.1	98	95	11	Weldon WC Screenings		Sor
5	BF-04-03	12/16/2013	684217.5	603111.1	4.9	129.9	2.9	128.9	12.1	101	95	11	Weldon WC Screenings		Sor
6	BF-04-04	12/31/2013	684213.6	603115.0	5.9	124.6	3.2	128.9	12.1	97	95	11	Weldon WC Screenings		Sor
7	BF-04-05	1/9/2014	684195.8	603100.0	8.2	131.2	4.8	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
1	BF-05		684200.8	603078.4	-1.8							12	Crushed concrete	Bottom of excavation elevation	
2	BF-05											12	Type A Material	No compaction testing required	
3	BF-05-01	12/5/2013	684185.2	603057.9	2.6	133.8	4.7	128.9	12.1	104	95	12	Weldon WC Screenings		Sor
4	BF-05-02	12/12/2013	684179.9	603057.7	3.0	121.5	3.0	128.9	12.1	94	95	12	Weldon WC Screenings	recompact lift	Sor
4	BF-05-02R	12/16/2013	684186.2	603070.2	3.1	133.0	9.3	128.9	12.1	103	95	12	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-05-03	12/31/2013	684181.6	603060.8	4.5	124.7	2.9	128.9	12.1	97	95	12	Weldon WC Screenings		Sor
6	BF-05-04	1/9/2013	684186.1	603053.5	5.8	129.7	3.3	128.9	12.1	101	95	12	Weldon WC Screenings		Sor
7	BF-05-05	1/9/2013	684180.6	603048.6	6.5	131.1	3.4	128.9	12.1	102	95	12	Weldon WC Screenings		Sor
8	BF-05-06	3/19/2014	684180.6	603060.4	7.5	122.5	4.9	128.9	12.1	95	95	12	Weldon WC Screenings		Sor
1	BF-06		684214.8	603050.6	-1.7							14	Crushed concrete	Bottom of excavation elevation	
2	BF-06											14	Crushed concrete	No compaction testing required	
3	BF-06-01	12/31/2013	684229.9	603061.3	2.2	137.7	3.4	128.9	12.1	107	95	14	Weldon WC Screenings		Sor
4	BF-06-02	12/31/2013	684228.8	603062.8	3.5	133.1	3.4	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
5	BF-06-03	1/6/2014	684234.0	603066.8	4.2	123.7	9.5	128.9	12.1	96	95	14	Weldon WC Screenings		Sor
6	BF-06-04	1/9/2014	684230.8	603071.3	6.2	133.1	4.2	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
7	BF-06-05	1/9/2014	684213.9	603095.7	7.3	133.8	5.0	128.9	12.1	104	95	14	Weldon WC Screenings		Sor
1	BF-07		684222.7	603033.3	-0.8							15	Crushed concrete	Bottom of excavation elevation	
2	BF-07											15	Crushed concrete	No compaction testing required	
3	BF-07-01	12/31/2013	684196.2	603014.9	2.5	133.1	2.6	128.9	12.1	103	95	15	Weldon WC Screenings		Sor
4	BF-07-02	12/31/2013	684192.8	603021.1	3.9	133.2	3.4	128.9	12.1	103	95	15	Weldon WC Screenings	Numbering error; skipped from 02 to 04	Sor
6	BF-07-04	1/9/2014	684196.9	603018.8	5.7	118.5	3.9	128.9	12.1	92	95	15	Weldon WC Screenings	recompact lift	Sor
6	BF-07-04R	1/9/2014	684196.9	603018.8	5.7	122.6	4.3	128.9	12.1	95	95	15	Weldon WC Screenings	second reading after addl compaction	Sor
7	BF-07-05	1/9/2014	684195.0	603021.0	6.4	128.4	6.7	128.9	12.1	100	95	15	Weldon WC Screenings		Sor

FIELD DENSITY TEST SUMMARY LOG
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JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-08		684221.8	603013.0	-0.7							16	Crushed concrete	Bottom of excavation elevation	
2	BF-08											16	Crushed concrete	No compaction testing required	
3	BF-08-01	12/31/2013	684246.9	603039.8	2.0	127.2	3.2	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
4	BF-08-02	12/31/2013	684240.5	603043.2	3.1	132.7	2.9	128.9	12.1	103	95	16	Weldon WC Screenings		Sor
5	BF-08-03	1/6/2014	684231.7	603038.8	3.9	127.0	8.4	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
6	BF-08-04	1/9/2014	684242.3	603046.8	5.4	130.1	4.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
7	BF-08-05	1/9/2014	684236.3	603066.0	7.1	129.8	6.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
1	BF-09		684208.5	602989.4	-0.5							17	Crushed concrete	Bottom of excavation elevation	
2	BF-09											17	Crushed concrete	No compaction testing required	
3	BF-09-01	1/28/2014	684209.7	602987.6	2.5	124.0	7.9	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
4	BF-09-02	1/28/2014	684213.6	602980.4	3.4	123.4	6.1	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
5	BF-09-03	1/28/2014	684204.2	602981.5	4.2	124.9	7.1	128.9	12.1	97	95	17	Weldon WC Screenings		Sor
1	BF-10		684269.0	603014.0	-0.5							18	Crushed concrete	Bottom of excavation elevation	
2	BF-10											18	Crushed concrete	No compaction testing required	
3	BF-10-01	1/20/2014	684275.4	603018.2	2.2	133.1	7.7	128.9	12.1	103	95	18	Weldon WC Screenings		Sor
4	BF-10-02	1/28/2014	684267.5	603026.1	3.2	118.8	3.1	128.9	12.1	92	95	18	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-10-02R	1/28/2014	684267.5	603026.1	3.2	133.3	6.1	128.9	12.1	103	95	18	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-10-03	1/28/2014	684271.8	603014.4	4.1	125.7	5.4	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
6	BF-10-04	3/21/2014	684267.9	603017.5	5.2	126.4	6.8	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
1	BF-11		684208.5	602989.4	-1.0							19	Crushed concrete	Bottom of excavation elevation	
2	BF-11											19	Crushed concrete	No compaction testing required	
3	BF-11-01	1/28/2014	684216.6	602952.7	2.1	125.2	8.8	128.9	12.1	97	95	19	Weldon WC Screenings		Sor
4	BF-11-02	1/28/2014	684223.4	602953.8	3.4	129.8	4.2	128.9	12.1	101	95	19	Weldon WC Screenings		Sor
5	BF-11-03	1/28/2014	684211.6	602949.0	4.0	123.4	6.6	128.9	12.1	96	95	19	Weldon WC Screenings		Sor
1	BF-12		684286.7	602988.6	-1.7							20	Crushed concrete	Bottom of excavation elevation	
2	BF-12											20	Crushed concrete	No compaction testing required	
3	BF-12-01	1/20/2014	684291.7	602995.2	1.8	133.3	8.3	128.9	12.1	103	95	20	Weldon WC Screenings		Sor
4	BF-12-02	1/28/2014	684288.5	602989.8	2.9	121.6	4.0	128.9	12.1	94	95	20	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-12-02R	1/28/2014	684288.5	602989.8	2.9	128.5	5.8	128.9	12.1	100	95	20	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-12-03	1/28/2014	684291.3	602995.4	3.7	136.9	7.5	128.9	12.1	106	95	20	Weldon WC Screenings		Sor
1	BF-13		684235.7	602919.6	-0.9							22	Crushed concrete	Bottom of excavation elevation	
2	BF-13											22	Crushed concrete	No compaction testing required	
3	BF-13-01	1/28/2014	684235.6	602919.1	2.1	130.1	5.8	128.9	12.1	101	95	22	Weldon WC Screenings		Sor
3	BF-13-01R	3/12/2014	684238.5	602922.0	2.1	132.0	2.9	135.8	6.4	97	95	22	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-13-02	3/12/2014	684238.4	602918.2	3.4	133.0	1.4	135.8	6.4	98	95	22	Tilcon MH DGA		V5N
5	BF-13-03	3/19/2014	684235.1	602916.0	4.5	124.0	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
1	BF-14		684312.1	602956.0	-0.9							23	Crushed concrete	Bottom of excavation elevation	
2	BF-14											23	Crushed concrete	No compaction testing required	
3	BF-14-01	1/20/2014	684312.7	602965.2	1.8	133.9	7.0	128.9	12.1	104	95	23	Weldon WC Screenings		Sor
3	BF-14-01R	3/13/2013	684289.6	602935.7	1.8	132.0	1.7	135.8	6.4	97	95	23	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-14-02	3/14/2014	684301.9	602952.7	2.6	133.0	1.6	135.8	6.4	98	95	23	Tilcon MH DGA		V5N
1	BF-15		684260.7	602896.7	-0.9							24	Crushed concrete	Bottom of excavation elevation	
2	BF-15											24	Crushed concrete	No compaction testing required	
3	BF-15-01	1/28/2014	684259.0	602897.1	2.1	123.6	9.0	128.9	12.1	96	95	24	Weldon WC Screenings		Sor
3	BF-15-01R	3/12/2014	684264.5	602902.2	2.1	131.0	2.4	135.8	6.4	96	95	24	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-15-02	3/12/2014	684260.5	602900.2	2.8	133.0	1.3	135.8	6.4	98	95	24	Tilcon MH DGA		V5N
1	BF-16		684326.7	602937.0	-1.1							25	Crushed concrete	Bottom of excavation elevation	
2	BF-16											25	Crushed concrete	No compaction testing required	
3	BF-16-01	1/20/2014	684331.9	602942.7	1.6	136.1	7.4	128.9	12.1	106	95	25	Weldon WC Screenings		Sor
3	BF-16-01R	3/13/2014	6844330.0	602937.2	1.8	132.2	1.4	135.8	6.4	97	95	25	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-16-02	3/14/2014	684326.7	602930.0	2.5	134.0	1.2	135.8	6.4	99	95	25	Tilcon MH DGA		V5N
1	BF-17		684283.7	602879.0	0.4							26	Crushed concrete	Bottom of excavation elevation-Stratum O	
2	BF-17											26	Crushed concrete	No compaction testing required	
3	BF-17-01	3/12/2014	684284.6	602882.1	2.1	130.0	2.9	135.8	6.4	96	95	26	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-17-02	3/14/2014	684273.7	602879.1	3.1	132.0	2.2	135.8	6.4	97	95	26	Tilcon MH DGA		V5N
1	BF-18		684350.8	602909.6	-1.5							27	Crushed concrete	Bottom of excavation elevation	
2	BF-18											27	Crushed concrete	No compaction testing required	
3	BF-18-01	3/13/2014	684313.5	602885.6	1.5	132.4	1.4	135.8	6.4	97	95	27	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-18-02	3/14/2014	684344.0	602911.5	2.7	134.0	1.1	135.8	6.4	99	95	27	Tilcon MH DGA		V5N
1	BF-19		684313.2	602860.4	0.3							28	Crushed concrete	Bottom of excavation elevation - Stratum O	

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2	BF-19											28	Crushed concrete	No compaction testing required	
3	BF-19-01	3/14/2014	684322.1	602872.7	2.8	134.0	0.9	135.8	6.4	99	95	28	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-19-02	3/17/2014	684301.4	602851.5	3.6	133.0	1.3	135.8	6.4	98	95	28	Tilcon MH DGA		V5N
1	BF-20		684370.9	602887.4	-1.7							29	Crushed concrete	Bottom of excavation elevation	
2	BF-20											29	Crushed concrete	No compaction testing required	
3	BF-20-01	3/17/2014	6843640.5	602862.1	2.0	133.0	1.7	135.8	6.4	98	95	29	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-21		684330.4	602835.9	1.9							30	Crushed concrete	Bottom of excavation elevation - Startum O	
2	BF-21-01	3/14/2014	684343.3	602842.2	2.4	132.0	1.6	135.8	6.4	97	95	30	Tilcon MH DGA	Removed wet screenings to crushed concrete and placed Bridge Lift	V5N
3	BF-21-02	3/17/2014	684307.4	602827.3	3.3	134.0	0.8	135.8	6.4	99	95	30	Tilcon MH DGA	Bridge Lift over Stratum O	V5N
4	BF-21-03	3/19/2014	684314.6	602830.9	3.9	122.5	5.1	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
5	BF-21-04	3/20/2014	684314.4	602815.1	4.5	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
6	BF-21-05	3/20/2014	684321.1	602814.1	5.2	124.0	3.9	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
7	BF-21-06	3/20/2014	684308.3	602802.2	5.8	122.5	5.0	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
8	BF-21-07	3/20/2014	684305.8	602806.3	6.7	123.3	4.0	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
9	BF-21-08	3/20/2014	684314.4	602804.8	7.6	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
10	BF-21-09	3/20/2014	684310.5	602806.6	8.4	132.5	1.9	135.8	6.4	98	95	30	Tilcon MH DGA	Truck Ramp to Kellogg Street	V5N
1	BF-22		684391.2	602864.3	-2.3							31	Crushed concrete	Bottom of excavation elevation	
2	BF-22											31	Crushed concrete	No compaction testing required	
3	BF-22-01	3/17/2014	684387.3	602845.0	1.4	134.0	0.8	135.8	6.4	99	95	31	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-23		684350.9	602814.5	-1.6							32	Crushed concrete	Bottom of excavation elevation	
2	BF-23											32	Crushed concrete	No compaction testing required	
3	BF-23-01	3/14/2014	684360.9	602818.8	2.4	132.0	2.0	135.8	6.4	97	95	32	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-23-02	3/17/2014	684339.8	602809.6	3.5	134.0	1.1	135.8	6.4	99	95	32	Tilcon MH DGA		V5N
1	BF-24		684411.0	602842.4	-1.8							33	Crushed concrete	Bottom of excavation elevation	
2	BF-24											33	Crushed concrete	No compaction testing required	
3	BF-24-01	3/17/2014	684402.4	602827.4	1.1	134.0	0.8	135.8	6.4	99	95	33	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-25		684369.5	602729.2	-1.8							34	Crushed concrete	Bottom of excavation elevation	
2	BF-25											34	Crushed concrete	No compaction testing required	
3	BF-25-01	3/14/2014	684379.5	602796.3	2.0	131.0	2.1	135.8	6.4	96	95	34	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-25-02	3/17/2014	684354.8	602790.5	3.4	133.0	1.5	135.8	6.4	98	95	34	Tilcon MH DGA		V5N
1	BF-26		684433.4	602818.8	-2.1							35	Crushed concrete	Bottom of excavation elevation	
2	BF-26											35	Crushed concrete	No compaction testing required	
3	BF-26-01	3/18/2014	684433.9	602828.3	0.3	134.0	0.8	135.8	6.4	99	95	35	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-26-02	3/18/2014	684431.7	602817.7	0.8	133.0	1.3	135.8	6.4	98	95	35	Tilcon MH DGA		V5N
1	BF-27		684389.4	602765.0	-1.8							36	Crushed concrete	Bottom of excavation elevation	
2	BF-27											36	Crushed concrete	No compaction testing required	
3	BF-27-01	3/14/2014	684398.2	602773.8	1.8	133.0	1.6	135.8	6.4	98	95	36	Tilcon MH DGA		V5N
0	BF-28		684457.0	602790.8	-2.8							38	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-28-01	3/12/2014	684461.2	602789.3	-0.4	133.2	1.0	135.8	6.4	98	95	38	Tilcon MH DGA		V5N
0	BF-29		684418.8	602735.2	2.1							39	Stratum O	Bottom of excavation elevation	
1	BF-29-01	3/26/2014	684404.6	602731.3	3.3	134.0	1.2	135.8	6.4	99	95	39	Tilcon MH DGA		V5N
0	BF-30		684476.8	602765.1	-3.1							40	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-30-01	3/12/2014	684478.9	602766.2	-0.7	133.2	1.1	135.8	6.4	98	95	40	Tilcon MH DGA		V5N
0	BF-31		684436.0	602712.8	0.1							41	Stratum O	Bottom of excavation elevation	
0	BF-32		684498.7	602739.5	-2.2							42	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-32-01	3/12/2014	684496.6	602743.0	-0.9	131.0	2.3	135.8	6.4	96	95	42	Tilcon MH DGA		V5N
0	BF-33		684453.0	602683.2	0.1							43	Stratum O	Bottom of excavation elevation	
0	BF-34		684517.5	602716.8	-2.5							44	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-34-01	3/12/2014	684515.6	602715.4	-1.1	131.0	2.0	135.8	6.4	96	95	44	Tilcon MH DGA		V5N
0	BF-35		684471.3	602661.2	0.2							45	Stratum O	Bottom of excavation elevation	
0	BF-36		684538.2	602694.6	-3.0							46	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-36-01	3/18/2014	684535.1	602700.7	-1.9	134.5	0.5	135.8	6.4	99	95	46	Tilcon MH DGA		V5N
0	BF-37		684490.0	602636.8	0.2							47	Stratum O	Bottom of excavation elevation	
0	BF-38		684558.4	602671.7	-3.0							48	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-38-01	3/21/2014	684551.4	602683.6	-1.7	131.9	1.9	135.8	6.4	97	95	48	Tilcon MH DGA		V5N
0	BF-39		684510.6	602614.8	0.4							49	Stratum O	Bottom of excavation elevation	
0	BF-40		684557.4	602644.9	-3.6							50	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-40-01	3/26/2014	684572.2	602653.5	-1.4	134.8	0.5	135.8	6.4	99	95	50	Tilcon MH DGA		V5N
0	BF-62		684776.7	602362.5	-2.5							73 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-62-1	10/15/2014	684764.3	602354.7	0.6	125.0	2.0	128.5	10.5	97	95	73 (No)	Weldon LH Screenings	Placed on Tilcon MH DGA	V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
0	BF-64		684785.0	602349.9	-2.5							74 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
1	BF-64-1	10/3/2014	684773.5	602338.3	-1.2	128.5	4.7	128.5	10.5	100	95	74 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
3	BF-64-2	10/15/2014	684772.1	602344.3	0.6	126.0	2.2	128.5	10.5	98	95	74 (No)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-65		684701.4	602272.1	-2.5							75 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
1	BF-65-1	10/3/2014	684679.6	602257.6	-1.6	127.0	3.1	128.5	10.5	99	95	75 (So)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
0	BF-66		684793.7	602335.5	-2.5							75 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
1	BF-66-1	10/3/2014	684788.5	602328.1	-0.9	128.5	4.3	128.5	10.5	100	95	75 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
2	BF-66-2	10/15/2014	684783.5	602334.9	0.6	125.0	2.9	128.5	10.5	97	95	75 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
0	BF-67		684709.6	602254.1	-3.0							76 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-67-1	10/3/2014	684686.5	602239.8	-1.3	124.0	2.5	128.5	10.5	96	95	76 (So)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
5	BF-67-2	10/27/2014	684684.5	602237.6	5.3	122.5	3.5	128.5	10.5	95	95	76 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-68		684804.3	602317.4	-3.5							77 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-68-1	10/3/2014	684796.5	602311.9	-0.9	128.5	4.5	128.5	10.5	100	95	77 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
3	BF-68-2	10/15/2014	684800.9	602313.3	0.5	125.0	2.2	128.5	10.5	97	95	77 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
0	BF-69		684720.3	602238.4	-3.5							77 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-69-1	10/3/2014	684698.8	602228.5	-1.1	124.6	2.9	128.5	10.5	97	95	77 (So)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
5	BF-69-2	10/27/2014	684700.3	602225.0	5.5	122.0	3.2	128.5	10.5	95	95	77 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-70		684813.9	602301.9	-3.5							78 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-70-1	10/3/2014	685808.5	602301.5	-0.9	128.5	4.0	128.5	10.5	100	95	78 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
3	BF-70-2	10/15/2014	685811.9	602297.1	0.7	127.0	4.0	128.5	10.5	99	95	78 (No)	Weldon LH Screenings		V5N
0	BF-71		684732.5	602221.3	-3.3							79 (So)	Stratum D		
5	BF-71-1	10/27/2014	684725.0	602212.2	5.6	125.0	2.5	128.5	10.5	97	95	79 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-72		684824.9	602287.1	-3.3						95	79 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
3	BF-72-1	10/15/2014	684820.2	602286.1	0.4	125.5	1.9	128.5	10.5	98	95	79 (No)	Weldon LH Screenings	Placed on Weldon WC Screenings	V5N
0	BF-73		684742.6	602208.4	-5.0						95	80	Stratum D	Bottom of excavation elevation	
6	BF-73-1	10/27/2014	684743.1	602204.3	5.5	127.0	6.2	128.5	10.5	99	95	80	Weldon LH Screenings	Placed on Type A Material	V5N
1	BF-74		684837.6	602270.4	-4.8							81 (No)	Concrete/DGA	Bottom of excavation elevation	
3	BF-74-1	9/18/2014	684834.9	602268.1	-1.5	126.0	4.5	131.9	9.5	96	95	81 (No)	Weldon WC QP	Placed on Type A Material	V5N
1	BF-75		684756.2	602190.9	-5.0							81 (So)	Concrete/DGA	Bottom of excavation elevation	
2	BF-75-1	9/18/2014	684755.1	602200.0	-2.4	128.0	3.6	131.9	9.5	97	95	81 (So)	Weldon WC QP		V5N
6	BF-75-2	10/27/2014	684759.2	602193.9	5.4	128.5	6.5	128.5	10.5	100	95	81 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-76		684829.0	602234.8	-4.8							82		Bottom of excavation elevation	
2	BF-76-1	9/18/2014	684826.4	602234.0	-2.4	126.0	4.5	131.9	9.5	96	95	82	Weldon WC QP	Placed on processed concrete	V5N
6	BF-76-2	10/27/2014	684794.7	602203.1	5.5	128.0	4.6	128.5	10.5	100	95	82	Weldon LH Screenings	Placed on Type A Material	V5N
1	BF-77		684848.6	602232.5	-4.5							83	Concrete/DGA	Bottom of excavation elevation	
3	BF-77-1	9/18/2014	684844.7	602224.8	-1.2	126.0	5.0	131.9	9.5	96	95	83	Weldon WC QP	Placed on Type A Material	V5N
6	BF-77-2	10/27/2014	684807.1	609195.1	5.4	128.5	5.4	128.5	10.5	100	95	83	Weldon LH Screenings	Placed on Type A Material	V5N
1	BF-78		684864.2	602226.5	-5.6							84	Concrete/DGA	Bottom of excavation elevation	
3	BF-78-1	9/18/2014	684851.2	602210.9	-0.7	128.0	3.4	131.9	9.5	97	95	84	Weldon WC QP	Placed on Type A Material	V5N
7	BF-78-2	10/27/2014	684830.5	602190.3	5.4	128.5	7.1	128.5	10.5	100	95	84	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-79		684877.8	602216.4	-5.2							85		Bottom of excavation elevation	
4	BF-79-1	9/18/2014	684856.5	602180.7	1.0	128.0	2.9	131.9	9.5	97	95	85	Weldon WC QP	Placed on Weldon WC Screenings	V5N
0	BF-80		684890.3	602202.5	-5.8							86		Bottom of excavation elevation	
4	BF-80-1	9/18/2014	684874.0	602174.3	1.3	125.0	3.9	131.9	9.5	95	95	86	Weldon WC QP	Placed on Weldon WC Screenings	V5N
7	BF-80-2	10/27/2014	684873.1	602169.9	5.1	128.5	4.1	128.5	10.5	100	95	86	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-81		684904.5	602186.6	-6.1							88		Bottom of excavation elevation. Excavated to Meadow mat	
4	BF-81-1	9/18/2014	684886.9	602163.0	1.8	128.0	3.1	131.9	9.5	97	95	88	Weldon WC QP		V5N
7	BF-81-2	10/27/2014	684883.9	602156.7	5.0	127.0	4.7	128.5	10.5	99	95	88	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-82		684923.8	602171.9	-4.8							89	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
5	BF-82-1	9/18/2014	684898.0	602149.9	3.1	128.0	3.4	131.9	9.5	97	95	89	Weldon WC QP		V5N
6	BF-82-2	10/27/2014	684915.2	602163.5	5.3	128.5	3.2	128.5	10.5	100	95	89	Weldon LH Screenings		V5N
0	BF-83		684941.9	602148.5	-4.8							91	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-83-1	8/26/2014	684958.8	602165.2	-3.0	129.7	7.0	131.9	9.5	98	95	91	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
6	BF-83-2	9/18/2014	684920.6	602131.1	4.1	126.0	3.7	131.9	9.5	96	95	91	Weldon WC QP		V5N
7	BF-83-3	10/27/2014	684933.2	602141.4	5.6	128.5	3.6	128.5	10.5	100	95	91	Weldon LH Screenings		V5N
0	BF-84		684959.7	602128.6	-4.2							93	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-84-1	8/15/2014	684969.1	602137.6	-3.2	129.3	3.2	131.9	9.5	98	95	93	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-84-2	9/18/2014	684937.9	602110.2	4.7	126.0	3.6	131.9	9.5	96	95	93	Weldon WC QP		V5N
6	BF-84-3	10/27/2014	684953.2	602121.7	5.6	128.5	3.2	128.5	10.5	100	95	93	Weldon LH Screenings		V5N
0	BF-85		684976.0	602107.0	-4.8							95	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	

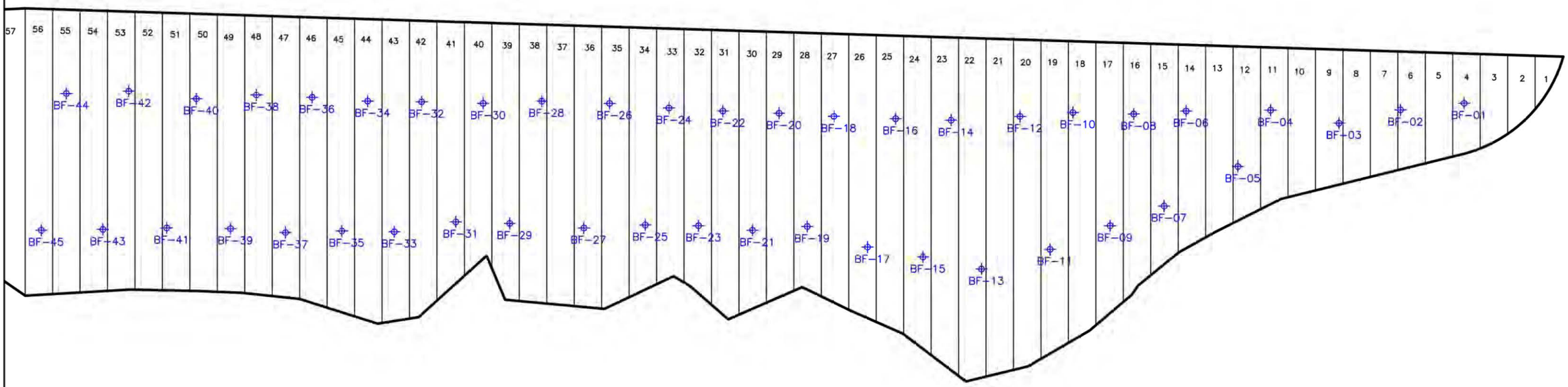
FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-85-1	8/15/2014	684987.2	602117.0	-3.4	126.0	3.6	131.9	9.5	96	95	95	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-85-2	9/18/2014	684960.1	602086.7	4.8	125.0	4.9	131.9	9.5	95	95	95	Weldon WC QP		V5N
6	BF-85-3	10/27/2014	684973.5	602102.2	5.7	128.5	5.7	128.5	10.5	100	95	95	Weldon LH Screenings		V5N
0	BF-86		684993.0	602080.9	-4.8							97	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-86-1	8/15/2014	684999.9	602082.3	-3.4	126.0	3.7	131.9	9.5	96	95	97	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-86-2	10/27/2014	684990.4	602076.5	5.5	128.5	5.7	128.5	10.5	100	95	97	Weldon LH Screenings		V5N
0	BF-87		685010.3	602052.3	-5.0							99	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-87-1	8/15/2014	685010.8	602056.6	-3.7	125.0	4.2	131.9	9.5	95	95	99	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-88		685019.7	602037.1	-5.1							100	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-88-1	8/8/2014	685025.4	602022.1	-3.9	126.6	3.9	131.9	9.5	96	95	100	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-89		685025.3	602021.0	-4.8							101	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-89-1	8/26/2014	685029.3	602037.1	-3.3	131.9	7.3	131.9	9.5	100	95	101	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-90		685035.2	602003.7	-5.1							103	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
1	BF-90-1	8/6/2014	685049.1	602012.4	-3.5	128.0	3.1	131.9	9.5	97	95	103	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-91		685048.2	601986.6	-5.2							104	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
1	BF-91-01	7/30/2014	685067.2	602016.2	-4.2	136.5	4.3	142.6	7.8	96	95	104	Weldon WC QP		V5N
2	BF-91-02	8/1/2014	685062.8	602085.0	-3.2	121.4	6.5	142.6	7.8	85	95	104	Weldon WC QP	New blast area. QP visually changed.	V5N
2	BF-91-02R	8/1/2014	685062.8	602085.0	-3.2	121.0	7.4	142.6	9.5	85	95	104	Weldon WC QP	Rerolled area still fails. Collect sample for Proctor	V5N
2	BF-91-02RR	8/4/2014	685062.8	602085.0	-2.9	125.3	7.4	131.9	9.5	95	95	104	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-93		685084.9	601963.3	-1.2								Stratum O	Bottom of excavation elevation	
1	BF-93-01	7/18/2014	685112.8	601983.8	-0.4	136.5	3.5	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
2	BF-93-02	7/30/2014	685091.5	601975.9	1.1	136.5	3.9	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
1	BF-94		685105.9	601939.3	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-94-01	7/18/2014	685104.8	601941.5	1.7	136.0	3.8	142.6	7.8	95	95	109 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-95		685125.6	601915.0	-1.2							111 (No)	Crushed concrete	Bottom of excavation elevation	
2	BF-95-01	7/16/2014	685121.8	601910.5	1.7	135.0	3.6	142.6	7.8	95	95	111 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-96		685144.3	601891.9	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-96-01	7/10/2014	685150.5	601896.1	1.9	137.0	4.8	142.6	7.8	96	95	113 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-97		685196.4	601880.1	2.1								Stratum O	Bottom of excavati0n elevation	
1	BF-97-01	7/7/2014	685187.0	601867.3	2.7	135.5	4.6	142.6	7.8	95	95	116 (No)	Weldon WC QP		V5N
0	BF-101		685222.6	601822.8	0.4							120 (No)	Stratum O	Bottom of excavation elevation	
1	BF-101-01	6/27/2014	685213.8	601814.2	1.0	136.0	3.4	142.6	7.8	95	95	120 (No)	Weldon WC QP		V5N
0	BF-102		685148.9	601780.9	-2.5							119	Stratum O	Bottom of excavation elevation	
1	BF-102-01	6/27/2014	685148.8	601788.7	-0.8	135.5	3.4	142.6	7.8	95	95	119	Weldon WC QP		V5N
1	BF-103		685084.0	601708.8	-7.5							120 (So)			
2	BF-103-01	7/1/2014	685102.8	601721.9	-4.9	137.5	2.5	142.6	7.8	96	95	120 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-105		685102.9	601692.4	-7.5							122 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-105-01	6/27/2014	685126.9	601702.6	-5.7	135.5	3.4	142.6	7.8	95	95	122 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-104		685218.6	601799.3	-2.5							121 (No)	Stratum O	Bottom of excavation elevation	
1	BF-104-01	6/27/2014	685205.5	601790.7	0.9	135.5	3.4	142.6	7.8	95	95	121 (No)	Weldon WC QP		V5N
0	BF-106		685225.5	601777.9	-1.2							122 (No)	Stratum O	Bottom of excavation elevation	
1	BF 106-01	6/18/2014	685230.1	601784.7	0.5	140.0	1.7	142.6	7.8	98	95	122 (No)	Weldon WC QP		V5N
2	BF 106-02	6/27/2014	685221.4	601777.8	1.0	135.4	3.4	142.6	7.8	95	95	122 (No)	Weldon WC QP		V5N
1	BF-107		685115.2	601682.1	-7.5							123 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF 107-01	6/24/2014	685134.6	601695.5	-5.9	136.9	2.5	142.6	7.8	96	95	123 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-108		685235.5	601760.6	-1.2							124 (No)	Stratum O	Bottom of excavation elevation	
1	BF-108-01	6/18/2014	685235.2	601757.6	0.8	138.0	2.6	142.6	7.8	97	95	124 (No)	Weldon WC QP		V5N
2	BF-108-02	6/27/2014	685253.4	601761.5	1.4	135.0	3.4	142.6	7.8	95	95	124 (No)	Weldon WC QP		V5N
1	BF-109		685135.2	601666.9	-7.5							124 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-109-01	6/18/2014	685144.9	601672.5	-5.8	136.0	5.1	142.6	7.8	95	95	124 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-111		685154.6	601650.7	-7.5							126 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-111-01	6/18/2014	685157.7	601655.0	-5.4	140.0	1.5	142.6	7.8	98	95	126 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-124		685346.3	601612.6	-1.2							136	Stratum O	Bottom of excavation elevation	
1	BF-124-01	5/9/2014	685359.1	601618.5	0.3	130.8	1.3	135.8	6.4	96	95	136	Tilcon MH DGA		V5N
0	BF-126		685363.5	601589.4	-1.2							138	Stratum O	Bottom of excavation elevation	
1	BF-126-01	5/9/2014	685355.3	601576.3	0.2	128.0	3.3	128.9	12.1	99	95	138	Weldon WC Screenings		V5N
0	BF-128		685382.2	601566.3	-2.5							140 (No)	Stratum O	Bottom of excavation elevation	
1	BF-128-01	4/29/2014	685369.8	601556.5	-1.8	130.0	1.2	135.8	6.4	96	95	140	Tilcon MH DGA		V5N
2	BF-128-02	4/29/2014	685381.4	601569.9	-0.8	132.2	1.5	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
3	BF-128-03	4/29/2014	685382.7	601573.8	0.3	132.0	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
4	BF-128-04	4/29/2014	685386.7	601571.4	1.5	132.3	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
5	BF-128-05	4/29/2014	685389.9	601573.7	2.7	133.9	1.4	135.8	6.4	99	95	140	Tilcon MH DGA		V5N
0	BF-129		685308.1	601468.7	-7.5							142 (So)	Stratum O	Bottom of excavation elevation	
1	BF-129-01	5/9/2014	685315.6	601465.0	-6.4	135.5	1.3	135.8	6.4	100	95	142 (So)	Tilcon MH DGA		V5N
0	BF-130		685401.7	601541.7	1.9							142 (No)	Stratum O	Bottom of excavation elevation	
1	BF-130-01	4/28/2014	685410.7	601558.5	2.7	132.0	2.2	135.8	6.4	97	95	142 (No)	Tilcon MH DGA		V5N
2	BF-130-02	4/28/2014	685414.5	601553.3	3.6	133.0	1.7	135.8	6.4	98	95	142 (No)	Tilcon MH DGA		V5N
3	BF-130-03	4/28/2014	685414.9	601555.5	4.8	136.0	1.6	135.8	6.4	100	95	142 (No)	Tilcon MH DGA		V5N
4	BF-130-04	4/28/2014	685420.1	601558.2	5.5	135.0	1.9	135.8	6.4	99	95	142 (No)	Tilcon MH DGA		V5N
0	BF-131		685426.9	601523.7	3.2							144	Stratum O	Bottom of excavation elevation	
1	BF-131-01	4/25/2014	685440.9	601531.9	5.9	120.0	1.4	135.8	6.4	88	95	144	Tilcon MH DGA	recompact lift	V5N
1	BF-131-01R	4/28/2014	685440.9	601531.9	5.9	139.9	1.4	135.8	6.4	103	95	144	Tilcon MH DGA	second reading after addl compaction	V5N
0	BF-132		685452.9	601506.1	5.6							146	Stratum O	Bottom of excavation elevation	
1	BF-132-01	4/25/2014	685438.7	601505.6	6.1	135.0	1.0	135.8	6.4	99	95	144	Tilcon MH DGA		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.
Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.
Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.
Maximum Dry Density for Weldon LH Screenings based on Vertical V Laboratory Report No. 12643 dated 9/29/14.
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b
Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C
Bottom of excavation elevation based on Maser survey data (Center Point elevations)
Sample ID BF-01-01 where:
BF = Backfill (At frequency of 1 test/2500 SF)
01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



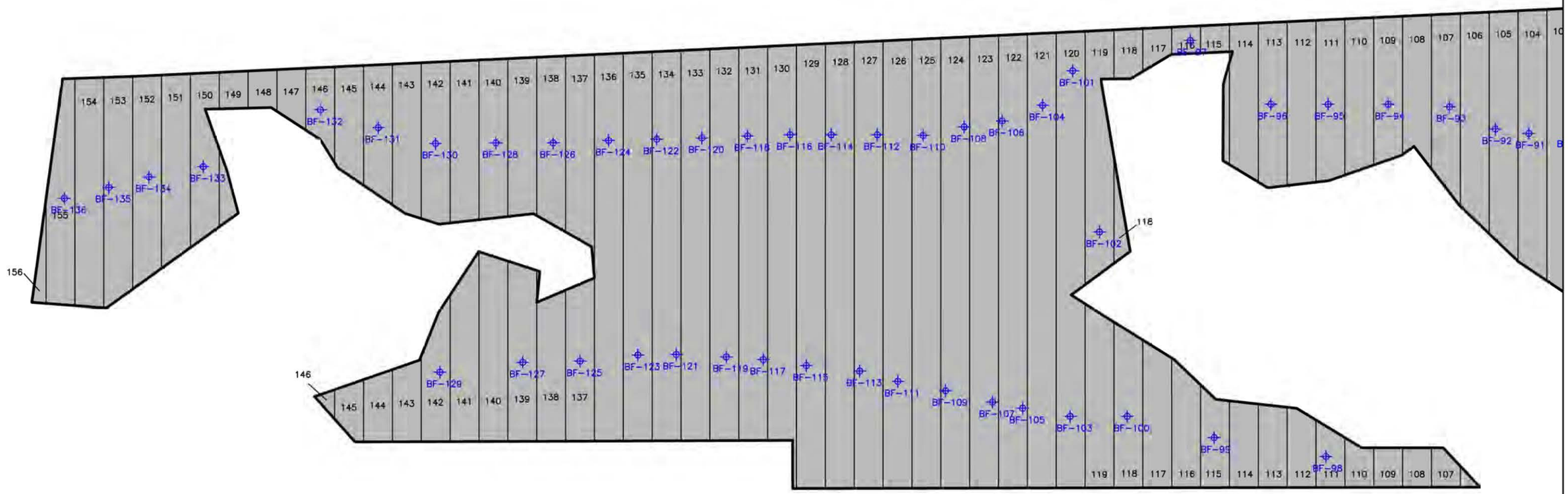
NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF BF-95 TO BF-136

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
	RF-03		684270.2	603012.0								18			
7	RF-03-01	3/21/2014	684267.9	603017.5	6.1	124.0	3.6	128.9	12.1	96	95	18	Weldon WC Screenings		V5N
8	RF-03-02	4/8/2014	684272.9	605018.7	7.6	122.4	8.1	128.9	12.1	95	95	18	Weldon WC Screenings		V5N
	RF-04		684235.2	602919.8								22			
6	RF-04-01	3/21/2014	684227.0	602916.6	5.5	124.0	3.6	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
7	RF-04-02	3/26/2014	684266.5	602908.5	6.2	123.6	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
8	RF-04-03	4/1/2014	684384.8	602904.9	7.1	125.8	3.0	128.9	12.1	98	95	22	Weldon WC Screenings		V5N
9	RF-04-04	4/3/2014	684220.8	602926.9	8.2	120.0	3.6	128.9	12.1	93	95	22	Weldon WC Screenings	Recompact lift	V5N
9	RF-04-04R	4/3/2014	684220.8	602926.9	8.2	125.0	4.1	128.9	12.1	97	95	22	Weldon WC Screenings	Second reading after re-rolling	V5N
10	RF-04-05	4/17/2014	684241.5	602924.2	8.8	130.0	3.0	128.9	12.1	101	95	22	Weldon WC Screenings		V5N
	RF-05		684328.5	602935.0								25			
5	RF-05-01	3/24/2014	684347.1	602947.5	3.3	122.5	4.5	128.9	12.1	95	95	25	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
6	RF-05-02	3/26/2014	684348.1	602942.0	4.1	123.5	3.7	128.9	12.1	96	95	25	Weldon WC Screenings		V5N
7	RF-05-03	4/1/2014	684351.4	602937.8	5.4	125.0	2.6	128.9	12.1	97	95	25	Weldon WC Screenings		V5N
8	RF-05-04	4/3/2014	684339.0	602933.4	6.4	128.9	4.7	128.9	12.1	100	95	25	Weldon WC Screenings		V5N
9	RF-05-05	4/8/2014	684327.1	602942.3	7.6	126.4	8.3	128.9	12.1	98	95	25	Weldon WC Screenings		V5N
10	RF-05-06	4/17/2014	684348.8	602945.1	8.2	135.0	6.4	128.9	12.1	105	95	25	Weldon WC Screenings		V5N
	RF-06		684335.0	602869.1								29			
2	RF-06-01	4/1/2014	684383.7	602908.8	3.0	126.0	2.7	128.9	12.1	98	95	29	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
3	RF-06-02	4/1/2014	684384.8	602904.9	4.1	125.0	2.8	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
4	RF-06-03	4/3/2014	684358.9	602890.5	5.9	127.6	4.0	128.9	12.1	99	95	29	Weldon WC Screenings		V5N
5	RF-06-04	4/8/2014	684340.1	602867.1	6.9	123.0	4.6	128.9	12.1	95	95	29	Weldon WC Screenings		V5N
6	RF-06-05	4/14/2014	684340.1	602867.1	7.5	124.8	3.0	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
7	RF-06-06	4/17/2014	684337.1	602897.4	8.5	118.5	3.0	128.9	12.1	92	95	29	Weldon WC Screenings	Recompact lift	V5N
7	RF-06-06R	4/17/2014	684337.1	602897.4	8.5	122.0	3.2	128.9	12.1	95	95	29	Weldon WC Screenings	Second reading after re-rolling	V5N
	RF-07		684392.9	602838.1								32			
4	RF-07-01	4/3/2014	684425.2	602890.4	3.0	125.3	5.1	128.9	12.1	97	95	32	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-07-02	4/3/2014	684418.6	602854.9	4.1	126.3	5.5	128.9	12.1	98	95	32	Weldon WC Screenings		V5N
6	RF-07-03	4/8/2014	684410.5	602847.3	5.6	122.7	2.5	128.9	12.1	95	95	32	Weldon WC Screenings		V5N
7	RF-07-04	4/14/2014	684410.5	602847.3	6.3	123.1	2.7	128.9	12.1	96	95	32	Weldon WC Screenings		V5N
8	RF-07-05	4/17/2014	684394.3	602842.1	7.1	135.0	6.1	128.9	12.1	105	95	32	Weldon WC Screenings		V5N
9	RF-07-06	4/21/2014	684394.8	602836.9	8.2	128.9	2.2	128.9	12.1	100	95	32	Weldon WC Screenings		V5N
	RF-08		684406.9	602771.1								36			
4	RF-08-01	4/3/2014	684421.7	602797.1	2.9	129.0	6.0	128.9	12.1	100	95	36	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-08-02	4/8/2014	684429.7	602790.1	4.0	124.9	3.0	128.9	12.1	97	95	36	Weldon WC Screenings		V5N
6	RF-08-03	4/15/2014	684439.0	602813.0	5.0	124.2	4.7	128.9	12.1	96	95	36	Weldon WC Screenings		V5N
7	RF-08-04	4/17/2014	684400.4	602773.4	6.1	137.0	5.6	128.9	12.1	106	95	36	Weldon WC Screenings		V5N
8	RF-08-05	4/21/2014	684429.8	602794.0	6.8	128.9	3.5	128.9	12.1	100	95	36	Weldon WC Screenings		V5N
9	RF-08-06	4/21/2014	684443.6	602550.4	8.0	122.5	6.9	128.9	12.1	95	95	36	Weldon WC Screenings		V5N
	RF-09		684479.9	602754.0								40			
3	RF-09-01	4/7/2014	684489.3	602750.3	0.8	128.7	6.8	128.9	12.1	100	95	40	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
4	RF-09-02	4/11/2014	684498.7	602757.9	2.1	122.4	3.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
5	RF-09-03	4/11/2014	684503.3	602770.3	3.2	129.3	8.5	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
6	RF-09-04	4/14/2014	684503.3	602770.3	4.1	128.9	5.7	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
7	RF-09-05	4/21/2014	684479.1	602753.1	5.4	128.9	5.3	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
8	RF-09-06	4/21/2014	684446.9	602799.1	6.4	123.0	2.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
9	RF-09-07	5/15/2014	684479.0	602751.5	6.9	124.5	4.4	128.9	12.1	97	95	40	Weldon WC Screenings		V5N
10	RF-09-08	5/19/2014	684494.7	602760.2	8.1	122.5	5.9	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
1	RF-10		684474.1	602682.1	0.2							44	Crushed Concrete	Bottom of excavation elevation	
2	RF-10		684474.1	602682.1								44	Type A Material	No compaction testing required	
3	RF-10-01	4/25/2014	684476.1	602679.3	2.5	138.0	1.4	128.9	12.1	107	95	44	Weldon WC Screenings	Placed on Type A Material	V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
4	RF-10-02	5/8/2014	684445.5	602680.1	5.8	132.0	6.6	128.9	12.1	102	95	44	Weldon WC Screenings		V5N
5	RF-10-03	5/15/2014	684463.8	602677.8	7.1	124.1	4.2	128.9	12.1	96	95	44	Weldon WC Screenings		V5N
6	RF-10-04	5/19/2014	684466.2	602672.2	8.2	122.5	6.8	128.9	12.1	95	95	44	Weldon WC Screenings		V5N
2	RF-11		684545.0	602673.2								48	Type A Material	Placed on Tilcon MH DGA	
3	RF-11-01	4/11/2014	684533.0	602676.0	1.0	126.0	3.8	128.9	12.1	98	95	48	Weldon WC Screenings	Placed on Type A Material; Against HB wall	V5N
4	RF-11-02	4/11/2014	684575.1	602679.9	2.1	125.6	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
5	RF-11-03	4/14/2014	684575.1	602679.9	2.8	126.8	2.2	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
6	RF-11-04	4/17/2014	684579.8	602684.6	3.8	122.5	3.0	128.9	12.1	95	95	48	Weldon WC Screenings	Against HB wall	V5N
7	RF-11-05	4/17/2014	684585.7	602686.5	4.5	126.8	4.0	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
8	RF-11-06	5/15/2014	684569.9	602672.5	7.3	124.5	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
9	RF-11-07	5/19/2014	685562.2	602686.4	8.3	124.5	3.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
1	RF-12		684540.0	602601.3	0.3							51	Crushed Concrete	Bottom of excavation elevation	
2	RF-12		684540.0	602601.3								51	Type A Material	No compaction testing required	
3	RF-12-01	4/25/2014	684557.9	602605.6	2.3	130.2	2.2	128.9	12.1	101	95	51	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-12-02	5/6/2014	684516.3	602580.6	6.0	128.6	5.6	128.9	12.1	100	95	51	Weldon WC Screenings		V5N
5	RF-12-03	5/15/2014	684526.7	602594.1	7.3	124.8	3.9	128.9	12.1	97	95	51	Weldon WC Screenings		V5N
6	RF-12-04	5/20/2014	684522.6	602585.3	8.1	121.3	7.1	128.9	12.1	94	95	51	Weldon WC Screenings	Recompact lift	V5N
6	RF-12-04R	5/20/2014	684522.6	602585.3	8.1	122.0	5.9	128.9	12.1	95	95	51	Weldon WC Screenings	Second reading after re-rolling	V5N
1	RF-13		684610.2	602590.4	-2.3							54	Crushed Concrete	Bottom of excavation elevation	
2	RF-13		684610.2	602590.4								54	Type A Material	No compaction testing required	
3	RF-13-01	4/11/2014	684619.5	602515.3	1.6	126.5	7.8	128.9	12.1	98	95	54	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-13-02	4/14/2014	684619.5	602515.3	2.7	124.5	2.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
5	RF-13-03	4/17/2014	684641.5	602614.6	3.6	123.0	4.1	128.9	12.1	95	95	54	Weldon WC Screenings	Against HB	V5N
6	RF-13-04	4/17/2014	684646.7	602619.5	4.4	132.9	5.5	128.9	12.1	103	95	54	Weldon WC Screenings	Against HB	V5N
7	RF-13-05	5/15/2014	684640.0	602620.1	5.4	125.0	3.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
8	RF-13-06	5/15/2014	684613.8	602605.5	6.9	125.0	4.5	128.9	12.1	97	95	54	Weldon WC Screenings		V5N
9	RF-13-07	5/20/2014	684614.3	602606.0	7.8	121.3	8.0	128.9	12.1	94	95	54	Weldon WC Screenings	Top lift. Will retest prior to final restoration	V5N
0	RF-14		684653.1	602535.0	-2.6							59	Stratum D	Bottom of excavation elevation	
1	RF-14-1	10/30/2014	684656.5	602532.8	-1.3	133.0	2.0	135.8	6.4	98	95	59	Tilcon MH DGA	Bridge lift	V5N
1	RF-14-2	11/5/2014	684662.9	602542.6	0.0	134.0	0.6	135.8	6.4	99	95	59	Tilcon MH DGA	Bridge lift	V5N
0	RF-15		684684.3	602484.0	-2.2							63	Stratum D	Bottom of excavation elevation	
1	RF-15-1	10/27/2014	684656.4	602466.0	0.6	135.8	2.0	135.8	6.4	100	95	63	Tilcon MH DGA	Bridge lift	V5N
0	RF-16		684687.2	602408.0	-2.2							67	Stratum D	Bottom of excavation elevation	
1	RF-16-1	10/27/2014	684767.7	602426.9	0.3	129.0	2.3	135.8	6.4	95	95	67	Tilcon MH DGA	Bridge lift	V5N
2	RF-16-2	11/5/2014	684767.6	602428.4	1.2	124.0	4.1	128.9	12.1	96	95	67	Weldon WC Screenings		V5N
0	RF-17		684750.4	602403.5	-2.2							70	Stratum D	Bottom of excavation elevation	
1	RF-17-1	10/10/2014	684773.5	602414.1	-0.8	134.5	1.0	135.8	6.4	99	95	70	Tilcon MH DGA	Bridge lift	V5N
2	RF-17-2	11/5/2014	684723.7	602387.9	1.5	124.0	3.8	128.9	12.1	96	95	70	Weldon WC Screenings		V5N
0	RF-18		684686.8	602294.5	-2.4							73	Stratum D	Bottom of excavation elevation	
1	RF-18-1	10/10/2014	684659.1	602250.1	-1.3	134.5	1.0	135.8	6.4	99	95	73	Tilcon MH DGA	Bridge lift	V5N
6	RF-18-2	11/5/2014	684636.8	602258.1	5.5	124.0	3.7	128.9	12.1	96	95	73	Weldon WC Screenings	Placed on Type A material	V5N
	RF-19		684790.8	602339.5	-2.5							75	Stratum D	Bottom of excavation elevation	
3	RF-19-1	11/5/2014	684776.9	602328.5	1.8	124.0	3.9	128.9	12.1	96	95	75	Weldon WC Screenings		V5N
	RF-21		684826.8	602292.8	-3.3							79		Bottom of excavation elevation	
2	RF-21-1	9/24/2014	684821.0	602290.8	-1.2	126.0	1.8	128.9	12.1	98	95	79	Weldon WC Screenings	Placed on concrete/QP bridge lift	V5N
4	RF-21-2	11/5/2014	684823.4	602288.0	1.8	133.0	1.7	135.8	6.4	98	95	79	Tilcon MH DGA		V5N
	RF-22		684775.9	602192.8	-4.8							82		Bottom of excavation elevation	
3	RF-22-1	9/24/2014	684777.7	602191.8	-1.1	125.0	2.5	128.9	12.1	97	95	82	Weldon WC Screenings	Placed on concrete/QP bridge lift	V5N
	RF-23		684878.7	602219.3	-5.6							85		Bottom of excavation elevation	
1	RF-23-01	9/2/2014	684887.1	602212.2	-4.2	133.0	2.0	135.8	6.4	98	95	85	Tilcon MH DGA		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
2	RF-23-02	9/12/2014	684873.8	602198.8	-1.2	128.9	7.6	128.9	12.1	100	95	85	Weldon WC Screenings	Placed on Type A material	V5N
3	RF-23-03	9/24/2014	684867.7	602209.0	0.0	122.0	4.7	128.9	12.1	95	95	85	Weldon WC Screenings		V5N
5	RF-23-04	11/5/2014	684877.6	602222.8	2.5	134.0	0.7	135.8	6.4	99	95	85	Tilcon MH DGA		V5N
	RF-24		684934.2	602167.2	-4.8							90		Bottom of excavation elevation	
1	RF-24-01	9/2/2014	684928.8	602165.1	-3.5	133.5	1.3	135.8	6.4	98	95	90	Tilcon MH DGA		V5N
2	RF-24-02	9/8/2014	684921.5	602154.5	-2.1	122.0	4.4	128.9	12.1	95	95	90	Weldon WC Screenings		V5N
3	RF-24-03	9/12/2014	684903.2	602144.2	0.9	128.9	6.2	128.9	12.1	100	95	90	Weldon WC Screenings		V5N
4	RF-24-04	9/24/2014	684931.9	602159.7	1.7	122.0	12.0	128.9	12.1	95	95	90	Weldon WC Screenings		V5N
	RF-25		684988.1	602095.1	-4.8							96	Weldon WC QP	Bottom of excavation elevation	
2	RF-25-01	9/8/2014	684973.3	602081.8	1.6	123.0	3.9	128.9	12.1	95	95	96	Weldon WC Screenings		V5N
4	RF-25-02	9/12/2014	684969.6	602072.9	3.7	122.5	5.6	128.9	12.1	95	95	96	Weldon WC Screenings	Placed on Type A Material	V5N
	RF-26		685029.1	602031.1	-4.8							101	Weldon WC QP	Bottom of excavation elevation	
2	RF-26-01	9/2/2014	685038.3	602030.1	-2.5	125.0	3.3	128.9	12.1	97	95	101	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-26-02	9/8/2014	685029.6	602011.4	1.4	122.0	4.2	128.9	12.1	95	95	101	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-26-03	9/12/2014	685013.2	602014.1	3.2	128.9	3.1	128.9	12.1	100	95	101	Weldon WC Screenings		V5N
	RF-27		685076.1	601973	-1.2							106	Weldon WC QP	Bottom of excavation elevation	
3	RF-27-01	9/8/2014	685054.4	601963.6	2.4	122.0	4.8	128.9	12.1	95	95	106	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-27-02	9/12/2014	685064.1	601957.1	3.5	128.9	4.1	128.9	12.1	100	95	106	Weldon WC Screenings		V5N
	RF-28		685132.5	601902.9	2.1							112 (No)	Weldon WC QP	Bottom of excavation elevation	
3	RF-28-01	7/28/2014	685136.7	601901.8	3.7	122.5	6.1	128.9	12.1	95	95	112 (No)	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-28-02	9/2/2014	685126.1	601909.3	4.9	125.0	3.0	128.9	12.1	97	95	112	Weldon WC Screenings		V5N
5	RF-28-03	9/8/2014	685135.2	601900.4	6.4	125.0	3.3	128.9	12.1	97	95	112 (No)	Weldon WC Screenings		V5N
1	RF-29		685049.3	601738.7	-4.3							117	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-29-01	7/16/2014	685064.7	601757.6	-2.9	131.7	3.5	135.8	6.4	97	95	117	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-29-02	7/22/2014	685068.9	601785.4	-0.8	125.0	3.4	128.9	12.1	97	95	117	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-29-03	7/28/2014	685071.0	601762.7	-0.1	122.5	7.7	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
5	RF-29-04	7/28/2014	685068.0	601754.7	0.8	117.0	9.0	128.9	12.1	91	95	117	Weldon WC Screenings		V5N
5	RF-29-04R	7/30/2014	685068.0	601754.7	0.8	122.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings	Re-rolled area and let dry	V5N
6	RF-29-05	7/30/2014	685070.3	601762.8	1.7	122.0	5.6	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
7	RF-29-06	8/1/2014	685079.5	601759.0	3.2	120.9	4.5	128.9	12.1	94	95	117	Weldon WC Screenings		V5N
7	RF-29-06R	8/1/2014	685079.5	601759.0	2.8	123.5	5.8	128.9	12.1	96	95	117	Weldon WC Screenings	Re-rolled area	V5N
8	RF-29-07	8/4/2014	685070.6	601753.8	3.7	126.1	7.2	128.9	12.1	98	95	117	Weldon WC Screenings		V5N
9	RF-29-08	8/6/2014	685072.8	601758.1	4.3	123.0	6.8	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
10	RF-29-09	8/8/2014	685074.4	601753.5	5.2	123.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
11	RF-29-10	8/11/2014	685078.3	601760.5	6.1	123.0	4.5	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
12	RF-29-11	8/15/2014	685079.8	601756.2	7.5	123.7	3.7	128.9	12.1	96	95	117	Weldon WC Screenings		V5N
	RF-30		685179.4	601785.6	0.4							120			
2	RF-30-01	7/1/2014	685218.1	601814.2	2.0	122.0	7.5	128.9	12.1	95	95	120	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-30-02	7/25/2014	685216.3	601818.6	3.0	124.0	4.3	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
4	RF-30-03	7/30/2014	685213.1	601816.1	3.8	123.5	5.0	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
5	RF-30-04	8/6/2014	685205.4	601798.5	4.6	123.0	6.3	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
6	RF-30-05	8/8/2014	685215.8	601802.1	5.2	123.0	5.8	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
7	RF-30-06	8/11/2014	685218.8	601812.7	6.2	123.0	6.9	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
8	RF-30-07	8/15/2014	685216.3	6018806.8	7.2	123.0	5.4	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
1	RF-31		685121.7	601682.3	-4.3							123	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-31-01	7/22/2014	685126.3	601690.0	-2.2	126.3	3.4	128.9	12.1	98	95	123 (So)	Weldon WC Screenings		V5N
3	RF-31-02	7/28/2014	685124.5	601686.4	-0.1	122.5	7.7	128.9	12.1	95	95	123 (So)	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-31-03	7/30/2014	685115.0	601683.8	1.1	122.0	6.2	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
5	RF-31-04	7/30/2014	685123.7	601688.2	2.3	122.0	6.9	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
6	RF-31-05	8/1/2014	685120.9	601687.7	3.0	128.9	6.2	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
7	RF-31-06	8/4/2014	685122.7	601686.6	3.9	128.9	5.8	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
8	RF-31-07	8/6/2014	685132.5	601689.3	4.8	123.0	6.6	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
9	RF-31-08	8/8/2014	685118.7	601690.5	5.5	125.0	2.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
10	RF-31-09	8/11/2014	685136.4	601690.8	6.6	125.0	3.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
11	RF-31-10	8/15/2014	685122.6	601682.9	7.6	123.0	7.4	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
0	RF-32		684498.6	602739.4	-1.2							125	Stratum O	Bottom of excavation elevation	
1	RF-32-01	6/12/2014	685241.5	601740.7	0.0	134.0	1.3	135.8	6.4	99	95	125	Tilcon MH DGA		V5N
2	RF-32-02	7/16/2014	685227.6	601725.4	0.9	122.0	5.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
3	RF-32-03	7/16/2014	685239.4	601736.4	2.0	122.0	5.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
4	RF-32-04	7/30/2014	685248.5	601750.7	3.4	123.5	6.0	128.9	12.1	96	95	125	Weldon WC Screenings		V5N
5	RF-32-05	8/6/2014	685249.6	601745.6	4.6	123.0	5.9	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
6	RF-32-06	8/8/2014	685249.1	601742.7	5.6	123.0	5.7	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
7	RF-32-07	8/11/2014	685237.6	601735.2	6.5	123.0	6.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
8	RF-32-08	8/15/2014	685238.9	601747.0	7.3	123.0	7.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
1	RF-33		685179.2	601631.6	-7.5							128	Crushed Concrete	Bottom of excavation elevation	
2	RF-33-01	6/5/2014	685182.8	601626.5	-5.1	132.0	3.7	135.8	6.4	97	95	128	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-33-02	7/28/2014	685146.0	601639.6	-0.9	123.7	6.4	128.9	12.1	96	95	128	Weldon WC Screenings	Placed on Type A Material/QP Ramp	V5N
4	RF-33-03	7/30/2014	685159.9	601630.8	0.8	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
5	RF-33-04	7/30/2014	685144.1	601632.9	1.3	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
6	RF-33-05	8/1/2014	685171.2	601638.5	3.2	128.9	6.0	128.9	12.1	100	95	128	Weldon WC Screenings		V5N
7	RF-33-06	8/1/2014	685156.8	601643.7	3.9	127.0	5.0	128.9	12.1	99	95	128	Weldon WC Screenings		V5N
8	RF-33-07	8/6/2014	685176.1	601633.1	4.7	123.0	6.6	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
9	RF-33-08	8/8/2014	685166.7	601630.5	5.5	123.0	6.2	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
10	RF-33-09	8/11/2014	685166.3	601631.6	6.6	123.0	6.0	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
11	RF-33-10	8/15/2014	685165.2	601633.6	7.9	123.0	6.9	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
0	RF-34		685278.4	601673.3	-1.2							130	Stratum O	Bottom of excavation elevation	
1	RF-34-01	6/5/2014	685303.0	601691.1	0.3	132.0	3.6	135.8	6.4	97	95	130	Tilcon MH DGA		V5N
2	RF-34-02	6/24/2014	685298.9	601690.4	1.6	122.0	5.5	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
3	RF-34-03	6/27/2014	685295.5	601692.8	2.5	122.5	7.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
4	RF-34-04	7/16/2014	685293.1	601684.6	3.2	122.0	6.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
5	RF-34-05	7/30/2014	685290.2	601690.3	4.5	123.5	6.5	128.9	12.1	96	95	130	Weldon WC Screenings		V5N
6	RF-34-06	8/8/2014	685289.5	601690.7	5.5	123.0	6.9	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
7	RF-34-07	8/8/2014	685292.7	601686.1	6.6	123.0	6.3	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
8	RF-34-08	8/15/2014	685286.1	601677.8	7.6	126.0	2.3	128.9	12.1	98	95	130	Weldon WC Screenings		V5N
0	RF-35		6852228.7	601575.4	2.1							133		Bottom of excavation elevation	
1	RF-35-01	7/16/2014	685219.7	601566.3	3.5	123.3	6.2	128.9	12.1	96	95	133	Weldon WC Screenings		V5N
2	RF-35-02	7/16/2014	685234.2	601582.4	4.3	124.9	4.9	128.9	12.1	97	95	133	Weldon WC Screenings		V5N
3	RF-35-03	7/25/2014	685238.5	601578.0	5.8	122.0	5.0	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
4	RF-35-04	8/8/2014	685239.0	601569.1	6.9	123.0	6.6	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
0	RF-36		685334.4	601603.7	-1.2							136		Bottom of excavation elevation	
1	RF-36-01	6/24/2014	685349.2	601617.6	1.7	125.0	3.4	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
2	RF-36-02	6/27/2014	685330.9	601606.5	2.6	125.0	6.5	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
3	RF-36-03	6/27/2014	685339.9	601612.8	3.4	123.7	6.8	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
4	RF-36-04	7/16/2014	685343.2	601621.5	4.3	123.8	5.5	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
5	RF-36-05	7/28/2014	685346.6	601606.1	5.4	122.0	5.2	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
6	RF-36-06	8/8/2014	685345.5	601605.6	6.7	126.0	1.6	128.9	12.1	98	95	136	Weldon WC Screenings		V5N
7	RF-36-07	8/15/2014	685335.6	601611.4	7.7	123.0	6.4	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
1	RF-37		685295.3	601495.2	-7.8							140 (So)	Crushed Concrete	Bottom of excavation elevation	
2	RF-37-01	5/15/2014	685286.1	601481.2	-5.1	132.0	2.5	135.8	6.4	97	95	140 (So)	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-37-02	5/21/2014	685294.5	601489.0	-4.2	122.5	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
4	RF-37-03	7/7/2014	685282.8	601485.7	4.5	128.9	6.1	128.9	12.1	100	95	140 (So)	Weldon WC Screenings	1st lift over Type A Material	V5N
5	RF-37-04	7/28/2014	685281.8	601490.5	5.9	123.7	5.4	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
6	RF-37-05	7/28/2014	685310.0	601513.3	6.6	123.0	4.7	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
7	RF-37-06	8/8/2014	685297.5	601485.6	7.1	124.0	4.1	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
8	RF-37-07	8/15/2014	685288.7	601489.2	8.0	123.0	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
0	RF-38		685399.1	601540.2	-1.2							142 (No)	Stratum O	Bottom of excavation elevation	
1	RF-38-01	5/9/2014	685391.8	601532.2	-0.2	124.6	2.5	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
2	RF-38-02	5/21/2014	685389.4	601534.3	0.2	122.5	5.6	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
3	RF-38-03	6/24/2014	685386.6	601538.7	4.0	125.0	3.4	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
4	RF-38-04	6/27/2014	685392.8	601538.8	5.3	124.0	6.0	128.9	12.1	96	95	142 (No)	Weldon WC Screenings		V5N
5	RF-38-05	7/28/2014	685385.3	601533.9	6.3	122.0	6.4	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
6	RF-38-06	8/8/2014	685382.7	601533.1	7.1	125.0	3.2	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
7	RF-38-07	8/15/2014	685382.8	601528.2	7.9	123.0	6.0	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
0	RF-39		685485.1	601397.7	3.8							153	Stratum O	Bottom of excavation elevation	
1	RF-39-01	5/5/2014	685451.1	601421.7	4.3	126.3	3.9	128.9	12.1	98	95	153	Weldon WC Screenings		V5N
2	RF-39-02	5/5/2014	685477.5	601397.7	5.6	123.3	4.1	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
3	RF-39-03	5/5/2014	685492.5	601460.8	6.4	123.8	7.4	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
0	Site 163-1				4.5							Site 163		Bottom of excavation elevation	
1	Site 163-1-1	10/30/2014	685176.1	601448.3	5.7	126.0	2.4	128.9	12.1	98	95	Site 163	Weldon WC Screenings	Site 163 West Excavation	V5N
2	Site 163 -1-2	10/30/2014	685173.8	601449.0	7.4	123.0	5.3	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 West Excavation	V5N
0	Site 163-2				4.5							Site 163		Bottom of excavation elevation	
1	Site 163-2-1	11/5/2014	685070.9	601614.2	6.1	122.0	6.3	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 Main Excavation	V5N
2	Site 163-2-2	11/14/2014	685070.5	601616.0	7.5	122.0	5.4	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 Main Excavation	V5N

Notes:

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

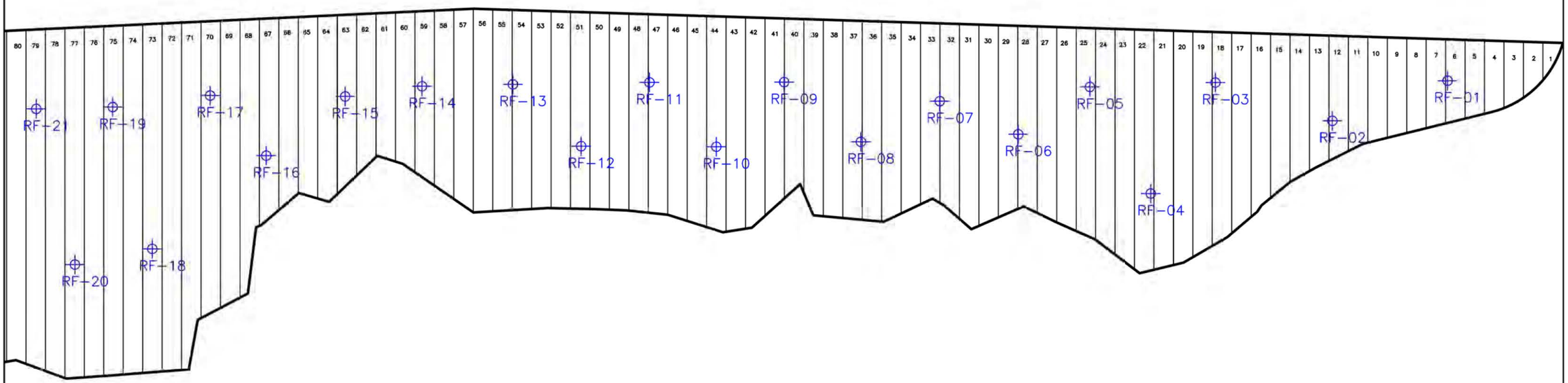
Sample ID RF-01-01 where:

RF = Reduced Frequency

01 = Test Location (as noted on Backfill Compaction Location Figure)

01 = Number of test performed at that location (sequential)

R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



NOTE:

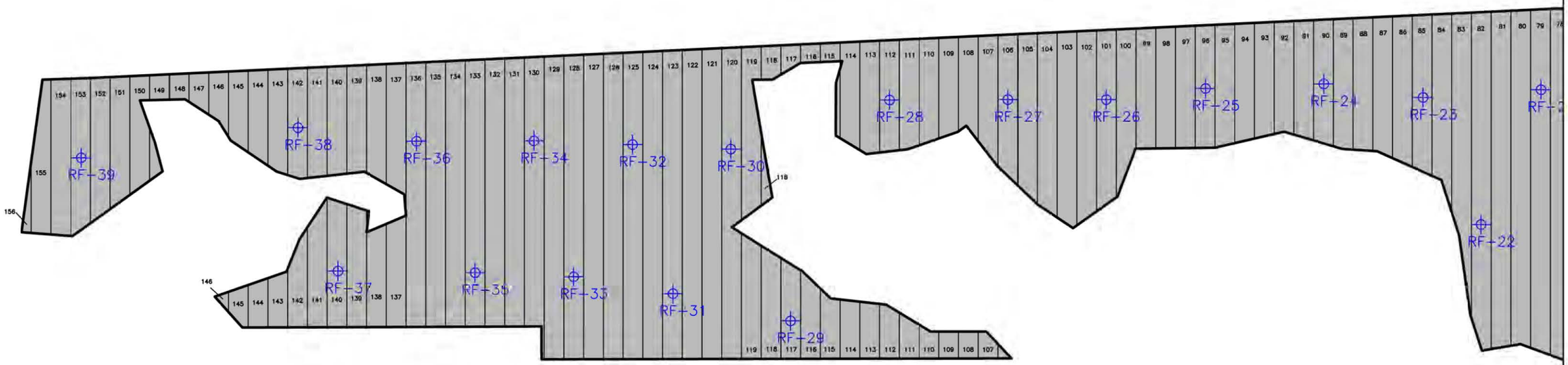
Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS 5 TESTS PER ACRE

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE
RF-22 TO RF-39

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Attachment 4: Dewatering Operations Update

- SA-6 South Deep Well Data (DW-4)

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-4)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
11/14/14	24	N/A	N/A	6,500	80,718	4.5	Pump Online for LOAM Excavation
11/17/14	72	N/A	N/A	19,500	100,218	4.5	Flow Meter Not Intsalled Tank Measured
11/18/14	24	N/A	N/A	6,500	106,718	4.5	Flow Meter Not Intsalled Tank Measured
11/19/14	24	N/A	N/A	6,500	113,218	4.5	Flow Meter Not Intsalled Tank Measured
11/20/14	24	N/A	N/A	6,500	119,718	4.5	Flow Meter Not Intsalled Tank Measured
11/21/14	24	N/A	N/A	6,500	126,218	4.5	Flow Meter Not Intsalled Tank Measured
11/22/14	24	N/A	N/A	6,500	132,718	4.5	Flow Meter Not Intsalled Tank Measured
11/24/14	48	N/A	N/A	13,000	145,718	4.5	Flow Meter Not Intsalled Tank Measured
11/25/14	24	N/A	N/A	6,500	152,218	4.5	Flow Meter Not Intsalled Tank Measured
11/28/14	72	N/A	N/A	19,500	171,718	4.5	Flow Meter Not Intsalled Tank Measured
11/30/14	48	N/A	N/A	12,500	184,218	4.3	Flow Meter Not Intsalled Tank Measured

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
10/02/14	8:30	20,855.01	20,938.29	83,280	20,937,840	
10/03/14	6:00	20,938.29	20,977.59	39,300	20,977,140	
10/05/14	4:30	20,977.59	21,023.46	45,870	21,023,010	
10/06/14	7:45	21,023.46	21,102.23	78,770	21,101,780	
10/09/14	8:00	21,102.23	21,182.13	79,900	21,181,680	PVSC Compliance Sample Collected
10/10/14	7:30	21,182.13	21,208.69	26,560	21,208,240	
10/12/14	4:30	21,208.69	21,228.53	19,840	21,228,080	
10/13/14	6:30	21,228.53	21,289.72	61,190	21,289,270	
10/14/14	2:00	21,289.72	21,292.46	2,740	21,292,010	
10/15/14	8:00	21,292.46	21,349.49	57,030	21,349,040	
10/16/14	8:00	21,349.49	21,411.09	61,600	21,410,640	
10/17/14	7:00	21,411.09	21,463.04	51,950	21,462,590	
10/19/14	5:00	21,463.04	21,523.23	60,190	21,522,780	
10/21/14	7:00	21,523.23	21,574.85	51,620	21,574,400	
10/22/14	8:00	21,574.85	21,611.86	37,010	21,611,410	
10/23/14	9:30	21,611.86	21,728.57	116,710	21,728,120	
10/24/14	7:00	21,728.57	21,795.15	66,580	21,794,700	
10/25/14	4:00	21,795.15	21,836.74	41,590	21,836,290	
10/27/14	8:00	21,836.74	21,934.46	97,720	21,934,010	
10/29/14	4:15	21,934.46	21,979.83	45,370	21,979,380	
10/30/14	2:00	21,979.83	21,987.45	7,620	21,987,000	
11/05/14	7:00	21,987.45	22,068.71	81,260	22,068,260	PVSC Compliance Sample Collected
11/07/14	5:00	22,068.71	22,093.24	24,530	22,092,790	
11/10/14	6:30	22,093.24	22,125.00	31,760	22,124,550	CGWES pumped and isolated from 930 to 1530
11/11/14	5:00	22,125.00	22,151.18	26,180	22,150,730	
11/12/14	8:00	22,151.18	22,205.08	53,900	22,204,630	
11/13/14	8:00	22,205.08	22,232.39	27,310	22,231,940	
11/14/14	5:00	22,232.39	22,270.23	37,840	22,269,780	
11/15/14	3:45	22,270.23	22,327.83	57,600	22,327,380	
11/16/14	4:00	22,327.83	22,387.57	59,740	22,387,120	
11/17/14	7:00	22,387.57	22,488.01	100,440	22,487,560	
11/18/14	7:30	22,488.01	22,568.74	80,730	22,568,290	
11/19/14	7:30	22,568.74	22,653.22	84,480	22,652,770	
11/20/14	5:00	22,653.22	22,692.55	39,330	22,692,100	
11/21/14	8:00	22,692.55	22,747.08	54,530	22,746,630	
11/22/14	4:00	22,747.08	22,783.08	36,000	22,782,630	
11/24/14	8:30	22,783.08	22,833.40	50,320	22,832,950	
11/26/14	7:30	22,833.40	22,889.40	56,000	22,888,950	
11/28/14	5:00	22,889.40	22,984.22	94,820	22,983,770	
11/30/14	10:00	22,984.22	23,021.47	37,250	23,021,020	

Notes: Previous information is trunketed. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

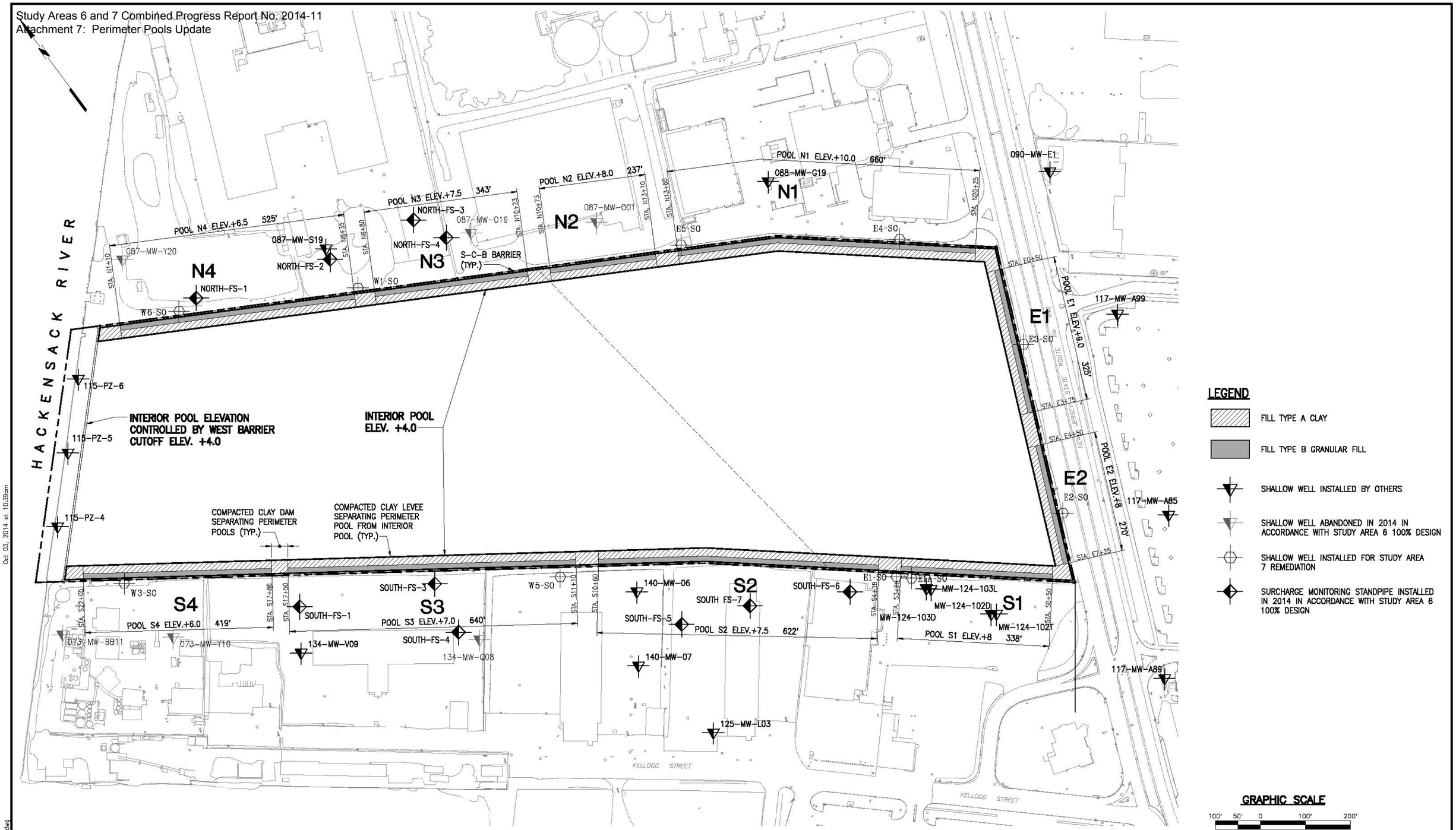
- Stockpiled Material Tracking and Sampling Log

SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
67-75	<20	124-75-20-a,b (A27)	1200	124-75-20-a1	10/16/2014	11:20	9.6	Yes		
				124-75-20-a2	10/16/2014	11:25	7.6	Yes		
				124-75-20-a3	10/16/2014	11:30	11.0	Yes		
				124-75-20-a4	10/16/2014	11:35	25.3		Yes	
				124-75-20-b1	10/16/2014	11:40	17.3	*		
				124-75-20-b2	10/16/2014	11:45	15.6	*		
				124-75-20-b3	10/16/2014	11:50	29.3		Yes	
				124-75-20-b4	10/16/2014	11:55	65.3		Yes	
58-67	<20	124-67-20-a,b (A28)	1665	124-67-20-a1	10/28/2014	11:30	0.45	*		
				124-67-20-a2	10/28/2014	11:35	98.2		Yes	
				124-67-20-a3	10/28/2014	11:40	2.6	*		
				124-67-20-a4	10/28/2014	11:45	5.2	*		
				124-67-20-b1	10/28/2014	11:50	71.9		Yes	
				124-67-20-b2	10/28/2014	11:55	340		Yes	
				124-67-20-b3	10/28/2014	12:00	29.6		Yes	
				124-67-20-b4	10/28/2014	12:05	23.3		Yes	
75-58	>1000	124-75-1000-a,b	1600	124-75-1000-a1	10/29/2014	13:15	1,410			*
				124-75-1000-a2	10/29/2014	13:20	750		Yes	
				124-75-1000-a3	10/29/2014	13:25	1,360			*
				124-75-1000-a4	10/29/2014	13:30	2,050			*
				124-75-1000-b1	10/29/2014	13:35	2,060			*
				124-75-1000-b2	10/29/2014	13:40	454		Yes	
				124-75-1000-b3	10/29/2014	13:45	591		Yes	
				124-75-1000-b4	10/29/2014	13:50	2,860			*
Site 163	>1000	163-122-1000-a	850	163-122-1000-a1	11/18/2014	11:00	4.5		Yes	
				163-122-1000-a2	11/12/2014	14:05	4		Yes	
				163-122-1000-a3	11/18/2014	11:05	80.1		Yes	
				163-122-1000-a4	11/12/2014	14:15	38.1		Yes	
103-106	<20	124-106-20-a (A29)	950	124-106-20-a1	11/21/2014	7:55	9.2	*		
				124-106-20-a2	11/21/2014	8:00	12.1	*		
				124-106-20-a3	11/21/2014	8:05	15.6	*		
				124-106-20-a4	11/21/2014	8:10	20		*	

*Material currently stockpiled. Pending final placement.
**Waiting on results from the laboratory.

Attachment 7: Perimeter Pools Update



IN PROGRESS

10-02-2014

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP–1

Oct 03, 2014 at 10:39am
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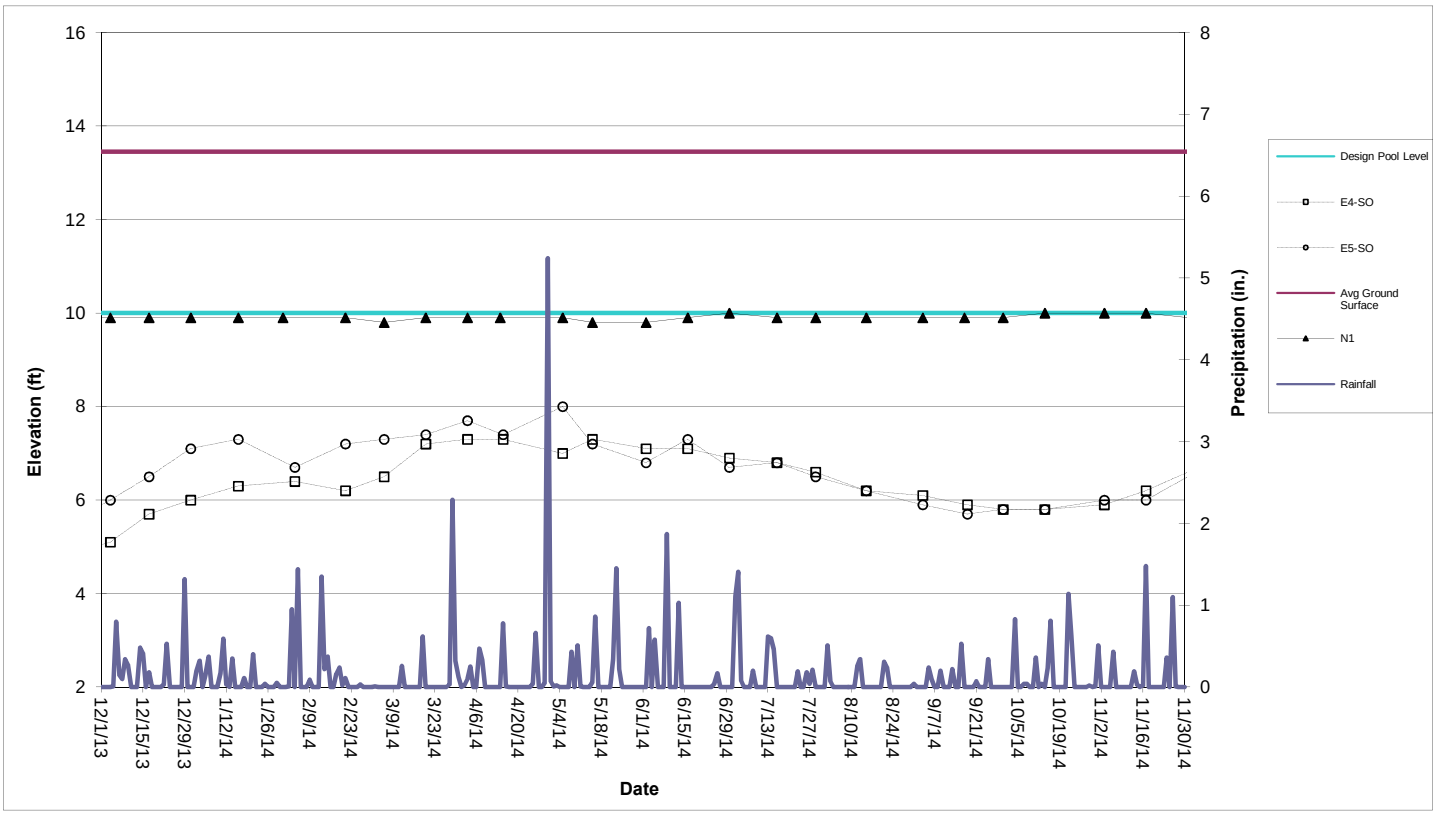
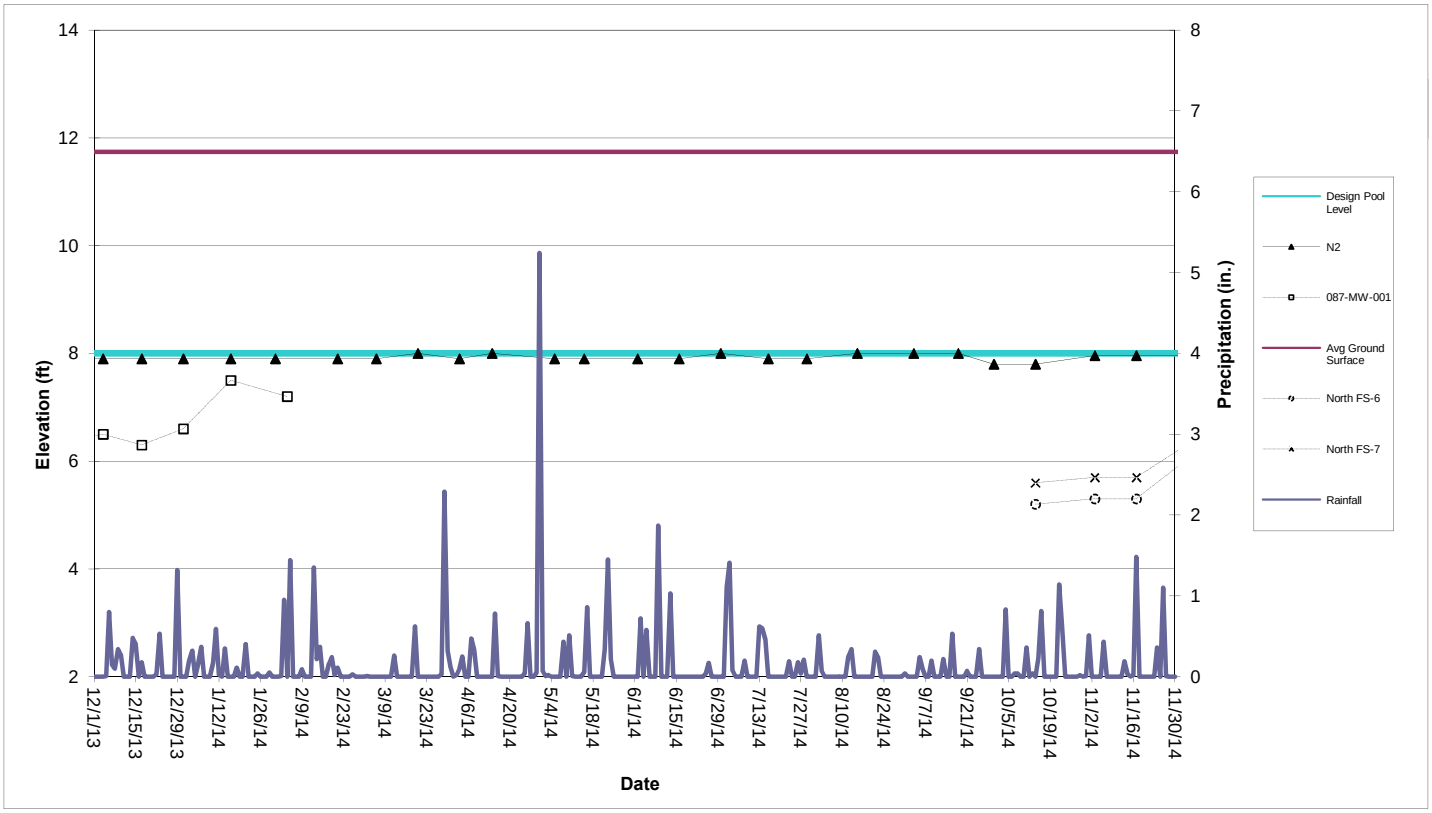
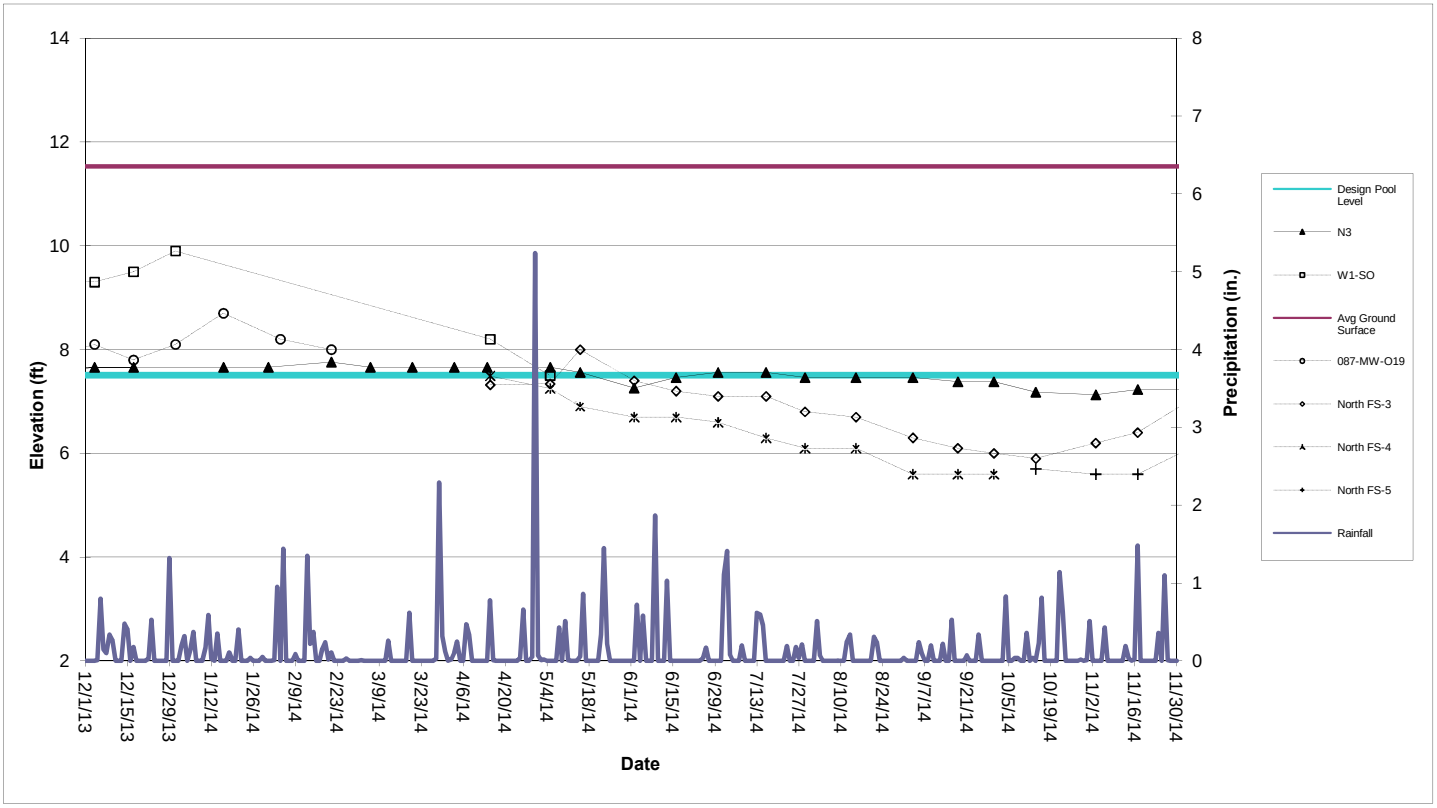
edelossantos



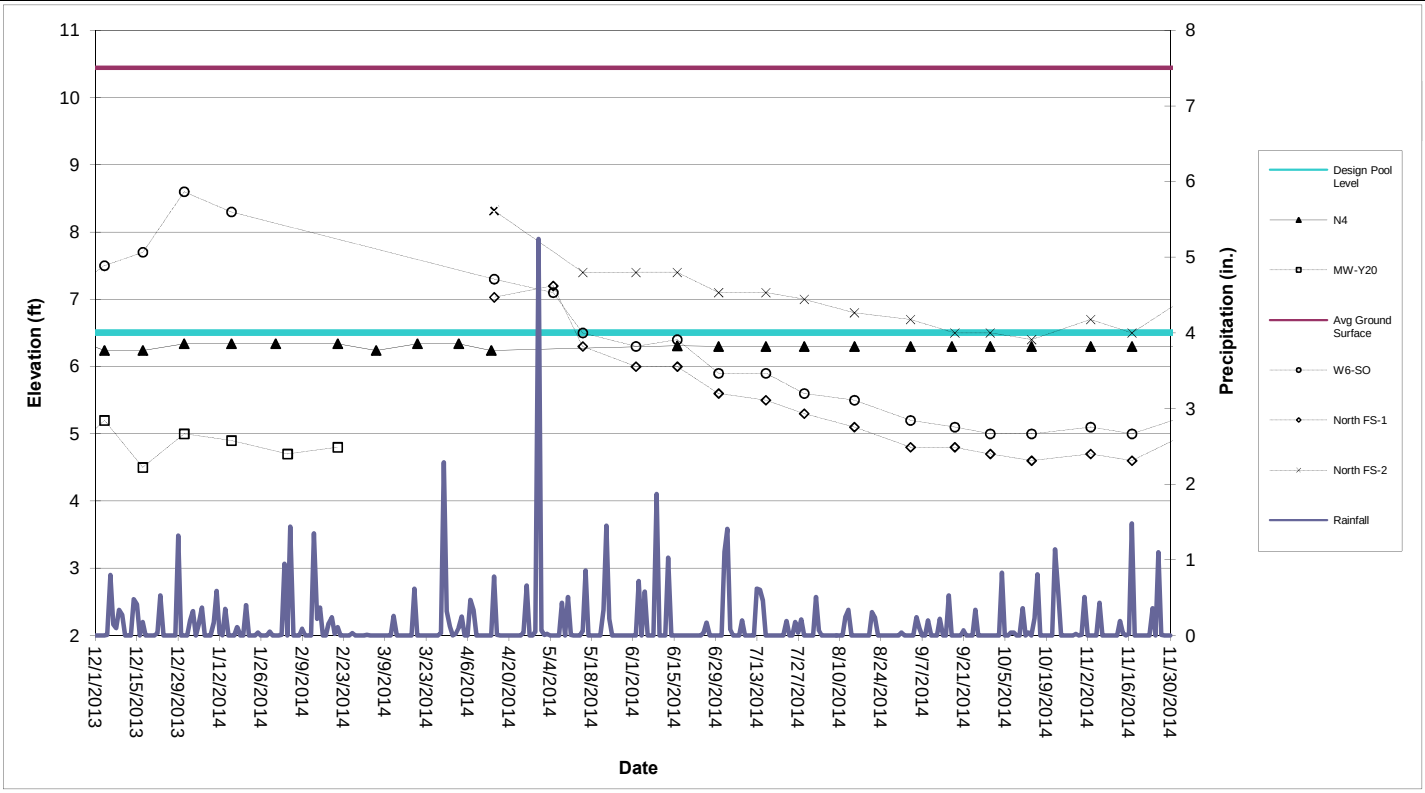
Perimeter Pool N1 (Sta. N13+60 to N20+25)



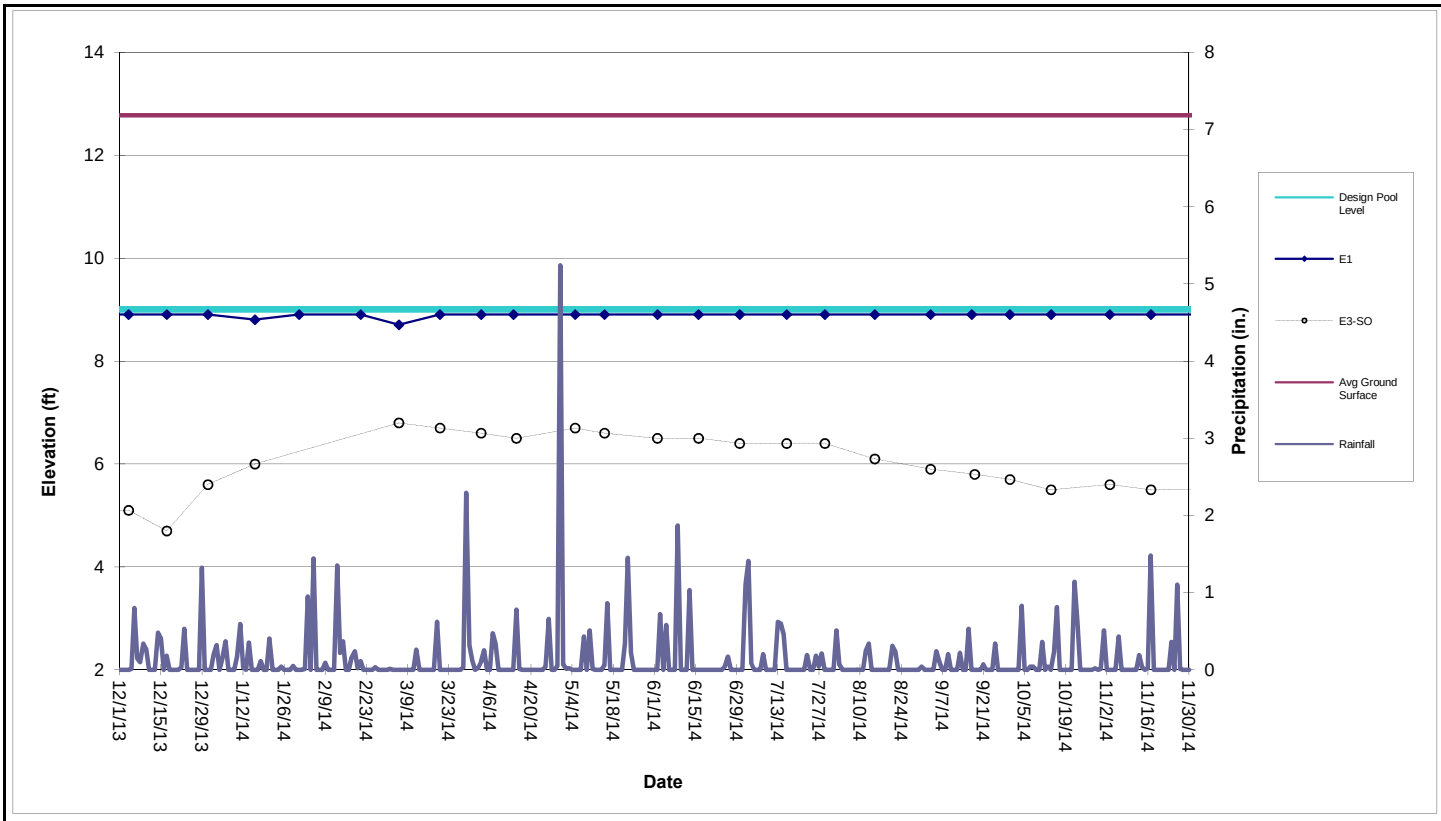
Perimeter Pool N2 (Sta. N10+73 to N13+10)



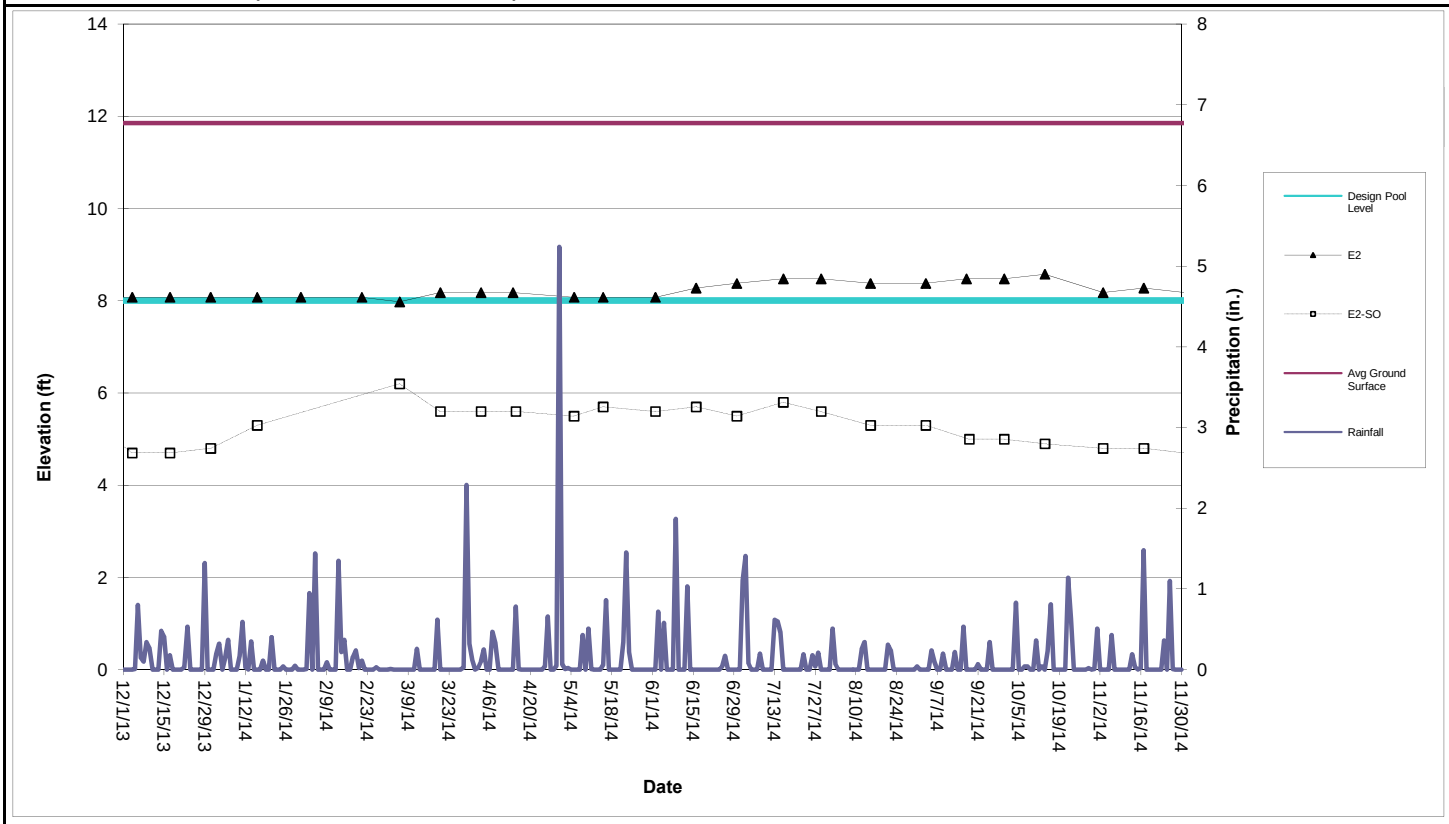
Perimeter Pool N3 (Sta. N6+80 to N10+23)



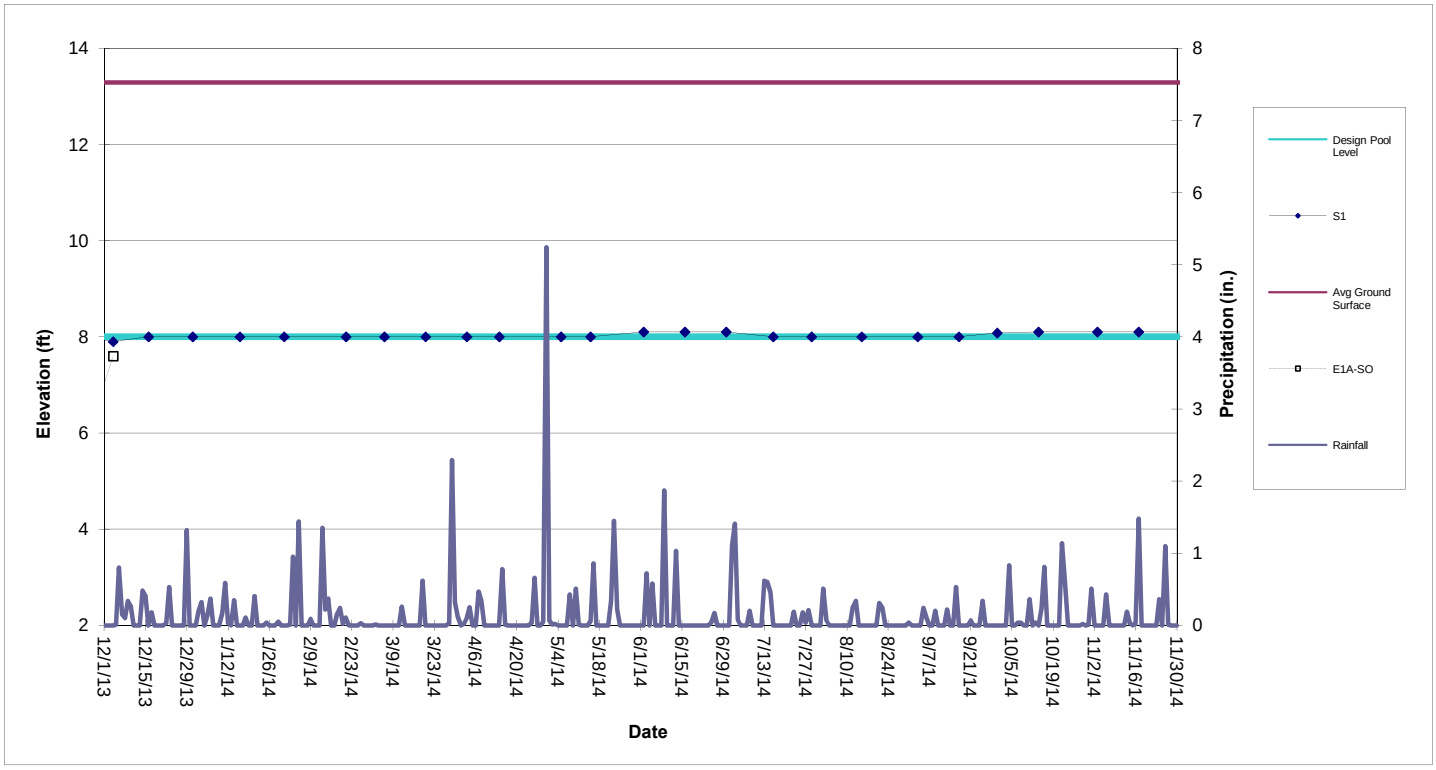
Perimeter Pool N4 (Sta. N6+80 to N10+23)



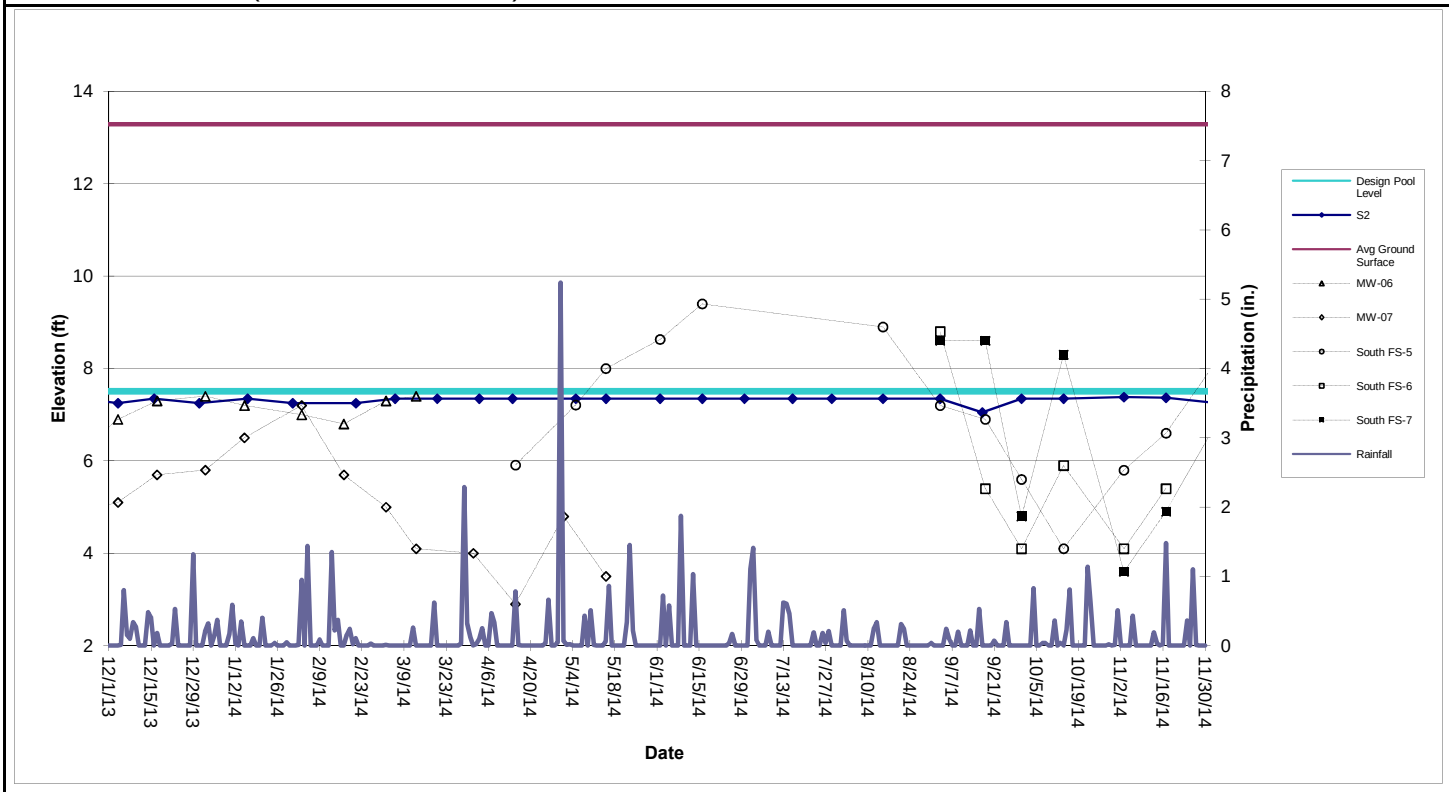
Perimeter Pool E1 (Sta. E0+50 to E3+75)



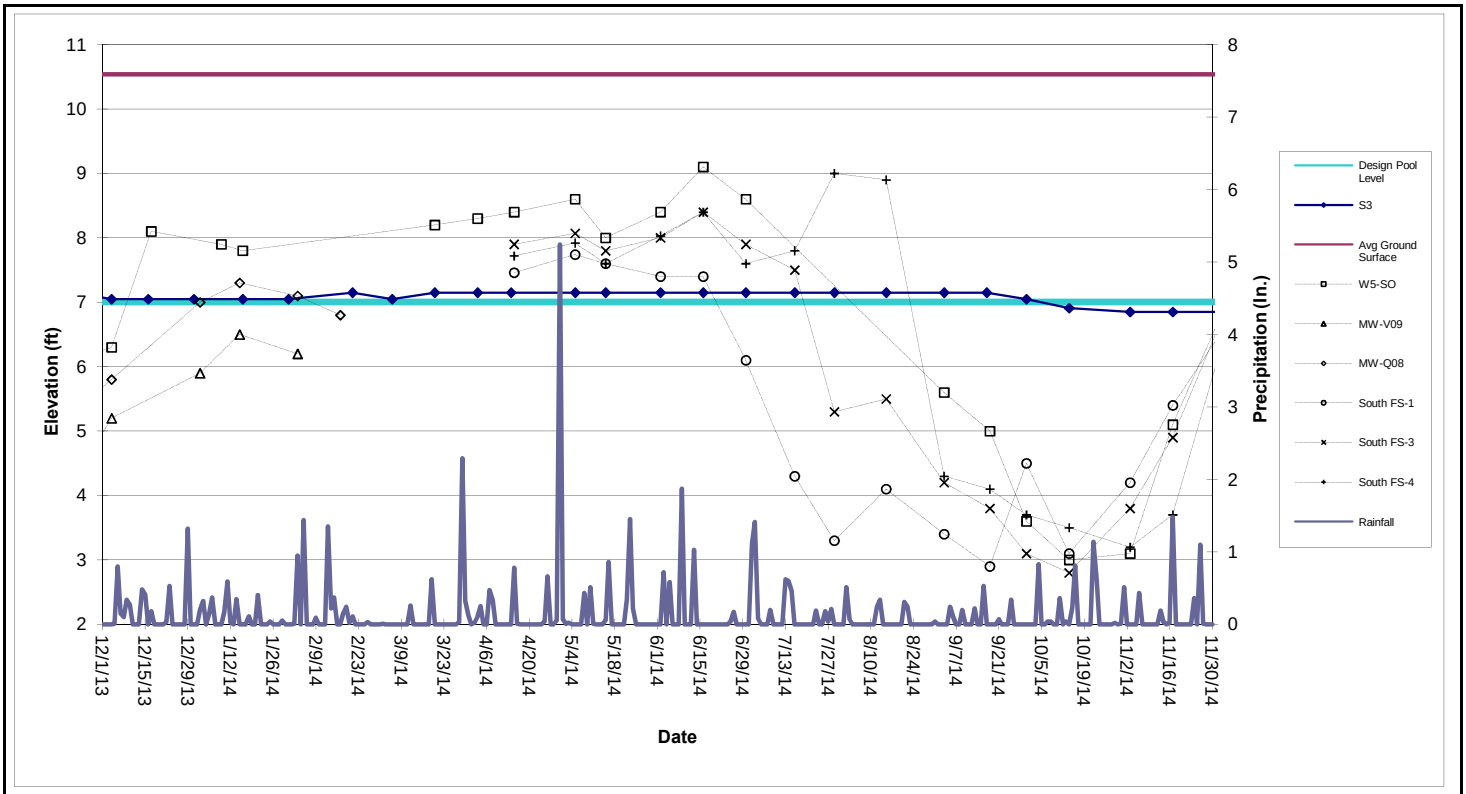
Perimeter Pool E2 (Sta. E4+50 to E7+25)



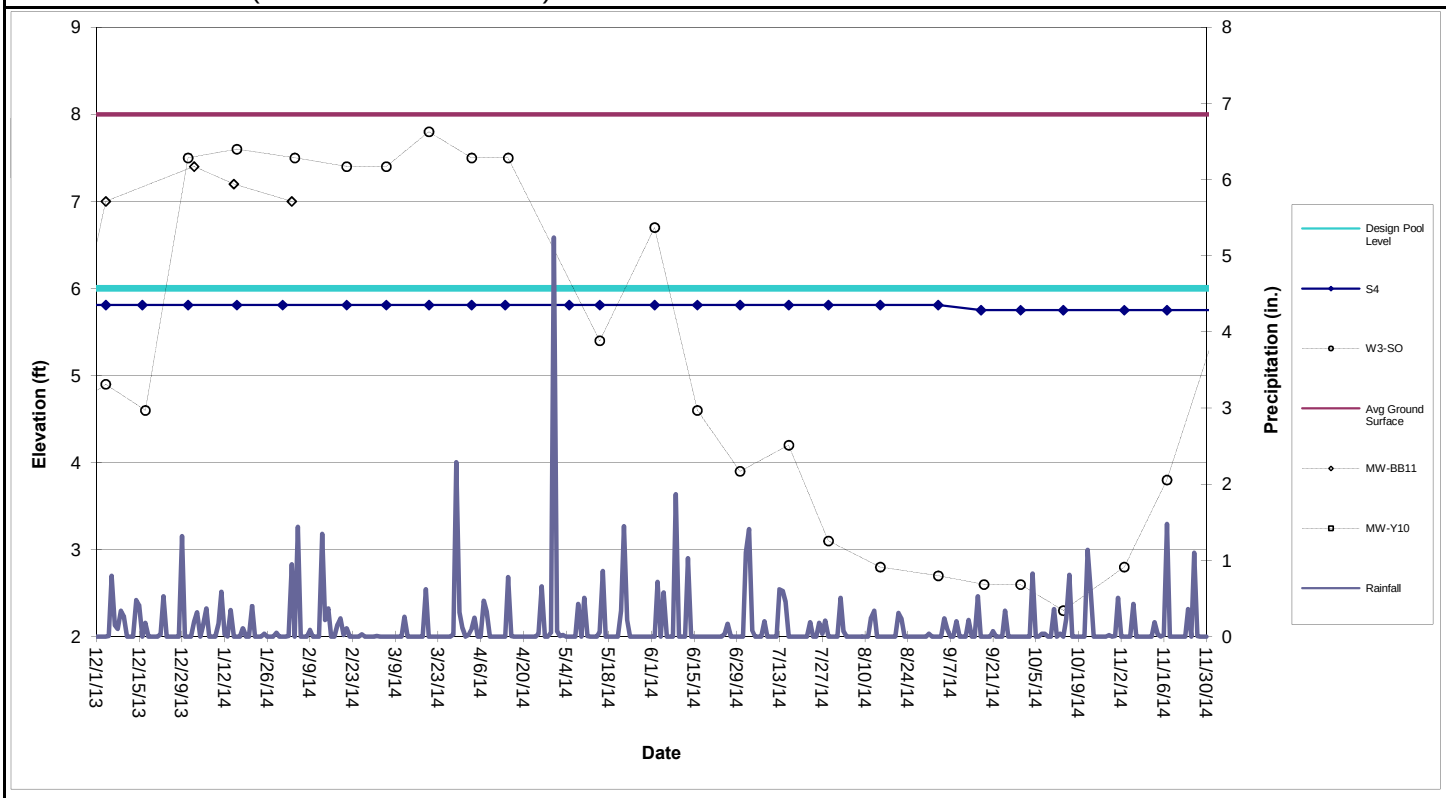
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										134-	140-		North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	MW-V09	MW-06	MW-07	FS-1	FS-2	FS-3	FS-4	FS-5	FS-6	FS-7	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																									
3/3/2014											7.3	5.0													
3/6/2014		6.2	6.8	6.5	7.3		7.4																		
3/13/2014											7.4	4.1													
3/20/2014		5.6	6.7	7.2	7.4		7.8	8.2																	
4/1/2014												4.0													
4/3/2014		5.6	6.6	7.3	7.7		7.5	8.3																	
4/15/2014		5.6	6.5	7.3	7.4	8.2	7.5	8.4	7.3			2.9	7.0	8.3	7.3	7.5				7.5	7.9	7.7	5.9		
5/1/2014												4.8													
5/5/2014		5.5	6.7	7.0	8.0	7.5		8.6	7.1				7.2		7.3	7.3				7.7	8.1	7.9	7.2		
5/15/2014		5.7	6.6	7.3	7.2		5.4	8.0	6.5			3.5	6.3	7.4	8.0	6.9				7.6	7.8	7.6	8.0		
6/2/2014		5.6	6.5	7.1	6.8		6.7	8.4	6.3				6.0	7.4	7.4	6.7				7.4	8.0	8.0	8.6		
6/16/2014		5.7	6.5	7.1	7.3		4.6	9.1	6.4				6.0	7.4	7.2	6.7				7.4	8.4	8.4	9.4		
6/30/2014		5.5	6.4	6.9	6.7		3.9	8.6	5.9				5.6	7.1	7.1	6.6				6.1	7.9	7.6			
7/16/2014		5.8	6.4	6.8	6.8		4.2		5.9				5.5	7.1	7.1	6.3				4.3	7.5	7.8			
7/29/2014		5.6	6.4	6.6	6.5		3.1		5.6				5.3	7.0	6.8	6.1				3.3	5.3	9.0			
8/15/2014		5.3	6.1	6.2	6.2		2.8		5.5				5.1	6.8	6.7	6.1				4.1	5.5	8.9	8.9		
9/3/2014		5.3	5.9	6.1	5.9		2.7	5.6	5.2				4.8	6.7	6.3	5.6				3.4	4.2	4.3	7.2	8.8	8.6
9/18/2014		5.0	5.8	5.9	5.7		2.6	5.0	5.1				4.8	6.5	6.1	5.6				2.9	3.8	4.1	6.9	5.4	8.6
9/30/2014		5.0	5.7	5.8	5.8		2.6	3.6	5.0				4.7	6.5	6.0	5.6				4.5	3.1	3.7	5.6	4.1	4.8
10/14/2014		4.9	5.5	5.8	5.8		2.3	3.0	5.0				4.6	6.4	5.9		5.7	5.2	5.6	3.1	2.8	3.5	4.1	5.9	8.3
11/3/2014		4.8	5.6	5.9	6.0		2.8	3.1	5.1				4.7	6.7	6.2		5.6	5.3	5.7	4.2	3.8	3.2	5.8	4.1	3.6
11/17/2014		4.8	5.5	6.2	6.0		3.8	5.1	5.0				4.6	6.5	6.4		5.6	5.3	5.7	5.4	4.9	3.7	6.6	5.4	4.9

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells are temporarily inaccessible:
134-MW-V09, E1A-SO, W1-SO, FS-4

Attachment 8: Quality and Level Data in GWET Wells

(not available as of this report date - provided on a quarterly basis)

- Summary of Groundwater Quality Data from GWET Wells
- Trichloroethene//Chloroform/Hexavalent Chromium in GWET Wells

Attachment 9: Surcharge Monitoring Update

(not available as of this report date - provided on a quarterly basis)

- **Attachment 10: Sheet Pile Update**
- Sheet Pile Angle Grout Log

Batch: 94# Cement Type II
6.58# Bentonite
8 gal H_2O

Amec
SA-6 South Grouted Angles (5")

B	Date	Batch #	Batch Time	Sheetpile ID
6.6#	11/7/14	99	1:10	5P -21
				5P -22
6.6#		100	1:30	5P -23
				Top off 5P 21-22
				5P-24
				5P-25
				5P-26
7#		101	2:00	5P-26
				Top off 21-25
				5P-27
				5P-28
7#		102	2:30	5P-28
				Top off 5P 26-27
				5P-29
				Top off 5P 23-25
				5P-30
7#	11/10/14	103	9:05	5P-30
				5P-31
				5P-32
				5P-33
7#		104	9:21	Top Off 5P -32
				5P-33
				5P-34
				5P-35
7#		105	9:43	5P-35
				Top off 5P31-34
7#		106	10:05	5P-36
				5P-37
				5P-35
				5P-38
7#		107	10:25	5P-38
				5P-39
				5P-40
7#		108	10:44	5P-40
				5P-41
				5P-42
				5P-43
7#		109	11:03	5P-43
				5P-44
				6P-1
				6P-2
7#		110	11:19	6P-2
				6P-3
				6P-4
7#		111	11:36	6P-5
				6P-3
				6P-6

B	Date	Batch #	Batch Time	Sheetpile ID
7#	11/10/14	111	10:36	Top off 6P2-4
7#		112	1:40	Top off 5P21-32
7#		113	1:55	Top off 5P32-44
7#		114	2:10	Top off 5P42-6P5
				6P-6
				6P-7
7#	11/11/14	115	10:07	Top off 6P-7
				6P-8
				6P-9
7#		116	10:27	6P-9
				6P-10
				6P-11
7#		117	10:42	6P-11
				6P-12
				6P-13
7#		118	11:02	6P-13
				6P-14
				Top off 6P 11-12
7#		119	12:50	Top off 6P 8-13
				6P-14
7#		120	1:10	6P-14
7#	11/12/14	121	9:05	6P-14
				6P-15
				6P-16
				6P-17
7#		122		6P-17
				6P18
				6P-19
7#		123		6P-19
				6P-20
				6P-21
7#		124	11:06	6P-21
				6P-22
6.6#		125	12:55	6P-22
				7P-1
				7P-2
6.6#		126		7P-2
				7P-3
				Top off 6P-19-23
6.6#		127	1:42	7P-4
				7P-5
				7P-6
				Top off 7P4-6P11
6.6#		128	1:55	Not Used

1/2

Amec
SA-6 South Grouted Angles (5")

B	Date	Batch #	Batch Time	Sheetpile ID
6.6#	11/13/14	129	8:59	Top off 6P14-7P6
				7P-10
6.6#		130	9:29	7P-10
				7P-11
				7P-12
6.6#		131	9:56	7P-12
				7P-13
				Top off 7P 10-11
6.6#		132	10:35	7P-4
				7P-7
				7P-8
6.6#		133	10:58	7P-8
				Top off sheets
6.6#		134	1:35	Top off 7P-8
				7P-9
6.6#		135		7P-9
				7P-10
				7P-11
				7P-12
6.6#		136	2:30	7P-12
				7P-13
				8P-1
				Top off 7P9-12
				8P-2
6.6#	11/14/14	137	10:05	Batch wasted
6.6#		138		8P-2
				8P-3
6.6#		139		8P-3
				8P-4
				8P-5
				8P-6
6.6#		140		8P-7
				8P-8
6.6#		141		8P-8
				8P-9
6.6#		142		8P-10
				8P-11
6.6#		143	12:55	8P-12
				8P-13
				8P-14
				8P-15
6.6#		144	1:30	8P-15
				8P-16
				8P-17
				8P-18
6.6#		145	1:48	8P-18
				8P-19

B	Date	Batch #	Batch Time	Sheetpile ID
6.6#	11/14/14	146	2:08	8P-19
				8P-20
6.6#		147	2:25	Top off sheets
6.6#	11/17/14	148	7:52	Top off sheets
				7P-3,8,9,10 8P-10
6.6#		149	9:10	Top off sheets
				8P-11 to 8P-20
6.6#	11/18/14	150	9:30	8P-20
				8P-21
6.6#		151	9:45	8P-21
				8P-22
6.6#		152	10:00	8P-22
				8P-23
6.6#		153	10:12	8P-24
				8P-25
6.6#		154	10:34	8P-26
				8P-27
6.6#		155	10:45	Top off 8P20-27
6.6#		156	11:05	8P-33
				8P-34
6.6#		157	1:03	8P-34
				8P-35
6.6#		158	1:20	8P-36
6.6#		159	1:36	8P-36
				8P-37
				8P-38
6.6#		160	1:50	8P-38
				8P-39
				8P-40
6.6#		161	2:10	8P-40
				8P-41
6.6#		162	2:30	Top off 8P20-27
				8P33-39
6.6#	11/19/14	163	10:20	8P-42
				8P-43
6.6#		164	10.43	8P-43
				8P-44
6.6#		165	11:00	Top off 8P44-33
6.6#		166	12:53	8P-28
				8P-29
6.6#		167	1.16	8P-30
				8P-31
				8P-32
6.6#		168	1:43	Top off 8P28-32,40-44

2/2

Batch: 94# Cement Type II
6.58# Bentonite
8 gal H_2O

Amec
SA-6 South Grouted Angles (2")

B	Date	Batch #	Batch Time	Sheetpile ID
6.6#	11/20/14	169		25P-28
				25P-27
6.6#		170		25P-27
				25P-26
13.2#		171		25P-25
				25P-24
				25P-23
				25P-22
				25P-21
				25P-20
13.2#		172	9:58	25P-20
				25P-19
				25P-18
				25P-17
				25P-16
				25P-15
				Top off 25P-15-8P40
13.2#		173	1:56	25P-14
				25P-13
				25P-12
				25P-11
				Top off 25P-11 to 21
13.2#	11/21/14	174	8:20	25P-10
				25P-9
				25P-6
				Top off sheets
13.2#		175	9:18	25P-5
				25P-4
				25P-2
				24P-18
				24P-17
				Top off sheets
13.2#		176	10:42	25P-8
				25P-7
				25P-3
				25P-1
				24P-16
				24P-15
13.2#		177	12:58	24P-14
				24P-13
				24P-12
				Top off all sheets
				grouted today

	Date	Batch #	Batch Time	Sheetpile ID
13.2#	11/24/14	178	10:02	23P-13
				23P-12
				23P-11
				23P-10
				23P-9
				23P-8
13.2#		179	10:42	23P-8
				23P-7
				23P-6
				23P-5
13.2#		180	11:11	23P-5
				23P-4
				23P-3
				23P-2
				23P-1
				Top off sheets
13.2#		181	1:36	22P-13
				22P-12
				22P-11
13.2#		182	2:01	22P-11
				22P-10
				22P-9
				22P-8
16.6#		183	2:20	Top off sheets
13.2#	11/25/14	184	9:13	Top off sheets
				22P-13-8, all 23Ps
				22P-7
				22P-6
19.8#		185	9:46	22P-5
				22P-4
				22P-3
				22P-2
				22P-1
				21P-12
13.2#		186	10:33	Top off sheets
13.2#	11/26/14	187	8:20	21P-9
				21P-8
				Topped off 22P1-7
13.2#		188	10:10	21P-8 @ 20'
				21P-6
				21P-5
				21P-4
		189	11:00	21P-2
				21P-1
				Topped off sheets
13.2#		190	—	Batch wasted

Amec
SA-6 South Grouted Angles (2")

B	Date	Batch #	Batch Time	Sheetpile ID
13.2#	12/1/14	191	9:08	23P1-A
				20P-15
13.2#		192	9:56	20P-15
				20P-14
				20P-13
				20P-12
				20P-11
				20P-10
13.2#		193	10:24	20P-9
				20P-8
				20P-7
				20P-3
				20P-2
				20P-1
				Special 19P E
13.2#		194	12:50	Special 19P W
				Top off SP19-22Ps
13.2#	12/2/14	195	1:45	19P-64
				19P-63
19.8#		196	2:35	19P-64
				19P-63
				19P-66
				Top off 19P63-22P7
13.2#	12/3/14	197	9:33	19P-53
13.2#		198	10:15	19P-53
13.2#		199	11:05	19P-74
13.2#		200	1:00	19P-74
21#	(7#B/batch)	201	2:20	19P-71
				19P-74
				19P-76
14#	12/4/14	202	9:19	19P-75
	(7#B/batch)			Top off 71-76
				19P-77
				19P-78
14#		203	11:20	19P-78
				19P-79
14#		204	2:05	19P-80 @ 18.5
				19P-81
				19P-82
				Top off sheets

Date	Batch #	Batch Time	Sheetpile ID

2/

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: November 07, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir	X		X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		4
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 11/07/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, November 07, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence at the northwest corner of Surcharge Area 1-S (where it meets the SA-7 SCB wall) requires maintenance.
2	IA2Q4A1AL8	REPEAT- Sediment is accumulating along the north and south sides of Kellogg Street in the area of the temporary sheetpile.
3	IA2Q4A1AL8	Silt fence along the south side of Surcharge Area 2-N requires maintenance.
4	IA2Q4A1AL8	The western section of the southern paved road on Study Area 7 is coated with sediment and the bottom of the ramp which leads from the 2-S surcharge stockpile onto SA-7 has accumulated excess mud.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: Signature Date: 11/07/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair or replace the silt fence.	11-11-14 RAD
2	Remove the sediment from both side of the western end of Kellogg Street and dispose of on site.	11-10-14 RAD
3	Repair or replace the silt fence.	11-11-14 RAD
4	Clean the roadway and place stone as needed at the toe of the 2-S ramp	11-10-14 RAD

Construction Manager: Date: 11/12/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: November 13, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		1
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping		X		2
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 11/13/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, November 13, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	The stone tracking pad for the vehicle gate at the west end of Kellogg Street is blinded with sediment and requires maintenance.
2	IA2Q4A1AL8	A drum is located on the western end of surcharge area 1-N.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: Signature Date: 11/13/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Rework the tracking pad and add stone as necessary to restore function.	11-14-14 RAD
2	Relocate the drum to the proper storage area.	11-14-14 RAD

Construction Manager: Date: 11/17/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: November 20, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		2
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		3
Misc. Spill Control (Fuels, Lubricants, Etc.)				

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 11/21/14

SWPPP Observer: _____
Signature

Diana Nickens 973 677 4573
HR Fax 630 986 5211

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, November 20, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone signs are not present along the hydraulic barrier wall which borders the south side of the southern cap area.
2	IA2Q4A1AL8	Storm water is ponded in the bottom of the Study Area 6 South excavation
3	IA2Q4A1AL8	Exclusion Zone fencing surrounding the EZ in the sedimentation basin requires maintenance/repair.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature Date: 11/21/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install Exclusion Zone signs as required	11/24/14 RAD
2	Pump the ponded storm water to the Construction Water Treatment plant when conditions permit.	11/25/14 RAD
3	Maintain/repair the orange fencing which surrounds the sedimentation basin EZ.	11/21/14 RAD

Construction Manager: _____ Date: 11/26/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: November 25, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☑ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		3
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		4
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 11/25/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Tuesday, November 25, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence along the southern toe of the 1-S surcharge area requires maintenance.
2	IA2Q4A1AL8	Exclusion Zone fencing surrounding the LOAM excavation area requires maintenance/repair.
3	IA2Q4A1AL8	Ponded storm water is present in the bottom of the main excavation on Study Area 6 South
4	IA2Q4A1AL8	The perimeter fencing adjacent to the JCMUA and the JCIA buildings on Study Area 6 North has openings left from the utility cut-off which took place last night.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: Signature Date: 11/25/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Properly reinstall the silt fence where it has fallen down.	12-1-14 RAD
2	Repair or replace the exclusion zone fencing as required	12-1-14 RAD
3	Pump the ponded storm water to the Construction Water Treatment plant when conditions permit.	12-2-14 RAD
4	Reinstall fencing panels as required to close the gaps between Study Area 6 North and the JCMUA/JCIA properties.	11-26-14 RAD

Construction Manager: Date: 12/02/14

Attachment 12: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (October 2014)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

November 19, 2014

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 31630016

Dear Mr. Caltagirone:

Honeywell is submitting the October 2014 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA
Frank Schroyer - Parsons

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 31630016 OLD OUTLET DESIGNATION:

MONITORING PERIOD

Start			End		
10	01	14	10	31	14
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	76,763	81,406 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	0.52	0.56	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	0.00021	0.00021	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.1	<5.1	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.078	0.078	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

Signature of Principal Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

Nov. 17, 2014

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 31630016 **OLD OUTLET DESIGNATION**

MONITORING PERIOD

Start			End		
10	01	14	10	31	14
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,379,666 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 20,037,875

DATE	BOD (mg/l)	TSS (mg/l)
10/14/2014	6.8	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE Nov. 17, 2014

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG — Honeywell Jersey City GWTP; SA-6 North (Permit #31630016) — MONTH: October 2014

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
10/1/2014	Angel Trujillo	17658209	17737498	79,289	0.079289	7.01	0.819									0.54
10/2/2014	Angel Trujillo	17737498	17809440	71,942	0.071942	6.97	0.819									0.49
10/3/2014	Angel Trujillo	17809440	17889143	79,703	0.079703	7.59	0.819									0.54
10/4/2014	Angel Trujillo	17889143	17969739	80,596	0.080596	7.61	0.819									0.55
10/5/2014	Angel Trujillo	17969739	18048669	78,930	0.07893	7.62	0.819									0.54
10/6/2014	Angel Trujillo	18048669	18120755	72,086	0.072086	7.58	0.819									0.49
10/7/2014	Angel Trujillo	18120755	18197176	76,421	0.076421	7.57	0.819									0.52
10/8/2014	Angel Trujillo	18197176	18273255	76,079	0.076079	7.26	0.819									0.52
10/9/2014	Angel Trujillo	18273255	18351504	78,249	0.078249	7.54	0.819									0.53
10/10/2014	Angel Trujillo	18351504	18428643	77,139	0.077139	7.51	0.819									0.53
10/11/2014	Angel Trujillo	18428643	18503995	75,352	0.075352	7.56	0.819									0.51
10/12/2014	Angel Trujillo	18503995	18579380	75,385	0.075385	7.52	0.819									0.51
10/13/2014	Angel Trujillo	18579380	18652486	73,106	0.073106	7.60	0.819									0.50
10/14/2014	Angel Trujillo	18652486	18732296	79,810	0.07981	7.18	0.819	<5.1	6.8		<0.010	<0.030	<0.010	0.00021	<0.020	0.55
10/15/2014	Angel Trujillo	18732296	18811766	79,470	0.07947	7.64	0.819									0.54
10/16/2014	Angel Trujillo	18811766	18889704	77,938	0.077938	7.54	0.819									0.53
10/17/2014	Angel Trujillo	18889704	18967139	77,435	0.077435	7.54	0.819									0.53
10/18/2014	Angel Trujillo	18967139	19046494	79,355	0.079355	7.59	0.819									0.54
10/19/2014	Angel Trujillo	19046494	19123486	76,992	0.076992	7.59	0.819									0.53
10/20/2014	Angel Trujillo	19123486	19196617	73,131	0.073131	7.60	0.819									0.50
10/21/2014	Angel Trujillo	19196617	19272778	76,161	0.076161	7.64	0.819									0.52
10/22/2014	Angel Trujillo	19272778	19349216	76,438	0.076438	7.60	0.819									0.52
10/23/2014	Angel Trujillo	19349216	19424758	75,542	0.075542	7.57	0.819									0.52
10/24/2014	Angel Trujillo	19424758	19501958	77,200	0.0772	7.57	0.819									0.53
10/25/2014	Angel Trujillo	19501958	19583364	81,406	0.081406	7.20	0.819									0.56
10/26/2014	Angel Trujillo	19583364	19663053	79,689	0.079689	7.35	0.819									0.54
10/27/2014	Angel Trujillo	19663053	19731713	68,660	0.0687	7.41	0.819									0.47
10/28/2014	Angel Trujillo	19731713	19808186	76,473	0.076473	7.36	0.819									0.52
10/29/2014	Angel Trujillo	19808186	19884950	76,764	0.076764	7.61	0.819									0.52
10/30/2014	Angel Trujillo	19884950	19961849	76,899	0.076899	7.60	0.819									0.53
10/31/2014	Angel Trujillo	19961849	20037875	76,026	0.076026	7.53	0.819									0.52
TOTAL				**2,379,666**	**2.379666**			<5.1	6.8		<0.010	<0.030	<0.010	0.00021	<0.020	
			High:	**81,406**											**High:**	**0.56**
			Average:	**76,763**											**Average:**	**0.52**

WW

JB79184

Z

Honeywell Chain Of Custody / Analysis Request

AESI Ref: 41928.64987
COC#:
Lab Proj # (SDG):
Lab ID:
Site ID:
Lab Job #: HWMUM12015
Authorized User: Honeywell

Site Name: Hudson County
Location of Site: Jersey City, NJ
Planned Sampling Program: CS 087: JCIA

Sampling Co.: Persons
EDD To:
Sampler: Frank Schroyer
PO #:
Analysis Turnaround Time (TAT): 3 Consultant CRM
Full Report TAT: 28 Days

Client Contact: (name, co., address)
Helen Fahy P. (973) 455-2068 E. helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962

Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)

Preservative: 3 3 3 1 2 2 0 0 2

	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units	Composite?	Field Filtered Sample?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cd, Pb, Zn, Ni	E245.1 Hg	SM5.1 Biological Oxygen Demand	EPA 624 TVOC	E8260A SOT+H2S	EPA 150.1 PH	In vitro 2 Total Suspended Solids	EPA V624-SL VOCs: see attached spreadsheet	Sampling Method (code)	Lab Sample Numbers
1	087-WW			087-WWE-101414-A	10/14/2014	14:30	WW	WATER	REG	3	comp	N		X	X	X	X			X	X			1
2	087-WW			087-WWE-101414-B	10/14/2014	14:40	WW	WATER	REG	6	grab	N						X	X					2
3	087-WW			087-WWI-101414	10/14/2014	15:00	WW	WATER	REG	3	grab	N										X		3
4																								E86
5																								V1128
6																								A2
7																								G43
8																								
9																								
10																								
11																								
12																								

Relinquished by: 7.18 s.u. @ 6.8° C	Company: Persons	Received by:	Company:	Condition:		Custody Seals Intact:	
Frank Schroyer	Date/Time: 10/14/14		Date/Time: 10/14/14	Cooler Temp.			
Relinquished by:	Company:	Received by:	Company: RECEIVED	Condition:		Custody Seals Intact:	N/A
	Date/Time: 10/14/14 1820		Date/Time: 10-17-14 10:12	Cooler Temp.	1.0°C-B		

Preservatives: (Other, Specify):
0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); 14 (specify instructions)

ZA JM

NM

Accutest LabLink@821623 17:03 24-Oct-2014

Report of Analysis

Client Sample ID:	087-WWE-101414-A		
Lab Sample ID:	JB79184-1	Date Sampled:	10/14/14
Matrix:	AQ - Water	Date Received:	10/14/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	819	10	ug/l	1	10/16/14	10/17/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	10/16/14	10/17/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Lead [a]	< 30	30	ug/l	10	10/16/14	10/17/14	ND	EPA 200.7 [3]	EPA 200.7 [4]
Mercury	0.21	0.20	ug/l	1	10/16/14	10/16/14	JW	EPA 245.1 [1]	EPA 245.1 [5]
Nickel	< 10	10	ug/l	1	10/16/14	10/17/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	10/16/14	10/17/14	ND	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA35182
(2) Instrument QC Batch: MA35183
(3) Instrument QC Batch: MA35192
(4) Prep QC Batch: MP82580
(5) Prep QC Batch: MP82614

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@821623 17:03 24-Oct-2014

Report of Analysis

Client Sample ID:	087-WWE-101414-A		
Lab Sample ID:	JB79184-1	Date Sampled:	10/14/14
Matrix:	AQ - Water	Date Received:	10/14/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	10/17/14	KP	SM2540 D-11
pH [a]	7.79		su	1	10/14/14 08:27	JM	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@821623 17:03 24-Oct-2014

Report of Analysis

Client Sample ID:	087-WWE-101414-A		
Lab Sample ID:	JB79184-1A	Date Sampled:	10/14/14
Matrix:	AQ - Water	Date Received:	10/14/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	6.8	2.0	mg/l	1	10/15/14 19:07	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@821623 17:03 24-Oct-2014

Report of Analysis

4.3

4

Client Sample ID:	087-WWE-101414-B		
Lab Sample ID:	JB79184-2	Date Sampled:	10/14/14
Matrix:	AQ - Water	Date Received:	10/14/14
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N240051.D	1	10/16/14	DC	n/a	n/a	VN10187
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	2.1	ug/l	
107-13-1	Acrylonitrile	ND	10	1.3	ug/l	
71-43-2	Benzene	2.4	1.0	0.12	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.32	ug/l	
56-23-5	Carbon tetrachloride	3.4	1.0	0.16	ug/l	
108-90-7	Chlorobenzene	0.22	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.45	ug/l	
67-66-3	Chloroform	18.3	1.0	0.14	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.19	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	ug/l	
156-60-5	trans-1,2-Dichloroethene	4.2	1.0	0.24	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	1.0	0.16	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.093	ug/l	
75-09-2	Methylene chloride	0.48	1.0	0.20	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.13	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.15	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.29	ug/l	
79-01-6	Trichloroethene	47.5	1.0	0.17	ug/l	
75-01-4	Vinyl chloride	1.5	1.0	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	103%		71-128%
2037-26-5	Toluene-D8 (SUR)	100%		79-117%
460-00-4	4-Bromofluorobenzene (SUR)	101%		81-114%
1868-53-7	Dibromofluoromethane (S)	100%		78-115%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@821623 17:03 24-Oct-2014

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-101414-B		
Lab Sample ID:	JB79184-2	Date Sampled:	10/14/14
Matrix:	AQ - Water	Date Received:	10/14/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.1	5.1	mg/l	1	10/16/14	BM	EPA 1664A

RL = Reporting Limit

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending November 2014

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014	Direction on the handling of petroleum soils under the cap.	Pending submittal to Parties' per request.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

APPENDIX T

PART 6 OF 22

PROGRESS REPORTS

2015 MONTHLY REPORTS PART 1

SA-6 AND SA-7 COMBINED PROGRESS REPORT

JANUARY 14, 2015

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

January 14, 2015 *Via Express Mail*

Honorable Robert G. Torricelli
Office of the Special Master
49 Bridge Street, Suite 2
Lambertville, NJ 08530

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2014-12

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from December 1 – December 31, 2014.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: December 2014 SA-6/7 Combined Monthly Progress Report No. 2014-12

cc: Joe Clifford - Amec Foster Wheeler (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)

Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2014-12

Project SA-6 & 7 Remediation

December 2014

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
12/03/14	SA-7 Groundwater Pump & Treat System Performance In-Situ Sampling beneath Hackensack River Sediments Study Area 7 Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
12/03/14	Deep Overburden Injection Program Redevelopment of Injection Well -088-IW-01 Study Area 7 Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
12/15/14	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2014-11 Study Areas 6 and 7 Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
12/16/14	Special Master Conference Call	N/A
12/18/14	Revised In-situ Work Plan for Treatment Area 10 Study Area 6 North Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
12/19/14	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 31630016 June 2014	Andy Caltagirone Passaic Valley Sewerage Commission

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	12/7/14	12/14/14	12/21/14	12/28/14
Construction Management (AMEC)	11	11	12	8
Engineering (AMEC)	1	1	1	0
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	33	33	29	29
Arecon/US Ecology Subcontractors	1	1	1	0
Evoqua	1	1	1	1
HBS (SA-6N GWTP Security System)	0	0	0	0
Gramercy	22	19	8	7
TOTAL STAFF	**73**	**70**	**56**	**49**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected December PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Completed universal waste removal and asbestos abatements activities at the JCIA demolition project. Contractor continued site preparation and began trash pit protection activities.
- Conducted a round of quarterly groundwater level measurements. Conducted quarterly groundwater sampling of GWET extraction wells.
- Conducted semi-annual groundwater sampling under the S-3 Mass Removal Injection program.
- Continued to advance permit application and discussions with New Jersey Department of Transportation (NJDOT) regarding Highway Occupancy and Drainage Permits for upcoming SA-6 activities proximate to the Rt. 440 frontage.
- On December 8, 2014, a leaking diesel line was identified on a water truck. This necessitated several yards of surficial soil to be removed and segregated. The incident was called in to the NJDEP hotline, and Incident number for this non-emergency incident is: 14-12-08-1503-35.

- On December 29, 2014, obtained the JCIA Structures Demolition Permit from the City of Jersey City.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on December 9, 2014.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	12/7/14	12/14/14	12/21/14	12/28/14
Avg. Gallons Treated & Discharged (per day)	76,366	76,513	75,612	77,129
Average Flow (gpm) for Operating Period	53	53	53	54
Avg. Hours of Plant Operation	24	24	24	24
GWTP Influent Tanks (gal.)	6,840	6,916	5,566	10,356

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart, Weekly Excavation and Survey Data, Backfill Compaction Locations, and Field Density Test Summary Log)*

- Continued storm-water management activities.
- Completed excavation activities associated with the lens of anomalous material on SA-6 South proximate to Cell 104.
- Collected a post-excavation sidewall sample, 134-SB-177, from the southeast side of the anomalous material excavation on December 2, 2014. Laboratory analysis received on December 12, 2014 indicated the result was 2.6 mg/kg. Submitted the certification of excavation complete to the parties with all sampling results on January 7, 2015.
- Completed excavation of locations designated as Area 41 and Area 43. Began backfill activities associated with the anomalous material excavation, Site 163 and Area 41.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Continued compaction testing associated with imported backfill. Adjusted the frequency of testing in accordance with specifications.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/ FCI	Roll-Off	TSDF	Stablex-Canada	WWTP Filter Cake	0	0	0

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Entact/ Horwith	Tri-axle Dump	PA Transload	US Ecology	>1000 mg/kg Soils	65	21.54	1400.5
Entact/ Montecalvo	30 cyd roll-off	Bayshore Recycling	Bayshore	Non Haz Creosote Debris	1	10.46	10.46
Gramercy- (JCIA Demo)	40 cyd roll off	West Babylon, NY	110 Sand Company	Non Friable ACM	6	17.40	104.44
Gramercy- (JCIA Demo)	40 cyd rol off	Newburg, PA	Cumberland County Landfill	Friable ACM	1	*	*
Entact/ Arecon	Tri-axle Dump	Keasbey, NJ	Bayshore	Petroleum Impacted Soil	20	24.34	486.85
Entact/ Arecon	Tri-axle Dump	Keasbey, NJ	Bayshore	Non-HAZ PAH_PET 124/140	19	25.0	476.41

** Not currently available. To be provided in Progress Report No. 2015-01*

2. Excavation & Backfill Progress

Description	Cells
Excavation Completed	Anomalous Material near Cell 104, Site 163, Area 41 Volume Excavated - Total for Reporting Period: 10,910CY/ Total to Date: 162,210CY
Backfill in Progress	Cell Number(s) 104-59, Site 163, Area 41

3. Backfill Materials Used

Source	Week Ending			
	12/7/14	12/14/14	121/21/14	12/28/14
<20ppm re-use, CY	0	113	1,598	0
Weldon, Import-Tons Screenings	0	0	0	0
Tilcon, Import-Tons DGA	755	0	0	0
Tilcon, Import Tons – 1.5” Stone	0	0	0	0
Weldon, Imported Tons - QP	0	0	0	0
Weldon, Imported Tons - DGA	0	0	0	0
Tilcon, Imported 6”-8” stone	0	0	0	0
Tilcon, Imported Tons – 2.5” Stone	0	0	0	0

E. SURCHARGE OPERATIONS

- Area 1S: Continue offloading Celgene material from 1S and relocating to 2S approximately 75% complete.
- Area 2S: Surcharging continued on Area 2S. Surcharge placement consisted of both chromium impacted soils to the design sub-grade and both imported Celgene and Novartis soils. Surcharge placement is approximately 90% complete.
- Area 3S: Surcharge placement continued on Area 3S and is approximately 40% complete.
- Area 1N: Continued surcharge removal activities. Surcharge removal activities are approximately 80% complete. Details were provided in the December 2014 Surcharge Monitoring Report No. 7.
- Area 2N: Surcharge placement is 100% complete. Monitoring data (provided in Surcharge Monitoring Report No. 7) indicates that surcharge has attained the goals per the 100% Design and may be removed.
- Area 3N: No activity in this area pending JCIA Demolition.
- Area 4N: No activity in this area pending JCIA Demolition.

F. SHEET PILE OPERATIONS *(see **Attachment 10**)*

- Continue grouting angles of sheet pile at SA-6 South.
- Excavation proximate to the SA-6 South barrier wall was completed on October 28, 2014 and backfill has been progressed in all areas against the SA-6 South barrier wall. Deflection readings are therefore no longer required.

G. PERMIT STATUS

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014, 1 yr. extension granted 10/6/14	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14	Pending	Pending	Pending
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	Pending	Pending	Pending

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Continue JCIA Structures Demolition activities to include trash pit protection and initiation of above-grade structure demolition activities.
- Continue placement of surcharge materials in SA-6 South Area 2S and Area 3S.
- Continue off loading of surcharge materials from SA-6 South Area 1S.
- Continue installation of the contingent groundwater system trench on SA-6 South.
- Complete excavation of Area 42 and the remaining soil on the eastern side of Site 163.
- Continue loadout and transportation and disposal activities at SA-6 South.
- Continue backfill placement and associated compaction testing activities at SA-6 South.
- Continue accepting delivery of steel sheetpile for SA-6 North Barrier Wall installation.
- Conduct well development of injection well 088-IW-01 on SA-6 North.
- Conduct well development of GWET extraction well PW-2.
- Conduct acid cleaning of the PW-2 force main.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Complete sediment long term monitoring activities and final report preparation.

- Obtain NJDOT Highway Occupancy Permit for upcoming SA-6 North activities proximate to Rt. 440 frontage.

ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
   - Excavation Bottom Elevations
   - Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points
   - Figure 1: Lens of Anomalous Material Supplemental Boring Locations
   - Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
   - Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)
4. Dewatering Operations Update
   - SA-6 South Deep Well Data (DW-4)
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
   - Stockpiled Material Tracking and Sampling Log
7. Perimeter Pools Update
8. Groundwater Quality Data Surcharge Monitoring Update
   - Summary of Groundwater Quality Data from GWET Wells
   - Quarterly Water Wells
   - Trichloroethene/Chloroform/Hexavalent Chromium in GWET Wells
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. Sheet Pile Update
    - Hydraulic Barrier Wall Plan & Profile
    - Sheet Pile Angle Grout Log
11. Weekly SWPPP Reports
12. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (November 2014)
13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**
18	**JCIA/JCDPW Relocation**	**1735 days**
19	Develop Site Relocation Master Plan	38 days
20	Submit Site Relocation Master Plan	0 days
21	JC Construction of New Facilities	1309 days
22	Relocation Contractor Procurement	392 days
23	JCIA and JCDPW Relocation	753 days
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days
24a	Demolition of JCIA Structures	151 days
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**
57	**SA-6 South Relocation**	**616 days**
58	New GWTP Construction Completion	502 days
59	Demolition of 80 Kellogg	857 days
60	**SA-6 North/South Field Implementation**	**838 days**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days
60b	SA-6S (Site 163) In-Situ Treatment	294 days
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**
61a	Mobilization	87 days
62	**Surcharge Install/Instrumentation**	**620 days**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days
62b	Place Stockpile Surcharge SA6N Western Areas	195 days
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days
62d	Place Stockpile Surcharge SA6S Western Areas	182 days
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days
63	**Barrier Wall Install**	**489 days**
63a	**SA 6N Installation of Barrier Wall**	**369 days**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days
63c	SA-6N Stations 23+38 to 14+25	90 days
63d	SA-6N Stations 14+25 to 0+00	224 days
63f	**SA 6S Installation of Barrier Wall**	**250 days**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days
63h	SA-6S Stations 1+54 to 8+37	7 days
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days
63j	SA-6S Stations 8+60 to 14+87	145 days
64	**Excavation**	**507 days**
64a	SA 6N Excavation	218 days
64b	**SA 6S Excavation**	**226 days**
64c	SA-6S Excavation of Cells 1 - 25	53 days
64d	SA-6S Excavation of Cells 26 - 60	90 days
64e	SA-6S Excavation of Cells 156 - 61	83 days
65	**Backfill**	**493 days**
65a	SA 6N Backfill	218 days
65b	SA 6S Backfill	232 days
66	**Capping and Cover Soil Placement**	**315 days**
66a	SA 6N Capping and Cover Soil Placement	119 days
66b	SA 6S Capping and Cover Soil Placement	283 days
67	**Restoration**	**164 days**
67a	Restoration	164 days
68	**Demobilization**	**21 days**
68a	Deferred Remediation of SA-6 South Along Bulkhead	

Project: SA-6 Remediation Schedule
Revision 3
Date: Mon 1/5/15

Task | Milestone | Summary | Critical

Attachment 2: Site Photographs

Site Photograph 1: Abatement and removal activities Former JCIA Building.

Site Photograph 2: Contractor completes utility disconnects Former JCIA Property.

Site Photograph 3: Contractor excavates along Kellogg Street.

Site Photograph 4: Contractor removes roofing Former JCIA Salt Dome.

Photograph 5: PSEG removing transformers Former JCIA Buildings.

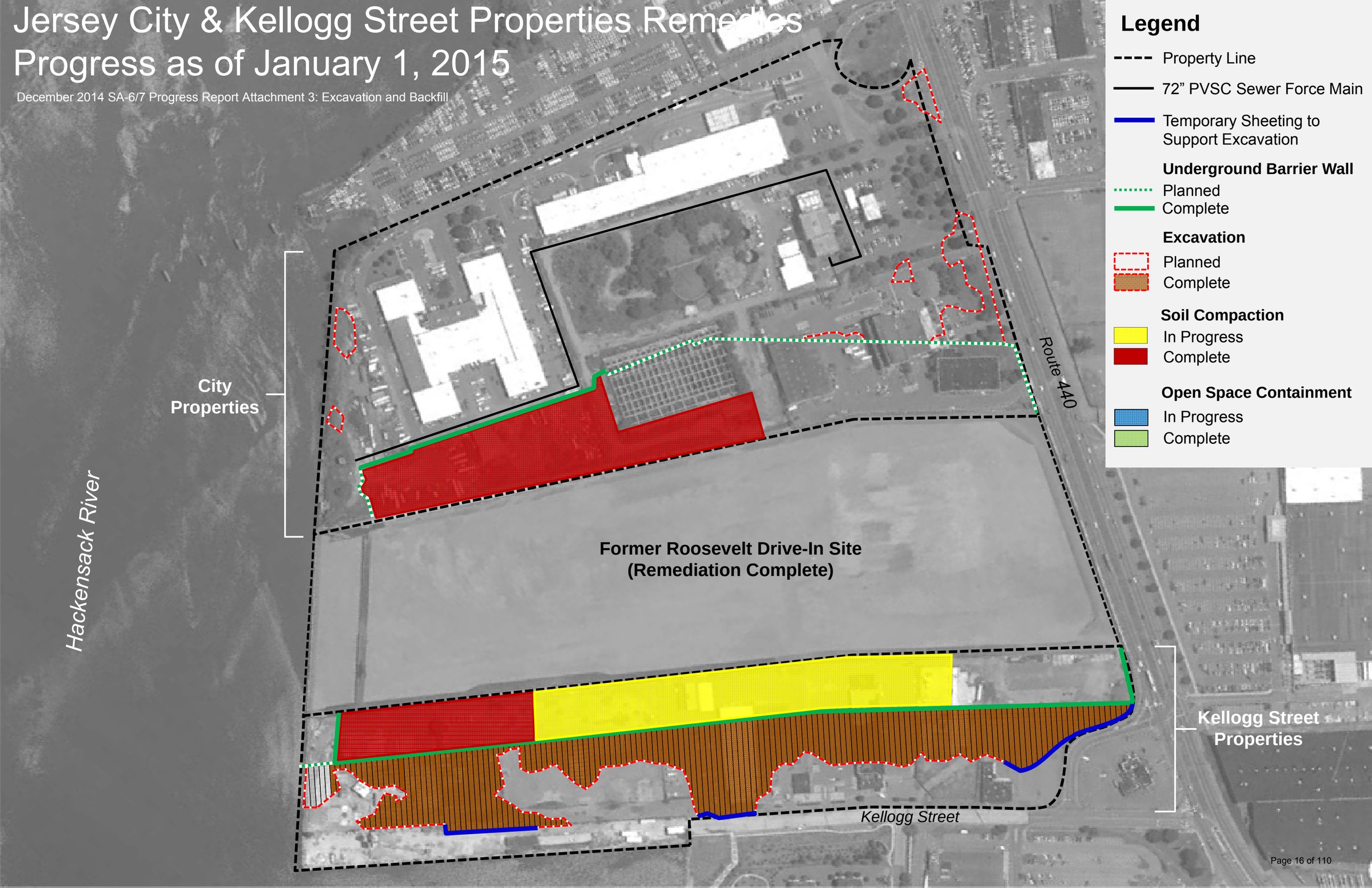
Site Photograph 6: Surcharge placement continues Open Space Areas.

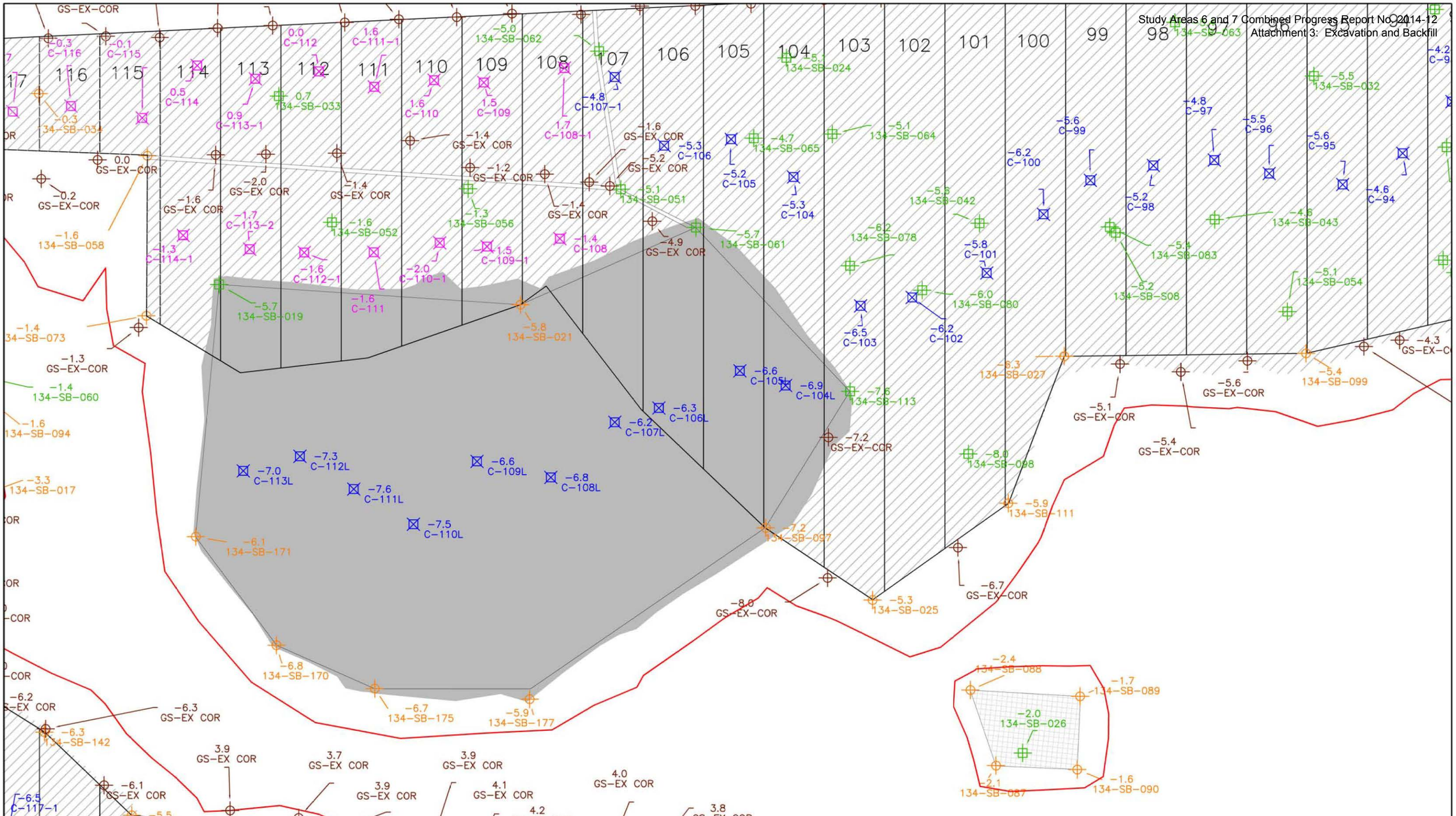
Attachment 3: Excavation and Backfill

- Progression Chart
- Excavation Bottom Elevations
- Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points
- Figure 1: Lens of Anomalous Material Supplemental Boring Locations
- Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
- Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)

Jersey City & Kellogg Street Properties Remedies Progress as of January 1, 2015

December 2014 SA-6/7 Progress Report Attachment 3: Excavation and Backfill





LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- BOTTOM CENTER POINT ELEVATION STRATUM D
- BOTTOM CENTER POINT ELEVATION <20 PPM
- BOTTOM CORNER POINT ELEVATION <20 PPM
- DESIGNED STRATUM O EXCAVATION LIMIT
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- CURRENT EXCAVATION TO <20 PPM
- TOP OF EXCAVATION SLOPE
- LIMIT OF EXCAVATION AREA

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS LENS AREA & AREA 41
PERIOD 11-13-14 TO 12-08-14

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

MASER CONSULTING P.A.
Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

156 Stagecoach Road
Marmora, NJ 08223
T: 609.390.1927
F: 609.390.0040
www.maserconsulting.com

SA-6 South Excavation: Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685514.6	601446.5	3.8	073-SB-029	152	4/25/2014	3.0	* Target Elevation Reached
685482.2	601420.6	4.4	073-SB-054	152	4/24/2014	2.0	* Target Elevation Reached
685458.7	601392.0	7.5	073-SB-056	152	4/24/2014	3.8	* Target Elevation Reached
685474.8	601425.1	7.5	073-SB-057	151	4/24/2014	1.9	* Target Elevation Reached
685502.9	601465.5	3.3	073-SB-028	150	4/25/2014	3.0	* Target Elevation Reached
685463.0	601435.2	2.5	073-SB-059	150	4/24/2014	1.9	* Target Elevation Reached
685490.0	601478.5	6.0	073-SB-042R	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	6.0	073-SB-042R	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	6.0	073-SB-042R	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	6.0	073-SB-042R	146A	4/24/2014	5.6	Target Elevation Reached
685448.9	601515.0	6.0	073-SB-042	145A	4/24/2014	5.6	Target Elevation Reached
685433.1	601528.8	6.0	073-SB-042R	144A	4/24/2014	5.4	Target Elevation Reached
685403.0	601506.0	-4.2	073-SB-037R	144A	4/24/2014	-4.5	Target Elevation Reached
685411.9	601522.2	-0.6	073-SB-066	143A	4/24/2014	-4.4	Target Elevation Reached
685427.6	601544.4	6.0	073-SB-042R	143A	4/24/2014	5.5	Target Elevation Reached
685430.7	601568.7	3.8	073-SB-041	142A	4/24/2014	2.0	Target Elevation Reached
685378.8	601531.7	-4.2	073-SB-037	142A	4/24/2014	-4.4	Target Elevation Reached
685371.0	601525.0	-2.2	073-SB-045	142A	4/24/2014	-4.4	Target Elevation Reached
685395.8	601557.3	2.3	073-SB-038	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.3	073-SB-038R	141A	4/24/2014	2.0	Target Elevation Reached
685410.7	601592.8	0.2	073-SB-040	140A	4/24/2014	-1.3	Target Elevation Reached
685381.0	601558.0	-3.9	073-SB-007	140A	4/24/2014	-4.4	Target Elevation Reached
685379.3	601577.9	0.6	073-SB-039	139A	4/24/2014	-4.3	Target Elevation Reached
685358.5	601560.3	-1.0	073-SB-036	139A	4/24/2014	-4.7	Target Elevation Reached
685390.7	601590.5	-0.6	073-SB-008R	139A	4/24/2014	-1.6	Target Elevation Reached
685390.0	601606.0	-0.6	073-SB-008	138A	4/29/2014	-1.6	Target Elevation Reached
685338.6	601567.5	2.1	073-SB-030R	138A	4/29/2014	1.7	Target Elevation Reached
685339.7	601592.9	1.5	073-SB-035	137A	4/29/2014	-2.9	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.1)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685328.7	601577.4	2.1	073-SB-030R	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-6.7	073-SB-009R	146B	5/5/2014	-8.0	Target Elevation Reached
685329.7	601419.3	-6.9	073-SB-047	145B	5/5/2014	-8.0	Target Elevation Reached
685314.6	601432.4	-6.7	073-SB-009R	144B	5/8/2014	-8.2	Target Elevation Reached
685318.9	601448.7	-5.3	073-SB-021	143B	5/8/2014	-7.9	Target Elevation Reached
685306.3	601465.9	-6.7	073-SB-009R	142B	5/12/2014	-7.6	Target Elevation Reached
685329.1	601510.6	-5.2	073-SB-075	141B	5/12/2014	-7.7	Target Elevation Reached
685310.4	601484.5	-4.8	073-SB-062	141B	5/12/2014	-8.0	Target Elevation Reached
685321.1	601501.8	-5.0	073-SB-065	141B	5/12/2014	-7.6	Target Elevation Reached
685288.0	601466.0	-6.7	073-SB-009	141B	5/12/2014	-7.7	Target Elevation Reached
685284.5	601485.3	-5.3	073-SB-020	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-6.7	073-SB-009R	139B	5/14/2014	-7.8	Target Elevation Reached
685256.2	601505.4	-3.2	073-SB-019	138B	5/14/2014	-7.7	Target Elevation Reached
685277.8	601539.2	2.1	073-SB-030R	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-0.6	073-SB-008R	136	5/5/2014	-1.5	Target Elevation Reached
685344.3	601618.9	-1.8	073-SB-033	136	5/5/2014	-2.9	Target Elevation Reached
685315.0	601587.9	2.1	073-SB-030R	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-0.6	073-SB-008R	135	5/8/2014	-1.4	Target Elevation Reached
685362.2	601641.7	-0.2	073-SB-034	135	5/8/2014	-2.8	Target Elevation Reached
685272.1	601572.6	2.1	073-SB-030R	135	5/19/2014	1.7	Target Elevation Reached
685248.2	601551.5	0.3	073-SB-050	135	5/19/2014	-1.2	Target Elevation Reached
685230.4	601535.5	0.3	073-SB-018	135	5/19/2014	-1.2	Target Elevation Reached
685358.1	601659.9	-0.6	073-SB-008R	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-1.8	073-SB-033R	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	073-SB-030R	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	0.6	073-SB-017R	134	5/19/2014	-1.2	Target Elevation Reached
685212.0	601570.0	-1.4	073-SB-011	133	5/22/2014	-3.3	Target Elevation Reached
685324.0	601643.0	-0.4	073-SB-010	133	5/14/2014	-2.7	Target Elevation Reached
685300.3	601630.9	2.1	073-SB-030	133	5/14/2014	1.8	Target Elevation Reached
685338.7	601665.5	2.3	073-SB-032R	133	5/12/2014	-0.1	Target Elevation Reached
685322.3	601651.3	-1.2	134-SB-136R	133	5/14/2014	-1.7	Target Elevation Reached
685215.0	601563.9	0.6	073-SB-017R	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.3	073-SB-032R	132	5/12/2014	1.7	Target Elevation Reached
685257.3	601619.3	2.1	073-SB-030R	132	5/19/2014	1.8	Target Elevation Reached
685194.1	601565.5	0.6	073-SB-017R	132	5/22/2014	-1.6	Target Elevation Reached
685216.3	601579.5	1.1	073-SB-049	132	5/22/2014	-3.0	Target Elevation Reached
685324.7	601663.5	2.3	073-SB-032	132	5/14/2014	-1.5	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.2)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685193.1	601579.8	0.6	073-SB-017	131	5/22/2014	-2.7	Target Elevation Reached
685301.9	601671.1	0.1	073-SB-031	131	5/14/2014	-1.5	Target Elevation Reached
685328.1	601694.6	2.3	073-SB-032R	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	073-SB-030R	131	5/19/2014	2.0	Target Elevation Reached
685202.7	601594.7	-1.4	073-SB-011R	131	5/22/2014	-2.9	Target Elevation Reached
685321.3	601708.0	2.3	073-SB-032R	130	5/19/2014	1.9	Target Elevation Reached
685300.8	601690.9	-1.2	134-SB-136R	130	5/19/2014	-1.5	Target Elevation Reached
685240.0	601641.1	2.1	073-SB-030R	130	5/19/2014	1.9	Target Elevation Reached
685193.4	601601.4	-1.4	073-SB-011R	130	5/22/2014	-2.5	Target Elevation Reached
685176.5	601589.8	0.6	073-SB-017R	130	5/22/2014	-1.9	Target Elevation Reached
685195.4	601621.6	-2.7	134-SB-123	129	5/27/2014	-7.9	Target Elevation Reached
685212.1	601635.4	-0.6	134-SB-132	129	5/27/2014	-8.2	Target Elevation Reached
685242.2	601665.8	1.3	134-SB-134	129	5/27/2014	0.2	Target Elevation Reached
685305.3	601707.9	-1.2	134-SB-140	129	5/19/2014	-1.2	Target Elevation Reached
685158.2	601591.1	-6.6	134-SB-114	129	5/27/2014	-7.6	Target Elevation Reached
685311.8	601720.4	2.3	073-SB-032R	129	5/22/2014	1.9	Target Elevation Reached
685263.1	601682.1	2.1	073-SB-030R	129	5/22/2014	1.8	Target Elevation Reached
685289.8	601729.8	2.0	134-SB-139	128	5/27/2014	-1.3	Target Elevation Reached
685303.5	601732.5	2.3	073-SB-032R	128	5/22/2014	1.9	Target Elevation Reached
685269.5	601703.1	2.1	073-SB-030R	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	1.3	134-SB-134R	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-6.7	134-SB-129R	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	2.4	134-SB-014R	127	5/29/2014	0.3	Target Elevation Reached
685276.2	601720.2	4.5	134-SB-135	127	5/27/2014	-1.2	Target Elevation Reached
685237.1	601700.2	1.3	134-SB-134R	127	6/2/2014	0.1	Target Elevation Reached
685258.0	601714.0	-1.1	134-SB-012	127	5/29/2014	-1.4	Target Elevation Reached
685226.8	601681.6	-0.7	134-SB-133	127	6/2/2014	-7.6	Target Elevation Reached
685172.0	601639.0	-5.6	134-SB-013	127	6/5/2014	-7.7	Target Elevation Reached
685285.7	601758.3	2.4	134-SB-014R	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	134-SB-136R	126	6/2/2014	-1.4	Target Elevation Reached
685122.8	601623.1	-8.4	134-SB-115	126	6/10/2014	-8.8	Target Elevation Reached
685155.2	601653.8	-5.8	134-SB-122	126	6/10/2014	-7.8	Target Elevation Reached
685178.8	601676.4	-6.1	134-SB-131	126	6/10/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.3)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685212.9	601702.0	-0.7	134-SB-130	126	6/10/2014	-7.7	Target Elevation Reached
685277.9	601769.3	2.4	134-SB-014R	125	6/2/2014	-0.6	Target Elevation Reached
685269.3	601754.4	-1.1	134-SB-138	125	6/2/2014	-1.7	Target Elevation Reached
685158.0	601676.7	-6.7	134-SB-129R	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	134-SB-115R	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	2.4	134-SB-014R	124	6/10/2014	0.1	Target Elevation Reached
685266.0	601776.0	2.4	134-SB-014	124	6/10/2014	-2.9	Target Elevation Reached
685100.0	601650.0	1.2	134-SB-116	124	6/17/2014	-8.2	Stratum D Reached
685136.1	601677.4	-7.7	134-SB-121	124	6/17/2014	-8.1	Stratum D Reached
685262.3	601792.9	2.4	134-SB-014R	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-1.5	134-SB-137R	123	6/10/2014	-2.8	Target Elevation Reached
685225.1	601760.9	-1.3	134-SB-136	123	6/10/2014	-1.7	Target Elevation Reached
685165.9	601710.7	-6.7	134-SB-129	123	6/17/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	134-SB-120R	123	6/20/2014	-7.8	Stratum D Reached
685252.4	601807.4	2.4	134-SB-014R	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601798.5	-1.5	134-SB-137	122	6/17/2014	-2.8	Target Elevation Reached
685207.9	601771.1	-1.3	134-SB-136R	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-6.7	134-SB-129R	122	6/20/2014	-7.5	Stratum D Reached
685113.6	601700.2	-8.7	134-SB-120	122	6/20/2014	-6.9	Stratum D Reached
685242.2	601818.1	2.4	134-SB-014R	121	6/17/2014	0.3	Target Elevation Reached
685201.0	601787.0	-0.6	134-SB-015	121	6/20/2014	-2.5	Target Elevation Reached
685189.3	601776.9	-1.3	134-SB-136R	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.3	124-SB-124R	121	6/25/2014	-2.5	Target Elevation Reached
685175.7	601754.9	-4.5	134-SB-127	121	6/20/2014	-7.8	Stratum D Reached
685140.4	601734.6	-0.8	134-SB-125	121	6/20/2014	-7.4	Stratum D Reached
685104.7	601708.0	-8.7	134-SB-120R	121	6/25/2014	-6.1	Stratum D Reached
685079.9	601677.2	0.9	134-SB-117	121	6/20/2014	-6.8	Stratum D Reached
685233.4	601829.1	2.4	134-SB-014R	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-1.5	134-SB-137R	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.3	134-SB-136R	120	6/20/2014	-1.5	Target Elevation Reached
685112.0	601735.0	-6.7	134-SB-016	120	6/25/2014	-7.5	Stratum D Reached
685094.8	601725.1	-5.2	134-SB-119	120	6/25/2014	-6.9	Stratum D Reached
685062.9	601695.5	-7.9	134-SB-118	120	6/25/2014	-6.4	Stratum D Reached
685159.9	601776.2	-2.3	134-SB-124	120	6/25/2014	-2.5	Target Elevation Reached
685223.8	601840.5	2.4	134-SB-014R	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-1.5	134-SB-137R	119	6/25/2014	-2.8	Target Elevation Reached
685170.4	601797.8	0.4	134-SB-060	119	6/25/2014	-1.4	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.4)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.7	601780.4	-2.3	124-SB-124R	119	6/25/2014	-2.8	Target Elevation Reached
685208.4	601850.6	2.4	134-SB-033R	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.4	134-SB-033R	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.4	134-SB-033R	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.4	134-SB-033R	115A	6/25/2014	-0.1	Target Elevation Reached
685069.9	601738.9	4.1	134-SB-155	118B	6/30/2014	-7.1	Stratum D Reached
685042.3	601722.7	-8.9	134-SB-141	118B	7/8/2014	-7.1	Stratum D Reached
685057.7	601744.9	-8.9	134-SB-141R	117B	7/8/2014	-6.5	Stratum D Reached
685040.6	601747.5	-6.8	134-SB-147	116B	7/8/2014	-6.9	Stratum D Reached
685024.0	601763.4	4.1	134-SB-154	115B	7/10/2014	-5.6	Stratum D Reached
685177.7	601903.0	2.4	134-SB-033R	114A	6/30/2014	0.5	Target Elevation Reached
685132.0	601873.0	-5.5	134-SB-019	114A	12/8/2014	-5.7	Stratum D (Re-Excavated)
685014.9	601776.3	4.1	134-SB-154R	114B	7/10/2014	3.9	Target Elevation Reached
685159.0	601914.0	2.4	134-SB-033	113A	7/3/2014	0.7	Target Elevation Reached
685006.3	601780.6	4.1	134-SB-154R	113B	7/17/2014	3.6	Target Elevation Reached
685157.5	601925.6	2.4	134-SB-033R	112A	7/8/2014	0.0	Target Elevation Reached
685126.3	601904.5	-1.2	134-SB-052	112A	7/8/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.1	134-SB-154R	112B	7/17/2014	3.6	Target Elevation Reached
685145.9	601933.8	2.4	134-SB-033R	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	134-SB-052R	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.1	134-SB-154R	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.4	134-SB-033R	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	134-SB-052R	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.1	134-SB-154R	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.4	134-SB-033R	109A	7/10/2014	1.5	Target Elevation Reached
685111.5	601936.0	1.4	134-SB-056	109A	7/10/2014	-1.3	Target Elevation Reached
684960.2	601820.4	4.1	134-SB-154R	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.4	134-SB-033R	108A	7/17/2014	1.6	Target Elevation Reached
685087.5	601946.0	-1.2	134-SB-052R	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.1	134-SB-154R	108B	7/17/2014	3.6	Target Elevation Reached
685117.6	601982.8	0.9	134-SB-062	107A	7/17/2014	-5.0	Stratum D Reached
685087.5	601965.4	1.8	134-SB-051	107A	7/17/2014	-5.1	Stratum D Reached
684939.3	601841.8	4.1	134-SB-154R	107B	7/17/2014	3.6	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.5)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684928.5	601848.2	4.1	134-SB-154R	106B	7/17/2014	3.8	Target Elevation Reached
685068.4	601974.0	-3.3	134-SB-061	106A	11/20/2014	-5.7	Stratum D Reached (Re-Excavated)
685046.6	601950.7	1.2	134-SB-061R	106A	7/23/2014	-2.8	Target Elevation Reached
685076.6	601999.1	-6.7	134-SB-065	105	7/23/2014	-4.7	Stratum D Reached
685029.8	601954.8	1.2	134-SB-061R	105	7/23/2014	-2.8	Target Elevation Reached
685087.0	602018.0	-5.7	134-SB-024	104	7/29/2014	-5.1	Stratum D Reached
685017.7	601961.5	1.2	134-SB-061R	104	7/29/2014	-5.7	Stratum D Reached
685065.1	602014.9	-5.2	134-SB-064	103	7/29/2014	-5.1	Stratum D Reached
685036.9	601997.8	-5.2	134-SB-078	103	7/29/2014	-6.2	Stratum D Reached
685012.7	601978.2	-7.5	134-SB-113	103	11/20/2014	-7.6	Stratum D Reached (Re-Excavated)
685021.0	602007.9	-7.9	134-SB-080	102	7/31/2014	-6.0	Stratum D Reached
685024.9	602029.4	-7.8	134-SB-042	101	8/4/2014	-5.6	Stratum D Reached
684982.2	601991.3	0.1	134-SB-098	101	8/4/2014	-8.0	Stratum D Reached
685016.6	602043.2	-6.1	134-SB-032R	100	8/6/2014	-6.2	Stratum D Reached
685003.8	602054.0	-6.4	134-SB-083	99	8/6/2014	-5.4	Stratum D Reached
685001.8	602054.2	-7.4	134-SB-S08	99	8/6/2014	-5.2	Stratum D Reached
685033.1	602098.5	-6.7	134-SB-063	98	8/8/2014	-5.4	Stratum D Reached
684988.8	602075.4	-7.4	134-SB-043	97	8/8/2014	-4.6	Stratum D Reached
684959.7	602075.1	-7.1	134-SB-054	96	8/12/2014	-5.1	Stratum D Reached
685001.0	602117.0	-6.1	134-SB-032	95	8/12/2014	-5.5	Stratum D Reached
684972.2	602122.1	-6.1	134-SB-032R	94	8/14/2014	-4.6	Stratum D Reached
684941.6	602113.9	-7.6	134-SB-044	93	8/14/2014	-5.1	Stratum D Reached
684945.3	602113.6	-5.6	134-SB-084	93	8/14/2014	-5.1	Stratum D Reached
684966.5	602131.5	-6.4	134-SB-085	93	8/14/2014	-4.4	Stratum D Reached
684994.9	602150.7	-6.4	134-SB-086	93	8/14/2014	-5.0	Stratum D Reached
684955.8	602150.0	-6.1	134-SB-032R	92	8/18/2014	-4.6	Stratum D Reached
684946.6	602152.9	-7.0	134-SB-046	91	8/18/2014	-4.9	Stratum D Reached
684969.5	602171.1	-6.5	134-SB-047	91	8/18/2014	-5.2	Stratum D Reached
684915.0	602157.9	-6.4	134-SB-150	90	8/20/2014	-5.9	Stratum D Reached
684948.5	602187.3	-5.8	134-SB-158	90	8/20/2014	-5.2	Stratum D Reached
684908.2	602155.7	-8.0	134-SB-049	89	8/20/2014	-5.9	Stratum D Reached
684943.6	602214.1	-6.9	140-SB-035	88	8/25/2014	-6.7	Stratum D Reached
684905.5	602180.6	-7.8	140-SB-063	88	8/25/2014	-6.1	Stratum D Reached
684875.3	602175.3	-7.8	140-SB-062	87	8/25/2014	-5.8	Stratum D Reached
684875.5	602187.9	-7.3	140-SB-103	86	8/29/2014	-5.8	Stratum D Reached
684915.0	602239.0	-6.1	140-SB-007	85	8/29/2014	-5.7	Stratum D Reached
684896.1	602229.3	-6.6	140-SB-038	85	8/29/2014	-5.7	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.6)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684862.9	602228.0	-6.1	134-SB-032R	84	9/4/2014	-5.6	Stratum D Reached
684901.7	602269.3	-5.3	140-SB-040	83	9/4/2014	-5.7	Stratum D Reached
684826.5	602208.8	-6.5	140-SB-051	83	9/4/2014	-4.7	Stratum D Reached
684854.3	602237.3	-6.7	140-SB-041	83	9/4/2014	-4.9	Stratum D Reached
684771.0	602188.4	-4.8	140-SB-044	82	9/10/2014	-5.2	Stratum D Reached
684800.2	602210.9	-6.5	140-SB-042	82	9/10/2014	-4.7	Stratum D Reached
684865.2	602271.1	-6.2	140-SB-064	82	9/10/2014	-4.8	Stratum D Reached
684830.9	602252.5	-6.3	140-SB-066	81	9/17/2014	-3.1	Stratum D Reached
684716.6	602169.4	-0.2	140-SB-043	81	9/17/2014	-5.0	Stratum D Reached
684755.4	602222.4	-5.7	140-SB-047	80	9/23/2014	-4.6	Stratum D Reached
684823.4	602275.4	-5.0	140-SB-048	80	9/17/2014	-2.8	Stratum D Reached
684687.1	602171.5	0.3	140-SB-049	79	9/23/2014	-3.9	Stratum D Reached
684721.0	602200.6	-4.2	140-SB-046	79	9/23/2014	-5.1	Stratum D Reached
684680.8	602178.0	-3.3	140-SB-075	79	9/23/2014	-3.3	Stratum D Reached
684695.5	602194.5	-4.8	140-SB-018	79	9/23/2014	-4.4	Stratum D Reached
684767.0	602244.0	-4.4	140-SB-010	79	9/23/2014	-4.0	Stratum D Reached
684818.0	602299.0	-5.4	140-SB-009	78	9/23/2014	-3.3	Stratum D Reached
684855.0	602329.0	-5.8	140-SB-065	78	9/23/2014	-2.7	Stratum D Reached
684656.0	602192.0	-2.7	140-SB-026	77	9/29/2014	-2.3	Stratum D Reached
684740.4	602255.2	-5.4	140-SB-082	77	9/29/2014	-3.5	Stratum D Reached
684815.0	602348.7	-3.4	140-SB-094	76	10/2/2014	-3.0	Stratum D Reached
684787.4	602330.2	-0.4	140-SB-086	75	10/2/2014	-4.0	Stratum D Reached
684744.9	602306.7	-1.4	140-SB-083	75	10/2/2014	-4.5	Stratum D Reached
684713.1	602276.0	-0.4	140-SB-081	75	10/2/2014	-3.2	Stratum D Reached
684668.4	602240.2	0.1	140-SB-079	75	10/2/2014	-2.9	Stratum D Reached
684643.7	602221.3	-4.2	140-SB-050	75	10/2/2014	-3.6	Stratum D Reached
684628.7	602233.7	-2.9	140-SB-074	74	10/2/2014	-3.1	Stratum D Reached
684703.0	602285.6	2.6	140-SB-080	74	10/2/2014	-3.1	Stratum D Reached
684733.7	602322.4	0.6	140-SB-084	74	10/2/2014	-3.2	Stratum D Reached
684799.9	602371.9	0.1	140-SB-088	74	10/2/2014	-2.9	Stratum D Reached
684653.9	602259.3	-1.4	140-SB-078	73	10/2/2014	-3.6	Stratum D Reached
684755.3	602343.3	0.6	140-SB-085	73	10/7/2014	-1.6	Stratum D Reached
684660.7	602300.1	0.9	140-SB-089	72	10/9/2014	-2.8	Stratum D Reached
684693.1	602326.3	-3.0	140-SB-090	72	10/7/2014	-3.3	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.7)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684745.4	602367.1	1.0	140-SB-091	72	10/7/2014	-0.1	Target Elevation Reached
684640.0	602295.0	1.9	140-SB-011	71	10/9/2014	-4.0	Stratum D Reached
684734.3	602372.2	0.4	125-SB-029R	71	10/9/2014	0.2	Target Elevation Reached
684629.9	602309.5	5.8	140-SB-033	70	10/9/2014	2.4	Target Elevation Reached
684725.2	602383.8	0.4	125-SB-029R	70	10/9/2014	0.1	Target Elevation Reached
684642.9	602315.4	0.9	140-SB-089R	70	10/9/2014	-0.4	Target Elevation Reached
684764.0	602429.2	-7.0	140-SB-N07	69	10/14/2014	-2.4	Stratum D Reached
684715.1	602395.2	0.4	125-SB-029R	69	10/14/2014	0.1	Target Elevation Reached
684632.0	602327.7	5.8	140-SB-033R	69	10/14/2014	3.2	Target Elevation Reached
684669.3	602386.6	-0.6	140-SB-070	68	10/21/2014	-2.3	Stratum D Reached
684679.0	602393.0	0.0	140-SB-013	68	10/14/2014	-2.4	Stratum D Reached
684760.1	602448.4	-1.4	140-SB-083R	68	10/14/2014	-2.5	Stratum D Reached
684706.4	602407.6	0.4	125-SB-029R	68	10/14/2014	0.1	Target Elevation Reached
684629.6	602343.1	5.8	140-SB-033R	68	10/14/2014	3.5	Target Elevation Reached
684749.9	602465.0	-1.4	140-SB-083R	67	10/21/2014	-2.1	Stratum D Reached
684700.0	602423.0	0.8	140-SB-012	67	10/21/2014	-0.1	Target Elevation Reached
684715.4	602440.1	-1.0	140-SB-029	67	10/21/2014	-1.4	Stratum D Reached
684662.8	602394.7	-1.4	140-SB-083R	67	10/21/2014	-2.8	Stratum D Reached
684743.0	602477.1	-1.4	140-SB-083R	66	10/21/2014	-2.1	Stratum D Reached
684726.5	602463.1	0.4	125-SB-029R	66	10/21/2014	-0.1	Target Elevation Reached
684704.4	602442.0	-1.2	125-SB-073R	66	10/21/2014	-1.6	Stratum D Reached
684689.4	602431.1	0.4	125-SB-029R	66	10/21/2014	0.1	Target Elevation Reached
684666.6	602417.0	-2.7	140-SB-068	66	10/21/2014	-3.0	Stratum D Reached
684735.5	602488.2	-1.4	140-SB-083R	65	10/24/2014	-2.5	Stratum D Reached
684719.9	602481.3	0.4	125-SB-029R	65	10/24/2014	0.1	Target Elevation Reached
684701.3	602460.9	-1.2	125-SB-073R	65	10/24/2014	-2.4	Stratum D Reached
684680.3	602442.8	0.4	125-SB-029R	65	10/21/2014	-0.2	Target Elevation Reached
684657.6	602419.2	-1.4	140-SB-083R	65	10/21/2014	-3.2	Stratum D Reached
684666.2	602452.6	2.5	140-SB-030	64	10/21/2014	-3.4	Stratum D Reached
684735.4	602510.4	-3.6	140-SB-067	64	10/24/2014	-2.3	Stratum D Reached
684713.8	602503.3	4.3	140-SB-028	63	10/27/2014	-2.4	Stratum D Reached
684727.7	602515.9	-2.0	140-SB-104	63	10/27/2014	-2.2	Stratum D Reached
684648.6	602457.4	0.4	125-SB-029R	63	10/21/2014	-0.3	Target Elevation Reached
684686.3	602512.3	-1.2	125-SB-073R	62	10/27/2014	-2.6	Stratum D Reached
684645.5	602469.8	0.4	125-SB-029R	62	10/21/2014	-0.3	Target Elevation Reached
684653.2	602490.5	0.2	125-SB-057	61	10/24/2014	-2.6	Stratum D Reached
684675.4	602508.2	-1.2	125-SB-073	61	10/27/2014	-2.5	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.8)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684697.8	602526.3	-2.2	125-SB-055	61	10/28/2014	-2.9	Stratum D Reached
684707.1	602549.9	-3.4	125-SB-072	61	10/28/2014	-2.8	Stratum D Reached
684639.4	602487.5	0.4	125-SB-029R	61	10/21/2014	-0.2	Target Elevation Reached
684675.5	602538.7	-1.2	125-SB-073R	60	10/28/2014	-3.1	Stratum D Reached
684629.9	602496.7	0.4	125-SB-029R	60	10/21/2014	-0.4	Target Elevation Reached
684613.5	602491.1	2.1	125-SB-069R	60	10/21/2014	1.7	Target Elevation Reached
684678.4	602552.4	-2.4	125-SB-061	59	10/28/2014	-2.9	Stratum D Reached
684615.0	602501.1	0.5	125-SB-048	59	10/21/2014	-0.1	Target Elevation Reached
684633.9	602516.6	0.6	125-SB-046	59	10/24/2014	-2.5	Stratum D Reached
684656.3	602534.7	-1.4	125-SB-074	59	10/27/2014	-2.6	Stratum D Reached
684604.5	602498.0	2.1	125-SB-069R	59	10/21/2014	1.7	Target Elevation Reached
684916.0	601955.0	-1.2	134-SB-026	Area 41	12/10/2014	-2.0	Target Elevation Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area. Coordinates come from Center Points within that specific cell.

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

* Target Reached. Over excavation conducted as directed by engineer.

SA-6 South Excavation: Center Points (Table 2.0)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685460.6	601379.6	5.7	C-153	153	4/24/2014	3.9	Target Elevation Reached- Cell only partially excavated
685497.5	601425.0	5.7	C-152	152	4/24/2014	4.2	Target Elevation Reached
685453.0	601392.1	5.7	C-152-1	152	4/24/2014	3.7	Target Elevation Reached
685467.8	601422.4	5.7	C-151	151	4/24/2014	1.9	Target Elevation Reached
685489.7	601438.8	5.7	C-151-1	151	4/24/2014	3.9	Target Elevation Reached
685448.1	601407.0	5.7	C-151-2	151	4/24/2014	4.0	Target Elevation Reached
685511.4	601454.1	3.3	C-151-3	151	4/25/2014	3.0	Target Elevation Reached
685455.0	601431.7	5.7	C-150	150	4/24/2014	2.1	Target Elevation Reached
685480.8	601450.0	5.7	C-150-1	150	4/24/2014	4.0	Target Elevation Reached
685502.2	601463.5	2.8	C-150-2	150	4/25/2014	2.8	Target Elevation Reached
685490.0	601478.5	5.7	C-149	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	5.7	C-148	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	5.7	C-147	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	5.7	C-146	146A	4/24/2014	5.6	Target Elevation Reached
685444.3	601518.5	5.7	C-145	145A	4/24/2014	5.5	Target Elevation Reached
685403.0	601506.0	-4.3	C-144	144A	4/24/2014	-4.5	Target Elevation Reached
685433.1	601528.8	5.7	C-144-1	144A	4/24/2014	5.4	Target Elevation Reached
685396.1	601517.4	-4.3	C-143	143A	4/24/2014	-5.3	Target Elevation Reached
685427.6	601544.4	5.7	C-143-1	143A	4/24/2014	5.5	Target Elevation Reached
685386.6	601530.7	-4.3	C-142	142A	4/24/2014	-4.8	Target Elevation Reached
685416.3	601555.6	5.7	C-142-1	142A	4/24/2014	1.9	Target Elevation Reached
685379.5	601542.9	-4.3	C-141	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.1	C-141-1	141A	4/24/2014	2.0	Target Elevation Reached
685371.7	601554.8	-4.3	C-140	140A	4/24/2014	-4.5	Target Elevation Reached
685401.1	601580.7	2.1	C-140-1	140A	4/24/2014	-1.5	Target Elevation Reached
685352.9	601555.6	-4.3	C-139	139A	4/24/2014	-4.4	Target Elevation Reached
685390.7	601590.5	-1.2	C-139-1	139A	4/24/2014	-1.6	Target Elevation Reached
685368.1	601592.3	-1.2	C-138	138A	4/29/2014	-1.5	Target Elevation Reached
685338.6	601567.5	2.1	C-138-1	138A	4/29/2014	1.7	Target Elevation Reached
685359.7	601603.5	-1.2	C-137	137A	4/29/2014	-1.5	Target Elevation Reached
685328.7	601577.4	2.1	C-137-1	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-7.5	C-146-B	146B	5/5/2014	-8.0	Target Elevation Reached
685320.3	601420.2	-7.5	C-145-B	145B	5/5/2014	-7.8	Target Elevation Reached
685314.6	601432.4	-7.5	C-144-B	144B	5/8/2014	-8.2	Target Elevation Reached
685307.0	601446.0	-7.5	C-143-B	143B	5/8/2014	-8.0	Target Elevation Reached
685306.3	601465.9	-7.5	C142-B	142B	5/12/2014	-7.6	Target Elevation Reached
685304.8	601483.2	-7.5	C-141-B	141B	5/12/2014	-7.9	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.1)

Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685295.5	601493.5	-7.5	C-140-B	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-7.5	C-139-B	139B	5/14/2014	-7.8	Target Elevation Reached
685266.5	601506.3	-7.5	C-138-B	138B	5/14/2014	-7.8	Target Elevation Reached
685277.8	601539.2	2.1	C-137-B	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-1.2	C-136-2	136	5/5/2014	-1.5	Target Elevation Reached
685343.4	601610.1	-2.5	C-136	136	5/5/2014	-2.8	Target Elevation Reached
685315.0	601587.9	2.1	C-136-1	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-1.2	C-135-1	135	5/8/2014	-1.4	Target Elevation Reached
685348.8	601634.5	-2.5	C-135	135	5/8/2014	-2.6	Target Elevation Reached
685272.1	601572.6	2.1	C-135-2	135	5/19/2014	1.7	Target Elevation Reached
685236.7	601544.8	-1.2	C-135-3	135	5/19/2014	-1.3	Target Elevation Reached
685358.1	601659.9	-1.2	C-134-1	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-2.5	C-134	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	C-134-2	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	-1.2	C-134-3	134	5/19/2014	-1.2	Target Elevation Reached
685322.3	601651.3	-1.2	C-133-1	133	5/14/2014	-1.7	Target Elevation Reached
685338.7	601665.5	0.4	C-133	133	5/12/2014	-0.1	Target Elevation Reached
685264.0	601607.6	2.1	C-133-2	133	5/19/2014	1.8	Target Elevation Reached
685215.0	601563.9	-1.2	C-133-3	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.1	C-132-1	132	5/12/2014	1.7	Target Elevation Reached
685314.3	601666.4	-1.2	C-132	132	5/14/2014	-1.5	Target Elevation Reached
685210.3	601579.7	-2.5	C-132-B	132	5/22/2014	-3.2	Target Elevation Reached
685194.1	601565.5	-1.2	C-132-B1	132	5/22/2014	-1.6	Target Elevation Reached
685257.3	601619.3	2.1	C-132-2	132	5/19/2014	1.8	Target Elevation Reached
685307.8	601677.9	-1.2	C-131	131	5/14/2014	-1.4	Target Elevation Reached
685202.7	601594.7	-2.5	C-131-B	131	5/22/2014	-2.9	Target Elevation Reached
685184.3	601577.4	-1.2	C-131-B1	131	5/22/2014	-2.1	Target Elevation Reached
685328.1	601694.6	2.1	C-131-1	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	C-131-2	131	5/19/2014	2.0	Target Elevation Reached
685193.4	601601.4	-2.5	C-130-B	130	5/22/2014	-2.5	Target Elevation Reached
685300.8	601690.9	-1.2	C-130	130	5/19/2014	-1.5	Target Elevation Reached
685176.5	601589.8	-1.2	C-130-B1	130	5/22/2014	-1.9	Target Elevation Reached
685240.0	601641.1	2.1	C-130-2	130	5/19/2014	1.9	Target Elevation Reached
685321.3	601708.0	2.1	C-130-1	130	5/19/2014	1.9	Target Elevation Reached
685294.8	601706.8	-1.2	C-129-A	129	5/22/2014	-1.4	Target Elevation Reached
685311.8	601720.4	2.1	C-129-A1	129	5/22/2014	1.9	Target Elevation Reached
685186.2	601619.2	-7.5	C-129-B	129	5/27/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.2)

Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685236.4	601661.1	0.4	C-129-1	129	5/27/2014	0.1	Target Elevation Reached
685263.1	601682.1	2.1	C-129-2	129	5/22/2014	1.8	Target Elevation Reached
685303.5	601732.5	2.1	C-128-A-1	128	5/22/2014	1.9	Target Elevation Reached
685286.6	601718.1	-1.2	C-128-A	128	5/22/2014	-1.4	Target Elevation Reached
685269.5	601703.1	2.1	C-128-A-2	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	0.4	C-128-A-3	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-7.5	C-128-B	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	0.4	C-127-A	127	5/29/2014	0.3	Target Elevation Reached
685271.3	601725.5	-1.2	C-127-A-1	127	5/29/2014	-1.3	Target Elevation Reached
685237.1	601700.2	0.4	C-127-A-2	127	6/2/2014	0.1	Target Elevation Reached
685171.9	601645.3	-7.5	C-127-B	127	6/5/2014	-7.5	Target Elevation Reached
685285.7	601758.3	0.4	C-126-A-1	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	C-126-A	126	6/2/2014	-1.4	Target Elevation Reached
685166.8	601663.7	-7.5	C-126-3	126	6/10/2014	-7.6	Target Elevation Reached
685122.3	601624.7	-8.4	C-126-4	126	6/10/2014	-8.8	Target Elevation Reached
685277.9	601769.3	0.4	C-125	125	6/2/2014	-0.6	Target Elevation Reached
685241.9	601742.6	-1.2	C-125-1	125	6/5/2014	-1.4	Target Elevation Reached
685158.0	601676.7	-7.5	C-125-2	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	C-125-3	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	0.4	C-124	124	6/10/2014	0.1	Target Elevation Reached
685261.7	601778.9	-2.5	C-124-1	124	6/10/2014	-2.8	Target Elevation Reached
685230.8	601752.7	-1.2	C-124-2	124	6/10/2014	-1.4	Target Elevation Reached
685172.8	601704.6	-7.5	C-124-4	124	6/17/2014	-7.7	Stratum D Reached
685128.8	601669.1	-8.7	C-124-5	124	6/17/2014	-7.8	Stratum D Reached
685104.8	601647.4	-7.5	C-124-6	124	6/17/2014	-8.6	Stratum D Reached
685262.3	601792.9	0.4	C-123	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-2.5	C-123-1	123	6/10/2014	-2.8	Target Elevation Reached
685221.2	601763.9	-1.2	C-123-2	123	6/10/2014	-1.7	Target Elevation Reached
685162.4	601719.5	-7.5	C-123-3	123	6/20/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	C-123-4	123	6/20/2014	-7.8	Stratum D Reached
685091.7	601659.6	-7.5	C-123-5	123	6/20/2014	-8.1	Stratum D Reached
685252.4	601807.4	0.4	C-122	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601792.7	-2.5	C-122-1	122	6/13/2014	-2.6	Target Elevation Reached
685207.9	601771.1	-1.2	C-122-2	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-7.5	C-122-5	122	6/20/2014	-7.5	Stratum D Reached
685108.5	601694.5	-8.7	C-122-6	122	6/20/2014	-6.9	Stratum D Reached
685086.9	601671.6	-7.5	C-122-3	122	6/20/2014	-7.4	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.3)

Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685242.2	601818.1	0.4	C-121	121	6/17/2014	0.3	Target Elevation Reached
685214.5	601794.9	-2.5	C-121-3	121	6/20/2014	-2.6	Target Elevation Reached
685189.3	601776.9	-1.2	C-121-2	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.5	C-121-5	121	6/25/2014	-2.5	Target Elevation Reached
685127.3	601725.9	-7.5	C-121-6	121	6/25/2014	-7.0	Stratum D Reached
685104.7	601708.0	-8.7	C-121-7	121	6/25/2014	-6.1	Stratum D Reached
685073.0	601686.3	-7.5	C-121-8	121	6/25/2014	-7.1	Stratum D Reached
685233.4	601829.1	0.4	C-120-1	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-2.5	C-120	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.2	C-120-2	120	6/20/2014	-1.5	Target Elevation Reached
685153.6	601765.8	-2.5	C-120-3	120	6/25/2014	-2.7	Target Elevation Reached
685095.6	601718.8	-7.5	C-120-4	120	6/25/2014	-6.9	Stratum D Reached
685223.8	601840.5	0.4	C-119	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-2.5	C-119-1	119	6/25/2014	-2.8	Target Elevation Reached
685172.6	601798.3	-1.2	C-119-2	119	6/25/2014	-1.2	Target Elevation Reached
685145.7	601780.4	-2.5	C-119-3	119	6/25/2014	-2.8	Target Elevation Reached
685080.0	601724.8	-7.5	C-119-4	119	6/30/2014	-6.9	Stratum D Reached
685208.4	601850.6	2.1	C-118	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.1	C-117	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.1	C-116	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.1	C-115	115A	6/25/2014	-0.1	Target Elevation Reached
685069.7	601734.8	-7.5	C-118-1	118B	6/30/2014	-6.1	Stratum D Reached
685057.7	601744.9	-7.5	C-117-1	117B	7/8/2014	-6.5	Stratum D Reached
685031.8	601746.6	-7.5	C-116-1	116B	7/8/2014	-7.0	Stratum D Reached
685022.1	601754.6	-7.5	C-115-1	115B	7/10/2014	-5.9	Stratum D Reached
685177.7	601903.0	2.1	C-114	114A	6/30/2014	0.5	Target Elevation Reached
685147.1	601873.7	-1.2	C-114-1	114A	6/30/2014	-1.3	Target Elevation Reached
685014.9	601776.3	4.2	C-114-2	114B	7/10/2014	3.9	Target Elevation Reached
684985.2	601787.3	4.2	C-114-3	114B	7/17/2014	-1.8	UST Area
685166.0	601912.1	2.1	C-113-1	113A	7/3/2014	0.9	Target Elevation Reached
685134.0	601884.4	-1.2	C-113-2	113A	7/3/2014	-1.7	Target Elevation Reached
685006.3	601780.6	4.2	C-113-3	113B	7/17/2014	3.6	Target Elevation Reached
684998.3	601772.8	4.2	C-113-4	113B	7/17/2014	-2.1	UST Area
685157.5	601925.6	2.1	C-112	112A	7/8/2014	0.0	Target Elevation Reached
685124.9	601894.4	-1.2	C-112-1	112A	7/3/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.2	C-112-2	112B	7/17/2014	3.6	Target Elevation Reached
685002.7	601764.7	4.2	C-112-3	112B	7/17/2014	-2.0	UST Area

SA-6 South Excavation: Center Points (Table 2.4)

Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.9	601933.8	2.1	C-111-1	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	C-111	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.2	C-111-4	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.1	C-110	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	C-110-1	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.2	C-110-4	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.1	C-109	109A	7/10/2014	1.5	Target Elevation Reached
685097.4	601930.7	-1.2	C-109-1	109A	7/10/2014	-1.5	Target Elevation Reached
684960.2	601820.4	4.2	C-109-4	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.1	C-108-1	108A	7/17/2014	1.6	Target Elevation Reached
685087.5	601946.0	-1.2	C-108	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.2	C-108-4	108B	7/17/2014	3.6	Target Elevation Reached
685110.1	601981.8	-4.3	C-107-1	107A	7/17/2014	-4.8	Stratum D Reached
685069.0	601948.1	-1.2	C-107-2	107A	7/17/2014	-1.3	Target Elevation Reached
684939.3	601841.8	4.2	C-107-4	107B	7/17/2014	3.6	Target Elevation Reached
684928.5	601848.2	4.2	C-106-4	106B	7/17/2014	3.8	Target Elevation Reached
685089.2	601980.6	-4.3	C-106	106A	7/23/2014	-5.3	Stratum D Reached
685046.6	601950.7	-2.5	C-106-1	106A	7/23/2014	-2.8	Target Elevation Reached
685080.0	601994.5	-4.3	C-105	105	7/23/2014	-5.2	Stratum D Reached
685029.8	601954.8	-2.5	C-105-1	105	7/23/2014	-2.8	Target Elevation Reached
685062.9	602000.7	-4.3	C-104	104	7/29/2014	-5.3	Stratum D Reached
685017.7	601961.5	-2.5	C-104-1	104	7/29/2014	-5.7	Stratum D Reached
685027.6	601993.5	-4.3	C-103	103	7/29/2014	-6.5	Stratum D Reached
685021.1	602004.8	-4.3	C-102	102	7/31/2014	-6.1	Stratum D Reached
685014.2	602023.1	-4.3	C-101	101	8/4/2014	-5.8	Stratum D Reached
685016.6	602043.2	-4.3	C-100	100	8/6/2014	-6.2	Stratum D Reached
685015.8	602057.5	-4.3	C-99	99	8/6/2014	-5.6	Stratum D Reached
685008.9	602072.0	-4.3	C-98	98	8/8/2014	-5.2	Stratum D Reached
685000.4	602084.6	-4.3	C-97	97	8/8/2014	-4.8	Stratum D Reached
684989.2	602093.1	-4.3	C-96	96	8/12/2014	-5.5	Stratum D Reached
684975.6	602105.6	-4.3	C-95	95	8/12/2014	-5.6	Stratum D Reached
684972.2	602122.1	-4.3	C-94	94	8/14/2014	-4.6	Stratum D Reached
684974.5	602139.6	-4.3	C-93	93	8/14/2014	-4.2	Stratum D Reached
684955.8	602150.0	-4.3	C-92	92	8/18/2014	-4.6	Stratum D Reached
684946.7	602163.1	-4.3	C-91	91	8/18/2014	-4.8	Stratum D Reached
684941.7	602173.1	-4.3	C-90	90	8/20/2014	-4.9	Stratum D Reached
684922.3	602179.9	-4.3	C-89	89	8/20/2014	-5.3	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.5)

Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684912.0	602189.2	-4.3	C-88	88	8/25/2014	-6.3	Stratum D Reached
684895.8	602194.1	-4.3	C-87	87	8/25/2014	-6.0	Stratum D Reached
684880.8	602203.6	-4.3	C-86	86	8/29/2014	-5.8	Stratum D Reached
684872.8	602212.7	-4.3	C-85	85	8/29/2014	-5.2	Stratum D Reached
684862.9	602228.0	-4.3	C-84	84	9/4/2014	-5.6	Stratum D Reached
684820.9	602207.7	-2.5	C-83	83	9/4/2014	-4.5	Stratum D Reached
684812.4	602218.7	-2.5	C-82	82	9/10/2014	-4.1	Stratum D Reached
684788.9	602227.5	-2.5	C-81	81	9/17/2014	-5.0	Stratum D Reached
684778.7	602237.4	-2.5	C-80	80	9/17/2014	-4.6	Stratum D Reached
684759.2	602240.0	-2.5	C-79	79	9/23/2014	-4.1	Stratum D Reached
684758.4	602256.3	-2.5	C-78	78	9/23/2014	-3.4	Stratum D Reached
684753.6	602273.9	-2.5	C-77	77	9/29/2014	-3.8	Stratum D Reached
684731.1	602272.7	-2.5	C-76	76	9/29/2014	-3.0	Stratum D Reached
684735.0	602292.1	-2.5	C-75	75	10/2/2014	-3.2	Stratum D Reached
684732.6	602313.2	-2.5	C-74	74	10/2/2014	-3.2	Stratum D Reached
684799.5	602381.3	-2.5	C-73	73	10/7/2014	-2.7	Stratum D Reached
684752.7	602351.0	0.4	C-73-1	73	10/7/2014	0.1	Target Elevation Reached
684662.4	602274.6	-2.5	C-73-2	73	10/7/2014	-2.1	Stratum D Reached
684788.0	602395.1	-2.5	C-72	72	10/7/2014	-2.5	Stratum D Reached
684743.1	602361.9	0.4	C-72-1	72	10/7/2014	-0.2	Target Elevation Reached
684664.8	602296.2	-2.5	C-72-2	72	10/7/2014	-3.0	Stratum D Reached
684783.1	602411.4	-2.5	C-71	71	10/9/2014	-2.7	Stratum D Reached
684734.3	602372.2	0.4	C-71-1	71	10/9/2014	0.2	Target Elevation Reached
684652.0	602308.3	-2.5	C-71-2	71	10/9/2014	-2.4	Stratum D Reached
684772.6	602425.4	-2.5	C-70	70	10/9/2014	-2.5	Stratum D Reached
684725.2	602383.8	0.4	C-70-1	70	10/9/2014	0.1	Target Elevation Reached
684674.6	602346.3	-2.5	C-70-2	70	10/9/2014	-2.4	Stratum D Reached
684642.9	602315.4	0.4	C-70-3	70	10/9/2014	-0.4	Target Elevation Reached
684626.5	602306.7	5.7	C-70-4	70	10/9/2014	4.8	Target Elevation Reached
684762.8	602431.3	-2.5	C-69	69	10/14/2014	-2.7	Stratum D Reached
684715.1	602395.2	0.4	C-69-1	69	10/14/2014	0.1	Target Elevation Reached
684670.5	602360.9	-2.5	C-69-2	69	10/14/2014	-2.4	Stratum D Reached
684632.0	602327.7	5.7	C-69-3	69	10/14/2014	3.2	Target Elevation Reached
684760.1	602448.4	-2.5	C-68	68	10/14/2014	-2.5	Stratum D Reached
684706.4	602407.6	0.4	C-68-1	68	10/14/2014	0.1	Target Elevation Reached
684671.6	602375.8	-2.5	C-68-2	68	10/14/2014	-2.2	Stratum D Reached
684629.6	602343.1	5.7	C-68-3	68	10/14/2014	3.5	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.6)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684749.9	602465.0	-2.5	C-67	67	10/21/2014	-2.1	Stratum D Reached
684698.4	602419.3	0.4	C-67-1	67	10/21/2014	-0.2	Target Elevation Reached
684662.8	602394.7	-2.5	C-67-2	67	10/21/2014	-2.8	Stratum D Reached
684743.0	602477.1	-2.5	C-66	66	10/21/2014	-2.1	Stratum D Reached
684726.5	602463.1	0.4	C-66-1	66	10/21/2014	-0.1	Target Elevation Reached
684704.4	602442.0	-1.2	C-66-2	66	10/21/2014	-1.6	Stratum D Reached
684689.4	602431.1	0.4	C-66-3	66	10/21/2014	0.1	Target Elevation Reached
684664.0	602411.1	-2.5	C-66-4	66	10/21/2014	-3.1	Stratum D Reached
684735.5	602488.2	-2.5	C-65	65	10/24/2014	-2.5	Stratum D Reached
684719.9	602481.3	0.4	C-65-1	65	10/24/2014	0.1	Target Elevation Reached
684701.3	602460.9	-1.2	C-65-2	65	10/24/2014	-2.4	Stratum D Reached
684680.3	602442.8	0.4	C-65-3	65	10/21/2014	-0.2	Target Elevation Reached
684657.6	602419.2	-2.5	C-65-4	65	10/21/2014	-3.2	Stratum D Reached
684713.4	602487.7	-1.2	C-64	64	10/24/2014	-1.8	Stratum D Reached
684653.2	602444.8	0.4	C-64-1	64	10/21/2014	-4.0	Increased excavation depth - UST location
684701.6	602502.1	-1.2	C-63	63	10/27/2014	-2.6	Stratum D Reached
684648.6	602457.4	0.4	C-63-1	63	10/21/2014	-0.3	Target Elevation Reached
684686.3	602512.3	-1.2	C-62	62	10/27/2014	-2.6	Stratum D Reached
684645.5	602469.8	0.4	C-62-1	62	10/21/2014	-0.3	Target Elevation Reached
684689.4	602527.1	-1.2	C-61	61	10/28/2014	-2.7	Stratum D Reached
684639.4	602487.5	0.4	C-61-1	61	10/21/2014	-0.2	Target Elevation Reached
684675.5	602538.7	-1.2	C-60	60	10/28/2014	-3.1	Stratum D Reached
684629.9	602496.7	0.4	C-60-1	60	10/21/2014	-0.4	Target Elevation Reached
684613.5	602491.1	2.1	C-60-2	60	10/21/2014	1.7	Target Elevation Reached
684665.2	602547.7	-1.2	C-59	59	10/27/2014	-2.8	Stratum D Reached
684620.0	602510.0	0.4	C-59-1	59	10/21/2014	-0.1	Target Elevation Reached
684604.5	602498.0	2.1	C-59-2	59	10/21/2014	1.7	Target Elevation Reached
685023.9	601966.6	-2.5	C-104L	104	11/20/2014	-6.9	Stratum D Reached
685033.9	601960.1	-2.5	C-105L	105	11/20/2014	-6.6	Stratum D Reached
685039.4	601938.6	-2.5	C-106L	106	11/20/2014	-6.3	Stratum D Reached
685043.6	601927.9	Stratum D	C-107L	Lens Area	11/25/2014	-6.2	Stratum D Reached
685042.9	601906.9	Stratum D	C-108L	Lens Area	11/25/2014	-6.8	Stratum D Reached
685057.6	601895.2	Stratum D	C-109L	Lens Area	12/8/2014	-6.6	Stratum D Reached
685055.4	601873.1	Stratum D	C-110L	Lens Area	12/8/2014	-7.5	Stratum D Reached
685071.5	601867.1	Stratum D	C-111L	Lens Area	12/8/2014	-7.6	Stratum D Reached
685086.2	601861.8	Stratum D	C-112L	Lens Area	12/8/2014	-7.3	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.7)							
Bottom Target Coordinates					As-built Elevations		
685092.3	601848.6	Stratum D	C-113L	Lens Area	12/8/2014	-7.0	Stratum D Reached

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

Green shading indicates 100% Design Bottom Elevation Field Modified to reach < 20 PPM soils .

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)

Sidewall Target Coordinates					As-built Elevations		
685443.0	601355.0	5.8	073-SB-003	153	4/24/2014	4.0	Target Elevation Reached
685441.6	601380.0	6.7	073-SB-078	152	4/24/2014	3.9	Target Elevation Reached
685490.9	601459.8	7.8	073-SB-027	150	4/24/2014	3.8	Target Elevation Reached
685459.6	601448.4	5.9	073-SB-064	149	4/24/2014	2.0	Target Elevation Reached
685438.1	601430.2	8.8	073-SB-063	149	4/24/2014	1.8	Target Elevation Reached
685470.0	601487.0	5.9	073-SB-004	148	4/24/2014	5.7	Target Elevation Reached
685471.0	601475.6	4.3	073-SB-079	148	7/31/2014	4.3	Target Elevation Reached
685451.0	601460.9	7.1	073-SB-082	148	7/31/2014	2.2	Target Elevation Reached
685383.5	601506.5	0.9	073-SB-060	143A	4/24/2014	-4.4	Target Elevation Reached
685368.1	601516.7	0.4	073-SB-077	142A	4/24/2014	-4.5	Target Elevation Reached
685341.4	601558.3	2.9	073-SB-046	139A	4/24/2014	-4.5	Target Elevation Reached
685309.0	601571.0	3.8	073-SB-006	137A	4/29/2014	1.9	Target Elevation Reached
685339.2	601410.1	-5.7	073-SB-048	146B	5/5/2014	-7.7	Target Elevation Reached
685319.6	601464.4	-5.4	073-SB-022	143B	5/8/2014	-7.5	Target Elevation Reached
685332.6	601487.8	-3.6	073-SB-071	142B	5/12/2014	-7.6	Target Elevation Reached
685344.0	601523.8	-4.1	073-SB-076	141B	5/12/2014	-7.6	Target Elevation Reached
685316.0	601542.0	-6.2	073-SB-016	138B	5/14/2014	-7.8	Target Elevation Reached
685304.5	601530.7	-5.8	073-SB-051	138B	5/14/2014	-7.5	Target Elevation Reached
685132.7	601748.9	-1.7	134-SB-126	120	6/25/2014	-7.2	Stratum D Reached
685210.2	601831.4	-0.8	134-SB-072	119	6/25/2014	-2.5	Target Elevation Reached
685116.0	601754.5	-6.0	134-SB-157	119	6/30/2014	-6.9	Stratum D Reached
685165.3	601806.2	3.5	134-SB-094	118B	6/25/2014	-1.6	Target Elevation Reached
685131.0	601787.0	-2.3	134-SB-017	118B	6/25/2014	-3.3	Target Elevation Reached
685197.0	601868.0	6.0	134-SB-034	117A	6/25/2014	-0.3	Target Elevation Reached
685073.0	601769.4	-6.5	134-SB-142	116B	7/8/2014	-6.3	Stratum D Reached
685168.1	601879.4	-0.7	134-SB-058	115A	6/30/2014	-1.6	Target Elevation Reached
685137.3	601854.1	2.7	134-SB-073	115A	6/30/2014	-1.4	Target Elevation Reached
685043.3	601773.2	6.0	134-SB-152	115B	7/10/2014	-5.5	Stratum D Reached
685111.7	601863.3	2.2	134-SB-074	113A	7/3/2014	-1.3	Target Elevation Reached
685013.2	601803.0	6.0	134-SB-156	112B	7/17/2014	3.7	Target Elevation Reached
685081.0	601928.1	-5.5	134-SB-021	109A	11/25/2014	-5.8	Stratum D Reached (Re-Excavated)
684976.1	601816.3	6.1	134-SB-144	110B	7/17/2014	3.9	Target Elevation Reached
684949.4	601849.3	6.1	134-SB-145	107B	7/17/2014	3.8	Target Elevation Reached
684999.6	601940.6	-4.5	134-SB-097	104	11/20/2014	-7.2	Stratum D Reached (Re-Excavated)
684969.0	601950.0	-4.3	134-SB-025	103	7/31/2014	-5.3	Stratum D Reached

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.1)							
Sidewall Target Coordinates					As-built Elevations		
684966.4	601991.2	0.8	134-SB-111	100	8/4/2014	-5.8	Stratum D Reached
684986.0	602025.0	-2.7	134-SB-027	100	8/6/2014	-6.3	Stratum D Reached
684948.7	602072.2	-3.2	134-SB-099	96	8/12/2014	-5.4	Stratum D Reached
684925.0	602120.8	-4.2	134-SB-050	92	8/18/2014	-5.5	Stratum D Reached
684887.0	602147.0	-2.1	134-SB-100	89	8/20/2014	-5.8	Stratum D Reached
684821.2	602190.7	-4.8	140-SB-060	84	9/4/2014	-5.2	Stratum D Reached
684779.8	602174.6	-0.8	140-SB-059	83	9/10/2014	-5.6	Stratum D Reached
684727.5	602143.2	0.7	140-SB-076	83	9/10/2014	-4.5	Stratum D Reached
684701.3	602132.8	-0.8	140-SB-003	82	9/10/2014	-4.8	Stratum D Reached
684686.4	602158.8	-0.8	140-SB-105	80	9/17/2014	-4.8	Stratum D Reached
684651.0	602180.0	-2.1	140-SB-027	77	9/29/2014	-2.8	Stratum D Reached
684630.0	602210.0	-1.9	140-SB-077	75	10/2/2014	-3.0	Stratum D Reached
684622.2	602287.4	-2.0	140-SB-034	71	10/9/2014	-3.0	Stratum D Reached
684597.0	602258.0	-3.2	140-SB-025	71	10/9/2014	-3.1	Stratum D Reached
684626.0	602343.0	6.8	140-SB-014	68	10/14/2014	3.5	Target Elevation Reached
684613.7	602330.2	6.1	140-SB-072	68	10/14/2014	4.5	Target Elevation Reached
684649.1	602367.2	-1.0	140-SB-071	68	10/14/2014	-2.8	Stratum D Reached
684648.1	602370.8	-0.8	140-SB-032	67	10/21/2014	-3.1	Stratum D Reached
684649.1	602409.4	-2.3	140-SB-069	65	10/21/2014	-3.4	Stratum D Reached
684629.1	602423.3	1.5	140-SB-031	64	10/21/2014	-3.5	Stratum D Reached
684633.2	602474.4	0.4	125-SB-058	61	10/21/2014	-0.1	Target Elevation Reached
684616.1	602485.8	3.0	125-SB-068	60	10/21/2014	1.8	Target Elevation Reached
684588.4	602494.2	100.0	125-SB-119	59	10/21/2014	1.5	Target Elevation Reached
685087.0	601829.1	Stratum D	134-SB-171	Lens Area	12/8/2014	-6.1	Stratum D Reached
685053.5	601827.8	Stratum D	134-SB-170	Lens Area	12/8/2014	-6.8	Stratum D Reached
685029.7	601840.0	Stratum D	134-SB-175	Lens Area	12/8/2014	-6.7	Stratum D Reached
685003.5	601868.2	Stratum D	134-SB-177	Lens Area	12/8/2014	-5.9	Stratum D Reached

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.2)							
Sidewall Target Coordinates					As-built Elevations		
684917.7	601947.9	-1.2	134-SB-087	Area 41	12/10/2014	-2.1	Target Elevation Reached
684936.3	601954.8	-1.2	134-SB-088	Area 41	12/10/2014	-2.4	Target Elevation Reached
684918.0	601975.0	-1.2	134-SB-089	Area 41	12/10/2014	-1.7	Target Elevation Reached
684904.3	601963.0	-1.2	134-SB-090	Area 41	12/10/2014	-1.6	Target Elevation Reached

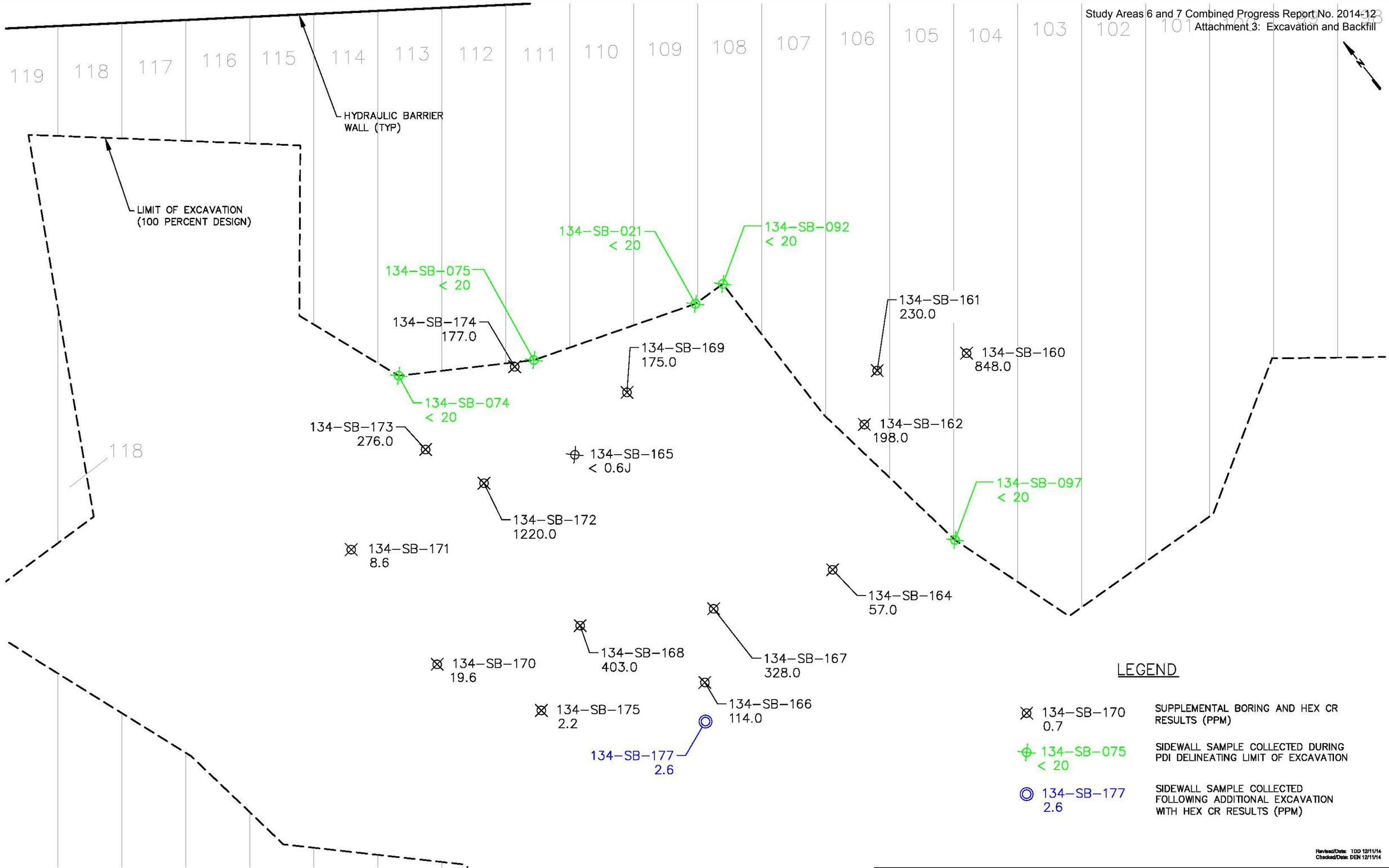
Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

R. Thomas Hugg 12/23/14

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR

LICENSE NO. 36737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HYDRAULIC BARRIER WALL (TYP)
LIMIT OF EXCAVATION (100 PERCENT DESIGN)
134-SB-021 < 20
134-SB-092 < 20
134-SB-075 < 20
134-SB-174 177.0
134-SB-169 175.0
134-SB-161 230.0
134-SB-160 848.0
134-SB-074 < 20
134-SB-173 276.0
134-SB-162 198.0
134-SB-165 < 0.6J
134-SB-097 < 20
134-SB-172 1220.0
134-SB-171 8.6
134-SB-164 57.0
134-SB-168 403.0
134-SB-167 328.0
134-SB-170 19.6
134-SB-166 114.0
134-SB-175 2.2
134-SB-177 2.6
LEGEND
134-SB-170 0.7 SUPPLEMENTAL BORING AND HEX CR RESULTS (PPM)
134-SB-075 < 20 SIDEWALL SAMPLE COLLECTED DURING PDI DELINEATING LIMIT OF EXCAVATION
134-SB-177 2.6 SIDEWALL SAMPLE COLLECTED FOLLOWING ADDITIONAL EXCAVATION WITH HEX CR RESULTS (PPM)
0 5 10 20
SCALE IN FEET
Revised/Date: TDD 12/11/14
Checked/Date: DEN 12/11/14
Honeywell
101 COLUMBIA RD. BOX 2105 MORRISTOWN, NJ 07962
CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY
amec
LENS OF ANOMALOUS MATERIAL
SUPPLEMENTAL BORING LOCATIONS
FIGURE 1

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-01		684138.4	603182.3	-0.5							4	Crushed concrete	Bottom of excavation elevation	
2	BF-01-01	12/5/2013	684144.2	603184.2	1.0	136.4	3.7	142.6	7.8	96	95	4	Weldon WC QP		Sor
3	BF-01-02	12/5/2013	684137.8	603181.7	1.9	139.9	4.3	142.6	7.8	98	95	4	Weldon WC QP		Sor
4	BF-01-03	12/6/2013	684140.2	603182.7	2.5	141.2	5.0	142.6	7.8	99	95	4	Weldon WC QP		Sor
5	BF-01-04	12/6/2013	684136.6	603190.0	3.5	141.2	5.6	142.6	7.8	99	95	4	Weldon WC QP		Sor
6	BF-01-05	12/6/2013	684134.9	603186.7	4.5	143.2	4.8	142.6	7.8	100	95	4	Weldon WC QP		Sor
7	BF-01-06	12/6/2013	684141.1	603182.6	5.8	139.6	6.0	142.6	7.8	98	95	4	Weldon WC QP		Sor
8	BF-01-07	12/10/2013	684147.6	603186.8	6.2	146.7	5.1	142.6	7.8	103	95	4	Weldon WC QP		Sor
9	BF-01-08	12/10/2013	684140.2	603189.6	7.1	120.1	3.4	128.9	12.1	93	95	4	Weldon WC Screenings	recompact lift	Sor
9	BF-01-08R	12/10/2013	684140.2	603189.6	7.1	129.9	4.9	128.9	12.1	101	95	4	Weldon WC Screenings	second reading after addl compaction	Sor
10	BF-01-09	12/12/2013	684130.1	603175.5	8.1	126.4	3.3	128.9	12.1	98	95	4	Weldon WC Screenings		Sor
11	BF-01-10	12/31/2013	684140.0	603184.3	9.0	139.6	7.4	128.9	12.1	108	95	4	Weldon WC Screenings		Sor
1	BF-02		684153.8	603153.9	-0.6							6	Crushed concrete	Bottom of excavation elevation	
2	BF-02-01	12/5/2013	684162.8	603161.3	1.4	138.2	5.7	142.6	7.8	97	95	6	Weldon WC QP		Sor
3	BF-02-02	12/5/2013	684160.8	603162.3	2.4	136.2	4.5	142.6	7.8	96	95	6	Weldon WC QP		Sor
4	BF-02-03	12/6/2013	684157.7	603161.3	2.7	147.2	5.6	142.6	7.8	103	95	6	Weldon WC QP		Sor
5	BF-02-04	12/6/2013	684145.7	603162.1	3.7	143.5	5.0	142.6	7.8	101	95	6	Weldon WC QP		Sor
6	BF-02-05	12/6/2013	684156.9	603171.0	4.4	145.7	4.1	142.6	7.8	102	95	6	Weldon WC QP		Sor
7	BF-02-06	12/6/2013	684150.1	603155.4	5.6	140.4	4.6	142.6	7.8	98	95	6	Weldon WC QP		Sor
8	BF-02-07	12/10/2013	684135.5	603153.5	6.1	149.4	4.0	142.6	7.8	105	95	6	Weldon WC QP		Sor
9	BF-02-08	12/10/2013	684157.9	603174.9	7.2	125.8	5.2	128.9	12.1	98	95	6	Weldon WC Screenings		Sor
1	BF-03		684179.9	603119.5	-1.2							9	Crushed concrete	Bottom of excavation elevation	
2	BF-03											9	Type A Material	No compaction testing required	
3	BF-03-01	11/22/2013	684198.1	603131.6	0.2	133.3	3.4	142.6	7.8	93	95	9	Weldon WC QP		Sor
4	BF-03-02	11/22/2013	684155.7	603111.6	1.5	130.8	2.8	142.6	7.8	92	95	9	Weldon WC QP		Sor
5	BF-03-03	12/5/2013	684177.4	603121.5	2.5	135.7	2.0	128.9	12.1	105	95	9	Weldon WC Screenings		Sor
6	BF-03-04	12/12/2013	684180.5	603126.9	4.6	124.7	3.2	128.9	12.1	97	95	9	Weldon WC Screenings		Sor
7	BF-03-05	12/12/2013	684177.1	603132.4	5.3	132.5	2.8	128.9	12.1	103	95	9	Weldon WC Screenings		Sor
8	BF-03-06	12/16/2013	684172.4	603128.5	6.4	128.3	2.9	128.9	12.1	100	95	9	Weldon WC Screenings		Sor
9	BF-03-07	1/6/2014	684177.1	603113.8	6.6	131.2	10.4	128.9	12.1	102	95	9	Weldon WC Screenings		Sor
10	BF-03-08	1/9/2014	684178.2	603121.8	8.2	128.2	5.9	128.9	12.1	99	95	9	Weldon WC Screenings		Sor
1	BF-04		684195.7	603093.1	-1.5							11	Crushed concrete	Bottom of excavation elevation	
2	BF-04											11	Type A Material	No compaction testing required	
3	BF-04-01	12/5/2013	684198.0	603094.8	2.6	131.0	3.6	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
4	BF-04-02	12/12/2013	684206.6	603104.7	3.5	125.8	3.9	128.9	12.1	98	95	11	Weldon WC Screenings		Sor
5	BF-04-03	12/16/2013	684217.5	603111.1	4.9	129.9	2.9	128.9	12.1	101	95	11	Weldon WC Screenings		Sor
6	BF-04-04	12/31/2013	684213.6	603115.0	5.9	124.6	3.2	128.9	12.1	97	95	11	Weldon WC Screenings		Sor
7	BF-04-05	1/9/2014	684195.8	603100.0	8.2	131.2	4.8	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
1	BF-05		684200.8	603078.4	-1.8							12	Crushed concrete	Bottom of excavation elevation	
2	BF-05											12	Type A Material	No compaction testing required	
3	BF-05-01	12/5/2013	684185.2	603057.9	2.6	133.8	4.7	128.9	12.1	104	95	12	Weldon WC Screenings		Sor
4	BF-05-02	12/12/2013	684179.9	603057.7	3.0	121.5	3.0	128.9	12.1	94	95	12	Weldon WC Screenings	recompact lift	Sor
4	BF-05-02R	12/16/2013	684186.2	603070.2	3.1	133.0	9.3	128.9	12.1	103	95	12	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-05-03	12/31/2013	684181.6	603060.8	4.5	124.7	2.9	128.9	12.1	97	95	12	Weldon WC Screenings		Sor
6	BF-05-04	1/9/2013	684186.1	603053.5	5.8	129.7	3.3	128.9	12.1	101	95	12	Weldon WC Screenings		Sor
7	BF-05-05	1/9/2013	684180.6	603048.6	6.5	131.1	3.4	128.9	12.1	102	95	12	Weldon WC Screenings		Sor
8	BF-05-06	3/19/2014	684180.6	603060.4	7.5	122.5	4.9	128.9	12.1	95	95	12	Weldon WC Screenings		Sor
1	BF-06		684214.8	603050.6	-1.7							14	Crushed concrete	Bottom of excavation elevation	
2	BF-06											14	Crushed concrete	No compaction testing required	
3	BF-06-01	12/31/2013	684229.9	603061.3	2.2	137.7	3.4	128.9	12.1	107	95	14	Weldon WC Screenings		Sor
4	BF-06-02	12/31/2013	684228.8	603062.8	3.5	133.1	3.4	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
5	BF-06-03	1/6/2014	684234.0	603066.8	4.2	123.7	9.5	128.9	12.1	96	95	14	Weldon WC Screenings		Sor
6	BF-06-04	1/9/2014	684230.8	603071.3	6.2	133.1	4.2	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
7	BF-06-05	1/9/2014	684213.9	603095.7	7.3	133.8	5.0	128.9	12.1	104	95	14	Weldon WC Screenings		Sor
1	BF-07		684222.7	603033.3	-0.8							15	Crushed concrete	Bottom of excavation elevation	
2	BF-07											15	Crushed concrete	No compaction testing required	
3	BF-07-01	12/31/2013	684196.2	603014.9	2.5	133.1	2.6	128.9	12.1	103	95	15	Weldon WC Screenings		Sor
4	BF-07-02	12/31/2013	684192.8	603021.1	3.9	133.2	3.4	128.9	12.1	103	95	15	Weldon WC Screenings	Numbering error; skipped from 02 to 04	Sor
6	BF-07-04	1/9/2014	684196.9	603018.8	5.7	118.5	3.9	128.9	12.1	92	95	15	Weldon WC Screenings	recompact lift	Sor
6	BF-07-04R	1/9/2014	684196.9	603018.8	5.7	122.6	4.3	128.9	12.1	95	95	15	Weldon WC Screenings	second reading after addl compaction	Sor
7	BF-07-05	1/9/2014	684195.0	603021.0	6.4	128.4	6.7	128.9	12.1	100	95	15	Weldon WC Screenings		Sor

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-08		684221.8	603013.0	-0.7							16	Crushed concrete	Bottom of excavation elevation	
2	BF-08											16	Crushed concrete	No compaction testing required	
3	BF-08-01	12/31/2013	684246.9	603039.8	2.0	127.2	3.2	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
4	BF-08-02	12/31/2013	684240.5	603043.2	3.1	132.7	2.9	128.9	12.1	103	95	16	Weldon WC Screenings		Sor
5	BF-08-03	1/6/2014	684231.7	603038.8	3.9	127.0	8.4	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
6	BF-08-04	1/9/2014	684242.3	603046.8	5.4	130.1	4.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
7	BF-08-05	1/9/2014	684236.3	603066.0	7.1	129.8	6.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
1	BF-09		684208.5	602989.4	-0.5							17	Crushed concrete	Bottom of excavation elevation	
2	BF-09											17	Crushed concrete	No compaction testing required	
3	BF-09-01	1/28/2014	684209.7	602987.6	2.5	124.0	7.9	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
4	BF-09-02	1/28/2014	684213.6	602980.4	3.4	123.4	6.1	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
5	BF-09-03	1/28/2014	684204.2	602981.5	4.2	124.9	7.1	128.9	12.1	97	95	17	Weldon WC Screenings		Sor
1	BF-10		684269.0	603014.0	-0.5							18	Crushed concrete	Bottom of excavation elevation	
2	BF-10											18	Crushed concrete	No compaction testing required	
3	BF-10-01	1/20/2014	684275.4	603018.2	2.2	133.1	7.7	128.9	12.1	103	95	18	Weldon WC Screenings		Sor
4	BF-10-02	1/28/2014	684267.5	603026.1	3.2	118.8	3.1	128.9	12.1	92	95	18	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-10-02R	1/28/2014	684267.5	603026.1	3.2	133.3	6.1	128.9	12.1	103	95	18	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-10-03	1/28/2014	684271.8	603014.4	4.1	125.7	5.4	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
6	BF-10-04	3/21/2014	684267.9	603017.5	5.2	126.4	6.8	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
1	BF-11		684208.5	602989.4	-1.0							19	Crushed concrete	Bottom of excavation elevation	
2	BF-11											19	Crushed concrete	No compaction testing required	
3	BF-11-01	1/28/2014	684216.6	602952.7	2.1	125.2	8.8	128.9	12.1	97	95	19	Weldon WC Screenings		Sor
4	BF-11-02	1/28/2014	684223.4	602953.8	3.4	129.8	4.2	128.9	12.1	101	95	19	Weldon WC Screenings		Sor
5	BF-11-03	1/28/2014	684211.6	602949.0	4.0	123.4	6.6	128.9	12.1	96	95	19	Weldon WC Screenings		Sor
1	BF-12		684286.7	602988.6	-1.7							20	Crushed concrete	Bottom of excavation elevation	
2	BF-12											20	Crushed concrete	No compaction testing required	
3	BF-12-01	1/20/2014	684291.7	602995.2	1.8	133.3	8.3	128.9	12.1	103	95	20	Weldon WC Screenings		Sor
4	BF-12-02	1/28/2014	684288.5	602989.8	2.9	121.6	4.0	128.9	12.1	94	95	20	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-12-02R	1/28/2014	684288.5	602989.8	2.9	128.5	5.8	128.9	12.1	100	95	20	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-12-03	1/28/2014	684291.3	602995.4	3.7	136.9	7.5	128.9	12.1	106	95	20	Weldon WC Screenings		Sor
1	BF-13		684235.7	602919.6	-0.9							22	Crushed concrete	Bottom of excavation elevation	
2	BF-13											22	Crushed concrete	No compaction testing required	
3	BF-13-01	1/28/2014	684235.6	602919.1	2.1	130.1	5.8	128.9	12.1	101	95	22	Weldon WC Screenings		Sor
3	BF-13-01R	3/12/2014	684238.5	602922.0	2.1	132.0	2.9	135.8	6.4	97	95	22	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-13-02	3/12/2014	684238.4	602918.2	3.4	133.0	1.4	135.8	6.4	98	95	22	Tilcon MH DGA		V5N
5	BF-13-03	3/19/2014	684235.1	602916.0	4.5	124.0	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
1	BF-14		684312.1	602956.0	-0.9							23	Crushed concrete	Bottom of excavation elevation	
2	BF-14											23	Crushed concrete	No compaction testing required	
3	BF-14-01	1/20/2014	684312.7	602965.2	1.8	133.9	7.0	128.9	12.1	104	95	23	Weldon WC Screenings		Sor
3	BF-14-01R	3/13/2013	684289.6	602935.7	1.8	132.0	1.7	135.8	6.4	97	95	23	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-14-02	3/14/2014	684301.9	602952.7	2.6	133.0	1.6	135.8	6.4	98	95	23	Tilcon MH DGA		V5N
1	BF-15		684260.7	602896.7	-0.9							24	Crushed concrete	Bottom of excavation elevation	
2	BF-15											24	Crushed concrete	No compaction testing required	
3	BF-15-01	1/28/2014	684259.0	602897.1	2.1	123.6	9.0	128.9	12.1	96	95	24	Weldon WC Screenings		Sor
3	BF-15-01R	3/12/2014	684264.5	602902.2	2.1	131.0	2.4	135.8	6.4	96	95	24	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-15-02	3/12/2014	684260.5	602900.2	2.8	133.0	1.3	135.8	6.4	98	95	24	Tilcon MH DGA		V5N
1	BF-16		684326.7	602937.0	-1.1							25	Crushed concrete	Bottom of excavation elevation	
2	BF-16											25	Crushed concrete	No compaction testing required	
3	BF-16-01	1/20/2014	684331.9	602942.7	1.6	136.1	7.4	128.9	12.1	106	95	25	Weldon WC Screenings		Sor
3	BF-16-01R	3/13/2014	6844330.0	602937.2	1.8	132.2	1.4	135.8	6.4	97	95	25	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-16-02	3/14/2014	684326.7	602930.0	2.5	134.0	1.2	135.8	6.4	99	95	25	Tilcon MH DGA		V5N
1	BF-17		684283.7	602879.0	0.4							26	Crushed concrete	Bottom of excavation elevation-Stratum O	
2	BF-17											26	Crushed concrete	No compaction testing required	
3	BF-17-01	3/12/2014	684284.6	602882.1	2.1	130.0	2.9	135.8	6.4	96	95	26	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-17-02	3/14/2014	684273.7	602879.1	3.1	132.0	2.2	135.8	6.4	97	95	26	Tilcon MH DGA		V5N
1	BF-18		684350.8	602909.6	-1.5							27	Crushed concrete	Bottom of excavation elevation	
2	BF-18											27	Crushed concrete	No compaction testing required	
3	BF-18-01	3/13/2014	684313.5	602885.6	1.5	132.4	1.4	135.8	6.4	97	95	27	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-18-02	3/14/2014	684344.0	602911.5	2.7	134.0	1.1	135.8	6.4	99	95	27	Tilcon MH DGA		V5N
1	BF-19		684313.2	602860.4	0.3							28	Crushed concrete	Bottom of excavation elevation - Stratum O	

FIELD DENSITY TEST SUMMARY LOG
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HONEYWELL STUDY AREA 6 REMEDIATION PROJECT

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
2	BF-19											28	Crushed concrete	No compaction testing required	
3	BF-19-01	3/14/2014	684322.1	602872.7	2.8	134.0	0.9	135.8	6.4	99	95	28	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-19-02	3/17/2014	684301.4	602851.5	3.6	133.0	1.3	135.8	6.4	98	95	28	Tilcon MH DGA		V5N
1	BF-20		684370.9	602887.4	-1.7							29	Crushed concrete	Bottom of excavation elevation	
2	BF-20											29	Crushed concrete	No compaction testing required	
3	BF-20-01	3/17/2014	6843640.5	602862.1	2.0	133.0	1.7	135.8	6.4	98	95	29	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-21		684330.4	602835.9	1.9							30	Crushed concrete	Bottom of excavation elevation - Startum O	
2	BF-21-01	3/14/2014	684343.3	602842.2	2.4	132.0	1.6	135.8	6.4	97	95	30	Tilcon MH DGA	Removed wet screenings to crushed concrete and placed Bridge Lift	V5N
3	BF-21-02	3/17/2014	684307.4	602827.3	3.3	134.0	0.8	135.8	6.4	99	95	30	Tilcon MH DGA	Bridge Lift over Stratum O	V5N
4	BF-21-03	3/19/2014	684314.6	602830.9	3.9	122.5	5.1	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
5	BF-21-04	3/20/2014	684314.4	602815.1	4.5	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
6	BF-21-05	3/20/2014	684321.1	602814.1	5.2	124.0	3.9	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
7	BF-21-06	3/20/2014	684308.3	602802.2	5.8	122.5	5.0	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
8	BF-21-07	3/20/2014	684305.8	602806.3	6.7	123.3	4.0	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
9	BF-21-08	3/20/2014	684314.4	602804.8	7.6	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
10	BF-21-09	3/20/2014	684310.5	602806.6	8.4	132.5	1.9	135.8	6.4	98	95	30	Tilcon MH DGA	Truck Ramp to Kellogg Street	V5N
1	BF-22		684391.2	602864.3	-2.3							31	Crushed concrete	Bottom of excavation elevation	
2	BF-22											31	Crushed concrete	No compaction testing required	
3	BF-22-01	3/17/2014	684387.3	602845.0	1.4	134.0	0.8	135.8	6.4	99	95	31	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-23		684350.9	602814.5	-1.6							32	Crushed concrete	Bottom of excavation elevation	
2	BF-23											32	Crushed concrete	No compaction testing required	
3	BF-23-01	3/14/2014	684360.9	602818.8	2.4	132.0	2.0	135.8	6.4	97	95	32	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-23-02	3/17/2014	684339.8	602809.6	3.5	134.0	1.1	135.8	6.4	99	95	32	Tilcon MH DGA		V5N
1	BF-24		684411.0	602842.4	-1.8							33	Crushed concrete	Bottom of excavation elevation	
2	BF-24											33	Crushed concrete	No compaction testing required	
3	BF-24-01	3/17/2014	684402.4	602827.4	1.1	134.0	0.8	135.8	6.4	99	95	33	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-25		684369.5	602729.2	-1.8							34	Crushed concrete	Bottom of excavation elevation	
2	BF-25											34	Crushed concrete	No compaction testing required	
3	BF-25-01	3/14/2014	684379.5	602796.3	2.0	131.0	2.1	135.8	6.4	96	95	34	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-25-02	3/17/2014	684354.8	602790.5	3.4	133.0	1.5	135.8	6.4	98	95	34	Tilcon MH DGA		V5N
1	BF-26		684433.4	602818.8	-2.1							35	Crushed concrete	Bottom of excavation elevation	
2	BF-26											35	Crushed concrete	No compaction testing required	
3	BF-26-01	3/18/2014	684433.9	602828.3	0.3	134.0	0.8	135.8	6.4	99	95	35	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-26-02	3/18/2014	684431.7	602817.7	0.8	133.0	1.3	135.8	6.4	98	95	35	Tilcon MH DGA		V5N
1	BF-27		684389.4	602765.0	-1.8							36	Crushed concrete	Bottom of excavation elevation	
2	BF-27											36	Crushed concrete	No compaction testing required	
3	BF-27-01	3/14/2014	684398.2	602773.8	1.8	133.0	1.6	135.8	6.4	98	95	36	Tilcon MH DGA		V5N
0	BF-28		684457.0	602790.8	-2.8							38	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-28-01	3/12/2014	684461.2	602789.3	-0.4	133.2	1.0	135.8	6.4	98	95	38	Tilcon MH DGA		V5N
0	BF-29		684418.8	602735.2	2.1							39	Stratum O	Bottom of excavation elevation	
1	BF-29-01	3/26/2014	684404.6	602731.3	3.3	134.0	1.2	135.8	6.4	99	95	39	Tilcon MH DGA		V5N
0	BF-30		684476.8	602765.1	-3.1							40	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-30-01	3/12/2014	684478.9	602766.2	-0.7	133.2	1.1	135.8	6.4	98	95	40	Tilcon MH DGA		V5N
0	BF-31		684436.0	602712.8	0.1							41	Stratum O	Bottom of excavation elevation	
0	BF-32		684498.7	602739.5	-2.2							42	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-32-01	3/12/2014	684496.6	602743.0	-0.9	131.0	2.3	135.8	6.4	96	95	42	Tilcon MH DGA		V5N
0	BF-33		684453.0	602683.2	0.1							43	Stratum O	Bottom of excavation elevation	
0	BF-34		684517.5	602716.8	-2.5							44	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-34-01	3/12/2014	684515.6	602715.4	-1.1	131.0	2.0	135.8	6.4	96	95	44	Tilcon MH DGA		V5N
0	BF-35		684471.3	602661.2	0.2							45	Stratum O	Bottom of excavation elevation	
0	BF-36		684538.2	602694.6	-3.0							46	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-36-01	3/18/2014	684535.1	602700.7	-1.9	134.5	0.5	135.8	6.4	99	95	46	Tilcon MH DGA		V5N
0	BF-37		684490.0	602636.8	0.2							47	Stratum O	Bottom of excavation elevation	
0	BF-38		684558.4	602671.7	-3.0							48	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-38-01	3/21/2014	684551.4	602683.6	-1.7	131.9	1.9	135.8	6.4	97	95	48	Tilcon MH DGA		V5N
0	BF-39		684510.6	602614.8	0.4							49	Stratum O	Bottom of excavation elevation	
0	BF-40		684557.4	602644.9	-3.6							50	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-40-01	3/26/2014	684572.2	602653.5	-1.4	134.8	0.5	135.8	6.4	99	95	50	Tilcon MH DGA		V5N
0	BF-62		684776.7	602362.5	-2.5							73 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-62-1	10/15/2014	684764.3	602354.7	0.6	125.0	2.0	128.5	10.5	97	95	73 (No)	Weldon LH Screenings	Placed on Tilcon MH DGA	V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
0	BF-64		684785.0	602349.9	-2.5							74 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
1	BF-64-1	10/3/2014	684773.5	602338.3	-1.2	128.5	4.7	128.5	10.5	100	95	74 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
3	BF-64-2	10/15/2014	684772.1	602344.3	0.6	126.0	2.2	128.5	10.5	98	95	74 (No)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-65		684701.4	602272.1	-2.5							75 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
1	BF-65-1	10/3/2014	684679.6	602257.6	-1.6	127.0	3.1	128.5	10.5	99	95	75 (So)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
0	BF-66		684793.7	602335.5	-2.5							75 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
1	BF-66-1	10/3/2014	684788.5	602328.1	-0.9	128.5	4.3	128.5	10.5	100	95	75 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
2	BF-66-2	10/15/2014	684783.5	602334.9	0.6	125.0	2.9	128.5	10.5	97	95	75 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
0	BF-67		684709.6	602254.1	-3.0							76 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-67-1	10/3/2014	684686.5	602239.8	-1.3	124.0	2.5	128.5	10.5	96	95	76 (So)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
5	BF-67-2	10/27/2014	684684.5	602237.6	5.3	122.5	3.5	128.5	10.5	95	95	76 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-68		684804.3	602317.4	-3.5							77 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-68-1	10/3/2014	684796.5	602311.9	-0.9	128.5	4.5	128.5	10.5	100	95	77 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
3	BF-68-2	10/15/2014	684800.9	602313.3	0.5	125.0	2.2	128.5	10.5	97	95	77 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
0	BF-69		684720.3	602238.4	-3.5							77 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-69-1	10/3/2014	684698.8	602228.5	-1.1	124.6	2.9	128.5	10.5	97	95	77 (So)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
5	BF-69-2	10/27/2014	684700.3	602225.0	5.5	122.0	3.2	128.5	10.5	95	95	77 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-70		684813.9	602301.9	-3.5							78 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-70-1	10/3/2014	685808.5	602301.5	-0.9	128.5	4.0	128.5	10.5	100	95	78 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
3	BF-70-2	10/15/2014	685811.9	602297.1	0.7	127.0	4.0	128.5	10.5	99	95	78 (No)	Weldon LH Screenings		V5N
0	BF-71		684732.5	602221.3	-3.3							79 (So)	Stratum D		
5	BF-71-1	10/27/2014	684725.0	602212.2	5.6	125.0	2.5	128.5	10.5	97	95	79 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-72		684824.9	602287.1	-3.3						95	79 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
3	BF-72-1	10/15/2014	684820.2	602286.1	0.4	125.5	1.9	128.5	10.5	98	95	79 (No)	Weldon LH Screenings	Placed on Weldon WC Screenings	V5N
0	BF-73		684742.6	602208.4	-5.0						95	80	Stratum D	Bottom of excavation elevation	
6	BF-73-1	10/27/2014	684743.1	602204.3	5.5	127.0	6.2	128.5	10.5	99	95	80	Weldon LH Screenings	Placed on Type A Material	V5N
1	BF-74		684837.6	602270.4	-4.8							81 (No)	Concrete/DGA	Bottom of excavation elevation	
3	BF-74-1	9/18/2014	684834.9	602268.1	-1.5	126.0	4.5	131.9	9.5	96	95	81 (No)	Weldon WC QP	Placed on Type A Material	V5N
1	BF-75		684756.2	602190.9	-5.0							81 (So)	Concrete/DGA	Bottom of excavation elevation	
2	BF-75-1	9/18/2014	684755.1	602200.0	-2.4	128.0	3.6	131.9	9.5	97	95	81 (So)	Weldon WC QP		V5N
6	BF-75-2	10/27/2014	684759.2	602193.9	5.4	128.5	6.5	128.5	10.5	100	95	81 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-76		684829.0	602234.8	-4.8							82		Bottom of excavation elevation	
2	BF-76-1	9/18/2014	684826.4	602234.0	-2.4	126.0	4.5	131.9	9.5	96	95	82	Weldon WC QP	Placed on processed concrete	V5N
6	BF-76-2	10/27/2014	684794.7	602203.1	5.5	128.0	4.6	128.5	10.5	100	95	82	Weldon LH Screenings	Placed on Type A Material	V5N
1	BF-77		684848.6	602232.5	-4.5							83	Concrete/DGA	Bottom of excavation elevation	
3	BF-77-1	9/18/2014	684844.7	602224.8	-1.2	126.0	5.0	131.9	9.5	96	95	83	Weldon WC QP	Placed on Type A Material	V5N
6	BF-77-2	10/27/2014	684807.1	609195.1	5.4	128.5	5.4	128.5	10.5	100	95	83	Weldon LH Screenings	Placed on Type A Material	V5N
1	BF-78		684864.2	602226.5	-5.6							84	Concrete/DGA	Bottom of excavation elevation	
3	BF-78-1	9/18/2014	684851.2	602210.9	-0.7	128.0	3.4	131.9	9.5	97	95	84	Weldon WC QP	Placed on Type A Material	V5N
7	BF-78-2	10/27/2014	684830.5	602190.3	5.4	128.5	7.1	128.5	10.5	100	95	84	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-79		684877.8	602216.4	-5.2							85		Bottom of excavation elevation	
4	BF-79-1	9/18/2014	684856.5	602180.7	1.0	128.0	2.9	131.9	9.5	97	95	85	Weldon WC QP	Placed on Weldon WC Screenings	V5N
0	BF-80		684890.3	602202.5	-5.8							86		Bottom of excavation elevation	
4	BF-80-1	9/18/2014	684874.0	602174.3	1.3	125.0	3.9	131.9	9.5	95	95	86	Weldon WC QP	Placed on Weldon WC Screenings	V5N
7	BF-80-2	10/27/2014	684873.1	602169.9	5.1	128.5	4.1	128.5	10.5	100	95	86	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-81		684904.5	602186.6	-6.1							88		Bottom of excavation elevation. Excavated to Meadow mat	
4	BF-81-1	9/18/2014	684886.9	602163.0	1.8	128.0	3.1	131.9	9.5	97	95	88	Weldon WC QP		V5N
7	BF-81-2	10/27/2014	684883.9	602156.7	5.0	127.0	4.7	128.5	10.5	99	95	88	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-82		684923.8	602171.9	-4.8							89	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
5	BF-82-1	9/18/2014	684898.0	602149.9	3.1	128.0	3.4	131.9	9.5	97	95	89	Weldon WC QP		V5N
6	BF-82-2	10/27/2014	684915.2	602163.5	5.3	128.5	3.2	128.5	10.5	100	95	89	Weldon LH Screenings		V5N
0	BF-83		684941.9	602148.5	-4.8							91	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-83-1	8/26/2014	684958.8	602165.2	-3.0	129.7	7.0	131.9	9.5	98	95	91	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
6	BF-83-2	9/18/2014	684920.6	602131.1	4.1	126.0	3.7	131.9	9.5	96	95	91	Weldon WC QP		V5N
7	BF-83-3	10/27/2014	684933.2	602141.4	5.6	128.5	3.6	128.5	10.5	100	95	91	Weldon LH Screenings		V5N
0	BF-84		684959.7	602128.6	-4.2							93	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-84-1	8/15/2014	684969.1	602137.6	-3.2	129.3	3.2	131.9	9.5	98	95	93	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-84-2	9/18/2014	684937.9	602110.2	4.7	126.0	3.6	131.9	9.5	96	95	93	Weldon WC QP		V5N
6	BF-84-3	10/27/2014	684953.2	602121.7	5.6	128.5	3.2	128.5	10.5	100	95	93	Weldon LH Screenings		V5N
0	BF-85		684976.0	602107.0	-4.8							95	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	

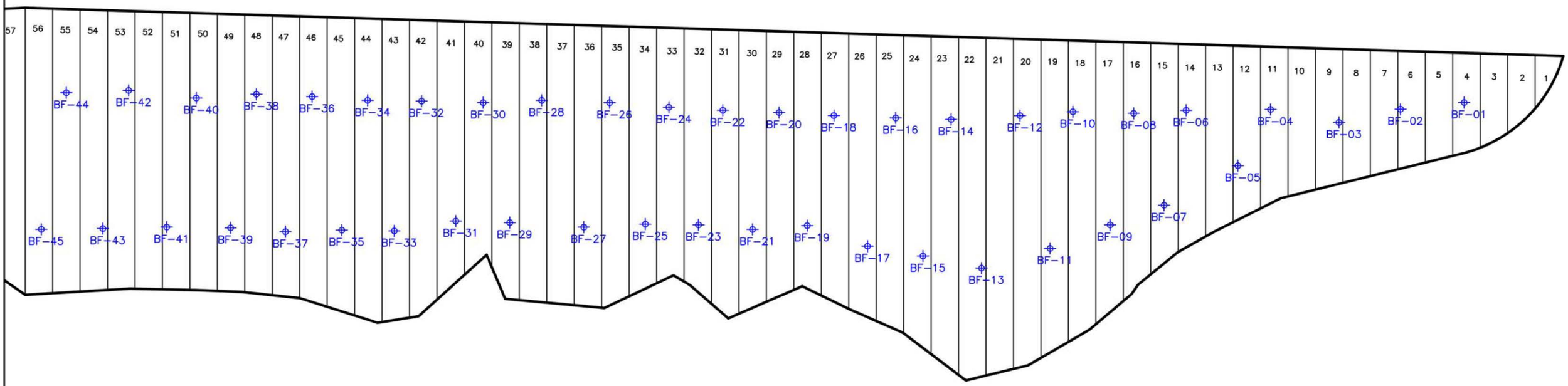
FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-85-1	8/15/2014	684987.2	602117.0	-3.4	126.0	3.6	131.9	9.5	96	95	95	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-85-2	9/18/2014	684960.1	602086.7	4.8	125.0	4.9	131.9	9.5	95	95	95	Weldon WC QP		V5N
6	BF-85-3	10/27/2014	684973.5	602102.2	5.7	128.5	5.7	128.5	10.5	100	95	95	Weldon LH Screenings		V5N
0	BF-86		684993.0	602080.9	-4.8							97	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-86-1	8/15/2014	684999.9	602082.3	-3.4	126.0	3.7	131.9	9.5	96	95	97	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-86-2	10/27/2014	684990.4	602076.5	5.5	128.5	5.7	128.5	10.5	100	95	97	Weldon LH Screenings		V5N
0	BF-87		685010.3	602052.3	-5.0							99	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-87-1	8/15/2014	685010.8	602056.6	-3.7	125.0	4.2	131.9	9.5	95	95	99	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-88		685019.7	602037.1	-5.1							100	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-88-1	8/8/2014	685025.4	602022.1	-3.9	126.6	3.9	131.9	9.5	96	95	100	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-89		685025.3	602021.0	-4.8							101	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-89-1	8/26/2014	685029.3	602037.1	-3.3	131.9	7.3	131.9	9.5	100	95	101	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-90		685035.2	602003.7	-5.1							103	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
1	BF-90-1	8/6/2014	685049.1	602012.4	-3.5	128.0	3.1	131.9	9.5	97	95	103	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-91		685048.2	601986.6	-5.2							104	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
1	BF-91-01	7/30/2014	685067.2	602016.2	-4.2	136.5	4.3	142.6	7.8	96	95	104	Weldon WC QP		V5N
2	BF-91-02	8/1/2014	685062.8	602085.0	-3.2	121.4	6.5	142.6	7.8	85	95	104	Weldon WC QP	New blast area. QP visually changed.	V5N
2	BF-91-02R	8/1/2014	685062.8	602085.0	-3.2	121.0	7.4	142.6	9.5	85	95	104	Weldon WC QP	Rerolled area still fails. Collect sample for Proctor	V5N
2	BF-91-02RR	8/4/2014	685062.8	602085.0	-2.9	125.3	7.4	131.9	9.5	95	95	104	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-93		685084.9	601963.3	-1.2								Stratum O	Bottom of excavation elevation	
1	BF-93-01	7/18/2014	685112.8	601983.8	-0.4	136.5	3.5	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
2	BF-93-02	7/30/2014	685091.5	601975.9	1.1	136.5	3.9	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
1	BF-94		685105.9	601939.3	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-94-01	7/18/2014	685104.8	601941.5	1.7	136.0	3.8	142.6	7.8	95	95	109 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-95		685125.6	601915.0	-1.2							111 (No)	Crushed concrete	Bottom of excavation elevation	
2	BF-95-01	7/16/2014	685121.8	601910.5	1.7	135.0	3.6	142.6	7.8	95	95	111 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-96		685144.3	601891.9	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-96-01	7/10/2014	685150.5	601896.1	1.9	137.0	4.8	142.6	7.8	96	95	113 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-97		685196.4	601880.1	2.1								Stratum O	Bottom of excavati0n elevation	
1	BF-97-01	7/7/2014	685187.0	601867.3	2.7	135.5	4.6	142.6	7.8	95	95	116 (No)	Weldon WC QP		V5N
0	BF-101		685222.6	601822.8	0.4							120 (No)	Stratum O	Bottom of excavation elevation	
1	BF-101-01	6/27/2014	685213.8	601814.2	1.0	136.0	3.4	142.6	7.8	95	95	120 (No)	Weldon WC QP		V5N
0	BF-102		685148.9	601780.9	-2.5							119	Stratum O	Bottom of excavation elevation	
1	BF-102-01	6/27/2014	685148.8	601788.7	-0.8	135.5	3.4	142.6	7.8	95	95	119	Weldon WC QP		V5N
1	BF-103		685084.0	601708.8	-7.5							120 (So)			
2	BF-103-01	7/1/2014	685102.8	601721.9	-4.9	137.5	2.5	142.6	7.8	96	95	120 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-105		685102.9	601692.4	-7.5							122 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-105-01	6/27/2014	685126.9	601702.6	-5.7	135.5	3.4	142.6	7.8	95	95	122 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-104		685218.6	601799.3	-2.5							121 (No)	Stratum O	Bottom of excavation elevation	
1	BF-104-01	6/27/2014	685205.5	601790.7	0.9	135.5	3.4	142.6	7.8	95	95	121 (No)	Weldon WC QP		V5N
0	BF-106		685225.5	601777.9	-1.2							122 (No)	Stratum O	Bottom of excavation elevation	
1	BF 106-01	6/18/2014	685230.1	601784.7	0.5	140.0	1.7	142.6	7.8	98	95	122 (No)	Weldon WC QP		V5N
2	BF 106-02	6/27/2014	685221.4	601777.8	1.0	135.4	3.4	142.6	7.8	95	95	122 (No)	Weldon WC QP		V5N
1	BF-107		685115.2	601682.1	-7.5							123 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF 107-01	6/24/2014	685134.6	601695.5	-5.9	136.9	2.5	142.6	7.8	96	95	123 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-108		685235.5	601760.6	-1.2							124 (No)	Stratum O	Bottom of excavation elevation	
1	BF-108-01	6/18/2014	685235.2	601757.6	0.8	138.0	2.6	142.6	7.8	97	95	124 (No)	Weldon WC QP		V5N
2	BF-108-02	6/27/2014	685253.4	601761.5	1.4	135.0	3.4	142.6	7.8	95	95	124 (No)	Weldon WC QP		V5N
1	BF-109		685135.2	601666.9	-7.5							124 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-109-01	6/18/2014	685144.9	601672.5	-5.8	136.0	5.1	142.6	7.8	95	95	124 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-111		685154.6	601650.7	-7.5							126 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-111-01	6/18/2014	685157.7	601655.0	-5.4	140.0	1.5	142.6	7.8	98	95	126 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-124		685346.3	601612.6	-1.2							136	Stratum O	Bottom of excavation elevation	
1	BF-124-01	5/9/2014	685359.1	601618.5	0.3	130.8	1.3	135.8	6.4	96	95	136	Tilcon MH DGA		V5N
0	BF-126		685363.5	601589.4	-1.2							138	Stratum O	Bottom of excavation elevation	
1	BF-126-01	5/9/2014	685355.3	601576.3	0.2	128.0	3.3	128.9	12.1	99	95	138	Weldon WC Screenings		V5N
0	BF-128		685382.2	601566.3	-2.5							140 (No)	Stratum O	Bottom of excavation elevation	
1	BF-128-01	4/29/2014	685369.8	601556.5	-1.8	130.0	1.2	135.8	6.4	96	95	140	Tilcon MH DGA		V5N
2	BF-128-02	4/29/2014	685381.4	601569.9	-0.8	132.2	1.5	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
3	BF-128-03	4/29/2014	685382.7	601573.8	0.3	132.0	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
4	BF-128-04	4/29/2014	685386.7	601571.4	1.5	132.3	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
5	BF-128-05	4/29/2014	685389.9	601573.7	2.7	133.9	1.4	135.8	6.4	99	95	140	Tilcon MH DGA		V5N
0	BF-129		685308.1	601468.7	-7.5							142 (So)	Stratum O	Bottom of excavation elevation	
1	BF-129-01	5/9/2014	685315.6	601465.0	-6.4	135.5	1.3	135.8	6.4	100	95	142 (So)	Tilcon MH DGA		V5N
0	BF-130		685401.7	601541.7	1.9							142 (No)	Stratum O	Bottom of excavation elevation	
1	BF-130-01	4/28/2014	685410.7	601558.5	2.7	132.0	2.2	135.8	6.4	97	95	142 (No)	Tilcon MH DGA		V5N
2	BF-130-02	4/28/2014	685414.5	601553.3	3.6	133.0	1.7	135.8	6.4	98	95	142 (No)	Tilcon MH DGA		V5N
3	BF-130-03	4/28/2014	685414.9	601555.5	4.8	136.0	1.6	135.8	6.4	100	95	142 (No)	Tilcon MH DGA		V5N
4	BF-130-04	4/28/2014	685420.1	601558.2	5.5	135.0	1.9	135.8	6.4	99	95	142 (No)	Tilcon MH DGA		V5N
0	BF-131		685426.9	601523.7	3.2							144	Stratum O	Bottom of excavation elevation	
1	BF-131-01	4/25/2014	685440.9	601531.9	5.9	120.0	1.4	135.8	6.4	88	95	144	Tilcon MH DGA	recompact lift	V5N
1	BF-131-01R	4/28/2014	685440.9	601531.9	5.9	139.9	1.4	135.8	6.4	103	95	144	Tilcon MH DGA	second reading after addl compaction	V5N
0	BF-132		685452.9	601506.1	5.6							146	Stratum O	Bottom of excavation elevation	
1	BF-132-01	4/25/2014	685438.7	601505.6	6.1	135.0	1.0	135.8	6.4	99	95	144	Tilcon MH DGA		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.
Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.
Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.
Maximum Dry Density for Weldon LH Screenings based on Vertical V Laboratory Report No. 12643 dated 9/29/14.
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b
Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C
Bottom of excavation elevation based on Maser survey data (Center Point elevations)
Sample ID BF-01-01 where:
BF = Backfill (At frequency of 1 test/2500 SF)
01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



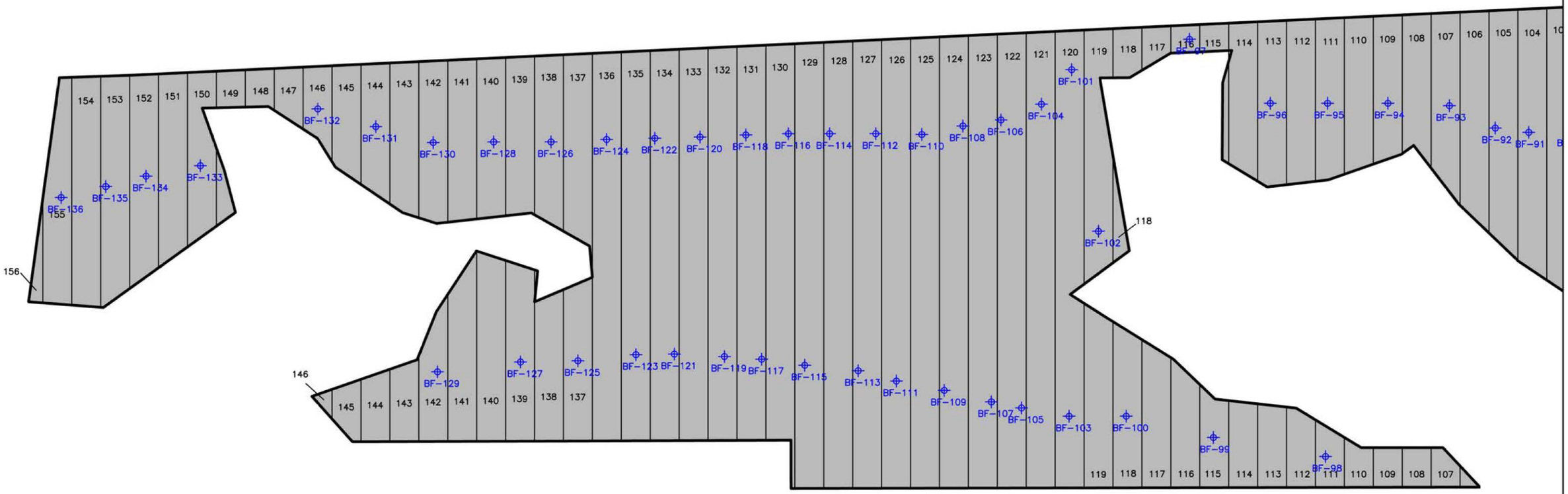
NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
BACKFILL COMPACTION LOCATIONS
EVERY 2,500 SF

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF BF-95 TO BF-136

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
	RF-03		684270.2	603012.0								18			
7	RF-03-01	3/21/2014	684267.9	603017.5	6.1	124.0	3.6	128.9	12.1	96	95	18	Weldon WC Screenings		V5N
8	RF-03-02	4/8/2014	684272.9	605018.7	7.6	122.4	8.1	128.9	12.1	95	95	18	Weldon WC Screenings		V5N
	RF-04		684235.2	602919.8								22			
6	RF-04-01	3/21/2014	684227.0	602916.6	5.5	124.0	3.6	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
7	RF-04-02	3/26/2014	684266.5	602908.5	6.2	123.6	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
8	RF-04-03	4/1/2014	684384.8	602904.9	7.1	125.8	3.0	128.9	12.1	98	95	22	Weldon WC Screenings		V5N
9	RF-04-04	4/3/2014	684220.8	602926.9	8.2	120.0	3.6	128.9	12.1	93	95	22	Weldon WC Screenings	Recompact lift	V5N
9	RF-04-04R	4/3/2014	684220.8	602926.9	8.2	125.0	4.1	128.9	12.1	97	95	22	Weldon WC Screenings	Second reading after re-rolling	V5N
10	RF-04-05	4/17/2014	684241.5	602924.2	8.8	130.0	3.0	128.9	12.1	101	95	22	Weldon WC Screenings		V5N
	RF-05		684328.5	602935.0								25			
5	RF-05-01	3/24/2014	684347.1	602947.5	3.3	122.5	4.5	128.9	12.1	95	95	25	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
6	RF-05-02	3/26/2014	684348.1	602942.0	4.1	123.5	3.7	128.9	12.1	96	95	25	Weldon WC Screenings		V5N
7	RF-05-03	4/1/2014	684351.4	602937.8	5.4	125.0	2.6	128.9	12.1	97	95	25	Weldon WC Screenings		V5N
8	RF-05-04	4/3/2014	684339.0	602933.4	6.4	128.9	4.7	128.9	12.1	100	95	25	Weldon WC Screenings		V5N
9	RF-05-05	4/8/2014	684327.1	602942.3	7.6	126.4	8.3	128.9	12.1	98	95	25	Weldon WC Screenings		V5N
10	RF-05-06	4/17/2014	684348.8	602945.1	8.2	135.0	6.4	128.9	12.1	105	95	25	Weldon WC Screenings		V5N
	RF-06		684335.0	602869.1								29			
2	RF-06-01	4/1/2014	684383.7	602908.8	3.0	126.0	2.7	128.9	12.1	98	95	29	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
3	RF-06-02	4/1/2014	684384.8	602904.9	4.1	125.0	2.8	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
4	RF-06-03	4/3/2014	684358.9	602890.5	5.9	127.6	4.0	128.9	12.1	99	95	29	Weldon WC Screenings		V5N
5	RF-06-04	4/8/2014	684340.1	602867.1	6.9	123.0	4.6	128.9	12.1	95	95	29	Weldon WC Screenings		V5N
6	RF-06-05	4/14/2014	684340.1	602867.1	7.5	124.8	3.0	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
7	RF-06-06	4/17/2014	684337.1	602897.4	8.5	118.5	3.0	128.9	12.1	92	95	29	Weldon WC Screenings	Recompact lift	V5N
7	RF-06-06R	4/17/2014	684337.1	602897.4	8.5	122.0	3.2	128.9	12.1	95	95	29	Weldon WC Screenings	Second reading after re-rolling	V5N
	RF-07		684392.9	602838.1								32			
4	RF-07-01	4/3/2014	684425.2	602890.4	3.0	125.3	5.1	128.9	12.1	97	95	32	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-07-02	4/3/2014	684418.6	602854.9	4.1	126.3	5.5	128.9	12.1	98	95	32	Weldon WC Screenings		V5N
6	RF-07-03	4/8/2014	684410.5	602847.3	5.6	122.7	2.5	128.9	12.1	95	95	32	Weldon WC Screenings		V5N
7	RF-07-04	4/14/2014	684410.5	602847.3	6.3	123.1	2.7	128.9	12.1	96	95	32	Weldon WC Screenings		V5N
8	RF-07-05	4/17/2014	684394.3	602842.1	7.1	135.0	6.1	128.9	12.1	105	95	32	Weldon WC Screenings		V5N
9	RF-07-06	4/21/2014	684394.8	602836.9	8.2	128.9	2.2	128.9	12.1	100	95	32	Weldon WC Screenings		V5N
	RF-08		684406.9	602771.1								36			
4	RF-08-01	4/3/2014	684421.7	602797.1	2.9	129.0	6.0	128.9	12.1	100	95	36	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-08-02	4/8/2014	684429.7	602790.1	4.0	124.9	3.0	128.9	12.1	97	95	36	Weldon WC Screenings		V5N
6	RF-08-03	4/15/2014	684439.0	602813.0	5.0	124.2	4.7	128.9	12.1	96	95	36	Weldon WC Screenings		V5N
7	RF-08-04	4/17/2014	684400.4	602773.4	6.1	137.0	5.6	128.9	12.1	106	95	36	Weldon WC Screenings		V5N
8	RF-08-05	4/21/2014	684429.8	602794.0	6.8	128.9	3.5	128.9	12.1	100	95	36	Weldon WC Screenings		V5N
9	RF-08-06	4/21/2014	684443.6	602550.4	8.0	122.5	6.9	128.9	12.1	95	95	36	Weldon WC Screenings		V5N
	RF-09		684479.9	602754.0								40			
3	RF-09-01	4/7/2014	684489.3	602750.3	0.8	128.7	6.8	128.9	12.1	100	95	40	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
4	RF-09-02	4/11/2014	684498.7	602757.9	2.1	122.4	3.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
5	RF-09-03	4/11/2014	684503.3	602770.3	3.2	129.3	8.5	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
6	RF-09-04	4/14/2014	684503.3	602770.3	4.1	128.9	5.7	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
7	RF-09-05	4/21/2014	684479.1	602753.1	5.4	128.9	5.3	128.9	12.1	100	95	40	Weldon WC Screenings		V5N

8	RF-09-06	4/21/2014	684446.9	602799.1	6.4	123.0	2.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
9	RF-09-07	5/15/2014	684479.0	602751.5	6.9	124.5	4.4	128.9	12.1	97	95	40	Weldon WC Screenings		V5N
10	RF-09-08	5/19/2014	684494.7	602760.2	8.1	122.5	5.9	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
1	RF-10		684474.1	602682.1	0.2							44	Crushed Concrete	Bottom of excavation elevation	
2	RF-10		684474.1	602682.1								44	Type A Material	No compaction testing required	
3	RF-10-01	4/25/2014	684476.1	602679.3	2.5	138.0	1.4	128.9	12.1	107	95	44	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-10-02	5/8/2014	684445.5	602680.1	5.8	132.0	6.6	128.9	12.1	102	95	44	Weldon WC Screenings		V5N
5	RF-10-03	5/15/2014	684463.8	602677.8	7.1	124.1	4.2	128.9	12.1	96	95	44	Weldon WC Screenings		V5N
6	RF-10-04	5/19/2014	684466.2	602672.2	8.2	122.5	6.8	128.9	12.1	95	95	44	Weldon WC Screenings		V5N
2	RF-11		684545.0	602673.2								48	Type A Material	Placed on Tilcon MH DGA	
3	RF-11-01	4/11/2014	684533.0	602676.0	1.0	126.0	3.8	128.9	12.1	98	95	48	Weldon WC Screenings	Placed on Type A Material; Against HB wall	V5N
4	RF-11-02	4/11/2014	684575.1	602679.9	2.1	125.6	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
5	RF-11-03	4/14/2014	684575.1	602679.9	2.8	126.8	2.2	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
6	RF-11-04	4/17/2014	684579.8	602684.6	3.8	122.5	3.0	128.9	12.1	95	95	48	Weldon WC Screenings	Against HB wall	V5N
7	RF-11-05	4/17/2014	684585.7	602686.5	4.5	126.8	4.0	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
8	RF-11-06	5/15/2014	684569.9	602672.5	7.3	124.5	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
9	RF-11-07	5/19/2014	685562.2	602686.4	8.3	124.5	3.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
1	RF-12		684540.0	602601.3	0.3							51	Crushed Concrete	Bottom of excavation elevation	
2	RF-12		684540.0	602601.3								51	Type A Material	No compaction testing required	
3	RF-12-01	4/25/2014	684557.9	602605.6	2.3	130.2	2.2	128.9	12.1	101	95	51	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-12-02	5/6/2014	684516.3	602580.6	6.0	128.6	5.6	128.9	12.1	100	95	51	Weldon WC Screenings		V5N
5	RF-12-03	5/15/2014	684526.7	602594.1	7.3	124.8	3.9	128.9	12.1	97	95	51	Weldon WC Screenings		V5N
6	RF-12-04	5/20/2014	684522.6	602585.3	8.1	121.3	7.1	128.9	12.1	94	95	51	Weldon WC Screenings	Recompact lift	V5N
6	RF-12-04R	5/20/2014	684522.6	602585.3	8.1	122.0	5.9	128.9	12.1	95	95	51	Weldon WC Screenings	Second reading after re-rolling	V5N
1	RF-13		684610.2	602590.4	-2.3							54	Crushed Concrete	Bottom of excavation elevation	
2	RF-13		684610.2	602590.4								54	Type A Material	No compaction testing required	
3	RF-13-01	4/11/2014	684619.5	602515.3	1.6	126.5	7.8	128.9	12.1	98	95	54	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-13-02	4/14/2014	684619.5	602515.3	2.7	124.5	2.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
5	RF-13-03	4/17/2014	684641.5	602614.6	3.6	123.0	4.1	128.9	12.1	95	95	54	Weldon WC Screenings	Against HB	V5N
6	RF-13-04	4/17/2014	684646.7	602619.5	4.4	132.9	5.5	128.9	12.1	103	95	54	Weldon WC Screenings	Against HB	V5N
7	RF-13-05	5/15/2014	684640.0	602620.1	5.4	125.0	3.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
8	RF-13-06	5/15/2014	684613.8	602605.5	6.9	125.0	4.5	128.9	12.1	97	95	54	Weldon WC Screenings		V5N
9	RF-13-07	5/20/2014	684614.3	602606.0	7.8	121.3	8.0	128.9	12.1	94	95	54	Weldon WC Screenings	Top lift. Will retest prior to final restoration	V5N
0	RF-14		684653.1	602535.0	-2.6							59	Stratum D	Bottom of excavation elevation	
1	RF-14-1	10/30/2014	684656.5	602532.8	-1.3	133.0	2.0	135.8	6.4	98	95	59	Tilcon MH DGA	Bridge lift	V5N
1	RF-14-2	11/5/2014	684662.9	602542.6	0.0	134.0	0.6	135.8	6.4	99	95	59	Tilcon MH DGA	Bridge lift	V5N
0	RF-15		684684.3	602484.0	-2.2							63	Stratum D	Bottom of excavation elevation	
1	RF-15-1	10/27/2014	684656.4	602466.0	0.6	135.8	2.0	135.8	6.4	100	95	63	Tilcon MH DGA	Bridge lift	V5N
0	RF-16		684687.2	602408.0	-2.2							67	Stratum D	Bottom of excavation elevation	
1	RF-16-1	10/27/2014	684767.7	602426.9	0.3	129.0	2.3	135.8	6.4	95	95	67	Tilcon MH DGA	Bridge lift	V5N
2	RF-16-2	11/5/2014	684767.6	602428.4	1.2	124.0	4.1	128.9	12.1	96	95	67	Weldon WC Screenings		V5N
0	RF-17		684750.4	602403.5	-2.2							70	Stratum D	Bottom of excavation elevation	
1	RF-17-1	10/10/2014	684773.5	602414.1	-0.8	134.5	1.0	135.8	6.4	99	95	70	Tilcon MH DGA	Bridge lift	V5N
2	RF-17-2	11/5/2014	684723.7	602387.9	1.5	124.0	3.8	128.9	12.1	96	95	70	Weldon WC Screenings		V5N
0	RF-18		684686.8	602294.5	-2.4							73	Stratum D	Bottom of excavation elevation	
1	RF-18-1	10/10/2014	684659.1	602250.1	-1.3	134.5	1.0	135.8	6.4	99	95	73	Tilcon MH DGA	Bridge lift	V5N
6	RF-18-2	11/5/2014	684636.8	602258.1	5.5	124.0	3.7	128.9	12.1	96	95	73	Weldon WC Screenings	Placed on Type A material	V5N
	RF-19		684790.8	602339.5	-2.5							75	Stratum D	Bottom of excavation elevation	

3	RF-19-1	11/5/2014	684776.9	602328.5	1.8	124.0	3.9	128.9	12.1	96	95	75	Weldon WC Screenings		V5N
	RF-21		684826.8	602292.8	-3.3							79		Bottom of excavation elevation	
2	RF-21-1	9/24/2014	684821.0	602290.8	-1.2	126.0	1.8	128.9	12.1	98	95	79	Weldon WC Screenings	Placed on concrete/QP bridge lift	V5N
4	RF-21-2	11/5/2014	684823.4	602288.0	1.8	133.0	1.7	135.8	6.4	98	95	79	Tilcon MH DGA		V5N
	RF-22		684775.9	602192.8	-4.8							82		Bottom of excavation elevation	
3	RF-22-1	9/24/2014	684777.7	602191.8	-1.1	125.0	2.5	128.9	12.1	97	95	82	Weldon WC Screenings	Placed on concrete/QP bridge lift	V5N
	RF-23		684878.7	602219.3	-5.6							85		Bottom of excavation elevation	
1	RF-23-01	9/2/2014	684887.1	602212.2	-4.2	133.0	2.0	135.8	6.4	98	95	85	Tilcon MH DGA		V5N
2	RF-23-02	9/12/2014	684873.8	602198.8	-1.2	128.9	7.6	128.9	12.1	100	95	85	Weldon WC Screenings	Placed on Type A material	V5N
3	RF-23-03	9/24/2014	684867.7	602209.0	0.0	122.0	4.7	128.9	12.1	95	95	85	Weldon WC Screenings		V5N
5	RF-23-04	11/5/2014	684877.6	602222.8	2.5	134.0	0.7	135.8	6.4	99	95	85	Tilcon MH DGA		V5N
	RF-24		684934.2	602167.2	-4.8							90		Bottom of excavation elevation	
1	RF-24-01	9/2/2014	684928.8	602165.1	-3.5	133.5	1.3	135.8	6.4	98	95	90	Tilcon MH DGA		V5N
2	RF-24-02	9/8/2014	684921.5	602154.5	-2.1	122.0	4.4	128.9	12.1	95	95	90	Weldon WC Screenings		V5N
3	RF-24-03	9/12/2014	684903.2	602144.2	0.9	128.9	6.2	128.9	12.1	100	95	90	Weldon WC Screenings		V5N
4	RF-24-04	9/24/2014	684931.9	602159.7	1.7	122.0	12.0	128.9	12.1	95	95	90	Weldon WC Screenings		V5N
	RF-25		684988.1	602095.1	-4.8							96	Weldon WC QP	Bottom of excavation elevation	
2	RF-25-01	9/8/2014	684973.3	602081.8	1.6	123.0	3.9	128.9	12.1	95	95	96	Weldon WC Screenings		V5N
4	RF-25-02	9/12/2014	684969.6	602072.9	3.7	122.5	5.6	128.9	12.1	95	95	96	Weldon WC Screenings	Placed on Type A Material	V5N
	RF-26		685029.1	602031.1	-4.8							101	Weldon WC QP	Bottom of excavation elevation	
2	RF-26-01	9/2/2014	685038.3	602030.1	-2.5	125.0	3.3	128.9	12.1	97	95	101	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-26-02	9/8/2014	685029.6	602011.4	1.4	122.0	4.2	128.9	12.1	95	95	101	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-26-03	9/12/2014	685013.2	602014.1	3.2	128.9	3.1	128.9	12.1	100	95	101	Weldon WC Screenings		V5N
	RF-27		685076.1	601973	-1.2							106	Weldon WC QP	Bottom of excavation elevation	
3	RF-27-01	9/8/2014	685054.4	601963.6	2.4	122.0	4.8	128.9	12.1	95	95	106	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-27-02	9/12/2014	685064.1	601957.1	3.5	128.9	4.1	128.9	12.1	100	95	106	Weldon WC Screenings		V5N
NA	RF-27-LOAM	12/15/2014	685045.9	601945.1	-4.4	129.0	3.0	135.8	6.4	95	95	106	Tilcon MH DGA	Bottom of lens of anomalous material excavation	V5N
	RF-28		685132.5	601902.9	2.1							112 (No)	Weldon WC QP	Bottom of excavation elevation	
3	RF-28-01	7/28/2014	685136.7	601901.8	3.7	122.5	6.1	128.9	12.1	95	95	112 (No)	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-28-02	9/2/2014	685126.1	601909.3	4.9	125.0	3.0	128.9	12.1	97	95	112	Weldon WC Screenings		V5N
5	RF-28-03	9/8/2014	685135.2	601900.4	6.4	125.0	3.3	128.9	12.1	97	95	112 (No)	Weldon WC Screenings		V5N
NA	RF-28-LOAM	12/15/2014	685085.0	601862.1	-4.7	135.8	4.0	135.8	6.4	100	95	112	Tilcon MH DGA	Bottom of lens of anomalous material excavation	V5N
1	RF-29		685049.3	601738.7	-4.3							117	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-29-01	7/16/2014	685064.7	601757.6	-2.9	131.7	3.5	135.8	6.4	97	95	117	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-29-02	7/22/2014	685068.9	601785.4	-0.8	125.0	3.4	128.9	12.1	97	95	117	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-29-03	7/28/2014	685071.0	601762.7	-0.1	122.5	7.7	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
5	RF-29-04	7/28/2014	685068.0	601754.7	0.8	117.0	9.0	128.9	12.1	91	95	117	Weldon WC Screenings		V5N
5	RF-29-04R	7/30/2014	685068.0	601754.7	0.8	122.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings	Re-rolled area and let dry	V5N
6	RF-29-05	7/30/2014	685070.3	601762.8	1.7	122.0	5.6	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
7	RF-29-06	8/1/2014	685079.5	601759.0	3.2	120.9	4.5	128.9	12.1	94	95	117	Weldon WC Screenings		V5N
7	RF-29-06R	8/1/2014	685079.5	601759.0	2.8	123.5	5.8	128.9	12.1	96	95	117	Weldon WC Screenings	Re-rolled area	V5N
8	RF-29-07	8/4/2014	685070.6	601753.8	3.7	126.1	7.2	128.9	12.1	98	95	117	Weldon WC Screenings		V5N
9	RF-29-08	8/6/2014	685072.8	601758.1	4.3	123.0	6.8	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
10	RF-29-09	8/8/2014	685074.4	601753.5	5.2	123.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
11	RF-29-10	8/11/2014	685078.3	601760.5	6.1	123.0	4.5	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
12	RF-29-11	8/15/2014	685079.8	601756.2	7.5	123.7	3.7	128.9	12.1	96	95	117	Weldon WC Screenings		V5N
	RF-30		685179.4	601785.6	0.4							120			

2	RF-30-01	7/1/2014	685218.1	601814.2	2.0	122.0	7.5	128.9	12.1	95	95	120	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-30-02	7/25/2014	685216.3	601818.6	3.0	124.0	4.3	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
4	RF-30-03	7/30/2014	685213.1	601816.1	3.8	123.5	5.0	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
5	RF-30-04	8/6/2014	685205.4	601798.5	4.6	123.0	6.3	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
6	RF-30-05	8/8/2014	685215.8	601802.1	5.2	123.0	5.8	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
7	RF-30-06	8/11/2014	685218.8	601812.7	6.2	123.0	6.9	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
8	RF-30-07	8/15/2014	685216.3	6018806.8	7.2	123.0	5.4	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
1	RF-31		685121.7	601682.3	-4.3							123	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-31-01	7/22/2014	685126.3	601690.0	-2.2	126.3	3.4	128.9	12.1	98	95	123 (So)	Weldon WC Screenings		V5N
3	RF-31-02	7/28/2014	685124.5	601686.4	-0.1	122.5	7.7	128.9	12.1	95	95	123 (So)	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-31-03	7/30/2014	685115.0	601683.8	1.1	122.0	6.2	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
5	RF-31-04	7/30/2014	685123.7	601688.2	2.3	122.0	6.9	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
6	RF-31-05	8/1/2014	685120.9	601687.7	3.0	128.9	6.2	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
7	RF-31-06	8/4/2014	685122.7	601686.6	3.9	128.9	5.8	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
8	RF-31-07	8/6/2014	685132.5	601689.3	4.8	123.0	6.6	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
9	RF-31-08	8/8/2014	685118.7	601690.5	5.5	125.0	2.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
10	RF-31-09	8/11/2014	685136.4	601690.8	6.6	125.0	3.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
11	RF-31-10	8/15/2014	685122.6	601682.9	7.6	123.0	7.4	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
0	RF-32		684498.6	602739.4	-1.2							125	Stratum O	Bottom of excavation elevation	
1	RF-32-01	6/12/2014	685241.5	601740.7	0.0	134.0	1.3	135.8	6.4	99	95	125	Tilcon MH DGA		V5N
2	RF-32-02	7/16/2014	685227.6	601725.4	0.9	122.0	5.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
3	RF-32-03	7/16/2014	685239.4	601736.4	2.0	122.0	5.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
4	RF-32-04	7/30/2014	685248.5	601750.7	3.4	123.5	6.0	128.9	12.1	96	95	125	Weldon WC Screenings		V5N
5	RF-32-05	8/6/2014	685249.6	601745.6	4.6	123.0	5.9	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
6	RF-32-06	8/8/2014	685249.1	601742.7	5.6	123.0	5.7	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
7	RF-32-07	8/11/2014	685237.6	601735.2	6.5	123.0	6.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
8	RF-32-08	8/15/2014	685238.9	601747.0	7.3	123.0	7.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
1	RF-33		685179.2	601631.6	-7.5							128	Crushed Concrete	Bottom of excavation elevation	
2	RF-33-01	6/5/2014	685182.8	601626.5	-5.1	132.0	3.7	135.8	6.4	97	95	128	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-33-02	7/28/2014	685146.0	601639.6	-0.9	123.7	6.4	128.9	12.1	96	95	128	Weldon WC Screenings	Placed on Type A Material/QP Ramp	V5N
4	RF-33-03	7/30/2014	685159.9	601630.8	0.8	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
5	RF-33-04	7/30/2014	685144.1	601632.9	1.3	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
6	RF-33-05	8/1/2014	685171.2	601638.5	3.2	128.9	6.0	128.9	12.1	100	95	128	Weldon WC Screenings		V5N
7	RF-33-06	8/1/2014	685156.8	601643.7	3.9	127.0	5.0	128.9	12.1	99	95	128	Weldon WC Screenings		V5N
8	RF-33-07	8/6/2014	685176.1	601633.1	4.7	123.0	6.6	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
9	RF-33-08	8/8/2014	685166.7	601630.5	5.5	123.0	6.2	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
10	RF-33-09	8/11/2014	685166.3	601631.6	6.6	123.0	6.0	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
11	RF-33-10	8/15/2014	685165.2	601633.6	7.9	123.0	6.9	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
0	RF-34		685278.4	601673.3	-1.2							130	Stratum O	Bottom of excavation elevation	
1	RF-34-01	6/5/2014	685303.0	601691.1	0.3	132.0	3.6	135.8	6.4	97	95	130	Tilcon MH DGA		V5N
2	RF-34-02	6/24/2014	685298.9	601690.4	1.6	122.0	5.5	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
3	RF-34-03	6/27/2014	685295.5	601692.8	2.5	122.5	7.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
4	RF-34-04	7/16/2014	685293.1	601684.6	3.2	122.0	6.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
5	RF-34-05	7/30/2014	685290.2	601690.3	4.5	123.5	6.5	128.9	12.1	96	95	130	Weldon WC Screenings		V5N
6	RF-34-06	8/8/2014	685289.5	601690.7	5.5	123.0	6.9	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
7	RF-34-07	8/8/2014	685292.7	601686.1	6.6	123.0	6.3	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
8	RF-34-08	8/15/2014	685286.1	601677.8	7.6	126.0	2.3	128.9	12.1	98	95	130	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT

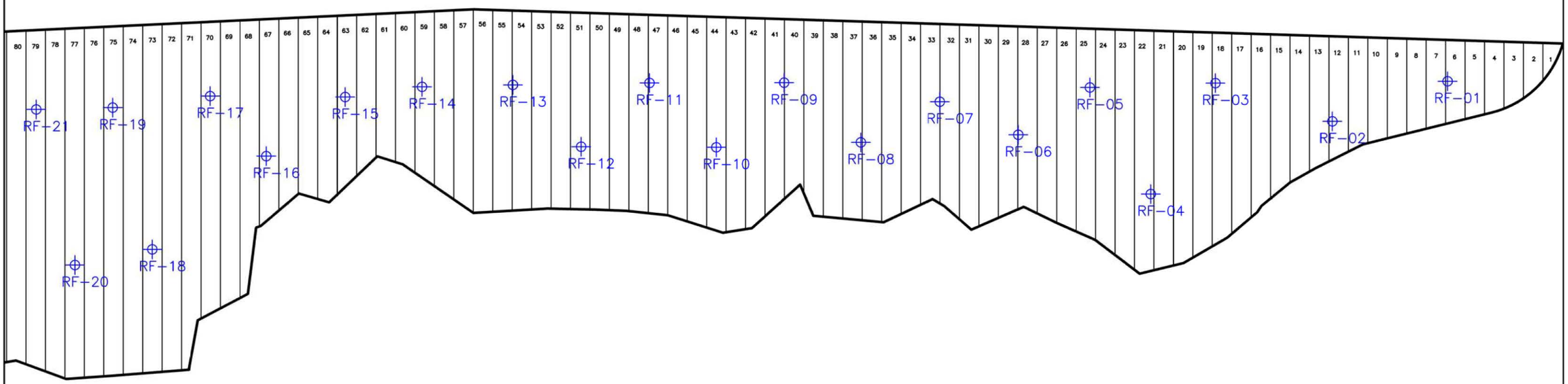
0	RF-35		6852228.7	601575.4	2.1							133		Bottom of excavation elevation	
1	RF-35-01	7/16/2014	685219.7	601566.3	3.5	123.3	6.2	128.9	12.1	96	95	133	Weldon WC Screenings		V5N
2	RF-35-02	7/16/2014	685234.2	601582.4	4.3	124.9	4.9	128.9	12.1	97	95	133	Weldon WC Screenings		V5N
3	RF-35-03	7/25/2014	685238.5	601578.0	5.8	122.0	5.0	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
4	RF-35-04	8/8/2014	685239.0	601569.1	6.9	123.0	6.6	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
0	RF-36		685334.4	601603.7	-1.2							136		Bottom of excavation elevation	
1	RF-36-01	6/24/2014	685349.2	601617.6	1.7	125.0	3.4	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
2	RF-36-02	6/27/2014	685330.9	601606.5	2.6	125.0	6.5	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
3	RF-36-03	6/27/2014	685339.9	601612.8	3.4	123.7	6.8	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
4	RF-36-04	7/16/2014	685343.2	601621.5	4.3	123.8	5.5	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
5	RF-36-05	7/28/2014	685346.6	601606.1	5.4	122.0	5.2	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
6	RF-36-06	8/8/2014	685345.5	601605.6	6.7	126.0	1.6	128.9	12.1	98	95	136	Weldon WC Screenings		V5N
7	RF-36-07	8/15/2014	685335.6	601611.4	7.7	123.0	6.4	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
1	RF-37		685295.3	601495.2	-7.8							140 (So)	Crushed Concrete	Bottom of excavation elevation	
2	RF-37-01	5/15/2014	685286.1	601481.2	-5.1	132.0	2.5	135.8	6.4	97	95	140 (So)	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-37-02	5/21/2014	685294.5	601489.0	-4.2	122.5	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
4	RF-37-03	7/7/2014	685282.8	601485.7	4.5	128.9	6.1	128.9	12.1	100	95	140 (So)	Weldon WC Screenings	1st lift over Type A Material	V5N
5	RF-37-04	7/28/2014	685281.8	601490.5	5.9	123.7	5.4	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
6	RF-37-05	7/28/2014	685310.0	601513.3	6.6	123.0	4.7	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
7	RF-37-06	8/8/2014	685297.5	601485.6	7.1	124.0	4.1	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
8	RF-37-07	8/15/2014	685288.7	601489.2	8.0	123.0	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
0	RF-38		685399.1	601540.2	-1.2							142 (No)	Stratum O	Bottom of excavation elevation	
1	RF-38-01	5/9/2014	685391.8	601532.2	-0.2	124.6	2.5	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
2	RF-38-02	5/21/2014	685389.4	601534.3	0.2	122.5	5.6	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
3	RF-38-03	6/24/2014	685386.6	601538.7	4.0	125.0	3.4	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
4	RF-38-04	6/27/2014	685392.8	601538.8	5.3	124.0	6.0	128.9	12.1	96	95	142 (No)	Weldon WC Screenings		V5N
5	RF-38-05	7/28/2014	685385.3	601533.9	6.3	122.0	6.4	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
6	RF-38-06	8/8/2014	685382.7	601533.1	7.1	125.0	3.2	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
7	RF-38-07	8/15/2014	685382.8	601528.2	7.9	123.0	6.0	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
0	RF-39		685485.1	601397.7	3.8							153	Stratum O	Bottom of excavation elevation	
1	RF-39-01	5/5/2014	685451.1	601421.7	4.3	126.3	3.9	128.9	12.1	98	95	153	Weldon WC Screenings		V5N
2	RF-39-02	5/5/2014	685477.5	601397.7	5.6	123.3	4.1	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
3	RF-39-03	5/5/2014	685492.5	601460.8	6.4	123.8	7.4	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
0	Site 163-1				4.5							Site 163		Bottom of excavation elevation	
1	Site 163-1-1	10/30/2014	685176.1	601448.3	5.7	126.0	2.4	128.9	12.1	98	95	Site 163	Weldon WC Screenings	Site 163 West Excavation	V5N
2	Site 163 -1-2	10/30/2014	685173.8	601449.0	7.4	123.0	5.3	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 West Excavation	V5N
0	Site 163-2				4.5							Site 163		Bottom of excavation elevation	
1	Site 163-2-1	11/5/2014	685070.9	601614.2	6.1	122.0	6.3	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 Main Excavation	V5N
2	Site 163-2-2	11/14/2014	685070.5	601616.0	7.5	122.0	5.4	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 Main Excavation	V5N

Notes:

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.
Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b
Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C
Bottom of excavation elevation based on Maser survey data (Center Point elevations)
Sample ID RF-01-01 where:
RF = Reduced Frequency

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT

01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



NOTE:

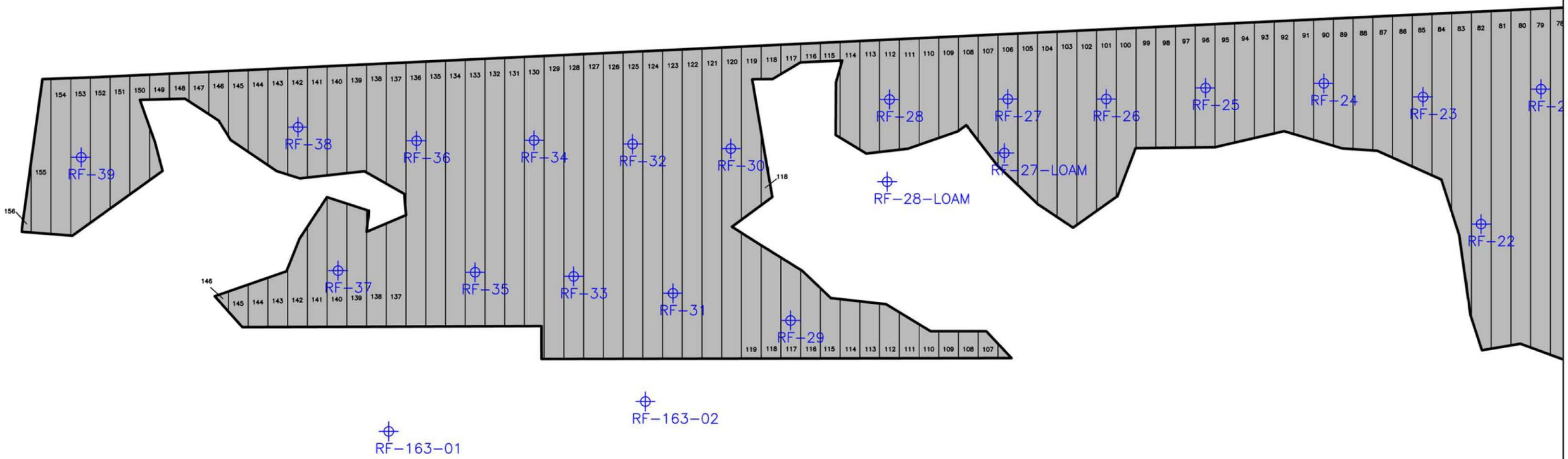
Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS 5 TESTS PER ACRE

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE
RF-22 TO RF-39, RF-163-01. RF-163-02

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Attachment 4: Dewatering Operations Update

- SA-6 South Deep Well Data (DW-4)

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-4)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
11/14/14	24	N/A	N/A	6,500	80,718	4.5	Pump Online for LOAM Excavation
11/17/14	72	N/A	N/A	19,500	100,218	4.5	Flow Meter Not Intsalled Tank Measured
11/18/14	24	N/A	N/A	6,500	106,718	4.5	Flow Meter Not Intsalled Tank Measured
11/19/14	24	N/A	N/A	6,500	113,218	4.5	Flow Meter Not Intsalled Tank Measured
11/20/14	24	N/A	N/A	6,500	119,718	4.5	Flow Meter Not Intsalled Tank Measured
11/21/14	24	N/A	N/A	6,500	126,218	4.5	Flow Meter Not Intsalled Tank Measured
11/22/14	24	N/A	N/A	6,500	132,718	4.5	Flow Meter Not Intsalled Tank Measured
11/24/14	48	N/A	N/A	13,000	145,718	4.5	Flow Meter Not Intsalled Tank Measured
11/25/14	24	N/A	N/A	6,500	152,218	4.5	Flow Meter Not Intsalled Tank Measured
11/28/14	72	N/A	N/A	19,500	171,718	4.5	Flow Meter Not Intsalled Tank Measured
11/30/14	48	N/A	N/A	12,500	184,218	4.3	Flow Meter Not Intsalled Tank Measured
12/01/14	24	N/A	N/A	6,500	190,718	4.5	Flow Meter Not Intsalled Tank Measured
12/02/14	24	N/A	N/A	6,500	197,218	4.5	Flow Meter Not Intsalled Tank Measured

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
10/30/14	9:00	11:00	2:00	21,979.83	21,987.45	7,620	21,987,000	
11/05/14	8:00	15:00	7:00	21,987.45	22,068.71	81,260	22,068,260	PVSC Compliance Sample Collected
11/07/14	10:00	15:00	5:00	22,068.71	22,093.24	24,530	22,092,790	
11/10/14	8:00	14:30	6:30	22,093.24	22,125.00	31,760	22,124,550	CGWES pumped and isolated from 930 to 1530
11/11/14	11:00	16:00	5:00	22,125.00	22,151.18	26,180	22,150,730	
11/12/14	7:15	15:15	8:00	22,151.18	22,205.08	53,900	22,204,630	
11/13/14	7:30	15:30	8:00	22,205.08	22,232.39	27,310	22,231,940	
11/14/14	7:00	12:00	5:00	22,232.39	22,270.23	37,840	22,269,780	
11/15/14	11:00	14:45	3:45	22,270.23	22,327.83	57,600	22,327,380	
11/16/14	10:00	14:00	4:00	22,327.83	22,387.57	59,740	22,387,120	
11/17/14	9:00	16:00	7:00	22,387.57	22,488.01	100,440	22,487,560	
11/18/14	8:00	15:30	7:30	22,488.01	22,568.74	80,730	22,568,290	
11/19/14	8:00	15:30	7:30	22,568.74	22,653.22	84,480	22,652,770	
11/20/14	7:30	12:30	5:00	22,653.22	22,692.55	39,330	22,692,100	
11/21/14	8:00	16:00	8:00	22,692.55	22,747.08	54,530	22,746,630	
11/22/14	8:00	12:00	4:00	22,747.08	22,783.08	36,000	22,782,630	
11/24/14	7:00	15:30	8:30	22,783.08	22,833.40	50,320	22,832,950	
11/26/14	7:30	15:00	7:30	22,833.40	22,889.40	56,000	22,888,950	
11/28/14	11:00	16:00	5:00	22,889.40	22,984.22	94,820	22,983,770	
11/30/14	14:00	16:20	2:20	22,984.22	23,021.47	37,250	23,021,020	
12/01/14	8:30	14:30	6:00	23,021.47	23,125.75	104,280	23,125,300	
12/02/14	7:00	15:00	8:00	23,125.75	23,223.33	97,580	23,222,880	PVSC Compliance Sample Collected
12/03/14	7:30	15:00	7:30	23,223.33	23,306.88	83,550	23,306,430	
12/04/14	7:30	15:15	7:45	23,306.88	23,418.88	112,000	23,418,430	
12/05/14	7:30	15:00	7:30	23,418.88	23,505.57	86,690	23,505,120	
12/06/14	12:30	16:30	4:00	23,505.57	23,547.36	41,790	23,546,910	
12/08/14	6:30	16:45	10:15	23,547.36	23,734.14	186,780	23,733,690	
12/09/14	7:00	17:00	10:00	23,734.14	23,938.58	204,440	23,938,130	
12/10/14	6:30	15:30	9:00	23,938.58	24,127.10	188,520	24,126,650	
12/11/14	7:00	15:00	8:00	24,127.10	24,278.59	151,490	24,278,140	
12/12/14	7:00	14:30	7:30	24,278.59	24,400.95	122,360	24,400,500	
12/13/14	7:00	14:00	7:00	24,400.95	24,465.38	64,430	24,464,930	
12/15/14	7:00	15:30	8:30	24,465.38	24,642.32	176,940	24,641,870	
12/16/14	7:00	16:00	9:00	24,642.32	24,790.34	148,020	24,789,890	
12/17/14	7:00	15:00	8:00	24,790.34	24,891.32	100,980	24,890,870	
12/18/14	7:00	14:30	7:30	24,891.32	24,942.66	51,340	24,942,210	
12/19/14	7:00	14:30	7:30	24,942.66	24,984.39	41,730	24,983,940	
12/22/14	7:00	15:00	8:00	24,984.39	25,135.32	150,930	25,134,870	
12/23/14	8:00	15:45	7:45	25,135.32	25,225.78	90,460	25,225,330	
12/24/14	7:00	14:00	7:00	25,225.78	25,261.74	35,960	25,261,290	

Notes: Previous information is trunketed. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

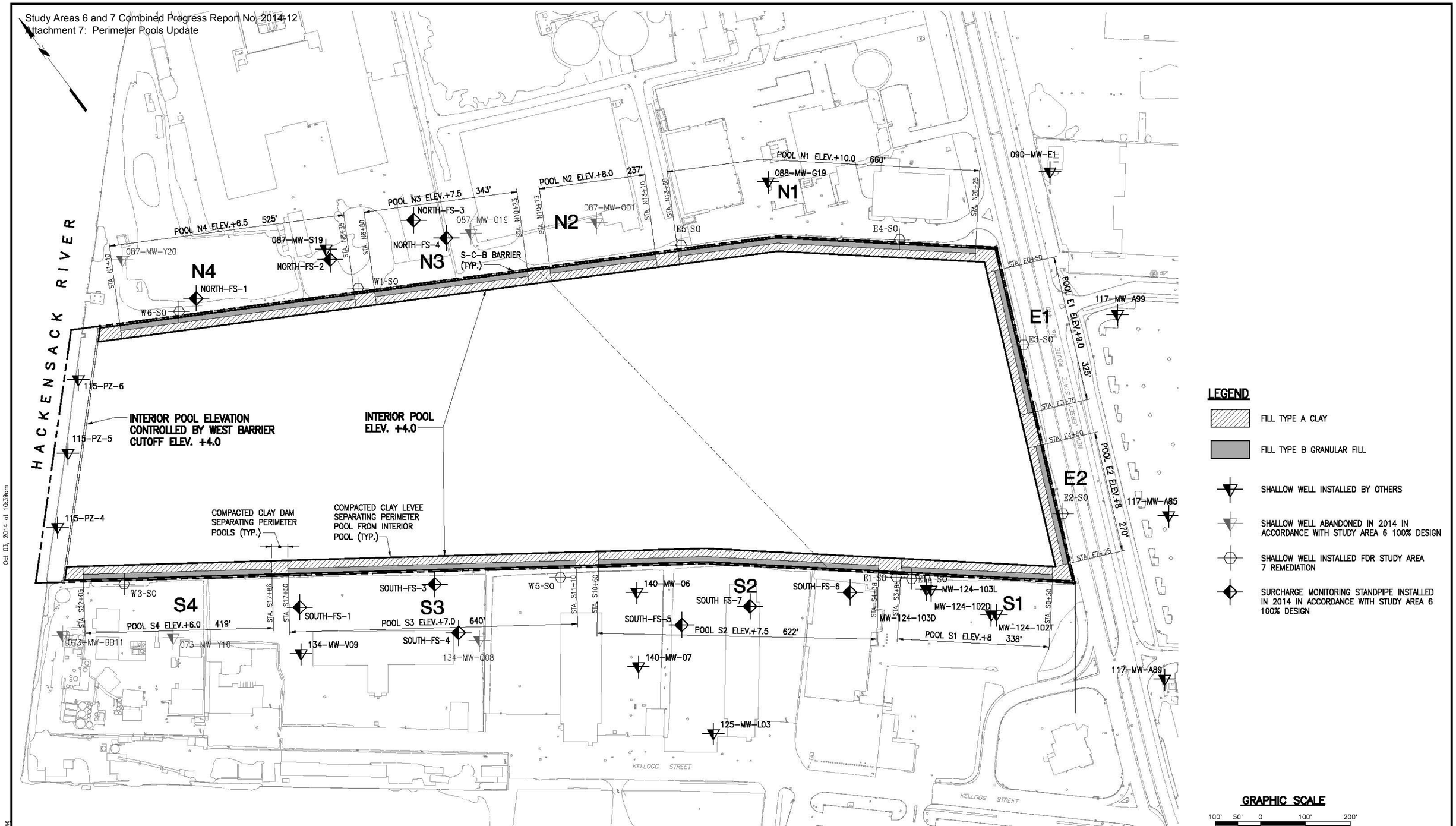
- Stockpiled Material Tracking and Sampling Log

SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
Site 163	>1000	163-122-1000-a	850	163-122-1000-a1	11/18/2014	11:00	4.5		*	
				163-122-1000-a2	11/12/2014	14:05	4		*	
				163-122-1000-a3	11/18/2014	11:05	80.1		*	
				163-122-1000-a4	11/12/2014	14:15	38.1		*	
103-106	<20	124-106-20-a (A29)	950	124-106-20-a1	11/21/2014	7:55	9.2	Yes		
				124-106-20-a2	11/21/2014	8:00	12.1	Yes		
				124-106-20-a3	11/21/2014	8:05	15.6	Yes		
				124-106-20-a4	11/21/2014	8:10	20		*	
106-110	<20	124-110-20-a,b,c (A30)	2400	124-110-20-a1	12/2/2014	13:00	25		*	
				124-110-20-a2	12/2/2014	13:05	44		*	
				124-110-20-a3	12/2/2014	13:10	29.1		*	
				124-110-20-a4	12/2/2014	13:15	14.8	Yes		
				124-110-20-b1	12/2/2014	13:20	23.1		*	
				124-110-20-b2	12/2/2014	13:25	12.9	Yes		
				124-110-20-b3	12/2/2014	13:30	3	Yes		
				124-110-20-b4	12/2/2014	13:35	1.8	Yes		
				124-110-20-c1	12/2/2014	13:40	12.9	Yes		
				124-110-20-c2	12/2/2014	13:45	15.6	Yes		
				124-110-20-c3	12/2/2014	13:50	29.1		*	
				124-110-20-c4	12/2/2014	13:55	179		*	
110-114	<20	124-114-20-a (A31)	1000	124-114-20-a1	12/16/2014	10:40	29.8		*	
				124-114-20-a2	12/16/2014	10:45	34.5		*	
				124-114-20-a3	12/16/2014	10:50	49.3		*	
				124-114-20-a4	12/16/2014	10:55	19.9	Yes		
Site 41	<20	124-114-20-b	135	124-114-20-b1	12/16/2014	11:00	10.6	Yes		
110-114	>1,000	124-114-1000-a (East D 6)	625	124-114-1000-a1	12/16/2014	13:15	42.3		Yes	
				124-114-1000-a2	12/16/2014	13:20	65		Yes	
				124-114-1000-a3	12/16/2014	13:25	75.3		Yes	
				124-114-1000-a4	12/16/2014	13:30	16.5		Yes	

*Material currently stockpiled. Pending final placement.
**Waiting on results from the laboratory.

Attachment 7: Perimeter Pools Update



IN PROGRESS
10-02-2014

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

Oct 03, 2014 at 10:39am
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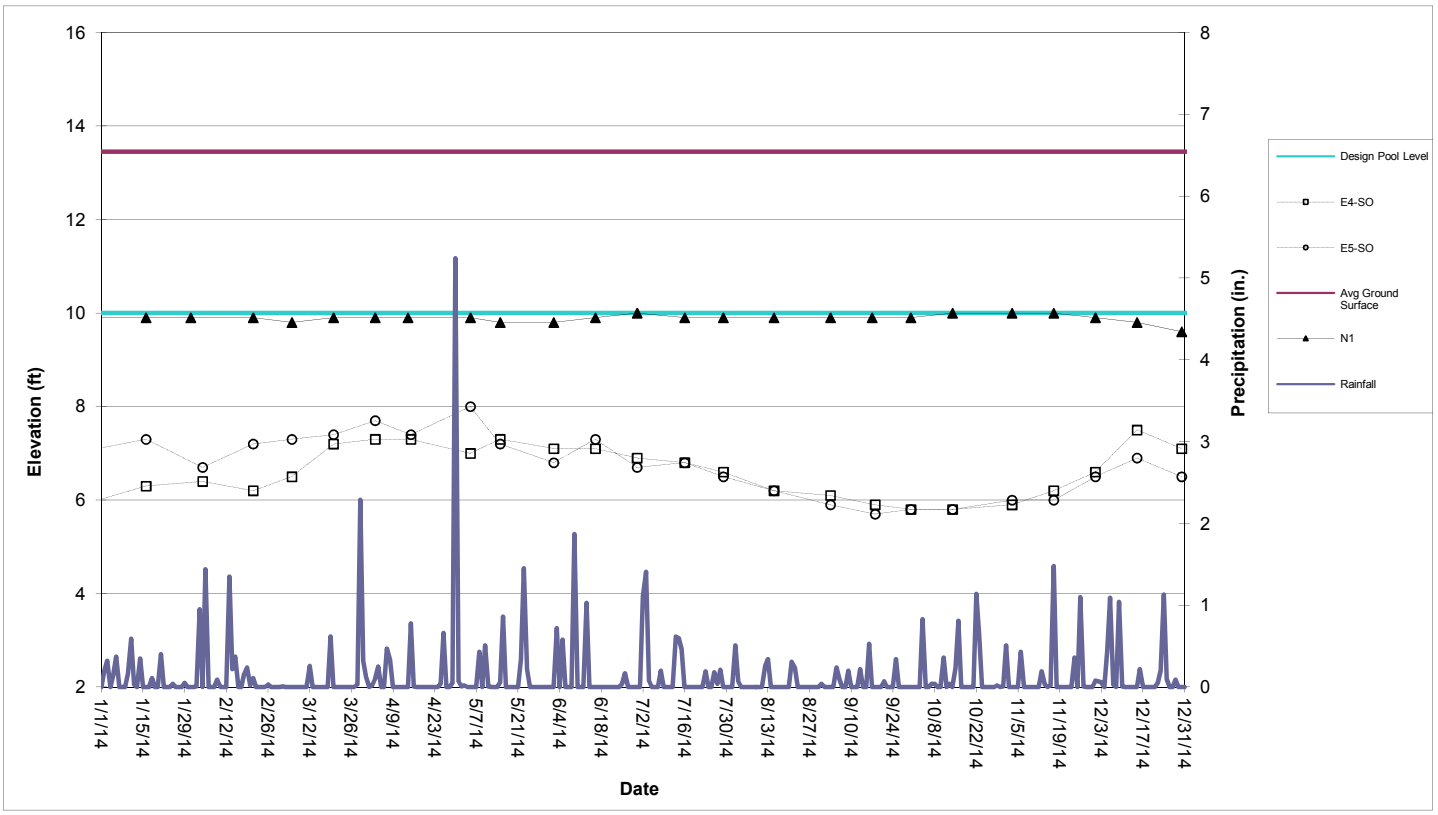
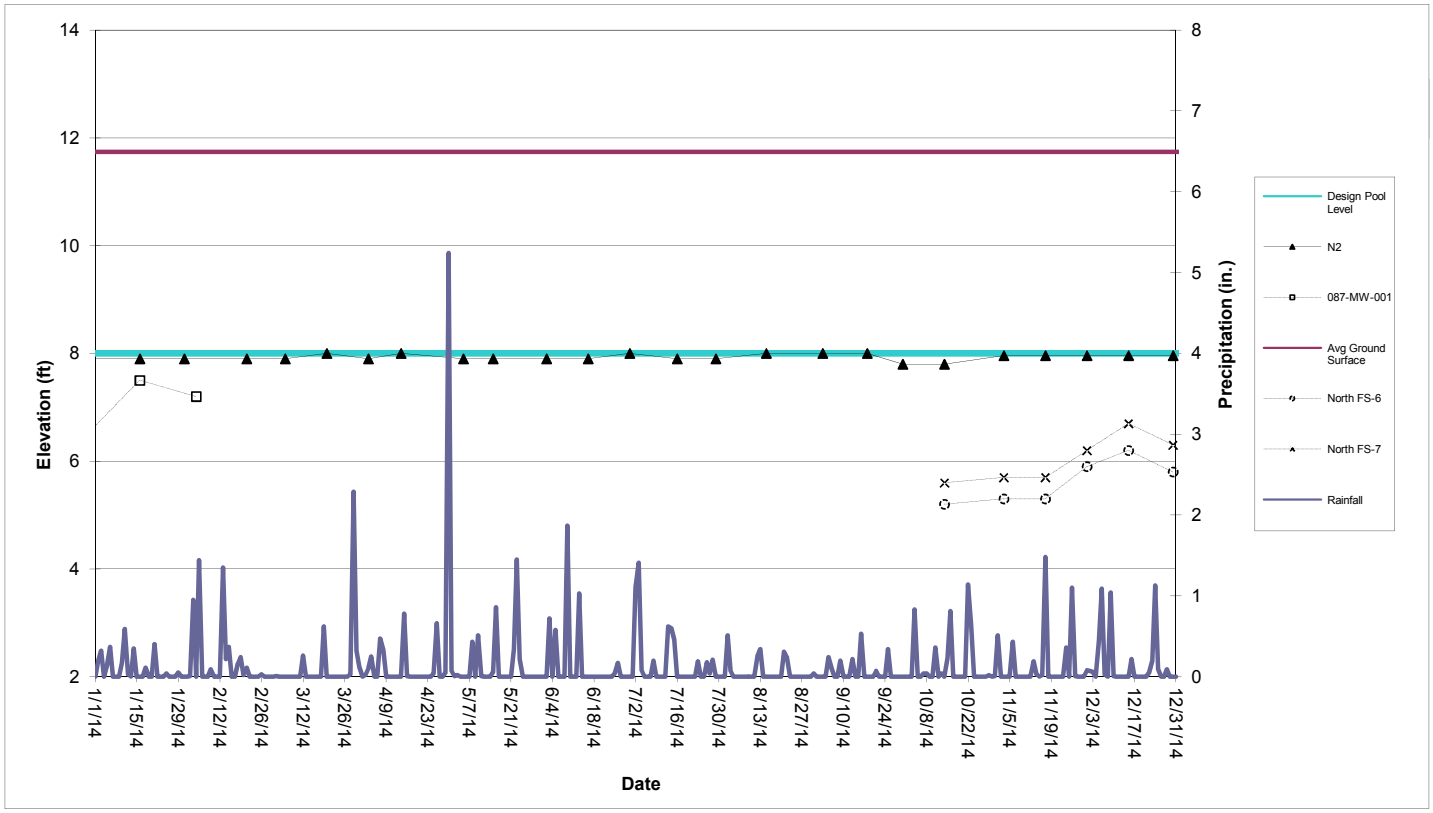
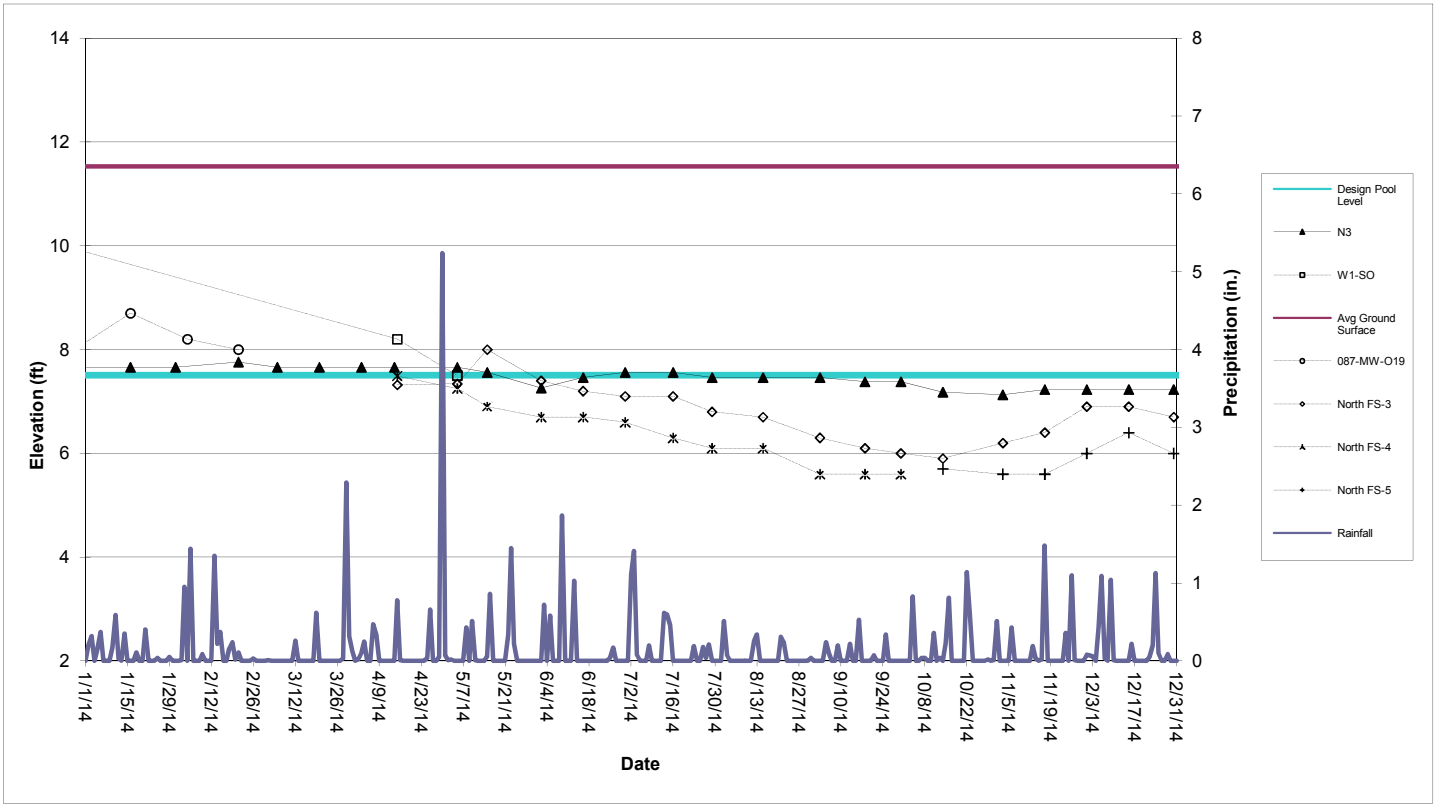
edelossantos



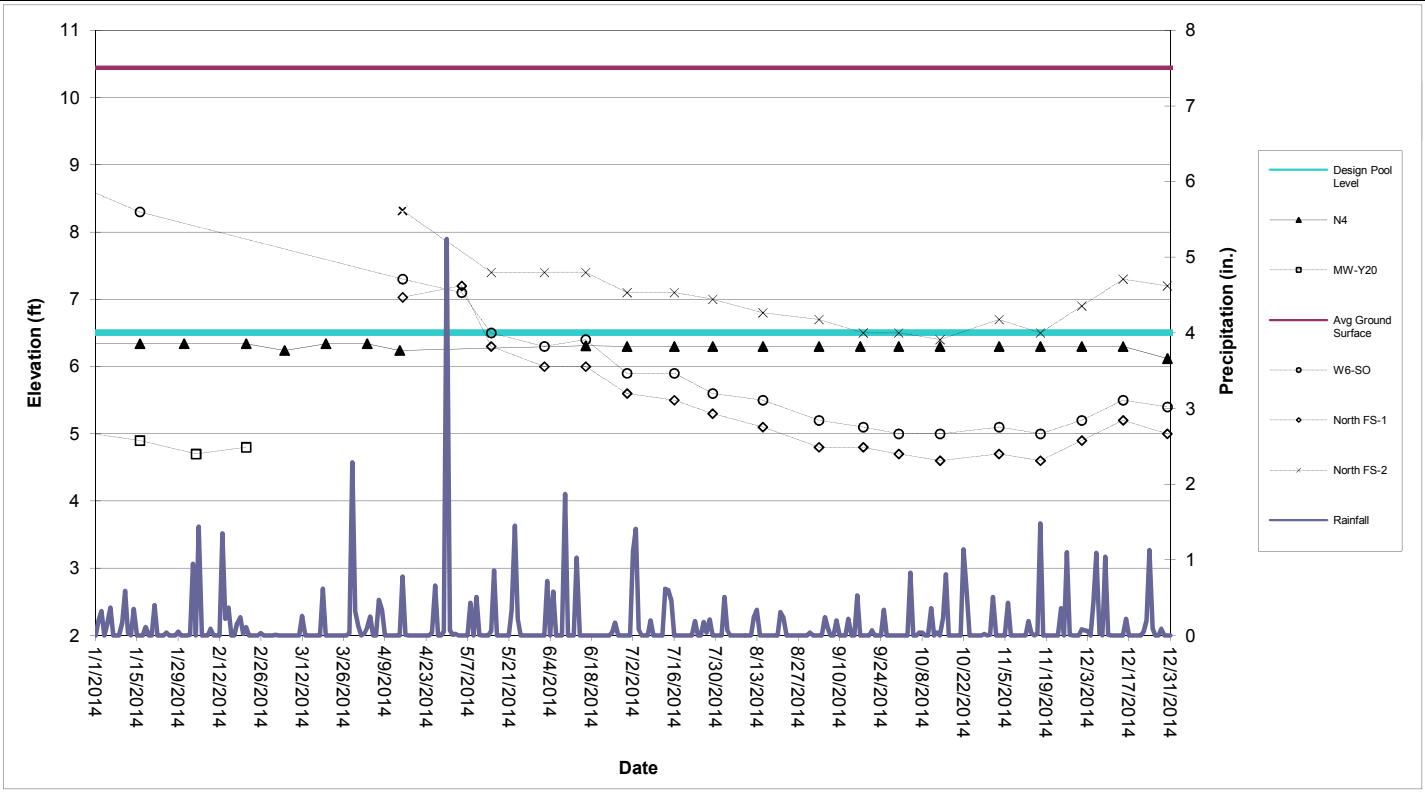
Perimeter Pool N1 (Sta. N13+60 to N20+25)



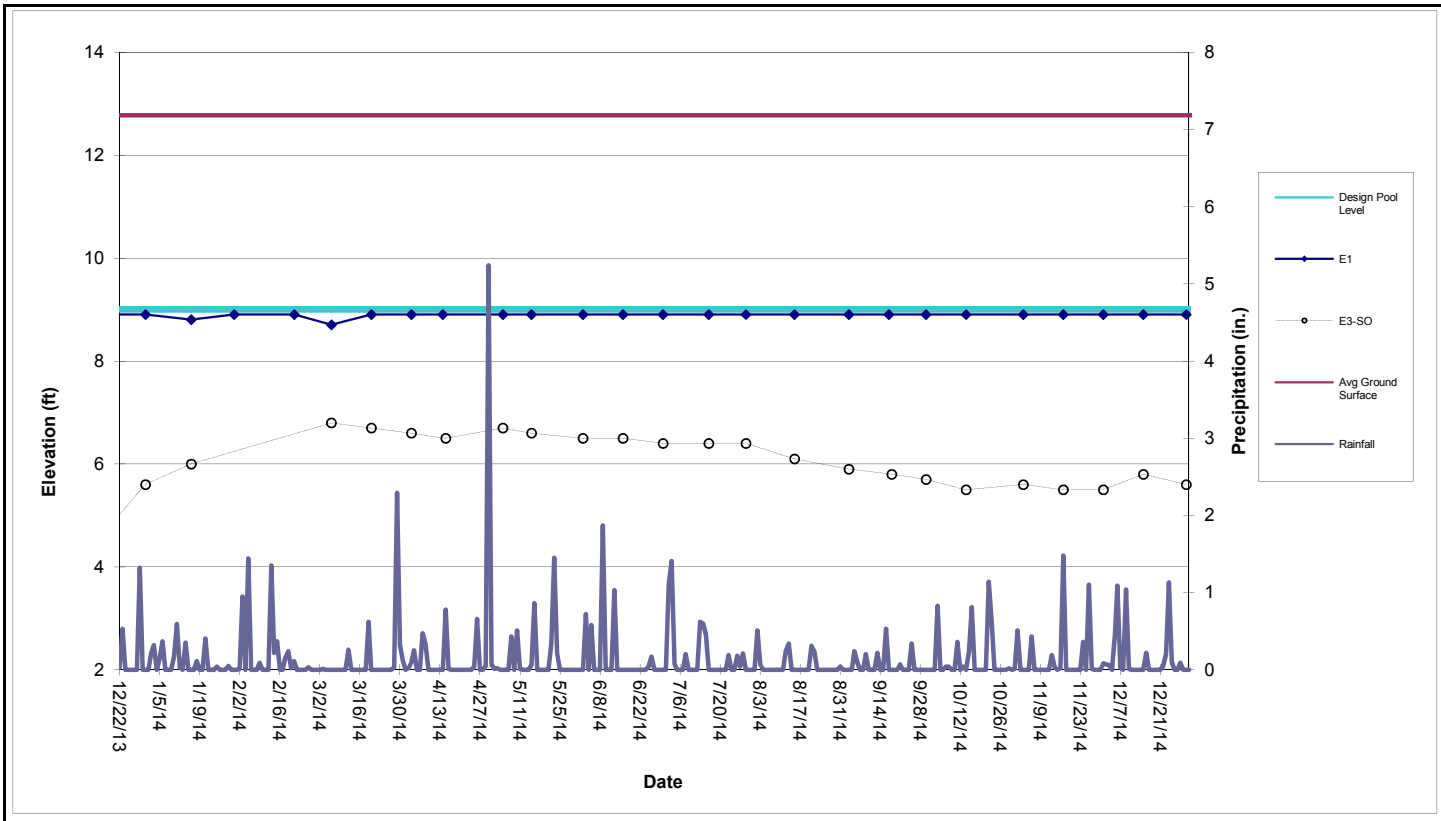
Perimeter Pool N2 (Sta. N10+73 to N13+10)



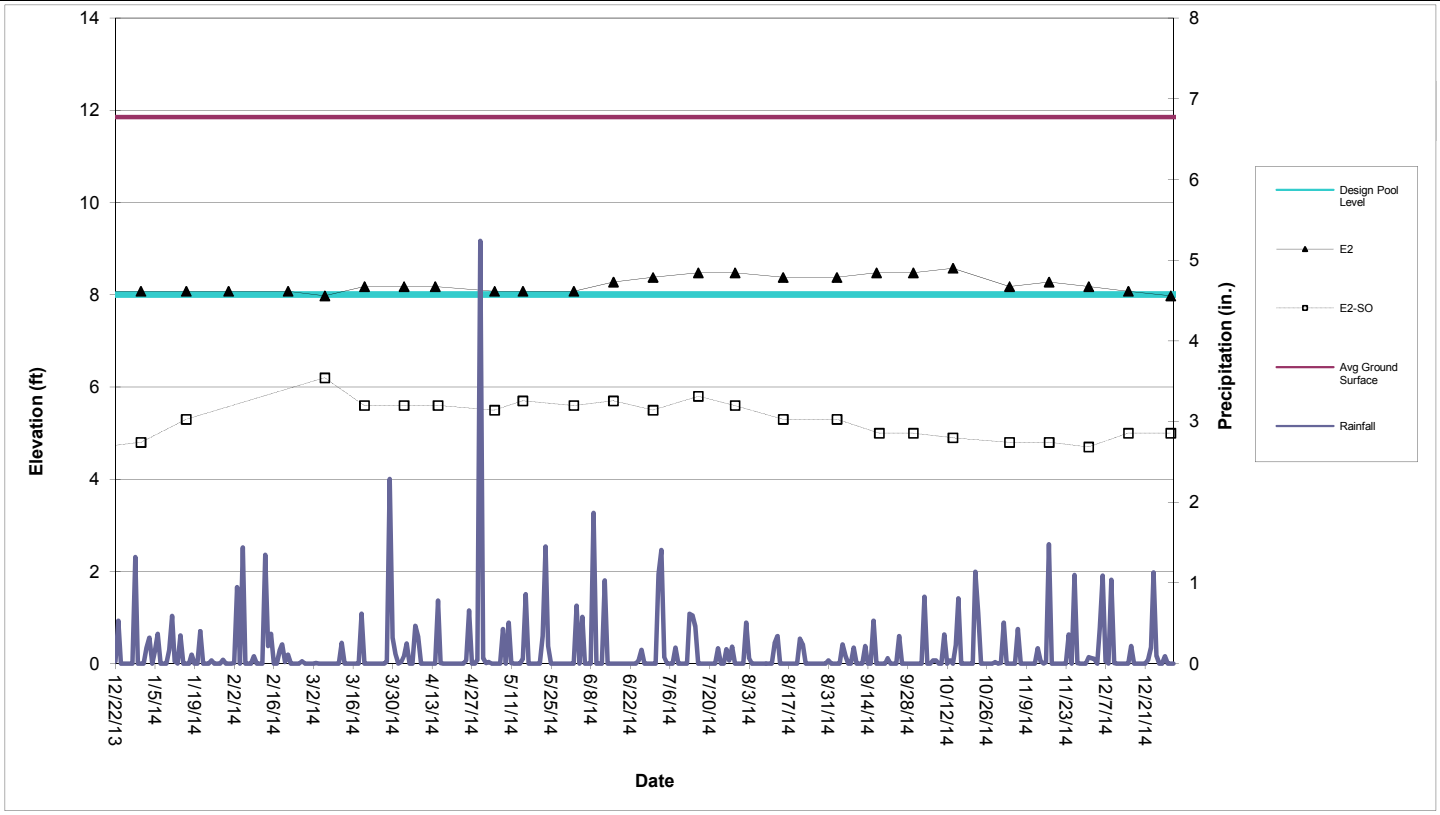
Perimeter Pool N3 (Sta. N6+80 to N10+23)



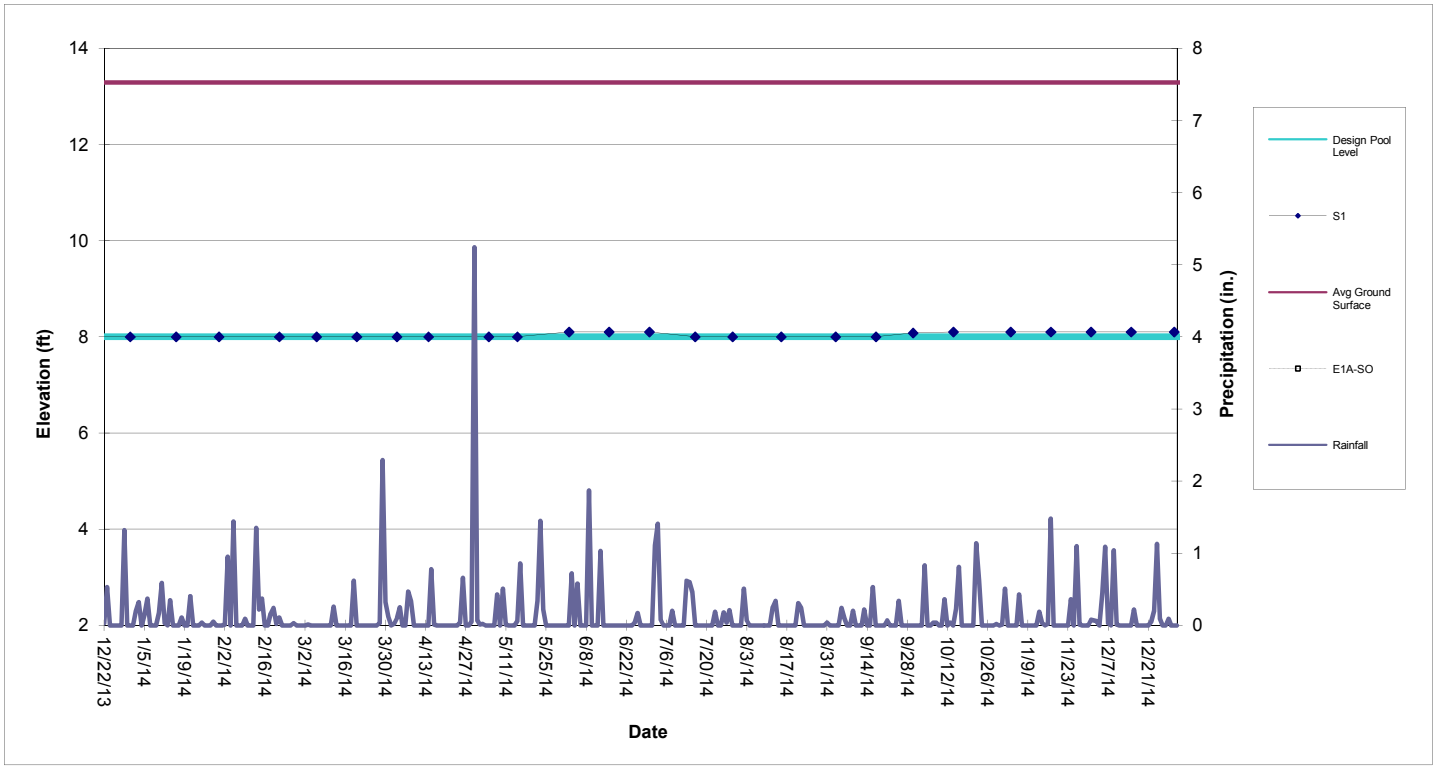
Perimeter Pool N4 (Sta. N6+80 to N10+23)



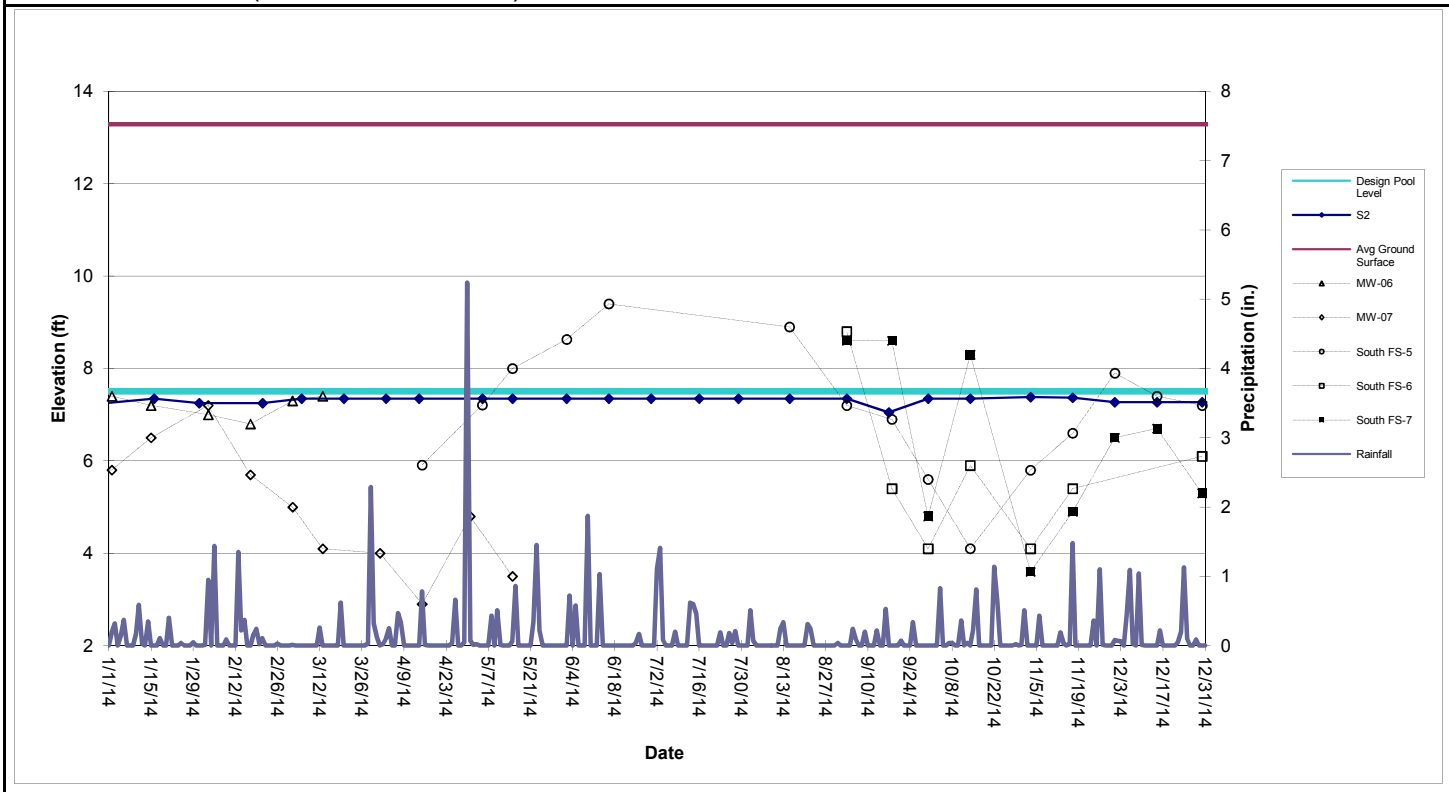
Perimeter Pool E1 (Sta. E0+50 to E3+75)



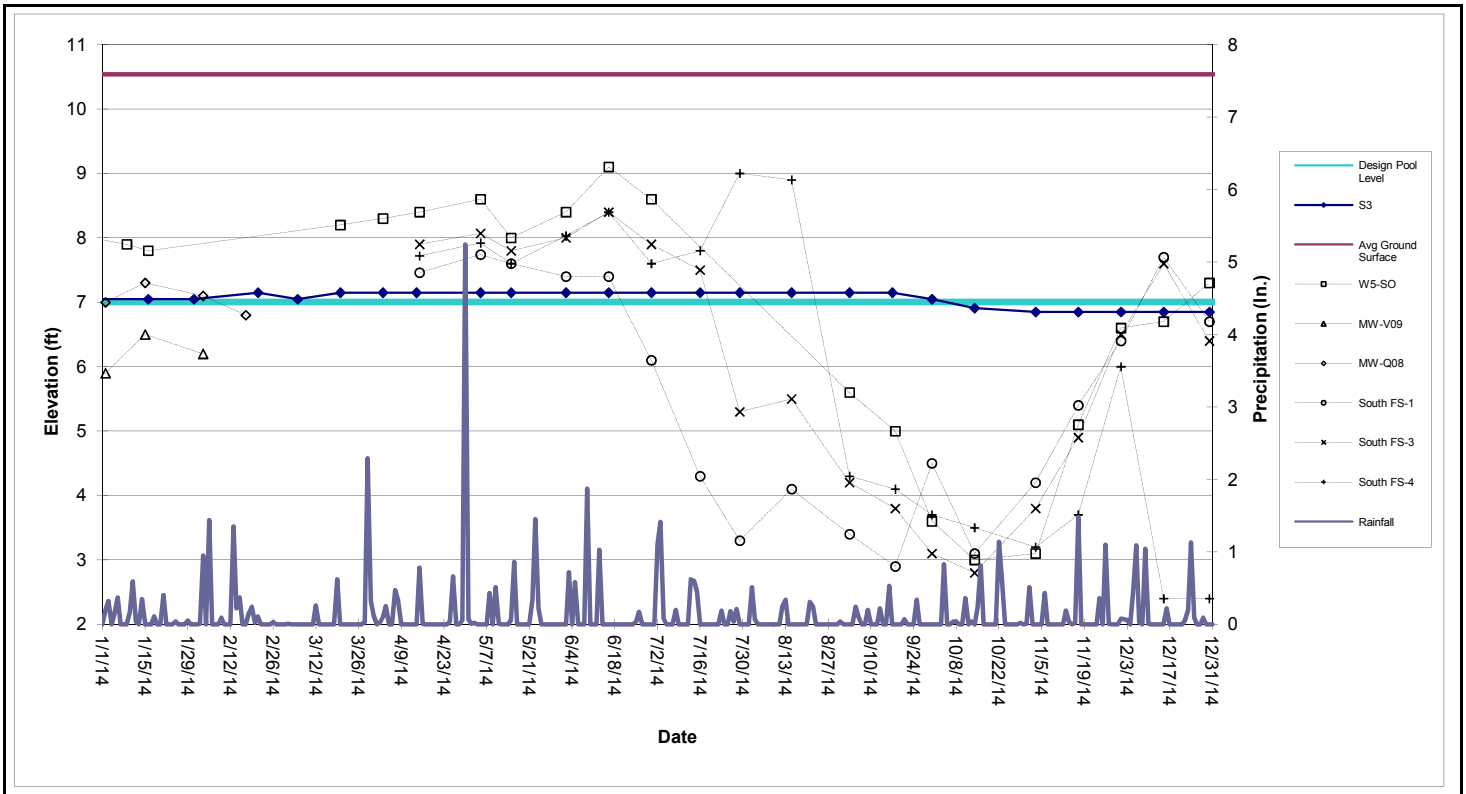
Perimeter Pool E2 (Sta. E4+50 to E7+25)



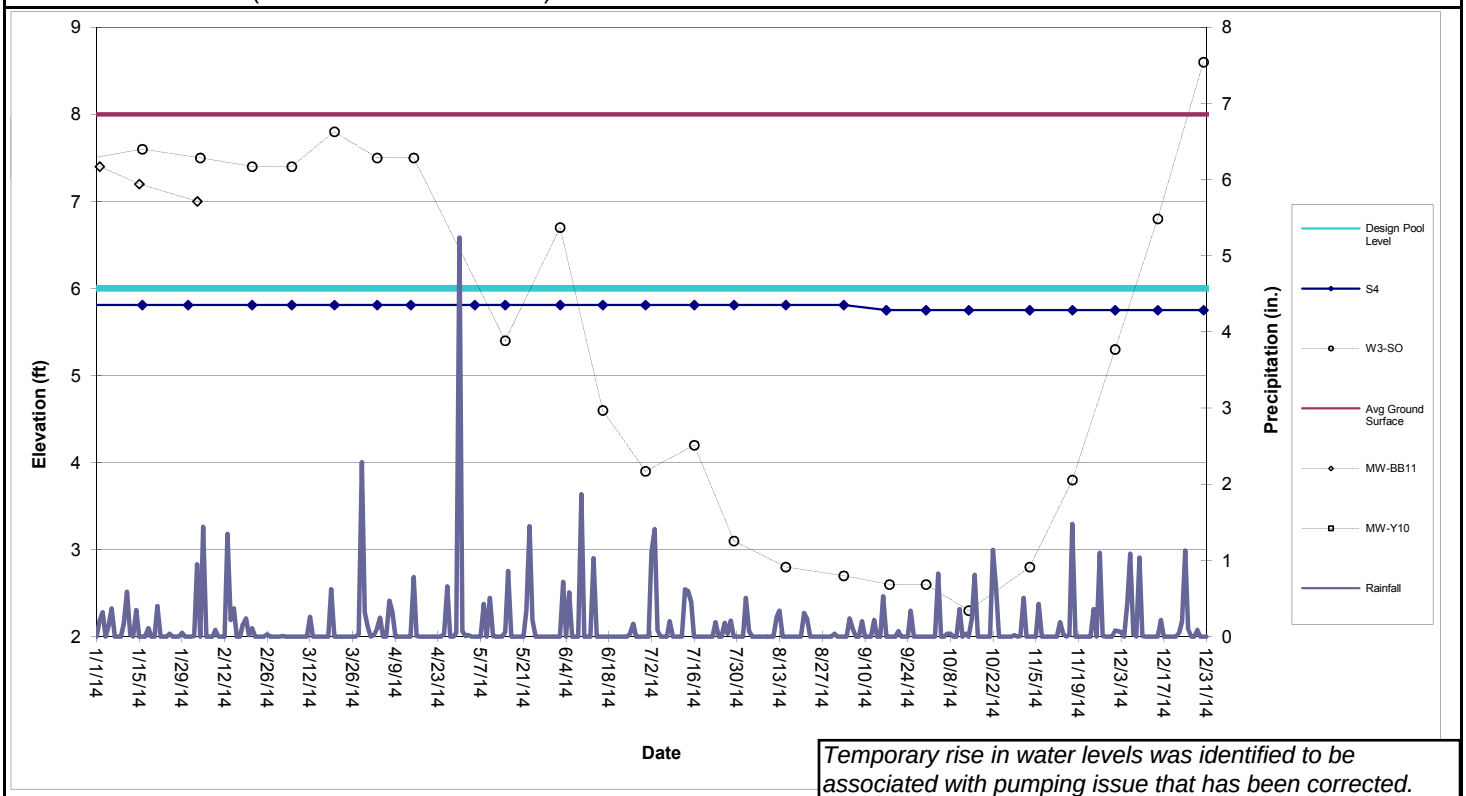
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Temporary rise in water levels was identified to be associated with pumping issue that has been corrected.

Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										134-	140-		North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	MW-V09	MW-06	MW-07	FS-1	FS-2	FS-3	FS-4	FS-5	FS-6	FS-7	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																									
3/3/2014											7.3	5.0													
3/6/2014		6.2	6.8	6.5	7.3		7.4																		
3/13/2014											7.4	4.1													
3/20/2014		5.6	6.7	7.2	7.4		7.8	8.2																	
4/1/2014												4.0													
4/3/2014		5.6	6.6	7.3	7.7		7.5	8.3																	
4/15/2014		5.6	6.5	7.3	7.4	8.2	7.5	8.4	7.3			2.9	7.0	8.3	7.3	7.5				7.5	7.9	7.7	5.9		
5/1/2014												4.8													
5/5/2014		5.5	6.7	7.0	8.0	7.5		8.6	7.1				7.2		7.3	7.3				7.7	8.1	7.9	7.2		
5/15/2014		5.7	6.6	7.3	7.2		5.4	8.0	6.5			3.5	6.3	7.4	8.0	6.9				7.6	7.8	7.6	8.0		
6/2/2014		5.6	6.5	7.1	6.8		6.7	8.4	6.3				6.0	7.4	7.4	6.7				7.4	8.0	8.0	8.6		
6/16/2014		5.7	6.5	7.1	7.3		4.6	9.1	6.4				6.0	7.4	7.2	6.7				7.4	8.4	8.4	9.4		
6/30/2014		5.5	6.4	6.9	6.7		3.9	8.6	5.9				5.6	7.1	7.1	6.6				6.1	7.9	7.6			
7/16/2014		5.8	6.4	6.8	6.8		4.2		5.9				5.5	7.1	7.1	6.3				4.3	7.5	7.8			
7/29/2014		5.6	6.4	6.6	6.5		3.1		5.6				5.3	7.0	6.8	6.1				3.3	5.3	9.0			
8/15/2014		5.3	6.1	6.2	6.2		2.8		5.5				5.1	6.8	6.7	6.1				4.1	5.5	8.9	8.9		
9/3/2014		5.3	5.9	6.1	5.9		2.7	5.6	5.2				4.8	6.7	6.3	5.6				3.4	4.2	4.3	7.2	8.8	8.6
9/18/2014		5.0	5.8	5.9	5.7		2.6	5.0	5.1				4.8	6.5	6.1	5.6				2.9	3.8	4.1	6.9	5.4	8.6
9/30/2014		5.0	5.7	5.8	5.8		2.6	3.6	5.0				4.7	6.5	6.0	5.6				4.5	3.1	3.7	5.6	4.1	4.8
10/14/2014		4.9	5.5	5.8	5.8		2.3	3.0	5.0				4.6	6.4	5.9		5.7	5.2	5.6	3.1	2.8	3.5	4.1	5.9	8.3
11/3/2014		4.8	5.6	5.9	6.0		2.8	3.1	5.1				4.7	6.7	6.2		5.6	5.3	5.7	4.2	3.8	3.2	5.8	4.1	3.6
11/17/2014		4.8	5.5	6.2	6.0		3.8	5.1	5.0				4.6	6.5	6.4		5.6	5.3	5.7	5.4	4.9	3.7	6.6	5.4	4.9
12/1/2014		4.7	5.5	6.6	6.5		5.3	6.6	5.2				4.9	6.9	6.9		6.0	5.9	6.2	6.4	6.5	6.0	7.9		6.5
12/15/2014		5.0	5.8	7.5	6.9		6.8	6.7	5.5				5.2	7.3	6.9		6.4	6.2	6.7	7.7	7.6	2.4	7.4		6.7
12/30/2014		5.0	5.6	7.1	6.5		8.6	7.3	5.4				5.0	7.2	6.7		6.0	5.8	6.3	6.7	6.4	2.4	7.2	6.1	5.3

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells are temporarily inaccessible:
134-MW-V09, E1A-SO, W1-SO, North FS-4

Attachment 8: Groundwater Quality Data Surcharge Monitoring Update

- Summary of Groundwater Quality Data from GWET Wells
- Quarterly Water Wells
- Trichloroethene/Chloroform/Hexavalent Chromium in GWET Wells

Table 1
Summary of Groundwater Quality Data from GWET Wells

Honeywell

Parameter	1-Apr-14			28-May-14			9-Sep-14			18-Dec-14		
	PW-1 (ug/L)	**PW-2** (ug/L)	**115-MW-215BR** (ug/L)	**PW-1** (ug/L)	**PW-2** (ug/L)	**115-MW-215BR** (ug/L)	**PW-1** (ug/L)	**PW-2** (ug/L)	**115-MW-215BR** (ug/L)	**PW-1** (ug/L)	**PW-2** (ug/L)	**115-MW-215BR** (ug/L)
Benzene	2.9	4.0	ND	3.4	4.7	ND	3.7	4.7	ND	3.2	4.0	ND
Carbon Tetrachloride	4.4J	2.8	1.9	7.0	4.3	2.7	7.3	4.8	3.0	5.2	4.2	2.9
Chloroform	26.5	12.0	ND	31.3	14.0	0.25J	28.1	11.3	ND	25.8	9.4	ND
1,1-Dichloroethene	0.42J	ND	ND	0.77J	ND	ND	0.62J	ND	ND	0.57	ND	ND
cis-1,2-Dichloroethene	96	8.1	ND	144	ND	ND	128	9.6	ND	112	8.6	ND
trans-1,2-Dichloroethene	3.4	ND	ND	5.3	ND	ND	4.5	ND	ND	3.5	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	91.3	43.4	ND	119	54.8	ND	123	57.4	ND	97	44.4	ND
1,1-Dichloroethane	0.45J	ND	ND	0.61J	ND	ND	0.55J	ND	ND	0.46	ND	ND
Methylene chloride	0.77J	ND	ND	0.92J	ND	ND	0.74J	ND	ND	0.77	0.20	ND
Vinyl chloride	13.5	2.7	ND	21.2	3.8	ND	25.2	3.8	ND	15.4	2.5	ND
1,2-Dichlorobenzene	0.72J	ND	ND	0.70J	ND	ND	0.82J	ND	ND	0.66	ND	ND
Chlorobenzene	0.38J	ND	ND	0.40J	ND	ND	0.42J	ND	ND	0.37	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium	33,400	12,500	15,100	34,700	12,700	19,700	34,200	11,100	15,700	35,900	12,200	15,900
Total Chromium	36,900	16,400	16,600	35,500	14,500	19,600	37,600	19,300	17,900	34,100	12,700	15,900

NA = Not Available for Testing due to COPR excavation activities.
NT = Not Tested
ND = Not detected above reporting limit.

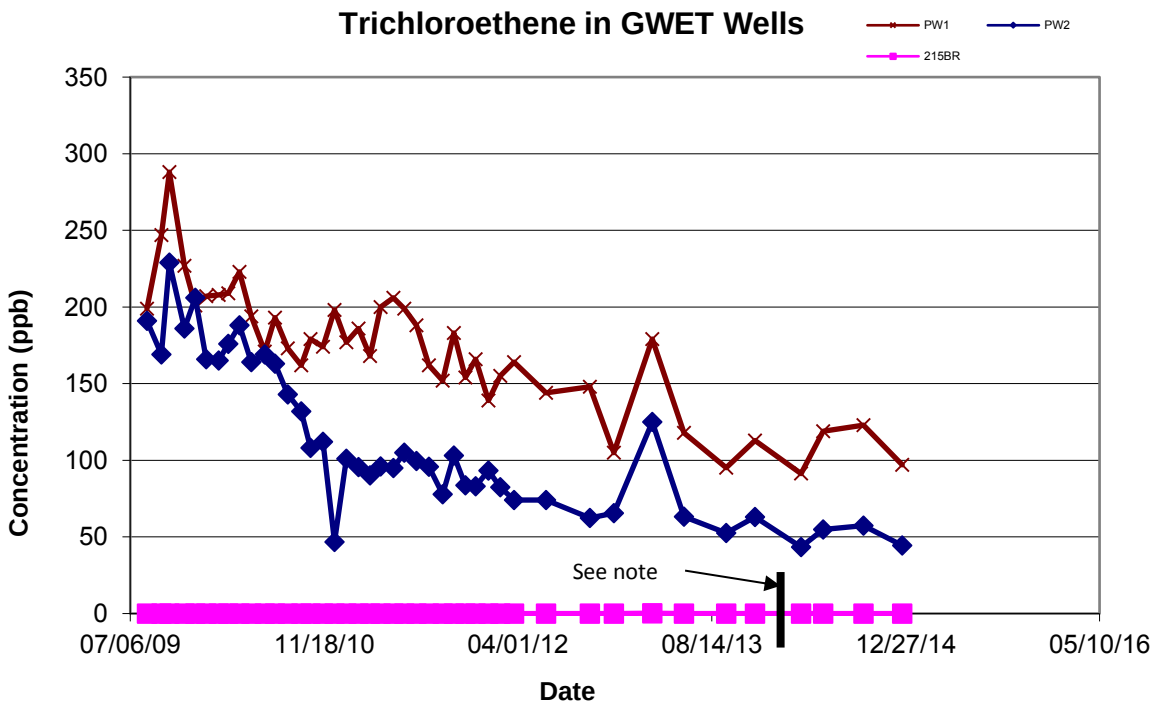
Note:
Starting with 1st quarter 2014, well 115-MW-215BR is being pumped and sampled.

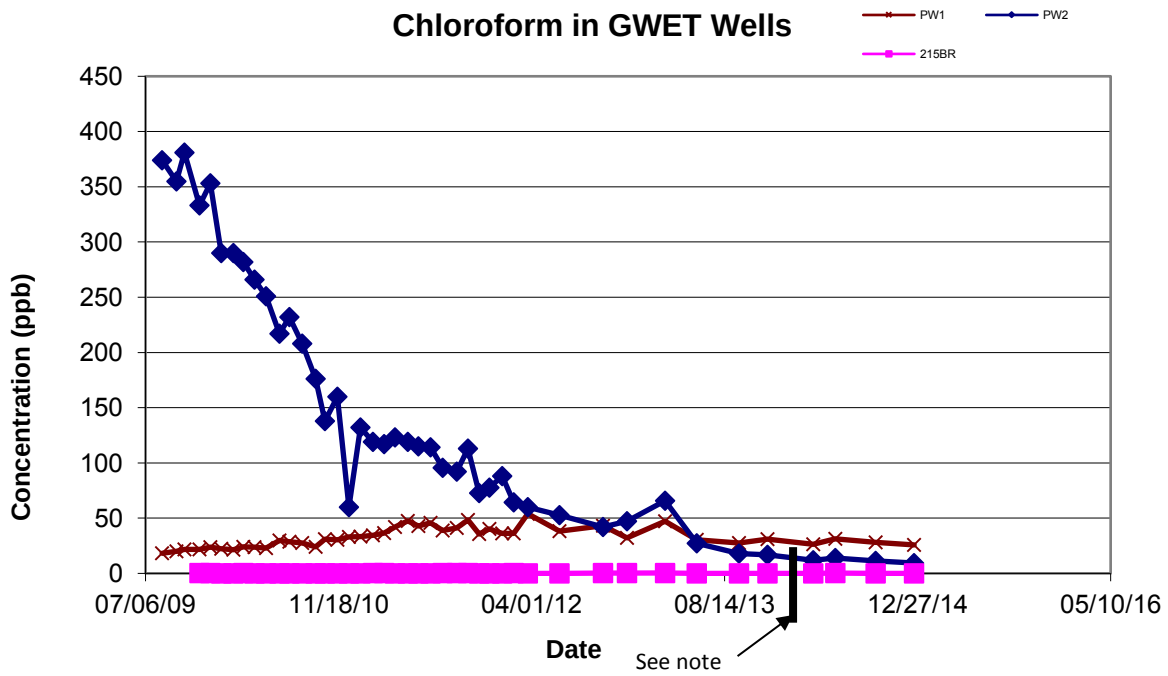
TABLE 2
Quarterly Water Levels
December 2014

Honeywell

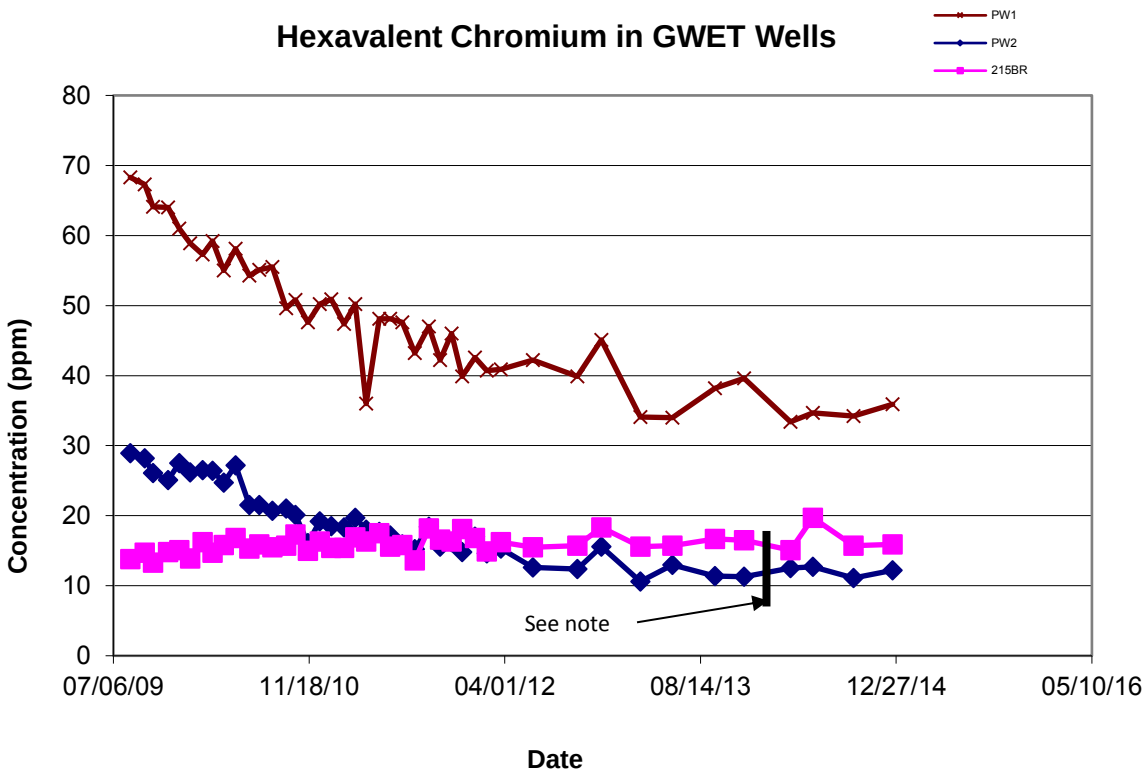
Wells Date: December 15, 2014	Top of Casing Elevation (ft. msl)	Depth to Water (ft., btoc)	Groundwater Elevation (ft., msl)	Comments
087-MW-25D	18.17	17.32	0.85	GW Elevations are not corrected for tidal influence
087-MW-25T	18.19	17.37	0.82	
087-MW-35	18.29	17.37	0.92	
087-OBS-1D	15.13	14.19	0.94	
087-OBS-1L	15.27	13.68	1.59	
087-OBS-1T	15.23	14.40	0.83	
087-PW-2	13.02	33.97	-20.95	
087-MW-08	12.98	12.14	0.84	
087-OBS-3L	12.88	13.15	-0.27	
087-MW-13	12.93	12.92	0.01	
087-OBS-5D	12.72	12.33	0.39	
087-OBS-5T	12.62	12.96	-0.34	
087-PW-1	12.66	35.64	-22.98	
087-MW-34	12.73	13.51	-0.78	
087-OBS-2D	12.68	14.68	-2.00	
SA6-MW-AA1D	19.36	18.73	0.63	
SA6-MW-AA1T	15.31	14.58	0.73	
SA6-MW-5BR-1	17.06	NA	NA	Well not accessible
087-OBS-4T	11.6	10.83	0.77	
087-MW-O29D	10.32	8.75	1.57	
087-MW-O29T	9.98	8.32	1.66	
087-MW-03	13.77	NA	N/A	Well not accessible
087-MW-02	12.57	NA	N/A	
115-MW-203BR*	8.7	NA	N/A*	Well not accessible
073-MW-1BR-1	7.58	27.03	N/A*	
073-MW-10BR-1	6.67	5.14	1.53	
115-MW-215BR*	8.82	12.77	N/A*	

* Reference point elevation to be confirmed.





Note:
Well 115-MW-203BR has been replaced with well 115-MW-215BR



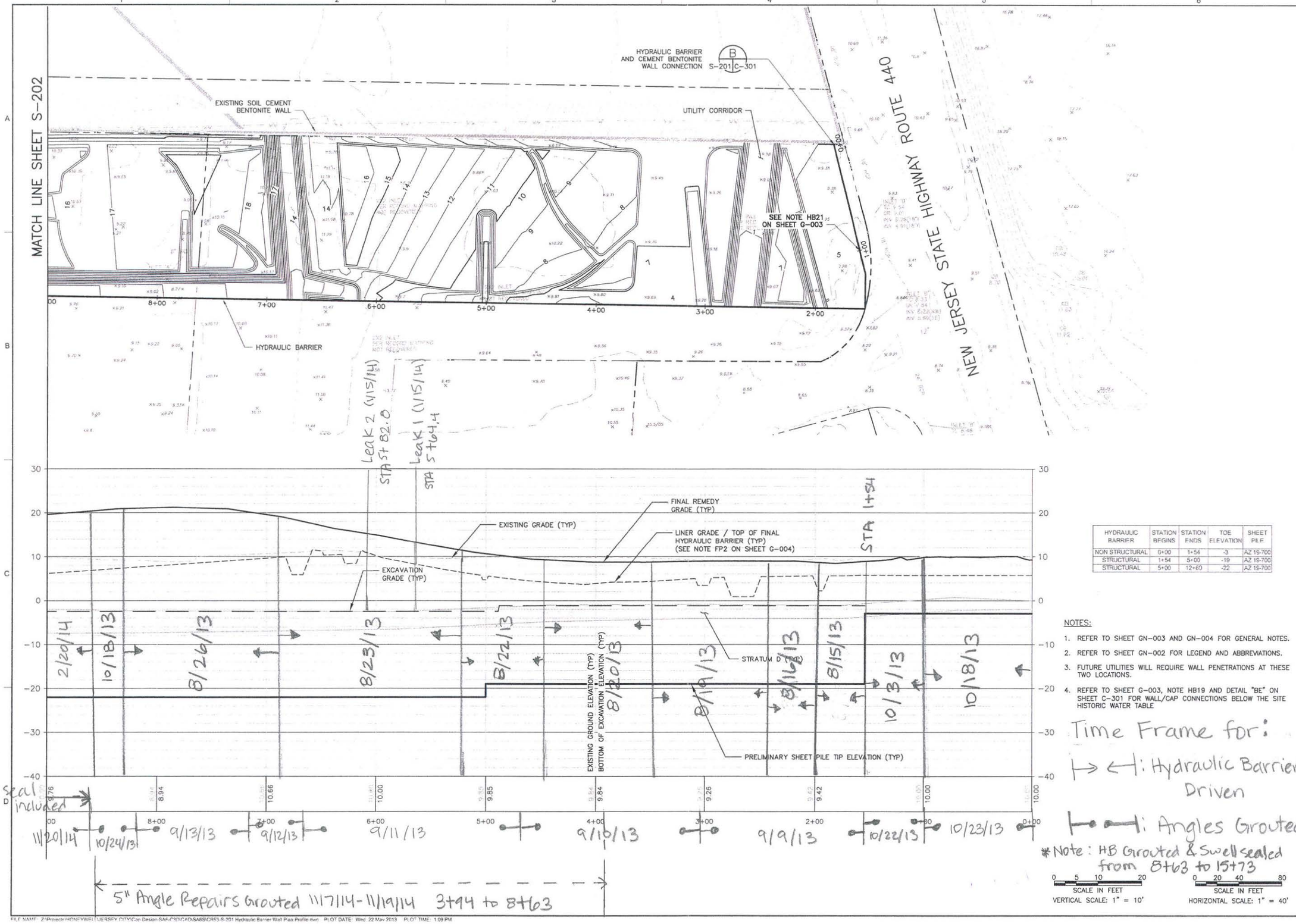
Note:
Well 115-MW-203BR has been replaced with well 115-MW-215BR

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

- Hydraulic Barrier Wall Plan & Profile
- Sheet Pile Angle Grout Log



HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	0+00	1+54	-3	AZ 19-700
STRUCTURAL	1+54	5+00	-19	AZ 19-700
STRUCTURAL	5+00	12+60	-22	AZ 18-700

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FUTURE UTILITIES WILL REQUIRE WALL PENETRATIONS AT THESE TWO LOCATIONS.
4. REFER TO SHEET G-003, NOTE HB19 AND DETAIL "BE" ON SHEET C-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

NO.	DATE	REVISION	BY	APVD
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD DR RJR CHK TDD APVD SHM

STEPHEN H. MITCHELL
5-7-13
N.J. PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE04322400

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
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SITES 073, 124, 125, 134, 140, AND 163
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100 PERCENT DESIGN DRAWINGS

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amec
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200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
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PROJ 3480-12-0317
DWG S-201
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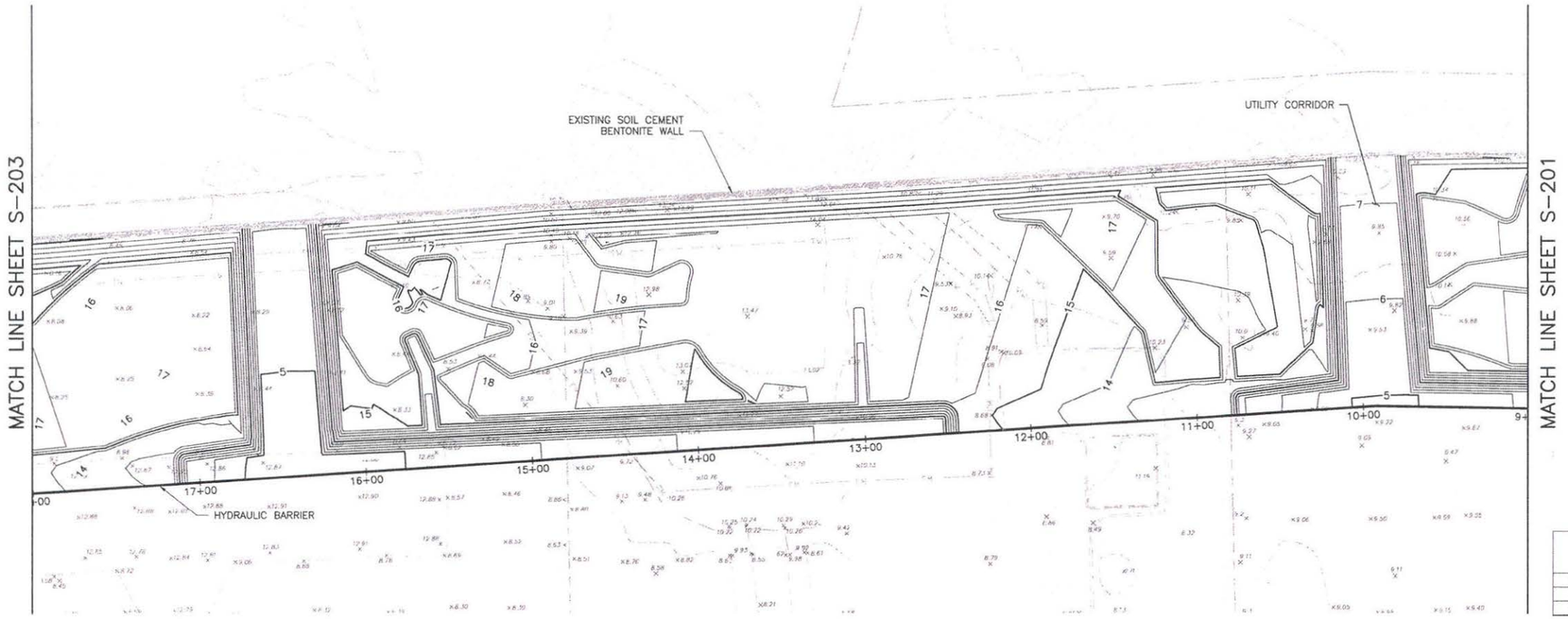
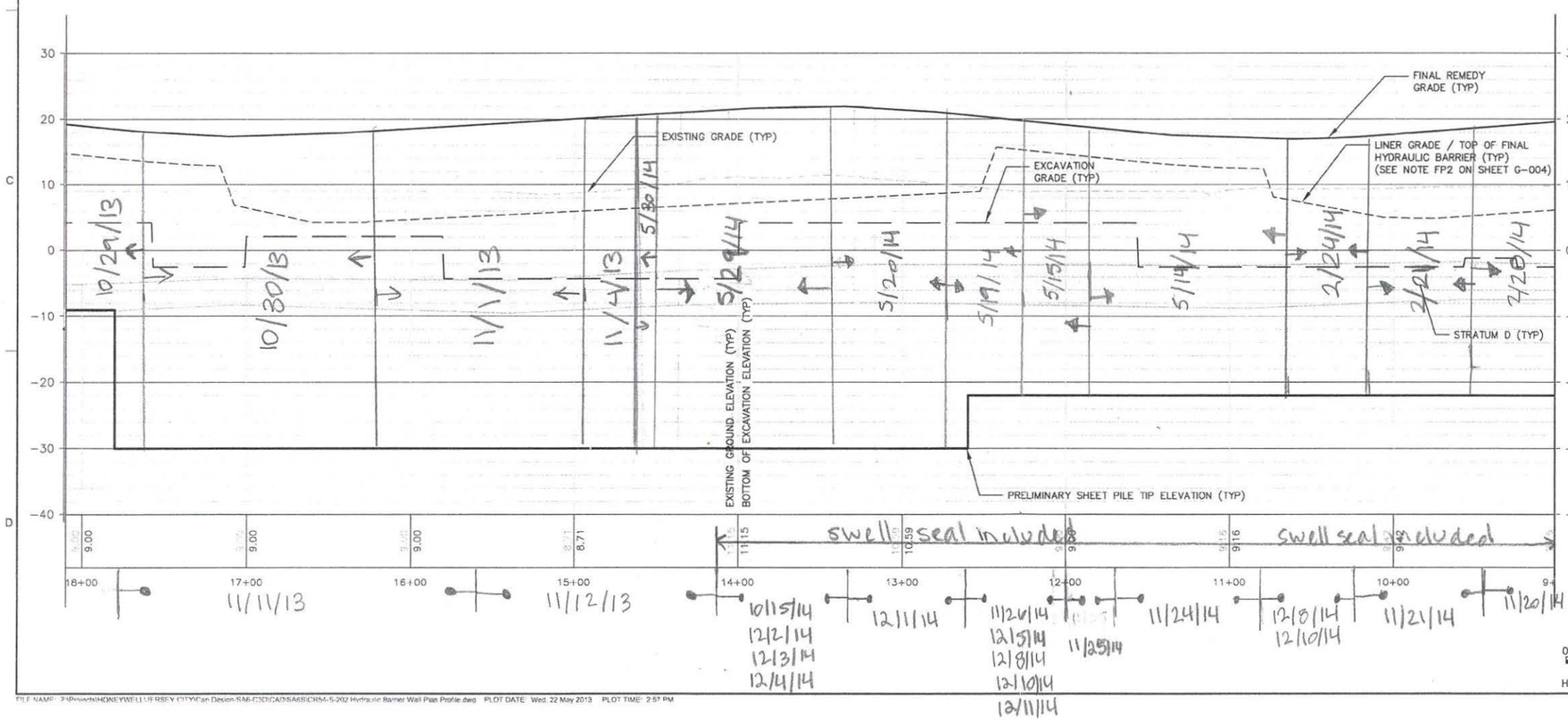
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SABS\CR53-S-201 Hydraulic Barrier Wall Plan Profile.dwg PLOT DATE: Wed 22 May 2013 PLOT TIME: 1:09 PM



HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	5+00	12+60	-22	AZ 19-700
STRUCTURAL	12+60	17+80	-30	AZ 19-700
STRUCTURAL	17+80	19+00	-9	AZ 19-700



NOTES:

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4. REFER TO SHEET G-003, NOTE HB19 AND DETAIL "BE" ON SHEET C-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

SCALE IN FEET
VERTICAL SCALE: 1" = 10'

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
0	06/07/13	TDD	TDD	RJR	TDD	TDD	SHM

ISSUED FOR CONSTRUCTION

STEPHEN H. MITCHELL 5/24/13
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE04322400

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
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SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

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(609) 890-2220
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DWG	S-202
SHEET	54 OF 66

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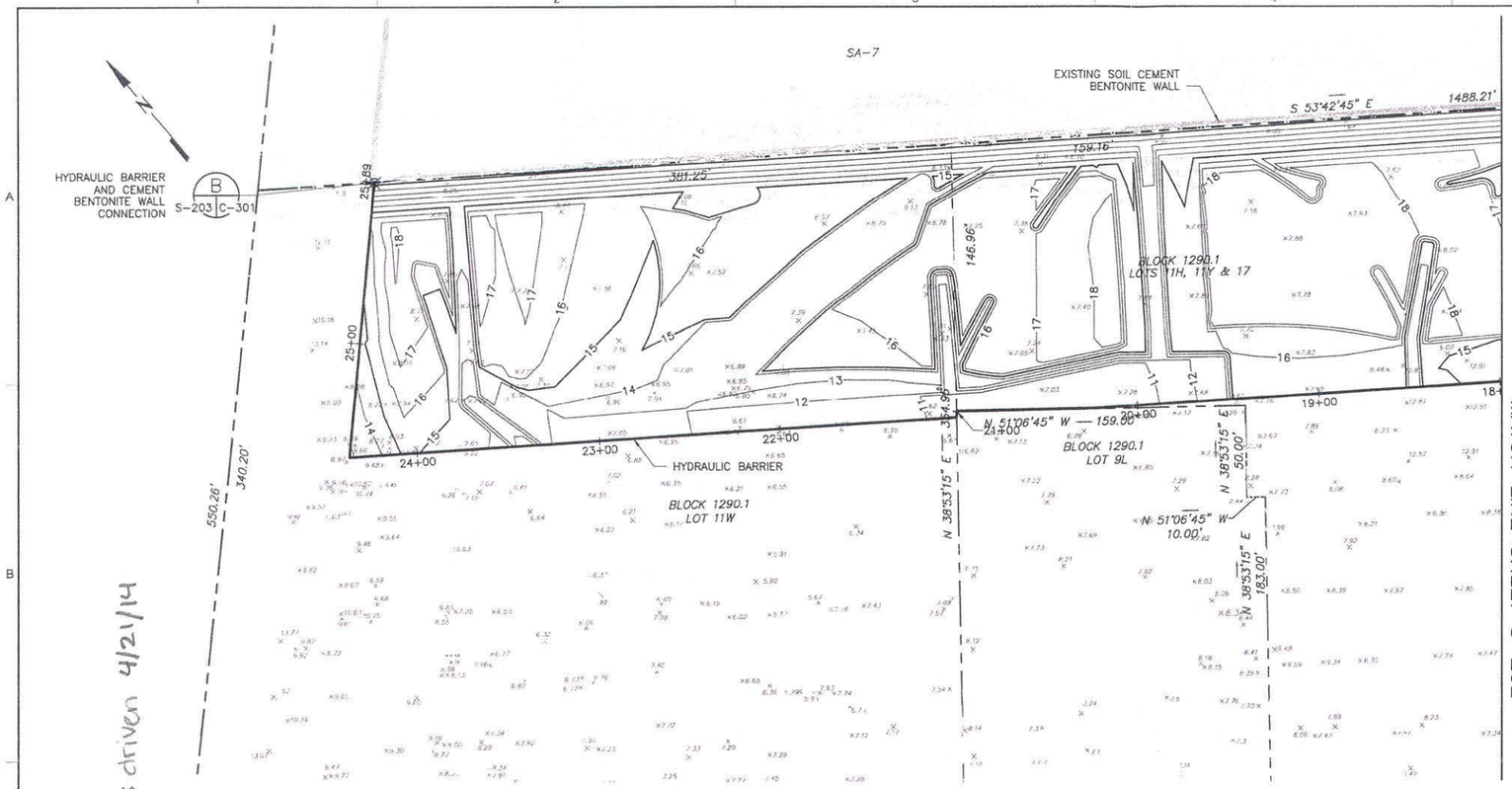
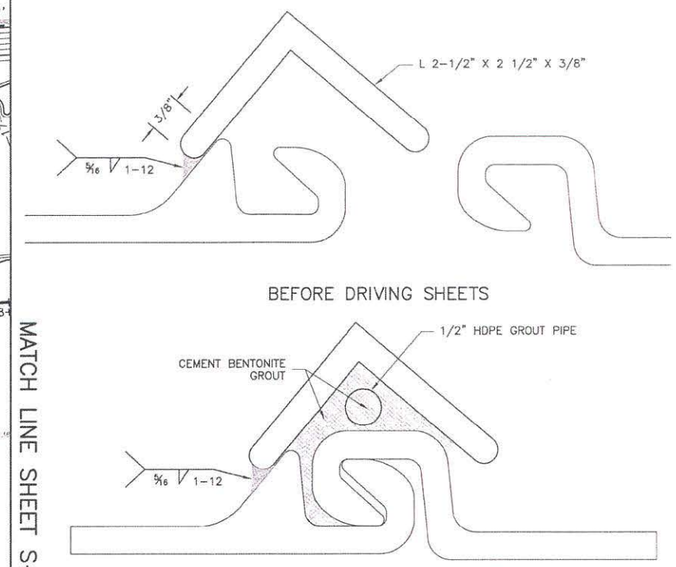
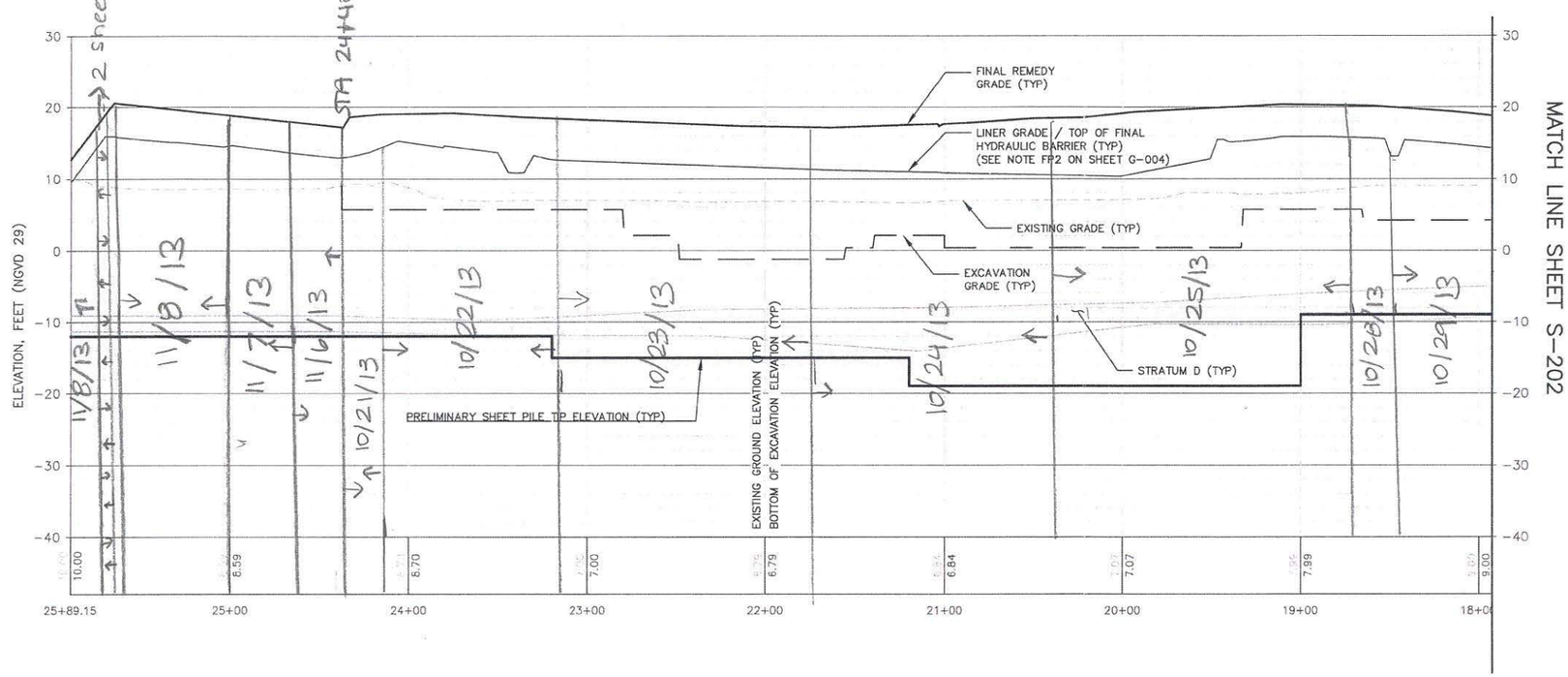
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Civil Design-SA6-C3D\CAD\SA6SIC\R54-S-202 Hydraulic Barrier Wall Plan Profile.dwg PLOT DATE: Wed, 22 May 2013 PLOT TIME: 2:57 PM





SHEET SEALING DETAIL (BF) TYP S-203
NTS

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	17+80	19+00	-9	AZ 19-700
STRUCTURAL	19+00	21+20	-19	AZ 19-700
STRUCTURAL	21+20	23+20	-15	AZ 19-700
STRUCTURAL	23+20	24+37	-12	AZ 19-700
NON STRUCTURAL	24+37	25+89	-12	AZ 19-700



NOTES:

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4. REFER TO SHEET G-003, NOTE HB19 AND DETAIL "BE" ON SHEET C-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

SCALE IN FEET (0 20 40 80) HORIZONTAL SCALE: 1" = 40'
SCALE IN FEET (0 5 10 20) VERTICAL SCALE: 1" = 10'

STEPHEN H. MITCHELL 5/24/13
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 24GE04322400

NO	DATE	DSGN	TDD	DR	RJR	CHK	TDD	APVD	TDD	BY	APVD	SHM
0	06/07/13			ISSUED FOR CONSTRUCTION								

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JERSEY CITY, NEW JERSEY

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100 PERCENT DESIGN DRAWINGS

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DWG	S-203
SHEET	55 OF 66

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cad Design-SA6-C3D\CAD\SA6S\CR55-S-203 Hydraulic Barrier Wall Plan Profile.dwg PLOT DATE: Wed, 22 May 2013 PLOT TIME: 3:01 PM

Amec
SA-6 South Grouted Angles (2")

B	Date	Batch #	Batch Time	Sheetpile ID
13.2#	12/1/14	191	9:08	23P1-A
				20P-15
13.2#		192	9:56	20P-15
				20P-14
				20P-13
				20P-12
				20P-11
				20P-10
13.2#		193	10:24	20P-9
				20P-8
				20P-7
				20P-3
				20P-2
				20P-1
				Special 19P E
13.2#		194	12:50	Special 19P W
				Top off SP19-22Ps
13.2#	12/2/14	195	1:45	19P-64
				19P-63
19.8#		196	2:35	19P-64
				19P-63
				19P-66
				Top off 19P63-22P7
13.2#	12/3/14	197	9:33	19P-53
13.2#		198	10:15	19P-53
13.2#		199	11:05	19P-74
13.2#		200	1:00	19P-74
21#	(7# B/batch)	201	2:20	19P-71
				19P-74
				19P-76
14#	12/4/14	202	9:19	19P-75
	(7# B/batch)			Top off 71-76
				19P-77
				19P-78
14#		203	11:20	19P-78
				19P-79
14#		204	2:05	19P-80 @ 18.5
				19P-81
				19P-82
				Top off sheets
14#	12/5/14	205	8:10	20P-6
	(7# B/batch)			20P-5
7#		206	10:17	20P-7
21#		207	2:40	21P1-7
				21P-13

B	Date	Batch #	Batch Time	Sheetpile ID
14#	12/8/14	208	10:35	21P-11
14#		209	11:10	21P-11
14#		210	2:12	24P-1
				24P-3
13.2#	12/10/14	211	8:30	24P-11
				24P-10
				24P-9
				24P-8
19.8#		212	9:30	24P-8
				24P-7
				24P-6
				24P-5
				24P-4
				24P-2
				23P-14
		213	1:14	21P-3
		214	200	21P-3
19.8#	12/11/14	215	8:15	21P-10

* No angles were grouted on 12/9/14
23P-14 to 24P-11 were fully jetted

2/2

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: December 5, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection		X		2
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		3
Housekeeping		X		4
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		5
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 12/05/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, December 05, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone fencing surrounding the LOAM excavation area requires maintenance/repair
2	IA2Q4A1AL8	Flood protection barriers (jersey barriers, berms, bin blocks) are not either not present or else not staged in locations where they may be required.
3	IA2Q4A1AL8	Ponded storm water is present in the bottom of the main excavation on Study Area 6 South and on the surrounding backfill surface.
4	IA2Q4A1AL8	Garbage and debris have accumulated along Kellogg Street and at the jughandle.
5	IA2Q4A1AL8	Gaps are present in the perimeter fencing by the northeast corner of the sedimentation basin.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature Date: 12/05/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair or replace the exclusion zone fencing as required.	12-8-14 RAD
2	Confirm that sufficient flood control measures are on hand which can be deployed across haul roads in during a flood event. Install/maintain measures wherever practical.	12-9-14 RAD
3	Pump the ponded storm water to the Construction Water Treatment plant when conditions permit.	12-9-14 RAD
4	Pick up garbage debris along the SA-6/SA-7 road front.	12-8-14 RAD
5	Repair gaps in the perimeter fenceline on SA-6 North.	12-8-14 RAD

Construction Manager: _____ Date 12/09/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: December 11, 2014

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		3
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		4
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		5
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 12/11/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, December 11, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt Fence along the surcharge area requires repair
2	IA2Q4A1AL8	Exclusion zone fencing requires repair at location indicated
3	IA2Q4A1AL8	Ponded water present in areas of backfill on SA6 South
4	EHWG3RTMXR	Silt Fence on the north side of the SA7 raceway requires repair at the locations indicated
5	EHWG3RTMXR	Wind Screen requires repair at the location adjacent to the JCIA property.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: David Rose **Date:** 12/11/14
Signature

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair silt fence as required.	12/15/14 RAD
2	Repair exclusion zone fence at the location indicated on attached drawing.	12/12/14 RAD
3	Pump ponded water to the Construction Water Treatment plant when conditions allow.	12/12/14 RAD
4	Repair Silt fence at location indicated on attached drawing	12/15/14 RAD
5	Repair wind screen at location indicated on attached drawing.	12/12/14 RAD

Construction Manager: **Date:** 12/15/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: December 17, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		1
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		2
Housekeeping		X		3
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		4
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		5
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		6
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage		X		7
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		8

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 12/17/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Wednesday, December 17, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	The haul road on the eastern end of SA-6 South has depressions containing ponded storm water
2	IA2Q4A1AL8	Ponded storm water is present in the bottom of the main excavation on Study Area 6 South and on the surrounding backfill surface.
3	IA2Q4A1AL8	Bags containing used PPE and numerous used steel drums are present at the east end of the SA-6 South Exclusion Zone.
4	IA2Q4A1AL8	The orange Exclusion Zone fencing on the western side of the Sedmentation basin requires maintenance.
5	IA2Q4A1AL8	The haul road on the eastern side of the SA-6 North sedimentation basin has depressions containing ponded storm water and mud.
6	IA2Q4A1AL8	**Repeat Item:** The silt fence along the southern perimeter of the 1-N/2-N surcharge stockpile area requires maintenance or replacement in two locations.
7	IA2Q4A1AL8	Pallets of hydrochloric acid are stacked unevenly in the southern frac tank containment area.
8	IA2Q4A1AL8	Sediment has accumulated in the stone to the west of the western haul road on SA-7

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: Signature Date: 12/17/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Remove the ponded water and either fill the depressions with suitable material or else regrade the area to eliminate the low spots.	~~12/22/14 RAD~~
2	Pump the ponded storm water to the Construction Water Treatment plant when conditions permit.	
3	Relocate the garbage bags of used PPE to the D material stockpile for loadout with the material. Crush and dispose of any drums which are no longer suitable for use on site.	12/18/14 RAD
4	Repair or replace the orange EZ fencing as required.	12/18/14 RAD
5	Remove the ponded water and either fill the depressions with suitable material or else regrade the area to eliminate the low spots	
6	Repair or replace the silt fence as required.	12/18/14 RAD
7	Stack the pallets in an orderly fashion to prevent toppling or spillage.	12/18/14 RAD
8	Remove sediment that has accumulated in the surface stone between the paved haul road and the river bulkhead. Regrade the stone following removal of sediment.	12/18/14 RAD

Construction Manager: Date: 12/22/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: December 24, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☑ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		1
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		2
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		4
Housekeeping		X		5
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		6
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams		X		7
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 12/24/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Wednesday, December 24, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Stockpile areas on the western end of Study Area 6 South require containment berm maintenance
2	IA2Q4A1AL8	Material is piled against the containment berm at the eastern end of the SA-6 South Exclusion Zone.
3	IA2Q4A1AL8	The haul road on the eastern side of the SA-6 South backfill area has additional depressions containing ponded storm water and mud.
4	IA2Q4A1AL8	Storm water is ponded in the floor of the Study Area 6 South excavation.
5	IA2Q4A1AL8	Debris and packing materials are present on the ground in the area to the north of Droyer's Cove.
6	IA2Q4A1AL8	There is no silt fence installed along the eastern toe of the 2-N surcharge area.
7	IA2Q4A1AL8	The swale check dams on the Study Area 7 paved roadway require maintenance.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature Date: 12/24/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Reinstall or replace geotextile over Jersey barriers where they are used as stockpile containemnt structures; replace plastic sheeting as required on berms.	12/30/14 RAD
2	Reconfigure stockpiles so that they do not approach the top of containment berms.	12/29/14 RAD
3	Regrade additional sections of the haul road in the Study Area 6 backfill area as required.	12/31/14 RAD
4	Pump ponded storm water to the CWTP as necessary to eliminate surface ponds.	12/29/14 RAD
5	Pick up packing materials and construction debris from the support zone as required.	12/29/14 RAD
6	Install silt fence along the eastern toe of surcharge pile 2-N. Repair/replace other silt fence in the area as required.	12/30/14 RAD
7	Repair fabric/stone swale check dams on the SA-7 roadway as required.	12/31/14 RAD

Construction Manager: _____ Date: 12/31/14

Attachment 12: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (November 2014)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

December 19, 2014

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 31630016

Dear Mr. Caltagirone:

Honeywell is submitting the November 2014 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely

Helen Fahy

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA
Frank Schroyer - Parsons

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 31630016 OLD OUTLET DESIGNATION:

MONITORING PERIOD

Start			End		
11	01	14	11	30	14
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	76,575	83,081 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	0.37	0.41	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.003	<0.003	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.0	<5.0	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.0787	0.0787	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analytes are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

Nov 17, 2014

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 31630016 **OLD OUTLET DESIGNATION**

MONITORING PERIOD

Start			End		
11	01	14	11	30	14
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD	
2,297,244	GALS
CU. FT X 7.48 - GALLONS	
EFFLUENT METER READING LAST DAY THIS PERIOD 22,335,119	

DATE	BOD (mg/l)	TSS (mg/l)
11/12/2014	8.7	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J Morris HR	John J. Morris	(973) 455-4003
		DATE Dec 17, 2014

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG **Honeywell Jersey City GWTP; SA-6 North (Permit #31630016)** **MONTH: November 2014**

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits		5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
11/1/2014	Angel Trujillo	20037875	20118808	80,933	0.080933	7.51	0.586									0.40
11/2/2014	Angel Trujillo	20118808	20201889	83,081	0.083081	6.92	0.586									0.41
11/3/2014	Angel Trujillo	20201889	20277096	75,207	0.075207	6.97	0.586									0.37
11/4/2014	Angel Trujillo	20277096	20354215	77,119	0.077119	6.98	0.586									0.38
11/5/2014	Angel Trujillo	20354215	20433874	79,659	0.079659	7.00	0.586									0.39
11/6/2014	Angel Trujillo	20433874	20510194	76,320	0.07632	7.00	0.586									0.37
11/7/2014	Angel Trujillo	20510194	20586889	76,695	0.076695	6.69	0.586									0.37
11/8/2014	Angel Trujillo	20586889	20665698	78,809	0.078809	6.98	0.586									0.39
11/9/2014	Angel Trujillo	20665698	20738508	72,810	0.07281	6.96	0.586									0.36
11/10/2014	Angel Trujillo	20738508	20808861	70,353	0.070353	7.00	0.586									0.34
11/11/2014	Angel Trujillo	20808861	20891149	82,288	0.082288	6.95	0.586									0.40
11/12/2014	Angel Trujillo	20891149	20967321	76,172	0.076172	7.10	0.586	<5.0	8.7		<0.010	<0.003	<0.010	<0.0002	<0.020	0.37
11/13/2014	Angel Trujillo	20967321	21042784	75,463	0.075463	7.00	0.586									0.37
11/14/2014	Angel Trujillo	21042784	21118538	75,754	0.075754	6.97	0.586									0.37
11/15/2014	Angel Trujillo	21118538	21199482	80,944	0.080944	7.00	0.586									0.40
11/16/2014	Angel Trujillo	21199482	21275229	75,747	0.075747	6.94	0.586									0.37
11/17/2014	Angel Trujillo	21275229	21347230	72,001	0.072001	6.96	0.586									0.35
11/18/2014	Angel Trujillo	21347230	21426478	79,248	0.079248	6.98	0.586									0.39
11/19/2014	Angel Trujillo	21426478	21501857	75,379	0.075379	7.00	0.586									0.37
11/20/2014	Angel Trujillo	21501857	21576920	75,063	0.075063	7.02	0.586									0.37
11/21/2014	Angel Trujillo	21576920	21656299	79,379	0.079379	6.96	0.586									0.39
11/22/2014	Angel Trujillo	21656299	21731024	74,725	0.074725	7.01	0.586									0.37
11/23/2014	Angel Trujillo	21731024	21809064	78,040	0.07804	6.94	0.586									0.38
11/24/2014	Angel Trujillo	21809064	21883321	74,257	0.074257	6.90	0.586									0.36
11/25/2014	Angel Trujillo	21883321	21957929	74,608	0.074608	6.88	0.586									0.36
11/26/2014	Angel Trujillo	21957929	22033245	75,316	0.075316	7.09	0.586									0.37
11/27/2014	Angel Trujillo	22033245	22111351	78,106	0.0781	7.06	0.586									0.38
11/28/2014	Angel Trujillo	22111351	22186307	74,956	0.074956	7.09	0.586									0.37
11/29/2014	Angel Trujillo	22186307	22261895	75,588	0.075588	7.07	0.586									0.37
11/30/2014	Angel Trujillo	22261895	22335119	73,224	0.073224	7.10	0.586									0.36
TOTAL				**2,297,244**	**2.297244**			<5.0	8.7		<0.010	<0.003	<0.010	<0.0002	<0.020	
			High:	**83,081**											**High:**	**0.41**
			Average:	**76,575**											**Average:**	**0.37**

Accutest LabLink@827964 11:50 03-Dec-2014

Report of Analysis

4.1

4

Client Sample ID:	087-WWE-111214-A		
Lab Sample ID:	JB81602-1	**Date Sampled:**	11/12/14
Matrix:	AQ - Water	**Date Received:**	11/12/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	586	10	ug/l	1	11/14/14	11/15/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	11/14/14	11/15/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Lead	< 3.0	3.0	ug/l	1	11/14/14	11/15/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	11/13/14	11/13/14	DP	EPA 245.1 [1]	EPA 245.1 [3]
Nickel	< 10	10	ug/l	1	11/14/14	11/15/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	11/14/14	11/15/14	ND	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA35416
(2) Instrument QC Batch: MA35425
(3) Prep QC Batch: MP83238
(4) Prep QC Batch: MP83265

RL = Reporting Limit

Accutest LabLink@827964 11:50 03-Dec-2014

Report of Analysis

Client Sample ID:	087-WWE-111214-A		
Lab Sample ID:	JB81602-1	**Date Sampled:**	11/12/14
Matrix:	AQ - Water	**Date Received:**	11/12/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.1 4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	11/13/14	KP	SM2540 D-11
pH [a]	6.88		su	1	11/12/14 19:02	AR	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@827964 11:50 03-Dec-2014

Report of Analysis

4.2 4

Client Sample ID:	087-WWE-111214-A		
Lab Sample ID:	JB81602-1A	**Date Sampled:**	11/12/14
Matrix:	AQ - Water	**Date Received:**	11/12/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	8.7	5.0	mg/l	1	11/12/14 21:46	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@827964 11:50 03-Dec-2014

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-111214-B		
Lab Sample ID:	JB81602-2	**Date Sampled:**	11/12/14
Matrix:	AQ - Water	**Date Received:**	11/12/14
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N241119.D	1	11/14/14	DC	n/a	n/a	VN10228
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	2.1	ug/l	
107-13-1	Acrylonitrile	ND	10	1.3	ug/l	
71-43-2	Benzene	2.5	1.0	0.12	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.32	ug/l	
56-23-5	Carbon tetrachloride	3.5	1.0	0.16	ug/l	
108-90-7	Chlorobenzene	0.24	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.45	ug/l	
67-66-3	Chloroform	19.0	1.0	0.14	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.19	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	ug/l	
156-60-5	trans-1,2-Dichloroethene	4.1	1.0	0.24	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	1.0	0.16	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.093	ug/l	
75-09-2	Methylene chloride	0.58	1.0	0.20	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.13	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.15	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.29	ug/l	
79-01-6	Trichloroethene	48.8	1.0	0.17	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	97%		71-128%
2037-26-5	Toluene-D8 (SUR)	101%		79-117%
460-00-4	4-Bromofluorobenzene (SUR)	98%		81-114%
1868-53-7	Dibromofluoromethane (S)	99%		78-115%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest LabLink@827964 11:50 03-Dec-2014

Report of Analysis

Client Sample ID:	087-WWE-111214-B		
Lab Sample ID:	JB81602-2	**Date Sampled:**	11/12/14
Matrix:	AQ - Water	**Date Received:**	11/12/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3 4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.0	5.0	mg/l	1	11/14/14	LS	EPA 1664A

RL = Reporting Limit

WW

E

JB81602

Accutest Labs
2236 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell — Chain Of Custody / Analysis Request

AESI Ref:	41965.44379
COC#	087-WW-111214
Lab Proj # (SDG):	
Lab ID	ACTD
Site ID	HudsonCo
Lab Job #	HWINJM32815
Authorized User:	Honeywell
Text & Excel File Drive	Excel & Text File Order

Copyright AESI: Version 5.0 Unauthorized use strictly prohibited.

Sampling Co.:	Parsons	Privileged & Confidential	
Client Contact: (name, co., address)		EDD To:	
Helen Fahy P (973) 455-2989 E helen.fahy@honeywell.com		Sampler:	Frank Schroyer
Honeywell International		PO #	
101 Columbia Road Morristown, NJ 07962		Analysis Turnaround Time (TAT):	3
Preliminary Data To		Consultant	CH2M
Sample Receipt Acknowledgement To	Frank Schroyer		
Hard Copy To	Helen Fahy (Honeywell)	Full Report TAT:	28 Days
Invoice To:	Helen Fahy (Honeywell)		

Site Name:	Hudson County	Phase:	CS
Location of Site:	Jersey City, NJ	Sampling Program	087: JCIA

Sample Identification																														
	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
	Units																													
	Preservative												3	3	3	1	2	2	0	0	2									
1	087-WW			087-WWE-111214-A	11/12/2014	14:20	WW	WATER	REG	3	comp	N	X	X	X	X			X	X		1						L28
2	087-WW			087-WWE-111214-B	11/12/2014	14:30	WW	WATER	REG	5	grab	N					X	X				2						V292
3	087-WW			087-WWI-111214	11/12/2014	14:50	WW	WATER	REG	3	grab	N									X	3						
4																												All
5																												G5
6																												
7																												
8																												
9																												
10																												
11																												
12																												

LES RECEIVED
PRESERVED AS APPLICABLE

Relinquished by	pH=7.10@6.8° C	Company	Parsons	Received by		Company		Condition	Custody Seals Intact
Frank Schroyer		Date/Time	11/12/14			Date/Time	11-12-14 16:30	Cooler Temp.	
Relinquished by		Company		Received by		Company	ALNT	Condition	Custody Seals Intact
		Date/Time	11-12-14 18:10			Date/Time	11/12 1810	Cooler Temp.	

Preservatives: (Other: Specify): 0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

I 34C

JM

1B/Ca

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending December 2014

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014	Direction on the handling of petroleum soils under the cap.	Pending submittal to Parties' per request.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

SA-6 AND SA-7 COMBINED PROGRESS REPORT

FEBRUARY 12, 2015

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

February 12, 2015 *Via Express Mail*

Honorable Robert G. Torricelli
Office of the Special Master
c/o Kate Farley, Rosemont Associates
73 Kingwood Stockton Road
Stockton,NJ 08559

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2015-01

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from January 1 – January 31, 2015.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: January 2015 SA-6/7 Combined Monthly Progress Report No. 2015-01

cc: Joe Clifford - Amec Foster Wheeler (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP

Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2015-01

Project SA-6 & 7 Remediation

January 2015

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
01/05/15	Surcharge Monitoring Plan – Monthly Report No. 7 Study Area 6 North and South Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
01/07/15	Surcharge Monitoring Plan – Monthly Report No. 8 Study Area 6 North and South Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
01/14/15	Combined Monthly Progress/Highlights Report No. 2014-12 Study Areas 6 and 7 Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
01/19/15	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 31630016 June 2014	Andy Caltagirone Passaic Valley Sewerage Commission
01/20/15	Special Master Conference Call	N/A
01/23/15	Underground Storage Tank Remedial Action Report 100 Kellogg Street Block 24601/Lots 3 and 4 NJDEP Case No. 14-08-05-0956-44 Study Area 6 South - Site 134 Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
01/28/15	Design Change Bulletin Study Area 6 South - Site 163 Shallow Excavation Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending				
	01/04/15	01/11/15	01/18/15	01/25/15	02/01/15
Construction Management (AMEC)	8	10	11	11	9
Engineering (AMEC)	1	1	1	1	0
Air Monitoring (Emilcott)	1	1	1	1	1
Security (Securitas)	2	2	2	2	2
Entact/Subcontractors	30	29	26	23	29
Arecon/US Ecology Subcontractors	0	0	0	1	1
Evoqua	1	1	1	1	1
HBS (SA-6N GWTP Security System)	0	0	0	0	0
Gramercy	7	6	8	10	11
TOTAL STAFF	**50**	**50**	**50**	**50**	**54**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected January PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Completed protection of JCIA incinerator building trash pit.
- On January 5, 2015, began demolition and load out of the JCIA structures.
- Fence contractor installed new fence and gate posts at entrance to the Department of Public Works (DPW).
- Received confirmation from New Jersey Department of Transportation (NJDOT) that the Drainage Permit at SA-6 North is no longer needed.
- On December 8, 2014 a leaking diesel line was identified on a water truck. Sampling of the impacted soil was performed and laboratory analysis received on January 5, 2015 indicated the result was Non-Hazardous. On January 15, 2015 the surficial soil was transported off site to non-hazardous disposal facility.

- On January 21, 2015, meeting was held with representatives of the City of Jersey City and DPW to review progress of the remaining relocation activities.
- On February 10, submitted Year 1 Implementation Report for Study Area 7 Sediment Remedy Long-term Monitoring Program.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on January 16. 2015.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending				
	01/04/15	01/11/15	01/18/15	01/25/15	02/01/15
Avg. Gallons Treated & Discharged (per day)	76,532	75,901	75,971	75,238	76,089
Average Flow (gpm) for Operating Period	56	53	53	53	53
Avg. Hours of Plant Operation	24	24	24	24	24
GWTP Influent Tanks (gal.)	11,840	6,556	8,173	10,308	6,256

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart, Weekly Excavation and Survey Data, Backfill Compaction Locations, and Field Density Test Summary Log)*

- Continued storm-water management activities.
- Completed excavation of locations designated as Site 163-1, Area 42 and Area 43.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/ FCI	Roll-Off	TSDF	Stablex-Canada	WWTP Filter Cake	1	17.31	17.31
Gramercy/ Horwith *	40 Cyd Roll off	Newburg, PA	Cumberland County Landfill	Friable ACM	2	3.61	7.23
Gramercy- (JCIA Demo)	20 cyd rol off	Jersey City, NJ	Sims Metal	Aluminum	1	1.4	1.4
Gramercy- (JCIA Demo)	40 Cyd Roll off	Jersey City, NJ	Sims Metal	Metal	41	9.4	386.1

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Gramercy- (JCIA Demo)	40 Cyd Roll off	North Bergen, NJ	Cardella Waste	C&D	14	12.5	175.2
Gramercy- (JCIA Demo)	30 cyd roll off	Bayonne, NJ	Durable Recycling	Concrete	57	14.1	803.4
Gramercy- (JCIA Demo)	40 Cyd Roll off	Bayonne, NJ	Durable Recycling	Brick/Masonry	2	18.3	36.5
Entact/ Arecon	Tri-axle Dump	South Brunswick, NJ	MCUA	Petroleum Impacted Soil	121	25.1	3,045.50
Entact/ Arecon	Tri-axle Dump	South Brunswick, NJ	MCUA	Diesel Impacted Soil	2	14	28

** December 2014 Transport*

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Excavation Completed	Anomalous Material near Site 163-1, Area 42, Area 43
Backfill in Progress	No backfill occurred during the reporting period

3. BACKFILL MATERIALS USED

No backfill occurred and dropping table this month.

E. SURCHARGE OPERATIONS

- Area 1S: Continue offloading Celgene material from 1S and relocating to 2S approximately 80% complete.
- Area 2S: Surcharging continued on Area 2S. Surcharge placement consisted of both chromium impacted soils to the design sub-grade and both imported Celgene and Novartis soils. Surcharge placement is approximately 95% complete.
- Area 3S: Surcharge placement continued on Area 3S and is approximately 60% complete.
- Area 1N: Continued surcharge removal activities. Surcharge removal activities are approximately 85% complete. Details will be provided in the January 2015 Surcharge Monitoring Report No. 10.
- Area 2N: Surcharge placement is 100% complete. Monitoring data (provided in Surcharge Monitoring Report No. 7) indicates that surcharge has attained the goals per the 100% Design and may be removed.
- Area 3N: No activity in this area pending JCIA Demolition.
- Area 4N: No activity in this area pending JCIA Demolition.

- Active Monitoring for Surcharge is currently limited to Areas 2S and 3S. The combination of snow and temperatures are preventing personnel from taking readings at many locations in these areas at the frequency stated in the Surcharge Monitoring Plan Monitoring will resume at all points when it is feasible and safe to do so.

F. SHEET PILE OPERATIONS

- Excavation proximate to the SA-6 South barrier wall was completed on October 28, 2014 and backfill has been progressed in all areas against the SA-6 South barrier wall. Deflection readings are therefore no longer required.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014, 1 yr. extension granted 10/6/14	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15	12/2/15	Pending

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Continue JCIA Structures Demolition and load out activities.
- Continue placement of surcharge materials in SA-6 South Area 2S and Area 3S.
- Continue loadout and transportation and disposal activities at SA-6 South.
- Continue accepting delivery of steel sheetpile for remaining SA-6 North Barrier Wall installation.
- Conduct well development of injection well 088-IW-01 on SA-6 North.
- Conduct well development of GWET extraction well PW-2.
- Conduct acid cleaning of the PW-2 force main.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Obtain NJDOT Highway Occupancy Permit for upcoming SA-6 North activities proximate to Rt. 440 frontage.
- Continue the SA-6 North Bench-Scale treatability study for Treatment Area 10 proximate to force main.
- Continue to coordinate with the JCDPW on their off-site relocation of remaining equipment from SA-6 North.

ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
   - Excavation Bottom Elevations
   - Maser Survey Tables: SA-6 South Excavation: Confirmatory Points
   - Figure 2: Color Coded Excavation Bottom
   - Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
   - Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)
4. Dewatering Operations Update
   - SA-6 South Deep Well Data (DW-4)
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
   - Stockpiled Material Tracking and Sampling Log
7. Perimeter Pools Update
8. *Groundwater Quality Data (sampled quarterly, not included in this reporting period)*
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. *Sheet Pile Update (not included in this reporting period)*
11. Weekly SWPPP Reports
12. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (December 2014)
13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**Fri 1/4/08**
18	**JCIA/JCDPW Relocation**	**1735 days**	**Mon 8/11/08**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09
22	Relocation Contractor Procurement	392 days	Thu 4/15/10
23	JCIA and JCDPW Relocation	753 days	Mon 10/17/11
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11
24a	Demolition of JCIA Structures	151 days	Mon 9/1/14
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**
58	New GWTP Construction Completion	502 days	Mon 3/5/12
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11
60	**SA-6 North/South Field Implementation**	**838 days**	**Fri 3/1/13**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	Mon 6/17/13
60b	SA-6S (Site 163) In-Situ Treatment	294 days	Fri 11/15/13
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**
61a	Mobilization	87 days	Fri 3/1/13
62	**Surcharge Install/Instrumentation**	**620 days**	**Mon 6/17/13**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	Mon 6/17/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	Mon 6/2/14
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Mon 3/2/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	Mon 10/20/14
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	Mon 3/3/14
63	**Barrier Wall Install**	**489 days**	**Mon 6/17/13**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**Mon 12/2/13**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	Mon 12/2/13
63c	SA-6N Stations 23+38 to 14+25	90 days	Mon 2/17/14
63d	SA-6N Stations 14+25 to 0+00	224 days	Mon 6/23/14
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**Mon 6/17/13**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	Mon 6/17/13
63h	SA-6S Stations 1+54 to 8+37	7 days	Fri 8/16/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	Thu 10/3/13
63j	SA-6S Stations 8+60 to 14+87	145 days	Mon 11/11/13
64	**Excavation**	**507 days**	**Tue 10/22/13**
64a	SA 6N Excavation	218 days	Mon 12/1/14
64b	**SA 6S Excavation**	**226 days**	**Tue 10/22/13**
64c	SA-6S Excavation of Cells 1 - 25	53 days	Tue 10/22/13
64d	SA-6S Excavation of Cells 26 - 60	90 days	Fri 1/3/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	Fri 5/9/14
65	**Backfill**	**493 days**	**Mon 11/11/13**
65a	SA 6N Backfill	218 days	Mon 12/1/14
65b	SA 6S Backfill	232 days	Mon 11/11/13
66	**Capping and Cover Soil Placement**	**315 days**	**Mon 12/1/14**
66a	SA 6N Capping and Cover Soil Placement	119 days	Tue 9/1/15
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14
67	**Restoration**	**164 days**	**Tue 9/1/15**
67a	Restoration	164 days	Tue 9/1/15

Project: SA-6 Remediation Schedule
Revision 3
Date: Tue 2/3/15

Task | Milestone | Summary | Critical

Attachment 2: Site Photographs

Site Photograph 1: Contractor grades surcharge material after placement.

Site Photograph 2: Contractor loads out soils for off-site disposal.

Site Photograph 3: Contractor loads out surcharge material.

Site Photograph 4: Contractor removes surcharge material.

Photograph 5: JCIA Demo loading scrap steel.

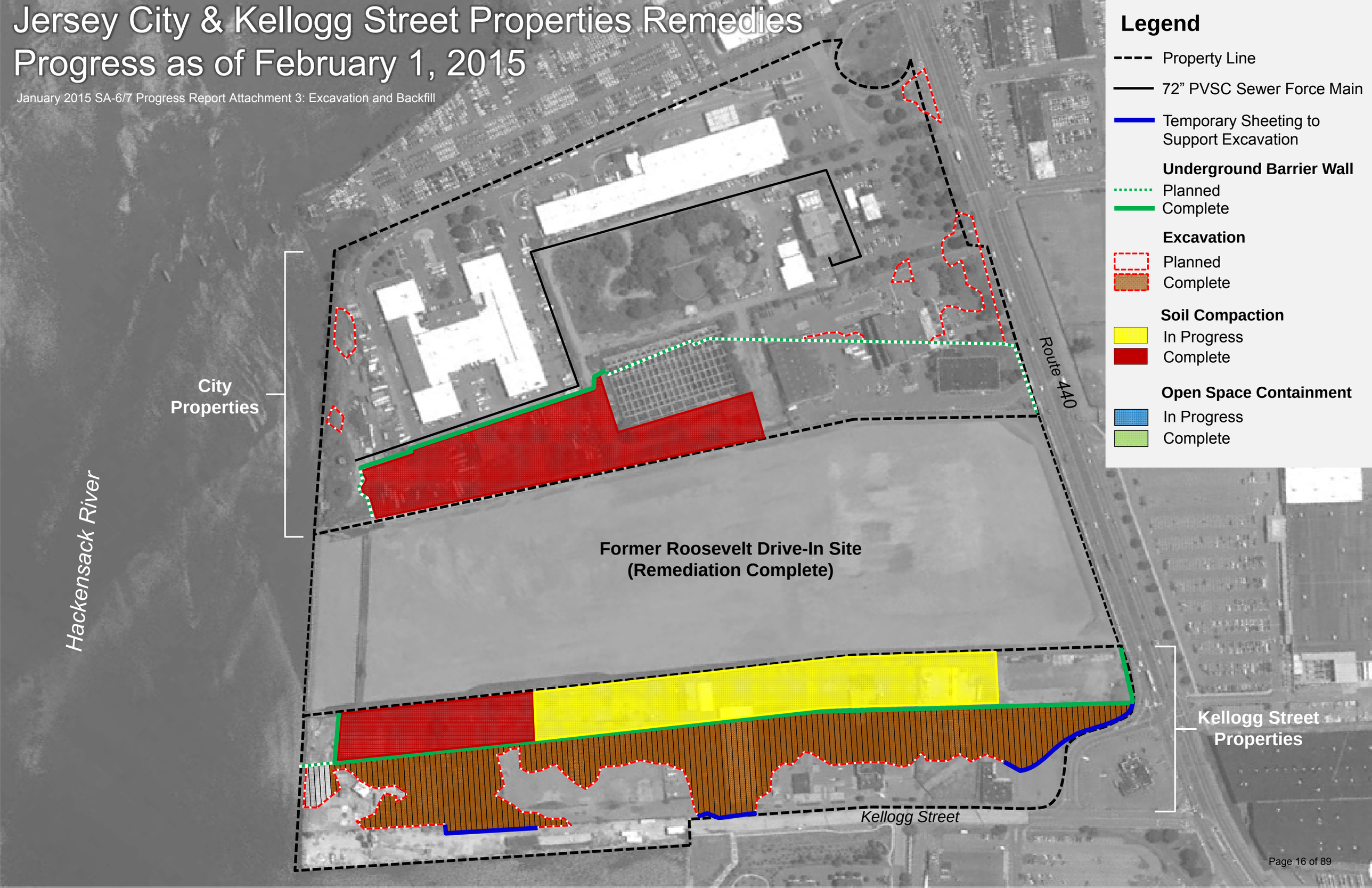
Site Photograph 6: JCIA Demo sorting steel and masonry.

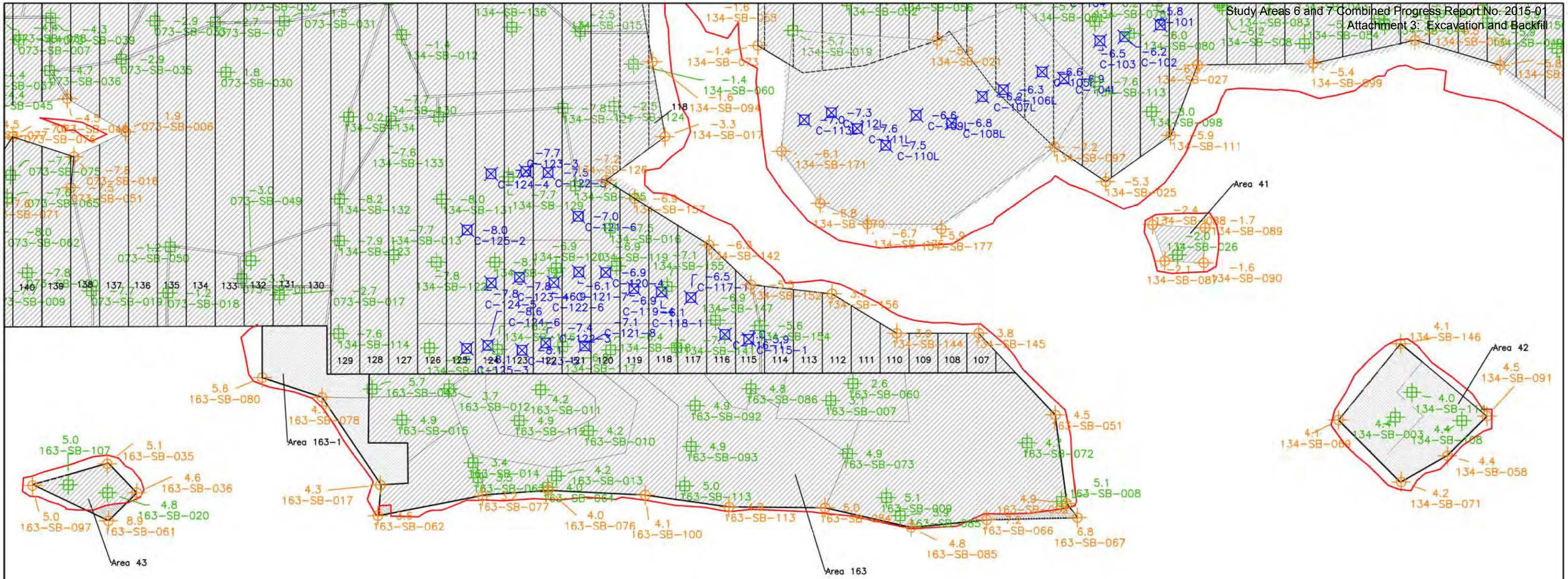
Attachment 3: Excavation and Backfill

- Progression Chart
- Excavation Bottom Elevations
- Maser Survey Tables: SA-6 South Excavation: Confirmatory Points
- Figure 2: Color Coded Excavation Bottom
- Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
- Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)

Jersey City & Kellogg Street Properties Remedies Progress as of February 1, 2015

January 2015 SA-6/7 Progress Report Attachment 3: Excavation and Backfill





LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- BOTTOM CENTER POINT ELEVATION STRATUM D
- BOTTOM CENTER POINT ELEVATION <20 PPM
- BOTTOM CORNER POINT ELEVATION <20 PPM
- DESIGNED STRATUM O EXCAVATION LIMIT
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- CURRENT EXCAVATION TO <20 PPM
- AREA DEFERRED TO PRESERVE BULKHEAD
- LIMIT OF EXCAVATION AREA
- TOP OF EXCAVATION SLOPE

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS Area 42 & 163-1
PERIOD 12-10-14 TO 12-22-14

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

MASER CONSULTING P.A.
Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

156 Stagecoach Road
Marmora, NJ 08223
T: 609.390.1927
F: 609.390.0040
www.maserconsulting.com

SA-6 South Excavation (Site 163): Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685185.6	601432.8	5.8	163-SB-107	N/A	10/30/2014	5.0	Area 43 - Target Elevation Reached
685169.6	601446.1	6.0	163-SB-020	N/A	10/30/2014	4.8	Area 43 - Target Elevation Reached
685102.9	601588.4	5.2	163-SB-015	N/A	10/30/2014	4.9	Area 163 - Target Elevation Reached
685125.0	601586.5	6.3	163-SB-043	N/A	10/30/2014	5.7	Area 163 - Target Elevation Reached
685037.6	601660.2	4.5	163-SB-010	N/A	11/5/2014	4.2	Area 163 - Target Elevation Reached
685029.9	601632.6	5.2	163-SB-013	N/A	11/5/2014	4.2	Area 163 - Target Elevation Reached
685028.1	601625.3	6.8	163-SB-064	N/A	11/5/2014	4.0	Area 163 - Target Elevation Reached
685064.3	601635.5	4.9	163-SB-112	N/A	11/5/2014	4.9	Area 163 - Target Elevation Reached
685069.7	601654.2	5.0	163-SB-011	N/A	11/5/2014	4.2	Area 163 - Target Elevation Reached
685054.7	601600.3	3.6	163-SB-063	N/A	10/31/2014	3.5	Area 163 - Target Elevation Reached
685062.5	601603.2	4.6	163-SB-014	N/A	10/31/2014	3.4	Area 163 - Target Elevation Reached
685100.1	601617.6	5.3	163-SB-012	N/A	10/31/2014	3.7	Area 163 - Target Elevation Reached
684984.0	601680.9	5.5	163-SB-113	N/A	11/7/2014	5.0	Area 163 - Target Elevation Reached
684997.7	601696.5	5.5	163-SB-093	N/A	11/7/2014	4.9	Area 163 - Target Elevation Reached
685012.8	601711.3	5.6	163-SB-092	N/A	11/7/2014	4.9	Area 163 - Target Elevation Reached
685001.4	601739.4	6.6	163-SB-086	N/A	11/7/2014	4.8	Area 163 - Target Elevation Reached
684854.7	601827.8	5.7	163-SB-008	N/A	11/12/2014	5.1	Area 163 - Target Elevation Reached
684889.4	601833.1	6.2	163-SB-072	N/A	11/12/2014	4.7	Area 163 - Target Elevation Reached
684901.6	601758.2	7.6	163-SB-085	N/A	11/12/2014	4.0	Area 163 - Target Elevation Reached
684913.3	601758.5	5.7	163-SB-009	N/A	11/12/2014	5.1	Area 163 - Target Elevation Reached
684943.7	601757.2	5.9	163-SB-073	N/A	11/12/2014	4.9	Area 163 - Target Elevation Reached
684970.6	601767.7	3.3	163-SB-007	N/A	11/12/2014	3.1	Area 163 - Target Elevation Reached
684970.3	601782.2	3.3	163-SB-060	N/A	11/12/2014	2.6	Area 163 - Target Elevation Reached
684784.2	602004.7	4.9	134-SB-114	N/A	12/12/2014	4.0	Area 42 - Target Elevation Reached
684779.6	601989.9	4.8	134-SB-003	N/A	12/12/2014	4.4	Area 42 - Target Elevation Reached
684756.5	602015.6	5.8	134-SB-108	N/A	12/12/2014	4.4	Area 42 - Target Elevation Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area. Coordinates come from Center Points within that specific cell.

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

* Target Reached. Over excavation conducted as directed by engineer.

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)

Sidewall Target Coordinates					As-built Elevations		
685197.1	601418.1	5.2	163-SB-097	N/A	10/30/2014	5.0	Area 43 - Target Elevation Reached
685181.4	601455.3	6.0	163-SB-035	N/A	10/30/2014	5.1	Area 43 - Target Elevation Reached
685158.1	601437.3	7.0	163-SB-061	N/A	10/30/2014	8.9	Area 43 - deferred to preserve Bulk Head
685160.1	601457.8	7.5	163-SB-036	N/A	10/30/2014	4.6	Area 43 - Target Elevation Reached
685026.9	601624.6	7.8	163-SB-076	N/A	11/5/2014	4.0	Area 163 - Target Elevation Reached
685045.9	601596.1	7.9	163-SB-077	N/A	10/31/2014	3.2	Area 163 - Target Elevation Reached
685072.2	601547.5	7.1	163-SB-062	N/A	10/30/2014	3.6	Area 163 - Target Elevation Reached
684993.2	601662.1	6.4	163-SB-100	N/A	11/7/2014	4.2	Area 163 - Target Elevation Reached
684961.1	601691.9	7.3	163-SB-113	N/A	11/7/2014	4.9	Area 163 - Target Elevation Reached
684871.6	601791.8	5.6	163-SB-066	N/A	11/12/2014	7.2	Area deferred to preserve Bulk Head
684893.3	601758.8	5.6	163-SB-085	N/A	11/12/2014	4.8	Area 163 - Target Elevation Reached
684929.4	601730.4	5.2	163-SB-084	N/A	11/12/2014	5.0	Area 163 - Target Elevation Reached
684891.6	601853.5	6.9	163-SB-051	N/A	11/12/2014	4.5	Area 163 - Target Elevation Reached
684852.1	601829.3	5.6	163-SB-052	N/A	11/12/2014	4.9	Area 163 - Target Elevation Reached
684843.0	601829.0	5.6	163-SB-067	N/A	11/12/2014	6.8	Area 163 (deferred to preserve Bulk Head)
684797.0	601966.1	5.7	134-SB-069	N/A	12/12/2014	4.1	Area 42 - Target Elevation Reached
684807.5	602016.1	5.9	134-SB-146	N/A	12/12/2014	4.1	Area 42 - Target Elevation Reached
684750.1	602027.2	6.4	134-SB-091	N/A	12/12/2014	4.5	Area 42 - Target Elevation Reached
684747.0	601998.4	6.0	134-SB-058	N/A	12/12/2014	4.4	Area 42 - Target Elevation Reached
684751.6	601971.2	5.6	134-SB-071	N/A	12/12/2014	4.2	Area 42 - Target Elevation Reached
685138.0	601563.6	6.2	163-SB-078	N/A	12/22/2014	4.7	Area 163-1 - Target Elevation reached
685083.7	601558.5	6.0	163-SB-017	N/A	12/22/2014	4.3	Area 163-1 - Target Elevation reached
685165.5	601546.0	6.5	163-SB-080	N/A	12/22/2014	5.6	Area 163-1 - Target Elevation reached

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

R. Thomas Hugg 1/7/15

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR
LICENSE NO. 36737

NOTES:

1. CONTOURS ON THIS SHEET REPRESENT BOTTOM OF EXCAVATION.
2. THE APPROVED 100% DESIGN DOCUMENTS OUTLINE CONDITIONS WHERE THE FINAL EXCAVATION BOTTOM MAY BE SHALLOWER IF STRATUM D IS ENCOUNTERED.
3. LENS OF ANOMALOUS MATERIAL VISUALLY IDENTIFIED AND FURTHER DELINEATED THROUGH FIELD SAMPLING HAS BEEN ADDED AND IDENTIFIED AS LOAM AREA.
4. EXCAVATION AREAS 163, 163-1, 42, AND 43 HAVE BEEN ADDED TO THE ORIGINAL COLOR CODED EXCAVATION BOTTOM FIGURE.

Revision/Date: TDD 12/16/14
Checked/Date: SGS 12/16/14

Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec

SA-6 SOUTH
COLOR CODED EXCAVATION BOTTOM
FIGURE 2

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

				FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
	LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
	684138.4	603182.3	-0.5							4	Crushed concrete	Bottom of excavation elevation	
12/5/2013	684144.2	603184.2	1.0	136.4	3.7	142.6	7.8	96	95	4	Weldon WC QP		Sor
12/5/2013	684137.8	603181.7	1.9	139.9	4.3	142.6	7.8	98	95	4	Weldon WC QP		Sor
12/6/2013	684140.2	603182.7	2.5	141.2	5.0	142.6	7.8	99	95	4	Weldon WC QP		Sor
12/6/2013	684136.6	603190.0	3.5	141.2	5.6	142.6	7.8	99	95	4	Weldon WC QP		Sor
12/6/2013	684134.9	603186.7	4.5	143.2	4.8	142.6	7.8	100	95	4	Weldon WC QP		Sor
12/6/2013	684141.1	603182.6	5.8	139.6	6.0	142.6	7.8	98	95	4	Weldon WC QP		Sor
12/10/2013	684147.6	603186.8	6.2	146.7	5.1	142.6	7.8	103	95	4	Weldon WC QP		Sor
12/10/2013	684140.2	603189.6	7.1	120.1	3.4	128.9	12.1	93	95	4	Weldon WC Screenings	recompact lift	Sor
12/10/2013	684140.2	603189.6	7.1	129.9	4.9	128.9	12.1	101	95	4	Weldon WC Screenings	second reading after addl compaction	Sor
12/12/2013	684130.1	603175.5	8.1	126.4	3.3	128.9	12.1	98	95	4	Weldon WC Screenings		Sor
12/31/2013	684140.0	603184.3	9.0	139.6	7.4	128.9	12.1	108	95	4	Weldon WC Screenings		Sor
	684153.8	603153.9	-0.6							6	Crushed concrete	Bottom of excavation elevation	
12/5/2013	684162.8	603161.3	1.4	138.2	5.7	142.6	7.8	97	95	6	Weldon WC QP		Sor
12/5/2013	684160.8	603162.3	2.4	136.2	4.5	142.6	7.8	96	95	6	Weldon WC QP		Sor
12/6/2013	684157.7	603161.3	2.7	147.2	5.6	142.6	7.8	103	95	6	Weldon WC QP		Sor
12/6/2013	684145.7	603162.1	3.7	143.5	5.0	142.6	7.8	101	95	6	Weldon WC QP		Sor
12/6/2013	684156.9	603171.0	4.4	145.7	4.1	142.6	7.8	102	95	6	Weldon WC QP		Sor
12/6/2013	684150.1	603155.4	5.6	140.4	4.6	142.6	7.8	98	95	6	Weldon WC QP		Sor
12/10/2013	684135.5	603153.5	6.1	149.4	4.0	142.6	7.8	105	95	6	Weldon WC QP		Sor
12/10/2013	684157.9	603174.9	7.2	125.8	5.2	128.9	12.1	98	95	6	Weldon WC Screenings		Sor
	684179.9	603119.5	-1.2							9	Crushed concrete	Bottom of excavation elevation	
										9	Type A Material	No compaction testing required	
11/22/2013	684198.1	603131.6	0.2	133.3	3.4	142.6	7.8	93	95	9	Weldon WC QP		Sor
11/22/2013	684155.7	603111.6	1.5	130.8	2.8	142.6	7.8	92	95	9	Weldon WC QP		Sor
12/5/2013	684177.4	603121.5	2.5	135.7	2.0	128.9	12.1	105	95	9	Weldon WC Screenings		Sor
12/12/2013	684180.5	603126.9	4.6	124.7	3.2	128.9	12.1	97	95	9	Weldon WC Screenings		Sor
12/12/2013	684177.1	603132.4	5.3	132.5	2.8	128.9	12.1	103	95	9	Weldon WC Screenings		Sor
12/16/2013	684172.4	603128.5	6.4	128.3	2.9	128.9	12.1	100	95	9	Weldon WC Screenings		Sor
1/6/2014	684177.1	603113.8	6.6	131.2	10.4	128.9	12.1	102	95	9	Weldon WC Screenings		Sor
1/9/2014	684178.2	603121.8	8.2	128.2	5.9	128.9	12.1	99	95	9	Weldon WC Screenings		Sor
	684195.7	603093.1	-1.5							11	Crushed concrete	Bottom of excavation elevation	
										11	Type A Material	No compaction testing required	
12/5/2013	684198.0	603094.8	2.6	131.0	3.6	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
12/12/2013	684206.6	603104.7	3.5	125.8	3.9	128.9	12.1	98	95	11	Weldon WC Screenings		Sor
12/16/2013	684217.5	603111.1	4.9	129.9	2.9	128.9	12.1	101	95	11	Weldon WC Screenings		Sor
12/31/2013	684213.6	603115.0	5.9	124.6	3.2	128.9	12.1	97	95	11	Weldon WC Screenings		Sor
1/9/2014	684195.8	603100.0	8.2	131.2	4.8	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
	684200.8	603078.4	-1.8							12	Crushed concrete	Bottom of excavation elevation	
										12	Type A Material	No compaction testing required	
12/5/2013	684185.2	603057.9	2.6	133.8	4.7	128.9	12.1	104	95	12	Weldon WC Screenings		Sor
12/12/2013	684179.9	603057.7	3.0	121.5	3.0	128.9	12.1	94	95	12	Weldon WC Screenings	recompact lift	Sor
12/16/2013	684186.2	603070.2	3.1	133.0	9.3	128.9	12.1	103	95	12	Weldon WC Screenings	second reading after addl compaction	Sor
12/31/2013	684181.6	603060.8	4.5	124.7	2.9	128.9	12.1	97	95	12	Weldon WC Screenings		Sor
1/9/2013	684186.1	603053.5	5.8	129.7	3.3	128.9	12.1	101	95	12	Weldon WC Screenings		Sor
1/9/2013	684180.6	603048.6	6.5	131.1	3.4	128.9	12.1	102	95	12	Weldon WC Screenings		Sor
3/19/2014	684180.6	603060.4	7.5	122.5	4.9	128.9	12.1	95	95	12	Weldon WC Screenings		Sor
	684214.8	603050.6	-1.7							14	Crushed concrete	Bottom of excavation elevation	
										14	Crushed concrete	No compaction testing required	
12/31/2013	684229.9	603061.3	2.2	137.7	3.4	128.9	12.1	107	95	14	Weldon WC Screenings		Sor
12/31/2013	684228.8	603062.8	3.5	133.1	3.4	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
1/6/2014	684234.0	603066.8	4.2	123.7	9.5	128.9	12.1	96	95	14	Weldon WC Screenings		Sor
1/9/2014	684230.8	603071.3	6.2	133.1	4.2	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
1/9/2014	684213.9	603095.7	7.3	133.8	5.0	128.9	12.1	104	95	14	Weldon WC Screenings		Sor
	684222.7	603033.3	-0.8							15	Crushed concrete	Bottom of excavation elevation	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

				FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
	LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
										15	Crushed concrete	No compaction testing required	
12/31/2013	684196.2	603014.9	2.5	133.1	2.6	128.9	12.1	103	95	15	Weldon WC Screenings		Sor
12/31/2013	684192.8	603021.1	3.9	133.2	3.4	128.9	12.1	103	95	15	Weldon WC Screenings	Numbering error; skipped from 02 to 04	Sor
1/9/2014	684196.9	603018.8	5.7	118.5	3.9	128.9	12.1	92	95	15	Weldon WC Screenings	recompact lift	Sor
1/9/2014	684196.9	603018.8	5.7	122.6	4.3	128.9	12.1	95	95	15	Weldon WC Screenings	second reading after addl compaction	Sor
1/9/2014	684195.0	603021.0	6.4	128.4	6.7	128.9	12.1	100	95	15	Weldon WC Screenings		Sor
	684221.8	603013.0	-0.7							16	Crushed concrete	Bottom of excavation elevation	
										16	Crushed concrete	No compaction testing required	
12/31/2013	684246.9	603039.8	2.0	127.2	3.2	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
12/31/2013	684240.5	603043.2	3.1	132.7	2.9	128.9	12.1	103	95	16	Weldon WC Screenings		Sor
1/6/2014	684231.7	603038.8	3.9	127.0	8.4	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
1/9/2014	684242.3	603046.8	5.4	130.1	4.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
1/9/2014	684236.3	603066.0	7.1	129.8	6.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
	684208.5	602989.4	-0.5							17	Crushed concrete	Bottom of excavation elevation	
										17	Crushed concrete	No compaction testing required	
1/28/2014	684209.7	602987.6	2.5	124.0	7.9	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
1/28/2014	684213.6	602980.4	3.4	123.4	6.1	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
1/28/2014	684204.2	602981.5	4.2	124.9	7.1	128.9	12.1	97	95	17	Weldon WC Screenings		Sor
	684269.0	603014.0	-0.5							18	Crushed concrete	Bottom of excavation elevation	
										18	Crushed concrete	No compaction testing required	
1/20/2014	684275.4	603018.2	2.2	133.1	7.7	128.9	12.1	103	95	18	Weldon WC Screenings		Sor
1/28/2014	684267.5	603026.1	3.2	118.8	3.1	128.9	12.1	92	95	18	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
1/28/2014	684267.5	603026.1	3.2	133.3	6.1	128.9	12.1	103	95	18	Weldon WC Screenings	second reading after addl compaction	Sor
1/28/2014	684271.8	603014.4	4.1	125.7	5.4	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
3/21/2014	684267.9	603017.5	5.2	126.4	6.8	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
	684208.5	602989.4	-1.0							19	Crushed concrete	Bottom of excavation elevation	
										19	Crushed concrete	No compaction testing required	
1/28/2014	684216.6	602952.7	2.1	125.2	8.8	128.9	12.1	97	95	19	Weldon WC Screenings		Sor
1/28/2014	684223.4	602953.8	3.4	129.8	4.2	128.9	12.1	101	95	19	Weldon WC Screenings		Sor
1/28/2014	684211.6	602949.0	4.0	123.4	6.6	128.9	12.1	96	95	19	Weldon WC Screenings		Sor
	684286.7	602988.6	-1.7							20	Crushed concrete	Bottom of excavation elevation	
										20	Crushed concrete	No compaction testing required	
1/20/2014	684291.7	602995.2	1.8	133.3	8.3	128.9	12.1	103	95	20	Weldon WC Screenings		Sor
1/28/2014	684288.5	602989.8	2.9	121.6	4.0	128.9	12.1	94	95	20	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
1/28/2014	684288.5	602989.8	2.9	128.5	5.8	128.9	12.1	100	95	20	Weldon WC Screenings	second reading after addl compaction	Sor
1/28/2014	684291.3	602995.4	3.7	136.9	7.5	128.9	12.1	106	95	20	Weldon WC Screenings		Sor
	684235.7	602919.6	-0.9							22	Crushed concrete	Bottom of excavation elevation	
										22	Crushed concrete	No compaction testing required	
1/28/2014	684235.6	602919.1	2.1	130.1	5.8	128.9	12.1	101	95	22	Weldon WC Screenings		Sor
3/12/2014	684238.5	602922.0	2.1	132.0	2.9	135.8	6.4	97	95	22	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
3/12/2014	684238.4	602918.2	3.4	133.0	1.4	135.8	6.4	98	95	22	Tilcon MH DGA		V5N
3/19/2014	684235.1	602916.0	4.5	124.0	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
	684312.1	602956.0	-0.9							23	Crushed concrete	Bottom of excavation elevation	
										23	Crushed concrete	No compaction testing required	
1/20/2014	684312.7	602965.2	1.8	133.9	7.0	128.9	12.1	104	95	23	Weldon WC Screenings		Sor
3/13/2013	684289.6	602935.7	1.8	132.0	1.7	135.8	6.4	97	95	23	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
3/14/2014	684301.9	602952.7	2.6	133.0	1.6	135.8	6.4	98	95	23	Tilcon MH DGA		V5N
	684260.7	602896.7	-0.9							24	Crushed concrete	Bottom of excavation elevation	
										24	Crushed concrete	No compaction testing required	
1/28/2014	684259.0	602897.1	2.1	123.6	9.0	128.9	12.1	96	95	24	Weldon WC Screenings		Sor
3/12/2014	684264.5	602902.2	2.1	131.0	2.4	135.8	6.4	96	95	24	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
3/12/2014	684260.5	602900.2	2.8	133.0	1.3	135.8	6.4	98	95	24	Tilcon MH DGA		V5N
	684326.7	602937.0	-1.1							25	Crushed concrete	Bottom of excavation elevation	
										25	Crushed concrete	No compaction testing required	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

				FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
	LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
1/20/2014	684331.9	602942.7	1.6	136.1	7.4	128.9	12.1	106	95	25	Weldon WC Screenings		Sor
3/13/2014	6844330.0	602937.2	1.8	132.2	1.4	135.8	6.4	97	95	25	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
3/14/2014	684326.7	602930.0	2.5	134.0	1.2	135.8	6.4	99	95	25	Tilcon MH DGA		V5N
	684283.7	602879.0	0.4							26	Crushed concrete	Bottom of excavation elevation-Stratum O	
										26	Crushed concrete	No compaction testing required	
3/12/2014	684284.6	602882.1	2.1	130.0	2.9	135.8	6.4	96	95	26	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
3/14/2014	684273.7	602879.1	3.1	132.0	2.2	135.8	6.4	97	95	26	Tilcon MH DGA		V5N
	684350.8	602909.6	-1.5							27	Crushed concrete	Bottom of excavation elevation	
										27	Crushed concrete	No compaction testing required	
3/13/2014	684313.5	602885.6	1.5	132.4	1.4	135.8	6.4	97	95	27	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
3/14/2014	684344.0	602911.5	2.7	134.0	1.1	135.8	6.4	99	95	27	Tilcon MH DGA		V5N
	684313.2	602860.4	0.3							28	Crushed concrete	Bottom of excavation elevation - Stratum O	
										28	Crushed concrete	No compaction testing required	
3/14/2014	684322.1	602872.7	2.8	134.0	0.9	135.8	6.4	99	95	28	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
3/17/2014	684301.4	602851.5	3.6	133.0	1.3	135.8	6.4	98	95	28	Tilcon MH DGA		V5N
	684370.9	602887.4	-1.7							29	Crushed concrete	Bottom of excavation elevation	
										29	Crushed concrete	No compaction testing required	
3/17/2014	6843640.5	602862.1	2.0	133.0	1.7	135.8	6.4	98	95	29	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
	684330.4	602835.9	1.9							30	Crushed concrete	Bottom of excavation elevation - Startum O	
3/14/2014	684343.3	602842.2	2.4	132.0	1.6	135.8	6.4	97	95	30	Tilcon MH DGA	Removed wet screenings to crushed concrete and placed Bridge Lift	V5N
3/17/2014	684307.4	602827.3	3.3	134.0	0.8	135.8	6.4	99	95	30	Tilcon MH DGA	Bridge Lift over Stratum O	V5N
3/19/2014	684314.6	602830.9	3.9	122.5	5.1	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
3/20/2014	684314.4	602815.1	4.5	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
3/20/2014	684321.1	602814.1	5.2	124.0	3.9	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
3/20/2014	684308.3	602802.2	5.8	122.5	5.0	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
3/20/2014	684305.8	602806.3	6.7	123.3	4.0	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
3/20/2014	684314.4	602804.8	7.6	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
3/20/2014	684310.5	602806.6	8.4	132.5	1.9	135.8	6.4	98	95	30	Tilcon MH DGA	Truck Ramp to Kellogg Street	V5N
	684391.2	602864.3	-2.3							31	Crushed concrete	Bottom of excavation elevation	
										31	Crushed concrete	No compaction testing required	
3/17/2014	684387.3	602845.0	1.4	134.0	0.8	135.8	6.4	99	95	31	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
	684350.9	602814.5	-1.6							32	Crushed concrete	Bottom of excavation elevation	
										32	Crushed concrete	No compaction testing required	
3/14/2014	684360.9	602818.8	2.4	132.0	2.0	135.8	6.4	97	95	32	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
3/17/2014	684339.8	602809.6	3.5	134.0	1.1	135.8	6.4	99	95	32	Tilcon MH DGA		V5N
	684411.0	602842.4	-1.8							33	Crushed concrete	Bottom of excavation elevation	
										33	Crushed concrete	No compaction testing required	
3/17/2014	684402.4	602827.4	1.1	134.0	0.8	135.8	6.4	99	95	33	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
	684369.5	602729.2	-1.8							34	Crushed concrete	Bottom of excavation elevation	
										34	Crushed concrete	No compaction testing required	
3/14/2014	684379.5	602796.3	2.0	131.0	2.1	135.8	6.4	96	95	34	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
3/17/2014	684354.8	602790.5	3.4	133.0	1.5	135.8	6.4	98	95	34	Tilcon MH DGA		V5N
	684433.4	602818.8	-2.1							35	Crushed concrete	Bottom of excavation elevation	
										35	Crushed concrete	No compaction testing required	
3/18/2014	684433.9	602828.3	0.3	134.0	0.8	135.8	6.4	99	95	35	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
3/18/2014	684431.7	602817.7	0.8	133.0	1.3	135.8	6.4	98	95	35	Tilcon MH DGA		V5N
	684389.4	602765.0	-1.8							36	Crushed concrete	Bottom of excavation elevation	
										36	Crushed concrete	No compaction testing required	
3/14/2014	684398.2	602773.8	1.8	133.0	1.6	135.8	6.4	98	95	36	Tilcon MH DGA		V5N
	684457.0	602790.8	-2.8							38	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
3/12/2014	684461.2	602789.3	-0.4	133.2	1.0	135.8	6.4	98	95	38	Tilcon MH DGA		V5N
	684418.8	602735.2	2.1							39	Stratum O	Bottom of excavation elevation	
3/26/2014	684404.6	602731.3	3.3	134.0	1.2	135.8	6.4	99	95	39	Tilcon MH DGA		V5N
	684476.8	602765.1	-3.1							40	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

				FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
	LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
3/12/2014	684478.9	602766.2	-0.7	133.2	1.1	135.8	6.4	98	95	40	Tilcon MH DGA		V5N
	684436.0	602712.8	0.1							41	Stratum O	Bottom of excavation elevation	
	684498.7	602739.5	-2.2							42	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
3/12/2014	684496.6	602743.0	-0.9	131.0	2.3	135.8	6.4	96	95	42	Tilcon MH DGA		V5N
	684453.0	602683.2	0.1							43	Stratum O	Bottom of excavation elevation	
	684517.5	602716.8	-2.5							44	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
3/12/2014	684515.6	602715.4	-1.1	131.0	2.0	135.8	6.4	96	95	44	Tilcon MH DGA		V5N
	684471.3	602661.2	0.2							45	Stratum O	Bottom of excavation elevation	
	684538.2	602694.6	-3.0							46	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
3/18/2014	684535.1	602700.7	-1.9	134.5	0.5	135.8	6.4	99	95	46	Tilcon MH DGA		V5N
	684490.0	602636.8	0.2							47	Stratum O	Bottom of excavation elevation	
	684558.4	602671.7	-3.0							48	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
3/21/2014	684551.4	602683.6	-1.7	131.9	1.9	135.8	6.4	97	95	48	Tilcon MH DGA		V5N
	684510.6	602614.8	0.4							49	Stratum O	Bottom of excavation elevation	
	684557.4	602644.9	-3.6							50	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
3/26/2014	684572.2	602653.5	-1.4	134.8	0.5	135.8	6.4	99	95	50	Tilcon MH DGA		V5N
	684776.7	602362.5	-2.5							73 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
10/15/2014	684764.3	602354.7	0.6	125.0	2.0	128.5	10.5	97	95	73 (No)	Weldon LH Screenings	Placed on Tilcon MH DGA	V5N
	684785.0	602349.9	-2.5							74 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
10/3/2014	684773.5	602338.3	-1.2	128.5	4.7	128.5	10.5	100	95	74 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
10/15/2014	684772.1	602344.3	0.6	126.0	2.2	128.5	10.5	98	95	74 (No)	Weldon LH Screenings	Placed on Type A Material	V5N
	684701.4	602272.1	-2.5							75 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
10/3/2014	684679.6	602257.6	-1.6	127.0	3.1	128.5	10.5	99	95	75 (So)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
	684793.7	602335.5	-2.5							75 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
10/3/2014	684788.5	602328.1	-0.9	128.5	4.3	128.5	10.5	100	95	75 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
10/15/2014	684783.5	602334.9	0.6	125.0	2.9	128.5	10.5	97	95	75 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
	684709.6	602254.1	-3.0							76 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
10/3/2014	684686.5	602239.8	-1.3	124.0	2.5	128.5	10.5	96	95	76 (So)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
10/27/2014	684684.5	602237.6	5.3	122.5	3.5	128.5	10.5	95	95	76 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
	684804.3	602317.4	-3.5							77 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
10/3/2014	684796.5	602311.9	-0.9	128.5	4.5	128.5	10.5	100	95	77 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
10/15/2014	684800.9	602313.3	0.5	125.0	2.2	128.5	10.5	97	95	77 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
	684720.3	602238.4	-3.5							77 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
10/3/2014	684698.8	602228.5	-1.1	124.6	2.9	128.5	10.5	97	95	77 (So)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
10/27/2014	684700.3	602225.0	5.5	122.0	3.2	128.5	10.5	95	95	77 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
	684813.9	602301.9	-3.5							78 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
10/3/2014	685808.5	602301.5	-0.9	128.5	4.0	128.5	10.5	100	95	78 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
10/15/2014	685811.9	602297.1	0.7	127.0	4.0	128.5	10.5	99	95	78 (No)	Weldon LH Screenings		V5N
	684732.5	602221.3	-3.3							79 (So)	Stratum D		
10/27/2014	684725.0	602212.2	5.6	125.0	2.5	128.5	10.5	97	95	79 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
	684824.9	602287.1	-3.3						95	79 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
10/15/2014	684820.2	602286.1	0.4	125.5	1.9	128.5	10.5	98	95	79 (No)	Weldon LH Screenings	Placed on Weldon WC Screenings	V5N
	684742.6	602208.4	-5.0						95	80	Stratum D	Bottom of excavation elevation	
10/27/2014	684743.1	602204.3	5.5	127.0	6.2	128.5	10.5	99	95	80	Weldon LH Screenings	Placed on Type A Material	V5N
	684837.6	602270.4	-4.8							81 (No)	Concrete/DGA	Bottom of excavation elevation	
9/18/2014	684834.9	602268.1	-1.5	126.0	4.5	131.9	9.5	96	95	81 (No)	Weldon WC QP	Placed on Type A Material	V5N
	684756.2	602190.9	-5.0							81 (So)	Concrete/DGA	Bottom of excavation elevation	
9/18/2014	684755.1	602200.0	-2.4	128.0	3.6	131.9	9.5	97	95	81 (So)	Weldon WC QP		V5N
10/27/2014	684759.2	602193.9	5.4	128.5	6.5	128.5	10.5	100	95	81 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
	684829.0	602234.8	-4.8							82		Bottom of excavation elevation	
9/18/2014	684826.4	602234.0	-2.4	126.0	4.5	131.9	9.5	96	95	82	Weldon WC QP	Placed on processed concrete	V5N
10/27/2014	684794.7	602203.1	5.5	128.0	4.6	128.5	10.5	100	95	82	Weldon LH Screenings	Placed on Type A Material	V5N
	684848.6	602232.5	-4.5							83	Concrete/DGA	Bottom of excavation elevation	
9/18/2014	684844.7	602224.8	-1.2	126.0	5.0	131.9	9.5	96	95	83	Weldon WC QP	Placed on Type A Material	V5N
10/27/2014	684807.1	609195.1	5.4	128.5	5.4	128.5	10.5	100	95	83	Weldon LH Screenings	Placed on Type A Material	V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

				FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
	LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
	684864.2	602226.5	-5.6							84	Concrete/DGA	Bottom of excavation elevation	
9/18/2014	684851.2	602210.9	-0.7	128.0	3.4	131.9	9.5	97	95	84	Weldon WC QP	Placed on Type A Material	V5N
10/27/2014	684830.5	602190.3	5.4	128.5	7.1	128.5	10.5	100	95	84	Weldon LH Screenings	Placed on Type A Material	V5N
	684877.8	602216.4	-5.2							85		Bottom of excavation elevation	
9/18/2014	684856.5	602180.7	1.0	128.0	2.9	131.9	9.5	97	95	85	Weldon WC QP	Placed on Weldon WC Screenings	V5N
	684890.3	602202.5	-5.8							86		Bottom of excavation elevation	
9/18/2014	684874.0	602174.3	1.3	125.0	3.9	131.9	9.5	95	95	86	Weldon WC QP	Placed on Weldon WC Screenings	V5N
10/27/2014	684873.1	602169.9	5.1	128.5	4.1	128.5	10.5	100	95	86	Weldon LH Screenings	Placed on Type A Material	V5N
	684904.5	602186.6	-6.1							88		Bottom of excavation elevation. Excavated to Meadow mat	
9/18/2014	684886.9	602163.0	1.8	128.0	3.1	131.9	9.5	97	95	88	Weldon WC QP		V5N
10/27/2014	684883.9	602156.7	5.0	127.0	4.7	128.5	10.5	99	95	88	Weldon LH Screenings	Placed on Type A Material	V5N
	684923.8	602171.9	-4.8							89	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
9/18/2014	684898.0	602149.9	3.1	128.0	3.4	131.9	9.5	97	95	89	Weldon WC QP		V5N
10/27/2014	684915.2	602163.5	5.3	128.5	3.2	128.5	10.5	100	95	89	Weldon LH Screenings		V5N
	684941.9	602148.5	-4.8							91	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
8/26/2014	684958.8	602165.2	-3.0	129.7	7.0	131.9	9.5	98	95	91	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
9/18/2014	684920.6	602131.1	4.1	126.0	3.7	131.9	9.5	96	95	91	Weldon WC QP		V5N
10/27/2014	684933.2	602141.4	5.6	128.5	3.6	128.5	10.5	100	95	91	Weldon LH Screenings		V5N
	684959.7	602128.6	-4.2							93	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
8/15/2014	684969.1	602137.6	-3.2	129.3	3.2	131.9	9.5	98	95	93	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
9/18/2014	684937.9	602110.2	4.7	126.0	3.6	131.9	9.5	96	95	93	Weldon WC QP		V5N
10/27/2014	684953.2	602121.7	5.6	128.5	3.2	128.5	10.5	100	95	93	Weldon LH Screenings		V5N
	684976.0	602107.0	-4.8							95	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
8/15/2014	684987.2	602117.0	-3.4	126.0	3.6	131.9	9.5	96	95	95	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
9/18/2014	684960.1	602086.7	4.8	125.0	4.9	131.9	9.5	95	95	95	Weldon WC QP		V5N
10/27/2014	684973.5	602102.2	5.7	128.5	5.7	128.5	10.5	100	95	95	Weldon LH Screenings		V5N
	684993.0	602080.9	-4.8							97	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
8/15/2014	684999.9	602082.3	-3.4	126.0	3.7	131.9	9.5	96	95	97	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
10/27/2014	684990.4	602076.5	5.5	128.5	5.7	128.5	10.5	100	95	97	Weldon LH Screenings		V5N
	685010.3	602052.3	-5.0							99	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
8/15/2014	685010.8	602056.6	-3.7	125.0	4.2	131.9	9.5	95	95	99	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
	685019.7	602037.1	-5.1							100	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
8/8/2014	685025.4	602022.1	-3.9	126.6	3.9	131.9	9.5	96	95	100	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
	685025.3	602021.0	-4.8							101	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
8/26/2014	685029.3	602037.1	-3.3	131.9	7.3	131.9	9.5	100	95	101	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
	685035.2	602003.7	-5.1							103	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
8/6/2014	685049.1	602012.4	-3.5	128.0	3.1	131.9	9.5	97	95	103	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
	685048.2	601986.6	-5.2							104	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
7/30/2014	685067.2	602016.2	-4.2	136.5	4.3	142.6	7.8	96	95	104	Weldon WC QP		V5N
8/1/2014	685062.8	602085.0	-3.2	121.4	6.5	142.6	7.8	85	95	104	Weldon WC QP	New blast area. QP visually changed.	V5N
8/1/2014	685062.8	602085.0	-3.2	121.0	7.4	142.6	9.5	85	95	104	Weldon WC QP	Rerolled area still fails. Collect sample for Proctor	V5N
8/4/2014	685062.8	602085.0	-2.9	125.3	7.4	131.9	9.5	95	95	104	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
	685084.9	601963.3	-1.2								Stratum O	Bottom of excavation elevation	
7/18/2014	685112.8	601983.8	-0.4	136.5	3.5	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
7/30/2014	685091.5	601975.9	1.1	136.5	3.9	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
	685105.9	601939.3	-1.2								Crushed concrete	Bottom of excavation elevation	
7/18/2014	685104.8	601941.5	1.7	136.0	3.8	142.6	7.8	95	95	109 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
	685125.6	601915.0	-1.2							111 (No)	Crushed concrete	Bottom of excavation elevation	
7/16/2014	685121.8	601910.5	1.7	135.0	3.6	142.6	7.8	95	95	111 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
	685144.3	601891.9	-1.2								Crushed concrete	Bottom of excavation elevation	
7/10/2014	685150.5	601896.1	1.9	137.0	4.8	142.6	7.8	96	95	113 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
	685196.4	601880.1	2.1								Stratum O	Bottom of excavati0n elevation	
7/7/2014	685187.0	601867.3	2.7	135.5	4.6	142.6	7.8	95	95	116 (No)	Weldon WC QP		V5N
	685222.6	601822.8	0.4							120 (No)	Stratum O	Bottom of excavation elevation	
6/27/2014	685213.8	601814.2	1.0	136.0	3.4	142.6	7.8	95	95	120 (No)	Weldon WC QP		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

				FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
	LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
	685148.9	601780.9	-2.5							119	Stratum O	Bottom of excavation elevation	
6/27/2014	685148.8	601788.7	-0.8	135.5	3.4	142.6	7.8	95	95	119	Weldon WC QP		V5N
	685084.0	601708.8	-7.5							120 (So)			
7/1/2014	685102.8	601721.9	-4.9	137.5	2.5	142.6	7.8	96	95	120 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
	685102.9	601692.4	-7.5							122 (So)	Crushed concrete	Bottom of excavation elevation	
6/27/2014	685126.9	601702.6	-5.7	135.5	3.4	142.6	7.8	95	95	122 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
	685218.6	601799.3	-2.5							121 (No)	Stratum O	Bottom of excavation elevation	
6/27/2014	685205.5	601790.7	0.9	135.5	3.4	142.6	7.8	95	95	121 (No)	Weldon WC QP		V5N
	685225.5	601777.9	-1.2							122 (No)	Stratum O	Bottom of excavation elevation	
6/18/2014	685230.1	601784.7	0.5	140.0	1.7	142.6	7.8	98	95	122 (No)	Weldon WC QP		V5N
6/27/2014	685221.4	601777.8	1.0	135.4	3.4	142.6	7.8	95	95	122 (No)	Weldon WC QP		V5N
	685115.2	601682.1	-7.5							123 (So)	Crushed concrete	Bottom of excavation elevation	
6/24/2014	685134.6	601695.5	-5.9	136.9	2.5	142.6	7.8	96	95	123 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
	685235.5	601760.6	-1.2							124 (No)	Stratum O	Bottom of excavation elevation	
6/18/2014	685235.2	601757.6	0.8	138.0	2.6	142.6	7.8	97	95	124 (No)	Weldon WC QP		V5N
6/27/2014	685253.4	601761.5	1.4	135.0	3.4	142.6	7.8	95	95	124 (No)	Weldon WC QP		V5N
	685135.2	601666.9	-7.5							124 (So)	Crushed concrete	Bottom of excavation elevation	
6/18/2014	685144.9	601672.5	-5.8	136.0	5.1	142.6	7.8	95	95	124 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
	685154.6	601650.7	-7.5							126 (So)	Crushed concrete	Bottom of excavation elevation	
6/18/2014	685157.7	601655.0	-5.4	140.0	1.5	142.6	7.8	98	95	126 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
	685346.3	601612.6	-1.2							136	Stratum O	Bottom of excavation elevation	
5/9/2014	685359.1	601618.5	0.3	130.8	1.3	135.8	6.4	96	95	136	Tilcon MH DGA		V5N
	685363.5	601589.4	-1.2							138	Stratum O	Bottom of excavation elevation	
5/9/2014	685355.3	601576.3	0.2	128.0	3.3	128.9	12.1	99	95	138	Weldon WC Screenings		V5N
	685382.2	601566.3	-2.5							140 (No)	Stratum O	Bottom of excavation elevation	
4/29/2014	685369.8	601556.5	-1.8	130.0	1.2	135.8	6.4	96	95	140	Tilcon MH DGA		V5N
4/29/2014	685381.4	601569.9	-0.8	132.2	1.5	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
4/29/2014	685382.7	601573.8	0.3	132.0	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
4/29/2014	685386.7	601571.4	1.5	132.3	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
4/29/2014	685389.9	601573.7	2.7	133.9	1.4	135.8	6.4	99	95	140	Tilcon MH DGA		V5N
	685308.1	601468.7	-7.5							142 (So)	Stratum O	Bottom of excavation elevation	
5/9/2014	685315.6	601465.0	-6.4	135.5	1.3	135.8	6.4	100	95	142 (So)	Tilcon MH DGA		V5N
	685401.7	601541.7	1.9							142 (No)	Stratum O	Bottom of excavation elevation	
4/28/2014	685410.7	601558.5	2.7	132.0	2.2	135.8	6.4	97	95	142 (No)	Tilcon MH DGA		V5N
4/28/2014	685414.5	601553.3	3.6	133.0	1.7	135.8	6.4	98	95	142 (No)	Tilcon MH DGA		V5N
4/28/2014	685414.9	601555.5	4.8	136.0	1.6	135.8	6.4	100	95	142 (No)	Tilcon MH DGA		V5N
4/28/2014	685420.1	601558.2	5.5	135.0	1.9	135.8	6.4	99	95	142 (No)	Tilcon MH DGA		V5N
	685426.9	601523.7	3.2							144	Stratum O	Bottom of excavation elevation	
4/25/2014	685440.9	601531.9	5.9	120.0	1.4	135.8	6.4	88	95	144	Tilcon MH DGA	recompact lift	V5N
4/28/2014	685440.9	601531.9	5.9	139.9	1.4	135.8	6.4	103	95	144	Tilcon MH DGA	second reading after addl compaction	V5N
	685452.9	601506.1	5.6							146	Stratum O	Bottom of excavation elevation	
4/25/2014	685438.7	601505.6	6.1	135.0	1.0	135.8	6.4	99	95	144	Tilcon MH DGA		V5N

Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

Maximum Dry Density for Weldon LH Screenings based on Vertical V Laboratory Report No. 12643 dated 9/29/14.

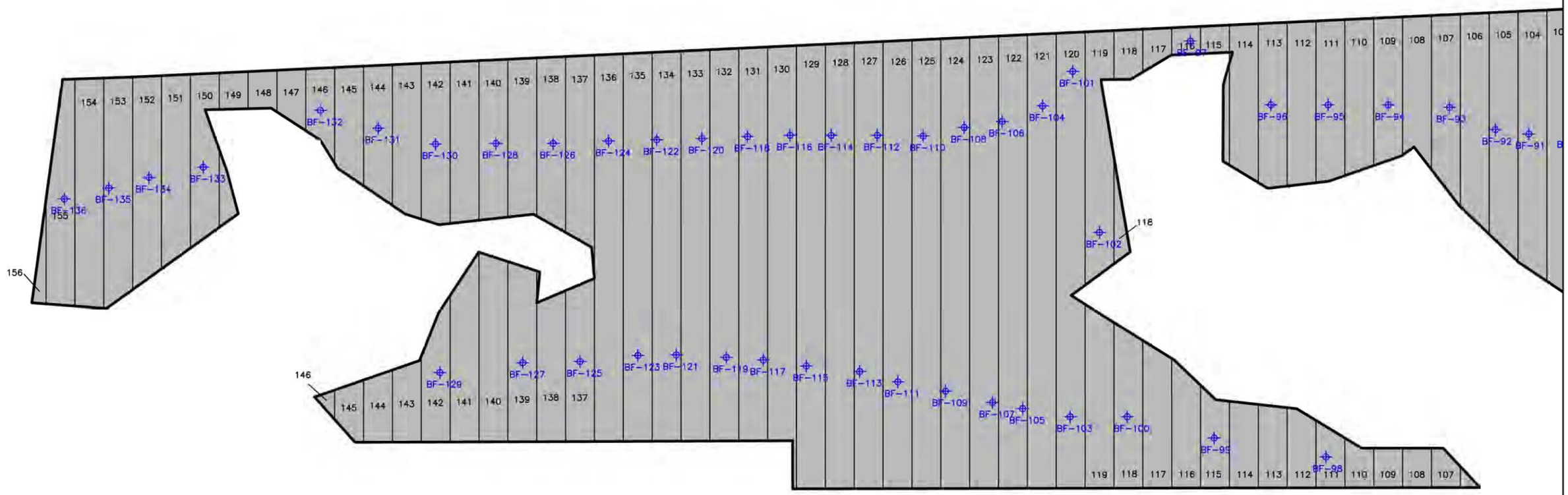
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

Sample ID BF-01-01 where:

BF = Backfill (At frequency of 1 test/2500 SF)
01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



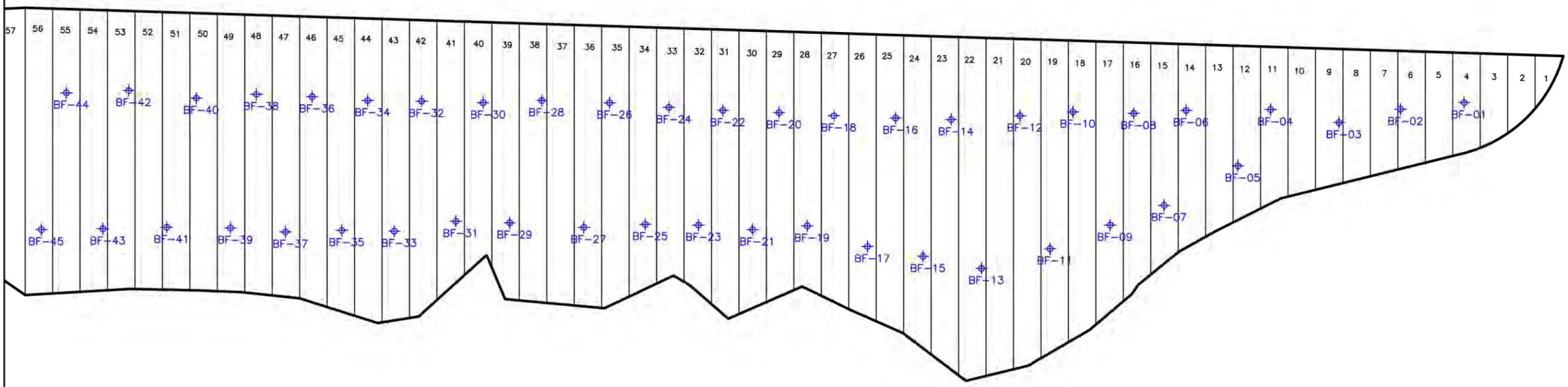
NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF BF-95 TO BF-136

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
	RF-03		684270.2	603012.0								18			
7	RF-03-01	3/21/2014	684267.9	603017.5	6.1	124.0	3.6	128.9	12.1	96	95	18	Weldon WC Screenings		V5N
8	RF-03-02	4/8/2014	684272.9	605018.7	7.6	122.4	8.1	128.9	12.1	95	95	18	Weldon WC Screenings		V5N
	RF-04		684235.2	602919.8								22			
6	RF-04-01	3/21/2014	684227.0	602916.6	5.5	124.0	3.6	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
7	RF-04-02	3/26/2014	684266.5	602908.5	6.2	123.6	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
8	RF-04-03	4/1/2014	684384.8	602904.9	7.1	125.8	3.0	128.9	12.1	98	95	22	Weldon WC Screenings		V5N
9	RF-04-04	4/3/2014	684220.8	602926.9	8.2	120.0	3.6	128.9	12.1	93	95	22	Weldon WC Screenings	Recompact lift	V5N
9	RF-04-04R	4/3/2014	684220.8	602926.9	8.2	125.0	4.1	128.9	12.1	97	95	22	Weldon WC Screenings	Second reading after re-rolling	V5N
10	RF-04-05	4/17/2014	684241.5	602924.2	8.8	130.0	3.0	128.9	12.1	101	95	22	Weldon WC Screenings		V5N
	RF-05		684328.5	602935.0								25			
5	RF-05-01	3/24/2014	684347.1	602947.5	3.3	122.5	4.5	128.9	12.1	95	95	25	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
6	RF-05-02	3/26/2014	684348.1	602942.0	4.1	123.5	3.7	128.9	12.1	96	95	25	Weldon WC Screenings		V5N
7	RF-05-03	4/1/2014	684351.4	602937.8	5.4	125.0	2.6	128.9	12.1	97	95	25	Weldon WC Screenings		V5N
8	RF-05-04	4/3/2014	684339.0	602933.4	6.4	128.9	4.7	128.9	12.1	100	95	25	Weldon WC Screenings		V5N
9	RF-05-05	4/8/2014	684327.1	602942.3	7.6	126.4	8.3	128.9	12.1	98	95	25	Weldon WC Screenings		V5N
10	RF-05-06	4/17/2014	684348.8	602945.1	8.2	135.0	6.4	128.9	12.1	105	95	25	Weldon WC Screenings		V5N
	RF-06		684335.0	602869.1								29			
2	RF-06-01	4/1/2014	684383.7	602908.8	3.0	126.0	2.7	128.9	12.1	98	95	29	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
3	RF-06-02	4/1/2014	684384.8	602904.9	4.1	125.0	2.8	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
4	RF-06-03	4/3/2014	684358.9	602890.5	5.9	127.6	4.0	128.9	12.1	99	95	29	Weldon WC Screenings		V5N
5	RF-06-04	4/8/2014	684340.1	602867.1	6.9	123.0	4.6	128.9	12.1	95	95	29	Weldon WC Screenings		V5N
6	RF-06-05	4/14/2014	684340.1	602867.1	7.5	124.8	3.0	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
7	RF-06-06	4/17/2014	684337.1	602897.4	8.5	118.5	3.0	128.9	12.1	92	95	29	Weldon WC Screenings	Recompact lift	V5N
7	RF-06-06R	4/17/2014	684337.1	602897.4	8.5	122.0	3.2	128.9	12.1	95	95	29	Weldon WC Screenings	Second reading after re-rolling	V5N
	RF-07		684392.9	602838.1								32			
4	RF-07-01	4/3/2014	684425.2	602890.4	3.0	125.3	5.1	128.9	12.1	97	95	32	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-07-02	4/3/2014	684418.6	602854.9	4.1	126.3	5.5	128.9	12.1	98	95	32	Weldon WC Screenings		V5N
6	RF-07-03	4/8/2014	684410.5	602847.3	5.6	122.7	2.5	128.9	12.1	95	95	32	Weldon WC Screenings		V5N
7	RF-07-04	4/14/2014	684410.5	602847.3	6.3	123.1	2.7	128.9	12.1	96	95	32	Weldon WC Screenings		V5N
8	RF-07-05	4/17/2014	684394.3	602842.1	7.1	135.0	6.1	128.9	12.1	105	95	32	Weldon WC Screenings		V5N
9	RF-07-06	4/21/2014	684394.8	602836.9	8.2	128.9	2.2	128.9	12.1	100	95	32	Weldon WC Screenings		V5N
	RF-08		684406.9	602771.1								36			
4	RF-08-01	4/3/2014	684421.7	602797.1	2.9	129.0	6.0	128.9	12.1	100	95	36	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-08-02	4/8/2014	684429.7	602790.1	4.0	124.9	3.0	128.9	12.1	97	95	36	Weldon WC Screenings		V5N
6	RF-08-03	4/15/2014	684439.0	602813.0	5.0	124.2	4.7	128.9	12.1	96	95	36	Weldon WC Screenings		V5N
7	RF-08-04	4/17/2014	684400.4	602773.4	6.1	137.0	5.6	128.9	12.1	106	95	36	Weldon WC Screenings		V5N
8	RF-08-05	4/21/2014	684429.8	602794.0	6.8	128.9	3.5	128.9	12.1	100	95	36	Weldon WC Screenings		V5N
9	RF-08-06	4/21/2014	684443.6	602550.4	8.0	122.5	6.9	128.9	12.1	95	95	36	Weldon WC Screenings		V5N
	RF-09		684479.9	602754.0								40			
3	RF-09-01	4/7/2014	684489.3	602750.3	0.8	128.7	6.8	128.9	12.1	100	95	40	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
4	RF-09-02	4/11/2014	684498.7	602757.9	2.1	122.4	3.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
5	RF-09-03	4/11/2014	684503.3	602770.3	3.2	129.3	8.5	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
6	RF-09-04	4/14/2014	684503.3	602770.3	4.1	128.9	5.7	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
7	RF-09-05	4/21/2014	684479.1	602753.1	5.4	128.9	5.3	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
8	RF-09-06	4/21/2014	684446.9	602799.1	6.4	123.0	2.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
9	RF-09-07	5/15/2014	684479.0	602751.5	6.9	124.5	4.4	128.9	12.1	97	95	40	Weldon WC Screenings		V5N
10	RF-09-08	5/19/2014	684494.7	602760.2	8.1	122.5	5.9	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
1	RF-10		684474.1	602682.1	0.2							44	Crushed Concrete	Bottom of excavation elevation	
2	RF-10		684474.1	602682.1								44	Type A Material	No compaction testing required	
3	RF-10-01	4/25/2014	684476.1	602679.3	2.5	138.0	1.4	128.9	12.1	107	95	44	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-10-02	5/8/2014	684445.5	602680.1	5.8	132.0	6.6	128.9	12.1	102	95	44	Weldon WC Screenings		V5N
5	RF-10-03	5/15/2014	684463.8	602677.8	7.1	124.1	4.2	128.9	12.1	96	95	44	Weldon WC Screenings		V5N
6	RF-10-04	5/19/2014	684466.2	602672.2	8.2	122.5	6.8	128.9	12.1	95	95	44	Weldon WC Screenings		V5N
2	RF-11		684545.0	602673.2								48	Type A Material	Placed on Tilcon MH DGA	
3	RF-11-01	4/11/2014	684533.0	602676.0	1.0	126.0	3.8	128.9	12.1	98	95	48	Weldon WC Screenings	Placed on Type A Material; Against HB wall	V5N
4	RF-11-02	4/11/2014	684575.1	602679.9	2.1	125.6	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
5	RF-11-03	4/14/2014	684575.1	602679.9	2.8	126.8	2.2	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
6	RF-11-04	4/17/2014	684579.8	602684.6	3.8	122.5	3.0	128.9	12.1	95	95	48	Weldon WC Screenings	Against HB wall	V5N
7	RF-11-05	4/17/2014	684585.7	602686.5	4.5	126.8	4.0	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
8	RF-11-06	5/15/2014	684569.9	602672.5	7.3	124.5	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
9	RF-11-07	5/19/2014	685562.2	602686.4	8.3	124.5	3.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
1	RF-12		684540.0	602601.3	0.3							51	Crushed Concrete	Bottom of excavation elevation	
2	RF-12		684540.0	602601.3								51	Type A Material	No compaction testing required	
3	RF-12-01	4/25/2014	684557.9	602605.6	2.3	130.2	2.2	128.9	12.1	101	95	51	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-12-02	5/6/2014	684516.3	602580.6	6.0	128.6	5.6	128.9	12.1	100	95	51	Weldon WC Screenings		V5N
5	RF-12-03	5/15/2014	684526.7	602594.1	7.3	124.8	3.9	128.9	12.1	97	95	51	Weldon WC Screenings		V5N
6	RF-12-04	5/20/2014	684522.6	602585.3	8.1	121.3	7.1	128.9	12.1	94	95	51	Weldon WC Screenings	Recompact lift	V5N
6	RF-12-04R	5/20/2014	684522.6	602585.3	8.1	122.0	5.9	128.9	12.1	95	95	51	Weldon WC Screenings	Second reading after re-rolling	V5N
1	RF-13		684610.2	602590.4	-2.3							54	Crushed Concrete	Bottom of excavation elevation	
2	RF-13		684610.2	602590.4								54	Type A Material	No compaction testing required	
3	RF-13-01	4/11/2014	684619.5	602515.3	1.6	126.5	7.8	128.9	12.1	98	95	54	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-13-02	4/14/2014	684619.5	602515.3	2.7	124.5	2.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
5	RF-13-03	4/17/2014	684641.5	602614.6	3.6	123.0	4.1	128.9	12.1	95	95	54	Weldon WC Screenings	Against HB	V5N
6	RF-13-04	4/17/2014	684646.7	602619.5	4.4	132.9	5.5	128.9	12.1	103	95	54	Weldon WC Screenings	Against HB	V5N
7	RF-13-05	5/15/2014	684640.0	602620.1	5.4	125.0	3.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
8	RF-13-06	5/15/2014	684613.8	602605.5	6.9	125.0	4.5	128.9	12.1	97	95	54	Weldon WC Screenings		V5N
9	RF-13-07	5/20/2014	684614.3	602606.0	7.8	121.3	8.0	128.9	12.1	94	95	54	Weldon WC Screenings	Top lift. Will retest prior to final restoration	V5N
0	RF-14		684653.1	602535.0	-2.6							59	Stratum D	Bottom of excavation elevation	
1	RF-14-1	10/30/2014	684656.5	602532.8	-1.3	133.0	2.0	135.8	6.4	98	95	59	Tilcon MH DGA	Bridge lift	V5N
1	RF-14-2	11/5/2014	684662.9	602542.6	0.0	134.0	0.6	135.8	6.4	99	95	59	Tilcon MH DGA	Bridge lift	V5N
0	RF-15		684684.3	602484.0	-2.2							63	Stratum D	Bottom of excavation elevation	
1	RF-15-1	10/27/2014	684656.4	602466.0	0.6	135.8	2.0	135.8	6.4	100	95	63	Tilcon MH DGA	Bridge lift	V5N
0	RF-16		684687.2	602408.0	-2.2							67	Stratum D	Bottom of excavation elevation	
1	RF-16-1	10/27/2014	684767.7	602426.9	0.3	129.0	2.3	135.8	6.4	95	95	67	Tilcon MH DGA	Bridge lift	V5N
2	RF-16-2	11/5/2014	684767.6	602428.4	1.2	124.0	4.1	128.9	12.1	96	95	67	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
0	RF-17		684750.4	602403.5	-2.2							70	Stratum D	Bottom of excavation elevation	
1	RF-17-1	10/10/2014	684773.5	602414.1	-0.8	134.5	1.0	135.8	6.4	99	95	70	Tilcon MH DGA	Bridge lift	V5N
2	RF-17-2	11/5/2014	684723.7	602387.9	1.5	124.0	3.8	128.9	12.1	96	95	70	Weldon WC Screenings		V5N
0	RF-18		684686.8	602294.5	-2.4							73	Stratum D	Bottom of excavation elevation	
1	RF-18-1	10/10/2014	684659.1	602250.1	-1.3	134.5	1.0	135.8	6.4	99	95	73	Tilcon MH DGA	Bridge lift	V5N
6	RF-18-2	11/5/2014	684636.8	602258.1	5.5	124.0	3.7	128.9	12.1	96	95	73	Weldon WC Screenings	Placed on Type A material	V5N
	RF-19		684790.8	602339.5	-2.5							75	Stratum D	Bottom of excavation elevation	
3	RF-19-1	11/5/2014	684776.9	602328.5	1.8	124.0	3.9	128.9	12.1	96	95	75	Weldon WC Screenings		V5N
	RF-21		684826.8	602292.8	-3.3							79		Bottom of excavation elevation	
2	RF-21-1	9/24/2014	684821.0	602290.8	-1.2	126.0	1.8	128.9	12.1	98	95	79	Weldon WC Screenings	Placed on concrete/QP bridge lift	V5N
4	RF-21-2	11/5/2014	684823.4	602288.0	1.8	133.0	1.7	135.8	6.4	98	95	79	Tilcon MH DGA		V5N
	RF-22		684775.9	602192.8	-4.8							82		Bottom of excavation elevation	
3	RF-22-1	9/24/2014	684777.7	602191.8	-1.1	125.0	2.5	128.9	12.1	97	95	82	Weldon WC Screenings	Placed on concrete/QP bridge lift	V5N
	RF-23		684878.7	602219.3	-5.6							85		Bottom of excavation elevation	
1	RF-23-01	9/2/2014	684887.1	602212.2	-4.2	133.0	2.0	135.8	6.4	98	95	85	Tilcon MH DGA		V5N
2	RF-23-02	9/12/2014	684873.8	602198.8	-1.2	128.9	7.6	128.9	12.1	100	95	85	Weldon WC Screenings	Placed on Type A material	V5N
3	RF-23-03	9/24/2014	684867.7	602209.0	0.0	122.0	4.7	128.9	12.1	95	95	85	Weldon WC Screenings		V5N
5	RF-23-04	11/5/2014	684877.6	602222.8	2.5	134.0	0.7	135.8	6.4	99	95	85	Tilcon MH DGA		V5N
	RF-24		684934.2	602167.2	-4.8							90		Bottom of excavation elevation	
1	RF-24-01	9/2/2014	684928.8	602165.1	-3.5	133.5	1.3	135.8	6.4	98	95	90	Tilcon MH DGA		V5N
2	RF-24-02	9/8/2014	684921.5	602154.5	-2.1	122.0	4.4	128.9	12.1	95	95	90	Weldon WC Screenings		V5N
3	RF-24-03	9/12/2014	684903.2	602144.2	0.9	128.9	6.2	128.9	12.1	100	95	90	Weldon WC Screenings		V5N
4	RF-24-04	9/24/2014	684931.9	602159.7	1.7	122.0	12.0	128.9	12.1	95	95	90	Weldon WC Screenings		V5N
	RF-25		684988.1	602095.1	-4.8							96	Weldon WC QP	Bottom of excavation elevation	
2	RF-25-01	9/8/2014	684973.3	602081.8	1.6	123.0	3.9	128.9	12.1	95	95	96	Weldon WC Screenings		V5N
4	RF-25-02	9/12/2014	684969.6	602072.9	3.7	122.5	5.6	128.9	12.1	95	95	96	Weldon WC Screenings	Placed on Type A Material	V5N
	RF-26		685029.1	602031.1	-4.8							101	Weldon WC QP	Bottom of excavation elevation	
2	RF-26-01	9/2/2014	685038.3	602030.1	-2.5	125.0	3.3	128.9	12.1	97	95	101	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-26-02	9/8/2014	685029.6	602011.4	1.4	122.0	4.2	128.9	12.1	95	95	101	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-26-03	9/12/2014	685013.2	602014.1	3.2	128.9	3.1	128.9	12.1	100	95	101	Weldon WC Screenings		V5N
	RF-27		685076.1	601973	-1.2							106	Weldon WC QP	Bottom of excavation elevation	
3	RF-27-01	9/8/2014	685054.4	601963.6	2.4	122.0	4.8	128.9	12.1	95	95	106	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-27-02	9/12/2014	685064.1	601957.1	3.5	128.9	4.1	128.9	12.1	100	95	106	Weldon WC Screenings		V5N
NA	RF-27-LOAM	12/15/2014	685045.9	601945.1	-4.4	129.0	3.0	135.8	6.4	95	95	106	Tilcon MH DGA	Bottom of lens of anomalous material excavation	V5N
	RF-28		685132.5	601902.9	2.1							112 (No)	Weldon WC QP	Bottom of excavation elevation	
3	RF-28-01	7/28/2014	685136.7	601901.8	3.7	122.5	6.1	128.9	12.1	95	95	112 (No)	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-28-02	9/2/2014	685126.1	601909.3	4.9	125.0	3.0	128.9	12.1	97	95	112	Weldon WC Screenings		V5N
5	RF-28-03	9/8/2014	685135.2	601900.4	6.4	125.0	3.3	128.9	12.1	97	95	112 (No)	Weldon WC Screenings		V5N
NA	RF-28-LOAM	12/15/2014	685085.0	601862.1	-4.7	135.8	4.0	135.8	6.4	100	95	112	Tilcon MH DGA	Bottom of lens of anomalous material excavation	V5N
1	RF-29		685049.3	601738.7	-4.3							117	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-29-01	7/16/2014	685064.7	601757.6	-2.9	131.7	3.5	135.8	6.4	97	95	117	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-29-02	7/22/2014	685068.9	601785.4	-0.8	125.0	3.4	128.9	12.1	97	95	117	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-29-03	7/28/2014	685071.0	601762.7	-0.1	122.5	7.7	128.9	12.1	95	95	117	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
5	RF-29-04	7/28/2014	685068.0	601754.7	0.8	117.0	9.0	128.9	12.1	91	95	117	Weldon WC Screenings		V5N
5	RF-29-04R	7/30/2014	685068.0	601754.7	0.8	122.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings	Re-rolled area and let dry	V5N
6	RF-29-05	7/30/2014	685070.3	601762.8	1.7	122.0	5.6	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
7	RF-29-06	8/1/2014	685079.5	601759.0	3.2	120.9	4.5	128.9	12.1	94	95	117	Weldon WC Screenings		V5N
7	RF-29-06R	8/1/2014	685079.5	601759.0	2.8	123.5	5.8	128.9	12.1	96	95	117	Weldon WC Screenings	Re-rolled area	V5N
8	RF-29-07	8/4/2014	685070.6	601753.8	3.7	126.1	7.2	128.9	12.1	98	95	117	Weldon WC Screenings		V5N
9	RF-29-08	8/6/2014	685072.8	601758.1	4.3	123.0	6.8	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
10	RF-29-09	8/8/2014	685074.4	601753.5	5.2	123.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
11	RF-29-10	8/11/2014	685078.3	601760.5	6.1	123.0	4.5	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
12	RF-29-11	8/15/2014	685079.8	601756.2	7.5	123.7	3.7	128.9	12.1	96	95	117	Weldon WC Screenings		V5N
	RF-30		685179.4	601785.6	0.4							120			
2	RF-30-01	7/1/2014	685218.1	601814.2	2.0	122.0	7.5	128.9	12.1	95	95	120	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-30-02	7/25/2014	685216.3	601818.6	3.0	124.0	4.3	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
4	RF-30-03	7/30/2014	685213.1	601816.1	3.8	123.5	5.0	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
5	RF-30-04	8/6/2014	685205.4	601798.5	4.6	123.0	6.3	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
6	RF-30-05	8/8/2014	685215.8	601802.1	5.2	123.0	5.8	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
7	RF-30-06	8/11/2014	685218.8	601812.7	6.2	123.0	6.9	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
8	RF-30-07	8/15/2014	685216.3	6018806.8	7.2	123.0	5.4	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
1	RF-31		685121.7	601682.3	-4.3							123	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-31-01	7/22/2014	685126.3	601690.0	-2.2	126.3	3.4	128.9	12.1	98	95	123 (So)	Weldon WC Screenings		V5N
3	RF-31-02	7/28/2014	685124.5	601686.4	-0.1	122.5	7.7	128.9	12.1	95	95	123 (So)	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-31-03	7/30/2014	685115.0	601683.8	1.1	122.0	6.2	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
5	RF-31-04	7/30/2014	685123.7	601688.2	2.3	122.0	6.9	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
6	RF-31-05	8/1/2014	685120.9	601687.7	3.0	128.9	6.2	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
7	RF-31-06	8/4/2014	685122.7	601686.6	3.9	128.9	5.8	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
8	RF-31-07	8/6/2014	685132.5	601689.3	4.8	123.0	6.6	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
9	RF-31-08	8/8/2014	685118.7	601690.5	5.5	125.0	2.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
10	RF-31-09	8/11/2014	685136.4	601690.8	6.6	125.0	3.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
11	RF-31-10	8/15/2014	685122.6	601682.9	7.6	123.0	7.4	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
0	RF-32		684498.6	602739.4	-1.2							125	Stratum O	Bottom of excavation elevation	
1	RF-32-01	6/12/2014	685241.5	601740.7	0.0	134.0	1.3	135.8	6.4	99	95	125	Tilcon MH DGA		V5N
2	RF-32-02	7/16/2014	685227.6	601725.4	0.9	122.0	5.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
3	RF-32-03	7/16/2014	685239.4	601736.4	2.0	122.0	5.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
4	RF-32-04	7/30/2014	685248.5	601750.7	3.4	123.5	6.0	128.9	12.1	96	95	125	Weldon WC Screenings		V5N
5	RF-32-05	8/6/2014	685249.6	601745.6	4.6	123.0	5.9	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
6	RF-32-06	8/8/2014	685249.1	601742.7	5.6	123.0	5.7	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
7	RF-32-07	8/11/2014	685237.6	601735.2	6.5	123.0	6.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
8	RF-32-08	8/15/2014	685238.9	601747.0	7.3	123.0	7.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
1	RF-33		685179.2	601631.6	-7.5							128	Crushed Concrete	Bottom of excavation elevation	
2	RF-33-01	6/5/2014	685182.8	601626.5	-5.1	132.0	3.7	135.8	6.4	97	95	128	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-33-02	7/28/2014	685146.0	601639.6	-0.9	123.7	6.4	128.9	12.1	96	95	128	Weldon WC Screenings	Placed on Type A Material/QP Ramp	V5N
4	RF-33-03	7/30/2014	685159.9	601630.8	0.8	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
5	RF-33-04	7/30/2014	685144.1	601632.9	1.3	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
6	RF-33-05	8/1/2014	685171.2	601638.5	3.2	128.9	6.0	128.9	12.1	100	95	128	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

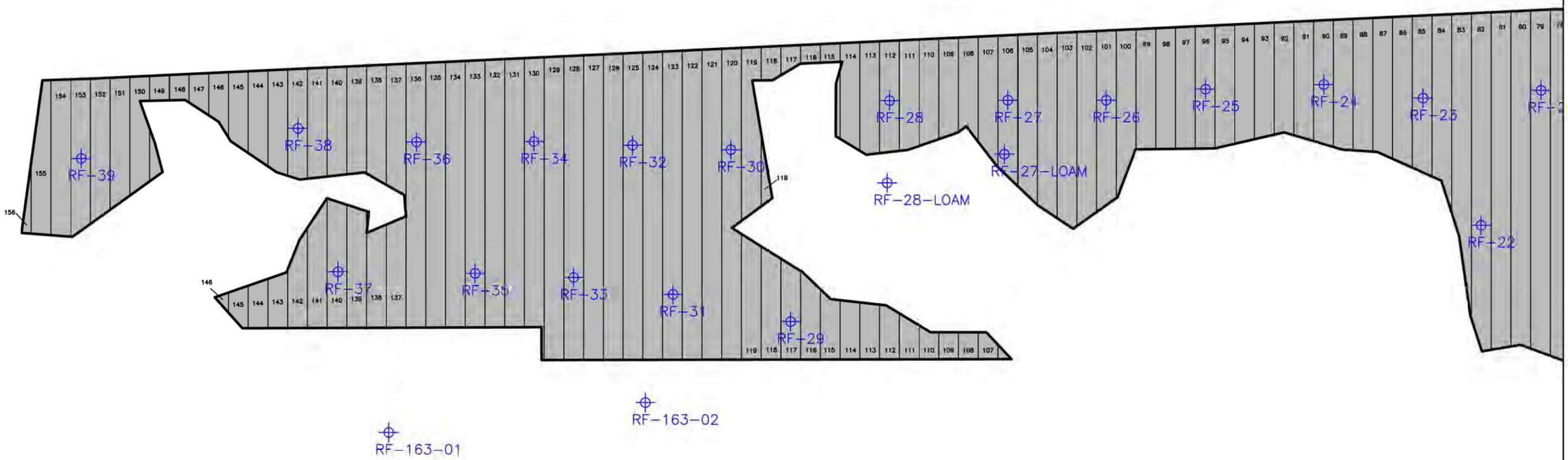
LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
7	RF-33-06	8/1/2014	685156.8	601643.7	3.9	127.0	5.0	128.9	12.1	99	95	128	Weldon WC Screenings		V5N
8	RF-33-07	8/6/2014	685176.1	601633.1	4.7	123.0	6.6	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
9	RF-33-08	8/8/2014	685166.7	601630.5	5.5	123.0	6.2	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
10	RF-33-09	8/11/2014	685166.3	601631.6	6.6	123.0	6.0	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
11	RF-33-10	8/15/2014	685165.2	601633.6	7.9	123.0	6.9	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
0	RF-34		685278.4	601673.3	-1.2							130	Stratum O	Bottom of excavation elevation	
1	RF-34-01	6/5/2014	685303.0	601691.1	0.3	132.0	3.6	135.8	6.4	97	95	130	Tilcon MH DGA		V5N
2	RF-34-02	6/24/2014	685298.9	601690.4	1.6	122.0	5.5	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
3	RF-34-03	6/27/2014	685295.5	601692.8	2.5	122.5	7.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
4	RF-34-04	7/16/2014	685293.1	601684.6	3.2	122.0	6.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
5	RF-34-05	7/30/2014	685290.2	601690.3	4.5	123.5	6.5	128.9	12.1	96	95	130	Weldon WC Screenings		V5N
6	RF-34-06	8/8/2014	685289.5	601690.7	5.5	123.0	6.9	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
7	RF-34-07	8/8/2014	685292.7	601686.1	6.6	123.0	6.3	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
8	RF-34-08	8/15/2014	685286.1	601677.8	7.6	126.0	2.3	128.9	12.1	98	95	130	Weldon WC Screenings		V5N
0	RF-35		6852228.7	601575.4	2.1							133		Bottom of excavation elevation	
1	RF-35-01	7/16/2014	685219.7	601566.3	3.5	123.3	6.2	128.9	12.1	96	95	133	Weldon WC Screenings		V5N
2	RF-35-02	7/16/2014	685234.2	601582.4	4.3	124.9	4.9	128.9	12.1	97	95	133	Weldon WC Screenings		V5N
3	RF-35-03	7/25/2014	685238.5	601578.0	5.8	122.0	5.0	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
4	RF-35-04	8/8/2014	685239.0	601569.1	6.9	123.0	6.6	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
0	RF-36		685334.4	601603.7	-1.2							136		Bottom of excavation elevation	
1	RF-36-01	6/24/2014	685349.2	601617.6	1.7	125.0	3.4	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
2	RF-36-02	6/27/2014	685330.9	601606.5	2.6	125.0	6.5	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
3	RF-36-03	6/27/2014	685339.9	601612.8	3.4	123.7	6.8	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
4	RF-36-04	7/16/2014	685343.2	601621.5	4.3	123.8	5.5	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
5	RF-36-05	7/28/2014	685346.6	601606.1	5.4	122.0	5.2	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
6	RF-36-06	8/8/2014	685345.5	601605.6	6.7	126.0	1.6	128.9	12.1	98	95	136	Weldon WC Screenings		V5N
7	RF-36-07	8/15/2014	685335.6	601611.4	7.7	123.0	6.4	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
1	RF-37		685295.3	601495.2	-7.8							140 (So)	Crushed Concrete	Bottom of excavation elevation	
2	RF-37-01	5/15/2014	685286.1	601481.2	-5.1	132.0	2.5	135.8	6.4	97	95	140 (So)	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-37-02	5/21/2014	685294.5	601489.0	-4.2	122.5	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
4	RF-37-03	7/7/2014	685282.8	601485.7	4.5	128.9	6.1	128.9	12.1	100	95	140 (So)	Weldon WC Screenings	1st lift over Type A Material	V5N
5	RF-37-04	7/28/2014	685281.8	601490.5	5.9	123.7	5.4	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
6	RF-37-05	7/28/2014	685310.0	601513.3	6.6	123.0	4.7	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
7	RF-37-06	8/8/2014	685297.5	601485.6	7.1	124.0	4.1	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
8	RF-37-07	8/15/2014	685288.7	601489.2	8.0	123.0	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
0	RF-38		685399.1	601540.2	-1.2							142 (No)	Stratum O	Bottom of excavation elevation	
1	RF-38-01	5/9/2014	685391.8	601532.2	-0.2	124.6	2.5	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
2	RF-38-02	5/21/2014	685389.4	601534.3	0.2	122.5	5.6	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
3	RF-38-03	6/24/2014	685386.6	601538.7	4.0	125.0	3.4	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
4	RF-38-04	6/27/2014	685392.8	601538.8	5.3	124.0	6.0	128.9	12.1	96	95	142 (No)	Weldon WC Screenings		V5N
5	RF-38-05	7/28/2014	685385.3	601533.9	6.3	122.0	6.4	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
6	RF-38-06	8/8/2014	685382.7	601533.1	7.1	125.0	3.2	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
7	RF-38-07	8/15/2014	685382.8	601528.2	7.9	123.0	6.0	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
0	RF-39		685485.1	601397.7	3.8							153	Stratum O	Bottom of excavation elevation	
1	RF-39-01	5/5/2014	685451.1	601421.7	4.3	126.3	3.9	128.9	12.1	98	95	153	Weldon WC Screenings		V5N
2	RF-39-02	5/5/2014	685477.5	601397.7	5.6	123.3	4.1	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
3	RF-39-03	5/5/2014	685492.5	601460.8	6.4	123.8	7.4	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
0	Site 163-1				4.5							Site 163		Bottom of excavation elevation	
1	Site 163-1-1	10/30/2014	685176.1	601448.3	5.7	126.0	2.4	128.9	12.1	98	95	Site 163	Weldon WC Screenings	Site 163 West Excavation	V5N
2	Site 163 -1-2	10/30/2014	685173.8	601449.0	7.4	123.0	5.3	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 West Excavation	V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
0	Site 163-2				4.5							Site 163		Bottom of excavation elevation	
1	Site 163-2-1	11/5/2014	685070.9	601614.2	6.1	122.0	6.3	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 Main Excavation	V5N
2	Site 163-2-2	11/14/2014	685070.5	601616.0	7.5	122.0	5.4	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 Main Excavation	V5N

Notes:

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.
Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b
Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C
Bottom of excavation elevation based on Maser survey data (Center Point elevations)
Sample ID RF-01-01 where:
RF = Reduced Frequency
01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



NOTE:

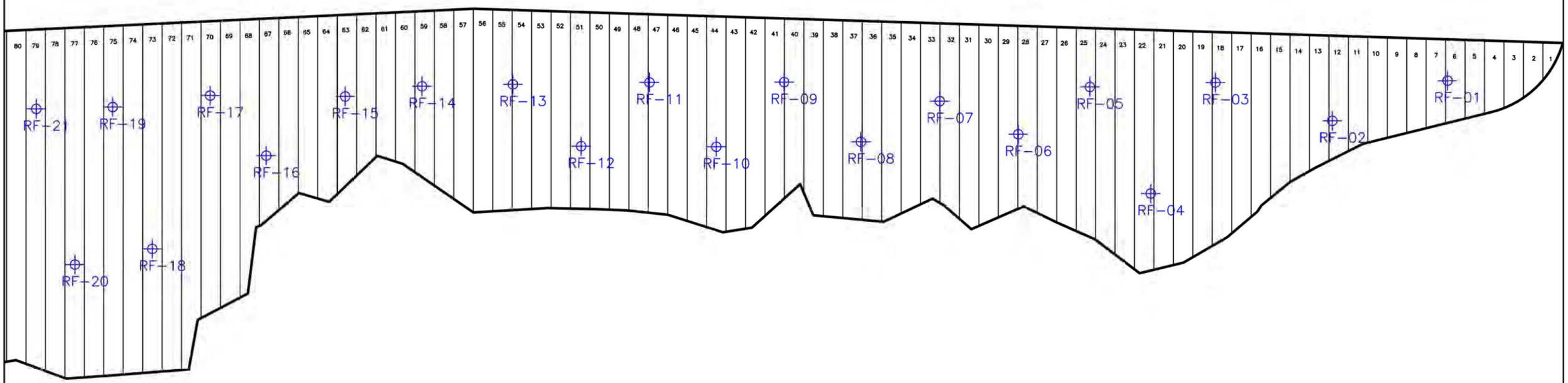
Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE
RF-22 TO RF-39, RF-163-01, RF-163-02

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS 5 TESTS PER ACRE

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

Attachment 4: Dewatering Operations Update

- SA-6 South Deep Well Data (DW-4)

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-4)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
11/14/14	24	N/A	N/A	6,500	80,718	4.5	Pump Online for LOAM Excavation
11/17/14	72	N/A	N/A	19,500	100,218	4.5	Flow Meter Not Installed - Tank Measured
11/18/14	24	N/A	N/A	6,500	106,718	4.5	Flow Meter Not Installed - Tank Measured
11/19/14	24	N/A	N/A	6,500	113,218	4.5	Flow Meter Not Installed - Tank Measured
11/20/14	24	N/A	N/A	6,500	119,718	4.5	Flow Meter Not Installed - Tank Measured
11/21/14	24	N/A	N/A	6,500	126,218	4.5	Flow Meter Not Installed - Tank Measured
11/22/14	24	N/A	N/A	6,500	132,718	4.5	Flow Meter Not Installed - Tank Measured
11/24/14	48	N/A	N/A	13,000	145,718	4.5	Flow Meter Not Installed - Tank Measured
11/25/14	24	N/A	N/A	6,500	152,218	4.5	Flow Meter Not Installed - Tank Measured
11/28/14	72	N/A	N/A	19,500	171,718	4.5	Flow Meter Not Installed - Tank Measured
11/30/14	48	N/A	N/A	12,500	184,218	4.3	Flow Meter Not Installed - Tank Measured
12/01/14	24	N/A	N/A	6,500	190,718	4.5	Flow Meter Not Installed - Tank Measured
12/02/14	24	N/A	N/A	6,500	197,218	4.5	Flow Meter Not Installed - Tank Measured
12/03/14	24	N/A	N/A	6,500	203,718	4.5	Flow Meter Not Installed - Tank Measured
12/4/2014	24	N/A	N/A	6,500	210,218	4.5	Flow Meter Not Installed - Tank Measured
12/5/2014	24	N/A	N/A	6,500	216,718	4.5	Flow Meter Not Installed - Tank Measured
12/6/2014	24	N/A	N/A	6,500	223,218	4.5	Flow Meter Not Installed - Tank Measured
12/8/2014	48	N/A	N/A	12,500	235,718	4.3	Pump Taken Offline

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
12/01/14	8:30	14:30	6:00	23,021.47	23,125.75	104,280	23,125,300	
12/02/14	7:00	15:00	8:00	23,125.75	23,223.33	97,580	23,222,880	PVSC Compliance Sample Collected
12/03/14	7:30	15:00	7:30	23,223.33	23,306.88	83,550	23,306,430	
12/04/14	7:30	15:15	7:45	23,306.88	23,418.88	112,000	23,418,430	
12/05/14	7:30	15:00	7:30	23,418.88	23,505.57	86,690	23,505,120	
12/06/14	12:30	16:30	4:00	23,505.57	23,547.36	41,790	23,546,910	
12/08/14	6:30	16:45	10:15	23,547.36	23,734.14	186,780	23,733,690	
12/09/14	7:00	17:00	10:00	23,734.14	23,938.58	204,440	23,938,130	
12/10/14	6:30	15:30	9:00	23,938.58	24,127.10	188,520	24,126,650	
12/11/14	7:00	15:00	8:00	24,127.10	24,278.59	151,490	24,278,140	
12/12/14	7:00	14:30	7:30	24,278.59	24,400.95	122,360	24,400,500	
12/13/14	7:00	14:00	7:00	24,400.95	24,465.38	64,430	24,464,930	
12/15/14	7:00	15:30	8:30	24,465.38	24,642.32	176,940	24,641,870	
12/16/14	7:00	16:00	9:00	24,642.32	24,790.34	148,020	24,789,890	
12/17/14	7:00	15:00	8:00	24,790.34	24,891.32	100,980	24,890,870	
12/18/14	7:00	14:30	7:30	24,891.32	24,942.66	51,340	24,942,210	
12/19/14	7:00	14:30	7:30	24,942.66	24,984.39	41,730	24,983,940	
12/22/14	7:00	15:00	8:00	24,984.39	25,135.32	150,930	25,134,870	
12/23/14	8:00	15:45	7:45	25,135.32	25,225.78	90,460	25,225,330	
12/24/14	7:00	14:00	7:00	25,225.78	25,261.74	35,960	25,261,290	
12/29/14	7:00	16:15	9:15	25,261.74	25,355.68	93,940	25,355,230	
12/30/14	7:00	16:00	9:00	25,355.68	25,472.64	116,960	25,472,190	
12/31/14	7:00	14:00	7:00	25,472.64	25,613.83	141,190	25,613,380	
01/02/15	7:00	14:30	7:30	25,613.83	25,704.93	91,100	25,704,480	
01/05/15	7:00	16:45	9:45	25,704.93	25,803.51	98,580	25,803,060	
01/06/15	7:00	15:15	8:15	25,803.51	25,934.54	131,030	25,934,090	
01/07/15	7:00	15:00	8:00	25,934.54	26,010.92	76,380	26,010,470	
01/11/15	9:00	14:00	5:00	26,010.92	26,076.69	65,770	26,076,240	
01/12/15	13:30	16:00	2:30	26,076.69	26,123.43	46,740	26,122,980	
01/13/15	13:30	16:00	2:30	26,123.43	26,242.94	119,510	26,242,490	PVSC Compliance Sample Collected
01/14/15	10:15	16:00	5:45	26,242.94	26,294.50	51,560	26,294,050	
01/15/15	7:30	15:00	7:30	26,294.50	26,374.46	79,960	26,374,010	
01/16/15	7:30	14:00	6:30	26,374.46	26,431.98	57,520	26,431,530	
01/19/15	7:00	16:00	9:00	26,431.98	26,544.34	112,360	26,543,890	
01/20/15	7:00	16:30	9:30	26,544.34	26,671.53	127,190	26,671,080	
01/21/15	7:00	16:00	9:00	26,671.53	26,795.65	124,120	26,795,200	
01/22/15	7:00	15:30	8:30	26,795.65	26,937.52	141,870	26,937,070	
01/23/15	7:00	15:00	8:00	26,937.52	27,077.78	140,260	27,077,330	
01/28/15	7:00	14:30	7:30	27,077.78	27,127.82	50,040	27,127,370	
01/29/15	7:00	15:00	8:00	27,127.82	27,180.82	53,000	27,180,370	
01/30/15	7:00	14:00	7:00	27,180.82	27,268.67	87,850	27,268,220	

Notes: Previous information is trunketed. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

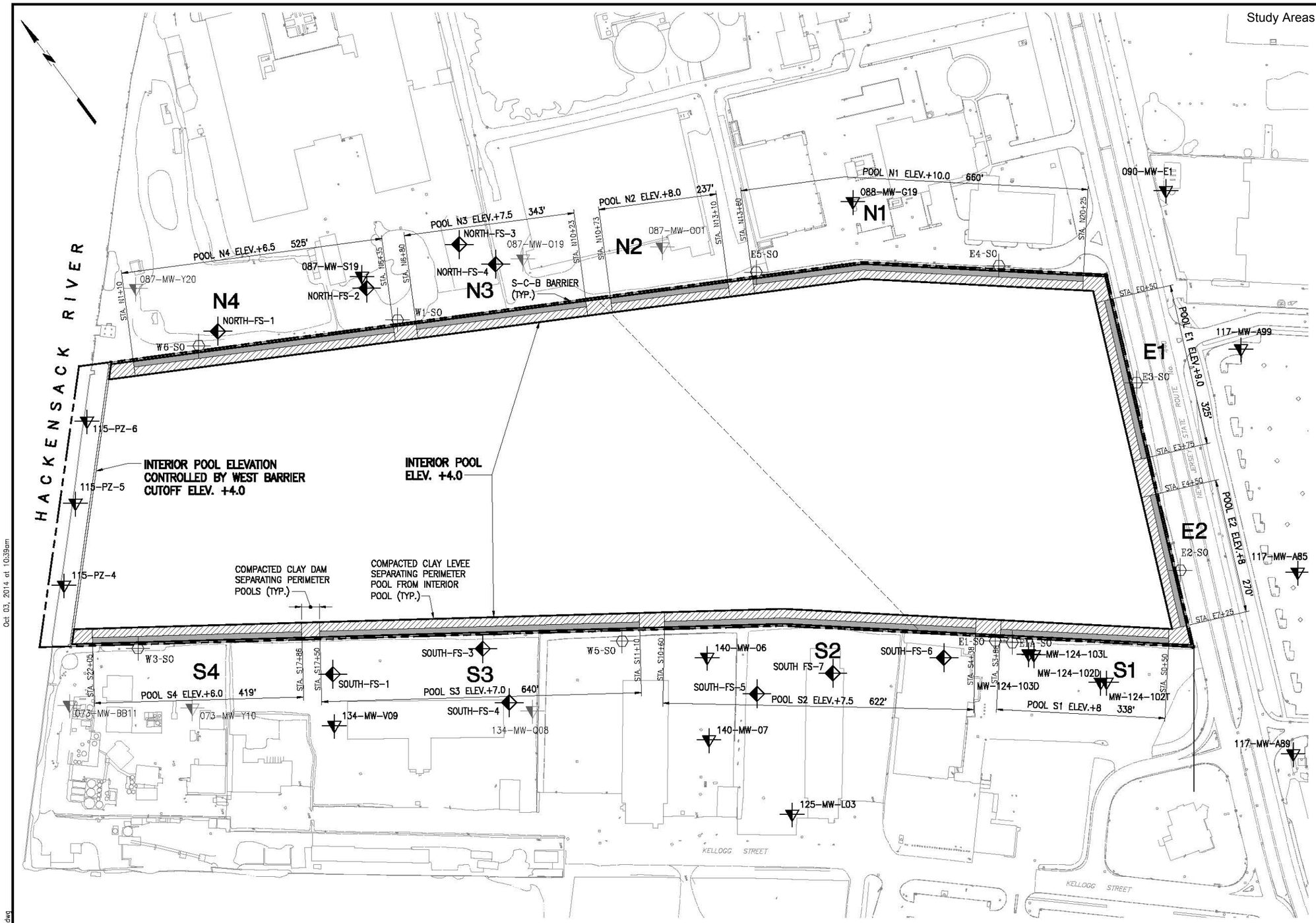
- Stockpiled Material Tracking and Sampling Log

SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
106-110	<20	124-110-20-a,b,c (A30)	2400	124-110-20-a1	12/2/2014	13:00	25		Yes	
				124-110-20-a2	12/2/2014	13:05	44		Yes	
				124-110-20-a3	12/2/2014	13:10	29.1		Yes	
				124-110-20-a4	12/2/2014	13:15	14.8	Yes		
				124-110-20-b1	12/2/2014	13:20	23.1		Yes	
				124-110-20-b2	12/2/2014	13:25	12.9	Yes		
				124-110-20-b3	12/2/2014	13:30	3	Yes		
				124-110-20-b4	12/2/2014	13:35	1.8	Yes		
				124-110-20-c1	12/2/2014	13:40	12.9	Yes		
				124-110-20-c2	12/2/2014	13:45	15.6	Yes		
				124-110-20-c3	12/2/2014	13:50	29.1		Yes	
				124-110-20-c4	12/2/2014	13:55	179		Yes	
110-114	<20	124-114-20-a (A31)	1000	124-114-20-a1	12/16/2014	10:40	29.8		Yes	
				124-114-20-a2	12/16/2014	10:45	34.5		Yes	
				124-114-20-a3	12/16/2014	10:50	49.3		Yes	
				124-114-20-a4	12/16/2014	10:55	19.9	Yes		
Site 41	<20	124-114-20-b	135	124-114-20-b1	12/16/2014	11:00	10.6	Yes		
110-114	>1,000	124-114-1000-a (East D 6)	625	124-114-1000-a1	12/16/2014	13:15	42.3		Yes	
				124-114-1000-a2	12/16/2014	13:20	65		Yes	
				124-114-1000-a3	12/16/2014	13:25	75.3		Yes	
				124-114-1000-a4	12/16/2014	13:30	16.5		Yes	

*Material currently stockpiled. Pending final placement.
**Waiting on results from the laboratory.

Attachment 7: Perimeter Pools Update



LEGEND

- FILL TYPE A CLAY
- FILL TYPE B GRANULAR FILL
- SHALLOW WELL INSTALLED BY OTHERS
- SHALLOW WELL ABANDONED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN
- SHALLOW WELL INSTALLED FOR STUDY AREA 7 REMEDIATION
- SURCHARGE MONITORING STANDPIPE INSTALLED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN

GRAPHIC SCALE

100' 50' 0 100' 200'

IN PROGRESS

10-02-2014

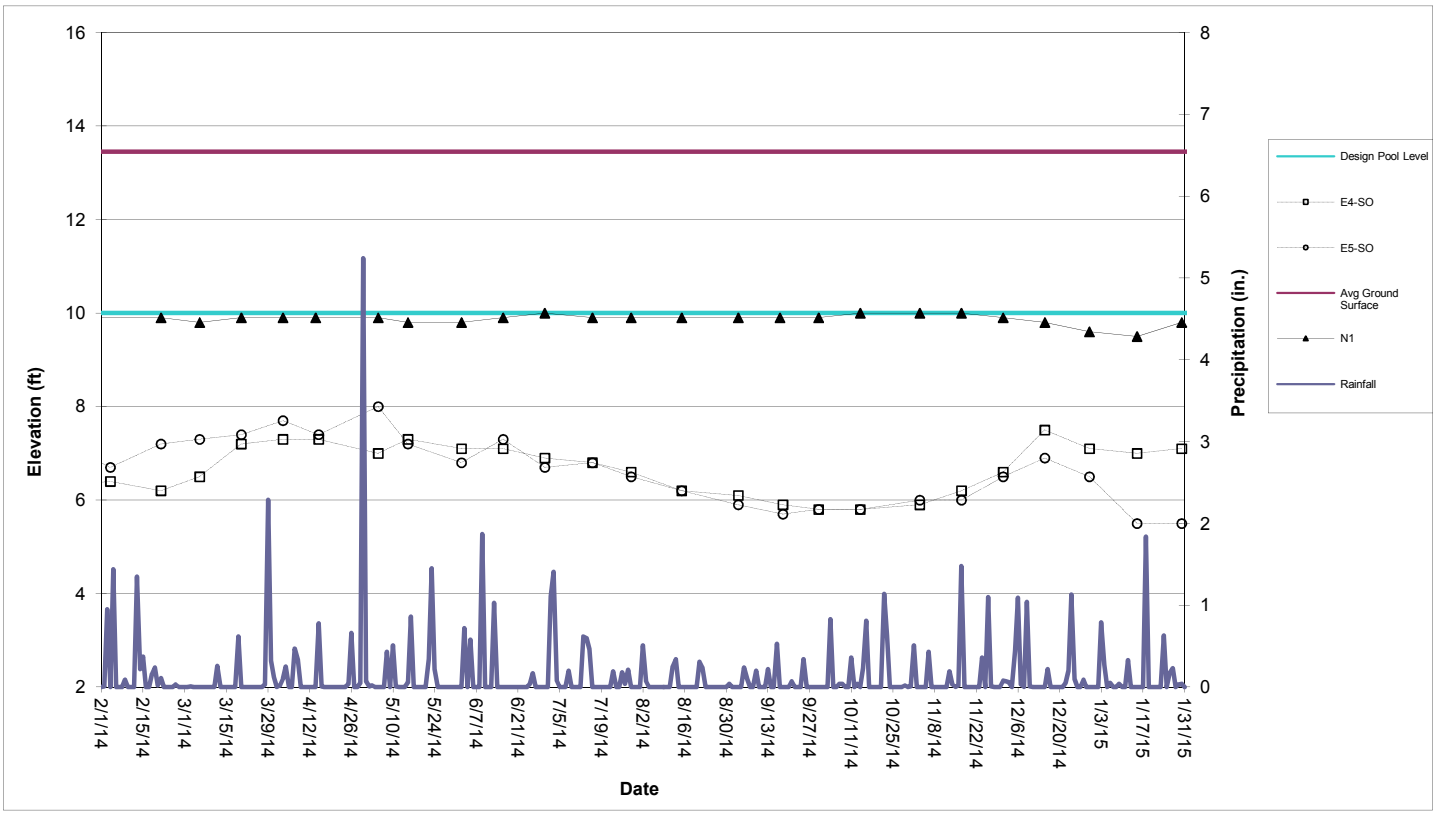
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

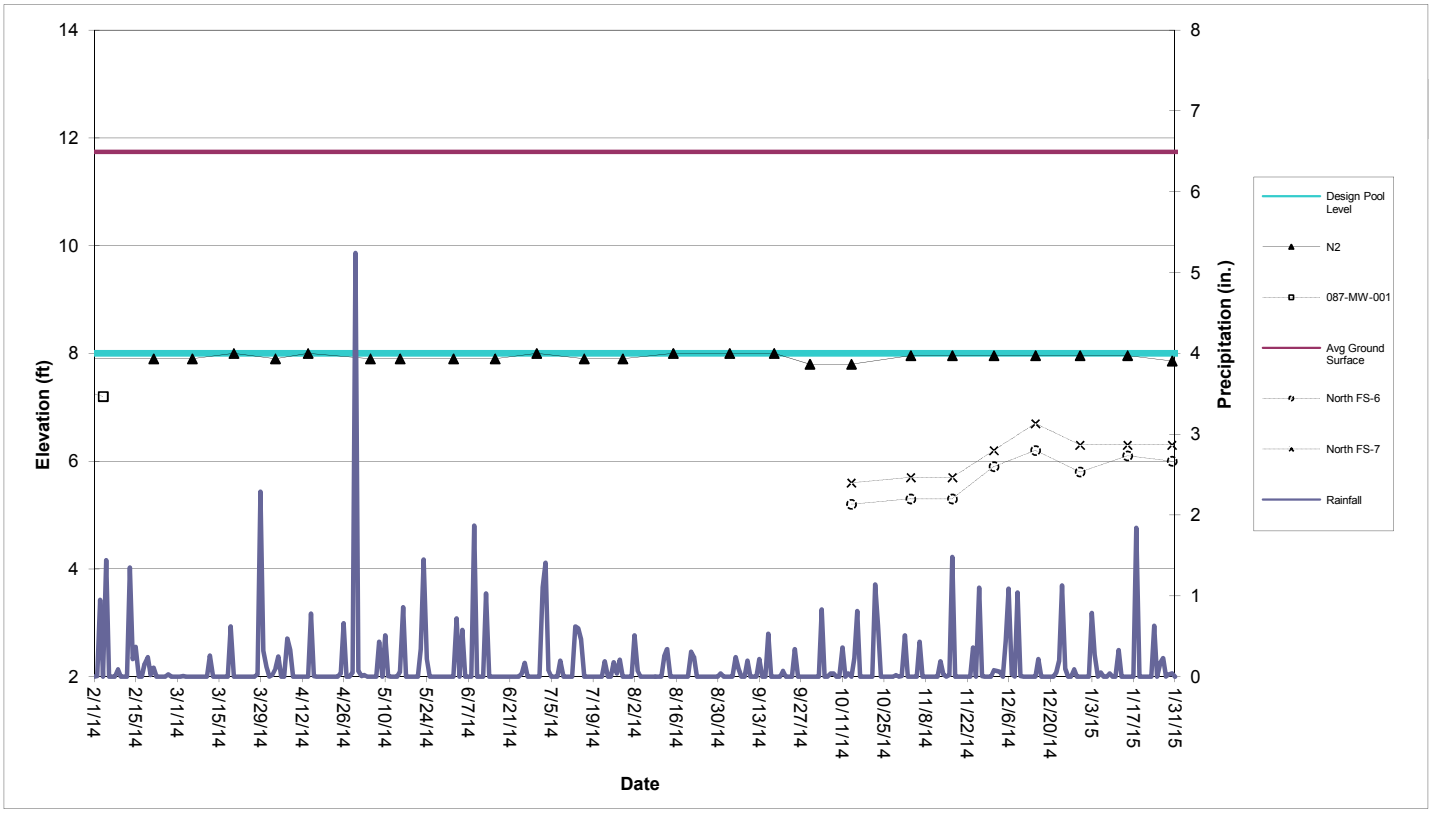
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

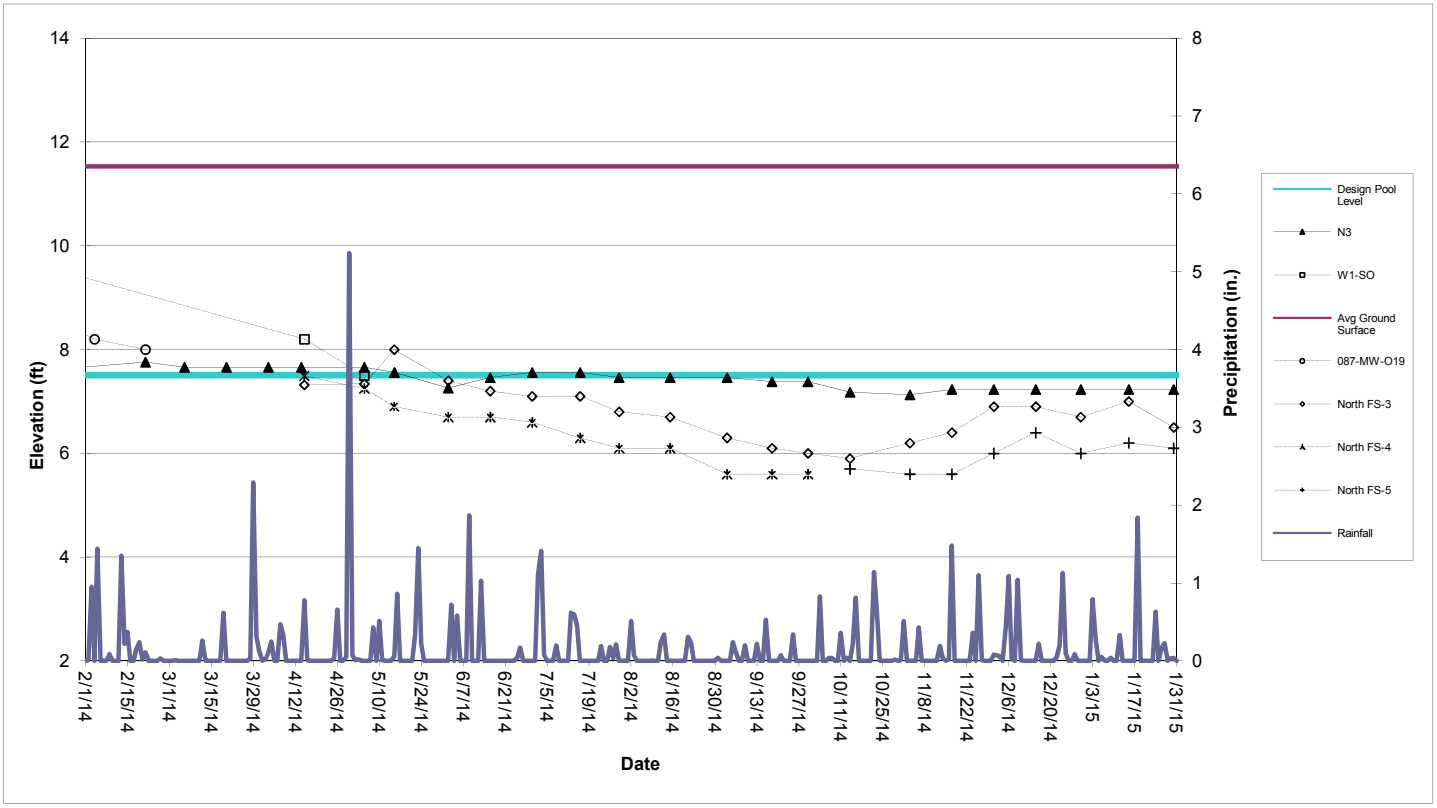
Oct 03, 2014 at 10:39am
G:\DWGS\102\10210\Dewatering\PP-1.dwg
edelossantos



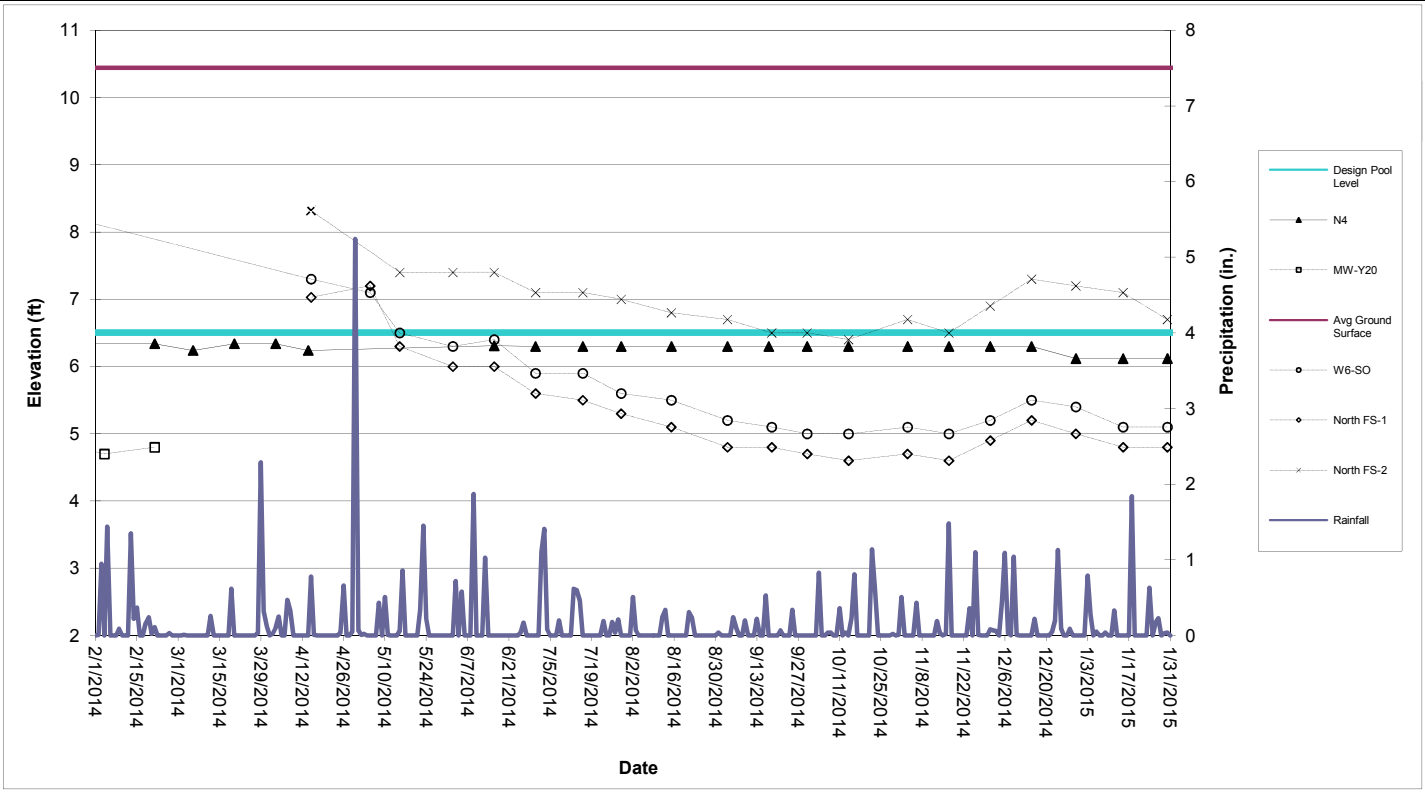
Perimeter Pool N1 (Sta. N13+60 to N20+25)



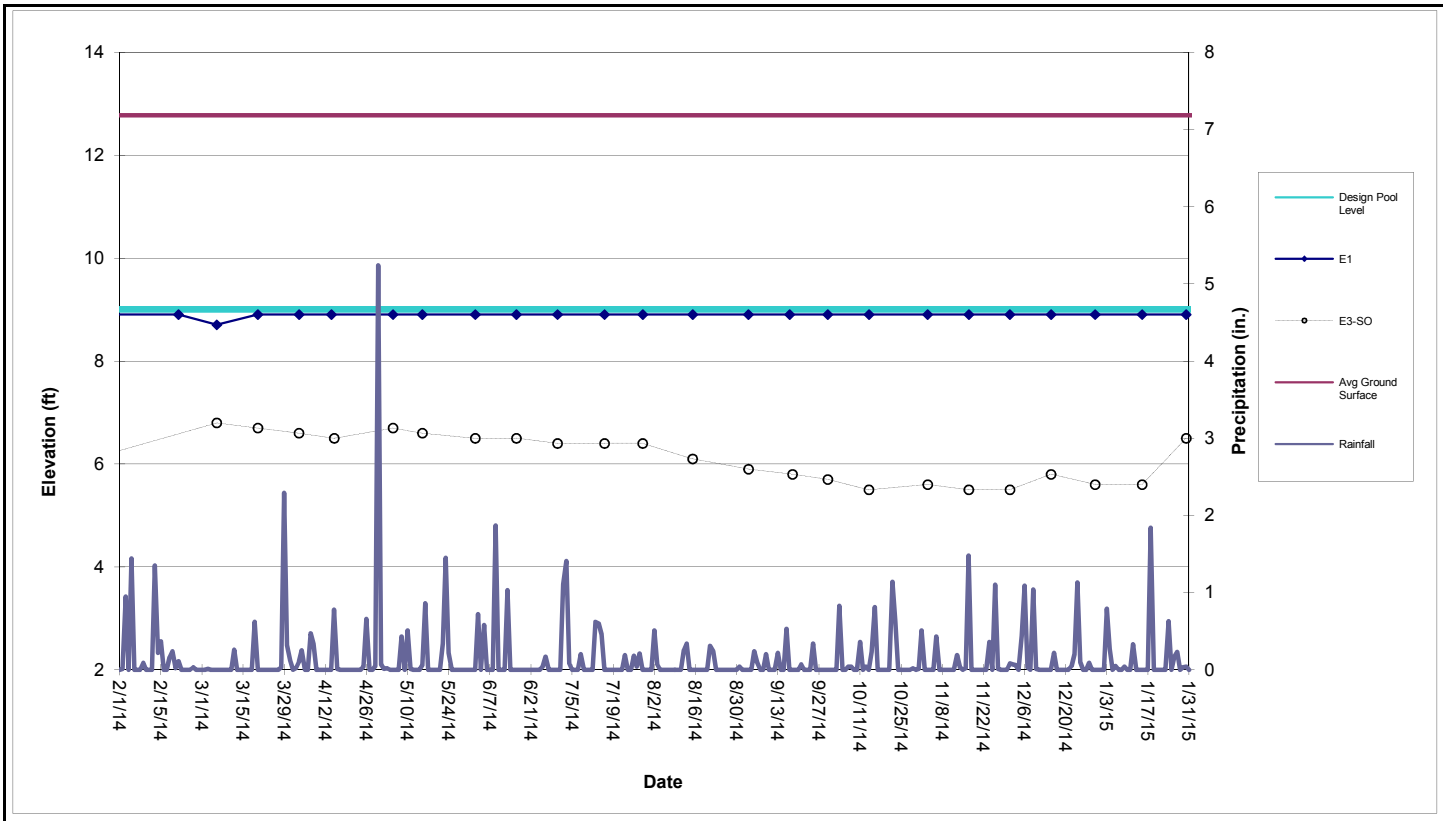
Perimeter Pool N2 (Sta. N10+73 to N13+10)



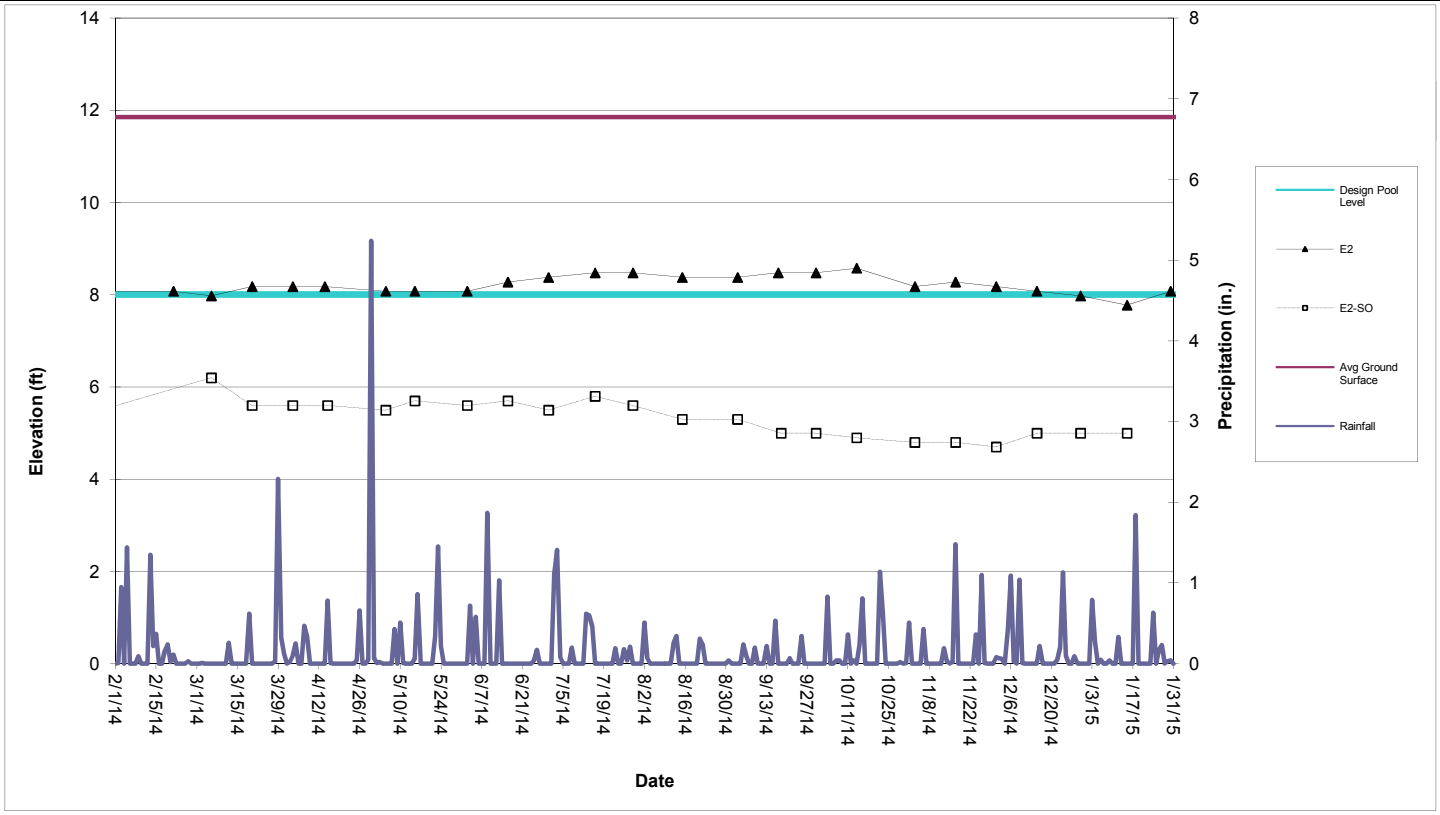
Perimeter Pool N3 (Sta. N6+80 to N10+23)



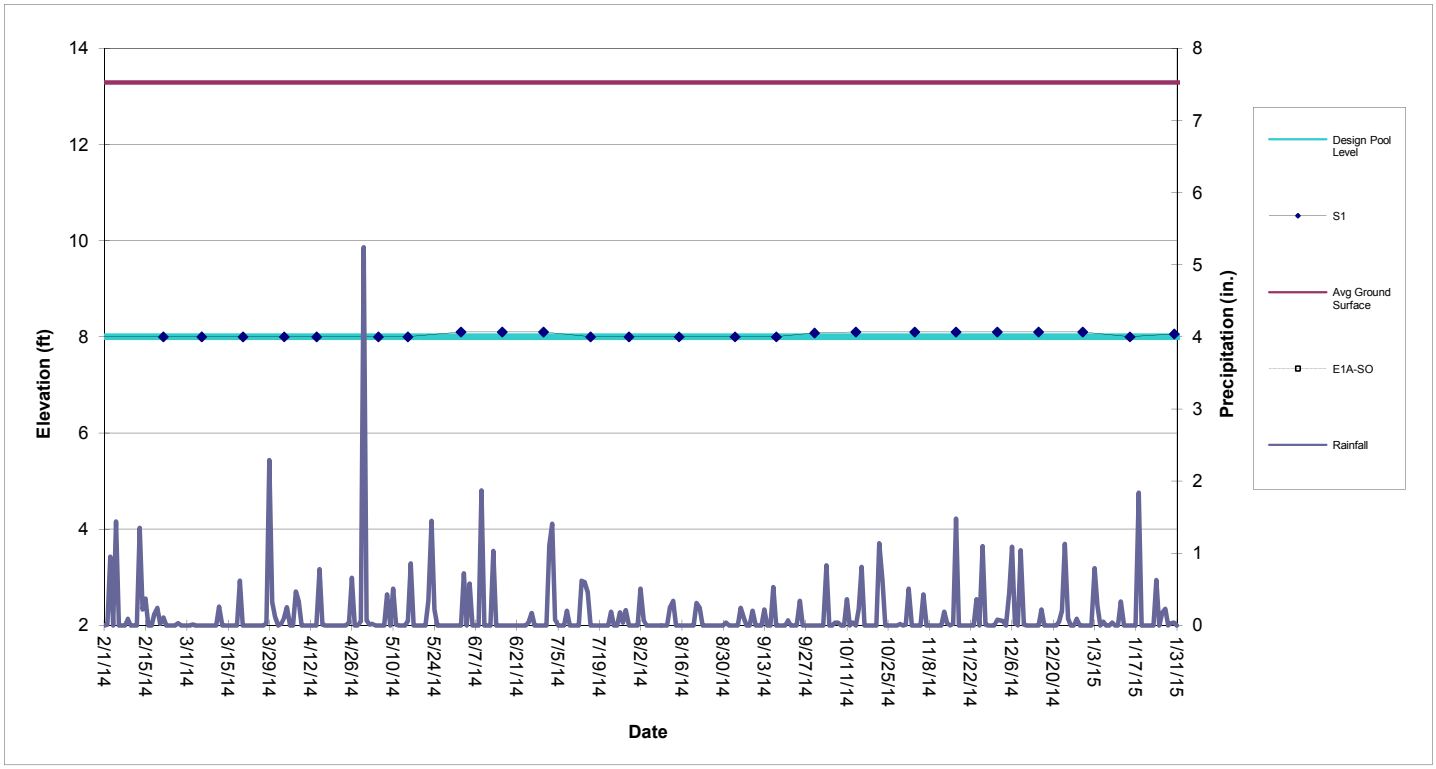
Perimeter Pool N4 (Sta. N6+80 to N10+23)



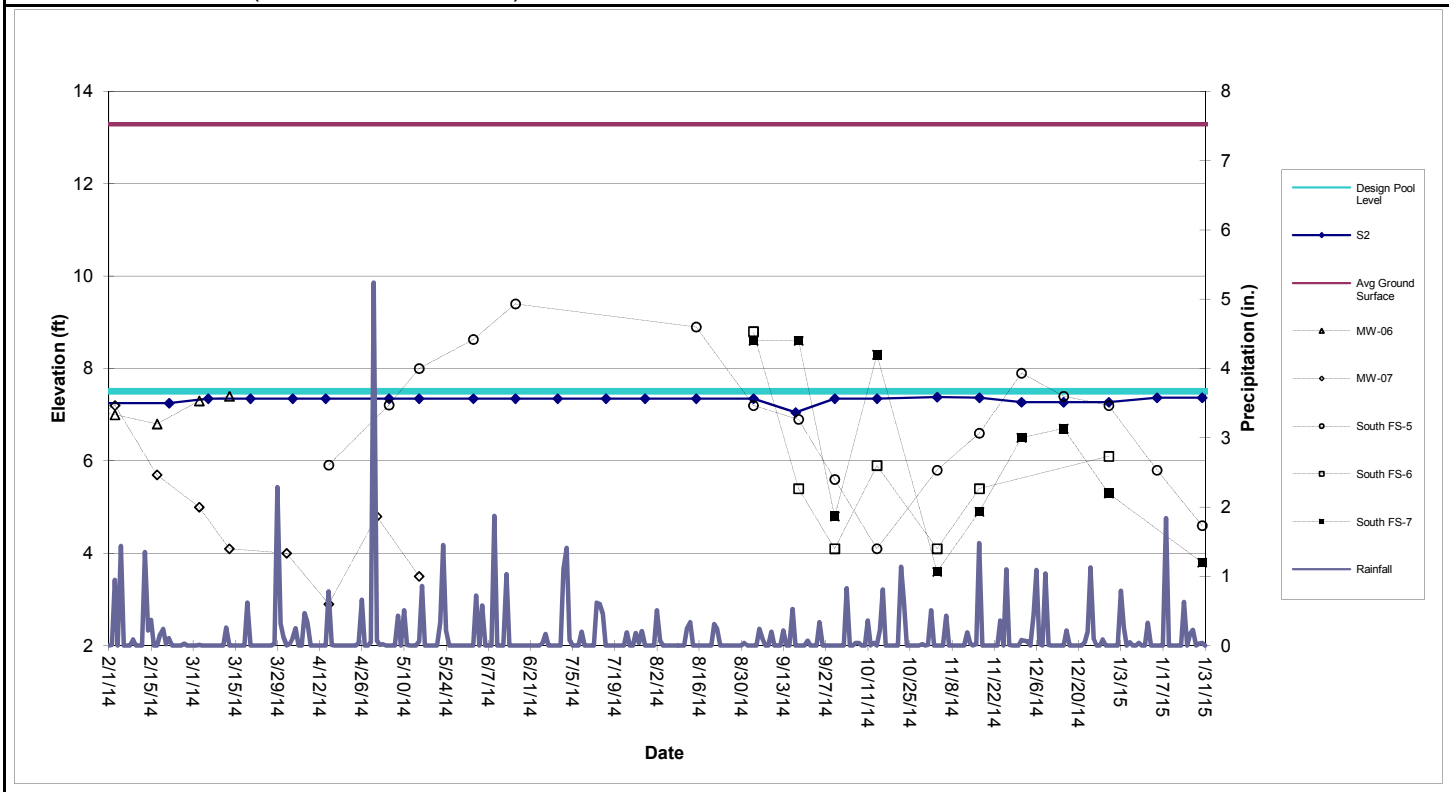
Perimeter Pool E1 (Sta. E0+50 to E3+75)



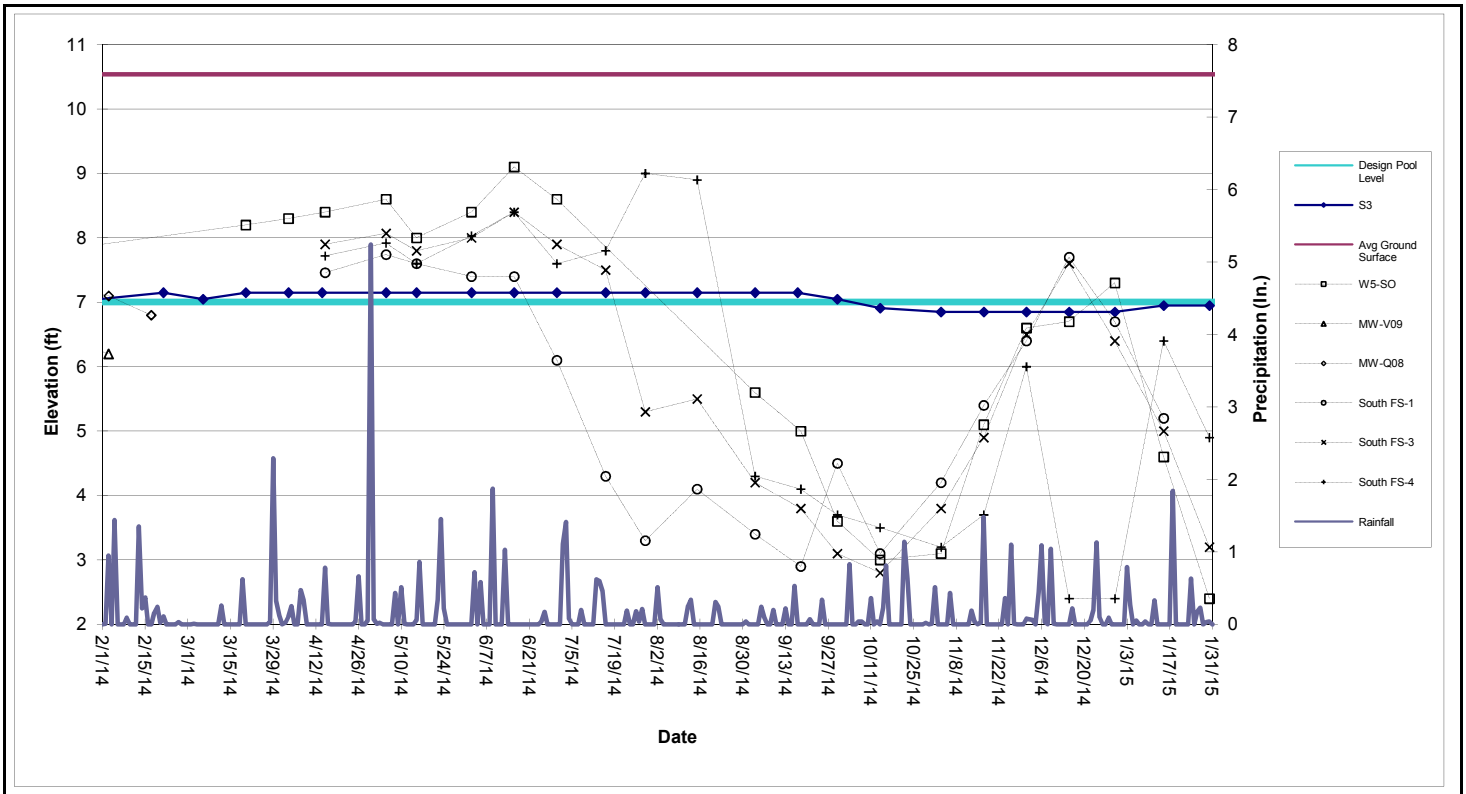
Perimeter Pool E2 (Sta. E4+50 to E7+25)



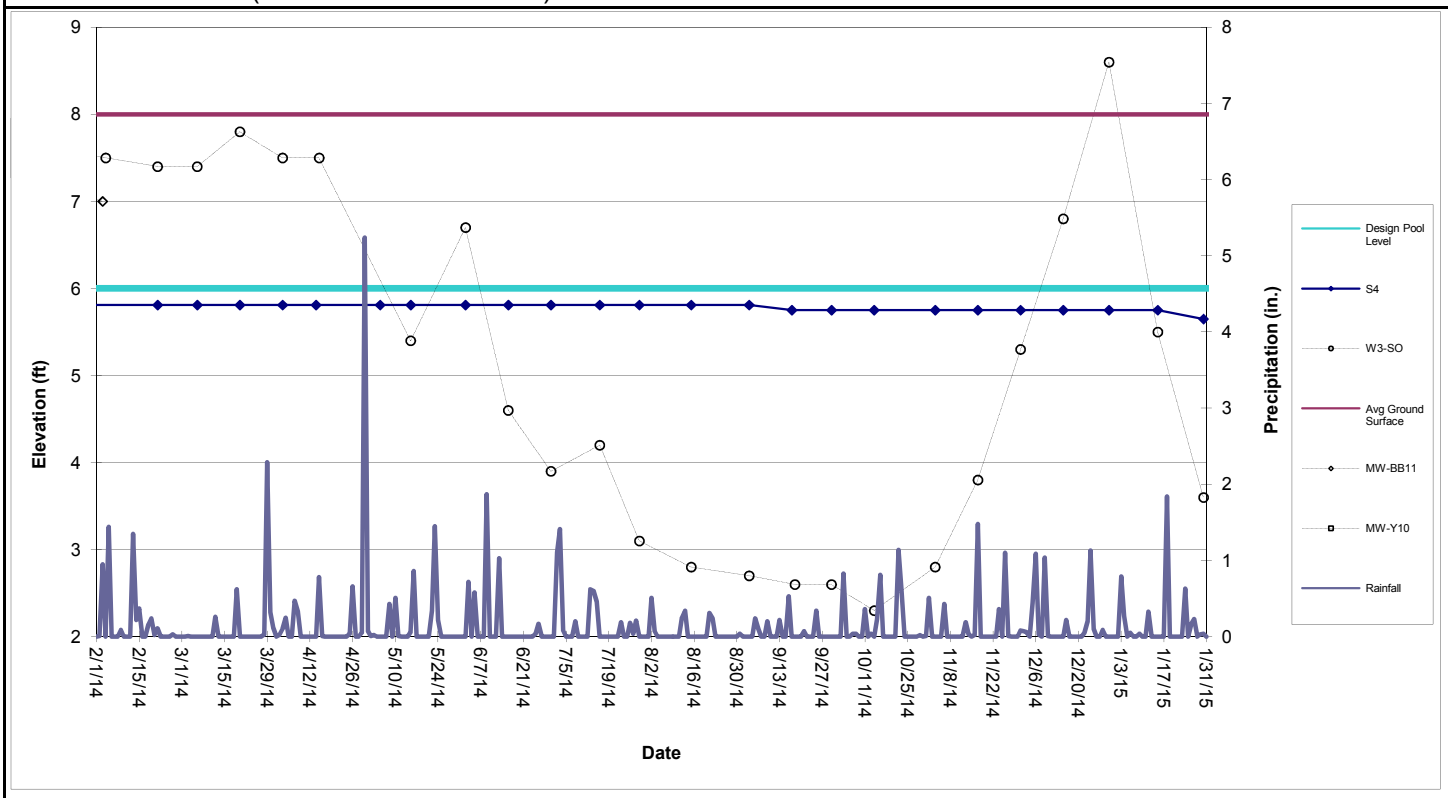
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										134-	140-		North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	MW-V09	MW-06	MW-07	FS-1	FS-2	FS-3	FS-4	FS-5	FS-6	FS-7	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																									
3/3/2014											7.3	5.0													
3/6/2014		6.2	6.8	6.5	7.3		7.4																		
3/13/2014											7.4	4.1													
3/20/2014		5.6	6.7	7.2	7.4		7.8	8.2																	
4/1/2014												4.0													
4/3/2014		5.6	6.6	7.3	7.7		7.5	8.3																	
4/15/2014		5.6	6.5	7.3	7.4	8.2	7.5	8.4	7.3			2.9	7.0	8.3	7.3	7.5				7.5	7.9	7.7	5.9		
5/1/2014												4.8													
5/5/2014		5.5	6.7	7.0	8.0	7.5		8.6	7.1				7.2		7.3	7.3				7.7	8.1	7.9	7.2		
5/15/2014		5.7	6.6	7.3	7.2		5.4	8.0	6.5			3.5	6.3	7.4	8.0	6.9				7.6	7.8	7.6	8.0		
6/2/2014		5.6	6.5	7.1	6.8		6.7	8.4	6.3				6.0	7.4	7.4	6.7				7.4	8.0	8.0	8.6		
6/16/2014		5.7	6.5	7.1	7.3		4.6	9.1	6.4				6.0	7.4	7.2	6.7				7.4	8.4	8.4	9.4		
6/30/2014		5.5	6.4	6.9	6.7		3.9	8.6	5.9				5.6	7.1	7.1	6.6				6.1	7.9	7.6			
7/16/2014		5.8	6.4	6.8	6.8		4.2		5.9				5.5	7.1	7.1	6.3				4.3	7.5	7.8			
7/29/2014		5.6	6.4	6.6	6.5		3.1		5.6				5.3	7.0	6.8	6.1				3.3	5.3	9.0			
8/15/2014		5.3	6.1	6.2	6.2		2.8		5.5				5.1	6.8	6.7	6.1				4.1	5.5	8.9	8.9		
9/3/2014		5.3	5.9	6.1	5.9		2.7	5.6	5.2				4.8	6.7	6.3	5.6				3.4	4.2	4.3	7.2	8.8	8.6
9/18/2014		5.0	5.8	5.9	5.7		2.6	5.0	5.1				4.8	6.5	6.1	5.6				2.9	3.8	4.1	6.9	5.4	8.6
9/30/2014		5.0	5.7	5.8	5.8		2.6	3.6	5.0				4.7	6.5	6.0	5.6				4.5	3.1	3.7	5.6	4.1	4.8
10/14/2014		4.9	5.5	5.8	5.8		2.3	3.0	5.0				4.6	6.4	5.9		5.7	5.2	5.6	3.1	2.8	3.5	4.1	5.9	8.3
11/3/2014		4.8	5.6	5.9	6.0		2.8	3.1	5.1				4.7	6.7	6.2		5.6	5.3	5.7	4.2	3.8	3.2	5.8	4.1	3.6
11/17/2014		4.8	5.5	6.2	6.0		3.8	5.1	5.0				4.6	6.5	6.4		5.6	5.3	5.7	5.4	4.9	3.7	6.6	5.4	4.9
12/1/2014		4.7	5.5	6.6	6.5		5.3	6.6	5.2				4.9	6.9	6.9		6.0	5.9	6.2	6.4	6.5	6.0	7.9		6.5
12/15/2014		5.0	5.8	7.5	6.9		6.8	6.7	5.5				5.2	7.3	6.9		6.4	6.2	6.7	7.7	7.6	2.4	7.4		6.7
12/30/2014		5.0	5.6	7.1	6.5		8.6	7.3	5.4				5.0	7.2	6.7		6.0	5.8	6.3	6.7	6.4	2.4	7.2	6.1	5.3
1/15/2015		5.0	5.6	7.0	5.5		5.5	4.6	5.1				4.8	7.1	7.0		6.2	6.1	6.3	5.2	5.0	6.4	5.8		
1/30/2015			6.5	7.1	5.5		3.6	2.4	5.1				4.8	6.7	6.5		6.1	6.0	6.3		3.2	4.9	4.6		3.8

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells are temporarily inaccessible:
134-MW-V09, E1A-SO, W1-SO, North FS-4, North FS-6

Attachment 8: Groundwater Quality Data Surcharge Monitoring Update

(not available as of this report date - provided on a quarterly basis)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

(not included in this reporting period)

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: December 31, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		2
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		4
Housekeeping		X		5
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		6
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 12/31/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Wednesday, December 31, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Orange safety fencing has fallen over at the western-most excavation in Site 163 on SA-6 South.
2	IA2Q4A1AL8	The containment berm surrounding the western-most material stockpile in the SA-6 South backfill area requires maintenance.
3	IA2Q4A1AL8	The haul road on the eastern side of the SA-6 South backfill area has additional depressions containing ponded storm water and mud.
4	IA2Q4A1AL8	Storm water is ponded in the floor of the Study Area 6 South excavation
5	IA2Q4A1AL8	Trash and debris are accumulating outside of the perimeter fence on Rt.440 and Kellogg Street.
6	IA2Q4A1AL8	Sediment has accumulated on the western and southern SA-7 paved haul roads.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature Date: 12/31/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Reinstall and maintain the orange safety fencing surrounding the two shallow excavations on Site 163.	1/5/15 RAD
2	Build up the containment berm surrounding the stockpile area as required and re-cover with plastic sheeting to prevent erosion.	1/5/15 RAD
3	Regrade additional sections of the haul road in the Study Area 6 backfill area as necessary.	1/5/15 RAD
4	Pump ponded storm water to the CWTP as necessary to eliminate surface ponds.	1/5/15 RAD
5	Pick up trash and debris from the roadside and the grass areas along Kellogg Street and the Rt. 440 jughandle.	1/5/15 RAD
6	Remove sediment from the SA-7 haul roads and wash the roadways down.	1/5/15 RAD

Construction Manager: _____ Date: 01/06/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: January 8, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		2
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 01/08/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, January 08, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	No silt fence is present along the eastern end of the south toe of the 2-S surcharge stockpile.
2	IA2Q4A1AL8	Silt fence along the eastern toe of the 2-N surcharge stockpile has been damaged by wind and vehicle traffic.
3	IA2Q4A1AL8	Sediment has accumulated in the southwestern corner of the SA-7 paved roadway.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature Date: 01/08/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install silt fence along the southern toe of the 2-S stockpile where it is missing.	ground frozen - both will be
2	Repair or replace the silt fence along the eastern toe of the 2-N stockpile as needed.	completed next week on 1-19-14 RAD
3	Remove the accumulated sediment from the southwestern corner of the SA-7 roadway.	1-9-15 RAD

Construction Manager: _____ Date: 01/14/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: January 16, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		2
Ponded Storm Water		X		3
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		4
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		5
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		6

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 01/16/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, January 16, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	**REPEAT DUE TO FROZEN SITE CONDITIONS:** No silt fence is present along the eastern end of the south toe of the 2-S surcharge stockpile.
2	IA2Q4A1AL8	Sediment has accumulated along the northern edge of the west end of Kellogg Street.
3	IA2Q4A1AL8	Storm water has accumulated on the floor of the SA-6 South main excavation.
4	IA2Q4A1AL8	The silt fence along the southern toe of the 1-S surcharge stockpile area requires maintenance.
5	IA2Q4A1AL8	**REPEAT DUE TO FROZEN SITE CONDITIONS:** Sediment has accumulated in the southwestern corner of the SA-7 paved roadway.
6	IA2Q4A1AL8	Garbage and other debris has accumulated both on and along the inboard side of the eastern SA-7 perimeter fence.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature Date: 01/16/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install silt fence along the southern toe of the 2-S stockpile where it is required.	1-16-15 RAD
2	Remove accumulated sediment from along the street.	1-22-15
3	Pump the accumulated storm water to the Construction Water Treatment Plant.	1-21-15 RAD
4	Repair or replace the damaged silt fence as necessary.	1-21-15 RAD
5	Removed the accumulated sediment from the roadway.	1-21-15 RAD
6	Remove and dispose of any accumulated trash debris from the fenceline. Remove the empty propylene glycol container.	1-21-15 RAD

Construction Manager: _____ Date: 01/22/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: January 23, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		2
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		3
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones		X		4
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		5
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 01/23/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, January 23, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Additional silt fence is required along the southern toe of the 2-S stockpile area.
2	IA2Q4A1AL8	Potholes have formed on the eastern haul road on SA-6 South
3	IA2Q4A1AL8	Ponded storm water has drained from the westernmost Site 163 open excavation through the Droyer's Cove bulkhead, creating a void.
4	IA2Q4A1AL8	Type B material has accumulated against the northern containment berm in the sedimentation basin, creating the potential for storm water run-off escaping the EZ.
5	IA2Q4A1AL8	Sediment has accumulated around the perimeter pool riser grate on the northern SA-7 roadway by Construction Water Treatment Plant access ramp.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature Date: 01/23/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install additional silt fence along the southern toe of the 2-S surcharge area as required.	Snow covered and frozen conditions
2	Grade out or fill the potholes in the haul road.	are preventing
3	Repair the void in the Droyer's Cove bulkhead as per the engineers design.	these from being completed.
4	Remove accumulated material along the inboard side of the containment berm to allow storm water to flow towards the installed sump or increase the size of the berm.	1-26-15 RAD
5	Remove the accumulated sediment from the area around the perimeter pool grate.	1-23-15 RAD

Construction Manager: _____ Date: 01/28/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: January 30, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other Snow cover on site
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		2
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		3
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 01/30/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, January 30, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	REPEAT: Additional silt fence is required along the southern toe of the 2-S stockpile area.
2	IA2Q4A1AL8	REPEAT: Potholes have formed on the eastern haul road on SA-6 South
3	IA2Q4A1AL8	REPEAT: Ponded storm water has drained from the westernmost Site 163 open excavation through the Droyer's Cove bulkhead, creating a void.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature **Date:** 01/30/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install additional silt fence along the southern toe of the 2-S surcharge area as required	—
2	Grade out or fill the potholes in the haul road.	2-4-15 RAD
3	Repair the void in the Droyer's Cove bulkhead as per the engineers design	—
	Items 1 and 3 can not be	
	completed due to site being	
	covered by a sheet of ice	

Construction Manager: _____ **Date:** 02/04/15

Attachment 12: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (December 2014)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

January 19, 2015

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 31630016

Dear Mr. Caltagirone:

Honeywell is submitting the December 2014 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely

Helen Fahy 86F

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA
Frank Schroyer - Parsons

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 31630016 OLD OUTLET DESIGNATION:

MONITORING PERIOD

Start			End		
12	01	14	12	31	14
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	76,516	91,665 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	0.48	0.58	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.6	<5.6	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1299	0.1299	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J Morris JR

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

Jan 13, 2015

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North
ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962
FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305
NEW CUSTOMER ID / OUTLET ID: 31630016 **OLD OUTLET DESIGNATION**

MONITORING PERIOD

Start			End		
12	01	14	12	31	14
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,372,010 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 24,707,129

DATE	BOD (mg/l)	TSS (mg/l)
12/9/2014	<3.4	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE Jan 13, 2015

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG — Honeywell Jersey City GWTP; SA-6 North (Permit #31630016) — MONTH: December 2014

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
12/1/2014	Angel Trujillo	22335119	22410123	75,004	0.075004	7.15	0.755									0.47
12/2/2014	Angel Trujillo	22410123	22490599	80,476	0.080476	8.08	0.755									0.51
12/3/2014	Angel Trujillo	22490599	22566499	75,900	0.0759	7.73	0.755									0.48
12/4/2014	Angel Trujillo	22566499	22644015	77,516	0.077516	7.64	0.755									0.49
12/5/2014	Angel Trujillo	22644015	22720870	76,855	0.076855	7.57	0.755									0.48
12/6/2014	Angel Trujillo	22720870	22799524	78,654	0.078654	7.67	0.755									0.50
12/7/2014	Angel Trujillo	22799524	22876176	76,652	0.076652	7.66	0.755									0.48
12/8/2014	Angel Trujillo	22876176	22950558	74,382	0.074382	7.63	0.755									0.47
12/9/2014	Angel Trujillo	22950558	23026014	75,456	0.075456	7.37	0.755	<5.6	<3.4		<0.010	<0.030	<0.010	<0.0002	<0.020	0.48
12/10/2014	Angel Trujillo	23026014	23101942	75,928	0.075928	7.67	0.755									0.48
12/11/2014	Angel Trujillo	23101942	23178600	76,658	0.076658	7.58	0.755									0.48
12/12/2014	Angel Trujillo	23178600	23256990	78,390	0.07839	7.61	0.755									0.49
12/13/2014	Angel Trujillo	23256990	23335980	78,990	0.07899	7.64	0.755									0.50
12/14/2014	Angel Trujillo	23335980	23411354	75,374	0.075374	7.47	0.755									0.47
12/15/2014	Angel Trujillo	23411354	23486154	74,800	0.0748	7.67	0.755									0.47
12/16/2014	Angel Trujillo	23486154	23563690	77,536	0.077536	7.62	0.755									0.49
12/17/2014	Angel Trujillo	23563690	23640367	76,677	0.076677	7.58	0.755									0.48
12/18/2014	Angel Trujillo	23640367	23715804	75,437	0.075437	7.61	0.755									0.48
12/19/2014	Angel Trujillo	23715804	23791334	75,530	0.07553	7.55	0.755									0.48
12/20/2014	Angel Trujillo	23791334	23870759	79,425	0.079425	7.58	0.755									0.50
12/21/2014	Angel Trujillo	23870759	23944230	73,471	0.073471	7.57	0.755									0.46
12/22/2014	Angel Trujillo	23944230	24015436	71,206	0.071206	7.54	0.755									0.45
12/23/2014	Angel Trujillo	24015436	24096377	80,941	0.080941	7.51	0.755									0.51
12/24/2014	Angel Trujillo	24096377	24171160	74,783	0.074783	7.57	0.755									0.47
12/25/2014	Angel Trujillo	24171160	24262825	91,665	0.091665	7.50	0.755									0.58
12/26/2014	Angel Trujillo	24262825	24327099	64,274	0.064274	7.55	0.755									0.40
12/27/2014	Angel Trujillo	24327099	24407222	80,123	0.0801	7.57	0.755									0.50
12/28/2014	Angel Trujillo	24407222	24484406	77,184	0.077184	7.48	0.755									0.49
12/29/2014	Angel Trujillo	24484406	24555341	70,935	0.070935	7.57	0.755									0.45
12/30/2014	Angel Trujillo	24555341	24628602	73,261	0.073261	7.46	0.755									0.46
12/31/2014	Angel Trujillo	24628602	24707129	78,527	0.078527	7.52	0.755									0.49
TOTAL				**2,372,010**	**2.37201**			<5.6	<3.4		<0.010	<0.030	<0.010	<0.0002	<0.020	
			High:	**91,665**											**High:**	**0.58**
			Average:	**76,516**											**Average:**	**0.48**

WW

JB83662

E

Accutest Labs
2225 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell

Chain Of Custody / Analysis Request

AESI Ref: 41982.48610
COC#: 087-WW-120914
Lab Proj # (SDG):
Lab ID: ACTD
Site ID: HudsonCo
Lab Job #: HWINJM32816
Authorized User: Honeywell

Privileged & Confidential

Site Name: Hudson County
Location of Site: Jersey City, NJ
Phase: CS
Sampling Program: 087: JCIA

Sampling Co.: MACTEC
Client Contact: (name, co., address)
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962

EDD To:
Sampler: Frank Schroyer
PO #:
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Full Report TAT: 28 Days

Preliminary Data To:
Sample Receipt Acknowledgement To:
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)

Test & Event Fee Code
Labor & Test Fee Order

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	Sample Identification: Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-91, VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
											Preservative		3	3	3	1	2	2	0	0	2						
											Units																
1	087-WW			087-WWE-120914-A	12/9/2014	14:25	WW	WATER	REG	3	comp	N	X	X	X	X			X	X		-1					L27
2	087-WW			087-WWE-120914-B	12/9/2014	14:40	WW	WATER	REG	5	grab	N					X	X				-2					U605
3	087-WW			087-WWI-120914	12/9/2014	14:55	WW	WATER	REG	3	grab	N									X	-3					M17
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

12-9-14 [illegible]
AE SAMPLES RECEIVED
RECEIVED AS APPLICABLE

Relinquished by: Frank Schroyer [signature]	7.37 Su @ 6.9°C	Company: AMEC Foster Wheeler	Received by: [signature]	Company:	Condition:	Custody Seals Intact:	
	Date/Time: 12/9/14 1530			Date/Time: 12/9/14 1550	Cooler Temp.		
Relinquished by: [signature]	Date/Time: 12/9/14 1655	Company:	Received by: [signature]	Company: ACCUTEST	Condition:	Custody Seals Intact:	N/A
				Date/Time: 12/9 1655	Cooler Temp. 0.0°C-B		

Preservatives: (Other; Specify):
0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

1Aam

W

Accutest LabLink@831116 10:16 22-Dec-2014

Report of Analysis

4.1 4

Client Sample ID:	087-WWE-120914-A		
Lab Sample ID:	JB83662-1	**Date Sampled:**	12/09/14
Matrix:	AQ - Water	**Date Received:**	12/09/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	755	10	ug/l	1	12/10/14	12/11/14	KF	EPA 200.7 [1]	EPA 200.7 [5]
Copper	< 10	10	ug/l	1	12/10/14	12/11/14	KF	EPA 200.7 [1]	EPA 200.7 [5]
Lead [a]	< 30	30	ug/l	10	12/10/14	12/12/14	KF	EPA 200.7 [3]	EPA 200.7 [5]
Mercury	< 0.20	0.20	ug/l	1	12/11/14	12/11/14	JW	EPA 245.1 [2]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	12/10/14	12/11/14	KF	EPA 200.7 [1]	EPA 200.7 [5]
Zinc	< 20	20	ug/l	1	12/10/14	12/11/14	KF	EPA 200.7 [1]	EPA 200.7 [5]

(1) Instrument QC Batch: MA35632
(2) Instrument QC Batch: MA35636
(3) Instrument QC Batch: MA35643
(4) Prep QC Batch: MP83774
(5) Prep QC Batch: MP83805

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@831116 10:16 22-Dec-2014

Report of Analysis

4.1

4

Client Sample ID:	087-WWE-120914-A		
Lab Sample ID:	JB83662-1	**Date Sampled:**	12/09/14
Matrix:	AQ - Water	**Date Received:**	12/09/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	12/11/14	JS	SM2540 D-11
pH [a]	7.06		su	1	12/09/14 17:09	SUB	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@831116 10:16 22-Dec-2014

Report of Analysis

4.2 4

Client Sample ID:	087-WWE-120914-A		
Lab Sample ID:	JB83662-1A	**Date Sampled:**	12/09/14
Matrix:	AQ - Water	**Date Received:**	12/09/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 3.4	3.4	mg/l	1	12/10/14 20:21	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@831116 10:16 22-Dec-2014

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-120914-B		
Lab Sample ID:	JB83662-2	**Date Sampled:**	12/09/14
Matrix:	AQ - Water	**Date Received:**	12/09/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.6	5.6	mg/l	1	12/12/14	BM	EPA 1664A

RL = Reporting Limit

Accutest LabLink@831116 10:16 22-Dec-2014

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-120914-B		
Lab Sample ID:	JB83662-2	**Date Sampled:**	12/09/14
Matrix:	AQ - Water	**Date Received:**	12/09/14
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N241979.D	1	12/11/14	DC	n/a	n/a	VN10263
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	2.1	ug/l	
107-13-1	Acrylonitrile	ND	10	1.3	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	2.2	1.0	0.12	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.32	ug/l	
56-23-5	Carbon tetrachloride	2.8	1.0	0.16	ug/l	
108-90-7	Chlorobenzene	0.21	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.45	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	17.5	1.0	0.14	ug/l	
74-87-3	Chloromethane	ND	1.0	0.16	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.19	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	0.39	1.0	0.11	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.11	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.12	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.46	ug/l	
75-34-3	1,1-Dichloroethane	0.29	1.0	0.15	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	ug/l	
156-59-2	cis-1,2-Dichloroethene	60.7	1.0	0.23	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.3	1.0	0.24	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.17	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.16	ug/l	
123-91-1	1,4-Dioxane	ND	130	89	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.093	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.51	1.0	0.20	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@831116 10:16 22-Dec-2014

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-120914-B		
Lab Sample ID:	JB83662-2	**Date Sampled:**	12/09/14
Matrix:	AQ - Water	**Date Received:**	12/09/14
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.15	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.29	ug/l	
79-01-6	Trichloroethene	42.0	1.0	0.17	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.31	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.12	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	100%		71-128%
2037-26-5	Toluene-D8 (SUR)	100%		79-117%
460-00-4	4-Bromofluorobenzene (SUR)	97%		81-114%
1868-53-7	Dibromofluoromethane (S)	100%		78-115%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending December 2014

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014	Direction on the handling of petroleum soils under the cap.	Pending submittal to Parties' per request.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.
DC 2015-01-22	In accordance with the 100% Design the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA-6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

SA-6 AND SA-7 COMBINED PROGRESS REPORT

MARCH 13, 2015

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

March 13, 2015 ***Via Electronic Delivery***

Honorable Robert G. Torricelli
Office of the Special Master
RGTSpecialMaster@aol.com

Subject: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2015-02

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from February 1 – February 28, 2015.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: February 2015 SA-6/7 Combined Monthly Progress Report No. 2015-02

cc: Joe Clifford - Amec Foster Wheeler (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)

Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2015-02

Project SA-6 & 7 Remediation

February 2015

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
02/04/15	Arnold & Porter Submittal: Study Area 6 North and South -- In Situ Treatment of Hexavalent Chromium Impacted Soils	Honorable Robert G. Torricelli Office of the Special Master
02/04/15	Surcharge Monitoring Plan – Monthly Report No. 9 Study Area 6 North and South Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
02/10/15	Long Term Monitoring Program - Year 1 Implementation Report Study Area 7 Sediment Remedy Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
02/12/15	Public Notification Signs NJDEP Hudson County Chromate Site 087 SA-6N And Sites 073, 124, 125, 134, 140, & 163 SA-6S Jersey City, Hudson County, NJ SA-6 North NJDEP SRP PI NOs: 019985 & 002633 SA-6 South NJDEP SRP PI NOs: G0000000927, G0000008741, G0000008742, 033312, 003846, & 010374	NJ Department of Environmental Protection
02/12/15	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2015-01	Honorable Robert G. Torricelli Office of the Special Master
02/17/15	Special Master Conference Call	N/A
02/19/15	New Source of Imported Clean Fill Study Area 6 (SA-6) Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
02/19/15	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 31630016 June 2014	Andy Caltagirone Passaic Valley Sewerage Commission

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	02/8/15	02/15/15	02/22/15	03/1/15
Construction Management (AMEC)	11	11	11	11
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	24	26	25	25
Arecon/US Ecology Subcontractors	1	1	0	1
Evoqua	1	1	1	1
HBS (SA-6N GWTP Security System)	0	0	0	0
Gramercy	10	10	9	8
TOTAL STAFF	**52**	**54**	**51**	**51**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected February PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Completed above-grade demolition of the former Waste Management Garage and the JCIA Garage. Continued above-grade demolition and load out of the JCIA Incinerator Building.
- On February 2 and 3, 2015, Cornerstone personnel re-developed GWET extraction well 087-PW-2. The acid flushing of PW-2 force main to the GWTP was also completed at this time.
- On February 4, 2015, Cornerstone personnel re-developed injection well 088-IW-01. Cornerstone performed a follow-up yield test of the well on March 2, 2015.
- On February 10, 2015, the Year 1 Implementation Report for SA-7 Sediment Remedy Long-term Monitoring Program was submitted.
- On February 19, 2015, contractor removed the Site 163 UST from SA-6 South, Facility ID number 010374. The closure report was finalized by the LSRP and submitted to all parties on March 3, 2015.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on February 18, 2015.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	02/8/15	02/15/15	02/22/15	03/1/15
Avg. Gallons Treated & Discharged (per day)	65,621	78,547	77,756	78,169
Average Flow (gpm) for Operating Period	55	55	54	54
Avg. Hours of Plant Operation	20	24	24	24
GWTP Influent Tanks (gal.)	9,897	6,876	5,018	5,573

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Completed installation of the contingent groundwater system (collection trench piping and sumps) within the SA-6 South Open Space Area.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Gramercy- (JCIA Demo)	20 cyd roll off	Jersey City, NJ	Sims Metal	Aluminum	1	2.59	2.59
Gramercy- (JCIA Demo)	40 cyd roll off	Jersey City, NJ	Sims Metal	Metal	17	15.5	263.9
Gramercy- (JCIA Demo)	40 cyd roll off	North Bergen, NJ	Cardella Waste	C&D	1	11.03	11.03
Gramercy- (JCIA Demo)	30 cyd roll off	Bayonne, NJ	Durable Recycling	Concrete	21	16.4	344.52
Gramercy- (JCIA Demo)	40 cyd roll off	Bayonne, NJ	Durable Recycling	Brick/Masonry	6	18.42	110.54
Entact/ Arecon	Tri-axle Dump	South Brunswick, NJ	MCUA	Petroleum Impacted Soil	75	24.7	1,859.72

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Excavation Completed	No update for the reporting period
Backfill in Progress	Cell number(s): 77-70

3. BACKFILL MATERIALS USED

Source	Week Ending			
	02/8/15	02/15/15	02/22/15	03/01/15
Tilcon, Import Tons – 1.5" Stone	73.62	204.6	0	0
NJCU Borrow Material, CY	0	0	0	4,942

- Clean borrow material (from NJCU Surcharge Program) was delivered to the site during the week of February 23, 2015 through February 27, 2015. A total of 353 loads were delivered totaling approximately 4,942 cubic yards. Borrow material is stockpiled within the excavation and will be placed weather permitting.

E. SURCHARGE OPERATIONS

- Area 1S: Completed offloading Celgene material from 1S and relocating to 2S and temporary stockpile area.
- Area 2S: Surcharging complete on Area 2S. Began offloading Celgene material on February 23, 2015 from west to east, and offload is approximately 30% complete.
- Area 3S: Surcharge placement continued on Area 3S and isnow fully constructed.
- Area 1N: Surcharge removal activities were discontinued in February in Area 1N. Surcharge removal activities in this area remain at approximately 85% complete.
- Area 2N: Surcharging is 100% complete. Offloading not yet scheduled by contractor.
- Area 3N: No activity in this area pending demobilization of the JCIA Demolition contractor.
- Area 4N: No activity in this area pending demobilization of the JCIA Demolition contractor.
- Active Monitoring for Surcharge is currently limited to Area 3S. The combination of snow and temperatures are preventing personnel from taking readings at the frequency stated in the Surcharge Monitoring Plan Monitoring will resume at all points when it is feasible and safe to do so.

F. SHEET PILE OPERATIONS

- Resumed delivery of sheet pile for the remaining barrier wall at SA-6 North.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014, 1 yr. extension granted 10/6/14	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15	12/2/15	Pending

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete JCIA Structures Demolition and demobilize.
- Continue loadout and transportation and disposal activities of non-hazardous petroleum impacted soils at SA-6 South.
- Complete delivery of steel sheetpile for remaining SA-6 North Barrier Wall installation.
- Complete removal of temporary sheetpile on the south side of the SA-6 south excavation area.
- Resume Vertical Hydraulic Barrier wall installation activities on SA6 North.

- Continue monitoring well abandonment activities on SA6 South.
- Complete installation of utility pole sleeves associated with PSEG overhead line relocation activities.
- Collect round of quarterly groundwater levels.
- Conduct S-3 Mass Removal Injection Event No.19.
- Conduct quarterly GWET well sampling.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Continue the SA-6 North Bench-Scale Treatability Study for Treatment Area 10 proximate to force main.
- Continue to coordinate with the JCDPW on their off-site relocation of remaining equipment from SA-6 North.

ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
4. *Dewatering Operations Update (not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. *Backfill Analytical Data (not included in this reporting period)*
7. Perimeter Pools Update
8. *Groundwater Quality Data (sampled quarterly, not included in this reporting period)*
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. *Sheet Pile Update (not included in this reporting period)*
11. Weekly SWPPP Reports
12. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (January 2015)
13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**Fri 1/4/08**
18	**JCIA/JCDPW Relocation**	**1735 days**	**Mon 8/11/08**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09
22	Relocation Contractor Procurement	392 days	Thu 4/15/10
23	JCIA and JCDPW Relocation	753 days	Mon 10/17/11
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11
24a	Demolition of JCIA Structures	151 days	Mon 9/1/14
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**
58	New GWTP Construction Completion	502 days	Mon 3/5/12
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11
60	**SA-6 North/South Field Implementation**	**838 days**	**Fri 3/1/13**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	Mon 6/17/13
60b	SA-6S (Site 163) In-Situ Treatment	294 days	Fri 11/15/13
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**
61a	Mobilization	87 days	Fri 3/1/13
62	**Surcharge Install/Instrumentation**	**620 days**	**Mon 6/17/13**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	Mon 6/17/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	Mon 6/2/14
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Mon 3/2/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	Mon 10/20/14
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	Mon 3/3/14
63	**Barrier Wall Install**	**489 days**	**Mon 6/17/13**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**Mon 12/2/13**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	Mon 12/2/13
63c	SA-6N Stations 23+38 to 14+25	90 days	Mon 2/17/14
63d	SA-6N Stations 14+25 to 0+00	224 days	Mon 6/23/14
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**Mon 6/17/13**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	Mon 6/17/13
63h	SA-6S Stations 1+54 to 8+37	7 days	Fri 8/16/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	Thu 10/3/13
63j	SA-6S Stations 8+60 to 14+87	145 days	Mon 11/11/13
64	**Excavation**	**507 days**	**Tue 10/22/13**
64a	SA 6N Excavation	218 days	Mon 12/1/14
64b	**SA 6S Excavation**	**226 days**	**Tue 10/22/13**
64c	SA-6S Excavation of Cells 1 - 25	53 days	Tue 10/22/13
64d	SA-6S Excavation of Cells 26 - 60	90 days	Fri 1/3/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	Fri 5/9/14
65	**Backfill**	**493 days**	**Mon 11/11/13**
65a	SA 6N Backfill	218 days	Mon 12/1/14
65b	SA 6S Backfill	232 days	Mon 11/11/13
66	**Capping and Cover Soil Placement**	**315 days**	**Mon 12/1/14**
66a	SA 6N Capping and Cover Soil Placement	119 days	Tue 9/1/15
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14
67	**Restoration**	**164 days**	**Tue 9/1/15**
67a	Restoration	164 days	Tue 9/1/15

Project: SA-6 Remediation Schedule
Revision 3
Date: Wed 3/4/15

Task | Milestone | Summary | Critical

Attachment 2: Site Photographs

Site Photograph 1: Contractor continues demolition of incinerator building.

Site Photograph 2: Contractor demolishes incinerator trash pit.

Site Photograph 3: Contractor grading on Kellogg St. properties.

Site Photograph 4: Contractor loading stone bedding material.

Photograph 5: Contractor moving surcharge material into place.

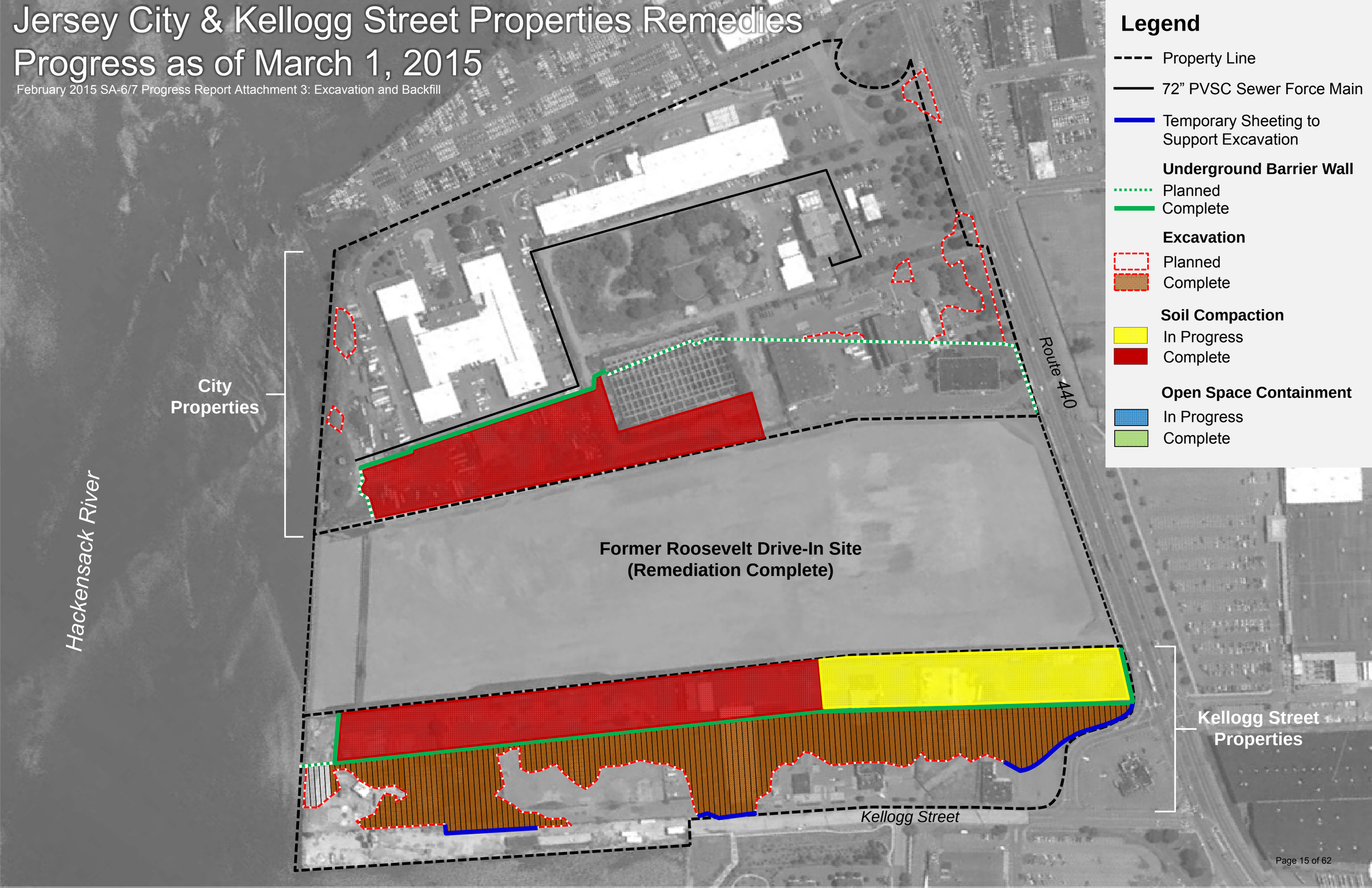
Site Photograph 6: Contractor stockpiling clean backfill material.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of March 1, 2015

February 2015 SA-6/7 Progress Report Attachment 3: Excavation and Backfill



Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

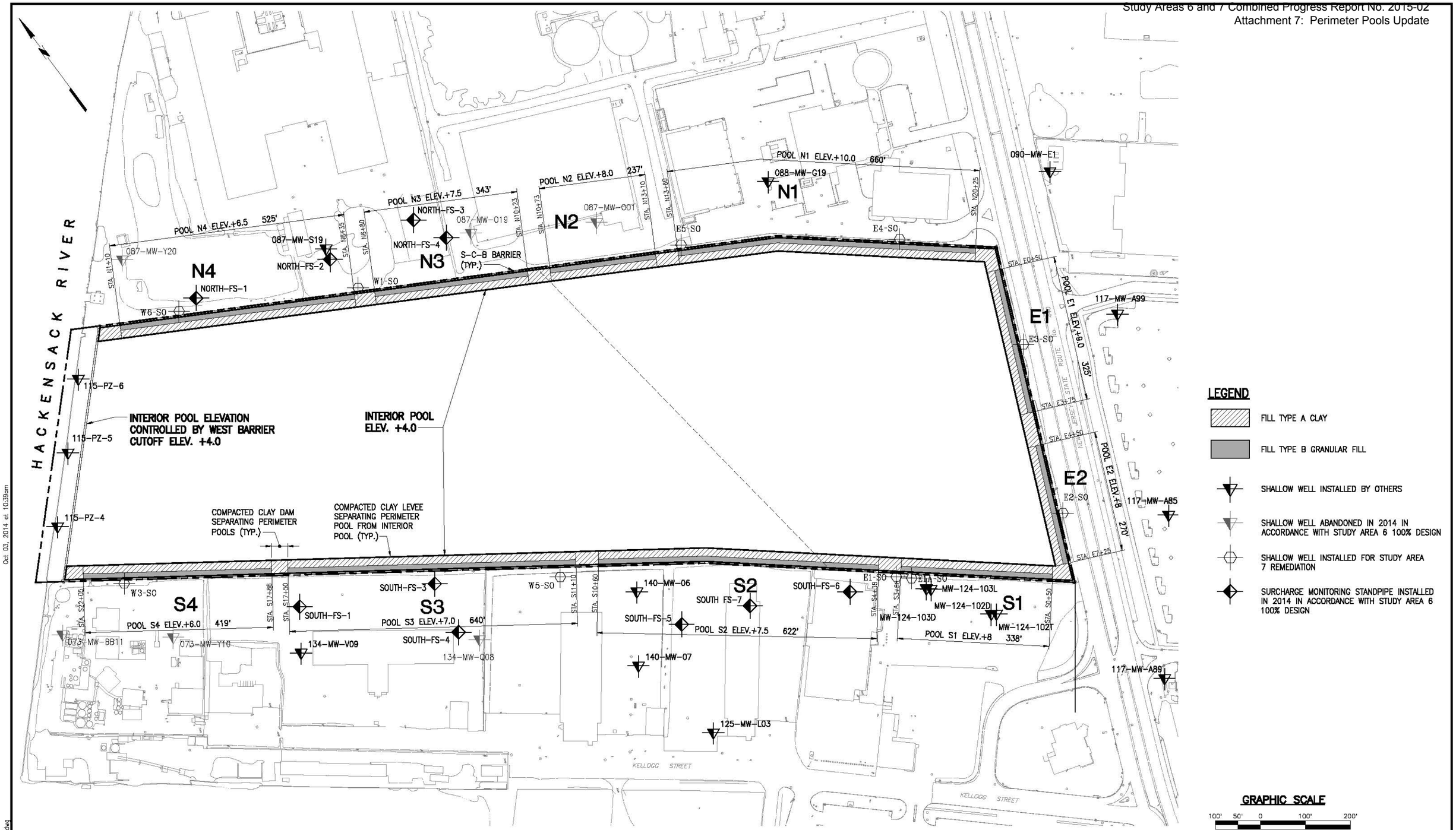
DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
01/02/15	7:00	14:30	7:30	25,613.83	25,704.93	91,100	25,704,480	
01/05/15	7:00	16:45	9:45	25,704.93	25,803.51	98,580	25,803,060	
01/06/15	7:00	15:15	8:15	25,803.51	25,934.54	131,030	25,934,090	
01/07/15	7:00	15:00	8:00	25,934.54	26,010.92	76,380	26,010,470	
01/11/15	9:00	14:00	5:00	26,010.92	26,076.69	65,770	26,076,240	
01/12/15	13:30	16:00	2:30	26,076.69	26,123.43	46,740	26,122,980	
01/13/15	13:30	16:00	2:30	26,123.43	26,242.94	119,510	26,242,490	PVSC Compliance Sample Collected
01/14/15	10:15	16:00	5:45	26,242.94	26,294.50	51,560	26,294,050	
01/15/15	7:30	15:00	7:30	26,294.50	26,374.46	79,960	26,374,010	
01/16/15	7:30	14:00	6:30	26,374.46	26,431.98	57,520	26,431,530	
01/19/15	7:00	16:00	9:00	26,431.98	26,544.34	112,360	26,543,890	
01/20/15	7:00	16:30	9:30	26,544.34	26,671.53	127,190	26,671,080	
01/21/15	7:00	16:00	9:00	26,671.53	26,795.65	124,120	26,795,200	
01/22/15	7:00	15:30	8:30	26,795.65	26,937.52	141,870	26,937,070	
01/23/15	7:00	15:00	8:00	26,937.52	27,077.78	140,260	27,077,330	
01/28/15	7:00	14:30	7:30	27,077.78	27,127.82	50,040	27,127,370	
01/29/15	7:00	15:00	8:00	27,127.82	27,180.82	53,000	27,180,370	
01/30/15	7:00	14:00	7:00	27,180.82	27,268.67	87,850	27,268,220	
02/04/15	7:00	12:30	5:30	27,268.67	27,317.51	48,840	27,317,060	PVSC Compliance Sample Collected
02/05/15	7:30	15:00	7:30	27,317.51	27,437.11	119,600	27,436,660	
02/09/15	9:30	14:30	5:00	27,437.11	27,484.85	47,740	27,484,400	
02/10/15	9:30	16:15	6:45	27,484.85	27,587.00	102,150	27,586,550	
02/11/15	8:00	14:30	6:30	27,587.00	27,626.34	39,340	27,625,890	
02/12/15	8:00	14:30	6:30	27,626.34	27,687.34	61,000	27,686,890	
02/20/15	10:30	12:15	1:45	27,687.34	27,702.61	15,270	27,702,160	
02/23/15	7:30	15:30	8:00	27,702.61	27,758.65	56,040	27,758,200	
02/25/15	7:30	15:00	7:30	27,758.65	27,788.98	30,330	27,788,530	
02/26/15	7:30	14:00	6:30	27,788.98	27,806.88	17,900	27,806,430	
03/02/15	10:30	14:30	4:00	27,806.88	27,853.74	46,860	27,853,290	

Notes: Previous information is trunketed. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

(not included in this reporting period)

Attachment 7: Perimeter Pools Update



IN PROGRESS
10-02-2014

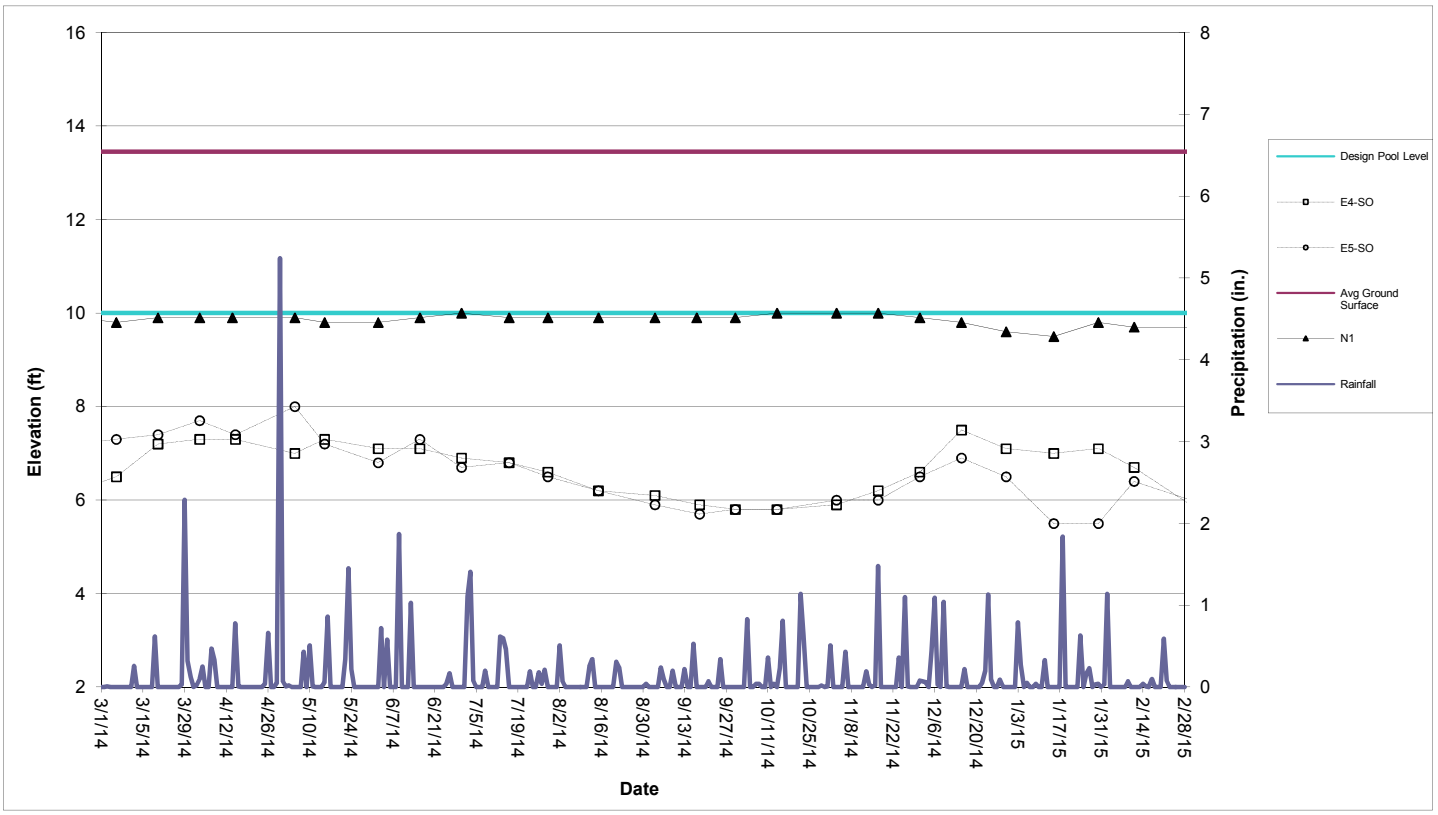
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

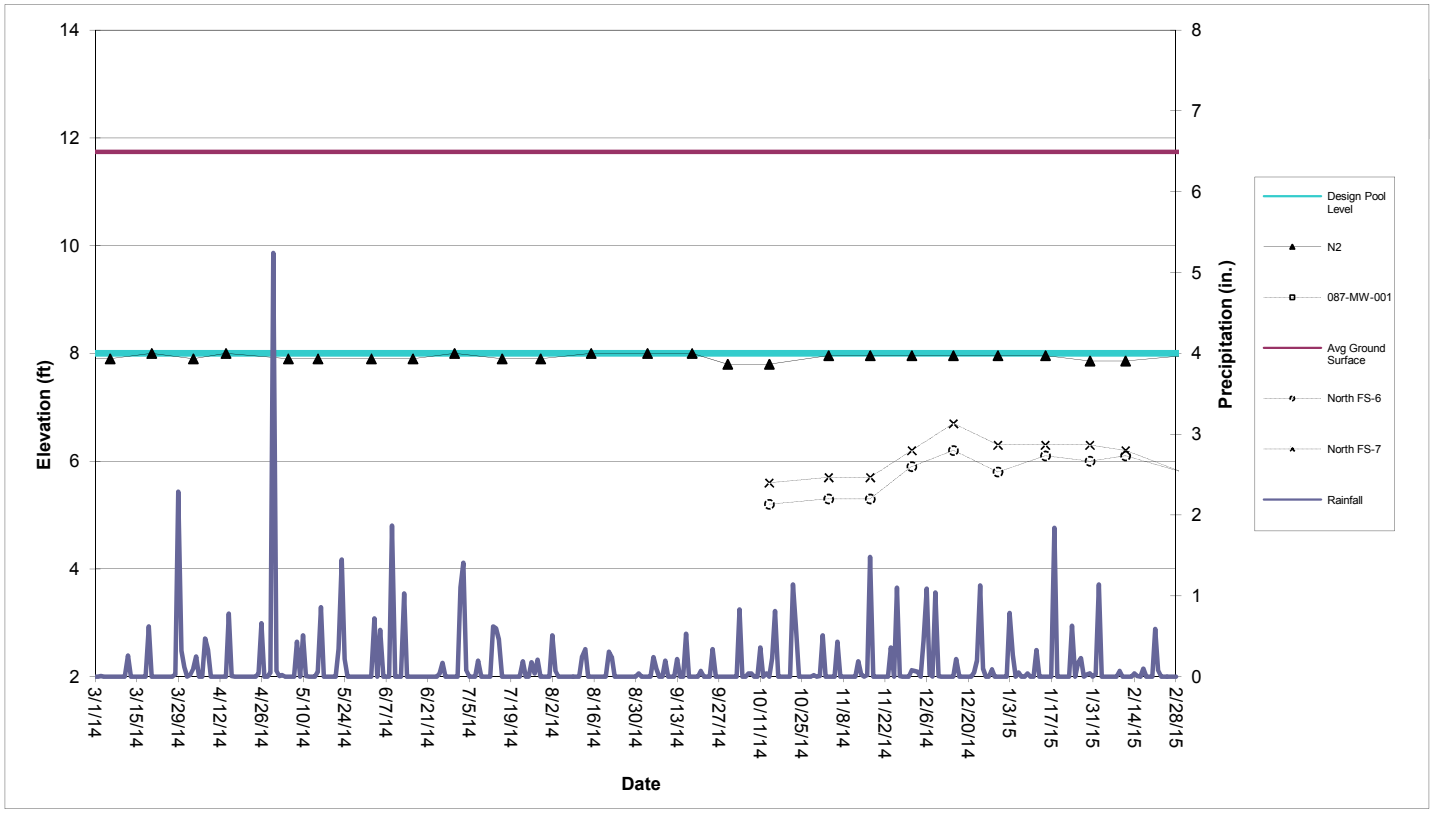
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP2-1

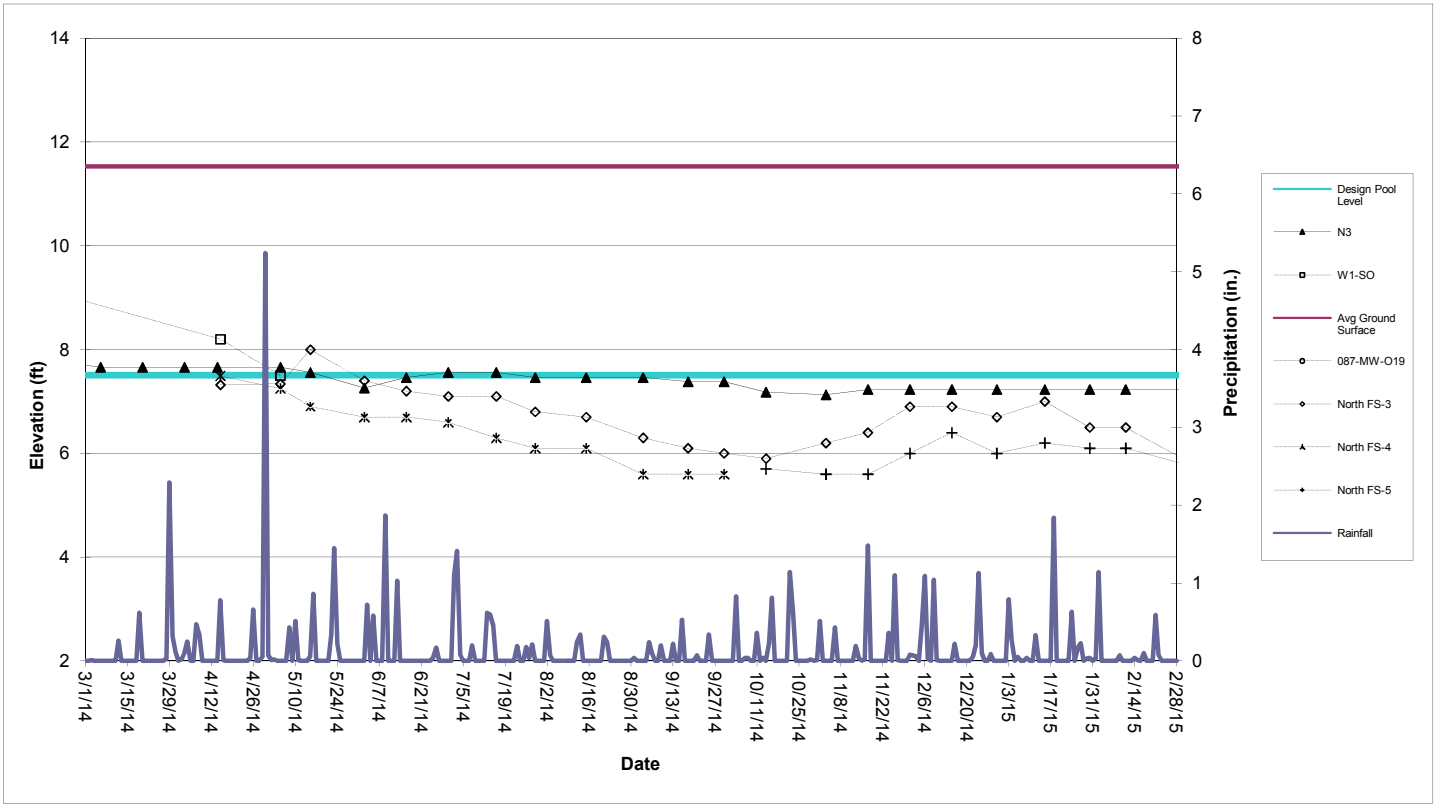
Oct 03, 2014 at 10:39am
G:\DWGS\102\10210\Dewatering\PP-1.dwg
edelossantos



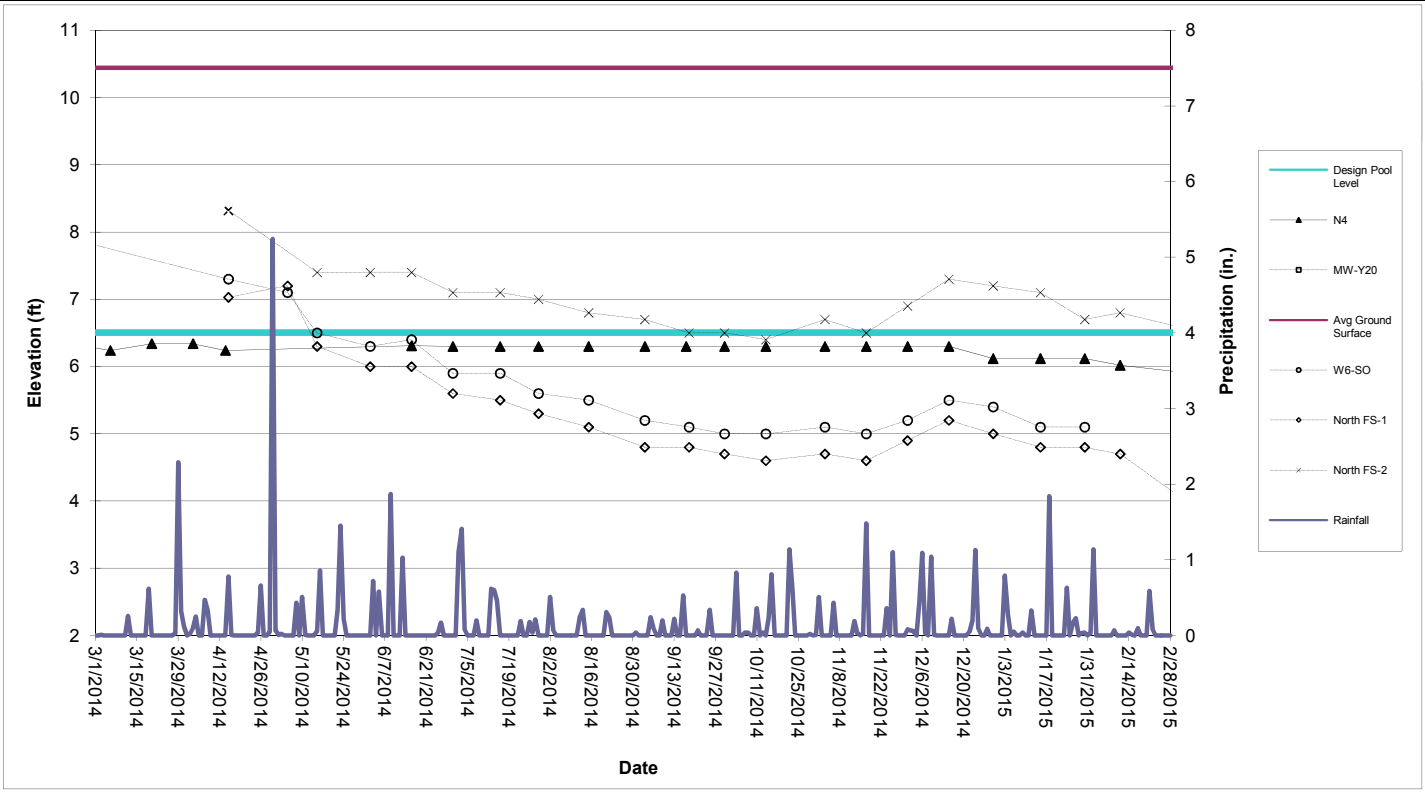
Perimeter Pool N1 (Sta. N13+60 to N20+25)



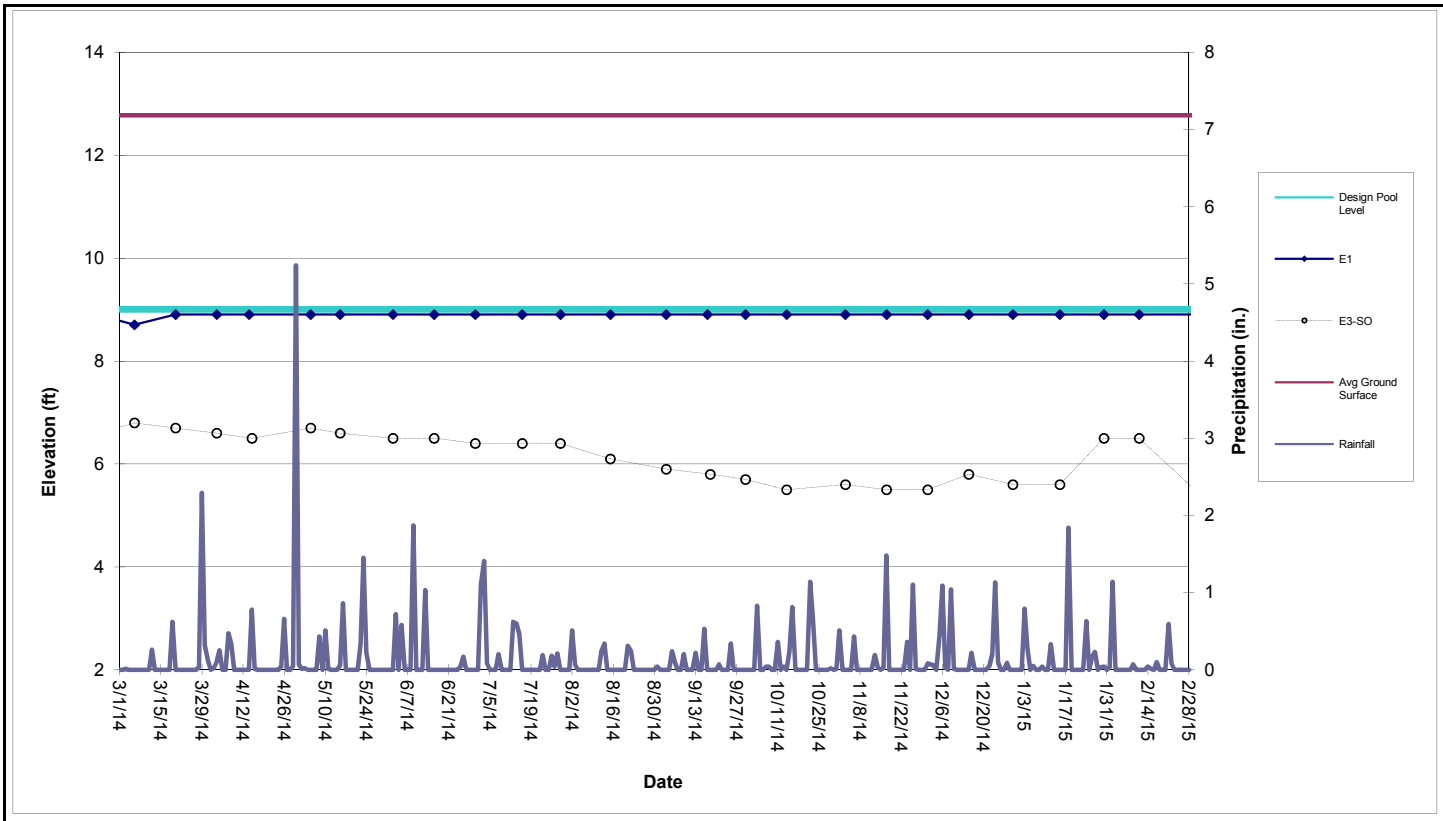
Perimeter Pool N2 (Sta. N10+73 to N13+10)



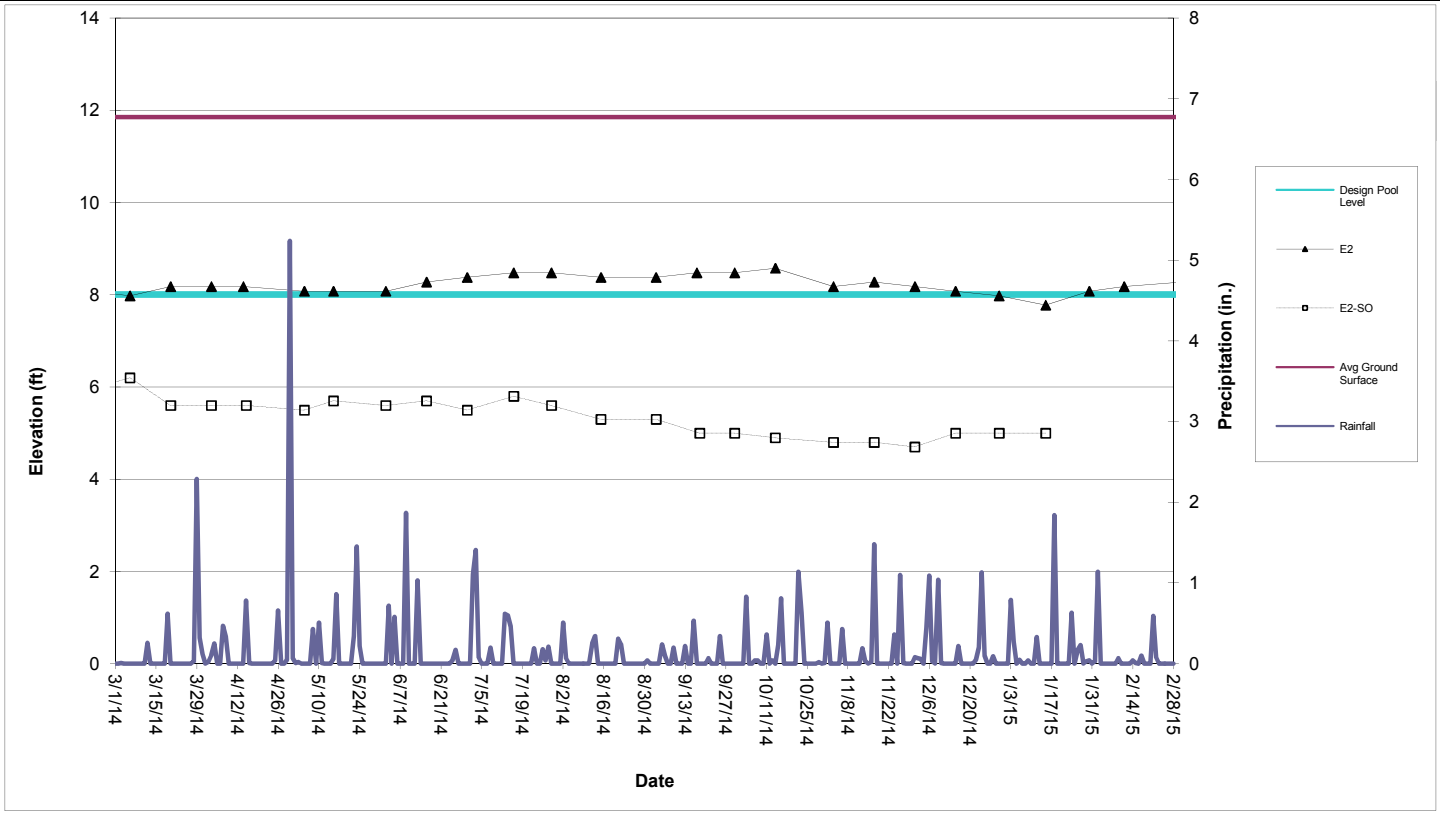
Perimeter Pool N3 (Sta. N6+80 to N10+23)



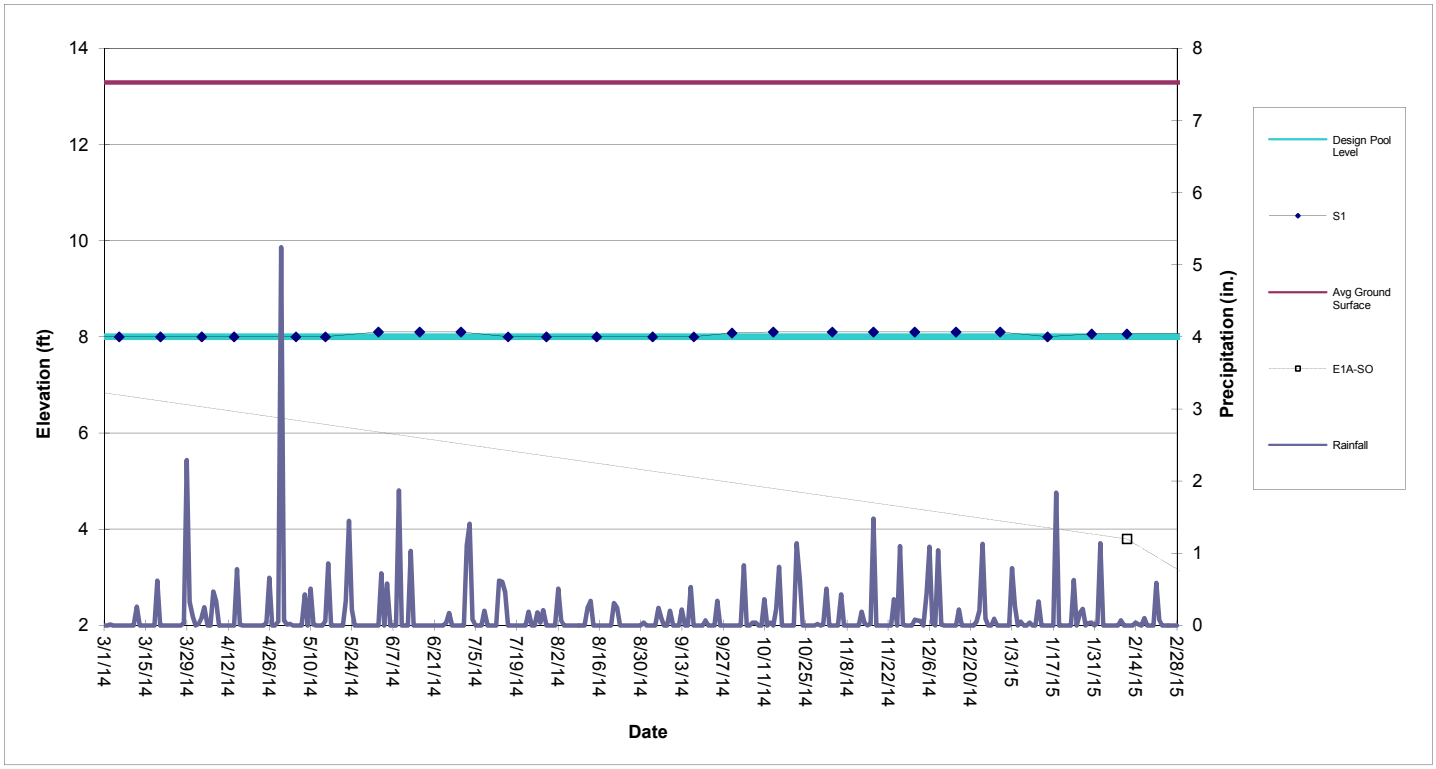
Perimeter Pool N4 (Sta. N6+80 to N10+23)



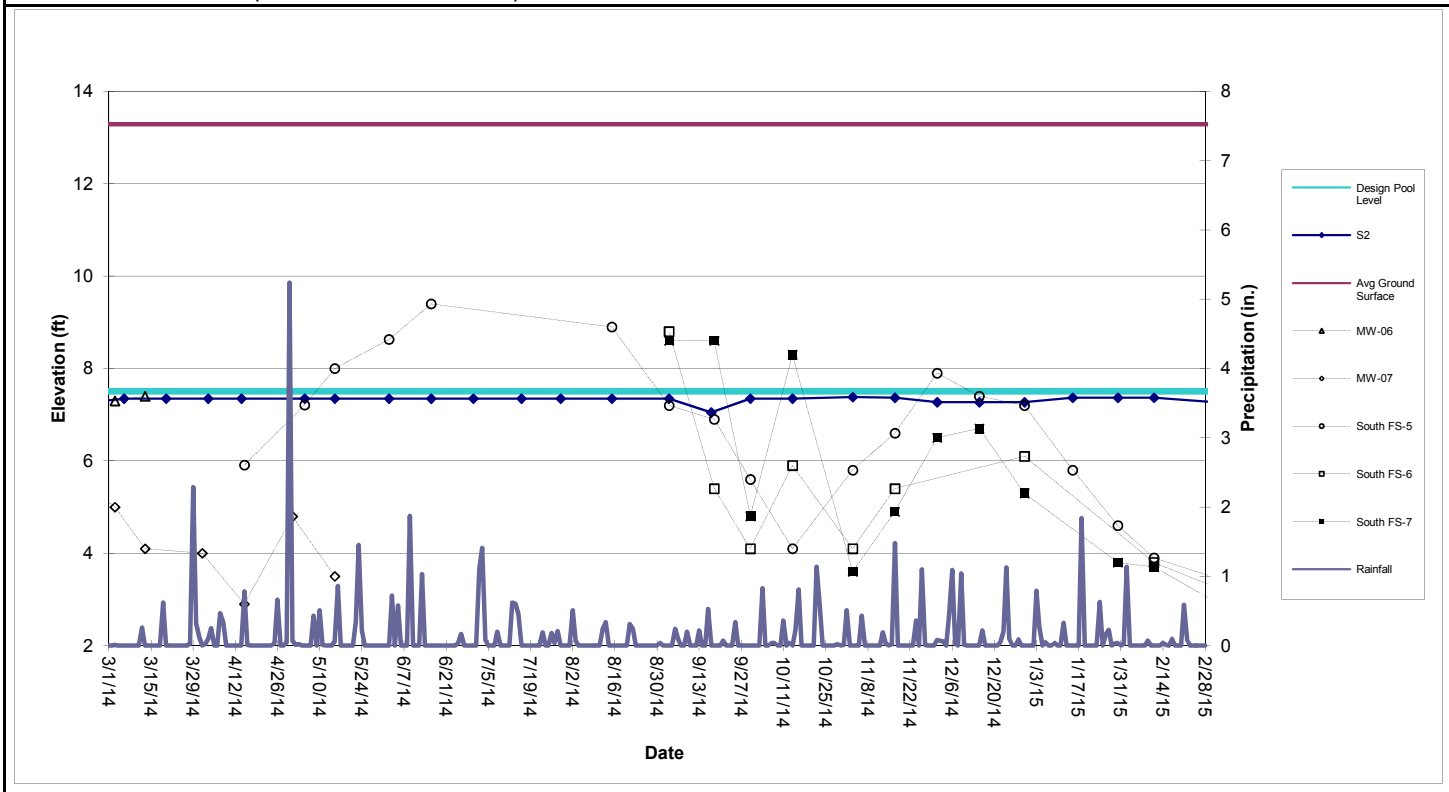
Perimeter Pool E1 (Sta. E0+50 to E3+75)



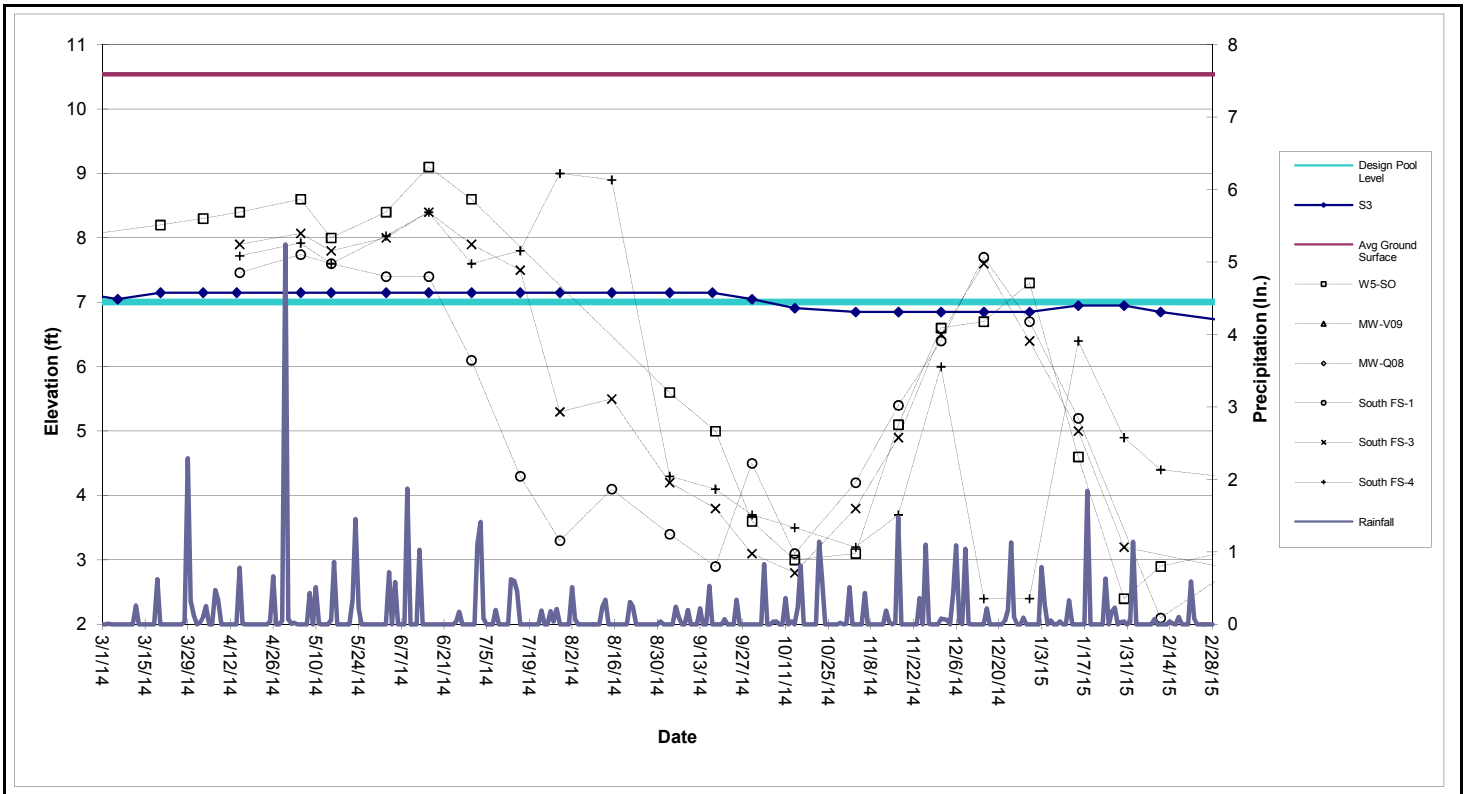
Perimeter Pool E2 (Sta. E4+50 to E7+25)



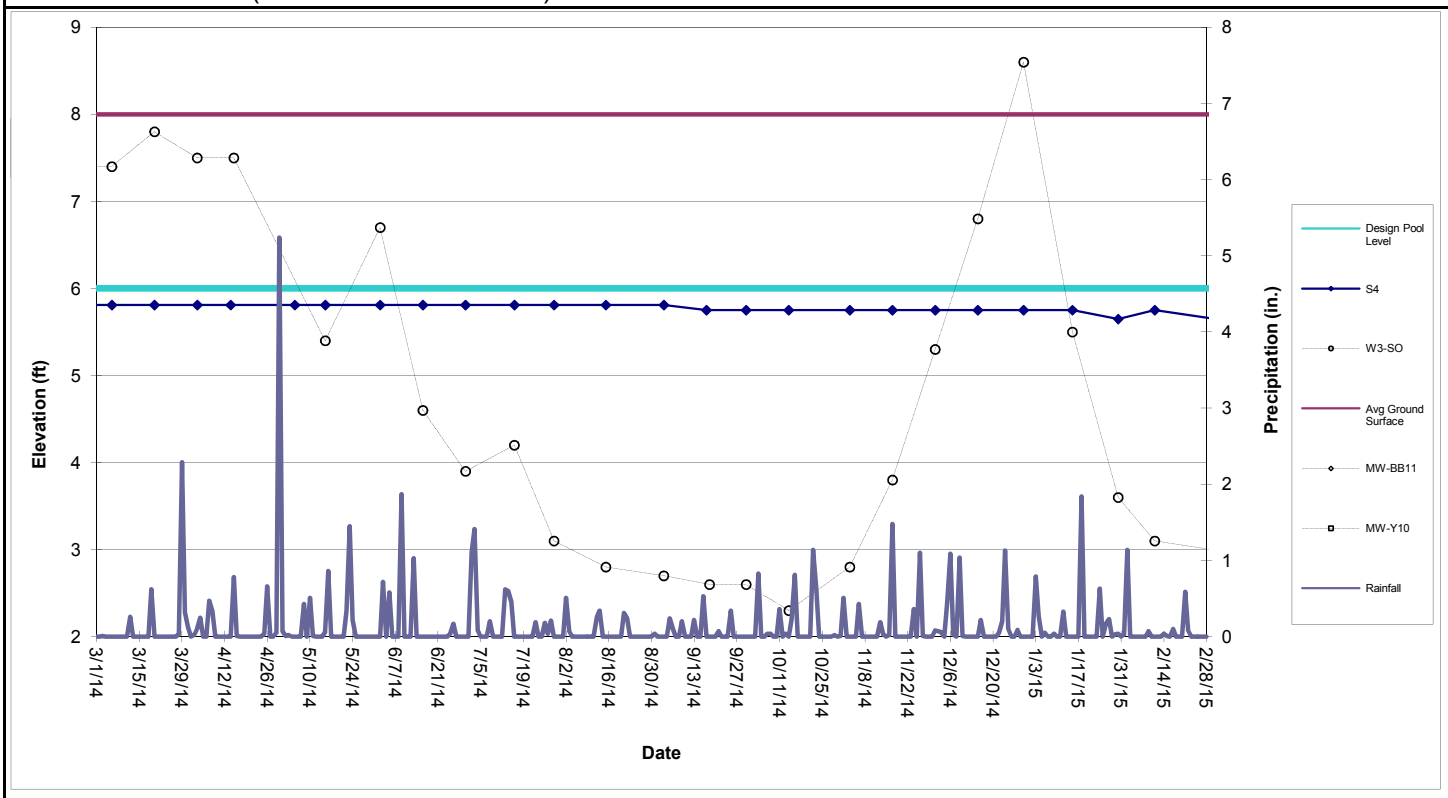
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										134-	140-		North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	MW-V09	MW-06	MW-07	FS-1	FS-2	FS-3	FS-4	FS-5	FS-6	FS-7	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																									
3/3/2014											7.3	5.0													
3/6/2014		6.2	6.8	6.5	7.3		7.4																		
3/13/2014											7.4	4.1													
3/20/2014		5.6	6.7	7.2	7.4		7.8	8.2																	
4/1/2014												4.0													
4/3/2014		5.6	6.6	7.3	7.7		7.5	8.3																	
4/15/2014		5.6	6.5	7.3	7.4	8.2	7.5	8.4	7.3			2.9	7.0	8.3	7.3	7.5				7.5	7.9	7.7	5.9		
5/1/2014												4.8													
5/5/2014		5.5	6.7	7.0	8.0	7.5		8.6	7.1				7.2		7.3	7.3				7.7	8.1	7.9	7.2		
5/15/2014		5.7	6.6	7.3	7.2		5.4	8.0	6.5			3.5	6.3	7.4	8.0	6.9				7.6	7.8	7.6	8.0		
6/2/2014		5.6	6.5	7.1	6.8		6.7	8.4	6.3				6.0	7.4	7.4	6.7				7.4	8.0	8.0	8.6		
6/16/2014		5.7	6.5	7.1	7.3		4.6	9.1	6.4				6.0	7.4	7.2	6.7				7.4	8.4	8.4	9.4		
6/30/2014		5.5	6.4	6.9	6.7		3.9	8.6	5.9				5.6	7.1	7.1	6.6				6.1	7.9	7.6			
7/16/2014		5.8	6.4	6.8	6.8		4.2		5.9				5.5	7.1	7.1	6.3				4.3	7.5	7.8			
7/29/2014		5.6	6.4	6.6	6.5		3.1		5.6				5.3	7.0	6.8	6.1				3.3	5.3	9.0			
8/15/2014		5.3	6.1	6.2	6.2		2.8		5.5				5.1	6.8	6.7	6.1				4.1	5.5	8.9	8.9		
9/3/2014		5.3	5.9	6.1	5.9		2.7	5.6	5.2				4.8	6.7	6.3	5.6				3.4	4.2	4.3	7.2	8.8	8.6
9/18/2014		5.0	5.8	5.9	5.7		2.6	5.0	5.1				4.8	6.5	6.1	5.6				2.9	3.8	4.1	6.9	5.4	8.6
9/30/2014		5.0	5.7	5.8	5.8		2.6	3.6	5.0				4.7	6.5	6.0	5.6				4.5	3.1	3.7	5.6	4.1	4.8
10/14/2014		4.9	5.5	5.8	5.8		2.3	3.0	5.0				4.6	6.4	5.9		5.7	5.2	5.6	3.1	2.8	3.5	4.1	5.9	8.3
11/3/2014		4.8	5.6	5.9	6.0		2.8	3.1	5.1				4.7	6.7	6.2		5.6	5.3	5.7	4.2	3.8	3.2	5.8	4.1	3.6
11/17/2014		4.8	5.5	6.2	6.0		3.8	5.1	5.0				4.6	6.5	6.4		5.6	5.3	5.7	5.4	4.9	3.7	6.6	5.4	4.9
12/1/2014		4.7	5.5	6.6	6.5		5.3	6.6	5.2				4.9	6.9	6.9		6.0	5.9	6.2	6.4	6.5	6.0	7.9		6.5
12/15/2014		5.0	5.8	7.5	6.9		6.8	6.7	5.5				5.2	7.3	6.9		6.4	6.2	6.7	7.7	7.6	2.4	7.4		6.7
12/30/2014		5.0	5.6	7.1	6.5		8.6	7.3	5.4				5.0	7.2	6.7		6.0	5.8	6.3	6.7	6.4	2.4	7.2	6.1	5.3
1/15/2015		5.0	5.6	7.0	5.5		5.5	4.6	5.1				4.8	7.1	7.0		6.2	6.1	6.3	5.2	5.0	6.4	5.8		
1/30/2015			6.5	7.1	5.5		3.6	2.4	5.1				4.8	6.7	6.5		6.1	6.0	6.3		3.2	4.9	4.6		3.8
2/11/2015	3.8		6.5	6.7	6.4		3.1	2.9					4.7	6.8	6.5		6.1	6.1	6.2	2.1		4.4	3.9	3.8	3.7

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells are temporarily inaccessible:
134-MW-V09, E2-SO, W1-SO, W6-SO, North FS-4, South FS-3

Attachment 8: Groundwater Quality Data

(not available as of this report date - provided on a quarterly basis)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

(not included in this reporting period)

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: February 5, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☑ Other Snow Cover
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water		X		3
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		4
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

NOTE: All comments are numbered for reference and included on the included comment section.

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 02/06/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, February 05, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	REPEAT: Additional silt fence is required along the southern toe of the 2-S stockpile area.
2	IA2Q4A1AL8	Windscreen on the Kellogg Street perimeter fence requires maintenance.
3	IA2Q4A1AL8	REPEAT: Ponded storm water has drained from the westernmost Site 163 open excavation through the Dreyer's Cove bulkhead, creating a void.
4	IA2Q4A1AL8	Sediment is present on the southern SA-7 roadway due to off-road dump truck traffic.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature Date: 02/06/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install additional silt fence along the southern toe of the 2-S surcharge area as required	
2	Re-attach windscreen to the chain link fabric	2-9-15 RAD
3	Repair the void in the Dreyer's Cove bulkhead as per the engineers design.	
4	Clean the sediment from the SA-7 roadway and install erosion control measures (tracking pads, etc.) as required to minimize sediment accumulation on the pavement.	2-6-15 RAD
	1 & 3 can not be completed due to	
	site being covered in a sheet of ice	

Construction Manager: _____ Date: 02/11/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: February 13, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 02/13/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, February 13, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	REPEAT: Additional silt fence is required along the southern toe of the 2-S stockpile area.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature **Date:** 02/13/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install additional silt fence along the southern toe of the 2-S surcharge area as required. Silt fence should extend eastwards along the slope of the area recently surcharged.	Site is covered in a sheet of ice and cannot be completed until thawed (RAD)

Silt fence to be installed once ground thaws.

Construction Manager: _____ **Date:** 02/18/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: February 20, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other Temps < 20°f
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		3
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 02/20/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, February 20, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	REPEAT. Additional silt fence is required along the southern toe of the 2-S stockpile area
2	IA2Q4A1AL8	Windscreen on the Kellogg Street perimeter fence has blown loose in several locations.
3	IA2Q4A1AL8	Windscreen on the perimeter fence between SA- and SA-6 North has blown loose in several locations.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: [signature] Date: 02/20/

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install additional silt fence along the southern toe of Sec. 2-S stockpile area as required. Silt fence should extend [illegible] along the slope of the [illegible]	Cannot be completed due to frozen ground
2	Re-install windscreen fabric to the perimeter fence as required	2-25-15 RAD
3	Re-install windscreen fabric to the perimeter fence as required	2-25-15 RAD

Construction Manager: [signature] Date: 02/25/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: February 25, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☑ Other Site Frozen/Snow covered
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		2
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		3
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		4
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		5
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 02/25/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Wednesday, February 25, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	REPEAT: Additional silt fence is required along the southern toe of the 2-S stockpile area.
2	IA2Q4A1AL8	The vehicle tracking pad at the site exit to the east of 60 Kellogg Street is blinded with snow/ice/sediment.
3	IA2Q4A1AL8	The storm drain at the site exit to the east of 60 Kellogg Street does not have a sediment filter installed.
4	IA2Q4A1AL8	the orange exclusion zone fencing on the western side of the sedimentation basin is down and requires maintenance.
5	IA2Q4A1AL8	There is a gap in the perimeter fenceline on SA-6 North where the CWTP discharge line exits the containment area.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature **Date:** 02/25/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install additional silt fence along the southern toe of the 2-S surcharge area as required. Silt fence should extend eastwards along the slope of the area recently surcharged.	Can not complete ground is frozen
2	Resurface the stone tracking pad as required to restore function.	2-25-15 RAD
3	Install filter fabric in the storm water catch basin located outside of the eastern 60 Kellogg gate.	2-25-15 RAD
4	Repair or replace the orange warning fencing on the western side of the sed basin exclusion zone.	2-25-15 RAD
5	Install a fencing panel in the area where the CWTP discharge line exits the secondary containment area.	2-25-15 RAD

Construction Manager: _____ **Date:** 02/26/15

Attachment 12: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (January 2015)

Honeywell
101 Columbia Rd
Morristown, NJ 07962

February 19, 2015

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 31630016

Dear Mr. Caltagirone:

Honeywell is submitting the January 2015 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely

Helen Fahy /sk

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA
Frank Schroyer - Parsons

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 31630016 OLD OUTLET DESIGNATION:

MONITORING PERIOD

Start			End		
1	01	15	1	31	15
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	76,112	91,413 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	0.89	1.07	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.1	<5.1	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1628	0.1628	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris HF

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

Feb 17, 2015

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 31630016 **OLD OUTLET DESIGNATION**

MONITORING PERIOD

Start			End		
1	01	15	1	31	15
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,359,467 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 27,066,596

DATE	BOD (mg/l)	TSS (mg/l)
1/16/2015	6.7	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J Morris VP	John J. Morris	(973) 455-4003
		DATE February 17, 2015

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG — Honeywell Jersey City GWTP; SA-6 North (Permit #31630016) — MONTH: January 2015

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
1/1/2015	Angel Trujillo	24707129	24791602	84,473	0.084473	7.55	1.400									0.99
1/2/2015	Angel Trujillo	24791602	24865808	74,206	0.074206	7.62	1.400									0.87
1/3/2015	Angel Trujillo	24865808	24942146	76,338	0.076338	7.44	1.400									0.89
1/4/2015	Angel Trujillo	24942146	24999653	57,507	0.057507	7.12	1.400									0.67
1/5/2015	Angel Trujillo	24999653	25091066	91,413	0.091413	7.03	1.400									1.07
1/6/2015	Angel Trujillo	25091066	25165920	74,854	0.074854	7.13	1.400									0.87
1/7/2015	Angel Trujillo	25165920	25240372	74,452	0.074452	7.16	1.400									0.87
1/8/2015	Angel Trujillo	25240372	25317444	77,072	0.077072	7.09	1.400									0.90
1/9/2015	Angel Trujillo	25317444	25395018	77,574	0.077574	7.15	1.400									0.91
1/10/2015	Angel Trujillo	25395018	25472650	77,632	0.077632	7.22	1.400									0.91
1/11/2015	Angel Trujillo	25472650	25553397	80,747	0.080747	7.14	1.400									0.94
1/12/2015	Angel Trujillo	25553397	25622374	68,977	0.068977	7.19	1.400									0.81
1/13/2015	Angel Trujillo	25622374	25698800	76,426	0.076426	7.16	1.400									0.89
1/14/2015	Angel Trujillo	25698800	25774022	75,222	0.075222	7.06	1.400									0.88
1/15/2015	Angel Trujillo	25774022	25850341	76,319	0.076319	7.10	1.400									0.89
1/16/2015	Angel Trujillo	25850341	25924633	74,292	0.074292	7.16	1.400	<5.1	6.7		<0.010	<0.030	<0.010	<0.0002	<0.020	0.87
1/17/2015	Angel Trujillo	25924633	26005981	81,348	0.081348	7.11	1.400									0.95
1/18/2015	Angel Trujillo	26005981	26082830	76,849	0.076849	7.10	1.400									0.90
1/19/2015	Angel Trujillo	26082830	26156177	73,347	0.073347	7.10	1.400									0.86
1/20/2015	Angel Trujillo	26156177	26229773	73,596	0.073596	7.07	1.400									0.86
1/21/2015	Angel Trujillo	26229773	26292737	62,964	0.062964	6.78	1.400									0.74
1/22/2015	Angel Trujillo	26292737	26376215	83,478	0.083478	7.08	1.400									0.97
1/23/2015	Angel Trujillo	26376215	26453039	76,824	0.076824	7.11	1.400									0.90
1/24/2015	Angel Trujillo	26453039	26535988	82,949	0.082949	7.06	1.400									0.97
1/25/2015	Angel Trujillo	26535988	26608368	72,380	0.07238	7.14	1.400									0.85
1/26/2015	Angel Trujillo	26608368	26682845	74,477	0.074477	7.07	1.400									0.87
1/27/2015	Angel Trujillo	26682845	26767908	85,063	0.0851	7.11	1.400									0.99
1/28/2015	Angel Trujillo	26767908	26836053	68,145	0.068145	7.10	1.400									0.80
1/29/2015	Angel Trujillo	26836053	26910845	74,792	0.074792	7.08	1.400									0.87
1/30/2015	Angel Trujillo	26910845	26987499	76,654	0.076654	7.09	1.400									0.90
1/31/2015	Angel Trujillo	26987499	27066596	79,097	0.079097	7.42	1.400									0.92
TOTAL				2,359,467	2.359467			<5.1	6.7		<0.010	<0.030	<0.010	<0.0002	<0.020	
			High:	91,413											High:	1.07
			Average:	76,112											Average:	0.89

WW

E

JB86591

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell — Chain Of Custody / Analysis Request

AESI Ref: 42020.66269
COC#: 087-WW-011615

Privileged & Confidential

Site Name: Hudson County
Phase: CS
Lab Proj # (SDG):
Location of Site: Jersey City, NJ
Sampling Program: 087: JCIA
Lab ID: ACTD
Site ID: HudsonCo
Lab Job #: HWINJM32815
Authorized User: Honeywell

Sampling Co.: MACTEC
EDD To:
Client Contact: (name, co., address)
Helen Fahy P. (973) 455-2989 E. helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962
Preliminary Data To
Sample Receipt Acknowledgement To: Frank Schroyer
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)

Sampler: Frank Schroyer
PO #
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Full Report TAT: 28 Days

Text & Excel File Drive | Excel & Text File Order

Copyright AESI: Version 6.0 Unauthorized use strictly prohibited.

	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA VS24-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
											Preservative		3	3	3	1	2	2	0	0	2						
1	087-WW			087-WWE-011615-A	1/16/2015	14:20	WW	WATER	REG	3	comp	N	X	X	X	X			X	X		1					
2	087-WW			087-WWE-011615-B	1/16/2015	14:35	WW	WATER	REG	5	grab	N					X	X				2					L21
3	087-WW			087-WWI-011615	1/16/2015	14:50	WW	WATER	REG	3	grab	N									X	3					V1025
4																											
5																											A14
6																											G21
7																											
8																											
9																											
10																											
11																											
12																											

JM

Relinquished by: pH = 7.16 SU @ 6.8°C	Company: AMEC Foster Wheeler	Received by	Company		Condition		Custody Seals Intact
Frank Schroyer	Date/Time: 1/16/15		Date/Time: 1/16/14 4:05pm		Cooler Temp.		
Relinquished by	Company	Received by	Company		Condition		Custody Seals Intact
	Date/Time: 1/16/15 18:10		Date/Time: 1/16/15 1820		Cooler Temp.	0.34°F	

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); ap (special instructions)

3BWM

ALL SAMPLES RECEIVED PRESERVED AS APPLICABLE

Accutest LabLink@837523 11:28 06-Feb-2015

Report of Analysis

4.1
4

Client Sample ID:	087-WWE-011615-A		
Lab Sample ID:	JB86591-1	**Date Sampled:**	01/16/15
Matrix:	AQ - Water	**Date Received:**	01/16/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1400	10	ug/l	1	01/19/15	01/20/15	GT	EPA 200.7 [2]	EPA 200.7 [3]
Copper	< 10	10	ug/l	1	01/19/15	01/20/15	GT	EPA 200.7 [2]	EPA 200.7 [3]
Lead [a]	< 30	30	ug/l	10	01/19/15	01/20/15	GT	EPA 200.7 [2]	EPA 200.7 [3]
Mercury	< 0.20	0.20	ug/l	1	01/19/15	01/19/15	JW	EPA 245.1 [1]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	01/19/15	01/20/15	GT	EPA 200.7 [2]	EPA 200.7 [3]
Zinc	< 20	20	ug/l	1	01/19/15	01/20/15	GT	EPA 200.7 [2]	EPA 200.7 [3]

(1) Instrument QC Batch: MA35880
(2) Instrument QC Batch: MA35888
(3) Prep QC Batch: MP84483
(4) Prep QC Batch: MP84493

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@837523 11:28 06-Feb-2015

Report of Analysis

Client Sample ID:	087-WWE-011615-A		
Lab Sample ID:	JB86591-1	**Date Sampled:**	01/16/15
Matrix:	AQ - Water	**Date Received:**	01/16/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.1

4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	01/17/15	JS	SM2540 D-11
pH [a]	7.06		su	1	01/16/15 18:26	HL	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@837523 11:28 06-Feb-2015

Report of Analysis

4.2 4

Client Sample ID:	087-WWE-011615-A		
Lab Sample ID:	JB86591-1A	**Date Sampled:**	01/16/15
Matrix:	AQ - Water	**Date Received:**	01/16/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	6.7	3.4	mg/l	1	01/16/15 19:11	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@837523 11:28 06-Feb-2015

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-011615-B		
Lab Sample ID:	JB86591-2	**Date Sampled:**	01/16/15
Matrix:	AQ - Water	**Date Received:**	01/16/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U191899.D	1	01/20/15	NH	n/a	n/a	VU8860
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	2.1	ug/l	
107-13-1	Acrylonitrile	ND	10	1.3	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	2.3	1.0	0.12	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.32	ug/l	
56-23-5	Carbon tetrachloride	3.4	1.0	0.16	ug/l	
108-90-7	Chlorobenzene	0.22	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.45	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	18.1	1.0	0.14	ug/l	
74-87-3	Chloromethane	ND	1.0	0.16	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.19	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	0.42	1.0	0.11	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.11	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.12	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.46	ug/l	
75-34-3	1,1-Dichloroethane	0.35	1.0	0.15	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	ug/l	
156-59-2	cis-1,2-Dichloroethene	85.1	1.0	0.23	ug/l	
156-60-5	trans-1,2-Dichloroethene	4.3	1.0	0.24	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.17	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.16	ug/l	
123-91-1	1,4-Dioxane	ND	130	89	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.093	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.49	1.0	0.20	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest LabLink@837523 11:28 06-Feb-2015

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-011615-B		
Lab Sample ID:	JB86591-2	**Date Sampled:**	01/16/15
Matrix:	AQ - Water	**Date Received:**	01/16/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.15	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.29	ug/l	
79-01-6	Trichloroethene	48.1	1.0	0.17	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.31	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.12	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	102%		72-125%
2037-26-5	Toluene-D8 (SUR)	102%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	103%		74-112%
1868-53-7	Dibromofluoromethane (S)	101%		79-120%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest LabLink@837523 11:28 06-Feb-2015

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-011615-B		
Lab Sample ID:	JB86591-2	**Date Sampled:**	01/16/15
Matrix:	AQ - Water	**Date Received:**	01/16/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.1	5.1	mg/l	1	01/20/15	JOO	EPA 1664A

RL = Reporting Limit

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending February 2015

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA-6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

SA-6 AND SA-7 COMBINED PROGRESS REPORT

APRIL 15, 2015

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

April 15, 2015

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2015-03

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from March 1 – March 31, 2015.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: March 2015 SA-6/7 Combined Monthly Progress Report No. 2015-03

cc: Joe Clifford - Amec Foster Wheeler (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)

Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2015-03

Project SA-6 & 7 Remediation

March 2015

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
03/03/15	Underground Storage Tank Remedial Action Report 75 Kellogg Street Jersey City (Hudson County), New Jersey Block 24601/Lot 11 NJDEP PI No. 010374 Study Area 6, Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
03/04/15	Response to Comments Provided by Dr. Ben Ross January 9, 2015 In-situ Groundwater Sampling Beneath Riverbed Sediments Study Area 7, Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
03/09/15	Response to Comments provided by Terris, Pravlik & Millian, LLP and O'Connell & Lawrence Surcharge Monitoring Plan Reports No. 7, 8 and 9 Study Areas 6 North and South, Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
03/13/15	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 31630016 June 2014	Andy Caltagirone Manager of Industrial & Pollution Control Passaic Valley Sewerage Commission
03/13/15	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2015-02 Study Areas 6 and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
03/17/15	Special Master Meeting	N/A
03/30/15	SA-6 North Treatment Areas 7 & 8 SA-6 South Site 163 Summary of In-Situ Treatment of Hexavalent Chromium Impacted Soils Study Areas 6 North and South, Jersey City, NJ	Robert G. Torricelli Office of the Special Master

Date	Submittal/Meeting	Recipient
03/31/15	Plume Pull-Back Presentation	Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	03/8/15	03/15/15	03/22/15	03/22/15
Construction Management (AMEC)	10	10	11	10
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	27	29	27	27
Arecon/US Ecology Subcontractors	1	1	2	2
Evoqua	1	1	1	1
HBS (SA-6N GWTP Security System)	0	0	0	0
Gramercy	9	9	8	0
TOTAL STAFF	**53**	**55**	**54**	**45**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected March PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- On March 18, 2015, Gramercy completed the above-grade demolition of the former JCIA Building Structures. Site cleanup and demobilization activities were completed on March 23, 2015.
- After demobilization of Gramercy, the former JCIA parcel was incorporated into the perimeter fencing to allow for hydraulic barrier installation and subsequent chromium remediation in this portion of SA-6 North.

- On March 22, 23, and 24th, 2015, Cornerstone personnel conducted S-3 Mass Removal Injection Event #19 in Injection Well 088-IW-01.
- Installed three (3) utility pole sleeves along Route 440 for future PSE&G overhead power line relocation.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on March 11, 2015.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	03/8/15	03/15/15	03/22/15	03/29/15
Avg. Gallons Treated & Discharged (per day)	76,688	77,070	77,533	76,391
Average Flow (gpm) for Operating Period	54	54	54	53
Avg. Hours of Plant Operation	24	24	24	24
GWTP Influent Tanks (gal.)	5,532	5,408	4,954	5,078

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Completed abandonment of Deep wells DW1, DW2 DW3, DW4 and DW5. The Deep Wells were associated with the temporary construction dewatering activities installed by Entact in the SA-6 South Backfill area.
- Began well abandonment activities on SA-6 North.
- Continued loadout of non-hazardous petroleum impacted soils from SA-6 South.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Gramercy- (JCIA Demo)	40 cyd roll off	Jersey City, NJ	Sims Metal	Metal	9	11.0	99.2
Gramercy- (JCIA Demo)	40 cyd roll off	North Bergen, NJ	Cardella Waste	C&D	13	17.2	224.73

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Gramercy- (JCIA Demo)	30 cyd roll off	Bayonne, NJ	Durable Recycling	Concrete	11	15.0	165
Gramercy- (JCIA Demo)	40 cyd roll off	Bayonne, NJ	Durable Recycling	Brick/Masonry	62	17.9	1,112.8
Entact/ Arecon	Tri-axle Dump	South Brunswick, NJ	MCUA	Petroleum Impacted Soil	534	26.6	14,239

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Excavation Completed	No update for the reporting period
Backfill in Progress	No update for the reporting period

3. BACKFILL MATERIALS USED

Source	Week Ending			
	03/8/15	03/15/15	03/22/15	03/29/15
NJCU Borrow Material, CY	3,735	6,765	0	0

- Clean borrow material (from NJCU Surcharge Program) was delivered to the site during the weeks of March 2, 2015 through March 13, 2015. A total of 700 loads were delivered totaling approximately 10,500 cubic yards. Borrow material is stockpiled in the eastern area of SA-6 South and will be placed as backfill weather permitting.

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging complete on Area 2S. Continue offloading Celgene and Novartis surcharge material (approximately 65% complete).
- Area 3S: Surcharge placement completed on Area 3S and monitoring ongoing.
- Area 1N: Surcharge removal activities were discontinued in February in Area 1N. Surcharge removal activities in this area remain at approximately 85% complete.
- Area 2N: Surcharging is 100% complete. Offloading not yet scheduled by contractor.
- Area 3N: No activity in this area pending installation of surcharge monitoring instrumentation.
- Area 4N: No activity in this area pending installation of surcharge monitoring instrumentation.

F. SHEET PILE OPERATIONS

- Completed delivery of sheet pile for the remaining barrier wall at SA-6 North with exception of several specialty pieces.
- Completed removal of temporary sheet pile on SA-6 South.
- Continued vertical barrier wall installation activities on SA-6 North. Installed vertical barrier wall sheet pile from west of the sedimentation basin eastward through the sedimentation basin and through a portion of the former JCIA property ending east of the trash pit, STA 14+00 to STA 5+25. Vertical barrier wall was also installed on the western perimeter of the SA-6 North cap area from STA 21+75 to STA 23+42.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014, 1 yr. extension granted 10/6/14	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15	12/2/15	Pending

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete loadout and transportation and disposal activities of non-hazardous petroleum impacted soils at SA-6 South.
- Continue Vertical Hydraulic Barrier wall installation activities on SA6 North.
- Remove standing water within the JCIA trash pit and begin removal and loadout of putrescible trash.
- Resume backfilling placement activities at SA-6 South.
- Complete installation of sleeves for anchors associated with Verizon overhead line relocation activities.
- Conduct S-3 Mass Removal Injection Event No. 20.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Continue the SA-6 North Bench-Scale Treatability Study for Treatment Area 10 proximate to force main.
- Continue to coordinate with the JCDPW on their off-site relocation of remaining equipment from SA-6 North.

ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
4. *Dewatering Operations Update (not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
7. Perimeter Pools Update
8. *Groundwater Quality Data (sampled quarterly, not available for this reporting period)*
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. Sheet Pile Update
11. Weekly SWPPP Reports

12. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (February 2015)
13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**Fri 1/4/08**
18	**JCIA/JCDPW Relocation**	**1735 days**	**Mon 8/11/08**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09
22	Relocation Contractor Procurement	392 days	Thu 4/15/10
23	JCIA and JCDPW Relocation	753 days	Mon 10/17/11
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11
24a	Demolition of JCIA Structures	151 days	Mon 9/1/14
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**
58	New GWTP Construction Completion	502 days	Mon 3/5/12
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11
60	**SA-6 North/South Field Implementation**	**838 days**	**Fri 3/1/13**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	Mon 6/17/13
60b	SA-6S (Site 163) In-Situ Treatment	294 days	Fri 11/15/13
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**
61a	Mobilization	87 days	Fri 3/1/13
62	**Surcharge Install/Instrumentation**	**620 days**	**Mon 6/17/13**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	Mon 6/17/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	Mon 6/2/14
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Mon 3/2/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	Mon 10/20/14
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	Mon 3/3/14
63	**Barrier Wall Install**	**489 days**	**Mon 6/17/13**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**Mon 12/2/13**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	Mon 12/2/13
63c	SA-6N Stations 23+38 to 14+25	90 days	Mon 2/17/14
63d	SA-6N Stations 14+25 to 0+00	224 days	Mon 6/23/14
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**Mon 6/17/13**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	Mon 6/17/13
63h	SA-6S Stations 1+54 to 8+37	7 days	Fri 8/16/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	Thu 10/3/13
63j	SA-6S Stations 8+60 to 14+87	145 days	Mon 11/11/13
64	**Excavation**	**507 days**	**Tue 10/22/13**
64a	SA 6N Excavation	218 days	Mon 12/1/14
64b	**SA 6S Excavation**	**226 days**	**Tue 10/22/13**
64c	SA-6S Excavation of Cells 1 - 25	53 days	Tue 10/22/13
64d	SA-6S Excavation of Cells 26 - 60	90 days	Fri 1/3/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	Fri 5/9/14
65	**Backfill**	**493 days**	**Mon 11/11/13**
65a	SA 6N Backfill	218 days	Mon 12/1/14
65b	SA 6S Backfill	232 days	Mon 11/11/13
66	**Capping and Cover Soil Placement**	**315 days**	**Mon 12/1/14**
66a	SA 6N Capping and Cover Soil Placement	119 days	Tue 9/1/15
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14
67	**Restoration**	**164 days**	**Tue 9/1/15**
67a	Restoration	164 days	Tue 9/1/15

Project: SA-6 Remediation Schedule
Revision 3
Date: Mon 3/30/15

Task | Milestone | Summary | Critical

Attachment 2: Site Photographs

Site Photograph 1: Breaking up concrete for sheet pile installation.

Site Photograph 2: Grading Clean Fill.

Site Photograph 3: Installing Sheet Pile on JC Properties.

Site Photograph 4: Moving surcharge material to stockpile area.

Photograph 5: Relocated surcharge soils stockpile.

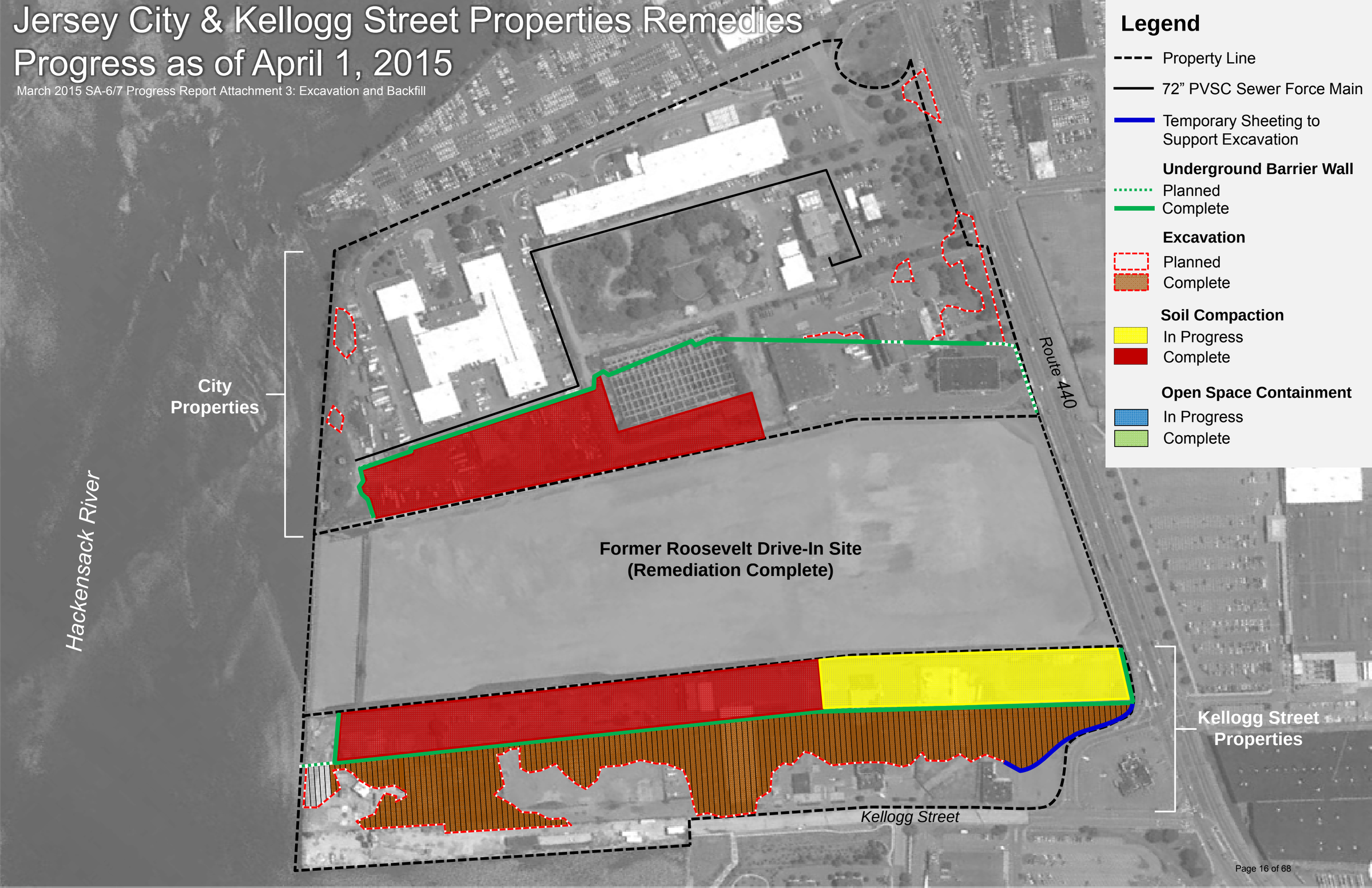
Site Photograph 6: Unloading Clean Fill.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of April 1, 2015

March 2015 SA-6/7 Progress Report Attachment 3: Excavation and Backfill



Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
01/30/15	7:00	14:00	7:00	27,180.82	27,268.67	87,850	27,268,220	
02/04/15	7:00	12:30	5:30	27,268.67	27,317.51	48,840	27,317,060	PVSC Compliance Sample Collected
02/05/15	7:30	15:00	7:30	27,317.51	27,437.11	119,600	27,436,660	
02/09/15	9:30	14:30	5:00	27,437.11	27,484.85	47,740	27,484,400	
02/10/15	9:30	16:15	6:45	27,484.85	27,587.00	102,150	27,586,550	
02/11/15	8:00	14:30	6:30	27,587.00	27,626.34	39,340	27,625,890	
02/12/15	8:00	14:30	6:30	27,626.34	27,687.34	61,000	27,686,890	
02/20/15	10:30	12:15	1:45	27,687.34	27,702.61	15,270	27,702,160	
02/23/15	7:30	15:30	8:00	27,702.61	27,758.65	56,040	27,758,200	
02/25/15	7:30	15:00	7:30	27,758.65	27,788.98	30,330	27,788,530	
02/26/15	7:30	14:00	6:30	27,788.98	27,806.88	17,900	27,806,430	
03/02/15	10:30	14:30	4:00	27,806.88	27,853.74	46,860	27,853,290	
03/04/15	7:30	14:00	6:30	27,853.74	27,955.09	101,350	27,954,640	PVSC Compliance Sample Collected
03/05/15	8:00	14:00	6:00	27,955.09	28,075.85	120,760	28,075,400	
03/06/15	7:30	14:30	7:00	28,075.85	28,200.09	124,240	28,199,640	
03/09/15	7:30	15:00	7:30	28,200.09	28,324.06	123,970	28,323,610	
03/10/15	7:30	15:00	7:30	28,324.06	28,458.25	134,190	28,457,800	
03/11/15	8:00	14:30	6:30	28,458.25	28,520.01	61,760	28,519,560	
03/12/15	9:00	15:00	6:00	28,520.01	28,571.66	51,650	28,571,210	
03/13/15	8:00	15:00	7:00	28,571.66	28,691.97	120,310	28,691,520	
03/14/15	8:00	16:30	8:30	28,691.97	28,827.02	135,050	28,826,570	
03/15/15	10:00	17:00	7:00	28,827.02	28,912.43	85,410	28,911,980	
03/16/15	7:30	15:15	7:45	28,912.43	29,086.98	174,550	29,086,530	
03/17/15	8:00	14:30	6:30	29,086.98	29,181.23	94,250	29,180,780	
03/18/15	7:30	15:00	7:30	29,181.23	29,228.98	47,750	29,228,530	
03/19/15	7:30	15:15	7:45	29,228.98	29,340.87	111,890	29,340,420	
03/20/15	8:00	14:00	6:00	29,340.87	29,436.92	96,050	29,436,470	
03/23/15	8:30	15:00	6:30	29,436.92	29,533.78	96,860	29,533,330	
03/24/15	7:30	15:00	7:30	29,533.78	29,615.04	81,260	29,614,590	
03/25/15	7:30	15:15	7:45	29,615.04	29,748.59	133,550	29,748,140	
03/26/15	7:30	15:30	8:00	29,748.59	29,862.15	113,560	29,861,700	
03/27/15	7:30	15:30	8:00	29,862.15	29,986.08	123,930	29,985,630	
03/28/15	9:00	15:00	6:00	29,986.08	30,091.41	105,330	30,090,960	

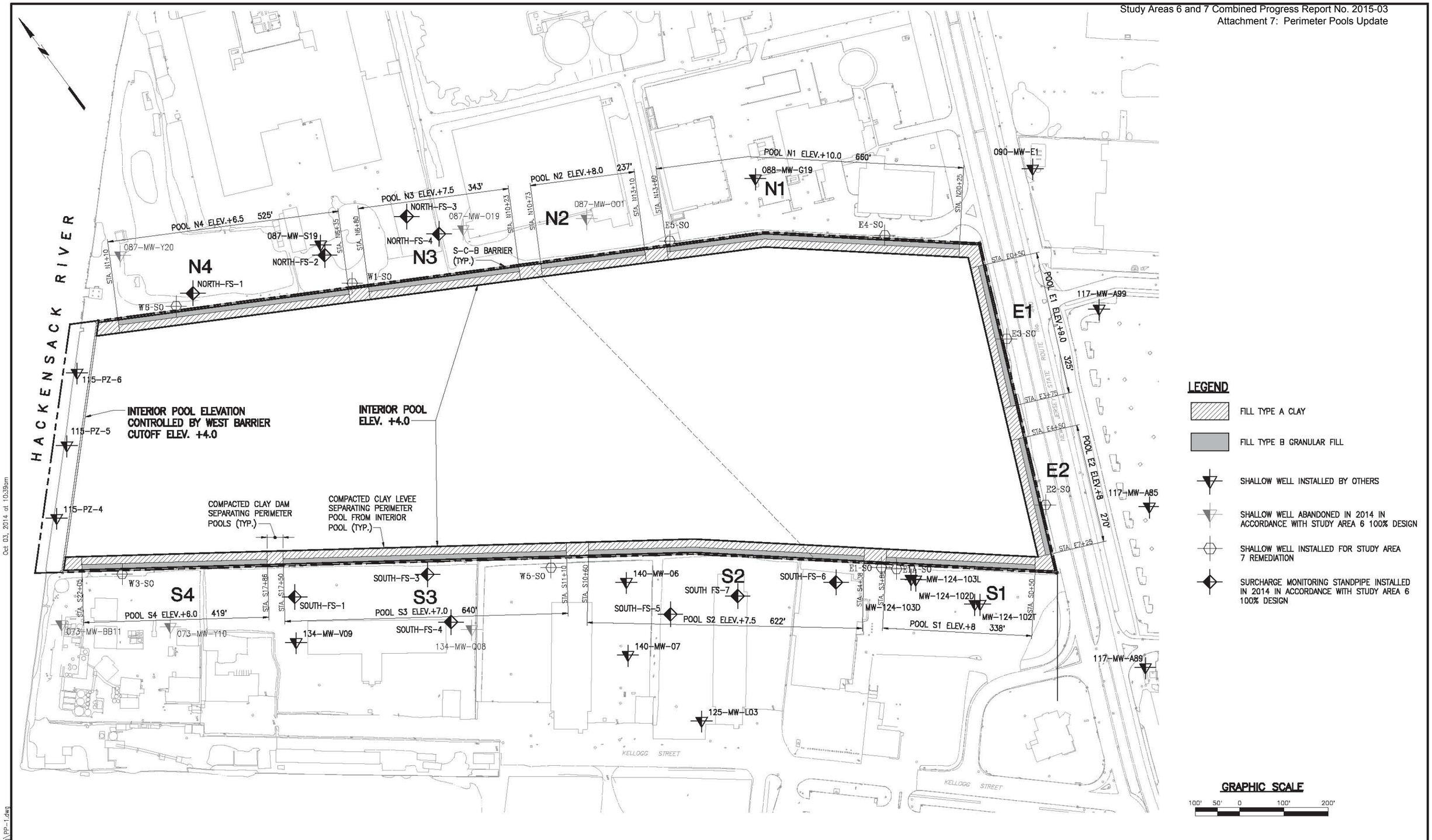
Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
106-110	<20	124-110-20-a,b,c (A30)	2400	124-110-20-a1	12/2/2014	13:00	25		Yes	
				124-110-20-a2	12/2/2014	13:05	44		Yes	
				124-110-20-a3	12/2/2014	13:10	29.1		Yes	
				124-110-20-a4	12/2/2014	13:15	14.8	Yes		
				124-110-20-b1	12/2/2014	13:20	23.1		Yes	
				124-110-20-b2	12/2/2014	13:25	12.9	Yes		
				124-110-20-b3	12/2/2014	13:30	3	Yes		
				124-110-20-b4	12/2/2014	13:35	1.8	Yes		
				124-110-20-c1	12/2/2014	13:40	12.9	Yes		
				124-110-20-c2	12/2/2014	13:45	15.6	Yes		
				124-110-20-c3	12/2/2014	13:50	29.1		Yes	
				124-110-20-c4	12/2/2014	13:55	179		Yes	
110-114	<20	124-114-20-a (A31)	1000	124-114-20-a1	12/16/2014	10:40	29.8		Yes	
				124-114-20-a2	12/16/2014	10:45	34.5		Yes	
				124-114-20-a3	12/16/2014	10:50	49.3		Yes	
				124-114-20-a4	12/16/2014	10:55	19.9	Yes		
Site 41	<20	124-114-20-b	135	124-114-20-b1	12/16/2014	11:00	10.6	Yes		
110-114	>1,000	124-114-1000-a (East D 6)	625	124-114-1000-a1	12/16/2014	13:15	42.3		Yes	
				124-114-1000-a2	12/16/2014	13:20	65		Yes	
				124-114-1000-a3	12/16/2014	13:25	75.3		Yes	
				124-114-1000-a4	12/16/2014	13:30	16.5		Yes	

*Material currently stockpiled. Pending final placement.
**Waiting on results from the laboratory.

Attachment 7: Perimeter Pools Update



IN PROGRESS
10-02-2014

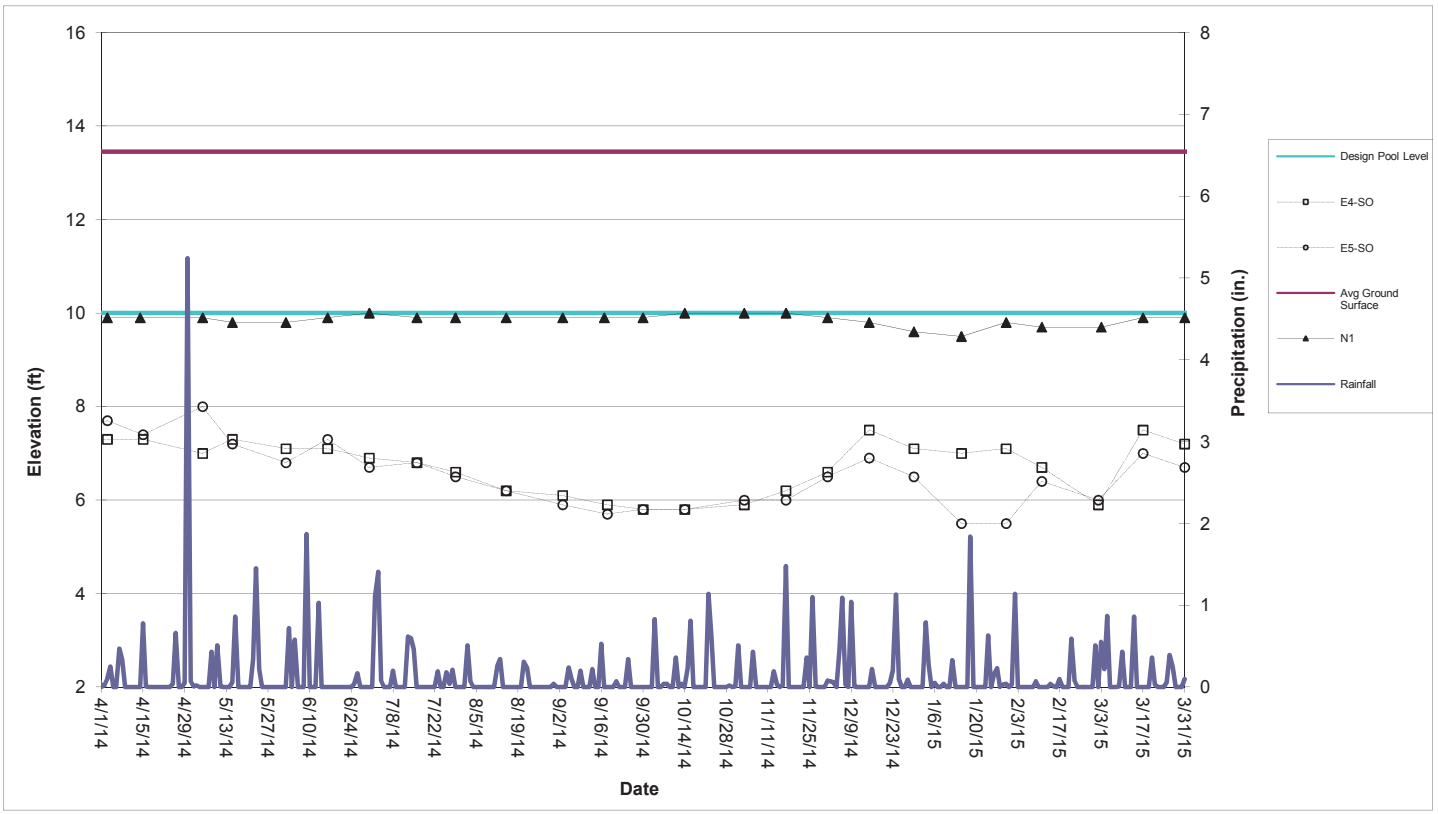
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

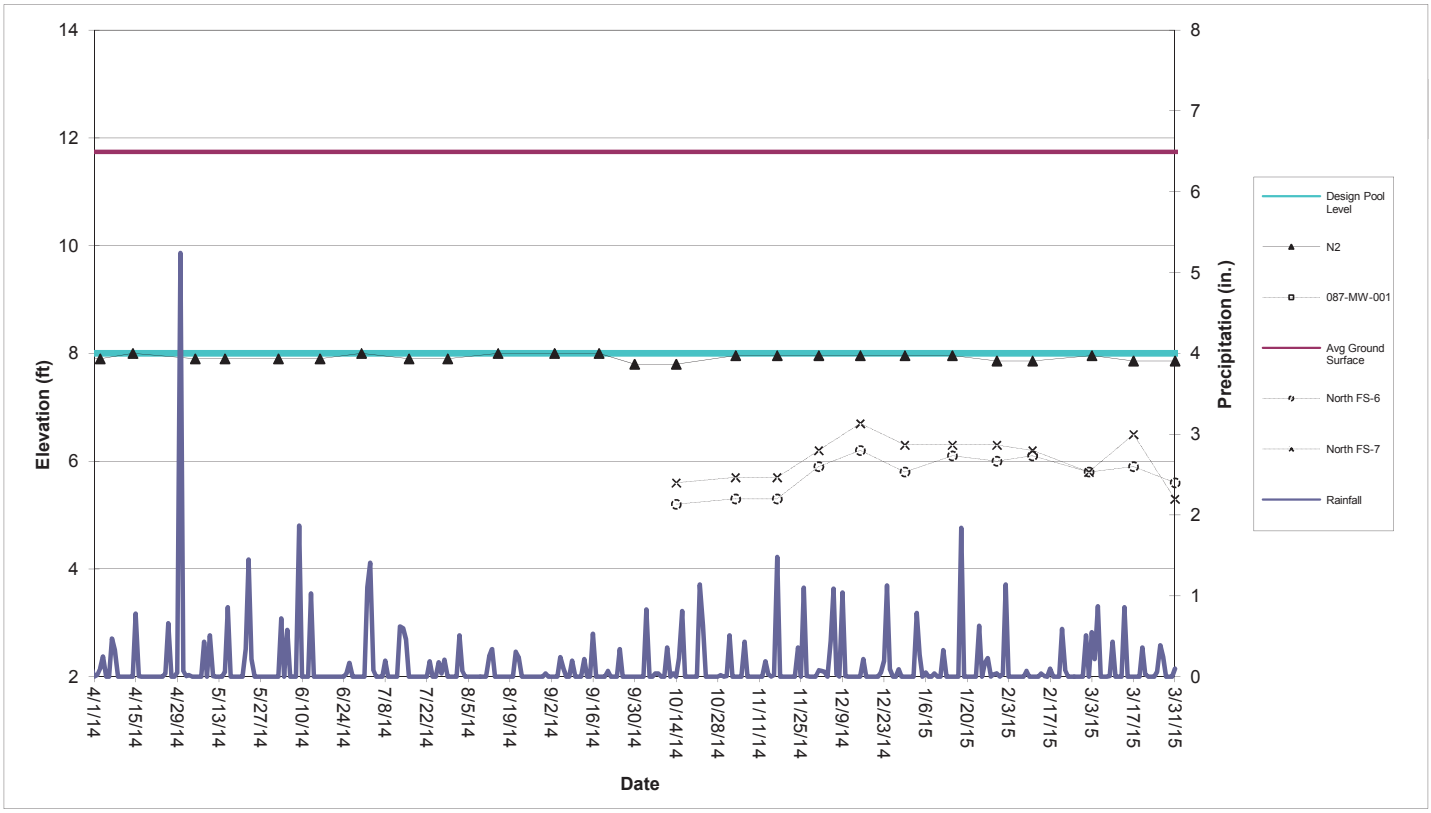
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP–1

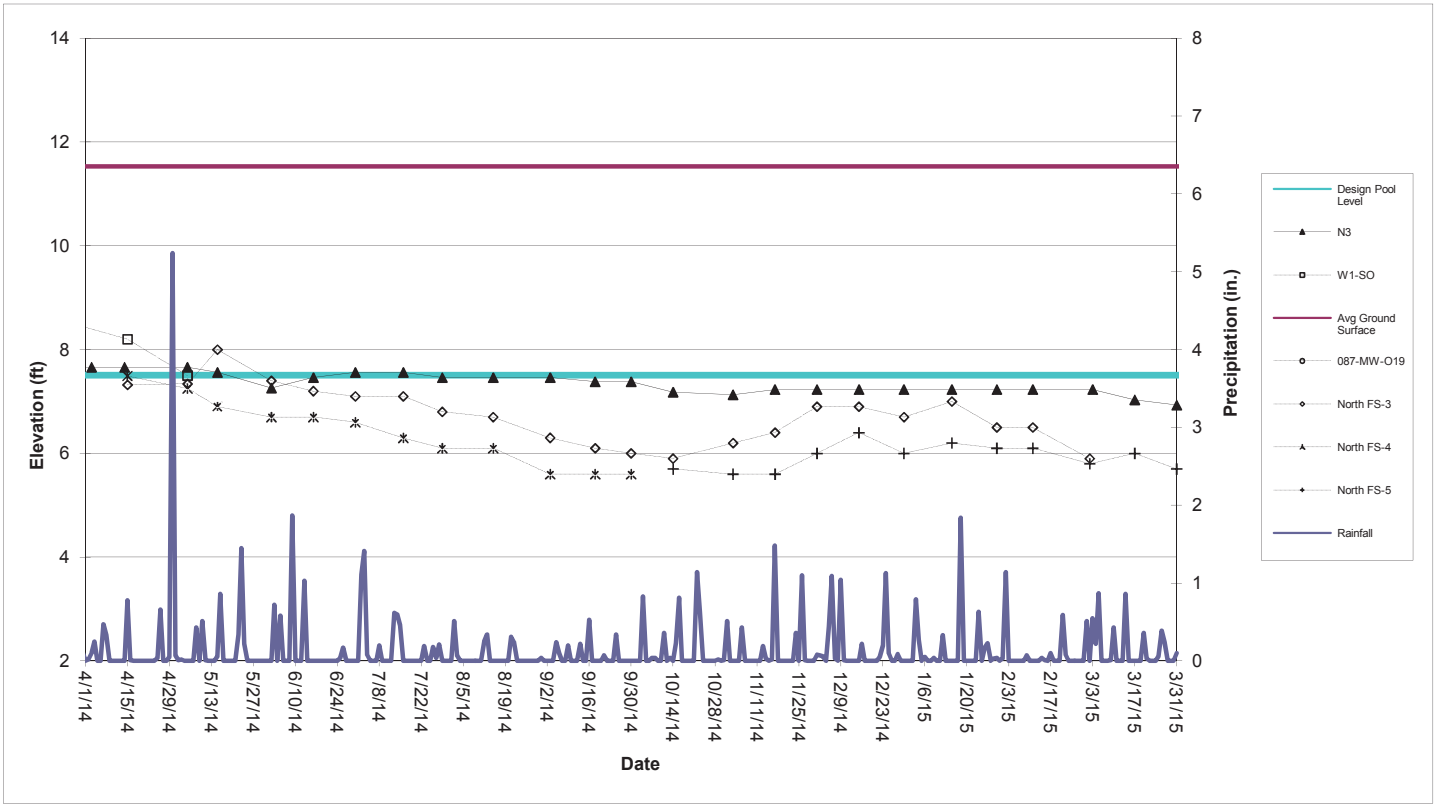
Oct 03, 2014 at 10:39am
G:\DWGS\102\10210\Dewatering\PP-1.dwg
edelossantos



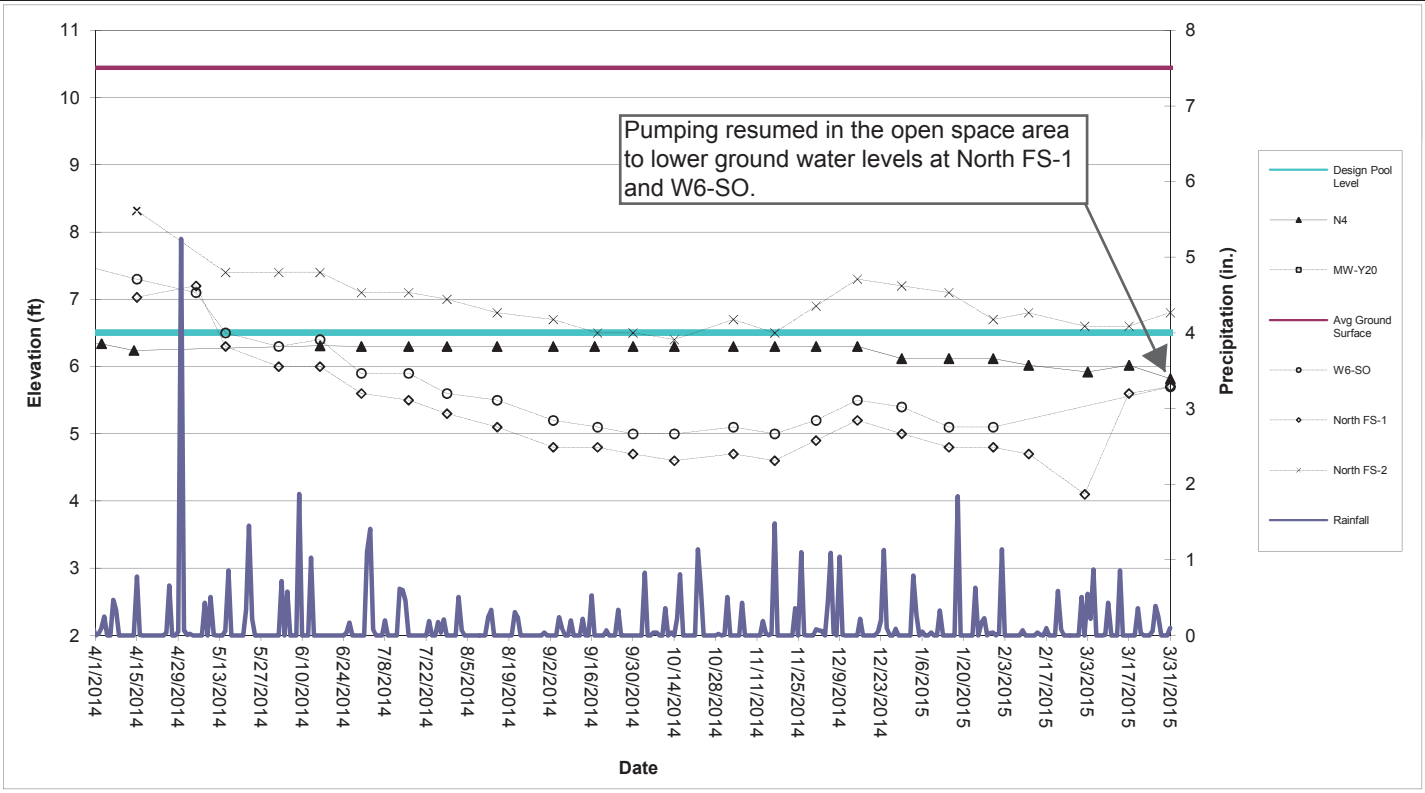
Perimeter Pool N1 (Sta. N13+60 to N20+25)



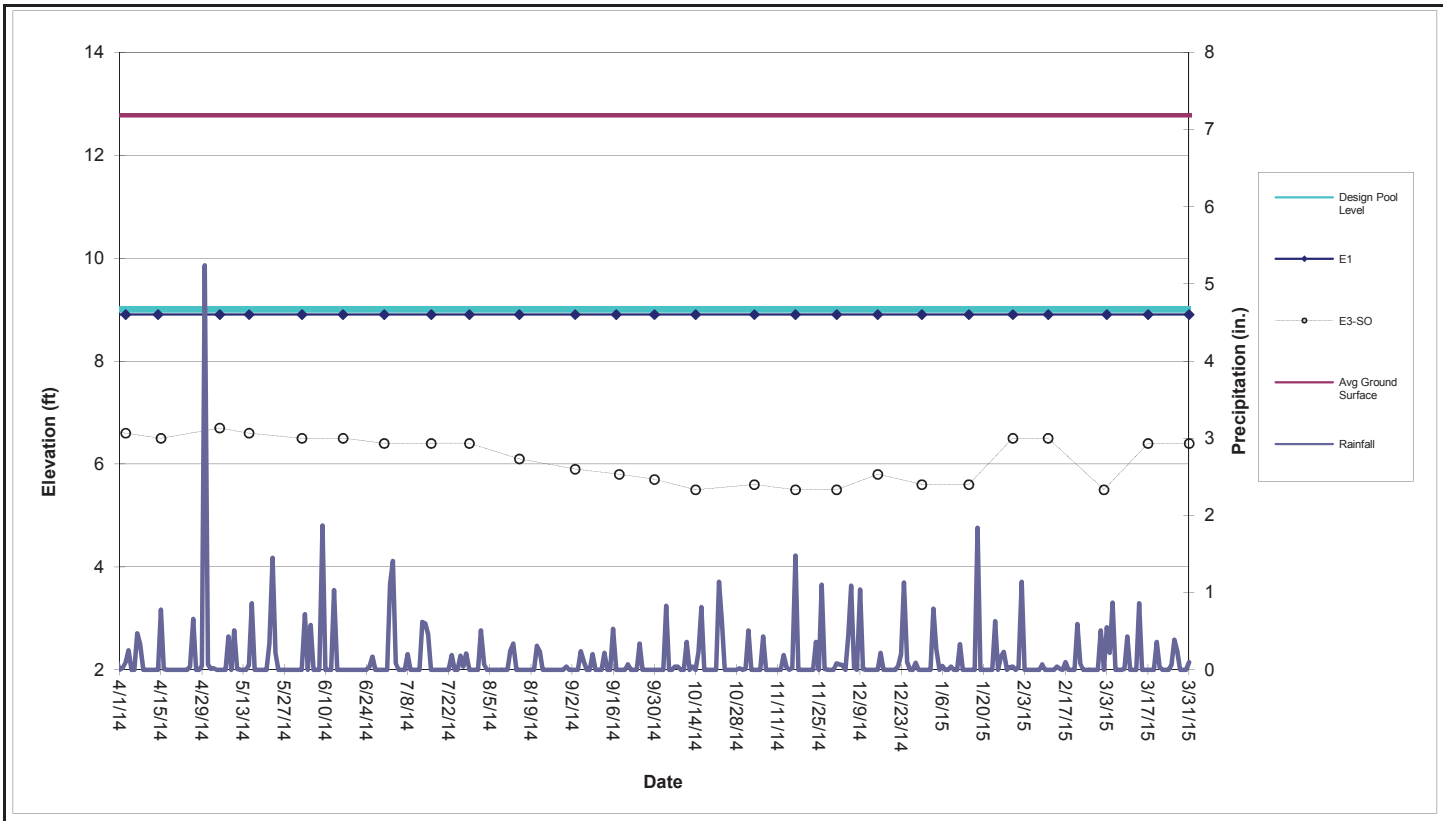
Perimeter Pool N2 (Sta. N10+73 to N13+10)



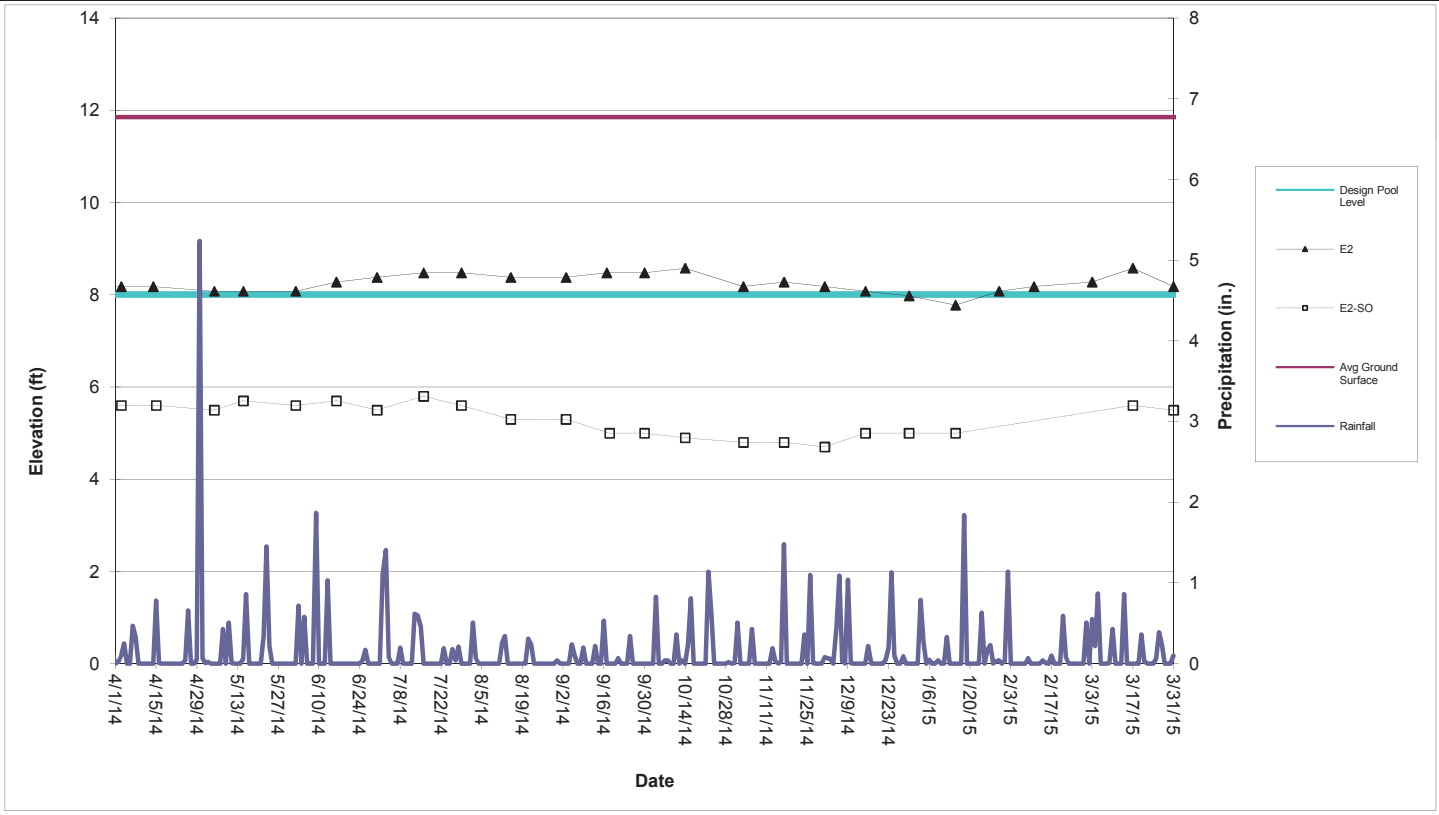
Perimeter Pool N3 (Sta. N6+80 to N10+23)



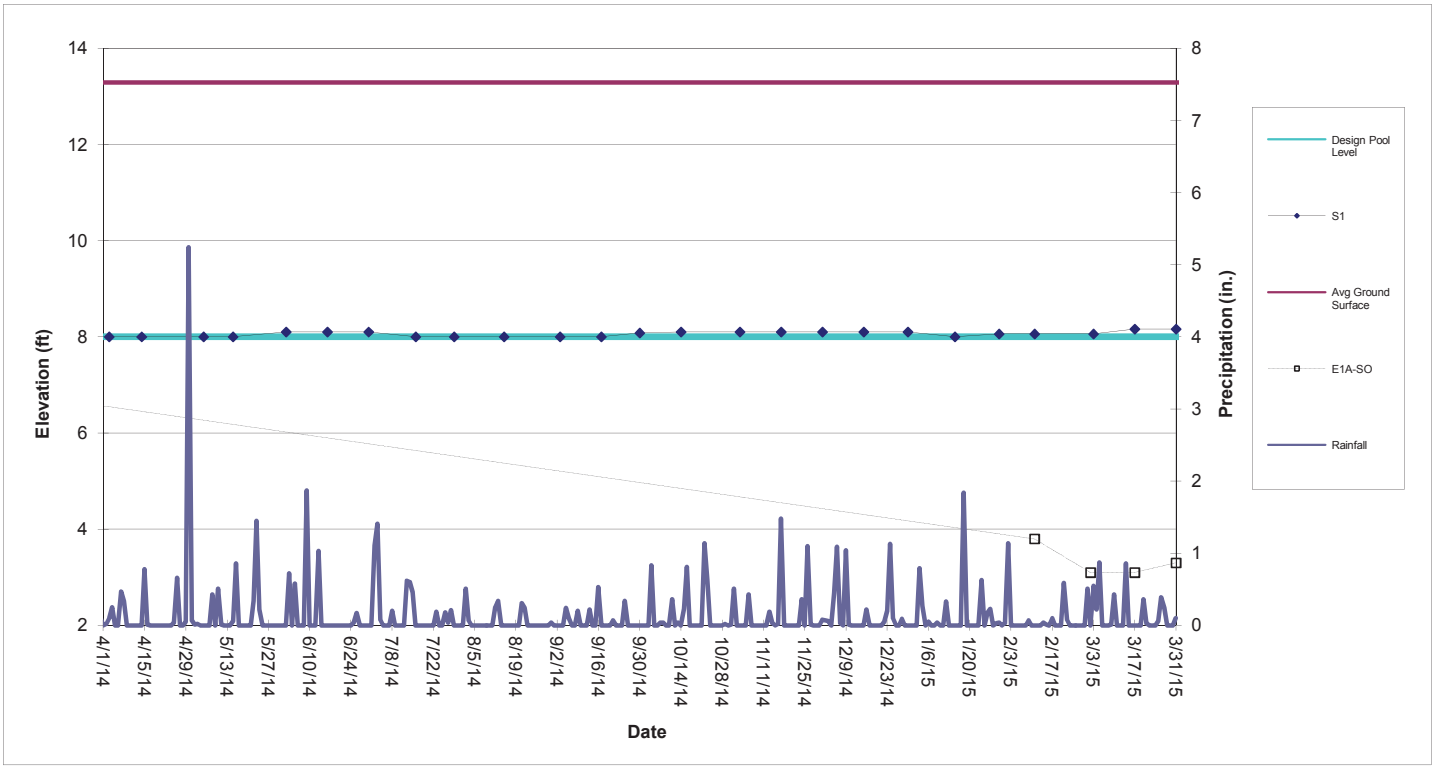
Perimeter Pool N4 (Sta. N6+80 to N10+23)



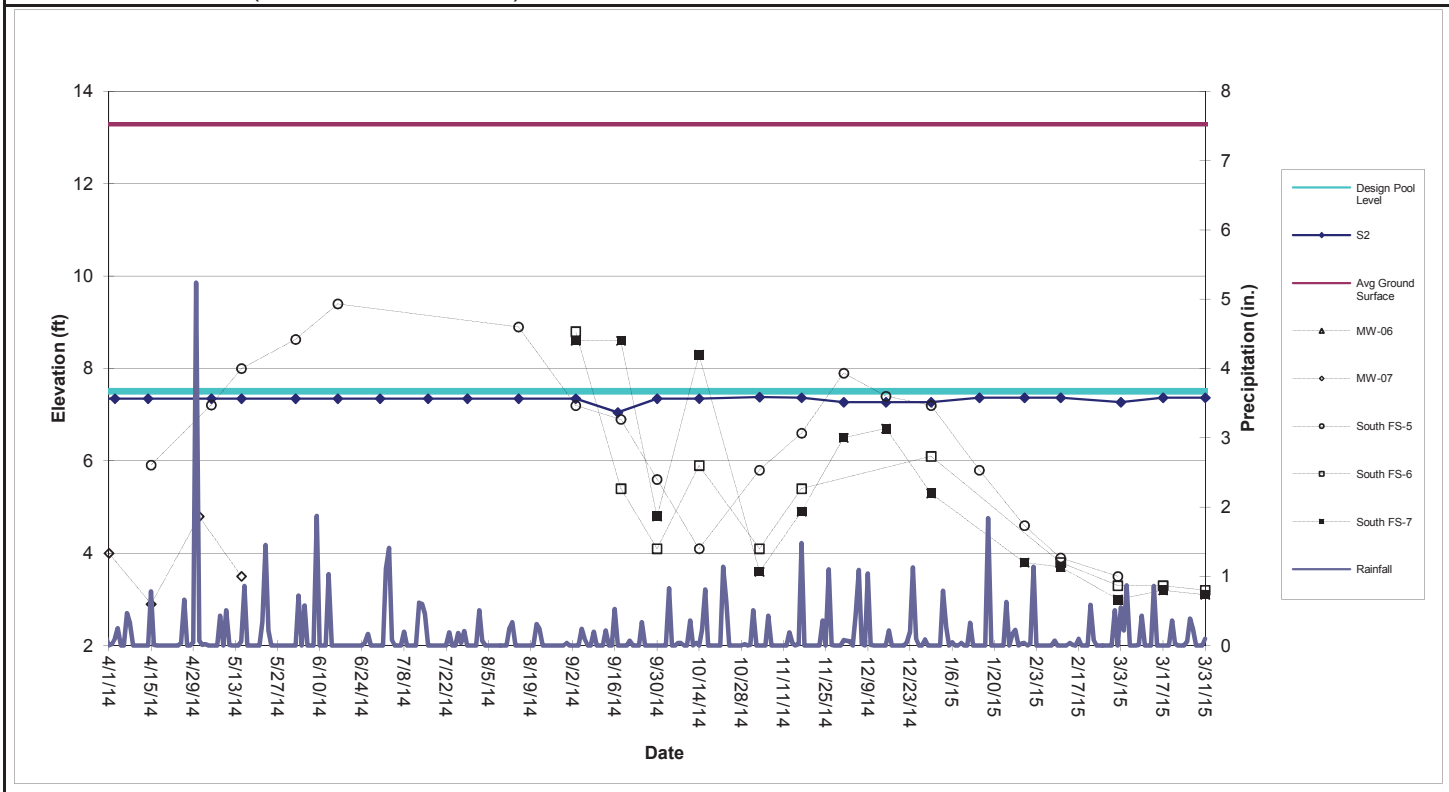
Perimeter Pool E1 (Sta. E0+50 to E3+75)



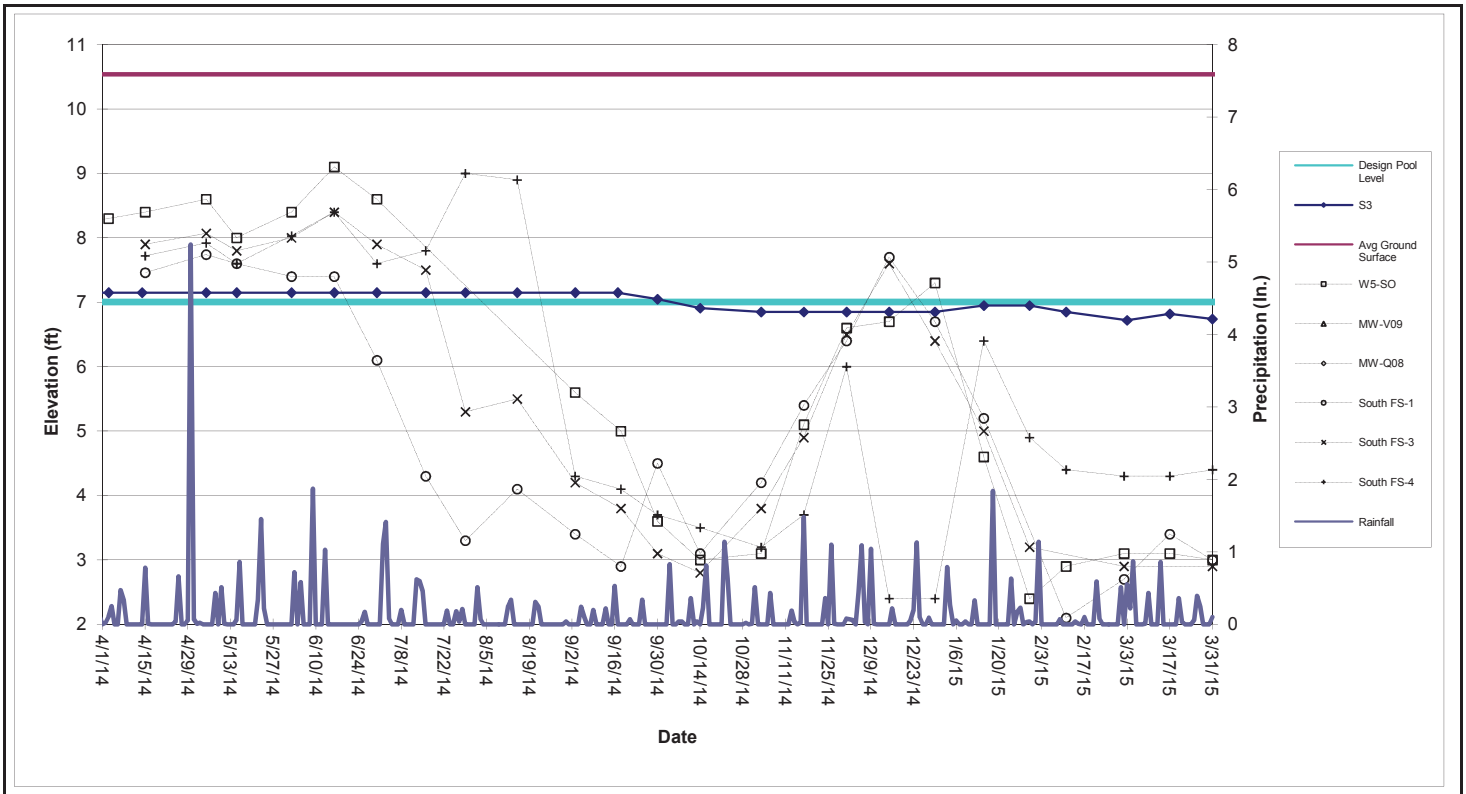
Perimeter Pool E2 (Sta. E4+50 to E7+25)



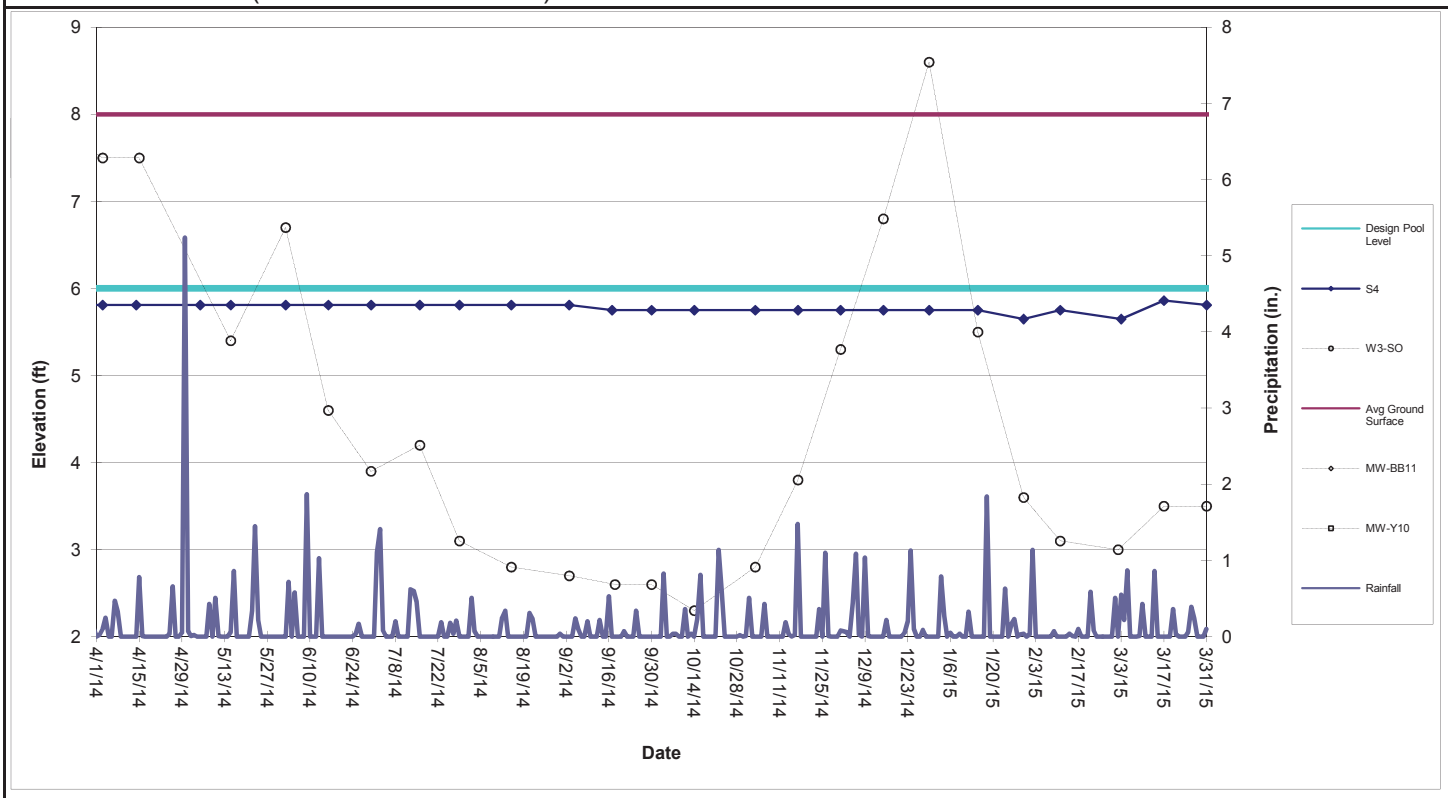
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										134-	140-		North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	MW-V09	MW-06	MW-07	FS-1	FS-2	FS-3	FS-4	FS-5	FS-6	FS-7	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																									
4/1/2014												4.0													
4/3/2014		5.6	6.6	7.3	7.7		7.5	8.3																	
4/15/2014		5.6	6.5	7.3	7.4	8.2	7.5	8.4	7.3			2.9	7.0	8.3	7.3	7.5				7.5	7.9	7.7	5.9		
5/1/2014												4.8													
5/5/2014		5.5	6.7	7.0	8.0	7.5		8.6	7.1				7.2		7.3	7.3				7.7	8.1	7.9	7.2		
5/15/2014		5.7	6.6	7.3	7.2		5.4	8.0	6.5			3.5	6.3	7.4	8.0	6.9				7.6	7.8	7.6	8.0		
6/2/2014		5.6	6.5	7.1	6.8		6.7	8.4	6.3				6.0	7.4	7.4	6.7				7.4	8.0	8.0	8.6		
6/16/2014		5.7	6.5	7.1	7.3		4.6	9.1	6.4				6.0	7.4	7.2	6.7				7.4	8.4	8.4	9.4		
6/30/2014		5.5	6.4	6.9	6.7		3.9	8.6	5.9				5.6	7.1	7.1	6.6				6.1	7.9	7.6			
7/16/2014		5.8	6.4	6.8	6.8		4.2		5.9				5.5	7.1	7.1	6.3				4.3	7.5	7.8			
7/29/2014		5.6	6.4	6.6	6.5		3.1		5.6				5.3	7.0	6.8	6.1				3.3	5.3	9.0			
8/15/2014		5.3	6.1	6.2	6.2		2.8		5.5				5.1	6.8	6.7	6.1				4.1	5.5	8.9	8.9		
9/3/2014		5.3	5.9	6.1	5.9		2.7	5.6	5.2				4.8	6.7	6.3	5.6				3.4	4.2	4.3	7.2	8.8	8.6
9/18/2014		5.0	5.8	5.9	5.7		2.6	5.0	5.1				4.8	6.5	6.1	5.6				2.9	3.8	4.1	6.9	5.4	8.6
9/30/2014		5.0	5.7	5.8	5.8		2.6	3.6	5.0				4.7	6.5	6.0	5.6				4.5	3.1	3.7	5.6	4.1	4.8
10/14/2014		4.9	5.5	5.8	5.8		2.3	3.0	5.0				4.6	6.4	5.9		5.7	5.2	5.6	3.1	2.8	3.5	4.1	5.9	8.3
11/3/2014		4.8	5.6	5.9	6.0		2.8	3.1	5.1				4.7	6.7	6.2		5.6	5.3	5.7	4.2	3.8	3.2	5.8	4.1	3.6
11/17/2014		4.8	5.5	6.2	6.0		3.8	5.1	5.0				4.6	6.5	6.4		5.6	5.3	5.7	5.4	4.9	3.7	6.6	5.4	4.9
12/1/2014		4.7	5.5	6.6	6.5		5.3	6.6	5.2				4.9	6.9	6.9		6.0	5.9	6.2	6.4	6.5	6.0	7.9		6.5
12/15/2014		5.0	5.8	7.5	6.9		6.8	6.7	5.5				5.2	7.3	6.9		6.4	6.2	6.7	7.7	7.6	2.4	7.4		6.7
12/30/2014		5.0	5.6	7.1	6.5		8.6	7.3	5.4				5.0	7.2	6.7		6.0	5.8	6.3	6.7	6.4	2.4	7.2	6.1	5.3
1/15/2015		5.0	5.6	7.0	5.5		5.5	4.6	5.1				4.8	7.1	7.0		6.2	6.1	6.3	5.2	5.0	6.4	5.8		
1/30/2015			6.5	7.1	5.5		3.6	2.4	5.1				4.8	6.7	6.5		6.1	6.0	6.3		3.2	4.9	4.6		3.8
2/11/2015	3.8		6.5	6.7	6.4		3.1	2.9					4.7	6.8	6.5		6.1	6.1	6.2	2.1		4.4	3.9	3.8	3.7
3/2/2015	3.1		5.5	5.9	6.0		3.0	3.1					4.1	6.6	5.9		5.8	5.8	5.8	2.7	2.9	4.3	3.5	3.3	3.0
3/17/2015	3.1	5.6	6.4	7.5	7.0		3.5	3.1					5.6	6.6			6.0	5.9	6.5	3.4		4.3		3.3	3.2
3/31/2015	3.3	5.5	6.4	7.2	6.7		3.5	3.0	5.7				5.7	6.8			5.7	5.6	5.3	3.0	2.9	4.4		3.2	3.1

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells are temporarily inaccessible:
134-MW-V09, W1-SO, North FS-3 and FS-4, South FS-5

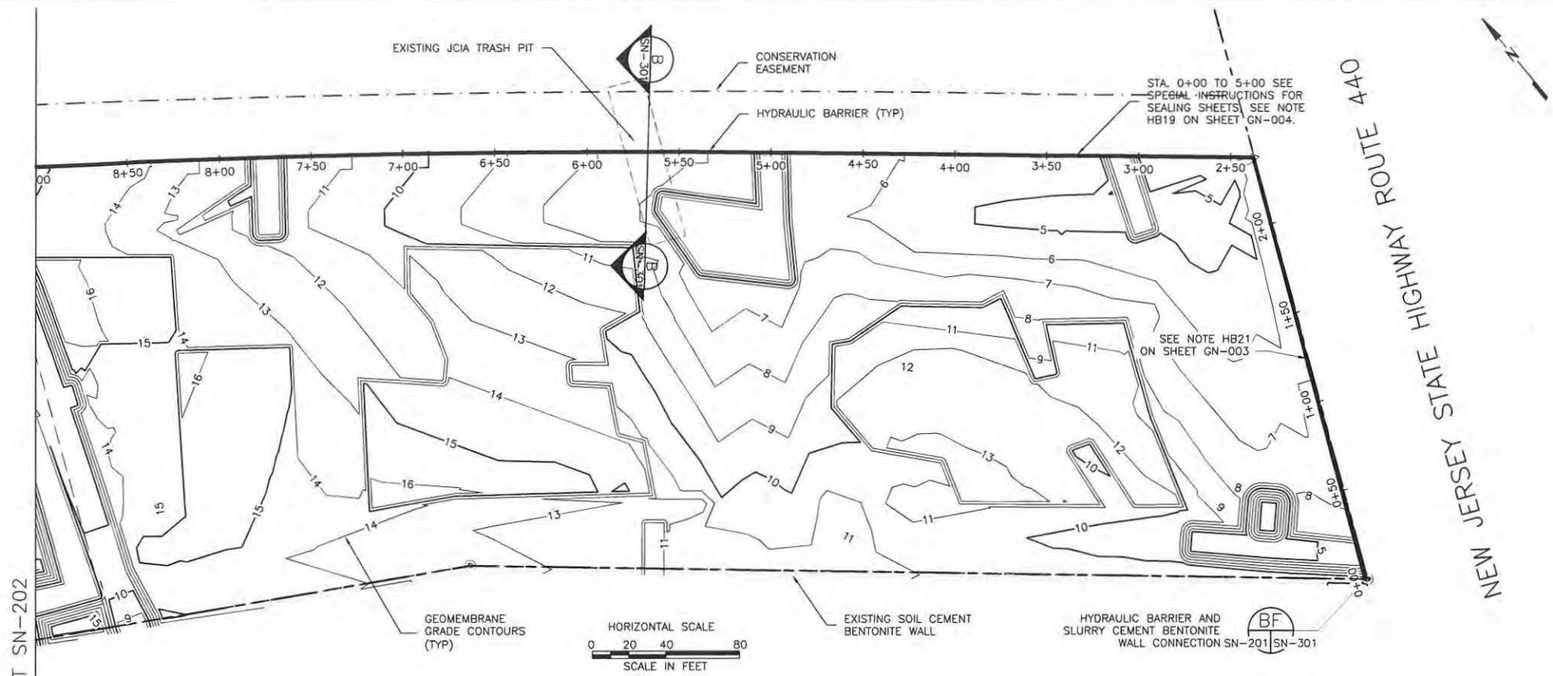
Attachment 8: Groundwater Quality Data

(not available as of this report date - provided on a quarterly basis)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

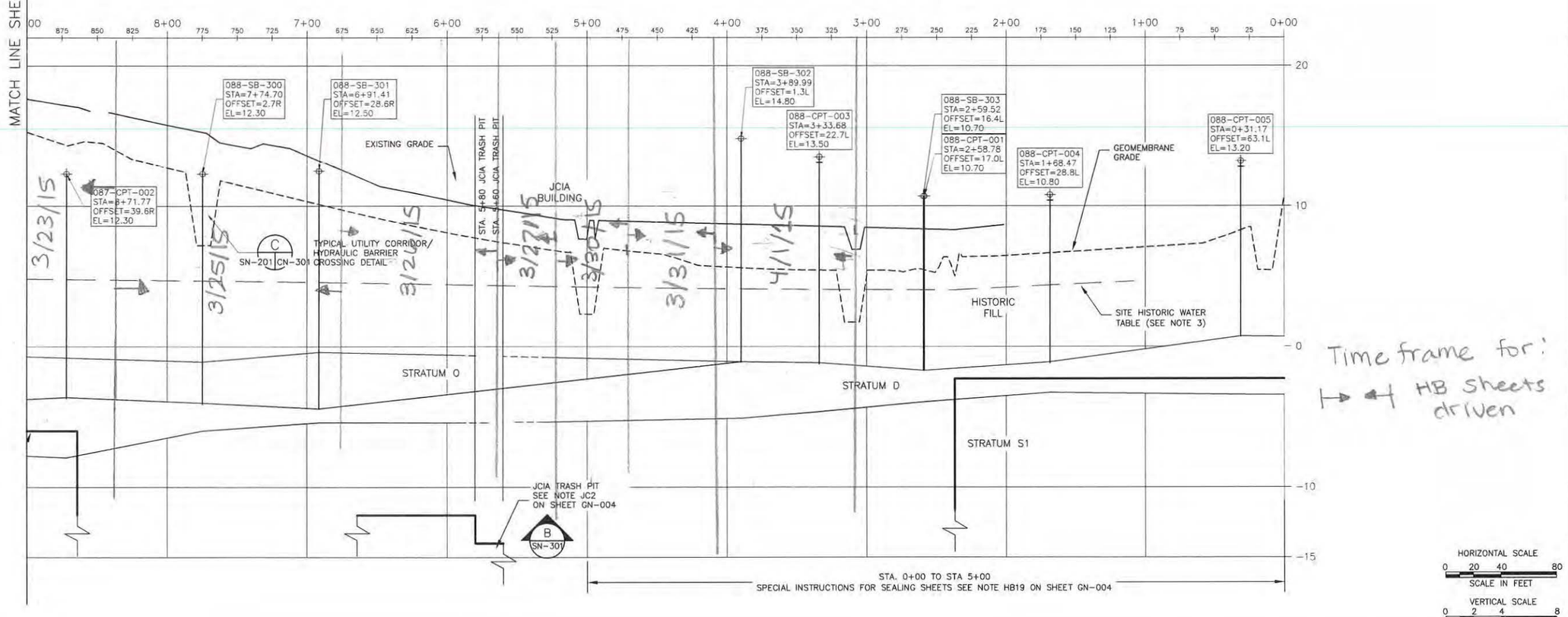
Attachment 10: Sheet Pile Update



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.
4. ~~STATION 14+00 TO 19+00 THE TOE OF THE SHEETPILE WILL BE DRIVEN TO THE TOP OF THE STRATUM S1.~~

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	0+00	2+37	-4	AZ 19-700
STRUCTURAL	2+37	5+60	-18	AZ 19-700
NON STRUCTURAL	5+60	5+80	-14	AZ 19-700
NON STRUCTURAL	5+80	6+64	-12	AZ 19-700
STRUCTURAL	6+64	8+64	-33	AZ 38-700N
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700



NO.	DATE	REVISION	BY	APVD
1	10/10/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD | DR RJR | CHK TDD | APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2125, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

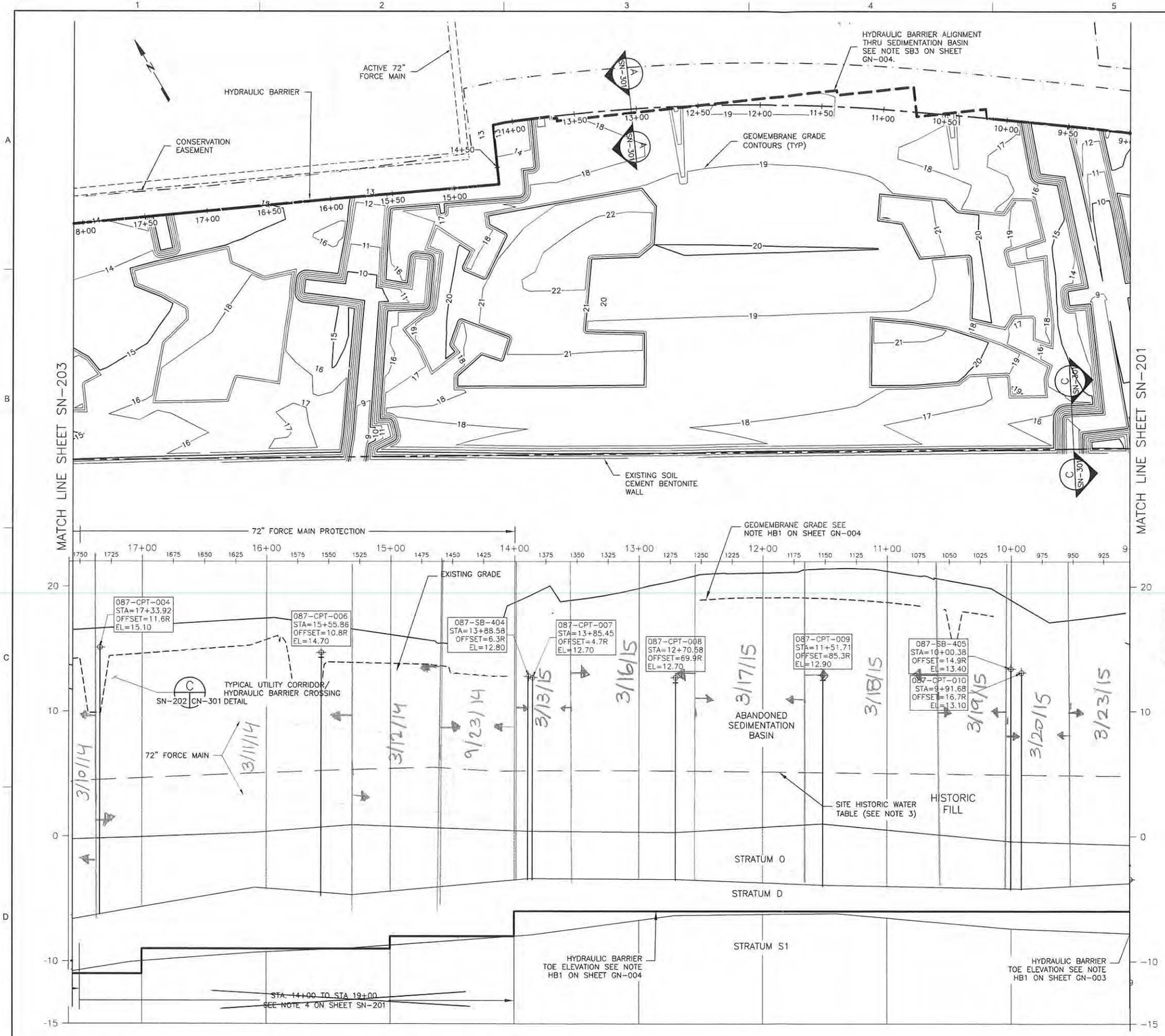
amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-201
SHEET	54 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR54-SN-201 HBW Design Pln Prof.dwg PLOT DATE: Mon, 07 Oct 2013 PLOT TIME: 4:04 PM



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET ON CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700
NON STRUCTURAL	9+85	14+00	-6	AZ 19-700
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700

Time frame for:
HB sheets driven

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM				RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	RJR	TDD	TDD	SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507
BCO

Honeywell
101 COLUMBIA RD BOX 2108 MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS:
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

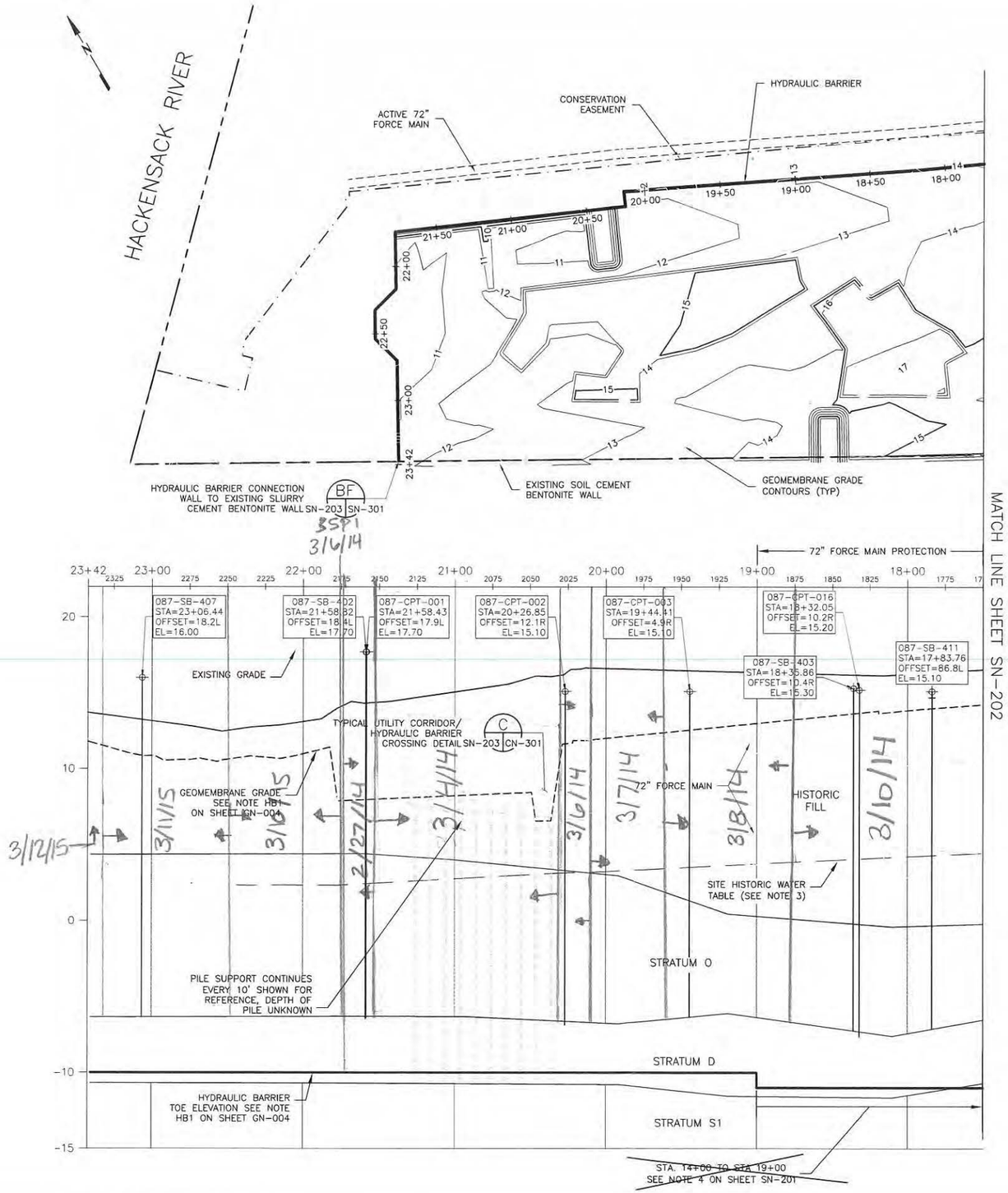
amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-202
SHEET	55 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N-100 Percent\CR55-SN-202 HBW Design Pln Prof.dwg PLOT DATE: Fri, 18 Oct 2013 PLOT TIME: 10:35 AM



HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700
NON STRUCTURAL	19+00	23+38	-10	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM				RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION				TDD	SGS
		REVISION					

TDD RJR TDD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, New Jersey 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-203
SHEET	56 OF 70

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR56-SN-203 HBW Design Plr Prof.dwg PLOT DATE: Fri, 18 Oct 2013 PLOT TIME: 10:37 AM

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: March 6, 2015

Type of Inspection: ☐ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☒ Other Snow Covered
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	2
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 3/6/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, March 06, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Additional Silt fence required along the southern toe of the 2S and 3S surcharge area.
2	IA2Q4A1AL8	The silt bag within the storm drain at the site exit to 60 Kellogg Street needs to be repaired.
3	IA2Q4A1AL8	Repair silt fence as required along the Northern raceway south of 1N and 2N surcharge areas.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: Ed Kilnose **Date:** 3/6/15
Signature

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install silt fence as required.	3/11/15 RAD
2	Repair filter fabric within the catch basin located at the site exit onto 60 Kellogg.	3/11/15 RAD
3	Repair silt fence as required.	3/11/15 RAD

Construction Manager: **Date:** 03/11/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: March 11, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other Snow Cover Melting
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		2
Proper Chemical Storage				
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection		X		3
Haul Road Maintenance		X		4,5
Perimeter Fencing/Windscreen		X		6
Storm Drain Protection	X			
Ponded Storm Water		X		7
Housekeeping		X		8
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		9
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 03/11/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Wednesday, March 11, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence is not present along the south side of the excavation area where it borders Kellogg Street
2	IA2Q4A1AL8	Erosion control measures are not present along the southern and northern edges of Surcharge Areas 2-S and 3-S.
3	IA2Q4A1AL8	Flood protection measures are not in place on the western end of the SA-6 South excavation area.
4	IA2Q4A1AL8	The tracking pad at the western end of Kellogg Street is blinded with sediment.
5	IA2Q4A1AL8	The haul road through the bottom of the SA-6 South excavation is not usable.
6	IA2Q4A1AL8	Perimeter fence windscreen to the west of the 60 Kellogg Building requires maintenance.
7	IA2Q4A1AL8	Storm water/snowmelt is ponded in the bottom of the SA-6 South excavation and in the bottom of the LOAM excavation.
8	IA2Q4A1AL8	Garbage and debris has accumulated outside of the perimeter fenceline along Rt. 440 and Kellogg Street.
9	IA2Q4A1AL8	Sediment has accumulated on the SA-7 roadway and on the western SA-7 to SA-6 North access ramp.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature Date: 03/11/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install silt fence along the southern side of the SA-6 South excavation area as required.	3-12-15 RAD
2	Install fabric-wrapped jersey barriers/bin blocks or hay bales along the toe of the 2-S and 3-S surcharge stockpile areas as required.	3-17-15 RAD
3	Place flood protection measure as necessary to conform to flood protection specifications.	3-18-15 RAD
4	Clean/replace the stone in the tracking pad as necessary to restore function.	3-12-15 RAD
5	Re-establish the roadway in the bottom of the excavation on SA-6 South.	3-18-15 RAD waiting for area to dry prior to building road
6	Repair/replace windscreen material as necessary.	3-16-15 RAD
7	Continue to pump ponded storm water as required	ongoing RAD
8	Pick up garbage/debris on the outside of the SA-6 and SA-7 pereimeter fence.	3-13-15 RAD
9	Clean SA-7 roadways of accumulated sediment.	3-13-15 RAD

Construction Manager: _____ Date: 03/18/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: March 20, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection	X			
Haul Road Maintenance		X		1
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection		X		3,4
Ponded Storm Water		X		5
Housekeeping		X		6
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		7
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		8
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		9

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 03/20/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, March 20, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	REPEAT: The haul road in the bottom of the SA-6 South excavation is not usable.
2	IA2Q4A1AL8	A section of temporary fencing is down along the Droyer's Cove bulkhead
3	IA2Q4A1AL8	Sediment is present on the north side of Kellogg Street by the western gate.
4	IA2Q4A1AL8	The catch basin by the 60 Kellogg gate requires replacement of the filter fabric.
5	IA2Q4A1AL8	Ponded storm water is present in the LOAM excavation.
6	IA2Q4A1AL8	Geotextile fabric is lying on the ground to the west of surcharge area 1-S
7	IA2Q4A1AL8	Silt fence at the western SA-7 to SA-6 North ramp requires maintenance.
8	IA2Q4A1AL8	Sediment is present on the southwestern corner of the SA-7 access roadway.
9	IA2Q4A1AL8	Broken pallets and other debris are present along the eastern SA-7 access roadway.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature **Date:** 03/20/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	REPEAT: Re-establish the roadway in the bottom of the excavation on SA-6 South.	Sump installed - waiting for area to dry out
2	Re-establish a continuous fence line along the eastern edge of Droyer's Cove.	3/23/15 RAD
3	Remove the accumulated sediment from the north side of Kellogg Street	3/23/15 RAD
4	Replace protective filter fabric in the catch basin.	3/23/15 RAD
5	Pump the ponded storm water as required	ongoing
6	Remove the unused protective geotextile.	3/25/15 RAD
7	Repair/replace the silt fence as required	3/24/15 RAD
8	Remove accumulated sediment from the access roadway	3/24/15 RAD
9	Remove/dispose of debris.	3/23/15 RAD

Construction Manager: _____ **Date:** 03/25/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: March 27, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☑ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water		X		2
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		4
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		5
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 03/27/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, March 27, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Orange warning fencing around the open excavation adjacent to Droyers Cove requires maintenance.
2	IA2Q4A1AL8	**REPEAT:** Ponded storm water is present in the LOAM excavation
3	IA2Q4A1AL8	Silt fence on the southern edge of the 1-N and 2-N surcharge areas requires maintenance.
4	IA2Q4A1AL8	Erosion control measures (fabric-wrapped Jersey barriers or bin blocks) are not present along the eastern end of the 2-S surcharge area on the SA-7 paved access roadway.
5	IA2Q4A1AL8	Ponded storm water is present on the access roadway in the southwest corner of SA-7

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature **Date:** 03/27/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair or replace orange warning fence as required.	3-27-15 RAD
2	Pump ponded storm water from the LOAM excavation.	3-31-15 RAD
3	Repair or replace silt fence as required.	4-1-15 RAD
4	Relocate erosion control measures from the western roadway areas where it is no longer required to the eastern roadway.	3-30-15 RAD
5	Remove ponded storm water, channel for future drainage.	3-31-15 RAD

Construction Manager: _____ **Date:** 04/01/15

Attachment 12: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (February 2015)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

March 13, 2015

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 31630016

Dear Mr. Caltagirone:

Honeywell is submitting the February 2015 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely

Helen Fahy /sgf

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 31630016 OLD OUTLET DESIGNATION:

MONITORING PERIOD

Start			End		
2	01	15	2	28	15
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	75,054	87,385 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	0.47	0.55	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	0.0112	0.0112	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.0	<5.0	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1693	0.1693	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

3/6/15

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North
ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962
FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305
NEW CUSTOMER ID / OUTLET ID: 31630016 **OLD OUTLET DESIGNATION**

MONITORING PERIOD

Start			End		
2	01	15	2	28	15
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD	
2,101,522	GALS
CU. FT X 7.48 - GALLONS	
EFFLUENT METER READING LAST DAY THIS PERIOD	29,168,118

DATE	BOD (mg/l)	TSS (mg/l)
2/18/2015	6.5	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE 3/6/15

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG — Honeywell Jersey City GWTP; SA-6 North (Permit #31630016) — MONTH: February 2015

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
2/1/2015	Angel Trujillo	27066596	27142124	75,528	0.075528	7.42	0.751									0.47
2/2/2015	Angel Trujillo	27142124	27215472	73,348	0.073348	7.31	0.751									0.46
2/3/2015	Angel Trujillo	27215472	27227935	12,463	0.012463	7.38	0.751									0.08
2/4/2015	Angel Trujillo	27227935	27272073	44,138	0.044138	7.44	0.751									0.28
2/5/2015	Angel Trujillo	27272073	27352314	80,241	0.080241	7.41	0.751									0.50
2/6/2015	Angel Trujillo	27352314	27434128	81,814	0.081814	7.41	0.751									0.51
2/7/2015	Angel Trujillo	27434128	27521513	87,385	0.087385	7.49	0.751									0.55
2/8/2015	Angel Trujillo	27521513	27599346	77,833	0.077833	7.50	0.751									0.49
2/9/2015	Angel Trujillo	27599346	27674819	75,473	0.075473	7.43	0.751									0.47
2/10/2015	Angel Trujillo	27674819	27753945	79,126	0.079126	7.39	0.751									0.50
2/11/2015	Angel Trujillo	27753945	27829513	75,568	0.075568	7.41	0.751									0.47
2/12/2015	Angel Trujillo	27829513	27913271	83,758	0.083758	7.46	0.751									0.52
2/13/2015	Angel Trujillo	27913271	27990053	76,782	0.076782	7.43	0.751									0.48
2/14/2015	Angel Trujillo	27990053	28072622	82,569	0.082569	7.45	0.751									0.52
2/15/2015	Angel Trujillo	28072622	28152936	80,314	0.080314	7.36	0.751									0.50
2/16/2015	Angel Trujillo	28152936	28224652	71,716	0.071716	7.41	0.751									0.45
2/17/2015	Angel Trujillo	28224652	28304897	80,245	0.080245	7.30	0.751									0.50
2/18/2015	Angel Trujillo	28304897	28379729	74,832	0.074832	7.16	0.751	<5.0	6.5		<0.010	<0.030	0.0112	<0.0002	<0.020	0.47
2/19/2015	Angel Trujillo	28379729	28457588	77,859	0.077859	7.42	0.751									0.49
2/20/2015	Angel Trujillo	28457588	28536231	78,643	0.078643	7.46	0.751									0.49
2/21/2015	Angel Trujillo	28536231	28616427	80,196	0.080196	7.46	0.751									0.50
2/22/2015	Angel Trujillo	28616427	28697543	81,116	0.081116	7.27	0.751									0.51
2/23/2015	Angel Trujillo	28697543	28768945	71,402	0.071402	7.35	0.751									0.45
2/24/2015	Angel Trujillo	28768945	28847926	78,981	0.078981	7.40	0.751									0.49
2/25/2015	Angel Trujillo	28847926	28927164	79,238	0.079238	7.45	0.751									0.50
2/26/2015	Angel Trujillo	28927164	29004030	76,866	0.076866	7.42	0.751									0.48
2/27/2015	Angel Trujillo	29004030	29084115	80,085	0.0801	7.47	0.751									0.50
2/28/2015	Angel Trujillo	29084115	29168118	84,003	0.084003	7.49	0.751									0.53
TOTAL				**2,101,522**	**2.101522**			<5.0	6.5		<0.010	<0.030	0.0112	<0.0002	<0.020	
			High:	**87,385**											**High:**	**0.55**
			Average:	**75,054**											**Average:**	**0.47**

WW Implase.

E

JB88438

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell — Chain Of Custody / Analysis Request

AESI Ref:	42053.56541
COC#	087-WW-021815
Lab Proj # (SDG):	
Lab ID	ACTD
Site ID	HudsonCo
Lab Job #	HWINJM32815
Authorized User:	Honeywell

Text & Excel File Drive | Excel & Text File Order

Privileged & Confidential

EDD To:

Site Name: Hudson County
Location of Site: Jersey City, NJ
Phase: CS
Sampling Program: 087: JCIA

Sampling Co.: MACTEC

Sampler: Frank Schroyer
PO #

Client Contact: (name, co., address)
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962

Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Full Report TAT: 28 Days

Preliminary Data To
Sample Receipt Acknowledgement To: Frank Schroyer
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)

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	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list	Sampling Method (code)	Lab Sample Numbers
											Units		Preservative	3	3	3	1	2	2	0	0	2		
-1 1	087-WW			087-WWE-021815-A	2/18/2015	15:00	WW	WATER	REG	3	comp	N	X	X	X	X			X	X			
2 2	087-WW			087-WWE-021815-B	2/18/2015	15:15	WW	WATER	REG	5	grab	N					X	X					
3 3	087-WW			087-WWI-021815	2/18/2015	15:25	WW	WATER	REG	3	grab	N									X		L22
4																							V59
5																							A27
6																							M18
7																							
8																							
9																							
10																							
11																							
12																							

INITIAL ASSESSMENT MBJA
LABEL VERIFICATION WM

Relinquished by	pH = 7.16 s.u. @ 6.2° C	Company	AMEC Foster Wheeler	Received by	Company	Condition	Custody Seals Intact
Frank Schroyer		Date/Time	2/18/15	#3	Date/Time 2.18.15 4:03	Cooler Temp.	
Relinquished by	#3	Company		Received by	Company	Condition	Custody Seals Intact
	2-18-15	Date/Time 3:07			Date/Time	Cooler Temp.	

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

2.1°C IP

Accutest LabLink@840803 16:14 03-Mar-2015

Report of Analysis

Client Sample ID:	087-WWE-021815-A		
Lab Sample ID:	JB88438-1	**Date Sampled:**	02/18/15
Matrix:	AQ - Water	**Date Received:**	02/18/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	751	10	ug/l	1	02/19/15	02/20/15	GT	EPA 200.7 [2]	EPA 200.7 [5]
Copper	< 10	10	ug/l	1	02/19/15	02/23/15	GT	EPA 200.7 [3]	EPA 200.7 [5]
Lead [a]	< 30	30	ug/l	10	02/19/15	02/23/15	GT	EPA 200.7 [3]	EPA 200.7 [5]
Mercury	< 0.20	0.20	ug/l	1	02/19/15	02/19/15	JW	EPA 245.1 [1]	EPA 245.1 [4]
Nickel	11.2	10	ug/l	1	02/19/15	02/20/15	GT	EPA 200.7 [2]	EPA 200.7 [5]
Zinc	< 20	20	ug/l	1	02/19/15	02/20/15	GT	EPA 200.7 [2]	EPA 200.7 [5]

(1) Instrument QC Batch: MA36091
(2) Instrument QC Batch: MA36098
(3) Instrument QC Batch: MA36106
(4) Prep QC Batch: MP84931
(5) Prep QC Batch: MP84962

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@840803 16:14 03-Mar-2015

Report of Analysis

4.1 4

Client Sample ID:	087-WWE-021815-A		
Lab Sample ID:	JB88438-1	**Date Sampled:**	02/18/15
Matrix:	AQ - Water	**Date Received:**	02/18/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	02/19/15 09:50	JS	SM2540 D-11
pH [a]	6.96		su	1	02/18/15 17:37	SUB	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@840803 16:14 03-Mar-2015

Report of Analysis

Client Sample ID:	087-WWE-021815-A		
Lab Sample ID:	JB88438-1A	**Date Sampled:**	02/18/15
Matrix:	AQ - Water	**Date Received:**	02/18/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.2

4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	6.5	3.4	mg/l	1	02/18/15 18:39	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@840803 16:14 03-Mar-2015

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-021815-B		
Lab Sample ID:	JB88438-2	**Date Sampled:**	02/18/15
Matrix:	AQ - Water	**Date Received:**	02/18/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	T205765.D	1	02/20/15	DC	n/a	n/a	VT8441
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	2.1	ug/l	
107-13-1	Acrylonitrile	ND	10	1.3	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	2.6	1.0	0.12	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.32	ug/l	
56-23-5	Carbon tetrachloride	3.9	1.0	0.16	ug/l	
108-90-7	Chlorobenzene	0.27	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.45	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	20.3	1.0	0.14	ug/l	
74-87-3	Chloromethane	ND	1.0	0.16	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.19	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50	1.0	0.11	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.11	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.12	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.46	ug/l	
75-34-3	1,1-Dichloroethane	0.41	1.0	0.15	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	ug/l	
156-59-2	cis-1,2-Dichloroethene	84.2	1.0	0.23	ug/l	
156-60-5	trans-1,2-Dichloroethene	4.7	1.0	0.24	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.17	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.16	ug/l	
123-91-1	1,4-Dioxane	ND	130	89	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.093	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.71	1.0	0.20	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest LabLink@840803 16:14 03-Mar-2015

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-021815-B		
Lab Sample ID:	JB88438-2	**Date Sampled:**	02/18/15
Matrix:	AQ - Water	**Date Received:**	02/18/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.15	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.29	ug/l	
79-01-6	Trichloroethene	49.7	1.0	0.17	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.31	ug/l	
75-01-4	Vinyl chloride	2.0	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.12	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	101%		72-125%
2037-26-5	Toluene-D8 (SUR)	100%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	108%		74-115%
1868-53-7	Dibromofluoromethane (S)	112%		79-120%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest LabLink@840803 16:14 03-Mar-2015

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-021815-B		
Lab Sample ID:	JB88438-2	**Date Sampled:**	02/18/15
Matrix:	AQ - Water	**Date Received:**	02/18/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.0	5.0	mg/l	1	02/23/15	BM	EPA 1664A

RL = Reporting Limit

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending March 2015

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.

Changed Item Identifier	Description of Change	Comments
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA-6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

SA-6 AND SA-7 COMBINED PROGRESS REPORT

MAY 14, 2015

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

May 14, 2015

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2015-04

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from April 1 – April 30, 2015.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: April 2015 SA-6/7 Combined Monthly Progress Report No. 2015-04

cc: Joe Clifford - Amec Foster Wheeler (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)

Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2015-04

Project SA-6 & 7 Remediation

April 2015

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
04/03/15	Site 163 Post-Remediation Sampling Study Area 6 South, Jersey City, New Jersey	Robert G. Torricelli Office of the Special Master
04/06/15	Surcharge Monitoring Plan – Monthly Report No. 10 Study Area 6 North and South, Jersey City, NJ	Robert G. Torricelli Office of the Special Master
04/09/15	Surcharge Monitoring Plan – Monthly Report No. 11 Study Area 6 North and South, Jersey City, NJ	Robert G. Torricelli Office of the Special Master
04/15/15	Riverkeeper et al v. Honeywell International Inc. et al Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2015-03	Robert G. Torricelli Office of the Special Master
04/17/15	Sediment Remedy Long Term Monitoring Program Year 1 Implementation Report Study Area 7, Jersey City, NJ	Robert G. Torricelli Office of the Special Master
04/20/15	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 31630016 (current number) #20630025 (future permit ID number)	Andy Caltagirone Manager of Industrial & Pollution Control Passaic Valley Sewerage Commission
04/20/15	Deep Overburden Plume Groundwater Extraction and Treatment (GWET) System Study Area 7, Jersey City, NJ	Robert G. Torricelli Office of the Special Master
04/21/15	Special Master Conference Call	N/A

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	4/5/15	4/12/15	4/19/15	4/26/15
Construction Management (AMEC)	10	10	10	12
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	27	26	26	27
Arecon/US Ecology Subcontractors	1	1	0	0
Evoqua	1	1	1	1
HBS (SA-6N GWTP Security System)	0	0	0	0
B&B Drilling	0	0	0	1
TOTAL STAFF	**44**	**43**	**42**	**46**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected April PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- On April 26, 27, and 28, 2015, Cornerstone personnel conducted S-3 Mass Removal Injection Event No.20 in Injection Well 088-IW-03.
- Removed standing water from within the JCIA trash pit and discharged to PVSC through CWTP.
- Changed out pump from within the northern sump on SA-7 to increase flow to the perimeter pool system.
- The Fire Department of Jersey City (FDJC) and the Jersey City Police Department (JCPD) K-9 unit completed training activities in the former Jersey City Department of Public Works “H” Building.
- Removed trees and wood debris from south end of the Jersey City Department of Public Works “H” building into Jersey City Incinerator Authority (JCIA) roll-off boxes which were transported off site by JCIA.

- B&B Drilling completed 57 direct push soil borings and Amec Foster Wheeler collected a total of 114 soil samples at Site 163 as part of the 6-month performance assessment to monitor in-situ treatability status. The sampling included 34 borings conducted as originally proposed in the approved Work Plan and an additional 23 borings as requested by Plaintiffs.
- NJDEP visited SA-6 to inspect the location of the former SA-6 South GWTP and the former outfall discharge on April 23, 2015.
- Installed two (2) utility pole sleeves for anchors along Route 440 for future Verizon overhead line relocation activities.
- PSEG began switching power to the North Bound side of Route 440.
- Entact Installed utility pole at the northeast corner of SA-7 to power the northeast 400 amp service panel.
- Celgene soils to be used as protective cover above the geosynthetics is staged at SA-7 awaiting mobilization of screening unit.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on April 9, 2015.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	4/5/15	4/12/15	4/19/15	4/26/15
Avg. Gallons Treated & Discharged (per day)	76,197	77,987	78,259	78,438
Average Flow (gpm) for Operating Period	54	54	54	54
Avg. Hours of Plant Operation	24	24	24	24
GWTP Influent Tanks (gal.)	6,848	6,898	5,004	4,872

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Installed Manhole No. 2 associated with the SA-6 North Contingent Ground Water Extraction System.
- Completed loadout of non-hazardous petroleum impacted soils from SA-6 South.
- Completed compaction testing associated with bridge lift material on SA6-South.
- Began to haul screened historic fill from N1 and place it as backfill in the west side of SA-6 South backfill area.

- Began placement of soils with hexavalent chromium concentrations between 20 and 240 ppm within the sedimentation basin south of the Vertical Hydraulic Barrier Wall on SA-6 North.
- Began placement of historic fill within the sedimentation basin north of the Vertical Hydraulic Barrier Wall on SA-6 North.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/FCI	Roll-Off	TSDF	Stablex-Canada	WWTP Filter Cake	1	16.79	16.79
Entact/ Arecon	Tri-axle Dump	South Brunswick, NJ	MCUA	Petroleum Impacted Soil	86	26.7	2,302.97

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Excavation Completed	No update for the reporting period
Backfill in Progress	NJCU Borrow material - Cells (10-125), Historic Fill - Cells (10-20), (110-125)

3. BACKFILL MATERIALS USED

Source	Week Ending			
	4/5/15	4/12/15	4/19/15	4/26/15
Tilcon Mt Hope DGA	377.87	0	0	0
Tilcon Mt. Hope 1-1.5” Stone	300.13	307.14	0	263.65

- Historic Fill was transferred from 1N surcharge area beginning on April 7, 2015. A total of 279 loads, totaling approximately 5,580 cubic yards was placed as backfill in SA6 South during the reporting period.
- Clean borrow material (from NJCU Surcharge Program) that was stockpiled in the eastern area of SA-6 South was placed as backfill in Cells (10-125).

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging complete on Area 2S. Continue offloading Celgene and Novartis surcharge material (approximately 95% complete).
- Area 3S: Surcharge placement completed on Area 3S. MRCE peer review completed verifying that the surcharge goal had been met.

- Area 1N: Began removal of screened historic fill on April 7, 2015. Surcharge removal activities in this area are approximately 95% complete.
- Area 2N: Surcharging is 100% complete. Offloading not yet scheduled by contractor.
- Area 3N: Began installation of surcharge monitoring instrumentation.
- Area 4N: No activity in this area pending installation of surcharge monitoring instrumentation.
- As noted in the transmittal of Surcharge Monitoring Report No. 12, we will not be submitting monthly surcharge monitoring reports until remaining instrumentation is installed in Areas 3N and 4N.

F. SHEET PILE OPERATIONS

- Continued vertical barrier wall installation activities on SA-6 North. Installed vertical barrier wall sheet pile from, STA 5+25 to STA 3+10.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014, 1 yr. extension granted 10/6/14	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15	12/2/15	Pending

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Install Vertical Hydraulic Barrier wall closure pieces associated with the connection to the exterior of the JCIA trash pit concrete walls.
- Complete water supply disconnects to the Department of Public Works "H" Building and the JCIA garage.
- Begin removal and loadout of putrescible trash within the JCIA trash pit.
- Assist JCDPW personnel in the removal of materials and equipment from the Department of Public Works "H" Building.
- Continue backfill placement activities at SA-6 South.
- Begin to install SA-6 North Contingent Ground Water Extraction System piping.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Complete the SA-6 North Bench-Scale Treatability Study for Treatment Area 10 proximate to force main.
- Continue to coordinate with the JCDPW on their off-site relocation of remaining equipment from SA-6 North.

ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
4. *Dewatering Operations Update (not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. *Backfill Analytical Data (not included in this reporting period)*
7. Perimeter Pools Update
8. *Groundwater Quality Data (not included in this reporting period)*
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. Sheet Pile Update
11. Weekly SWPPP Reports

12. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (March 2015)
13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

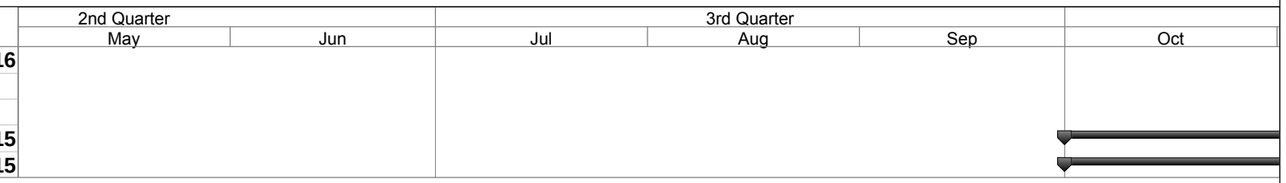
ID	Task Name	Duration	Start
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**Fri 1/4/08**
18	**JCIA/JCDPW Relocation**	**1735 days**	**Mon 8/11/08**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09
22	Relocation Contractor Procurement	392 days	Thu 4/15/10
23	JCIA and JCDPW Relocation	753 days	Mon 10/17/11
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11
24a	Demolition of JCIA Structures	151 days	Mon 9/1/14
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**
58	New GWTP Construction Completion	502 days	Mon 3/5/12
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11
60	**SA-6 North/South Field Implementation**	**838 days**	**Fri 3/1/13**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	Mon 6/17/13
60b	SA-6S (Site 163) In-Situ Treatment	294 days	Fri 11/15/13
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**
61a	Mobilization	87 days	Fri 3/1/13
62	**Surcharge Install/Instrumentation**	**620 days**	**Mon 6/17/13**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	Mon 6/17/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	Mon 6/2/14
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Mon 3/2/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	Mon 10/20/14
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	Mon 3/3/14
63	**Barrier Wall Install**	**489 days**	**Mon 6/17/13**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**Mon 12/2/13**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	Mon 12/2/13
63c	SA-6N Stations 23+38 to 14+25	90 days	Mon 2/17/14
63d	SA-6N Stations 14+25 to 0+00	224 days	Mon 6/23/14
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**Mon 6/17/13**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	Mon 6/17/13
63h	SA-6S Stations 1+54 to 8+37	7 days	Fri 8/16/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	Thu 10/3/13
63j	SA-6S Stations 8+60 to 14+87	145 days	Mon 11/11/13
64	**Excavation**	**507 days**	**Tue 10/22/13**
64a	SA 6N Excavation	218 days	Mon 12/1/14
64b	**SA 6S Excavation**	**226 days**	**Tue 10/22/13**
64c	SA-6S Excavation of Cells 1 - 25	53 days	Tue 10/22/13
64d	SA-6S Excavation of Cells 26 - 60	90 days	Fri 1/3/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	Fri 5/9/14
65	**Backfill**	**493 days**	**Mon 11/11/13**
65a	SA 6N Backfill	218 days	Mon 12/1/14
65b	SA 6S Backfill	232 days	Mon 11/11/13
66	**Capping and Cover Soil Placement**	**315 days**	**Mon 12/1/14**
66a	SA 6N Capping and Cover Soil Placement	119 days	Tue 9/1/15
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14
67	**Restoration**	**164 days**	**Tue 9/1/15**
67a	Restoration	164 days	Tue 9/1/15

Project: SA-6 Remediation Schedule
Revision 3
Date: Mon 5/4/15

Task | Milestone | Summary | Critical

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start
68	**Demobilization**	**21 days**	**Mon 4/18/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead		
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line		
69	**SA-6 North Project Closeout**	**310 days**	**Thu 10/1/15**
75	**SA-6 South Project Closeout**	**310 days**	**Thu 10/1/15**



Project: SA-6 Remediation Schedule
Revision 3
Date: Mon 5/4/15

Task Milestone Summary Critical

Attachment 2: Site Photographs

Site Photograph 1: Contractor compacting fill in Kellogg Street properties.

Site Photograph 2: Contractor compacting material within former Sed basin.

Site Photograph 3: Contractor conducts drilling at Site 87.

Site Photograph 4: Contractor installs hydraulic barrier in former JC property.

Photograph 5: Contractor removes tree stumps from former JC property.

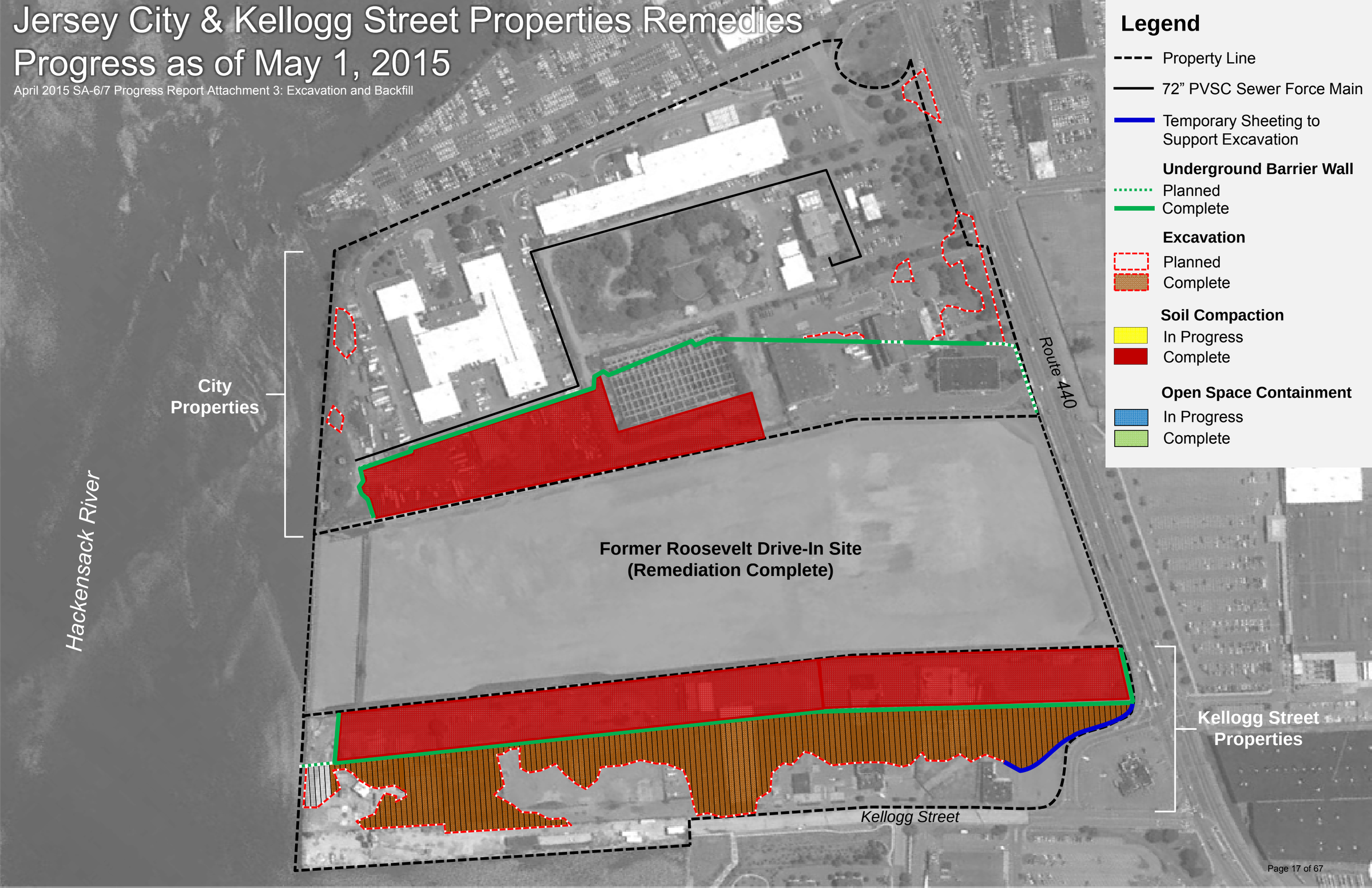
Site Photograph 6: Contractor removing surcharge material.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of May 1, 2015

April 2015 SA-6/7 Progress Report Attachment 3: Excavation and Backfill



Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

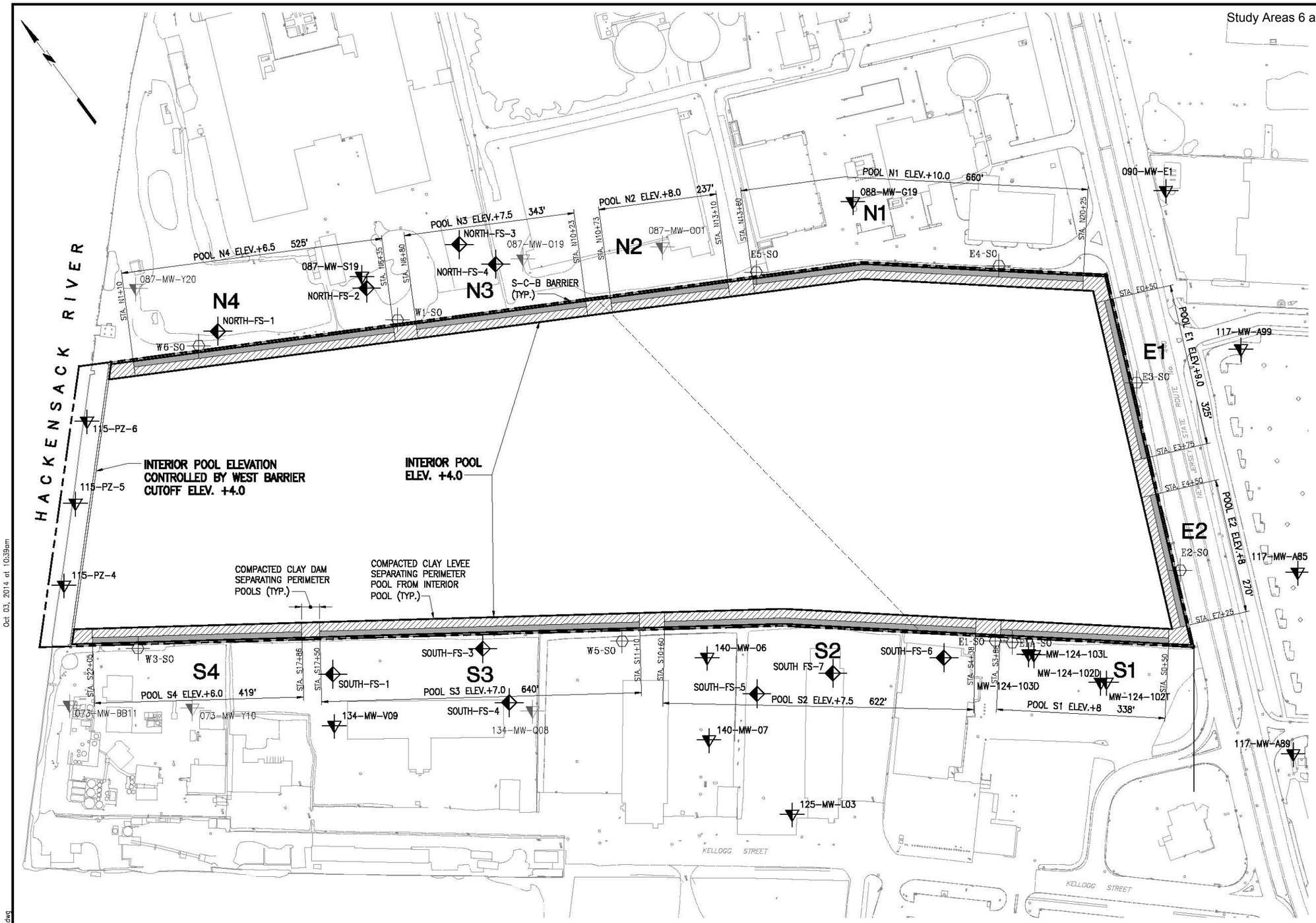
DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
02/26/15	7:30	14:00	6:30	27,788.98	27,806.88	17,900	27,806,430	
03/02/15	10:30	14:30	4:00	27,806.88	27,853.74	46,860	27,853,290	
03/04/15	7:30	14:00	6:30	27,853.74	27,955.09	101,350	27,954,640	PVSC Compliance Sample Collected
03/05/15	8:00	14:00	6:00	27,955.09	28,075.85	120,760	28,075,400	
03/06/15	7:30	14:30	7:00	28,075.85	28,200.09	124,240	28,199,640	
03/09/15	7:30	15:00	7:30	28,200.09	28,324.06	123,970	28,323,610	
03/10/15	7:30	15:00	7:30	28,324.06	28,458.25	134,190	28,457,800	
03/11/15	8:00	14:30	6:30	28,458.25	28,520.01	61,760	28,519,560	
03/12/15	9:00	15:00	6:00	28,520.01	28,571.66	51,650	28,571,210	
03/13/15	8:00	15:00	7:00	28,571.66	28,691.97	120,310	28,691,520	
03/14/15	8:00	16:30	8:30	28,691.97	28,827.02	135,050	28,826,570	
03/15/15	10:00	17:00	7:00	28,827.02	28,912.43	85,410	28,911,980	
03/16/15	7:30	15:15	7:45	28,912.43	29,086.98	174,550	29,086,530	
03/17/15	8:00	14:30	6:30	29,086.98	29,181.23	94,250	29,180,780	
03/18/15	7:30	15:00	7:30	29,181.23	29,228.98	47,750	29,228,530	
03/19/15	7:30	15:15	7:45	29,228.98	29,340.87	111,890	29,340,420	
03/20/15	8:00	14:00	6:00	29,340.87	29,436.92	96,050	29,436,470	
03/23/15	8:30	15:00	6:30	29,436.92	29,533.78	96,860	29,533,330	
03/24/15	7:30	15:00	7:30	29,533.78	29,615.04	81,260	29,614,590	
03/25/15	7:30	15:15	7:45	29,615.04	29,748.59	133,550	29,748,140	
03/26/15	7:30	15:30	8:00	29,748.59	29,862.15	113,560	29,861,700	
03/27/15	7:30	15:30	8:00	29,862.15	29,986.08	123,930	29,985,630	
03/28/15	9:00	15:00	6:00	29,986.08	30,091.41	105,330	30,090,960	
03/30/15	7:30	15:30	8:00	30,091.41	30,203.08	111,670	30,202,630	
03/31/15	7:30	14:30	7:00	30,203.08	30,378.43	175,350	30,377,980	
04/01/15	7:30	15:00	7:30	30,378.43	30,506.05	127,620	30,505,600	PVSC Compliance Sample Collected
04/02/15	7:15	15:15	8:00	30,506.05	30,637.07	131,020	30,636,620	
04/04/15	7:30	15:30	8:00	30,637.07	30,677.37	40,300	30,676,920	
04/06/15	7:00	15:00	8:00	30,677.37	30,776.12	98,750	30,775,670	
04/07/15	7:15	15:00	7:45	30,776.12	30,842.73	66,610	30,842,280	
04/08/15	7:15	15:00	7:45	30,842.73	30,910.48	67,750	30,910,030	
04/09/15	8:30	15:00	6:30	30,910.48	30,974.48	64,000	30,974,030	
04/10/15	7:30	15:00	7:30	30,974.48	31,065.01	90,530	31,064,560	
04/13/15	11:45	16:15	4:30	31,065.01	31,142.89	77,880	31,142,440	
04/14/15	7:30	15:00	7:30	31,142.89	31,231.27	88,380	31,230,820	
04/15/15	7:30	14:00	6:30	31,231.27	31,277.99	46,720	31,277,540	
04/17/15	7:15	12:00	4:45	31,277.99	31,315.22	37,230	31,314,770	
04/20/15	7:30	15:15	7:45	31,315.22	31,405.02	89,800	31,404,570	
04/21/15	7:00	14:00	7:00	31,405.02	31,446.44	41,420	31,445,990	
04/22/15	7:30	13:00	5:30	31,446.44	31,498.34	51,900	31,497,890	
04/23/15	7:00	13:30	6:30	31,498.34	31,544.28	97,840	31,543,830	
04/24/15	7:30	14:00	6:30	31,544.28	31,600.00	153,560	31,599,550	
04/27/15	7:30	14:30	7:00	31,600.00	31,637.05	138,710	31,636,600	

Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

(not included in this reporting period)

Attachment 7: Perimeter Pools Update



LEGEND

- FILL TYPE A CLAY
- FILL TYPE B GRANULAR FILL
- SHALLOW WELL INSTALLED BY OTHERS
- SHALLOW WELL ABANDONED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN
- SHALLOW WELL INSTALLED FOR STUDY AREA 7 REMEDIATION
- SURCHARGE MONITORING STANDPIPE INSTALLED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN

GRAPHIC SCALE

100' 50' 0 100' 200'

IN PROGRESS

10-02-2014

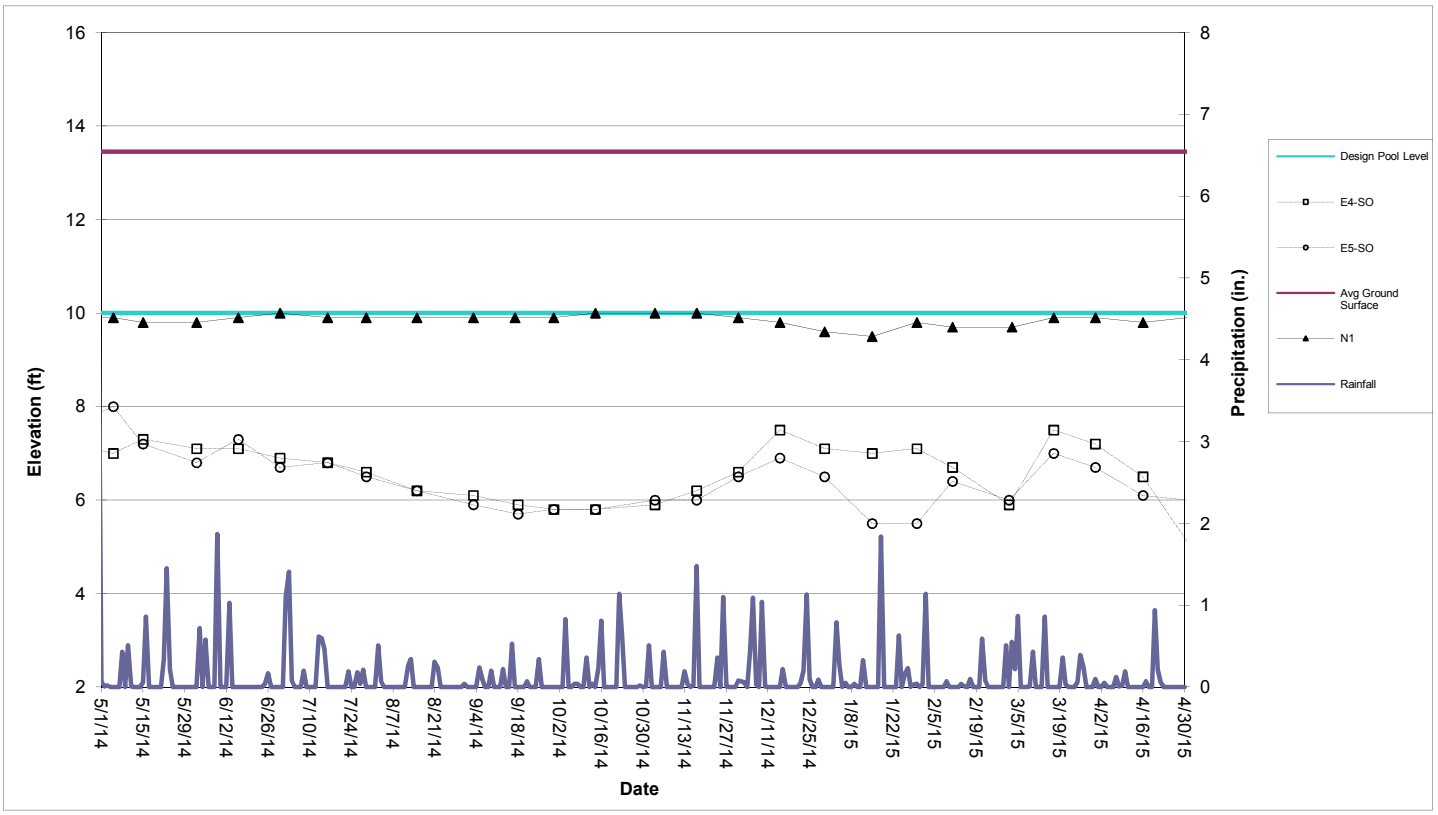
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

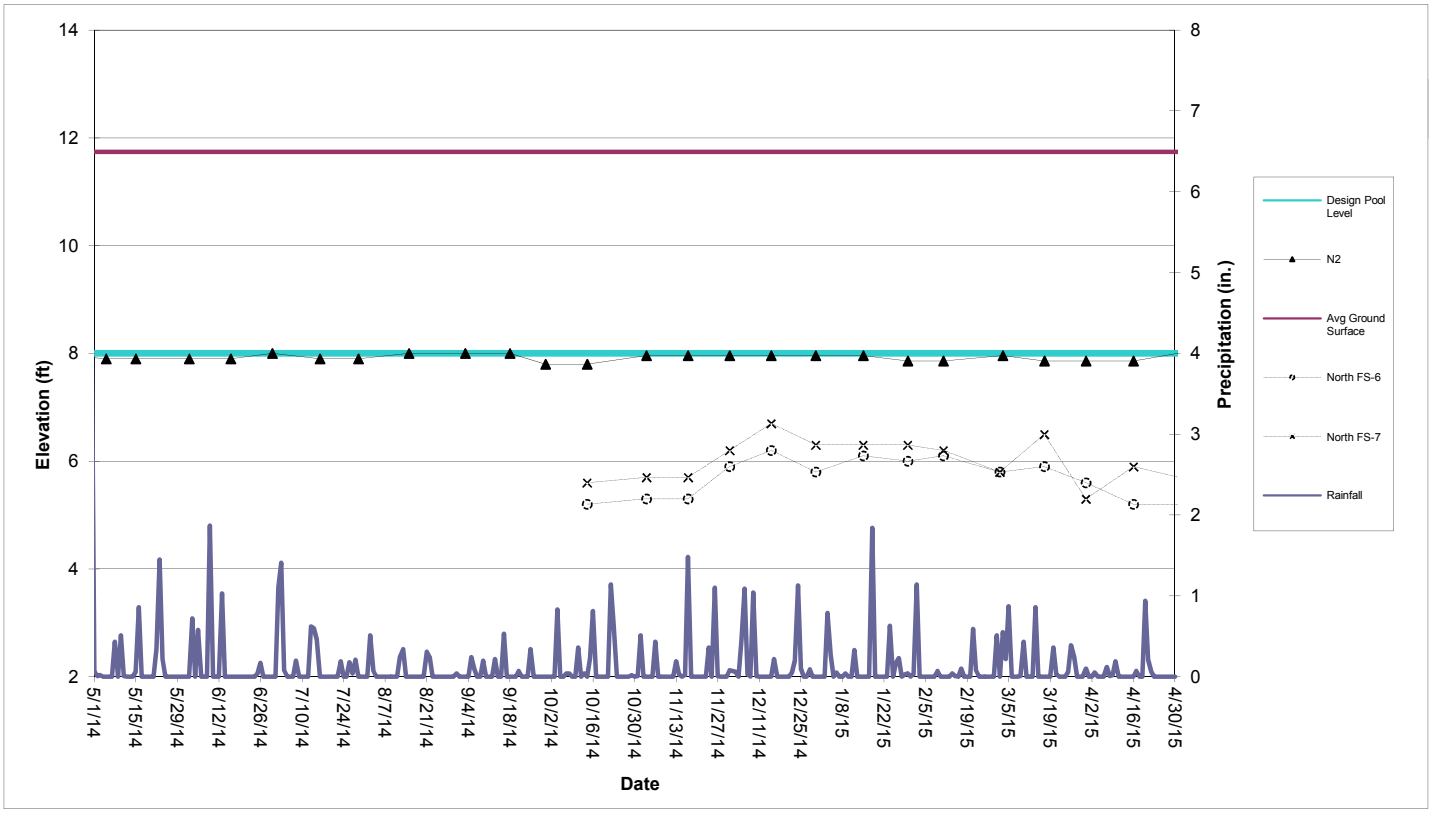
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

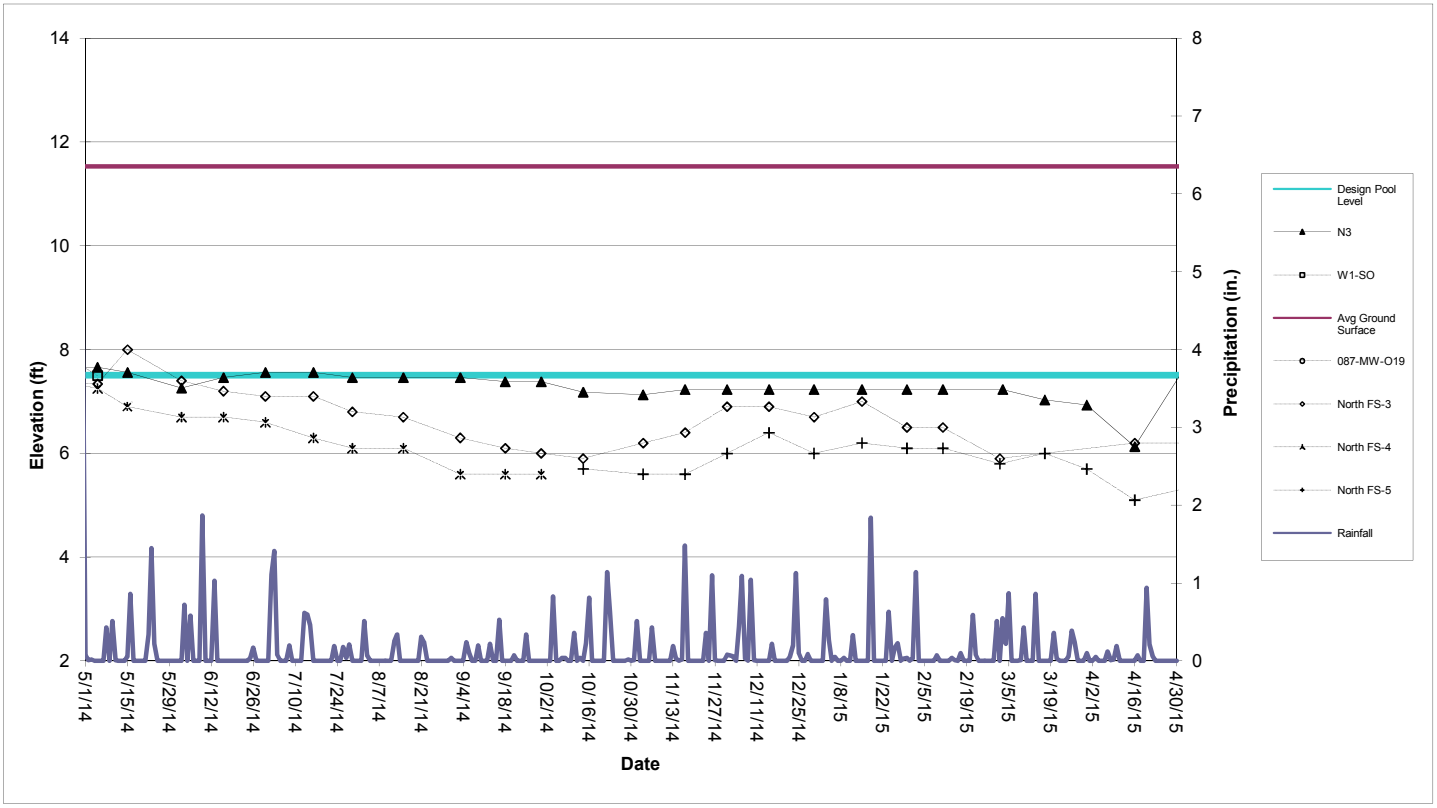
Oct 03, 2014 at 10:39am
G:\DWGS\102\10210\Dewatering\PP-1.dwg
edelossantos



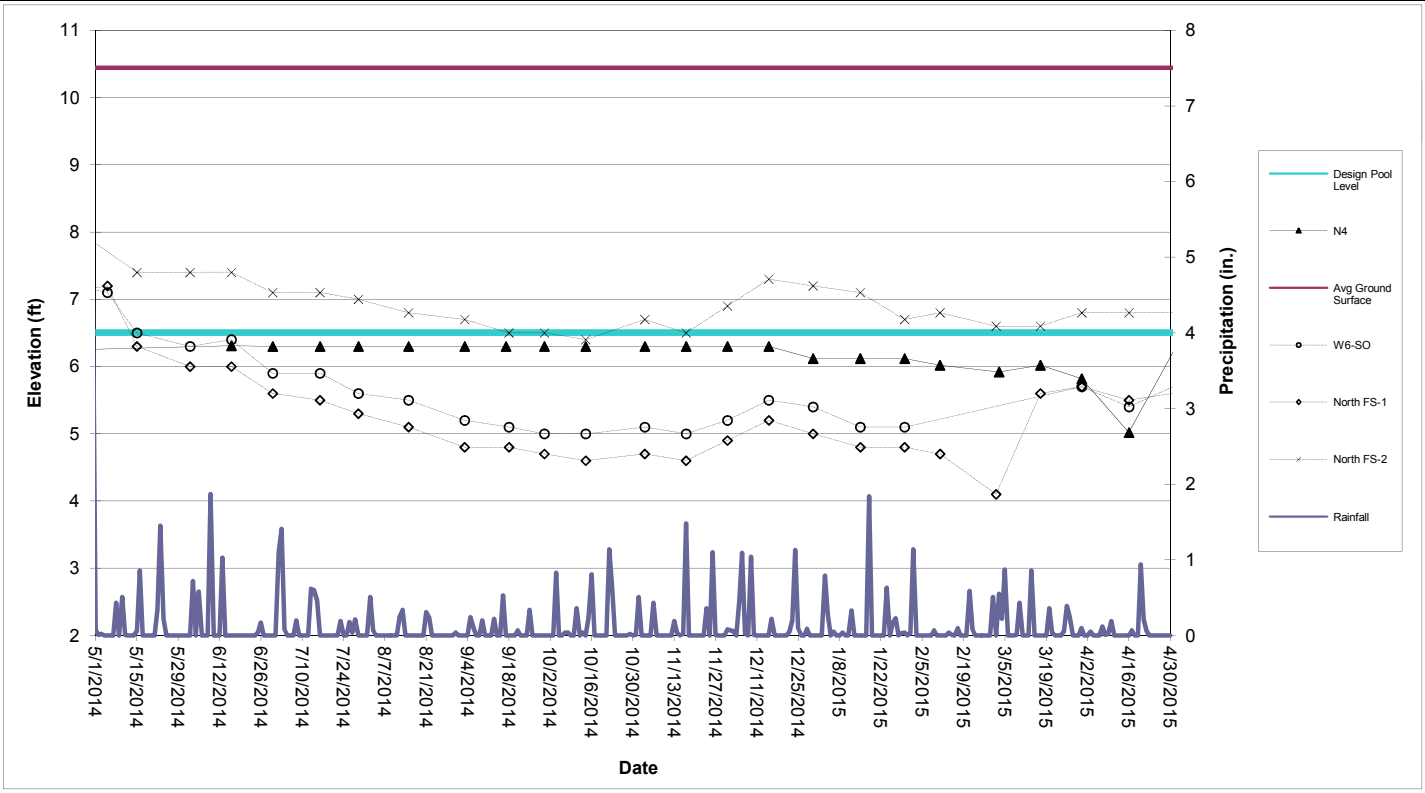
Perimeter Pool N1 (Sta. N13+60 to N20+25)



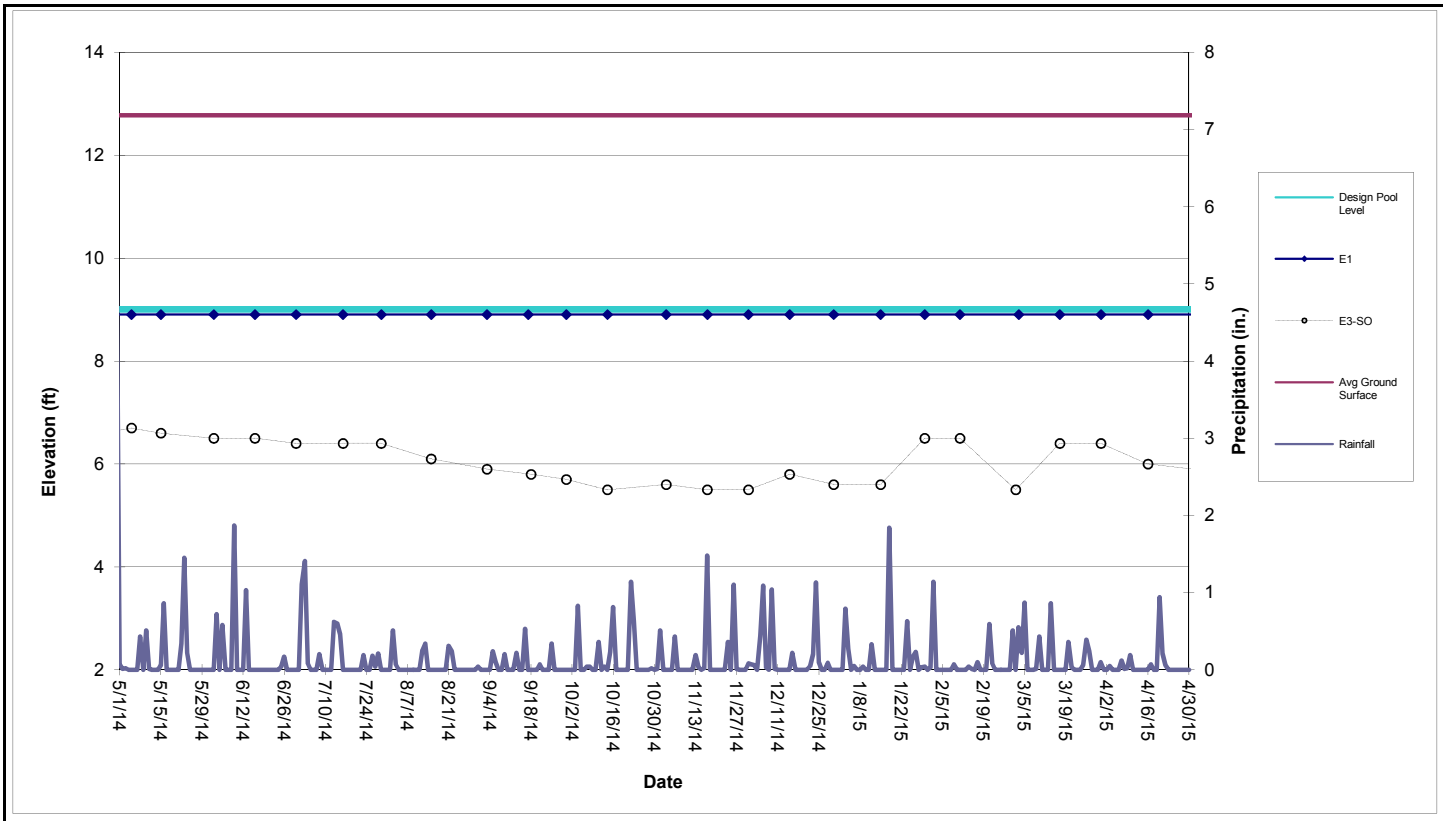
Perimeter Pool N2 (Sta. N10+73 to N13+10)



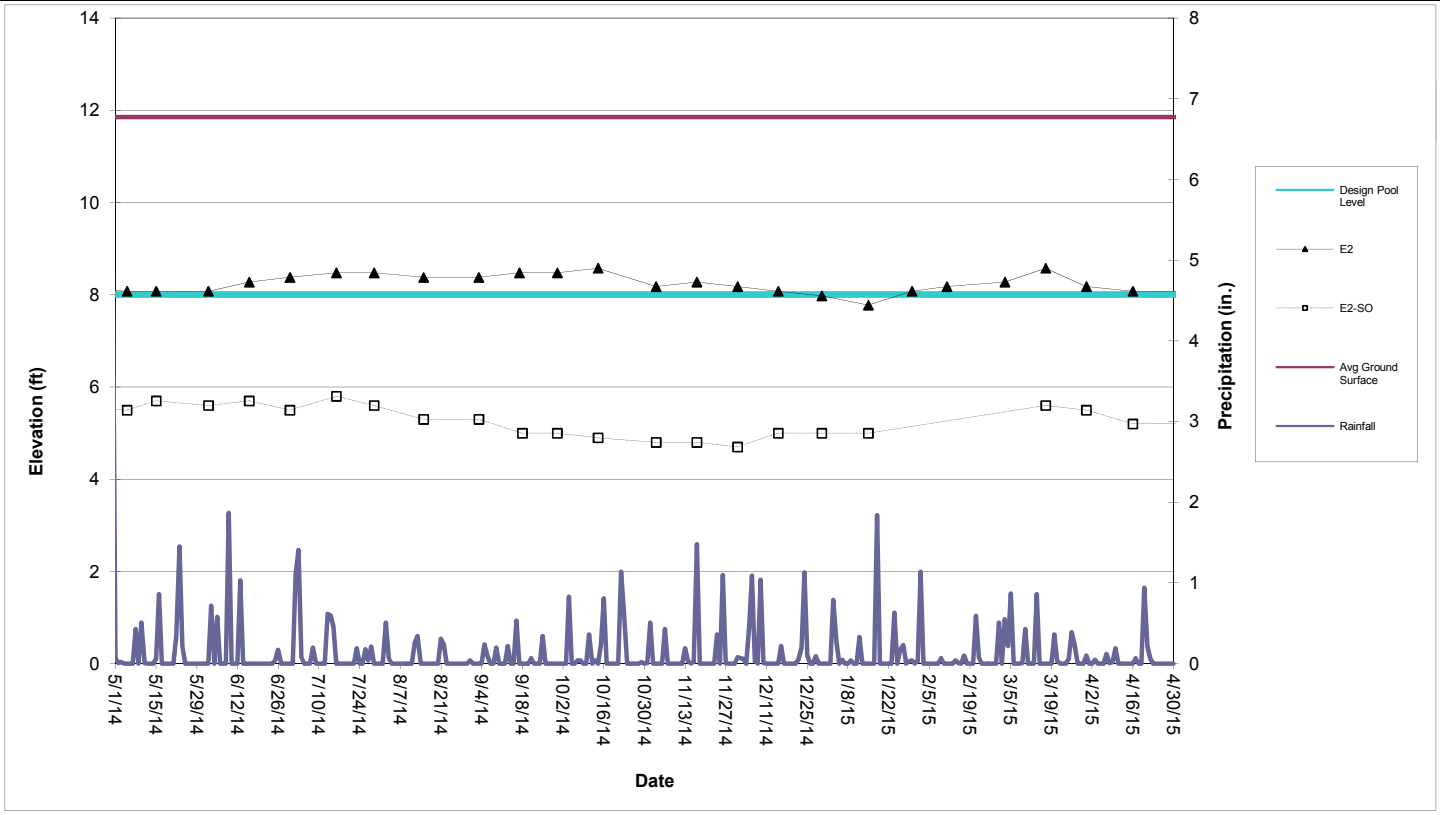
Perimeter Pool N3 (Sta. N6+80 to N10+23)



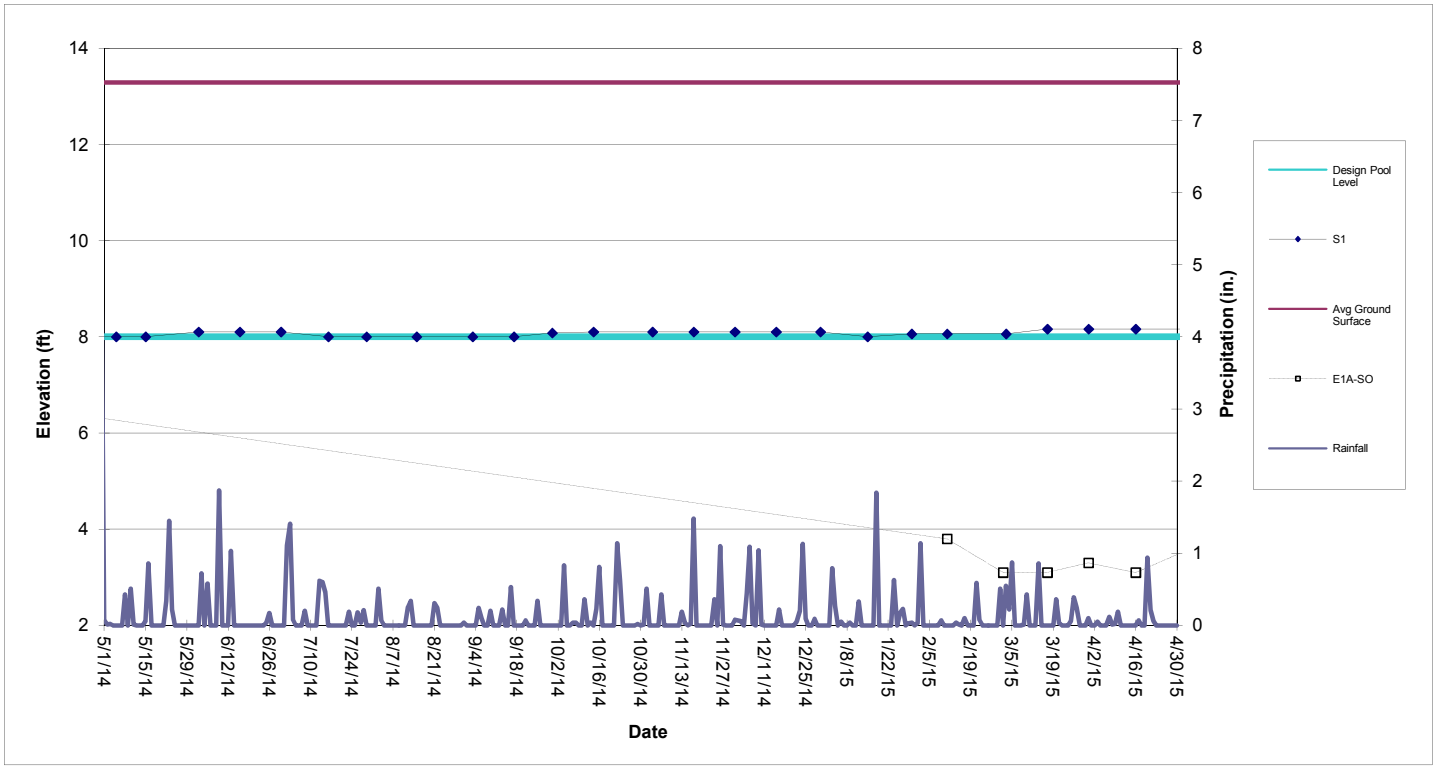
Perimeter Pool N4 (Sta. N6+80 to N10+23)



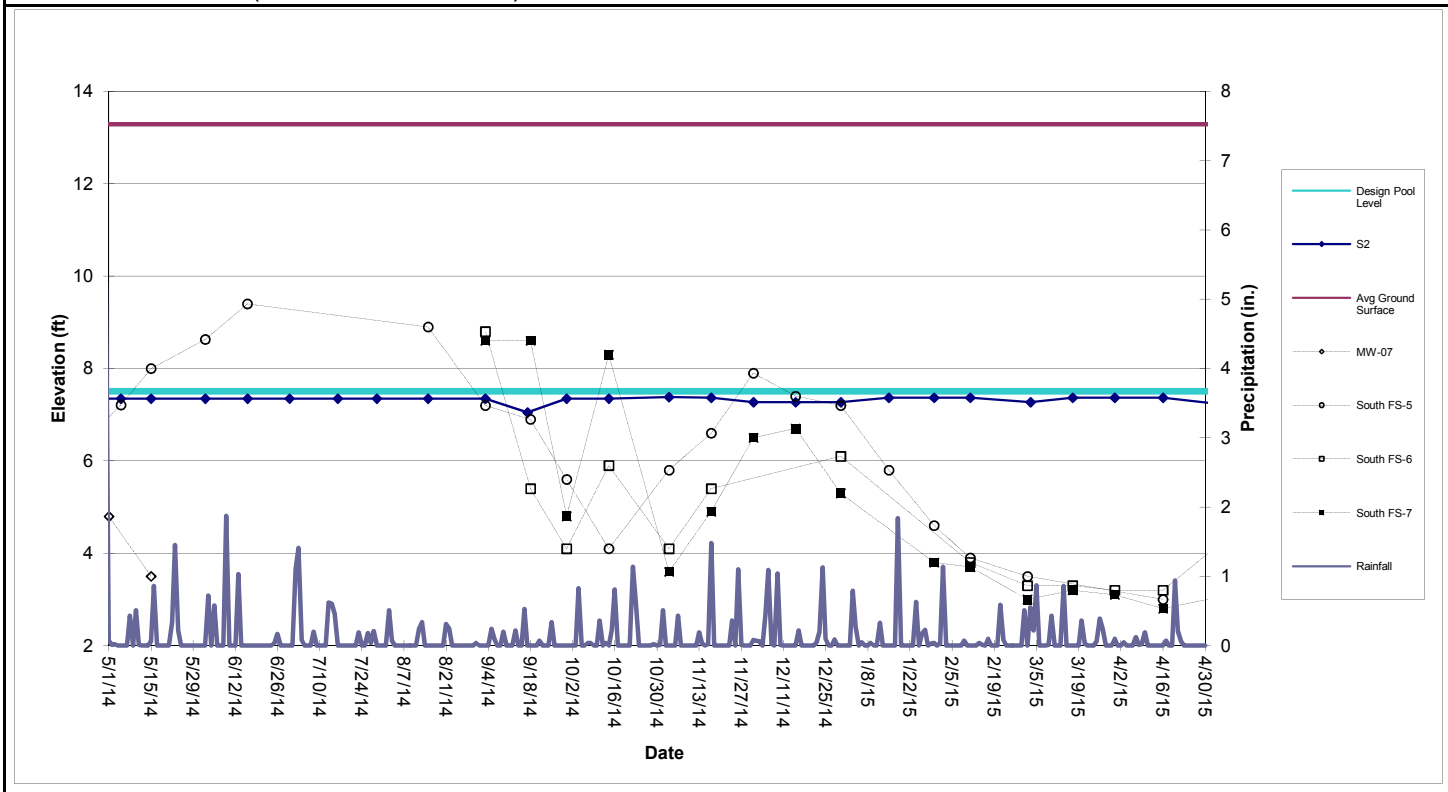
Perimeter Pool E1 (Sta. E0+50 to E3+75)



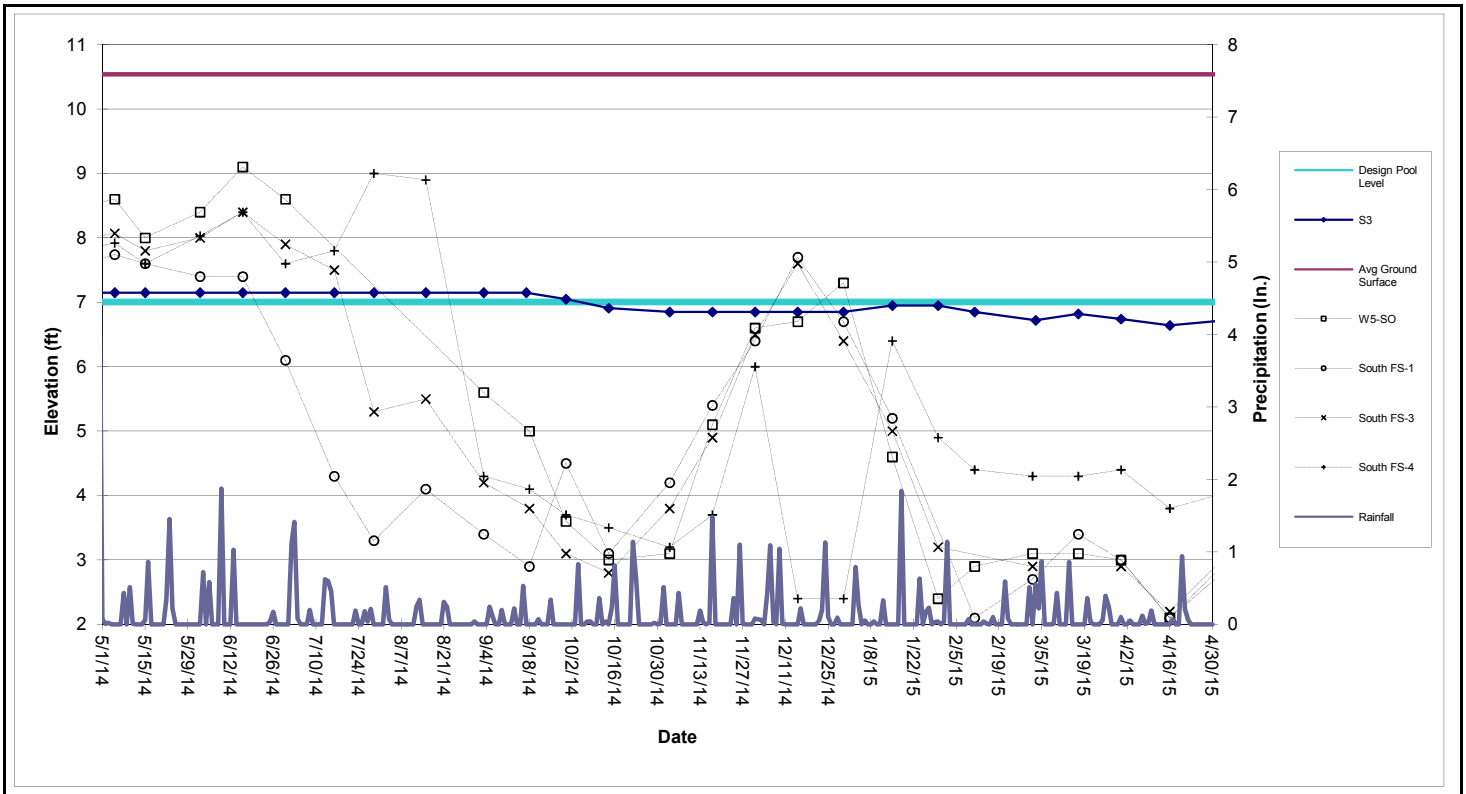
Perimeter Pool E2 (Sta. E4+50 to E7+25)



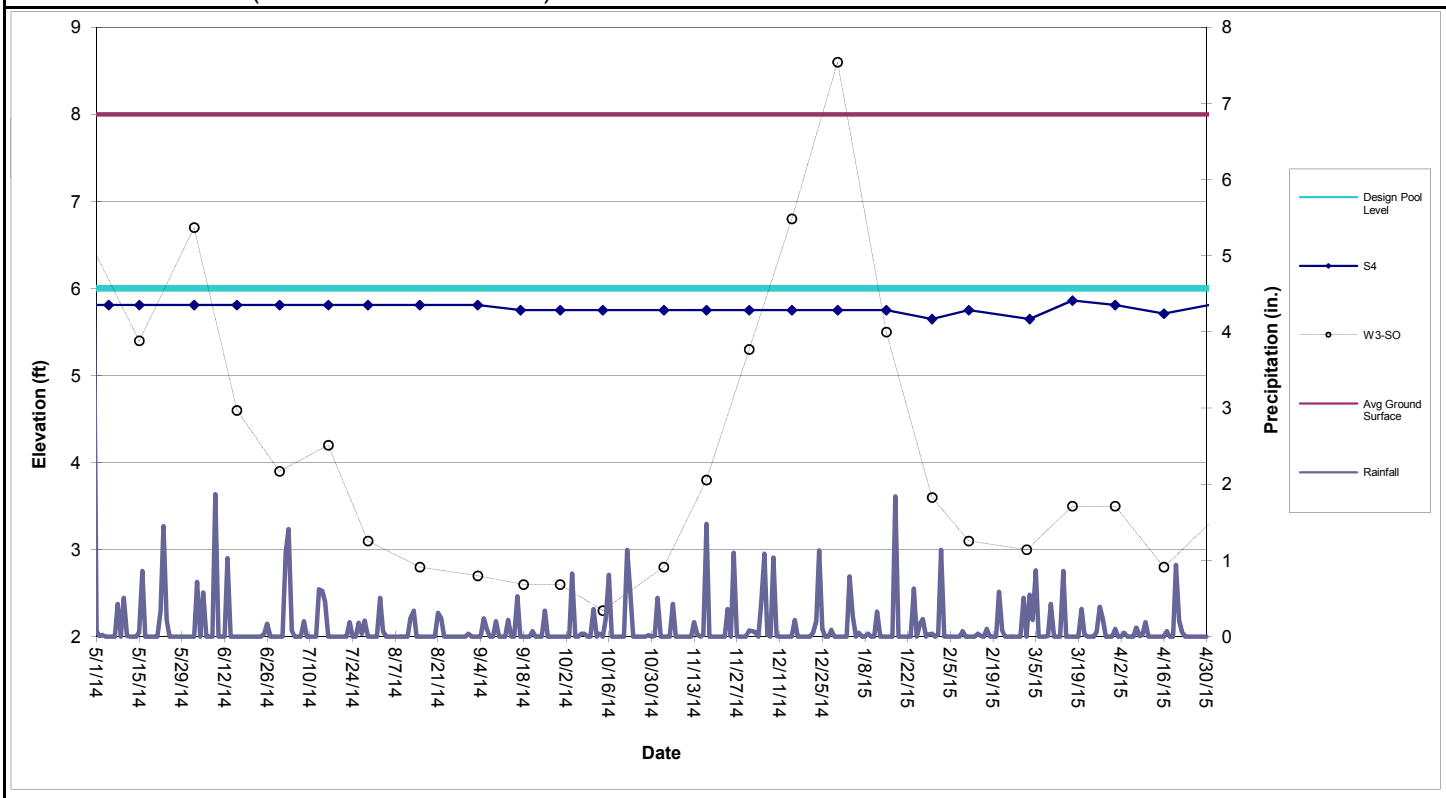
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										134-	140-		North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	MW-V09	MW-06	MW-07	FS-1	FS-2	FS-3	FS-4	FS-5	FS-6	FS-7	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																									
5/1/2014												4.8													
5/5/2014		5.5	6.7	7.0	8.0	7.5		8.6	7.1				7.2		7.3	7.3				7.7	8.1	7.9	7.2		
5/15/2014		5.7	6.6	7.3	7.2		5.4	8.0	6.5			3.5	6.3	7.4	8.0	6.9				7.6	7.8	7.6	8.0		
6/2/2014		5.6	6.5	7.1	6.8		6.7	8.4	6.3				6.0	7.4	7.4	6.7				7.4	8.0	8.0	8.6		
6/16/2014		5.7	6.5	7.1	7.3		4.6	9.1	6.4				6.0	7.4	7.2	6.7				7.4	8.4	8.4	9.4		
6/30/2014		5.5	6.4	6.9	6.7		3.9	8.6	5.9				5.6	7.1	7.1	6.6				6.1	7.9	7.6			
7/16/2014		5.8	6.4	6.8	6.8		4.2		5.9				5.5	7.1	7.1	6.3				4.3	7.5	7.8			
7/29/2014		5.6	6.4	6.6	6.5		3.1		5.6				5.3	7.0	6.8	6.1				3.3	5.3	9.0			
8/15/2014		5.3	6.1	6.2	6.2		2.8		5.5				5.1	6.8	6.7	6.1				4.1	5.5	8.9	8.9		
9/3/2014		5.3	5.9	6.1	5.9		2.7	5.6	5.2				4.8	6.7	6.3	5.6				3.4	4.2	4.3	7.2	8.8	8.6
9/18/2014		5.0	5.8	5.9	5.7		2.6	5.0	5.1				4.8	6.5	6.1	5.6				2.9	3.8	4.1	6.9	5.4	8.6
9/30/2014		5.0	5.7	5.8	5.8		2.6	3.6	5.0				4.7	6.5	6.0	5.6				4.5	3.1	3.7	5.6	4.1	4.8
10/14/2014		4.9	5.5	5.8	5.8		2.3	3.0	5.0				4.6	6.4	5.9		5.7	5.2	5.6	3.1	2.8	3.5	4.1	5.9	8.3
11/3/2014		4.8	5.6	5.9	6.0		2.8	3.1	5.1				4.7	6.7	6.2		5.6	5.3	5.7	4.2	3.8	3.2	5.8	4.1	3.6
11/17/2014		4.8	5.5	6.2	6.0		3.8	5.1	5.0				4.6	6.5	6.4		5.6	5.3	5.7	5.4	4.9	3.7	6.6	5.4	4.9
12/1/2014		4.7	5.5	6.6	6.5		5.3	6.6	5.2				4.9	6.9	6.9		6.0	5.9	6.2	6.4	6.5	6.0	7.9		6.5
12/15/2014		5.0	5.8	7.5	6.9		6.8	6.7	5.5				5.2	7.3	6.9		6.4	6.2	6.7	7.7	7.6	2.4	7.4		6.7
12/30/2014		5.0	5.6	7.1	6.5		8.6	7.3	5.4				5.0	7.2	6.7		6.0	5.8	6.3	6.7	6.4	2.4	7.2	6.1	5.3
1/15/2015		5.0	5.6	7.0	5.5		5.5	4.6	5.1				4.8	7.1	7.0		6.2	6.1	6.3	5.2	5.0	6.4	5.8		
1/30/2015			6.5	7.1	5.5		3.6	2.4	5.1				4.8	6.7	6.5		6.1	6.0	6.3		3.2	4.9	4.6		3.8
2/11/2015	3.8		6.5	6.7	6.4		3.1	2.9					4.7	6.8	6.5		6.1	6.1	6.2	2.1		4.4	3.9	3.8	3.7
3/2/2015	3.1		5.5	5.9	6.0		3.0	3.1					4.1	6.6	5.9		5.8	5.8	5.8	2.7	2.9	4.3	3.5	3.3	3.0
3/17/2015	3.1	5.6	6.4	7.5	7.0		3.5	3.1					5.6	6.6			6.0	5.9	6.5	3.4		4.3		3.3	3.2
3/31/2015	3.3	5.5	6.4	7.2	6.7		3.5	3.0	5.7				5.7	6.8			5.7	5.6	5.3	3.0	2.9	4.4		3.2	3.1
4/16/2015	3.1	5.2	6.0	6.5	6.1		2.8	2.1	5.4				5.5	6.8	6.2		5.1	5.2	5.9	2.1	2.2	3.8	3.0	3.2	2.8

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells are temporarily inaccessible:
134-MW-V09, W1-SO, North FS-4, South FS-5

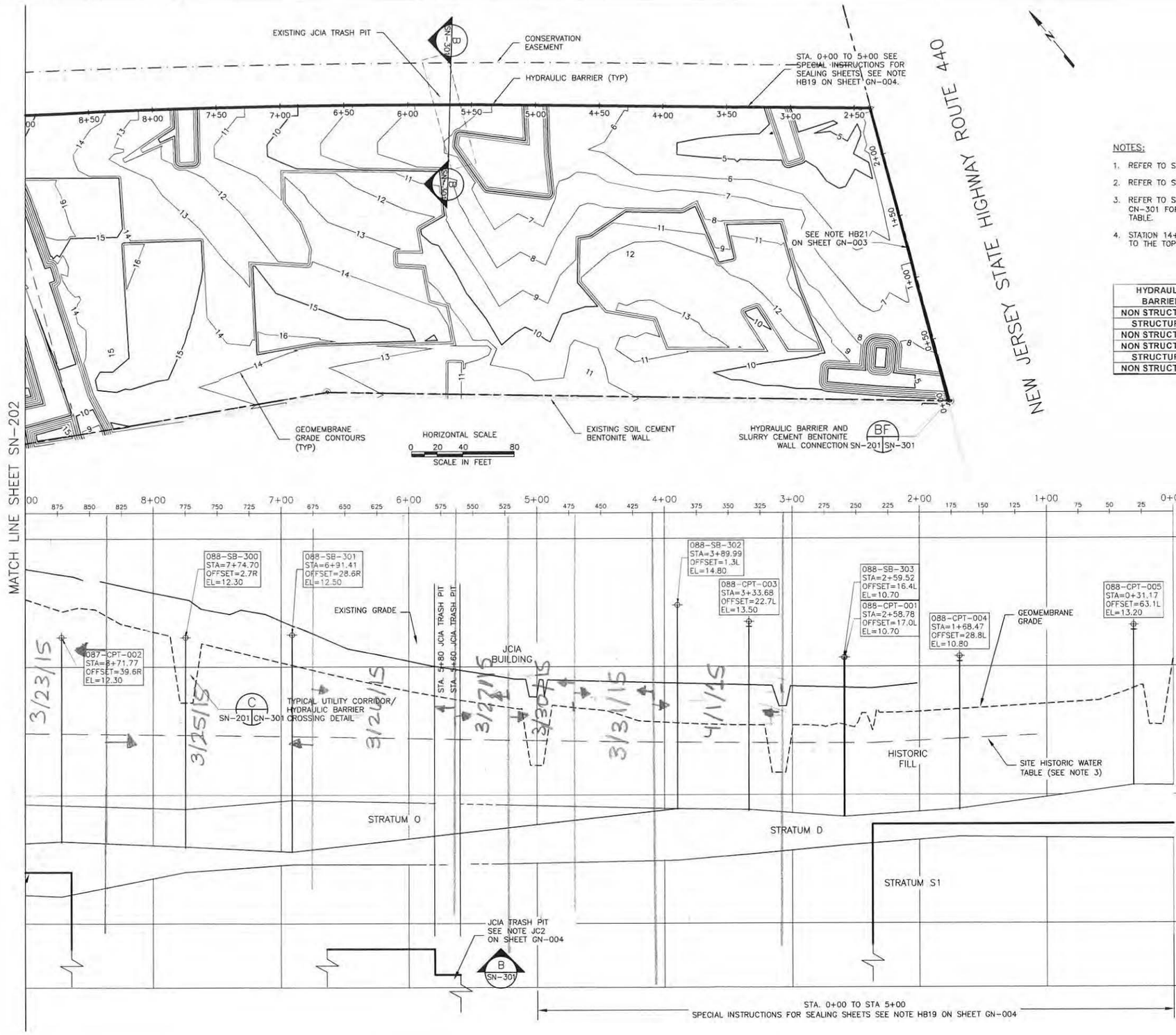
Attachment 8: Groundwater Quality Data

(not available as of this report date - provided on a quarterly basis)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.
4. STATION 14+00 TO 19+00 THE TOE OF THE SHEETPILE WILL BE DRIVEN TO THE TOP OF THE STRATUM S1.

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	0+00	2+37	-4	AZ 19-700
STRUCTURAL	2+37	5+60	-18	AZ 19-700
NON STRUCTURAL	5+60	5+80	-14	AZ 19-700
NON STRUCTURAL	5+80	6+64	-12	AZ 19-700
STRUCTURAL	6+64	8+64	-33	AZ 38-700N
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700

HORIZONTAL SCALE 0 20 40 80 SCALE IN FEET

VERTICAL SCALE 0 2 4 8 SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	10/10/13	TDD	RJR	TDD		RJR	SGS
0	06/07/13					TDD	SGS

REVISION — ISSUED FOR CONSTRUCTION — HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507
SGS

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

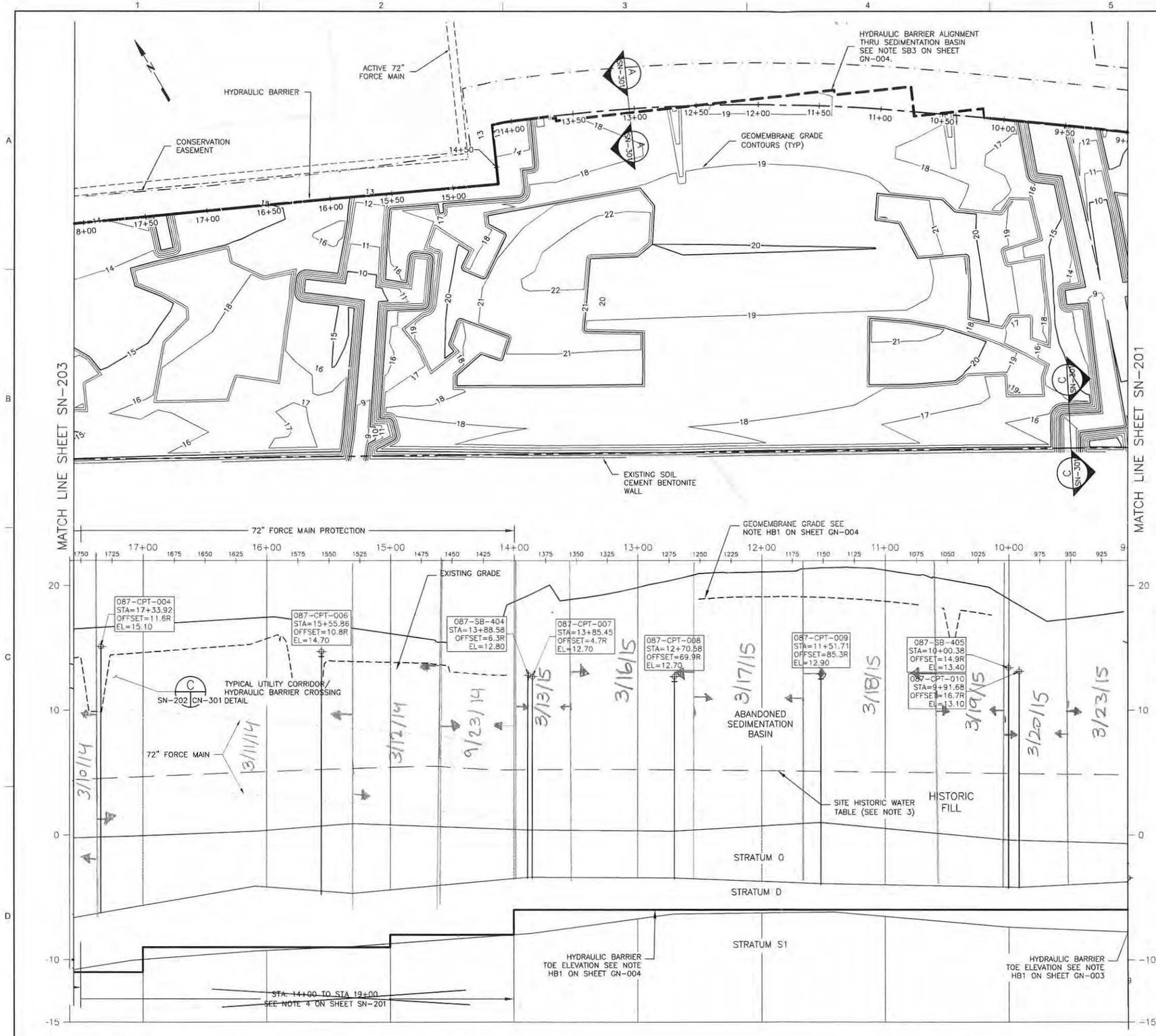
amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 588 - 2829
NJ Certificate of Authorization Number 24GA28019900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-201
SHEET	54 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USER'S AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR54-SN-201 HBW Design Pln Prof.dwg PLOT DATE: Mon. 07 Oct 2013 PLOT TIME: 4:04 PM



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET ON CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700
NON STRUCTURAL	9+85	14+00	-6	AZ 19-700
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700

Time frame for:
HB sheets driven

HORIZONTAL SCALE 0 20 40 80 SCALE IN FEET
VERTICAL SCALE 0 2 4 8 SCALE IN FEET

NO.	DATE	REVISION	BY	APV'D
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR TDD CHK RJR APV'D TDD

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507
BCO

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS:
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

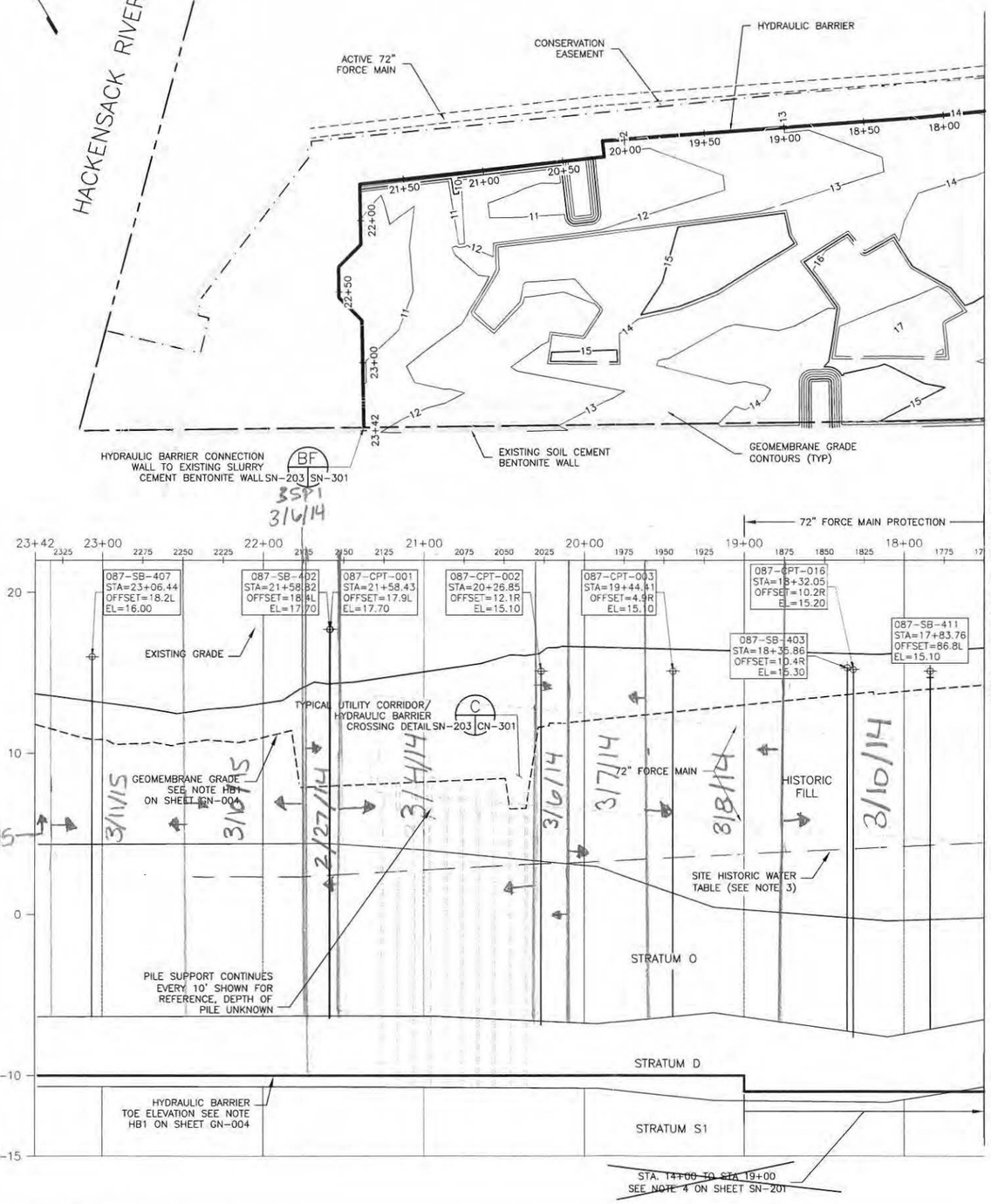
amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28019900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-202
SHEET	55 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design\3A6-C3D\CAD\3A6N-100 Percent\CR55-SN-202 HBW Design Pln Prof.dwg PLOT DATE: Fri, 18 Oct 2013 PLOT TIME: 10:35 AM



HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700
NON STRUCTURAL	19+00	23+38	-10	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.

HORIZONTAL SCALE 0 20 40 80 SCALE IN FEET

VERTICAL SCALE 0 2 4 8 SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM				RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	RJR	TDD	TDD	SGS

REVISION

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507
SGS

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 028
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 Airculean Metro Blvd, Suite 113
Hackensack, NJ 07601
(609) 689 - 2629
NJ Certificate of Authorization Number 24GA28910500

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-203
SHEET	56 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR56-SN-203 HBW Design Pln Prof.dwg PLOT DATE: Fri, 18 Oct 2013 PLOT TIME: 10:37 AM

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 3, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☑ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 04/03/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, April 03, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt has accumulated against the silt fence in the southeast corner of SA-7 along the Rt. 440 fenceline.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: Signature Date: 04/03/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Remove the accumulated silt, maintain the silt fence as necessary and shovel up any silt which may have gotten past the silt fencing.	4/7/15 RAD

Construction Manager: Date: 04/09/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 10, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☑ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		1
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		2
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		4,5
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 04/10/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, April 10, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Secondary containment of spill pallets in mechanics area has accumulated storm water.
2	IA2Q4A1AL8	Storm water is ponded on the floor of the LOAM excavation
3	IA2Q4A1AL8	A section of the northern toe of the 2-S stockpile area is missing erosion protection measures.
4	IA2Q4A1AL8	Sediment has accumulated on the southwestern corner of the SA-7 access roadway.
5	IA2Q4A1AL8	Sediment has accumulated on the northeastern corner of the SA-7 access roadway

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature Date: 04/10/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Drain the spill pallets as required.	4/16/15 RAD
2	Pump accumulated storm water to the CWTP as required	4/16/15 RAD
3	Install fabric-wrapped Jersey barriers or concrete bin blocks as required	4/16/15 RAD
4	Clean sediment from the roadway.	4/16/15 RAD
5	Clean sediment from the roadway	

Construction Manager: _____ Date: 04/17/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 17, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 04/17/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, April 17, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence along the JCIA Rt. 440 fenceline is not toed in properly.
2	IA2Q4A1AL8	Gaps in the trash pit safety fence are not properly protected or labelled.
3	IA2Q4A1AL8	Sediment has accumulated on the western SA-7 access roadway.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: Signature Date: 04/17/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Toe in the bottom of the silt fence as required.	4/21/15 RAD
2	Install additional barriers and signage as required to restrict access to the trash pit.	4/21/15 RAD
3	Clean accumulated sediment from the roadway.	4/20/15 RAD

Construction Manager: Date: 04/21/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 24, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection		X		1
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir	X			
Swale Check Dams		X		4
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		5
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 04/24/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, April 24, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Storm water run off has channeled and created a void in the Droyer's Cove seawall
2	IA2Q4A1AL8	Stone and sediment are present on the west end of Kellogg Street adjacent to the western gate.
3	IA2Q4A1AL8	Silt fence along the northern Study Area 7 roadway requires maintenance.
4	IA2Q4A1AL8	Sediment has accumulated against the swale check dam at the southwestern corner of Study Area 7
5	IA2Q4A1AL8	Sediment has accumulated near the toe of the western SA-6 North to SA-7 access ramp.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location Jersey City, New Jersey

SWAP Observer: _____ Signature Date: 04/24/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair the void in the Droyer's Cove bulkhead as per the engineer's specifications.	4-26-15 RAD
2	Remove the stone and sediment from the western end of Kellogg Street.	4-27-15 RAD
3	Repair or replace the damaged sections of silt fence as required	4-27-15 RAD
4	Remove accumulated sediment from the back side of the southern SA-7 river discharge silt dam	4-29-15 RAD
5	Remove accumulated sediment from the area around the toe of the SA-6N to SA-7 access ramp.	4-29-15 RAD

Construction Manager: _____ Date 04/29/15

Attachment 12: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (March 2015)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

April 20, 2015

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 31630016 (current number) #20630025 (future permit ID number)

Dear Mr. Caltagirone:

Honeywell is submitting the March 2015 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

You have informed us that our Permit ID number will be changing any day now. Therefore, we have placed the future ID on the MR1 and MR2 forms along with the current ID number.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy /SLF

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 31630016 20630025 New OLD OUTLET DESIGNATION:

MONITORING PERIOD

Start			End		
3	01	15	3	31	15
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	76,700	80,394 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	0.69	0.72	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.015	<0.015	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.050	<0.050	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.1	<5.1	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1459	0.1459	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

April 16, 2015

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 31630016 **OLD OUTLET DESIGNATION** 20630025 new

MONITORING PERIOD

Start			End		
3	01	15	3	31	15
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,377,687 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 31,545,805

DATE	BOD (mg/l)	TSS (mg/l)
3/11/2015	<50	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE April 16, 2015

PVSC FORM MR-2 REV.3 6/93

New Permit # 20630025

PVSC DAILY OPERATING LOG				Honeywell Jersey City GWTP; SA-6 North (Permit #31630016)												MONTH: March 2015
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
3/1/2015	Angel Trujillo	29168118	29242408	74,290	0.07429	7.44	1.080									0.67
3/2/2015	Angel Trujillo	29242408	29316130	73,722	0.073722	7.49	1.080									0.66
3/3/2015	Angel Trujillo	29316130	29392285	76,155	0.076155	7.02	1.080									0.69
3/4/2015	Angel Trujillo	29392285	29471105	78,820	0.07882	7.28	1.080									0.71
3/5/2015	Angel Trujillo	29471105	29548254	77,149	0.077149	7.15	1.080									0.69
3/6/2015	Angel Trujillo	29548254	29626836	78,582	0.078582	7.23	1.080									0.71
3/7/2015	Angel Trujillo	29626836	29706532	79,696	0.079696	7.22	1.080									0.72
3/8/2015	Angel Trujillo	29706532	29783315	76,783	0.076783	7.13	1.080									0.69
3/9/2015	Angel Trujillo	29783315	29852950	69,635	0.069635	7.16	1.080									0.63
3/10/2015	Angel Trujillo	29852950	29929944	76,994	0.076994	7.15	1.080									0.69
3/11/2015	Angel Trujillo	29929944	30005722	75,778	0.075778	6.91	1.080	<5.1	<50		<0.010	<0.015	<0.050	<0.0002	<0.020	0.68
3/12/2015	Angel Trujillo	30005722	30081079	75,357	0.075357	7.10	1.080									0.68
3/13/2015	Angel Trujillo	30081079	30157709	76,630	0.07663	7.15	1.080									0.69
3/14/2015	Angel Trujillo	30157709	30238103	80,394	0.080394	7.16	1.080									0.72
3/15/2015	Angel Trujillo	30238103	30317291	79,188	0.079188	7.06	1.080									0.71
3/16/2015	Angel Trujillo	30317291	30392442	75,151	0.075151	7.20	1.080									0.68
3/17/2015	Angel Trujillo	30392442	30469180	76,738	0.076738	7.15	1.080									0.69
3/18/2015	Angel Trujillo	30469180	30546930	77,750	0.07775	7.45	1.080									0.70
3/19/2015	Angel Trujillo	30546930	30625760	78,830	0.07883	7.25	1.080									0.71
3/20/2015	Angel Trujillo	30625760	30703986	78,226	0.078226	7.24	1.080									0.70
3/21/2015	Angel Trujillo	30703986	30784266	80,280	0.08028	7.21	1.080									0.72
3/22/2015	Angel Trujillo	30784266	30861668	77,402	0.077402	7.21	1.080									0.70
3/23/2015	Angel Trujillo	30861668	30935174	73,506	0.073506	7.27	1.080									0.66
3/24/2015	Angel Trujillo	30935174	31010640	75,466	0.075466	7.21	1.080									0.68
3/25/2015	Angel Trujillo	31010640	31087656	77,016	0.077016	7.25	1.080									0.69
3/26/2015	Angel Trujillo	31087656	31164779	77,123	0.077123	7.22	1.080									0.69
3/27/2015	Angel Trujillo	31164779	31240856	76,077	0.0761	7.17	1.080									0.69
3/28/2015	Angel Trujillo	31240856	31320473	79,617	0.079617	7.20	1.080									0.72
3/29/2015	Angel Trujillo	31320473	31396064	75,591	0.075591	7.21	1.080									0.68
3/30/2015	Angel Trujillo	31396064	31469914	73,850	0.07385	7.13	1.080									0.67
3/31/2015	Angel Trujillo	31469914	31545805	75,891	0.075891	7.13	1.080									0.68
TOTAL				2,377,687	2.377687			<5.1	<50		<0.010	<0.015	<0.050	<0.0002	<0.020	
			High:	80,394											High:	0.72
			Average:	76,700											Average:	0.69

WW

E / X 3/11/15

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell

Chain Of Custody / Analysis Request

JB89722.

AESI Ref:	42074.49749		
COC#	087-WW-031115		
Lab Proj # (SDG):			
Lab ID	ACTD		
Site ID	HudsonCo		
Lab Job #	HWINJM32815		
Authorized User:	Honeywell		
Test & Excel File Drive	Excel & Text File Order		

Privileged & Confidential | Site Name: Hudson County | Phase: CS
EDD To: | Location of Site: Jersey City, NJ | Sampling Program: 087: JCIA

Sampling Co.: MACTEC
Client Contact: (name, co., address)
Helen Fahy P. (973) 455-2989 E. helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962

Sampler: Frank Schroyer
PO #
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Full Report TAT: 28 Days

Preliminary Data To:
Sample Receipt Acknowledgement To: Frank Schroyer
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)

	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
											Units		Preservative	3	3	3	1	2	2	0	0	2						
1	087-WW			087-WWE-031115-A	3/11/2015	14:00	WW	WATER	REG	3	comp	N		X	X	X	X			X	X		1					C31
2	087-WW			087-WWE-031115-B	3/11/2015	14:15	WW	WATER	REG	5	grab	N						X	X				2					V271
3	087-WW			087-WWI-031115	3/11/2015	14:25	WW	WATER	REG	3	grab	N										X	3					G12
4																												
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												

INITIAL ASESSMENT 1A/Gl
LABEL VERIFICATION N2

Copyright AESI: Version 6.0 Unauthorized use strictly prohibited.

Relinquished by: PH = 6.91 s.u. @ 6.60° C	Company: AMEC Foster Wheeler	Received by:	Company:		Condition:		Custody Seals Intact:
Frank Schroyer	Date/Time: 3/11/15		Date/Time: 3/11/15 1500		Cooler Temp.		
Relinquished by:	Company:	Received by:	Company: ACW7077		Condition:		Custody Seals Intact: N/A
	Date/Time: 3/11/15 1850		Date/Time: 3/11/15 1850		Cooler Temp.	0.0°C-B	

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

ALL SAMPLES RECEIVED PRESERVED AS APPLICABLE

Accutest LabLink@845239 10:54 01-Apr-2015

Report of Analysis

4.1 4

Client Sample ID:	087-WWE-031115-A		
Lab Sample ID:	JB89722-1	**Date Sampled:**	03/11/15
Matrix:	AQ - Water	**Date Received:**	03/11/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1080	10	ug/l	1	03/12/15	03/13/15	BS	EPA 200.7 [2]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	03/12/15	03/13/15	BS	EPA 200.7 [2]	EPA 200.7 [4]
Lead [a]	< 15	15	ug/l	5	03/12/15	03/13/15	BS	EPA 200.7 [2]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	03/12/15	03/12/15	DP	EPA 245.1 [1]	EPA 245.1 [3]
Nickel [b]	< 50	50	ug/l	5	03/12/15	03/13/15	BS	EPA 200.7 [2]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	03/12/15	03/13/15	BS	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA36219
(2) Instrument QC Batch: MA36226
(3) Prep QC Batch: MP85189
(4) Prep QC Batch: MP85244

(a) Elevated detection limit due to dilution required for high interfering element.
(b) Elevated detection limit due to dilution required for matrix interference (indicated by failing internal standard on original analysis).

RL = Reporting Limit

Accutest LabLink@845239 10:54 01-Apr-2015

Report of Analysis

4.1

4

Client Sample ID:	087-WWE-031115-A		
Lab Sample ID:	JB89722-1	**Date Sampled:**	03/11/15
Matrix:	AQ - Water	**Date Received:**	03/11/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	03/13/15	JS	SM2540 D-11
pH [a]	6.84		su	1	03/11/15 19:34	SUB	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@845239 10:54 01-Apr-2015

Report of Analysis

4.2 4

Client Sample ID:	087-WWE-031115-A		
Lab Sample ID:	JB89722-1A	**Date Sampled:**	03/11/15
Matrix:	AQ - Water	**Date Received:**	03/11/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 50	50	mg/l	1	03/12/15 19:03	TT	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@845239 10:54 01-Apr-2015

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-031115-B		
Lab Sample ID:	JB89722-2	**Date Sampled:**	03/11/15
Matrix:	AQ - Water	**Date Received:**	03/11/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	T206121.D	1	03/12/15	DC	n/a	n/a	VT8458
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	2.2	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	3.6	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	0.22	1.0	0.093	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.50	ug/l	
67-66-3	Chloroform	17.8	1.0	0.091	ug/l	
74-87-3	Chloromethane	ND	1.0	0.11	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.11	ug/l	
95-50-1	1,2-Dichlorobenzene	0.41	1.0	0.19	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.11	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.29	ug/l	
75-34-3	1,1-Dichloroethane	0.40	1.0	0.12	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/l	
156-59-2	cis-1,2-Dichloroethene	71.6	1.0	0.12	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.6	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.12	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.15	ug/l	
123-91-1	1,4-Dioxane	ND	130	20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.66	1.0	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest LabLink@845239 10:54 01-Apr-2015

Report of Analysis

Client Sample ID:	087-WWE-031115-B		
Lab Sample ID:	JB89722-2	**Date Sampled:**	03/11/15
Matrix:	AQ - Water	**Date Received:**	03/11/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	44.1	1.0	0.12	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	1.3	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	101%		72-125%
2037-26-5	Toluene-D8 (SUR)	98%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	104%		74-115%
1868-53-7	Dibromofluoromethane (S)	102%		79-120%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest LabLink@845239 10:54 01-Apr-2015

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-031115-B		
Lab Sample ID:	JB89722-2	**Date Sampled:**	03/11/15
Matrix:	AQ - Water	**Date Received:**	03/11/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.1	5.1	mg/l	1	03/15/15	CW	EPA 1664A

RL = Reporting Limit

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending April 2015

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 02 feet of historic fill soils from selected locations throughout the SA6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to Contractor only.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Contractor only.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

APPENDIX T

PART 7 OF 22

PROGRESS REPORTS

2015 MONTHLY REPORTS PART 2

SA-6 AND SA-7 COMBINED PROGRESS REPORT

JUNE 12, 2015

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

June 12, 2015

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2015-05

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from May 1 – May 31, 2015.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: May 2015 SA-6/7 Combined Monthly Progress Report No. 2015-05

cc: Joe Clifford - Amec Foster Wheeler (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)

Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2015-05

Project SA-6 & 7 Remediation

May 2015

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
05/01/15	Response to Comments provided by Terris, Pravlik & Millian, LLP Surcharge Monitoring Plan Reports No. 7-9 Study Area 6, Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
05/05/15	Surcharge Monitoring Plan – Monthly Report No. 12 Study Area 6, Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
05/05/15	SA-6 North Treatment Area 10 Bench Scale Reactor Summary - 6 Month Reactor Data Study Area 6 North, Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
05/14/15	Draft SA-6 South Declaration Study Area 6 South, Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
05/14/15	Riverkeeper et al v. Honeywell International Inc. et al Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2015-04	Honorable Robert G. Torricelli Office of the Special Master
05/19/15	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Manager of Industrial & Pollution Control Passaic Valley Sewerage Commission
05/19/15	Special Master Meeting	N/A
05/27/15	SA-6N - Design Change Bulletins MRCE Temporary Support of Excavation Design Barrier Wall Realignment SA-6N Station 8+25 Study Area 6 North, Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
05/27/15	Response to Plaintiff May 5, 2015 Comments Honeywell's April 20, 2015 proposal to install a new GWET extraction well (PW-3), in replacement of existing extraction well PW-2 Study Area 7, Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending				
	05/3/2015	05/10/15	05/17/15	05/24/15	05/31/15
Construction Management (AMEC)	9	10	9	10	9
Engineering (AMEC)	1	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1	1
Security (Securitas)	3	3	3	3	3
Entact/Subcontractors	35	37	37	38	36
Arecon/US Ecology Subcontractors	0	0	0	0	0
Evoqua	1	1	1	1	1
HBS (SA-6N GWTP Security System)	0	0	0	0	0
B&B Drilling	1	2	2	2	2
TOTAL STAFF	51	55	54	56	53

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected May PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- On May 31, June 1, and 2, 2015, Cornerstone personnel conducted S-3 Mass Removal Injection Event No.21 in Injection Well 088-IW-02.
- Cornerstone conducted semi-annual groundwater sampling for the S-3 Mass Removal program and quarterly sampling of the GWET well discharge.
- Completed Removal of standing water and residual municipal waste from within the JCIA trash pit. The water was discharged to PVSC through CWTP and the residual municipal waste was loaded out and transported off site for disposal by JCIA.
- Assisted JCDPW personnel in the removal of materials from within the former Jersey City Department of Public Works “H” building.
- Completed water supply disconnects to the Department of Public Works “H” Building and the maintenance garage. A total of 7 lines were disconnected and capped.

- B&B drilled and grouted columns of the east and west trash pit walls for low permeability connection of the special Hydraulic Barrier Sheets.
- PSEG completed switching overhead electrical power and Cable Vision completed moving overhead telecommunication wires to the North Bound side of Route 440.
- PSEG completed installation of power to the utility pole at the northeast corner of SA-7. Century Electric completed electrical connections from the utility pole to the electrical panel at the Northeast corner of SA-7 which feeds power to the perimeter pool pump and transducer.
- **L**oaded, transported and delivered World Trade Center Beams from SA-6 north to the new Jersey City Municipal Services Complex on Linden Avenue.
- Continued to evaluate Site 163 interim in-situ treatment performance sampling data.
- Continued to stockpile Celgene material for future screening operations.
- Ordered three new Honeywell office trailers to be located at SA-6 North.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on May 18, 2015.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending				
	05/3/15	05/10/15	05/17/15	05/24/15	05/31/15
Avg. Gallons Treated & Discharged (per day)	77,624	77,562	77,850	78,263	76,616
Average Flow (gpm) for Operating Period	56	54	54	54	55
Avg. Hours of Plant Operation	24	24	24	24	24
GWTP Influent Tanks (gal.)	7,133	6,600	7,601	9,122	9,738

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Continued installation of SA-6 North Contingent Ground Water Extraction System piping. A total of 700 linear feet of piping and one access manhole was installed
- Installed Catch Basin 5 in the SA-6 South backfill area along Kellogg Street, to include a total of 200 linear feet of piping.
- Continued to haul screened historic fill from N1 and place it as backfill in the west side of SA-6 South backfill area.

- Continued placement of soils with hexavalent chromium concentrations between 20 and 240 ppm within the sedimentation basin south of the Vertical Hydraulic Barrier Wall on SA-6 North.
- Continued placement of historic fill within the sedimentation basin north of the Vertical Hydraulic Barrier Wall on SA-6 North.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
No update for the reporting period							

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Excavation Completed	No update for the reporting period
Backfill in Progress	Historic Fill - SA6 South western backfill area.

3. BACKFILL MATERIALS USED

Source	Week Ending				
	05/3/15	05/10/15	05/17/15	05/24/15	05/31/15
Tilcon Mt Hope DGA	620	0	0	0	0
Tilcon Mt. Hope 3/8” Stone	0	0	182	0	0
Tilcon Mt. Hope 1-1.5” Stone	0	308	0	333	0

- Historic Fill was transferred from 1N surcharge area beginning on April 7, 2015. A total of 118 loads, totaling approximately 2,360 cubic yards was placed as backfill in SA-6 South during the reporting period.

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging and offloading of surcharge material is complete.
- Area 3S: Begin surcharge removal. Offloading Novartis and relocating 20 to 240 ppm material to SA-6 North cap area (approximately 60% complete).
- Area 1N: Continued off-loading of remaining screened historic fill.
- Area 2N: Surcharging is 100% complete. Offloading not yet scheduled by contractor.
- Area 3N: Continued installation of surcharge monitoring instrumentation.
- Area 4N: Began installation of surcharge monitoring instrumentation.

- As noted in the transmittal of Surcharge Monitoring Report No. 12, we will not be submitting monthly surcharge monitoring reports until remaining instrumentation is installed in Areas 3N and 4N.

F. SHEET PILE OPERATIONS

- Installed Vertical Hydraulic Barrier wall closure pieces associated with the connection to the exterior of the JCIA trash pit concrete walls.

G. CAPPING OPERATIONS

- Continued general Cap Subgrade preparation in Area 1S.
- Continued Utility Corridor and roadway subgrade preparation.

H. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014, 1 yr. extension granted 10/6/14	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15	12/2/15	Pending

I. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete set up Traffic Controls and Southbound shoulder closure associated with excavations along Route 440 frontage with SA-6 North in accordance with the NJDOT permit.
- Begin excavation of Areas EA-7 and EA-8.
- Begin pre-trenching for installation of temporary shoring related to the excavations along Route 440.
- Begin Soldier Pile installation associated with the temporary shoring along Route 440.
- Continue Cap Subgrade and utility corridor preparation activities.
- Verizon will complete switching communication lines to the North Bound side of Route 440.
- Begin Stratum D repair of the JCIA Trash Pit Area.
- Continue backfill placement activities at SA-6 South.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Develop the revised plan for the SA-6 North Treatment Area 10 proximate to force main.
- Complete the L-Well sampling of locations where geoprobe is required.
- Continue to work with owner on access for the planned PW-3 extraction well installation.

ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
4. *Dewatering Operations Update (not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. *Backfill Analytical Data (not included in this reporting period)*
7. Perimeter Pools Update
8. *Groundwater Quality Data (not included in this reporting period)*
9. Surcharge Monitoring Update
10. Sheet Pile Update

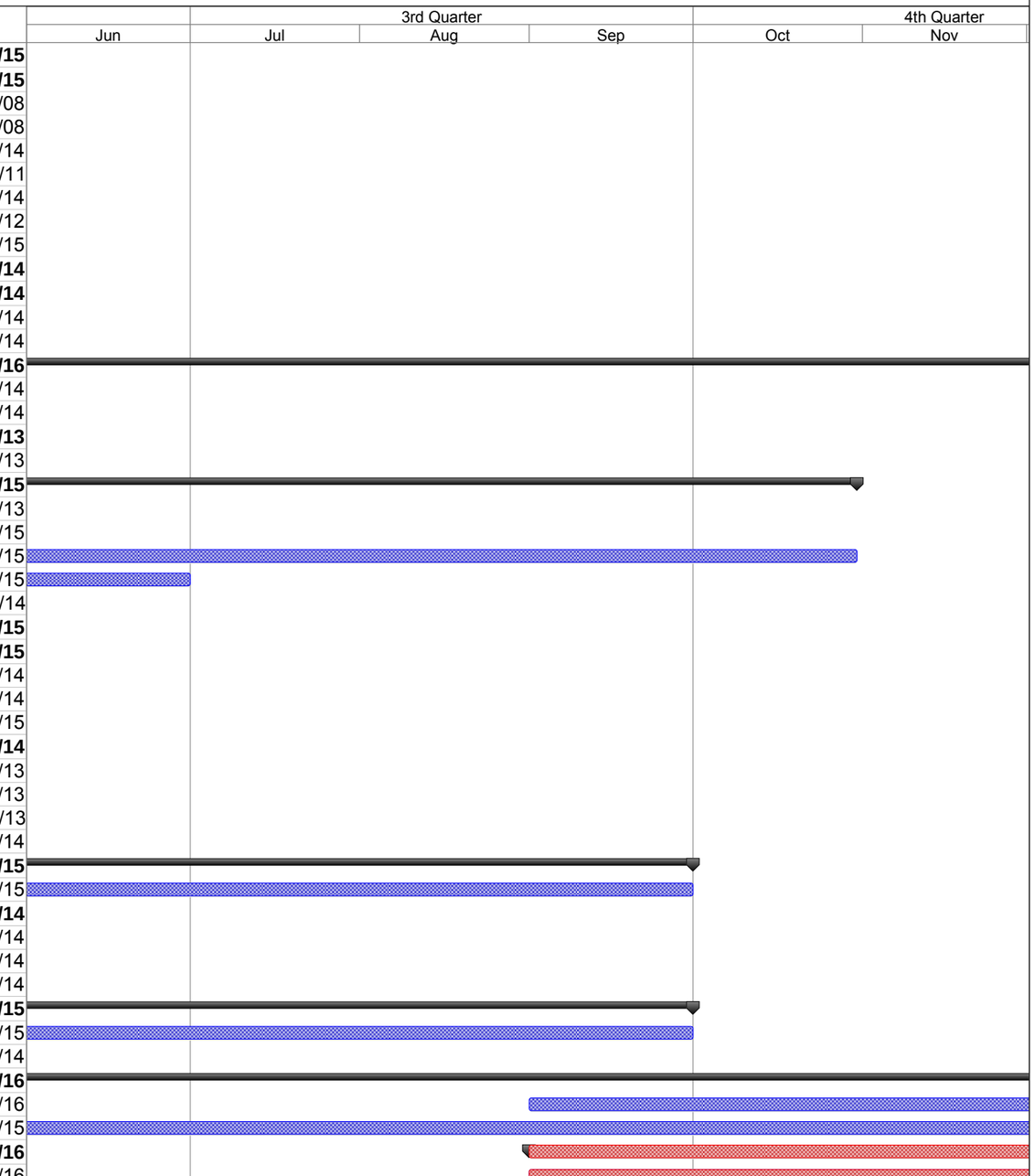
11. Weekly SWPPP Reports
12. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (April 2015)
13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**1/4/08**	**3/30/15**
18	**JCIA/JCDPW Relocation**	**1735 days**	**8/11/08**	**3/30/15**
19	Develop Site Relocation Master Plan	38 days	8/11/08	10/1/08
20	Submit Site Relocation Master Plan	0 days	10/1/08	10/1/08
21	JC Construction of New Facilities	1309 days	6/2/09	6/2/14
22	Relocation Contractor Procurement	392 days	4/15/10	10/13/11
23	JCIA and JCDPW Relocation	753 days	10/17/11	8/29/14
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	12/12/11	4/30/12
24a	Demolition of JCIA Structures	151 days	9/1/14	3/30/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**7/11/08**	**4/30/14**
57	**SA-6 South Relocation**	**616 days**	**12/26/11**	**4/30/14**
58	New GWTP Construction Completion	502 days	3/5/12	1/30/14
59	Demolition of 80 Kellogg	857 days	12/26/11	4/30/14
60	**SA-6 North/South Field Implementation**	**838 days**	**3/1/13**	**5/16/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	6/17/13	12/31/14
60b	SA-6S (Site 163) In-Situ Treatment	294 days	11/15/13	12/31/14
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**3/1/13**	**6/28/13**
61a	Mobilization	87 days	3/1/13	6/28/13
62	**Surcharge Install/Instrumentation**	**620 days**	**6/17/13**	**10/30/15**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	6/17/13	12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	6/2/14	2/27/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	3/2/15	10/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	10/20/14	6/30/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	3/3/14	11/28/14
63	**Barrier Wall Install**	**489 days**	**6/17/13**	**4/30/15**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**12/2/13**	**4/30/15**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	12/2/13	2/14/14
63c	SA-6N Stations 23+38 to 14+25	90 days	2/17/14	6/20/14
63d	SA-6N Stations 14+25 to 0+00	224 days	6/23/14	4/30/15
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**6/17/13**	**5/30/14**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	6/17/13	8/15/13
63h	SA-6S Stations 1+54 to 8+37	7 days	8/16/13	8/26/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	10/3/13	11/8/13
63j	SA-6S Stations 8+60 to 14+87	145 days	11/11/13	5/30/14
64	**Excavation**	**507 days**	**10/22/13**	**9/30/15**
64a	SA 6N Excavation	218 days	12/1/14	9/30/15
64b	**SA 6S Excavation**	**226 days**	**10/22/13**	**9/2/14**
64c	SA-6S Excavation of Cells 1 - 25	53 days	10/22/13	1/2/14
64d	SA-6S Excavation of Cells 26 - 60	90 days	1/3/14	5/8/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	5/9/14	9/2/14
65	**Backfill**	**493 days**	**11/11/13**	**9/30/15**
65a	SA 6N Backfill	218 days	12/1/14	9/30/15
65b	SA 6S Backfill	232 days	11/11/13	9/30/14
66	**Capping and Cover Soil Placement**	**315 days**	**12/1/14**	**2/12/16**
66a	SA 6N Capping and Cover Soil Placement	119 days	9/1/15	2/12/16
66b	SA 6S Capping and Cover Soil Placement	283 days	12/1/14	12/30/15
67	**Restoration**	**164 days**	**9/1/15**	**4/15/16**
67a	Restoration	164 days	9/1/15	4/15/16



Project: SA-6 Remediation Schedule
Revision 3
Date: 6/2/15

Task | Milestone | Summary | Critical

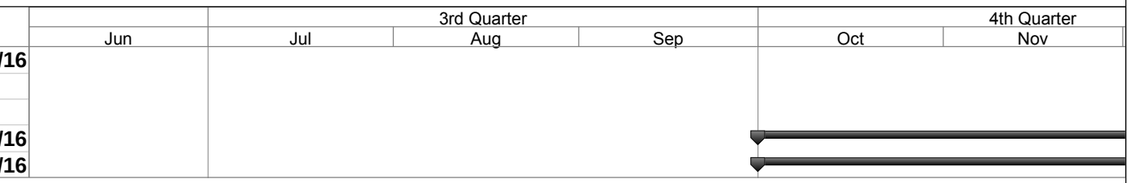
Note: The schedule will be revised following completion of the JCDPW relocation.

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

amec foster wheeler

ID	Task Name	Duration	Start	Finish
68	**Demobilization**	**21 days**	**4/18/16**	**5/16/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line			
69	**SA-6 North Project Closeout**	**310 days**	**10/1/15**	**12/7/16**
75	**SA-6 South Project Closeout**	**310 days**	**10/1/15**	**12/7/16**



Project: SA-6 Remediation Schedule
Revision 3
Date: 6/2/15

Task | Milestone ◆ | Summary | Critical

Note: The schedule will be revised following completion of the JCDPW relocation.

Attachment 2: Site Photographs

Site Photograph 1: Contractor compacting material on former City properties.

Site Photograph 2: Contract removing tree stumps from the former City properties.

Site Photograph 3: Contractor compacting screened historic fill.

Site Photograph 4: Contractor conducts drilling at former JCIA property.

Photograph 5: Contractor installs hydraulic barrier at former JCIA property.

Site Photograph 6: Contractor loading surcharge material.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of June 1, 2015

May 2015 SA-6/7 Progress Report Attachment 3: Excavation and Backfill

Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC

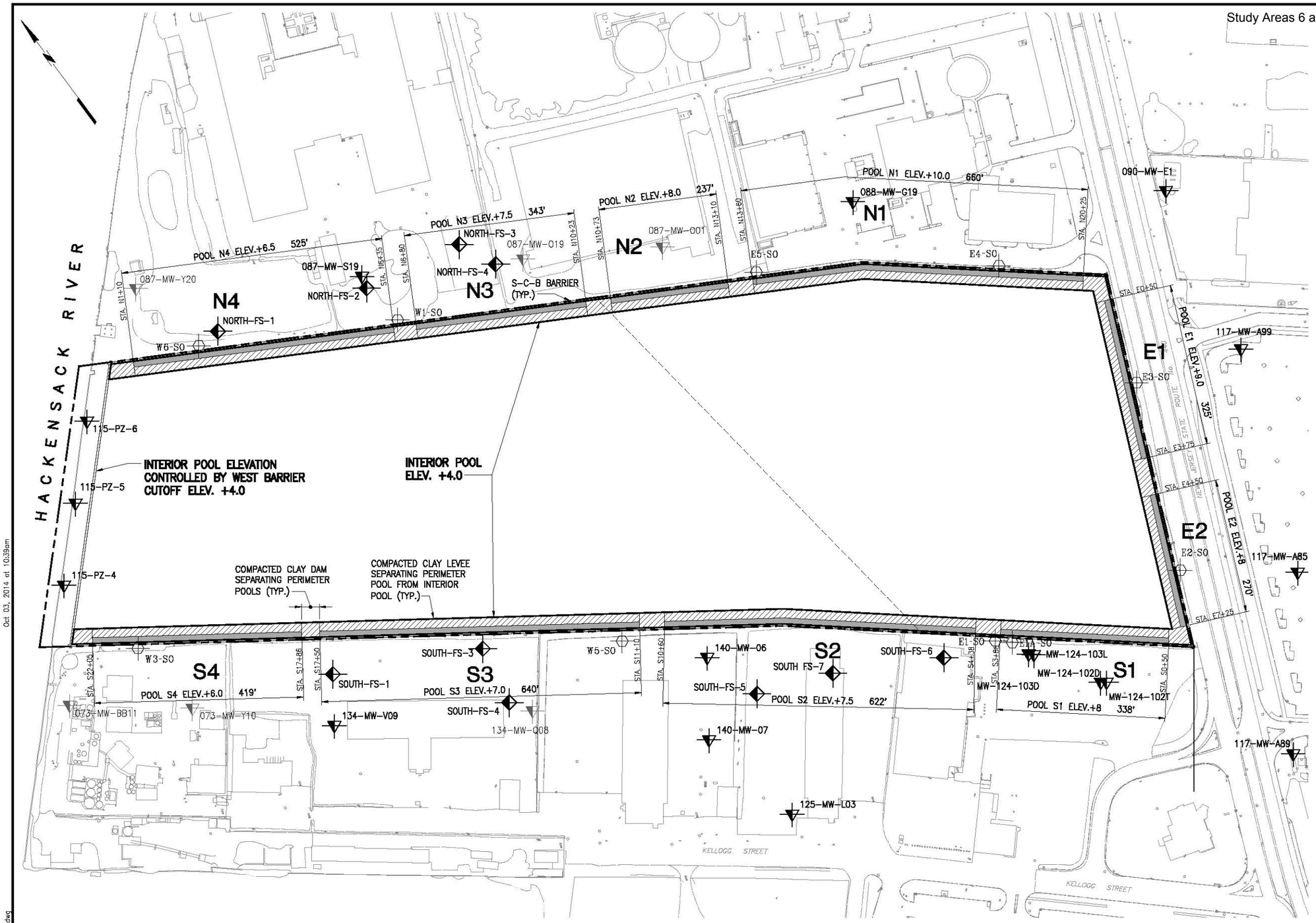
DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
04/01/15	7:30	15:00	7:30	30,378.43	30,506.05	127,620	30,505,600	PVSC Compliance Sample Collected
04/02/15	7:15	15:15	8:00	30,506.05	30,637.07	131,020	30,636,620	
04/04/15	7:30	15:30	8:00	30,637.07	30,677.37	40,300	30,676,920	
04/06/15	7:00	15:00	8:00	30,677.37	30,776.12	98,750	30,775,670	
04/07/15	7:15	15:00	7:45	30,776.12	30,842.73	66,610	30,842,280	
04/08/15	7:15	15:00	7:45	30,842.73	30,910.48	67,750	30,910,030	
04/09/15	8:30	15:00	6:30	30,910.48	30,974.48	64,000	30,974,030	
04/10/15	7:30	15:00	7:30	30,974.48	31,065.01	90,530	31,064,560	
04/13/15	11:45	16:15	4:30	31,065.01	31,142.89	77,880	31,142,440	
04/14/15	7:30	15:00	7:30	31,142.89	31,231.27	88,380	31,230,820	
04/15/15	7:30	14:00	6:30	31,231.27	31,277.99	46,720	31,277,540	
04/17/15	7:15	12:00	4:45	31,277.99	31,315.22	37,230	31,314,770	
04/20/15	7:30	15:15	7:45	31,315.22	31,405.02	89,800	31,404,570	
04/21/15	7:00	14:00	7:00	31,405.02	31,446.44	41,420	31,445,990	
04/22/15	7:30	13:00	5:30	31,446.44	31,498.34	51,900	31,497,890	
04/23/15	7:00	13:30	6:30	31,498.34	31,544.28	45,940	31,543,830	
04/24/15	7:30	14:00	6:30	31,544.28	31,600.00	55,720	31,599,550	
04/27/15	7:30	14:30	7:00	31,600.00	31,637.05	37,050	31,636,600	
04/29/15	9:30	15:00	5:30	31,637.05	31,706.56	69,510	31,706,110	
04/30/15	8:00	15:00	7:00	31,706.56	31,755.10	48,540	31,754,650	
05/01/15	10:00	14:30	4:30	31,755.10	31,779.92	24,820	31,779,470	
05/05/15	7:00	14:00	7:00	31,779.92	31,862.76	82,840	31,862,310	PVSC Compliance Sample Collected
05/08/15	7:30	14:30	7:00	31,862.76	31,923.11	60,350	31,922,660	
05/11/15	10:00	15:00	5:00	31,923.11	31,978.26	55,150	31,977,810	
05/14/15	10:00	15:00	5:00	31,978.26	32,016.71	38,450	32,016,260	
05/18/15	7:30	14:30	7:00	32,016.71	32,102.90	86,190	32,102,450	
05/19/15	7:30	14:00	6:30	32,102.90	32,136.78	33,880	32,136,330	
05/20/15	7:30	15:00	7:30	32,136.78	32,157.02	20,240	32,156,570	
05/21/15	7:00	13:30	6:30	32,157.02	32,194.76	37,740	32,194,310	
05/22/15	8:00	12:00	4:00	32,194.76	32,208.64	13,880	32,208,190	
05/24/15	10:00	14:00	4:00	32,208.64	32,256.26	47,620	32,255,810	
05/27/15	6:30	13:30	7:00	32,256.26	32,322.85	66,590	32,322,400	
05/29/15	10:00	14:15	4:15	32,322.85	32,377.97	55,120	32,377,520	

Notes: Previous information is trunkated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

(not included in this reporting period)

Attachment 7: Perimeter Pools Update



LEGEND

- FILL TYPE A CLAY
- FILL TYPE B GRANULAR FILL
- SHALLOW WELL INSTALLED BY OTHERS
- SHALLOW WELL ABANDONED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN
- SHALLOW WELL INSTALLED FOR STUDY AREA 7 REMEDIATION
- SURCHARGE MONITORING STANDPIPE INSTALLED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN

GRAPHIC SCALE

100' 50' 0 100' 200'

IN PROGRESS

10-02-2014

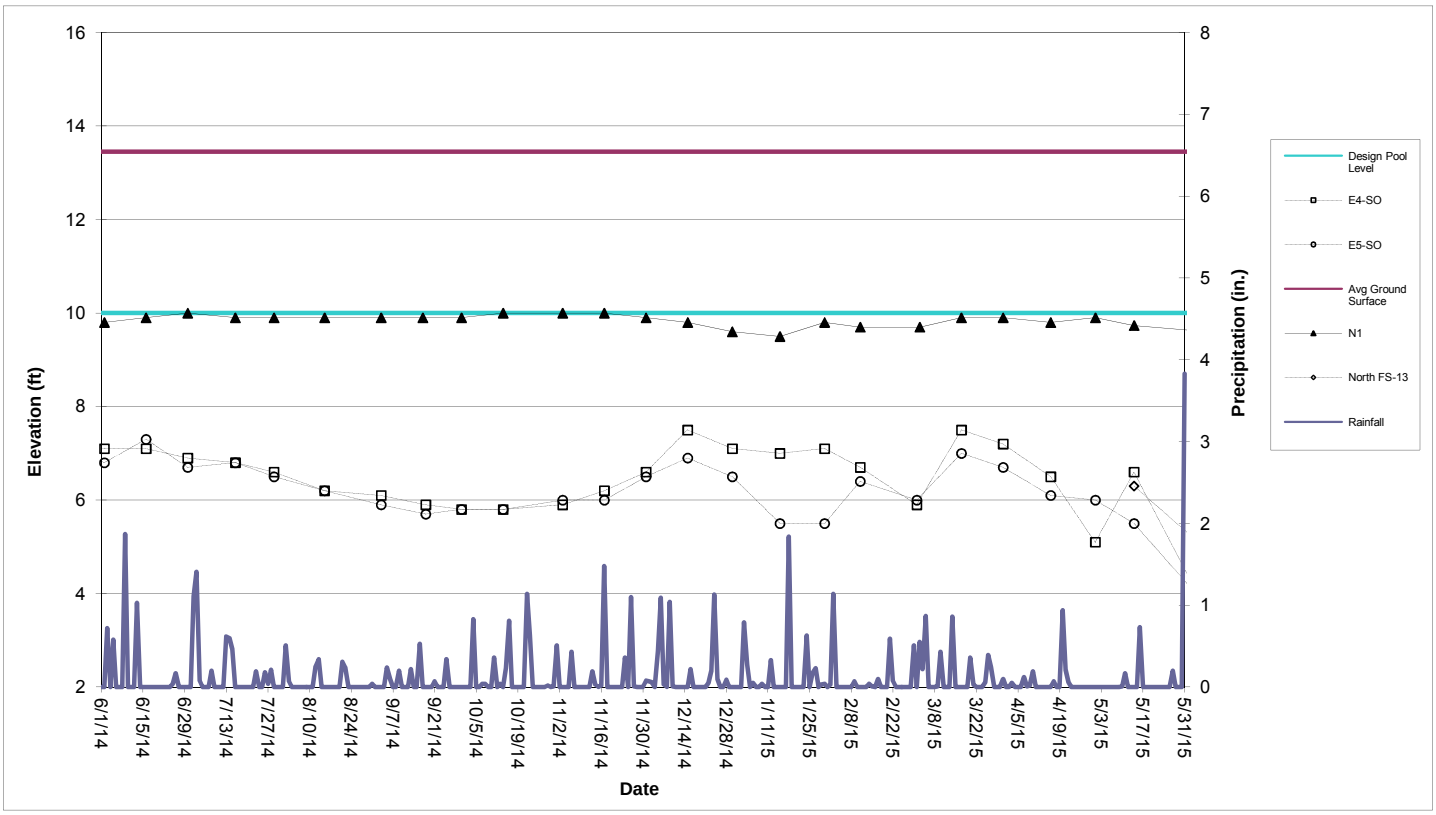
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

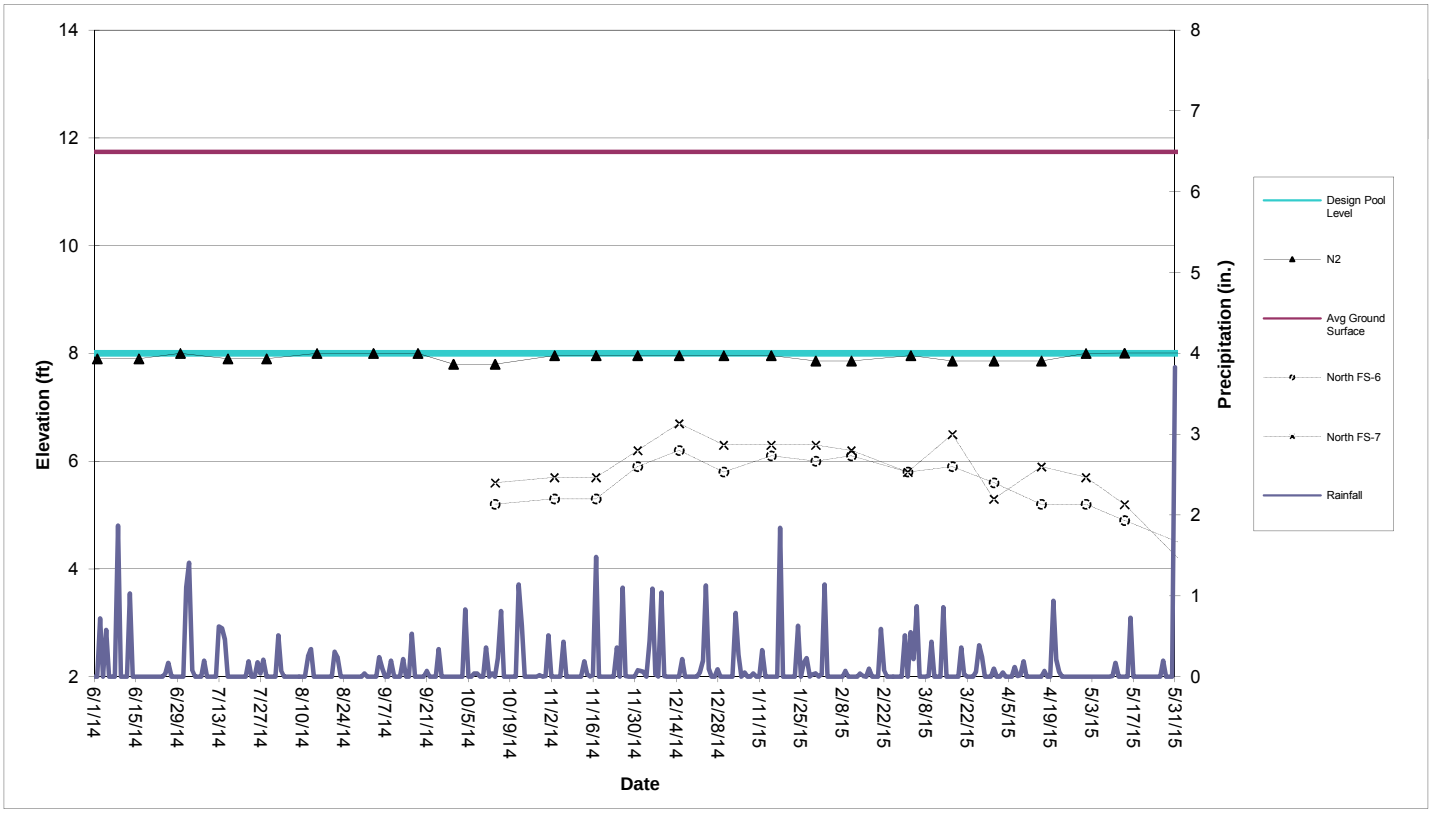
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

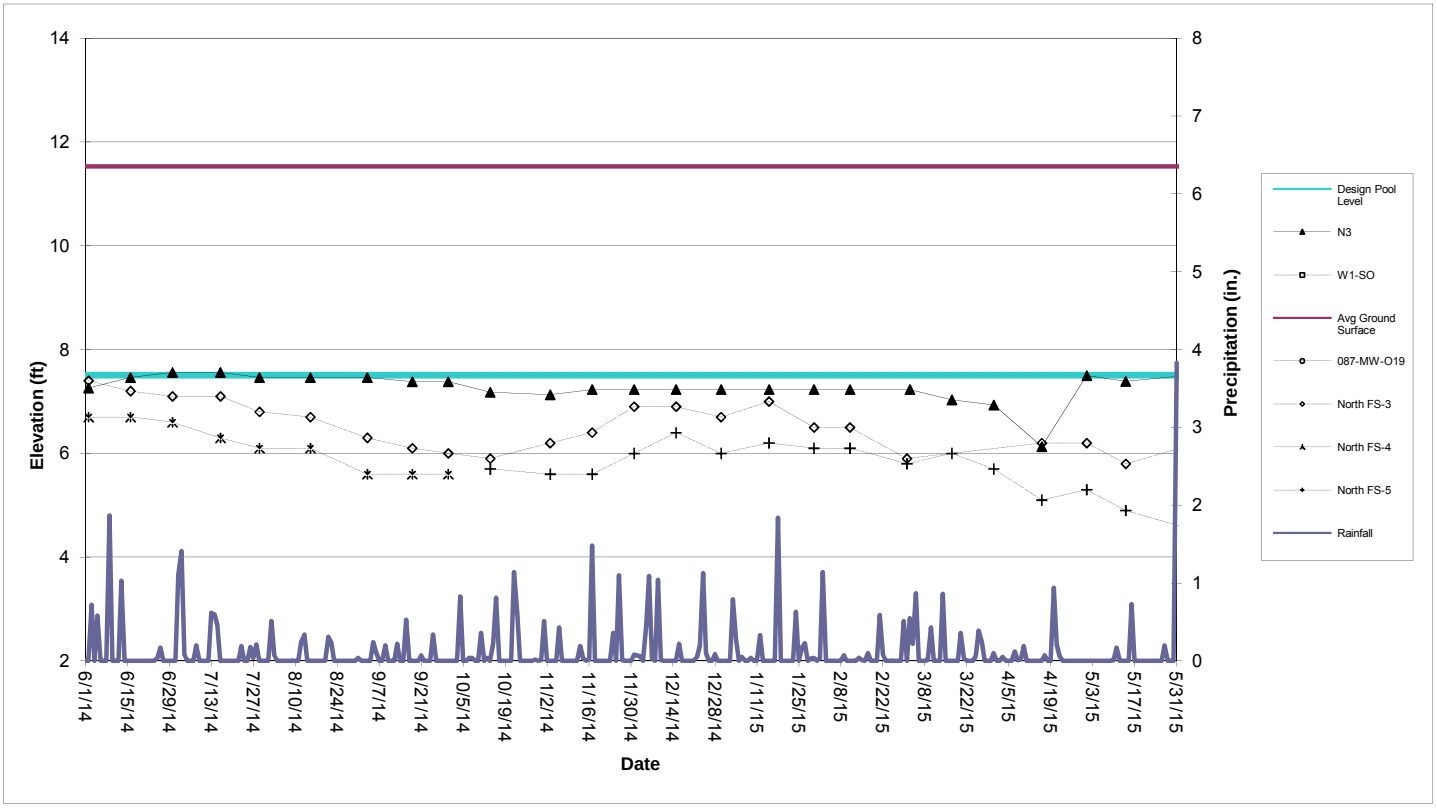
Oct 03, 2014 at 10:39am
G:\DWGS\102\10210\Dewatering\PP-1.dwg
edelossantos



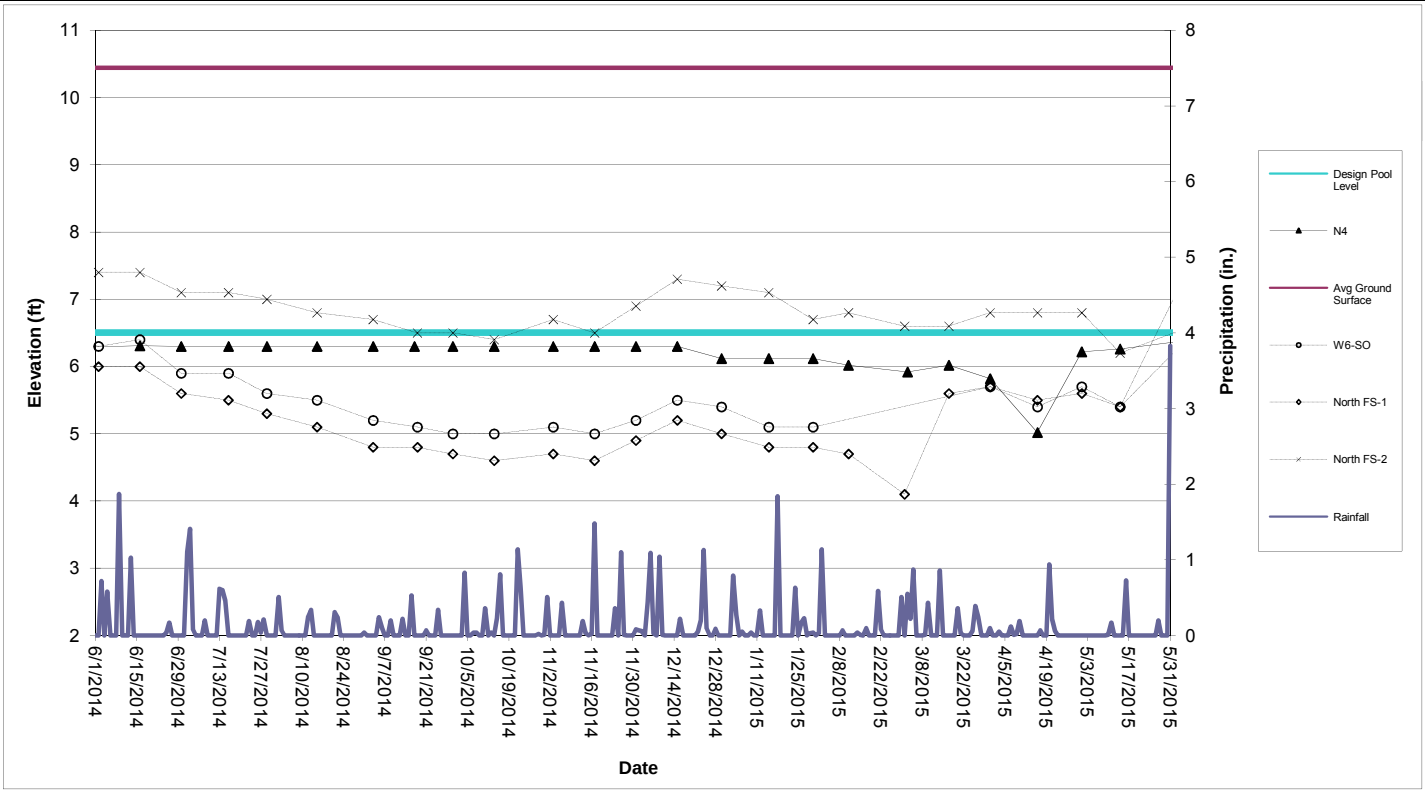
Perimeter Pool N1 (Sta. N13+60 to N20+25)



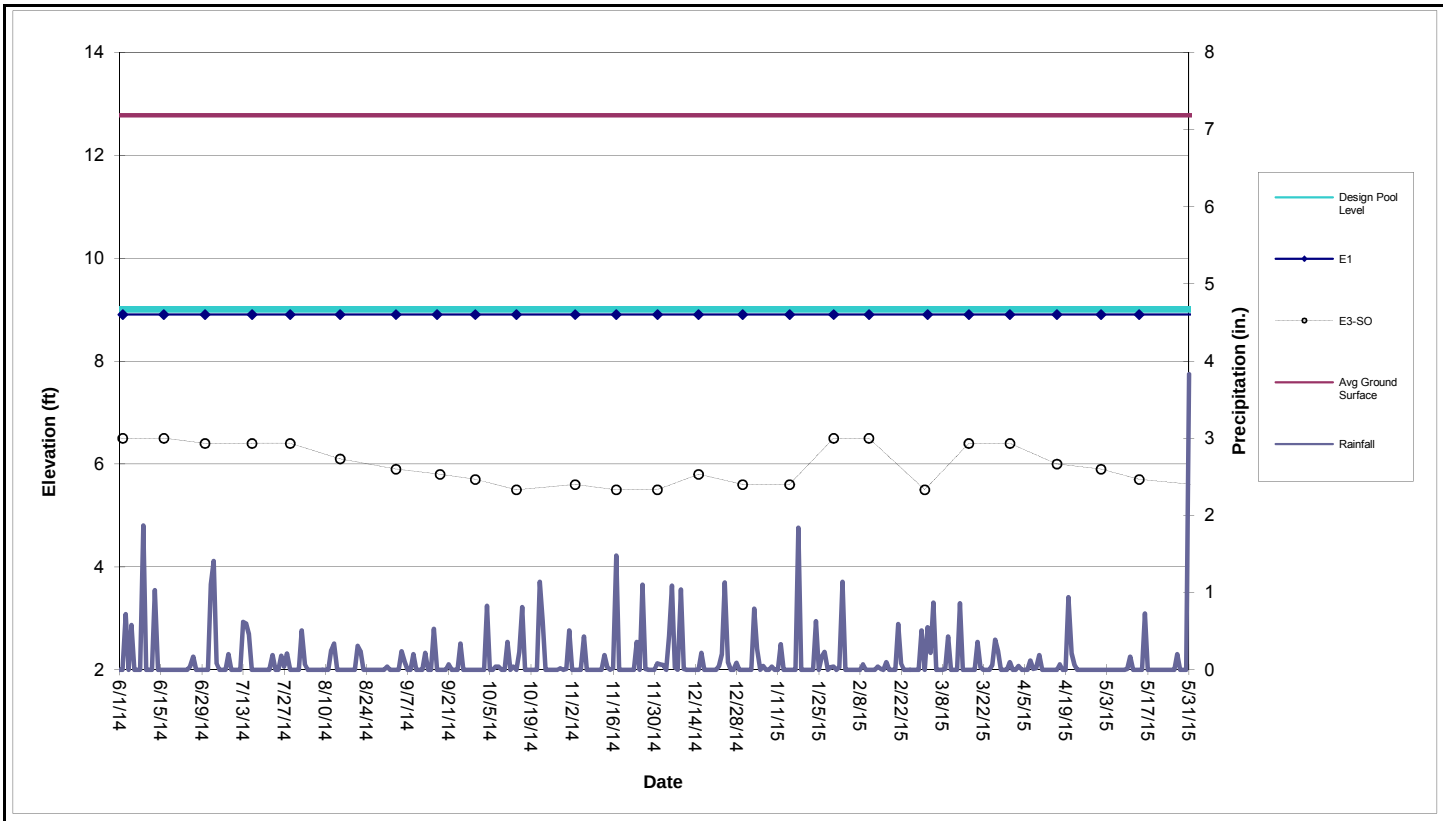
Perimeter Pool N2 (Sta. N10+73 to N13+10)



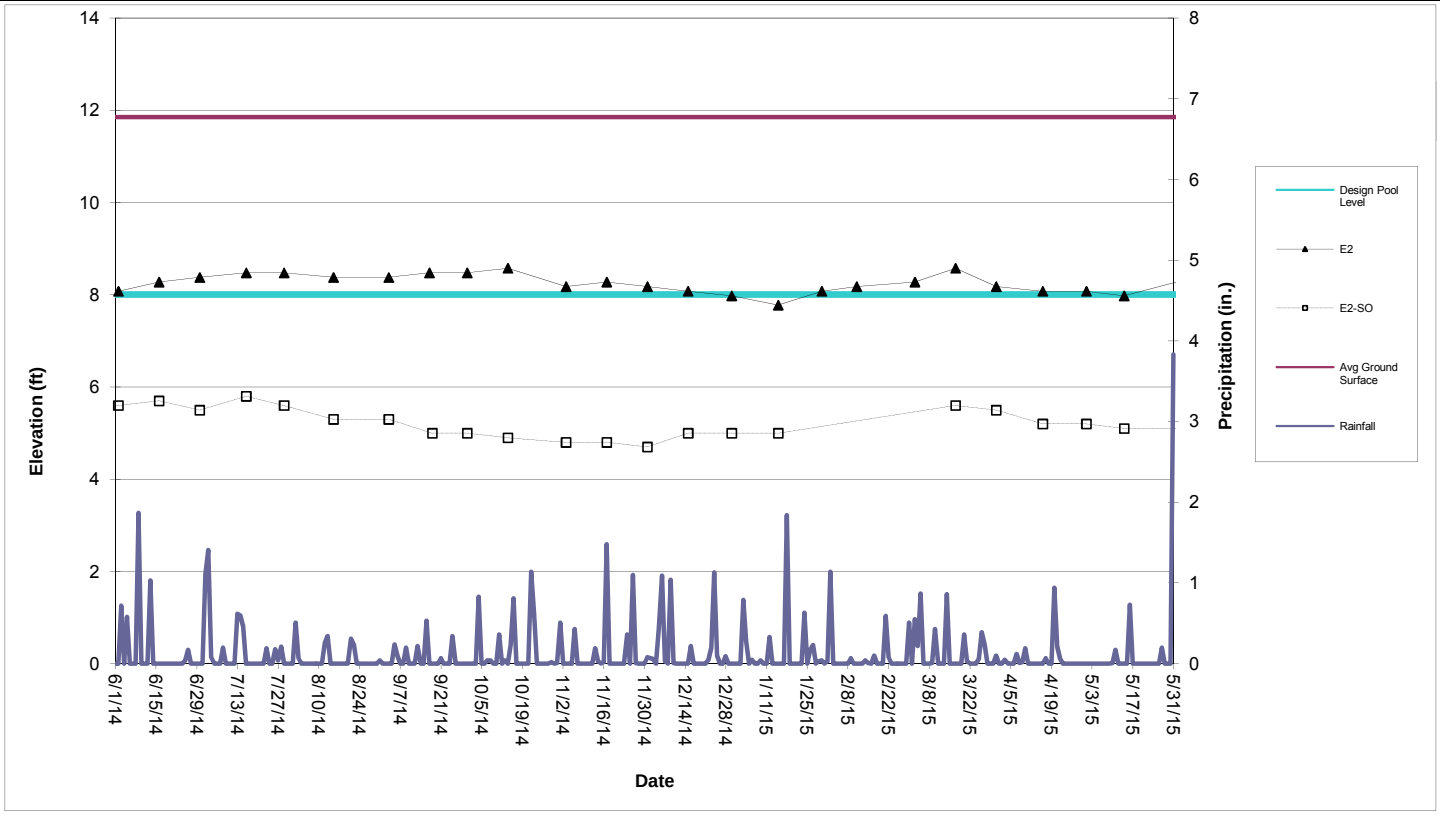
Perimeter Pool N3 (Sta. N6+80 to N10+23)



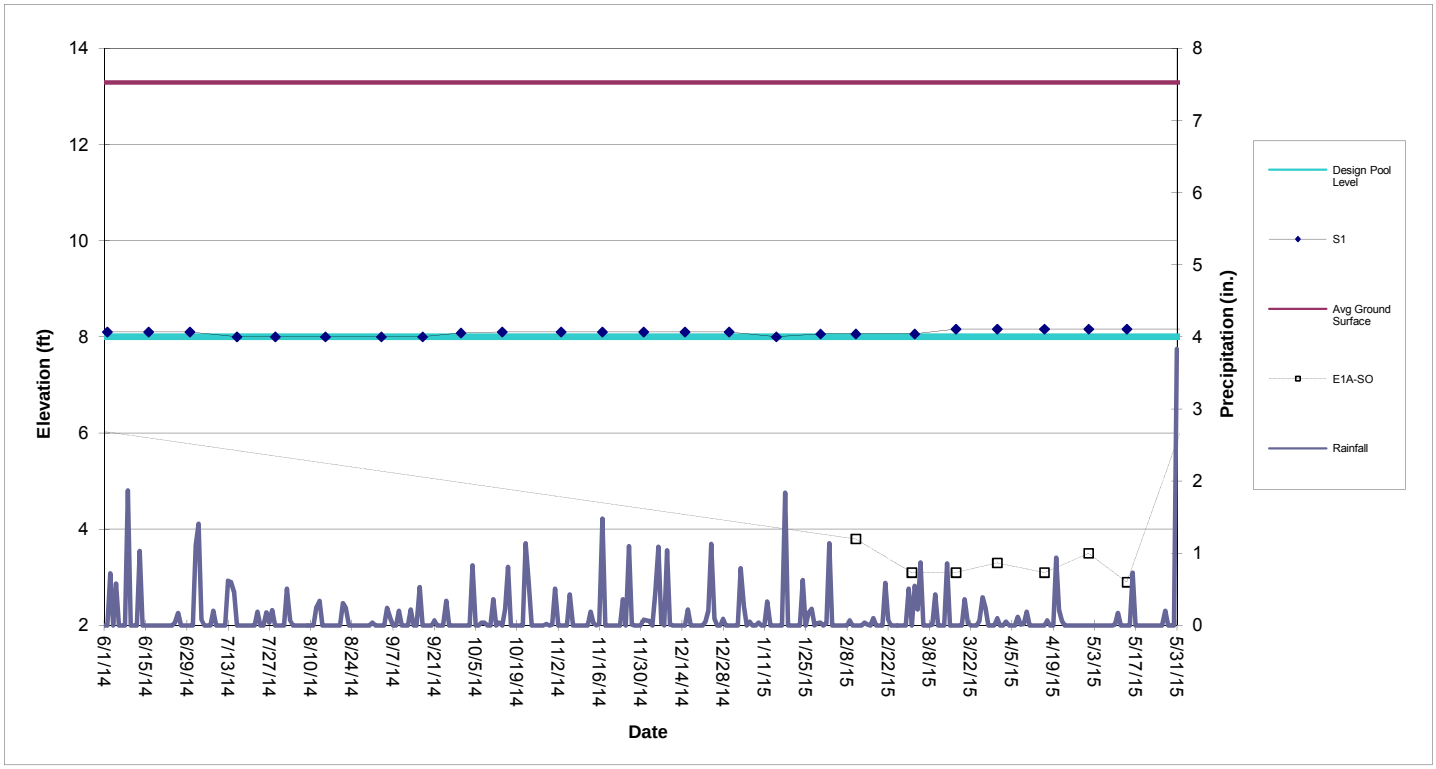
Perimeter Pool N4 (Sta. N6+80 to N10+23)



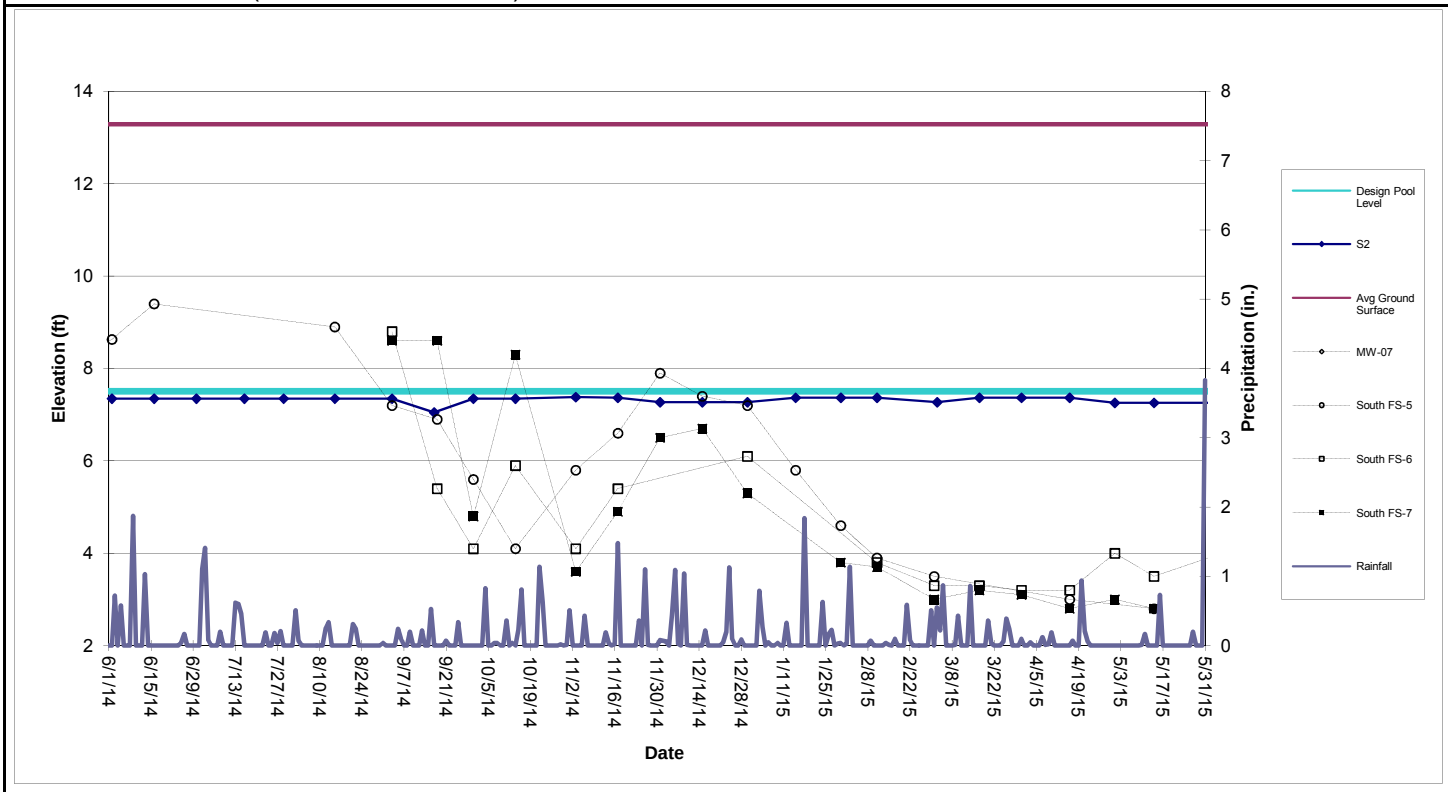
Perimeter Pool E1 (Sta. E0+50 to E3+75)



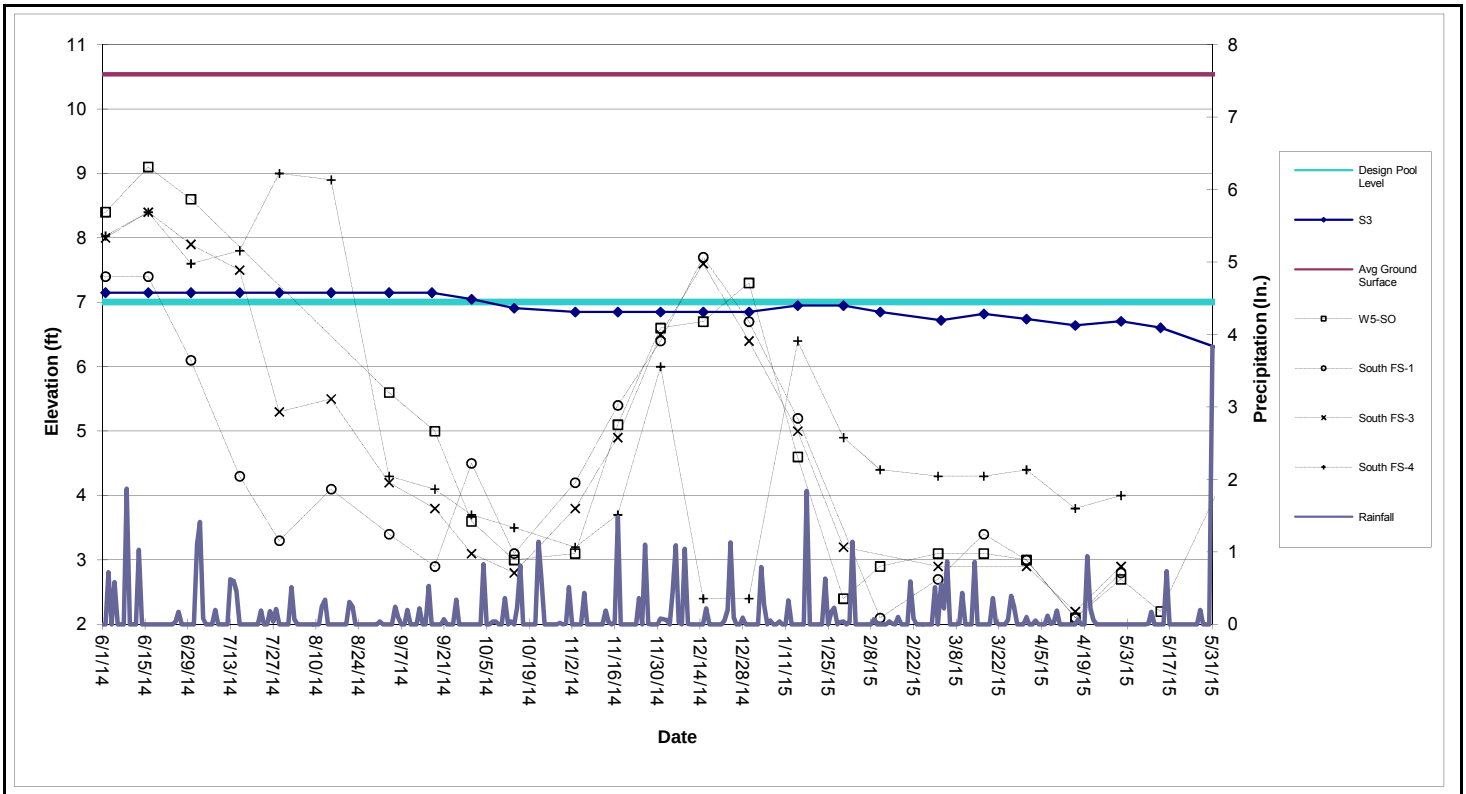
Perimeter Pool E2 (Sta. E4+50 to E7+25)



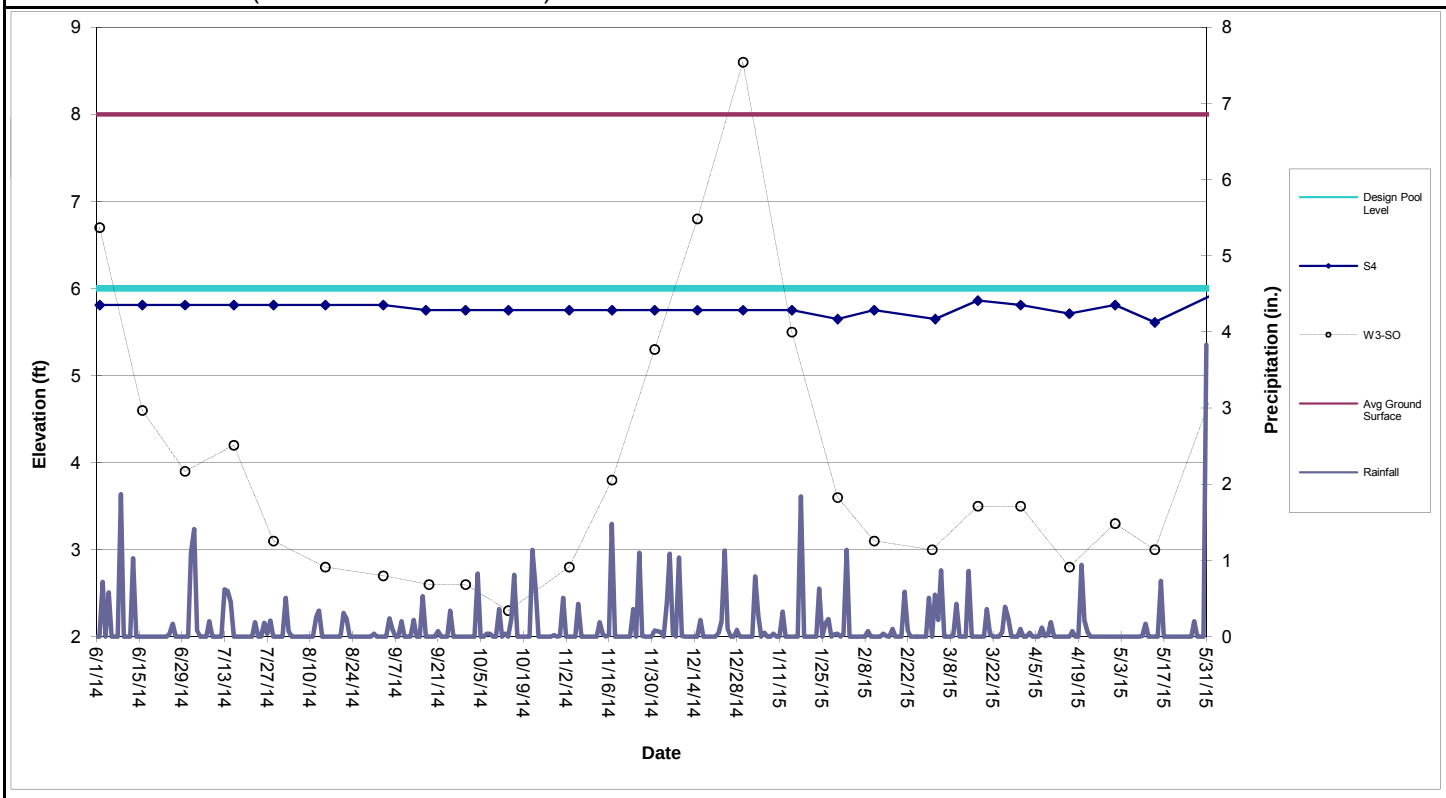
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										140-	North											South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	MW-07	FS-1	FS-2	FS-3	FS-4	FS-5	FS-6	FS-7	FS-8	FS-9	FS-10	FS-13	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																											
5/1/2014										4.8																	
5/5/2014		5.5	6.7	7.0	8.0	7.5		8.6	7.1		7.2		7.3	7.3								7.7	8.1	7.9	7.2		
5/15/2014		5.7	6.6	7.3	7.2		5.4	8.0	6.5	3.5	6.3	7.4	8.0	6.9								7.6	7.8	7.6	8.0		
6/2/2014		5.6	6.5	7.1	6.8		6.7	8.4	6.3		6.0	7.4	7.4	6.7								7.4	8.0	8.0	8.6		
6/16/2014		5.7	6.5	7.1	7.3		4.6	9.1	6.4		6.0	7.4	7.2	6.7								7.4	8.4	8.4	9.4		
6/30/2014		5.5	6.4	6.9	6.7		3.9	8.6	5.9		5.6	7.1	7.1	6.6								6.1	7.9	7.6			
7/16/2014		5.8	6.4	6.8	6.8		4.2		5.9		5.5	7.1	7.1	6.3								4.3	7.5	7.8			
7/29/2014		5.6	6.4	6.6	6.5		3.1		5.6		5.3	7.0	6.8	6.1								3.3	5.3	9.0			
8/15/2014		5.3	6.1	6.2	6.2		2.8		5.5		5.1	6.8	6.7	6.1								4.1	5.5	8.9	8.9		
9/3/2014		5.3	5.9	6.1	5.9		2.7	5.6	5.2		4.8	6.7	6.3	5.6								3.4	4.2	4.3	7.2	8.8	8.6
9/18/2014		5.0	5.8	5.9	5.7		2.6	5.0	5.1		4.8	6.5	6.1	5.6								2.9	3.8	4.1	6.9	5.4	8.6
9/30/2014		5.0	5.7	5.8	5.8		2.6	3.6	5.0		4.7	6.5	6.0	5.6								4.5	3.1	3.7	5.6	4.1	4.8
10/14/2014		4.9	5.5	5.8	5.8		2.3	3.0	5.0		4.6	6.4	5.9		5.7	5.2	5.6					3.1	2.8	3.5	4.1	5.9	8.3
11/3/2014		4.8	5.6	5.9	6.0		2.8	3.1	5.1		4.7	6.7	6.2		5.6	5.3	5.7					4.2	3.8	3.2	5.8	4.1	3.6
11/17/2014		4.8	5.5	6.2	6.0		3.8	5.1	5.0		4.6	6.5	6.4		5.6	5.3	5.7					5.4	4.9	3.7	6.6	5.4	4.9
12/1/2014		4.7	5.5	6.6	6.5		5.3	6.6	5.2		4.9	6.9	6.9		6.0	5.9	6.2					6.4	6.5	6.0	7.9		6.5
12/15/2014		5.0	5.8	7.5	6.9		6.8	6.7	5.5		5.2	7.3	6.9		6.4	6.2	6.7					7.7	7.6	2.4	7.4		6.7
12/30/2014		5.0	5.6	7.1	6.5		8.6	7.3	5.4		5.0	7.2	6.7		6.0	5.8	6.3					6.7	6.4	2.4	7.2	6.1	5.3
1/15/2015		5.0	5.6	7.0	5.5		5.5	4.6	5.1		4.8	7.1	7.0		6.2	6.1	6.3					5.2	5.0	6.4	5.8		
1/30/2015			6.5	7.1	5.5		3.6	2.4	5.1		4.8	6.7	6.5		6.1	6.0	6.3						3.2	4.9	4.6		3.8
2/11/2015	3.8		6.5	6.7	6.4		3.1	2.9			4.7	6.8	6.5		6.1	6.1	6.2					2.1		4.4	3.9	3.8	3.7
3/2/2015	3.1		5.5	5.9	6.0		3.0	3.1			4.1	6.6	5.9		5.8	5.8	5.8					2.7	2.9	4.3	3.5	3.3	3.0
3/17/2015	3.1	5.6	6.4	7.5	7.0		3.5	3.1			5.6	6.6			6.0	5.9	6.5					3.4		4.3		3.3	3.2
3/31/2015	3.3	5.5	6.4	7.2	6.7		3.5	3.0	5.7		5.7	6.8			5.7	5.6	5.3					3.0	2.9	4.4		3.2	3.1
4/16/2015	3.1	5.2	6.0	6.5	6.1		2.8	2.1	5.4		5.5	6.8	6.2		5.1	5.2	5.9					2.1	2.2	3.8	3.0	3.2	2.8
5/1/2015	3.5	5.2	5.9	5.1	6.0		3.3	2.7	5.7		5.6	6.8	6.2		5.3	5.2	5.7		1.8		6.3	2.8	2.9	4.0		4.0	3.0
5/14/2015	2.9	5.1	5.7	6.6	5.5		3.0	2.2	5.4		5.4	6.2	5.8		4.9	4.9	5.2	4.5	2.8	3.0	5.3				2.8	3.5	2.8

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

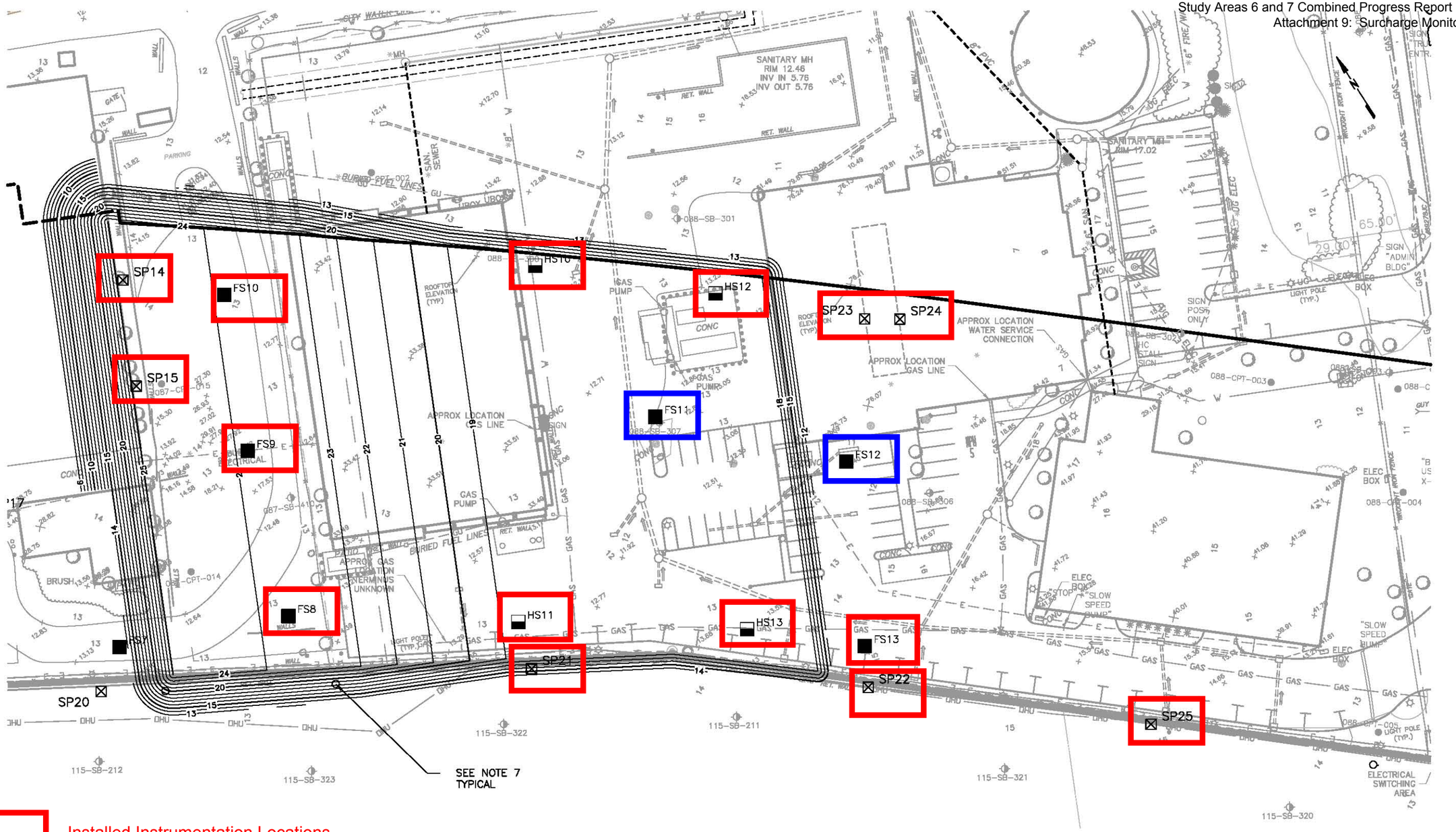
The following wells have been abandoned:
South FS-1, FS-3, FS-4, FS-5.

The following wells are temporarily inaccessible:
134-MW-V09, W1-SO, North FS-4, South FS-5

Attachment 8: Groundwater Quality Data

(not available as of this report date - provided on a quarterly basis)

Attachment 9: Surcharge Monitoring Update



Installed Instrumentation Locations

Instrumentation Locations Not Installed

SETTLEMENT MONITORING POINT		
DESCRIPTION	NORTHING	EASTING
FS8	685406.37	603094.37
FS9	685500.70	603127.22
FS10	685858.02	603165.50
FS11	685387.04	603338.90
HS10	685499.90	603327.97
HS11	685329.97	603205.81
HS12	685428.53	603407.96
HS13	685253.14	603316.22
SP21	685302.66	603197.35

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. PILE GEOMETRY IS BASED ON THE ASSUMPTION THAT THE SEDIMENTATION BASIN WALLS ARE IN PLACE AT THE TIME OF SURCHARGING.
5. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
6. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

I_{VI-2}	INCLINOMETER LOCATION
FS-1-1	SETTLEMENT MONITORING POINT FULL – SET UP
HS-1-1	SETTLEMENT MONITORING POINT HALF – SET UP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 7)

Prepared/Date: RJR 07/19/2013
Checked/Date: AE 07/19/2013

0 15 30 60
SCALE IN FEET

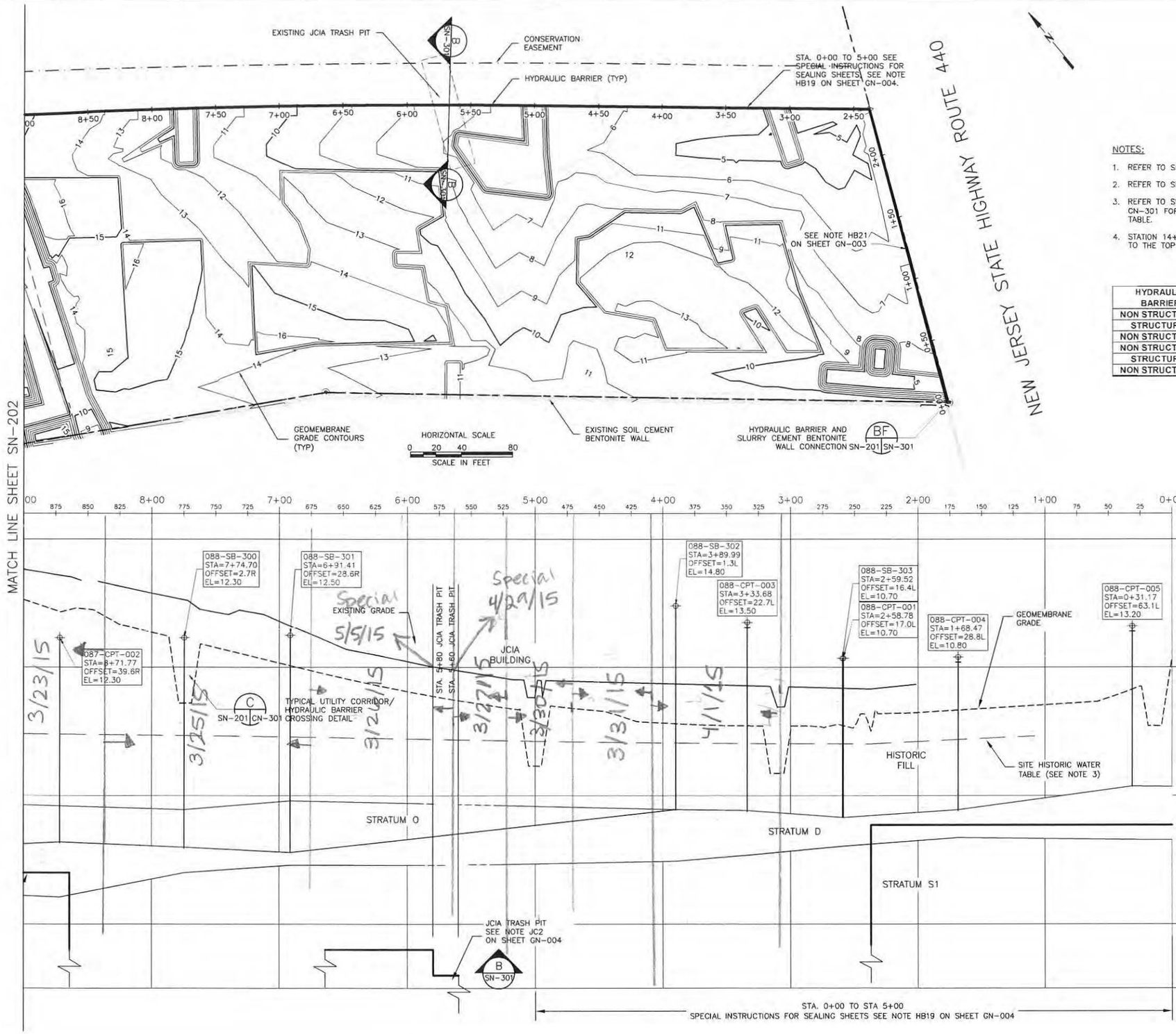
Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec

INSTRUMENTATION LOCATION PLAN 3N
Project 3480-09-0066
Figure D1

Attachment 10: Sheet Pile Update



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.
4. STATION 14+00 TO 19+00 THE TOE OF THE SHEETPILE WILL BE DRIVEN TO THE TOP OF THE STRATUM S1.

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	0+00	2+37	-4	AZ 19-700
STRUCTURAL	2+37	5+60	-18	AZ 19-700
NON STRUCTURAL	5+60	5+80	-14	AZ 19-700
NON STRUCTURAL	5+80	6+64	-12	AZ 19-700
STRUCTURAL	6+64	8+64	-33	AZ 38-700N
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700

NO.	DATE	REVISION	BY	APVD
1	10/10/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2108, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

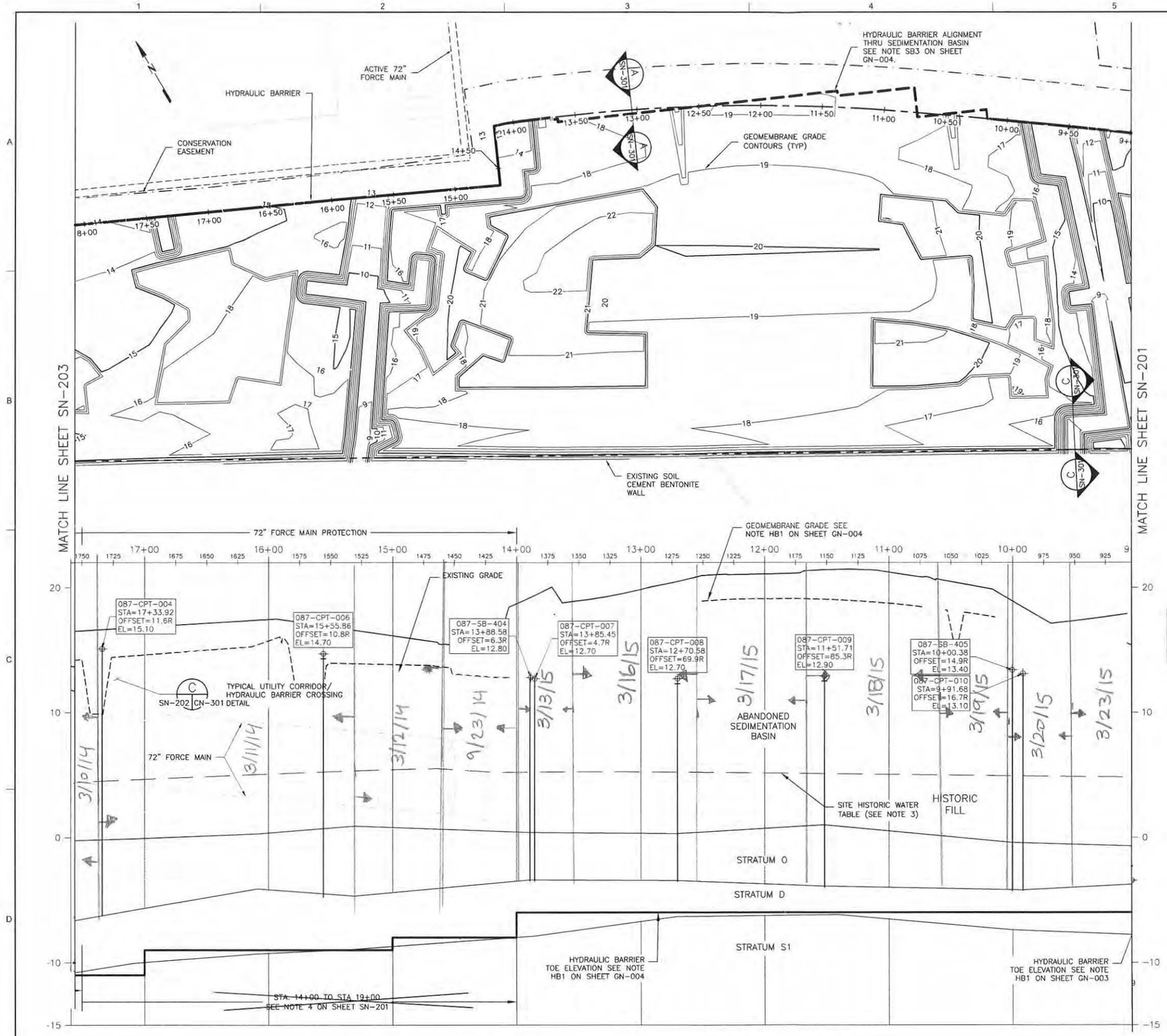
amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-201
SHEET	54 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR54-SN-201 HBW Design Pln Prof.dwg PLOT DATE: Mon, 07 Oct 2013 PLOT TIME: 4:04 PM



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET ON CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700
NON STRUCTURAL	9+85	14+00	-6	AZ 19-700
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700

Time frame for:
HB sheets driven

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM				RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	RJR	TDD	TDD	SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507
BOO

Honeywell
101 COLUMBIA RD. BOX 2108, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28310600

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-202
SHEET	55 OF 70

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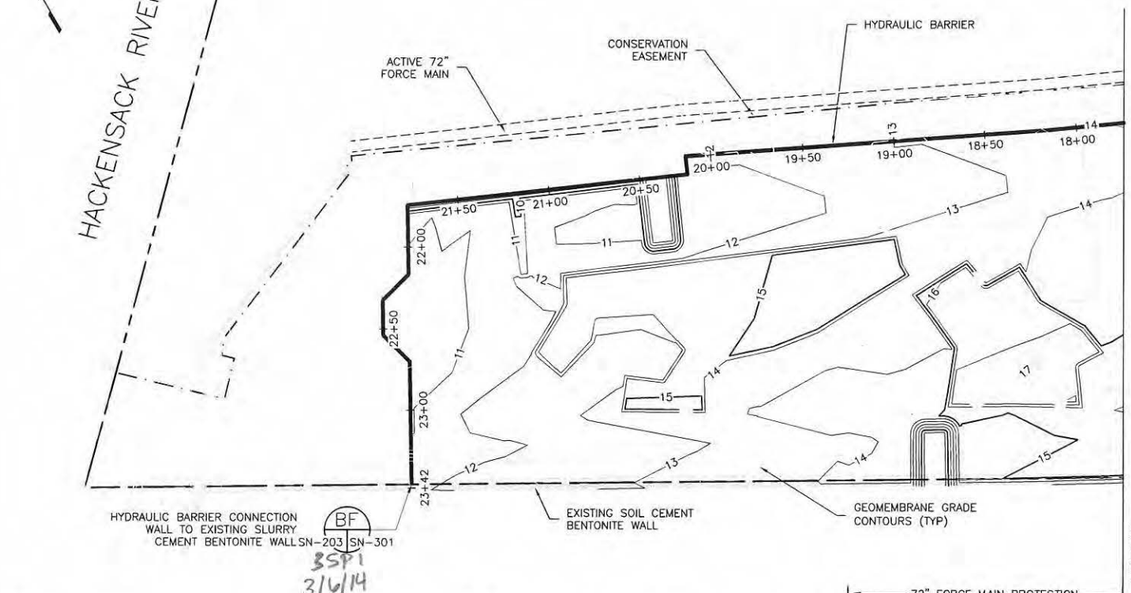
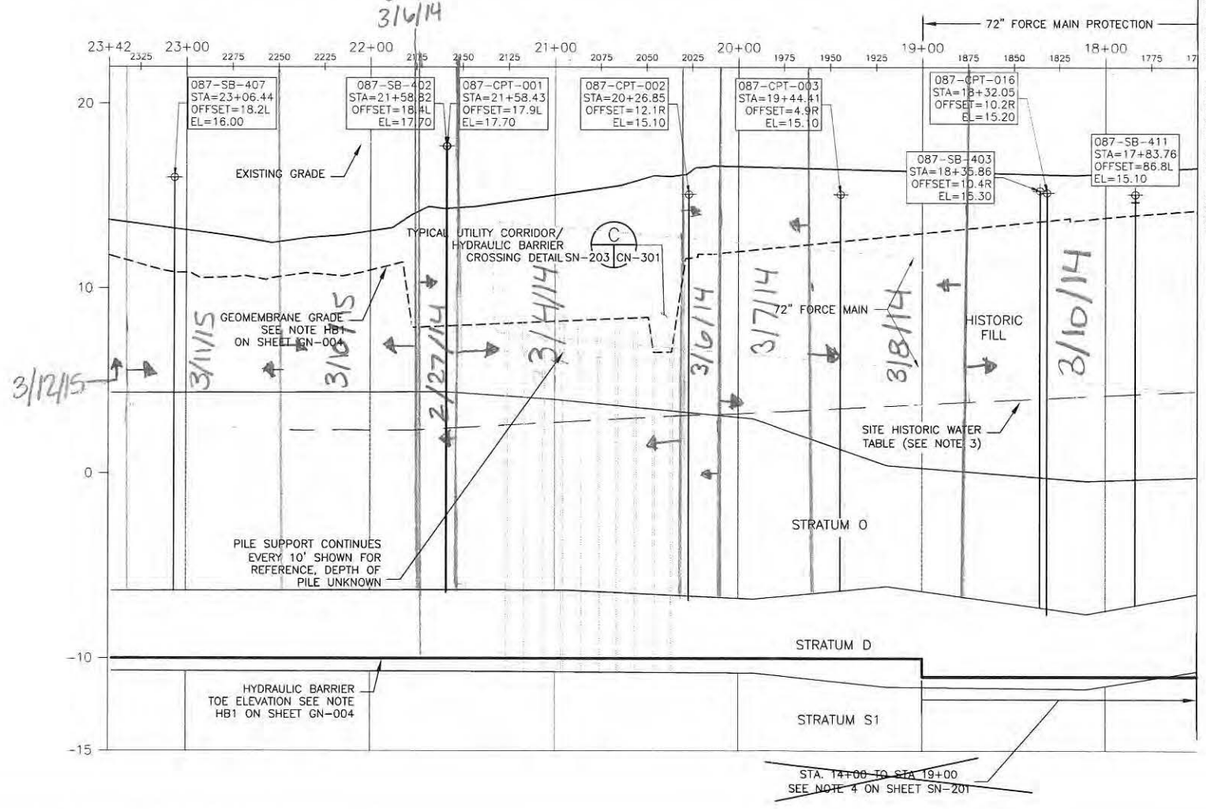
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR55-SN-202 HBW Design Pln Prof.dwg PLOT DATE: Fri, 18 Oct 2013 PLOT TIME: 10:35 AM





HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700
NON STRUCTURAL	19+00	23+38	-10	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.

HORIZONTAL SCALE 0 20 40 80 SCALE IN FEET

VERTICAL SCALE 0 2 4 8 SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM				RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	RJR	TDD	TDD	SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 058
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2629
NJ Certificate of Authorization Number 24GA28010500

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-203
SHEET	56 OF 70

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR56-SN-203 HBW Design Pln Prof.dwg PLOT DATE: Fri, 18 Oct 2013 PLOT TIME: 10:37 AM

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: May 1, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		2
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		3

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/01/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, May 01, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	The silt fence at the eastern end if SA-6 South adjacent to Route 440 requires maintenance.
2	IA2Q4A1AL8	Erosion protection measures are absent along the northern edge if surcharge area 3-S.
3	IA2Q4A1AL8	Discarded silt fence is piled on the northwest corner if SA-7

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature Date: 05/01/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair or replace silt fence as required.	5-7-15 RAD
2	Install fabric-wrapped Jersey barriers or concrete bin blocks along the toe of the surcharge area as required.	5-6-15 RAD
3	Remove the pile if discarded silt fence.	5-5-15 RAD

Construction Manager: _____ Date: 05/07/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: May 8, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		1
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		2
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		3
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/08/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, May 08, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Filter fabric in the stormwater catch basins located by the southwestern corner of of the trash pit and by the southern JCIA Rt. 440 gate requires changing due to sediment build-up and/or perforation.
2	IA2Q4A1AL8	Sweepings on the eastern Study Area 7 roadway have not been picked up.
3	IA2Q4A1AL8	Filter fabric in the stormwater catch basins located to the north and south of the SA-7 scalehouse have sediment build-up and/or perforation.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature Date 05/08/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Replace filter fabric in the two catch basins as required	5/11/15 RAD
2	Remove the two piles of sediment/debris sweepings from the eastern SA-7 roadway.	5/12/15 RAD
3	Replace filter fabric in the two catch basins as required	5/13/15 RAD

Construction Manager: _____ Date: 05/14/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: May 15, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/15/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, May 15, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence had degraded along the bottom of the perimeter fence to the east of the 60 Kellogg building
2	IA2Q4A1AL8	Windscreen has blown loose from the perimeter fence at the Kellogg Street jughandle.
3	IA2Q4A1AL8	A pile of material left over from the conduit re-routing in the northeastern corner of Study Area 7 has not been removed from the SA-7 paved roadway.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature Date: 05/15/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Replace the degraded silt fence on the perimeter fence east of 60 Kellogg.	5-19-15 RAD
2	Re-attach windscreen along the Kellogg Street jughandle as required	5-18-15 RAD
3	Remove the remaining pile of material in the northeast corner of SA-7	5-18-15 RAD

Construction Manager: _____ Date: 05/21/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: May 22, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		2
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		3
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		4
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		5
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/22/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, May 22, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone fencing has fallen down at a location on the southern perimeter of Surcharge Area 2-S.
2	IA2Q4A1AL8	Containment measure along the northern perimeter of the Exclusion Zone on Surcharge Area 2-S are inadequate.
3	IA2Q4A1AL8	The perimeter fencing between the SA-6 North work area and the MUA property has several gaps.
4	IA2Q4A1AL8	A pile of debris (old silt fence, etc.) is present on the far northeastern corner of the JCIA property
5	IA2Q4A1AL8	Sediment has overtopped the silt fence on the northern side of the Novartis stockpile area Plastic-wrapped hay bales have degraded on the southern side and are no longer effective for erosion control.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: Signature Date: 05/22/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair the orange Exclusion Zone fencing as requried.	5/27/15 RAD
2	Install sediment control measures as per contract specifications.	5/27/15 RAD
3	Reposition the fence-topped Jersey barriers or install temporary fence panels as needed to close the gaps in the fenceline.	5/28/15 RAD
4	Remove the debris pile.	5/28/15 RAD
5	Maintain, install or repair erosion control measures as required.	5/29/15 RAD

Construction Manager: Date: 05/29/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: May 29, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		3
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/29/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, May 29, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fencing along the southern perimeter of surcharge area 3-S requires maintenance.
2	IA2Q4A1AL8	Windscreen on the perimeter fenceline at the Kellogg Street jughandle has torn loose and requires maintenance.
3	IA2Q4A1AL8	Exclusion Zone fencing on the western perimeter of the sedimentation basin EZ requires maintenance.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature
Date: 05/29/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair the silt fencing as required.	6/1/15 RAD
2	Repair and re-attach windscreen material as required.	6/2/15 RAD
3	Repair the orange Exclusion Zone fencing as requried.	6/3/15 RAD

Construction Manager: _____
Date: 06/03/15

Attachment 12: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (April 2015)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

May 19, 2015

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the April 2015 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
4	01	15	4	30	15
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow gal/day~~		
Total Flow-gal/day	77,680	84,026
		(see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	0.50	0.55	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.0	<5.0	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1378	0.1378	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analytes are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

5/15/15

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North
ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962
FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305
NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
4	01	15	4	30	15
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,330,414 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 33,876,219

DATE	BOD (mg/l)	TSS (mg/l)
4/9/2015	<20	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE 5/15/15

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG — Honeywell Jersey City GWTP; SA-6 North (Permit #20630025) — MONTH: April, 2015

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits		5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
4/1/2015	Angel Trujillo	31545805	31620433	74,628	0.074628	7.14	0.778									0.48
4/2/2015	Angel Trujillo	31620433	31691737	71,304	0.071304	7.64	0.778									0.46
4/3/2015	Angel Trujillo	31691737	31770247	78,510	0.07851	7.60	0.778									0.51
4/4/2015	Angel Trujillo	31770247	31853193	82,946	0.082946	7.52	0.778									0.54
4/5/2015	Angel Trujillo	31853193	31929866	76,673	0.076673	7.48	0.778									0.50
4/6/2015	Angel Trujillo	31929866	32003294	73,428	0.073428	7.53	0.778									0.48
4/7/2015	Angel Trujillo	32003294	32080391	77,097	0.077097	7.57	0.778									0.50
4/8/2015	Angel Trujillo	32080391	32156632	76,241	0.076241	7.41	0.778									0.49
4/9/2015	Angel Trujillo	32156632	32234984	78,352	0.078352	6.93	0.778	<5.0	<20		<0.010	<0.030	<0.010	<0.0002	<0.020	0.51
4/10/2015	Angel Trujillo	32234984	32313569	78,585	0.078585	7.57	0.778									0.51
4/11/2015	Angel Trujillo	32313569	32397270	83,701	0.083701	7.54	0.778									0.54
4/12/2015	Angel Trujillo	32397270	32474170	76,900	0.0769	7.58	0.778									0.50
4/13/2015	Angel Trujillo	32474170	32549207	75,037	0.075037	7.61	0.778									0.49
4/14/2015	Angel Trujillo	32549207	32627564	78,357	0.078357	7.53	0.778									0.51
4/15/2015	Angel Trujillo	32627564	32705759	78,195	0.078195	7.54	0.778									0.51
4/16/2015	Angel Trujillo	32705759	32785297	79,538	0.079538	7.62	0.778									0.52
4/17/2015	Angel Trujillo	32785297	32863528	78,231	0.078231	7.60	0.778									0.51
4/18/2015	Angel Trujillo	32863528	32940401	76,873	0.076873	7.64	0.778									0.50
4/19/2015	Angel Trujillo	32940401	33021305	80,904	0.080904	7.60	0.778									0.52
4/20/2015	Angel Trujillo	33021305	33097022	75,717	0.075717	7.54	0.778									0.49
4/21/2015	Angel Trujillo	33097022	33173755	76,733	0.076733	7.56	0.778									0.50
4/22/2015	Angel Trujillo	33173755	33253928	80,173	0.080173	7.55	0.778									0.52
4/23/2015	Angel Trujillo	33253928	33332479	78,551	0.078551	7.30	0.778									0.51
4/24/2015	Angel Trujillo	33332479	33410332	77,853	0.077853	7.56	0.778									0.51
4/25/2015	Angel Trujillo	33410332	33490031	79,699	0.079699	7.58	0.778									0.52
4/26/2015	Angel Trujillo	33490031	33567787	77,756	0.077756	7.52	0.778									0.50
4/27/2015	Angel Trujillo	33567787	33646091	78,304	0.0783	7.59	0.778									0.51
4/28/2015	Angel Trujillo	33646091	33715172	69,081	0.069081	7.59	0.778									0.45
4/29/2015	Angel Trujillo	33715172	33799198	84,026	0.084026	7.64	0.778									0.55
4/30/2015	Angel Trujillo	33799198	33876219	77,021	0.077021	7.54	0.778									0.50
TOTAL				**2,330,414**	**2.330414**			<5.0	<20		<0.010	<0.030	<0.010	<0.0002	<0.020	
			High:	**84,026**											**High:**	**0.55**
			Average:	**77,680**											**Average:**	**0.50**

WW

JB 92002

E/X

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell

Chain Of Custody / Analysis Request

AESI Ref: 42103.47186
COC#: 087-WW-040915

Privileged & Confidential

Site Name: Hudson County
Phase: CS
Lab Proj # (SDG):
Location of Site: Jersey City, NJ
Sampling Program: 087. JCIA
Lab ID: ACTD
Site ID: HudsonCo
Lab Job #: HWINJM32815
Authorized User: Honeywell

Sampling Co.: MACTEC
EDD To:
Client Contact: (name, co., address)
Helen Fahy P (973) 455-2989 E: helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962
Sampler: Frank Schroyer
PO #
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Preliminary Data To
Sample Receipt Acknowledgement To: Frank Schroyer
Hard Copy To: Helen Fahy (Honeywell)
Full Report TAT: 28 Days
Invoice To: Helen Fahy (Honeywell)

Text & Excel File Drive: Excel & Text File Order

Copyright AESI: Version 9.0 Unauthorized use strictly prohibited.

	Sample Identification: Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list				Sampling Method (code)	Lab Sample Numbers
											Units		Preservative	3	3	3	1	2	2	0	0	2					
1	087-WW			087-WWE-040915-A	4/9/2015	14:15	WW	WATER	REG	3	comp	N	X	X	X	X			X	X		1				C38
2	087-WW			087-WWE-040915-B	4/9/2015	14:30	WW	WATER	REG	5	grab	N					X	X				2				V683
3	087-WW			087-WWI-040915	4/9/2015	14:40	WW	WATER	REG	3	grab	N									X	3				A10 G13
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

Relinquished by: 6.93 SU @ 7.7°C	Company: AMEC Foster Wheeler	Received by:	Company:		Condition:		Custody Seals Intact:
Frank Schroyer	Date/Time: 4/9/15 1530		Date/Time: 4/9/15 1530		Cooler Temp:		
Relinquished by:	Company:	Received by:	Company: ACCUTEST		Condition:		Custody Seals Intact:
	Date/Time: 4/9/15 1640		Date/Time: 4/9/15 1640		Cooler Temp.: 2.0°C-B		

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2), 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

INITIAL ASESSMENT JE 3B

LABEL VERIFICATION

ALL SAMPLES RECEIVED PRESERVED AS APPLICABLE JK

Accutest LabLink@851976 13:21 08-May-2015

Report of Analysis

4.1 4

Client Sample ID:	087-WWE-040915-A		
Lab Sample ID:	JB92002-1	**Date Sampled:**	04/09/15
Matrix:	AQ - Water	**Date Received:**	04/09/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	778	10	ug/l	1	04/10/15	04/11/15	VC	EPA 200.7 [2]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	04/10/15	04/13/15	VC	EPA 200.7 [3]	EPA 200.7 [4]
Lead [a]	< 30	30	ug/l	10	04/10/15	04/13/15	VC	EPA 200.7 [3]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	04/10/15	04/10/15	MA	EPA 245.1 [1]	EPA 245.1 [5]
Nickel	< 10	10	ug/l	1	04/10/15	04/11/15	VC	EPA 200.7 [2]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	04/10/15	04/11/15	VC	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA36404
(2) Instrument QC Batch: MA36406
(3) Instrument QC Batch: MA36416
(4) Prep QC Batch: MP85722
(5) Prep QC Batch: MP85742

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@851976 13:21 08-May-2015

Report of Analysis

Client Sample ID:	087-WWE-040915-A		
Lab Sample ID:	JB92002-1	**Date Sampled:**	04/09/15
Matrix:	AQ - Water	**Date Received:**	04/09/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.1 4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	04/13/15	KP	SM2540 D-11
pH [a]	7.05		su	1	04/09/15 16:57	JK	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@851976 13:21 08-May-2015

Report of Analysis

Client Sample ID:	087-WWE-040915-A		
Lab Sample ID:	JB92002-1A	**Date Sampled:**	04/09/15
Matrix:	AQ - Water	**Date Received:**	04/09/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.2

4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 20	20	mg/l	1	04/09/15 20:43	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@851976 13:21 08-May-2015

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-040915-B		
Lab Sample ID:	JB92002-2	**Date Sampled:**	04/09/15
Matrix:	AQ - Water	**Date Received:**	04/09/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N244722.D	1	04/14/15	DC	n/a	n/a	VN10376
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	1.9	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	3.3	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	0.22	1.0	0.093	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.50	ug/l	
67-66-3	Chloroform	16.3	1.0	0.091	ug/l	
74-87-3	Chloromethane	ND	1.0	0.11	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.11	ug/l	
95-50-1	1,2-Dichlorobenzene	0.37	1.0	0.19	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.11	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.29	ug/l	
75-34-3	1,1-Dichloroethane	0.30	1.0	0.12	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/l	
156-59-2	cis-1,2-Dichloroethene	66.2	1.0	0.12	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.1	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.12	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.15	ug/l	
123-91-1	1,4-Dioxane	ND	130	20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.57	1.0	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest LabLink@851976 13:21 08-May-2015

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-040915-B		
Lab Sample ID:	JB92002-2	**Date Sampled:**	04/09/15
Matrix:	AQ - Water	**Date Received:**	04/09/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	44.3	1.0	0.12	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	1.2	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	104%		72-125%
2037-26-5	Toluene-D8 (SUR)	96%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	101%		74-115%
1868-53-7	Dibromofluoromethane (S)	104%		79-120%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@851976 13:21 08-May-2015

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-040915-B		
Lab Sample ID:	JB92002-2	**Date Sampled:**	04/09/15
Matrix:	AQ - Water	**Date Received:**	04/09/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.0	5.0	mg/l	1	04/13/15 19:30	LS	EPA 1664A

RL = Reporting Limit

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending May 2015

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending May 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Contractor only.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groudnwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

SA-6 AND SA-7 COMBINED PROGRESS REPORT

JULY 14, 2015

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

July 14, 2015

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2015-06

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from June 1 – June 30, 2015.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: June 2015 SA-6/7 Combined Monthly Progress Report No. 2015-06

cc: Joe Clifford - Amec Foster Wheeler (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)

Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2015-06

Project SA-6 & 7 Remediation

June 2015

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
06/10/15	Summary of 6-Month Performance Assessment Soil Sampling of Hexavalent Chromium Impacted Soils Study Area 6 South, Site 163 Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
06/11/15	Sediment Remedy Long Term Monitoring Program Year 1 Implementation Report Study Area 7 Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
06/12/15	Riverkeeper et al v. Honeywell International Inc. et al Combined Monthly Progress/Highlights Report No. 2015-05 Study Areas 6 and 7 Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
06/18/15	Integrated Annual Groundwater Performance Report for 2014 Study Areas 5, 6, and 7 Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
06/18/15	Design Change Bulletin SA-6 South Open Space Design Utility Corridor Modification Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
06/22/15	Summary of Proposed Additional In-Situ Injection of Calcium Polysulfide for Treatment of Chromium Impacted Soils Study Area 6 South, Site 163 Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
06/22/15	Summary of Proposed In-Situ Injection of Calcium Polysulfide for Treatment of Chromium Impacted Soils – Area 10 North Section Study Area 6 North, Site 087 Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
06/22/15	Revised Master Schedule Study Area 6 North and South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master

Date	Submittal/Meeting	Recipient
06/22/15	Upload to LB SharePoint Site: Ramboll Environ Correspondence: Request for Pre-Application Meeting Waterfront Development Permit SA-7 Beneficial Environmental Project Pedestrian Bridge Element Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
06/22/15	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
06/23/15	Special Master Conference Call	N/A

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	7/7/15	7/14/15	7/21/15	7/28/15
Construction Management (AMEC)	9	8	8	9
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	31	33	33	37
Arecon/US Ecology Subcontractors	0	0	0	0
Evoqua	1	1	1	1
B&B Drilling	2	1	0	0
TOTAL STAFF	48	48	47	52

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.

- Collected June PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Verizon continued relocating communication lines to the North Bound side of Route 440.
- On, June 1 and 2, 2015, Cornerstone personnel completed S-3 Mass Removal Injection Event No. 21 in Injection Well 088-IW-02.
- Cornerstone conducted a round of quarterly ground water level measurements.
- Continued to stockpile Celgene material for future screening operations.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on June 11, 2015.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	7/7/2015	714/2015	7/21/2015	7/28/2015
Avg. Gallons Treated & Discharged (per day)	77,715	77,015	77,664	75,857
Average Flow (gpm) for Operating Period	54	54	54	53
Avg. Hours of Plant Operation	24	24	24	24
GWTP Influent Tanks (gal.)	7,092	7,003	8,498	7,336

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Completed excavation activities associated with Area EA-7.
- Performed excavation of EA-8 to design extents. Completion of the EA-8 excavation is pending post excavation sampling results.
- Completed pre-trenching for installation of temporary shoring related to the excavations along Route 440.
- Completed field verification of the JCMUA 48-inch storm sewer and BMUA 36-inch sewer force main.
- Installed traffic controls for shoulder closing associated with excavation along Route 440 south frontage with SA-6 North in accordance with the NJDOT permit.
- Lindie Griffith mobilized drill rig and equipment for installation of drilled soldier piles associated with temporary shoring for EA-2 and EA-3 along Rt. 440 frontage.

- Continued to haul screened historic fill from N1 and place it as backfill in the west side of SA-6 South backfill area.
- Completed placement of soils with hexavalent chromium concentrations between 20 and 240 ppm within the sedimentation basin south of the Vertical Hydraulic Barrier Wall on SA-6 North.
- Continued placement of historic fill within the sedimentation basin north of the Vertical Hydraulic Barrier Wall on SA-6 North.
- Completed groundwater sampling of four of the L-wells at SA-6 South, Site 124 using geoprobe/temporary well points.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
No update for the reporting period							

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Excavation Completed	Excavation Areas EA-7 and EA-8 Volume Excavated - Total for Reporting Period: 2,843.58 CY / Total to Date: 2,843.58 CY
Backfill in Progress	Historic Fill - SA6 South western backfill area.

- Screened historic Fill was transferred from 1N surcharge area and placed as backfill in SA-6 South. A total of 110 loads, totaling approximately 2,200 cubic yards was placed as backfill in SA-6 South during the reporting period.

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging and offloading of surcharge material is complete.
- Area 3S: Surcharging and offloading of surcharge material is complete.
- Area 1N: Continued off-loading of remaining screened historic fill.
- Area 2N: Surcharging is 100% complete. Offloading not yet scheduled by contractor.
- Area 3N: Completed installation of surcharge monitoring instrumentation.
- Area 4N: Completed installation of surcharge monitoring instrumentation.

F. SHEET PILE OPERATIONS

- No sheet pile operations occurred during the reporting period.

G. CAPPING OPERATIONS

- Continued general Cap Subgrade preparation in Area 1S and 2S.
- Continued Utility Corridor and roadway subgrade preparation.
- Continued cutting hydraulic barrier sheet of the SA-6 South cap area.
- Began breaking and removing asphalt on top of the SCB wall on the north side of the cap area.
- Began delivery and receiving inspections of geo-synthetic cap materials.
- Held kick-off meeting with Langan Environmental (independent liner QA) and initiated development of the QA Plan.

H. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	6/30/2016	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014, 1 yr. extension granted 10/6/14	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15	12/2/15	Pending

I. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete excavation of Area EA-8 pending post excavation sampling results.
- Complete excavated waste load out for soils with hexavalent chromium concentrations greater than 240 ppm.
- Begin excavation of Area EA-4.
- Complete installation of drilled piles associated with the temporary shoring along Route 440.
- Complete installation of SA-6 South piezometers.
- Continue installation of the vertical hydraulic barrier wall east of the Trash Pit and along Route 440.
- Begin installation of dewatering wells associated with the SA-6 North Excavation Areas EA-2 and EA-3.
- Continue Cap Subgrade and utility corridor preparation activities on SA-6 South.
- Mobilize the geosynthetics crew and independent QA contractor and begin geo-synthetic cap placement activities on SA-6 South Area 1S.
- Mobilize screening equipment and begin screening Celgene material for use as cap cover soils.
- Verizon will complete relocation of communication lines to the North Bound side of Route 440.
- Begin Stratum D repair of the JCIA Trash Pit Area.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Conduct S-3 Mass Removal injection Event No. 22 in well 088-IW-01.
- Complete PVSC Monthly compliance sampling.
- Submit the revised plan for the SA-6 North Treatment Area 10 proximate to force main.
- Continue to work with owner on access for the planned PW-3 extraction well installation.
- Finalize and submit Surcharge Monitoring Report No. 13 which will include the baseline installation data for Areas 3N and 4N.

ATTACHMENTS:

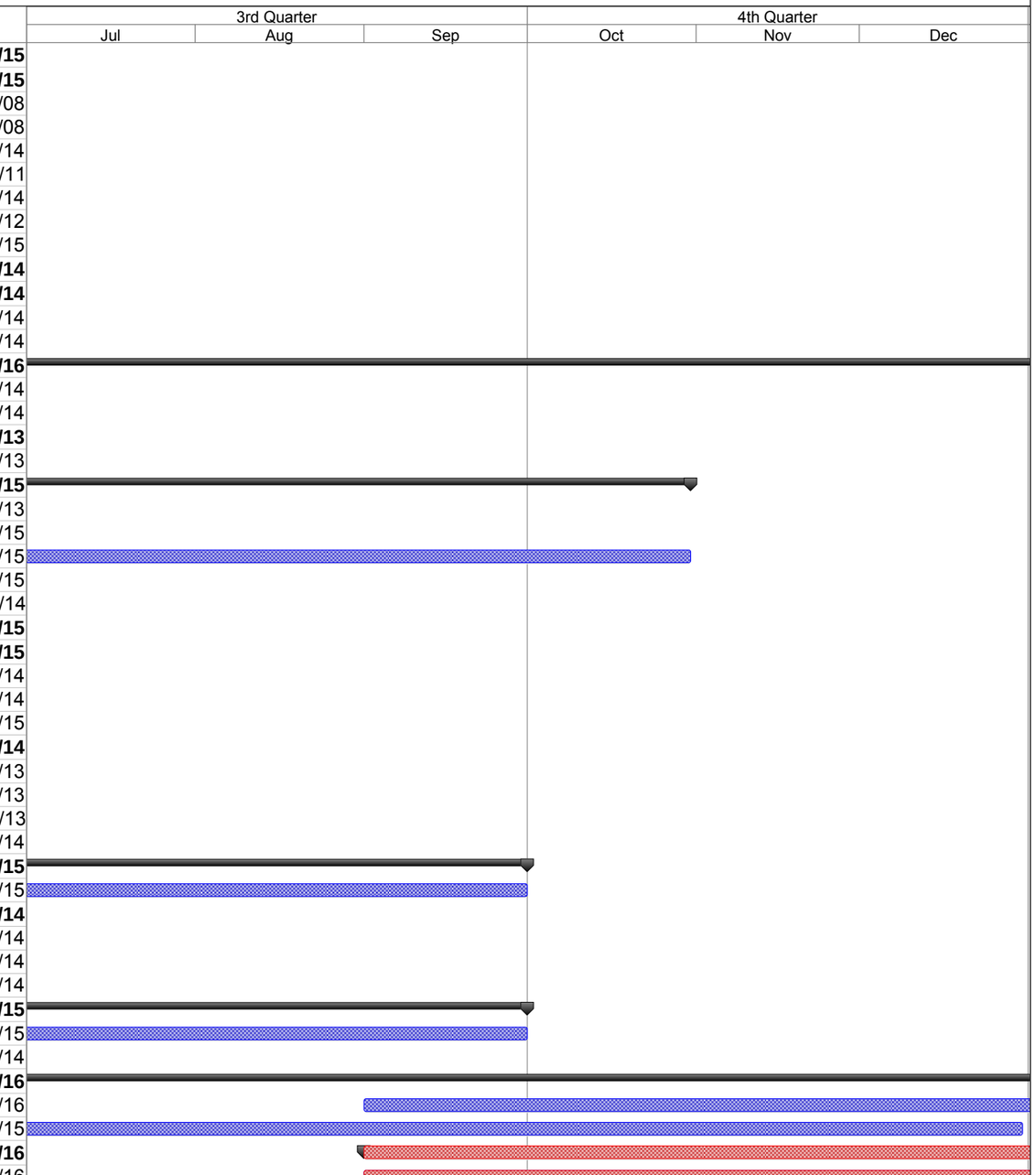
1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
4. *Dewatering Operations Update (not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
7. Perimeter Pools Update
8. Groundwater Quality Data
9. Surcharge Monitoring Update
10. *Sheet Pile Update (not included in this reporting period)*
11. Weekly SWPPP Reports
12. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (May 2015)
13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**1/4/08**	**3/30/15**
18	**JCIA/JCDPW Relocation**	**1735 days**	**8/11/08**	**3/30/15**
19	Develop Site Relocation Master Plan	38 days	8/11/08	10/1/08
20	Submit Site Relocation Master Plan	0 days	10/1/08	10/1/08
21	JC Construction of New Facilities	1309 days	6/2/09	6/2/14
22	Relocation Contractor Procurement	392 days	4/15/10	10/13/11
23	JCIA and JCDPW Relocation	753 days	10/17/11	8/29/14
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	12/12/11	4/30/12
24a	Demolition of JCIA Structures	151 days	9/1/14	3/30/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**7/11/08**	**4/30/14**
57	**SA-6 South Relocation**	**616 days**	**12/26/11**	**4/30/14**
58	New GWTP Construction Completion	502 days	3/5/12	1/30/14
59	Demolition of 80 Kellogg	857 days	12/26/11	4/30/14
60	**SA-6 North/South Field Implementation**	**838 days**	**3/1/13**	**5/16/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	6/17/13	12/31/14
60b	SA-6S (Site 163) In-Situ Treatment	294 days	11/15/13	12/31/14
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**3/1/13**	**6/28/13**
61a	Mobilization	87 days	3/1/13	6/28/13
62	**Surcharge Install/Instrumentation**	**620 days**	**6/17/13**	**10/30/15**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	6/17/13	12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	6/2/14	2/27/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	3/2/15	10/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	10/20/14	6/30/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	3/3/14	11/28/14
63	**Barrier Wall Install**	**489 days**	**6/17/13**	**4/30/15**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**12/2/13**	**4/30/15**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	12/2/13	2/14/14
63c	SA-6N Stations 23+38 to 14+25	90 days	2/17/14	6/20/14
63d	SA-6N Stations 14+25 to 0+00	224 days	6/23/14	4/30/15
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**6/17/13**	**5/30/14**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	6/17/13	8/15/13
63h	SA-6S Stations 1+54 to 8+37	7 days	8/16/13	8/26/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	10/3/13	11/8/13
63j	SA-6S Stations 8+60 to 14+87	145 days	11/11/13	5/30/14
64	**Excavation**	**507 days**	**10/22/13**	**9/30/15**
64a	SA 6N Excavation	218 days	12/1/14	9/30/15
64b	**SA 6S Excavation**	**226 days**	**10/22/13**	**9/2/14**
64c	SA-6S Excavation of Cells 1 - 25	53 days	10/22/13	1/2/14
64d	SA-6S Excavation of Cells 26 - 60	90 days	1/3/14	5/8/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	5/9/14	9/2/14
65	**Backfill**	**493 days**	**11/11/13**	**9/30/15**
65a	SA 6N Backfill	218 days	12/1/14	9/30/15
65b	SA 6S Backfill	232 days	11/11/13	9/30/14
66	**Capping and Cover Soil Placement**	**315 days**	**12/1/14**	**2/12/16**
66a	SA 6N Capping and Cover Soil Placement	119 days	9/1/15	2/12/16
66b	SA 6S Capping and Cover Soil Placement	283 days	12/1/14	12/30/15
67	**Restoration**	**164 days**	**9/1/15**	**4/15/16**
67a	Restoration	164 days	9/1/15	4/15/16



Project: SA-6 Remediation Schedule
Revision 3
Date: 7/7/15

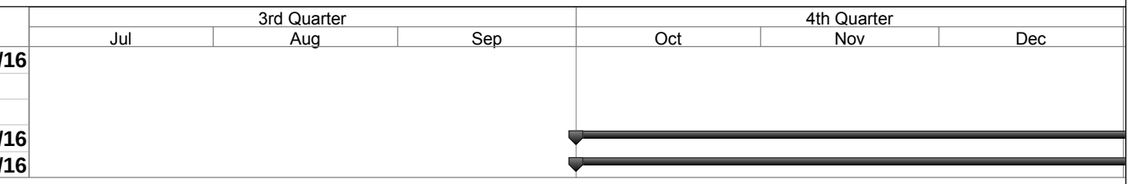
Task | Milestone | Summary | Critical

Note: The schedule will be revised following completion of the JCDPW relocation.

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
68	**Demobilization**	**21 days**	**4/18/16**	**5/16/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line			
69	**SA-6 North Project Closeout**	**310 days**	**10/1/15**	**12/7/16**
75	**SA-6 South Project Closeout**	**310 days**	**10/1/15**	**12/7/16**



Project: SA-6 Remediation Schedule
Revision 3
Date: 7/7/15

Task | Milestone ◆ | Summary | Critical

Note: The schedule will be revised following completion of the JCDPW relocation.

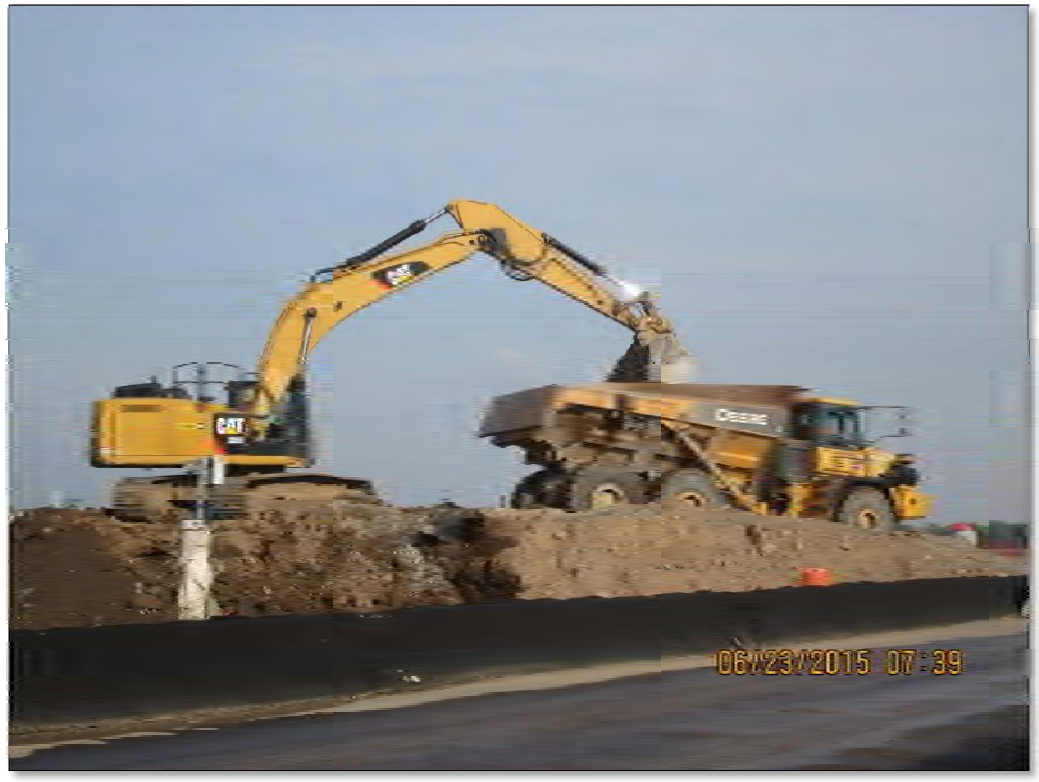
Attachment 2: Site Photographs

Site Photograph 1: Excavation to confirm 36-inch sewer main location on former JC properties.

Site Photograph 2: Excavation to confirm utilities locations along Rt. 440.

Site Photograph 3: Installation of Traffic Controls along Rt. 440.

Site Photograph 4: Loading end dump on plastic at former JC properties.



Site Photograph 5: Offloading remaining surcharge material at Kellogg St properties.

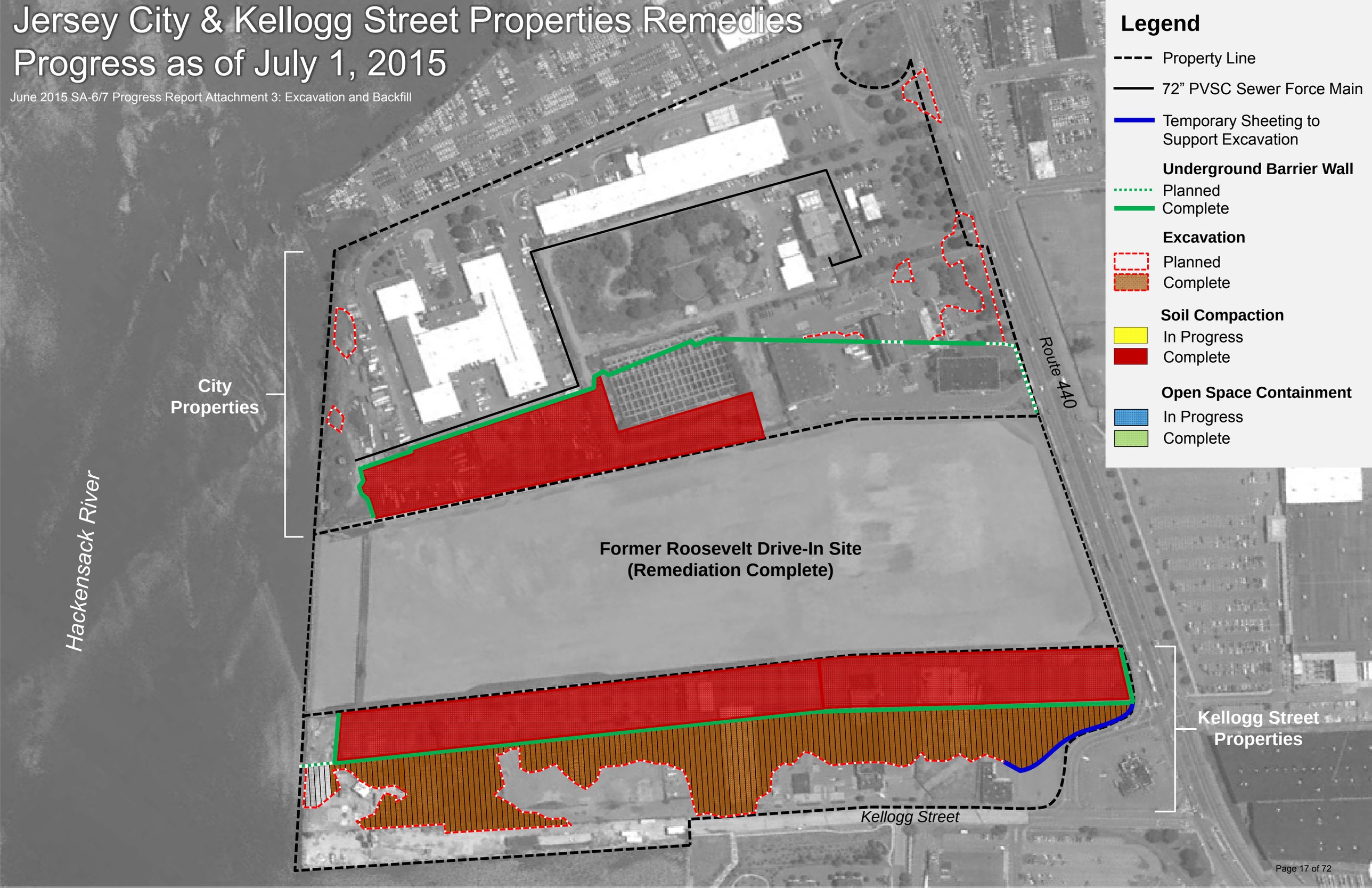
Site Photograph 6: Staging screened historic fill on former JC properties.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of July 1, 2015

June 2015 SA-6/7 Progress Report Attachment 3: Excavation and Backfill



Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
04/30/15	8:00	15:00	7:00	31,706.56	31,755.10	48,540	31,754,650	
05/01/15	10:00	14:30	4:30	31,755.10	31,779.92	24,820	31,779,470	
05/05/15	7:00	14:00	7:00	31,779.92	31,862.76	82,840	31,862,310	PVSC Compliance Sample Collected
05/08/15	7:30	14:30	7:00	31,862.76	31,923.11	60,350	31,922,660	
05/11/15	10:00	15:00	5:00	31,923.11	31,978.26	55,150	31,977,810	
05/14/15	10:00	15:00	5:00	31,978.26	32,016.71	38,450	32,016,260	
05/18/15	7:30	14:30	7:00	32,016.71	32,102.90	86,190	32,102,450	
05/19/15	7:30	14:00	6:30	32,102.90	32,136.78	33,880	32,136,330	
05/20/15	7:30	15:00	7:30	32,136.78	32,157.02	20,240	32,156,570	
05/21/15	7:00	13:30	6:30	32,157.02	32,194.76	37,740	32,194,310	
05/22/15	8:00	12:00	4:00	32,194.76	32,208.64	13,880	32,208,190	
05/24/15	10:00	14:00	4:00	32,208.64	32,256.26	47,620	32,255,810	
05/27/15	6:30	13:30	7:00	32,256.26	32,322.85	66,590	32,322,400	
05/29/15	10:00	14:15	4:15	32,322.85	32,377.97	55,120	32,377,520	
06/01/15	9:00	15:45	6:45	32,377.97	32,528.67	150,700	32,528,220	
06/02/15	7:00	14:00	7:00	32,528.67	32,620.67	92,000	32,620,220	
06/04/15	6:30	14:00	7:30	32,620.67	32,756.41	135,740	32,755,960	PVSC Compliance Sample Collected
06/05/15	6:30	13:30	7:00	32,756.41	32,833.26	76,850	32,832,810	
06/08/15	7:00	14:00	7:00	32,833.26	32,958.71	125,450	32,958,260	
06/10/15	10:00	16:00	6:00	32,958.71	33,019.45	60,740	33,019,000	
06/11/15	7:00	16:00	9:00	33,019.45	33,086.57	67,120	33,086,120	
06/12/15	6:30	12:00	5:30	33,086.57	33,146.46	59,890	33,146,010	
06/15/15	6:30	12:15	5:45	33,146.46	33,183.12	36,660	33,182,670	
06/16/15	7:00	14:15	7:15	33,183.12	33,226.73	43,610	33,226,280	
06/17/15	6:30	16:00	9:30	33,226.73	33,276.97	50,240	33,276,520	
06/18/15	6:30	14:30	8:00	33,276.97	33,338.90	61,930	33,338,450	
06/19/15	6:30	14:00	7:30	33,338.90	33,439.40	100,500	33,438,950	
06/21/15	9:30	13:30	4:00	33,439.40	33,485.10	45,700	33,484,650	
06/22/15	6:30	14:00	7:30	33,485.10	33,567.88	82,780	33,567,430	
06/23/15	11:30	14:00	2:30	33,567.88	33,609.80	41,920	33,609,350	
06/24/15	9:00	13:30	4:30	33,609.80	33,646.89	37,090	33,646,440	
06/26/15	8:00	14:00	6:00	33,646.89	33,720.85	73,960	33,720,400	
06/29/15	7:00	14:30	7:30	33,720.85	33,738.82	17,970	33,738,370	

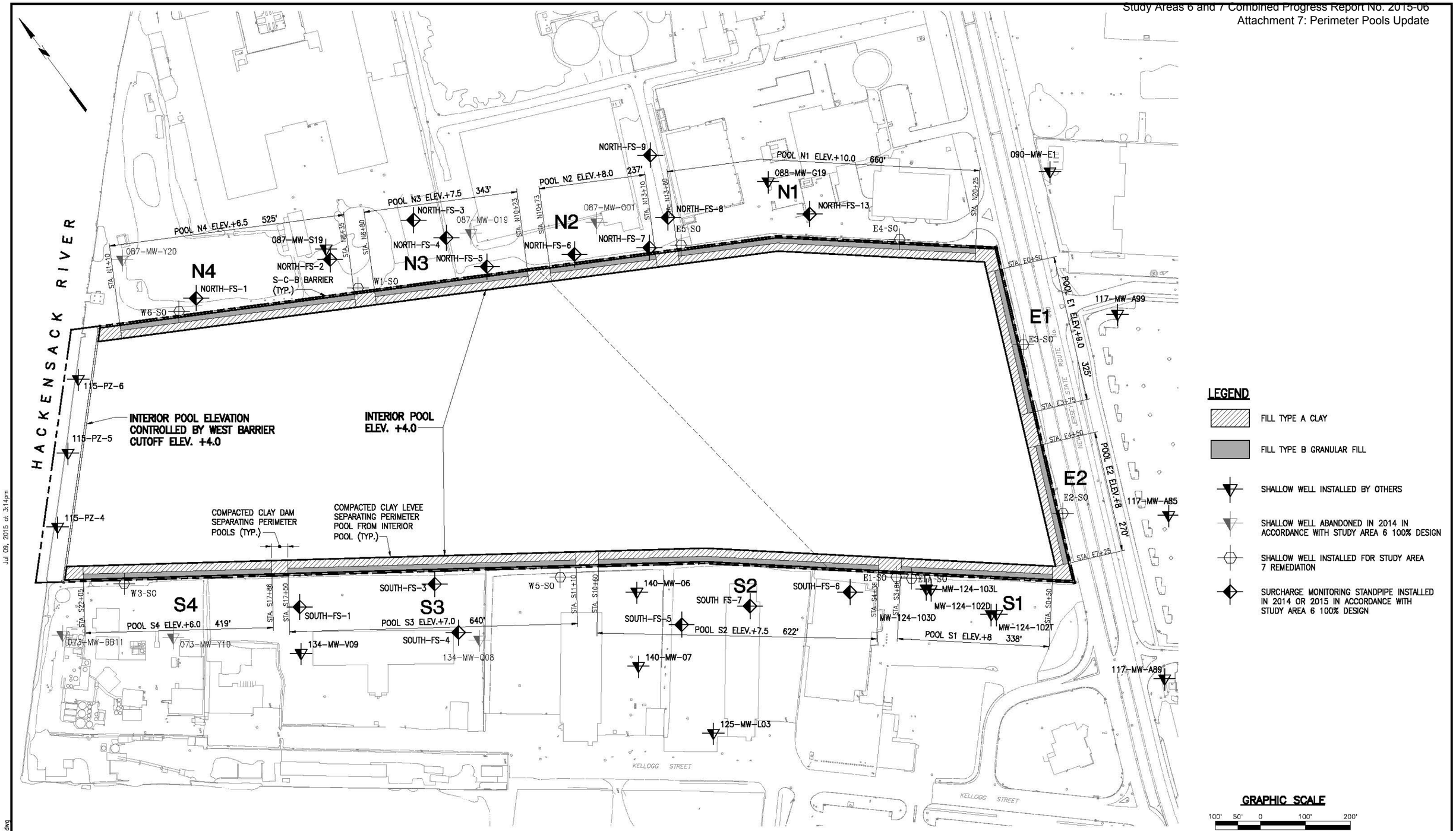
Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
EA-8	<20	087-EA8-20-a,b	1500	087-EA8-20-a1	6/24/2015	7:35	**			
				087-EA8-20-a2	6/24/2015	7:40	**			
				087-EA8-20-a3	6/24/2015	7:45	**			
				087-EA8-20-a4	6/24/2015	7:50	**			
				087-EA8-20-b1	6/24/2015	7:55	**			
				087-EA8-20-b2	6/24/2015	8:00	**			
				087-EA8-20-b3	6/24/2015	8:05	**			
				087-EA8-20-b4	6/24/2015	8:10	**			
EA-8	<20	087-EA8-20-c (bermed / trench material)	250	087-EA8-20-c1	6/24/2015	11:40	**			
				087-EA8-20-c2	6/24/2015	11:45	**			
				087-EA8-20-c3	6/24/2015	11:50	**			
				087-EA8-20-c4	6/24/2015	11:55	**			

*Material currently stockpiled. Pending final placement.
**Waiting on final results from the laboratory.

Attachment 7: Perimeter Pools Update



IN PROGRESS

06-10-2015

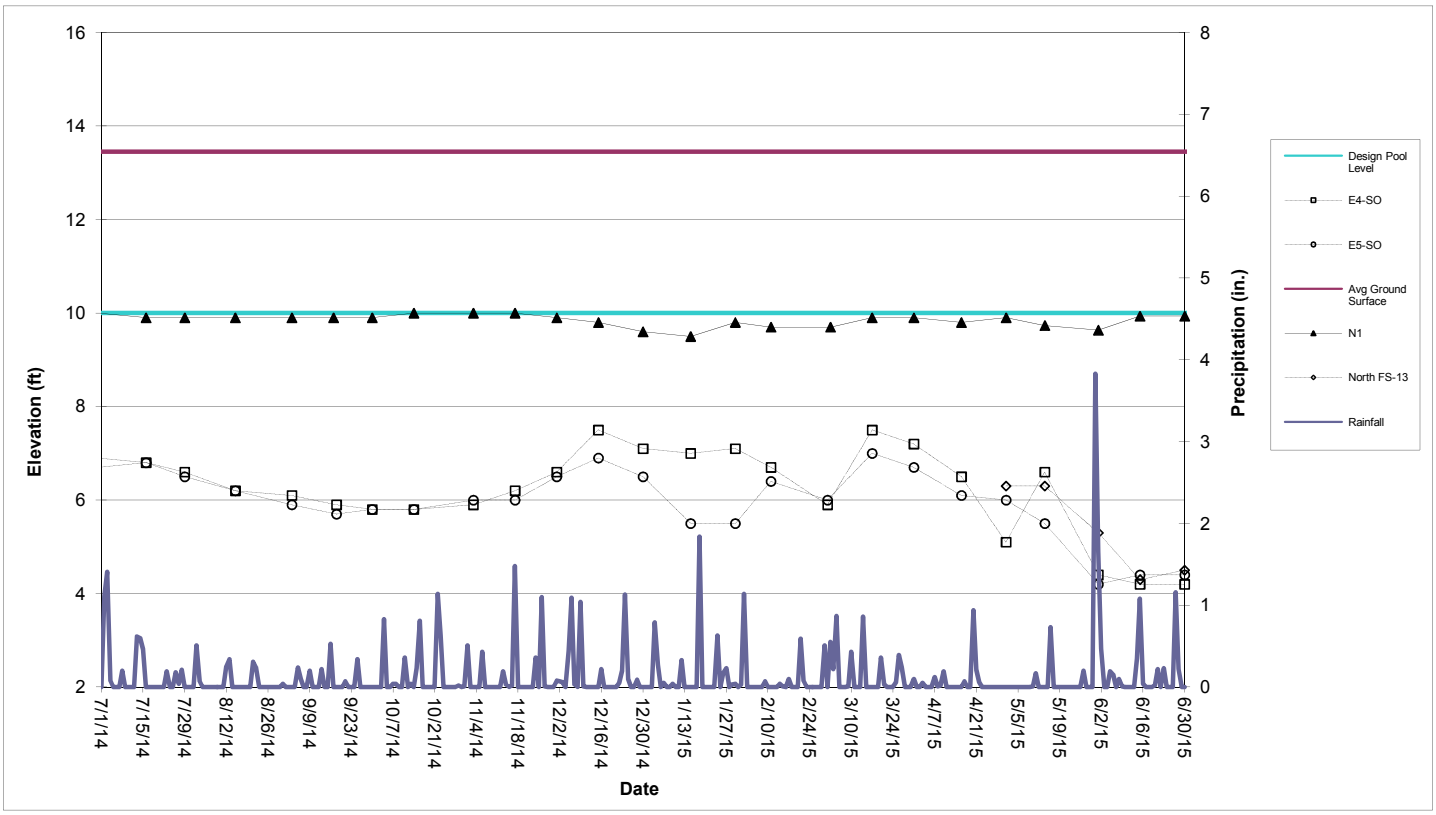
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

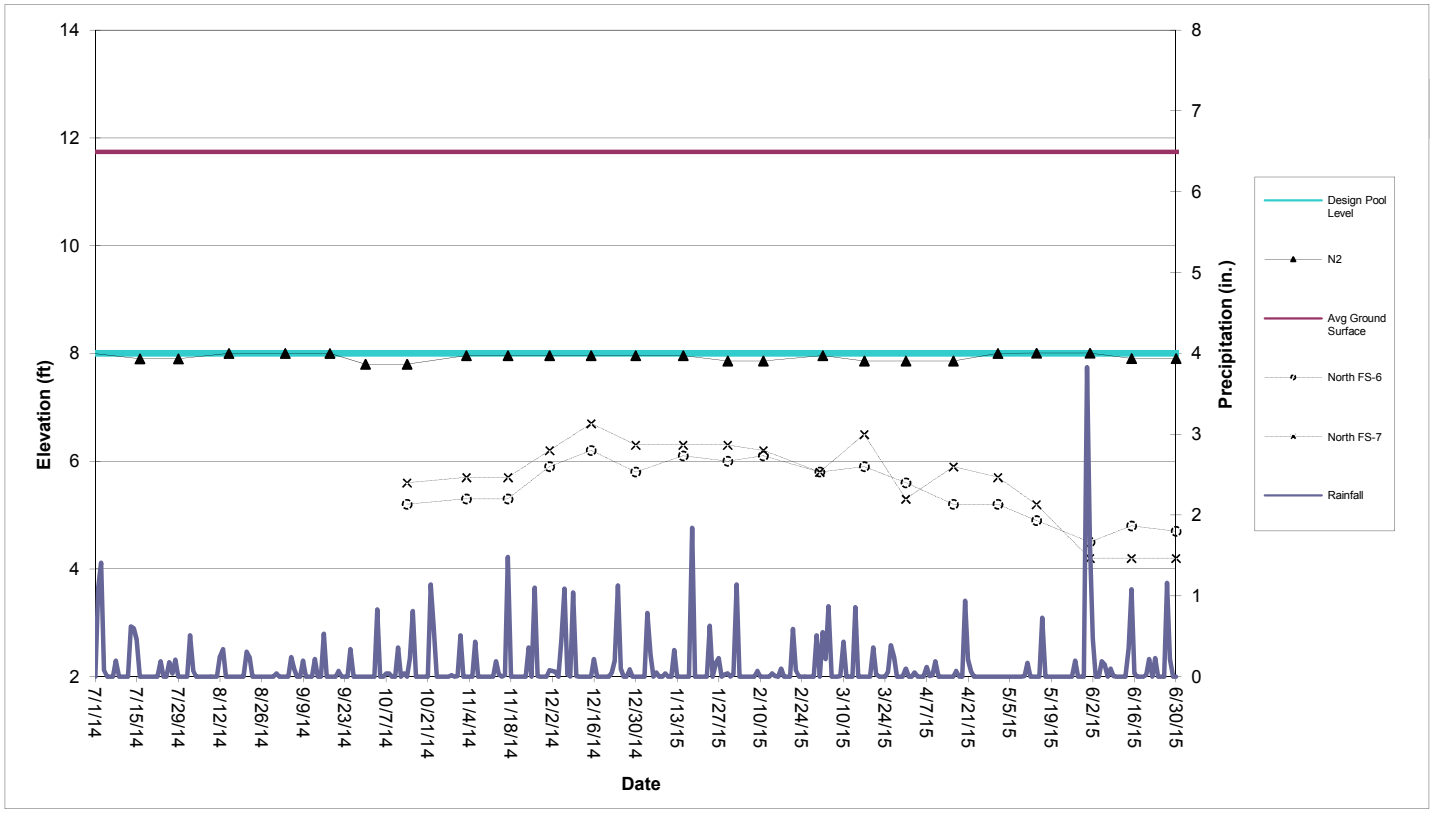
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

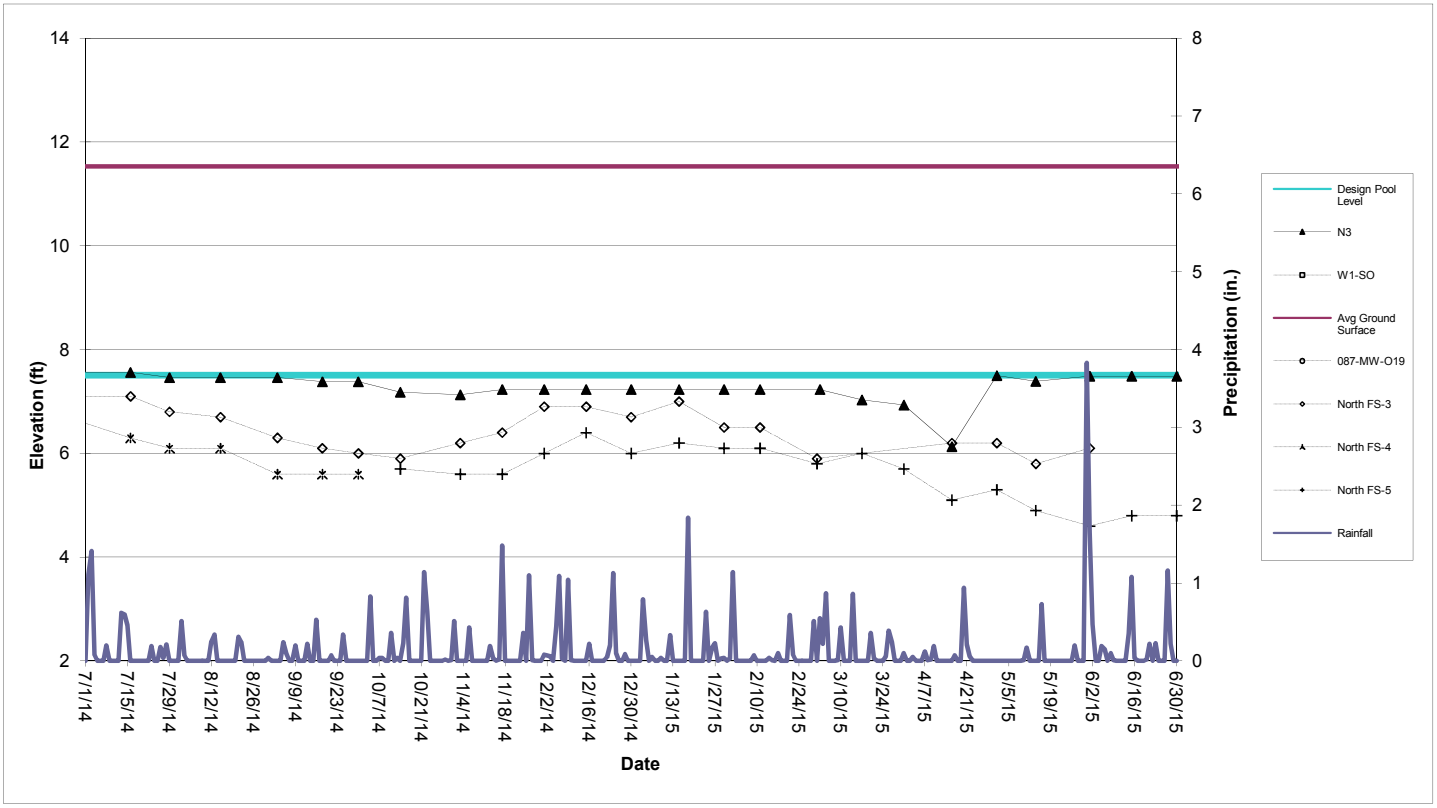
Jul 09, 2015 at 3:14pm
G:\DWGS\102\10210\Dewatering\PP-1.dwg
bboscaino



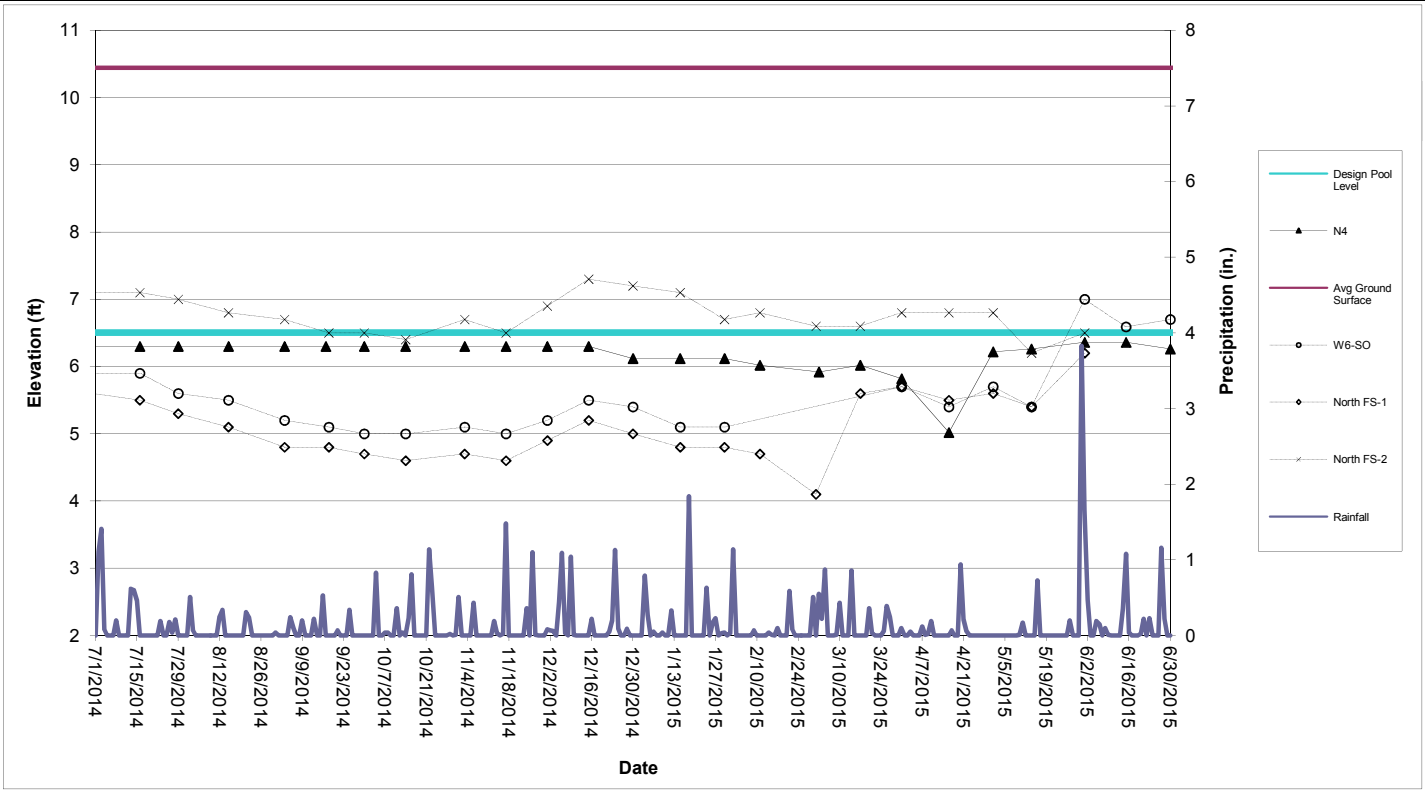
Perimeter Pool N1 (Sta. N13+60 to N20+25)



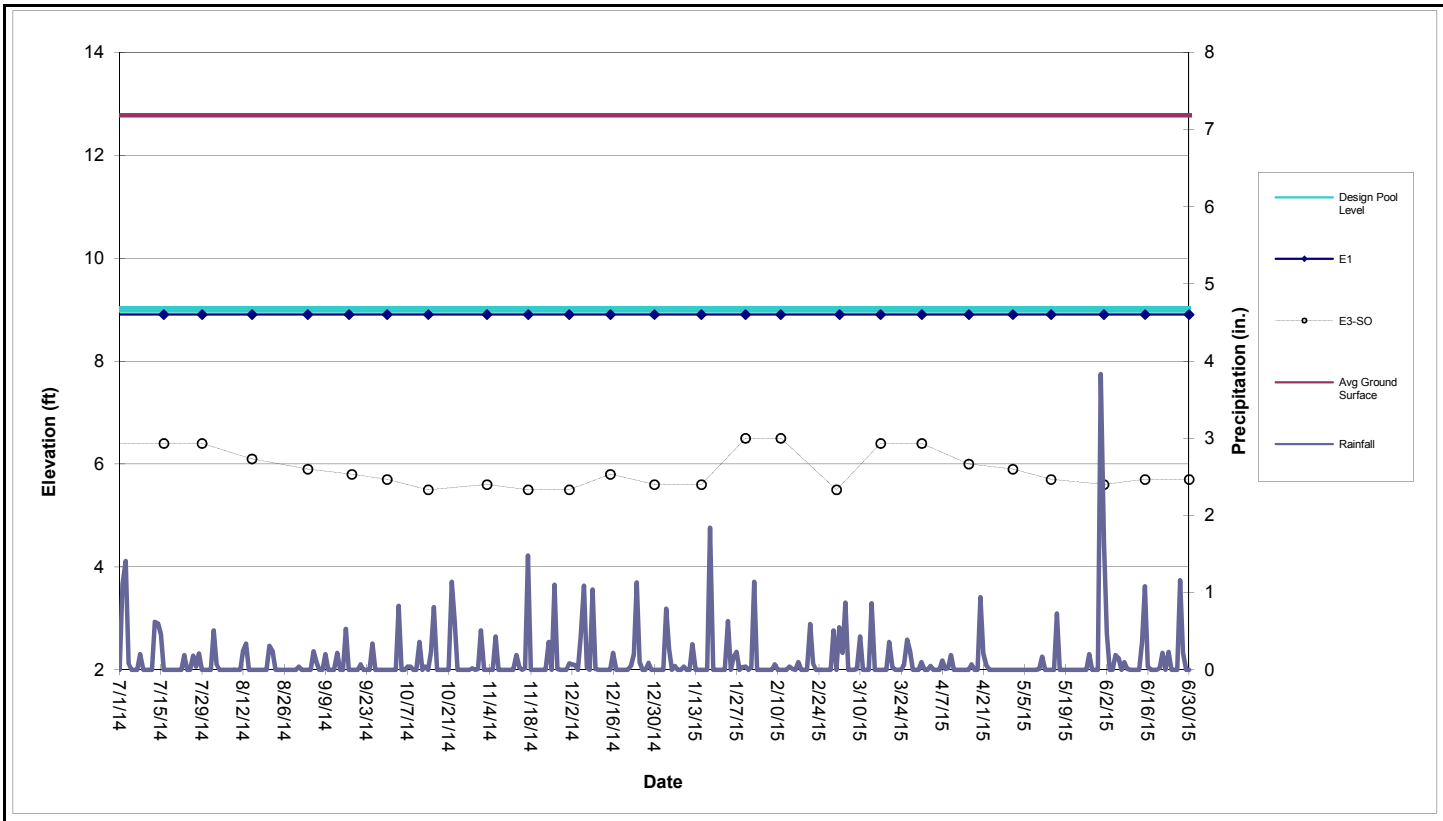
Perimeter Pool N2 (Sta. N10+73 to N13+10)



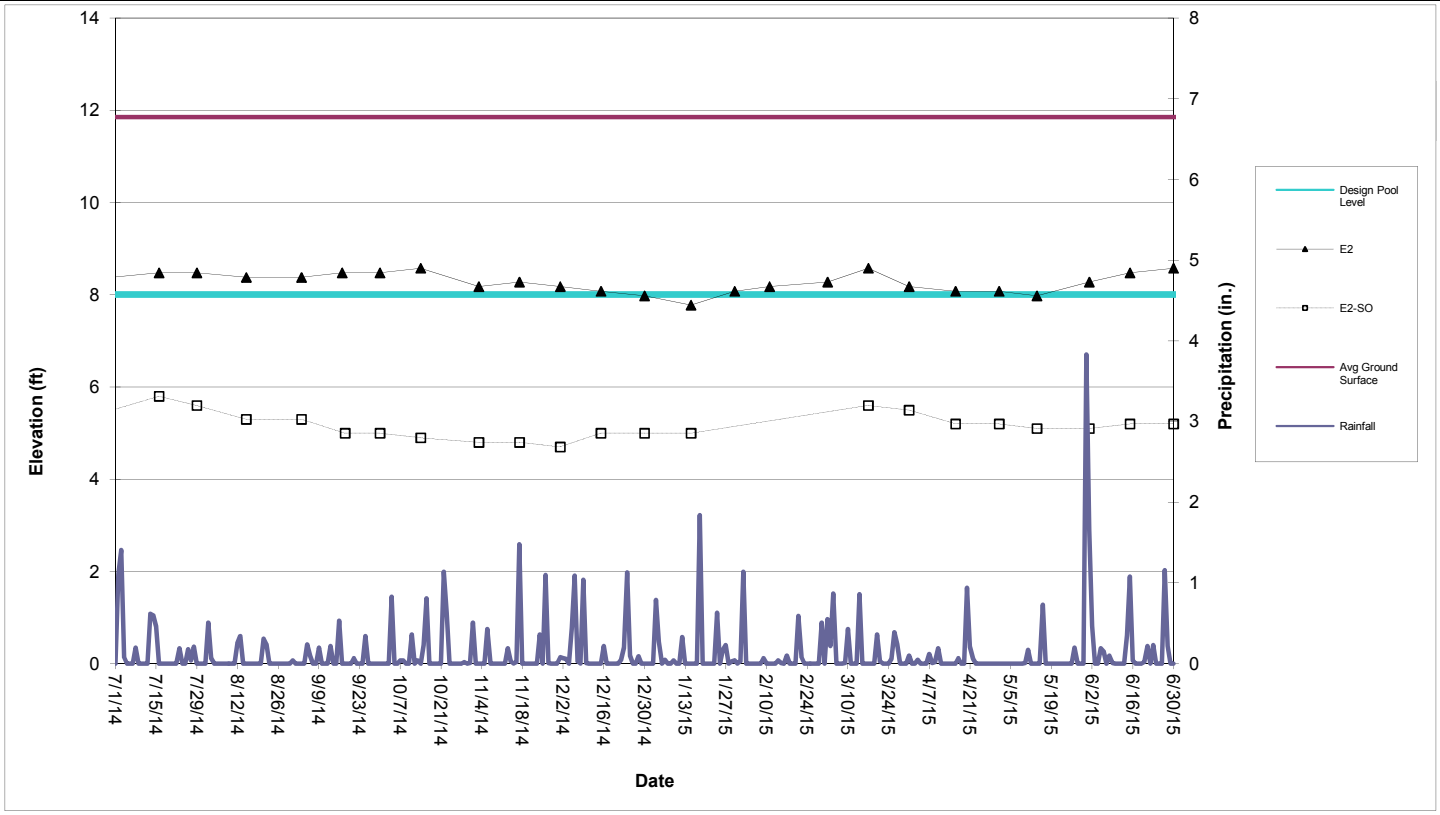
Perimeter Pool N3 (Sta. N6+80 to N10+23)



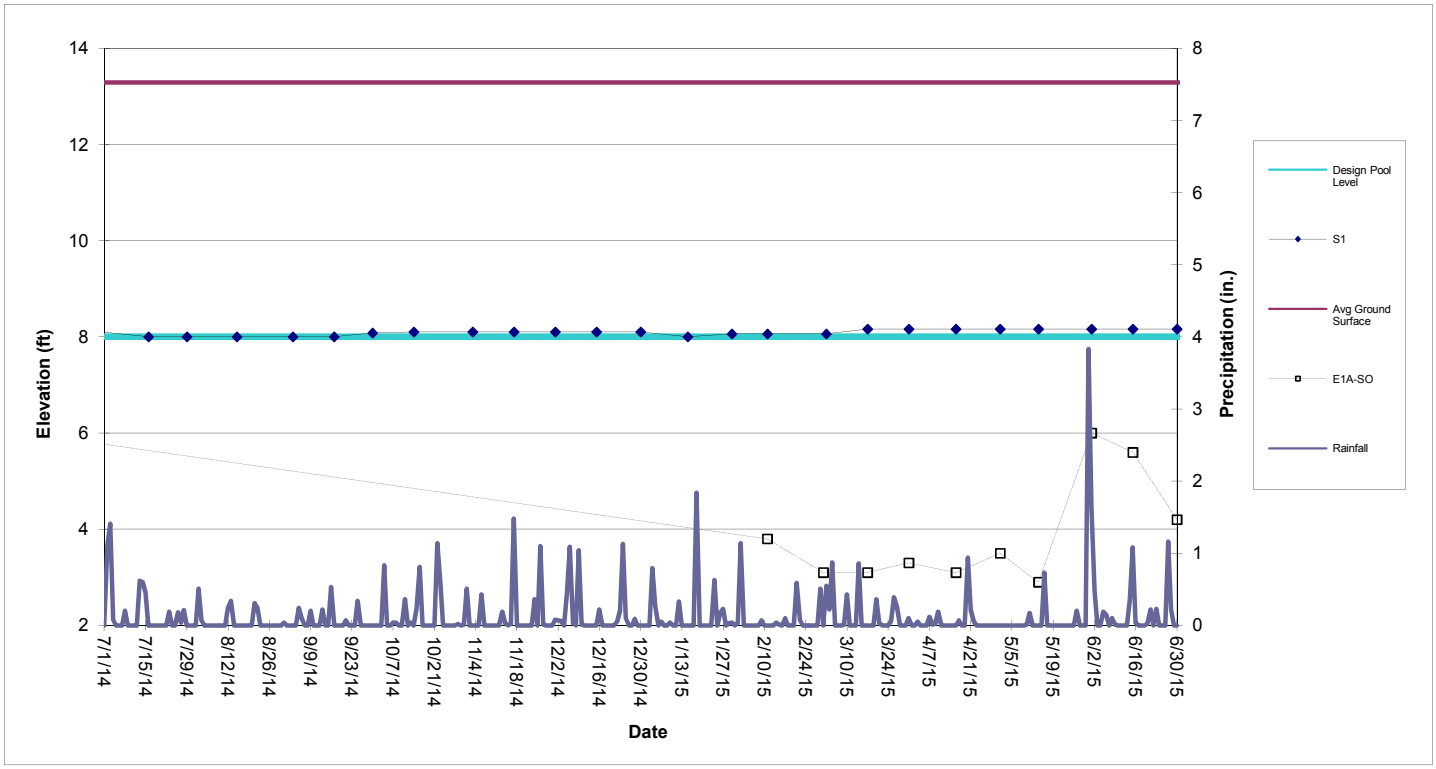
Perimeter Pool N4 (Sta. N6+80 to N10+23)



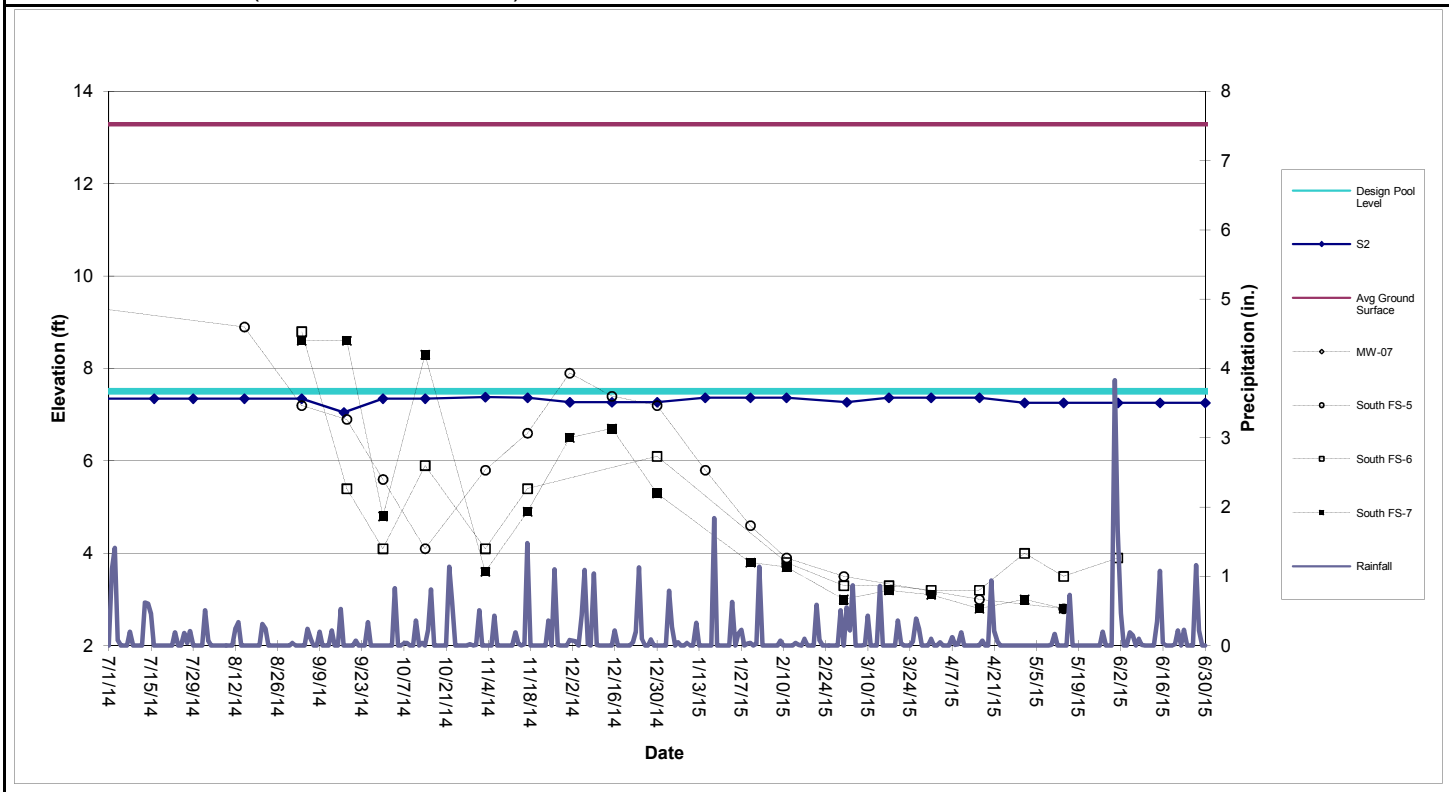
Perimeter Pool E1 (Sta. E0+50 to E3+75)



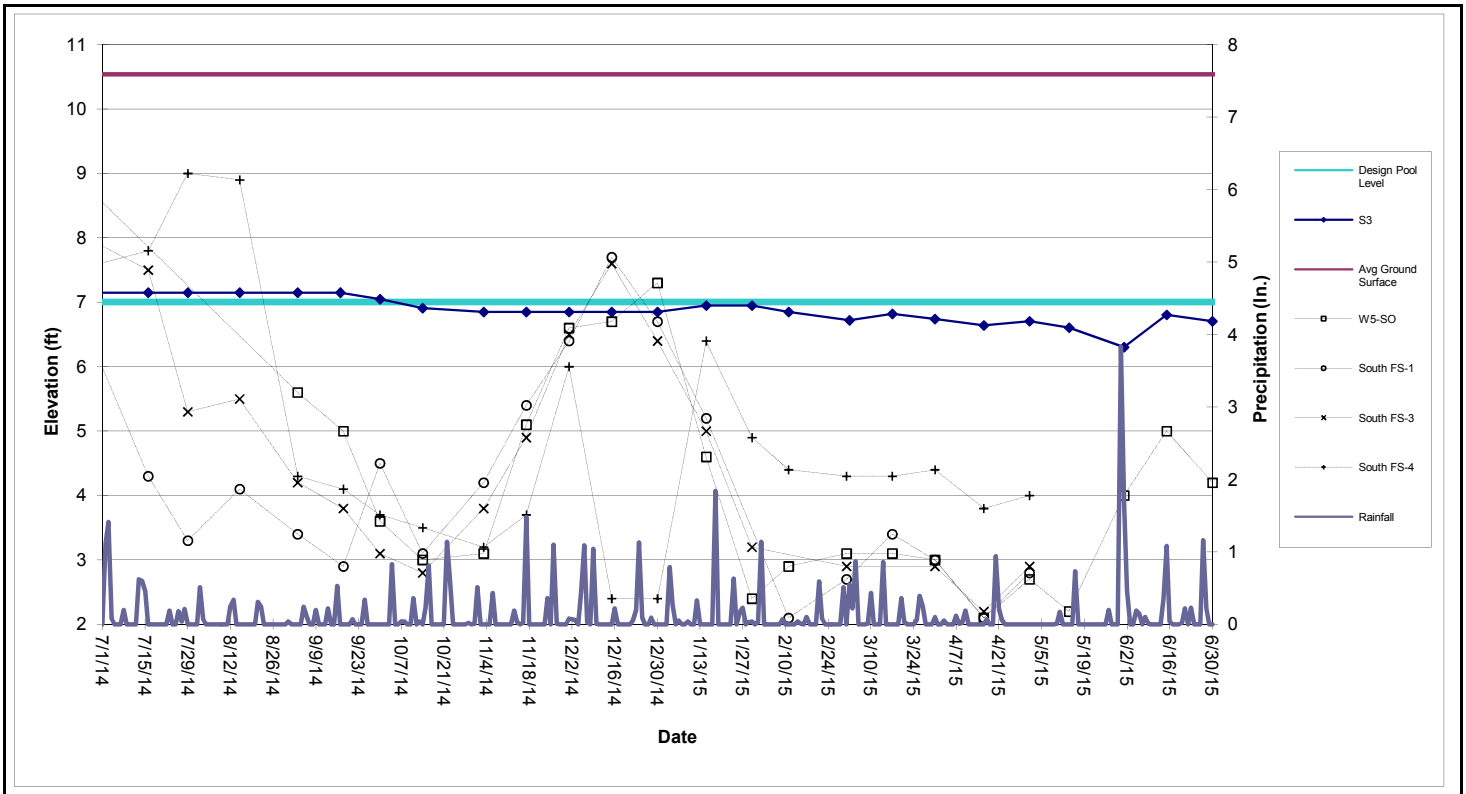
Perimeter Pool E2 (Sta. E4+50 to E7+25)



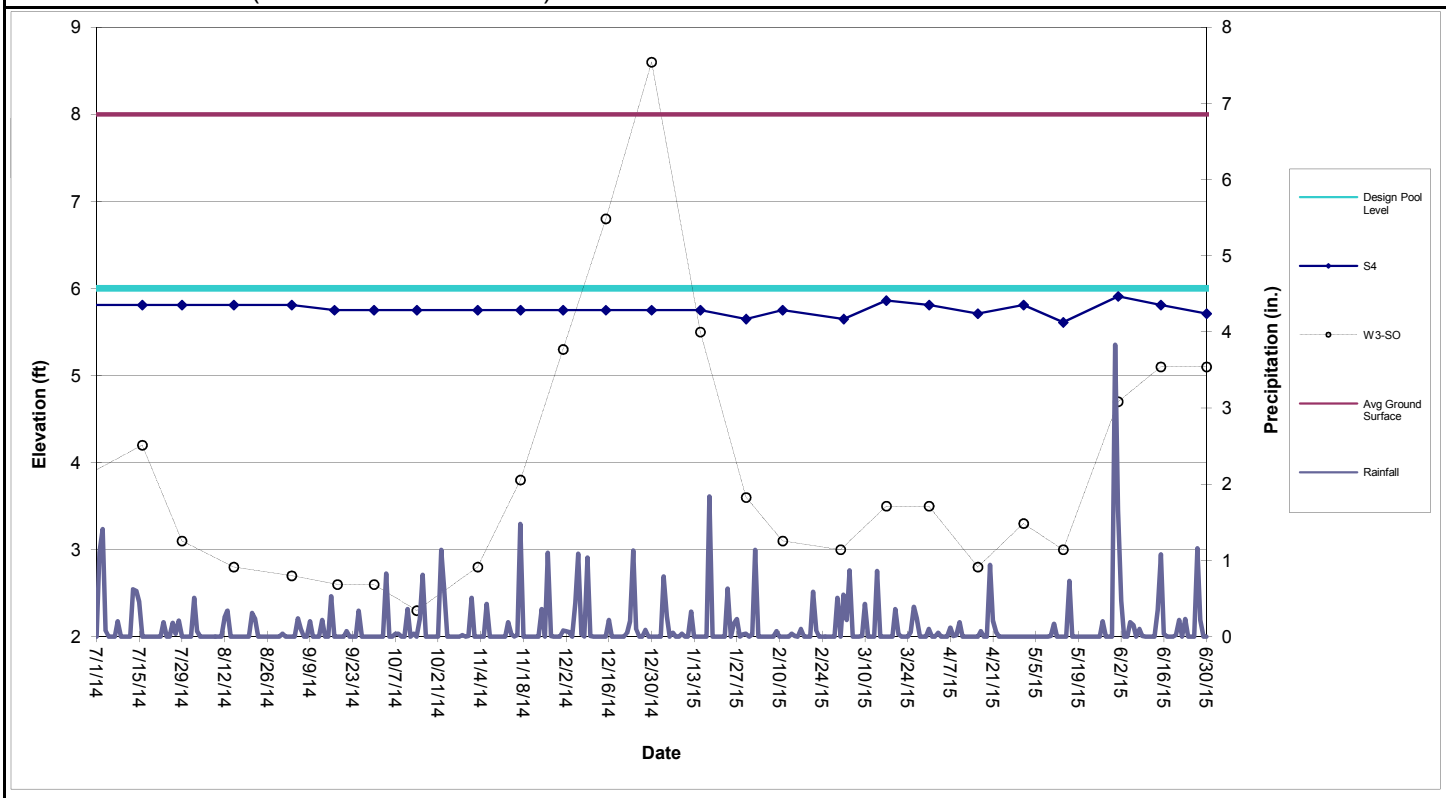
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

									North								South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W3-SO	W5-SO	W6-SO	FS-1	FS-2	FS-3	FS-4	FS-5	FS-6	FS-7	FS-13	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																						
7/16/2014		5.8	6.4	6.8	6.8	4.2		5.9	5.5	7.1	7.1	6.3					4.3	7.5	7.8			
7/29/2014		5.6	6.4	6.6	6.5	3.1		5.6	5.3	7.0	6.8	6.1					3.3	5.3	9.0			
8/15/2014		5.3	6.1	6.2	6.2	2.8		5.5	5.1	6.8	6.7	6.1					4.1	5.5	8.9	8.9		
9/3/2014		5.3	5.9	6.1	5.9	2.7	5.6	5.2	4.8	6.7	6.3	5.6					3.4	4.2	4.3	7.2	8.8	8.6
9/18/2014		5.0	5.8	5.9	5.7	2.6	5.0	5.1	4.8	6.5	6.1	5.6					2.9	3.8	4.1	6.9	5.4	8.6
9/30/2014		5.0	5.7	5.8	5.8	2.6	3.6	5.0	4.7	6.5	6.0	5.6					4.5	3.1	3.7	5.6	4.1	4.8
10/14/2014		4.9	5.5	5.8	5.8	2.3	3.0	5.0	4.6	6.4	5.9		5.7	5.2	5.6		3.1	2.8	3.5	4.1	5.9	8.3
11/3/2014		4.8	5.6	5.9	6.0	2.8	3.1	5.1	4.7	6.7	6.2		5.6	5.3	5.7		4.2	3.8	3.2	5.8	4.1	3.6
11/17/2014		4.8	5.5	6.2	6.0	3.8	5.1	5.0	4.6	6.5	6.4		5.6	5.3	5.7		5.4	4.9	3.7	6.6	5.4	4.9
12/1/2014		4.7	5.5	6.6	6.5	5.3	6.6	5.2	4.9	6.9	6.9		6.0	5.9	6.2		6.4	6.5	6.0	7.9		6.5
12/15/2014		5.0	5.8	7.5	6.9	6.8	6.7	5.5	5.2	7.3	6.9		6.4	6.2	6.7		7.7	7.6	2.4	7.4		6.7
12/30/2014		5.0	5.6	7.1	6.5	8.6	7.3	5.4	5.0	7.2	6.7		6.0	5.8	6.3		6.7	6.4	2.4	7.2	6.1	5.3
1/15/2015		5.0	5.6	7.0	5.5	5.5	4.6	5.1	4.8	7.1	7.0		6.2	6.1	6.3		5.2	5.0	6.4	5.8		
1/30/2015			6.5	7.1	5.5	3.6	2.4	5.1	4.8	6.7	6.5		6.1	6.0	6.3			3.2	4.9	4.6		3.8
2/11/2015	3.8		6.5	6.7	6.4	3.1	2.9		4.7	6.8	6.5		6.1	6.1	6.2		2.1		4.4	3.9	3.8	3.7
3/2/2015	3.1		5.5	5.9	6.0	3.0	3.1		4.1	6.6	5.9		5.8	5.8	5.8		2.7	2.9	4.3	3.5	3.3	3.0
3/17/2015	3.1	5.6	6.4	7.5	7.0	3.5	3.1		5.6	6.6			6.0	5.9	6.5		3.4		4.3		3.3	3.2
3/31/2015	3.3	5.5	6.4	7.2	6.7	3.5	3.0	5.7	5.7	6.8			5.7	5.6	5.3		3.0	2.9	4.4		3.2	3.1
4/16/2015	3.1	5.2	6.0	6.5	6.1	2.8	2.1	5.4	5.5	6.8	6.2		5.1	5.2	5.9		2.1	2.2	3.8	3.0	3.2	2.8
5/1/2015	3.5	5.2	5.9	5.1	6.0	3.3	2.7	5.7	5.6	6.8	6.2		5.3	5.2	5.7	6.3	2.8	2.9	4.0		4.0	3.0
5/14/2015	2.9	5.1	5.7	6.6	5.5	3.0	2.2	5.4	5.4	6.2	5.8		4.9	4.9	5.2	6.3				2.8	3.5	2.8
6/1/2015	6.0	5.1	5.6	4.4	4.2	4.7	4.0	7.0	6.2	6.5	6.1		4.6	4.5	4.2	5.3					3.9	
6/15/2015	5.6	5.2	5.7	4.2	4.4	5.1	5.0	6.6					4.8	4.8	4.2	4.3						
6/30/2015	4.2	5.2	5.7	4.2	4.4	5.1	4.2	6.7					4.8	4.7	4.2	4.5						

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4, South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09, W1-SO, North FS-4

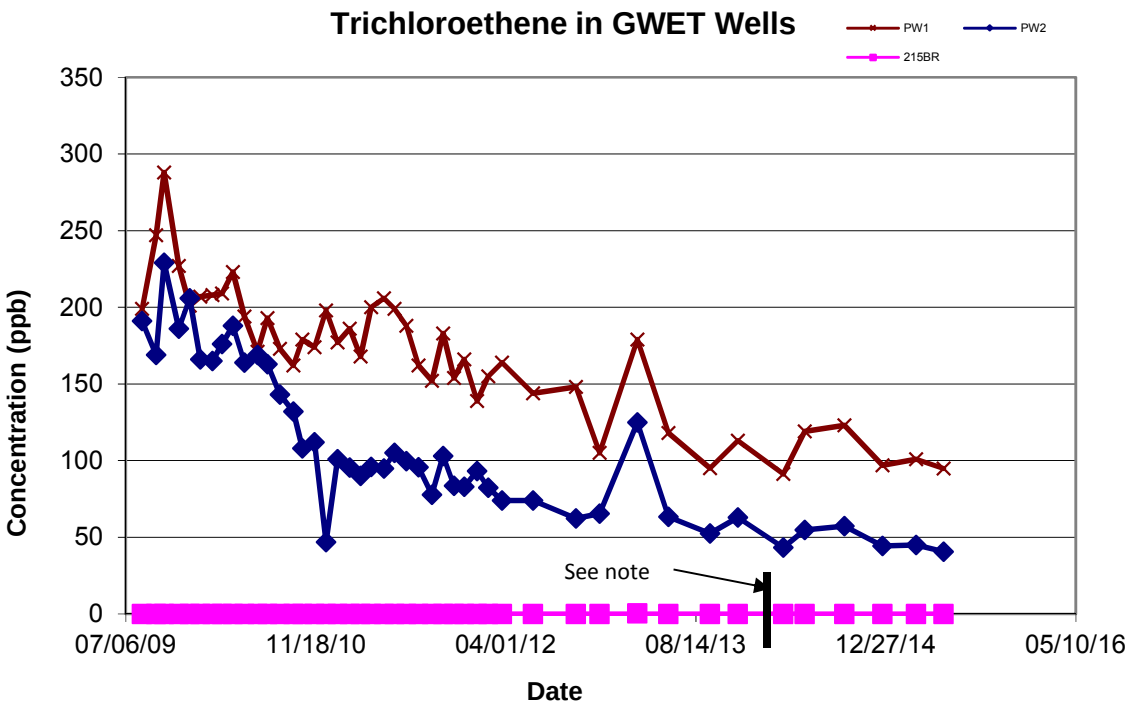
Attachment 8: Groundwater Quality Data

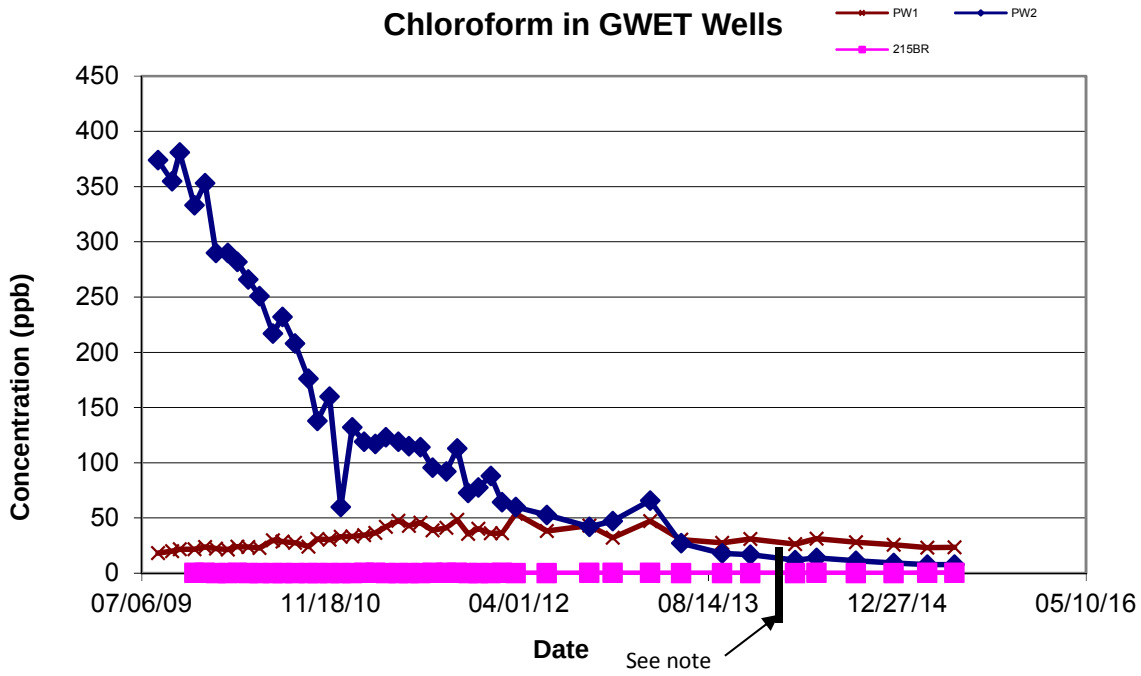
Table 1
Summary of Groundwater Quality Data from GWET Wells

Parameter	9-Sep-14			18-Dec-14			17-Mar-15			28-May-15		
	PW-1 (ug/L)	**PW-2** (ug/L)	**115-MW-215BR** (ug/L)	**PW-1** (ug/L)	**PW-2** (ug/L)	**115-MW-215BR** (ug/L)	**PW-1** (ug/L)	**PW-2** (ug/L)	**115-MW-215BR** (ug/L)	**PW-1** (ug/L)	**PW-2** (ug/L)	**115-MW-215BR** (ug/L)
Benzene	3.7	4.7	ND	3.2	4.0	ND	3.1	3.9	ND	3.1	3.8	ND
Carbon Tetrachloride	7.3	4.8	3.0	5.2	4.2	2.9	5.8	4.6	2.1	5.7	4.5	3.0
Chloroform	28.1	11.3	ND	25.8	9.4	ND	23.1	7.8	0.21	23.5	7.8	0.24J
1,1-Dichloroethene	0.62J	ND	ND	0.57	ND	ND	0.63	ND	ND	0.61J	ND	ND
cis-1,2-Dichloroethene	128	9.6	ND	112	8.6	ND	111	8.1	ND	131	9.6	ND
trans-1,2-Dichloroethene	4.5	ND	ND	3.5	ND	ND	3.8	ND	ND	3.9	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	123	57.4	ND	97	44.4	ND	101	45.0	ND	94.9	40.7	ND
1,1-Dichloroethane	0.55J	ND	ND	0.46	ND	ND	0.51	ND	ND	0.56J	ND	ND
Methylene chloride	0.74J	ND	ND	0.77	0.20	ND	0.71	ND	ND	0.73J	ND	ND
Vinyl chloride	25.2	3.8	ND	15.4	2.5	ND	16.9	2.5	ND	18.1	3.0	ND
1,2-Dichlorobenzene	0.82J	ND	ND	0.66	ND	ND	0.70	ND	ND	0.67J	ND	ND
Chlorobenzene	0.42J	ND	ND	0.37	ND	ND	0.41	ND	ND	0.38J	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium	34,200	11,100	15,700	35,900	12,200	15,900	34,700	13,500	15,100	36,100	13,500	16,800
Total Chromium	37,600	19,300	17,900	34,100	12,700	15,900	34,700	15,100	14,800	32,600	15,600	16,700

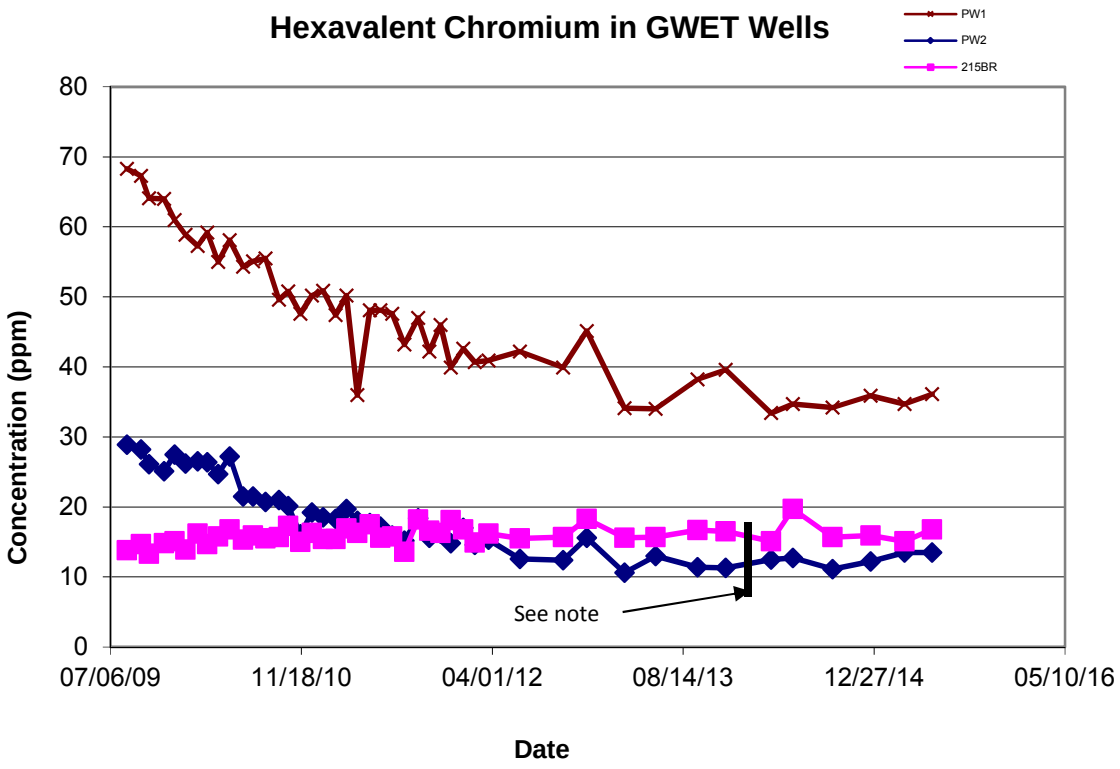
NA = Not Available for Testing due to COPR excavation activities.
NT = Not Tested
ND = Not detected above reporting limit.

Note:
Starting with 1st quarter 2014, well 115-MW-215BR is being pumped and sampled.





Note:
Well 115-MW-203BR has been replaced with well 115-MW-215BR



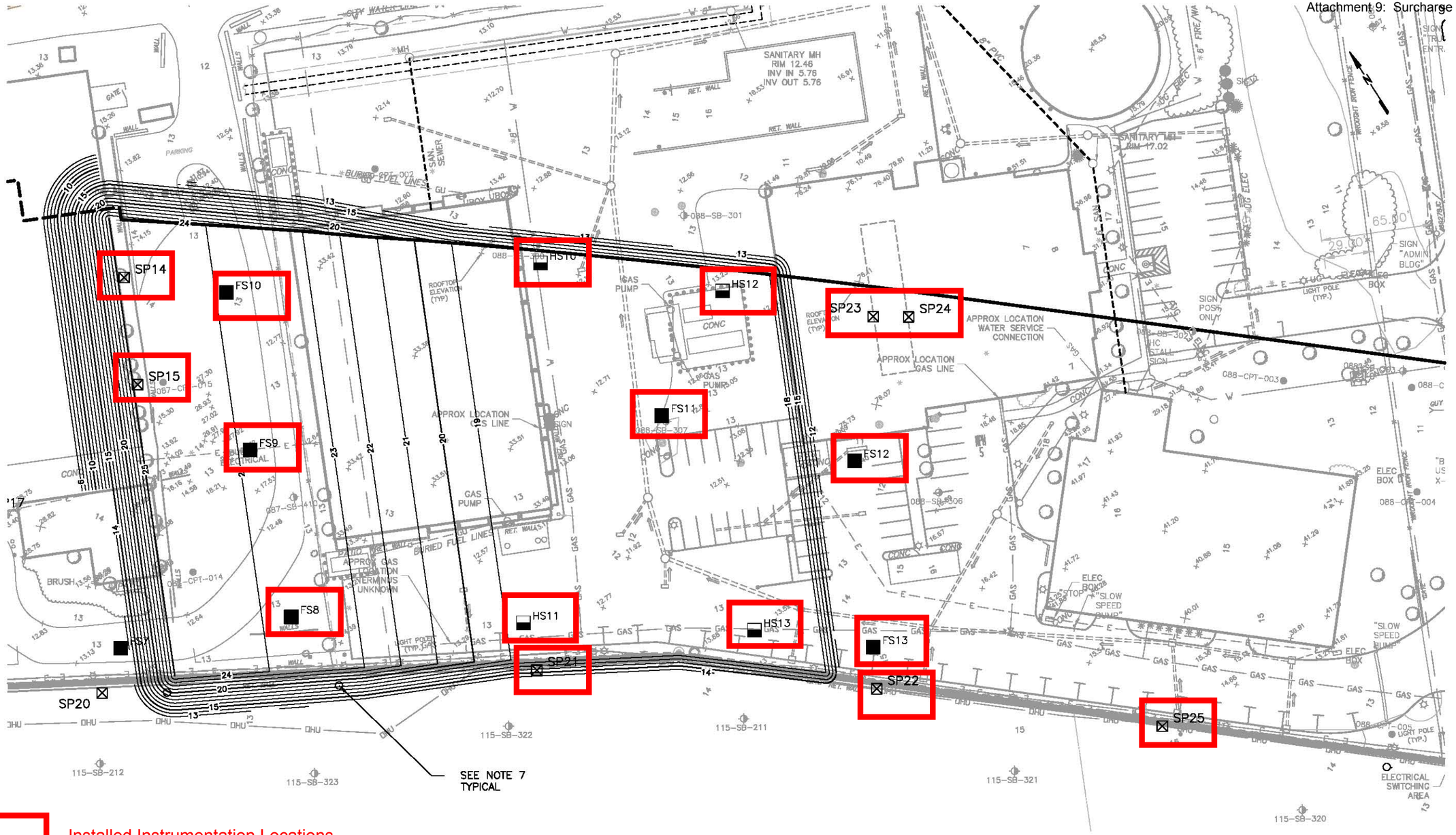
Note:
Well 115-MW-203BR has been replaced with well 115-MW-215BR

TABLE 2
Quarterly Water Levels
June 2015

Wells Date: June 10, 2015	Top of Casing Elevation (ft. msl)	Depth to Water (ft., btoc)	Groundwater Elevation (ft., msl)	Comments
				GW Elevations are not corrected for tidal influence
087-MW-25D	18.17	18.32	-0.15	
087-MW-25T	18.19	18.22	-0.03	
087-MW-35	18.29	NA	NA	Well abandoned
087-OBS-1D	15.13	14.92	0.21	
087-OBS-1L	15.27	14.15	1.12	
087-OBS-1T	15.23	15.14	0.09	
087-PW-2	13.02	31.40	-18.38	
087-MW-08	12.98	13.01	-0.03	
087-OBS-3L	12.88	13.34	-0.46	
087-MW-13	12.93	12.59	0.34	
087-OBS-5D	12.72	12.70	0.02	
087-OBS-5T	12.62	13.51	-0.89	
087-PW-1	12.66	37.56	-24.90	
087-MW-34	12.73	13.96	-1.23	
087-OBS-2D	12.68	15.20	-2.52	
SA6-MW-AA1D	19.36	19.18	0.18	
SA6-MW-AA1T	15.31	15.01	0.30	
SA6-MW-5BR-1	17.06	15.30	1.76	
087-OBS-4T	11.60	11.18	0.42	
087-MW-O29D	10.32	9.15	1.17	
087-MW-O29T	9.98	8.77	1.21	
087-MW-03	13.77	NA	N/A	Well not accessible
087-MW-02	12.57	NA	N/A	Well not accessible
115-MW-203BR*	8.70	8.28	0.42	
073-MW-1BR-1	7.58	NA	N/A*	Well not accessible
073-MW-10BR-1	6.67	12.56	-5.89	
115-MW-215BR*	8.82	13.02	N/A*	

* Reference point elevation to be confirmed.

Attachment 9: Surcharge Monitoring Update



Installed Instrumentation Locations

Instrumentation Locations Not Installed

SETTLEMENT MONITORING POINT		
DESCRIPTION	NORTHING	EASTING
FS8	685406.37	603094.37
FS9	685500.70	603127.22
FS10	685858.02	603165.50
FS11	685387.04	603338.90
HS10	685499.90	603327.97
HS11	685329.97	603205.81
HS12	685428.53	603407.96
HS13	685253.14	603316.22
SP21	685302.66	603197.35

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. PILE GEOMETRY IS BASED ON THE ASSUMPTION THAT THE SEDIMENTATION BASIN WALLS ARE IN PLACE AT THE TIME OF SURCHARGING.
5. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
6. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

I_{I-2}	INCLINOMETER LOCATION
FS-1-1	SETTLEMENT MONITORING POINT FULL – SET UP
HS-1-1	SETTLEMENT MONITORING POINT HALF – SET UP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 7)

Prepared/Date: RJR 07/19/2013
Checked/Date: AE 07/19/2013

0 15 30 60
SCALE IN FEET

Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec

INSTRUMENTATION LOCATION PLAN 3N
Project 3480-09-0006
Figure 3

Attachment 10: Sheet Pile Update

(not included in this reporting period)

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: June 5, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		2
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		3
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		4
Housekeeping		X		5
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		6
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		7
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		8
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 06/05/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, June 05, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence on the southern perimeter of the 3-S surcharge area requires maintenance.
2	IA2Q4A1AL8	Spill pallets and secondary containment for storage tanks have accumulated storm water.
3	IA2Q4A1AL8	Novartis/Celgene surcharge material overtops the sheetpile hydraulic barrier at several locations in surcharge areas 1-S and 2-S.
4	IA2Q4A1AL8	Storm water is ponded on SA-6 South to the north of the 60 Kellogg building.
5	IA2Q4A1AL8	Garbage/debris has accumulated on the grass areas outside of the perimeter fenceline at the Kellogg Street jughandle.
6	IA2Q4A1AL8	Several gaps are present between fence panels in the perimeter fence between SA-6 North and the MUA complex.
7	IA2Q4A1AL8	Sediment has overtopped erosion control measures surrounding the Novartis stockpile area on SA-7. Erosion control measures are compromised on the eastern, southern and western sides.
8	IA2Q4A1AL8	Sediment has accumulated on both the northern and the southern SA-7 access roadways

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature **Date:** 06/05/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair/replace silt fence as required.	6/8/15 RAD
2	Drain storm water from secondary containment areas as required.	6/9/15 RAD
3	Remove the surplus surcharge material to bring the grade in the SA-6 South cap area below the top of the HB sheets. Grade to prevent storm water runoff over the sheets.	6/8/15 RAD
4	Pump ponded storm water to the Construction Water Treatment Plant as required.	6/9/15 RAD
5	Pick up and dispose of garbage/debris.	6/8/15 RAD
6	Close gaps in the perimeter fence.	6/8/15 RAD
7	Repair/replace/install erosion control measures as required to provide acceptable containment around the expanding stockpile area.	6/9/15 RAD
8	Remove sediment from the paved roadways and install tracking pads if required to prevent the buildup of sediment during normal work activities.	6/10/15 RAD

Construction Manager: _____ **Date:** 06/10/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: June 12, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		2
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		3
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		4
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		5
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment		X		6
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation		X		7
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		8
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		9
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		10
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		11

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 06/12/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, June 12, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone fencing is inadequate at various locations along the southern perimeter of the SA-6 South cap area.
2	IA2Q4A1AL8	Backfill material meets the top of the sheet pile hydraulic barrier wall at several locations along the southern perimeter of the SA-6 South cap area.
3	IA2Q4A1AL8	Windscreen has pulled loose from the perimeter fence at two locations adjacent to the Kellogg Street jughandle.
4	IA2Q4A1AL8	Sections of removed storm drain pipe and other debris are present on the backfill in the western end of SA-6 South.
5	IA2Q4A1AL8	Exclusion Zone fencing around the SA-6 North contingent groundwater system requires maintenance and additional signage.
6	IA2Q4A1AL8	The historic fill stockpile to the south of the MUA building requires additional erosion control measures.
7	IA2Q4A1AL8	Plastic sheeting at the Exclusion Zone truck exit east of the sedimentation basin is inadequate.
8	IA2Q4A1AL8	Empty drums are staged on SA-6 North to the south of the JCIA trash pit.
9	IA2Q4A1AL8	Erosion control measures around the Novartis stockpile area on SA-7 are inadequate or missing.
10	IA2Q4A1AL8	Sediment has accumulated on the SA-7 paved and unpaved haul roads.
11	IA2Q4A1AL8	Pallets and other debris are present on the stoned areas of SA-7

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature **Date:** 06/12/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair or amend exclusion zone fencing as required.	
2	Remove material or regrade as needed to prevent sediment from overtopping the hydraulic barrier wall during a rain event.	6-17-15 RAD
3	Re-attach windscreen material as required.	6-17-15RAD
4	Remove debris from the SA-6 South backfill area.	
5	Repair or amend exclusion zone fencing as required.	6-17-15RAD
6	Install berms or silt dams as required.	
7	Replace plastic sheeting in the truck route as needed to maintain a clean surface.	6-17-15RAD
8	Relocate the drums to the meter building garage.	6-17-15RAD
9	Install addional silt fence or other erosion control measures aroundt he Novartis stockpile area to meet erosion control requirements.	
10	Thoroughly clean sediment from all SA-7 roadways.	6-17-15RAD
11	Remove and discard of all debris or trash which is present on the SA-7 stone areas.	6-17-15RAD

1,4,6 and 9 unable to complete at this time

Construction Manager: _____ **Date:** 06/17/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: June 19, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☑ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment		X		3
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		4
Water Truck Wet- Down Operation	X			
Truck De-Con Operation		X		5
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		6
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 06/19/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, June 19, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	REPEAT: Sections of removed storm drain pipe and other debris are present on the backfill in the western end of SA-6 South.
2	IA2Q4A1AL8	REPEAT: Exclusion Zone fencing around the SA-6 North contingent groundwater system requires maintenance and additional signage.
3	IA2Q4A1AL8	REPEAT: The historic fill stockpile to the south of the MUA building requires additional erosion control measures.
4	IA2Q4A1AL8	Erosion control measures on the northern side of the Type C stockpile area on SA-6 north are inadequate.
5	IA2Q4A1AL8	Plastic sheeting at the Exclusion Zone truck exit east of the sedimentation basin is inadequate.
6	IA2Q4A1AL8	REPEAT: Erosion control measures around the Novartis stockpile area on SA-7 are inadequate or missing.
7		
8		
9		
10		
11		

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature **Date:** 06/19/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Remove debris from the SA-6 South backfill area.	6/25/15 RAD
2	Repair or amend exclusion zone fencing as required.	6/25/15 RAD
3	Install berms or silt dams as required.	6/25/15 RAD
4	Install containement measures as required.	6/25/15 RAD
5	Replace plastic sheeting in the truck route as needed to maintain a clean surface.	6/25/15 RAD
6	Install addional silt fence or other erosion control measures aroundt he Novartis stockpile area to meet erosion control requirements.	6/25/15 RAD
7		
8		
9		
10		
11		

Construction Manager: _____ **Date:** 06/26/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: June 26, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		1		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		3
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		4
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		5
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		6
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 06/26/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
~~Friday, June 19, 2015~~
June 26, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone fencepost down at NE corner of EZ. Additional EZ signs required around the Exclusion Zone perimeter.
2	IA2Q4A1AL8	Windscreen has blown loose from the perimeter fenceline at the Kellogg Street jughandle.
3	IA2Q4A1AL8	Exclusion Zone fencing around the eastern EZ requires more signs.
4	IA2Q4A1AL8	Inadequate sediment control measures are present on the western side of the Sedimentation Basin Exclusion Zone.
5	IA2Q4A1AL8	Silt fence along the western end of the SA-7 northern roadway is not properly toed in.
6	IA2Q4A1AL8	**REPEAT:** Erosion control measures around the Novartis stockpile area on SA-7 are inadequate or missing.
7		
8		
9		
10		
11		

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature **Date:** 06/26/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair the EZ fencing as necessary and install additional Exclusion Zone signs.	7-1-15 RAD
2	Repair/re-install windscreen as required.	7-1-15 RAD
3	Install additional Exclusion Zone signage as required.	7-1-15 RAD
4	Install erosion control measures and stormwater run-off measures as required.	7-1-15 RAD
5	Reinstall or toe in silt fence as required.	7-1-15 RAD
6	Install addional silt fence or other erosion control measures aroundt he Novartis stockpile area to meet erosion control requirements.	Screening operations prohibited
7		
8		
9		
10		
11		

Construction Manager: _____ **Date:** 07/01/15

Attachment 12: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (May 2015)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

June 22, 2015

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the May 2015 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy /SEF

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
5	01	15	5	31	15
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	77,826	83,031 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	0.53	0.57	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.2	<5.2	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1337	0.1337	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

June 17, 2015

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North
ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962
FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305
NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
5	01	15	5	31	15
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,412,594 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 36,288,813

DATE	BOD (mg/l)	TSS (mg/l)
5/19/2015	7.5	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE June 17, 2015

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG Honeywell Jersey City GWTP; SA-6 North (Permit #20630025) MONTH: May 2015

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
5/1/2015	Angel Trujillo	33876219	33953737	77,518	0.077518	7.58	0.822									0.53
5/2/2015	Angel Trujillo	33953737	34035418	81,681	0.081681	7.36	0.822									0.56
5/3/2015	Angel Trujillo	34035418	34113680	78,262	0.078262	7.31	0.822									0.54
5/4/2015	Angel Trujillo	34113680	34189482	75,802	0.075802	7.34	0.822									0.52
5/5/2015	Angel Trujillo	34189482	34268659	79,177	0.079177	7.56	0.822									0.54
5/6/2015	Angel Trujillo	34268659	34342535	73,876	0.073876	7.47	0.822									0.51
5/7/2015	Angel Trujillo	34342535	34419711	77,176	0.077176	7.56	0.822									0.53
5/8/2015	Angel Trujillo	34419711	34502742	83,031	0.083031	7.57	0.822									0.57
5/9/2015	Angel Trujillo	34502742	34579671	76,929	0.076929	7.34	0.822									0.53
5/10/2015	Angel Trujillo	34579671	34657335	77,664	0.077664	7.27	0.822									0.53
5/11/2015	Angel Trujillo	34657335	34732417	75,082	0.075082	7.24	0.822									0.51
5/12/2015	Angel Trujillo	34732417	34810281	77,864	0.077864	7.26	0.822									0.53
5/13/2015	Angel Trujillo	34810281	34889426	79,145	0.079145	7.27	0.822									0.54
5/14/2015	Angel Trujillo	34889426	34967851	78,425	0.078425	7.29	0.822									0.54
5/15/2015	Angel Trujillo	34967851	35045403	77,552	0.077552	7.29	0.822									0.53
5/16/2015	Angel Trujillo	35045403	35126749	81,346	0.081346	7.34	0.822									0.56
5/17/2015	Angel Trujillo	35126749	35200190	73,441	0.073441	7.29	0.822									0.50
5/18/2015	Angel Trujillo	35200190	35277372	77,182	0.077182	7.33	0.822									0.53
5/19/2015	Angel Trujillo	35277372	35354134	76,762	0.076762	7.06	0.822	<5.2	7.5		<0.010	<0.030	<0.010	<0.0002	<0.020	0.53
5/20/2015	Angel Trujillo	35354134	35431944	77,810	0.07781	7.34	0.822									0.53
5/21/2015	Angel Trujillo	35431944	35509187	77,243	0.077243	7.25	0.822									0.53
5/22/2015	Angel Trujillo	35509187	35588761	79,574	0.079574	7.30	0.822									0.55
5/23/2015	Angel Trujillo	35588761	35668683	79,922	0.079922	7.32	0.822									0.55
5/24/2015	Angel Trujillo	35668683	35747027	78,344	0.078344	7.29	0.822									0.54
5/25/2015	Angel Trujillo	35747027	35825211	78,184	0.078184	7.31	0.822									0.54
5/26/2015	Angel Trujillo	35825211	35899798	74,587	0.074587	7.32	0.822									0.51
5/27/2015	Angel Trujillo	35899798	35978906	79,108	0.0791	7.36	0.822									0.54
5/28/2015	Angel Trujillo	35978906	36053442	74,536	0.074536	7.31	0.822									0.51
5/29/2015	Angel Trujillo	36053442	36123270	69,828	0.069828	7.29	0.822									0.48
5/30/2015	Automode	36123270	36206041	82,771	0.082771	7.60	0.822									0.57
5/31/2015	Angel Trujillo	36206041	36288813	82,772	0.082772	7.59	0.822									0.57
TOTAL				**2,412,594**	**2.412594**			<5.2	7.5		<0.010	<0.030	<0.010	<0.0002	<0.020	
			High:	**83,031**											**High:**	**0.57**
			Average:	**77,826**											**Average:**	**0.53**

WW

JB95035

C

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell — Chain Of Custody / Analysis Request

AESI Ref:	42142.55886
COC#	087-WW-051915
Lab Proj # (SDG):	
Lab ID	ACTD
Site ID	HudsonCo
Lab Job #	HWINJM32815
Authorized User:	Honeywell
Test & Excel File Drive	Excel & Text File Order

Privileged & Confidential | Site Name: Hudson County | Phase: CS
EDD To: | Location of Site: Jersey City, NJ | Sampling Program: 087: JCIA

Sampling Co.: MACTEC
Client Contact: (name, co., address)
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962

Sampler: Frank Schroyer
PO #
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Full Report TAT: 28 Days

Preliminary Data To
Sample Receipt Acknowledgement To: Frank Schroyer
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)

Copyright AESI: Version 8.0 Unauthorized use strictly prohibited.

	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs: see attached special list					Sampling Method (code)	Lab Sample Numbers
											Units		Preservative	3	3	3	1	2	2	0	0	2						
1	087-WW			087-WWE-051915-A	5/19/2015	9:45	WW	WATER	REG	3	comp	N		X	X	X	X			X	X		1					C22
2	087-WW			087-WWE-051915-B	5/19/2015	10:00	WW	WATER	REG	5	grab	N						X	X				2					V1135
3	087-WW			087-WWI-051915	5/19/2015	10:10	WW	WATER	REG	3	grab	N										X	3					A26
4																												G42
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												

Relinquished by: 7.06 S.U. @ 9.4°C	Company: AMEC Foster Wheeler	Received by:	Company		Condition		Custody Seals Intact
Frank Schroyer	Date/Time: 5/19/15		Date/Time: 5/19/15 1340		Cooler Temp.		
Relinquished by:	Company	Received by:	Company: ACCUTEST		Condition		Custody Seals Intact
	Date/Time: 5/19/15 1650		Date/Time: 5/19/15 1650		Cooler Temp.	4.0°C-B	

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

ALL SAMPLES RECEIVED PRESERVED AS APPLICABLE

INITIAL ASESSMENT 2B

LABEL VERIFICATION NL

Accutest LabLink@857275 16:09 10-Jun-2015

Report of Analysis

Client Sample ID:	087-WWE-051915-A		
Lab Sample ID:	JB95035-1	**Date Sampled:**	05/19/15
Matrix:	AQ - Water	**Date Received:**	05/19/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.1

4

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	822	10	ug/l	1	05/20/15	05/21/15	BS	EPA 200.7 [2]	EPA 200.7 [3]
Copper	< 10	10	ug/l	1	05/20/15	05/21/15	BS	EPA 200.7 [2]	EPA 200.7 [3]
Lead [a]	< 30	30	ug/l	10	05/20/15	05/21/15	BS	EPA 200.7 [2]	EPA 200.7 [3]
Mercury	< 0.20	0.20	ug/l	1	05/21/15	05/21/15	MA	EPA 245.1 [1]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	05/20/15	05/21/15	BS	EPA 200.7 [2]	EPA 200.7 [3]
Zinc	< 20	20	ug/l	1	05/20/15	05/21/15	BS	EPA 200.7 [2]	EPA 200.7 [3]

(1) Instrument QC Batch: MA36709
(2) Instrument QC Batch: MA36710
(3) Prep QC Batch: MP86588
(4) Prep QC Batch: MP86636

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@857275 16:09 10-Jun-2015

Report of Analysis

Client Sample ID:	087-WWE-051915-A		
Lab Sample ID:	JB95035-1	**Date Sampled:**	05/19/15
Matrix:	AQ - Water	**Date Received:**	05/19/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.1

4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	05/21/15	KP	SM2540 D-11
pH [a]	7.09		su	1	05/19/15 18:51	AM	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@857275 16:09 10-Jun-2015

Report of Analysis

Client Sample ID:	087-WWE-051915-A		
Lab Sample ID:	JB95035-1A	**Date Sampled:**	05/19/15
Matrix:	AQ - Water	**Date Received:**	05/19/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.2 4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	7.5	5.0	mg/l	1	05/20/15 18:23	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@857275 16:09 10-Jun-2015

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-051915-B		
Lab Sample ID:	JB95035-2	**Date Sampled:**	05/19/15
Matrix:	AQ - Water	**Date Received:**	05/19/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	T208144.D	1	05/22/15	DC	n/a	n/a	VT8545
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	2.0	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	3.3	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.093	ug/l	
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.50	ug/l	
67-66-3	Chloroform	14.6	1.0	0.091	ug/l	
74-87-3	Chloromethane	ND	1.0	0.11	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.11	ug/l	
95-50-1	1,2-Dichlorobenzene	0.36	1.0	0.19	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.11	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.29	ug/l	
75-34-3	1,1-Dichloroethane	0.34	1.0	0.12	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/l	
156-59-2	cis-1,2-Dichloroethene	68.6	1.0	0.12	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.4	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.12	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.15	ug/l	
123-91-1	1,4-Dioxane	ND	130	20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.42	1.0	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@857275 16:09 10-Jun-2015

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-051915-B		
Lab Sample ID:	JB95035-2	**Date Sampled:**	05/19/15
Matrix:	AQ - Water	**Date Received:**	05/19/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	40.7	1.0	0.12	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	101%		72-125%
2037-26-5	Toluene-D8 (SUR)	99%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	99%		74-115%
1868-53-7	Dibromofluoromethane (S)	103%		79-120%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@857275 16:09 10-Jun-2015

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-051915-B		
Lab Sample ID:	JB95035-2	**Date Sampled:**	05/19/15
Matrix:	AQ - Water	**Date Received:**	05/19/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.2	5.2	mg/l	1	05/21/15 09:15	BM	EPA 1664A

RL = Reporting Limit

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending June 2015

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending June 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on May 27, 2015.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on May 27, 2015.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Contractor. Submitted to all Parties on July 2, 2015.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor. Submitted to all Parties on June 18, 2015.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groudnwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Contractor only.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Contractor only.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on June 22, 2015.

SA-6 North/South Field Change Log - Month Ending June 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on June 22, 2015.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

SA-6 AND SA-7 COMBINED PROGRESS REPORT

AUGUST 17, 2015

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

August 14, 2015

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2015-07

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from July 1 – July 31, 2015.

Per prior discussion, Honeywell has included a new section pertaining to liner quality assurance.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: July 2015 SA-6/7 Combined Monthly Progress Report No. 2015-07

cc: Joe Clifford - Amec Foster Wheeler (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP

Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2015-07

Project SA-6 & 7 Remediation

July 2015

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
07/02/15	Upload to LBG SharePoint Site: DCB 3S Surcharge Pile Geometry on East End Study Area 6 South Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
07/08/15	Discharge to Groundwater Permit-By-Rule Authorization Request Study Area 6 North, Site 087 PI No. G000008710 Jersey City, New Jersey	New Jersey Department of Environmental Protection Bureau of Case Assignment & Initial Notice Site Remediation Program
7/10/2015	Summary of Interim L-Well Sampling Study Area 6 South, Site 124 Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
07/13/15	Droyers Cove Beneficial Environmental Project 100% Design Report Study Area 7 Sediment Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
07/14/15	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2015-06	Honorable Robert G. Torricelli Office of the Special Master
07/14/15	Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
07/20/15	Summary of Proposed In-Situ Injection of Calcium Polysulfide for Treatment of Chromium Impacted Soils (Addendum) Study Area 6 North Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
07/21/15	Surcharge Monitoring Plan Monthly Report No. 13 Study Area 6 North and South Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master

Date	Submittal/Meeting	Recipient
07/21/15	Arnold & Porter Correspondence: Study Area 6 North In-Situ Treatment -- Response to Plaintiffs' Correspondence of July 1, 2015 Study Area 6 North Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
07/21/15	Special Master Conference Call	N/A
07/29/15	Application for General Permit 24 Droyers Cove Beneficial Environmental Project Study Area 7, Sediment Remedy Jersey City, New Jersey	New Jersey Department of Environmental Protection Division of Land Use Regulation

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending				
	7/5/15	7/12/15	7/19/15	7/26/15	8/2/15
Construction Management (AMEC)	9	10	10	10	11
Engineering (AMEC)	1	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1	1
Security (Securitas)	3	3	3	3	3
Entact/Subcontractors	44	39	38	46	49
Arecon/US Ecology Subcontractors	1	0	0	0	0
Evoqua	1	1	1	1	1
B&B Drilling	2	2	2	2	0
TOTAL STAFF	62	57	56	64	66

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected July PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Verizon completed relocating overhead communication lines to the North Bound side of Route 440.

- On July 6 through 8, Cornerstone personnel completed S-3 Mass Removal Injection Event No. 22 in Injection Well 088-IW-01.
- On July17, Summit Drilling conducted soil sampling to a depth of 40 feet at the proposed PW-3 location on the Difeo car dealership property. The drill rig malfunctioned during drilling operations resulting in a demobilization and rescheduling of the work activities.
- Continued screening of Celgene material for use as protective cover soils above geosynthetics.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on July 16, 2015.
- PVSC collected annual compliance sample from the GWTP and the CWTP.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending				
	7/5/15	7/12/15	7/19/15	7/26/15	8/2/15
Avg. Gallons Treated & Discharged (per day)	76,308	78,678	78,254	77,495	77,502
Average Flow (gpm) for Operating Period	54	54	54	53	54
Avg. Hours of Plant Operation	24	24	24	24	24
GWTP Influent Tanks (gal.)	11,616	7,838	9,276	8,606	7,882

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Completion of the EA-8 excavation is pending post excavation sampling results.
- Lindie Griffith completed installation of drilled and driven soldier piles associated with temporary shoring for EA-2 and EA-3 along Route 440 frontage.
- Completed installation of well points for dewatering EA-5 on SA-6 North.
- Continued to haul screened historic fill from N1 and place it as backfill in the west side of SA-6 South backfill area.
- Continued relocating soils from Area 3S to the SA-6 North Cap Area.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/FCI	Roll-off	Canada	Stablex	WWTP Filter Cake	1	23	15.4
Entact/Horwith	Tri-axle Dump	PA Transload	US Ecology	>1,000 mg/kg soils	25	21.63	540.78

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Excavation Completed	Excavation Areas EA-7 and EA-8 Volume Excavated - Total for Reporting Period: 0 CY / Total to Date: 2,843.58 CY
Backfill in Progress	Historic Fill – SA-6 South western backfill area.

- Screened historic Fill was transferred from 1N surcharge area and placed as backfill in SA-6 South. A total of 75 loads, totaling approximately 1,500 cubic yards was placed as backfill in SA-6 South during the reporting period.
- Screened Celgene material was placed as protective cover soil in the SA-6 South cap area. A total of 17 loads, totaling approximately 383 cubic yards was placed as backfill in SA-6 South during the reporting period.

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging and offloading of surcharge material is complete.
- Area 3S: Surcharging and offloading of surcharge material is complete.
- Area 1N: Continued off-loading of remaining screened historic fill.
- Area 2N: Surcharging is 100% complete. Offloading not yet scheduled by contractor.
- Area 3N: Completed installation of surcharge monitoring instrumentation.
- Area 4N: Completed installation of surcharge monitoring instrumentation.

F. SHEET PILE OPERATIONS

- Completed pre-trenching for vertical hydraulic barrier wall alignment along Route 440.
- Began installation of temporary sheet pile along Route 440.
- Continued installation of the vertical hydraulic barrier wall east of the Trash Pit and along Route 440 from STA 0+00 to STA 3+10 (Completed on August 5th 2015). Vibration monitoring was performed during driving activities.

G. CAPPING OPERATIONS

- A total of 121,511 sq. ft. of liner totaling 35% of the total cap area, was deployed during the reporting period.
- Began installation of geosynthetic cap components to include placement of the geocomposite gas venting layer, 60 mil geomembrane liner, and geocomposite Drainage layer.
- Continued general liner subgrade preparation in Area 2S and 3S.
- Continued cutting hydraulic barrier sheets to final elevation in SA-6 South Open Space Area.
- Completed installation of piezometers associated with the SA-6 South Open Space Area.
- Continued removing asphalt on top of the SCB wall and smooth coating as necessary for geosynthetics installation detail.
- Began installation of gas vent pipe installation.
- Continued delivery and receiving inspections of geosynthetic cap materials.

H. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	6/30/2016	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014, 1 yr. extension granted 10/6/14	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15	12/2/15	Pending

I. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete excavation of Area EA-8 pending post excavation sampling results.
- Begin excavation of Area EA-4 and EA-5.
- Complete installation of the vertical hydraulic barrier wall within the Trash Pit
- Begin installation of dewatering wells associated with the SA-6 North Excavation Areas EA-2 and EA-3.
- Continue liner subgrade and utility corridor preparation activities on SA-6 South.
- Continue screening Celgene material for use as liner protective cover soils.
- Continue Celgene material screening activities.
- Continue dewatering and storm-water management activities.
- Complete installation of Sonic Boring associated with planned PW-3.
- Continue SWPPP inspections.
- Conduct S-3 Mass Removal injection Event No. 23 in well 088-IW-03.
- Complete soil sieve analyses from the PW-3 location on Difeo property.
- Complete PVSC Monthly compliance sampling.
- Implement the in-situ plan for the SA-6 North Treatment Area 10 proximate to force main.
- Continue to work with owner on access for the planned PW-3 extraction well/trench installation.

ATTACHMENTS:

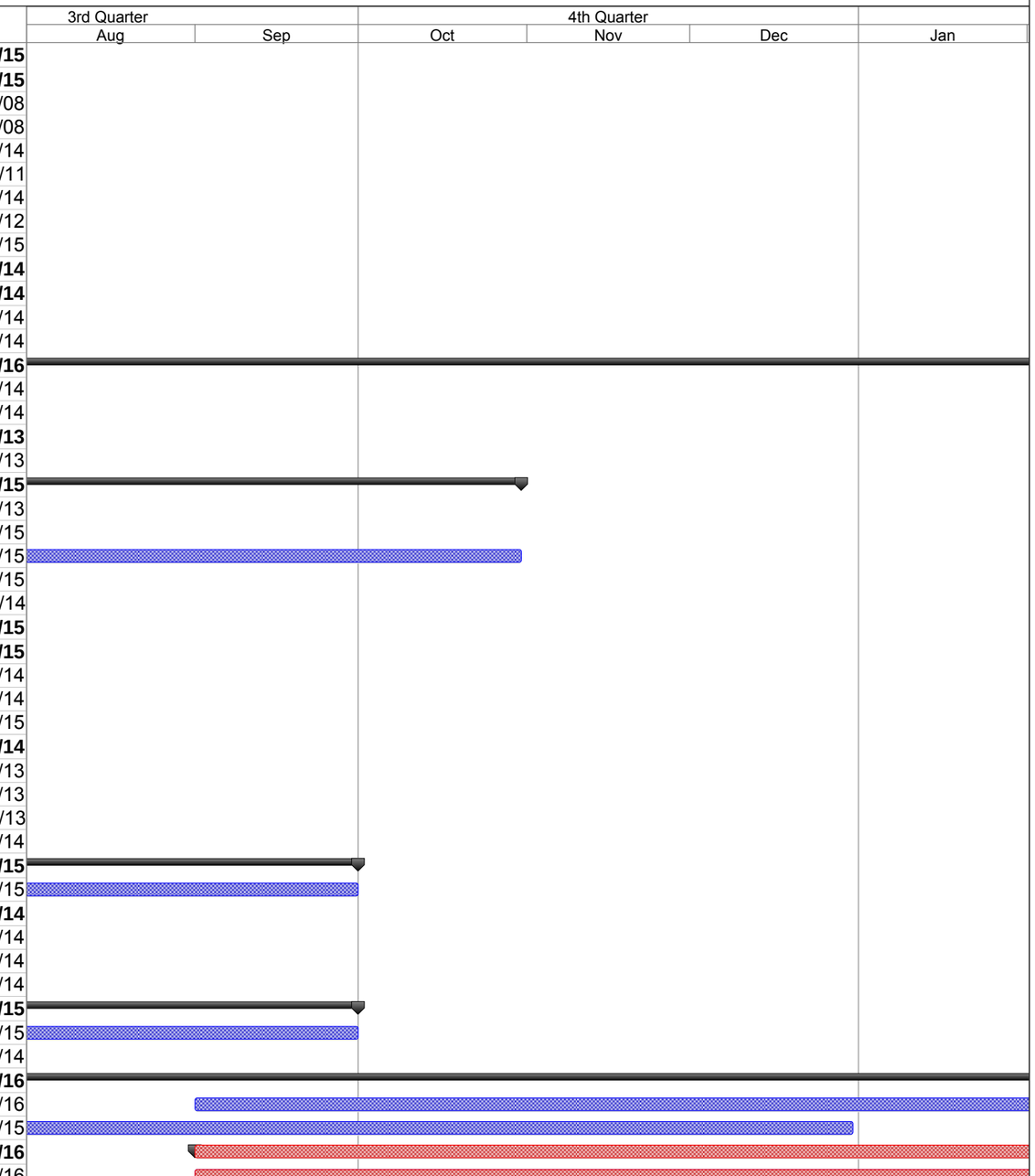
1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
4. *Dewatering Operations Update (not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
7. Perimeter Pools Update
8. Groundwater Quality Data (*conducted quarterly, not included in this reporting period)*
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. Sheet Pile Update
11. Capping Update
    - SA-6 South Cap Subgrade Progress Map
    - Repair Log
    - Non-conformance Log
    - Subgrade Approval Forms
    - QA Photo Log
12. Weekly SWPPP Reports
13. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (June 2015)
14. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**1/4/08**	**3/30/15**
18	**JCIA/JCDPW Relocation**	**1735 days**	**8/11/08**	**3/30/15**
19	Develop Site Relocation Master Plan	38 days	8/11/08	10/1/08
20	Submit Site Relocation Master Plan	0 days	10/1/08	10/1/08
21	JC Construction of New Facilities	1309 days	6/2/09	6/2/14
22	Relocation Contractor Procurement	392 days	4/15/10	10/13/11
23	JCIA and JCDPW Relocation	753 days	10/17/11	8/29/14
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	12/12/11	4/30/12
24a	Demolition of JCIA Structures	151 days	9/1/14	3/30/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**7/11/08**	**4/30/14**
57	**SA-6 South Relocation**	**616 days**	**12/26/11**	**4/30/14**
58	New GWTP Construction Completion	502 days	3/5/12	1/30/14
59	Demolition of 80 Kellogg	857 days	12/26/11	4/30/14
60	**SA-6 North/South Field Implementation**	**838 days**	**3/1/13**	**5/16/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	6/17/13	12/31/14
60b	SA-6S (Site 163) In-Situ Treatment	294 days	11/15/13	12/31/14
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**3/1/13**	**6/28/13**
61a	Mobilization	87 days	3/1/13	6/28/13
62	**Surcharge Install/Instrumentation**	**620 days**	**6/17/13**	**10/30/15**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	6/17/13	12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	6/2/14	2/27/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	3/2/15	10/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	10/20/14	6/30/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	3/3/14	11/28/14
63	**Barrier Wall Install**	**489 days**	**6/17/13**	**4/30/15**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**12/2/13**	**4/30/15**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	12/2/13	2/14/14
63c	SA-6N Stations 23+38 to 14+25	90 days	2/17/14	6/20/14
63d	SA-6N Stations 14+25 to 0+00	224 days	6/23/14	4/30/15
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**6/17/13**	**5/30/14**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	6/17/13	8/15/13
63h	SA-6S Stations 1+54 to 8+37	7 days	8/16/13	8/26/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	10/3/13	11/8/13
63j	SA-6S Stations 8+60 to 14+87	145 days	11/11/13	5/30/14
64	**Excavation**	**507 days**	**10/22/13**	**9/30/15**
64a	SA 6N Excavation	218 days	12/1/14	9/30/15
64b	**SA 6S Excavation**	**226 days**	**10/22/13**	**9/2/14**
64c	SA-6S Excavation of Cells 1 - 25	53 days	10/22/13	1/2/14
64d	SA-6S Excavation of Cells 26 - 60	90 days	1/3/14	5/8/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	5/9/14	9/2/14
65	**Backfill**	**493 days**	**11/11/13**	**9/30/15**
65a	SA 6N Backfill	218 days	12/1/14	9/30/15
65b	SA 6S Backfill	232 days	11/11/13	9/30/14
66	**Capping and Cover Soil Placement**	**315 days**	**12/1/14**	**2/12/16**
66a	SA 6N Capping and Cover Soil Placement	119 days	9/1/15	2/12/16
66b	SA 6S Capping and Cover Soil Placement	283 days	12/1/14	12/30/15
67	**Restoration**	**164 days**	**9/1/15**	**4/15/16**
67a	Restoration	164 days	9/1/15	4/15/16



Project: SA-6 Remediation Schedule
Revision 3
Date: 7/31/15

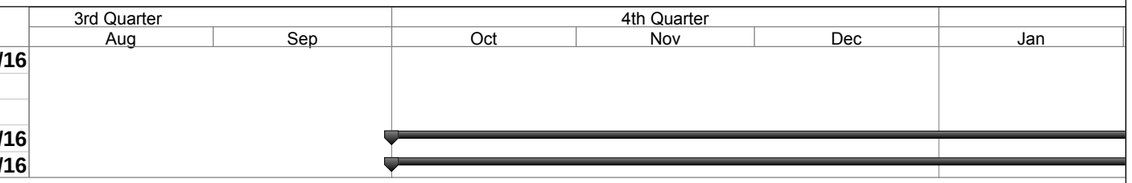
Task | Milestone | Summary | Critical

Note: The schedule will be revised following completion of the JCDPW relocation.

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
68	**Demobilization**	**21 days**	**4/18/16**	**5/16/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line			
69	**SA-6 North Project Closeout**	**310 days**	**10/1/15**	**12/7/16**
75	**SA-6 South Project Closeout**	**310 days**	**10/1/15**	**12/7/16**



Project: SA-6 Remediation Schedule
Revision 3
Date: 7/31/15

Task | Milestone ◆ | Summary | Critical

Note: The schedule will be revised following completion of the JCDPW relocation.

Attachment 2: Site Photographs

Site Photograph 1: Fine grading of soils along slope of open space area Kellogg Street properties.

Site Photograph 2: Fine grading of soils in flatter open space area Kellogg Street Properties.

Site Photograph 3: Finishing the concrete barrier wall with smooth coat.

Site Photograph 4: Fusion Welding liner panels in Area 1S.

Site Photograph 5: Loading materials at Jersey City properties for offsite disposal.

Site Photograph 6: Onsite screening of soils to remove gravel.

Site Photograph 7: Sewing the seam between venting layer panels.

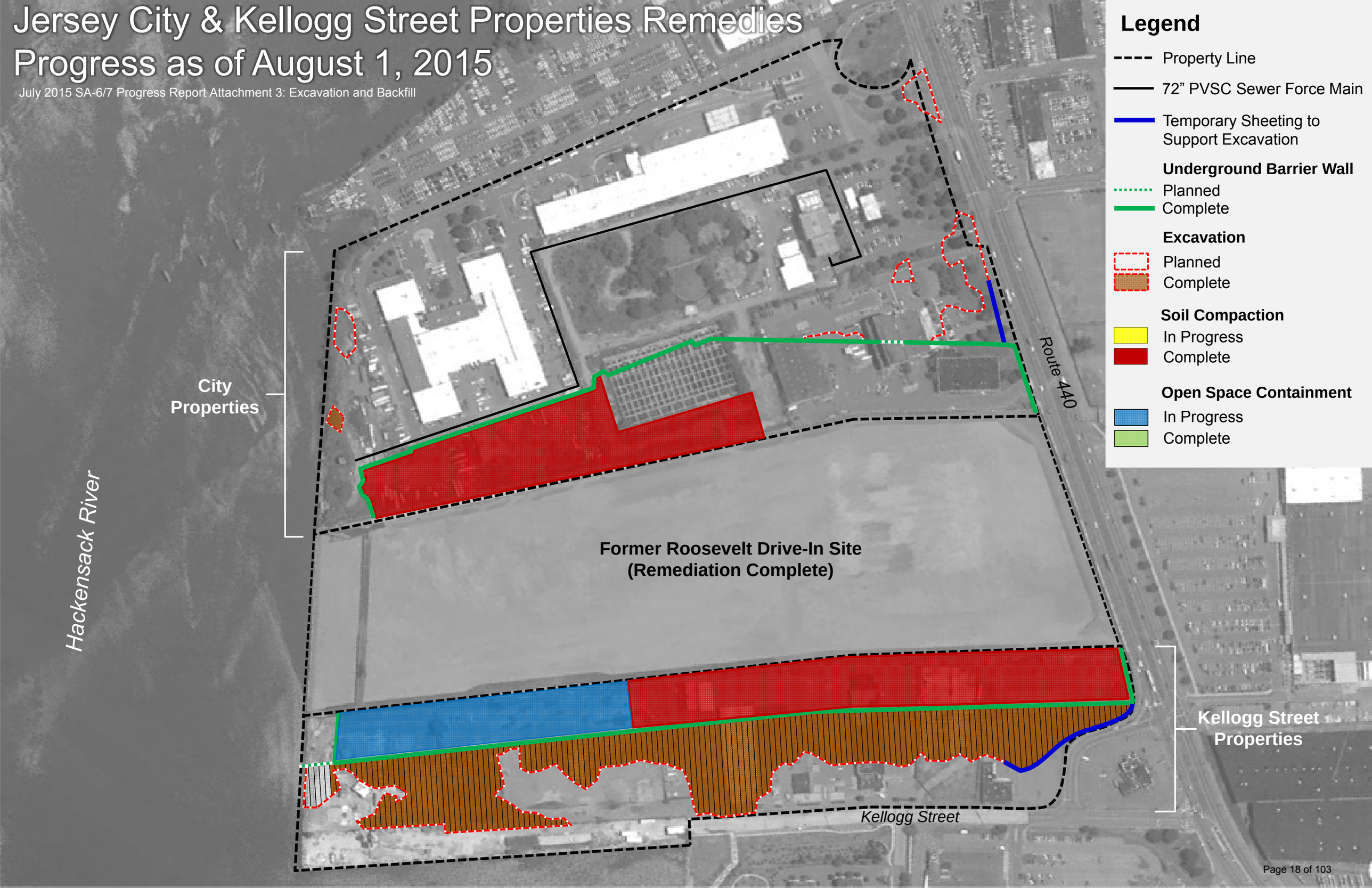
Site Photograph 8: Specialty equipment installs shoring for utility protection.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of August 1, 2015

July 2015 SA-6/7 Progress Report Attachment 3: Excavation and Backfill



Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
05/29/15	10:00	14:15	4:15	32,322.85	32,377.97	55,120	32,377,520	
06/01/15	9:00	15:45	6:45	32,377.97	32,528.67	150,700	32,528,220	
06/02/15	7:00	14:00	7:00	32,528.67	32,620.67	92,000	32,620,220	
06/04/15	6:30	14:00	7:30	32,620.67	32,756.41	135,740	32,755,960	PVSC Compliance Sample Collected
06/05/15	6:30	13:30	7:00	32,756.41	32,833.26	76,850	32,832,810	
06/08/15	7:00	14:00	7:00	32,833.26	32,958.71	125,450	32,958,260	
06/10/15	10:00	16:00	6:00	32,958.71	33,019.45	60,740	33,019,000	
06/11/15	7:00	16:00	9:00	33,019.45	33,086.57	67,120	33,086,120	
06/12/15	6:30	12:00	5:30	33,086.57	33,146.46	59,890	33,146,010	
06/15/15	6:30	12:15	5:45	33,146.46	33,183.12	36,660	33,182,670	
06/16/15	7:00	14:15	7:15	33,183.12	33,226.73	43,610	33,226,280	
06/17/15	6:30	16:00	9:30	33,226.73	33,276.97	50,240	33,276,520	
06/18/15	6:30	14:30	8:00	33,276.97	33,338.90	61,930	33,338,450	
06/19/15	6:30	14:00	7:30	33,338.90	33,439.40	100,500	33,438,950	
06/21/15	9:30	13:30	4:00	33,439.40	33,485.10	45,700	33,484,650	
06/22/15	6:30	14:00	7:30	33,485.10	33,567.88	82,780	33,567,430	
06/23/15	11:30	14:00	2:30	33,567.88	33,609.80	41,920	33,609,350	
06/24/15	9:00	13:30	4:30	33,609.80	33,646.89	37,090	33,646,440	
06/26/15	8:00	14:00	6:00	33,646.89	33,720.85	73,960	33,720,400	
06/29/15	7:00	14:30	7:30	33,720.85	33,738.82	17,970	33,738,370	
06/30/15	7:00	13:00	6:00	33,738.82	33,791.38	52,560	33,790,930	
07/01/15	6:30	14:00	7:30	33,791.38	33,923.97	132,590	33,923,520	PVSC Compliance Sample Collected
07/02/15	6:30	13:00	6:30	33,923.97	34,000.38	76,410	33,999,930	
07/06/15	7:00	13:30	6:30	34,000.38	34,066.66	66,280	34,066,210	
07/07/15	8:00	14:00	6:00	34,066.66	34,125.32	58,660	34,124,870	
07/08/15	6:30	13:30	7:00	34,125.32	34,199.65	74,330	34,199,200	
07/09/15	6:30	13:30	7:00	34,199.65	34,252.75	53,100	34,252,300	
07/10/15	6:30	12:00	5:30	34,252.75	34,298.94	46,190	34,245,390	
07/13/15	7:00	11:45	4:45	34,298.94	34,325.94	27,000	34,226,200	
07/14/15	6:30	12:30	6:00	34,325.94	34,396.15	70,210	34,269,410	
07/15/15	7:00	14:00	7:00	34,396.15	34,474.85	78,700	34,331,000	
07/16/15	6:30	13:00	6:30	34,474.85	34,526.84	51,990	34,382,990	
07/17/15	12:00	14:00	2:00	34,526.84	34,556.84	30,000	34,412,990	
07/21/15	6:30	14:30	8:00	34,556.84	34,653.22	96,380	34,509,370	
07/23/15	6:30	13:30	7:00	34,653.22	34,690.24	37,020	34,546,390	
07/24/15	10:30	13:30	3:00	34,690.24	34,702.10	11,860	34,558,250	
07/27/15	6:30	14:00	7:30	34,702.10	34,790.64	88,540	34,646,790	
07/31/15	6:30	14:30	8:00	34,790.64	34,908.04	117,400	34,764,190	

Notes: Previous information is truncated. Only last month and current month information is provided.

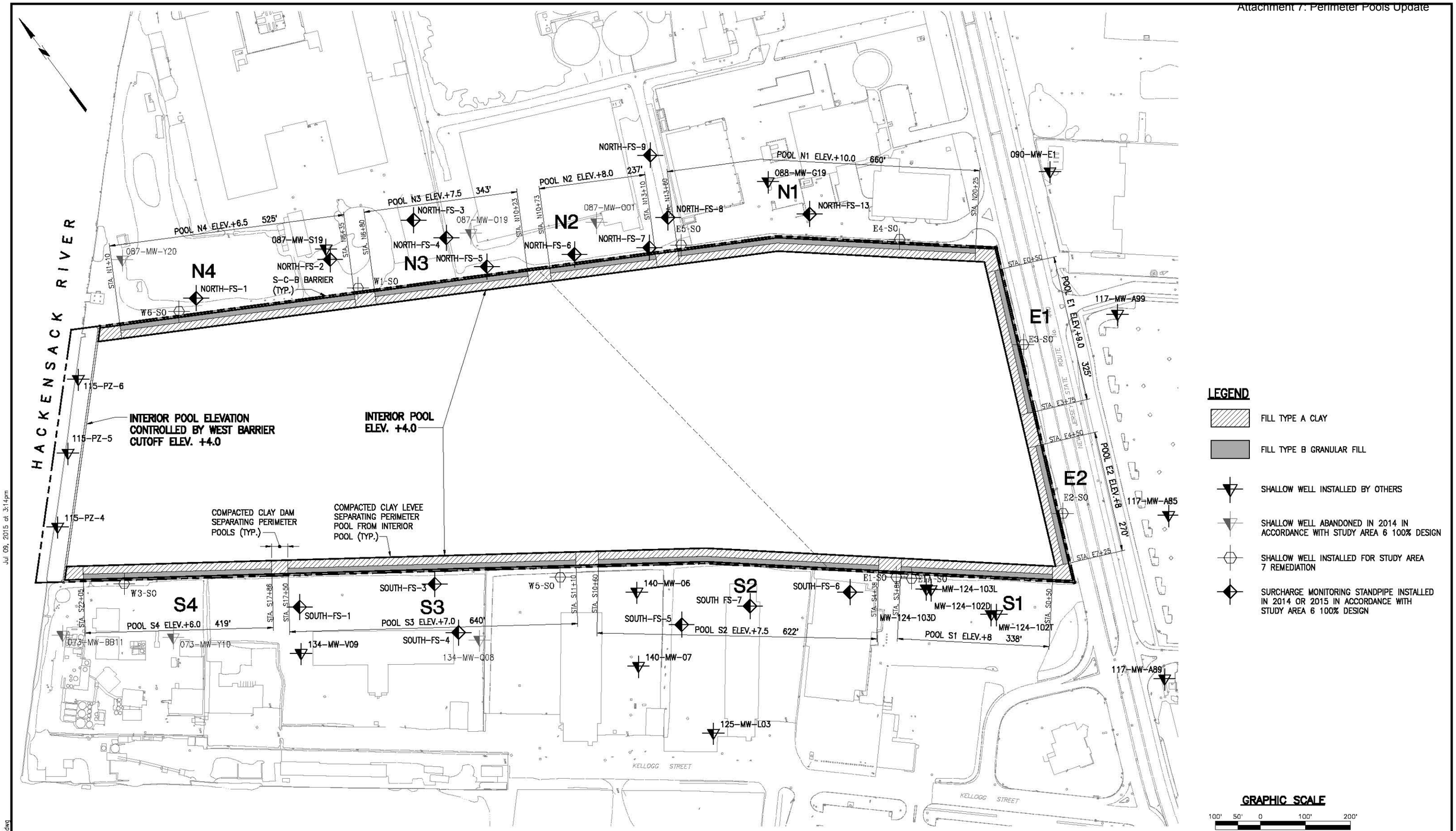
Attachment 6: Backfill Analytical Data

SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
EA-8	<20	087-EA8-20-a,b	1500	087-EA8-20-a1	6/24/2015	7:35	<2.3	*		
				087-EA8-20-a2	6/24/2015	7:40	<2.3	*		
				087-EA8-20-a3	6/24/2015	7:45	<1.9	*		
				087-EA8-20-a4	6/24/2015	7:50	<1.9	*		
				087-EA8-20-b1	6/24/2015	7:55	<2.1	*		
				087-EA8-20-b2	6/24/2015	8:00	0.78	*		
				087-EA8-20-b3	6/24/2015	8:05	2.10	*		
				087-EA8-20-b4	6/24/2015	8:10	<2.0	*		
EA-8	<20	087-EA8-20-c (bermed / trench material)	250	087-EA8-20-c1	6/24/2015	11:40	<1.9	*		
				087-EA8-20-c2	6/24/2015	11:45	<2.1	*		
				087-EA8-20-c3	6/24/2015	11:50	<2.1	*		
				087-EA8-20-c4	6/24/2015	11:55	<1.9	*		
EA7	<20	087-EA7-20-a (bermed/trench material)	900	087-EA7-20-a1	6/26/2015	13:15	<1.8	*		
				087-EA7-20-a2	6/26/2015	13:20	<1.4	*		
				087-EA7-20-a3	6/26/2015	13:25	<1.4	*		
				087-EA7-20-a4	6/26/2015	13:30	5.50	*		
EA7	<20	087-EA7-20-b West Pile	600	087-EA7-20-b1	7/14/2015	8:52	4:48	*		
				087-EA7-20-b2	7/14/2015	8:56	2.6	*		
				087-EA7-20-b3	7/14/2015	9:00	4.3	*		
				087-EA7-20-b4	7/14/2015	9:03	2.80	*		
EA7	<20	087-EA7-20-c East Pile	200	087-EA7-20-c1	7/14/2015	9:06	<.47	*		
				087-EA7-20-c2	7/14/2015	9:11	<1.6	*		

*Material currently stockpiled. Pending final placement.
**Waiting on final results from the laboratory.

Attachment 7: Perimeter Pools Update



IN PROGRESS

06-10-2015

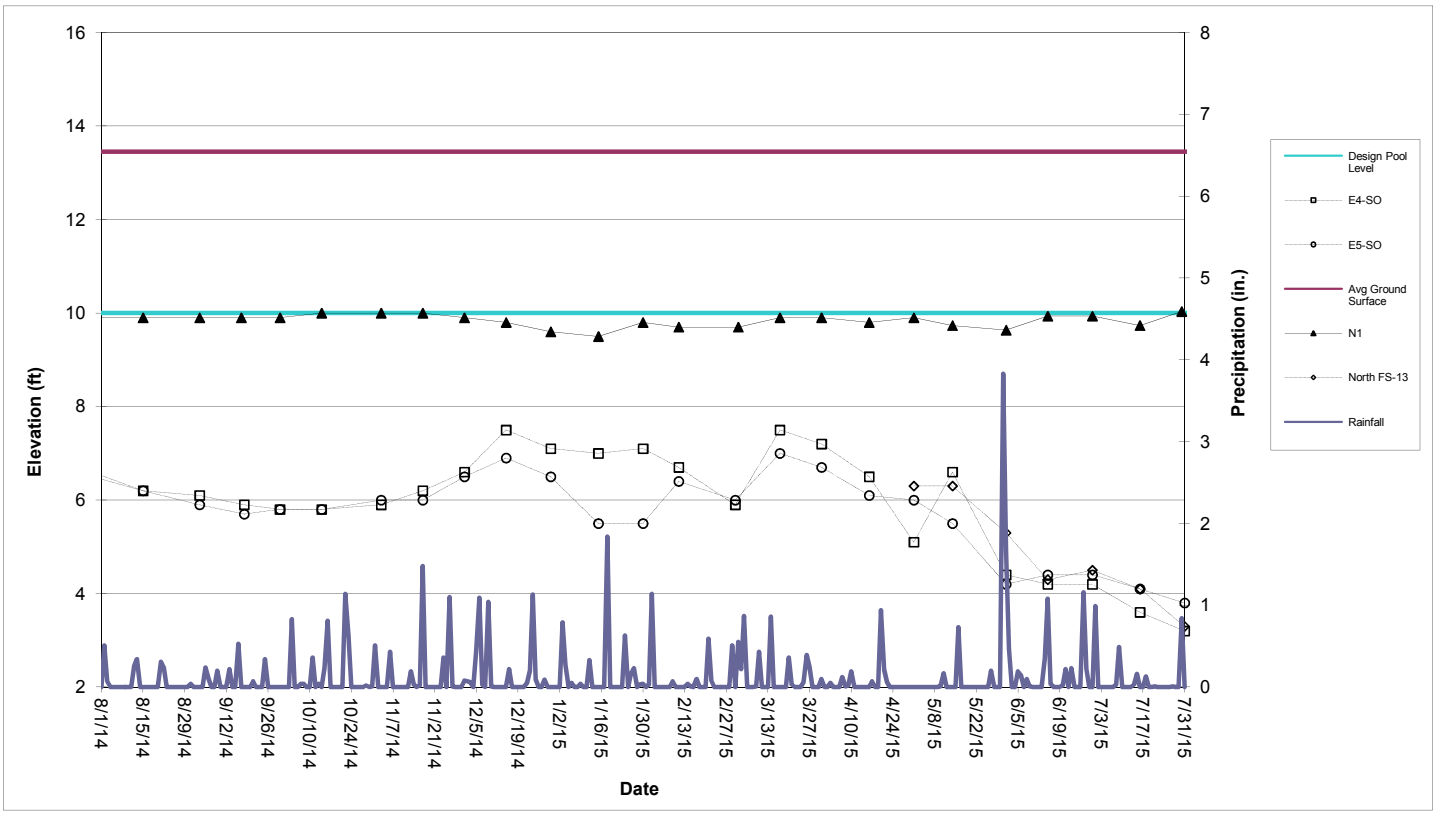
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

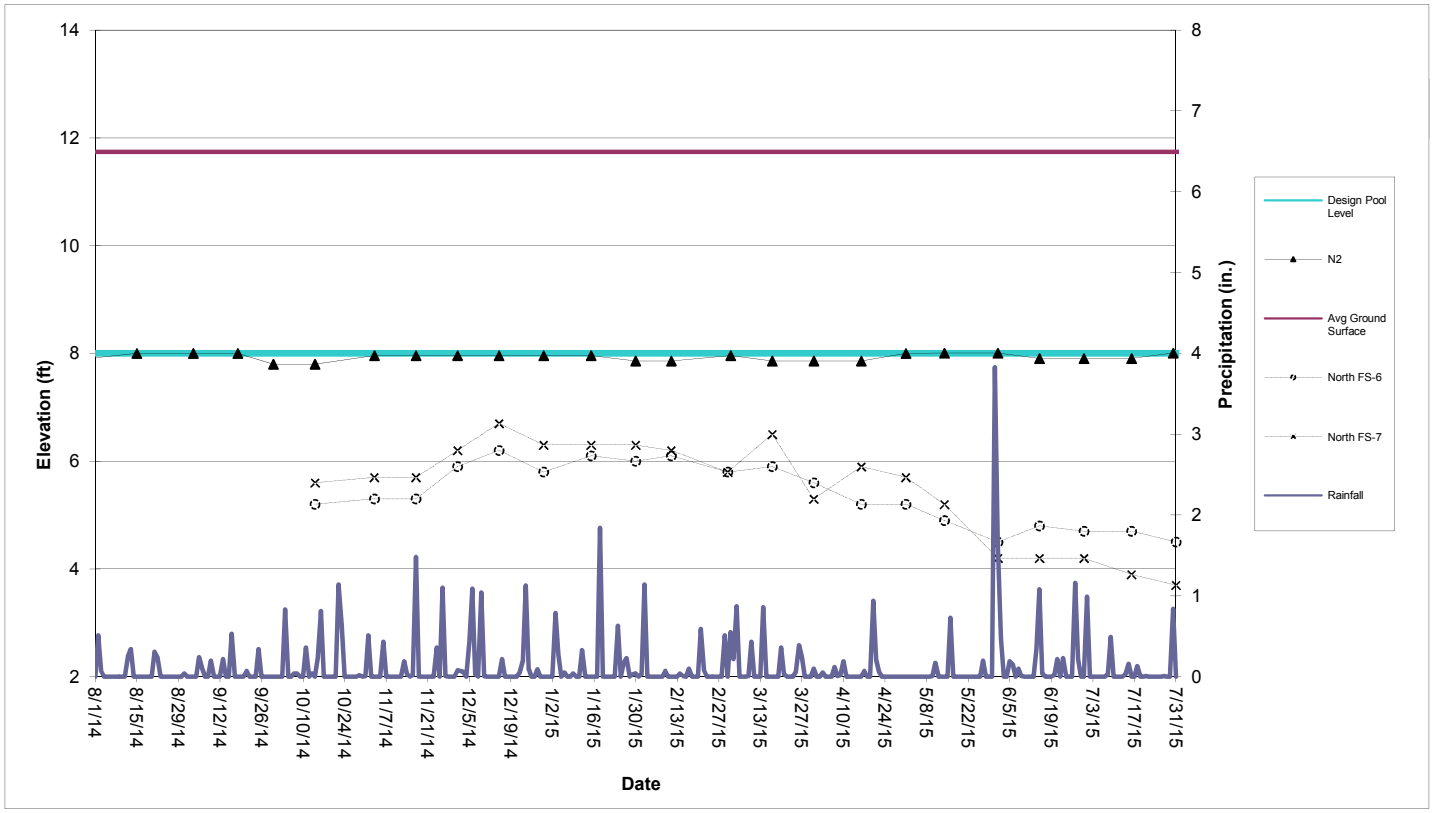
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

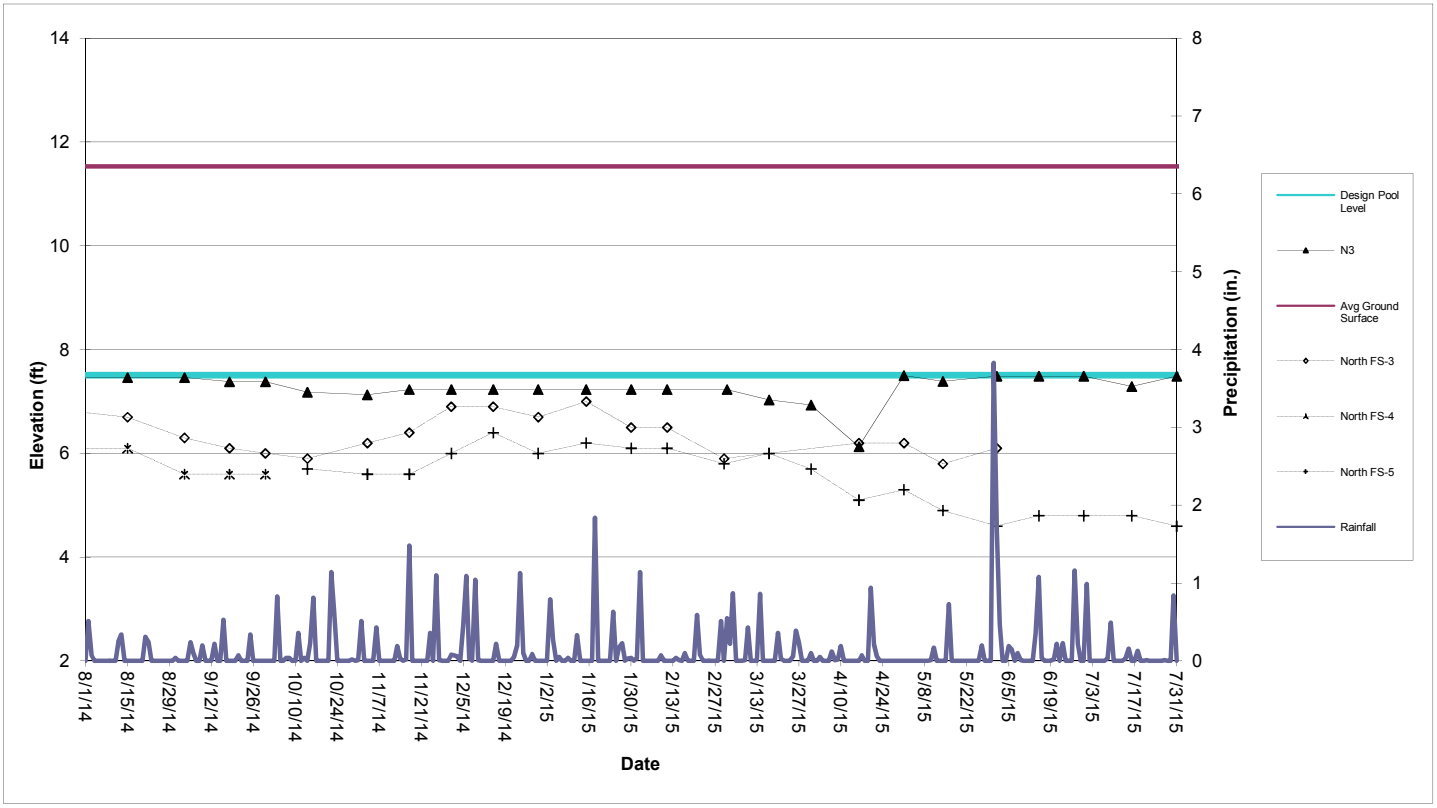
Jul 09, 2015 at 3:14pm
G:\DWGS\102\10210\Dewatering\PP-1.dwg
bboscaino



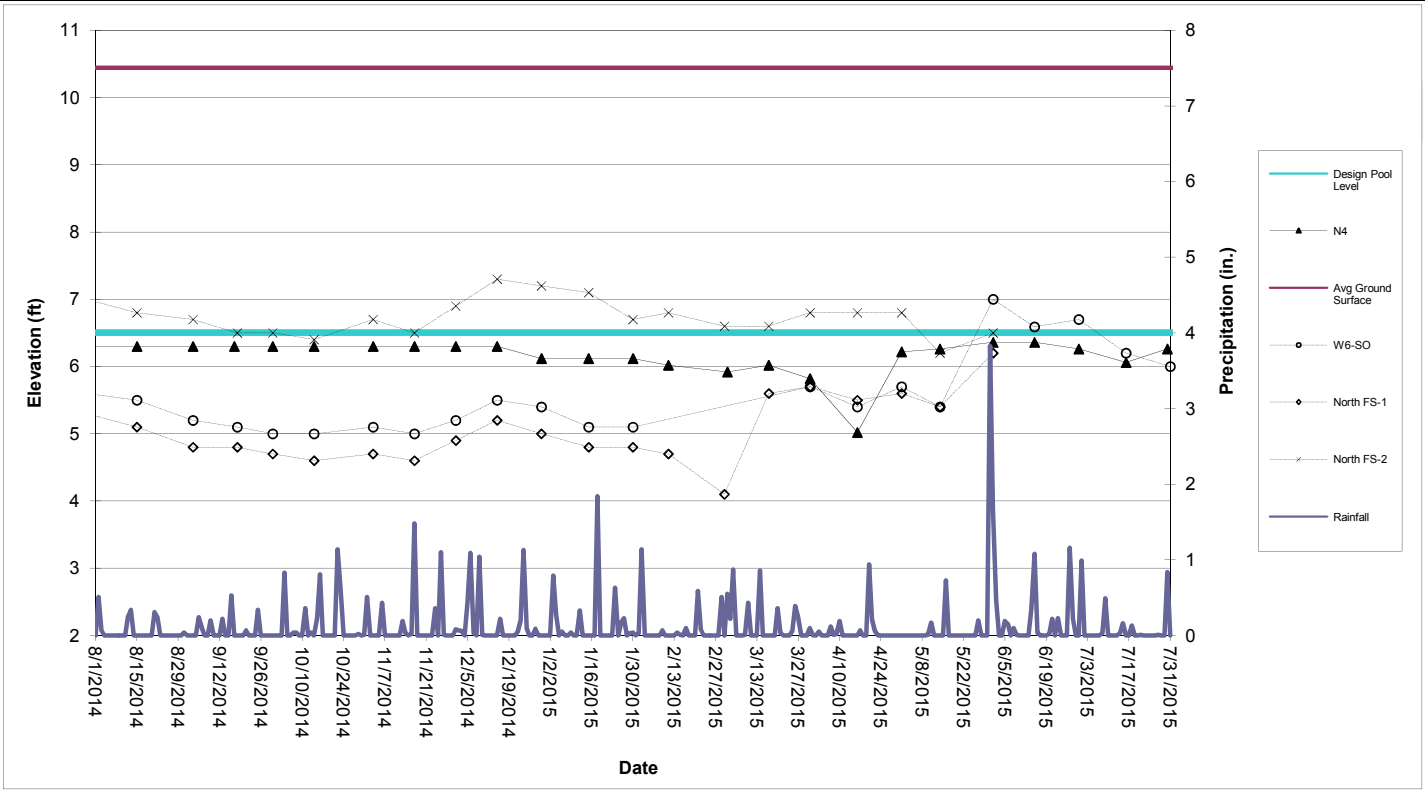
Perimeter Pool N1 (Sta. N13+60 to N20+25)



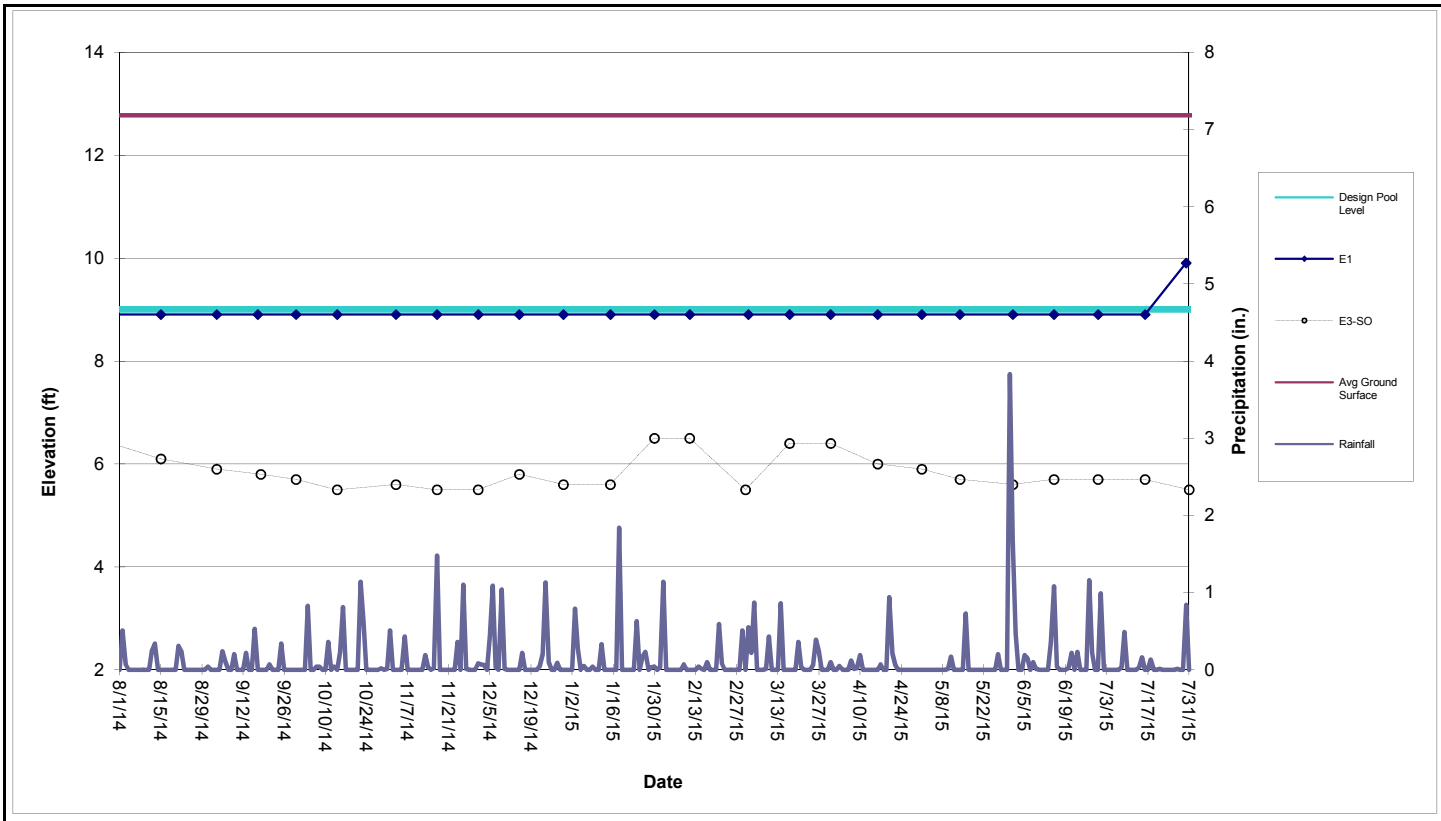
Perimeter Pool N2 (Sta. N10+73 to N13+10)



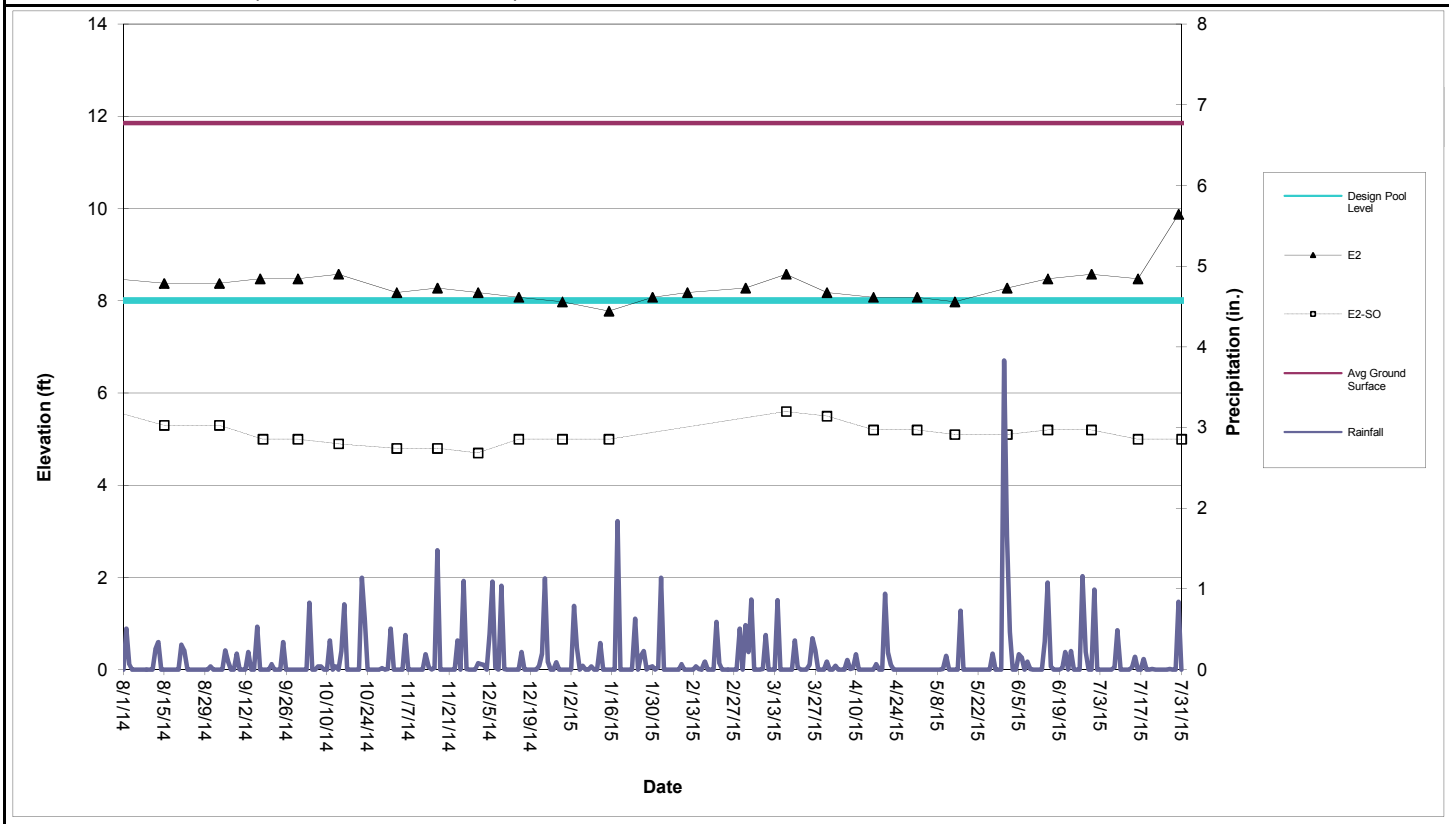
Perimeter Pool N3 (Sta. N6+80 to N10+23)



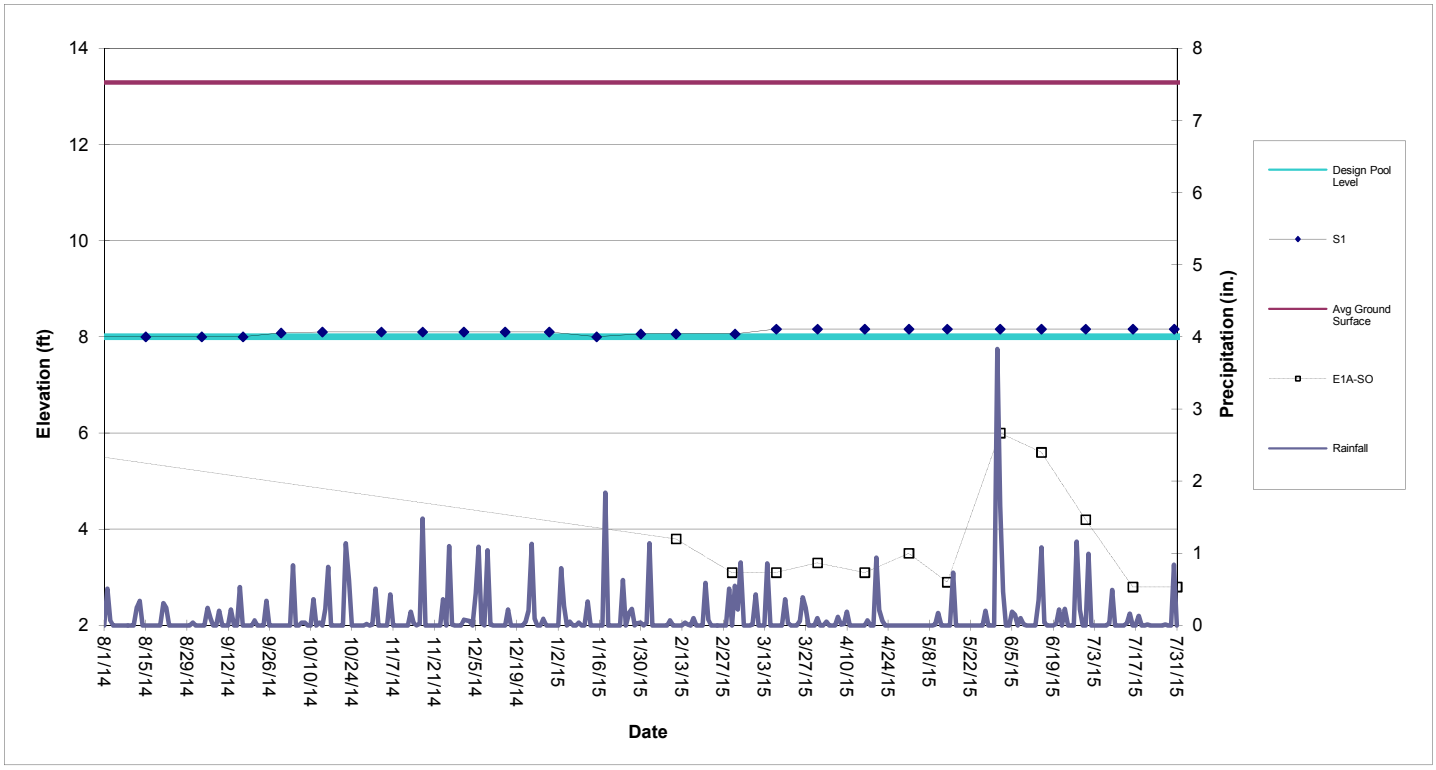
Perimeter Pool N4 (Sta. N6+80 to N10+23)



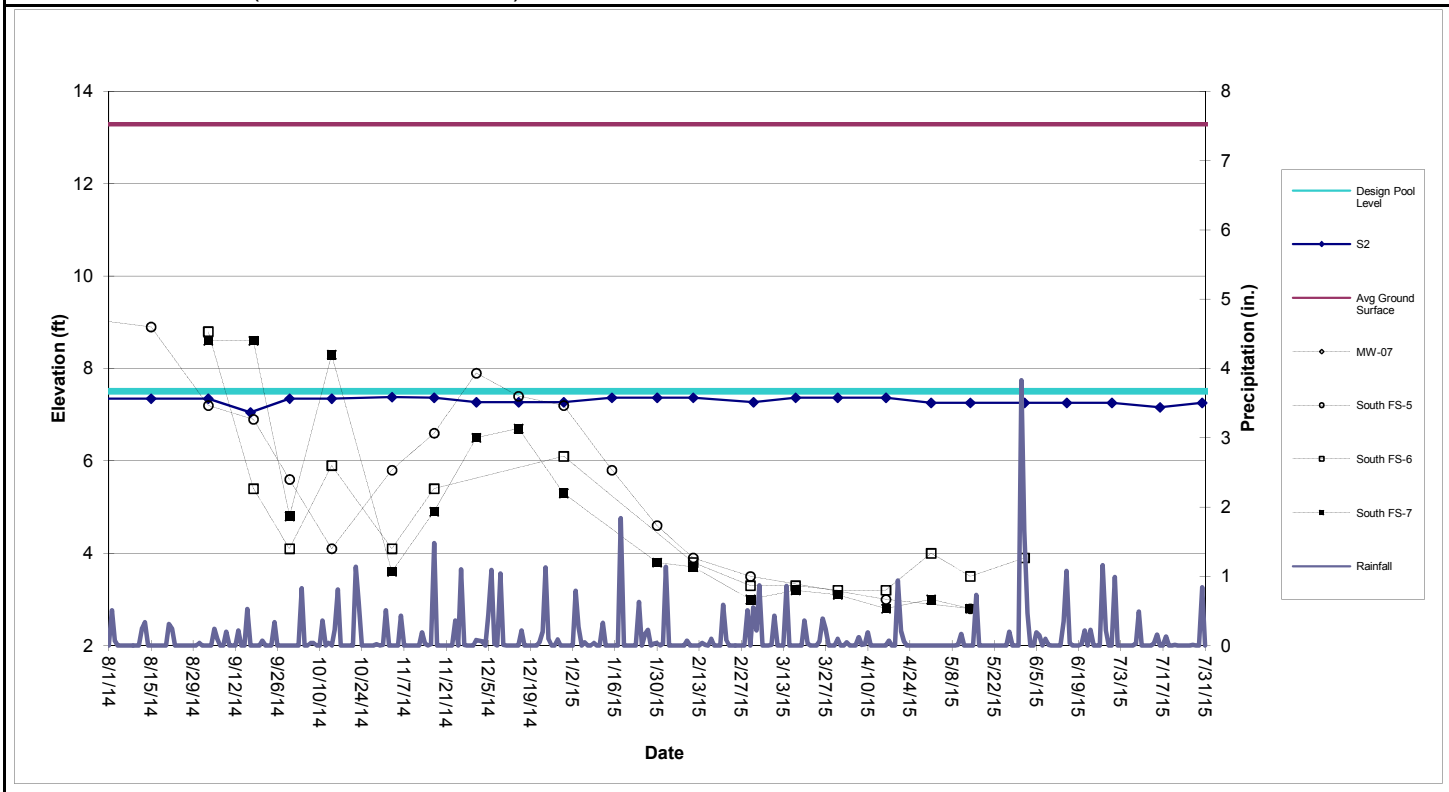
Perimeter Pool E1 (Sta. E0+50 to E3+75)



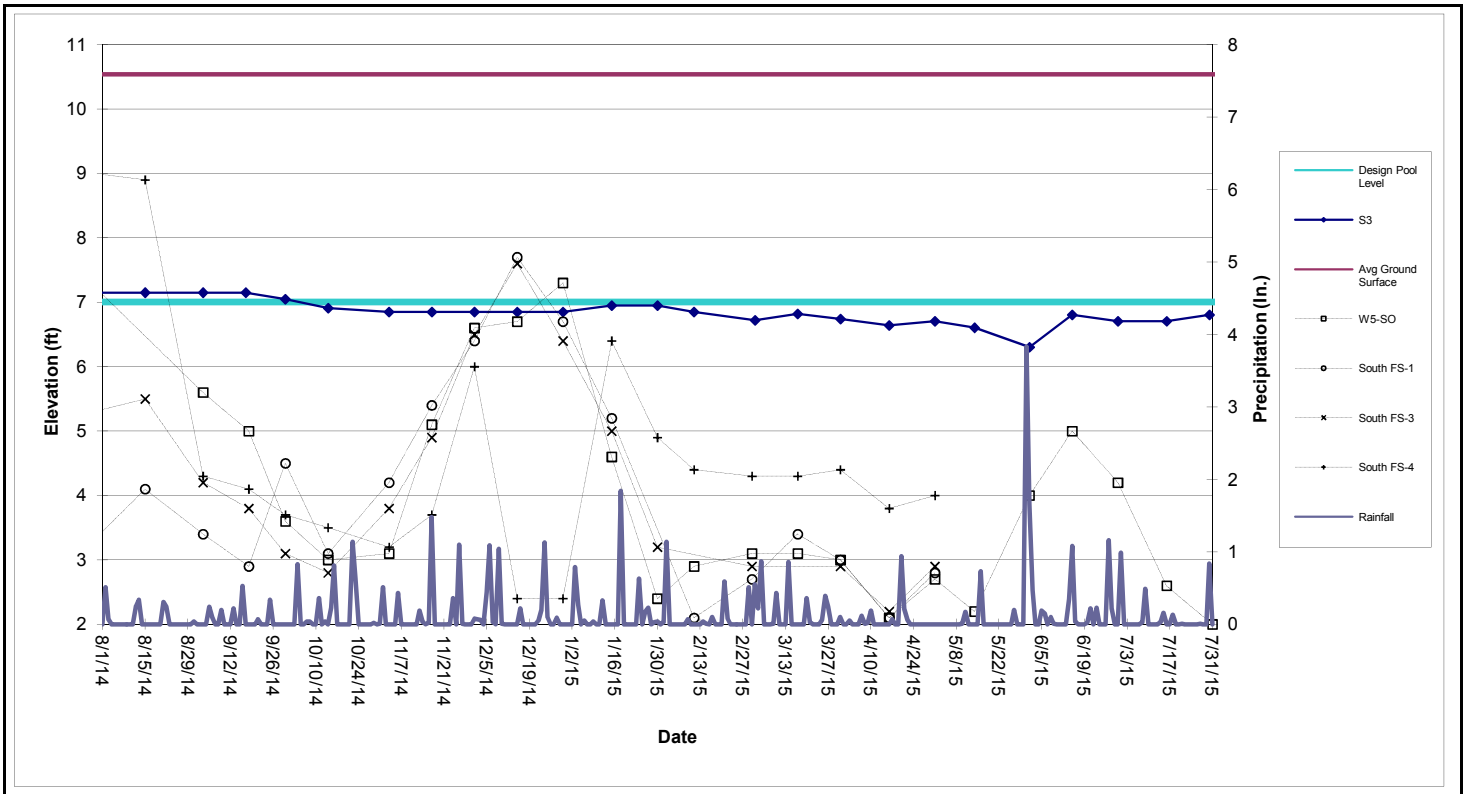
Perimeter Pool E2 (Sta. E4+50 to E7+25)



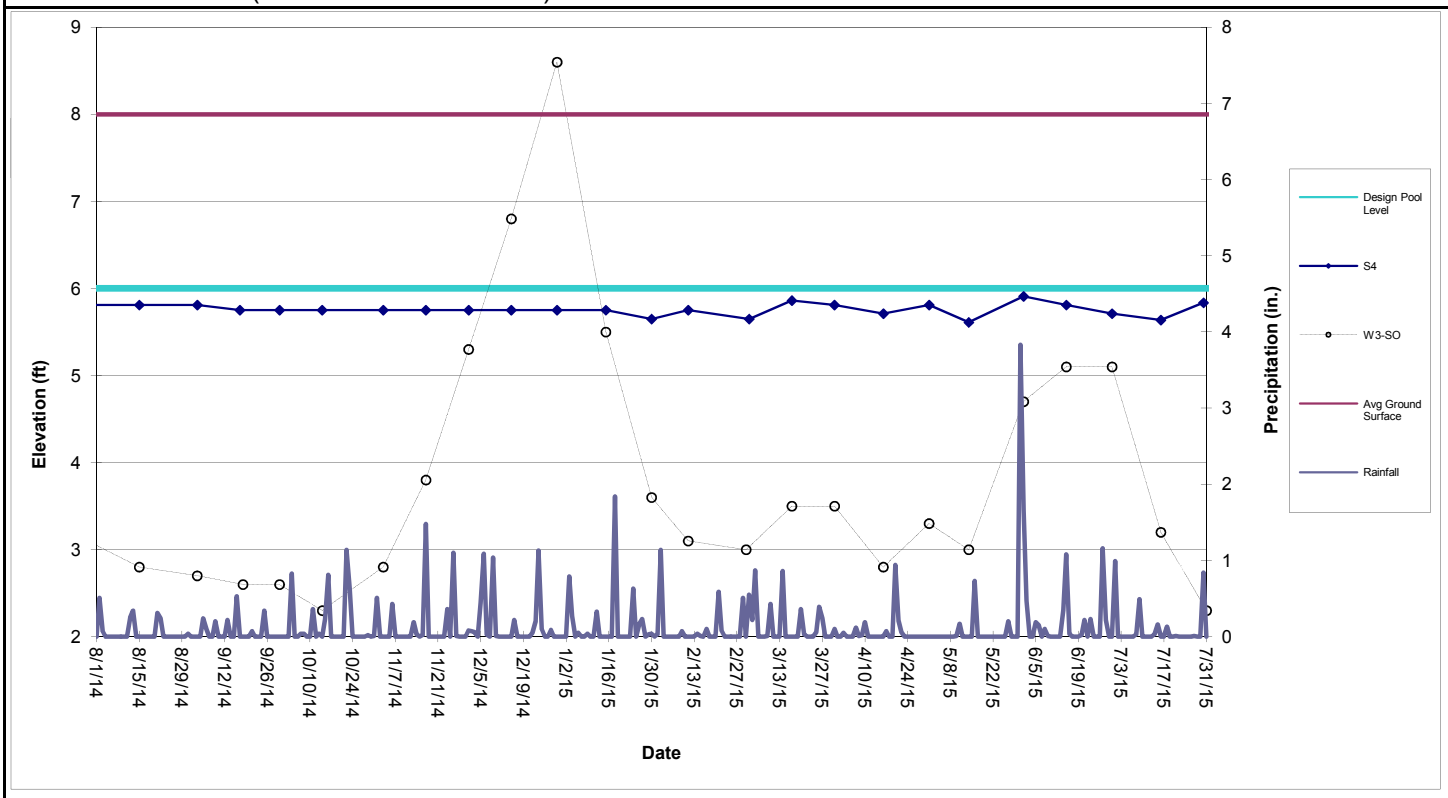
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

									North								South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W3-SO	W5-SO	W6-SO	FS-1	FS-2	FS-3	FS-4	FS-5	FS-6	FS-7	FS-13	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																						
8/15/2014		5.3	6.1	6.2	6.2	2.8		5.5	5.1	6.8	6.7	6.1					4.1	5.5	8.9	8.9		
9/3/2014		5.3	5.9	6.1	5.9	2.7	5.6	5.2	4.8	6.7	6.3	5.6					3.4	4.2	4.3	7.2	8.8	8.6
9/18/2014		5.0	5.8	5.9	5.7	2.6	5.0	5.1	4.8	6.5	6.1	5.6					2.9	3.8	4.1	6.9	5.4	8.6
9/30/2014		5.0	5.7	5.8	5.8	2.6	3.6	5.0	4.7	6.5	6.0	5.6					4.5	3.1	3.7	5.6	4.1	4.8
10/14/2014		4.9	5.5	5.8	5.8	2.3	3.0	5.0	4.6	6.4	5.9		5.7	5.2	5.6		3.1	2.8	3.5	4.1	5.9	8.3
11/3/2014		4.8	5.6	5.9	6.0	2.8	3.1	5.1	4.7	6.7	6.2		5.6	5.3	5.7		4.2	3.8	3.2	5.8	4.1	3.6
11/17/2014		4.8	5.5	6.2	6.0	3.8	5.1	5.0	4.6	6.5	6.4		5.6	5.3	5.7		5.4	4.9	3.7	6.6	5.4	4.9
12/1/2014		4.7	5.5	6.6	6.5	5.3	6.6	5.2	4.9	6.9	6.9		6.0	5.9	6.2		6.4	6.5	6.0	7.9		6.5
12/15/2014		5.0	5.8	7.5	6.9	6.8	6.7	5.5	5.2	7.3	6.9		6.4	6.2	6.7		7.7	7.6	2.4	7.4		6.7
12/30/2014		5.0	5.6	7.1	6.5	8.6	7.3	5.4	5.0	7.2	6.7		6.0	5.8	6.3		6.7	6.4	2.4	7.2	6.1	5.3
1/15/2015		5.0	5.6	7.0	5.5	5.5	4.6	5.1	4.8	7.1	7.0		6.2	6.1	6.3		5.2	5.0	6.4	5.8		
1/30/2015			6.5	7.1	5.5	3.6	2.4	5.1	4.8	6.7	6.5		6.1	6.0	6.3			3.2	4.9	4.6		3.8
2/11/2015	3.8		6.5	6.7	6.4	3.1	2.9		4.7	6.8	6.5		6.1	6.1	6.2		2.1		4.4	3.9	3.8	3.7
3/2/2015	3.1		5.5	5.9	6.0	3.0	3.1		4.1	6.6	5.9		5.8	5.8	5.8		2.7	2.9	4.3	3.5	3.3	3.0
3/17/2015	3.1	5.6	6.4	7.5	7.0	3.5	3.1		5.6	6.6			6.0	5.9	6.5		3.4		4.3		3.3	3.2
3/31/2015	3.3	5.5	6.4	7.2	6.7	3.5	3.0	5.7	5.7	6.8			5.7	5.6	5.3		3.0	2.9	4.4		3.2	3.1
4/16/2015	3.1	5.2	6.0	6.5	6.1	2.8	2.1	5.4	5.5	6.8	6.2		5.1	5.2	5.9		2.1	2.2	3.8	3.0	3.2	2.8
5/1/2015	3.5	5.2	5.9	5.1	6.0	3.3	2.7	5.7	5.6	6.8	6.2		5.3	5.2	5.7	6.3	2.8	2.9	4.0		4.0	3.0
5/14/2015	2.9	5.1	5.7	6.6	5.5	3.0	2.2	5.4	5.4	6.2	5.8		4.9	4.9	5.2	6.3				2.8	3.5	2.8
6/1/2015	6.0	5.1	5.6	4.4	4.2	4.7	4.0	7.0	6.2	6.5	6.1		4.6	4.5	4.2	5.3					3.9	
6/15/2015	5.6	5.2	5.7	4.2	4.4	5.1	5.0	6.6					4.8	4.8	4.2	4.3						
6/30/2015	4.2	5.2	5.7	4.2	4.4	5.1	4.2	6.7					4.8	4.7	4.2	4.5						
7/16/2015	2.8	5.0	5.7	3.6	4.1	3.2	2.6	6.2					4.8	4.7	3.9	4.1						
7/31/2015	2.8	5.0	5.5	3.2	3.8	2.3	2.0	6.0					4.6	4.5	3.7	3.3						

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4, South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09, W1-SO, North FS-4

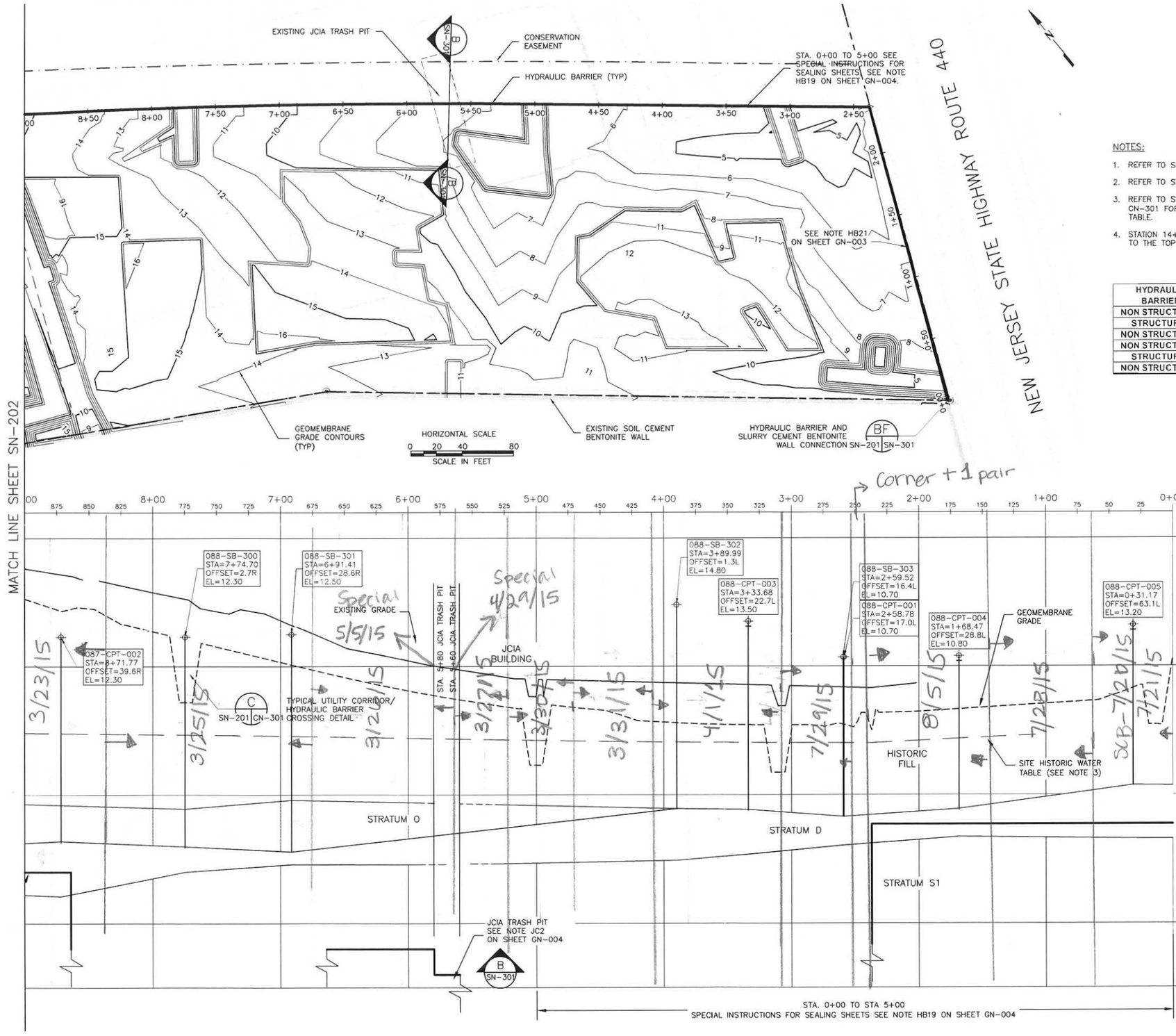
Attachment 8: Groundwater Quality Data

(not included in this reporting period)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.
4. STATION 14+00 TO 19+00 THE TOE OF THE SHEETPILE WILL BE DRIVEN TO THE TOP OF THE STRATUM S1.

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	0+00	2+37	-4	AZ 19-700
STRUCTURAL	2+37	5+60	-18	AZ 19-700
NON STRUCTURAL	5+60	5+80	-14	AZ 19-700
NON STRUCTURAL	5+80	6+64	-12	AZ 19-700
STRUCTURAL	6+64	8+64	-33	AZ 38-700N
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700

NO.	DATE	REVISION	BY	APVD
1	10/10/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2125, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 589 - 2829
NJ Certificate of Authorization Number 24GA28010900

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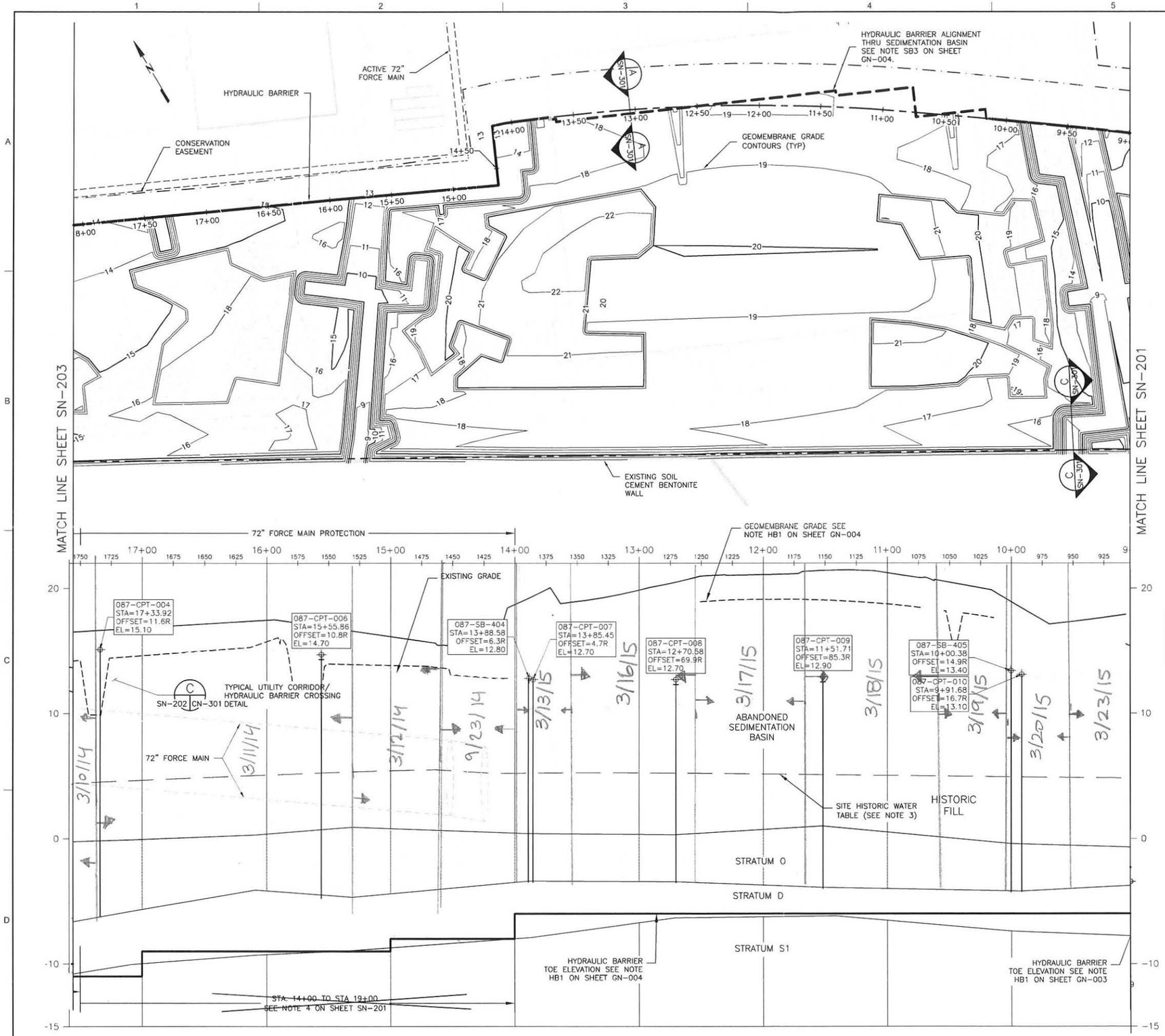
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-201
SHEET	54 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR54-SN-201 HBW Design Pin Prof.dwg PLOT DATE: Mon, 07 Oct 2013 PLOT TIME: 4:04 PM



NOTES:

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2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET ON CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700
NON STRUCTURAL	9+85	14+00	-6	AZ 19-700
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700

Time frame for:
HB sheets driven

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD BCO

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2108, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 Precision Road, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
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DATE
PROJ 3480-12-0317
DWG SN-202
SHEET 55 OF 70

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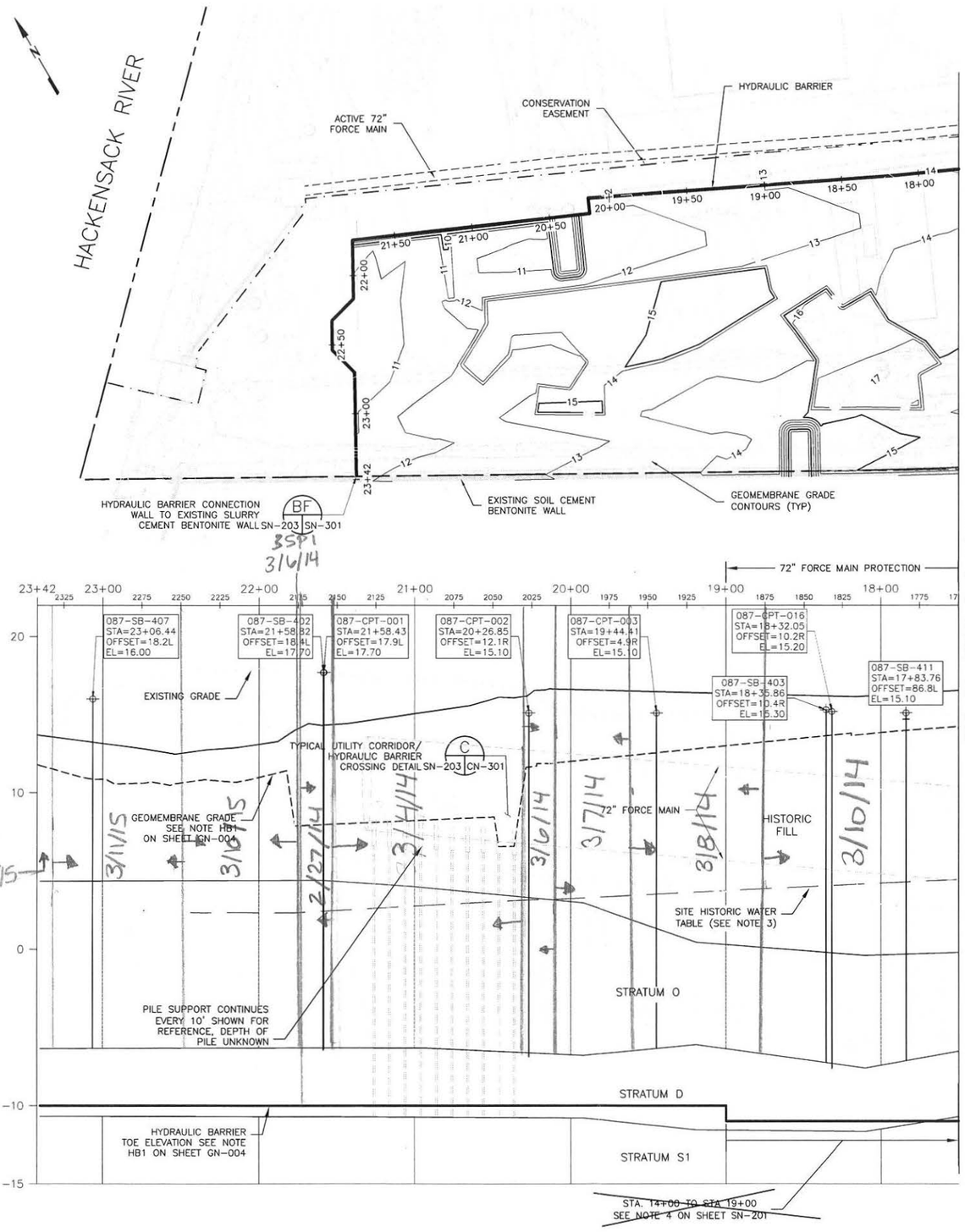
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR55-SN-202 HBW Design Pln Prof.dwg PLOT DATE: Fri. 18 Oct 2013 PLOT TIME: 10:35 AM



HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700
NON STRUCTURAL	19+00	23+38	-10	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.

HORIZONTAL SCALE 0 20 40 80 SCALE IN FEET

VERTICAL SCALE 0 2 4 8 SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM				RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION				TDD	SGS

REVISION

TDD RJR TDD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

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Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
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SHEET	56 OF 70

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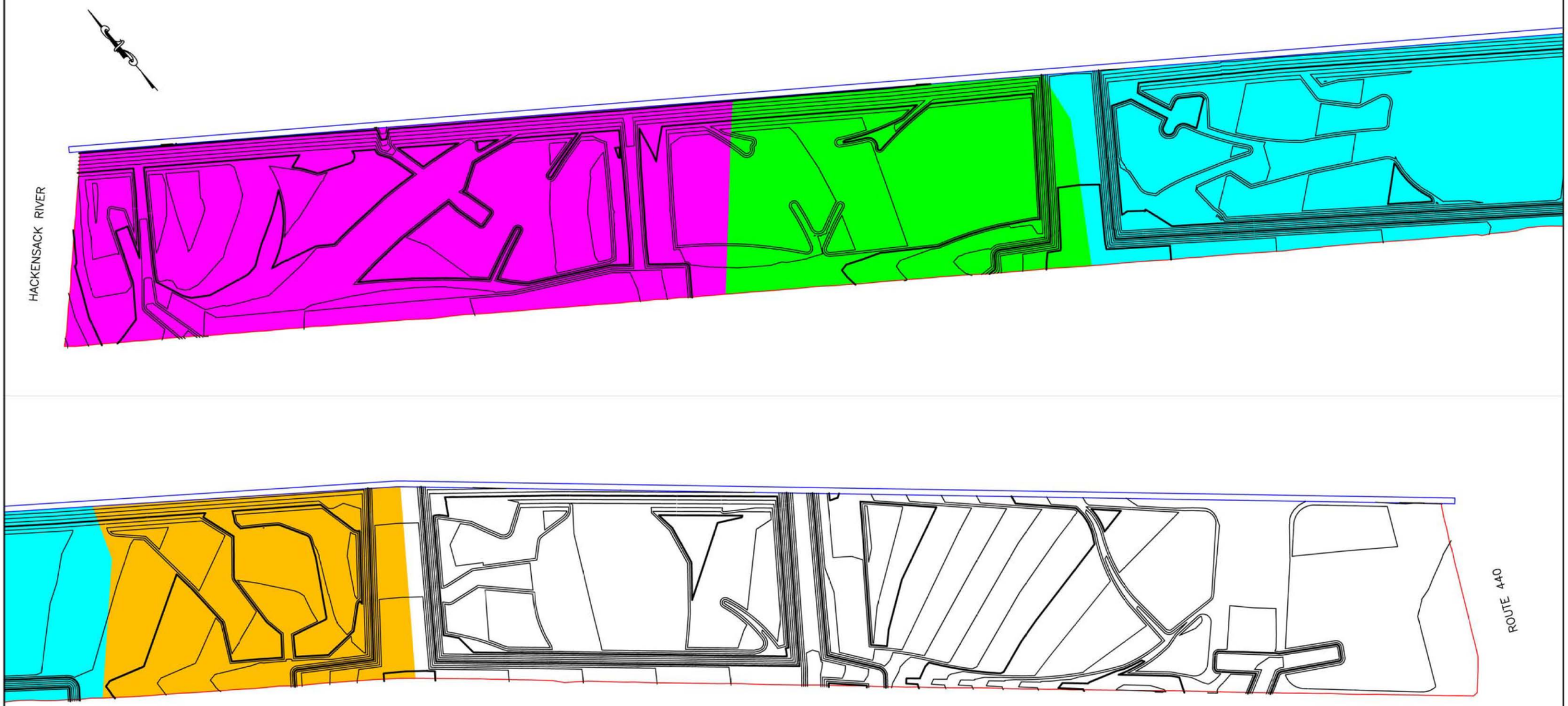
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR56-SN-203 HBW Design Pln Prof.dwg PLOT DATE: Fri, 18 Oct 2013 PLOT TIME: 10:37 AM

Attachment 11: Capping Update

- SA-6 South Cap Subgrade Progress Map
- Repair Log
- Non-conformance Log
- Subgrade Approval Forms
- QA Photo Log



LEGEND

- SUBGRADE GRADING UNDERWAY
- SUBGRADE COMPLETE AND SURVEYED
- APPROVED FOR GEOSYNTHETIC DEPLOYMENT
- LINER DEPLOYED
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP SUBGRADE PROGRESS MAP
07/24/15

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap construction **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
1730.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
2368.00	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-1	CF	2/3		98'N OF SEOS (VALLEY DESIGN)	P	2.5	x	63		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-2	WR	3/4		94'N OF SEOS	P	2	x	12		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-3	SI		3	60'N OF 2/3 & 11'E	P	2	x	2.5		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-4	DS-1	3/4		18'N OF SEOS	P	2	X	28		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-5	CF		3	140'N OF 2/3 & 6'E	P	2	x	10		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-6	PB	1/2		135'N OF SEOS (6" PB)	P	5	x	5		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-7	PB		1	85'N OF 1/2 & 17'W (4" PB)	P	3	x	4		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-8	SI		2	86'N OF 2/3 & 2'W	P	1.5	x	2		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-9	RW	4/5		SEOS	P	1.5	x	3		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-10	SJ	5/6/7		SJ 5/6/7	P	1.5	X	2		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-11	RW	5/7		SEOS	P	2	x	4		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-12	DS-2	6/7		10'E OF WEOS	P	2	x	5.5		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-13	FS	7/8		E.S. & COVER OVER SJ 6/7/8	P	2	x	6		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-14	PB		8	147'N OF 6/8 & 4'E (6" PB)	P	5	x	5		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-15	BO	9/10		52'N OF SEOS	P	2	x	3		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-16	DS-3	11/12		100'N OF SEOS	P	2	x	5		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-17	CF	13/14		46'S OF NEOS (VALLEY DESIGN)	P	2	x	42		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-18	DSX-1		13	ON RP-17	P	2	X	6		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-19	DS-4	14/15		16'S OF NEOS	P	2	x	5		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-20	CF	14/15	15	57'S OF NEOS	P	2	x	20		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-21	CF	15/16		37'S OF NEOS	P	2	x	16		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap construction **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

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SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

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	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
2368.00	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-22	BO	16/17		23'S OF NEOS	P	2	x	10		7/24/15	EMMANUEL V.	EXT 512	VBOX		7/30/15
RP-23	DS-5	17/18		75'S OF NEOS	P	2	x	5		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-24	CF	16		80'S OF 16/17 & 13'W (MANHOLE)	P	10	x	10		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-25	CF	15/16		78'S OF NEOS	P	2	x	15		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-26	CF		16	100'S OF 16/17 & 15'W	P	2	x	23		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-27	BO	16/17		80'S OF NEOS (PATCH)& 7'W (EXT)	P	2	x	2	84	7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-28	BO	16/17		115'S OF NEOS	P	2	x	10		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-29	BO	16/17		130'S OF NEOS	P	2	x	8		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-30	SI		17	110'S OF 17/18 & 4'W	P	2	x	2		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-31	BO	17/18		101'S OF NEOS	P	2	x	23		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-32	AO		15	SEOP (TRIANGLE)			x		324	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-33	CF		16	134'S OF 16/17 & 6'W	P	2	x	13		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-34	DSX-2	RP-32/15	15	10'E OF RP-32	P	2	x	4.5		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-35	WR		17	94'S OF 16/17 & 3'W	P	2	x	4		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-36	WR		17	88'S OF 16/17 & 3'W	P	1.5	x	4		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-37	WR		17	88'S OF 16/17 & 15'W	P	2	x	6		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-38	WR		17	101'S OF 16/17 & 10'W	P	2	x	8		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-39	DS-6	20/21		155'S OF NEOS	P	2	x	5		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-40	BO	20/21		128'S OF NEOS	P	2	x	7		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-41	WR		18	75'S OF 18/19 & 11'W	P	2	x	3		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-42	CR	17/18		60'S OF NEOS	P	2	x	5		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap construction **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
1730.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
2368.00	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-43	WR		18	55'S OF 18/19 & 8'W	P	2	x	7		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-44	BO	18/19		55'S OF NEOS	P	2	x	6		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-45	WR		19	33'S OF 19/20 & 10'W	P	2	X	3		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-46	WR	19/20		29'S OF NEOS	P	2	x	4.5		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-47	WR		19	33'S OF 19/20 &15'W	P	1.5	x	3		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-48	WR		19	21'S OF 19/20 & 9'W	P	2	x	2		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-49	WR		19	14'S OF 19/20 & 11'W	P	1.5	x	3		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-50	WR		20	30'S OF 20/21 & 14'W	P	1.5	x	2		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-51	BO	20/21		30'S OF NEOS	P	2	x	5		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-52	WR		17	BETWEEN RP-35 & RP-38			x		60	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-53	WR		17	BETWEEN RP-36 & RP-38			x		108	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-54	WR		17	BETWEEN RP-37 & RP-38			x		96	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-55	CF		16	BETWEEN RP-24 & RP-27			x		60	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-56	CF		18	BETWEEN RP-41 & RP-43			x		180	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-57	CF		18	BETWEEN RP-42 & RP-43			x		156	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-58	CF		19	BETWEEN RP-48 & RP-49			x		60	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-59	CF		19	BETWEEN RP-47 & RP-48			x		72	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-60	CF		19	BETWEEN RP-45,RP-46& RP-48			x		180	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-61	CF		20	BETWEEN RP-50 & RP-51			x		144	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-62	WR		21	10'S OF 21/22 & 8'W	P	2	x	14		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-63	WR		21	6'S OF 21/22 & 13'W	P	2	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap construction **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
1730.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
2368.00	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-64	WR		21	BETWEEN RP-63 & RP-65			x		168	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-65	WR		21	20'S OF 21/22 & 18'W	P	2	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-66	WR		22	20'S OF 22/23 & 5'W	P	1.5	x	12		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-67	BO	21/22		84'S OF NEOS	P	1.5	x	3		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-68	BO	22/23		76'S OF NEOS	P	1.5	x	3		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-69	WR		22	130'S OF 21/22 & 6'E	P	2	x	4		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-70	WR		22	BETWEEN RP-69 & RP-71			x		60	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-71	CR	21/22		137'S OF NEOS	P	2	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-72	WR		21	BETWEEN RP-71 & RP-73			x		24	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-73	WR		21	130'S OF 21/22 & 4'W	P	2	x	4		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-74	WR		21	BETWEEN RP-73 & RP-75			x		48	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-75	WR		21	129'S OF 21/22 & 9'W	P	1.5	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-76	BO	22/23		97'S OF NEOS	P	1.5	x	3		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-77	WR		23	118'S OF 22/23 & 7'E	P	2	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-78	WR		23	BETWEEN RP-77 & RP-79			x		48	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-79	WR		23	124'S OF 22/23 & 7'E	P	2	x	11		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-80	WR		23	BETWEEN RP-79 & RP-81			x		84	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-81	WR		23	134'S 22/23 & 9'E	P	2	x	5		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-82	DS-7	23/24		87'S OF NEOS	P	2	x	5		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-83	DSX-3	RP-82/23		RP-82/83(87'S OF NEOS)	P	2	x	5		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-84	CR	23/24		116'S OF NEOS	P	1.5	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap construction **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
1730.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
2368.00	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-85	CF		23	125'S OF 23/24 & 3'W	P	2	x	3		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-86	CF		23	BETWEEN RP-85 & RP-87			x		168	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-87	CF		23	140'S OF 23/24 & 10'W	P	2	x	4		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-88	BO	24/25		127'S OF NEOS	P	2	x	3		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-89	WR		24	BETWEEN RP-88 & RP-90			x		60	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-90	WR		24	127'S OF 24/25 & 5'W	P	2	x	2.5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-91	CF		25	100'N OF 25/26 & 6'W	P	2	x	6		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-92	CF		25	BETWEEN RP-91 & RP-93			X		120	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-93	CF		25	121'N OF 25/26 & 12'W (T-SHAPE)	P	2	x	22		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-94	CF		25	BETWEEN RP-93 & RP-95			x		84	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-95	CF	25/26		110'N TO 129'N OF SEOS	P	2	x	19		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-96	DS-8	26/27		128'N OF SEOS	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-97	BO	26/27		71'N OF SEOS	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-98	CF		27	BETWEEN RP-97 & RP-100			x		24	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-99	CR	26/27		38'N OF SEOS	P	2	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-100	CF		27	55'N OF 26/27 & 13'E	P	2	x	30		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-101	CF		27	BETWEEN RP-100 & RP-102			x		144	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-102	CF		27	87'N OF 26/27 & 7'E	P	2	x	6.5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-103	CF	27/28		117'N OF SEOS	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-104	CF		28	BETWEEN RP-103 & RP-105			x		156	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-105	BO	28/29		120'N OF SEOS	P	2	x	15		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap construction **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
1730.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
2368.00	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-106	CF		28	BETWEEN RP-105 & RP-107			x		192	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-107	CF		28	134'N OF 27/28 & 4'E	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-108	BO	29/30		125'N OF SEOS	P	2	x	10		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-109	DS-9	29/30		80'N OF SEOS	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-110	CF		28	85'N OF 28/29 & 3'W	P	2	x	3		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-111	CF		28	BETWEEN RP-110 & RP-112			x		180	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-112	WR	28/29		68'N OF SEOS	P	2	x	8		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-113	WR		28	BETWEEN RP-112 & RP-114			x		36	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-114	WS	28/29		73'N OF SEOS	P	2	x	3		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-115	BO	28/29		61'N OF SEOS	P	1.5	X	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-116	WR		28	29'N OF 27/28 & 1'E	P	2	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-117	WR		28	BETWEEN RP-116 & RP-118			x		72	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-118	WR		28	29'N OF 27/28 &9'E	P	2	X	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-119	WR		28	BETWEEN RP-118 & RP-120			x		24	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-120	WR		28	29'N OF 27/28 & 13'E	P	1	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-121	BO	27/28		34'N OF SEOS	P	2	x	7		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-122	CF		27	BETWEEN RP-121 & RP-123			x		24	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-123	CF		27	34'N OF 27/28 & 5'W	P	1.5	x	1.5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-124	CF		28	34'N OF 27/28 & 10'E	P	2	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-125	CF		28	BETWEEN RP-124 & RP-126			x		108	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-126	CF		28	45'N OF 27/28 & 6'E	P	1.5	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap construction **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
1730.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
2368.00	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-127	CF		28	BETWEEN RP-126 & RP-128			x		24	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-128	CF		28	48'N OF 27/28 & 6'E	P	1.5	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-129	PB		11	80'N OF 10/11 & 8'E	P	3	x	3		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-130	DS-10	32/33		20'N OF SEOS	P	2	x	5.5		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-131	DSX-4	RP-102/27		ON EASTSIDE OF RP-102/27	P	2	x	5		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-132	PB		32	13'N OF 31/32 & 1'E	P	3	x	4		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-133	WR	33/34		SEOS TO 21'N	P	2.5	x	21		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-134	WR		34	BETWEEN RP-133 & RP-135 (N side)			x		84	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-135	WR		34	18'N OF 33/34 & 11'E	P	3	x	10		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-136	WR		34	FROM RP-135 TO SEOP			x		180	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-137	WR		34	BETWEEN RP-133 & RP-135 (S side)			x		120	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-138	WR		34	BETWEEN RP-137 & RP-139			x		36	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-139	WR		34	13'N OF 33/34 & 6'E	P	1.5	x	1.5		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-140	WR		34	BETWEEN RP-135 & RP-141			x		168	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-141	WR		34	36'N OF 33/34 & 10'E	P	1	x	2		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-142	CF		30	112'N OF 29/30 & 5'E	P	2	x	14		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-143	CF		30	BETWEEN RP-142 & RP-144			x		48	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-144	CF		30	98'N OF 29/30 & 7'E	P	1.5	x	14		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-145							x								
RP-146							x								
RP-147							x								

Summary of Non-Compliance & Corrective Action Forms					
SA-6 South Cap Installation					
Notice of Non-Compliance & Corrective Action Sheet Number	**Date**	**Item**	**Associated Repair Number**	**Approx. Location**	**Follow Up Action Taken**
1	7/21/2015	Subgrade Irregularity	RP-3	Panel #2 (P-2)	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2.5 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs)
2	7/21/2015	Subgrade Irregularity	RP-8	Panel #2 (P-2)	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2.5 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs)
3	7/22/2015	Failed Non-Destruct Test	RP-13	Panel #7 (P-7) & Panel #8 (P-8) seam	Based on length of failed seam (approximately 6 ft.) the entire seam was patched and repaired (approximate 2 ft. by 6 ft. patch). The patch was overlapped a minimum of 4-inches, with rounded edges, and sealed with an extrusion weld. Vacuum box testing was then conducted in accordance with Section 02372-8 to confirm the weld.
4	7/24/2015	Subgrade Irregularity	RP-30	Panel #17 (P-17)	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs)
5	8/7/2015	Failed Vacuum Box Test	RP-215	Panel #50 (P-50)	Failed extrusion weld (identified during vacuum box testing) was patched with an approximate 2 ft. by 2 ft. geomembrane patch over the extrusion weld (noted as RP-222 on Repair Log). The patch was overlapped a minimum of 4-inches beyond the edges of the failed weld, conformed so that the edges were rounded, and sealed with an extrusion weld. Vacuum box testing was conducted along the seams to confirm the seams were properly patched and repaired.

LANGAN

Certificate of Soil Surface

Sheet # 1

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMECFW	Cell No.	STA. 24+35 TO STA 23+35 (WEST END)		
QA Monitor	LANGAN	Date	7/20/2015		

Description of Soil Surface to be lined: WEST END OF SA-6 SOUTH (~STA. 24+35) TO APPROX. 100 FT. EAST (STA. 23+35) - RUNNING NORTH TO SOUTH THROUGH APPROX. GRID POINT ~~8~~ 13.09 SOIL APPEARS TO BE GRADED, COMPACTED AND FREE OF DEBRIS (> ½"), AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	Y
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/20/15
Title	~~SENIOR STAFF~~ LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7-20-15
Title	QC Manager
Representing:	Entrat
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2 ")
AS OUTLINED IN SECTION 02372-8

Photographs	Number	Location	Orientation	Notes
	1	WEST END	N-S	REFER TO PHOTOGRAPH LOG (7/20/15)
	2	WEST END	N-S	PHOTOS 2, 3, 4 W/ DESCRIPTIONS
1. REFER TO PHOTO LOG (7/20/15) PHOTOS 2, 3, 4 FOR CORRESPONDING PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 2

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.		General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	25 STA. 23+35 TO ~STA. 22+35		
QA Monitor	LANGAN	Date	7/21/2015		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST FROM SUBGRADE APPROVAL ON 7/20/15. LOCATED FROM APPROX. STA. 23+35 TO STA. 22+35 (100 FT. EAST FROM INSTALLED CAP ON 7/20/15. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	Y
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/21/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7-22-15
Title	Entrack QC Manager
Representing:	Entrack
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2") AS OUTLINED IN SECTION 02372-8.
GEOMEMBRANE CAP PANELS 5-9 PLACED OVER AREA.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #9	STA. 23+35	LOOKING EAST	REFER TO PHOTO LOG (7/21/15), PHOTO #9
	2 PHOTO #10	STA 23+35	EAST/SOUTHEAST	REFER TO PHOTO LOG (7/21/15), PHOTO #10

1. REFER TO PHOTO LOG (7/21/15) PHOTOS 9, 10 FOR SUPPORTING SUBGRADE PHOTOS.

2.

LANGAN

Certificate of Soil Surface

Sheet # 3

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 22+35 TO STA. 21+40		
QA Monitor	LANGAN	Date	7/22/15		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST FROM PREVIOUSLY APPROVED SUBGRADE ON 7/21/15. LOCATED FROM APPROX. STA. 22+35 TO STA. 21+40 (APPROX. 95 FT EAST OF GEOMEMBRANE INSTALLED ON 7/21/15. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	Y
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/22/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7-23-15
Title	QC Manager
Representing:	Entek
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (7 1/2")
AS OUTLINED IN SECTION 02372-8

GEOMEMBRANE CAP PANELS 10-13 PLACED OVER AREA

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #2		LOOKING EAST	REFER TO PHOTO LOG (7/22/15) PHOTO #2
	2 PHOTO #3		LOOKING NE	REFER TO PHOTO LOG (7/22/15) PHOTO #3

1. REFER TO PHOTO LOG (7/22/15)
PHOTOS 2, 3 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 4

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / ANECFW	Cell No.	~STA. 21+40 TO STA. 19+90		
QA Monitor	LANGAN	Date	7/23/15		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST FROM PREVIOUSLY APPROVED SUBGRADE ON 7/22/15. LOCATED FROM APPROXIMATE STATION STA. 21+40 (~P-13) TO STA. 19+90 (APPROX 150 FT. EAST OF GEOMEMBRANE INSTALLED ON 7/22/15). SOIL APPEARS TO BE GRADED, COMPACTED + FREE OF DEBRIS (> 1/2") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	Y
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/23/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7-23-15
Title	QC Manager
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (2 1/2")
AS OUTLINED IN SECTION 023272-8.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	STA 21+40	LOOKING EAST	REFER TO PHOTO LOG (7/23/15) PHOTO #3
	2 PHOTO #5	STA 22+00	LOOKING NE	REFER TO PHOTO LOG (7/23/15) PHOTO #5
1. REFER TO PHOTO LOG (7/23/15) PHOTOS 3,5 FOR SUPPORTING SUBGRADE PHOTOS ADDITIONAL SUBGRADE DETAILS ALSO SHOWN ON PHOTOS 4+6				2.

LANGAN

Certificate of Soil Surface

Sheet # 5

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMREC FW	Cell No.	~STA. 19+90 TO STA. 19+00		
QA Monitor	LANGAN	Date	7/24/15		

Description of Soil Surface to be lined: ADDITIONAL ~90 FT. SECTION OF SOIL APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 7/23/15 (P-18). SUBGRADE APPROVED FROM ~STA. 19+90 TO STA. 19+00 (SUBGRADE PREVIOUSLY APPROVED TO STA. 19+90); GEOMEMBRANE INSTALLED TO ~STA. 20+25 ON 7/23/15). SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½"), AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/24/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7-24-15
Title	QC Manager Entact
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2") AS OUTLINED IN SECTION 02372-8.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #8	STA 20+25	LOOKING EAST	REFER TO PHOTO LOG (7/24/15) PHOTO #8
	2 PHOTO #9	STA. 19+80	LOOKING SOUTH	REFER TO PHOTO LOG (7/24/15) PHOTO #9
1. REFER TO PHOTO LOG (7/24/15) PHOTOS 8,9 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 6

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 19+00 TO STA. 18+20		
QA Monitor	LANGAN	Date	7/28/15		

Description of Soil Surface to be lined: ADDITIONAL ~80 FT. SECTION OF SOIL APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 7/24/15 (P-24). NO SUBGRADE APPROVED ON 7/27/15. SUBGRADE APPROVED FROM ~STA. 19+00 TO STA. 18+20. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/28/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7-28-15
Title	QC Manager
Representing:	Entec
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 02372-8
- ADDITIONAL ~40 FT. OF SOIL APPROVED AT END OF DAY TO ALLOW ESI TO INSTALL EXTRA 2 PANELS OF GEOMEMBRANE SOIL APPROVED TO APPROX. STA 17+80.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	~BD 6775-1584	LOOKING NW	REFER TO PHOTO LOG (11/28/15) PHOTO #2
	2 PHOTO #4	~19.00	LOOKING EAST	REFER TO PHOTO LOG (11/28/15) PHOTO #3
1. REFER TO PHOTO LOG (11/28/15) PHOTOS 3,4,5 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 7

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 17+80 TO STA. 17+00		
QA Monitor	LANGAN	Date	7/29/15		

Description of Soil Surface to be lined: ~80 FT. SECTION OF SOIL APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 7/28/15 (P-30). SUBGRADE APPROVED FROM APPROX. STA. 17+80 TO STA. 17+00, SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½"), AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/29/30
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7/29/30
Title	QC Manager
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2")
AS OUTLINED IN SECTION 02372-8
- SOIL APPROVED UP TO 1ST UTILITY CORRIDOR

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #5	STA. 17+80	LOOKING N	REFER TO 7/29/15 PHOTO LOG PHOTO #5
	2 PHOTO #8	SEND CAP	LOOKING E	REFER TO 7/29/15 PHOTO LOG PHOTO #8

1. REFER TO PHOTO LOG (7/29/15)
PHOTOS 5, 8 FOR SUPPORTING SUBGRADE PHOTOS

2.

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PHOTOGRAPHIC LOG
Photo #1 (07/20/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/20/15

Direction Taken:
Looking north toward Grid Point 11

Description:

Prepared soil subgrade approved for liner placement. Slopes compacted and free of loose debris > ½ inch.

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PHOTOGRAPHIC LOG
Photo #2 (07/20/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/20/15

Direction Taken:

Looking north near Sta. 24+00

Description:

White plastic fasteners placed at minimum 5 ft. intervals along GVL geonet as outlined in specifications

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PHOTOGRAPHIC LOG
Photo #3(07/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/21/15

Direction Taken:

Looking east along southern section of SA-6 (from approximate Sta. 23+35)

Description:

Prepared soil subgrade as outlined in project specifications.

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PHOTOGRAPHIC LOG
Photo #4 (07/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/21/15

Direction Taken:

Looking north near Sta. 23+35

Description:

ESI sewing top of geotextile seem on GVL as outlined in project specifications.

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PHOTOGRAPHIC LOG
Photo #5 (07/22/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/22/15

Direction Taken:

Looking south along installed geomembrane panels.

Description:

ESI deploying geomembrane panels (P-10 through P-14).

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PHOTOGRAPHIC LOG
Photo #6 (07/22/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/22/15

Direction Taken:

Looking along geomembrane cap panels P-9 and P-10.

Description:

ESI conducting fusion welding between geomembrane P-9 and P-10 panel seams (as per project specifications).

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PHOTOGRAPHIC LOG
Photo #7 (07/22/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/22/15

Direction Taken:

Looking along geomembrane panels

Description:

ESI conducting non-destructive air testing as outlined in project specifications.

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PHOTOGRAPHIC LOG
Photo #8 (07/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/23/15

Direction Taken:

Looking west along southern end of SA-6

Description:

Installed geomembrane cap with GDL visible at far western end.

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PHOTOGRAPHIC LOG
Photo #9 (07/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/24/15

Direction Taken:

Looking along geomembrane cap and extrusion welding RP-15.

Description:

ESI conducting extrusion welding on patches and repairs. Extrusion weld areas to be tested with vacuum box (as outlined in project specifications).

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PHOTOGRAPHIC LOG
Photo #10 (07/27/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/27/15

Direction Taken:

Looking west along SA-6 (panel 20/21 seam)

Description:

ESI collecting destruct along Panel 23/24 seam (DS-7).

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PHOTOGRAPHIC LOG
Photo #11 (07/27/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/27/15

Direction Taken:

Looking northwest – collection manhole in background (Sta.21+00)

Description:

ESI conducting vacuum box testing on RP-31 after completion of extrusion welding.

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PHOTOGRAPHIC LOG
Photo #12 (07/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/29/15

Direction Taken:

Looking northeast along SA-6 cap

Description:

Installed geomembrane panels (P-31 & P-32). ESI conducting fusion welding (as outlined in project specs).

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

PHOTOGRAPHIC LOG
Photo #13 (07/30/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/30/15

Direction Taken:

Looking west along SA-6 cap

Description:

Ramp built up to SA-6 for placement of cover soil over installed GDL.

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

PHOTOGRAPHIC LOG
Photo #14 (07/30/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/30/15

Direction Taken:

Looking southeast along southern end of cap

Description:

ESI conducting booting activities for PZ-18 (located on P-32).

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

PHOTOGRAPHIC LOG
Photo #15 (07/31/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/31/15

Direction Taken:

Looking west along SA-6 (installed GDL)from approximate Sta. 17+20

Description:

Installed GDL up to approximate Sta. 17+20 along SA-6 (from western end).

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

PHOTOGRAPHIC LOG
Photo #16 (07/31/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/31/15

Direction Taken:

Looking south along geomembrane cap (near approx. Sta. 19+90)

Description:

ESI deploying GDL over previously installed geomembrane panels near Sta. 19+90 (over Panels 21 & 22).

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 2, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		2
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		3
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		4
Storm Drain Protection	X			
Ponded Storm Water		X		5
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment		X		6
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		7
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		8
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		9
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 07/02/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, July 02, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone fencing is missing along the southwestern edge of the cap area.
2	IA2Q4A1AL8	Spill pallets and other secondary containment vessels have accumulated stormwater.
3	IA2Q4A1AL8	The cap area to the north of the 60 Kellogg building is graded to shed stormwater over the sheetpile hydraulic barrier.
4	IA2Q4A1AL8	Gaps are present in the perimeter fence panels at the western end of Kellogg Street.
5	IA2Q4A1AL8	Stormwater is ponded to the south of the hydraulic barrier on SA-6 South.
6	IA2Q4A1AL8	The remaining Type C material stockpile requires a containment berm or tarping.
7	IA2Q4A1AL8	Gaps are present in the perimeter fence to the west of the CWTP
8	IA2Q4A1AL8	Additional erosion control measures are required around the soil screening operation on SA-7.
9	IA2Q4A1AL8	Sediment is present on the southern SA-7 haul road.
10		

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 07/02/15

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Reinstall Exclusion Zone fencing	7-6-15 RAD
2	Drain stormwater from secondary containment vessels.	7-7-15 RAD
3	Regrade the cap area (shape a swale and/or berm) to divert stormwater run-off to a low area within the EZ.	7-7-15 RAD
4	Install clamps between temporary fence panels to keep them in alignment.	7-7-15 RAD
5	Pump ponded stormwater to the CWTP.	7-9-15 RAD
6	Construct a containment berm around or tarp over the remaining Type C stockpile.	7-7-15 RAD
7	Reposition the Jersey barriers/fence panels to close the gaps in the perimeter fence.	7-6-15 RAD
8	Install silt fence or other comperable erosion control measures around the soil screening area and the new stockpiles.	7-8-15 RAD
9	Clean up the remaining sediment on the SA-7 roadway.	7-6-15 RAD
10		

Construction Manager: _____ **Date:** 07/09/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 10, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 07/10/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, July 10, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Erosion control measures are not present along the western toe of the SA-6 South cap area outside of the Exclusion Zone.
2	IA2Q4A1AL8	There are gaps in the placement of the Exclusion Zone signs on the fencing surrounding the SA-6 south cap area
3	IA2Q4A1AL8	Mud and silt has accumulated in the stone at the foot of the western SA-6 North to SA-7 ramp.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 07/10/15
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Install erosion control measures as required.	7-15-15 RAD
2	Install additional Exclusion Zone signs on the EZ fenceline as required.	7-14-15 RAD
3	Clean accumulated sediment from the stone as needed.	7-13-15 RAD

Construction Manager: _____ **Date:** 07/16/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 17, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		3
Ponded Storm Water	X			
Housekeeping		X		4
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		5
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment		X		6
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		7

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 07/17/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, July 17, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	**REPEAT**: Erosion control measures are not present along the western toe of the SA-6 South cap area outside of the Exclusion Zone.
2	IA2Q4A1AL8	A gap is present in the Exclusion Zone fencing on the western end of the SA-6 South cap area.
3	IA2Q4A1AL8	The three stormwater catchbasins inside of the site at the western end of Kellogg Street require maintenance of silt protection measures.
4	IA2Q4A1AL8	Pieces of removed storm drain pipe and other debris are present on the SA-6 South backfill area.
5	IA2Q4A1AL8	The Exclusion Zone fence located on SA-6 North to the south of the trash pit requires additional signage
6	IA2Q4A1AL8	The tarp covering the stockpile of Type C material on SA-6 North requires maintenance.
7	IA2Q4A1AL8	Debris is present at various locations on the stone surface of SA-7

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 07/17/15

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Install erosion control measures at the gap in the bulkhead where the Degen Oil outfall is located	7-20-15 RAD
2	Install additional Exclusion Zone fencing as required.	7-23-15 RAD
3	Clean accumulated sediment from the stone as needed.	7-23-15 RAD
4	Install filter fabric baskets inside or silt fencing around the three catch basins.	7-23-15 RAD
5	Install additional Exclusion Zone signs as required.	will be done next week
6	Reinstall the cover tarp on the stockpile.	Next week.
7	Pick up and remove the debris (fabric, silt fence, dunnage, etc.) located on the SA-7 stone areas.	7-23-15 RAD

Construction Manager: _____ Date: 07/23/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 24, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		2
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		3
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment		X		4
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 07/24/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, July 24, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Weeds/vegetation are present around the foundation wall of the 60 Kellogg Building.
2	IA2Q4A1AL8	Silt fence along the western perimeter of the EA-8 excavation on SA-6 North requires maintenance.
3	IA2Q4A1AL8	REPEAT: The Exclusion Zone fence located on SA-6 North to the south of the trash pit requires additional signage.
4	IA2Q4A1AL8	REPEAT: The tarp covering the stockpile of Type C material on SA-6 North requires maintenance.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 07/24/15
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Remove and dispose of the vegatation.	7-27-15 RAD
2	Re-install/maintain the silt fence as required.	7-29-15 RAD
3	Install additional Exclusion Zone signs as required.	7-27-15 RAD
4	Reinstall the cover tarp on the stockpile.	7-26-15 RAD

Construction Manager: _____ Date: 07/30/15

Attachment 13: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (June 2015)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

July 14, 2015

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the June 2015 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
6	01	15	6	30	15
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	77,050	82,612 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	0.43	0.46	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.015	<0.015	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.050	<0.050	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.2	<5.2	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1189	0.1189	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analytes are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

July 8, 2015

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North
ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962
FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305
NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
6	01	15	6	30	15
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,311,487 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 38,600,300

DATE	BOD (mg/l)	TSS (mg/l)
6/11/2015	7.8	6.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE July 8, 2015

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG — Honeywell Jersey City GWTP; SA-6 North (Permit #20630025) — MONTH: June, 2015

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits		5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
6/1/2015	Angel Trujillo	36288813	36361522	72,709	0.072709	7.62	0.673									0.41
6/2/2015	Angel Trujillo	36361522	36439287	77,765	0.077765	7.17	0.673									0.44
6/3/2015	Angel Trujillo	36439287	36517346	78,059	0.078059	7.26	0.673									0.44
6/4/2015	Angel Trujillo	36517346	36596563	79,217	0.079217	7.54	0.673									0.44
6/5/2015	Angel Trujillo	36596563	36673355	76,792	0.076792	7.45	0.673									0.43
6/6/2015	Angel Trujillo	36673355	36753779	80,424	0.080424	7.24	0.673									0.45
6/7/2015	Angel Trujillo	36753779	36829655	75,876	0.075876	N/A	0.673									0.43
6/8/2015	Angel Trujillo	36829655	36905531	75,876	0.075876	7.26	0.673									0.43
6/9/2015	Angel Trujillo	36905531	36982499	76,968	0.076968	7.24	0.673									0.43
6/10/2015	Angel Trujillo	36982499	37060139	77,640	0.07764	7.46	0.673									0.44
6/11/2015	Angel Trujillo	37060139	37136537	76,398	0.076398	6.94	0.673	<5.2	7.8		<0.010	<0.015	<0.050	<0.0002	<0.020	0.43
6/12/2015	Angel Trujillo	37136537	37212028	75,491	0.075491	7.60	0.673									0.42
6/13/2015	Angel Trujillo	37212028	37291215	79,187	0.079187	N/A	0.673									0.44
6/14/2015	Angel Trujillo	37291215	37370403	79,188	0.079188	7.64	0.673									0.44
6/15/2015	Angel Trujillo	37370403	37444640	74,237	0.074237	7.55	0.673									0.42
6/16/2015	Angel Trujillo	37444640	37522990	78,350	0.07835	7.61	0.673									0.44
6/17/2015	Angel Trujillo	37522990	37599866	76,876	0.076876	7.59	0.673									0.43
6/18/2015	Angel Trujillo	37599866	37678614	78,748	0.078748	7.56	0.673									0.44
6/19/2015	Angel Trujillo	37678614	37756585	77,971	0.077971	7.54	0.673									0.44
6/20/2015	Angel Trujillo	37756585	37839197	82,612	0.082612	7.57	0.673									0.46
6/21/2015	Angel Trujillo	37839197	37913745	74,548	0.074548	N/A	0.673									0.42
6/22/2015	Angel Trujillo	37913745	37988293	74,548	0.074548	7.62	0.673									0.42
6/23/2015	Angel Trujillo	37988293	38064500	76,207	0.076207	7.58	0.673									0.43
6/24/2015	Angel Trujillo	38064500	38138184	73,684	0.073684	7.49	0.673									0.41
6/25/2015	Angel Trujillo	38138184	38215633	77,449	0.077449	7.61	0.673									0.43
6/26/2015	Angel Trujillo	38215633	38294192	78,559	0.078559	7.58	0.673									0.44
6/27/2015	Angel Trujillo	38294192	38375663	81,471	0.0815	7.61	0.673									0.46
6/28/2015	Angel Trujillo	38375663	38448936	73,273	0.073273	N/A	0.673									0.41
6/29/2015	Angel Trujillo	38448936	38522209	73,273	0.073273	7.53	0.673									0.41
6/30/2015	Angel Trujillo	38522209	38600300	78,091	0.078091	7.64	0.673									0.44
TOTAL				**2,311,487**	**2.311487**			<5.2	7.8		<0.010	<0.015	<0.050	<0.0002	<0.020	
			High:	**82,612**											**High:**	**0.46**
			Average:	**77,050**											**Average:**	**0.43**

WW

E

JB96767

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell — Chain Of Custody / Analysis Request

AESI Ref:	42166.41177		
COC#	087-WW-061115		
Lab Proj # (SDG):			
Lab ID	ACTD		
Site ID	HudsonCo		
Lab Job #	HWINJM32815		
Authorized User:	Honeywell		
Text & Excel File Drive	Excel & Text File Order		

Copyright AESI: Version 8.0 Unauthorized use strictly prohibited.

Privileged & Confidential			
Site Name:	Hudson County	Phase:	CS
Location of Site:	Jersey City, NJ	Sampling Program	087: JCIA
EDD To:			
Sampler:	Frank Schroyer		
PO #			
Analysis Turnaround Time (TAT):	3		
Consultant	CH2M		
Full Report TAT:	28 Days		

Sampling Co.: MACTEC

Client Contact: (name, co., address)
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962

Preliminary Data To
Sample Receipt Acknowledgement To: Frank Schroyer
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)

	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
											Preservative		3	3	3	1	2	2	0	0	2						
											Units																
1	087-WW			087-WWE-061115-A	6/11/2015	15:00	WW	WATER	REG	3	comp	N	X	X	X	X			X	X		1					L23
2	087-WW			087-WWE-061115-B	6/11/2015	15:15	WW	WATER	REG	5	grab	N					X	X				2					V204
3	087-WW			087-WWI-061115	6/11/2015	15:25	WW	WATER	REG	3	grab	N									X	3					G53
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

Relinquished by	pH= 6.94 s.u. @ 10.2° C	Company	AMEC Foster Wheeler	Received by		Company		Condition		Custody Seals Intact	
Frank Schroyer		Date/Time	6/11/15			Date/Time 6-11-14 16:00		Cooler Temp.			
Relinquished by		Company		Received by		Company	6/11/15 1700	Condition		Custody Seals Intact	
		Date/Time 6/11/15 17:00				Date/Time		Cooler Temp.	3.3 °F		

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

INITIAL ASESSMENT 3B

LABEL VERIFICATION

ALL SAMPLES RECEIVED PRESERVED AS APPLICABLE

Accutest LabLink@861664 13:47 07-Jul-2015

Report of Analysis

Client Sample ID:	087-WWE-061115-A		
Lab Sample ID:	JB96767-1	**Date Sampled:**	06/11/15
Matrix:	AQ - Water	**Date Received:**	06/11/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.1

4

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	673	10	ug/l	1	06/13/15	06/15/15	BS	EPA 200.7 [2]	EPA 200.7 [5]
Copper	< 10	10	ug/l	1	06/13/15	06/15/15	BS	EPA 200.7 [2]	EPA 200.7 [5]
Lead [a]	< 15	15	ug/l	5	06/13/15	06/16/15	ND	EPA 200.7 [3]	EPA 200.7 [5]
Mercury	< 0.20	0.20	ug/l	1	06/13/15	06/13/15	MA	EPA 245.1 [1]	EPA 245.1 [4]
Nickel [b]	< 50	50	ug/l	5	06/13/15	06/15/15	BS	EPA 200.7 [2]	EPA 200.7 [5]
Zinc	< 20	20	ug/l	1	06/13/15	06/15/15	BS	EPA 200.7 [2]	EPA 200.7 [5]

(1) Instrument QC Batch: MA36869
(2) Instrument QC Batch: MA36875
(3) Instrument QC Batch: MA36885
(4) Prep QC Batch: MP87083
(5) Prep QC Batch: MP87089

(a) Elevated detection limit due to dilution required for high interfering element.
(b) Elevated detection limit due to dilution required for matrix interference (indicated by failing internal standard on original analysis).

RL = Reporting Limit

Accutest LabLink@861664 13:47 07-Jul-2015

Report of Analysis

Client Sample ID:	087-WWE-061115-A		
Lab Sample ID:	JB96767-1	**Date Sampled:**	06/11/15
Matrix:	AQ - Water	**Date Received:**	06/11/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.1

4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	6.0	4.0	mg/l	1	06/15/15	SP	SM2540 D-11
pH [a]	6.93		su	1	06/11/15 17:06	SUB	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@861664 13:47 07-Jul-2015

Report of Analysis

4.2 4

Client Sample ID:	087-WWE-061115-A		
Lab Sample ID:	JB96767-1A	**Date Sampled:**	06/11/15
Matrix:	AQ - Water	**Date Received:**	06/11/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	7.8	3.4	mg/l	1	06/11/15 20:20	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@861664 13:47 07-Jul-2015

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-061115-B		
Lab Sample ID:	JB96767-2	**Date Sampled:**	06/11/15
Matrix:	AQ - Water	**Date Received:**	06/11/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	T208804.D	1	06/15/15	DC	n/a	n/a	VT8571
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	1.7	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	2.7	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	0.25	1.0	0.093	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.50	ug/l	
67-66-3	Chloroform	13.6	1.0	0.091	ug/l	
74-87-3	Chloromethane	ND	1.0	0.11	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.11	ug/l	
95-50-1	1,2-Dichlorobenzene	0.44	1.0	0.19	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.11	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.29	ug/l	
75-34-3	1,1-Dichloroethane	0.27	1.0	0.12	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/l	
156-59-2	cis-1,2-Dichloroethene	59.4	1.0	0.12	ug/l	
156-60-5	trans-1,2-Dichloroethene	2.5	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.12	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.15	ug/l	
123-91-1	1,4-Dioxane	ND	130	20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	ND	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest LabLink@861664 13:47 07-Jul-2015

Report of Analysis

Client Sample ID:	087-WWE-061115-B		
Lab Sample ID:	JB96767-2	**Date Sampled:**	06/11/15
Matrix:	AQ - Water	**Date Received:**	06/11/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3 4

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	38.0	1.0	0.12	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	101%		72-125%
2037-26-5	Toluene-D8 (SUR)	96%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	108%		74-115%
1868-53-7	Dibromofluoromethane (S)	96%		79-120%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest LabLink@861664 13:47 07-Jul-2015

Report of Analysis

4.3

4

Client Sample ID:	087-WWE-061115-B		
Lab Sample ID:	JB96767-2	**Date Sampled:**	06/11/15
Matrix:	AQ - Water	**Date Received:**	06/11/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.2	5.2	mg/l	1	06/15/15 10:15	BM	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending June 2015

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.

Changed Item Identifier	Description of Change	Comments
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on May 27, 2015.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on May 27, 2015.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Contractor only. Submited to all Parties on July 2, 2015.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor. Subimtted to all Parties on June 18, 2015.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groudnwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Contractor only.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Contractor only.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on June 22, 2015.

Changed Item Identifier	Description of Change	Comments
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on June 22, 2015.
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Contractor only.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Contractor only.
DC 2015-07-22	Detail BN has been modified to extend the lIDPE up and over the SCB Wall. The prior detail showed both the GDl and geomembrane terminating at the wall.	Submitted to Contractor only.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

APPENDIX T

PART 8 OF 22

PROGRESS REPORTS

2015 MONTHLY REPORTS PART 3

SA-6 AND SA-7 COMBINED PROGRESS REPORT

SEPTEMBER 11, 2015

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

September 11, 2015

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2015-08

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from August 1 – August 31, 2015.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: August 2015 SA-6/7 Combined Monthly Progress Report No. 2015-08

cc: Joe Clifford - Amec Foster Wheeler (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)

Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2015-08

Project SA-6 & 7 Remediation

August 2015

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
08/14/15	Riverkeeper et al v. Honeywell International Inc. et al Study Areas 6 and 7 Combined Monthly Progress/Highlights - Report No. 2015-07	Honorable Robert G. Torricelli Office of the Special Master
08/18/15	Special Master Conference Call	N/A
08/20/15	Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2, Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
08/21/15	Updated Work Plan for In-Situ Treatment of Chromium-Impacted Soils Treatment Area 10-1 Only Study Area 6 North (Site 087) Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
08/24/15	July 2015 Daily Quality Assurance (QA) Reports Study Area 6 South Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
08/27/15	Design Change Bulletins Response Study Area 6 Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
08/27/15	Requested Design Change Bulletins Study Area 6 Jersey City, New Jersey	Upload to the Louis Berger Group SharePoint Site

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	08/09/15	08/16/15	08/23/15	08/30/15
Construction Management (AMEC)	9	9	9	9
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	49	48	40	39
Arecon/US Ecology Subcontractors	0	3	3	0
Evoqua	1	1	1	1
B&B Drilling	0	0	0	1
TOTAL STAFF	**64**	**66**	**58**	**55**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected August PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- On August 16 through 18, Cornerstone personnel completed S-3 Mass Removal Injection Event No. 23 in Injection Well 088-IW-03.
- On August 5, Summit Drilling completed soil sampling to a depth of 70 feet at the at the proposed PW-3 location on the Difeo car dealership property. Laboratory grain size determinations were completed of selected soil samples from this boring.
- Continued screening of Celgene material for use as protective cover soils above geosynthetics.
- Continued abandonment of monitoring wells on SA-6 North. The wells that where abandoned include the following: 088-MW-002, 088-MW-102, 088-MW-103, 088-MW-115, 088-PZ-001, 088-PZ-002, and 115-E4-DO.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.

- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on August 11, 2015.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	08/09/15	08/16/15	08/23/15	08/30/15
Avg. Gallons Treated & Discharged (per day)	77,459	77,432	78,222	78,560
Average Flow (gpm) for Operating Period	55	54	54	55
Avg. Hours of Plant Operation	24	24	24	24
GWTP Influent Tanks (gal.)	9,582	7,147	7,000	6,852

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Completion of the Excavation Area EA-8 excavation is pending post excavation sampling results.
- Completed excavation of Excavation Area EA-4.
- Completed excavation of relief trench on the cap side of the vertical hydraulic barrier wall adjacent to Excavation Area EA-5 in preparation for excavation.
- Began excavation of Excavation Area EA-5.
- Completed backfill placement in Excavation Area EA-7.
- Continued relocating soils from Area 3S to the SA-6 North Cap Area.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Entact/Horwith	Tri-axle Dump	South Brunswick, NJ	MCUA	AB-10 Material	9	25.91	2,410.37

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Excavation Completed	Excavation Areas EA-4 and EA-5 Volume Excavated - Total for Reporting Period: 899.11CY / Total to Date: 3,742.69 CY
Backfill in Progress	Historic Fill – SA-6 South western backfill area EA-7

3. BACKFILL MATERIALS USED

Source	Week Ending			
	08/09/15	8/16/15	8/23/15	8/30/15
Mt. Hope 3/8" Stone	101.93	0	0	0

- Screened Historic Fill was transferred and placed as backfill in EA-7. A total of 2 loads, totaling approximately 40 cubic yards was placed as backfill in EA-7. In addition, a total of 57 loads of less than 20ppm material, totaling approximately 608 cubic yards was placed as backfill in EA-7.
- Screened Celgene material was placed as protective cover soil in the SA-6 South cap area. A total approximately 6,000 cubic yards was placed as protective cover soil during the reporting period.

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging and offloading of surcharge material is complete.
- Area 3S: Surcharging and offloading of surcharge material is complete.
- Area 1N: Continued off-loading of remaining screened historic fill.
- Area 2N: Surcharging is 100% complete. Offloading not yet scheduled by contractor.
- Area 3N: Completed installation of surcharge monitoring instrumentation.
- Area 4N: Completed installation of surcharge monitoring instrumentation.

F. SHEET PILE OPERATIONS

- Continued installation of temporary sheet pile along Route 440. On August 4, 2015 the contractor broke an unmarked 6" water service to JCMUA. Repair of the 6" line was completed on August 5, 2015. Installation of the temporary sheet pile has been postponed until utilities are further delineated.
- Continued installation of the vertical hydraulic barrier wall east of the Trash Pit and along Route 440 from STA 0+00 to STA 3+10 (completed on August 5, 2015).

G. CAPPING OPERATIONS

- A total of 111,127 sq. ft. of liner totaling 31% of the total cap area was deployed during the reporting period. The total liner area deployed to date is now 66%.
- Continued installation of geosynthetic cap components to include placement of the geocomposite gas venting layer, 60 mil geomembrane liner, and geocomposite drainage layer.
- Continued general liner subgrade preparation in Area 2S and 3S.
- Continued cutting hydraulic barrier sheets to final elevation in SA-6 South Open Space Area.

- Continued removing asphalt on top of the SCB wall and smooth coating as necessary for geosynthetics installation detail.
- Continued installation of gas vent pipe installation.
- Began placement of protective cover soils and demarcation tape over the geocomposite drainage layer.

H. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	6/30/2016	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014, 1 yr. extension granted 10/6/14	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15	12/2/15	Pending

I. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete excavation of Area EA-8.
- Complete excavation of Area EA-5.
- Complete backfilling of excavation area EA-4 and EA-5.
- Initiate installation of the vertical hydraulic barrier wall within the Trash Pit.
- Continue installation of dewatering wells associated with the SA-6 North Excavation Areas EA-2 and EA-3.
- Begin Trash Pit Meadow Mat Repair.
- Continue liner subgrade and utility corridor preparation activities on SA-6 South.
- Continue installation of geosynthetic cap components to include placement of the geocomposite gas venting layer, 60 mil geomembrane liner, and geocomposite Drainage layer.
- Continue screening Celgene material for use as liner protective cover soils.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Conduct S-3 Mass Removal injection Event No. 24 in well 088-IW-02.
- Complete PVSC Monthly compliance sampling.
- Implement the in-situ plan for the SA-6 North Treatment Area 10.
- Continue to coordinate the planned PW-3 extraction well/trench installation.

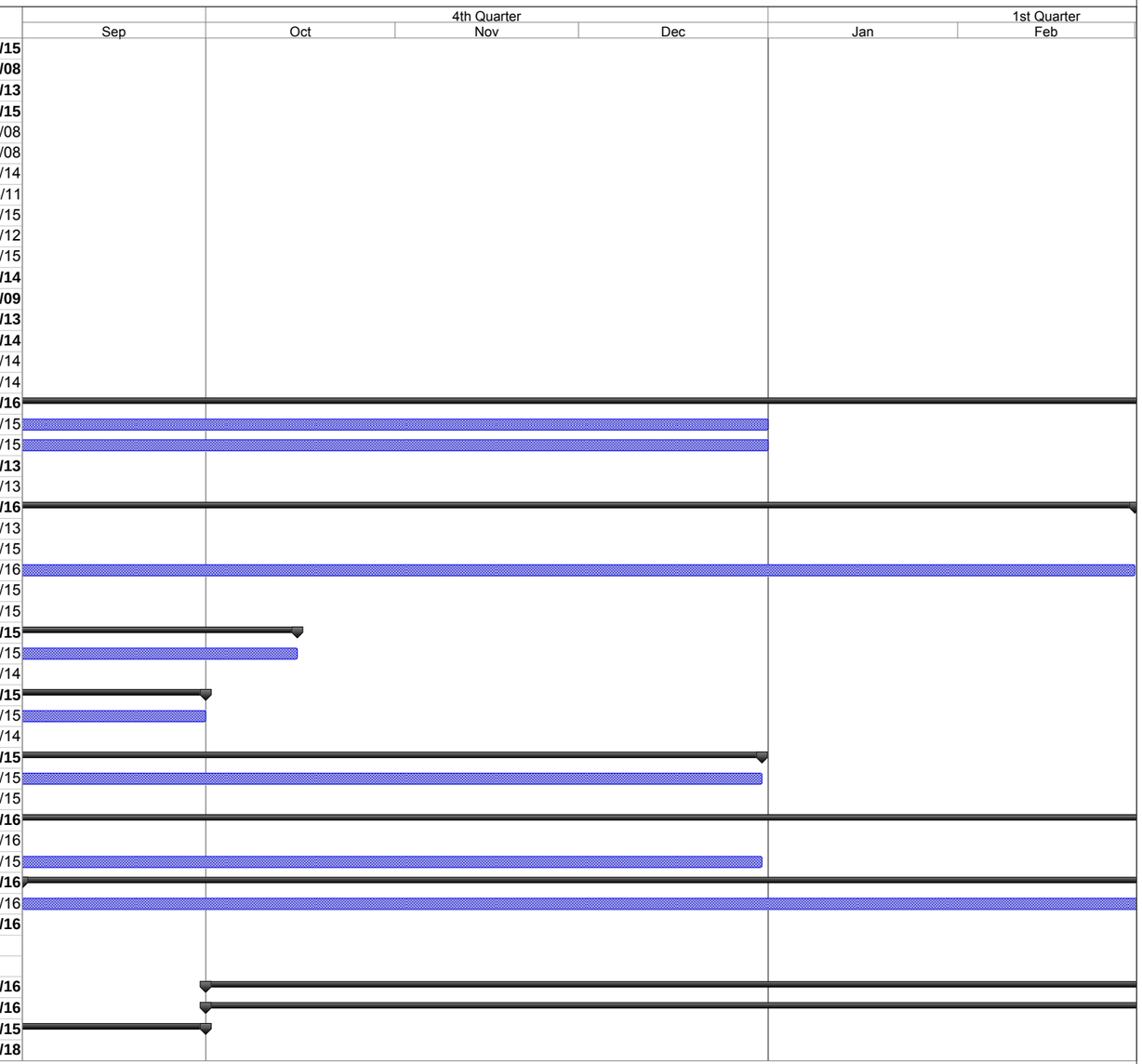
ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
4. *Dewatering Operations Update (not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
7. Perimeter Pools Update
8. *Groundwater Quality Data (conducted quarterly, not included in this reporting period)*
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. Sheet Pile Update
11. Capping Update
    - SA-6 South Cap Subgrade Progress Map
    - Repair Log
    - Non-conformance Log
    - Subgrade Approval Forms
    - QA Photo Log
    - Daily QA Reports (Langan)
12. Weekly SWPPP Reports
13. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (July 2015)
14. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**1/4/08**	**6/1/15**
2	**Remedial Action Work Plan**	**33 days**	**1/4/08**	**2/19/08**
5	**Remedial Action Design**	**1522 days**	**2/20/08**	**12/13/13**
18	**JCIA/JCDPW Relocation**	**1780 days**	**8/11/08**	**6/1/15**
19	Develop Site Relocation Master Plan	38 days	8/11/08	10/1/08
20	Submit Site Relocation Master Plan	0 days	10/1/08	10/1/08
21	JC Construction of New Facilities	1309 days	6/2/09	6/2/14
22	Relocation Contractor Procurement	392 days	4/15/10	10/13/11
23	JCIA and JCDPW Relocation	949 days	10/17/11	6/1/15
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	12/12/11	4/30/12
24a	Demolition of JCIA Structures	146 days	9/1/14	3/23/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**7/11/08**	**4/30/14**
26	**Remedial Action Work Plan**	**187 days**	**7/11/08**	**3/30/09**
32	**Remedial Action Design**	**1161 days**	**2/2/09**	**7/9/13**
57	**SA-6 South Relocation**	**616 days**	**12/26/11**	**4/30/14**
58	New GWTP Construction Completion	502 days	3/5/12	1/30/14
59	Demolition of 80 Kellogg	857 days	12/26/11	4/30/14
60	**SA-6 North/South Field Implementation**	**894 days**	**3/1/13**	**8/1/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	6/17/13	12/31/15
60b	SA-6S (Site 163) In-Situ Treatment	555 days	11/15/13	12/31/15
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**3/1/13**	**6/28/13**
61a	Mobilization	87 days	3/1/13	6/28/13
62	**Surcharge Install/Instrumentation**	**706 days**	**6/17/13**	**2/29/16**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	6/17/13	12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	4/8/14	2/13/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	6/30/15	2/29/16
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	6/16/14	2/23/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	10/6/14	5/8/15
63	**Barrier Wall Install**	**569 days**	**8/12/13**	**10/15/15**
63a	SA 6N Installation of Barrier Wall	159 days	3/9/15	10/15/15
63b	SA 6S Installation of Barrier Wall	210 days	8/12/13	5/30/14
64	**Excavation**	**507 days**	**10/22/13**	**9/30/15**
64a	SA 6N Excavation	218 days	12/1/14	9/30/15
64b	SA 6S Excavation	295 days	10/22/13	12/8/14
65	**Backfill**	**558 days**	**11/11/13**	**12/30/15**
65a	SA 6N Backfill	283 days	12/1/14	12/30/15
65b	SA 6S Backfill	384 days	11/11/13	4/30/15
66	**Capping and Cover Soil Placement**	**426 days**	**12/1/14**	**7/15/16**
66a	SA 6N Capping and Cover Soil Placement	83 days	3/24/16	7/15/16
66b	SA 6S Capping and Cover Soil Placement	283 days	12/1/14	12/30/15
67	**Restoration**	**234 days**	**9/1/15**	**7/21/16**
67a	Restoration	234 days	9/1/15	7/21/16
68	**Demobilization**	**22 days**	**7/1/16**	**8/1/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line			
69	**SA-6 North Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
75	**SA-6 South Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
81	**SA-6 North Long Term Protections**	**1830 days**	**10/1/08**	**10/1/15**
92	**SA-6 South Long Term Protections**	**2569 days**	**6/5/08**	**3/31/18**



Project: SA-6 Remediation Schedule
Revision 4
Date: 8/28/15

Task | Milestone | Summary | Critical

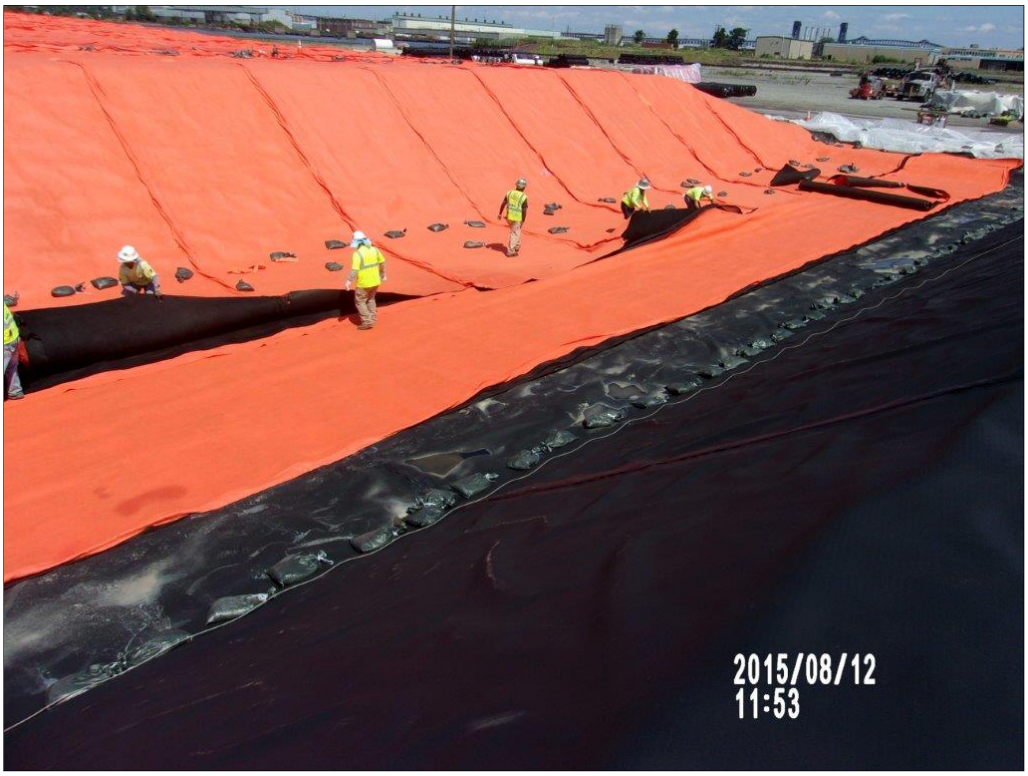
Attachment 2: Site Photographs

Site Photograph 1: Contractor fine grading along edge of Open Space Area.

Site Photograph 2: Covering geotextile with screened clean fill Kellogg St. properties.

Site Photograph 3: Fusion-welding two liner panels in Open Space Area.

Site Photograph 4: Installing sheet pile along Route 440 former City properties.



Site Photograph 5: Placement of geotextile along Kellogg St. properties.

Site Photograph 6: Screening of clean fill onsite to remove larger gravel.

Site Photograph 7: Spreading clean fill Kellogg St. properties.

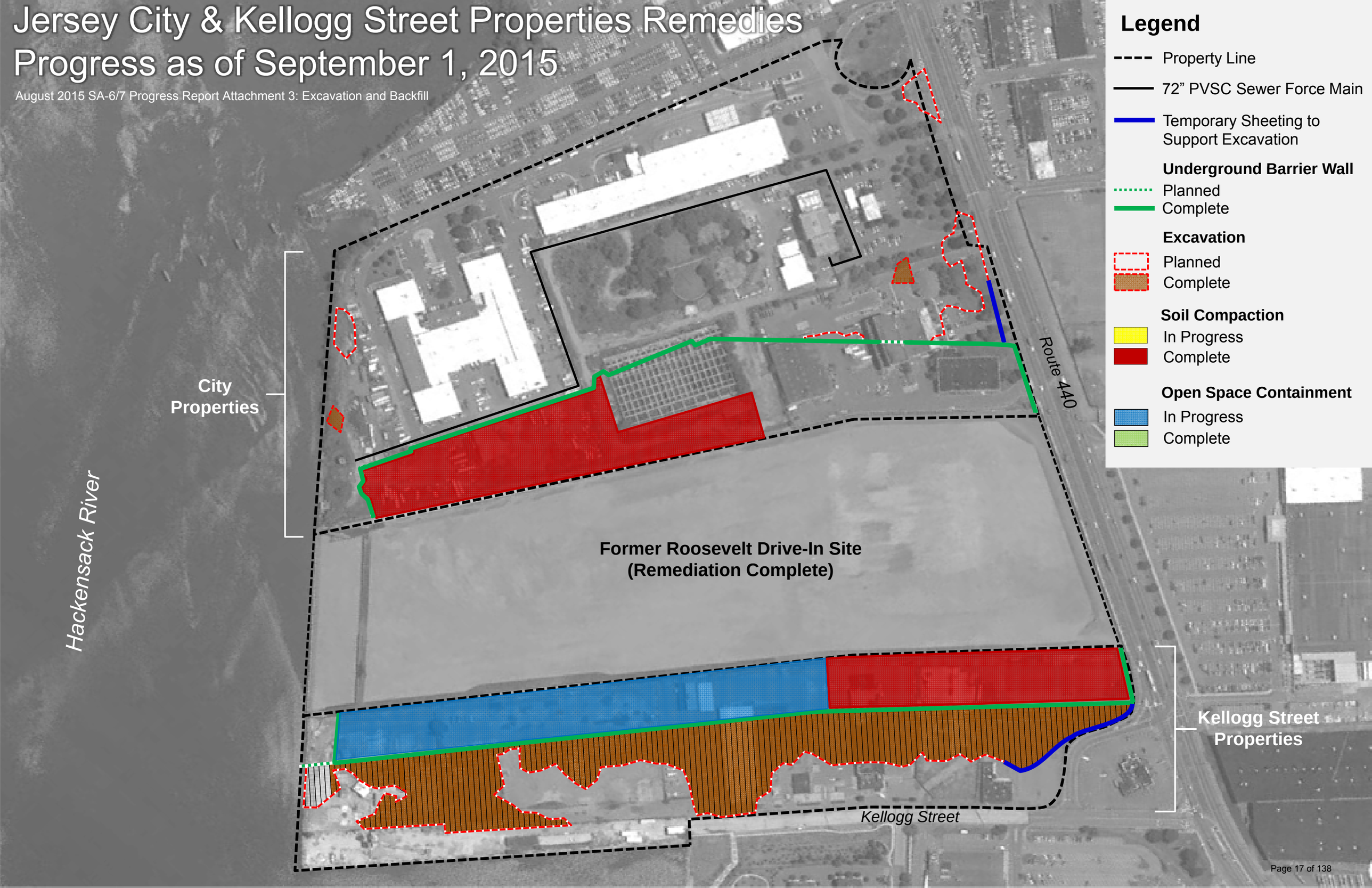
Site Photograph 8: Trimming top elevation of barrier wall Kellogg St. properties.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of September 1, 2015

August 2015 SA-6/7 Progress Report Attachment 3: Excavation and Backfill



Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
07/01/15	6:30	14:00	7:30	33,791.38	33,923.97	132,590	33,923,520	PVSC Compliance Sample Collected
07/02/15	6:30	13:00	6:30	33,923.97	34,000.38	76,410	33,999,930	
07/06/15	7:00	13:30	6:30	34,000.38	34,066.66	66,280	34,066,210	
07/07/15	8:00	14:00	6:00	34,066.66	34,125.32	58,660	34,124,870	
07/08/15	6:30	13:30	7:00	34,125.32	34,199.65	74,330	34,199,200	
07/09/15	6:30	13:30	7:00	34,199.65	34,252.75	53,100	34,252,300	
07/10/15	6:30	12:00	5:30	34,252.75	34,298.94	46,190	34,245,390	
07/13/15	7:00	11:45	4:45	34,298.94	34,325.94	27,000	34,226,200	
07/14/15	6:30	12:30	6:00	34,325.94	34,396.15	70,210	34,269,410	
07/15/15	7:00	14:00	7:00	34,396.15	34,474.85	78,700	34,331,000	
07/16/15	6:30	13:00	6:30	34,474.85	34,526.84	51,990	34,382,990	
07/17/15	12:00	14:00	2:00	34,526.84	34,556.84	30,000	34,412,990	
07/21/15	6:30	14:30	8:00	34,556.84	34,653.22	96,380	34,509,370	
07/23/15	6:30	13:30	7:00	34,653.22	34,690.24	37,020	34,546,390	
07/24/15	10:30	13:30	3:00	34,690.24	34,702.10	11,860	34,558,250	
07/27/15	6:30	14:00	7:30	34,702.10	34,790.64	88,540	34,646,790	
07/31/15	6:30	14:30	8:00	34,790.64	34,908.04	117,400	34,764,190	
08/03/15	9:00	13:30	4:30	34,908.04	34,940.20	32,160	34,796,350	
08/04/15	10:30	21:30	11:00	34,940.20	35,081.91	141,710	34,938,060	
08/07/15	6:30	12:30	6:00	35,081.91	35,221.03	139,120	35,077,180	PVSC Compliance Sample Collected
08/10/15	6:15	12:00	5:45	35,221.03	35,298.93	77,900	35,155,080	
08/11/15	6:35	14:30	7:55	35,298.93	35,398.03	99,100	35,254,180	
08/12/15	6:30	13:30	7:00	35,398.03	35,457.13	59,100	35,313,280	
08/13/15	7:00	13:30	6:30	35,457.13	35,497.93	40,800	35,354,080	
08/14/15	7:00	13:00	6:00	34,497.93	35,552.43	54,500	35,408,580	
08/17/15	6:30	12:30	6:00	35,552.43	35,618.63	66,200	35,474,780	
08/19/15	8:00	15:00	7:00	35,618.63	35,662.04	43,410	35,518,190	
08/20/15	7:00	14:00	7:00	35,662.04	35,706.84	44,800	35,562,990	
08/21/15	7:00	13:30	6:30	35,706.84	35,724.91	18,070	35,581,060	
08/25/15	8:00	14:00	6:00	35,724.91	35,790.40	65,490	35,646,550	
08/28/15	7:00	13:00	6:00	35,790.40	35,841.14	50,740	35,697,290	

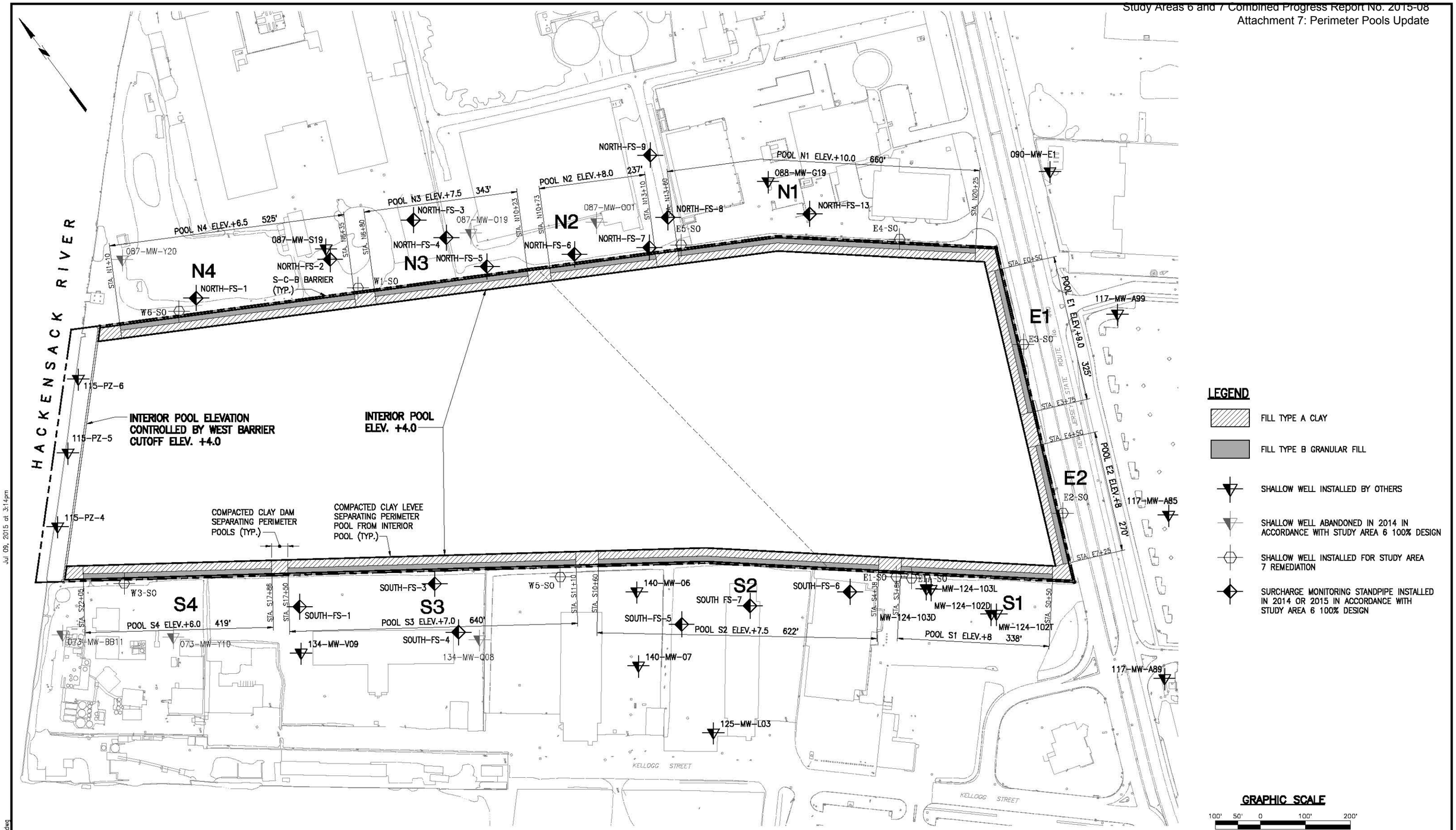
Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
EA-8	<20	087-EA8-20-a,b	1500	087-EA8-20-a1	6/24/2015	7:35	<2.3	Yes		
				087-EA8-20-a2	6/24/2015	7:40	<2.3	Yes		
				087-EA8-20-a3	6/24/2015	7:45	<1.9	Yes		
				087-EA8-20-a4	6/24/2015	7:50	<1.9	Yes		
				087-EA8-20-b1	6/24/2015	7:55	<2.1	Yes		
				087-EA8-20-b2	6/24/2015	8:00	0.78	Yes		
				087-EA8-20-b3	6/24/2015	8:05	2.10	Yes		
				087-EA8-20-b4	6/24/2015	8:10	<2.0	Yes		
EA-8	<20	087-EA8-20-c (bermed / trench material)	250	087-EA8-20-c1	6/24/2015	11:40	<1.9	*		
				087-EA8-20-c2	6/24/2015	11:45	<2.1	*		
				087-EA8-20-c3	6/24/2015	11:50	<2.1	*		
				087-EA8-20-c4	6/24/2015	11:55	<1.9	*		
EA7	<20	087-EA7-20-a (bermed/trench material)	900	087-EA7-20-a1	6/26/2015	13:15	<1.8	Yes		
				087-EA7-20-a2	6/26/2015	13:20	<1.4	Yes		
				087-EA7-20-a3	6/26/2015	13:25	<1.4	Yes		
				087-EA7-20-a4	6/26/2015	13:30	5.5	Yes		
EA7	<20	087-EA7-20-b West Pile	600	087-EA7-20-b1	7/14/2015	8:52	5.2	Yes		
				087-EA7-20-b2	7/14/2015	8:56	2.6	Yes		
				087-EA7-20-b3	7/14/2015	9:00	4.3	Yes		
				087-EA7-20-b4	7/14/2015	9:03	2.8	Yes		
EA7	<20	087-EA7-20-c East Pile	200	087-EA7-20-c1	7/14/2015	9:06	<.47	Yes		
				087-EA7-20-c2	7/14/2015	9:11	<1.6	Yes		
3S cap material	<240	124-3S-EX-a,b,c,d (Excess 3S material)	3500	124-3S-EX-a1	8/10/2015	12:10	51.6		Yes	
				124-3S-EX-a2	8/10/2015	12:15	18.6	*		
				124-3S-EX-a3	8/10/2015	12:18	37.1		Yes	
				124-3S-EX-a4	8/10/2015	12:20	18.9	*		
				124-3S-EX-b1	8/10/2015	12:21	24.8		Yes	
				124-3S-EX-b2	8/10/2015	12:22	49.3		Yes	
				124-3S-EX-b3	8/10/2015	12:23	37.9		Yes	
				124-3S-EX-b4	8/10/2015	12:24	40.4		Yes	
				124-3S-EX-c1	8/10/2015	12:25	24.7		Yes	
				124-3S-EX-c2	8/10/2015	12:26	36.3		Yes	
				124-3S-EX-c3	8/10/2015	12:27	46.7		Yes	
				124-3S-EX-c4	8/10/2015	12:28	8.1	*		
				124-3S-EX-d1	8/10/2015	12:29	25.6		Yes	
				124-3S-EX-d2	8/10/2015	12:30	32.1		Yes	
				124-3S-EX-d3	8/10/2015	12:31	74.6		Yes	
				124-3S-EX-d4	8/10/2015	12:32	34.7		Yes	

*Material currently stockpiled. Pending final placement.
**Waiting on final results from the laboratory.

Attachment 7: Perimeter Pools Update



IN PROGRESS

06-10-2015

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

Jul 09, 2015 at 3:14pm
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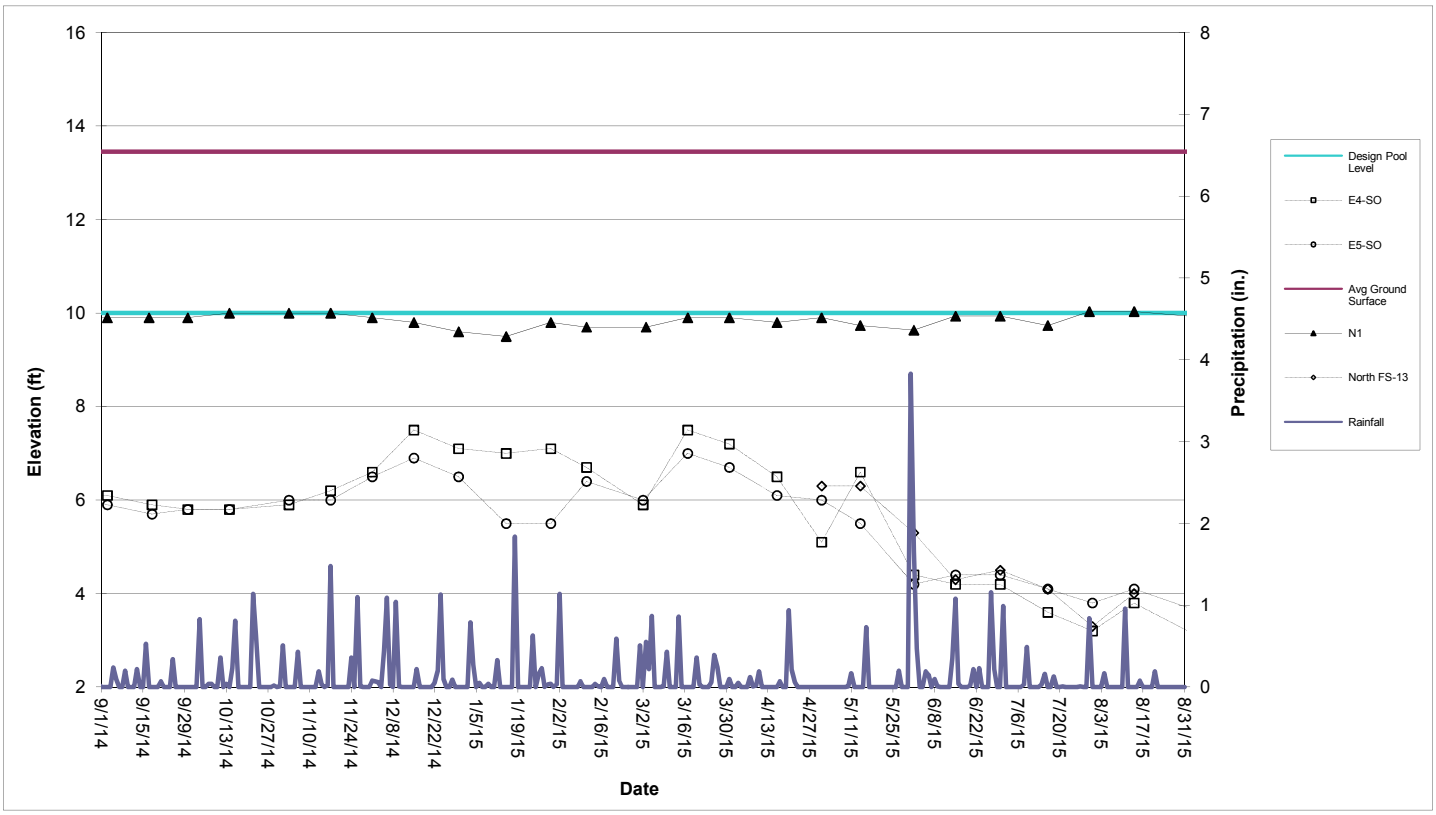
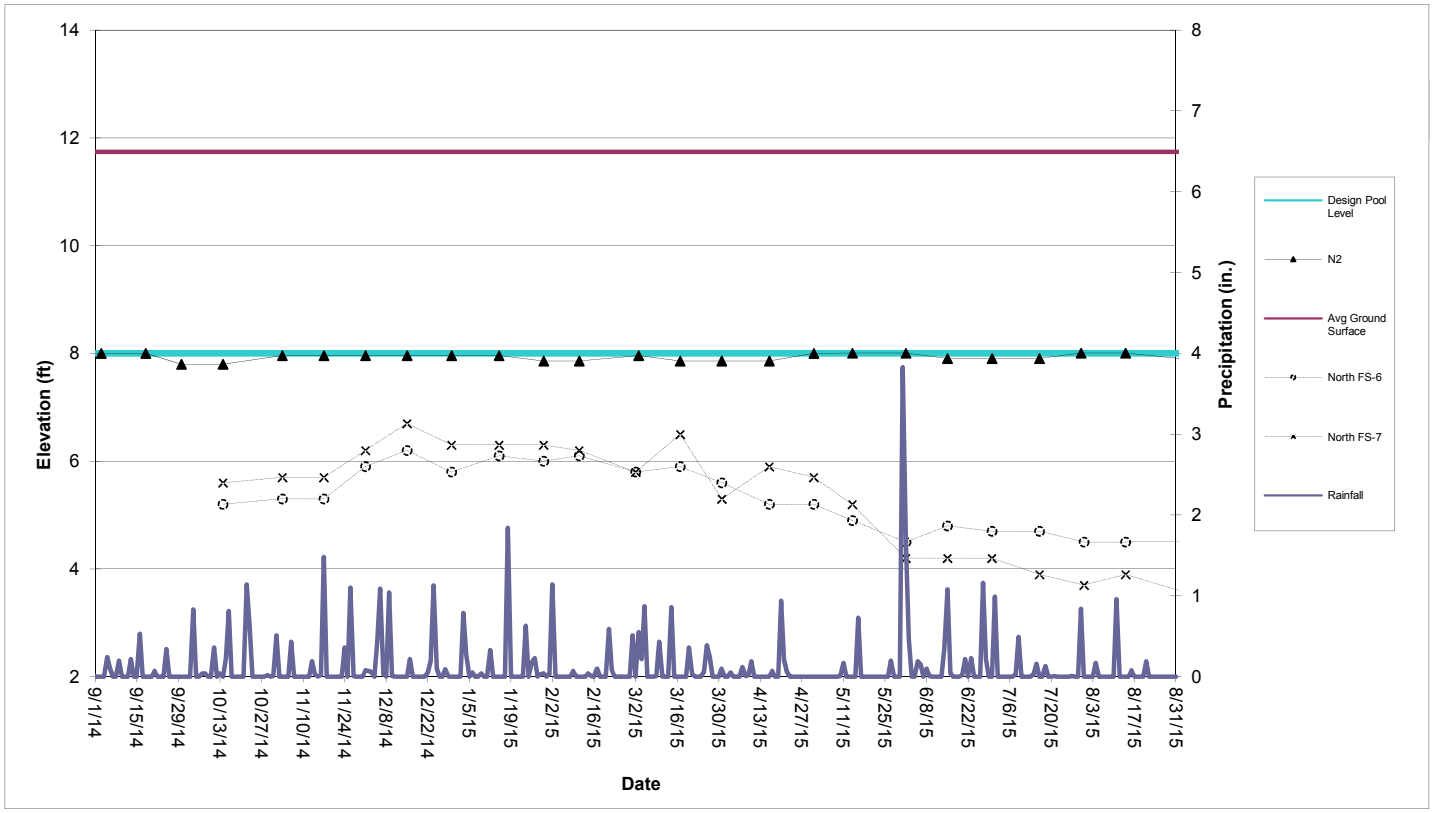
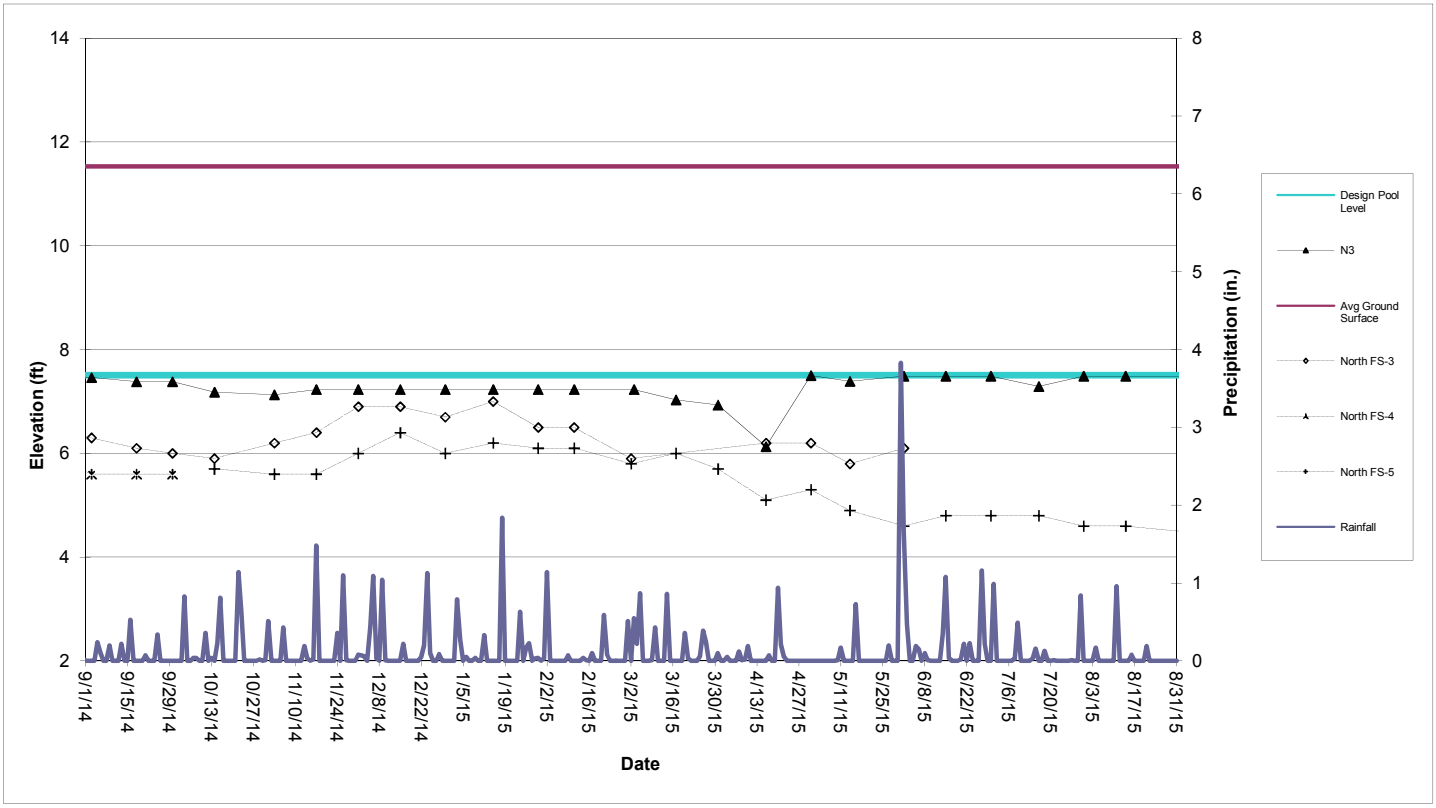
bboscaino



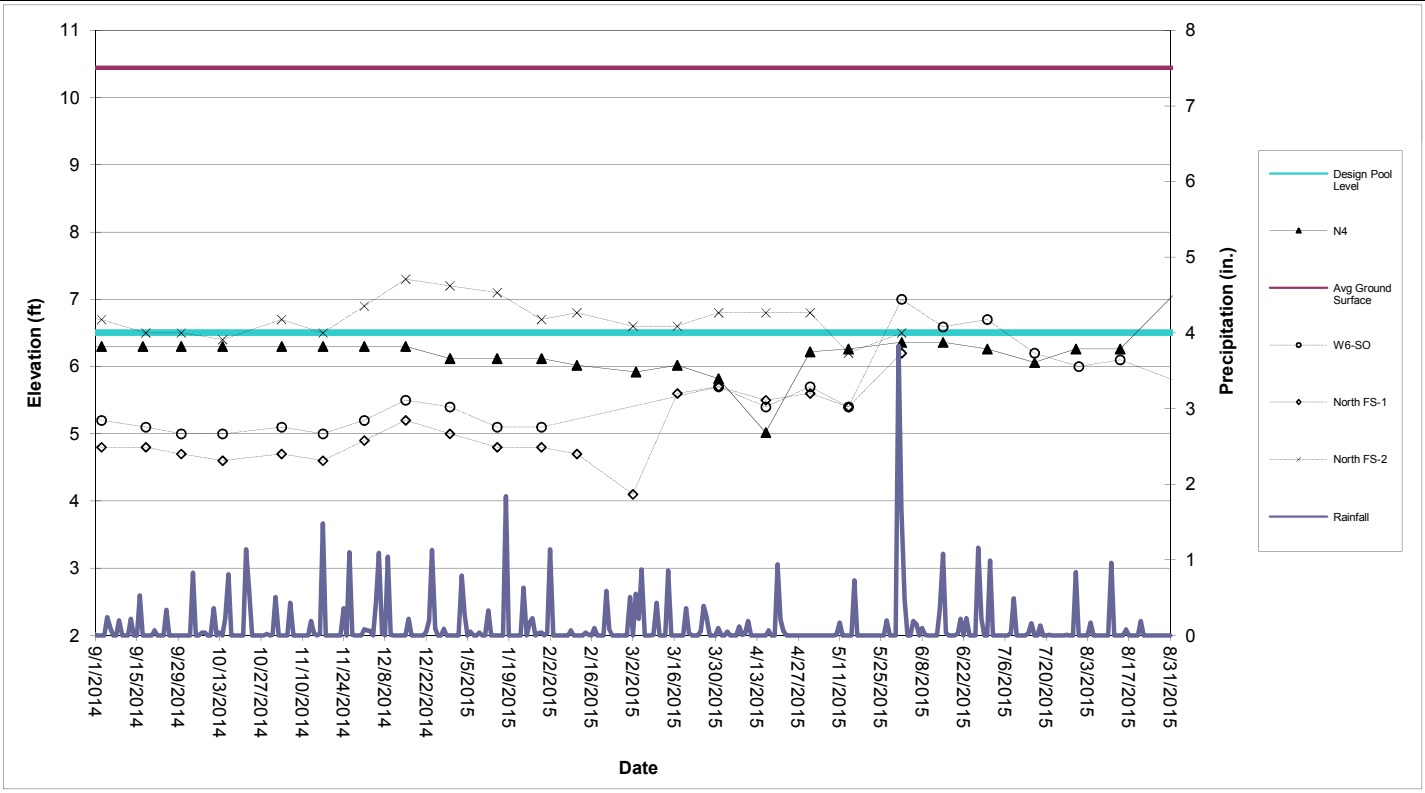
Perimeter Pool N1 (Sta. N13+60 to N20+25)



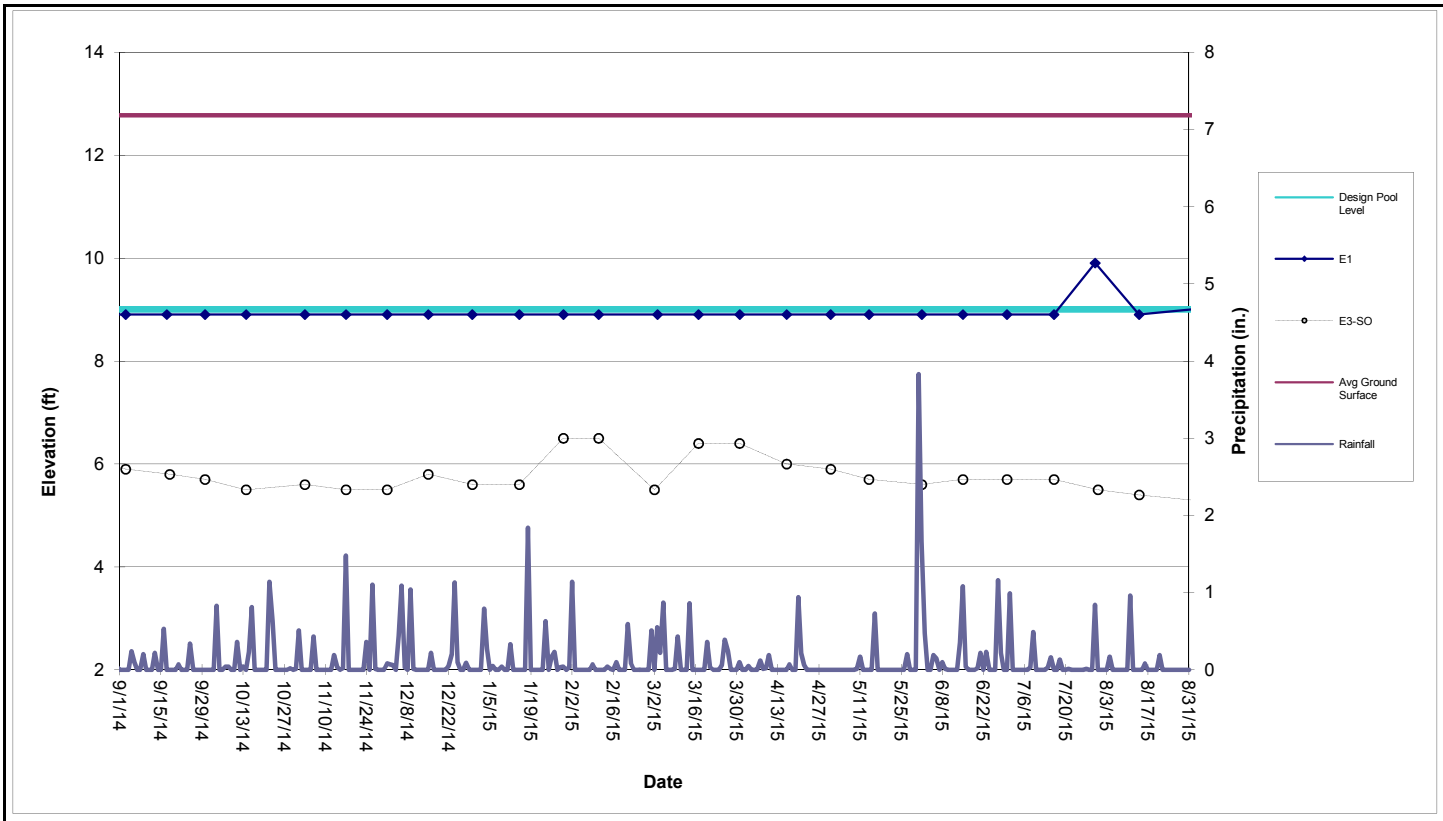
Perimeter Pool N2 (Sta. N10+73 to N13+10)



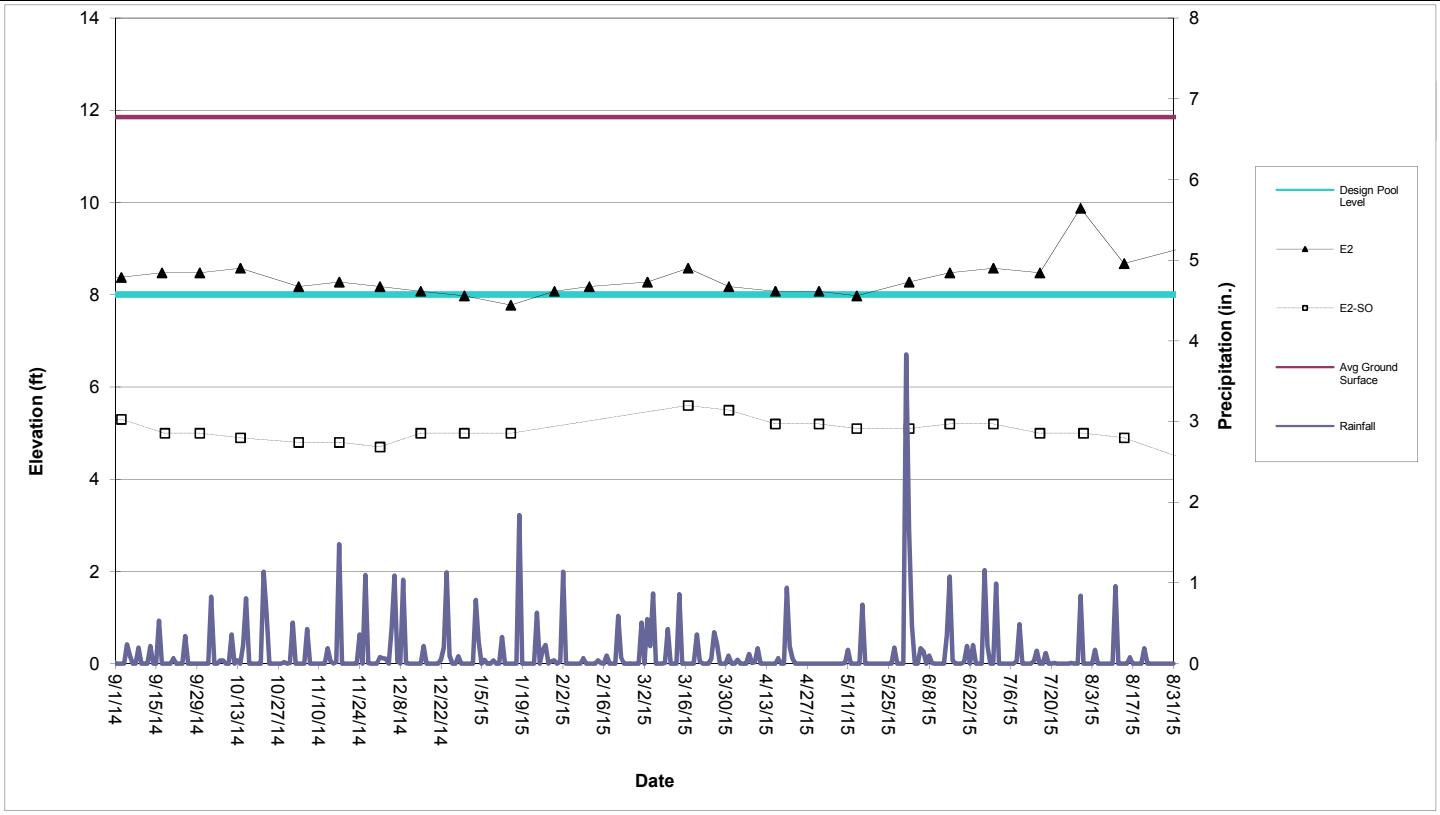
Perimeter Pool N3 (Sta. N6+80 to N10+23)



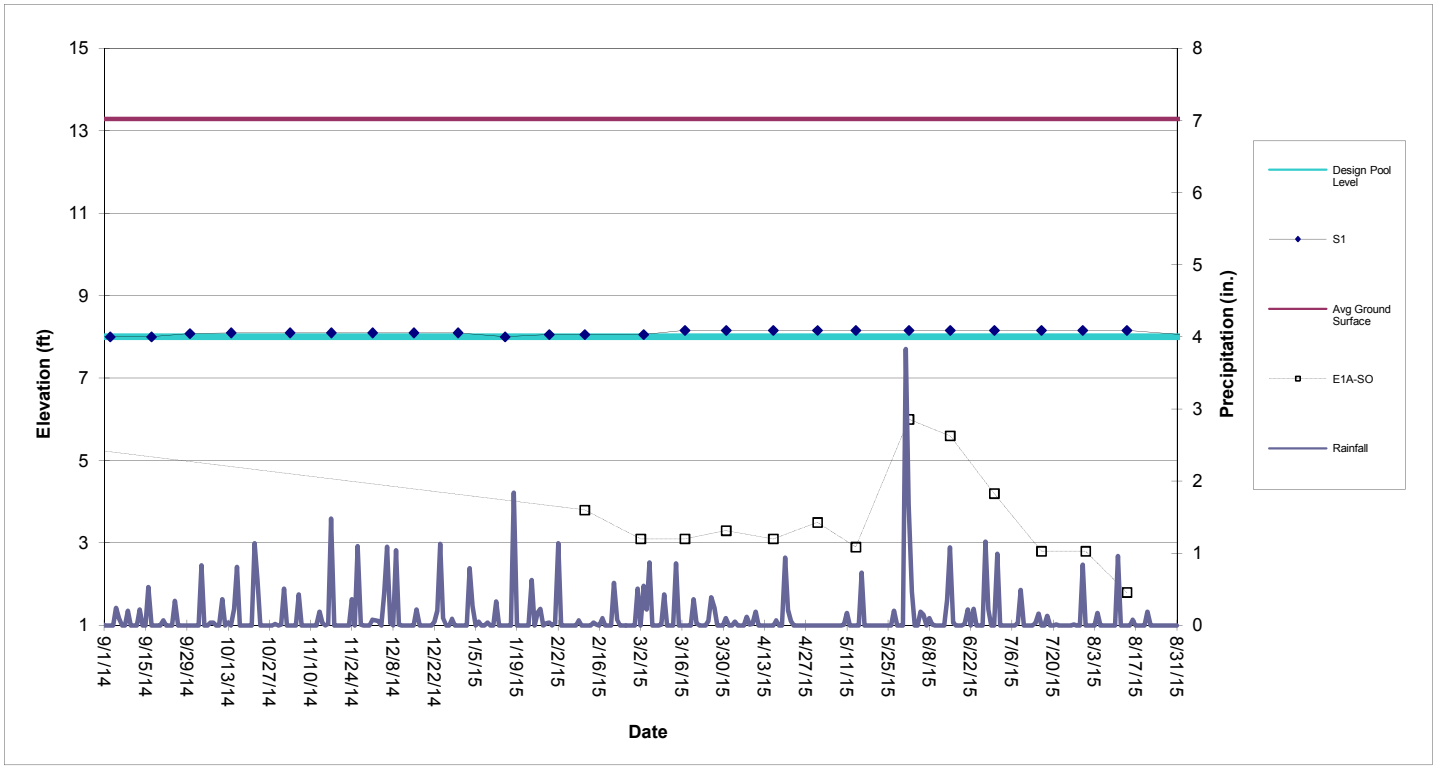
Perimeter Pool N4 (Sta. N6+80 to N10+23)



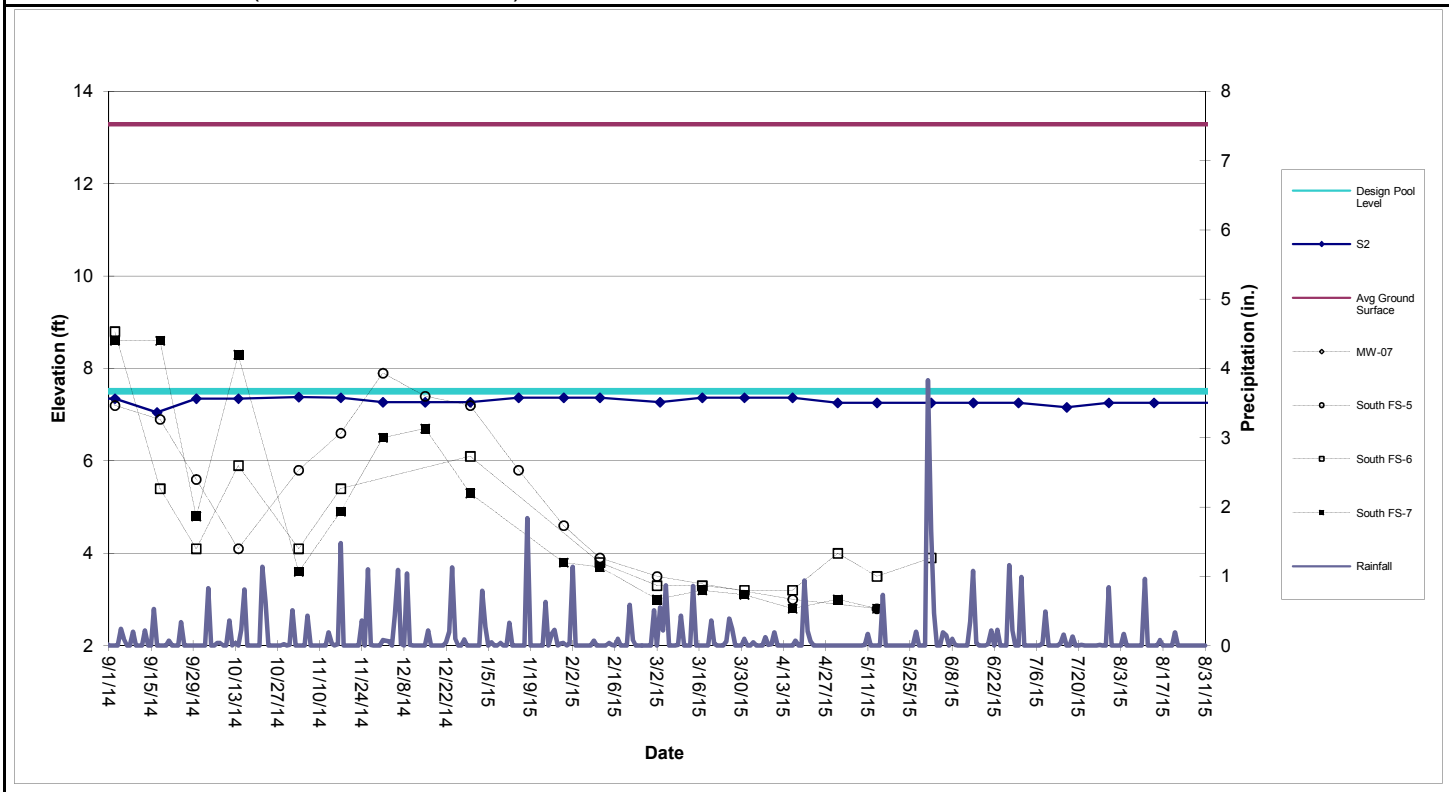
Perimeter Pool E1 (Sta. E0+50 to E3+75)



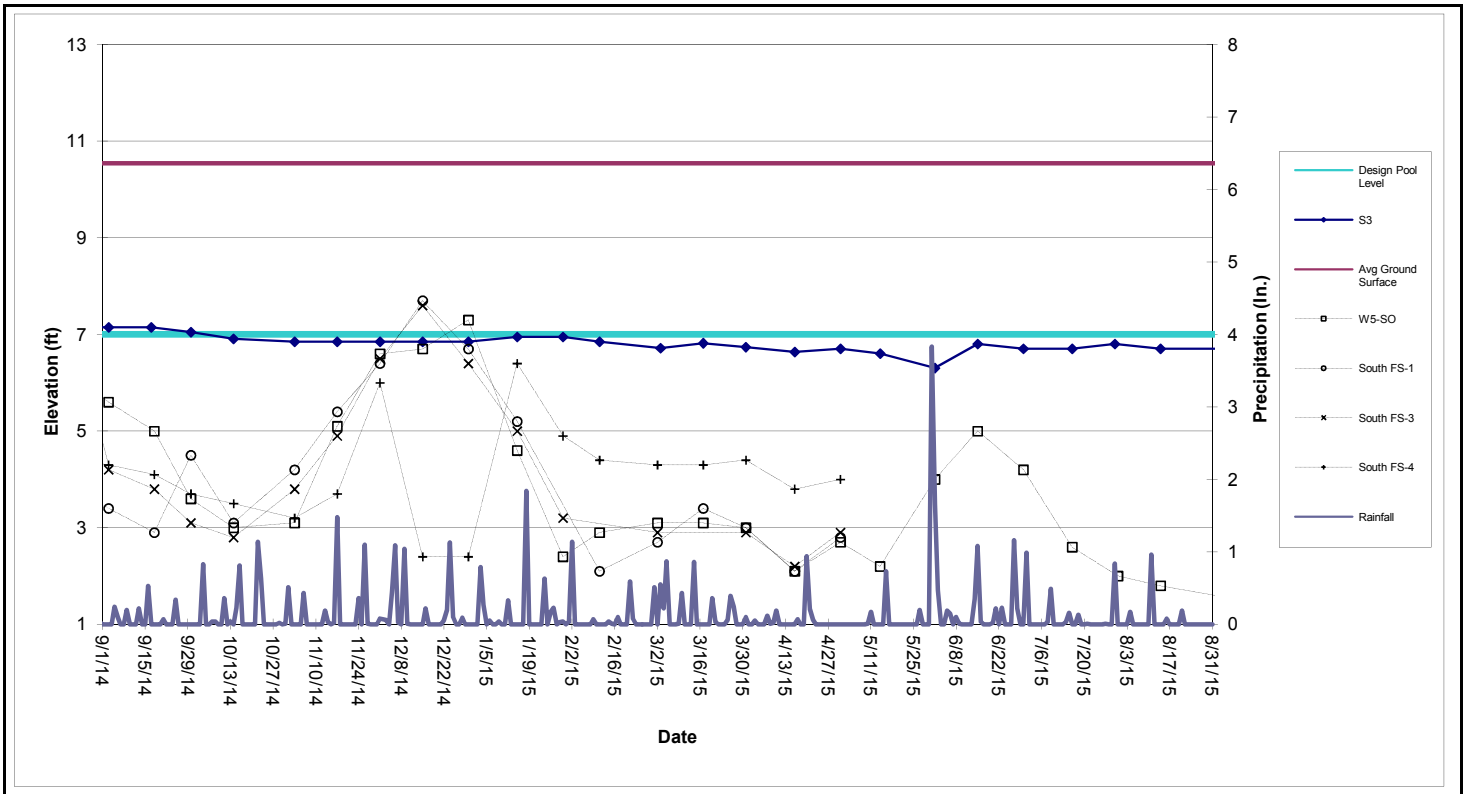
Perimeter Pool E2 (Sta. E4+50 to E7+25)



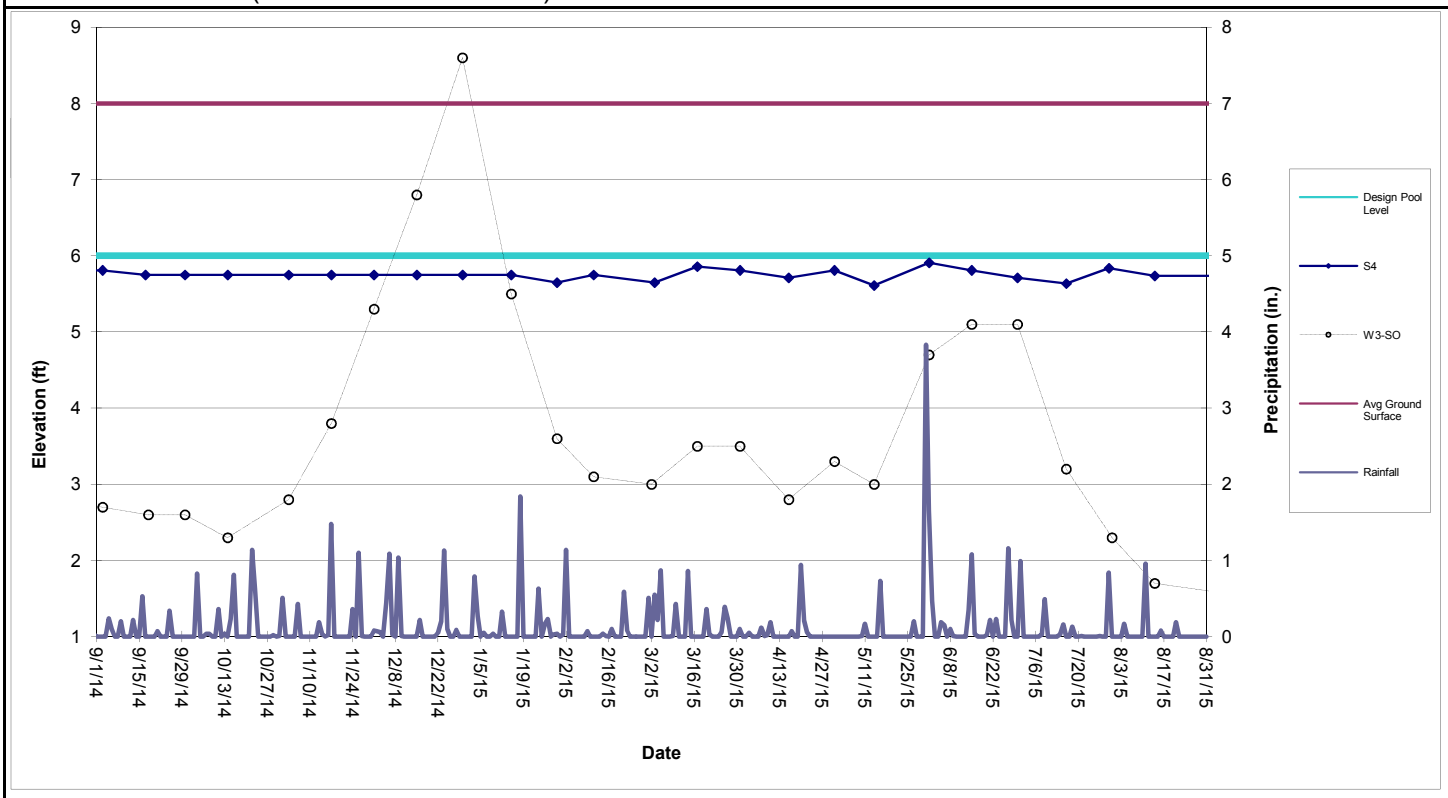
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

									North								South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W3-SO	W5-SO	W6-SO	FS-1	FS-2	FS-3	FS-4	FS-5	FS-6	FS-7	FS-13	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																						
9/3/2014		5.3	5.9	6.1	5.9	2.7	5.6	5.2	4.8	6.7	6.3	5.6					3.4	4.2	4.3	7.2	8.8	8.6
9/18/2014		5.0	5.8	5.9	5.7	2.6	5.0	5.1	4.8	6.5	6.1	5.6					2.9	3.8	4.1	6.9	5.4	8.6
9/30/2014		5.0	5.7	5.8	5.8	2.6	3.6	5.0	4.7	6.5	6.0	5.6					4.5	3.1	3.7	5.6	4.1	4.8
10/14/2014		4.9	5.5	5.8	5.8	2.3	3.0	5.0	4.6	6.4	5.9		5.7	5.2	5.6		3.1	2.8	3.5	4.1	5.9	8.3
11/3/2014		4.8	5.6	5.9	6.0	2.8	3.1	5.1	4.7	6.7	6.2		5.6	5.3	5.7		4.2	3.8	3.2	5.8	4.1	3.6
11/17/2014		4.8	5.5	6.2	6.0	3.8	5.1	5.0	4.6	6.5	6.4		5.6	5.3	5.7		5.4	4.9	3.7	6.6	5.4	4.9
12/1/2014		4.7	5.5	6.6	6.5	5.3	6.6	5.2	4.9	6.9	6.9		6.0	5.9	6.2		6.4	6.5	6.0	7.9		6.5
12/15/2014		5.0	5.8	7.5	6.9	6.8	6.7	5.5	5.2	7.3	6.9		6.4	6.2	6.7		7.7	7.6	2.4	7.4		6.7
12/30/2014		5.0	5.6	7.1	6.5	8.6	7.3	5.4	5.0	7.2	6.7		6.0	5.8	6.3		6.7	6.4	2.4	7.2	6.1	5.3
1/15/2015		5.0	5.6	7.0	5.5	5.5	4.6	5.1	4.8	7.1	7.0		6.2	6.1	6.3		5.2	5.0	6.4	5.8		
1/30/2015			6.5	7.1	5.5	3.6	2.4	5.1	4.8	6.7	6.5		6.1	6.0	6.3			3.2	4.9	4.6		3.8
2/11/2015	3.8		6.5	6.7	6.4	3.1	2.9		4.7	6.8	6.5		6.1	6.1	6.2		2.1		4.4	3.9	3.8	3.7
3/2/2015	3.1		5.5	5.9	6.0	3.0	3.1		4.1	6.6	5.9		5.8	5.8	5.8		2.7	2.9	4.3	3.5	3.3	3.0
3/17/2015	3.1	5.6	6.4	7.5	7.0	3.5	3.1		5.6	6.6			6.0	5.9	6.5		3.4		4.3		3.3	3.2
3/31/2015	3.3	5.5	6.4	7.2	6.7	3.5	3.0	5.7	5.7	6.8			5.7	5.6	5.3		3.0	2.9	4.4		3.2	3.1
4/16/2015	3.1	5.2	6.0	6.5	6.1	2.8	2.1	5.4	5.5	6.8	6.2		5.1	5.2	5.9		2.1	2.2	3.8	3.0	3.2	2.8
5/1/2015	3.5	5.2	5.9	5.1	6.0	3.3	2.7	5.7	5.6	6.8	6.2		5.3	5.2	5.7	6.3	2.8	2.9	4.0		4.0	3.0
5/14/2015	2.9	5.1	5.7	6.6	5.5	3.0	2.2	5.4	5.4	6.2	5.8		4.9	4.9	5.2	6.3				2.8	3.5	2.8
6/1/2015	6.0	5.1	5.6	4.4	4.2	4.7	4.0	7.0	6.2	6.5	6.1		4.6	4.5	4.2	5.3					3.9	
6/15/2015	5.6	5.2	5.7	4.2	4.4	5.1	5.0	6.6					4.8	4.8	4.2	4.3						
6/30/2015	4.2	5.2	5.7	4.2	4.4	5.1	4.2	6.7					4.8	4.7	4.2	4.5						
7/16/2015	2.8	5.0	5.7	3.6	4.1	3.2	2.6	6.2					4.8	4.7	3.9	4.1						
7/31/2015	2.8	5.0	5.5	3.2	3.8	2.3	2.0	6.0					4.6	4.5	3.7	3.3						
8/14/2015	1.8	4.9	5.4	3.8	4.1	1.7	1.8	6.1					4.6	4.5	3.9	4.0						

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4, South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09, W1-SO, North FS-4

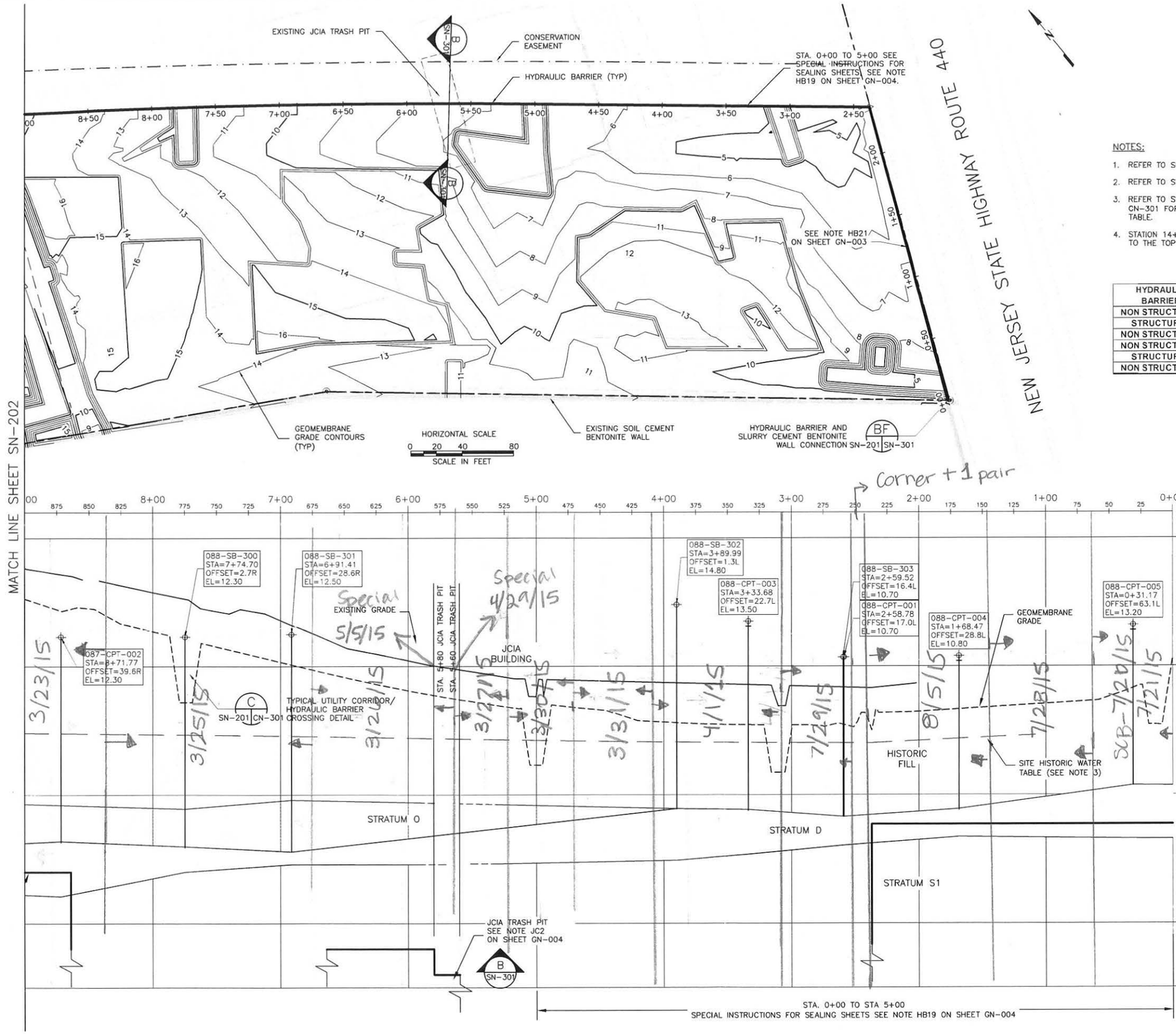
Attachment 8: Groundwater Quality Data

(not included in this reporting period)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.
4. STATION 14+00 TO 19+00 THE TOE OF THE SHEETPILE WILL BE DRIVEN TO THE TOP OF THE STRATUM S1.

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	0+00	2+37	-4	AZ 19-700
STRUCTURAL	2+37	5+60	-18	AZ 19-700
NON STRUCTURAL	5+60	5+80	-14	AZ 19-700
NON STRUCTURAL	5+80	6+64	-12	AZ 19-700
STRUCTURAL	6+64	8+64	-33	AZ 38-700N
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700

NO.	DATE	REVISION	BY	APVD
1	10/10/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR TDD CHK RJR APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2125, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

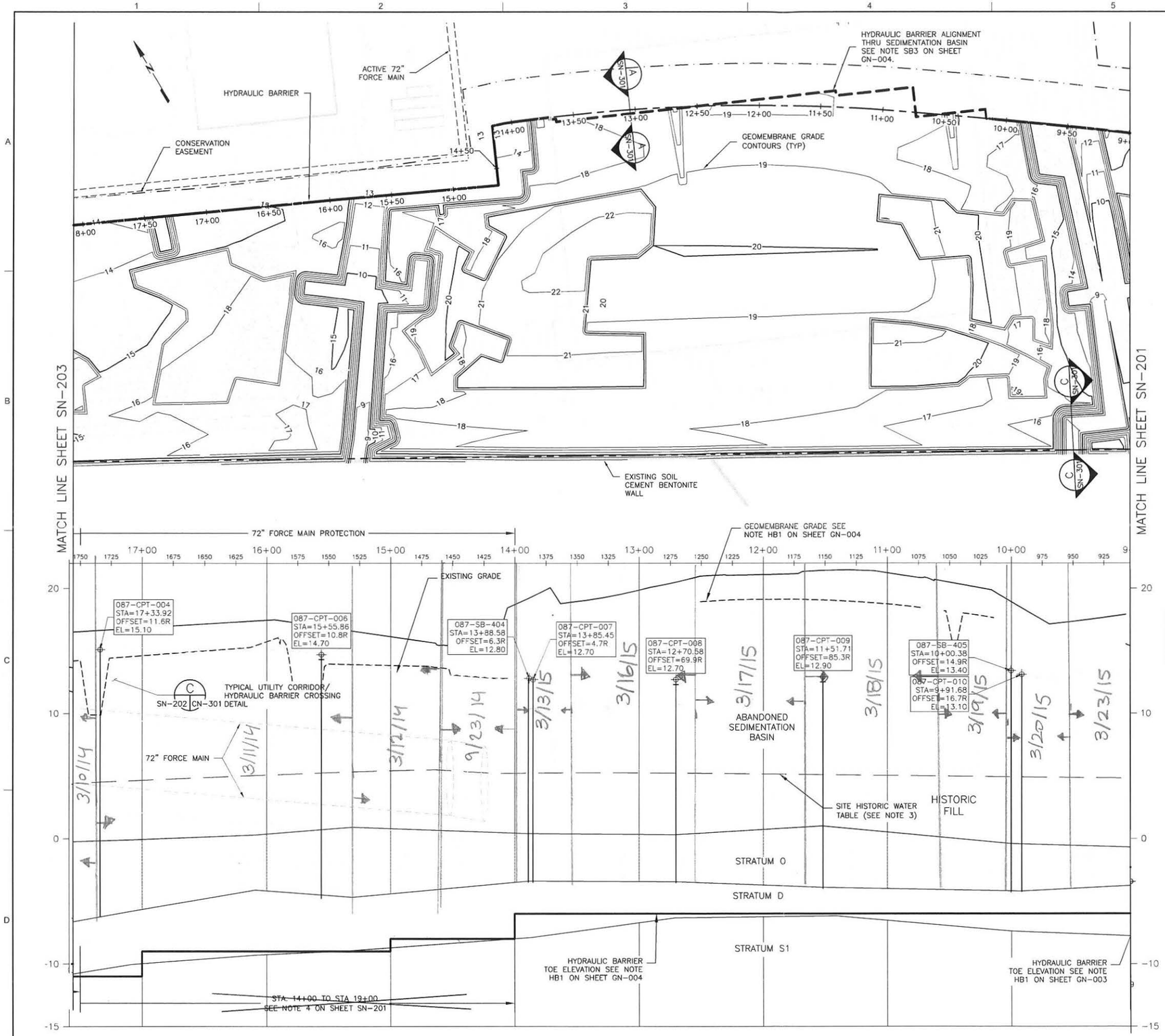
amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 589 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-201
SHEET	54 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR IN PART, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR54-SN-201 HBW Design Pin Prof.dwg PLOT DATE: Mon, 07 Oct 2013 PLOT TIME: 4:04 PM



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET ON CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700
NON STRUCTURAL	9+85	14+00	-6	AZ 19-700
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700

Time frame for:
HB sheets driven

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM				RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	RJR	TDD	TDD	SGS

REVISION

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507
BCO

Honeywell
101 COLUMBIA RD. BOX 2108, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 Precision Road, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE
PROJ 3480-12-0317
DWG SN-202
SHEET 55 OF 70

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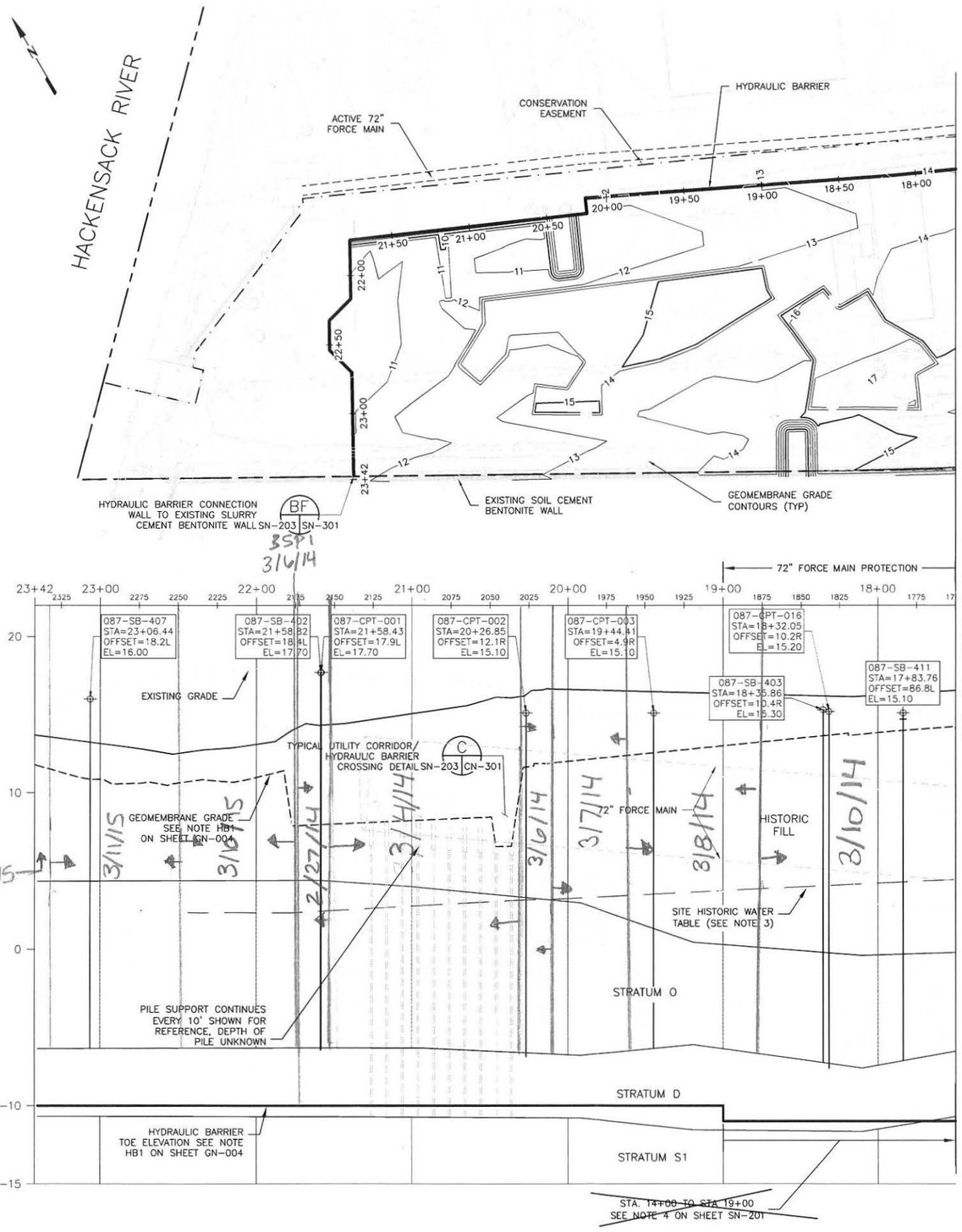
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR55-SN-202 HBW Design Pln Prof.dwg PLOT DATE: Fri. 18 Oct 2013 PLOT TIME: 10:35 AM



HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700
NON STRUCTURAL	19+00	23+38	-10	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM				RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION				TDD	SGS
		REVISION	TDD	RJR	TDD		SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 586-2320
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-203
SHEET	56 OF 70

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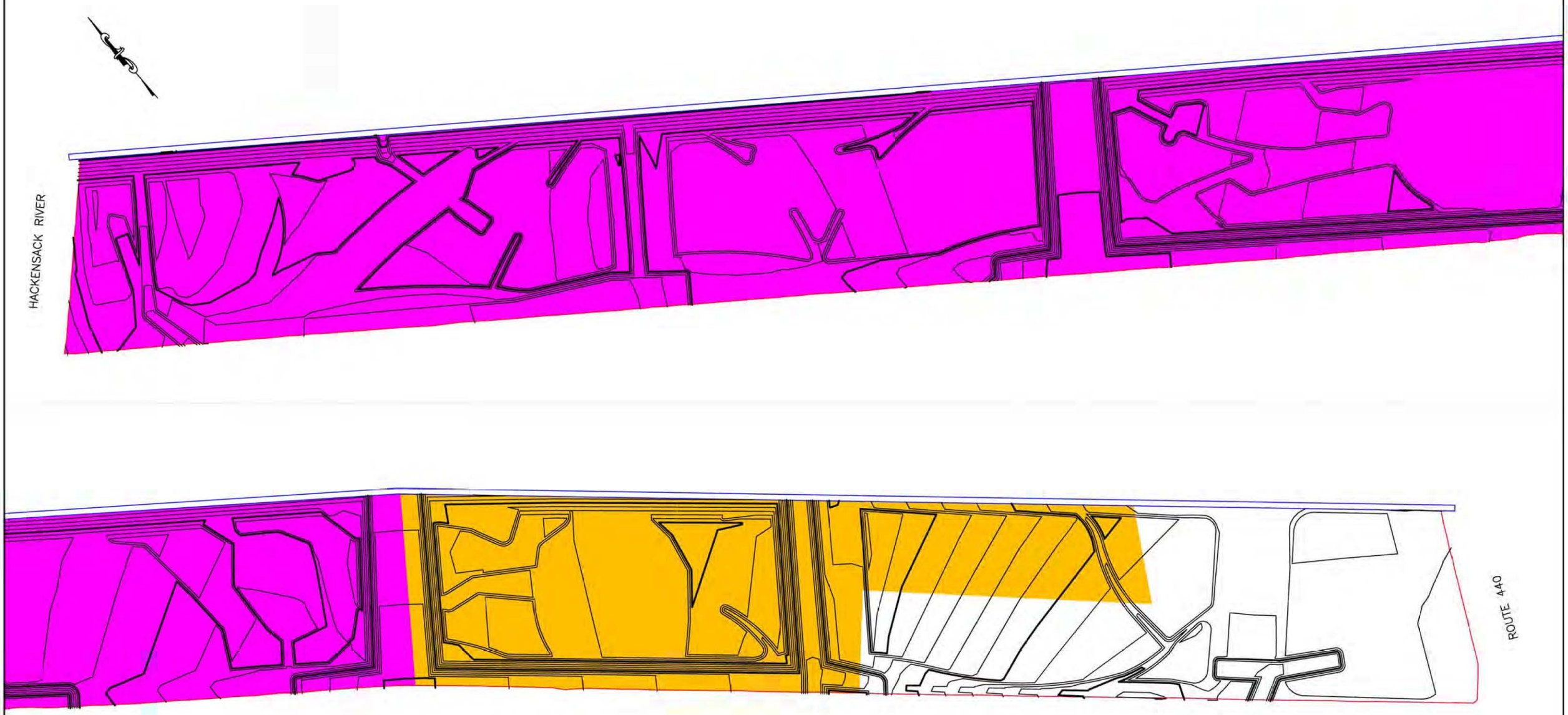
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR56-SN-203 HBW Design Pln Prof.dwg PLOT DATE: Fri, 18 Oct 2013 PLOT TIME: 10:37 AM

Attachment 11: Capping Update

- SA-6 South Cap Subgrade Progress Map
- Repair Log
- Non-conformance Log
- Subgrade Approval Forms
- QA Photo Log
- Daily QA Reports



LEGEND

- SUBGRADE GRADING UNDERWAY
- SUBGRADE COMPLETE AND SURVEYED
- APPROVED FOR GEOSYNTHETIC DEPLOYMENT
- LINER DEPLOYED
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP SUBGRADE PROGRESS MAP
08/13/15

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap construction **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
2617	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
3766.83	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-127	CF		28	BETWEEN RP-126 & RP-128			x		24	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-128	CF		28	48'N OF 27/28 & 6'E	P	1.5	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-129	PB		11	80'N OF 10/11 & 8'E (PB 8")	P	3	x	3	8	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-130	DS-10	32/33		20'N OF SEOS	P	2	x	5.5		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-131	DSX-4	RP-102/27		ON EASTSIDE OF RP-102/27	P	2	x	5		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-132	PB		32	13'N OF 31/32 & 1'E (PB 8")	P	3	x	4	8	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-133	WR	33/34		SEOS TO 21'N	P	2.5	x	21		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-134	WR		34	BETWEEN RP-133 & RP-135(N.SIDE)			x		84	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-135	WR		34	18'N OF 33/34 & 11'E	P	3	x	10		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-136	WR		34	FROM RP-135 TO SEOP			x		180	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-137	WR		34	BETWEEN RP-133 & RP-135(S.SIDE)			x		120	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-138	WR		34	BETWEEN RP-137 & RP-139			x		36	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-139	WR		34	13'N OF 33/34 & 6'E	P	1.5	x	1.5		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-140	WR		34	BETWEEN RP-135 & RP-141			x		168	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-141	WR		34	36'N OF 33/34 & 10'E	P	1	x	2		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-142	CF		30	112'N OF 29/30 & 5'E	P	2	x	14		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-143	CF		30	BETWEEN RP-142 & RP-144			x		48	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-144	CF		30	98'N OF 29/30 & 7'E	P	1.5	x	14		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-145	DS-11	36/37		90'W OF EEOS & SJ 34/36/37	P	2	x	7		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-146	SJ	41/44/45		SJ 41/44/45	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-147	SJ	44/45/46		SJ 44/45/46	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap construction **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	2617	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	3766.83	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-148	SJ	40/41/44		SJ 40/41/44	P	2	x	5.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-149	SJ	34/40/41		SJ 34/40/41	P	3	x	5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-150	SJ	34/39/40		SJ 34/39/40	P	1.5	x	3		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-151	SJ	34/38/39		SJ 34/38/39	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-152	SJ	34/37/38		SJ 34/37/38	P	2	x	2.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-153	BO	35/36		84'W OF EEOS	P	2	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-154	WR		36	BETWEEN RP-153 & RP-155			x		36	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-155	WR		36	84'W OF 35/36 & 5'S	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-156	SJ	34/35/36		SJ 34/35/36	P	2	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-157	BO	34/35		10'S OF NEOS	P	1.5	X	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-158	WR		35	65'W OF 35/36 & 11'N	P	1.5	X	4		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-159	WR		35	FROM RP-158 TO N.END OF P-35	P		x		144	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-160	DS-12	42/43		20'N OF SEOS	P	2	x	5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-161	SJ	43/44/46		SJ 43/44/46	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-162	WR	44/46		5'W OF EEOS	P	1.5	X	3		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-163	WR		44	BETWEEN RP-162 & RP-164			x		36	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-164	WR		44	5'W OF 44/46 & 5'N	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-165	WR		44	BETWEEN RP-162 RP-166			x		216	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-166	WR	40/44		16'W OF EEOS	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-167	SJ	40/42/43		SJ 40/42/43	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-168	SJ	39/40/42		SJ 39/40/42	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap construction **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
2617	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
3766.83	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-169	SJ	38/39/42		SJ 38/39/42	P	2	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-170	SJ	37/38/42		SJ 37/38/42	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-171	SJ	36/37/42		SJ 36/37/42	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-172	WR	36/42		6'S OF NEOS	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-173	WR		42	BETWEEN RP-172 & RP-174			x		108	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-174	WR		42	6'S OF 36/42 & 10'E	P	3	x	4		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-175	CR	35/42		15'S OF NEOS	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-176	WR		42	BETWEEN RP-174 & RP-175			x		132	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-177	SJ	35/36/42		SJ 35/36/42	P	2	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-178	CR	35/36		15'W OF EEOS	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-179	WR		35	30'W OF 35/36 & 10'N	P	2	x	4		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-180	WR		35	FROM RP-179 TO N.END OF P-35			x		156	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-181	CR	44/45		11'W OF EEOS	P	1.5	x	2.5		8/4/15	PEDRO S.	EXT 512	VBIOX	P	8/4/15
RP-182	WR		44	BETWEEN RP-181 & RP-183			x		204	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-183	CR	40/44		42'W OF EEOS	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-184	BO	40/44		48'W OF EEOS	P	2	x	7		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-185	SJ	40/43/44		SJ 40/43/44	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-186	DSX-5	RP-160/42		ON RP-160/42	P	2	x	5		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-187	WR		42	7'N OF 39/42 &1'E TO 6'E			x		78	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-188	PB		25	74'S OF 24/25 & 5'E (PB 8")	P	3	x	3	8	8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-189	WR		35	15'W OF 35/36 & 16'N	P	2	x	7		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap construction **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
2617	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
3766.83	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-190	WR		35	BETWEEN RP-189 & RP-191			x		84	8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-191	WR		35	15'W OF 35/36 & 6'N	P	1.5	x	1.5		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-192	WR		36	10'W OF 36/37 & 7'N	P	1.5	x	2		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-193	WR		36	BETWEEN RP-192 & RP-194			x		180	8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-194	WR		36	10'W OF 36/37 & 24'N	P	2	x	4		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-195	BO	47/48		106'S OF NEOS	P	2	x	6.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-196	BO	48/49		86'S OF NEOS	P	2	x	4		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-197	BO	53/54		15'S OF NEOS	P	2	x	7		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-198	WR	48/49		94'S OF NEOS	P	2	x	28		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-199	CR	42/47		50'S OF NEOS	P	2	x	2.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-200	CF		47	56'S OF NEOS(SURFACE DESIGN)	P	2	x	38		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-201	CF		47	38'S OF 42/47 & 8'E	P	1.5	x	1.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-202	CF		47	BETWEEN RP-201 & RP-203			x		240	8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-203	CF		47	59'S OF 42/47 & 18'E	P	1.5	x	1.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-204	DS-13	47/48		70'S OF NEOS	P	2	x	5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-205	CF		47	FROM RP-200 TO MANHOLE			x		216	8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-206	WR		48	46'S OF 47/48 & 4'E	P	1.5	x	1.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-207	WR		48	BETWEEN RP-206 & RP-208			x		180	8/7/15	PEDRO S.	EXT 512	VNOX	P	8/7/15
RP-208	WR		48	64'S OF 48/49 & 6'W	P	2	x	11		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-209	WR		48	BETWEEN RP-208 & RP-210			x		36	8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-210	WR		48	57'S OF 48/49 & 4'W	P	2.5	x	2.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap construction **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	2617	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	3766.83	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-211	DSX-6	RP-198/48		ON W.END OF RP-198/48	P	2	x	5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-212	WR	49/50		72'S OF NEOS	P	2	x	9		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-213	WR		50	75'S OF 49/50 & 8'E	P	2	x	7		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-214	WR		50	BETWEEN RP-213 & RP-215			x		24	8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-215	WR		50	78'S OF 49/50 & 2'E	P	2	x	2		8/7/15	PEDRO S.	EXT 512	VBOX	F	8/10/15
RP-216	SJ	50/51/52		SJ 50/51/52	P	2	x	2		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-217	SJ	51/52/53		SJ 51/52/53	P	2	x	2		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-218	PB		47	87'S OF 42/47 & 11'E(MANHOLE)	P	9.5	x	9.5	48	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-219	PB		38	3'W OF 37/38 & 3'S (PB 8")	P	3.5	x	4	8	8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15
RP-220	BO	55/57		101'N OF SEOS	P	2	x	2.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-221	BO	55/57		120'N OF SEOS	P	2	x	8		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-222	WR		50	REPAIR LEAK OVER RP-215	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-223	DS-14	50/51		35'S OF NEOS	P	2	x	5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-224	WR	51/53		20'S OF NEOS	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-225	WR		53	BETWEEN RP-224 & RP-226			x		96	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-226	WR		53	20'S OF 51/53 & 14'E	P	2	x	8		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-227	WR		53	30'S OF 53/54 & 5'W	P	1.5	2			8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-228	WR		53	BETWEEN RP-227 & RP-229			x		36	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-229	WR		53	35'S OF 51/53 & 5'W	P	2	x	11		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-230	DS-15	54/55		72'S OF NEOS	P	2	x	4.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-231	SJ	54/55/56		SJ 54/55/56	P	1.5	x	1.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap construction **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	2617	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	3766.83	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-232	SJ	55/56/57		SJ 55/56/57	P	1.5	x	1.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-233	CF		55	76'N OF 55/57 & 3'W	P	2	X	13		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-234	CF		55	BETWEEN RP-233 & RP-235			x		24	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-235	CF		55	80'N OF 55/57 & 2'W	P	2	x	3.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-236	CF		58	128'S OF 57/58 7'E	P	3	x	4		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-237	CF		58	BETWEEN RP-236 & RP-238			x		168	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-238	CF		58	140'S OF 57/58 & 20'E	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-239	CF		58	BETWEEN RP-236 & RP-240			x		96	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-240	CF		58	125'S OF 57/58 & 17'E	P	1.5	x	1.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-241	CF		58	BETWEEN RP-239 & RP-242			x		36	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-242	CF		58	128'S OF 57/58 & 15'E	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-243	PB		58	75'S OF 57/58 & 6'E (PB 8")			x		8						
RP-244	SJ	58/59/60		SJ 58/59/60	P	1.5	x	1.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-245	DSX-7	RP-197/53		ON RP-197/53	P	2	x	5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-246	PB		62	135'N OF 61/62 & 2'E (PB 8")	P	3	x	4	8	8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15
RP-247	SJ	59/60/61		SJ 59/60/61	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-248	DS-16	59/61		6'N OF SEOS	P	2	x	5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-249	DS-17	62/63		90'N OF SEOS	P	2	x	5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-250	CR		65	2'N OF 65/66 & 5'E	P	2	x	2		8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15
RP-251	SJ	64/65/66		SJ 64/65/66	P	2	x	2		8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15
RP-252	BO	65/66		8'N OF SEOS	P	2	x	2		8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap construction **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
2617	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
3766.83	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-253	DS-18	64/65		128'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-254	DS-19	68/69		100'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-255	PB		71	9'N OF 71/72 & 5'W	P	5	x	6	4	8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-256	DS-20	72/73		10'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-257	PB		74	92'N OF 73/74 & 1'E (PB 8")			x								
RP-258	BO	71/72		57'N OF SEOS	P	2	x	2		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-259	BO	71/72		133'N OF SEOS	P	2	x	2.5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-260	BO	74/75		60'N OF SEOS	P	2	x	6		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-261	DS-21	74/75		75'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-262	PB			MANHOLE			x								
RP-263							x								
RP-264							x								
RP-265							x								
RP-266							x								
RP-267							x								
RP-268							x								
RP-269							x								
RP-270							x								
RP-271							x								
RP-272							x								
RP-273							x								

Summary of Non-Compliance & Corrective Action Forms					
SA-6 South Cap Installation					
Notice of Non-Compliance & Corrective Action Sheet Number	**Date**	**Item**	**Associated Repair Number**	**Approx. Location**	**Follow Up Action Taken**
5	8/7/2015	Failed Vacuum Box Test	RP-215	Panel #50 (P-50)	Failed extrusion weld (identified during vacuum box testing) was patched with an approximate 2 ft. by 2 ft. geomembrane patch over the extrusion weld (noted as RP-222 on Repair Log). The patch was overlapped a minimum of 4-inches beyond the edges of the failed weld, conformed so that the edges were rounded, and sealed with an extrusion weld. Vacuum box testing was conducted along the seams to confirm the seams were properly patched and repaired.

LANGAN

Certificate of Soil Surface

Sheet # 8

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 17+00 TO STA. 15+80		
QA Monitor	LANGAN	Date	8/3/15		

Description of Soil Surface to be lined: ~120 FT. SECTION OF SOIL APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 7/29/15 (P-34). SUBGRADE APPROVED FROM APPROX. STA. 17+00 TO STA. 15+80 (TO EAST SIDE OF 1ST UTILITY CORRIDOR) THROUGH 1ST UTILITY CORRIDOR. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE W/ PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/3/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	
Date:	
Title	
Representing:	
Signature:	Carolina Parrino - Entrust QC Manager

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2")
AS OUTLINED IN SECTION 02372-8
- SOIL APPROVED FOR GCL PLACEMENT WITHIN UTILITY CORRIDOR + GEOMEMBRANE / GVL PLACEMENT OUTSIDE OF CORRIDOR

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	CORRIDOR	LOOKING N	REFER TO 8/3/15 PHOTO LOG PHOTO #1
	2 PHOTO #3	CORRIDOR	LOOKING S	REFER TO 8/3/15 PHOTO LOG PHOTO #3

1. REFER TO PHOTO LOG (8/3/15) PHOTOS 1, 2, 3 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 9

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 15+80 TO ~STA. 15+10		
QA Monitor	LANGAN	Date	8/5/15		

Description of Soil Surface to be lined: ~170 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 8/3/15 (P-42). SUBGRADE APPROVED FROM ~STA. 15+80 TO ~STA. 15+10. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (7 1/2") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/5/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8-5-15
Title	QC Manager Entact
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> ½")
AS OUTLINED IN SECTION 02372-8

- SOIL APPROVED FOR GCL PLACEMENT ALONG SOUTHERN SLOPE (LOWER BENCH) OF SOUTHERN EDGE OF SA-6 AREA BELOW (TO 1 FT ABOVE) GROUNDWATER ELEVATION

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #5	GP 165-15.4	LOOKING W	REFER TO 8/5/15 PHOTO LOG PHOTO #5
	2 PHOTO #6	STA. 15.80	LOOKING S	REFER TO 8/5/15 PHOTO LOG PHOTO #6

1. REFER TO PHOTO LOG (8/5/15) PHOTOS 5, 6 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 10

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 15+10 TO ~STA 14+00		
QA Monitor	LANGAN	Date	8/6/15		

Description of Soil Surface to be lined: ~110 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 8/5/15 (P-49). SUBGRADE APPROVED FROM ~STA. 15+10 TO ~STA. 14+00. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/6/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8-6-15
Title	QC Manager
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2")
AS OUTLINED IN SECTION 02372-8
- SOIL APPROVED FOR GCL PLACEMENT ALONG SOUTHERN SLOPE (LOWER BENCH) OF SOUTHERN EDGE OF SA-6 AREA BELOW (TO 1 FT. ABOVE) GROUNDWATER TABLE.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #17	@ STA. 15+10	LOOKING E	REFER TO 8/6/15 PHOTO LOG (PHOTO #17)
	2 PHOTO #9	@ STA. 15+10	LOOKING S	REFER TO 8/6/15 PHOTO LOG (PHOTO #9)
1. REFER TO PHOTO LOG (8/6/15) PHOTOS 17, 8, AND 9 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 11

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~ STA. 14+00 TO ~ STA. 13+00		
QA Monitor	LANGAN	Date	8/7/15		

Description of Soil Surface to be lined: ~100 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 8/6/15 (P-54). SUBGRADE APPROVED FROM ~ STA. 14+00 TO ~ STA. 13+00. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/7/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/7/15
Title	QC Manager
Representing:	Entrada
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2") AS OUTLINED IN SECTION 02372-8.

- NO GCL PLACED AS AREA WAS ABOVE WATER TABLE (~1 FT.)

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #6	STA. 14+00	LOOKING E	REFER TO 8/17/15 PHOTO LOG (PHOTO #6)
	2			

1. REFER TO PHOTO LOG (8/17/15) PHOTO 6 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 12

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 13+00 TO ~STA. 12+00		
QA Monitor	LANGAN	Date	8/10/15		

Description of Soil Surface to be lined: ~100 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 8/7/15 (P-60). SUBGRADE APPROVED FROM ~STA. 13+00 TO ~STA. 12+00 SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/10/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Parrino
Date:	8/10/15
Title	QC Manager
Representing:	Entrack
Signature:	Caroline Parrino

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> ½")
AS OUTLINED IN SECTION 02372-8

- NO GCL PLACED AS AREA WAS ABOVE WATER TABLE (> 1 FT.)

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #5	~STA. 13+00	LOOKING N	REFER TO 8/10/15 PHOTO LOG (PHOTO #5)
	2 PHOTO #6	~STA. 13+00	LOOKING E	REFER TO 8/10/15 PHOTO LOG (PHOTO #6)

1. REFER TO PHOTO LOG (8/10/15) PHOTOS #5, 6 FOR SUPPORTING SUBGRADE PHOTOS.

2.

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Certificate of Soil Surface

Sheet # 13

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 12+00 TO ~STA. 11+00		
QA Monitor	LANGAN	Date	8/13/15		

Description of Soil Surface to be lined: ~100 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 8/10/15 (P-65). SUBGRADE APPROVED FROM ~STA. 12+00 TO ~STA. 11+00. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	~~Y~~
Suitable for placement of GCL	-
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/13/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8-13-15
Title	QC Manager
Representing:	Enfab
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2")
AS OUTLINED IN SECTION 02372-8

- NO GCL PLACED AS AREA WAS ABOVE WATER TABLE (>1 FT.)

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	@ STA 11+50	LOOKING SW	REFER TO 8/13/15 PHOTO LOG (PHOTO #1)
	2 PHOTO #2	@ STA 11+50	LOOKING SE	REFER TO 8/13/15 PHOTO LOG (PHOTO #2)

1. REFER TO PHOTO LOG (8/13/15) PHOTOS 1, 2 FOR SUPPORTING SUBGRADE PHOTOS.

2.

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Certificate of Soil Surface

Sheet # 14

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 11+00 TO ~STA. 10+20		
QA Monitor	LANGAN	Date	8/14/15		

Description of Soil Surface to be lined: ~80 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 8/13/15 (P-171). SUBGRADE APPROVED FROM STA. 11+00 TO ~STA. 10+20. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (> ½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/14/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8-14-15
Title	QC Manager
Representing:	Entrack
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2")
AS OUTLINED IN SECTION 02372-8

- SOIL APPROVED FOR GCL PLACEMENT ALONG SOUTHERN SLOPE (LOWER BENCH) OF SOUTHERN EDGE OF SA-6 AREA BELOW (TO 1 FT. ABOVE) GROUNDWATER TABLE.

Photographs	Number	Location	Orientation	Notes
	1			
	2			
1.				2.

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PHOTOGRAPHIC LOG
Photo #1 (08/03/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/3/15

Direction Taken:
Looking south

Description:

GCL installed throughout utility corridor. ESI preparing to cover GCL with geomembrane cap.

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PHOTOGRAPHIC LOG
Photo #2 (08/03/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/3/15

Direction Taken:

Looking west

Description:

ESI deploying geomembrane at northern end of utility corridor (oriented east to west)

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PHOTOGRAPHIC LOG
Photo #3(08/04/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/4/15

Direction Taken:

Looking north/northwest along utility corridor

Description:

ESI conducting patch/repair work along utility corridor. Also conducting extrusion welding and vacuum box testing (as outlined in project specifications).

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PHOTOGRAPHIC LOG
Photo #4 (08/05/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/5/15

Direction Taken:

Looking southwest at (GV-6 location)

Description:

ESI constructing boot and placing sacrificial sheet around GV-6 (as outlined in project specification).

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PHOTOGRAPHIC LOG
Photo #5 (08/06/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

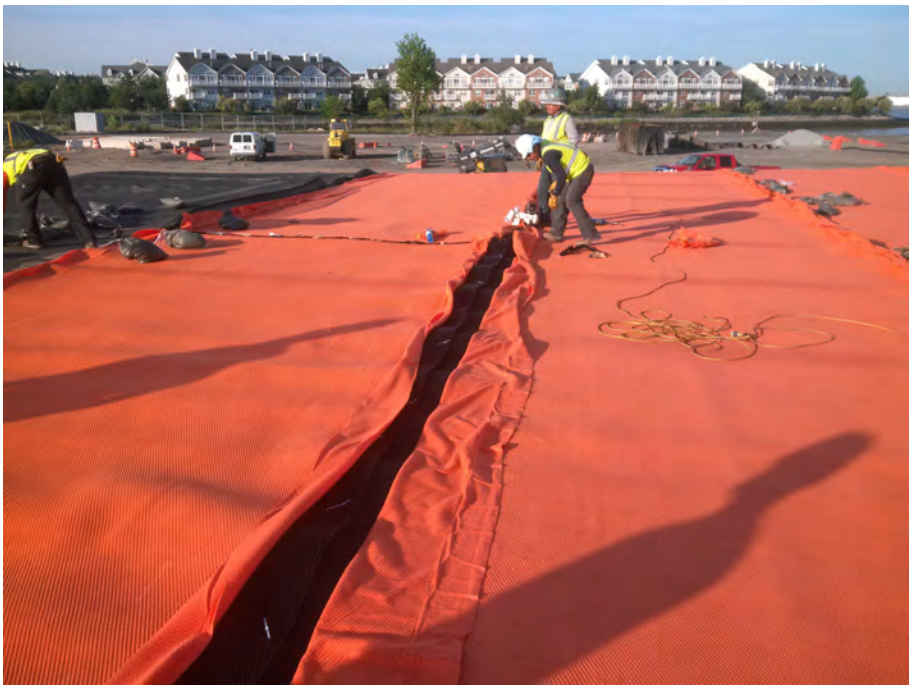
Date:
8/6/15

Direction Taken:

Looking south along SA-6 (approximate Sta 17+00)

Description:

ESI placing GDL over installed geomembrane panels (P-34 & P-35). White plastic fasteners spaced at a maximum of 5 ft. internals and geotextile seam sewn (according to project specifications).



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PHOTOGRAPHIC LOG
Photo #6 (08/06/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

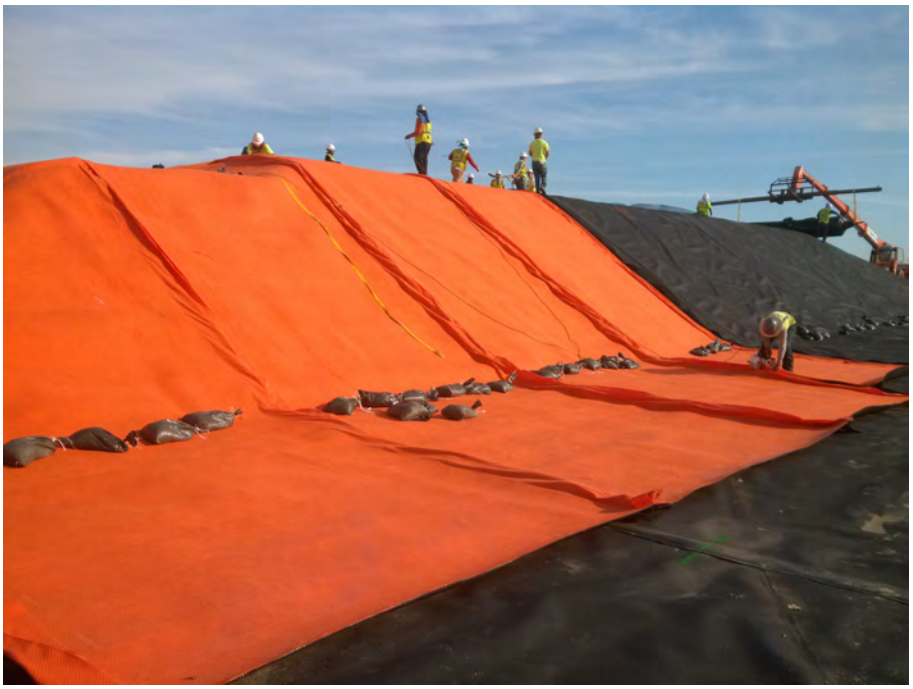
Date:
8/6/15

Direction Taken:

Looking northwest along western slope of utility corridor (approximately Sta. 16+50)

Description:

Installed GDL along utility corridor (western slope)



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PHOTOGRAPHIC LOG
Photo #7 (08/06/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/6/15

Direction Taken:

Looking north along western end of SA-6 cap

Description:

Entact covering GDL along western end of cap with protective cover soils.

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PHOTOGRAPHIC LOG
Photo #8 (08/06/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/6/15

Direction Taken:

Looking northwest along SA-6 cap at approximately Sta. 14+30)

Description:

ESI conducting fusion welding along installed panel seams (Panel 50-54).

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PHOTOGRAPHIC LOG
Photo #9 (08/07/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/7/15

Direction Taken:

Looking South (RP-216)

Description:

ESI conducting vacuum box testing on seam joint located on southern edge of SA-6 (Panels 50, 51, 52).

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PHOTOGRAPHIC LOG
Photo #10 (08/07/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/7/15

Direction Taken:

Looking north along SA-6 (approximately Sta. 13+75)

Description:

ESI deploying geomembrane over GVL (at approximately Sta. 13+75)

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PHOTOGRAPHIC LOG
Photo #11 (08/10/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/10/15

Direction Taken:

Looking north along SA-6 (from approx. Sta. 13+00)

Description:

Prepared soil subgrade for geomembrane placement. Soil graded, compacted, and free of debris (>1/2") as outlined in project specs

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PHOTOGRAPHIC LOG
Photo #12 (08/10/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/10/15

Direction Taken:

Looking north along SA-6 (from approx. Sta. 13+00)

Description:

ESI deploying GVL along approved soil subgrade

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PHOTOGRAPHIC LOG
Photo #13 (08/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/12/15

Direction Taken:

Looking west along northern end of SA-6 cap (at well 115-W5-SO)

Description:

ESI constructing geomembrane boot around monitoring well 115-W5-SO

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PHOTOGRAPHIC LOG
Photo #14 (08/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/12/15

Direction Taken:

Looking east along SA-6 (through 1st utility corridor)

Description:

ESI deploying GDL along eastern slope of utility corridor (approximate Sta. 16+50) working from the south end to the north end of the corridor.

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PHOTOGRAPHIC LOG
Photo #15 (08/13/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/13/15

Direction Taken:

Looking north along SA-6 (approximate Sta. 12+00)

Description:

ESI placing geomembrane cap over GVL (at approx. Sta. 12+00)

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PHOTOGRAPHIC LOG
Photo #16 (08/14/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/14/15

Direction Taken:

Looking along SA-6 cap (at Panel 74/75 seam)

Description:

ESI collecting destruct sample (DS-21) at Panel 74/75 seam (fusion weld).

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/3/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	73/88° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0600 – 1945

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #13** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #34 (P-34) installed on 7/29/15 (located at approximate Sta. 17+00) running through first utility corridor approximately 120 ft. east to Sta. 15+80 (to eastern end of 1st utility corridor).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI placing an additional two panels of GDL (moving east from Panel #33) to cover up to geomembrane Panel #34 (P-34). While GDL was being placed, Langan and Entact conducted soil subgrade approval from approximate Sta. 17+00 to Sta. 15+80 (through 1st utility corridor). Refer to *Soil Subgrade Approval* forms from 8/3/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #1,2, and 3 of the daily photo log for 8/3/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 17+00 to Sta. 15+80 (to eastern side of 1st utility corridor).
- Geocomposite clay liner (GCL), GVL and Cap placement began with ESI placing the GCL along the bottom and slopes of the utility corridor (shown in the *8/3/15 Photo Log*) as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with a granular bentonite. Note: Prior to GCL placement, a soil transition slope (approx. 2 ft. by 2 ft. was constructed along the northern slope of the utility corridor to allow the GCL to transition over the slope without having to conform to the 90 deg. turns of the SCB wall). This soil slope modification was approved prior to construction.
- In addition to the GCL (placed within the utility corridor), 16 oz. geotextile was placed along the boundaries of the SA-6 South Cap (located at the areas above the groundwater table and outside of the GCL) over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/3/15 Photo Log* for supporting photographs.

- After installation of GCL and GVL through the utility corridor, geomembrane cap was installed continuing east of previously installed Panel #34 (located at approximate Sta. 17+00) on 7/29/15. Panels were oriented from east to west through the utility corridor (as proposed in the approved Panel Layout) and were installed through the utility corridor (located at approx. Sta. 16+50) running from the top of the western slope to the top of the eastern slope. Additional panels were installed outside of the utility corridor and were T (butt seamed) into the east-west panels from inside the utility corridor (the panels outside of the utility corridor reverted back to the north-south orientation as indicated on the approved panel layout). A total of twelve panel lengths (different dimensions and sizes) were installed (P-35, P-36, P-37, P-38, P-39, P-40, P-41, P-42, P-43, P-44, P-45, and P-46) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/3), *Trial Weld Log.*
- Installation and welding of the geomembrane panels was conducted until approximately 8 pm to ensure that the utility corridor was properly covered and sealed due to expected overnight storms. As such, no non-destructive testing on the installed panels was conducted. Additionally, no patch / repair work was completed, and no destructive samples were collected. These activities will be completed tomorrow (8/4/15).

Non-Conformance Items / Corrective Actions

- No non-conformance issues recorded as no patch / repair work was conducted on geomembrane cap.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/3/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 2 piezometers, and 3 gas vents).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15 as well as reviewed and approved ESI *Daily Panel Placement*, *Preweld Test Report*, and *Certificate of Subgrade Acceptance, etc.* forms.
- Reviewed laboratory destruct sample results for samples DS-1 through DS-10, and DSX-1 through DSX-4. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 15+80 to Sta. 14+80) east of utility corridor.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/3/15
A3 – Photo Log	Pages 1 – 8	Total of 16 photos outlining pertinent daily observations and descriptions for 7/29/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/3/15
A5 – Subgrade Approval	Sheet 8 & ESI (8/3/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Sheet 2	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/3/15.
A7 – Panel Placement Log	Page 8	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/3/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 8/3/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destruct tests conducted on 8/3/15
A10 – Repair Log		N / A no repairs conducted on 8/3/15
A11 – Conformance COC		N / A for 8/3/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 8/3/15
A13 – Destruct. Sample Summary		N / A no updates to form (no samples collected on 8/3)
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/3/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/4/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	70/85° F, AM Rain, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0600 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #14** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from east of Panel #42 installed on 8/3/15 (located at approx. Sta. 15+80) moving east approximately 100 ft. to approximate Sta. 14+80.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Based on the AM storms / rain, ESI could not conduct patch / repair work (i.e. extrusion welding) on the geomembrane panels installed on 8/3/15 due to the inclement weather. Observation of the next section of soil subgrade (approx. Sta. 15+80 to 14+80) was conducted and soft / wet areas were identified with ponding water (due to the storms). As such, soil subgrade was not approved for additional panel placement. Refer to *8/4/15 Photo Log* for subgrade photos. ESI offsite until 12 PM for weather to clear.
- Entact removed the protective plastic layer covering the soil subgrade and conducted drying activities, re-grading, and re-compaction of the soil (as required).
- ESI back onsite at approximately 12 PM to conduct patch / repair work for the panels installed on 8/3/15 (Panels 35-46). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 8/4/15 for results (extrusion testing identified as EXT. on form).
- A total of forty-one repairs (RP-145 through RP-185) were observed and fixed (according to the project specifications) from Panel #35 through Panel #46 (repair / detailing work conducted on panels installed on 8/3/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs), as well as seam joint repairs where non-destructive testing was conducted along the panel seams. These areas were subsequently patched and sealed with extrusion welds, and confirmed with vacuum box testing being conducted as outlined in the project specifications.
- No non-conformance issues were noted as repairs consisted of custom fit design or routine patch / repair work to allow geomembrane to conform to SA-6 contours.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

- A total of two destruct samples, DS-11 and DS-12 (fusion weld samples) were collected for laboratory analysis. DS-11 was collected from panel seam 36/37 and DS-12 was collected from panel seam 42/43

Non-Conformance Items / Corrective Actions

- No non-conformance items observed. Repairs associated with 8/4/15 consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/4/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 2 piezometers, and 3 gas vents).
- Review laboratory results for DS-11 and DS-12

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15 as well as reviewed and approved ESI *Daily Panel Placement*, *Preweld Test Report*, and *Certificate of Subgrade Acceptance, etc.* forms.
- Reviewed laboratory destruct sample results for samples DS-1 through DS-10, and DSX-1 through DSX-4. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work to remove soft / wet areas for the next 80 ft. run east (approximately from Sta. 15+80 to Sta. 15+00) of 1st utility corridor.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/4/15
A3 – Photo Log	Pages 1 – 5	Total of 9 photos outlining pertinent daily observations and descriptions
A4 – Geosynthetic Inventory Log		N / A – no updates for 8/4/15
A5 – Subgrade Approval		N / A – no subgrade approval for 8/4/15
A6 – Trial Weld Log	Page 2	Preweld test form for 8/4/15 provided by ESI and confirmed by Langan for prewelds up to 8/4/15
A7 – Panel Placement Log		N / A no panels placed on 8/4/15
A8 – Destruct Seam Testing COC	Sheet 1	Updated with destruct sample information from 8/4/15
A9 – Seam/Non-Destruct. Test Log	Pages 7,8,9	Seam Control Form for 8/4/15 provided by ESI and confirmed by Langan for non-destruct tests completed up to 8/4/15
A10 – Repair Log	Pages 7,8,9	Repair Log for 8/4/15 provided by ESI and confirmed by Langan for repairs completed up to 8/4/15
A11 – Conformance COC		N / A for 8/4/15
A12 – Destructive Seam Field Test	Sheet 2	Destruct Sample Information provided by ESI and confirmed by Langan for destruct samples collected on 8/4/15 (DS-11 and DS-12)
A13 – Destruct. Sample Summary	Sheet 1	Updated with destruct sample information from 8/4/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues observed

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/5/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	70/84° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0600 – 1700

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #15** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #42 (P-42) installed on 8/3/15 (located at approximate Sta. 15+80) running approximately 70 ft. east to Sta. 15+10.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work for three wrinkles (refer to *Repair Log* 8/5/15) that were identified along Panels 35-46 which were placed on 8/3/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (8/5/15).
- A total of nine repairs (RP-186 through RP-194) were observed and fixed (according to the project specifications) from Panel #35 and Panel #36. As outlined above, these repairs were associated with removing geomembrane wrinkles to allow the cap to conform to the contours of SA-6 South grade. These areas were subsequently patched and sealed with extrusion welds, and confirmed with vacuum box testing being conducted as outlined in the project specifications. Note: no repairs of the geomembrane from 8/5/15 were identified as non-compliance issues.
- Additionally, while the geomembrane was being patched / repaired, ESI also installed the penetration boots for the wells, piezometers, and gas vents protruding through the cap (Note: Penetration logs will be completed once final sealant is placed around top of boot). Orange composite (GDL) was also placed over butt seams of the geocomposite and leistered in place. These patching activities were completed (as needed) to allow Entact to continue placing protective cover soil over the installed GDL along the western end of SA6. The final GDL layer was inspected by Entact and Langan to ensure that all repairs / patches were completed prior to soil placement.
- While patch / repair work was being conducted, Langan and Entact conducted soil subgrade approval from approximate Sta. 15+80 to Sta. 15+10. Refer to *Soil Subgrade Approval* forms from 8/5/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

the surface was free of any loose material. Refer to Photos #5,6 of the daily photo log for 8/5/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 15+80 to Sta. 15+10.

- Cap placement began with ESI placing the GCL along the southern slope (lower bench along southern end of SA-6 located below the groundwater table) of the southern edge of SA-6 (refer to *8/5/15 Photo Log*) as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with a granular bentonite.
- In addition to the GCL (placed along the southern slope), 16 oz. geotextile was placed along the northern boundary of the SA-6 South Cap, and also along the southern boundary east of the GCL (located at the areas above the groundwater table and outside of the GCL) over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications.
- GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/5/15 Photo Log* for supporting photographs.
- After installation of GCL and GVL along the SA-6 boundaries, geomembrane cap was installed continuing east of previously installed Panel #42 (located at approximate Sta. 15+80) on 8/3/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GCL and GCL layers. A total of three panel lengths were installed (P-47, P-48, P-49) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/5), *Trial Weld Log.*
- Installation and fusion welding of the geomembrane panels was conducted until the end of the work day. As such, no non-destructive testing on the installed panels was conducted. Additionally, no patch / repair work was completed, and no destructive samples were collected. These activities will be completed tomorrow (8/6/15). Note: An extrusion weld sample (DSX-5) was collected from the patch / repair work previously completed on 8/4/15.

Non-Conformance Items / Corrective Actions

- No non-conformance issues recorded as repair work was conducted to remove wrinkles from the cap to allow the geomembrane to properly conform to the contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/5/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 2 piezometers, and 3 gas vents).
- Review laboratory data for extrusion destruct sample DSX-5

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, and 8/4/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-12, and DSX-1 through DSX-4. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 15+10 to Sta. 14+10) continuing east along SA-6.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/5/15
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 8/5/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/5/15
A5 – Subgrade Approval	Sheet 9 & ESI (8/5/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Page 2	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/5/15.
A7 – Panel Placement Log	Page 10	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/5/15
A8 – Destruct Seam Testing COC	Page 1	Updated with information from destruct sample (DSX-5) collected on 8/5/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destruct tests conducted on 8/5/15
A10 – Repair Log	Pages 9-10	One Repair Log provided by ESI and confirmed by Langan for 8/5/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

A11 – Conformance COC		N / A for 8/5/15
A12 – Destructive Seam Field Test	Page 2	One destruct sample information form provided by ESI and confirmed by Langan for destruct samples collected on 8/5/15
A13 – Destruct. Sample Summary	Sheet 1	Updated with destruct sample information from 8/5/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/5/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/6/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	69/88° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0600 – 1600

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #16** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #49 (P-49) installed on 8/5/15 (located at approximate Sta. 15+10) running approximately 110 ft. east to Sta. 14+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI placing GDL over the previously installed geomembrane panels from 8/3/15. A total of 10 panel lengths of GDL were placed along the west side of the utility corridor and along the western slope of the utility corridor with end points of the GDL terminating along the approximate center of the utility corridor (east to west orientation). The GDL was placed north to south outside of the corridor and east to west within the corridor and secured with white plastic fasteners spaced at a maximum of 5 ft. and the top layer of geotextile was sewn (according to the project specs).
- While GDL was being placed over the previously installed geomembrane, Langan and Entact conducted soil subgrade approval from approximate Sta. 15+10 to Sta. 14+00. Refer to *Soil Subgrade Approval* forms from 8/6/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #7,8, and 9 of the daily photo log for 8/6/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 15+10 to Sta. 14+00.
- Cap placement began with ESI placing the GCL along the southern slope (lower bench along southern end of SA-6 located below the groundwater table) of the southern edge of SA-6 (refer to *8/6/15 Photo Log*) as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with granular bentonite.
- Prior to deploying any geomembrane panels over the GCL, it was confirmed that the GCL maintained intimate contact between the material and the HB wall (southern boundary wall). Soil was removed from the top of the sheet piles (as required) by Entact. Refer to Photo #14 of the *Photo Log 8/6/15*.

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- In addition to the GCL (placed along the southern slope), 16 oz. geotextile was placed along the northern boundary of the SA-6 South Cap, and also along the southern boundary east of the GCL (located at the areas above the groundwater table and outside of the GCL) over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications.
- GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/6/15 Photo Log* for supporting photographs.
- After installation of GCL, 16 oz. geotextile (along SA-6 boundaries) and GVL, geomembrane cap was installed continuing east of previously installed Panel #49 (located at approximate Sta. 15+10) on 8/5/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GCL and GVL layers. A total of four panel lengths (lengths defined as running the approximate 165 ft. north to south distance of the cap) were installed (P-50, P-51, P-52, P-53, P-54) by ESI. Note: P-51 terminated approximately 6 ft. short of the southern boundary of the SA-6 cap. As such, the remaining section was taken from an additional roll (G15C277060) and labeled as Panel #52 (P-52).
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/6), *Trial Weld Log.*
- Upon panel installation and fusion welding, ESI conducted non-destructive seam testing in accordance with the project specs. No patch / repair work was completed, and no destructive samples were collected as work activities were completed after non-destruct testing was completed. These additional activities will be completed tomorrow (8/7/15).

Non-Conformance Items / Corrective Actions

- No non-conformance issues recorded as non-destruct testing was in conformance with the project specs and no patch / repair work, or vacuum box testing was conducted on 8/6/15.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/6/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 2 piezometers, and 3 gas vents).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, and 8/5/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-12, and DSX-1 through DSX-5. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 14+00 to Sta. 13+00) continuing east along SA-6.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/6/15
A3 – Photo Log	Pages 1 – 7	Total of 13 photos outlining pertinent daily observations and descriptions for 8/6/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/6/15
A5 – Subgrade Approval	Sheet 10 & ESI (8/6/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Pages 2-3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/6/15.
A7 – Panel Placement Log	Page 11	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/6/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 8/6/15
A9 – Seam/Non-Destruct. Test Log	Pages 11-12	Seam Control Form provided by ESI and confirmed by Langan for non-destruct tests completed on 8/6/15
A10 – Repair Log		N / A no repairs completed on 8/6/15
A11 – Conformance COC		N / A for 8/6/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 8/6/15
A13 – Destruct. Sample Summary		N / A no updates as no destruct samples collected
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/6/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/7/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	68/82° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0600 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #17** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap) continuing from western end of SA-6 South. Material to be placed from Panel #54 (P-54) installed on 8/6/15 (located at approximate Sta. 14+00) running approximately 100 ft. east to Sta. 13+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work along the panels previously installed Panels 50-54 which were placed on 8/6/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (8/7/15).
- A total of twenty-three repairs (RP-195 through RP-217) were observed and fixed (according to the project specifications) from Panels #50 through Panel #54 (repair / detailing work conducted on panels installed on 8/6/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- No non-conformance issues were observed as patch / repair work consisted of custom fit repairs to allow the geomembrane cap to conform to SA-6 contours.
- A total of three destruct samples were collected (DS-13, DS-14, and DSX-6). DS-13 and DS-14 (fusion) were collected from Panels 47/48 and 50/51, respectively. DSX-6 (extrusion) was collected from Panel #48 on RP-198.
- While the geomembrane was being patched / repaired, ESI also installed a penetration boot for Collection Manhole #2. Note: The penetration log for Collection Manhole #2 will be completed once the boot has been sealed and covered according to the project specifications (to be completed on 8/10/15), and the final sealant is placed around top of boot.
- Langan and Entact conducted soil subgrade approval from approximate Sta. 14+00 to Sta. 13+00 while

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patch work was being completed by ESI. Refer to *Soil Subgrade Approval* forms from 8/7/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material.Refer to Photo #6 of the daily photo log for 8/7/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 14+00 to Sta. 13+00.

- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 14+00 (east of P-54) moving east (for approximately 100 ft.). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/7/15 Photo Log* for supporting photographs.
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #54 (located at approximate Sta. 14+00) on 8/6/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of five panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-55, P-56, P-57, P-58, P-59, P-60) by ESI. Note:, during placement of Panel #55 and #59, the roll of geomembrane was completed, thus, Panel #56 was placed for the last 11 ft. (from roll G15C283029) to complete the southern end and Panel #60 (P-60) was placed for the last 15 ft. (from roll G15C276053) to complete the northern end of SA-6.
- During installation of the Cap, geomembrane seams were overlapped a minimum of 4-inches for fusion welding (according to project specs). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specs. A total of six 1-inch specimens were collected for peel and shear testing (3 samples/each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/7), *Trial Weld Log.*
- Installation and fusion welding of the geomembrane panels was conducted until the end of the work day. Once completed, non-destructive testing on the installed panels was conducted. Non-destruct testing was conducted in accordance with the project specs and is further summarized on the *Seam Control Form (8/7/15).* After non-destructive testing the work day was terminated and no patch / repair work was completed. These activities will be completed on Monday (8/10/15).

Non-Conformance Items / Corrective Actions

- No non-conformance items observed. Repairs associated with 8/7/15 consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/7/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 14+35).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DS-13, DS-14 and DSX-6

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, and 8/6/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-12, and DSX-1 through DSX-5. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 13+00 to Sta. 12+00) continuing east along SA-6.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/7/15
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 8/7/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/7/15
A5 – Subgrade Approval	Sheet 11 & ESI (8/7/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/7/15.
A7 – Panel Placement Log	Page 12	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/7/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 8/7/15
A9 – Seam/Non-Destruct. Test Log	Pages 12-14	One Seam Control form provided by ESI and confirmed by Langan for non-destruct tests completed on 8/7/15
A10 – Repair Log	Pages 10-12	One Repair Log provided by ESI and confirmed by Langan for 8/7/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

A11 – Conformance COC		N / A for 8/7/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected for 8/7/15
A13 – Destruct. Sample Summary		N / A no updates as no destruct samples collected on 8/7/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		One Notice of Non-Compliance form created by Langan (Sheet #26) for failed vacuum box test

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/10/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	69/78° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0600 – 1645

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #18** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap) continuing from western end of SA-6 South. Material to be placed from Panel #60 (P-60) installed on 8/7/15 (located at approximate Sta. 13+00) running approximately 100 ft. east to Sta. 12+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work along the panels previously installed Panels 55-60 which were placed on 8/7/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (8/10/15).
- A total of thirty-one repairs (RP-218 through RP-248) were observed and fixed (according to the project specifications) from Panels #55 through Panel #60 (repair / detailing work conducted on panels installed on 8/7/15). Refer to 8/10/15 *Repair Report.* The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While the geomembrane was being patched / repaired, ESI also installed a penetration boot for well 115-W5-SO, and completed placing the geomembrane patch around Access Manhole #2. Note: The penetration log for well 115-W5-SO will be completed once the boot has been sealed and covered according to the project specifications and the final sealant is placed around top of boot.
- Langan and Entact conducted soil subgrade approval from approximate Sta. 13+00 to Sta. 12+00 while patch work was being completed by ESI. Refer to *Soil Subgrade Approval* forms from 8/10/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #5 and #6 of the daily photo log for 8/10/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 13+00 to Sta. 12+00.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 13+00 (east of P-60) moving east (for approximately 100 ft.). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/10/15 Photo Log* for supporting photographs.
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #60 (located at approximate Sta. 13+00) on 8/7/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of five panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-61, P-62, P-63, P-64, and P-65) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/10), *Trial Weld Log.*
- Installation and fusion welding of the geomembrane panels was conducted until the end of the work day. Once completed, non-destructive testing on the installed panels was conducted. Non-destruct testing was conducted in accordance with the project specs and is further summarized on the *Seam Control Form (8/10/15).* After non-destructive testing the work day was terminated and no patch / repair work was completed.
- A total of three destructive samples were collected (two fusion and one extrusion weld). Fusion weld destruct samples (DS-15, DS-16) were collected from Panel Seams 54/55 and 59/61 respectively. DSX-7 was collected along Panel 53/54 seam. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/10/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DS-15, DS-16, DS-17, and DSX-7

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, and 8/7/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-14, and DSX-1 through DSX-6. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 12+00 to Sta. 11+00) continuing east along SA-6.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/10/15
A3 – Photo Log	Pages 1 – 7	Total of 14 photos outlining pertinent daily observations and descriptions for 8/7/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/10/15
A5 – Subgrade Approval	Sheet 12 & ESI (8/10/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/10/15.
A7 – Panel Placement Log	Page 13	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/10/15
A8 – Destruct Seam Testing COC	Page 1	Updated with destruct samples collected on 8/10/15
A9 – Seam/Non-Destruct. Test Log	Pages 12-14	One Seam Control form provided by ESI and confirmed by Langan for non-destruct tests completed on 8/10/15
A10 – Repair Log	Pages 10-12	One Repair Log provided by ESI and confirmed by Langan for 8/10/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

A11 – Conformance COC		N / A for 8/10/15
A12 – Destructive Seam Field Test	Page 12	One destruct sample information form provided by ESI and confirmed by Langan for 8/10/15
A13 – Destruct. Sample Summary	Page 1	Updated with destruct sample information from 8/10/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues noted on 8/10/15.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/12/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	71/83° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0600 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #19** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #65 (P-65) installed on 8/10/15 (located at approximate Sta. 12+00) running approximately 100 ft. east to Sta. 11+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work along the panels previously installed Panels 61-66 which were placed on 8/10/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (8/12/15).
- A total of four repairs (RP-249 through RP-252) were observed and fixed (according to the project specifications) from Panels #64 through Panel #66 (repair / detailing work conducted on panels installed on 8/10/15). Refer to 8/12/15 *Repair Report* for supporting information. The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While the geomembrane was being patched / repaired, ESI also installed / construction penetration boots for well 115-W5-SO and gas vent #5 (GV-5). Note: These penetration logs will be completed once the final clamps and seal (butyl seal) have been completed according to the project specifications and the final sealant is placed around top of boot.
- While ESI was conducting repair / patch work, Langan and Entact conducted soil subgrade observation from approximate Sta. 12+00 to Sta. 11+00. Based on visual inspection, the soil subgrade appeared to contain areas of soft / wet subgrade due to rainstorms from 8/11/15. Based on these soft areas, soil subgrade was not approved for geomembrane placement. Entact conducted additional preparation work (i.e. drying the soil and re-grading and re-compacting) as required, to conform the subgrade to the project specifications (refer to Photo #7 of the daily photo log for 8/12/15)

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

- After completing patch / repair work from the panels installed on 8/10/15, ESI began to place GDL continuing east along the utility corridor. GDL was placed along the eastern slope of the utility corridor (located at approximate Sta. 16+50). Panels were oriented east to west within the utility corridor, and reverted back to the north and south orientation outside of the corridor (refer to the *8/12/15 Photo Log* for supporting photos)
- GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/12/15 Photo Log* for supporting photographs.
- No new geomembrane panels were placed as the soil subgrade for the next 100 ft. section was not approved. No destruct samples were collected, as DS-17 was collected on 8/10/15 during panel placement.
- Additionally, Entact placed protective cover soil over the previously installed geomembrane and GDL panels at the western end of SA-6. Protective cover soil was placed in 1 ft. lifts with caution tape placed at a maximum of 5 ft. spacing, placed over the GDL prior to soil placement.

Non-Conformance Items / Corrective Actions

- No non-conformance issues recorded as no new geomembrane panels were placed and the patch / repair work conducted on geomembrane cap was in compliance with the project specifications.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/12/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DS-17 (once received)

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, and 8/10/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-16, and DSX-1 through DSX-7. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 12+00 to Sta. 11+00) east of utility corridor.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/12/15
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 8/12/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/12/15
A5 – Subgrade Approval		N / A no subgrade approved due to soft / wet conditions observed from storms on 8/11/15
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/12/15.
A7 – Panel Placement Log		N / A no panels placed on 8/12/15
A8 – Destruct Seam Testing COC	Page 1	Updated with destruct sample information collected from 8/12/15
A9 – Seam/Non-Destruct. Test Log	Page 14-15	Updated with vacuum box test conducted from 8/12/15 on Panels 64/66
A10 – Repair Log	Pages 11-12	One repair report provided by ESI and confirmed by Langan for geomembrane repairs conducted on 8/12/15
A11 – Conformance COC		N / A for 8/12/15
A12 – Destructive Seam Field Test	Page 3	One destructive sample information form provided by ESI and confirmed by Langan for destruct samples collected on 8/12/15
A13 – Destruct. Sample Summary	Page 1	Updated with 8/12/15 destruct sample information
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/12/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/13/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	70/85° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0600 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #20** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #65 (P-65) installed on 8/10/15 (located at approximate Sta. 12+00) running approximately 100 ft. east to Sta. 11+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 12+00 to Sta. 11+00. Refer to *Soil Subgrade Approval* forms from 8/13/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #1 and #2 of the daily photo log for 8/13/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 12+00 to Sta. 11+00. Note: The soft / wet areas identified on 8/12/15 were allowed to dry and were repaired for geomembrane placement.
- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 12+00 (east of P-65) moving east (for approximately 100 ft.). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/13/15 Photo Log* for supporting photographs.
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #65 (located at approximate Sta. 12+00) on 8/10/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of five panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were

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installed (P-67, P-68, P-69, P-70, and P-71) by ESI.

- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/13), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 11+00, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (8/13/15) for non-destructive testing details. Based on the panel placement, minimal repairs were required along the installed panels. As such, no patch / repair work was conducted, and any associated repairs will be completed on 8/14/15.
- After completing non-destructive testing along the panels installed today (8/13/15), ESI began to place GDL continuing east from the 1st utility corridor (located at approx. Sta. 16+50). Panels were oriented from north to south (as outlined in the proposed GDL layout). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/13/15 Photo Log* for supporting photographs.
- A total of two destructive samples were collected (two fusion welds). Fusion weld destruct samples (DS-18, DS-19) were collected from Panel Seams 64/65 and 68/69, respectively. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- Additionally, Entact placed protective cover soil over the previously installed geomembrane and GDL panels at the western end of SA-6. Protective cover soil was placed in 1 ft. lifts with caution tape placed at a maximum of 55-inch spacing, placed over the GDL prior to soil placement.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/13/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DS-17, DS-18, and DS-19 (once received)

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, and 8/12/15 as well as reviewed and approved daily ESI form submittals.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

- Reviewed laboratory destruct sample results for samples DS-1 through DS-16, and DSX-1 through DSX-7. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 80 ft. run east (approximately from Sta. 11+00 to Sta. 10+20) to Access Manhole #3 (ESI demobilization point).
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/13/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 8/13/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/13/15
A5 – Subgrade Approval	Sheet 13 & ESI (8/13/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/13/15.
A7 – Panel Placement Log	Page 14	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/13/15
A8 – Destruct Seam Testing COC	Page 1	Updated with destruct sample information collected from 8/13/15
A9 – Seam/Non-Destruct. Test Log	Page 15-16	Updated with vacuum box test conducted from 8/13/15 on Panels 67 through 71
A10 – Repair Log		N / A no repairs completed on 8/13/15
A11 – Conformance COC		N / A for 8/13/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test	Page 3	One destructive sample information form provided by ESI and confirmed by Langan for destruct samples collected on 8/13/15
A13 – Destruct. Sample Summary	Page 1	Updated with 8/13/15 destruct sample information
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/13/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/14/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	78/95° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0600 – 1430

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #21** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #65 (P-71) installed on 8/13/15 (located at approximate Sta. 11+00) running approximately 80 ft. east to Sta. 10+20 (western slope of 2nd utility corridor).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 11+00 to Sta. 10+20. Refer to *Soil Subgrade Approval* forms from 8/14/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 11+00 to Sta. 10+20.
- Geocomposite clay liner (GCL), GVL and Cap placement began with ESI placing the GCL along the southern slope of SA-6 (lower bench) located below (to 1 ft. above) the water table as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with a granular bentonite.
- In addition to the GCL (placed along the southern slope below the groundwater table), 16 oz. geotextile was placed along the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 11+00 (east of P-71) moving east (for approximately 80 ft.) to Sta. 10+20. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/14/15 Photo Log* for supporting photographs.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #71 (located at approximate Sta. 11+00) on 8/13/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of four panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-72, P-73, P-74, and P-75) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/14), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 10+20, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (8/14/15) for non-destructive testing details. Based on the panel placement, minimal repairs were required along the installed panels. ESI conducted patch / repair work for the panels installed on 8/13/15 (Panels 66-71) and 8/14/15 (Panels 72-75). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 8/14/15 for results (extrusion testing identified as EXT. on form).
- A total of ten repairs (RP-253 through RP-262) were observed and fixed (according to the project specifications) from Panel #71 through Panel #75 (repair / detailing work conducted on panels installed on 8/13/15 & 8/14/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs), as well as seam joint repairs where non-destructive testing was conducted along the panel seams. These areas were subsequently patched and sealed with extrusion welds, and confirmed with vacuum box testing being conducted as outlined in the project specifications.
- Upon completion of patch / repair activities, ESI began to pack and load equipment for their 2-week demob from the Site.
- A total of two destructive samples were collected (two fusion welds). Fusion weld destruct samples (DS-20, DS-21) were collected from Panel Seams 70/71 and 74/75, respectively. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- Additionally, Entact placed protective cover soil over the previously installed geomembrane and GDL panels at the western end of SA-6. Protective cover soil was placed in 1 ft. lifts with caution tape placed at a maximum of 55-inch spacing, placed over the GDL prior to soil placement.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/13/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70).

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- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DS-17, DS-18, DS-19, DS-20, and DS-21 (once received)

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, and 8/13/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-16, and DSX-1 through DSX-7. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 2nd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South after 2-week demobilization is complete.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/13/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 8/14/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/13/15
A5 – Subgrade Approval	Sheet 14 & ESI (8/14/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/14/15.
A7 – Panel Placement Log	Page 15	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/14/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A8 – Destruct Seam Testing COC	Page 1	Updated with destruct sample information collected from 8/14/15
A9 – Seam/Non-Destruct. Test Log	Page 15-16	Updated with vacuum box test conducted from 8/13/15 on Panels 67 through 71
A10 – Repair Log	Page 13	One repair report provided by ESI and confirmed by Langan for geomembrane repairs conducted on 8/14/15
A11 – Conformance COC		N / A for 8/14/15
A12 – Destructive Seam Field Test	Page 3	One destructive sample information form provided by ESI and confirmed by Langan for destruct samples collected on 8/14/15
A13 – Destruct. Sample Summary	Page 1	Updated with 8/14/15 destruct sample information
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/13/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #13 (08/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/12/15

Direction Taken:

Looking west along northern end of SA-6 cap (at well 115-W5-SO)

Description:

ESI constructing geomembrane boot around monitoring well 115-W5-SO

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PHOTOGRAPHIC LOG
Photo #14 (08/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/12/15

Direction Taken:

Looking east along SA-6 (through 1st utility corridor)

Description:

ESI deploying GDL along eastern slope of utility corridor (approximate Sta. 16+50) working from the south end to the north end of the corridor.

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PHOTOGRAPHIC LOG
Photo #15 (08/13/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/13/15

Direction Taken:

Looking north along SA-6 (approximate Sta. 12+00)

Description:

ESI placing geomembrane cap over GVL (at approx. Sta. 12+00)

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PHOTOGRAPHIC LOG
Photo #16 (08/14/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/14/15

Direction Taken:

Looking along SA-6 cap (at Panel 74/75 seam)

Description:

ESI collecting destruct sample (DS-21) at Panel 74/75 seam (fusion weld).

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/3/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	73/88° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0600 – 1945

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #13** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #34 (P-34) installed on 7/29/15 (located at approximate Sta. 17+00) running through first utility corridor approximately 120 ft. east to Sta. 15+80 (to eastern end of 1st utility corridor).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI placing an additional two panels of GDL (moving east from Panel #33) to cover up to geomembrane Panel #34 (P-34). While GDL was being placed, Langan and Entact conducted soil subgrade approval from approximate Sta. 17+00 to Sta. 15+80 (through 1st utility corridor). Refer to *Soil Subgrade Approval* forms from 8/3/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #1,2, and 3 of the daily photo log for 8/3/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 17+00 to Sta. 15+80 (to eastern side of 1st utility corridor).
- Geocomposite clay liner (GCL), GVL and Cap placement began with ESI placing the GCL along the bottom and slopes of the utility corridor (shown in the *8/3/15 Photo Log*) as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with a granular bentonite. Note: Prior to GCL placement, a soil transition slope (approx. 2 ft. by 2 ft. was constructed along the northern slope of the utility corridor to allow the GCL to transition over the slope without having to conform to the 90 deg. turns of the SCB wall). This soil slope modification was approved prior to construction.
- In addition to the GCL (placed within the utility corridor), 16 oz. geotextile was placed along the boundaries of the SA-6 South Cap (located at the areas above the groundwater table and outside of the GCL) over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/3/15 Photo Log* for supporting photographs.

- After installation of GCL and GVL through the utility corridor, geomembrane cap was installed continuing east of previously installed Panel #34 (located at approximate Sta. 17+00) on 7/29/15. Panels were oriented from east to west through the utility corridor (as proposed in the approved Panel Layout) and were installed through the utility corridor (located at approx. Sta. 16+50) running from the top of the western slope to the top of the eastern slope. Additional panels were installed outside of the utility corridor and were T (butt seamed) into the east-west panels from inside the utility corridor (the panels outside of the utility corridor reverted back to the north-south orientation as indicated on the approved panel layout). A total of twelve panel lengths (different dimensions and sizes) were installed (P-35, P-36, P-37, P-38, P-39, P-40, P-41, P-42, P-43, P-44, P-45, and P-46) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/3), *Trial Weld Log.*
- Installation and welding of the geomembrane panels was conducted until approximately 8 pm to ensure that the utility corridor was properly covered and sealed due to expected overnight storms. As such, no non-destructive testing on the installed panels was conducted. Additionally, no patch / repair work was completed, and no destructive samples were collected. These activities will be completed tomorrow (8/4/15).

Non-Conformance Items / Corrective Actions

- No non-conformance issues recorded as no patch / repair work was conducted on geomembrane cap.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/3/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 2 piezometers, and 3 gas vents).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15 as well as reviewed and approved ESI *Daily Panel Placement*, *Preweld Test Report*, and *Certificate of Subgrade Acceptance, etc.* forms.
- Reviewed laboratory destruct sample results for samples DS-1 through DS-10, and DSX-1 through DSX-4. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 15+80 to Sta. 14+80) east of utility corridor.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/3/15
A3 – Photo Log	Pages 1 – 8	Total of 16 photos outlining pertinent daily observations and descriptions for 7/29/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/3/15
A5 – Subgrade Approval	Sheet 8 & ESI (8/3/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Sheet 2	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/3/15.
A7 – Panel Placement Log	Page 8	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/3/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 8/3/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destruct tests conducted on 8/3/15
A10 – Repair Log		N / A no repairs conducted on 8/3/15
A11 – Conformance COC		N / A for 8/3/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 8/3/15
A13 – Destruct. Sample Summary		N / A no updates to form (no samples collected on 8/3)
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/3/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/4/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	70/85° F, AM Rain, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0600 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #14** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from east of Panel #42 installed on 8/3/15 (located at approx. Sta. 15+80) moving east approximately 100 ft. to approximate Sta. 14+80.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Based on the AM storms / rain, ESI could not conduct patch / repair work (i.e. extrusion welding) on the geomembrane panels installed on 8/3/15 due to the inclement weather. Observation of the next section of soil subgrade (approx. Sta. 15+80 to 14+80) was conducted and soft / wet areas were identified with ponding water (due to the storms). As such, soil subgrade was not approved for additional panel placement. Refer to *8/4/15 Photo Log* for subgrade photos. ESI offsite until 12 PM for weather to clear.
- Entact removed the protective plastic layer covering the soil subgrade and conducted drying activities, re-grading, and re-compaction of the soil (as required).
- ESI back onsite at approximately 12 PM to conduct patch / repair work for the panels installed on 8/3/15 (Panels 35-46). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 8/4/15 for results (extrusion testing identified as EXT. on form).
- A total of forty-one repairs (RP-145 through RP-185) were observed and fixed (according to the project specifications) from Panel #35 through Panel #46 (repair / detailing work conducted on panels installed on 8/3/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs), as well as seam joint repairs where non-destructive testing was conducted along the panel seams. These areas were subsequently patched and sealed with extrusion welds, and confirmed with vacuum box testing being conducted as outlined in the project specifications.
- No non-conformance issues were noted as repairs consisted of custom fit design or routine patch / repair work to allow geomembrane to conform to SA-6 contours.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

- A total of two destruct samples, DS-11 and DS-12 (fusion weld samples) were collected for laboratory analysis. DS-11 was collected from panel seam 36/37 and DS-12 was collected from panel seam 42/43

Non-Conformance Items / Corrective Actions

- No non-conformance items observed. Repairs associated with 8/4/15 consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/4/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 2 piezometers, and 3 gas vents).
- Review laboratory results for DS-11 and DS-12

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15 as well as reviewed and approved ESI *Daily Panel Placement*, *Preweld Test Report*, and *Certificate of Subgrade Acceptance, etc.* forms.
- Reviewed laboratory destruct sample results for samples DS-1 through DS-10, and DSX-1 through DSX-4. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work to remove soft / wet areas for the next 80 ft. run east (approximately from Sta. 15+80 to Sta. 15+00) of 1st utility corridor.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/4/15
A3 – Photo Log	Pages 1 – 5	Total of 9 photos outlining pertinent daily observations and descriptions
A4 – Geosynthetic Inventory Log		N / A – no updates for 8/4/15
A5 – Subgrade Approval		N / A – no subgrade approval for 8/4/15
A6 – Trial Weld Log	Page 2	Preweld test form for 8/4/15 provided by ESI and confirmed by Langan for prewelds up to 8/4/15
A7 – Panel Placement Log		N / A no panels placed on 8/4/15
A8 – Destruct Seam Testing COC	Sheet 1	Updated with destruct sample information from 8/4/15
A9 – Seam/Non-Destruct. Test Log	Pages 7,8,9	Seam Control Form for 8/4/15 provided by ESI and confirmed by Langan for non-destruct tests completed up to 8/4/15
A10 – Repair Log	Pages 7,8,9	Repair Log for 8/4/15 provided by ESI and confirmed by Langan for repairs completed up to 8/4/15
A11 – Conformance COC		N / A for 8/4/15
A12 – Destructive Seam Field Test	Sheet 2	Destruct Sample Information provided by ESI and confirmed by Langan for destruct samples collected on 8/4/15 (DS-11 and DS-12)
A13 – Destruct. Sample Summary	Sheet 1	Updated with destruct sample information from 8/4/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues observed

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By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/5/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	70/84° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0600 – 1700

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #15** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #42 (P-42) installed on 8/3/15 (located at approximate Sta. 15+80) running approximately 70 ft. east to Sta. 15+10.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work for three wrinkles (refer to *Repair Log* 8/5/15) that were identified along Panels 35-46 which were placed on 8/3/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (8/5/15).
- A total of nine repairs (RP-186 through RP-194) were observed and fixed (according to the project specifications) from Panel #35 and Panel #36. As outlined above, these repairs were associated with removing geomembrane wrinkles to allow the cap to conform to the contours of SA-6 South grade. These areas were subsequently patched and sealed with extrusion welds, and confirmed with vacuum box testing being conducted as outlined in the project specifications. Note: no repairs of the geomembrane from 8/5/15 were identified as non-compliance issues.
- Additionally, while the geomembrane was being patched / repaired, ESI also installed the penetration boots for the wells, piezometers, and gas vents protruding through the cap (Note: Penetration logs will be completed once final sealant is placed around top of boot). Orange composite (GDL) was also placed over butt seams of the geocomposite and leistered in place. These patching activities were completed (as needed) to allow Entact to continue placing protective cover soil over the installed GDL along the western end of SA6. The final GDL layer was inspected by Entact and Langan to ensure that all repairs / patches were completed prior to soil placement.
- While patch / repair work was being conducted, Langan and Entact conducted soil subgrade approval from approximate Sta. 15+80 to Sta. 15+10. Refer to *Soil Subgrade Approval* forms from 8/5/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so

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the surface was free of any loose material. Refer to Photos #5,6 of the daily photo log for 8/5/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 15+80 to Sta. 15+10.

- Cap placement began with ESI placing the GCL along the southern slope (lower bench along southern end of SA-6 located below the groundwater table) of the southern edge of SA-6 (refer to *8/5/15 Photo Log*) as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with a granular bentonite.
- In addition to the GCL (placed along the southern slope), 16 oz. geotextile was placed along the northern boundary of the SA-6 South Cap, and also along the southern boundary east of the GCL (located at the areas above the groundwater table and outside of the GCL) over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications.
- GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/5/15 Photo Log* for supporting photographs.
- After installation of GCL and GVL along the SA-6 boundaries, geomembrane cap was installed continuing east of previously installed Panel #42 (located at approximate Sta. 15+80) on 8/3/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GCL and GCL layers. A total of three panel lengths were installed (P-47, P-48, P-49) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/5), *Trial Weld Log.*
- Installation and fusion welding of the geomembrane panels was conducted until the end of the work day. As such, no non-destructive testing on the installed panels was conducted. Additionally, no patch / repair work was completed, and no destructive samples were collected. These activities will be completed tomorrow (8/6/15). Note: An extrusion weld sample (DSX-5) was collected from the patch / repair work previously completed on 8/4/15.

Non-Conformance Items / Corrective Actions

- No non-conformance issues recorded as repair work was conducted to remove wrinkles from the cap to allow the geomembrane to properly conform to the contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/5/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 2 piezometers, and 3 gas vents).
- Review laboratory data for extrusion destruct sample DSX-5

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, and 8/4/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-12, and DSX-1 through DSX-4. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 15+10 to Sta. 14+10) continuing east along SA-6.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/5/15
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 8/5/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/5/15
A5 – Subgrade Approval	Sheet 9 & ESI (8/5/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Page 2	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/5/15.
A7 – Panel Placement Log	Page 10	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/5/15
A8 – Destruct Seam Testing COC	Page 1	Updated with information from destruct sample (DSX-5) collected on 8/5/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destruct tests conducted on 8/5/15
A10 – Repair Log	Pages 9-10	One Repair Log provided by ESI and confirmed by Langan for 8/5/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

A11 – Conformance COC		N / A for 8/5/15
A12 – Destructive Seam Field Test	Page 2	One destruct sample information form provided by ESI and confirmed by Langan for destruct samples collected on 8/5/15
A13 – Destruct. Sample Summary	Sheet 1	Updated with destruct sample information from 8/5/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/5/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/6/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	69/88° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0600 – 1600

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #16** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #49 (P-49) installed on 8/5/15 (located at approximate Sta. 15+10) running approximately 110 ft. east to Sta. 14+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI placing GDL over the previously installed geomembrane panels from 8/3/15. A total of 10 panel lengths of GDL were placed along the west side of the utility corridor and along the western slope of the utility corridor with end points of the GDL terminating along the approximate center of the utility corridor (east to west orientation). The GDL was placed north to south outside of the corridor and east to west within the corridor and secured with white plastic fasteners spaced at a maximum of 5 ft. and the top layer of geotextile was sewn (according to the project specs).
- While GDL was being placed over the previously installed geomembrane, Langan and Entact conducted soil subgrade approval from approximate Sta. 15+10 to Sta. 14+00. Refer to *Soil Subgrade Approval* forms from 8/6/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #7,8, and 9 of the daily photo log for 8/6/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 15+10 to Sta. 14+00.
- Cap placement began with ESI placing the GCL along the southern slope (lower bench along southern end of SA-6 located below the groundwater table) of the southern edge of SA-6 (refer to *8/6/15 Photo Log*) as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with granular bentonite.
- Prior to deploying any geomembrane panels over the GCL, it was confirmed that the GCL maintained intimate contact between the material and the HB wall (southern boundary wall). Soil was removed from the top of the sheet piles (as required) by Entact. Refer to Photo #14 of the *Photo Log 8/6/15*.

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- In addition to the GCL (placed along the southern slope), 16 oz. geotextile was placed along the northern boundary of the SA-6 South Cap, and also along the southern boundary east of the GCL (located at the areas above the groundwater table and outside of the GCL) over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications.
- GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/6/15 Photo Log* for supporting photographs.
- After installation of GCL, 16 oz. geotextile (along SA-6 boundaries) and GVL, geomembrane cap was installed continuing east of previously installed Panel #49 (located at approximate Sta. 15+10) on 8/5/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GCL and GVL layers. A total of four panel lengths (lengths defined as running the approximate 165 ft. north to south distance of the cap) were installed (P-50, P-51, P-52, P-53, P-54) by ESI. Note: P-51 terminated approximately 6 ft. short of the southern boundary of the SA-6 cap. As such, the remaining section was taken from an additional roll (G15C277060) and labeled as Panel #52 (P-52).
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/6), *Trial Weld Log.*
- Upon panel installation and fusion welding, ESI conducted non-destructive seam testing in accordance with the project specs. No patch / repair work was completed, and no destructive samples were collected as work activities were completed after non-destruct testing was completed. These additional activities will be completed tomorrow (8/7/15).

Non-Conformance Items / Corrective Actions

- No non-conformance issues recorded as non-destruct testing was in conformance with the project specs and no patch / repair work, or vacuum box testing was conducted on 8/6/15.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/6/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 2 piezometers, and 3 gas vents).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, and 8/5/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-12, and DSX-1 through DSX-5. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

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By: Dan Bosworth

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Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 14+00 to Sta. 13+00) continuing east along SA-6.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/6/15
A3 – Photo Log	Pages 1 – 7	Total of 13 photos outlining pertinent daily observations and descriptions for 8/6/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/6/15
A5 – Subgrade Approval	Sheet 10 & ESI (8/6/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Pages 2-3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/6/15.
A7 – Panel Placement Log	Page 11	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/6/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 8/6/15
A9 – Seam/Non-Destruct. Test Log	Pages 11-12	Seam Control Form provided by ESI and confirmed by Langan for non-destruct tests completed on 8/6/15
A10 – Repair Log		N / A no repairs completed on 8/6/15
A11 – Conformance COC		N / A for 8/6/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 8/6/15
A13 – Destruct. Sample Summary		N / A no updates as no destruct samples collected
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/6/15

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By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/7/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	68/82° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0600 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #17** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap) continuing from western end of SA-6 South. Material to be placed from Panel #54 (P-54) installed on 8/6/15 (located at approximate Sta. 14+00) running approximately 100 ft. east to Sta. 13+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work along the panels previously installed Panels 50-54 which were placed on 8/6/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (8/7/15).
- A total of twenty-three repairs (RP-195 through RP-217) were observed and fixed (according to the project specifications) from Panels #50 through Panel #54 (repair / detailing work conducted on panels installed on 8/6/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- No non-conformance issues were observed as patch / repair work consisted of custom fit repairs to allow the geomembrane cap to conform to SA-6 contours.
- A total of three destruct samples were collected (DS-13, DS-14, and DSX-6). DS-13 and DS-14 (fusion) were collected from Panels 47/48 and 50/51, respectively. DSX-6 (extrusion) was collected from Panel #48 on RP-198.
- While the geomembrane was being patched / repaired, ESI also installed a penetration boot for Collection Manhole #2. Note: The penetration log for Collection Manhole #2 will be completed once the boot has been sealed and covered according to the project specifications (to be completed on 8/10/15), and the final sealant is placed around top of boot.
- Langan and Entact conducted soil subgrade approval from approximate Sta. 14+00 to Sta. 13+00 while

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patch work was being completed by ESI. Refer to *Soil Subgrade Approval* forms from 8/7/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material.Refer to Photo #6 of the daily photo log for 8/7/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 14+00 to Sta. 13+00.

- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 14+00 (east of P-54) moving east (for approximately 100 ft.). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/7/15 Photo Log* for supporting photographs.
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #54 (located at approximate Sta. 14+00) on 8/6/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of five panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-55, P-56, P-57, P-58, P-59, P-60) by ESI. Note:, during placement of Panel #55 and #59, the roll of geomembrane was completed, thus, Panel #56 was placed for the last 11 ft. (from roll G15C283029) to complete the southern end and Panel #60 (P-60) was placed for the last 15 ft. (from roll G15C276053) to complete the northern end of SA-6.
- During installation of the Cap, geomembrane seams were overlapped a minimum of 4-inches for fusion welding (according to project specs). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specs. A total of six 1-inch specimens were collected for peel and shear testing (3 samples/each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/7), *Trial Weld Log.*
- Installation and fusion welding of the geomembrane panels was conducted until the end of the work day. Once completed, non-destructive testing on the installed panels was conducted. Non-destruct testing was conducted in accordance with the project specs and is further summarized on the *Seam Control Form (8/7/15).* After non-destructive testing the work day was terminated and no patch / repair work was completed. These activities will be completed on Monday (8/10/15).

Non-Conformance Items / Corrective Actions

- No non-conformance items observed. Repairs associated with 8/7/15 consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/7/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 14+35).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DS-13, DS-14 and DSX-6

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By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, and 8/6/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-12, and DSX-1 through DSX-5. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 13+00 to Sta. 12+00) continuing east along SA-6.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/7/15
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 8/7/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/7/15
A5 – Subgrade Approval	Sheet 11 & ESI (8/7/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/7/15.
A7 – Panel Placement Log	Page 12	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/7/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 8/7/15
A9 – Seam/Non-Destruct. Test Log	Pages 12-14	One Seam Control form provided by ESI and confirmed by Langan for non-destruct tests completed on 8/7/15
A10 – Repair Log	Pages 10-12	One Repair Log provided by ESI and confirmed by Langan for 8/7/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

A11 – Conformance COC		N / A for 8/7/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected for 8/7/15
A13 – Destruct. Sample Summary		N / A no updates as no destruct samples collected on 8/7/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		One Notice of Non-Compliance form created by Langan (Sheet #26) for failed vacuum box test

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/10/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	69/78° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0600 – 1645

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #18** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap) continuing from western end of SA-6 South. Material to be placed from Panel #60 (P-60) installed on 8/7/15 (located at approximate Sta. 13+00) running approximately 100 ft. east to Sta. 12+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work along the panels previously installed Panels 55-60 which were placed on 8/7/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (8/10/15).
- A total of thirty-one repairs (RP-218 through RP-248) were observed and fixed (according to the project specifications) from Panels #55 through Panel #60 (repair / detailing work conducted on panels installed on 8/7/15). Refer to 8/10/15 *Repair Report.* The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While the geomembrane was being patched / repaired, ESI also installed a penetration boot for well 115-W5-SO, and completed placing the geomembrane patch around Access Manhole #2. Note: The penetration log for well 115-W5-SO will be completed once the boot has been sealed and covered according to the project specifications and the final sealant is placed around top of boot.
- Langan and Entact conducted soil subgrade approval from approximate Sta. 13+00 to Sta. 12+00 while patch work was being completed by ESI. Refer to *Soil Subgrade Approval* forms from 8/10/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #5 and #6 of the daily photo log for 8/10/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 13+00 to Sta. 12+00.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 13+00 (east of P-60) moving east (for approximately 100 ft.). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/10/15 Photo Log* for supporting photographs.
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #60 (located at approximate Sta. 13+00) on 8/7/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of five panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-61, P-62, P-63, P-64, and P-65) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/10), *Trial Weld Log.*
- Installation and fusion welding of the geomembrane panels was conducted until the end of the work day. Once completed, non-destructive testing on the installed panels was conducted. Non-destruct testing was conducted in accordance with the project specs and is further summarized on the *Seam Control Form (8/10/15).* After non-destructive testing the work day was terminated and no patch / repair work was completed.
- A total of three destructive samples were collected (two fusion and one extrusion weld). Fusion weld destruct samples (DS-15, DS-16) were collected from Panel Seams 54/55 and 59/61 respectively. DSX-7 was collected along Panel 53/54 seam. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/10/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DS-15, DS-16, DS-17, and DSX-7

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, and 8/7/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-14, and DSX-1 through DSX-6. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 12+00 to Sta. 11+00) continuing east along SA-6.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/10/15
A3 – Photo Log	Pages 1 – 7	Total of 14 photos outlining pertinent daily observations and descriptions for 8/7/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/10/15
A5 – Subgrade Approval	Sheet 12 & ESI (8/10/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/10/15.
A7 – Panel Placement Log	Page 13	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/10/15
A8 – Destruct Seam Testing COC	Page 1	Updated with destruct samples collected on 8/10/15
A9 – Seam/Non-Destruct. Test Log	Pages 12-14	One Seam Control form provided by ESI and confirmed by Langan for non-destruct tests completed on 8/10/15
A10 – Repair Log	Pages 10-12	One Repair Log provided by ESI and confirmed by Langan for 8/10/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

A11 – Conformance COC		N / A for 8/10/15
A12 – Destructive Seam Field Test	Page 12	One destruct sample information form provided by ESI and confirmed by Langan for 8/10/15
A13 – Destruct. Sample Summary	Page 1	Updated with destruct sample information from 8/10/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues noted on 8/10/15.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/12/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	71/83° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0600 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #19** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #65 (P-65) installed on 8/10/15 (located at approximate Sta. 12+00) running approximately 100 ft. east to Sta. 11+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work along the panels previously installed Panels 61-66 which were placed on 8/10/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (8/12/15).
- A total of four repairs (RP-249 through RP-252) were observed and fixed (according to the project specifications) from Panels #64 through Panel #66 (repair / detailing work conducted on panels installed on 8/10/15). Refer to 8/12/15 *Repair Report* for supporting information. The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While the geomembrane was being patched / repaired, ESI also installed / construction penetration boots for well 115-W5-SO and gas vent #5 (GV-5). Note: These penetration logs will be completed once the final clamps and seal (butyl seal) have been completed according to the project specifications and the final sealant is placed around top of boot.
- While ESI was conducting repair / patch work, Langan and Entact conducted soil subgrade observation from approximate Sta. 12+00 to Sta. 11+00. Based on visual inspection, the soil subgrade appeared to contain areas of soft / wet subgrade due to rainstorms from 8/11/15. Based on these soft areas, soil subgrade was not approved for geomembrane placement. Entact conducted additional preparation work (i.e. drying the soil and re-grading and re-compacting) as required, to conform the subgrade to the project specifications (refer to Photo #7 of the daily photo log for 8/12/15)

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

- After completing patch / repair work from the panels installed on 8/10/15, ESI began to place GDL continuing east along the utility corridor. GDL was placed along the eastern slope of the utility corridor (located at approximate Sta. 16+50). Panels were oriented east to west within the utility corridor, and reverted back to the north and south orientation outside of the corridor (refer to the *8/12/15 Photo Log* for supporting photos)
- GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/12/15 Photo Log* for supporting photographs.
- No new geomembrane panels were placed as the soil subgrade for the next 100 ft. section was not approved. No destruct samples were collected, as DS-17 was collected on 8/10/15 during panel placement.
- Additionally, Entact placed protective cover soil over the previously installed geomembrane and GDL panels at the western end of SA-6. Protective cover soil was placed in 1 ft. lifts with caution tape placed at a maximum of 5 ft. spacing, placed over the GDL prior to soil placement.

Non-Conformance Items / Corrective Actions

- No non-conformance issues recorded as no new geomembrane panels were placed and the patch / repair work conducted on geomembrane cap was in compliance with the project specifications.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/12/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DS-17 (once received)

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, and 8/10/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-16, and DSX-1 through DSX-7. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 12+00 to Sta. 11+00) east of utility corridor.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/12/15
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 8/12/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/12/15
A5 – Subgrade Approval		N / A no subgrade approved due to soft / wet conditions observed from storms on 8/11/15
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/12/15.
A7 – Panel Placement Log		N / A no panels placed on 8/12/15
A8 – Destruct Seam Testing COC	Page 1	Updated with destruct sample information collected from 8/12/15
A9 – Seam/Non-Destruct. Test Log	Page 14-15	Updated with vacuum box test conducted from 8/12/15 on Panels 64/66
A10 – Repair Log	Pages 11-12	One repair report provided by ESI and confirmed by Langan for geomembrane repairs conducted on 8/12/15
A11 – Conformance COC		N / A for 8/12/15
A12 – Destructive Seam Field Test	Page 3	One destructive sample information form provided by ESI and confirmed by Langan for destruct samples collected on 8/12/15
A13 – Destruct. Sample Summary	Page 1	Updated with 8/12/15 destruct sample information
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/12/15

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By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/13/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	70/85° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0600 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #20** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #65 (P-65) installed on 8/10/15 (located at approximate Sta. 12+00) running approximately 100 ft. east to Sta. 11+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 12+00 to Sta. 11+00. Refer to *Soil Subgrade Approval* forms from 8/13/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #1 and #2 of the daily photo log for 8/13/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 12+00 to Sta. 11+00. Note: The soft / wet areas identified on 8/12/15 were allowed to dry and were repaired for geomembrane placement.
- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 12+00 (east of P-65) moving east (for approximately 100 ft.). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/13/15 Photo Log* for supporting photographs.
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #65 (located at approximate Sta. 12+00) on 8/10/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of five panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were

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installed (P-67, P-68, P-69, P-70, and P-71) by ESI.

- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/13), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 11+00, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (8/13/15) for non-destructive testing details. Based on the panel placement, minimal repairs were required along the installed panels. As such, no patch / repair work was conducted, and any associated repairs will be completed on 8/14/15.
- After completing non-destructive testing along the panels installed today (8/13/15), ESI began to place GDL continuing east from the 1st utility corridor (located at approx. Sta. 16+50). Panels were oriented from north to south (as outlined in the proposed GDL layout). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/13/15 Photo Log* for supporting photographs.
- A total of two destructive samples were collected (two fusion welds). Fusion weld destruct samples (DS-18, DS-19) were collected from Panel Seams 64/65 and 68/69, respectively. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- Additionally, Entact placed protective cover soil over the previously installed geomembrane and GDL panels at the western end of SA-6. Protective cover soil was placed in 1 ft. lifts with caution tape placed at a maximum of 55-inch spacing, placed over the GDL prior to soil placement.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/13/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DS-17, DS-18, and DS-19 (once received)

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, and 8/12/15 as well as reviewed and approved daily ESI form submittals.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

- Reviewed laboratory destruct sample results for samples DS-1 through DS-16, and DSX-1 through DSX-7. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 80 ft. run east (approximately from Sta. 11+00 to Sta. 10+20) to Access Manhole #3 (ESI demobilization point).
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/13/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 8/13/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/13/15
A5 – Subgrade Approval	Sheet 13 & ESI (8/13/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/13/15.
A7 – Panel Placement Log	Page 14	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/13/15
A8 – Destruct Seam Testing COC	Page 1	Updated with destruct sample information collected from 8/13/15
A9 – Seam/Non-Destruct. Test Log	Page 15-16	Updated with vacuum box test conducted from 8/13/15 on Panels 67 through 71
A10 – Repair Log		N / A no repairs completed on 8/13/15
A11 – Conformance COC		N / A for 8/13/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test	Page 3	One destructive sample information form provided by ESI and confirmed by Langan for destruct samples collected on 8/13/15
A13 – Destruct. Sample Summary	Page 1	Updated with 8/13/15 destruct sample information
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/13/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/14/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	78/95° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0600 – 1430

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #21** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #65 (P-71) installed on 8/13/15 (located at approximate Sta. 11+00) running approximately 80 ft. east to Sta. 10+20 (western slope of 2nd utility corridor).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 11+00 to Sta. 10+20. Refer to *Soil Subgrade Approval* forms from 8/14/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 11+00 to Sta. 10+20.
- Geocomposite clay liner (GCL), GVL and Cap placement began with ESI placing the GCL along the southern slope of SA-6 (lower bench) located below (to 1 ft. above) the water table as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with a granular bentonite.
- In addition to the GCL (placed along the southern slope below the groundwater table), 16 oz. geotextile was placed along the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 11+00 (east of P-71) moving east (for approximately 80 ft.) to Sta. 10+20. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/14/15 Photo Log* for supporting photographs.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #71 (located at approximate Sta. 11+00) on 8/13/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of four panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-72, P-73, P-74, and P-75) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/14), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 10+20, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (8/14/15) for non-destructive testing details. Based on the panel placement, minimal repairs were required along the installed panels. ESI conducted patch / repair work for the panels installed on 8/13/15 (Panels 66-71) and 8/14/15 (Panels 72-75). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 8/14/15 for results (extrusion testing identified as EXT. on form).
- A total of ten repairs (RP-253 through RP-262) were observed and fixed (according to the project specifications) from Panel #71 through Panel #75 (repair / detailing work conducted on panels installed on 8/13/15 & 8/14/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs), as well as seam joint repairs where non-destructive testing was conducted along the panel seams. These areas were subsequently patched and sealed with extrusion welds, and confirmed with vacuum box testing being conducted as outlined in the project specifications.
- Upon completion of patch / repair activities, ESI began to pack and load equipment for their 2-week demob from the Site.
- A total of two destructive samples were collected (two fusion welds). Fusion weld destruct samples (DS-20, DS-21) were collected from Panel Seams 70/71 and 74/75, respectively. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- Additionally, Entact placed protective cover soil over the previously installed geomembrane and GDL panels at the western end of SA-6. Protective cover soil was placed in 1 ft. lifts with caution tape placed at a maximum of 55-inch spacing, placed over the GDL prior to soil placement.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/13/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DS-17, DS-18, DS-19, DS-20, and DS-21 (once received)

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, and 8/13/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-16, and DSX-1 through DSX-7. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 2nd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South after 2-week demobilization is complete.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/13/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 8/14/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/13/15
A5 – Subgrade Approval	Sheet 14 & ESI (8/14/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/14/15.
A7 – Panel Placement Log	Page 15	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/14/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A8 – Destruct Seam Testing COC	Page 1	Updated with destruct sample information collected from 8/14/15
A9 – Seam/Non-Destruct. Test Log	Page 15-16	Updated with vacuum box test conducted from 8/13/15 on Panels 67 through 71
A10 – Repair Log	Page 13	One repair report provided by ESI and confirmed by Langan for geomembrane repairs conducted on 8/14/15
A11 – Conformance COC		N / A for 8/14/15
A12 – Destructive Seam Field Test	Page 3	One destructive sample information form provided by ESI and confirmed by Langan for destruct samples collected on 8/14/15
A13 – Destruct. Sample Summary	Page 1	Updated with 8/14/15 destruct sample information
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/13/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 31, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		1
Stockpile Tarping/Containment	X			
Proper Chemical Storage		X		2
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		3
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		4
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		5
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 07/31/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, July 31, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Partially filled drums in the mechanics area on SA-6 South are not on spill pallets
2	IA2Q4A1AL8	Drums and other containers in the mechanics area on SA-6 South are not properly labelled as to content.
3	IA2Q4A1AL8	Remains of drainage pipe and other debris are present on the SA-6 South backfill area.
4	IA2Q4A1AL8	Silt fence along the southern perimter of the Novartis stockpile area on SA-7 is not properly toed in.
5	IA2Q4A1AL8	Sediment is present on the southern SA-7 paved access roadway by the Novartis stockpile area.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 07/31/15
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Place all drums which are in use on or in secondary spill containment.	8/3/15 RAD
2	Check labelling on all containers for Hazcom compliance and properly label or else remove any containers which are out of compliance.	8/3/15 RAD
3	Place debris in rolloffs for disposal.	8/4/15 RAD
4	Reinstall or replace silt fence as required.	8/4/15 RAD
5	Clean up all sediment from the SA-7 access roadway	8/5/15 RAD

Construction Manager: _____ **Date:** 08/06/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: August 7, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		2,3
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		4
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		5
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		6
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		7

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 08/07/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, August 07, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Discarded water bottles and other debris are present in the area of the SA-6 South cap installation.
2	IA2Q4A1AL8	Exclusion Zone fencing around the EZ to the south of the SA-6 North trash pit requires maintenance.
3	IA2Q4A1AL8	Exclusion Zone surrounding the EA-8 excavation requires maintenance.
4	IA2Q4A1AL8	The stockpile of relocated material in the SA-6 North Exclusion Zone requires erosion control measures.
5	IA2Q4A1AL8	Debris is present on the ground in the EA-7/EA-8 excavation areas on SA-6 North.
6	IA2Q4A1AL8	Silt fence along the SA-7 northern roadway requires maintenance.
7	IA2Q4A1AL8	Debris is present on the eastern SA-7 roadway adjacent to Route 440.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 08/07/15

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Pick up and dispose of discarded water bottles in the SA-6 South cap area. Place garbage cans as needed for future use.	8-11-15 RAD
2	Repair or maintain EZ fencing as required. Confirm that fencing across access points is closed at the end of every workday.	8-11-15 RAD
3	Repair or maintain the EZ fencing as required	8-11-15 RAD
4	Install silt control measures along the toe of the material stockpile.	8-11-15 RAD
5	Pick up and dispose of debris.	8-11-15 RAD
6	Repair or replace silt fence as required.	8-11-15 RAD
7	Pick up and dispose of debris.	8-11-15 RAD

Construction Manager: _____ **Date:** 08/13/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: August 14, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		2
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		3
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		4
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		5
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		6

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 08/14/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, August 14, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Excluzion Zone fencing at the southeastern corner of the SA-6 South cap area is damaged
2	IA2Q4A1AL8	Cover material is exposed on the eastern end of the SA-6 South cap area adjacent to the Hackensack River
3	IA2Q4A1AL8	Exclusion Zone signage is not adequate on the EZ at the southeastern corner of SA-6 North.
4	IA2Q4A1AL8	Filter fabric in the catch basins on SA-6 North by the trash pit has become blinded and requires maintenance.
5	IA2Q4A1AL8	Sediment is present on the SA-7 access roadway.
6	IA2Q4A1AL8	**REPEAT:** Debris is present on the eastern SA-7 roadway adjacent to Route 440

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 08/14/15

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Maintain/repair the EZ fencing as required.	8/19/15 RAD
2	Install plastic sheeting over the placed cover material.	
3	Install additional EZ signage on the EZ fenceline.	
4	Replace filter fabric in catch basins as required	
5	Clean the access roadway as required. Clean sediment from around the western cover material ramp.	
6	Pick up and dispose of debris.	✓

Construction Manager: _____ **Date:** 08/20/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: August 21, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		1
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		4
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		5
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 08/21/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, August 21, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Sediment has accumulated on the north side of Kellogg Street to the west of the 60 Kellogg building and the filter fabric in the associated catch basins requires maintenance.
2	IA2Q4A1AL8	Discarded filter fabric, old fence posts, and other debris are present on the SA-6 South backfill area adjacent to the western end of Kellogg Street.
3	IA2Q4A1AL8	Silt fence is not properly toed in on the north side of the EA-4 excavation.
4	IA2Q4A1AL8	Containment measures surrounding the Exclusion Zone at the southeastern corner of SA-6 North require upgrading.
5	IA2Q4A1AL8	A catch basin on the north side of the trash pit on SA-6 North requires filter fabric replacement.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 08/21/15

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Remove the accumulated sediment from the north side of Kellogg Street and change catch basin filter fabric as needed.	8/27/15 RAD
2	Remove and properly dispose of all debris in this area.	
3	Toe in the silt fence.	
4	Install silt dams or other approved erosion control measures on the eastern side of the EZ between the excavated area and the sidewalk.	
5	Replace the filter fabric in the catch basin between the trash pit and the EA-4 excavation.	

Construction Manager: _____ Date: 08/27/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: August 28, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage		X		1
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		2
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		3
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		4
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 08/28/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, August 28, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Oxygen tanks are not properly chained/stored in the mechanics area on SA-6 South
2	IA2Q4A1AL8	Sediment is present on the road surface at the western end of Kellogg Street in the areas around the storm drain catch basins.
3	IA2Q4A1AL8	Exclusion Zone fencing is inadequate on the eastern side of the EA-5 excavation zone on SA-6 North
4	IA2Q4A1AL8	A gap is present in the perimeter chain link fencing on SA-6 North, just to the east of the CWTP.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: [signature] Date: 08/28/15

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Chain or strap all compressed gas cylinders as required	9/1/15 RAD
2	Shovel accumulated sediment from the road surface and dispose of properly.	9/1/15 RAD
3	Install additional EZ fencing as required to close off the eastern side of EA-5	8/28/15 RAD
4	Repair the gap in the chain link fabric as required	9/1/15 RAD

Construction Manager: [signature] Date: 9/4/15

Attachment 13: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (July 2015)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

August 20, 2015

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the July 2015 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
7	01	15	7	31	15
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	77,469	86,397 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	0.65	0.72	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.3	<5.3	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1312	0.1312	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John A. Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

8/18/2015

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
7	01	15	7	31	15
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,401,528 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 41,001,828

DATE	BOD (mg/l)	TSS (mg/l)
7/16/2015	8.3	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J Morris	John J. Morris	(973) 455-4003
		DATE 8/18/2015

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG **Honeywell Jersey City GWTP; SA-6 North (Permit #20630025)** **MONTH: July 2015**

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
7/1/2015	Angel Trujillo	38600300	38673403	73,103	0.073103	7.56	1.000									0.61
7/2/2015	Angel Trujillo	38673403	38752880	79,477	0.079477	7.59	1.000									0.66
7/3/2015	Angel Trujillo	38752880	38828208	75,328	0.075328	7.52	1.000									0.63
7/4/2015	Angel Trujillo	38828208	38907512	79,304	0.079304	N/A	1.000									0.66
7/5/2015	Angel Trujillo	38907512	38986815	79,303	0.079303	7.53	1.000									0.66
7/6/2015	Angel Trujillo	38986815	39056369	69,554	0.069554	7.55	1.000									0.58
7/7/2015	Angel Trujillo	39056369	39138805	82,436	0.082436	7.57	1.000									0.69
7/8/2015	Angel Trujillo	39138805	39218788	79,983	0.079983	6.70	1.000									0.67
7/9/2015	Angel Trujillo	39218788	39297122	78,334	0.078334	6.82	1.000									0.65
7/10/2015	Angel Trujillo	39297122	39371889	74,767	0.074767	6.83	1.000									0.62
7/11/2015	Angel Trujillo	39371889	39457013	85,124	0.085124	6.90	1.000									0.71
7/12/2015	Angel Trujillo	39457013	39530282	73,269	0.073269	N/A	1.000									0.61
7/13/2015	Angel Trujillo	39530282	39603551	73,269	0.073269	6.88	1.000									0.61
7/14/2015	Angel Trujillo	39603551	39683613	80,062	0.080062	6.88	1.000									0.67
7/15/2015	Angel Trujillo	39683613	39761777	78,164	0.078164	6.84	1.000									0.65
7/16/2015	Angel Trujillo	39761777	39839429	77,652	0.077652	6.86	1.000	<5.3	8.3		<0.010	<0.030	<0.010	<0.0002	<0.020	0.65
7/17/2015	Angel Trujillo	39839429	39917383	77,954	0.077954	6.83	1.000									0.65
7/18/2015	Angel Trujillo	39917383	40000664	83,281	0.083281	6.82	1.000									0.69
7/19/2015	Angel Trujillo	40000664	40075996	75,332	0.075332	N/A	1.000									0.63
7/20/2015	Angel Trujillo	40075996	40151328	75,332	0.075332	6.81	1.000									0.63
7/21/2015	Angel Trujillo	40151328	40228223	76,895	0.076895	6.84	1.000									0.64
7/22/2015	Angel Trujillo	40228223	40305044	76,821	0.076821	6.90	1.000									0.64
7/23/2015	Angel Trujillo	40305044	40382213	77,169	0.077169	6.81	1.000									0.64
7/24/2015	Angel Trujillo	40382213	40459781	77,568	0.077568	6.82	1.000									0.65
7/25/2015	Angel Trujillo	40459781	40546178	86,397	0.086397	6.80	1.000									0.72
7/26/2015	Angel Trujillo	40546178	40619985	73,807	0.073807	N/A	1.000									0.62
7/27/2015	Angel Trujillo	40619985	40693793	73,808	0.0738	6.90	1.000									0.62
7/28/2015	Angel Trujillo	40693793	40771316	77,523	0.077523	6.89	1.000									0.65
7/29/2015	Angel Trujillo	40771316	40847941	76,625	0.076625	6.95	1.000									0.64
7/30/2015	Angel Trujillo	40847941	40924300	76,359	0.076359	6.90	1.000									0.64
7/31/2015	Angel Trujillo	40924300	41001828	77,528	0.077528	6.91	1.000									0.65
TOTAL				**2,401,528**	**2.401528**			<5.3	8.3		<0.010	<0.030	<0.010	<0.0002	<0.020	
			High:	**86,397**											**High:**	**0.72**
			Average:	**77,469**											**Average:**	**0.65**

WW

E

3B99282

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell — Chain Of Custody / Analysis Request

AESI Ref:	42201.55960
COC#	087-WW-071615
Lab Proj # (SDG):	
Lab ID	ACTD
Site ID	HudsonCo
Lab Job #	HWINJM32815
Authorized User:	Honeywell
Test & Excel File Drive	Excel & Test File Order

Privileged & Confidential

Site Name: Hudson County — Phase: CS
Location of Site: Jersey City, NJ — Sampling Program: 087: JCIA

Sampling Co.: MACTEC
EDD To:
Sampler: Frank Schroyer
PO #
Client Contact: (name, co., address)
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962
Preliminary Data To
Sample Receipt Acknowledgement To: Frank Schroyer
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)

Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Full Report TAT: 28 Days

	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list				Sampling Method (code)	Lab Sample Numbers
											Units		Preservative	3	3	3	1	2	2	0	0	2					
1	087-WW			087-WWE-071615-A	7/16/2015	15:10	WW	WATER	REG	3	comp	N	X	X	X	X			X	X		1					L25
2	087-WW			087-WWE-071615-B	7/16/2015	15:20	WW	WATER	REG	5	grab	N					X	X				2					V6J1
3	087-WW			087-WWI-071615	7/16/2015	15:30	WW	WATER	REG	3	grab	N									X	3					A6
4																											G43
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

Copyright AESI: Version 8.0 Unauthorized use strictly prohibited.

Relinquished by: pH = 6.86 s.u. @ 7.6°C	Company:	AMEC Foster Wheeler	Received by:		Company:	Accutest	Condition:	3.5°C	Custody Seals Intact:
Frank Schroyer	Date/Time: 7/16/15 16:40				Date/Time: 7/16/15 16:40		Cooler Temp.		
Relinquished by:	Company:	Accutest	Received by:		Company:	ALNJ	Condition:		Custody Seals Intact:
	Date/Time: 7/16/15 17:46				Date/Time: 7/16/15 1746		Cooler Temp.		

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

INITIAL ASESSMENT 3B JK

LABEL VERIFICATION JK

ALL SAMPLES RECEIVED PRESERVED AS APPLICABLE JK

Accutest LabLink@866105 11:11 03-Aug-2015

Report of Analysis

4.1

4

Client Sample ID:	087-WWE-071615-A		
Lab Sample ID:	JB99282-1	**Date Sampled:**	07/16/15
Matrix:	AQ - Water	**Date Received:**	07/16/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1000	10	ug/l	1	07/17/15	07/20/15	AP	EPA 200.7 [1]	EPA 200.7 [3]
Copper	< 10	10	ug/l	1	07/17/15	07/20/15	AP	EPA 200.7 [1]	EPA 200.7 [3]
Lead [a]	< 30	30	ug/l	10	07/17/15	07/20/15	AP	EPA 200.7 [1]	EPA 200.7 [3]
Mercury	< 0.20	0.20	ug/l	1	07/20/15	07/20/15	MA	EPA 245.1 [2]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	07/17/15	07/20/15	AP	EPA 200.7 [1]	EPA 200.7 [3]
Zinc	< 20	20	ug/l	1	07/17/15	07/20/15	AP	EPA 200.7 [1]	EPA 200.7 [3]

(1) Instrument QC Batch: MA37126
(2) Instrument QC Batch: MA37129
(3) Prep QC Batch: MP87721
(4) Prep QC Batch: MP87797

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@866105 11:11 03-Aug-2015

Report of Analysis

4.1 4

Client Sample ID:	087-WWE-071615-A		
Lab Sample ID:	JB99282-1	**Date Sampled:**	07/16/15
Matrix:	AQ - Water	**Date Received:**	07/16/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	07/19/15	SP	SM2540 D-11
pH [a]	6.89		su	1	07/16/15 17:59	AL	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@866105 11:11 03-Aug-2015

Report of Analysis

4.2 4

Client Sample ID:	087-WWE-071615-A		
Lab Sample ID:	JB99282-1A	**Date Sampled:**	07/16/15
Matrix:	AQ - Water	**Date Received:**	07/16/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	8.3	3.4	mg/l	1	07/16/15 20:37	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@866105 11:11 03-Aug-2015

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-071615-B		
Lab Sample ID:	JB99282-2	**Date Sampled:**	07/16/15
Matrix:	AQ - Water	**Date Received:**	07/16/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	T209724.D	1	07/21/15	DC	n/a	n/a	VT8607
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	2.2	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	3.5	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	0.27	1.0	0.093	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.50	ug/l	
67-66-3	Chloroform	17.7	1.0	0.091	ug/l	
74-87-3	Chloromethane	ND	1.0	0.11	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.11	ug/l	
95-50-1	1,2-Dichlorobenzene	0.41	1.0	0.19	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.11	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.29	ug/l	
75-34-3	1,1-Dichloroethane	0.32	1.0	0.12	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/l	
156-59-2	cis-1,2-Dichloroethene	59.8	1.0	0.12	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.3	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.12	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.15	ug/l	
123-91-1	1,4-Dioxane	ND	130	20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.47	1.0	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@866105 11:11 03-Aug-2015

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-071615-B		
Lab Sample ID:	JB99282-2	**Date Sampled:**	07/16/15
Matrix:	AQ - Water	**Date Received:**	07/16/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	42.5	1.0	0.12	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	0.70	1.0	0.13	ug/l	J
1330-20-7	Xylenes (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	106%		72-125%
2037-26-5	Toluene-D8 (SUR)	101%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	101%		74-115%
1868-53-7	Dibromofluoromethane (S)	99%		79-120%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest LabLink@866105 11:11 03-Aug-2015

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-071615-B		
Lab Sample ID:	JB99282-2	**Date Sampled:**	07/16/15
Matrix:	AQ - Water	**Date Received:**	07/16/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.3	5.3	mg/l	1	07/18/15 12:00	CB	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending August 2015

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending August 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Contractor only.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groudnwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on 6/22/15.

SA-6 North/South Field Change Log - Month Ending August 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-07-22	Detail BN has been modified to extend the lIDPE up and over the SCB Wall. The prior detail showed both the GDl and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only.
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA 6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

SA-6 AND SA-7 COMBINED PROGRESS REPORT

OCTOBER 15, 2015

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

October 15, 2015

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2015-09

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from August 1 – August 31, 2015.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: September 2015 SA-6/7 Combined Monthly Progress Report No. 2015-09

cc: Joe Clifford - Amec Foster Wheeler (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2015-09

Project SA-6 & 7 Remediation

September 2015

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
09/02/15	Revised Combined Chromium Remediation Schedule Study Area 6 North and South Jersey City, Hudson County, NJ	Thomas Cozzi, Assistant Director New Jersey Department of Environmental Protection
09/10/15	Pump Well PW-3 Study Area 7 Groundwater Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
09/11/15	Riverkeeper et al v. Honeywell International Inc. et al Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2015-07	Honorable Robert G. Torricelli Office of the Special Master
09/11/15	Responses to Verbal Questions Posed by Dr. Rogers on August 18, 2015 Regarding SA-6 South Geomembrane Boot Installations Study Area 6 North and South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
09/15/15	Special Master Conference Meeting	N/A
09/16/15	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2, Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
09/18/15	Interface Friction Evaluation Geomembrane versus Gas Vent Layer Study Area 6 Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
09/23/15	Design Change Bulletin: Planting Soil Specifications Study Area 6 North and South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
09/29/15	NJDEP Corr re SA-6NS Revised Combined Master Schedule Study Area 6 North and South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
09/29/15	Boot Installation for Geomembrane Penetrations Study Area 6 South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	9/6/2015	9/13/2015	9/20/2015	9/27/2015
Construction Management (AMEC)	8	8	9	10
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	35	40	42	43
Arecon/US Ecology Subcontractors	0	3	3	0
Langan	0	0	1	1
Evoqua	1	1	1	1
B&B Drilling	2	0	0	2
TOTAL STAFF	**51**	**57**	**61**	**62**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected September PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- On September 27 through 29, Cornerstone personnel completed S-3 Mass Removal Injection Event No. 24 in Injection Well 088-IW-02.
- On September 17 and 18, Cornerstone conducted a round of regional quarterly groundwater level measurements.
- ERFS/Summit re-mobilized to SA-6 North, Treatment Area 10-1 on September 9 and 10 and completed the proposed injection program in accordance with the Updated Work Plan submitted to all Parties on August 21, 2015.
- Continued screening of Celgene material for use as protective cover soils above geosynthetics.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on September 10, 2015.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	9/6/2015	9/13/2015	9/20/2015	9/27/2015
Avg. Gallons Treated & Discharged (per day)	78,081	78,108	77,991	76,827
Average Flow (gpm) for Operating Period	55	54	56	56
Avg. Hours of Plant Operation	24	24	24	23
GWTP Influent Tanks (gal.)	8,208	4,566	5,253	4,358

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Completion of the Excavation Area EA-8 excavation is pending post excavation sampling results.
- Completed installation of dewatering well points and two deep dewatering wells associated with EA-2 and EA-3.
- Completed excavation of Excavation Area EA-5. An unknown UST was encountered during excavation activities. The UST was removed from the excavation on October 1, 2015 due to slope stability concerns. The UST was staged on site for future disposal and closure reporting under the non-chromium project and LSRP.
- Continued relocating soils from Area 3S to the SA-6 North Cap Area.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/FCI	Roll-off	Canada	Stablex	WWTP Filter Cake	1	16.5	16.5
Entact/Horwith	Tri-axle Dump	Middlesex County Landfill, NJ	MCUA	Non-haz Cr	44	26	1,153.71

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Excavation Completed	Excavation Area EA-5 Volume Excavated - Total for Reporting Period: 2,690.CY / Total to Date: 6,432. CY
Backfill in Progress	Celgene Screened fraction above 3/8 inch – EA-5

3. BACKFILL MATERIALS USED

Source	Week Ending			
	9/6/2015	9/13/2015	9/20/2015	9/27/2015
Mt. Hope 3/8" Stone	100.23	0	0	50.89
Mt. Hope DGA	0	0	397.21	0

- Screened Celgene materials greater than 3/8 inch were transferred and placed as backfill in EA-5. A total of 36 loads, totaling approximately 810 cubic yards was placed as backfill in EA-5.
- Screened Celgene material was placed as protective cover soil in the SA-6 South cap area. A total approximately 4,973 cubic yards was placed as protective cover soil during the reporting period.

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging and offloading of surcharge material is complete.
- Area 3S: Surcharging and offloading of surcharge material is complete.
- Area 1N: Continued off-loading of remaining screened historic fill.
- Area 2N: Surcharging is 100% complete. Offloading not yet scheduled by contractor.
- Area 3N: Completed installation of surcharge monitoring instrumentation.
- Area 4N: Completed installation of surcharge monitoring instrumentation.

F. SHEET PILE OPERATIONS

- No activity to report.

G. CAPPING OPERATIONS

- A total of 117,022 sq. ft. of liner totaling 32% of the total cap area was deployed during the reporting period. The total liner area deployed through September 27, 2015 is 96% for the cap system at SA-6 South.

- Continued installation of geosynthetic cap components to include placement of the geocomposite gas venting layer, 60 mil geomembrane liner, and geocomposite drainage layer.
- Continued general liner subgrade preparation in Area 3S.
- Continued cutting hydraulic barrier sheets and the SCB wall to final elevation in SA-6 South Open Space Area.
- Continued removing asphalt on top of the SCB wall and smooth coating as necessary for geosynthetics installation detail.
- Continued installation of gas vent pipe.
- Modified destructive seam testing interval from 1 test per 500 feet of seam to 1 test per 1,500 feet of seam length according to Specification 02372-3.07.A. (Samples DS-1 to DS-26 had been collected with 0 failures).
- Continued placement of protective cover soils and demarcation tape over the geocomposite drainage layer.

H. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2016	6/30/2016	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Renewal Not Needed	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15	12/2/15	Pending

I. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete excavation of Area EA-8.
- Complete backfilling of excavation areas EA-4 and EA-5.
- Begin Trash Pit area Meadow Mat Repair.
- Complete liner subgrade and utility corridor preparation activities on SA-6 South.
- Complete installation of geosynthetic cap components to include placement of the geocomposite gas venting layer, 60 mil geomembrane liner, and geocomposite drainage layer.
- Continue screening Celgene material for use as protective cover soils above geosyntethics.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Continue to coordinate the planned PW-3 extraction well/trench installation.
- Initiate import and placement of Horizon B/C Soils.

ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
4. *Dewatering Operations Update (not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
7. Perimeter Pools Update
8. Groundwater Quality Data
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. Sheet Pile Update
    - Repair Log
11. Capping Update
    - SA-6 South Cap Subgrade Progress Map
    - Repair Log
    - Non-conformance Log

- Subgrade Approval Forms
- QA Photo Log
- Daily QA Reports (Langan)

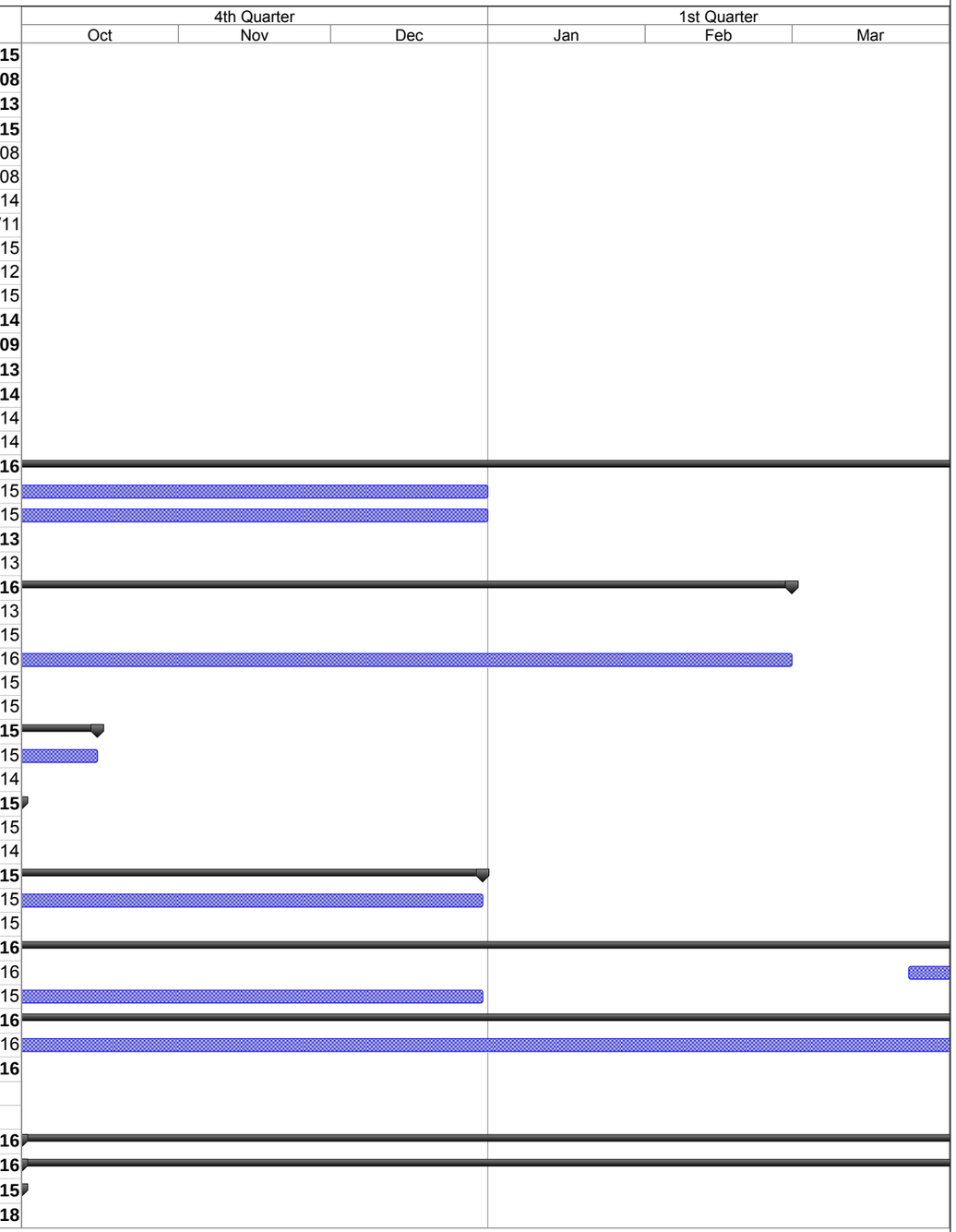
12. Weekly SWPPP Reports
13. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (submitted September2015)
14. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**1/4/08**	**6/1/15**
2	**Remedial Action Work Plan**	**33 days**	**1/4/08**	**2/19/08**
5	**Remedial Action Design**	**1522 days**	**2/20/08**	**12/13/13**
18	**JCIA/JCDPW Relocation**	**1780 days**	**8/11/08**	**6/1/15**
19	Develop Site Relocation Master Plan	38 days	8/11/08	10/1/08
20	Submit Site Relocation Master Plan	0 days	10/1/08	10/1/08
21	JC Construction of New Facilities	1309 days	6/2/09	6/2/14
22	Relocation Contractor Procurement	392 days	4/15/10	10/13/11
23	JCIA and JCDPW Relocation	949 days	10/17/11	6/1/15
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	12/12/11	4/30/12
24a	Demolition of JCIA Structures	146 days	9/1/14	3/23/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**7/11/08**	**4/30/14**
26	**Remedial Action Work Plan**	**187 days**	**7/11/08**	**3/30/09**
32	**Remedial Action Design**	**1161 days**	**2/2/09**	**7/9/13**
57	**SA-6 South Relocation**	**616 days**	**12/26/11**	**4/30/14**
58	New GWTP Construction Completion	502 days	3/5/12	1/30/14
59	Demolition of 80 Kellogg	857 days	12/26/11	4/30/14
60	**SA-6 North/South Field Implementation**	**894 days**	**3/1/13**	**8/1/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	6/17/13	12/31/15
60b	SA-6S (Site 163) In-Situ Treatment	555 days	11/15/13	12/31/15
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**3/1/13**	**6/28/13**
61a	Mobilization	87 days	3/1/13	6/28/13
62	**Surcharge Install/Instrumentation**	**706 days**	**6/17/13**	**2/29/16**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	6/17/13	12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	4/8/14	2/13/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	6/30/15	2/29/16
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	6/16/14	2/23/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	10/6/14	5/8/15
63	**Barrier Wall Install**	**569 days**	**8/12/13**	**10/15/15**
63a	SA 6N Installation of Barrier Wall	159 days	3/9/15	10/15/15
63b	SA 6S Installation of Barrier Wall	210 days	8/12/13	5/30/14
64	**Excavation**	**507 days**	**10/22/13**	**9/30/15**
64a	SA 6N Excavation	218 days	12/1/14	9/30/15
64b	SA 6S Excavation	295 days	10/22/13	12/8/14
65	**Backfill**	**558 days**	**11/11/13**	**12/30/15**
65a	SA 6N Backfill	283 days	12/1/14	12/30/15
65b	SA 6S Backfill	384 days	11/11/13	4/30/15
66	**Capping and Cover Soil Placement**	**426 days**	**12/1/14**	**7/15/16**
66a	SA 6N Capping and Cover Soil Placement	83 days	3/24/16	7/15/16
66b	SA 6S Capping and Cover Soil Placement	283 days	12/1/14	12/30/15
67	**Restoration**	**234 days**	**9/1/15**	**7/21/16**
67a	Restoration	234 days	9/1/15	7/21/16
68	**Demobilization**	**22 days**	**7/1/16**	**8/1/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line			
69	**SA-6 North Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
75	**SA-6 South Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
81	**SA-6 North Long Term Protections**	**1830 days**	**10/1/08**	**10/1/15**
92	**SA-6 South Long Term Protections**	**2569 days**	**6/5/08**	**3/31/18**



Project: SA-6 Remediation Schedule
Revision 4
Date: 9/30/15

Task | Milestone | Summary | Critical

Attachment 2: Site Photographs

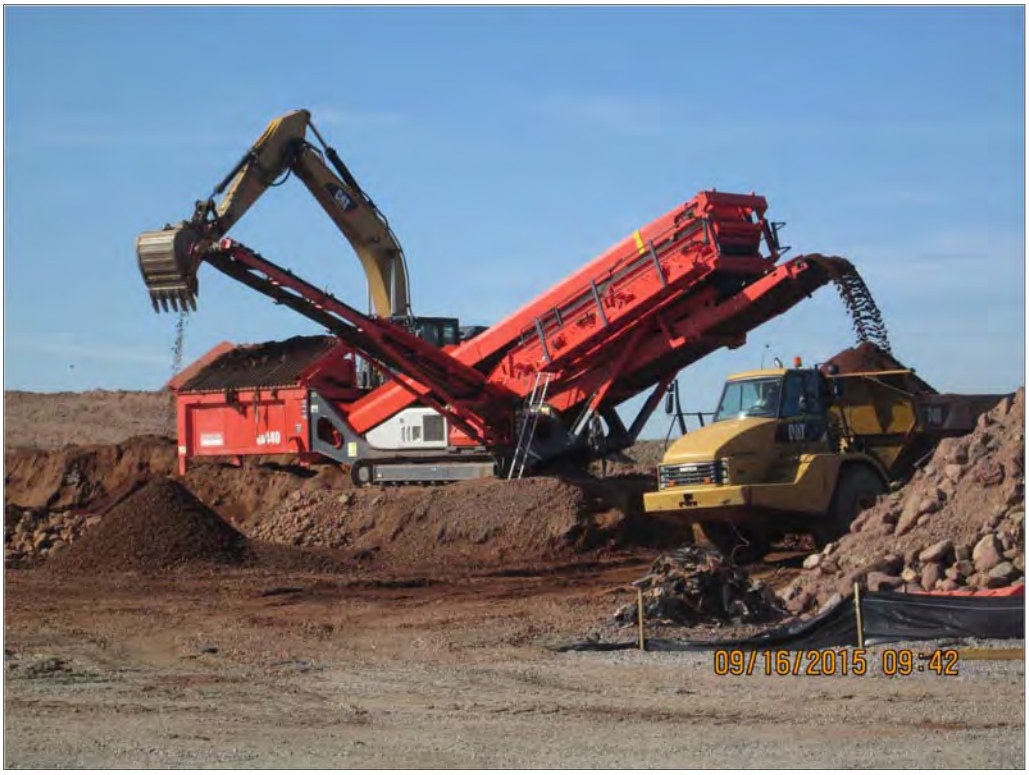
Site Photograph 1: Cleaning Barrier Wall prior to backfill former JC Properties.

Site Photograph 2: Completed Concrete Surface on SCB Wall.

Site Photograph 3: EA-4 Excavation on former JC Properties.

Site Photograph 4: EA-5 Backfilling on former JC Properties.

Site Photograph 5: Placing Orange Geotextile in Open Space.



Site Photograph 6: Screening Imported Soils.

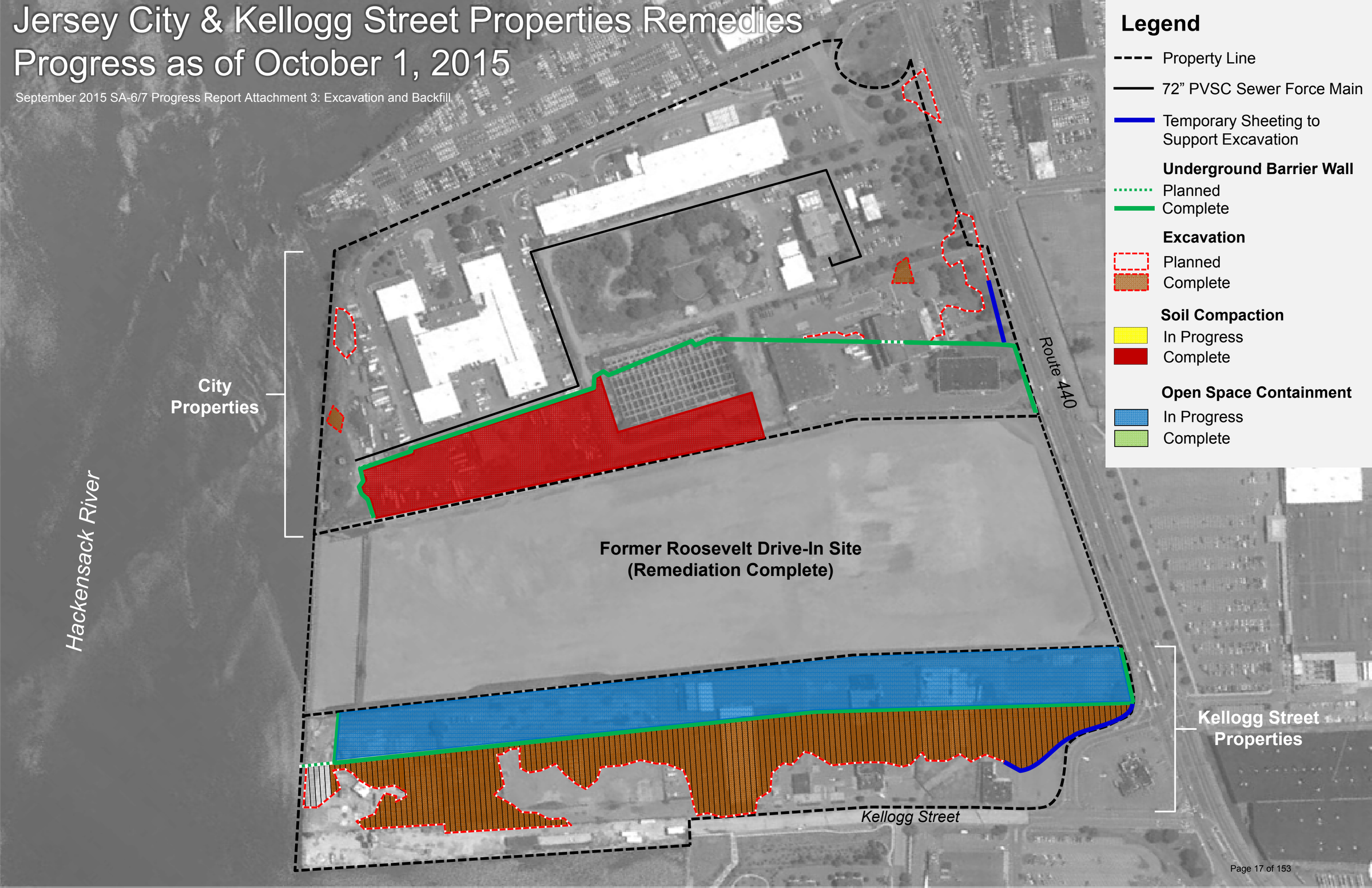
Site Photograph 7: Unloading Clean Cover Soils.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of October 1, 2015

September 2015 SA-6/7 Progress Report Attachment 3: Excavation and Backfill



Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
08/03/15	9:00	13:30	4:30	34,908.04	34,940.20	32,160	34,796,350	
08/04/15	10:30	21:30	11:00	34,940.20	35,081.91	141,710	34,938,060	
08/07/15	6:30	12:30	6:00	35,081.91	35,221.03	139,120	35,077,180	PVSC Compliance Sample Collected
08/10/15	6:15	12:00	5:45	35,221.03	35,298.93	77,900	35,155,080	
08/11/15	6:35	14:30	7:55	35,298.93	35,398.03	99,100	35,254,180	
08/12/15	6:30	13:30	7:00	35,398.03	35,457.13	59,100	35,313,280	
08/13/15	7:00	13:30	6:30	35,457.13	35,497.93	40,800	35,354,080	
08/14/15	7:00	13:00	6:00	34,497.93	35,552.43	54,500	35,408,580	
08/17/15	6:30	12:30	6:00	35,552.43	35,618.63	66,200	35,474,780	
08/19/15	8:00	15:00	7:00	35,618.63	35,662.04	43,410	35,518,190	
08/20/15	7:00	14:00	7:00	35,662.04	35,706.84	44,800	35,562,990	
08/21/15	7:00	13:30	6:30	35,706.84	35,724.91	18,070	35,581,060	
08/25/15	8:00	14:00	6:00	35,724.91	35,790.40	65,490	35,646,550	
08/28/15	7:00	13:00	6:00	35,790.40	35,841.14	50,740	35,697,290	
09/01/15	7:00	13:00	6:00	35,841.14	35,929.31	88,170	35,785,460	PVSC Compliance Sample Collected
09/04/15	7:00	13:00	6:00	35,929.31	35,970.92	41,610	35,827,070	
09/09/15	7:00	15:00	8:00	35,970.92	36,046.73	75,810	35,902,880	
09/11/15	7:00	14:00	7:00	36,046.73	36,113.32	66,590	35,969,470	
09/18/15	7:00	15:00	8:00	36,113.32	36,198.63	85,310	36,054,780	

Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

Material Tracking and Sampling Log
SA-6 North and South

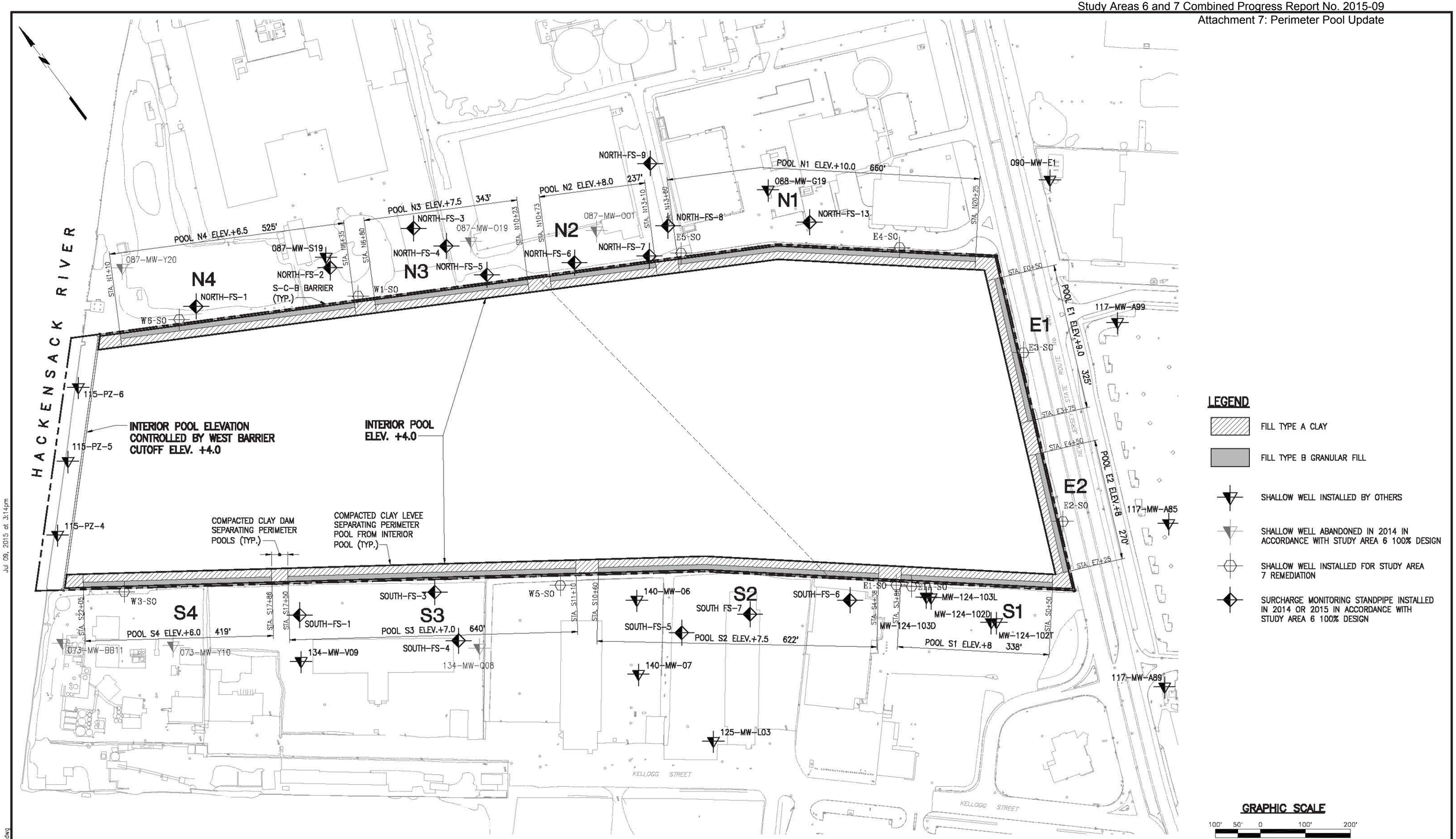
Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
EA-8	<20	087-EA8-20-a,b	1500	087-EA8-20-a1	6/24/2015	7:35	<2.3	Yes		
				087-EA8-20-a2	6/24/2015	7:40	<2.3	Yes		
				087-EA8-20-a3	6/24/2015	7:45	<1.9	Yes		
				087-EA8-20-a4	6/24/2015	7:50	<1.9	Yes		
				087-EA8-20-b1	6/24/2015	7:55	<2.1	Yes		
				087-EA8-20-b2	6/24/2015	8:00	0.78	Yes		
				087-EA8-20-b3	6/24/2015	8:05	2.10	Yes		
				087-EA8-20-b4	6/24/2015	8:10	<2.0	Yes		
EA-8	<20	087-EA8-20-c (bermed / trench material)	250	087-EA8-20-c1	6/24/2015	11:40	<1.9	*		
				087-EA8-20-c2	6/24/2015	11:45	<2.1	*		
				087-EA8-20-c3	6/24/2015	11:50	<2.1	*		
				087-EA8-20-c4	6/24/2015	11:55	<1.9	*		
EA-7	<20	087-EA7-20-a (bermed/trench material)	900	087-EA7-20-a1	6/26/2015	13:15	<1.8	Yes		
				087-EA7-20-a2	6/26/2015	13:20	<1.4	Yes		
				087-EA7-20-a3	6/26/2015	13:25	<1.4	Yes		
				087-EA7-20-a4	6/26/2015	13:30	5.5	Yes		
EA-7	<20	087-EA7-20-b West Pile	600	087-EA7-20-b1	7/14/2015	8:52	5.2	Yes		
				087-EA7-20-b2	7/14/2015	8:56	2.6	Yes		
				087-EA7-20-b3	7/14/2015	9:00	4.3	Yes		
				087-EA7-20-b4	7/14/2015	9:03	2.8	Yes		
EA-7	<20	087-EA7-20-c East Pile	200	087-EA7-20-c1	7/14/2015	9:06	<.47	Yes		
				087-EA7-20-c2	7/14/2015	9:11	<1.6	Yes		
3S cap material	<240	124-3S-EX-a,b,c,d (Excess 3S material)	3500	124-3S-EX-a1	8/10/2015	12:10	51.6		Yes	
				124-3S-EX-a2	8/10/2015	12:15	18.6	*		
				124-3S-EX-a3	8/10/2015	12:18	37.1		Yes	
				124-3S-EX-a4	8/10/2015	12:20	18.9	*		
				124-3S-EX-b1	8/10/2015	12:21	24.8		Yes	
				124-3S-EX-b2	8/10/2015	12:22	49.3		Yes	
				124-3S-EX-b3	8/10/2015	12:23	37.9		Yes	
				124-3S-EX-b4	8/10/2015	12:24	40.4		Yes	
				124-3S-EX-c1	8/10/2015	12:25	24.7		Yes	
				124-3S-EX-c2	8/10/2015	12:26	36.3		Yes	
				124-3S-EX-c3	8/10/2015	12:27	46.7		Yes	
				124-3S-EX-c4	8/10/2015	12:28	8.1	*		
				124-3S-EX-d1	8/10/2015	12:29	25.6		Yes	
				124-3S-EX-d2	8/10/2015	12:30	32.1		Yes	
				124-3S-EX-d3	8/10/2015	12:31	74.6		Yes	
				124-3S-EX-d4	8/10/2015	12:32	34.7		Yes	
EA-4	<20	087-EA4-20-a (bermed/trench material)	225	087-EA4-20-a1	9/11/2015	10:35	2	Yes		
				087-EA4-20-a2	9/11/2015	10:40	<1.4	Yes		
				087-EA4-20-a3	9/11/2015	10:45	<1.8	Yes		
				087-EA4-20-a4	9/11/2015	10:50	5.0	Yes		
EA-5	<20	087-EA5-20-a1:b4 (stockpile of A material)	1300	087-EA5-20-a1	9/11/2015	11:05	0.7	*		
				087-EA5-20-a2	9/11/2015	11:10	<1.7	*		
				087-EA5-20-a3	9/11/2015	11:15	<0.46	*		
				087-EA5-20-a4	9/11/2015	11:20	<1.1	*		
				087-EA5-20-b1	9/11/2015	11:25	<2.0	*		
				087-EA5-20-b2	9/11/2015	11:30	6.8	*		
				087-EA5-20-b3	9/11/2015	11:35	8.3	*		
				087-EA5-20-b4	9/11/2015	11:40	<0.55	*		

Material Tracking and Sampling Log
SA-6 North and South

Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
EA-5	<20	087-EA5-20-c1:d4 (stockpile of A material)	2000	087-EA5-20-c1	9/11/2015	12:10	<1.8	*		
				087-EA5-20-c2	9/11/2015	12:15	<1.9	*		
				087-EA5-20-c3	9/11/2015	12:20	<0.56	*		
				087-EA5-20-c4	9/11/2015	12:25	<0.60	*		
				087-EA5-20-d1	9/11/2015	12:30	<0.56	*		
				087-EA5-20-d2	9/11/2015	12:35	<0.44	*		
				087-EA5-20-d3	9/11/2015	12:40	<0.5	*		
				087-EA5-20-d4	9/11/2015	12:45	9.6	*		

*Material currently stockpiled. Pending final placement.
**Waiting on final results from the laboratory.

Attachment 7: Perimeter Pools Update



IN PROGRESS
06-10-2015

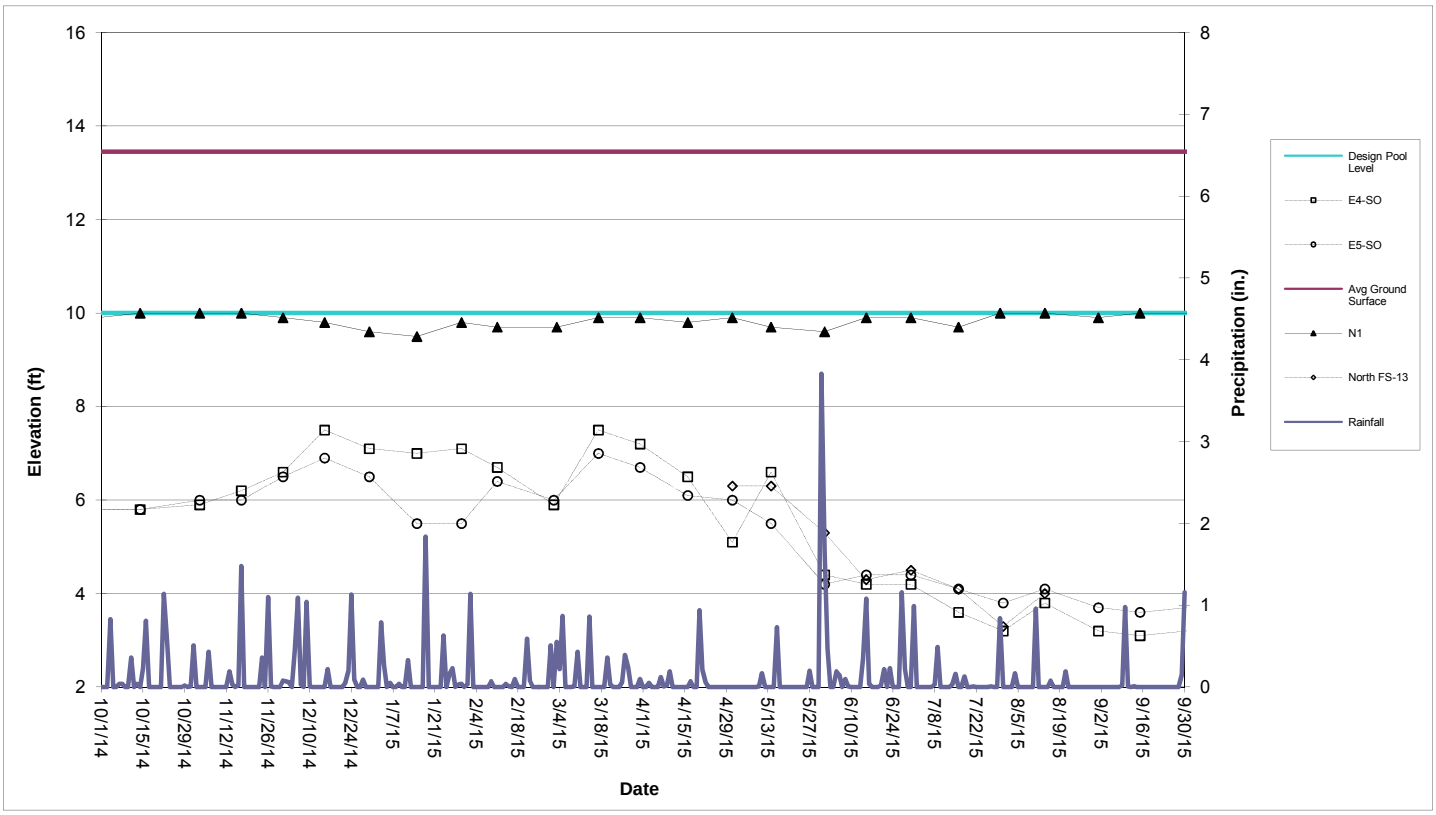
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

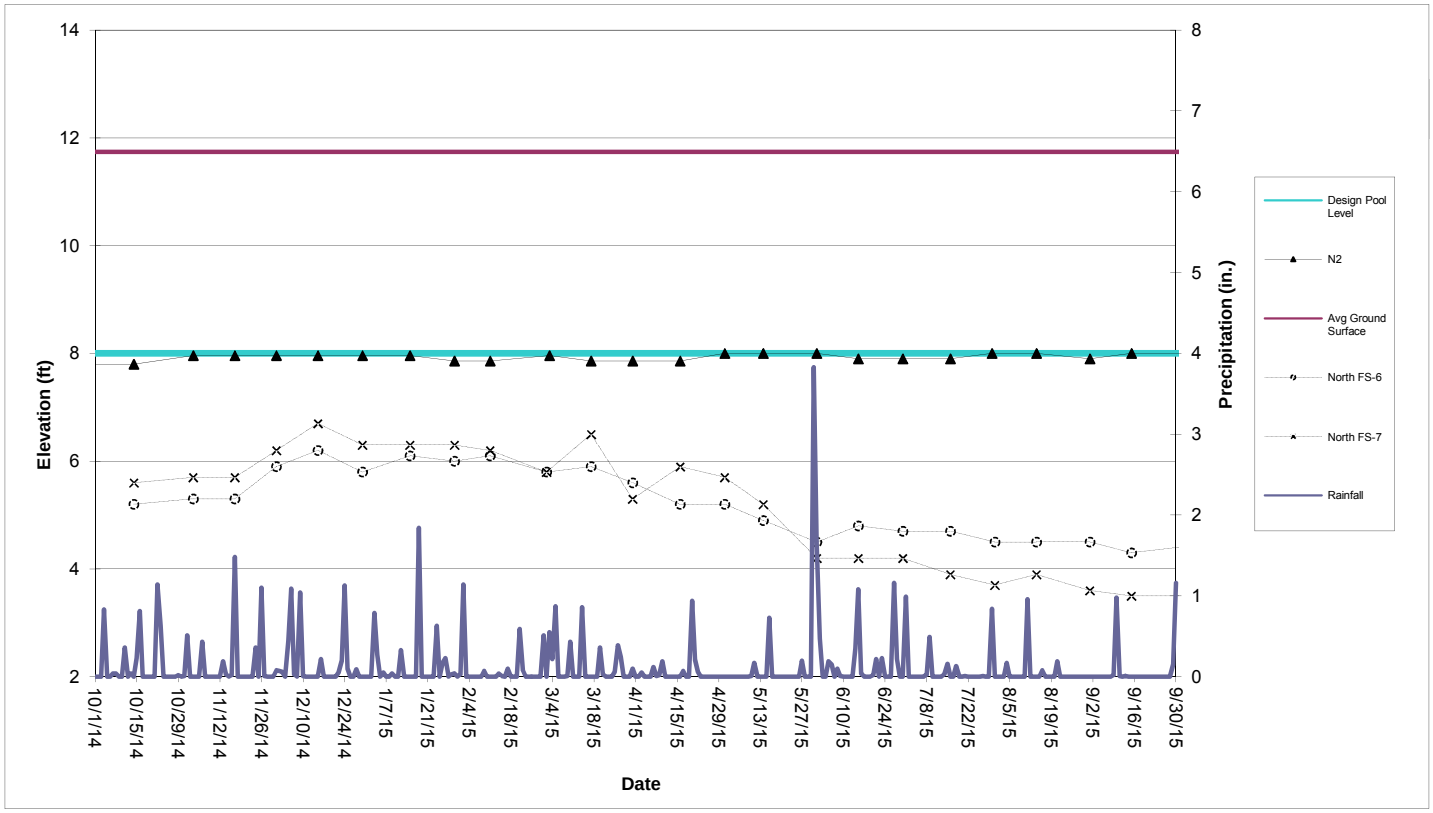
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP–1

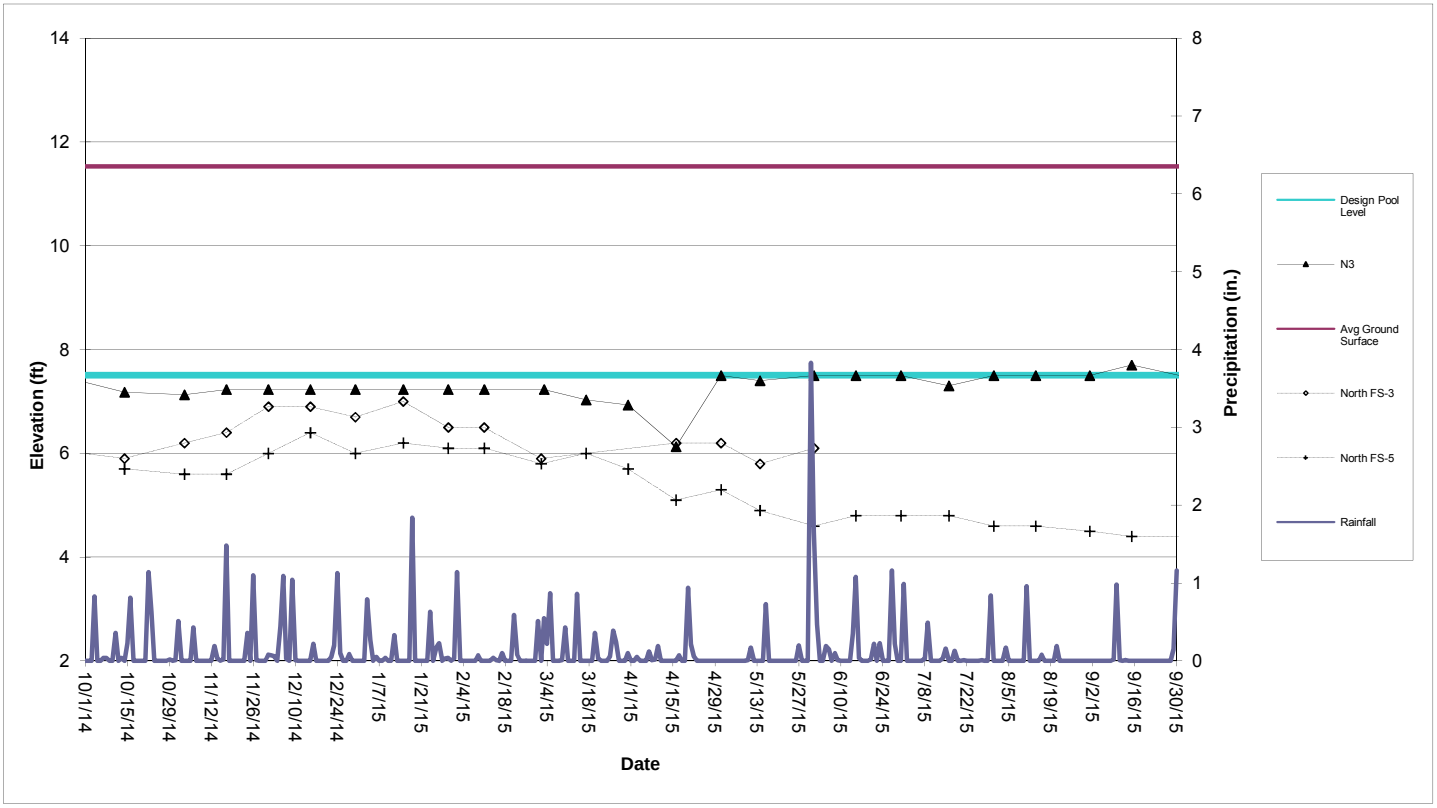
Jul 09, 2015 at 3:14pm
G:\DWGS\102\10210\Dewatering\PP-1.dwg
bboscaino



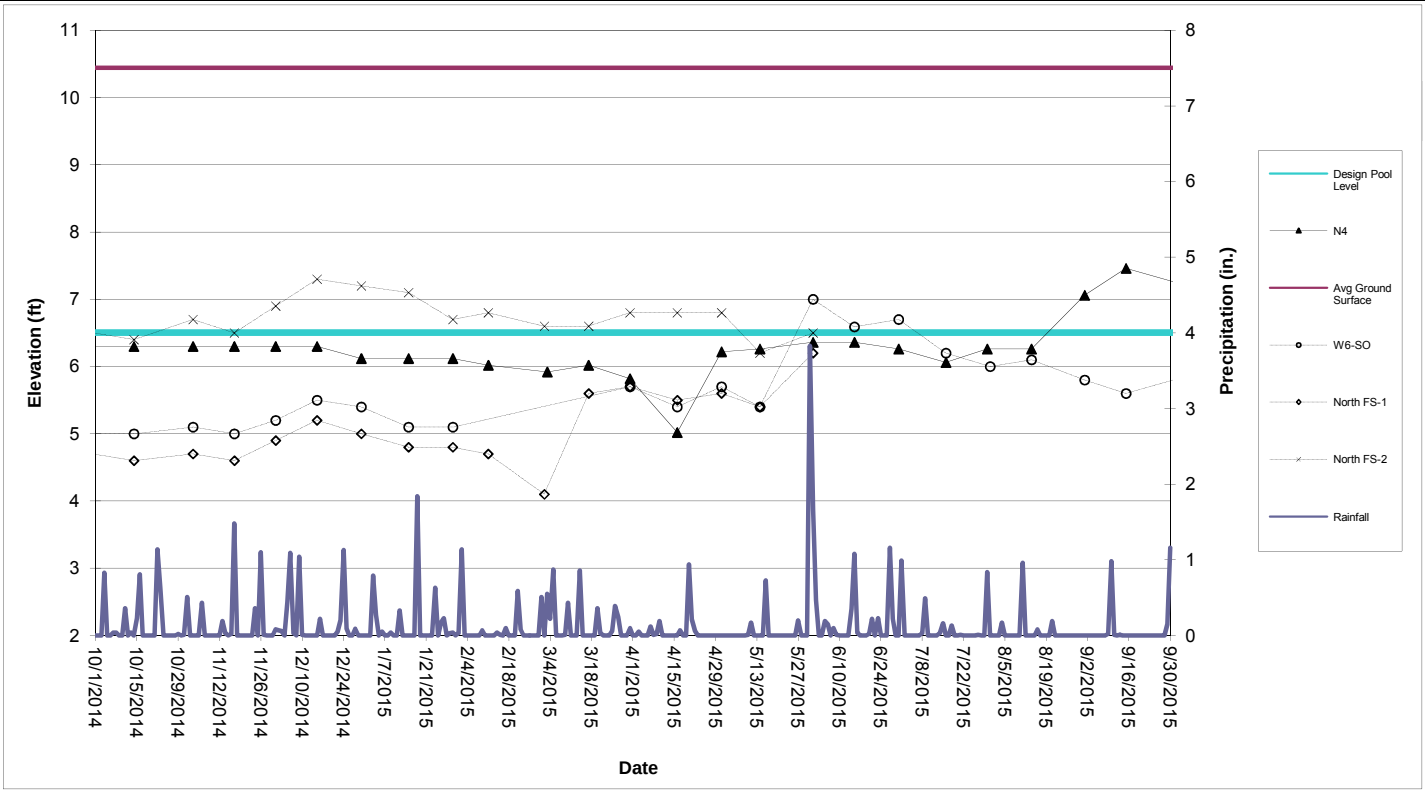
Perimeter Pool N1 (Sta. N13+60 to N20+25)



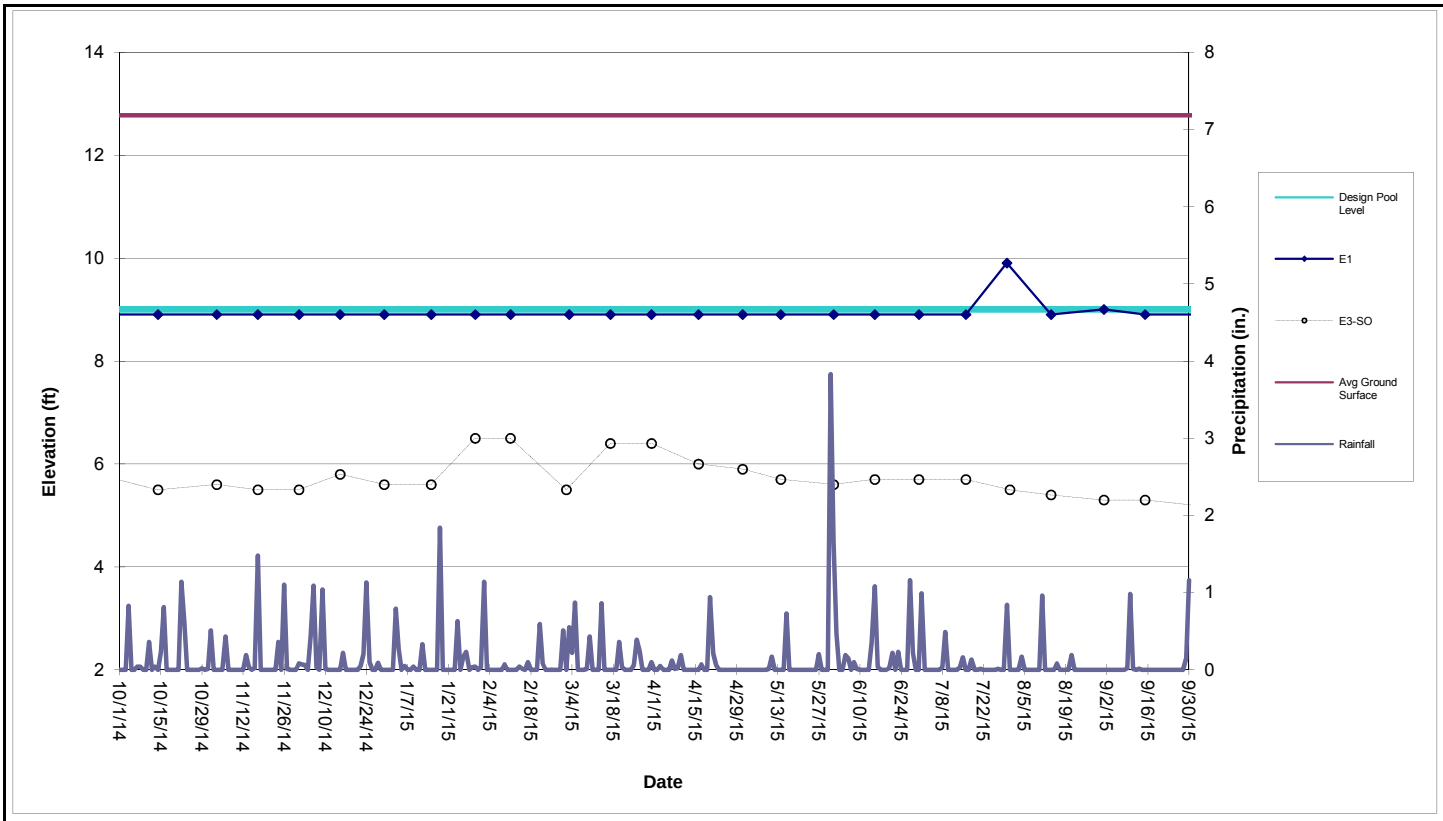
Perimeter Pool N2 (Sta. N10+73 to N13+10)



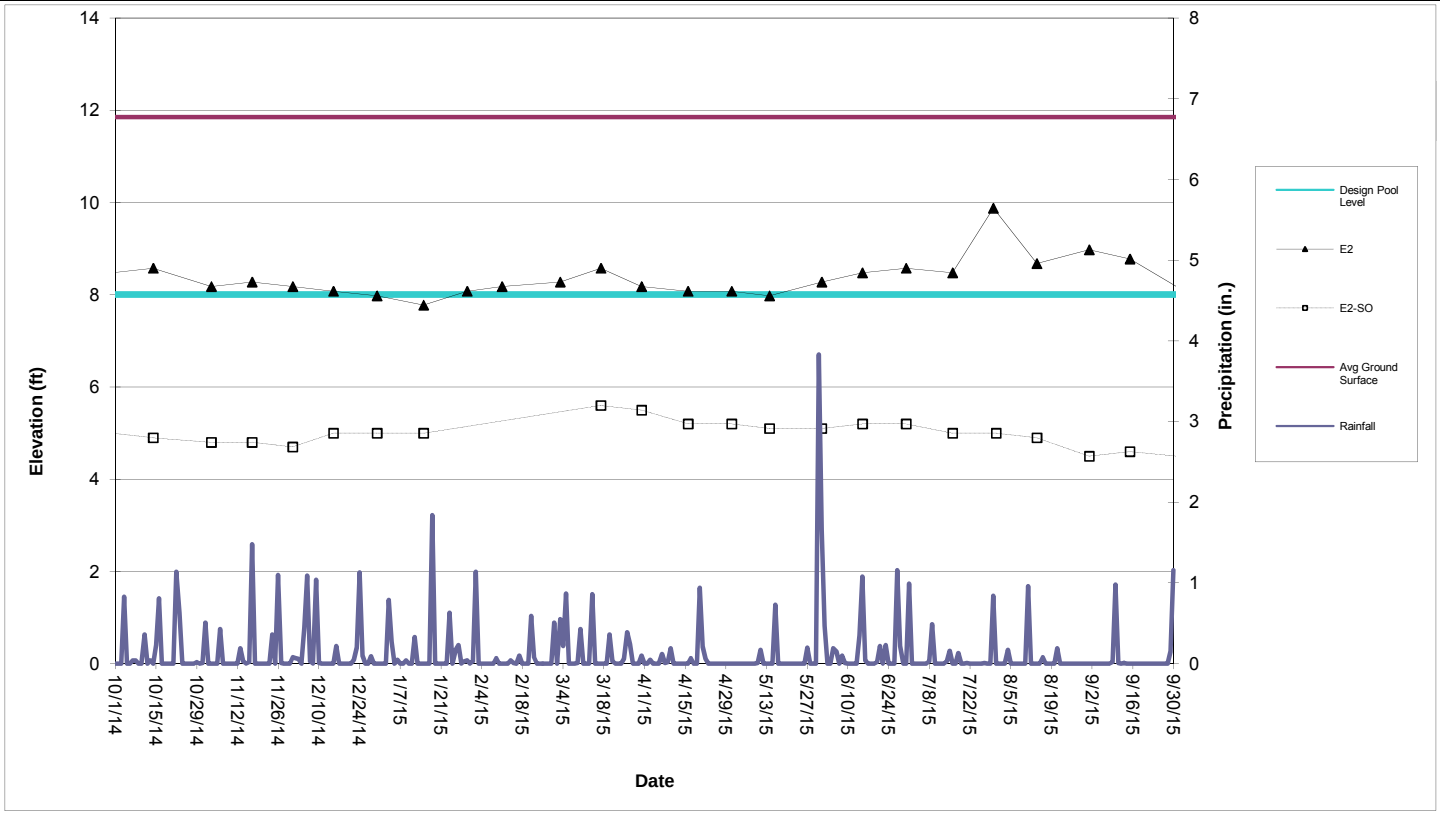
Perimeter Pool N3 (Sta. N6+80 to N10+23)



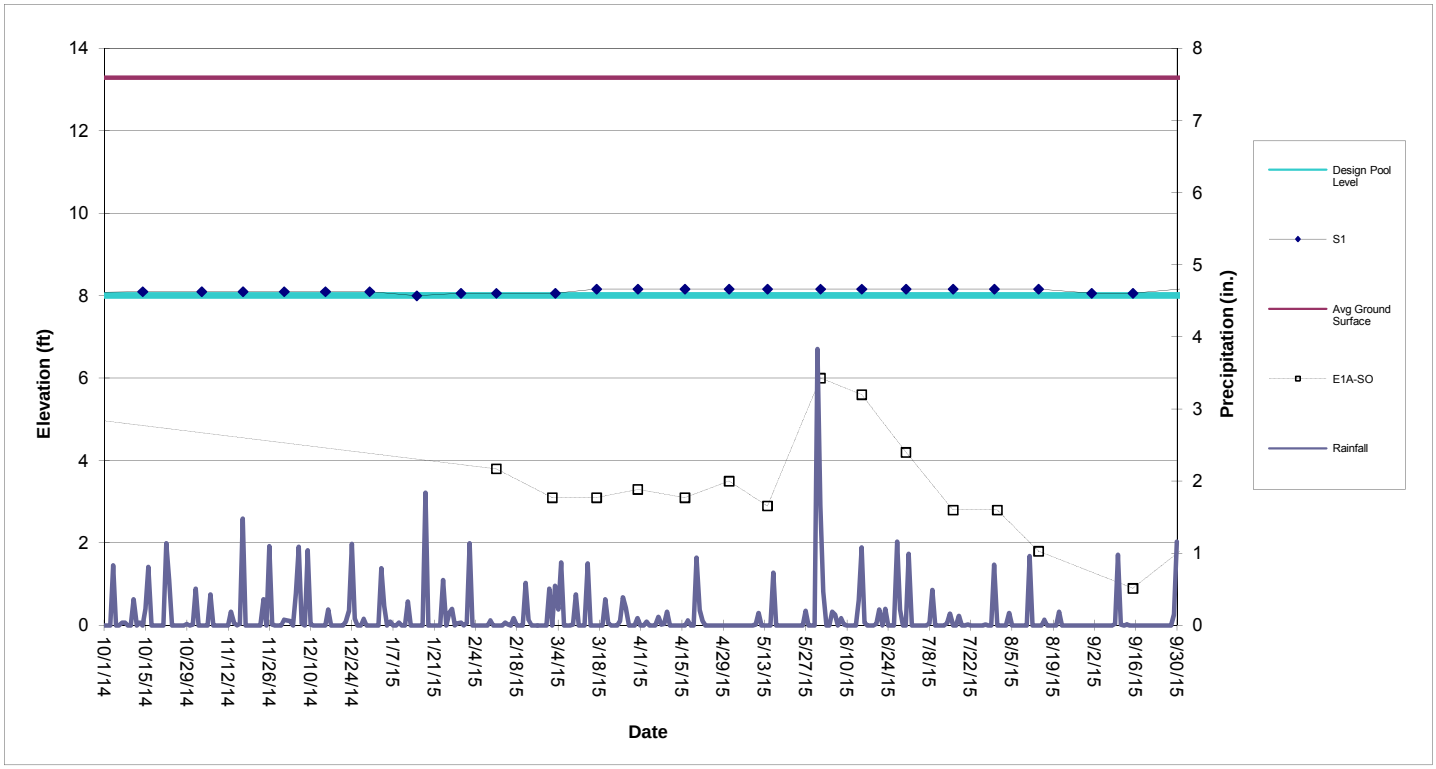
Perimeter Pool N4 (Sta. N6+80 to N10+23)



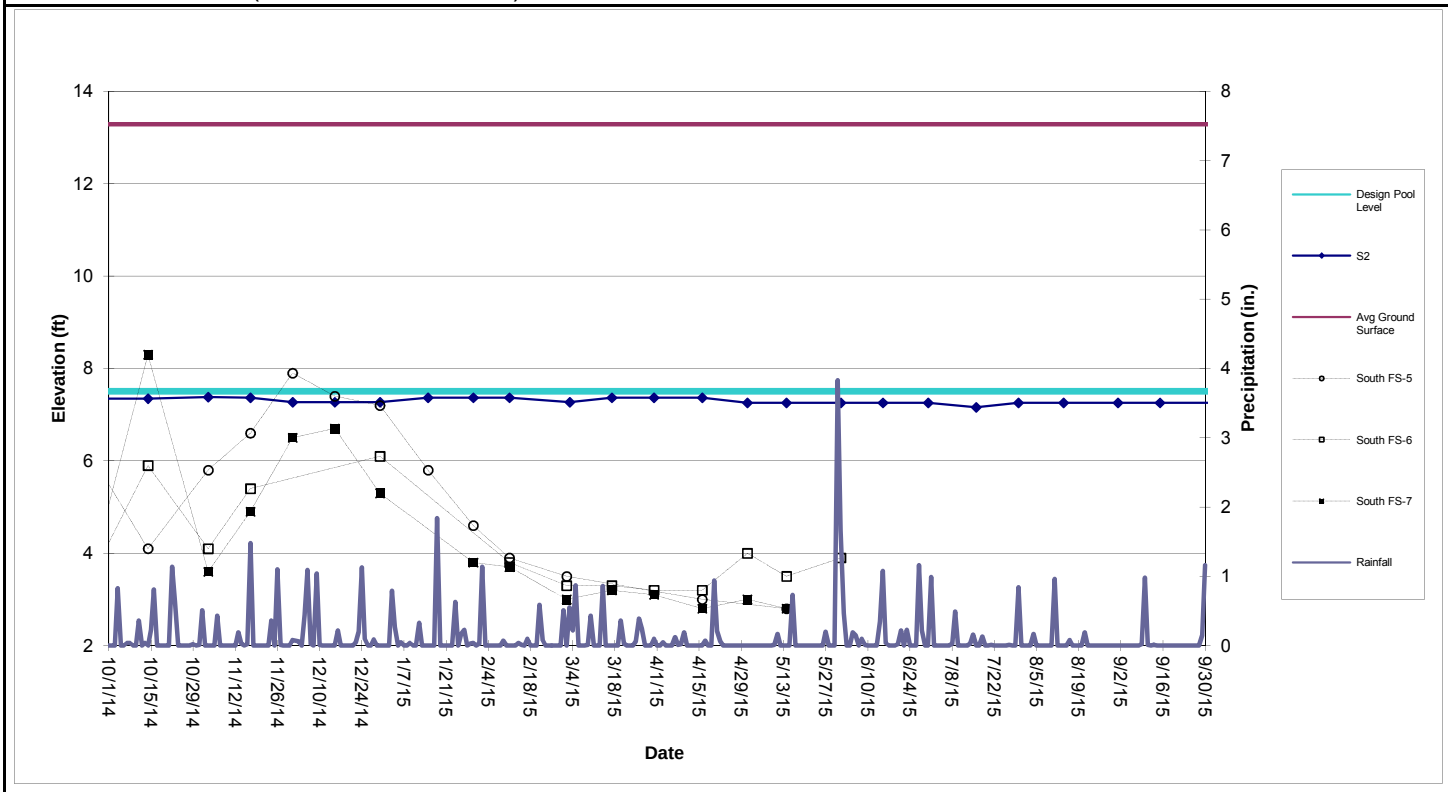
Perimeter Pool E1 (Sta. E0+50 to E3+75)



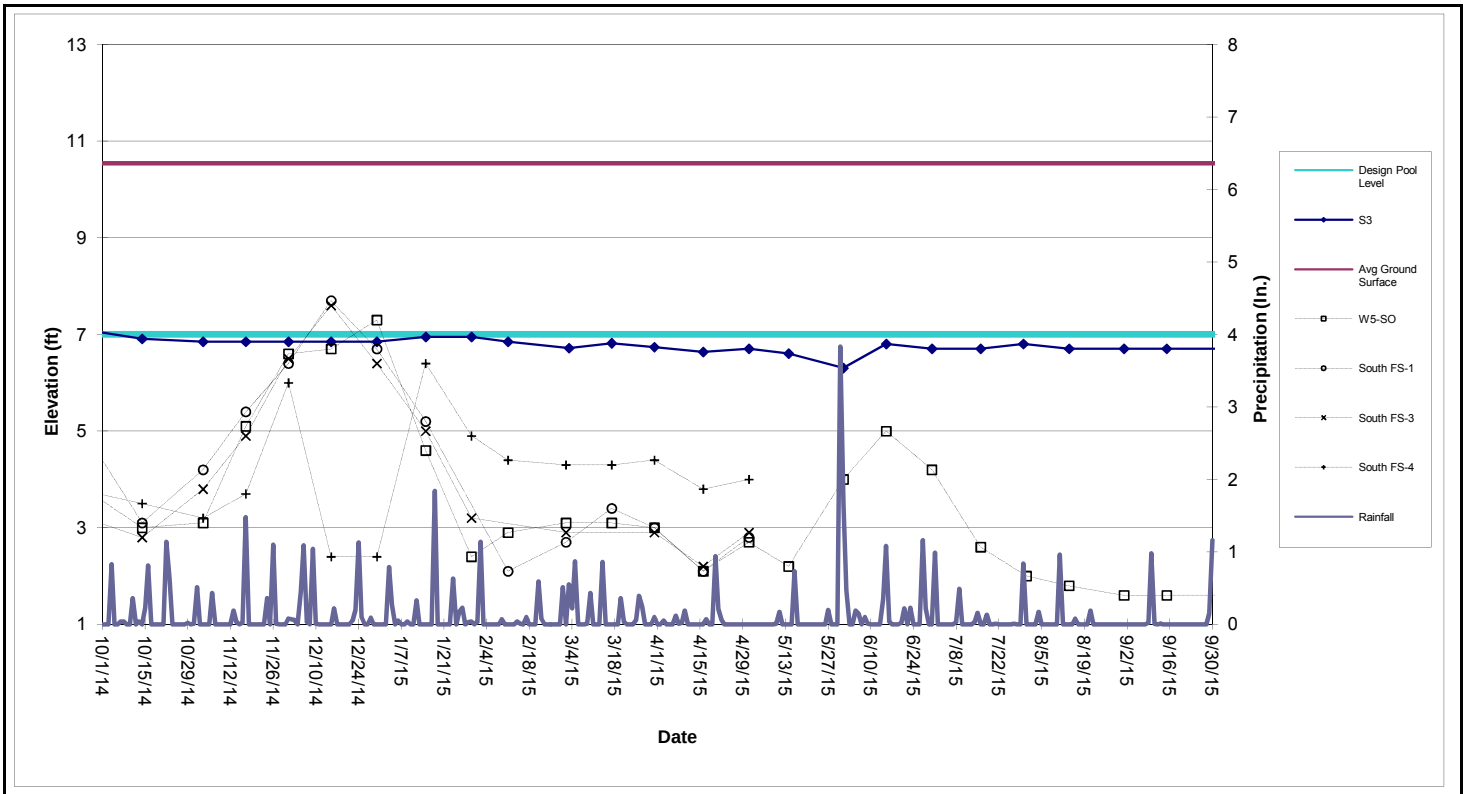
Perimeter Pool E2 (Sta. E4+50 to E7+25)



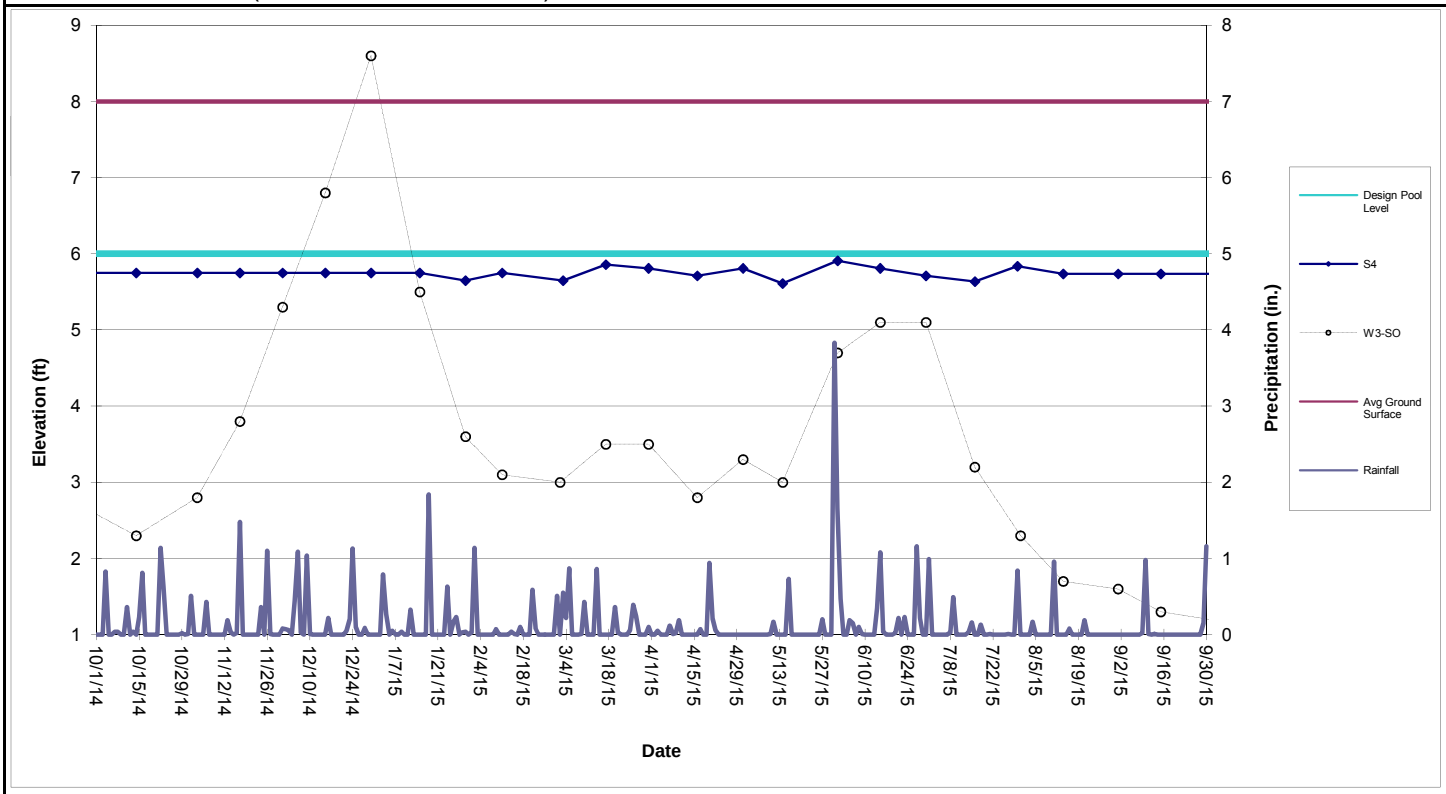
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

									North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W3-SO	W5-SO	W6-SO	FS-1	FS-2	FS-3	FS-5	FS-6	FS-7	FS-13	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																					
10/14/2014		4.9	5.5	5.8	5.8	2.3	3.0	5.0	4.6	6.4	5.9	5.7	5.2	5.6		3.1	2.8	3.5	4.1	5.9	8.3
11/3/2014		4.8	5.6	5.9	6.0	2.8	3.1	5.1	4.7	6.7	6.2	5.6	5.3	5.7		4.2	3.8	3.2	5.8	4.1	3.6
11/17/2014		4.8	5.5	6.2	6.0	3.8	5.1	5.0	4.6	6.5	6.4	5.6	5.3	5.7		5.4	4.9	3.7	6.6	5.4	4.9
12/1/2014		4.7	5.5	6.6	6.5	5.3	6.6	5.2	4.9	6.9	6.9	6.0	5.9	6.2		6.4	6.5	6.0	7.9		6.5
12/15/2014		5.0	5.8	7.5	6.9	6.8	6.7	5.5	5.2	7.3	6.9	6.4	6.2	6.7		7.7	7.6	2.4	7.4		6.7
12/30/2014		5.0	5.6	7.1	6.5	8.6	7.3	5.4	5.0	7.2	6.7	6.0	5.8	6.3		6.7	6.4	2.4	7.2	6.1	5.3
1/15/2015		5.0	5.6	7.0	5.5	5.5	4.6	5.1	4.8	7.1	7.0	6.2	6.1	6.3		5.2	5.0	6.4	5.8		
1/30/2015			6.5	7.1	5.5	3.6	2.4	5.1	4.8	6.7	6.5	6.1	6.0	6.3			3.2	4.9	4.6		3.8
2/11/2015	3.8		6.5	6.7	6.4	3.1	2.9		4.7	6.8	6.5	6.1	6.1	6.2		2.1		4.4	3.9	3.8	3.7
3/2/2015	3.1		5.5	5.9	6.0	3.0	3.1		4.1	6.6	5.9	5.8	5.8	5.8		2.7	2.9	4.3	3.5	3.3	3.0
3/17/2015	3.1	5.6	6.4	7.5	7.0	3.5	3.1		5.6	6.6		6.0	5.9	6.5		3.4		4.3		3.3	3.2
3/31/2015	3.3	5.5	6.4	7.2	6.7	3.5	3.0	5.7	5.7	6.8		5.7	5.6	5.3		3.0	2.9	4.4		3.2	3.1
4/16/2015	3.1	5.2	6.0	6.5	6.1	2.8	2.1	5.4	5.5	6.8	6.2	5.1	5.2	5.9		2.1	2.2	3.8	3.0	3.2	2.8
5/1/2015	3.5	5.2	5.9	5.1	6.0	3.3	2.7	5.7	5.6	6.8	6.2	5.3	5.2	5.7	6.3	2.8	2.9	4.0		4.0	3.0
5/14/2015	2.9	5.1	5.7	6.6	5.5	3.0	2.2	5.4	5.4	6.2	5.8	4.9	4.9	5.2	6.3				2.8	3.5	2.8
6/1/2015	6.0	5.1	5.6	4.4	4.2	4.7	4.0	7.0	6.2	6.5	6.1	4.6	4.5	4.2	5.3					3.9	
6/15/2015	5.6	5.2	5.7	4.2	4.4	5.1	5.0	6.6				4.8	4.8	4.2	4.3						
6/30/2015	4.2	5.2	5.7	4.2	4.4	5.1	4.2	6.7				4.8	4.7	4.2	4.5						
7/16/2015	2.8	5.0	5.7	3.6	4.1	3.2	2.6	6.2				4.8	4.7	3.9	4.1						
7/31/2015	2.8	5.0	5.5	3.2	3.8	2.3	2.0	6.0				4.6	4.5	3.7	3.3						
8/14/2015	1.8	4.9	5.4	3.8	4.1	1.7	1.8	6.1				4.6	4.5	3.9	4.0						
9/1/2015		4.5	5.3	3.2	3.7	1.6	1.6	5.8				4.5	4.5	3.6							
9/15/2015	0.9	4.6	5.3	3.1	3.6	1.3	1.6	5.6				4.4	4.3	3.5							

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09, W1-SO,

Attachment 8: Groundwater Quality Data

Honeywell

Table 1
Summary of Groundwater Quality Data from GWET Wells

Parameter	18-Dec-14			17-Mar-15			28-May-15			23-Sep-15		
	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)
Benzene	3.2	4.0	ND	3.1	3.9	ND	3.1	3.8	ND	3.8	3.6	ND
Carbon Tetrachloride	5.2	4.2	2.9	5.8	4.6	2.1	5.7	4.5	3.0	6.7	4.3	2.9
Chloroform	25.8	9.4	ND	23.1	7.8	0.21	23.5	7.8	0.24J	27.4	6.8	0.27
1,1-Dichloroethene	0.57	ND	ND	0.63	ND	ND	0.61J	ND	ND	0.63	ND	ND
cis-1,2-Dichloroethene	112	8.6	ND	111	8.1	ND	131	9.6	ND	129	8.7	0.24
trans-1,2-Dichloroethene	3.5	ND	ND	3.8	ND	ND	3.9	ND	ND	3.9	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	97	44.4	ND	101	45.0	ND	94.9	40.7	ND	105.0	37.3	ND
1,1-Dichloroethane	0.46	ND	ND	0.51	ND	ND	0.56J	ND	ND	0.64	ND	ND
Methylene chloride	0.77	0.20	ND	0.71	ND	ND	0.73J	ND	ND	0.71	ND	ND
Vinyl chloride	15.4	2.5	ND	16.9	2.5	ND	18.1	3.0	ND	17.4	2.0	ND
1,2-Dichlorobenzene	0.66	ND	ND	0.70	ND	ND	0.67J	ND	ND	0.61	ND	ND
Chlorobenzene	0.37	ND	ND	0.41	ND	ND	0.38J	ND	ND	0.35	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium	35,900	12,200	15,900	34,700	13,500	15,100	36,100	13,500	16,800	33,900	7,300	14,700
Total Chromium	34,100	12,700	15,900	34,700	15,100	14,800	32,600	15,600	16,700	33,800	8,480	14,000

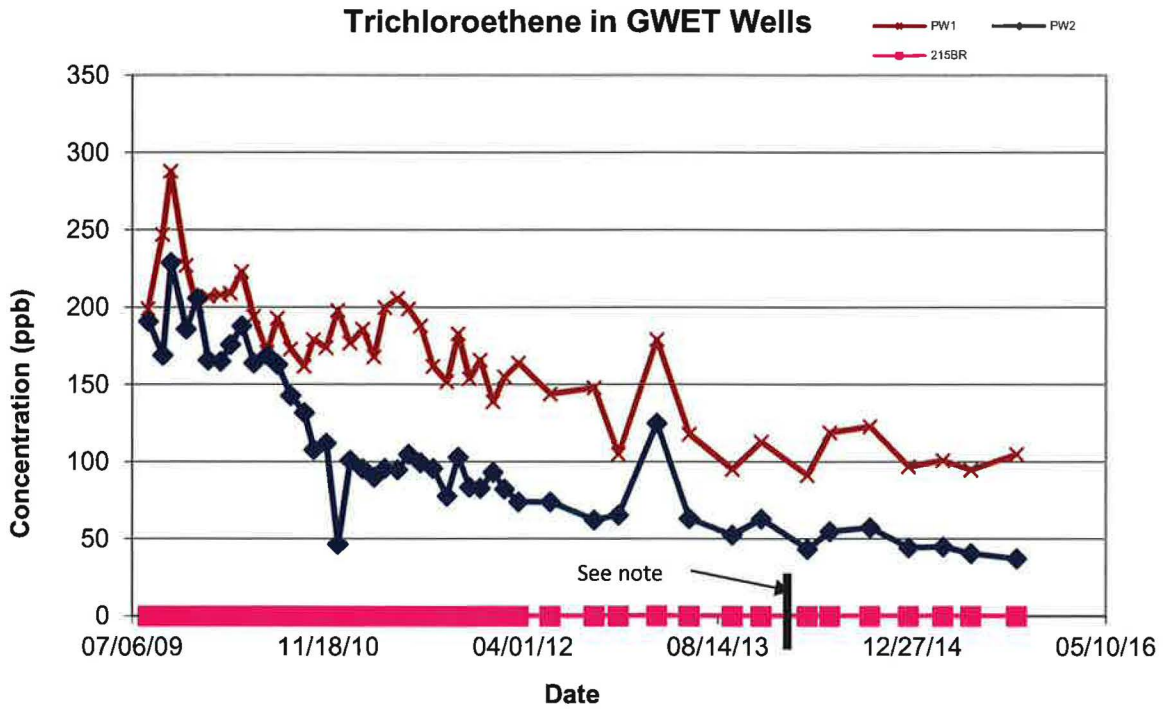
NA = Not Available for Testing due to COPR excavation activities.
NT = Not Tested
ND = Not detected above reporting limit.

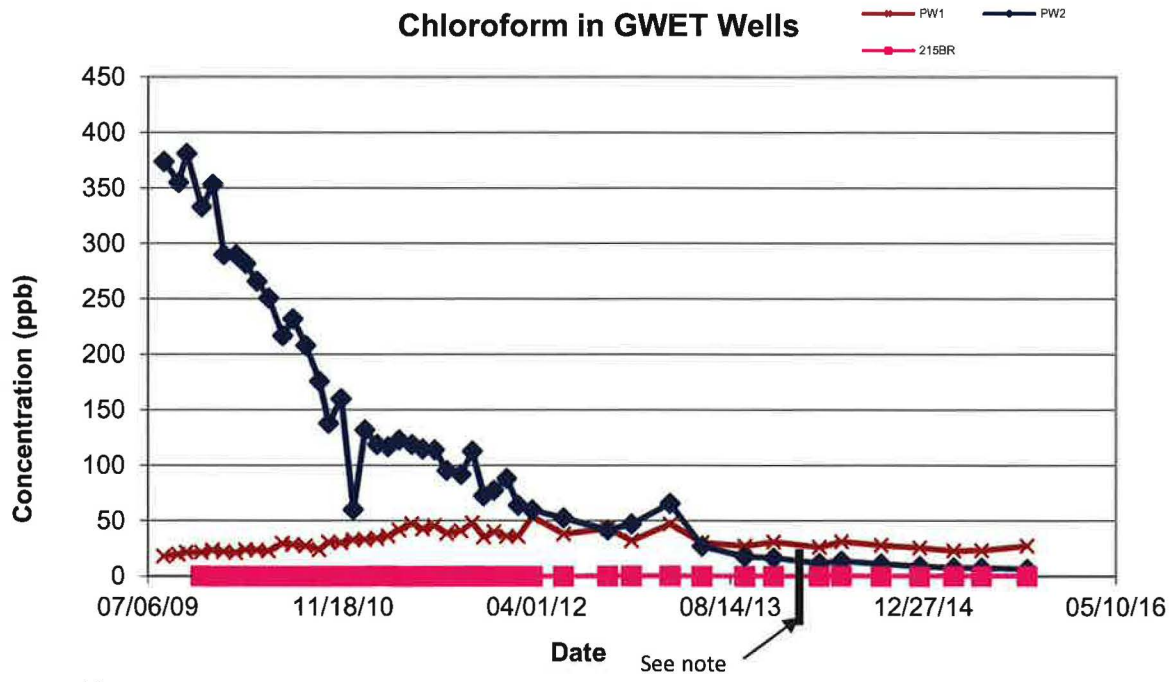
TABLE 2
Quarterly Water Levels
September 2015

Honeywell

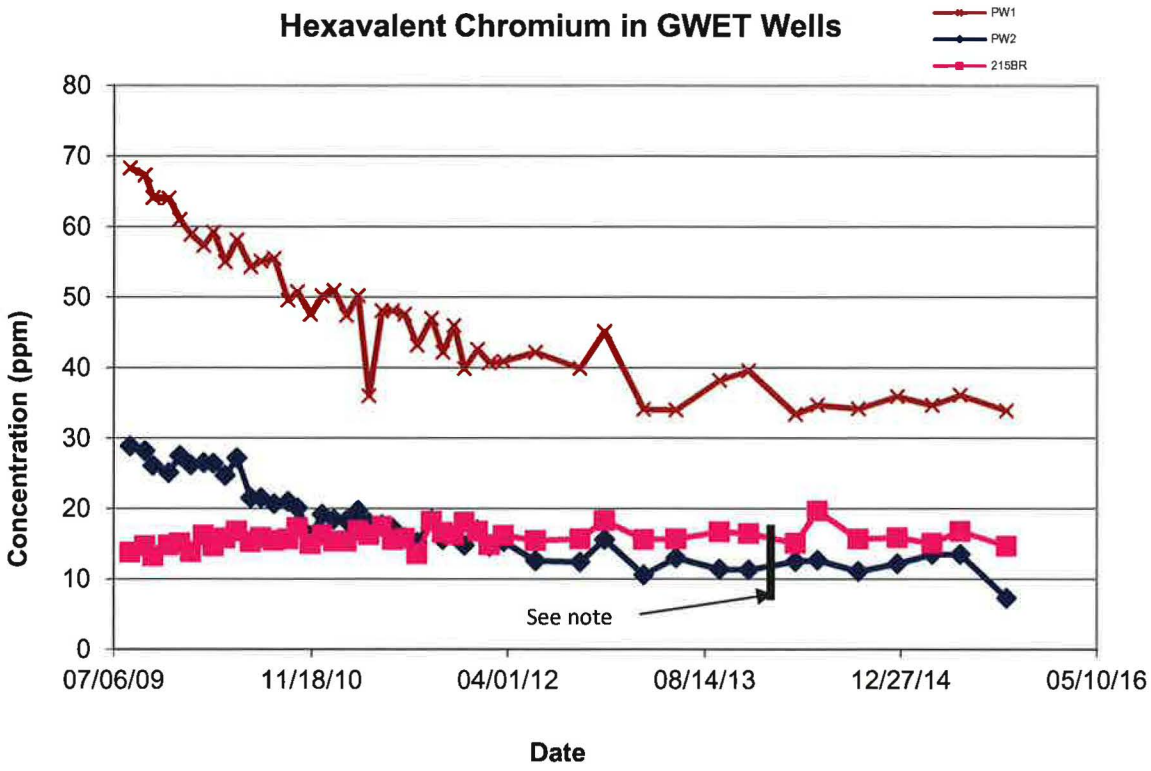
Wells Date: September 18, 2015	Top of Casing Elevation (ft. msl)	Depth to Water (ft., btoc)	Groundwater Elevation (ft., msl)	Comments *GW Elevations are not corrected for tidal influence*
087-MW-25D	18.17	NA	NA	no access
087-MW-25T	18.19	NA	NA	no access
087-MW-35	18.29	NA	NA	Well abandoned
087-OBS-1D	15.13	13.39	1.74	
087-OBS-1L	15.27	13.90	1.37	
087-OBS-1T	15.23	13.62	1.61	
087-PW-2	13.02	28.35	-15.33	
087-MW-08	12.98	12.16	0.82	
087-OBS-3L	12.88	12.81	0.07	
087-MW-13	12.93	12.91	0.02	
087-OBS-5D	12.72	12.04	0.68	
087-OBS-5T	12.62	13.25	-0.63	
087-PW-1	12.66	39.55	-26.89	
087-MW-34	12.73	13.94	-1.21	
087-OBS-2D	12.68	15.20	-2.52	
SA6-MW-AA1D	19.36	18.56	0.80	
SA6-MW-AA1T	15.31	14.42	0.89	
SA6-MW-5BR-1	17.06	15.07	1.99	
087-OBS-4T	11.60	11.48	0.12	
087-MW-O29D	10.32	9.34	0.98	
087-MW-O29T	9.98	8.58	1.40	
087-MW-03	13.77	NA	N/A	Well not accessible
087-MW-02	12.57	NA	N/A	Well abandoned
115-MW-203BR*	8.70	7.43	1.27	
073-MW-1BR-1	7.58	26.28	-18.70	
073-MW-10BR-1	6.67	7.58	-0.91	
115-MW-215BR*	8.82	12.02	-3.20	

* Reference point elevation to be confirmed.





Note:
Well 115-MW-203BR has been replaced with well 115-MW-215BR



Note:
Well 115-MW-203BR has been replaced with well 115-MW-215BR

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 54P-43

Date Exposed: 8/26/15

Describe Damage: Epoxy removed on the edges and face of the sheet while excavator trying to remove soil from belly of the sheets.

Equipment 349E Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet

Date Repaired: 9/2/15 Partial 9/4/15 remaining

Inspected by: Ari Eslaminejad

Describe Repair: Clean & coat sheets wire brush

Repair Log Closure: AMEC Signature:

Date: 9/4/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 54P-42

Date Exposed: 8/26/15

Describe Damage: Epoxy removed on the edges and face of the sheet while excavator trying to remove soil from belly of the sheets

Equipment 349E Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet pile

Date Repaired: 9/2/15 Partial 9/4/15 remaining

Inspected by: Ari Eslaminejad

Describe Repair: clean & coat sheets wire brush

Repair Log Closure: AMEC Signature:

Date: 9/4/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 54P-41

Date Exposed: 8/26/15

Describe Damage:

Multiple Scrapes of epoxy coating along the length of the sheets on the edges and face.

Equipment 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet

Date Repaired: 9/2/15 Partial 9/4/15 remaining

Inspected by: A. Eslaminejad

Describe Repair: clean & coat sheets wire brush

Repair Log Closure: AMEC Signature:

Date: 9/4/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 54P-40

Date Exposed: 8/27/15

Describe Damage:

Multiple Scrapes of epoxy coating along the length of the sheets on the edge and face.

Equipment 349E

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet

Date Repaired: 9/2/15 Partial 9/4/15 Remaining

Inspected by: A. Eslaminejad

Describe Repair: clean & coat sheets wire brush

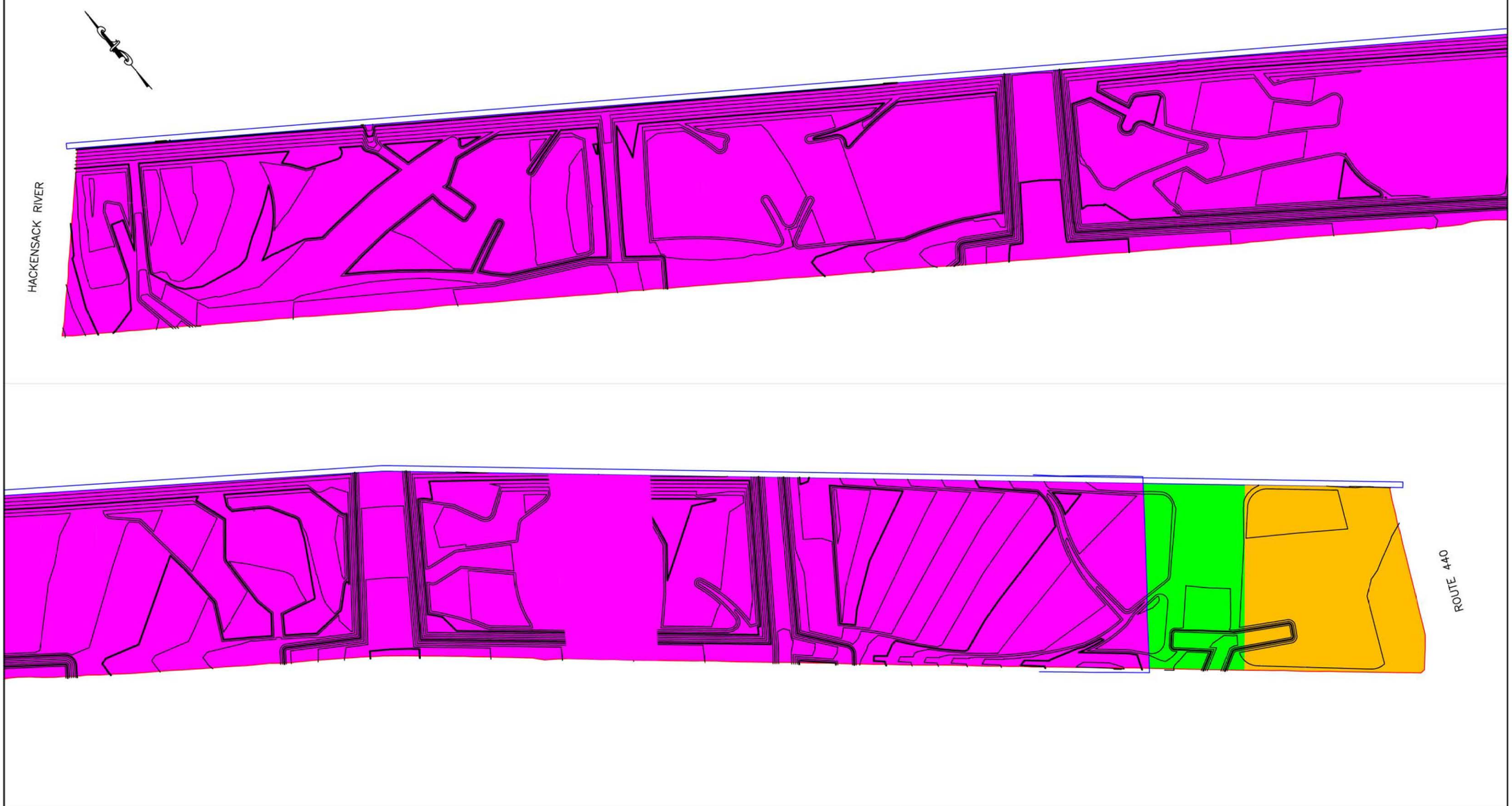
Repair Log Closure: AMEC Signature:

Date: 9/4/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

Attachment 11: Capping Update

- SA-6 South Cap Subgrade Progress Map
- Repair Log
- Non-conformance Log
- Subgrade Approval Forms
- QA Photo Log
- Daily QA Reports



LEGEND

- SUBGRADE GRADING UNDERWAY
- SUBGRADE COMPLETE AND SURVEYED
- APPROVED FOR GEOSYNTHETIC DEPLOYMENT
- LINER DEPLOYED
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP SUBGRADE PROGRESS MAP
09/25/15

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4163	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
5989.00	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-253	DS-18	64/65		128'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-254	DS-19	68/69		100'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-255	PB		71	9'N OF 71/72 & 5'W (PB 4")	P	5	x	6	4	8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-256	DS-20	72/73		10'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-257	PB		74	92'N OF 73/74 & 1'E (PB 8")	P	3.5	x	4	8	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/14/15
RP-258	BO	71/72		57'N OF SEOS	P	2	x	2		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-259	BO	71/72		133'N OF SEOS	P	2	x	2.5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-260	BO	74/75		60'N OF SEOS	P	2	x	6		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-261	DS-21	74/75		75'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-262	PB	78/79		WEOS (MANHOLE)	P	10	x	11	48	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-263	CF		73	FROM RP-264 TO 4'N	B		x		48	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-264	CF		73	23'N OF 72/73 & 5'E	P	2.5	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-265	CF		73	BETWEEN RP-264 & RP-266	B		x		84	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-266	CF		73	14'N OF 72/73 & 7'E	P	1.5	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-267	CF		73	BETWEEN RP-266 & RP-272	B		x		96	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-268	CF		73	FROM RP-269 TO 3'W	B		x		36	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-269	CF		73	14'N OF 72/73 &18'E	P	2	x	9		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-270	CF		73	BETWEEN RP-269 & RP-271	B		x		108	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-271	CF		73	4'N OF 72/73 & 9'E	P	2	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-272	CF		73	15'N OF 72/73 & 15'E	P	2	x	10		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-273	CF		73	BETWEEN RP-272 & RP-274	B		x		36	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	4163	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	5989.00	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-274	CF		73	23'N OF 72/73 & 15'E	P	2	x	6		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-275	CF		73	FROM RP-274 TO 5'N	B		x		60	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-276	CF		73	FROM RP-277 TO 12'E	B		x		144	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-277	CF		73	50'N OF 72/73 & 5'E	P	2	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-278	CF		73	46'N OF 73/74 & 5'W	P	1.5	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-279	CF		73	BETWEEN RP-278 & RP-280	B		x		156	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-280	CF		73	59'N OF 73/74 & 16'W	P	1.5	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-281	CF		71	137'N OF 71/72 & 2'W	P	1.5	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-282	CF		71	BETWEEN RP-281 & RP-283	B		x		120	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-283	CF		71	125'N OF 71/72 & 8'W	P	1.5	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-284	CF		71	164'N OF 71/72 & 8'W	P	2	x	4		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-285	CF		71	BETWEEN RP-284 & RP-286	B		x		132	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-286	CF		71	142'N OF 71/72 & 3'W	P	2	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-287	CF		71	FROM RP-288 TO 8'N	B		x		96	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-288	CF		71	137'N OF 71/72 & 9.5' W	P	1.5	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-289	DSX-8	RP-284/71		ON RP-284/71	P	2	x	5		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-290	WR	68/69		132'N OF SEOS	P	2	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-291	WR		68	BETWEEN RP-290 & RP-292	B		x		96	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-292	WR		68	126'N OF 68/69 & 10'W	P	2	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-293	SI		57	136'N OF 56/57 & 7'E	P	2	x	2		9/11/15	EMMANUEL V.	EXT 512	VBOX	P	9/11/15
RP-294	SJ			SJ 75/80/81	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4163	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
5989.00	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-295	SJ			SJ 75/79/80	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-296	SJ			SJ 75/77/78	P	2	x	3		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-297	SJ			SJ 75/76/77	P	1	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-298	DS-22	79/80		78'E OF WEOS	P	2	x	4		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-299	SJ			SJ 75/81/82	P	2.5	x	14		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-300	SJ			SJ 81/82/83	P	1.5	x	1.5		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-301	SJ			SJ 81/83/84	P	1	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-302	SJ			SJ 83/84/85	P	2	x	4		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-303	SJ			SJ 84/85/86	P	1	x	1		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-304	WR	84/85		7'W OF EEOS	P	1.5	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-305	WR		84	BETWEEN RP-304 & RP-306	B		x		204	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-306	WR		84	7'W OF 84/85 & 17'N	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-307	WR		84	FROM RP-308 TO 12'SW	B		x		144	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-308	WR		84	20'E OF 81/84 & 13'S	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-309	WR	75/82		14'N OF SEOS	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-310	WR		82	BETWEEN RP-309 & RP-311	B		x		240	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-311	WR	82/83		15'N OF SEOS	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-312	WR		82	6'N OF 82/83 & 6.5' W	P	1.5	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-313	WR		82	BETWEEN RP-312 & RP-314	B		x		132	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-314	WR		82	19'N OF 82/83 & 6'W	P	1.5	x	1.5		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-315	BO	81/84		24'E OF WEOS			x			9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4163	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
5989.00	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-316	DS-23	88/89		116'N OF SEOS	p	2	x	4.5		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-317	WR		79	BETWEEN RP-298 & RP-318	B		x		66	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-318	WR		79	78'E OF 79/80 & 7'N	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-319	BO	81/87		8'N OF SEOS	P	2	x	5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-320	SJ			SJ 80/81/87	P	2	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-321	SJ			SJ 79/80/87	P	2	x	2.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-322	WR	79/87		6'N OF SEOS	P	2	x	6		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-323	SJ			SJ 78/79/87	P	1.5	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-324	SJ			SJ 77/78/87	P	1.5	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-325	SJ			SJ 76/77/87	P	1.5	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-326	CF	89/90		145'N OF SEOS	P	2	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-327	CF		89	145'N OF 89/90 & 6'W	B		x		72	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-328	CF	89/90		81'N OF NEOS	P	2	x	2.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-329	CF		89	81'N OF 89/90 & 5'W	B		x		60	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-330	DSX-9	RP-316/88		RP-316/88	P	2	x	4.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-331	SI		83	9'S OF 83/84 & 8'W (END OF PANEL)	P	2	x	18		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-332	SJ			SJ 84/86/87	P	3	x	12		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-333	CR		84/86	EEOS	P	2	x	2.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-334	WR		84	BETWEEN RP-315 & RP-335	B		x		12	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-335	WR		84	7'W OF 81/84 & 3.5'S	P	3	x	3		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-336	SJ			SJ 81/84/87	P	2	x	3		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4163	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
5989.00	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-337	CF	84/87		BETWEEN RP-332 & RP-336	B		x		216	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-338	WR	81/84		24'E TO EEOS	B		x		36	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-339	WR		81	11'N OF 81/87 & 4'W	P	1.5	x	1.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-340	WR		81	BETWEEN RP-339 & RP-341	B		x		138	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-341	WR		81	13'W OF 81/84 & 3'N	P	2	x	3.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-342	AO		76	ADD ON NORTH SIDE OF P-76	P	8	x	16		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-343	CF	76/77		66'E OF WEOS	P	2	x	3		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-344	CF		77	BETWEEN RP-343 & RP-345	B		x		36	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-345	CF		77	66'E OF 76/77 & 5'S	P	2	x	6		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-346	CF		77	BETWEEN RP-345 & RP-347	B		x		48	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-347	CF		77	66'E OF 76/77 & 10'S	P	1.5	x	1.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-348	WR		85	4'W OF 84/85 & 4'S	B		x		48	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-349	WR		84	4'W OF 84/85 & 8'N	B		x		96	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-350	DS-24	91/92		45'N OF SEOS	P	2	x	5		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-351	CF	91/92		151'N OF SEOS	P	2	x	4		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-352	CF		91	BETWEEN RP-351 & RP-353	B		x		216	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-353	CF		91	151'N OF 91/92 & 19.5'W	P	3	x	3		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-354	CF	93/94		144'N OF SEOS	P	2	x	4		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-355	CF		94	BETWEEN RP-354 & RP-356	B		x		72	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-356	CF		94	144'N OF 93/94 & 10'E	P	2	x	4.5		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-357	CF		90	29'N OF 90/91 & 4'W	P	2	x	3		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4163	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
5989.00	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-358	CF		90	BETWEEN RP-357 & RP-359	B		x		60	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-359	CF		90	31'N OF 90/91 & 9'W	P	2	x	4		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-360	CF		90	BETWEEN RP-359 & RP-361	B		x		24	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-361	CF		90	31'N OF 90/91 & 13'W	P	2	x	2.5		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-362	WR		80	11'S OF 80/87 & 5'W	P	1	x	2		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-363	WR		80	BETWEEN RP-362 & RP-365	B		x		54	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-364	WR	79/80		8.5'W OF EEOS	P	2	x	2		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-365	WR		8O	5'S OF 80/87 & 10'W	P	2	x	4		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-366	WR		80	BETWEEN RP-364 & RP-365	B		x		60	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-367	DS-25	94/95		100'N OF SEOS	P	2	x	4.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-368	CF	94/95		125'N OF SEOS	P	2	x	6		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-369	PB		95	95'N OF 94/95 & 6'E (PB 8")			x		8	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-370	CF	94/95		33'N OF SEOS	P	2.5	x	5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-371	CF		95	BETWEEN RP-370 & RP-372	B		x		48	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-372	CF		95	33'N OF 94/95 & 6.5'E	P	2	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-373	BO	95/96		128'S OF NEOS	P	2	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-374	DS-26	96/97		33'S OF NEOS	P	2	x	4.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-375	CF	96/97		95'S OF NEOS	P	2	x	8		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-376	CF	96/97		FROM RP-377 TO 117'S	P	2	x	14		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-377	CF		96	101'S OF 96/97 TO 15'W	P	4	x	15		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-378	CF		96	105'S OF OF 96/97 & 13'W	P	3	x	4.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4163	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
5989.00	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-379	CF		96	101'S OF 96/97 & 17'W	P	3	x	4.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-380	CF		96	93'S OF 96/97 & 8'W	P	2.5	x	4		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-381	CF		96	BETWEEN RP-380 & RP-382	B		x		48	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-382	CF		96	86.5'S OF 96/97 & 4'W	P	2	x	2.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-383	BO	103/104		16'W OF EEOS	P	2	x	2.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-384	BO	97/103		12'S OF NEOS			x			9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-385	SI		94	126'N OF 94/95 & 8'W	P	1	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-386	DSX-10	RP-376/96		RP-376/96 (DSX-10)	P	2	x	5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-387	SJ			SJ 97/103/104	P	1.5	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-388	CF		97	BETWEEN RP-384 & RP-389	B		x		24	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-389	CF		97	12'S OF 97/103 & 3.5'W	P	1	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-390	SJ			SJ 97/102/103	P	2	x	2.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-391	SJ			SJ 97/101/102	P	1	x	1.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-392	SJ			SJ 97/100/101	P	1	x	1.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-393	SJ			SJ 97/99/100	P	1.5	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-394	SJ			SJ 97/98/99	P	2	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-395	CF		103	FROM RP-383 TO 5'N	B		x		60	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-396	CF		103	4'N FROM RP-397 & 14'NW	B		x		168	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-397	SJ			SJ 103/104/105	P	2	x	3.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-398	SJ			SJ 103/105/106	P	3	x	4		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-399	CF		107	122'S OF 107/108 & 4'W	B		x		192	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	4163	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	5989.00	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-400	SJ			SJ 103/106/107	P	2	x	2.5		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-401	SJ			SJ 102/103/107	P	2	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-402	SJ			SJ 101/102/107	P	2	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-403	SJ			SJ 100/101/107	P	2	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-404	SJ			SJ 99/100/107	P	2	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-405	SJ			SJ 98/99/107	P	1.5	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-406	CF		98	FROM RP-412 TO N.E. CORNER	B		x		144	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-407	CF		98	FROM RP-412 TO N.W. CORNER	B		x		168	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-408	CF		107	13'S OF 107/108 & 4.5'W	P	1.5	x	3		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-409	CF		107	BETWEEN RP-408 & RP-411	B		x		168	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-410	CF		107	6'S OF 107/108 & 5'W	B		x		60	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-411	CF		107	5'S OF 98/107 & 4'E	P	1.5	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-412	CF		98	BETWEEN RP-406 & RP-407	P	2	x	22		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-413	CF		108	143'S OF 108/109 & 3'E	P	1.5	x	1.5		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-414	CF		108	FROM RP-413 TO 17'S	B		x		204	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-415	CF		107	FROM RP-416 TO 4'W	B		x		48	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-416	CF		107	154'S OF 107/108 & 6'W	P	2	x	4		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-417	CF		107	FROM RP-416 TO 4'E	B		x		48	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-418	PB		109	152'S OF 108/109 & 2.5'E	P	4	x	6	4	9/23/15	EMMANUEL V.	EXT 512	VBOX	P	9/23/15
RP-419	PB	111/112		15'S OF NEOS	P	3.5	x	4.5	4	9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15
RP-420	PB		113	82'S OF 112/113 & 14' (MH 48")	P	9	x	11	48	9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4163	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
5989.00	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-421	BO	113/114		28'S OF NEOS	P	2	x	4.5		9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15
RP-422	DS-27	110/111		120'S OF NEOS	P	2	x	5		9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15
RP-423	SI		111	15'S OF 111/112 & 6'E	P	1.5	x	2		9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15
RP-424	DSX-11	RP-421/114		RP-421/114 (DSX-11)	P	2	x	6		9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15
RP-425	PB	114/115		68'S OF NEOS			x		8						
RP-426	CF	115/116		28'S OF NEOS	P	2	x	2.5		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-427	CF	117/118		121'S OF NEOS	P	2	x	13		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-428	WR		115	12'S OF 114/115 & 3'E	P	2	x	3.5		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-429	WR		115	BETWEEN RP-428 & RP-430	B		x		120	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-430	WR		115	12'S OF 114/115 &15.5'E	P	2	x	3.5		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-431	CF		115	BETWEEN RP-426 & RP-432	B		x		48	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-432	CF		115	FROM RP-431 TO 15'NW	P	2	x	15		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-433	DO		117	123'S OF 117/118 & 6'E	P	1.5	x	1.5		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-434	CF		118	BETWEEN RP-427 & RP-435	B		x		12	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-435	CF		118	FROM RP-436 TO 5'N	B		x		60	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-436	CF		118	BETWEEN RP-434 & RP-435	P	2	x	14		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-437	CF	119/120		94'S OF NEOS	P	2	x	3		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-438	CF	119/120		22'S OF NEOS			x								
RP-439	CF	119/120		127'S OF NEOS	P	2	x	9		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-440	CF	119/120		139'S OF NEOS	P	2.5	x	4		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-441	CF		119	FROM RP-437 TO 14'W	B		x		168	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4163	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
5989.00	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-442	CF		119	BETWEEN RP-440 & RP-443	B		x		192	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-443	CF		119	149'S OF 119/120 & 17.5'W	P	2	x	2.5		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-444	CF	119/120		BETWEEN RP-439 & RP-440	B		x		144	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-445				CHECK SEAM CONTROL			x								
RP-446				CHECK SEAM CONTROL			x								
RP-447	SJ			RP-445/RP-446/122	P	2	x	3		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-448	SJ			RP-446/121/122	P	2.5	x	3		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-449	CF		122	FROM RP-448 TO 10'E	B		x		120	9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-450	BO	122/123		23'N OF SEOS	P	2.5	x	4		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-451	SJ			P122/123/124	P	1.5	x	2		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-452	SJ			P 123/124/125	P	1.5	x	1.5		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-453	CF		125	FROM RP-454 TO 11'S	P	3.5	x	11		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-454	CF	123/125		18'N OF SEOS	P	3	x	9.5		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-455	CF		125	FROM RP-454 TO 10'N	P	3.5	x	10		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-456							x								
RP-457							x								
RP-458							x								
RP-459							x								
RP-460							x								
RP-461							x								
RP-462							x								

Summary of Non-Compliance & Corrective Action Forms

SA-6 South Cap Installation

Notice of Non-Compliance & Corrective Action Sheet Number	Date	Item	Associated Repair Number	Approx. Location	Follow Up Action Taken
1	7/21/2015	Subgrade Irregularity	RP-3	Panel #2 (P-2)	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2.5 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
2	7/21/2015	Subgrade Irregularity	RP-8	Panel #2 (P-2)	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2.5 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
3	7/22/2015	Failed Non-Destruct Test	RP-13	Panel #7 (P-7) & Panel #8 (P-8) seam	Based on length of failed seam (approximately 6 ft.) the entire seam was patched and repaired (approximate 2 ft. by 6 ft. patch). The patch was overlapped a minimum of 4-inches, with rounded edges, and sealed with an extrusion weld. Vacuum box testing was then conducted in accordance with Section 02372-8 to confirm the weld.
4	7/24/2015	Subgrade Irregularity	RP-30	Panel #17 (P-17)	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
5	8/7/2015	Failed Vacuum Box Test	RP-215	Panel #50 (P-50)	Failed extrusion weld (identified during vacuum box testing) was patched with an approximate 2 ft. by 2 ft. geomembrane patch over the extrusion weld (noted as RP-222 on Repair Log). The patch was overlapped a minimum of 4-inches beyond the edges of the failed weld, conformed so that the edges were rounded, and sealed with an extrusion weld. Vacuum box testing was conducted along the seams to confirm the seams were properly patched and repaired.
6	9/11/2015	Subgrade Irregularity	RP-293	Panel #57 (P-57)	Rock was removed from underneath geomembrane and hole was then patched with approximate 1.5 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
7	9/16/2015	Subgrade Irregularity - Hydrated GCL	RP-331	Panel #83 (P-83)	Geomembrane cap was cut and GCL was exposed. Hydrated GCL was removed from underneath geomembrane, and new pieces of GCL were cut and overlapped (minimum of 1 ft.) and sealed with granular bentonite along the seams. The cut in the geomembrane was then repaired with approximate 2 ft. by 2 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372).
8	9/24/2015	Subgrade Irregularity	RP-423	Panel #111 (P-111)	Rock was removed from underneath geomembrane and hole was then patched with approximate 1.5 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).

LANGAN

Certificate of Soil Surface

Sheet # 15

Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane + GCL		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	Honeywell / AMEC FW	Cell No.	~Sta. 10+20 to ~Sta. 9+50		
QA Monitor	Langan	Date	9/9/15		

Description of Soil Surface to be lined: ~110 ft. Section of soil subgrade approved east of geomembrane panels installed on 8/14/15 (p.175). Subgrade approved through 2nd utility corridor from approx. Sta. 10+20 to Sta. 9+50. Soil appears to be graded, compacted, and free of debris (>½") and in conformance with project specs.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - No Changes

Independent CQA Monitor	
Name:	Daniel Boswoeth
Date:	9/9/15
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	9/9/15
Title	QC Manager
Representing:	ENTACI
Signature:	Carolina Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 023172-8

- SOIL APPROVED FOR GCL PLACEMENT ALONG EASTERN + WESTERN SLOPES OF UTILITY CORRIDOR + SOUTHERN SLOPE (LOWER BENCH) OF SOUTHERN END OF SA-6 AREA BELOW (TO 1FT. ABOVE) GROUNDWATER TABLE.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #2	~STA 10+00	LOOKING SW	REFER TO 9/9/15 PHOTO LOG (PHOTO #2)
	2 PHOTO #3	~STA. 10+00	LOOKING NE	REFER TO 9/9/15 PHOTO LOG (PHOTO #3)

1. REFER TO PHOTO LOG (9/9/15) PHOTOS 2,3 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 16

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 9+50 TO ~STA. 8+50		
QA Monitor	LANGAN	Date	9/15/15		

Description of Soil Surface to be lined: ~100 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 9/9/15 (P-86). SUBGRADE APPROVED EAST OF 2ND UTILITY CORRIDOR FROM APPROX. STA. 9+50 TO ~STA. 8+50. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	9/15/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	9-15-15
Title	Entact QC Manager
Representing:	ENTACT
Signature:	Carolina Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AS OUTLINED IN SECTION 02372-8

~~THE~~ GCL PLACED ALONG SOUTHERN SLOPE OF SA-6 SOUTH (LOWER BENCH) AT AREA BELOW (TO 1FT. ABOVE) GROUNDWATER TABLE

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 9+50	LOOKING S	REFER TO 9/15/15 PHOTO LOG (PHOTO #1)
	2 PHOTO #2	~STA. 9+50	LOOKING E	REFER TO 9/15/15 PHOTO LOG
1. REFER TO PHOTO LOG (9/15/15) PHOTOS 1,2 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 17

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 8+50 TO ~STA. 7+70		
QA Monitor	LANGAN	Date	9/16/15		

Description of Soil Surface to be lined: ~80 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 9/15/15 (P.90). SUBGRADE APPROVED FROM APPROXIMATE STA. 8+50 (P-90) TO APPROX STA. 7+70. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	9/16/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	9/16/15
Title	QC Manager
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2")
AS OUTLINED IN SECTION 02372-8

NO GCL PLACED ALONG SA-6 AS AREAS OUTSIDE OF GROUNDWATER ZONE.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #17	~3m 8+50	LOOKING N/NE	REFER TO 9/16/15 PHOTO LOG (PHOTO #17)
	2			

1. REFER TO PHOTO LOG (9/16/15) PHOTO #17 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 18

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / ARCC FW	Cell No.	~STA. 7+70 TO ~ STA. 7+00		
QA Monitor	LANGAN	Date	9/17/15		

Description of Soil Surface to be lined: ~70 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 9/16/15 (P.94). SUBGRADE APPROVED FROM APPROXIMATE STA. 7+70 (P.94) TO APPROXIMATE STA. 7+00 (WESTERN SLOPE OF 3RD UTILITY CORRIDOR). SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	9/17/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	9/17/15
Title	QC Manager
Representing:	Entek
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2") AS OUTLINED IN SECTION 02372-8

- NO GCL PLACED ALONG SA-6 AS NO AREAS BELOW (TO 1 FT. ABOVE) GROUNDWATER

Photographs	Number	Location	Orientation	Notes
	1			
	2			
1.				2.

LANGAN

Certificate of Soil Surface

Sheet # 19

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 7+00 TO ~STA. 6+40		
QA Monitor	LANGAN	Date	9/18/15		

Description of Soil Surface to be lined: ~60 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 9/17/15 (P-97). SUBGRADE APPROVED THROUGH 3RD UTILITY CORRIDOR FROM APPROXIMATE STA. 7+00 TO ~STA. 6+40 (EASTERN SIDE OF 3RD UTILITY CORRIDOR). SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (7 1/2") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - NO CHANGES

Independent CQA Monitor	
Name	DANIEL BOSWORTH
Date	9/18/15
Title	LEAD QA ENGINEER
Representing	LANGAN
Signature	

Geosynthetic Installer Representative	
Name	Caroline Panico
Date	9/18/15
Title	QC Manager
Representing	Enkal
Signature	Caroline Panico

LANGAN

Notes, Observations, Comments SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (7 1/2") AS OUTLINED IN SECTION 023172-8.

- GCL PLACED ALONG BOTTOM AND SIDE SLOPES (APPROX 2 FT. TO 3 FT. FROM BOTTOM) OF 3RD UTILITY CORRIDOR (LOCATED AT APPROX. STA. 6+80). GCL ALSO PLACED ALONG SOUTHERN END OF CORRIDOR (LOWER BENCH) BELOW TO 1 FT. ABOVE WATER TABLE.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 6+80	LOOKING S	REFER TO 9/18/15 PHOTO LOG (PHOTO #1)
	2 PHOTO #2	~STA. 6+80	LOOKING N	REFER TO 9/18/15 PHOTO LOG (PHOTO #2)
1 REFER TO PHOTO LOG (9/18/15) PHOTOS 1, 2 FOR SUPPORTING SUBGRADE PHOTOS				2

LANGAN

Certificate of Soil Surface

Sheet # 20

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 6+40 TO ~STA. 5+30		
QA Monitor	LANGAN	Date	9/22/15		

Description of Soil Surface to be lined: ~110 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 9/18/15 (P-98-103 / EAST-WEST ORIENTATION). SUBGRADE APPROVED FOR AREA EAST OF 3RD UTILITY CORRIDOR FROM APPROXIMATE STA. 6+40 TO ~STA. 5+30. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name	DANIEL BOSWORTH
Date:	9/22/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	9-22-15
Title	QC Manager
Representing:	Entact
Signature:	Carolina Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 02372-8

- NO GCL PLACED AS APPROVED SUBGRADE OUTSIDE OF WATER TABLE INFLUENCE. ONLY GVL REQUIRED

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #2	~STA. 6+40	LOOKING N	REFER TO 9/22/15 PHOTO LOG (PHOTO #2)
	2 PHOTO #3	~STA 5+90	LOOKING S	REFER TO 9/22/15 PHOTO LOG (PHOTO #3)
1 REFER TO PHOTO LOG (9/22/15) PHOTOS 1, 2, 3 FOR SUPPORTING SUBGRADE PHOTOS				2

LANGAN

Certificate of Soil Surface

Sheet # 21

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 5+30 TO ~STA. 4+50		
QA Monitor	LANGAN	Date	9/23/15		

Description of Soil Surface to be lined: ~80 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 9/22/15 (PANEL #110). SUBGRADE APPROVED FOR AREA EAST OF 3RD UTILITY CORRIDOR FROM APPROXIMATE STA. 5+30 TO APPROX. STA. 4+50. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BUDWORTH
Date:	9/23/15
Title:	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	9-23-15
Title:	QC Manager
Representing:	Caroline Panico
Signature:	ENTACT

LANGAN

Notes, Observations, Comments SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (7 1/2") AS OUTLINED IN SECTION 02372-8.

- GCL PLACED ALONG NORTHERN AND SOUTHERN BOUNDARIES OF SA-6 CAP AT AREAS BELOW (TO 1FT. ABOVE) THE GROUNDWATER TABLE AS SHOWN ON PROJECT DRAWINGS.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 4+90	LOOKING S	REFER TO 9/23/15 PHOTO LOG (PHOTO #1)
	2 PHOTO #2	~STA. 4+70	LOOKING W	REFER TO 9/23/15 PHOTO LOG (PHOTO #2)

1 REFER TO PHOTO LOG (9/23/15) PHOTOS 1, 2 FOR SUPPORTING SUBGRADE PHOTOS

2

LANGAN

Certificate of Soil Surface

Sheet # 22

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 4+50 TO ~STA. 3+80		
QA Monitor	LANGAN	Date	9/24/15		

Description of Soil Surface to be lined: ~80 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 9/23/15 (PANEL #114). SUBGRADE APPROVED FOR AREA EAST OF 3RD UTILITY CORRIDOR FROM APPROXIMATE STA. 4+50 TO APPROX. STA. 3+80. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	9/24/15
Title:	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Paniw
Date:	9-24-15
Title:	QC Manager
Representing:	Entrust
Signature:	Carolina Paniw

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AS OUTLINED IN SECTION 02372-8

- GCL PLACED ALONG NORTHERN + SOUTHERN BOUNDARIES OF SA-6 CAP AT AREAS BELOW (TO 1FT. ABOVE) THE GROUNDWATER TABLE. GCL ALSO PLACED ALONG BOTTOM + SLOPES OF UTILITY/DRAINAGE DITCHES RUNNING N-S THROUGH SA-6, AND AS SHOWN ON THE PROJECT DRAWINGS

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	~STA. 4+50	LOOKING S	REFER TO 9/24/15 PHOTO LOG (PHOTO #3)
	2 PHOTO #4	~STA. 4+50	LOOKING E	REFER TO 9/24/15 PHOTO LOG (PHOTO #4)

1 REFER TO PHOTO LOG (9/24/15) PHOTOS 3,4 FOR SUPPORTING SUBGRADE PHOTOS. ALSO REFER TO PHOTO LOG FOR PICTURES OF GCL

2

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PHOTOGRAPHIC LOG
Photo #1 (09/09/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
9/9/15

Direction Taken:

Looking north / northeast along 2nd utility corridor (approximate Sta. 10+00)

Description:

Prepared soil subgrade through 2nd utility corridor. Soil graded, compacted, and free of debris (>1/2") as outlined in project specs.

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PHOTOGRAPHIC LOG
Photo #2 (09/16/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
9/16/15

Direction Taken:

Looking north / northeast along SA-6 Cap (from approximate Sta. 8+50).

Description:

ESI deploying GVL. Approved soil subgrade to the east. Soil compacted, graded, and free of debris (>1/2") as outlined in the project specs.

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PHOTOGRAPHIC LOG
Photo #3 (09/09/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
9/9/15

Direction Taken:

Looking north along 2nd utility corridor (approx. Sta. 10+00)

Description:

ESi deploying GCL along 2nd utility corridor. GCL placed north to south (along bottom of corridor) and east to west (along slopes of corridor).

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PHOTOGRAPHIC LOG
Photo #4 (09/09/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
9/9/15

Direction Taken:

Looking east along 2nd utility corridor

Description:

ESi placing granular bentonite along GCL seams (overlapped a minimum of 1 ft.) as outlined in project specs.

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PHOTOGRAPHIC LOG
Photo #5 (09/15/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
9/15/15

Direction Taken:

Looking north along southern slope of SA-6

Description:

Stakes / staples placed along top 6-inches of GCL to secure material.

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PHOTOGRAPHIC LOG
Photo #6 (09/16/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
9/16/15

Direction Taken:

Looking north along SA-6 cap (at approximate Sta. 8+20)

Description:

ESI deploying geomembrane panels over placed GVL (as outlined in project specs).

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PHOTOGRAPHIC LOG
Photo #7 (09/14/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
9/14/15

Direction Taken:

Looking east along SA-6 cap (through 2nd utility corridor)

Description:

ESI conducting non-destructive testing as outlined in project specs. Pressure testing conducted between Panel Seams 76 / 77.

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PHOTOGRAPHIC LOG
Photo #8 (09/14/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
9/14/15

Direction Taken:

Looking along SA-6 cap (western slope of 2nd utility corridor).

Description:

ESI completed patch / repair over seam joint for non-destruct testing. Patch overlapped, sealed, and extrusion welded as outlined in project specs.

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PHOTOGRAPHIC LOG
Photo #9 (09/14/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
9/14/15

Direction Taken:

Looking southeast along SA-6 cap (at approximate Sta. 10+20).

Description:

ESI installing geomembrane boot around Access Manhole #3 located along western slope of 2nd utility corridor.

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PHOTOGRAPHIC LOG
Photo #10 (09/15/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
9/15/15

Direction Taken:

Looking southwest along SA-6 cap (at approximate Sta. 9+20).

Description:

ESI conducting fusion welding along geomembrane seams (P-87 & P-88) as per project specifications

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PHOTOGRAPHIC LOG
Photo #11 (09/16/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
9/16/15

Direction Taken:

Looking south along western slope of 2nd utility corridor

Description:

ESI conducting vacuum box testing (as per project specs) for geomembrane boot around Access Manhole #3 (RP-262).

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PHOTOGRAPHIC LOG
Photo #12 (09/17/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
9/17/15

Direction Taken:

Looking west along SA-6 cap (at destruct sample location DS-24)

Description:

ESI completing patch / repair work for destruct sample DS-24 collected along Panel 91 / 92 seam.

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PHOTOGRAPHIC LOG
Photo #13 (09/17/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

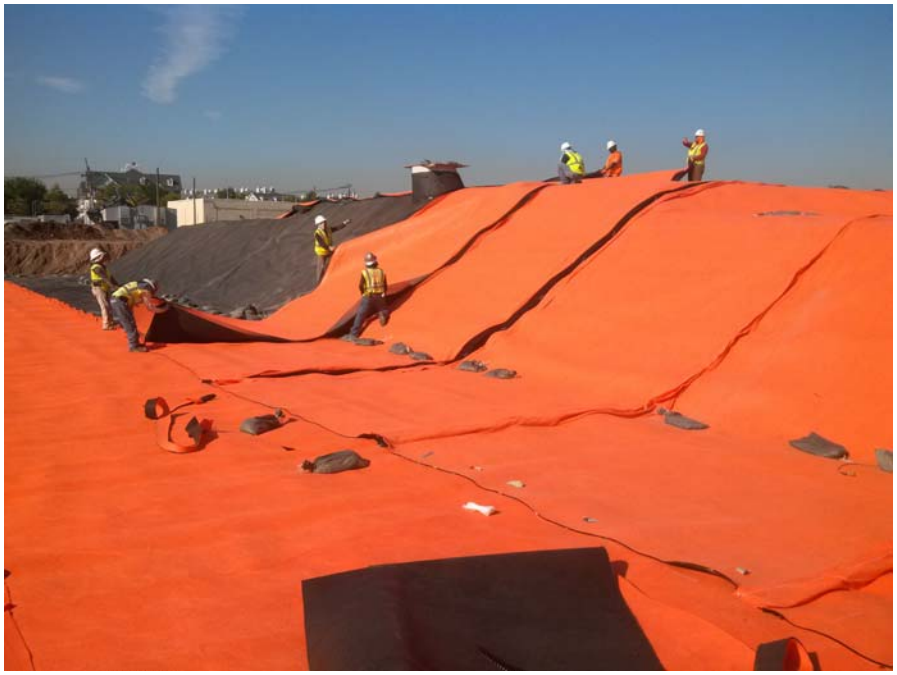
Date:
9/17/15

Direction Taken:

Looking south along SA-6 (through 2nd utility corridor)

Description:

ESI placing GDL panels along western slope of 2nd utility corridor. Panels oriented east to west and secured with white plastic fasteners and sewn (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #14 (09/14/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

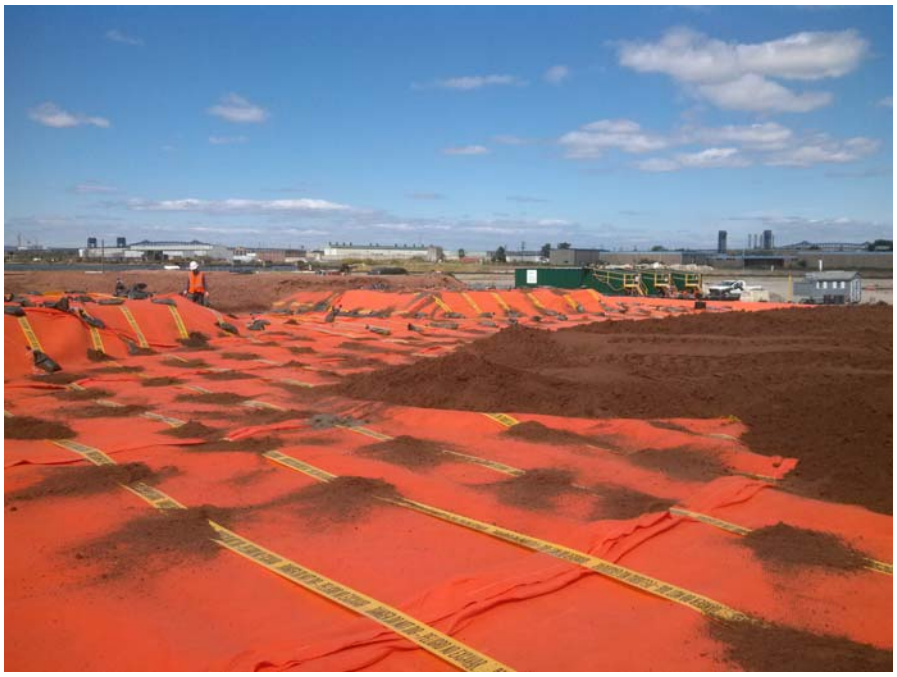
Date:
9/14/15

Direction Taken:

Looking west along SA-6 cap

Description:

Entact spreading protective cover soil over placed GDL. Warning caution tape spaced at maximum 55-inch intervals, as outlined in project specs.



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ENGINEERING & ENVIRONMENTAL SERVICES

PHOTOGRAPHIC LOG
Photo #15 (09/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
9/23/15

Direction Taken:

Looking north along 3rd utility corridor (approximate Sta. 6+80)

Description:

ESI placing GDL panels (oriented from east to west) moving north along 3rd utility corridor.

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PHOTOGRAPHIC LOG
Photo #16 (09/25/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
9/25/15

Direction Taken:

Looking east along SA-6 (at approximate Sta. 3+80)

Description:

ESI placing GCL over soil subgrade. GCL placed at locations shown on the project drawings and according to project specs.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	9/9/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	75/86° F, Clear AM, Clouds & Rain PM
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0630 – 1830

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #22** **AmecFW**: Stu Bills, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geosynthetic clay liner (GCL), and 60-mil geomembrane liner (Cap) continuing from western end of SA-6 South. Material to be placed from Panel #75 (P-75) installed on 8/14/15 (located at approximate Sta. 10+20 – western slope of utility corridor) running approximately 70 ft. east through 2nd utility corridor to approximate Sta. 9+50 (eastern slope of 2nd utility corridor).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 10+20 to Sta. 9+50. Refer to *Soil Subgrade Approval* forms from 9/9/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 10+20 to Sta. 9+50.
- While subgrade approval was being conducted, ESI completed patch / repair work for cap wrinkles that were observed from panel placement on 8/14/15. A total of thirty repairs (RP-263 through RP-292) were observed and fixed (according to the project specifications) from Panel #71 and Panel #73 (repair / detailing work conducted on panels installed on 8/14/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs), where wrinkles were observed. These areas were subsequently patched and sealed with extrusion welds. No vacuum box testing was conducted on these repairs, and will be completed tomorrow (9/10).
- No non-conformance issues were recorded as patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

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- GCL and Cap placement began with ESI placing the GCL along the eastern and western slopes of the utility corridor and southern slope of SA-6 (lower bench) located below (to 1 ft. above) the water table as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with a granular bentonite.
- After installation of the GCL, geomembrane cap was installed continuing east of previously installed Panel #75 (located at approximate Sta. 10+20) on 8/14/15 and through the 2nd utility corridor. Panels were oriented from east to west (as proposed in the approved Panel Layout) and were placed on top of the GCL layer. A total of eleven panel lengths (panel lengths identified as the approximate 80 ft. run from east to west across the corridor, as well as geomembrane pieces which were used to complete the southern end of the corridor) were installed (P-76, P-77, P-78, P-79, P-80, P-81, P-82, P-83, P-84, P-85, and P-86) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/9), *Trial Weld Log.*
- No non-destructive testing or patch / repair work was conducted upon completion of geomembrane panel placement to approximate Sta. 9+50, as panel placement and fusion welded activities concluded the work day.
- One destructive sample was collected – DSX-8 (extrusion weld). Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- Additionally, Entact completed Site preparation activities for expectation of rainstorms tomorrow (9/10).

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/9/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DSX-8 (once received).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, and 8/15/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-21, and DSX-1 through DSX-7. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 2nd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/9/15
A3 – Photo Log	Pages 1 – 7	Total of 13 photos outlining pertinent daily observations and descriptions for 9/9/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/9/15
A5 – Subgrade Approval	Sheet 15 & ESI (9/9/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/9/15.
A7 – Panel Placement Log	Page 16	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 9/9/15
A8 – Destruct Seam Testing COC	Page 1	Updated with destruct sample information collected from 9/9/15
A9 – Seam/Non-Destruct. Test Log		N / A no vacuum box testing conducted on 9/9/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log	Page 13	One repair report provided by ESI and confirmed by Langan for geomembrane repairs conducted on 9/9/15
A11 – Conformance COC		N / A for 8/14/15
A12 – Destructive Seam Field Test	Page 3	One destructive sample information form provided by ESI and confirmed by Langan for destruct samples collected on 9/9/15
A13 – Destruct. Sample Summary	Page 1	Updated with 9/9/15 destruct sample information
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 9/9/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	9/11/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	66/77° F, Clear AM, Clouds & Rain PM
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0630 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #23** **AmecFW**: Dave Ambrose **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL), continuing from western end of SA-6 South. Material to be placed from geomembrane Panel #56 (located at approximate Sta. 14+20 – location where GDL had previously been placed to along with protective cover soil) running approximately 220 ft. east to Panel #68 (approximate Sta. 12+00)..
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting vacuum box testing for the repairs completed on 9/11/15 (as outlined in projecte specs). One vacuum box testing was complete, ESI began placing GDL from approximate Sta. 14+20 (Panel #56) to approximate Sta. 12+00 (Panel #68). GDL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft. intervals. Additionally, the top layer of geotextile was sewn (as outlined in the project specs).
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, the following rolls of GDL were cut with the first wrap of geocomposite removed prior to use
    - Roll 64021010124 – 10 ft. removed
    - Roll 64021010133 – 8 ft. removed
    - Roll 64021010126 – 10 ft. removed
    - Roll 64021010116- 5 ft. removed
    - Roll 64021010112 – 10 ft. removed
        - Note: this roll was not identified during the GDL inspection, however based on damage to the protective plastic liner observed in the field, the outside layer of GDL was removed.
    - Roll 64021010119 – 10 ft. removed
- Due to the inclement weather from 9/10/15 and potential storms over the weekend, the protective plastic covering the soil subgrade to the east was not removed. As such, no soil subgrade approval was conducted and no additional geomembrane panels were placed.

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- One non-conformance issues was observed during placement of GDL. A rock was encountered underneath geomembrane panel #57. This non-conformance issue was recorded as RP-293 and will be patched and repaired on Monday (9/14).
- Upon completion of GDL placement to the approved panel location, a visual observation of the top of the western slope of the 2nd utility corridor was conducted by Langan and Entact. The geomembrane panels were pulled back to expose the GCL. Visual observation confirmed that the GCL was dry and no water had drained underneath the panels. The top of the slope was then sealed with a fusion weld "T-seams" along Panel #75 (oriented north to south) and Panel #76 through Panel #81 (oriented east to west).
- Geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/11), *Trial Weld Log.* Note: non-destructive testing was completed on the welded seams (to be completed Monday – 9/14/15).

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 6 (Sheet #6) – Subgrade irregularity identified as RP-293 on *Repair Log*
    - Stone identified underneath geomembrane cap (Panel #57). Stone was subsequently removed, and hole was patched/repaired following project specs and further defined in *Sheet 6 Notice of Non-Compliance*

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/11/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 4 gas vents).
- Review laboratory results for DSX-8 (once received).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, and 8/15/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-21, and DSX-1 through DSX-7. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

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By: Dan Bosworth

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Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 2nd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/11/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 9/9/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/11/15
A5 – Subgrade Approval		N / A no subgrade approval completed
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/11/15.
A7 – Panel Placement Log		N / A no panels placed on 9/11/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 9/11/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destructive testing conducted on 9/11/15
A10 – Repair Log	Page 13	One repair report provided by ESI and confirmed by Langan for geomembrane repairs conducted on 9/9/15
A11 – Conformance COC		N / A for 9/11/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 9/11/15
A13 – Destruct. Sample Summary		N / A no destruct samples collected on 9/11/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance	Sheet #6	One non-compliance issue identified on 9/11/15 and recorded on Sheet #6

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By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	9/14/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	58/74° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0630 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #24** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL), continuing from western end of SA-6 South. Material to be placed from geomembrane Panel #68 (located at approximate Sta. 12+00 – location where GDL had previously been placed to - based on approved as-built drawings) running approximately 170 ft. east to Panel #74 located at top of western slope of 2nd utility corridor (approximate Sta. 10+30).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI placing GDL from approximate Sta. 12+00 (Panel #68) to approximate Sta. 10+30 (Panel #75). GDL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft. intervals. Additionally, the top layer of geotextile was sewn (as outlined in the project specs).
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, no rolls of GDL were required to be cut to remove the first wrap of geocomposite prior to use.
- While GDL was being placed, ESI conducted non-destructive testing (air pressure testing) of the geomembrane panel seams installed on 9/9/15 in accordance with the project specifications. Refer to *Seam Control Form* (9/14/15) for non-destructive testing details.
- Once non-destructive testing was completed, ESI completed patch / repair along the panels previously installed, Panels 76-86 which were placed on 9/9/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (9/14/15).
- A total of twenty-three repairs (RP-293 through RP-315) were observed and fixed (according to the project specifications) from Panels #76 through Panel #86 (repair / detailing work conducted on panels installed on 9/11/15). Refer to 9/14/15 *Repair Report.* The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.

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- While the geomembrane was being patched / repaired, ESI also installed a penetration boot for gas vent GV-3, and completed placing the geomembrane patch around Access Manhole #3. Note: The penetration logs for all boots to date will be completed once the boot has been sealed with butyl sealant.
- One destructive sample (DS-22) was collected (fusion) from Panel Seams 79/80. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- During cap placement activities, Entact spread protective cover soil moving east from approximate Sta. 14+20. Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/14/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 5 gas vents).
- Review laboratory results for DS-22 (once received).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, and 9/11/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-21, and DSX-1 through DSX-8. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 2nd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/14/15
A3 – Photo Log	Pages 1 – 5	Total of 9 photos outlining pertinent daily observations and descriptions for 9/14/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/14/15
A5 – Subgrade Approval		N / A no subgrade approval completed
A6 – Trial Weld Log	Page 4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/11/15.
A7 – Panel Placement Log		N / A no panels placed on 9/14/15
A8 – Destruct Seam Testing COC		Updated with destruct sample information collected on 9/14/15
A9 – Seam/Non-Destruct. Test Log	Pages 17-18	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/14/15
A10 – Repair Log	Pages 14-15	One repair report provided by ESI and confirmed by Langan for geomembrane repairs conducted on 9/14/15
A11 – Conformance COC		N / A for 9/14/15
A12 – Destructive Seam Field Test	Page 2	Updated with destruct information collected on 9/14/15
A13 – Destruct. Sample Summary	Page 3	Destruct Sample Information provided by ESI and confirmed by Langan for 9/14/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 9/14/15

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By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	9/15/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	62/84° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0630 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #25** **AmecFW**: Geoff Shallard, Dave Ambrose, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap), and continuing from eastern end of 2nd utility corridor. Material to be placed from Panels #76, 77, 78, 79, 80, 81, and 86 (panels running east to west through utility corridor) installed on 9/9/15 (located at approximate Sta. 9+50) running approximately 100 ft. east to Sta. 8+50. Panels installed today (9/15) will "T" into the panels outlined above as panels will revert back to north-south orientation outside of utility corridor (as per the approved panel layout).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 9+50 (eastern end of 2nd utility corridor) to Sta. 8+50. Refer to *Soil Subgrade Approval* forms from 9/15/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #1 and #2 of the daily photo log for 9/15/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 9+50 to Sta. 8+50.
- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 9+50 (east of 2nd utility corridor) moving east (for approximately 100 ft.) to approximate Sta. 8+50. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *9/15/15 Photo Log* for supporting photographs.
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panels #76-81, and #86 (running east-west through 2nd utility corridor) on 9/9/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL

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layers. A total of four panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-87, P-88, P-89, and P-90) by ESI.

- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/15), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 8+50, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/15/15) for non-destructive testing details. Based on the panel placement, minimal repairs were required along the installed panels. As such, patches were leistered over the repairs with the final extrusion welds to be completed on 9/16/15.
- One destructive sample (DS-23) was collected (fusion) from Panel Seams 88/89. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- ESI pulled back the installed geomembrane panels along the northern and southern ends of the 2nd utility corridor to expose the underlying GCL. The GCL appeared to be hydrated (approximate 10 ft. wide section along southern end of corridor and approximate 4 ft. wide section along northern end of corridor) from rainwater infiltration that washed back underneath the cap due to the soil subgrade outside of the cap which was not yet completed to grade. These sections of GCL were cut and removed and the area was left open to dry overnight. New GCL pieces will be placed (according to the project specs) on 9/16/15.
- With cap activities complete, ESI filled sandbags for the remainder of the work day.
- During cap placement activities, Entact spread protective cover soil moving east from approximate Sta. 14+20. Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/15/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 5 gas vents).
- Review laboratory results for DS-23 (once received).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, and 9/14/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-22, and DSX-1 through DSX-8. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 2nd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/15/15
A3 – Photo Log	Pages 1 – 5	Total of 9 photos outlining pertinent daily observations and descriptions for 9/15/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/15/15
A5 – Subgrade Approval	Sheet 16 & ESI (9/15/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/15/15.
A7 – Panel Placement Log	Page 18	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/15/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information collected on 9/15/15
A9 – Seam/Non-Destruct. Test Log	Pages 19-20	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/15/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log		N / A no repairs completed for 9/15/15
A11 – Conformance COC		N / A for 9/15/15
A12 – Destructive Seam Field Test	Page 2	Updated with destruct information collected on 9/15/15
A13 – Destruct. Sample Summary	Page 4	Destruct Sample Information provided by ESI and confirmed by Langan for 9/15/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 9/15/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	9/16/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	63/85° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0630 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #26** **AmecFW**: Geoff Shallard, Dave Ambrose, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap), and continuing from eastern end of 2nd utility corridor. Material to be placed from Panel #90 (P-90) installed on 9/15/15 and located at approximate Sta. 8+50 running approximately 80 ft. east to Sta. 7+70.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting vacuum box testing on the repairs completed from 9/14/15 (through 2nd utility corridor). ESI also conducted patch / repair work for the panels installed on 9/15/15 (Panels 87-90). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 9/16/15 for results (extrusion testing identified as EXT. on form).
- A total of forty-four repairs (RP-316 through RP-349) were observed and fixed (according to the project specifications) from Panel #87 through Panel #90 (repair / detailing work conducted on panels installed on 9/15/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs), as well as seam joint repairs where non-destructive testing was conducted along the panel seams. These areas were subsequently patched and sealed with extrusion welds, and confirmed with vacuum box testing being conducted as outlined in the project specifications.
- Along with the repair work, ESI also placed the new pieces of GCL (refer to Photo Log) for the northern and southern areas along the 2nd utility corridor where the GCL was hydrated. One area along the southern section required the liner to be cut to pull back and expose the GCL. As such, this repair (RP-331) was identified as a non-conformance issue (subgrade irregularity) and is further defined below.
- While patch / repair work was being completed, Langan and Entact conducting soil subgrade approval from approximate Sta. 8+50 (moving east from P-90) to Sta. 7+70. Refer to *Soil Subgrade Approval* forms from 9/16/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photo #6 of the daily photo log for 9/16/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 8+50 to Sta. 7+70.

- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 8+50 (moving east of P-90) moving east (for approximately 80 ft.) to approximate Sta. 7+70. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *9/16/15 Photo Log* for supporting photographs.
- As per the QA inspection conducted on the GVL on September 3, 2015, by AmecFW, the following rolls of GVL were cut with the first wrap of geocomposite removed prior to use
    - Roll 65211010130 – 8 ft. removed
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #90 on 9/15/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of four panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-91, P-92, P-93, and P-94) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/16), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 7+70, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/16/15) for non-destructive testing details. Based on the panel placement, minimal repairs were required along the installed panels. As such, patches were leistered over the repairs with the final extrusion welds to be completed on 9/17/15.
- One destructive sample (DSX-9) was collected (extrusion weld) from Panel Seams 88/89. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- During cap placement activities, Entact spread protective cover soil moving east from approximate Sta. 14+20. Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 7 (Sheet #7) – Subgrade irregularity identified as RP-293 on *Repair Log*
    - GCL underneath geomembrane liner along southern end of utility corridor hydrated from rainwater accumulating outside of cap due to subgrade (subgrade outside of the cap not final). Geomembrane liner pulled back and cut to remove and replace sections of GCL. This patch was noted as a subgrade irregularity and was patched/repaired following project specs and is further defined on *Sheet 7 Notice of Non-Compliance*

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/16/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 5 gas vents).
- Review laboratory results for DSX-9 (once received).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, and 9/15/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-23, and DSX-1 through DSX-8. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 2nd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/16/15
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 9/16/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/16/15
A5 – Subgrade Approval	Sheet 17 & ESI (9/16/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A6 – Trial Weld Log	Pages 4-5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/16/15.
A7 – Panel Placement Log	Page 19	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/16/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information collected on 9/16/15
A9 – Seam/Non-Destruct. Test Log	Pages 20-21	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/16/15
A10 – Repair Log	Pages 16-17	One repair log provided by ESI and confirmed by Langan for repairs completed on 9/16/15
A11 – Conformance COC		N / A for 9/16/15
A12 – Destructive Seam Field Test	Page 2	Updated with destruct information collected on 9/16/15
A13 – Destruct. Sample Summary	Page 3	Destruct Sample Information provided by ESI and confirmed by Langan for 9/16/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance	Sheet 7	One non-compliance issues identified and further defined on Sheet 7

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	9/17/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	65/85° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0630 – 1600

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #27** **AmecFW**: Stu, Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL) geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap), continuing from eastern end of 2nd utility corridor. Material to be placed from Panel #94 (P-94) installed on 9/16/15 and located at approximate Sta. 7+70 running approximately 70 ft. east to Sta. 7+00 (top western slope of 3rd utility corridor).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work for the panels installed on 9/16/15 (Panels 91-94). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 9/17/15 for results (extrusion testing identified as EXT. on form).
- A total of seventeen repairs (RP-350 through RP-366) were observed and fixed (according to the project specifications) from Panel #91 through Panel #94 (repair / detailing work conducted on panels installed on 9/16/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs), as well as seam joint repairs where non-destructive testing was conducted along the panel seams. These areas were subsequently patched and sealed with extrusion welds, and confirmed with vacuum box testing being conducted as outlined in the project specifications. Additionally, custom fit repairs were conducted along the top eastern slope of the 2nd utility corridor (Panel #80) to remove observed wrinkles in the geomembrane panels. Vacuum box testing was then completed on the repairs (as per the project specifications) to confirm the integrity of the extrusion welds.
- Once the patch / repair work was completed ESI began placing GDL from approximate Sta. 10+30 (Panel #75) to approximate Sta. 9+60 (Panel #87). GDL was placed through the 2nd utility corridor with the panels oriented east to west, and was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft. intervals. Additionally, the top layer of geotextile was sewn (as outlined in the project specs).
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, no rolls of GDL were required to be cut to remove the first wrap of geocomposite prior to use.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

- While GDL placement was being conducted, Langan and Entact completed soil subgrade approval from approximate Sta. 7+70 (moving east from P-94) to Sta. 7+00 (top western slope of 3rd utility corridor). Refer to *Soil Subgrade Approval* forms from 9/17/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 7+70 to Sta. 7+00.
- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 7+70 (moving east of P-94) moving east (for approximately 70 ft.) to approximate Sta. 7+00. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *9/17/15 Photo Log* for supporting photographs.
- As per the QA inspection conducted on the GVL on September 3, 2015, by AmecFW, no rolls of GVL were required to be cut to remove first wrap of geocomposite prior to use
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #94 on 9/16/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of three panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-95, P-96, and P-97) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/17), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 7+00, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/17/15) for non-destructive testing details. Based on the panel placement, minimal repairs were required along the installed panels. As such, patches were leistered over the repairs with the final extrusion welds to be completed on 9/18/15.
- One destructive sample (DS-24) was collected (fusion weld) from Panel Seams 91/92. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- During cap placement activities, Entact spread protective cover soil moving east from approximate Sta. 14+20. Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/17/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 5 gas vents).
- Review laboratory results for DS-24 (once received).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, and 9/16/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-23, and DSX-1 through DSX-9. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 through, and east of 3rd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/17/15
A3 – Photo Log	Pages 1 – 3	Total of 6 photos outlining pertinent daily observations and descriptions for 9/17/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/17/15
A5 – Subgrade Approval	Sheet 18 & ESI (9/17/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/17/15.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A7 – Panel Placement Log	Page 20	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/17/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information collected on 9/17/15
A9 – Seam/Non-Destruct. Test Log	Pages 21	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/17/15
A10 – Repair Log	Pages 16-18	One repair log provided by ESI and confirmed by Langan for repairs completed on 9/16/15 and 9/17/15
A11 – Conformance COC		N / A for 9/17/15
A12 – Destructive Seam Field Test	Page 2	Updated with destruct information collected on 9/17/15
A13 – Destruct. Sample Summary	Page 3	Destruct Sample Information provided by ESI and confirmed by Langan for 9/17/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified for activities completed on 9/17/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	9/18/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	66/83° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0630 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #28** **AmecFW**: Stu, Bills, Geoff Shallard, Dave Ambrose, Brian Shea, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geosynthetic clay liner (GCL) geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap), through 3rd utility corridor (located at approximate Sta. 6+80). Material to be placed from Panel #97 (P-97) installed on 9/17/15 and located at approximate Sta. 7+00 running approximately 60 ft. east through 3rd utility corridor to Sta. 6+40 (top eastern side of 3rd utility corridor).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 7+00 (P-97 installed on 9/17/15) through the 3rd utility corridor to Sta. 6+40. Refer to *Soil Subgrade Approval* forms from 9/18/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 7+00 to Sta. 6+40.
- GCL and Cap placement began with ESI placing GVL along the eastern and western slopes of the 3rd utility corridor. GVL was placed at the areas above the groundwater table down the slopes of the corridor (GCL areas comprised the bottom of the utility corridor to approximately 2 ft. to 3 ft. up the side slopes). GVL was secured with white plastic fasteners spaced at a maximum of 5 ft. and was sewn along the top layer of geotextile (as outlined in the project specs).
- GCL was then placed along the bottom of the 3rd utility corridor, and along the eastern and western slopes of the utility corridor and southern slope of SA-6 (lower bench) located below (to 1 ft. above) the water table as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with a granular bentonite. The GVL overlapped the GCL a minimum of 1 ft. along the bottom slopes of the corridor, and the GCL was secured into the side slopes via soil stakes / staples.
- After installation of the GCL, geomembrane cap was installed continuing east of previously installed Panel #97 (located at approximate Sta. 7+-00) on 9/17/15 and through the 3rd utility corridor. Panels

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were oriented from east to west (as proposed in the approved Panel Layout) and were placed on top of the GVL and GCL layers.

- A total of nine panel lengths (panel lengths identified as the approximate 68 ft. run from east to west across the corridor, as well as geomembrane pieces which were used to complete the southern end of the corridor) were installed (P-98, P-99, P-100, P-101, P-102, P-103, P-104, P-105, and P-106) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/18), *Trial Weld Log.*
- As per the QA inspection conducted on the GVL on September 3, 2015, by AmecFW, no rolls of GVL were required to be cut to remove the first wrap of geocomposite prior to use.
- Upon completion of geomembrane panel placement to approximate Sta. 6+40, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/18/15) for non-destructive testing details. Based on the panel placement, minimal repairs were required along the installed panels. As such, patches were leistered over the repairs with the final extrusion welds to be completed on 9/21/15.
- Two destructive samples (DS-25 and DS-26) were collected (fusion welds) from Panel Seams 94/95 and 97/97, respectively. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- During cap placement activities, Entact spread protective cover soil moving east from approximate Sta. 14+20. Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/18/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 6 gas vents).
- Review laboratory results for DS-25 and DS-26 (once received).

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, and 9/17/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-24, and DSX-1 through DSX-9. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 through, and east of 3rd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/18/15
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 9/18/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/18/15
A5 – Subgrade Approval	Sheet 19 & ESI (9/18/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/18/15.
A7 – Panel Placement Log	Page 21 & 22	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/18/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information collected on 9/18/15
A9 – Seam/Non-Destruct. Test Log	Pages 22-24	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/18/15

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log		N / A repairs patched and leistered, however, no welding or vacuum box testing completed
A11 – Conformance COC		N / A for 9/18/15
A12 – Destructive Seam Field Test	Page 2	Updated with destruct information collected on 9/18/15
A13 – Destruct. Sample Summary	Page 3	Destruct Sample Information provided by ESI and confirmed by Langan for 9/18/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified for activities completed on 9/18/15

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By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	9/21/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	66/83° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0630 – 1500

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #29** **AmecFW**: Dave Ambrose, Brian Shea, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL), continuing through 2nd utility corridor (located at approximate Sta. 10+00). Material to be placed from eastern slope of 2nd utility corridor (Panels 76-81; running east to west) located at approximate Sta. 10+30) running approximately 250 ft. east to Panel #93 (located at approximate Sta. 7+80).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI placing GDL from approximate Sta. 10+30 (eastern slope of 2nd utility corridor) to approximate Sta. 7+80 (Panel #93). GDL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft. intervals. Additionally, the top layer of geotextile was sewn (as outlined in the project specs).
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, no rolls of GDL were required to be cut to remove the first wrap of geocomposite prior to use.
- Once GDL was completed to the (based on the approved as-builts) , ESI completed patch / repair along the panels previously installed, Panels 95-106 which were placed on 9/17/15 and 9/18/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (9/21/15).
- A total of thirty-two repairs (RP-367 through RP-398) were observed and fixed (according to the project specifications) from Panels #95 through Panel #106 (repair / detailing work conducted on panels installed on 9/17/15 and 9/18/15). Refer to 9/21/15 *Repair Report.* The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While the geomembrane was being patched / repaired, ESI also installed a penetration boot for gas vent GV-2. Note: The penetration logs for all boots to date will be completed once the boot has been sealed with butyl sealant.

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- One destructive sample (DSX-10) was collected (extrusion) from RP-376. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/21/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 6 gas vents).
- Review laboratory data for destruct sample DSX-10 (extrusion) once received

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, and 9/18/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-26, and DSX-1 through DSX-9. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas east of 3rd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

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Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/21/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 9/21/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/21/15
A5 – Subgrade Approval		N / A no subgrade approval completed for 9/21/15.
A6 – Trial Weld Log	Page 5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/21/15.
A7 – Panel Placement Log		N / A no panels placed on 9/21/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information collected on 9/21/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destructive testing conducted on 9/21/15
A10 – Repair Log	Pages 18-19	One repair log provided by ESI and confirmed by Langan for repairs completed on 9/21/15
A11 – Conformance COC		N / A for 9/18/15
A12 – Destructive Seam Field Test	Page 2	Updated with destruct information collected on 9/21/15
A13 – Destruct. Sample Summary	Page 4	Destruct Sample Information provided by ESI and confirmed by Langan for 9/21/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified for activities completed on 9/21/15

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	9/22/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	62/84° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0630 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #30** **AmecFW**: Stu Bills, Dave Ambrose, Brian Shea, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap), continuing past eastern side of 3rd utility corridor. Material to be placed from Panels #98, 99, 100, 101, 102, 103, and 106 (panels running east to west through 3rd utility corridor) installed on 9/18/15 (located at approximate Sta. 6+40) running approximately 110 ft. east to Sta. 5+30. Panels installed today (9/22) will "T" into the panels outlined above as panels will revert back to north-south orientation outside of utility corridor (as per the approved panel layout).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 6+40 (eastern end of 3rd utility corridor) to Sta. 5+30. Refer to *Soil Subgrade Approval* forms from 9/22/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #2 and #3 of the daily photo log for 9/22/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 6+40 to Sta. 5+30.
- While subgrade inspection was being conducted, ESI conducted vacuum box testing for the repairs completed on 9/21/15, and also installed the remaining panels of GDL from geomembrane Panel #93 to Panel #96.
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, one roll of GDL was required to be cut to remove the first wrap of geocomposite prior to use – Roll #64021010086 (8 ft. cut).
- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 6+40 (east of 3rd utility corridor) moving east (for approximately 110 ft.) to approximate Sta. 5+30. GVL was placed according to

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the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *9/22/15 Photo Log* for supporting photographs.

- As per the QA inspection conducted on the GVL on September 3, 2015, by AmecFW, one roll of GVL was required to be cut to remove the first wrap of geocomposite prior to use – Roll #65211010113 (8 ft. cut)
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panels #98-103, and #106 (running east-west through 3rd utility corridor) on 9/18/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of four panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-107, P-108, P-109, and P-110) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/22), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 5+30, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/22/15) for non-destructive testing details.
- Once non-destructive testing was completed, ESI conducted patch / repair along the panels installed, Panels 107-110. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (9/22/15).
- A total of nineteen repairs (RP-399 through RP-417) were observed and fixed (according to the project specifications) from Panels #107 through Panel #110 (repair / detailing work conducted on panels installed on 9/22/15). Refer to 9/22/15 *Repair Report.* The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While the geomembrane was being patched / repaired, ESI also installed a penetration boot for piezometer PZ-14. Note: The penetration logs for all boots to date will be completed once the boot has been sealed with butyl sealant.
- No destructive samples were collected, as an RFI was submitted to AmecFW, and based on the results of the first 26 destruct samples – the sampling frequency was decreased from 500 LF to 1500 LF as samples yielded zero failures with all 26 exhibited shear and peel results greater than the minimum requirements (as per the project specs).
- During cap placement activities, Entact spread protective cover soil for the area immediately west of the 2nd utility corridor (approximate Sta. 10+20). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

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Action Items – Pending

- Complete Daily Report and Photo Log (for 9/15/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 4 piezometers, and 5 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, and 9/21/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-26, and DSX-1 through DSX-10. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 3rd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/22/15
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 9/22/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/22/15
A5 – Subgrade Approval	Sheet 20 & ESI (9/22/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/22/15.

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A7 – Panel Placement Log	Page 23	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/22/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 9/22/15
A9 – Seam/Non-Destruct. Test Log	Pages 24-25	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/22/15
A10 – Repair Log	Pages 19-20	One repair log provided by ESI and confirmed by Langan for repairs completed for 9/22/15
A11 – Conformance COC		N / A for 9/22/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 9/22/15
A13 – Destruct. Sample Summary		N / A no destruct samples collected on 9/22/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 9/22/15

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	9/23/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	58/79° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0630 – 1700

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #31** **AmecFW**: Stu Bills, Dave Ambrose, Brian Shea, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), geosynthetic clay liner (GCL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing past eastern side of 3rd utility corridor. Material to be placed from Panels #110 installed on 9/22/15 (located at approximate Sta. 5+30) running approximately 80 ft. east to Sta. 4+50.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying rolls of GDL from Panel #96/97 (approximate Sta. 7+00) through 3rd utility corridor to approximate Sta. 5+30 (Panel #110 placed on 9/22/15). GDL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft., and top layer of geotextile sewn along the panel seams.
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, the following rolls of GDL was required to be cut to remove the first wrap of geocomposite prior to use:
    - Roll #64021010103 - 5 ft. cut and removed
    - Roll #64021010105 – 8 ft. cut and removed
- Langan and Entact conducting soil subgrade approval from east of Panel #110 (located at approximate Sta. 5+30) to approximate Sta. 4+50. Refer to *Soil Subgrade Approval* forms from 9/23/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #1 and #2 of the daily photo log for 9/23/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 5+30 to Sta. 4+50.
- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 5+30 (east of 3rd utility

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By: Dan Bosworth

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corridor) moving east (for approximately 80 ft.) to approximate Sta. 4+50. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *9/23/15 Photo Log* for supporting photographs.

- As per the QA inspection conducted on the GVL on September 3, 2015, by AmecFW, no rolls of GVL were required to be cut to remove the first wrap of geocomposite prior to use.
- In addition to the GVL, GCL was placed along the northern and southern edges of SA-6 at areas below (to 1 ft. above) the groundwater table (as shown on the drawings and outlined in the project specs). GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges (as outlined in the project specs).
- After installation of the GVL and GCL, geomembrane cap was installed continuing east of previously installed Panel #110 on 9/22/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL and GCL layers. A total of four panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-111, P-112, P-113, and P-114) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, a trial weld (smooth to smooth) was conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/23), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 4+50, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/23/15) for non-destructive testing details.
- No patch / repair work was conducted as part of the activities on 9/23/15. Additionally, no destruct samples were collected.
- During cap placement activities, Entact continued to spread protective cover soil for the area through the 2nd utility corridor (approximate Sta. 10+00). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project and no patch / repair work was conducted.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/23/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 4 piezometers, and 6 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).

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By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, and 9/22/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-26, and DSX-1 through DSX-10. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 3rd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/23/15
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 9/23/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/23/15
A5 – Subgrade Approval	Sheet 21 & ESI (9/23/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 5-6	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/23/15.
A7 – Panel Placement Log	Page 24	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/23/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 9/23/15
A9 – Seam/Non-Destruct. Test Log	Pages 25	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/23/15
A10 – Repair Log		N / A no repairs completed for 9/23/15

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By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A11 – Conformance COC		N / A for 9/23/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 9/23/15
A13 – Destruct. Sample Summary		N / A no destruct samples collected on 9/23/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 9/23/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	9/24/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	59/80° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0630 – 1600

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #32** **AmecFW**: Stu Bills, Brian Shea, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), geosynthetic clay liner (GCL), and 60-mil geomembrane liner (Cap), continuing along eastern side of 3rd utility corridor. Material to be placed from Panel #114 installed on 9/23/15 (located at approximate Sta. 4+50) running approximately 70 ft. east to Sta. 3+80.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair along the panels previously installed, Panels 111-114 which were placed on 9/23/15. Prior to repair work, a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (9/24/15).
- A total of seven repairs (RP-419 through RP-424) were observed and fixed (according to the project specifications) from Panels #111 through Panel #114 (repair / detailing work conducted on panels installed on 9/23/15). Refer to 9/24/15 *Repair Report.* The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- One non-compliance issue was observed and was noted on *Sheet #8 Notice of Non-Compliance and Corrective Action Form.* This non-compliance was also noted on the Repair Log as a subgrade irregularity and was identified as RP-423. This non-compliance issue was identified based on a rock that was observed underneath the geomembrane cap. The rock was removed from underneath the liner and the hole was patched / repaired according to the project specifications and further outlined in the *Non-Compliance and Corrective Action* forms – *Sheet #8* for 9/24/15.
- While the geomembrane was being patched / repaired, ESI also installed a penetration boot for well 115-E1A-SO and Access Manhole #4. Note: The penetration logs for all boots to date will be completed once the boots have been sealed with butyl sealant (not yet completed).

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- While ESI was completing patch / repair work, Langan and Entact conducted soil subgrade approval from east of Panel #114 (located at approximate Sta. 4+50) to approximate Sta. 3+80. Refer to *Soil Subgrade Approval* forms from 9/24/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #3 and #4 of the daily photo log for 9/24/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 4+50 to Sta. 3+80.
- GVL and Cap placement began with ESI placing the GCL along the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The GCL was overlapped approximately 2 ft. outside of the cap and was placed along the areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included the areas within the SA-6 cap along the bottom and side slopes of the drainage/utility ditches located from approximate Sta. 4+50 to Sta. 3+80. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges (as outlined in the project specs).
- After the GCL was placed, GVL was installed from approximate Sta. 4+50 (Panel #114) moving east (for approximately 70 ft.) to approximate Sta. 3+80. GVL was placed along the areas outside of the water GCL (outside of the water table influence) and according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *9/24/15 Photo Log* for supporting photographs. Note: The GVL was cut along the drainage / utility to expose the GCL as a minimum of 1 ft. of overlap was required along the ditches where the GVL and GCL intersected.
- As per the QA inspection conducted on the GVL on September 3, 2015, by AmecFW, no rolls of GVL were required to be cut to remove the first wrap of geocomposite prior to use.
- After installation of the GVL and GCL, geomembrane cap was installed continuing east of previously installed Panel #114 on 9/23/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL and GCL layers. A total of four panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-115, P-116, P-117, and P-118) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, two trial welds (smooth to smooth and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/24), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 4+50, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/24/15) for non-destructive testing details.
- No patch / repair work was conducted on Panels #115 through #118 as part of the activities on 9/24/15.
- Two destructive samples were collected for laboratory testing. DS-27 (fusion) was collected from Panel Seam 110/111 and is noted as RP-422 on the *Repair Log*. Fusion weld destruct samples collected at 1500 LF intervals (as per the approved RFI to reduce the sampling frequency from 500 LF to 1500 LF). One extrusion weld sample (DSX-11) was also collected from RP-421 and is noted as RP-424 on the *Repair Log*. Extrusion weld samples collected at 500 LF intervals as per the project specs.
- During cap placement activities, Entact continued to spread protective cover soil for the area through the 2nd utility corridor (approximate Sta. 10+00). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

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Non-Conformance Items / Corrective Actions

- Non-Conformance No. 8 (Sheet #8) – Subgrade irregularity identified as RP-423 on *Repair Log*
  - Stone identified underneath geomembrane cap (Panel #111). Stone was subsequently removed, and hole was patched/repaired following project specs and further defined in *Sheet 8 Notice of Non-Compliance*

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/24/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 3 wells, 4 piezometers, and 6 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), Main Access Manhole #3 (located at western slope of 2nd utility corridor), and Manhole #4.
- Review laboratory destruct data for destruct samples DS-27 and DSX-11.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, and 9/23/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-26, and DSX-1 through DSX-10. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 3rd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/24/15
A3 – Photo Log	Pages 1 – 7	Total of 13 photos outlining pertinent daily observations and descriptions for 9/24/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/24/15
A5 – Subgrade Approval	Sheet 22 & ESI (9/24/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 6	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/24/15.
A7 – Panel Placement Log	Page 25	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/24/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information from 9/24/15
A9 – Seam/Non-Destruct. Test Log	Pages 25-26	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/24/15
A10 – Repair Log	Pages 20-21	One repair log provided by ESI and confirmed by Langan for repairs completed on 9/24/15
A11 – Conformance COC		N / A for 9/24/15
A12 – Destructive Seam Field Test	Page 2	Updated with destruct sample information from 9/24/15
A13 – Destruct. Sample Summary	Page 3	One destruct sample summary form provided by ESI and confirmed by Langan for 9/24/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance	Sheet 8	One non-compliance issue identified on 9/24/15 and identified on Sheet #8 and the Repair Log as a subgrade irregularity.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: September 4, 2015

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage		X		1
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation			X	
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 9/4/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, September 04, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Blue Poly drums are not properly stored
2	IA2Q4A1AL8	Repair Exclusion Zone Fencing associated with EA4
3	EEPSQUO2YB	Repair Silt Fence on Southern boundary of Novartis Pile

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 9/4/15

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Place blue poly drums on spill pallets Not an issue or concern	9/8/15 RAD
2	Restablish exclusion zone fencing at excavation area EA4	↓
3	Repair silt fence on the southern boundary of the Novartis Pile	✓

Construction Manager: [signature] **Date:** 9/4/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: September 11, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		1
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		3
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		4
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		5
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 09/11/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, September 11, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Secondary containment measures in the mechanic's area contain stormwater
2	IA2Q4A1AL8	Garbage is present along the Kellogg Street jughandle and on the SA-6 cap area.
3	IA2Q4A1AL8	Exclusion Zone fencing is down or requires maintenance in the Sedimentation Basin area on SA-6 North.
4	IA2Q4A1AL8	Stockpile containment measures are failing on the eastern side of the Novartis stockpile area on SA-7
5	IA2Q4A1AL8	Sediment is present on the SA-7 paved haul roadways.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 09/11/15

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Drain accumulated stormwater from the secondary containment structures.	9-17-15 RAD
2	Pick up and dispose of garbage/debris where present.	
3	Maintain/repair Exclusion Zone fencing as required.	
4	Install additional erosion control measures on the eastern side of the Novartis stockpile area as required.	
5	Clean sediment from the SA-7 roadways as required	

Construction Manager: _____ Date 09/17/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: September 18, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		3
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 09/18/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, September 18, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Garbage is present along the Kellogg Street jughandle and on the north side of Kellogg Street.
2	IA2Q4A1AL8	Windscreen on the Rt. 440 perimeter fence at the southern end of the pedestrian walkway has pulled loose from the chain-link fabric on SA-6 North.
3	IA2Q4A1AL8	Garbage is present along the entire length of the Rt. 440 pedestrian walkway on SA-6 North.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey
SWAP Observer: 09/18/15 **Date:**

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Pick up and dispose of garbage/debris where present.	9/18/15 RAD
2	Reinstall or replace windscreen fabric as required	↓
3	Pick up and dispose of garbage/debris where present.	↓

Construction Manager: **Date:** 09/21/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: September 25, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		1
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		2
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		3
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		4
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		5
Ponded Storm Water	X			
Housekeeping		X		6,7

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 09/25/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, September 25, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Filter fabric in a catch basin on the north side of Kellogg Street to the west of the guard shack has accumualted a significant amount of sediment.
2	IA2Q4A1AL8	Silt fence on along the eastern side of the SA-6 North cap area parallel to Rt. 440 has fallen down and requires maintenance.
3	IA2Q4A1AL8	REPEAT ITEM: Windscreen material has detached from the perimeter fence at the southeastern corner of SA-6 North, by the southern end of the Rt. 440 pedestrian walkway.
4	IA2Q4A1AL8	REPEAT ITEM: Garbage is present in the SA-6 North pedestrian walkway along Rt. 440.
5	IA2Q4A1AL8	Filter fabric in the catch basins on the eastern SA-7 roadway is missing, damaged or blinded by sediment.
6	IA2Q4A1AL8	Discarded plastic sheeting, broken pallets and other debris are present in the laydown area to the west of the SA-7 frac tanks.
7	IA2Q4A1AL8	Garbage and other debris is present on SA-7 at the waterfront.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 09/25/15

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Replace the filter fabric in the storm water catch basin as required.	9/28/13 RAD
2	Replace or re-install the silt fence where it has fallen down.	
3	Re-attach the windscreen fabric as required	
4	Remove all accumulated garbage from the pedestrian walkway	
5	Replace the filter fabric in the storm water catch basins as required	
6	Remove and dispose of garbage/debris as required.	
7	Remove and dispose of garbage/debris as required	

Construction Manager: _____ Date: 09/29/15

Attachment 13: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (Submitted September 2015)

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

September 16, 2015

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the August 2015 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
8	01	15	8	31	15
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	77,942	83,635 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	0.43	0.46	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.0	<5.0	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1384	0.1384	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

9/15/2015

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North
ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962
FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305
NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
8	01	15	8	31	15
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,416,202 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 43,418,030

DATE	BOD (mg/l)	TSS (mg/l)
8/11/2015	4.8	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J Morris VP	John J. Morris	(973) 455-4003
		DATE 9/15/2015

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG Honeywell Jersey City GWTP; SA-6 North (Permit #20630025) MONTH: August 2015

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BODs		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
8/1/2015	Angel Trujillo	41001828	41082771	80,943	0.080943	N/A	0.666									0.45
8/2/2015	Angel Trujillo	41082771	41163715	80,944	0.080944	6.78	0.666									0.45
8/3/2015	Angel Trujillo	41163715	41236307	72,592	0.072592	6.79	0.666									0.40
8/4/2015	Angel Trujillo	41236307	41308231	71,924	0.071924	7.59	0.666									0.40
8/5/2015	Angel Trujillo	41308231	41389811	81,580	0.08158	7.56	0.666									0.45
8/6/2015	Angel Trujillo	41389811	41462921	73,110	0.07311	7.51	0.666									0.41
8/7/2015	Angel Trujillo	41462921	41546556	83,635	0.083635	7.53	0.666									0.46
8/8/2015	Angel Trujillo	41546556	41628002	81,446	0.081446	7.52	0.666									0.45
8/9/2015	Angel Trujillo	41628002	41703264	75,262	0.075262	N/A	0.666									0.42
8/10/2015	Angel Trujillo	41703264	41778526	75,262	0.075262	7.52	0.666									0.42
8/11/2015	Angel Trujillo	41778526	41857202	78,676	0.078676	7.02	0.666	<5.0	4.8		<0.010	<0.030	<0.010	<0.0002	<0.020	0.44
8/12/2015	Angel Trujillo	41857202	41933154	75,952	0.075952	7.52	0.666									0.42
8/13/2015	Angel Trujillo	41933154	42010732	77,578	0.077578	7.57	0.666									0.43
8/14/2015	Angel Trujillo	42010732	42089330	78,598	0.078598	7.47	0.666									0.44
8/15/2015	Angel Trujillo	42089330	42171736	82,406	0.082406	7.58	0.666									0.46
8/16/2015	Angel Trujillo	42171736	42246145	74,409	0.074409	N/A	0.666									0.41
8/17/2015	Angel Trujillo	42246145	42320554	74,409	0.074409	7.66	0.666									0.41
8/18/2015	Angel Trujillo	42320554	42399740	79,186	0.079186	7.57	0.666									0.44
8/19/2015	Angel Trujillo	42399740	42477975	78,235	0.078235	7.54	0.666									0.43
8/20/2015	Angel Trujillo	42477975	42556035	78,060	0.07806	7.55	0.666									0.43
8/21/2015	Angel Trujillo	42556035	42633757	77,722	0.077722	7.51	0.666									0.43
8/22/2015	Angel Trujillo	42633757	42717220	83,463	0.083463	7.48	0.666									0.46
8/23/2015	Angel Trujillo	42717220	42792665	75,445	0.075445	N/A	0.666									0.42
8/24/2015	Angel Trujillo	42792665	42868110	75,445	0.075445	7.49	0.666									0.42
8/25/2015	Angel Trujillo	42868110	42948692	80,582	0.080582	7.52	0.666									0.45
8/26/2015	Angel Trujillo	42948692	43023842	75,150	0.07515	7.45	0.666									0.42
8/27/2015	Angel Trujillo	43023842	43104616	80,774	0.0808	7.51	0.666									0.45
8/28/2015	Angel Trujillo	43104616	43183594	78,978	0.078978	7.47	0.666									0.44
8/29/2015	Angel Trujillo	43183594	43266122	82,528	0.082528	7.55	0.666									0.46
8/30/2015	Angel Trujillo	43266122	43342076	75,954	0.075954	N/A	0.666									0.42
8/31/2015	Angel Trujillo	43342076	43418030	75,954	0.075954	7.66	0.666									0.42
TOTAL				2,416,202	2.416202			<5.0	4.8		<0.010	<0.030	<0.010	<0.0002	<0.020	
			High:	83,635											High:	0.46
			Average:	77,942											Average:	0.43

Accutest LabLink@869982 11:58 26-Aug-2015

Report of Analysis

4.1 4

Client Sample ID:	087-WWE-081115-A		
Lab Sample ID:	JC1207-1	**Date Sampled:**	08/11/15
Matrix:	AQ - Water	**Date Received:**	08/11/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	666	10	ug/l	1	08/12/15	08/13/15	ND	EPA 200.7 [1]	EPA 200.7 [3]
Copper	< 10	10	ug/l	1	08/12/15	08/13/15	ND	EPA 200.7 [1]	EPA 200.7 [3]
Lead [a]	< 30	30	ug/l	10	08/12/15	08/13/15	ND	EPA 200.7 [1]	EPA 200.7 [3]
Mercury	< 0.20	0.20	ug/l	1	08/13/15	08/13/15	MA	EPA 245.1 [2]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	08/12/15	08/13/15	ND	EPA 200.7 [1]	EPA 200.7 [3]
Zinc	< 20	20	ug/l	1	08/12/15	08/13/15	ND	EPA 200.7 [1]	EPA 200.7 [3]

(1) Instrument QC Batch: MA37316
(2) Instrument QC Batch: MA37317
(3) Prep QC Batch: MP88321
(4) Prep QC Batch: MP88347

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@869982 11:58 26-Aug-2015

Report of Analysis

Client Sample ID:	087-WWE-081115-A		
Lab Sample ID:	JC1207-1	**Date Sampled:**	08/11/15
Matrix:	AQ - Water	**Date Received:**	08/11/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.1

4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	08/13/15	SP	SM2540 D-11
pH [a]	6.90		su	1	08/11/15 16:29	AL	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@869982 11:58 26-Aug-2015

Report of Analysis

4.2 4

Client Sample ID:	087-WWE-081115-A		
Lab Sample ID:	JC1207-1A	**Date Sampled:**	08/11/15
Matrix:	AQ - Water	**Date Received:**	08/11/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	4.8	3.4	mg/l	1	08/12/15 18:24	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@869982 11:58 26-Aug-2015

Report of Analysis

4.3

4

Client Sample ID:	087-WWE-081115-B		
Lab Sample ID:	JC1207-2	**Date Sampled:**	08/11/15
Matrix:	AQ - Water	**Date Received:**	08/11/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N247694.D	1	08/12/15	MM	n/a	n/a	VN10501
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	2.0	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	2.8	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	0.21	1.0	0.093	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.50	ug/l	
67-66-3	Chloroform	17.6	1.0	0.091	ug/l	
74-87-3	Chloromethane	ND	1.0	0.11	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.11	ug/l	
95-50-1	1,2-Dichlorobenzene	0.40	1.0	0.19	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.11	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.29	ug/l	
75-34-3	1,1-Dichloroethane	0.38	1.0	0.12	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/l	
156-59-2	cis-1,2-Dichloroethene	67.1	1.0	0.12	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.7	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.12	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.15	ug/l	
123-91-1	1,4-Dioxane	ND	130	20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.43	1.0	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest LabLink@869982 11:58 26-Aug-2015

Report of Analysis

Client Sample ID:	087-WWE-081115-B		
Lab Sample ID:	JC1207-2	**Date Sampled:**	08/11/15
Matrix:	AQ - Water	**Date Received:**	08/11/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3 4

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	42.9	1.0	0.12	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	0.89	1.0	0.13	ug/l	J
1330-20-7	Xylenes (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	102%		72-125%
2037-26-5	Toluene-D8 (SUR)	99%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	102%		74-115%
1868-53-7	Dibromofluoromethane (S)	102%		79-120%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest LabLink@869982 11:58 26-Aug-2015

Report of Analysis

4.3

4

Client Sample ID:	087-WWE-081115-B		
Lab Sample ID:	JC1207-2	**Date Sampled:**	08/11/15
Matrix:	AQ - Water	**Date Received:**	08/11/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.0	5.0	mg/l	1	08/12/15 16:48	LS	EPA 1664A

RL = Reporting Limit

Accutest LabLink@869982 11:58 26-Aug-2015

Report of Analysis

4.4 4

Client Sample ID:	087-WWI-081115		
Lab Sample ID:	JC1207-3	**Date Sampled:**	08/11/15
Matrix:	AQ - Water	**Date Received:**	08/11/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N247714.D	1	08/13/15	MM	n/a	n/a	VN10501
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
71-43-2	Benzene	2.6	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	4.4	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	0.25	1.0	0.093	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
67-66-3	Chloroform	21.3	1.0	0.091	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	0.38	1.0	0.16	ug/l	J
156-60-5	trans-1,2-Dichloroethene	3.1	1.0	0.14	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	1.0	0.12	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
75-09-2	Methylene chloride	0.55	1.0	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	79.2	1.0	0.12	ug/l	
75-01-4	Vinyl chloride	12.5	1.0	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	112%		72-125%
2037-26-5	Toluene-D8 (SUR)	99%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	105%		74-115%
1868-53-7	Dibromofluoromethane (S)	104%		79-120%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

WW

E

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell — Chain Of Custody / Analysis Request

AESI Ref:	42227.80965
COC#	087-VW-091115
Lab Proj # (SDG):	
Lab ID	ACTD
Site ID	HudsonCo
Lab Job #	HWINJM32815
Authorized User:	Honeywell
Text & Excel File Drive	Excel & Text File Order

JC 1207

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Privileged & Confidential

Site Name: Hudson County
Location of Site: Jersey City, NJ
Phase: C9
Sampling Program: 087: JCIA

Sampling Co.: MACTEC
EDD To:

Client Contact: (name, co., address)
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962

Sampler: Frank Schroyer
PO #
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Full Report TAT: 28 Days

Preliminary Data To
Sample Receipt Acknowledgement To
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)

	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-BL VOCs; see attached special list	Sampling Method (code)	Lab Sample Numbers
											Units		Preservative	3	3	3	1	2	2	0	0	2		
1	087-WW			087-WWE-081115-A	8/11/2015	14:00	WW	WATER	REG	3	comp	N	X	X	X	X			X	X			L23
2	087-WW			087-WWE-081115-B	8/11/2015	14:10	WW	WATER	REG	5	grab	N					X	X					V871
3	087-WW			087-WWI-081115	8/11/2015	14:20	WW	WATER	REG	3	grab	N									X		A37
4																							G50
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

Relinquished by: Frank Schroyer	7.02 s.u. @ 9.6°C	Company: AMEC Foster Wheeler	Received by:	Company:		Condition	Custody Seals Intact
	Date/Time: 1454	8/11/15		Date/Time: 8-11 1454		Cooler Temp.	
Relinquished by:		Company:	Received by:	Company:	8/11/15	Condition	Custody Seals Intact
	Date/Time:	8-11 1710		Date/Time:	1710	Cooler Temp.	

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

03.9 SP

INITIAL ASESSMENT 4A/ae
LABEL VERIFICATION MB

ALL SAMPLES RECEIVED PRESERVED AS APPLICABLE

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending September 2015

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending September 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Contractor only.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groudnwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on 6/22/15.

SA-6 North/South Field Change Log - Month Ending September 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-07-22	Detail BN has been modified to extend the lIDPE up and over the SCB Wall. The prior detail showed both the GDI and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only.
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA 6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Shoulc any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending September 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	Submitted to Contractor only.
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

APPENDIX T

PART 9 OF 22

PROGRESS REPORTS

2015 MONTHLY REPORTS PART 4

SA-6 AND SA-7 COMBINED PROGRESS REPORT

NOVEMBER 13, 2015

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

November 13, 2015

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2015-10

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from October 1 – October 31, 2015.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: October 2015 SA-6/7 Combined Monthly Progress Report No. 2015-10

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2015-10

Project SA-6 & 7 Remediation

October 2015

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
10/01/15	Site 163 Chromium-Impacted Soil Excavation Design Change Study Area 6 South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
10/02/15	Spark Testing of Pipe Penetration Boots for Geomembrane Caps	The Honorable Robert G. Torricelli Office of the Special Master
10/5/15	Arnold & Porter E-mail Communication: Draft Form of Order - Consolidated Study Area 6 Revised Schedule	The Honorable Robert G. Torricelli - Office of the Special Master Jeremy Farrell – City Hall Jason Watson – City Hall Agnieszka Antonian – Connell Foley LLP Kevin Coakley, Esq. – Connell Foley LLP Liza Walsh – Connell Foley LLP Frank Borin – DeCotiis, Fitzpatrick & Cole, LLP Kevin Kinsella – DeCotiis, Fitzpatrick & Cole, LLP David Isabel – Golub & Isabel PC Eric Tomaszewski - Golub & Isabel PC Alicia Clark Alcorn – Terris, Pravlik & Millian, LLP Ben Davis – Terris, Pravlik & Millian, LLP
10/08/15	Surcharge Monitoring Plan Monthly Report No. 12 Study Area 6 South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
10/08/15	Warning Tape above Root Barrier Design Change Study Area 6 Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
10/09/15	Long Term Monitoring Plan Study Area 6 North & South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
10/12/15	Summary of In-Situ Treatment of Hexavalent Chromium Impacted Soils Treatment Area 10-1 Only Study Area 6 North (Site 087) Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master

Date	Submittal/Meeting	Recipient
10/15/15	Riverkeeper et al v. Honeywell International Inc. et al Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2015-09	The Honorable Robert G. Torricelli Office of the Special Master
10/20/15	Special Master Conference Call	N/A
10/20/15	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
10/20/15	PW-3 Capture Zone Study Area 7 Groundwater Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
10/20/15	New Source of Imported Clean Fill Study Area 6 Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending				
	10/4/15	10/11/15	10/18/15	10/25/15	11/1/15
Construction Management (AMEC)	8	9	8	9	10
Engineering (AMEC)	1	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1	1
Security (Securitas)	3	3	3	3	3
Entact/Subcontractors	31	38	25	26	27
Arecon/US Ecology Subcontractors	0	0	0	0	0
Langan	0	0	1	1	0
Evoqua	1	1	1	1	1
B&B Drilling	2	0	0	2	0
TOTAL STAFF	**47**	**53**	**40**	**44**	**43**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected September PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Continued screening of Celgene material for use as protective cover soils above geosynthetics.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on October 13, 2015.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending				
	10/4/15	10/11/15	10/18/15	10/25/15	11/1/15
Avg. Gallons Treated & Discharged (per day)	74,923	76,936	76,739	77,013	76,591
Average Flow (gpm) for Operating Period	57	56	54	57	57
Avg. Hours of Plant Operation	22	23	24	23	22
GWTP Influent Tanks (gal.)	7,488	4,836	5,381	4,258	5,498

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Completion of the Excavation Area EA-8 excavation is pending post excavation sampling results.
- Began pumping/dewatering well points associated with Excavation Areas EA-2 and EA-3.
- Completed backfilling of EA-4 Excavation and began backfilling EA-5 Excavation.
- Began trash pit meadow mat repair activities as identified in the 100% Design, which consisted of the removal of concrete slabs and the excavation of historic fill. In addition, the contractor installed vinyl sheeting around the Stratum D repair area that included placement of the sand-bentonite plug.
- Began excavating surficial historic fill in N1 area. A total of 6,375 cubic yards was removed and stockpiled east of the Department of Public Works “H” building.
- Completed relocating soils from Area 3S to the SA-6 North Cap Area.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
No update for the reporting period							

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Excavation Completed	Excavation Area N1 Volume Excavated - Total for Reporting Period: 6,375CY / Total to Date: 12,807CY
Backfill in Progress	Celgene Screened fraction above 3/8 inch – EA-5 , EA-8

3. BACKFILL MATERIALS USED

Source	Week Ending				
	10/4/15	10/11/15	10/18/15	10/25/15	11/1/15
Liberty I-5	0	0	0	801.7	2,164.97

- Screened Celgene materials greater than 3/8 inch were transferred and placed as backfill in EA-8. A total of 25 loads, totaling approximately 563 cubic yards was placed as backfill in EA-8. In addition, 17 loads of crushed concrete totaling 383 yards were placed as backfill in EA-8.
- Screened Celgene material was placed as protective cover soil in the SA-6 South cap area. A total of approximately 5,333 cubic yards was placed as protective cover soil during the reporting period.

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging and offloading of surcharge material is complete.
- Area 3S: Surcharging and offloading of surcharge material is complete.
- Area 1N: Continued off-loading of remaining screened historic fill.
- Area 2N: Surcharging is 100% complete. Offloading not yet scheduled by contractor.
- Area 3N: Completed installation of surcharge monitoring instrumentation.
- Area 4N: Completed installation of surcharge monitoring instrumentation.

F. SHEET PILE OPERATIONS

- Completed installation of temporary sheet pile along 440 to support the EA2/EA3 excavation.

G. CAPPING OPERATIONS

- A total of 22,040 sq. ft. of liner totaling 4% of the total cap area was deployed during the reporting period.
- Completed installation of geosynthetic cap components to include placement of the geocomposite gas venting layer, 60 mil geomembrane liner, and geocomposite drainage layer for SA-6 South.
- On October 12, 2015 the results of the laboratory testing for destruct sample DSX-13 indicated 1 of 5 specimens exhibited a peel value less than the 66 lb/in minimum value. Based on this one failure anomaly, the repair associated with DSX-13 (RP-477) was covered with a new patch, welded, and vacuum box tested in accordance with the specifications. A new destruct sample DSX-15 was collected to confirm the integrity of the new welds and subsequent analysis indicated a passing result.
- Completed general liner subgrade preparation in Area 3S.
- Completed cutting hydraulic barrier sheets and the SCB wall to final elevation in SA-6 South Open Space Area.
- Completed removing asphalt on top of the SCB wall and smooth coating as necessary for geosynthetics installation detail.
- Completed installation of gas vent pipe on SA-6 South.
- Continued placement of protective cover soils and demarcation tape over the geocomposite drainage layer.
- Began fine grading of GDL cover soils to include associated compaction testing on the west side of the SA-6 South Cap area.
- Began placement of root barrier on the west side of the SA-6 South Cap.

H. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2016	6/30/2016	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Revision Pending	6/30/2018	9/30/2018	10/29/2013
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Pending	12/2/15	Pending

I. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete excavation and backfilling of Excavation Area EA-8.
- Complete backfilling of Excavation Area EA-5.
- Complete Trash Pit area Meadow Mat Repair.
- Complete installation of sheet pile barrier wall on the interior of the trash pit.
- Complete removal of surficial historic fill in N1 area.
- Begin EA-2/EA-3 excavation activities.
- Complete screening Celgene material for use as protective cover soils above geosyntethics.
- Continue final grading of GDL cover soils to include associated compaction testing and installation of root barrier on SA-6 South.
- Begin import and placement of Horizon C soils on the SA-6 South open space area.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Conduct S-3 Mass Removal Injection Event No. 25 in well 088-IW-03 (completed November 4, 2015).

- Begin PW-3 extraction well/trench installation activities.
- Initiate preparation activities for planned Site 163 excavation within the residential footprint.

ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
4. *Dewatering Operations Update (not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
7. Perimeter Pools Update
8. *Groundwater Quality Data (conducted quarterly; not included in this reporting period)*
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. Sheet Pile Update
    - Repair Log
11. Capping Update
    - SA-6 South Cap Subgrade Progress Map
    - Repair Log
    - Non-conformance Log
    - Subgrade Approval Forms
    - QA Photo Log
    - Daily QA Reports (Langan)
12. Weekly SWPPP Reports
13. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (submitted October 2015)
14. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

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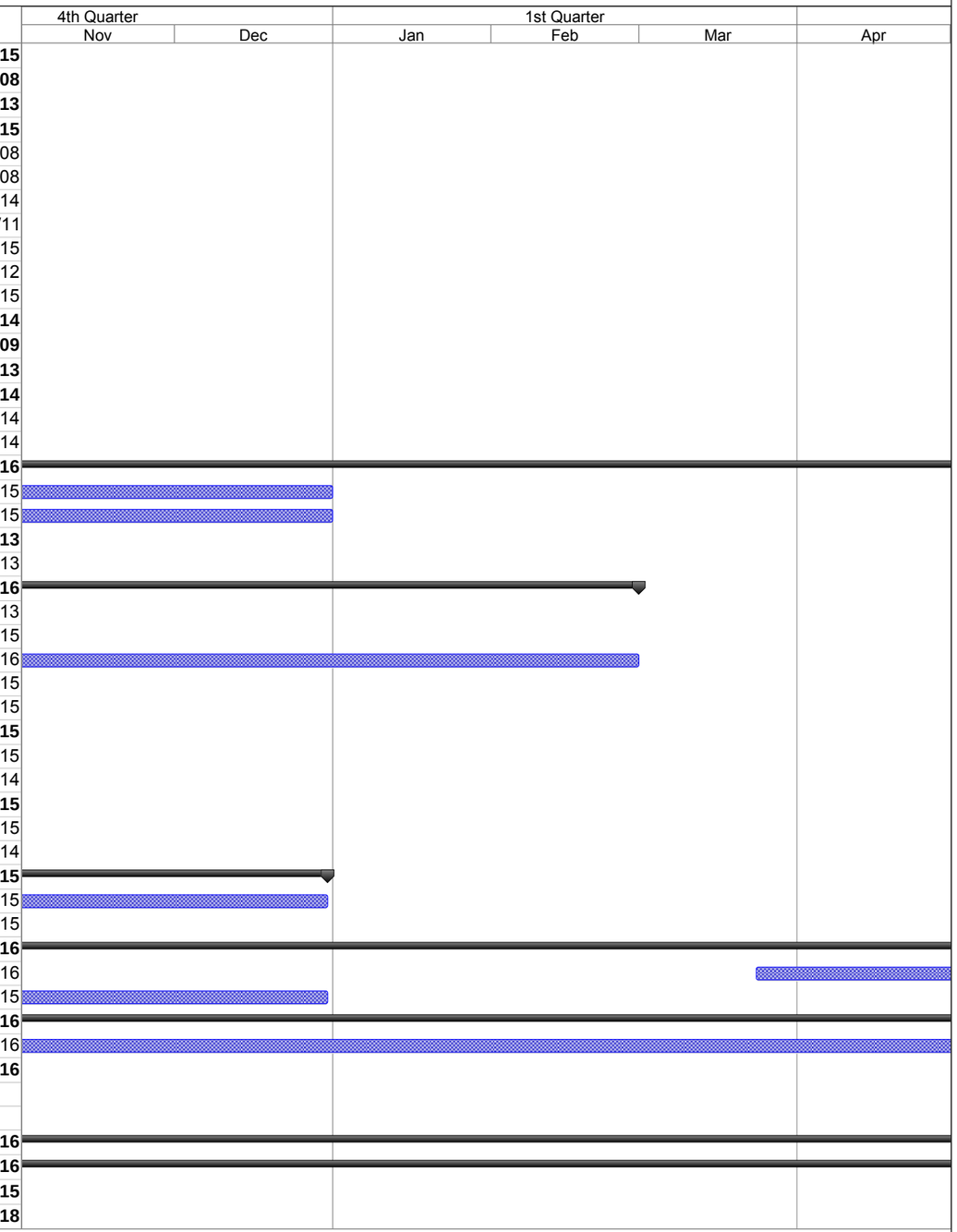
SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**1/4/08**	**6/1/15**
2	**Remedial Action Work Plan**	**33 days**	**1/4/08**	**2/19/08**
5	**Remedial Action Design**	**1522 days**	**2/20/08**	**12/13/13**
18	**JCIA/JCDPW Relocation**	**1780 days**	**8/11/08**	**6/1/15**
19	Develop Site Relocation Master Plan	38 days	8/11/08	10/1/08
20	Submit Site Relocation Master Plan	0 days	10/1/08	10/1/08
21	JC Construction of New Facilities	1309 days	6/2/09	6/2/14
22	Relocation Contractor Procurement	392 days	4/15/10	10/13/11
23	JCIA and JCDPW Relocation	949 days	10/17/11	6/1/15
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	12/12/11	4/30/12
24a	Demolition of JCIA Structures	146 days	9/1/14	3/23/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**7/11/08**	**4/30/14**
26	**Remedial Action Work Plan**	**187 days**	**7/11/08**	**3/30/09**
32	**Remedial Action Design**	**1161 days**	**2/2/09**	**7/9/13**
57	**SA-6 South Relocation**	**616 days**	**12/26/11**	**4/30/14**
58	New GWTP Construction Completion	502 days	3/5/12	1/30/14
59	Demolition of 80 Kellogg	857 days	12/26/11	4/30/14
60	**SA-6 North/South Field Implementation**	**894 days**	**3/1/13**	**8/1/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	6/17/13	12/31/15
60b	SA-6S (Site 163) In-Situ Treatment	555 days	11/15/13	12/31/15
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**3/1/13**	**6/28/13**
61a	Mobilization	87 days	3/1/13	6/28/13
62	**Surcharge Install/Instrumentation**	**706 days**	**6/17/13**	**2/29/16**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	6/17/13	12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	4/8/14	2/13/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	6/30/15	2/29/16
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	6/16/14	2/23/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	10/6/14	5/8/15
63	**Barrier Wall Install**	**569 days**	**8/12/13**	**10/15/15**
63a	SA 6N Installation of Barrier Wall	159 days	3/9/15	10/15/15
63b	SA 6S Installation of Barrier Wall	210 days	8/12/13	5/30/14
64	**Excavation**	**507 days**	**10/22/13**	**9/30/15**
64a	SA 6N Excavation	218 days	12/1/14	9/30/15
64b	SA 6S Excavation	295 days	10/22/13	12/8/14
65	**Backfill**	**558 days**	**11/11/13**	**12/30/15**
65a	SA 6N Backfill	283 days	12/1/14	12/30/15
65b	SA 6S Backfill	384 days	11/11/13	4/30/15
66	**Capping and Cover Soil Placement**	**426 days**	**12/1/14**	**7/15/16**
66a	SA 6N Capping and Cover Soil Placement	83 days	3/24/16	7/15/16
66b	SA 6S Capping and Cover Soil Placement	283 days	12/1/14	12/30/15
67	**Restoration**	**234 days**	**9/1/15**	**7/21/16**
67a	Restoration	234 days	9/1/15	7/21/16
68	**Demobilization**	**22 days**	**7/1/16**	**8/1/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line			
69	**SA-6 North Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
75	**SA-6 South Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
81	**SA-6 North Long Term Protections**	**1830 days**	**10/1/08**	**10/1/15**
92	**SA-6 South Long Term Protections**	**2569 days**	**6/5/08**	**3/31/18**



Project: SA-6 Remediation Schedule
Revision 4
Date: 10/31/15

Task | Milestone | Summary | Critical

Attachment 2: Site Photographs

Site Photograph 1: Breaking up concrete at former JCIA building.

Site Photograph 2: Driving in vinyl sheeting near former JCIA building.

Site Photograph 3: Excavating near sheeting with small back hoe.

Site Photograph 4: Fine grading of utility corridors.

Site Photograph 5: Placing clean fill in utility corridor.

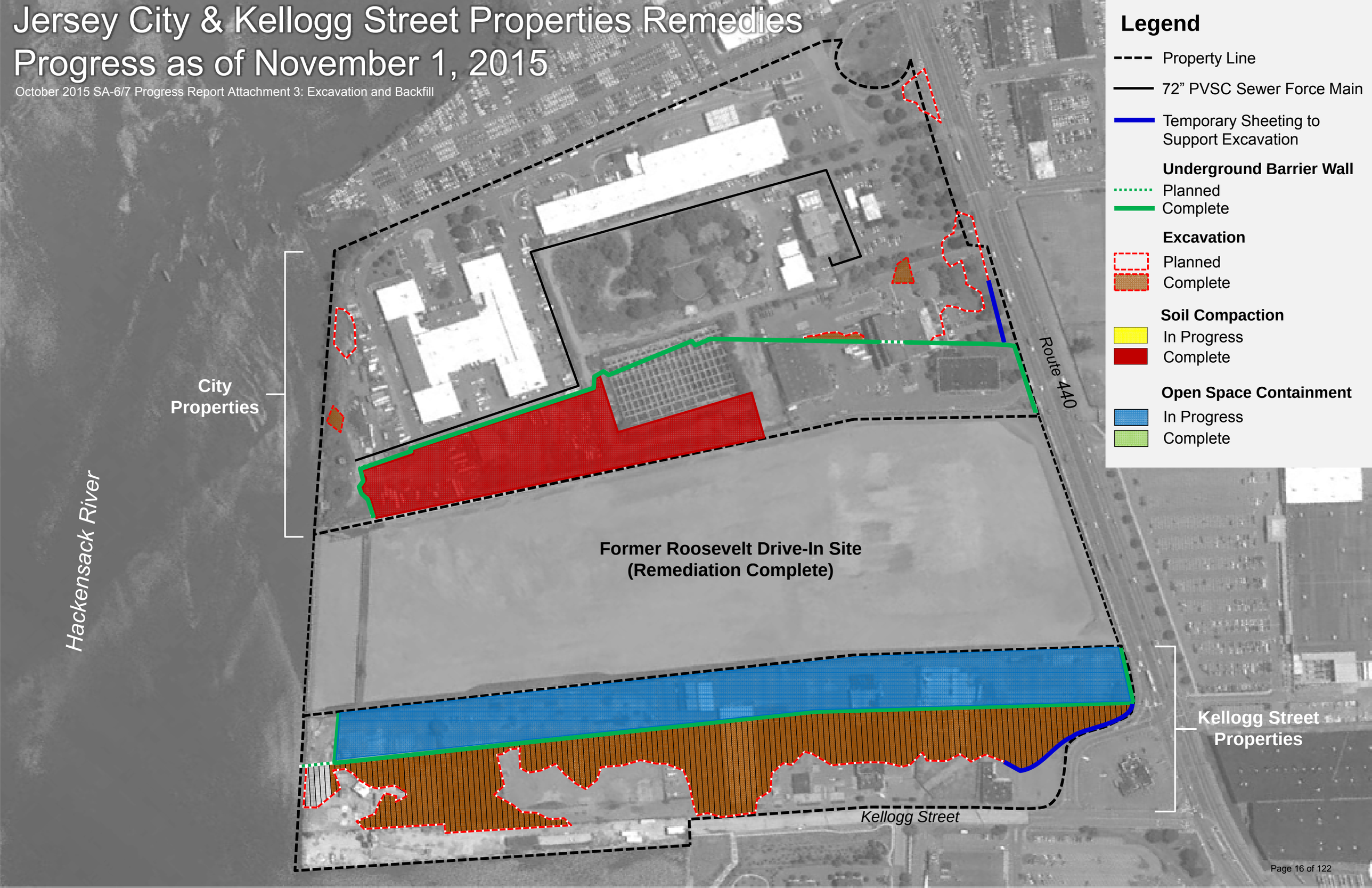
Site Photograph 6: Stockpiling of Historic Fill on former city properties.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of November 1, 2015

October 2015 SA-6/7 Progress Report Attachment 3: Excavation and Backfill



Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
08/28/15	7:00	13:00	6:00	35,790.40	35,841.14	50,740	35,697,290	
09/01/15	7:00	13:00	6:00	35,841.14	35,929.31	88,170	35,785,460	
09/04/15	7:00	13:00	6:00	35,929.31	35,970.92	41,610	35,827,070	
09/09/15	7:00	15:00	8:00	35,970.92	36,046.73	75,810	35,902,880	
09/11/15	7:00	14:00	7:00	36,046.73	36,113.32	66,590	35,969,470	
09/18/15	7:00	15:00	8:00	36,113.32	36,198.63	85,310	36,054,780	
09/28/15	8:00	11:00	3:00	36,198.63	36,238.88	40,250	36,095,030	
09/30/15	7:30	15:00	7:30	36,238.88	36,367.55	128,670	36,223,700	
10/01/15	7:00	13:30	6:30	36,367.55	36,413.58	46,030	36,269,730	PVSC Compliance Sample Collected
10/02/15	7:00	15:00	8:00	36,413.58	36,458.01	44,430	36,314,160	
10/03/15	8:00	13:00	5:00	36,458.01	36,558.18	100,170	36,414,330	
10/04/15	9:30	13:00	3:30	36,558.18	36,598.54	40,360	36,454,690	
10/05/15	7:30	12:00	4:30	36,598.54	36,653.18	54,640	36,509,330	
10/06/15	7:30	11:30	4:00	36,653.18	36,704.47	51,290	36,560,620	
10/09/15	7:30	14:00	6:30	36,704.47	36,777.92	73,450	36,634,070	
10/15/15	8:00	15:00	7:00	36,777.92	36,888.81	110,890	36,744,960	
10/21/15	8:00	15:00	7:00	36,888.81	36,951.56	62,750	36,807,710	
10/23/15	11:00	14:30	3:30	36,951.56	36,973.34	21,780	36,829,490	
10/29/15	9:00	15:00	6:00	36,973.34	37,092.42	119,080	36,948,570	

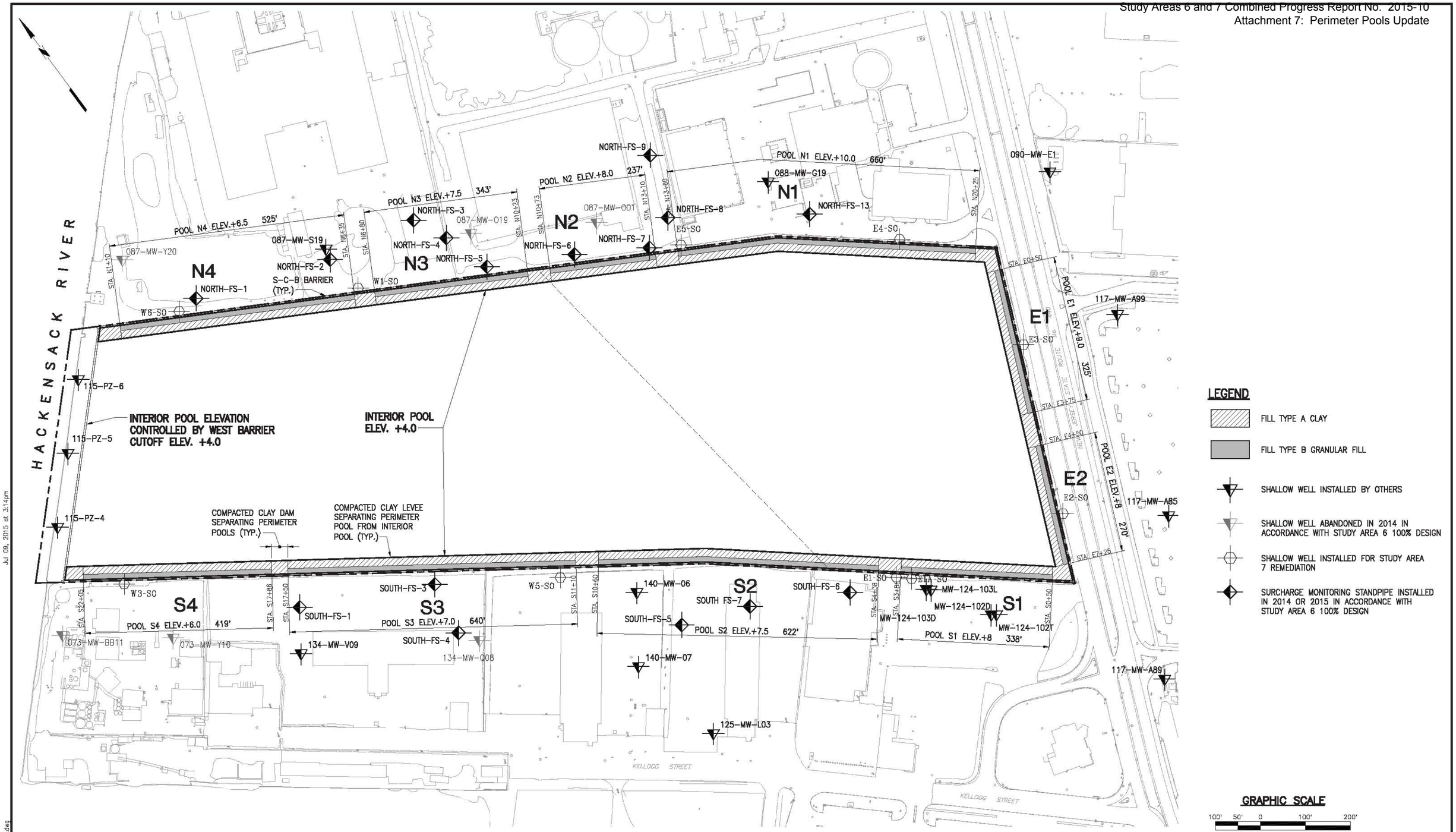
Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
EA-8	<20	087-EA8-20-c (bermed / trench material)	250	087-EA8-20-c1	6/24/2015	11:40	<1.9	Yes		
				087-EA8-20-c2	6/24/2015	11:45	<2.1	Yes		
				087-EA8-20-c3	6/24/2015	11:50	<2.1	Yes		
				087-EA8-20-c4	6/24/2015	11:55	<1.9	Yes		
3S cap material	<240	124-3S-EX-a,b,c,d (Excess 3S material)	3500	124-3S-EX-a1	8/10/2015	12:10	51.6		Yes	
				124-3S-EX-a2	8/10/2015	12:15	18.6	*		
				124-3S-EX-a3	8/10/2015	12:18	37.1		Yes	
				124-3S-EX-a4	8/10/2015	12:20	18.9	*		
				124-3S-EX-b1	8/10/2015	12:21	24.8		Yes	
				124-3S-EX-b2	8/10/2015	12:22	49.3		Yes	
				124-3S-EX-b3	8/10/2015	12:23	37.9		Yes	
				124-3S-EX-b4	8/10/2015	12:24	40.4		Yes	
				124-3S-EX-c1	8/10/2015	12:25	24.7		Yes	
				124-3S-EX-c2	8/10/2015	12:26	36.3		Yes	
				124-3S-EX-c3	8/10/2015	12:27	46.7		Yes	
				124-3S-EX-c4	8/10/2015	12:28	8.1	*		
				124-3S-EX-d1	8/10/2015	12:29	25.6		Yes	
				124-3S-EX-d2	8/10/2015	12:30	32.1		Yes	
				124-3S-EX-d3	8/10/2015	12:31	74.6		Yes	
				124-3S-EX-d4	8/10/2015	12:32	34.7		Yes	
EA4	<20	087-EA4-20-a (bermed/trench material)	225	087-EA4-20-a1	9/11/2015	10:35	2	Yes		
				087-EA4-20-a2	9/11/2015	10:40	<1.4	Yes		
				087-EA4-20-a3	9/11/2015	10:45	<1.8	Yes		
				087-EA4-20-a4	9/11/2015	10:50	5.0	Yes		
EA-5	<20	087-EA5-20-a1:b4 (stockpile of A material)	1300	087-EA5-20-a1	9/11/2015	11:05	0.7	Yes		
				087-EA5-20-a2	9/11/2015	11:10	<1.7	Yes		
				087-EA5-20-a3	9/11/2015	11:15	<0.46	Yes		
				087-EA5-20-a4	9/11/2015	11:20	<1.1	Yes		
				087-EA5-20-b1	9/11/2015	11:25	<2.0	Yes		
				087-EA5-20-b2	9/11/2015	11:30	6.8	Yes		
				087-EA5-20-b3	9/11/2015	11:35	8.3	Yes		
				087-EA5-20-b4	9/11/2015	11:40	<0.55	Yes		
EA-5	<20	087-EA5-20-c1:d4 (stockpile of A material)	2000	087-EA5-20-c1	9/11/2015	12:10	<1.8	*		
				087-EA5-20-c2	9/11/2015	12:15	<1.9	*		
				087-EA5-20-c3	9/11/2015	12:20	<0.56	*		
				087-EA5-20-c4	9/11/2015	12:25	<0.60	*		
				087-EA5-20-d1	9/11/2015	12:30	<0.56	*		
				087-EA5-20-d2	9/11/2015	12:35	<0.44	*		
				087-EA5-20-d3	9/11/2015	12:40	<0.5	*		
				087-EA5-20-d4	9/11/2015	12:45	9.6	*		
JCMUA Water Main Break (EA-2)	<20	087-EA2-waterline	50	087-EA2-waterline-092815	9/28/2015	NA	13.5	*		

*Material currently stockpiled. Pending final placement.
**Waiting on final results from the laboratory.

Attachment 7: Perimeter Pools Update



IN PROGRESS

06-10-2015

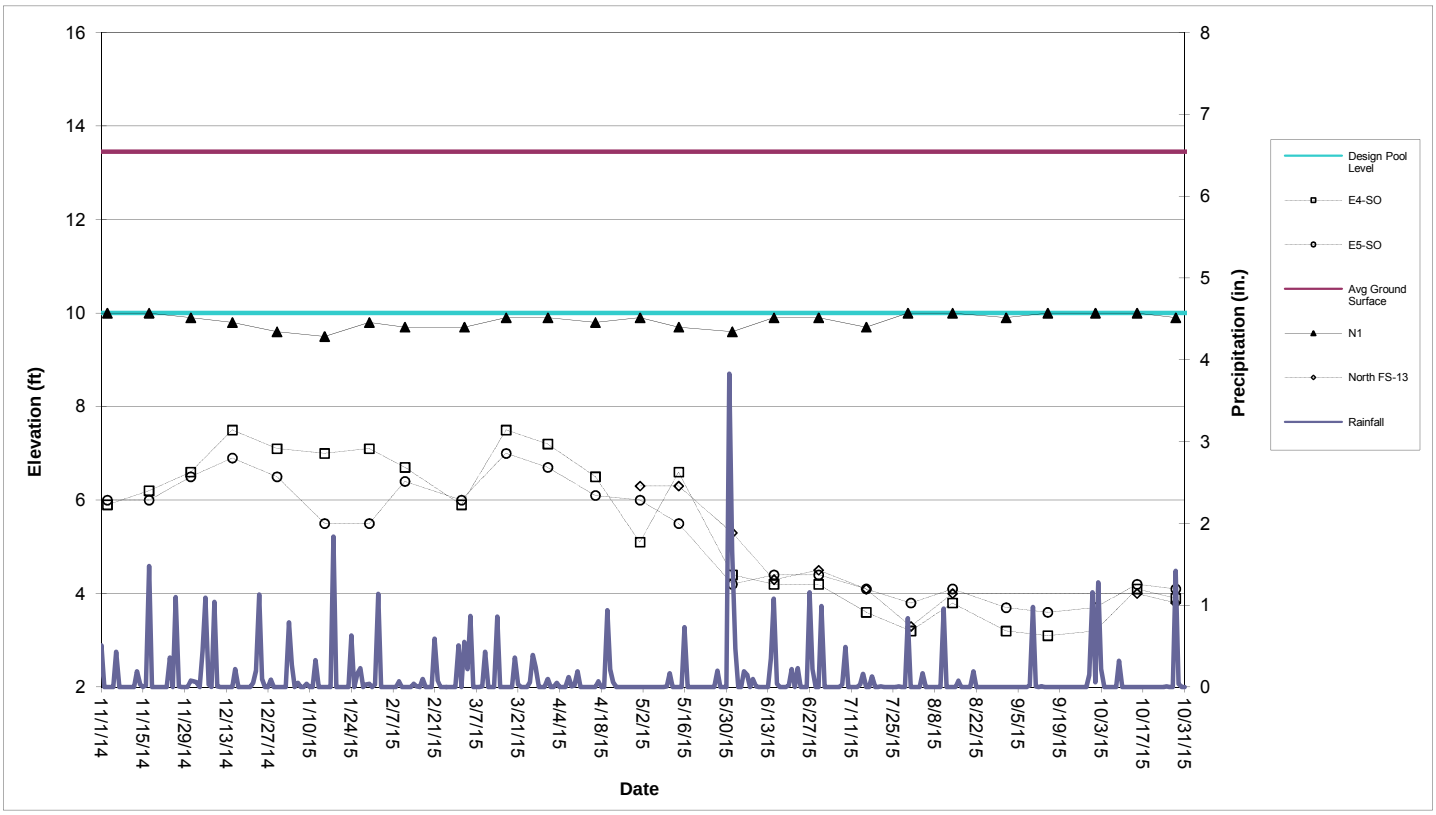
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

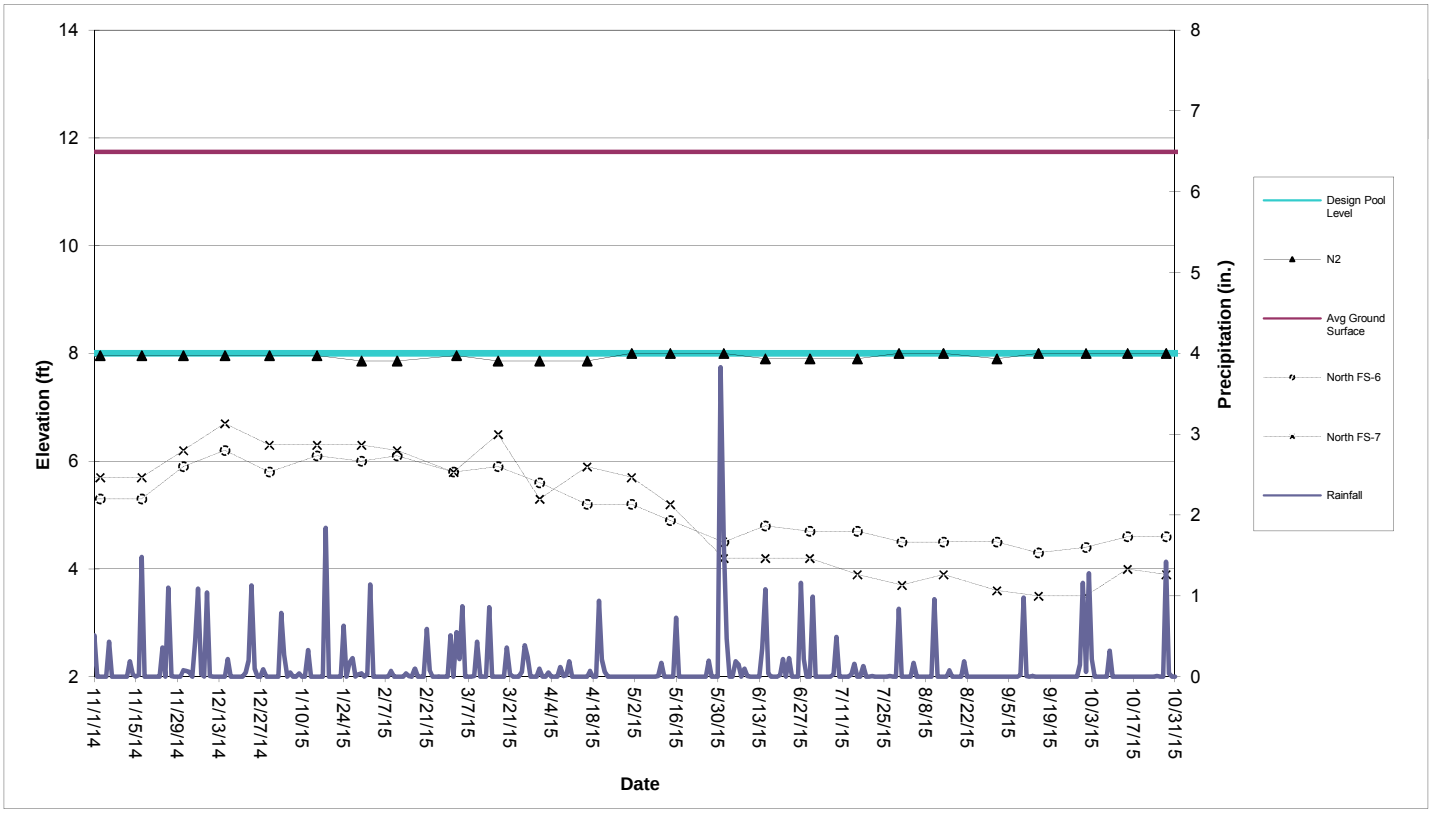
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

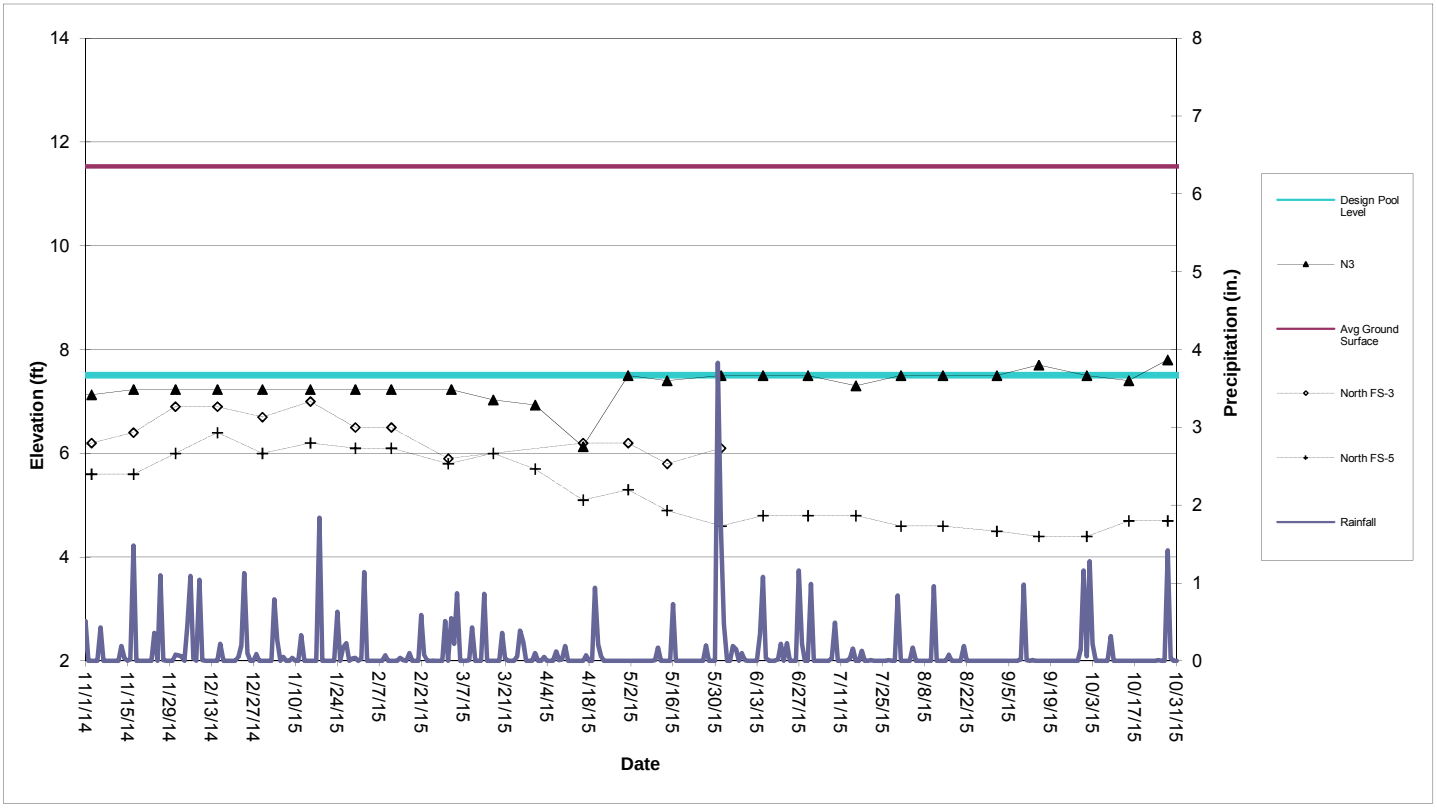
Jul 09, 2015 at 3:14pm
G:\DWGS\102\10210\Dewatering\PP-1.dwg
bboscaino



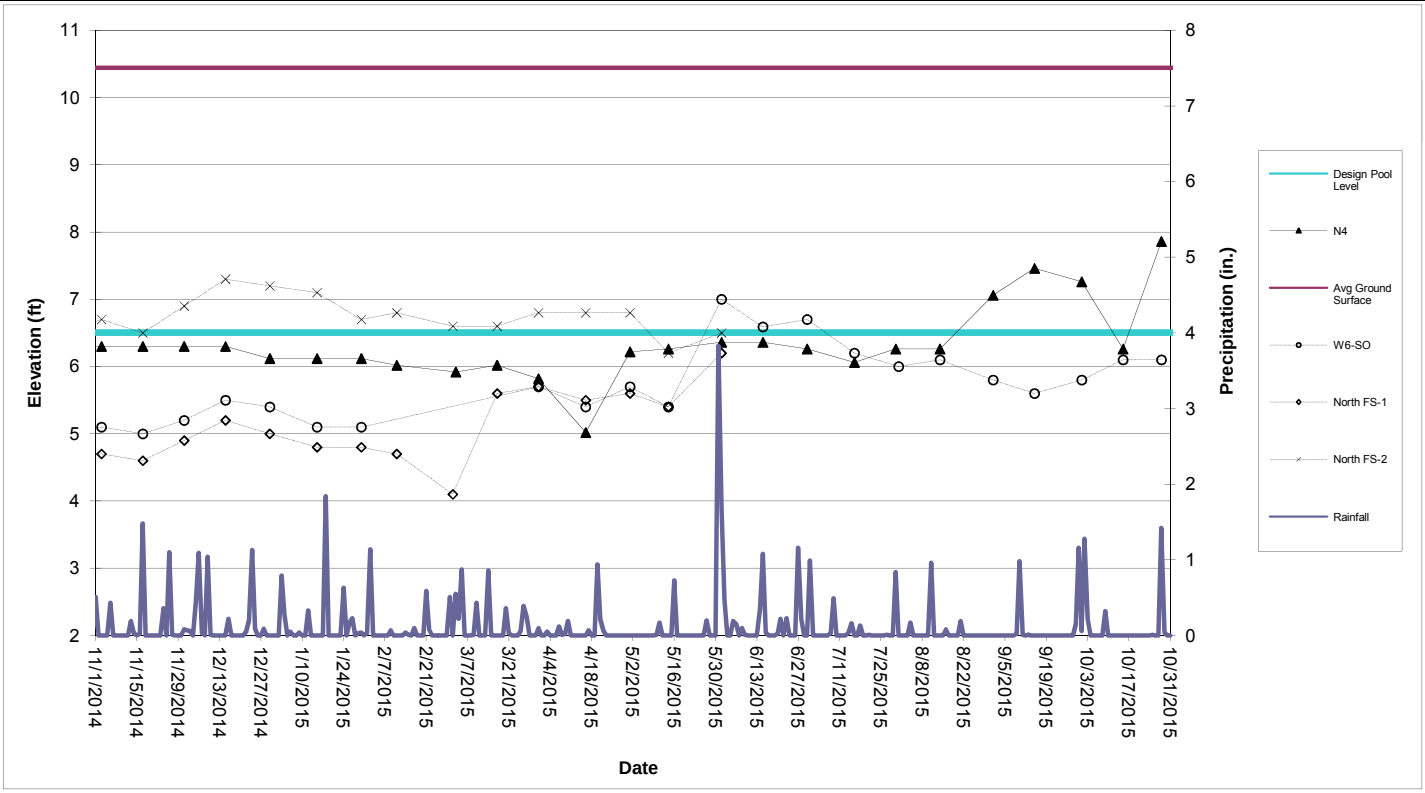
Perimeter Pool N1 (Sta. N13+60 to N20+25)



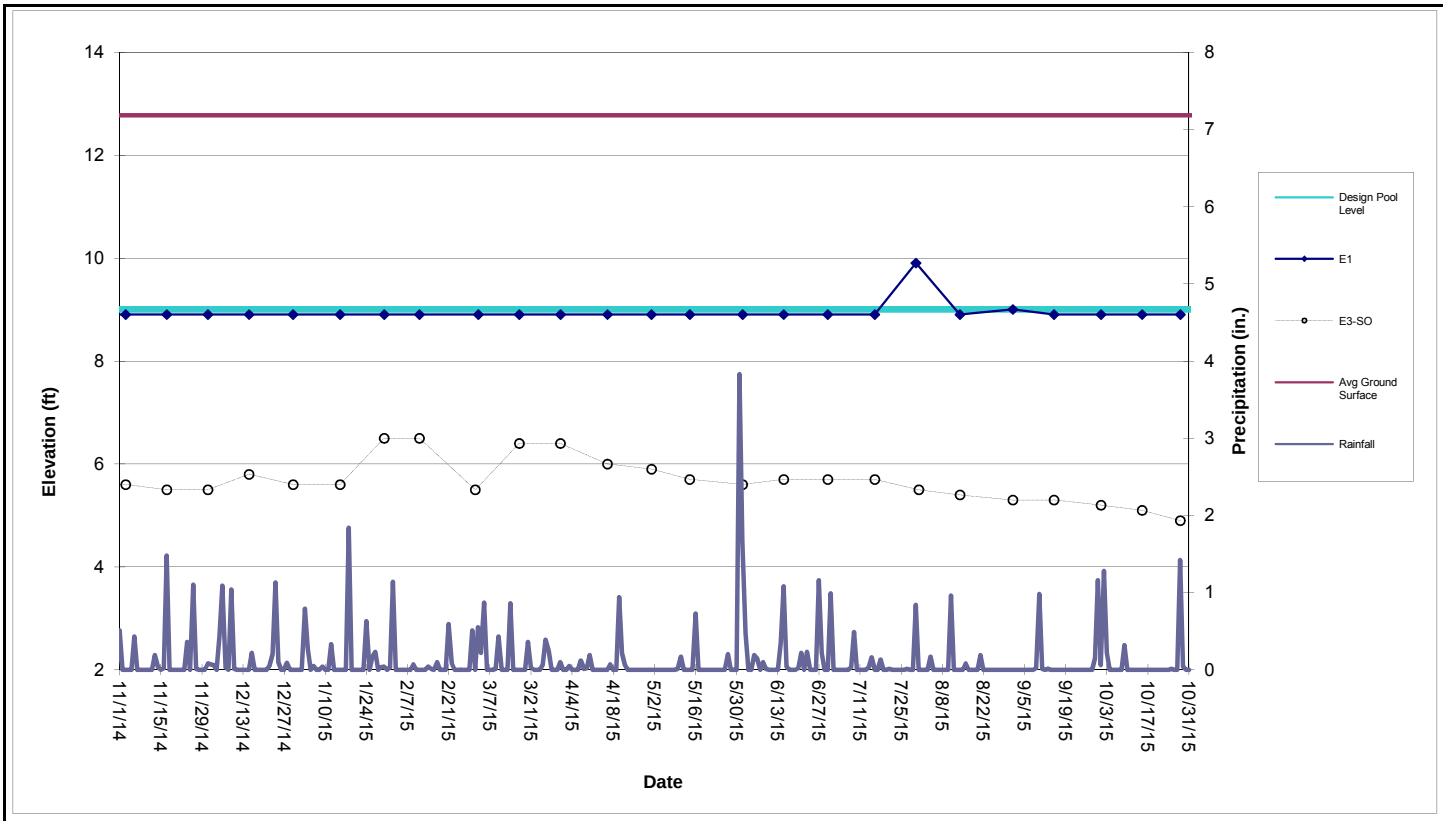
Perimeter Pool N2 (Sta. N10+73 to N13+10)



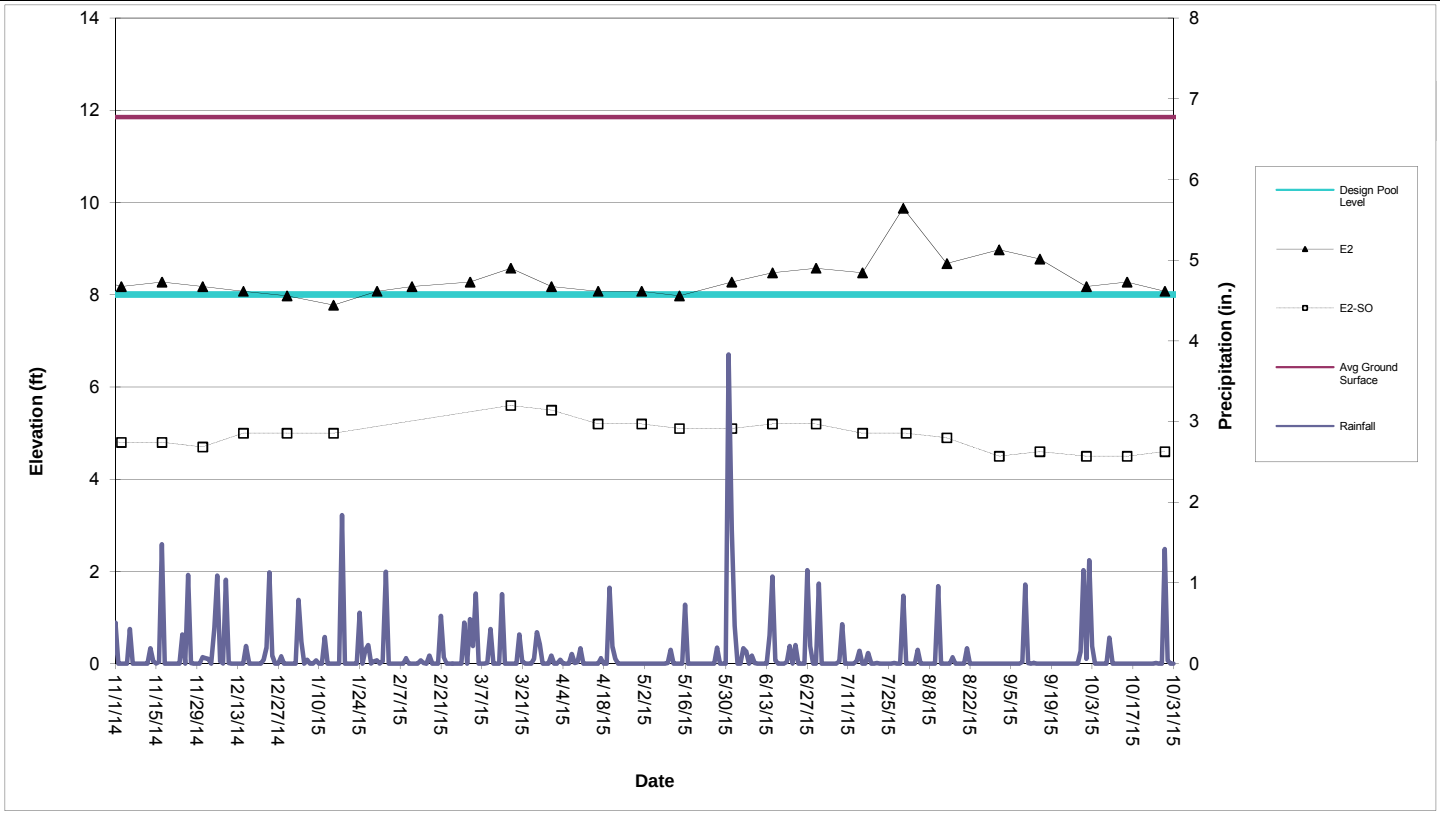
Perimeter Pool N3 (Sta. N6+80 to N10+23)



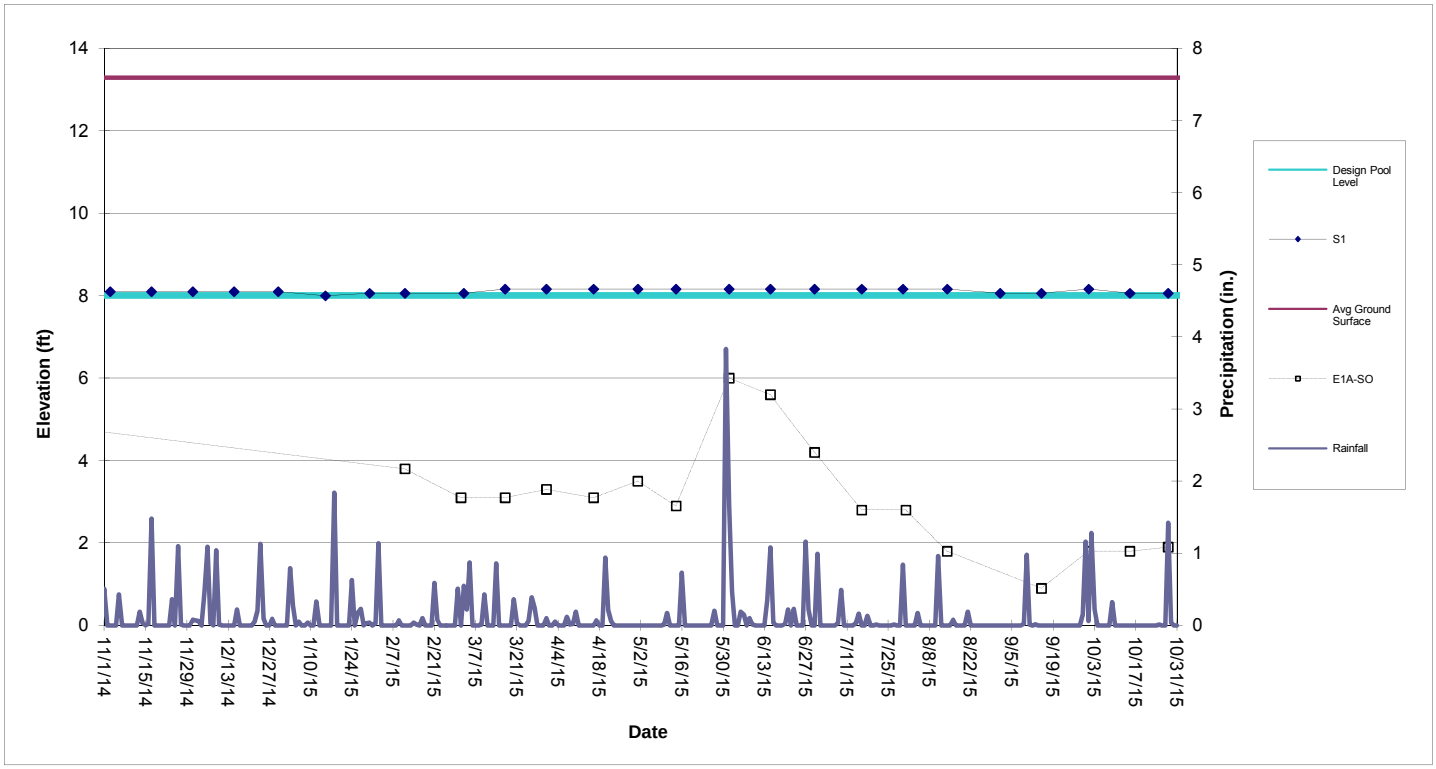
Perimeter Pool N4 (Sta. N6+80 to N10+23)



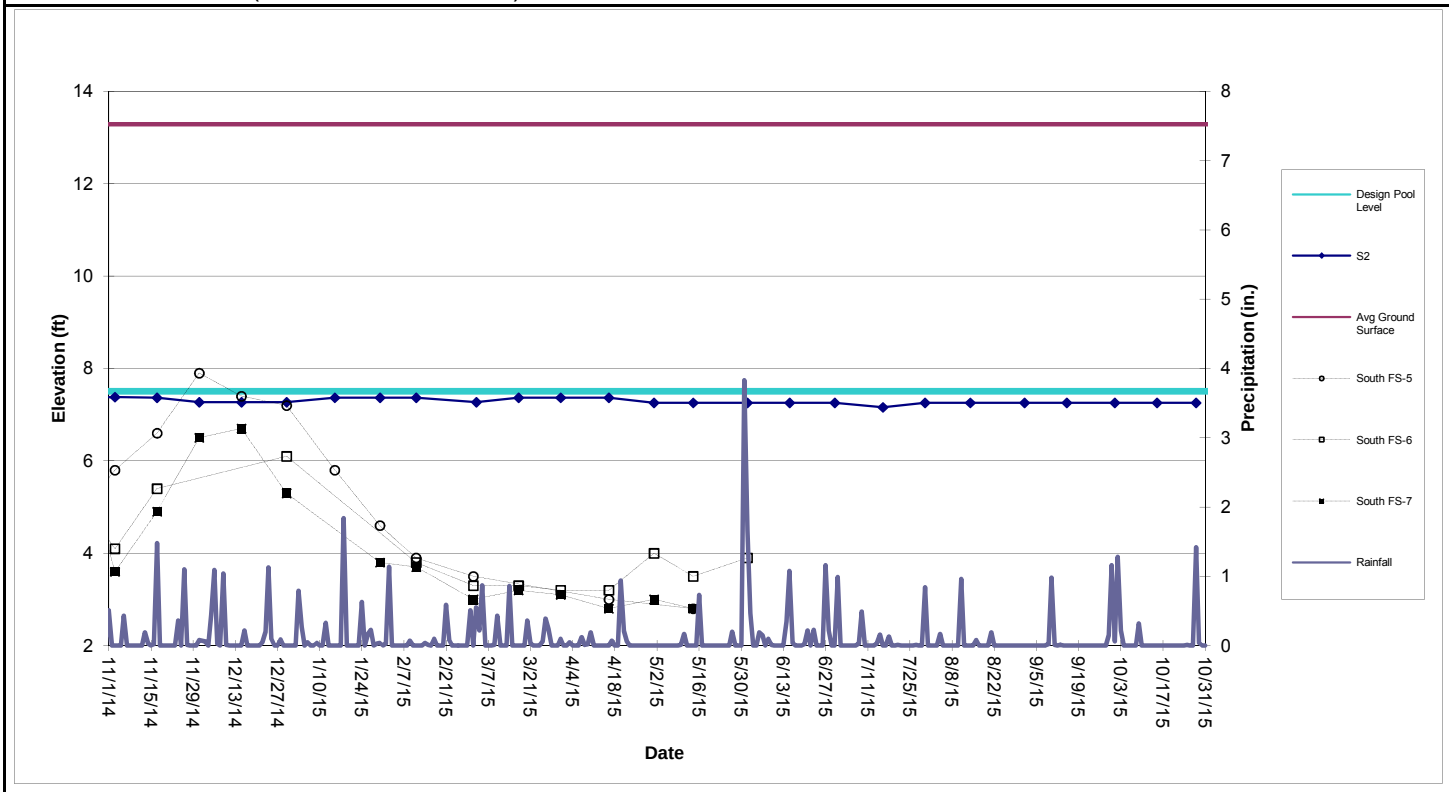
Perimeter Pool E1 (Sta. E0+50 to E3+75)



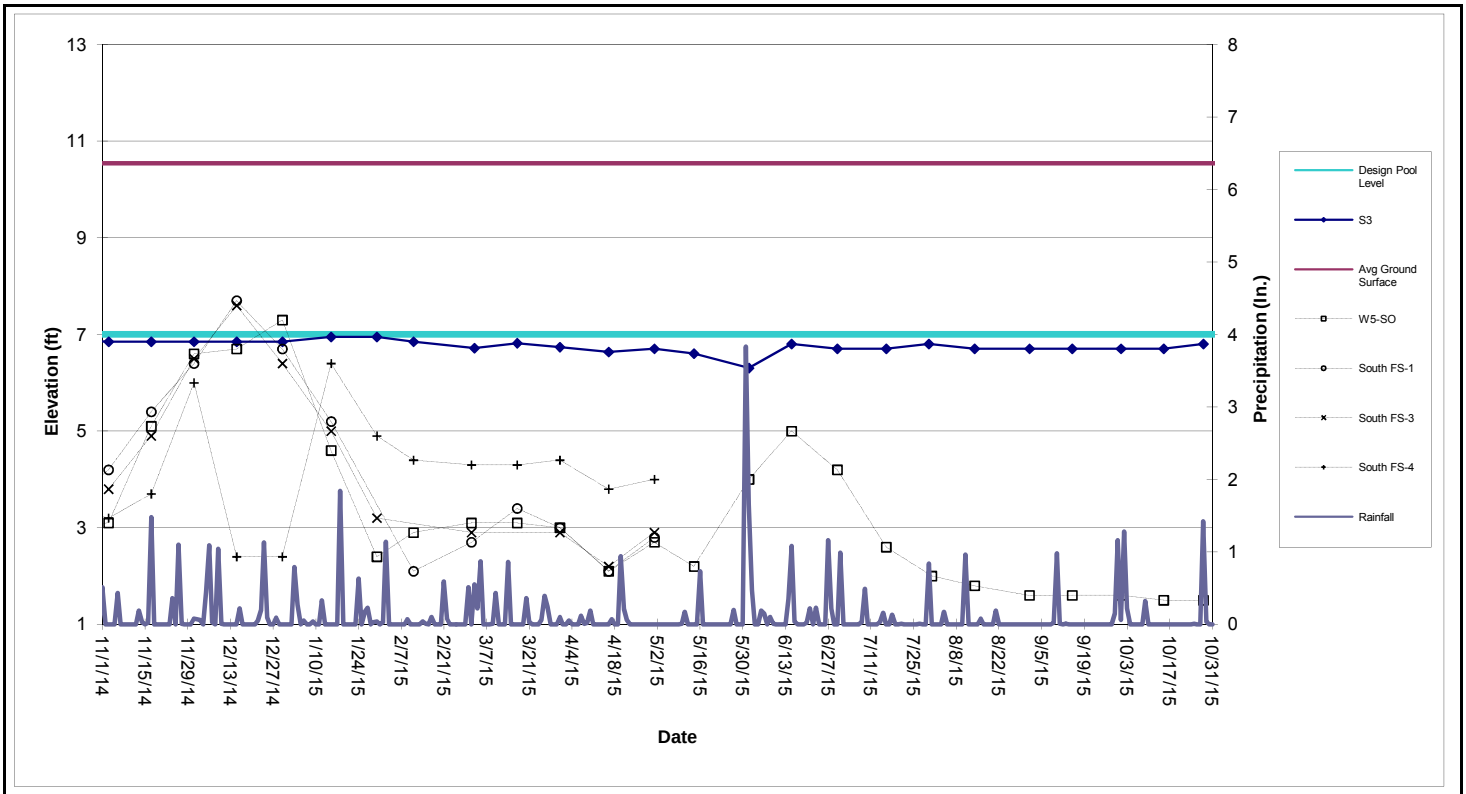
Perimeter Pool E2 (Sta. E4+50 to E7+25)



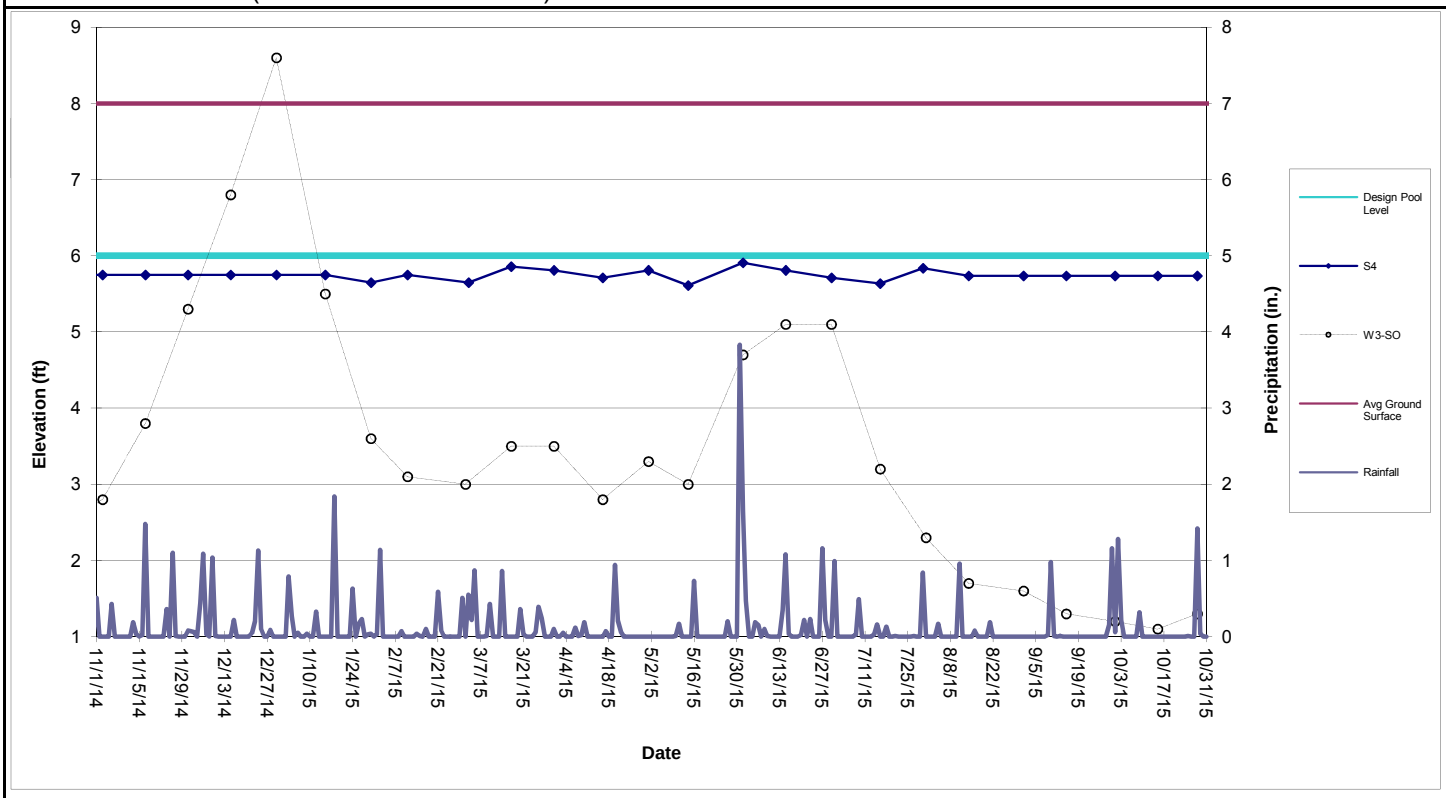
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-1	FS-2	FS-3	FS-5	FS-6	FS-7	FS-13	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																						
11/3/2014		4.8	5.6	5.9	6.0		2.8	3.1	5.1	4.7	6.7	6.2	5.6	5.3	5.7		4.2	3.8	3.2	5.8	4.1	3.6
11/17/2014		4.8	5.5	6.2	6.0		3.8	5.1	5.0	4.6	6.5	6.4	5.6	5.3	5.7		5.4	4.9	3.7	6.6	5.4	4.9
12/1/2014		4.7	5.5	6.6	6.5		5.3	6.6	5.2	4.9	6.9	6.9	6.0	5.9	6.2		6.4	6.5	6.0	7.9		6.5
12/15/2014		5.0	5.8	7.5	6.9		6.8	6.7	5.5	5.2	7.3	6.9	6.4	6.2	6.7		7.7	7.6	2.4	7.4		6.7
12/30/2014		5.0	5.6	7.1	6.5		8.6	7.3	5.4	5.0	7.2	6.7	6.0	5.8	6.3		6.7	6.4	2.4	7.2	6.1	5.3
1/15/2015		5.0	5.6	7.0	5.5		5.5	4.6	5.1	4.8	7.1	7.0	6.2	6.1	6.3		5.2	5.0	6.4	5.8		
1/30/2015			6.5	7.1	5.5		3.6	2.4	5.1	4.8	6.7	6.5	6.1	6.0	6.3			3.2	4.9	4.6		3.8
2/11/2015	3.8		6.5	6.7	6.4		3.1	2.9		4.7	6.8	6.5	6.1	6.1	6.2		2.1		4.4	3.9	3.8	3.7
3/2/2015	3.1		5.5	5.9	6.0		3.0	3.1		4.1	6.6	5.9	5.8	5.8	5.8		2.7	2.9	4.3	3.5	3.3	3.0
3/17/2015	3.1	5.6	6.4	7.5	7.0		3.5	3.1		5.6	6.6		6.0	5.9	6.5		3.4		4.3		3.3	3.2
3/31/2015	3.3	5.5	6.4	7.2	6.7		3.5	3.0	5.7	5.7	6.8		5.7	5.6	5.3		3.0	2.9	4.4		3.2	3.1
4/16/2015	3.1	5.2	6.0	6.5	6.1		2.8	2.1	5.4	5.5	6.8	6.2	5.1	5.2	5.9		2.1	2.2	3.8	3.0	3.2	2.8
5/1/2015	3.5	5.2	5.9	5.1	6.0		3.3	2.7	5.7	5.6	6.8	6.2	5.3	5.2	5.7	6.3	2.8	2.9	4.0		4.0	3.0
5/14/2015	2.9	5.1	5.7	6.6	5.5		3.0	2.2	5.4	5.4	6.2	5.8	4.9	4.9	5.2	6.3				2.8	3.5	2.8
6/1/2015	6.0	5.1	5.6	4.4	4.2		4.7	4.0	7.0	6.2	6.5	6.1	4.6	4.5	4.2	5.3					3.9	
6/15/2015	5.6	5.2	5.7	4.2	4.4		5.1	5.0	6.6				4.8	4.8	4.2	4.3						
6/30/2015	4.2	5.2	5.7	4.2	4.4		5.1	4.2	6.7				4.8	4.7	4.2	4.5						
7/16/2015	2.8	5.0	5.7	3.6	4.1		3.2	2.6	6.2				4.8	4.7	3.9	4.1						
7/31/2015	2.8	5.0	5.5	3.2	3.8		2.3	2.0	6.0				4.6	4.5	3.7	3.3						
8/14/2015	1.8	4.9	5.4	3.8	4.1		1.7	1.8	6.1				4.6	4.5	3.9	4.0						
9/1/2015		4.5	5.3	3.2	3.7		1.6	1.6	5.8				4.5	4.5	3.6							
9/15/2015	0.9	4.6	5.3	3.1	3.6		1.3	1.6	5.6				4.4	4.3	3.5							
10/1/2015	1.8	4.5	5.2	3.2	3.7		1.2	1.6	5.8				4.4	4.4	3.5							
10/15/2015	1.8	4.5	5.1	4.1	4.2		1.1	1.5	6.1				4.7	4.6	4.0	4.0						
10/28/2015	1.9	4.6	4.9	3.9	4.1	6.9	1.3	1.5	6.1				4.7	4.6	3.9	3.8						

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09

Attachment 8: Groundwater Quality Data

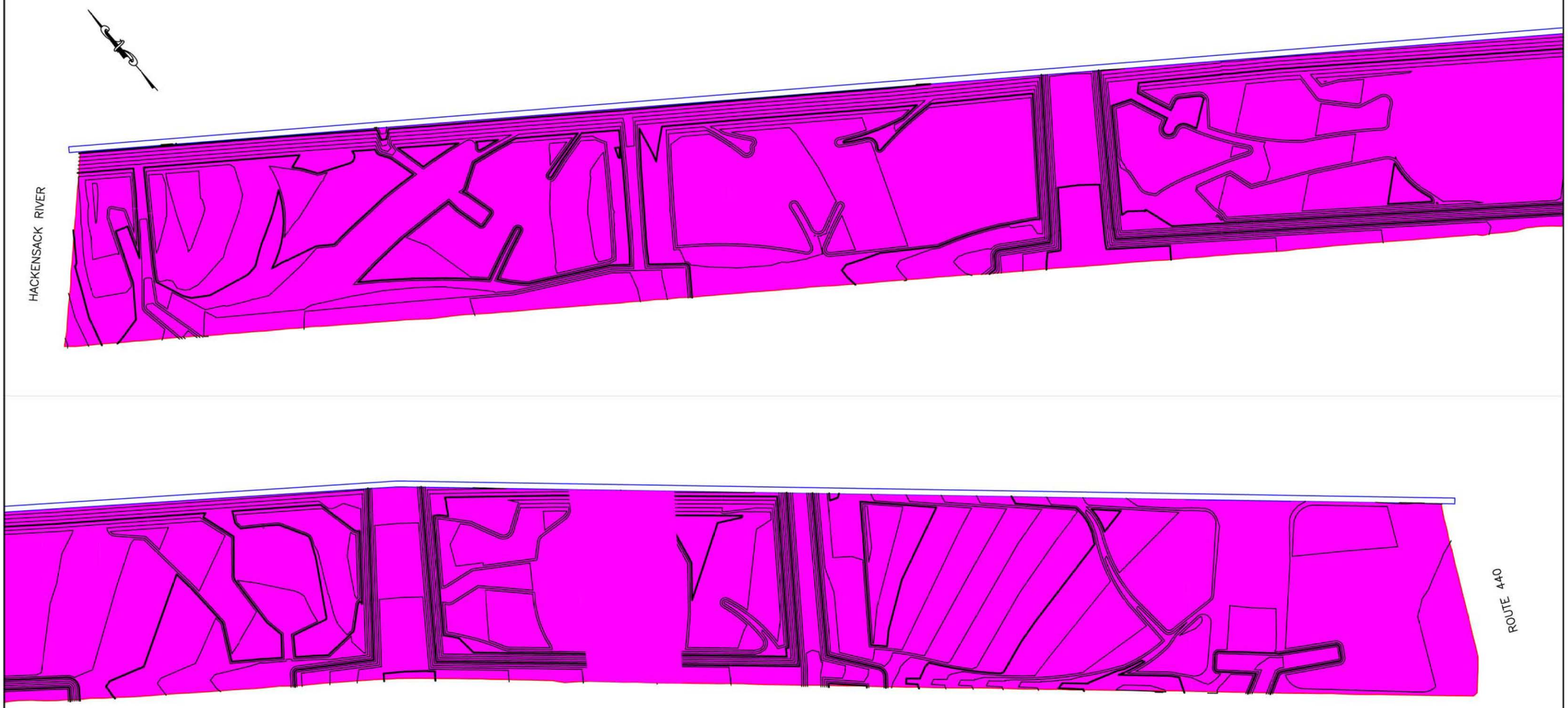
(not included in this reporting period)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 11: Capping Update

- SA-6 South Cap Subgrade Progress Map
- Repair Log
- Non-conformance Log
- Subgrade Approval Forms
- QA Photo Log
- Daily QA Reports



LEGEND

- SUBGRADE GRADING UNDERWAY
- SUBGRADE COMPLETE AND SURVEYED
- APPROVED FOR GEOSYNTHETIC DEPLOYMENT
- LINER DEPLOYED
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP SUBGRADE PROGRESS MAP
10/09/15

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4977	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6915.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-442	CF		119	BETWEEN RP-440 & RP-443	B		x		192	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-443	CF		119	149'S OF 119/120 & 17.5'W	P	2	x	2.5		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-444	CF	119/120		BETWEEN RP-439 & RP-440	B		x		144	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-445	AO	RP-445		ON SEAM CONTROL	P	5	x	17		9/29/15	PEDRO S.	2025	Air Pressure	P	9/29/15
RP-446	AO	RP-446		ON SEAM CONTROL	P	5	x	17		9/29/15	PEDRO S.	2025	Air Pressure	P	9/29/15
RP-447	SJ			RP-445/RP-446/122	P	2	x	3		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-448	SJ			RP-446/121/122	P	2.5	x	3		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-449	CF		122	FROM RP-448 TO 10'E	B		x		120	9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-450	BO	122/123		23'N OF SEOS	P	2.5	x	4		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-451	SJ			P122/123/124	P	1.5	x	2		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-452	SJ			P 123/124/125	P	1.5	x	1.5		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-453	CF		125	FROM RP-454 TO 11'S	P	3.5	x	11		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-454	CF	123/125		18'N OF SEOS	P	3	x	9.5		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-455	CF		125	FROM RP-454 TO 10'N	P	3.5	x	10		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-456	DS-28	123/125		90'N OF SEOS	P	2	x	5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-457	PB		125	68'S OF P125/126 & 4'W (PB 8")	P	3	x	3.5	52.5	10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-458	SI		125	ON RP-453 & RP-455	P	2	x	16		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-459	SI	120,121,122,	&123	BETWEEN RP-454 TO RP-473	P	2	x	91		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-460	DSX-12	RP-459/123		N.SIDE OF RP-459 (DSX-12)	P	2	x	5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-461	SI		122	BETWEEN RP-450 & RP-459	P	2	x	5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-462	SI		122	FROM RP-461 TO 3'NW	B		x		36	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4977	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6915.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-463	SI		122	FROM RP-459 TO 5'S	P	2	x	5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-464	SI			SJ 121/122/RP-459	P	2	x	4		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-465	SI		121	BETWEEN RP-459 & RP-468	B		x		6	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-466	SI	121/122		FROM RP-467 TO RP-465 & RP-468	B		x		108	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-467	SI		121	9'SE OF RP-465 , RP-466 & RP-468	P	2	x	2.5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-468	SI		121	BETWEEN RP-465 & RP-469	B		x		42	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-469	SI		121	BETWEEN RP-468 & RP-470	B		x		132	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-470	SI		121	11'SW OF RP-468	P	2	x	3		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-471	SI		121	BETWEEN RP-468 & RP-472	B		x		12	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-472	SI		121	FROM RP-471 TO SEOP	P	2	x	23		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-473	SI	119/120		BETWEEN RP-439,RP-444& RP-440	P	2	x	17		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-474	SI	119/120		NEOS TO 16'S	P	2	x	16		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-475	SI		117	NEOP & 5'W OF 117/118	P	2	x	14		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-476	PB	128/132	132	81'N OF SEOS & 3'E (PB 4")	P	3	x	6	36.6	10/8/15	EMMANUEL V.	EXT 512	VBOX	P	10/9/15
RP-477	SI	125/126	125	159'S OF NEOS & 13' W	P	2	x	13		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-478	SJ			P 127/128/129	P	2	x	2.5		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-479	SJ			P 128/129/132	P	2	x	3		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-480	DS-29	128/132		25'N OF SEOS	P	2	x	7		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-481	SJ			P 128/131/132	P	2	x	2		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-482	SJ			P 128/130/131	P	2	x	2.5		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-483	DSX-13	RP-477/125		N.SIDE OF RP-477 (DSX-13)	P	2	x	5		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes																			
CR	--Crease	FS	--Failed Seam	MatD	--Material Defect	LL	--Lost Lap	CF	--Custom Fit										
DS	--Destruct Sample	WR	--Wrinkle	WS	--Welder Restart	MD	--Mechanical Damage	PB	--Pipe Boot										
SI	--Subgrade Irregularity	AV	--Airvent	RW	--Roller Wrinkle	DO	--Damage By Others	BO	--Burn Out										
SJ	--Seam Joint	AO	--Add On	CS	--Concrete Structure			AT	-Air Test										

SF Patch Material	Test Type	Abbrv.	Repair Types
4977	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6915.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-484	DSX-14	RP-480/132		E.SIDE OF RP-480 (DSX-14)	P	2	x	5		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-485	SJ			P 132/133/143	P	2	x	2		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-486	DSX-15	RP-487/125		N.SIDE OF RP-487 (DSX-15)	P	2	x	5		10/12/15	EDFY E.	EXT 512	VBOX	P	10/12/15
RP-487	FS		125	DS-13 FAIL (CAP OVER RP-483)	P	5	x	15		10/12/15	EDFY E.	EXT 512	VBOX	P	10/12/15
488							x								
489							x								
490							x								
491							x								
492							x								
493							x								
494							x								
495							x								
496							x								
497							x								
498							x								
499							x								
500							x								
501							x								
502							x								
503							x								
504							x								

Summary of Non-Compliance & Corrective Action Forms
SA-6 South Cap Installation

Notice of Non-Compliance & Corrective Action Sheet Number	Date	Item	Associated Repair Number	Approx. Location	Follow Up Action Taken
1	7/21/2015	Subgrade Irregularity	RP-3	Panel #2 (P-2)	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2.5 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
2	7/21/2015	Subgrade Irregularity	RP-8	Panel #2 (P-2)	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2.5 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
3	7/22/2015	Failed Non-Destruct Test	RP-13	Panel #7 (P-7) & Panel #8 (P-8) seam	Based on length of failed seam (approximately 6 ft.) the entire seam was patched and repaired (approximate 2 ft. by 6 ft. patch). The patch was overlapped a minimum of 4-inches, with rounded edges, and sealed with an extrusion weld. Vacuum box testing was then conducted in accordance with Section 02372-8 to confirm the weld.
4	7/24/2015	Subgrade Irregularity	RP-30	Panel #17 (P-17)	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs)
5	8/7/2015	Failed Vacuum Box Test	RP-215	Panel #50 (P-50)	Failed extrusion weld (identified during vacuum box testing) was patched with an approximate 2 ft. by 2 ft. geomembrane patch over the extrusion weld (noted as RP-222 on Repair Log). The patch was overlapped a minimum of 4-inches beyond the edges of the failed weld, conformed so that the edges were rounded, and sealed with an extrusion weld. Vacuum box testing was conducted along the seams to confirm the seams were properly patched and repaired.
6	9/11/2015	Subgrade Irregularity	RP-293	Panel #57 (P-57)	Rock was removed from underneath geomembrane and hole was then patched with approximate 1.5 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
7	9/16/2015	Subgrade Irregularity - Hydrated GCL	RP-331	Panel #83 (P-83)	Geomembrane cap was cut and GCL was exposed. Hydrated GCL was removed from underneath geomembrane, and new pieces of GCL were cut and overlapped (minimum of 1 ft.) and sealed with granular bentonite along the seams. The cut in the geomembrane was then repaired with approximate 2 ft. by 2 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372).
8	9/24/2015	Subgrade Irregularity	RP-423	Panel #111 (P-111)	Rock was removed from underneath geomembrane and hole was then patched with approximate 1.5 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
9	10/7/2015	Subgrade Irregularity - Hydrated GCL	RP-458 through RP-473	Panels #121-125 (P-121 to P-125)	Geomembrane cap was cut and GCL was exposed (southern swale of SA-6). Hydrated GCL was removed from underneath geomembrane, and new pieces of GCL were cut and overlapped (minimum of 1 ft.) and sealed with granular bentonite along the seams. Various cuts in the geomembrane were then repaired with geomembrane patches. The patches were overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the cuts were properly patched (as outlined in Section 02372).
10	10/7/2015	Subgrade Irregulairty - Hydrated GCL	RP-474 & RP-475	Panels #117 and Panel #119/120	Geomembrane cap was cut and GCL was exposed (northern end of SA-6 at SCB wall). Hydrated GCL was removed from underneath geomembrane, and new pieces of GCL were cut and overlapped (minimum of 1 ft.) and sealed with granular bentonite along the seams. Various cuts in the geomembrane were then repaired (RP-474 & RP-475) with geomembrane patches. The patches were overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the cuts were properly patched (as outlined in Section 02372).

Summary of Non-Compliance & Corrective Action Forms
SA-6 South Cap Installation

Notice of Non-Compliance & Corrective Action Sheet Number	Date	Item	Associated Repair Number	Approx. Location	Follow Up Action Taken
11	10/12/2015	Failed Destruct Sample	RP-477	Panel #125 (P-125)	Geomembrane patch was placed over RP-477 (failed one of five specimens during destruct testing), and was overlapped a minimum of 4-inches beyond the edges of the repair, conformed so the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the patch was properly sealed (as outlined in Section 02372). Additionally, once the new patch (RP-486) was completed, an additional destruct sample (DSX-15) was collected to confirm the integrity of the new weld. Subsequent testing of DSX-15 yielded laboratory results that were in complinace with the project specs.

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Certificate of Soil Surface

Sheet # 23

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 3+80 TO ~STA. 3+30		
QA Monitor	LANGAN	Date	9/25/15		

Description of Soil Surface to be lined: ~ 50 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 9/24/15 (PANEL #118). SUBGRADE APPROVED FOR AREA EAST OF 3RD UTILITY CORRIDOR FROM APPROXIMATE STA. 3+80 TO APPROX. STA. 3+30. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N- NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	9/25/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	9-25-15
Title	QC manager
Representing:	Entrec
Signature:	Carolina Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 023172-8
- GCL PLACED ALONG NORTHERN + SOUTHERN BOUNDARIES OF SA-6 CAP AND AT AREAS BELOW (TO 1 FT. ABOVE) THE GROUNDWATER TABLE, AS DEFINED ON THE PROJECT DRAWINGS.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #5	~STA. 3+50	LOOKING E	REFER TO 9/25/15 PHOTO LOG (PHOTO #5)
	2 PHOTO #6	~STA. 3+40	LOOKING N	REFER TO 9/25/15 PHOTO LOG (PHOTO #6)

1 REFER TO PHOTO LOG (9/25/15) PHOTOS 5,6 FOR SUPPORTING SUBGRADE PHOTOS (WITH GCL).

2

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Certificate of Soil Surface

Sheet # 24

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL
Project No.	100530001	General Desc.	(Subgrade) Operations LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 3+30 TO ~ STA. 2+50
QA Monitor	LANGAN	Date	9/29/15

Description of Soil Surface to be lined: ~80 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 9/25/15 (PANEL #120). SUBGRADE APPROVED FOR AREA EAST OF 3RD UTILITY CORRIDOR FROM APPROXIMATE STA. 3+30 TO APPROX. STA. 2+50. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified	N - NO CHANGES

Independent CQA Monitor	
Name	DANIEL BOSWORTH
Date	9/29/15
Title	LEAD QA ENGINEER
Representing	LANGAN
Signature	[signature]

Geosynthetic Installer Representative	
Name	Caroline Panico
Date	9-29-15
Title	QC Manager
Representing	Entact
Signature	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.

- GCL PLACED ALONG NORTHERN + SOUTHERN BOUNDARIES OF SA-6 CAP AT AREAS BELOW, (TO 1 FT. ABOVE) THE GROUNDWATER TABLE. GCL ALSO PLACED ALONG LOWER BENCH ON EASTERN END OF SA-6 AS SHOWN ON THE PROJECT DRAWINGS.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #2	~STA. 3+30	LOOKING S	REFER TO 9/29/15 PHOTO LOG (PHOTO #2)
	2 PHOTO #3	~STA. 2+90	LOOKING E	REFER TO 9/29/15 PHOTO LOG (PHOTO #3)

1 REFER TO PHOTO LOG (9/29/15) PHOTOS 2,3 FOR SUPPORTING SUBGRADE PHOTOS. ALSO REFER TO PHOTO LOG FOR PICTURES OF GCL.

2

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Certificate of Soil Surface

Sheet # 25

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 2+50 TO ~STA 1+50		
QA Monitor	LANGAN	Date	10/8/2015		

Description of Soil Surface to be lined: ~100 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 9/29/15 (PANEL # 125). SUBGRADE APPROVED FOR AREA EAST OF 3RD UTILITY CORRIDOR FROM APPROXIMATE STA. 2+50 TO APPROX. STA. 1+50 (EASTERN END OF SA-6, ROUTE 440). SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE W/SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	10/8/2015
Title	LEAD QA ENGINEER
Representing	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	10/8/15
Title	QC Manager
Representing	ENTRACT
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2") AS OUTLINED IN SECTION 02372-8
- GCL PLACED ALONG NORTHERN + SOUTHERN BOUNDARIES OF SA-6 CAP AT AREAS BELOW (TO 1FT. ABOVE) THE GROUNDWATER TABLE. GCL ALSO PLACED ALONG LOWER BENCH ON EASTERN END OF SA-6 AS SHOWN ON PROJECT DRAWINGS.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	~STA. 1+70	LOOKING N/NW	REFER TO 10/8/15 PHOTO LOG (PHOTO #3)
	2 PHOTO #4	~STA. 2+00	LOOKING S	REFER TO 10/8/15 PHOTO LOG (PHOTO #4)

1 REFER TO PHOTO LOG (10/8/15) PHOTOS 3,4 FOR SUPPORTING SUBGRADE PHOTOS. ALSO REFER TO PHOTO LOG FOR SUPPORTING PHOTOS OF GVL + GCL

2

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PHOTOGRAPHIC LOG
Photo #1 (09/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

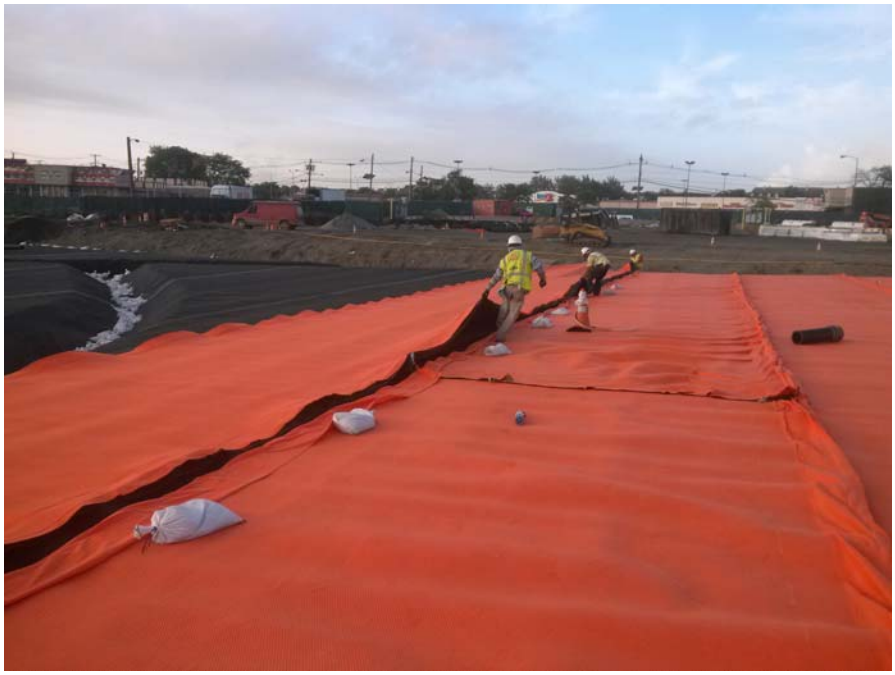
Date:
9/29/15

Direction Taken:

Looking south along SA-6 (at approximate Sta. 4+00)

Description:

ESI deploying GDL over installed geomembrane panels. GDL placed according to project specs with white plastic fasteners spaced at a maximum of 5 ft. and the top layer of geotextile sewn.



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PHOTOGRAPHIC LOG
Photo #2 (09/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
9/29/15

Direction Taken:

Looking south along SA-6 (at approximate Sta.3+30)

Description:

Soil subgrade east of Panel #120 prepared for panel placement. Subgrade prepared according to project specs (graded, compacted, and free of debris >1/2”).

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PHOTOGRAPHIC LOG
Photo #3 (09/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
9/29/15

Direction Taken:

Looking north along SA-6 (at approximate Sta. 2+90)

Description:

GVL and GCL placed over approved subgrade prior to placement of geomembrane panels. GCL placed at areas below (to 1 ft. above) the groundwater table (as shown on project drawings) with GVL placed on the upper bench above water table areas.

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PHOTOGRAPHIC LOG
Photo #4 (10/07/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
10/7/15

Direction Taken:

Looking east along SA-6 cap (Panel 123 / 125 seam

Description:

ESI collecting destruct sample DS-28 (fusion) along Panel 123 / 125 seam as per project specs

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PHOTOGRAPHIC LOG
Photo #5 (10/8/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
10/8/15

Direction Taken:

Looking northeast toward eastern end of SA-6

Description:

ESI deploying geomembrane panels over GVL and GCL (as per project specs).

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PHOTOGRAPHIC LOG
Photo #6 (10/8/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
10/8/15

Direction Taken:

Looking east at eastern end of SA-6 (along Route 440).

Description:

ESI conducting fusion welding along Panel Seams 132/133 (as per project specs).

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PHOTOGRAPHIC LOG
Photo #7 (10/8/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

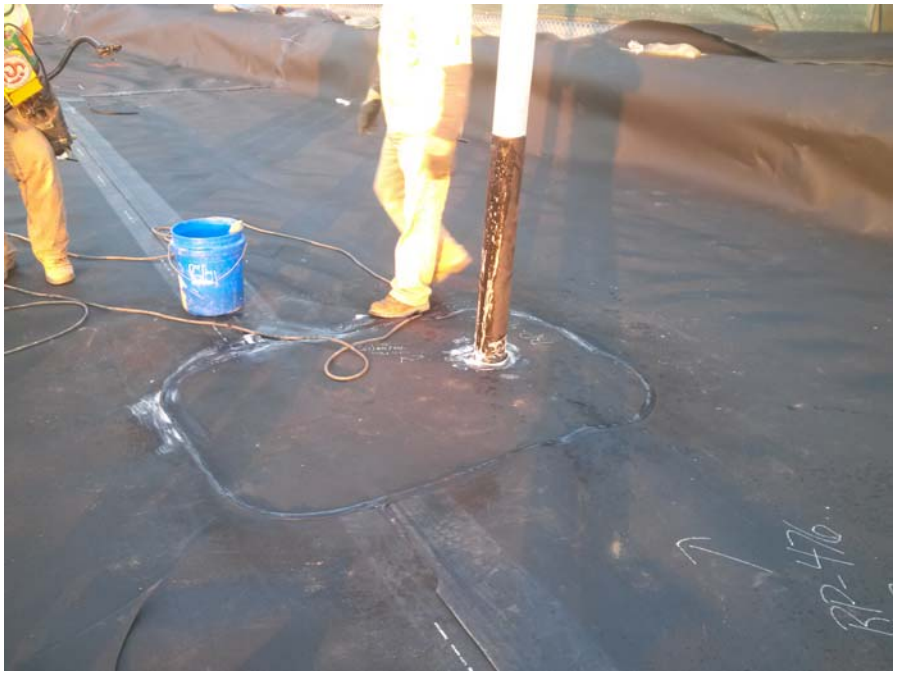
Date:
10/8/15

Direction Taken:

Looking northeast along SA-6

Description:

Pipe boot PZ-12 completed with extrusion welds and vacuum box tested to confirm integrity (as per project specs).



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PHOTOGRAPHIC LOG
Photo #8 (10/9/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
10/9/15

Direction Taken:

Looking south along SA-6 (at piezometer PZ-12)

Description:

ESI placing final butyl seal around piezometer PZ-12

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PHOTOGRAPHIC LOG
Photo #9 (10/9/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
10/9/15

Direction Taken:

Looking south along SA-6

Description:

ESI placing final 1-inch band clamp around Manhole #4 with final butyl seal applied (as per project specs).

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PHOTOGRAPHIC LOG
Photo #10 (10/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
10/12/15

Direction Taken:

Looking south along SA-6 (at RP-487)

Description:

ESI conducting extrusion welding (as per project specs).

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PHOTOGRAPHIC LOG
Photo #11 (10/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
10/12/15

Direction Taken:

Looking west along southern end of SA-6

Description:

ESI conducting vacuum box testing (as per project specs) for RP-487

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PHOTOGRAPHIC LOG
Photo #12 (10/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
10/12/15

Direction Taken:

Looking west along southern end of SA-6

Description:

ESI cutting destruct sample DSX-15 from RP-487 to confirm integrity of welds.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	9/29/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	69/79° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0630 – 1600

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #34** **AmecFW**: Stu Bills, Brian Shea, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geosynthetic clay liner (GCL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing along eastern side of 3rd utility corridor. Material to be placed from Panel #120 installed on 9/25/15 (located at approximate Sta. 3+30) running approximately 80 ft. east to Sta. 2+50.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying rolls of GDL from Panel #114 (approximate Sta. 4+50) to approximate Sta. 3+80 (Panel #118 placed on 9/24/15). GDL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft., and top layer of geotextile sewn along the panel seams.
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, the following rolls of GDL were required to be cut to remove the first wrap of geocomposite prior to use:
    - Roll #64021010072 – Approximately 8 ft. removed
    - Roll #64021010064 – Roll not on inspection list. Approximately 30 ft. removed due to damage observed from forklift
- While ESI was placing GDL, Langan and Entact conducted soil subgrade approval from east of Panel #120 (located at approximate Sta. 3+30) to approximate Sta. 2+50. Refer to *Soil Subgrade Approval* forms from 9/29/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #2 and #3 of the daily photo log for 9/29/2015, for supporting subgrade photos (along with GCL placement). This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 3+30 to Sta. 2+50.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

- GVL and Cap placement began with ESI placing the GCL along the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The GCL was overlapped approximately 2 ft. outside of the cap and was placed along the areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included the remaining area within the SA-6, as the lower bench east of Sta. 3+30 was comprised of areas below the water table elevation. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges (as outlined in the project specs).
- Upon placement of the GCL, GVL was placed along the upper elevations within the areas outside of the water table influence (as shown on the project drawings). GVL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft. intervals and the top layer of geotextile sewn.
- After installation of the GCL and GVL, geomembrane cap was installed continuing east of previously installed Panel #120 on 9/25/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GCL and GVL layers. A total of five panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-120, P-121, P-122, P-123, P-124, and P-125) by ESI. Note: During placement of geomembrane panel P-123, the roll of geomembrane terminated within the SA-6 approximately 20 ft. from the southern end of the cap. Thus an additional panel (P-124) was required to complete the geomembrane run from north to south.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, three trial welds (smooth to smooth, smooth to texture, and texture to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/29), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 2+50, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/29/15) for non-destructive testing details. Once, non-destructive testing was completed, ESI then conducted patch/ repair work for the panels installed.
- A total of eleven repairs (RP-445 through RP-455) were observed and fixed (according to the project specifications) from Panels #121 through Panel #125 (repair / detailing work conducted on panels installed on 9/24/15). Refer to 9/29/15 *Repair Report.* The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. No non-compliance issues were identified as patch / repair work completed was custom fit repairs to allow geomembrane to conform to SA-6 contours.
- No destructive samples were collected from 9/29/15
- During cap placement activities, Entact continued to spread protective cover soil for the area through the 3rd utility corridor (approximate Sta. 6+80, moving east). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project and patch / repair work completed consisted of custom fit repairs to allow the geomembrane to conform to the SA-6 contours.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Pending

- Complete Daily Report and Photo Log (for 9/29/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 3 wells, 4 piezometers, and 6 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), Main Access Manhole #3 (located at western slope of 2nd utility corridor), and Manhole #4.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, 9/23/15, 9/24/15, and 9/25/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-27, and DSX-1 through DSX-11. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas along far eastern end of SA-6. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/29/15
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 9/29/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/29/15
A5 – Subgrade Approval	Sheet 24 & ESI (9/29/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 6	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/29/15.
A7 – Panel Placement Log	Page 27	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/29/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected for 9/29/15
A9 – Seam/Non-Destruct. Test Log	Pages 27-28	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/29/15
A10 – Repair Log	Page 22	One repair log provided by ESI and confirmed by Langan for repairs completed on 9/29/15
A11 – Conformance COC		N / A for 9/29/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected from 9/29/15
A13 – Destruct. Sample Summary		N / A no destruct samples collected from 9/29/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues encountered from 9/29/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	10/07/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	60/72° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0630 – 1600

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #35** **AmecFW**: Stu Bills, Brian Shea, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL) continuing along eastern side of 3rd utility corridor, and patch / repair work associated with panels placed from 9/29/15.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI completing patch / repair work for minor wrinkles from panels previously placed on 9/29/15 (Panels 121 – 125). During the patch / repair work it was observed that the GCL underlying the geomembrane panels was hydrated with standing water present at two areas:
    - Area 1 was comprised of the drainage / utility swale located along the southern end of SA-6 (approximate Sta. 3+50 to Sta. 2+60). At this area, a sump pump pit was located immediately outside of SA-6 cap to the south. During the storm events over the weekend, this pump at one point shut down thus causing a build-up (ponding) of water that extended laterally into the swale and hydrating the GCL.
    - Area 2 was located along the northern end of the cap (approximate Sta. 4+00 to Sta. 3+40) along the SCB wall. During the storm events water from the adjacent roadway (higher elevation than the SA-6 cap as final grading has not yet been completed) ran along the edges of SA-6 causing some soil washout, which allowed the water to infiltrate laterally over the SCB wall and onto the lower portion of SA-6.
- For both of these areas, the geomembrane cap was pulled back to expose the hydrated GCL. The GCL was then cut and removed to expose the underlying soil subgrade. Visual observation of the subgrade showed that the soil was in good condition (firm and unyielding) with no wet or wash out areas observed. New GCL was then placed in these areas with minimum of 1 ft. of overlap and granular bentonite placed along the seams as per project specifications. Refer to *10/7/15 Photograph Log* for supporting Site photos.
- Once the new GCL was placed, the geomembrane panels were patch / repaired (as required) over these areas.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

- A total of twenty repairs (RP-456 through RP-475) were observed and fixed (according to the project specifications) from Panels #119 through Panel #122 (repair / detailing work for replaced GCL on panels installed from 9/29/15). Refer to 10/7/15 *Repair Report.* The majority of these repairs were patch / repairs associated with the removal and replacing of the hydrated GCL. These repairs were identified as subgrade irregularities on the *Repair Report,* and were identified as non-compliance issues on *Sheet #9* and *Sheet #10 Notice of Non-Compliance* forms, respectively. Note: RP-457 which consisted of a pipe boot for GV-0 was marked in the field and noted on the Repair Report (as RP-457), however the boot and repair itself has not yet been completed.
- Two destructive samples were collected from 10/7/15. Destruct sample DS-28 (fusion) was collected from Panel #123/125, and sample DSX-12 was collected from RP-459 (Panel #123).
- During cap placement activities, Entact continued to spread protective cover soil for the area through the 3rd utility corridor (approximate Sta. 6+80, moving east). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 9 (Sheet #9) – Subgrade irregularity (hydrated GCL) identified as repairs RP-458 through RP-473 on *Repair Log*
    - GCL underneath geomembrane liner along southern end SA-6 (swale) hydrated from rainwater accumulating outside of cap due to subgrade (subgrade outside of the cap not final) and failure of sump pump in area during storm. Geomembrane liner pulled back and cut to remove and replace sections of GCL. These patches were noted as a subgrade irregularities and were completed following project specs and are further defined on *Sheet 9 Notice of Non-Compliance*
- Non-Conformance No. 10 (Sheet #10) – Subgrade irregularity (hydrated GCL) identified as RP-474 and RP-475 on *Repair Log*
    - GCL underneath geomembrane liner along northern end of SA-6 cap (along SCB wall) hydrated from rainwater accumulating outside of cap due to subgrade (subgrade outside of the cap not final). Geomembrane liner pulled back and cut to remove and replace sections of GCL. These patches were noted as a subgrade irregularities and were patched/repaired following project specs as further defined on *Sheet 10 Notice of Non-Compliance*

Action Items – Pending

- Complete Daily Report and Photo Log (for 10/7/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 3 wells, 4 piezometers, and 7 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), Main Access Manhole #3 (located at western slope of 2nd utility corridor), and Manhole #4.
- Review laboratory data for destruct samples DS-28 and DSX-12.

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, 9/23/15, 9/24/15, 9/25/15, and 9/29/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-27, and DSX-1 through DSX-11. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas along far eastern end of SA-6. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 10/7/15
A3 – Photo Log	Pages 1 – 5	Total of 9 photos outlining pertinent daily observations and descriptions for 10/7/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 10/7/15
A5 – Subgrade Approval		N / A no subgrade approval completed on 10/7/15
A6 – Trial Weld Log	Page 6	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 10/7/15.
A7 – Panel Placement Log		N / A no panels placed on 10/7/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information collected form 10/7/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destructive testing conducted on 10/7/15
A10 – Repair Log	Pages 22-23	One repair log provided by ESI and confirmed by Langan for repairs completed on 10/7/15
A11 – Conformance COC		N / A for 10/7/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

A12 – Destructive Seam Field Test	Page 3	Updated with destruct sample information from 10/7/15
A13 – Destruct. Sample Summary	Page 3	One destruct sample information provided by ESI and confirmed by Langan for destruct samples collected from 10/7/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before logs can be completed
A16 – Notice of Non-Compliance	Sheet #9 and Sheet #10	Two non-compliance forms completed (Sheet #9 and Sheet #10) for cutting and removal of hydrated GCL

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	10/08/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	62/77° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0630 – 1830

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #36** **AmecFW**: Stu Bills, Brian Shea, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geosynthetic clay liner (GCL), geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing along eastern side of 3rd utility corridor. Material to be placed from Panel #125 installed on 9/29/15 (located at approximate Sta. 2+50) running approximately 100 ft. east to Sta. 1+50.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying rolls of GDL from Panel #118 (approximate Sta. 3+80) to approximate Sta. 2+50 (Panel #125). GDL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft., and top layer of geotextile sewn along the panel seams.
- While ESI was placing GDL, Langan and Entact conducted soil subgrade approval from east of Panel #125 (located at approximate Sta. 2+50) to approximate Sta. 1+50. Refer to *Soil Subgrade Approval* forms from 10/08/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #3 and #4 of the daily photo log for 10/08/2015, for supporting subgrade photos (along with GCL placement). This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 2+50 to Sta. 1+50.
- GVL and Cap placement began with ESI placing the GCL along the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The GCL was overlapped approximately 2 ft. outside of the cap and was placed along the areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included the remaining area within the SA-6, as the lower bench east of Sta. 2+50 was comprised of areas below the water table elevation. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges (as outlined in the project specs).
- Upon placement of the GCL, GVL was placed along the upper elevations within the areas outside of the water table influence (as shown on the project drawings). GVL was placed according to project

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specifications with white plastic fasteners spaced at a maximum of 5 ft. intervals and the top layer of geotextile sewn.

- After installation of the GCL and GVL, geomembrane cap was installed continuing east of previously installed Panel #125 on 9/29/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GCL and GVL layers. A total of ten varying panel lengths were placed by ESI (Panels #126-134). Note: the dimensions of these panel lengths varied as the geomembrane panels were conformed to fit along the eastern end of the SA-6 cap.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, three trial welds (smooth to smooth, smooth to texture, and texture to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (10/8), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 1+50, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (10/08/15) for non-destructive testing details. Once, non-destructive testing was completed, ESI then conducted minor patch/ repair work for the panels installed (pipe boots PZ-12).
- A total of one repair (RP-476) was completed (according to the project specifications) for Panel #132 (pipe boot PZ-12). Refer to 10/8/15 *Repair Report* for additional details on the pipe boot. Note: no non-compliance issues were observed during the geomembrane placement and testing conducted on 10/8/15.
- One destructive sample was collected from 10/8/15. Destruct sample DS-29 (fusion) was collected from Panel #128/132 seam.
- During cap placement activities, Entact continued to spread protective cover soil for the area through the 3rd utility corridor (approximate Sta. 6+80, moving east). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project and patch / repair work completed consisted of pipe boot installations around PZ-12.

Action Items – Pending

- Complete Daily Report and Photo Log (for 10/8/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 3 wells, 5 piezometers, and 8 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), Main Access Manhole #3 (located at western slope of 2nd utility corridor), and Manhole #4.
- Review laboratory data for destruct samples DS-29.

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, 9/23/15, 9/24/15, 9/25/15, 9/29/15, and 10/07/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-28, and DSX-1 through DSX-12. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas along far eastern end of SA-6. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 10/8/15
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 10/8/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 10/8/15
A5 – Subgrade Approval	Sheet 25 & ESI (10/8/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Pages 6-7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 10/8/15.
A7 – Panel Placement Log	Pages 28-29	One panel placement log provided by ESI and confirmed by Langan for prewelds completed on 10/8/15
A8 – Destruct Seam Testing COC	Page 3	Updated with destruct sample information collected form 10/8/15
A9 – Seam/Non-Destruct. Test Log	Pages 28-30	One seam control form provided by ESI and confirmed by Langan for pressure testing conducted on 10/8/15
A10 – Repair Log	Page 23	One repair log provided by ESI and confirmed by Langan for repairs completed on 10/8/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

A11 – Conformance COC		N / A for 10/8/15
A12 – Destructive Seam Field Test	Page 4	Updated with destruct sample information from 10/8/15
A13 – Destruct. Sample Summary	Page 3	One destruct sample information provided by ESI and confirmed by Langan for destruct samples collected from 10/8/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before logs can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues encountered on 10/8/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	10/09/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	58/75° F, Clear, Overcast, PM T'Storm
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0630 – 1730

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #37** **AmecFW**: Stu Bills, Brian Shea, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL) continuing along eastern side of 3rd utility corridor, and to eastern end of SA-6, and patch / repair work associated with panels placed from 10/8/15 (Panels #126-134).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI completing patch / repair work for panels previously placed on 10/8/15 (Panels #126-134). A total of nine repairs (RP-477 through RP-485) were observed and fixed (according to the project specifications) from Panels #126 through Panel #134. Refer to 10/9/15 *Repair Report* for additional details. The majority of these repairs were custom fit details (allow the geomembrane to conform to the SA-6 contours) or seam joint repairs (joints where non-destructive testing was completed). Repairs were patched, sealed with an extrusion weld, and vacuum box tested (according to project specs).
- Two destructive samples were collected from 10/9/15. Destruct sample DSX-13 (extrusion) was collected from RP-477 (Panel #125) and DSX-14 (extrusion) was collected from RP-480 (Panel #132).
- Upon completion of the patch / repair work, ESI completed the final monitoring well, piezometer, and gas vent boots by placing the final butyl sealant around the top of the boot. Additionally, 1-inch pipe bands were placed around the conical Access Manholes (as per project specs).
- With the pipe boots completed, ESI deployed GDL from Panel #125 to Panel #134 (panels placed on 10/9/15). GDL was placed according to project specs with white plastic fasteners spaced at a maximum of 5 ft. and the top layer of geotextile sewn.
- Note: As per the AmecFW GDL Cover Soil Siltation Evaluation and Mitigation Measures Memo (Memo) submitted October 2015, three areas in the field were identified where GDL was exposed and silts were deposited directly onto the GDL. In response to the protective cover soil siltation, three new pieces of GDL were placed directly over the potentially impacted areas to assist in drainage. Additional details of these areas and mitigation measures are further described in the AmecFW Memo, with supporting photographs provided.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

- During cap placement activities, Entact continued to spread protective cover soil for the area through the 3rd utility corridor (approximate Sta. 6+80, moving east). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.
- Upon completion of the daily activities, ESI demobilized from the Site, as SA-6 capping activities were completed.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as patch / repair work completed consisted of custom fit repairs and seam joint patches to allow the geomembrane to conform to the SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 10/9/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (for 3 wells, 5 piezometers, and 8 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1, and Manhole #2, Main Access Manhole #3 (located at western slope of 2nd utility corridor), and Manhole #4.
- Review laboratory data for destruct samples DSX-13 and DSX-14.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, 9/23/15, 9/24/15, 9/25/15, 9/29/15, 10/07/15, and 10/08/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-29, and DSX-1 through DSX-12. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue with protective cover soil placement along eastern end of SA-6.
- Ensure destruct samples are in compliance with project specs and complete associated paperwork and construction certification report.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 10/9/15
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 10/9/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 10/8/15
A5 – Subgrade Approval		N / A no subgrade approval completed on 10/9/15
A6 – Trial Weld Log	Page 7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 10/9/15.
A7 – Panel Placement Log		N / A no panels placed on 10/9/15
A8 – Destruct Seam Testing COC	Page 3	Updated with destruct sample information collected form 10/9/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destructive testing completed on 10/9/15
A10 – Repair Log	Pages 23-24	One repair log provided by ESI and confirmed by Langan for repairs completed on 10/9/15
A11 – Conformance COC		N / A for 10/9/15
A12 – Destructive Seam Field Test	Page 4	Updated with destruct sample information from 10/9/15
A13 – Destruct. Sample Summary	Page 4	One destruct sample information provided by ESI and confirmed by Langan for destruct samples collected from 10/9/15
A14 – Penetration & Edge Form	Sheets #1-18	Final penetration & edge forms completed for piezometers, wells, gas vents, and access manholes.
A16 – Notice of Non-Compliance		N / A no non-compliance issues encountered on 10/8/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	10/12/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	72° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	1520 – 1720

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #38** **AmecFW**: Stu Bills, Dave Ambrose, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of patch / repair work associated with a failed destruct test (DSX-13) for RP-477 located on Panel #125.
- Based on results of the laboratory destruct testing, 1 of 5 specimens exhibited a peel value less than the 66 lb/in value allotted (as per the project specs) for destruct sample DSX-13. Based on this one failure anomaly, the repair associated with DSX-13 (RP-477) was covered with a new patch, welded, and vacuum box tested (as per project specs). In addition, a new destruct sample DSX-15 was collected to confirm the integrity of the new welds associated with the new patch. Note: the average of the 5 peel specimens complied with the project specs (total of 92 lb/in).
- Site activities commenced with ESI completing patch / repair work for RP-477. A new 5 ft. by 15 ft. patch was placed over the repair, sealed with an extrusion weld, and vacuum box tested as per project specs. Once the new repair (RP-487) was complete, a new destruct sample, DSX-15, was collected to confirm the integrity of the weld.
- One destructive sample was collected from 10/12/15. Destruct sample DSX-15 (extrusion) was collected from RP-487 (placed over RP-477). Subsequent laboratory testing yielded peel and shear values that were in compliance with the project specs.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 11 (Sheet #11) – Failed destruct sample (DSX-13) collected from RP-477 from Panel #125 (failed one of the five specimens for peel testing)
    - Geomembrane patch was placed over RP-477, welded, and vacuum box tested (as per project specs). Additionally, a new destruct sample (DSX-15) was collected from the new patch (RP-487) to confirm the integrity of the new weld. This repair was noted as a failed destruct sample and was completed following project specs and as further defined on *Sheet 11 Notice of Non-Compliance.*

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Pending

- Complete Daily Report and Photo Log (for 10/12/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory data for destruct samples DSX-15.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, 9/23/15, 9/24/15, 9/25/15, 9/29/15, 10/07/15, 10/08/15, and 10/09/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-29, and DSX-1 through DSX-14. Laboratory results in compliance with shear and peel requirements as outlined in project specifications with the exception of DSX-13. Subsequent patch / repair work defined within this report for the failed destruct sample.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Ensure new destruct sample (DSX-15) adheres to project specifications. Subsequent review of the data yielded peel and shear values that were in compliance with the project specs.
- Complete associated paperwork and begin construction certification report.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 10/12/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 10/12/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 10/12/15
A5 – Subgrade Approval		N / A no subgrade approval completed on 10/12/15
A6 – Trial Weld Log	Page 7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 10/12/15.
A7 – Panel Placement Log		N / A no panels placed on 10/12/15
A8 – Destruct Seam Testing COC	Page 3	Updated with destruct sample information collected form 10/12/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destructive testing completed on 10/12/15
A10 – Repair Log	Page 24	One repair log provided by ESI and confirmed by Langan for repairs completed on 10/12/15
A11 – Conformance COC		N / A for 10/12/15
A12 – Destructive Seam Field Test	Page 4	Updated with destruct sample information from 10/12/15
A13 – Destruct. Sample Summary	Page 4	One destruct sample information provided by ESI and confirmed by Langan for destruct samples collected from 10/12/15
A14 – Penetration & Edge Form		N / A no penetration and edge forms completed for 10/12/15
A16 – Notice of Non-Compliance	Sheet #11	One non-compliance issue encountered on 10/12/15 and documented on *Sheet #11 Notice of Non-Compliance*

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 2, 2015

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☒ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☒ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

NOTE: All comments are numbered for reference and included on the included comment section.

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/1/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, October 02, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Scrap white fabric on the ground
2	IA2Q4A1AL8	Screenings berm requires maintenance
3	IA2Q4A1AL8	Silt fence around EA-8 requires maintenance. Barrels and orange fencing should be secured or relocated.
4	IA2Q4A1AL8	Sediment has accumulated on the EA-5 roadway. King berm requires maintenance or removal. Catch basin filter fabric requires replacement
5	IA2Q4A1AL8	Silt fence is required around the EA-4 excavation. Wind screen fence posts needs to be fixed, it has been dislodged.
6	IA2Q4A1AL8	Silt fence requires maintenance
7	IA2Q4A1AL8	Silt fence laying on the ground
8	IA2Q4A1AL8	Silt fence requires maintenance
9	IA2Q4A1AL8	Silt fence requires maintenance, rolls of GDL/GVL scattered along the roadway, celgene screenings requires sediment control
10	IA2Q4A1AL8	Silt has overtopped the berms along the eastern section of the Surcharge stockpiles on SA-7

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 10/1/15
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	DONE	10/2/15 (RAD)

Construction Manager: _____ **Date:** 10/08/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 9, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		1
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		3
Storm Drain Protection		X		4
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		5
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

NOTE: All comments are numbered for reference and included on the included comment section.

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/09/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, October 09, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Several spill pallets in the SA-6 South mechanics area have filled with storm-water.
2	IA2Q4A1AL8	Exclusion Zone fencing at on the western side of the SA-6 North trash pit is down and is not adequately marked.
3	IA2Q4A1AL8	Orange warning fencing around the EA-5 excavation is down and requires repair
4	IA2Q4A1AL8	Filter fabric in the catch basin to the north of the SA-6 North trash pit is blinded.
5	IA2Q4A1AL8	Silt fence along the northern access road on SA-7 requires maintenance/repair.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 10/09/15

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Drain the accumulated storm-water from the spill pallets as required.	RAD 10/13/15
2	Reinstall or repair the orange EZ fencing and install additional signage as needed.	
3	Re-establish the warning fencing around the open excavation.	
4	Replace the catch basin filter fabric as required.	
5	Repair the silt fencing as needed.	

Construction Manager: _____ Date: 10/14/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 16, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment		X		2
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		3
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/16/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, October 16, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Garbage and other debris is present along the north side of Kellogg Street and along the Kellogg Street jughandle
2	IA2Q4A1AL8	The hazardous material pile in the SA-6 North cap area is not covered
3	IA2Q4A1AL8	Due to sediment build-up, stormwater in the northeast corner of the sedimentation basin Exclusion Zone no longer flows to the sump in that area.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 10/16/15

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Pick up garbage/debris as required.	10/19/15 RHD
2	Tarp the hazardous material pile as required.	↓
3	Re-establish a swale to direct stormwater run-off to the sump	↓

Construction Manager: _____ Date: 10/21/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 23, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		4
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		5
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/23/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, October 23, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence surroundinng the SA-6 South cap area is down in some locations and requires maintenance or replacement.
2	IA2Q4A1AL8	Site sediment has accumulated on the Rt. 440 sidewalk outside of SA-6 South.
3	IA2Q4A1AL8	Silt dams in the area of SA-6 North where water main work was recently completed have been damaged and are no longer functional.
4	IA2Q4A1AL8	Garbage is present in the Rt. 440 pedestrian walkway on SA-6 North
5	IA2Q4A1AL8	Silt fence on the southern side of the SA-6 North cap area is down in some locations and requires maintenance or replacement.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: 10/23/15 Date:

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Repair or replace the silt fence as needed to restore function.	berms are present no need for silt fence RAD
2	Shovel up and remove all site-related sediment on the Rt. 440 sidewalk.	next week
3	Repair or replace the silt dams as needed to restore function. Shovel up and remove any soil material between the new silt dams and the pedestrian walkway.	RAD 10/28/15
4	Pick up and remove accumulated refuse from the walkway	↓
5	Repair or replace the silt fence as needed to restore function.	↓

Construction Manager: Date: 10/29/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 30, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		1
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		4
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		5
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

NOTE: All comments are numbered for reference and included on the included comment section.

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/30/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, October 30, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fabric in a storm drain catch basin on the western end of Kellogg Street is torn.
2	IA2Q4A1AL8	**REPEAT:** Site sediment has accumulated on the Rt. 440 sidewalk outside of SA-6 South.
3	IA2Q4A1AL8	Silt fence along the JCMUA perimeter, due north of the EA-5 excavation, has been overtopped with historic fill material and requires maintenance or replacement.
4	IA2Q4A1AL8	Exclusion Zone fencing is absent along the southern side of the EA-5 excavation area.
5	IA2Q4A1AL8	Silt fence surrounding the Novartis stockpile area requires maintenance.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey
SWAP Observer: _____ **Date:** 10/30/15
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Replace the filter fabric in the catch basin as required.	MM 11-9-15
2	Shovel up and remove all site-related sediment on the Rt. 440 sidewalk.	MM 11-9-15
3	Remove the historic fill material from the installed silt fence, repair or replace as required.	MM 11-9-15
4	Install Exclusion Zone fencing and signage as required.	Completed 11/05/15
5	Repair or replace the silt fence as needed to restore function.	MM 11-9-15

Construction Manager: _____ **Date:** 11/09/15

Attachment 13: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (Submitted October 2015)

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

October 20, 2015

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the September 2015 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
9	01	15	9	30	15
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	77,610	85,210 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	0.75	0.82	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.015	<0.015	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	0.00021	0.00021	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.2	<5.2	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.132	0.132	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analytes are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris HF

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

10/19/2015

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North
ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962
FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305
NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
9	01	15	9	30	15
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,328,298 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 45,746,328

DATE	BOD (mg/l)	TSS (mg/l)
9/10/2015	5.1	6.6

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris VP	John J. Morris	(973) 455-4003
		DATE 10/19/2015

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG Honeywell Jersey City GWTP; SA-6 North (Permit #20630025) MONTH: September, 2015

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits		5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
9/1/2015	Angel Trujillo	43418030	43497868	79,838	0.079838	7.54	1.160									0.77
9/2/2015	Angel Trujillo	43497868	43574466	76,598	0.076598	7.52	1.160									0.74
9/3/2015	Angel Trujillo	43574466	43650460	75,994	0.075994	7.20	1.160									0.74
9/4/2015	Angel Trujillo	43650460	43731984	81,524	0.081524	7.17	1.160									0.79
9/5/2015	Angel Trujillo	43731984	43812906	80,922	0.080922	7.12	1.160									0.78
9/6/2015	Angel Trujillo	43812906	43888751	75,845	0.075845	N/A	1.160									0.73
9/7/2015	Angel Trujillo	43888751	43964596	75,845	0.075845	7.23	1.160									0.73
9/8/2015	Angel Trujillo	43964596	44044350	79,754	0.079754	7.12	1.160									0.77
9/9/2015	Angel Trujillo	44044350	44122725	78,375	0.078375	7.17	1.160									0.76
9/10/2015	Angel Trujillo	44122725	44196996	74,271	0.074271	6.75	1.160	<5.2	5.1		<0.010	<0.015	<0.010	0.00021	<0.020	0.72
9/11/2015	Angel Trujillo	44196996	44278070	81,074	0.081074	7.23	1.160									0.78
9/12/2015	Angel Trujillo	44278070	44361752	83,682	0.083682	7.17	1.160									0.81
9/13/2015	Angel Trujillo	44361752	44436554	74,802	0.074802	N/A	1.160									0.72
9/14/2015	Angel Trujillo	44436554	44511356	74,802	0.074802	7.20	1.160									0.72
9/15/2015	Angel Trujillo	44511356	44588584	77,228	0.077228	7.12	1.160									0.75
9/16/2015	Angel Trujillo	44588584	44667980	79,396	0.079396	7.18	1.160									0.77
9/17/2015	Angel Trujillo	44667980	44745836	77,856	0.077856	7.08	1.160									0.75
9/18/2015	Angel Trujillo	44745836	44822084	76,248	0.076248	7.08	1.160									0.74
9/19/2015	Angel Trujillo	44822084	44907294	85,210	0.08521	7.10	1.160									0.82
9/20/2015	Angel Trujillo	44907294	44982294	75,000	0.075	N/A	1.160									0.73
9/21/2015	Angel Trujillo	44982294	45057294	75,000	0.075	7.07	1.160									0.73
9/22/2015	Angel Trujillo	45057294	45135636	78,342	0.078342	7.09	1.160									0.76
9/23/2015	Angel Trujillo	45135636	45212786	77,150	0.07715	7.15	1.160									0.75
9/24/2015	Angel Trujillo	45212786	45289888	77,102	0.077102	7.07	1.160									0.75
9/25/2015	Angel Trujillo	45289888	45368271	78,383	0.078383	7.15	1.160									0.76
9/26/2015	Angel Trujillo	45368271	45452107	83,836	0.083836	N/A	1.160									0.81
9/27/2015	Angel Trujillo	45452107	45535943	83,836	0.0838	6.95	1.160									0.81
9/28/2015	Angel Trujillo	45535943	45595082	59,139	0.059139	7.08	1.160									0.57
9/29/2015	Angel Trujillo	45595082	45673047	77,965	0.077965	7.05	1.160									0.75
9/30/2015	Angel Trujillo	45673047	45746328	73,281	0.073281	7.07	1.160									0.71
TOTAL				**2,328,298**	**2.328298**			<5.2	5.1		<0.010	<0.015	<0.010	0.00021	<0.020	
			High:	**85,210**											**High:**	**0.82**
			Average:	**77,610**											**Average:**	**0.75**

WW

JC3544

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell — Chain Of Custody / Analysis Request

AESI Ref:	42267.46469
COC#	087-WW-091015
Lab Proj # (SDG):	
Lab ID	ACTD
Site ID	HudsonCo
Lab Job #	HWINJM32815
Authorized User:	Honeywell
Text & Excel File Drive	Excel & Text File Order

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Privileged & Confidential

Site Name: Hudson County
Phase: CS
Location of Site: Jersey City, NJ
Sampling Program: 087: JCIA

Sampling Co.: MACTEC
EDD To:

Client Contact: (name, co., address)
Helen Fahy P. (973) 455-2989 E. helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962

Sampler: Frank Schroyer
PO #

Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Full Report TAT: 28 Days

Preliminary Data To
Sample Receipt Acknowledgement To: Frank Schroyer
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)

Preservative			3	3	3	1	2	2	0	0	2							
Sample Identification: Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list	Sampling Method (code)	Lab Sample Numbers
										Units												
1 087-WW			087-WWE-091015-A	9/10/2015	14:10	WW	WATER	REG	3	comp	N	X	X	X	X			X	X			
2 087-WW			087-WWE-091015-B	9/10/2015	14:20	WW	WATER	REG	5	grab	N					X	X					L26
3 087-WW			087-WWI-091015	9/10/2015	14:25	WW	WATER	REG	3	grab	N									X		V6
4																						A22
5																						G49
6																						
7																						
8																						
9																						
10																						
11																						
12																						

Relinquished by: PH=6.75 s.u. @ 8.7°C	Company: AMEC Foster Wheeler	Received by:	Company:		Condition:		Custody Seals Intact: 100
Frank Schroyer	Date/Time: 9/10/15	Robert Chambers	Date/Time: 9-10-15 ~~17:35~~		Cooler Temp.	4.0°C	
Relinquished by: Robert Chambers	Company:	Received by:	Company:		Condition:		Custody Seals Intact:
	Date/Time: 9-10-15 1741		Date/Time: 9/10/15 1741		Cooler Temp.		

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

Accutest 4.0 1P

ALL SAMPLES RECEIVED PRESERVED AS APPLICABLE

INITIAL ASESSMENT 2A OK
LABEL VERIFICATION OB
JK

Accutest LabLink@873300 09:58 17-Sep-2015 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-091015-A		
Lab Sample ID:	JC3544-1	**Date Sampled:**	09/10/15
Matrix:	AQ - Water	**Date Received:**	09/10/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1160	10	ug/l	1	09/11/15	09/14/15	AP	EPA 200.7 [2]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	09/11/15	09/14/15	AP	EPA 200.7 [2]	EPA 200.7 [4]
Lead [a]	< 15	15	ug/l	5	09/11/15	09/14/15	AP	EPA 200.7 [2]	EPA 200.7 [4]
Mercury	0.21	0.20	ug/l	1	09/11/15	09/11/15	VM	EPA 245.1 [1]	EPA 245.1 [3]
Nickel	< 10	10	ug/l	1	09/11/15	09/14/15	AP	EPA 200.7 [2]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	09/11/15	09/14/15	AP	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA37530
(2) Instrument QC Batch: MA37552
(3) Prep QC Batch: MP88942
(4) Prep QC Batch: MP88958

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

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Matrix:	AQ - Water	**Date Received:**	09/10/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	6.6	4.0	mg/l	1	09/11/15	KP	SM2540 D-11
pH [a]	7.00		su	1	09/10/15 19:30	HFM	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@873300 09:58 17-Sep-2015 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-091015-A		
Lab Sample ID:	JC3544-1A	**Date Sampled:**	09/10/15
Matrix:	AQ - Water	**Date Received:**	09/10/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	5.1	3.4	mg/l	1	09/10/15 20:50	LS	SM5210 B-11

RL = Reporting Limit

Accutest LabLink@873300 09:58 17-Sep-2015 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-091015-B		
Lab Sample ID:	JC3544-2	**Date Sampled:**	09/10/15
Matrix:	AQ - Water	**Date Received:**	09/10/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	T211133.D	1	09/15/15	DC	n/a	n/a	VT8660
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	2.0	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	2.7	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	0.22	1.0	0.093	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.50	ug/l	
67-66-3	Chloroform	16.9	1.0	0.091	ug/l	
74-87-3	Chloromethane	ND	1.0	0.11	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.11	ug/l	
95-50-1	1,2-Dichlorobenzene	0.44	1.0	0.19	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.11	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.29	ug/l	
75-34-3	1,1-Dichloroethane	0.36	1.0	0.12	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/l	
156-59-2	cis-1,2-Dichloroethene	63.2	1.0	0.12	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.7	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.12	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.15	ug/l	
123-91-1	1,4-Dioxane	ND	130	20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.41	1.0	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest LabLink@873300 09:58 17-Sep-2015 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-091015-B		
Lab Sample ID:	JC3544-2	**Date Sampled:**	09/10/15
Matrix:	AQ - Water	**Date Received:**	09/10/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	42.1	1.0	0.12	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	99%		72-125%
2037-26-5	Toluene-D8 (SUR)	102%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	103%		74-115%
1868-53-7	Dibromofluoromethane (S)	104%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@873300 09:58 17-Sep-2015 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-091015-B		
Lab Sample ID:	JC3544-2	**Date Sampled:**	09/10/15
Matrix:	AQ - Water	**Date Received:**	09/10/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.2	5.2	mg/l	1	09/11/15 09:45	BM	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending October 2015

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending October 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Contractor only.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groudnwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on 6/22/15.

SA-6 North/South Field Change Log - Month Ending October 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-07-22	Detail BN has been modified to extend the lIDPE up and over the SCB Wall. The prior detail showed both the GDI and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only.
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA 6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Shoulc any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending October 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	Submitted to Contractor only.
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

SA-6 AND SA-7 COMBINED PROGRESS REPORT

DECEMBER 11, 2015

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

December 11, 2015

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2015-11

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from November 1 – November 30, 2015.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: November 2015 SA-6/7 Combined Monthly Progress Report No. 2015-11

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2015-11

Project SA-6 & 7 Remediation

November 2015

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
11/13/15	Riverkeeper et al v. Honeywell International Inc. et al Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2015-10	The Honorable Robert G. Torricelli Office of the Special Master
11/17/15	E-mail from William Hague: S-3 Injection Event #25 Summary with Data	Ben Ross Kim Hosea Steve Egnaczyk
11/17/15	Special Master Meeting	N/A
11/19/15	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
11/24/15	Summary of Site 163, Additional Area G Sample SA-6 South, Site 163 Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	11/8/15	11/15/15	11/22/15	11/29/15
Construction Management (AMEC)	8	9	9	6
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	27	28	28	29

Arecon/US Ecology Subcontractors	2	2	0	0
Langan	1	0	0	0
Evoqua	1	1	1	1
B&B Drilling	0	0	4	0
Century Electric	0	0	2	0
TOTAL STAFF	**44**	**45**	**49**	**41**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected September PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Completed screening of Celgene material for use as protective cover soils above geosynthetics.
- Conducted S-3 Mass Removal Injection Event No. 25 in well 088-IW-03.
- Completed installation of PW-3 extraction well and observation well OBS-7.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on November 12, 2015.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	11/8/15	11/15/15	11/22/15	11/29/15
Avg. Gallons Treated & Discharged (per day)	76,371	76,957	77,338	77,033
Average Flow (gpm) for Operating Period	55	56	56	53
Avg. Hours of Plant Operation	23	23	23	24
GWTP Influent Tanks (gal.)	4,430	5,186	4,953	4,856

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.

- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Completed cleaning and decommissioning of frac tanks, piping, and valves that were used at SA-6 South for collection and transfer of construction water to the treatment system located at SA-6 North.
- Continue pumping/dewatering of well points associated with Excavation Areas EA-2 and EA-3.
- Began excavation and backfilling of Excavation Areas EA-2 and EA-3. Contractor temporarily relocated the JCMUA water meter concrete vault within the EA-2/EA-3 excavation area. The vault was staged outside the limits of the EA-2/EA-3 excavation area.
- Completed backfilling EA-5 Excavation.
- Completed trash pit meadow mat repair activities to include installation of the sand-bentonite plug in the SA-6 North Stratum D repair area on the interior side to the vinyl sheets and placement of GCL.
- Completed excavating surficial historic fill in N1 area. A total of ~5,000 cubic yards was removed and stockpiled east of the Department of Public Works "H" building for subsequent sampling.

1. Off-Site Disposal Monthly Waste Materials Summary

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Horwith	Tri-axle	PA Transload	US Ecology	>240 mg/kg CrVI	150	21.72	3,258.35

2. Excavation & Backfill Progress

Description	Cells
Excavation Completed	Excavation Area N1, EA-2/EA-3 Volume Excavated - Total for Reporting Period: N1(4,964 CY) EA-2/EA-3(6,840 CY) / Total to Date: 24,611CY
Backfill in Progress	EA-5

3. Backfill Materials Used

Source	Week Ending			
	11/8/15	11/15/15	11/22/15	11/29/15
Liberty I-5	1,787	1,399	71	504
Horizon C soils	1,600	1,209	3,501	0
Tilcon 1.5"	0	0	251.11	0

- Screened Celgene materials greater than 3/8 inch were transferred and placed as bridge lift in EA-2/EA-3. A total of 18 loads, totaling approximately 406 cubic yards was placed as temporary fill for bridge lift in EA-2/EA-3.

- Screened Celgene material was removed from the east side of the SA-6 South open space area during final grading of the protective cover soils. Approximately 1,530 cubic yards was removed from the cap area and transferred to the Celgene stockpile area.

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging and offloading of surcharge material is complete.
- Area 3S: Surcharging and offloading of surcharge material is complete.
- Area 1N: Continued off-loading of remaining screened historic fill.
- Area 2N: Surcharging is 100% complete. Offloading is anticipated to be begin in December 2015.
- Area 3N: Completed installation of surcharge monitoring instrumentation.
- Area 4N: Completed installation of surcharge monitoring instrumentation.

F. SHEET PILE OPERATIONS

- Begin installation of wales to the temporary sheet pile along Route 440.

G. CAPPING OPERATIONS

- On November 4, 2014, liner crew was on site to address the remaining repair area identified near the SCB wall on the east side of the SA-6 Southopen space area.
- Completed placement of protective cover soils and demarcation tape over the geocomposite drainage layer.
- Continued fine grading of protective cover soils to include associated compaction testing on the SA-6 South open space area.
- Continued placement of root barrier and demarcation tape on the SA-6 Southopen space area.
- Began placement and grading of Horizon C soils (within future vegetated areas) and structural fill (within future roadway areas) of the SA-6 South open space area.

H. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2016	6/30/2016	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Pending	12/2/15	Pending

I. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete excavation and backfilling of Excavation Area EA-8.
- Complete Trash Pit Interior work activities.
- Continue EA-2/EA-3 excavation and backfilling activities.
- Begin Area 3N Surcharge material placement.
- Begin installation of the Contingent Groundwater Extraction System piping in Area 1N.

- Continue final grading of GDL cover soils to include associated compaction testing and installation of root barrier on SA-6 South open space area.
- Continue placement of Horizon C soils on the SA-6 South open space area.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Conduct S-3 Mass Removal Injection Event No. 26 in well 088-IW-01 (completed December 7-9, 2015).
- Complete PW-3 force main/trench installation and associated piping connections back to GWTP
- Begin dewatering and excavation activities associated with Site 163 excavation within the residential footprint.

ATTACHMENTS:

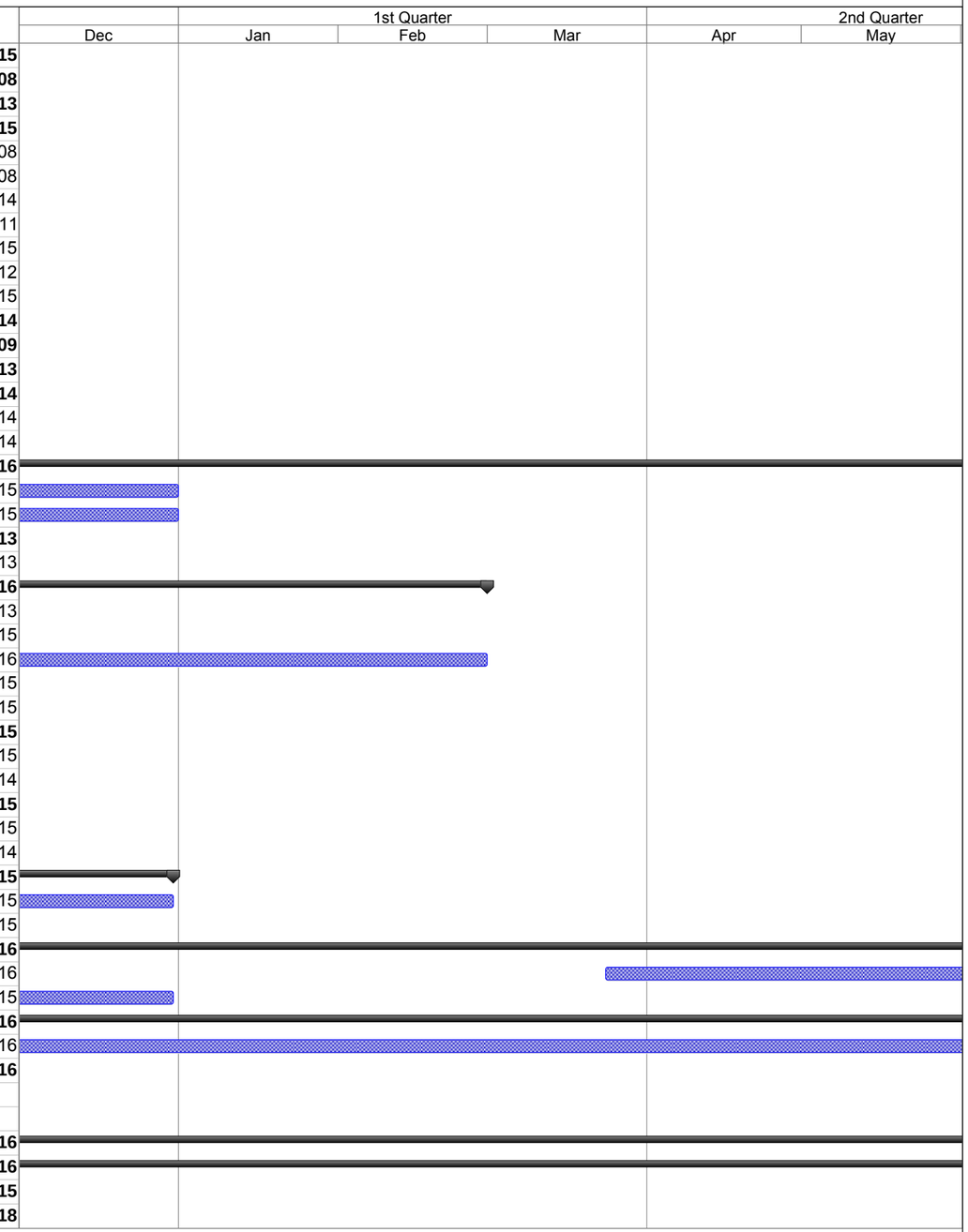
1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
4. Dewatering Operations Update
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
7. Perimeter Pools Update
8. *Groundwater Quality Data (conducted quarterly; not included in this reporting period)*
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. Sheet Pile Update
    - Repair Log
11. Capping Update
    - SA-6 South Cap Subgrade Progress Map
    - Repair Log
    - QA Photo Log
    - Daily QA Reports (Langan)
12. Weekly SWPPP Reports
13. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (submitted November 2015)
    - 12/2/15 PVSC Correspondence: Revisions to Sewer Use Permit #20630025
14. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**1/4/08**	**6/1/15**
2	**Remedial Action Work Plan**	**33 days**	**1/4/08**	**2/19/08**
5	**Remedial Action Design**	**1522 days**	**2/20/08**	**12/13/13**
18	**JCIA/JCDPW Relocation**	**1780 days**	**8/11/08**	**6/1/15**
19	Develop Site Relocation Master Plan	38 days	8/11/08	10/1/08
20	Submit Site Relocation Master Plan	0 days	10/1/08	10/1/08
21	JC Construction of New Facilities	1309 days	6/2/09	6/2/14
22	Relocation Contractor Procurement	392 days	4/15/10	10/13/11
23	JCIA and JCDPW Relocation	949 days	10/17/11	6/1/15
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	12/12/11	4/30/12
24a	Demolition of JCIA Structures	146 days	9/1/14	3/23/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**7/11/08**	**4/30/14**
26	**Remedial Action Work Plan**	**187 days**	**7/11/08**	**3/30/09**
32	**Remedial Action Design**	**1161 days**	**2/2/09**	**7/9/13**
57	**SA-6 South Relocation**	**616 days**	**12/26/11**	**4/30/14**
58	New GWTP Construction Completion	502 days	3/5/12	1/30/14
59	Demolition of 80 Kellogg	857 days	12/26/11	4/30/14
60	**SA-6 North/South Field Implementation**	**894 days**	**3/1/13**	**8/1/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	6/17/13	12/31/15
60b	SA-6S (Site 163) In-Situ Treatment	555 days	11/15/13	12/31/15
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**3/1/13**	**6/28/13**
61a	Mobilization	87 days	3/1/13	6/28/13
62	**Surcharge Install/Instrumentation**	**706 days**	**6/17/13**	**2/29/16**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	6/17/13	12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	4/8/14	2/13/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	6/30/15	2/29/16
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	6/16/14	2/23/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	10/6/14	5/8/15
63	**Barrier Wall Install**	**569 days**	**8/12/13**	**10/15/15**
63a	SA 6N Installation of Barrier Wall	159 days	3/9/15	10/15/15
63b	SA 6S Installation of Barrier Wall	210 days	8/12/13	5/30/14
64	**Excavation**	**507 days**	**10/22/13**	**9/30/15**
64a	SA 6N Excavation	218 days	12/1/14	9/30/15
64b	SA 6S Excavation	295 days	10/22/13	12/8/14
65	**Backfill**	**558 days**	**11/11/13**	**12/30/15**
65a	SA 6N Backfill	283 days	12/1/14	12/30/15
65b	SA 6S Backfill	384 days	11/11/13	4/30/15
66	**Capping and Cover Soil Placement**	**426 days**	**12/1/14**	**7/15/16**
66a	SA 6N Capping and Cover Soil Placement	83 days	3/24/16	7/15/16
66b	SA 6S Capping and Cover Soil Placement	283 days	12/1/14	12/30/15
67	**Restoration**	**234 days**	**9/1/15**	**7/21/16**
67a	Restoration	234 days	9/1/15	7/21/16
68	**Demobilization**	**22 days**	**7/1/16**	**8/1/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line			
69	**SA-6 North Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
75	**SA-6 South Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
81	**SA-6 North Long Term Protections**	**1830 days**	**10/1/08**	**10/1/15**
92	**SA-6 South Long Term Protections**	**2569 days**	**6/5/08**	**3/31/18**



Project: SA-6 Remediation Schedule
Revision 4
Date: 11/30/15

Task | Milestone | Summary | Critical

Attachment 2: Site Photographs

Site Photograph 1: Grading slopes in open space area.

Site Photograph 2: Grading utility corridor soils in open space area.

Site Photograph 3: Loading of material for offsite disposal.

Site Photograph 4: Loading of materials for onsite reuse.

Site Photograph 5: Placing clean fill over white root barrier.

Site Photograph 6: Screener removes larger stone material.

Site Photograph 7: Unloading clean imported soils.

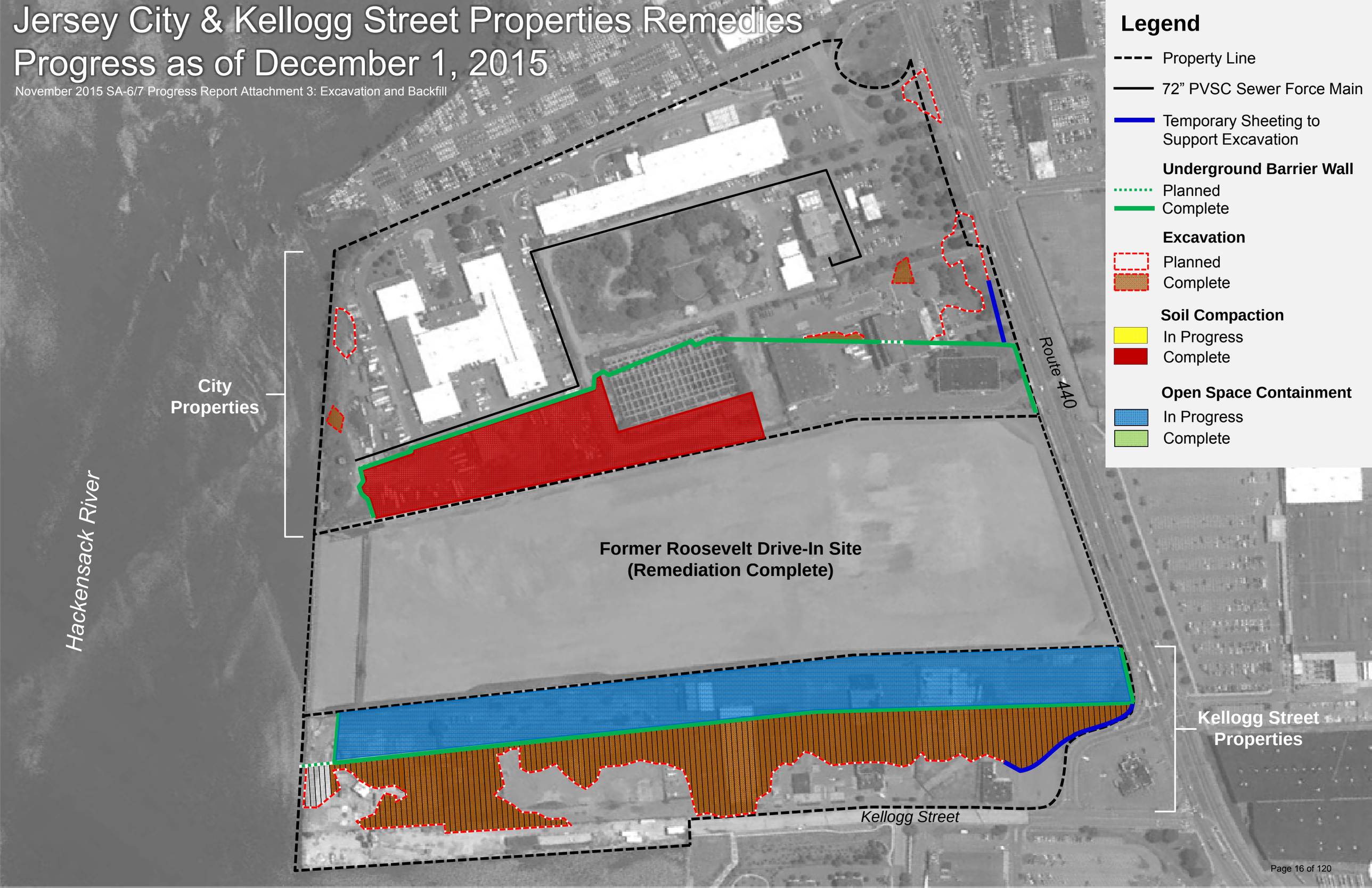
Site Photograph 8: White geotextile placed as root barrier.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of December 1, 2015

November 2015 SA-6/7 Progress Report Attachment 3: Excavation and Backfill



Attachment 4: Dewatering Operations Update

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-7)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) DAILY	VOLUME (Gal) TOTAL	FLOW RATE (GPM)	COMMENTS
11/18/15	24	N/A	N/A	11,500	11,500	8.0	Flow meter not installed, tank measured
11/19/15	24	N/A	N/A	11,000	22,500	7.6	
11/20/15	24	N/A	N/A	11,000	33,500	7.6	
11/22/15	48	N/A	N/A	11,000	44,500	3.8	
11/23/15	24	N/A	N/A	11,000	55,500	7.6	
11/24/15	24	N/A	N/A	10,500	66,000	7.3	
11/25/15	24	N/A	N/A	10,500	76,500	7.3	
11/29/15	96	N/A	N/A	40,000	116,500	6.9	
11/30/15	24	N/A	N/A	10,500	127,000	7.3	

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
09/30/15	7:30	15:00	7:30	36,238.88	36,367.55	128,670	36,223,700	
10/01/15	7:00	13:30	6:30	36,367.55	36,413.58	46,030	36,269,730	
10/02/15	7:00	15:00	8:00	36,413.58	36,458.01	44,430	36,314,160	
10/03/15	8:00	13:00	5:00	36,458.01	36,558.18	100,170	36,414,330	
10/04/15	9:30	13:00	3:30	36,558.18	36,598.54	40,360	36,454,690	
10/05/15	7:30	12:00	4:30	36,598.54	36,653.18	54,640	36,509,330	
10/06/15	7:30	11:30	4:00	36,653.18	36,704.47	51,290	36,560,620	
10/09/15	7:30	14:00	6:30	36,704.47	36,777.92	73,450	36,634,070	
10/15/15	8:00	15:00	7:00	36,777.92	36,888.81	110,890	36,744,960	
10/21/15	8:00	15:00	7:00	36,888.81	36,951.56	62,750	36,807,710	
10/23/15	11:00	14:30	3:30	36,951.56	36,973.34	21,780	36,829,490	
10/29/15	9:00	15:00	6:00	36,973.34	37,092.42	119,080	36,948,570	
11/02/15	8:00	13:00	5:00	37,092.42	37,158.61	66,190	37,014,760	PVSC Compliance Sample Collected
11/04/15	8:30	14:30	6:00	37,158.61	37,207.47	48,860	37,063,620	
11/06/15	12:00	15:00	3:00	37,207.47	37,237.70	30,230	37,093,850	
11/18/15	8:00	15:00	7:00	37,237.70	37,375.84	138,140	37,231,990	
11/22/15	9:00	13:00	4:00	37,375.84	37,440.68	64,840	37,296,830	
11/23/15	9:30	14:30	5:00	37,440.68	37,505.15	64,470	37,361,300	
11/25/15	7:15	13:45	6:30	37,505.15	37,566.11	60,960	37,422,260	
11/30/15	7:30	14:30	7:00	37,566.11	37,667.64	101,530	37,523,790	

Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

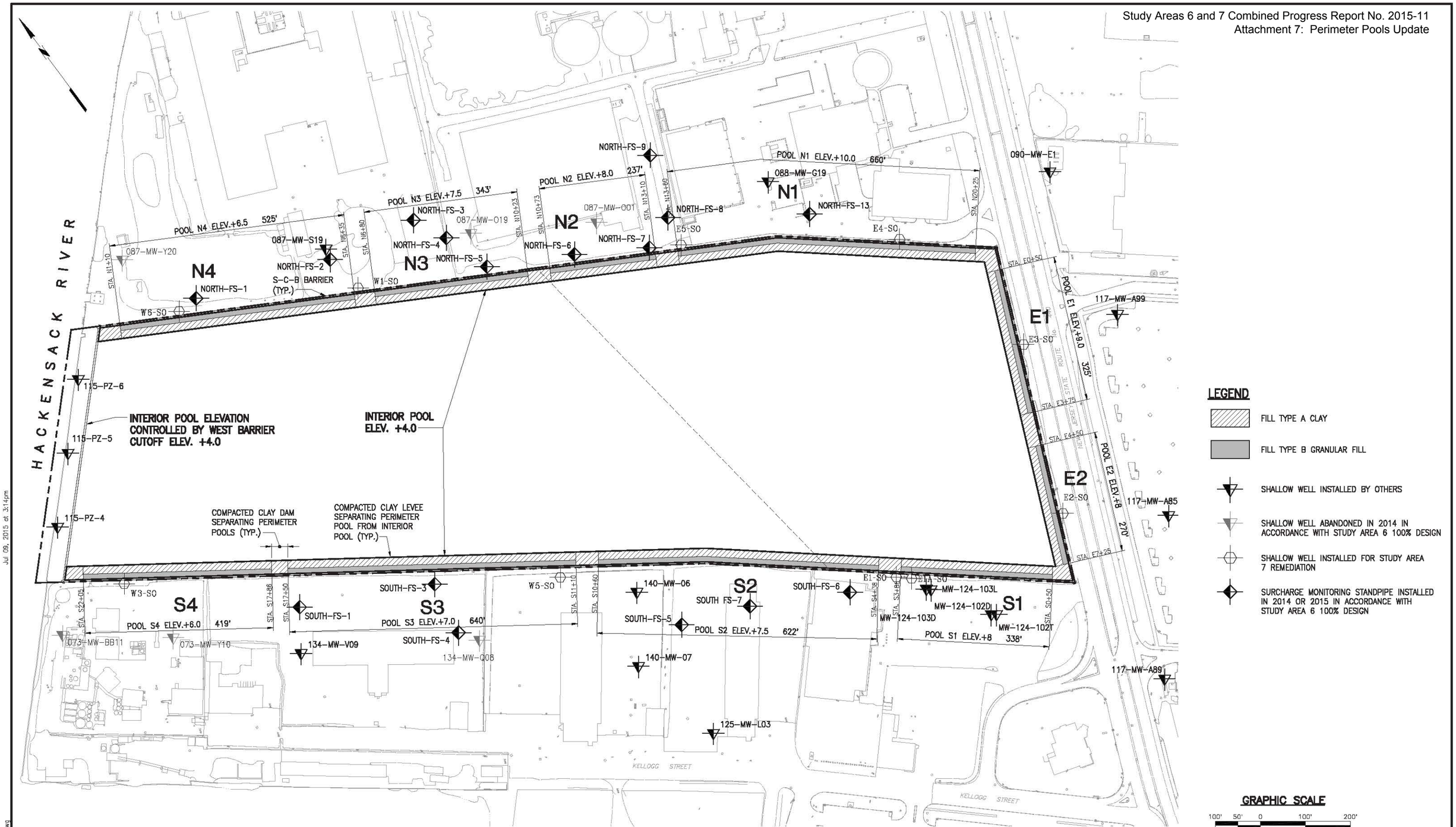
Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
3S cap material	<240	124-3S-EX-a,b,c,d (Excess 3S material)	3500	124-3S-EX-a1	8/10/2015	12:10	51.6		Yes	
				124-3S-EX-a2	8/10/2015	12:15	18.6	*		
				124-3S-EX-a3	8/10/2015	12:18	37.1		Yes	
				124-3S-EX-a4	8/10/2015	12:20	18.9	*		
				124-3S-EX-b1	8/10/2015	12:21	24.8		Yes	
				124-3S-EX-b2	8/10/2015	12:22	49.3		Yes	
				124-3S-EX-b3	8/10/2015	12:23	37.9		Yes	
				124-3S-EX-b4	8/10/2015	12:24	40.4		Yes	
				124-3S-EX-c1	8/10/2015	12:25	24.7		Yes	
				124-3S-EX-c2	8/10/2015	12:26	36.3		Yes	
				124-3S-EX-c3	8/10/2015	12:27	46.7		Yes	
				124-3S-EX-c4	8/10/2015	12:28	8.1	*		
				124-3S-EX-d1	8/10/2015	12:29	25.6		Yes	
				124-3S-EX-d2	8/10/2015	12:30	32.1		Yes	
				124-3S-EX-d3	8/10/2015	12:31	74.6		Yes	
				124-3S-EX-d4	8/10/2015	12:32	34.7		Yes	
EA4	<20	087-EA4-20-a (bermed/trench material)	225	087-EA4-20-a1	9/11/2015	10:35	2	Yes		
				087-EA4-20-a2	9/11/2015	10:40	<1.4	Yes		
				087-EA4-20-a3	9/11/2015	10:45	<1.8	Yes		
				087-EA4-20-a4	9/11/2015	10:50	5.0	Yes		
EA-5	<20	087-EA5-20-a1:b4 (stockpile of A material)	1300	087-EA5-20-a1	9/11/2015	11:05	0.7	Yes		
				087-EA5-20-a2	9/11/2015	11:10	<1.7	Yes		
				087-EA5-20-a3	9/11/2015	11:15	<0.46	Yes		
				087-EA5-20-a4	9/11/2015	11:20	<1.1	Yes		
				087-EA5-20-b1	9/11/2015	11:25	<2.0	Yes		
				087-EA5-20-b2	9/11/2015	11:30	6.8	Yes		
				087-EA5-20-b3	9/11/2015	11:35	8.3	Yes		
				087-EA5-20-b4	9/11/2015	11:40	<0.55	Yes		
EA-5	<20	087-EA5-20-c1:d4 (stockpile of A material)	2000	087-EA5-20-c1	9/11/2015	12:10	<1.8	*		
				087-EA5-20-c2	9/11/2015	12:15	<1.9	*		
				087-EA5-20-c3	9/11/2015	12:20	<0.56	*		
				087-EA5-20-c4	9/11/2015	12:25	<0.60	*		
				087-EA5-20-d1	9/11/2015	12:30	<0.56	*		
				087-EA5-20-d2	9/11/2015	12:35	<0.44	*		
				087-EA5-20-d3	9/11/2015	12:40	<0.5	*		
				087-EA5-20-d4	9/11/2015	12:45	9.6	*		
3S cap material	<240	124-3S-EX2-a	780	124-3S-EX2-a1	9/28/2015	--	50		Yes	
				124-3S-EX2-a2	9/28/2015	--	48.5		Yes	
				124-3S-EX2-a3	9/28/2015	--	82.3		Yes	
				124-3S-EX2-a4	9/28/2015	--	785			Yes
3S Cap Material (under asphalt roadway)	<240	124-3S-Roadway-a	525	124-3S-Roadway-a1	9/28/2015	--	327			Yes
				124-3S-Roadway-a2	9/28/2015	--	2100			Yes
				124-3S-Roadway-a3	9/28/2015	--	1970			Yes
				124-3S-Roadway-a4	9/28/2015	--	5900			Yes
JCMUA Water Main Break (EA-2)	<20	087-EA2-waterline	50	087-EA2-waterline-092815	9/28/2015	NA	13.5	*		
3S cap material	<240	124-3S-EX3-a	1000	124-3S-EX3-a1	10/21/2015	--	3120			Yes
				124-3S-EX3-a2	10/21/2015	--	6820			Yes
				124-3S-EX3-a3	10/21/2015	--	5690			Yes
				124-3S-EX3-a4	10/21/2015	--	4300			Yes

Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
1N (2 foot cut material)	<20	087-1N-20-a, b, c	3000	087-1N-20-a1	10/28/2015	--	<.5	*		
				087-1N-20-a2	10/28/2015	--	2.1	*		
				087-1N-20-a3	10/28/2015	--	<.48	*		
				087-1N-20-a4	10/28/2015	--	5.4	*		
				087-1N-20-b1	10/28/2015	--	1.0	*		
				087-1N-20-b2	10/28/2015	--	<2.0	*		
				087-1N-20-b3	10/28/2015	--	0.65	*		
				087-1N-20-b4	10/28/2015	--	<1.9	*		
				087-1N-20-c1	10/28/2015	--	<2.0	*		
				087-1N-20-c2	10/28/2015	--	<1.8	*		
				087-1N-20-c3	10/28/2015	--	<1.8	*		
				087-1N-20-c4	10/28/2015	--	<.51	*		
1 N (2 foot cut material)	<20	087-1N-20-d1:n4	11,160	087-1N-20-d1	11/17/2015	--	<1.4	*		
				087-1N-20-d2	11/17/2015	--	9.5	*		
				087-1N-20-d3	11/17/2015	--	19.9	*		
				087-1N-20-d4	11/17/2015	--	<1.5	*		
				087-1N-20-e1	11/17/2015	--	<1.3	*		
				087-1N-20-e2	11/17/2015	--	<1.4	*		
				087-1N-20-e3	11/17/2015	--	<1.4	*		
				087-1N-20-e4	11/17/2015	--	<1.4	*		
				087-1N-20-f1	11/17/2015	--	<1.5	*		
				087-1N-20-f2	11/17/2015	--	<.93	*		
				087-1N-20-f3	11/17/2015	--	<.90	*		
				087-1N-20-f4	11/17/2015	--	<1.5	*		
				087-1N-20-g1	11/17/2015	--	<.95	*		
				087-1N-20-g2	11/17/2015	--	<.86	*		
				087-1N-20-g3	11/17/2015	--	<.96	*		
				087-1N-20-g4	11/17/2015	--	<1.3	*		
				087-1N-20-h1	11/17/2015	--	1.9	*		
				087-1N-20-h2	11/17/2015	--	<.92	*		
				087-1N-20-h3	11/17/2015	--	<1.4	*		
				087-1N-20-h4	11/17/2015	--	<.92	*		
				087-1N-20-i1	11/17/2015	--	<1.3	*		
				087-1N-20-i2	11/17/2015	--	<2.0	*		
				087-1N-20-i3	11/17/2015	--	<1.9	*		
				087-1N-20-i4	11/17/2015	--	<2.1	*		
				087-1N-20-j1	11/17/2015	--	<1.8	*		
				087-1N-20-j2	11/17/2015	--	<1.4	*		
				087-1N-20-j3	11/17/2015	--	<1.9	*		
				087-1N-20-j4	11/17/2015	--	<1.8	*		
				087-1N-20-k1	11/17/2015	--	<1.6	*		

Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
1 N (2 foot cut material)	<20	087-1N-20-d1:n4	11,160	087-1N-20-k2	11/17/2015	--	<2.0	*		
				087-1N-20-k3	11/17/2015	--	<2.1	*		
				087-1N-20-k4	11/17/2015	--	<1.4	*		
				087-1N-20-l1	11/17/2015	--	<1.4	*		
				087-1N-20-l2	11/17/2015	--	<1.9	*		
				087-1N-20-l3	11/17/2015	--	<2.0	*		
				087-1N-20-l4	11/17/2015	--	<2.1	*		
				087-1N-20-m1	11/17/2015	--	<1.9	*		
				087-1N-20-m2	11/17/2015	--	<1.9	*		
				087-1N-20-m3	11/17/2015	--	<1.4	*		
				087-1N-20-m4	11/17/2015	--	<1.4	*		
				087-1N-20-n1	11/17/2015	--	<1.4	*		
				087-1N-20-n2	11/17/2015	--	<1.4	*		
				087-1N-20-n3	11/17/2015	--	<1.3	*		
				087-1N-20-n4	11/17/2015	--	<1.5	*		

*Material currently stockpiled. Pending final placement.
**Waiting on final results from the laboratory.

Attachment 7: Perimeter Pools Update



IN PROGRESS
06-10-2015

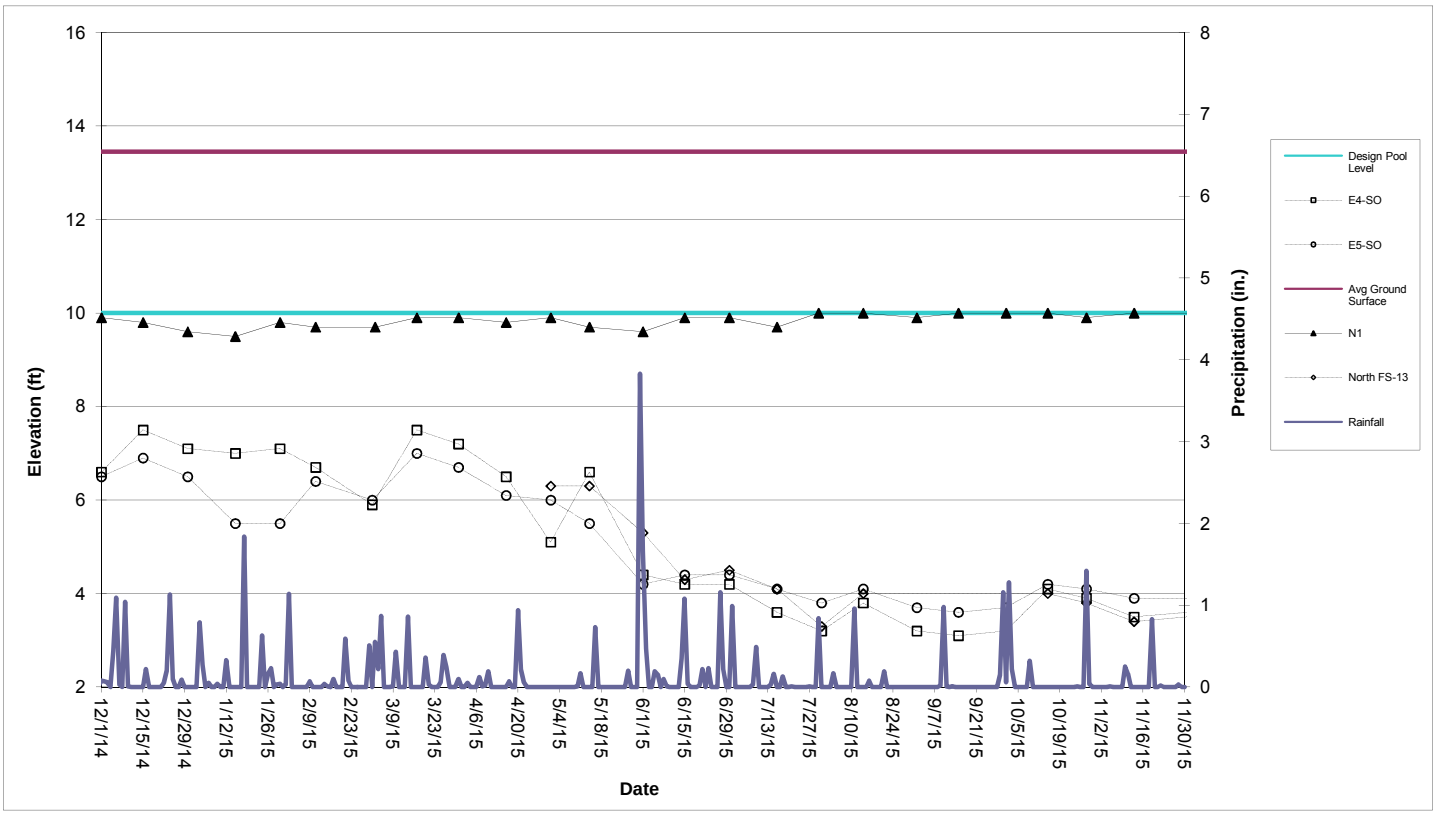
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

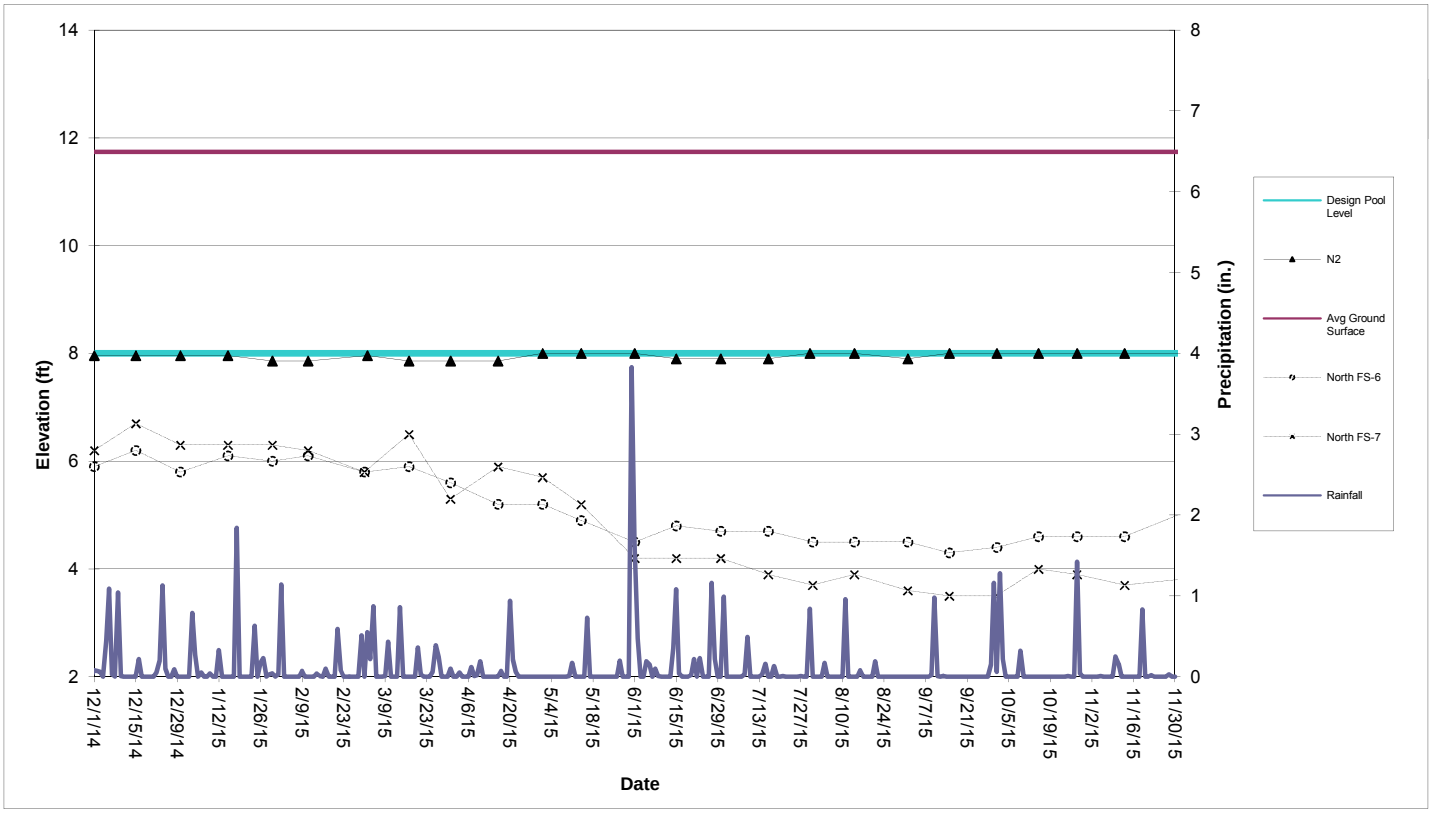
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

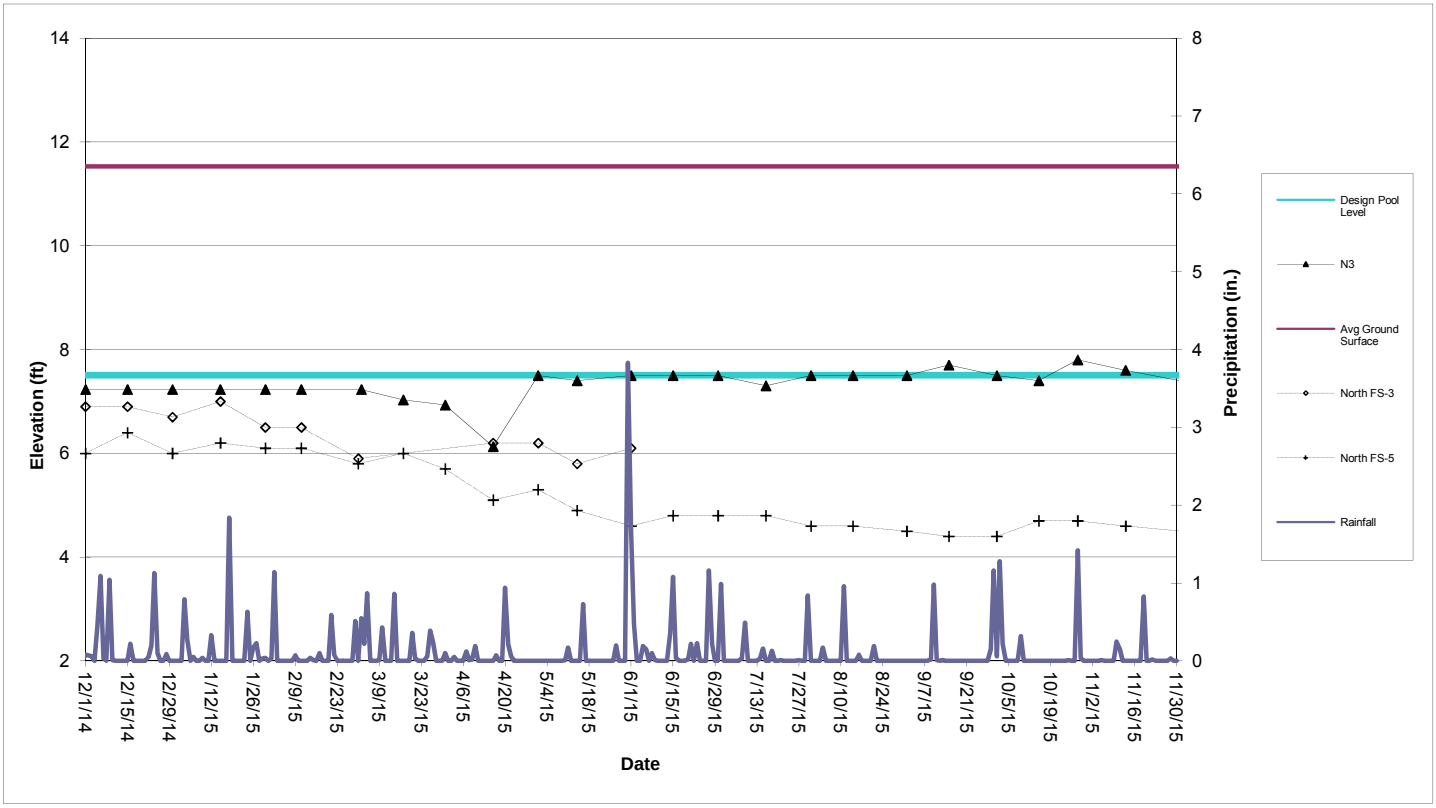
Jul 09, 2015 at 3:14pm
G:\DWGS\102\10210\Dewatering\PP-1.dwg
bboscaino



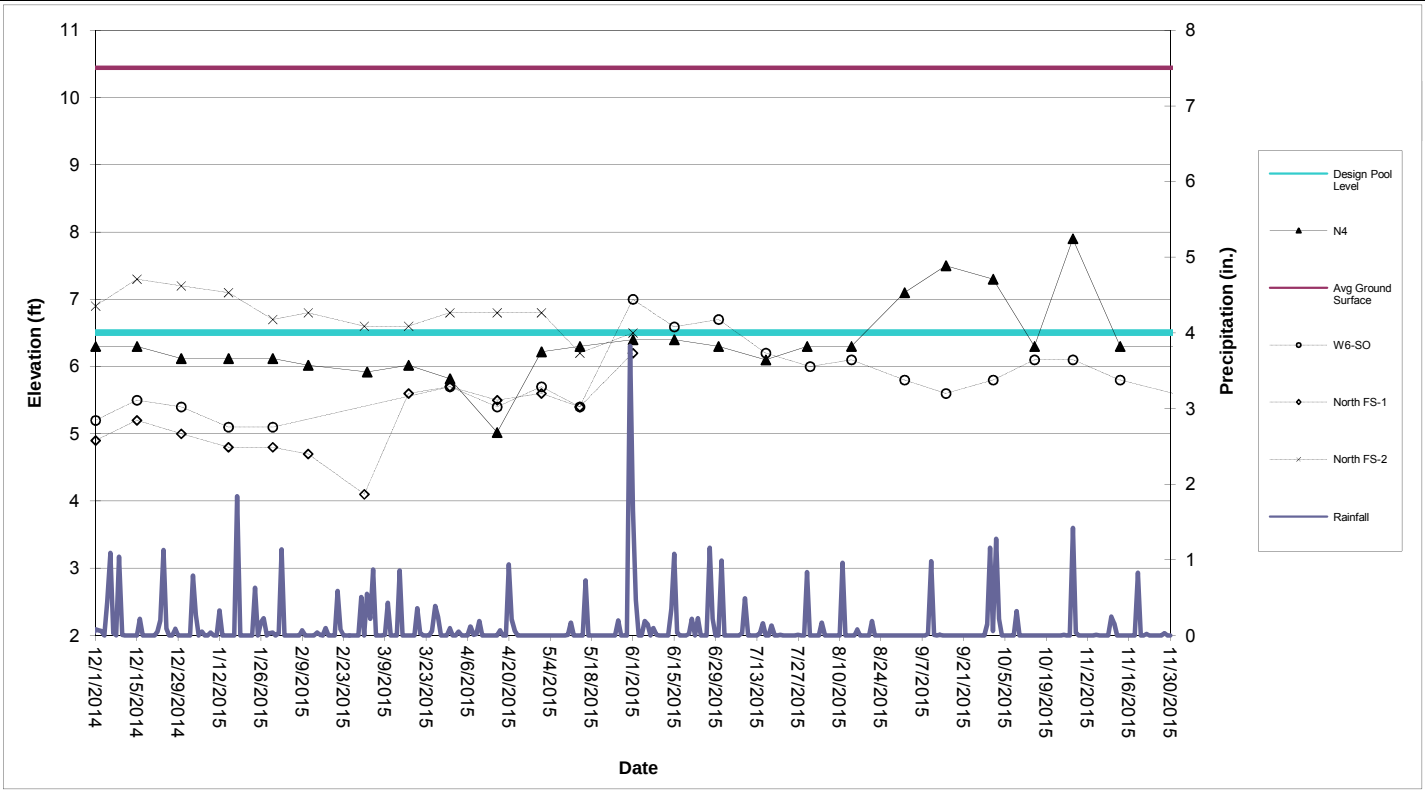
Perimeter Pool N1 (Sta. N13+60 to N20+25)



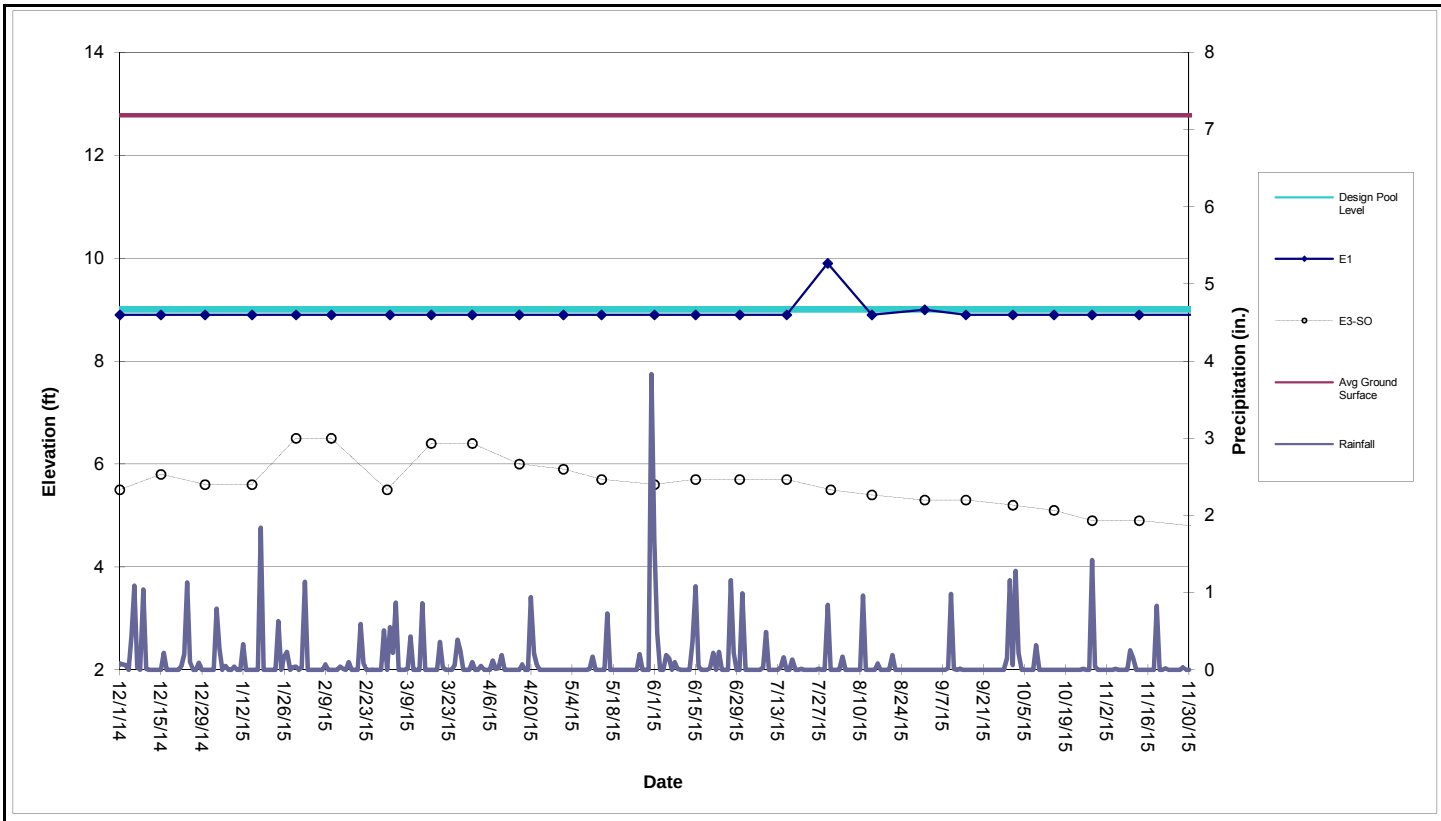
Perimeter Pool N2 (Sta. N10+73 to N13+10)



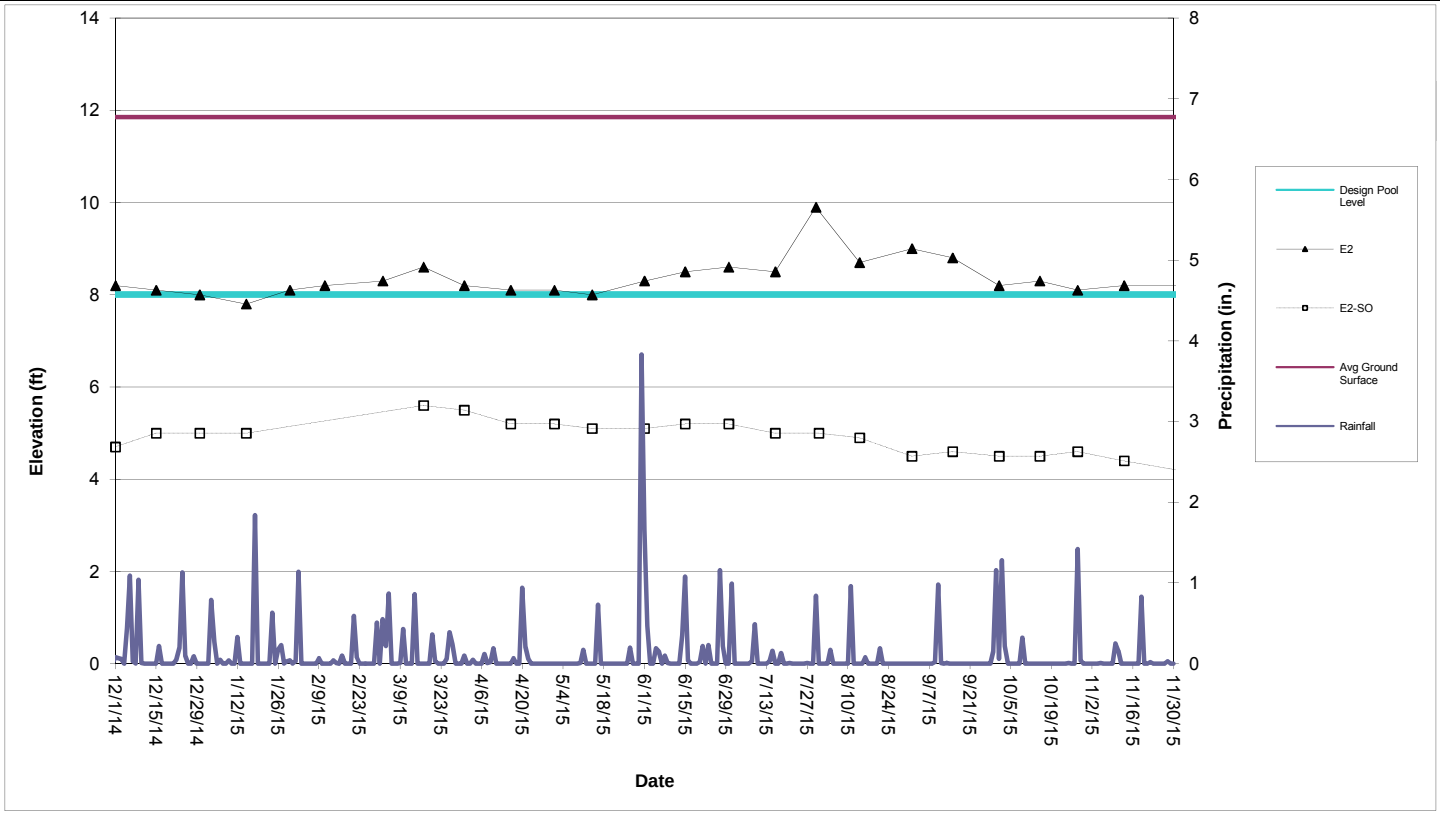
Perimeter Pool N3 (Sta. N6+80 to N10+23)



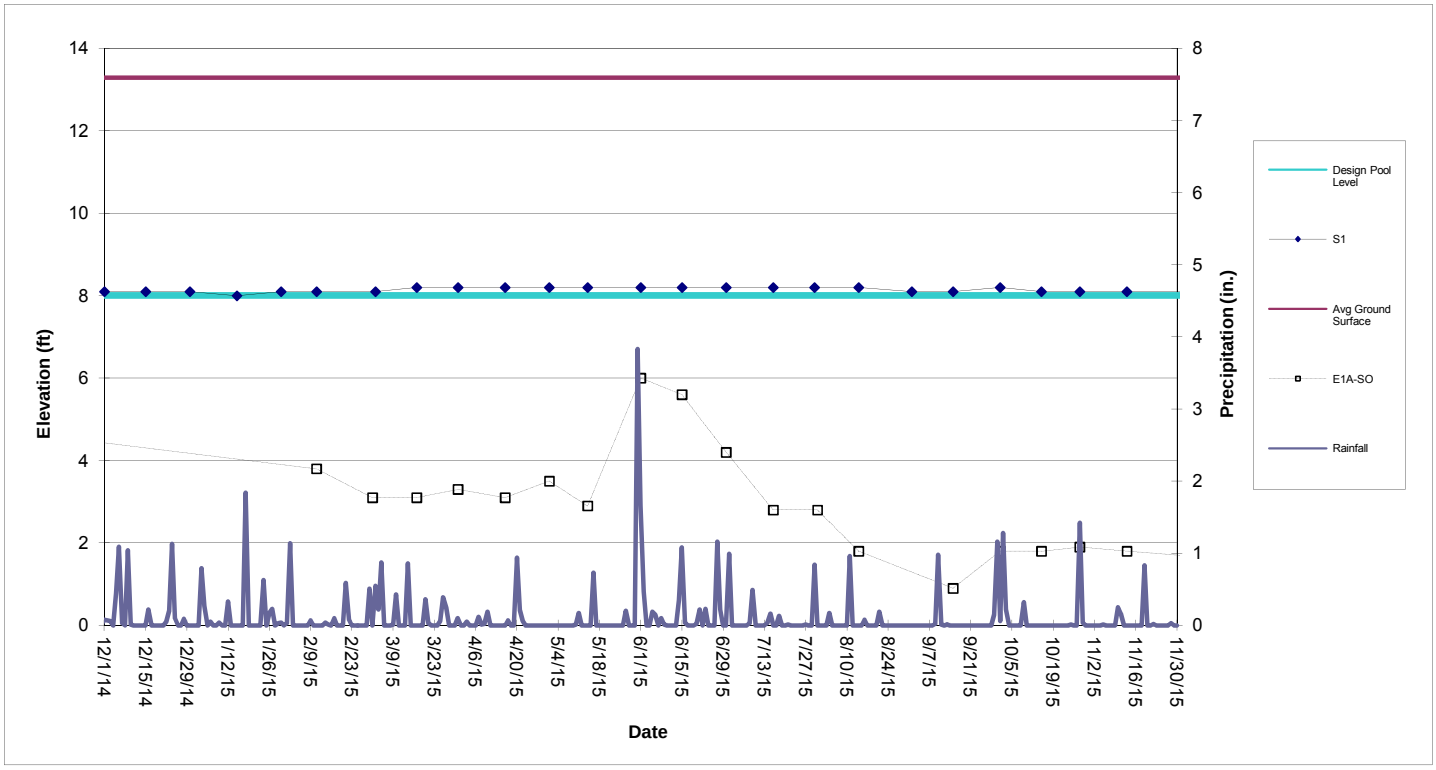
Perimeter Pool N4 (Sta. N6+80 to N10+23)



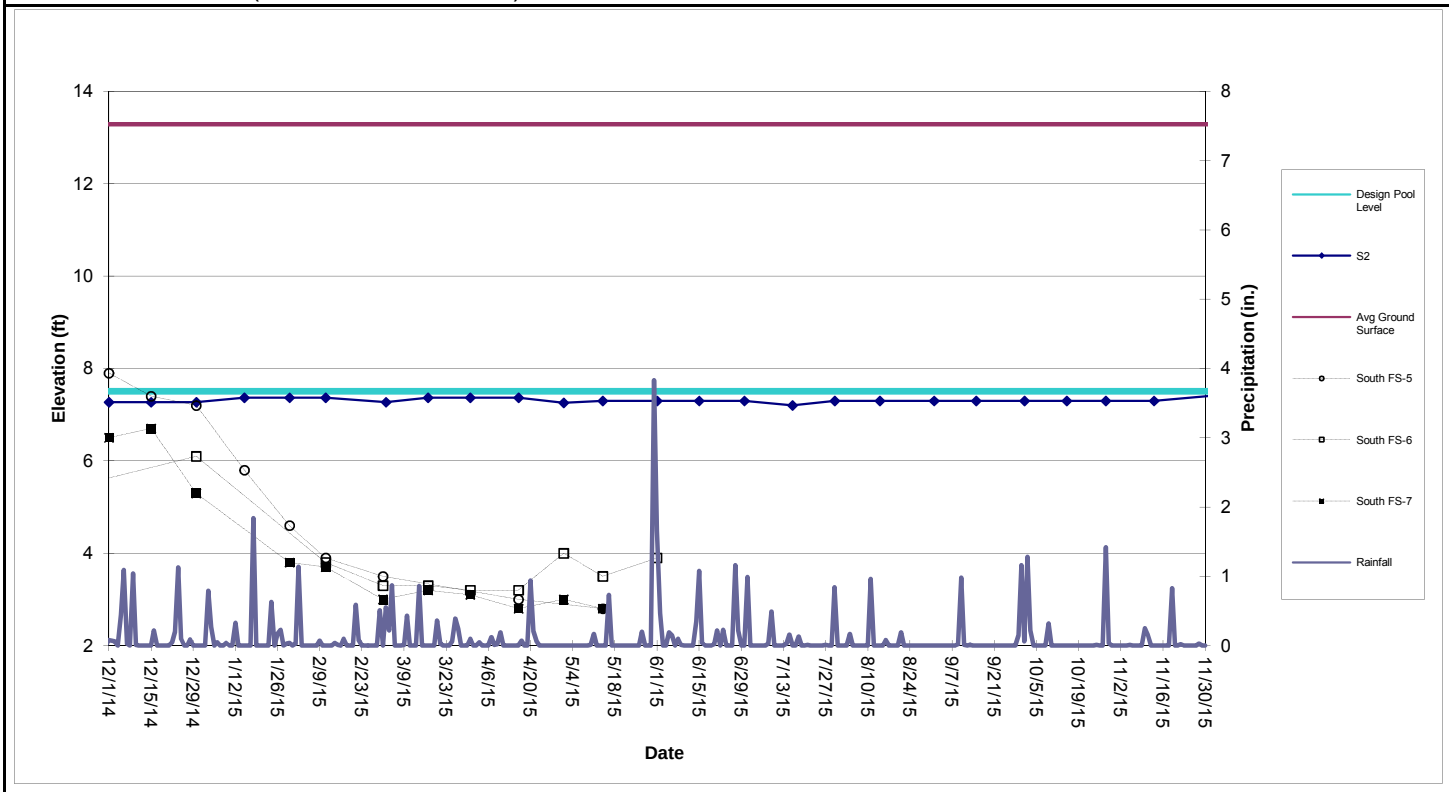
Perimeter Pool E1 (Sta. E0+50 to E3+75)



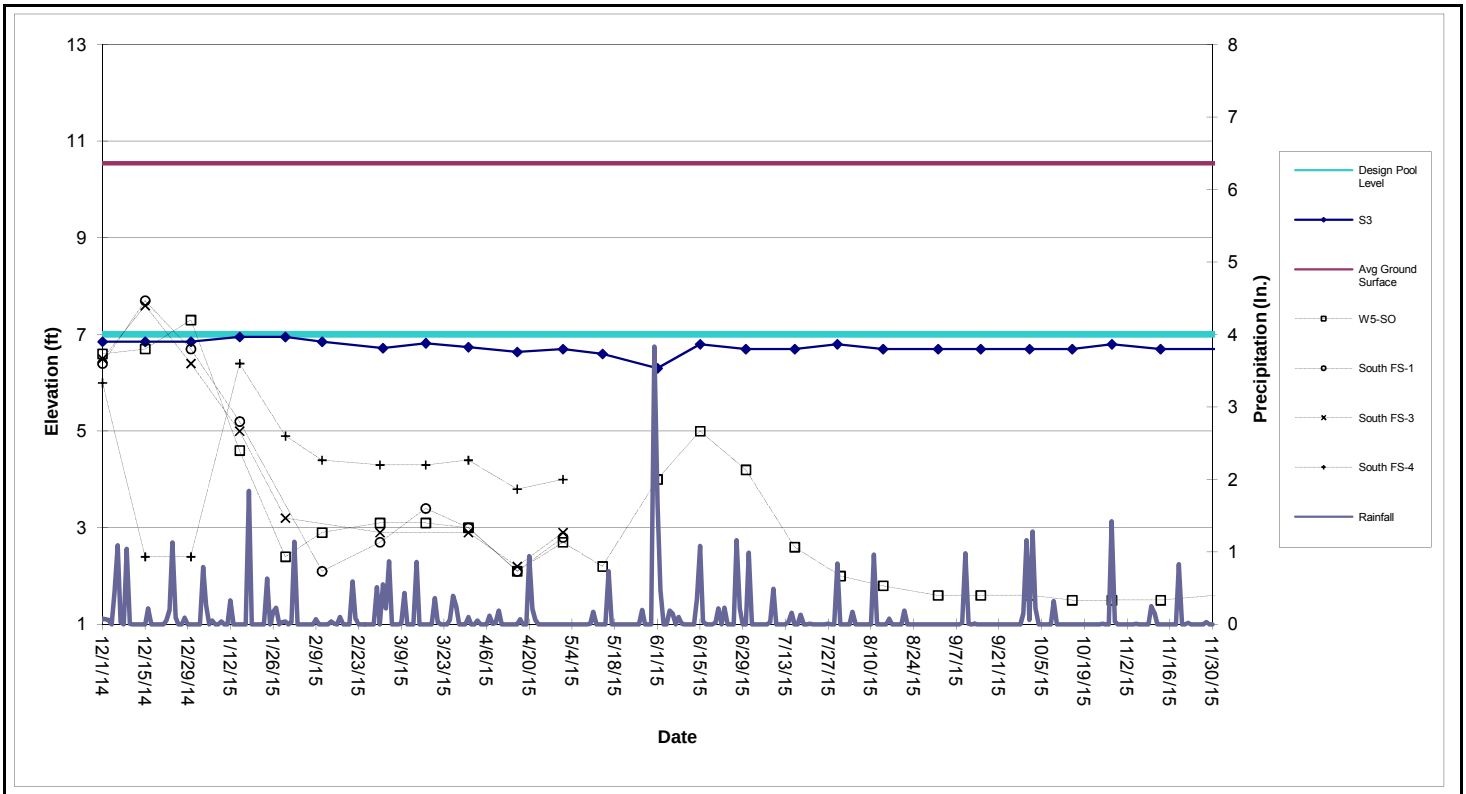
Perimeter Pool E2 (Sta. E4+50 to E7+25)



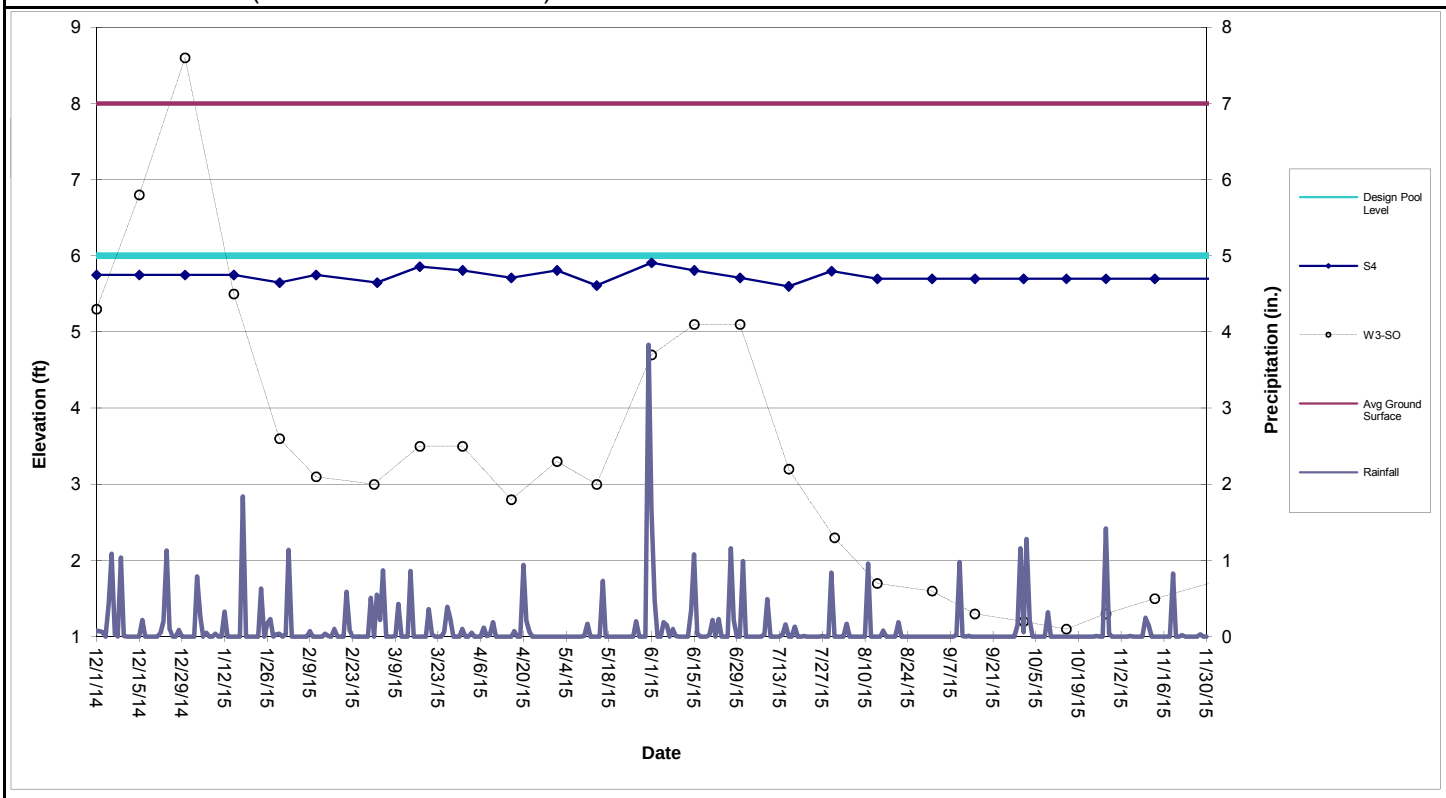
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-1	FS-2	FS-3	FS-5	FS-6	FS-7	FS-13	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																						
12/1/2014		4.7	5.5	6.6	6.5		5.3	6.6	5.2	4.9	6.9	6.9	6.0	5.9	6.2		6.4	6.5	6.0	7.9		6.5
12/15/2014		5.0	5.8	7.5	6.9		6.8	6.7	5.5	5.2	7.3	6.9	6.4	6.2	6.7		7.7	7.6	2.4	7.4		6.7
12/30/2014		5.0	5.6	7.1	6.5		8.6	7.3	5.4	5.0	7.2	6.7	6.0	5.8	6.3		6.7	6.4	2.4	7.2	6.1	5.3
1/15/2015		5.0	5.6	7.0	5.5		5.5	4.6	5.1	4.8	7.1	7.0	6.2	6.1	6.3		5.2	5.0	6.4	5.8		
1/30/2015			6.5	7.1	5.5		3.6	2.4	5.1	4.8	6.7	6.5	6.1	6.0	6.3			3.2	4.9	4.6		3.8
2/11/2015	3.8		6.5	6.7	6.4		3.1	2.9		4.7	6.8	6.5	6.1	6.1	6.2		2.1		4.4	3.9	3.8	3.7
3/2/2015	3.1		5.5	5.9	6.0		3.0	3.1		4.1	6.6	5.9	5.8	5.8	5.8		2.7	2.9	4.3	3.5	3.3	3.0
3/17/2015	3.1	5.6	6.4	7.5	7.0		3.5	3.1		5.6	6.6		6.0	5.9	6.5		3.4		4.3		3.3	3.2
3/31/2015	3.3	5.5	6.4	7.2	6.7		3.5	3.0	5.7	5.7	6.8		5.7	5.6	5.3		3.0	2.9	4.4		3.2	3.1
4/16/2015	3.1	5.2	6.0	6.5	6.1		2.8	2.1	5.4	5.5	6.8	6.2	5.1	5.2	5.9		2.1	2.2	3.8	3.0	3.2	2.8
5/1/2015	3.5	5.2	5.9	5.1	6.0		3.3	2.7	5.7	5.6	6.8	6.2	5.3	5.2	5.7	6.3	2.8	2.9	4.0		4.0	3.0
5/14/2015	2.9	5.1	5.7	6.6	5.5		3.0	2.2	5.4	5.4	6.2	5.8	4.9	4.9	5.2	6.3				2.8	3.5	2.8
6/1/2015	6.0	5.1	5.6	4.4	4.2		4.7	4.0	7.0	6.2	6.5	6.1	4.6	4.5	4.2	5.3					3.9	
6/15/2015	5.6	5.2	5.7	4.2	4.4		5.1	5.0	6.6				4.8	4.8	4.2	4.3						
6/30/2015	4.2	5.2	5.7	4.2	4.4		5.1	4.2	6.7				4.8	4.7	4.2	4.5						
7/16/2015	2.8	5.0	5.7	3.6	4.1		3.2	2.6	6.2				4.8	4.7	3.9	4.1						
7/31/2015	2.8	5.0	5.5	3.2	3.8		2.3	2.0	6.0				4.6	4.5	3.7	3.3						
8/14/2015	1.8	4.9	5.4	3.8	4.1		1.7	1.8	6.1				4.6	4.5	3.9	4.0						
9/1/2015		4.5	5.3	3.2	3.7		1.6	1.6	5.8				4.5	4.5	3.6							
9/15/2015	0.9	4.6	5.3	3.1	3.6		1.3	1.6	5.6				4.4	4.3	3.5							
10/1/2015	1.8	4.5	5.2	3.2	3.7		1.2	1.6	5.8				4.4	4.4	3.5							
10/15/2015	1.8	4.5	5.1	4.1	4.2		1.1	1.5	6.1				4.7	4.6	4.0	4.0						
10/28/2015	1.9	4.6	4.9	3.9	4.1	6.9	1.3	1.5	6.1				4.7	4.6	3.9	3.8						
11/13/2015	1.8	4.4	4.9	3.5	3.9	6.4	1.5	1.5	5.8				4.6	4.6	3.7	3.4						

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09

Attachment 8: Groundwater Quality Data

(not included in this reporting period)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 59P-9

Date Exposed: 11/16/15

Describe Damage:

Epoxy Scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to bottom of excavation

Date Repaired: 11/19/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 59P-10

Date Exposed: 11/16/15

Describe Damage:

Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 59P-11

Date Exposed: 11/16/15

Describe Damage:

Epoxy Scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 59P-12

Date Exposed: 11/16/15

Describe Damage:

Epoxy Scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 59P-13

Date Exposed: 11/16/15

Describe Damage:

Epoxy Scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to bottom of excavation

Date Repaired: 11/19/15

Inspected by: A. Eslamineyad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-1

Date Exposed: 11/16/15

Describe Damage:

Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15

Inspected by: A. Eslamineyad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-2

Date Exposed: 11/16/15

Describe Damage:

Epoxy Scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15

Inspected by: A. Eslamineyad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-3

Date Exposed: 11/16/15

Describe Damage:

Epoxy Scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15

Inspected by: A. Eslamineyad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:
Entact ID: 60P-4
Date Exposed: 11/16/15
Describe Damage:

Epoxy Scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to bottom of excavation

Date Repaired: 11/19/15
Inspected by: A. Eslamineyad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:
Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:
Entact ID: 60P-5
Date Exposed: 11/16/15
Describe Damage:

Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15
Inspected by: A. Eslamineyad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:
Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:
Entact ID: 60P-6
Date Exposed: 11/17/15
Describe Damage:

Epoxy Scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15
Inspected by: A. Eslamineyad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:
Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:
Entact ID: 60P-7
Date Exposed: 11/17/15
Describe Damage:

Epoxy Scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15
Inspected by: A. Eslamineyad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:
Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-8

Date Exposed: 11/17/15

Describe Damage:

Epoxy Scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to bottom of excavation

Date Repaired: 11/19/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-9

Date Exposed: 11/17/15

Describe Damage:

Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-10

Date Exposed: 11/17/15

Describe Damage:

Epoxy Scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-11

Date Exposed: 11/17/15

Describe Damage:

Epoxy Scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-12

Date Exposed: 11/17/15

Describe Damage:

Epoxy Scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to bottom of excavation

Date Repaired: 11/19/15

Inspected by: A. Eslamineyad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-13

Date Exposed: 11/17/15

Describe Damage:

Epoxy Scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15

Inspected by: A. Eslamineyad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-14

Date Exposed: 11/17/15

Describe Damage:

Epoxy Scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15

Inspected by: A. Eslamineyad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-15

Date Exposed: 11/17/15

Describe Damage:

Epoxy Scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15

Inspected by: A. Eslamineyad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-16

Date Exposed: 11/17/15

Describe Damage:

Epoxy Scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to bottom of excavation

Date Repaired: 11/19/15

Inspected by: A. Eslamineyad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-17

Date Exposed: 11/19/15

Describe Damage:

Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/24/15

Inspected by: A. Eslamineyad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 11/24/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-18

Date Exposed: 11/19/15

Describe Damage:

Epoxy Scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/24/15

Inspected by: A. Eslamineyad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 11/24/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-19

Date Exposed: 11/19/15

Describe Damage:

Epoxy Scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/24/15

Inspected by: A. Eslamineyad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 11/24/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-20

Date Exposed: 11/19/15

Describe Damage:

Epoxy Scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to bottom of excavation

Date Repaired: 11/24/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 11/24/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-21

Date Exposed: 11/19/15

Describe Damage:

Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/24/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 11/24/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-22

Date Exposed: 11/19/15

Describe Damage:

Epoxy Scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/24/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 11/24/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-23

Date Exposed: 11/19/15

Describe Damage:

Epoxy Scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/24/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

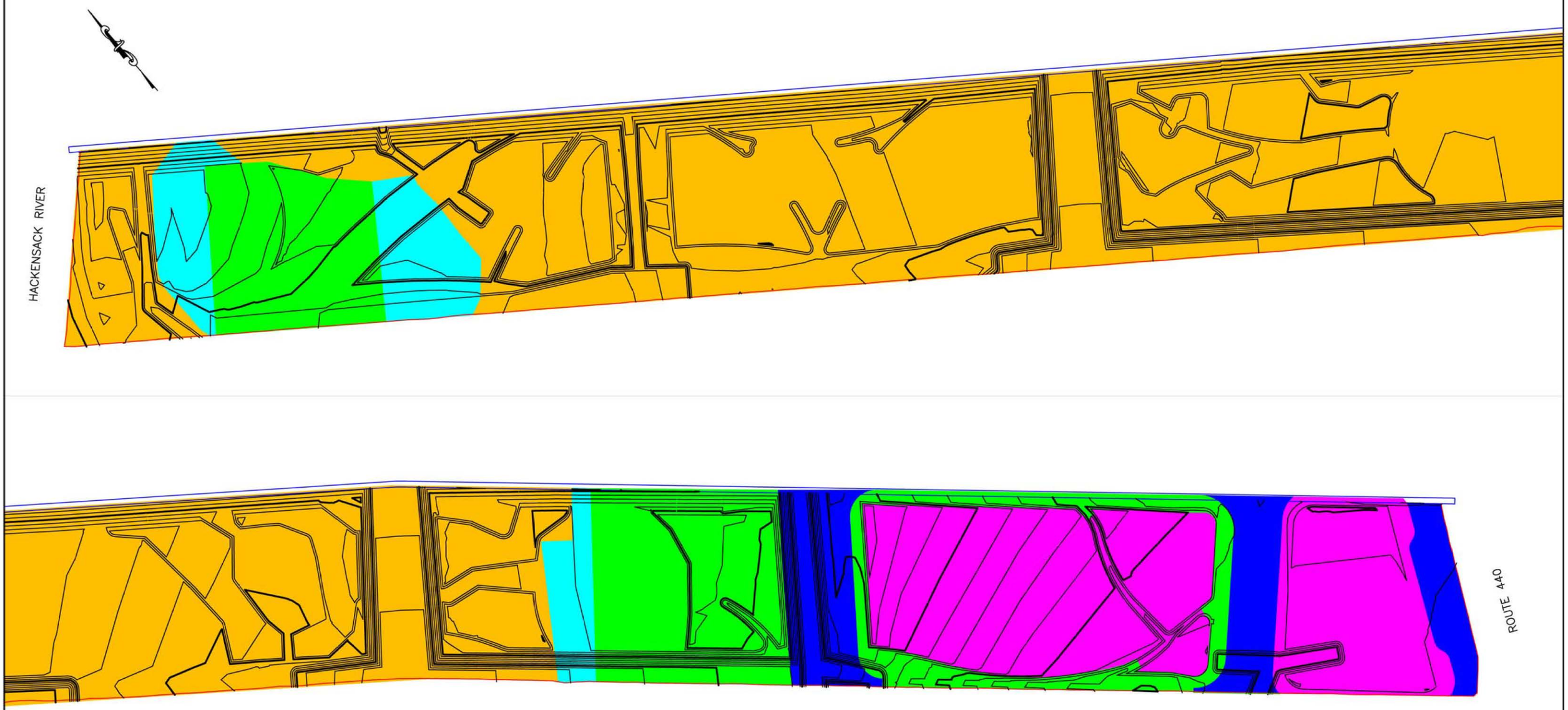
Repair Log Closure: AMEC Signature:

Date: 11/24/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

Attachment 11: Capping Update

- SA-6 South Cap Subgrade Progress Map
- Repair Log
- QA Photo Log
- Daily QA Reports



LEGEND

- GDL COVER SOIL PLACED
- GDL COVER SOIL GRADED AND APPROVED FOR HORIZON SOILS
- HORIZON C SOIL PLACED
- HORIZON C PLACED TO FINAL HORIZON C GRADE
- STRUCTURAL FILL PLACED
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP COVER SOILS PROGRESS MAP
12/03/15

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-1	CF	2/3		98'N OF SEOS (VALLEY DESIGN)	P	2.5	x	63		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-2	WR	3/4		94'N OF SEOS	P	2	x	12		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-3	SI		3	60'N OF 2/3 & 11'E	P	2	x	2.5		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-4	DS-1	3/4		18'N OF SEOS	P	2	X	28		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-5	CF		3	140'N OF 2/3 & 6'E	P	2	x	10		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-6	PB	1/2		135'N OF SEOS (PB 8")	P	5	x	5	52.5	7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-7	PB		1	85'N OF 1/2 & 17'W (PB 4")	P	3	x	4	36.58	7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-8	SI		2	86'N OF 2/3 & 2'W	P	1.5	x	2		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-9	RW	4/5		SEOS	P	1.5	x	3		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-10	SJ	5/6/7		SJ 5/6/7	P	1.5	X	2		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-11	RW	5/7		SEOS	P	2	x	4		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-12	DS-2	6/7		10'E OF WEOS	P	2	x	5.5		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-13	FS	7/8		E.S. & COVER OVER SJ 6/7/8	P	2	x	6		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-14	PB		8	147'N OF 6/8 & 4'E (PB 8")	P	5	x	5	52.5	7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-15	BO	9/10		52'N OF SEOS	P	2	x	3		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-16	DS-3	11/12		100'N OF SEOS	P	2	x	5		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-17	CF	13/14		46'S OF NEOS (VALLEY DESIGN)	P	2	x	42		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-18	DSX-1		13	ON RP-17	P	2	X	6		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-19	DS-4	14/15		16'S OF NEOS	P	2	x	5		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-20	CF	14/15	15	57'S OF NEOS	P	2	x	20		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-21	CF	15/16		37'S OF NEOS	P	2	x	16		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-22	BO	16/17		23'S OF NEOS	P	2	x	10		7/24/15	EMMANUEL V.	EXT 512	VBOX		7/30/15
RP-23	DS-5	17/18		75'S OF NEOS	P	2	x	5		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-24	PB	16		80'S OF 16/17 & 13'W (MH 48")	P	10	x	10	174.7	7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-25	CF	15/16		78'S OF NEOS	P	2	x	15		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-26	CF		16	100'S OF 16/17 & 15'W	P	2	x	23		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-27	BO	16/17		80'S OF NEOS (PATCH)& 7'W (EXT)	P	2	x	2	84	7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-28	BO	16/17		115'S OF NEOS	P	2	x	10		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-29	BO	16/17		130'S OF NEOS	P	2	x	8		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-30	SI		17	110'S OF 17/18 & 4'W	P	2	x	2		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-31	BO	17/18		101'S OF NEOS	P	2	x	23		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-32	AO		15	SEOP (TRIANGLE)	B		x		324	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-33	CF		16	134'S OF 16/17 & 6'W	P	2	x	13		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-34	DSX-2	RP-32/15	15	10'E OF RP-32	P	2	x	4.5		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-35	WR		17	94'S OF 16/17 & 3'W	P	2	x	4		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-36	WR		17	88'S OF 16/17 & 3'W	P	1.5	x	4		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-37	WR		17	88'S OF 16/17 & 15'W	P	2	x	6		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-38	WR		17	101'S OF 16/17 & 10'W	P	2	x	8		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-39	DS-6	20/21		155'S OF NEOS	P	2	x	5		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-40	BO	20/21		128'S OF NEOS	P	2	x	7		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-41	WR		18	75'S OF 18/19 & 11'W	P	2	x	3		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-42	CR	17/18		60'S OF NEOS	P	2	x	5		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-43	WR		18	55'S OF 18/19 & 8'W	P	2	x	7		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-44	BO	18/19		55'S OF NEOS	P	2	x	6		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-45	WR		19	33'S OF 19/20 & 10'W	P	2	X	3		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-46	WR	19/20		29'S OF NEOS	P	2	x	4.5		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-47	WR		19	33'S OF 19/20 &15'W	P	1.5	x	3		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-48	WR		19	21'S OF 19/20 & 9'W	P	2	x	2		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-49	WR		19	14'S OF 19/20 & 11'W	P	1.5	x	3		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-50	WR		20	30'S OF 20/21 & 14'W	P	1.5	x	2		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-51	BO	20/21		30'S OF NEOS	P	2	x	5		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-52	WR		17	BETWEEN RP-35 & RP-38	B		x		60	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-53	WR		17	BETWEEN RP-36 & RP-38	B		x		108	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-54	WR		17	BETWEEN RP-37 & RP-38	B		x		96	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-55	CF		16	BETWEEN RP-24 & RP-27	B		x		60	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-56	CF		18	BETWEEN RP-41 & RP-43	B		x		180	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-57	CF		18	BETWEEN RP-42 & RP-43	B		x		156	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-58	CF		19	BETWEEN RP-48 & RP-49	B		x		60	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-59	CF		19	BETWEEN RP-47 & RP-48	B		x		72	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-60	CF		19	BETWEEN RP-45,RP-46& RP-48	B		x		180	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-61	CF		20	BETWEEN RP-50 & RP-51	B		x		144	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-62	WR		21	10'S OF 21/22 & 8'W	P	2	x	14		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-63	WR		21	6'S OF 21/22 & 13'W	P	2	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-64	WR		21	BETWEEN RP-63 & RP-65	B		x		168	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-65	WR		21	20'S OF 21/22 & 18'W	P	2	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-66	WR		22	20'S OF 22/23 & 5'W	P	1.5	x	12		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-67	BO	21/22		84'S OF NEOS	P	1.5	x	3		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-68	BO	22/23		76'S OF NEOS	P	1.5	x	3		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-69	WR		22	130'S OF 21/22 & 6'E	P	2	x	4		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-70	WR		22	BETWEEN RP-69 & RP-71	B		x		60	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-71	CR	21/22		137'S OF NEOS	P	2	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-72	WR		21	BETWEEN RP-71 & RP-73	B		x		24	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-73	WR		21	130'S OF 21/22 & 4'W	P	2	x	4		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-74	WR		21	BETWEEN RP-73 & RP-75	B		x		48	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-75	WR		21	129'S OF 21/22 & 9'W	P	1.5	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-76	BO	22/23		97'S OF NEOS	P	1.5	x	3		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-77	WR		23	118'S OF 22/23 & 7'E	P	2	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-78	WR		23	BETWEEN RP-77 & RP-79	B		x		48	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-79	WR		23	124'S OF 22/23 & 7'E	P	2	x	11		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-80	WR		23	BETWEEN RP-79 & RP-81	B		x		84	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-81	WR		23	134'S 22/23 & 9'E	P	2	x	5		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-82	DS-7	23/24		87'S OF NEOS	P	2	x	5		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-83	DSX-3	RP-82/23		ON RP-82/83(87'S OF NEOS)	P	2	x	5		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-84	CR	23/24		116'S OF NEOS	P	1.5	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-85	CF		23	125'S OF 23/24 & 3'W	P	2	x	3		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-86	CF		23	BETWEEN RP-85 & RP-87	B		x		168	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-87	CF		23	140'S OF 23/24 & 10'W	P	2	x	4		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-88	BO	24/25		127'S OF NEOS	P	2	x	3		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-89	WR		24	BETWEEN RP-88 & RP-90	B		x		60	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-90	WR		24	127'S OF 24/25 & 5'W	P	2	x	2.5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-91	CF		25	100'N OF 25/26 & 6'W	P	2	x	6		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-92	CF		25	BETWEEN RP-91 & RP-93	B		X		120	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-93	CF		25	121'N OF 25/26 & 12'W (T-SHAPE)	P	2	x	22		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-94	CF		25	BETWEEN RP-93 & RP-95	B		x		84	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-95	CF	25/26		110'N TO 129'N OF SEOS	P	2	x	19		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-96	DS-8	26/27		128'N OF SEOS	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-97	BO	26/27		71'N OF SEOS	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-98	CF		27	BETWEEN RP-97 & RP-100	B		x		24	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-99	CR	26/27		38'N OF SEOS	P	2	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-100	CF		27	55'N OF 26/27 & 13'E	P	2	x	30		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-101	CF		27	BETWEEN RP-100 & RP-102	B		x		144	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-102	CF		27	87'N OF 26/27 & 7'E	P	2	x	6.5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-103	CF	27/28		117'N OF SEOS	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-104	CF		28	BETWEEN RP-103 & RP-105	B		x		156	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-105	BO	28/29		120'N OF SEOS	P	2	x	15		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-106	CF		28	BETWEEN RP-105 & RP-107	B		x		192	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-107	CF		28	134'N OF 27/28 & 4'E	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-108	BO	29/30		125'N OF SEOS	P	2	x	10		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-109	DS-9	29/30		80'N OF SEOS	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-110	CF		28	85'N OF 28/29 & 3'W	P	2	x	3		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-111	CF		28	BETWEEN RP-110 & RP-112	B		x		180	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-112	WR	28/29		68'N OF SEOS	P	2	x	8		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-113	WR		28	BETWEEN RP-112 & RP-114	B		x		36	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-114	WS	28/29		73'N OF SEOS	P	2	x	3		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-115	BO	28/29		61'N OF SEOS	P	1.5	X	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-116	WR		28	29'N OF 27/28 & 1'E	P	2	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-117	WR		28	BETWEEN RP-116 & RP-118	B		x		72	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-118	WR		28	29'N OF 27/28 &9'E	P	2	X	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-119	WR		28	BETWEEN RP-118 & RP-120	B		x		24	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-120	WR		28	29'N OF 27/28 & 13'E	P	1	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-121	BO	27/28		34'N OF SEOS	P	2	x	7		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-122	CF		27	BETWEEN RP-121 & RP-123	B		x		24	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-123	CF		27	34'N OF 27/28 & 5'W	P	1.5	x	1.5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-124	CF		28	34'N OF 27/28 & 10'E	P	2	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-125	CF		28	BETWEEN RP-124 & RP-126	B		x		108	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-126	CF		28	45'N OF 27/28 & 6'E	P	1.5	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-127	CF		28	BETWEEN RP-126 & RP-128	B		x		24	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-128	CF		28	48'N OF 27/28 & 6'E	P	1.5	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-129	PB		11	80'N OF 10/11 & 8'E (PB 8")	P	3	x	3	52.5	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-130	DS-10	32/33		20'N OF SEOS	P	2	x	5.5		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-131	DSX-4	RP-102/27		ON EASTSIDE OF RP-102/27	P	2	x	5		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-132	PB		32	13'N OF 31/32 & 1'E (PB 4")	P	3	x	4	36.6	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-133	WR	33/34		SEOS TO 21'N	P	2.5	x	21		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-134	WR		34	BETWEEN RP-133 & RP-135(N.SIDE)	B		x		84	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-135	WR		34	18'N OF 33/34 & 11'E	P	3	x	10		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-136	WR		34	FROM RP-135 TO SEOP	B		x		180	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-137	WR		34	BETWEEN RP-133 & RP-135(S.SIDE)	B		x		120	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-138	WR		34	BETWEEN RP-137 & RP-139	B		x		36	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-139	WR		34	13'N OF 33/34 & 6'E	P	1.5	x	1.5		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-140	WR		34	BETWEEN RP-135 & RP-141	B		x		168	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-141	WR		34	36'N OF 33/34 & 10'E	P	1	x	2		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-142	CF		30	112'N OF 29/30 & 5'E	P	2	x	14		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-143	CF		30	BETWEEN RP-142 & RP-144	B		x		48	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-144	CF		30	98'N OF 29/30 & 7'E	P	1.5	x	14		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-145	DS-11	36/37		90'W OF EEOS & SJ 34/36/37	P	2	x	7		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-146	SJ	41/44/45		SJ 41/44/45	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-147	SJ	44/45/46		SJ 44/45/46	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-148	SJ	40/41/44		SJ 40/41/44	P	2	x	5.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-149	SJ	34/40/41		SJ 34/40/41	P	3	x	5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-150	SJ	34/39/40		SJ 34/39/40	P	1.5	x	3		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-151	SJ	34/38/39		SJ 34/38/39	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-152	SJ	34/37/38		SJ 34/37/38	P	2	x	2.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-153	BO	35/36		84'W OF EEOS	P	2	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-154	WR		36	BETWEEN RP-153 & RP-155	B		x		36	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-155	WR		36	84'W OF 35/36 & 5'S	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-156	SJ	34/35/36		SJ 34/35/36	P	2	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-157	BO	34/35		10'S OF NEOS	P	1.5	X	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-158	WR		35	65'W OF 35/36 & 11'N	P	1.5	X	4		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-159	WR		35	FROM RP-158 TO N.END OF P-35	P		x		144	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-160	DS-12	42/43		20'N OF SEOS	P	2	x	5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-161	SJ	43/44/46		SJ 43/44/46	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-162	WR	44/46		5'W OF EEOS	P	1.5	X	3		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-163	WR		44	BETWEEN RP-162 & RP-164	B		x		36	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-164	WR		44	5'W OF 44/46 & 5'N	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-165	WR		44	BETWEEN RP-162 RP-166	B		x		216	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-166	WR	40/44		16'W OF EEOS	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-167	SJ	40/42/43		SJ 40/42/43	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-168	SJ	39/40/42		SJ 39/40/42	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-169	SJ	38/39/42		SJ 38/39/42	P	2	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-170	SJ	37/38/42		SJ 37/38/42	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-171	SJ	36/37/42		SJ 36/37/42	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-172	WR	36/42		6'S OF NEOS	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-173	WR		42	BETWEEN RP-172 & RP-174	B		x		108	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-174	WR		42	6'S OF 36/42 & 10'E	P	3	x	4		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-175	CR	35/42		15'S OF NEOS	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-176	WR		42	BETWEEN RP-174 & RP-175	B		x		132	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-177	SJ	35/36/42		SJ 35/36/42	P	2	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-178	CR	35/36		15'W OF EEOS	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-179	WR		35	30'W OF 35/36 & 10'N	P	2	x	4		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-180	WR		35	FROM RP-179 TO N.END OF P-35	B		x		156	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-181	CR	44/45		11'W OF EEOS	P	1.5	x	2.5		8/4/15	PEDRO S.	EXT 512	VBIOX	P	8/4/15
RP-182	WR		44	BETWEEN RP-181 & RP-183	B		x		204	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-183	CR	40/44		42'W OF EEOS	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-184	BO	40/44		48'W OF EEOS	P	2	x	7		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-185	SJ	40/43/44		SJ 40/43/44	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-186	DSX-5	RP-160/42		ON RP-160/42	P	2	x	5		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-187	WR		42	7'N OF 39/42 &1'E TO 6'E	B		x		78	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-188	PB		25	74'S OF 24/25 & 5'E (PB 8")	P	3	x	3	52.5	8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-189	WR		35	15'W OF 35/36 & 16'N	P	2	x	7		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-190	WR		35	BETWEEN RP-189 & RP-191	B		x		84	8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-191	WR		35	15'W OF 35/36 & 6'N	P	1.5	x	1.5		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-192	WR		36	10'W OF 36/37 & 7'N	P	1.5	x	2		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-193	WR		36	BETWEEN RP-192 & RP-194	B		x		180	8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-194	WR		36	10'W OF 36/37 & 24'N	P	2	x	4		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-195	BO	47/48		106'S OF NEOS	P	2	x	6.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-196	BO	48/49		86'S OF NEOS	P	2	x	4		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-197	BO	53/54		15'S OF NEOS	P	2	x	7		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-198	WR	48/49		94'S OF NEOS	P	2	x	28		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-199	CR	42/47		50'S OF NEOS	P	2	x	2.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-200	CF		47	56'S OF NEOS(SURFACE DESIGN)	P	2	x	38		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-201	CF		47	38'S OF 42/47 & 8'E	P	1.5	x	1.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-202	CF		47	BETWEEN RP-201 & RP-203	B		x		240	8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-203	CF		47	59'S OF 42/47 & 18'E	P	1.5	x	1.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-204	DS-13	47/48		70'S OF NEOS	P	2	x	5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-205	CF		47	FROM RP-200 TO MANHOLE	B		x		216	8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-206	WR		48	46'S OF 47/48 & 4'E	P	1.5	x	1.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-207	WR		48	BETWEEN RP-206 & RP-208	B		x		180	8/7/15	PEDRO S.	EXT 512	VNOX	P	8/7/15
RP-208	WR		48	64'S OF 48/49 & 6'W	P	2	x	11		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-209	WR		48	BETWEEN RP-208 & RP-210	B		x		36	8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-210	WR		48	57'S OF 48/49 & 4'W	P	2.5	x	2.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-211	DSX-6	RP-198/48		ON W.END OF RP-198/48	P	2	x	5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-212	WR	49/50		72'S OF NEOS	P	2	x	9		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-213	WR		50	75'S OF 49/50 & 8'E	P	2	x	7		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-214	WR		50	BETWEEN RP-213 & RP-215	B		x		24	8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-215	WR		50	78'S OF 49/50 & 2'E	P	2	x	2		8/7/15	PEDRO S.	EXT 512	VBOX	F	8/10/15
RP-216	SJ	50/51/52		SJ 50/51/52	P	2	x	2		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-217	SJ	51/52/53		SJ 51/52/53	P	2	x	2		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-218	PB		47	87'S OF 42/47 & 11'E(MH 48")	P	9.5	x	9.5	175	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-219	PB		38	3'W OF 37/38 & 3'S (PB 8")	P	3.5	x	4	52.5	8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15
RP-220	BO	55/57		101'N OF SEOS	P	2	x	2.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-221	BO	55/57		120'N OF SEOS	P	2	x	8		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-222	WR		50	REPAIR LEAK OVER RP-215	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-223	DS-14	50/51		35'S OF NEOS	P	2	x	5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-224	WR	51/53		20'S OF NEOS	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-225	WR		53	BETWEEN RP-224 & RP-226	B		x		96	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-226	WR		53	20'S OF 51/53 & 14'E	P	2	x	8		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-227	WR		53	30'S OF 53/54 & 5'W	P	1.5	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-228	WR		53	BETWEEN RP-227 & RP-229	B		x		36	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-229	WR		53	35'S OF 51/53 & 5'W	P	2	x	11		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-230	DS-15	54/55		72'S OF NEOS	P	2	x	4.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-231	SJ	54/55/56		SJ 54/55/56	P	1.5	x	1.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-232	SJ	55/56/57		SJ 55/56/57	P	1.5	x	1.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-233	CF		55	76'N OF 55/57 & 3'W	P	2	X	13		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-234	CF		55	BETWEEN RP-233 & RP-235	B		x		24	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-235	CF		55	80'N OF 55/57 & 2'W	P	2	x	3.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-236	CF		58	128'S OF 57/58 7'E	P	3	x	4		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-237	CF		58	BETWEEN RP-236 & RP-238	B		x		168	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-238	CF		58	140'S OF 57/58 & 20'E	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-239	CF		58	BETWEEN RP-236 & RP-240	B		x		96	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-240	CF		58	125'S OF 57/58 & 17'E	P	1.5	x	1.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-241	CF		58	BETWEEN RP-239 & RP-242	B		x		36	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-242	CF		58	128'S OF 57/58 & 15'E	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-243	PB		58	75'S OF 57/58 & 6'E (PB 8")	p	4	x	4	52.5	9/11/15	EMMANUEL V.	EXT 512	VBOX	P	9/11/15
RP-244	SJ	58/59/60		SJ 58/59/60	P	1.5	x	1.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-245	DSX-7	RP-197/53		ON RP-197/53	P	2	x	5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-246	PB		62	135'N OF 61/62 & 2'E (PB 8")	P	3	x	4	52.5	8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15
RP-247	SJ	59/60/61		SJ 59/60/61	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-248	DS-16	59/61		6'N OF SEOS	P	2	x	5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-249	DS-17	62/63		90'N OF SEOS	P	2	x	5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-250	CR		65	2'N OF 65/66 & 5'E	P	2	x	2		8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15
RP-251	SJ	64/65/66		SJ 64/65/66	P	2	x	2		8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15
RP-252	BO	65/66		8'N OF SEOS	P	2	x	2		8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-253	DS-18	64/65		128'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-254	DS-19	68/69		100'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-255	PB		71	9'N OF 71/72 & 5'W (PB 4")	P	5	x	6	36.6	8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-256	DS-20	72/73		10'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-257	PB		74	92'N OF 73/74 & 1'E (PB 8")	P	3.5	x	4	52.5	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/14/15
RP-258	BO	71/72		57'N OF SEOS	P	2	x	2		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-259	BO	71/72		133'N OF SEOS	P	2	x	2.5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-260	BO	74/75		60'N OF SEOS	P	2	x	6		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-261	DS-21	74/75		75'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-262	PB	78/79		WEOS (MH 48")	P	10	x	11	175	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-263	CF		73	FROM RP-264 TO 4'N	B		x		48	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-264	CF		73	23'N OF 72/73 & 5'E	P	2.5	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-265	CF		73	BETWEEN RP-264 & RP-266	B		x		84	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-266	CF		73	14'N OF 72/73 & 7'E	P	1.5	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-267	CF		73	BETWEEN RP-266 & RP-272	B		x		96	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-268	CF		73	FROM RP-269 TO 3'W	B		x		36	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-269	CF		73	14'N OF 72/73 &18'E	P	2	x	9		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-270	CF		73	BETWEEN RP-269 & RP-271	B		x		108	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-271	CF		73	4'N OF 72/73 & 9'E	P	2	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-272	CF		73	15'N OF 72/73 & 15'E	P	2	x	10		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-273	CF		73	BETWEEN RP-272 & RP-274	B		x		36	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-274	CF		73	23'N OF 72/73 & 15'E	P	2	x	6		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-275	CF		73	FROM RP-274 TO 5'N	B		x		60	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-276	CF		73	FROM RP-277 TO 12'E	B		x		144	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-277	CF		73	50'N OF 72/73 & 5'E	P	2	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-278	CF		73	46'N OF 73/74 & 5'W	P	1.5	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-279	CF		73	BETWEEN RP-278 & RP-280	B		x		156	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-280	CF		73	59'N OF 73/74 & 16'W	P	1.5	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-281	CF		71	137'N OF 71/72 & 2'W	P	1.5	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-282	CF		71	BETWEEN RP-281 & RP-283	B		x		120	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-283	CF		71	125'N OF 71/72 & 8'W	P	1.5	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-284	CF		71	164'N OF 71/72 & 8'W	P	2	x	4		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-285	CF		71	BETWEEN RP-284 & RP-286	B		x		132	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-286	CF		71	142'N OF 71/72 & 3'W	P	2	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-287	CF		71	FROM RP-288 TO 8'N	B		x		96	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-288	CF		71	137'N OF 71/72 & 9.5' W	P	1.5	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-289	DSX-8	RP-284/71		ON RP-284/71	P	2	x	5		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-290	WR	68/69		132'N OF SEOS	P	2	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-291	WR		68	BETWEEN RP-290 & RP-292	B		x		96	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-292	WR		68	126'N OF 68/69 & 10'W	P	2	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-293	SI		57	136'N OF 56/57 & 7'E	P	2	x	2		9/11/15	EMMANUEL V.	EXT 512	VBOX	P	9/11/15
RP-294	SJ			SJ 75/80/81	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-295	SJ			SJ 75/79/80	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-296	SJ			SJ 75/77/78	P	2	x	3		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-297	SJ			SJ 75/76/77	P	1	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-298	DS-22	79/80		78'E OF WEOS	P	2	x	4		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-299	SJ			SJ 75/81/82	P	2.5	x	14		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-300	SJ			SJ 81/82/83	P	1.5	x	1.5		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-301	SJ			SJ 81/83/84	P	1	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-302	SJ			SJ 83/84/85	P	2	x	4		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-303	SJ			SJ 84/85/86	P	1	x	1		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-304	WR	84/85		7'W OF EEOS	P	1.5	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-305	WR		84	BETWEEN RP-304 & RP-306	B		x		204	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-306	WR		84	7'W OF 84/85 & 17'N	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-307	WR		84	FROM RP-308 TO 12'SW	B		x		144	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-308	WR		84	20'E OF 81/84 & 13'S	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-309	WR	75/82		14'N OF SEOS	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-310	WR		82	BETWEEN RP-309 & RP-311	B		x		240	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-311	WR	82/83		15'N OF SEOS	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-312	WR		82	6'N OF 82/83 & 6.5' W	P	1.5	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-313	WR		82	BETWEEN RP-312 & RP-314	B		x		132	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-314	WR		82	19'N OF 82/83 & 6'W	P	1.5	x	1.5		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-315	BO	81/84		24'E OF WEOS			x			9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-316	DS-23	88/89		116'N OF SEOS	p	2	x	4.5		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-317	WR		79	BETWEEN RP-298 & RP-318	B		x		66	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-318	WR		79	78'E OF 79/80 & 7'N	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-319	BO	81/87		8'N OF SEOS	P	2	x	5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-320	SJ			SJ 80/81/87	P	2	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-321	SJ			SJ 79/80/87	P	2	x	2.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-322	WR	79/87		6'N OF SEOS	P	2	x	6		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-323	SJ			SJ 78/79/87	P	1.5	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-324	SJ			SJ 77/78/87	P	1.5	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-325	SJ			SJ 76/77/87	P	1.5	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-326	CF	89/90		145'N OF SEOS	P	2	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-327	CF		89	145'N OF 89/90 & 6'W	B		x		72	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-328	CF	89/90		81'N OF NEOS	P	2	x	2.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-329	CF		89	81'N OF 89/90 & 5'W	B		x		60	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-330	DSX-9	RP-316/88		RP-316/88	P	2	x	4.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-331	SI		83	9'S OF 83/84 & 8'W (END OF PANEL)	P	2	x	18		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-332	SJ			SJ 84/86/87	P	3	x	12		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-333	CR		84/86	EEOS	P	2	x	2.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-334	WR		84	BETWEEN RP-315 & RP-335	B		x		12	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-335	WR		84	7'W OF 81/84 & 3.5'S	P	3	x	3		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-336	SJ			SJ 81/84/87	P	2	x	3		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-337	CF	84/87		BETWEEN RP-332 & RP-336	B		x		216	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-338	WR	81/84		24'E TO EEOS	B		x		36	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-339	WR		81	11'N OF 81/87 & 4'W	P	1.5	x	1.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-340	WR		81	BETWEEN RP-339 & RP-341	B		x		138	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-341	WR		81	13'W OF 81/84 & 3'N	P	2	x	3.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-342	AO		76	ADD ON NORTH SIDE OF P-76	P	8	x	16		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-343	CF	76/77		66'E OF WEOS	P	2	x	3		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-344	CF		77	BETWEEN RP-343 & RP-345	B		x		36	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-345	CF		77	66'E OF 76/77 & 5'S	P	2	x	6		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-346	CF		77	BETWEEN RP-345 & RP-347	B		x		48	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-347	CF		77	66'E OF 76/77 & 10'S	P	1.5	x	1.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-348	WR		85	4'W OF 84/85 & 4'S	B		x		48	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-349	WR		84	4'W OF 84/85 & 8'N	B		x		96	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-350	DS-24	91/92		45'N OF SEOS	P	2	x	5		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-351	CF	91/92		151'N OF SEOS	P	2	x	4		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-352	CF		91	BETWEEN RP-351 & RP-353	B		x		216	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-353	CF		91	151'N OF 91/92 & 19.5'W	P	3	x	3		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-354	CF	93/94		144'N OF SEOS	P	2	x	4		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-355	CF		94	BETWEEN RP-354 & RP-356	B		x		72	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-356	CF		94	144'N OF 93/94 & 10'E	P	2	x	4.5		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-357	CF		90	29'N OF 90/91 & 4'W	P	2	x	3		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-358	CF		90	BETWEEN RP-357 & RP-359	B		x		60	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-359	CF		90	31'N OF 90/91 & 9'W	P	2	x	4		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-360	CF		90	BETWEEN RP-359 & RP-361	B		x		24	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-361	CF		90	31'N OF 90/91 & 13'W	P	2	x	2.5		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-362	WR		80	11'S OF 80/87 & 5'W	P	1	x	2		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-363	WR		80	BETWEEN RP-362 & RP-365	B		x		54	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-364	WR	79/80		8.5'W OF EEOS	P	2	x	2		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-365	WR		8O	5'S OF 80/87 & 10'W	P	2	x	4		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-366	WR		80	BETWEEN RP-364 & RP-365	B		x		60	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-367	DS-25	94/95		100'N OF SEOS	P	2	x	4.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-368	CF	94/95		125'N OF SEOS	P	2	x	6		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-369	PB		95	95'N OF 94/95 & 6'E (PB 8")	P	4	x	4.5	52.5	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-370	CF	94/95		33'N OF SEOS	P	2.5	x	5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-371	CF		95	BETWEEN RP-370 & RP-372	B		x		48	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-372	CF		95	33'N OF 94/95 & 6.5'E	P	2	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-373	BO	95/96		128'S OF NEOS	P	2	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-374	DS-26	96/97		33'S OF NEOS	P	2	x	4.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-375	CF	96/97		95'S OF NEOS	P	2	x	8		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-376	CF	96/97		FROM RP-377 TO 117'S	P	2	x	14		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-377	CF		96	101'S OF 96/97 TO 15'W	P	4	x	15		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-378	CF		96	105'S OF OF 96/97 & 13'W	P	3	x	4.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-379	CF		96	101'S OF 96/97 & 17'W	P	3	x	4.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-380	CF		96	93'S OF 96/97 & 8'W	P	2.5	x	4		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-381	CF		96	BETWEEN RP-380 & RP-382	B		x		48	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-382	CF		96	86.5'S OF 96/97 & 4'W	P	2	x	2.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-383	BO	103/104		16'W OF EEOS	P	2	x	2.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-384	BO	97/103		12'S OF NEOS			x			9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-385	SI		94	126'N OF 94/95 & 8'W	P	1	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-386	DSX-10	RP-376/96		RP-376/96 (DSX-10)	P	2	x	5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-387	SJ			SJ 97/103/104	P	1.5	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-388	CF		97	BETWEEN RP-384 & RP-389	B		x		24	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-389	CF		97	12'S OF 97/103 & 3.5'W	P	1	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-390	SJ			SJ 97/102/103	P	2	x	2.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-391	SJ			SJ 97/101/102	P	1	x	1.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-392	SJ			SJ 97/100/101	P	1	x	1.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-393	SJ			SJ 97/99/100	P	1.5	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-394	SJ			SJ 97/98/99	P	2	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-395	CF		103	FROM RP-383 TO 5'N	B		x		60	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-396	CF		103	4'N FROM RP-397 & 14'NW	B		x		168	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-397	SJ			SJ 103/104/105	P	2	x	3.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-398	SJ			SJ 103/105/106	P	3	x	4		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-399	CF		107	122'S OF 107/108 & 4'W	B		x		192	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-400	SJ			SJ 103/106/107	P	2	x	2.5		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-401	SJ			SJ 102/103/107	P	2	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-402	SJ			SJ 101/102/107	P	2	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-403	SJ			SJ 100/101/107	P	2	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-404	SJ			SJ 99/100/107	P	2	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-405	SJ			SJ 98/99/107	P	1.5	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-406	CF		98	FROM RP-412 TO N.E. CORNER	B		x		144	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-407	CF		98	FROM RP-412 TO N.W. CORNER	B		x		168	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-408	CF		107	13'S OF 107/108 & 4.5'W	P	1.5	x	3		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-409	CF		107	BETWEEN RP-408 & RP-411	B		x		168	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-410	CF		107	6'S OF 107/108 & 5'W	B		x		60	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-411	CF		107	5'S OF 98/107 & 4'E	P	1.5	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-412	CF		98	BETWEEN RP-406 & RP-407	P	2	x	22		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-413	CF		108	143'S OF 108/109 & 3'E	P	1.5	x	1.5		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-414	CF		108	FROM RP-413 TO 17'S	B		x		204	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-415	CF		107	FROM RP-416 TO 4'W	B		x		48	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-416	CF		107	154'S OF 107/108 & 6'W	P	2	x	4		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-417	CF		107	FROM RP-416 TO 4'E	B		x		48	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-418	PB		109	152'S OF 108/109 & 2.5'E (PB 4")	P	4	x	6	36.6	9/23/15	EMMANUEL V.	EXT 512	VBOX	P	9/23/15
RP-419	PB	111/112		15'S OF NEOS (PB 8")	P	3.5	x	4.5	52.5	9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15
RP-420	PB		113	82'S OF 112/113 & 14' (MH 48")	P	9	x	11	175	9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-421	BO	113/114		28'S OF NEOS	P	2	x	4.5		9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15
RP-422	DS-27	110/111		120'S OF NEOS	P	2	x	5		9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15
RP-423	SI		111	15'S OF 111/112 & 6'E	P	1.5	x	2		9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15
RP-424	DSX-11	RP-421/114		RP-421/114 (DSX-11)	P	2	x	6		9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15
RP-425	PB	114/115		68'S OF NEOS (PB 8")	P	3	x	3.5	52.5	10/8/15	EMMANUEL V.	EXT 512	VBOX	P	10/8/15
RP-426	CF	115/116		28'S OF NEOS	P	2	x	2.5		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-427	CF	117/118		121'S OF NEOS	P	2	x	13		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-428	WR		115	12'S OF 114/115 & 3'E	P	2	x	3.5		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-429	WR		115	BETWEEN RP-428 & RP-430	B		x		120	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-430	WR		115	12'S OF 114/115 &15.5'E	P	2	x	3.5		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-431	CF		115	BETWEEN RP-426 & RP-432	B		x		48	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-432	CF		115	FROM RP-431 TO 15'NW	P	2	x	15		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-433	DO		117	123'S OF 117/118 & 6'E	P	1.5	x	1.5		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-434	CF		118	BETWEEN RP-427 & RP-435	B		x		12	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-435	CF		118	FROM RP-436 TO 5'N	B		x		60	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-436	CF		118	BETWEEN RP-434 & RP-435	P	2	x	14		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-437	CF	119/120		94'S OF NEOS	P	2	x	3		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-438	CF	119/120		22'S OF NEOS	P	2	x	3		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-439	CF	119/120		127'S OF NEOS	P	2	x	9		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-440	CF	119/120		139'S OF NEOS	P	2.5	x	4		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-441	CF		119	FROM RP-437 TO 14'W	B		x		168	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-442	CF		119	BETWEEN RP-440 & RP-443	B		x		192	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-443	CF		119	149'S OF 119/120 & 17.5'W	P	2	x	2.5		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-444	CF	119/120		BETWEEN RP-439 & RP-440	B		x		144	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-445	AO	RP-445		ON SEAM CONTROL	P	5	x	17		9/29/15	PEDRO S.	2025	Air Pressure	P	9/29/15
RP-446	AO	RP-446		ON SEAM CONTROL	P	5	x	17		9/29/15	PEDRO S.	2025	Air Pressure	P	9/29/15
RP-447	SJ			RP-445/RP-446/122	P	2	x	3		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-448	SJ			RP-446/121/122	P	2.5	x	3		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-449	CF		122	FROM RP-448 TO 10'E	B		x		120	9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-450	BO	122/123		23'N OF SEOS	P	2.5	x	4		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-451	SJ			P122/123/124	P	1.5	x	2		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-452	SJ			P 123/124/125	P	1.5	x	1.5		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-453	CF		125	FROM RP-454 TO 11'S	P	3.5	x	11		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-454	CF	123/125		18'N OF SEOS	P	3	x	9.5		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-455	CF		125	FROM RP-454 TO 10'N	P	3.5	x	10		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-456	DS-28	123/125		90'N OF SEOS	P	2	x	5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-457	PB		125	68'S OF P125/126 & 4'W (PB 8")	P	3	x	3.5	52.5	10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-458	SI		125	ON RP-453 & RP-455	P	2	x	16		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-459	SI	120,121,122,	&123	BETWEEN RP-454 TO RP-473	P	2	x	91		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-460	DSX-12	RP-459/123		N.SIDE OF RP-459 (DSX-12)	P	2	x	5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-461	SI		122	BETWEEN RP-450 & RP-459	P	2	x	5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-462	SI		122	FROM RP-461 TO 3'NW	B		x		36	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-463	SI		122	FROM RP-459 TO 5'S	P	2	x	5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-464	SI			SJ 121/122/RP-459	P	2	x	4		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-465	SI		121	BETWEEN RP-459 & RP-468	B		x		6	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-466	SI	121/122		FROM RP-467 TO RP-465 & RP-468	B		x		108	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-467	SI		121	9'SE OF RP-465 , RP-466 & RP-468	P	2	x	2.5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-468	SI		121	BETWEEN RP-465 & RP-469	B		x		42	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-469	SI		121	BETWEEN RP-468 & RP-470	B		x		132	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-470	SI		121	11'SW OF RP-468	P	2	x	3		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-471	SI		121	BETWEEN RP-468 & RP-472	B		x		12	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-472	SI		121	FROM RP-471 TO SEOP	P	2	x	23		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-473	SI	119/120		BETWEEN RP-439,RP-444& RP-440	P	2	x	17		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-474	SI	119/120		NEOS TO 16'S	P	2	x	16		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-475	SI		117	NEOP & 5'W OF 117/118	P	2	x	14		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-476	PB	128/132	132	81'N OF SEOS & 3'E (PB 4")	P	3	x	6	36.6	10/8/15	EMMANUEL V.	EXT 512	VBOX	P	10/9/15
RP-477	SI	125/126	125	159'S OF NEOS & 13' W	P	2	x	13		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-478	SJ			P 127/128/129	P	2	x	2.5		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-479	SJ			P 128/129/132	P	2	x	3		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-480	DS-29	128/132		25'N OF SEOS	P	2	x	7		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-481	SJ			P 128/131/132	P	2	x	2		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-482	SJ			P 128/130/131	P	2	x	2.5		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-483	DSX-13	RP-477/125		N.SIDE OF RP-477 (DSX-13)	P	2	x	5		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-484	DSX-14	RP-480/132		E.SIDE OF RP-480 (DSX-14)	P	2	x	5		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-485	SJ			P 132/133/143	P	2	x	2		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-486	DSX-15	RP-487/125		N.SIDE OF RP-487 (DSX-15)	P	2	x	5		10/12/15	EDFY E.	EXT 512	VBOX	P	10/12/15
RP-487	FS		125	DS-13 FAIL (CAP OVER RP-477/RP-483)	P	5	x	15		10/12/15	EDFY E.	EXT 512	VBOX	P	10/12/15
RP-488	DO		123	6' S OF NEOS ON SCB WALL EDGE	P	3	x	2.5		11/4/15	EDFY E.	EXT 512	NA		
							x								
							x								
							x								
							x								
							x								
							x								
							x								
							x								
							x								
							x								
							x								
							x								
							x								
							x								
							x								
							x								
							x								

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

PHOTOGRAPHIC LOG
Photo #1 (11/04/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
11/4/15

Direction Taken:

Looking north along northern end of SA-6 cap (SCB wall) at approximate Sta. 2+95

Description:

Minor puncture along SCB wall from excavator bucket. Tooth of bucket penetrated through GDL and into underlying geomembrane layer.

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

PHOTOGRAPHIC LOG
Photo #2 (11/04/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
11/4/15

Direction Taken:

Looking north along SCB wall

Description:

Area around puncture cleared to allow ESI to complete patch / repair work (as per project specs).

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

PHOTOGRAPHIC LOG
Photo #3 (11/04/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
11/4/15

Direction Taken:

Looking south along SCB wall

Description:

ESI replacing GCL underneath puncture at SCB wall.

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PHOTOGRAPHIC LOG
Photo #4 (11/04/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
11/4/15

Direction Taken:

Looking north along SCB wall (northern end of SA-6)

Description:

New geomembrane patch leistered over puncture

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PHOTOGRAPHIC LOG
Photo #5 (11/04/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
11/4/15

Direction Taken:

Looking east along SA-6 (at SCB wall)

Description:

ESI conducting extrusion welding over new patch / repair (RP-488).

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

PHOTOGRAPHIC LOG
Photo #6 (11/04/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
11/4/15

Direction Taken:

Looking north along SCB wall

Description:

Extrusion welding along patch completed (as per project specs). Vacuum box testing unable to be conducted based on the location of the patch (on edge of SCB wall). Weld visually inspected by Entact / Langan.

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PHOTOGRAPHIC LOG
Photo #7 (11/04/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
11/4/15

Direction Taken:

Looking east along SCB wall

Description:

GDL patched and repaired and covered with fabric (as per project specs).

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	11/04/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	55 / 70° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0845 – 1215

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #39** **AmecFW**: Stu Bills, Dave Ambrose, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of patch / repair work associated with an equipment puncture that was observed along the northern end of SA-6 (at SCB wall) at approximate Sta. 2+95.
- Based on conversations with the project team, it is understood that during final grading of the area, the tooth of an excavator bucket punctured the GDL and underlying geomembrane cap. This error was attributed to malfunctioning GPS equipment, as the SCB wall (outside of the Cap) was not programmed into the GPS.
- Site activities commenced with ESI completing patch / repair work at the puncture location (along edge of SCB wall at approximate Sta. 2+95. A new piece of GCL was initially placed over the puncture area and a 2 ft. by 1.5 ft. geomembrane patch was then placed over the puncture, and sealed with an extrusion weld (as per project specs). Vacuum box testing could not be completed by ESI, as the patch / repair was located right on the edge of the SCB wall (refer to supporting photo log from 11/4/15). As such, the welds were visually observed by Langan and Entact / ESI to confirm uniformity.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 12 (Sheet #12) – Equipment puncture through geomembrane cap.
    - Geomembrane patch was placed over equipment puncture along SCB wall (at approximate Sta. 2+95) and extrusion welded (as per project specs). Prior to patch / repair work, a new piece of GCL was placed over the puncture. This repair was noted as an equipment puncture and was completed following the project specs and as further defined on *Sheet 12 Notice of Non-Compliance.*

Action Items – Pending

- Complete Daily Report and Photo Log (for 11/04/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, 9/23/15, 9/24/15, 9/25/15, 9/29/15, 10/07/15, 10/08/15, 10/09/15, and 10/12/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-29, and DSX-1 through DSX-15. Laboratory results in compliance with shear and peel requirements as outlined in project specifications with the exception of DSX-13 (details previously defined in *10/12/15 Daily Report*).

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Complete associated paperwork and begin construction certification report.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 11/04/15
A3 – Photo Log	Pages 1 – 4	Total of 7 photos outlining pertinent daily observations and descriptions for 11/04/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 11/4/15
A5 – Subgrade Approval		N / A no subgrade approval completed on 11/4/15
A6 – Trial Weld Log	Page 7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 11/4/15.
A7 – Panel Placement Log		N / A no panels placed on 11/4/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 11/4/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destructive testing completed on 11/4/15
A10 – Repair Log	Page 24	One repair log provided by ESI and confirmed by Langan for repairs completed on 11/4/15
A11 – Conformance COC		N / A for 11/4/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 11/4/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

A13 – Destruct. Sample Summary		N / A no destruct samples collected on 11/4/15
A14 – Penetration & Edge Form		N / A no penetration and edge forms completed for 11/4/15
A16 – Notice of Non-Compliance	Sheet #12	One non-compliance issue encountered on 11/4/15 and documented on *Sheet #12 Notice of Non-Compliance*

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: November 6, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

NOTE: All comments are numbered for reference and included on the included comment section.

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 11/09/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, November 06, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen material is pulling loose from the perimeter fence by the mechanics area on Kellogg Street on SA-6 South.
2	IA2Q4A1AL8	Garbage and other debris is present on the grass area at the Kellogg Street jughandle on SA-6 South
3	IA2Q4A1AL8	Erosion control measures are not in place on SA-6 North along the sidewalk where Guarini Plumbing installed the new water valves.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 11/09/15

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach or replace windscreen material as required.	11-12-15 MI
2	Pick up and dispose of garbage and debris as required.	11-12-15 MI
3	Re-install silt fence or construct silt dams along the sidewalk adjacent to the Rt. 440 pedestrian walkway.	11-11-15 MI

Construction Manager: _____ Date 11/12/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: November ~~13~~ 12, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	✓			
River Discharge Weir	✓		X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	✓			
Stockpile Tarping/Containment	✓			
Proper Chemical Storage	✓			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	✓			
Truck De-Con Operation	✓			
Flood Protection	✓			
Haul Road Maintenance	✓			
Perimeter Fencing/Windscreen	✓			
Storm Drain Protection	✓			
Ponded Storm Water	✓			
Housekeeping	✓			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	✓			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	✓			
Misc. Spill Control (Fuels, Lubricants, Etc.)	✓			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	✓			
Proper Chemical Storage	✓			
Containment Around Exclusion Zones	✓			
Water Truck Wet- Down Operation	✓			
Truck De-Con Operation	✓			
Flood Protection			X	
Haul Road Maintenance	✓			
Perimeter Fencing/Windscreen	✓			
Storm Drain Protection	✓			
Ponded Storm Water	✓			
Housekeeping	✓			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	✓			
River Discharge Weir	✓			
Swale Check Dams	✓			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	✓			
Stockpile Tarping/Containment	✓			
Proper Chemical Storage	✓			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	✓			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	✓			
Perimeter Fencing/Windscreen	✓			
Storm Drain Protection	✓			
Ponded Storm Water	✓			
Housekeeping	✓			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 11/12/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, November ~~13~~ 12, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Material on ramp to SA-6 North
2	IA2Q4A1AL8	Material on on the south runway of SA-7 and at the outlet of the structural fill crossing on the west side
3	IA2Q4A1AL8	No safety fencing along the excavation of the 2' cut in 1N.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: _____

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Scrape the ramp	11/17/15
2	Scrape the south run way	11/18/15
3	Install safety fencing along cut faces of 1N	11/17/15

Construction Manager: _____ Date: 11/18/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: November 20, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation		X		1
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		2
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 11/23/15

SWPPP Observer: _____
Signature

- - 3 - -

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, November 20, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	The tracking pad at the truck exit gate on SA-6 South is blinded with sediment.
2	IA2Q4A1AL8	Filter fabric in the catch basins at the western end of Kellogg Street is blinded with sediment and/or perforated.
3	IA2Q4A1AL8	The fire truck access roadway on the eastern side of the H Building on SA-6 North is blocked with historic fill material from the stockpile in that area.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 11/23/15

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-work the stone in the tracking pad or replace it to make it functional.	11-25-15 MM.
2	Replace the filter fabric in the three catch basins as required.	11-23-15 MM.
3	Remove the material which is blocking the emergency vehicle accessway between the eastern side of the H Building and the historic fill stockpile.	ONGOING MM.

Construction Manager: _____ **Date:** 11/25/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: November 25, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance		X		2
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 11/30/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Wednesday, November 25, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Garbage is present along the Kellogg Street jughandle outside of the perimeter site fence.
2	IA2Q4A1AL8	**REPEAT:** The fire truck access roadway on the eastern side of the H Building on SA-6 North is blocked with historic fill material from the stockpile in that area.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 11/30/15

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Pick up garbage and other debris along the outside of the SA-6 South perimeter fence.	12-2-15 MM
2	Remove the material which is blocking the emergency vehicle accessway between the eastern side of the H Building and the historic fill stockpile.	12-3-15 MM

Construction Manager: _____ Date: 12/03/15

Attachment 13: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (Submitted October 2015)
- 12/2/15 PVSC Correspondence: Revisions to Sewer Use Permit #20630025

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

November 19, 2015

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the October 2015 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
10	01	15	10	31	15
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	76,506	86,317 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	0.48	0.54	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.015	<0.015	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	0.00021	0.00021	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.1	<5.1	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1576	0.1576	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

November 19, 2015

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North
ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)
FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305
NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
10	01	15	10	31	15
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,371,680 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 48,118,008

DATE	BOD (mg/l)	TSS (mg/l)
10/13/2015	<33	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris HF	John J. Morris	(973) 455-4003
		DATE November 19, 2015

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG Honeywell Jersey City GWTP; SA-6 North (Permit #20630025) MONTH: October 2015

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD_5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
10/1/2015	Angel Trujillo	45746328	45829794	83,466	0.083466	7.07	0.749									0.52
10/2/2015	Angel Trujillo	45829794	45905736	75,942	0.075942	7.44	0.749									0.47
10/3/2015	Angel Trujillo	45905736	45976242	70,506	0.070506	N/A	0.749									0.44
10/4/2015	Angel Trujillo	45976242	46046748	70,506	0.070506	7.51	0.749									0.44
10/5/2015	Angel Trujillo	46046748	46119544	72,796	0.072796	7.53	0.749									0.45
10/6/2015	Angel Trujillo	46119544	46195518	75,974	0.075974	7.36	0.749									0.47
10/7/2015	Angel Trujillo	46195518	46273544	78,026	0.078026	7.39	0.749									0.49
10/8/2015	Angel Trujillo	46273544	46350538	76,994	0.076994	7.47	0.749									0.48
10/9/2015	Angel Trujillo	46350538	46426069	75,531	0.075531	7.50	0.749									0.47
10/10/2015	Angel Trujillo	46426069	46512386	86,317	0.086317	7.49	0.749									0.54
10/11/2015	Angel Trujillo	46512386	46585241	72,855	0.072855	N/A	0.749									0.46
10/12/2015	Angel Trujillo	46585241	46658096	72,855	0.072855	7.52	0.749									0.46
10/13/2015	Angel Trujillo	46658096	46733444	75,348	0.075348	7.05	0.749	<5.1	<33		<0.010	<0.015	<0.010	0.00021	<0.020	0.47
10/14/2015	Angel Trujillo	46733444	46808816	75,372	0.075372	7.53	0.749									0.47
10/15/2015	Angel Trujillo	46808816	46886626	77,810	0.07781	7.52	0.749									0.49
10/16/2015	Angel Trujillo	46886626	46964342	77,716	0.077716	7.49	0.749									0.49
10/17/2015	Angel Trujillo	46964342	47049248	84,906	0.084906	7.44	0.749									0.53
10/18/2015	Angel Trujillo	47049248	47122258	73,010	0.07301	N/A	0.749									0.46
10/19/2015	Angel Trujillo	47122258	47195268	73,010	0.07301	7.33	0.749									0.46
10/20/2015	Angel Trujillo	47195268	47272370	77,102	0.077102	7.81	0.749									0.48
10/21/2015	Angel Trujillo	47272370	47348190	75,820	0.07582	7.54	0.749									0.47
10/22/2015	Angel Trujillo	47348190	47425246	77,056	0.077056	7.40	0.749									0.48
10/23/2015	Angel Trujillo	47425246	47504328	79,082	0.079082	7.47	0.749									0.49
10/24/2015	Angel Trujillo	47504328	47588942	84,614	0.084614	7.53	0.749									0.53
10/25/2015	Angel Trujillo	47588942	47661650	72,708	0.072708	N/A	0.749									0.45
10/26/2015	Angel Trujillo	47661650	47734358	72,708	0.072708	7.48	0.749									0.45
10/27/2015	Angel Trujillo	47734358	47809676	75,318	0.0753	7.44	0.749									0.47
10/28/2015	Angel Trujillo	47809676	47887866	78,190	0.07819	7.53	0.749									0.49
10/29/2015	Angel Trujillo	47887866	47958382	70,516	0.070516	7.47	0.749									0.44
10/30/2015	Angel Trujillo	47958382	48032990	74,608	0.074608	7.29	0.749									0.47
10/31/2015	Angel Trujillo	48032990	48118008	85,018	0.085018	7.51	0.749									0.53
TOTAL				**2,371,680**	**2.37168**			<5.1	<33		<0.010	<0.015	<0.010	0.00021	<0.020	
			High:	**86,317**											**High:**	**0.54**
			Average:	**76,506**											**Average:**	**0.48**

WW

E

JC 6107

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell

Chain Of Custody / Analysis Request

AESI Ref:	42290.45854
COC#	087-WW-101315
Lab Proj # (SDG):	
Lab ID	ACTD
Site ID	HudsonCo
Lab Job #	HWINJM32815
Authorized User:	Honeywell
Text & Excel File Drive:	Excel & Text File Order

Copyright AESI: Version 8.0 Unauthorized use strictly prohibited

Privileged & Confidential		Site Name:	Hudson County
EDD To:		Location of Site:	Jersey City, NJ
Sampler:	Frank Schroyer	Phase:	CS
PO #		Sampling Program	087: JCIA
Analysis Turnaround Time (TAT):	3		
Consultant	CH2M		
Full Report TAT:	28 Days		

Sampling Co.: MACTEC

Client Contact: (name, co., address)
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962

Preliminary Data To
Sample Receipt Acknowledgement To: Frank Schroyer
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)

Sample Identification																											
	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
											Units		Preservative	3	3	3	1	2	2	0	0	2						
1	087-WW			087-WWE-101315-A	10/13/2015	13:15	WW	WATER	REG	3	comp	N	X	X	X	X			X	X		1						L19
2	087-WW			087-WWE-101315-B	10/13/2015	13:20	WW	WATER	REG	5	grab	N					X	X				2						U448
3	087-WW			087-WWI-101315	10/13/2015	13:25	WW	WATER	REG	3	grab	N									X	3						A5
4																												G16
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												

Relinquished by	pH = 7.05 s.u. @ 8.8°C	Company	AMEC Foster Wheeler	Received by		Company		Condition	Custody Seals Intact
Frank Schroyer		Date/Time	1500 10/13/15			10-13 Date/Time	1500	Cooler Temp.	
Relinquished by		Company		Received by		Company		Condition	Custody Seals Intact
	10-13	Date/Time	1701			Date/Time	10/13 1701	Cooler Temp.	

Preservatives: (Other; Specify): 1

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

03.5 SP

ALL SAMPLES RECEIVED PRESERVED AS APPLICABLE

INITIAL ASESSMENT NL38

LABEL VERIFICATION

Accutest LabLink@881656 10:36 06-Nov-2015

Report of Analysis

4.1
4

Client Sample ID:	087-WWE-101315-A		
Lab Sample ID:	JC6107-1	**Date Sampled:**	10/13/15
Matrix:	AQ - Water	**Date Received:**	10/13/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	749	10	ug/l	1	10/15/15	10/15/15	ND	EPA 200.7 [2]	EPA 200.7 [5]
Copper	< 10	10	ug/l	1	10/15/15	10/15/15	ND	EPA 200.7 [2]	EPA 200.7 [5]
Lead	< 15	15	ug/l	5	10/15/15	10/16/15	GT	EPA 200.7 [3]	EPA 200.7 [5]
Mercury	0.21	0.20	ug/l	1	10/14/15	10/14/15	MA	EPA 245.1 [1]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	10/15/15	10/15/15	ND	EPA 200.7 [2]	EPA 200.7 [5]
Zinc	< 20	20	ug/l	1	10/15/15	10/15/15	ND	EPA 200.7 [2]	EPA 200.7 [5]

(1) Instrument QC Batch: MA37773
(2) Instrument QC Batch: MA37787
(3) Instrument QC Batch: MA37798
(4) Prep QC Batch: MP89591
(5) Prep QC Batch: MP89597

RL = Reporting Limit

Accutest LabLink@881656 10:36 06-Nov-2015

Report of Analysis

4.1 4

Client Sample ID:	087-WWE-101315-A		
Lab Sample ID:	JC6107-1	**Date Sampled:**	10/13/15
Matrix:	AQ - Water	**Date Received:**	10/13/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended [a]	< 4.0	4.0	mg/l	1	10/15/15	LA	SM2540 D-11
pH [b]	6.91		su	1	10/13/15 17:10	HL	SM4500H+ B-11

(a) Reported sample aliquot obtained from filtration of 520 mL of sample. Sample did not meet method requirement of 2.5 mg of solids on the filter with this volume filtered.
(b) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@881656 10:36 06-Nov-2015

Report of Analysis

4.2 4

Client Sample ID:	087-WWE-101315-A		
Lab Sample ID:	JC6107-1A	**Date Sampled:**	10/13/15
Matrix:	AQ - Water	**Date Received:**	10/13/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 33	33	mg/l	1	10/14/15 16:10	LS	SM5210 B-11

RL = Reporting Limit

Accutest LabLink@881656 10:36 06-Nov-2015

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-101315-B		
Lab Sample ID:	JC6107-2	**Date Sampled:**	10/13/15
Matrix:	AQ - Water	**Date Received:**	10/13/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	N249107.D	1	10/14/15	WO	n/a	n/a	VN10560
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	2.6	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	3.1	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	0.25	1.0	0.093	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.50	ug/l	
67-66-3	Chloroform	20.6	1.0	0.091	ug/l	
74-87-3	Chloromethane	ND	1.0	0.11	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.11	ug/l	
95-50-1	1,2-Dichlorobenzene	0.45	1.0	0.19	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.11	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.29	ug/l	
75-34-3	1,1-Dichloroethane	0.47	1.0	0.12	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/l	
156-59-2	cis-1,2-Dichloroethene	75.3	1.0	0.12	ug/l	
156-60-5	trans-1,2-Dichloroethene	4.7	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.12	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.15	ug/l	
123-91-1	1,4-Dioxane	ND	130	20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.66	1.0	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@881656 10:36 06-Nov-2015

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-101315-B		
Lab Sample ID:	JC6107-2	**Date Sampled:**	10/13/15
Matrix:	AQ - Water	**Date Received:**	10/13/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	49.5	1.0	0.12	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	101%		72-125%
2037-26-5	Toluene-D8 (SUR)	101%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	103%		74-115%
1868-53-7	Dibromofluoromethane (S)	101%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest LabLink@881656 10:36 06-Nov-2015

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-101315-B		
Lab Sample ID:	JC6107-2	**Date Sampled:**	10/13/15
Matrix:	AQ - Water	**Date Received:**	10/13/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.1	5.1	mg/l	1	10/15/15	LS	EPA 1664A

RL = Reporting Limit

THOMAS TUCCI, JR.
Chairman

KENNETH J. LUCIANIN
Vice Chairman

ELIZABETH CALABRESE
DAVID S. CATUOGNO
MILDRED C. CRUMP
SCOTT M. HECK
LUIS A. QUINTANA
Commissioners

"Protecting Public Health and the Environment"
600 Wilson Avenue
Newark, New Jersey 07105
P (973) 344-1800
www.nj.gov/pvsc
Fax: (973) 344-4876

GREGORY A. TRAMONTOZZI
Executive Director and General Counsel

JOSEPH F. KELLY
Acting Clerk

December 2, 2015

CERTIFIED RECEIPT
91 7190 0943 0010 0008 2910

Maria Kaouris, Remediation Manager
Honeywell International Inc.
101 Columbia Road, Solvay#4
Morristown, NJ 07962

RE: REVISIONS TO SEWER USE PERMIT # 20630025

Dear Ms. Kaouris,

Enclosed is a revised Sewer Use Permit for your facility. This revised permit will replace your presently active permit. The revisions are stated on page 3 of 8, special conditions or remarks.

In addition, Section B, conditions applicable to all permits (pages1-13) was sent with your permit. This section should be attached to the final permit.

If you have any questions, please contact Laura Marchitto at (973) 817-5905.

Very truly yours,
PASSAIC VALLEY SEWERAGE COMMISSION

Anthony Gammaro
Assistant Manager, User Charge & Permit Management

AG/lm
Enclosure

c: Gregory A. Tramontozzi, Executive Director
Herbert Skinner, Director, Inspection & Compliance Bureau
Andrew Caltagirone, Assistant Director, Inspection & Compliance Bureau
Laura Marchitto, Operations Coordinator, User Charge and Permit Management
Rich Haytas, Senior Engineer, Jersey City Municipal Utilities Authority

Passaic Valley Sewerage Commission
600 Wilson Ave
NEWARK NJ 07105

91 7190 0943 0010 0008 2910

HONEYWELL INTERNATIONAL INC.
ATTN: MARIA KAOURIS
115 Tabor Raod (4D-8)
Morrris Plains NJ 07950

17966

PASSAIC VALLEY SEWERAGE COMMISSION

SEWER USE PERMIT

Permit # 20630025

(Please use the Permit Number on any correspondence with PVSC)
In compliance with the provisions of the Federal Water Pollution Control Act, its amendments, the Clean Water Act and Rules and Regulations of the Passaic Valley Sewerage Commission

HONEYWELL INTERNATIONAL INC.

BAYFRONT REDEVELOPMENT

(herein, after referred to as the Permittee)
is authorized to discharge from a facility located at

525 & 575 ROUTE 440

JERSEY CITY, NEW JERSEY 07305

to the Passaic Valley Sewerage Commission Treatment Works in accordance with discharge limitations, monitoring requirements and other conditions set forth herein.

EFFECTIVE DATE 10/01/2013

EXPIRATION DATE 09/30/2018

PASSAIC VALLEY SEWERAGE COMMISSION

BY Gregory A. Tramontozzi

Gregory A. Tramontozzi
Executive Director

REV: 04/2015
REV: 12/2015

SECTION A

CONDITION SPECIFIC TO THIS PERMIT

1. **Sampling**

1.1 Samples and measurements taken as required under this permit shall be representative of the monitored activity. All samples shall be taken at the monitoring points approved by the PVSC and specified in this permit. Unless other wise specified, all samples shall be drawn by a 24-hour composite sampler acceptable to the PVSC which shall be equipped with attachments appropriate for affixing seals. During and after collection, the sample shall be maintained between $1^0C - 4^0C$.

1.2 In addition to the other sample requirements set forth in SECTION A, PART 2 of this permit, the Permittee shall comply with the following:

(a) Samples that are taken for heavy metal analysis must be drawn by an automatic 24-hour composite sampler. A grab sample is not acceptable for metals compliance determination.

PASSAIC VALLEY SEWERAGE COMMISSION
600 WILSON AVENUE
NEWARK, NEW JERSEY 07105

SIU FACT SHEET

Sewer Use Permit to discharge into Passaic Valley Sewerage Commission Treatment Plant

Honeywell International Incorporated has submitted a completed Contractual Indirect Discharger Application for a Sewer Use Permit Revision to discharge into the treatment works.

NAME & ADDRESS OF APPLICANT	NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS
Honeywell International Inc. 101 Columbia Road, Solvay 4 Morristown, New Jersey 07962	Honeywell International Inc. Bayfront Redevelopment 525 & 575 Route 440 Jersey City, New Jersey 07305

Description of Facility Operations: Groundwater discharger

Million Gallons per Day (MGD) Industrial Wastewater: Approx. - .094 MGD

Number of Outlets: – 1: This outlet is used for compliance

Sample Point Location: The Sample points for 24hr. composite & grab sampling are located within the Groundwater Treatment Plant (GWTP) Building. The sample point for 24hr. composite sampling (Metals & BOD) is located at the effluent surge tank and the sample point for the grab samples (SGT-HEM, TVOC) is located upstream of the effluent flow meter.

Basis for Permit Conditions: Groundwater

Type of Pretreatment Equipment Installed: Equalization Tank, Chemical Precipitation System and a Solids Handling System

Duration of Sewer Use Permit: 5 Years

Special Conditions or Remarks: Revision. Amended to 70gpm. This company is covered under PVSC Local Limits

REV: 04/2015
REV: 12/2015

2. **MONITORING REQUIREMENTS AND DISCHARGE LIMITATIONS**

(a) Beginning (10/01/2013) and lasting through (09/30/2018) the Permittee is authorized to discharge from outlet # (20630025-1). Such discharge shall be monitored as specified below. The table lists the limitations or procedures applicable to this outlet. The volume shall be determined from flowmeter readings. The Permittee shall submit volume in accordance with PVSC User Charge Self-Monitoring Report Form MR-2.

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS			MONITORING REQUIREMENTS	
PARAMETER	MONTHLY AVERAGE	DAILY MAX	MEASUREMENT FREQUENCY	SAMPLE TYPE	REPORTING PERIOD
Volume	XXXXX	XXXXX	XXXXX	XXXXX	Monthly

2. MONITORING REQUIREMENTS AND DISCHARGE LIMITATIONS

(b) Beginning (10/01/2013) and lasting through (09/30/2018) the Permittee is authorized to discharge from outlet # (20630025-1). Such discharge shall be monitored as specified below. The table lists the limitations or procedures applicable to this outlet. The volume shall be determined from flowmeter readings. The Sample points for 24hr. composite & grab sampling are located within the Groundwater Treatment Plant (GWTP) Building. The sample point for 24hr. composite sampling (Metals & BOD) is located at the effluent surge tank and the sample point for the grab samples (SGT-HEM, TVOC) is located upstream of the effluent flow meter. The Permittee shall submit volume and analysis results in accordance with PVSC Pretreatment Discharge Monitoring Form MR-1.

	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS		
PARAMETER	MONTHLY AVERAGE	DAILY MAX	MEASUREMENT FREQUENCY	SAMPLE TYPE	REPORTING PERIOD
SGT-HEM (Non-Polar Material)	100 mg/l	150 mg/l	Monthly	Grab*	Monthly
Chromium	XXXXX	23 lbs/day	Monthly	24 hr. Comp.	Monthly
TVOC	XXXXX	XXXXX	Monthly	Grab**	Monthly
BOD	XXXXX	XXXXX	Monthly	24 hr. Comp	Monthly
Volume	XXXXX	XXXXX	XXXXX	XXXXX	Monthly

* Sampling procedure must be in accordance with those specified by N.J.D.E.P.. Analysis procedure as defined by E.P.A. Method 1664A.

** Sampling procedure must be in accordance with those specified by N.J.D.E.P.. Analysis procedure as defined by E.P.A. Method 624.

REV: 04/2015

2. MONITORING REQUIREMENTS AND DISCHARGE LIMITATIONS

(b) Beginning (10/01/2013) and lasting through (09/30/2018) the Permittee is authorized to discharge from outlet # (20630025-1). Such discharge shall be monitored as specified below. The table lists the limitations or procedures applicable to this outlet. The volume shall be determined from flowmeter readings. The Sample points for 24hr. composite & grab sampling are located within the Groundwater Treatment Plant (GWTP) Building. The sample point for 24hr. composite sampling (Metals & BOD) is located at the effluent surge tank and the sample point for the grab samples (SGT-HEM, TVOC) is located upstream of the effluent flow meter The Permittee shall submit volume and analysis results in accordance with PVSC Pretreatment Discharge Monitoring Report Form MR-1.

PVSC LOCAL LIMITS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS		
PARAMETER	mg/l MONTHLY AVERAGE	mg/l THRESHOLD VALUE	MEASUREMENT FREQUENCY	SAMPLE TYPE	REPORTING PERIOD
Cu	3.6	0.18	Monthly	24 hr. comp.	Monthly
Pb	1.0	0.05	Monthly	24 hr. comp.	Monthly
Hg	0.080	0.004	Monthly	24 hr. comp.	Monthly
Ni	3.9	0.2	Monthly	24 hr. comp.	Monthly
Zn	4.2	0.21	Monthly	24 hr. comp.	Monthly
Volume	XXXXX	XXXXX	XXXXX	XXXXX	Monthly

HONEYWELL INTERNATIONAL INC. – BAYFRONT REDEVELOPMENT - ID# 20630025

3. SCHEDULE OF COMPLIANCE

The Permittee is required to meet the following schedule of compliance:

A. Analysis of wastewater parameters shall be performed by a laboratory that has been certified by the State of New Jersey. Perittee is required to submit all certified analyses as an attachment to the monthly MR-1 report.

B. The Permittee is required to submit as an attachment to the MR-1 and/or MR-2 report monthly, a water balance showing meter readings used to calculate the reported volume discharged.

C. Permittee to submit a periodic compliance monitoring report MR-2 form for monthly reporting requirements within twenty-one (21) days after the end date of each preceding month.

D. Permittee to be in compliance with PVSC Local Limits.

Permittee to submit a periodic compliance monitoring report MR-1 form for monthly reporting requirements within thirty-five (35) days after the end date of each preceding month in accordance with General Pretreatment Regulations 40 CFR 403.12 section (e).

E. If the Permittee has been authorized by the PVSC to certify for non-use for one or more heavy metals, the Permittee must sample the discharge in March and September of each year in order to prove continued compliance. If any analytical results exceed the Threshold Value, but not the Local Limit, the Permittee shall analyze a sample each succeeding month until three successive monthly results are at or below the Threshold Value stated in the PVSC Rules and Regulations Section B-103.3 Table B-2.

F. Be certain that you do not surcharge any sewer lines. The rate of discharge must not exceed a maximum average daily flow rate of 70 gpm over the course of a sample date. Please note all discharges will automatically cease in the event the liquid level in the Emergency Outflow Structure Standpipe rises to a level 12 inches from the top of this pipe as detected by a float switch.

G. Permittee must operate in accordance with its 6/4/14 approved Slug Control Plan.

H. All discharge must pass through a non-resettable flow meter.

I. All discharge shall cease 5 years from the start of discharge. If additional time is needed, you must request an extension from PVSC 90 days prior to the expiration date of the Agreement and this Sewer Use Permit.

REV: 04/2015
REV: 12/2015

HONEYWELL INTERNATIONAL INC. - BAYFRONT REDEVELOPEMENT – ID# 20630025

SECTION A-3 SCHEDULE OF COMPLIANCE CONTINUED

J. All PVSC Rules & Regulations must be adhered to. (www.nj.gov/pvsc)

K. This Sewer Use Permit will run concurrent with a said contract executed by both Honeywell International Inc. and PVSC.

L. Honeywell International Incorporated must abide with the Memorandum of Understanding (MOU) executed both by Honeywell International Inc. and PVSC on 1/29/13.

M. PVSC reserves the right to require toxicity evaluation and/or to change the condition of this Permit, including discontinuing the discharge if it deems necessary.

N. The Permittee shall notify in writing, all agencies as directed by 40 CFR 403.12 (p) of any discharges classified hazardous waste under 40 CFR 261.

REV: 04/2015

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending November 2015

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending November 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Contractor only.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groudnwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on 6/22/15.

SA-6 North/South Field Change Log - Month Ending November 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-07-22	Detail BN has been modified to extend the lIDPE up and over the SCB Wall. The prior detail showed both the GDI and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only.
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA 6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Shoulc any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending November 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	Submitted to Contractor only.
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.
DC 2015-10-22	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only.
DC 2015-11-18	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	Submitted to Contractor only.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

APPENDIX T

PART 10 OF 22

PROGRESS REPORTS

2016 MONTHLY REPORTS PART 1

SA-6 AND SA-7 COMBINED PROGRESS REPORT

JANUARY 14, 2016

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

January 14, 2016

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2015-12

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from December 1 – December 31, 2015.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: December 2015 SA-6/7 Combined Monthly Progress Report No. 2015-12

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

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STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2015-12

Project SA-6 & 7 Remediation

December 2015

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
12/11/15	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2015-11	Honorable Robert G. Torricelli Office of the Special Master
12/15/15	Special Master Conference Call	n/a
12/17/15	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, JC MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
12/23/15	SA-6 Horizon C Cover Soils Study Area 6 Chromium Remedy Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	12/6/15	12/13/15	12/20/15	12/27/15
Construction Management (AMEC)	8	10	9	8
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	30	31	32	36
Arecon/US Ecology Subcontractors	2	0	2	2
Langan	0	0	0	0
Evoqua	1	1	1	1
B&B Drilling	0	1	2	2
Cornerstone	0	2	2	1
TOTAL STAFF	**46**	**50**	**53**	**55**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected December PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Conducted S-3 Mass Removal Injection Event No. 26 in well 088-IW-01.
- Completed installation of dual walled piping and electrical conduit to PW-3 extraction well.
- Completed startup and pumping of PW-3 extraction well.
- Conducted round of quarterly groundwater level measurements.
- Conducted biennial LTMP groundwater quality sampling event.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on December 8, 2015.
- From December 23, 2015 to December 28, 2015, the GWTP was offline due to a faulty control card. Trouble shooting was attempted on December 26, 2015 which included replacement of a communication cable and the input and output boards. These actions did not restore the system. On December 28, 2015 the problem was diagnosed as being a faulty scanner and module card and cards were replaced. The system was fully restarted on December 28, 2015 at 1:25 pm.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	12/6/15	12/13/15	12/20/15	12/27/15
Avg. Gallons Treated & Discharged (per day)	76,813	67,192	62,438	61,634
Average Flow (gpm) for Operating Period	55	53	54	49
Avg. Hours of Plant Operation	23	21	23	20
GWTP Influent Tanks (gal.)	4,080	4,157	4,560	5,424

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Continue pumping/dewatering of well points associated with Excavation Areas EA-2 and EA-3.

- Completed excavation of EA-8.
- Completed installation of shallow well points and dewatering well at Site 163.
- Began dewatering and excavation activities of Site 163. Completed installation of temporary 40 mil geomembrane liner in bermed containment areas.
- Initiated excavation of Excavation Areas EA-2 and EA-3 and placed ramp and bridge lift to protect work in the southern portion.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Horwith	Tri-axle	PA Transload	US Ecology	>240 mg/kg CrVI	154	21.56	3,321
Entact/Horwith	Tri-axle Dump	Middlesex County Landfill, NJ	MCUA	Non-haz Cr	65	26.1	1,701

2. EXCAVATION & BACKFILL PROGRESS

Description	Areas
Excavation Completed	Excavation, EA-2/EA-3 Volume Excavated - Total for Reporting Period: EA-2/EA-3(9,945 CY) / Total to Date: 34,556 CY
Backfill in Progress	EA-8, EA2/3

3. BACKFILL MATERIALS USED

Source	Week Ending			
	12/6/15	12/13/15	12/20/15	12/27/15
Liberty I-5	940	2,337	1,427	0
Horizon C soils	1,133	0	0	0
Tilcon 2.5”	182	0	0	0

- Screened Celgene materials greater than 3/8 inch were transferred and placed as bridge lift in EA-2/EA-3.
- Screened Celgene material was removed from the east side of the SA-6 South open space area during final grading of the protective cover soils. Approximately 203 cubic yards was removed from the cap area and transferred to the Celgene stockpile area.

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging and offloading of surcharge material is complete.

- Area 3S: Surcharging and offloading of surcharge material is complete.
- Area 1N: Surcharging and offloading of surcharge material is complete.
- Area 2N: Began offloading of area 2N.
- Area 3N: Began placing surcharge material, approximately 80% of the design volume to be placed is complete.
- Area 4N: Completed installation of surcharge monitoring instrumentation.

F. SHEET PILE OPERATIONS

- Completed the installation of lagging to the EA-2/EA-3 temporary excavation support system.
- Completed installation of sheeting within the Trash Pit interior (grout sealing to concrete walls still to be completed).

G. CAPPING OPERATIONS

- Continued fine grading of protective cover soils and associated compaction testing on the SA-6 South open space area.
- Continued placement of root barrier and demarcation tape on the SA-6 South open space area.
- Continued placement and grading of Horizon C soils (within future vegetated areas) and structural fill (within future roadway areas) of the SA-6 South open space area.

H. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2016	6/30/2016	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Pending	12/2/15	Pending

I. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Continue Trash Pit Interior sheeting, grouting and backfilling activities.
- Complete EA-2/EA-3 excavation and backfilling activities.
- Complete EA-1 excavation and backfilling activities.
- Continue Site 163 dewatering and excavation activities.
- Complete Area 3N Surcharge material placement and begin to place material in Area 4N. Prepare next monthly Surcharge Monitoring Report for data collected in December 2015.
- Begin installation of the Contingent Groundwater Extraction System piping in Area 1N.
- Continue final grading of GDL cover soils to include associated compaction testing and installation of root barrier on SA-6 South open space area.
- Pending identification of new source(s), resume import and placement of Horizon C Soils on the Study Area 6 South open space area.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Complete placement of asphalt associated with the PW-3 force main trench.

- Continue dewatering and excavation activities associated with Site 163 excavation within the residential footprint including installation of temporary sheeting as needed.

ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill (Progression Chart)
4. Dewatering Operations Update
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
7. Perimeter Pools Update
8. *Groundwater Quality Data (not included in this reporting period)*
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. Sheet Pile Update (Repair Log)
11. Capping Update (SA-6 South Cap Subgrade Progress Map)
12. Weekly SWPPP Reports
13. GWTP Update
14. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

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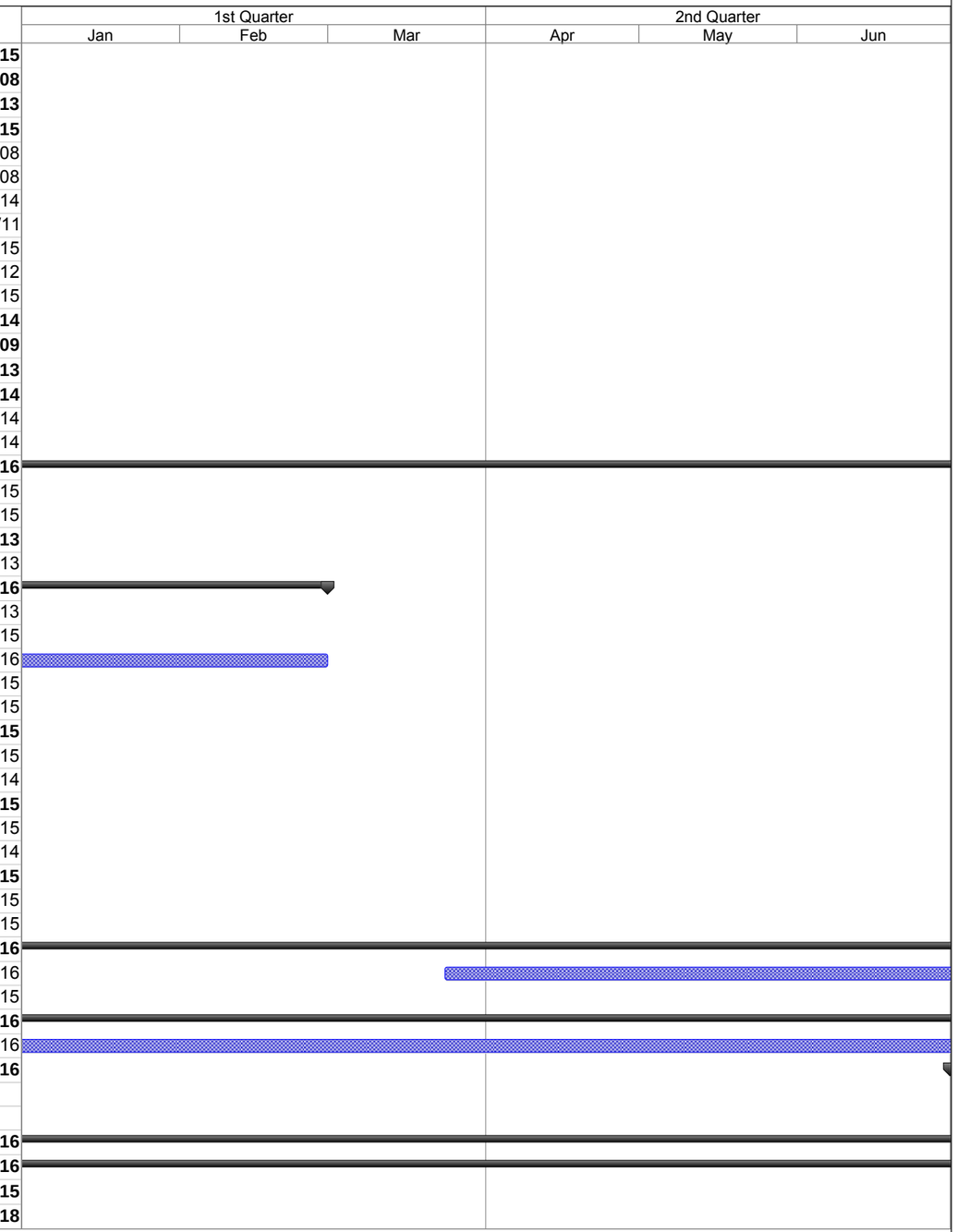
SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**1/4/08**	**6/1/15**
2	**Remedial Action Work Plan**	**33 days**	**1/4/08**	**2/19/08**
5	**Remedial Action Design**	**1522 days**	**2/20/08**	**12/13/13**
18	**JCIA/JCDPW Relocation**	**1780 days**	**8/11/08**	**6/1/15**
19	Develop Site Relocation Master Plan	38 days	8/11/08	10/1/08
20	Submit Site Relocation Master Plan	0 days	10/1/08	10/1/08
21	JC Construction of New Facilities	1309 days	6/2/09	6/2/14
22	Relocation Contractor Procurement	392 days	4/15/10	10/13/11
23	JCIA and JCDPW Relocation	949 days	10/17/11	6/1/15
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	12/12/11	4/30/12
24a	Demolition of JCIA Structures	146 days	9/1/14	3/23/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**7/11/08**	**4/30/14**
26	**Remedial Action Work Plan**	**187 days**	**7/11/08**	**3/30/09**
32	**Remedial Action Design**	**1161 days**	**2/2/09**	**7/9/13**
57	**SA-6 South Relocation**	**616 days**	**12/26/11**	**4/30/14**
58	New GWTP Construction Completion	502 days	3/5/12	1/30/14
59	Demolition of 80 Kellogg	857 days	12/26/11	4/30/14
60	**SA-6 North/South Field Implementation**	**894 days**	**3/1/13**	**8/1/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	6/17/13	12/31/15
60b	SA-6S (Site 163) In-Situ Treatment	555 days	11/15/13	12/31/15
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**3/1/13**	**6/28/13**
61a	Mobilization	87 days	3/1/13	6/28/13
62	**Surcharge Install/Instrumentation**	**706 days**	**6/17/13**	**2/29/16**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	6/17/13	12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	4/8/14	2/13/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	6/30/15	2/29/16
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	6/16/14	2/23/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	10/6/14	5/8/15
63	**Barrier Wall Install**	**569 days**	**8/12/13**	**10/15/15**
63a	SA 6N Installation of Barrier Wall	159 days	3/9/15	10/15/15
63b	SA 6S Installation of Barrier Wall	210 days	8/12/13	5/30/14
64	**Excavation**	**507 days**	**10/22/13**	**9/30/15**
64a	SA 6N Excavation	218 days	12/1/14	9/30/15
64b	SA 6S Excavation	295 days	10/22/13	12/8/14
65	**Backfill**	**558 days**	**11/11/13**	**12/30/15**
65a	SA 6N Backfill	283 days	12/1/14	12/30/15
65b	SA 6S Backfill	384 days	11/11/13	4/30/15
66	**Capping and Cover Soil Placement**	**426 days**	**12/1/14**	**7/15/16**
66a	SA 6N Capping and Cover Soil Placement	83 days	3/24/16	7/15/16
66b	SA 6S Capping and Cover Soil Placement	283 days	12/1/14	12/30/15
67	**Restoration**	**234 days**	**9/1/15**	**7/21/16**
67a	Restoration	234 days	9/1/15	7/21/16
68	**Demobilization**	**22 days**	**7/1/16**	**8/1/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line			
69	**SA-6 North Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
75	**SA-6 South Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
81	**SA-6 North Long Term Protections**	**1830 days**	**10/1/08**	**10/1/15**
92	**SA-6 South Long Term Protections**	**2569 days**	**6/5/08**	**3/31/18**



Project: SA-6 Remediation Schedule
Revision 4
Date: 12/29/15

Task | Milestone | Summary | Critical

Attachment 2: Site Photographs

Site Photograph 1: Continuing Excavation Areas 2 and 3.

Site Photograph 2: Placement of clean fill in Excavation Areas 2 and 3.

Site Photograph 3: Placement of surcharge soils at former city properties Area 3N.

Site Photograph 4: Installing root barrier in open space area utility corridor.

Site Photograph 5: Loading clean fill for use in utility corridor.

Site Photograph 6: Spreading clean fill in utility corridor.

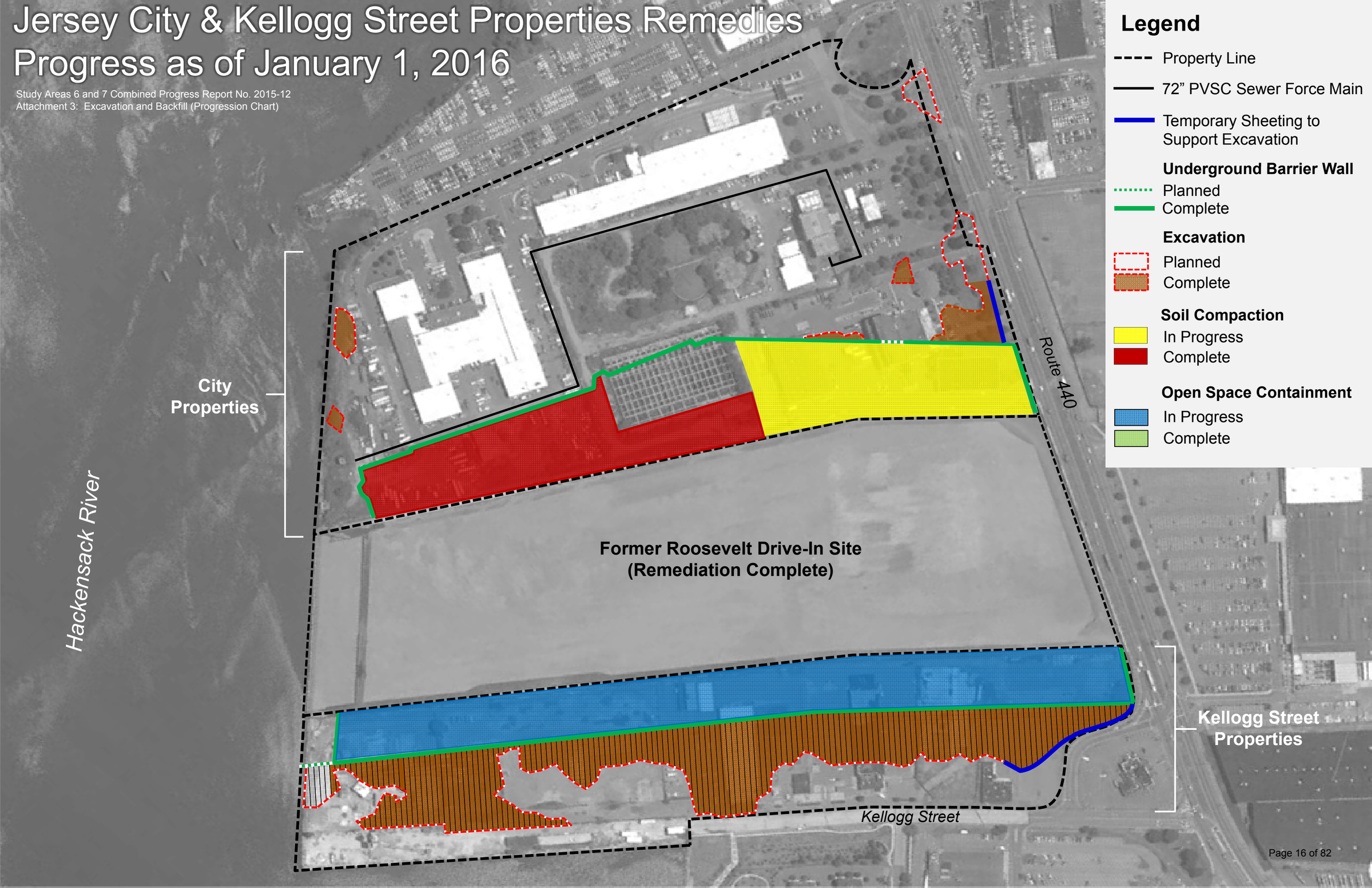
Site Photograph 7: Placement of clean fill in open space area utility corridor.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of January 1, 2016

Study Areas 6 and 7 Combined Progress Report No. 2015-12
Attachment 3: Excavation and Backfill (Progression Chart)



Attachment 4: Dewatering Operations Update

STUDY AREA 6 NORTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) Daily	EXTRACTED VOLUME (Gal) Total	AVERAGE FLOW RATE (gpm)	COMMENTS
10/30/15	1	24	19,20	26	N/A	N/A	7,750	2,962,922	5.4	
11/02/15	1	72	19,20	26	N/A	N/A	21,000	2,983,922	4.9	
11/03/15	1	24	19,20	26	N/A	N/A	7,750	2,991,672	5.4	
11/04/15	1	24	19,20	26	N/A	N/A	7,750	2,999,422	5.4	
11/05/15	1	24	19,20	26	N/A	N/A	7,750	3,007,172	5.4	
11/06/15	1	24	19,20	26	N/A	N/A	7,750	3,014,922	5.4	
11/09/15	1	72	19,20	26	N/A	N/A	20,500	3,035,422	4.7	
11/10/15	1	24	19,20	26	N/A	N/A	7,750	3,043,172	5.4	
11/11/15	1	24	19,20	26	N/A	N/A	3,500	3,046,672	2.4	
11/12/15	1	24	19,20	26	N/A	N/A	3,500	3,050,172	2.4	
11/13/15	1	24	19,20	26	N/A	N/A	3,000	3,053,172	2.1	
11/16/15	1	72	19,20	26	N/A	N/A	6,000	3,059,172	1.4	
11/17/15	1	24	19,20	26	N/A	N/A	2,200	3,061,372	1.5	
11/18/15	1	24	19,20	26	N/A	N/A	2,000	3,063,372	1.4	
11/19/15	1	24	19,20	22	N/A	N/A	2,000	3,065,372	1.4	
11/20/15	1	24	19,20	22	N/A	N/A	2,000	3,067,372	1.4	
11/22/15	1	48	19,20	22	N/A	N/A	4,000	3,071,372	1.4	
11/23/15	1	24	19,20	22	N/A	N/A	2,000	3,073,372	1.4	
11/24/15	1	24	19,21	23	N/A	N/A	2,000	3,075,372	1.4	
11/25/15	1	24	19,20	18	N/A	N/A	1,500	3,076,872	1.0	
11/29/15	1	96	19,20	18	N/A	N/A	6,000	3,082,872	1.0	
11/30/15	1	24	19,20	18	N/A	N/A	2,000	3,084,872	1.4	
12/01/15	1	24	19,20	14	N/A	N/A	1,800	3,086,672	1.3	
12/02/15	1	24	19,20	14	N/A	N/A	1,800	3,088,472	1.3	
12/03/15	1	24	19,20	14	N/A	N/A	1,800	3,090,272	1.3	
12/04/15	1	24	19,20	14	N/A	N/A	1,800	3,092,072	1.3	
12/06/15	1	48	19,20	14	N/A	N/A	3,000	3,095,072	1.0	
12/07/15	1	24	19,20	14	N/A	N/A	1,800	3,096,872	1.3	
12/08/15	1	24	19,20	14	N/A	N/A	1,800	3,098,672	1.3	
12/09/15	1	24	19,20	14	N/A	N/A	1,800	3,100,472	1.3	
12/10/15	1	24	19,20	14	N/A	N/A	1,800	3,102,272	1.3	
12/13/15	1	48	19,20	11	N/A	N/A	1,700	3,103,972	0.6	
12/14/15	1	24	19,20	11	N/A	N/A	1,700	3,105,672	1.2	
12/15/15	1	24	19,20	11	N/A	N/A	1,700	3,107,372	1.2	
12/16/15	1	24	19,20	11	N/A	N/A	1,700	3,109,072	1.2	
12/17/15	1	24	19,20	11	N/A	N/A	1,700	3,110,772	1.2	
12/18/15	1	24	19	10	N/A	N/A	1,700	3,112,472	1.2	System Taken Offline

Note: Previous information is trunketed. Only last month and current month information is provided.
Dewatering is associated with EA2/EA3 Excavation.

STUDY AREA 6 NORTH DEEP WELL DATA (DW-6)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
12/06/15	48	N/A	N/A	10,000	10,000	3.5	
12/07/15	24	N/A	N/A	8,000	18,000	5.6	
12/08/15	24	N/A	N/A	8,000	26,000	5.6	
12/09/15	24	N/A	N/A	8,000	34,000	5.6	
12/10/15	24	N/A	N/A	10,000	44,000	6.9	
12/13/15	48	N/A	N/A	20,000	64,000	6.9	
12/14/15	24	N/A	N/A	10,000	74,000	6.9	
12/15/15	24	N/A	N/A	10,000	84,000	6.9	
12/16/15	24	N/A	N/A	10,000	94,000	6.9	
12/17/15	24	N/A	N/A	10,000	104,000	6.9	
12/18/15	24	N/A	N/A	10,000	114,000	6.9	
12/20/15	48	N/A	N/A	20,000	134,000	6.9	
12/21/15	24	N/A	N/A	10,000	144,000	6.9	
12/23/15	24	N/A	N/A	10,000	154,000	6.9	
12/24/15	24	N/A	N/A	10,000	164,000	6.9	
12/26/15	48	N/A	N/A	20,000	184,000	6.9	

STUDY AREA 6 NORTH DEEP WELL DATA (DW-7)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
11/18/15	24	N/A	N/A	11,500	11,500	8.0	Flow meter not installed, tank measured
11/19/15	24	N/A	N/A	11,000	22,500	7.6	
11/20/15	24	N/A	N/A	11,000	33,500	7.6	
11/22/15	48	N/A	N/A	11,000	44,500	3.8	
11/23/15	24	N/A	N/A	11,000	55,500	7.6	
11/24/15	24	N/A	N/A	10,500	66,000	7.3	
11/25/15	24	N/A	N/A	10,500	76,500	7.3	
11/29/15	96	N/A	N/A	40,000	116,500	6.9	
11/30/15	24	N/A	N/A	10,500	127,000	7.3	
12/01/15	24	N/A	N/A	10,000	137,000	6.9	
12/02/15	24	N/A	N/A	10,000	147,000	6.9	
12/03/15	24	N/A	N/A	10,000	157,000	6.9	
12/04/15	24	N/A	N/A	12,000	169,000	8.3	
12/06/15	48	N/A	N/A	20,000	189,000	6.9	
12/07/15	24	N/A	N/A	8,000	197,000	5.6	
12/08/15	24	N/A	N/A	8,000	205,000	5.6	
12/09/15	24	N/A	N/A	8,000	213,000	5.6	
12/10/15	24	N/A	N/A	10,000	223,000	6.9	
12/13/15	48	N/A	N/A	20,000	243,000	6.9	
12/14/15	24	N/A	N/A	10,000	253,000	6.9	
12/15/15	24	N/A	N/A	10,000	263,000	6.9	
12/16/15	24	N/A	N/A	10,000	273,000	6.9	
12/17/15	24	N/A	N/A	10,000	283,000	6.9	
12/18/15	24	N/A	N/A	10,000	293,000	6.9	
12/20/15	48	N/A	N/A	20,000	313,000	6.9	
12/21/15	24	N/A	N/A	10,000	323,000	6.9	Offline for Excavation/Backfill

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
10/29/15	9:00	15:00	6:00	36,973.34	37,092.42	119,080	36,948,570	
11/02/15	8:00	13:00	5:00	37,092.42	37,158.61	66,190	37,014,760	PVSC Compliance Sample Collected
11/04/15	8:30	14:30	6:00	37,158.61	37,207.47	48,860	37,063,620	
11/06/15	12:00	15:00	3:00	37,207.47	37,237.70	30,230	37,093,850	
11/18/15	8:00	15:00	7:00	37,237.70	37,375.84	138,140	37,231,990	
11/22/15	9:00	13:00	4:00	37,375.84	37,440.68	64,840	37,296,830	
11/23/15	9:30	14:30	5:00	37,440.68	37,505.15	64,470	37,361,300	
11/25/15	7:15	13:45	6:30	37,505.15	37,566.11	60,960	37,422,260	
11/30/15	7:30	14:30	7:00	37,566.11	37,667.64	101,530	37,523,790	
12/01/15	8:00	15:15	7:15	37,667.64	37,743.44	75,800	37,599,590	
12/02/15	7:00	15:00	8:00	37,743.44	37,805.70	62,260	37,661,850	
12/03/15	9:00	15:15	6:15	37,805.70	37,863.53	57,830	37,719,680	
12/04/15	7:00	12:30	5:30	37,863.53	37,912.70	49,170	37,768,850	
12/06/15	12:00	14:00	2:00	37,912.70	37,958.66	45,960	37,814,810	
12/07/15	10:30	15:15	4:45	37,958.66	37,984.16	25,500	37,840,310	
12/08/15	11:00	14:30	3:30	37,984.16	38,016.05	31,890	37,872,200	
12/09/15	10:30	15:00	4:30	38,016.05	38,051.66	35,610	37,907,810	
12/10/15	8:00	15:15	7:15	38,051.66	38,176.63	124,970	38,032,780	PVSC Compliance Sample Collected
12/13/15	9:00	12:15	3:15	38,176.63	38,243.45	66,820	38,099,600	
12/14/15	13:45	15:30	1:45	38,243.45	38,278.63	35,180	38,134,780	
12/15/15	7:00	12:30	5:30	38,278.63	38,398.71	120,080	38,254,860	
12/16/15	11:30	15:30	4:00	38,398.71	38,456.74	58,030	38,312,890	
12/17/15	7:00	11:00	4:00	38,456.74	38,495.28	38,540	38,351,430	
12/18/15	8:00	15:15	7:15	38,495.28	38,587.27	91,990	38,443,420	
12/20/15	8:45	12:00	3:15	38,587.27	38,637.00	49,730	38,493,150	
12/21/15	7:30	13:00	5:30	38,637.00	38,700.54	63,540	38,556,690	
12/23/15	7:30	13:45	6:15	38,700.54	38,805.80	105,260	38,661,950	
12/24/15	8:00	15:00	7:00	38,805.80	38,835.49	29,690	38,691,640	
12/26/15	8:00	14:00	6:00	38,835.49	38,889.27	53,780	38,745,420	

Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

MATERIAL TRACKING AND SAMPLING LOG
SA-6 North and South

Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
3S cap material	<240	124-3S-EX-a,b,c,d (Excess 3S material)	3500	124-3S-EX-a1	8/10/2015	12:10	51.6		Yes	
				124-3S-EX-a2	8/10/2015	12:15	18.6	*		
				124-3S-EX-a3	8/10/2015	12:18	37.1		Yes	
				124-3S-EX-a4	8/10/2015	12:20	18.9	*		
				124-3S-EX-b1	8/10/2015	12:21	24.8		Yes	
				124-3S-EX-b2	8/10/2015	12:22	49.3		Yes	
				124-3S-EX-b3	8/10/2015	12:23	37.9		Yes	
				124-3S-EX-b4	8/10/2015	12:24	40.4		Yes	
				124-3S-EX-c1	8/10/2015	12:25	24.7		Yes	
				124-3S-EX-c2	8/10/2015	12:26	36.3		Yes	
				124-3S-EX-c3	8/10/2015	12:27	46.7		Yes	
				124-3S-EX-c4	8/10/2015	12:28	8.1	*		
				124-3S-EX-d1	8/10/2015	12:29	25.6		Yes	
				124-3S-EX-d2	8/10/2015	12:30	32.1		Yes	
				124-3S-EX-d3	8/10/2015	12:31	74.6		Yes	
				124-3S-EX-d4	8/10/2015	12:32	34.7		Yes	
EA4	<20	087-EA4-20-a (bermed/trench material)	225	087-EA4-20-a1	9/11/2015	10:35	2	Yes		
				087-EA4-20-a2	9/11/2015	10:40	<1.4	Yes		
				087-EA4-20-a3	9/11/2015	10:45	<1.8	Yes		
				087-EA4-20-a4	9/11/2015	10:50	5.0	Yes		
EA-5	<20	087-EA5-20-a1:b4 (stockpile of A material)	1300	087-EA5-20-a1	9/11/2015	11:05	0.7	Yes		
				087-EA5-20-a2	9/11/2015	11:10	<1.7	Yes		
				087-EA5-20-a3	9/11/2015	11:15	<0.46	Yes		
				087-EA5-20-a4	9/11/2015	11:20	<1.1	Yes		
				087-EA5-20-b1	9/11/2015	11:25	<2.0	Yes		
				087-EA5-20-b2	9/11/2015	11:30	6.8	Yes		
				087-EA5-20-b3	9/11/2015	11:35	8.3	Yes		
				087-EA5-20-b4	9/11/2015	11:40	<0.55	Yes		
EA-5	<20	087-EA5-20-c1:d4 (stockpile of A material)	2000	087-EA5-20-c1	9/11/2015	12:10	<1.8	*		
				087-EA5-20-c2	9/11/2015	12:15	<1.9	*		
				087-EA5-20-c3	9/11/2015	12:20	<0.56	*		
				087-EA5-20-c4	9/11/2015	12:25	<0.60	*		
				087-EA5-20-d1	9/11/2015	12:30	<0.56	*		
				087-EA5-20-d2	9/11/2015	12:35	<0.44	*		
				087-EA5-20-d3	9/11/2015	12:40	<0.5	*		
				087-EA5-20-d4	9/11/2015	12:45	9.6	*		
3S cap material	<240	124-3S-EX2-a	780	124-3S-EX2-a1	9/28/2015	--	50		Yes	
				124-3S-EX2-a2	9/28/2015	--	48.5		Yes	
				124-3S-EX2-a3	9/28/2015	--	82.3		Yes	
				124-3S-EX2-a4	9/28/2015	--	785			Yes
3S Cap Material (under asphalt roadway)	<240	124-3S-Roadway-a	525	124-3S-Roadway-a1	9/28/2015	--	327			Yes
				124-3S-Roadway-a2	9/28/2015	--	2100			Yes
				124-3S-Roadway-a3	9/28/2015	--	1970			Yes
				124-3S-Roadway-a4	9/28/2015	--	5900			Yes
JCMUA Water Main Break (EA-2)	<20	087-EA2-waterline	50	087-EA2-waterline-092815	9/28/2015	NA	13.5	*		
3S cap material	<240	124-3S-EX3-a	1000	124-3S-EX3-a1	10/21/2015	--	3120			Yes
				124-3S-EX3-a2	10/21/2015	--	6820			Yes
				124-3S-EX3-a3	10/21/2015	--	5690			Yes
				124-3S-EX3-a4	10/21/2015	--	4300			Yes

MATERIAL TRACKING AND SAMPLING LOG
SA-6 North and South

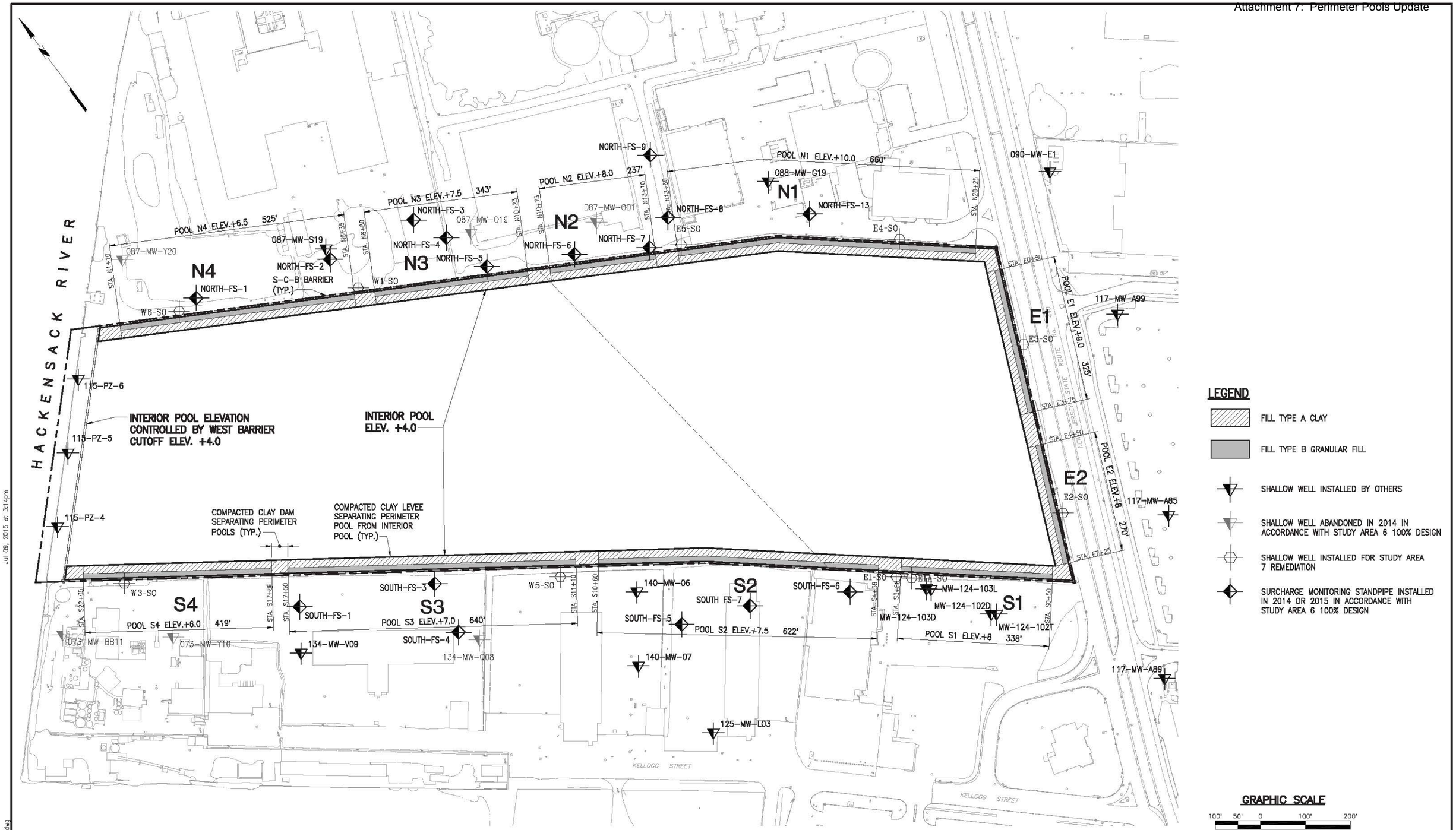
Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
1N (2 foot cut material)	<20	087-1N-20-a, b, c	3000	087-1N-20-a1	10/28/2015	--	<.5	*		
				087-1N-20-a2	10/28/2015	--	2.1	*		
				087-1N-20-a3	10/28/2015	--	<.48	*		
				087-1N-20-a4	10/28/2015	--	5.4	*		
				087-1N-20-b1	10/28/2015	--	1.0	*		
				087-1N-20-b2	10/28/2015	--	<2.0	*		
				087-1N-20-b3	10/28/2015	--	0.65	*		
				087-1N-20-b4	10/28/2015	--	<1.9	*		
				087-1N-20-c1	10/28/2015	--	<2.0	*		
				087-1N-20-c2	10/28/2015	--	<1.8	*		
				087-1N-20-c3	10/28/2015	--	<1.8	*		
				087-1N-20-c4	10/28/2015	--	<.51	*		
1 N (2 foot cut material)	<20	087-1N-20-d1:n4	11,160	087-1N-20-d1	11/17/2015	--	<1.4	*		
				087-1N-20-d2	11/17/2015	--	9.5	*		
				087-1N-20-d3	11/17/2015	--	19.9	*		
				087-1N-20-d4	11/17/2015	--	<1.5	*		
				087-1N-20-e1	11/17/2015	--	<1.3	*		
				087-1N-20-e2	11/17/2015	--	<1.4	*		
				087-1N-20-e3	11/17/2015	--	<1.4	*		
				087-1N-20-e4	11/17/2015	--	<1.4	*		
				087-1N-20-f1	11/17/2015	--	<1.5	*		
				087-1N-20-f2	11/17/2015	--	<.93	*		
				087-1N-20-f3	11/17/2015	--	<.90	*		
				087-1N-20-f4	11/17/2015	--	<1.5	*		
				087-1N-20-g1	11/17/2015	--	<.95	*		
				087-1N-20-g2	11/17/2015	--	<.86	*		
				087-1N-20-g3	11/17/2015	--	<.96	*		
				087-1N-20-g4	11/17/2015	--	<1.3	*		
				087-1N-20-h1	11/17/2015	--	1.9	*		
				087-1N-20-h2	11/17/2015	--	<.92	*		
				087-1N-20-h3	11/17/2015	--	<1.4	*		
				087-1N-20-h4	11/17/2015	--	<.92	*		
				087-1N-20-i1	11/17/2015	--	<1.3	*		
				087-1N-20-i2	11/17/2015	--	<2.0	*		
				087-1N-20-i3	11/17/2015	--	<1.9	*		
				087-1N-20-i4	11/17/2015	--	<2.1	*		
				087-1N-20-j1	11/17/2015	--	<1.8	*		
				087-1N-20-j2	11/17/2015	--	<1.4	*		
				087-1N-20-j3	11/17/2015	--	<1.9	*		
				087-1N-20-j4	11/17/2015	--	<1.8	*		
				087-1N-20-k1	11/17/2015	--	<1.6	*		
1 N (2 foot cut material)	<20	087-1N-20-d1:n4	11,160	087-1N-20-k2	11/17/2015	--	<2.0	*		
				087-1N-20-k3	11/17/2015	--	<2.1	*		
				087-1N-20-k4	11/17/2015	--	<1.4	*		
				087-1N-20-l1	11/17/2015	--	<1.4	*		
				087-1N-20-l2	11/17/2015	--	<1.9	*		
				087-1N-20-l3	11/17/2015	--	<2.0	*		
				087-1N-20-l4	11/17/2015	--	<2.1	*		
				087-1N-20-m1	11/17/2015	--	<1.9	*		
				087-1N-20-m2	11/17/2015	--	<1.9	*		
				087-1N-20-m3	11/17/2015	--	<1.4	*		
				087-1N-20-m4	11/17/2015	--	<1.4	*		
				087-1N-20-n1	11/17/2015	--	<1.4	*		
				087-1N-20-n2	11/17/2015	--	<1.4	*		
				087-1N-20-n3	11/17/2015	--	<1.3	*		
				087-1N-20-n4	11/17/2015	--	<1.5	*		

MATERIAL TRACKING AND SAMPLING LOG
SA-6 North and South

Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
EA2/EA3	<20	087-EA2-20-a (bermed/trench material)	400	087-EA2-20-a1	12/11/2015	--	<1.8	*		
				087-EA2-20-a2	12/11/2015	--	6.7	*		
				087-EA2-20-a3	12/11/2015	--	<1.9	*		
				087-EA2-20-a4	12/11/2015	--	3.8	*		

*Material currently stockpiled. Pending final placement.
**Waiting on final results from the laboratory.

Attachment 7: Perimeter Pools Update



IN PROGRESS

06-10-2015

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210

DRAWING NO. PP-1

Jul 09, 2015 at 3:14pm

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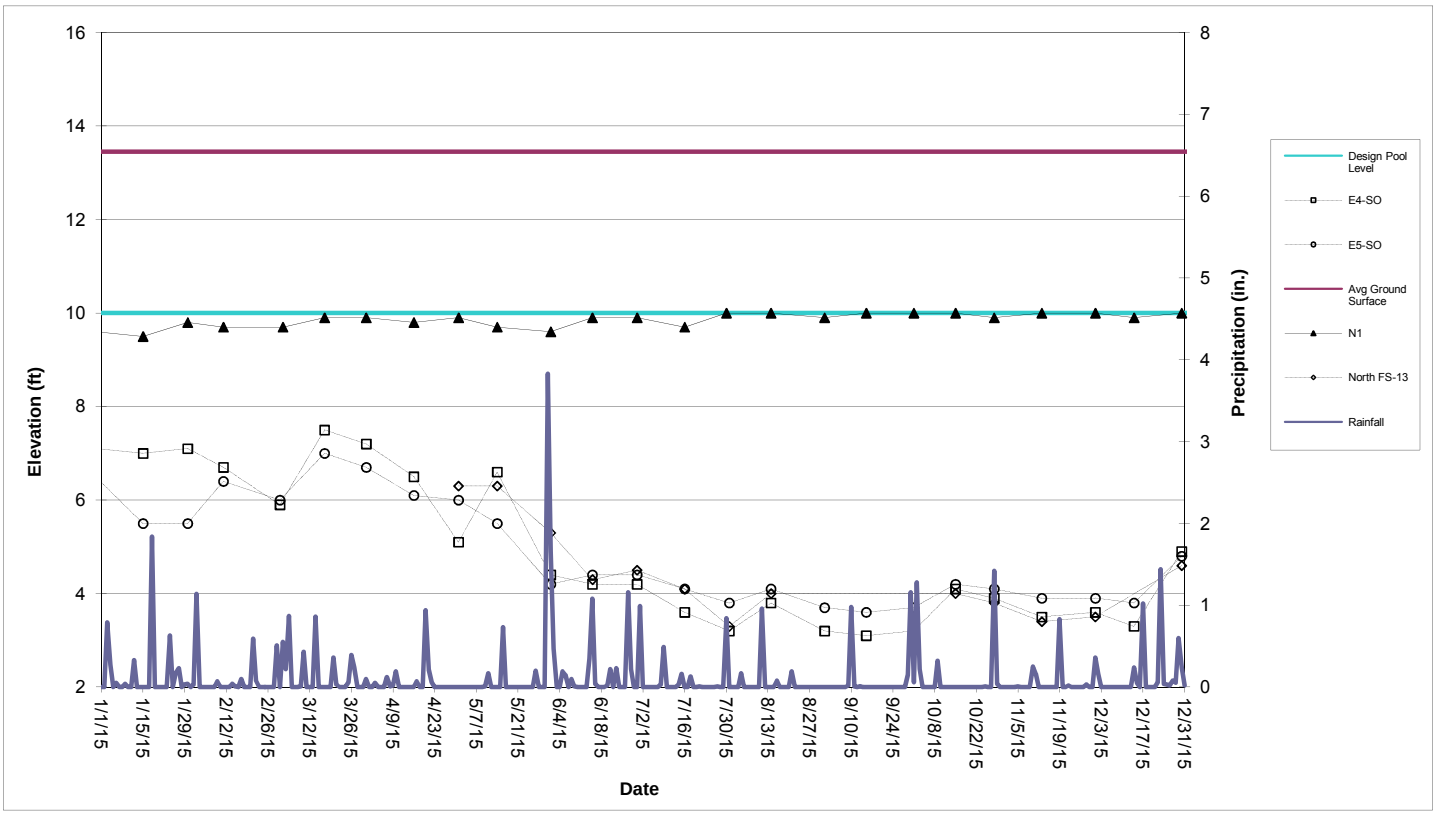
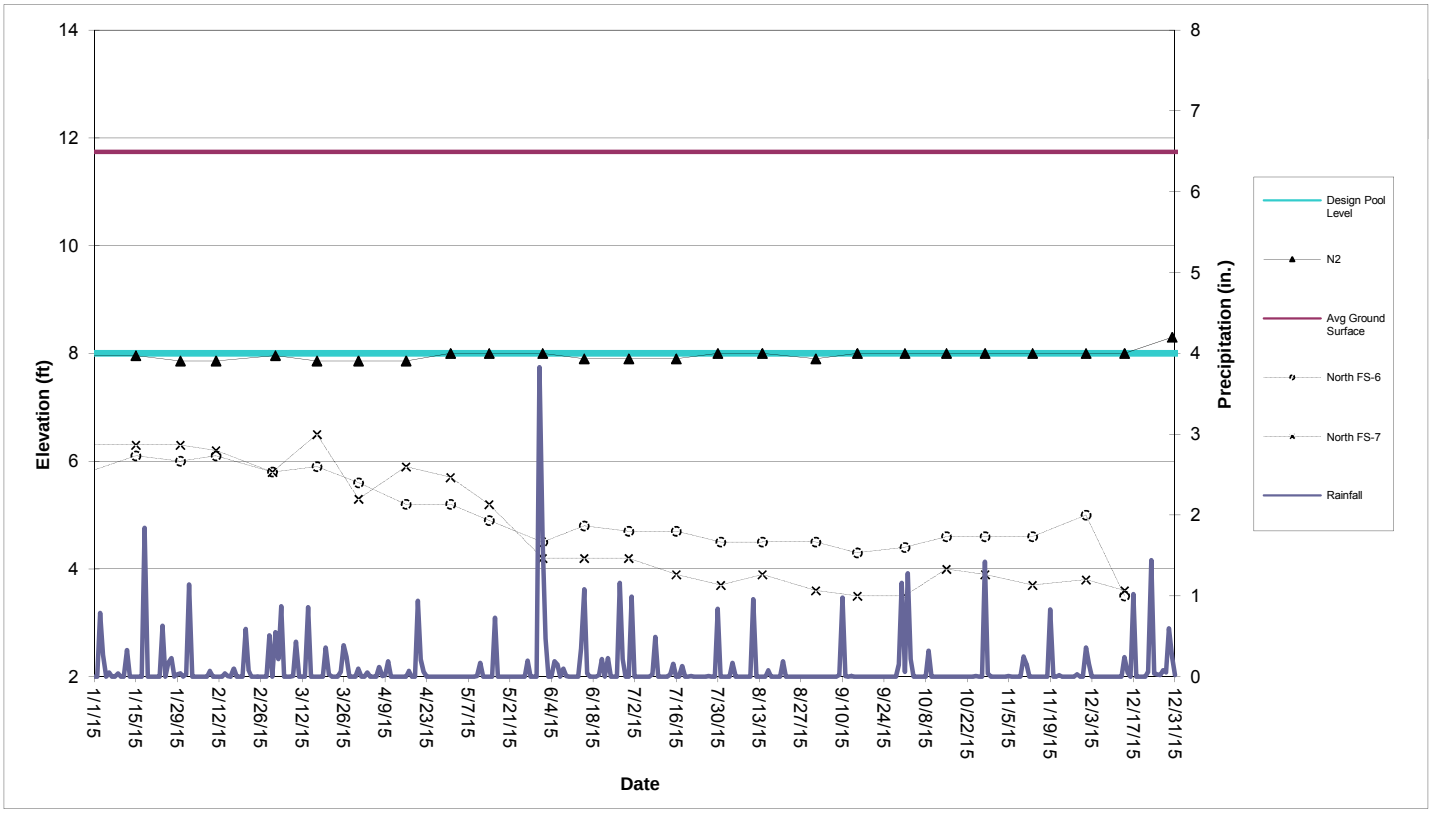
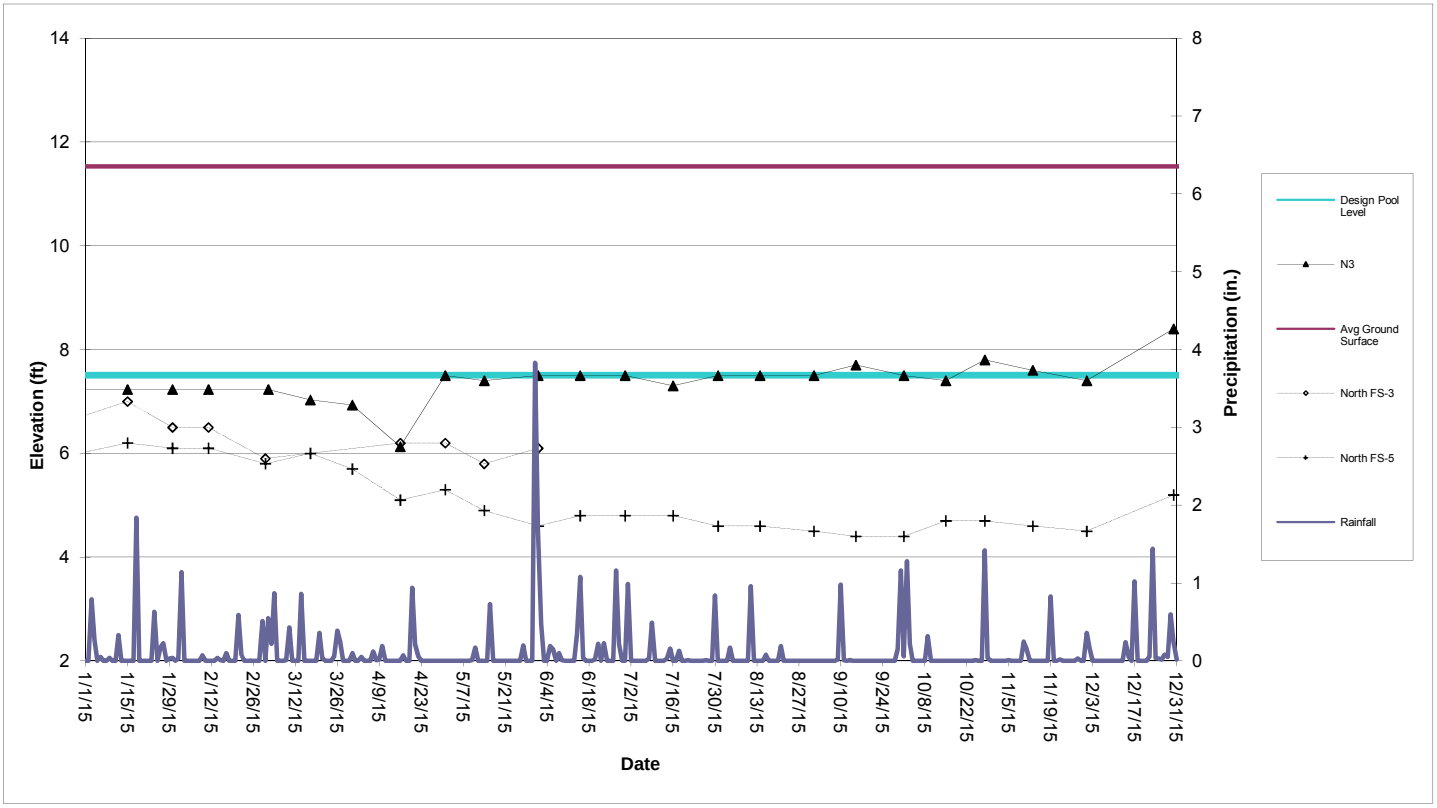
bboscaino



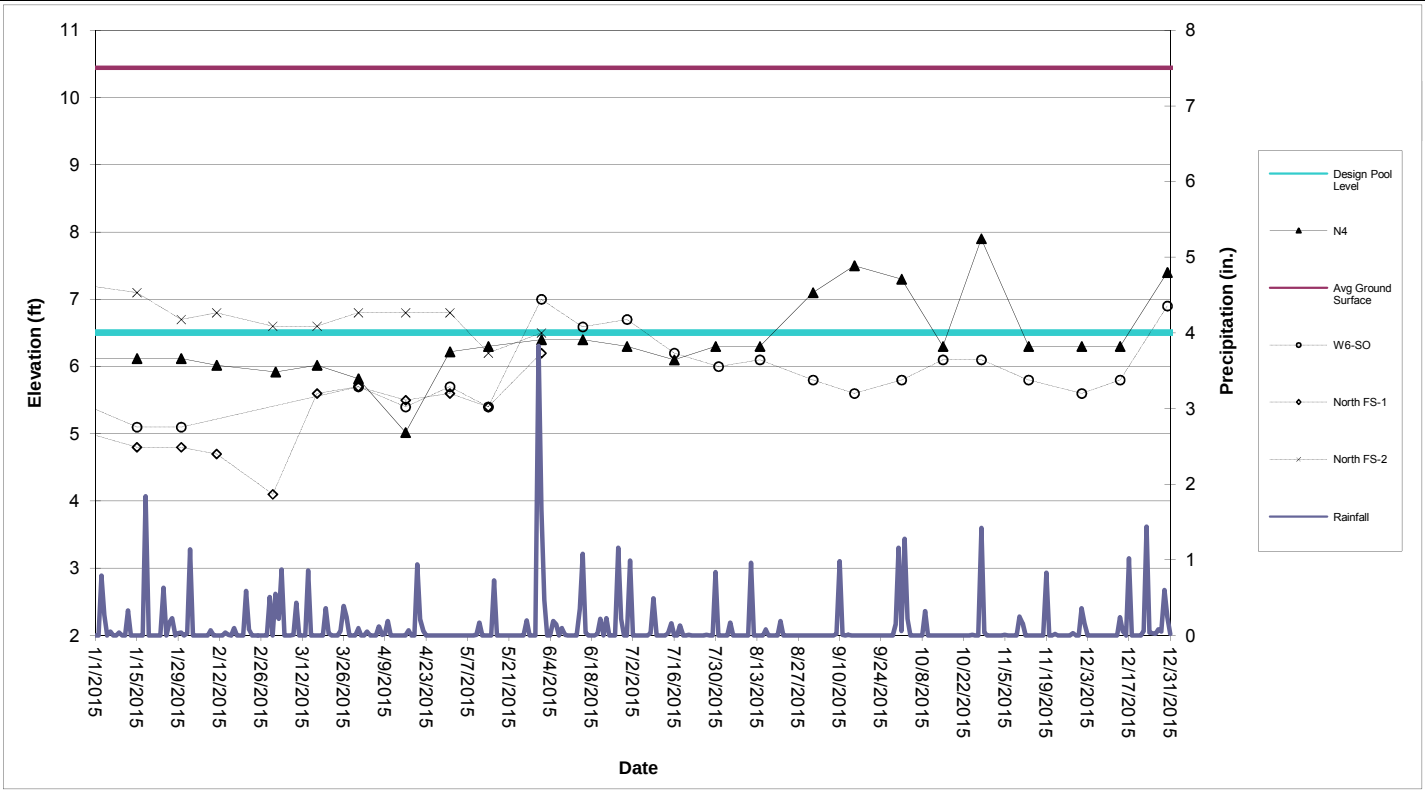
Perimeter Pool N1 (Sta. N13+60 to N20+25)



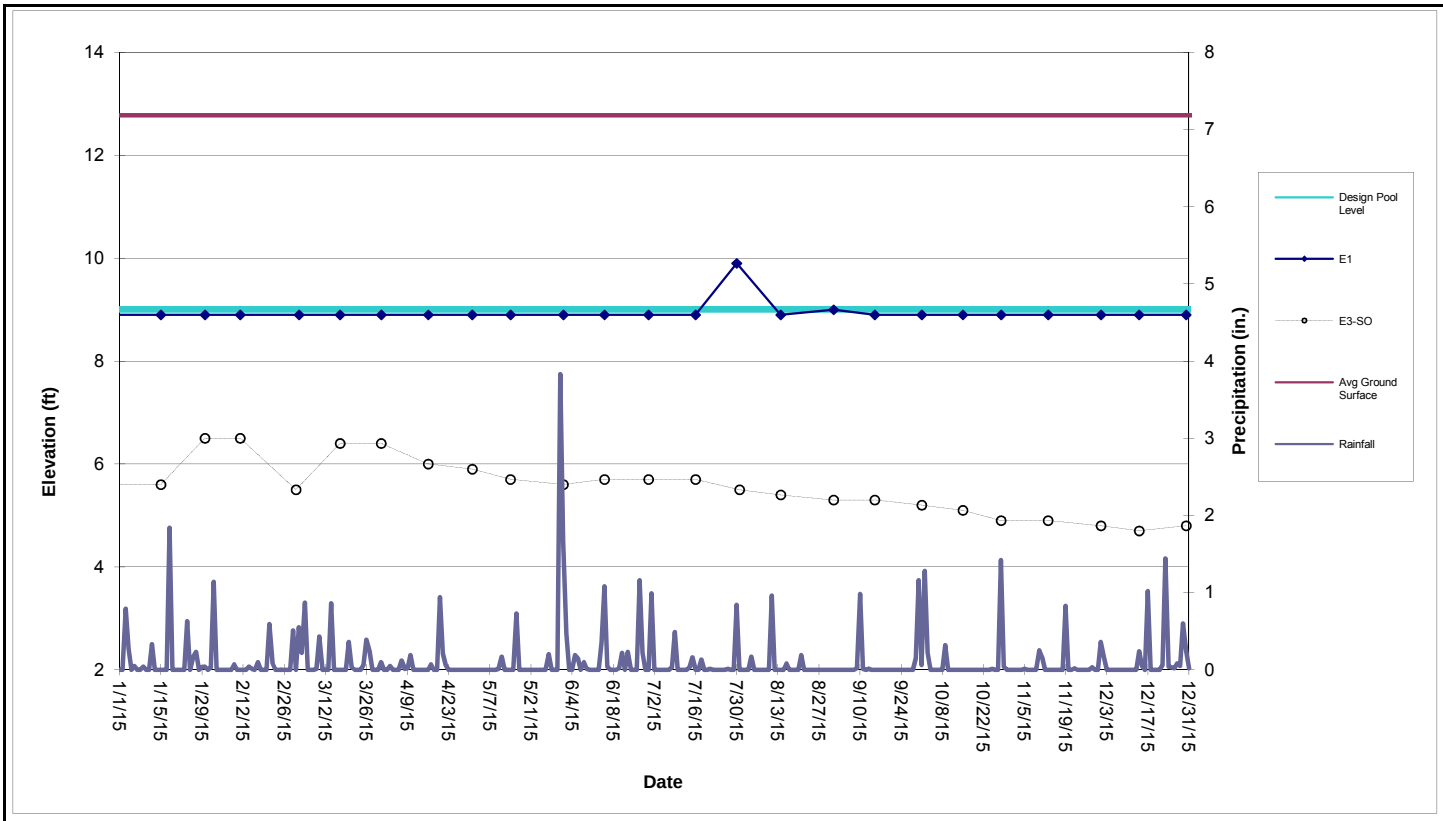
Perimeter Pool N2 (Sta. N10+73 to N13+10)



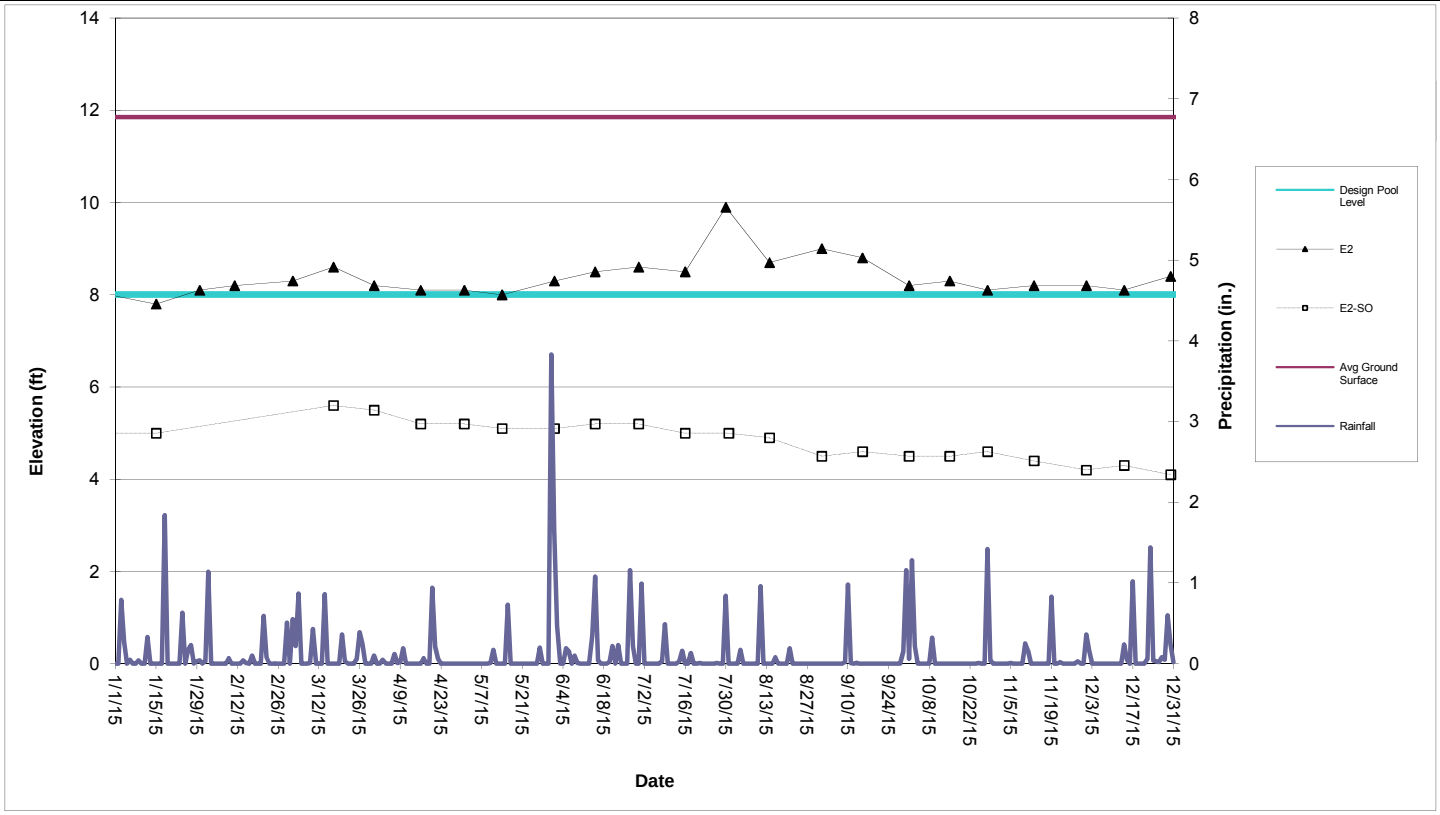
Perimeter Pool N3 (Sta. N6+80 to N10+23)



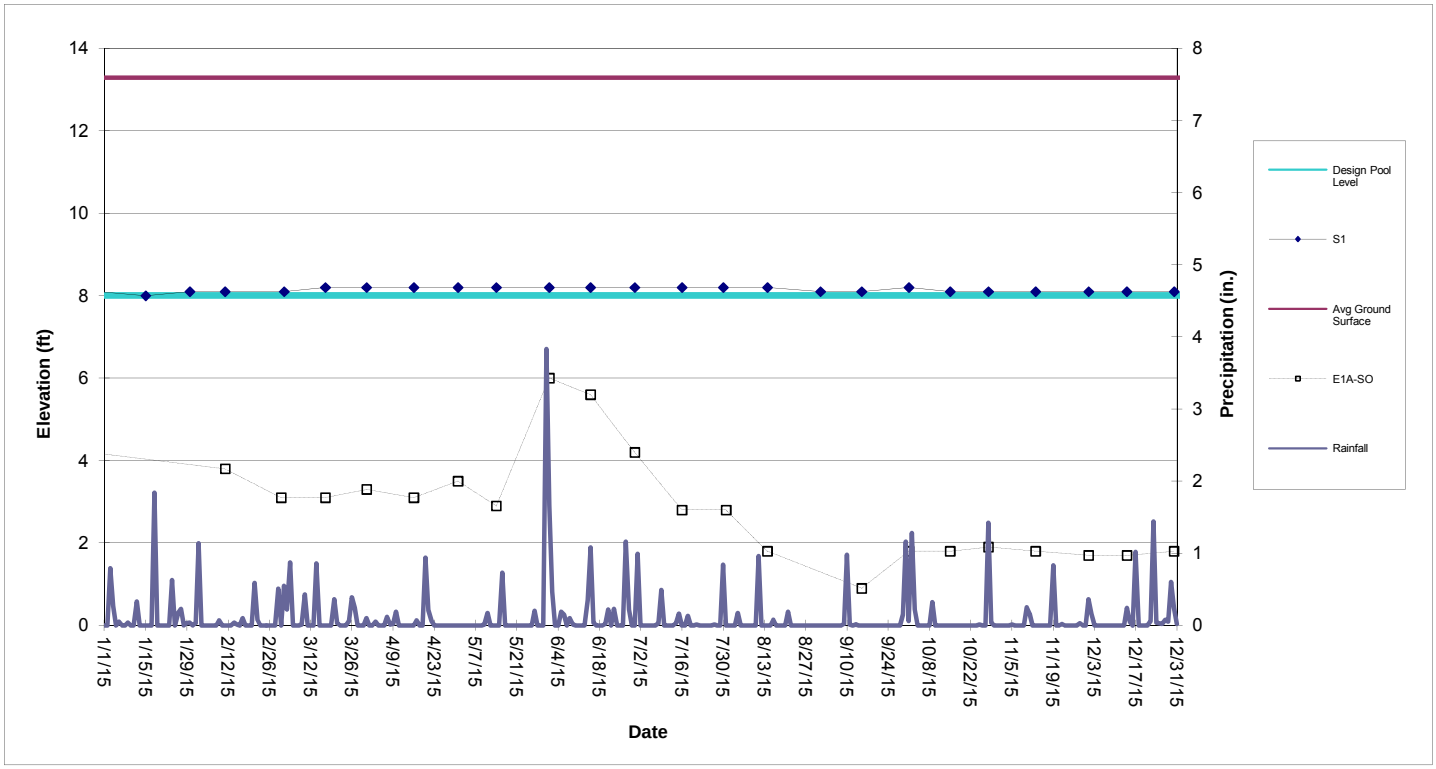
Perimeter Pool N4 (Sta. N6+80 to N10+23)



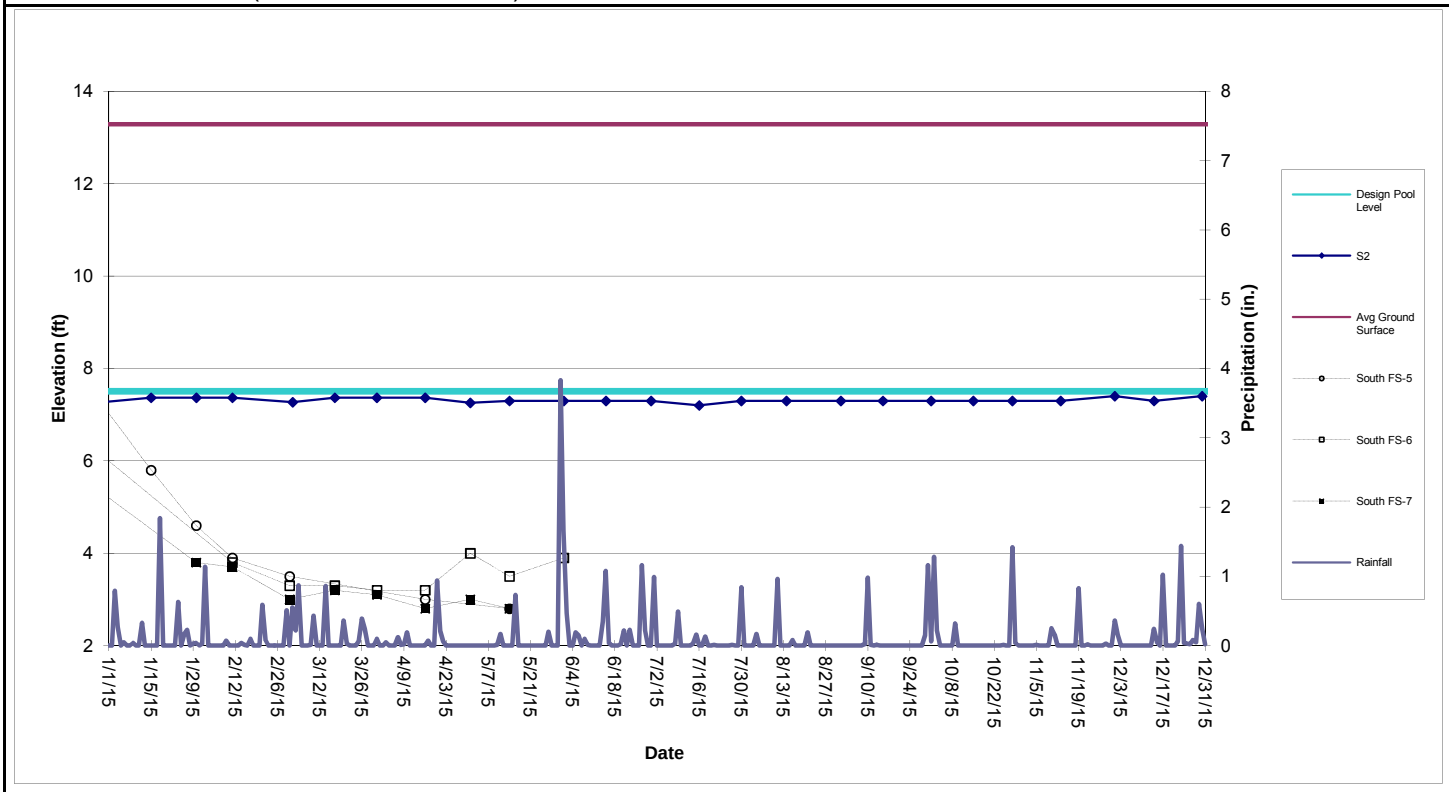
Perimeter Pool E1 (Sta. E0+50 to E3+75)



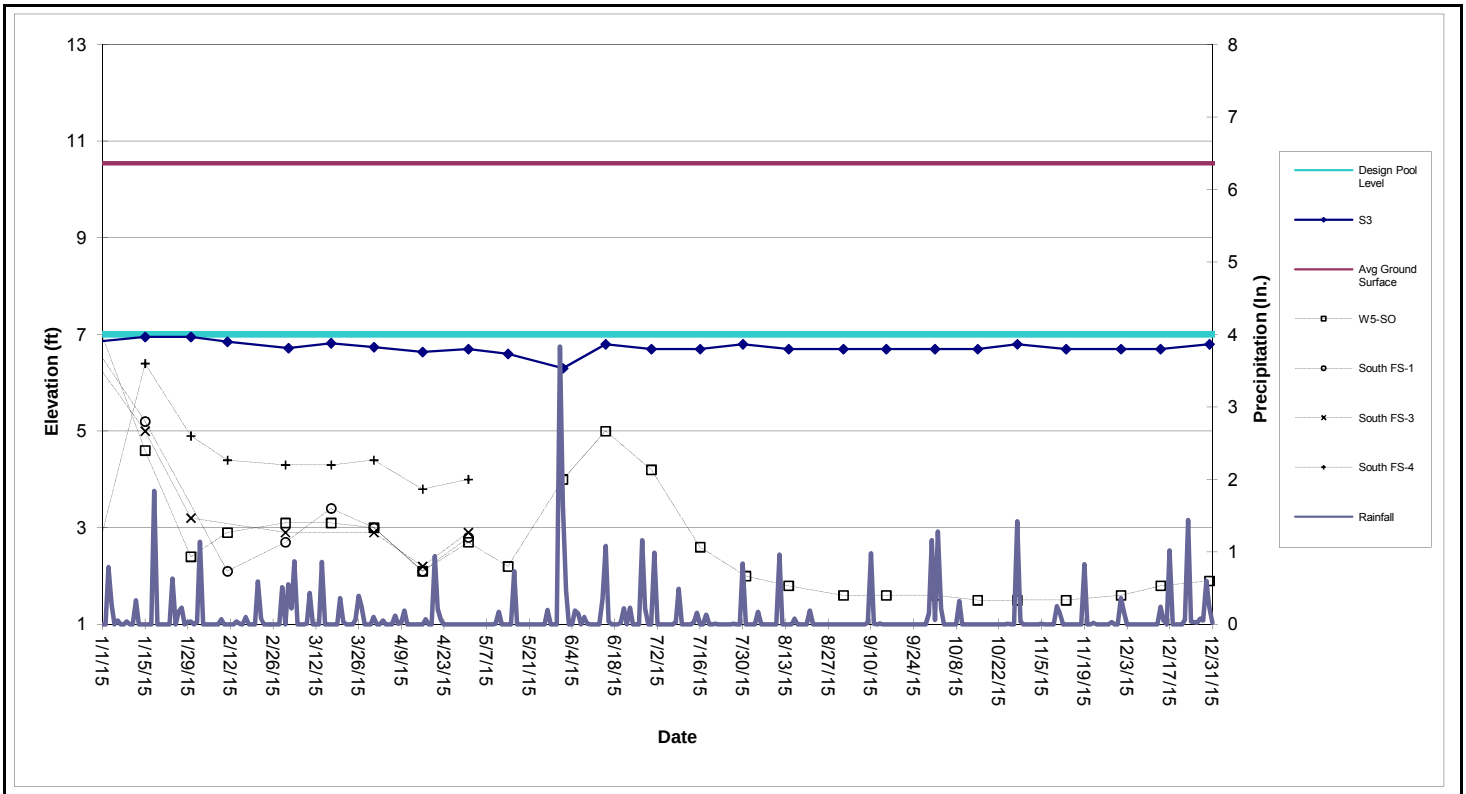
Perimeter Pool E2 (Sta. E4+50 to E7+25)



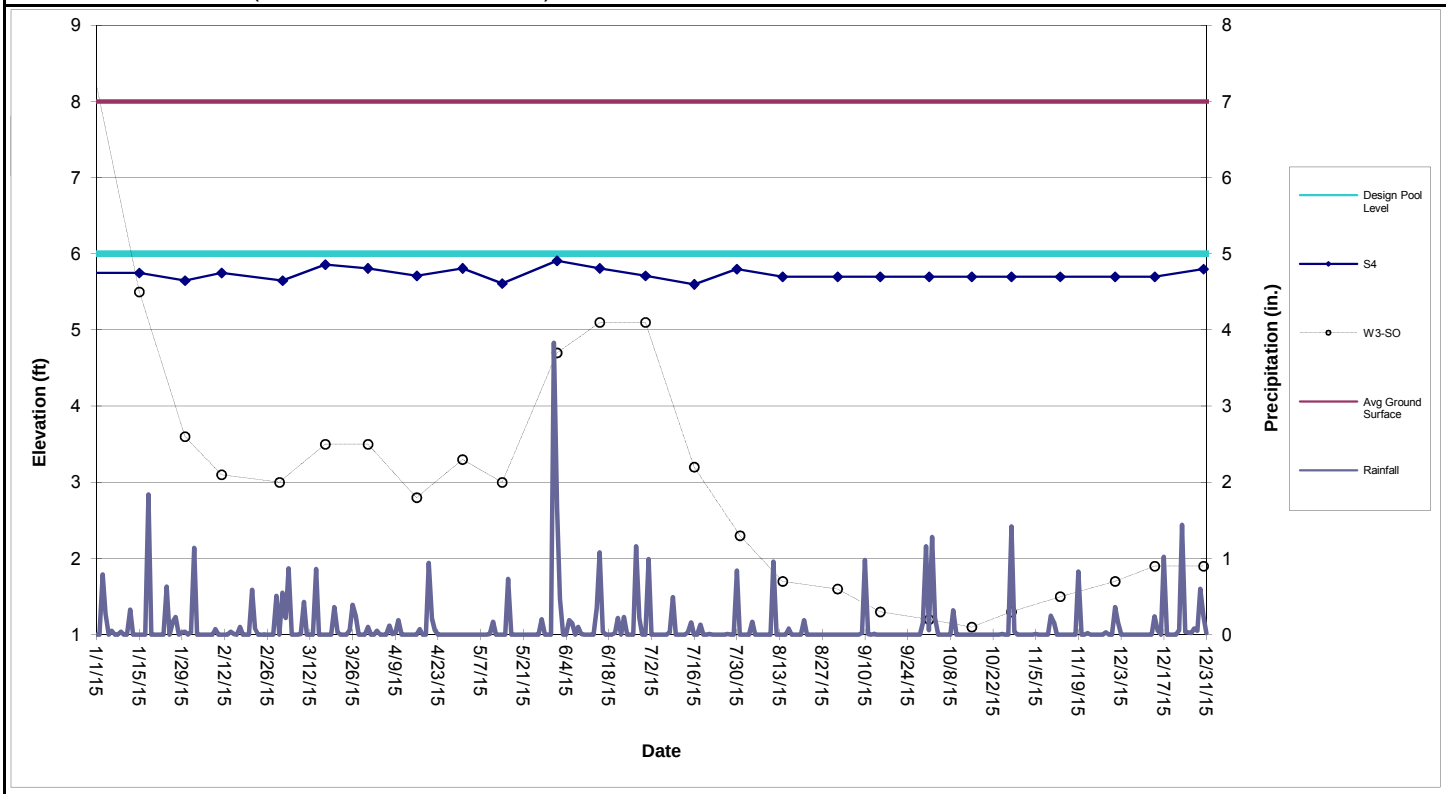
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-1	FS-2	FS-3	FS-5	FS-6	FS-7	FS-13	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																						
1/15/2015		5.0	5.6	7.0	5.5		5.5	4.6	5.1	4.8	7.1	7.0	6.2	6.1	6.3		5.2	5.0	6.4	5.8		
1/30/2015			6.5	7.1	5.5		3.6	2.4	5.1	4.8	6.7	6.5	6.1	6.0	6.3			3.2	4.9	4.6		3.8
2/11/2015	3.8		6.5	6.7	6.4		3.1	2.9		4.7	6.8	6.5	6.1	6.1	6.2		2.1		4.4	3.9	3.8	3.7
3/2/2015	3.1		5.5	5.9	6.0		3.0	3.1		4.1	6.6	5.9	5.8	5.8	5.8		2.7	2.9	4.3	3.5	3.3	3.0
3/17/2015	3.1	5.6	6.4	7.5	7.0		3.5	3.1		5.6	6.6		6.0	5.9	6.5		3.4		4.3		3.3	3.2
3/31/2015	3.3	5.5	6.4	7.2	6.7		3.5	3.0	5.7	5.7	6.8		5.7	5.6	5.3		3.0	2.9	4.4		3.2	3.1
4/16/2015	3.1	5.2	6.0	6.5	6.1		2.8	2.1	5.4	5.5	6.8	6.2	5.1	5.2	5.9		2.1	2.2	3.8	3.0	3.2	2.8
5/1/2015	3.5	5.2	5.9	5.1	6.0		3.3	2.7	5.7	5.6	6.8	6.2	5.3	5.2	5.7	6.3	2.8	2.9	4.0		4.0	3.0
5/14/2015	2.9	5.1	5.7	6.6	5.5		3.0	2.2	5.4	5.4	6.2	5.8	4.9	4.9	5.2	6.3				2.8	3.5	2.8
6/1/2015	6.0	5.1	5.6	4.4	4.2		4.7	4.0	7.0	6.2	6.5	6.1	4.6	4.5	4.2	5.3					3.9	
6/15/2015	5.6	5.2	5.7	4.2	4.4		5.1	5.0	6.6				4.8	4.8	4.2	4.3						
6/30/2015	4.2	5.2	5.7	4.2	4.4		5.1	4.2	6.7				4.8	4.7	4.2	4.5						
7/16/2015	2.8	5.0	5.7	3.6	4.1		3.2	2.6	6.2				4.8	4.7	3.9	4.1						
7/31/2015	2.8	5.0	5.5	3.2	3.8		2.3	2.0	6.0				4.6	4.5	3.7	3.3						
8/14/2015	1.8	4.9	5.4	3.8	4.1		1.7	1.8	6.1				4.6	4.5	3.9	4.0						
9/1/2015		4.5	5.3	3.2	3.7		1.6	1.6	5.8				4.5	4.5	3.6							
9/15/2015	0.9	4.6	5.3	3.1	3.6		1.3	1.6	5.6				4.4	4.3	3.5							
10/1/2015	1.8	4.5	5.2	3.2	3.7		1.2	1.6	5.8				4.4	4.4	3.5							
10/15/2015	1.8	4.5	5.1	4.1	4.2		1.1	1.5	6.1				4.7	4.6	4.0	4.0						
10/28/2015	1.9	4.6	4.9	3.9	4.1	6.9	1.3	1.5	6.1				4.7	4.6	3.9	3.8						
11/13/2015	1.8	4.4	4.9	3.5	3.9	6.4	1.5	1.5	5.8				4.6	4.6	3.7	3.4						
12/1/2015	1.7	4.2	4.8	3.6	3.9	6.2	1.7	1.6	5.6				4.5	5.0	3.8	3.5						
12/14/2015	1.7	4.3	4.7	3.3	3.8	6.2	1.9	1.8	5.8					3.5	3.6							
12/30/2015	1.8	4.1	4.8	4.9	4.8	7.5	1.9	1.9	6.9				5.2			4.6						

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09

Attachment 8: Groundwater Quality Data

(not included in this reporting period)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-23

Date Exposed: 12/1/15

Describe Damage:

Epoxy Scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to bottom of excavation

Date Repaired: 12/3/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 12/3/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-29

Date Exposed: 12/1/15

Describe Damage:

Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 12/3/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 12/3/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-30

Date Exposed: 12/4/15

Describe Damage:

Epoxy Scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 12/11/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 12/11/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-31

Date Exposed: 12/4/15

Describe Damage:

Epoxy Scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 12/11/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 12/11/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-32

Date Exposed: 12/4/15

Describe Damage:

Epoxy Scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to bottom of excavation

Date Repaired: 12/11/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 12/11/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-33

Date Exposed: 12/4/15

Describe Damage:

Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 12/11/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 12/11/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-34

Date Exposed: 12/4/15

Describe Damage:

Epoxy Scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 12/11/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 12/11/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-35

Date Exposed: 12/4/15

Describe Damage:

Epoxy Scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 12/11/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 12/11/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-36

Date Exposed: 12/14/15

Describe Damage:

Epoxy Scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to bottom of excavation

Date Repaired: 12/11/15

Inspected by: A. Eslamingad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 12/11/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-37

Date Exposed: 12/14/15

Describe Damage:

Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 12/17/15

Inspected by: A. Eslamingad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 12/17/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-38

Date Exposed: 12/14/15

Describe Damage:

Epoxy Scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 12/17/15

Inspected by: A. Eslamingad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 12/17/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-39

Date Exposed: 12/14/15

Describe Damage:

Epoxy Scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 12/17/15

Inspected by: A. Eslamingad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 12/17/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-40

Date Exposed: 12/14/15

Describe Damage:

Epoxy scrapes on the face of the sheet, caused by the CAT 349 Excavator bucket

Damage Location (ft below top of sheet, inboard side outboard side):

Along the face of the sheet to the bottom of the excavation

Date Repaired: 12/17/15

Inspected by: A. Eslamnejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 12/17/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-41

Date Exposed: 12/17/15

Describe Damage:

Epoxy scrapes along the face of the sheet, caused by the CAT 349 Excavator bucket

Damage Location (ft below top of sheet, inboard side outboard side):

Along the face of the sheet to the bottom of excavation

Date Repaired: 12/17/15

Inspected by: A. Eslamnejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 12/17/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-42

Date Exposed: 12/14/15

Describe Damage:

Epoxy scrapes on the face of the sheet. Caused by the CAT 349 excavator bucket

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 12/17/15

Inspected by: A. Eslamnejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 12/17/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-43

Date Exposed: 12/14/15

Describe Damage:

Epoxy scrapes on the face of the sheet, caused by the CAT 349 Excavator bucket

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 12/17/15

Inspected by: A. Eslamnejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 12/17/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 6OP-44

Date Exposed: 12/14/15

Describe Damage:

Epoxy scrapes on the face of the sheet, caused by the CAT 349 Excavator bucket

Damage Location (ft below top of sheet, inboard side outboard side):

Along the face of the sheet to the bottom of the excavation

Date Repaired: 12/17/15

Inspected by: A. Eslamineyad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 12/17/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 6OP-45

Date Exposed: 12/14/15

Describe Damage:

Epoxy scrapes along the face of the sheet, caused by the CAT 349 Excavator bucket

Damage Location (ft below top of sheet, inboard side outboard side):

Along the face of the sheet to the bottom of excavation

Date Repaired: 12/17/15

Inspected by: A. Eslamineyad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 12/17/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 6OP-46

Date Exposed: 12/17/15

Describe Damage:

Epoxy scrapes on the face of the sheet. Caused by the CAT 349 excavator bucket

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 12/22/15

Inspected by: A. Eslamineyad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 12/22/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 6OP-47

Date Exposed: 12/17/15

Describe Damage:

Epoxy scrapes on the face of the sheet, caused by the CAT 349 Excavator bucket

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 12/22/15

Inspected by: A. Eslamineyad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 12/22/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-48

Date Exposed: 12/17/15

Describe Damage:

Epoxy scrapes on the face of the sheet, caused by the CAT 349 Excavator bucket

Damage Location (ft below top of sheet, inboard side outboard side):

Along the face of the sheet to the bottom of the excavation

Date Repaired: 12/22/15

Inspected by: A. Eslamineyad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 12/22/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-49

Date Exposed: 12/17/15

Describe Damage:

Epoxy scrapes along the face of the sheet, caused by the CAT 349 Excavator bucket

Damage Location (ft below top of sheet, inboard side outboard side):

Along the face of the sheet to the bottom of excavation

Date Repaired: 12/22/15

Inspected by: A. Eslamineyad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 12/22/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-50

Date Exposed: 12/17/15

Describe Damage:

Epoxy scrapes on the face of the sheet. Caused by the CAT 349 excavator bucket

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 12/22/15

Inspected by: A. Eslamineyad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 12/22/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 60P-51

Date Exposed: 12/17/15

Describe Damage:

Epoxy scrapes on the face of the sheet, caused by the CAT 349 Excavator bucket

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 12/22/15

Inspected by: A. Eslamineyad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 12/22/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 60P-24

Date Exposed: 12/1/15

Describe Damage:

Epoxy Scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to bottom of excavation

Date Repaired: 12/3/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 12/3/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 60P-25

Date Exposed: 12/1/15

Describe Damage:

Epoxy Scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 12/3/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 12/3/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: _____

Date Exposed: _____

Describe Damage:

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: _____

Inspected by: _____

Describe Repair:

Repair Log Closure: AMEC Signature: _____

Date: _____

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: _____

Date Exposed: _____

Describe Damage:

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: _____

Inspected by: _____

Describe Repair:

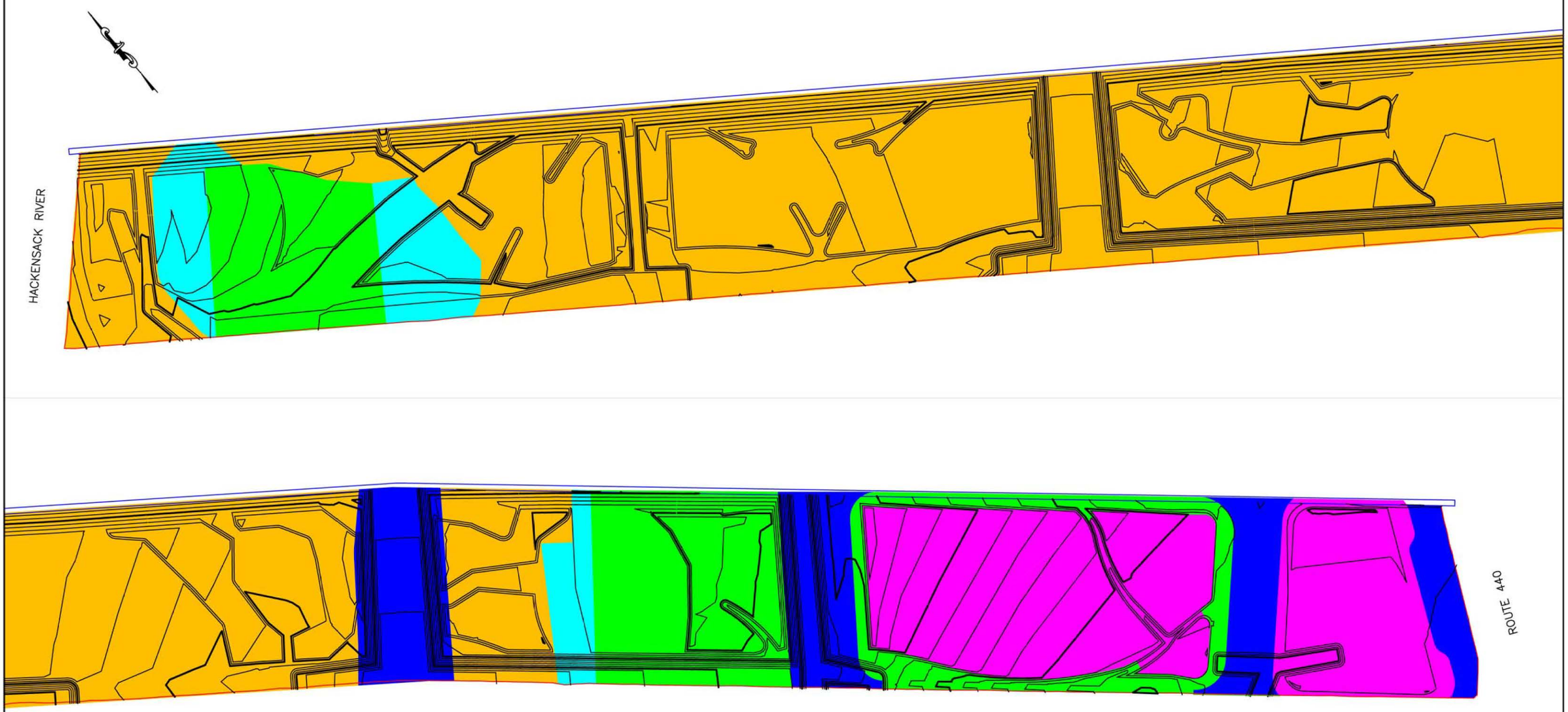
Repair Log Closure: AMEC Signature: _____

Date: _____

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

Attachment 11: Capping Update

- SA-6 South Cap Subgrade Progress Map



LEGEND

- GDL COVER SOIL PLACED
- GDL COVER SOIL GRADED AND APPROVED FOR HORIZON SOILS
- HORIZON C SOIL PLACED
- HORIZON C PLACED TO FINAL HORIZON C GRADE
- STRUCTURAL FILL PLACED
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP COVER SOILS PROGRESS MAP
12/28/15

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: December 04, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		1
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment		X		3
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance		X		4
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 12/04/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, December 04, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Storm water has accumulated in the secondary containment structures in the mechanic's work area on SA-6 South.
2	IA2Q4A1AL8	Exclusion Zone fencing is inadequate at several locations around the EA-2/EA-3 excavations
3	IA2Q4A1AL8	The Type A stockpile to the north of the EA-5 excavation area has overtopped the installed silt fencing to the north and to the west.
4	IA2Q4A1AL8	The haul road to the north of the trash pit on SA-6 North is heavily coated with sediment and other material.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 12/04/15

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Drain accumulated storm water from secondary containment structures.	12-11-15 MM
2	Maintain or replace EZ fencing as required to meet site requirements.	12-11-15 MM
3	Re-install silt fence as required.	12-11-15 MM
4	Clean the haul road and confirm that all catch basins in the area are properly protected from sediment run-off.	12-7-15 MM

Construction Manager: _____ Date: 12/11/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: December 11, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		1
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance		X		2
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 12/14/15

SWPPP Observer: _____
Signature

- - 3 - -

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, December 11, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Sediment has built up along the north side of Kellogg Street, west of the old guard shack
2	IA2Q4A1AL8	REPEAT: The haul road to the north of the trash pit on SA-6 North is heavily coated with sediment and other material.
3	IA2Q4A1AL8	Sediment and vehicle-tracked material has accumulated on the western SA-7 paved access roadway.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 12/14/15

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Remove accumulated sediment with flat shovels and/or brooms as required.	12/15/15 RAD
2	Clean the haul road and confirm that all catch basins in the area are properly protected from sediment run-off.	↓
3	Remove accumulated sediment as required.	↓

Construction Manager: _____ **Date:** 12/16/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: December 18, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		3
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		4
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 12/21/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, December 18, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen on the SA-6 South perimeter fenceline is partially detached at several locations and requires maintenance
2	IA2Q4A1AL8	Trash and other debris has accumulated outside of the perimeter fence at the Kellogg Street jughandle.
3	IA2Q4A1AL8	Some of the temporary fence panels between SA-6 North and the JCMUA property require stabilization or additional bracing.
4	IA2Q4A1AL8	Sediment has accumulated on the SA-7 northern haul road.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 12/21/15

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach windscreen fabric to the perimeter fence as required	12/23/15 RAD
2	Pick up and dispose of trash and other refuse as required.	
3	Re-enforce the temporary fence panels as required.	
4	Remove accumulated sediment as required.	

Construction Manager: _____ Date: 12/23/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: December 23, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 12/23/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Wednesday, December 23, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Temporary fence panels in the perimeter fenceline along the Kellogg Street jughandle are loose and require maintenance and/or reinforcement.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 12/23/15
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-secure temporary fence panels as required	12/29/15 BAD

Construction Manager: _____ **Date:** 12/30/15

Attachment 13: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (submitted December 2015)

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

December 17, 2015

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the November 2015 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
11	01	15	11	30	15
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	76,879	84,187 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYP
		MON AVG	MAXIMUM	UNITS		COMP/GRAI
Chromium	Sample Measurement	0.63	0.69	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	0.00021	0.00021	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.0	<5.0	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1603	0.1603	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analytes are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

December 16, 2015

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North
ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962
FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305
NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
11	01	15	11	30	15
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD	
2,306,384	GALS
CU. FT X 7.48 - GALLONS	
EFFLUENT METER READING LAST DAY THIS PERIOD	50,424,392

DATE	BOD (mg/l)	TSS (mg/l)
11/12/2015	4.9	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003

DATE December 16, 2015

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG **Honeywell Jersey City GWTP; SA-6 North (Permit #20630025)** **MONTH: November, 2015**

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits		5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
11/1/2015	Angel Trujillo	48118008	48194250	76,242	0.076242	7.40	0.987									0.63
11/2/2015	Angel Trujillo	48194250	48270492	76,242	0.076242	7.46	0.987									0.63
11/3/2015	Angel Trujillo	48270492	48346040	75,548	0.075548	7.01	0.987									0.62
11/4/2015	Angel Trujillo	48346040	48422186	76,146	0.076146	7.02	0.987									0.63
11/5/2015	Angel Trujillo	48422186	48500024	77,838	0.077838	7.01	0.987									0.64
11/6/2015	Angel Trujillo	48500024	48577670	77,646	0.077646	7.04	0.987									0.64
11/7/2015	Angel Trujillo	48577670	48657202	79,532	0.079532	7.16	0.987									0.65
11/8/2015	Angel Trujillo	48657202	48731146	73,944	0.073944	6.95	0.987									0.61
11/9/2015	Angel Trujillo	48731146	48805090	73,944	0.073944	6.98	0.987									0.61
11/10/2015	Angel Trujillo	48805090	48883394	78,304	0.078304	6.99	0.987									0.64
11/11/2015	Angel Trujillo	48883394	48959110	75,716	0.075716	7.08	0.987									0.62
11/12/2015	Angel Trujillo	48959110	49034698	75,588	0.075588	6.70	0.987	<5.0	4.9		<0.010	<0.030	<0.010	0.00021	<0.020	0.62
11/13/2015	Angel Trujillo	49034698	49112107	77,409	0.077409	7.32	0.987									0.64
11/14/2015	Angel Trujillo	49112107	49196294	84,187	0.084187	7.00	0.987									0.69
11/15/2015	Angel Trujillo	49196294	49270042	73,748	0.073748	6.95	0.987									0.61
11/16/2015	Angel Trujillo	49270042	49343790	73,748	0.073748	7.04	0.987									0.61
11/17/2015	Angel Trujillo	49343790	49421208	77,418	0.077418	7.17	0.987									0.64
11/18/2015	Angel Trujillo	49421208	49496880	75,672	0.075672	7.28	0.987									0.62
11/19/2015	Angel Trujillo	49496880	49575270	78,390	0.07839	7.08	0.987									0.65
11/20/2015	Angel Trujillo	49575270	49652858	77,588	0.077588	7.06	0.987									0.64
11/21/2015	Angel Trujillo	49652858	49732407	79,549	0.079549	7.00	0.987									0.65
11/22/2015	Angel Trujillo	49732407	49811956	79,549	0.079549	7.02	0.987									0.65
11/23/2015	Angel Trujillo	49811956	49885156	73,200	0.0732	7.08	0.987									0.60
11/24/2015	Angel Trujillo	49885156	49959637	74,481	0.074481	7.09	0.987									0.61
11/25/2015	Angel Trujillo	49959637	50035893	76,256	0.076256	7.02	0.987									0.63
11/26/2015	Angel Trujillo	50035893	50116296	80,403	0.080403	6.95	0.987									0.66
11/27/2015	Angel Trujillo	50116296	50196699	80,403	0.0804	7.00	0.987									0.66
11/28/2015	Angel Trujillo	50196699	50277614	80,915	0.080915	6.97	0.987									0.67
11/29/2015	Angel Trujillo	50277614	50351003	73,389	0.073389	6.98	0.987									0.60
11/30/2015	Angel Trujillo	50351003	50424392	73,389	0.073389	6.95	0.987									0.60
TOTAL				**2,306,384**	**2.306384**			<5.0	4.9		<0.010	<0.030	<0.010	0.00021	<0.020	
			High:	**84,187**											**High:**	**0.69**
			Average:	**76,879**											**Average:**	**0.63**

Accutest LabLink@885056 10:46 01-Dec-2015

Report of Analysis

4.1 4

Client Sample ID:	087-WWE-111215-A		
Lab Sample ID:	JC8421-1	**Date Sampled:**	11/12/15
Matrix:	AQ - Water	**Date Received:**	11/12/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	987	10	ug/l	1	11/13/15	11/15/15	GT	EPA 200.7 [2]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	11/13/15	11/15/15	GT	EPA 200.7 [2]	EPA 200.7 [4]
Lead [a]	< 30	30	ug/l	10	11/13/15	11/16/15	ND	EPA 200.7 [3]	EPA 200.7 [4]
Mercury	0.21	0.20	ug/l	1	11/14/15	11/14/15	MA	EPA 245.1 [1]	EPA 245.1 [5]
Nickel	< 10	10	ug/l	1	11/13/15	11/15/15	GT	EPA 200.7 [2]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	11/13/15	11/15/15	GT	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA38049
(2) Instrument QC Batch: MA38050
(3) Instrument QC Batch: MA38068
(4) Prep QC Batch: MP90316
(5) Prep QC Batch: MP90345

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@885056 10:46 01-Dec-2015

Report of Analysis

4.1 4

Client Sample ID:	087-WWE-111215-A		
Lab Sample ID:	JC8421-1	**Date Sampled:**	11/12/15
Matrix:	AQ - Water	**Date Received:**	11/12/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended [a]	< 4.0	4.0	mg/l	1	11/13/15	LA	SM2540 D-11
pH [b]	6.82		su	1	11/12/15 17:13	HL	SM4500H+ B-11

(a) Reported sample aliquot obtained from filtration of 540 mL of sample. Sample did not meet method requirement of 2.5 mg of solids on the filter with this volume filtered.
(b) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@885056 10:46 01-Dec-2015

Report of Analysis

4.2 4

Client Sample ID:	087-WWE-111215-A		
Lab Sample ID:	JC8421-1A	**Date Sampled:**	11/12/15
Matrix:	AQ - Water	**Date Received:**	11/12/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	4.9	3.4	mg/l	1	11/12/15 21:27	TT	SM5210 B-11

RL = Reporting Limit

Accutest LabLink@885056 10:46 01-Dec-2015

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-111215-B		
Lab Sample ID:	JC8421-2	**Date Sampled:**	11/12/15
Matrix:	AQ - Water	**Date Received:**	11/12/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U200844.D	1	11/17/15	NH	n/a	n/a	VU9247
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	10	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	2.5	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	3.2	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	0.24	1.0	0.093	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.50	ug/l	
67-66-3	Chloroform	19.8	1.0	0.091	ug/l	
74-87-3	Chloromethane	ND	1.0	0.11	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.11	ug/l	
95-50-1	1,2-Dichlorobenzene	0.41	1.0	0.19	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.11	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.29	ug/l	
75-34-3	1,1-Dichloroethane	0.42	1.0	0.12	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/l	
156-59-2	cis-1,2-Dichloroethene	78.6	1.0	0.12	ug/l	
156-60-5	trans-1,2-Dichloroethene	4.2	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.12	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.15	ug/l	
123-91-1	1,4-Dioxane	ND	130	20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.54	1.0	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest LabLink@885056 10:46 01-Dec-2015

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-111215-B		
Lab Sample ID:	JC8421-2	**Date Sampled:**	11/12/15
Matrix:	AQ - Water	**Date Received:**	11/12/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	50.4	1.0	0.12	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	97%		72-125%
2037-26-5	Toluene-D8 (SUR)	99%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	102%		74-115%
1868-53-7	Dibromofluoromethane (S)	99%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest LabLink@885056 10:46 01-Dec-2015

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-111215-B		
Lab Sample ID:	JC8421-2	**Date Sampled:**	11/12/15
Matrix:	AQ - Water	**Date Received:**	11/12/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.0	5.0	mg/l	1	11/16/15 17:40	LS	EPA 1664A

RL = Reporting Limit

WW

JC8421

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell — Chain Of Custody / Analysis Request

AESI Ref:	42320.54873
COC#	087-WW-111215
Lab Proj # (SDG):	
Lab ID	ACTD
Site ID	HudsonCo
Lab Job #	HWINJM32815
Authorized User:	Honeywell
Text & Excel File Drive	Excel & Text File Order

Privileged & Confidential

Site Name: Hudson County
Location of Site: Jersey City, NJ
Phase: CS
Sampling Program: 087: JCIA

Sampling Co.: MACTEC
EDD To:
Sampler: Frank Schroyer
PO #
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Full Report TAT: 28 Days

Client Contact: (name, co., address)
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962
Preliminary Data To
Sample Receipt Acknowledgement To: Frank Schroyer
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)

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	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SI. VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
											Units																
													Preservative	3	3	3	1	2	2	0	0	2						
1	087-WW			087-WWE-111215-A	11/12/2015	14:30	WW	WATER	REG	3	comp	N	X	X	X	X			X	X		1					
2	087-WW			087-WWE-111215-B	11/12/2015	14:35	WW	WATER	REG	5	grab	N					X	X				2					L20
3	087-WW			087-WWI-111215	11/12/2015	14:45	WW	WATER	REG	3	grab	N									X	3					V812
4																											G18
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

ALL SAMPLES RECEIVED PRESERVED AS APPLICABLE

INITIAL ASESSMENT NLA
LABEL VERIFICATION HL

Relinquished by	pH=6.70 S.U. @ 6.9°C	Company	AMEC Foster Wheeler	Received by	Company	Condition	Custody Seals Intact
Frank Schroyer	11/12/15	Date/Time			Date/Time 11/12/15 1500	Cooler Temp.	
Relinquished by		Company		Received by	Company ACNJ	Condition	Custody Seals Intact
	11/12/15 1700	Date/Time			Date/Time 11/12/15 1700	Cooler Temp.	1.0°C CB

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending December 2015

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending December 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Contractor only.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groudnwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.
DC 2015-06-18	Bayfront Redevelopment Civil Designer has eliminated one utility corridor along the eastern portion of SA-6 South (water main and sewer line were relocated to another utility corridor). In addition, it was identified that minor increases in the Bayfront final grades of up to 0.25 feet may be made in the landscaped areas (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 South Consent Decree and the 100% Design.	Submitted to all Parties on June 18, 2015.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.

SA-6 North/South Field Change Log - Month Ending December 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-11-12	Amec Foster Wheeler has provided Final Cap Grades (in CAD) to Entact. Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.	Submitted to Contractor only.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on 6/22/15.
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-10-06	GCL is required to be installed over the SCB wall and Barrier Wall at the locations shown in the annotated PDF of C-121 (rev 4, 8/13/15).	Submitted to Contractor only.
DC 2015-07-22	Detail BN has been modified to extend the lIDPE up and over the SCB Wall. The prior detail showed both the GDI and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-28	Drawing 304, Detail CE and associated notes regarding the "Liner Anchor to Concrete Structure" have been modified.	Submitted to Contractor only.
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only.
DC 2015-07-31	The sheet pile pair is located at Sta. 0+50. Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending December 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA 6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	Submitted to Contractor only.
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use	Submitted to Parties on September 23, 2015.
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	Submitted to Contractor only.
DC 2015-11-18	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	Submitted to Contractor only.
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.

SA-6 North/South Field Change Log - Month Ending December 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-10-22	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only.
DC 2015-12-01	EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation. A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals. EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conductec and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits. A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.	Submitted to Contractor only.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

SA-6 AND SA-7 COMBINED PROGRESS REPORT

FEBRUARY 9, 2016

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

February 11, 2016

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2016-01

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from January 1 – January 31, 2015.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Design and Construction

WJH:jtc/sgf

Attachment: January 2015 SA-6/7 Combined Monthly Progress Report No. 2016-01

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2016-01

Project SA-6 & 7 Remediation

January 2016

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
01/14/16	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2015-12	Honorable Robert G. Torricelli Office of the Special Master
01/14/16	SA-6 North Chrome Remedy Spark Testing of Liner Boots Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
01/19/16	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, JC MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
01/19/16	Special Master Conference Call	n/a
01/25/16	Honeywell correspondence re: Surcharge Monitoring Plan – Monthly Report No. 14, Study Area 6 North and South	Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending				
	01/03/16	01/10/16	01/17/16	01/24/16	01/31/16
Construction Management (AMEC)	7	7	9	7	7
Engineering (AMEC)	1	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1	1
Security (Securitas)	3	3	3	3	3
Entact/Subcontractors	33	34	34	30	33
Arecon/US Ecology Subcontractors	1	1	1	0	0
Langan	0	0	0	0	0
Evoqua	1	1	1	1	1

Team	Week Ending				
	01/03/16	01/10/16	01/17/16	01/24/16	01/31/16
B&B Drilling	0	0	1	1	0
Cornerstone	0	1	0	0	0
TOTAL STAFF	**47**	**49**	**51**	**44**	**46**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected January PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Completed placement of asphalt associated with the PW-3 force main trench restoration.
- Completed acid cleaning of PW-3 line.
- Sampled discharge from PW-3 extraction well for analysis of selected indicator parameters (results will be reported when validated).

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on January 20, 2016. From January 24, 2016 to January 27, 2016 to, the GWTP was offline due to a faulty main service breaker. The system was fully restarted on January 27, 2016 at 3:40PM.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending				
	01/03/16	01/10/16	01/17/16	01/24/16	01/31/16
Avg. Gallons Treated & Discharged (per day)	77,236	78,455	68,614	79,663	80,596
Average Flow (gpm) for Operating Period	53	56	56	57	60
Avg. Hours of Plant Operation	24	23	20	23	23
GWTP Influent Tanks (gal.)	4,555	7,620	6,483	5,346	5,682

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.

- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Continued pumping/dewatering of well points associated with Excavation Areas EA-2 and EA-3.
- Continued dewatering and excavation activities of Site 163.
- Completed excavation of Excavation Areas EA-2 and EA-3.
- Continued backfilling of EA-2/EA-3 and the trash pit area.
- Began excavation of trench for installation of the Contingent Groundwater Extraction System piping in Area 1N.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Horwith	Tri-axle	PA Transload	US Ecology	>240 mg/kg CrVI	28	22.3	625
Entact/Horwith	Tri-axle Dump	Middlesex County Landfill, NJ	MCUA	Non-haz Cr	59	25	1462

2. EXCAVATION & BACKFILL PROGRESS

Description	Areas
Excavation Completed	Excavation: EA-2/EA-3, Site 163 Volume Excavated - Total for Reporting Period (EA-2/EA-3): 3,847.5 CY/ Total to Date (SA-6 North): 38,403CY; Total for Reporting period (Site 163): 4,342.5 CY/ Total to Date : 4,342.5 CY
Backfill in Progress	EA-2/EA-3

3. BACKFILL MATERIALS USED

Source	Week Ending				
	01/03/16	01/10/16	01/17/16	01/24/16	01/31/16
Clayton Sand	0	0	0	0	202
Tilcon 2.5”	0	0	0	255	0

- Screened Celgene materials greater than 3/8 inch were transferred and placed as bridge lift in EA-2/EA-3 and Site 163. In addition historic fill soils were transferred and placed as backfill in EA-2/EA-3.

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.

- Area 2S: Surcharging and offloading of surcharge material is complete.
- Area 3S: Surcharging and offloading of surcharge material is complete.
- Area 1N: Surcharging and offloading of surcharge material is complete.
- Area 2N: Completed offloading of area 2N.
- Area 3N: Completed placement of surcharge material.
- Area 4N: Completed placement of surcharge material.

F. SHEET PILE OPERATIONS

- Completed installation of remaining hydraulic barrier sheeting on SA-6 North along Route 440. The subcontractor technician was on site for vibration monitoring over the sewer/water line during driving operations and no action levels were exceeded.
- Completed installation of sheeting within the former Trash Pit interior to include placement of Aqua Block bags to seal along bottom of sheeting and pit floor.
- Completed installation of grout tubes and bentonite at the connection of the former Trash Pit interior walls and the sheeting.
- Completed breaching of the pit concrete sidewalls in accordance with 100% Design.
- Completed removing temporary sheeting used along 440 and began installing these temporary sheets as needed for the Site 163 excavation.

G. CAPPING OPERATIONS

- Continued evaluations of potential alternative fill source(s), of Horizon C Soils for the SA-6 South open space area.

H. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2016	6/30/2016	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Obtained 12/24/15	12/03/16	Pending

I. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete EA-2/EA-3 backfilling activities.
- Complete EA-1 excavation and backfilling activities.
- Continue dewatering and excavation activities associated with Site 163 excavation within the residential footprint including installation of temporary sheeting as needed.
- Continue installation of the Contingent Groundwater Extraction System piping in Area 1N.
- Continue final grading of GDL cover soils to include associated compaction testing and installation of root barrier on SA-6 South open space area.

- Pending identification of acceptable alternative fill source(s), resume import and placement of Horizon C Soils on the SA-6 South open space area.
- Continue routine surcharge monitoring in Areas 3N and 4N.
- Complete installation and grouting of the last special sheet pile barrier wall piece at the connection point of the SA-6 North barrier wall and the SCB wall at the southwestern portion of Area 1N.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.

ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill (Progression Chart)
4. Dewatering Operations Update
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
7. Perimeter Pools Update
8. Groundwater Quality Data *(not included in this reporting period)*
9. Surcharge Monitoring Update *(not included in this reporting period)*
10. Sheet Pile Update
11. Capping Update *(not included in this reporting period)*
12. Weekly SWPPP Reports
13. GWTP Update
14. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

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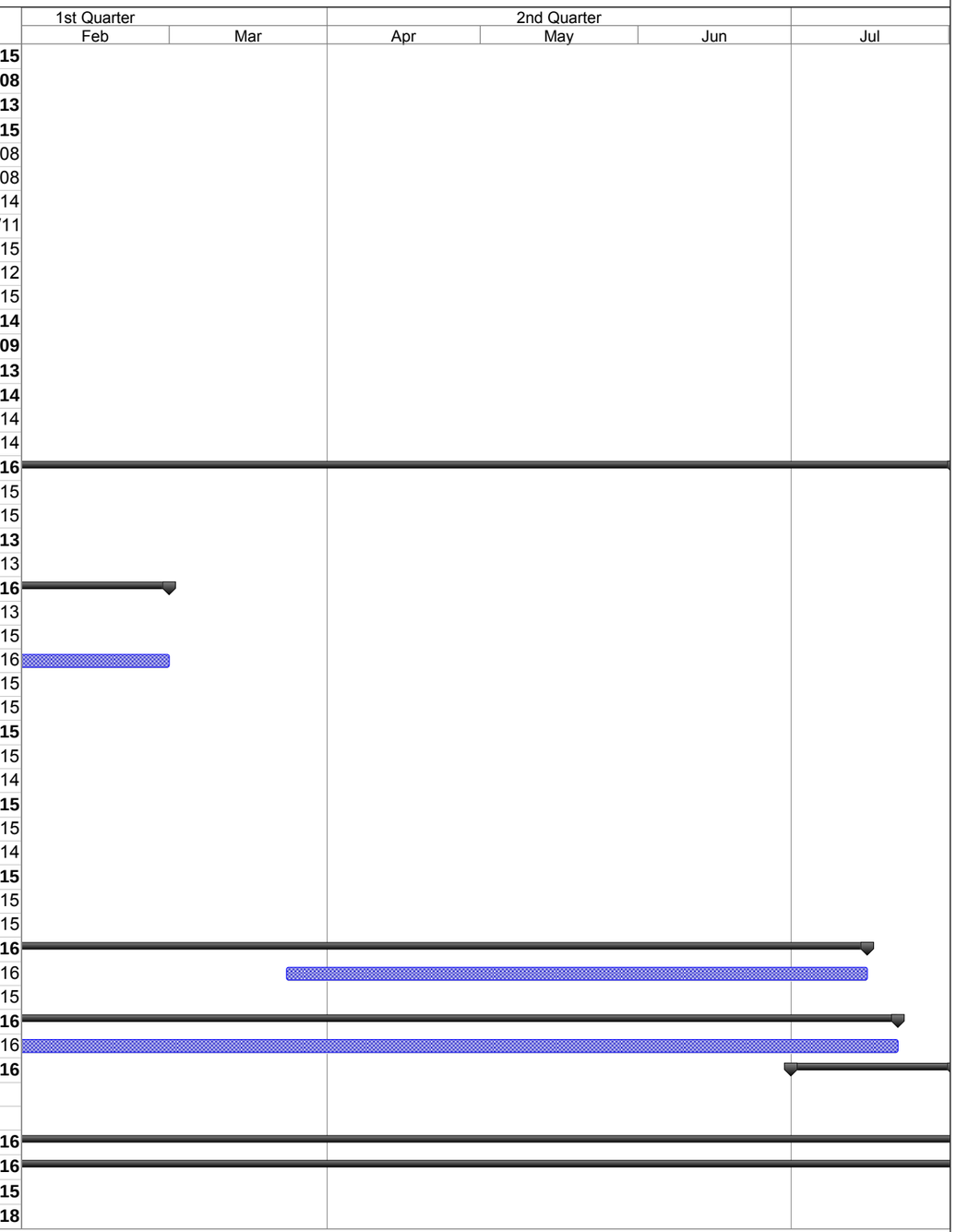
SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**1/4/08**	**6/1/15**
2	**Remedial Action Work Plan**	**33 days**	**1/4/08**	**2/19/08**
5	**Remedial Action Design**	**1522 days**	**2/20/08**	**12/13/13**
18	**JCIA/JCDPW Relocation**	**1780 days**	**8/11/08**	**6/1/15**
19	Develop Site Relocation Master Plan	38 days	8/11/08	10/1/08
20	Submit Site Relocation Master Plan	0 days	10/1/08	10/1/08
21	JC Construction of New Facilities	1309 days	6/2/09	6/2/14
22	Relocation Contractor Procurement	392 days	4/15/10	10/13/11
23	JCIA and JCDPW Relocation	949 days	10/17/11	6/1/15
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	12/12/11	4/30/12
24a	Demolition of JCIA Structures	146 days	9/1/14	3/23/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**7/11/08**	**4/30/14**
26	**Remedial Action Work Plan**	**187 days**	**7/11/08**	**3/30/09**
32	**Remedial Action Design**	**1161 days**	**2/2/09**	**7/9/13**
57	**SA-6 South Relocation**	**616 days**	**12/26/11**	**4/30/14**
58	New GWTP Construction Completion	502 days	3/5/12	1/30/14
59	Demolition of 80 Kellogg	857 days	12/26/11	4/30/14
60	**SA-6 North/South Field Implementation**	**894 days**	**3/1/13**	**8/1/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	6/17/13	12/31/15
60b	SA-6S (Site 163) In-Situ Treatment	555 days	11/15/13	12/31/15
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**3/1/13**	**6/28/13**
61a	Mobilization	87 days	3/1/13	6/28/13
62	**Surcharge Install/Instrumentation**	**706 days**	**6/17/13**	**2/29/16**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	6/17/13	12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	4/8/14	2/13/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	6/30/15	2/29/16
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	6/16/14	2/23/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	10/6/14	5/8/15
63	**Barrier Wall Install**	**569 days**	**8/12/13**	**10/15/15**
63a	SA 6N Installation of Barrier Wall	159 days	3/9/15	10/15/15
63b	SA 6S Installation of Barrier Wall	210 days	8/12/13	5/30/14
64	**Excavation**	**507 days**	**10/22/13**	**9/30/15**
64a	SA 6N Excavation	218 days	12/1/14	9/30/15
64b	SA 6S Excavation	295 days	10/22/13	12/8/14
65	**Backfill**	**558 days**	**11/11/13**	**12/30/15**
65a	SA 6N Backfill	283 days	12/1/14	12/30/15
65b	SA 6S Backfill	384 days	11/11/13	4/30/15
66	**Capping and Cover Soil Placement**	**426 days**	**12/1/14**	**7/15/16**
66a	SA 6N Capping and Cover Soil Placement	83 days	3/24/16	7/15/16
66b	SA 6S Capping and Cover Soil Placement	283 days	12/1/14	12/30/15
67	**Restoration**	**234 days**	**9/1/15**	**7/21/16**
67a	Restoration	234 days	9/1/15	7/21/16
68	**Demobilization**	**22 days**	**7/1/16**	**8/1/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line			
69	**SA-6 North Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
75	**SA-6 South Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
81	**SA-6 North Long Term Protections**	**1830 days**	**10/1/08**	**10/1/15**
92	**SA-6 South Long Term Protections**	**2569 days**	**6/5/08**	**3/31/18**



Project: SA-6 Remediation Schedule
Revision 4
Date: 1/31/16

Task | Milestone | Summary | Critical

Attachment 2: Site Photographs

Site Photograph 1: Breaking up former JCIA building pad.

Site Photograph 2: Excavating along Kellogg St. Site 163.

Site Photograph 3: Placement of bridge lift in excavation area.

Site Photograph 4: Removing portion of former trash pit walls.

Site Photograph 5: Sheet piling across former trash pit.

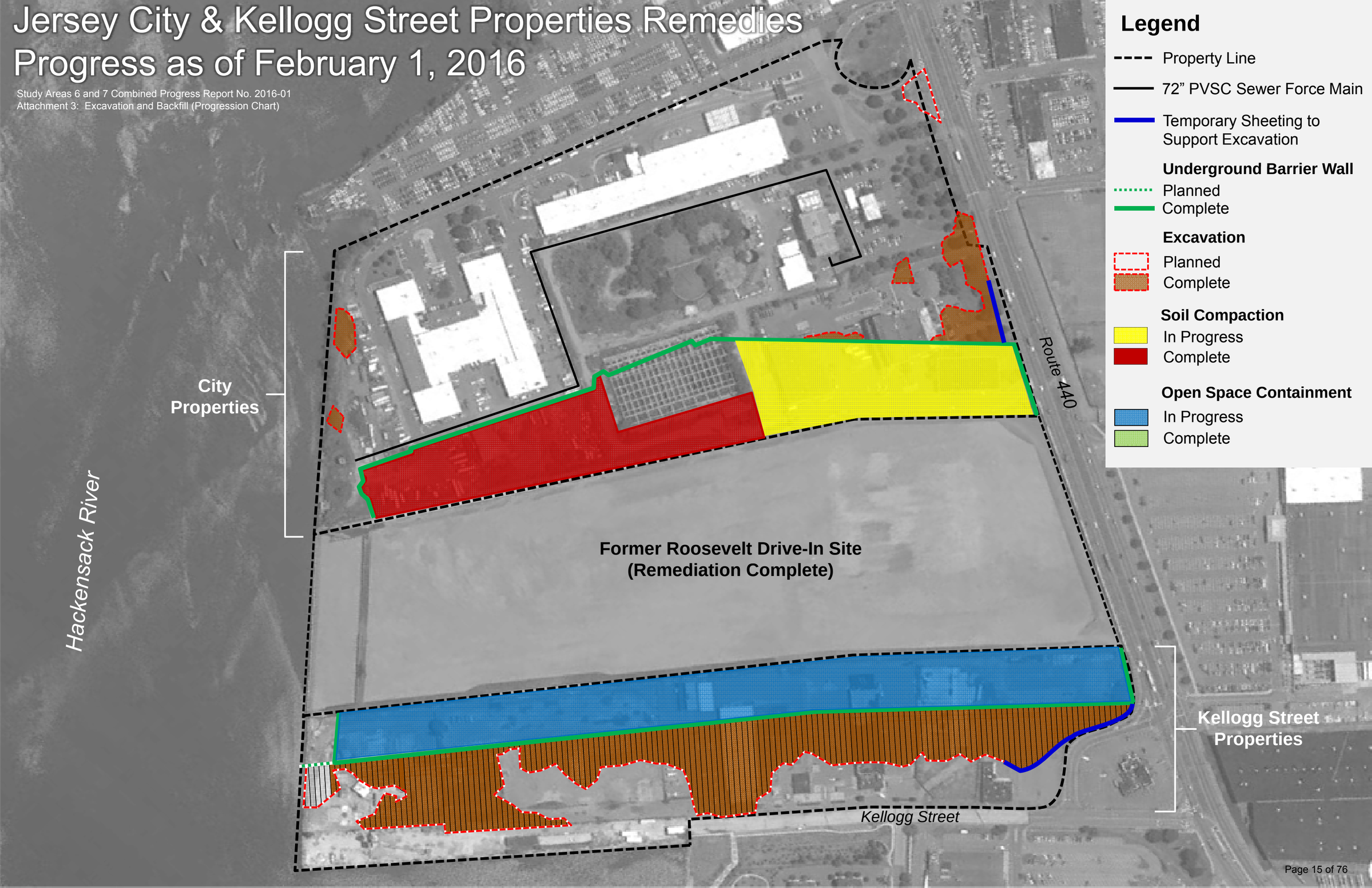
Site Photograph 6: Sheeting and Excavation along Kellogg St. Site 163.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of February 1, 2016

Study Areas 6 and 7 Combined Progress Report No. 2016-01
Attachment 3: Excavation and Backfill (Progression Chart)



Attachment 4: Dewatering Operations Update

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) Daily	EXTRACTED VOLUME (Gal) Total	AVERAGE FLOW RATE (gpm)	COMMENTS
11/30/15	1	24	19,20	18	N/A	N/A	2,000	3,084,872	1.4	EA-2/EA-3 Excvation
12/01/15	1	24	19,20	14	N/A	N/A	1,800	3,086,672	1.3	EA-2/EA-3 Excvation
12/02/15	1	24	19,20	14	N/A	N/A	1,800	3,088,472	1.3	EA-2/EA-3 Excvation
12/03/15	1	24	19,20	14	N/A	N/A	1,800	3,090,272	1.3	EA-2/EA-3 Excvation
12/04/15	1	24	19,20	14	N/A	N/A	1,800	3,092,072	1.3	EA-2/EA-3 Excvation
12/06/15	1	48	19,20	14	N/A	N/A	3,000	3,095,072	1.0	EA-2/EA-3 Excvation
12/07/15	1	24	19,20	14	N/A	N/A	1,800	3,096,872	1.3	EA-2/EA-3 Excvation
12/08/15	1	24	19,20	14	N/A	N/A	1,800	3,098,672	1.3	EA-2/EA-3 Excvation
12/09/15	1	24	19,20	14	N/A	N/A	1,800	3,100,472	1.3	EA-2/EA-3 Excvation
12/10/15	1	24	19,20	14	N/A	N/A	1,800	3,102,272	1.3	EA-2/EA-3 Excvation
12/13/15	1	48	19,20	11	N/A	N/A	1,700	3,103,972	0.6	EA-2/EA-3 Excvation
12/14/15	1	24	19,20	11	N/A	N/A	1,700	3,105,672	1.2	EA-2/EA-3 Excvation
12/15/15	1	24	19,20	11	N/A	N/A	1,700	3,107,372	1.2	EA-2/EA-3 Excvation
12/16/15	1	24	19,20	11	N/A	N/A	1,700	3,109,072	1.2	EA-2/EA-3 Excvation
12/17/15	1	24	19,20	11	N/A	N/A	1,700	3,110,772	1.2	EA-2/EA-3 Excvation
12/18/15	1	24	19	10	N/A	N/A	1,700	3,112,472	1.2	System Taken Offline
01/14/16	1	24	22,23,24	27	N/A	N/A	5,000	3,117,472	3.5	Site 163
01/15/16	1	24	22,23,24	23	N/A	N/A	5,000	3,122,472	3.5	Site 163
01/18/16	1	72	22,23,24	23	N/A	N/A	15,000	3,137,472	3.5	Site 163
01/19/16	1	24	22,23,24	23	N/A	N/A	5,000	3,142,472	3.5	System Offline for Excavationn

Notes: Previous information is truncated. Only last month and current month information is provided.

STUDY AREA 6 NORTH DEEP WELL DATA (DW-6)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
12/06/15	48	N/A	N/A	10,000	10,000	3.5	
12/07/15	24	N/A	N/A	8,000	18,000	5.6	
12/08/15	24	N/A	N/A	8,000	26,000	5.6	
12/09/15	24	N/A	N/A	8,000	34,000	5.6	
12/10/15	24	N/A	N/A	10,000	44,000	6.9	
12/13/15	48	N/A	N/A	20,000	64,000	6.9	
12/14/15	24	N/A	N/A	10,000	74,000	6.9	
12/15/15	24	N/A	N/A	10,000	84,000	6.9	
12/16/15	24	N/A	N/A	10,000	94,000	6.9	
12/17/15	24	N/A	N/A	10,000	104,000	6.9	
12/18/15	24	N/A	N/A	10,000	114,000	6.9	
12/20/15	48	N/A	N/A	20,000	134,000	6.9	
12/21/15	24	N/A	N/A	10,000	144,000	6.9	
12/23/15	24	N/A	N/A	10,000	154,000	6.9	
12/24/15	24	N/A	N/A	10,000	164,000	6.9	
12/26/15	48	N/A	N/A	20,000	184,000	6.9	
12/28/15	48	N/A	N/A	20,000	204,000	6.9	
12/29/15	24	N/A	N/A	10,000	214,000	6.9	
12/30/15	24	N/A	N/A	10,000	224,000	6.9	
12/31/16	24	N/A	N/A	10,000	234,000	6.9	
01/04/16	96	N/A	N/A	40,000	274,000	6.9	
01/05/16	24	N/A	N/A	10,000	284,000	6.9	Taken offline for excavation

STUDY AREA 6 NORTH DEEP WELL DATA (DW-7)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
11/18/15	24	N/A	N/A	11,500	11,500	8.0	Flow meter not installed, tank measured
11/19/15	24	N/A	N/A	11,000	22,500	7.6	
11/20/15	24	N/A	N/A	11,000	33,500	7.6	
11/22/15	48	N/A	N/A	11,000	44,500	3.8	
11/23/15	24	N/A	N/A	11,000	55,500	7.6	
11/24/15	24	N/A	N/A	10,500	66,000	7.3	
11/25/15	24	N/A	N/A	10,500	76,500	7.3	
11/29/15	96	N/A	N/A	40,000	116,500	6.9	
11/30/15	24	N/A	N/A	10,500	127,000	7.3	
12/01/15	24	N/A	N/A	10,000	137,000	6.9	
12/02/15	24	N/A	N/A	10,000	147,000	6.9	
12/03/15	24	N/A	N/A	10,000	157,000	6.9	
12/04/15	24	N/A	N/A	12,000	169,000	8.3	
12/06/15	48	N/A	N/A	20,000	189,000	6.9	
12/07/15	24	N/A	N/A	8,000	197,000	5.6	
12/08/15	24	N/A	N/A	8,000	205,000	5.6	
12/09/15	24	N/A	N/A	8,000	213,000	5.6	
12/10/15	24	N/A	N/A	10,000	223,000	6.9	
12/13/15	48	N/A	N/A	20,000	243,000	6.9	
12/14/15	24	N/A	N/A	10,000	253,000	6.9	
12/15/15	24	N/A	N/A	10,000	263,000	6.9	
12/16/15	24	N/A	N/A	10,000	273,000	6.9	
12/17/15	24	N/A	N/A	10,000	283,000	6.9	
12/18/15	24	N/A	N/A	10,000	293,000	6.9	
12/20/15	48	N/A	N/A	20,000	313,000	6.9	
12/21/15	24	N/A	N/A	10,000	323,000	6.9	Offline for Excavation/Backfill

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
11/30/15	7:30	14:30	7:00	37,566.11	37,667.64	101,530	37,523,790	
12/01/15	8:00	15:15	7:15	37,667.64	37,743.44	75,800	37,599,590	
12/02/15	7:00	15:00	8:00	37,743.44	37,805.70	62,260	37,661,850	
12/03/15	9:00	15:15	6:15	37,805.70	37,863.53	57,830	37,719,680	
12/04/15	7:00	12:30	5:30	37,863.53	37,912.70	49,170	37,768,850	
12/06/15	12:00	14:00	2:00	37,912.70	37,958.66	45,960	37,814,810	
12/07/15	10:30	15:15	4:45	37,958.66	37,984.16	25,500	37,840,310	
12/08/15	11:00	14:30	3:30	37,984.16	38,016.05	31,890	37,872,200	
12/09/15	10:30	15:00	4:30	38,016.05	38,051.66	35,610	37,907,810	
12/10/15	8:00	15:15	7:15	38,051.66	38,176.63	124,970	38,032,780	PVSC Compliance Sample Collected
12/13/15	9:00	12:15	3:15	38,176.63	38,243.45	66,820	38,099,600	
12/14/15	13:45	15:30	1:45	38,243.45	38,278.63	35,180	38,134,780	
12/15/15	7:00	12:30	5:30	38,278.63	38,398.71	120,080	38,254,860	
12/16/15	11:30	15:30	4:00	38,398.71	38,456.74	58,030	38,312,890	
12/17/15	7:00	11:00	4:00	38,456.74	38,495.28	38,540	38,351,430	
12/18/15	8:00	15:15	7:15	38,495.28	38,587.27	91,990	38,443,420	
12/20/15	8:45	12:00	3:15	38,587.27	38,637.00	49,730	38,493,150	
12/21/15	7:30	13:00	5:30	38,637.00	38,700.54	63,540	38,556,690	
12/23/15	7:30	13:45	6:15	38,700.54	38,805.80	105,260	38,661,950	
12/24/15	8:00	15:00	7:00	38,805.80	38,835.49	29,690	38,691,640	
12/26/15	8:00	14:00	6:00	38,835.49	38,889.27	53,780	38,745,420	
12/28/15	7:00	15:30	8:30	38,889.27	39,029.27	140,000	38,885,420	
12/30/15	7:15	14:30	7:15	39,029.27	39,125.05	95,780	38,981,200	
12/31/16	7:00	13:45	6:45	39,125.05	39,167.86	42,810	39,024,010	
01/04/16	7:30	16:15	8:45	39,167.86	39,269.10	101,240	39,125,250	
01/07/16	8:00	16:15	8:15	39,269.10	39,354.16	85,060	39,210,310	
01/11/16	7:30	14:00	6:30	39,354.16	39,425.93	71,770	39,282,080	
01/12/16	8:00	13:00	5:00	39,425.93	39,510.66	84,730	39,366,810	PVSC Compliance Sample Collected
01/14/16	9:30	14:00	4:30	39,510.66	39,562.31	51,650	39,418,460	
02/01/16	7:30	13:15	5:45	39,562.31	39,632.04	69,730	39,488,190	

Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
3S cap material	<240	124-3S-EX-a,b,c,d (Excess 3S material)	3500	124-3S-EX-a1	8/10/2015	12:10	51.6		Yes	
				124-3S-EX-a2	8/10/2015	12:15	18.6	*		
				124-3S-EX-a3	8/10/2015	12:18	37.1		Yes	
				124-3S-EX-a4	8/10/2015	12:20	18.9	*		
				124-3S-EX-b1	8/10/2015	12:21	24.8		Yes	
				124-3S-EX-b2	8/10/2015	12:22	49.3		Yes	
				124-3S-EX-b3	8/10/2015	12:23	37.9		Yes	
				124-3S-EX-b4	8/10/2015	12:24	40.4		Yes	
				124-3S-EX-c1	8/10/2015	12:25	24.7		Yes	
				124-3S-EX-c2	8/10/2015	12:26	36.3		Yes	
				124-3S-EX-c3	8/10/2015	12:27	46.7		Yes	
				124-3S-EX-c4	8/10/2015	12:28	8.1	*		
				124-3S-EX-d1	8/10/2015	12:29	25.6		Yes	
				124-3S-EX-d2	8/10/2015	12:30	32.1		Yes	
				124-3S-EX-d3	8/10/2015	12:31	74.6		Yes	
				124-3S-EX-d4	8/10/2015	12:32	34.7		Yes	
EA-5	<20	087-EA5-20-c1:d4 (stockpile of A material)	2000	087-EA5-20-c1	9/11/2015	12:10	<1.8	Yes		
				087-EA5-20-c2	9/11/2015	12:15	<1.9	Yes		
				087-EA5-20-c3	9/11/2015	12:20	<0.56	Yes		
				087-EA5-20-c4	9/11/2015	12:25	<0.60	Yes		
				087-EA5-20-d1	9/11/2015	12:30	<0.56	Yes		
				087-EA5-20-d2	9/11/2015	12:35	<0.44	Yes		
				087-EA5-20-d3	9/11/2015	12:40	<0.5	Yes		
				087-EA5-20-d4	9/11/2015	12:45	9.6	Yes		
JCMUA Water Main Break (EA-2)	<20	087-EA2-waterline	50	087-EA2-waterline-092815	9/28/2015	NA	13.5	*		
1N (2 foot cut material)	<20	087-1N-20-a, b, c	3000	087-1N-20-a1	10/28/2015	--	<.5	*		
				087-1N-20-a2	10/28/2015	--	2.1	*		
				087-1N-20-a3	10/28/2015	--	<.48	*		
				087-1N-20-a4	10/28/2015	--	5.4	*		
				087-1N-20-b1	10/28/2015	--	1.0	*		
				087-1N-20-b2	10/28/2015	--	<2.0	*		
				087-1N-20-b3	10/28/2015	--	0.65	*		
				087-1N-20-b4	10/28/2015	--	<1.9	*		
				087-1N-20-c1	10/28/2015	--	<2.0	*		
				087-1N-20-c2	10/28/2015	--	<1.8	*		
				087-1N-20-c3	10/28/2015	--	<1.8	*		
				087-1N-20-c4	10/28/2015	--	<.51	*		
1 N (2 foot cut material)	<20	087-1N-20-d1:n4	11,160	087-1N-20-d1	11/17/2015	--	<1.4	*		
				087-1N-20-d2	11/17/2015	--	9.5	*		
				087-1N-20-d3	11/17/2015	--	19.9	*		
				087-1N-20-d4	11/17/2015	--	<1.5	*		
				087-1N-20-e1	11/17/2015	--	<1.3	*		
				087-1N-20-e2	11/17/2015	--	<1.4	*		
				087-1N-20-e3	11/17/2015	--	<1.4	*		
				087-1N-20-e4	11/17/2015	--	<1.4	*		
				087-1N-20-f1	11/17/2015	--	<1.5	*		
				087-1N-20-f2	11/17/2015	--	<.93	*		
				087-1N-20-f3	11/17/2015	--	<.90	*		
				087-1N-20-f4	11/17/2015	--	<1.5	*		
				087-1N-20-g1	11/17/2015	--	<.95	*		
				087-1N-20-g2	11/17/2015	--	<.86	*		
				087-1N-20-g3	11/17/2015	--	<.96	*		
				087-1N-20-g4	11/17/2015	--	<1.3	*		
				087-1N-20-h1	11/17/2015	--	1.9	*		

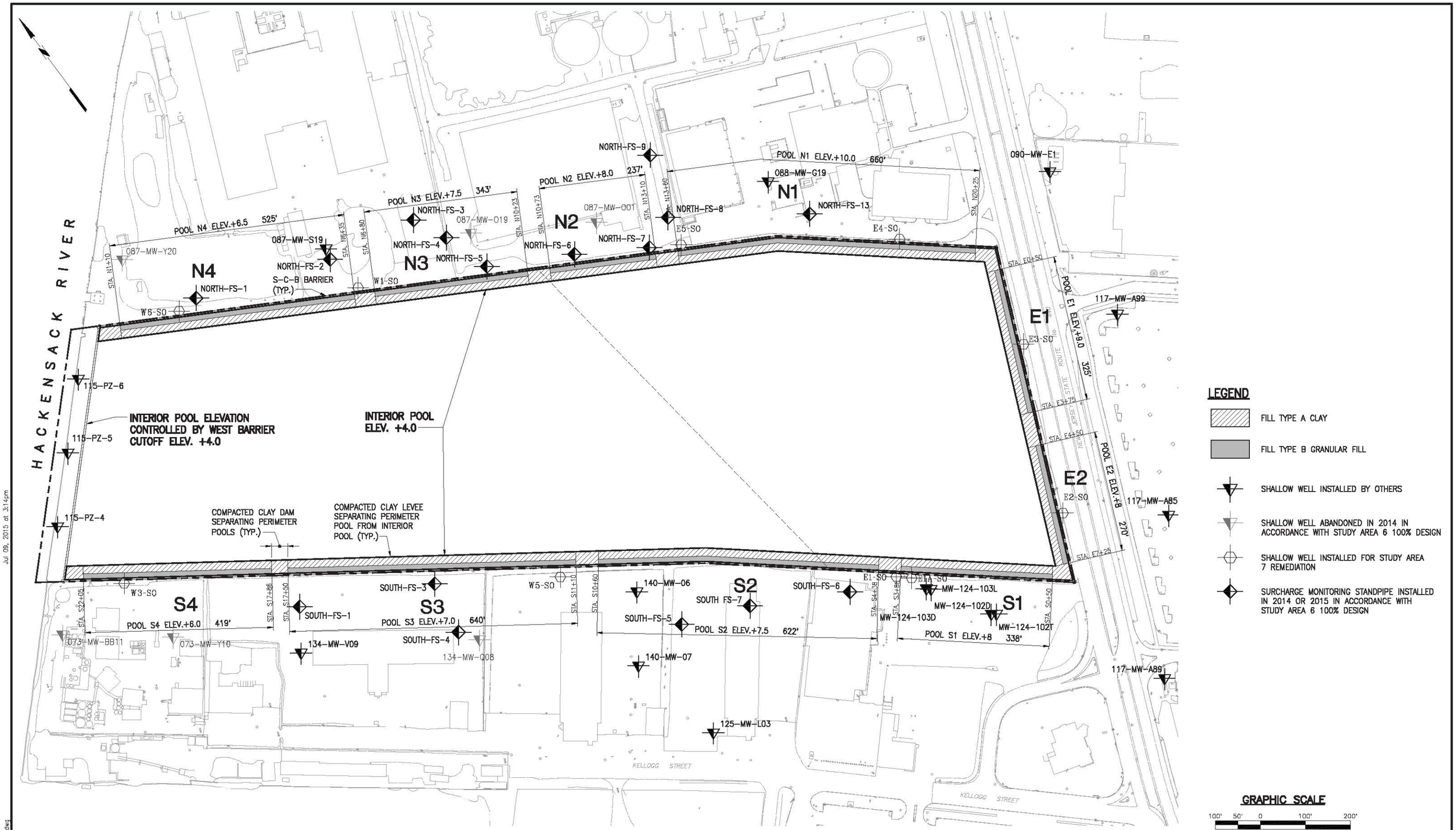
Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
				087-1N-20-h2	11/17/2015	--	<.92	*		
				087-1N-20-h3	11/17/2015	--	<1.4	*		
				087-1N-20-h4	11/17/2015	--	<.92	*		
				087-1N-20-i1	11/17/2015	--	<1.3	*		
				087-1N-20-i2	11/17/2015	--	<2.0	*		
				087-1N-20-i3	11/17/2015	--	<1.9	*		
				087-1N-20-i4	11/17/2015	--	<2.1	*		
				087-1N-20-j1	11/17/2015	--	<1.8	*		
				087-1N-20-j2	11/17/2015	--	<1.4	*		
				087-1N-20-j3	11/17/2015	--	<1.9	*		
				087-1N-20-j4	11/17/2015	--	<1.8	*		
				087-1N-20-k1	11/17/2015	--	<1.6	*		
1 N (2 foot cut material)	<20	087-1N-20-d1:n4	11,160	087-1N-20-k2	11/17/2015	--	<2.0	*		
				087-1N-20-k3	11/17/2015	--	<2.1	*		
				087-1N-20-k4	11/17/2015	--	<1.4	*		
				087-1N-20-l1	11/17/2015	--	<1.4	*		
				087-1N-20-l2	11/17/2015	--	<1.9	*		
				087-1N-20-l3	11/17/2015	--	<2.0	*		
				087-1N-20-l4	11/17/2015	--	<2.1	*		
				087-1N-20-m1	11/17/2015	--	<1.9	*		
				087-1N-20-m2	11/17/2015	--	<1.9	*		
				087-1N-20-m3	11/17/2015	--	<1.4	*		
				087-1N-20-m4	11/17/2015	--	<1.4	*		
				087-1N-20-n1	11/17/2015	--	<1.4	*		
				087-1N-20-n2	11/17/2015	--	<1.4	*		
				087-1N-20-n3	11/17/2015	--	<1.3	*		
				087-1N-20-n4	11/17/2015	--	<1.5	*		
EA2/EA3	<20	087-EA2-20-a (bermed/trench material)	400	087-EA2-20-a1	12/11/2015	--	<1.8	Yes		
				087-EA2-20-a2	12/11/2015	--	6.7	Yes		
				087-EA2-20-a3	12/11/2015	--	<1.9	Yes		
				087-EA2-20-a4	12/11/2015	--	3.8	Yes		
EA2/EA3	<20	087-EA2-20-b1:g1 (A material)	5200 cy	087-EA2-20-b1	12/30/2015	--	3.0	Yes		
				087-EA2-20-b2	12/30/2015	--	3.0	Yes		
				087-EA2-20-b3	12/30/2015	--	0.55	Yes		
				087-EA2-20-b4	12/30/2015	--	0.97	Yes		
				087-EA2-20-c1	12/30/2015	--	4.3	Yes		
				087-EA2-20-c2	12/30/2015	--	1.5	Yes		
				087-EA2-20-c3	12/30/2015	--	1.6	Yes		
				087-EA2-20-c4	12/30/2015	--	0.53	Yes		
				087-EA2-20-d1	12/30/2015	--	0.60	Yes		
				087-EA2-20-d2	12/30/2015	--	15.9	Yes		
				087-EA2-20-d3	12/30/2015	--	5.4	Yes		
				087-EA2-20-d4	12/30/2015	--	1.7	Yes		
				087-EA2-20-e1	12/30/2015	--	0.53	Yes		
				087-EA2-20-e2	12/30/2015	--	12.3	Yes		
				087-EA2-20-e3	12/30/2015	--	3.1	Yes		
				087-EA2-20-e4	12/30/2015	--	0.57	Yes		
				087-EA2-20-f1	12/30/2015	--	0.52	Yes		
				087-EA2-20-f2	12/30/2015	--	0.53	Yes		
				087-EA2-20-f3	12/30/2015	--	0.57	Yes		
				087-EA2-20-f4	12/30/2015	--	0.54	Yes		
				087-EA2-20-g1	12/30/2015	--	0.53	Yes		
EA2/EA3	<20	087-EA2-20-h1 (overburden)	150 cy	087-EA2-20-h1	12/30/2015	--	0.7	*		
EA2/EA3	<20	087-EA2-20-i1 (overburden)	200 cy	087-EA2-20-i1	12/30/2015	--	0.54	Yes		

Material Tracking and Sampling Log
SA-6 North and South

Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
EA2/EA3	<20	087-EA2-20-h2:j3 (overburden)	2200 cy	087-EA2-20-h2	1/8/2016	--	24.1		*	
				087-EA2-20-h3	1/8/2016	--	<1.4	Yes		
				087-EA2-20-h4	1/8/2016	--	19	Yes		
				087-EA2-20-i2	1/8/2016	--	0.66	Yes		
				087-EA2-20-i3	1/8/2016	--	<1.9	Yes		
				087-EA2-20-i4	1/8/2016	--	<1.4	Yes		
				087-EA2-20-j1	1/8/2016	--	<2.0	Yes		
				087-EA2-20-j2	1/8/2016	--	8.9	Yes		
				087-EA2-20-j3	1/8/2016	--	<1.9	Yes		
EA2/EA3	<20	087-EA2-20-k1:k4	1000 cy	087-EA2-20-k1	1/8/2016	--	7	Yes		
				087-EA2-20-k2	1/8/2016	--	10	Yes		
				087-EA2-20-k3	1/8/2016	--	8	Yes		
				087-EA2-20-k4	1/8/2016	--	<1.9	Yes		
Site 163	<20	163-20-a	840	163-20-a1	1/19/2016	--	8.1	*		
				163-20-a2	1/19/2016	--	4.0	*		
				163-20-a3	1/19/2016	--	1.7	*		
				163-20-a4	1/19/2016	u	5.0	*		

*Material currently stockpiled. Pending final placement.
**Waiting on final results from the laboratory.

Attachment 7: Perimeter Pools Update



IN PROGRESS
06-10-2015

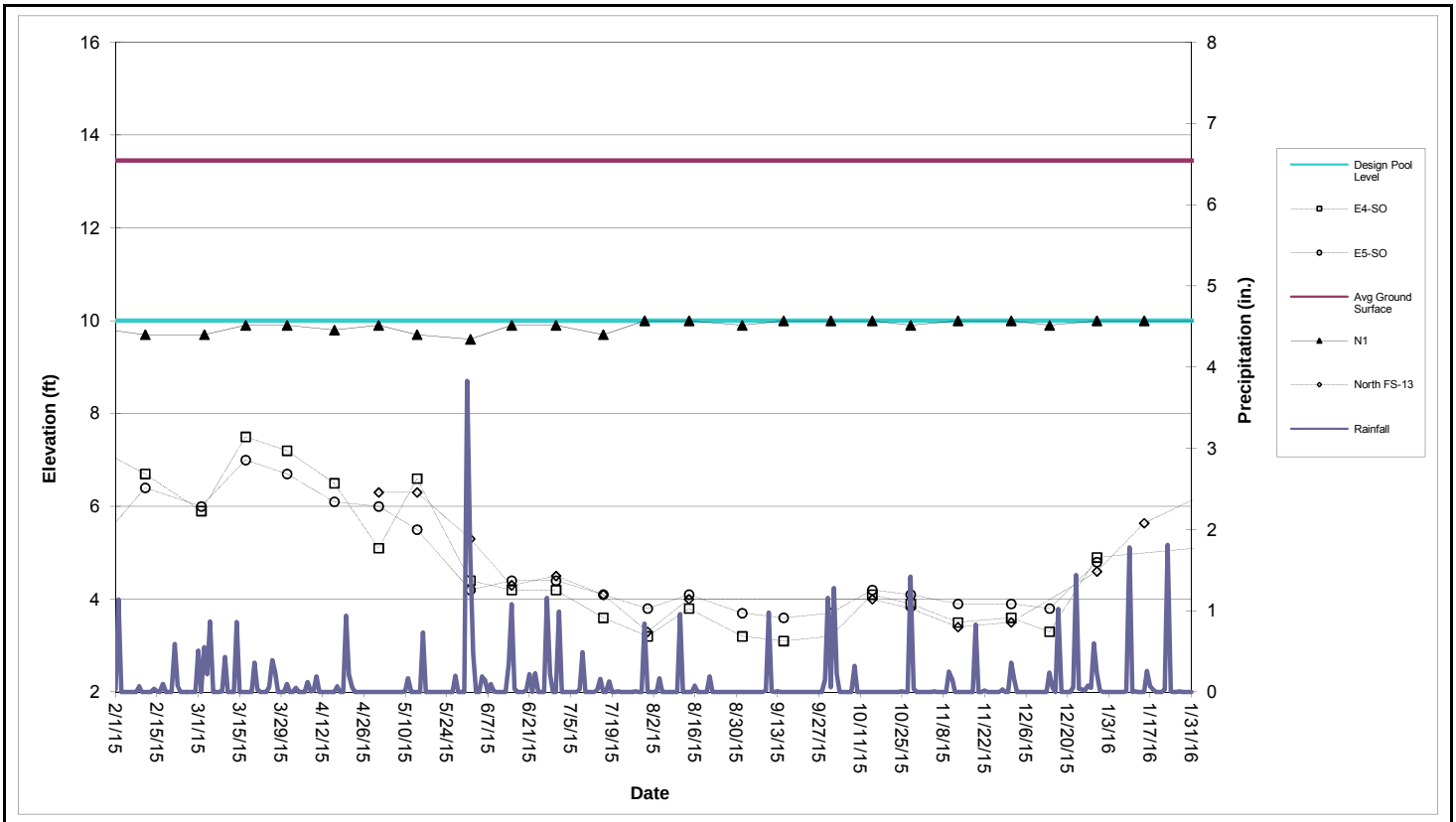
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

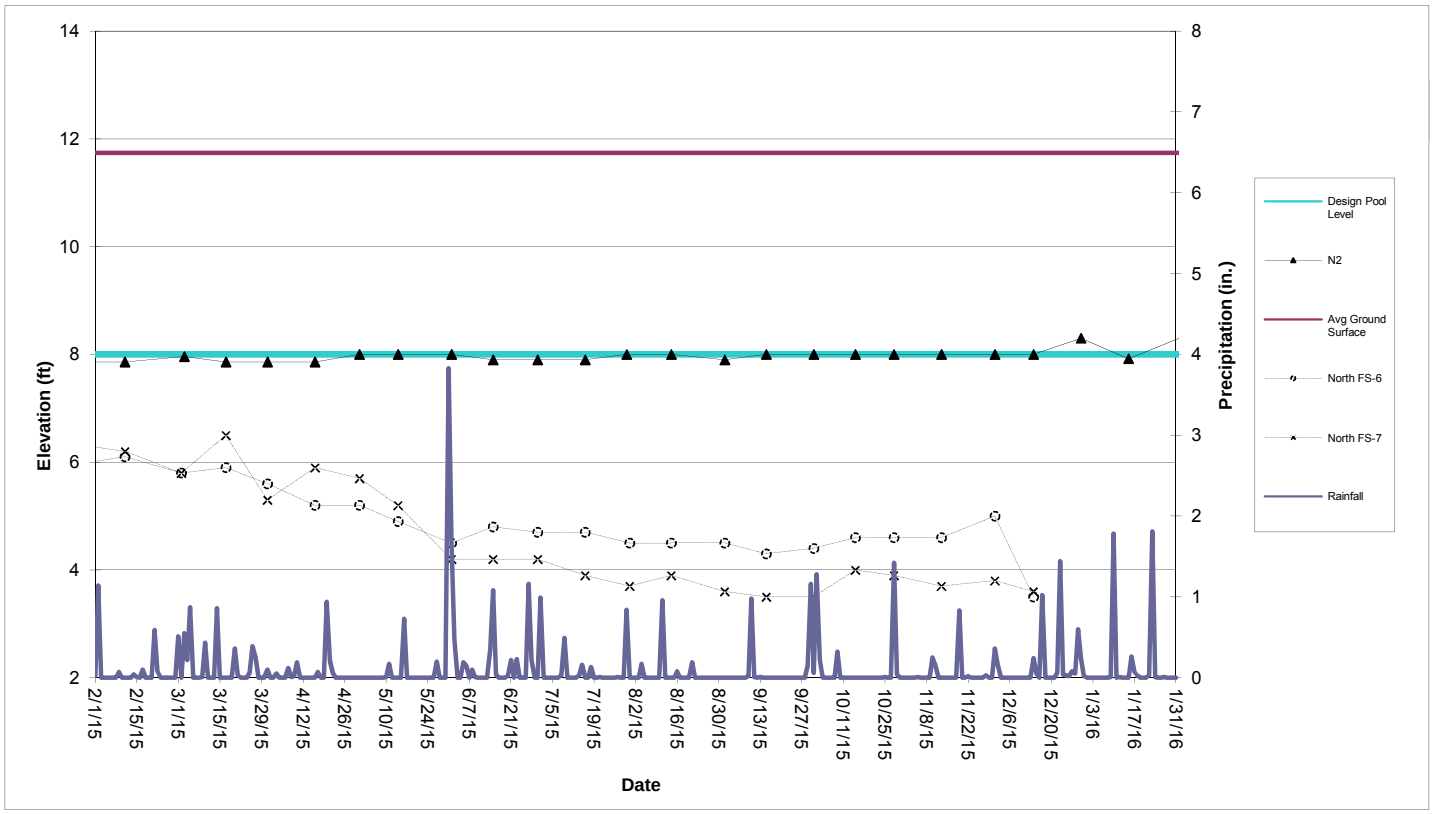
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

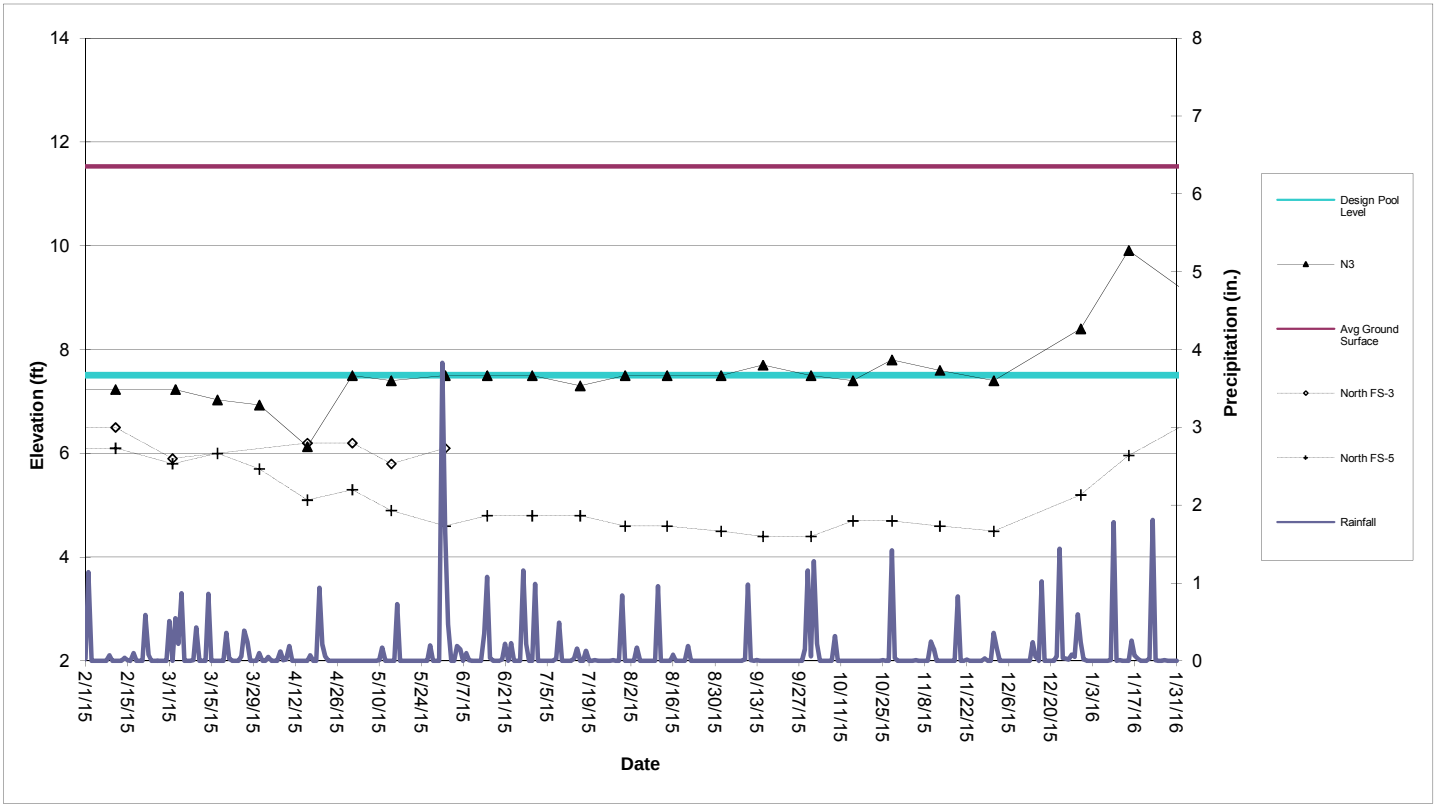
Jul 09, 2015 at 3:14pm
G:\DWGS\102\10210\Dewatering\PP-1.dwg
bboscaino



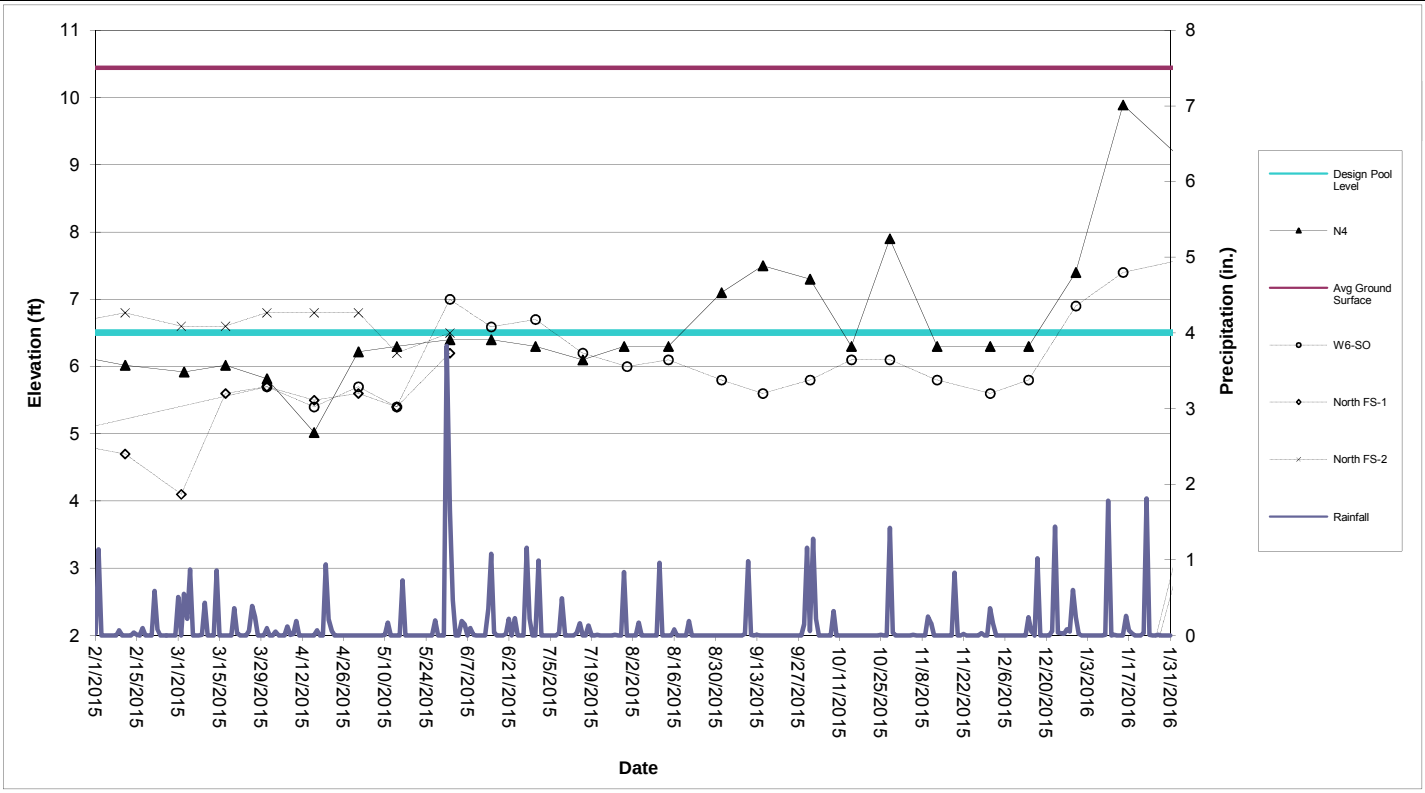
Perimeter Pool N1 (Sta. N13+60 to N20+25)



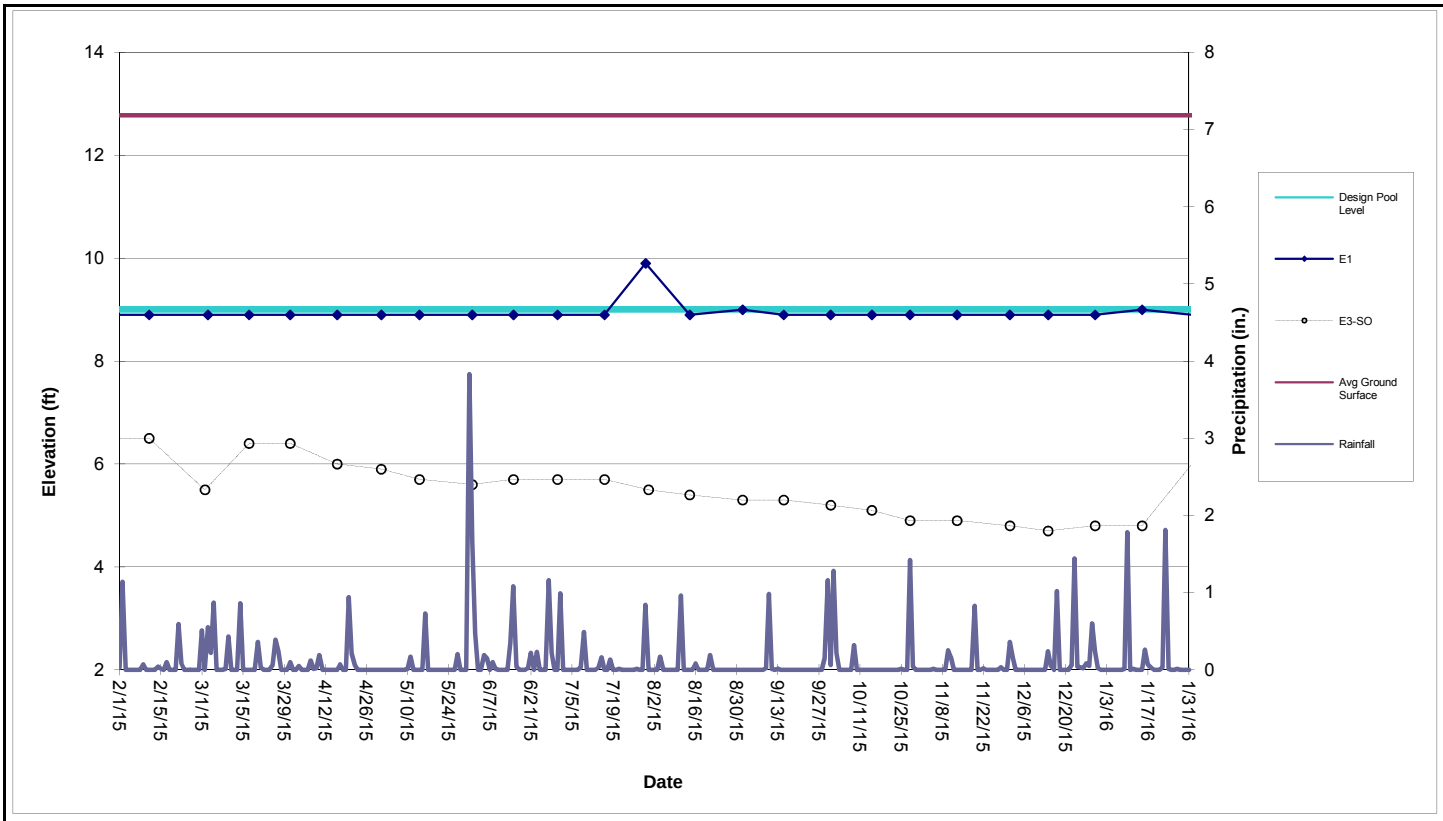
Perimeter Pool N2 (Sta. N10+73 to N13+10)



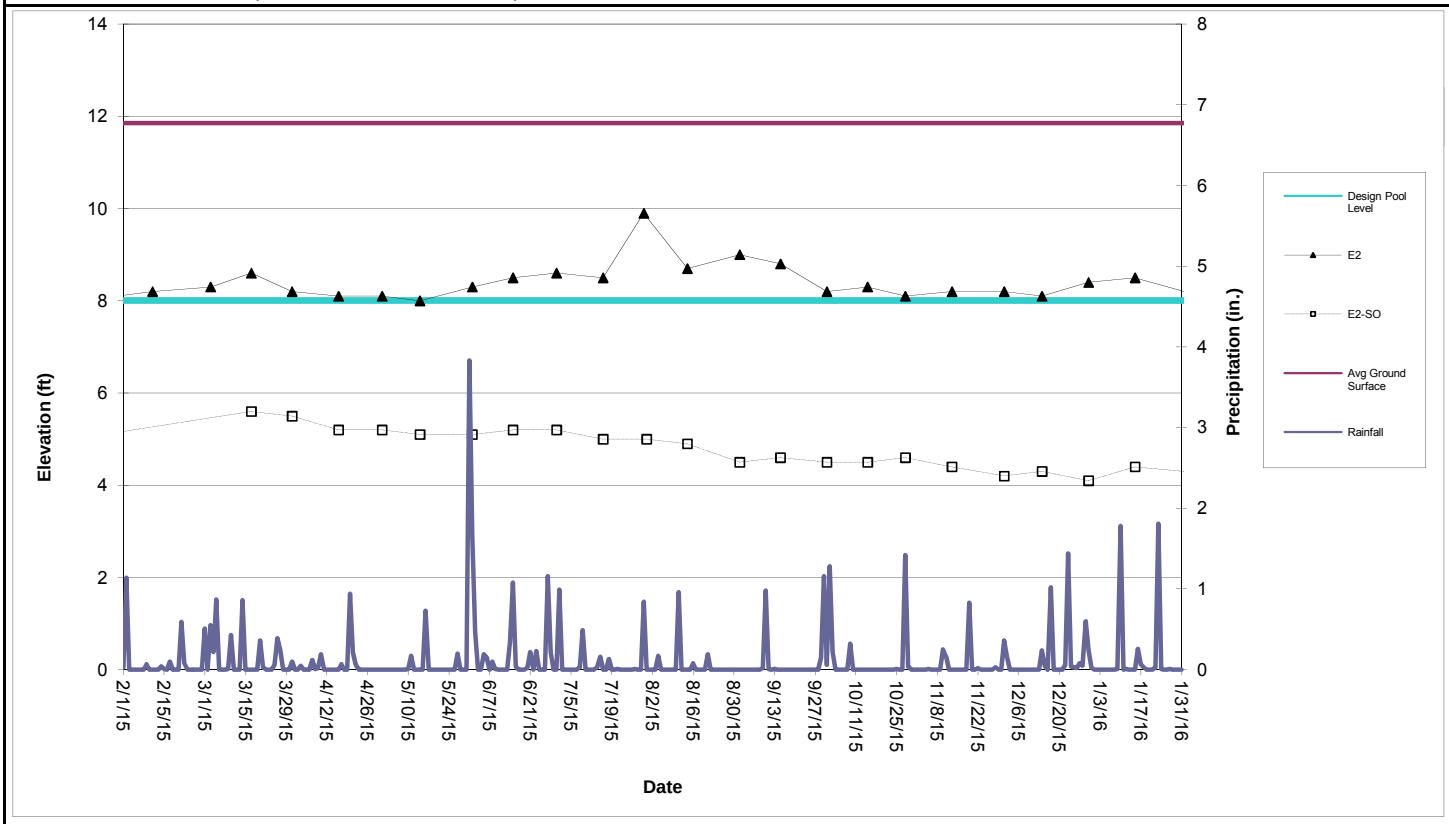
Perimeter Pool N3 (Sta. N6+80 to N10+23)



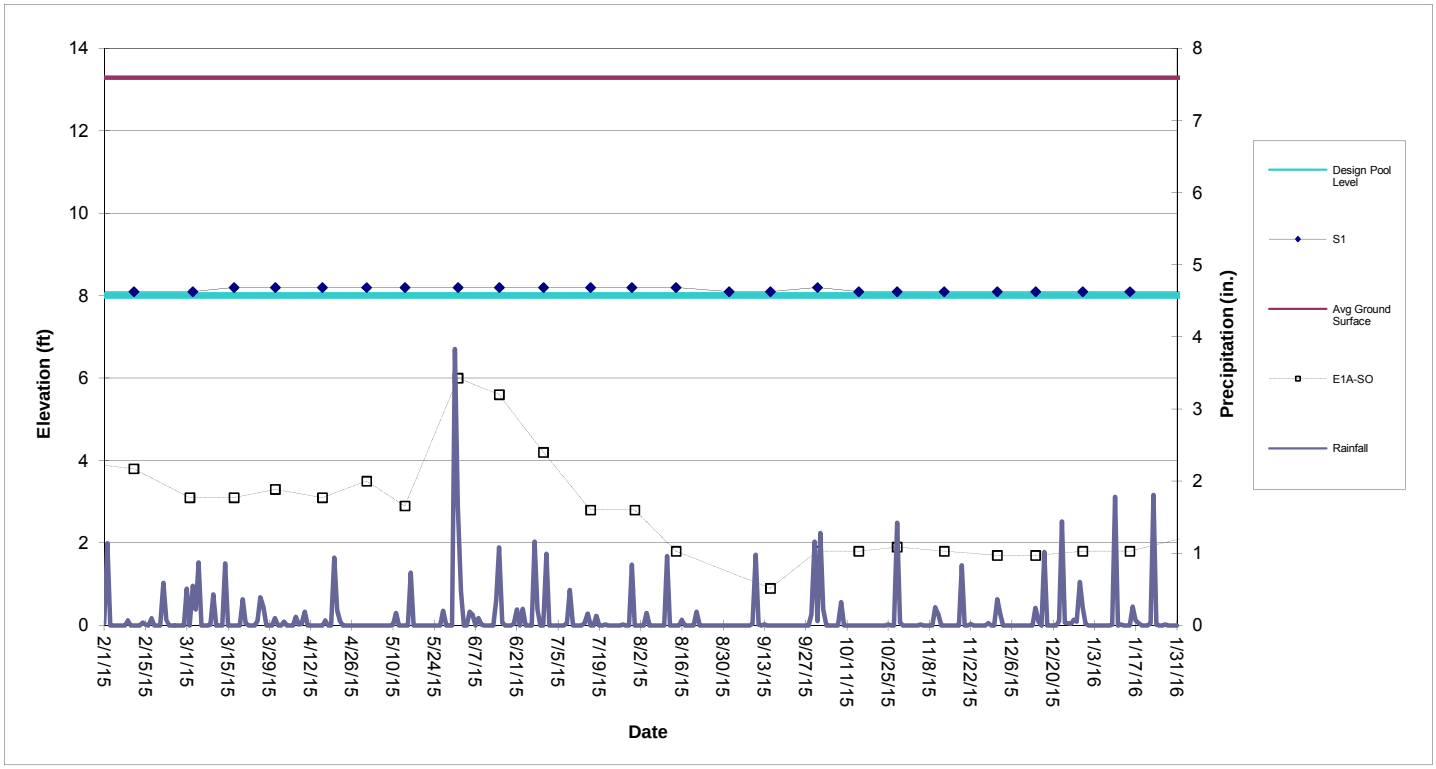
Perimeter Pool N4 (Sta. N6+80 to N10+23)



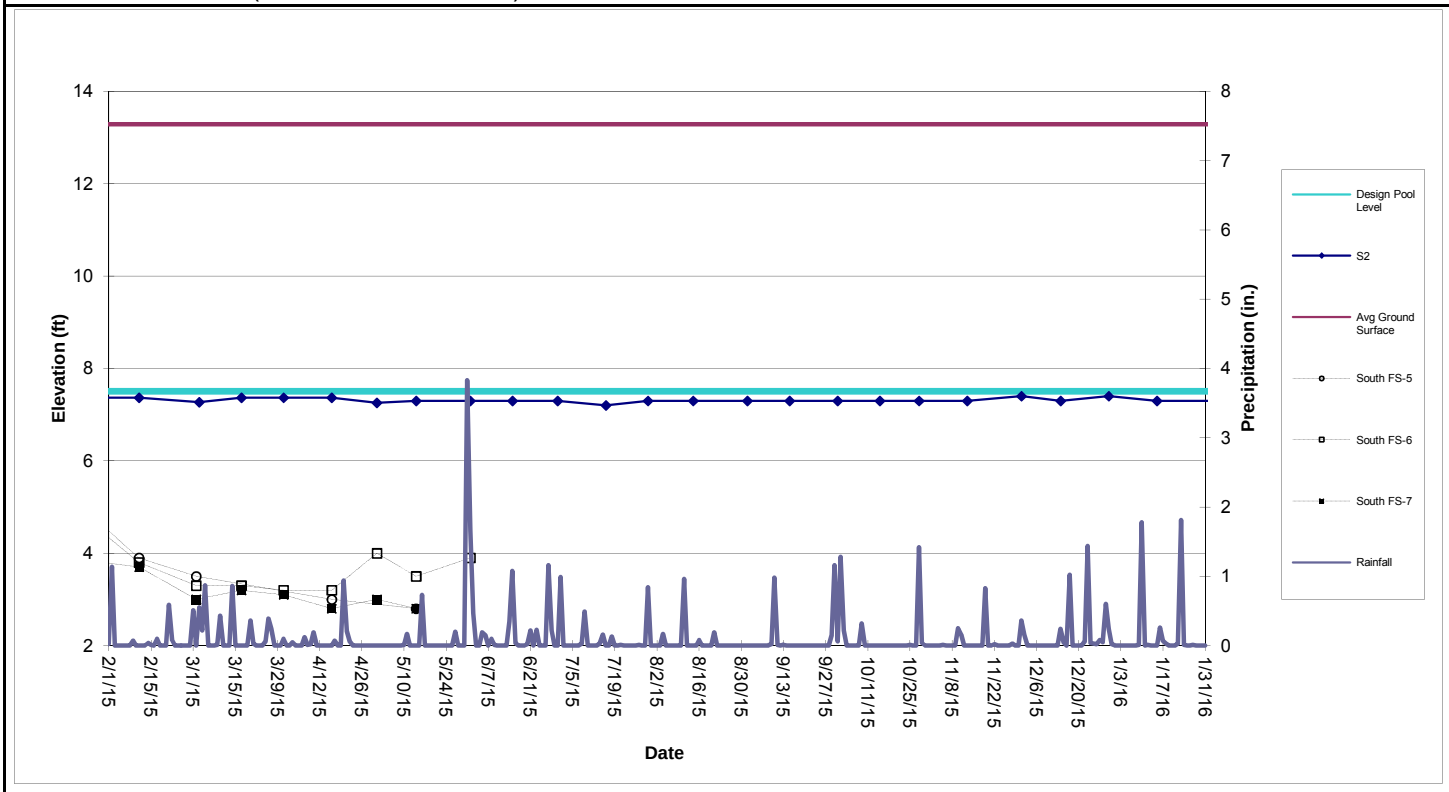
Perimeter Pool E1 (Sta. E0+50 to E3+75)



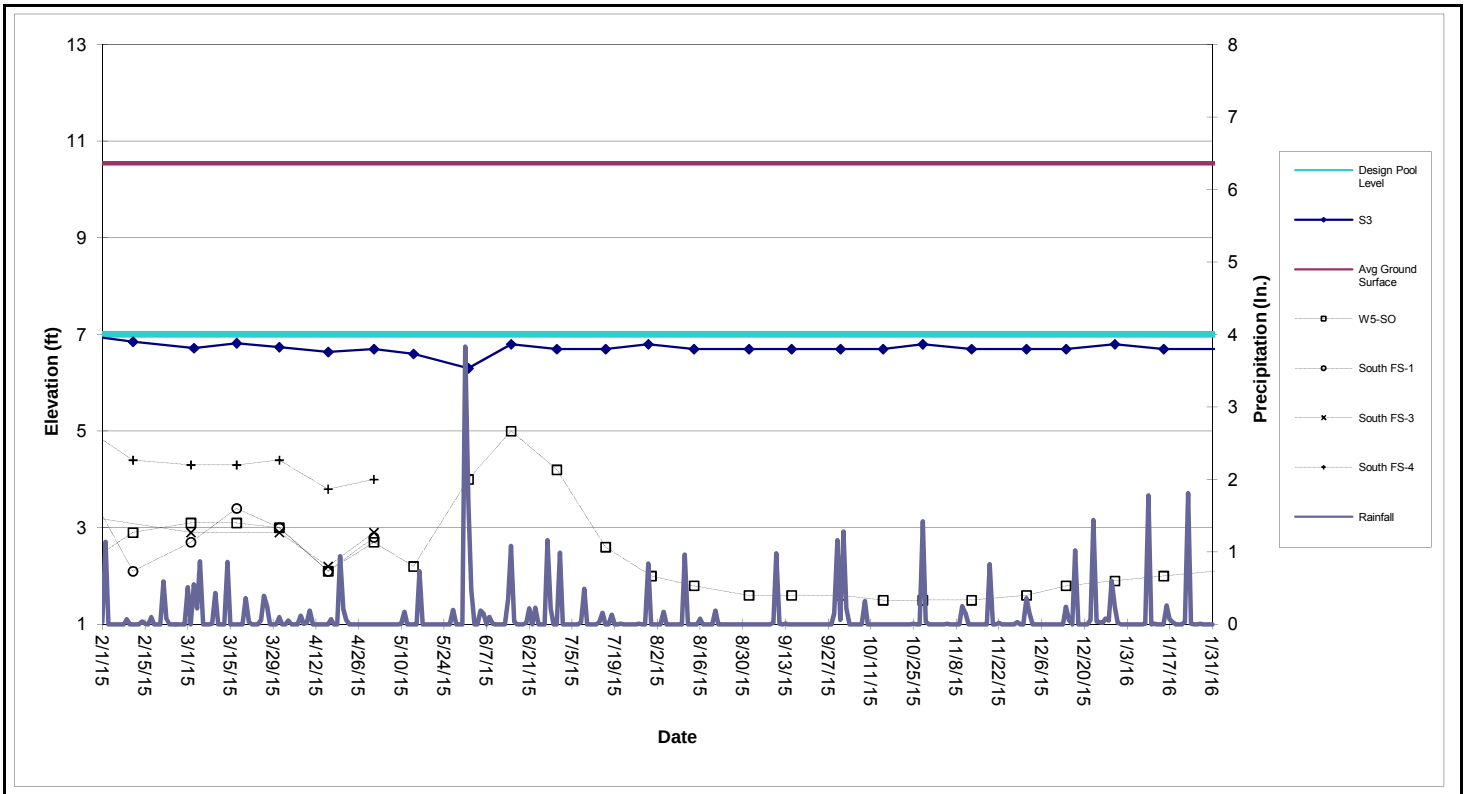
Perimeter Pool E2 (Sta. E4+50 to E7+25)



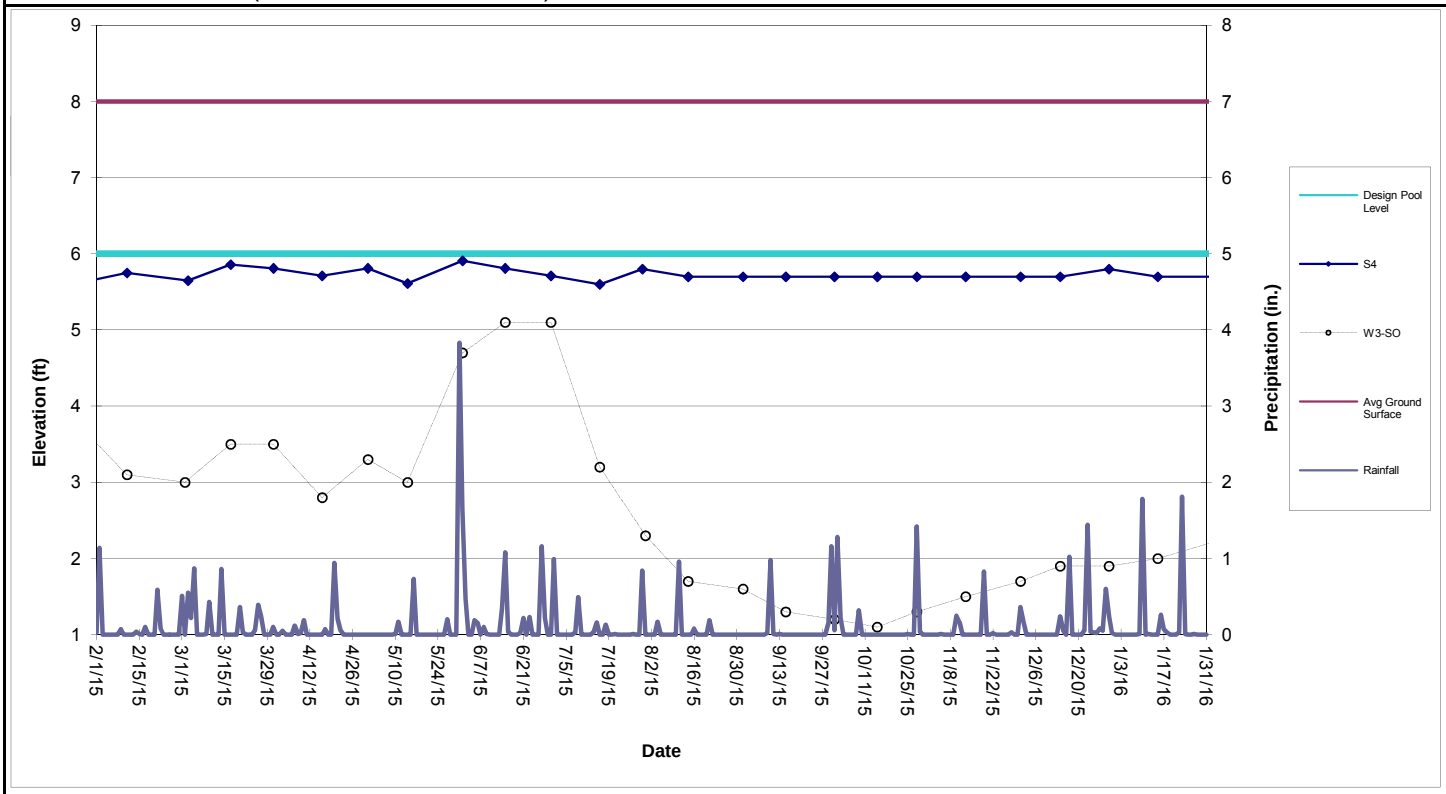
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-1	FS-2	FS-3	FS-5	FS-6	FS-7	FS-13	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																						
2/11/2015	3.8		6.5	6.7	6.4		3.1	2.9		4.7	6.8	6.5	6.1	6.1	6.2		2.1		4.4	3.9	3.8	3.7
3/2/2015	3.1		5.5	5.9	6.0		3.0	3.1		4.1	6.6	5.9	5.8	5.8	5.8		2.7	2.9	4.3	3.5	3.3	3.0
3/17/2015	3.1	5.6	6.4	7.5	7.0		3.5	3.1		5.6	6.6		6.0	5.9	6.5		3.4		4.3		3.3	3.2
3/31/2015	3.3	5.5	6.4	7.2	6.7		3.5	3.0	5.7	5.7	6.8		5.7	5.6	5.3		3.0	2.9	4.4		3.2	3.1
4/16/2015	3.1	5.2	6.0	6.5	6.1		2.8	2.1	5.4	5.5	6.8	6.2	5.1	5.2	5.9		2.1	2.2	3.8	3.0	3.2	2.8
5/1/2015	3.5	5.2	5.9	5.1	6.0		3.3	2.7	5.7	5.6	6.8	6.2	5.3	5.2	5.7	6.3	2.8	2.9	4.0		4.0	3.0
5/14/2015	2.9	5.1	5.7	6.6	5.5		3.0	2.2	5.4	5.4	6.2	5.8	4.9	4.9	5.2	6.3				2.8	3.5	2.8
6/1/2015	6.0	5.1	5.6	4.4	4.2		4.7	4.0	7.0	6.2	6.5	6.1	4.6	4.5	4.2	5.3					3.9	
6/15/2015	5.6	5.2	5.7	4.2	4.4		5.1	5.0	6.6				4.8	4.8	4.2	4.3						
6/30/2015	4.2	5.2	5.7	4.2	4.4		5.1	4.2	6.7				4.8	4.7	4.2	4.5						
7/16/2015	2.8	5.0	5.7	3.6	4.1		3.2	2.6	6.2				4.8	4.7	3.9	4.1						
7/31/2015	2.8	5.0	5.5	3.2	3.8		2.3	2.0	6.0				4.6	4.5	3.7	3.3						
8/14/2015	1.8	4.9	5.4	3.8	4.1		1.7	1.8	6.1				4.6	4.5	3.9	4.0						
9/1/2015		4.5	5.3	3.2	3.7		1.6	1.6	5.8				4.5	4.5	3.6							
9/15/2015	0.9	4.6	5.3	3.1	3.6		1.3	1.6	5.6				4.4	4.3	3.5							
10/1/2015	1.8	4.5	5.2	3.2	3.7		1.2	1.6	5.8				4.4	4.4	3.5							
10/15/2015	1.8	4.5	5.1	4.1	4.2		1.1	1.5	6.1				4.7	4.6	4.0	4.0						
10/28/2015	1.9	4.6	4.9	3.9	4.1	6.9	1.3	1.5	6.1				4.7	4.6	3.9	3.8						
11/13/2015	1.8	4.4	4.9	3.5	3.9	6.4	1.5	1.5	5.8				4.6	4.6	3.7	3.4						
12/1/2015	1.7	4.2	4.8	3.6	3.9	6.2	1.7	1.6	5.6				4.5	5.0	3.8	3.5						
12/14/2015	1.7	4.3	4.7	3.3	3.8	6.2	1.9	1.8	5.8					3.5	3.6							
12/30/2015	1.8	4.1	4.8	4.9	4.8	7.5	1.9	1.9	6.9				5.2			4.6						
1/15/2016	1.8	4.4	4.8			7.9	2.0	2.0	7.4				6.0			5.6						

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09, E4-SO, W1-SO, North FS-6, North FS-7

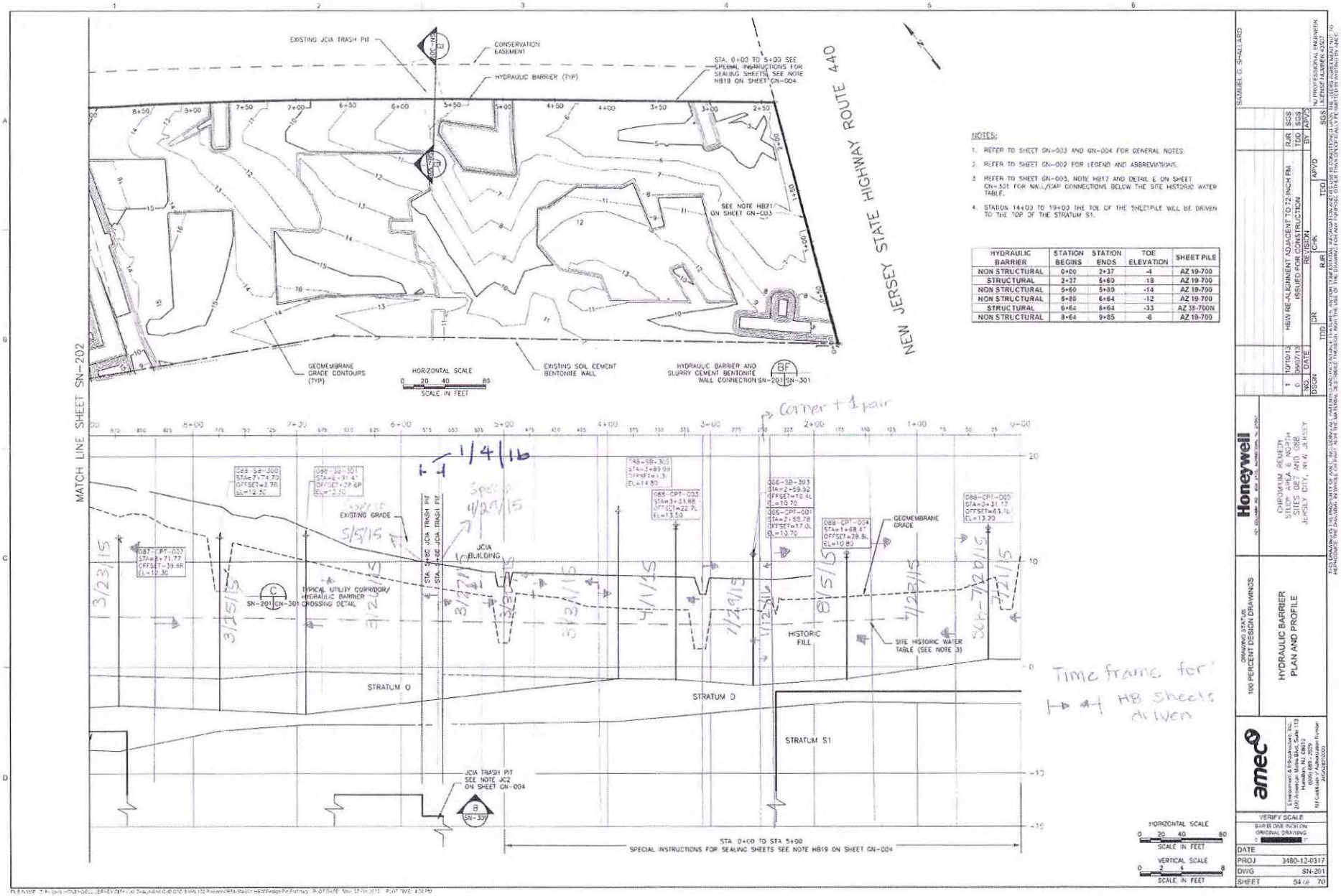
Attachment 8: Groundwater Quality Data

(not included in this reporting period)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-501 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.
4. STATION 14+00 TO 19+00 THE TOE OF THE SHEETPILE WILL BE DRIVEN TO THE TOP OF THE STRATUM S1.

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	0+00	2+37	-4	AZ 19-700
STRUCTURAL	2+37	5+60	-18	AZ 19-700
NON STRUCTURAL	5+60	5+80	-14	AZ 19-700
NON STRUCTURAL	5+80	6+64	-12	AZ 19-700
STRUCTURAL	6+64	8+64	-33	AZ 38-700N
NON STRUCTURAL	8+64	9+85	-8	AZ 19-700

NO.	DATE	DSGN	CHK	APVD	DESCRIPTION
1	12/10/13	TDD	RJR	RJR	HB19 RE-ALIGNMENT ADJACENT TO 72 INCH FM.
0	09/27/13	CIR	TDD	BSI	ISSUED FOR CONSTRUCTION

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43527

Honeywell

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITE 40 - JCIA SOUTH
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

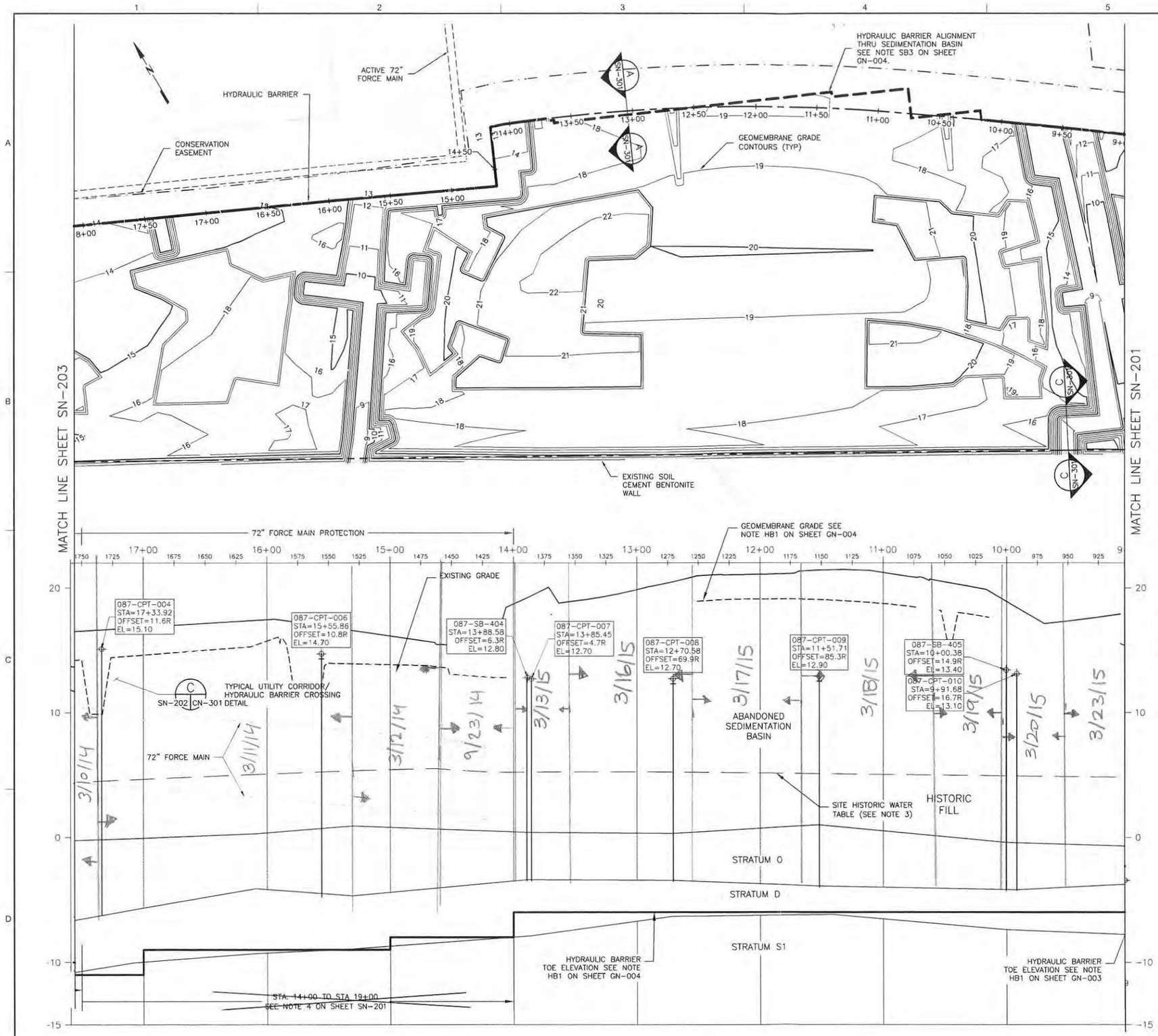
HYDRAULIC BARRIER
PLAN AND PROFILE

amec

Environment & Infrastructure, Inc.
2001 Lakeside Boulevard, Suite 110
Hamilton, NJ 08619
(609) 585 - 2629
NJ Certificate of Authorization Number 24GA28018300

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DATE	
PROJ	3480-12-0317
DWG	SN-201
SHEET	54 OF 70



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET ON CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700
NON STRUCTURAL	9+85	14+00	-6	AZ 19-700
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700

Time frame for:
HB sheets driven

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	09/13/13	TDD	TDD	RJR	TDD	RJR	BCO
0	06/07/13					TDD	SGS
						TDD	SGS

REVISION
ISSUED FOR CONSTRUCTION
HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS:
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

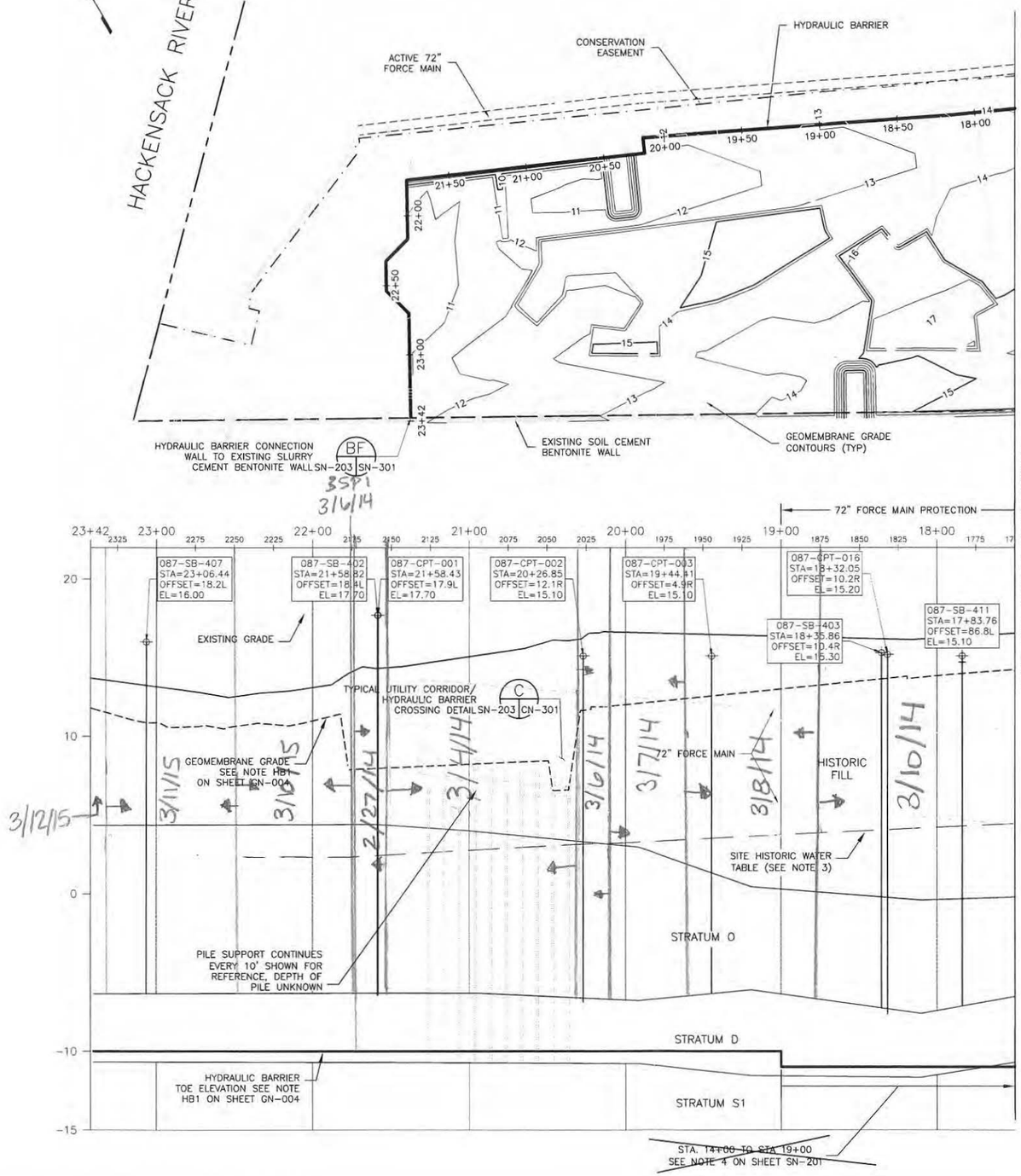
amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 989 - 2829
NJ Certificate of Authorization Number 24GA28010600

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE
PROJ 3480-12-0317
DWG SN-202
SHEET 55 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR55-SN-202 HBW Design Pln Prof.dwg PLOT DATE: Fri 18 Oct 2013 PLOT TIME: 10:35 AM



HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700
NON STRUCTURAL	19+00	23+38	-10	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

SAMUEL G. SHALLARD

NO.	DATE	REVISION	DR	CHK	APVD	BY	APVD
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM				RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION				TDD	SGS
DSGN			TDD	RJR	TDD		SGS

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28115900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-203
SHEET	56 OF 70

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cad Design-SA6-C3D\CAD\SA6N\100 Percent\CR56-SN-203 HBW Design Plan Prof.dwg PLOT DATE: Fri 18 Oct 2013 PLOT TIME: 10:37 AM

Attachment 11: Capping Update

(not included in this reporting period)

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: December 31, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		1
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		2
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		3
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		4
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: _____

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, December 31, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Secondary containment structures in the mechanic's area have accumulated stormwater.
2	IA2Q4A1AL8	Ponded stormwater is present at several locations across SA-6 South.
3	IA2Q4A1AL8	Ponded stormwater is present at several locations across SA-6 North.
4	IA2Q4A1AL8	The northern SA-7 access roadway has accumulated mud and sediment from the surcharge operation.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 12/31/15

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Drain stormwater from the secondary containment structures.	
2	Pump ponded stormwater as required.	Frozen
3	Pump ponded stormwater as required.	
4	Clean the access roadway and remove all accumulated sediment.	RAD 1/6/16

Construction Manager: _____ Date: 01/07/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: January 8, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		2
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 01/11/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, January 08, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence along the northern SA-7 access roadway requires maintenance.
2	IA2Q4A1AL8	Repeat: The northern SA-7 access roadway has accumulated mud and sediment from the surcharge operation.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: Signature

Date: 01/11/16

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Repair or replace silt fence as required.	will be completed when ground is not frozen
2	Clean the access roadway and remove all accumulated sediment.	1/12/16 RSD daily activity

Construction Manager: Date: 01/14/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: January 15, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection		X		2
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 01/15/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, January 15, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen on the perimeter fence on Study Area 6 South has become detached.
2	IA2Q4A1AL8	The silt bag at the west end of Kellogg Street which filters sediment from the diesel pump has become blinded with sediment.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 01/15/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Repair or replace the perimeter fenceline windscreen where it has become detached from the fence.	1/20/16 (RAD)
2	Replace the silt bag on the diesel pump hose on Study Area 6 South.	1/20/16 (RAD)

Construction Manager: _____ Date: 01/20/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: January 22, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 01/22/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, January 22, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen on the perimeter fence on Study Area 6 South has become detached

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 01/22/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Repair or replace the perimeter fenceline windscreen where it has become detached from the fence.	1/26/16 RAM

Construction Manager: _____ Date: 01/26/16

Attachment 13: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (submitted January 2015)

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

January 19, 2016

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the December 2015 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
12	01	15	12	31	15
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	59,770	78,659 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	0.47	0.61	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.00020	<0.00020	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.1	<5.1	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1486	0.1486	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

01/19/2016

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North
ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)
FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305
NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
12	01	15	12	31	15
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
1,852,869 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 52,277,261

DATE	BOD (mg/l)	TSS (mg/l)
12/8/2015	<13	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE 01/19/2016

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG Honeywell Jersey City GWTP; SA-6 North (Permit #20630025) MONTH: December 2015

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
12/1/2015	Angel Trujillo	50424392	50500018	75,626	0.075626	7.02	0.935									0.59
12/2/2015	Angel Trujillo	50500018	50577106	77,088	0.077088	7.34	0.935									0.60
12/3/2015	Angel Trujillo	50577106	50652921	75,815	0.075815	7.39	0.935									0.59
12/4/2015	Angel Trujillo	50652921	50731580	78,659	0.078659	7.40	0.935									0.61
12/5/2015	Angel Trujillo	50731580	50809695	78,115	0.078115	7.30	0.935									0.61
12/6/2015	Angel Trujillo	50809695	50887810	78,115	0.078115	7.43	0.935									0.61
12/7/2015	Angel Trujillo	50887810	50962084	74,274	0.074274	7.42	0.935									0.58
12/8/2015	Angel Trujillo	50962084	51038112	76,028	0.076028	6.78	0.935	<5.1	<13		<0.010	<0.030	<0.010	<0.00020	<0.020	0.59
12/9/2015	Angel Trujillo	51038112	51114910	76,798	0.076798	7.42	0.935									0.60
12/10/2015	Angel Trujillo	51114910	51176568	61,658	0.061658	7.22	0.935									0.48
12/11/2015	Angel Trujillo	51176568	51231814	55,246	0.055246	7.41	0.935									0.43
12/12/2015	Angel Trujillo	51231814	51287230	55,416	0.055416	7.39	0.935									0.43
12/13/2015	Angel Trujillo	51287230	51359830	72,600	0.0726	7.30	0.935									0.57
12/14/2015	Angel Trujillo	51359830	51432430	72,600	0.0726	7.42	0.935									0.57
12/15/2015	Angel Trujillo	51432430	51466202	33,772	0.033772	7.64	0.935									0.26
12/16/2015	Angel Trujillo	51466202	51519186	52,984	0.052984	7.63	0.935									0.41
12/17/2015	Angel Trujillo	51519186	51589110	69,924	0.069924	7.84	0.935									0.55
12/18/2015	Angel Trujillo	51589110	51657980	68,870	0.06887	7.58	0.935									0.54
12/19/2015	Angel Trujillo	51657980	51730250	72,270	0.07227	7.61	0.935									0.56
12/20/2015	Angel Trujillo	51730250	51799873	69,623	0.069623	7.40	0.935									0.54
12/21/2015	Angel Trujillo	51799873	51869497	69,624	0.069624	7.54	0.935									0.54
12/22/2015	Angel Trujillo	51869497	51937069	67,572	0.067572	7.59	0.935									0.53
12/23/2015	Angel Trujillo	51937069	52013772	76,703	0.076703	7.57	0.935									0.60
12/24/2015	Angel Trujillo	52013772	52054400	40,628	0.040628	7.82	0.935									0.32
12/25/2015	Angel Trujillo	52054400	52054400	0	0	N/A	0.935									0.00
12/26/2015	Angel Trujillo	52054400	52054400	0	0	N/A	0.935									0.00
12/27/2015	Angel Trujillo	52054400	52054400	0	0	N/A	0.935									0.00
12/28/2015	Angel Trujillo	52054400	52054400	0	0	N/A	0.935									0.00
12/29/2015	Angel Trujillo	52054400	52125809	71,409	0.071409	7.52	0.935									0.56
12/30/2015	Angel Trujillo	52125809	52202753	76,944	0.076944	7.47	0.935									0.60
12/31/2015	Angel Trujillo	52202753	52277261	74,508	0.074508	7.56	0.935									0.58
TOTAL				**1,852,869**	**1.852869**			<5.1	<13		<0.010	<0.030	<0.010	<0.00020	<0.020	
			High:	**78,659**											**High:**	**0.61**
			Average:	**59,770**											**Average:**	**0.47**

WW

Impulse

JC10089

E

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell — Chain Of Custody / Analysis Request

AESI Ref:	42346.39172
COC#	087-WW-120815
Lab Proj # (SDG):	
Lab ID	ACTD
Site ID	HudsonCo
Lab Job #	HWINJM32815
Authorized User:	Honeywell

Privileged & Confidential | Site Name: Hudson County | Phase: CS
EDD To: | Location of Site: Jersey City, NJ | Sampling Program: 087: JCIA

Sampling Co.: MACTEC
Client Contact: (name, co., address)
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962

Sampler: Frank Schroyer
PO #
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Preliminary Data To
Sample Receipt Acknowledgement To: Frank Schroyer
Hard Copy To: Helen Fahy (Honeywell)
Full Report TAT: 28 Days
Invoice To: Helen Fahy (Honeywell)

Text & Excel File Drive: L23 A18 V1077 G42
Excel & Text File Order

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	Sample Identification				Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs: see attached special list	Sampling Method (code)	Lab Sample Numbers
	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID							Units												
	Preservative												3	3	3	1	2	2	0	0	2		
1	087-WW			087-WWE-120815-A	12/8/2015	15:00	WW	WATER	REG	3	comp	N	X	X	X	X			X	X			-1
2	087-WW			087-WWE-120815-B	12/8/2015	15:05	WW	WATER	REG	5	grab	N					X	X					-2
3	087-WW			087-WWI-120815	12/8/2015	15:15	WW	WATER	REG	3	grab	N									X		-3
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

INITIAL ASESSMENT 3A JK
LABEL VERIFICATION JK

ALL SAMPLES RECEIVED
PRESERVED AS APPLICABLE
JK

Relinquished by: pH = 6.78 s.u. @ 7.9°C	Company	AMEC Foster Wheeler	Received by	Company		Condition	Custody Seals Intact
Frank Schroyer	Date/Time	12/8/15	Robert Chambers	12-8-15 Date/Time 16:26		Cooler Temp. 1.5°C	
Relinquished by: Robert Chambers	Company 12-8-15 Date/Time 16:26		Received by	Company 12-8-15 Date/Time		Condition	Custody Seals Intact
						Cooler Temp.	

Preservatives: (Other; Specify):
0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

Relinquished by: 12-8-15 8:34 | Received by: Jane Yu | 12/8/15 18:34

Accutest LabLink@891489 18:36 14-Jan-2016

Report of Analysis

4.1 4

Client Sample ID:	087-WWE-120815-A		
Lab Sample ID:	JC10089-1	**Date Sampled:**	12/08/15
Matrix:	AQ - Water	**Date Received:**	12/08/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	935	10	ug/l	1	12/09/15	12/10/15	ND	EPA 200.7 [1]	EPA 200.7 [3]
Copper	< 10	10	ug/l	1	12/09/15	12/10/15	ND	EPA 200.7 [1]	EPA 200.7 [3]
Lead [a]	< 30	30	ug/l	10	12/09/15	12/10/15	ND	EPA 200.7 [1]	EPA 200.7 [3]
Mercury	< 0.20	0.20	ug/l	1	12/11/15	12/11/15	MA	EPA 245.1 [2]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	12/09/15	12/10/15	ND	EPA 200.7 [1]	EPA 200.7 [3]
Zinc	< 20	20	ug/l	1	12/09/15	12/10/15	ND	EPA 200.7 [1]	EPA 200.7 [3]

(1) Instrument QC Batch: MA38252
(2) Instrument QC Batch: MA38262
(3) Prep QC Batch: MP90841
(4) Prep QC Batch: MP90894

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@891489 18:36 14-Jan-2016

Report of Analysis

Client Sample ID:	087-WWE-120815-A		
Lab Sample ID:	JC10089-1	**Date Sampled:**	12/08/15
Matrix:	AQ - Water	**Date Received:**	12/08/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.1

4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended [a]	< 4.0	4.0	mg/l	1	12/09/15	LA	SM2540 D-11
pH [b]	6.92		su	1	12/08/15 19:38	JK	SM4500H+ B-11

(a) Reported sample aliquot obtained from filtration of 500 mL of sample. Sample did not meet method requirement of 2.5 mg of solids on the filter with this volume filtered.
(b) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@891489 18:36 14-Jan-2016

Report of Analysis

4.2 4

Client Sample ID:	087-WWE-120815-A		
Lab Sample ID:	JC10089-1A	**Date Sampled:**	12/08/15
Matrix:	AQ - Water	**Date Received:**	12/08/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 13	13	mg/l	1	12/09/15 19:54	LS	SM5210 B-11

RL = Reporting Limit

Accutest LabLink@891489 18:36 14-Jan-2016

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-120815-B		
Lab Sample ID:	JC10089-2	**Date Sampled:**	12/08/15
Matrix:	AQ - Water	**Date Received:**	12/08/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	T213774.D	1	12/09/15	DC	n/a	n/a	VT8773
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	10	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	2.3	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	3.0	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	0.23	1.0	0.093	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.50	ug/l	
67-66-3	Chloroform	20.3	1.0	0.091	ug/l	
74-87-3	Chloromethane	ND	1.0	0.11	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.11	ug/l	
95-50-1	1,2-Dichlorobenzene	0.42	1.0	0.19	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.11	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.29	ug/l	
75-34-3	1,1-Dichloroethane	0.44	1.0	0.12	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/l	
156-59-2	cis-1,2-Dichloroethene	71.2	1.0	0.12	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.5	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.12	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.15	ug/l	
123-91-1	1,4-Dioxane	ND	130	20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.57	1.0	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest LabLink@891489 18:36 14-Jan-2016

Report of Analysis

Client Sample ID:	087-WWE-120815-B		
Lab Sample ID:	JC10089-2	**Date Sampled:**	12/08/15
Matrix:	AQ - Water	**Date Received:**	12/08/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3 4

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	46.6	1.0	0.12	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	105%		72-125%
2037-26-5	Toluene-D8 (SUR)	98%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	98%		74-115%
1868-53-7	Dibromofluoromethane (S)	106%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest LabLink@891489 18:36 14-Jan-2016

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-120815-B		
Lab Sample ID:	JC10089-2	**Date Sampled:**	12/08/15
Matrix:	AQ - Water	**Date Received:**	12/08/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.1	5.1	mg/l	1	12/09/15	JOO	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending January 2016

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	May 6, 2014 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending January 2016

Changed Item Identifier	Description of Change	Comments
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on May 27, 2015.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on May 27, 2015.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Contractor only.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groudnwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending January 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-06-18	Bayfront Redevelopment Civil Designer has eliminated one utility corridor along the eastern portion of SA-6 South (water main and sewer line were relocated to another utility corridor). In addition, it was identified that minor increases in the Bayfront final grades of up to 0.25 feet may be made in the landscaped areas (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 South Consent Decree and the 100% Design.	Submitted to all Parties on June 18, 2015.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.
DC 2015-11-12	Amec Foster Wheeler has provided Final Cap Grades (in CAD) to Entact. Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.	Submitted to Contractor only.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on June 22, 2015.
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on June 22, 2015.
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-10-06	GCL is required to be installed over the SCB wall and Barrier Wall at the locations shown in the annotated PDF of C-121 (rev 4, 8/13/15).	Submitted to Contractor only.
DC 2015-07-22	Detail BN has been modified to extend the LLDPE up and over the SCB Wall. The prior detail showed both the GDL and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-28	Drawing 304, Detail CE and associated notes regarding the "Liner Anchor to Concrete Structure" have been modified.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending January 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only.
DC 2015-07-31	The sheet pile pair is located at Sta. 0+50. Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.	Submitted to Contractor only.
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA-6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	Submitted to Contractor only.
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending January 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-11-18	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	Submitted to Contractor only.
DC 2015-09-28	Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling.	Submitted to Parties on October 1, 2015.
DC 2015-12-21	Amec Foster Wheeler (AmecFW), Entact and Maser Consulting have developed alternative methods for documentation/survey of the excavation bottom in Site 163. The alternative methods were developed in light of safety considerations for surveyor access into a sheet piled excavation to elevation –8.0. The bottom of the excavation will be in very low strength Stratum O soils. These alternative survey control methods are different from those previously used in the SA-6 South Development Area.	Submitted to Contractor only.
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.
DC 2015-10-22	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only.
DC 2015-12-14	Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds that cannot be tested by other means. Spark testing will be performed in accordance withASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative. Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	Submitted to Parties on January 14, 2016.
DC 2015-12-01	EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation. A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals. EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits. A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.	Submitted to Contractor only.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

SA-6 AND SA-7 COMBINED PROGRESS REPORT

MARCH 10, 2016

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

March 10, 2016

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2016-02

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from February 1 – February 29, 2016.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Design and Construction

WJH:jtc/sgf

Attachment: February 2016 SA-6/7 Combined Monthly Progress Report No. 2016-02

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2016-02

Project SA-6 & 7 Remediation

February 2016

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
02/04/16	Updated Declarations Schedule for Performance Certifications Study Area 6 North and South Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
02/05/16	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, JC MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
02/11/16	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2016-01	Honorable Robert G. Torricelli Office of the Special Master
02/16/16	Special Master Conference Call	n/a
02/22/16	2015 Annual Hazardous Waste Export Report For USEPA Id No.: NJD986581437 EPA Notice No.: 009557/4E/14 and 011562/3E/15	US Environmental Protection Agency International Compliance Assurance Division
02/23/16	PW-3 Startup Monitoring Study Area 7 Groundwater Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
02/24/16	Surcharge Monitoring Report Study Area 6 North and South	Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	02/07/16	02/14/16	02/21/16	02/28/16
Construction Management (AMEC)	10	10	9	7
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	30	27	29	30

Team	Week Ending			
	02/07/16	02/14/16	02/21/16	02/28/16
Arecon/US Ecology Subcontractors	2	1	1	0
Eglentowicz (Demolition)	0	0	1	1
Langan	0	0	0	0
Evoqua	1	1	1	1
B&B Drilling	0	2	1	1
Cornerstone	0	1	0	0
TOTAL STAFF	**48**	**47**	**47**	**45**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected February PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Installed 11 new shallow monitoring wells in the SA-6 South Development AOC in accordance with the 100% Design and Long Term Monitoring Plan and 1 new/replacement shallow monitoring well in a non-chromium AOC at SA-6 South in accordance with the NJDEP-approved Remedial Action Work Plan for Non-Chromium Contaminants of Concern.
- Began pre-demolition activities associated with 60/72 Kellogg to include disconnecting the water and sewer lines to 60 Kellogg, removal of the gas meters from 60 and 72 Kellogg, removal of the electric meter from 60 Kellogg, and installation of temporary construction fence.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on February 10, 2016.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	02/07/16	02/14/16	02/21/16	02/28/16
Avg. Gallons Treated & Discharged (per day)	79,597	79,365	78,708	79,077
Average Flow (gpm) for Operating Period	58	57	57	57
Avg. Hours of Plant Operation	23	23	23	23
GWTP Influent Tanks (gal.)	3,701	3,636	3,774	4,332

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Completed installation of temporary well points at Site 163.
- Continued dewatering and excavation activities of Site 163 and began placing backfill in surveyed portions of Site 163.
- Completed excavation of Excavation Areas EA-2 and EA-3.
- Continued backfilling of EA-2/EA-3 excavation area.
- Completed abandonment of the two deep wells in EA-2/EA-3 (designated DW-6 and DW-7) and 88-MW-113 near EA-5.
- Continued EA-1 excavation and backfilling activities. After completion of the original excavation to the limits identified in the approved 100% Design, a lens of anomalous material less than 10 foot in width was observed on the northern face of the excavation at ~2 to 3 feet below grade near Culver Circle. Honeywell requested that the property line limits be laid out in the field and that removal of this observed anomalous material be completed up to this property line and the excavation limits resurveyed for the asbuilt documentation.
- Continued excavation of trench for installation of the Contingent Groundwater Extraction System piping in Area 1N. A total of 578 linear feet of pipe were installed.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Horwith	Tri-axle	PA Transload	US Ecology	>240 mg/kg CrVI	55	22.3	1,229
Entact/Horwith	Tri-axle Dump	Middlesex County Landfill, NJ	MCUA	Non-haz Cr	30	22.4	675

- See Attachment 15 for the Final February 1, 2016 truck incident report.

2. EXCAVATION & BACKFILL PROGRESS

Description	Areas
Excavation Completed	Excavation: EA-1, Site 163 Volume Excavated - Total for Reporting Period (EA-1): 1,040 CY/ Total to Date (SA-6 North): 39,443 CY; Total for Reporting period (Site 163): 2,565 CY/ Total to Date: 6,907.5 CY
Backfill in Progress	EA-2/EA-3, EA-1, Site 163

3. BACKFILL MATERIALS USED

Source	Week Ending			
	02/07/16	02/14/16	02/21/16	02/28/16
Tilcon 1.5" Stone	0	758.6	0	200.6

- Screened Celgene materials greater than 3/8 inch were transferred and placed as bridge lift in the Site 163 residential footprint excavation areas.
- Overburden historic fill soils with hexavalent chromium concentrations confirmed to be < 20 mg/kg soils were transferred and placed as backfill in Site 163.
- In addition historic fill soils previously identified to be < 20 mg/kg hexavalent chromium were transferred and placed as backfill in EA-2/EA-3.

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging and offloading of surcharge material is complete.
- Area 3S: Surcharging and offloading of surcharge material is complete.
- Area 1N: Surcharging and offloading of surcharge material is complete.
- Area 2N: Surcharging and offloading of surcharge material is complete.
- Area 3N: Completed placement of surcharge material. Surcharging appears to be complete in the majority of this area and peer review of the calculations is underway by MRCE.
- Area 4N: Completed placement of surcharge material.

F. SHEET PILE OPERATIONS

- Completed installation and grouting of the last special sheet pile barrier wall piece at the connection point of the SA-6 North barrier wall and the SA-7 SCB wall at the southwestern portion of Area 1N.
- Installed sheet pile for temporary excavation support at Site 163.

G. CAPPING OPERATIONS

- Continued evaluations of potential alternative fill source(s), of Horizon C Soils for the SA-6 South open space area. Short list of potential Horizon B and C soil source vendors which may need relief on physical parameters (gradations, pH or organic matter content ranges in current specifications) were submitted to Dr. Jason Grabosky of Rutgers University for review.
- Continued to install additional panels of temporary plastic sheeting on the SA-6 South Cap.

H. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2016	6/30/2016	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Obtained 12/24/15	12/03/16	Pending

I. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete EA-2/EA-3 backfilling activities.
- Complete EA-1 excavation and backfilling activities.
- Complete excavation and backfill activities associated with Site 163 excavation including removal of temporary sheeting.
- Continue installation of the Contingent Groundwater Extraction System piping in Area 1N.
- Continue final grading of GDL cover soils to include associated compaction testing and installation of root barrier on SA-6 South open space area.
- Pending identification of acceptable alternative fill source(s), resume import and placement of Horizon C Soils on the SA-6 South open space area.
- Continue routine surcharge monitoring in Areas 3N and 4N.
- Continue demolition of 60 and 72 Kellogg above-grade buildings to include asbestos abatement, universal waste removal, rodent abatement, and termination of the gas and electric service.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Conduct S-3 Mass Removal injection event no. 27 in well 088-IW-02.
- Cornerstone will conduct round of quarterly LTMP groundwater level measurements.
- Conduct 6-month performance assessment soil sampling in the in-situ treatment area TA-10-1 in accordance with the updated Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated August 2015.

ATTACHMENTS:

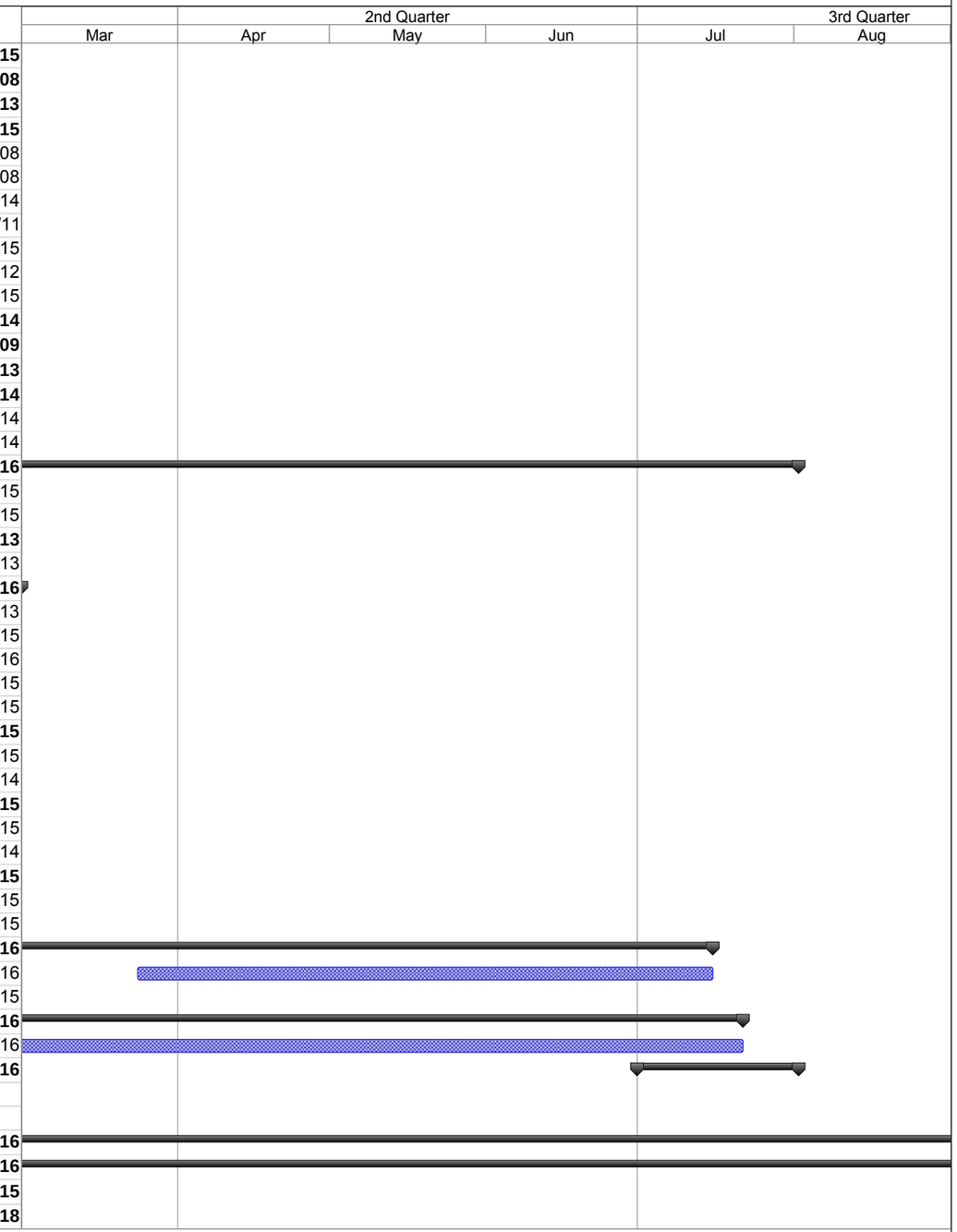
1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill (Progression Chart)
4. Dewatering Operations Update
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
7. Perimeter Pools Update
8. Groundwater Quality Data *(not included in this reporting period)*
9. Surcharge Monitoring Update *(not included in this reporting period)*
10. Sheet Pile Update
11. Capping Update *(not included in this reporting period)*
12. Weekly SWPPP Reports
13. GWTP Update
14. SA-6 North & South Design Change Tracking Log
15. Horwith Accident RollOver

Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**1/4/08**	**6/1/15**
2	**Remedial Action Work Plan**	**33 days**	**1/4/08**	**2/19/08**
5	**Remedial Action Design**	**1522 days**	**2/20/08**	**12/13/13**
18	**JCIA/JCDPW Relocation**	**1780 days**	**8/11/08**	**6/1/15**
19	Develop Site Relocation Master Plan	38 days	8/11/08	10/1/08
20	Submit Site Relocation Master Plan	0 days	10/1/08	10/1/08
21	JC Construction of New Facilities	1309 days	6/2/09	6/2/14
22	Relocation Contractor Procurement	392 days	4/15/10	10/13/11
23	JCIA and JCDPW Relocation	949 days	10/17/11	6/1/15
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	12/12/11	4/30/12
24a	Demolition of JCIA Structures	146 days	9/1/14	3/23/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**7/11/08**	**4/30/14**
26	**Remedial Action Work Plan**	**187 days**	**7/11/08**	**3/30/09**
32	**Remedial Action Design**	**1161 days**	**2/2/09**	**7/9/13**
57	**SA-6 South Relocation**	**616 days**	**12/26/11**	**4/30/14**
58	New GWTP Construction Completion	502 days	3/5/12	1/30/14
59	Demolition of 80 Kellogg	857 days	12/26/11	4/30/14
60	**SA-6 North/South Field Implementation**	**894 days**	**3/1/13**	**8/1/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	6/17/13	12/31/15
60b	SA-6S (Site 163) In-Situ Treatment	555 days	11/15/13	12/31/15
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**3/1/13**	**6/28/13**
61a	Mobilization	87 days	3/1/13	6/28/13
62	**Surcharge Install/Instrumentation**	**706 days**	**6/17/13**	**2/29/16**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	6/17/13	12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	4/8/14	2/13/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	6/30/15	2/29/16
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	6/16/14	2/23/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	10/6/14	5/8/15
63	**Barrier Wall Install**	**569 days**	**8/12/13**	**10/15/15**
63a	SA 6N Installation of Barrier Wall	159 days	3/9/15	10/15/15
63b	SA 6S Installation of Barrier Wall	210 days	8/12/13	5/30/14
64	**Excavation**	**507 days**	**10/22/13**	**9/30/15**
64a	SA 6N Excavation	218 days	12/1/14	9/30/15
64b	SA 6S Excavation	295 days	10/22/13	12/8/14
65	**Backfill**	**558 days**	**11/11/13**	**12/30/15**
65a	SA 6N Backfill	283 days	12/1/14	12/30/15
65b	SA 6S Backfill	384 days	11/11/13	4/30/15
66	**Capping and Cover Soil Placement**	**426 days**	**12/1/14**	**7/15/16**
66a	SA 6N Capping and Cover Soil Placement	83 days	3/24/16	7/15/16
66b	SA 6S Capping and Cover Soil Placement	283 days	12/1/14	12/30/15
67	**Restoration**	**234 days**	**9/1/15**	**7/21/16**
67a	Restoration	234 days	9/1/15	7/21/16
68	**Demobilization**	**22 days**	**7/1/16**	**8/1/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line			
69	**SA-6 North Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
75	**SA-6 South Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
81	**SA-6 North Long Term Protections**	**1830 days**	**10/1/08**	**10/1/15**
92	**SA-6 South Long Term Protections**	**2569 days**	**6/5/08**	**3/31/18**



Project: SA-6 Remediation Schedule
Revision 4
Date: 3/01/16

Task | Milestone | Summary | Critical

Attachment 2: Site Photographs

Site Photograph 1: Continuing Contingent GWES Trenching in Area 1N.

Site Photograph 2: EA-1 Survey activities.

Site Photograph 3: Excavation activities at Site 163 Kellogg Street properties.

Site Photograph 4: Hand digging to locate utility lines at EA-1.

Site Photograph 5: Loading of excavated soils from EA-1.

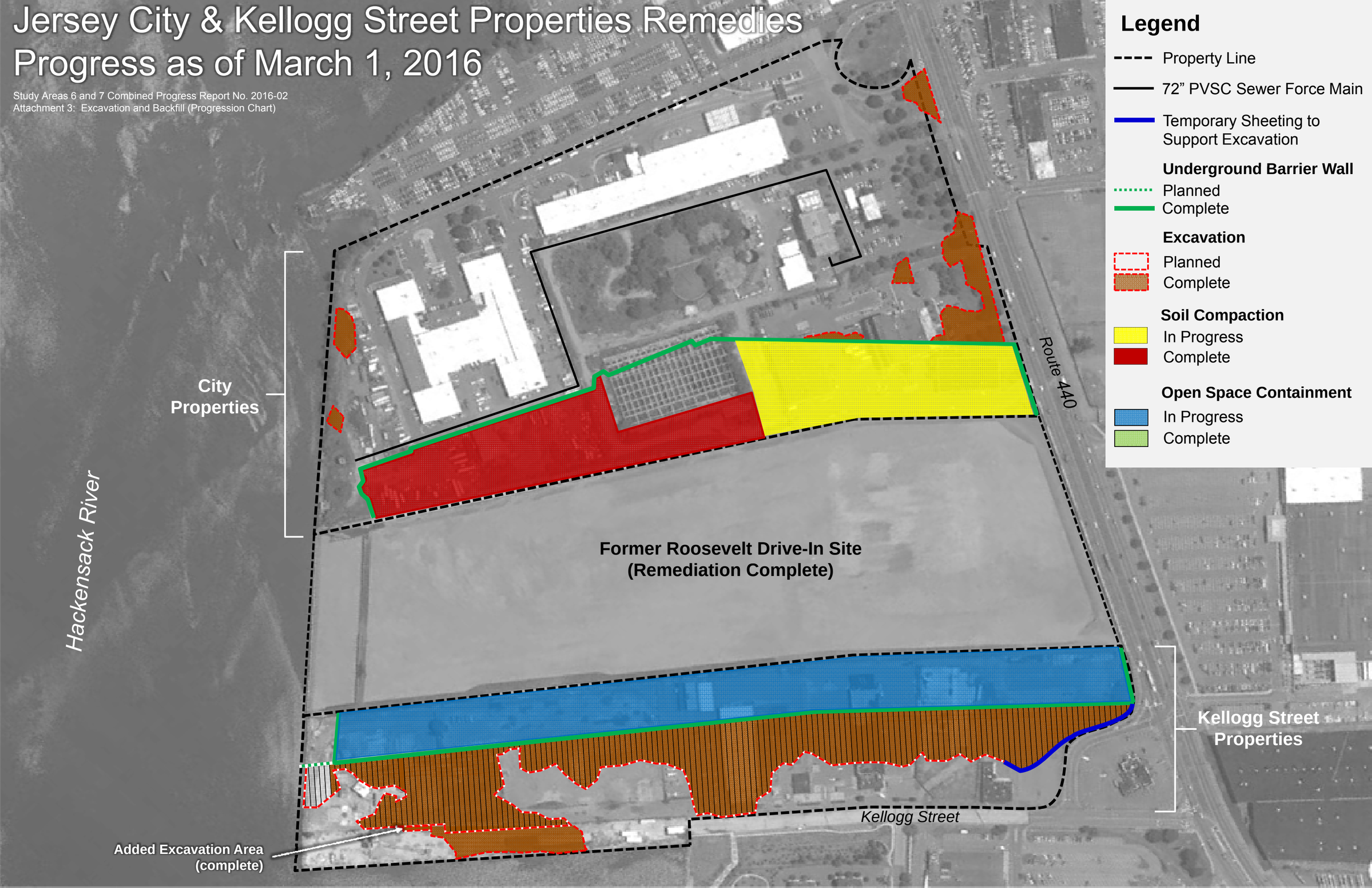
Site Photograph 6: Loading of excavated soils from Site 163.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of March 1, 2016

Study Areas 6 and 7 Combined Progress Report No. 2016-02
Attachment 3: Excavation and Backfill (Progression Chart)



Attachment 4: Dewatering Operations Update

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) DAILY	EXTRACTED VOLUME (Gal) TOTAL	AVERAGE FLOW RATE (gpm)	COMMENTS
12/18/15	1	24	19	10	N/A	N/A	1,700	3,112,472	1.2	System Taken Offline
01/14/16	1	24	22,23,24	27	N/A	N/A	5,000	3,117,472	3.5	
01/15/16	1	24	22,23,24	23	N/A	N/A	5,000	3,122,472	3.5	
01/18/16	1	72	22,23,24	23	N/A	N/A	15,000	3,137,472	3.5	
01/19/16	1	24	22,23,24	23	N/A	N/A	5,000	3,142,472	3.5	System Offline for Excavation
02/05/16	1	24	22,23,24	23	N/A	N/A	5,000	3,147,472	3.5	
02/08/16	1	72	22,23,24	23	N/A	N/A	15,000	3,162,472	3.5	
02/09/16	1	24	22,23,24	27	N/A	N/A	5,000	3,167,472	3.5	
02/10/16	1	24	22,23,24	27	N/A	N/A	3,000	3,170,472	2.1	
02/11/16	1	24	22,23,24	27	N/A	N/A	3,000	3,173,472	2.1	
02/12/16	1	24	22,23,24	21	N/A	N/A	3,000	3,176,472	2.1	
02/16/16	1	96	22,23,24	21	N/A	N/A	2,000	3,178,472	0.3	
02/17/16	1	24	22,23,24	15	N/A	N/A	1,000	3,179,472	0.7	
02/18/16	1	24	22,23,24	8	N/A	N/A	1,000	3,180,472	0.7	
02/19/16	1	24	22,23,24	8	N/A	N/A	1,500	3,181,972	1.0	
02/22/16	1	72	22,23,24	3	N/A	N/A	4,000	3,185,972	0.9	
02/23/16	1	24	22,23,24	3	N/A	N/A	1,000	3,186,972	0.7	
02/24/16	1	24	22,23,24	3	N/A	N/A	1,000	3,187,972	0.7	
02/25/16	1	24	22,23,24	3	N/A	N/A	1,000	3,188,972	0.7	
02/26/16	1	24	22,23,24	3	N/A	N/A	1,000	3,189,972	0.7	

Notes: Previous information is truncated. Only last month and current month information is provided.
Dewatering is associated with EA2/EA3 Excavation.

STUDY AREA 6 NORTH (EA2/3) DEEP WELL DATA (DW-6)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) DAILY	VOLUME (Gal) TOTAL	FLOW RATE (GPM)	COMMENTS
12/06/15	48	N/A	N/A	10,000	10,000	3.5	
12/07/15	24	N/A	N/A	8,000	18,000	5.6	
12/08/15	24	N/A	N/A	8,000	26,000	5.6	
12/09/15	24	N/A	N/A	8,000	34,000	5.6	
12/10/15	24	N/A	N/A	10,000	44,000	6.9	
12/13/15	48	N/A	N/A	20,000	64,000	6.9	
12/14/15	24	N/A	N/A	10,000	74,000	6.9	
12/15/15	24	N/A	N/A	10,000	84,000	6.9	
12/16/15	24	N/A	N/A	10,000	94,000	6.9	
12/17/15	24	N/A	N/A	10,000	104,000	6.9	
12/18/15	24	N/A	N/A	10,000	114,000	6.9	
12/20/15	48	N/A	N/A	20,000	134,000	6.9	
12/21/15	24	N/A	N/A	10,000	144,000	6.9	
12/23/15	24	N/A	N/A	10,000	154,000	6.9	
12/24/15	24	N/A	N/A	10,000	164,000	6.9	
12/26/15	48	N/A	N/A	20,000	184,000	6.9	
12/28/15	48	N/A	N/A	20,000	204,000	6.9	
12/29/15	24	N/A	N/A	10,000	214,000	6.9	
12/30/15	24	N/A	N/A	10,000	224,000	6.9	
12/31/16	24	N/A	N/A	10,000	234,000	6.9	
01/04/16	96	N/A	N/A	40,000	274,000	6.9	
01/05/16	24	N/A	N/A	10,000	284,000	6.9	Taken offline for excavation

STUDY AREA 6 SOUTH (SITE 163) DEEP WELL DATA (DW-8)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) DAILY	VOLUME (Gal) TOTAL	FLOW RATE (GPM)	COMMENTS
02/09/16	24	N/A	N/A	10,000	10,000	6.9	Flow meter not installed, tank measured
02/10/16	24	N/A	N/A	8,000	18,000	5.6	
02/11/16	24	N/A	N/A	8,000	26,000	5.6	
02/12/16	24	N/A	N/A	6,000	32,000	4.2	
02/16/16	96	N/A	N/A	12,000	44,000	2.1	
02/17/16	24	N/A	N/A	6,000	50,000	4.2	
02/18/16	24	N/A	N/A	4,000	54,000	2.8	System Taken Offline for Ecavation

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
12/31/15	7:00	13:45	6:45	39,125.05	39,167.86	42,810	39,024,010	
01/04/16	7:30	16:15	8:45	39,167.86	39,269.10	101,240	39,125,250	
01/07/16	8:00	16:15	8:15	39,269.10	39,354.16	85,060	39,210,310	
01/11/16	7:30	14:00	6:30	39,354.16	39,425.93	71,770	39,282,080	
01/12/16	8:00	13:00	5:00	39,425.93	39,510.66	84,730	39,366,810	PVSC Compliance Sample Collected
01/14/16	9:30	14:00	4:30	39,510.66	39,562.31	51,650	39,418,460	
02/01/16	7:30	13:15	5:45	39,562.31	39,632.04	69,730	39,488,190	
02/02/16	7:00	11:30	4:30	39,632.04	39,691.51	59,470	39,547,660	PVSC Compliance Sample Collected
02/03/16	7:30	15:30	8:00	39,691.51	39,789.38	97,870	39,645,530	
02/04/16	8:00	15:30	7:30	39,789.38	39,869.34	79,960	39,725,490	
02/05/16	8:00	15:30	7:30	39,869.34	39,962.83	93,490	39,818,980	
02/06/16	8:00	14:00	6:00	39,962.83	40,010.68	47,850	39,866,830	
02/08/16	7:15	15:15	8:00	40,010.68	40,119.75	109,070	39,975,900	
02/09/16	8:30	15:30	7:00	40,119.75	40,195.00	75,250	40,051,150	
02/10/16	9:30	15:30	6:00	40,195.00	40,313.68	118,680	40,169,830	
02/11/16	10:30	15:30	5:00	40,313.68	40,407.45	93,770	40,263,600	
02/16/16	10:00	16:00	6:00	40,407.45	40,472.48	65,030	40,328,630	
02/17/16	7:00	15:30	8:30	40,472.48	40,635.48	163,000	40,491,630	
02/18/16	9:30	14:30	5:00	40,635.48	40,695.00	59,520	40,551,150	
02/22/16	7:30	13:00	5:30	40,695.00	40,767.90	72,900	40,624,050	
02/23/16	7:30	15:00	7:30	40,767.90	40,847.01	79,110	40,703,160	
02/24/16	8:30	15:00	6:30	40,847.01	40,947.06	100,050	40,803,210	
02/25/16	9:00	16:00	7:00	40,947.06	41,052.04	104,980	40,908,190	
02/26/16	7:30	15:00	7:30	41,052.04	41,114.52	62,480	40,970,670	

Notes: Previous information is truncated. Only last month and current month information is provided.

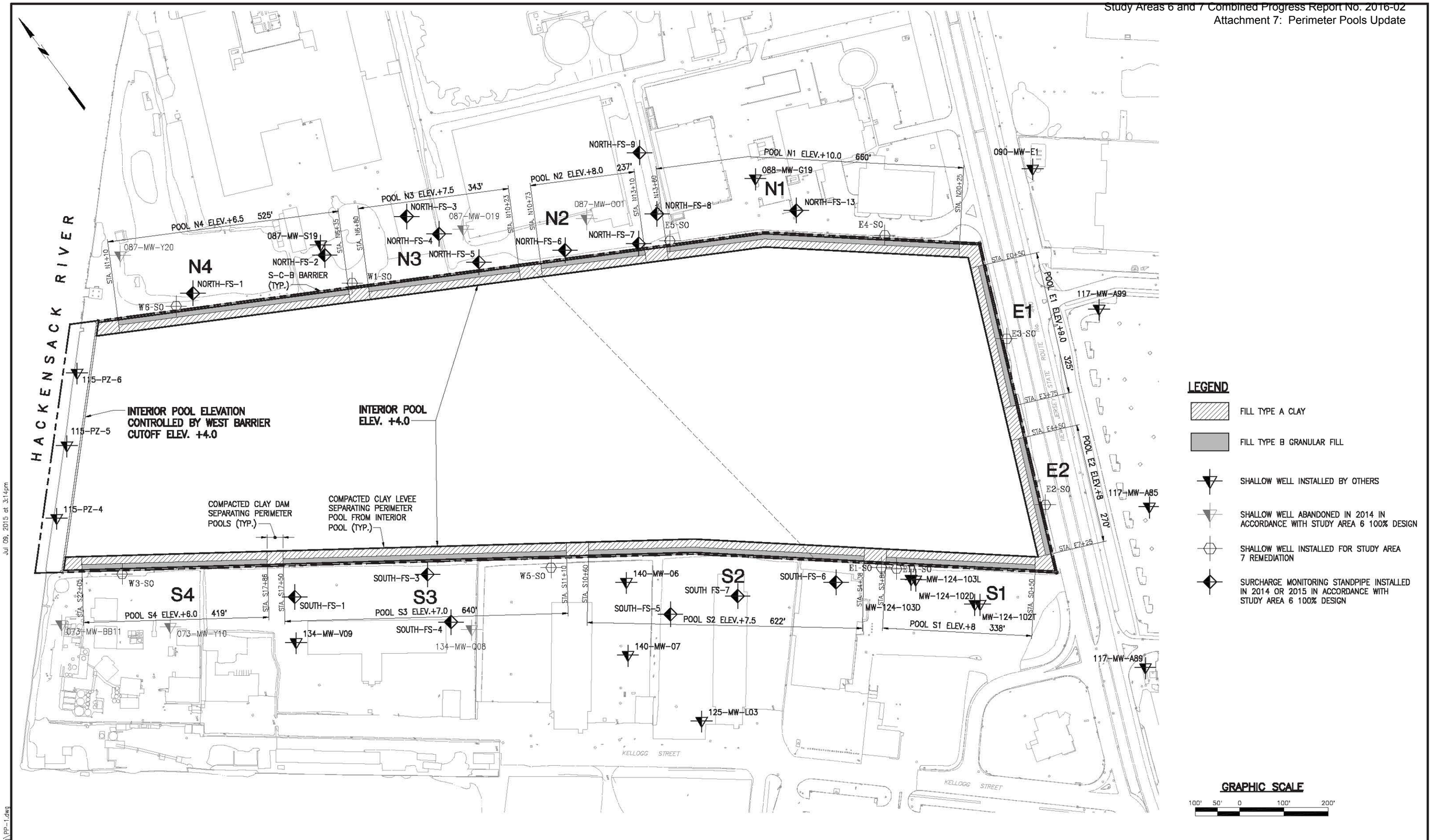
Attachment 6: Backfill Analytical Data

MATERIAL TRACKING AND SAMPLING LOG
SA-6 NORTH AND SOUTH

Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
EA2/EA3	<20	087-EA2-20-a (bermed/trench material)	400	087-EA2-20-a1	12/11/2015	--	<1.8	Yes		
				087-EA2-20-a2	12/11/2015	--	6.7	Yes		
				087-EA2-20-a3	12/11/2015	--	<1.9	Yes		
				087-EA2-20-a4	12/11/2015	--	3.8	Yes		
EA2/EA3	<20	087-EA2-20-b1:g1 (A material)	5200 cy	087-EA2-20-b1	12/30/2015	--	3.0	Yes		
				087-EA2-20-b2	12/30/2015	--	3.0	Yes		
				087-EA2-20-b3	12/30/2015	--	0.55	Yes		
				087-EA2-20-b4	12/30/2015	--	0.97	Yes		
				087-EA2-20-c1	12/30/2015	--	4.3	Yes		
				087-EA2-20-c2	12/30/2015	--	1.5	Yes		
				087-EA2-20-c3	12/30/2015	--	1.6	Yes		
				087-EA2-20-c4	12/30/2015	--	0.53	Yes		
				087-EA2-20-d1	12/30/2015	--	0.60	Yes		
				087-EA2-20-d2	12/30/2015	--	15.9	Yes		
				087-EA2-20-d3	12/30/2015	--	5.4	Yes		
				087-EA2-20-d4	12/30/2015	--	1.7	Yes		
				087-EA2-20-e1	12/30/2015	--	0.53	Yes		
				087-EA2-20-e2	12/30/2015	--	12.3	Yes		
				087-EA2-20-e3	12/30/2015	--	3.1	Yes		
				087-EA2-20-e4	12/30/2015	--	0.57	Yes		
				087-EA2-20-f1	12/30/2015	--	0.52	Yes		
				087-EA2-20-f2	12/30/2015	--	0.53	Yes		
				087-EA2-20-f3	12/30/2015	--	0.57	Yes		
				087-EA2-20-f4	12/30/2015	--	0.54	Yes		
				087-EA2-20-g1	12/30/2015	--	0.53	Yes		
EA2/EA3	<20	087-EA2-20-h1 (overburden)	150 cy	087-EA2-20-h1	12/30/2015	--	0.7	*		
EA2/EA3	<20	087-EA2-20-i1 (overburden)	200 cy	087-EA2-20-i1	12/30/2015	--	0.54	Yes		
EA2/EA3	<20	087-EA2-20-h2:j3 (overburden)	2200 cy	087-EA2-20-h2	1/8/2016	--	24.1		*	
				087-EA2-20-h3	1/8/2016	--	<1.4	Yes		
				087-EA2-20-h4	1/8/2016	--	19	Yes		
				087-EA2-20-i2	1/8/2016	--	0.66	Yes		
				087-EA2-20-i3	1/8/2016	--	<1.9	Yes		
				087-EA2-20-i4	1/8/2016	--	<1.4	Yes		
				087-EA2-20-j1	1/8/2016	--	<2.0	Yes		
				087-EA2-20-j2	1/8/2016	--	8.9	Yes		
				087-EA2-20-j3	1/8/2016	--	<1.9	Yes		
EA2/EA3	<20	087-EA2-20-k1:k4	1000 cy	087-EA2-20-k1	1/8/2016	--	7	Yes		
				087-EA2-20-k2	1/8/2016	--	10	Yes		
				087-EA2-20-k3	1/8/2016	--	8	Yes		
				087-EA2-20-k4	1/8/2016	--	<1.9	Yes		
Site 163	<20	163-20-a	840	163-20-a1	1/19/2016	--	8.1	*		
				163-20-a2	1/19/2016	--	4.0	*		
				163-20-a3	1/19/2016	--	1.7	*		
				163-20-a4	1/19/2016	--	5.0	*		
Site 163	<20	163-20-a	840	163-20-a5	2/22/2016	--	2.7	*		
				163-20-a6	2/22/2016	--	3.6	*		
				163-20-a7	2/22/2016	--	1.0	*		
				163-20-a8	2/22/2016	--	5.1	*		

Previous information is truncated. Only last two months and current month information is provided.
*Material currently stockpiled. Pending final placement.
**Waiting on final results from the laboratory.

Attachment 7: Perimeter Pools Update



IN PROGRESS
06-10-2015

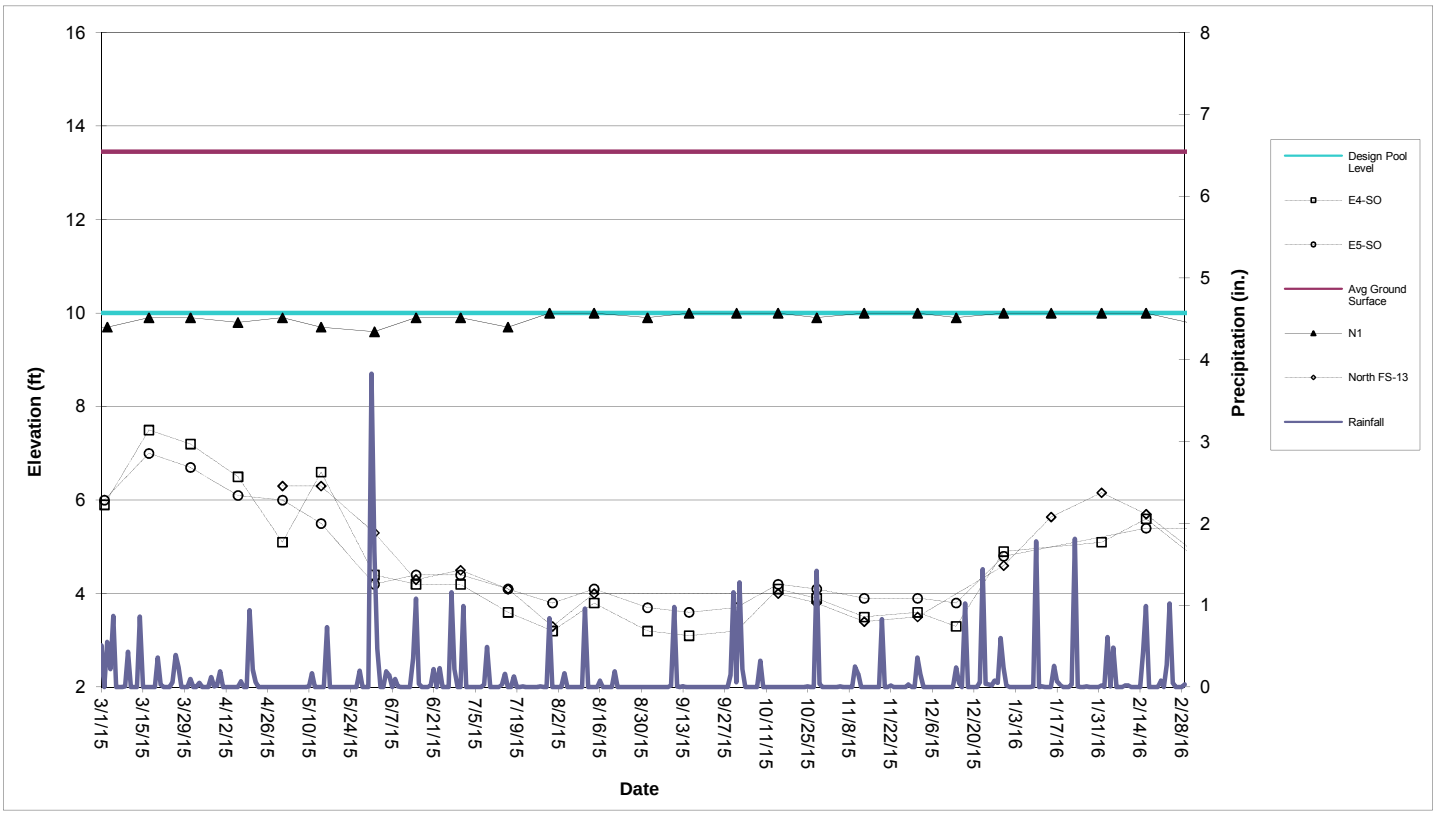
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

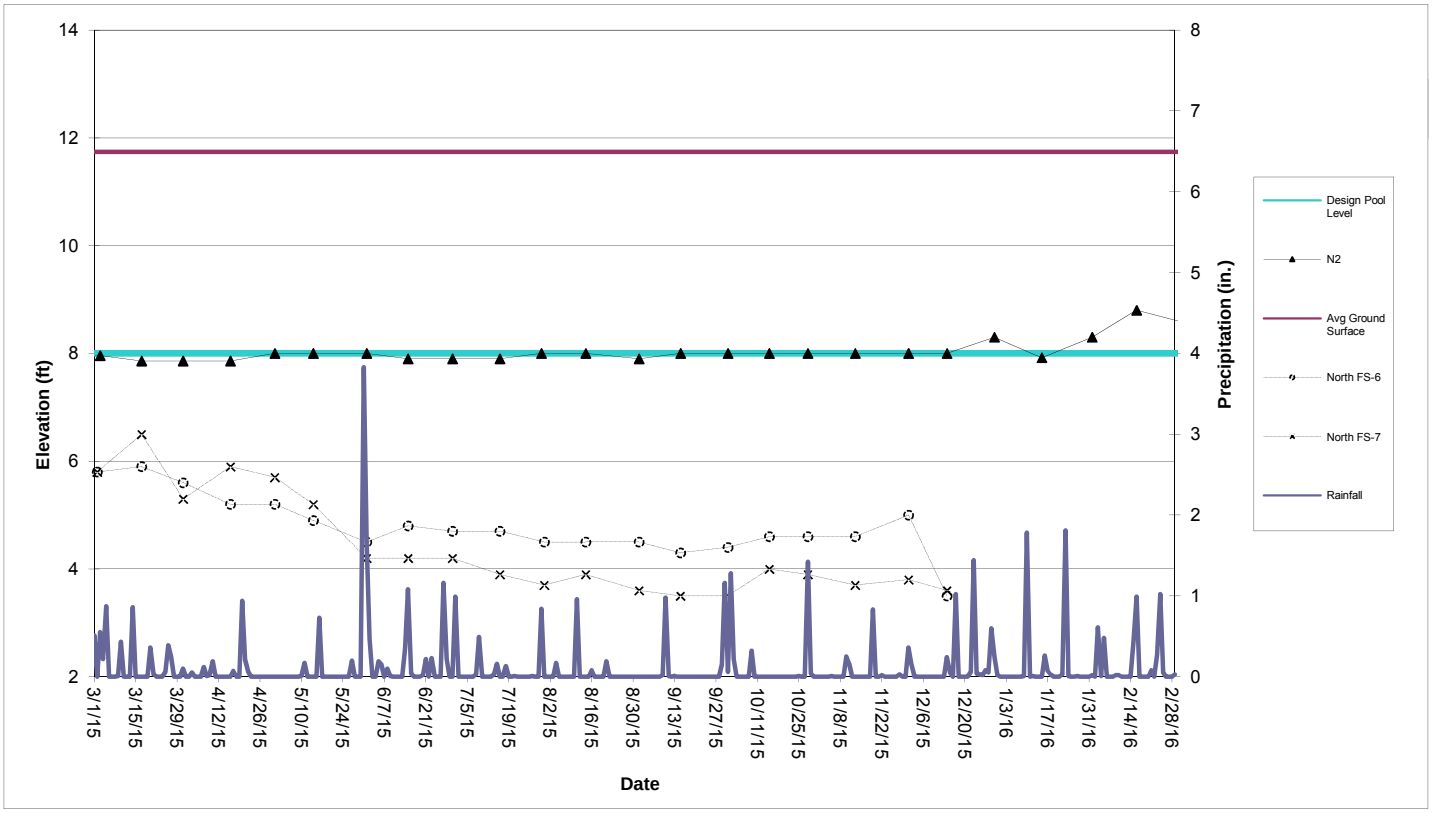
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

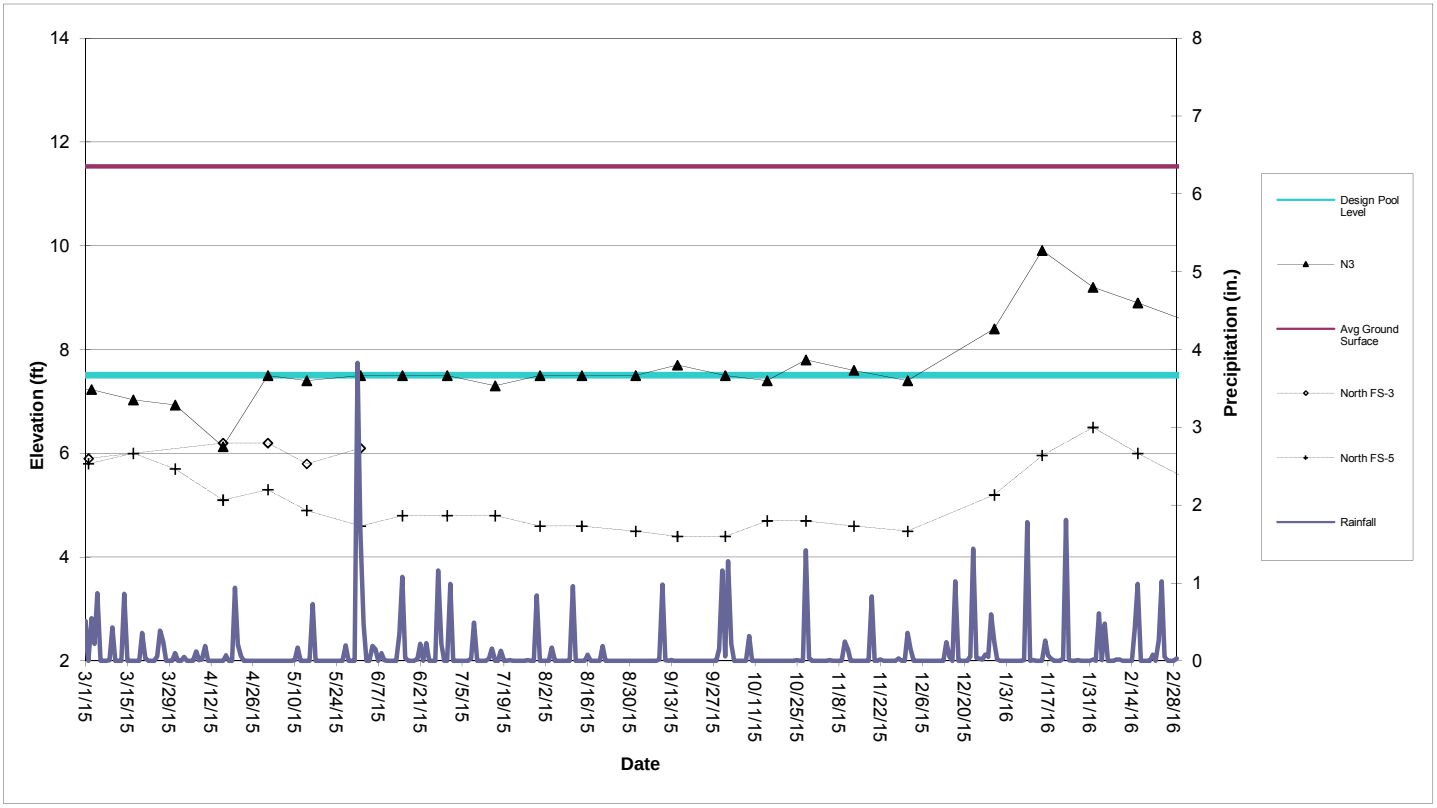
Jul 09, 2015 at 3:14pm
G:\DWGS\102\10210\Dewatering\PP-1.dwg
bboscaino



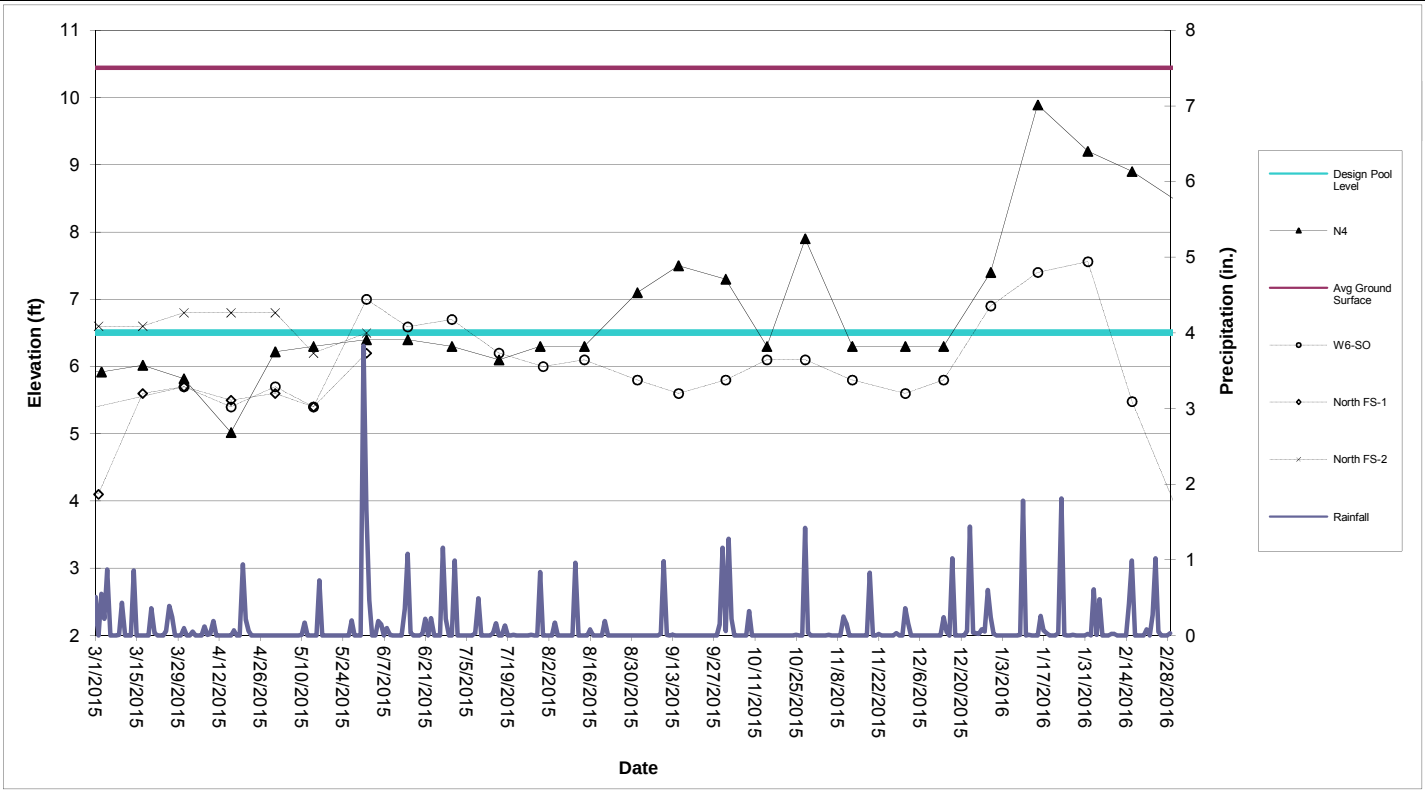
Perimeter Pool N1 (Sta. N13+60 to N20+25)



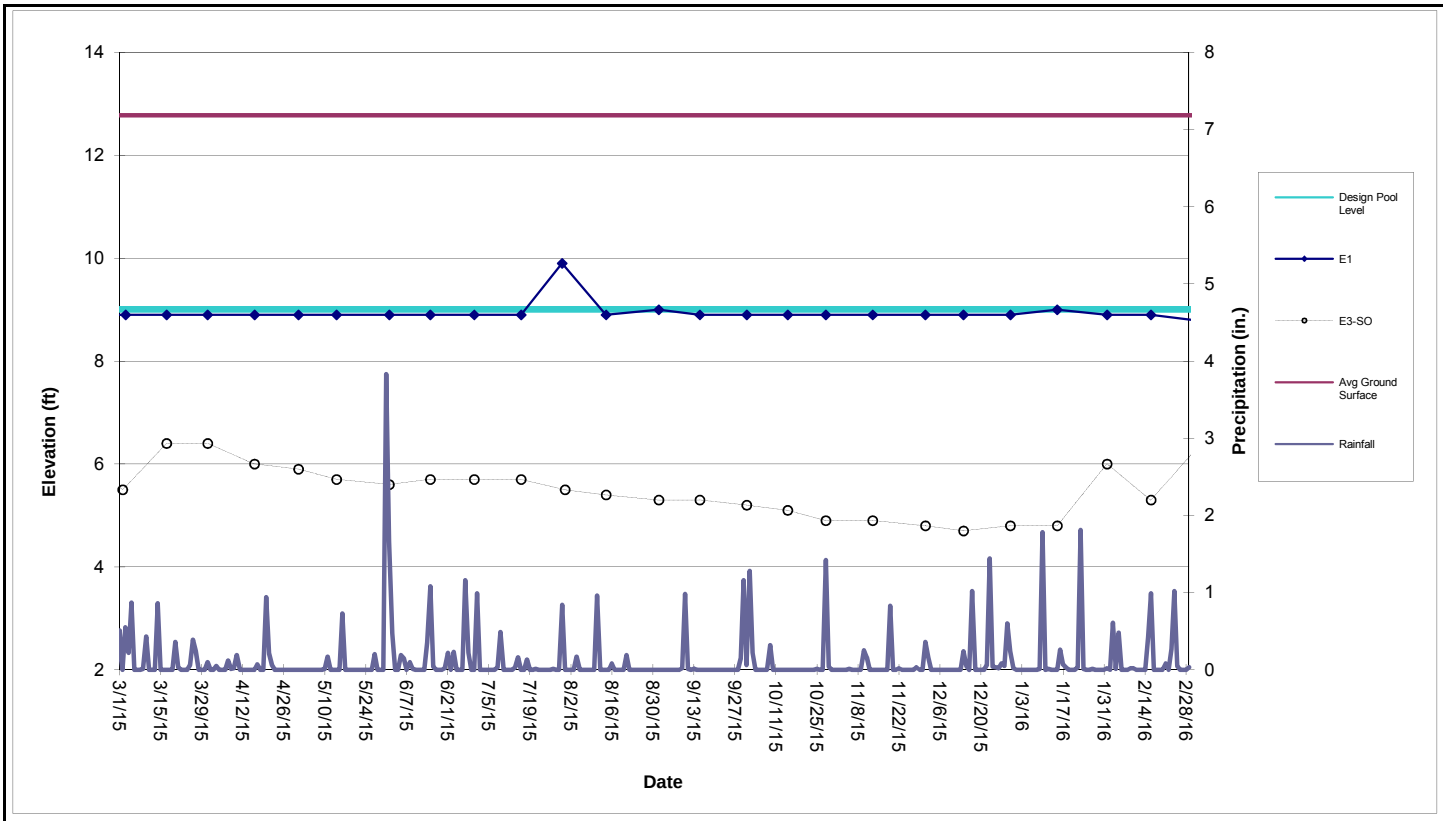
Perimeter Pool N2 (Sta. N10+73 to N13+10)



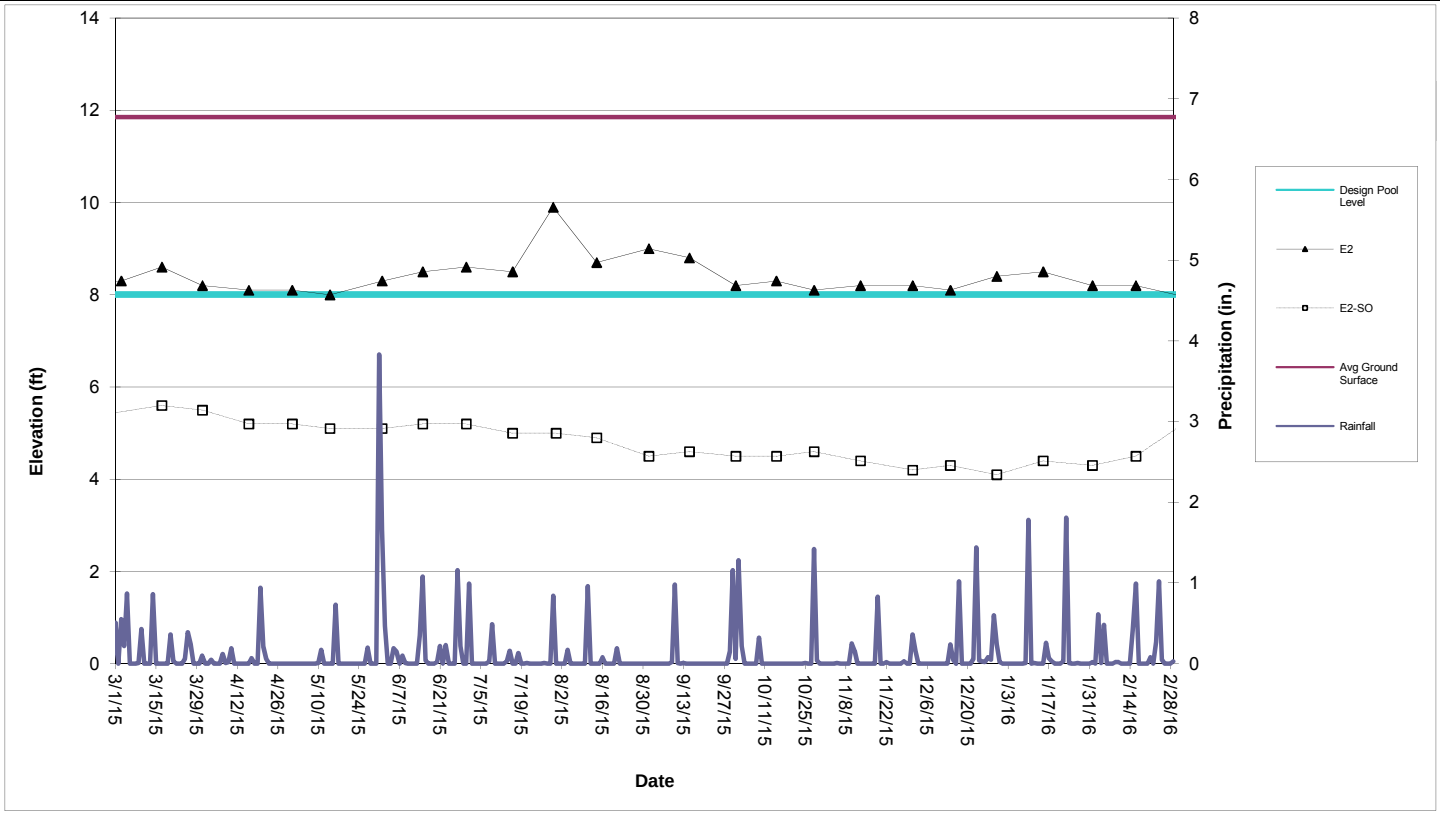
Perimeter Pool N3 (Sta. N6+80 to N10+23)



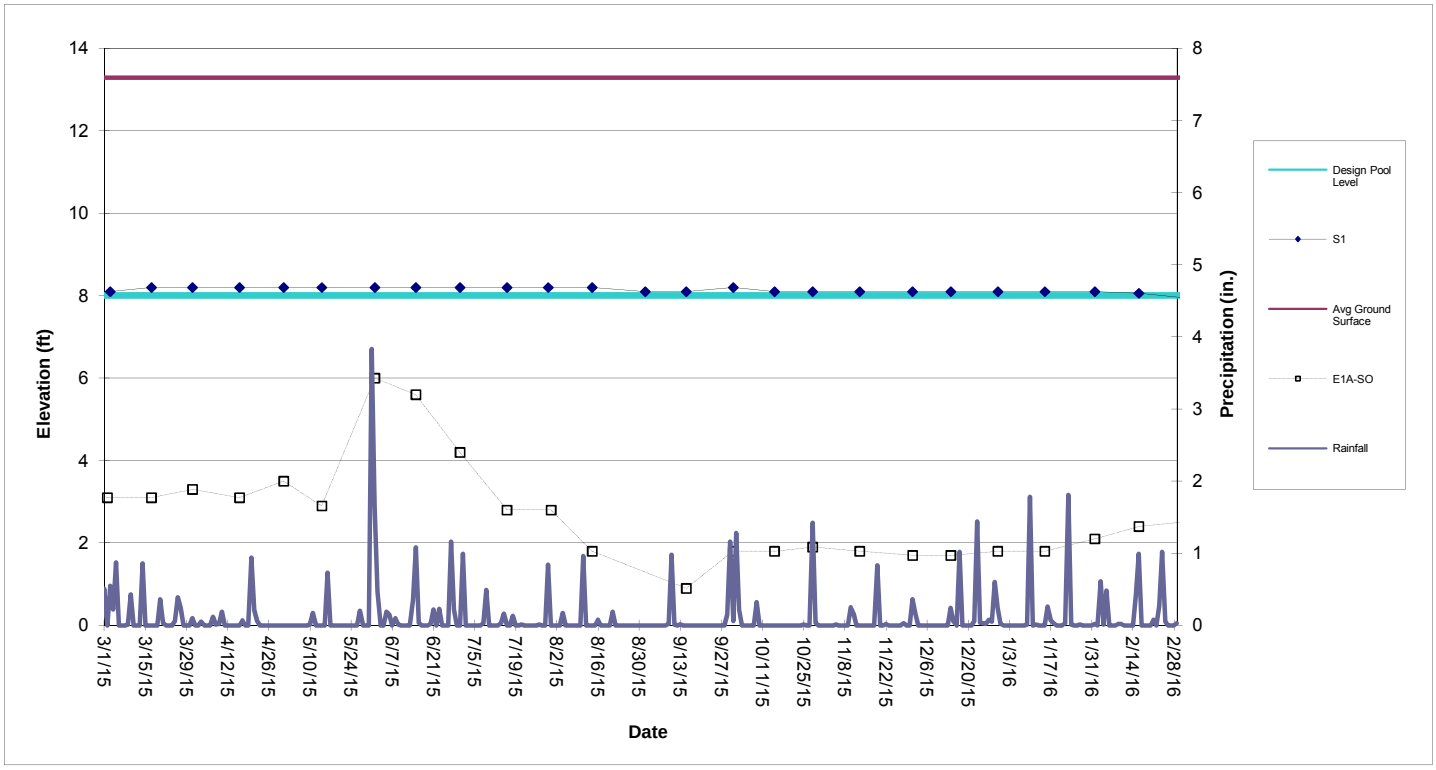
Perimeter Pool N4 (Sta. N6+80 to N10+23)



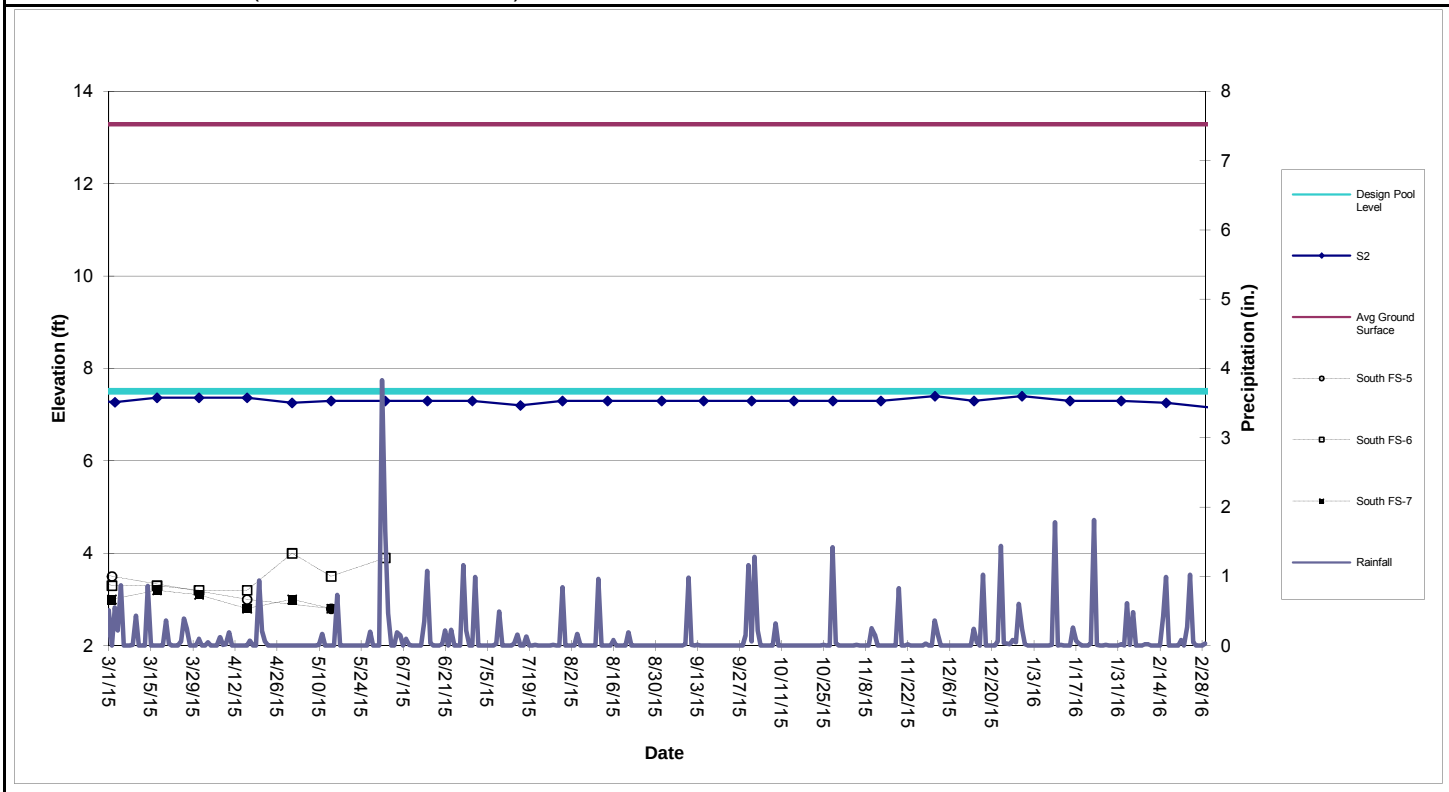
Perimeter Pool E1 (Sta. E0+50 to E3+75)



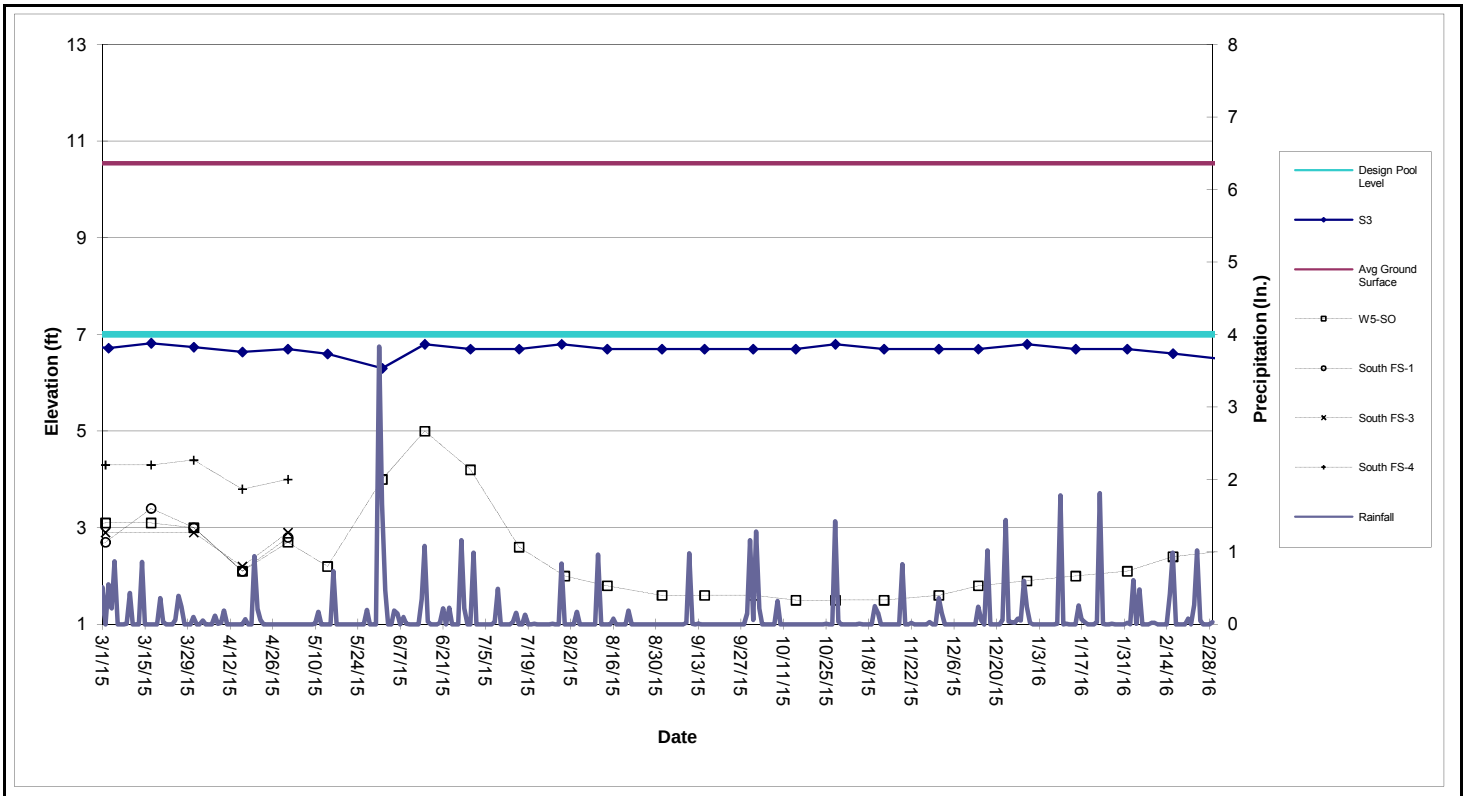
Perimeter Pool E2 (Sta. E4+50 to E7+25)



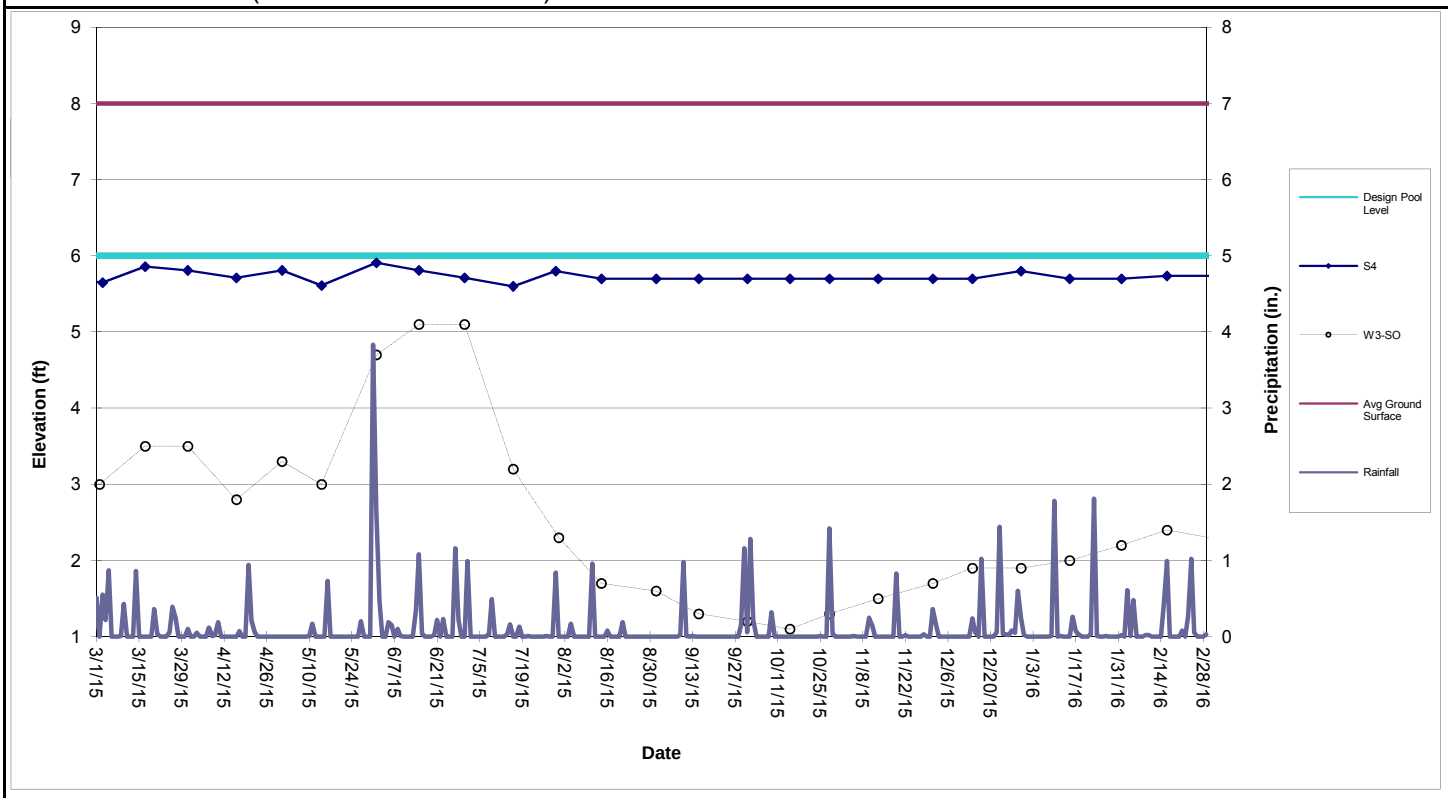
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-1	FS-2	FS-3	FS-5	FS-6	FS-7	FS-13	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																						
3/2/2015	3.1		5.5	5.9	6.0		3.0	3.1		4.1	6.6	5.9	5.8	5.8	5.8		2.7	2.9	4.3	3.5	3.3	3.0
3/17/2015	3.1	5.6	6.4	7.5	7.0		3.5	3.1		5.6	6.6		6.0	5.9	6.5		3.4		4.3		3.3	3.2
3/31/2015	3.3	5.5	6.4	7.2	6.7		3.5	3.0	5.7	5.7	6.8		5.7	5.6	5.3		3.0	2.9	4.4		3.2	3.1
4/16/2015	3.1	5.2	6.0	6.5	6.1		2.8	2.1	5.4	5.5	6.8	6.2	5.1	5.2	5.9		2.1	2.2	3.8	3.0	3.2	2.8
5/1/2015	3.5	5.2	5.9	5.1	6.0		3.3	2.7	5.7	5.6	6.8	6.2	5.3	5.2	5.7	6.3	2.8	2.9	4.0		4.0	3.0
5/14/2015	2.9	5.1	5.7	6.6	5.5		3.0	2.2	5.4	5.4	6.2	5.8	4.9	4.9	5.2	6.3				2.8	3.5	2.8
6/1/2015	6.0	5.1	5.6	4.4	4.2		4.7	4.0	7.0	6.2	6.5	6.1	4.6	4.5	4.2	5.3					3.9	
6/15/2015	5.6	5.2	5.7	4.2	4.4		5.1	5.0	6.6				4.8	4.8	4.2	4.3						
6/30/2015	4.2	5.2	5.7	4.2	4.4		5.1	4.2	6.7				4.8	4.7	4.2	4.5						
7/16/2015	2.8	5.0	5.7	3.6	4.1		3.2	2.6	6.2				4.8	4.7	3.9	4.1						
7/31/2015	2.8	5.0	5.5	3.2	3.8		2.3	2.0	6.0				4.6	4.5	3.7	3.3						
8/14/2015	1.8	4.9	5.4	3.8	4.1		1.7	1.8	6.1				4.6	4.5	3.9	4.0						
9/1/2015		4.5	5.3	3.2	3.7		1.6	1.6	5.8				4.5	4.5	3.6							
9/15/2015	0.9	4.6	5.3	3.1	3.6		1.3	1.6	5.6				4.4	4.3	3.5							
10/1/2015	1.8	4.5	5.2	3.2	3.7		1.2	1.6	5.8				4.4	4.4	3.5							
10/15/2015	1.8	4.5	5.1	4.1	4.2		1.1	1.5	6.1				4.7	4.6	4.0	4.0						
10/28/2015	1.9	4.6	4.9	3.9	4.1	6.9	1.3	1.5	6.1				4.7	4.6	3.9	3.8						
11/13/2015	1.8	4.4	4.9	3.5	3.9	6.4	1.5	1.5	5.8				4.6	4.6	3.7	3.4						
12/1/2015	1.7	4.2	4.8	3.6	3.9	6.2	1.7	1.6	5.6				4.5	5.0	3.8	3.5						
12/14/2015	1.7	4.3	4.7	3.3	3.8	6.2	1.9	1.8	5.8					3.5	3.6							
12/30/2015	1.8	4.1	4.8	4.9	4.8	7.5	1.9	1.9	6.9				5.2			4.6						
1/15/2016	1.8	4.4	4.8			7.9	2.0	2.0	7.4				6.0			5.6						
2/1/2016	2.1	4.3	6.0	5.1		7.7	2.2	2.1	7.6				6.5			6.2						
2/16/2016	2.4	4.5	5.3	5.6	5.4	6.7	2.4	2.4	5.5				6.0			5.7						

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09, E4-SO, W1-SO, North FS-6, North FS-7

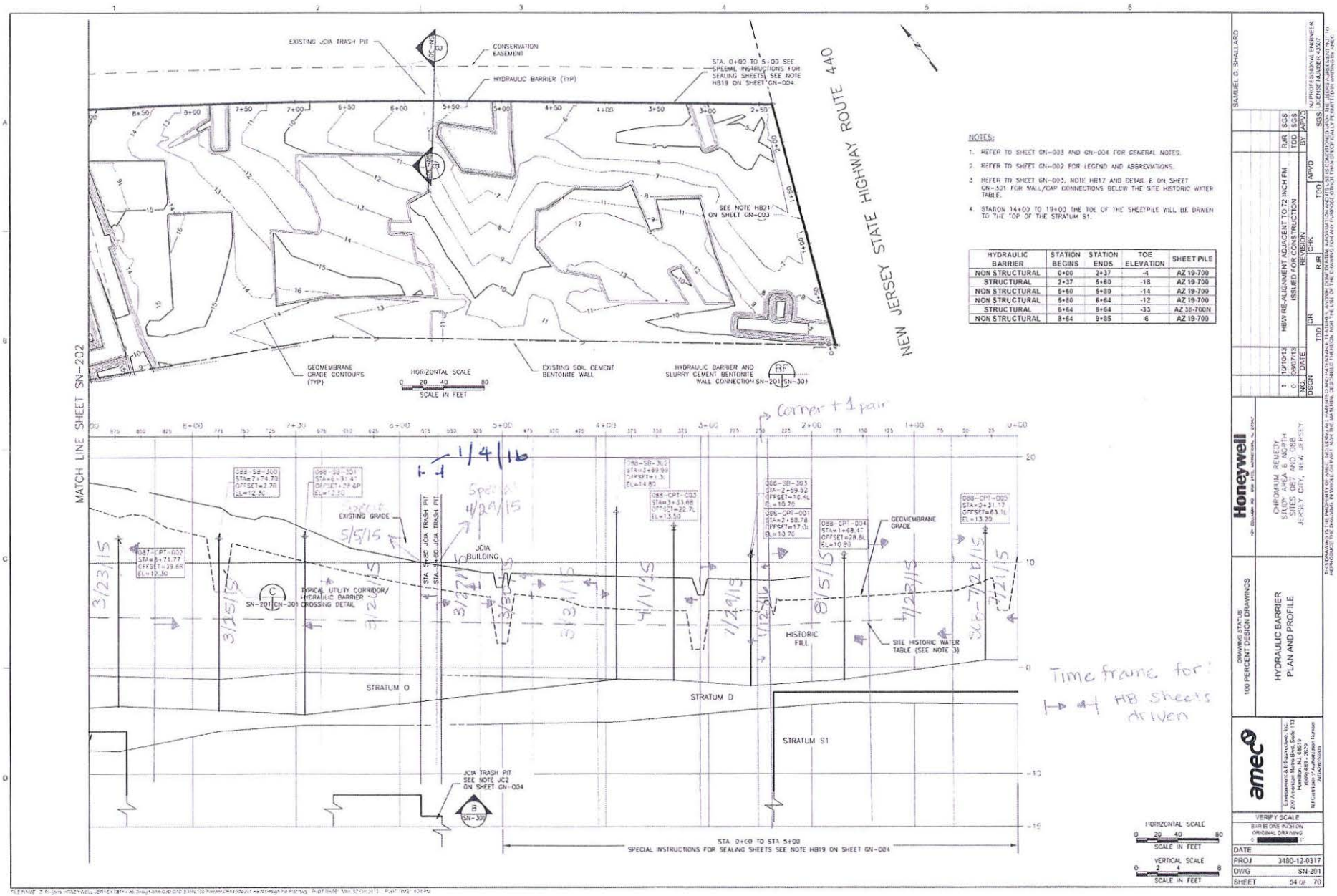
Attachment 8: Groundwater Quality Data

(not included in this reporting period)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET GN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.
4. STATION 14+00 TO 19+00 THE TOE OF THE SHEETPILE WILL BE DRIVEN TO THE TOP OF THE STRATUM S1.

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	0+00	2+37	-4	AZ 19-700
STRUCTURAL	2+37	5+60	-18	AZ 19-700
NON STRUCTURAL	5+60	5+80	-14	AZ 19-700
NON STRUCTURAL	5+80	6+64	-12	AZ 19-700
STRUCTURAL	6+64	8+64	-33	AZ 38-700N
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700

NO.	DATE	DSGN	DRN	CHK	APVD	DATE	DESCRIPTION
1	12/10/13	TDD	CHR	RJR	TDD	RJR	HB19 RE-ALIGNMENT ADJACENT TO 72-INCH FM
0	10/28/13					SGS	ISSUED FOR CONSTRUCTION

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43527

Honeywell
101 Columbia Rd., P.O. Box 2102, Morristown, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITE AREA 6 NORTH
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

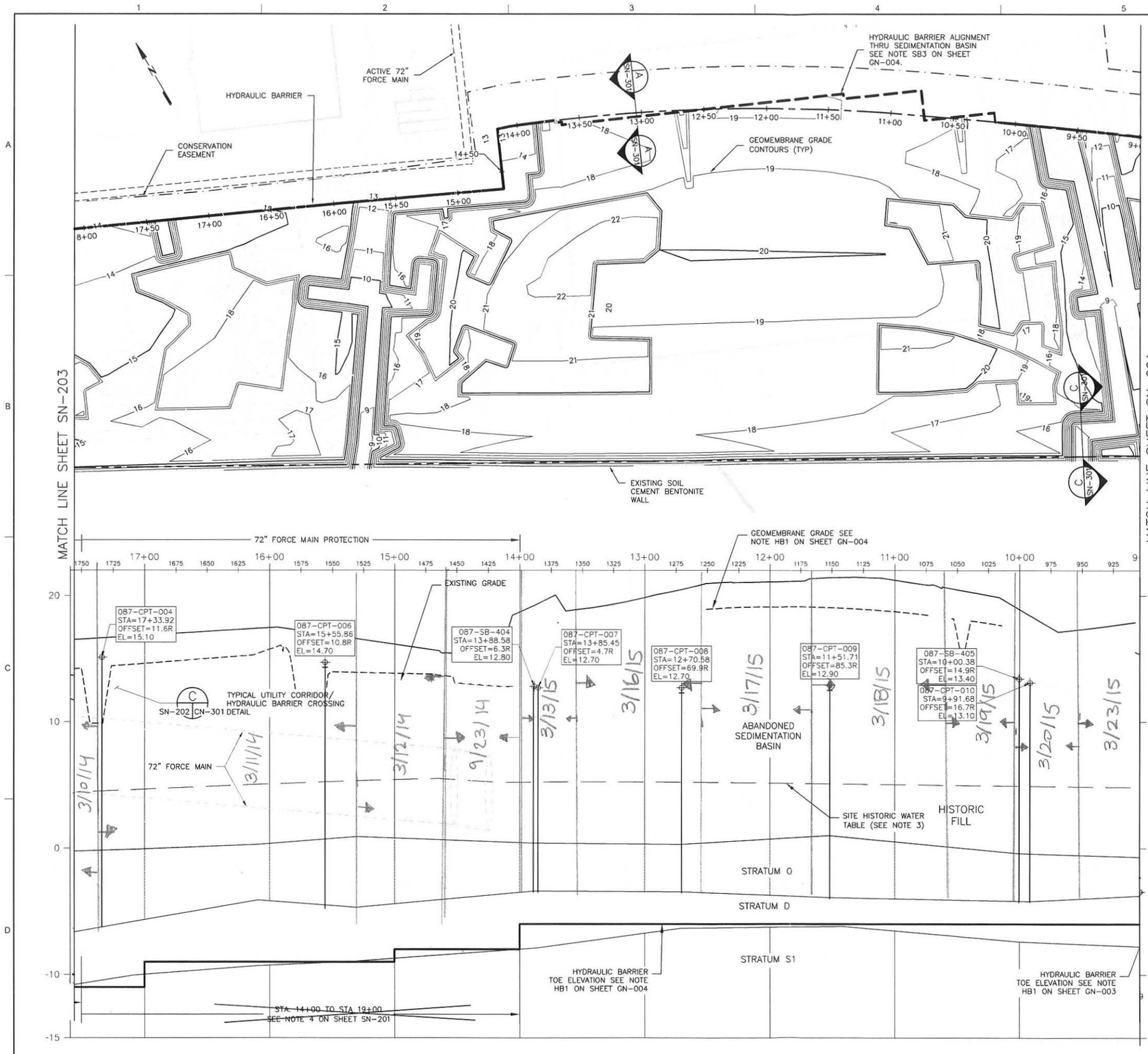
HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Limeport & Erbacher, Inc.
2001 Lakeside Avenue, Suite 110
Hamilton, NJ 08610
(609) 689-2629
N.J. Certificate of Authorization Number 24GA28000300

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DATE	
PROJ	3480-12-0317
DWG	SN-201
SHEET	54 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC, INC. (AMEC) AND MAY BE USED ONLY IN CONNECTION WITH THE PROJECT FOR WHICH IT WAS PREPARED. THE DRAWING, OR ANY PART THEREOF, MAY NOT BE REPRODUCED OR USED FOR ANY OTHER PURPOSE WITHOUT THE WRITTEN PERMISSION OF AMEC.



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET ON CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700
NON STRUCTURAL	9+85	14+00	-6	AZ 19-700
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700

Time frame for:
HB sheets driven

HORIZONTAL SCALE 0 20 40 80 SCALE IN FEET
VERTICAL SCALE 0 2 4 8 SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD BCO

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689-2820
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-202
SHEET	55 OF 70

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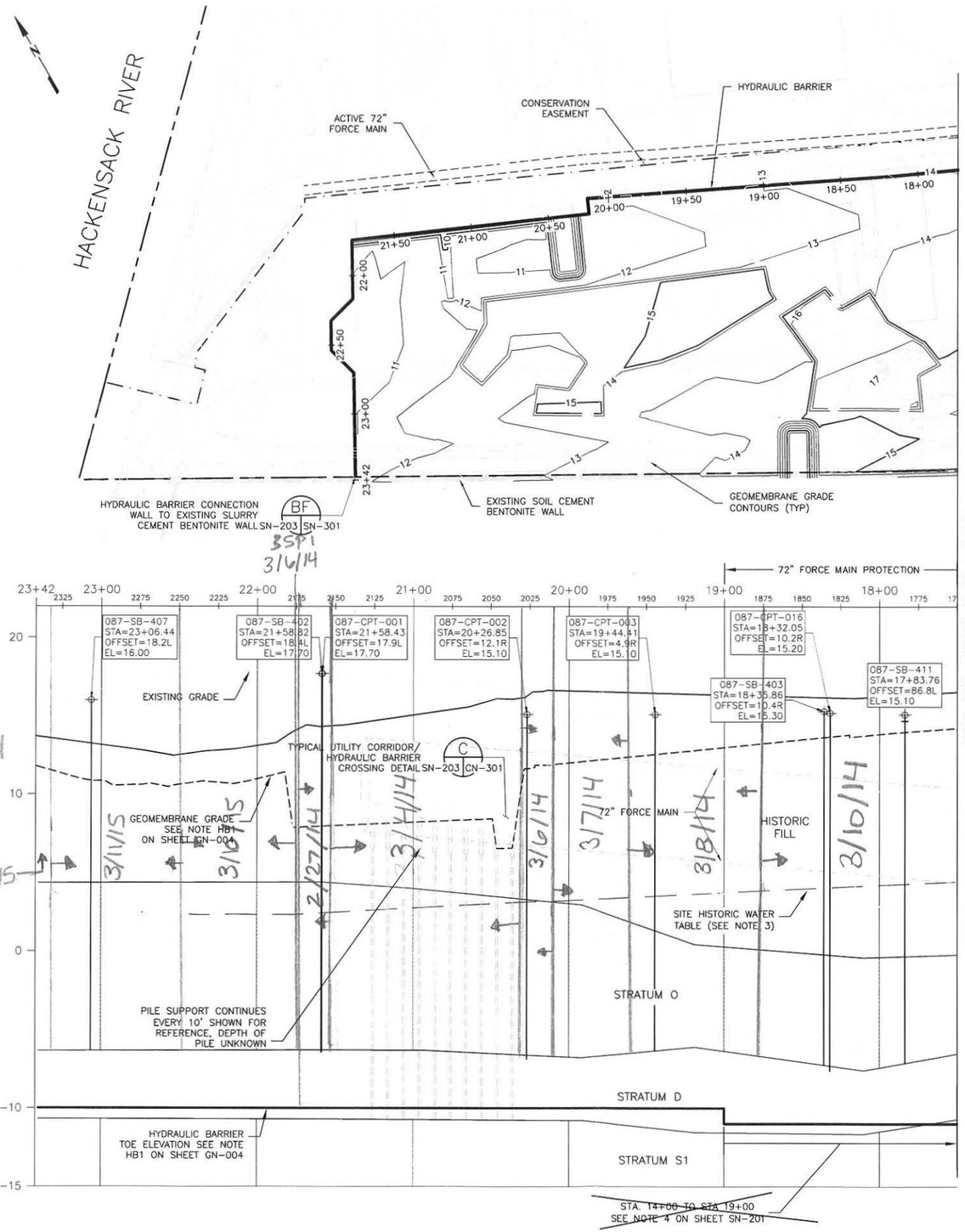
FILE NAME: Z:\Projects\HONEYWELL JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR55-SN-202 HBW Design Pln Prof.dwg PLOT DATE: Fri. 18 Oct 2013 PLOT TIME: 10:35 AM



HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700
NON STRUCTURAL	19+00	23+38	-10	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	DR	CHK	APVD	BY	APVD
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM			RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION			TDD	SGS
DSGN		TDD	RJR	TDD	SGS	

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2629
NJ Certificate of Authorization Number 24GA28012900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-203
SHEET	56 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USER'S AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR56-SN-203 HBW Design Pln Prof.dwg PLOT DATE: Fri, 18 Oct 2013 PLOT TIME: 10:37 AM

Attachment 11: Capping Update

(not included in this reporting period)

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: February 5, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation		X		1
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water		X		3
Housekeeping		X		4
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		5
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 02/5/16

SWPPP Observer: Fred Chase for George Pfeiffer

Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, February 05, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	The tracking pad at the SA-6 South truck exit has become blinded with sediment.
2	IA2Q4A1AL8	Windscreen on the SA-6 South perimeter fenceline has become detached in several locations.
3	IA2Q4A1AL8	Ponded storm water (snow melt) is present on puddles/ponds throughout SA-6 South.
4	IA2Q4A1AL8	Trash and other debris is present along Rt. 440 and the Kellogg Street jughandle.
5	IA2Q4A1AL8	**REPEAT:** The silt fence along the southern perimeter of the Novartis Stockpile Area on SA-7 requires maintenance or replacement.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey
SWAP Observer: Fred Chase **Date:** 02/5/16

Signature for George Pfeiffer

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Stir up the stone in the tracking pad to restore function	2-10-16
2	Re-attach windscreen to the perimeter fenceline as required.	2-10-16
3	Pump ponded stormwater as required.	frozen can't do
4	Pick up and dispose of trash and other debris along the roadway	2-11-16
5	Repair or replace the silt fence along the southern perimeter of the Novartis Stockpile Area.	frozen can't do

Construction Manager: Fred Chase **Date:** 02/05/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: February 12, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 02/12/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, February 12, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen on the SA-6 South perimeter fenceline has become detached in several locations.
2	IA2Q4A1AL8	Trash and other debris is present along Rt. 440 and the Kellogg Street jughandle.
3	IA2Q4A1AL8	The silt fence along the southern perimeter of the Novartis Stockpile Area on SA-7 requires maintenance or replacement.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

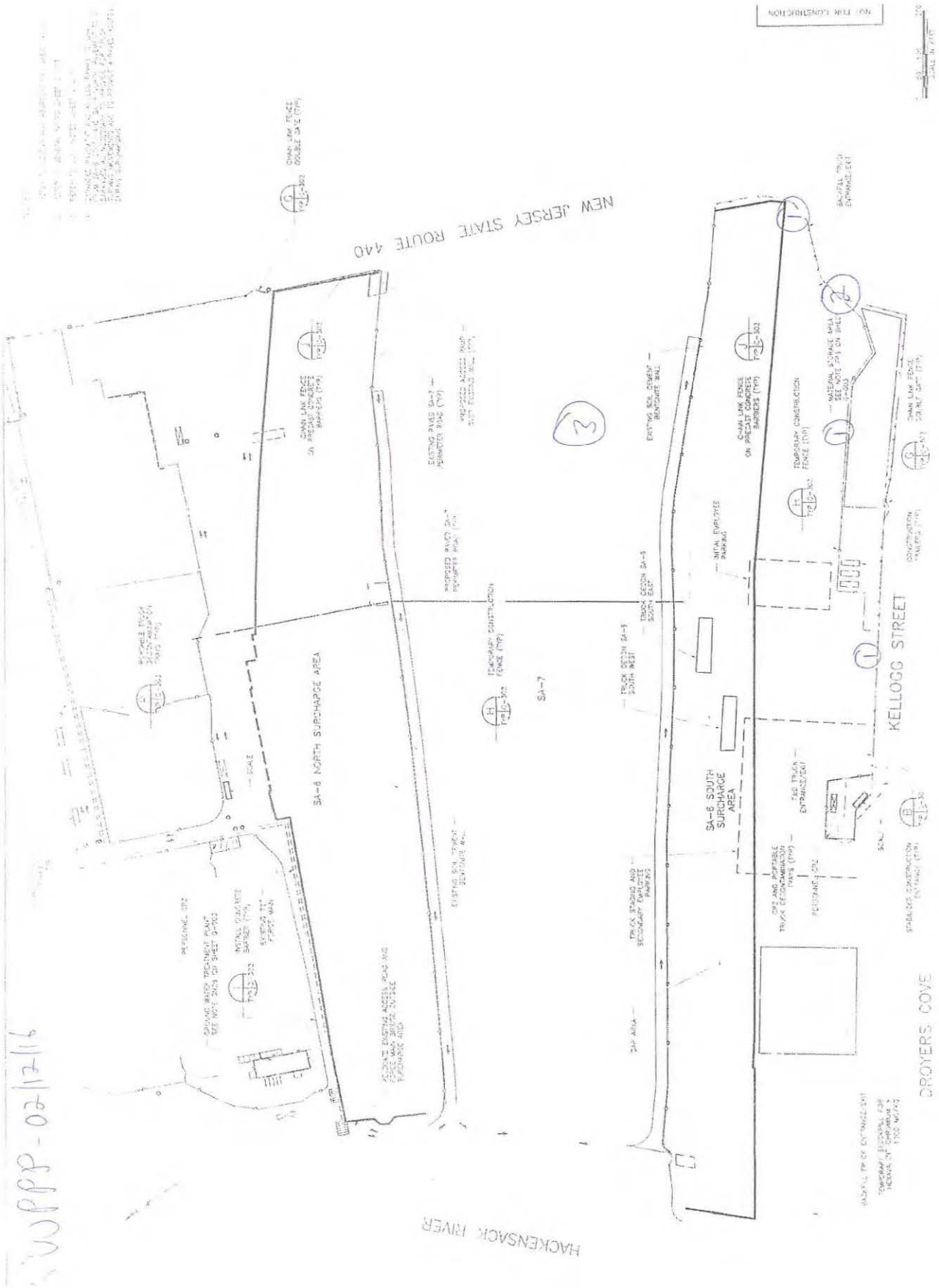
SWAP Observer: _____ **Date:** 02/12/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach windscreen to the perimeter fenceline as required.	TMS 2/12/16
2	Pick up and dispose of trash and other debris along the roadway.	
3	Repair or replace the silt fence along the southern perimeter of the Novartis Stockpile Area.	

Construction Manager: _____ **Date:** 02/12/16

for George Pfeiffer



SWPPP-02/17/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: February 19, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		1
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		3
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		4
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		5
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		6
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 02/19/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Friday, February 19, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Plastic sheeting used for erosion control on the western toe of the SA-6 South cap area adjacent to the Hackensack River has blown out of place.
2	IA2Q4A1AL8	Windscreen on the SA-6 South perimeter fenceline is detached from the perimeter fence in the area of the 60 Kellogg building
3	IA2Q4A1AL8	Garbage has accumulated on the grass area along the 60 kellogg jughandle.
4	IA2Q4A1AL8	Exclusion Zone fencing surrounding the EZ at the western end of the SA-6 North cap area requires maintenance.
5	IA2Q4A1AL8	**Repeat:** Silt fence surrounding the Novartis Stockpile Area on SA-7 requires maintenance.
6	IA2Q4A1AL8	Sediment has accumulated on the western SA-7 haul road.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

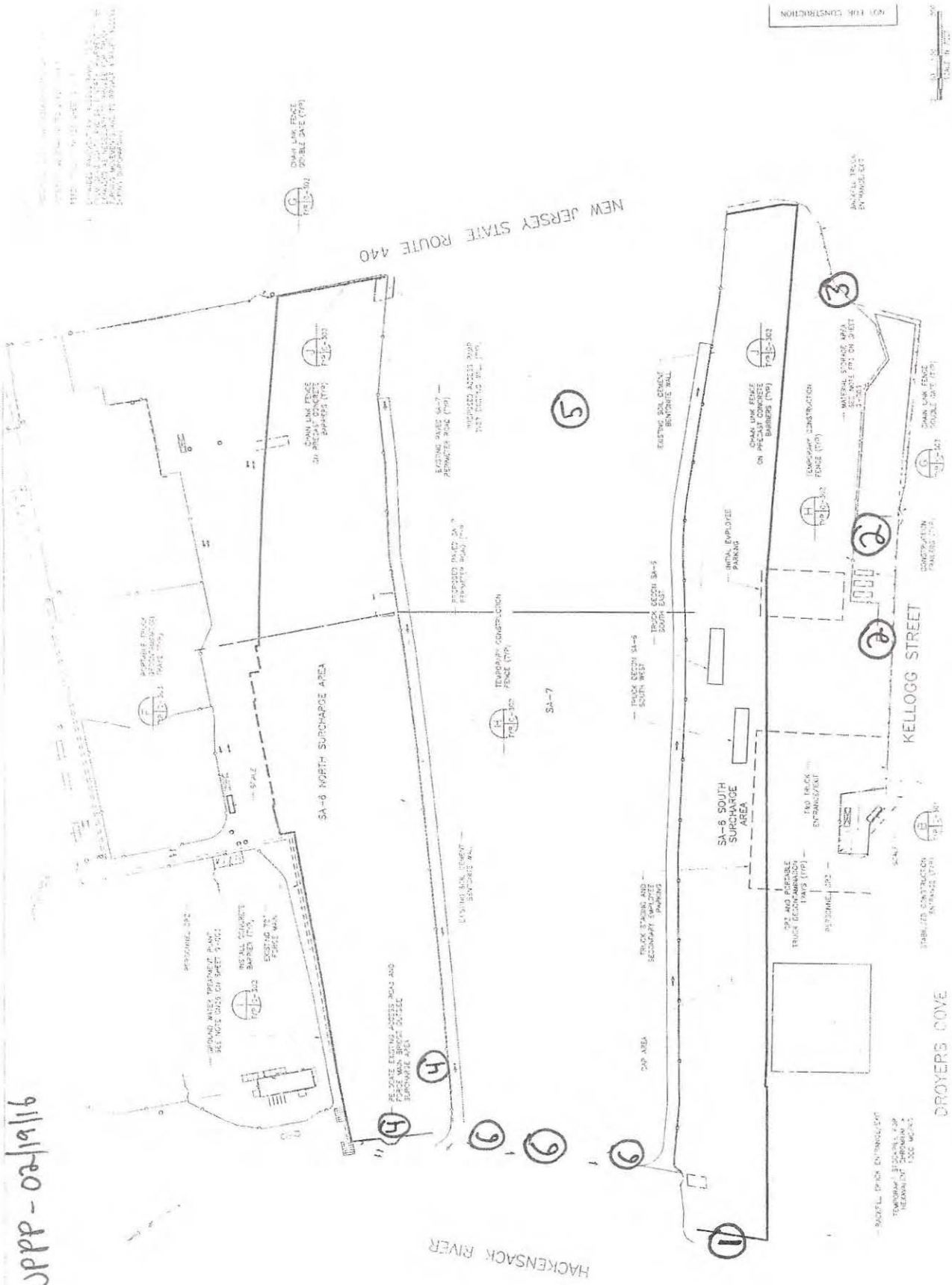
SWAP Observer: 02/19/16 **Date:**

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-install plastic sheeting over the western toe of the SA-6 South cap area.	2/25/16 RAD
2	Re-attach windscreen to the perimeter fence as required.	
3	Pick up and dispose of accumulated garbage along the side of Kellogg Street.	
4	Repair or replace Exclusion Zone fencing as required.	
5	Repair or replace the silt fence surrounding the Novartis Stockpile Area as required	
6	Clean sediment from the SA-7 roadway as required.	

Construction Manager: Rud Crose **Date:** 2/25/16

for George Pfeiffer



SWPPP - 02/19/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: February 26, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water		X		2
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		3
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		4
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		5
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 02/26/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, February 26, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	REPEAT: Windscreen on the SA-6 South perimeter fenceline is detached from the perimeter fence in the area of the 60 Kellogg building.
2	IA2Q4A1AL8	Ponded stormwater is present at numerous locations on SA-6 South.
3	IA2Q4A1AL8	Exclusion Zone fencing surrounding the EZ at the western end of the SA-6 North cap area requires maintenance.
4	IA2Q4A1AL8	REPEAT: Silt fence surrounding the Novartis Stockpile Area on SA-7 requires maintenance.
5	IA2Q4A1AL8	Sediment has accumulated on the western SA-7 haul road.

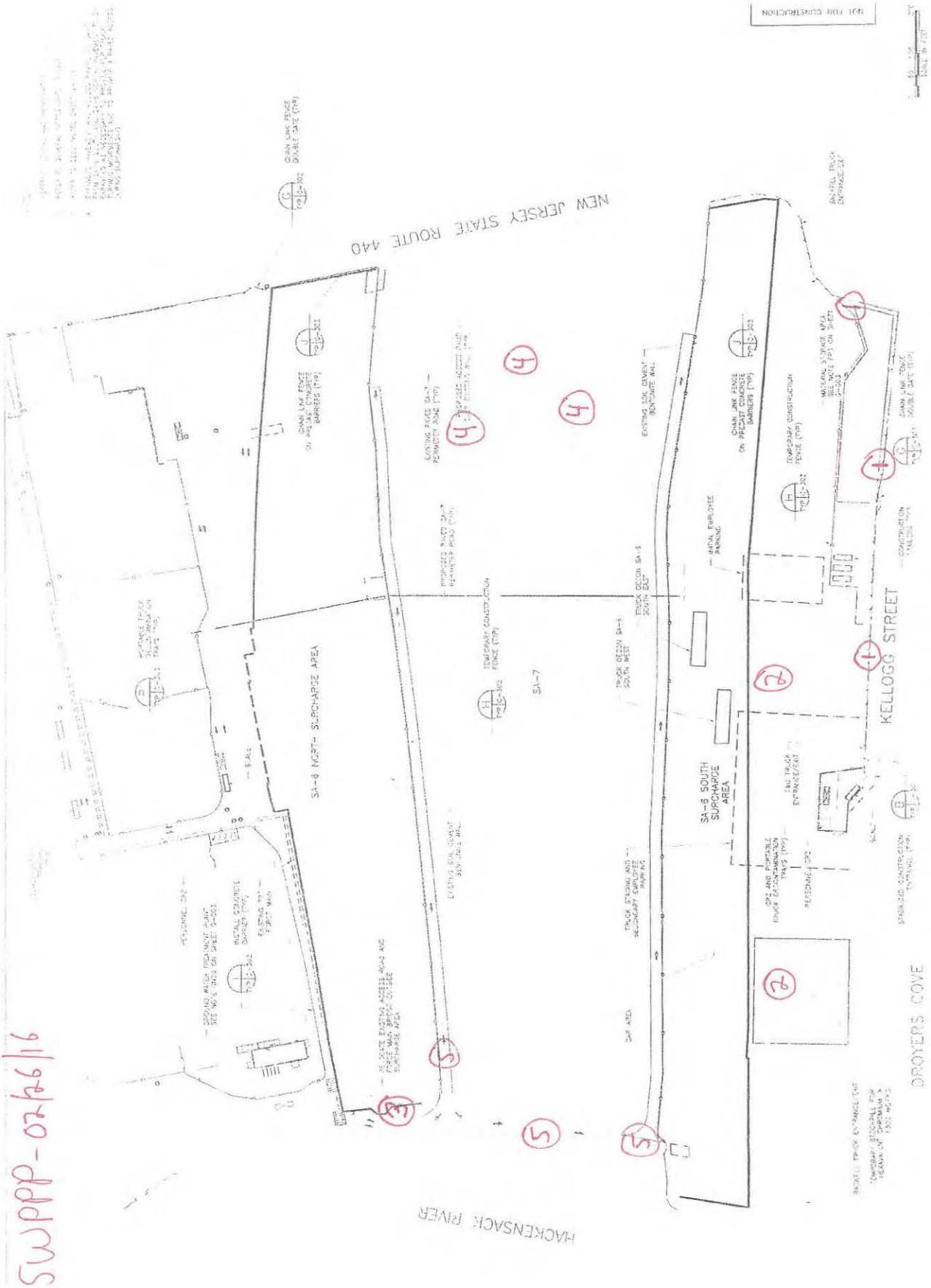
Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 02/26/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach or replace windscreen to the perimeter fence as required.	2-26-16 RAD
2	Pump accumulated surface water to the CWTP as required.	↓
3	Repair or replace Exclusion Zone fencing as required.	↓
4	Repair or replace the silt fence surrounding the Novartis Stockpile Area as required.	↓
5	Clean sediment from the SA-7 roadway as required.	✓

Construction Manager: _____ **Date:** 02/26/16
for George Pfaffer


NOT FOR CONSTRUCTION
NEW JERSEY STATE ROUTE 440
KELLOGG STREET
DROYERS COVE
HACKENSACK RIVER
SA-6 NORTH SURCHARGE AREA
SA-6 SOUTH SURCHARGE AREA
SA-7
CHAIN LINK FENCE
TEMPORARY CONSTRUCTION FENCE (TYP)
EXISTING SOIL CEMENT BENTONITE WALL
TRUCK DESIGN SA-9 SOUTH EAST
TRUCK DESIGN SA-9 SOUTH WEST
TRUCK STAGING AND TEMPORARY EMPLOYEE PARKING
DAILY AREA
DRY AND PORTABLE TRUCK DECONTAMINATION TRAYS (TYP)
EMU TRUCK ENTRANCE/EXIT
PERSONNEL EXIT
STABILIZED CONSTRUCTION ENTRANCE (TYP)
TEMPORARY EMPLOYEE PARKING
MATERIAL STORAGE AREA SEE NOTE 2 ON SHEET G-001
CONSTRUCTION TRAILER TYP
BACKFILL TRUCK ENTRANCE/EXIT
TEMPORARY EMPLOYEE PARKING
PROPOSED PAVED SA-7 SURCHARGE ROAD (TYP)
EXISTING PAVED SA-7 PERIMETER ROAD (TYP)
TEMPORARY CONSTRUCTION FENCE (TYP)
EXISTING SOIL CEMENT BENTONITE WALL
RE-GRADE EXISTING ACCESS ROAD AND FORCE MAIN ABOVE SURCHARGE AREA
GROUND WATER TREATMENT PLANT SEE NOTE 1 ON SHEET G-001
INSTALL CONCRETE BARRIER (TYP)
EXISTING 24" FORCE MAIN
PERSONNEL EXIT
PROPOSED TRUCK EXIT
SEALE
CHAIN LINK FENCE ON PRECAST CONCRETE BARRIERS (TYP)
CHAIN LINK FENCE DOUBLE GATE (TYP)
CHAIN LINK FENCE ON PRECAST CONCRETE BARRIERS (TYP)
CHAIN LINK FENCE DOUBLE GATE (TYP)
1
2
4
5
SWPPP-02/26/16

Attachment 13: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (submitted February 2015)

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

February 5, 2016

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the January 2016 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
1	01	16	1	31	16
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	69,166	86,376
		(see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE COMP/GRAB
		MON AVG	MAXIMUM	UNITS		
Chromium	Sample Measurement	0.99	1.23	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.015	<0.015	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	0.00047	0.00047	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.2	<5.2	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1437	0.1437	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets): _____

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or superv accordance with a system designed to assure that qualified personnel properly gather and evaluate the informati Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

02/04/2016

Date

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North
ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)
FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305
NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION:** 31630016

MONITORING PERIOD

Start			End		
1	01	16	1	31	16
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,144,155 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 54,421,416

DATE	BOD (mg/l)	TSS (mg/l)
1/20/2016	4.2	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J Morris	John J. Morris	(973) 455-4003
		DATE 02/04/2016

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG Honeywell Jersey City GWTP; SA-6 North (Permit #20630025) MONTH: January 2016

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD_5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
1/1/2016	Angel Trujillo	52277261	52360622	83,361	0.083361	7.40	1.710									1.19
1/2/2016	Angel Trujillo	52360622	52443983	83,361	0.083361	7.51	1.710									1.19
1/3/2016	Angel Trujillo	52443983	52519517	75,534	0.075534	7.20	1.710									1.08
1/4/2016	Angel Trujillo	52519517	52595052	75,535	0.075535	7.61	1.710									1.08
1/5/2016	Angel Trujillo	52595052	52676528	81,476	0.081476	7.12	1.710									1.16
1/6/2016	Angel Trujillo	52676528	52754626	78,098	0.078098	7.10	1.710									1.11
1/7/2016	Angel Trujillo	52754626	52834124	79,498	0.079498	7.10	1.710									1.13
1/8/2016	Angel Trujillo	52834124	52910910	76,786	0.076786	7.20	1.710									1.10
1/9/2016	Angel Trujillo	52910910	52992706	81,796	0.081796	7.15	1.710									1.17
1/10/2016	Angel Trujillo	52992706	53068438	75,732	0.075732	7.00	1.710									1.08
1/11/2016	Angel Trujillo	53068438	53144170	75,732	0.075732	6.91	1.710									1.08
1/12/2016	Angel Trujillo	53144170	53222850	78,680	0.07868	7.08	1.710									1.12
1/13/2016	Angel Trujillo	53222850	53303728	80,878	0.080878	7.15	1.710									1.15
1/14/2016	Angel Trujillo	53303728	53316922	13,194	0.013194	7.12	1.710									0.19
1/15/2016	Angel Trujillo	53316922	53384990	68,068	0.068068	7.14	1.710									0.97
1/16/2016	Angel Trujillo	53384990	53470632	85,642	0.085642	7.20	1.710									1.22
1/17/2016	Angel Trujillo	53470632	53547549	76,917	0.076917	7.00	1.710									1.10
1/18/2016	Angel Trujillo	53547549	53624466	76,917	0.076917	7.07	1.710									1.10
1/19/2016	Angel Trujillo	53624466	53703794	79,328	0.079328	7.21	1.710									1.13
1/20/2016	Angel Trujillo	53703794	53782422	78,628	0.078628	6.92	1.710	<5.2	4.2		<0.010	<0.015	<0.010	0.00047	<0.020	1.12
1/21/2016	Angel Trujillo	53782422	53863312	80,890	0.08089	7.22	1.710									1.15
1/22/2016	Angel Trujillo	53863312	53943116	79,804	0.079804	7.19	1.710									1.14
1/23/2016	Angel Trujillo	53943116	54004535	61,419	0.061419	7.10	1.710									0.88
1/24/2016	Angel Trujillo	54004535	54065954	61,419	0.061419	7.00	1.710									0.88
1/25/2016	Angel Trujillo	54065954	54127374	61,420	0.06142	7.50	1.710									0.88
1/26/2016	Angel Trujillo	54127374	54127374	0	0	N/A	1.710									0.00
1/27/2016	Angel Trujillo	54127374	54127374	0	0	N/A	1.710									0.00
1/28/2016	Angel Trujillo	54127374	54176268	48,894	0.048894	7.14	1.710									0.70
1/29/2016	Angel Trujillo	54176268	54262644	86,376	0.086376	7.38	1.710									1.23
1/30/2016	Angel Trujillo	54262644	54344182	81,538	0.081538	7.18	1.710									1.16
1/31/2016	Angel Trujillo	54344182	54421416	77,234	0.077234	7.20	1.710									1.10
TOTAL				**2,144,155**	**2.144155**			<5.2	4.2		<0.010	<0.015	<0.010	0.00047	<0.020	
			High:	**86,376**											**High:**	**1.23**
			Average:	**69,166**											**Average:**	**0.99**

WW

JC12950

E/L

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell — Chain Of Custody / Analysis Request

AESI Ref:	42388.53078
COC#	087-WW-012016
Lab Proj # (SDG):	
Lab ID	ACTD
Site ID	HudsonCo
Lab Job #	HWINJM32815
Authorized User:	Honeywell
Text & Excel File Drive	Excel & Text File Order

Privileged & Confidential

Site Name:	Hudson County	Phase:	CS
Location of Site:	Jersey City, NJ	Sampling Program	087: JCIA

Sampling Co.:	MACTEC
EDD To:	
Sampler:	Frank Schroyer
PO #	
Analysis Turnaround Time (TAT):	3
Consultant	CH2M
Full Report TAT:	28 Days

Client Contact: (name, co., address)
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962

Preliminary Data To	
Sample Receipt Acknowledgement To	Frank Schroyer
Hard Copy To	Helen Fahy (Honeywell)
Invoice To:	Helen Fahy (Honeywell)

Copyright AESI: Version 8.0 Unauthorized use strictly prohibited.

	Sample Identification				Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150 1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list	Sampling Method (code)	Lab Sample Numbers
	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID							Units												
											Preservative		3	3	3	1	2	2	0	0	2		
1	087-WW			087-WWE-012016-A	1/20/2016	11:00	WW	WATER	REG	3	comp	N	X	X	X	X			X	X			
2	087-WW			087-WWE-012016-B	1/20/2016	11:05	WW	WATER	REG	5	grab	N					X	X					L34
3	087-WW			087-WWI-012016	1/20/2016	11:15	WW	WATER	REG	3	grab	N									X		V324
4																							A3
5																							M18
6																							
7																							
8																							
9																							
10																							
11																							
12																							

ALL SAMPLES RECEIVED PRESERVED AS

Relinquished by	6.92 s.u. @ 8.6°C	Company	AMEC Foster Wheeler	Received by		Company		Condition	Custody Seals Intact
Frank Schroyer		Date/Time	1/20/16			Date/Time	1400 1/20/16	Cooler Temp.	
Relinquished by		Company		Received by		Company	Accutest	Condition	Custody Seals Intact
		Date/Time	1/20/16 1725			Date/Time	1/20/16 1725	Cooler Temp.	1.0°C CB

Preservatives: (Other; Specify): 0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

INITIAL ASESSMENT NL3A

LABEL VERIFICATION _____

Accutest LabLink@894420 13:44 03-Feb-2016

Report of Analysis

4.1 4

Client Sample ID:	087-WWE-012016-A		
Lab Sample ID:	JC12950-1	**Date Sampled:**	01/20/16
Matrix:	AQ - Water	**Date Received:**	01/20/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1710	10	ug/l	1	01/21/16	01/22/16	ND	EPA 200.7 [2]	EPA 200.7 [3]
Copper	< 10	10	ug/l	1	01/21/16	01/22/16	ND	EPA 200.7 [2]	EPA 200.7 [3]
Lead [a]	< 15	15	ug/l	5	01/21/16	01/22/16	ND	EPA 200.7 [2]	EPA 200.7 [3]
Mercury	0.47	0.20	ug/l	1	01/22/16	01/22/16	VM	EPA 245.1 [1]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	01/21/16	01/22/16	ND	EPA 200.7 [2]	EPA 200.7 [3]
Zinc	< 20	20	ug/l	1	01/21/16	01/22/16	ND	EPA 200.7 [2]	EPA 200.7 [3]

(1) Instrument QC Batch: MA38582
(2) Instrument QC Batch: MA38588
(3) Prep QC Batch: MP91567
(4) Prep QC Batch: MP91705

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@894420 13:44 03-Feb-2016

Report of Analysis

Client Sample ID:	087-WWE-012016-A		
Lab Sample ID:	JC12950-1	**Date Sampled:**	01/20/16
Matrix:	AQ - Water	**Date Received:**	01/20/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended [a]	< 4.0	4.0	mg/l	1	01/21/16	LA	SM2540 D-11
pH [b]	6.85		su	1	01/20/16 18:14	HL	SM4500H+ B-11

(a) Reported sample aliquot obtained from filtration of 500 mL of sample. Sample did not meet method requirement of 2.5 mg of solids on the filter with this volume filtered.
(b) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@894420 13:44 03-Feb-2016

Report of Analysis

4.2 4

Client Sample ID:	087-WWE-012016-A		
Lab Sample ID:	JC12950-1A	**Date Sampled:**	01/20/16
Matrix:	AQ - Water	**Date Received:**	01/20/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	4.2	3.4	mg/l	1	01/21/16 13:10	YR	SM5210 B-11

RL = Reporting Limit

Accutest LabLink@894420 13:44 03-Feb-2016

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-012016-B		
Lab Sample ID:	JC12950-2	**Date Sampled:**	01/20/16
Matrix:	AQ - Water	**Date Received:**	01/20/16
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U202808.D	1	01/21/16	NH	n/a	n/a	VU9329
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	10	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	2.3	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	4.5	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	0.21	1.0	0.093	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.50	ug/l	
67-66-3	Chloroform	20.5	1.0	0.091	ug/l	
74-87-3	Chloromethane	ND	1.0	0.11	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.11	ug/l	
95-50-1	1,2-Dichlorobenzene	0.41	1.0	0.19	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.11	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.29	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.12	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/l	
156-59-2	cis-1,2-Dichloroethene	70.8	1.0	0.12	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.9	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.12	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.15	ug/l	
123-91-1	1,4-Dioxane	ND	130	20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	ND	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest LabLink@894420 13:44 03-Feb-2016

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-012016-B		
Lab Sample ID:	JC12950-2	**Date Sampled:**	01/20/16
Matrix:	AQ - Water	**Date Received:**	01/20/16
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	41.1	1.0	0.12	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	104%		72-125%
2037-26-5	Toluene-D8 (SUR)	100%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	99%		74-115%
1868-53-7	Dibromofluoromethane (S)	101%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@894420 13:44 03-Feb-2016

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-012016-B		
Lab Sample ID:	JC12950-2	**Date Sampled:**	01/20/16
Matrix:	AQ - Water	**Date Received:**	01/20/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.2	5.2	mg/l	1	01/22/16 21:45	CB	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending February 2016

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending February 2016

Changed Item Identifier	Description of Change	Comments
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on May 27, 2015.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on May 27, 2015.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Contractor only.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groudnwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending February 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-06-18	Bayfront Redevelopment Civil Designer has eliminated one utility corridor along the eastern portion of SA-6 South (water main and sewer line were relocated to another utility corridor). In addition, it was identified that minor increases in the Bayfront final grades of up to 0.25 feet may be made in the landscaped areas (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 South Consent Decree and the 100% Design.	Submitted to all Parties on June 18, 2015.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.
DC 2015-11-12	Amec Foster Wheeler has provided Final Cap Grades (in CAD) to Entact. Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.	Submitted to Contractor only.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on June 22, 2015.
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on June 22, 2015.
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-10-06	GCL is required to be installed over the SCB wall and Barrier Wall at the locations shown in the annotated PDF of C-121 (rev 4, 8/13/15).	Submitted to Contractor only.
DC 2015-07-22	Detail BN has been modified to extend the LLDPE up and over the SCB Wall. The prior detail showed both the GDL and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-28	Drawing 304, Detail CE and associated notes regarding the "Liner Anchor to Concrete Structure" have been modified.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending February 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only.
DC 2015-07-31	The sheet pile pair is located at Sta. 0+50. Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.	Submitted to Contractor only.
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA-6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	Submitted to Contractor only.
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending February 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-11-18	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	Submitted to Contractor only.
DC 2015-09-28	Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling.	Submitted to Parties on October 1, 2015.
DC 2015-12-21	Amec Foster Wheeler (AmecFW), Entact and Maser Consulting have developed alternative methods for documentation/survey of the excavation bottom in Site 163. The alternative methods were developed in light of safety considerations for surveyor access into a sheet piled excavation to elevation –8.0. The bottom of the excavation will be in very low strength Stratum O soils. These alternative survey control methods are different from those previously used in the SA-6 South Development Area.	Submitted to Contractor only.
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.
DC 2015-10-22	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only.
DC 2015-12-14	Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds that cannot be tested by other means. Spark testing will be performed in accordance withASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative. Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	Submitted to Parties on January 14, 2016.
DC 2015-12-01	EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation. A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals. EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits. A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.	Submitted to Contractor only.
DC 2015-02-03	The final grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending February 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-02-22	AmecFW revised the SA-6 North cap subgrade in a single localized area in order to accommodate Entact's request to relocate Pump Station #1 (RFI 64). The subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location. In addition, for grading purposes, any hydraulic barrier sheets within the Sedimentation Basin that have sections below elevation 12.0 will be trimmed to a uniform elevation of 11.5.	Submitted to Contractor only.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

Attachment 15: Horwith Accident RollOver

TRANSPORTATION HAZARDOUS WASTE ACCIDENT W / POTENTIAL OF RELEASE

Date: February 1st, 2016

Time: 3:00 PM

Driver: Salvatore Gagliano

Truck Number: 242

Shipment Information: Manifest #000728562WAS

Pickup: 60 Kellogg Street, Jersey City NJ.
Deliver: Horwith Transload Facility, Northampton PA

Event Details

Initial Report

Kellie Heffley received a telephone call from Fastlane Towing stating they are on the scene of a single vehicle rollover and the truck is owned by Horwith Trucks. A represented from Fastlane, "Pinky" reported unit #242 had rolled over with load on Route 33 near the 3.3 mile marker. Pinky indicated he was called to the scene by the PA State Police.

The Horwith team immediately implemented our Transporter Contingency plan. Kellie contacted the PA State Police – Belfast Barracks and informed them the shipment was being shipped on a Hazardous Waste Manifest and caution should be used when up righting the unit to ensure the commodity was not released. Initial reports indicated cargo within the enclosed IP-1 Zippered liner was not breached during the rollover.

Pete Zarayko called Dave Desiderio of HandsOn Environmental and notified him of the accident.

Initial Reports indicated there was no release of product, therefore PA DEP was not immediately notified.

HONEYWELL SA-7 - 2/1/17 Rollover Accident Details

At approximately 3:00pm on Monday, February 1st 2016, a tri-axle dump truck driven by Salvatore Gagliano was traveling northbound on Route 33 near mile marker 3.3 in Pennsylvania. The driver was traveling in the left lane of a two lane highway at approximately 65mph. For an unknown reason the driver side tires left the roadway. The driver attempted to regain traction on the highway with all tires at which time he lost control of the vehicle. The vehicle crossed both lanes of traffic and rolled onto the driver's side and came to rest on the right side of the highway.

Various "good Samaritans" stopped to aid assistance to the driver. Mr. Gagliano was initially unconscious when the first "Samaritan" arrived. The driver regained consciousness a few minutes later and was able to exit the unit from the passenger side window. He was quickly transported to St Luke's Fountain Hill where he was treated and released.

Initially the IP-1 zippered liner stayed in the dump body. However, a portion of the liner containing the contaminated soil slide out as a result of gravity and the unit being on its side. A portion of the liner came to rest on the roadway pavement. The liner did not breach at any point during the rollover incident.

Immediately following the incident, appropriate notifications were made to the PA State Police, emergency response personnel and our customer to inform them of the accident. 911 was called by another motorist. The following agencies were present on the scene: Northampton County EMA, Lehigh County Hazmat, Penn Dot, PA State Police, Bethlehem Twp. Fire Co., Nancy Run Fire Co., Rapid Response, Fastlane Towing, and PA DEP.

Under the direction of Fastlane Towing, Horwith was asked to send two additional vehicles to the accident scene to transfer the cargo. Fastlane Towing and Rapid Response received approval from DEP to open the IP-1 Zippered liner and remediate the soil prior to up righting the unit. (See Attached DEP Report) Various safety and security measures were used to ensure the contaminated soil was not released onto the roadway or into the environment. The soil was dug out of the IP-1 zippered liner from unit #242 and immediately loaded into two lined roll off containers. The dirt was transported by Horwith personnel under the same manifest number and transport instructions as the original load. (Manifest Number 000728562WAS) The two loads were dumped at the Northampton Transloading facility on Tuesday, February 2nd 2016 and shipped via rail to the designated disposal facility.

Unit # 242 was towed from the scene by Fastlane Towing and brought to the Horwith terminal in Northampton PA.
Rapid Response concluded cleanup operations by 12:00 AM February 2nd 2016.

Incident Follow-up as of 2/17/16

Eight soil samples were taken following the cleanup and the written results were provided to Horwith by Rapid Response. All samples reflected that no traces of the hazardous material were present. (See Attached) These result were sent to the PADEP by Rapid Response.

The driver was interviewed by Kellie Heffley and Michael Horwith regarding the accident details. The driver indicated he has no memory of the accident. He was initially treated at the hospital and released. Horwith sent him to our approved medical provider who conducted various post accident tests including drug testing. All test results were negative and did not provide any further insight as to a possible cause of the accident.

The vehicle was not impounded by the Department of Transportation and was released back to Horwith immediately. A DOT Inspection at the scene did not reveal any mechanical deficiencies with unit #242. The ECM was downloaded post accident. The average driver speed for February 1st 2016 was 52.1mph. The exact speed at impact cannot be validated by the ECM as the tires continued to rotate once the vehicle overturned. The vehicle is currently in the process of being repaired.

A copy of the police investigation report was requested but not received as of February 17, 2016. However, our driver did inform Horwith he received three citations in the mail. The charges include: Securing Loads in Vehicle, Driving on Roadways Laned for Traffic, Unlawful Activities. (See Attached) The citations were issued directly to Mr. Gagliano and are his responsibility. He has indicated he will be taking a hearing for each. Horwith did not receive any citations regarding this accident.

Conclusion & Action Items

In reviewing the details available to date, the cause of the accident is deemed driver error. There is no indication of a third party event that would have lead the truck #242 leaving the roadway for any reason.

Weather – Clear & Dry – Weather did not play a factor regarding visibility.
Vehicle – No mechanical deficiencies were revealed during the post-accident investigation. Manifest verified truck was transporting within legal weight limits for highway transportation.
Medical – All medical and drug test result have been concluded and did not reveal any medical reason the driver was unconscious prior to the accident.
Driver – Driver was not able to provide any memory or reasoning why he was unable to maintain control of unit #242.

Action Items:

- Mr. Gagliano employment with Horwith Trucks has been terminated.

- Immediately following the accident, Horwith reevaluated our company speed policy. All triaxles have been reset with a maximum speed limiter of 62mph. We researched and implemented additional mechanical settings to automatically apply the Jake Break for attempted override of the speed limiter setting.

- ECM Monitoring Policy implemented. Each time a vehicle is brought into our facility for service, the truck ECM will be downloaded and reviewed to monitor aggressive driving habits. These reports are reviewed directly by top management.

- All Horwith drivers have recently attended a Smith System driver training course. This course focuses on defensive driving techniques. We have currently held two courses and will be including this training in our new driver orientation program.

- Electronic logging and driver management technology. Horwith has been meeting with various global technology providers to team up with to capture our employee logs electronically along with speed gauge and aggressive driving monitoring services.

- A final analysis of the accident will be reviewed once the police report is received.

Report Prepared by Kellie Heffley, Director of Safety & Compliance for Horwith Trucks.

COPIES OF DRIVER CHARGES

1449 Nor-Bath Blvd, PO Box 7
Northampton, PA 18067

EALTH OF PENNSYLVANIA
District No. 03-2-03
zareth Pike

ehem, PA 18020
-746-9740

CITATION NO.: T3244634-1
Docket Number Assigned by Court:
MJ-03203-TR-0000183-2016

FILED: 02/02/2016

TRAFFIC CITATION

Defendant's First Name	Middle Name	Last Name	Suffix	Driver's Number	CDL	State	Sex
SALVATORE	J	GAGLIANO		[redacted]	Yes	PA	M

Defendant's Address Street	City	State	Zip Code	D.O.B.	Primary Phone No.	2nd Phone No.
2[redacted]	H[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	

	Veh. Reg. No.	Reg. Yr.	State	Model Yr.	Make	Model	Style	Color
PRIMARY VEHICLE	AF86558	2016	PA	2011	FRHT		Dump	Blue
TRAILING UNIT 1								
TRAILING UNIT 2								

Owner/Lessee or Carrier	First Name	Middle Name	Suffix
L V COMPANY	HORWITH TRUCKING, INC		

Owner Street Address	City	State	Zip Code
ROUTE 329, PO BOX 7	NORTHAMPTON	PA	18067

Charge: SECURING LOADS IN VEHICLES — TITLE 75

Nature of Offense: OPERATED A VEHICLE WITH A LOAD IMPROPERLY FASTENED

67 PA Code: Section 4903, Subsection B

Ref. 49 CFR

Actual Speed	Allowed Speed	Timing Device	Fine Doubled Due To

Offense Date	Time	Day	Vehicle Weight	Permitted Weight	File on Info. Rec'd	Lab Serv. Requested
02/01/2016	15:00	Monday	lbs.	80,000.00 lbs.	No	No

Comm. Veh.	HazMat	Juvenile	Parents Notified	Accident Rpt.	Incident Number	Weather Conditions
Yes	Yes	No	No	Yes	M06-1625496	No Adverse Conditions

Location: ON PA-33 N AT MM 3.6

Route	Dir. of Travel	Interstate	County	Twp-Boro-City
0033	N	No	NORTHAMPTON	BETHLEHEM TWP

Speed Timing Device Operator	Miles Followed	Miles Timed	Secs. Timed	Special Activity
				None

Stopped By	Observed By	Speed Detection Type	Station Equip. Tested	Date Equip. Tested	Speed Equip. Serial No.
Unmarked	Unmarked				

Remarks: -FREIGHTLINER

FINE	100.00
E.M.S.	$ 10.00
SURCHARGE	$ 45.00
COSTS	$ 0.00
J.C.P./A.T.J.	$ 10.00
Total Due	165.00

I verify that the facts set forth in this citation are true and correct to the best of my knowledge, information and belief. This verification is made subject to the penalties of Section4904 of the Crimes Code (18 Pa.C.S. § 4904) relating to the unsworn falsification to authorities.

Officer		Officer ID No.
PAPPAS	E-FILED	658910

THIS CITATION HAS BEEN ISSUED/FILED BY A MEMBER OF THE	PA STATE POLICE - BELFAST	ORI Number	Phone Number
		PAPSP2100	(610)759-6106

RIGHTS AND OBLIGATIONS

This citation will be filed with the magisterial district judge whose address appears above.

1. Within ten (10) days of the receipt of this citation you must;

a. PLEAD NOT GUILTY by notifying the proper Magisterial District Judge in writing, signing the appropriate plea below, and by forwarding for collateral an amount equal to the Total Due plus $8.00 if the offense charged is under the Vehicle Code; or if the Total Due is not specified, by forwarding the sum of $50.00 as collateral for your appearance at trial

OR

b. PLEAD NOT GUILTY by appearing before the proper Magisterial District Judge and posting such collateral for your appearance as the Magisterial District Judge shall require.

OR

c. Appear before the proper Magisterial District Judge to enter a plea if you cannot afford to pay the Total Due or the $50.00 collateral.

OR

d. PLEAD GUILTY by notifying the proper Magisterial District Judge in writing, signing the appropriate plea below, and by forwarding an amount equal to the Total Due as specified, or by making payments online through Pennsylvania's Unified Judicial System web portal. Visit the portal at <http://ujsportal.pacourts.us> to make a payment.

OR

e. PLEAD GUILTY by appearing before the proper Magisterial District Judge if the Total Due is not specified or if you are required to appear because of the offense with which you are charged carries a mandatory sentence of imprisonment, for example, a violation of 75 Pa.C.S.§ 1543(b) (Driving while operating privilege is suspended or revoked.)

2. If you fail to appear for trial, the trial may be held in your absence.
3. If you have been charged with a summary offense under the Vehicle Code, failure to respond within the time specified above will result in the suspension of your driver's license, the issuance of a summons or a warrant for your arrest.
4. If you have been charged with a violation of a local ordinance or any parking offense, failure to respond within the time specified above will result in the issuance of a summons.
5. If you plead guilty or are found guilty, points may be assessed against your driver's record. An accumulation of points may result in the suspension of your driving privilege.
6. Your driving privilege WILL BE SUSPENDED if you plead guilty or are found guilty of certain offenses under the Vehicle Code, including but not limited to,75 Pa.C.S.§§ 1371, 3341, 3345, 3367, 3718, 3733, 3734, 3736, subsequent convictions of Pa.C.S.§ 3361 when occurring in an active work zone and an accident report is submitted by the police, subsequent convictions of 75 Pa. C.S.§ 1501, a violation of 75 Pa.C.S.§ 3361 when occurring in an active work zone and an accident report is submitted by the police, and a violation of 75 Pa.C.S.§ 3362 when occurring in an active work zone.
7. If you are found guilty by the Magisterial District Judge, or you plead guilty, and you wish to appeal, you have THIRTY(30) days to file an appeal for a trial in the Court of Common Pleas.
8. If you are disabled and require assistance, please contact the Magisterial District office shown above.

Explanation of Terms:
E.M.S. - Emergency Medical Service Act
SURCHARGE - Funds distributed pursuant to 75 Pa.C.S. § 6506
J.C.P./A.T.J. - Judicial Computer Project/Access to Justice

TR-183-16

ALTH OF PENNSYLVANIA
District No. 03-2-03
reth Pike

em, PA 18020
6-9740

CITATION NO.: T3244629-3
Docket Number Assigned by Court:
MJ-03203-TR-0000182-2016

FILED: 02/02/2016

TRAFFIC CITATION

Defendant's First Name	Middle Name	Last Name	Suffix	Driver's Number	CDL	State	Sex
LVATORE	J	GAGLIANO		[redacted]	Yes	PA	M

Defendant's Address Street	City	State	Zip Code	D.O.B.	Primary Phone No.	2nd Phone No.
[redacted]	[redacted]WN	[redacted]	[redacted]	[redacted]	[redacted]	

	Veh. Reg. No.	Reg. Yr.	State	Model Yr.	Make	Model	Style	Color
PRIMARY VEHICLE	AF86558	2016	PA	2011	FRHT		Dump	Blue
TRAILING UNIT 1								
TRAILING UNIT 2								

Owner/Lessee or Carrier	First Name	Middle Name	Suffix
L V COMPANY	HORWITH TRUCKING, INC		

Owner Street Address	City	State	Zip Code
ROUTE 329, PO BOX 7	NORTHAMPTON	PA	18067

Charge: DRIVING ON ROADWAYS LANED FOR TRAFFIC — TITLE 75

Nature of Offense: FAILED TO DRIVE WITHIN A SINGLE LANE AND OR MOVEMENT FROM LANE WAS NOT MADE SAFELY

67 PA Code:
Ref. 49 CFR:

Section	Subsection
3309	1

Actual Speed	Allowed Speed	Timing Device	Fine Doubled Due To

Offense Date	Time	Day	Vehicle Weight	Permitted Weight	File on Info. Rec'd	Lab Serv. Requested
02/01/2016	15:00	Monday	lbs.	80,000.00 lbs.	No	No

Comm. Veh.	HazMat	Juvenile	Parents Notified	Accident Rpt.	Incident Number	Weather Conditions
Yes	Yes	No	No	Yes	M06-1625496	No Adverse Conditions

Location: ON PA-33 N AT MM 3.6

Route	Dir. of Travel	Interstate	County	Twp-Boro-City
0033	N	No	NORTHAMPTON	BETHLEHEM TWP

Speed Timing Device Operator	Miles Followed	Miles Timed	Secs. Timed

Stopped By	Observed By	Speed Detection Type	Station Equip. Tested	Date Equip. Tested	Speed Equip. Serial No.
Unmarked	Unmarked				

Remarks: -FREIGHTLINER

SURCHARGE	$ 45.00
COSTS	$ 45.50
J.C.P./A.T.J.	$ 10.00
Total Due	$ 135.50

Special Activity: None

I verify that the facts set forth in this citation are true and correct to the best of my knowledge, information and belief. This verification is made subject to the penalties of Section4904 of the Crimes Code (18 Pa.C.S. § 4904) relating to the unsworn falsification to authorities.

Officer: PAPPAS — E-FILED — Officer ID No. 658910

THIS CITATION HAS BEEN ISSUED/FILED BY A MEMBER OF THE PA STATE POLICE - BELFAST — ORI Number PAPSP2100 — Phone Number (610)759-6106

RIGHTS AND OBLIGATIONS

This citation will be filed with the magisterial district judge whose address appears above.

1. Within ten(10) days of the receipt of this citation you must;

a. PLEAD NOT GUILTY by notifying the proper Magisterial District Judge in writing, signing the appropriate plea below, and by forwarding for collateral an amount equal to the Total Due plus $8.00 if the offense charged is under the Vehicle Code; or if the Total Due is not specified, by forwarding the sum of $50.00 as collateral for your appearance at trial

OR

b. PLEAD NOT GUILTY by appearing before the proper Magisterial District Judge and posting such collateral for your appearance as the Magisterial District Judge shall require.

OR

c. Appear before the proper Magisterial District Judge to enter a plea if you cannot afford to pay the Total Due or the $50.00 collateral.

OR

d. PLEAD GUILTY by notifying the proper Magisterial District Judge in writing, signing the appropriate plea below, and by forwarding an amount equal to the Total Due as specified, or by making payments online through Pennsylvania's Unified Judicial System web portal. Visit the portal at <http://ujsportal.pacourts.us> to make a payment.

OR

e. PLEAD GUILTY by appearing before the proper Magisterial District Judge if the Total Due is not specified or if you are required to appear because of the offense with which you are charged carries a mandatory sentence of imprisonment, for example, a violation of 75 Pa.C.S.§ 1543(b) (Driving while operating privilege is suspended or revoked.)

2. If you fail to appear for trial, the trial may be held in your absence.
3. If you have been charged with a summary offense under the Vehicle Code, failure to respond within the time specified above will result in the suspension of your driver's license, the issuance of a summons or a warrant for your arrest.
4. If you have been charged with a violation of a local ordinance or any parking offense, failure to respond within the time specified above will result in the issuance of a summons.
5. If you plead guilty or are found guilty, points may be assessed against your driver's record. An accumulation of points may result in the suspension of your driving privilege.
6. Your driving privilege WILL BE SUSPENDED if you plead guilty or are found guilty of certain offenses under the Vehicle Code, including but not limited to,75 Pa.C.S.§§ 1371, 3341, 3345, 3367, 3718, 3733, 3734, 3736, subsequent convictions of Pa.C.S.§ 3361when occurring in an active work zone and an accident report is submitted by the police, subsequent convictions of 75 Pa. C.S.§ 1501, a violation of 75 Pa.C.S.§ 3361when occurring in an active work zone and an accident report is submitted by the police, and a violation of 75 Pa.C.S.§ 3362 when occurring in an active work zone.
7. If you are found guilty by the Magisterial District Judge, or you plead guilty, and you wish to appeal, you have THIRTY(30) days to file an appeal for a trial in the Court of Common Pleas.
8. If you are disabled and require assistance, please contact the Magisterial District office shown above.

Explanation of Terms:
E.M.S. - Emergency Medical Service Act
SURCHARGE - Funds distributed pursuant to 75 Pa.C.S. § 6506
J.C.P./A.T.J. - Judicial Computer Project/Access to Justice

TR-182-16

OF PENNSYLVANIA
t No. 03-2-03
Pike

PA 18020
9740

CITATION NO.: T3244686-4
Docket Number Assigned by Court:
MJ-03203-TR-0000184-2016

FILED: 02/02/2016

TRAFFIC CITATION

Defendant's First Name	Middle Name	Last Name	Suffix	Driver's Number	CDL	State	Sex
VATORE	J	GAGLIANO		[redacted]	Yes	PA	M

Defendant's Address Street	City	State	Zip Code	D.O.B.	Primary Phone No.	2nd Phone No.
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	

	Veh. Reg. No.	Reg. Yr.	State	Model Yr.	Make	Model	Style	Color
PRIMARY VEHICLE	AF86558	2016	PA	2011	FRHT		Dump	Blue
TRAILING UNIT 1								
TRAILING UNIT 2								

Owner/Lessee or Carrier	First Name	Middle Name	Suffix
L V COMPANY	HORWITH TRUCKING, INC		

Owner Street Address	City	State	Zip Code
ROUTE 329, PO BOX 7	NORTHAMPTON	PA	18067

Charge	
UNLAWFUL ACTIVITIES	TITLE 75

Nature of Offense	67 PA Code	Section	Subsection
OPERATED OR PERMITTED TO OPERATE A VEHICLE NOT EQUIPPED AS REQUIRED	229.14	4107	B2
	Ref. 49 CFR 392.16	FINE	$ 25.00

Actual Speed	Allowed Speed	Timing Device	Fine Doubled Due To	E.M.S.	$ 10.00
				SURCHARGE	$ 45.00
				COSTS	$ 0.00
				J.C.P./A.T.J.	$ 10.00
				Total Due	$ 90.00

Offense Date	Time	Day	Vehicle Weight	Permitted Weight	File on Info. Rec'd	Lab Serv. Requested
02/01/2016	15:00	Monday	lbs.	80,000.00 lbs.	No	No

Comm. Veh.	HazMat	Juvenile	Parents Notified	Accident Rpt.	Incident Number	Weather Conditions
Yes	Yes	No	No	Yes	M06-1625496	No Adverse Conditions

Location
ON PA-33 N AT MM 3.6

Route	Dir. of Travel	Interstate	County	Twp-Boro-City
0033	N	No	NORTHAMPTON	BETHLEHEM TWP

Speed Timing Device Operator	Miles Followed	Miles Timed	Secs. Timed	Special Activity
				None

Stopped By	Observed By	Speed Detection Type	Station Equip. Tested	Date Equip. Tested	Speed Equip. Serial No.
Unmarked	Unmarked				

Remarks
-FREIGHTLINER

I verify that the facts set forth in this citation are true and correct to the best of my knowledge, information and belief. This verification is made subject to the penalties of Section4904 of the Crimes Code (18 Pa.C.S. § 4904) relating to the unsworn falsification to authorities.

Officer		Officer ID No.
PAPPAS	E-FILED	658910

THIS CITATION HAS BEEN ISSUED/FILED BY A MEMBER OF THE	PA STATE POLICE - BELFAST	ORI Number	Phone Number
		PAPSP2100	(610)759-6106

RIGHTS AND OBLIGATIONS

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OR

b. PLEAD NOT GUILTY by appearing before the proper Magisterial District Judge and posting such collateral for your appearance as the Magisterial District Judge shall require.

OR

c. Appear before the proper Magisterial District Judge to enter a plea if you cannot afford to pay the Total Due or the $50.00 collateral.

OR

d. PLEAD GUILTY by notifying the proper Magisterial District Judge in writing, signing the appropriate plea below, and by forwarding an amount equal to the Total Due as specified, or by making payments online through Pennsylvania's Unified Judicial System web portal. Visit the portal at <http://ujsportal.pacourts.us> to make a payment.

OR

e. PLEAD GUILTY by appearing before the proper Magisterial District Judge if the Total Due is not specified or if you are required to appear because of the offense with which you are charged carries a mandatory sentence of imprisonment, for example, a violation of 75 Pa.C.S.§ 1543(b) (Driving while operating privilege is suspended or revoked.)

2. If you fail to appear for trial, the trial may be held in your absence.
3. If you have been charged with a summary offense under the Vehicle Code, failure to respond within the time specified above will result in the suspension of your driver's license, the issuance of a summons or a warrant for your arrest.
4. If you have been charged with a violation of a local ordinance or any parking offense, failure to respond within the time specified above will result in the issuance of a summons.
5. If you plead guilty or are found guilty, points may be assessed against your driver's record. An accumulation of points may result in the suspension of your driving privilege.
6. Your driving privilege WILL BE SUSPENDED if you plead guilty or are found guilty of certain offenses under the Vehicle Code, including but not limited to,75 Pa.C.S.§§ 1371, 3341, 3345, 3367, 3718, 3733, 3734, 3736, subsequent convictions of Pa.C.S.§ 3361when occurring in an active work zone and an accident report is submitted by the police, subsequent convictions of 75 Pa. C.S.§ 1501, a violation of 75 Pa.C.S.§ 3361when occurring in an active work zone and an accident report is submitted by the police, and a violation of 75 Pa.C.S.§ 3362 when occurring in an active work zone.
7. If you are found guilty by the Magisterial District Judge, or you plead guilty, and you wish to appeal, you have THIRTY(30) days to file an appeal for a trial in the Court of Common Pleas.
8. If you are disabled and require assistance, please contact the Magisterial District office shown above.

Explanation of Terms:
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SURCHARGE - Funds distributed pursuant to 75 Pa.C.S. § 6506
J.C.P./A.T.J. - Judicial Computer Project/Access to Justice

72-184-16

COPIES OF ANALYTICAL RESULTS

1449 Nor-Bath Blvd, PO Box 7
Northampton, PA 18067

Sample Summary

Environmental Waste Minimization, Inc.

Job No: JC13588

City Line, 6 Horwith Drive, Northampton, PA
Project No: 04-1944

Sample Number	Collected Date	Time By	Received	Matrix Code	Matrix Type	Client Sample ID
JC13588-1	02/02/16	11:33 SS	02/03/16	SO	Soil	#1
JC13588-2	02/02/16	11:36 SS	02/03/16	SO	Soil	#2
JC13588-3	02/02/16	11:40 SS	02/03/16	SO	Soil	#3
JC13588-4	02/02/16	11:43 SS	02/03/16	SO	Soil	#4
JC13588-5	02/02/16	11:46 SS	02/03/16	SO	Soil	#5
JC13588-6	02/02/16	11:50 SS	02/03/16	SO	Soil	#6
JC13588-7	02/02/16	11:53 SS	02/03/16	SO	Soil	#7
JC13588-8	02/02/16	11:56 SS	02/03/16	SO	Soil	#8

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Report of Analysis

Client Sample ID:	#1		
Lab Sample ID:	JC13588-1	**Date Sampled:**	02/02/16
Matrix:	SO - Soil	**Date Received:**	02/03/16
		Percent Solids:	79.9
Project:	City Line, 6 Horwith Drive, Northampton, PA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	1.0	0.50	mg/kg	1	02/04/16 10:12	RP	SW846 3060A/7196A
Solids, Percent	79.9		%	1	02/03/16 17:00	KP	SM2540 G-97

RL = Reporting Limit

Report of Analysis

Client Sample ID:	#2		
Lab Sample ID:	JC13588-2	**Date Sampled:**	02/02/16
Matrix:	SO - Soil	**Date Received:**	02/03/16
		Percent Solids:	85.4
Project:	City Line, 6 Horwith Drive, Northampton, PA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.85	0.47	mg/kg	1	02/04/16 10:12	RP	SW846 3060A/7196A
Solids, Percent	85.4		%	1	02/03/16 17:00	KP	SM2540 G-97

RL = Reporting Limit

Report of Analysis

Client Sample ID:	#3		
Lab Sample ID:	JC13588-3	**Date Sampled:**	02/02/16
Matrix:	SO - Soil	**Date Received:**	02/03/16
		Percent Solids:	94.4
Project:	City Line, 6 Horwith Drive, Northampton, PA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	7.4	0.42	mg/kg	1	02/04/16 10:06	RP	SW846 3060A/7196A
Solids, Percent	94.4		%	1	02/03/16 17:00	KP	SM2540 G-97

RL = Reporting Limit

Report of Analysis

Client Sample ID:	#4		
Lab Sample ID:	JC13588-4	**Date Sampled:**	02/02/16
Matrix:	SO - Soil	**Date Received:**	02/03/16
		Percent Solids:	81.8
Project:	City Line, 6 Horwith Drive, Northampton, PA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	1.0	0.49	mg/kg	1	02/04/16 10:12	RP	SW846 3060A/7196A
Solids, Percent	81.8		%	1	02/03/16 17:00	KP	SM2540 G-97

RL = Reporting Limit

Report of Analysis

Client Sample ID:	#5		
Lab Sample ID:	JC13588-5	**Date Sampled:**	02/02/16
Matrix:	SO - Soil	**Date Received:**	02/03/16
		Percent Solids:	86.0
Project:	City Line, 6 Horwith Drive, Northampton, PA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	11.0	0.47	mg/kg	1	02/04/16 10:12	RP	SW846 3060A/7196A
Solids, Percent	86		%	1	02/03/16 17:00	KP	SM2540 G-97

RL = Reporting Limit

Report of Analysis

Client Sample ID:	#6		
Lab Sample ID:	JC13588-6	**Date Sampled:**	02/02/16
Matrix:	SO - Soil	**Date Received:**	02/03/16
		Percent Solids:	79.7
Project:	City Line, 6 Horwith Drive, Northampton, PA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	< 0.50	0.50	mg/kg	1	02/04/16 10:12	RP	SW846 3060A/7196A
Solids, Percent	79.7		%	1	02/03/16 17:00	KP	SM2540 G-97

RL = Reporting Limit

Report of Analysis

Client Sample ID:	#7		
Lab Sample ID:	JC13588-7	**Date Sampled:**	02/02/16
Matrix:	SO - Soil	**Date Received:**	02/03/16
		Percent Solids:	73.5
Project:	City Line, 6 Horwith Drive, Northampton, PA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Oil and Grease	< 640	640	mg/kg	1	02/03/16 20:15	LS	SW846 9071B
Solids, Percent	73.5		%	1	02/03/16 17:00	KP	SM2540 G-97

RL = Reporting Limit

Report of Analysis

Client Sample ID:	#8		
Lab Sample ID:	JC13588-8	**Date Sampled:**	02/02/16
Matrix:	SO - Soil	**Date Received:**	02/03/16
		Percent Solids:	74.3
Project:	City Line, 6 Horwith Drive, Northampton, PA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Oil and Grease	< 670	670	mg/kg	1	02/03/16 20:15	LS	SW846 9071B
Solids, Percent	74.3		%	1	02/03/16 17:00	KP	SM2540 G-97

RL = Reporting Limit

ACCUTEST LABORATORIES

So

CHAIN OF CUSTODY

PAGE ___ OF ___

2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480
www.accutest.com

FED-EX Tracking #:
Bottle Order Control #:
Accutest Quote #:
Accutest Job #: JC13588

Client / Reporting Information

Company Name: EWMI (Rapid Response)
Street Address: 14 Brick Kiln CT
City / State / Zip: Northampton, PA 18067
Project Contact / E-mail: Scott Soden SSODEN@EWMI.com
Phone #: 484-275-6945 Fax #:
Sampler(s) Name(s) / Phone #: Scott Soden 484-275-6945

Project Information

Project Name: Hornwith Trucks RT 33
Street:
City / State:
Project #: 1944
Client Purchase Order #: 04-1944
Project Manager: Scott Soden

Billing Information (if different from Report to):
Company Name:
Street Address:
City / State / Zip:
Attention:

Requested Analysis (see TEST CODE sheet): Hexavalent Chrome; Oil & Grease

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Hexavalent Chrome	Oil & Grease			LAB USE ONLY
1	#1		2/2/16	8133		Soil	1					X				X			-1	DL3
	#2		2/2/16	1136		Soil	1					X				X			-2	
	#3		2/2/16	1140		Soil	1					X				X			-3	
	#4		2/2/16	1143		Soil	1					X				X			-4	
	#5		2/2/16	1146		Soil	1					X				X			-5	
	#6		2/2/16	1150		Soil	1					X				X			-6	
	#7		2/2/16	1153		Soil	1					X					X		-7	
	#8		2/2/16	1156		Soil	1					X					X		-8	

Turnaround Time (Business days)

Approved By (Accutest PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [x] 1 Day EMERGENCY
- [ ] other

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] PULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

INITIAL ASSESSMENT Am 2/2
LABEL VERIFICATION Am

Sample Custody must be documented below each time samples change possession, including courier delivery. 11:03

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	2/2/16 1315	1 Robert Chambers	2 Robert Chambers	2-3-16	2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal # / [ ] Intact / [ ] Not Intact	Preserved where applicable [ ]	On Ice [x] Cooler Temp. 2.6°C

JC13588: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: JC13588 **Client:** **Project:**

Date / Time Received: 2/3/2016 11:03:00 AM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (2.6);

Cooler Temps (Corrected) °C: Cooler 1: (3.0);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☐	☐	☑
2. Trip Blank listed on COC:	☐	☐	☑
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☐	☐	☑

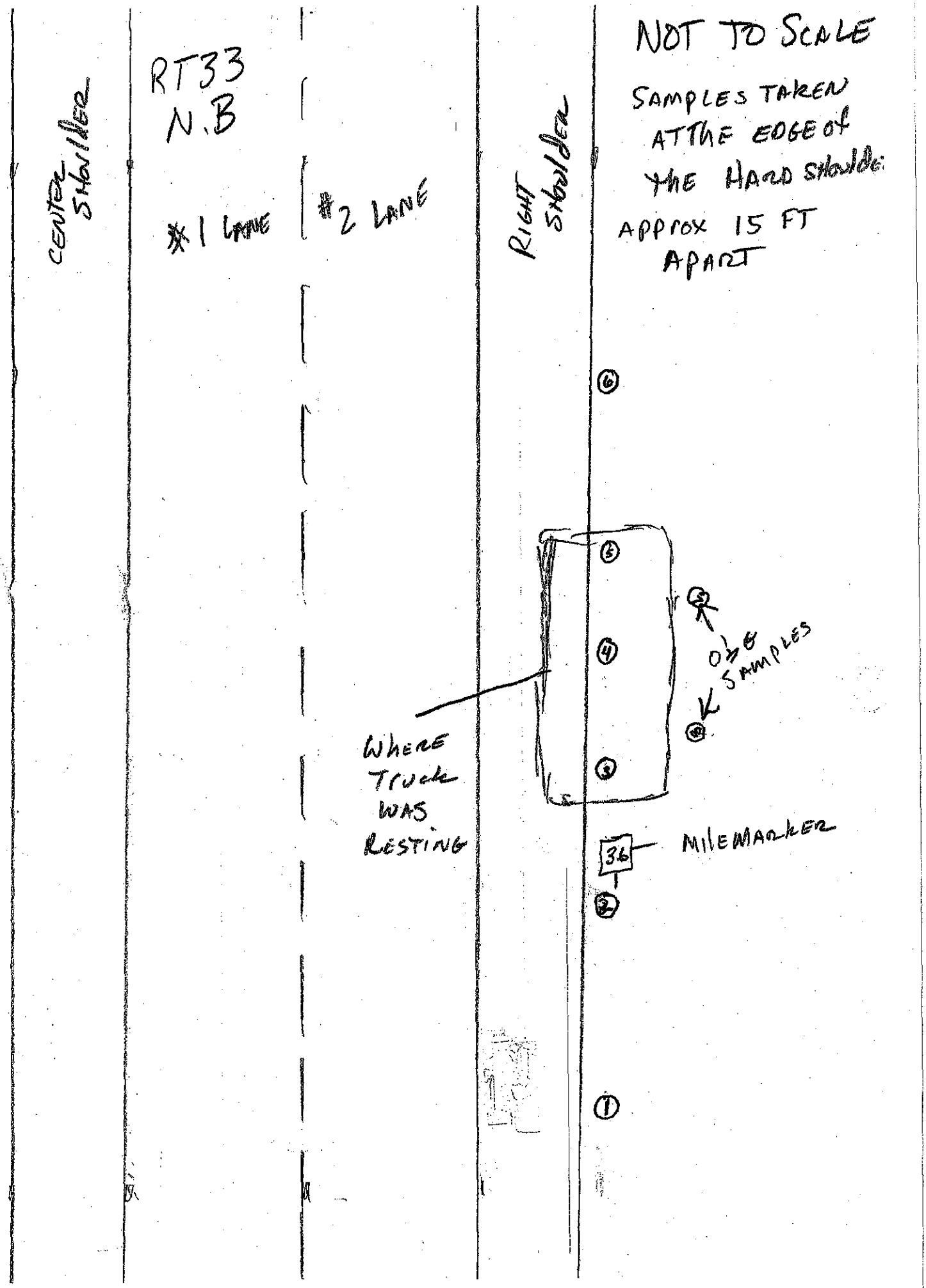
Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

Accutest Laboratories
V:732.329.0200
2235 US Highway 130
F: 732.329.3499
Dayton, New Jersey
www.accutest.com


NOT TO SCALE
SAMPLES TAKEN AT THE EDGE of THE HARD shoulder
APPROX 15 FT APART
RT33 N.B
CENTER SHOULDER
#1 LANE
#2 LANE
RIGHT SHOULDER
6
5
4
3
2
1
5
4
OTHER SAMPLES
WHERE TRUCK WAS RESTING
3.6
MILEMARKER

DEP RESPONSE REPORT

1449 Nor-Bath Blvd, PO Box 7
Northampton, PA 18067

DEPARTMENT OF ENVIRONMENTAL PROTECTION
EMERGENCY RESPONSE FIELD INSPECTION REPORT

Type of incident: Truck overturned on Route 33 North hauling hazardous waste, hexavalent chromium contaminated soil	**Date:** Mon. 2/1/2016
Facility or Location: Rte 33 North at Milemarker 3.6	
Municipality: Bethlehem Twp.	**County:** Northampton
Latitude: 40° 40' 33.9"	**Longitude:** 75° 17' 27.2"
Call Out Time: 1600hrs	**Return Time:** 2358hrs
Site Arrival Time: 1630hrs	**Site Departure Time:** 2310hrs
Beginning Mileage:	**Ending Mileage:**
Complainant Name and Address: N/A	
Telephone Number ( )	
Responsible Party Name and Address: Truck owner/Hazardous waste transporter – Horwith Trucking, Inc., Route 329, P.O. Box 7, Northampton, PA 18067; Hazardous waste generator – Honeywell, Inc., 115 Tabor Rd., Morris Plains, NJ 07950-4262	
Telephone Number (610) 261-2220 Horwith Trucks; 973-455-4252 – Honeywell, John Mojka (Contact on Manifest)	
Weather Conditions: Clear, Temp 40s	

Remarks: 1600hrs – Call from Kevin Augustine, ER Mgr., to respond to the truck accident on Rte. 33 North involving hexavalent chromium-contaminated soil. Accident occurred about 1500hrs.

Called Jeff Stire, Northampton County EMA, to confirm location and directions into the scene. 1630hrs – Arrived at the accident scene – Northampton County EMA, Lehigh County Hazmat, PennDOT, PSP, and Bethlehem Twp and Nancy Run Fire Co., Rapid Response, Fast Lane Towing and Transport, on-scene; Horwith Tri-axle truck was overturned on the northbound shoulder of Rte. 33 N. at milemarker 3.6. Truck was hauling the soil from a Honeywell Site located at 60 Kellogg St., Jersey City, NJ to the Horwith Trucking yard in Northampton to be loaded into Norfolk So. Rail cars for transport to Heritage Environmental Services facility in Indianapolis, IN via a CSX rail siding and Heritage trucks into the TSD. The manifest listed an estimated quantity of the hazardous waste (D007-TCLP hazardous for Cr) at 47,520 lbs. and listed a concentration range of 240- <1000ppm Hexavalent Cr. The truck was overturned, but the white sack/containment bladder appeared to be intact and for the most part still lying within the side of the bed on the truck. Work crews from Fast Lane Towing and Transport and Rapid Response performed the waste removal in Level C PPE and off-loaded the soils into two rolloff containers for transportation to the Horwith facility. Plastic was laid in front of the waste bladder and underneath the portion hanging out of the truck before the bladder was cut open and the waste soils were off-loaded. The soils appeared to be moist and no dust was observed during the transfer of the soils into the rolloffs. The backhoe and truck were deconned after the soils were removed. After the soil was removed, the truck was righted to be towed away and the truck and the area where the truck laid were examined. There did not appear to be a diesel fuel spill, but a small puddle of motor oil was observed, which the Rapid Response crew soaked up with pads and then scraped out the area with a backhoe. I left the Site after the truck was righted, the shoulder inspected, and the crews were finishing up the cleanup.

Materials Used: N/A

Sample Collected? N/A	**Sample Numbers:**	**Analysis?**
Investigated By: J. Kunkle (ER-JK-02012016)	**PADEP**	**Northeast Regional Office**

SA-6 AND SA-7 COMBINED PROGRESS REPORT

APRIL 13, 2016

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

April 13, 2016

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2016-03

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from March 1 – March 31, 2016.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Design and Construction

WJH:jtc/sgf

Attachment: March 2016 SA-6/7 Combined Monthly Progress Report No. 2016-03

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2016-03

Project SA-6 & 7 Remediation

March 2016

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
03/10/16	Combined Monthly Progress/Highlights Report No. 2016-02 Study Areas 6 and 7 Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
03/11/16	Spark Testing of Liner Boots RTC Study Area 6 North Chromium Remedy Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
03/15/16	Special Master Meeting	n/a
03/16/16	BEP -- USACE Additional Information Request and Response Study Area 7 Sediment Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
03/16/15	NMFS E-mail: BEP - Pre-Construction Notice for NWP No 27 Study Area 7 Sediment Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
03/16/16	Declaration Study Area 6 South Chromium Remedy Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
03/17/16	Evaluation of Depressurization Pumping Study Area 6 Groundwater Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
03/18/16	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440 MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
03/21/16	Request for Initial Consultation Pedestrian Bridge Study Area 7 Sediment Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
03/22/16	Design Change Bulletin: Horizon B and Horizon C Planting Soils New Sources of Imported Fill Identification Study Area 6 Jersey City, New Jersey *(One DCB was specific to Nature's Choice Horizon C Soils, One DCB was related to Horizon B Soils and Alternative Horizon C Soils)*	The Honorable Robert G. Torricelli Office of the Special Master

Date	Submittal/Meeting	Recipient
03/30/16	Groundwater Sampling Study Area 6 South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	03/06/16	03/13/16	03/20/16	03/27/16
Construction Management (AMEC)	7	8	8	8
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	29	25	26	26
Arecon/US Ecology Subcontractors	1	2	0	0
Eglentowicz (Demolition)	6	1	0	3
Langan	0	0	0	0
Evoqua	1	1	1	1
B&B Drilling	0	0	1	1
Cornerstone	0	0	0	0
TOTAL STAFF	**49**	**42**	**41**	**44**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected March PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Conducted 6-month performance assessment soil sampling from the in-situ treatment area TA-10-1 in accordance with the updated Work Plan, dated August 2015 for the in-situ treatment of hexavalent chromium (Cr(VI)) impacted soils (results pending).
- Continued pre-demolition activities associated with 60/72 Kellogg to include terminating the gas and electric service, and completing the asbestos, rodent and universal waste abatement activities.
- Conducted quarterly regional LTMP groundwater level monitoring event.
- Completed S-3 Mass Removal Injection Event No. 27 in well 088-IW-02.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on March 15, 2016.
- Initiated piping layout plans for routing the Contingent Groundwater Extraction System force mains from SA-6 North and South to the existing GWTP Neutralization Tank.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	03/06/16	03/13/16	03/20/16	03/27/16
Avg. Gallons Treated & Discharged (per day)	78,884	79,334	78,927	79,097
Average Flow (gpm) for Operating Period	55	57	57	57
Avg. Hours of Plant Operation	24	23	23	23
GWTP Influent Tanks (gal.)	4,370	5,300	5,771	4,318

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Completed dewatering and excavation activities of Site 163.
- Completed abandonment of the temporary Deep Extraction Well, DW8.
- Completed placement of backfill in Site 163 excavations in residential footprint.
- Continued backfilling of EA-2/EA-3 excavation area.
- Completed backfilling and restoration of EA-8.
- Completed excavation and backfilling of the anomalous material area observed within the northern portion of EA-1 up to the property line at Culver Circle.
- Completed trenching for installation of the Contingent Groundwater Extraction System piping on SA-6 North. A total of 260 linear feet of collection pipe was installed.
- Began backfilling the SA-6 North CGWES pipeline and installed the risers on manholes.
- On March 22, Amec sampled the proposed Nature's Choice Horizon C stockpiled soils for the additional hexavalent chromium analysis agreed upon with the parties. Results will be submitted when final.

1. Off-Site Disposal Monthly Waste Materials Summary

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/FCI	Roll-off	Sarnia, Ontario Canada	Stablex	WWTP Filer Cake	1	14	14
Horwith	Tri-axle	PA Transload	US Ecology	>240 mg/kg CrVI	25	21.39	534.91
Entact/Horwith	Tri-axle Dump	Middlesex County Landfill, NJ	MCUA	Non-haz "C"	9	21.8	197
Entact/Hortwith	Tri-axle Dump	Middlesex County Landfill, NJ	MCUA	Non Haz Petroleum	85	23.63	2009
Entact/Horwith	Tri-axle Dump	Middlesex County Landfill, NJ	MCUA	Non-haz "B"	19	23	437
Common Carrier	Roll-off	Tullytown, Pa	Waste Management	Non Friable ACM	1	30 cyds.	30 cyds.

2. Excavation & Backfill Progress

Description	Areas
Excavation Completed	Excavation Site 163 Complete - Total for Reporting Period (Site 163): 225 CY/ Total: 7,132.5 CY Excavation SA-6 North Complete - Total to Date (SA-6 North): 39,443 CY
Backfill in Progress	EA-2/EA-3, Site 163, SA-6 South Utility Corridor (C Street), EA-1 Completed in March

3. Backfill Materials Used

Source	Week Ending			
	03/06/16	03/13/16	03/20/16	03/27/16
Tilcon 1.5" Stone	350.86	0	0	0
Tilcon Mount Hope I-8	0	0	987.97	0
Natures Choice Topsoil	150.83	65.54	0	0

- Screened Celgene material was placed as protective cover soil in the SA-6 South cap area along edges which were disturbed during the temporary plastic cover installation.
- Overburden historic fill soils with hexavalent chromium concentrations confirmed to be < 20 mg/kg soils were placed as backfill in Site 163.
- Historic fill soils identified to be < 20 mg/kg hexavalent chromium were placed as backfill in EA-2/EA-3.

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging and offloading of surcharge material is complete.
- Area 3S: Surcharging and offloading of surcharge material is complete.
- Area 1N: Surcharging and offloading of surcharge material is complete.
- Area 2N: Surcharging and offloading of surcharge material is complete.
- Area 3N: Surcharge complete. Began offloading of Area 3N.
- Area 4N: Surcharge complete. Began offloading of Area 4N.

F. SHEET PILE OPERATIONS

- Completed installation of sheet pile for temporary excavation support at Site 163.
- Begin grouting Hydraulic Barrier Wall interlocks on SA-6 North.

G. CAPPING OPERATIONS

- Completed evaluations of potential alternative fill source(s), of both Horizon B and C Soils for the SA-6 South open space area. Conditions for acceptability of Nature's Choice Horizon C soils were agreed upon. A separate short list of potential Horizon B and C soil source vendors and the Dr. Jason Grabosky of Rutgers University recommendations were submitted to all parties for review as part of DCB 2016-03-18.
- Completed installation of additional panels of temporary plastic sheeting on the SA-6 South Cap.
- Continued placement of Structural Fill Material in the SA-6 South Cap Area corridor (C Street).

H. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2016	6/30/2016	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Obtained 12/24/15	12/03/16	Pending

I. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete EA-2/EA-3 backfilling activities.
- Continue final grading of GDL cover soils to include associated compaction testing and installation of root barrier on SA-6 South open space area.
- Resume import and placement of Horizon C Soils from Nature's Choice on the SA-6 South open space area. Pending approval of Horizon B and alternative Horizon C sources, we will import as soon as possible.
- Complete grouting of Hydraulic Barrier Wall interlocks.
- Begin demolition of 60 and 72 Kellogg Street above-grade structures.

- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Conduct S-3 Mass Removal injection event no. 28 in well 088-IW-03.
- Continue to develop CGWES piping layout plans for connection to GWTP Neutralization Tank.

ATTACHMENTS:

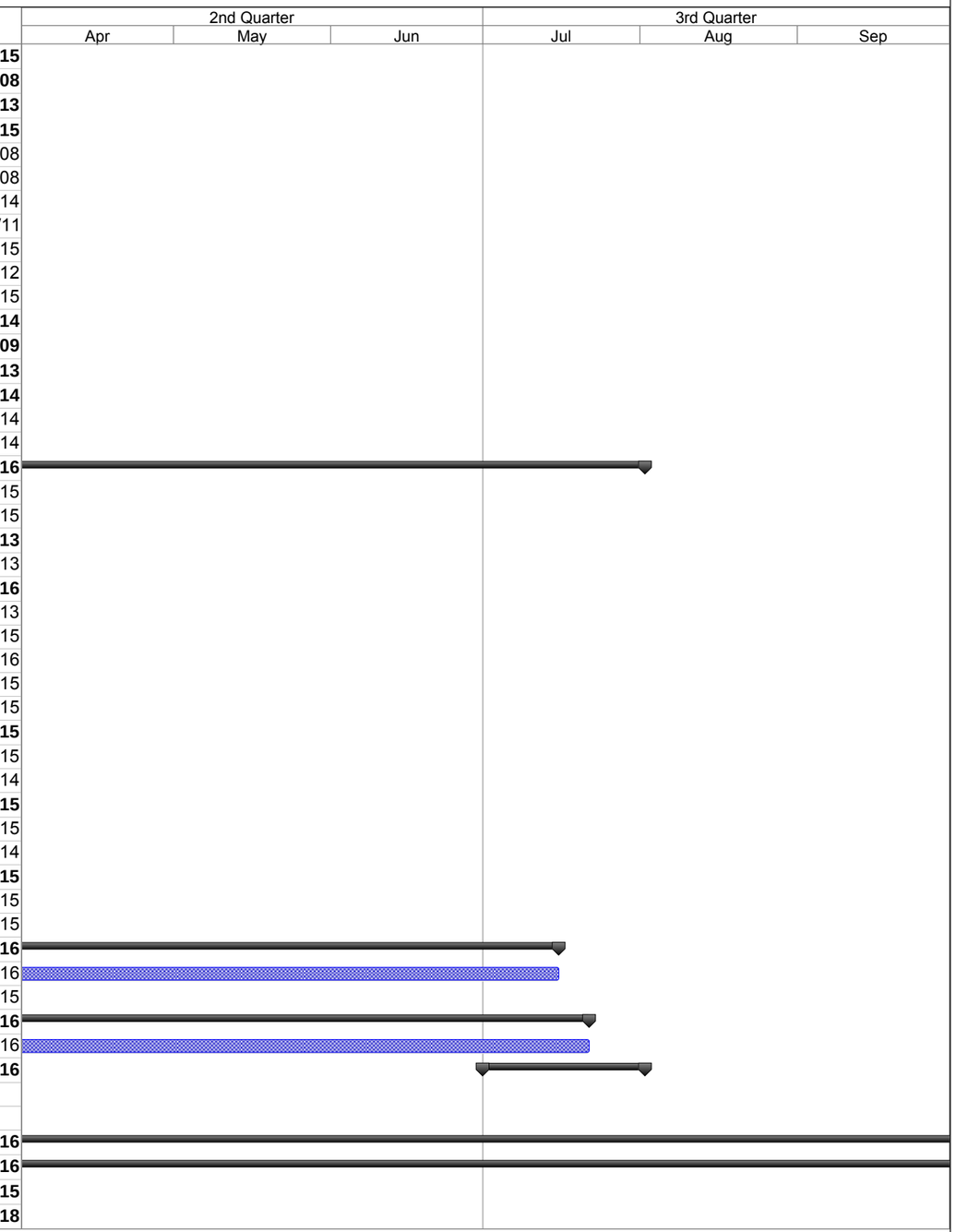
1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill (Progression Chart)
4. Dewatering Operations Update
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
7. Perimeter Pools Update
8. Groundwater Quality Data *(not included in this reporting period)*
9. Surcharge Monitoring Update *(not included in this reporting period)*
10. Sheet Pile Update *(not included in this reporting period)*
11. Capping Update *(not included in this reporting period)*
12. Weekly SWPPP Reports
13. GWTP Update
14. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**1/4/08**	**6/1/15**
2	**Remedial Action Work Plan**	**33 days**	**1/4/08**	**2/19/08**
5	**Remedial Action Design**	**1522 days**	**2/20/08**	**12/13/13**
18	**JCIA/JCDPW Relocation**	**1780 days**	**8/11/08**	**6/1/15**
19	Develop Site Relocation Master Plan	38 days	8/11/08	10/1/08
20	Submit Site Relocation Master Plan	0 days	10/1/08	10/1/08
21	JC Construction of New Facilities	1309 days	6/2/09	6/2/14
22	Relocation Contractor Procurement	392 days	4/15/10	10/13/11
23	JCIA and JCDPW Relocation	949 days	10/17/11	6/1/15
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	12/12/11	4/30/12
24a	Demolition of JCIA Structures	146 days	9/1/14	3/23/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**7/11/08**	**4/30/14**
26	**Remedial Action Work Plan**	**187 days**	**7/11/08**	**3/30/09**
32	**Remedial Action Design**	**1161 days**	**2/2/09**	**7/9/13**
57	**SA-6 South Relocation**	**616 days**	**12/26/11**	**4/30/14**
58	New GWTP Construction Completion	502 days	3/5/12	1/30/14
59	Demolition of 80 Kellogg	857 days	12/26/11	4/30/14
60	**SA-6 North/South Field Implementation**	**894 days**	**3/1/13**	**8/1/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	6/17/13	12/31/15
60b	SA-6S (Site 163) In-Situ Treatment	555 days	11/15/13	12/31/15
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**3/1/13**	**6/28/13**
61a	Mobilization	87 days	3/1/13	6/28/13
62	**Surcharge Install/Instrumentation**	**706 days**	**6/17/13**	**2/29/16**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	6/17/13	12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	4/8/14	2/13/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	6/30/15	2/29/16
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	6/16/14	2/23/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	10/6/14	5/8/15
63	**Barrier Wall Install**	**569 days**	**8/12/13**	**10/15/15**
63a	SA 6N Installation of Barrier Wall	159 days	3/9/15	10/15/15
63b	SA 6S Installation of Barrier Wall	210 days	8/12/13	5/30/14
64	**Excavation**	**507 days**	**10/22/13**	**9/30/15**
64a	SA 6N Excavation	218 days	12/1/14	9/30/15
64b	SA 6S Excavation	295 days	10/22/13	12/8/14
65	**Backfill**	**558 days**	**11/11/13**	**12/30/15**
65a	SA 6N Backfill	283 days	12/1/14	12/30/15
65b	SA 6S Backfill	384 days	11/11/13	4/30/15
66	**Capping and Cover Soil Placement**	**426 days**	**12/1/14**	**7/15/16**
66a	SA 6N Capping and Cover Soil Placement	83 days	3/24/16	7/15/16
66b	SA 6S Capping and Cover Soil Placement	283 days	12/1/14	12/30/15
67	**Restoration**	**234 days**	**9/1/15**	**7/21/16**
67a	Restoration	234 days	9/1/15	7/21/16
68	**Demobilization**	**22 days**	**7/1/16**	**8/1/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line			
69	**SA-6 North Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
75	**SA-6 South Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
81	**SA-6 North Long Term Protections**	**1830 days**	**10/1/08**	**10/1/15**
92	**SA-6 South Long Term Protections**	**2569 days**	**6/5/08**	**3/31/18**



Project: SA-6 Remediation Schedule
Revision 4
Date: 3/31/16

Task | Milestone | Summary | Critical

Attachment 2: Site Photographs

Site Photograph 1: Area C Dozer Spreading Backfill at Site 163.

Site Photograph 2: Area C Excavation at Site 163.

Site Photograph 3: Area EA-8 Restoration at JC Properties.

Site Photograph 4: Grading Structural Fill in future utility corridor.

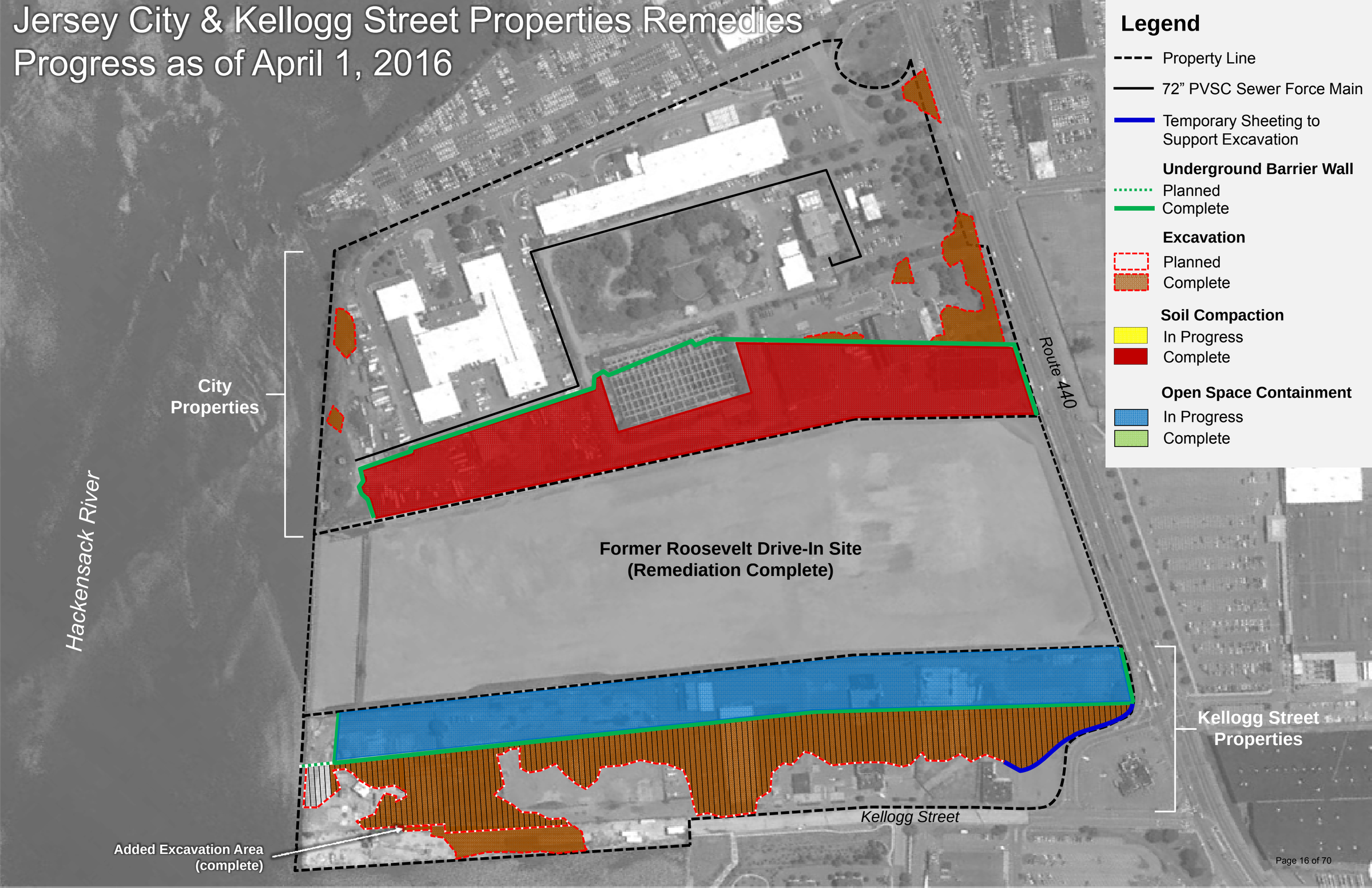
Site Photograph 5: Loading concrete debris from Site 163.

Site Photograph 6: Removing temporary sheet pile at Area C Site 163.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies
Progress as of April 1, 2016



Attachment 4: Dewatering Operations Update

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) DAILY	EXTRACTED VOLUME (Gal) TOTAL	AVERAGE FLOW RATE (gpm)	COMMENTS
12/18/15	1	24	19	10	N/A	N/A	1,700	3,112,472	1.2	System Taken Offline
01/14/16	1	24	22,23,24	27	N/A	N/A	5,000	3,117,472	3.5	
01/15/16	1	24	22,23,24	23	N/A	N/A	5,000	3,122,472	3.5	
01/18/16	1	72	22,23,24	23	N/A	N/A	15,000	3,137,472	3.5	
01/19/16	1	24	22,23,24	23	N/A	N/A	5,000	3,142,472	3.5	System Offline for Excavation
02/05/16	1	24	22,23,24	23	N/A	N/A	5,000	3,147,472	3.5	
02/08/16	1	72	22,23,24	23	N/A	N/A	15,000	3,162,472	3.5	
02/09/16	1	24	22,23,24	27	N/A	N/A	5,000	3,167,472	3.5	
02/10/16	1	24	22,23,24	27	N/A	N/A	3,000	3,170,472	2.1	
02/11/16	1	24	22,23,24	27	N/A	N/A	3,000	3,173,472	2.1	
02/12/16	1	24	22,23,24	21	N/A	N/A	3,000	3,176,472	2.1	
02/16/16	1	96	22,23,24	21	N/A	N/A	2,000	3,178,472	0.3	
02/17/16	1	24	22,23,24	15	N/A	N/A	1,000	3,179,472	0.7	
02/18/16	1	24	22,23,24	8	N/A	N/A	1,000	3,180,472	0.7	
02/19/16	1	24	22,23,24	8	N/A	N/A	1,500	3,181,972	1.0	
02/22/16	1	72	22,23,24	3	N/A	N/A	4,000	3,185,972	0.9	
02/23/16	1	24	22,23,24	3	N/A	N/A	1,000	3,186,972	0.7	
02/24/16	1	24	22,23,24	3	N/A	N/A	1,000	3,187,972	0.7	
02/25/16	1	24	22,23,24	3	N/A	N/A	1,000	3,188,972	0.7	
02/26/16	1	24	22,23,24	3	N/A	N/A	1,000	3,189,972	0.7	
02/27/16	1	24	22,23,24	3	N/A	N/A	500	3,190,472	0.3	
02/28/16	1	24	22,23,24	3	N/A	N/A	500	3,190,972	0.3	
02/29/16	1	24	22,23,24	3	N/A	N/A	500	3,191,472	0.3	
03/01/16	1	24	22,23,24	3	N/A	N/A	500	3,191,972	0.3	
03/02/16	1	24	22,23,24	3	N/A	N/A	1,000	3,192,972	0.7	
03/03/16	1	24	22,23,24	3	N/A	N/A	1,000	3,193,972	0.7	System Offline for Excavation

Notes: Previous information is truncated. Only last month and current month information is provided.
Site 163 Excavation was completed and the system was turned off.

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
01/14/16	9:30	14:00	4:30	39,510.66	39,562.31	51,650	39,418,460	
02/01/16	7:30	13:15	5:45	39,562.31	39,632.04	69,730	39,488,190	
02/02/16	7:00	11:30	4:30	39,632.04	39,691.51	59,470	39,547,660	PVSC Compliance Sample Collected
02/03/16	7:30	15:30	8:00	39,691.51	39,789.38	97,870	39,645,530	
02/04/16	8:00	15:30	7:30	39,789.38	39,869.34	79,960	39,725,490	
02/05/16	8:00	15:30	7:30	39,869.34	39,962.83	93,490	39,818,980	
02/06/16	8:00	14:00	6:00	39,962.83	40,010.68	47,850	39,866,830	
02/08/16	7:15	15:15	8:00	40,010.68	40,119.75	109,070	39,975,900	
02/09/16	8:30	15:30	7:00	40,119.75	40,195.00	75,250	40,051,150	
02/10/16	9:30	15:30	6:00	40,195.00	40,313.68	118,680	40,169,830	
02/11/16	10:30	15:30	5:00	40,313.68	40,407.45	93,770	40,263,600	
02/16/16	10:00	16:00	6:00	40,407.45	40,472.48	65,030	40,328,630	
02/17/16	7:00	15:30	8:30	40,472.48	40,635.48	163,000	40,491,630	
02/18/16	9:30	14:30	5:00	40,635.48	40,695.00	59,520	40,551,150	
02/22/16	7:30	13:00	5:30	40,695.00	40,767.90	72,900	40,624,050	
02/23/16	7:30	15:00	7:30	40,767.90	40,847.01	79,110	40,703,160	
02/24/16	8:30	15:00	6:30	40,847.01	40,947.06	100,050	40,803,210	
02/25/16	9:00	16:00	7:00	40,947.06	41,052.04	104,980	40,908,190	
02/26/16	7:30	15:00	7:30	41,052.04	41,114.52	62,480	40,970,670	
02/27/16	9:00	12:30	3:30	41,114.52	41,172.24	57,720	41,028,390	
02/28/16	8:00	13:00	5:00	41,172.24	41,227.51	55,270	41,083,660	
02/29/16	6:30	15:15	8:45	41,227.51	41,400.89	173,380	41,257,040	
03/01/16	7:00	15:30	8:30	41,400.89	41,493.59	92,700	41,349,740	
03/02/16	7:00	14:00	7:00	41,493.59	41,607.89	114,300	41,464,040	
03/03/16	7:30	12:15	4:45	41,607.89	41,671.38	63,490	41,527,530	
03/04/16	7:30	15:00	7:30	41,671.38	41,722.53	51,150	41,578,680	
03/05/16	9:00	15:00	6:00	41,722.53	41,782.88	60,350	41,639,030	
03/07/16	8:30	15:30	7:00	41,782.88	41,826.70	43,820	41,682,850	
03/10/16	9:00	15:00	6:00	41,826.70	41,955.66	128,960	41,811,810	PVSC Compliance Sample Collected
03/11/16	9:00	14:45	5:45	41,955.66	42,015.16	59,500	41,871,310	
03/15/16	8:00	16:00	8:00	42,015.16	42,113.22	98,060	41,969,370	
03/16/16	10:15	13:15	3:00	42,113.22	42,181.63	68,410	42,037,780	
03/17/16	7:30	15:00	7:30	42,181.63	42,268.80	87,170	42,124,950	
03/18/16	8:00	12:30	4:30	42,268.80	42,308.01	39,210	42,164,160	
03/21/16	7:30	13:00	5:30	42,308.01	42,352.43	44,420	42,208,580	
03/22/16	7:30	14:00	6:30	42,352.43	42,406.76	54,330	42,262,910	
03/23/16	12:00	15:15	3:15	42,406.76	42,437.75	30,990	42,293,900	
03/24/16	7:30	13:00	5:30	42,437.75	42,475.64	37,890	42,331,790	
03/28/16	7:30	15:30	8:00	42,475.64	42,517.63	41,990	42,373,780	

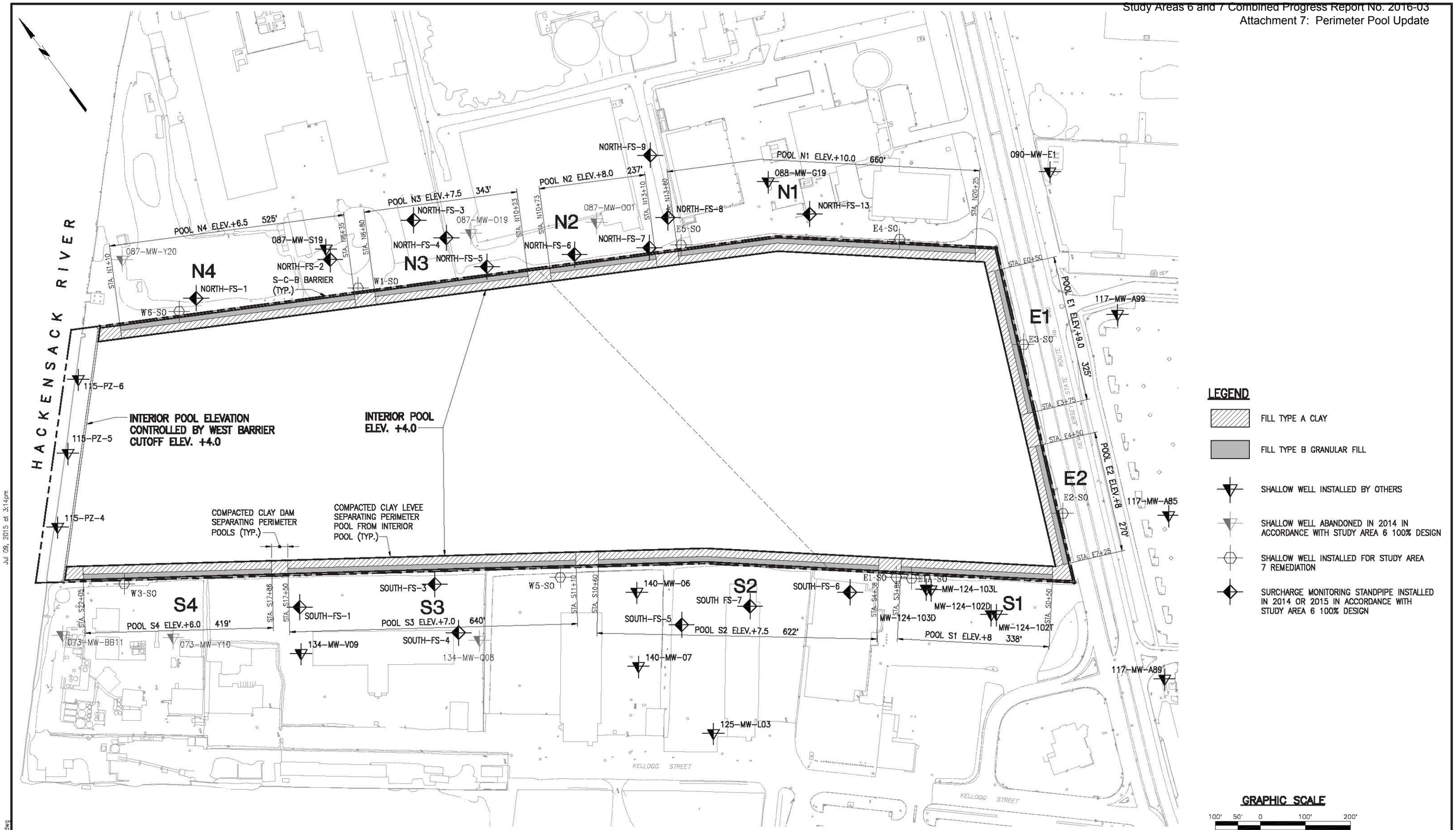
Notes: Previous information is truncated. Only last month and current month information is provided

Attachment 6: Backfill Analytical Data

Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
EA2/EA3	<20	087-EA2-20-a (bermed/trench material)	400	087-EA2-20-a1	12/11/2015	--	<1.8	Yes		
				087-EA2-20-a2	12/11/2015	--	6.7	Yes		
				087-EA2-20-a3	12/11/2015	--	<1.9	Yes		
				087-EA2-20-a4	12/11/2015	--	3.8	Yes		
EA2/EA3	<20	087-EA2-20-b1:g1 (A material)	5200 cy	087-EA2-20-b1	12/30/2015	--	3.0	Yes		
				087-EA2-20-b2	12/30/2015	--	3.0	Yes		
				087-EA2-20-b3	12/30/2015	--	0.55	Yes		
				087-EA2-20-b4	12/30/2015	--	0.97	Yes		
				087-EA2-20-c1	12/30/2015	--	4.3	Yes		
				087-EA2-20-c2	12/30/2015	--	1.5	Yes		
				087-EA2-20-c3	12/30/2015	--	1.6	Yes		
				087-EA2-20-c4	12/30/2015	--	0.53	Yes		
				087-EA2-20-d1	12/30/2015	--	0.60	Yes		
				087-EA2-20-d2	12/30/2015	--	15.9	Yes		
				087-EA2-20-d3	12/30/2015	--	5.4	Yes		
				087-EA2-20-d4	12/30/2015	--	1.7	Yes		
				087-EA2-20-e1	12/30/2015	--	0.53	Yes		
				087-EA2-20-e2	12/30/2015	--	12.3	Yes		
				087-EA2-20-e3	12/30/2015	--	3.1	Yes		
				087-EA2-20-e4	12/30/2015	--	0.57	Yes		
				087-EA2-20-f1	12/30/2015	--	0.52	Yes		
				087-EA2-20-f2	12/30/2015	--	0.53	Yes		
				087-EA2-20-f3	12/30/2015	--	0.57	Yes		
				087-EA2-20-f4	12/30/2015	--	0.54	Yes		
				087-EA2-20-g1	12/30/2015	--	0.53	Yes		
EA2/EA3	<20	087-EA2-20-h1 (overburden)	150 cy	087-EA2-20-h1	12/30/2015	--	0.7	Yes		
EA2/EA3	<20	087-EA2-20-i1 (overburden)	200 cy	087-EA2-20-i1	12/30/2015	--	0.54	Yes		
EA2/EA3	<20	087-EA2-20-h2:j3 (overburden)	2200 cy	087-EA2-20-h2	1/8/2016	--	24.1		Yes	
				087-EA2-20-h3	1/8/2016	--	<1.4	Yes		
				087-EA2-20-h4	1/8/2016	--	19	Yes		
				087-EA2-20-i2	1/8/2016	--	0.66	Yes		
				087-EA2-20-i3	1/8/2016	--	<1.9	Yes		
				087-EA2-20-i4	1/8/2016	--	<1.4	Yes		
				087-EA2-20-j1	1/8/2016	--	<2.0	Yes		
				087-EA2-20-j2	1/8/2016	--	8.9	Yes		
				087-EA2-20-j3	1/8/2016	--	<1.9	Yes		
EA2/EA3	<20	087-EA2-20-k1:k4	1000 cy	087-EA2-20-k1	1/8/2016	--	7	Yes		
				087-EA2-20-k2	1/8/2016	--	10	Yes		
				087-EA2-20-k3	1/8/2016	--	8	Yes		
				087-EA2-20-k4	1/8/2016	--	<1.9	Yes		
Site 163	<20	163-20-a	840	163-20-a1	1/19/2016	--	8.1	Yes		
				163-20-a2	1/19/2016	--	4.0	Yes		
				163-20-a3	1/19/2016	--	1.7	Yes		
				163-20-a4	1/19/2016	--	5.0	Yes		
Site 163	<20	163-20-a	840	163-20-a5	2/22/2016	--	2.7	Yes		
				163-20-a6	2/22/2016	--	3.6	Yes		
				163-20-a7	2/22/2016	--	1.0	Yes		
				163-20-a8	2/22/2016	--	5.1	Yes		
EA1	<20	087-EA1-20	210	087-EA1-20-A1	2/29/2016	--	0.9	Yes		
				087-EA1-20-A2	2/29/2016	--	3.2	Yes		
				087-EA1-20-A3	2/29/2016	--	29.0		Yes	
				087-EA1-20-A4	2/29/2016	--	2.3	Yes		

Previous information is truncated. Only last two months and current month information is provided.
*Material currently stockpiled. Pending final placement.
**Waiting on final results from the laboratory.

Attachment 7: Perimeter Pools Update



IN PROGRESS
06-10-2015

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

Jul 09, 2015 at 3:14pm
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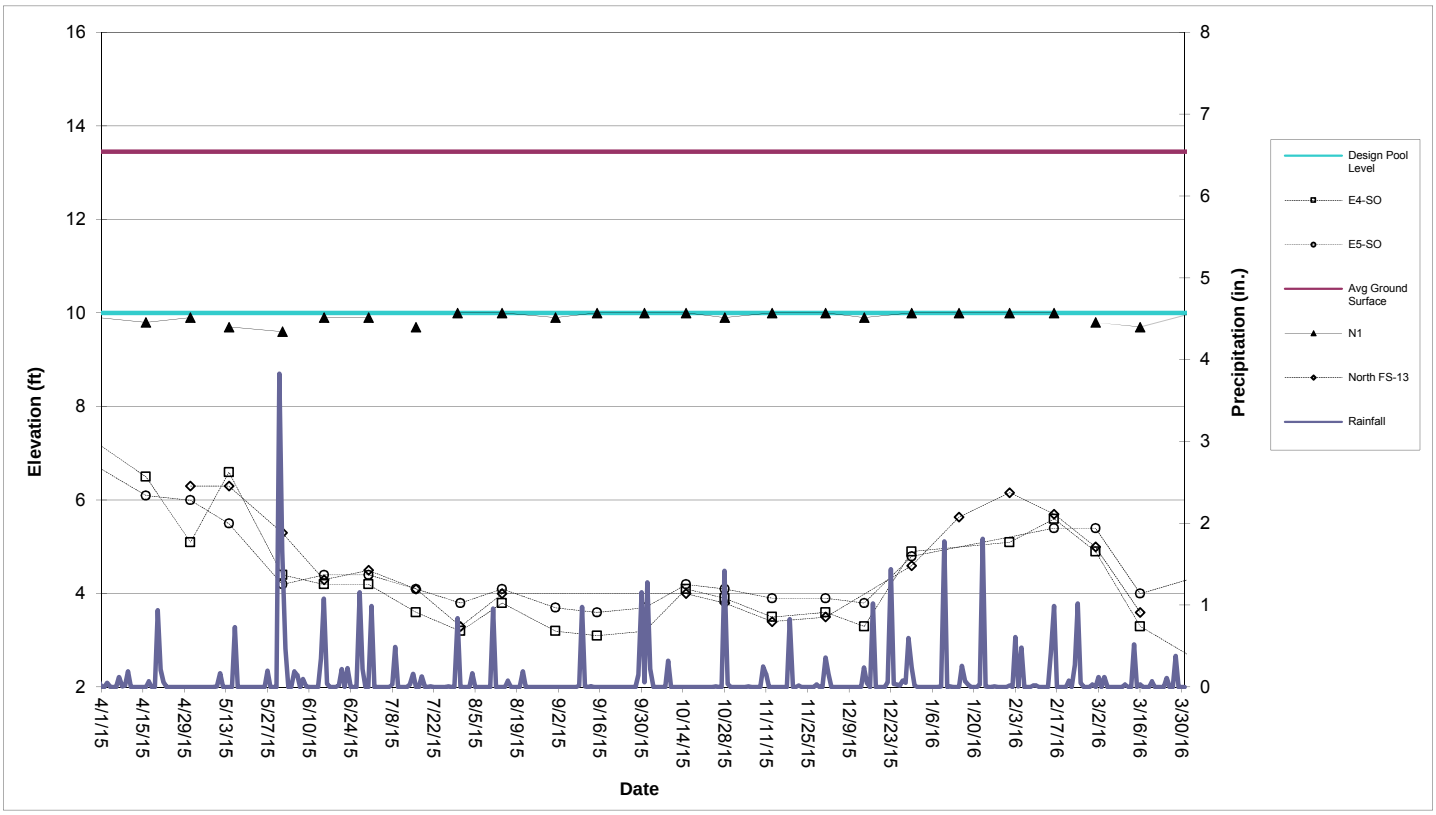
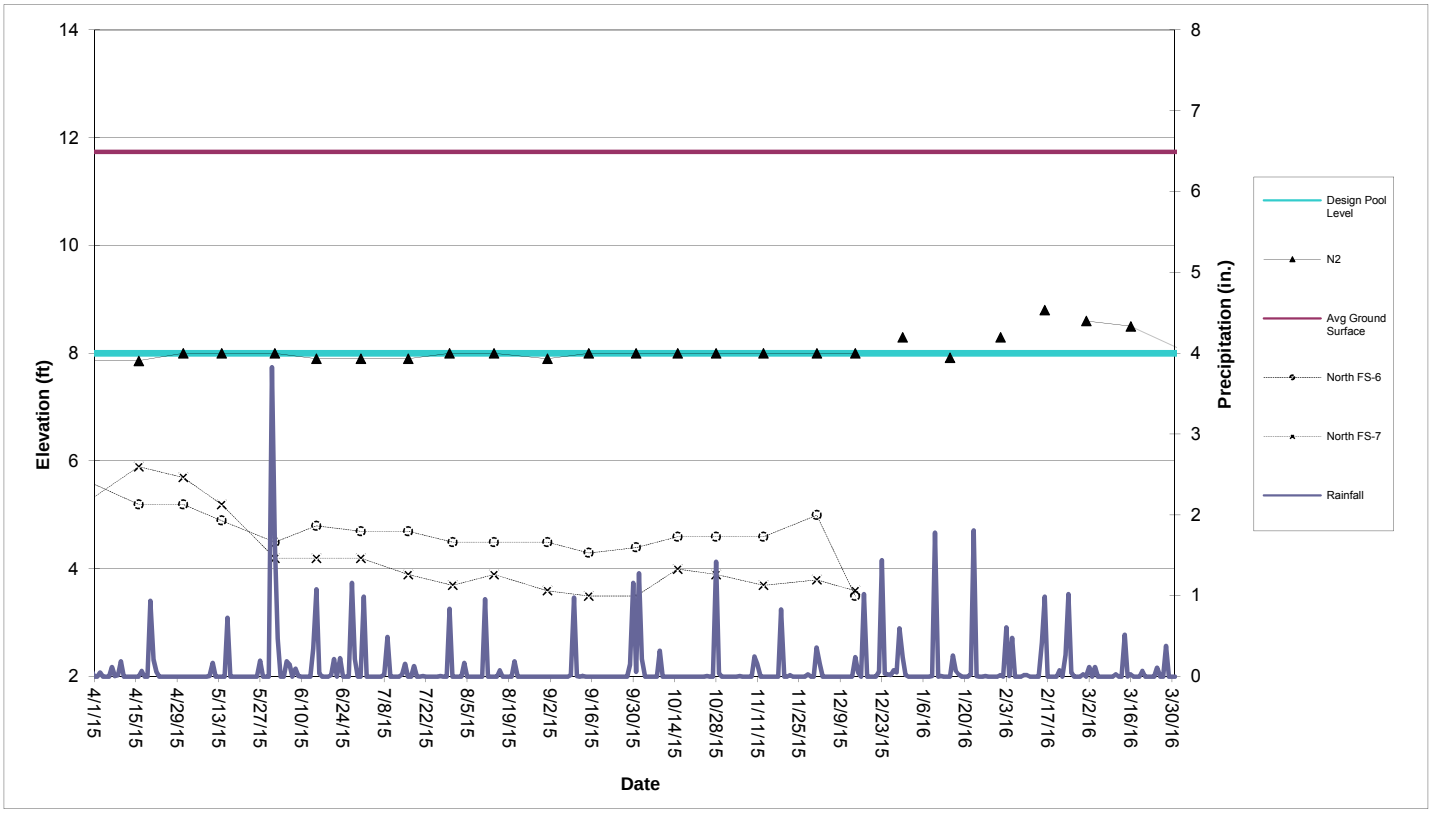
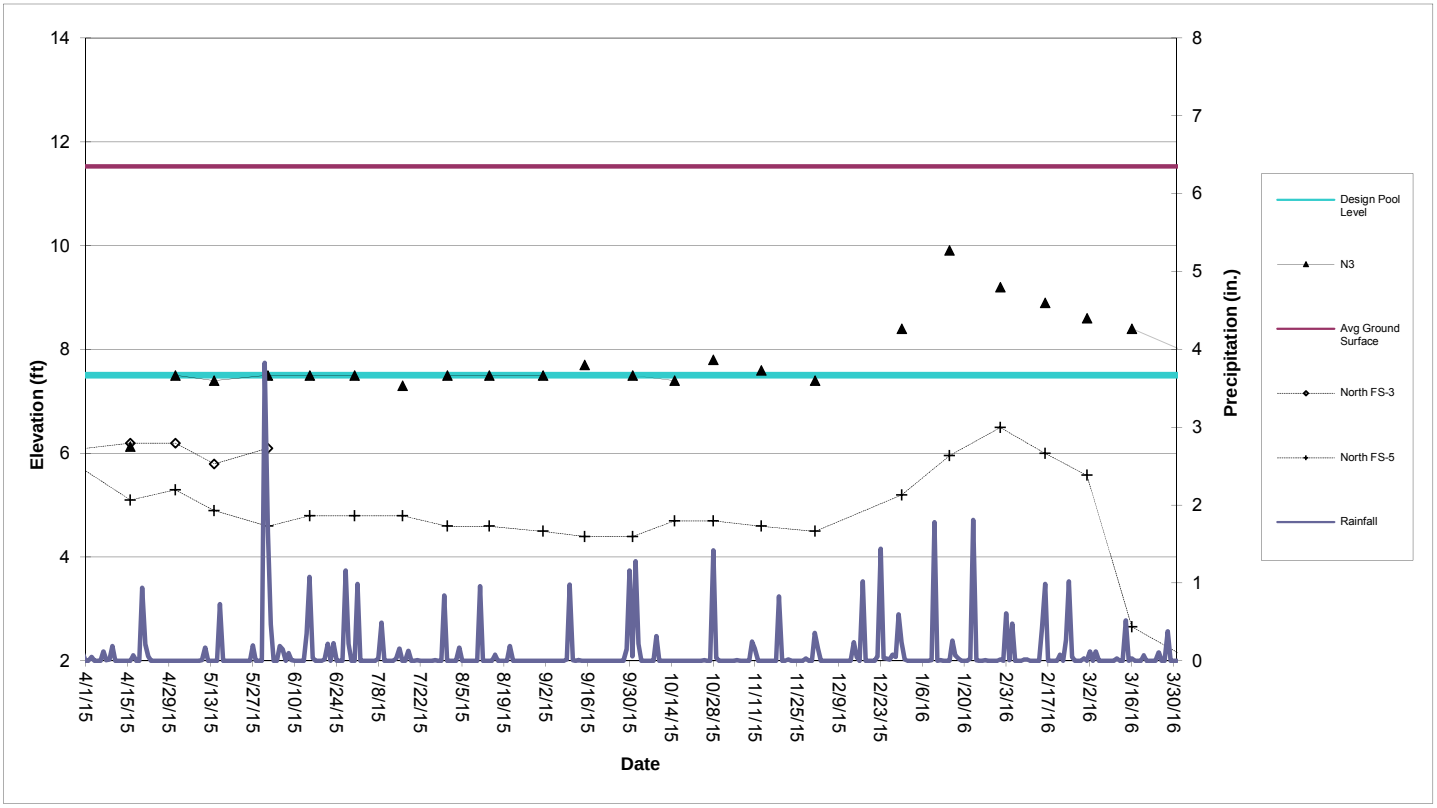
bboscaino



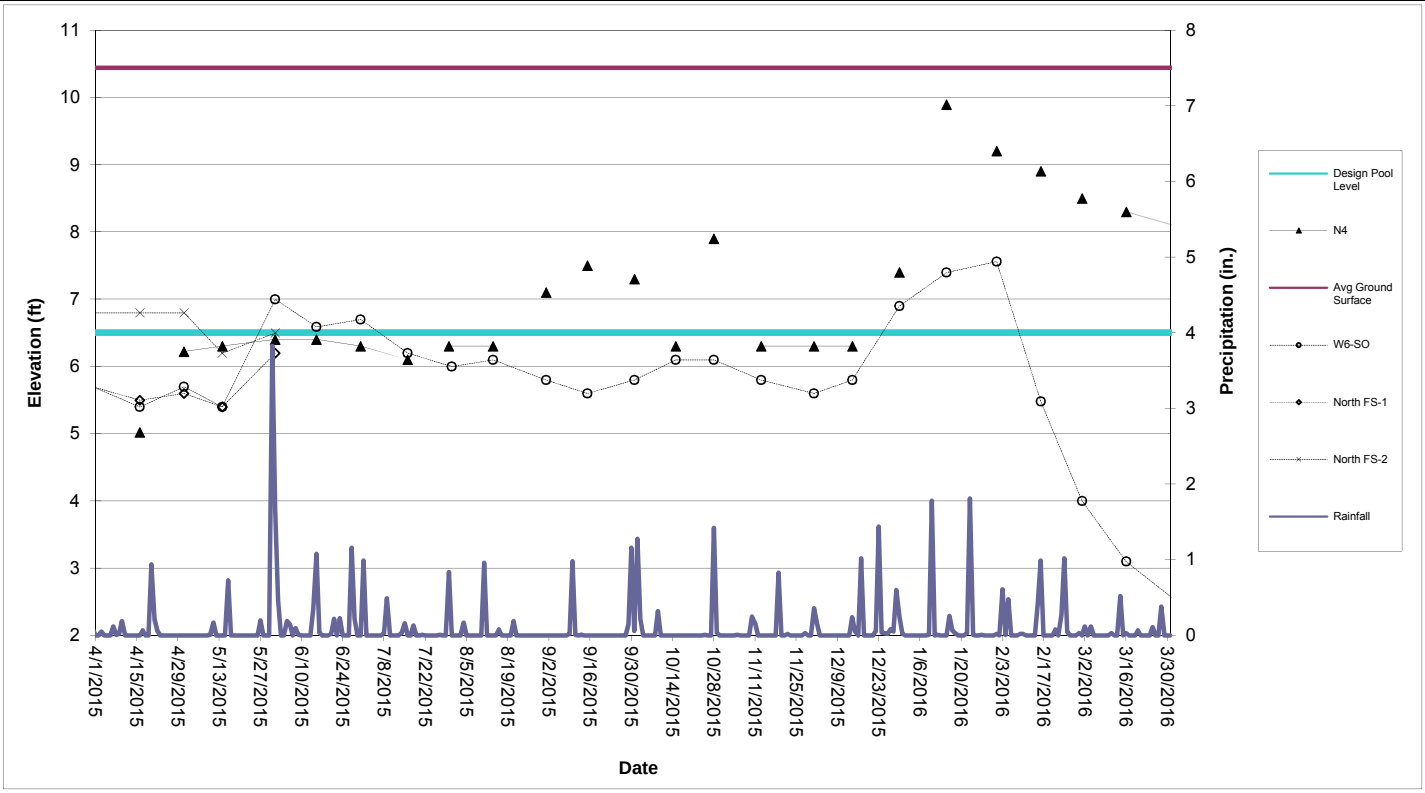
Perimeter Pool N1 (Sta. N13+60 to N20+25)



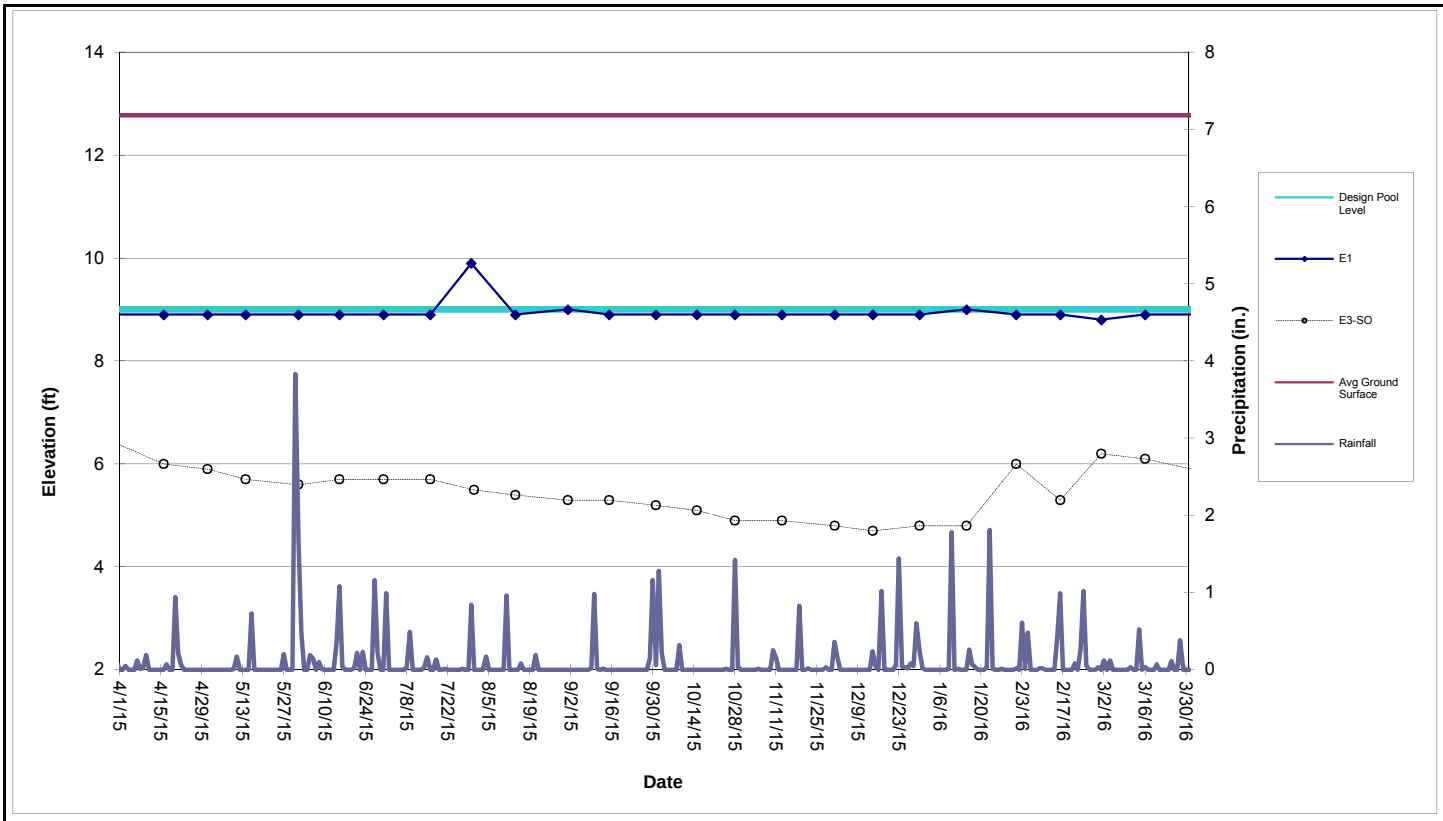
Perimeter Pool N2 (Sta. N10+73 to N13+10)



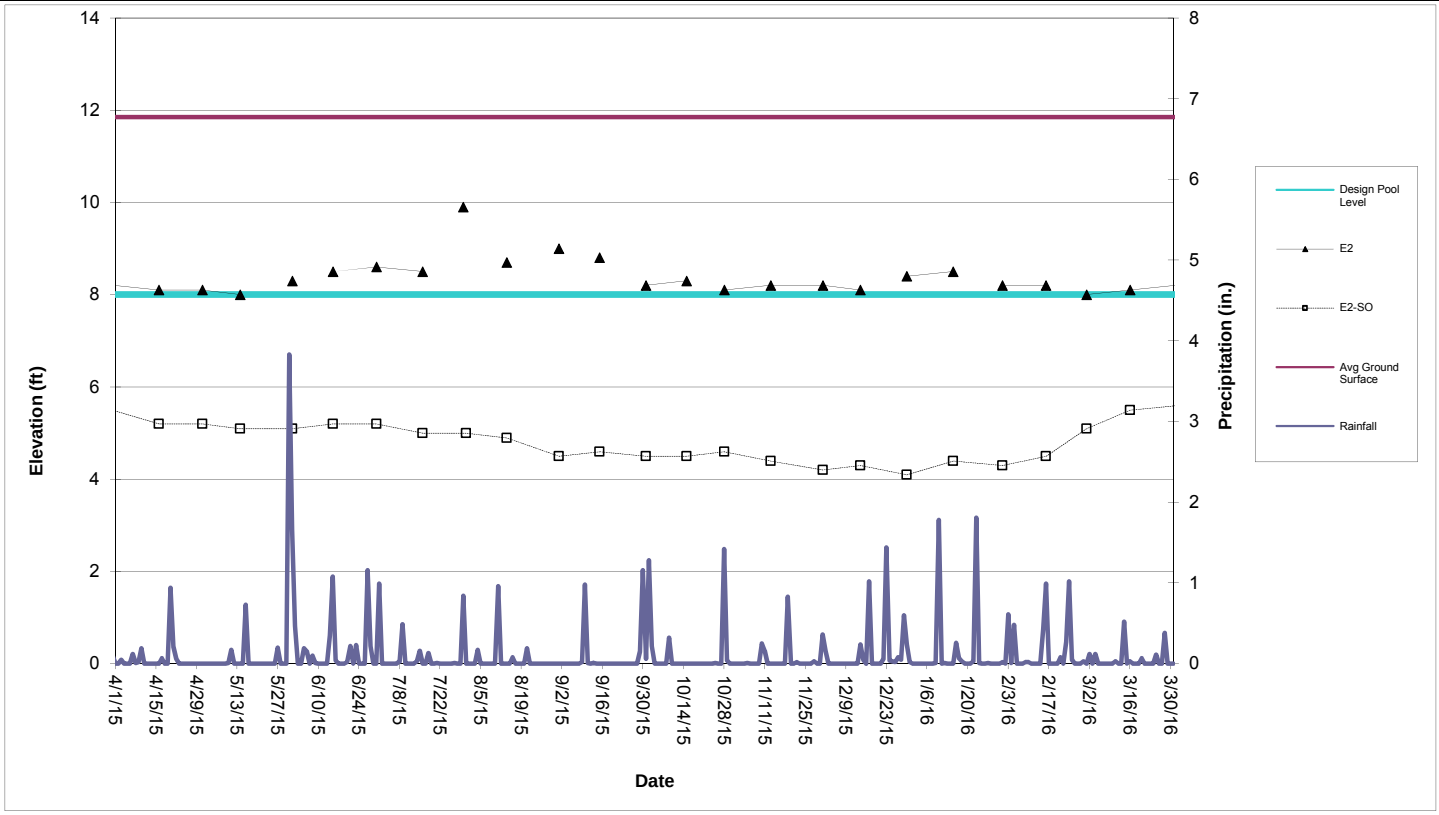
Perimeter Pool N3 (Sta. N6+80 to N10+23)



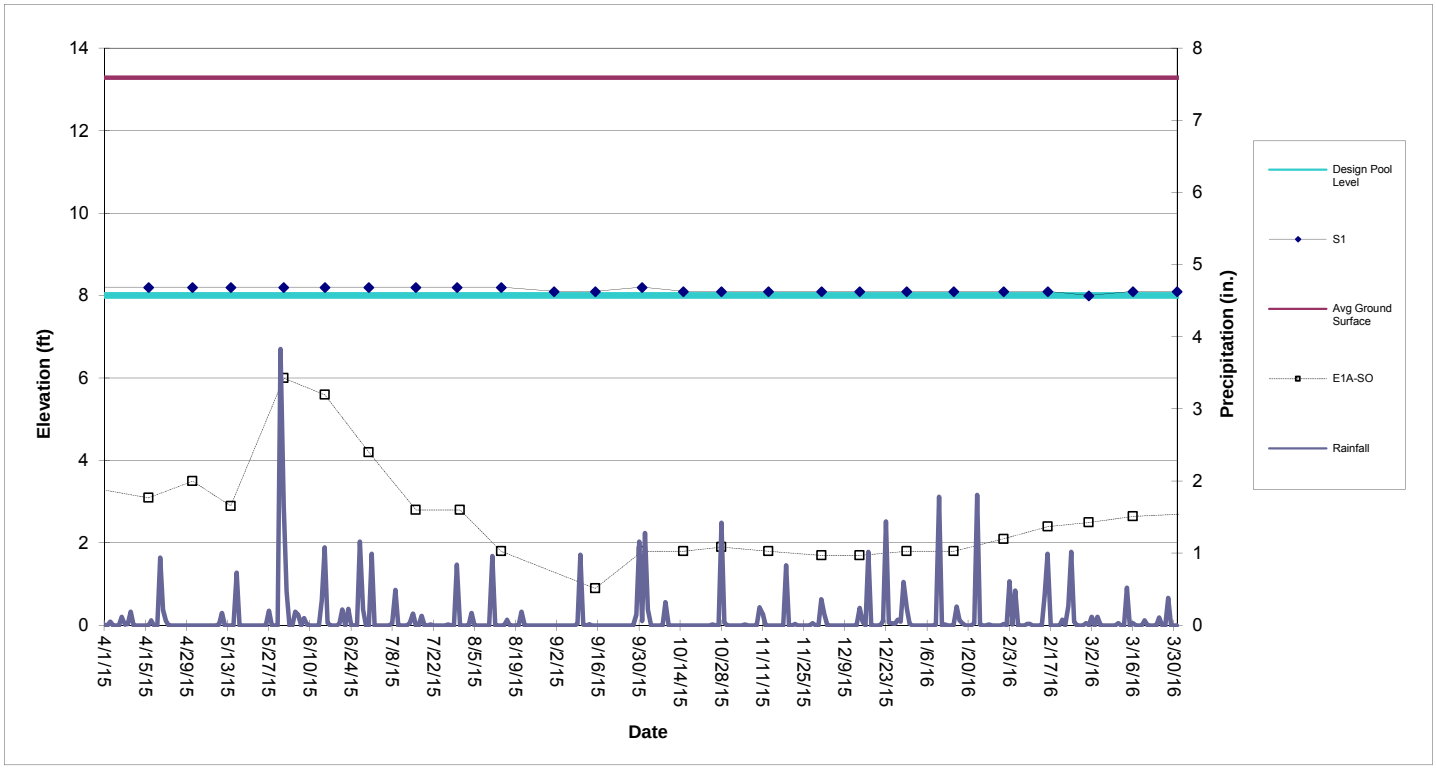
Perimeter Pool N4 (Sta. N6+80 to N10+23)



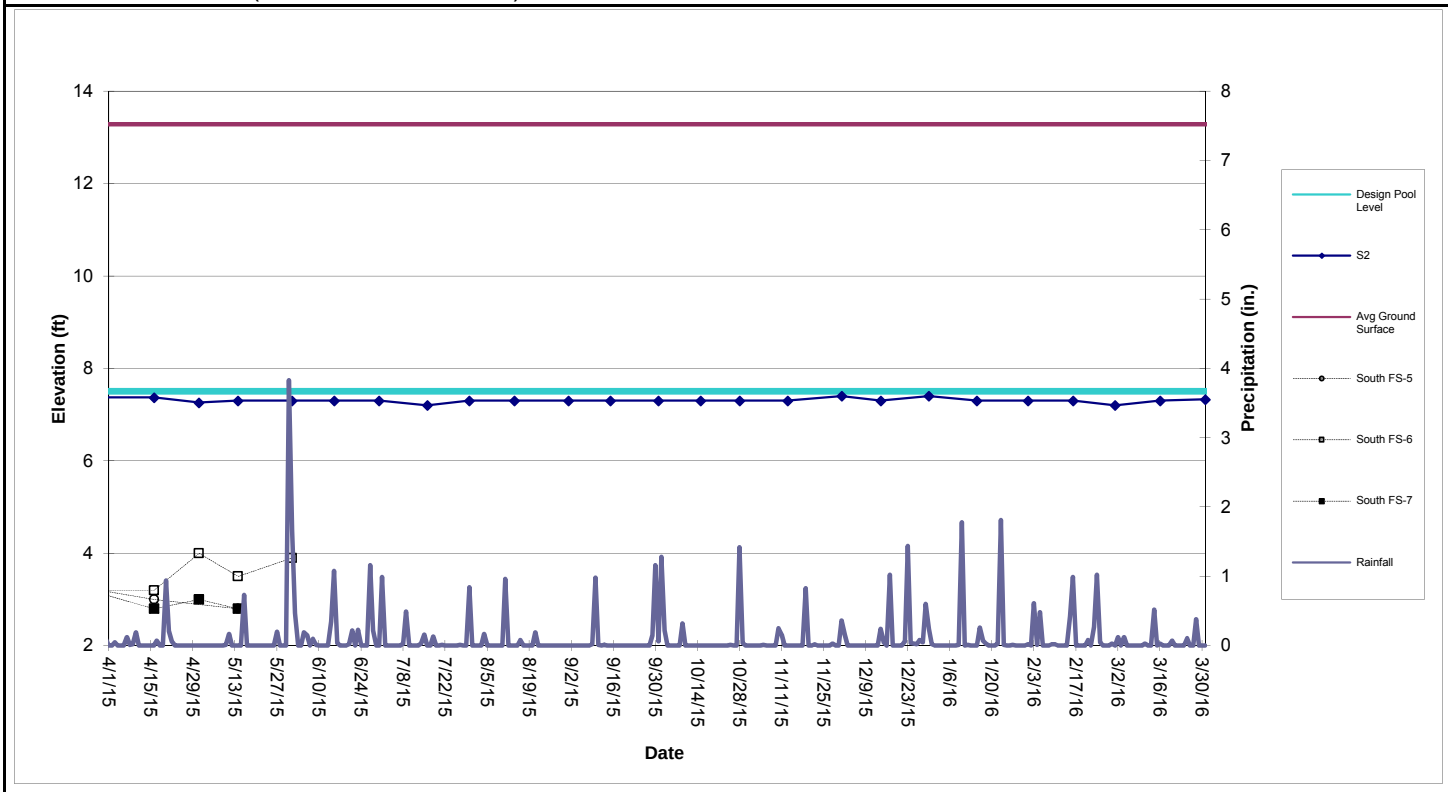
Perimeter Pool E1 (Sta. E0+50 to E3+75)



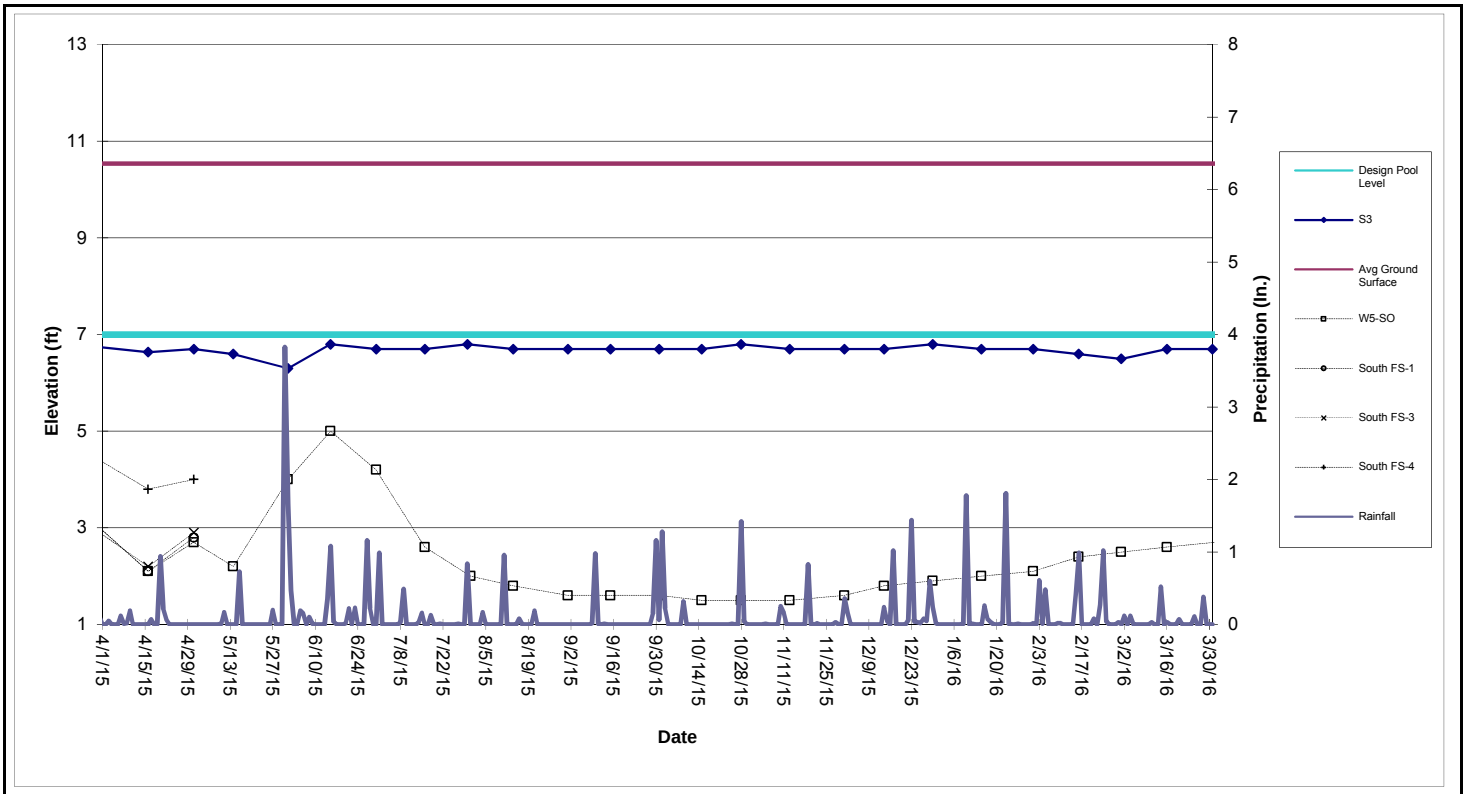
Perimeter Pool E2 (Sta. E4+50 to E7+25)



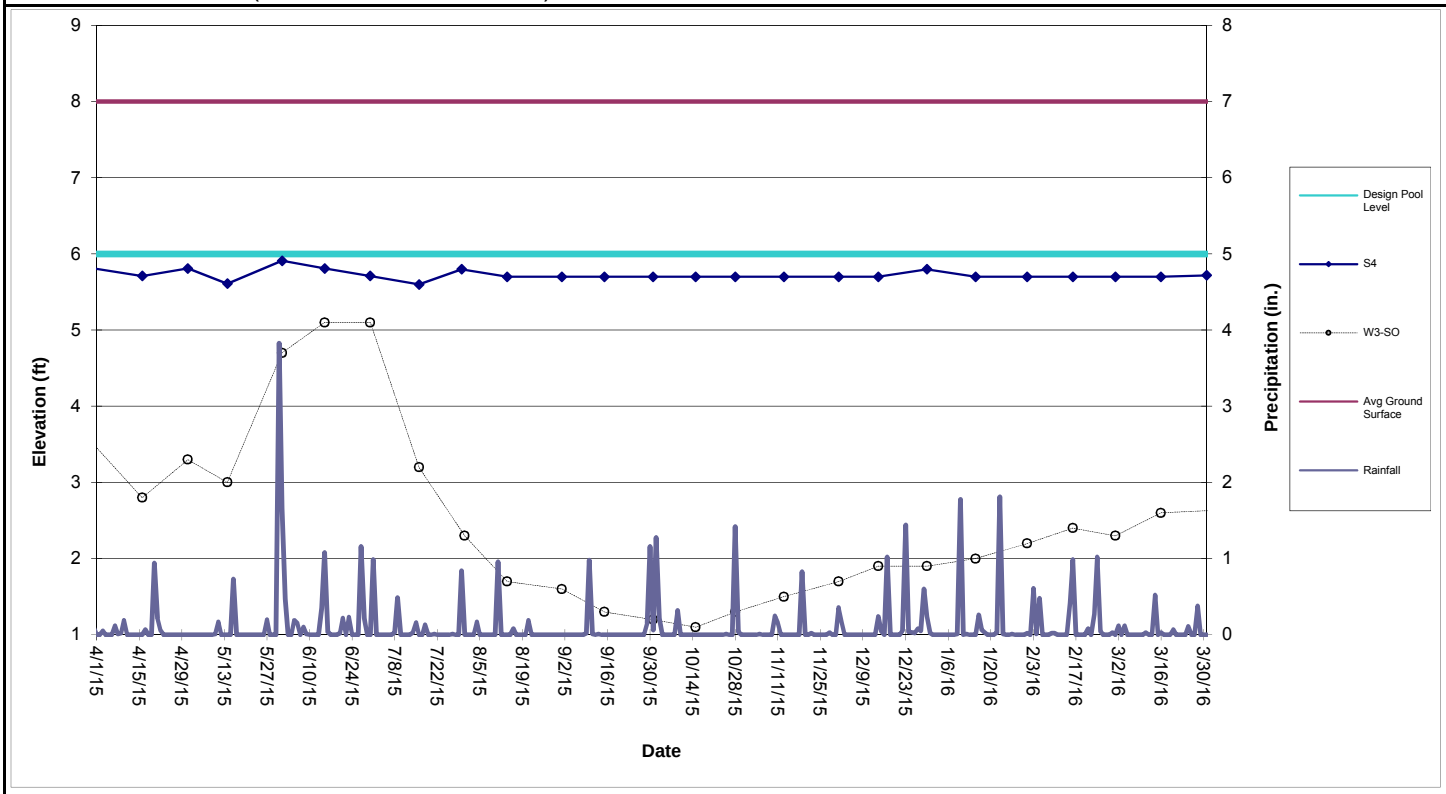
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-1	FS-2	FS-3	FS-5	FS-6	FS-7	FS-13	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																						
4/16/2015	3.1	5.2	6.0	6.5	6.1		2.8	2.1	5.4	5.5	6.8	6.2	5.1	5.2	5.9		2.1	2.2	3.8	3.0	3.2	2.8
5/1/2015	3.5	5.2	5.9	5.1	6.0		3.3	2.7	5.7	5.6	6.8	6.2	5.3	5.2	5.7	6.3	2.8	2.9	4.0		4.0	3.0
5/14/2015	2.9	5.1	5.7	6.6	5.5		3.0	2.2	5.4	5.4	6.2	5.8	4.9	4.9	5.2	6.3				2.8	3.5	2.8
6/1/2015	6.0	5.1	5.6	4.4	4.2		4.7	4.0	7.0	6.2	6.5	6.1	4.6	4.5	4.2	5.3					3.9	
6/15/2015	5.6	5.2	5.7	4.2	4.4		5.1	5.0	6.6				4.8	4.8	4.2	4.3						
6/30/2015	4.2	5.2	5.7	4.2	4.4		5.1	4.2	6.7				4.8	4.7	4.2	4.5						
7/16/2015	2.8	5.0	5.7	3.6	4.1		3.2	2.6	6.2				4.8	4.7	3.9	4.1						
7/31/2015	2.8	5.0	5.5	3.2	3.8		2.3	2.0	6.0				4.6	4.5	3.7	3.3						
8/14/2015	1.8	4.9	5.4	3.8	4.1		1.7	1.8	6.1				4.6	4.5	3.9	4.0						
9/1/2015		4.5	5.3	3.2	3.7		1.6	1.6	5.8				4.5	4.5	3.6							
9/15/2015	0.9	4.6	5.3	3.1	3.6		1.3	1.6	5.6				4.4	4.3	3.5							
10/1/2015	1.8	4.5	5.2	3.2	3.7		1.2	1.6	5.8				4.4	4.4	3.5							
10/15/2015	1.8	4.5	5.1	4.1	4.2		1.1	1.5	6.1				4.7	4.6	4.0	4.0						
10/28/2015	1.9	4.6	4.9	3.9	4.1	6.9	1.3	1.5	6.1				4.7	4.6	3.9	3.8						
11/13/2015	1.8	4.4	4.9	3.5	3.9	6.4	1.5	1.5	5.8				4.6	4.6	3.7	3.4						
12/1/2015	1.7	4.2	4.8	3.6	3.9	6.2	1.7	1.6	5.6				4.5	5.0	3.8	3.5						
12/14/2015	1.7	4.3	4.7	3.3	3.8	6.2	1.9	1.8	5.8					3.5	3.6							
12/30/2015	1.8	4.1	4.8	4.9	4.8	7.5	1.9	1.9	6.9				5.2			4.6						
1/15/2016	1.8	4.4	4.8			7.9	2.0	2.0	7.4				6.0			5.6						
2/1/2016	2.1	4.3	6.0	5.1		7.7	2.2	2.1	7.6				6.5			6.2						
2/16/2016	2.4	4.5	5.3	5.6	5.4	6.7	2.4	2.4	5.5				6.0			5.7						
3/1/2016	2.5	5.1	6.2	4.9	5.4	5.1	2.3	2.5	4.0				5.6			5.0						
3/16/2016	2.7	5.5	6.1	3.3	4.0	4.2	2.6	2.6	3.1				2.7			3.6						

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09, E4-SO, W1-SO, North FS-6, North FS-7

Attachment 8: Groundwater Quality Data

(not included in this reporting period)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

(not included in this reporting period)

Attachment 11: Capping Update

(not included in this reporting period)

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: ~~March 4, 2016~~ 3/3 March 3, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	✓			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	✓			
Misc. Spill Control (Fuels, Lubricants, Etc.)	✓			
Stockpile Tarping/Containment	✓			
Proper Chemical Storage	✓			
Containment Around Exclusion Zones	✓			
Water Truck Wet- Down Operation	✓			
Truck De-Con Operation	✓			
Flood Protection	✓			
Haul Road Maintenance	✓			
Perimeter Fencing/Windscreen	✓			
Storm Drain Protection	✓			
Ponded Storm Water	✓			
Housekeeping	✓			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	✓			
River Discharge Weir	✓		X	
Swale Check Dams			X	
Exclusion Zone Fencing	✓			
Misc. Spill Control (Fuels, Lubricants, Etc.)	✓			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	✓			
Proper Chemical Storage	✓			
Containment Around Exclusion Zones	✓			
Water Truck Wet- Down Operation	✓			
Truck De-Con Operation	✓			
Flood Protection			X	
Haul Road Maintenance	✓			
Perimeter Fencing/Windscreen	✓			
Storm Drain Protection	✓			
Ponded Storm Water	✓			
Housekeeping	✓			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	✓			
River Discharge Weir	✓			
Swale Check Dams	✓			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	✓			
Stockpile Tarping/Containment	✓			
Proper Chemical Storage	✓			
Containment Around Exclusion Zones	✓		X	
Water Truck Wet- Down Operation	✓			
Truck De-Con Operation			X	
Flood Protection	✓		X	
Haul Road Maintenance	✓			
Perimeter Fencing/Windscreen	✓			
Storm Drain Protection	✓			
Ponded Storm Water	✓			
Housekeeping	✓			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 3/3/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, March 03, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	**REPEAT**: Windscreen on the SA-6 South perimeter fenceline is detached from the perimeter fence in the area of the 60 Kellogg building.
2	"	Sediment from SA-7 roadway
3	"	Trash pile outside of EA-8
4	"	Trash on kellogg jug handle
5	"	Exclusion zone fencing is down on the west side of 1N
6	"	Bayfront banner on 440 is starting to detach
7	"	Filter fabric under storm drains is blinded, north of the trash pit

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature **Date:** 3/3/16

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach or replace windscreen to the perimeter fence as required.	3/10/16 RAD
2	Clean up sediment from SA-7 roadway	
3	Clean up trash pile outside of EA-8	
4	Clean up trash on kellogg jug handle	
5	Repair exclusion zone fencing on the west side of 1N	
6	Reinforce Bayfront banner on 440	
7	Replace filter fabric under storm drains north of the trash pit	

Construction Manager: _____ **Date:** 03/10/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: March 11, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		3
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		4
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		5
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 03/11/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, March 11, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence inside of the perimeter fence line along the western end of Kellogg Street requires maintenance
2	IA2Q4A1AL8	Windscreen on the perimeter fence at the western end of Kellogg Street has become detached
3	IA2Q4A1AL8	Garbage and other debris is present along the Kellogg Street jughandle.
4	IA2Q4A1AL8	Two catch basins in the former JCIA area to the north of the sedimentation basin require silt protection
5	IA2Q4A1AL8	Silt fence along the southern perimeter of the N-1 stockpile area on SA-7 requires maintenance.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 03/11/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Repair or replace the silt fence along the Kellogg Street fenceline as required	3-17-16 RAD
2	Re-attach or replace windscreen on the perimeter fence as required.	↓
3	Pick up and discard the garbage and debris along the roadside.	↓
4	Install filter fabric or sediment baskets in the two catch basins as required.	↓
5	Repair or replace the silt fence along the northern SA-7 roadway as required.	↓

Construction Manager: _____ **Date:** 03/17/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: March 18, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		2,3
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		4

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		5
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		6
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 03/21/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, March 18, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Garbage and other debris is present along the Kellogg Street jughandle.
2	IA2Q4A1AL8	Exclusion Zone fencing at the western end of surcharge area 1-N is down and requires maintenance.
3	IA2Q4A1AL8	Exclusion Zone fencing along the sheetpile in the sedimentation basin area requires maintenance.
4	IA2Q4A1AL8	There are 55 gallon drums of lubricant in the mechanics area which are not on spill pallets.
5	IA2Q4A1AL8	Silt fencing surrounding the Novartis Stockpile area requires maintenance.
6	IA2Q4A1AL8	Sediment has accumulated on the western haul road on SA-7.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 03/21/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Pick up and discard the garbage and debris along the roadside.	3/24/16 KAD
2	Repair or replace EZ fencing and signage as required.	
3	Repair or replace EZ fencing and signage as required.	
4	Place all "in-use" drums on spill pallets.	
5	Repair or replace the silt fence surrounding the Novartis Stockpile Area as required.	
6	Clean sediment from the western SA-7 haul road as required.	

Construction Manager: _____ Date: 03/24/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: March 25, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		2
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		3
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 03/25/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, March 25, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Garbage and other debris is present along the Kellogg Street jughandle.
2	IA2Q4A1AL8	Silt fencing along the southern toe of the 1-N surcharge area requires maintenance.
3	IA2Q4A1AL8	Sediment fabric in a stormwater catch basin on the eastern SA-7 roadway has fallen through and requires replacement.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 03/25/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Pick up and discard the garbage and debris along the roadside.	3/31/16 RAD
2	Repair or replace silt fence along the southern toe of the 1-N surcharge area as required	
3	Replace the filter fabric in the eastern SA-7 roadway catch basin as required	

Construction Manager: _____ Date: 03/31/16

Attachment 13: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (submitted March 2015)

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

March 18, 2016

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the February 2016 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
2	01	16	2	29	16
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	79,211	84,960 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	0.75	0.80	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	0.00021	0.00021	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.1	<5.1	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1689	0.1689	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
2	01	16	2	29	16
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,297,112 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 56,718,528

DATE	BOD (mg/l)	TSS (mg/l)
2/10/2016	<3.4	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE 3/16/2016

PVSC FORM MR-2 REV.3 6/93

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

3/16/2016

Date

PVSC FORM MR-1 REV: 5 3/91 P2

PVSC DAILY OPERATING LOG **Honeywell Jersey City GWTP; SA-6 North (Permit #20630025)** **MONTH: February 2016**

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
2/1/2016	Angel Trujillo	54421416	54498650	77,234	0.077234	7.18	1.130									0.73
2/2/2016	Angel Trujillo	54498650	54577458	78,808	0.078808	7.78	1.130									0.74
2/3/2016	Angel Trujillo	54577458	54656198	78,740	0.07874	7.60	1.130									0.74
2/4/2016	Angel Trujillo	54656198	54736172	79,974	0.079974	7.78	1.130									0.75
2/5/2016	Angel Trujillo	54736172	54816320	80,148	0.080148	7.63	1.130									0.76
2/6/2016	Angel Trujillo	54816320	54900072	83,752	0.083752	7.68	1.130									0.79
2/7/2016	Angel Trujillo	54900072	54977848	77,776	0.077776	7.70	1.130									0.73
2/8/2016	Angel Trujillo	54977848	55055624	77,776	0.077776	7.74	1.130									0.73
2/9/2016	Angel Trujillo	55055624	55134636	79,012	0.079012	7.67	1.130									0.74
2/10/2016	Angel Trujillo	55134636	55216114	81,478	0.081478	6.85	1.130	<5.1	<3.4		<0.010	<0.030	<0.010	0.00021	<0.020	0.77
2/11/2016	Angel Trujillo	55216114	55294078	77,964	0.077964	7.81	1.130									0.73
2/12/2016	Angel Trujillo	55294078	55374112	80,034	0.080034	7.79	1.130									0.75
2/13/2016	Angel Trujillo	55374112	55456622	82,510	0.08251	7.09	1.130									0.78
2/14/2016	Angel Trujillo	55456622	55533901	77,279	0.077279	7.70	1.130									0.73
2/15/2016	Angel Trujillo	55533901	55611180	77,279	0.077279	7.60	1.130									0.73
2/16/2016	Angel Trujillo	55611180	55688012	76,832	0.076832	7.76	1.130									0.72
2/17/2016	Angel Trujillo	55688012	55768112	80,100	0.0801	7.46	1.130									0.75
2/18/2016	Angel Trujillo	55768112	55846367	78,255	0.078255	7.81	1.130									0.74
2/19/2016	Angel Trujillo	55846367	55927468	81,101	0.081101	7.75	1.130									0.76
2/20/2016	Angel Trujillo	55927468	56012428	84,960	0.08496	7.56	1.130									0.80
2/21/2016	Angel Trujillo	56012428	56088708	76,280	0.07628	7.70	1.130									0.72
2/22/2016	Angel Trujillo	56088708	56164988	76,280	0.07628	7.90	1.130									0.72
2/23/2016	Angel Trujillo	56164988	56244394	79,406	0.079406	7.80	1.130									0.75
2/24/2016	Angel Trujillo	56244394	56321732	77,338	0.077338	7.74	1.130									0.73
2/25/2016	Angel Trujillo	56321732	56402166	80,434	0.080434	7.71	1.130									0.76
2/26/2016	Angel Trujillo	56402166	56481148	78,982	0.078982	7.57	1.130									0.74
2/27/2016	Angel Trujillo	56481148	56564090	82,942	0.082942	7.81	1.130									0.78
2/28/2016	Angel Trujillo	56564090	56641309	77,219	0.077219	7.80	1.130									0.73
2/29/2016	Angel Trujillo	56641309	56718528	77,219	0.077219	7.76	1.130									0.73
TOTAL				2,297,112	2.297112			<5.1	<3.4		<0.010	<0.030	<0.010	0.00021	<0.020	
			High:	84,960											High:	0.80
			Average:	79,211											Average:	0.75

WW

E
PN

JC 14033

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell

Chain Of Custody / Analysis Request

AESI Ref:	42410.53492
COC#	087-WW-021016
Lab Proj # (SDG):	
Lab ID	ACTD
Site ID	HudsonCo
Lab Job #	HWINJM32815
Authorized User:	Honeywell

Text & Excel File Drive | Excel & Text File Order

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Privileged & Confidential

Site Name: Hudson County
Phase: CS
Location of Site: Jersey City, NJ
Sampling Program: 097. JCIA

Sampling Co.: MACTEC
EDD To:
Sampler: Frank Schroyer
PO #
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Full Report TAT: 28 Days

Client Contact: (name, co., address)
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962
Preliminary Data To
Sample Receipt Acknowledgement To
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)

Sample identification: Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs: see attached special list				Sampling Method (code)	Lab Sample Numbers
										Units															
Preservative												3	3	3	1	2	2	0	0	2					
1 087-WW			087-WWE-021016-A	2/10/2016	14:00	WW	WATER	REG	3	comp	N	X	X	X	X			X	X				-1		
2 087-WW			087-WWE-021016-B	2/10/2016	14:05	WW	WATER	REG	6	grab	N					X	X						-2		
3 087-WW			087-WWI-021016 ⊕	2/10/2016	14:15	WW	WATER	REG	3	grab	N									X			-3		
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									

L26
V451
A40
G58

Relinquished by: 685cu.@	7.9°C	Company: AMEC Foster Wheeler	Received by	Company		Condition	Custody Seals Intact
Frank Schroyer	2/10/16 Date/Time		Robert Chambers	2-10-16 Date/Time 17:19		Cooler Temp.	
Relinquished by: Robert Chambers	2-10-16 Date/Time 17:19	Company	Received by: DI	Company: 2/10/16 Date/Time 17:19		Condition	Custody Seals Intact
						Cooler Temp.	

Preservatives: (Other; Specify): 0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

03 • VOA QC VIAL

ALL SAMPLES RECEIVED PRESERVED AS APPLICABLE
03

INITIAL ASESSMENT 2A-03
LABEL VERIFICATION NL

I.G 5.0°C

SGS Accutest LabLink@898999 11:34 08-Mar-2016

Report of Analysis

4.1 4

Client Sample ID:	087-WWE-021016-A		
Lab Sample ID:	JC14033-1	Date Sampled:	02/10/16
Matrix:	AQ - Water	Date Received:	02/10/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1130	10	ug/l	1	02/11/16	02/12/16	MS	EPA 200.7 [2]	EPA 200.7 [5]
Copper	< 10	10	ug/l	1	02/11/16	02/12/16	MS	EPA 200.7 [2]	EPA 200.7 [5]
Lead [a]	< 30	30	ug/l	10	02/11/16	02/13/16	MS	EPA 200.7 [3]	EPA 200.7 [5]
Mercury	0.21	0.20	ug/l	1	02/11/16	02/11/16	VM	EPA 245.1 [1]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	02/11/16	02/12/16	MS	EPA 200.7 [2]	EPA 200.7 [5]
Zinc	< 20	20	ug/l	1	02/11/16	02/12/16	MS	EPA 200.7 [2]	EPA 200.7 [5]

(1) Instrument QC Batch: MA38713
(2) Instrument QC Batch: MA38723
(3) Instrument QC Batch: MA38728
(4) Prep QC Batch: MP91970
(5) Prep QC Batch: MP91973

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

SGS Accutest LabLink@898871 16:38 07-Mar-2016

Report of Analysis

Client Sample ID:	087-WWE-021016-A		
Lab Sample ID:	JC14033-1	**Date Sampled:**	02/10/16
Matrix:	AQ - Water	**Date Received:**	02/10/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.1
4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended [a]	< 4.0	4.0	mg/l	1	02/11/16	LA	SM2540 D-11
pH [b]	6.97		su	1	02/10/16 17:36	SUB	SM4500H+ B-11

(a) Reported sample aliquot obtained from filtration of 550 mL of sample. Sample did not meet method requirement of 2.5 mg of solids on the filter with this volume filtered.
(b) Sample received out of holding time for pH analysis.

RL = Reporting Limit

SGS Accutest LabLink@898871 16:38 07-Mar-2016

Report of Analysis

4.2 4

Client Sample ID:	087-WWE-021016-A		
Lab Sample ID:	JC14033-1A	**Date Sampled:**	02/10/16
Matrix:	AQ - Water	**Date Received:**	02/10/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 3.4	3.4	mg/l	1	02/10/16 19:55	LA	SM5210 B-11

RL = Reporting Limit

SGS Accutest LabLink@898999 11:34 08-Mar-2016

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-021016-B		
Lab Sample ID:	JC14033-2	Date Sampled:	02/10/16
Matrix:	AQ - Water	Date Received:	02/10/16
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	T215436.D	1	02/12/16	DC	n/a	n/a	VT8851
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	10	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	3.7	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	5.4	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.093	ug/l	
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.50	ug/l	
67-66-3	Chloroform	29.8	1.0	0.091	ug/l	
74-87-3	Chloromethane	ND	1.0	0.11	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.11	ug/l	
95-50-1	1,2-Dichlorobenzene	0.37	1.0	0.19	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.11	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.29	ug/l	
75-34-3	1,1-Dichloroethane	0.40	1.0	0.12	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/l	
156-59-2	cis-1,2-Dichloroethene	65.6	1.0	0.12	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.5	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.12	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.15	ug/l	
123-91-1	1,4-Dioxane	ND	130	20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.94	1.0	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS ACCUTEST JC14033

SGS Accutest LabLink@898999 11:34 08-Mar-2016

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-021016-B		
Lab Sample ID:	JC14033-2	Date Sampled:	02/10/16
Matrix:	AQ - Water	Date Received:	02/10/16
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	59.2	1.0	0.12	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	93%		72-125%
2037-26-5	Toluene-D8 (SUR)	98%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	107%		74-115%
1868-53-7	Dibromofluoromethane (S)	103%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@898871 16:38 07-Mar-2016

Report of Analysis

Client Sample ID:	087-WWF-021016-B		
Lab Sample ID:	JC14033-2	**Date Sampled:**	02/10/16
Matrix:	AQ - Water	**Date Received:**	02/10/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3 4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.1	5.1	mg/l	1	02/11/16 10:00	JOO	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending March 2016

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending March 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA-6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Contractor only.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groudnwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.
DC 2015-06-18	Bayfront Redevelopment Civil Designer has eliminated one utility corridor along the eastern portion of SA-6 South (water main and sewer line were relocated to another utility corridor). In addition, it was identified that minor increases in the Bayfront final grades of up to 0.25 feet may be made in the landscaped areas (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 South Consent Decree and the 100% Design.	Submitted to all Parties on June 18, 2015.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.

SA-6 North/South Field Change Log - Month Ending March 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-11-12	Amec Foster Wheeler has provided Final Cap Grades (in CAD) to Entact. Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.	Submitted to Contractor only.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on 6/22/15.
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-10-06	GCL is required to be installed over the SCB wall and Barrier Wall at the locations shown in the annotated PDF of C-121 (rev 4, 8/13/15).	Submitted to Contractor only.
DC 2015-07-22	Detail BN has been modified to extend the LLDPE up and over the SCB Wall. The prior detail showed both the GDL and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-28	Drawing 304, Detail CE and associated notes regarding the "Liner Anchor to Concrete Structure" have been modified.	Submitted to Contractor only.
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only.
DC 2015-07-31	The sheet pile pair is located at Sta. 0+50. Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.	Submitted to Contractor only.
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending March 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA-6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	Submitted to Contractor only.
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	Submitted to Contractor only.
DC 2015-11-18	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	Submitted to Contractor only.
DC 2015-09-28	Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling.	Submitted to Parties on October 1, 2015.
DC 2015-12-21	Amec Foster Wheeler (AmecFW), Entact and Maser Consulting have developed alternative methods for documentation/survey of the excavation bottom in Site 163. The alternative methods were developed in light of safety considerations for surveyor access into a sheet piled excavation to elevation –8.0. The bottom of the excavation will be in very low strength Stratum O soils. These alternative survey control methods are different from those previously used in the SA-6 South Development Area.	Submitted to Contractor only.
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.

SA-6 North/South Field Change Log - Month Ending March 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-10-22	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only.
DC 2015-12-14	Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds that cannot be tested by other means. Spark testing will be performed in accordance withASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative. Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	Submitted to Parties on January 14, 2016.
DC 2015-12-01	EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation. A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals. EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits. A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.	Submitted to Contractor only.
DC 2016-02-03	The final grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design.	Submitted to Contractor only.
DC 2016-02-22	AmecFW revised the SA-6 North cap subgrade in a single localized area in order to accommodate Entact's request to relocate Pump Station #1 (RFI 64). The subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location. In addition, for grading purposes, any hydraulic barrier sheets within the Sedimentation Basin that have sections below elevation 12.0 will be trimmed to a uniform elevation of 11.5.	Submitted to Contractor only.
DC 2016-03-18	This DC 2016-03-18 documents the revised acceptable ranges of physical parameters and provides an updated specification made in consultation with Dr. Grabosky of Rutgers University. Dr. Grabosky provided his recommendations in correspondence dated 3/17/2016.	Submitted to Parties on March 22, 2016.
DC 2016-03-21	Nature's Choice was identified as the source that best met the physical requirements for Horizon C soils by Dr. Grabosky; however, several samples of Nature's Choice Horizon C soils have hexavalent chromium concentration >1.0 mg/kg. Consequently, Honeywell is proposing a design change to allow the hexavalent chromium concentration in Nature's Choice Horizon C soils to be less than 1.8 mg/kg, as agreed to by the parties, as documented in the attached emails. For future sampling, hexavalent chromium soil samples will be composited from 10 grab sample locations per 5,000 CY (maximum). There are additional conditions in Attachment A that are part of this DCB and specific to Nature's Choice Horizon C soil. All other requirements specified in the 100% Design for imported soils will be met by the Nature's Choice Horizon C soils as amended in previous DC 2015-09-17.	Submitted to Parties on March 22, 2016.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

APPENDIX T

PART 11 OF 22

PROGRESS REPORTS

2016 MONTHLY REPORTS PART 2

SA-6 AND SA-7 COMBINED PROGRESS REPORT

MAY 12, 2016

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

May 12, 2016

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2016-04

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from April 1 – April 30, 2016.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Design and Construction

WJH:jtc/sgf

Attachment: April 2016 SA-6/7 Combined Monthly Progress Report No. 2016-04

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2016-04

Project SA-6 & 7 Remediation

April 2016

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
04/12/16	Design Change Bulletin: Horizon B and Horizon C Planting Soils Study Area 6 Jersey City, NJ	Alicia Alcorn Terris, Pravlik & Millian
04/13/16	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2016-03	Honorable Robert G. Torricelli Office of the Special Master
04/18/16	Request for Recertification for Soil Erosion and Sediment Control Plan Certification Imported Novartis Fill Stockpile – Study Area 6 Block 21901 Lot 6, 7, and 8 Jersey City, NJ	Mr. Glen Van Olden Hudson-Essex-Passaic Soil Conservation District (HEPSCD)
04/18/16	Spark Testing of Liner Boots Response to Comments Study Area 6 North Jersey City, NJ	Alicia Alcorn Terris, Pravlik & Millian
4/19/2016	Surcharge Monitoring Plan – Monthly Report No. 16 Study Area 6 North and South Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
04/19/16	Special Master Conference Call	N/A
04/20/16	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440 Jersey City, NJ	Andy Caltagirone Passaic Valley Sewerage Commission
04/21/16	Design Change Bulletin: Horizon B and Horizon C Planting Soils New Sources of Imported Fill Identification Study Area 6 Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending				
	4/3/16	4/10/16	4/17/16	4/24/16	5/1/16
Construction Management (AMEC)	9	9	8	8	7
Engineering (AMEC)	1	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1	1
Security (Securitas)	3	3	3	3	3
Entact/Subcontractors	26	26	27	25	25
Arecon/US Ecology Subcontractors	0	2	0	0	0
Eglentowicz (Demolition)	0	1	0	5	5
Century	0	1	1	0	0
Evoqua	1	1	1	1	1
B&B Drilling	0	0	0	1	1
Cornerstone	0	0	0	0	0
TOTAL STAFF	**41**	**45**	**42**	**45**	**44**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected April PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Conducted 6-month performance assessment soil sampling from the in-situ treatment area TA-10-1 in accordance with the updated Work Plan, dated August 2015 for the in-situ treatment of hexavalent chromium (Cr(VI)) impacted soils. Results submitted to all Parties on May 5, 2016.
- Completed demolition activities associated with 60/72 Kellogg to include demolition, loadout of demolition debris, and demolition of the above grade slab. Restoration of the site is pending evaluation of the analytical results of a sample of suspect material observed at one timber pile location below the former building slab.
- Reinstalled JCMUA water main vault and completed valve connection associated with the JCMUA water line.
- Completed S-3 Mass Removal Injection Event No. 28 in well 088-IW-03.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on April 12, 2016.
- Continued piping layout plans for routing the Contingent Groundwater Extraction System force mains from SA-6 North and South to the existing GWTP Neutralization Tank.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending				
	4/3/16	4/10/16	4/17/16	4/24/16	5/1/16
Avg. Gallons Treated & Discharged (per day)	78,240	79,310	79,016	77,790	78,493
Average Flow (gpm) for Operating Period	57	57	57	58	56
Avg. Hours of Plant Operation	23	23	23	23	23
GWTP Influent Tanks (gal.)	4,322	3,806	4,492	3,816	5,500

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Contractor completed abandonment of 3 monitoring wells (087-MW-14, 087-MW-130T, and 087-MW-OBS-6D).
- Completed backfilling of EA-2/EA-3 excavation area.
- Placed flowable concrete within the vault on the north side of the JCIA trash pit to an elevation of approximately +5.0 msl.
- Continued backfilling the SA-6 North CGWES pipeline and installed the risers on manholes.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/FCI	Roll-off	Sarnia, Ontario Canada	Stablex	WWTP Filer Cake	0	0	0
Eglentowicz/F Rover & Sons	Roll-off	Harrison, NJ	Rover & Sons Recycling Yard	Metal	4	6.9	27.63
Eglentowicz/ Evergreen Recycling	Roll-off	Newark, NJ	Evergreen Recycling Solutions	Concrete	21	19.45	408.55
Eglentowicz/ Evergreen Recycling	Roll-off	Newark, NJ	Evergreen Recycling Solutions	C&D Debris	8	16	127

2. EXCAVATION & BACKFILL PROGRESS

Description	Areas
Excavation Completed	Excavation Site 163 Complete - Total for Reporting Period (Site 163): 225 CY/ Total: 7,132.5 CY Excavation SA-6 North Complete - Total to Date (SA-6 North): 39,443 CY
Backfill in Progress	EA-2/EA-3, SA-6 South Utility Corridor (B Street)

3. BACKFILL MATERIALS USED

Source	Week Ending				
	4/3/16	4/10/16	4/17/16	4/24/16	5/1/16
Natures Choice Horizon C	0	0	01,141.83	1,381.44	3,322.93
Tilcon Mount Hope I-8	0	0	0	1,838	2,633.5
Natures Choice Topsoil	0	0	00	0	271.4

- Historic fill soils identified to be < 20 mg/kg hexavalent chromium were placed as backfill in EA-2/EA-3.
- Screened Celgene material was removed from the SA6-South open space area during grading of the protective cover soils. Approximately 160 cubic yard was removed from the cap area and transferred to the Celgene stockpile area.

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging and offloading of surcharge material is complete.
- Area 3S: Surcharging and offloading of surcharge material is complete.
- Area 1N: Surcharging and offloading of surcharge material is complete.

- Area 2N: Surcharging and offloading of surcharge material is complete.
- Area 3N: Surcharging and offloading of surcharge material is complete.
- Area 4N: Surcharging and offloading of surcharge material is complete.

F. SHEET PILE OPERATIONS

- Completed grouting Hydraulic Barrier Wall interlocks on SA-6 North.

G. CAPPING OPERATIONS

- Completed repairs to exposed GDL on west side of the SA-6 South Cap.
- Regraded the GDL cover soil in GDL repair areas on the west side of the SA-6 South cap to include associated compaction testing. In addition, the underlying exposed root barrier on the west side of the cap was replaced.
- Began importing and placing Horizon C soils to include associated compaction testing and placement of underlying root barrier and demarcation tape.
- Began SA-6 North cap subgrade construction activities.
- Continued placement of Structural Fill Material in the SA-6 South Cap Area corridor (B Street).

H. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013 Extension Obtained 3/16/2015	Not Specified, Est. 3/31/2016	6/30/2016*	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Obtained 12/24/15	12/03/16	Pending

** Amec Foster Wheeler reviewed the expiration of this TWA with NJDEP, Division of Water Quality and no extension is necessary.*

I. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Continue final grading of GDL cover soils to include associated compaction testing and installation of root barrier on SA-6 South open space area.
- Continue placement of Horizon C and begin importing and placing Horizon B soils.
- Continue SA-6 North cap subgrade construction activities.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Continue to develop CGWES piping layout plans for connection to GWTP Neutralization Tank.

ATTACHMENTS:

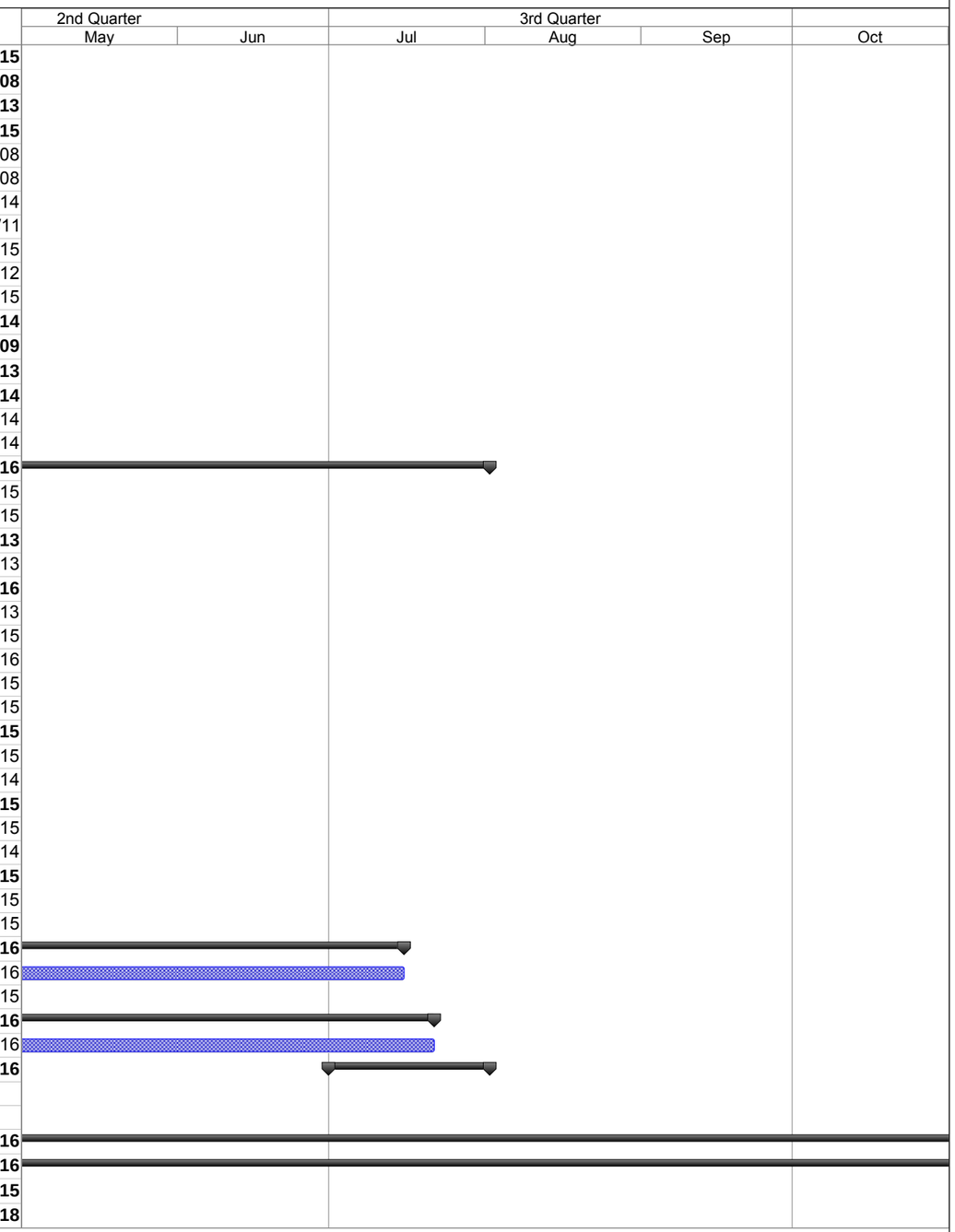
1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill (Progression Chart)
4. Dewatering Operations Update
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data *(not included in this reporting period)*
7. Perimeter Pools Update
8. Groundwater Quality Data *(not included in this reporting period)*
9. Surcharge Monitoring Update *(not included in this reporting period)*
10. Sheet Pile Update *(not included in this reporting period)*
11. Capping Update
12. Weekly SWPPP Reports
13. GWTP Update
14. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**1/4/08**	**6/1/15**
2	**Remedial Action Work Plan**	**33 days**	**1/4/08**	**2/19/08**
5	**Remedial Action Design**	**1522 days**	**2/20/08**	**12/13/13**
18	**JCIA/JCDPW Relocation**	**1780 days**	**8/11/08**	**6/1/15**
19	Develop Site Relocation Master Plan	38 days	8/11/08	10/1/08
20	Submit Site Relocation Master Plan	0 days	10/1/08	10/1/08
21	JC Construction of New Facilities	1309 days	6/2/09	6/2/14
22	Relocation Contractor Procurement	392 days	4/15/10	10/13/11
23	JCIA and JCDPW Relocation	949 days	10/17/11	6/1/15
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	12/12/11	4/30/12
24a	Demolition of JCIA Structures	146 days	9/1/14	3/23/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**7/11/08**	**4/30/14**
26	**Remedial Action Work Plan**	**187 days**	**7/11/08**	**3/30/09**
32	**Remedial Action Design**	**1161 days**	**2/2/09**	**7/9/13**
57	**SA-6 South Relocation**	**616 days**	**12/26/11**	**4/30/14**
58	New GWTP Construction Completion	502 days	3/5/12	1/30/14
59	Demolition of 80 Kellogg	857 days	12/26/11	4/30/14
60	**SA-6 North/South Field Implementation**	**894 days**	**3/1/13**	**8/1/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	6/17/13	12/31/15
60b	SA-6S (Site 163) In-Situ Treatment	555 days	11/15/13	12/31/15
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**3/1/13**	**6/28/13**
61a	Mobilization	87 days	3/1/13	6/28/13
62	**Surcharge Install/Instrumentation**	**706 days**	**6/17/13**	**2/29/16**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	6/17/13	12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	4/8/14	2/13/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	6/30/15	2/29/16
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	6/16/14	2/23/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	10/6/14	5/8/15
63	**Barrier Wall Install**	**569 days**	**8/12/13**	**10/15/15**
63a	SA 6N Installation of Barrier Wall	159 days	3/9/15	10/15/15
63b	SA 6S Installation of Barrier Wall	210 days	8/12/13	5/30/14
64	**Excavation**	**507 days**	**10/22/13**	**9/30/15**
64a	SA 6N Excavation	218 days	12/1/14	9/30/15
64b	SA 6S Excavation	295 days	10/22/13	12/8/14
65	**Backfill**	**558 days**	**11/11/13**	**12/30/15**
65a	SA 6N Backfill	283 days	12/1/14	12/30/15
65b	SA 6S Backfill	384 days	11/11/13	4/30/15
66	**Capping and Cover Soil Placement**	**426 days**	**12/1/14**	**7/15/16**
66a	SA 6N Capping and Cover Soil Placement	83 days	3/24/16	7/15/16
66b	SA 6S Capping and Cover Soil Placement	283 days	12/1/14	12/30/15
67	**Restoration**	**234 days**	**9/1/15**	**7/21/16**
67a	Restoration	234 days	9/1/15	7/21/16
68	**Demobilization**	**22 days**	**7/1/16**	**8/1/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line			
69	**SA-6 North Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
75	**SA-6 South Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
81	**SA-6 North Long Term Protections**	**1830 days**	**10/1/08**	**10/1/15**
92	**SA-6 South Long Term Protections**	**2569 days**	**6/5/08**	**3/31/18**



Project: SA-6 Remediation Schedule
Revision 4
Date: 5/03/16

Task | Milestone | Summary | Critical

Attachment 2: Site Photographs

Site Photograph 1: Delivery of Horizon C Material at SA-6 South.

Site Photograph 2: Demolition of 60 Kellogg Building SA-6 South.

Site Photograph 3: Grading Cover Soils on SA-6 South Cap.

Site Photograph 4: Reinstallation of the JCMUA Water Meter Valve Box.

Site Photograph 5: Removal of Surcharge Material at JC Properties.

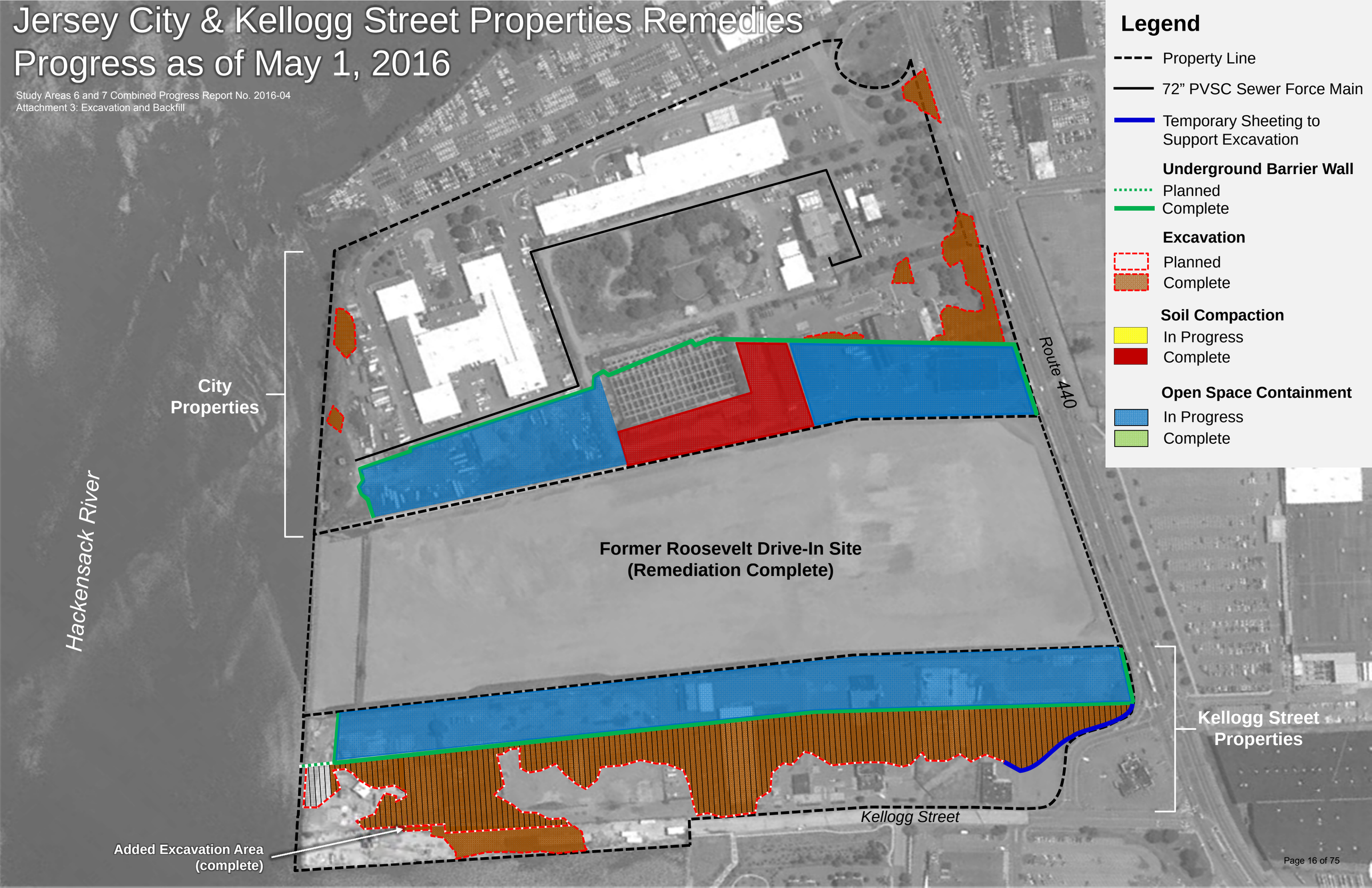
Site Photograph 6: Restoration of EA-3 at JC Properties.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of May 1, 2016

Study Areas 6 and 7 Combined Progress Report No. 2016-04
Attachment 3: Excavation and Backfill



Attachment 4: Dewatering Operations Update

STUDY AREA 6 DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) DAILY	EXTRACTED VOLUME (Gal) TOTAL	AVERAGE FLOW RATE (gpm)	COMMENTS
03/01/16	1	24	22,23,24	3	N/A	N/A	500	3,191,972	0.3	
03/02/16	1	24	22,23,24	3	N/A	N/A	1,000	3,192,972	0.7	
03/03/16	1	24	22,23,24	3	N/A	N/A	1,000	3,193,972	0.7	System Offline for Excavation

Notes: Site 163 Excavation was completed and the system was turned off.
The information of the final month of operation is provided.

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

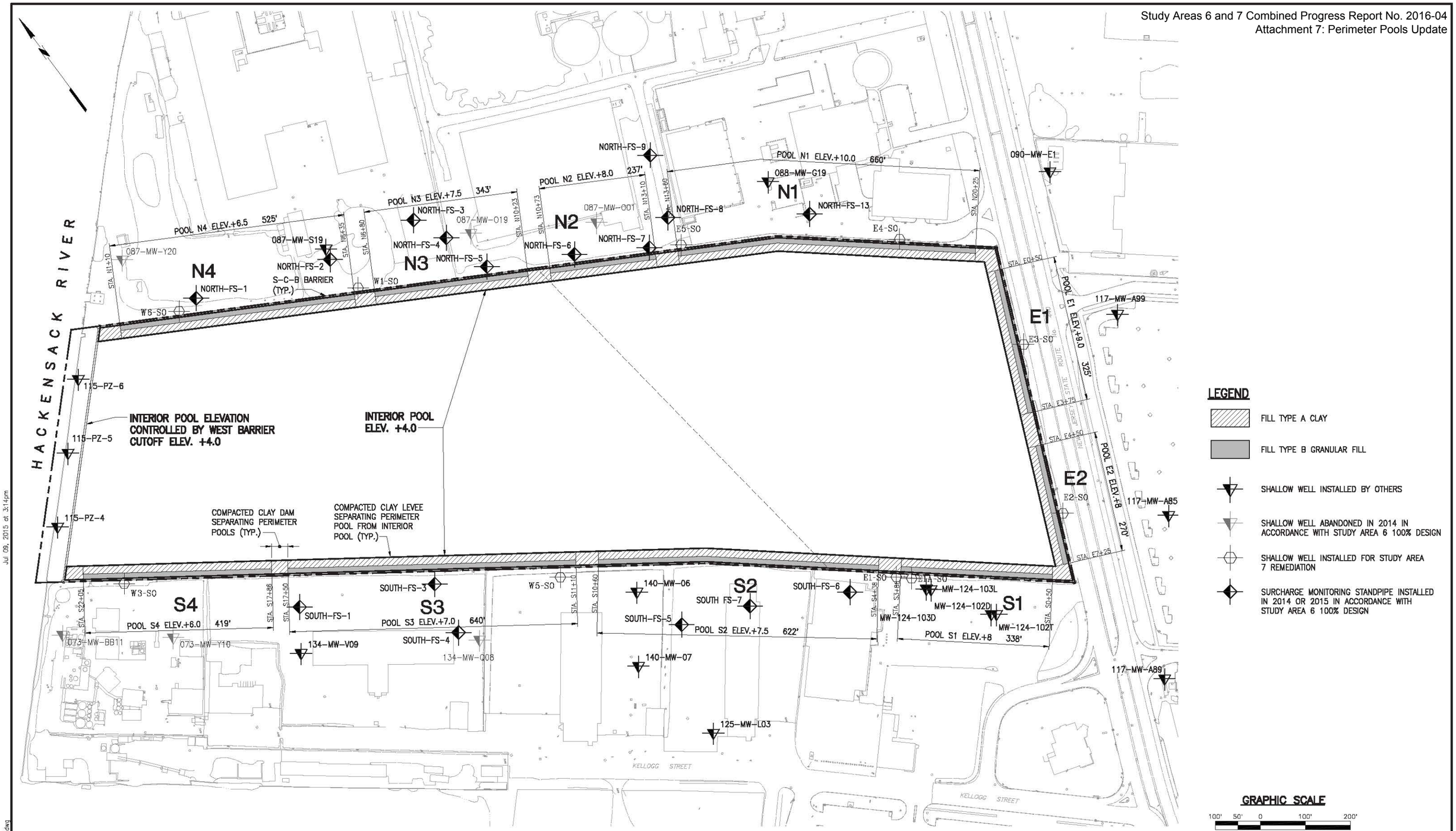
DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
02/29/16	6:30	15:15	8:45	41,227.51	41,400.89	173,380	41,257,040	
03/01/16	7:00	15:30	8:30	41,400.89	41,493.59	92,700	41,349,740	
03/02/16	7:00	14:00	7:00	41,493.59	41,607.89	114,300	41,464,040	
03/03/16	7:30	12:15	4:45	41,607.89	41,671.38	63,490	41,527,530	
03/04/16	7:30	15:00	7:30	41,671.38	41,722.53	51,150	41,578,680	
03/05/16	9:00	15:00	6:00	41,722.53	41,782.88	60,350	41,639,030	
03/07/16	8:30	15:30	7:00	41,782.88	41,826.70	43,820	41,682,850	
03/10/16	9:00	15:00	6:00	41,826.70	41,955.66	128,960	41,811,810	PVSC Compliance Sample Collected
03/11/16	9:00	14:45	5:45	41,955.66	42,015.16	59,500	41,871,310	
03/15/16	8:00	16:00	8:00	42,015.16	42,113.22	98,060	41,969,370	
03/16/16	10:15	13:15	3:00	42,113.22	42,181.63	68,410	42,037,780	
03/17/16	7:30	15:00	7:30	42,181.63	42,268.80	87,170	42,124,950	
03/18/16	8:00	12:30	4:30	42,268.80	42,308.01	39,210	42,164,160	
03/21/16	7:30	13:00	5:30	42,308.01	42,352.43	44,420	42,208,580	
03/22/16	7:30	14:00	6:30	42,352.43	42,406.76	54,330	42,262,910	
03/23/16	12:00	15:15	3:15	42,406.76	42,437.75	30,990	42,293,900	
03/24/16	7:30	13:00	5:30	42,437.75	42,475.64	37,890	42,331,790	
03/28/16	7:30	15:30	8:00	42,475.64	42,517.63	41,990	42,373,780	
03/30/16	7:30	14:00	6:30	42,517.63	42,566.76	49,130	42,422,910	
03/31/16	10:00	13:30	3:30	42,566.76	42,598.54	31,780	42,454,690	
04/01/16	10:00	14:00	4:00	42,598.54	42,638.28	39,740	42,494,430	
04/08/16	8:00	12:00	4:00	42,638.28	42,688.87	50,590	42,545,020	PVSC Compliance Sample Collected
04/13/16	12:00	15:00	3:00	42,688.87	42,734.89	46,020	42,591,040	
04/19/16	8:00	13:00	5:00	42,734.89	42,802.71	67,820	42,658,860	
04/22/16	11:00	15:00	4:00	42,802.71	42,847.64	44,930	42,703,790	
04/29/16	10:00	14:15	4:15	42,847.64	42,912.90	65,260	42,769,050	

Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

(not included in this reporting period)

Attachment 7: Perimeter Pools Update



IN PROGRESS
06-10-2015

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-73

Jul 09, 2015 at 3:14pm
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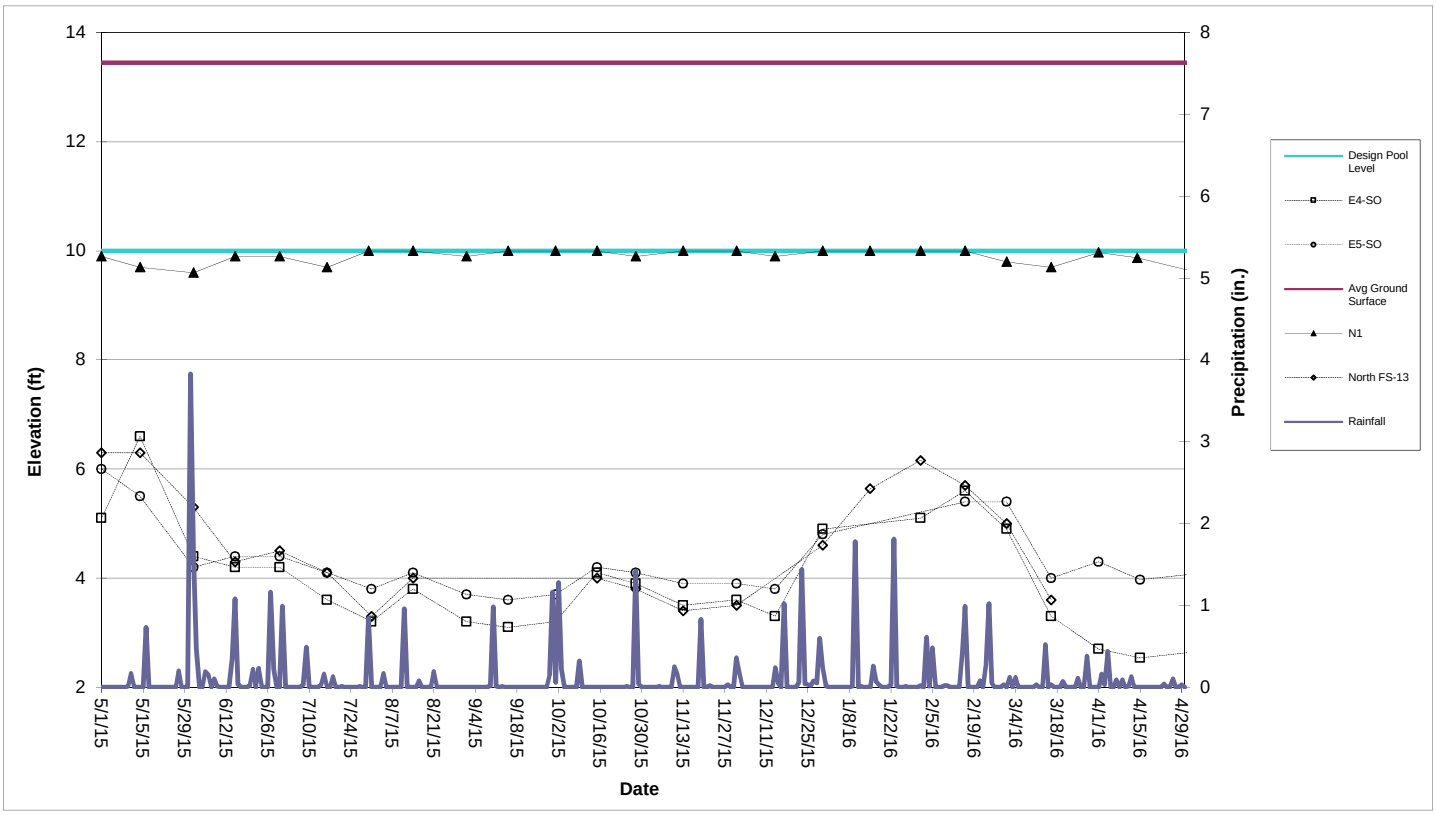
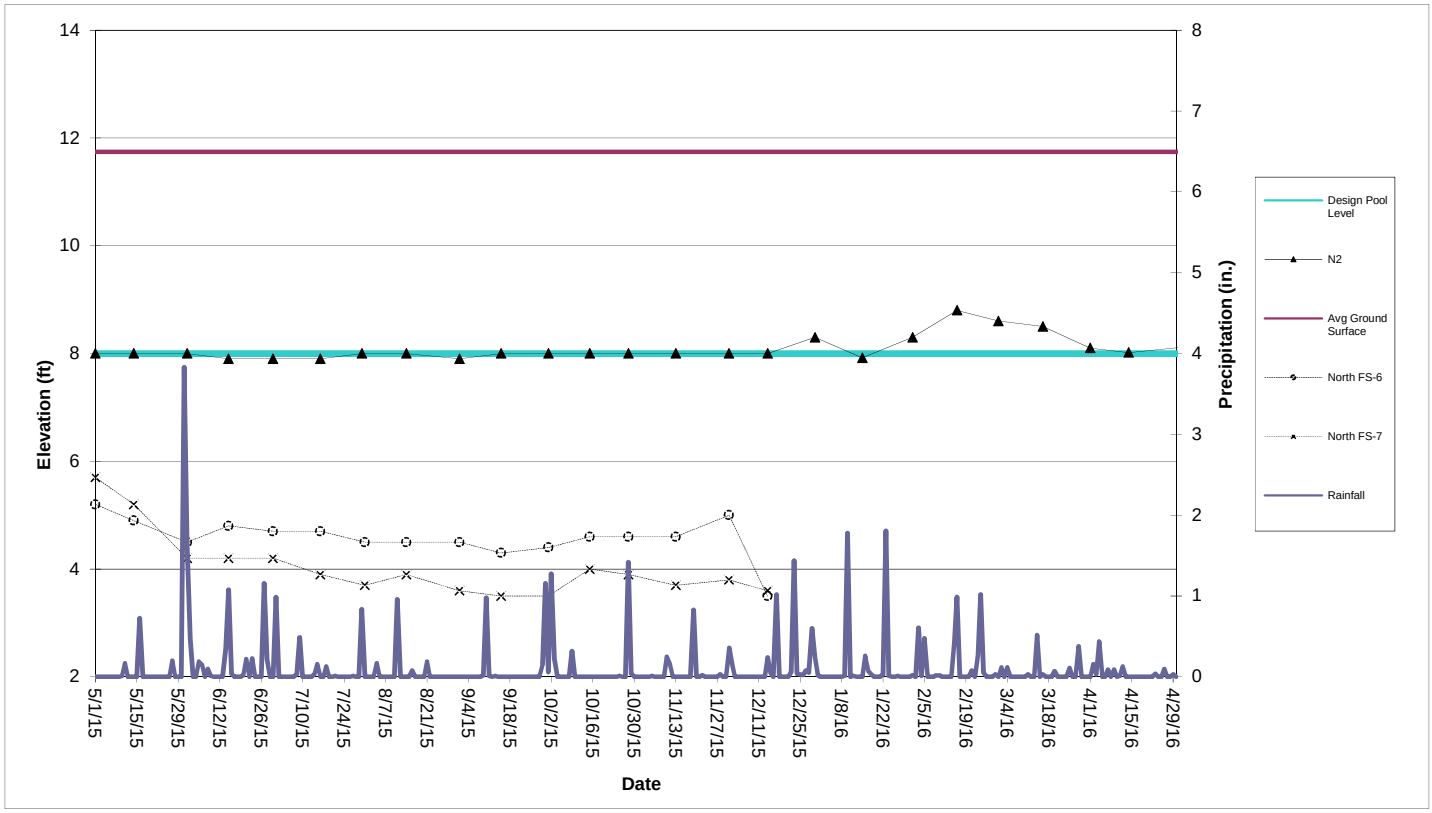
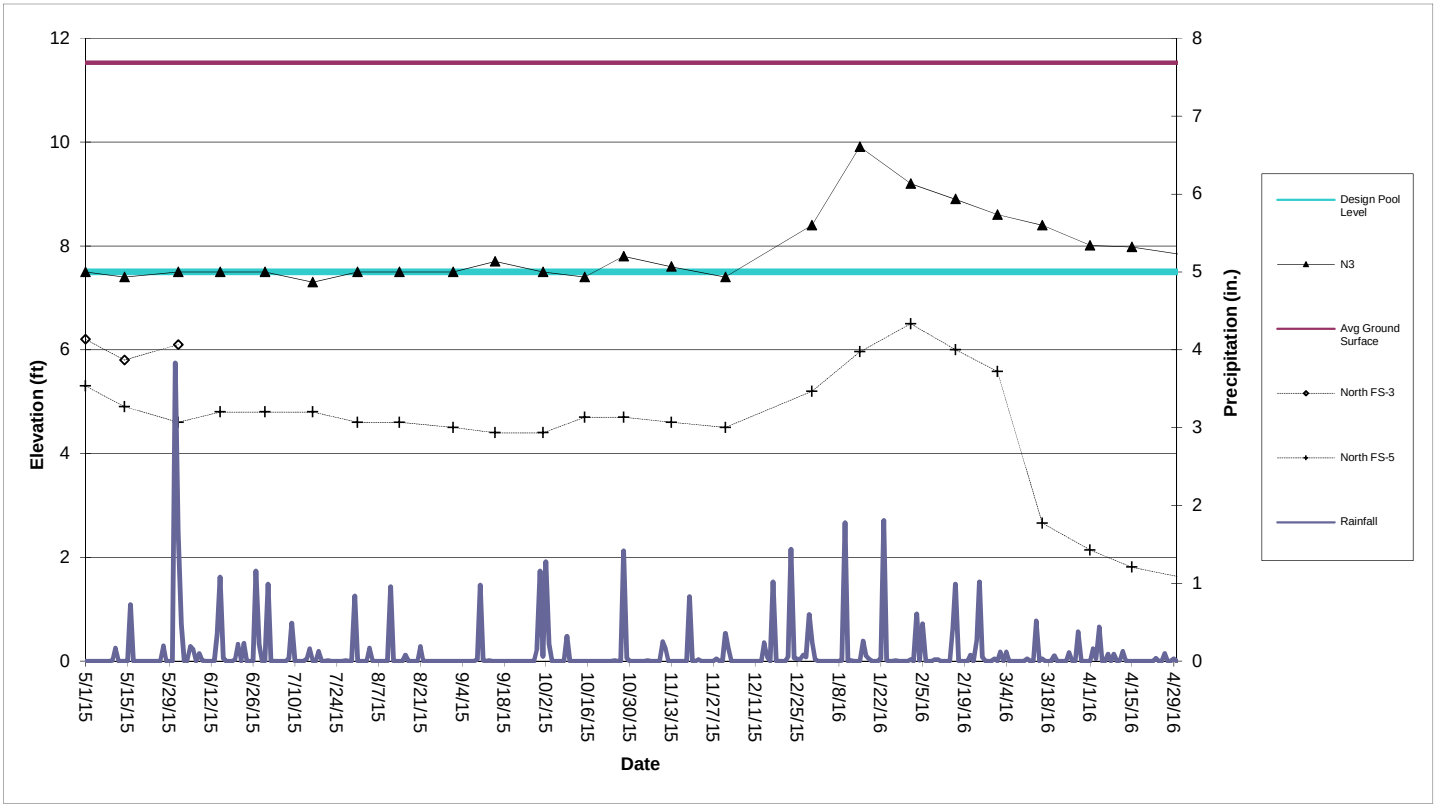
bboscaino



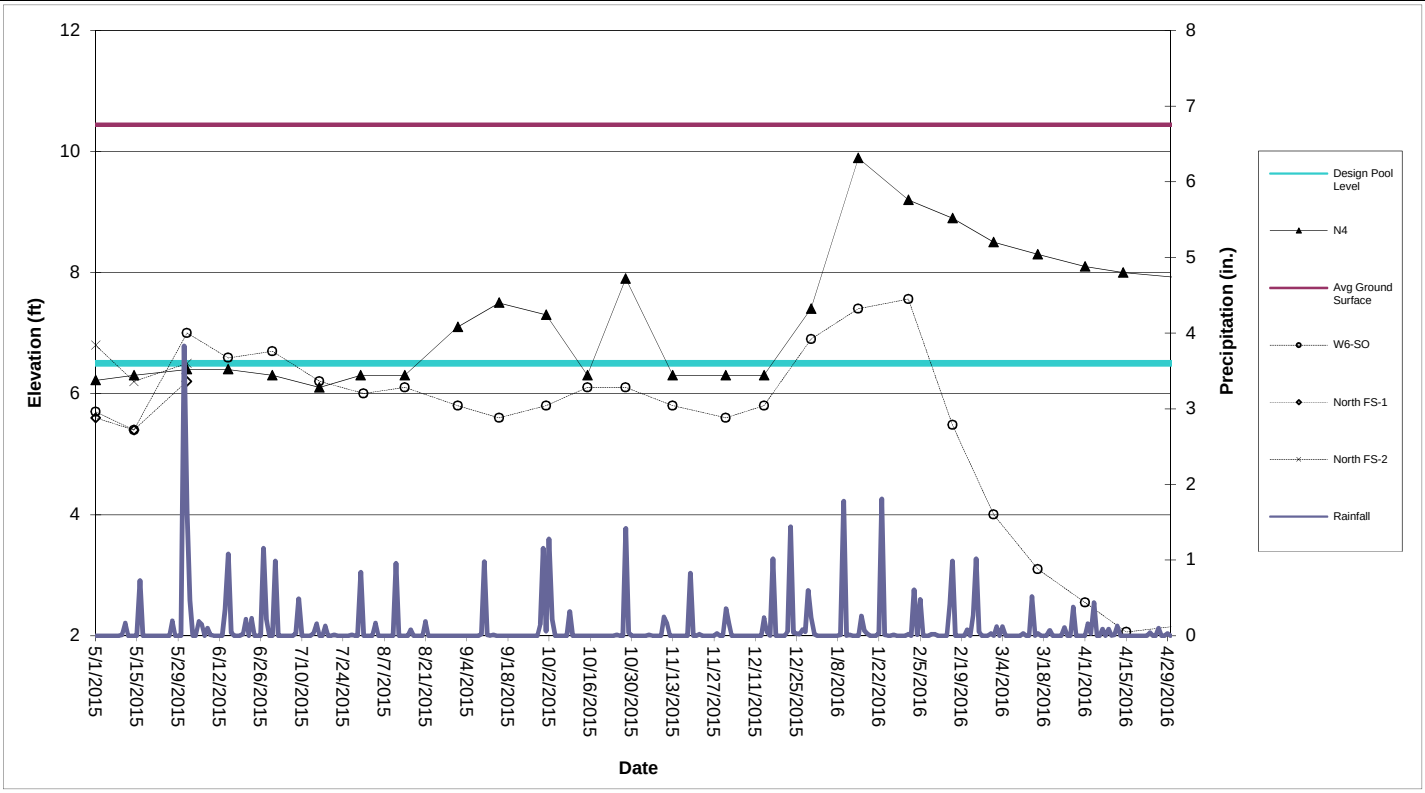
Perimeter Pool N1 (Sta. N13+60 to N20+25)



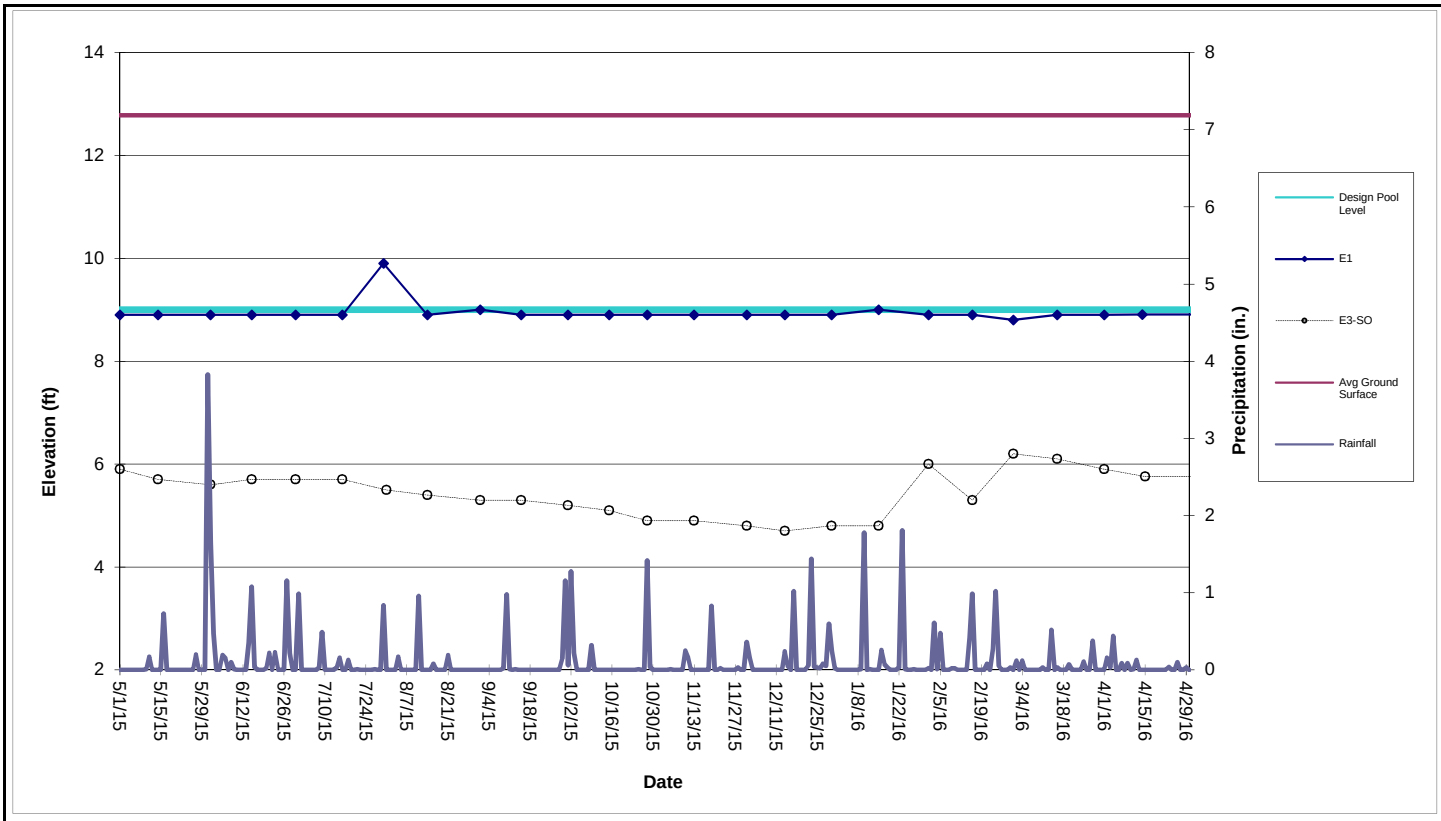
Perimeter Pool N2 (Sta. N10+73 to N13+10)



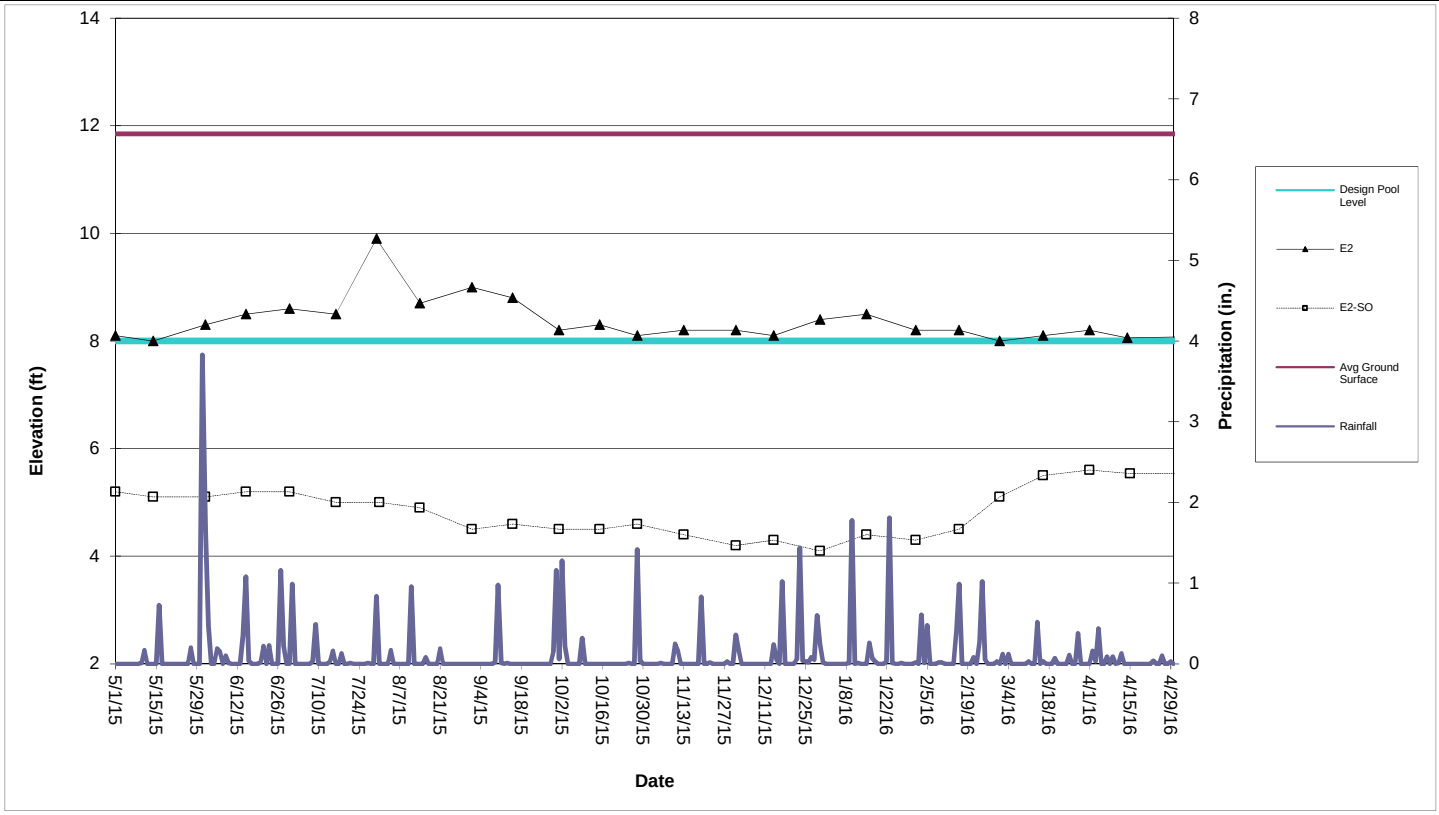
Perimeter Pool N3 (Sta. N6+80 to N10+23)



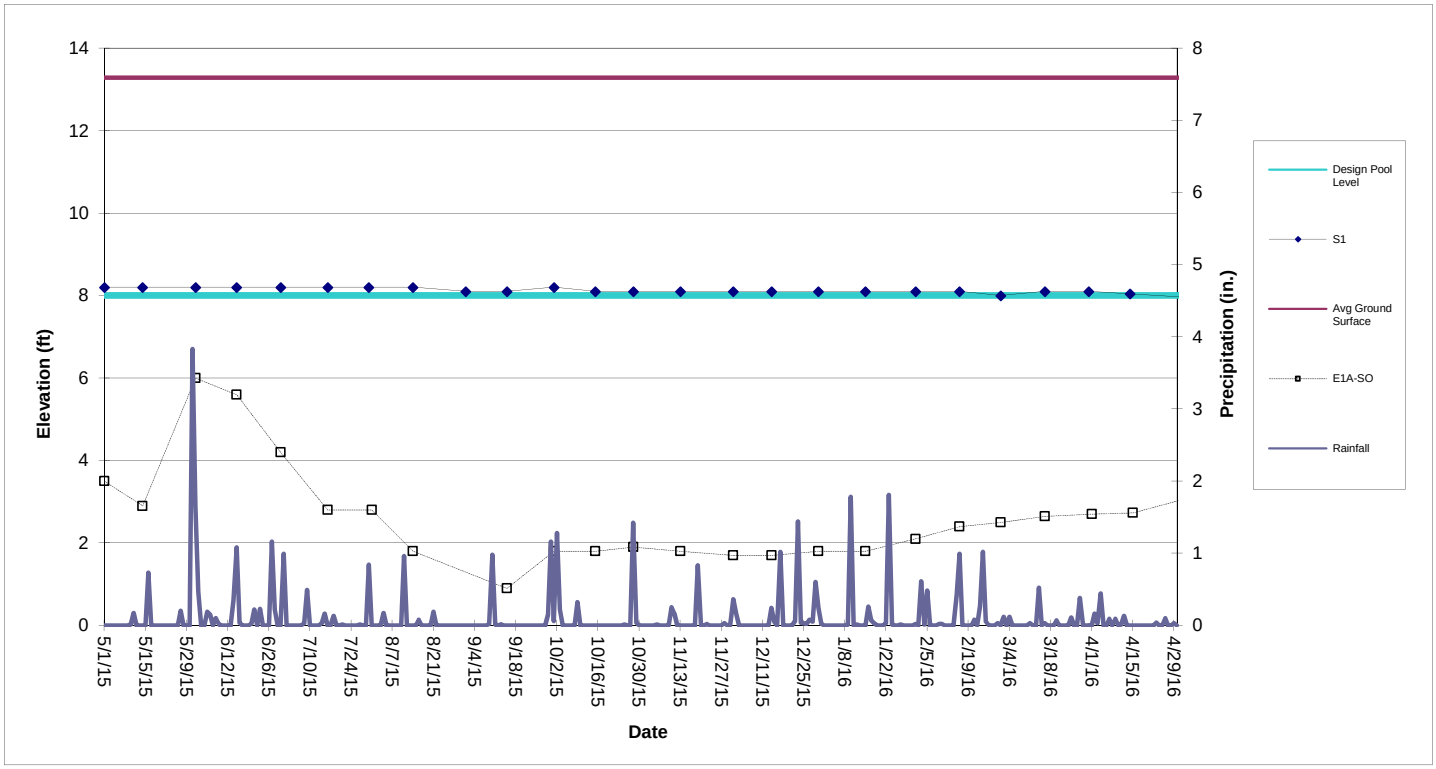
Perimeter Pool N4 (Sta. N6+80 to N10+23)



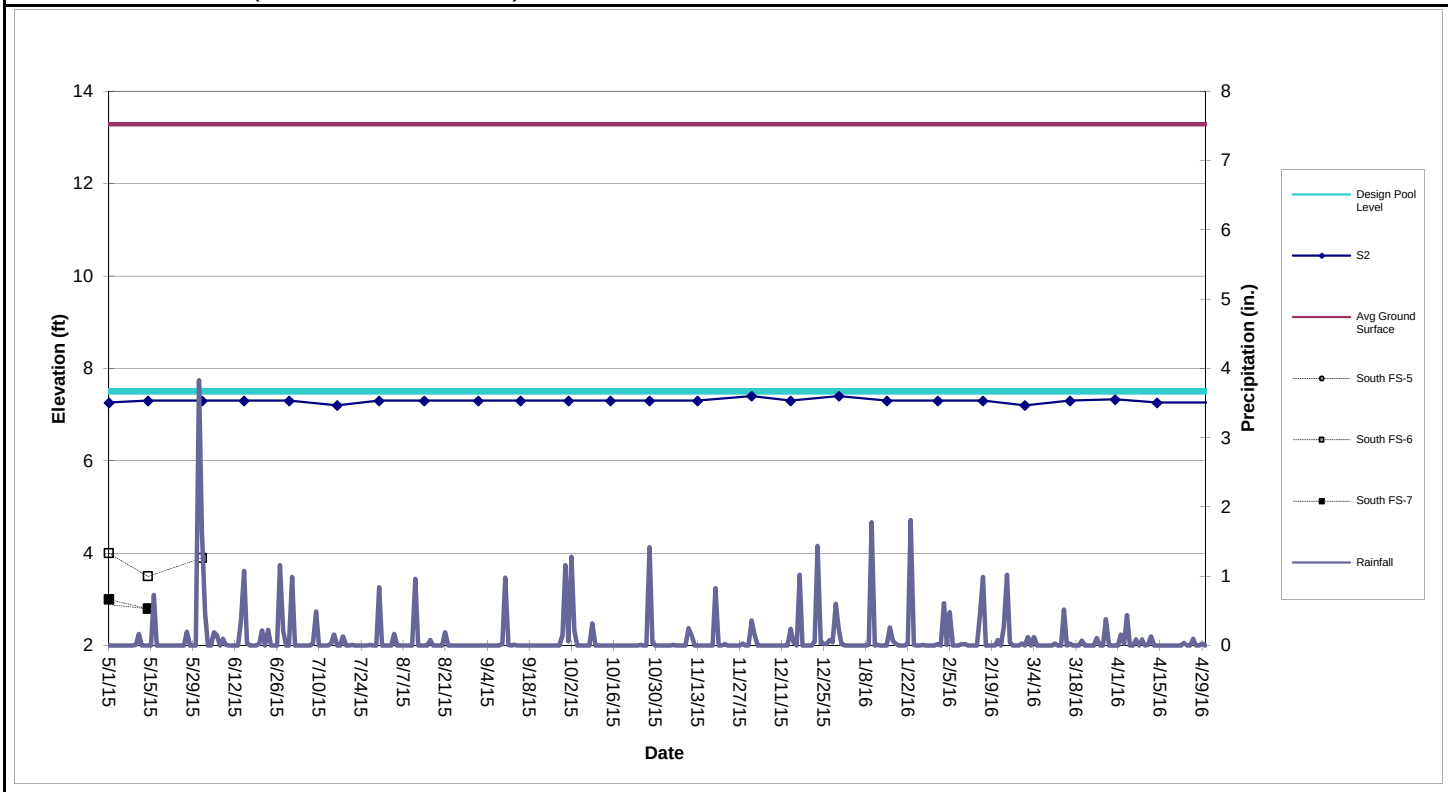
Perimeter Pool E1 (Sta. E0+50 to E3+75)



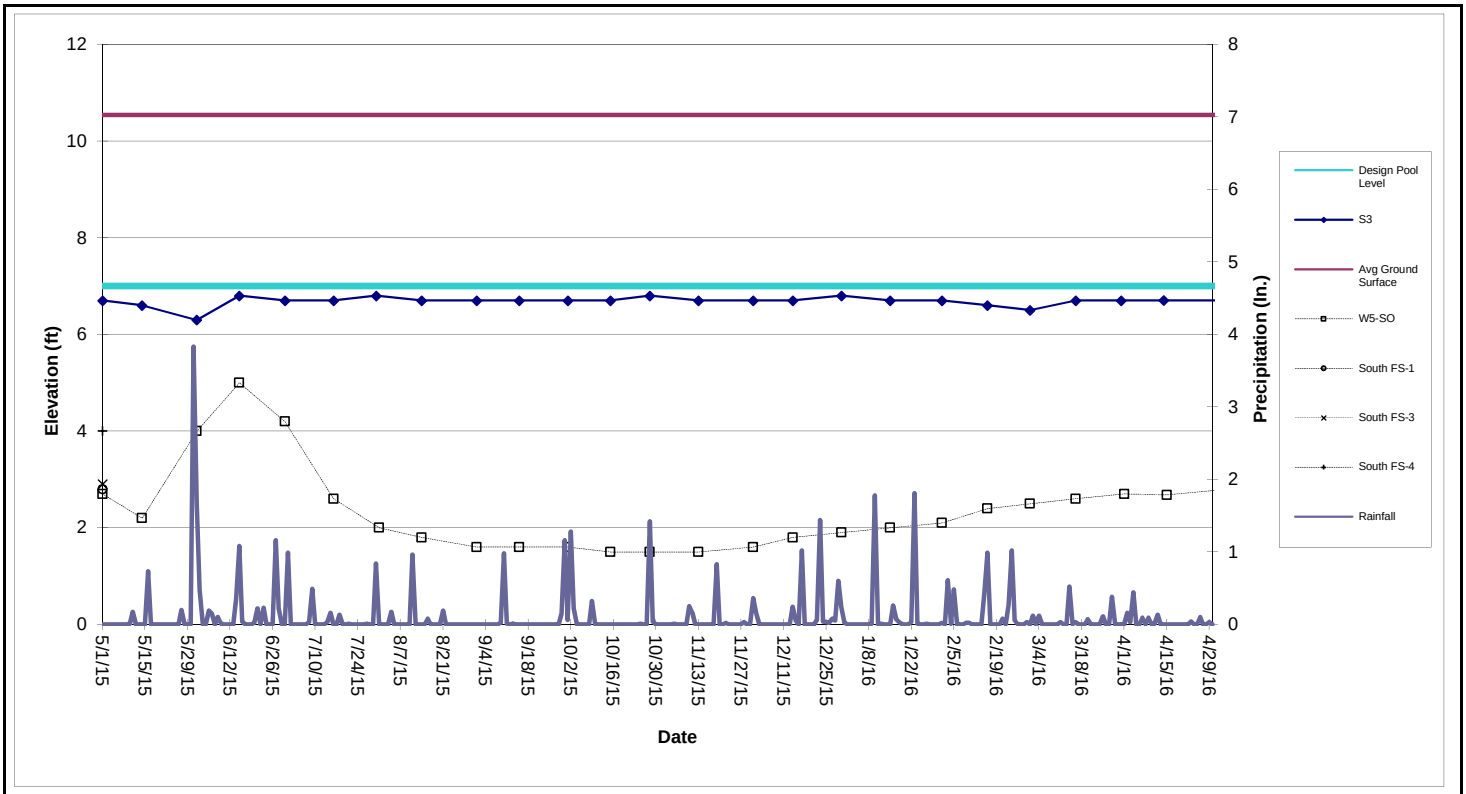
Perimeter Pool E2 (Sta. E4+50 to E7+25)



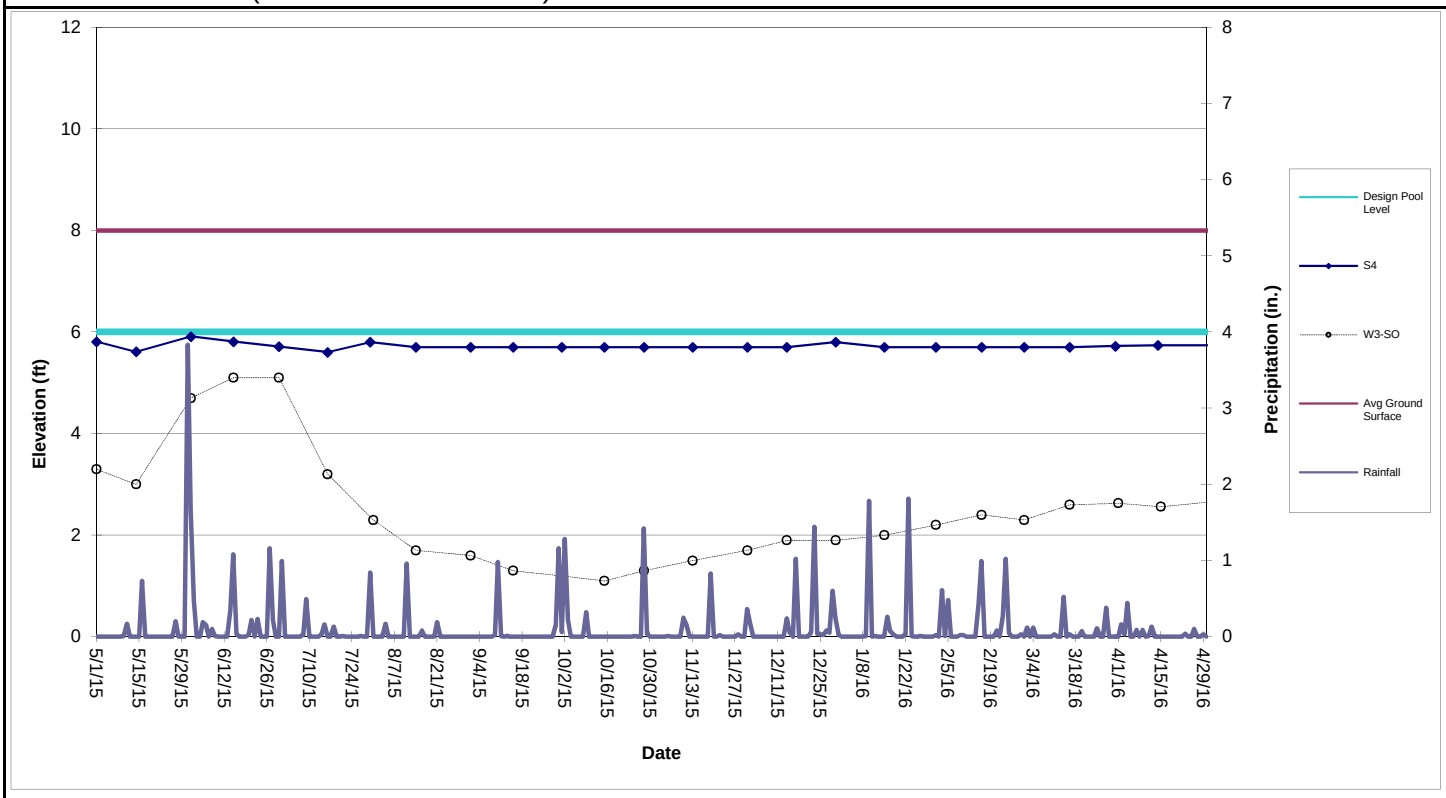
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-1	FS-2	FS-3	FS-5	FS-6	FS-7	FS-13	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																						
5/1/2015	3.5	5.2	5.9	5.1	6.0		3.3	2.7	5.7	5.6	6.8	6.2	5.3	5.2	5.7	6.3	2.8	2.9	4.0		4.0	3.0
5/14/2015	2.9	5.1	5.7	6.6	5.5		3.0	2.2	5.4	5.4	6.2	5.8	4.9	4.9	5.2	6.3				2.8	3.5	2.8
6/1/2015	6.0	5.1	5.6	4.4	4.2		4.7	4.0	7.0	6.2	6.5	6.1	4.6	4.5	4.2	5.3					3.9	
6/15/2015	5.6	5.2	5.7	4.2	4.4		5.1	5.0	6.6				4.8	4.8	4.2	4.3						
6/30/2015	4.2	5.2	5.7	4.2	4.4		5.1	4.2	6.7				4.8	4.7	4.2	4.5						
7/16/2015	2.8	5.0	5.7	3.6	4.1		3.2	2.6	6.2				4.8	4.7	3.9	4.1						
7/31/2015	2.8	5.0	5.5	3.2	3.8		2.3	2.0	6.0				4.6	4.5	3.7	3.3						
8/14/2015	1.8	4.9	5.4	3.8	4.1		1.7	1.8	6.1				4.6	4.5	3.9	4.0						
9/1/2015		4.5	5.3	3.2	3.7		1.6	1.6	5.8				4.5	4.5	3.6							
9/15/2015	0.9	4.6	5.3	3.1	3.6		1.3	1.6	5.6				4.4	4.3	3.5							
10/1/2015	1.8	4.5	5.2	3.2	3.7		1.2	1.6	5.8				4.4	4.4	3.5							
10/15/2015	1.8	4.5	5.1	4.1	4.2		1.1	1.5	6.1				4.7	4.6	4.0	4.0						
10/28/2015	1.9	4.6	4.9	3.9	4.1	6.9	1.3	1.5	6.1				4.7	4.6	3.9	3.8						
11/13/2015	1.8	4.4	4.9	3.5	3.9	6.4	1.5	1.5	5.8				4.6	4.6	3.7	3.4						
12/1/2015	1.7	4.2	4.8	3.6	3.9	6.2	1.7	1.6	5.6				4.5	5.0	3.8	3.5						
12/14/2015	1.7	4.3	4.7	3.3	3.8	6.2	1.9	1.8	5.8					3.5	3.6							
12/30/2015	1.8	4.1	4.8	4.9	4.8	7.5	1.9	1.9	6.9				5.2			4.6						
1/15/2016	1.8	4.4	4.8			7.9	2.0	2.0	7.4				6.0			5.6						
2/1/2016	2.1	4.3	6.0	5.1		7.7	2.2	2.1	7.6				6.5			6.2						
2/16/2016	2.4	4.5	5.3	5.6	5.4	6.7	2.4	2.4	5.5				6.0			5.7						
3/1/2016	2.5	5.1	6.2	4.9	5.4	5.1	2.3	2.5	4.0				5.6			5.0						
3/16/2016	2.7	5.5	6.1	3.3	4.0	4.2	2.6	2.6	3.1				2.7			3.6						
4/1/2016	2.7	5.6	5.9	2.7	4.3	3.5	2.6	2.7	2.6				2.1									
4/15/2016	2.7	5.5	5.8	2.5	4.0	2.9	2.6	2.7	2.1				1.8									

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09, E4-SO, W1-SO, North FS-6, North FS-7

Attachment 8: Groundwater Quality Data

(not included in this reporting period)

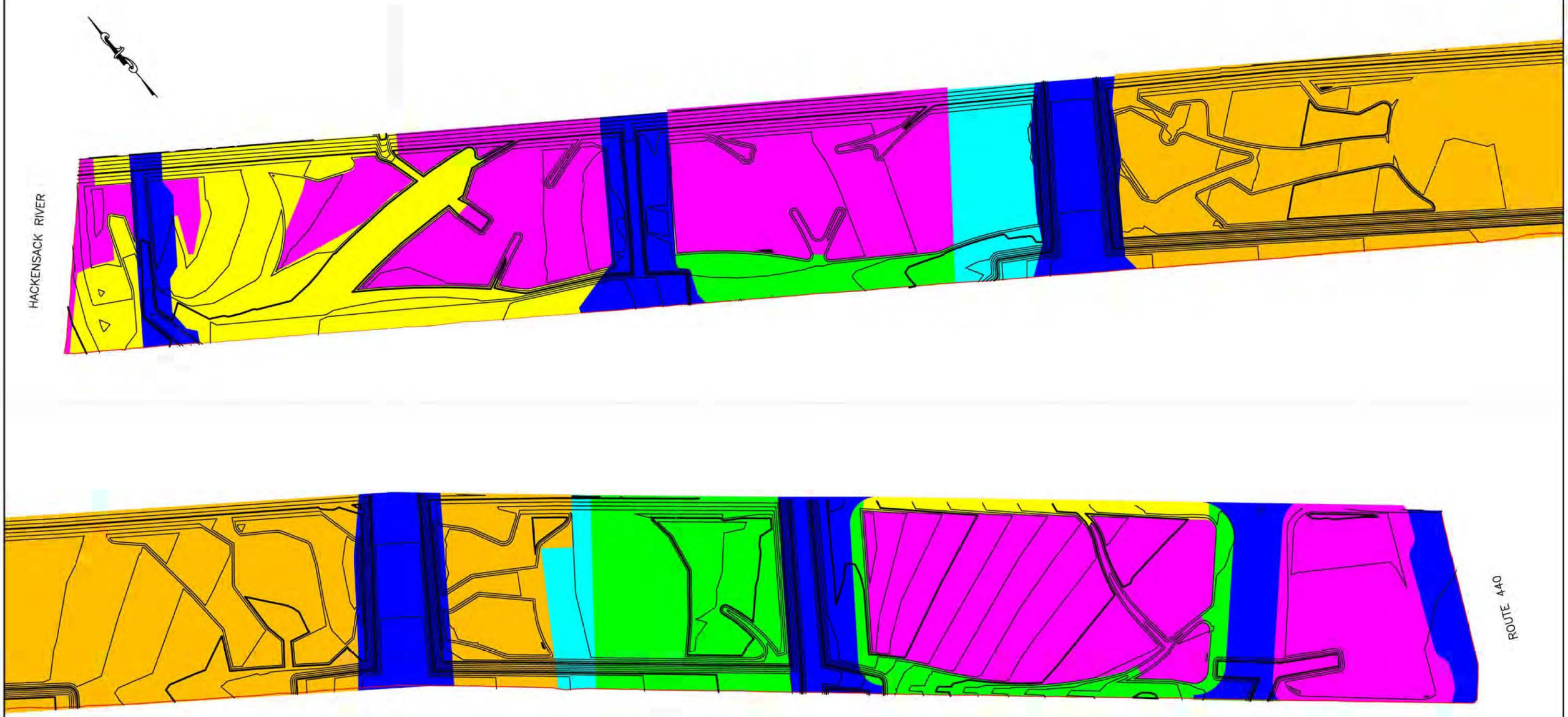
Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

(not included in this reporting period)

Attachment 11: Capping Update



LEGEND

- GDL COVER SOIL PLACED
- GDL COVER SOIL GRADED AND APPROVED FOR HORIZON SOILS
- HORIZON C SOIL PLACED
- HORIZON C PLACED TO FINAL HORIZON C GRADE
- HORIZON C PLACED AND PREPARED FOR HORIZON B
- STRUCTURAL FILL PLACED
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP COVER SOILS PROGRESS MAP
05/04/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 1, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 04/01/16

SWPPP Observer: _____
Signature

- - 3 - -

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, April 01, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence along the western end of Kellogg Street requires maintenance or replacement.
2	IA2Q4A1AL8	Windscreen on the perimeter fence in the vicinity of the 60 Kellogg building requires maintenance or replacement.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 04/01/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Repair or replace silt fence along the north side of the western end of Kellogg Street as required.	4/7/16 IAD
2	Repair or replace the windscreen on the perimeter fence by the 60 Kellogg building as required.	too windy Safety Hazard

Construction Manager: _____ **Date:** 04/07/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 8, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		1
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		3
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		4
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 04/08/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, April 08, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Filter fabric is missing from a catch basin at the western end of Kellogg Street.
2	IA2Q4A1AL8	Windscreen on the perimeter fence bordering the JCMUA complex requires maintenance or replacement.
3	IA2Q4A1AL8	Trash and debris are present in the Rt. 440 pedestrian walkway on the east side of SA-6 North.
4	IA2Q4A1AL8	Mud and sediment have accumulated on the northern SA-7 paved haul road

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 04/08/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Replace the filter fabric as required.	4/11/16 RAD
2	Repair or replace the windscreen on the perimeter fence as required.	
3	Remove trash and debris as required.	
4	Clean the northern SA-7 haul road and install stone tracking pads where needed to reduce the tracking of material by end dumps working in the area.	

Construction Manager: _____ Date: 04/13/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 15, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		2,3
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		4
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 04/18/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, April 15, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Trash and debris are present along the outside of the perimeter fence on Kellogg Street and on the Kellogg Street jughandle.
2	IA2Q4A1AL8	Silt fence material is not properly toed in along the southern perimeter of the 1-N surcharge area. This silt fence is located on SA-7.
3	EEPSQUO2YB	Silt fence surrounding the Novartis Stockpile Area requires maintenance.
4	IA2Q4A1AL8	Mud and sediment have accumulated on the northern and southern SA-7 paved haul roads.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 04/18/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Remove and dispose of accumulated trash and debris.	RAD 4/21/16
2	Toe in or replace silt the silt fence along the south side of the 1-N Surcharge Area as required.	
3	Repair or replace the existing silt fence surrounding the Novartis Stockpile Area as required.	
4	Clean the northern and southern SA-7 haul roads and install stone tracking pads where needed to reduce the tracking of material by end dumps working in the area.	

Construction Manager: _____ **Date:** 04/21/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 22, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 04/22/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, April 22, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Trash and debris are present along the outside of the perimeter fence on Kellogg Street and on the Kellogg Street jughandle.
2	IA2Q4A1AL8	Windscreen fabric has become detached from the perimeter fence which borders the MUA complex on SA-6 North.
3	IA2Q4A1AL8	Mud and sediment have accumulated on the northern and southern SA-7 paved haul roads.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: 04/22/16 Date:

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Remove and dispose of accumulated trash and debris.	4/28/16 (RAD)
2	Reattach or replace the windscreen on the fenceline between SA-6 North and the JCMUA parking lot.	↓
3	Clean the northern and southern SA-7 haul roads and install stone tracking pads where needed to reduce the tracking of material by end dumps working in the area.	↓

Construction Manager: Date: 04/28/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 28, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		2
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 04/28/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, April 28, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence on SA-6 South along Kellogg Steet (to the west of the old guard house) requires maintenance or replacement.
2	IA2Q4A1AL8	Mud and sediment have accumulated on the northern and southern SA-7 paved haul roads.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 04/28/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Repair or replace silt fence as required. Toe in the silt fence properly.	5/3/16 RAD
2	Clean the northern and southern SA-7 haul roads and Install stone tracking pads where needed to reduce the tracking of material by end dumps working in the area	✓

Construction Manager: _____ Date: 05/04/16

Attachment 13: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (submitted April 2015)

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

April 20, 2016

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the March 2016 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
3	01	16	3	31	16
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	78,969	86,966
		(see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	0.51	0.56	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	0.00032	0.00032	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.0	<5.0	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1750	0.1750	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris

Signature of Principal Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

04/19/2016

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North
ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)
FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305
NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
3	01	16	3	31	16
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,448,028 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 59,166,556

DATE	BOD (mg/l)	TSS (mg/l)
3/15/2016	<10	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J Morris	John J. Morris	(973) 455-4003
		DATE 04/19/2016

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG Honeywell Jersey City GWTP; SA-6 North (Permit #20630025) MONTH: March 2016

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
3/1/2016	Angel Trujillo	56718528	56794115	75,587	0.075587	7.79	0.773									0.49
3/2/2016	Angel Trujillo	56794115	56874850	80,735	0.080735	7.13	0.773									0.52
3/3/2016	Angel Trujillo	56874850	56957046	82,196	0.082196	7.35	0.773									0.53
3/4/2016	Angel Trujillo	56957046	57034950	77,904	0.077904	7.28	0.773									0.50
3/5/2016	Angel Trujillo	57034950	57121916	86,966	0.086966	7.51	0.773									0.56
3/6/2016	Angel Trujillo	57121916	57196317	74,401	0.074401	7.20	0.773									0.48
3/7/2016	Angel Trujillo	57196317	57270718	74,401	0.074401	7.34	0.773									0.48
3/8/2016	Angel Trujillo	57270718	57351070	80,352	0.080352	7.25	0.773									0.52
3/9/2016	Angel Trujillo	57351070	57428662	77,592	0.077592	7.16	0.773									0.50
3/10/2016	Angel Trujillo	57428662	57511584	82,922	0.082922	7.15	0.773									0.53
3/11/2016	Angel Trujillo	57511584	57590534	78,950	0.07895	7.20	0.773									0.51
3/12/2016	Angel Trujillo	57590534	57670542	80,008	0.080008	7.10	0.773									0.52
3/13/2016	Angel Trujillo	57670542	57750550	80,008	0.080008	7.02	0.773									0.52
3/14/2016	Angel Trujillo	57750550	57826060	75,510	0.07551	7.47	0.773									0.49
3/15/2016	Angel Trujillo	57826060	57902698	76,638	0.076638	6.94	0.773	<5.0	<10		<0.010	<0.030	<0.010	0.00032	<0.020	0.49
3/16/2016	Angel Trujillo	57902698	57984118	81,420	0.08142	7.05	0.773									0.52
3/17/2016	Angel Trujillo	57984118	58064512	80,394	0.080394	7.07	0.773									0.52
3/18/2016	Angel Trujillo	58064512	58141676	77,164	0.077164	7.04	0.773									0.50
3/19/2016	Angel Trujillo	58141676	58224948	83,272	0.083272	7.21	0.773									0.54
3/20/2016	Angel Trujillo	58224948	58301750	76,802	0.076802	7.00	0.773									0.50
3/21/2016	Angel Trujillo	58301750	58378552	76,802	0.076802	7.06	0.773									0.50
3/22/2016	Angel Trujillo	58378552	58457708	79,156	0.079156	7.18	0.773									0.51
3/23/2016	Angel Trujillo	58457708	58536570	78,862	0.078862	7.05	0.773									0.51
3/24/2016	Angel Trujillo	58536570	58617316	80,746	0.080746	7.20	0.773									0.52
3/25/2016	Angel Trujillo	58617316	58694426	77,110	0.07711	7.10	0.773									0.50
3/26/2016	Angel Trujillo	58694426	58776932	82,506	0.082506	7.22	0.773									0.53
3/27/2016	Angel Trujillo	58776932	58854584	77,652	0.077652	7.10	0.773									0.50
3/28/2016	Angel Trujillo	58854584	58932236	77,652	0.077652	7.01	0.773									0.50
3/29/2016	Angel Trujillo	58932236	59010326	78,090	0.07809	7.04	0.773									0.50
3/30/2016	Angel Trujillo	59010326	59088498	78,172	0.078172	7.08	0.773									0.50
3/31/2016	Angel Trujillo	59088498	59166556	78,058	0.078058	7.05	0.773									0.50
TOTAL				2,448,028	2.448028			<5.0	<10		<0.010	<0.030	<0.010	0.00032	<0.020	
				High:	86,966										High:	0.56
				Average:	78,969										Average:	0.51

WW

E

JC16234

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell

Chain Of Custody / Analysis Request

AESI Ref: 42444.60016
COC#: 087-WW-031516

Privileged & Confidential

Site Name: Hudson County
Phase: CS
Lab Proj # (SDG):
Location of Site: Jersey City, NJ
Sampling Program: 087: JCIA
Lab ID: AITD
Site ID: HudsonCo
Lab Job #: HWINJM32815
Authorized User: Honeywell

Sampling Co.: MACTEC
EDD To:
Client Contact: (name, co., address)
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962
Sampler: Frank Schroyer
PO #
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Preliminary Data To
Sample Receipt Acknowledgement To
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)
Full Report TAT: 28 Days

Test & Exact File Order

Copyright AESI: Version 6.0 Unauthorized use strictly prohibited.

2

	Sample Identification: Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 160.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
											Units		Preservative	3	3	3	1	2	2	0	0	2						
1	087-WW			087-WWE-031516-A	3/15/2016	14:20	WW	WATER	REG	5	comp	N	X	X	X	X			X	X		1					
2	087-WW			087-WWE-031516-B	3/15/2016	14:25	WW	WATER	REG	6	grab	N					X	X				2					C38
3	087-WW			087-WWI-031516	3/15/2016	14:35	WW	WATER	REG	3	grab	N									X	3					U748
4																											A27
5																											M15
6																											
7																											
8																											
9																											
10																											
11																											
12																											

Relinquished by: 6.94 s.u. @ 7.2°C	Company	AMEC Foster Wheeler	Received by	Company		Condition	Custody Seals Intact
Frank Schroyer	Date/Time	3/15/16 1500		Date/Time 3/15 1500		Cooler Temp.	
Relinquished by	Company		Received by	Company	AccuTest	Condition	Custody Seals Intact
	Date/Time 3-15 1710			Date/Time	3/15/16 1710	Cooler Temp.	

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

INITIAL ASESSMENT 3B03

LABEL VERIFICATION JK

04.5 EZ0

SGS Accutest LabLink@903397 10:39 05-Apr-2016

Report of Analysis

4.1

4

Client Sample ID:	087-WWE-031516-A		
Lab Sample ID:	JC16234-1	**Date Sampled:**	03/15/16
Matrix:	AQ - Water	**Date Received:**	03/15/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	773	10	ug/l	1	03/16/16	03/18/16	GT	EPA 200.7 [2]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	03/16/16	03/18/16	GT	EPA 200.7 [2]	EPA 200.7 [4]
Lead	< 30	30	ug/l	10	03/16/16	03/18/16	GT	EPA 200.7 [3]	EPA 200.7 [4]
Mercury	0.32	0.20	ug/l	1	03/18/16	03/18/16	MS	EPA 245.1 [1]	EPA 245.1 [5]
Nickel	< 10	10	ug/l	1	03/16/16	03/18/16	GT	EPA 200.7 [2]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	03/16/16	03/18/16	GT	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA38951
(2) Instrument QC Batch: MA38954
(3) Instrument QC Batch: MA38958
(4) Prep QC Batch: MP92578
(5) Prep QC Batch: MP92639

RL = Reporting Limit

SGS Accutest LabLink@903397 10:39 05-Apr-2016

Report of Analysis

4.1

4

Client Sample ID:	087-WWE-031516-A		
Lab Sample ID:	JC16234-1	**Date Sampled:**	03/15/16
Matrix:	AQ - Water	**Date Received:**	03/15/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	03/16/16	LA	SM2540 D-11
pH [a]	6.93		su	1	03/15/16 19:11	SUB	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

SGS Accutest LabLink@903397 10:39 05-Apr-2016

Report of Analysis

4.2 4

Client Sample ID:	087-WWE-031516-A		
Lab Sample ID:	JC16234-1A	**Date Sampled:**	03/15/16
Matrix:	AQ - Water	**Date Received:**	03/15/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 10	10	mg/l	1	03/16/16 18:21	LS	SM5210 B-11

RL = Reporting Limit

SGS Accutest LabLink@903397 10:39 05-Apr-2016

Report of Analysis

4.3.4

Client Sample ID:	087-WWE-031516-B		
Lab Sample ID:	JC16234-2	**Date Sampled:**	03/15/16
Matrix:	AQ - Water	**Date Received:**	03/15/16
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	T216146.D	1	03/17/16	DC	n/a	n/a	VT8881
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	10	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	4.7	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	4.6	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	0.24	1.0	0.093	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.50	ug/l	
67-66-3	Chloroform	31.5	1.0	0.091	ug/l	
74-87-3	Chloromethane	ND	1.0	0.11	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.11	ug/l	
95-50-1	1,2-Dichlorobenzene	0.37	1.0	0.19	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.11	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.29	ug/l	
75-34-3	1,1-Dichloroethane	0.39	1.0	0.12	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/l	
156-59-2	cis-1,2-Dichloroethene	62.5	1.0	0.12	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.2	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.12	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.15	ug/l	
123-91-1	1,4-Dioxane	ND	130	20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.97	1.0	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@903397 10:39 05-Apr-2016

Report of Analysis

Client Sample ID:	087-WWE-031516-B		
Lab Sample ID:	JC16234-2	**Date Sampled:**	03/15/16
Matrix:	AQ - Water	**Date Received:**	03/15/16
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3

4

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	66.5	1.0	0.12	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	87%		72-125%
2037-26-5	Toluene-D8 (SUR)	97%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	99%		74-115%
1868-53-7	Dibromofluoromethane (S)	98%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@903397 10:39 05-Apr-2016

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-031516-B		
Lab Sample ID:	JC16234-2	**Date Sampled:**	03/15/16
Matrix:	AQ - Water	**Date Received:**	03/15/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.0	5.0	mg/l	1	03/17/16 13:50	JOO	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending April 2016

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending April 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA-6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on May 27, 2015.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on May 27, 2015.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Parties on July 2, 2015.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groundwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.
DC 2015-06-18	Bayfront Redevelopment Civil Designer has eliminated one utility corridor along the eastern portion of SA-6 South (water main and sewer line were relocated to another utility corridor). In addition, it was identified that minor increases in the Bayfront final grades of up to 0.25 feet may be made in the landscaped areas (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 South Consent Decree and the 100% Design.	Submitted to all Parties on June 18, 2015.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.

SA-6 North/South Field Change Log - Month Ending April 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-11-12	Amec Foster Wheeler has provided Final Cap Grades (in CAD) to Entact. Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.	Submitted to Contractor only.
DC 2016-04-15	Amec Foster Wheeler has provided final restoration grades for SA-6 South Development Area. The DCB also includes the final cover types in revised Drawing C-128.	Submitted to Contractor only.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on June 22, 2015.
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on June 22, 2015.
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-10-06	GCL is required to be installed over the SCB wall and Barrier Wall at the locations shown in the annotated PDF of C-121 (rev 4, 8/13/15).	Submitted to Contractor only.
DC 2015-07-22	Detail BN has been modified to extend the LLDPE up and over the SCB Wall. The prior detail showed both the GDL and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-28	Drawing 304, Detail CE and associated notes regarding the "Liner Anchor to Concrete Structure" have been modified.	Submitted to Contractor only.
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only.
DC 2015-07-31	The sheet pile pair is located at Sta. 0+50. Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending April 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA-6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	Submitted to Contractor only.
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	Submitted to Contractor only.
DC 2015-11-18	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	Submitted to Contractor only.
DC 2015-09-28	Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling.	Submitted to Parties on October 1, 2015.
DC 2015-12-21	Amec Foster Wheeler (AmecFW), Entact and Maser Consulting have developed alternative methods for documentation/survey of the excavation bottom in Site 163. The alternative methods were developed in light of safety considerations for surveyor access into a sheet piled excavation to elevation –8.0. The bottom of the excavation will be in very low strength Stratum O soils. These alternative survey control methods are different from those previously used in the SA-6 South Development Area.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending April 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.
DC 2015-10-22	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only.
DC 2015-12-14	Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds that cannot be tested by other means. Spark testing will be performed in accordance withASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative. Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	Submitted to Parties on January 14, 2016.
DC 2015-12-01	EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation. A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals. EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits. A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.	Submitted to Contractor only.
DC 2016-02-03	The final grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design.	Submitted to Contractor only.
DC 2016-02-22	AmecFW revised the SA-6 North cap subgrade in a single localized area in order to accommodate Entact's request to relocate Pump Station #1 (RFI 64). The subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location. In addition, for grading purposes, any hydraulic barrier sheets within the Sedimentation Basin that have sections below elevation 12.0 will be trimmed to a uniform elevation of 11.5.	Submitted to Contractor only.
DC 2016-02-25	This DCB has been issued to provide Entact with the latest SA-6 North HB Wall and SCB wall plan and profile drawings (SN-201 thru SN-205), which were modified to reflect changes made in DC 2016-02-22.	Submitted to Contractor only.
DC 2016-05-03	The laboratory results of all gradations for planting soils shall be presented in terms of the USDA classification system rather than the USCS classification system.	Submitted to Contractor only.
DC 2016-03-18	This DC 2016-03-18 documents the revised acceptable ranges of physical parameters and provides an updated specification made in consultation with Dr. Grabosky of Rutgers University. Dr. Grabosky provided his recommendations in correspondence dated 3/17/2016.	Submitted to Parties on March 22, 2016. Plaintiffs responded in a letter dated April 15, 2016. Plaintiffs and Honeywell subsequently held discussions and DCB 2016-04-20 was developed to document an agreement reached by all parties on the Special Master All-Hands monthly call on April 19, 2016.

SA-6 North/South Field Change Log - Month Ending April 2016

Changed Item Identifier	Description of Change	Comments
DC 2016-03-21	Nature's Choice was identified as the source that best met the physical requirements for Horizon C soils by Dr. Grabosky; however, several samples of Nature's Choice Horizon C soils have hexavalent chromium concentration >1.0 mg/kg. Consequently, Honeywell is proposing a design change to allow the hexavalent chromium concentration in Nature's Choice Horizon C soils to be less than 1.8 mg/kg, as agreed to by the parties, as documented in the attached emails. For future sampling, hexavalent chromium soil samples will be composited from 10 grab sample locations per 5,000 CY (maximum). There are additional conditions in Attachment A that are part of this DCB and specific to Nature's Choice Horizon C soil. All other requirements specified in the 100% Design for imported soils will be met by the Nature's Choice Horizon C soils as amended in previous DC 2015-09-17.	Submitted to Parties on March 22, 2016.
DC 2016-04-20	This DCB documents the approved sources of Horizon B and Horizon C materials, as agreed to by all parties on the Special Master All-Hands monthly call on April 19, 2016.	Submitted to Parties on April 21, 2016.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

SA-6 AND SA-7 COMBINED PROGRESS REPORT

JUNE 10, 2016

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

June 10, 2016

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2016-05

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from May 1 – May 31, 2016.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Design and Construction

WJH:jtc/sgf

Attachment: May 2016 SA-6/7 Combined Monthly Progress Report No. 2016-05

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2016-05

Project SA-6 & 7 Remediation

May 2016

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
05/04/16	BEP - Environmental Project - USACE Permit SA-7 Sediment	The Honorable Robert G. Torricelli Office of the Special Master
05/05/16	Summary of 6-Month Performance Assessment Sampling Post In-Situ Treatment of Hexavalent Chromium Impacted Soils Treatment Area 10-1 Only Study Area 6 (SA-6) North (Site 087) Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
05/12/16	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2016-04	The Honorable Robert G. Torricelli Office of the Special Master
05/16/16	Groundwater Sampling Results Study Area 6 (SA-6) South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
05/17/16	Observance of Suspect Material at the 60 Kellogg Street Building Study Area 6 (SA-6) South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
05/17/16	Special Master All Hands Meeting	n/a
05/19/16	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission

SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	05/08/16	05/15/16	05/22/16	05/29/16
Construction Management (AMEC)	7	9	9	9
Engineering (AMEC)	1	1	1	1

Team	05/08/16	05/15/16	05/22/16	05/29/16
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	28	30	31	32
Arecon/US Ecology Subcontractors	0	0	0	1
Eglentowicz (Demolition)	0	0	0	0
Century	0	2	0	0
Evoqua	1	1	1	1
B&B Drilling	0	2	1	0
Cornerstone	0	0	0	0
TOTAL STAFF	**41**	**49**	**47**	**48**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected May PVSC compliance sample from the Construction Water Treatment Plant (CWTP).

B. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned downstream process tanks T-300 (neutralization tank) and T-400 (effluent tank).
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on May 6, 2016.
- Completed piping layout plans for routing the Contingent Groundwater Extraction System force mains from SA-6 North and South to the existing GWTP Neutralization Tank.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	05/08/16	05/15/16	05/22/16	05/29/16
Avg. Gallons Treated & Discharged (per day)	77,947	78,345	77,444	78,840
Average Flow (gpm) for Operating Period	56	56	54	57
Avg. Hours of Plant Operation	23	23	24	23
GWTP Influent Tanks (gal.)	4,400	3,026	4,109	5,352

C. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/FCI	Roll-off	Sarnia, Ontario Canada	Stablex	WWTP Filer Cake	0	0	0
Bayshore	Tri-Axle	Keasbey, NJ	Bayshore Recycling	Non-Haz Petroleum Soil	30	24	720

2. EXCAVATION & BACKFILL PROGRESS

Description	Areas
Excavation Completed	No chromium soil excavation performed.

3. BACKFILL MATERIALS USED

Source	Week Ending			
	05/08/16	05/15/16	05/22/16	5/29/16
Natures Choice Horizon C	1,867.67	1,826.85	2,461.46	4,442.30
Cedar Hill Horizon B	2,093.69	1,206.67	1,917.90	2,347.65
Tilcon Mount Hope I-8	1,320.32	817.21	304.28	308.73
Natures Choice Topsoil	0	786.37	740.25	0
Weldon Screenings	0	1,806.60	1,649.19	2,154.68

D. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging and offloading of surcharge material is complete.
- Area 3S: Surcharging and offloading of surcharge material is complete.
- Area 1N: Surcharging and offloading of surcharge material is complete.
- Area 2N: Surcharging and offloading of surcharge material is complete.
- Area 3N: Surcharging and offloading of surcharge material is complete.

- Area 4N: Surcharging and offloading of surcharge material is complete.

E. SHEET PILE OPERATIONS

- Grouting of Hydraulic Barrier Wall on SA-6 North interlocks is complete.

F. CAPPING OPERATIONS

- Continued re-grading the GDL cover soil in GDL repair areas on the west side of the SA-6 South cap to include associated compaction testing.
- Continued placement of root barrier and demarcation tape and importing and placing Horizon C soils to include associated compaction testing on the SA-6 South open space area.
- Began importing and placing Horizon B soils atop Horizon C soils on SA-6 South.
- Continued importing and stockpiling Horizon A Topsoil.
- Continued SA-6 North liner subgrade grading activities within the open space area.
- Continued placement of Structural Fill Material in the future utility corridors crossing the SA-6 South open space area.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012 Extension Obtained 5/17/2015	Renewal Not Needed	10/04/2019	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013 Extension Obtained 3/16/2015	Not Specified, Est. 3/31/2016	6/30/2016*	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDEP Individual Upland Waterfront Development Permit and Water Quality Certificate for Bulkhead Expansion Project	SA-7	Issued: 5/10/2016	TBD	5/9/2021	-
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Obtained 12/24/15	12/03/16	Pending

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
USACE Nationwide Permit No. 27 for Droyers Cove Beneficial Environmental Project	Bayfront	Issued: 4/15/2016	TBD	3/18/2017	5/4/16
NJDEP Coastal General Permit 24 for the living shoreline	Bayfront	Issued: 10/15/2015	TBD	10/14/2020	5/4/16

** Amec Foster Wheeler reviewed the expiration of this TWA with NJDEP, Division of Water Quality and no extension is necessary.*

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete final grading of GDL cover soils to include associated compaction testing and installation of root barrier on SA-6 South open space area.
- Continue placement of Horizon C and Horizon B soils on SA-6 South open space area.
- Continue importing Horizon A Topsoil and begin placement on the SA-6 South Cap Area.
- Continue SA-6 North liner subgrade grading activities.
- Begin cutting SA-6 North Hydraulic Barrier Wall and Soil-Cement Bentonite Wall to liner grade.
- Prepare SA-6 North subgrade for initial geomembrane liner installation.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Continue to coordinate the CGWES piping layout with selected contractor for connection to GWTP Neutralization Tank.
- Complete PVSC Monthly compliance sampling.
- Conduct S-3 Mass Removal Injection Event No. 29 in well 088-IW-01 (completed June 5th through 7th, 2016).
- Conduct second quarterly LTMP regional groundwater level measurement round.
- Complete excavation and post-excavation sampling of small area of observed chromium impacted soils under the former 60 Kellogg St. building.
- Coordinate follow-up injections in Treatment Area TA 10-1.

ATTACHMENTS:

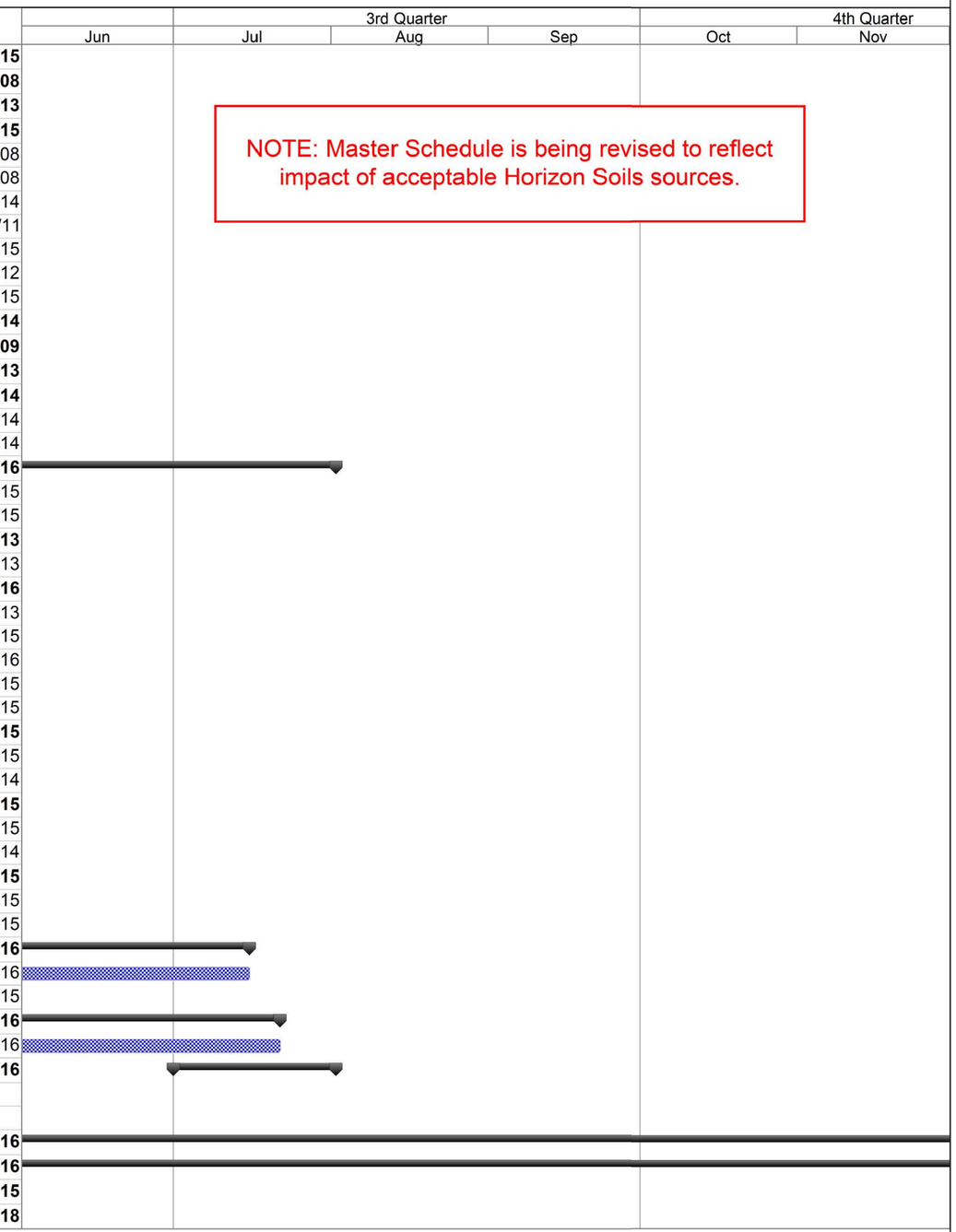
1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill (Progression Chart)
4. Dewatering Operations Update *(not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data *(not included in this reporting period)*
7. Perimeter Pools Update
8. Groundwater Quality Data *(not included in this reporting period)*
9. Surcharge Monitoring Update *(not included in this reporting period)*
10. Sheet Pile Update *(not included in this reporting period)*
11. Capping Update
12. Weekly SWPPP Reports
13. GWTP Update
14. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**1/4/08**	**6/1/15**
2	**Remedial Action Work Plan**	**33 days**	**1/4/08**	**2/19/08**
5	**Remedial Action Design**	**1522 days**	**2/20/08**	**12/13/13**
18	**JCIA/JCDPW Relocation**	**1780 days**	**8/11/08**	**6/1/15**
19	Develop Site Relocation Master Plan	38 days	8/11/08	10/1/08
20	Submit Site Relocation Master Plan	0 days	10/1/08	10/1/08
21	JC Construction of New Facilities	1309 days	6/2/09	6/2/14
22	Relocation Contractor Procurement	392 days	4/15/10	10/13/11
23	JCIA and JCDPW Relocation	949 days	10/17/11	6/1/15
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	12/12/11	4/30/12
24a	Demolition of JCIA Structures	146 days	9/1/14	3/23/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**7/11/08**	**4/30/14**
26	**Remedial Action Work Plan**	**187 days**	**7/11/08**	**3/30/09**
32	**Remedial Action Design**	**1161 days**	**2/2/09**	**7/9/13**
57	**SA-6 South Relocation**	**616 days**	**12/26/11**	**4/30/14**
58	New GWTP Construction Completion	502 days	3/5/12	1/30/14
59	Demolition of 80 Kellogg	857 days	12/26/11	4/30/14
60	**SA-6 North/South Field Implementation**	**894 days**	**3/1/13**	**8/1/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	6/17/13	12/31/15
60b	SA-6S (Site 163) In-Situ Treatment	555 days	11/15/13	12/31/15
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**3/1/13**	**6/28/13**
61a	Mobilization	87 days	3/1/13	6/28/13
62	**Surcharge Install/Instrumentation**	**706 days**	**6/17/13**	**2/29/16**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	6/17/13	12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	4/8/14	2/13/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	6/30/15	2/29/16
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	6/16/14	2/23/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	10/6/14	5/8/15
63	**Barrier Wall Install**	**569 days**	**8/12/13**	**10/15/15**
63a	SA 6N Installation of Barrier Wall	159 days	3/9/15	10/15/15
63b	SA 6S Installation of Barrier Wall	210 days	8/12/13	5/30/14
64	**Excavation**	**507 days**	**10/22/13**	**9/30/15**
64a	SA 6N Excavation	218 days	12/1/14	9/30/15
64b	SA 6S Excavation	295 days	10/22/13	12/8/14
65	**Backfill**	**558 days**	**11/11/13**	**12/30/15**
65a	SA 6N Backfill	283 days	12/1/14	12/30/15
65b	SA 6S Backfill	384 days	11/11/13	4/30/15
66	**Capping and Cover Soil Placement**	**426 days**	**12/1/14**	**7/15/16**
66a	SA 6N Capping and Cover Soil Placement	83 days	3/24/16	7/15/16
66b	SA 6S Capping and Cover Soil Placement	283 days	12/1/14	12/30/15
67	**Restoration**	**234 days**	**9/1/15**	**7/21/16**
67a	Restoration	234 days	9/1/15	7/21/16
68	**Demobilization**	**22 days**	**7/1/16**	**8/1/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line			
69	**SA-6 North Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
75	**SA-6 South Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
81	**SA-6 North Long Term Protections**	**1830 days**	**10/1/08**	**10/1/15**
92	**SA-6 South Long Term Protections**	**2569 days**	**6/5/08**	**3/31/18**



NOTE: Master Schedule is being revised to reflect impact of acceptable Horizon Soils sources.

Project: SA-6 Remediation Schedule
Revision 4
Date: 5/31/16

Task | Milestone ◆ | Summary | Critical

Attachment 2: Site Photographs

Site Photograph 1: Compacting historical fill subgrade within open space area.

Site Photograph 2: Compacting structural fill in future utility corridor.

Site Photograph 3: Grading and compacting cover soils along open space area slope.

Site Photograph 4: Loading imported cover soils for placement in open space area.

Site Photograph 5: Spreading cover soils - survey control in background.

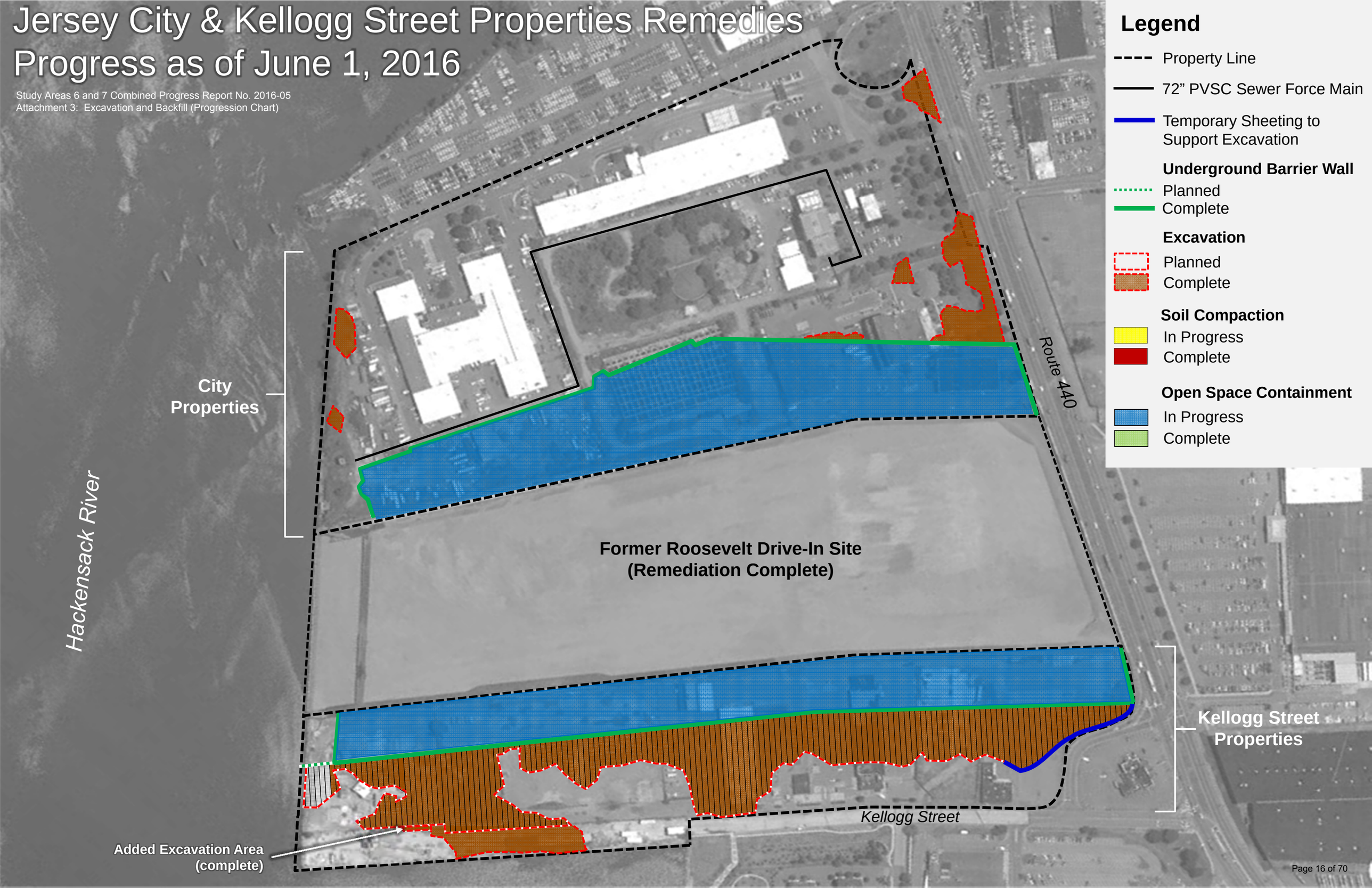
Site Photograph 6: Unloading imported cover soils for placement in open space area.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of June 1, 2016

Study Areas 6 and 7 Combined Progress Report No. 2016-05
Attachment 3: Excavation and Backfill (Progression Chart)



Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC

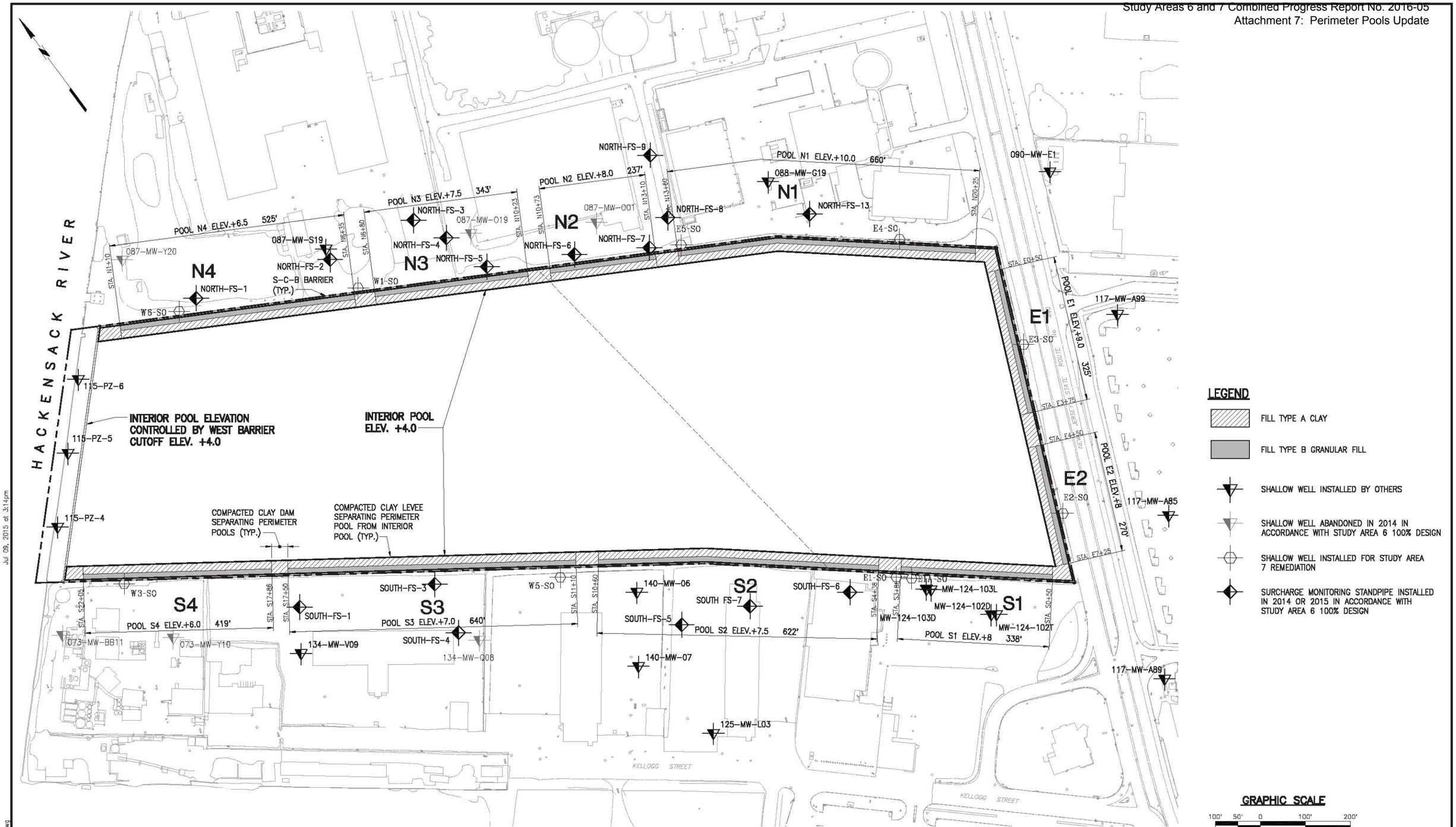
DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
04/01/16	10:00	14:00	4:00	42,598.54	42,638.28	39,740	42,637,830	
04/08/16	8:00	12:00	4:00	42,638.28	42,688.87	50,590	42,688,420	PVSC Compliance Sample Collected
04/13/16	12:00	15:00	3:00	42,688.87	42,734.89	46,020	42,734,440	
04/19/16	8:00	13:00	5:00	42,734.89	42,802.71	67,820	42,802,260	
04/22/16	11:00	15:00	4:00	42,802.71	42,847.64	44,930	42,847,190	
04/29/16	10:00	14:15	4:15	42,847.64	42,912.90	65,260	42,912,450	
05/06/16	10:00	15:00	5:00	42,912.90	42,965.49	52,590	42,965,040	PVSC Compliance Sample Collected
05/13/16	11:00	15:00	4:00	42,965.49	43,019.78	54,290	43,019,330	
05/20/16	11:00	15:00	4:00	43,019.78	43,071.32	51,540	43,070,870	
05/27/16	10:00	14:00	4:00	43,071.32	43,130.78	59,460	43,130,330	
05/31/16	11:00	14:30	3:30	43,130.78	43,178.93	48,150	43,178,480	
06/01/16	6:30	13:30	7:00	43,178.93	43,268.97	90,040	43,268,520	

Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

(not included in this reporting period)

Attachment 7: Perimeter Pools Update



IN PROGRESS
06-10-2015

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

Jul 09, 2015 at 3:14pm
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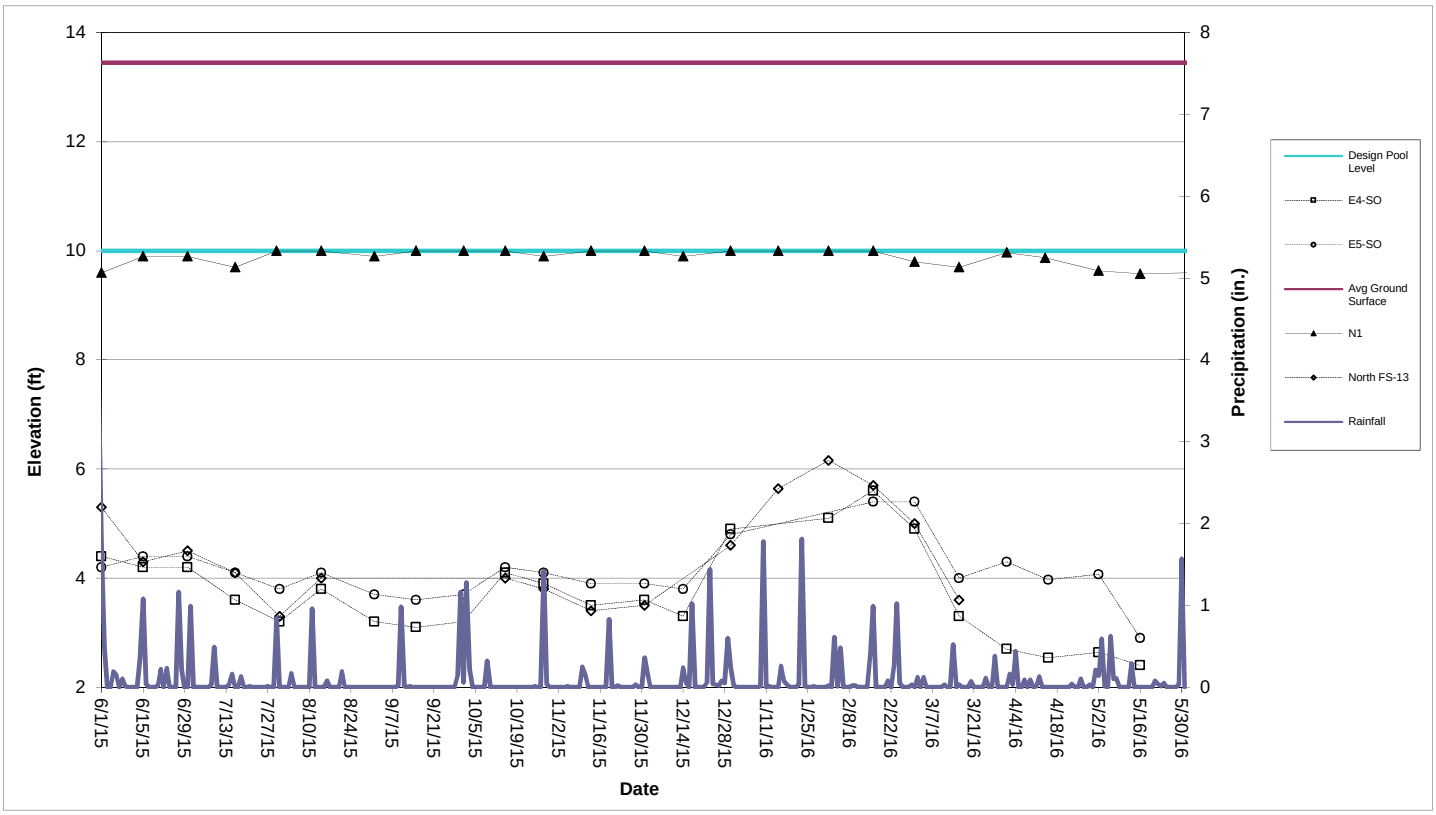
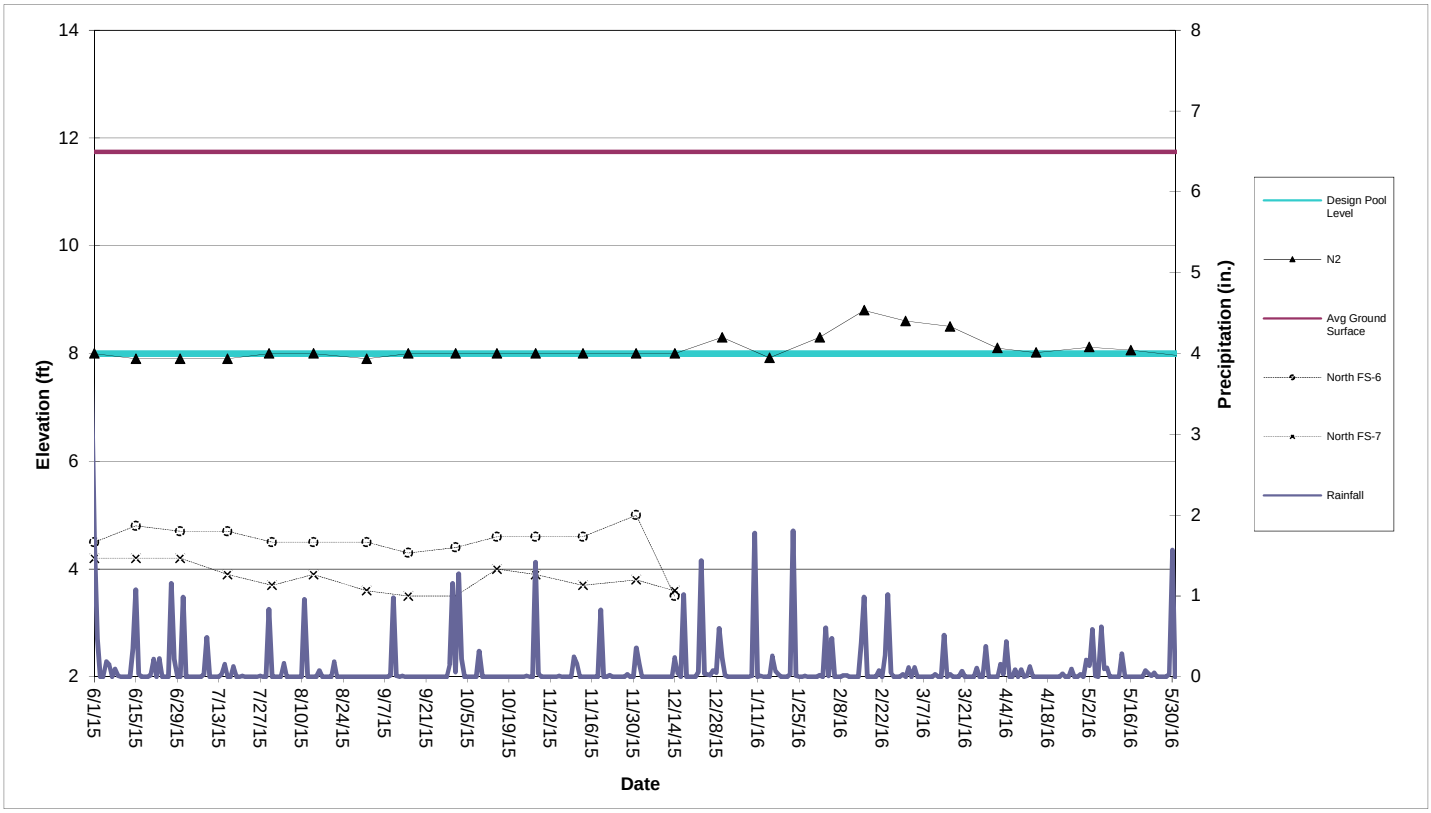
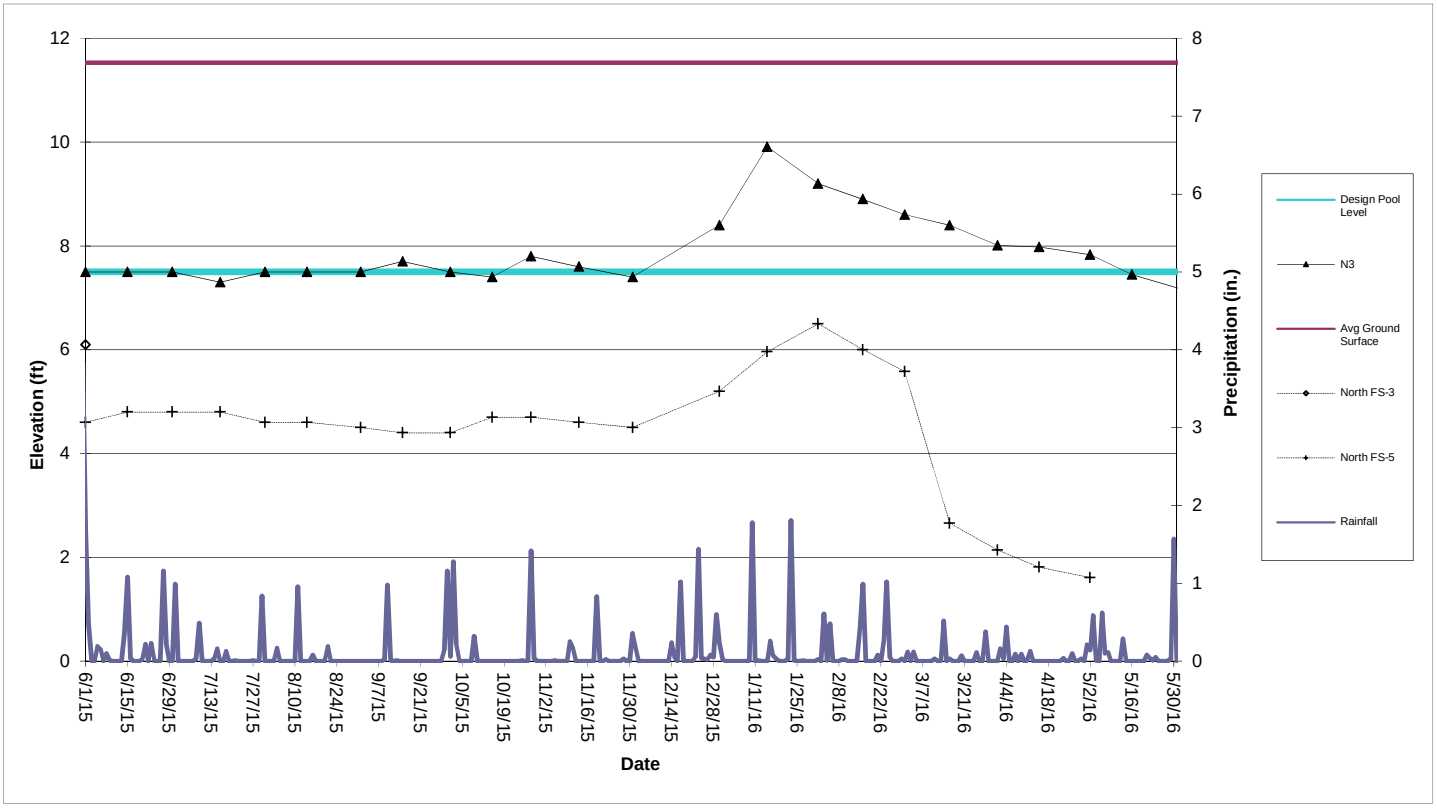
bboscaino



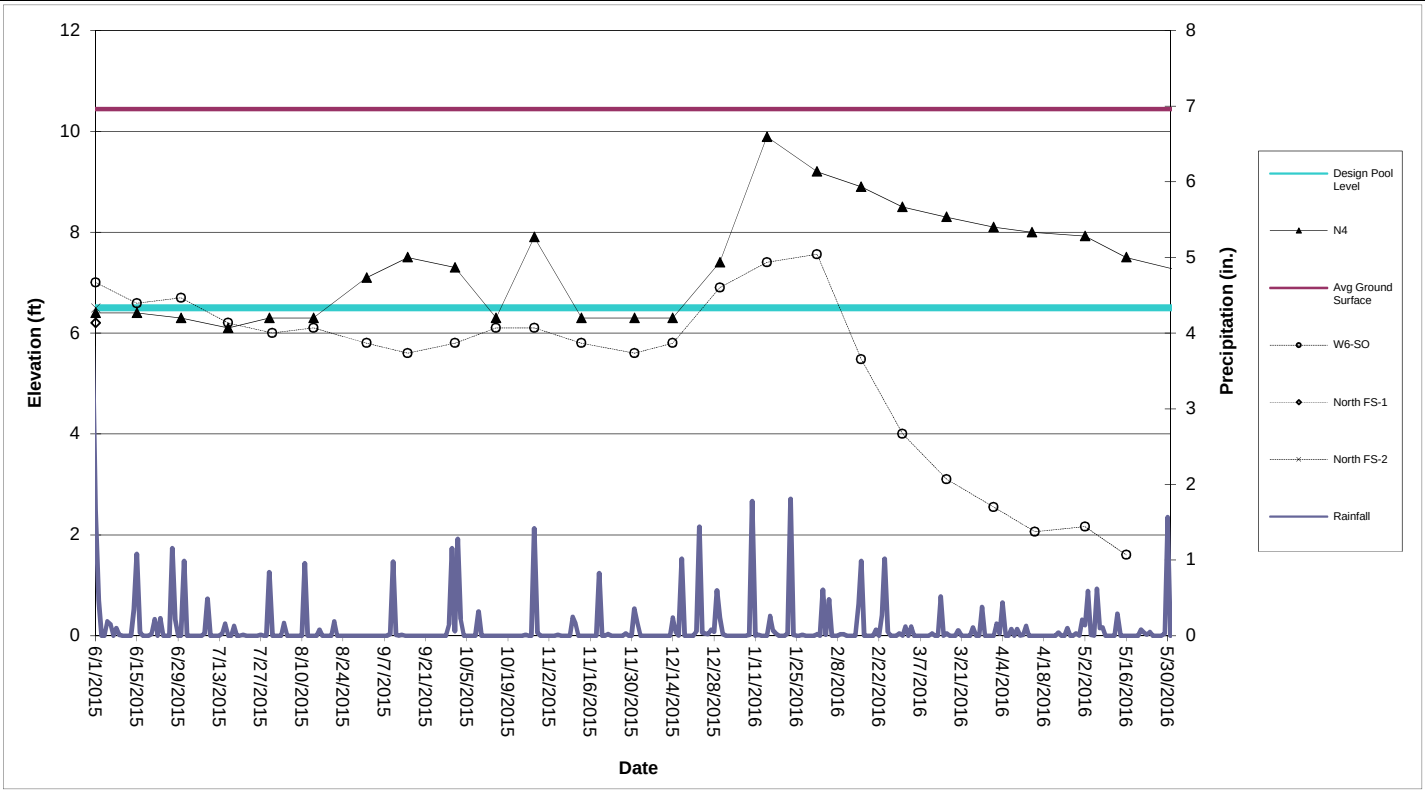
Perimeter Pool N1 (Sta. N13+60 to N20+25)



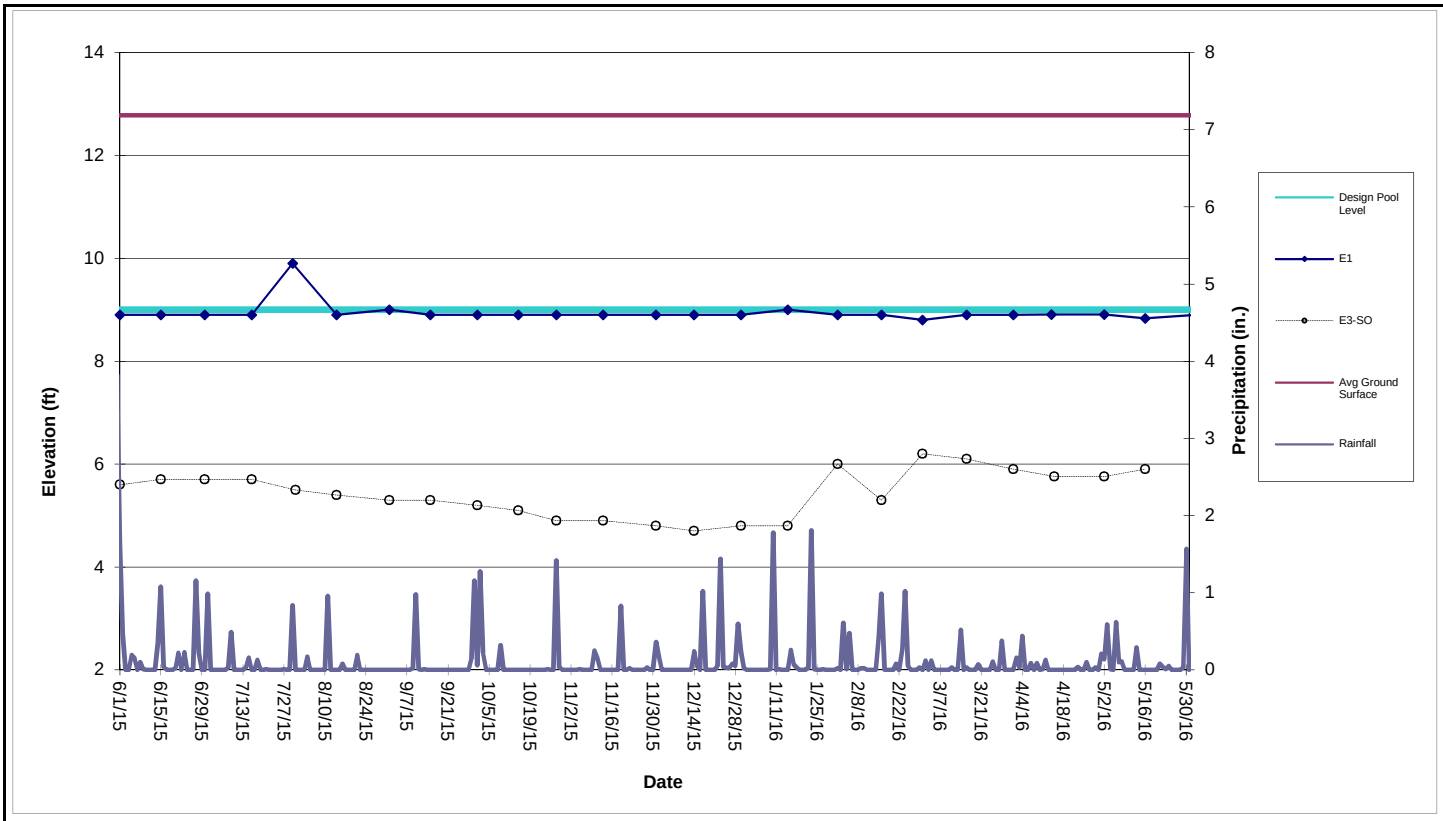
Perimeter Pool N2 (Sta. N10+73 to N13+10)



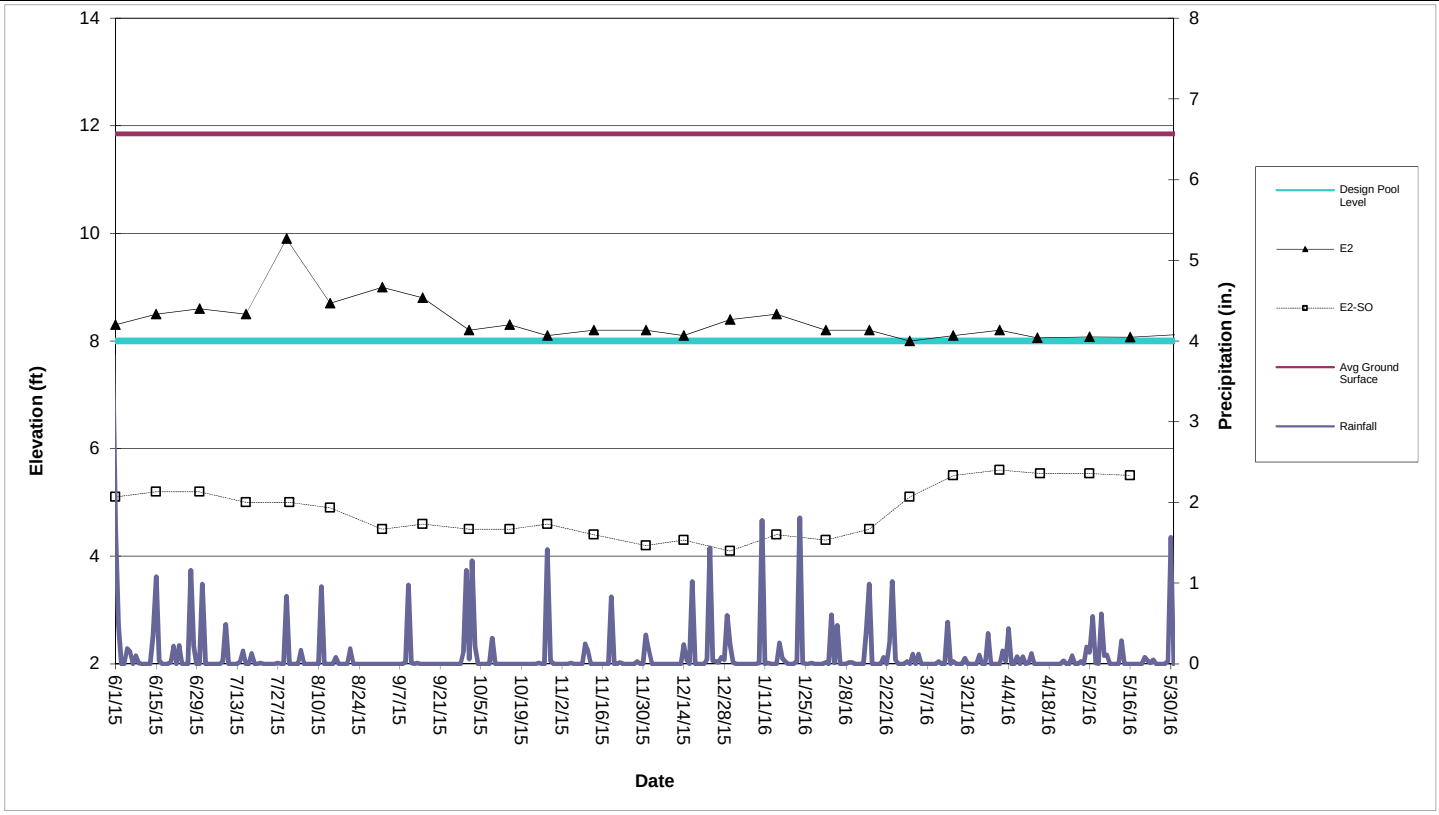
Perimeter Pool N3 (Sta. N6+80 to N10+23)



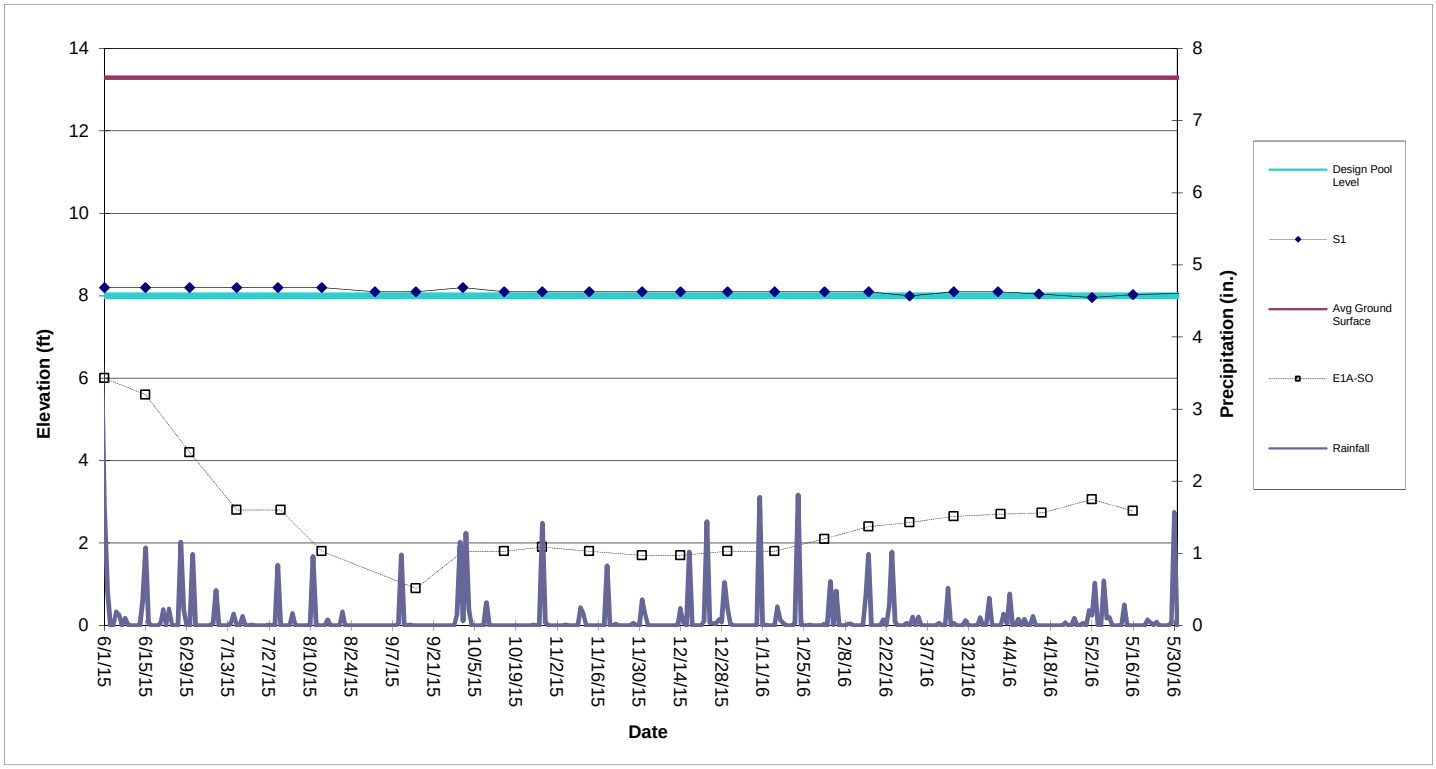
Perimeter Pool N4 (Sta. N6+80 to N10+23)



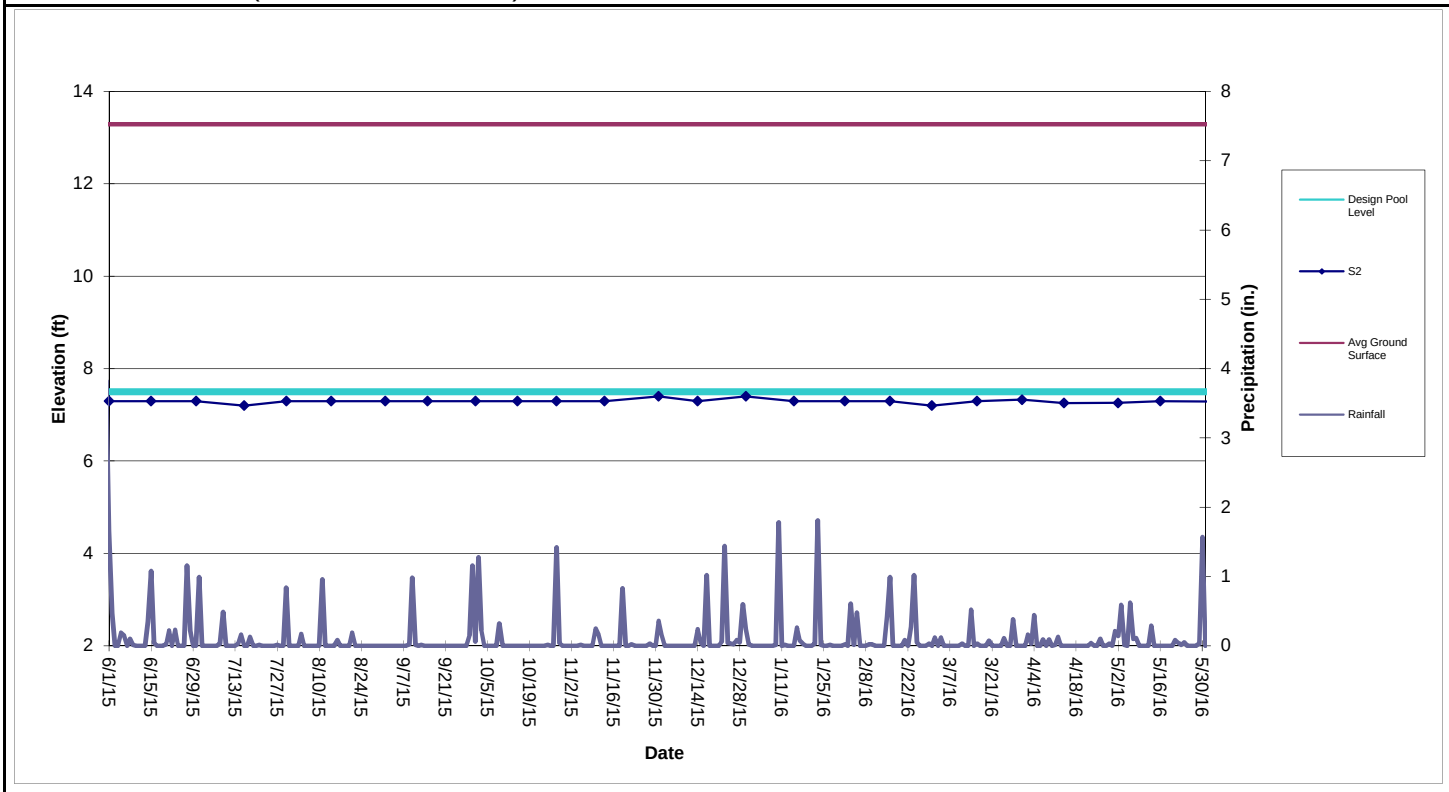
Perimeter Pool E1 (Sta. E0+50 to E3+75)



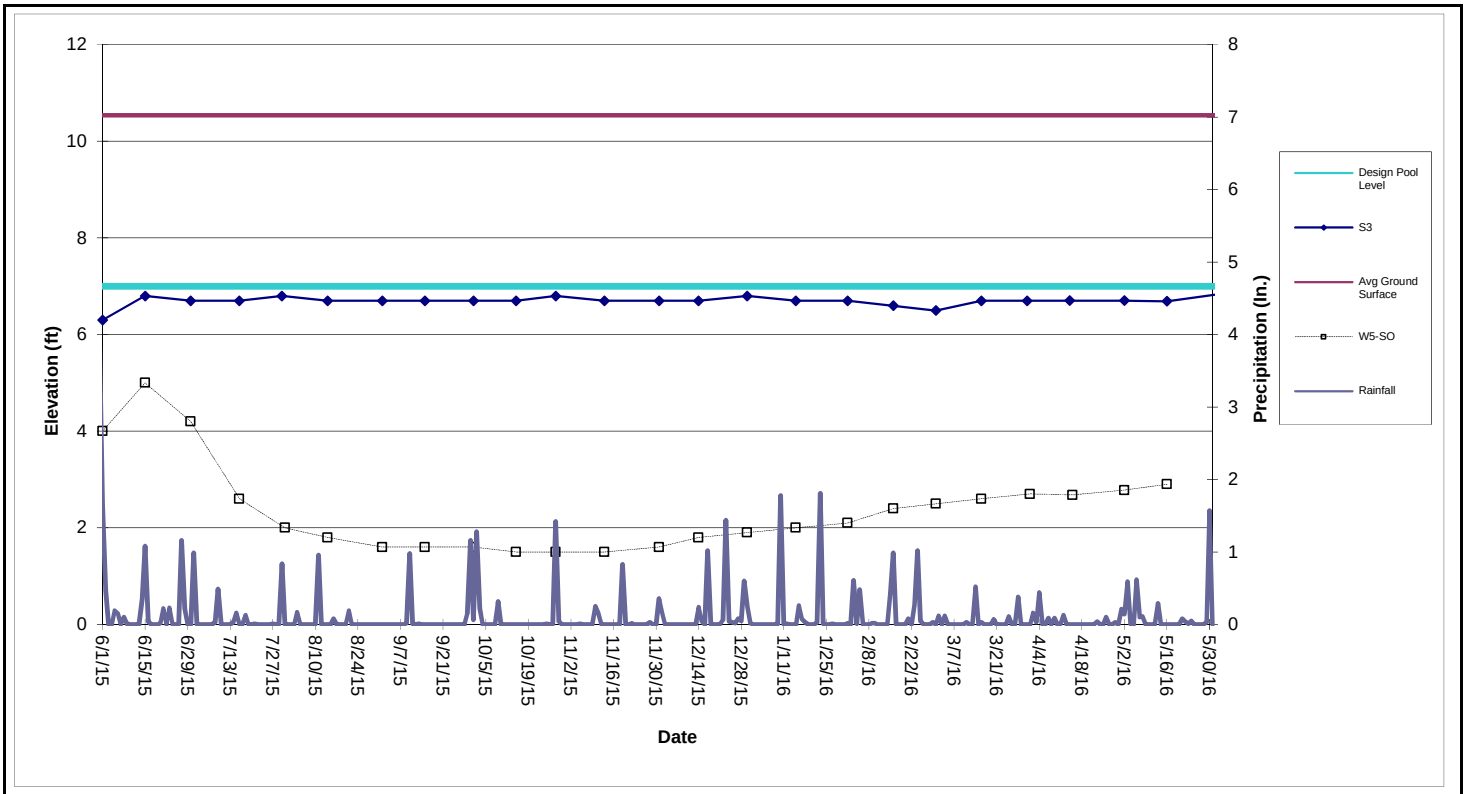
Perimeter Pool E2 (Sta. E4+50 to E7+25)



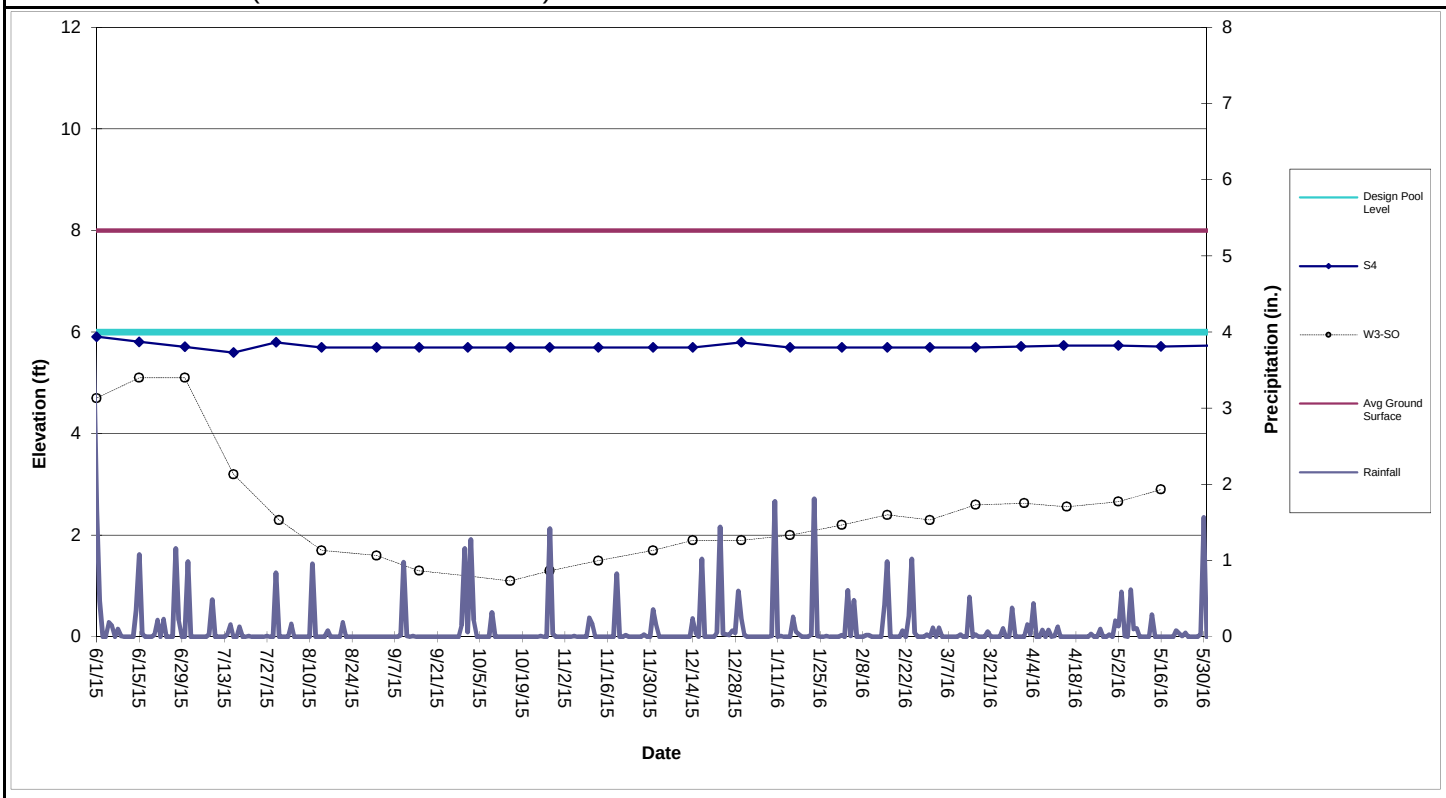
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-1	FS-2	FS-3	FS-5	FS-6	FS-7	FS-13	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																						
6/1/2015	6.0	5.1	5.6	4.4	4.2		4.7	4.0	7.0	6.2	6.5	6.1	4.6	4.5	4.2	5.3					3.9	
6/15/2015	5.6	5.2	5.7	4.2	4.4		5.1	5.0	6.6				4.8	4.8	4.2	4.3						
6/30/2015	4.2	5.2	5.7	4.2	4.4		5.1	4.2	6.7				4.8	4.7	4.2	4.5						
7/16/2015	2.8	5.0	5.7	3.6	4.1		3.2	2.6	6.2				4.8	4.7	3.9	4.1						
7/31/2015	2.8	5.0	5.5	3.2	3.8		2.3	2.0	6.0				4.6	4.5	3.7	3.3						
8/14/2015	1.8	4.9	5.4	3.8	4.1		1.7	1.8	6.1				4.6	4.5	3.9	4.0						
9/1/2015		4.5	5.3	3.2	3.7		1.6	1.6	5.8				4.5	4.5	3.6							
9/15/2015	0.9	4.6	5.3	3.1	3.6		1.3	1.6	5.6				4.4	4.3	3.5							
10/1/2015	1.8	4.5	5.2	3.2	3.7		1.2	1.6	5.8				4.4	4.4	3.5							
10/15/2015	1.8	4.5	5.1	4.1	4.2		1.1	1.5	6.1				4.7	4.6	4.0	4.0						
10/28/2015	1.9	4.6	4.9	3.9	4.1	6.9	1.3	1.5	6.1				4.7	4.6	3.9	3.8						
11/13/2015	1.8	4.4	4.9	3.5	3.9	6.4	1.5	1.5	5.8				4.6	4.6	3.7	3.4						
12/1/2015	1.7	4.2	4.8	3.6	3.9	6.2	1.7	1.6	5.6				4.5	5.0	3.8	3.5						
12/14/2015	1.7	4.3	4.7	3.3	3.8	6.2	1.9	1.8	5.8					3.5	3.6							
12/30/2015	1.8	4.1	4.8	4.9	4.8	7.5	1.9	1.9	6.9				5.2			4.6						
1/15/2016	1.8	4.4	4.8			7.9	2.0	2.0	7.4				6.0			5.6						
2/1/2016	2.1	4.3	6.0	5.1		7.7	2.2	2.1	7.6				6.5			6.2						
2/16/2016	2.4	4.5	5.3	5.6	5.4	6.7	2.4	2.4	5.5				6.0			5.7						
3/1/2016	2.5	5.1	6.2	4.9	5.4	5.1	2.3	2.5	4.0				5.6			5.0						
3/16/2016	2.7	5.5	6.1	3.3	4.0	4.2	2.6	2.6	3.1				2.7			3.6						
4/1/2016	2.7	5.6	5.9	2.7	4.3	3.5	2.6	2.7	2.6				2.1									
4/15/2016	2.7	5.5	5.8	2.5	4.0	2.9	2.6	2.7	2.1				1.8									
5/2/2016	3.1	5.5	5.8	2.6	4.1		2.7	2.8	2.2				1.6									
5/16/2016	2.8	5.5	5.9	2.4	2.9	2.4	2.9	2.9	1.6													

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4, FS-5, FS-6, FS-7, FS-13
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09,

Attachment 8: Groundwater Quality Data

(not included in this reporting period)

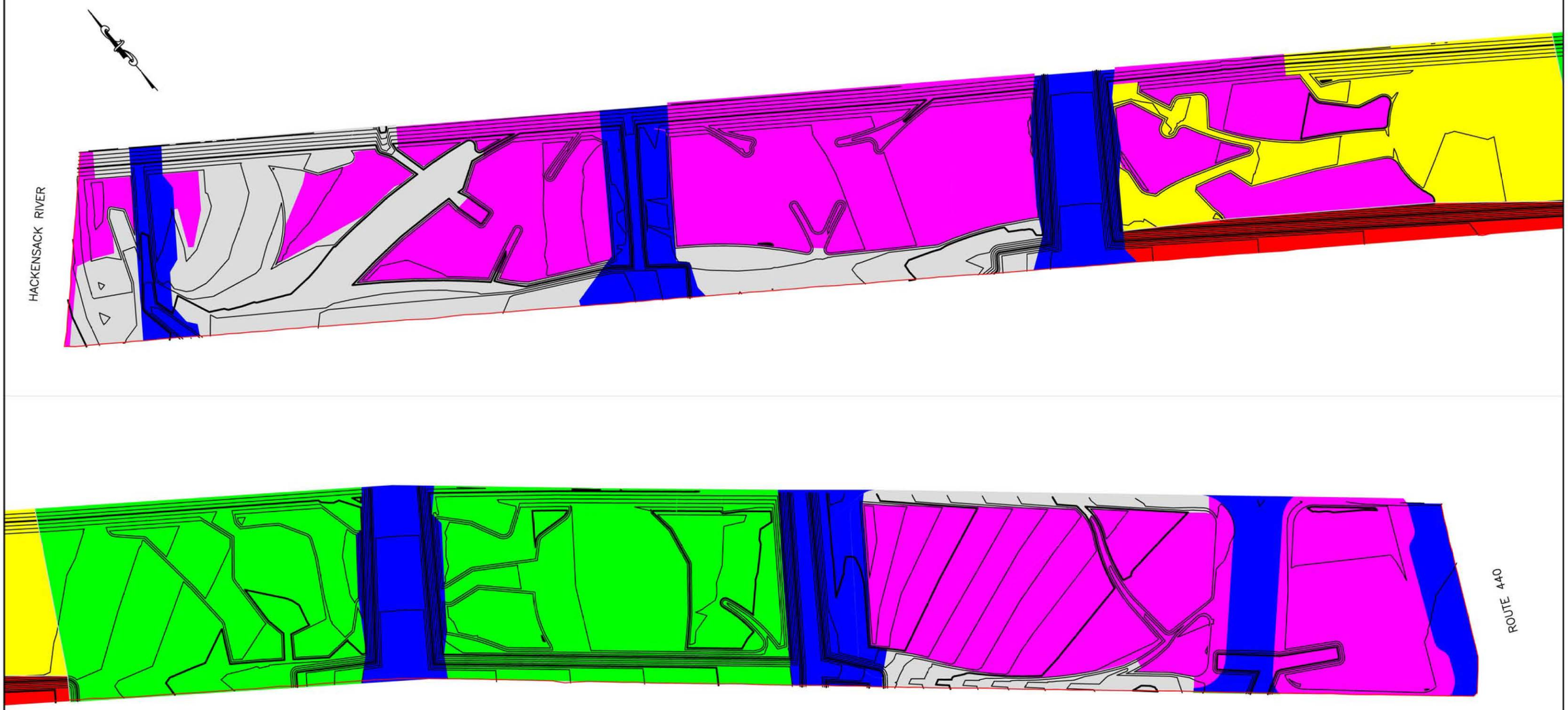
Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

(not included in this reporting period)

Attachment 11: Capping Update



LEGEND

- HORIZON C SOIL PLACED
- HORIZON C PLACED AND READY FOR TOPSOIL
- HORIZON C PLACED AND PREPARED FOR HORIZON B
- HORIZON B PLACED
- HORIZON B PLACED AND READY FOR TOPSOIL
- STRUCTURAL FILL PLACED
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP COVER SOILS PROGRESS MAP
06/03/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: May 6, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☑ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/06/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, May 06, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen on the perimeter fence at the Kellogg Street jughandle has become detached.
2	IA2Q4A1AL8	Garbage has accumulated on the grass outside of the perimeter fence along Kellogg Street.
3	IA2Q4A1AL8	Mud and sediment have accumulated on the northern and southern SA-7 paved haul roads.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 05/06/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach the windscreen as required.	RAD 5/11/16
2	Pick up and dispose of accumulated garbage.	
3	Clean the northern and southern SA-7 haul roads and install stone tracking pads where needed to reduce the tracking of material by end dumps working in the area.	

Construction Manager: _____ Date: 05/12/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: May 13, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/16/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, May 13, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen on the perimeter fence at the Kellogg Street jughandle has become detached.
2	IA2Q4A1AL8	Garbage has accumulated on the grass outside of the perimeter fence along Kellogg Street.
3	IA2Q4A1AL8	Mud and sediment have accumulated on the northern and southern SA-7 paved haul roads.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 05/16/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach the windscreen as required	5-19-16 RAD
2	Pick up and dispose of accumulated garbage.	
3	Clean the northern and southern SA-7 haul roads and install stone tracking pads where needed to reduce the tracking of material by end dumps working in the area.	

Construction Manager: _____ Date: 05/19/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: May 20, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		3
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		4
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		5
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/23/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, May 20, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Erosion protection measures are not present on the western end of the south cap area adjacent to the Hackensack River bulkhead.
2	IA2Q4A1AL8	Windscreen fabric on the perimeter fence at the Kellogg Street jughandle has become detached along the top.
3	IA2Q4A1AL8	Garbage has accumulated on the grass outside of the perimeter fence along Kellogg Street and the grass requires cutting.
4	IA2Q4A1AL8	Erosion protection measures are not present in the north cap area at the western side of the sedimentation basin (just south of the CWTP).
5	IA2Q4A1AL8	Mud and sediment have accumulated on the northern, southern and western SA-7 paved haul roads.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 05/23/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Install erosion control measures on the western end of the south cap adjacent to the river bulkhead.	5/26/16 (RAD)
2	Re-attach the windscreen as required.	
3	Pick up and dispose of accumulated garbage, cut the grass.	
4	Install erosion control measures on the north cap at the western end of the sedimentation basin where cap material overtops the sheetpile.	
5	Clean the northern, southern and western SA-7 haul roads.	

Construction Manager: _____ **Date** 05/26/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: May 27, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		3
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		4
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		5
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/27/16.

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, May 27, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Sediment has accumulated on the western end of Kellogg Street.
2	IA2Q4A1AL8	Entrances/exits to the SA-6 north cap area exclusion zone are being left open when unattended.
3	IA2Q4A1AL8	Garbage and other debris is present in the SA-6 North pedestrian walkway adjacent to Rte. 440.
4	IA2Q4A1AL8	Silt fence along the western end of the northern SA-7 roadway has become detached from the upright wooden stakes.
5	IA2Q4A1AL8	Filter fabric in two catch basins on the eastern SA-7 roadway has become blinded with sediment.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 05/27/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Clean up all accumulated sediment on the western end of Kellogg Street, adjacent to the truck entrance gate.	CAD 6/2/16
2	Pull orange fencing across EZ entrances/exits when they are not being used.	
3	Remove and dispose of accumulated garbage in the pedestrian walkway.	
4	Maintain or replace the silt fence as required	
5	Replace the filter fabric as needed to restore function.	

Construction Manager: _____ **Date:** 06/02/16

Attachment 13: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (submitted May 2016)

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

May 18, 2016

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the April 2016 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
4	01	16	4	30	16
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	78,700	87,494 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100

Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	0.72	0.80	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	0.00026	0.00026	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.0	<5.0	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.17461	0.17461	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analytes are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

May 18, 2016

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
4	01	16	4	30	16
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,360,988 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 61,527,544

DATE	BOD (mg/l)	TSS (mg/l)
4/12/2016	11.0	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE May 18, 2016

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG **Honeywell Jersey City GWTP; SA-6 North (Permit #20630025)** **MONTH: April, 2016**

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits		5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
4/1/2016	Angel Trujillo	59166556	59244612	78,056	0.078056	7.15	1.090									0.71
4/2/2016	Angel Trujillo	59244612	59308878	64,266	0.064266	7.11	1.090									0.58
4/3/2016	Angel Trujillo	59308878	59394398	85,520	0.08552	7.80	1.090									0.78
4/4/2016	Angel Trujillo	59394398	59479918	85,520	0.08552	7.20	1.090									0.78
4/5/2016	Angel Trujillo	59479918	59561506	81,588	0.081588	7.61	1.090									0.74
4/6/2016	Angel Trujillo	59561506	59637952	76,446	0.076446	7.73	1.090									0.69
4/7/2016	Angel Trujillo	59637952	59719498	81,546	0.081546	7.65	1.090									0.74
4/8/2016	Angel Trujillo	59719498	59799370	79,872	0.079872	7.76	1.090									0.73
4/9/2016	Angel Trujillo	59799370	59881000	81,630	0.08163	7.45	1.090									0.74
4/10/2016	Angel Trujillo	59881000	59962630	81,630	0.08163	7.75	1.090									0.74
4/11/2016	Angel Trujillo	59962630	60035090	72,460	0.07246	7.64	1.090									0.66
4/12/2016	Angel Trujillo	60035090	60113084	77,994	0.077994	6.94	1.090	<5.0	11.0		<0.010	<0.030	<0.010	0.00026	<0.020	0.71
4/13/2016	Angel Trujillo	60113084	60191378	78,294	0.078294	7.67	1.090									0.71
4/14/2016	Angel Trujillo	60191378	60270082	78,704	0.078704	7.53	1.090									0.72
4/15/2016	Angel Trujillo	60270082	60349094	79,012	0.079012	7.59	1.090									0.72
4/16/2016	Angel Trujillo	60349094	60431159	82,065	0.082065	7.90	1.090									0.75
4/17/2016	Angel Trujillo	60431159	60513224	82,065	0.082065	7.60	1.090									0.75
4/18/2016	Angel Trujillo	60513224	60588200	74,976	0.074976	7.62	1.090									0.68
4/19/2016	Angel Trujillo	60588200	60667406	79,206	0.079206	7.61	1.090									0.72
4/20/2016	Angel Trujillo	60667406	60743746	76,340	0.07634	7.84	1.090									0.69
4/21/2016	Angel Trujillo	60743746	60831240	87,494	0.087494	7.72	1.090									0.80
4/22/2016	Angel Trujillo	60831240	60907212	75,972	0.075972	7.60	1.090									0.69
4/23/2016	Angel Trujillo	60907212	60990318	83,106	0.083106	7.60	1.090									0.76
4/24/2016	Angel Trujillo	60990318	61055402	65,084	0.065084	7.68	1.090									0.59
4/25/2016	Angel Trujillo	61055402	61132730	77,328	0.077328	7.82	1.090									0.70
4/26/2016	Angel Trujillo	61132730	61212418	79,688	0.079688	7.65	1.090									0.72
4/27/2016	Angel Trujillo	61212418	61288291	75,873	0.0759	7.62	1.090									0.69
4/28/2016	Angel Trujillo	61288291	61365913	77,622	0.077622	7.82	1.090									0.71
4/29/2016	Angel Trujillo	61365913	61449220	83,307	0.083307	7.69	1.090									0.76
4/30/2016	Angel Trujillo	61449220	61527544	78,324	0.078324	7.80	1.090									0.71
TOTAL				**2,360,988**	**2.360988**			<5.0	11.0		<0.010	<0.030	<0.010	0.00026	<0.020	
			High:	**87,494**											**High:**	**0.80**
			Average:	**78,700**											**Average:**	**0.72**

WW

E

JC18132

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell

Chain Of Custody / Analysis Request

AESI Ref: 42472.84687
COC#: 087-WW-041216
Lab Proj # (SDG):
Lab ID: ACTD
Site ID: HudsonCo
Lab Job #: HWINJM32815
Authorized User: Honeywell
Text & Excel File Direct: Excel & Text File Direct

Privileged & Confidential

Site Name: Hudson County
Phase: CS
Location of Site: Jersey City, NJ
Sampling Program: 087: JCIA

Sampling Co.: MACTEC
EDD To:
Sampler: Frank Schroyer
PO #:
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Full Report TAT: 28 Days

Client Contact: (name, co., address)
Helen Fahy P (973) 455-2969 E helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962
Preliminary Data To:
Sample Receipt Acknowledgement To:
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)

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Sample Identification: Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E169AA SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
										Units		Preservative	3	3	3	1	2	2	0	0	2					
1 087-WW			087-WWE-041216-A	4/12/2016	14:15	WW	WATER	REG	5	comp	N	X	X	X	X			X	X		1					AH
2 087-WW			087-WWE-041216-B	4/12/2016	14:20	WW	WATER	REG	6	grab	N					X	X				2					M15
3 087-WW			087-WWI-041216	4/12/2016	14:30	WW	WATER	REG	3	grab	N									X	3					L38
4																										V1035
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

Relinquished by: 6.94 s.u.	8.3°C	Company: AMEC Foster Wheeler	Received by:	Company		Condition	Custody Seals Intact
Frank Schroyer	Date/Time	4/12/16		Date/Time 4/12/16 1730		Cooler Temp.	CS 687 ACCUTEST
Relinquished by:	Company: ACCUTEST		Received by:	Company: ACCUTEST		Condition	Custody Seals Intact
	Date/Time 4/12/16 1710			Date/Time 4/12/16 1710		Cooler Temp. 3-9	OK

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2) 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

ALL SAMPLES RECEIVED
PRESERVED AS APPLICABLE OK

INITIAL ASESSMENT 3A
LABEL VERIFICATION AMU

IG
IP

SGS Accutest LabLink@909884 14:18 12-May-2016

Report of Analysis

4.1 4

Client Sample ID:	087-WWE-041216-A		
Lab Sample ID:	JC18132-1	**Date Sampled:**	04/12/16
Matrix:	AQ - Water	**Date Received:**	04/12/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1090	10	ug/l	1	04/13/16	04/14/16	ND	EPA 200.7 [2]	EPA 200.7 [5]
Copper	< 10	10	ug/l	1	04/13/16	04/14/16	ND	EPA 200.7 [2]	EPA 200.7 [5]
Lead [a]	< 30	30	ug/l	10	04/13/16	04/15/16	GT	EPA 200.7 [3]	EPA 200.7 [5]
Mercury	0.26	0.20	ug/l	1	04/13/16	04/13/16	JPM	EPA 245.1 [1]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	04/13/16	04/14/16	ND	EPA 200.7 [2]	EPA 200.7 [5]
Zinc	< 20	20	ug/l	1	04/13/16	04/14/16	ND	EPA 200.7 [2]	EPA 200.7 [5]

(1) Instrument QC Batch: MA39168
(2) Instrument QC Batch: MA39183
(3) Instrument QC Batch: MA39193
(4) Prep QC Batch: MP93115
(5) Prep QC Batch: MP93118

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

SGS Accutest LabLink@909884 14:18 12-May-2016

Report of Analysis

4.1 4

Client Sample ID:	087-WWE-041216-A		
Lab Sample ID:	JC18132-1	**Date Sampled:**	04/12/16
Matrix:	AQ - Water	**Date Received:**	04/12/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended [a]	< 4.0	4.0	mg/l	1	04/13/16	LA	SM2540 D-11
pH [b]	6.99		su	1	04/12/16 18:21	JK	SM4500H+ B-11

(a) Reported sample aliquot obtained from filtration of 500 mL of sample. Sample did not meet method requirement of 2.5 mg of solids on the filter with this volume filtered.
(b) Sample received out of holding time for pH analysis.

RL = Reporting Limit

SGS Accutest LabLink@909884 14:18 12-May-2016

Report of Analysis

4.2 4

Client Sample ID:	087-WWE-041216-A		
Lab Sample ID:	JC18132-1A	**Date Sampled:**	04/12/16
Matrix:	AQ - Water	**Date Received:**	04/12/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	11.0	3.4	mg/l	1	04/13/16 18:20	LA	SM5210 B-11

RL = Reporting Limit

SGS Accutest LabLink@909884 14:18 12-May-2016

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-041216-B		
Lab Sample ID:	JC18132-2	**Date Sampled:**	04/12/16
Matrix:	AQ - Water	**Date Received:**	04/12/16
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N254162.D	1	04/14/16	WO	n/a	n/a	VN10745
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	10	1.3	ug/l	
107-13-1	Acrylonitrile	ND	10	1.2	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	4.5	1.0	0.11	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.14	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	4.0	1.0	0.19	ug/l	
108-90-7	Chlorobenzene	0.23	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.19	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.73	ug/l	
67-66-3	Chloroform	26.7	1.0	0.11	ug/l	
74-87-3	Chloromethane	ND	1.0	0.22	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.19	ug/l	
95-50-1	1,2-Dichlorobenzene	0.31	1.0	0.15	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.15	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.54	ug/l	
75-34-3	1,1-Dichloroethane	0.34	1.0	0.16	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.22	ug/l	
156-59-2	cis-1,2-Dichloroethene	62.6	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethene	2.4	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.17	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.16	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.17	ug/l	
123-91-1	1,4-Dioxane	ND	130	27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.11	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.83	1.0	0.16	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.18	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS ACCUTEST

SGS Accutest LabLink@909884 14:18 12-May-2016

Report of Analysis

Client Sample ID:	087-WWE-041216-B		
Lab Sample ID:	JC18132-2	**Date Sampled:**	04/12/16
Matrix:	AQ - Water	**Date Received:**	04/12/16
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3 4

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.12	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.17	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.18	ug/l	
79-01-6	Trichloroethene	72.7	1.0	0.16	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.55	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.19	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	93%		72-125%
2037-26-5	Toluene-D8 (SUR)	96%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	94%		74-115%
1868-53-7	Dibromofluoromethane (S)	97%		79-120%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@909884 14:18 12-May-2016

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-041216-B		
Lab Sample ID:	JC18132-2	**Date Sampled:**	04/12/16
Matrix:	AQ - Water	**Date Received:**	04/12/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.0	5.0	mg/l	1	04/13/16 18:30	LS	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending May 2016

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2014-6-10	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-6-10 includes the french drain installation, as well as pump and access station manholes for SA-6 South. Some design details, including the electrical design, will be finalized in supplemental DCBs based field obersvations and constructability review.	Submitted to Contractor only.
DC 2014-11-20	DC 2014-11-20 supplements DC 2014-06-10 and includes the french drain installation, electrical supply and discharge piping for SA-6 North.	Submitted to Contractor only.
DC 2015-2-12	DC 2015-2-24 is a follow up to DC 2014-6-10, the SA-6 South CGWES trench design. DC 2015-2-24 includes details for electrical supply and discharge piping.	Submitted to Contractor only.
DC 2014-2-24	DC 2016-5-24 was issued to document the changes in the SA-6 North and South cap subgrades that resulted from the change to a trench system.	Submitted to Contractor only.
DC 2015-9-03	DC 2015-9-03 is a follow up to DC 2015-2-24, the SA-6 South CGWES electrical supply. DC 2015-9-03 provides a revised electrical plan.	Submitted to Contractor only.
DC 2016-5-24	DC 2016-5-24 was issued to address the elimination of a drop structure, the elmination of a flow meter, conduit sizing changes, and to clarify Entact's scope.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending May 2016

Changed Item Identifier	Description of Change	Comments
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA-6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Parties on July 2, 2015.

SA-6 North/South Field Change Log - Month Ending May 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groundwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.
DC 2015-06-18	Bayfront Redevelopment Civil Designer has eliminated one utility corridor along the eastern portion of SA-6 South (water main and sewer line were relocated to another utility corridor). In addition, it was identified that minor increases in the Bayfront final grades of up to 0.25 feet may be made in the landscaped areas (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 South Consent Decree and the 100% Design.	Submitted to all Parties on June 18, 2015.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.
DC 2015-11-12	Amec Foster Wheeler has provided Final Cap Grades (in CAD) to Entact. Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.	Submitted to Contractor only.
DC 2016-04-15	Amec Foster Wheeler has provided final restoration grades for SA-6 South Development Area. The DCB also includes the final cover types in revised Drawing C-128.	Submitted to Contractor only.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on 6/22/15.
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.

SA-6 North/South Field Change Log - Month Ending May 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-10-06	GCL is required to be installed over the SCB wall and Barrier Wall at the locations shown in the annotated PDF of C-121 (rev 4, 8/13/15).	Submitted to Contractor only.
DC 2015-07-22	Detail BN has been modified to extend the LLDPE up and over the SCB Wall. The prior detail showed both the GDL and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-28	Drawing 304, Detail CE and associated notes regarding the "Liner Anchor to Concrete Structure" have been modified.	Submitted to Contractor only.
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only.
DC 2015-07-31	The sheet pile pair is located at Sta. 0+50. Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.	Submitted to Contractor only.
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA-6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	Submitted to Contractor only.
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.

SA-6 North/South Field Change Log - Month Ending May 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	Submitted to Contractor only.
DC 2015-11-18	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	Submitted to Contractor only.
DC 2015-09-28	Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling.	Submitted to Parties on October 1, 2015.
DC 2015-12-21	Amec Foster Wheeler (AmecFW), Entact and Maser Consulting have developed alternative methods for documentation/survey of the excavation bottom in Site 163. The alternative methods were developed in light of safety considerations for surveyor access into a sheet piled excavation to elevation –8.0. The bottom of the excavation will be in very low strength Stratum O soils. These alternative survey control methods are different from those previously used in the SA-6 South Development Area.	Submitted to Contractor only.
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.
DC 2015-10-22	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only.
DC 2015-12-14	Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds that cannot be tested by other means. Spark testing will be performed in accordance withASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative. Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	Submitted to Parties on January 14, 2016.
DC 2015-12-01	EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation. A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals. EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits. A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.	Submitted to Contractor only.
DC 2016-02-03	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending May 2016

Changed Item Identifier	Description of Change	Comments
DC 2016-02-22	AmecFW revised the SA-6 North cap subgrade in a single localized area in order to accommodate Entact's request to relocate Pump Station #1 (RFI 64). The subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location. In addition, for grading purposes, any hydraulic barrier sheets within the Sedimentation Basin that have sections below elevation 12.0 will be trimmed to a uniform elevation of 11.5.	Submitted to Contractor only.
DC 2016-02-25	This DCB has been issued to provide Entact with the latest SA-6 North HB Wall and SCB wall plan and profile drawings (SN-201 thru SN-205), which were modified to reflect changes made in DC 2016-02-22.	Submitted to Contractor only.
DC 2016-05-03	The laboratory results of all gradations for planting soils shall be presented in terms of the USDA classification system rather than the USCS classification system.	Submitted to Contractor only.
DC 2016-03-18	This DC 2016-03-18 documents the revised acceptable ranges of physical parameters and provides an updated specification made in consultation with Dr. Grabosky of Rutgers University. Dr. Grabosky provided his recommendations in correspondence dated 3/17/2016.	Submitted to Parties on March 22, 2016. Plaintiffs responded in a letter dated April 15, 2016. Plaintiffs and Honeywell subsequently held discussions and DCB 2016-04-20 was developed to document an agreement reached by all parties on the Special Master All-Hands monthly call on April 19, 2016.
DC 2016-03-21	Nature's Choice was identified as the source that best met the physical requirements for Horizon C soils by Dr. Grabosky; however, several samples of Nature's Choice Horizon C soils have hexavalent chromium concentration >1.0 mg/kg. Consequently, Honeywell is proposing a design change to allow the hexavalent chromium concentration in Nature's Choice Horizon C soils to be less than 1.8 mg/kg, as agreed to by the parties, as documented in the attached emails. For future sampling, hexavalent chromium soil samples will be composited from 10 grab sample locations per 5,000 CY (maximum). There are additional conditions in Attachment A that are part of this DCB and specific to Nature's Choice Horizon C soil. All other requirements specified in the 100% Design for imported soils will be met by the Nature's Choice Horizon C soils as amended in previous DC 2015-09-17.	Submitted to Parties on March 22, 2016.
DC 2016-04-20	This DCB documents the approved sources of Horizon B and Horizon C materials, as agreed to by all parties on the Special Master All-Hands monthly call on April 19, 2016.	Submitted to Parties on April 21, 2016.
DC 2016-5-11	Consistent with minor Bayfront final grading changes, Amec adjusted the interim grade in the SA-6 North landscape area by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design. As part of DC 2016-5-11, AmecFW issued SA-6 North Interim Grades to Entact.	Submitted to Contractor only.
DC 2016-5-20	After further review, AmecFW lowered the geomembrane liner elevations proximate to Pump Station #1 on the SA-6 North cap in order to provide additional separation between the geomembrane and the bottom of the vault. (Refer to DC 2016-02-22).	Submitted to Contractor only.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

SA-6 AND SA-7 COMBINED PROGRESS REPORT

JULY 14, 2016

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

July 14, 2016

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2016-06

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from June 1 – June 30, 2016.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Global Director, Remediation
Design and Construction

WJH:jtc/sgf

Attachment: June 2016 SA-6/7 Combined Monthly Progress Report No. 2016-06

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.
Mary Hogan - Walsh Pizzi O'Reilly Falanga LLP (electronic copy)
Hector Ruiz - Walsh Pizzi O'Reilly Falanga LLP (electronic copy)
Liza Walsh - Walsh Pizzi O'Reilly Falanga LLP (electroni copy)

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2016-06

Project SA-6 & 7 Remediation

June 2016

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
06/10/16	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2016-05	Honorable Robert G. Torricelli Office of the Special Master
06/16/16	3 Year Sampling At TA-7 & TA-8 Study Area 6 North Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
06/20/16	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
06/21/16	Special Master All Hands Conference Call	n/a
06/30/16	Design Change Bulletin: Temporary Construction Road in SA-6 South Cap Study Area 6 (SA-6) South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
06/30/16	Integrated Annual Groundwater Performance Report for 2015 Study Areas 5, 6, and 7 Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master

SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	06/05/16	06/12/16	06/19/16	06/26/16
Construction Management (AMEC)	9	9	9	9
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3

Team	Week Ending			
	06/05/16	06/12/16	06/19/16	06/26/16
Entact/Subcontractors	32	33	32	32
Arecon/US Ecology Subcontractors	1	1	1	1
ESI	0	0	0	13
Lagan	0	0	0	1
Century	0	0	0	1
Evoqua	1	1	1	2
B&B Drilling	0	1	2	2
Cornerstone	1	1	0	3
TOTAL STAFF	**49**	**51**	**50**	**69**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Conducted second round of quarterly regional groundwater level measurements.
- Conducted S-3 Mass Removal Injection Event No. 29 in injection well 088-IW-01 and related semi-annual groundwater quality sampling.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Completed installation of piezometer pairs associated with SA-6 North Open Space Area.
- Completed reinstallation of electrical service on the northeast corner of SA-7.
- PVSC completed yearly inspection of the GWTP and the CWTP on June 2, 2016.
- Collected June PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Collected 3-Year Performance Assessment soil samples from in-situ treatment areas TA-7 and TA-8 in accordance with the Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil (dated February 2013) on June 27, 2016.

B. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned downstream process tanks T-300 (neutralization tank) and T-400 (effluent tank).
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on June 9, 2016.
- Completed replacement of Groundwater Treatment Plant breaker and electrical panel.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	06/05/16	06/12/16	06/19/16	06/26/16
Avg. Gallons Treated & Discharged (per day)	76,848	78,192	77,202	74,270
Average Flow (gpm) for Operating Period	57	56	56	55
Avg. Hours of Plant Operation	23	23	23	23
GWTP Influent Tanks (gal.)	3,331	3,816	2,512	3,619

C. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Completed excavation and post-excavation sampling of small area of observed chromium impacted soils under the former 60 Kellogg St. building. Post excavation sampling indicates that results were <20ppm.
- Completed cutting of pilings within the 60 Kellogg footprint and completed backfilling of the 60 Kellogg excavation.
- Completed disassembly of SA-6 South Soil Containment area.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/FCI	Roll-off	Sarnia, Ontario Canada	Stablex	WWTP Filer Cake	1	17.6	17.6
Bayshore	Tri-Axle	Keasbey, NJ	Bayshore Recycling	Non-Haz Petroleum Soil	84	24	2,016

2. EXCAVATION & BACKFILL PROGRESS

Description	Areas
Excavation Completed	Excavation Area 60 Kellogg Footprint Volume Excavated - Total for Reporting Period: 60 Kellogg (30 CY)

3. BACKFILL MATERIALS USED

Source	Week Ending			
	06/05/16	06/12/16	06/19/16	06/26/16
Natures Choice Horizon C	1,020	0	0	0
Cedar Hill Horizon B	3,929.39	2,545.57	4,185.73	848.7
Tilcon Mount Hope I-8	630.20	179.47	301.45	0
Natures Choice Topsoil	0	0	1,678.96	0
Tilcon 3/8" Stone	0	102.64	0	51.41
Weldon Screenings	2,977.8	2,543.6	1,870.25	358.04

- Overburden historic fill soils with hexavalent chromium concentrations confirmed to be < 20 mg/kg soils were transferred and placed as backfill in Site 140.
- Continued to screen Celgene material for use as protective cover soils on the SA-6 North Open Space Area.

D. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging and offloading of surcharge material is complete.
- Area 3S: Surcharging and offloading of surcharge material is complete.
- Area 1N: Surcharging and offloading of surcharge material is complete.
- Area 2N: Surcharging and offloading of surcharge material is complete.
- Area 3N: Surcharging and offloading of surcharge material is complete.
- Area 4N: Surcharging and offloading of surcharge material is complete.

E. SHEET PILE OPERATIONS

- Continued cutting hydraulic barrier sheets to final elevation in SA-6 North Open Space Area.

F. CAPPING OPERATIONS

- Completed placement of root barrier and demarcation tape and importing and placing Horizon C soils to include associated compaction testing on the SA-6 South Open Space Area.
- Completed importing and placing Horizon B soils atop Horizon C soils on SA-6 South Open Space Area.

- Continued importing and placing Horizon A Topsoil.
- Applied lime on western portion of the SA-6 South Open Space Area topsoil in preparation for hydro-seeding.
- Continued placement of Structural Fill Material in the future utility corridors crossing the SA-6 South open space area to include associated compaction testing on the SA-6 South Open Space Area.
- Continued SA-6 North geomembrane liner subgrade grading activities within the Open Space Area.
- Began installation of geosynthetic components to include placement of the geocomposite gas venting layer, 60 mil geomembrane liner, and geocomposite drainage layer.
- A total of 57,807 sq. ft. of geomembrane liner totaling 13% of the total cap area was deployed during the reporting period.
- Completed spark testing on three initial boot welds.
- Continued cutting hydraulic barrier sheets and finishing the SCB wall to final elevation in SA-6 North Open Space Area.
- Continued installation of Gas Vent Pipe within the SA-6 North Open Space Area.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012 Extension Obtained 5/17/2015	Renewal Not Needed	10/04/2019	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013 Extension Obtained 3/16/2015	Not Specified, Est. 3/31/2016	6/30/2016*	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDEP Individual Upland Waterfront Development Permit and Water Quality Certificate for Bulkhead Expansion Project	SA-7	Issued: 5/10/2016	TBD	5/9/2021	-
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Obtained 12/24/15	12/03/16	Pending

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
USACE Nationwide Permit No. 27 for Droyers Cove Beneficial Environmental Project	Bayfront	Issued: 4/15/2016	TBD	3/18/2017	5/4/16
NJDEP Coastal General Permit 24 for the living shoreline	Bayfront	Issued: 10/15/2015	TBD	10/14/2020	5/4/16

** Amec Foster Wheeler reviewed the expiration of this TWA with NJDEP, Division of Water Quality and no extension is necessary.*

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Continue importing and placement of Horizon A Topsoil and on the SA-6 South Open Space Area.
- Begin Hydro-seeding of SA-6 South Open Space Area.
- Continue screening of Celgene soils for protective cover soils.
- Continue cutting SA-6 North Hydraulic Barrier Wall and Soil-Cement Bentonite Wall to geomembrane liner grade.
- Continue preparation of the SA-6 North subgrade for geomembrane liner installation.
- Continue installation of geosynthetic components to include placement of the geocomposite gas venting layer, 60 mil geomembrane liner, and geocomposite drainage layer.
- Begin placement of GDL cover soils within the SA-6 North Open Space Area.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Continue installation CGWES Components.
- Complete PVSC Monthly compliance sampling.
- Conduct S-3 Mass Removal Injection Event No. 30 in well 088-IW-02.
- Conduct second quarterly LTMP regional groundwater level measurement round.
- Prepare and submit the NJDEP – Discharge to Groundwater Permit by Rule for Treatment Area 10-1 injections.

ATTACHMENTS:

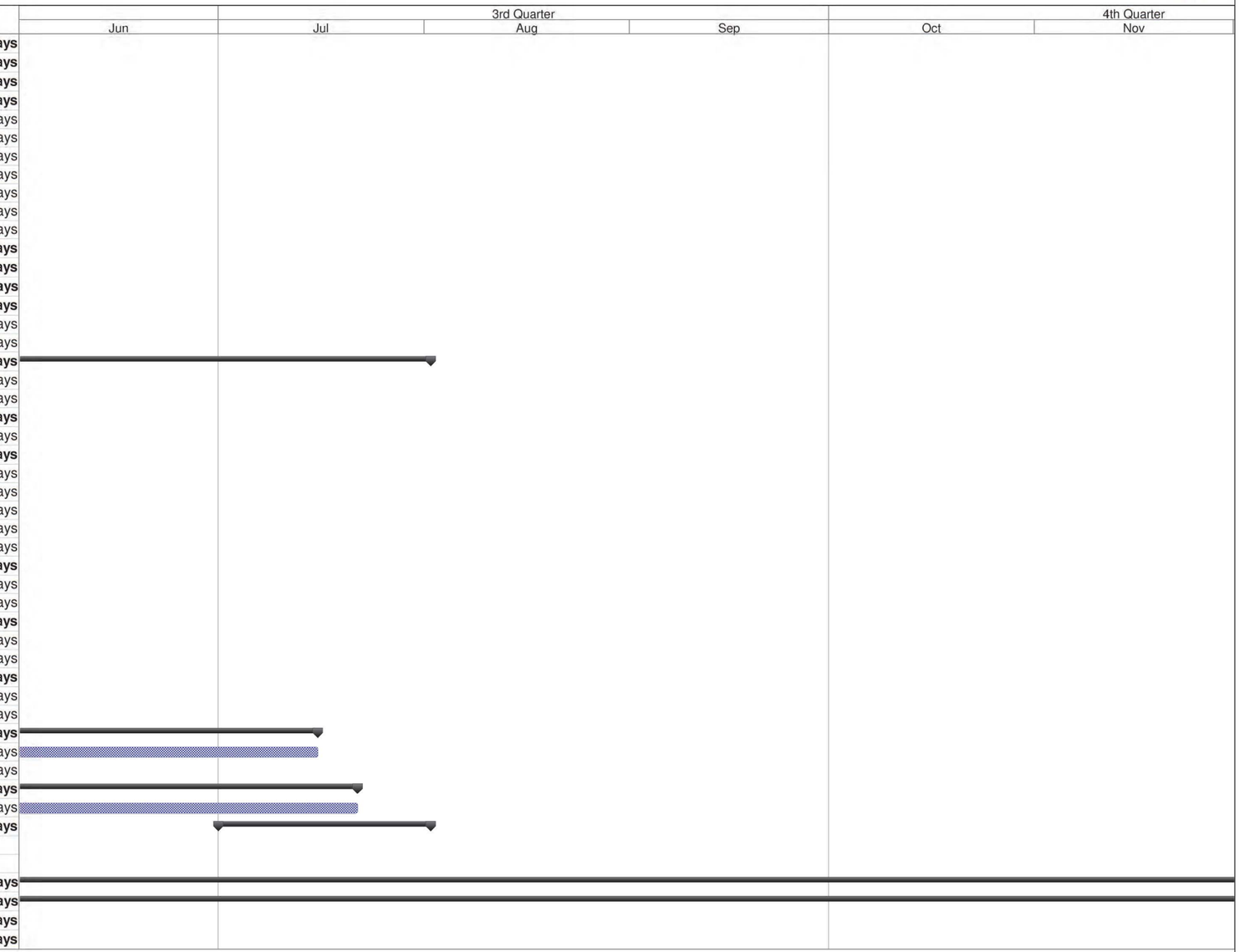
1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill (Progression Chart)
4. Dewatering Operations Update *(not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data *(not included in this reporting period)*
7. Perimeter Pools Update
8. Groundwater Quality Data *(sampled June 30; data not available for this reporting period)*
9. Surcharge Monitoring Update *(not included in this reporting period)*
10. Sheet Pile Update *(not included in this reporting period)*
11. Capping Update
    - SA-6 Cap Subgrade Progress Maps
    - Repair Log
    - Non-conformance Log
    - Subgrade Approval Form
    - QA Photo Log
    - Daily QA Reports (Langan)
12. Weekly SWPPP Reports
13. GWTP Update
14. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**
2	**Remedial Action Work Plan**	**33 days**
5	**Remedial Action Design**	**1522 days**
18	**JCIA/JCDPW Relocation**	**1780 days**
19	Develop Site Relocation Master Plan	38 days
20	Submit Site Relocation Master Plan	0 days
21	JC Construction of New Facilities	1309 days
22	Relocation Contractor Procurement	392 days
23	JCIA and JCDPW Relocation	949 days
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days
24a	Demolition of JCIA Structures	146 days
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**
26	**Remedial Action Work Plan**	**187 days**
32	**Remedial Action Design**	**1161 days**
57	**SA-6 South Relocation**	**616 days**
58	New GWTP Construction Completion	502 days
59	Demolition of 80 Kellogg	857 days
60	**SA-6 North/South Field Implementation**	**894 days**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days
60b	SA-6S (Site 163) In-Situ Treatment	555 days
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**
61a	Mobilization	87 days
62	**Surcharge Install/Instrumentation**	**706 days**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days
62b	Place Stockpile Surcharge SA6N Western Areas	185 days
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days
62d	Place Stockpile Surcharge SA6S Western Areas	91 days
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days
63	**Barrier Wall Install**	**569 days**
63a	SA 6N Installation of Barrier Wall	159 days
63b	SA 6S Installation of Barrier Wall	210 days
64	**Excavation**	**507 days**
64a	SA 6N Excavation	218 days
64b	SA 6S Excavation	295 days
65	**Backfill**	**558 days**
65a	SA 6N Backfill	283 days
65b	SA 6S Backfill	384 days
66	**Capping and Cover Soil Placement**	**426 days**
66a	SA 6N Capping and Cover Soil Placement	83 days
66b	SA 6S Capping and Cover Soil Placement	283 days
67	**Restoration**	**234 days**
67a	Restoration	234 days
68	**Demobilization**	**22 days**
68a	Deferred Remediation of SA-6 South Along Bulkhead	
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line	
69	**SA-6 North Project Closeout**	**311 days**
75	**SA-6 South Project Closeout**	**311 days**
81	**SA-6 North Long Term Protections**	**1830 days**
92	**SA-6 South Long Term Protections**	**2569 days**



Current field implementation schedule shows capping complete in September 2016 and restoration in October 2016.

Project: SA-6 Remediation Schedule
Revision 4
Date: 6/22/15

Task | Milestone | Summary | Critical

Attachment 2: Site Photographs

Site Photograph 1: Grading clean imported cover soils in Open Space Area.

Site Photograph 2: Installing monitoring wells former Jersey City properties.

Site Photograph 3: Loading clean imported cover soils for placement in Open Space Areas.

Site Photograph 4: Placement of Venting Layer in Open Space Area.

Site Photograph 5: Placing clean imported topsoil in Open Space Area Kellogg St properties.

Site Photograph 6: Removing trimmed sections of sheet pile barrier wall.

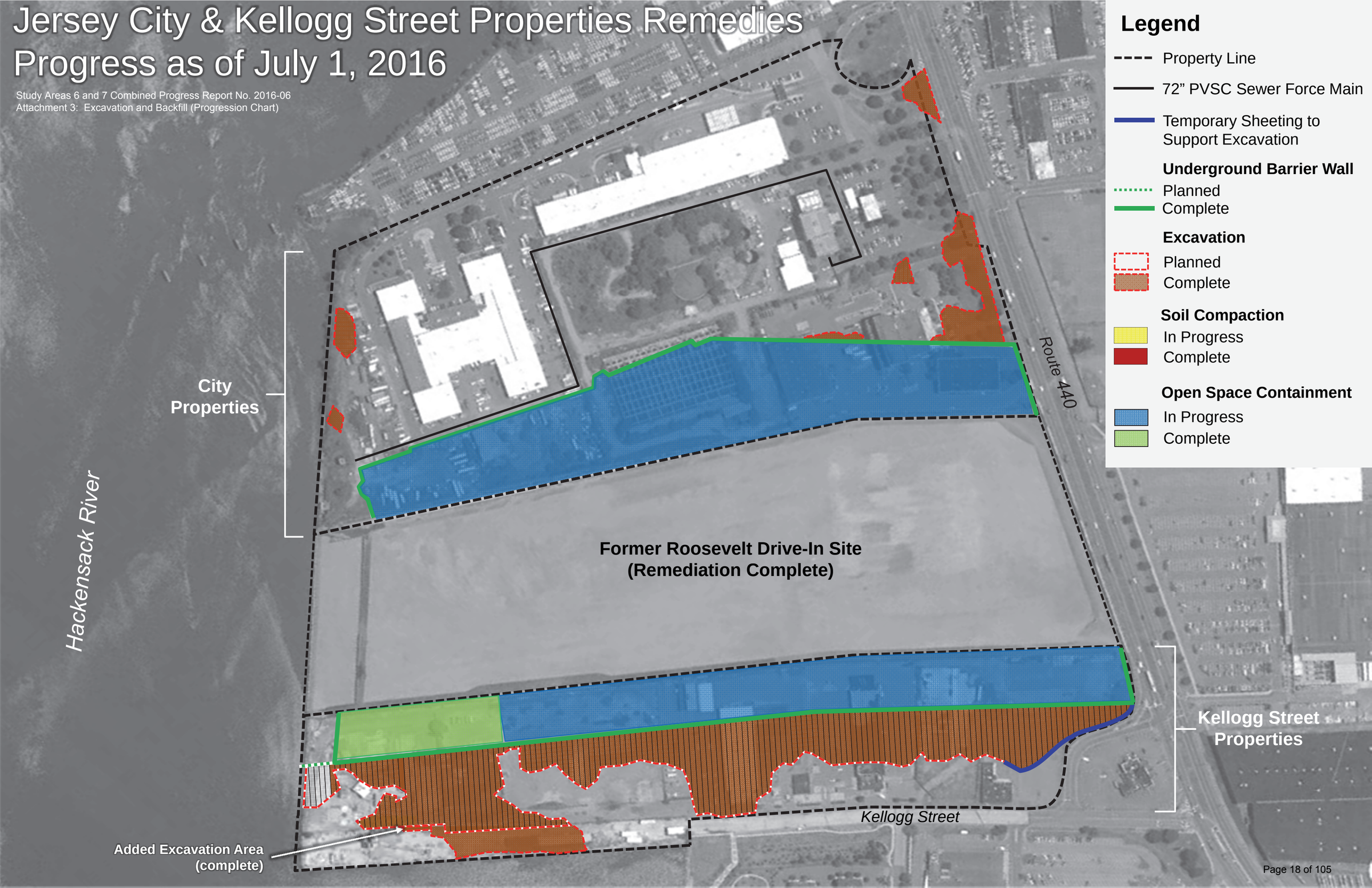
Site Photograph 7: Unloading clean imported stone screenings in utility corridor.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of July 1, 2016

Study Areas 6 and 7 Combined Progress Report No. 2016-06
Attachment 3: Excavation and Backfill (Progression Chart)



Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

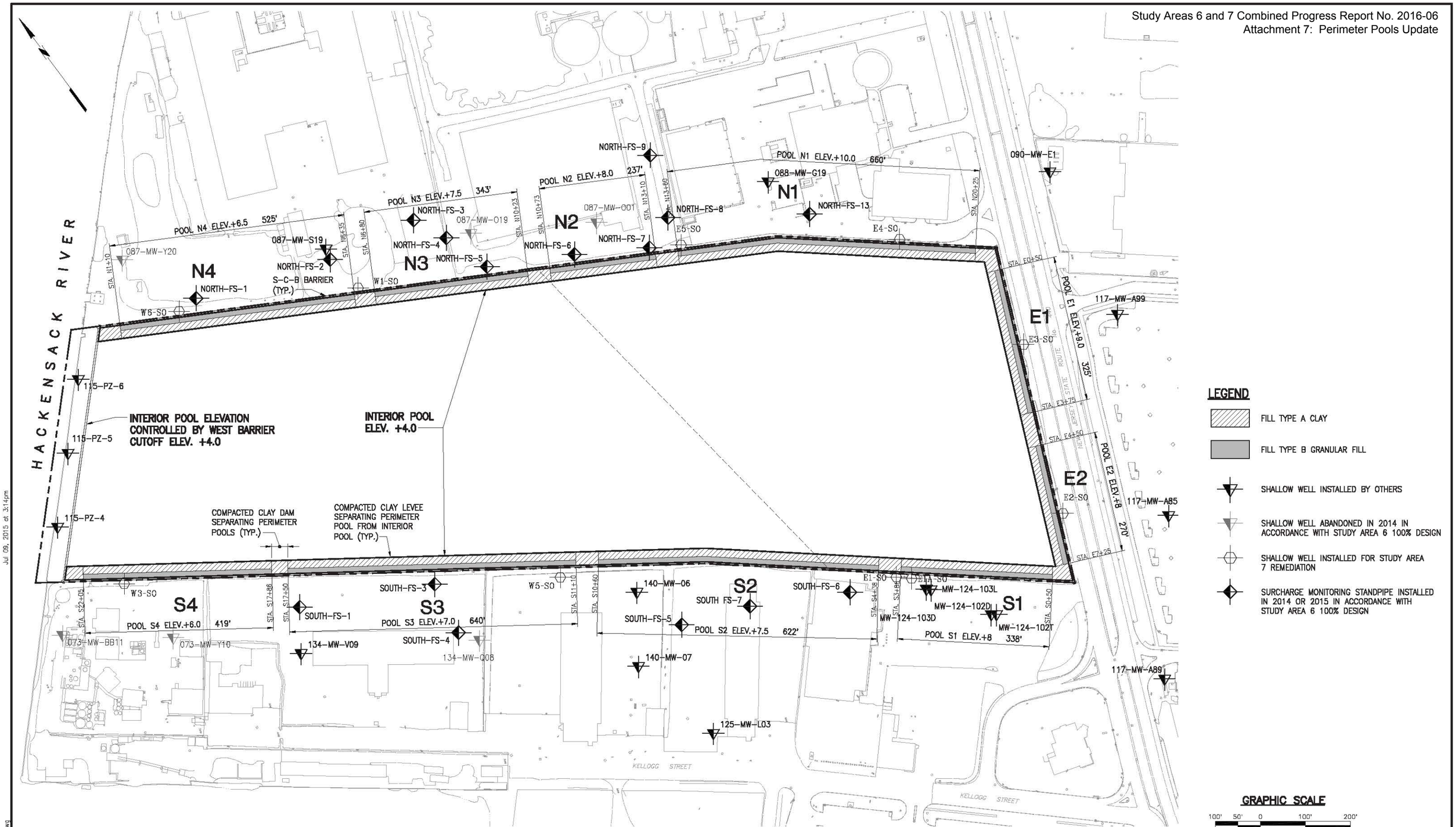
DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
04/29/16	10:00	14:15	4:15	42,847.64	42,912.90	65,260	42,912,450	
05/06/16	10:00	15:00	5:00	42,912.90	42,965.49	52,590	42,965,040	PVSC Compliance Sample Collected
05/13/16	11:00	15:00	4:00	42,965.49	43,019.78	54,290	43,019,330	
05/20/16	11:00	15:00	4:00	43,019.78	43,071.32	51,540	43,070,870	
05/27/16	10:00	14:00	4:00	43,071.32	43,130.78	59,460	43,130,330	
05/31/16	11:00	14:30	3:30	43,130.78	43,178.93	48,150	43,178,480	
06/01/16	6:30	13:30	7:00	43,178.93	43,268.97	90,040	43,268,520	
06/06/16	7:30	13:30	6:00	43,268.97	43,338.94	69,970	43,338,490	
06/08/16	7:30	12:00	4:30	43,338.94	43,402.10	63,160	43,401,650	PVSC Compliance Sample Collected
06/13/16	9:00	13:00	4:00	43,402.10	43,464.75	62,650	43,464,300	
06/21/16	8:00	14:00	6:00	43,464.75	43,543.94	79,190	43,543,490	
06/24/16	9:00	14:00	5:00	43,543.94	43,596.37	52,430	43,595,920	

Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

(not included in this reporting period)

Attachment 7: Perimeter Pools Update



IN PROGRESS
06-10-2015

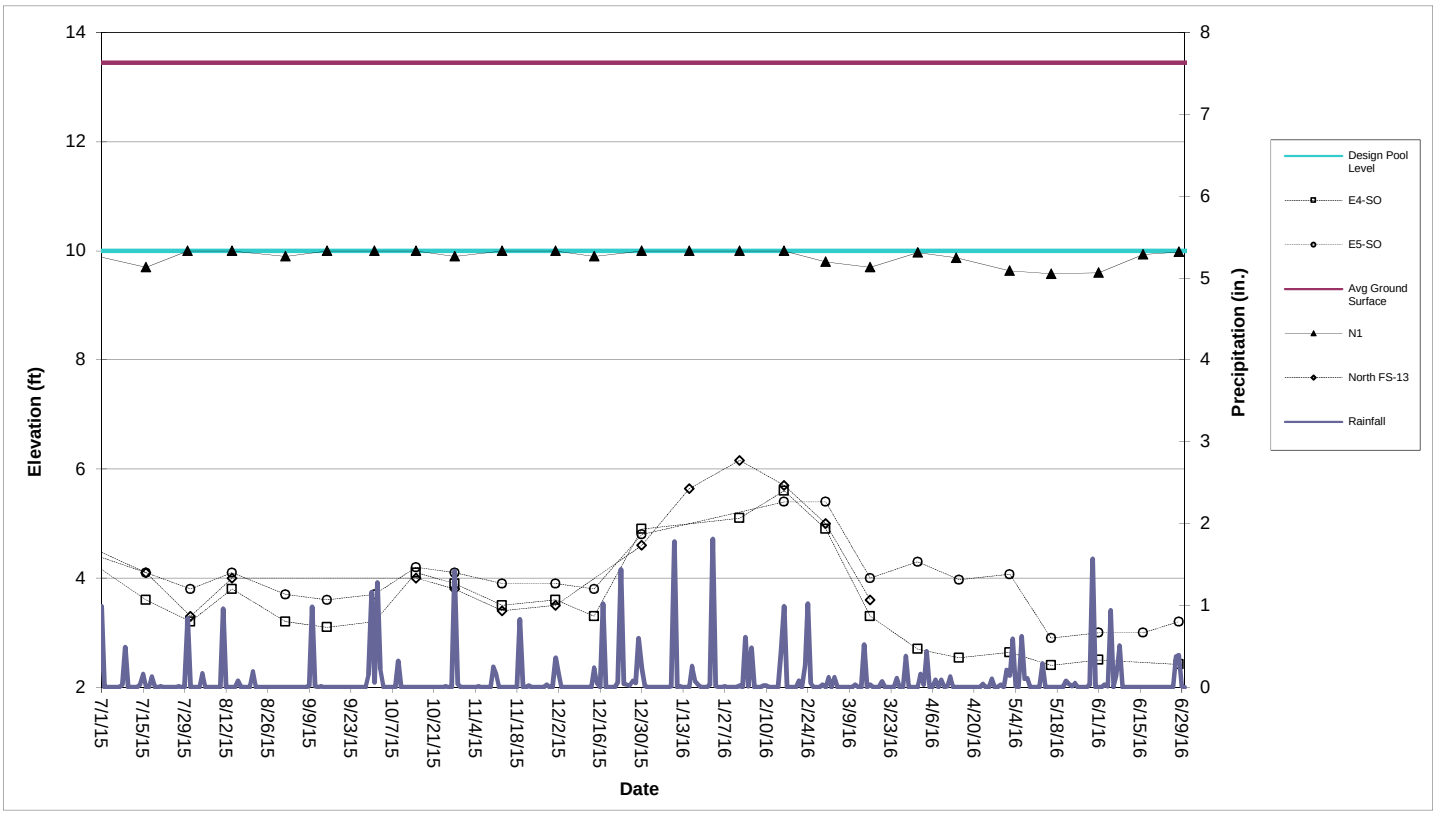
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

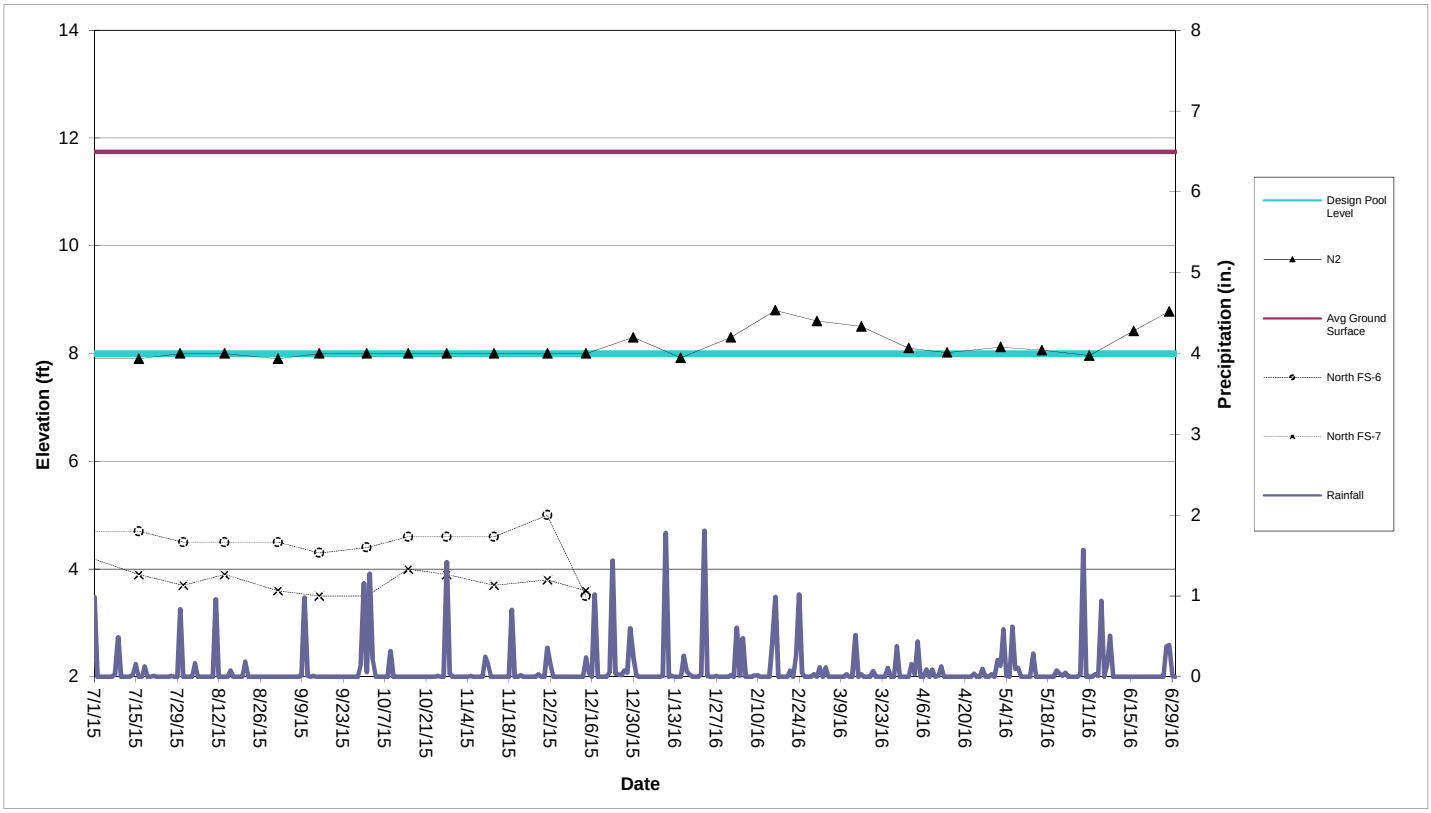
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

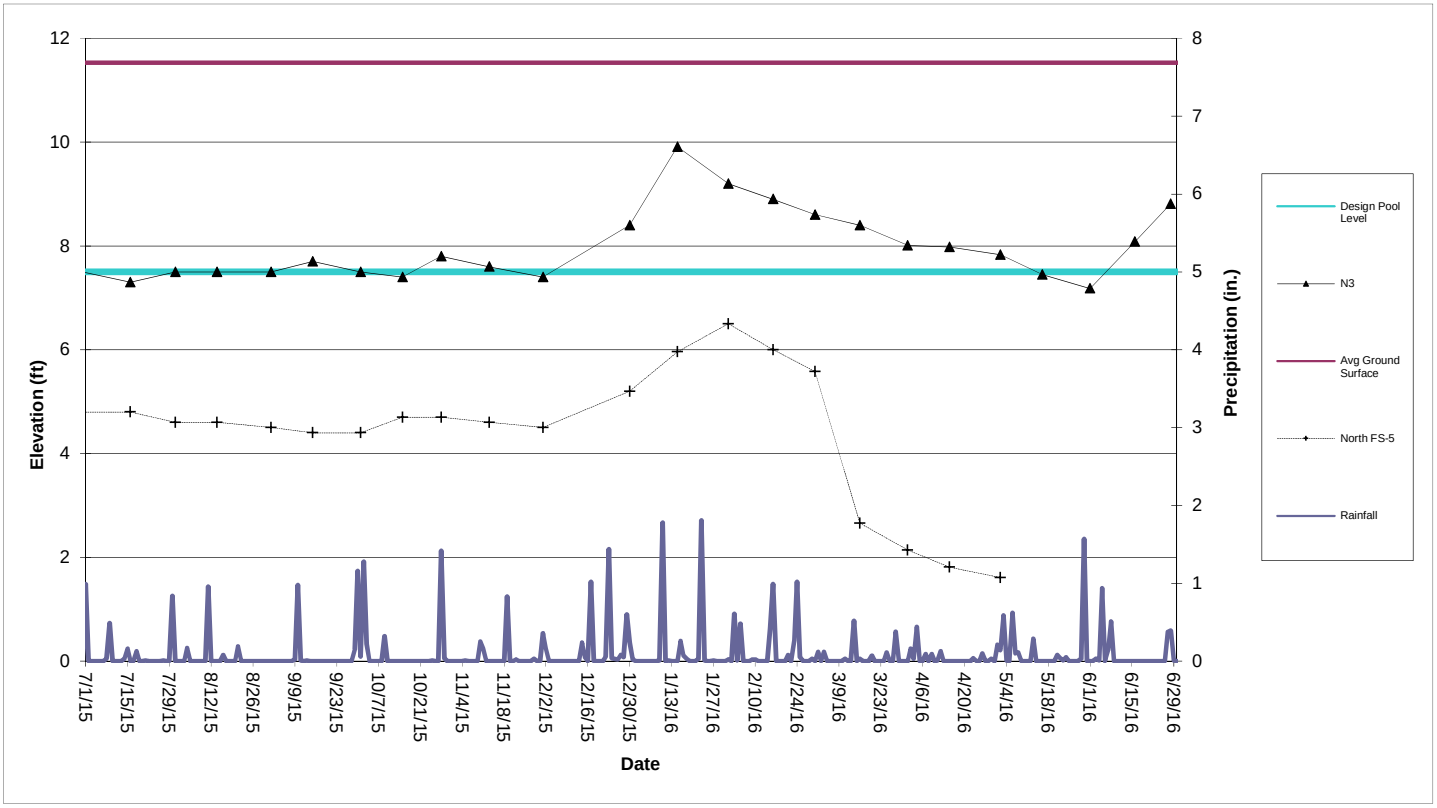
Jul 09, 2015 at 3:14pm
G:\DWGS\102\10210\Dewatering\PP-1.dwg
bboscaino



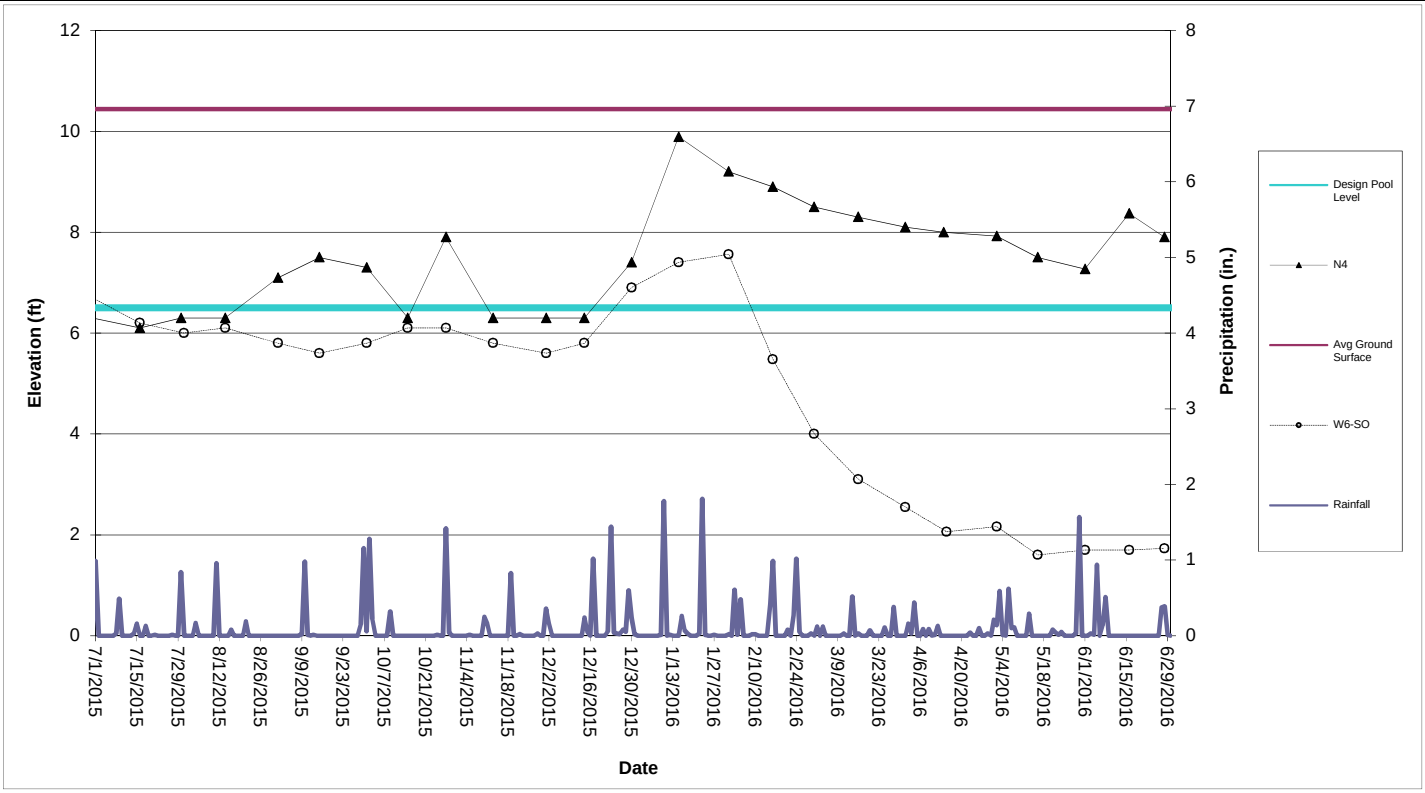
Perimeter Pool N1 (Sta. N13+60 to N20+25)



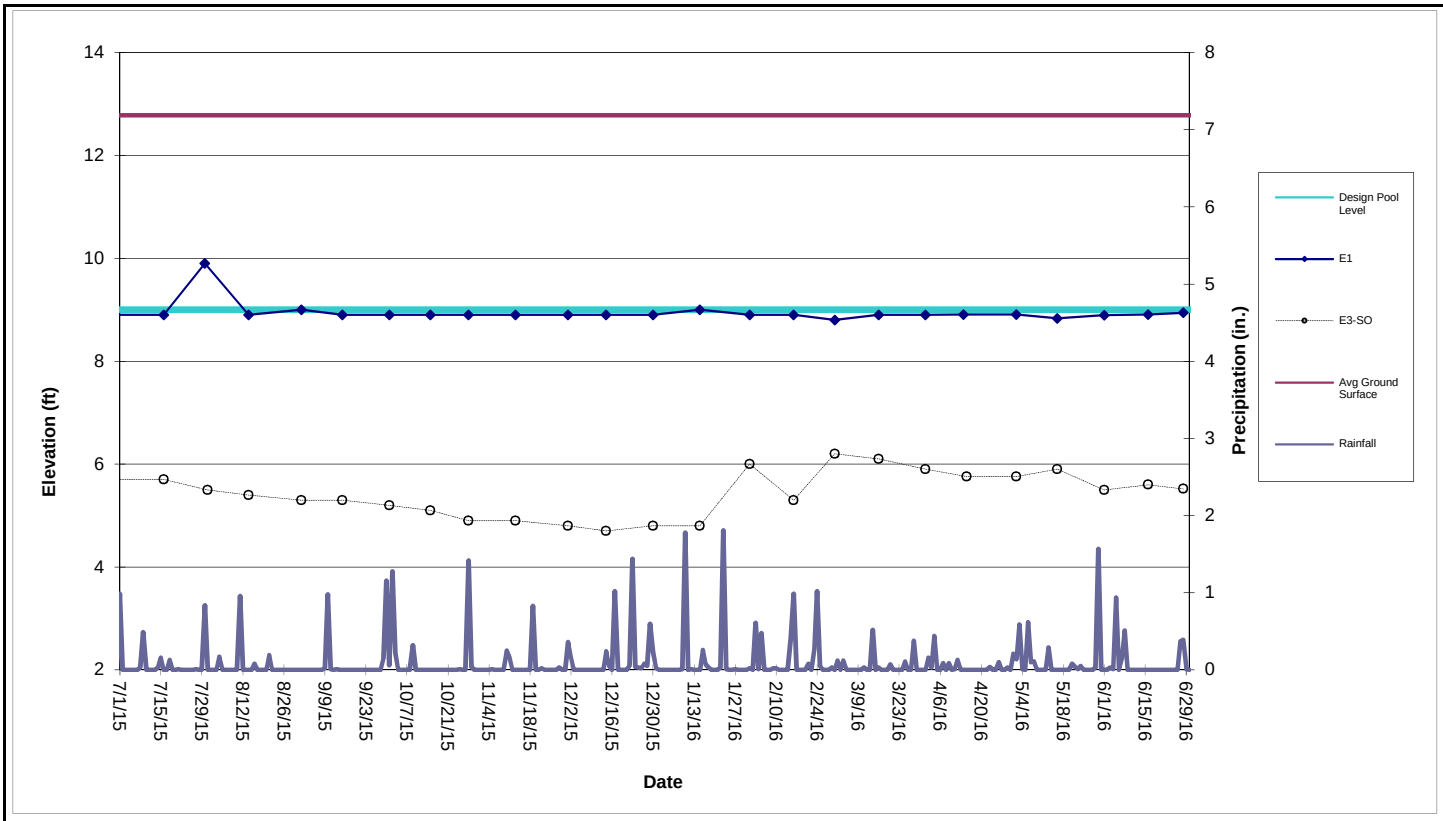
Perimeter Pool N2 (Sta. N10+73 to N13+10)



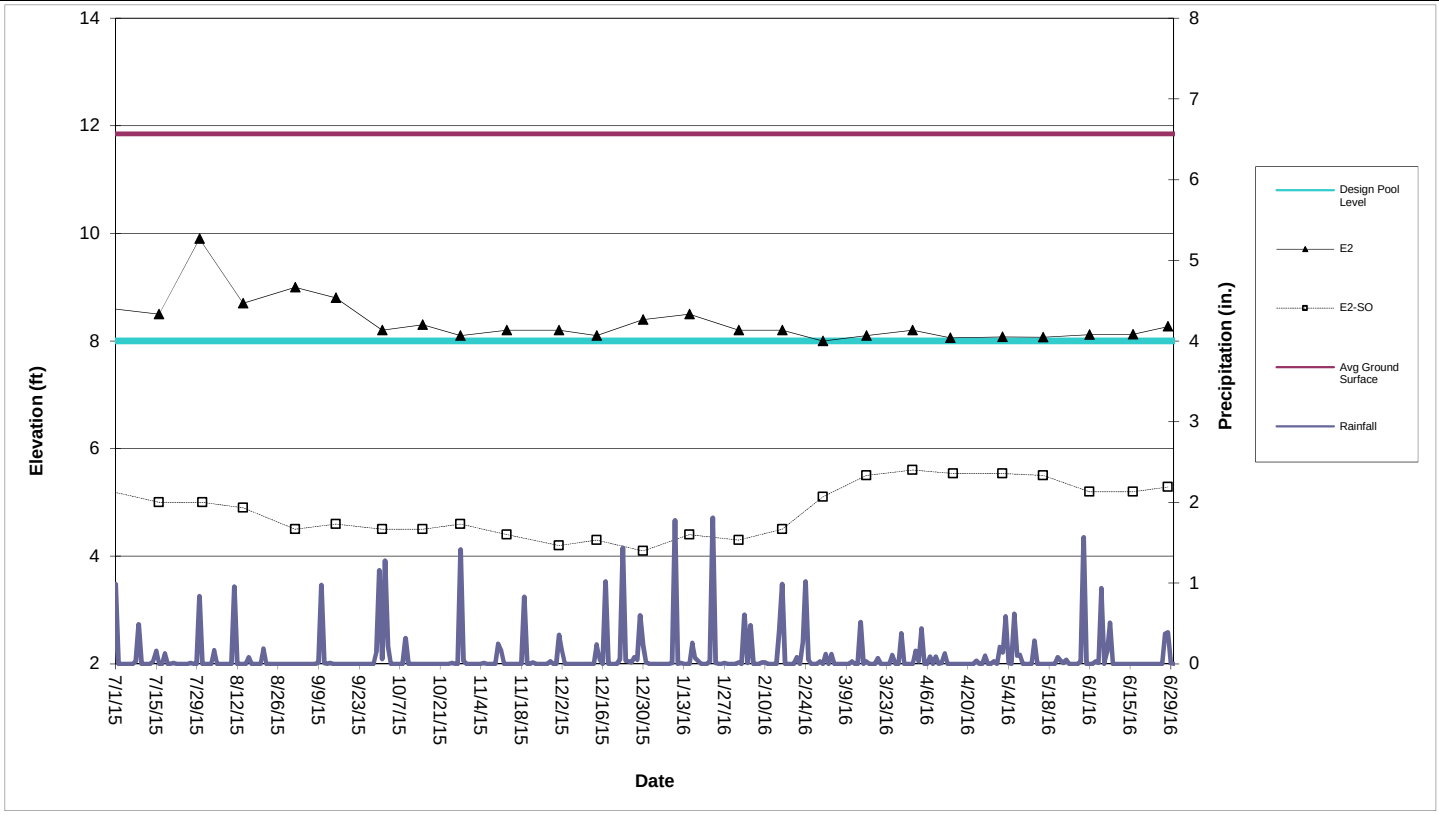
Perimeter Pool N3 (Sta. N6+80 to N10+23)



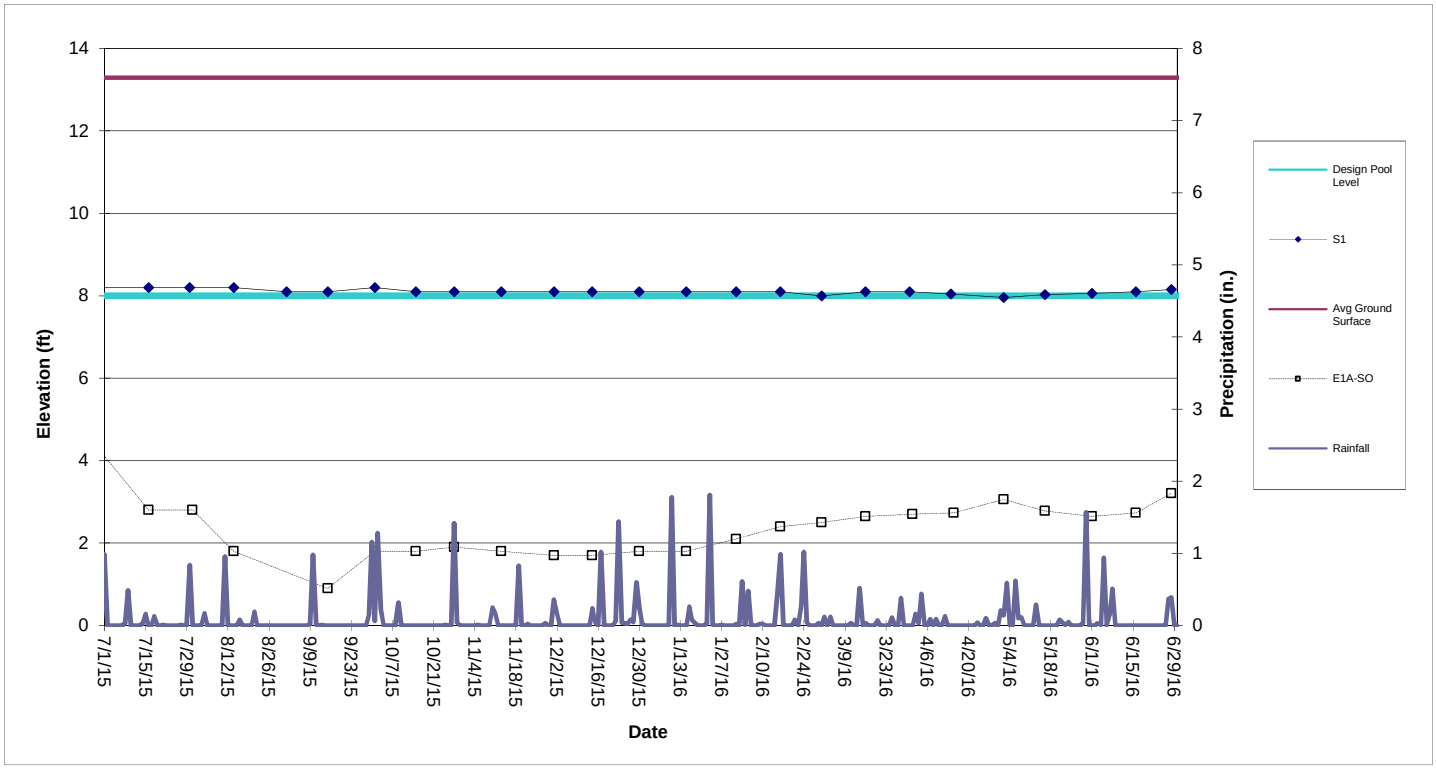
Perimeter Pool N4 (Sta. N6+80 to N10+23)



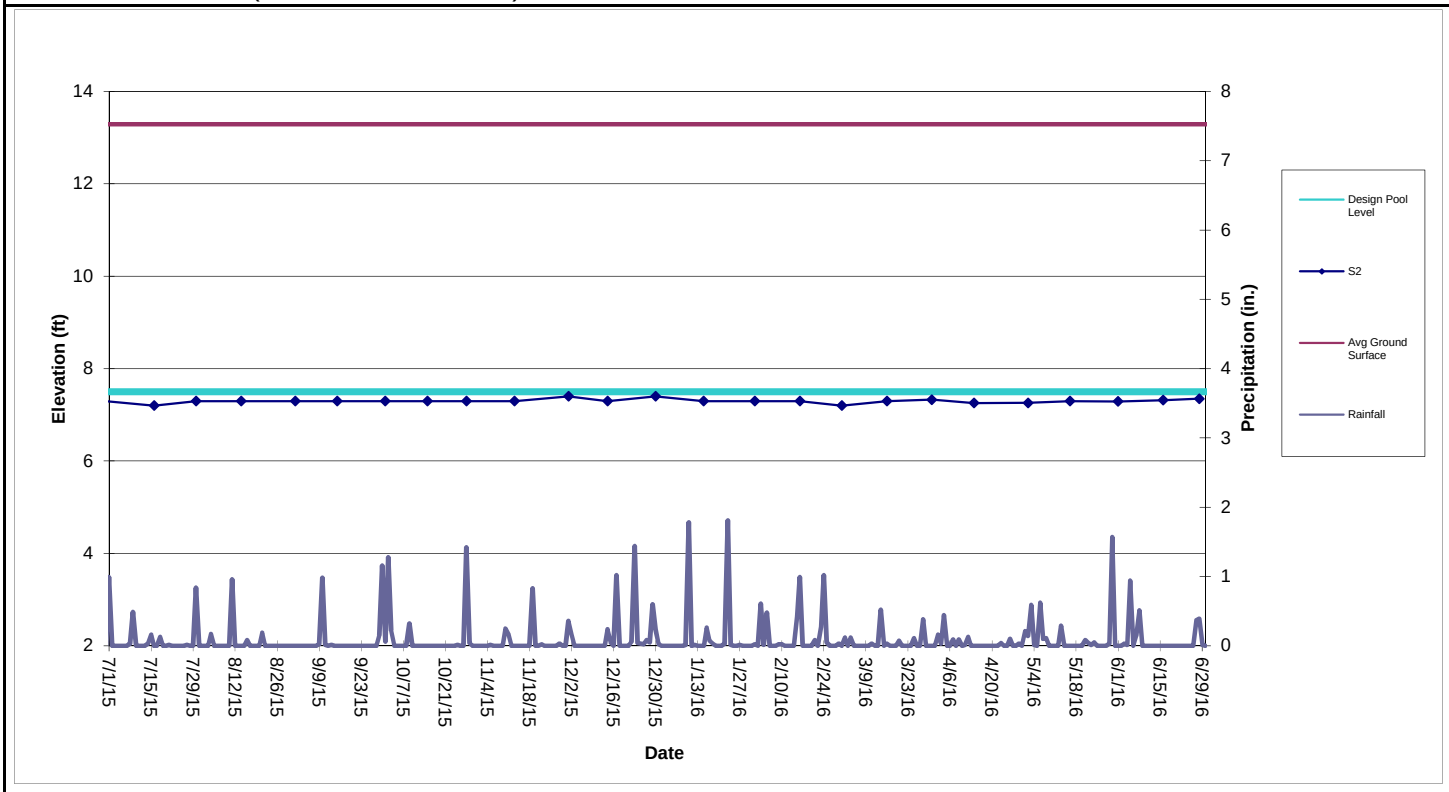
Perimeter Pool E1 (Sta. E0+50 to E3+75)



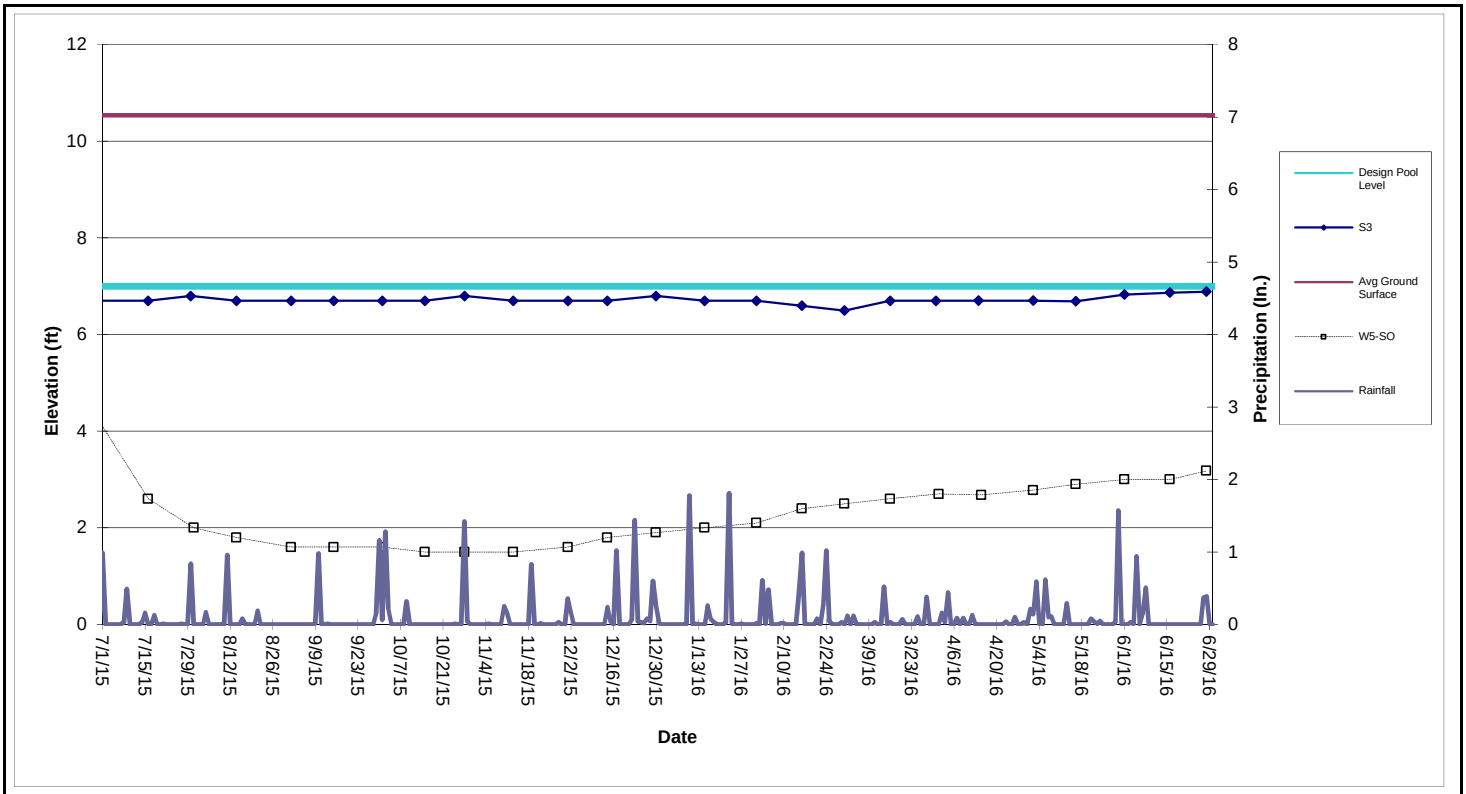
Perimeter Pool E2 (Sta. E4+50 to E7+25)



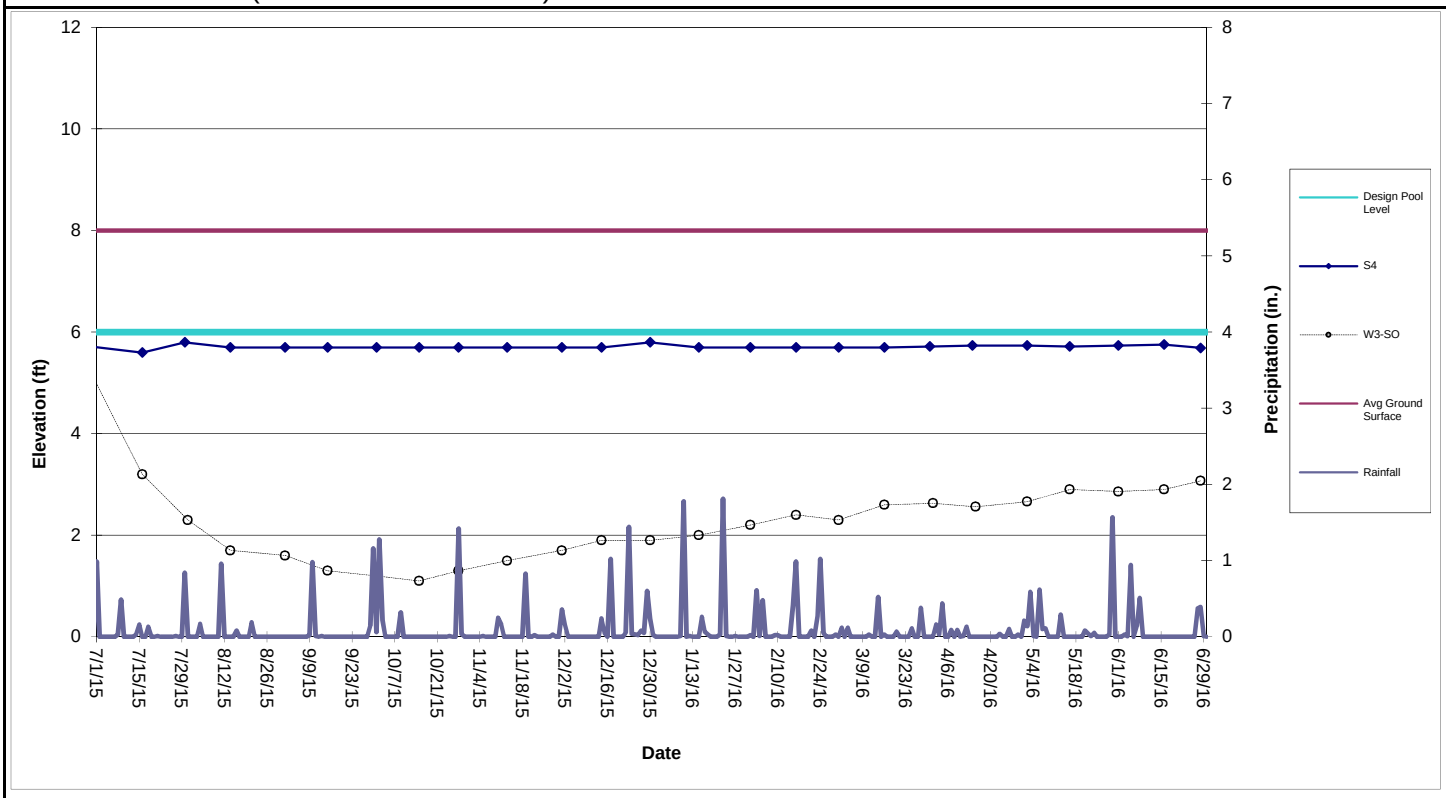
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North			
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-5	FS-6	FS-7	FS-13
Date													
7/16/2015	2.8	5.0	5.7	3.6	4.1		3.2	2.6	6.2	4.8	4.7	3.9	4.1
7/31/2015	2.8	5.0	5.5	3.2	3.8		2.3	2.0	6.0	4.6	4.5	3.7	3.3
8/14/2015	1.8	4.9	5.4	3.8	4.1		1.7	1.8	6.1	4.6	4.5	3.9	4.0
9/1/2015		4.5	5.3	3.2	3.7		1.6	1.6	5.8	4.5	4.5	3.6	
9/15/2015	0.9	4.6	5.3	3.1	3.6		1.3	1.6	5.6	4.4	4.3	3.5	
10/1/2015	1.8	4.5	5.2	3.2	3.7		1.2	1.6	5.8	4.4	4.4	3.5	
10/15/2015	1.8	4.5	5.1	4.1	4.2		1.1	1.5	6.1	4.7	4.6	4.0	4.0
10/28/2015	1.9	4.6	4.9	3.9	4.1	6.9	1.3	1.5	6.1	4.7	4.6	3.9	3.8
11/13/2015	1.8	4.4	4.9	3.5	3.9	6.4	1.5	1.5	5.8	4.6	4.6	3.7	3.4
12/1/2015	1.7	4.2	4.8	3.6	3.9	6.2	1.7	1.6	5.6	4.5	5.0	3.8	3.5
12/14/2015	1.7	4.3	4.7	3.3	3.8	6.2	1.9	1.8	5.8		3.5	3.6	
12/30/2015	1.8	4.1	4.8	4.9	4.8	7.5	1.9	1.9	6.9	5.2			4.6
1/15/2016	1.8	4.4	4.8			7.9	2.0	2.0	7.4	6.0			5.6
2/1/2016	2.1	4.3	6.0	5.1		7.7	2.2	2.1	7.6	6.5			6.2
2/16/2016	2.4	4.5	5.3	5.6	5.4	6.7	2.4	2.4	5.5	6.0			5.7
3/1/2016	2.5	5.1	6.2	4.9	5.4	5.1	2.3	2.5	4.0	5.6			5.0
3/16/2016	2.7	5.5	6.1	3.3	4.0	4.2	2.6	2.6	3.1	2.7			3.6
4/1/2016	2.7	5.6	5.9	2.7	4.3	3.5	2.6	2.7	2.6	2.1			
4/15/2016	2.7	5.5	5.8	2.5	4.0	2.9	2.6	2.7	2.1	1.8			
5/2/2016	3.1	5.5	5.8	2.6	4.1		2.7	2.8	2.2	1.6			
5/16/2016	2.8	5.5	5.9	2.4	2.9	2.4	2.9	2.9	1.6				
6/1/2016	2.7	5.2	5.5	2.5	3.0	2.5	2.9	3.0	1.7				
6/16/2016	2.7	5.2	5.6		3.0	2.5	2.9	3.0	1.7				
6/28/2016	3.2	5.3	5.5	2.4	3.2	2.4	3.1	3.2	1.7				

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4, FS-5, FS-6, FS-7, FS-13
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09,

Attachment 8: Groundwater Quality Data

(not included in this reporting period)

Attachment 9: Surcharge Monitoring Update

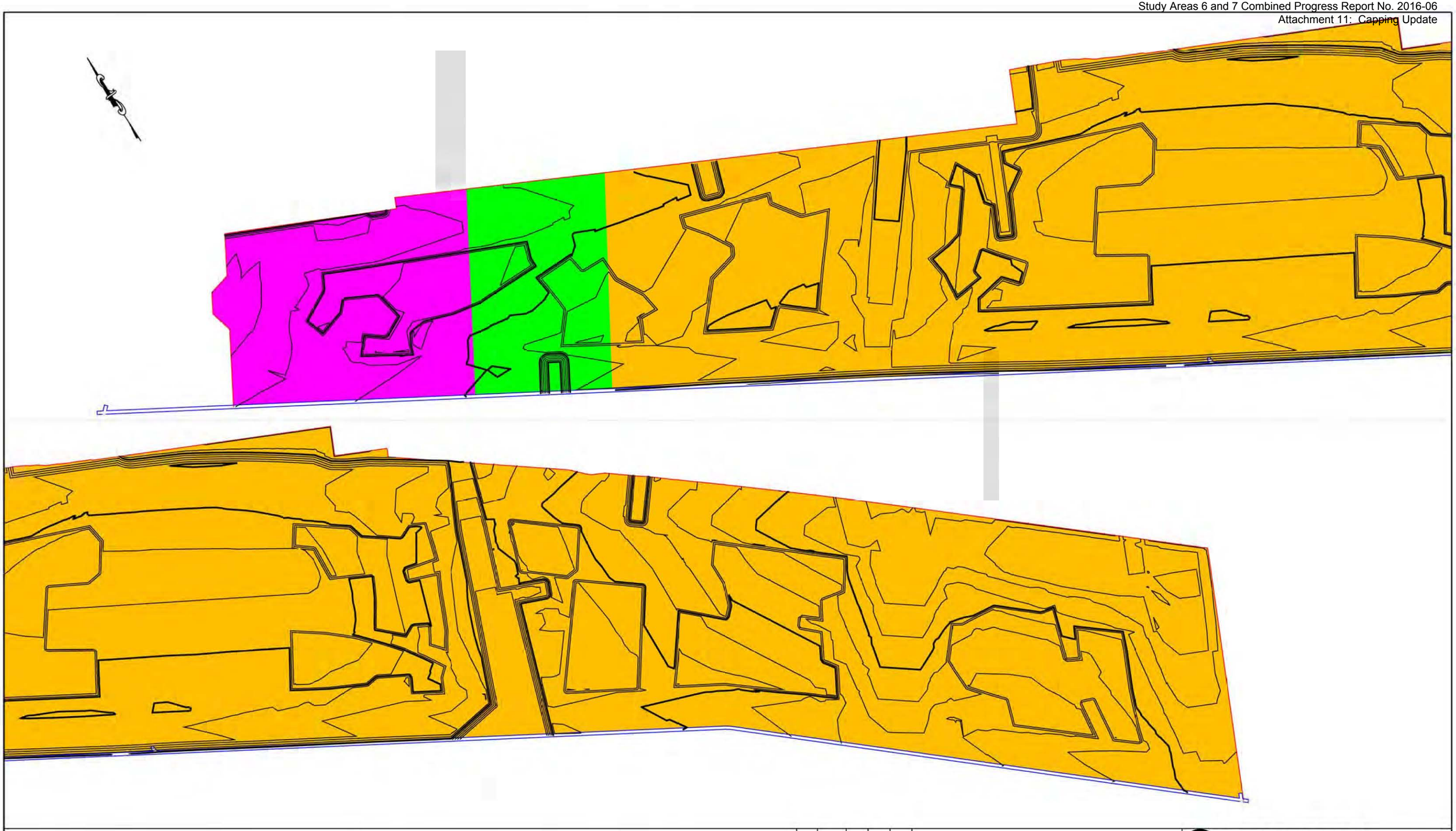
(not included in this reporting period)

Attachment 10: Sheet Pile Update

(not included in this reporting period)

Attachment 11: Capping Update

- SA-6 Cap Subgrade Progress Maps
- Repair Log
- Non-conformance Log
- Subgrade Approval Forms
- QA Photo Log
- Daily QA Reports (Langan)



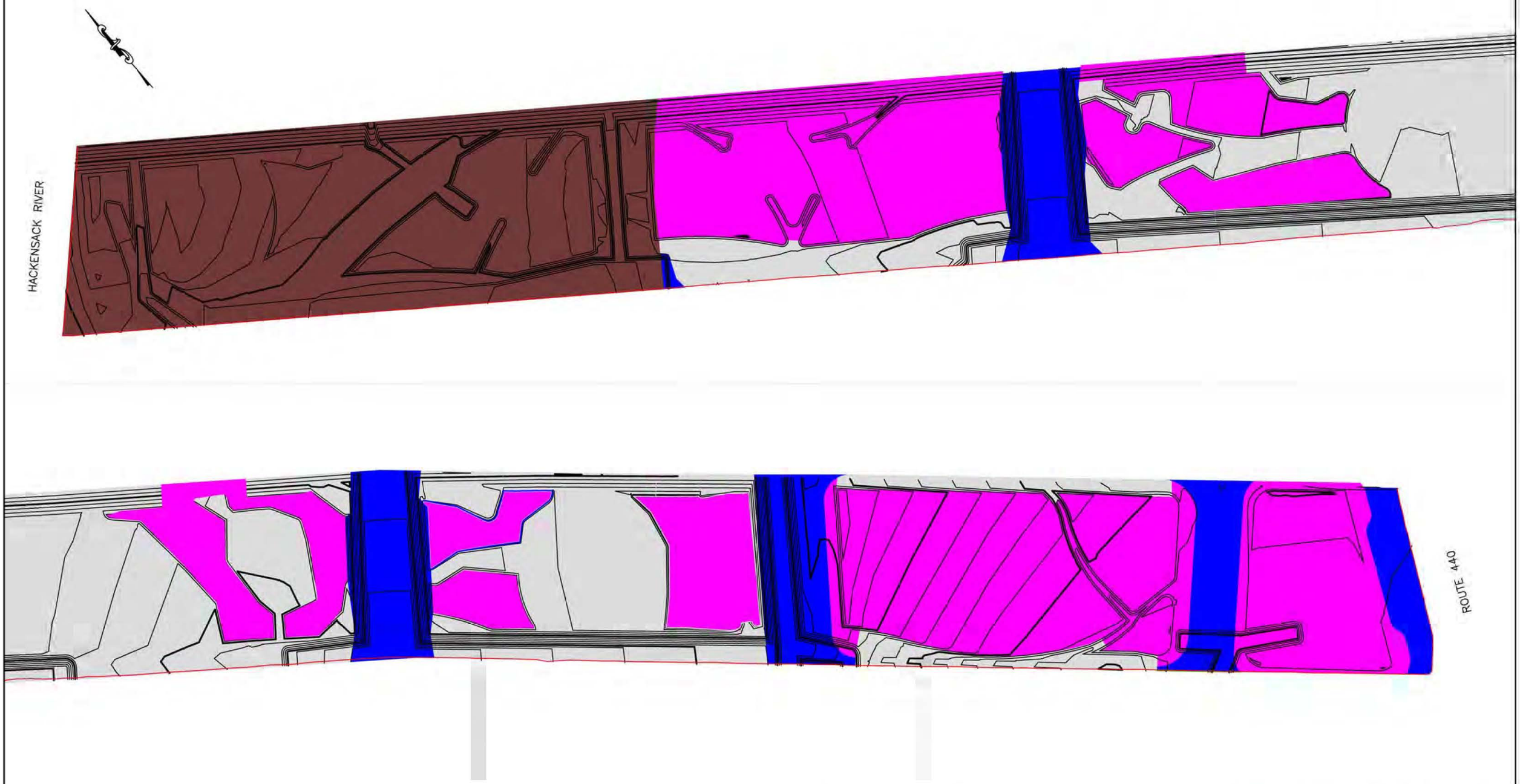
LEGEND

- SUBGRADE GRADING UNDERWAY
- SUBGRADE COMPLETE AND SURVEYED
- APPROVED FOR GEOSYNTHETIC DEPLOYMENT
- LINER DEPLOYED
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 NORTH CAP SUBGRADE PROGRESS MAP
06/24/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



LEGEND

- HORIZON B PLACED AND READY FOR TOPSOIL
- HORIZON C PLACED AND READY FOR TOPSOIL
- TOPSOIL PLACED
- STRUCTURAL FILL PLACED
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP COVER SOILS PROGRESS MAP
06/30/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	954	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	1034.67	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
1	PB	1/2	P-1	35' N OF SEOS & 8'W	P	3	x	11	24	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
2	BO	3/5		2' N OF SEOS	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
3	SJ	3/4/5		69' N OF SEOS	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
4	CF	4/6		5' S OF NEOS	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
5	CF	4/6		77' N OF SEOS	P	5	x	12		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
6	SJ	4/5/6		69' N OF SEOS	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
7	PB	5/6		15' N OF S EOS (PB 6")	P	3	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
8	WR	6/7	P-6	63' N OF SEOS & 5'W	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
9	BO	6/7		66' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
10	SI	6/7	P-6	80' N OF SEOS & 5'W	P	3	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
11	DS-2	6/7		16' N OF SEOS	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
12	WR	7/9		41' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
13	CF	7/9	P-9	45' N OF SEOS & 10'E	P	6	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
14	DS-1	1/2		15' N OF SEOS	P	2	x	7		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
15	DSX-1		P1/R15	34'N OF SEOS	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
16	CF		P9	BETWEEN R12 & R13	B		x		60	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
17	WR	7/9		71' N OF SEOS	B	3	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
18	CF		P9	BETWEEN R17 & R19	B		x		168	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
19	CF	7/9	P9	59' N OF SEOS & 12'E	P	4	x	4		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
20	CF		P6	BETWEEN R22 & R9	B		x		36	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
21	CF		P6	BETWEEN R22 & R8	B		x		48	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	954	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	1034.67	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
22	CF		P6	68' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
23	SJ	7/8/9		103' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
24	CF	8/10		11' S OF NEOS	P	2	x	20		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
25	SJ	8/9/10		103' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
26	DO	10/11	P-10	27' N OF S EOS & 4'W	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
27	CF	10/11	P10	BETWEEN R-35 & R-28	B		x		156	6/26/16	SU	EXT-74	Vacuum	Pass	6/23/16
28	CF	10/11	P10	64' N OF SEOS & 15' W	P	4	x	4		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
29	PB	10/11	P10	93' S OF NEOS & 4'W (48" MH)	P	6	x	10		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
30	CF		P10	BETWEEN R29 & R31	B		x		240	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
31	CF	10/11	P10	68' S OF NEOS & 2' W	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
32	CF	10/11	P10	76' N OF SEOS & 7' W	P	2	x	4		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
33	CF		P10	BETWEEN R-32 & R-34	B		x		60	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
34	CF	10/11		78' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
35	CF	10/11		69' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
36	CF	10/11		49' N OF SEOS	P	5	x	15		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
37	CF		P11	50' N OF SEOS	B		x		48	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
38	PB		11	83' N OF SEOS (8" PIPE)	P	4	x	5		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
39	DS-3	10/11		25' S OF NEOS	P	2	x	6	24	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
40	AO	10/11		3' S OF NEOS	P	12	x	12		6/24/16	SU	EXT-74	Vacuum	Pass	6/23/16
41	SJ	11/12/13		22' S OF NEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/23/16
42	SJ	12/13/14		24' S OF NEOS	P	2	x	6		6/24/16	SU	EXT-74	Vacuum	Pass	6/23/16

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	954	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	1034.67	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
43	DO	4/6	P4	6' S OF NEOS & 4'W	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
44	BO	13/14		65' N OF SEOS	P	2	x	5		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
45	BO	13/14		79' N OF SEOS	P	2	x	5		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
46	BO	13/14		163' N OF SEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
47	CF	13/14		BETWEEN R-46 & R-42	B		x		12	6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
48	SJ	12/14/14A		4' S OF NEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
49	SJ	14A/14/15		4' S OF NEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
50	SJ	14/15/16		78'N OF SEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
51	BO	14/16		2'N OF SEOS	P	2	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
52	SJ	15/16/17		78' N OF SEOS	P	2	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
53	DS-4	15/17		87' N OF SEOS	P	2	x	6		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
54	CF	17/18		53' S OF NEOS	P	3	x	5		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
55	CF		P17	56' S OF NEOS	B		x		24	6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
56	CF	17/18	P18	74' S OF NEOS	P	3	x	9		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
57	CF	17/18		83' S OF NEOS	P	2	x	4		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
58	CF	17/18	P18	84' S OF NEOS & 4'W OF R-57	B		x		120	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
59	BO	17/18		153' S OF NEOS	P	2	x	5		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
60	CF		P18	BETWEEN R-59 & R-62	B		x		140	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
61	BO	17/18		182' S OF NEOS	P	2	x	6		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
62	CF		P18	29' N OF SEOS	P	2	x	13		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
63	BO	18/19		24' N OF SEOS	P	2	x	6		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	954	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	1034.67	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
64	CF	18/19		BETWEEN R-63 & R-65	B		x		12	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
65	CF		P19	30' N OF SEOS	P	2	x	9		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
66	CF		P19	BETWEEN R-65 & R-67	B		x		108	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
67	CF		P19	42' N OF SEOS	P	3	x	7		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
68	CF	18/19		46' N OF SEOS	P	2	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
69	CF		P19	BETWEEN R-68 & R-70	B		x		72	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
70	CF		P19	49' N OF SEOS	P	3	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
71	BO	18/19		115' N OF SEOS	P	3	x	4		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
72	BO	18/19		118' N OF SEOS	P	2	x	2		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
73	DSX-2		P10/R30	106' N OF SEOS	P	2	x	5		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
74							x								
75							x								
76							x								
77							x								
78							x								
79							x								
80							x								
81							x								
82							x								
83							x								
84							x								

Summary of Non-Compliance & Corrective Action Forms
SA-6 North Cap Installation

Notice of Non-Compliance & Corrective Action Sheet Number	Date	Item	Associated Repair Number	Approx. Location	Follow Up Action Taken
1	6/23/2016	Subgrade Irregularity	R-10	Panel P6	Rock was removed from underneath geomembrane and hole was then patched with approximate 3 ft. by 3 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs)
2	6/29/2016	Subgrade Irregularity	R-98	Panel P26	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs)

LANGAN

Certificate of Soil Surface

Sheet # 1

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 319+00 + ~STA 317+75		
QA Monitor	LANGAN	Date	6/22/16		

Description of Soil Surface to be lined: WESTERN END OF SA-6 NORTH (~STA 319+00) APPROX. 125 FT. EAST (STA. 317+75). SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (≥½") AND IN CONFORMANCE WITH PROJECT SPECS. NOTE: MINOR CHANGES IN SUBGRADE ELEVATION IN SELECT AREAS TO ALLOW POSITIVE DRAINAGE

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	6/22/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	6/22/16
Title	QC Manager
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.
MINOR CHANGES IN SUBGRADE ELEVATION IN SELECT AREAS OF CAP (COMPLETED BY ENTRACT)
- NO GCL TO BE PLACED ALONG WESTERN END OF SA-6 NORTH

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA 319+00	LOOKING N	REFER TO PHOTO #1 (PHOTO LOG 6/22/16)
	2 PHOTO #2	~STA 318+50	LOOKING N	REFER TO PHOTO #2 (PHOTO LOG 6/22/16)
1. REFER TO 6/22/16 PHOTOGRAPH LOG PHOTOS 1 TO 4 FOR SUPPORTING INFORMATION.				2.

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PHOTOGRAPHIC LOG
Photo #1 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking North along SA-6 North (western end of cap) near Sta. 319+00.

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (> ½").

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PHOTOGRAPHIC LOG
Photo #2 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking southeast along western end of SA-6 North.

Description:

Soil subgrade prepared by Entact. Soil firm and underlying, and graded, compacted and free of debris (>1/2")

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PHOTOGRAPHIC LOG
Photo #3 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking north along western end of SA-6 N (approximately Sta. 319+00)

Description:

ESI deploying 16oz. geotextile along western end of SA-6 North. Geotextile overlapped minimum of 1 ft. over the edges of the cap (remaining roll width inside)

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PHOTOGRAPHIC LOG
Photo #4 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 318+25).

Description:

ESI placing white plastic fasteners at maximum 5 ft. spacing along adjacent GVL panels. Top layer geotextile then sewn.

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PHOTOGRAPHIC LOG
Photo #5 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking north along western end of SA-6 North

Description:

ESI deploying LLDPE along western end of SA-6 North (approximate Sta. 319+00).

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PHOTOGRAPHIC LOG
Photo #6 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking south / southeast along SA-6 North

Description:

LLDPE deployed across SA-6 North from approximate Sta. 319+00 to Sta. 317+75.

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PHOTOGRAPHIC LOG
Photo #7 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

Looking east / southeast along SA-6 North (from approximately Sta.316+50).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (> ½").

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PHOTOGRAPHIC LOG
Photo #8 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
06/24/16

Direction Taken:

Looking north / northwest at Well 115-W6-SO

Description:

Amec conducting methane testing for Well 115-W6-SO pipe boot. Methane at concentration of 1.4% measured. No spark testing conducted on well pipe boot.

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PHOTOGRAPHIC LOG
Photo #9 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

SA-6 North – Gas Vent GV-6

Description:

ESI conducting spark testing for Gas Vent GV-6 pipe boot. Methane testing yielded results of 0.0% (below 1%), thus spark testing was conducted. No sparks identified during test. Spark test passed.

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PHOTOGRAPHIC LOG
Photo #10 (06/24/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
06/24/16

Direction Taken:

Looking south / southeast along SA-6 North (Panel P13 / P14).

Description:

ESI conducting fusion welding along Panel P13 / P 14 seam.

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PHOTOGRAPHIC LOG
Photo #11 (06/24/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

SA-6 North, Panel P12 / P13

Description:

ESI conducting non-destructive testing (i.e. pressure testing) for Panel seam P12 / P13 / P14. Seam pressurized to 30 psi and held for 5 minutes with <4 psi loss (according to project specs).

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PHOTOGRAPHIC LOG
Photo #12 (06/24/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

SA-6 North Panel P10

Description:

ESI conducting vacuum box testing for R-31 (Panel P10).

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/21/2015
PROJECT:	SA-6 Capping			**WEATHER:**	80/92° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Soil Subgrade Inspection		**TIME:**	0745 – 1215

CONTRACTOR & EQUIPMENT: **Entact & ESI** *Equipment:* Dozers, Steel Drum Rollers, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #1** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Philemon **Langan:** Dan Bosworth, Jeff Stoicescu **ENTACT**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite to conduct soil subgrade inspection along the west end of SA-6 North. A preliminary kickoff meeting was conducted between AmecFW, Langan, and Entact to discuss the QA / QC activities, along with the strategy and implementation plan for the proposed capping of SA-6 North.
- Following the meeting, Langan and AmecFW conducted a visual observation of the prepared soil subgrade along the western end of SA-6 North. This area included the furthest western part of the cap (approximately 100 ft. from the western end moving east).
- In general, the following soil subgrade properties were observed:
  - Various debris including broken glass, wood fragments, small rocks, etc. were observed along the western end of SA-6 North (specifically along the slopes and elevation changes at the northern end of the cap). It is recommended that this debris addressed so that no objects are penetrating / extruding from the surface, and the overall subgrade is flat and even. Additionally, Entact should provide laborers with a wheelbarrow and equipment to collect various debris as it is encountered.
  - Some slight changes in elevation were observed in areas along the western end of the cap where one area appeared higher than the other. The variations in cap subgrade elevation could potentially result in the ponding of water. Additionally, the mouths along the tree bulb swales appeared to be higher than the swale itself, thus causing water to pond in the swales instead of flowing out and down the sides of the cap. AmecFW to review the survey data and confirm existing grades.
  - Additional details regarding the subgrade are outlined in the 6/21/16 Photograph Log attached as part of this report.
- AmecFW to address the issues outlined above, with follow up subgrade inspection to be completed on 6/22/16 by Langan (prior to deployment of GVL).

Observations Requiring Contractor / QA Engineer Review

- Based on the soil subgrade observation, the soil has not yet been approved for liner installation activities based on the debris / penetrations outlined in this report. It is recommended that the Entact provide the necessary labor to remove the various debris and provide a flat, even surface with no penetrations or extrusions through the subgrade.

Cc Jeff Stoicescu, Rory Johnston, Vikki Hon, File

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items Pending

- QA Engineer - Review SA-6 North capping specifications and drawings. Review product submittals (as provided) and ensure that all data, drawings, and pertinent documents are ready for liner installation kickoff (planned to commence on 6/22/16).

Action Items – Weekly Completions

- None to Date

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- SA-6 North capping to commence on 6/22/16 (pending soil subgrade approval).

Cc: Jeff Stoicescu, Rory Johnston, Vikki Hon, File

By: Dan Bosworth

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Photograph Log

Photo 1: Wood and various debris observed along northern end of SA-6 North.

Photo 2: Looking south along western end of SA-6 North. Misc. trash and debris to be removed by Entact.

Photograph Log (continued)

Photo 3: Prepared subgrade along western end of SA-6 North. AmecFW to confirm and verify surveyed grades.

Photo 4: Soil subgrade along western end of SA-6 North. Entact to remove debris / penetrations. AmecFW to verify and confirm surveyed grades.

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SHEET 1 OF 3

SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/22/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/92° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0745 – 1630

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #2**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Philemon
Langan: Dan Bosworth
ENTACT: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) starting at the western end of SA-6 North. Material to be placed starting from the western end (approximate Sta. 319+00) of SA-6 North for approximately 125 ft. east. (to approximate Sta. 317+75).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area).
- Prior to placement of geosynthetic material, soil subgrade observation was conducted by Langan and Entact for the area outlined above. Based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #1, 2, 3, and 4 of the daily photo log for 6/22/2016, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications as verified by AmecFW. Additionally, minor modifications to the subgrade elevations were completed by Entact to facilitate positive drainage flow away from the tree bulb swales (located at approximate Sta. 317+75).
- Following soil subgrade approval, ESI began by placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed on the western end of the Site (approximate Sta. 319+00) moving east (to approximate Sta. 317+75). GVL was placed according to the project specifications with white plastic fasteners spaced at a minimum of 5 ft. Additionally the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to 6/22/16 Photo Log for supporting photographs.
- After installation of GVL, geomembrane liner was installed beginning at the western end of SA-6 North and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 319+00 to approximate Sta. 317+75. A total of seven panels were installed (P1, P2, P3, P4, P5, P6, and P7). Note: P1 consisted of an approximate 50 ft. by 18 ft. piece of LLDPE installed along the western end of SA-6 North. During placement of panel P4, the roll of LLDPE terminated at the approximate center of the cap, thus the remaining run of LLDPE was installed as P5. P2, P3, P6, and P7 ran the entire width of SA-6 North (approximately 162 ft.) from north to south.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- Adjacent panel seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing. The results of the pre-trial weld are provided in the 6/22/16 *Trial Weld Log.*
- Non-destructive testing was then conducted (pressure testing) for the fusion welded seams. 30 psi was applied to the seams and held for 5-minute increments with no more than 4 psi loss measured over the 5-minute interval. The results of the non-destructive tests are outlined in the *Seam Control Form.*
- Destruct test samples and extrusion weld detailing to be completed on 6/23/15.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log. Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, etc.)

Action Items – Weekly Completions

- None to Date

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 317+75 to Sta. 316+75).
- Continue with 16 oz. geotextile, GVL, and LLDPE placement moving east along SA-6 North.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be certified upon completion of SA-6 North
A2 – Receiving and Inspection		NA - No material delivered to the site on 6/22/16
A3 – Photo Log	Pages 1 - 8	Total of 16 photos outlining pertinent daily observations and descriptions for activities completed on 6/22/16
A4 – Geosynthetic Inventory Log		Completed to date, no updates from 6/22/15
A5 – Subgrade Approval	Sheet 1 & ESI (6/22/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Sheet 1	One trial weld log provided by ESI and confirmed by Langan for trial welds completed on 6/22/16
A7 – Panel Placement Log	Sheet 1	One panel placement log provided by ESI and confirmed by Langan for panels placed on 6/22/16.
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 6/22/16
A9 – Seam/Non-Destruct. Test Log	Sheet 1	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/24/15
A10 – Repair Log		NA – no repairs or extrusion welds completed on 6/22/16.
A11 – Conformance COC		NA – for 6/22/16.
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 6/22/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 6/22/16
A14 – Penetration & Edge Form		NA – no penetrations / boots completed on 6/22/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 6/22/16
A17 – Spark Test Form		NA – no spark testing conducted on 6/22/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/23/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/90° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0650 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Lull, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #3** **AmecFW**: Stu Bills, Dave Ambrose, Ari Eslaminejad, Philemon Onyango **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) continuing east from panel P7 installed on 6/22/16 (approximate Sta. 317+75). Material to be placed from Panel P7 running approximately 125 ft. east to approximate Sta. 316+50.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 317+75 (Panel P7 installed on 6/22/16) to approximate Sta. 316+50. Refer to *Soil Subgrade Approval* forms from 6/23/15 for additional details. Based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos 1 to 4 of the daily photo log for 6/23/2016, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications as verified by AmecFW
- GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 317+75 (east Panel P7) moving east to approximate Sta. 316+50. GVL was placed according to the project specifications with white plastic fasteners spaced at a minimum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/23/16 Photo Log for supporting photographs.
- While GVL was being deployed, ESI also conducted patch / repair work along the panels installed on 6/22/16 (Panels P1 to P7). Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (6/23/16).

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

- A total of eleven repairs (R-1 through R-11) were observed and fixed (according to the project specifications) from Panels P1 through P7. Refer to 6/23/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While the geomembrane (installed on 6/22/16) was being patched / repaired, ESI also began to prepare penetration boots for Piezometer PZ10 and Well 115-W6-SO. Note: The boot and boot skirts were completed, however, the vertical welds along the boot have not yet been completed as methane testing / spark testing are to be completed prior to finalizing the boot details.
- During repair activities / extrusion welding one non-conformance issue was observed and was documented on Sheet #1 as non-compliance. The non-compliance issue encountered was identified based on debris / rock that was observed underneath the LLDPE geomembrane. The rock was subsequently removed and the hole was patched / repaired according to the project specifications and further outlined in the *Non-Compliance and Corrective Action* forms – *Sheet #1* for 6/23/16. The non-compliance issue was also recorded within the *Repair Log* as a subgrade irregularity and is identified as R-10.
- After placement of GVL, geomembrane liner was installed beginning at the western end of SA-6 North (from Panel P7) and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 317+75 (Panel P7) to approximate Sta. 316+50. A total of six panels were installed (P8, P9, P10, P11, P12, and P13). Note: During placement of panel P8, the roll of LLDPE terminated approx.. 2/3 from the north of the cap, thus the remaining run of LLDPE was installed as P9. Similarily, during placement of Panel P12, the roll terminated along the northern end of SA-6 North, thus the remaining run of LLDPE was labeled as P13. Panels P10 and P11 ran the entire width of SA-6 North (approximately 162 ft.) from north to south.
- Adjacent geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 6/23/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 316+50, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 6/23/16 *Seam Control Form* for non-destructive testing details. Additionally, repair and extrusion weld activities were also conducted for Panels P8 through P13. A total of 32 additional repairs (RP-11 through RP-43) were observed and fixed according to the project specifications. Additional details are also outlined on the 6/23/16 *Repair Log.*
- A total of four destruct samples were collected for laboratory sampling by Entact / ESI. Three fusion weld destruct samples DS-1 (Panel P1 / P2 seam), DS-2 (Panel P6 / P7 seam), and DS-3 (Panel P10 / P11 seam) were collected for laboratory analysis. Additionally, one extrusion weld sample DSX-1 (Panel P1) was also collected for laboratory analysis.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 1 (Sheet #1) – Subgrade irregularity identified as R-10 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P6. Stone was subsequently removed, and hole was patched/repaired following project specs as further described in *Sheet 1 Notice of Non-Compliance.*

Action Items – Pending

- Complete Daily Report and Photo Log (for 6/23/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16. ESI Daily Form Submittals still to be reviewed.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 6/23/16
A3 – Photo Log	Pages 1 – 8	Total of 16 photos outlining pertinent daily observations and descriptions for 6/23/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 6/23/16
A5 – Subgrade Approval	Sheet 2 & ESI (6/23/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 1	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 6/23/16
A7 – Panel Placement Log	Page 2	One panel placement log provided by ESI and confirmed by Langan for panels placed on 6/23/16
A8 – Destruct Seam Testing COC	Sheet 1	Updated for destruct samples collected on 6/23/16
A9 – Seam/Non-Destruct. Test Log	Page 1	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 6/23/16
A10 – Repair Log	Pages 1,2,3	One repair log provided by ESI and confirmed by Langan for repairs completed for 6/23/16
A11 – Conformance COC		NA for 6/23/16
A12 – Destructive Seam Field Test	Page 1	Updated with destruct samples collected on 6/23/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A13 – Destruct. Sample Summary	Page 1	Destruct sample summary updated with samples collected on 6/23/16
A14 – Penetration & Edge Form		NA – Pipe boot skirts completed, methane testing to be completed before finalizing welds and conducting spark testing.
A16 – Notice of Non-Compliance	Sheet 1	One non-compliance issue identified on 6/23/16 and summarized on Sheet 1.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/24/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/95° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1545

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #4** **AmecFW**: Stu Bills, Dave Ambrose, Ari Eslaminejad, Philemon Onyango **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) continuing east from Panel P12 / P13 installed on 6/23/16 (approximate Sta. 316+50). Material to be placed from Panel P12 / P13 running approximately 75 ft. east to approximate Sta. 315+75.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 316+50 (Panel P12 / P13 installed on 6/23/16) to approximate Sta. 315+75. Refer to *Soil Subgrade Approval* forms from 6/24/15 for additional details. Based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos 1 to 3 of the daily photo log for 6/24/2016, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications as verified by AmecFW
- GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 316+50 (east of Panel P12 / P13) moving east to approximate Sta. 315+75. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/24/16 Photo Log for supporting photographs.
- While GVL was being deployed, ESI also continued patch / repair work for the panels installed on 6/23/16 (Panels P8 to P13). Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (6/24/16).
- In addition, methane / spark testing was conducted for the pipe boots completed for Well 115-W6-SO,

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

Piezometer PZ10, and Gas Vent GV-6. Prior to spark testing, methane testing was conducted to measure the concentration of methane present below the LLDPE geomembrane. During methane testing of Well 115-W6-SO, a concentration of 1.4% (greater than 1%) was measured. No spark testing was conducted on Well 115-W6-SO due to the measured methane concentration. Instead, the weld was visually observed for deficiencies and none were noted.

- Methane testing for PZ10 and Gas Vent GV-6 yielded methane concentrations of 0.8% and 0.0%, respectively (<1%). Following the methane testing, spark testing was conducted by ESI for the vertical weld and pipe boot weld at the base of the penetration (i.e. welds not accessible for vacuum box testing). No sparks were observed during the test, and both boots passed. Additional details are outlined in the *Spark Testing QA Form Sheets #1-3.*
- After placement of GVL, LLDPE geomembrane was installed continuing from Panel P12 / P13 (installed on 6/23/16) and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 316+50 (Panel P12 / P13) to approximate Sta. 315+75. A total of six panels were installed (P14, P15, P16, P17, P18, and P19). Note: During placement of panel P15, the roll of LLDPE terminated approx. 2/3 from the north of the cap, thus the remaining run of LLDPE was installed as P16. Panels P14, P17, P18, and P19 ran the entire width of SA-6 North (approximately 192 ft.) from north to south.
- Adjacent geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 6/24/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 315+75, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 6/24/16 *Seam Control Form* for non-destructive testing details. Additionally, repair and extrusion weld activities were also conducted for Panels P14 through P19. Additional details are also outlined on the 6/24/16 *Repair Log.*
- A total of thirty repairs (RP-44 through RP-73) were observed and fixed (according to the project specifications) from Panels P14 through P19. Refer to 6/24/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. Note: vacuum box testing not completed for all welds. To be continued on 6/27/16.
- A total of two destruct samples were collected for laboratory analysis by Entact / ESI. One fusion weld destruct sample DS-4 (Panel P15 / P17 seam) was collected for laboratory analysis. Additionally, one extrusion weld sample DSX-2 (Panel P10) was also collected for laboratory analysis.

Non-Conformance Items / Corrective Actions

- None Encountered

Action Items – Pending

- Complete Daily Report and Photo Log (for 6/24/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample data (once received from laboratory).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16 and 6/23/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1, DS-2, and DS-3. Reviewed laboratory data for extrusion weld destruct sample DSX-1.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 6/24/16
A3 – Photo Log	Pages 1 – 7	Total of 14 photos outlining pertinent daily observations and descriptions for 6/24/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 6/24/16
A5 – Subgrade Approval	Sheet 3 & ESI (6/24/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 1	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 6/24/16
A7 – Panel Placement Log	Pages 2&3	One panel placement log provided by ESI and confirmed by Langan for panels placed on 6/24/16
A8 – Destruct Seam Testing COC	Sheet 1	Updated for destruct samples collected on 6/24/16
A9 – Seam/Non-Destruct. Test Log	Pages 4 to 6	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 6/24/16
A10 – Repair Log	Pages 2 to 3	One repair log provided by ESI and confirmed by Langan for repairs completed for 6/24/16
A11 – Conformance COC		NA for 6/24/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test	Page 1	Updated with destruct samples collected on 6/24/16
A13 – Destruct. Sample Summary	Page 1	Destruct sample summary updated with samples collected on 6/24/16
A14 – Penetration & Edge Form	Sheets 1 to 3	Pipe boot skirts completed, methane / spark testing completed for Piezometer PZ10, Well 115-W6-SO and Gas Vent GV-6 as outlined on the Sheets 1 to 3.
A16 – Notice of Non-Compliance		NA - no non-compliance issues identified on 6/24/16.
A17 – Methane / Spark Testing Log	Sheets 1 to 3	Methane / spark testing completed for Piezometer PZ10, Well 115-W6-SO, and Gas Vent GV-6.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/29/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/90° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0650 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #6** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for LLDPE repair activities to be completed on LLDPE geomembrane installed on 6/27/16. Note: No capping activities conducted on 6/28/16 due to inclement weather, and no new LLDPE was placed on 6/29/16 as soil subgrade was not approved.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI continuing with non-destructive testing (pressure testing) and repair activities for geomembrane panels P19 through P27 (installed on 6/27/16). Non-destructive testing was conducted on the remaining panel seams and the seams were pressurized to 30 psi and held for 5 minutes with less than 4 psi loss. Refer to *6/29/16 Seam Control Form* for additional details.
- A total of twenty-two repairs (R-82 through RP-103) were observed and fixed (according to the project specifications) from Panels P19 through P27. Refer to 6/29/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of two destruct samples were collected for laboratory analysis. Two fusion weld destruct samples, DS-5 and DS-6, were collected from Panel Seam P19 / P20 and Panel Seam P23 / P24, respectively. Additional details are outlined in the *Trial Weld Log* dated 6/29/16.
- The LLDPE pipe boot penetration for Gas Vent GV-5 was completed and extrusion welded. Note: no methane testing / spark testing completed. Methane / spark testing to be completed week of July 5, 2016.
- While ESI was conducting repairs, small areas of standing water were observed on the soil subgrade from Sta. 314+25 to approximate Sta. 313+75. Entact solidified the subgrade by adding calcium cement to the soils so that the wet areas were absorbed / removed. Additionally, minor modifications to the subgrade were completed to facilitate positive drainage off of SA-6 North.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 2 (Sheet #2) – Subgrade irregularity identified as R-98 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P26. Stone was subsequently removed, and hole was patched/repaired following project specs as further described in *Sheet 2 Notice of Non-Compliance.*

Action Items – Pending

- Complete Daily Report and Photo Log (for 6/29/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct samples results for DS-5 and DS-6.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, and 6/27/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1, DS-2, DS-3, and DS-4. Reviewed laboratory data for extrusion weld destruct sample DSX-1 and DSX-2. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 6/29/16
A3 – Photo Log	Pages 1 – 4	Total of 7 photos outlining pertinent daily observations and descriptions for 6/29/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 6/29/16
A5 – Subgrade Approval		NA - no subgrade approval for 6/29/16
A6 – Trial Weld Log	Page 2	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 6/29/16
A7 – Panel Placement Log		NA – no LLDPE panels placed on 6/29/16
A8 – Destruct Seam Testing COC	Sheet 1	Updated for destruct samples collected on 6/29/16
A9 – Seam/Non-Destruct. Test Log	Pages 6-7	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 6/29/16
A10 – Repair Log	Pages 4-5	One repair log provided by ESI and confirmed by Langan for repairs completed for 6/29/16
A11 – Conformance COC		NA for 6/29/16
A12 – Destructive Seam Field Test	Page 1	Updated with destruct samples collected on 6/29/16
A13 – Destruct. Sample Summary	Page 1	Destruct sample summary updated with samples collected on 6/29/16
A14 – Penetration & Edge Form	6/29/16 Form	LLDPE pipe boot penetration form completed for Gas Vent GV-5. Note: methane / spark testing not completed (to be completed week of June 5, 2016).
A16 – Notice of Non-Compliance	Sheet 2	One non-compliance issue identified on 6/29/16 and summarized on Sheet 2.
A17 – Spark Testing Form		NA – no methane / spark testing completed on 6/29/16 for Gas Vent GV-5.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: June 3, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☑ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		1
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		3

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 06/06/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, June 03, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	The silt fabric in the catch basin at the western end of Kellogg Street requires maintenance or replacement.
2	IA2Q4A1AL8	REPEAT: Sediment has accumulated on the western end of Kellogg Street.
3	IA2Q4A1AL8	Drums in active use in the mechanics area on SA-6 North are not on spill pallets.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 06/06/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Replace the filter fabric in the catch basin as required.	6/9/16
2	REPEAT: Clean the sediment from the western end of Kellogg Street by the current truck entrance/exit gate.	
3	Place all drums which are in use on spill pallets.	

Construction Manager: _____ Date: 06/09/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: June 10, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance		X		1
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		3
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		4
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 06/13/16

SWPPP Observer: _____
Signature

- - 3 - -

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, June 10, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	The tracking pad at the western Kellogg Street gate is blinded with sediment and not functioning.
2	IA2Q4A1AL8	Windscreen material is missing from the newly-installed fence panels by the 60 Kellogg excavation area.
3	IA2Q4A1AL8	Garbage has accumulated on the grass by the Kellogg Street jughandle.
4	IA2Q4A1AL8	Windscreen material on the perimeter fence by the JCMUA parking lot has partially detached from the fence and requires maintenance.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: [signature] Date: 06/10/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Clean or replace the tracking pad stone to restore function	6-15-16 RAD
2	Install windscreen fabric on the Kellogg Street perimeter fence as needed.	
3	Pick up and discard accumulated garbage/rubbish as required.	
4	Re-attach windscreen material on the perimeter fenceline by the JCMUA front parking lot as required.	

Construction Manager: [signature] Date 06/16/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: June 17, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance		X		1
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		3
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		4
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 06/20/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, June 17, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	REPEAT: The tracking pad at the western Kellogg Street gate is blinded with sediment and not functioning.
2	IA2Q4A1AL8	Sediment has accumulated on the western end of Kellogg Street by the truck entrance.
3	IA2Q4A1AL8	Silt bags in two catch basins on the southern side of the H-Building on SA-6 North require maintenance.
4	IA2Q4A1AL8	Sediment has accumulated on the western haul road on SA-7

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 06/20/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	REPEAT: Clean or replace the tracking pad stone to restore function.	6-22-16 (2nd)
2	Remove accumulated sediment from the western end of Kellogg Street.	
3	Replace filter fabric in the two catch basins on the southern side of the H-Building.	
4	Remove accumulated sediment from the western SA-7 haul road.	

Construction Manager: _____ Date: 06/23/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: June 24, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		2
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 06/27/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, June 24, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Garbage and debris has accumulated on the grass area at the Kellogg Street jughandle.
2	IA2Q4A1AL8	REPEAT: Sediment has accumulated on the western haul road on SA-7.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 06/27/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Pick up and dispose of accumulated litter at the Kellogg Street jughandle.	6/30/16 RAD
2	REPEAT: Remove accumulated sediment from the western SA-7 haul road.	✓

Construction Manager: _____ Date: 06/30/16

Attachment 13: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (submitted June 2016)

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

June 20, 2016

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the May 2016 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy/SGF

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
5	01	16	5	31	16
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	77,941	92,574 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	0.51	0.61	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.00020	<0.00020	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.1	<5.1	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1864	0.1864	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	~~Sample Measurement~~					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

06/16/2016

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North
ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)
FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305
NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
5	01	16	5	31	16
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD	
2,416,174	GALS
CU. FT X 7.48 - GALLONS	
EFFLUENT METER READING LAST DAY THIS PERIOD 63,943,718	

DATE	BOD (mg/l)	TSS (mg/l)
5/10/2016	<4.4	6.6

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE 06/16/2016

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG Honeywell Jersey City GWTP; SA-6 North (Permit #20630025) MONTH: May 2016

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
5/1/2016	Angel Trujillo	61527544	61604864	77,320	0.07732	7.70	0.785									0.51
5/2/2016	Angel Trujillo	61604864	61682184	77,320	0.07732	7.56	0.785									0.51
5/3/2016	Angel Trujillo	61682184	61758654	76,470	0.07647	7.16	0.785									0.50
5/4/2016	Angel Trujillo	61758654	61834632	75,978	0.075978	7.20	0.785									0.50
5/5/2016	Angel Trujillo	61834632	61912810	78,178	0.078178	7.18	0.785									0.51
5/6/2016	Angel Trujillo	61912810	61991222	78,412	0.078412	7.13	0.785									0.51
5/7/2016	Angel Trujillo	61991222	62072706	81,484	0.081484	7.11	0.785									0.53
5/8/2016	Angel Trujillo	62072706	62150261	77,555	0.077555	7.05	0.785									0.51
5/9/2016	Angel Trujillo	62150261	62227816	77,555	0.077555	7.08	0.785									0.51
5/10/2016	Angel Trujillo	62227816	62305770	77,954	0.077954	6.96	0.785	<5.1	<4.4		<0.010	<0.030	<0.010	<0.00020	<0.020	0.51
5/11/2016	Angel Trujillo	62305770	62384068	78,298	0.078298	7.05	0.785									0.51
5/12/2016	Angel Trujillo	62384068	62458920	74,852	0.074852	7.01	0.785									0.49
5/13/2016	Angel Trujillo	62458920	62537830	78,910	0.07891	7.13	0.785									0.52
5/14/2016	Angel Trujillo	62537830	62621880	84,050	0.08405	7.03	0.785									0.55
5/15/2016	Angel Trujillo	62621880	62699054	77,174	0.077174	7.05	0.785									0.51
5/16/2016	Angel Trujillo	62699054	62776228	77,174	0.077174	7.05	0.785									0.51
5/17/2016	Angel Trujillo	62776228	62851520	75,292	0.075292	7.49	0.785									0.49
5/18/2016	Angel Trujillo	62851520	62928746	77,226	0.077226	7.05	0.785									0.51
5/19/2016	Angel Trujillo	62928746	63006510	77,764	0.077764	7.10	0.785									0.51
5/20/2016	Angel Trujillo	63006510	63084574	78,064	0.078064	6.91	0.785									0.51
5/21/2016	Angel Trujillo	63084574	63177148	92,574	0.092574	7.22	0.785									0.61
5/22/2016	Angel Trujillo	63177148	63247742	70,594	0.070594	7.00	0.785									0.46
5/23/2016	Angel Trujillo	63247742	63318336	70,594	0.070594	7.15	0.785									0.46
5/24/2016	Angel Trujillo	63318336	63396035	77,699	0.077699	7.23	0.785									0.51
5/25/2016	Angel Trujillo	63396035	63480024	83,989	0.083989	7.11	0.785									0.55
5/26/2016	Angel Trujillo	63480024	63554444	74,420	0.07442	7.07	0.785									0.49
5/27/2016	Angel Trujillo	63554444	63632586	78,142	0.078142	7.12	0.785									0.51
5/28/2016	Angel Trujillo	63632586	63717776	85,190	0.08519	7.01	0.785									0.56
5/29/2016	Angel Trujillo	63717776	63793997	76,221	0.076221	7.10	0.785									0.50
5/30/2016	Angel Trujillo	63793997	63870218	76,221	0.076221	7.05	0.785									0.50
5/31/2016	Angel Trujillo	63870218	63943718	73,500	0.0735	7.10	0.785									0.48
TOTAL				2,416,174	2.416174			<5.1	<4.4		<0.010	<0.030	<0.010	<0.00020	<0.020	
			High:	92,574											High:	0.61
			Average:	77,941											Average:	0.51

WW

6

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell — Chain Of Custody / Analysis Request

JC19960

AESI Ref:	42500.48434
COC#	087-WW-051016
Lab Proj # (SDG):	
Lab ID	ACTD
Site ID	HudsonCo
Lab Job #	HWINJM32815
Authorized User:	Honeywell

Text & Excel File Drive | Excel & Text File Order

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Privileged & Confidential

Site Name: Hudson County
Location of Site: Jersey City, NJ
Phase: CS
Sampling Program: 087: JCIA

Sampling Co.: MACTEC
EDD To:
Client Contact: (name, co., address)
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962
Preliminary Data To
Sample Receipt Acknowledgement To
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)

Sampler: Frank Schroyer
PO #
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Full Report TAT: 28 Days

Sample Identification				Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID							Units		Preservative	3	3	3	1	2	2	0	0	2					
1 087-WW			087-WWE-051016-A	5/10/2016	14:20	WW	WATER	REG	5	comp	N	X	X	X	X			X	X		1					
2 087-WW			087-WWE-051016-B	5/10/2016	14:25	WW	WATER	REG	5	grab	N					X	X				2					L19
3 087-WW			087-WWI-051016	5/10/2016	14:35	WW	WATER	REG	3	grab	N									X	3					V37
4																										C35
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

INITIAL ASSESSMENT 28/Ce
LABEL VERIFICATION

Relinquished by: 6.96 S.U. @ 7.5°C	Company: AMEC Foster Wheeler	Received by:	Company: ACCUT		Condition:		Custody Seals Intact:
Frank Schroyer	Date/Time: 5/10/16		Date/Time: 5/10/16 1511		Cooler Temp: 2.0°C		
Relinquished by:	Company: ACCUT	Received by:	Company: SCS		Condition:		Custody Seals Intact:
	Date/Time: 5/10/16 1800		Date/Time: 5/10 1800		Cooler Temp.		

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

ALL SAMPLES RECEIVED PRESERVED AS APPLICABLE Ce

CS475 ACCUT

SGS Accutest LabLink@911448 12:58 24-May-2016

Report of Analysis

4.1
4

Client Sample ID:	087-WWE-051016-A		
Lab Sample ID:	JC19960-1	**Date Sampled:**	05/10/16
Matrix:	AQ - Water	**Date Received:**	05/10/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	785	10	ug/l	1	05/11/16	05/12/16	ND	EPA 200.7 [2]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	05/11/16	05/12/16	ND	EPA 200.7 [2]	EPA 200.7 [4]
Lead [a]	< 30	30	ug/l	10	05/11/16	05/12/16	ND	EPA 200.7 [2]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	05/11/16	05/11/16	JPM	SW846 7470A [1]	SW846 7470A [3]
Nickel	< 10	10	ug/l	1	05/11/16	05/12/16	ND	EPA 200.7 [2]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	05/11/16	05/12/16	ND	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA39380
(2) Instrument QC Batch: MA39389
(3) Prep QC Batch: MP93649
(4) Prep QC Batch: MP93653

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

SGS Accutest LabLink@911448 12:58 24-May-2016

Report of Analysis

4.1 4

Client Sample ID:	087-WWE-051016-A		
Lab Sample ID:	JC19960-1	**Date Sampled:**	05/10/16
Matrix:	AQ - Water	**Date Received:**	05/10/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended [a]	6.6	4.0	mg/l	1	05/11/16 14:00	SP	SM2540 D-11
pH [b]	6.94		su	1	05/10/16 18:45	AL	SM4500H+ B-11

(a) Reported sample aliquot obtained from filtration of 320 mL of sample. Sample did not meet method requirement of 2.5 mg of solids on the filter with this volume filtered.
(b) Sample received out of holding time for pH analysis.

RL = Reporting Limit

SGS Accutest LabLink@911448 12:58 24-May-2016

Report of Analysis

4.2 4

Client Sample ID:	087-WWE-051016-A		
Lab Sample ID:	JC19960-1A	**Date Sampled:**	05/10/16
Matrix:	AQ - Water	**Date Received:**	05/10/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 4.4	4.4	mg/l	1	05/11/16 18:30	LS	SM5210 B-11

RL = Reporting Limit

SGS Accutest LabLink@911448 12:58 24-May-2016

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-051016-B		
Lab Sample ID:	JC19960-2	**Date Sampled:**	05/10/16
Matrix:	AQ - Water	**Date Received:**	05/10/16
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	N254847.D	1	05/11/16	BM	n/a	n/a	VN10771
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	10	1.3	ug/l	
107-13-1	Acrylonitrile	ND	10	1.2	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	4.8	1.0	0.11	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.14	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	4.7	1.0	0.19	ug/l	
108-90-7	Chlorobenzene	0.22	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.19	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.73	ug/l	
67-66-3	Chloroform	30.4	1.0	0.11	ug/l	
74-87-3	Chloromethane	ND	1.0	0.22	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.19	ug/l	
95-50-1	1,2-Dichlorobenzene	0.39	1.0	0.15	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.15	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.54	ug/l	
75-34-3	1,1-Dichloroethane	0.39	1.0	0.16	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.22	ug/l	
156-59-2	cis-1,2-Dichloroethene	71.4	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.5	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.17	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.16	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.17	ug/l	
123-91-1	1,4-Dioxane	ND	130	27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.11	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	1.1	1.0	0.16	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.18	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@911448 12:58 24-May-2016

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-051016-B		
Lab Sample ID:	JC19960-2	**Date Sampled:**	05/10/16
Matrix:	AQ - Water	**Date Received:**	05/10/16
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.12	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.17	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.18	ug/l	
79-01-6	Trichloroethene	69.5	1.0	0.16	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.55	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.19	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	100%		72-125%
2037-26-5	Toluene-D8 (SUR)	105%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	99%		74-115%
1868-53-7	Dibromofluoromethane (S)	105%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@911448 12:58 24-May-2016

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-051016-B		
Lab Sample ID:	JC19960-2	**Date Sampled:**	05/10/16
Matrix:	AQ - Water	**Date Received:**	05/10/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.1	5.1	mg/l	1	05/12/16 13:00	JOO	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending June 2016

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2014-6-10	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-6-10 includes the french drain installation, as well as pump and access station manholes for SA-6 South. Some design details, including the electrical design, will be finalized based field obersvations and constructability review.	Submitted to Contractor only.
DC 2014-11-20	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-11-20 includes the french drain installation, electrical supply and discharge piping for SA-6 North.	Submitted to Contractor only.
DC 2015-2-12	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-2-24 is a follow up to DC 2014-6-10, the SA-6 South CGWES trench design. DC 2015-2-24 includes details for electrical supply and discharge piping.	Submitted to Contractor only.
DC 2014-2-24	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to document the changes in the SA-6 North and South cap subgrades that resulted from the change to a trench system.	Submitted to Contractor only.
DC 2015-9-03	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-9-03 is a follow up to DC 2015-2-24, the SA-6 South CGWES electrical supply. DC 2015-9-03 provides a revised electrical plan.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending June 2016

Changed Item Identifier	Description of Change	Comments
DC 2016-5-24	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to address the elimination of a drop structure, the elmination of a flow meter, conduit sizing changes, and to clarify Entact's scope.	Submitted to Contractor only.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.

SA-6 North/South Field Change Log - Month Ending June 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Parties on July 2, 2015.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groundwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.
DC 2015-06-18	Bayfront Redevelopment Civil Designer has eliminated one utility corridor along the eastern portion of SA-6 South (water main and sewer line were relocated to another utility corridor). In addition, it was identified that minor increases in the Bayfront final grades of up to 0.25 feet may be made in the landscaped areas (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 South Consent Decree and the 100% Design.	Submitted to all Parties on June 18, 2015.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.
DC 2015-11-12	Amec Foster Wheeler has provided Final Cap Grades (in CAD) to Entact. Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.	Submitted to Contractor only.
DC 2016-04-15	Amec Foster Wheeler has provided final restoration grades for SA-6 South Development Area. The DCB also includes the final cover types in revised Drawing C-128.	Submitted to Contractor only.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on 6/22/15.

SA-6 North/South Field Change Log - Month Ending June 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-10-06	GCL is required to be installed over the SCB wall and Barrier Wall at the locations shown in the annotated PDF of C-121 (rev 4, 8/13/15).	Submitted to Contractor only.
DC 2015-07-22	Detail BN has been modified to extend the LLDPE up and over the SCB Wall. The prior detail showed both the GDL and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-28	Drawing 304, Detail CE and associated notes regarding the "Liner Anchor to Concrete Structure" have been modified.	Submitted to Contractor only.
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only.
DC 2015-07-31	The sheet pile pair is located at Sta. 0+50. Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.	Submitted to Contractor only.
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA-6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.

SA-6 North/South Field Change Log - Month Ending June 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	Submitted to Contractor only.
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	Submitted to Contractor only.
DC 2015-11-18	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	Submitted to Contractor only.
DC 2015-09-28	Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling.	Submitted to Parties on October 1, 2015.
DC 2015-12-21	Amec Foster Wheeler (AmecFW), Entact and Maser Consulting have developed alternative methods for documentation/survey of the excavation bottom in Site 163. The alternative methods were developed in light of safety considerations for surveyor access into a sheet piled excavation to elevation –8.0. The bottom of the excavation will be in very low strength Stratum O soils. These alternative survey control methods are different from those previously used in the SA-6 South Development Area.	Submitted to Contractor only.
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.
DC 2015-10-22	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending June 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-12-14	Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds that cannot be tested by other means. Spark testing will be performed in accordance withASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative. Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	Submitted to Parties on January 14, 2016.
DC 2015-12-01	EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation. A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals. EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits. A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.	Submitted to Contractor only.
DC 2016-02-03	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design.	Submitted to Contractor only.
DC 2016-02-22	AmecFW revised the SA-6 North cap subgrade in a single localized area in order to accommodate Entact's request to relocate Pump Station #1 (RFI 64). The subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location. In addition, for grading purposes, any hydraulic barrier sheets within the Sedimentation Basin that have sections below elevation 12.0 will be trimmed to a uniform elevation of 11.5.	Submitted to Contractor only.
DC 2016-02-25	This DCB has been issued to provide Entact with the latest SA-6 North HB Wall and SCB wall plan and profile drawings (SN-201 thru SN-205), which were modified to reflect changes made in DC 2016-02-22.	Submitted to Contractor only.
DC 2016-05-03	The laboratory results of all gradations for planting soils shall be presented in terms of the USDA classification system rather than the USCS classification system.	Submitted to Contractor only.
DC 2016-03-18	This DC 2016-03-18 documents the revised acceptable ranges of physical parameters and provides an updated specification made in consultation with Dr. Grabosky of Rutgers University. Dr. Grabosky provided his recommendations in correspondence dated 3/17/2016.	Submitted to Parties on March 22, 2016. Plaintiffs responded in a letter dated April 15, 2016. Plaintiffs and Honeywell subsequently held discussions and DCB 2016-04-20 was developed to document an agreement reached by all parties on the Special Master All-Hands monthly call on April 19, 2016.
DC 2016-03-21	Nature's Choice was identified as the source that best met the physical requirements for Horizon C soils by Dr. Grabosky; however, several samples of Nature's Choice Horizon C soils have hexavalent chromium concentration >1.0 mg/kg. Consequently, Honeywell is proposing a design change to allow the hexavalent chromium concentration in Nature's Choice Horizon C soils to be less than 1.8 mg/kg, as agreed to by the parties, as documented in the attached emails. For future sampling, hexavalent chromium soil samples will be composited from 10 grab sample locations per 5,000 CY (maximum). There are additional conditions in Attachment A that are part of this DCB and specific to Nature's Choice Horizon C soil. All other requirements specified in the 100% Design for imported soils will be met by the Nature's Choice Horizon C soils as amended in previous DC 2015-09-17.	Submitted to Parties on March 22, 2016.

SA-6 North/South Field Change Log - Month Ending June 2016

Changed Item Identifier	Description of Change	Comments
DC 2016-04-20	This DCB documents the approved sources of Horizon B and Horizon C materials, as agreed to by all parties on the Special Master All-Hands monthly call on April 19, 2016.	Submitted to Parties on April 21, 2016.
DC 2016-05-06	To allow for traffic flow within the project site following completion of the SA-6S Cap, a road will be installed within the "B Street" corridor. The road will be constructed by continuing the "Structural Fill under Roadways to within 6 inches of final grade"	Submitted to Parties on June 30, 2016.
DC 2016-05-31	This DCB documents the vault sketch Drawing C-310 (Rev 5, 5/31/16)	Submitted to Contractor only.
DC 2016-5-11	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design. As part of DC 2016-5-11, AmecFW issued SA-6 North Interim Grades to Entact.	Submitted to Contractor only.
DC 2016-5-20	After further review, AmecFW lowered the geomembrane Pump Station #1 on the SA-6 North cap in order to provide additional separation between the geomembrane and the bottom of the vault. (Refer to DC 2016-02-22).	Submitted to Contractor only.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

APPENDIX T

PART 12 OF 22

PROGRESS REPORTS

2016 MONTHLY REPORTS PART 3

SA-6 AND SA-7 COMBINED PROGRESS REPORT

AUGUST 8, 2016

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

August 8, 2016

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2016-07

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from July 1 – July 31, 2016.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Global Director, Remediation
Design and Construction

WJH:jtc/sgf

Attachment: July 2016 SA-6/7 Combined Monthly Progress Report No. 2016-07

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.
Mary Hogan - Walsh Pizzi O'Reilly Falanga LLP (electronic copy)
Hector Ruiz - Walsh Pizzi O'Reilly Falanga LLP (electronic copy)
Liza Walsh - Walsh Pizzi O'Reilly Falanga LLP (electroni copy)

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2016-07

Project SA-6 & 7 Remediation

July 2016

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
07/11/16	Sediment Remedy Long Term Monitoring Program Year 2 Implementation Report Study Area 7 Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
07/11/16	Proposed Additional In-Situ Injection of Calcium Polysulfide for Treatment of Hexavalent Chromium Impacted Soils Treatment Area 10-1 Study Area 6 (SA-6) North (Site 087) Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
07/14/16	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2016-05	The Honorable Robert G. Torricelli Office of the Special Master
07/19/16	SA-6 South Declaration No. 2	Terris, Pravlik & Millian
07/19/16	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
7/19/16	Special Master Conference Call	n/a
07/28/16	Discharge to Groundwater Permit-by-Rule Authorization Request Study Area 6 North, Site 087 Jersey City, New Jersey	NJ Department of Environmental Protection

SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending				
	07/03/16	07/10/16	07/17/16	07/24/16	07/31/16
Construction Management (AMEC)	9	10	11	8	9

Team	Week Ending				
	07/03/16	07/10/16	07/17/16	07/24/16	07/31/16
Engineering (AMEC)	1	1	1	1	1
Air Monitoring (Emilcott)	2	1	1	1	1
Security (Securitas)	3	3	3	3	3
Entact/Subcontractors	37	37	37	37	36
Arecon/US Ecology Subcontractors	1	1	0	1	0
ESI	12	13	13	13	13
Lagan	1	1	2	1	1
Century	0	0	0	0	0
Evoqua	2	1	1	1	1
B&B Drilling	1	0	1	2	0
Cornerstone	1	1	2	0	0
TOTAL STAFF	**70**	**69**	**72**	**68**	**65**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Conducted S-3 Mass Removal Injection Event No. 30 in injection well 088-IW-02.
- Replaced the submersible pump in GWET extraction well PW-3 with spare.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 North. On SA-6 South, all intrusive activities are complete. As only site grading and restoration activities remain, air monitoring will be completed using hand-held portable devices for nuisance dust.
- Prepared and submitted the NJDEP – Discharge to Groundwater Permit by Rule for the planned Treatment Area 10-1 second injection event.
- Collected July PVSC compliance sample from the Construction Water Treatment Plant (CWTP).

B. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned downstream process tanks T-300 (neutralization tank) and T-400 (effluent tank).
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on July 7, 2016.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending				
	07/03/16	07/10/16	07/17/16	07/24/16	07/31/16
Avg. Gallons Treated & Discharged (per day)	78,968	77,153	76,395	77,536	76,878
Average Flow (gpm) for Operating Period	56	56	55	56	56
Avg. Hours of Plant Operation	23	23	23	23	23
GWTP Influent Tanks (gal.)	5,100	5,436	3,360	3,294	2,761

C. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Began backfilling as part of site restoration in the SA-6 South Development Area.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/FCI	Roll-off	Sarnia, Ontario Canada	Stablex	WWTP Filer Cake	0	0	0
Entact/FCI	Roll-off	Kearny, NJ	Clean Earth	Soil >1000ppm Cr	3	18.0	54.2

2. EXCAVATION & BACKFILL PROGRESS

Description	Areas
Backfill in Progress	Historic Fill Soils – SA-6 South Development Area

3. BACKFILL MATERIALS USED

Source	Week Ending				
	07/03/16	07/10/16	07/17/16	07/24/16	07/31/16
Natures Choice Horizon C	0	0	0	9,523.88	0
Cedar Hill Horizon B	125.95	0	0	45.49	111.16
Tilcon Mount Hope I-8	0	0	982.78	1994.48	533.16
Natures Choice Topsoil	0	0	0	0	0
Tilcon 3/8” Stone	51.11	127.94	0	0	77.08
Weldon Screenings	182.7	0	0	0	0

- Overburden historic fill soils with hexavalent chromium concentrations confirmed to be < 20 mg/kg soils were transferred and placed as backfill the SA-6 South development area.
- Screened Celgene material was placed as protective cover soil in the SA-6 North open space area. Approximately 6,848 cubic yards was placed as protective cover soil during the reporting period.
- Continued to screen Celgene material for use as protective cover soils on the SA-6 North Open Space Area.
- Completed the frequency sampling of stockpiled Horizon C soils at the Nature's Choice facility remaining to be imported for use at SA-6 North. Results provided in Attachment 6.

D. SURCHARGE OPERATIONS

- All surcharging activities are completed.

E. SHEET PILE OPERATIONS

- Continued cutting hydraulic barrier sheets to final elevation in SA-6 North Open Space Area.

F. CAPPING OPERATIONS

- Completed importing and placing Horizon B soils atop Horizon C soils on SA-6 South Open Space Area Completed hydro-seeding of western portion of the SA-6 South Open Space. Approximately 2.1 acres of hydro-seeding was completed.
- Continued placement of Structural Fill Material in the future utility corridors crossing the SA-6 South open space area.
- Began placement of GDL cover soils and demarcation tape to include associated compaction testing on the SA-6 North Open Space Area.
- Began placement structural fill, root barrier, and Horizon C to include associated compaction testing on the SA-6 North Open Space Area.
- Continued SA-6 North geomembrane liner subgrade grading activities within the Open Space Area.
- Continued installation of geosynthetic components to include placement of the geocomposite gas venting layer, 60 mil geomembrane liner, and geocomposite drainage layer.
- A total of 288,543 sq. ft. of geomembrane liner (65% of the total cap area) was deployed during the reporting period.
- Completed spark testing on ten boot welds during the reporting period. Please see the email summary in Attachment 11 for clarifications of the spark test reporting.
- Continued cutting hydraulic barrier sheets and finishing the SCB wall to final elevation in SA-6 North Open Space Area.

- Continued installation of Gas Vent Pipe within the SA-6 North Open Space Area.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012 Extension Obtained 5/17/2015	Renewal Not Needed	10/04/2019	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013 Extension Obtained 3/16/2015	Not Specified, Est. 3/31/2016	6/30/2016*	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Individual Upland Waterfront Development Permit and Water Quality Certificate for Bulkhead Expansion Project	SA-7	Issued: 5/10/2016	TBD	5/9/2021	-
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Obtained 12/24/15	12/03/16	Pending
USACE Nationwide Permit No. 27 for Droyers Cove Beneficial Environmental Project	Bayfront	Issued: 4/15/2016	TBD	3/18/2017	5/4/16
NJDEP Coastal General Permit 24 for the living shoreline	Bayfront	Issued: 10/15/2015	TBD	10/14/2020	5/4/16

** Amec Foster Wheeler reviewed the expiration of this TWA with NJDEP, Division of Water Quality and no extension is necessary.*

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Continue importing and placement of Horizon A Topsoil on the SA-6 South Open Space Area.
- Continue development area regrading on SA6 South.
- Continue hydro-seeding of SA-6 South Open Space Area.
- Continue screening of Celgene soils for protective cover soils.
- Continue cutting SA-6 North Hydraulic Barrier Wall and Soil-Cement Bentonite Wall to geomembrane liner grade.

- Continue preparation of the SA-6 North subgrade for geomembrane liner installation.
- Continue installation of geosynthetic components to include placement of the geocomposite gas venting layer, 60 mil geomembrane liner, and geocomposite drainage layer.
- Continue placement of GDL cover soils within the SA-6 North Open Space Area.
- Continue placement structural fill, root barrier, and Horizon C soils to include associated compaction testing on the SA-6 North Open Space Area.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Continue installation CGWES Components.
- Complete PVSC Monthly compliance sampling.
- Conduct S-3 Mass Removal Injection Event No. 31 in well 088-IW-03.
- Conduct second injection event for Treatment Area 10-1.

ATTACHMENTS:

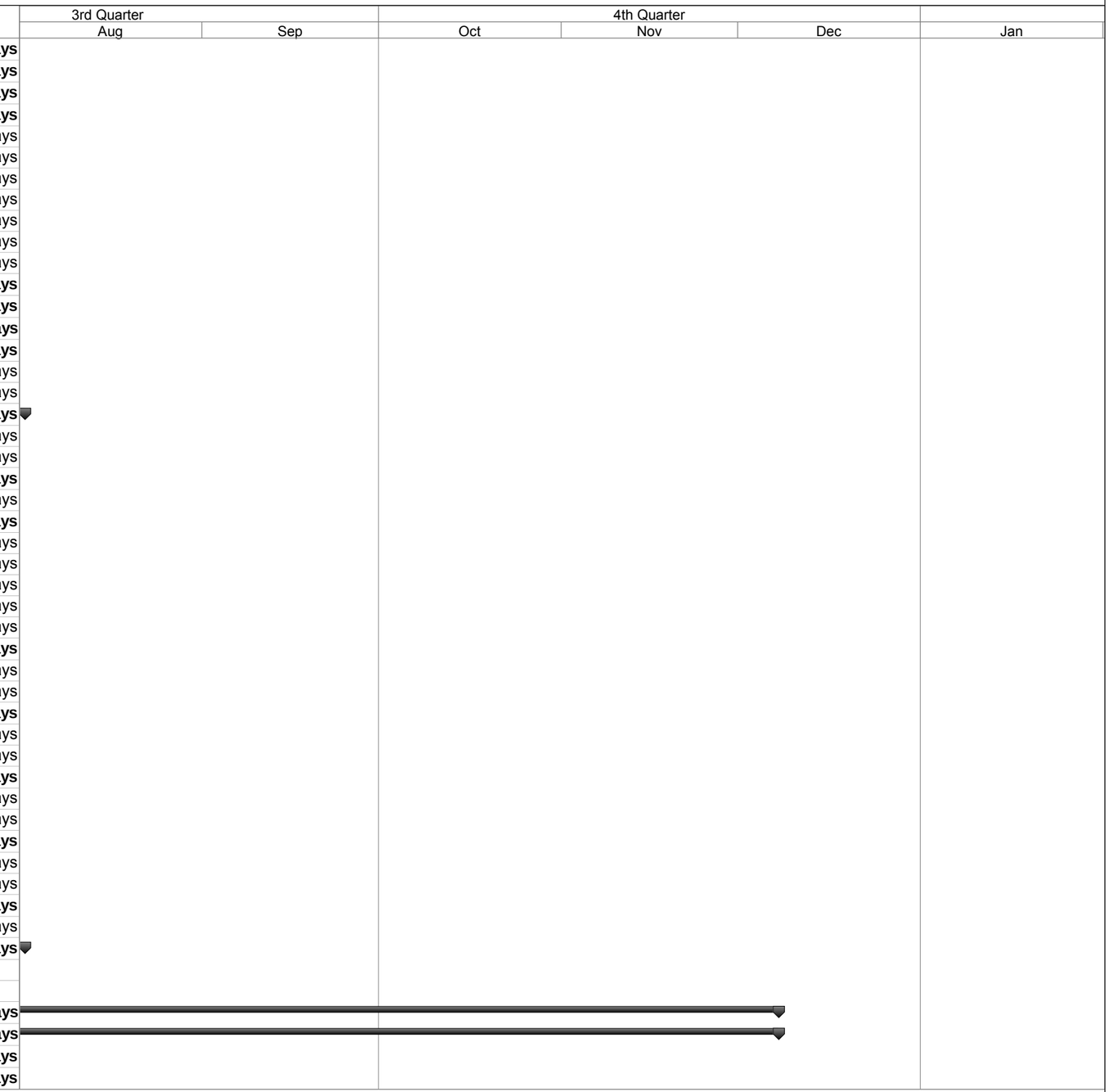
1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill (Progression Chart)
4. Dewatering Operations Update *(not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
7. Perimeter Pools Update
8. Groundwater Quality Data
    - Table 1: Summary of Groundwater Quality Data
    - Table 2: Second Quarter 2016
    - Graphs: Trichloroethene/ Chloroform/ Hexavalent Chromium in GWET Wells
9. Surcharge Monitoring Update *(not included in this reporting period)*
10. Sheet Pile Update *(not included in this reporting period)*
11. Capping Update
    - SA-6 Cap Subgrade Progress Maps
    - Repair Log
    - Non-conformance Log
    - Subgrade Approval Form
    - QA Photo Log
    - Daily QA Reports (Langan)
    - August 5, 2016 Honeywell e-mail: 080116 June 2016 SA-6 and SA-7 Combined Progress Report 21319 (pertaining to boot testing information provided in the June 2016 Combined Progress Report)
12. Weekly SWPPP Reports
13. GWTP Update
14. SA-6 North & South Design Change Tracking Log
    - SA-6 North & South Design Change Tracking Log
    - Design Change Bulleting 2016-07-12: SA-6 North Clarify location of Sand Bentonite Plug

Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**
2	**Remedial Action Work Plan**	**33 days**
5	**Remedial Action Design**	**1522 days**
18	**JCIA/JCDPW Relocation**	**1780 days**
19	Develop Site Relocation Master Plan	38 days
20	Submit Site Relocation Master Plan	0 days
21	JC Construction of New Facilities	1309 days
22	Relocation Contractor Procurement	392 days
23	JCIA and JCDPW Relocation	949 days
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days
24a	Demolition of JCIA Structures	146 days
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**
26	**Remedial Action Work Plan**	**187 days**
32	**Remedial Action Design**	**1161 days**
57	**SA-6 South Relocation**	**616 days**
58	New GWTP Construction Completion	502 days
59	Demolition of 80 Kellogg	857 days
60	**SA-6 North/South Field Implementation**	**894 days**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days
60b	SA-6S (Site 163) In-Situ Treatment	555 days
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**
61a	Mobilization	87 days
62	**Surcharge Install/Instrumentation**	**706 days**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days
62b	Place Stockpile Surcharge SA6N Western Areas	185 days
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days
62d	Place Stockpile Surcharge SA6S Western Areas	91 days
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days
63	**Barrier Wall Install**	**569 days**
63a	SA 6N Installation of Barrier Wall	159 days
63b	SA 6S Installation of Barrier Wall	210 days
64	**Excavation**	**507 days**
64a	SA 6N Excavation	218 days
64b	SA 6S Excavation	295 days
65	**Backfill**	**558 days**
65a	SA 6N Backfill	283 days
65b	SA 6S Backfill	384 days
66	**Capping and Cover Soil Placement**	**426 days**
66a	SA 6N Capping and Cover Soil Placement	83 days
66b	SA 6S Capping and Cover Soil Placement	283 days
67	**Restoration**	**234 days**
67a	Restoration	234 days
68	**Demobilization**	**22 days**
68a	Deferred Remediation of SA-6 South Along Bulkhead	
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line	
69	**SA-6 North Project Closeout**	**311 days**
75	**SA-6 South Project Closeout**	**311 days**
81	**SA-6 North Long Term Protections**	**1830 days**
92	**SA-6 South Long Term Protections**	**2569 days**



Project: SA-6 Remediation Schedule
Revision 4
Date: 8/2/2016

Task | Milestone | Summary | Critical

Note: Current field implementation schedule shows capping complete in September 2016 and restoration in October 2016.

Attachment 2: Site Photographs

Site Photograph 1: Compacting clean imported stone in utility corridor SA6 North open space area.

Site Photograph 2: Contractor deploying liner panel on the SA-6 North open space area.

Site Photograph 3: Contractor grading protective cover soils on the SA-6 North open space area.

Site Photograph 4: Contractor placing geocomposite drainage layer panel SA-6 North open space area.

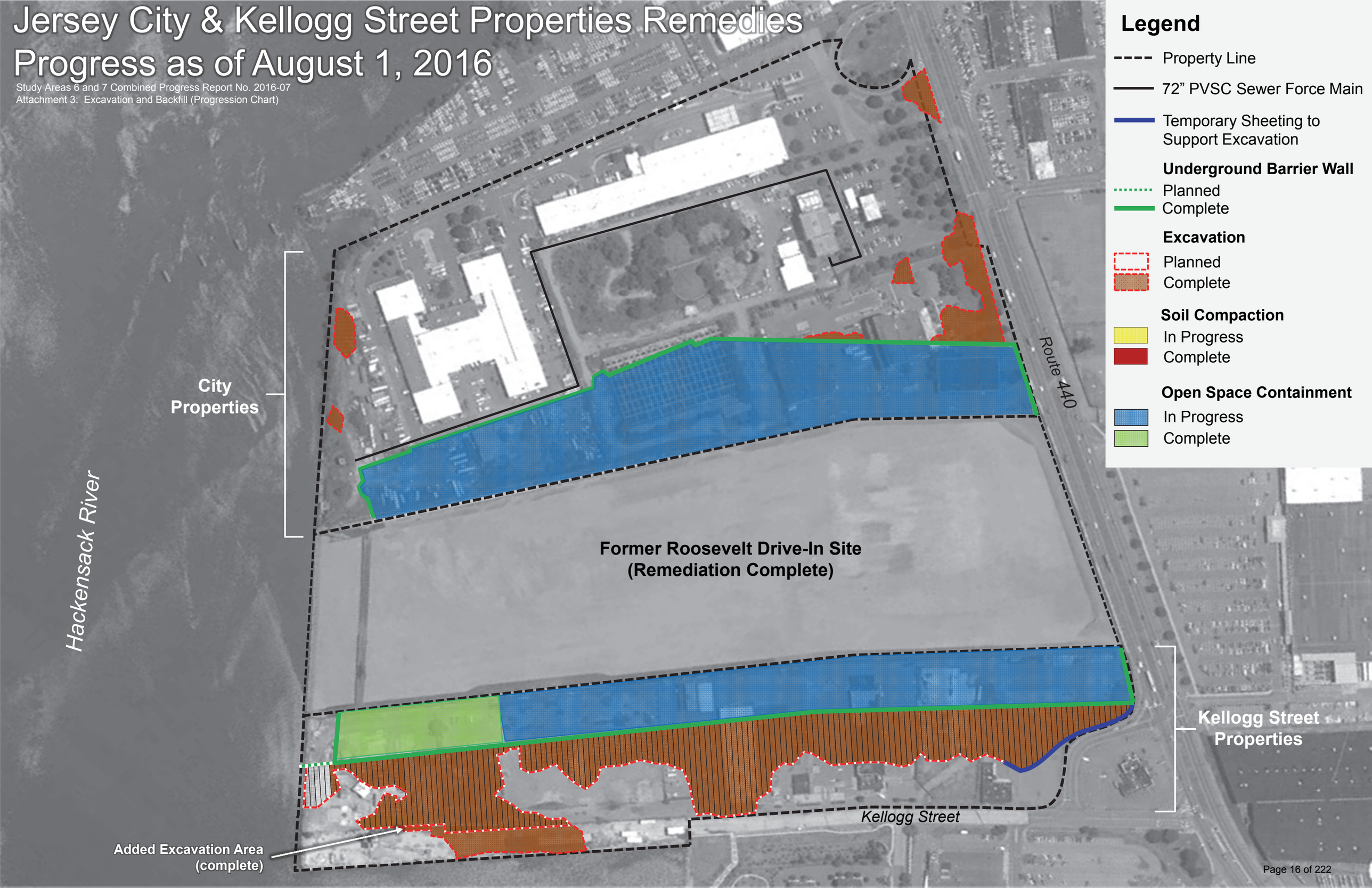
Site Photograph 5: Contractor screens clean protective cover soils.

Site Photograph 6: Geosynthetic Cap construction activities SA-6 North open space area.

Attachment 3: Excavation and Backfill Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of August 1, 2016

Study Areas 6 and 7 Combined Progress Report No. 2016-07
Attachment 3: Excavation and Backfill (Progression Chart)



Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
05/31/16	11:00	14:30	3:30	43,130.78	43,178.93	48,150	43,178,480	
06/01/16	6:30	13:30	7:00	43,178.93	43,268.97	90,040	43,268,520	
06/06/16	7:30	13:30	6:00	43,268.97	43,338.94	69,970	43,338,490	
06/08/16	7:30	12:00	4:30	43,338.94	43,402.10	63,160	43,401,650	PVSC Compliance Sample Collected
06/13/16	9:00	13:00	4:00	43,402.10	43,464.75	62,650	43,464,300	
06/21/16	8:00	14:00	6:00	43,464.75	43,543.94	79,190	43,543,490	
06/24/16	9:00	14:00	5:00	43,543.94	43,596.37	52,430	43,595,920	
07/07/16	7:30	12:00	4:30	43,596.37	43,642.93	46,560	43,642,480	PVSC Compliance Sample Collected
07/15/16	10:00	14:00	4:00	43,642.93	43,692.98	50,050	43,692,530	
07/26/16	9:00	14:00	5:00	43,692.98	43,794.27	101,290	43,793,820	
07/27/16	7:00	15:00	8:00	43,794.27	43,826.36	32,090	43,825,910	
07/28/16	9:00	15:00	6:00	43,826.36	43,860.98	34,620	43,860,530	
08/01/16	9:00	15:00	6:00	43,860.98	43,896.38	35,400	43,895,930	

Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

Nature's Choice: Horizon C
Average

Vendor	Source Location	Sample ID	Hex Chrome mg/kg
Nature's Choice	South Brunswick, NJ	NC-HC1-002 Submittal 118A	0.67
Nature's Choice	South Brunswick, NJ	NC-003 Submittal 121	0.97
Nature's Choice	South Brunswick, NJ	NC-HC-004 Solid	1.1
Nature's Choice	South Brunswick, NJ	NC-HC-004A Solid	0.96
Nature's Choice	South Brunswick, NJ	NC-HC-004B Solid	1
Nature's Choice	South Brunswick, NJ	NC-HC-004C Solid	1.2
Nature's Choice	South Brunswick, NJ	NC-HC-005 Solid	0.97
Nature's Choice	South Brunswick, NJ	NC-HC-006 Solid	1
Nature's Choice	South Brunswick, NJ	NC-HC1 Solid	1.6
Nature's Choice	South Brunswick, NJ	NC-HC2 Solid	1.4
Nature's Choice	South Brunswick, NJ	NC-HC3 Solid	1.2
Nature's Choice	South Brunswick, NJ	NC-HC4 Solid	1
Nature's Choice	South Brunswick, NJ	NC-HC5 Solid	1.3
Nature's Choice	South Brunswick, NJ	NC-HC6 Solid	1.2
Nature's Choice	South Brunswick, NJ	NC-HC7 Solid	1
Nature's Choice	South Brunswick, NJ	NC-HC8 Solid	1.7
Nature's Choice	South Brunswick, NJ	NC-010	0.78
Nature's Choice	South Brunswick, NJ	NC-011	1
Nature's Choice	South Brunswick, NJ	NC-012	1.5
Nature's Choice	South Brunswick, NJ	NC-013	0.63
Nature's Choice	South Brunswick, NJ	NC-014	0.43
Nature's Choice	South Brunswick, NJ	NC-015	1.1

Nature's Choice: Horizon C
Average

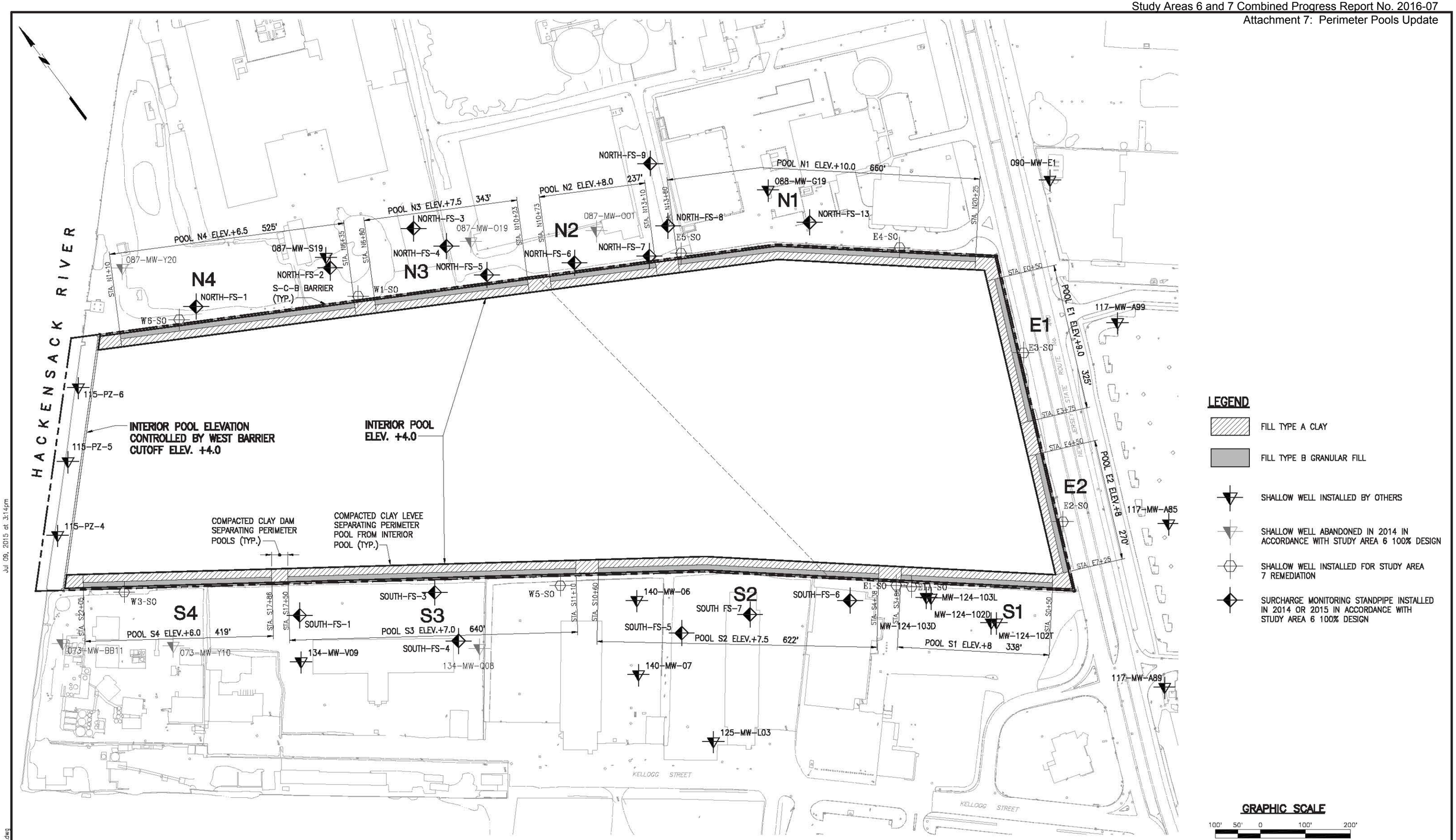
Vendor	Source Location	Sample ID	Hex Chrome mg/kg
Nature's Choice	South Brunswick, NJ	NC-016	1.4
Nature's Choice	South Brunswick, NJ	NC-017	1
Nature's Choice	South Brunswick, NJ	NC-018	1.1
Nature's Choice	South Brunswick, NJ	NC-019	1.2
Nature's Choice	South Brunswick, NJ	NC-020	0.87
Nature's Choice	South Brunswick, NJ	NC-021	0.55
Nature's Choice	South Brunswick, NJ	NC-022-CLAY	1.5
Nature's Choice	South Brunswick, NJ	NC-023-HORC*	1.4
Nature's Choice	South Brunswick, NJ	NC-024-HORC*	0.86
Nature's Choice	South Brunswick, NJ	NC-HC-007-CR6*	1.30
Nature's Choice	South Brunswick, NJ	NC-HC-008*	0.63
Nature's Choice	South Brunswick, NJ	NC-HC-009*	1.50
Nature's Choice	South Brunswick, NJ	NC-HC-010*	0.71
Nature's Choice	South Brunswick, NJ	NC-HC-011*	0.61

SUMMARY OF STATISTICS

Total Number of Observations	36
Arithmetic Mean	1.065
Minimum	0.43
Maximum	1.7
Standard Deviation	0.318
95% UCL	1.17

*Represents a 10 point composite sample (per DC 2016-3-21).

Attachment 7: Perimeter Pools Update



IN PROGRESS
06-10-2015

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

Jul 09, 2015 at 3:14pm
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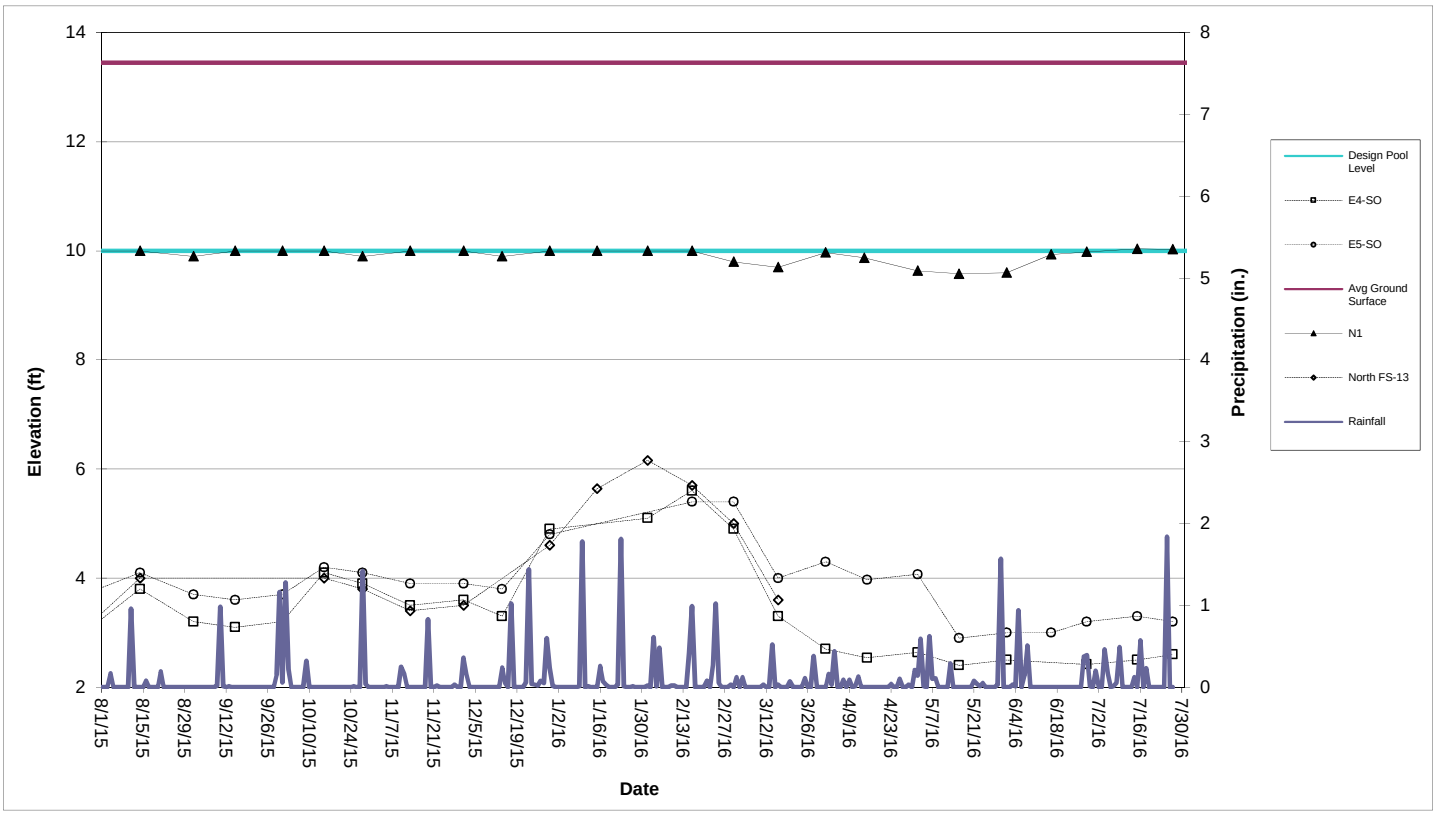
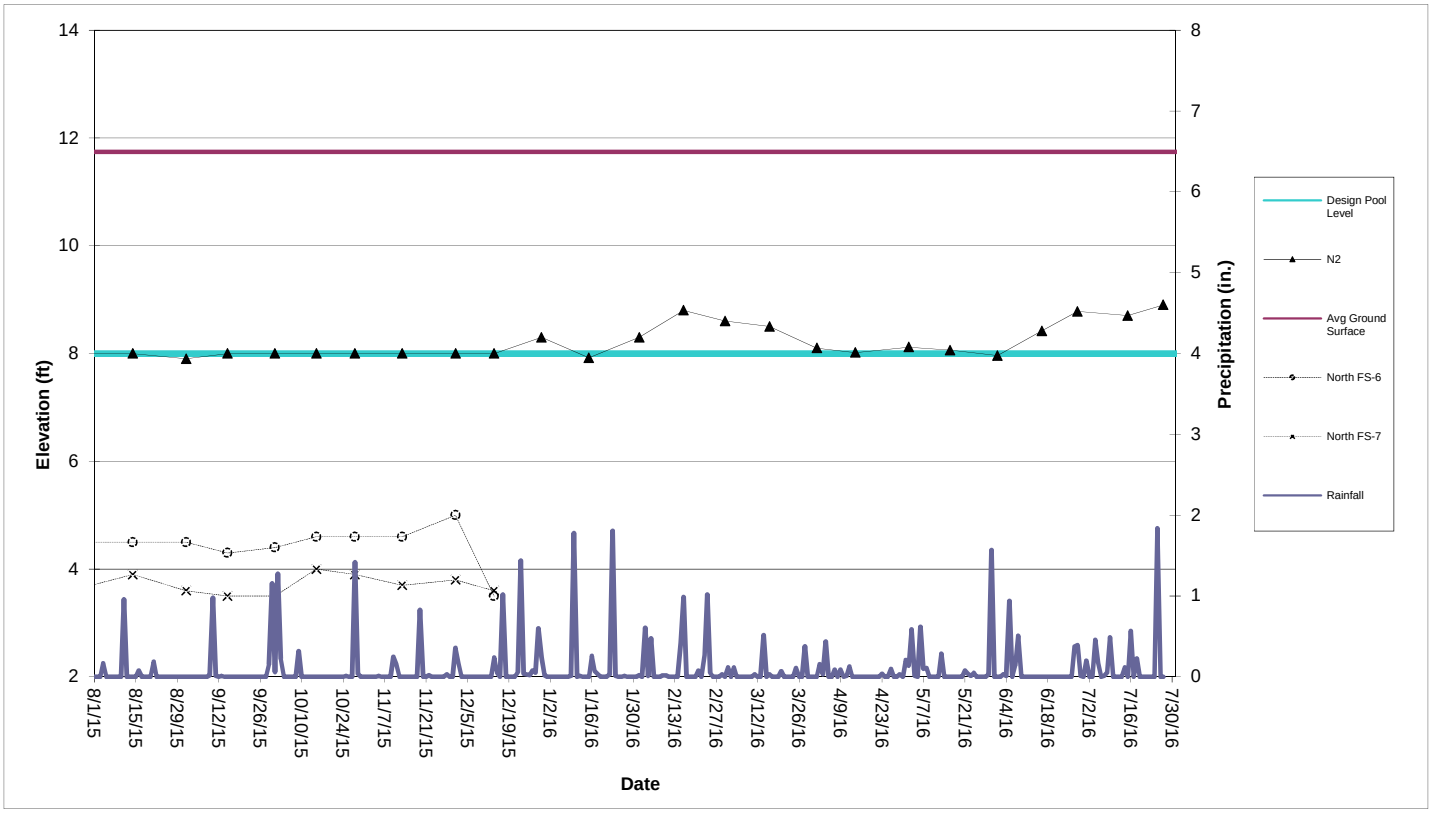
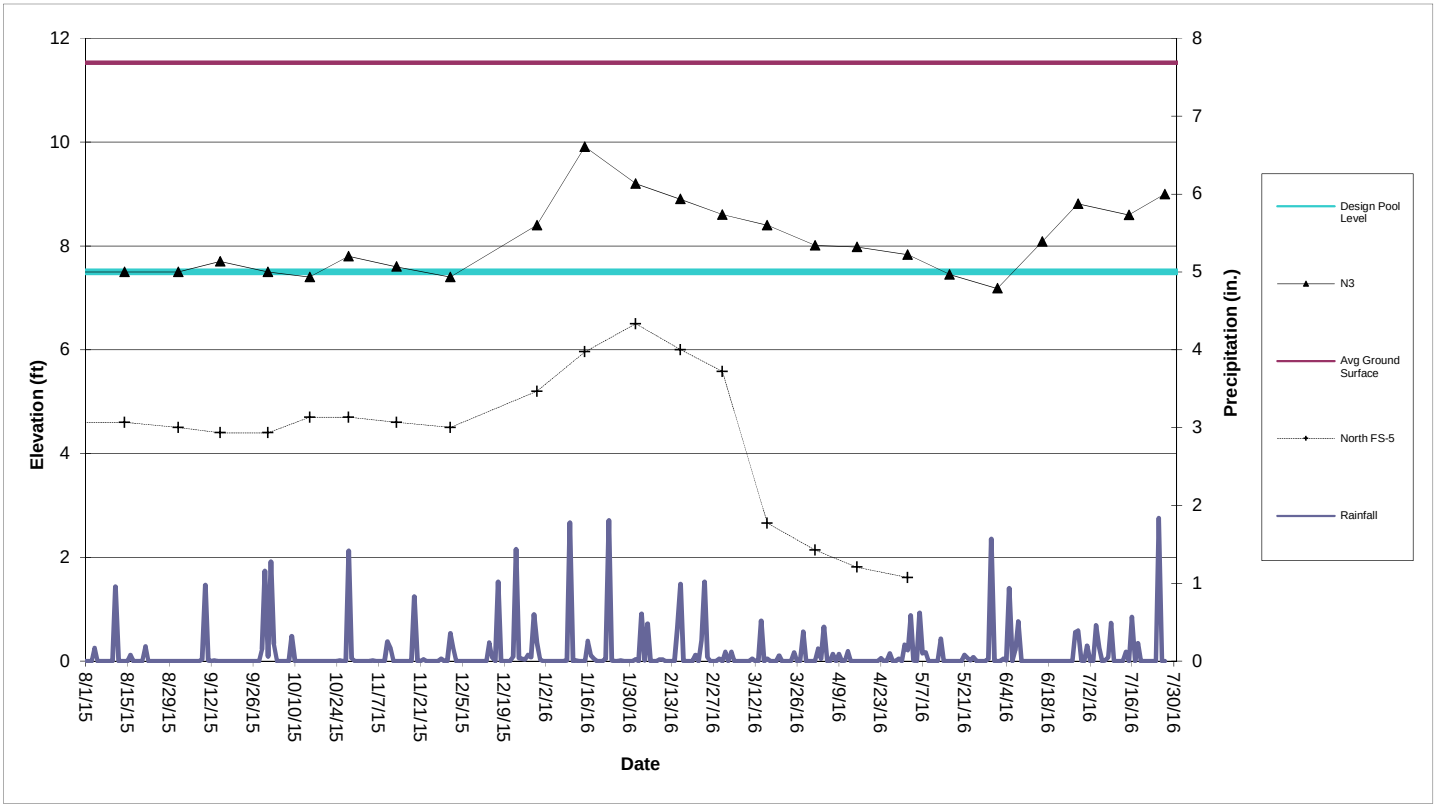
bboscaino



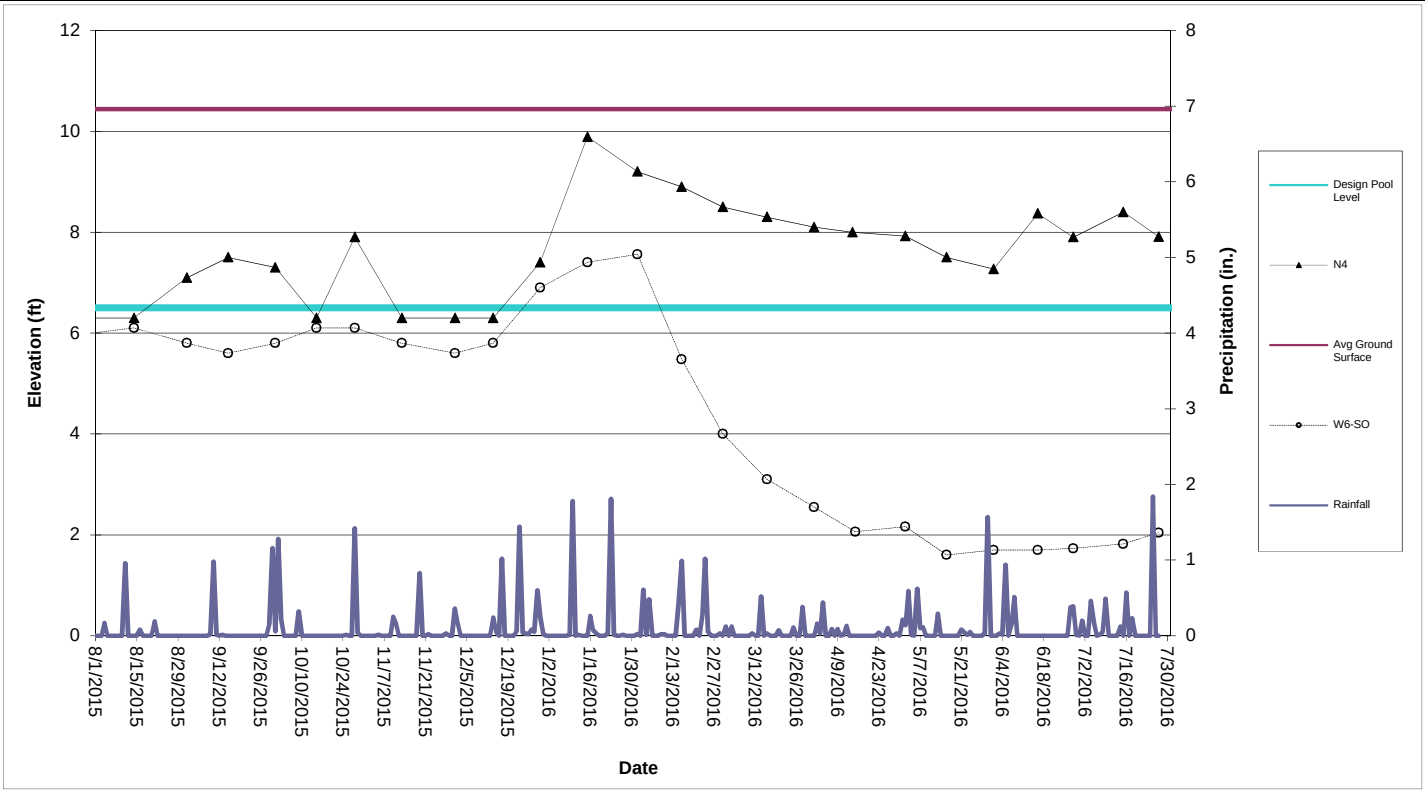
Perimeter Pool N1 (Sta. N13+60 to N20+25)



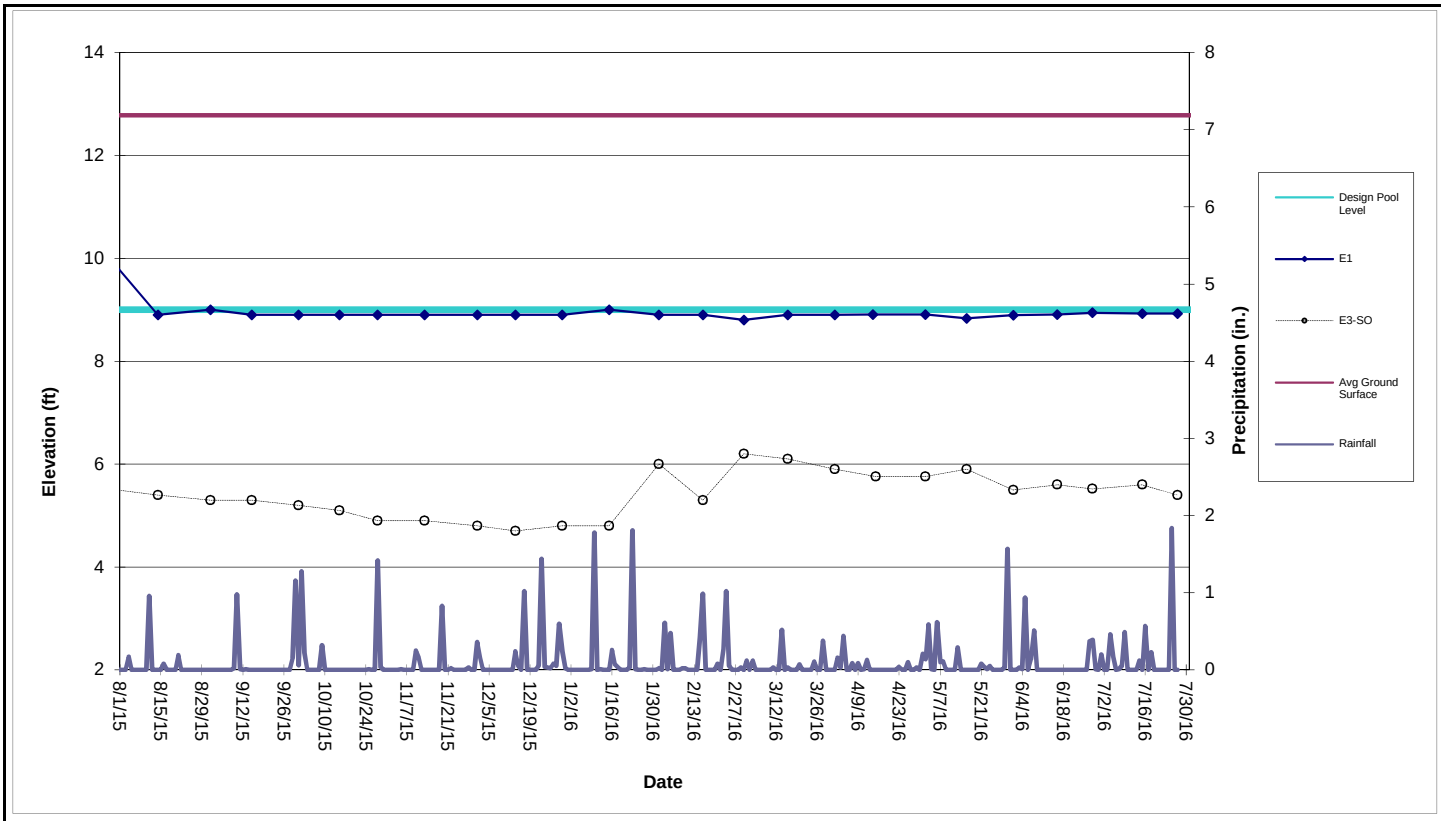
Perimeter Pool N2 (Sta. N10+73 to N13+10)



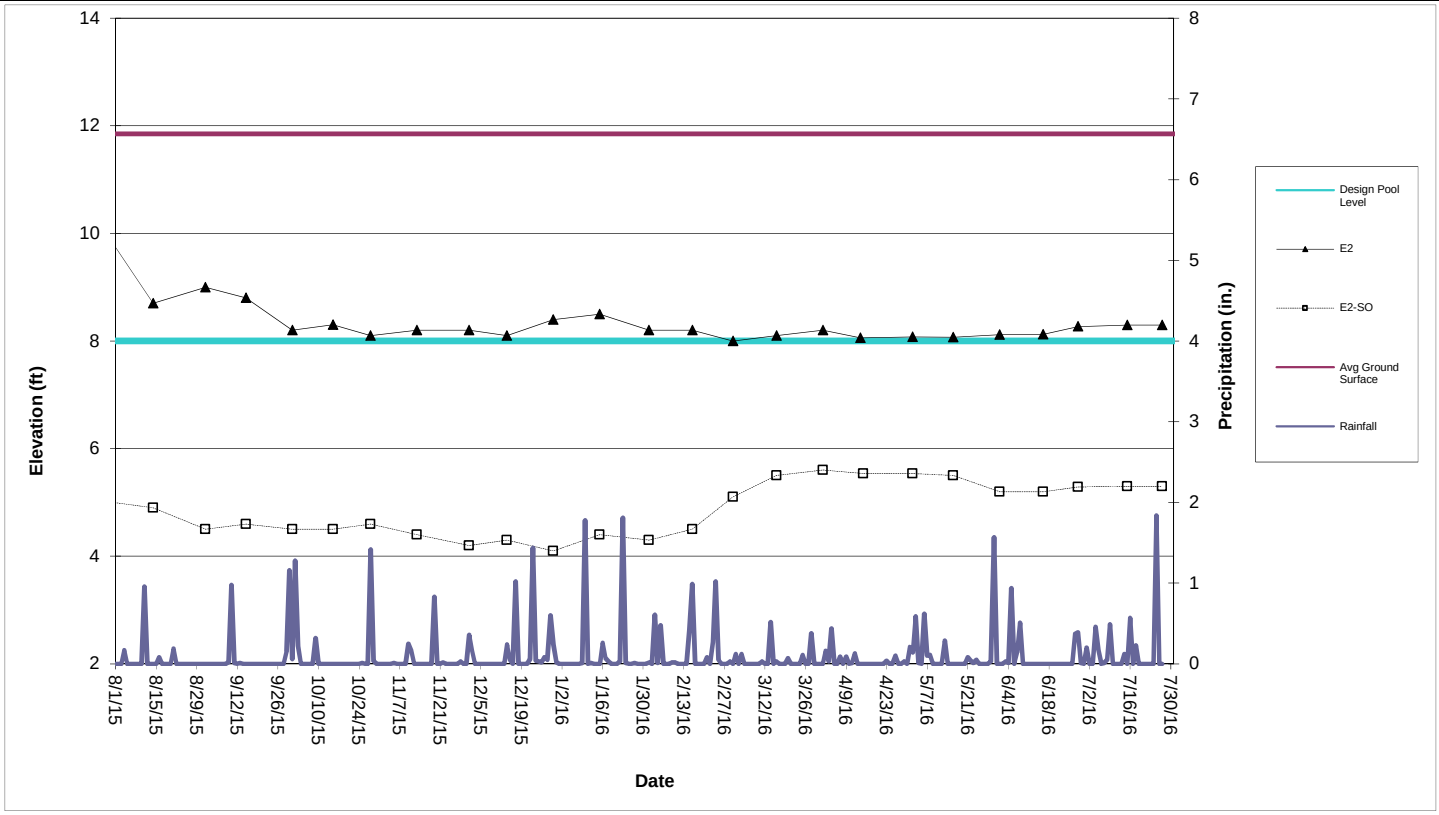
Perimeter Pool N3 (Sta. N6+80 to N10+23)



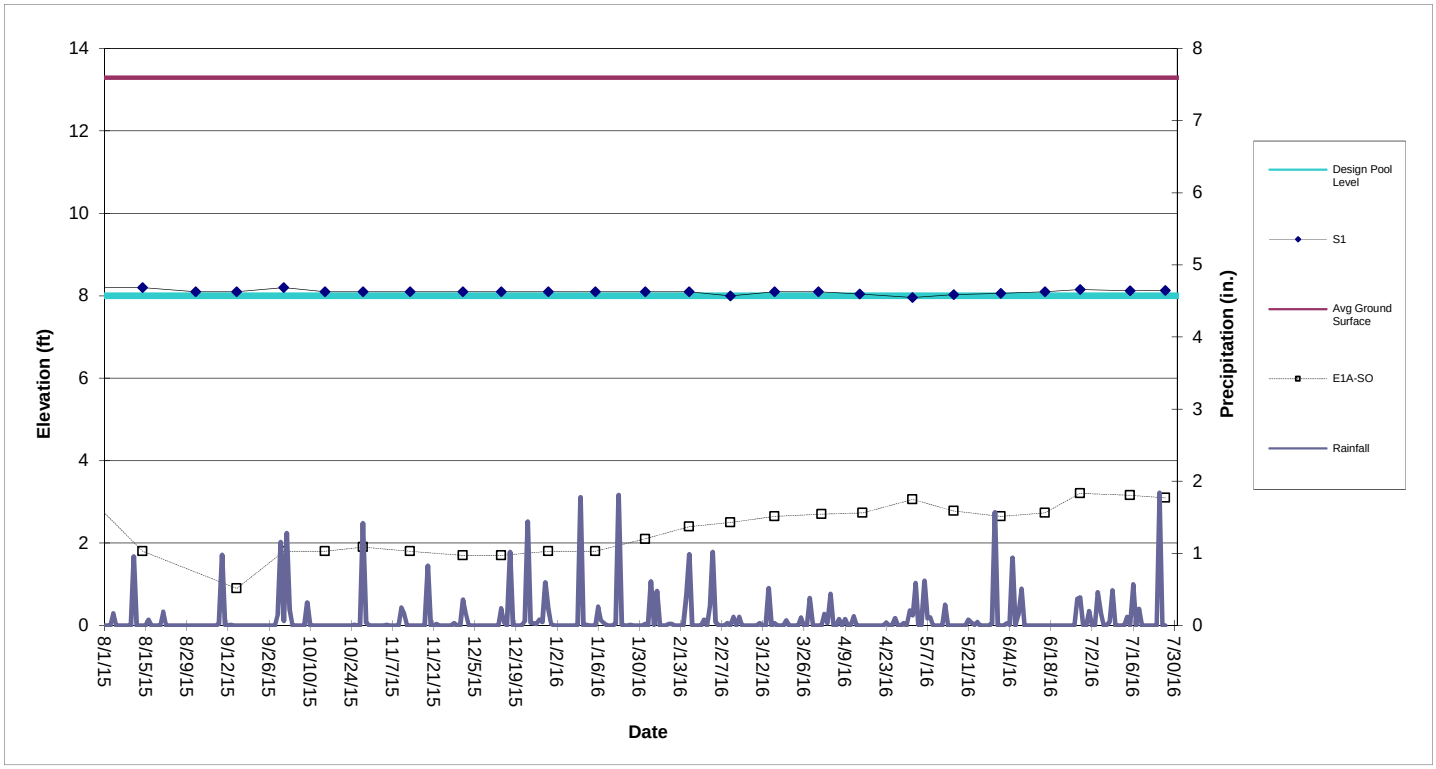
Perimeter Pool N4 (Sta. N6+80 to N10+23)



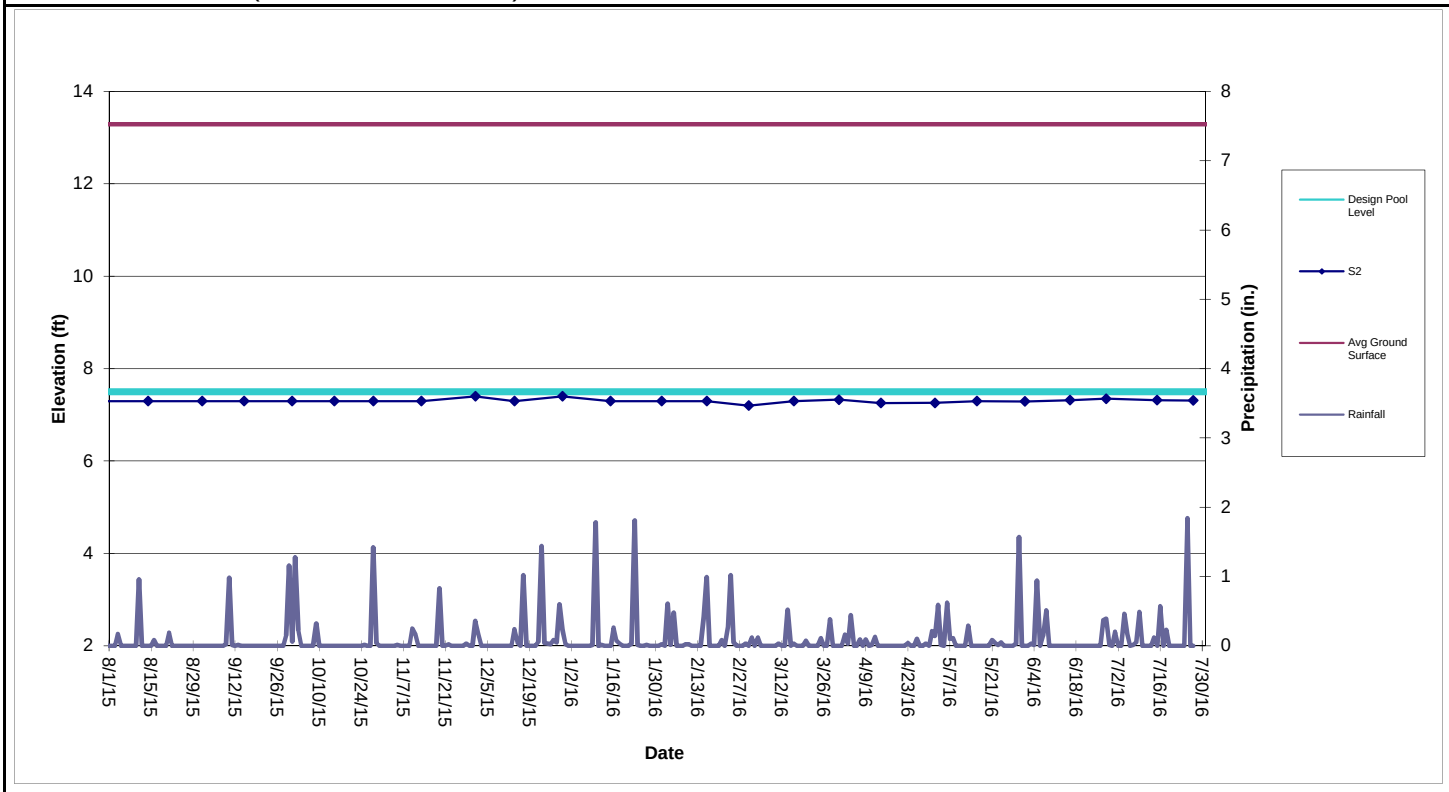
Perimeter Pool E1 (Sta. E0+50 to E3+75)



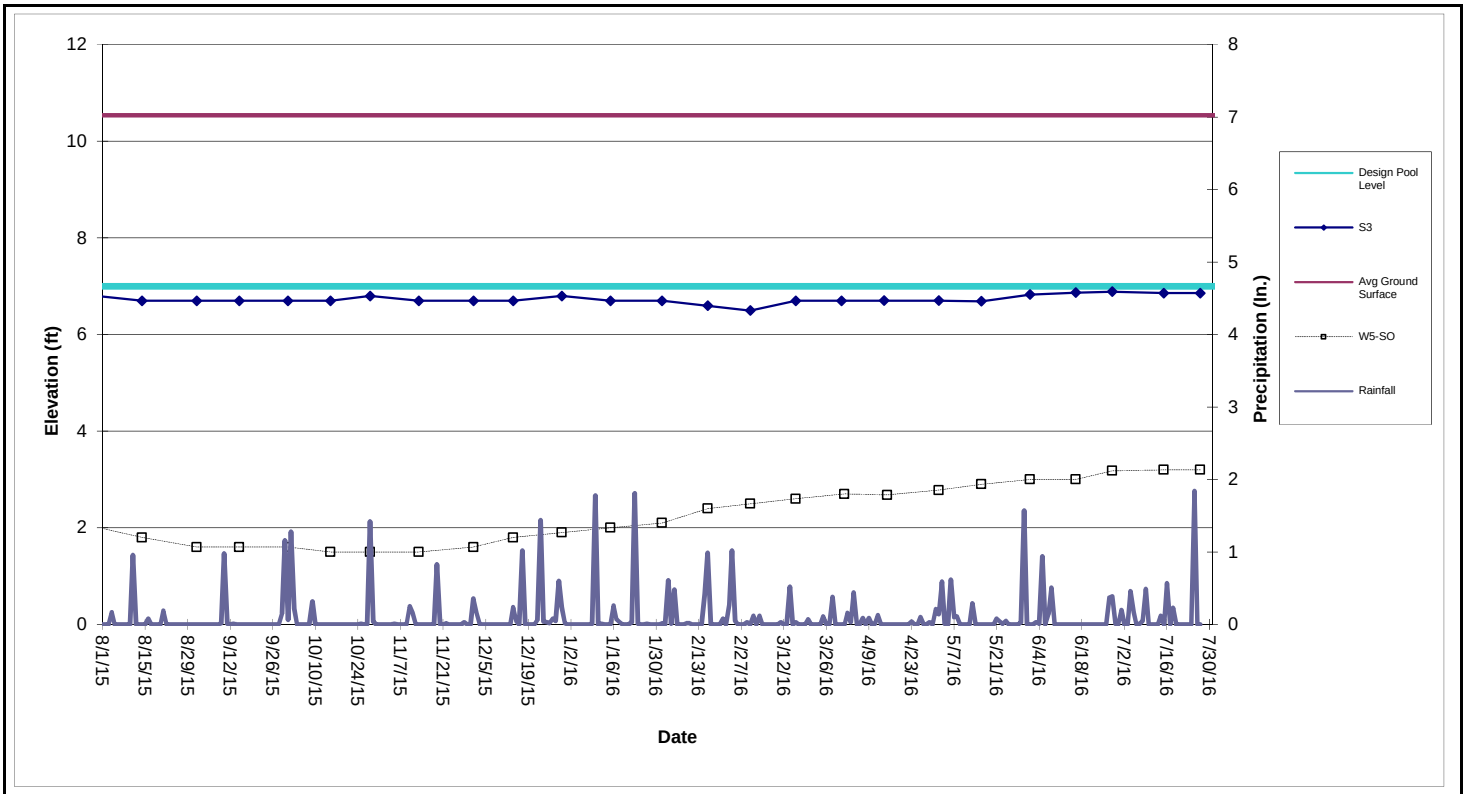
Perimeter Pool E2 (Sta. E4+50 to E7+25)



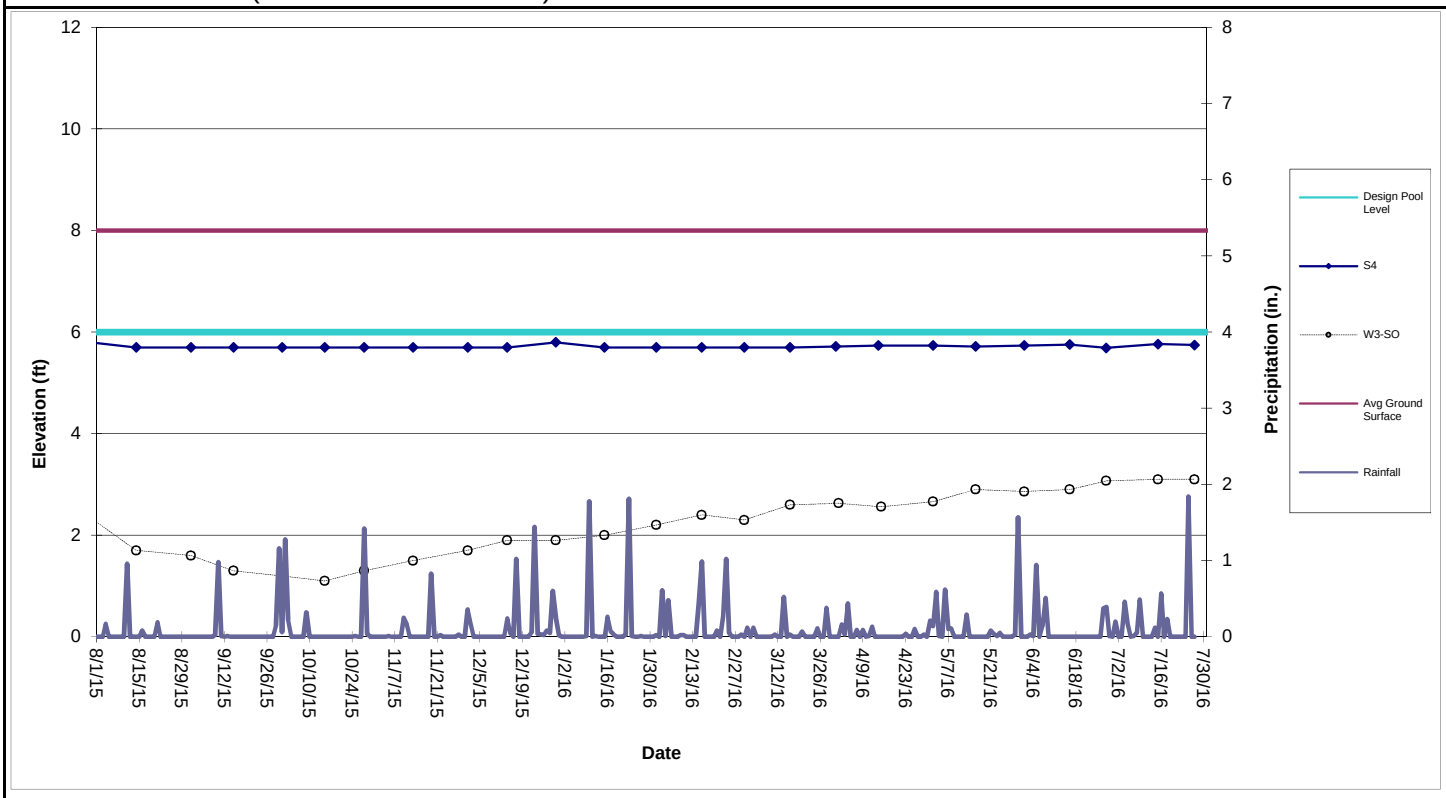
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North			
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-5	FS-6	FS-7	FS-13
Date													
8/14/2015	1.8	4.9	5.4	3.8	4.1		1.7	1.8	6.1	4.6	4.5	3.9	4.0
9/1/2015		4.5	5.3	3.2	3.7		1.6	1.6	5.8	4.5	4.5	3.6	
9/15/2015	0.9	4.6	5.3	3.1	3.6		1.3	1.6	5.6	4.4	4.3	3.5	
10/1/2015	1.8	4.5	5.2	3.2	3.7		1.2	1.6	5.8	4.4	4.4	3.5	
10/15/2015	1.8	4.5	5.1	4.1	4.2		1.1	1.5	6.1	4.7	4.6	4.0	4.0
10/28/2015	1.9	4.6	4.9	3.9	4.1	6.9	1.3	1.5	6.1	4.7	4.6	3.9	3.8
11/13/2015	1.8	4.4	4.9	3.5	3.9	6.4	1.5	1.5	5.8	4.6	4.6	3.7	3.4
12/1/2015	1.7	4.2	4.8	3.6	3.9	6.2	1.7	1.6	5.6	4.5	5.0	3.8	3.5
12/14/2015	1.7	4.3	4.7	3.3	3.8	6.2	1.9	1.8	5.8		3.5	3.6	
12/30/2015	1.8	4.1	4.8	4.9	4.8	7.5	1.9	1.9	6.9	5.2			4.6
1/15/2016	1.8	4.4	4.8			7.9	2.0	2.0	7.4	6.0			5.6
2/1/2016	2.1	4.3	6.0	5.1		7.7	2.2	2.1	7.6	6.5			6.2
2/16/2016	2.4	4.5	5.3	5.6	5.4	6.7	2.4	2.4	5.5	6.0			5.7
3/1/2016	2.5	5.1	6.2	4.9	5.4	5.1	2.3	2.5	4.0	5.6			5.0
3/16/2016	2.7	5.5	6.1	3.3	4.0	4.2	2.6	2.6	3.1	2.7			3.6
4/1/2016	2.7	5.6	5.9	2.7	4.3	3.5	2.6	2.7	2.6	2.1			
4/15/2016	2.7	5.5	5.8	2.5	4.0	2.9	2.6	2.7	2.1	1.8			
5/2/2016	3.1	5.5	5.8	2.6	4.1		2.7	2.8	2.2	1.6			
5/16/2016	2.8	5.5	5.9	2.4	2.9	2.4	2.9	2.9	1.6				
6/1/2016	2.7	5.2	5.5	2.5	3.0	2.5	2.9	3.0	1.7				
6/16/2016	2.7	5.2	5.6		3.0	2.5	2.9	3.0	1.7				
6/28/2016	3.2	5.3	5.5	2.4	3.2	2.4	3.1	3.2	1.7				
7/15/2016	3.2	5.3	5.6	2.5	3.3	2.4	3.1	3.2	1.8				
7/27/2016	3.1	5.3	5.4	2.6	3.2	2.3	3.1	3.2	2.0				

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4, FS-5, FS-6, FS-7, FS-13
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09,

Attachment 8: Groundwater Quality Data

- Table 1: Summary of Groundwater Quality Data
- Table 2: Second Quarter 2016
- Trichloroethene in GWET Wells
- Chloroform in GWET Wells
- Hexavalent Chromium in GWET Wells

Table 1: Summary of Groundwater Quality Data
(Attachment 8: Groundwater Quality Data)

Table 1
Summary of Groundwater Quality Data from GWET Wells

Honeywell

Parameter	23-Sep-15			4-Dec-15			16-Mar-16			30-Jun-16		
	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)	PW-1 (ug/L)	PW-3 (ug/L)	115-MW-215BR (ug/L)	PW-1 (ug/L)	PW-3 (ug/L)	115-MW-215BR (ug/L)
Benzene	3.8	3.6	ND	3.2	2.2	ND	2.7	24.9	ND	2.7	27.3	ND
Carbon Tetrachloride	6.7	4.3	2.9	3.7	2.9	2.5	4.5	18.9	2.7	4.1	14.6	2.1
Chloroform	27.4	6.8	0.27	24.4	4.8	ND	21.0	121	0.23	24.2	111	0.25
1,1-Dichloroethene	0.63	ND	ND	0.43	ND	ND	0.44	0.32	ND	0.55	0.34	ND
cis-1,2-Dichloroethene	129	8.7	0.24	104	5.3	ND	104	48.9	ND	125	59.9	ND
trans-1,2-Dichloroethene	3.9	ND	ND	3.2	ND	ND	2.9	0.37	ND	3.5	0.44	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	105.0	37.3	ND	86.8	24.5	ND	84.3	358	ND	86.8	347	ND
1,1-Dichloroethane	0.64	ND	ND	0.51	ND	ND	0.49	ND	ND	0.65	0.25	ND
Methylene chloride	0.71	ND	ND	ND	ND	ND	ND	4.0	ND	0.75	3.7	ND
Vinyl chloride	17.4	2.0	ND	11.3	1.4	ND	14.0	14.2	ND	17.0	15.2	ND
1,2-Dichlorobenzene	0.61	ND	ND	0.55	ND	ND	0.54	ND	ND	0.54	0.19	ND
Chlorobenzene	0.35	ND	ND	0.29	ND	ND	0.31	ND	ND	0.35	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.28	ND
Xylenes (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.44	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium	33,900	7,300	14,700	34,200	5,900	16,700	29,600	91,700	15,200	31,300	68,800	14,400
Total Chromium	33,800	8,480	14,000	34,200	8,430	16,600	30,400	84,300	14,800	31,700	37,100	12,900

NA = Not Available for Testing due to COPR excavation activities.
NT = Not Tested
ND = Not detected above reporting limit.

Table 2: Second Quarter 2016
(Attachment 8: Groundwater Quality Data)

TABLE 2
Second Quarter 2016

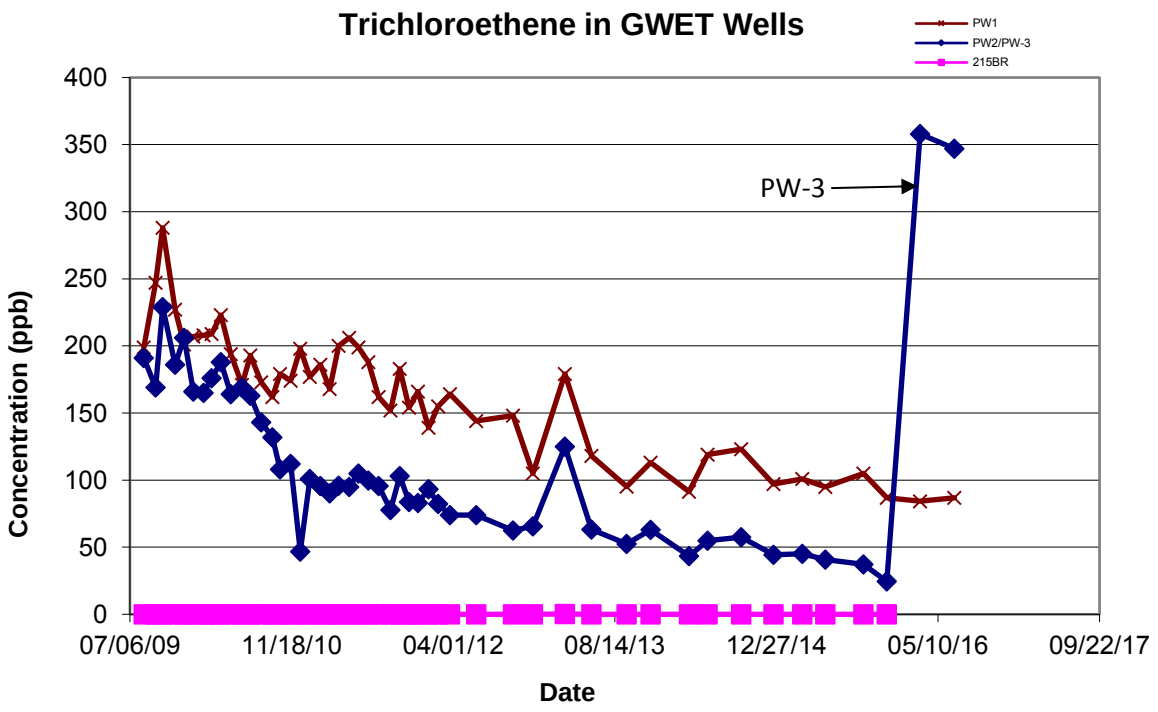
Honeywell

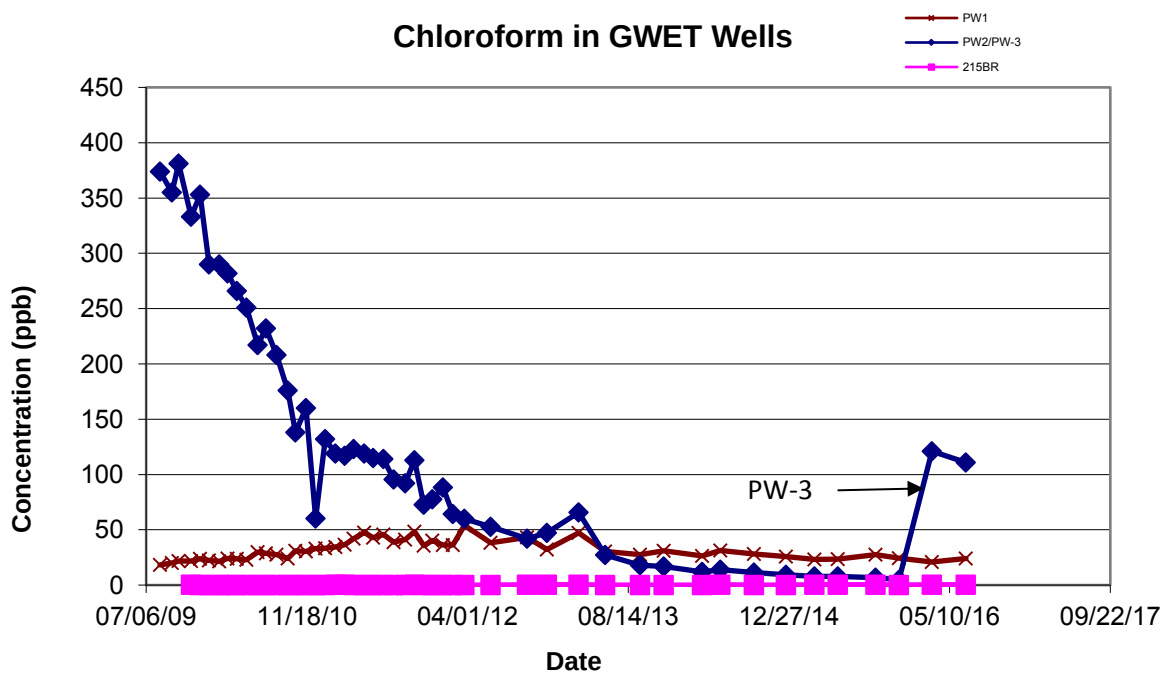
Wells Date: June 22, 2016	Top of Casing Elevation (ft. msl)	Depth to Water (ft., btoc)	Groundwater Elevation (ft., msl)	Comments *GW Elevations are not corrected for tidal influence*
087-MW-25D	NA	8.22	NA	casing extended
087-MW-25T	NA	8.10	NA	casing extended
087-MW-35	18.29	NA	NA	Well abandoned
087-OBS-1D	15.13	12.88	2.25	
087-OBS-1L	15.27	13.54	1.73	
087-OBS-1T	15.23	12.67	2.56	
087-PW-2	13.02	11.46	1.56	not pumping - obs well only
087-PW-3*	13.00	11.24	1.76	not pumping - TP down for service
087-OBS-7*	13.00	11.76	1.24	
087-MW-08	12.98	11.40	1.58	
087-OBS-3L	12.88	12.19	0.69	
087-MW-13	12.93	11.95	0.98	
087-OBS-5D	12.72	11.71	1.01	
087-OBS-5T	12.62	11.06	1.56	
087-PW-1	12.66	11.28	1.38	not pumping - TP down for service
087-MW-34	12.73	11.21	1.52	
087-OBS-2D	12.68	11.31	1.37	
SA6-MW-AA1D	19.36	17.93	1.43	
SA6-MW-AA1T	15.31	13.97	1.34	
SA6-MW-5BR-1	17.06	14.59	2.47	
087-OBS-4T	11.60	10.05	1.55	
087-MW-O29D	10.32	8.81	1.51	
087-MW-O29T	9.98	NA	N/A	Well abandoned
087-MW-03	13.77	NA	N/A	Well abandoned
087-MW-02	12.57	NA	N/A	Well abandoned
115-MW-203BR	8.70	NA	N/A	Well not accessible
073-MW-1	25.25	25.70	-0.45	retro-fitted as top-of-rock well
073-MW-10BR-1	6.67	NA	N/A	Flute does not purge
115-MW-215BR*	8.82	11.71	-2.89	

* Reference point elevation to be confirmed.

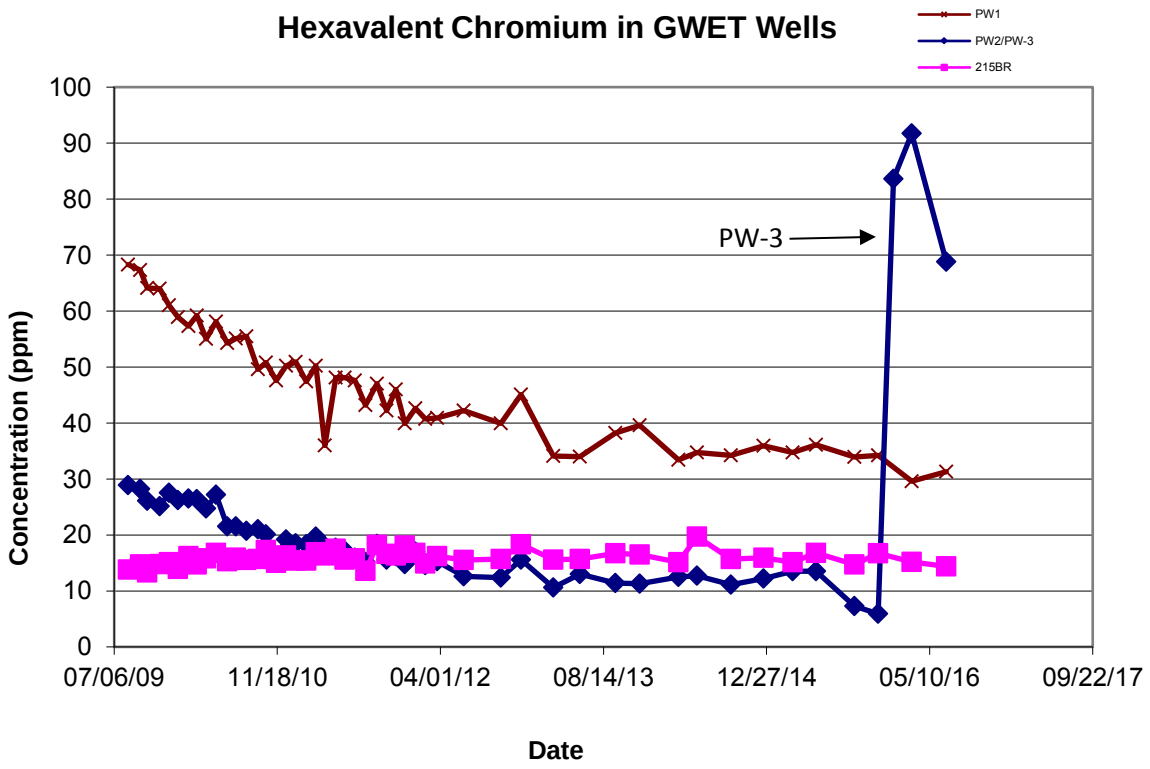
Graphs: Trichloroethene/ Chloroform/ Hexavalent Chromium in GWET Wells

(Attachment 8: Groundwater Quality Data)





Note:
Well 115-MW-203BR has been replaced with well 115-MW-215BR



Notes:
Well 115-MW-203BR was replaced with 115-MW-215BR on 3/3/14.
Well 087-PW-2 was replaced with well 087-PW-3 on 12/2215.

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

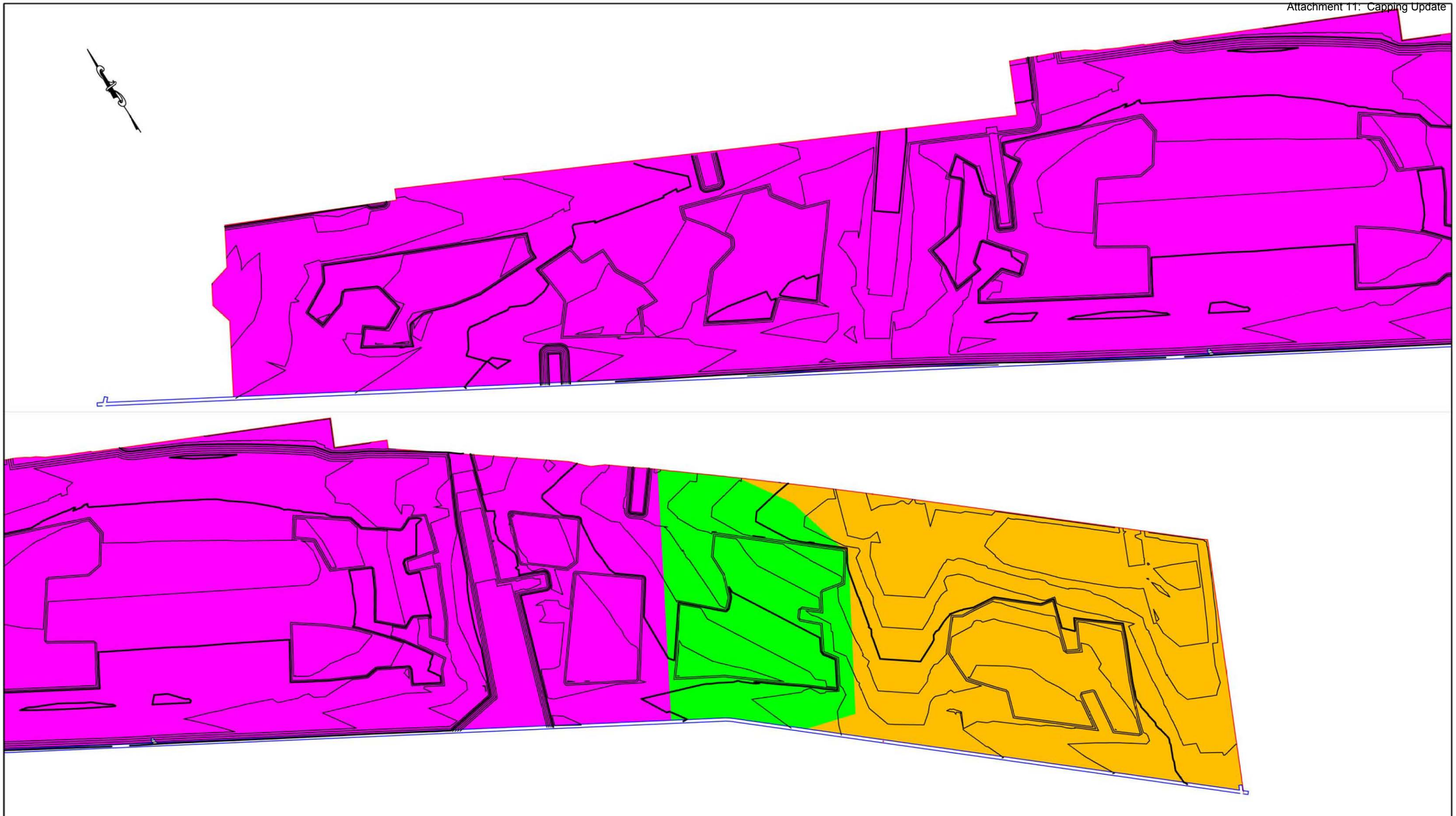
Attachment 10: Sheet Pile Update

(not included in this reporting period)

Attachment 11: Capping Update

- SA-6 Cap Subgrade Progress Maps
- Repair Log
- Non-conformance Log
- Subgrade Approval Forms
- QA Photo Log
- Daily QA Reports (Langan)
- August 5, 2016 Honeywell e-mail: 080116 June 2016 SA-6 and SA-7 Combined Progress Report 21319 (pertaining to boot testing information provided in the June 2016 Combined Progress Report)

SA-6 Cap Subgrade Progress Maps
(Attachment 11: Capping Update)



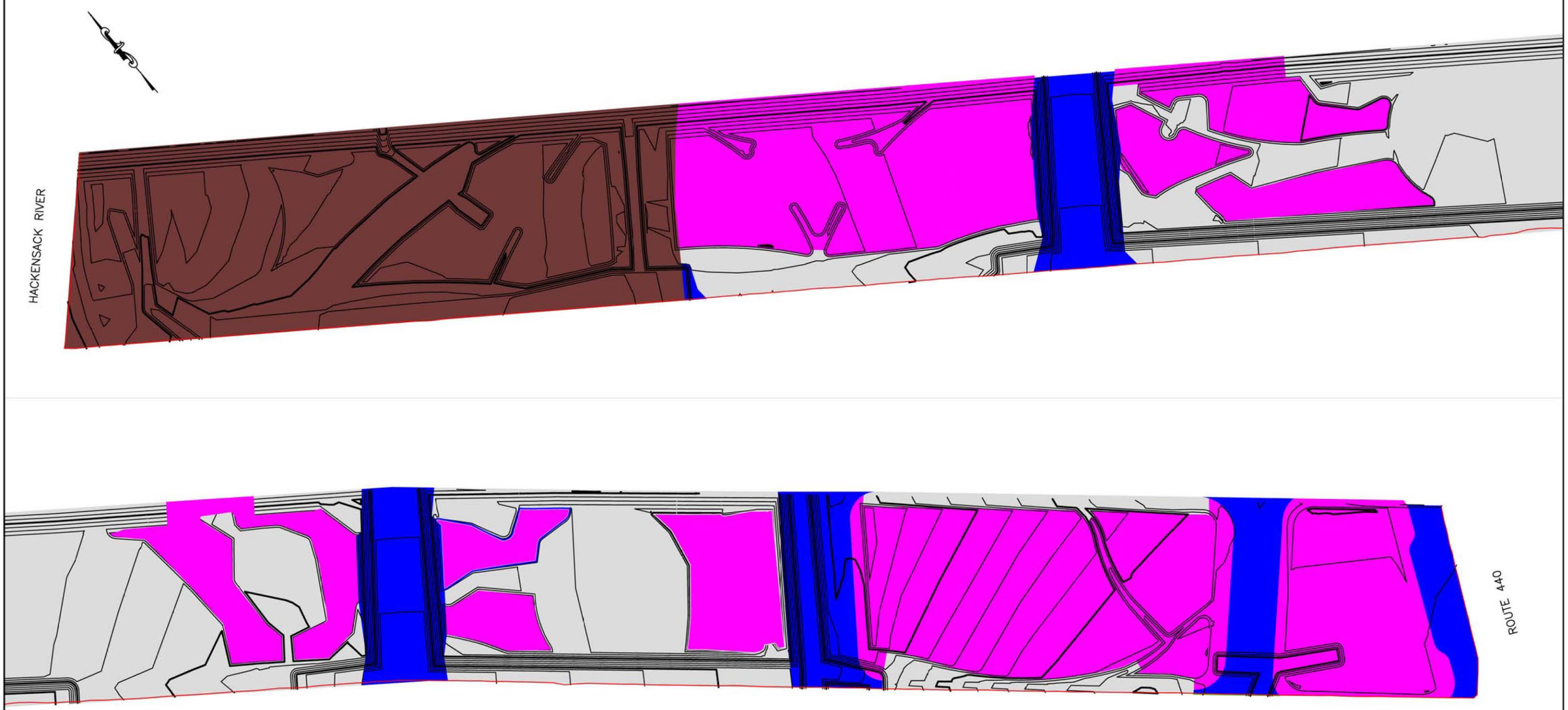
LEGEND

- SUBGRADE GRADING UNDERWAY
- SUBGRADE COMPLETE AND SURVEYED
- APPROVED FOR GEOSYNTHETIC DEPLOYMENT
- LINER DEPLOYED
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 NORTH CAP SUBGRADE PROGRESS MAP
07/29/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



LEGEND

- HORIZON B PLACED AND READY FOR TOPSOIL
- HORIZON C PLACED AND READY FOR TOPSOIL
- TOPSOIL PLACED
- STRUCTURAL FILL PLACED
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP COVER SOILS PROGRESS MAP
06/30/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Repair Log
(Attachment 11: Capping Update)

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
6489	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
1	PB	1/2	P-1	35' N OF SEOS & 8'W	P	3	x	11	24	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
2	BO	3/5		2' N OF S EOS	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
3	SJ	3/4/5		69' N OF SEOS	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
4	CF	4/6		5' S OF NEOS	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
5	CF	4/6		77' N OF SEOS	P	5	x	12		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
6	SJ	4/5/6		69' N OF SEOS	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
7	PB	5/6		15' N OF S EOS (PB 6")	P	3	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
8	WR	6/7	P-6	63' N OF S EOS & 5'W	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
9	BO	6/7		66' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
10	SI	6/7	P-6	80' N OF SEOS & 5'W	P	3	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
11	DS-2	6/7		16' N OF SEOS	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
12	WR	7/9		41' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
13	CF	7/9	P-9	45' N OF SEOS & 10'E	P	6	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
14	DS-1	1/2		15' N OF SEOS	P	2	x	7		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
15	DSX-1		P1/R15	34'N OF SEOS	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
16	CF		P9	BETWEEN R12 & R13	B		x		60	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
17	WR	7/9		71' N OF S EOS	B	3	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
18	CF		P9	BETWEEN R17 & R19	B		x		168	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
19	CF	7/9	P9	59' N OF SEOS & 12'E	P	4	x	4		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
20	CF		P6	BETWEEN R22 & R9	B		x		36	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	6489	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
21	CF		P6	BETWEEN R22 & R8	B		x		48	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
22	CF	6/7	P6	68' N OF SEOS & 6'W	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
23	SJ	7/8/9		103' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
24	CF	8/10		11' S OF NEOS	P	2	x	20		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
25	SJ	8/9/10		103' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
26	DO	10/11	P10	27' N OF SEOS 4'W	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
27	CF	10/11	P10	BETWEEN R35 & R28	B		x		156	6/26/16	SU	EXT-74	Vacuum	Pass	6/23/16
28	CF	10/11	P10	64'N OF SEOS & 15' W	P	4	x	4		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
29	PB	10/11	P10	93' S OF NEOS 4' E (48" MH)	P	6	x	10		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
30	CF		P10	BETWEEN R29 & R31	B		x		240	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
31	CF	10/11	P10	68' S OF NEOS & 2'W	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
32	CF	10/11	P10	78' N OF SEOS & 7'W	P	2	x	4		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
33	CF		P10	BETWEEN R32 & R34	B		x		60	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
34	CF	10/11		78' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
35	CF	10/11		69' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
36	CF	10/11		49' N OF SEOS	P	5	x	15		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
37	CF		P11	50' N OF SEOS & 3'E	B		x		48	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
38	PB	10/11	11	83' N OF SEOS & 3' E (8" PIPE)	P	4	x	5		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
39	DS-3	10/11		25' S OF NEOS	P	2	x	6	24	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
40	AO	10/11		3' S OF NEOS	P	12	x	12		6/24/16	SU	EXT-74	Vacuum	Pass	6/23/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
6489	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
41	SJ	11/12/13		22' S OF NEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/23/16
42	SJ	12/13/14		24' S OF NEOS	P	2	x	6		6/24/16	SU	EXT-74	Vacuum	Pass	6/23/16
43	DO	4/6	P4	6' S OF NEOS & 4'W	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
44	B O	13/14		65' N OF SEOS	P	2	x	5		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
45	BO	13/14		79' N OF SEOS	P	2	x	5		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
46	BO	13/14		163' N OF SEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
47	CF	13/14		BETWEEN R46 & 42	B		x		12	6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
48	SJ	12/14/14A		4' S OF NEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
49	SJ	14A/14/15		4' S OF NEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
50	SJ	14/15/16		78' N OF SEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
51	BO	14/16		2'N OF SEOS	P	2	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
52	SJ	15/16/17		78' N OF SEOS	P	2	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
53	DS-4	15/17		87' N OF SEOS	P	2	x	6		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
54	CF	17/18		53' S OF NEOS	P	3	x	5		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
55	CF		P17	56' S OF NEOS	B		x		24	6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
56	CF	17/18	P18	74' S OF NEOS	P	3	x	9		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
57	CF	17/18		83' S OF NEOS	P	2	x	4		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
58	CF	17/18	P18	84' S OF NEOS 4' E OF R-57	B		x		120	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
59	BO	17/18		153' S OF NEOS	P	2	x	5		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
60	CF		P18	BETWEEN R-59 & R-62	B		x		140	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
6489	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
61	BO	17/18		182' S OF NEOS	P	2	x	6		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
62	CF		P18	29' N OF SEOS	P	2	x	13		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
63	BO	18/19		24' N OF SEOS	P	2	x	6		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
64	CF	18/19		BETWEEN R-63 & R-65	B		x		12	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
65	CF	18/19	P19	30' N OF SEOS & 3'E	P	2	x	9		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
66	CF		P19	BETWEEN R-65 & R-67	B		x		108	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
67	CF	19/20	P19	42' N OF SEOS & 5'W	P	3	x	7		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
68	CF	18/19		46' N OF SEOS	P	2	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
69	CF		P19	BETWEEN R-68 & R-70	B		x		72	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
70	DO	18/19	P19	49' N OF SEOS & 7'E	P	3	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
71	BO	18/19		113' N OF SEOS	P	3	x	4		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
72	BO	18/19		130' N OF SEOS	P	2	x	2		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
73	DSX-2	10/11	P10/R30	106' N OF SEOS & 6'W	P	2	x	5		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
74	DS-5	19/20		16' N OF SEOS	P	2	x	5		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
75	CF	19/20		164' N OF SEOS	P	2	x	20		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
76	AO	19/R76/20		180' N OF SEOS	P	1	x	21		6/27/16	SU	EXT-74	Air Pressure	Pass	6/27/16
77	SJ	20/21/22		99' N OF SEOS	P	2	x	2		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
78	CF	20/21		122' N OF SEOS	P	4	x	4		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
79	CF		P21	BETWEEN R-78 & R-80	B		x		156	6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
80	CF	21/23	P21	128' N OF SEOS & 11' W	P	1	x	1		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
6489	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
81	PB	20/21	P21	171' N OF SEOS & 3' E (PB 4")	P	3	x	5		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
82	BO	22/23		54' N OF SEOS	P	2	x	4		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
83	SJ	21/22/23		99' N OF SEOS	P	6	x	14		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
84	SJ	23/24/25		17' N OF SEOS	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
85	BO	23/24		40' N OF SEOS	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
86	CF	23/24	P23	BETWEEN R-85 & 87	B		x		72	6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
87	CF	23/24	P23	48' N OF SEOS & 11' W	P	2	x	9		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
88	CF	22/23	P23	51' N OF SEOS & 8' E	P	3	x	5		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
89	CF	23/24		74' N OF SEOS	P	2	x	6		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
90	CF	23/24		79' N OF SEOS	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
91	DS-6	23/24		105' N OF SEOS	P	2	x	6		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
92	SJ	24/25/26		17' N OF SEOS	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
93	CF	24/26		140' N OF SEOS	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
94	CF	24/26	P26	BETWEEN R-93 & 95	B		x		72	6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
95	CF	24/26	P26	139' N OF SEOS & 8' E	P	2	x	4		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
96	CF	24/26	P26	120' N OF SEOS & 2' E	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
97	CF	24/26	P26	126' N OF SEOS & 6'E FROM R-96	B		x		132	6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
98	SI	24/26	P26	150' N OF SEOS & 8' E	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
99	DO	26/27	P26	149' N OF SEOS & 10' W	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
100	BO	26/27		26' N OF SEOS	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	6489	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
101	CF	26/27		55' N OF SEOS	P	3	x	8		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
102	PB	26/27	P27	124' N OF SEOS & 3' E (PB 8")	P	4	x	5		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
103	CF	26/27	P26	170' N OF SEOS & 12' E	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
104	AO	19/20		196' N OF SEOS	P	5	x	23		6/30/16	BS	W-4131	Air Pressure	Pass	6/30/16
105	AO	18/19		196' N OF SEOS	P	5	x	23		6/30/16	BS	W-4131	Air Pressure	Pass	6/30/16
106	AO	17/18		196' N OF SEOS	P	5	x	8		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
107	CF	19/20/R26		194' N OF SEOS	P	3	x	5		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
108	CF	18/19		194' N OF SEOS	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
109	CF	17/18		194' N OF SEOS & 4' E	P	2	x	2		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
110	CF	19/20	P19	126' N OF SEOS & 8' W	P	2	x	4		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
111	CF	19/20	P19	BETWEEN R-110 & R-112	B		x		120	6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
112	CF	19/20	P19	136' N OF SEOS & 2' W	P	2	x	2		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
113	DS-7	13/14		91' N OF SEOS	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
114	DS-8	R-105	P18	195' N OF SEOS & 9' W	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
115	DSX-3	R-179	P21	BETWEEN R-78 & R-80	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
116	DS-9	18/19		101' N OF SEOS	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
117	CF	26/27		180' N OF SEOS	P	6	x	11		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
118	CF	26/27	P-27	179' N OF SEOS 2'E	P	4	x	3		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
119	CF	26/27	P-27	179' N OF SEOS 4'E	P	5	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
120	CF	26/27	P-27	179' N OF SEOS 6'E	P	3	x	7		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	6489	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
121	CF	27/28	P-27	179' N OF SEOS & 14'W	P	3	x	3		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
122	CF	27/28	P-27	BETWEEN R-121 & R-123	B		x		108	6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
123	CF	27/28		173'N OF SEOS	P	3	x	3		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
124	BO	27/28		177' N OF SEOS	P	2	x	5		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
125	SJ	P27/P28		129' N OF SEOS	P	2	x	3		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
126	SJ	P27/P28	P28	129'N OF SEOS & 3' E	P	2	x	2		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
127	CF	26/27		208'N OF SEOS	P	5	x	8		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
128	CF	26/27	P-26	216'N OF SEOS FROM R-127	B		x		108	6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
129	CF	27/129	P-26	205'N OF SEOS FROM R-127	B		x		108	6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
130	AO	27/28		132'N OF SEOS	P	6	x	18		6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
131	AO	27/28		200'N OF SEOS	P	5	x	20		6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
132	CF	27/28		133'N OF SEOS	P	5	x	8		6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
133	DS-10	27/28		155'N OF SEOS	P	2	x	5		6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
134	CF	27/28		BETWEEN R133 & R154	B		x		72	6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
135	CF	19/20	P20	120' N OF SEOS & 6'E	P	2	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
136	CF	19/20	P-20	BETWEEN R-135 & R-137	B		x		60	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
137	CF	19/20	P-20	105'N OF SEOS & 3'E	P	2	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
138	BO	29/31		11'N OF SEOS	P	2	x	4		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
139	CF	29/31	P-29	BETWEEN R-140 & R-141	B		x		108	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
140	CF	29/31	P-29	54'N OFSEOS 10'W	P	1	x	1		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
6489	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
141	CF	29/31	P-29	54' N OF SEOS	P	2	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
142	SJ	29/30/31		159' N OF SEOS	P	3	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
143	BO	29/30		169' N OF SEOS	P	2	x	4		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
144	CF	29/30	P-29	BETWEEN R-145 & R-146	B		x		96	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
145	CF	29/30	P29	175' N OF SEOS & 10'W	P	3	x	7		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
146	CF	29/30	P-29	170' N OF SEOS & 2'W	P	2	x	2		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
147	DSX-4	R-148/P32		96'N OF SEOS	P	2	x	5		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
148	DS-11	31/32		96' N OF SEOS	P	4	x	7		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
149	CF	31/32		65' N OF SEOS & 4'E	P	3	x	12		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
150	CF	32/34	P-32	70' N OF SEOS 12' W	B		x		108	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
151	CF	32/34	P32	73' N OF SEOS 13' W	P	1	x	1		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
152	SJ	30/31/32		158' N OF SEOS	P	2	x	13		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
153	SJ	32/33/34		130'N OF SEOS	P	2	x	4		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
154	CF	27/28		115' N OF SEOS	P	8	x	10		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
155	BO	27/28		102' N OF SEOS	P	3	x	4		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
156	PB	28/29		15' N OF SEOS (8"PB)	P	4	x	5		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
157	SJ	33/34/35		130' N OF SEOS	P	2	x	2		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
158	DS-12	34/35		21' N OF SEOS	P	2	x	5		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
159	SJ	35/36/37		82' N OF SEOS	P	2	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
160	SJ	36/37/38		82' N OF SEOS	P	2	x	5		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
6489	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
161	DS-13	36/38		127' N OF SEOS	P	2	x	5		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
162	CF	36/38	P-38	BETWEEN R-161 & R-163	B		x		96	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
163	CF	36/38	P-38	126' N OF SEOS & 10'W	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
164	CF	35/37	P-37	3'N OF SEOS 9' W	B		x		72	7/	SU	EXT-74	Vacuum	Pass	7/7/16
165	CF	35/37	P-37	6'N OF SEOS 10' W	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
166	CF	37/38		3'N OF SEOS	P	3	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
167	SJ	38/39/40		35' N OF SEOS	P	3	x	3		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
168	CF	38/39		74' N OF SEOS	P	3	x	5		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
169	BO	38/39		178' N OF SEOS	P	3	x	5		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
170	SI	38/39	P38	127' N OF SEOS 7' W	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
171	AO		40/39	BETWEEN R-167 & R-172	C	2	x	23		7/7/16	BS	4131	Air Pressure	Pass	7/7/16
172	SJ	39/40/41		35'N OF SEOS	P	3	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
173	CF	39/41	P-41	132' N OFSEOS 5'E	P	4	x	13		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
174	CF	39/41	P-39	142' N OF SEOS 4' W	P	3	x	10		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
175	CF	39/41		162' N OF SEOS	P	2	x	3		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
176	BO	39/41		173' N OF SEOS	P	2	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
177	CF	41/42		70' N OF SEOS	P	5	x	20		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
178	CF	41/42	P-41	92' N OF SEOS	P	3	x	6		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
179	CF	41/42		105' N OF SEOS	P	3	x	30		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
180	CF	41/42	P-42	156' N OF SEOS	P	6	x	17		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
6489	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
181	CF	41/42	P-42	BETWEEN R-180 & R-187	B		x		120	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
182	CF	39/41	P-41	159' N OF SEOS 4' E	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
183	CF	39/41	P-41	BETWEEN R-182 & R-175	B		x		48	7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
184	DS-14	41/42		139' N OF SEOS	P	2	x	6		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
185	DSX-5	R-179/42		100' N OF SEOS 3' E	P	2	x	6		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
186	CF	41/42	P-42	157' N OF SEOS & 10' E	P	4	x	8		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
187	CF	41/42	P-42	162' N OF SEOS	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
188	CF	41/42	P-42	138' N OF SEOS & 10'E	P	4	x	10		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
189	PB	42/43		136' N OF SEOS (48" MH)	P	7	x	9		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
190	CF	42/43	P-43	127' N OF SEOS & 2' E	P	5	x	13		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
191	CF	42/43	P-43	202' N OF SEOS & 10' E	P	2	x	3		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
192	CF	42/43	P-43	BETWEEN R-191 & R-193	B		x		120	7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
193	CF	42/43		210' N 0F SEOS	P	3	x	3		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
194	CF	42/43		BETWEEN R-193 & R-195	B		x		36	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
195	CF	42/43		215' N OF SEOS	P	3	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
196	CF	42/43	P-42	215'N OF SEOS (BETWEEN R-195/197	B		x		60	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
197	CF	42/43	P-42	14' N OF SEOS(BETWEEN R-196/198	B		x		48	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
198	CF	42/43	P-42	210' N 0F SEOS 7'W	P	3	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
199	CF	42/43	P42	215' OFSEOS 7'W	P	3	x	3		7/7/16	SU	EXT-74	Vacuum	Pass	7/9/16
200	CF	42/43	P42	114'N OF SEOS 11'W	P	3	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	6489	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
201	CF	42/43	P-42	122'N OFSEOS 11'W	B		x		18	7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
202	CF	42/43	P-42	132'N OF SEOS 10'W	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
203	CF	42/43	P-43	91' N OF SEOS 10'E	P	4	x	10		7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16
204	CF	42/43	P-43	91'N OF SEOS 19'E	B		x		120		PHOU	EXT-75	Vacuum	Pass	7/9/16
205	CF	42/43	P-43	106'N OF SEOS 20'E	B		x		108	7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16
206	CF	42/43	P-43	103' N OFSEOS 20'E	P	2	x	5		7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16
207	CF	42/43	P-43	103' N OF SEOS 9'E	P	3	x	13		7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16
208	CF	43/44	P-43	107'N OF SEOS 13'W	P	5	x	17		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
209	CF	43/44	P-43	180' N OF SEOS 10'W	P	6	x	22		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
210	CF	42/43	P-43	187' N OF SEOS 8' W	B		x	72		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
211	CF	42/43	P-43	190'N OF SEOS 8' E	P	3	x	7		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
212	DSX-6	R180/42	P-42	53'N SEOS 5'E	P	3	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
213	SJ	43/44/45		36'N OF SEOS	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
214	CF	43/44		46'N OF SEOS	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
215	CF	43/44		72'N OF SEOS	P	2	x	4		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
216	BO	43/44		98'N OF SEOS	P	2	x	4		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
217	CF	43/44		143'N OF SEOS	P	2	x	4		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
218	CF	43/44		150'N OF SEOS	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
219	CF	43/44		146'N OF SEOS 28'W	B		x		60	7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
220	SJ	43/44/44A		196'N OF SEOS	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	6489	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
221	SJ	44/44A/43		220' N OF SEOS	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
222	SI	45/46		11'N OF 4'W	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
223	SJ	44/45/46		35'N OF SEOS	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
224	DSX-7	43/44	P-43	45'N OF SES 4'W	P	4	x	2		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
225	CF	44/46	P-44	180'N SEOS	P	10	x	16		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
226	DS15	43/44		187'N OF SEOS	P	2	x	4		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
227	CF	43./44	P-44	181'N OF SEOS 5'E	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
228	CF	43/44	P-44	181' N OF SEOS 7' E	B		x		24	7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
229	CF	43/44	P-44	181'N OF SEOS 9'E	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
230	DS-17	45/46		24'N OF SEOS	P	2	x	4		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
231	DS-16	46/47		146'N OF SEOS	P	2	x	4		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
232	SJ	46/47/48		115'N OF SEOS	P	2	x	7		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
233	SJ	47/48/49		116'N OF SEOS	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
234	CF	47/49		164' N OF SEOS	P	3	x	8		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
235	BO	46/47		258'N OF SEOS	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
236	CF	46/47		266'N OF SEOS	P	5	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
237	PB	44/46	P-46	112'N OF SEOS 8'E(8"PB)	P	4	x	5		7/12/16	SU	EXTR #74	Vacuum	Pass	7/11/16
238	AO	46/47		19'N OF SEOS (CAP 19')	P	2	x	19		7/12/16	SU	EXTR #74	Vacuum	Pass	7/11/16
239	CF	44/46	P-44	195'N OF SEOS 7'W	P	2	x	2		7/11/16	SU	EXTR #74	Vacuum	Pass	7/11/16
240	CF	44/46	P-44	203'N OF SEOS 7'W	B		x	9		7/11/16	SU	EXTR #74	Vacuum	Pass	7/11/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
6489	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
241	CF	44/46	P-44	206'N SEOS 7'W	P	2	x	2	108	7/11/16	SU	EXTR #74	Vacuum	Pass	7/11/16
242	SI	49/50		3'N OF SEOS	B		x		60	7/12/16	SU	EXTR #74	Vacuum	Pass	7/11/16
243	BO	49/50		6'N OF SEOS	P	2	x	2		7/12/16	SU	EXTR #74	Vacuum	Pass	7/11/16
244	DS-18	49/50		251' N OF SEOS	P	2	x	5		7/12/16	SU	EXTR #74	Vacuum	Pass	7/11/16
245	BO	49/50		271'N OF SEOS	P	2	x	4		7/12/16	SU	EXTR #74	Vacuum	Pass	7/11/16
246	SJ	50/52/53		20'N OF SEOS	P	2	x	3		7/12/16	SU	EXTR #74	Vacuum	Pass	7/1/16
247	CF	50/52	P-50	73'N OF SEOS 2'W	P	2	x	2		7/12/16	SU	EXTR #74	Vacuum	Pass	7/11/16
248	CF	50/52	P-50	85'N OF SEOS 10'W	P	3	x	5		7/12/16	SU	EXTR #74	Vacuum	Pass	7/13/16
249	CF	50/52	P-50	BETWEEN R-247 & R-248	B		x		108	7/12/16	SU	EXTR #74	Vacuum	Pass	7/13/16
250	SJ	50/51/52		74'N OF SEOS	P	3	x	4		7/12/16	SU	EXTR #74	Vacuum	Pass	7/13/16
251	CF	50/51		111'N OF SEOS	P	3	x	5		7/12/16	SU	EXTR #74	Vacuum	Pass	7/13/16
252	CF	50/51	P-50	102N OF SEOS 8'W	P	2	x	8		7/12/16	SU	EXTR #74	Vacuum	Pass	7/13/16
253	CF	50/51	P-50	106N OF SEOS 5'W	B		x		72	7/12/16	SU	EXTR #74	Vacuum	Pass	7/13/16
254	CF	50/51		214N OF SEOS	P	3	x	10		7/12/16	SU	EXTR #74	Vacuum	Pass	7/13/16
255	CF	50/51		274'N OF SEOS	P	3	x	3		7/12/16	SU	EXTR #74	Vacuum	Pass	7/13/16
256	DS19/SJ	52/53/54		20' NSEOS	P	3	x	8		7/12/16	SU	Extr #249	Vacuum	Pass	7/13/16
257	SJ	51/54/52		74'N OF SEOS	P	2	x	2		7/12/16	SU	EXTR #74	Vacuum	Pass	7/13/16
258	SJ	54/56/57		30'N OF SEOS	P	2	x	2		7/12/16	SU	EXTR #74	Vacuum	Pass	7/13/16
259	SJ	54/55/56		103'N OF SEOS	P	2	x	2		7/12/16	SU	EXTR #74	Vacuum	Pass	7/13/16
260	DS-20	54/55/56	55/56	BETWEEN R-259 & R-263	P	2	x	6		7/12/16	SU	EXTR #74	Vacuum	Pass	7/13/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
6489	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
261	PB	54/55	P-55	285'N OF SEOS 20'E (4" PB)	P	4	x	4		7/12/16	SU	EXTR #74	Vacuum	Pass	7/13/16
262	SJ	56/57/58		30'N OF SEOS	P	2	x	3		7/13/16	SU	EXTR #74	Vacuum	Pass	7/14/16
263	SJ	55/56/58		103'N OF SEOS	P	2	x	3		7/13/16	SU	EXTR #74	Vacuum	Pass	7/14/16
264	BO	55/58		273' N OF SEOS	P	2	x	3		7/13/16	SU	EXTR #74	Vacuum	Pass	7/14/16
265	BO	55/58		285'N OF SEOS	P	2	x	4		7/13/16	SU	EXTR #74	Vacuum	Pass	7/14/16
266	CF	55/58		289'N OF SEOS	B		x		72	7/13/16	SU	EXTR #74	Vacuum	Pass	7/14/16
267	SJ	58/59/60		94'N OF SEOS	P	3	x	3		7/13/16	SU	EXTR #74	Vacuum	Pass	7/14/16
268	SJ	59/60/61		94'N OF SEOS	P	3	x	3		7/13/16	SU	EXTR #74	Vacuum	Pass	7/14/16
269	BO	59/61		278'N OF SEOS	P	2	x	3		7/13/16	SU	EXTR #74	Vacuum	Pass	7/14/16
270	SJ	61/62/63		194'N OF SEOS	P	2	x	6		7/13/16	SU	EXTR #74	Vacuum	Pass	7/14/16
271	DS-21	58/59		266'N OF SEOS	P	2	x	4		7/13/16	SU	EXTR #74	Vacuum	Pass	7/14/16
272	DS-22	61/63		137' N OF SEOS	P	2	x	5		7/13/16	SU	EXTR #74	Vacuum	Pass	7/14/16
273	WR	50/51		165'N OF SEOS	P	3	x	10		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
274	WR	50/51	51	170'N OF SEOS 5'E	P	3	x	10		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
275	CF	50/51	51	BETWEEN R-274 & R-276	B		x		60	7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
276	BO	50/51		158'N OF SEOS	P	3	x	4		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
277	SJ	62/63/64		193'N OF SEOS	P	2	x	3		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
278	CF	64/65		187'N OF SEOS	P	2	x	3		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
279	CF	64/65		216'N OF SEOS	P	2	x	3		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
280	CF	64/65		115'N OF SEOS	P	5	x	10		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
6489	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
281	SJ	65/66/67		116'N OF SEOS	P	2	x	2		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
282	CF	64/65	65	BETWEEN R-278 & R-283	B		x			7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
283	CF	64/65	65	193'N OF SEOS & 12'E	P	2	x	4		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
284	CF	64/65	65	215'N OF SEOS & 11'E	P	2	x	9		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
285	CF	64/65	65	BETWEEN R-279 & R-284	B		x			7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
286	DSX-8	R-270/61		193'N OF SEOS	P	2	x	6		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
287	DS-23	64/65		17'N OF SEOS	P	2	x	6		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
288	PB	65/66	65	90'N OF SEOS & 7'W (8")	P	2	x	5		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
289	SJ	66/67/68		115' OF SEOS	P	2	x	2		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
290	CF	66/68		167'N OF SEOS	P	6	x	10		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
291	DS-24	66/68	66	148'N OF SEOS	P	2	x	4		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
292	PB	66/68	66	148'N OF SEOS & 3'W (8")	P	6	x	8		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
293	BO	68/71		99' N OF SEOS	P	3	x	5		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
294	SJ	68/70/71		147' N OF SEOS	P	5	x	3		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
295	SJ	68/69/70		216' N OF SEOS	P	2	x	2		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
296	DS-25	68/69		250' N OF SEOS	P	3	x	6		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
297	CF	68/70	P70	155'N OF SEOS & 12' E	P	4	x	4		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
298	CF	70/72	P70	BETWEEN R-297 & R-299	B		x		109	7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
299	SJ	71/70/72		155'N OF SEOS	P	2	x	16		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
300	DSX-9	72/R299		153'N OF SEOS	P	2	x	6		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	6489	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
301	CF	70/72		200'N OF SEOS	P	5	x	8		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
302	SJ	69/70/72		217'N OF SEOS	P	2	x	2		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
303	CF	72/74		54'N OF SEOS	P	3	x	9		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
304	CF	72/74	P-72	60'N OF SEOS & 7' W	B		x		109	7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
305	CF	72/74	P-72	BETWEEN R-306 & R-317	B		x		109	7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
306	CF	72/74		104'N OF SEOS	P	2	x	3		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
307	CF	72/74		114'N OF SEOS	P	2	x	3		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
308	CF	72/74	P-74	BETWEEN R-307 & R-308	B		x		84	7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
309	CF	74/74		164'N OF SEOS	P	4	x	9		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
310	CF	72/74		172'N OF SEOS	P	4	x	6		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
311	SJ	72/73/74		220'N OF SEOS	P	3	x	4		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
312	DS-26	72/74		145'N OF SEOS	P	2	x	6		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
313	PB	72/74		158'N OFSEOS & 6'W (8" BOOT)	P	2	x	2		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
314	CF	74/75		76'N OF SEOS	P	3	x	7		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
315	CF	74/75		209'N OF SEOS	P	5	x	7		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
316	SJ	74/73/75		218'N OF SEOS	P	2	x	3		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
317	CF	72/74		109'N OF SEOS & 7' W	P	1	x	1		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
318	CF	72/74		114'N OF SEOS & 9'E	P	2	x	2		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
319	CF	74/75	P-75	95'N OF SEOS & 10'W	P	3	x	5		7/27/16	SU	EXT-75	Vacuum	Pass	7/27/16
320	CF	74/75	P-75	BETWEEN R-319&R-333 (DSX-10)	B		x		108	7/27/16	SU	EXT-75	Vacuum	Pass	7/27/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	6489	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
321	CF	72/74	P-74	48'N OF SEOS 2' E	P	2	x	3		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
322	CF	72/74	P-72	62'N OF SEOS 8' W	P	1	x	2		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
323	CF	74/75	P-75	35'N OF SEOS 10' E	P	2	x	2		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
324	CF	74/75	P-75	BETWEEN R-323 AND R-325	B		x		144	7/27/16	SU	EXTR #74	Vacuum	Pass	7/27/16
325	CF	74/75	P-75	50'N OF SEOS 10' E	P	1	x	1		7/27/16	SU	EXTR #74	Vacuum	Pass	7/27/16
326	CF	74/75	P-75	157'N OF SEOS 12' E	P	2	x	2		7/27/16	SU	EXTR #74	Vacuum	Pass	7/27/16
327	CF	74/75	P-75	BETWEEN R-326 AND R-334	B		x		144	7/27/16	SU	EXTR #74	Vacuum	Pass	7/27/16
328	SI	71/72	P-72	77'N OF SEOS 7' E	P	2	x	2		7/27/16	SU	EXTR #74	Vacuum	Pass	7/27/16
329	CF	74/75	P-75	164'N OF SEOS 7'E	P	2	x	3		7/27/16	SU	EXTR #74	Vacuum	Pass	7/27/16
330	CF	74/75	P-75	BETWEEN R-329 AND R-331	B		x		84	7/27/16	SU	EXTR #74	Vacuum	Pass	7/27/16
331	CF	74/75	P-75	173'N OF SEOS 7'E	P	3	x	3		7/27/16	SU	EXTR #74	Vacuum	Pass	7/27/16
332	CF	75/76		8'N OF SEOS	P	2	x	7		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16
333	CF	75/76		81'N OF SEOS	P	3	x	3		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16
334	CF	75/76		151'N OF SEOS	P	2	x	3		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16
335	BO	75/76		234'N OF SEOS	P	2	x	4		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16
336	SI	75/76		254'N OF SEOS	P	4	x	14		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16
337	DS-27	75/76		24'N OF SEOS	P	2	x	5		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16
338	DSX-10	75/76	P-75	82'N OF SEOS 5'W	P	2	x	5		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16
339	CF	76/78		4'N OF SEOS	P	3	x	7		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16
340	SJ	76/77/78		40'N OF SEOS	P	3	x	6		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
6489	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
341	CF	78/79	P-78	15'N OF SEOS	P	2	x	9		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16
342	CF	76/78		15'N OF SEOS	P	2	x	5		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16
343	PB	78/79	P-78	15'N OF SEOS 9'W (6"PB)	P	2	x	4		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16
344	SJ	77/78/79		40'N OF SEOS	P	3	x	3		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16
345	CF	77/79	P-79	138'N OF SEOS	P	2	x	15		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16
346	CF	77/79	P-77	144'N OF SEOS 3'E	P	6	x	10		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
347	CF	76/78		25'N OF SEOS	P	2	x	3		7/27/16	SU	EXT-75	Vacuum	Pass	8/2/16
348	CF	79/80	P-79	133'N OF SEOS	P	5	x	10		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
349	CF	79/80	P-79	129'N OF SEOS 9' W	P	2	x	3		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
350	CF	79/80	P-79	131'N OFSEOS 10' W	P	2	x	2		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
351	CF	79/80	P-79	BETWEEN R-348 AND R-349	B		x		36	7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
352	CF	79/80	P-79	BETWENN R-348 AND R-353	B		x		36	7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
353	CF	79/80	P-79	138'N OF SEOS 2'W	P	2	x	3		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
354	CF	79/80	P-79	134'N OF SEOS 3'W (ON R-348)	P	3	x	3		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
355	CF	79/80		167'N OF SEOS	P	5	x	10		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
356	SI	79/80	P-79	106'N OF SEOS 4'W	P	3	x	6		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
357	CF	79/80	P-80	140' N OF SEOS 1'E (48" MH)	P	6	x	6		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
358	CF	79/80	P-79	207'N OF SEOS 6'W	P	4	x	10		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
359	CF	79/80	P-79	208'N OF SEOS 10'W	P	3	x	7		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
360	CF	77/79	P-79	148'N OF SEOS (ON R-346)	P	2	x	2		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
6489	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
361	CF	77/79	P-77	137'N OF SEOS 6'W	P	1	x	2		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
362	CF	80/82		6'N OF SEOS	P	2	x	4		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
363	SJ	80/81/82		25'N OF SEOS	P	2	x	4		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
364	CF	80/81		130'N OF SEOS	P	3	x	4		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
365	CF	80/81		140'N OF SEOS	P	3	x	15		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
366	CF	80/81	P-80	BETWEEN R-364 AND R-365	B		x		36	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
367	CF	80/81	P-80	140'NOF SEOS	P	3	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
368	CF	80/81		150'N OF SEOS	P	4	x	6		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
369	CF	80/81		264'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
370	SJ	81/82/83		25'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
371	CF	81/83		31'N OF SEOS	P	2	x	6		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
372	BO	81/83		145'N OF SEOS	P	2	x	5		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
373	CF	81/83		216'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
374	SJ	83/84/85		52'N OF SEOS	P	3	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
375	CF	83/84		202'N OF SEOS	P	3	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
376	SJ	84/85/86		52'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
377	CF	84/86		198'N OF SEOS	P	2	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
378	SJ	86/87/88		96'N OF SEOS	P	2	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
379	CF	86/87	P-86	205' N OF SEOS	P	4	x	11		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
380	PB	76/78	P-76	6'N OF SEOS 4'W	P	5	x	6		7/28/16	DM	EXT-75	Vacuum	Pass	8/2/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	6489	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
381	CF	86/88		40'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
382	CF	83/84	83	197'N OF SEOS 10'W	P	3	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
383	CF	83/84	83	BETWEEN R-382 AND R-375	B		x		120	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
384	PB	81/83	81	32'N OF SEOS 7'W (8" PB)	P	2	x	4		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
385	CF	80/82	80	BETWEEN R-362 AND R-386	B		x		120	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
386	CF	80/82	80	10'N OF SEOS 10W	P	2	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
387	CF	84/86	86	BETWEEN R-377 AND R-379	B		x		86	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
388	CF	86/87	87	250'N OF SEOS 19'E	P	3	x	12		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
389	CF	86/88	86	BETWEEN R-381 AND R-390	B		x		10	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
390	CF	86/88	86	42'N OF SEOS & 9'E	P	2	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
391	DS-26 B	72/74		154'N OF SEOS	P	2	x	11		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
392	DS-26 A	72/74		128'N OFSEOS	P	2	x	11		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
393	DS-28	81/83		177'N OF SEOS	P	2	x	5		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
394	DSX-11	83/81	81	144'N OF SEOS 12'W	P	2	x	5		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
395	DSX-12	84/86	86	199'N OF SEOS 4'E	P	2	x	5		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
396	CF	86/87		210'N OF SEOS	P	4	x	14		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
397	CF	86/87	86	210'N OF SEOS 7'W	P	3	x	4		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
398	CF	86/87	86	208'N OF SEOS 10'W	P	3	x	15		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
399	CF	86/87	87	200'N OF SEOS 9'E	P	4	x	20		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
400	CF	87/90		115'N OF SEOS	P	2	x	5		8/3/16	SU	EXT-74	Vacuum		

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
6489	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
401	CF	87/90	90	BETWEEN R-400 AND R-402	B		x		120	8/3/16	SU	EXT-74	Vacuum		
402	CF	87/90	90	115'N OF SEOS 13'E	P	2	x	3		8/3/16	SU	EXT-74	Vacuum		
403	BO	87/90		130'N OF SEOS	P	2	x	5		8/3/16	SU	EXT-74	Vacuum		
404	BO	87/89/90		150'N OF SEOS	P	2	x	3		8/3/16	SU	EXT-74	Vacuum		
405	SJ	88/87/90		97'N OF SEOS	P	2	x	3		8/3/16	SU	EXT-74	Vacuum		
406	CF	90/91	90	50'N OF SEOS 3'W	P	3	x	6		8/3/16	SU	EXT-74	Vacuum		
407	CF	90/91	90	49'N OF SEOS 7'W	P	3	x	9		8/3/16	SU	EXT-74	Vacuum		
408	PB	90/91	91	238'N OF SEOS 7'W (4" PB)	P	4	x	10		8/3/16	SU	EXT-74	Vacuum		
409	PB	90/91	91	107'N OF SEOS 5'E (8" PB)	P	4	x	4		8/3/16	SU	EXT-74	Vacuum		
410	CF	91/92		160' N OF SEOS	P	6	x	17		8/3/16	SU	EXT-74	Vacuum		
411	CF	91/92		180'N SEOS	P	4	x	6		8/3/16	SU	EXT-74	Vacuum		
412	CF	92/93		100'N OF SEOS	P	3	x	5		8/3/16	SU	EXT-74	Vacuum		
413	CF	92/93	92	BETWEEN R-412 AND R-414	B		x		84	8/3/16	SU	EXT-74	Vacuum		
414	CF	92/93	92	115'N OF SEOS 11'W	P	4	x	6		8/3/16	SU	EXT-74	Vacuum		
415	CF	87/89	87	246' N OF SEOS 4'W	P	3	x	8		8/3/16	SU	EXT-74	Vacuum		
416							x								
417							x								
418							x								
419							x								
420							x								

Non-conformance Log
(Attachment 11: Capping Update)

Summary of Non-Compliance & Corrective Action Forms

SA-6 North Cap Installation

Notice of Non-Compliance & Corrective Action Sheet Number	Date	Item	Associated Repair Number	Approx. Location	Follow Up Action Taken
1	6/23/2016	Subgrade Irregularity	R-10	Panel P6	Rock was removed from underneath geomembrane and hole was then patched with approximate 3 ft. by 3 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs)
2	6/29/2016	Subgrade Irregularity	R-98	Panel P26	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs)
3	7/6/2016	Failed Spark Test	Gas Vent GV-5	Gas Vent GV-5	Spark identified during spark testing of vertical boot weld on Gas Vent GV-5 boot. Area of weld was grinded, rewelded, and re-tested. Spark retest passed as no sparks were observed duriing the test
4	7/6/2016	Failed Spark Test	Well 115-W1-SO	Well 115-W1-SO	Spark identified during spark testing of vertical boot weld on Well 115-W1-SO boot. Area of weld was grinded, rewelded, and re-tested. Spark retest passed as no sparks were observed duriing the test
5	7/7/2016	Subgrade Irregularity	R-170	Panel P38	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs)
6	7/8/2016	Subgrade Irregularity	R-222	Panel P45	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 3 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs)
7	7/12/2016	Subgrade Irregularity	R-242	Panel P49 / P50	Rock was removed from underneath LLDPE geomembrane along the southern edge of SA-6 North (approximately 3 ft. from the edge of the cap. As such, the edge of the LLDPE was cut to remove the stone. This cut was then repaired with an extrusion weld bead. Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the cut / bead was properly sealed (as outlined in Section 02372).
8	7/27/2016	Subgrade Irregularity	R-328	Panel P72	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs)
9	7/28/2016	Failed Destruct Sample	DS-26	Panel P72 / P74 (Repair R-312)	Destruct sample DS-26 reported two coupons as EPA Break Classification Code "AD BRK". Although the peel and shear strength requirments were met, since the coupons broke at the weld and were not conisdering a Film Tearing Bond, the sample was reported as a failed sample. Two field samples (DS-26A and DS-26B) were cut 10 ft. from each side of DS-26 and field tested. Peel and shear field tests met the strength requirments and sample DS-26B (lesser strength values of both samples) was sent for laboratory analysis (results pending).

Subgrade Approval Forms
(Attachment 11: Capping Update)

LANGAN

Certificate of Soil Surface

Sheet # 4

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 315+75 TO ~STA. 314+25		
QA Monitor	LANGAN	Date	6/27/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P19 (INSTALLED ON 6/24/16). FROM APPROX. STA. 315+75 TO APPROX STA. 314+25. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	6/27/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	6/29/16
Title	QC Manager
Representing:	Entrust
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2")
AS OUTLINED IN SECTION 02372-8.
-- NO GCL TO BE PLACED ALONG WESTERN END OF SA-6 NORTH.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	≈STA. 315+75	LOOKING E	REFER TO PHOTO #1 (PHOTO LOG 6/27/16)
	2 PHOTO #2	≈STA. 315+00	LOOKING S	REFER TO PHOTO #2 (PHOTO LOG 6/27/16)
1. REFER TO 6/27/16 PHOTOGRAPH LOG PHOTOS 1 TO 3 FOR SUPPORTING INFORMATION				2.

LANGAN

Certificate of Soil Surface

Sheet # 5

Project Name	HONEYWELL SA 6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 314.25 TO ~STA. 313+25		
QA Monitor	LANGAN	Date	6/30/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P27 (INSTALLED ON 6/27/16) FROM APPROX. STA. 314+25 TO APPROX. STA. 313+25. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	6/30/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Andrew Harris
Date:	7/1/16
Title	QC Manager
Representing:	Entact
Signature:	Andrew Harris

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2")
AS OUTLINED IN SECTION 02372-8

- NO GCL TO BE PLACED ALONG WESTERN END OF SA-6 NORTH

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1			REFER TO PHOTO #1 (PHOTO LOG 6/30/16)
	2 PHOTO #2			REFER TO PHOTO #2 (PHOTO LOG 6/30/16)
1. REFER TO 6/30/16 PHOTOGRAPH LOG PHOTOS 1 TO 3 FOR SUPPORTING INFORMATION.				2.

LANGAN

Certificate of Soil Surface

Sheet # 6

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 313+25 TO ~STA. 312+60		
QA Monitor	LANGAN	Date	7/1/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P32 (INSTALLED ON 6/30/16) FROM APPROX STA. 313+25 TO APPROX STA. 312+60. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/1/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolyn Panico
Date:	7/1/16
Title	QC Manager
Representing:	Entek
Signature:	Carolyn Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2")
AS OUTLINED IN SECTION 02372-8.

- NO GCL TO BE PLACED FROM ~STA. 313+25 TO ~STA. 312+60

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 313+25	LOOKING N	REFER TO PHOTO #1 (PHOTO LOG 7/1/16)
	2 PHOTO #2	~STA. 313+25	LOOKING S	REFER TO PHOTO #2 (PHOTO LOG 7/1/16)
1. REFER TO 7/1/16 PHOTOGRAPH LOG PHOTOS 1 TO 3 FOR SUPPORTING INFO.				2.

LANGAN

Certificate of Soil Surface

Sheet # 7

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 312+60 TO ~STA. 311+75		
QA Monitor	LANGAN	Date	7/6/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P38 (INSTALLED ON 7/1/16) FROM APPROX. STA. 312+60 TO APPROX. STA. 311+75. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/6/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7/8/16
Title	QC Mgr
Representing:	Entech
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT. x 8 FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (i.e. >1/2"). NO GCL TO BE PLACED FROM ~STA. 312+60 TO ~STA. 311+75

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	~STA 312+25	LOOKING S/SE	REFER TO PHOTO #3 (PHOTO LOG 7/6/16)
	2 PHOTO #4	~STA 312+27	LOOKING E	REFER TO PHOTO #4 (PHOTO LOG 7/6/16)
1. REFER TO 7/6/16 PHOTOGRAPH LOG PHOTOS 3 TO 5 FOR SUPPORTING PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 8

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMECFW	Cell No.	~STA. 311+75 TO ~STA. 311+55		
QA Monitor	LANGAN	Date	7/7/16		

Description of Soil Surface to be lined: ~20 FT. AREA IMMEDIATELY EAST OF PANEL P42 (INSTALLED ON 7/6/16) FROM APPROX. STA. 311+75 TO APPROX. STA. 311+55. APPROVED SOIL FOR PLACEMENT OF ONE PANEL SO INSTALLED LINER TERMINATES OUTSIDE OF BOTTOM OF SWALES + DEPRESSED CONTOURS TO PROMOTE + DRAINAGE (PM RAINSTORMS FORECASTED).

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/7/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7/8/16
Title	QC Mgr
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT. × 8 FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>1/2"). NO GCL TO BE PLACED FROM ~STA. 311+75 TO ~STA. 311+55'.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #9	~STA. 311+75	LOOKING N	REFER TO PHOTO #9 (PHOTO LOG 7/7/16)
	2			

1. REFER TO 7/7/16 PHOTO LOG PHOTO 9 (N ALONG ~STA 311+75)

2.

LANGAN

Certificate of Soil Surface

Sheet # 9

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMECFW	Cell No.	~STA. 311+55 TO ~STA. 310+80		
QA Monitor	LANGAN	Date	7/8/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P43 (INSTALLED ON 7/7/16) FROM APPROX. STA. 311+55 TO ~STA. 310+80. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BUSWORTH
Date:	7/8/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7/8/16
Title	QC Mgr
Representing:	Entech
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: Soil Graded, Compacted, And Free of Debris (>1/2") As outlined In Section 02372-8.
- Subgrade Observed By Field Engineer Who Walked The Placement Area In Approx. 200 ft. x 8 ft. Transects To Observe Soil Compaction As Well As Items Requiring Removal Prior to Panel Placement (>1/2"). No GCL to Be Placed From ~Sta. 311+55 to ~ Sta. 310+80.

Photographs	Number	Location	Orientation	Notes
	1 Photo #1	~Sta. 311+55	Looking S/SE	Refer to Photo #1 (7/8/16)
	2 Photo #2	~Sta. 311+55	Looking S	Refer to Photo #2 (7/8/16)

1. Refer to 7/8/16 Photo Log Photos 1+2 for Supporting Subgrade Photos

2.

LANGAN

Certificate of Soil Surface

Sheet # 10

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 310+80 TO ~STA. 309+75		
QA Monitor	LANGAN	Date	7/12/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P49 (INSTALLED ON 7/8/16) APPROX. 105 FT. FROM APPROX STA. 310+80 TO ~STA 309+75. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/12/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	7/15/16
Title	QC Mgr
Representing:	Entek
Signature:	Carolina Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT. x 8 FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>1/2"). NO GCL TO BE PLACED FROM ~STA. 310+80 TO ~STA. 309+75.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #7	~STA. 310+80	LOOKING N	REFER TO PHOTO #7 (7/12/16)
	2 PHOTO #8	~STA. 310+80	LOOKING E	REFER TO PHOTO #8 (7/12/16)

1. REFER TO 7/12/16 PHOTO LOG PHOTOS 7 TO 9 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 11

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 309+75 TO ~STA. 309+00		
QA Monitor	LANGAN	Date	7/13/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P55/P56/P57 (INSTALLED ON 7/12/16) APPROX 75 FT. FROM APPROX. STA. 309+75 TO ~STA. 309+00. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/13/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	7/15/16
Title	QC Mgr
Representing:	Entrade
Signature:	Carolina Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2") AS OUTLINED IN SECTION 023122-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT BY 8 FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (7 1/2"). NO GCL TO BE PLACED FROM ~ STA 309+75 TO ~ STA. 309+00.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	~STA. 309+75	LOOKING S	REFER TO PHOTO #3 (7/13/16)
	2 PHOTO #4	~STA. 309+75	LOOKING E	REFER TO PHOTO #4 (7/13/16)
1. REFER TO 7/13/16 PHOTO LOG PHOTOS 3 TO 5 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 12

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 309+00 TO ~STA. 308+20		
QA Monitor	LANGAN	Date	7/14/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P62 / P63 (INSTALLED ON 7/13/16) APPROX 85 FT FROM APPROX STA. 309+00 TO ~STA. 308+20 SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/14/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7/15/14
Title	QC Mgr
Representing:	Enviro
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT. BY 8 FT. TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>1/2"). NO GCL TO BE PLACED FROM APPROX STA. 309+00 TO ~ STA. 308+20.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 309+00	LOOKING E	REFER TO PHOTO #1 (7/14/16)
	2 PHOTO #2	~STA 309+00	LOOKING N	REFER TO PHOTO #2 (7/14/16)
1. REFER TO 7/14/16 PHOTOGRAPH LOG, PHOTOS 1 TO 3 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 13

Project Name	Honeywell SA-6 North	Material Desc.	Geomembrane		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	Honeywell / Amec F&W	Cell No.	~Sta. 308+20 to ~Sta. 307+20		
QA Monitor	Langan	Date	7/25/16		

Description of Soil Surface to be lined: Area immediately east of panel P68 (installed on 7/14/16) approx 100 ft. from approx ~Sta. 308+20 to ~Sta. 307+20 Soil appears to be graded, compacted, and free of debris (>1/2") and in conformance with project specs

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	7/25/16
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7/25/16
Title	QC Mgr
Representing:	Entec
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX 200 FT x 8 FT. TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>1/2"). NO GCL TO BE PLACED FROM ~ STA. 308+20 TO ~ STA. 307+20

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 308+15	LOOKING S	REFER TO PHOTO #1 (11/25/16)
	2 PHOTO #2	~STA 308+15	LOOKING E	REFER TO PHOTO #2 (11/25/16)
1. REFER TO 11/25/16 PHOTOGRAPH LOG PHOTOS 1 TO 3 FOR SUPPORTING SUBGRADE PHOTO)				2.

LANGAN

Certificate of Soil Surface

Sheet # 14

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 307+20 TO ~STA. 306+40		
QA Monitor	LANGAN	Date	7/27/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P175 (INSTALLED ON 7/25/16) APPROX 80 FT. FROM ~STA. 307+20 TO ~STA. 306+40. SOIL ADDITIONS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/27/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	7/27/16
Title	QC
Representing:	Entech
Signature:	Carolina Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT. x 8 FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>1/2"). NO GCL TO BE PLACED FROM ~STA. 307+20 TO ~STA. 306+40.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 307+00	LOOKING S	REFER TO PHOTO #1 (11/27/16)
	2 PHOTO #2	~STA. 307+20	LOOKING S	REFER TO PHOTO #2 (11/27/16)
1. REFER TO 11/27/16 PHOTOGRAPH LOG PHOTOS 1 TO 4 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 15

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 306+40 TO ~STA. 305+40		
QA Monitor	LANGAN	Date	7/28/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P86 (INSTALLED ON 7/27/16) APPROX 100 FT. EAST FROM ~ STA. 306+40 TO ~ STA. 305+40 SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/28/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	7/28/16
Title	QC
Representing:	Entech
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02317Z-8.

- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT. x 8 FT. TRANSECTS TO OBSERVE SOIL CONDITION AS WELL AS ITEMS REQUIRING REMOVAL TO PANEL PLACEMENT (>1/2"). NO GCL TO BE PLACED FROM APPROX. STA. 306+40 TO ~ STA. 305+40

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	STA. 306+40	LOOKING N	REFER TO PHOTO #1 (7/28/16)
	2 PHOTO #2	STA. 306+40	LOOKING S	REFER TO PHOTO #2 (7/28/16)

1. REFER TO 7/28/16 PHOTOGRAPH LOG PHOTOS 1 TO 3 FOR SUPPORTING SUBGRADE PHOTOS.

2.

QA Photo Log
(Attachment 11: Capping Update)

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PHOTOGRAPHIC LOG
Photo #1 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
6/27/16

Direction Taken:

Looking west/ southwest along SA-6 North (at approximate Sta. 319+00).

Description:

ESI preparing to deploy GDL over Panel P1 and P2 (at approximate Sta. 319+00).

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PHOTOGRAPHIC LOG
Photo #2 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

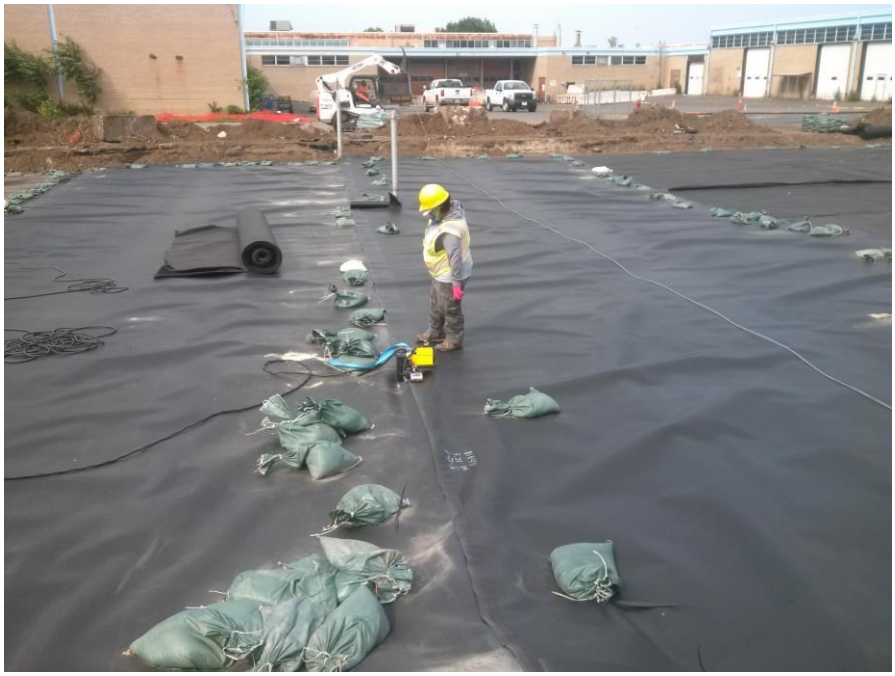
Date:
6/27/16

Direction Taken:

Looking north along SA-6 North at Panel P20 / P21 seam

Description:

ESI conducting fusion welding along Panel P20 / P21 seam.



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PHOTOGRAPHIC LOG
Photo #3 (06/29/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
6/29/16

Direction Taken:

Looking south along SA-6 North along southern end of cap.

Description:

ESI continuing patch / repair activities for LLDPE geomembrane panels P19 Through P27 (installed on 6/27/16).

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PHOTOGRAPHIC LOG
Photo #4 (06/29/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
6/29/16

Direction Taken:

Looking south / southwest across SA-6 North (approximate Sta. 317+00).

Description:

Entact placing protective cover soil over GDL Panels 1 to 11 (GDL placed on 6/27/16).

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PHOTOGRAPHIC LOG
Photo #5 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
6/30/16

Direction Taken:

Looking south along southern end of SA6 North (approximate Sta. 314+00).

Description:

ESI deploying GVL with white plastic fasteners spaced at a maximum of 5 ft. along geonet. Top layer of geotextile also sewn.

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PHOTOGRAPHIC LOG
Photo #6 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
6/30/16

Direction Taken:

SA-6 North Panel P27 / P28 seam

Description:

ESI conducting non-destructive testing (air pressure testing) for Panel P27 / P28 seam. Seam pressurized to 30 psi and held for 5 minutes with less than 4 psi loss.

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PHOTOGRAPHIC LOG
Photo #7 (07/01/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
07/01/16

Direction Taken:

Looking north along northern end of SA-6 North (from approximate Sta. 313+25).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2").

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PHOTOGRAPHIC LOG
Photo #8 (07/01/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
07/01/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 313+00).

Description:

ESI deploying GVL across approved subgrade for SA-6 North. White plastic fasteners spaced at 5 ft. maximum across geonet with top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #9 (7/14/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
7/14/16

Direction Taken:

SA-6 North – Destruct Sample DS-23

Description:

ESI completing patch / repair activities for Destruct Sample DS-23 located on Panel P64 / P65 seam (Repair R-287).

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PHOTOGRAPHIC LOG
Photo #10 (07/27/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
07/27/16

Direction Taken:

SA-6 North – Piezometer PZ6

Description:

Entact conducting methane testing for LLDPE boot for Piezometer PZ6. Concentration of 0.0% methane measured. As such, spark testing was subsequently completed and no sparks were observed during the test (test passed).

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PHOTOGRAPHIC LOG
Photo #11 (07/27/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

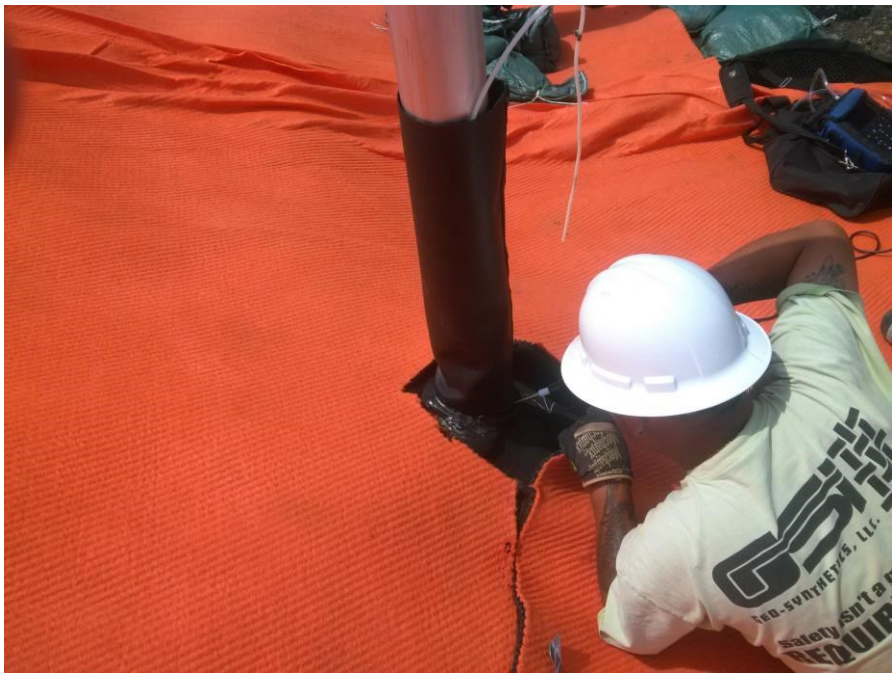
Date:
7/27/16

Direction Taken:

SA-6 North – Piezometer PZ6

Description:

ESI conducting spark testing along vertical weld and base of boot for Piezometer PZ6. No sparks were observed (i.e. spark test passed).



LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

PHOTOGRAPHIC LOG
Photo #12 (07/28/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
7/28/16

Direction Taken:
Looking north along SA-6 North from approximate center of cap (approximate Sta. 305+90).

Description:

ESI deploying LLDPE geomembrane over GVL across SA-6 North.

Daily QA Reports (Langan)
(Attachment 11: Capping Update)

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/27/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	70/85° F, Sunny (AM), PM Showers
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0650 – 1930

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #5** **AmecFW**: Stu Bills, Dave Ambrose, Ari Eslaminejad, Philemon Onyango **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) continuing east from Panel P19 installed on 6/24/16 (approximate Sta. 315+75). Material to be placed from Panel P19 running approximately 150 ft. east to approximate Sta. 314+25.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 315+75 (Panel P19 installed on 6/24/16) to approximate Sta. 314+25. Refer to *Soil Subgrade Approval* forms from 6/27/15 for additional details. Based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos 1 to 3 of the daily photo log for 6/27/2016, for supporting subgrade photos. During subgrade observation, AmecFW was also completing surveying to verify the subgrade elevations. The area was subsequently approved by AmecFW following review of the survey data.
- While the subgrade was being surveyed, ESI deployed the orange geocomposite drainage layer (GDL), over the installed LLDPE geomembrane. GDL was placed from Panel P1 (approximate Sta. 319+00), to Panel P11 (approximate Sta. 316+25). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/27/16 Photo Log for supporting photographs.
- While GDL was being deployed, ESI also conducted, methane / spark testing for the pipe boot completed for Access Manhole #1 (Panel P10). Prior to spark testing, methane testing was conducted to measure the concentration of methane present below the LLDPE geomembrane. During methane testing of Manhole #1, a concentration of 0.1% (less than 1%) was measured. Following the methane testing, spark testing was conducted by ESI for the vertical weld and pipe boot weld at the base of the penetration (i.e. welds not accessible for vacuum box testing). No sparks were observed during the test, and Manhole #1 boot passed. Additional details are outlined in the *Spark Testing QA Form Sheet #4.*

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- Following the placement of GDL, and subsequent to AmecFW completing the survey requirements for the soil subgrade, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 315+75 (east of Panel P19) moving east to approximate Sta. 314+25. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/27/16 Photo Log for supporting photographs.
- After placement of GVL, LLDPE geomembrane was installed continuing from Panel P19 (installed on 6/24/16) and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 315+75 (Panel P19) to approximate Sta. 314+25. A total of eight panels were installed (P20, P21, P22, P23, P24, P25, P26, and P27). Note: During placement of panel P21, the roll of LLDPE terminated at the approximate center of the cap, thus the remaining run of LLDPE was installed as P22. Similarly, during placement of Panel P24, the roll of LLDPE terminated along the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P25. Panels P20, P23, P26, and P27 ran the entire width of SA-6 North (approximately 200 ft.) from north to south.
- Adjacent geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 6/27/16 *Trial Weld Log*.
- Upon completion of geomembrane panel placement to approximate Sta. 314+25, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 6/27/16 *Seam Control Form* for non-destructive testing details. Additionally, repair and extrusion weld activities were also conducted for Panels P19 through P27 to attempt to patch / cover the LLDPE before inclement weather. Additional details are outlined on the 6/27/16 *Repair Log.*
- A total of seven repairs (R-75 through R-81) were observed and fixed (according to the project specifications) from Panels P20 through P21. Refer to 6/27/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. Note: not all repairs completed, repairs conducted to cover and seal cap before inclemente weather. Vacuum box testing not completed. Activities to be continued on 6/28/16. No destruct samples were collected, as destruct samples to be cut on 6/28/16 (Note: Repair R-74 destruct sample to be cut on 6/28/16).

Non-Conformance Items / Corrective Actions

- None Encountered

Action Items – Pending

- Complete Daily Report and Photo Log (for 6/27/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete pipe boot penetration log for Piezometer PZ-8 (Panel P21).

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, and 6/24/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1, DS-2, DS-3, and DS-4. Reviewed laboratory data for extrusion weld destruct sample DSX-1 and DSX-2. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 6/27/16
A3 – Photo Log	Pages 1 – 7	Total of 14 photos outlining pertinent daily observations and descriptions for 6/27/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 6/27/16
A5 – Subgrade Approval	Sheet 4 & ESI (6/27/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 2	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 6/27/16
A7 – Panel Placement Log	Pages 3-4	One panel placement log provided by ESI and confirmed by Langan for panels placed on 6/27/16
A8 – Destruct Seam Testing COC	Sheet 1	Updated for destruct samples collected on 6/27/16
A9 – Seam/Non-Destruct. Test Log	Pages 5-7	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 6/27/16
A10 – Repair Log	Page 4	One repair log provided by ESI and confirmed by Langan for repairs completed for 6/27/16
A11 – Conformance COC		NA for 6/27/16

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By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 6/27/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 6/27/16
A14 – Penetration & Edge Form	6/27/16 Form	One boot penetration form completed for Piezometer PZ8. Note: no methane / spark testing conducted.
A16 – Notice of Non-Compliance		NA - no non-compliance issues identified on 6/27/16
A17 – Spark Testing Form		NA – no spark testing completed on 6/27/16. Boot for Piezometer PZ8 completed. Methane / spark testing to be completed week of July 5, 2016.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/29/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/90° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0650 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #6** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for LLDPE repair activities to be completed on LLDPE geomembrane installed on 6/27/16. Note: No capping activities conducted on 6/28/16 due to inclement weather, and no new LLDPE was placed on 6/29/16 as soil subgrade was not approved.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI continuing with non-destructive testing (pressure testing) and repair activities for geomembrane panels P19 through P27 (installed on 6/27/16). Non-destructive testing was conducted on the remaining panel seams and the seams were pressurized to 30 psi and held for 5 minutes with less than 4 psi loss. Refer to *6/29/16 Seam Control Form* for additional details.
- A total of twenty-two repairs (R-82 through RP-103) were observed and fixed (according to the project specifications) from Panels P19 through P27. Refer to 6/29/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of two destruct samples were collected for laboratory analysis. Two fusion weld destruct samples, DS-5 and DS-6, were collected from Panel Seam P19 / P20 and Panel Seam P23 / P24, respectively. Additional details are outlined in the *Trial Weld Log* dated 6/29/16.
- The LLDPE pipe boot penetration for Gas Vent GV-5 was completed and extrusion welded. Note: no methane testing / spark testing completed. Methane / spark testing to be completed week of July 5, 2016.
- While ESI was conducting repairs, small areas of standing water were observed on the soil subgrade from Sta. 314+25 to approximate Sta. 313+75. Entact solidified the subgrade by adding calcium cement to the soils so that the wet areas were absorbed / removed. Additionally, minor modifications to the subgrade were completed to facilitate positive drainage off of SA-6 North.

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Non-Conformance Items / Corrective Actions

- Non-Conformance No. 2 (Sheet #2) – Subgrade irregularity identified as R-98 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P26. Stone was subsequently removed, and hole was patched/repaired following project specs as further described in *Sheet 2 Notice of Non-Compliance.*

Action Items – Pending

- Complete Daily Report and Photo Log (for 6/29/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct samples results for DS-5 and DS-6.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, and 6/27/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1, DS-2, DS-3, and DS-4. Reviewed laboratory data for extrusion weld destruct sample DSX-1 and DSX-2. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

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Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 6/29/16
A3 – Photo Log	Pages 1 – 4	Total of 7 photos outlining pertinent daily observations and descriptions for 6/29/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 6/29/16
A5 – Subgrade Approval		NA - no subgrade approval for 6/29/16
A6 – Trial Weld Log	Page 2	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 6/29/16
A7 – Panel Placement Log		NA – no LLDPE panels placed on 6/29/16
A8 – Destruct Seam Testing COC	Sheet 1	Updated for destruct samples collected on 6/29/16
A9 – Seam/Non-Destruct. Test Log	Pages 6-7	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 6/29/16
A10 – Repair Log	Pages 4-5	One repair log provided by ESI and confirmed by Langan for repairs completed for 6/29/16
A11 – Conformance COC		NA for 6/29/16
A12 – Destructive Seam Field Test	Page 1	Updated with destruct samples collected on 6/29/16
A13 – Destruct. Sample Summary	Page 1	Destruct sample summary updated with samples collected on 6/29/16
A14 – Penetration & Edge Form	6/29/16 Form	LLDPE pipe boot penetration form completed for Gas Vent GV-5. Note: methane / spark testing not completed (to be completed week of June 5, 2016).
A16 – Notice of Non-Compliance	Sheet 2	One non-compliance issue identified on 6/29/16 and summarized on Sheet 2.
A17 – Spark Testing Form		NA – no methane / spark testing completed on 6/29/16 for Gas Vent GV-5.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/30/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/95° F, Sunny, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1615

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #7** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) continuing east from Panel P27 installed on 6/27/16 (approximate Sta. 314+25). Material to be placed from Panel P27 running approximately 100 ft. east to approximate Sta. 313+25.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 314+25 (Panel P27 installed on 6/27/16) to approximate Sta. 313+25. Refer to *Soil Subgrade Approval* forms from 6/30/16 for additional details. Based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos 1 to 3 of the daily photo log for 6/30/2016, for supporting subgrade photos. During subgrade observation, AmecFW was also completing surveying to verify the subgrade elevations. The area was subsequently approved by AmecFW following review of the survey data.
- Following subgrade approval (including AmecFW completing the survey requirements for the soil subgrade), GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 314+25 (east of Panel P27) moving east to approximate Sta. 313+25. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/30/16 Photo Log for supporting photographs.
- After placement of GVL, LLDPE geomembrane was installed continuing from Panel P27 (installed on 6/27/16) and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 314+25 (Panel P27) to approximate Sta. 313+25. A total of five panels were installed (P28, P29, P30, P31, P32. Note: During placement of Panel P30, the

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roll of LLDPE terminated near the north end of SA-6 North, thus the remaining run of LLDPE was installed as P31. Panels P28, P29, and P31 ran the entire width of SA-6 North (approximately 215 ft.) from north to south.

- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 6/30/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 314+25, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 6/30/16 *Seam Control Form* for non-destructive testing details. Additionally, repair and extrusion weld activities were also conducted for Panels P27 through P32. Additional details are outlined on the 6/30/16 *Repair Log.*
- A total of thirty-one repairs (R-104 through R-134) were observed and fixed (according to the project specifications) from Panels P19 through P27. Refer to 6/30/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. Note: Add on (AO) repairs completed for Panels P17, P18, and P19, as LLDPE length had to be increased along edges of SA-6 North.
- Following the placement of LLDPE geomembrane, ESI deployed the orange geocomposite drainage layer (GDL), over the installed LLDPE geomembrane. GDL was placed from Panel P11 (approximate Sta. 316+25), to east of Panel P19 (approximate Sta. 315+50). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/30/16 Photo Log for supporting photographs
- A total of four destruct samples were collected on 6/30/16. Three fusion weld destruct samples DS-7, DS-8, and DS-9 were collected from panel seams P13 / P14, P18 / R-105, and 18 / 19, respectively. One extrusion weld destruct sample, DSX-3, was collected from Panel P21 (R-79).

Non-Conformance Items / Corrective Actions

- None Encountered

Action Items – Pending

- Complete Daily Report and Photo Log for 6/30/16. Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample results for DS-7, DS-8, DS-9, and DSX-3.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, and 6/29/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-6. Reviewed laboratory data for extrusion weld destruct sample DSX-1 and DSX-2. Laboratory results in compliance with project specifications.

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By: Dan Bosworth

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Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 6/30/16
A3 – Photo Log	Pages 1 – 7	Total of 13 photos outlining pertinent daily observations and descriptions for 6/30/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 6/30/16
A5 – Subgrade Approval	Sheet 5 & ESI (6/30/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 2-3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 6/30/16
A7 – Panel Placement Log	Pages 4-5	One panel placement log provided by ESI and confirmed by Langan for panels placed on 6/30/16
A8 – Destruct Seam Testing COC	Sheet 1	Updated for destruct samples collected on 6/30/16
A9 – Seam/Non-Destruct. Test Log	Pages 7-8	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 630/16
A10 – Repair Log	Pages 6-7	One repair log provided by ESI and confirmed by Langan for repairs completed for 6/30/16
A11 – Conformance COC		NA for 6/30/16
A12 – Destructive Seam Field Test	Page 1	Updated with destruct samples collected on 6/30/16
A13 – Destruct. Sample Summary	Page 1	Destruct sample summary updated with samples collected on 6/30/16
A14 – Penetration & Edge Form		NA – no pipe boot penetrations completed on 6/30/16.

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By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A16 – Notice of Non-Compliance		NA - no non-compliance issues identified on 6/30/16
A17 – Spark Test Form		NA – no methane / spark testing completed on 6/30/16

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/1/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/95° F, Sunny, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1315

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #8** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) continuing east from Panel P32 installed on 6/30/16 (approximate Sta. 313+25). Material to be placed from Panel P32 running approximately 65 ft. east to approximate Sta. 312+60.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 313+25 (Panel P32 installed on 6/30/16) to approximate Sta. 312+60. Refer to *Soil Subgrade Approval* forms from 7/1/16 for additional details. Based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos 1 to 3 of the daily photo log for 7/1/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 313+25 (east of Panel P32) moving east to approximate Sta. 312+60. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/1/16 Photo Log for supporting photographs.
- After placement of GVL, LLDPE geomembrane was installed continuing from Panel P32 (installed on 6/30/16) and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 313+25 (Panel P32) to approximate Sta. 312+60. A total of seven panels were installed (P33, P34, P35, P36, P37, and P38). Note: During placement of Panel P33 the roll of LLDPE terminated near the northern end of SA-6 North, thus the remaining run of LLDPE was installed as P34. Similarly, during placement of Panel 36, the roll of LLDPE terminated

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approximately 2/3 from the north end of SA-6 North, thus the remaining run of LLDPE was installed as P37. Panels P32, P35, and P38 ran the entire width of SA-6 North (approximately 220 ft.) from north to south.

- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 7/1/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 312+60, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/1/16 *Seam Control Form* for non-destructive testing details. Additionally, repair and extrusion weld activities were also conducted for Panel P29 (installed on 6/30/16) and Panels P33 to P38 (installed on 7/1/16). Additional details are outlined on the 7/1/16 *Repair Log.*
- A total of twenty-eight repairs (R-135 through R-162) were observed and fixed (according to the project specifications) from Panels P19 through P27. Refer to 7/1/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- ESI also completed a pipe boot for Well 115-S1-SO located on the Panel P28 / P29 seam. Additional details are provided in the pipe boot penetration form for 7/1/16. No methane / spark testing was conducted on the boot (to be completed on 7/6/16).
- Following the placement of LLDPE geomembrane, ESI deployed the orange geocomposite drainage layer (GDL), over the installed LLDPE geomembrane. GDL was placed from Panel P11 (approximate Sta. 316+25), to east of Panel P19 (approximate Sta. 315+50). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/30/16 Photo Log for supporting photographs
- A total of four destruct samples were collected on 7/1/16. Three (3) fusion weld destruct samples were collected – DS-11, DS-12, and DS-13 from Panel Seams P31 / P32, P34 / P35, and P36 / P38, respectively. One extrusion weld destruct sample – DSX-4 was collected from Panel P32 (Repair R-148).

Non-Conformance Items / Corrective Actions

- None Encountered

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/1/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory data for destruct samples DS-11, DS-12, DS-13, and DSX-4.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, and 6/30/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-10. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-3. Laboratory results in compliance with project specifications.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 7/1/16
A3 – Photo Log	Pages 1 – 6	Total of 11 photos outlining pertinent daily observations and descriptions for 7/1/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 6/23/16
A5 – Subgrade Approval	Sheet 6 & ESI (7/1/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/1/16
A7 – Panel Placement Log	Page 5	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/1/16
A8 – Destruct Seam Testing COC	Sheet 1	Updated for destruct samples collected on 7/1/16
A9 – Seam/Non-Destruct. Test Log	Pages 12-13	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/1/16
A10 – Repair Log	Pages 7-9	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/1/16
A11 – Conformance COC		NA for 7/1/16
A12 – Destructive Seam Field Test	Page 1	Updated with destruct samples collected on 7/1/16
A13 – Destruct. Sample Summary	Page 1	Destruct sample summary updated with samples collected on 7/1/16
A14 – Penetration & Edge Form	7/1/16 Form	Pipe boot completed for Well 115-W1-SO located along Panel P28 / P29.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A16 – Notice of Non-Compliance		NA – no non-compliance issues identified on 7/1/16
A17 – Spark Testing Form		NA – no spark testing completed on 7/1/16. Boot for Well 115-W1-SO completed. Methane / spark testing to be completed week of July 5, 2016.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/6/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	82/98° F, Sunny, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0655 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #9** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), 60-mil geomembrane liner (LLDPE) continuing east from Panel P38 installed on 7/1/16 (approximate Sta. 312+60). Material to be placed from Panel P38 running approximately 85 ft. east to approximate Sta. 311+75.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from Panel P19 (approximate Sta. 315+50), moving east up to Panel P27 (approximate Sta. 314+60). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/6/16 Photo Log for supporting photographs
- While ESI was deploying GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 312+60 (Panel P38 installed on 7/1/16) to approximate Sta. 311+75. Refer to *Soil Subgrade Approval* forms from 7/6/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 3 to 5 of the daily photo log for 7/6/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 312+60 (east of Panel P38) moving east to approximate Sta. 311+75. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top

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layer of geotextile was sewn along the seams (according to the project specifications). Refer to 7/6/16 Photo Log for supporting photographs.

- During deployment of GVL, the potential for rocks or other debris to become dislodged in the soil subgrade were observed. Additional walkover and observation activities were conducted along the GVL to attempt to identify any rocks or debris (>1/2") that may have been dislodged.
- After placement of GVL, LLDPE geomembrane was installed continuing from Panel P38 (installed on 7/1/16) and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 312+60 (Panel P38) to approximate Sta. 311+75. A total of four panels were installed (P39, P40, P41, and P42). Note: During placement of Panel P39 the roll of LLDPE terminated near the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P40. Panels P41 and P42 ran the entire width of SA-6 North (approximately 220 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 7/6/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 311+75, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/6/16 *Seam Control Form* for non-destructive testing details. ESI completed a temporary pipe boot for Extraction Pump Station #1 and completed leistering of temporary patches to cover the LLDPE geomembrane. Repair (detailing) activities to be completed on 7/7/16.
- While GDL was being deployed, ESI also conducted, methane / spark testing for the pipe boots completed for Piezometer PZ8, Gas Vent GV-5, and Well 115-W1-SO. Prior to spark testing, methane testing was conducted to measure the concentration of methane present below the LLDPE geomembrane. During methane testing, a concentration of 0.0% (<1%) was measured for each of the pipe boots. Following the methane testing, spark testing was conducted by ESI for the vertical weld and pipe boot weld at the base of the penetration (i.e. welds not accessible for vacuum box testing).
- During the spark testing for Piezometer PZ8 a spark was observed at the top of the boot (outside of the 2 ft. boot requirement). Since this spark was outside of the required boot construction, the boot was subsequently cut at 2 ft. (thus removing the failed weld), and the remaining boot was retested with no sparks observed.
- During spark testing of Gas Vent GV-5 and Well 115-W1-SO, a spark was observed while testing the vertical weld and a small pinhole deficiency was observed in the weld. These areas will be grinded, rewelded, and retested on 7/7/16. Additional details are outlined in the *Spark Testing QA Forms* dated 7/6/16.
- No destruct samples collected on 7/6/16. Destruct samples to be cut on 7/7/16.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 3 (Sheet #3) – Failed spark test along vertical weld of Gas Vent GV-5
    - Failed spark test identified during spark testing of Gas Vent GV-5. Small pinhole deficiency identified in vertical weld. Weld to be grinded, re-welded, and re-tested on 7/7/16.
- Non-Conformance No. 4 (Sheet #4) – Failed spark test along vertical weld of Well 115-W1-SO
    - Failed spark test identified during spark testing of Well 115-W1-SO. Small pinhole deficiency identified in vertical weld. Weld to be grinded, re-welded, and re-tested on 7/7/16.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/6/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, and 7/1/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-13. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-4. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 7/6/16
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 7/6/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/6/16
A5 – Subgrade Approval	Sheet 7 & ESI (7/6/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/6/16
A7 – Panel Placement Log	Pages 5-6	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/6/16
A8 – Destruct Seam Testing COC		NA - no destruct samples collected on 7/6/16
A9 – Seam/Non-Destruct. Test Log	Pages 14-16	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/6/16

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By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log		NA – no repair activities conducted on 7/6/16
A11 – Conformance COC		NA for 7/6/16
A12 – Destructive Seam Field Test		NA - no destruct samples collected on 7/6/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 7/6/16
A14 – Penetration & Edge Form		NA – no pipe boots / penetrations completed on 7/6/16
A16 – Notice of Non-Compliance	Sheets 3 & 4	Two non-compliance issues identified on 7/6/16 during spark testing of pipe boots and summarized on Sheets 3 & 4 (7/6/16 Non-Compliance Forms).
A17 – Spark Test Log	7/616 Spark Test Logs	Spark tests completed for Piezometer PZ8, Gas Vent GV-5, and Well 115-W1-SO.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/7/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	82/98° F, Overcast, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #10** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), 60-mil geomembrane liner (LLDPE), continuing east from Panel P42 installed on 7/6/16 (approximate Sta. 311+75). Material to be placed from Panel P42 running approximately 20 ft. east to approximate Sta. 311+55. Note: based on available prepared subgrade and inclement weather scheduled in the afternoon, ESI deployed one panel of GVL and one panel of LLDPE geomembrane so that the installed LLDPE was outside of the slope swales and depressed contours thus promoting positive drainage away from the installed material.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from Panel P27 (approximate Sta. 314+60), moving east up to Panel P36 / P37 (approximate Sta. 313+25). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/7/16 Photo Log for supporting photographs
- While GDL was being deployed, ESI also completed repair activities for Panels P39 to P42 (installed on 7/6/16). A total of thirty-seven repairs (R-163 through R-199) were observed and fixed (according to the project specifications) from Panels P39 through P42. Refer to 7/7/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of two (2) destruct samples were collected. One fusion weld destruct sample (DS-14) was collected from Panel P41 / P42 seam, and one extrusion weld sample (DSX-5) was collected from Panel P42, Repair R-179 for laboratory analysis.

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- While GDL and repair activities were being completed, ESI also conducted, methane / spark testing for the pipe boots repairs for Gas Vent GV-5, and Well 115-W1-SO. Based on the sparks observed during spark testing on 7/6/16, the areas were subsequently grinded, re-welded, and re-tested. Refer to 7/7/16 Photograph Log for supporting photos. Prior to spark testing, methane testing was conducted by AmecFW to measure the concentration of methane present below the LLDPE geomembrane. During methane testing, a concentration of 0.0% (<1%) was measured for each of the boots. Following the methane testing, spark testing was conducted by ESI for the vertical weld areas that were re-welded. During the re-test no sparks were observed and the retest spark test passed. Additional details are outlined in the *Spark Testing QA Forms* dated 7/6/16.
- Following the LLDPE repair activities, and deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 311+75 (Panel P42 installed on 7/6/16) to approximate Sta. 311+55. Refer to *Soil Subgrade Approval* forms from 7/7/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photo 9 of the daily photo log for 7/7/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement. Note: the approximate 20 ft. area of soil was approved so that an additional panel of LLDPE geomembrane could be deployed to allow the edges of the liner to be outside of the depressed contours in the event of afternoon rainstorms (positive drainage away from the installed LLDPE geomembrane).
- Following subgrade approval, one panel of GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications).
- After placement of GVL, one panel of LLDPE geomembrane was installed continuing from Panel P42 (installed on 7/6/16) and moving east. The panel was oriented from north to south (as proposed in the approved Panel Layout) and was installed from approximate Sta. 311+75 (Panel P42) to approximate Sta. 311+55. A total of one panel was installed (P43). Panel P43 ran the entire width of SA-6 North (approximately 230 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 7/7/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 312+60, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/7/16 *Seam Control Form* for non-destructive testing details. Additionally, repairs were marked and temporary patches were leistered in place for repair activities (i.e. detailing) to be completed on 7/8/16.
- ESI completed the boot / penetration construction for Extraction Pump Station #1 manhole and welded (detailed) the repairs. Note: Extraction Pump Station #1 manhole was located in a recessed contour of SA-6 North and repair activities were conducted to seal the LLDPE geomembrane as rainstorms were forecasted for the afternoon.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 5 (Sheet #5) – Subgrade irregularity identified as R-170 on *Repair Log*
  - Stone identified underneath LLDPE geomembrane located on Panel P38. Stone was subsequently removed, and hole was patched/repaired following project specs as further described in *Sheet 5 Notice of Non-Compliance.*
- Note: Failed spark test non-conformance details are outlined in the 7/6/16 Daily Report.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Pending

- Complete Daily Report and Photo Log (for 7/6/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory results for destruct samples DS-14 and DSX-5.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, and 7/6/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-13. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-4. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/7/16
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 7/7/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/7/16
A5 – Subgrade Approval	Sheet 8 & ESI (7/7/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 3-4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/7/16
A7 – Panel Placement Log	Page 6	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/7/16
A8 – Destruct Seam Testing COC	Sheet 2	Updated for destruct samples collected on 7/7/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A9 – Seam/Non-Destruct. Test Log	Pages 16-17	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/7/16
A10 – Repair Log	Pages 9-10	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/7/16
A11 – Conformance COC		NA for 7/7/16
A12 – Destructive Seam Field Test	Page 2	Updated with destruct samples collected on 7/7/16
A13 – Destruct. Sample Summary	Page 2	Destruct sample summary updated with samples collected on 7/7/16
A14 – Penetration & Edge Form		NA – Pipe boot for Access Manhole #2 to be completed on 7/8/16.
A16 – Notice of Non-Compliance	Sheet 5	One non-compliance issue identified as subgrade irregularity on 7/7/16 and summarized on Sheet 5.
A17 – Spark Test Log	7/6/16 Spark Test Logs	Spark tests logs for Gas Vent GV-5 and Well 115-W1-SO dated 7/6/16 updated for spark retests completed on 7/7/16.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/8/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	82/98° F, Overcast, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #11** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P43 installed on 7/7/16 (approximate Sta. 311+55). Material to be placed from Panel P43 running approximately 75 ft. east to approximate Sta. 310+80.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI completing repair activities for Panels P42 and P43 (Panel P43 installed on 7/7/16). A total of twelve repairs (R-200 through R-211) were observed and fixed (according to the project specifications) from the two panels. Refer to 7/8/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While LLDPE repair activities were being conducted, Langan and Entact conducted soil subgrade approval from approximate Sta. 311+55 (Panel P43 installed on 7/7/16) to approximate Sta. 310+80. Refer to *Soil Subgrade Approval* forms from 7/8/16 for additional details. During subgrade observation, the subgrade area was transversed in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 1 and 2 of the daily photo log for 7/8/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 311+55 (east of Panel P43) moving east to approximate Sta. 310+80.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

- GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 7/8/16 Photo Log for supporting photographs.
- During deployment of GVL, the potential for rocks or other debris to become dislodged in the soil subgrade were observed. Additional walkover and observation activities were conducted along the GVL to attempt to identify any rocks or debris (>1/2") that may have been dislodged.
- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P43 (installed on 7/7/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 311+55 (Panel P43) to approximate Sta. 310+80. A total of eight panels were installed (P44, P44A, P44B, P45, P46, P47, P48, and P49). Note: During placement of Panel P44 the roll of LLDPE terminated near the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P45. Similarly, during placement of Panel P47, the roll of LLDPE terminated near the center of SA-6 North, thus the remaining run of LLDPE was installed as P48. Panels P46 and P49 ran the entire width of SA-6 North (approximately 290 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 7/8/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 310+80, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/8/16 *Seam Control Form* for non-destructive testing details. Additionally, repairs activities were conducted for Panels P44 through P49 (installed on 7/8/16). These repair activities were conducted in addition to the repairs completed in the morning for Panels P42 and P43 (installed on 7/7/16).
- A total of twenty additional repairs (R-212 through R-223, R-225, R-227, R-228, R-229, and R-233 to R-236) were observed and fixed (according to the project specifications) from Panels P44 to P49. Refer to 7/8/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of one (1) destruct samples was collected. One extrusion weld sample (DSX-6) was collected from Panel P42, Repair R-180 for laboratory analysis. Additional destruct samples to be cut and collected on 7/11/16.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 6 (Sheet #6) – Subgrade irregularity identified as R-222 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P45. Stone was subsequently removed, and hole was patched/repaired following project specs as further described in *Sheet 6 Notice of Non-Compliance.*

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/13/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory results for destruct sample DSX-6.

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By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, and 7/7/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-13. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-5. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 7/8/16
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 7/8/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/8/16
A5 – Subgrade Approval	Sheet 9 & ESI (7/8/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/8/16
A7 – Panel Placement Log	Page 6-7	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/8/16
A8 – Destruct Seam Testing COC	Sheet 2	Updated for destruct samples collected on 7/8/16
A9 – Seam/Non-Destruct. Test Log	Pages 16-18	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/8/16
A10 – Repair Log	Pages 10-12	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/8/16
A11 – Conformance COC		NA for 7/8/16

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test	Page 2	Updated with destruct samples collected on 7/8/16
A13 – Destruct. Sample Summary	Page 2	Destruct sample summary updated with samples collected on 7/8/16
A14 – Penetration & Edge Form		NA – Pipe boot skirts completed, methane testing to be completed before finalizing welds and conducting spark testing.
A16 – Notice of Non-Compliance	Sheet 6	One non-compliance issue (subgrade irregularity) identified on 7/8/16 and summarized on Sheet 6.
A17 – Spark Test Log		NA – no spark test activities conducted on 7/8/16

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/11/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	72/80° F, Sunny, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** LLDPE Repair Activities & Destruct Samples		**TIME:**	0645 – 0845

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #12** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of LLDPE repair activities (from Panels P44 to P49 installed on 7/8/16). Note: soil subgrade not approved for LLDPE placement as standing water / wet areas observed along subgrade from rainstorms over the weekend. Entact to solidify, rework, and re-compact soils for subgrade approval to be completed on 7/12/16. Note: the edge of the LLDPE geomembrane placed on 7/8/16 was pulled back until dry soil subgrade from below the liner was exposed (as shown in the 7/11/16 Photo Log). Soil to be dried, solidified, reworked, and re-compacted by Entact for approval on 7/12/16.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting repair activities for Panels P44 through P49 (panels installed on 7/8/16). A total of eight repairs (R-224, R-226, R-230, R-231, R-232, R-239, R-240, and R-241) were observed and fixed (according to the project specifications) from the two panels. Refer to 7/11/16 *Repair Report* for additional details. In general, the majority of the repairs were destruct samples that were collected for laboratory analysis and cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of four (4) destruct samples were collected from panels installed on 7/8/16. Three fusion weld destruct samples – DS-15, DS-16, and DS-17 were collected from Panel Seam P43 / P44, P46 / P47, and P45 / 46, respectively. Additionally, one extrusion weld destruct sample - DSX-7 was collected from Panel P44, Repair R-179 for laboratory analysis.

Non-Conformance Items / Corrective Actions

- None Encountered

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Action Items – Pending

- Complete Daily Report and Photo Log (for 7/11/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct results for DS-15, DS-16, DS-17, and DSX-7.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, and 7/8/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-14. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-6. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 7/11/16
A3 – Photo Log	Pages 1 – 2	Total of 4 photos outlining pertinent daily observations and descriptions for 7/11/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/11/16
A5 – Subgrade Approval		NA – no subgrade approved for LLDPE placement on 7/11/16
A6 – Trial Weld Log	Page 4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/11/16
A7 – Panel Placement Log		NA – no panels placed on 7/11/16 as no soil subgrade was not approved.

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A8 – Destruct Seam Testing COC	Sheet 2	Updated for destruct samples collected on 7/11/16
A9 – Seam/Non-Destruct. Test Log		NA – no pressure testing conducted on 7/11/16
A10 – Repair Log	Pages 12-13	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/11/16
A11 – Conformance COC		NA for 7/11/16
A12 – Destructive Seam Field Test	Page 2	Updated with destruct samples collected on 7/11/16
A13 – Destruct. Sample Summary	Page 2	Destruct sample summary updated with samples collected on 7/11/16
A14 – Penetration & Edge Form		NA – no boots / penetrations completed on 7/11/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues identified on 7/11/16
A17 – Spark Test Log		NA – no spark testing conducted on 7/11/16

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/12/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	72/85° F, Sunny, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1500

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #13** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P49 installed on 7/8/16 (approximate Sta. 310+80). Material to be placed from Panel P49 running approximately 100 ft. east to approximate Sta. 309+75.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from Panel P36 / P37 (approximate Sta. 313+25), moving east up to Panel P42 (approximate Sta. 312+25). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/12/16 Photo Log for supporting photographs.
- While GDL was being deployed, ESI also completed the LLDPE pipe boot for Gas Vent GV-4. The boot was patched and welded (to be methane / spark tested later in the morning). Additional details are outlined in the Gas Vent GV-4 penetration log dated 7/12/16.
- ESI completed methane / spark testing for the LLDPE pipe boot for Pump Station #1 and Gas Vent GV-4. Prior to spark testing, Entact conducted methane testing to measure the concentration of methane present underneath the LLDPE geomembrane. A concentration of 0.0% (>1%) was measured for both boots. As such, ESI conducted spark testing along the base of the boot and the vertical weld. No sparks were observed during the spark test and both boots passed. Additional details are outlined in the *Spark Testing QA Forms* dated 7/12/16.
- Following the deployment of GDL and spark testing activities, Langan and Entact conducted soil subgrade approval from approximate Sta. 310+80 (Panel P49 installed on 7/8/16) to approximate Sta. 309+75. Refer to *Soil Subgrade Approval* forms from 7/12/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was

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generally free of any loose material greater than ½". Refer to Photos 7 to 9 of the daily photo log for 7/12/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement. Note: the approximate 20 ft. area of soil was approved so that an additional panel of LLDPE geomembrane could be deployed to allow the edges of the liner to be outside of the depressed contours in the event of afternoon rainstorms (positive drainage away from the installed LLDPE geomembrane).

- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 310+80 (east of Panel P49) moving east to approximate Sta. 309+75. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 7/12/16 Photo Log for supporting photographs.
- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P49 (installed on 7/8/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 310+80 (Panel P49) to approximate Sta. 309+75. A total of eight panels were installed (P50, P51, P52, P53, P54, P55, P56, and P7). Note: During placement of Panel P51 the roll of LLDPE terminated near the approximate center of SA-6 North, thus the remaining run of LLDPE was installed as P52 and P53 (P52 and P53 remaining pieces of LLDPE from rolls previously used). Similarly, during placement of Panel P55, the roll of LLDPE terminated near the center of SA-6 North, thus the remaining run of LLDPE was installed as P56 & P57 (Panels P56 and P57 installed as remaining pieces of previously used LLDPE rolls). Panels P50 and P54 ran the entire width of SA-6 North (approximately 288 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 7/12/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 309+75, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/12/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P50 through P57 (installed on 7/12/16).
- ESI conducted repair activities for Panels P50 to P57 (installed on 7/12/16). A total of twenty-two repairs (R-237, R-238 and R-242 through R-261) were observed and fixed (according to the project specifications) from Panels P50 through P57. Refer to 7/12/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of three (3) destruct samples were collected. Three fusion weld destruct samples - DS-18, DS-19, DS-20 were collected from Panel Seams P49 / P50, P53 / P54, and P55 / P56 for laboratory analysis

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 7 (Sheet #7) – Subgrade irregularity identified as R-242 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P49 / P50. Stone was subsequently removed, and hole was patched/repaired following project specs as further described in *Sheet 7 Notice of Non-Compliance.*

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Action Items – Pending

- Complete Daily Report and Photo Log (for 7/12/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory results for destruct samples DS-18, DS-19, and DS-20.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, and 7/11/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-17. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-7. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/12/16
A3 – Photo Log	Pages 1 – 8	Total of 15 photos outlining pertinent daily observations and descriptions for 7/12/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/12/16
A5 – Subgrade Approval	Sheet 10 & ESI (7/12/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/12/16
A7 – Panel Placement Log	Pages 8-9	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/12/16
A8 – Destruct Seam Testing COC	Sheet 2	Updated for destruct samples collected on 7/12/16

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A9 – Seam/Non-Destruct. Test Log	Pages 19-22	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/12/16
A10 – Repair Log	Pages 13-14	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/12/16
A11 – Conformance COC		NA for 7/12/16
A12 – Destructive Seam Field Test	Page 2	Updated with destruct samples collected on 7/12/16
A13 – Destruct. Sample Summary	Page 2	Destruct sample summary updated with samples collected on 7/12/16
A14 – Penetration & Edge Form	7/12/16 Boot Form	Pipe boot for Gas Vent GV-4 and Piezometer PZ6 completed on 7/12/16.
A16 – Notice of Non-Compliance	Sheet 7	One non-compliance issue identified as subgrade irregularity on 7/12/16 and summarized on Sheet 7.
A17 – Spark Test Log	7/12/16 Spark Test Logs	Spark tests logs for Gas Vent GV-4 and Extraction Pump Station #1 dated 7/12/16

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/13/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	72/85° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #14** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth, Kale **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P55 / P56 / P57 installed on 7/12/16 (approximate Sta. 309+75). Material to be placed from Panel P55 / P56 / P57 running approximately 75 ft. east to approximate Sta. 309+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from Panel P42 (approximate Sta. 312+25), moving east through Panel P47 / P48 (approximate Sta. 311+10). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/13/16 Photo Log for supporting photographs.
- Following the deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 309+75 (Panel P55 / P56 / P57 installed on 7/12/16) to approximate Sta. 309+00. Refer to *Soil Subgrade Approval* forms from 7/13/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 3,4, and 5 of the daily photo log for 7/13/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 309+75 (east of Panel P55 / P56 / P57) moving east to approximate Sta. 309+00. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 7/13/16 Photo Log for supporting photographs.

- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P55 / P56 / P57 (installed on 7/12/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 309+75 (Panel P55 / P56 / P57) to approximate Sta. 309+00. A total of six panels were installed (P58, P59, P60, P61, P62, and P63). Note: During placement of Panel P59 the roll of LLDPE terminated near the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P60. Similarly, during placement of Panel P62, the roll of LLDPE terminated near the northern end of SA-6 North, thus the remaining run of LLDPE was installed as P63. Panels P58 and P61 ran the entire width of SA-6 North (approximately 295 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 7/13/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 309+00, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/13/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P58 to P63 (installed on 7/13/16)
- ESI conducted repair activities for Panels 58 to P63 (installed on 7/13/16). A total of eleven repairs (R-262 through R-272) were observed and fixed (according to the project specifications) from Panels P58 through P63. Refer to 7/13/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of two (2) destruct samples were collected. Two fusion weld destruct samples - DS-21 and DS-22 were collected from Panel Seams P58 / P59 and P61 / P63, respectively, for laboratory analysis.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/13/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory results for destruct samples DS-21 and DS-22.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, and 7/12/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-20. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-7. Laboratory results in compliance with project specifications.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/13/16
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 7/13/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/13/16
A5 – Subgrade Approval	Sheet 11 & ESI (7/13/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 4-5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/13/16
A7 – Panel Placement Log	Pages 9-10	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/13/16
A8 – Destruct Seam Testing COC	Sheet 2	Updated for destruct samples collected on 7/13/16
A9 – Seam/Non-Destruct. Test Log	Pages 22-24	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/13/16
A10 – Repair Log	Page 14	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/13/16
A11 – Conformance COC		NA for 7/13/16
A12 – Destructive Seam Field Test	Page 2	Updated with destruct samples collected on 7/13/16
A13 – Destruct. Sample Summary	Page 2	Destruct sample summary updated with samples collected on 7/13/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A14 – Penetration & Edge Form		NA – No pipe boots / penetrations completed on 7/13/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 7/13/16
A17 – Spark Test Log		NA – no spark testing conducted on 7/13/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/14/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	75/85° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1500

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #15** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth, Kale **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P62 / P63 installed on 7/13/16 (approximate Sta. 309+00). Material to be placed from Panel P62 / P63 running approximately 80 ft. east to approximate Sta. 308+20.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting repair activities for a wrinkle observed on Panel P50 / P51. A total of four repairs (R-273 through R-276) were observed and fixed (according to the project specifications) from Panels P50 and P51. Refer to 7/14/16 *Repair Report* for additional details. The observed wrinkles were cut to allow the geomembrane to conform to the subgrade, and the cut areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While repair activities were being conducted, Langan and Entact conducted soil subgrade approval from approximate Sta. 309+00 (Panel P62 / P63 installed on 7/13/16) to approximate Sta. 308+20. Refer to *Soil Subgrade Approval* forms from 7/14/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 1, 2, and 3 of the daily photo log for 7/14/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta.309+00 (east of Panel P62 / P63) moving east to approximate Sta. 308+20. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 7/14/16 Photo Log for supporting photographs.

- During deployment of GVL, the potential for rocks or other debris to become dislodged in the soil subgrade were observed. Additional walkover and observation activities were conducted along the GVL to attempt to identify any rocks or debris (>1/2") that may have been dislodged.
- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P62 / P63 (installed on 7/13/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 309+00 (Panel P62 / P63) to approximate Sta. 308+20. A total of five panels were installed (P64, P65, P66, P67, and P68). Note: During placement of Panel P66 the roll of LLDPE terminated approximately 2/3 from the northern end of SA-6 North, thus the remaining run of LLDPE was installed as P67. Panels P64, P65, and P68 ran the entire width of SA-6 North (approximately 299 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 7/14/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 308+20, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/14/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P64 to P68 (installed on 7/14/16).
- ESI conducted repair activities for Panels P64 to P68 (installed on 7/14/16) in addition to the wrinkle repairs completed in the morning on Panels P50 / P51. A total of sixteen repairs (R-277 through R-292) were observed and fixed (according to the project specifications) from Panels P64 through P68. Refer to 7/14/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- ESI also completed the boot / penetration construction for Gas Vent GV-3 and Extraction Pump Cleanout 1. The boots were welded and sealed with methane / spark testing to be conducted at a later date.
- A total of three (3) destruct samples were collected. Two fusion weld destruct samples - DS-23 and DS-24 were collected from Panel Seams P64 / P65 and P66 / P68, respectively, for laboratory analysis. In addition, one extrusion weld destruct sample – DSX-8 was collected from Panel P61 (Repair R-270) for laboratory analysis.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/14/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory results for destruct samples DS-23, DS-24, and DSX-8.

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By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, and 7/13/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-22. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-7. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/14/16
A3 – Photo Log	Pages 1 – 6	Total of 11 photos outlining pertinent daily observations and descriptions for 7/14/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/14/16
A5 – Subgrade Approval	Sheet 12 & ESI (7/14/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/14/16
A7 – Panel Placement Log	Page 10	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/14/16
A8 – Destruct Seam Testing COC	Sheet 3	Updated for destruct samples collected on 7/14/16
A9 – Seam/Non-Destruct. Test Log	Pages 24-25	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/14/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log	Pages 14-15	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/14/16
A11 – Conformance COC		NA for 7/14/16
A12 – Destructive Seam Field Test	Page 3	Updated with destruct samples collected on 7/14/16
A13 – Destruct. Sample Summary	Page 3	Destruct sample summary updated with samples collected on 7/14/16
A14 – Penetration & Edge Form	7/14/16 Boot Forms	Pipe boot / penetrations completed for Gas Vent GV-3 and Extraction Pump Cleanout 1. To be methane / spark tested at later date.
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 7/14/16
A17 – Spark Test Log		NA – no spark testing conducted on 7/14/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/15/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	80/95° F, Partly Cloudy, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite Drainage Layer (GDL)		**TIME:**	0645 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #16** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth, Kale Novalis **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainager layer (GDL) over approved LLDPE geomembrane. Note: no soil subgrade approved and no LLDPE geomembrane installed on 7/15/16. Next area of subgrade still being prepared, graded, and compacted by Entact (to be surveyed by Maser).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from Panel P47 / P48 (approximate Sta. 311+10) to Panel P66 (approximate Sta. 308+35) along northern end of cap. Note: GDL rolls were approximately 200 ft. in length and covered approximately 2/3 of the cap (north to south). As such, GDL was deployed along the northern half to Panel P66. The southern end of the cap was covered to Panel P63 (approximate Sta. 309+00). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/15/16 Photo Log for supporting photographs.

Non-Conformance Items / Corrective Actions

- None encountered

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/15/16). No LLDPE paperwork to be completed as no subgrade was approved and no LLDPE geomembrane was installed.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, and 7/14/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-24. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-8. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/15/16
A3 – Photo Log	Pages 1 – 2	Total of 3 photos outlining pertinent daily observations and descriptions for 7/15/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/15/16
A5 – Subgrade Approval		NA – no subgrade approved for LLDPE placement on 7/15/16
A6 – Trial Weld Log		NA – no trial welds completed on 7/15/16
A7 – Panel Placement Log		NA – no LLDPE panels placed on 7/15/16
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 7/15/16
A9 – Seam/Non-Destruct. Test Log		NA – no non-destructive testing conducted on 7/15/16
A10 – Repair Log		NA – no LLDPE repair activities conducted on 7/15/16
A11 – Conformance COC		NA for 7/15/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 7/15/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 7/15/16
A14 – Penetration & Edge Form		NA – no penetration / pipe boots completed on 7/15/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 7/15/16
A17 – Spark Test Log		NA – no spark testing completed on 7/15/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/18/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/85° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 0845

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #17** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth, Kale **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainager layer (GDL) over approved LLDPE geomembrane. Note: no soil subgrade approved and no LLDPE geomembrane installed on 7/18/16. Next area of subgrade still being prepared, graded, and compacted by Entact (to be surveyed by Maser).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed along the southern end of SA-6 North from Panel P63 (approximate Sta. 309+00) to Panel P66 (approximate Sta. 308+35) along southern end of cap. Note: GDL rolls were approximately 200 ft. in length and covered approximately 2/3 of the cap (north to south). As such, GDL was deployed along the southern half to Panel P66 (northern half previously covered with GDL on 7/15/16). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/18/16 Photo Log for supporting photographs.

Non-Conformance Items / Corrective Actions

- None encountered

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/18/16). No LLDPE paperwork to be completed as no subgrade was approved and no LLDPE geomembrane was installed.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, and 7/15/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-24. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-8. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/18/16
A3 – Photo Log	Page 1	Total of 2 photos outlining pertinent daily observations and descriptions for 7/18/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/18/16
A5 – Subgrade Approval		NA – no subgrade approved for LLDPE placement on 7/18/16
A6 – Trial Weld Log		NA – no trial welds completed on 7/18/16
A7 – Panel Placement Log		NA – no LLDPE panels placed on 7/18/16
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 7/18/16
A9 – Seam/Non-Destruct. Test Log		NA – no non-destructive testing conducted on 7/18/16
A10 – Repair Log		NA – no LLDPE repair activities conducted on 7/18/16
A11 – Conformance COC		NA for 7/18/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 7/18/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 7/18/16
A14 – Penetration & Edge Form		NA – no penetration / pipe boots completed on 7/18/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 7/18/16
A17 – Spark Test Log		NA – no spark testing completed on 7/18/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/25/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	85/93° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #18** **AmecFW**: Dave Ambrose, Josh Boynton **Langan:** Dan Bosworth, Kale Novalis **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P68 installed on 7/14/16 (approximate Sta. 308+15). Material to be placed from Panel P68 running approximately 95 ft. east to approximate Sta. 307+20.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 308+15 (Panel P68 installed on 7/14/16) to approximate Sta. 307+20. Refer to *Soil Subgrade Approval* forms from 7/25/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 1, 2, and 3 of the daily photo log on 7/25/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 308+15 (east of Panel P68) moving east to approximate Sta. 307+20. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 7/25/16 Photo Log for supporting photographs.
- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P68 (installed on 7/14/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 308+15 (Panel P68) to approximate Sta. 307+20. A total of seven panels were installed (P69, P70, P71, P72, P73, P74 and P75).

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

Note: During placement of Panel P69 the roll of LLDPE terminated near the northern end of SA-6 North, thus the remaining run of LLDPE was installed as P70 and P71 (P70 and P71 remaining pieces of LLDPE from rolls previously used). Similarly, during placement of Panel P73, the roll of LLDPE terminated near the northern end of SA-6 North, thus the remaining run of LLDPE was installed as P74. Panels P72 and P75 ran the entire width of SA-6 North (approximately 280 ft.) from north to south.

- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 7/25/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 307+20, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/25/16 *Seam Control Form* for non-destructive testing details.
- ESI conducted repair activities for Panels 68 to P75 (installed on 7/25/16). A total of twenty-six repairs (R-293 through R-318) were observed and fixed (according to the project specifications) from Panels P68 through P75. Refer to 7/25/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications (Note: vacuum box testing not completed for all repairs. To be finished on 7/26/16).
- ESI also completed the pipe boot construction for Extraction Pump Cleanout Well 2.
- A total of two (3) destruct samples were collected. Two fusion weld destruct samples were collected – DS-25 and DS-26 were collected from Panel Seams P69 / P69 and P72 / P74, respectively. One extrusion weld destruct sample – DSX-9 was also collected from patch repair R29 (Panel P72) for laboratory analysis.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/25/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete boot penetration log for Extraction Pump Cleanout, Well 2
- Review laboratory results for destruct samples DS-25, DS-26, and DSX-9.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, and 7/18/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-24. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-8. Laboratory results in compliance with project specifications.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/25/16
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 7/25/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/25/16
A5 – Subgrade Approval	Sheet 13 & ESI (7/25/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/25/16
A7 – Panel Placement Log	Pages 10-11	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/25/16
A8 – Destruct Seam Testing COC	Sheet 2	Updated for destruct samples collected on 7/25/16
A9 – Seam/Non-Destruct. Test Log	Pages 25-28	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/25/16
A10 – Repair Log	Pages 15-16	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/25/16
A11 – Conformance COC		NA for 7/25/16
A12 – Destructive Seam Field Test	Page 2	Updated with destruct samples collected on 7/25/16
A13 – Destruct. Sample Summary	Page 2	Destruct sample summary updated with samples collected on 7/25/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A14 – Penetration & Edge Form	7/25/16 Boots	Pipe boot penetration log completed for Extraction Pump Cleanout Well 2
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 7/25/16
A17 – Spark Test Log		NA – no spark testing conducted on 7/25/16

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By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/27/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/98° F, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1615

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #19** **AmecFW**: Dave Ambrose, Josh Boynton **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P75 installed on 7/25/16 (approximate Sta. 307+20). Material to be placed from Panel P75 running approximately 80 ft. east to approximate Sta. 306+40.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 307+20 (Panel P75 installed on 7/25/16) to approximate Sta. 306+40. Refer to *Soil Subgrade Approval* forms from 7/27/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and one wet / soft area was identified at the top of the western slope of the utility corridor. The wet area was identified underneath the edge of the GVL panel (previously installed on 7/25/16). The GVL was pulled back and the soil subgrade was exposed. The wet area was re-worked by Entact and calcium cement was added to solidify the soil. Based on visual observation, the remaining soil subgrade (along with the re-worked wet area) appeared to be firm and unyielding with no other soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 1 to 4 of the daily photo log for 7/27/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 307+20 (east of Panel P75) moving east to approximate Sta. 306+40. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to the 7/27/16 Photo Log for supporting photographs.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P75 (installed on 7/25/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 307+20 (Panel P75) to approximate Sta. 306+40. A total of five panels were installed (P76, P77, P78, P79, and P80). Note: During placement of Panel P77 the roll of LLDPE terminated near the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P78. Panels P76, P79, and P80 ran the entire width of SA-6 North (approximately 270 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 7/27/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 306+40, ESI began to conduct non-destructive testing (pressure testing) in accordance with the project specifications. Seams were pressurized to 30 psi and held for 5 minutes with less than 5 psi loss. Refer to the 7/27/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P75 to P80 (installed on 7/25/16 and 7/27/16)
- ESI conducted repair activities for Panel P75 (installed on 7/25/16), and Panels P76 through P80 (installed on 7/27/16). A total of forty-three repairs (R-319 through R-361) were observed and fixed (according to the project specifications) from Panels P75 through P80. Refer to 7/27/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While repair activities were being conducted, ESI also completed methane / spark testing for Piezometer PZ6 and Extraction Well 1. Prior to spark testing methane testing was conducted at each location and 0.0% methane was recorded. As such, spark testing was then conducted and no sparks were observed along the base of the boot or vertical weld for both boots. Refer to the *Spark Testing Forms* from 7/27/16 for additional details.
- A total of two (2) destruct samples were collected on 7/27/16. One fusion weld destruct samples - DS-27 was collected from Panel Seams P75 / P76, for laboratory analysis. Additionally, one extrusion weld sample – DSX-10 was collected from Panel P75 Repair R-320.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 8 (Sheet #8) – Subgrade irregularity identified as R-328 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P71 / P72. Stone was subsequently removed, and hole was patched/repaired following project specs as further described in *Sheet 8 Notice of Non-Compliance.*

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/27/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory results for destruct samples DS-27 and DSX-10.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, and 7/25/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-24. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-8. Laboratory samples DS-25, DS-26, and DSX-9 still pending.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/27/16
A3 – Photo Log	Pages 1 – 7	Total of 14 photos outlining pertinent daily observations and descriptions for 7/27/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/27/16
A5 – Subgrade Approval	Sheet 14 & ESI (7/27/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 5-6	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/27/16
A7 – Panel Placement Log	Pages 11-12	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/27/16
A8 – Destruct Seam Testing COC	Sheet 2	Updated for destruct samples collected on 7/27/16
A9 – Seam/Non-Destruct. Test Log	Pages 28-30	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/27/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log	Pages 16-19	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/27/16
A11 – Conformance COC		NA for 7/27/16
A12 – Destructive Seam Field Test	Page 2	Updated with destruct samples collected on 7/27/16
A13 – Destruct. Sample Summary	Page 2	Destruct sample summary updated with samples collected on 7/27/16
A14 – Penetration & Edge Form	7/27/16 Pipe Boot Forms	One pipe boot / penetration completed for Well 115-E5-S0
A16 – Notice of Non-Compliance	Sheet 8	One subgrade irregularity identified and recorded on Sheet 8 Notice of Non-Compliance
A17 – Spark Test Log	7/27/16 Spark Test Logs	Two spark tests completed for pipe boots Piezometer PZ6 and Extraction Pumpout Well 1

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/28/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/95° F, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1745

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #20** **AmecFW**: Dave Ambrose, Josh Boynton **Langan:** Dan Bosworth, Jeff Stoicescu **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P80 installed on 7/27/16 (approximate Sta. 306+40). Material to be placed from Panel P80 running approximately 100 ft. east to approximate Sta. 305+40.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 306+40 (Panel P80 installed on 7/27/16) to approximate Sta. 305+40. Refer to *Soil Subgrade Approval* forms from 7/28/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 1, 2, and 3 of the daily photo log for 7/28/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 306+40 (east of Panel P80) moving east to approximate Sta. 305+40. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to the 7/28/16 Photo Log for supporting photographs.
- While GVL was being installed, Entact and ESI conducted spark testing for Gas Vent GV-3, and Extraction Pumpout Well #2. Prior to spark testing, methane testing was conducted by Entact and a concentration of 0.0% was measured at each boot. As such, spark testing was subsequently completed, and no sparks were observed during the test (i.e. spark test passed). Additional details regarding the

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

methane / spark testing are provided in the 7/28/16 *Spark Test Logs*.

- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P80 (installed on 7/27/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 306+40 (Panel P80) to approximate Sta. 305+40. A total of eight panels were installed (P81, P82, P83, P84, P85, P86, P87, and P88). Note: During placement of Panel P81 the roll of LLDPE terminated near the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P82. Similarly, during placement of Panel P84 the roll of LLDPE terminated near the southern end of SA-6, thus the remaining run of LLDPE was installed as Panel P85. Panel P87 also terminated near the approximate center of SA-6 North, thus the remaining LLDPE run was installed as Panel P88. Panels P83 and P86 ran the entire width of SA-6 North (approximately 260 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 7/28/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 305+40, ESI began to conduct non-destructive testing (pressure testing) in accordance with the project specifications. Seams were pressurized to 30 psi and held for 5 minutes with less than 5 psi loss. Refer to the 7/28/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P80 to P88 (installed on 7/27/16 and 7/28/16)
- ESI conducted repair activities for Panel P80 (installed on 7/27/16), and Panels P81 through P88 (installed on 7/28/16). A total of twenty-nine repairs (R-362 through R-390) were observed and fixed (according to the project specifications) from Panels P80 through P88. Refer to 7/27/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- Laboratory results for destruct sample DS-26 were received and two of the coupons were reported as EPA Break Classificaion Code “AD BRK”. Although the coupons met the peel strength requirements, since the break was reported at the weld and not considered a film tearing bond (FTB), the sample was considered a failed sample and reported as a non-conformance item.
- No destruct samples were collected due to the forecasted storms at the end of the day. Destruct samples to be cut on 8/1/16 (rain forecast for 7/29/16 – no LLDPE activities anticipated).

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 9 (Sheet #9) – Failed destruct sample DS-26 collected from Panel P72 / P74
    - Destruct sample DS-26 failed 2/5 coupons as the weld breaks were reported as “AD BRK” under the EPA Break Classification Code. Although the coupons achieved the required peel / shear strength parameters, since the break occurred at the weld and was not considered an FTB, the sample failed.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/28/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, and 7/27/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-27. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-10. Laboratory results in compliance with project specifications with the exception of destruct sample DS-26 (recorded as Non-Conformance #9).

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/28/16
A3 – Photo Log	Pages 1 – 7	Total of 14 photos outlining pertinent daily observations and descriptions for 7/28/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/28/16
A5 – Subgrade Approval	Sheet 15 & ESI (7/28/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 6	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/28/16
A7 – Panel Placement Log	Pages 12-13	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/28/16
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 7/28/16
A9 – Seam/Non-Destruct. Test Log	Pages 31-33	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/28/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log	Pages 19-20	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/28/16
A11 – Conformance COC		NA for 7/28/16
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 7/28/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 7/28/16
A14 – Penetration & Edge Form	7/28/16 Pipe Boot Form	Two pipe boot / penetrations completed for Utility Corridor Drainage Pipe and Extraction Pump Station Manhole #2
A16 – Notice of Non-Compliance	Sheet 9	One failed destruct sample: DS-26 recorded on 7/28/16. Additional details provided in Non-Conformance Log Sheet #9
A17 – Spark Test Log	7/28/16 Spark Test Logs	Spark testing completed on 7/28/16 for Gas Vent GV-3 and Extraction Pumpout Well #2

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Site Observation Report Day #20 (7/28/16) Attachment:

Response to E-mail dated August 3, 2016, transmitting amended/clarified pages of June Monthly Progress Report

Graham, Stephanie

From: Clifford, Joseph T <joseph.clifford@amecfw.com>
Sent: Friday, August 05, 2016 2:02 PM
To: Graham, Stephanie; Ambrose, David M
Subject: FW: Resolution of the SA-6 North Anomalous Destruct Sample

From: Clifford, Joseph T
Sent: Wednesday, August 03, 2016 4:51 PM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>; Kim Bell Hosea (k.bell@cea-enviro.com) <k.bell@cea-enviro.com>
Cc: Hague, William [william.hague@honeywell.com] <william.hague@honeywell.com>
Subject: Resolution of the SA-6 North Anomalous Destruct Sample

Steve/Kim,

I am sending this email on behalf of Honeywell and in response to the technical question raised during our biweekly technical call on Tue Aug 2.

Specifically, it was asked that Honeywell provide an update to a reported geomembrane destruct sample failure on a fusion weld that was identified by Langan as part of their standard 3rd party Quality Assurance (QA) testing procedures. It is noted that the failed sample met the strength requirement but the "inside" weld failed in such a manner as to be classified as a failure by the geotechnical testing lab.

The approved 100% Design Specifications and the QA Plan describe the procedures to be followed in the event of a failed destruct sample. Langan and the Amec EOR instructed the contractor to collect and run additional destruct samples 10 feet either side of the failed test. In addition an additional sample was collected from the sample for offsite testing from the location that yielded the lower field strength.

Both field tests and the supplemental offsite laboratory test passed. The contractor subsequently placed a single patch that encompasses all three destruct sample locations in accordance with the approved 100% Design. Langan observed the repair and the passing vacuum testing of the patch.

Lastly, we want to emphasize that this entire approach is not only consistent with the 100% Design, but is also industry practice, and considered a routine item when dealing with geomembrane liner installations of this scale.

Both the Langan QA manager and Amec EOR consider that the geomembrane in this location meets the specified requirements. The results will be reported and documented as part of the routine repair log as well as the next monthly progress report and final RAR documentation.

Please let us know if you have any other questions on this item.

Thank you. -Joe

amec foster wheeler

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August 5, 2016 Honeywell e-mail:
080116 June 2016 SA-6 and SA-7 Combined Progress Report 21319
(Attachment 11: Capping Update)

Graham, Stephanie

From: Hague, William
Sent: Friday, August 05, 2016 11:20 AM
To: Graham, Stephanie
Subject: FW: 080116 June 2016 SA-6 and SA-7 Combined Progress Report 21319
Attachments: Well 115-W6-SO Spark Test Log.pdf; Gas Vent GV-6 Spark Test Log.pdf; DRAFT DR_LLDPE Day#4_062416_RL Rev.docx; Piezometer PZ10 Spark Test Log.pdf

---

From: Hague, William
Sent: Friday, August 05, 2016 9:57 AM
To: 'Kim Hosea'; RGTSpecialMaster@aol.com
Cc: joseph.clifford@amecfw.com; Michael.Daneker@APORTER.COM; Jeremy.Karpatkin@aporter.com; JFarrell@jcnj.org; jwatson@jcnj.org; AAntonian@connellfoley.com; KCoakley@connellfoley.com; LWalsh@connellfoley.com; FBORIN@decotiislaw.com; KKINSELLA@decotiislaw.com; BRoss@disposalsafety.com; disabel@golub-isabel.com; Byrne, Tom; Kaouris, Maria; Morris, John; AAlcorn@tpmlaw.com; KMillian@tpmlaw.com; CPravlik@tpmlaw.com; SEgnaczyk@louisberger.com; TLewis@louisberger.com; mhogan@thewalshfirm.com; HRuiz@TheWalshFirm.com; lwalsh@thewalshfirm.com; Mojka, John; mmcwatters@louisberger.com; bdavis@tpmlaw.com
Subject: RE: 080116 June 2016 SA-6 and SA-7 Combined Progress Report 21319

Kim,

In response to your questions on the boot testing information provided in the June 2016 Study Areas 6 and7 Combined Monthly Progress Report, please see the following clarifications:
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- Langan has clarified the dates of methane testing and spark testing. Langan Site Observation Report dated 6/24/16 (4 pages is attached with redline/strikeout).
- The three individual BOOT LOG QA forms (R-1/R-7/R-38) for the first three boots completed by Langan are attached.
- Regarding the question on the explanation of abbreviations.
    - **"SEOS"** represents the **South End of Seam** which refers to the southern edge of the SA-6 North Cap. The edge of the cap is used as a reference point to record and document the repair distances, panel lengths, etc. For example, if a repair was completed 10 ft. from the south edge of the cap, it is recorded on the repair report as 10 ft. north of SEOS.
    - Similarly, **"NEOS"** represents the **North End of Seam**, or northern edge of SA-6 North.
- Langan and AmecFW both disagree with the Plaintiffs request that the boot on Well-W6-S0 should be classified as a "Non Compliance" based on not performing the spark test. Specification 02372 was amended to include the spark testing. The amended specification provides for visual inspection of an extrusion weld if spark testing is not feasible due to the methane readings consistent with standard

industry practice. The specification was followed and both the methane reading and visual observation are noted on the Boot Log QA form R-7.

- Amec/Langan confirm that Plaintiffs understanding of the pipe boot penetrations on the daily reports is correct.

- The Amec portion of the Combined Report-Section F, 9th bullet will be amended to indicate that **"Spark testing was conducted on two boots that had methane reading of <1%. Visual inspection of the extrusion weld was performed on Well 115-W6-SO boot due to methane > 1%."**

Honeywell will issue an this email as an attachment to the next Study Areas 6 and 7 Combined Monthly Progress/Highlights Report to document these clarifications.

Let us know if you have any other questions on this item.

Regards,

Bill

William J. Hague P.E.

Honeywell
Director - Remediation Design & Construction
Corporate HSE&R
115 Tabor Road
Morris Plains, NJ 07950
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

From: Kim Hosea [mailto:k.hosea@cea-enviro.com]
Sent: Monday, August 01, 2016 3:01 PM
To: RGTSpecialMaster@aol.com
Cc: joseph.clifford@amecfw.com; Michael.Daneker@APORTER.COM; Jeremy.Karpatkin@aporter.com; JFarrell@jcnj.org; jwatson@jcnj.org; AAntonian@connellfoley.com; KCoakley@connellfoley.com; LWalsh@connellfoley.com; FBORIN@decotiislaw.com; KKINSELLA@decotiislaw.com; BRoss@disposalsafety.com; disabel@golub-isabel.com; Byrne, Tom; Hague, William; Kaouris, Maria; Morris, John; AAlcorn@tpmlaw.com; KMillian@tpmlaw.com; CPravlik@tpmlaw.com; SEgnaczyk@louisberger.com; TLewis@louisberger.com; mhogan@thewalshfirm.com; HRuiz@TheWalshFirm.com; lwalsh@thewalshfirm.com; Mojka, John; mmcwatters@louisberger.com; bdavis@tpmlaw.com
Subject: 080116 June 2016 SA-6 and SA-7 Combined Progress Report 21319

We have reviewed the Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2016-06 and have the following comments and requests for additional information.

Section F, Capping Operations, states that three sparks tests of initial boot welds were conducted in June. The documentation provided in Attachment 11 – Capping Update does not support this statement. The Repair Report includes entries regarding three pipe boot penetrations:

- Repair No. 1 – Panel Number P-1, 35'North of SEOS & 8'W
- Repair No. 7 – 15'N of S EOS (PB 6")
- Repair No. 38 – Panel Number 11, 83' N of SEOS (8" Pipe)

We understand that the locations as shown on the Repair Report correspond to the pipe boot penetrations described in the Daily Reports. If our understanding is incorrect, please provide a drawing showing the panel layout and a description of the terms "SEOS" and "EOS."

While Section F, Capping Operations, states that three sparks tests of initial boot welds were conducted in June, the June 24, 2016, Site Observation Report, included in Attachment 11, indicates that only 2 of the 3 installed boots were spark tested. The Site Observation Report states that methane testing was conducted at Well 115-W6-SO, GV-6, and Piezometer PZ-10. Per the specifications, due to methane concentrations of >1.0%, no spark testing was conducted of the Well 115-W6-SO boot. Spark tests were conducted at GV-6 and PZ10 (methane <1%) and passed. Thus, based on Langan's Site Observation Report, only two spark tests were conducted in June. Section F should accurately reflect the testing that was conducted and the results.

The Repair Report, included in Attachment 11, contains entries regarding vacuum testing, but does not contain any entries for spark testing. Completed spark tests should be documented on the Repair Report and, in the event that methane concentrations are detected >1%, the lack of spark testing should be documented on the Summary of Non-Compliance & Corrective Action Forms. In addition, the QA/QC logs for the spark testing should be included in Attachment 11.

Please let me know if you have any questions or require additional information.

Thank you –

Kim Bell Hosea
President
Carpenter Environmental Associates, Inc.
610 County Route 1, Unit 2F
Pine Island, New York 10969

k.hosea@cea-enviro.com
(O) 845-781-4844 ext. 309
(F) 845-782-5591
(M) 862-812-3397

From: Graham, Stephanie [mailto:Stephanie.Graham@honeywell.com]
Sent: Thursday, July 14, 2016 4:27 PM
To: RGTSpecialMaster@aol.com
Cc: joseph.clifford@amecfw.com; Michael.Daneker@APORTER.COM; Jeremy.Karpatkin@aporter.com; Kim Hosea <k.hosea@cea-enviro.com>; JFarrell@jcnj.org; jwatson@jcnj.org; AAntonian@connellfoley.com; KCoakley@connellfoley.com; LWalsh@connellfoley.com; FBORIN@decotiislaw.com; KKINSELLA@decotiislaw.com; BRoss@disposalsafety.com; disabel@golub-isabel.com; Byrne, Tom <tom.byrne@honeywell.com>; Hague, William <william.hague@honeywell.com>; Kaouris, Maria <Maria.Kaouris@Honeywell.com>; Morris, John

<John.Morris@honeywell.com>; AAlcorn@tpmlaw.com; KMillian@tpmlaw.com; CPravlik@tpmlaw.com; SEgnaczyk@louisberger.com; TLewis@louisberger.com; mhogan@thewalshfirm.com; HRuiz@TheWalshFirm.com; lwalsh@thewalshfirm.com; Mojka, John <John.Mojka@Honeywell.com>; mmcwatters@louisberger.com; bdavis@tpmlaw.com
Subject: June 2016 SA-6 and SA-7 Combined Progress Report

Attached please find the **June 2016 SA-6 and SA-7 Combined Progress Report.**

Please note that these files have also been made available for download on the Louis Berger SharePoint Site.

Thank you,

Stephanie Graham

Amec Foster Wheeler
c/o Honeywell
115 Tabor Road
Morris Plains, New Jersey 07950
Phone: 973-455-4209

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

SHEET 1 OF 4

SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/24/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/95° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1545

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #4**
AmecFW: Stu Bills, Dave Ambrose, Ari Eslaminejad, Philemon Onyango
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) continuing east from Panel P12 / P13 installed on 6/23/16 (approximate Sta. 316+50). Material to be placed from Panel P12 / P13 running approximately 75 ft. east to approximate Sta. 315+75.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 316+50 (Panel P12 / P13 installed on 6/23/16) to approximate Sta. 315+75. Refer to *Soil Subgrade Approval* forms from 6/24/15 for additional details. Based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos 1 to 3 of the daily photo log for 6/24/2016, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications as verified by AmecFW
- GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 316+50 (east of Panel P12 / P13) moving east to approximate Sta. 315+75. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/24/16 Photo Log for supporting photographs.
- While GVL was being deployed, ESI also continued patch / repair work for the panels installed on 6/23/16 (Panels P8 to P13). Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (6/24/16).
- In addition, methane testing was conducted for the pipe boots completed for Well 115-W6-SO,

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Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Piezometer PZ10, and Gas Vent GV-6. Methane testing was conducted by AmecFW to measure the concentration of methane present below the LLDPE geomembrane. During methane testing of Well 115-W6-SO, a concentration of 1.4% (greater than 1%) was measured. No spark testing was conducted on Well 115-W6-SO due to the measured methane concentration. Instead, the weld was visually observed for deficiencies and none were noted.

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- Methane testing for PZ10 and Gas Vent GV-6 yielded methane concentrations of 0.8% and 0.0%, respectively (<1%). Following the methane testing, spark testing was conducted by ESI for the vertical weld and pipe boot weld at the base of the penetration (i.e. welds not accessible for vacuum box testing). No sparks were observed during the test, and both boots passed. Additional details are outlined in the *Spark Testing QA Form Sheets #1-3.*
- After placement of GVL, LLDPE geomembrane was installed continuing from Panel P12 / P13 (installed on 6/23/16) and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 316+50 (Panel P12 / P13) to approximate Sta. 315+75. A total of six panels were installed (P14, P15, P16, P17, P18, and P19). Note: During placement of panel P15, the roll of LLDPE terminated approx. 2/3 from the north of the cap, thus the remaining run of LLDPE was installed as P16. Panels P14, P17, P18, and P19 ran the entire width of SA-6 North (approximately 192 ft.) from north to south.
- Adjacent geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 6/24/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 315+75, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 6/24/16 *Seam Control Form* for non-destructive testing details. Additionally, repair and extrusion weld activities were also conducted for Panels P14 through P19. Additional details are also outlined on the 6/24/16 *Repair Log.*
- A total of thirty repairs (RP-44 through RP-73) were observed and fixed (according to the project specifications) from Panels P14 through P19. Refer to 6/24/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. Note: vacuum box testing not completed for all welds. To be continued on 6/27/16.
- A total of two destruct samples were collected for laboratory analysis by Entact / ESI. One fusion weld destruct sample DS-4 (Panel P15 / P17 seam) was collected for laboratory analysis. Additionally, one extrusion weld sample DSX-2 (Panel P10) was also collected for laboratory analysis.

Non-Conformance Items / Corrective Actions

- None Encountered

Action Items – Pending

- Complete Daily Report and Photo Log (for 6/24/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample data (once received from laboratory).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16 and 6/23/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1, DS-2, and DS-3. Reviewed laboratory data for extrusion weld destruct sample DSX-1.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 6/24/16
A3 – Photo Log	Pages 1 – 7	Total of 14 photos outlining pertinent daily observations and descriptions for 6/24/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 6/24/16
A5 – Subgrade Approval	Sheet 3 & ESI (6/24/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 1	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 6/24/16
A7 – Panel Placement Log	Pages 2&3	One panel placement log provided by ESI and confirmed by Langan for panels placed on 6/24/16
A8 – Destruct Seam Testing COC	Sheet 1	Updated for destruct samples collected on 6/24/16
A9 – Seam/Non-Destruct. Test Log	Pages 4 to 6	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 6/24/16
A10 – Repair Log	Pages 2 to 3	One repair log provided by ESI and confirmed by Langan for repairs completed for 6/24/16
A11 – Conformance COC		NA for 6/24/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test	Page 1	Updated with destruct samples collected on 6/24/16
A13 – Destruct. Sample Summary	Page 1	Destruct sample summary updated with samples collected on 6/24/16
A14 – Penetration & Edge Form	Sheets 1 to 3	Pipe boot skirts completed, methane testing completed for Piezometer PZ10, Well 115-W6-SO and Gas Vent GV-6 as outlined on the Sheets 1 to 3.
A16 – Notice of Non-Compliance		NA - no non-compliance issues identified on 6/24/16.
A17 – Methane / Spark Testing Log	Sheets 1 to 3	Methane testing completed for Piezometer PZ10, Well 115-W6-SO, and Gas Vent GV-6. Spark testing completed for Piezometer PZ10 and Gas Vent GV-6

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Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

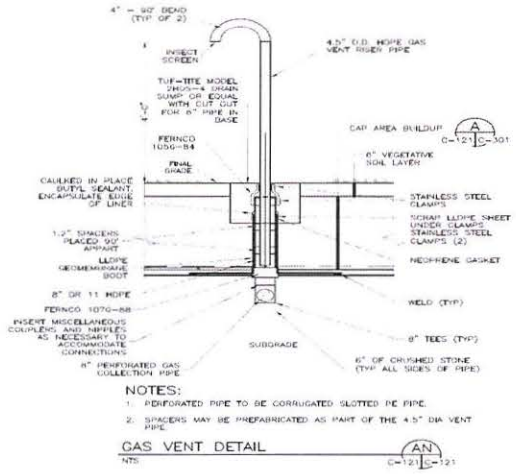
Project: Study Area 6 North

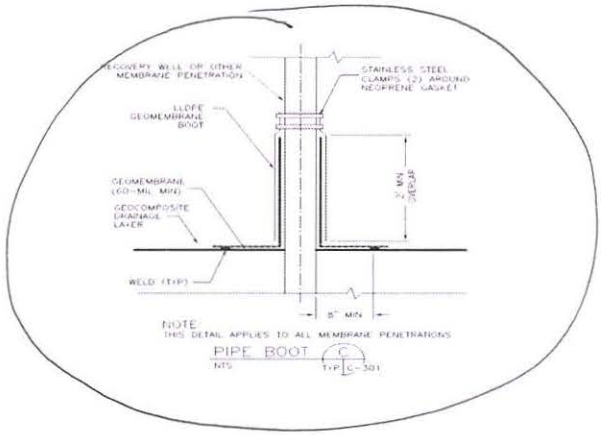
Location: Piezometer PZ10 located at approximate center of SA-6 North Cap on Panel P1 (approximately 35 ft. north of Panel P1 / P2 seam and 8 ft. west). Identified as R-1 on *As Built* and *Repair Report.*

Date: 6/24/16 **Repair Number:** R-1

Boot Log QA Form (cross-reference): 6/23/16 Piezometer PZ10 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0925*

% Methane 0.8%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 6/23/16. Methane / spark testing completed on 6/24/16 by ESI. Methane testing yielded concentration of 0.8%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature:

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

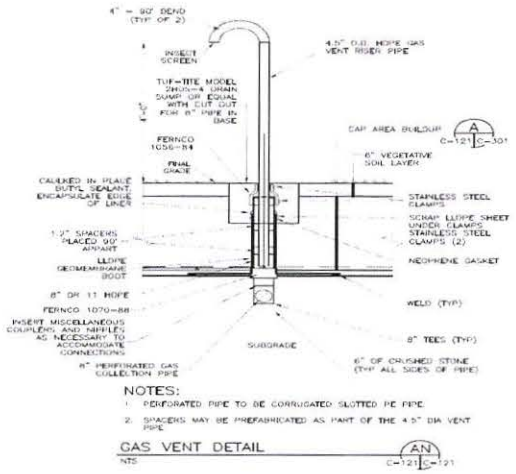
Project: Study Area 6 North

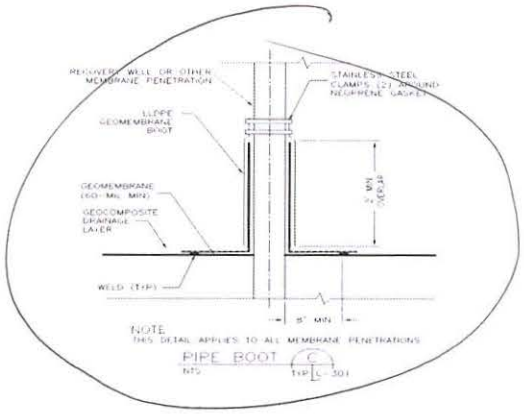
Location: Well 115-W6-SO located near southern end of SA-6 North Cap on Panel P5 / P6 seam (approximately 15 ft. north of southern end of cap). Identified as R-7 on *As Built* and *Repair Report*.

Date: 6/24/16 **Repair Number:** R-7

Boot Log QA Form (cross-reference): 6/23/16 Well 115-W6-SO Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0910*

% Methane 1.4%

☐Methane < 1%; Proceed with spark testing

☒Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☐Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot										
Vertical weld										

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 6/23/16. Methane completed on 6/24/16 by ESI. Methane testing yielded concentration of 1.4%. (>1%). As such, no spark testing was completed. The vertical weld and the weld at the base of the boot were visually observed and no deficiencies were noted.

AmecFW QA Signature:

Independent CQA Monitor Signature:

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

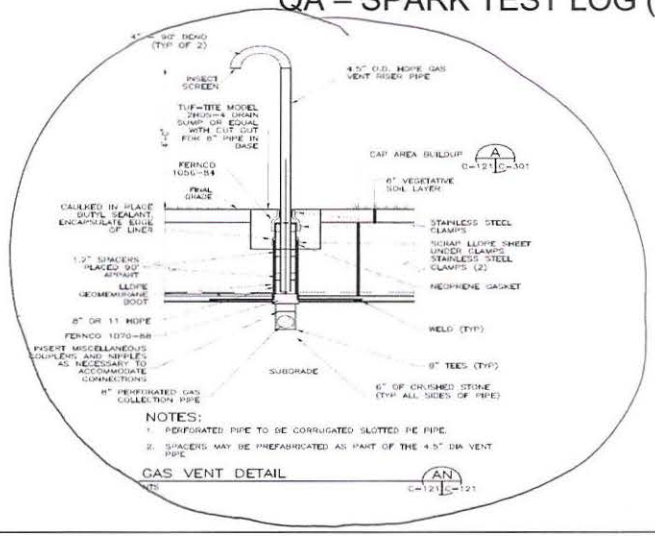
Project: Study Area 6 North

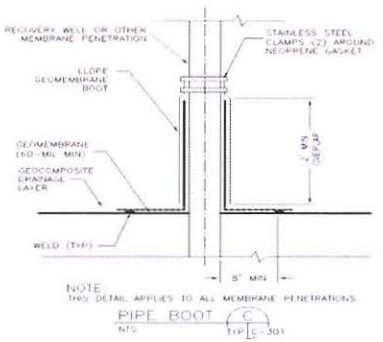
Location: Gas Vent GV-6 located near approximate center of SA-6 North Cap on Panel P11 (approximately 83 ft. north of southern end of cap). Identified as R-38 on *As Built* and *Repair Report.*

Date: 6/24/16 **Repair Number:** R-38

Boot Log QA Form (cross-reference): 6/23/16 Gas Vent GV-6 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0915*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 6/23/16. Methane / spark testing completed on 6/24/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature:

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 1, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance		X		1
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		2
Ponded Storm Water	X			
Housekeeping		X		3

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 07/05/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, July 01, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Sediment has accumulated on Kellogg Street, just outside of the SA-6 South truck entrance/exit gate.
2	IA2Q4A1AL8	Filter fabric in the catch basins on the eastern SA-7 haul road has become blinded with sediment and/or damaged.
3	IA2Q4A1AL8	Garbage and refuse is present on SA-7 between the western haul road and the Hackensack River bulkhead.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: Signature Date: 07/05/16

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Clean/shovel sediment from the western end of Kellogg Street, particularly along the perimeter fenceline.	7-7-16, RAV
2	Replace filter fabric in the catch basins as needed.	
3	Pick up and dispose of garbage/debris on western SA-7	

Construction Manager: Date: 07/07/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 8, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		2
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage		X		3
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		4

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 07/11/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, July 08, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJI f

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Garbage and refuse are present along the outside of the perimeter fence on Kellogg Street and along the Kellogg Street jughandle.
2	IA2Q4A1AL8	The top of sheetpile in the area of the JCIA trash pit is approximately at currently-existing grade and stormwater can accumulate and flow into the northern cap area.
3	IA2Q4A1AL8	An O2 tank by the c-boxes on the SA-7 northern access roadway is missing its protective valve cap.
4	IA2Q4A1AL8	Garbage and other debris is present in the Rt. 440 pedestrian walkway to the east of SA-6 North.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 07/11/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Pick up and dispose of garbage/debris located along the outside of the Kellogg Street fenceline	7/11/16 RAD
2	Construct a berm along the top if the sheetpile in the vicinity of the old JCIA trash pit to prevent stormwater from running into the cap area.	7/11/16 RAD
3	Replace the missing cap on the O2 bottle by the c-boxes on SA-7	cap replaced 7/11/16 RAD
4	Pick up and dispose of garbage/debris located in the eastern SA-6 North pedestrian walkway.	7/11/16 RAD

Construction Manager: _____ Date: 07/13/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 15, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		1
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		2
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 07/18/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, July 15, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJI f

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	The sediment bag in the stormwater catch basin at the western end of Kellogg Street (next to the truck entrance gate) requires maintenance.
2	IA2Q4A1AL8	The N-2 perimeter pool riser on the north side of SA-7 is being impacted by stormwater during rain events.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 07/18/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Replace the sediment bag in the catch basin.	7-21-16 RAD
2	Construct a berm around the perimeter pool N-2 grate out of sandbags or other appropriate material to prevent stormwater run-off from entering the riser.	✓

Construction Manager: _____ Date 07/21/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 22, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		2
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 07/25/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, July 22, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJIf

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen on the perimeter fence by the Kellogg Street jughandle requires maintenance.
2	IA2Q4A1AL8	The sediment bag in the stormwater catch basin on the southern side of the Groundwater Treatment Plant on SA-6 North requires maintenance.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 07/25/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Repair or replace windscreen fabric as required.	7/28/16 RAD
2	Replace the filter fabric in the catch basin to the south of the GWTP	↓

Construction Manager: _____ Date: 07/28/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 29, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☑ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance		X		2
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		3
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		4
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		5
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 08/01/16

SWPPP Observer: G Pfeiffer
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, July 29, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJIf

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Sediment has accumulated against the silt fence on the western end of the south cap and some of the silt fence is not properly toed in.
2	IA2Q4A1AL8	Sediment has accumulated on the western end of Kellogg Street, particularly where it is piled up against the western curb at the end of the street and also along the northern edge.
3	IA2Q4A1AL8	Stormwater has ponded at several locations on the south side of the SA-6 South cap area
4	IA2Q4A1AL8	Additional Exclusion Zone signage is needed along the south side of the SA-6 North EZ and a CRZ must be properly delineated/identified.
5	EEPSQUO2YB	Silt fence and erosion control measures around the Novartis stockpile area require maintenance.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 08/01/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Remove sediment which has accumulated more than half-way up the fabric and toe in silt fence where required.	8/4/16 RAD
2	Remove accumulated sediment from the roadway.	
3	Pump ponded stormwater as required.	
4	Place additional EZ signs on the southern edge of the Exclusion Zone and label the CRZ area	
5	Repair or replace erosion control measures around the Novartis stockpile area as required.	

Construction Manager: _____ Date: 08/04/16

Attachment 13: GWTP Update (525/575 Route 440 GWTP PVSC Discharge Monitoring Report (submitted June 2016)

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

July 19, 2016

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the June 2016 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
6	01	16	6	30	16
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	76,973	83,596 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	0.67	0.73	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.1	<5.1	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.17937	0.17937	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analytes are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris VP

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

7/19/2016

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
6	01	16	6	30	16
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,309,202 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 66,252,920

DATE	BOD (mg/l)	TSS (mg/l)
6/9/2016	<5.0	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE 7/19/2016

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG Honeywell Jersey City GWTP; SA-6 North (Permit #20630025) MONTH: June, 2016

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits		5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
6/1/2016	Angel Trujillo	63943718	64021930	78,212	0.078212	7.01	1.040									0.68
6/2/2016	Angel Trujillo	64021930	64099220	77,290	0.07729	7.08	1.040									0.67
6/3/2016	Angel Trujillo	64099220	64174820	75,600	0.0756	7.98	1.040									0.66
6/4/2016	Angel Trujillo	64174820	64256270	81,450	0.08145	7.92	1.040									0.71
6/5/2016	Angel Trujillo	64256270	64332213	75,943	0.075943	8.10	1.040									0.66
6/6/2016	Angel Trujillo	64332213	64408156	75,943	0.075943	7.95	1.040									0.66
6/7/2016	Angel Trujillo	64408156	64487026	78,870	0.07887	8.09	1.040									0.68
6/8/2016	Angel Trujillo	64487026	64564698	77,672	0.077672	7.97	1.040									0.67
6/9/2016	Angel Trujillo	64564698	64644458	79,760	0.07976	6.95	1.040	<5.1	<5.0		<0.010	<0.030	<0.010	<0.0002	<0.020	0.69
6/10/2016	Angel Trujillo	64644458	64720510	76,052	0.076052	8.11	1.040									0.66
6/11/2016	Angel Trujillo	64720510	64799545	79,035	0.079035	7.90	1.040									0.69
6/12/2016	Angel Trujillo	64799545	64878580	79,035	0.079035	7.99	1.040									0.69
6/13/2016	Angel Trujillo	64878580	64955502	76,922	0.076922	7.85	1.040									0.67
6/14/2016	Angel Trujillo	64955502	65036750	81,248	0.081248	8.01	1.040									0.70
6/15/2016	Angel Trujillo	65036750	65109326	72,576	0.072576	7.00	1.040									0.63
6/16/2016	Angel Trujillo	65109326	65189252	79,926	0.079926	8.23	1.040									0.69
6/17/2016	Angel Trujillo	65189252	65266398	77,146	0.077146	8.05	1.040									0.67
6/18/2016	Angel Trujillo	65266398	65342976	76,578	0.076578	7.77	1.040									0.66
6/19/2016	Angel Trujillo	65342976	65419446	76,470	0.07647	7.80	1.040									0.66
6/20/2016	Angel Trujillo	65419446	65495916	76,470	0.07647	7.91	1.040									0.66
6/21/2016	Angel Trujillo	65495916	65573388	77,472	0.077472	8.14	1.040									0.67
6/22/2016	Angel Trujillo	65573388	65651421	78,033	0.078033	7.79	1.040									0.68
6/23/2016	Angel Trujillo	65651421	65706685	55,264	0.055264	7.74	1.040									0.48
6/24/2016	Angel Trujillo	65706685	65790281	83,596	0.083596	7.78	1.040									0.73
6/25/2016	Angel Trujillo	65790281	65867596	77,315	0.077315	7.86	1.040									0.67
6/26/2016	Angel Trujillo	65867596	65941703	74,107	0.074107	7.80	1.040									0.64
6/27/2016	Angel Trujillo	65941703	66015810	74,107	0.0741	7.77	1.040									0.64
6/28/2016	Angel Trujillo	66015810	66097814	82,004	0.082004	7.72	1.040									0.71
6/29/2016	Angel Trujillo	66097814	66173494	75,680	0.07568	7.86	1.040									0.66
6/30/2016	Angel Trujillo	66173494	66252920	79,426	0.079426	7.84	1.040									0.69
TOTAL				**2,309,202**	**2.309202**			<5.1	<5.0		<0.010	<0.030	<0.010	<0.0002	<0.020	
			High:	**83,596**											**High:**	**0.73**
			Average:	**76,973**											**Average:**	**0.67**

WW

E

JC21877

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell — Chain Of Custody / Analysis Request

AESI Ref: 42530.51425
COC#: 087-WW-060916

Privileged & Confidential

Site Name: Hudson County
Phase: CS
Location of Site: Jersey City, NJ
Sampling Program: 087: JCIA

Lab Proj # (SDG):
Lab ID: ACTD
Site ID: HudsonCo
Lab Job #: HWINJM32815
Authorized User: Honeywell

Sampling Co.: MACTEC
EDD To:
Client Contact: (name, co., address)
Sampler: Frank Schroyer
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com
PO #
Honeywell International
101 Columbia Road Morristown, NJ 07962
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Preliminary Data To
Sample Receipt Acknowledgement To: Frank Schroyer
Hard Copy To: Helen Fahy (Honeywell)
Full Report TAT: 28 Days
Invoice To: Helen Fahy (Honeywell)

Text & Excel File Drive | Excel & Text File Order

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	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
				Sample Identification							Units		Preservative	3	3	3	1	2	2	0	0	2						
1	087-WW			087-WWE-060916-A	6/9/2016	14:25	WW	WATER	REG	5	comp	N	X	X	X	X			X	X		1					
2	087-WW			087-WWE-060916-B	6/9/2016	14:30	WW	WATER	REG	5	grab	N					X	X				2				L26	
3	087-WW			087-WWI-060916	6/9/2016	14:40	WW	WATER	REG	3	grab	N									X	3				V338	
4																										A15	
5																										G23	
6																											
7																											
8																											
9																											
10																											
11																											
12																											

INITIAL ASSESSMENT 3A DOM
LABEL VERIFICATION JV

Relinquished by: 6.95 s.u. @ 8.3°C	Company	AMEC Foster Wheeler	Received by	Company		Condition	Custody Seals Intact
Frank Schroyer	Date/Time 6/9/16		TCTemp	Date/Time 6-9-16 1540		Cooler Temp.	
Relinquished by	Company		Received by	Company		Condition	Custody Seals Intact
TCTemp	Date/Time 6-9-16 1540			Date/Time 6-9 1740	5.1°C	Cooler Temp.	250

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)· 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

ALL SAMPLES PRESERVED

Study Areas 6 and 7 Combined Progress Report No. 2016-07
Attachment 13: GWTP Update

SGS Accutest LabLink@917142 13:11 06-Jul-2016

Report of Analysis

4.1 4

Client Sample ID:	087-WWE-060916-A		
Lab Sample ID:	JC21877-1	**Date Sampled:**	06/09/16
Matrix:	AQ - Water	**Date Received:**	06/09/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1040	10	ug/l	1	06/11/16	06/13/16	AB	EPA 200.7 [2]	EPA 200.7 [3]
Copper	< 10	10	ug/l	1	06/11/16	06/13/16	AB	EPA 200.7 [2]	EPA 200.7 [3]
Lead [a]	< 30	30	ug/l	10	06/11/16	06/13/16	AB	EPA 200.7 [2]	EPA 200.7 [3]
Mercury	< 0.20	0.20	ug/l	1	06/13/16	06/13/16	JPM	EPA 245.1 [1]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	06/11/16	06/13/16	AB	EPA 200.7 [2]	EPA 200.7 [3]
Zinc	< 20	20	ug/l	1	06/11/16	06/13/16	AB	EPA 200.7 [2]	EPA 200.7 [3]

(1) Instrument QC Batch: MA39615
(2) Instrument QC Batch: MA39617
(3) Prep QC Batch: MP94237
(4) Prep QC Batch: MP94261

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

SGS Accutest LabLink@917142 13:11 06-Jul-2016

Report of Analysis

4.1 4

Client Sample ID:	087-WWE-060916-A		
Lab Sample ID:	JC21877-1	**Date Sampled:**	06/09/16
Matrix:	AQ - Water	**Date Received:**	06/09/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	06/11/16 08:00	SP	SM2540 D-11
pH [a]	6.94		su	1	06/09/16 19:10	SUB	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

SGS Accutest LabLink@917142 13:11 06-Jul-2016

Report of Analysis

Client Sample ID:	087-WWE-060916-A		
Lab Sample ID:	JC21877-1A	**Date Sampled:**	06/09/16
Matrix:	AQ - Water	**Date Received:**	06/09/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.2 4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 5.0	5.0	mg/l	1	06/09/16 21:25	LS	SM5210 B-11

RL = Reporting Limit

SGS Accutest LabLink@917142 13:11 06-Jul-2016

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-060916-B		
Lab Sample ID:	JC21877-2	**Date Sampled:**	06/09/16
Matrix:	AQ - Water	**Date Received:**	06/09/16
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	N255408.D	1	06/10/16	BM	n/a	n/a	VN10794
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	10	1.3	ug/l	
107-13-1	Acrylonitrile	ND	10	1.2	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	4.4	1.0	0.11	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.14	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	3.9	1.0	0.19	ug/l	
108-90-7	Chlorobenzene	0.24	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.19	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.73	ug/l	
67-66-3	Chloroform	27.7	1.0	0.11	ug/l	
74-87-3	Chloromethane	ND	1.0	0.22	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.19	ug/l	
95-50-1	1,2-Dichlorobenzene	0.34	1.0	0.15	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.15	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.54	ug/l	
75-34-3	1,1-Dichloroethane	0.36	1.0	0.16	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.22	ug/l	
156-59-2	cis-1,2-Dichloroethene	69.4	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.0	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.17	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.16	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.17	ug/l	
123-91-1	1,4-Dioxane	ND	130	27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.11	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.93	1.0	0.16	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.18	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@917142 13:11 06-Jul-2016

Report of Analysis

Client Sample ID:	087-WWE-060916-B		
Lab Sample ID:	JC21877-2	**Date Sampled:**	06/09/16
Matrix:	AQ - Water	**Date Received:**	06/09/16
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3 4

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.12	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.17	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.18	ug/l	
79-01-6	Trichloroethene	67.6	1.0	0.16	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.55	ug/l	
75-01-4	Vinyl chloride	1.5	1.0	0.19	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	110%		72-125%
2037-26-5	Toluene-D8 (SUR)	101%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	105%		74-115%
1868-53-7	Dibromofluoromethane (S)	103%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@917142 13:11 06-Jul-2016

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-060916-B		
Lab Sample ID:	JC21877-2	**Date Sampled:**	06/09/16
Matrix:	AQ - Water	**Date Received:**	06/09/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.1	5.1	mg/l	1	06/10/16 21:20	CB	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

- SA-6 North & South Design Change Tracking Log
- Design Change Bulleting 2016-07-12: SA-6 North Clarify location of Sand Bentonite Plug

SA-6 North & South Design Change Tracking Log

(Attachment 14: SA-6 North & South Design Change Tracking Log)

SA-6 North/South Field Change Log - Month Ending July 2016

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2014-6-10	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-6-10 includes the french drain installation, as well as pump and access station manholes for SA-6 South. Some design details, including the electrical design, will be finalized based field obersvations and constructability review.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2014-11-20	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-11-20 includes the french drain installation, electrical supply and discharge piping for SA-6 North.	Submitted to Contractor only.
DC 2016-6-10	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-6-10 includes the revised electrical supply and discharge piping for SA-6 North.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2015-2-12	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-2-24 is a follow up to DC 2014-6-10, the SA-6 South CGWES trench design. DC 2015-2-24 includes details for electrical supply and discharge piping.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2014-2-24	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to document the changes in the SA 6 North and South cap subgrades that resulted from the change to a trench system.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2015-9-03	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-9-03 is a follow up to DC 2015-2-24, the SA-6 South CGWES electrical supply. DC 2015-9-03 provides a revised electrical plan.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016

SA-6 North/South Field Change Log - Month Ending July 2016

Changed Item Identifier	Description of Change	Comments
DC 2016-5-24	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to address the elimination of a drop structure, the elmination of a flow meter, conduit sizing changes, and to clarify Entact's scope.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead.	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA-6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.

SA-6 North/South Field Change Log - Month Ending July 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Parties on July 2, 2015.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groundwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.
DC 2015-06-18	Bayfront Redevelopment Civil Designer has eliminated one utility corridor along the eastern portion of SA-6 South (water main and sewer line were relocated to another utility corridor). In addition, it was identified that minor increases in the Bayfront final grades of up to 0.25 feet may be made in the landscaped areas (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 South Consent Decree and the 100% Design.	Submitted to all Parties on June 18, 2015.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.
DC 2015-11-12	Amec Foster Wheeler has provided Final Cap Grades (in CAD) to Entact. Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.	Submitted to Contractor only.
DC 2016-04-15	Amec Foster Wheeler has provided final restoration grades for SA-6 South Development Area. The DCB also includes the final cover types in revised Drawing C-128.	Submitted to Contractor only.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on 6/22/15.
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.

SA-6 North/South Field Change Log - Month Ending July 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-10-06	GCL is required to be installed over the SCB wall and Barrier Wall at the locations shown in the annotated PDF of C-121 (rev 4, 8/13/15).	Submitted to Contractor only.
DC 2015-07-22	Detail BN has been modified to extend the LLDPE up and over the SCB Wall. The prior detail showed both the GDL and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-28	Drawing 304, Detail CE and associated notes regarding the "Liner Anchor to Concrete Structure" have been modified.	Submitted to Contractor only.
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only.
DC 2015-07-31	The sheet pile pair is located at Sta. 0+50. Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.	Submitted to Contractor only.
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA-6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending July 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	Submitted to Contractor only.
DC 2015-11-18	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	Submitted to Contractor only.
DC 2015-09-28	Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling.	Submitted to Parties on October 1, 2015.
DC 2015-12-21	Amec Foster Wheeler (AmecFW), Entact and Maser Consulting have developed alternative methods for documentation/survey of the excavation bottom in Site 163. The alternative methods were developed in light of safety considerations for surveyor access into a sheet piled excavation to elevation –8.0. The bottom of the excavation will be in very low strength Stratum O soils. These alternative survey control methods are different from those previously used in the SA-6 South Development Area.	Submitted to Contractor only.
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.
DC 2015-10-22	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only.
DC 2015-12-14	Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds that cannot be tested by other means. Spark testing will be performed in accordance withASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative. Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	Submitted to Parties on January 14, 2016.

SA-6 North/South Field Change Log - Month Ending July 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-12-01	EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation. A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals. EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits. A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.	Submitted to Contractor only.
DC 2016-02-03	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design.	Submitted to Contractor only.
DC 2016-02-22	AmecFW revised the SA-6 North cap subgrade in a single localized area in order to accommodate Entact's request to relocate Pump Station #1 (RFI 64). The subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location. In addition, for grading purposes, any hydraulic barrier sheets within the Sedimentation Basin that have sections below elevation 12.0 will be trimmed to a uniform elevation of 11.5.	Submitted to Contractor only.
DC 2016-02-25	This DCB has been issued to provide Entact with the latest SA-6 North HB Wall and SCB wall plan and profile drawings (SN-201 thru SN-205), which were modified to reflect changes made in DC 2016-02-22.	Submitted to Contractor only.
DC 2016-05-03	The laboratory results of all gradations for planting soils shall be presented in terms of the USDA classification system rather than the USCS classification system.	Submitted to Contractor only.
DC 2016-03-18	This DC 2016-03-18 documents the revised acceptable ranges of physical parameters and provides an updated specification made in consultation with Dr. Grabosky of Rutgers University. Dr. Grabosky provided his recommendations in correspondence dated 3/17/2016.	Submitted to Parties on March 22, 2016. Plaintiffs responded in a letter dated April 15, 2016. Plaintiffs and Honeywell subsequently held discussions and DCB 2016-04-20 was developed to document an agreement reached by all parties on the Special Master All-Hands monthly call on April 19, 2016.
DC 2016-03-21	Nature's Choice was identified as the source that best met the physical requirements for Horizon C soils by Dr. Grabosky; however, several samples of Nature's Choice Horizon C soils have hexavalent chromium concentration >1.0 mg/kg. Consequently, Honeywell is proposing a design change to allow the hexavalent chromium concentration in Nature's Choice Horizon C soils to be less than 1.8 mg/kg, as agreed to by the parties, as documented in the attached emails. For future sampling, hexavalent chromium soil samples will be composited from 10 grab sample locations per 5,000 CY (maximum). There are additional conditions in Attachment A that are part of this DCB and specific to Nature's Choice Horizon C soil. All other requirements specified in the 100% Design for imported soils will be met by the Nature's Choice Horizon C soils as amended in previous DC 2015-09-17.	Submitted to Parties on March 22, 2016.
DC 2016-04-20	This DCB documents the approved sources of Horizon B and Horizon C materials, as agreed to by all parties on the Special Master All-Hands monthly call on April 19, 2016.	Submitted to Parties on April 21, 2016.
DC 2016-05-06	To allow for traffic flow within the project site following completion of the SA-6S Cap, a road will be installed within the "B Street" corridor. The road will be constructed by continuing the "Structural Fill under Roadways to within 6 inches of final grade"	Submitted to Parties on June 30, 2016.
DC 2016-05-31	This DCB documents the vault sketch Drawing C-310 (Rev 5, 5/31/16)	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending July 2016

Changed Item Identifier	Description of Change	Comments
DC 2016-5-11	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design. As part of DC 2016-5-11, AmecFW issued SA-6 North Interim Grades to Entact.	Submitted to Contractor only.
DC 2016-5-20	After further review, AmecFW lowered the geomembrane Pump Station #1 on the SA-6 North cap in order to provide additional separation between the geomembrane and the bottom of the vault. (Refer to DC 2016-02-22).	Submitted to Parties on June 15, 2016.
DC 2016-7-12	DC 2016-7-12 clarifies the limit of GCL deployment and the location of the sand bentonite plug in the SA-6 North cap.	Included as an attachment to this log.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

Design Change Bulleting 2016-07-12: SA-6 North Clarify location of Sand Bentonite Plug

(Attachment 14: SA-6 North & South Design Change Tracking Log)

Honeywell RES

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** **Type:** Minor(a) **Effective Date:** 7/12/16
Project Location: SA-6 North **Title:** Clarify location of Sand Bentonite Plug	**Associated RFI:** ☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description.

Drawing CN-516 indicates the limit of the GCL deployment. Where the top of the Barrier Wall is below elevation 7.0, a sand bentonite plug will be installed as shown on Section C-C. The intent of the plug is to provide a connection between the GCL and Barrier wall in locations where the cap may be below the groundwater. The plug is isolated to two utility corridors. The plug limits are noted on Section C-C.

In the remainder of the areas where the Barrier Wall is at or above elevation 7.0, the GCL will be carried over the wall as shown in Section D-D. The GCL should be in intimate contact with the top of the Barrier Wall.

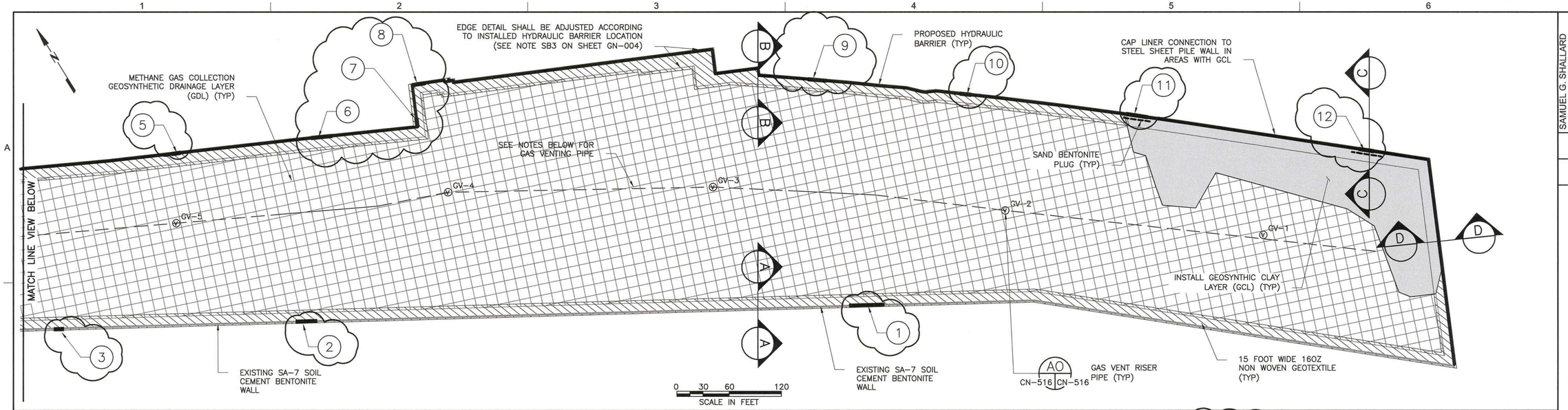
Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** Clarification of drawing CN-516, incorporated into DC 2016-2-25 in an e-mail to ENTACT dated 5/4/16 **Attachments:** ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** CN-516

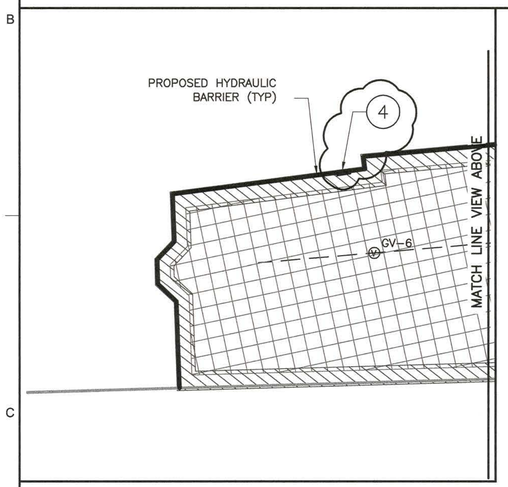
Honeywell (AP) Review:

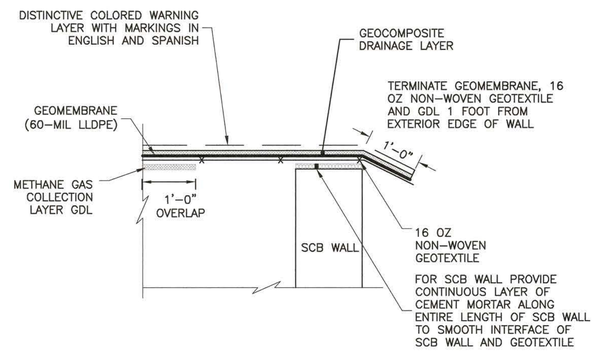
Individual: Geoff Shallard	**Discipline:** EOR	**Initial:**	**Date:**
(Name / Signature):		**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**	

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.







SECTION A–A
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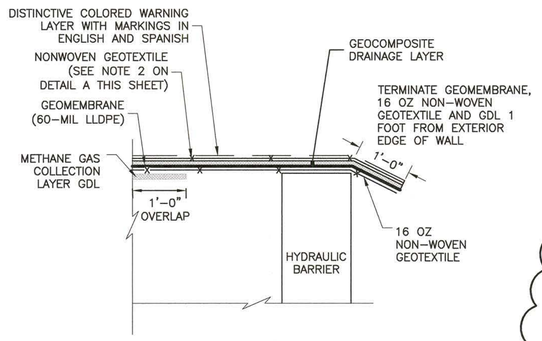

SECTION B–B
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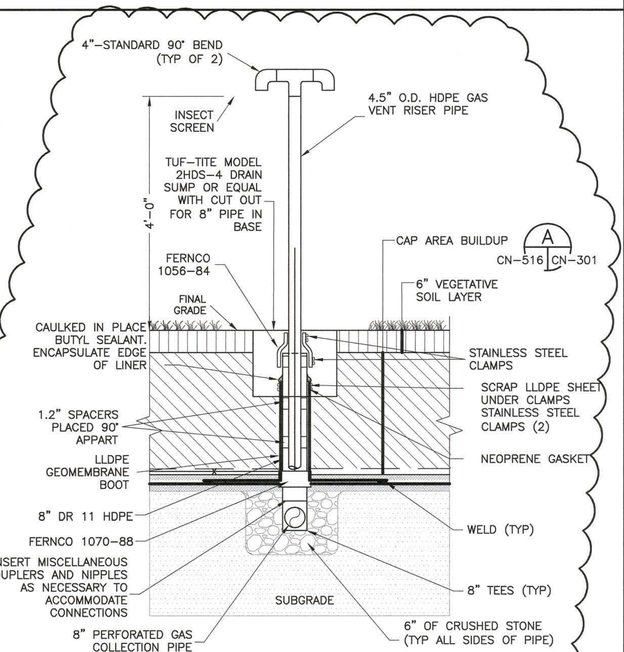


NOTES:

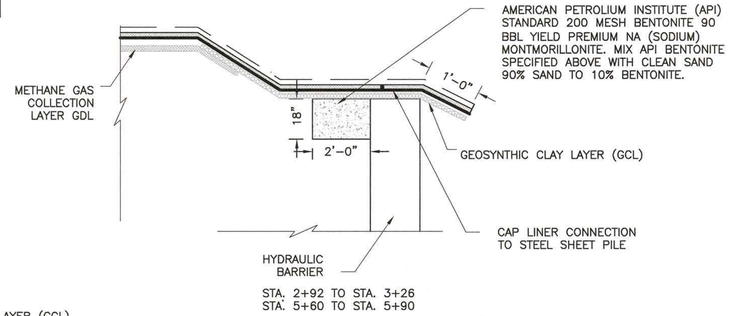
1. PERFORATED PIPE TO BE CORRUGATED SLOTTED PE PIPE.
2. SPACERS MAY BE PREFABRICATED AS PART OF THE 4.5" DIA VENT PIPE.

GAS VENT DETAIL
NTS
CN-516 CN-516

GEOFOAM BLOCK SUMMARY

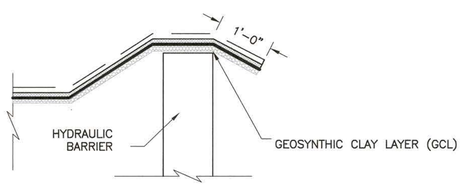
NUMBER	LENGTH
1	40'
2	24'
3	11'
4	10'
5	10'
6	24'
7	10'
8	15'
9	21'
10	13'
11	25'
12	17'

GEOFOAM BLOCKS EPS 19 4' WIDE x 1' THICK LENGTH VARIES



STA. 2+92 TO STA. 3+26
STA. 5+60 TO STA. 5+90

SECTION C–C
(SAND BENTONITE PLUG)
NTS



SECTION D–D
(NO SAND BENTONITE PLUG)
NTS

NOTES:

1. HORIZONTAL GAS VENTING PIPE SHALL BE 8" ADS SINGLE WALL HEAVY DUTY PERPETRATED PIPE WITH ANNULAR INTERIOR AND EXTERIOR CORRUGATIONS OR APPROVED EQUAL.
2. PIPING JOINTS SHALL BE MADE WITH SPLIT OR SNAP COUPLINGS. STANDARD CONNECTIONS SHALL MEET THE REQUIREMENTS OF THE ASTM F405 OR ASTM F667. GASKETED CONNECTIONS SHALL INCORPORATE A CLOSED-CELL SYNTHETIC EXPANDED RUBBER GASKET MEETING THE REQUIREMENTS OF ASTM D1056 GRADE 2A2.
3. ALL PIPE FITTINGS SHALL CONFORM TO ASTM F405 OR ASTM F667.
4. PIPE AND FITTING MATERIAL SHALL BE HIGH DENSITY POLYETHYLENE CONFORMING WITH THE MINIMUM REQUIREMENTS OF CELL CLASSIFICATION 423410C AS DEFINED AND DESCRIBED IN THE LATEST VERSION OF ASTM D3350; OR ASTM D1248 TYPE III, CLASS C, CATEGORY 4, GRADE P33.

NO.	DATE	REVISION	BY	APVD
4	07/12/16	DCB 062 SAND BENTONITE PLUG CLAIRIFICATION	TDD	SGS
3	02/01/16	DCB 054 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS
2	08/12/14	DCB 13 BARRIER WALL REALIGNMENT	RJR	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

SAMUEL G. SHALLARD
N.J PROFESSIONAL ENGINEER LICENSE NUMBER 43507

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Honeywell
115 TABOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

GAS VENTING SYSTEM AND DETAILS

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619 (609) 587-7293
NJ Cert of Authorization 24GA28019500

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-516
SHEET	52 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR52-C-516 GAS VENTING.dwg PLOT DATE: Tue, 12 Jul 2016 PLOT TIME: 12:32 PM

SA-6 AND SA-7 COMBINED PROGRESS REPORT

SEPTEMBER 12, 2016

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

September 12, 2016

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2016-08

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from August 1 – August 31, 2016.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Global Director, Remediation
Design and Construction

WJH:jtc/sgf

Attachment: August 2016 SA-6/7 Combined Monthly Progress Report No. 2016-08

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.
Mary Hogan - Walsh Pizzi O'Reilly Falanga LLP (electronic copy)
Hector Ruiz - Walsh Pizzi O'Reilly Falanga LLP (electronic copy)
Liza Walsh - Walsh Pizzi O'Reilly Falanga LLP (electroni copy)

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2016-08

Project SA-6 & 7 Remediation

August 2016

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
08/08/16	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2016-05	Honorable Robert G. Torricelli Office of the Special Master
08/08/16	Response to Comments Temporary Construction Road – Design Change Bulletin SA-6 South Chrome Remedy Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
08/09/16	Special Master Conference Call	n/a
08/10/16	3 Year Sampling Results Treatment Areas 7 and 8 SA-6 North (Site 087) Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
08/10/16	NJDEP approved DGW permit for the continued treatment works SA-6 North Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
08/10/16	Honeywell - Culver Circle, Jersey City Notification to NJDOT SA-6 North Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
08/11/16	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
08/16/16	Evaluation of Options for Treatment Area 7 SA-6 North (Site 087) Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master

SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	08/07/26	08/14/16	08/21/16	08/28/16
Construction Management (AMEC)	10	9	10	12
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	37	36	33	31
Arecon/US Ecology Subcontractors	0	1	0	0
ESI	12	12	3	0
Lagan	1	1	1	1
ERFS	0	0	0	1
Evoqua	2	1	1	1
B&B Drilling	1	1	0	1
Cornerstone	1	2	0	0
TOTAL STAFF	**69**	**68**	**53**	**52**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Conducted S-3 Mass Removal Injection Event No. 31 in injection well 088-IW-03.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Raised the PW-3 Pump elevation to the top of screen.
- Completed perimeter air monitoring activities on SA-6 North. As of July 1, 2016, all intrusive activities are complete. As only site grading and restoration activities remain, air monitoring will be completed using hand-held portable devices for nuisance dust.
- PVSC personnel removed the spare 72” force main repair components stored on SA-7 on August 18, 2016.
- Obtained a Discharge to Groundwater-Permit by Rule from NJDEP for additional injections in treatment area 10-1.
- ERFS installed a total of 10 injection wells in Treatment Area 10-1. On August 4, 2016, received the NJDEP – Discharge to Groundwater Permit authorization for the additional in-situ treatment injections at this location.
- Began installation of CGWES components within the SA-6 South Open Space and the SA-6 North Open Space Areas to include installation of the valve vaults and link seals.
- Completed resampling of 124-MW-106T (results pending, will be provided when available.)

- Collected August PVSC compliance sample from the Construction Water Treatment Plant (CWTP).

B. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned downstream process tanks T-300 (neutralization tank) and T-400 (effluent tank).
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on August 9, 2016.
- Contracted with mechanical contractor, Brownfield Science & Technology, Inc. (BTSI), to complete piping installation from the CGWTS force mains to the neutralization tank in accordance with the PVSC permit.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	08/07/26	08/14/16	08/21/16	08/28/16
Avg. Gallons Treated & Discharged (per day)	76,768	77,362	77,405	77,197
Average Flow (gpm) for Operating Period	55	56	55	55
Avg. Hours of Plant Operation	23	23	23	23
GWTP Influent Tanks (gal.)	3,540	4,560	2,880	3,648

C. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Continued placing backfill as part of site restoration in the SA-6 South Development Area.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/FCI	Roll-off	Sarnia, Ontario Canada	Stablex	WWTP Filer Cake	1	18.4	18.4

2. EXCAVATION & BACKFILL PROGRESS

Description	Areas
Backfill in Progress	Historic Fill Soils – SA-6 South Development Area

3. BACKFILL MATERIALS USED

Source	Week Ending			
	08/07/16	08/14/16	08/21/16	08/28/16
Natures Choice Horizon C	0	0	0	6,113.75
Tilcon Mt. Hope DGA	0	0	0	176.57
Tilcon Mount Hope I-8	886	1,263	504	1661
Natures Choice Topsoil	0	539	1,138	875
Tilcon 3/8" Stone	51.76	0	26.53	0
Weldon Screenings	0	377.68	0	0

- Overburden historic fill soils with hexavalent chromium concentrations confirmed to be < 20 mg/kg soils were transferred and placed as backfill the SA-6 South Development Area.
- Screened Celgene material was placed as protective cover soil in the SA-6 North Open Space Area. Approximately 9,984 cubic yards was placed as protective cover soil during the reporting period.
- Approximately 272 cubic yards of Celgene screening operations were placed as backfill on the south slope of the SA-6 North Open Space Area.

D. SURCHARGE OPERATIONS

- All surcharging activities are completed.

E. SHEET PILE OPERATIONS

- Completed cutting hydraulic barrier sheets to final elevation in SA-6 North Open Space Area.

F. CAPPING OPERATIONS

- Continued importing and placing Horizon A soils on SA-6 South Open Space Area.
- Continued placement of GDL cover soils and demarcation tape to include associated compaction testing on the SA-6 North Open Space Area.
- Continued placement structural fill, root barrier, and Horizon C soils to include associated compaction testing on the SA-6 North Open Space Area.
- Completed SA-6 North geomembrane liner subgrade grading activities within the Open Space Area.
- Completed installation of geosynthetic components to include placement of the geocomposite gas venting layer, 60 mil geomembrane liner, geosynthetic clay layer, and geocomposite drainage layer.
- A total of 92,588sq. ft. of geomembrane liner (21% of the total cap area) was deployed during the

reporting period.

- Completed spark testing on twelve boot welds during the reporting period. Please see **Attachment 11** for the spark test logs.
- Completed cutting hydraulic barrier sheets and finishing the SCB wall to final elevation in SA-6 North Open Space Area.
- Completed installation of Gas Vent Pipe within the SA-6 North Open Space Area.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012 Extension Obtained 5/17/2015	Renewal Not Needed	10/04/2019	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013 Extension Obtained 3/16/2015	Not Specified, Est. 3/31/2016	6/30/2016*	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 08/04/2016	Not Specified	Not Specified	9/12/16
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDEP Individual Upland Waterfront Development Permit and Water Quality Certificate for Bulkhead Expansion Project	SA-7	Issued: 5/10/2016	TBD	5/9/2021	-
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Obtained 12/24/15	12/03/16	Pending
USACE Nationwide Permit No. 27 for Droyers Cove Beneficial Environmental Project	Bayfront	Issued: 4/15/2016	TBD	3/18/2017	5/4/16

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Coastal General Permit 24 for the living shoreline	Bayfront	Issued: 10/15/2015	TBD	10/14/2020	5/4/16

** Amec Foster Wheeler reviewed the expiration of this TWA with NJDEP, Division of Water Quality and no extension is necessary.*

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete importing and placement of Horizon A Topsoil on the SA-6 South Open Space Area.
- Complete redevelopment area regrading and site restoration on SA-6 South.
- Complete hydro-seeding of SA-6 South Open Space Area.
- Complete placement of historic fill cap to include geotextile and 6-inches of stone in the SA-6 South Development Area.
- Continue installation of the Contingent Groundwater Extraction System Components including the mechanical piping and conduit within the GWTP.
- Complete placement of GDL cover soils within the SA-6 North Open Space Area.
- Continue placement structural fill, root barrier, and Horizon C soils to include associated compaction testing on the SA-6 North Open Space Area.
- Begin placement of Horizon A Topsoil on the SA-6 North Open Space Area.
- Begin hydro-seeding of SA-6 North Cap Area.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Conduct S-3 Mass Removal Injection Event No. 32 in well 088-IW-01.
- Conduct third quarter regional groundwater level measurement round.
- Start injections in Treatment Area 10-1 in accordance with NJDEP-DGW permit.

ATTACHMENTS:

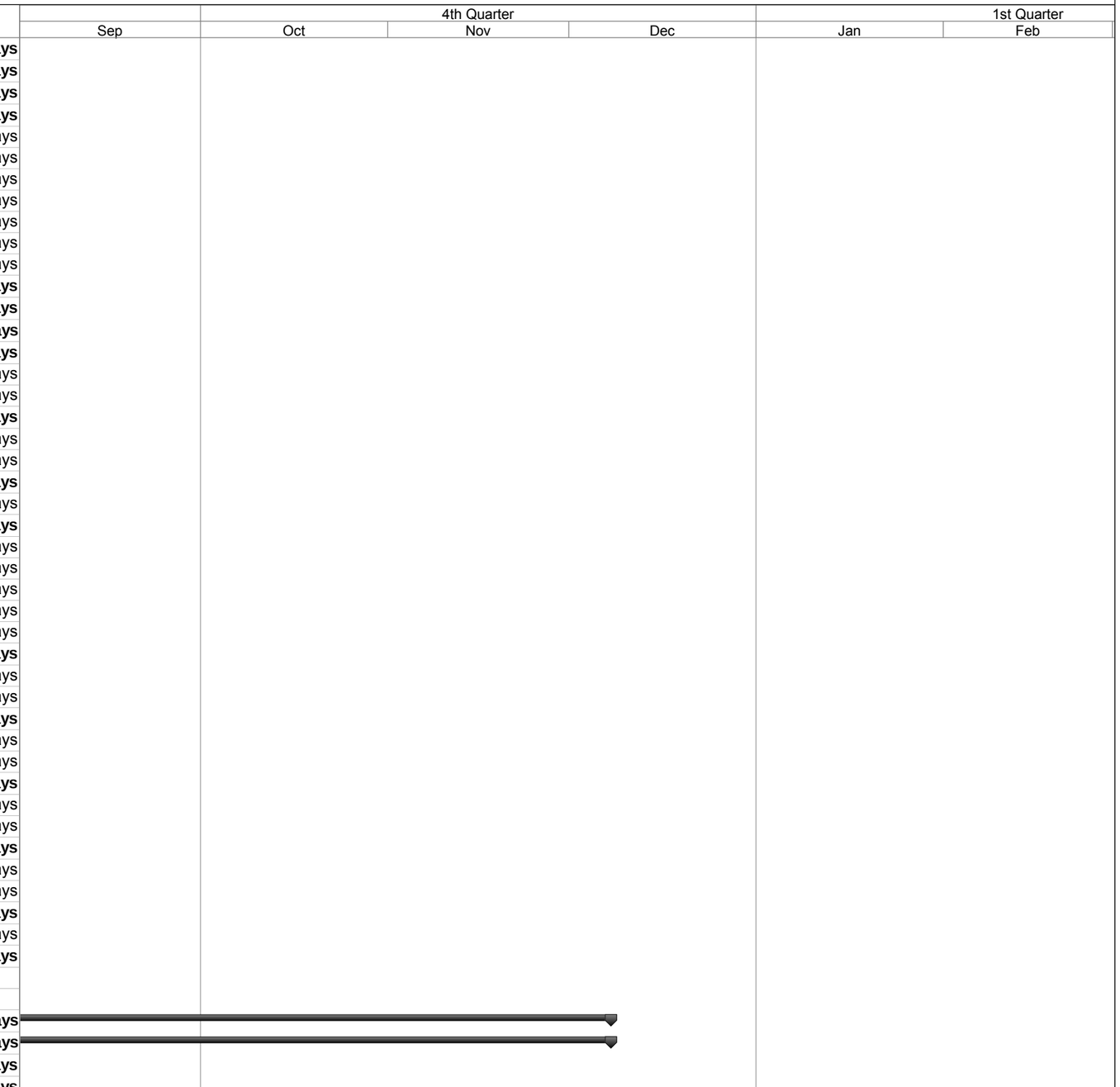
1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill (Progression Chart)
4. Dewatering Operations Update *(not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data *(not included in this reporting period)*
7. Perimeter Pools Update
8. Groundwater Quality Data *(reported quarterly – not included in this report)*
9. Surcharge Monitoring Update *(not included in this reporting period)*
10. Sheet Pile Update *(not included in this reporting period)*
11. Capping Update
    - SA-6 Cap Subgrade Progress Maps
    - Repair Log
    - Non-conformance Log
    - Subgrade Approval Form
    - QA Photo Log
    - Daily QA Reports (Langan)
    - Spark Test Logs
12. Weekly SWPPP Reports
13. GWTP Update
14. SA-6 North & South Design Change Tracking Log
15. Issued Permit: NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils

Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**
2	**Remedial Action Work Plan**	**33 days**
5	**Remedial Action Design**	**1522 days**
18	**JCIA/JCDPW Relocation**	**1780 days**
19	Develop Site Relocation Master Plan	38 days
20	Submit Site Relocation Master Plan	0 days
21	JC Construction of New Facilities	1309 days
22	Relocation Contractor Procurement	392 days
23	JCIA and JCDPW Relocation	949 days
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days
24a	Demolition of JCIA Structures	146 days
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**
26	**Remedial Action Work Plan**	**187 days**
32	**Remedial Action Design**	**1161 days**
57	**SA-6 South Relocation**	**616 days**
58	New GWTP Construction Completion	502 days
59	Demolition of 80 Kellogg	857 days
60	**SA-6 North/South Field Implementation**	**894 days**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days
60b	SA-6S (Site 163) In-Situ Treatment	555 days
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**
61a	Mobilization	87 days
62	**Surcharge Install/Instrumentation**	**706 days**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days
62b	Place Stockpile Surcharge SA6N Western Areas	185 days
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days
62d	Place Stockpile Surcharge SA6S Western Areas	91 days
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days
63	**Barrier Wall Install**	**569 days**
63a	SA 6N Installation of Barrier Wall	159 days
63b	SA 6S Installation of Barrier Wall	210 days
64	**Excavation**	**507 days**
64a	SA 6N Excavation	218 days
64b	SA 6S Excavation	295 days
65	**Backfill**	**558 days**
65a	SA 6N Backfill	283 days
65b	SA 6S Backfill	384 days
66	**Capping and Cover Soil Placement**	**426 days**
66a	SA 6N Capping and Cover Soil Placement	83 days
66b	SA 6S Capping and Cover Soil Placement	283 days
67	**Restoration**	**234 days**
67a	Restoration	234 days
68	**Demobilization**	**22 days**
68a	Deferred Remediation of SA-6 South Along Bulkhead	
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line	
69	**SA-6 North Project Closeout**	**311 days**
75	**SA-6 South Project Closeout**	**311 days**
81	**SA-6 North Long Term Protections**	**1830 days**
92	**SA-6 South Long Term Protections**	**2569 days**



Project: SA-6 Remediation Schedule
Revision 4
Date: 8/2/2016

Task | Milestone | Summary | Critical

Note: Current field implementation schedule shows capping complete in September 2016 and restoration in October 2016.

Attachment 2: Site Photographs

Site Photograph 1: Contractor fine grading cover soils on the SA-6N Open Space Area.

Site Photograph 2: Contractor placing cover soils on the SA-6N Open Space Area.

Site Photograph 3: Contractor grading protective cover soils on the SA-6N open space area.

Site Photograph 4: Dust suppression activities SA-6N.

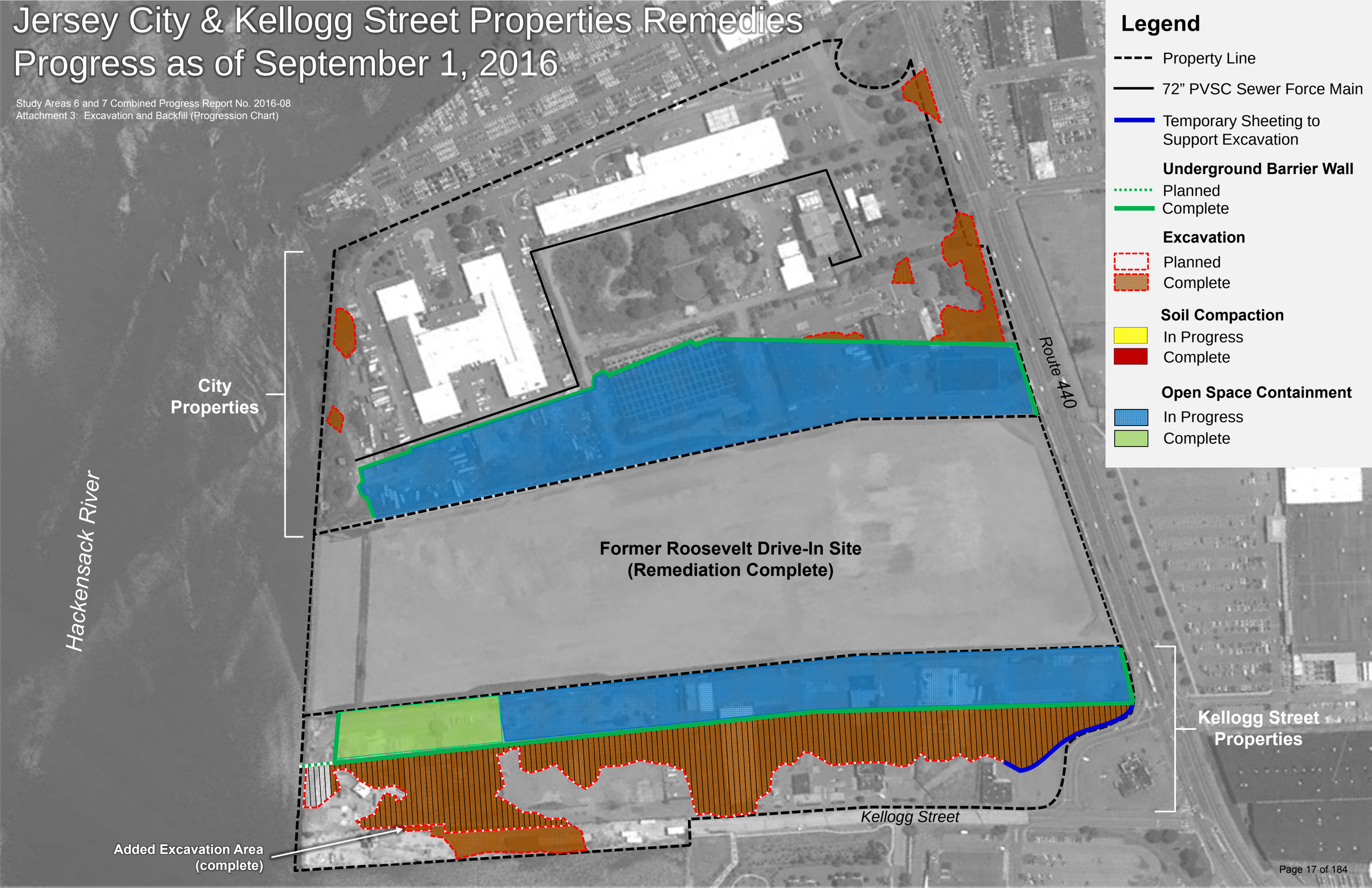
Site Photograph 5: Installation of root barrier SA-6N Open Space Area.

Site Photograph 6: Overall view of warning layer and cover soils SA-6N Open Space Area.

Attachment 3: Excavation and Backfill Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of September 1, 2016

Study Areas 6 and 7 Combined Progress Report No. 2016-08
Attachment 3: Excavation and Backfill (Progression Chart)



Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

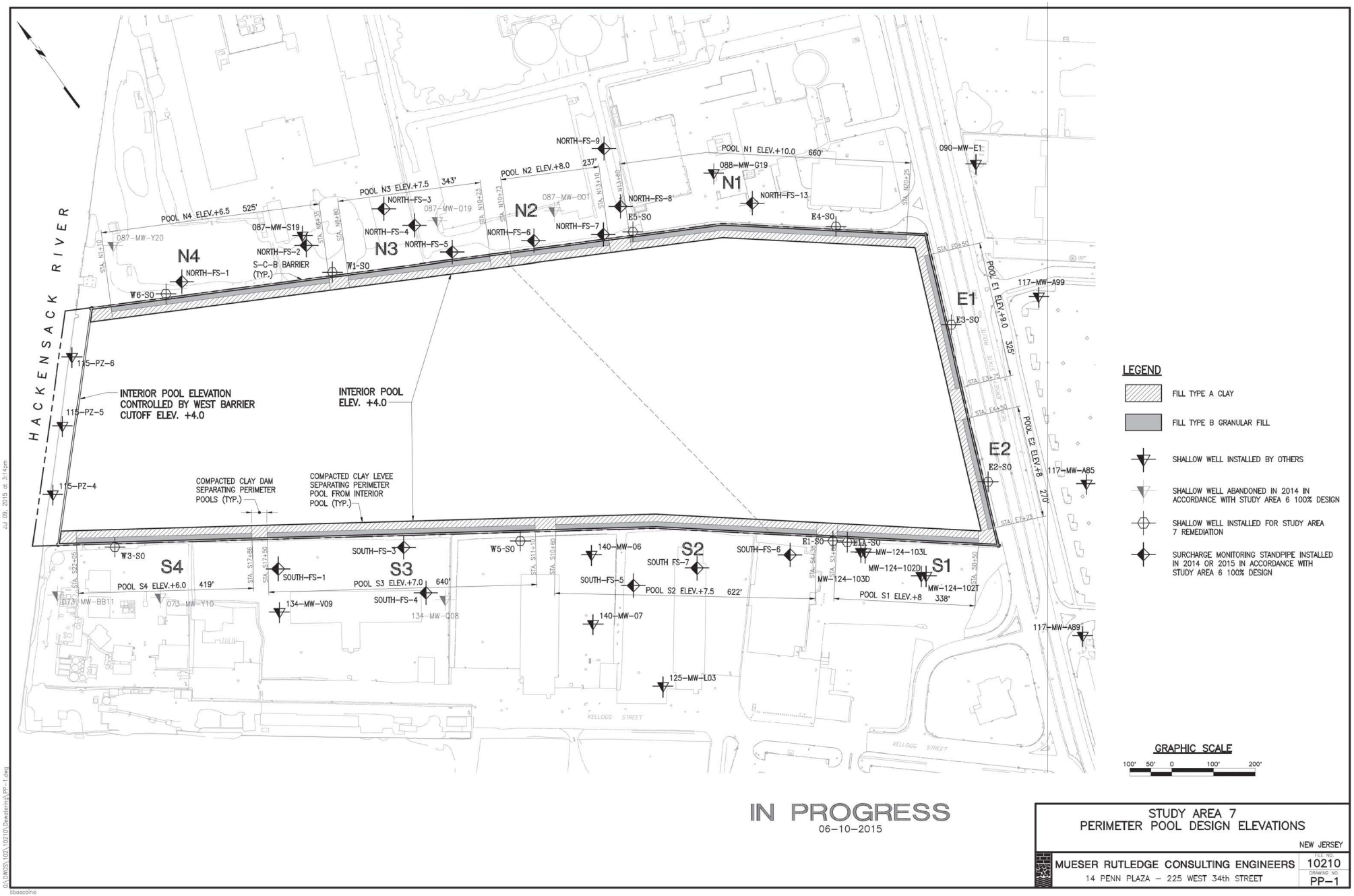
DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
06/24/16	9:00	14:00	5:00	43,543.94	43,596.37	52,430	43,595,920	
07/07/16	7:30	12:00	4:30	43,596.37	43,642.93	46,560	43,642,480	PVSC Compliance Sample Collected
07/15/16	10:00	14:00	4:00	43,642.93	43,692.98	50,050	43,692,530	
07/26/16	9:00	14:00	5:00	43,692.98	43,794.27	101,290	43,793,820	
07/27/16	7:00	15:00	8:00	43,794.27	43,826.36	32,090	43,825,910	
07/28/16	9:00	15:00	6:00	43,826.36	43,860.98	34,620	43,860,530	
08/01/16	9:00	15:00	6:00	43,860.98	43,896.38	35,400	43,895,930	PVSC Compliance Sample Collected
08/11/16	9:00	16:00	7:00	43,896.38	43,958.93	62,550	43,958,480	
08/12/16	9:30	13:45	4:15	43,958.93	43,998.63	39,700	43,998,180	
08/19/16	8:00	13:30	5:30	43,998.63	44,062.58	63,950	44,062,130	

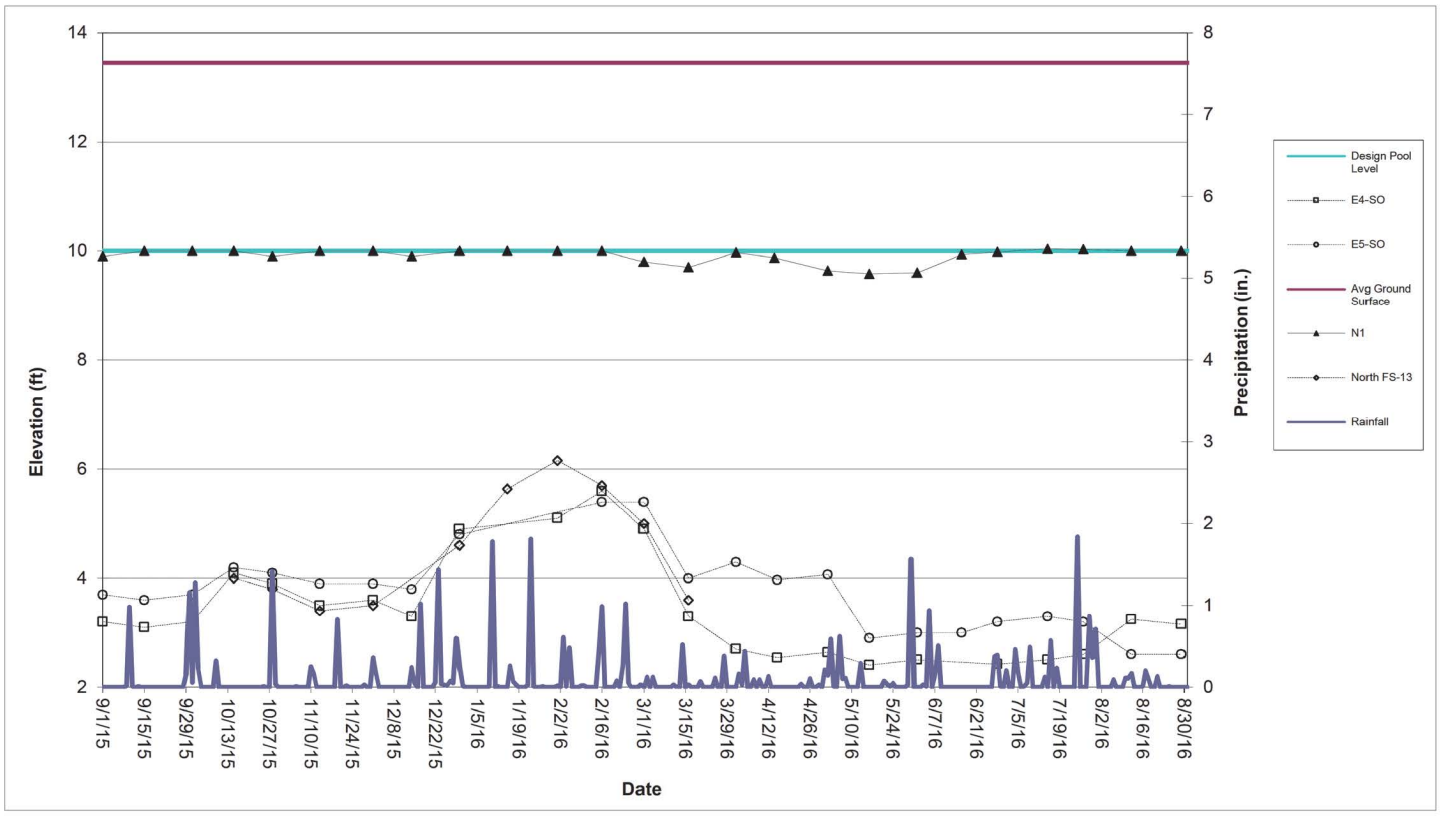
Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

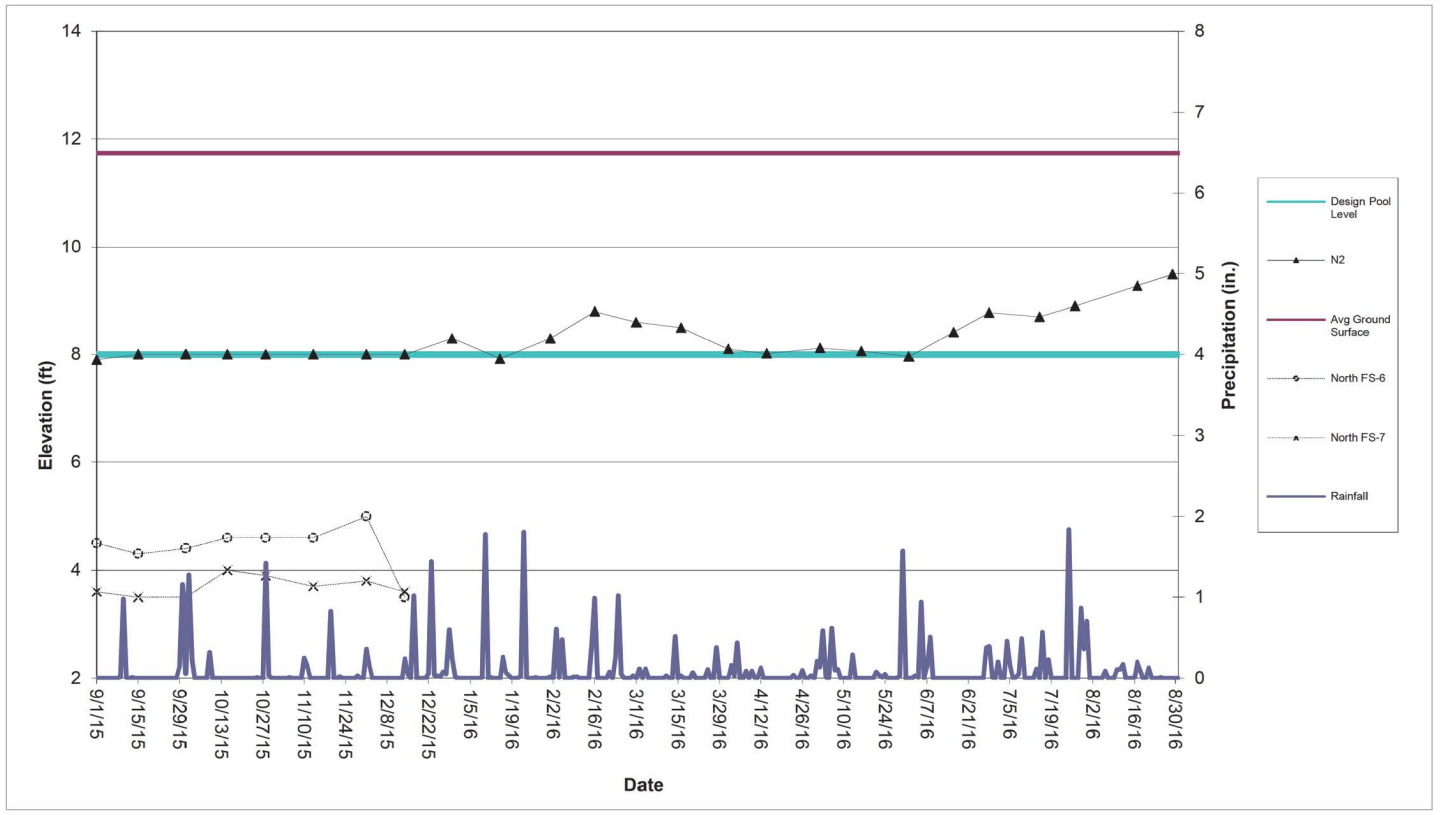
(not included in this reporting period)

Attachment 7: Perimeter Pools Update

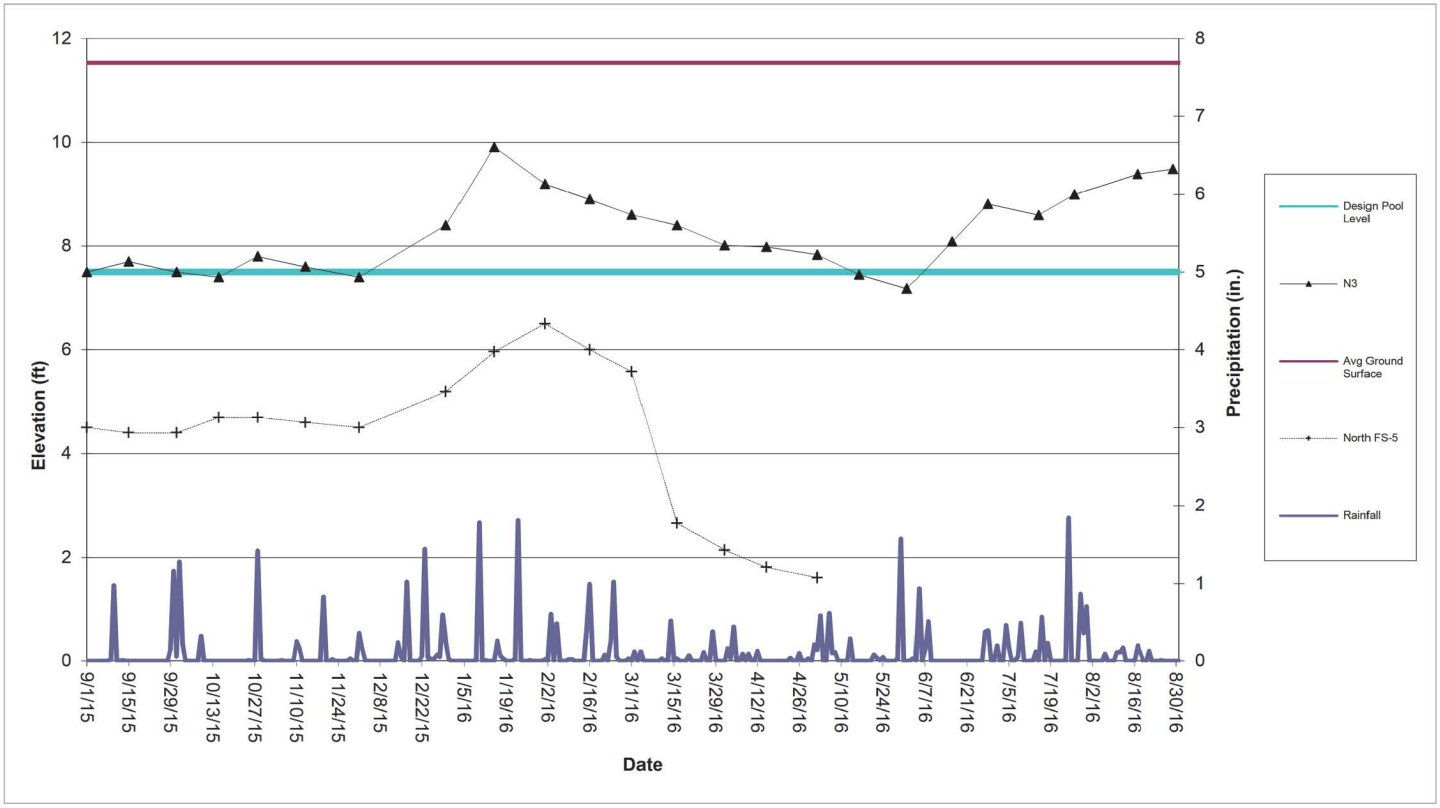

HACKENSACK RIVER
N4
N3
N2
N1
S4
S3
S2
S1
E1
E2
POOL N4 ELEV.+6.5 525'
POOL N3 ELEV.+7.5 343'
POOL N2 ELEV.+8.0 237'
POOL N1 ELEV.+10.0 660'
POOL S4 ELEV.+6.0 419'
POOL S3 ELEV.+7.0 640'
POOL S2 ELEV.+7.5 622'
POOL S1 ELEV.+8 338'
POOL E1 ELEV.+8.0 325'
POOL E2 ELEV.+8 270'
INTERIOR POOL ELEVATION CONTROLLED BY WEST BARRIER CUTOFF ELEV. +4.0
INTERIOR POOL ELEV. +4.0
COMPACTED CLAY DAM SEPARATING PERIMETER POOLS (TYP.)
COMPACTED CLAY LEVEE SEPARATING PERIMETER POOL FROM INTERIOR POOL (TYP.)
S-C-B BARRIER (TYP.)
KELLOGG STREET
LEGEND
FILL TYPE A CLAY
FILL TYPE B GRANULAR FILL
SHALLOW WELL INSTALLED BY OTHERS
SHALLOW WELL ABANDONED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN
SHALLOW WELL INSTALLED FOR STUDY AREA 7 REMEDIATION
SURCHARGE MONITORING STANDPIPE INSTALLED IN 2014 OR 2015 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN
GRAPHIC SCALE
100' 50' 0 100' 200'
IN PROGRESS
06-10-2015
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS
NEW JERSEY
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET
FILE NO. 10210
DRAWING NO. PP-1



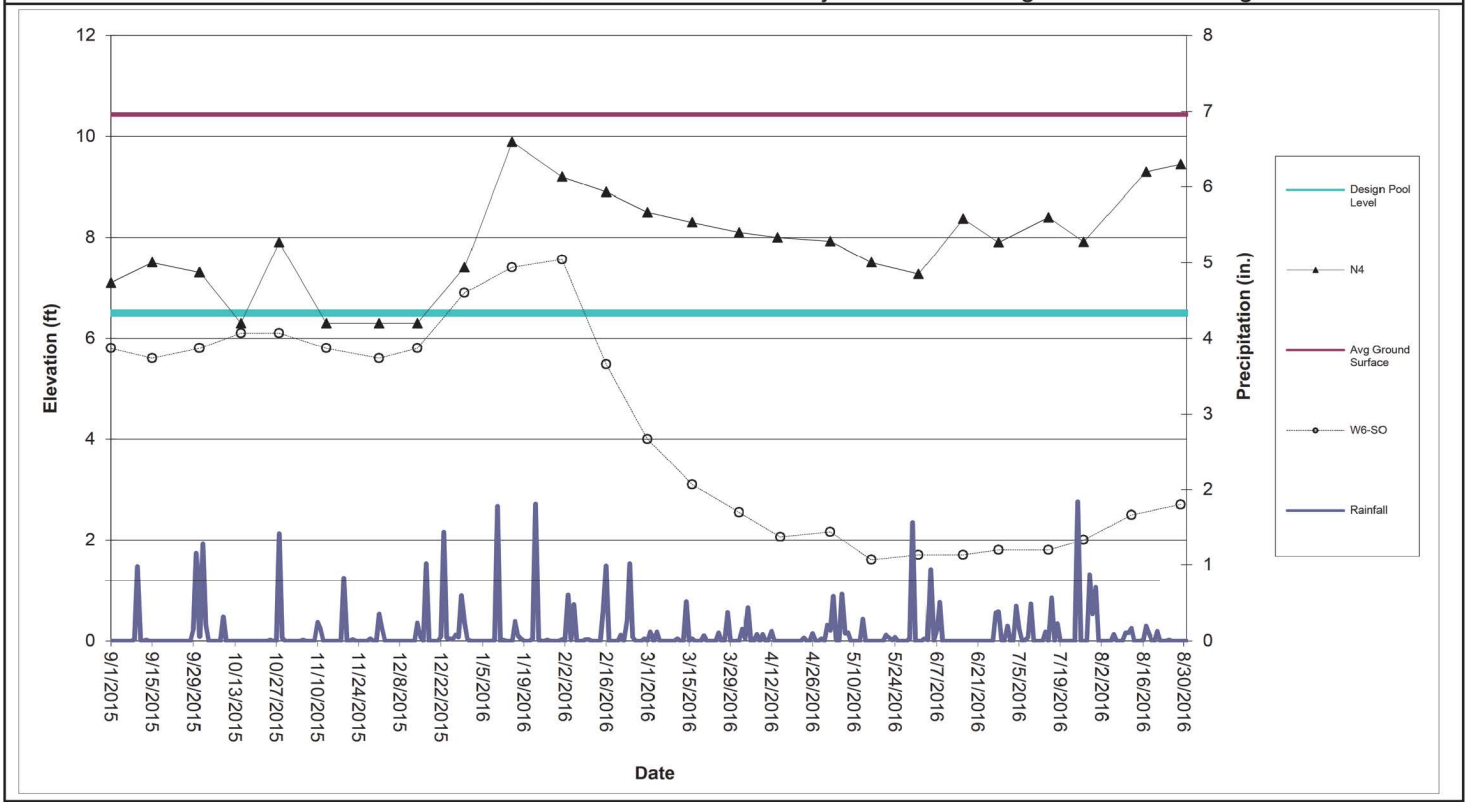
Perimeter Pool N1 (Sta. N13+60 to N20+25)



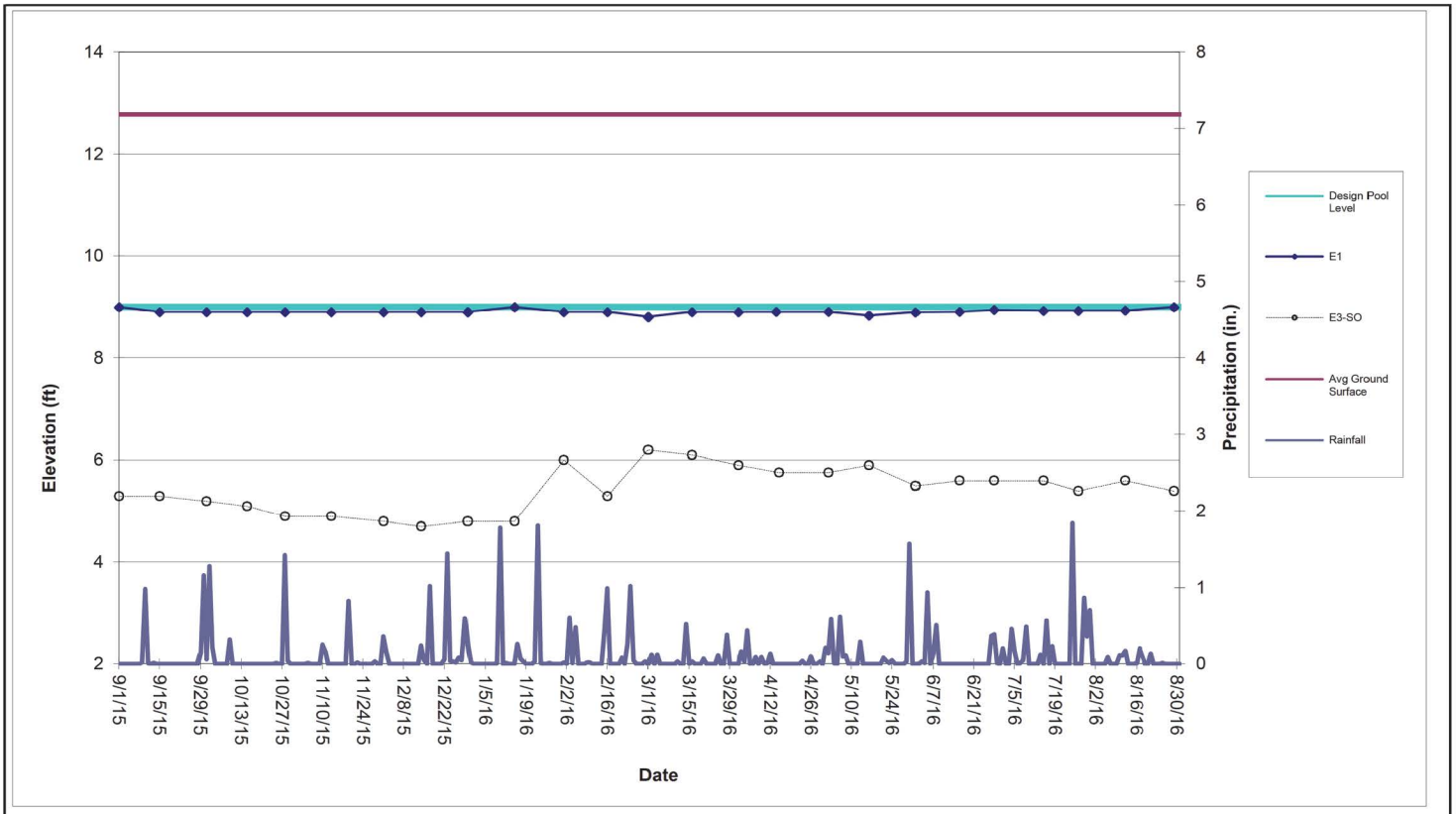
Perimeter Pool N2 (Sta. N10+73 to N13+10) **Note:** Honeywell is evaluating if another flushing event is needed.



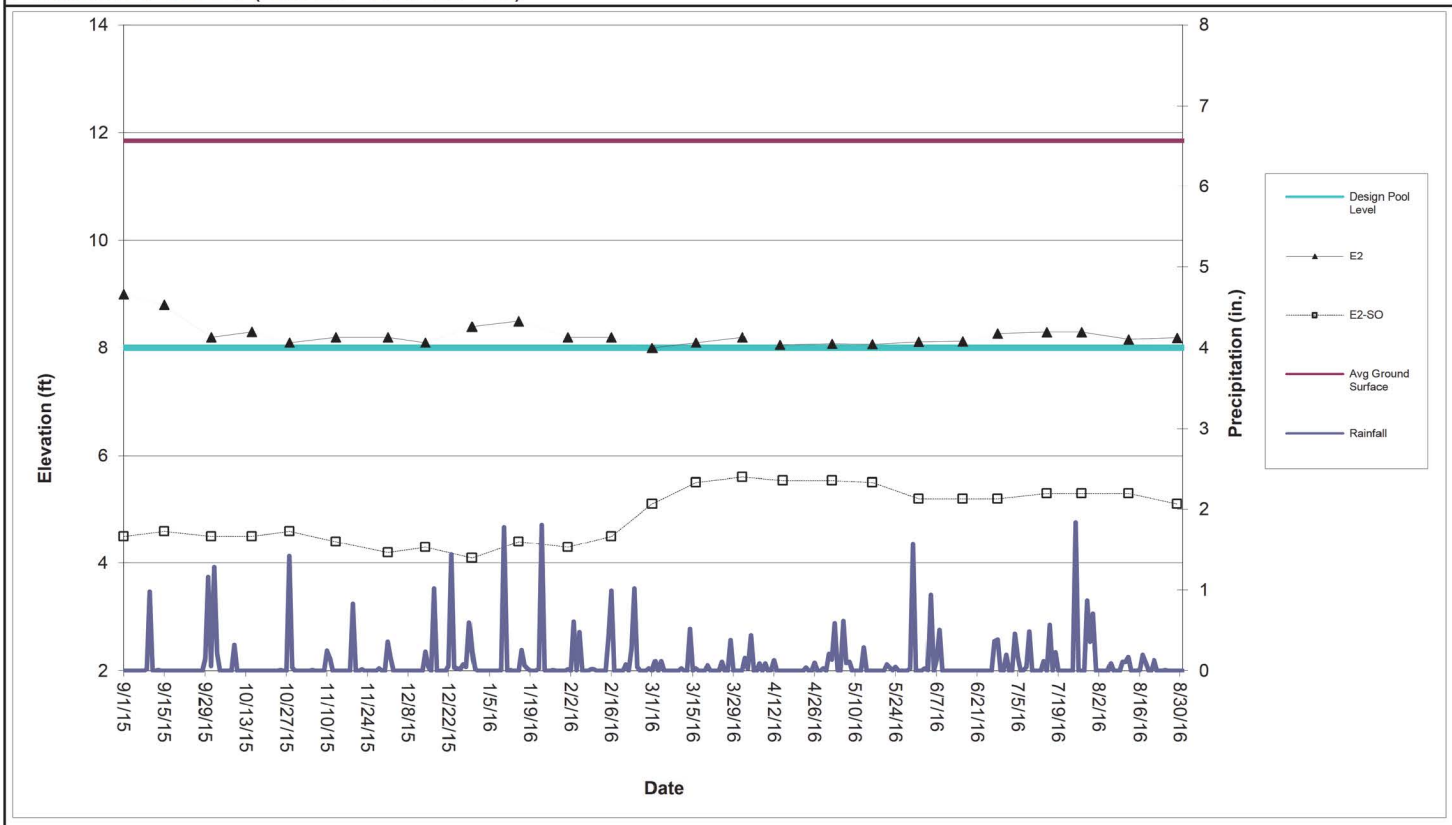
Perimeter Pool N3 (Sta. N6+80 to N10+23) **Note:** Honeywell is evaluating if another flushing event is needed.



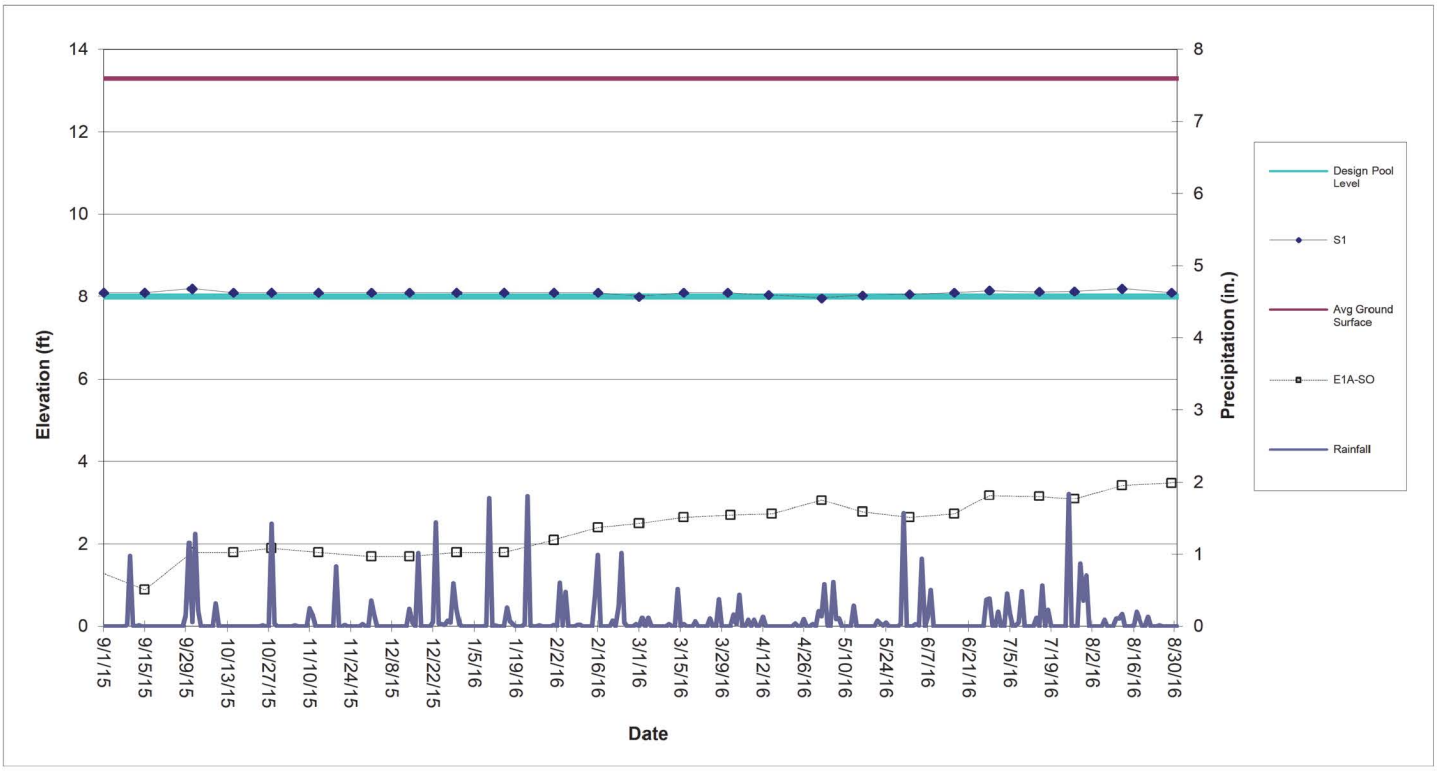
Perimeter Pool N4 (Sta. N6+80 to N10+23) **Note:** Honeywell is evaluating if another flushing event is needed.



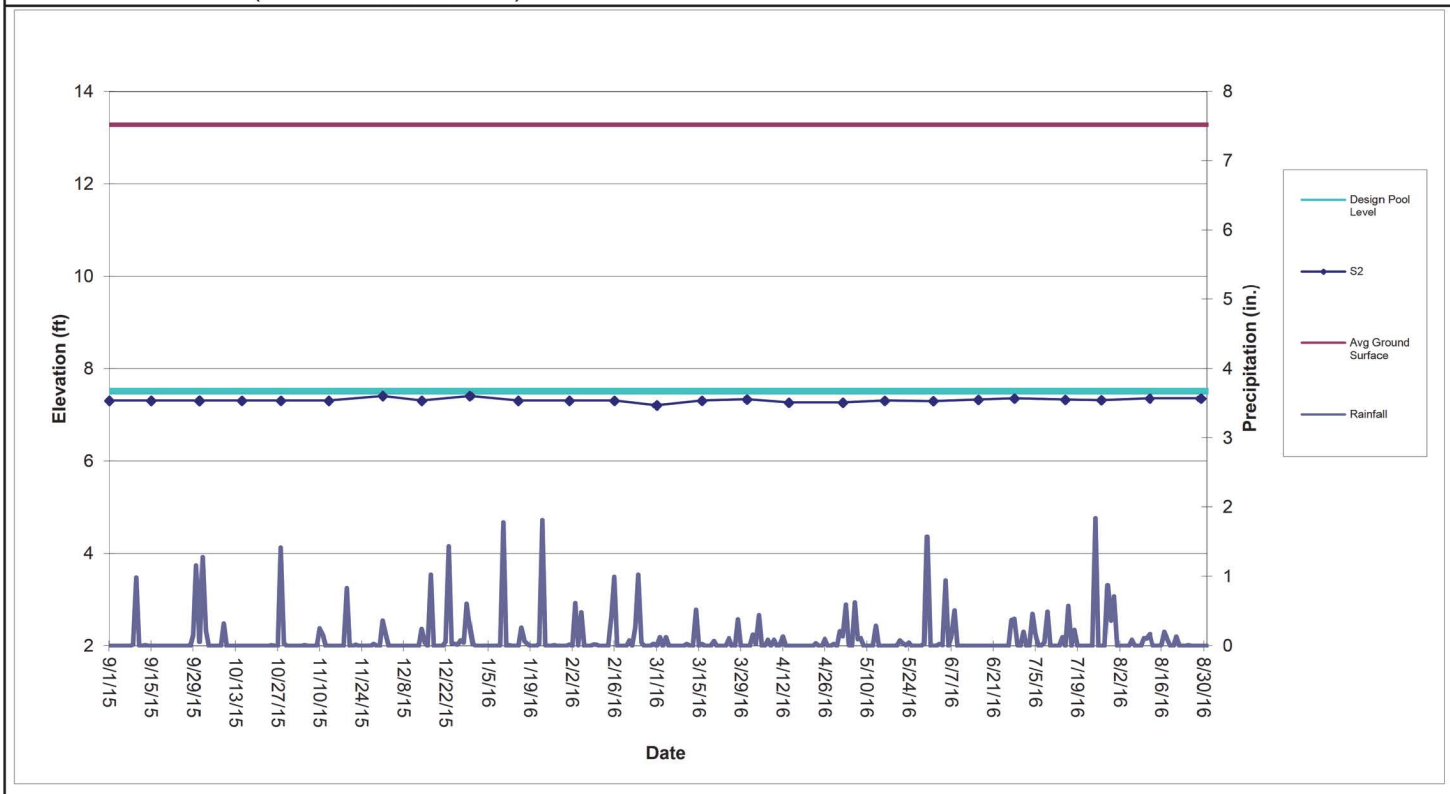
Perimeter Pool E1 (Sta. E0+50 to E3+75)



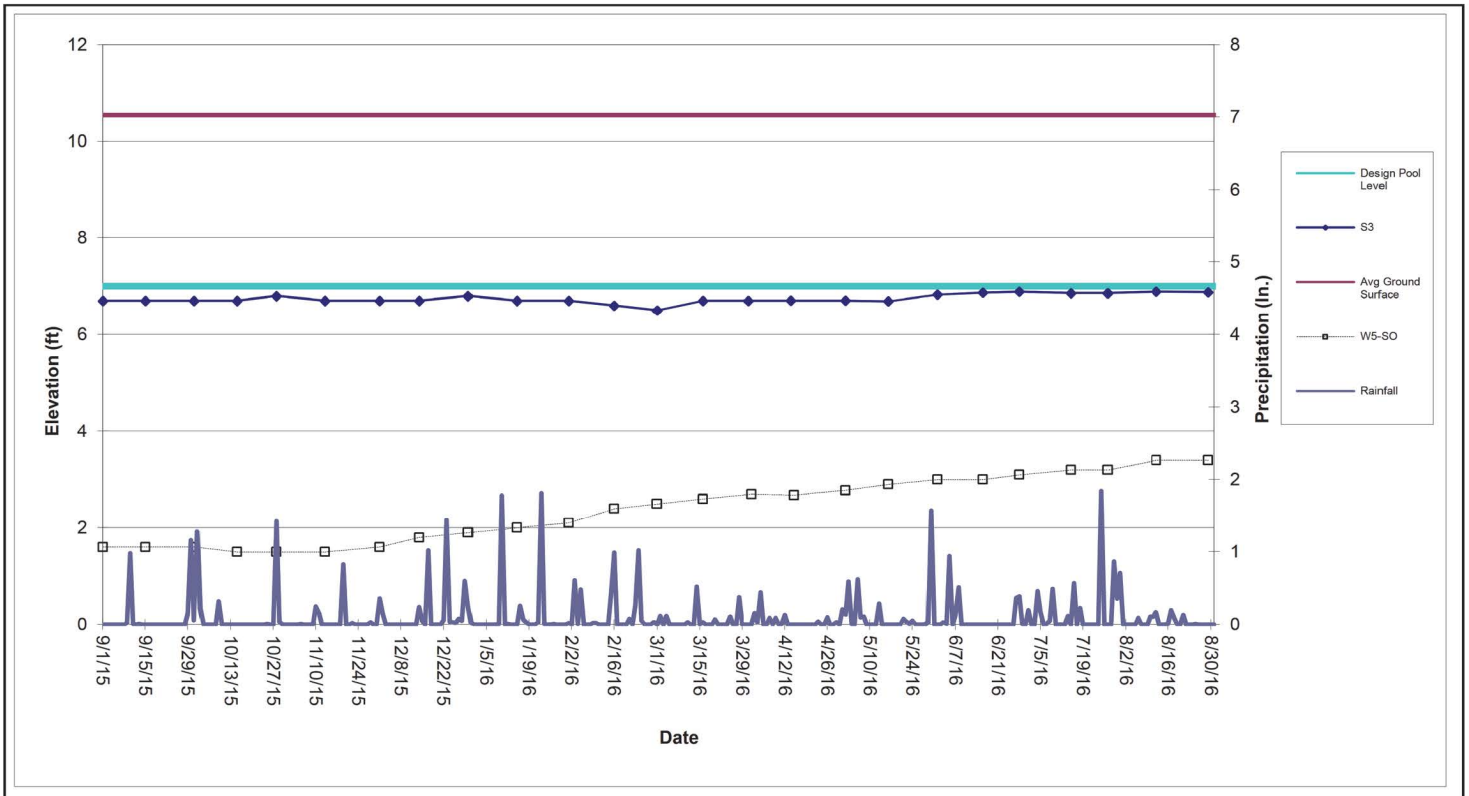
Perimeter Pool E2 (Sta. E4+50 to E7+25)



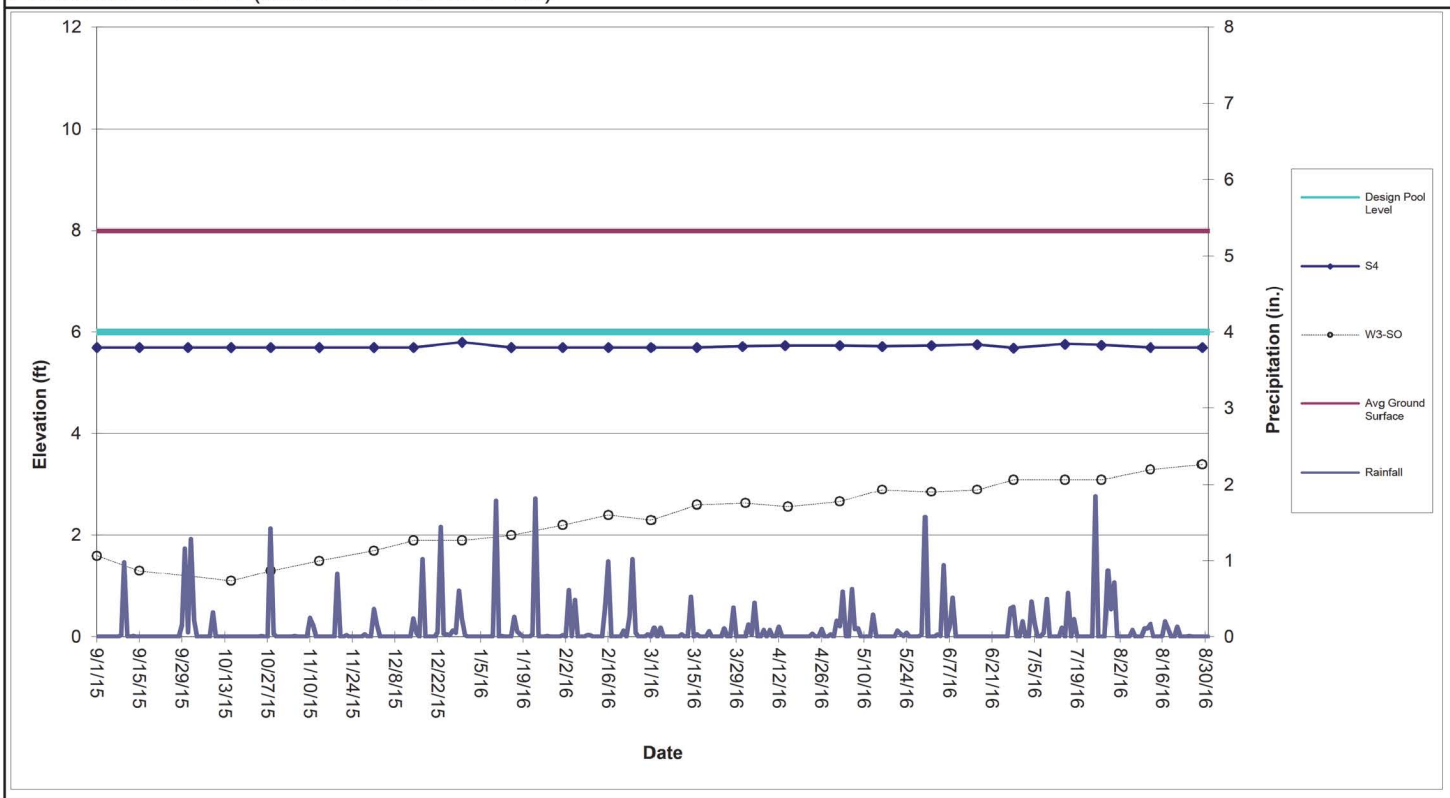
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North			
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-5	FS-6	FS-7	FS-13
Date													
9/1/2015		4.5	5.3	3.2	3.7		1.6	1.6	5.8	4.5	4.5	3.6	
9/15/2015	0.9	4.6	5.3	3.1	3.6		1.3	1.6	5.6	4.4	4.3	3.5	
10/1/2015	1.8	4.5	5.2	3.2	3.7		1.2	1.6	5.8	4.4	4.4	3.5	
10/15/2015	1.8	4.5	5.1	4.1	4.2		1.1	1.5	6.1	4.7	4.6	4.0	4.0
10/28/2015	1.9	4.6	4.9	3.9	4.1	6.9	1.3	1.5	6.1	4.7	4.6	3.9	3.8
11/13/2015	1.8	4.4	4.9	3.5	3.9	6.4	1.5	1.5	5.8	4.6	4.6	3.7	3.4
12/1/2015	1.7	4.2	4.8	3.6	3.9	6.2	1.7	1.6	5.6	4.5	5.0	3.8	3.5
12/14/2015	1.7	4.3	4.7	3.3	3.8	6.2	1.9	1.8	5.8		3.5	3.6	
12/30/2015	1.8	4.1	4.8	4.9	4.8	7.5	1.9	1.9	6.9	5.2			4.6
1/15/2016	1.8	4.4	4.8			7.9	2.0	2.0	7.4	6.0			5.6
2/1/2016	2.1	4.3	6.0	5.1		7.7	2.2	2.1	7.6	6.5			6.2
2/16/2016	2.4	4.5	5.3	5.6	5.4	6.7	2.4	2.4	5.5	6.0			5.7
3/1/2016	2.5	5.1	6.2	4.9	5.4	5.1	2.3	2.5	4.0	5.6			5.0
3/16/2016	2.7	5.5	6.1	3.3	4.0	4.2	2.6	2.6	3.1	2.7			3.6
4/1/2016	2.7	5.6	5.9	2.7	4.3	3.5	2.6	2.7	2.6	2.1			
4/15/2016	2.7	5.5	5.8	2.5	4.0	2.9	2.6	2.7	2.1	1.8			
5/2/2016	3.1	5.5	5.8	2.6	4.1		2.7	2.8	2.2	1.6			
5/16/2016	2.8	5.5	5.9	2.4	2.9	2.4	2.9	2.9	1.6				
6/1/2016	2.7	5.2	5.5	2.5	3.0	2.5	2.9	3.0	1.7				
6/16/2016	2.7	5.2	5.6		3.0	2.5	2.9	3.0	1.7				
6/28/2016	3.2	5.2	5.6	2.4	3.2	2.3	3.1	3.1	1.8				
7/15/2016	3.2	5.3	5.6	2.5	3.3	2.4	3.1	3.2	1.8				
7/27/2016	3.1	5.3	5.4	2.6	3.2	2.3	3.1	3.2	2.0				
8/12/2016	3.4	5.3	5.6	3.2	2.6	2.8	3.3	3.4	2.5				
8/29/2016	3.5	5.1	5.4	3.2	2.6	2.8	3.4	3.4	2.7				

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4, FS-5, FS-6, FS-7, FS-13
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09,

Attachment 8: Groundwater Quality Data

(not included in this reporting period)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

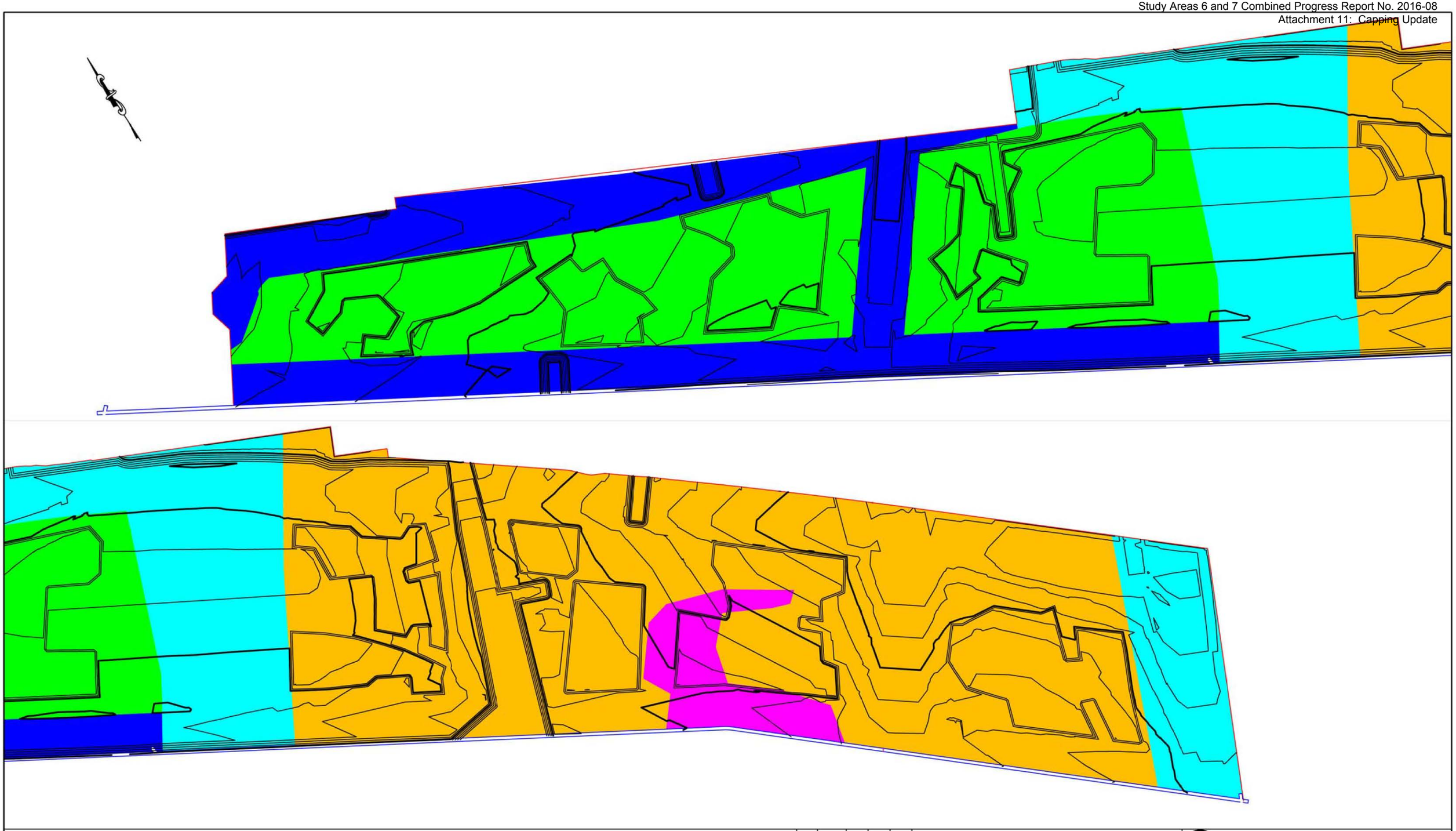
Attachment 10: Sheet Pile Update

(not included in this reporting period)

Attachment 11: Capping Update

- SA-6 Cap Subgrade Progress Maps
- Repair Log
- Non-conformance Log
- Subgrade Approval Forms
- QA Photo Log
- Daily QA Reports (Langan)
- Spark Test Logs

SA-6 Cap Subgrade Progress Maps
(Attachment 11: Capping Update)



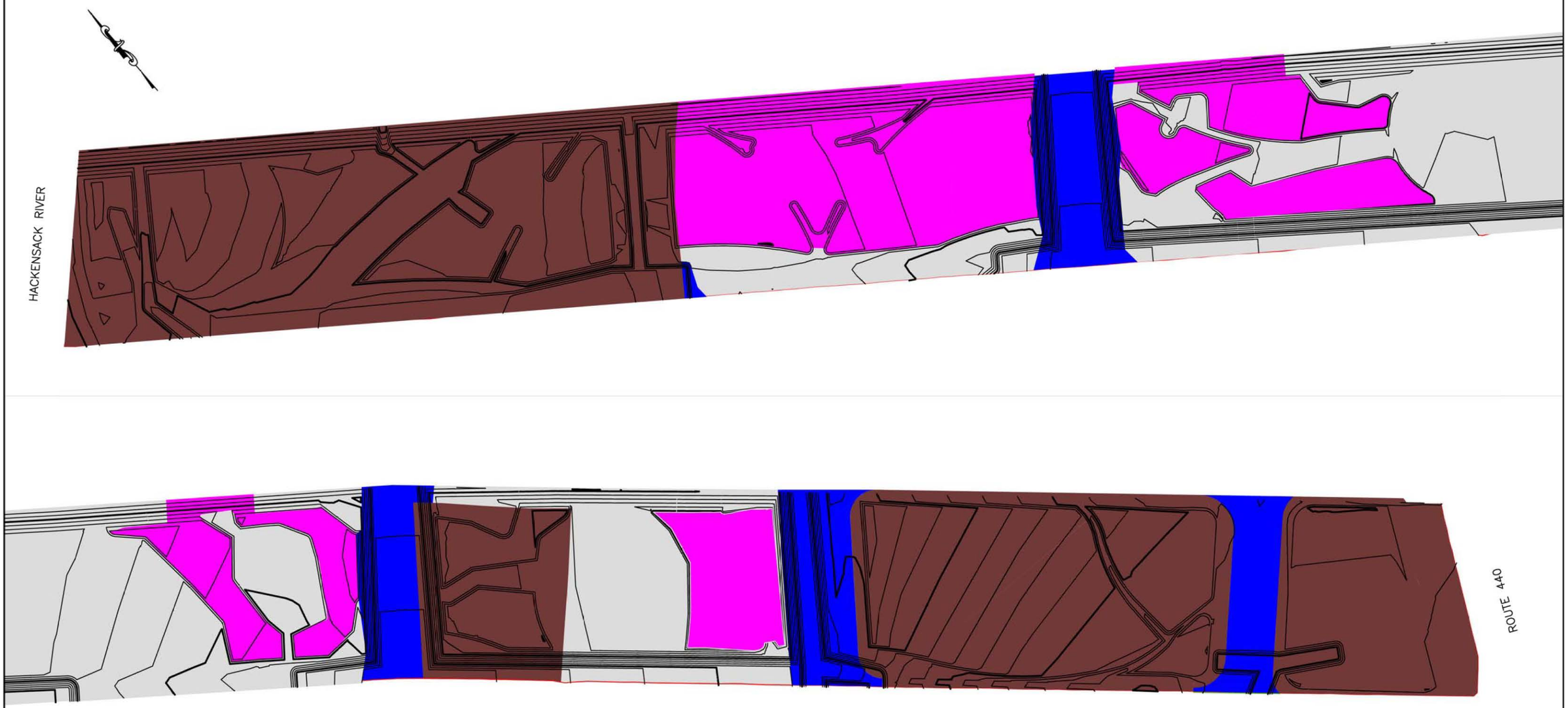
LEGEND

- GDL COVER SOIL PLACED
- GDL COVER SOIL GRADED AND APPROVED FOR HORIZON SOILS
- HORIZON C SOIL PLACED
- STRUCTURAL FILL PLACED
- GEOCOMPOSITE DRAINAGE LAYER FABRIC
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 NORTH CAP COVER SOILS PROGRESS MAP
08/31/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



LEGEND

- HORIZON B PLACED AND READY FOR TOPSOIL
- HORIZON C PLACED AND READY FOR TOPSOIL
- TOPSOIL PLACED
- STRUCTURAL FILL PLACED
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP COVER SOILS PROGRESS MAP
08/31/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
1	PB	1/2	P-1	35' N OF SEOS & 8'W PB 6")	P	3	x	11	24	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
2	BO	3/5		2' N OF S EOS	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
3	SJ	3/4/5		69' N OF SEOS	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
4	CF	4/6		5' S OF NEOS	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
5	CF	4/6	P-6	77' N OF SEOS & 2'E	P	5	x	12		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
6	SJ	4/5/6		69' N OF SEOS	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
7	PB	5/6		15' N OF SEOS (PB 6")	P	3	x	6	24	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
8	WR	6/7	P-6	63' N OF S EOS & 5'W	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
9	BO	6/7		66' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
10	SI	6/7	P-6	80' N OF SEOS & 5'W	P	3	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
11	DS-2	6/7		16' N OF SEOS	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
12	WR	7/9		41' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
13	CF	7/9	P-9	45' N OF SEOS & 10'E	P	6	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
14	DS-1	1/2		15' N OF SEOS	P	2	x	7		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
15	DSX-1	R-15	P-1	34'N OF SEOS & 10'W	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
16	CF		P-9	BETWEEN R-12 & R-13	B		x		60	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
17	WR	7/9		71' N OF SEOS	P	3	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
18	CF		P-9	BETWEEN R17 & R19	B		x		168	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
19	CF	7/9	P-9	59' N OF SEOS & 12'E	P	4	x	4		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
20	CF		P-6	BETWEEN R-22 & R-9	B		x		36	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
21	CF		P-6	BETWEEN R-22 & R-8	B		x		48	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
22	CF	6/7	P-6	68' N OF SEOS & 6'W	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
23	SJ	7/8/9		103' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
24	CF	8/10		11' S OF NEOS	P	2	x	20		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
25	SJ	8/9/10		103' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
26	DO	10/11	P-10	27' N OF SEOS & 4'W	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
27	CF	10/11	P-10	BETWEEN R-35 & R-28	B		x		156	6/26/16	SU	EXT-74	Vacuum	Pass	6/23/16
28	CF	10/11	P-10	64'N OF SEOS & 15' W	P	4	x	4		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
29	PB	10/11	P-10	93' S OF NEOS 4' E (48" MH)	P	6	x	10	48	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
30	CF		P-10	BETWEEN R-29 & R-31	B		x		240	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
31	CF	10/11	P-10	68' S OF NEOS & 2'W	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
32	CF	10/11	P-10	78' N OF SEOS & 7'W	P	2	x	4		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
33	CF		P-10	BETWEEN R-32 & R-34	B		x		60	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
34	CF	10/11		80' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
35	CF	10/11		69' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
36	CF	10/11	P-11	49' N OF SEOS & 5'E	P	5	x	15		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
37	CF		P-11	50' N OF SEOS & 3'E	B		x		48	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
38	PB	10/11	P-11	105' N OF SEOS & 3' E (8" PIPE)	P	4	x	5	24	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
39	DS-3	10/11		25' S OF NEOS	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
40	AO	10/11		3' S OF NEOS	P	12	x	12		6/24/16	SU	EXT-74	Vacuum	Pass	6/23/16
41	SJ	11/12/13		22' S OF NEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/23/16
42	SJ	12/13/14		24' S OF NEOS	P	2	x	6		6/24/16	SU	EXT-74	Vacuum	Pass	6/23/16
43	DO	4/6	P-4	6' S OF NEOS & 4'W	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
44	BO	13/14		65' N OF SEOS	P	2	x	5		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
45	BO	13/14		79' N OF SEOS	P	2	x	5		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
46	BO	13/14		163' N OF SEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
47	CF	13/14		BETWEEN R-46 & R-42	B		x		12	6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
48	SJ	12/14/14A		4' S OF NEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
49	SJ	14A/14/15		4' S OF NEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
50	SJ	14/15/16		78' N OF SEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
51	BO	14/16		2'N OF SEOS	P	2	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
52	SJ	15/16/17		78' N OF SEOS	P	2	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
53	DS-4	15/17		87' N OF SEOS	P	2	x	6		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
54	CF	17/18		53' S OF NEOS	P	3	x	5		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
55	CF	17/18	P-17	56' S OF NEOS & 3'W	B		x		24	6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
56	CF	17/18	P-18	74' S OF NEOS &3'E	P	3	x	9		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
57	CF	17/18		83' S OF NEOS	P	2	x	4		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
58	CF	17/18	P-18	84' S OF NEOS & 4' E OF R-57	B		x		120	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
59	BO	17/18		153' S OF NEOS	P	2	x	5		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
60	CF		P-18	BETWEEN R-59 & R-62	B		x		140	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
61	BO	17/18		182' S OF NEOS	P	2	x	6		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
62	CF	18/19	P-18	29' N OF SEOS & 7'W	P	2	x	13		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
63	BO	18/19		24' N OF SEOS	P	2	x	6		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
64	CF	18/19		BETWEEN R-63 & R-65	B		x		12	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
65	CF	18/19	P-19	30' N OF SEOS & 3'E	P	2	x	9		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
66	CF		P-19	BETWEEN R-65 & R-67	B		x		108	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
67	CF	19/20	P-19	42' N OF SEOS & 5'W	P	3	x	7		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
68	CF	18/19		46' N OF SEOS	P	2	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
69	CF		P-19	BETWEEN R-68 & R-70	B		x		72	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
70	CF	18/19	P-19	49' N OF SEOS & 7'E	P	3	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
71	BO	18/19		113' N OF SEOS	P	3	x	4		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
72	BO	18/19		130' N OF SEOS	P	2	x	2		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
73	DSX-2	R-30	P-10	106' N OF SEOS & 6'W	P	2	x	5		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
74	DS-5	19/20		16' N OF SEOS	P	2	x	5		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
75	CF	19/20		164' N OF SEOS	P	2	x	20		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
76	AO	19/R76/20		180' N OF SEOS	P	1	x	21		6/27/16	SU	EXT-74	Air Pressure	Pass	6/27/16
77	SJ	20/21/22		99' N OF SEOS	P	2	x	2		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
78	CF	20/21		122' N OF SEOS	P	4	x	4		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
79	CF		P-21	BETWEEN R-78 & R-80	B		x		156	6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
80	CF	21/23	P-21	128' N OF SEOS & 11' W	P	1	x	1		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
81	PB	20/21	P-21	171' N OF SEOS & 3' E (PB 4")	P	3	x	5		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
82	BO	22/23		54' N OF SEOS	P	2	x	4		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
83	SJ	21/22/23		99' N OF SEOS	P	6	x	14		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
84	SJ	23/24/25		17' N OF SEOS	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
85	BO	23/24		40' N OF SEOS	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
86	CF	23/24	P-23	BETWEEN R-85 & R-87	B		x		72	6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
87	CF	23/24	P-23	48' N OF SEOS & 11' W	P	2	x	9		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
88	CF	22/23	P-23	51' N OF SEOS & 8' E	P	3	x	5		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
89	CF	23/24		74' N OF SEOS	P	2	x	6		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
90	CF	23/24		79' N OF SEOS	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
91	DS-6	23/24		105' N OF SEOS	P	2	x	6		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
92	SJ	24/25/26		17' N OF SEOS	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
93	CF	24/26		157' N OF SEOS	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
94	CF	24/26	P-26	BETWEEN R-93 & R-95	B		x		72	6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
95	CF	24/26	P-26	156' N OF SEOS & 8' E	P	2	x	4		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
96	CF	24/26	P-26	137' N OF SEOS & 2' E	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
97	CF	24/26	P-26	143' N OF SEOS & 6'E FROM R-96	B		x		132	6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
98	SI	24/26	P-26	167' N OF SEOS & 8' E	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
99	DO	26/27	P-26	166' N OF SEOS & 10' W	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
100	BO	26/27		26' N OF SEOS	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
101	CF	26/27		55' N OF SEOS	P	3	x	8		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
102	PB	26/27	P-27	124' N OF SEOS & 3' E (PB 8")	P	4	x	5	24	6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
103	CF	26/27	P-26	185' N OF SEOS & 12' W	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
104	AO	19/20		196' N OF SEOS	P	5	x	23		6/30/16	BS	W-4131	Air Pressure	Pass	6/30/16
105	AO	18/19		196' N OF SEOS	P	5	x	23		6/30/16	BS	W-4131	Air Pressure	Pass	6/30/16
106	AO	17/18		196' N OF SEOS	P	5	x	8		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
107	CF	19/20/R-26		194' N OF SEOS	P	3	x	5		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
108	CF	18/19		194' N OF SEOS	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
109	CF	17/18	P-18	194' N OF SEOS & 4' E	P	2	x	2		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
110	CF	19/20	P-19	126' N OF SEOS & 8' W	P	2	x	4		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
111	CF	19/20	P-19	BETWEEN R-110 & R-112	B		x		120	6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
112	CF	19/20	P-19	136' N OF SEOS & 2' W	P	2	x	2		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
113	DS-7	13/14		91' N OF SEOS	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
114	DS-8	R-105/18	P-18	195' N OF SEOS & 9' W	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
115	DSX-3	R-79	P-21	125'N OF SEOS	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
116	DS-9	18/19		101' N OF SEOS	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
117	CF	26/27		180' N OF SEOS	P	6	x	11		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
118	CF	26/27	P-27	179' N OF SEOS 2'E	P	4	x	3		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
119	CF	26/27	P-27	179' N OF SEOS 4'E	P	5	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
120	CF	26/27	P-27	179' N OF SEOS 6'E	P	3	x	7		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
121	CF	27/28	P-27	179' N OF SEOS & 14'W	P	3	x	3		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
122	CF	27/28	P-27	BETWEEN R-121 & R-123	B		x		108	6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
123	CF	27/28		173'N OF SEOS	P	3	x	3		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
124	BO	27/28		177' N OF SEOS	P	2	x	5		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
125	SJ	27/28/R-30		129' N OF SEOS	P	2	x	3		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
126	SJ	27/28/R-30	P-28	129'N OF SEOS & 3' E	P	2	x	2		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
127	CF	26/27	P-27	208'N OF SEOS & 2'E	P	5	x	8		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
128	CF	26/27	P-26	216'N OF SEOS (FROM R-127)	B		x		108	6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
129	CF	27/R-127	P-26	205'N OF SEOS(FROM R-127)	B		x		108	6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
130	AO	27/28		175'N OF SEOS	P	6	x	18		6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
131	AO	27/28		200'N OF SEOS	P	5	x	20		6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
132	CF	27/28		133'N OF SEOS	P	5	x	8		6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
133	DS-10	27/28		155'N OF SEOS	P	2	x	5		6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
134	CF	27/28		BETWEEN R-132 & R-154	B		x		72	6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
135	CF	19/20	P-20	115' N OF SEOS & 6'E	P	2	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
136	CF	19/20	P-20	BETWEEN R-135 & R-137	B		x		60	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
137	CF	19/20	P-20	115'N OF SEOS & 3'E	P	2	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
138	BO	29/31		11'N OF SEOS	P	2	x	4		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
139	CF	29/31	P-29	BETWEEN R-140 & R-141	B		x		108	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
140	CF	29/31	P-29	54'N OFSEOS 10'W	P	1	x	1		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
141	CF	29/31		54' N OF SEOS	P	2	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
142	SJ	29/30/31		159' N OF SEOS	P	3	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
143	BO	29/30		169' N OF SEOS	P	2	x	4		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
144	CF	29/30	P-29	BETWEEN R-145 & R-146	B		x		96	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
145	CF	29/30	P-29	175' N OF SEOS & 10'W	P	3	x	7		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
146	CF	29/30	P-29	180' N OF SEOS & 2'W	P	2	x	2		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
147	DSX-4	R-148	P-32	96'N OF SEOS	P	2	x	5		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
148	DS-11	31/32		96' N OF SEOS	P	4	x	7		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
149	CF	31/32	P-32	65' N OF SEOS & 4'E	P	3	x	12		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
150	CF	32/34	P-32	BETWEEN R-149 & R-150	B		x		108	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
151	CF	32/34	P-32	73' N OF SEOS 13' W	P	1	x	1		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
152	SJ	30/31/32		158' N OF SEOS	P	2	x	13		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
153	SJ	32/33/34		130'N OF SEOS	P	2	x	4		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
154	CF	27/28		115' N OF SEOS	P	8	x	10		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
155	BO	27/28		102' N OF SEOS	P	3	x	4		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
156	PB	28/29		15' N OF SEOS (8"PB)	P	4	x	5	24	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
157	SJ	33/34/35		130' N OF SEOS	P	2	x	2		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
158	DS-12	34/35		21' N OF SEOS	P	2	x	5		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
159	SJ	35/36/37		82' N OF SEOS	P	2	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
160	SJ	36/37/38		82' N OF SEOS	P	2	x	5		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
161	DS-13	36/38		215' N OF SEOS	P	2	x	5		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
162	CF	36/38	P-38	BETWEEN R-161 & R-163	B		x		96	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
163	CF	36/38	P-38	205' N OF SEOS & 10'E	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
164	CF	37/38	P-37	3'N OF SEOS & 9' W	B		x		72	7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
165	CF	37/38	P-37	6'N OF SEOS & 10' W	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
166	CF	37/38		3'N OF SEOS	P	3	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
167	SJ	38/39/40		35' N OF SEOS	P	3	x	3		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
168	CF	38/39		109' N OF SEOS	P	3	x	5		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
169	BO	38/39		213' N OF SEOS	P	3	x	5		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
170	SI	38/39	P-38	162' N OF SEOS 7' W	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
171	AO	40/39		BETWEEN R-167 & R-172	C	2	x	23		7/7/16	BS	W-4131	Air Pressure	Pass	7/7/16
172	SJ	39/40/41		35'N OF SEOS	P	3	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
173	CF	39/41	P-41	167' N OFSEOS 5'E	P	4	x	13		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
174	CF	39/41	P-39	177' N OF SEOS 4' W	P	3	x	10		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
175	CF	39/41		197' N OF SEOS	P	2	x	3		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
176	BO	39/41		208' N OF SEOS	P	2	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
177	CF	41/42		70' N OF SEOS	P	5	x	20		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
178	CF	41/42	P-41	92' N OF SEOS & 5'W	P	3	x	6		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
179	CF	41/42		105' N OF SEOS	P	3	x	30		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
180	CF	41/42	P-42	156' N OF SEOS & 5'E	P	6	x	17		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
181	CF	41/42	P-42	BETWEEN R-180 & R-187	B		x		120	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
182	CF	39/41	P-41	193' N OF SEOS & 4' E	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
183	CF	39/41	P-41	BETWEEN R-182 & R-175	B		x		48	7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
184	DS-14	41/42		139' N OF SEOS	P	2	x	6		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
185	DSX-5	R-179	P-42	100' N OF SEOS & 3' E	P	2	x	6		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
186	CF	41/42	P-42	157' N OF SEOS & 10' E	P	4	x	8		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
187	CF	41/42	P-42	162' N OF SEOS & 8'E	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
188	CF	41/42	P-42	138' N OF SEOS & 10'E	P	4	x	10		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
189	PB	42/43		136' N OF SEOS (48" MH)	P	7	x	9	48	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
190	CF	42/43	P-43	127' N OF SEOS & 5' E	P	5	x	13		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
191	CF	42/43	P-43	202' N OF SEOS & 10' E	P	2	x	3		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
192	CF	42/43	P-43	BETWEEN R-191 & R-193	B		x		120	7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
193	CF	42/43		210' N 0F SEOS	P	6	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
194	CF	43/44	P-43	175' N OF SEOS & 5'W	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
195	CF	43/44	P-43	BETWEEN R-194 & R-219	B		x		24	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
196	CF	42/43	P-42	BETWEEN R-199 & R-193	B		x		48	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
197	CF	42/43	P-42	BETWEEN R-198 & R-193	B		x		60	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
198	CF	42/43	P-42	210' N 0F SEOS & 7'W	P	3	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
199	CF	42/43	P-42	215' N OF SEOS & 7'W	P	3	x	3		7/7/16	SU	EXT-74	Vacuum	Pass	7/9/16
200	CF	42/43	P-42	114'N OF SEOS & 11'W	P	3	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
201	CF	42/43	P-42	BETWEEN R-200 & R-202	B		x		168	7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
202	CF	42/43	P-42	128'N OF SEOS & 10'W	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
203	CF	42/43	P-43	91' N OF SEOS & 10'E	P	4	x	10		7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16
204	CF	42/43	P-43	BETWEEN R-203 & R-214	B		x		120	7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16
205	CF	42/43	P-43	BETWEEN R-206 & R-215	B		x		108	7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16
206	CF	42/43	P-43	103' N OF SEOS & 20'E	P	2	x	5		7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16
207	CF	42/43	P-43	103' N OF SEOS & 9'E	P	3	x	13		7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
208	CF	43/44	P-43	160' N OF SEOS & 13'W	P	5	x	17		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
209	CF	43/44	P-43	180' N OF SEOS & 10'W	P	6	x	22		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
210	CF	42/43	P-43	BETWEEN R-211 & R-209	B		x		72	7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
211	CF	42/43	P-43	190'N OF SEOS & 8' E	P	8	x	12		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
212	DSX-6	R-180	P-42	153'N SEOS & 5'E	P	3	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
213	SJ	43/44/45		36'N OF SEOS	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
214	CF	43/44		81'N OF SEOS	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
215	CF	43/44		107'N OF SEOS	P	2	x	4		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
216	BO	43/44		133'N OF SEOS	P	2	x	4		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
217	CF	43/44		178'N OF SEOS	P	2	x	4		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
218	CF	43/44		185'N OF SEOS	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
219	CF	43/44		BETWEEN R-218 & R-217	B		x		60	7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
220	SJ	43/44/44A		231'N OF SEOS	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
221	SJ	44/44A/43		250' N OF SEOS	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
222	SI	45/46	P-45	11'N OF 4'W	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
223	SJ	44/45/46		35'N OF SEOS	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
224	DSX-7	R-204	P-43	80'N OF SEOS 4'W	P	4	x	2		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
225	CF	44/46	P-44	215'N SEOS & 12'E	P	10	x	16		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
226	DS-15	43/44		222'N OF SEOS	P	2	x	4		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
227	CF	43./44	P-44	216'N OF SEOS 5'E	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
228	CF	43/44	P-44	BETWEEN R-227 & R-229	B		x		24	7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
229	CF	43/44	P-44	216'N OF SEOS 7'E	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
230	DS-17	45/46		24'N OF SEOS	P	2	x	4		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
231	DS-16	46/47		146'N OF SEOS	P	2	x	4		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
232	SJ	46/47/48		115'N OF SEOS	P	2	x	7		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
233	SJ	47/48/49		116'N OF SEOS	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
234	CF	47/49	P-47	164' N OF SEOS & 2'W	P	3	x	8		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
235	BO	46/47		258'N OF SEOS	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
236	CF	46/47		266'N OF SEOS	P	5	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
237	PB	44/46	P-46	147'N OF SEOS 8'E(8"PB)	P	4	x	5		7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
238	AO	46/47		19'S OF NEOS (CAP 19')	P	2	x	19		7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
239	CF	44/46	P-44	230'N OF SEOS 7'W	P	2	x	2		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
240	CF	44/46	P-44	BETWEEN R-239 & R-241	B		x		108	7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
241	CF	44/46	P-44	241'N SEOS 7'W	P	2	x	2		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
242	SI	49/50		3'N OF SEOS	B		x		60	7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
243	BO	49/50		6'N OF SEOS	P	2	x	2		7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
244	DS-18	49/50		251' N OF SEOS	P	2	x	5		7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
245	BO	49/50		271'N OF SEOS	P	2	x	4		7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
246	SJ	50/52/53		20'N OF SEOS	P	2	x	3		7/12/16	SU	EXT-74	Vacuum	Pass	7/1/16
247	CF	50/52	P-50	53'N OF SEOS 2'W	P	2	x	2		7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
248	CF	50/52	P-50	65'N OF SEOS 10'W	P	3	x	5		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
249	CF	50/52	P-50	BETWEEN R-247 & R-248	B		x		108	7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
250	SJ	50/51/52		74'N OF SEOS	P	3	x	4		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
251	CF	50/51	P-50	111'N OF SEOS & 2'W	P	3	x	5		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
252	CF	50/51	P-50	102N OF SEOS 8'W	P	2	x	8		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
253	CF	50/51	P-50	BETWEEN R-251 & R-252	B		x		72	7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
254	CF	50/51		214N OF SEOS	P	3	x	10		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
255	CF	50/51		274'N OF SEOS	P	3	x	3		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
256	DS-19	53/54		20' N OF SEOS (AT SJ FOR 52/53/54)	P	3	x	8		7/12/16	SU	EXT-249	Vacuum	Pass	7/13/16
257	SJ	51/54/52		74'N OF SEOS	P	2	x	2		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
258	SJ	54/56/57		30'N OF SEOS	P	2	x	2		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
259	SJ	54/55/56		103'N OF SEOS	P	2	x	2		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
260	DS-20	55/56		103'N OF SEOS ON P55/P56	P	2	x	6		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
261	PB	54/55	P-55	285'N OF SEOS 20'E (4" PB)	P	4	x	4		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
262	SJ	56/57/58		30'N OF SEOS	P	2	x	3		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
263	SJ	55/56/58		103'N OF SEOS	P	2	x	3		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
264	BO	55/58		273' N OF SEOS	P	2	x	3		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
265	BO	55/58		285'N OF SEOS	P	2	x	4		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
266	CF	55/58		289'N OF SEOS	B		x		72	7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
267	SJ	58/59/60		94'N OF SEOS	P	3	x	3		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
268	SJ	59/60/61		94'N OF SEOS	P	3	x	3		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
269	BO	59/61		278'N OF SEOS	P	2	x	3		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
270	SJ	61/62/63		194'N OF SEOS	P	2	x	6		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
271	DS-21	58/59		266'N OF SEOS	P	2	x	4		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
272	DS-22	61/63		137' N OF SEOS	P	2	x	5		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
273	WR	50/51		165'N OF SEOS	P	3	x	10		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
274	WR	50/51	P-51	170'N OF SEOS 5'E	P	3	x	10		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
275	CF	50/51	P-51	BETWEEN R-273 & R-276	B		x		60	7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
276	BO	50/51		158'N OF SEOS	P	3	x	4		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
277	SJ	62/63/64		193'N OF SEOS	P	2	x	3		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
278	CF	64/65		187'N OF SEOS	P	2	x	3		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
279	CF	64/65		216'N OF SEOS	P	2	x	3		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
280	CF	64/65		115'N OF SEOS	P	5	x	10		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
281	SJ	65/66/67		116'N OF SEOS	P	2	x	2		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
282	CF	64/65	P-65	BETWEEN R-278 & R-283	B		x		120	7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
283	CF	64/65	P-65	193'N OF SEOS & 12'E	P	2	x	4		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
284	CF	64/65	P-65	215'N OF SEOS & 11'E	P	2	x	9		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
285	CF	64/65	P-65	BETWEEN R-279 & R-284	B		x		60	7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
286	DSX-8	R-270	P-61	193'N OF SEOS	P	2	x	6		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
287	DS-23	64/65		17'N OF SEOS	P	2	x	6		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
288	PB	65/67	P-65	90'N OF SEOS & 7'W (8")	P	2	x	5		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
289	SJ	66/67/68		115' OF SEOS	P	2	x	2		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
290	CF	66/68	P-66	167'N OF SEOS & 4'W	P	6	x	10		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
291	DS-24	66/68		148'N OF SEOS	P	2	x	4		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
292	PB	66/68	P-66	148'N OF SEOS & 3'W (8")	P	6	x	8		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
293	BO	68/71		99' N OF SEOS	P	3	x	5		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
294	SJ	68/70/71		147' N OF SEOS	P	5	x	3		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
295	SJ	68/69/70		216' N OF SEOS	P	2	x	2		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
296	DS-25	68/69		250' N OF SEOS	P	3	x	6		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
297	CF	68/70	P-70	155'N OF SEOS & 12' E	P	4	x	4		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
298	CF	70/72	P-70	BETWEEN R-297 & R-299	B		x		109	7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
299	SJ	71/70/72		155'N OF SEOS	P	2	x	16		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
300	DSX-9	R-299	P-72	153'N OF SEOS	P	2	x	6		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
301	CF	70/72		200'N OF SEOS	P	5	x	8		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
302	SJ	69/70/72		217'N OF SEOS	P	2	x	2		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
303	CF	72/74	P-72	54'N OF SEOS & 4'W	P	3	x	9		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
304	CF	72/74	P-72	BETWEEN R-303 & R-322	B		x		109	7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
305	CF	72/74	P-72	BETWEEN R-306 & R-317	B		x		109	7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
306	CF	72/74		104'N OF SEOS	P	2	x	3		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
307	CF	72/74		114'N OF SEOS	P	2	x	3		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
308	CF	72/74	P-74	BETWEEN R-307 & R-318	B		x		84	7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
309	CF	74/74		164'N OF SEOS	P	4	x	9		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
310	CF	72/74		172'N OF SEOS	P	4	x	6		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
311	SJ	72/73/74		220'N OF SEOS	P	3	x	4		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
312	DS-26	72/74		145'N OF SEOS	P	2	x	6		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
313	PB	72/74	P-72	158'N OFSEOS & 6'W (8" PB)	P	2	x	2	24	7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
314	CF	74/75		76'N OF SEOS	P	3	x	7		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
315	CF	74/75		209'N OF SEOS	P	5	x	7		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
316	SJ	74/73/75		218'N OF SEOS	P	2	x	3		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
317	CF	72/74	P-72	109'N OF SEOS & 7' W	P	1	x	1		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
318	CF	72/74	P-74	114'N OF SEOS & 9'E	P	2	x	2		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
319	CF	74/75	P-75	95'N OF SEOS & 10'E	P	3	x	5		7/27/16	SU	EXT-75	Vacuum	Pass	7/27/16
320	CF	74/75	P-75	BETWEEN R-319 & R-333	B		x		108	7/27/16	SU	EXT-75	Vacuum	Pass	7/27/16
321	CF	72/74	P-74	48'N OF SEOS & 2' E	P	2	x	3		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
322	CF	72/74	P-72	62'N OF SEOS & 8' W	P	1	x	2		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
323	CF	74/75	P-75	35'N OF SEOS &10' E	P	2	x	2		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
324	CF	74/75	P-75	BETWEEN R-323 AND R-325	B		x		144	7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
325	CF	74/75	P-75	50'N OF SEOS & 10' E	P	1	x	1		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
326	CF	74/75	P-75	157'N OF SEOS & 12' E	P	2	x	2		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
327	CF	74/75	P-75	BETWEEN R-326 AND R-334	B		x		144	7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
328	SI	71/72	P-72	77'N OF SEOS & 7' E	P	2	x	2		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
329	CF	74/75	P-75	164'N OF SEOS & 7'E	P	2	x	3		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
330	CF	74/75	P-75	BETWEEN R-329 AND R-331	B		x		84	7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
331	CF	74/75	P-75	173'N OF SEOS & 7'E	P	3	x	3		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
332	CF	75/76		8'N OF SEOS	P	2	x	7		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
333	CF	75/76		81'N OF SEOS	P	3	x	3		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
334	CF	75/76		151'N OF SEOS	P	2	x	3		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
335	BO	75/76		234'N OF SEOS	P	2	x	4		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
336	CF	75/76		254'N OF SEOS	P	4	x	14		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
337	DS-27	75/76		24'N OF SEOS	P	2	x	5		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
338	DSX-10	R-320	P-75	82'N OF SEOS & 5'W	P	2	x	5		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
339	CF	76/78		4'N OF SEOS	P	3	x	7		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
340	SJ	76/77/78		40'N OF SEOS	P	3	x	6		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
341	CF	78/79	P-78	15'N OF SEOS & 4'W	P	2	x	9		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
342	CF	76/78		15'N OF SEOS	P	2	x	5		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
343	PB	78/79	P-78	15'N OF SEOS & 9'W (6"PB)	P	2	x	4		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
344	SJ	77/78/79		40'N OF SEOS	P	3	x	3		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
345	CF	77/79	P-79	138'N OF SEOS & 7'E	P	2	x	15		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
346	CF	77/79	P-77	144'N OF SEOS 3'W	P	6	x	10		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
347	CF	76/78		25'N OF SEOS	P	2	x	3		7/27/16	SU	EXT-75	Vacuum	Pass	8/2/16
348	CF	79/80	P-79	133'N OF SEOS & 4'W	P	5	x	10		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
349	CF	79/80	P-79	129'N OF SEOS & 9' W	P	2	x	3		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
350	CF	79/80	P-79	131'N OFSEOS & 10' W	P	2	x	2		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
351	CF	79/80	P-79	BETWEEN R-348 AND R-349	B		x		36	7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
352	CF	79/80	P-79	BETWEEN R-348 & R-353	B		x		36	7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
353	CF	79/80	P-79	138'N OF SEOS & 2'W	P	2	x	3		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
354	CF	79/80	P-79	134'N OF SEOS & 3'W (ON R-348)	P	3	x	3		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
355	CF	79/80		167'N OF SEOS	P	5	x	10		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
356	CF	79/80	P-79	106'N OF SEOS & 4'W	P	3	x	6		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
357	PB	80/81	P-80	140' N OF SEOS & 1'W (48" MH)	P	6	x	6	60	7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
358	CF	79/80	P-79	207'N OF SEOS & 6'W	P	4	x	10		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
359	CF	79/80	P-79	208'N OF SEOS & 10'W	P	3	x	7		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
360	CF	77/79	P-79	148'N OF SEOS (ON R-346)	P	2	x	2		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
361	CF	77/79	P-77	137'N OF SEOS & 6'W	P	1	x	2		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
362	CF	80/82		6'N OF SEOS	P	2	x	4		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
363	SJ	80/81/82		25'N OF SEOS	P	2	x	4		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
364	CF	80/81		130'N OF SEOS	P	3	x	4		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
365	CF	80/81		140'N OF SEOS	P	3	x	15		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
366	CF	80/81	P-80	BETWEEN R-364 & R-365	B		x		36	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
367	CF	80/81	P-80	140'NOF SEOS & 4'W	P	3	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
368	CF	80/81		150'N OF SEOS	P	4	x	6		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
369	CF	80/81		264'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
370	SJ	81/82/83		25'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
371	CF	81/83	P-81	31'N OF SEOS & 3'W	P	2	x	6		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
372	BO	81/83		145'N OF SEOS	P	2	x	5		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
373	CF	81/83		216'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
374	SJ	83/84/85		52'N OF SEOS	P	3	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
375	CF	83/84		202'N OF SEOS	P	3	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
376	SJ	84/85/86		52'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
377	CF	84/86		198'N OF SEOS	P	2	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
378	SJ	86/87/88		96'N OF SEOS	P	2	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
379	CF	86/87	P-86	205' N OF SEOS	P	4	x	11		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
380	PB	76/78	P-76	6'N OF SEOS & 4'W (8" PB)	P	5	x	6	24	7/28/16	DM	EXT-75	Vacuum	Pass	8/2/16
381	CF	86/88		40'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
382	CF	83/84	P-83	197'N OF SEOS & 10'W	P	3	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
383	CF	83/84	P-83	BETWEEN R-382 & R-375	B		x		120	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
384	PB	81/83	P-81	32'N OF SEOS & 7'W (8" PB)	P	2	x	4	24	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
385	CF	80/82	P-80	BETWEEN R-362 & R-386	B		x		120	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
386	CF	80/82	P-80	10'N OF SEOS & 10W	P	2	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
387	CF	84/86	P-86	BETWEEN R-377 & R-379	B		x		86	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
388	CF	86/87	P-87	250'N OF SEOS & 19'E	P	3	x	12		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
389	CF	86/88	P-86	BETWEEN R-381 & R-390	B		x		120	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
390	CF	86/88	P-86	42'N OF SEOS & 9'W	P	2	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
391	DS-26 B	72/74		154'N OF SEOS	P	2	x	11		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
392	DS-26 A	72/74		135'N OFSEOS	P	2	x	11		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
393	DS-28	81/83		177'N OF SEOS	P	2	x	5		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
394	DSX-11	R-365	P-81	144'N OF SEOS &12'W	P	2	x	5		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
395	DSX-12	R-387	P-86	199'N OF SEOS & 4'E	P	2	x	5		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
396	CF	86/87		210'N OF SEOS	P	4	x	14		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
397	CF	86/87	P-86	210'N OF SEOS 7'W	P	3	x	4		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
398	CF	86/87	P-86	208'N OF SEOS 10'W	P	3	x	15		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
399	CF	86/87	P-87	200'N OF SEOS 9'E	P	4	x	20		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
400	CF	87/90		115'N OF SEOS	P	2	x	5		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
401	CF	87/90	P-90	BETWEEN R-400 & R-402	B		x		120	8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
402	CF	87/90	P-90	115'N OF SEOS 13'E	P	2	x	3		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
403	BO	87/90		130'N OF SEOS	P	2	x	5		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
404	BO	87/89/90		150'N OF SEOS	P	2	x	3		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
405	SJ	88/87/90		97'N OF SEOS	P	2	x	3		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
406	CF	90/91	P-90	50'N OF SEOS 3'W	P	3	x	6		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
407	CF	90/91	P-90	49'N OF SEOS 7'W	P	3	x	9		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
408	PB	90/91	P-90	238'N OF SEOS 7'W (4" PB)	P	4	x	10	24	8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
409	PB	90/91	P-91	107'N OF SEOS 5'E (8" PB)	P	4	x	4	24	8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
410	CF	91/92		160' N OF SEOS	P	6	x	17		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
411	CF	91/92		180'N SEOS	P	4	x	6		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
412	CF	92/93		110'N OF SEOS	P	3	x	5		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
413	CF	92/93	P-92	BETWEEN R-412 & R-414	B		x		84	8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
414	CF	92/93	P-92	115'N OF SEOS & 11'W	P	4	x	6		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
415	CF	87/89	P-87	246' N OF SEOS & 4'W	P	3	x	8		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
416	DS-29	90/91		26'N OF SEOS	P	2	x	5		8/4/16	SU	EXT-74	Vacuum	Pass	8/4/16
417	DSX-13	R-401	P-90	116'N OF SEOS &7'E	P	2	x	7		8/4/16	SU	EXT-74	Vacuum	Pass	8/4/16
418	DO	36/38	P-36	212' N OF SEOS & 6'W	P	2	x	2		8/5/16	SU	EXT-74	Vacuum	Pass	8/5/16
419	CF	94/95		45'N OF SEOS	P	2	x	3		8/5/16	SU	EXT-74	Vacuum	Pass	8/5/16
420	CF	94/95	P-94	BETWEEN R-419 & R-420	B		x		86	8/5/16	SU	EXT-74	Vacuum	Pass	8/5/16
421	CF	94/95	P-94	45'N OF SEOS & 12'W	P	4	x	6		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
422	CF	94/95	P-94	149'N OF SEOS	P	2	x	3		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
423	CF	94/95	P-94	BETWEEN R-422 & R-424	B		x		84	8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
424	CF	94/95	P-94	149'N OF SEOS & 11'W	P	4	x	6		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
425	CF	94/95	P-94	186'N OF SEOS & 2'W	P	2	x	2		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
426	CF	94/95	P-94	BETWEEN R-425 & R-427	B		x		132	8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
427	CF	94/95	P-94	176'N OF SEOS & 12'W	P	3	x	4		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
428	SJ	95/96/97		14'N OF SEOS	P	2	x	3		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
429	SJ	96/97/98		14'N OF SEOS	P	2	x	2		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
430	PB	97/98	P-97	109'N OF SEOS 2'W (8"PB)	P	2	x	4	24	8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
431	DS-30	97/98		120'N OF SEOS	P	2	x	5		8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16
432	DSX-14	R-430	P-98	110'N OF SEOS	P	2	x	5		8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16
433	CF	99/100	P-100	92'N OF SEOS & 6'E	P	3	x	7		8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16
434	CF	99/100		97'N OF SEOS	P	3	x	11		8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16
435	CF	99/100		132'N OF SEOS	P	2	x	3		8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16
436	CF	99/100	P-100	BETWEEN R-435 & R-437	B		x		108	8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16
437	CF	99/100	P-100	128'N OFSEOS & 8'E	P	2	x	2		8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
438	DS-31	79/80		200'N OF SEOS	P	2	x	5		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
439	DS-32	86/87		178'N OF SEOS	P	2	x	5		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
440	SJ	100/101/102		20'N OF SEOS	P	3	x	5		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
441	SJ	101/102/103		22'N OF SEOS	P	2	x	4		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
442	CF	103/104		40'N OF SEOS	P	4	x	8		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
443	SJ	103/104/105		188'N OF SEOS	P	2	x	3		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
444	BO	103/105		218'N OF SEOS	P	2	x	4		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
445	BO	104/106		62'N OF SEOS	P	3	x	8		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
446	SJ	104/105/106		190'N OF SEOS	P	2	x	3		8/10/16	SU	EXT-74	Vacuum	Pass	8/11/16
447	CF	104/106	P-106	150'N OF SEOS 13'E	P	2	x	7		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
448	CF	104/106	P-106	BETWEEN R-447 & R-477	B		x		108	8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
449	PB	102/103	P-103	113'N OF SEOS 13'E (8" PB)	P	2	x	4	24	8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
450	PB	103/104	P-104	6'N OF SEOS 5'E (6" PB)	P	3	x	4	24	8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
451	DS-33	104/106		23'N OF SEOS	P	2	x	6		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
452	DSX-15	R-445	P-106	62'N OF SEOS	P	2	x	6		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
453	BO	93/107		3'N OF SEOS	P	2	x	5		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
454	BO	93/107		45'N OF SEOS	P	3	x	6		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
455	CF	108/110	P-108	115'N OF SEOS & 2'W	P	5	x	15		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
456	SJ	108/109/110		188'N OF SEOS	P	2	x	3		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
457	SI	107/108		2'N OF SEOS	P	2	x	3		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
458	CF	94/110	P-110	103'N OF SEOS & 9'W	P	2	x	4		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
459	CF	94/110		BETWEEN R-458 & R-460	B		x		120	8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
460	SJ	R-461/94		110'N OF SEOS	P	2	x	4		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
461	AO		P-110	110'N OF SEOS (BTWN R-460/R-455)	C	2	x	22		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
462	CF	110/94		115'N OF SEOS & 13'W	P	3	x	8		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
463	CF	110/94	P-110	132'N OF SEOS & 2'W	P	4	x	5		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
464	CF	110/94	P-110	136'N OF SEOS & 10'W	P	4	x	12		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
465	SJ	94/110/109		188'N OF SEOS	P	2	x	3		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
466	CF	108/110	P-108	110'N OF SEOS & 5'W	P	3	x	11		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
467	DS-34	94/110		62'N OF SEOS	P	2	x	5		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
468	AO	94/110		4' N OF SEOS (ON R-469)	P	2	x	2		8/11/16	SU	EXT-74	Vacuum	Pass	8/11/16
469	AO	R-470	P-94/P-95	4'N OF SEOS	P	2	x	45		8/11/16	SU	EXT-74	Vacuum	Pass	8/11/16
470	AO	R-469	P-94/P-95/P-96	2'N OF SEOS	P	2	x	55		8/11/16	SU	EXT-74	Vacuum	Pass	8/11/16
471	AO	R-470/R-472	P-96/P-98/P-99	2'N OF SEOS	P	2	x	45		8/11/16	SU	EXT-74	Vacuum	Pass	8/11/16
472	AO	R-473/R-474	P-100/P-101	2'N OF SEOS	P	2	x	56		8/11/16	SU	EXT-74	Vacuum	Pass	8/11/16
473	AO	R-472/R-475	103/P-104/P-1	2'N OF SEOS	P	3	x	25		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
474	AO	R-472	P-99/P-100	4'N OF SEOS	P	3	x	3		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
475	AO	R-473	P-104/P-106	3'N OF SEOS	P	2	x	3		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
476	AO	R-469/R-470	P-94/P-95	2'N OF SEOS	B		x		276	8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
477	CF	106/111		161'N OF SEOS	P	2	x	3		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
478	CF	111/112	P-112	46'N OF SEOS & 4'E	P	4	x	10		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
479	CF	111/112	P-111	74'N OF SEOS & 2'W	P	3	x	7		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
480	DO	111/112	P-111	236'N OF SEOS & 11'W	P	2	x	3		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
481	CF	111/112	P-111	140'N OF SEOS & 4'W	P	3	x	9		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
482	CF	111/112	P-111	142'N OF SEOS &14'W	P	4	x	12		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
483	CF	111/112	P-112	46' N OF SEOS &15'E	P	2	x	7		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
484	CF	111/112	P-112	BETWEEN R-483 & R-487	B		x		96	8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
485	CF	111/112	P-112	46'N OF SEOS & 11' E	B		x		36	8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
486	DO	103/105	P-103	236'N OF SEOS & 12'W	P	2	x	3		8/12/16	SU	EXT-74	Vacuum	Pass	8/12/16
487	CF	112/113		46'N OF SEOS	P	2	x	10		8/12/16	SU	EXT-74	Vacuum	Pass	8/13/16
488	BO	112/113		163'N OFSEOS	P	3	x	3		8/12/16	SU	EXT-74	Vacuum	Pass	8/13/16
489	BO	113/114		66'N OF SEOS	P	2	x	3		8/12/16	SU	EXT-74	Vacuum	Pass	8/13/16
490	DSX-16	R-478	P-112	47'N OF SEOS	P	2	x	6		8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
491	DS-35	112/113		114'N OF SEOS	P	2	x	6		8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
492	PB	112/113	P-113	110'N OF SEOS & 10'E (48" MH)	P	7	x	6	60	8/12/16	SU	EXT-74	Vacuum	Pass	8/13/16
493	PB	113/114	P-114	206'N SEOS & 13'E (6" PB)	P	2	x	7	24	8/12/16	SU	EXT-74	Vacuum	Pass	8/13/16
494	CF	113/114	P-114	206'N OF SEOS &16'E	P	2	x	10		8/12/16	SU	EXT-74	Vacuum	Pass	8/13/16
495	CF	111/106	P-106	161'N OF SEOS & 9'W	P	1	x	1		8/11/16	SU	EXT-74	Vacuum	Pass	8/13/16
496	CF	111/106	P-106	BETWEEN R-495 & R-497	B		x		120	8/11/16	SU	EXT-74	Vacuum	Pass	8/13/16
497	CF	111/106	P-106	172'N OF SEOS & 3'W	P	2	x	2		8/11/16	SU	EXT-74	Vacuum	Pass	8/13/16
498	CF	112/113	P-113	38'N OF SEOS & 7'E	P	3	x	7		8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
499	CF	113/114	P-114	46'N OF SEOS & 7'E	P	3	x	10		8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
500	CF	113/114	P-114	BETWEEN R-499 & R-503	B		x		120	8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
501	CF	111/112	P-111	115'N OF SEOS & 6' W	P	2	x	14		8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
502	CF	112/113	P-113	152'N OF SEOS & 11' E	P	2	x	15		8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
503	CF	114/115		39'N OF SEOS	P	2	x	3		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
504	CF	114/115		205'N OF SEOS	P	2	x	5		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
505	SJ	115/119/118		106'N OF SEOS	P	4	x	12		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
506	BO	116/115		244'N OF SEOS	P	3	x	3		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
507	SJ	118/116/117		171'N OF SEOS	P	2	x	3		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
508	BO	117/118		171'N OF SEOS & 10'E	P	4	x	5		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
509	PB	116/118	P-116	176'N OF SEOS & 13'E (4" PB)	P	4	x	4	24	8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
510	CF	118/116	P-116	BETWEEN R-509 & R-511	B		x		60	8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
511	CF	117/116	P-116	171'N OF SEOS & 16'E	P	2	x	5		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
512	SJ	115/116/118		225'N OF SEOS	P	3	x	6		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
513	DS-36	118/117		40'N OF SEOS	P	2	x	6		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
514	DSX-17	R-505	P-118	106' N OF SEOS	P	3	x	6		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16

Repair Log
(Attachment 11: Capping Update)

Non-conformance Log
(Attachment 11: Capping Update)

Summary of Non-Compliance & Corrective Action Forms

SA-6 North Cap Installation

Notice of Non-Compliance & Corrective Action Sheet Number	Date	Item	Associated Repair Number	Approx. Location	Follow Up Action Taken
1	6/23/2016	Subgrade Irregularity	R-10	Panel P6	Rock was removed from underneath geomembrane and hole was then patched with approximate 3 ft. by 3 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
2	6/29/2016	Subgrade Irregularity	R-98	Panel P26	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
3	7/6/2016	Failed Spark Test	Gas Vent GV-5	Gas Vent GV-5	Spark identified during spark testing of vertical boot weld on Gas Vent GV-5 boot. Area of weld was grinded, rewelded, and re-tested. Spark retest passed as no sparks were observed duriing the test.
4	7/6/2016	Failed Spark Test	Well 115-W1-SO	Well 115-W1-SO	Spark identified during spark testing of vertical boot weld on Well 115-W1-SO boot. Area of weld was grinded, rewelded, and re-tested. Spark retest passed as no sparks were observed duriing the test.
5	7/7/2016	Subgrade Irregularity	R-170	Panel P38	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
6	7/8/2016	Subgrade Irregularity	R-222	Panel P45	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 3 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
7	7/12/2016	Subgrade Irregularity	R-242	Panel P49 / P50	Rock was removed from underneath LLDPE geomembrane along the southern edge of SA-6 North (approximately 3 ft. from the edge of the cap. As such, the edge of the LLDPE was cut to remove the stone. This cut was then repaired with an extrusion weld bead. Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the cut / bead was properly sealed (as outlined in Section 02372).
8	7/27/2016	Subgrade Irregularity	R-328	Panel P72	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
9	7/28/2016	Failed Destruct Sample	DS-26	Panel P72 / P74 (Repair R-312)	Destruct sample DS-26 reported two coupons as EPA Break Classification Code "AD BRK". Although the peel and shear strength requirments were met, since the coupons broke at the weld and were not conisdering a Film Tearing Bond, the sample was reported as a failed sample. Two field samples (DS-26A and DS-26B) were cut 10 ft. from each side of DS-26 and field tested. Peel and shear field tests met the strength requirments and sample DS-26B (lesser strength values of both samples) was sent for laboratory analysis (results pending).
10	8/5/2016	Equipment Puncture	R-418	Panel P36	Equipment puncture through SA-6 North on Panel P36 (north end) as grounding rod was driven through liner. The puncture was exposed and a geomembrane patch was placed over the area and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut. Repairs were confirmed with vacuum box testing (vacuum box test passed), as per project specs.
11	8/9/2016	Failed Spark Test	Piezometer PZ4	Piezometer PZ4	Spark identified during spark testing of vertical boot weld on Piezometer PZ4 boot. Area of weld was grinded, rewelded, and re-tested. Spark retest passed as no sparks were observed during the test.
12	8/9/2016	Failed Spark Test	Well 115-E5-WO	Well 115-E5-SO	Spark identified during spark testing of vertical boot weld on Well 115-E5-SO boot. Area of weld was grinded, rewelded, and re-tested. Spark retest passed as no sparks were observed during the test.
13	8/10/2016	Subgrade Irregularity	R-457	Panel P107 / P108	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 3 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
14	8/12/2016	Failed Spark Test	Well 115-E4-SO	Well 115-E4-SO	Spark identified during spark testing of vertical boot weld on Well 115-E4-SO boot. Area of weld was grinded, rewelded, and re-tested. Spark retest passed as no sparks were observed during the test.

Subgrade Approval Forms
(Attachment 11: Capping Update)

LANGAN

Certificate of Soil Surface

Sheet # 16

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 305+40 TO ~STA. 304+60		
QA Monitor	LANGAN	Date	8/3/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P88 (INSTALLED ON 7/28/16) APPROX 80 FT EAST FROM ~STA. 305+40 TO ~STA. 304+60. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/3/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Pania
Date:	8/3/16
Title	QC Mgr
Representing:	Antech
Signature:	Carolina Pania

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.
-SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT BY 8 FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>1/2"). NO GCL TO BE INSTALLED FROM APPROX. STA. 305+40 TO ~ STA. 304+60

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	~STA. 305+40	LOOKING S	REFER TO PHOTO #3 (8/3/16)
	2 PHOTO #4	~STA. 304+60	LOOKING E	REFER TO PHOTO #4 (8/3/16)

1. REFER TO 8/3/16 PHOTOGRAPH LOG PHOTOS 3 TO 5 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 17

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 304+60 TO ~STA. 303+75		
QA Monitor	LANGAN	Date	8/4/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P93 (INSTALLED ON 8/3/16) APPROX. 85 FT. EAST FROM ~STA. 304+60 TO ~STA. 303+75. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS. GCL PLACED ALONG NORTH END OF CAP (~STA. 303+75) FOR AREA BELOW, TO 1 FT. ABOVE SITE WATER TABLE

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/4/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	8/4/16
Title	QC mgr
Representing:	Entek
Signature:	Carolina Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED. AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT BY 8 FT. TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>1/2"). GCL PANELS ALONG NORTHERN EDGE OF CAP AT APPROX STA. 303+75 FOR AREAS BELOW (TO 1FT ABOVE SITE GROUNDWATER TABLE) @ APPROX EL. 7

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	~STA. 304+60	LOOKING E	REFER TO PHOTO #3 (8/4/16)
	2 PHOTO #4	~STA. 304+60	LOOKING S	REFER TO PHOTO #4 (8/4/16)
1. REFER TO 8/4/16 PHOTOGRAPH LOG PHOTOS 3 TO 5 FOR SUPPORTING SUBGRADE PHOTOS.				2.

LANGAN

Certificate of Soil Surface

Sheet # 18

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 303+75 TO ~STA. 303+15		
QA Monitor	LANGAN	Date	8/5/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF TEMPORARY PANEL 3 (INSTALLED ON 8/4/16) APPROX 60 FT EAST FROM ~STA. 303+75 TO ~STA. 303+15. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS. GCL PLACED ALONG N END OF CAP FOR AREA BELOW (TO 1 FT. ABOVE) SITE WATER TABLE AS INDICATED ON DESIGN DRAWINGS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOWENTA
Date:	8/5/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/5/16
Title	QC Mgr
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX 200 FT BY 8 FT. TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>½"). GCL PLACED ALONG NORTHERN END OF CAP FROM ~STA. 303+75 TO ~STA 303+15. FOR AREAS BELOW (TO 1FT. ABOVE) SITE WATER TABLE @ APPROX EL. 7 AS ~~INDICATED~~ SHOWN ON DESIGN DRAWINGS

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #5	~STA. 303+75	LOOKING S	REFER TO PHOTO #5 (8/5/16)
	2 PHOTO #6	~STA. 303+75	LOOKING E	REFER TO PHOTO #6 (8/5/16)
1. REFER TO 8/5/16 PHOTOGRAPH LOG PHOTOS 5 TO 8 FOR SUPPORTING SUBGRADE PHOTOS + GCL PLACEMENT				2.

LANGAN

Certificate of Soil Surface

Sheet # 19

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMECFW	Cell No.	~STA. 303+15 TO ~STA. 302+70		
QA Monitor	LANGAN	Date	8/8/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P98 (INSTALLED ON 8/5/16) APPROX 45 FT EAST FROM APPROX ~STA. 303+15 TO ~STA. 302+70. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS. GCL PLACED ALONG N END OF CAP FOR AREAS BELOW (TO 1FT ABOVE) SITE WATER TABLE AS SHOWN ON DESIGN DRAWINGS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/8/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/8/16
Title	QC Manager
Representing:	Anhard
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX ~200 FT BY 8 FT. TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT. ALL PLACED ALONG N END OF CAP FROM APPROX ~STA. 303+15 TO ~STA. 302+70, FOR AREAS BELOW (TO 1FT ABOVE) SITE WATER TABLE @ ~EL. 7 AS SHOWN ON DESIGN DRAWINGS

Photographs	Number	Location	Orientation	Notes
	1			
	2			
1.				2.

LANGAN

Certificate of Soil Surface

Sheet # 20

Project Name	Honeywell SA-6 North	Material Desc.	Geomembrane		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	Honeywell / AMRC FW	Cell No.	~Sta. 302+70 to ~Sta. 301+70		
QA Monitor	Langan	Date	8/9/16		

Description of Soil Surface to be lined: Area immediately east of P100 (installed on 8/8/16) approx 100 ft east from approx ~Sta. 302+70 to ~Sta. 301+70. Soil appears to be graded, compacted, and free of debris (>½") and in conformance with project specs. GCL placed along N end of cap for areas below (to 1ft. above) site water table as shown on design drawings

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-no changes

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	8/9/16
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/9/16
Title	QC Manager
Representing:	Entec
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 02372-8
• SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 12'00 FT BY SET TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>½"). GCL PLACED ALONG N END OF CAP FROM APPROX. STA. 302+70 TO ~STA. 301+70 FOR AREAS BELOW (TO 1 FT. ABOVE) SITE WATER TABLE @ APPROX. EL. 7 AS SHOWN ON DESIGN DRAWINGS

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #9	~STA 302+70	LOOKING E	REFER TO PHOTO #9 (8/9/16)
	2 PHOTO #10	~STA. 302+70	LOOKING S	REFER TO PHOTO #10 (8/9/16)
1. REFER TO 8/9/16 PHOTOGRAPH LOG PHOTOS 9 TO 12 FOR SUPPORTING SUBGRADE PHOTOS + GCL PLACEMENT				2.

LANGAN

Certificate of Soil Surface

Sheet # 21

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 301+70 TO ~STA. 301+25		
QA Monitor	LANGAN	Date	8/11/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P106 (INSTALLED ON 8/9/16) APPROX 45 FT. EAST FROM APPROX ~STA. 301+70 TO ~STA. 301+25. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS. GCL PERIED ALONG N END OF CAP FOR AREAS BELOW (TO 1ST ABOVE) SITE WATER TABLE AS SHOWN ON DESIGN DRAWINGS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DAN BOSWORTH
Date:	8/11/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/11/16
Title	QC Manager
Representing:	Entek
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX ~200 FT BY 8 FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>1/2"). GCL PLACED ALONG N END OF CAP FROM ~STA. 301+70 TO ~STA. 301+25 FOR AREAS BELOW (TO 1FT. ABOVE) SITE WATER TABLE @ APPROX EL. 7 AS SHOWN ON DESIGN DRAWINGS

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #9	~STA. 301+70	LOOKING S	REFER TO PHOTO #9 (8/11/16)
	2 PHOTO #10	~STA. 301+70	LOOKING S	REFER TO PHOTO #10 (8/11/16)
1. REFER TO 8/11/16 PHOTOGRAPH LOG PHOTOS 9 TO 12 FOR SUPPORTING SUBGRADE PHOTOS + GCL PLACEMENT				2.

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Certificate of Soil Surface

Sheet # 22

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 301+25 TO ~STA. 300+80		
QA Monitor	LANGAN	Date	8/12/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P112 (INSTALLED ON 8/11/16) APPROX 45 FT. EAST FROM ~STA. 301+25 TO ~STA. 300+80. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS. ALL PLACED ALONG N END OF CAP FOR AREAS BELOW (TO 1FT ABOVE) SITE WATER TABLE AS SHOWN ON DESIGN DRAWINGS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DAN BESLUGATA
Date:	8/12/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/12/16
Title	QC Manager
Representing:	Entrack
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. ~200 FT BY 8FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT
GCL PLACED ALONG N END OF CAP FROM APPROX ~STA. 301+25 TO ~STA. 300+80 FOR AREAS BELOW (TO 1FT. ABOVE) SITE WATER TABLE @ APPROX. EL. 17 AS SHOWN ON DESIGN DRAWINGS.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #9	~STA. 301+25	LOOKING N	REFER TO PHOTO #9 (8/12/16)
	2 PHOTO #10	~STA. 301+25	LOOKING S	REFER TO PHOTO #10 (8/12/16)

1. REFER TO 8/12/16 PHOTOGRAPH LOG PHOTOS 9 TO 12 FOR SUPPORTING SUBGRADE PHOTOS + GCL PLACEMENT

2.

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Certificate of Soil Surface

Sheet # 23

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 300+80 TO ~STA. 300+00 (EEOS)		
QA Monitor	LANGAN	Date	8/13/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P114 (INSTALLED ON 8/12/16) APPROX 80 FT. EAST FROM ~STA. 300+80 TO ~STA. 300+00 (EEOS). SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS. GCL PLACED ALONG N AND E END OF CAP FOR AREAS BELOW (TO 1FT ABOVE) SITE WATER TABLE. AS SHOWN ON DESIGN DRAWINGS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DAN BOSWORTH
Date:	8/13/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/13/16
Title	QC Manager
Representing:	Anteal
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (2 1/2") AS OUTLINED IN SECTION 02372-8
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX ~200 FT BY 3 FT. TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT. GCL PLACED ALONG NORTH + EAST END OF CAP FROM APPROX STA. 300+80 TO ~STA 300+00 (EDGE OF CAP) FOR AREAS BELOW TO 1FT. ABOVE SITE WATER TABLE @ APPROX EL. 7 AS SHOWN ON DESIGN DRAWINGS

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #8	~STA. 300+40	LOOKING N	REFER TO PHOTO #8 (8/13/16)
	2 PHOTO #9	~STA. 300+80	LOOKING N	REFER TO PHOTO #9 (8/13/16)
1. REFER TO 8/13/16 PHOTOGRAPH LOG PHOTOS 8 TO 11 FOR SUPPORTING SUBGRADE PHOTOS + GCL PLACEMENT				2.

QA Photo Log
(Attachment 11: Capping Update)

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PHOTOGRAPHIC LOG
Photo #1 (08/02/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
8/2/16

Direction Taken:

Looking south along SA-6 North Panel P66/ P67 (approximate Sta. 308+35).

Description:

ESI deploying GDL over approved LLDPE geomembrane (Panels P66 / P67 and P68). GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #2 (08/02/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

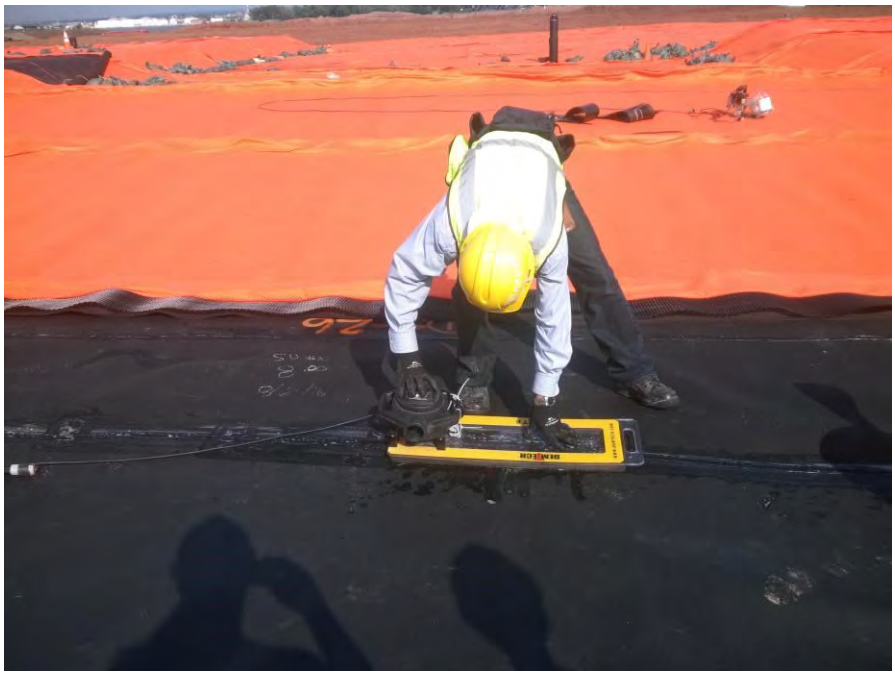
Date:
8/2/16

Direction Taken:

SA-6 North – Panel Seam P72 / P74 (Repair R-391)

Description:

ESI conducting vacuum box activities for extrusion weld patch R-391. Two additional samples were cut Approximately 10 ft. from each side of DS-26, patched, sealed with an extrusion weld, and vacuum box tested.



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PHOTOGRAPHIC LOG
Photo #3 (08/03/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
8/3/16

Direction Taken:

Looking north / northeast along SA-6 North (from approximate Sta. 304+80).

Description:

GVL deployed along approved soil subgrade up to approximate Sta. 304+60. GVL secured with white plastic fasteners spaced at maximum of 5 ft. and top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #4 (08/03/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
8/3/16

Direction Taken:

Looking south / southeast along SA-6 North (approximate Sta. 305+40).

Description:

ESI conducting fusion welding along LLDPE geomembrane Panel Seam P88 and P90.

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PHOTOGRAPHIC LOG
Photo #5 (08/04/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
8/4/16

Direction Taken:

Looking north along northern end of SA-6 North (approximate Sta. 303+75).

Description:

GCL placed along areas below (to 1 ft. above) the site water table. GCL seams sealed with bentonite and leistered in place.

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PHOTOGRAPHIC LOG
Photo #6 (08/05/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

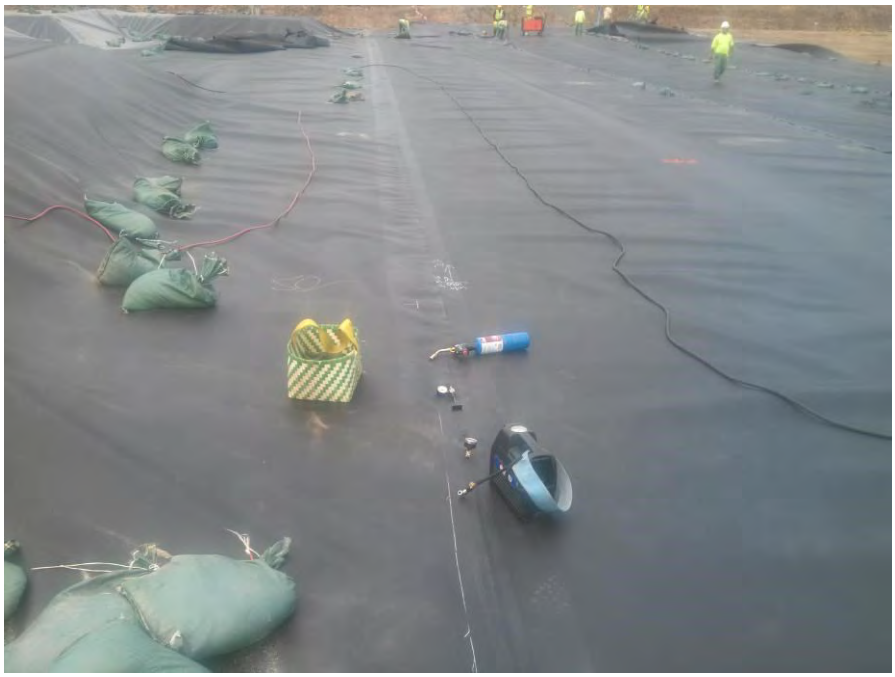
Date:
8/5/16

Direction Taken:

SA-6 North – Panel P94 / P95 seam

Description:

ESI conducting non-destructive testing (pressure testing) along Panel P94 / P95 seam. Seam pressurized to 30 psi and held for 5 minutes with less than 4 psi loss.



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PHOTOGRAPHIC LOG
Photo #7 (08/05/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

SA-6 North – Injection Well 088-IW-02

Description:

ESI completing boot penetration for Injection Well 088-IW-02 located on Panel P97.

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PHOTOGRAPHIC LOG
Photo #8 (08/08/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/8/16

Direction Taken:

Looking north along SA-6 (approximate Sta. 304+60).

Description:

ESI deploying two panels of orange GDL over approved LLDPE geomembrane. GDL placed up to temporary panels installed 8/4/16. GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #9 (08/09/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

SA-6 North – Gas Vent GV-2

Description:

ESI conducting spark testing for Gas Vent GV-2. Prior to spark testing, methane testing was conducted and yielded a concentration of 0.0%, thus spark testing was conducted and no sparks were observed (spark test passed).

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PHOTOGRAPHIC LOG
Photo #10 (08/10/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
8/10/16

Direction Taken:

SA-6 North – Panel Seam P102 / P103 / P104

Description:

ESI conducting repair activities for seam joint at Panel P102 / P103 / P104 (panels installed on 8/9/16).

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PHOTOGRAPHIC LOG
Photo #11 (08/10/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
8/.10/16

Direction Taken:

SA-6 North – Panel P110

Description:

ESI conducting custom fit repairs along Panel P110.

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PHOTOGRAPHIC LOG
Photo #12 (08/13/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 300+60)

Description:

LLDPE geomembrane installed over GVL and GCL to east end of cap (approximate Sta. 300+00)

Daily QA Reports (Langan)
(Attachment 11: Capping Update)

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/2/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/85° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1645

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #21** **AmecFW**: Stu Bills, Dave Ambrose, Josh Boynton **Langan:** Dan Bosworth, Vikki Hon **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL) over approved LLDPE geomembrane. Note: no soil subgrade approved and no LLDPE geomembrane installed on 8/2/16. Next area of subgrade still being prepared, graded, and compacted by Entact (to be surveyed by Maser).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was first placed along the northern end of SA-6 North from Panel P66 / P67 (approximate Sta. 308+35) to the approximate center of the Utility Corridor (approximate Sta. 306+80) Note: The GDL panel orientation changed to east to west through the utility corridor so that the GDL followed the same contours as the utility corridor slopes. GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/2/16 Photo Log for supporting photographs.
- While GDL was being deployed ESI also conducted vacuum box testing and minor repair activities for Panels P86 and P87 (installed on 7/28/16). Additional details are provided in the 8/2/16 Repair Report.
- A total of three (3) destruct samples were collected. One fusion weld sample – DS-28 was collected from Panel Seam P81 / P83. Two extrusion weld destruct samples – DSX-11 and DSX-12 were collected from Repair R-365 (Panel 81) and Repair R-387 (Panel 86), respectively.
- ESI also completed repair activities for fusion weld destruct sample DS-26 (Panel P72 / P74 seam). DS-26 failed laboratory testing as two specimens were reported as EPA Break Code “AD-BRK” outlining a break in the weld and not the film tear break (FTB). Although the minimum peel requirements were met, since the break code was not an FTB, the test was reported as a failed test.
- To address the failed destruct sample, two field specimens (DS-26A & DS-26B) were cut approximately 10 ft. on each side of DS-26. Both samples were field tested and peel and shear strength requirements were met. Sample DS-26B which exhibited peel and shear breaks slightly less than DS-26A was sent for laboratory analysis.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

Non-Conformance Items / Corrective Actions

- None Encountered - Failed destruct sample DS-26 was previously outlined on the 7/28/16 Daily Report

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/2/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct results for DS-28, DSX-11, DSX-12, and DS-26B.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/27/16, and 7/28/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-27. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-10. Laboratory results generally in compliance with project specifications with the exception of DS-26.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	Sheet / Page Numbers	Comments
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/2/16
A3 – Photo Log	Pages 1-3	Total of 6 photos outlining pertinent daily observations and descriptions for 8/2/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/2/16
A5 – Subgrade Approval		NA – no subgrade approved for LLDPE placement on 8/2/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A6 – Trial Weld Log	Page 6	One trial weld log provided by ESI for prewelds completed on 8/2/16
A7 – Panel Placement Log		NA – no LLDPE panels placed on 8/2/16
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct samples collected on 8/2/16
A9 – Seam/Non-Destruct. Test Log		NA – no non-destructive testing conducted on 8/2/16
A10 – Repair Log	Page 20	Repair log provided by ESI for LLDPE repair activities completed on 8/2/16
A11 – Conformance COC		NA for 8/2/16
A12 – Destructive Seam Field Test	Page 3	Updated with destruct samples collected on 8/2/16
A13 – Destruct. Sample Summary	Page 3	Updated with destruct samples collected on 8/2/16
A14 – Penetration & Edge Form		NA – no penetration / pipe boots completed on 8/2/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 8/2/16
A17 – Spark Test Log		NA – no spark testing completed on 8/2/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/3/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	80/85° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1630

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #22**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth, Kale Novalis
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P87 / P88 installed on 7/28/16 (approximate Sta. 305+40). Material to be placed from Panel P87 / P88 running approximately 80 ft. east to approximate Sta. 304+60.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from the approximate center of the Utility Corridor (approximate Sta. 306+80), moving east through Panel P81 (approximate Sta. 306+20). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/3/16 Photo Log for supporting photographs.
- Following the deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 305+40 (Panel P87 / P88 installed on 7/28/16) to approximate Sta. 304+60. Refer to *Soil Subgrade Approval* forms from 8/3/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 3 to 5 of the daily photo log for 8/3/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 305+40 (east of Panel P87 / P88) moving east to approximate Sta. 304+60. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/3/16 Photo Log for supporting photographs.

- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P87 / P88 (installed on 7/28/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 305+40 (Panel P87 / P88) to approximate Sta. 304+60. A total of five panels were installed (P89, P90, P91, P92, and P93). Note: During placement of Panel P89 a piece of LLDPE was used to realign the panel placement arrangement. Panels P90, P91, P92, and P93 ran the entire width of SA-6 North (approximately 245 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 8/3/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 304+60, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 8/3/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P89 to P93 (installed on 8/3/16)
- ESI conducted repair activities for Panels 89 to P93 (installed on 8/13/16). A total of sixteen repairs (R-400 through R-415) were observed and fixed (according to the project specifications) from Panels P89 through P93. Refer to 8/3/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. Additionally, ESI completed boot construction activities for Gas Vent GV-2 and Piezometer PZ4.
- No destruct samples were collected on 8/3/16. Samples to be cut for laboratory analysis on 8/4/16.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/3/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 and 8/2/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-28. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-12. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/3/16
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 8/3/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/3/16
A5 – Subgrade Approval	Sheet 16 & ESI (8/3/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 6-7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/3/16
A7 – Panel Placement Log	Page 13	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/3/16
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 8/3/16
A9 – Seam/Non-Destruct. Test Log	Pages 33-35	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 8/3/16
A10 – Repair Log	Pages 20-21	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/3/16
A11 – Conformance COC		NA for 8/3/16
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 8/3/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 8/3/16
A14 – Penetration & Edge Form	8/3/16 Pipe Boot Forms	Pipe boot / penetration forms completed for Piezometer PZ4 and Gas Vent GV-2
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 8/3/16
A17 – Spark Test Log		NA – no spark testing conducted on 8/3/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/4/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	72/85° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1645

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #23**
AmecFW: Stu Bills, Dave Ambrose, Josh Boynton
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and temporary liner, continuing east from Panel P93 installed on 8/3/16 (approximate Sta. 304+60). Material to be placed from Panel P93 running approximately 85 ft. east to approximate Sta. 303+75.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting vacuum box and repair activities for LLDPE previously installed on 8/3/16. In addition, two destruct samples were collected for laboratory analysis. One fusion weld destruct sample – DS-29 was collected from Panel P90 / P91. One extrusion weld destruct sample was also collected – DSX-13 from Panel P90 Repair R-401.
- While repair / vacuum box activities were being conducted ESI deployed the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed moving east through Panel P81 (approximate Sta. 306+20) up to Panel P86 (approximate Sta. 305+80). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/4/16 Photo Log for supporting photographs.
- Following the deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 304+60 (Panel P93 installed on 8/3/16) to approximate Sta. 303+75. Refer to *Soil Subgrade Approval* forms from 8/4/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 3,4, and 5 of the daily photo log for 8/4/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth
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- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 304+60 (east of Panel P93) moving east to approximate Sta. 303+75. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/4/16 Photo Log for supporting photographs.
- Additionally, GCL was placed along the areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included a small area along the northern edge of SA-6 North east of Sta. 303+75. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/4/16 *Photograph Log*.
- Based on an LLDPE inventory completed by Entact, it was determined that approximately two additional rolls of 60-mil LLDPE would be required to complete the remaining area of SA-6 North. As such, three temporary panels were installed (to be replaced once new LLDPE rolls were received) from approximate Sta. 304+60 to approximate Sta. 303+75 (area of SA-6 North at upper elevation above the water table).
- After placement of GVL, three temporary panels were installed east of Panel P93 (installed on 8/3/16) and moving east. The three temporary panels were installed up to approximate Sta. 303+75 (did not cover the GCL or remaining area of subgrade to the east as permanent 60-mil panels will be installed continuing east from the temporary panel on 8/5/16.
- Note: since no permanent LLDPE was installed, and only temporary panels were placed, no repairs or non-destructive testing was conducted on the temporary panels.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/4/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct results for samples DS-29 and DSX-13.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, and 8/3/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-28. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-12. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/4/16
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 8/4/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/4/16
A5 – Subgrade Approval	Sheet 17 & ESI (8/4/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log		NA – no trial welds completed on 8/4/16
A7 – Panel Placement Log		NA – no permanent LLDPE panels on 8/4/16
A8 – Destruct Seam Testing COC	Sheet 3	Updated for destruct samples collected on 8/4/16
A9 – Seam/Non-Destruct. Test Log		NA – no non-destructive testing conducted as no permanent LLDPE panels were installed
A10 – Repair Log	Page 21	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/4/16
A11 – Conformance COC		NA for 8/4/16
A12 – Destructive Seam Field Test	Page 3	Updated with destruct samples collected on 8/4/16
A13 – Destruct. Sample Summary	Page 3	Destruct sample summary updated with samples collected on 8/4/16
A14 – Penetration & Edge Form		NA – No pipe boots / penetrations completed on 8/4/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 8/4/16
A17 – Spark Test Log		NA – no spark testing conducted on 8/4/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/5/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	75/85° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1745

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #24**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from the third temporary panel installed on 8/4/16 (approximate Sta. 303+75). Material to be placed from Temp Panel 3 running approximately 60 ft. east to approximate Sta. 303+15.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed moving east through Panel P86 (approximate Sta. 305+80) up to Panel P93 (approximate Sta. 304+60). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/5/16 Photo Log for supporting photographs.
- While GDL was being deployed, a puncture / penetration through the liner was fixed at Panel P36. The penetration was due to work activities outside of SA-6 North, as a grounding rod was driven through the liner. This penetration was recorded as a non-conformance issue, and is identified as Repair R-418 on the *Repair Report.*
- Following the deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 303+75 (east of temporary panels installed on 8/4/16) to approximate Sta. 303+15. Refer to *Soil Subgrade Approval* forms from 8/5/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 5 to 8 of the daily photo log for 8/5/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.

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By: Dan Bosworth
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- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 303+75 (east of temporary panels) moving east to approximate Sta. 303+15. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/5/16 Photo Log for supporting photographs. Note: GVL was placed along the southern end of SA-6 North at areas above the site water table (areas not covered by GCL).
- Additionally, GCL was placed along the northern end of SA-6 North at areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included an area along the northern edge of SA-6 North from Sta. 303+75 to Sta. 303+15. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/5/16 *Photograph Log*.
- After placement of GVL and GCL, LLDPE geomembrane was installed continuing east of the temporary panels (installed on 8/4/16). The LLDPE panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 303+75 (east of temporary panels) to approximate Sta. 303+15. A total of five panels were installed (P94, P95, P96, P97, and P98). Note: During placement of Panel P96 the LLDPE panel terminated along the southern end of SA-6 North, thus the remaining run of LLDPE was installed as Panel P97. Panels P94, P95, and P98 ran the entire width of SA-6 North (north to south) spanning approximately 235 ft.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 8/5/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 303+15, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 8/5/16 *Seam Control Form* for non-destructive testing details.
- ESI conducted repair activities for Panels P94 to P98 (installed on 8/5/16). A total of thirteen repairs (R-418 through R-430) were observed and fixed (according to the project specifications) from Panels P94 through P98. Refer to 8/5/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- ESI also completed the pipe boot construction for Injection Well 088-IW-02.
- No destruct samples were collected on 8/5/16.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 10 (Sheet #10) – Penetration / puncture through LLDPE geomembrane
  - Penetration / puncture through LLDPE geomembrane from work activities outside of geosynthetic installation. Grounding rod driven through liner. Puncture exposed, and hole patched / repaired as per project specifications and outlined in the non-conformance log.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/5/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, and 8/4/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-29. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-13. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/5/16
A3 – Photo Log	Pages 1 – 8	Total of 15 photos outlining pertinent daily observations and descriptions for 8/5/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/5/16
A5 – Subgrade Approval	Sheet 18 & ESI (8/5/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/5/16
A7 – Panel Placement Log	Page 14	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/5/16
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 8/5/16
A9 – Seam/Non-Destruct. Test Log	Page 36	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 8/5/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log	Pages 21-22	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/5/16
A11 – Conformance COC		NA for 8/5/16
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 8/5/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 8/5/16
A14 – Penetration & Edge Form	8/15/16 Pipe Boot Form	Pipe boot / penetration form completed for Injection Well 088-IW-02
A16 – Notice of Non-Compliance	8/15/16 Sheet #10	One non-compliance issue identified as “Damage by Others” on Panel P36
A17 – Spark Test Log		NA – no spark testing conducted on 8/5/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/8/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	85/95° F, Sunny, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1215

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #25**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P98 installed on 8/5/16 (approximate Sta. 303+15). Material to be placed from Panel P98 running approximately 45 ft. east to approximate Sta. 302+70.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI completing vacuum box testing for repairs from Panels P94 to P98 (installed on 8/5/16). Additionally, two destruct samples were collected. One fusion weld destruct sample – DS-30 was collected from Panel P97 / P98, and one extrusion weld sample DSX-14 was collected from Panel P98 (Repair R-430).
- ESI deployed the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed moving east through Panel P93 and up to the temporary panels (installed on 8/4/16). Approximately 2 rolls of GDL were placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/8/16 Photo Log for supporting photographs.
- Following the deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 303+15 (east of Panel P98 installed on 8/5/16) to approximate Sta. 302+70. Refer to *Soil Subgrade Approval* forms from 8/8/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile

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was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 303+15 (east of Panel P98) moving east to approximate Sta. 302+70. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/8/16 Photo Log for supporting photographs. Note: GVL was placed along the southern end of SA-6 North at areas above the site water table (areas not covered by GCL).

- Additionally, GCL was placed along the northern end of SA-6 North at areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included an area along the northern edge of SA-6 North from approximate Sta. 303+15 to Sta. 302+70. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/8/16 *Photograph Log*.
- After placement of GVL and GCL, LLDPE geomembrane was installed continuing east Panel P98 (installed on 8/5/16). The LLDPE panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 303+15 (east of Panel P98) to approximate Sta. 302+70. A total of two panels were installed (P99 and P100). Panels P99 and P100 ran the entire width of SA-6 North (north to south) spanning approximately 238 ft.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 8/8/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 302+70, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 8/8/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P99 and P100 (installed on 8/8/16) as outlined below.
- ESI conducted repair activities for Panels P99 and P100 (installed on 8/8/16). A total of seven repairs (R-431 through R-437) were observed and fixed (according to the project specifications) from Panels P99 to P100. Refer to 8/8/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.

Non-Conformance Items / Corrective Actions

- None Encountered

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/8/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample results for DS-30 and DSX-14.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, and 8/5/16. ESI Forms still to be reviewed.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-29. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-13. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/8/16
A3 – Photo Log	Pages 1 – 3	Total of 5 photos outlining pertinent daily observations and descriptions for 8/8/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/8/16
A5 – Subgrade Approval	Sheet 19 & ESI (8/8/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/8/16
A7 – Panel Placement Log	Page 14	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/8/16
A8 – Destruct Seam Testing COC	Sheet 3	Updated for destruct samples collected on 8/8/16
A9 – Seam/Non-Destruct. Test Log	Page 37	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 8/8/16
A10 – Repair Log	Page 22	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/8/16
A11 – Conformance COC		NA for 8/8/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test	Page 3	Updated with destruct samples collected on 8/8/16
A13 – Destruct. Sample Summary	Page 3	Destruct sample summary updated with samples collected on 8/8/16
A14 – Penetration & Edge Form		NA – no penetrations / pipe boots completed on 8/8/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues encountered on 8/8/16
A17 – Spark Test Log		NA – no spark testing conducted on 8/8/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/9/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	85/90° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1800

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #26**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth, Kale Novalis
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P100 installed on 8/8/16 (approximate Sta. 302+70). Material to be placed from Panel P100 running approximately 100 ft. east to approximate Sta. 301+70.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from Panel P94 (approximate Sta. 303+75), moving east through Panel P97 (approximate Sta. 303+15). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/9/16 Photo Log for supporting photographs.
- While GDL was being deployed, ESI also collected two destruct samples for laboratory analysis. Two fusion weld destruct samples – DS-31 was collected from Panel P79 / P80 and DS-32 was collected from Panel P86 / P87. These additional samples were collected to supplement the destruct sample data previously collected beyond failed destruct sample DS-26. DS-31 and DS-32 were collected between the destruct samples collected at 1,500 LF to provide additional sample information.
- Following the deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 302+70 (Panel P100 installed on 8/8/16) to approximate Sta. 301+70. Refer to *Soil Subgrade Approval* forms from 8/9/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 9 to 12 of the daily photo log for 8/9/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 302+70 (east of Panel P100) moving east to approximate Sta. 301+70. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/9/16 Photo Log for supporting photographs.
- Additionally, GCL was placed along the northern end of SA-6 North at areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs), which included an area along the northern edge of SA-6 North from approximate Sta. 302+70 to Sta. 301+70. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/9/16 *Photograph Log*.
- After placement of GVL and GCL, LLDPE geomembrane was installed continuing east from Panel P100 (installed on 8/8/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 302+70 (Panel P100) to approximate Sta. 301+70. A total of six panels were installed (P101, P102, P103, P104, P105, and P106). Note: During placement of Panel P101 the roll of LLDPE terminated near the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P102. Similarly, during placement of Panel P104, the roll of LLDPE terminated near the northern end of SA-6 North, thus the remaining run of LLDPE was installed as P105. Panels P103 and P106 ran the entire width of SA-6 North (approximately 235 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for peel and shear testing (3 samples for each test) for each weld. The results of the pre-trial weld are provided in the 8/9/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 301+70, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 8/9/16 *Seam Control Form* for pressure testing details. Additionally, repair activities were conducted for Panels P100 to P106 (installed on 8/9/16)
- ESI conducted repair activities for Panels P100 to P106 (installed on 8/9/16). A total of eight repairs (R-438 through R-445) were observed and fixed (according to the project specifications) from Panels P100 through P106. Refer to 8/9/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds. Repair activities for Panels P100 to P106 to be completed on 8/10/16.
- ESI also conducted spark testing for seven pipe boots / penetrations total. Prior to spark testing, Entact conducted methane testing prior to spark testing and a concentration of 0.0% was measured at each location. Spark testing was completed for Extraction Pump Sta. 2, Gas Vent GV-2, Utility Corridor Drain Pipe, Injection Well 088-IW-02, and Injection Well 088-IW-03. The vertical weld and base of the boot was tested and no sparks were observed (thus the spark test passed). During spark testing of Piezometer PZ4 and Well 115-E5-SO,a spark was observed during testing as the spark was able to arc to the wire through a section of vertical weld. Area to be re-grinded, rewelded, and retested on 8/9/16.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 11 (Sheet #11) – Failed spark test along vertical weld of Piezometer PZ4
  - Failed spark test identified during spark testing of Piezometer PZ4. Spark able to arc to wire through section of vertical weld (thin weld). Weld to be grinded, re-welded, and re-tested on 8/9.
  -

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Non-Conformance Items / Corrective Actions (continued)

- Non-Conformance No. 12 (Sheet #12) – Failed spark test along vertical weld of Well 115-E5-SO
  - Failed spark test identified during spark testing of Well 115-E5-SO. Spark able to arc to wire through section of vertical weld (thin weld). Weld to be grinded, re-welded, and re-tested on 8/9.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/9/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample results for DS-31 and DS-32.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, 8/5/16, and 8/8/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-30. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-14. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/9/16
A3 – Photo Log	Pages 1 – 9	Total of 17 photos outlining pertinent daily observations and descriptions for 8/9/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/9/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A5 – Subgrade Approval	Sheet 20 & ESI (8/9/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 7-8	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/9/16
A7 – Panel Placement Log	Pages 14-15	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/9/16
A8 – Destruct Seam Testing COC	Sheet 4	Updated for destruct samples collected on 8/9/16
A9 – Seam/Non-Destruct. Test Log	Pages 37-38	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 8/9/16
A10 – Repair Log	Pages 22-23	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/9/16
A11 – Conformance COC		NA for 8/9/16
A12 – Destructive Seam Field Test	Page 4	Updated with destruct samples collected on 8/9/16
A13 – Destruct. Sample Summary	Page 4	Destruct sample summary updated with samples collected on 8/9/16
A14 – Penetration & Edge Form		NA – No pipe boots / penetrations completed on 8/9/16
A16 – Notice of Non-Compliance	Sheet 11 & 12 (8/9/16)	Two non-compliance issues identified for failed spark tests on 8/9/16
A17 – Spark Test Log	8/9/16 Spark Test Logs	Seven spark test logs conducted for Extraction Pump Sta. 2 Manhole, Gas Vent GV-2, Piezometer PZ4, Utility Corridor Drain Pipe, Injection Well 088-IW-02, Injection Well 088-IW-03, and Well 115-E5-SO

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/10/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	82/88° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1315

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #27** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) for area previously covered by temporary panels (area east of Panel P93). Temporary panels were removed, and new LLDPE was placed from Panel P93 (approximate Sta. 304+60) running approximately 85 ft. east to approximate Sta. 303+75 (subgrade previously approved on 8/4/16).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI continuing with repair activities for Panels P100 to P106 (installed on 8/9/16). The repairs were patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. Additional details are outlined on the 8/10/16 *Repair Report.*
- ESI also collected two destruct samples from Panels P100 to P106 (installed on 8/9/16) for laboratory analysis. One fusion weld destruct samples – DS-33 was collected from Panel P104 / P106 and one extrusion weld destruct sample – DSX-15 was collected from Repair R-445 (Panel P104 / P106).
- While repair / vacuum box activities were being conducted ESI removed the temporary panels from approximate Sta. 304+60 to approximate Sta. 303+75 which were previously installed on 8/4/16. Note: soil subgrade approval for this area was also completed on 8/4/16 prior to the temporary panel placement. 16 oz. geotextile and GVL were also placed on 8/4/16 following subgrade approval.
- LLDPE geomembrane was installed continuing east from Panel P93 (installed on 8/4/16) up to Panel P94 (installed on 8/5/16). The new LLDPE panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 304+60 (east of Panel P93) to approximate Sta.303+75 (Panel P94) . A total of four panels were installed (P107, P108, P109, and P110). Note: During placement of Panel P109 the roll of LLDPE terminated near the northern end of SA-6 North, thus the remaining run of LLDPE was installed as P110. Panels P107 and P108 ran the entire width of SA-6 North (approximately 233 ft.) from north to south.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for peel and shear testing for each weld (3 samples for each test). The results of the pre-trial weld are provided in the 8/10/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 303+75, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 8/10/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P107 to P110 (installed on 8/10/16)
- ESI conducted repair activities for Panels P107 to P110 (installed on 8/10/16), along with the repair activities for Panels P100 to P106 (installed on 8/9/16). A total of twenty-two repairs (R-446 through R-467) were observed and fixed (according to the project specifications). Refer to 8/10/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- ESI also completed pipe boot / penetrations for Gas Vent GV-1 and Well 115-E4-SO. Additional details are provided in the 8/10/16 Pipe Boot Construction Logs.
- One fusion weld sample – DS-34 was also collected from Panels P107 to P110 (installed on 8/11/16) from Panel P94 / P110 seam for laboratory analysis.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 13 (Sheet #13) – Subgrade irregularity identified as R-457 on *Repair Log*
  - Stone identified underneath LLDPE geomembrane located on Panel P107 / P108. Stone was subsequently removed, and hole was patched / repaired following project specs as further described in *Sheet 13 Notice of Non-Compliance.*

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/10/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample results for DS-33, DS-34, and DSX-15.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, 8/5/16, 8/8/16, and 8/9/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-32. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-14. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/10/16
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 8/10/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/10/16
A5 – Subgrade Approval		NA – no subgrade approval for 8/10/16. Subgrade previously approved on 8/4/16 prior to temp panel placement
A6 – Trial Weld Log	Page 8	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/10/16
A7 – Panel Placement Log	Pages 15-16	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/10/16
A8 – Destruct Seam Testing COC	Sheet 4	Updated for destruct samples collected on 8/10/16
A9 – Seam/Non-Destruct. Test Log	Pages 39-40	One seam control form provided by ESI and confirmed by Langan for pressure testing conducted on 8/10/16
A10 – Repair Log	Pages 23-24	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/10/16
A11 – Conformance COC		NA for 8/10/16
A12 – Destructive Seam Field Test	Page 4	Updated with destruct samples collected on 8/10/16
A13 – Destruct. Sample Summary	Page 4	Destruct sample summary updated with samples collected on 8/10/16
A14 – Penetration & Edge Form	8/10/16 Pipe Boot Forms	Pipe boots for Gas Vent GV-1 and Well 115-E4-SO completed on 8/10/16
A16 – Notice of Non-Compliance	Sheet 13	Subgrade irregularity identified as non-compliance issue on 8/10/16
A17 – Spark Test Log		NA – no spark testing conducted on 8/10/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/11/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	85/90° F, Overcast, Humid, Iso. Storms
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1715

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #28**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P106 installed on 8/9/16 (approximate Sta. 301+70). Material to be placed from Panel P106 running approximately 45 ft. east to approximate Sta. 301+25.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting vacuum box testing and "Add On" repair activities for Panels P94 to P104. ESI completed Add On repairs along the southern end of SA-6 North. Additional LLDPE was installed so that the cap extended a minimum of 1 ft. beyond the edges of the SCB wall. These repairs were recorded and documented on the 8/11/16 *Repair Report.*
- Following repair activities, ESI placed geocomposite drainage layer (GDL) continuing east of Panel P93. GDL was placed over Panels P107 to P110 (installed on 8/10/16) from approximate Sta. 304+60 to approximate Sta. 303+75. GDL was placed according to the project specs with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn.
- Prior to soil subgrade approval, the edge of Panel P106 (installed on 8/9/16) was pulled back to expose the underlying GCL layer. A small portion of the GCL had become saturated due to overnight storms. The saturated GCL was cut and exposed to dry the GCL and soil subgrade. A new piece of GCL was then installed over the saturated GCL, secured with bentonite, and leistered in place. See Photos 6 & 7 in 8/11/6 *Photograph Log.*
- Following the GCL activities, Langan and Entact conducted soil subgrade approval from approximate Sta. 301+70 (east of Panel P106 installed on 8/9/16) to approximate Sta. 301+25. Refer to *Soil Subgrade Approval* forms from 8/11/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 301+75 (east of Panel P106) moving east to approximate Sta. 301+25. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/11/16 Photo Log for supporting photographs. Note: GVL was placed along the southern end of SA-6 North at areas above the site water table (areas not covered by GCL).
- Additionally, GCL was placed along the northern end of SA-6 North at areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included an area along the northern edge of SA-6 North from approximate Sta. 301+75 to Sta. 301+25. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/11/16 *Photograph Log*.
- After placement of GVL and GCL, LLDPE geomembrane was installed continuing east Panel P106 (installed on 8/9/16). The LLDPE panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 301+75 (east of Panel P106) to approximate Sta. 301+25. A total of two panels were installed (P111 and P112). Panels P111 and P112 ran the entire width of SA-6 North (north to south) spanning approximately 237 ft.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected to conduct peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 8/11/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 301+25, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 8/11/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P111 and P112 (installed on 8/11/16)
- ESI completed repair activities for Panels P94 to P104 (Add On repairs along southern end of the cap) and Panels P111 & P112 (installed on 8/11/16). A total of twenty-one repairs (R-468 through R-485 and R-495 to R-497) were observed and fixed (according to the project specifications). Refer to the 8/11/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- No destruct samples collected on 8/11/16.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/11/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, 8/5/16, 8/8/16, 8/9/16, and 8/10/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-34. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-15. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/11/16
A3 – Photo Log	Pages 1 – 8	Total of 16 photos outlining pertinent daily observations and descriptions for 8/11/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/11/16
A5 – Subgrade Approval	Sheet 21 & ESI (8/11/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 8	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/11/16
A7 – Panel Placement Log	Page 16	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/11/16
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 8/11/16
A9 – Seam/Non-Destruct. Test Log	Pages 40-42	One seam control form provided by ESI and confirmed by Langan for pressure testing conducted on 8/11/16
A10 – Repair Log	Pages 24-25	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/11/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A11 – Conformance COC		NA for 8/11/16
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 8/11/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 8/11/16
A14 – Penetration & Edge Form		NA – No pipe boots / penetrations completed on 8/11/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 8/11/16
A17 – Spark Test Log		NA – no spark testing conducted on 8/11/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/12/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	85/98° F, Sunny, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1730

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #29**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P112 installed on 8/11/16 (approximate Sta. 301+25). Material to be placed from Panel P112 running approximately 45 ft. east to approximate Sta. 300+80.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying orange geocomposite drainage layer (GDL) continuing east from Panel P98. GDL was placed over Panels P99 to P106 (installed on 8/8/16 and 8/9/16) from approximate Sta. 303+15 (Panel P99) to approximate Sta. 301+70 (Panel P106). GDL was placed according to the project specs with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn.
- While GDL was being deployed ESI also conducted vacuum box testing and minor repairs for Panels P111 and P112 (installed on 8/11/16). Additional details are provided in the 8/12/16 *Repair Report.*
- ESI also completed spark testing for Gas Vent GV-1 and Well 115-E4-SO. Prior to spark testing, methane testing was completed by AmecFW and a concentration of 0.0% was measured for both boots. Spark testing was then completed for Gas Vent GV-1 along the base of the boot and vertical weld and no sparks were observed (spark test passed). During spark testing of Well 115-E4-SO a spark was observed along the edge of the vertical weld as the extrusion weld was not centered over the copper wire. This area was marked by ESI, grinded, re-welded, and retested. No sparks were observed during the spark retest thus the retest passed.
- Prior to soil subgrade approval, the edge of Panel P112 (installed on 8/11/16) was pulled back to expose the underlying GCL layer. A small portion of the GCL had become saturated due to overnight storms. The saturated GCL was cut and exposed to dry the GCL and soil subgrade. A new piece of GCL was then installed over the saturated GCL, secured with bentonite, and leistered in place.
- Following the GCL activities, Langan and Entact conducted soil subgrade approval from approximate Sta. 301+25 (east of Panel P112 installed on 8/11/16) to approximate Sta. 300+80. Refer to *Soil Subgrade Approval* forms from 8/12/16 for additional details.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.

- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 301+25 (east of Panel P112) moving east to approximate Sta. 300+80. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/12/16 Photo Log for supporting photographs. Note: GVL was placed along the southern end of SA-6 North at areas above the site water table (areas not covered by GCL).
- Additionally, GCL was placed along the northern end of SA-6 North at areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included an area along the northern edge of SA-6 North from approximate Sta. 301+25 to approximate Sta. 300+80. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/12/16 *Photograph Log*.
- After placement of GVL and GCL, LLDPE geomembrane was installed continuing east of Panel P112 (installed on 8/12/16). The LLDPE panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 301+25 (east of Panel P112) to approximate Sta. 300+80. A total of two panels were installed (P113 and P114). Panels P113 and P114 ran the entire width of SA-6 North (north to south) spanning approximately 233 ft.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for peel and shear testing (3 samples for each weld). The results of the pre-trial weld are provided in the 8/12/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 300+80, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 8/12/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P113 and P114 (installed on 8/12/16)
- ESI completed repair activities for Panels P113 to P114 (installed on 8/12/16). A total of seven repairs (R-486 through R-489 and R-492, R-493, and R-494) were observed and fixed (according to the project specifications). Refer to the 8/12/16 *Repair Report* for additional details. Repairs were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- ESI also completed pipe boot / penetrations for Access Manhole Sta. 18+00 and Injection Well 088-IW-01. Additional details are provided in the 8/12/16 Pipe Boot Construction Logs.
- No destruct samples collected on 8/12/16.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 14 (Sheet #14) – Failed spark test along vertical weld of Well 115-E4-SO
  - Failed spark test identified during spark testing of Well 115-E4-SO. Spark observed along edge of extrusion weld (weld not centered over wire). Area was grinded, rewelded, and retested and no sparks were observed during spark retest (spark retest passed).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/12/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, 8/5/16, 8/8/16, 8/9/16, 8/10/16, and 8/11/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-34. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-15. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	Sheet / Page Numbers	Comments
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/12/16
A3 – Photo Log	Pages 1 – 8	Total of 16 photos outlining pertinent daily observations and descriptions for 8/12/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/12/16
A5 – Subgrade Approval	Sheet 22 & ESI (8/12/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 8-9	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/12/16
A7 – Panel Placement Log	Page 16	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/12/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 8/12/16
A9 – Seam/Non-Destruct. Test Log	Pages 42-43	One seam control form provided by ESI and confirmed by Langan for pressure testing conducted on 8/12/16
A10 – Repair Log	Page 25	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/12/16
A11 – Conformance COC		NA for 8/12/16
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 8/12/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 8/12/16
A14 – Penetration & Edge Form	8/12/16 Pipe Boot Forms	Pipe boots / penetrations completed for Access Manhole Sta. 18+00 and Injection Well 088-IW-01
A16 – Notice of Non-Compliance	Sheet 14	One failed spark test for Well 115-E4-SO identified on 8/12/16
A17 – Spark Test Log	8/12/16 Spark Test Logs	Spark testing for Gas Vent GV-1 and Well 115-E4-SO completed on 8/12/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/13/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	85/98° F, Sunny, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1800

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #30**
AmecFW: Philemon Onyango, Josh Boynton
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P114 installed on 8/12/16 (approximate Sta. 300+80). Material to be placed from Panel P114 running approximately 80 ft. east to approximate Sta. 300+00 (east end of SA-6 North).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting vacuum box testing and minor repair activities for Panels P113 / P114 (installed on 8/12/16). Repairs were patched, extrusion welded, and vacuum box tested as per project specifications. Additional details are outlined on the 8/13/16 *Repair Report*. Additionally, two destruct samples were collected. One fusion weld destruct sample DS-35 was collected from Panel P112 / P113, and one extrusion weld destruct sample – DSX-16 was collected from Panel P112 (Repair R-478)
- While repair activities were being completed ESI deployed orange geocomposite drainage layer (GDL) continuing east from Panel P106. GDL was placed over Panels P106 (approximate Sta. 301+70) to approximate Sta. 300+80 (Panel P114). GDL was placed according to the project specs with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn. Note: repairs were completed for Panels P113 / P114 in the early morning and were surveyed and verified before GDL was deployed over the panels later in the morning.
- ESI also completed spark testing for Access Manhole Sta. 18+00 and Injection Well 088-IW-01. Prior to spark testing, methane testing was completed by AmecFW and a concentration of 0.0% was measured for both boots. Spark testing was then completed along the base of the boot and vertical weld for both locations. No sparks were observed during either test (spark tests passed).
- Following the GDL activities, Langan and Entact conducted soil subgrade approval from approximate Sta. 300+80 (east of Panel P114 installed on 8/12/16) to approximate Sta. 300+00 (east end of cap). Refer to *Soil Subgrade Approval* forms from 8/13/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth
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loose material greater than ½". The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.

- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 300+80 (east of Panel P114) moving east to approximate Sta. 300+00 (east end of cap). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/13/16 Photo Log for supporting photographs. Note: GVL was placed along the southern end of SA-6 North at areas above the site water table (areas not covered by GCL).
- Additionally, GCL was placed along the northern and eastern end of SA-6 North at areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included an area along the northern edge of SA-6 North from approximate Sta. 300+80 to approximate Sta. 300+00 (east end of cap). GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/13/16 *Photograph Log*.
- After placement of GVL and GCL, LLDPE geomembrane was installed continuing east of Panel P114 (installed on 8/12/16). The LLDPE panels were generally oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 300+80 (east of Panel P114) to approximate Sta. 300+00. A total of five panels were installed (P115, P116, P117, P118, and P119). Panels P116, P117, P118, and P119 were oriented northwest/southeast and were placed to fill in the triangle area along the southeast portion of the cap. Panel P115 ran the entire width of SA-6 North (north to south) spanning approximately 235 ft.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 8/13/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 300+00 (east end of cap), ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 8/13/16 *Seam Control Form* for non-destructive testing details.
- Temporary patches were leistered in place for Panels P115 to P119, but no repair activities (extrusion welding) were completed on 8/13/16 (to be finished Monday – 8/15/16). ESI completed repair activities for Panels P113 to P114 (installed on 8/12/16). A total of seven repairs (R-490, R-491, R-498 to R-502) were observed and fixed (according to the project specifications). Refer to the 8/13/16 *Repair Report* for additional details. Repairs were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/13/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample results for DSX-16 and DS-35.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, 8/5/16, 8/8/16, 8/9/16, 8/10/16, 8/11/16, and 8/12/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-34. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-15. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/13/16
A3 – Photo Log	Pages 1 – 8	Total of 16 photos outlining pertinent daily observations and descriptions for 8/13/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/13/16
A5 – Subgrade Approval	Sheet 23 & ESI (8/13/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 9	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/13/16
A7 – Panel Placement Log	Pages 16-17	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/13/16
A8 – Destruct Seam Testing COC	Page 4	Updated with destruct samples collected on 8/13/16
A9 – Seam/Non-Destruct. Test Log	Pages 43-44	One seam control form provided by ESI and confirmed by Langan for pressure testing conducted on 8/13/16
A10 – Repair Log	Pages 25-26	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/13/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A11 – Conformance COC		NA for 8/13/16
A12 – Destructive Seam Field Test	Page 4	Updated with destruct samples collected on 8/13/16
A13 – Destruct. Sample Summary	Page 4	Destruct sample summary updated with samples collected on 8/13/16
A14 – Penetration & Edge Form		NA – no boots / penetrations completed on 8/13/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 8/13/16
A17 – Spark Test Log	8/13/16 Spark Test Forms	Spark testing completed for Access Manhole Sta. 18+00 and Injection Well 088-IW-01

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/15/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	82/92° F, Sunny, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1500

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #31**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL) over approved LLDPE geomembrane (Panel P115 to P119). Note: LLDPE geomembrane installation complete up to east end of cap (Panels P115 to P119).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI completing repair activities and vacuum box testing for Panels P115 to P119 (installed on 8/13/16). A total of twelve repairs were (R-503 to R-514) observed and fixed according to the project specifications. Refer to the 8/15/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of two destruct samples were collected. One destruct sample DS-36 was collected from Panel P117 / P118 seam and one extrusion weld destruct sample – DSX-17 was collected from Panel P118 (Repair R-505) for laboratory analysis.
- ESI also completed the boot construction for Piezometer PZ2. Following the boot completion, methane / spark testing for Piezometer PZ2 was completed. Methane testing was conducted prior to spark testing and a concentration of 0.0% was measured. Spark testing was then conducted along the base of the boot and vertical weld and no sparks were observed (spark test passed). Additional details are provided in the Piezometer PZ2 boot construction log and the 8/15 *Spark Test Log.*
- After repair activities were completed, the as-built information including repair locations, distances, etc. was verified and ESI deployed the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane (Panels P115 to P119). GDL was placed from approximate Sta. 300+80 to the east end of SA-6 North (approximate Sta. 300+00). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/15/16 Photo Log for supporting photographs.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/15/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample results for DSX-17 and DS-36.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, 8/5/16, 8/8/16, 8/9/16, 8/10/16, 8/11/16, 8/12/16, and 8/13/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-35. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-16. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/15/16
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 8/15/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/15/16
A5 – Subgrade Approval		NA – no subgrade approval completed on 8/15/16
A6 – Trial Weld Log	Page 9	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/13/16
A7 – Panel Placement Log		NA – no new LLDPE geomembrane panels placed on 8/15/16
A8 – Destruct Seam Testing COC	Page 4	Updated with destruct samples collected on 8/15/16
A9 – Seam/Non-Destruct. Test Log		NA – no pressure testing completed on 8/15/16
A10 – Repair Log	Page 26	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/15/16
A11 – Conformance COC		NA for 8/15/16
A12 – Destructive Seam Field Test	Page 4	Updated with destruct samples collected on 8/15/16
A13 – Destruct. Sample Summary	Page 4	Destruct sample summary updated with samples collected on 8/15/16
A14 – Penetration & Edge Form	8/15/16 Boot Form	LLDPE geomembrane boot for Piezometer PZ2 completed on 8/15/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 8/15/16
A17 – Spark Test Log	8/15/16 Spark Test Logs	Spark testing for Piezometer PZ2 completed on 8/15/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/17/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	82/92° F, Sunny, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Final Site Walk / Observation		**TIME:**	0745 – 1015

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #32**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth, Jeff Stoicescu
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan (Dan Bosworth and Jeff Stoicescu) onsite for final site walk of SA-6 North to observe completed geosynthetic components of SA-6 North capping activities.
- Langan conducted a site walk of the completed SA-6 North cap spanning from the west end (approximate. Sta. 319+00) to the east end (approximate Sta. 300+00). During the site walk, the following conditions were observed (in relation to the geosynthetic components of the cap installation):
  - Condition 1: The final GDL geotextile wrap around Gas Vent GV-2 was cut and gas vent was exposed.
  - Action Item: Based on discussions with Entact, the GDL was cut so that the construction of the gas vent could be completed. Entact plans to conduct leistering activities to reseal the geotextile wrap and secure the GDL.
  - Condition 2: Wrinkles were observed along the east end of the cap (approximate Sta. 300+00) due to the spreading of cover soils over the GDL.
  - Action Item: Entact to attempt to work out wrinkles to the east end of the cap. If wrinkles cannot be removed, ESI will return to the site to cut the geomembrane and complete patch / repair activities.
  - Condition 3: LLDPE was pulled taught along the slopes / contour changes along SA-6 North for areas where cover soil was being placed. During placement of cover soil, sand bags were removed from the cap so that the cover soil could be placed over the GDL. However, for areas where cover soil was not completed by the end of the day, the sand bags were not returned and the geosynthetic material was left un-weighted, thus causing the LLDPE to trampoline.
  - Action Item: Entact to ensure that areas not covered with cover soil at the end of the day will be secured with sand bags.
- Above items shall be reviewed on Friday (8/19).
- Additional details are outlined in the 8/17/16 *Photograph Log.*

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Spark Test Logs
(Attachment 11: Capping Update)

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STUDY AREA 6 - CAP INSTALLATION

LANGAN

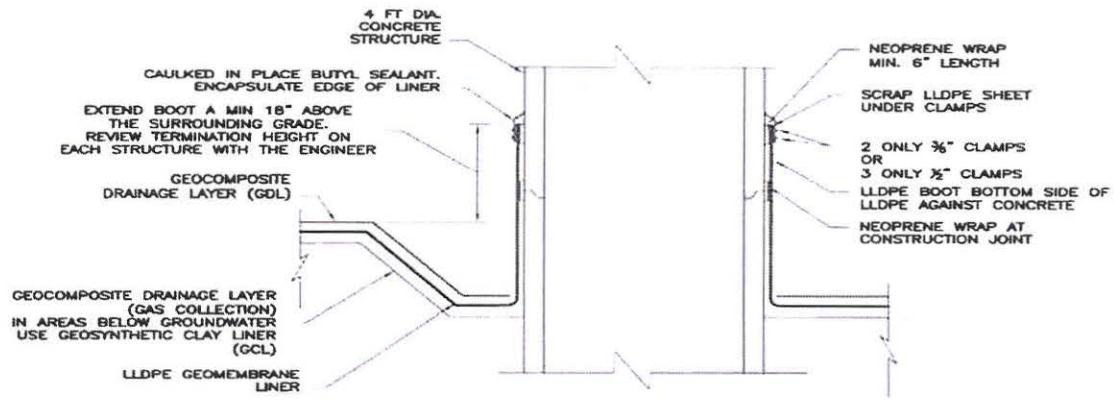
Project: Study Area 6 North

Location: Extraction Pump Station #2 located near approx center of SA-6 North Cap on Panel P80 (approx 140 ft. N of southern end of cap and 5 ft. W of Panel P79/P80 seam). Identified as R-357 on *As Built* and *Repair Report*.

Date: 8/9/16 **Repair Number:** R-357

Boot Log QA Form (cross-reference): 7/27/16 Extraction Pump Station #2 Form

QA – Spark Test Log – Manhole



LINER ANCHOR TO CONCRETE STRUCTURE
NTS
CE TYP C-304

Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0910*

% Methane *0.0%*

☒Methane < 1%; Proceed with spark testing ☐Methane > 1%; Visual observation of welds

Skirt to Panel Extrusion Weld: ☐Vacuum Box Tested ☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	Thickness	Operator Initials	Voltage (kV)	AC / DC	Brush Probe	Point Probe	QCR I.D*	Pass / Fail	Retest Pass /Fail	QCR I.D*
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 7/27/16. Spark / methane testing conducted on 8/9/16. Concentration of 0.0% methane measured prior to spark testing. As such, spark testing was conducted along the base of the boot and the vertical weld and no sparks were observed (spark test passed).

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

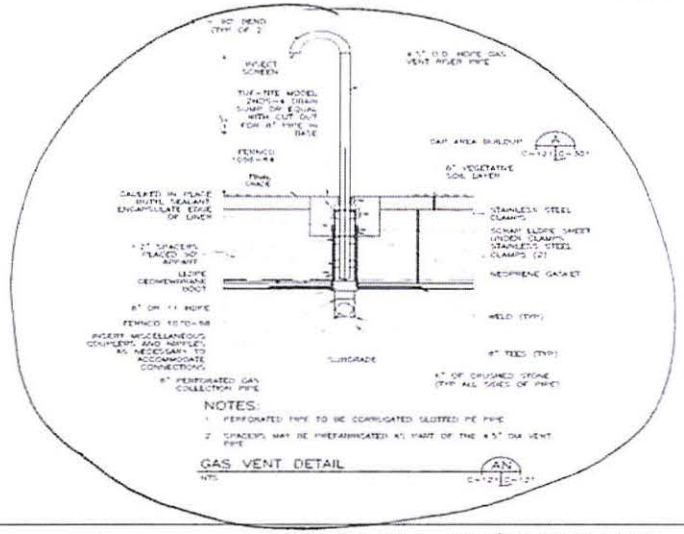
Project: Study Area 6 North

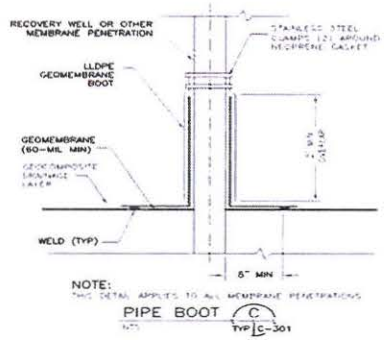
Location: Gas Vent GV-2 located at the approximate center of SA-6 North Cap on Panel P91 (approximately 107 ft. north of southern end of cap and 5 ft. east from Panel P90/P91 seam). Identified as R-409 on *As Built* and *Repair Report*.

Date: 8/9/16 **Repair Number:** R-409

Boot Log QA Form (cross-reference): 8/3/16 Gas Vent GV-2 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0900*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/3/16. Methane / spark testing completed on 8/9/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature:

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

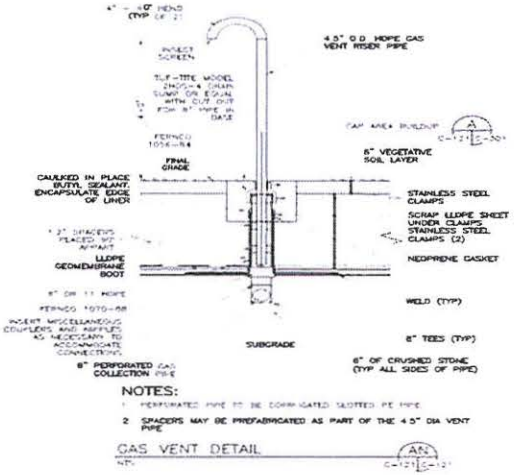
Project: Study Area 6 North

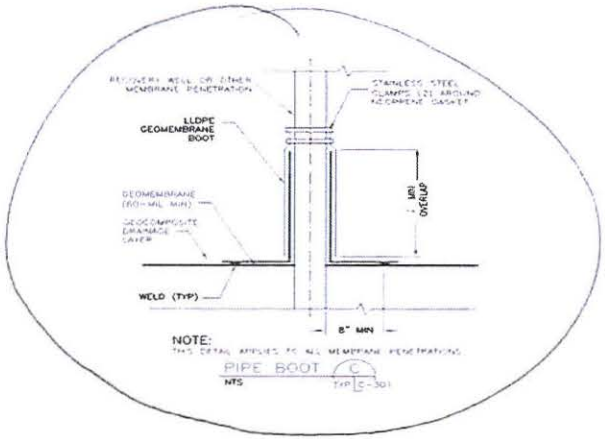
Location: Injection Well 088-IW-02 located at the approx. center of SA-6 North Cap on Panel P97 (approximately 109 ft. north of southern end of cap and 2 ft. west from Panel P97/P98 seam). Identified as R-430 on *As Built* and *Repair Report*.

Date: 8/9/16 **Repair Number:** R-430

Boot Log QA Form (cross-reference): 8/5/16 Injection Well 088-IW-02 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0840*

% Methane 0.0%

☒ Methane < 1%; Proceed with spark testing

☐ Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐ Vacuum Box Tested

☒ Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/5/16. Methane completed on 8/9/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

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STUDY AREA 6 - CAP INSTALLATION

LANGAN

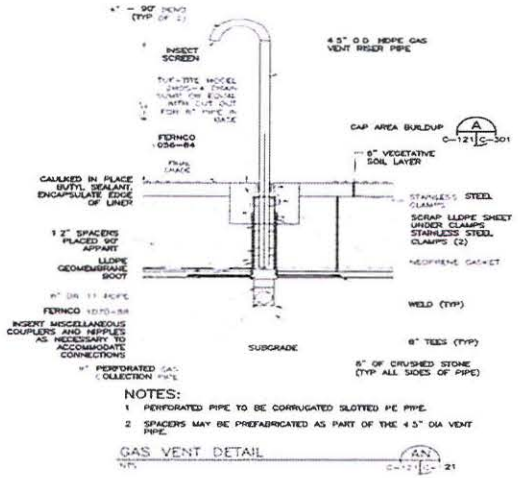
Project: Study Area 6 North

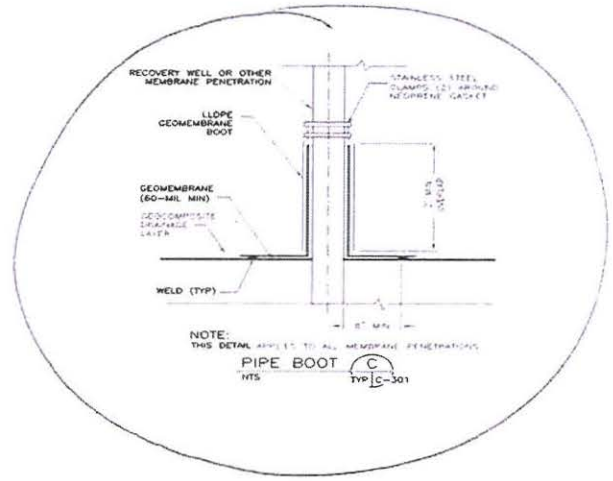
Location: Injection Well 088-IW-03 located near southern end of SA-6 North Cap on Panel P81 (approximately 32 ft. north of southern end of cap and 7 ft. west from Panel P81/P83 seam). Identified as R-384 on *As Built* and *Repair Report*.

Date: 8/9/16 **Repair Number:** R-384

Boot Log QA Form (cross-reference): 7/28/16 Injection Well 088-IW-03 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *1220*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing ☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld: ☐Vacuum Box Tested ☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 7/28/16. Methane / spark testing completed on 8/9/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature: -LANGAN

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STUDY AREA 6 - CAP INSTALLATION

LANGAN

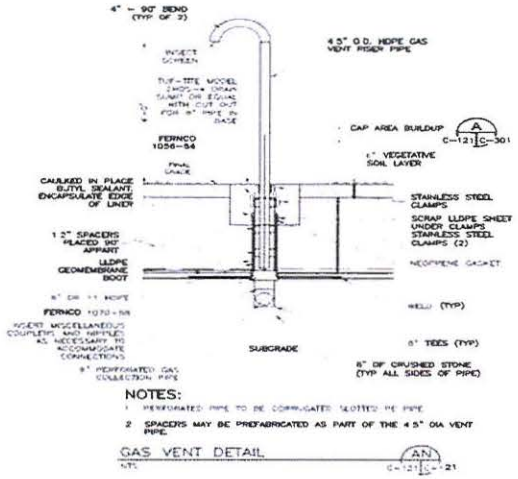
Project: Study Area 6 North

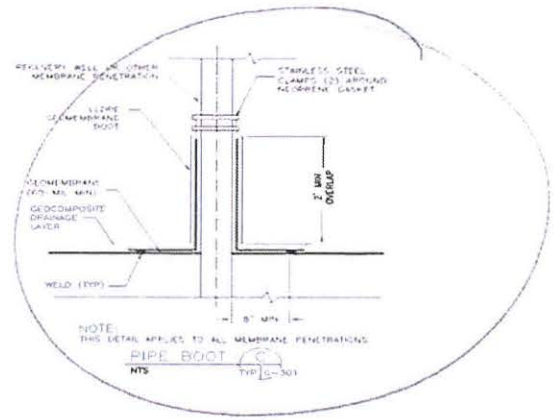
Location: Monitoring well 115-E5-SO located along southern end of SA-6 North Cap on Panel P78 (approximately 15 ft. north of southern end of cap and 9 ft. west from Panel P78/P79 seam). Identified as R-343 on *As Built* and *Repair Report*.

Date: 8/9/16 **Repair Number:** R-343

Boot Log QA Form (cross-reference): 7/27/16 Well 115-E5-SO Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0930*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing ☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld: ☐Vacuum Box Tested ☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Fail	Pass	CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 7/27/16. Methane completed on 8/9/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. A spark was observed along the vertical weld as the weld over the wire was too thin thus causing the spark to arc. The area was grinded, rewelded, and retested on 8/9/16 and the spark retest passed as no sparks were observed.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGIAN

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STUDY AREA 6 - CAP INSTALLATION

LANGAN

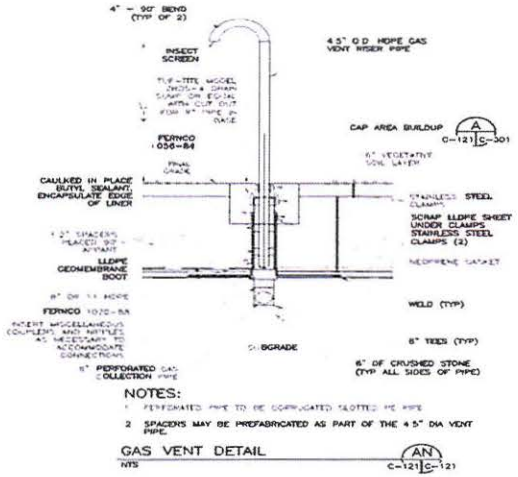
Project: Study Area 6 North

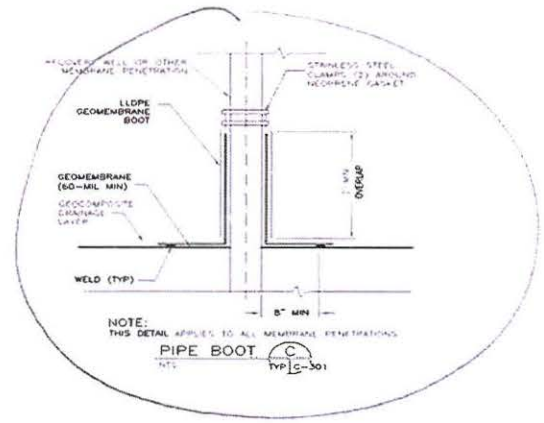
Location: Utility corridor horizontal drain pipe located along southern end of SA-6 North Cap on Panel P76 (approx. 6 ft. north of southern end of cap and 4 ft. west from Panel P76/P78 seam). Identified as R-380 on *As Built* and *Repair Report*.

Date: 8/9/16 **Repair Number:** R-380

Boot Log QA Form (cross-reference): 7/28/16 Utility Corridor Drain Pipe Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0935*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing ☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld: ☐Vacuum Box Tested ☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 7/28/16. Methane completed on 8/9/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature: **Independent CQA Monitor Signature:** LANGAN

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STUDY AREA 6 - CAP INSTALLATION

LANGAN

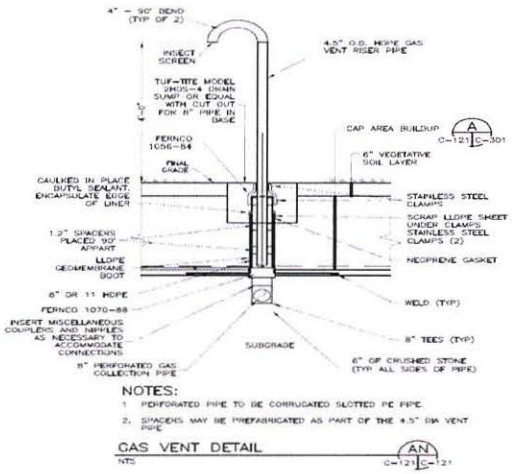
Project: Study Area 6 North

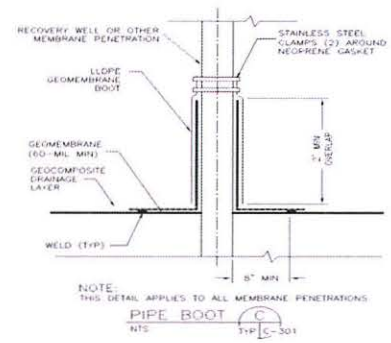
Location: Piezometer PZ4 located along northern end of SA-6 North Cap on Panel P90 (approximately 238 ft. north of southern end of cap and 7 ft. west from Panel P90/P91 seam). Identified as R-408 on *As Built* and *Repair Report*.

Date: 8/9/16 **Repair Number:** R-408

Boot Log QA Form (cross-reference): 8/3/16 Piezometer PZ4 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0855*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Fail	Pass	CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Fail	Pass	CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/3/16. Methane / spark testing completed on 8/9/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld and a spark was observed as the weld over the wire was too thin thus causing the spark to arc. The area was grinded, re-welded and retested on 8/9/16 and the subsequent spark re-test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature: – LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

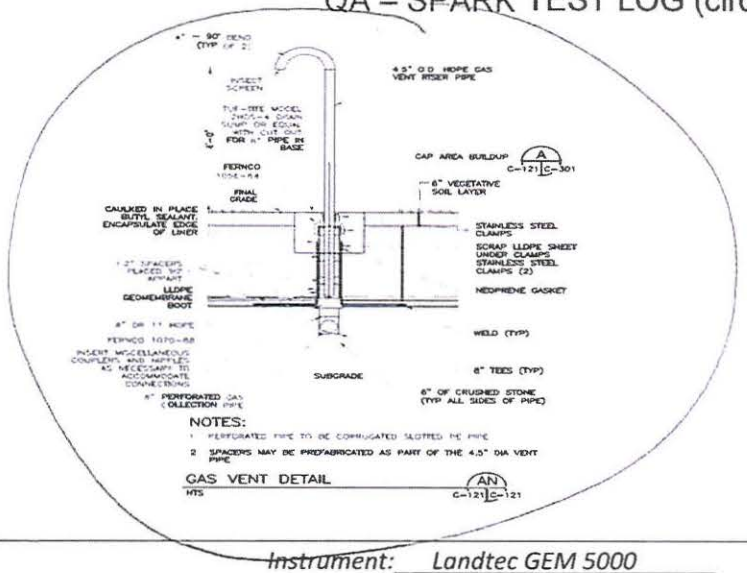
Project: Study Area 6 North

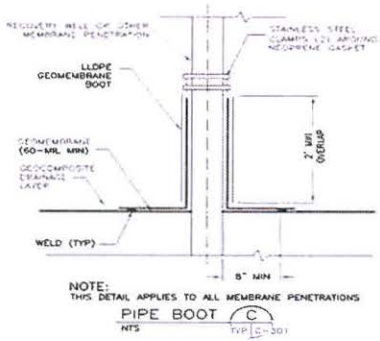
Location: Gas Vent GV-1 located at the approximate center of SA-6 North Cap on Panel P103 (approximately 113 ft. north of southern end of cap and 13 ft. east from Panel P102/P103 seam). Identified as R-449 on *As Built* and *Repair Report*.

Date: 8/12/16 **Repair Number:** R-449

Boot Log QA Form (cross-reference): 8/10/16 Gas Vent GV-1 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0800*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/10/16. Methane / spark testing completed on 8/12/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

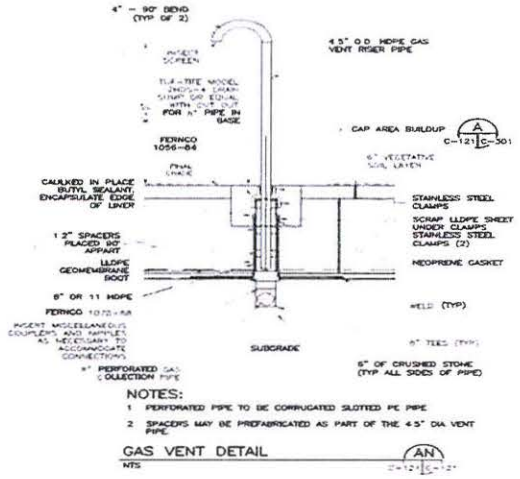
Project: Study Area 6 North

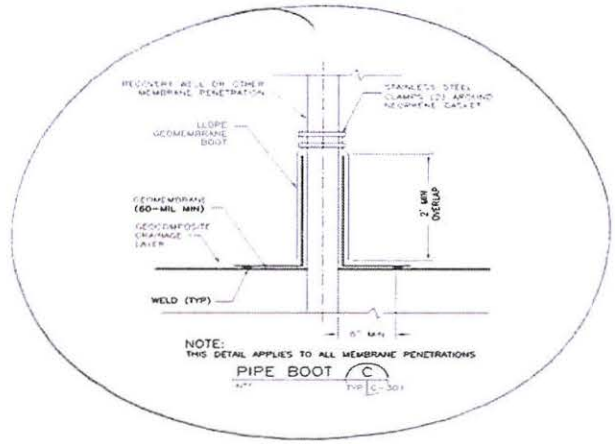
Location: Monitoring Well 115-E4-SO located along the southern end of SA-6 North on Panel P104 (approx. 6 ft. north of southern end of cap and 5 ft. east from Panel P103/P104 seam). Identified as R-450 on *As Built* and *Repair Report*.

Date: 8/12/16 **Repair Number:** R-450

Boot Log QA Form (cross-reference): 8/10/16 Monitoring Well 115-E4-SO Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0810*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	Thickness	Operator Initials	Voltage (Volts)	AC / DC	Brush Probe	Point Probe	QCR I.D*	Pass / Fail	Retest Pass /Fail	QCR I.D*
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Fail	Pass	CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/10/16. Methane / spark testing completed on 8/12/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing of the base of the boot, thus the spark test passed. During spark testing of the vertical weld a spark was observed along the edge of the weld (weld not centered over wire) thus the test failed. The area was grinded, rewelded, and retested on 8/12/16 and no sparks were observed (spark retest passed).

AmecFW QA Signature:

Independent CQA Monitor Signature: -LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

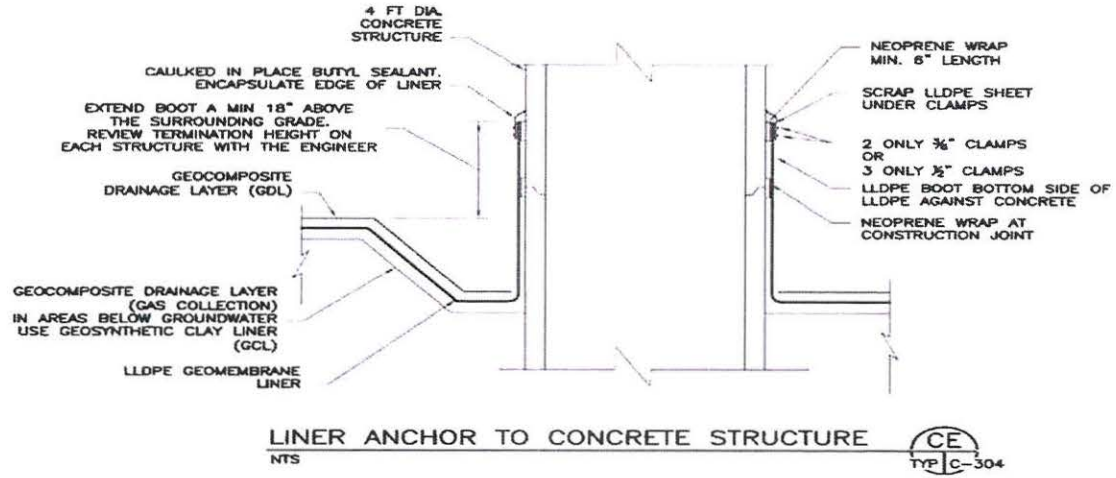
Project: Study Area 6 North

Location: Access Manhole Sta. 18+00 located near approximate center of SA-6 North Cap on Panel P113 (approximately 110 ft. north of southern end of cap and 10 ft. east of Panel P112/P113 seam). Identified as R-492 on *As Built* and *Repair Report*.

Date: 8/13/16 **Repair Number:** R-492

Boot Log QA Form (cross-reference): 8/12/16 Access Manhole Sta. 18+00 Form

QA – Spark Test Log – Manhole



LINER ANCHOR TO CONCRETE STRUCTURE
NTS
CE TYP C-304

Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0910*

% Methane *0.0%*

☒Methane < 1%; Proceed with spark testing ☐Methane > 1%; Visual observation of welds

Skirt to Panel Extrusion Weld: ☐Vacuum Box Tested ☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (kV)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 8/12/16. Spark / methane testing conducted on 8/13/16. Concentration of 0.0% methane measured prior to spark testing. As such, spark testing was conducted along the base of the boot and the vertical weld and no sparks were observed (spark test passed). Additionally, vacuum box testing was conducted along vertical and horizontal extrusion welds completed for the boot construction.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

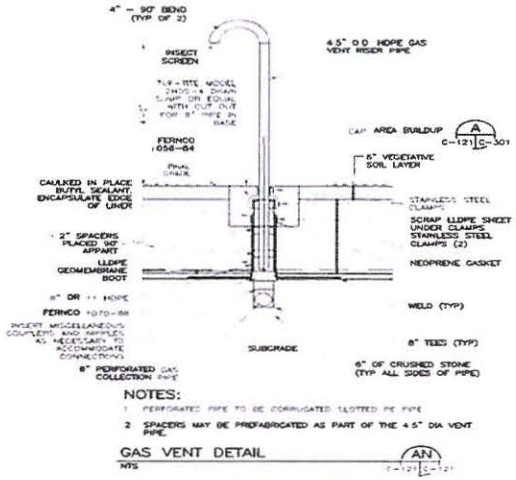
Project: Study Area 6 North

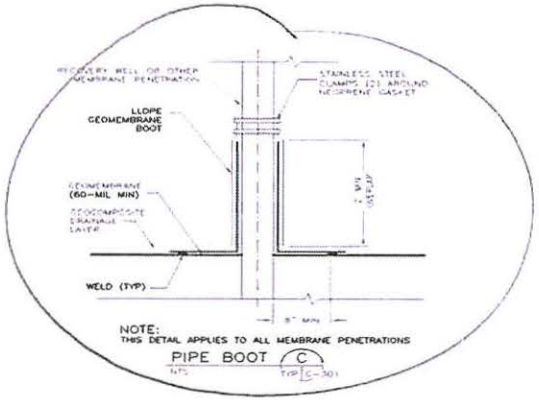
Location: Injection Well 088-IW-01 located along N end of SA-6 North Cap on Panel P113 / P114 seam (approx 206 ft. north of southern end of cap and 13 ft. east from Panel P113/P114 seam). Identified as R-493 on *As Built* and *Repair Report*.

Date: 8/13/16 **Repair Number:** R-493

Boot Log QA Form (cross-reference): 8/12/16 Injection Well 088-IW-01 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0800*

% Methane 0.0%

☒ Methane < 1%; Proceed with spark testing

☐ Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐ Vacuum Box Tested

☒ Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/12/16. Methane / spark testing completed on 8/13/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

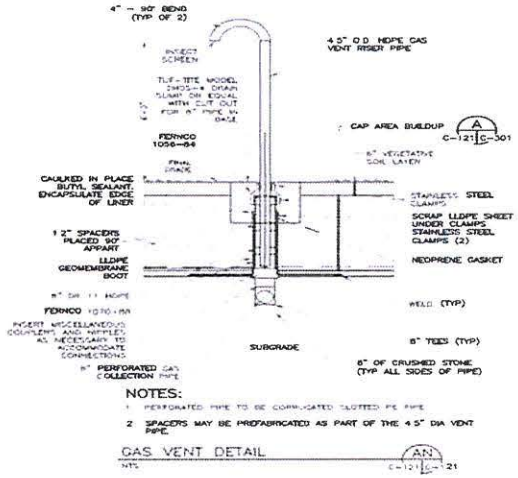
Project: Study Area 6 North

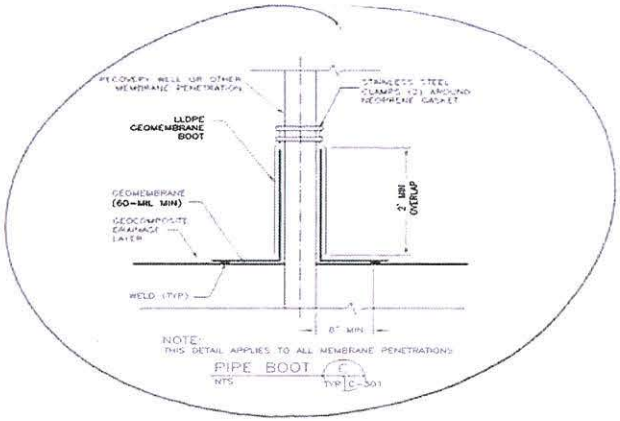
Location: Piezometer PZ2 located along northern end of SA-6 North Cap on Panel P116 seam (approximately 188 ft. north of southern end of cap and 13 ft. east from Panel P116/P118 seam). Identified as R-509 on *As Built* and *Repair Report*.

Date: 8/15/16 **Repair Number:** R-509

Boot Log QA Form (cross-reference): 8/15/16 Piezometer PZ2 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0800*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/15/16. Methane / spark testing completed on 8/15/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: August 5, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		2
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		4
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 08/05/16

SWPPP Observer: G Pfeiffer
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, August 05, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJIf

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen on the perimeter fence by the Kellogg Street jughandle has become detached
2	IA2Q4A1AL8	Filter fabric in the catch basins to the north of the old JCIA trashpit has become blinded with accumulated sediment.
3	IA2Q4A1AL8	Silt fence along the western end of the northern SA-7 raceway is damaged or missing in several locations.
4	IA2Q4A1AL8	Sediment has accumulated to several inches deep on the SA-7 western raceway.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: George Pfeiff Date: 08/05/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach the windscreen material as required.	8/11/16 RAD
2	Replace the filter fabric in the three catch basins as required.	
3	Repair or replace the silt fence in this area as needed to comply with the SWPPP	
4	Remove the accumulated sediment from the western SA-7 roadway.	

Construction Manager: Date: 08/11/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: August 12, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		3
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		1
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 08/12/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, August 12, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJI f

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Sediment has accumulated along the SA-7 paved perimeter road on the south side.
2	IA2Q4A1AL8	Trash and debris has accumulated along the North side of SA-7
3	IA2Q4A1AL8	Several panels of windscreen are in need of attention along the south side of SA-6 South.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature **Date:** 08/12/16

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Remove accumulated sediment from roadway.	8/15/16 RHD
2	Remove accumulated debris/trash	✓
3	Repaid windscreen as needed along SA-6 South perimeter fencing.	✓

Construction Manager: _____ **Date:** 08/16/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: August 19, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		3
Ponded Storm Water	X			
Housekeeping		X		4
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 08/22/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, August 19, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJI f

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen has become detached from the perimeter fence next to the Kellogg Street jughandle.
2	IA2Q4A1AL8	Garbage and other debris has accumulated on the grass at the Kellogg Street jughandle.
3	IA2Q4A1AL8	The filter fabric in the stormwater catch basin immediately south of the Groundwater Treatment Plant on SA-6 North is blinded with sediment and driveway stone.
4	IA2Q4A1AL8	There are discarded scraps of liner and other associated materials on the eastern end of the SA-6 North cap area.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 08/22/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach the windscreen fabric to the perimeter chain-link fence as required.	8/24/16 RAD
2	Pick up and dispose of garbage and other accumulated debris.	
3	Replace the filter fabric in the catch basin as required.	
4	Pick up and dispose of all liner installation-related debris from around and in the northern cap area.	

Construction Manager: _____ Date: 08/25/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: August 26, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		1
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		3
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		4
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 08/29/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, August 26, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJIT

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Sediment has accumulated on the western end of Kellogg street, particularly at the very end.
2	IA2Q4A1AL8	Windscreen material is missing from the perimeter fence at the southern JCMUA driveway.
3	IA2Q4A1AL8	Grass in the fenced-in area in front of the JCMUA building (by Rt. 440) has grown tall and need to be cut.
4	IA2Q4A1AL8	The silt fence is down on the western and southern sides of the Novartis stockpile area on SA-7.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 08/29/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Clean up accumulated sediment from the public roadway.	9/1/16 (RAD)
2	Replace windscreen material on the fence panels as required.	
3	Mow the grass in the area between the MUA wrought-iron fence and the temporary work zone fence along Rt. 440.	
4	Repair or replace the silt fence as required.	

Construction Manager: _____ Date: 09/01/16

Attachment 13: GWTP Update (525/575 Route 440 GWTP PVSC Discharge Monitoring Report (submitted June 2016)

DocuSign Envelope ID: 59E15354-CA31-421C-9315-7024D0CBD141

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

August 11, 2016

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the July 2016 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

DocuSign Envelope ID: 59E15354-CA31-421C-9315-7024D0CBD141

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
7	01	16	7	31	16
\	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	77,410	84,811 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	0.58	0.64	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	0.00024	0.00024	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.1	<5.1	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1737	0.1737	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

DocuSign Envelope ID: 59E15354-CA31-421C-9315-7024D0CBD141

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

DocuSigned by:
John J. Morris
E0[illegible]
Signature of Principal Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

08/10/2016

Date

PVSC FORM MR-1 REV: 5 3/91 P2

DocuSign Envelope ID: 59E15354-CA31-421C-9315-7024D0CBD141

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North
ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)
FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305
NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
7	01	16	7	31	16
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,399,724 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 68,652,644

DATE	BOD (mg/l)	TSS (mg/l)
7/7/2016	42.7	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
DocuSigned by: John J. Morris E013C567A19144E...	John J. Morris	(973) 455-4003
		DATE 08/10/2016

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG Honeywell Jersey City GWTP; SA-6 North (Permit #20630025) MONTH: July 2016

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
7/1/2016	Angel Trujillo	66252920	66331772	78,852	0.078852	7.81	0.901									0.59
7/2/2016	Angel Trujillo	66331772	66410384	78,612	0.078612	7.60	0.901									0.59
7/3/2016	Angel Trujillo	66410384	66488997	78,613	0.078613	7.64	0.901									0.59
7/4/2016	Angel Trujillo	66488997	66568587	79,590	0.07959	7.59	0.901									0.60
7/5/2016	Angel Trujillo	66568587	66645834	77,247	0.077247	7.06	0.901									0.58
7/6/2016	Angel Trujillo	66645834	66723450	77,616	0.077616	7.01	0.901									0.58
7/7/2016	Angel Trujillo	66723450	66804476	81,026	0.081026	6.79	0.901	<5.1	42.7		<0.010	<0.030	<0.010	0.00024	<0.020	0.61
7/8/2016	Angel Trujillo	66804476	66877058	72,582	0.072582	7.04	0.901									0.55
7/9/2016	Angel Trujillo	66877058	66960358	83,300	0.0833	7.25	0.901									0.63
7/10/2016	Angel Trujillo	66960358	67034509	74,151	0.074151	7.00	0.901									0.56
7/11/2016	Angel Trujillo	67034509	67108660	74,151	0.074151	7.02	0.901									0.56
7/12/2016	Angel Trujillo	67108660	67186214	77,554	0.077554	7.00	0.901									0.58
7/13/2016	Angel Trujillo	67186214	67262708	76,494	0.076494	7.16	0.901									0.57
7/14/2016	Angel Trujillo	67262708	67343708	81,000	0.081	7.15	0.901									0.61
7/15/2016	Angel Trujillo	67343708	67416552	72,844	0.072844	7.09	0.901									0.55
7/16/2016	Angel Trujillo	67416552	67491180	74,628	0.074628	6.99	0.901									0.56
7/17/2016	Angel Trujillo	67491180	67567304	76,124	0.076124	7.20	0.901									0.57
7/18/2016	Angel Trujillo	67567304	67643428	76,124	0.076124	7.12	0.901									0.57
7/19/2016	Angel Trujillo	67643428	67723020	79,592	0.079592	7.11	0.901									0.60
7/20/2016	Angel Trujillo	67723020	67796418	73,398	0.073398	6.98	0.901									0.55
7/21/2016	Angel Trujillo	67796418	67877736	81,318	0.081318	7.06	0.901									0.61
7/22/2016	Angel Trujillo	67877736	67955362	77,626	0.077626	7.04	0.901									0.58
7/23/2016	Angel Trujillo	67955362	68040173	84,811	0.084811	7.00	0.901									0.64
7/24/2016	Angel Trujillo	68040173	68124984	84,811	0.084811	7.12	0.901									0.64
7/25/2016	Angel Trujillo	68124984	68186182	61,198	0.061198	6.93	0.901									0.46
7/26/2016	Angel Trujillo	68186182	68264614	78,432	0.078432	7.01	0.901									0.59
7/27/2016	Angel Trujillo	68264614	68339918	75,304	0.075304	6.98	0.901									0.57
7/28/2016	Angel Trujillo	68339918	68419386	79,468	0.079468	7.01	0.901									0.60
7/29/2016	Angel Trujillo	68419386	68496866	77,480	0.07748	7.23	0.901									0.58
7/30/2016	Angel Trujillo	68496866	68576958	80,092	0.080092	7.08	0.901									0.60
7/31/2016	Angel Trujillo	68576958	68652644	75,686	0.075686	7.20	0.901									0.57
TOTAL				2,399,724	2.399724			<5.1	42.7		<0.010	<0.030	<0.010	0.00024	<0.020	
			High:	84,811											High:	0.64
			Average:	77,410											Average:	0.58

WW

E

JC23592

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell

Chain Of Custody / Analysis Request

AESI Ref: 42558.46959
COC#: 087-WW-070716

Site Name: Hudson County
Phase: CS
Location of Site: Jersey City, NJ
Sampling Program: 087: JCIA
Lab Proj # (SDG):
Lab ID: ACTD
Site ID: HudsonCo
Lab Job #: HWINJM32815
Authorized User: Honeywell

Sampling Co.: MACTEC
EDD To:
Client Contact: (name, co., address)
Sampler: Frank Schroyer
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com
PO #
Honeywell International
101 Columbia Road Morristown, NJ 07962
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)
Full Report TAT: 28 Days

Text & Excel File Only

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	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list	Sampling Method (code)	Lab Sample Numbers
												3	3	3	1	2	2	0	0	2		
1	087-WW			087-WWE-070716-A	7/7/2016	14:55	WW	WATER	REG	5	comp N	X	X	X	X			X	X	1		L28
2	087-WW			087-WWE-070716-B	7/7/2016	15:00	WW	WATER	REG	5	grab N					X	X			2		V626
3	087-WW			087-WWI-070716	7/7/2016	15:10	WW	WATER	REG	3	grab N								X	3		
4																						A5
5																						G27
6																						
7																						
8																						
9																						
10																						
11																						
12																						

Relinquished by: 6.79 s.u. @ 9.0°C	Company: AMEC Foster Wheeler	Received by:	Company:	Condition:	Custody Seals Intact: 232
Frank Schroyer	Date/Time: 7/7/16 16:00		Date/Time: 7/7/16 16:00	Cooler Temp.	
Relinquished by:	Company:	Received by:	Company:	Condition:	Custody Seals Intact:
	Date/Time: 7/7/16 17:25		Date/Time: 7/7/16 17:25	Cooler Temp. 3.8°C	

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

INITIAL ASESSMENT JBJK

LABEL VERIFICATION JK

ALL SAMPLES RECEIVED
PRESERVED AS APPLICABLE JK

DocuSign Envelope ID: 59E15354-CA31-421C-9315-7024D0CBD141

SGS Accutest LabLink@922099 14:06 08-Aug-2016

Report of Analysis

4.1
4

Client Sample ID:	087-WWE-070716-A		
Lab Sample ID:	JC23592-1	Date Sampled:	07/07/16
Matrix:	AQ - Water	Date Received:	07/07/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	901	10	ug/l	1	07/08/16	07/09/16	ND	EPA 200.7 [2]	EPA 200.7 [5]
Copper	< 10	10	ug/l	1	07/08/16	07/09/16	ND	EPA 200.7 [2]	EPA 200.7 [5]
Lead [a]	< 30	30	ug/l	10	07/08/16	07/12/16	ND	EPA 200.7 [3]	EPA 200.7 [5]
Mercury	0.24	0.20	ug/l	1	07/08/16	07/08/16	MS	EPA 245.1 [1]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	07/08/16	07/09/16	ND	EPA 200.7 [2]	EPA 200.7 [5]
Zinc	< 20	20	ug/l	1	07/08/16	07/09/16	ND	EPA 200.7 [2]	EPA 200.7 [5]

(1) Instrument QC Batch: MA39818
(2) Instrument QC Batch: MA39826
(3) Instrument QC Batch: MA39842
(4) Prep QC Batch: MP94800
(5) Prep QC Batch: MP94810

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

DocuSign Envelope ID: 59E15354-CA31-421C-9315-7024D0CBD141

SGS Accutest LabLink@922099 14:06 08-Aug-2016

Report of Analysis

4.1 4

Client Sample ID:	087-WWE-070716-A		
Lab Sample ID:	JC23592-1	Date Sampled:	07/07/16
Matrix:	AQ - Water	Date Received:	07/07/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	07/08/16	KP	SM2540 D-11
pH [a]	6.87		su	1	07/07/16 17:47	SUB	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

DocuSign Envelope ID: 59E15354-CA31-421C-9315-7024D0CBD141

SGS Accutest LabLink@922099 14:06 08-Aug-2016

Report of Analysis

4.2 4

Client Sample ID:	087-WWE-070716-A		
Lab Sample ID:	JC23592-1A	Date Sampled:	07/07/16
Matrix:	AQ - Water	Date Received:	07/07/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	42.7	10	mg/l	1	07/07/16 19:22	LS	SM5210 B-11

RL = Reporting Limit

DocuSign Envelope ID: 59E15354-CA31-421C-9315-7024D0CBD141

SGS Accutest LabLink@922099 14:06 08-Aug-2016

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-070716-B		
Lab Sample ID:	JC23592-2	Date Sampled:	07/07/16
Matrix:	AQ - Water	Date Received:	07/07/16
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	T218721.D	1	07/08/16	BK	n/a	n/a	VT8985
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	10	1.3	ug/l	
107-13-1	Acrylonitrile	ND	10	1.2	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	4.6	1.0	0.11	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.14	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	3.3	1.0	0.19	ug/l	
108-90-7	Chlorobenzene	0.24	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.19	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.73	ug/l	
67-66-3	Chloroform	27.3	1.0	0.11	ug/l	
74-87-3	Chloromethane	ND	1.0	0.22	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.19	ug/l	
95-50-1	1,2-Dichlorobenzene	0.36	1.0	0.15	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.15	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.54	ug/l	
75-34-3	1,1-Dichloroethane	0.32	1.0	0.16	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.22	ug/l	
156-59-2	cis-1,2-Dichloroethene	62.9	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethene	2.0	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.17	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.16	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.17	ug/l	
123-91-1	1,4-Dioxane	ND	130	27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.11	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.80	1.0	0.16	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.18	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

DocuSign Envelope ID: 59E15354-CA31-421C-9315-7024D0CBD141

SGS Accutest LabLink@922099 14:06 08-Aug-2016

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-070716-B		
Lab Sample ID:	JC23592-2	Date Sampled:	07/07/16
Matrix:	AQ - Water	Date Received:	07/07/16
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.12	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.17	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.18	ug/l	
79-01-6	Trichloroethene	71.9	1.0	0.16	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.55	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.19	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	86%		72-125%
2037-26-5	Toluene-D8 (SUR)	94%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	107%		74-115%
1868-53-7	Dibromofluoromethane (S)	95%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
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Client Sample ID:	087-WWE-070716-B		
Lab Sample ID:	JC23592-2	Date Sampled:	07/07/16
Matrix:	AQ - Water	Date Received:	07/07/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.1	5.1	mg/l	1	07/08/16 11:00	TT	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending August 2016

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2014-6-10	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-6-10 includes the french drain installation, as well as pump and access station manholes for SA-6 South. Some design details, including the electrical design, will be finalized based field obersvations and constructability review.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
DC 2014-11-20	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-11-20 includes the french drain installation, electrical supply and discharge piping for SA-6 North.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
DC 2016-6-10	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-6-10 includes the revised electrical supply and discharge piping for SA-6 North.	To be submitted to Parties as Attachment to Declaration 004.
DC 2015-2-12	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-2-24 is a follow up to DC 2014-6-10, the SA-6 South CGWES trench design. DC 2015-2-24 includes details for electrical supply and discharge piping.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
DC 2014-2-24	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to document the changes in the SA 6 North and South cap subgrades that resulted from the change to a trench system.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
DC 2015-9-03	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-9-03 is a follow up to DC 2015-2-24, the SA-6 South CGWES electrical supply. DC 2015-9-03 provides a revised electrical plan.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.

SA-6 North/South Field Change Log - Month Ending August 2016

Changed Item Identifier	Description of Change	Comments
DC 2016-5-24	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to address the elimination of a drop structure, the elmination of a flow meter, conduit sizing changes, and to clarify Entact's scope.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead.	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA-6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	To be submitted to Parties as Attachment to Declaration 004.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.

SA-6 North/South Field Change Log - Month Ending August 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Parties on July 2, 2015.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groundwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
DC 2015-06-18	Bayfront Redevelopment Civil Designer has eliminated one utility corridor along the eastern portion of SA-6 South (water main and sewer line were relocated to another utility corridor). In addition, it was identified that minor increases in the Bayfront final grades of up to 0.25 feet may be made in the landscaped areas (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 South Consent Decree and the 100% Design.	Submitted to all Parties on June 18, 2015.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.
DC 2015-11-12	Amec Foster Wheeler has provided Final Cap Grades (in CAD) to Entact. Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.	To be submitted to Parties as Attachment to Declaration 005.
DC 2016-04-15	Amec Foster Wheeler has provided final restoration grades for SA-6 South Development Area. The DCB also includes the final cover types in revised Drawing C-128.	To be submitted to Parties as Attachment to Declaration 005.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on 6/22/15.
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.

SA-6 North/South Field Change Log - Month Ending August 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-10-06	GCL is required to be installed over the SCB wall and Barrier Wall at the locations shown in the annotated PDF of C-121 (rev 4, 8/13/15).	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2015-07-22	Detail BN has been modified to extend the LLDPE up and over the SCB Wall. The prior detail showed both the GDL and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-28	Drawing 304, Detail CE and associated notes regarding the "Liner Anchor to Concrete Structure" have been modified.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2015-07-31	The sheet pile pair is located at Sta. 0+50. Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA-6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	To be submitted to Parties as Attachment to Declaration 004.

SA-6 North/South Field Change Log - Month Ending August 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	To be submitted to Parties as Attachment to Declaration 003.
DC 2015-11-18	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	To be submitted to Parties as Attachment to Declaration 003.
DC 2015-09-28	Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling.	Submitted to Parties on October 1, 2015.
DC 2015-12-21	Amec Foster Wheeler (AmecFW), Entact and Maser Consulting have developed alternative methods for documentation/survey of the excavation bottom in Site 163. The alternative methods were developed in light of safety considerations for surveyor access into a sheet piled excavation to elevation –8.0. The bottom of the excavation will be in very low strength Stratum O soils. These alternative survey control methods are different from those previously used in the SA-6 South Development Area.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.
DC 2015-10-22	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2015-12-14	Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds that cannot be tested by other means. Spark testing will be performed in accordance withASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative. Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	Submitted to Parties on January 14, 2016.

SA-6 North/South Field Change Log - Month Ending August 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-11-30	EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation. A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals. EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits. A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.	To be submitted to Parties as Attachment to Declaration 003.
DC 2016-02-03	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design.	To be submitted to Parties as Attachment to Declaration 004.
DC 2016-02-22	AmecFW revised the SA-6 North cap subgrade in a single localized area in order to accommodate Entact's request to relocate Pump Station #1 (RFI 64). The subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location. In addition, for grading purposes, any hydraulic barrier sheets within the Sedimentation Basin that have sections below elevation 12.0 will be trimmed to a uniform elevation of 11.5.	To be submitted to Parties as Attachment to Declaration 004.
DC 2016-02-25	This DCB has been issued to provide Entact with the latest SA-6 North HB Wall and SCB wall plan and profile drawings (SN-201 thru SN-205), which were modified to reflect changes made in DC 2016-02-22.	To be submitted to Parties as Attachment to Declaration 004.
DC 2016-05-03	The laboratory results of all gradations for planting soils shall be presented in terms of the USDA classification system rather than the USCS classification system.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2016-03-18	This DC 2016-03-18 documents the revised acceptable ranges of physical parameters and provides an updated specification made in consultation with Dr. Grabosky of Rutgers University. Dr. Grabosky provided his recommendations in correspondence dated 3/17/2016.	Submitted to Parties on March 22, 2016. Plaintiffs responded in a letter dated April 15, 2016. Plaintiffs and Honeywell subsequently held discussions and DCB 2016-04-20 was developed to document an agreement reached by all parties on the Special Master All-Hands monthly call on April 19, 2016.
DC 2016-03-21	Nature's Choice was identified as the source that best met the physical requirements for Horizon C soils by Dr. Grabosky; however, several samples of Nature's Choice Horizon C soils have hexavalent chromium concentration >1.0 mg/kg. Consequently, Honeywell is proposing a design change to allow the hexavalent chromium concentration in Nature's Choice Horizon C soils to be less than 1.8 mg/kg, as agreed to by the parties, as documented in the attached emails. For future sampling, hexavalent chromium soil samples will be composited from 10 grab sample locations per 5,000 CY (maximum). There are additional conditions in Attachment A that are part of this DCB and specific to Nature's Choice Horizon C soil. All other requirements specified in the 100% Design for imported soils will be met by the Nature's Choice Horizon C soils as amended in previous DC 2015-09-17.	Submitted to Parties on March 22, 2016.
DC 2016-04-20	This DCB documents the approved sources of Horizon B and Horizon C materials, as agreed to by all parties on the Special Master All-Hands monthly call on April 19, 2016.	Submitted to Parties on April 21, 2016.
DC 2016-05-06	To allow for traffic flow within the project site following completion of the SA-6S Cap, a road will be installed within the "B Street" corridor. The road will be constructed by continuing the "Structural Fill under Roadways to within 6 inches of final grade"	Submitted to Parties on June 30, 2016.
DC 2016-05-31	This DCB documents the vault sketch Drawing C-310 (Rev 5, 5/31/16)	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.

SA-6 North/South Field Change Log - Month Ending August 2016

Changed Item Identifier	Description of Change	Comments
DC 2016-5-11	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design. As part of DC 2016-5-11, AmecFW issued SA-6 North Interim Grades to Entact.	To be submitted to Parties as Attachment to Declaration 004.
DC 2016-5-20	After further review, AmecFW lowered the geomembrane Pump Station #1 on the SA-6 North cap in order to provide additional separation between the geomembrane and the bottom of the vault. (Refer to DC 2016-02-22).	Submitted to Parties on June 15, 2016.
DC 2016-7-12	DC 2016-7-12 clarifies the limit of GCL deployment and the location of the sand bentonite plug in the SA-6 North cap.	Included as an attachment to July 2016 Monthly Progress Report.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

Attachment 15: Issued Permit: NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
SITE REMEDIATION PROGRAM
Mail Code 401-06
P.O. Box 420
Trenton, NJ 08625-0420

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

August 4, 2016

William Hague, Director
Remediation Engineering and Construction
Honeywell International, Inc.
115 Tabor Road
Morris Plains, New Jersey 07950

Re: Permit-by-Rule Discharge Authorization
In-Situ Treatment of Chromium Impacted Soils
Study Area 6 – North
Hudson County Chromate Site 087
Jersey City, Hudson County
NJDEP PI # G000008710

Dear Mr. Hague:

This New Jersey Pollutant Discharge Elimination System/Discharge to Ground Water (NJPDES/DGW) authorization is hereby issued under the authority of the New Jersey Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq. and the implementing regulations, N.J.A.C. 7:14A-1 et seq. N.J.A.C. 7:14A-7.5 authorizes this discharge of calcium polysulfide (CaS_x) to the ground waters of the State for the purpose of remediating chromium impacted soil at the above referenced site. Pursuant to N.J.A.C. 7:14A-22.4(b)5, a Treatment Works Approval is not required for discharges to ground water authorized pursuant to N.J.A.C. 7:14A-7.5 or 8.5. The discharge approved through this DGW Permit is to injection wells, and must be conducted in conformance with the "Proposed In-Situ Treatment Event for Remaining Hexavalent Chromium Impacted Soils, Treatment Area 10-1, SA-6 North, Site 087" (July 8, 2016) prepared by Amec Foster Wheeler E&I, Inc. for the subject site.

Honeywell is authorized to discharge fluids to the ground waters of the state from injection wells related to in-situ soil treatment where the discharge will not last more than 180 days from the first date of discharge. This NJPDES/DGW permit authorization is issued in order to facilitate the remedial activities conducted with oversight from the NJDEP. Specifically, the Administrative Consent Order executed between the NJDEP and AlliedSignal on June 17, 1993, pursuant to N.J.A.C. 7:26C, is the oversight document for remedial activities conducted at the site. In addition, remedial activities are being conducted in accordance with the Consent Decree Regarding Remediation and Redevelopment of Study Area 6 North entered by the Federal Court in JCMUA v. Honeywell Civ. No. 05-5955 on April 21, 2008. Termination of the oversight document by the

Department or Honeywell will revoke the permit-by-rule authorization to discharge to the ground waters of the State.

I. DISCHARGE DESCRIPTION AND AREA RECEPTORS

Site Description

The location of the permit-by-rule is Jersey City, Hudson County (west of Route 440, within Block 21901, Lot 9). The site has areas of soil contaminated with hexavalent chromium (Cr(VI)). The area targeted for in-situ treatment is Treatment Area 10-1. Area 10-1 is an 800 square foot area proximate to a 72 inch force main, with impacted soils located at 10 to 16 feet below grade. The impacted soils are contaminated with Cr(VI) at levels above 20 mg/kg and up to 39 mg/kg.

An initial in-situ treatment event with Calcium Polysulfide occurred at Area 10-1 between August and September 2015, in accordance with a Permit-By-Rule dated July 14, 2015. Post in-situ analytical results showed that Cr(VI) samples in the majority of areas treated are now below the 20 mg/kg clean up criteria. However, 5 out of 20 sample points contained soil which will require additional treatment. Calcium Polysulfide will be re-injected within all five original treatment points, not just the remaining areas of soil exceedances.

Proposed Remedy

The proposed discharge is comprised of a Calcium Polysulfide (CaS_x) solution, which is to be injected into at least 10 temporary injection points within the targeted areas to convert hexavalent chromium (CrVI) to trivalent chromium (CrIII). Ten (10) 1-inch diameter PVC injection wells (IWs) will be drilled and installed within subarea TA-10-1, grouped in 5 nested pairs spaced approximately 15 feet apart, in the same general location as the previous 5 injection points. Wells within each pair will be screened at 3-foot intervals, one from 10 to 13 feet below ground surface and one from 13 to 16 feet below ground surface, to increase the vertical distribution of CaS_x. A total of 825 gallons of 29% CaS_x will be mixed with approximately 2,425 gallons of potable water to produce 3,250 gallons of a 7% CaS_x solution. Stoichiometric chemical dose is estimated to be 2.5X. The discharge will be within soils contaminated with hexavalent chromium between the depths of 10 to 16 feet, but will not be contained by recovery wells. The CaSx will be gravity fed from tanker trucks into the injection wells. Injections will occur over an estimated 5 weekly dosages of 650 gallons each. Each IW will receive 65 gallons of solution during each event.

The proposed area for the CaS_x treatment in Area 10-1 is approximately 20 feet north of the force main location. As a contingency, Honeywell proposes that if the sulfate concentrations in either one or both of 087-MW-133 and 087-MW-134 reach 150 mg/L, clean potable water will be injected into both wells to dilute the sulfate concentrations in the shallow ground water adjacent to the force main.

Site Monitoring Requirements

Site monitoring will be scheduled as follows:

- **Baseline Monitoring**

Ten (10) injection wells (IWs) will be installed around the perimeter of the injection areas. The breathing zones at drilling locations will be monitored for volatile organic compounds (VOCs) and H_2S. Ground water monitoring wells 087-MW-132, 087-MW-133, and 087-MW-134 installed between subarea TA-10-1 and the adjacent force main (FM) for the 2015 injection event have been maintained in the area. The following measurements will be taken and recorded in the ten newly installed IWs and existing monitoring wells prior to the start of injections (baseline): depth to ground water; ground water quality parameters, including pH, oxidation/reduction potential (ORP), specific conductivity (SC), and total dissolved solids (TDS); hydrogen sulfide (H_2S) and volatile organic compounds (VOCs) in the headspace of the PVC riser pipe; and ground water color and/or odor. Ground water samples will be collected from the monitoring wells for analysis of sulfate and sulfide prior to the start of injections. Additionally, the five temporary well points (TWPs) 087-TWP-37 through 087-TWP-41 installed for the 2015 injection event have been maintained in the area and will also be monitored for sulfate and sulfide.

- **Injection Performance Monitoring**

During the course of injections, IWs and permanent monitoring wells will be sampled to monitor changes in water levels during injection, and to monitor distribution of reductant (changes in redox and conductivity as well as sulfate and sulfide concentration), and sampled for ground water quality parameters, including pH, ORP, SC, and TDS; H_2S and VOCs in the headspace of the PVC riser pipe and ground water color and/or odor. The breathing zones at storage, mixing, and injection areas will be monitored for hydrogen sulfide (H2S). Ground water samples will be collected from the TWPs and monitoring wells within the vicinity of the treatment area for analysis of sulfate and sulfide each week between dosages.

- **Post-Injection Sampling**

Subsequent to the completion of the injection program, IWs and permanent monitoring wells will be sampled for ground water quality parameters, including pH, ORP, SC, and TDS; H_2S and VOCs in the headspace of the PVC riser pipe and ground water color and/or odor. Also, at a minimum, samples will be collected from the TWPs and monitoring wells for analysis of sulfate and sulfide each week between dosages and for several weeks after the last dosage. Additional sampling may be implemented if conditions warrant.

The treatment remedy is being performed with a goal of long-term protectiveness. Approximately six months after the final (fifth) weekly injection dosage in subarea TA-10-1 (weather permitting), Honeywell will collect and analyze ten (10) soil samples to evaluate the effectiveness of the in-situ treatment. A second round of soil sampling will be conducted 3 years after completion of the field program. Honeywell may seek to conduct the final sampling event sooner than 3 years after the completion of the TA-10-1 injection program. Soil samples will be analyzed for Cr(VI) (3060A/7199).

All sampling and monitoring will be performed according to the methodology specified in the most current edition of the Department's Field Sampling Procedures Manual. All samples are to be analyzed by a New Jersey Certified Laboratory except those field-determined parameters specified in the monitoring program.

II. CONSTRUCTION REQUIREMENTS

Ten (10) 1-inch diameter PVC injection wells (IWs) will be drilled and installed within subarea TA-10-1, grouped in 5 nested pairs. Wells within each pair will be screened at 3-foot intervals, one from 10 to 13 feet below ground surface and one from 13 to 16 feet below ground surface.

All design plans and specifications for the injection wells shall be retained and made available to the Department upon request. UIC Class V injection wells shall be operated and maintained pursuant to N.J.A.C. 7:14A-8.16 (c)1. Upon termination of injection well operations, the UIC-Class V injection wells will be properly closed and abandoned in accordance with N.J.A.C. 7:14A-8.16(d).

III. SYSTEM OPERATION AND CLOSURE

The injection wells shall be inspected during injection activities for evidence of malfunction. Said evidence shall include, but not be limited to: breakout, wet areas, ponding, or odors. Discharge of water via any discharge to ground water unit shall not create an unpermitted discharge to any surface water of the State, create a persistent standing, ponded or surface-flowing fluid condition. Honeywell shall conduct periodic inspections of the treatment area throughout the injection.

Upon termination of the discharge, any discharge to ground water units will be properly closed and abandoned. Any temporary UIC-Class V injection wells shall be properly abandoned in accordance with N.J.A.C. 7:14A-8.16(d).

IV. REPORTING REQUIREMENTS AND INFORMATION SUBMITTALS:

Honeywell, AMEC or a subcontractor will submit the Remedial Action Report, and any other information identified above which is required to be delivered to the Department, to:

Thomas J. Cozzi, Assistant Director
New Jersey Department of Environmental Protection
Site Remediation Program
Mail Code 401-06
P.O. Box 420
Trenton, NJ 08625-0420

The Department contact for this Permit-by-Rule Authorization is:

Attention: David Van Eck
New Jersey Department of Environmental Protection
Bureau of Ground Water Pollution Abatement
Mail Code 401-05V
P.O. Box 420
Trenton, NJ 08625-0420
Phone: (609) 633-2427

If you have any questions, please contact Thomas J. Cozzi of the Site Remediation Program at (609) 984-2905.

Sincerely,

Thomas J. Cozzi, Assistant Director
NJDEP Site Remediation

c: David Doyle, NJDEP
David Van Eck, NJDEP
Maria Kaouris, Honeywell
Dennis Nagg, Amec Foster Wheeler E & I

APPENDIX T

PART 13 OF 22

PROGRESS REPORTS

2016 MONTHLY REPORTS PART 4

SA-6 AND SA-7 COMBINED PROGRESS REPORT

OCTOBER 12, 2016

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

October 12, 2016

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2016-09

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from September 1 – September 30, 2016.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Global Director, Remediation
Design and Construction

WJH:jtc/sgf

Attachment: September 2016 SA-6/7 Combined Monthly Progress Report No. 2016-09

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.
Mary Hogan - Walsh Pizzi O'Reilly Falanga LLP (electronic copy)
Hector Ruiz - Walsh Pizzi O'Reilly Falanga LLP (electronic copy)
Liza Walsh - Walsh Pizzi O'Reilly Falanga LLP (electroni copy)

Honeywell

STUDY AREAS 6 AND 7 COMBINED
MONTHLY PROGRESS/HIGHLIGHTS
REPORT NO. 2016-09
Project SA-6 & 7 Remediation

September 2016

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
09/01/16	Groundwater Sampling Results Study Area 6 South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
09/01/16	LTMP Response to Comments (transmitted by Arnold & Porter)	The Honorable Robert G. Torricelli Office of the Special Master
09/08/16	Response to Comments Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2016-07	The Honorable Robert G. Torricelli Office of the Special Master
09/12/16	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2016-08	The Honorable Robert G. Torricelli Office of the Special Master
09/13/16	Special Master Meeting	N/A
09/19/16	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
09/19/16	Shallow Limited Excavation at Treatment Area 7 Study Area 6 North Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
09/23/16	Response to Comments Integrated Annual Groundwater Performance Report for 2015 Study Areas 5, 6, and 7 Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
09/26/16	SA-6 Declaration 02 Study Area 6 South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
09/30/16	SA-6 Declaration 3 Study Area 6 North Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master

SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending				
	9/4/16	9/11/16	9/18/16	9/25/16	10/2/16
Construction Management (AMEC)	10	8	9	8	9
Engineering (AMEC)	1	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1	1
Security (Securitas)	3	3	3	3	3
Entact/Subcontractors	30	29	28	27	24
Arecon/US Ecology Subcontractors	0	0	0	1	0
E&V Dirt Works	2	0	0	0	0
Lagan	0	0	0	0	0
ERFS	1	1	1	0	0
Evoqua	1	1	1	1	1
B&B Drilling	2	0	1	0	0
Cornerstone	0	0	0	1	2
TOTAL STAFF	**51**	**44**	**45**	**43**	**41**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Conducted perimeter air monitoring activities using hand-held portable devices for nuisance dust.
- Continued installation of CGWES components within the SA-6 South and the SA-6 North Open Space Areas to include installation of the valve vaults and link seals.
- ERFS Continued injections in Treatment Area 10-1 in accordance with NJDEP-DGW permit.
- Implemented post-injection groundwater sampling and monitoring in Treatment Area 10-1 in accordance with the NJDEP – Discharge to Groundwater Permit.
- Collected groundwater samples for chromium and hexavalent chromium analysis of filtered and unfiltered from the interior piezometers at both SA-6 North and South Open Space Areas.
- Completed third round of quarterly regional groundwater level measurements.
- Collected September PVSC compliance sample from the Construction Water Treatment Plant (CWTP).

B. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned downstream process tanks T-300 (neutralization tank) and T-400 (effluent tank).
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on September 13, 2016.
- Reviewed submittals from the mechanical contractor, Brownfield Science & Technology, Inc. (BTSI), associated with piping installation from the CGWTS force mains to the neutralization tank in accordance with the PVSC permit.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending				
	9/4/16	9/11/16	9/18/16	9/25/16	10/2/16
Avg. Gallons Treated & Discharged (per day)	78,586	76,458	77,623	77,940	78,057
Average Flow (gpm) for Operating Period	56	54	55	56	56
Avg. Hours of Plant Operation	23	23	23	23	23
GWTP Influent Tanks (gal.)	3,989	3,780	3,312	3,264	2,928

C. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Completed placing backfill as part of site restoration in the SA-6 South Development Area.
- Continued placement of historic fill cap to include geotextile and 6-inches of stone in the SA-6 South Development Area.
- Completed placement of asphalt to restore the JCMUA driveway.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/FCI	Roll-off	Sarnia, Ontario Canada	Stablex	WWTP Filer Cake	0	0	0

2. EXCAVATION & BACKFILL PROGRESS

Description	Areas
Backfill in Progress	3/4” stone Historic Fill Cap – SA-6 South Development Area

3. BACKFILL MATERIALS USED (TONS)

Source	Week Ending				
	9/4/16	9/11/16	9/18/16	9/25/16	10/2/16
Natures Choice Topsoil	376	454	1,125	1,569	898
Tilcon Mt. Hope DGA	0	0	1,654	0	0
Tilcon Mount Hope I-8	4,458	4,148	4,248	4,604	2,738
Natures Choice Horizon C	1,350	0	6,116	726	308
Tilcon 3/8" Stone	0	51.51	51	51	76.23
Tilcon Mt. Hope 1.5"	0	0	0	0	250
Tilcon Mt. Hope #57	629	2,606	3,742	3,473	1,348
Weldon Screenings	0	0	0	0	1,086

- Screened Celgene material was placed as protective cover soil in the SA-6 North Open Space Area. Approximately 464 cubic yards were placed as protective cover soil during the reporting period.

D. SURCHARGE OPERATIONS

- All surcharging activities are completed.

E. SHEET PILE OPERATIONS

- All sheet pile operations are complete.

F. CAPPING OPERATIONS

- Continued importing and placing Horizon A soils on SA-6 South Open Space Area.
- Begin construction of the SA-6 South Temporary Access Road in utility corridor B.
- Begin installation of toe drain on the north site of the SA6 South Open Space Area.
- Completed placement of GDL cover soils and demarcation tape to include associated compaction testing on the SA-6 North Open Space Area.
- Continued placement structural fill to included compaction.
- Completed placement of root barrier, and Horizon C soils to include associated compaction testing on the SA-6 North Open Space Area.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012 Extension Obtained 5/17/2015	Renewal Not Needed	10/04/2019	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013 Extension Obtained 3/16/2015	Not Specified, Est. 3/31/2016	6/30/2016*	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 08/04/2016	Not Specified	Not Specified	9/12/16
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDEP Individual Upland Waterfront Development Permit and Water Quality Certificate for Bulkhead Expansion Project	SA-7	Issued: 5/10/2016	TBD	5/9/2021	-
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Obtained 12/24/15	12/03/16	Pending
USACE Nationwide Permit No. 27 for Droyers Cove Beneficial Environmental Project	Bayfront	Issued: 4/15/2016	TBD	3/18/2017	5/4/16
NJDEP Coastal General Permit 24 for the living shoreline	Bayfront	Issued: 10/15/2015	TBD	10/14/2020	5/4/16

** Amec Foster Wheeler reviewed the expiration of this TWA with NJDEP, Division of Water Quality and no extension is necessary.*

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete importing and placement of Horizon A Topsoil on the SA-6 South Open Space Area.
- Complete hydro-seeding of SA-6 South Open Space Area.
- Complete placement of historic fill cap to include geotextile and 6-inches of stone in the SA-6 South Development Area.
- Complete installation of the Contingent Groundwater Extraction System Components including the mechanical piping and conduit within the GWTP.
- Complete placement structural fill, root barrier, and Horizon C soils to include associated compaction testing on the SA-6 North Open Space Area.
- Begin placement of Horizon A Topsoil on the SA-6 North Open Space Area.
- Begin hydro-seeding of SA-6 North Cap Area.
- Continue storm-water management activities.
- Begin cleaning and demobilization of temporary CWTS.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Conduct S-3 Mass Removal Injection Event No. 32 in well 088-IW-01 (completed October 3, 2016).
- Conduct S-3 Mass Removal Injection Event No. 33 in well 088-IW-02.
- Complete injections in Treatment Area 10-1 in accordance with NJDEP-DGW permit.

ATTACHMENTS:

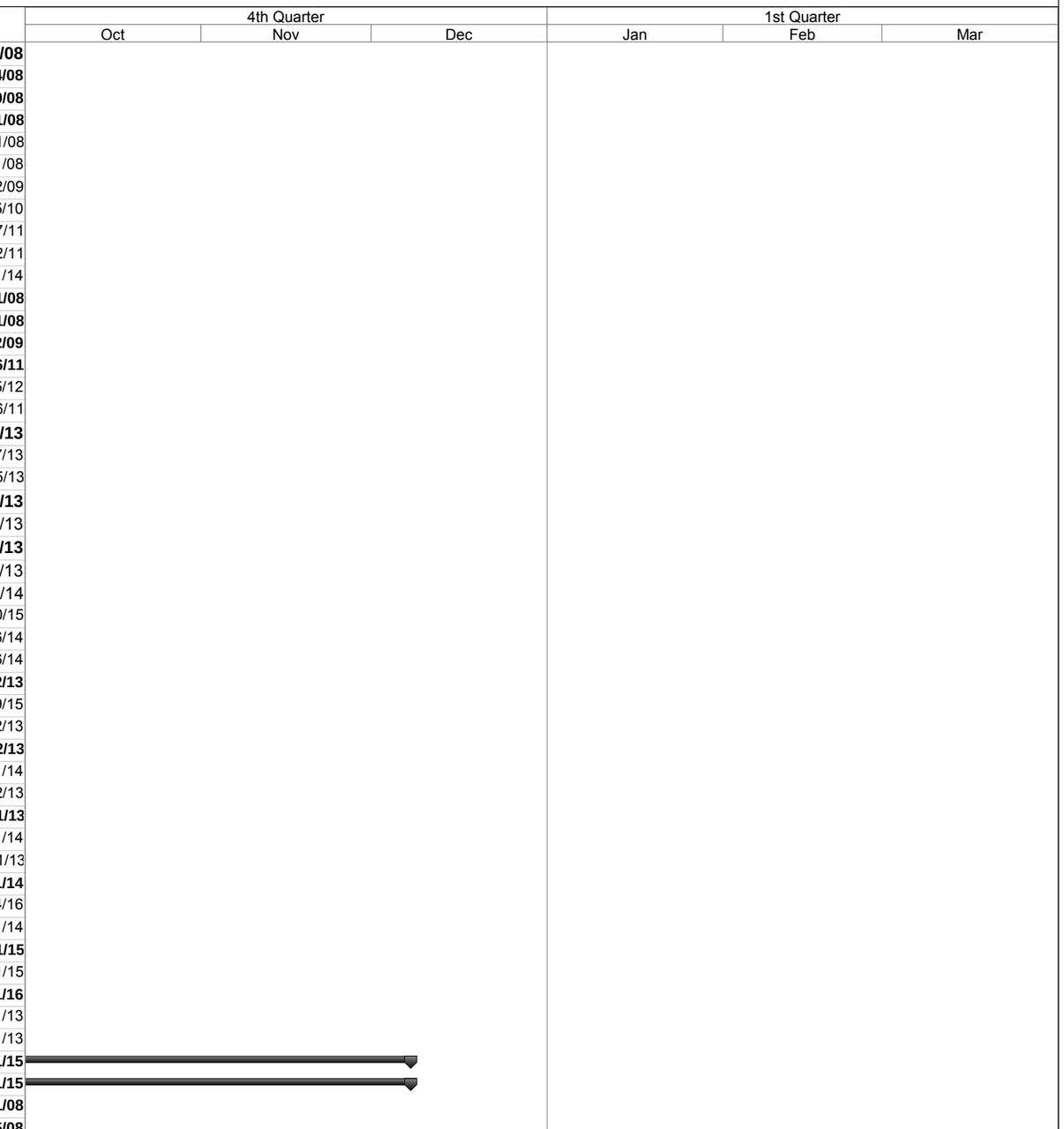
1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill (Progression Chart)
4. Dewatering Operations Update *(not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data *(not included in this reporting period)*
7. Perimeter Pools Update
8. Groundwater Quality Data *(reported quarterly – not included in this report)*
9. Surcharge Monitoring Update *(not included in this reporting period)*
10. Sheet Pile Update *(not included in this reporting period)*
11. Capping Update (SA-6 Cap Subgrade Progress Maps)
12. Weekly SWPPP Reports
13. GWTP Update
14. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**Fri 1/4/08**
2	**Remedial Action Work Plan**	**33 days**	**Fri 1/4/08**
5	**Remedial Action Design**	**1522 days**	**Wed 2/20/08**
18	**JCIA/JCDPW Relocation**	**1780 days**	**Mon 8/11/08**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09
22	Relocation Contractor Procurement	392 days	Thu 4/15/10
23	JCIA and JCDPW Relocation	949 days	Mon 10/17/11
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11
24a	Demolition of JCIA Structures	146 days	Mon 9/1/14
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**
26	**Remedial Action Work Plan**	**187 days**	**Fri 7/11/08**
32	**Remedial Action Design**	**1161 days**	**Mon 2/2/09**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**
58	New GWTP Construction Completion	502 days	Mon 3/5/12
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11
60	**SA-6 North/South Field Implementation**	**894 days**	**Fri 3/1/13**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	Mon 6/17/13
60b	SA-6S (Site 163) In-Situ Treatment	555 days	Fri 11/15/13
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**
61a	Mobilization	87 days	Fri 3/1/13
62	**Surcharge Install/Instrumentation**	**706 days**	**Mon 6/17/13**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	Mon 6/17/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	Tue 4/8/14
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Tue 6/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	Mon 6/16/14
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	Mon 10/6/14
63	**Barrier Wall Install**	**569 days**	**Mon 8/12/13**
63a	SA 6N Installation of Barrier Wall	159 days	Mon 3/9/15
63b	SA 6S Installation of Barrier Wall	210 days	Mon 8/12/13
64	**Excavation**	**507 days**	**Tue 10/22/13**
64a	SA 6N Excavation	218 days	Mon 12/1/14
64b	SA 6S Excavation	295 days	Tue 10/22/13
65	**Backfill**	**558 days**	**Mon 11/11/13**
65a	SA 6N Backfill	283 days	Mon 12/1/14
65b	SA 6S Backfill	384 days	Mon 11/11/13
66	**Capping and Cover Soil Placement**	**426 days**	**Mon 12/1/14**
66a	SA 6N Capping and Cover Soil Placement	83 days	Thu 3/24/16
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14
67	**Restoration**	**234 days**	**Tue 9/1/15**
67a	Restoration	234 days	Tue 9/1/15
68	**Demobilization**	**22 days**	**Fri 7/1/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead	1 day	Fri 3/1/13
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line	1 day	Fri 3/1/13
69	**SA-6 North Project Closeout**	**311 days**	**Thu 10/1/15**
75	**SA-6 South Project Closeout**	**311 days**	**Thu 10/1/15**
81	**SA-6 North Long Term Protections**	**1830 days**	**Wed 10/1/08**
92	**SA-6 South Long Term Protections**	**2569 days**	**Thu 6/5/08**



Project: SA-6 Remediation Schedule
Revision 4
Date: 8/2/2016

Task | Milestone ◆ | Summary | Critical

Note: Current field implementation schedule shows capping complete in September 2016 and restoration in October 2016.

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

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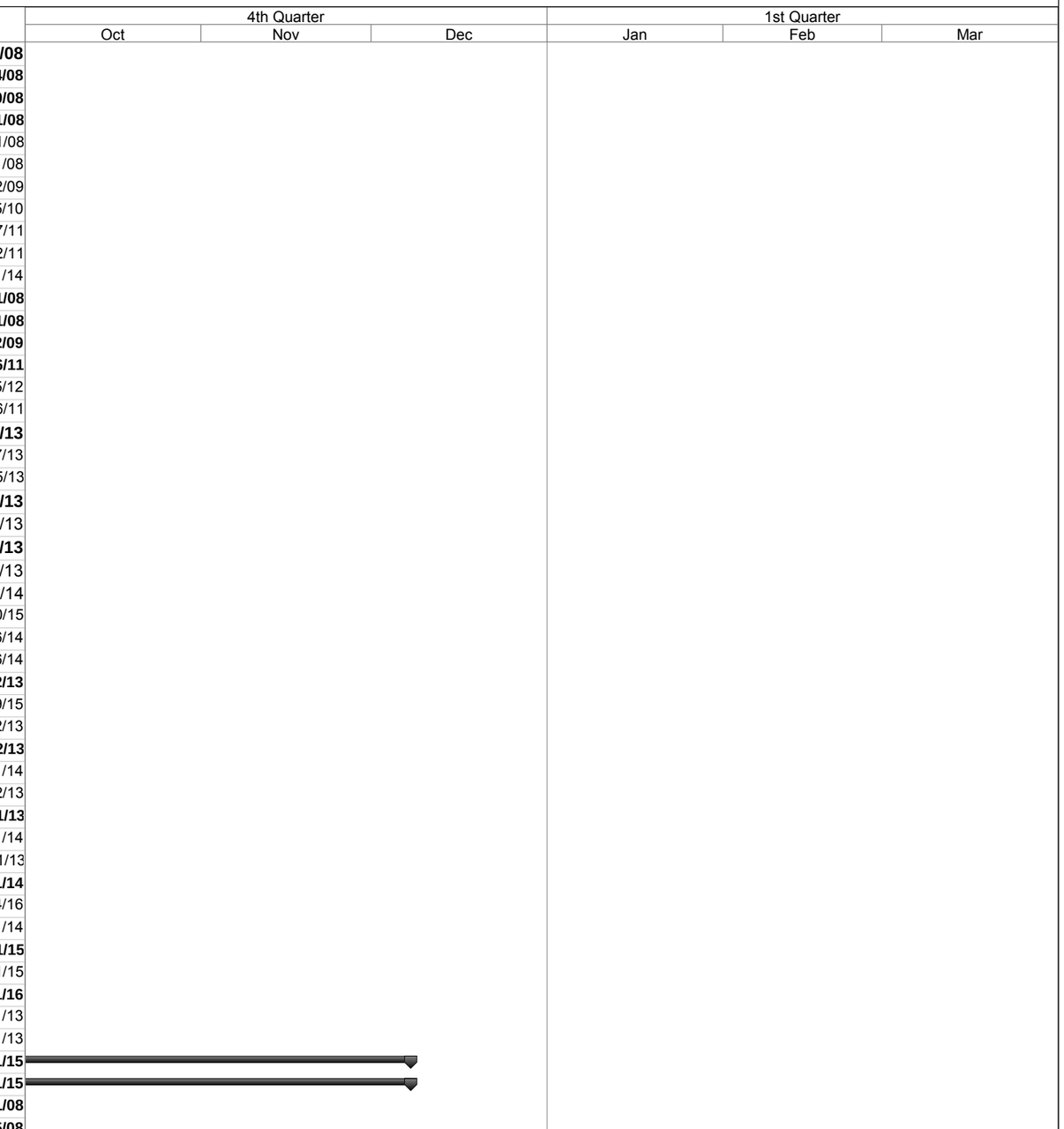


Project: SA-6 Remediation Schedule
Revision 4
Date: 8/2/2016

Task | Milestone ◆ | Summary | Critical

Note: Current field implementation schedule shows capping complete in September 2016 and restoration in October 2016.

Attachment 2: Site Photographs

Site Photograph 1: Compacting clean fill on Open Space Area.

Site Photograph 2: Delivering clean stone to Kellogg St Properties.

Site Photograph 3: Delivering clean top soil for SA6 South Open Space Area.

Site Photograph 4: Grading structural fill along SA6 North Open Space Area.

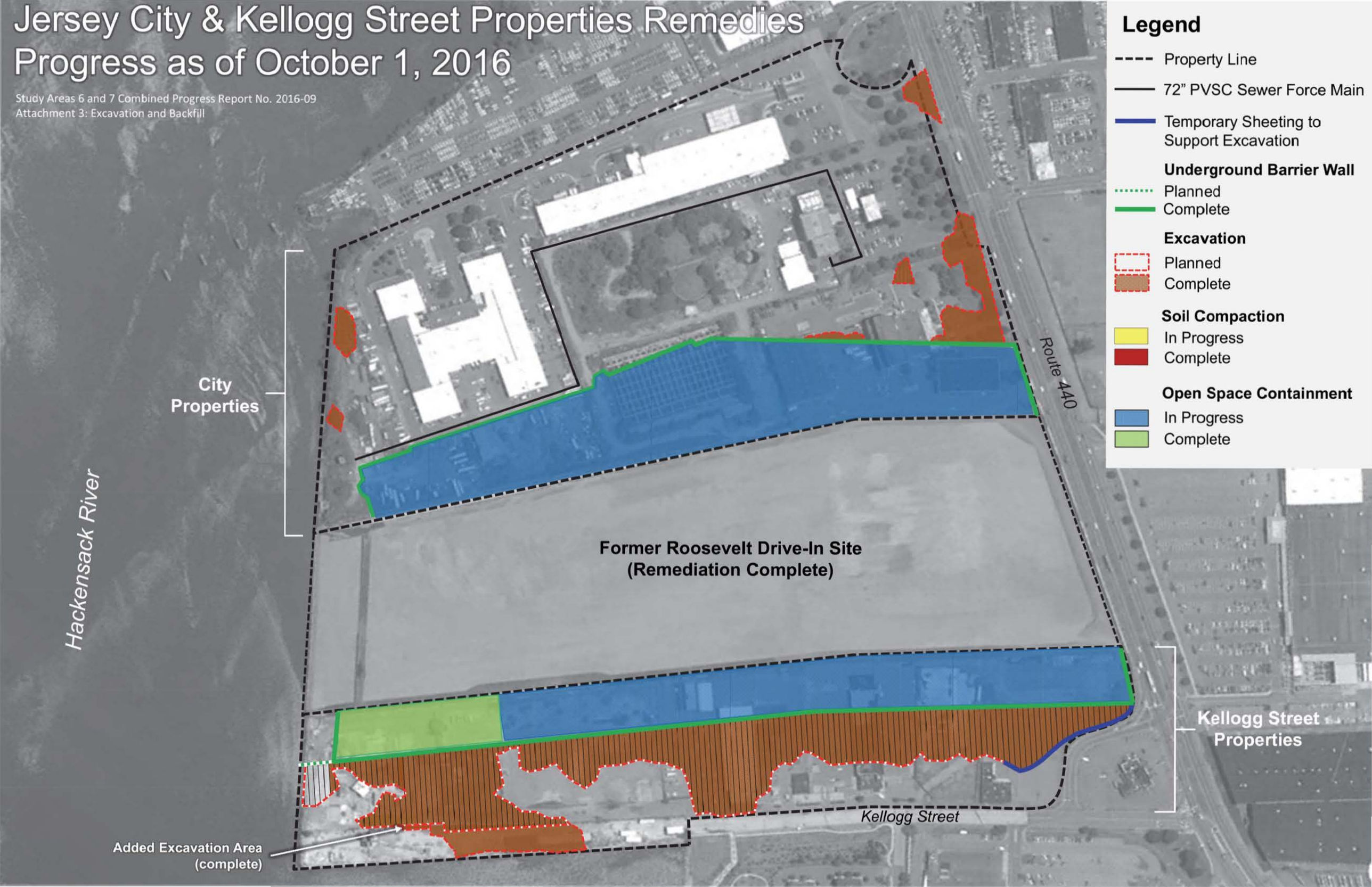
Site Photograph 5: Grading topsoil at SA6 South Open Space Area.

Site Photograph 6: Placement of asphalt for the JCMUA south entrance.

Attachment 3: Excavation and Backfill Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of October 1, 2016

Study Areas 6 and 7 Combined Progress Report No. 2016-09
Attachment 3: Excavation and Backfill



Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

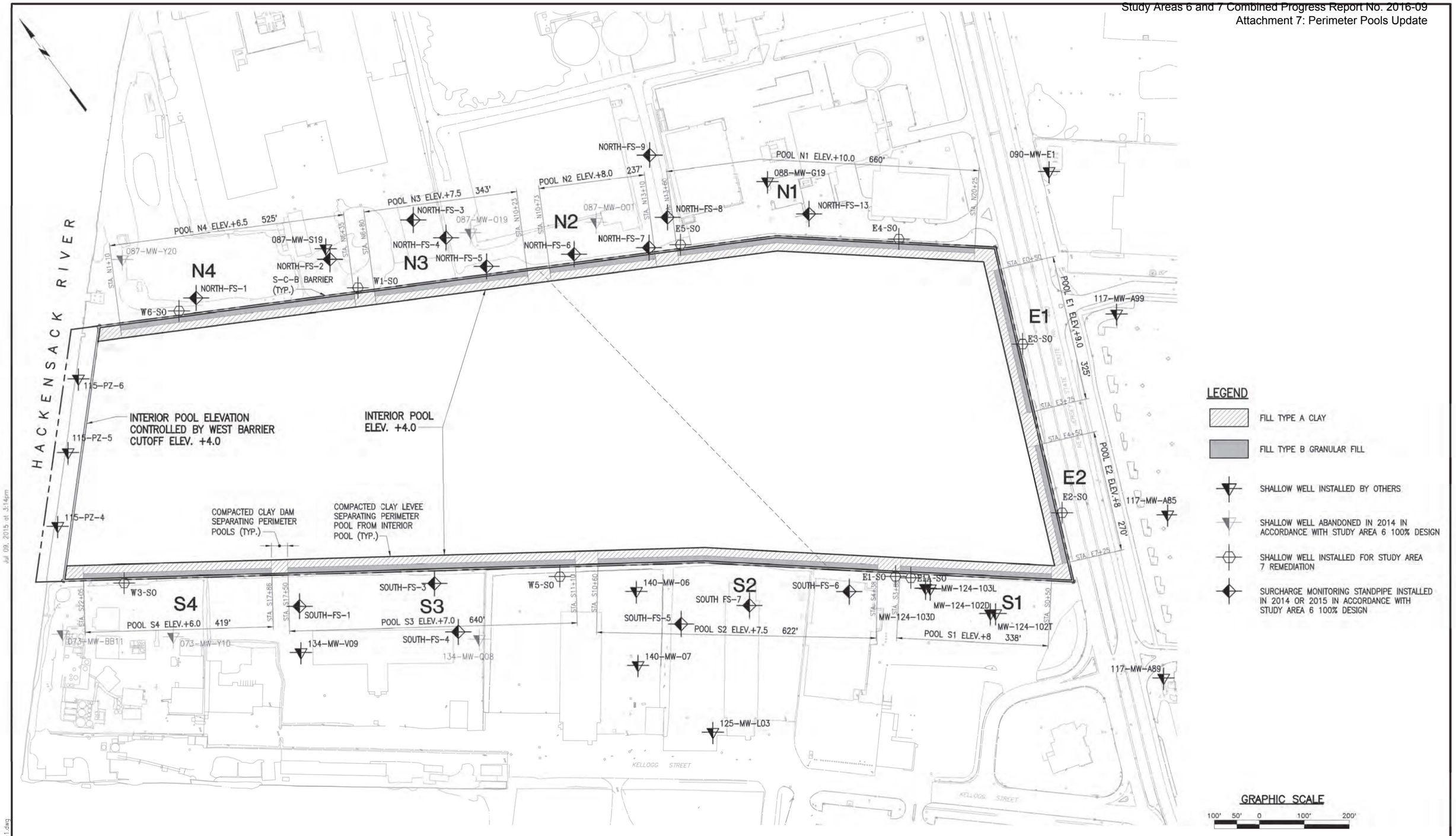
DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
07/07/16	7:30	12:00	4:30	43,596.37	43,642.93	46,560	43,642,480	PVSC Compliance Sample Collected
07/15/16	10:00	14:00	4:00	43,642.93	43,692.98	50,050	43,692,530	
07/26/16	9:00	14:00	5:00	43,692.98	43,794.27	101,290	43,793,820	
07/27/16	7:00	15:00	8:00	43,794.27	43,826.36	32,090	43,825,910	
07/28/16	9:00	15:00	6:00	43,826.36	43,860.98	34,620	43,860,530	
08/01/16	9:00	15:00	6:00	43,860.98	43,896.38	35,400	43,895,930	PVSC Compliance Sample Collected
08/11/16	9:00	16:00	7:00	43,896.38	43,958.93	62,550	43,958,480	
08/12/16	9:30	13:45	4:15	43,958.93	43,998.63	39,700	43,998,180	
08/19/16	8:00	13:30	5:30	43,998.63	44,062.58	63,950	44,062,130	
09/08/16	7:00	13:00	6:00	44,062.58	44,120.80	58,220	44,120,350	PVSC Compliance Sample Collected

Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

(not included in this reporting period)

Attachment 7: Perimeter Pools Update



IN PROGRESS
06-10-2015

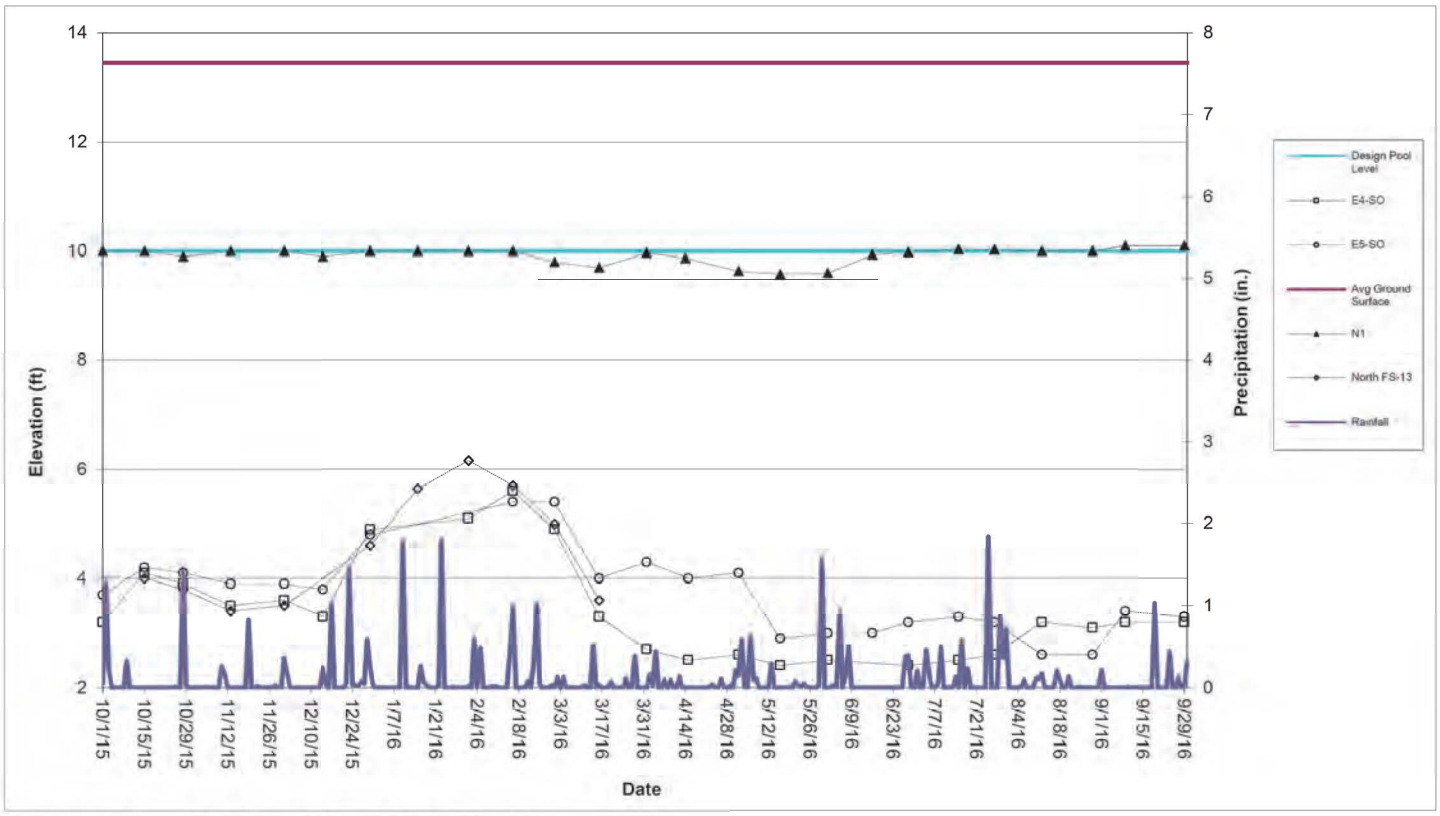
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

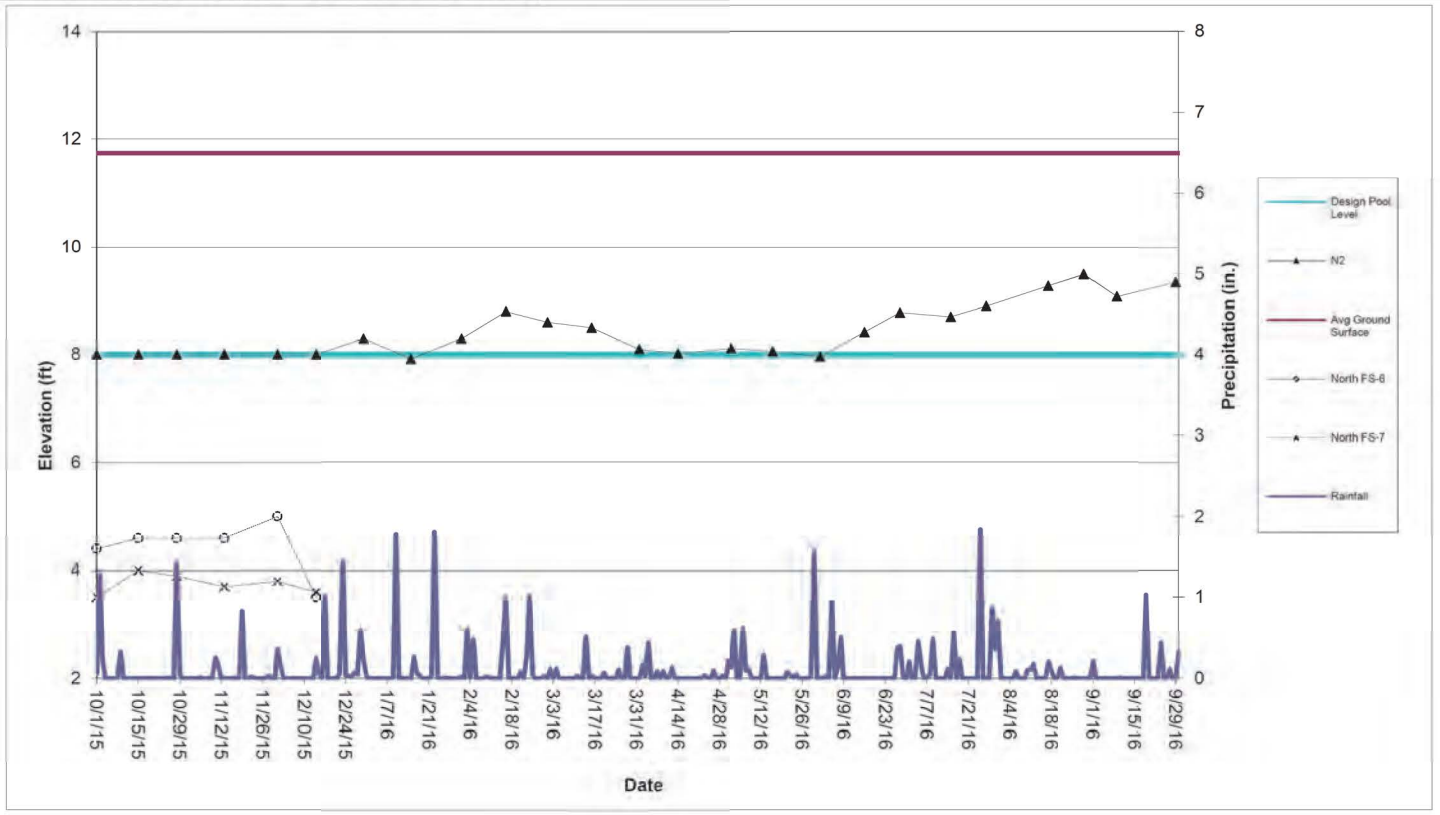
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP–1

Jul 09, 2015 at 3:14pm
G:\DWGS\102\10210\Dewatering\PP-1.dwg
bbosciano

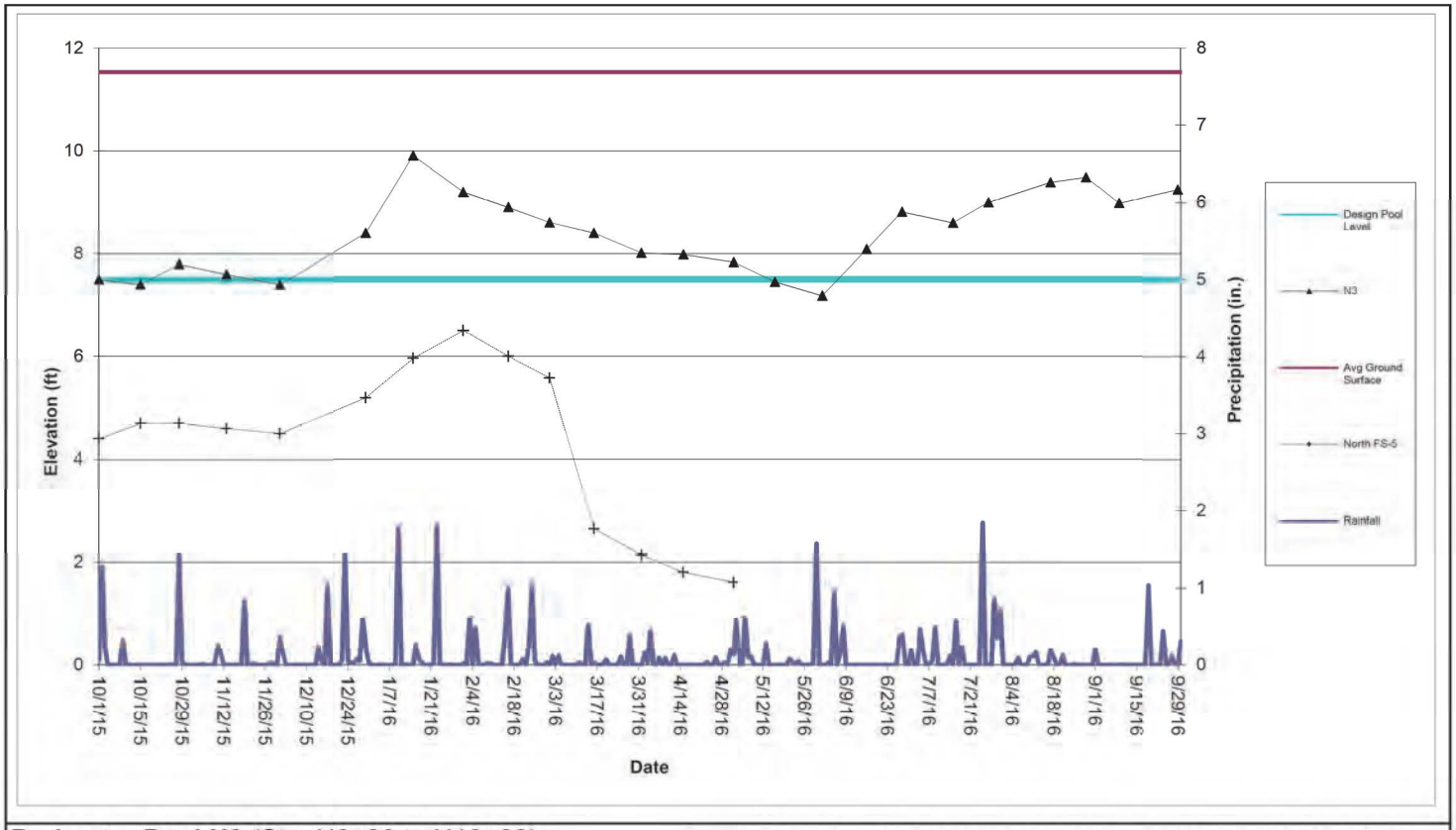


Perimeter Pool N1 (Sta. N13+60 to N20+25)

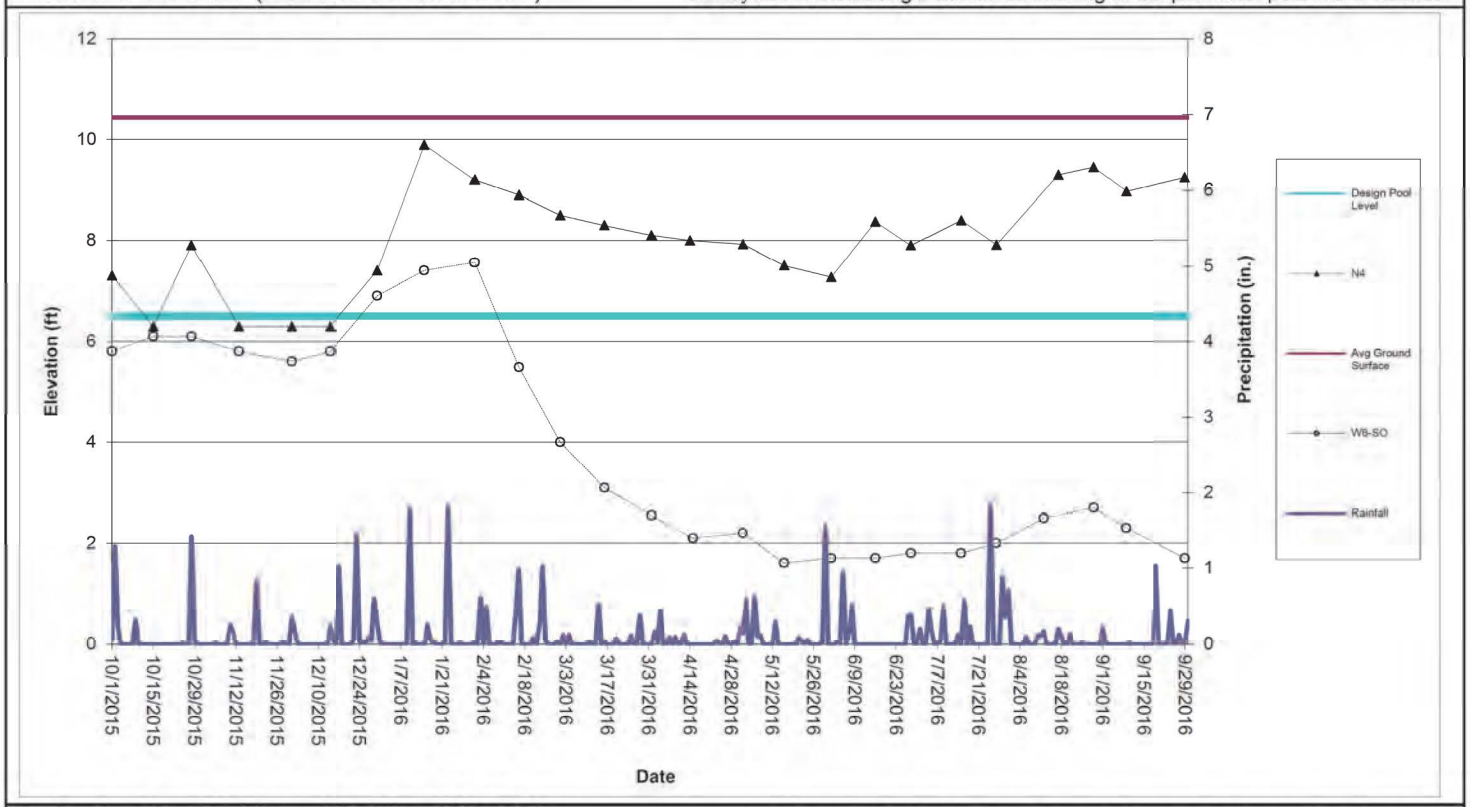


Perimeter Pool N2 (Sta. N10+73 to N13+10)

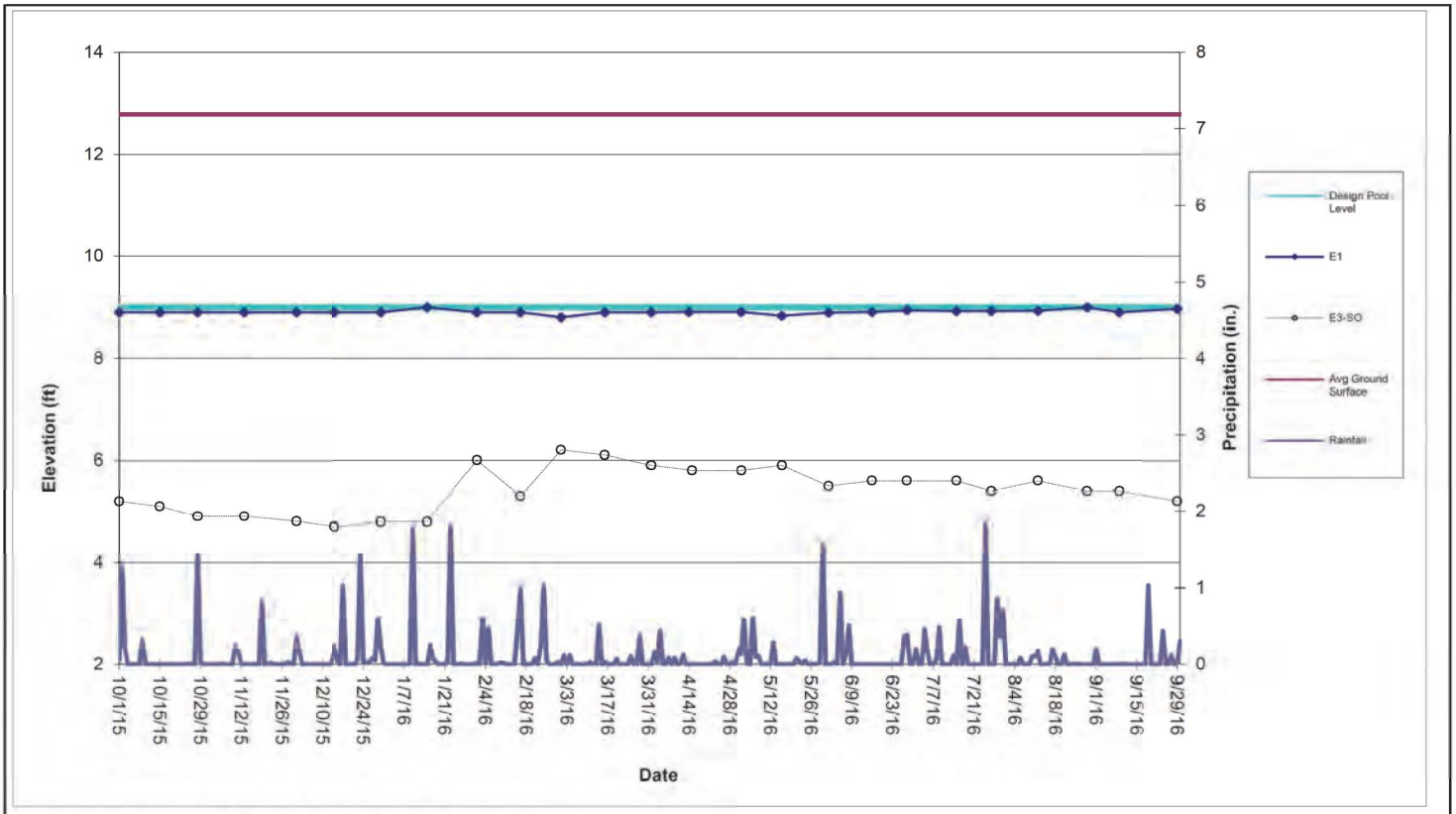
Honeywell is evaluating if additional flushing of the perimeter pool line is needed.



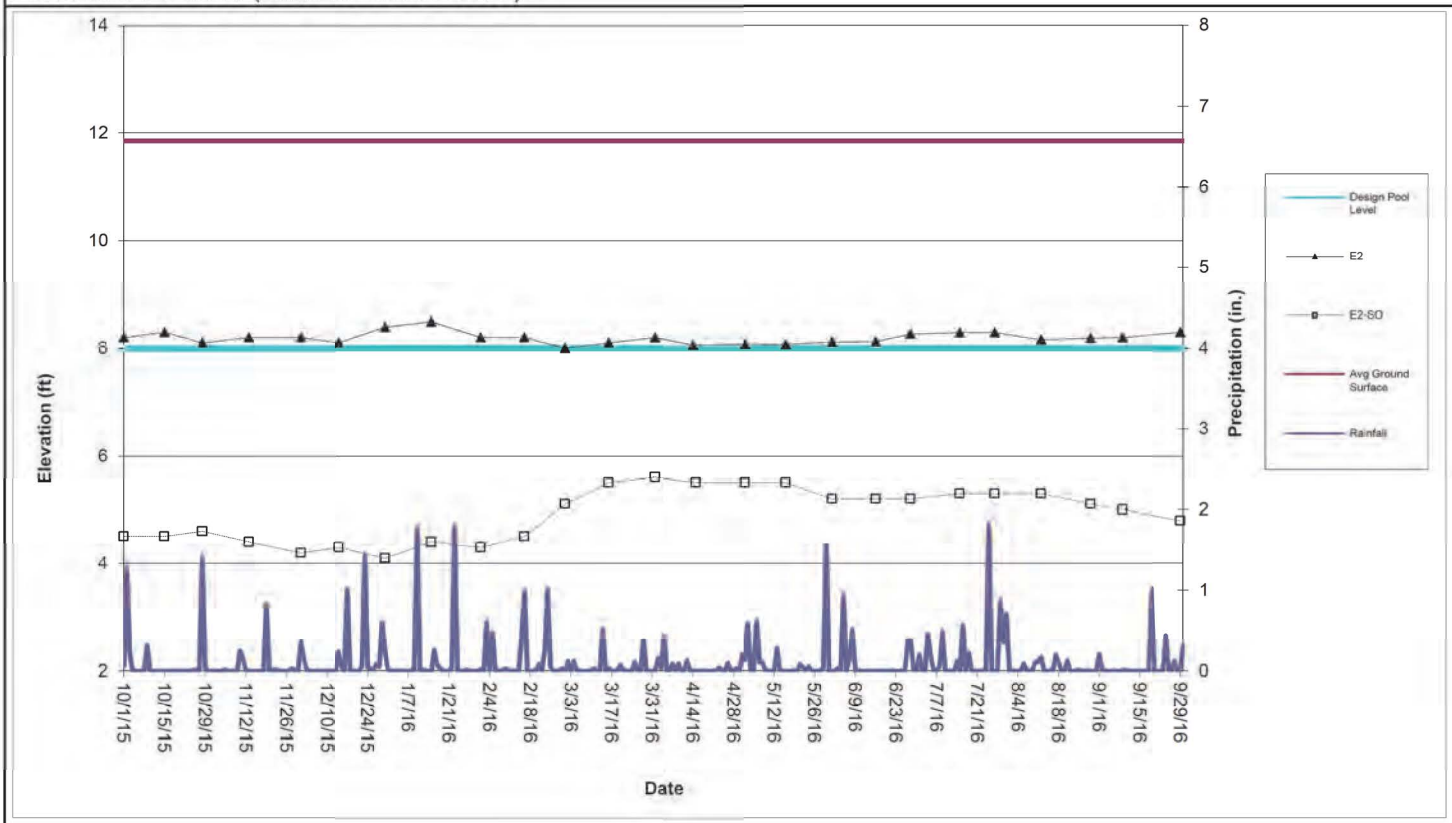
Perimeter Pool N3 (Sta. N6+80 to N10+23) Honeywell is evaluating if additional flushing of the perimeter pool line is needed.



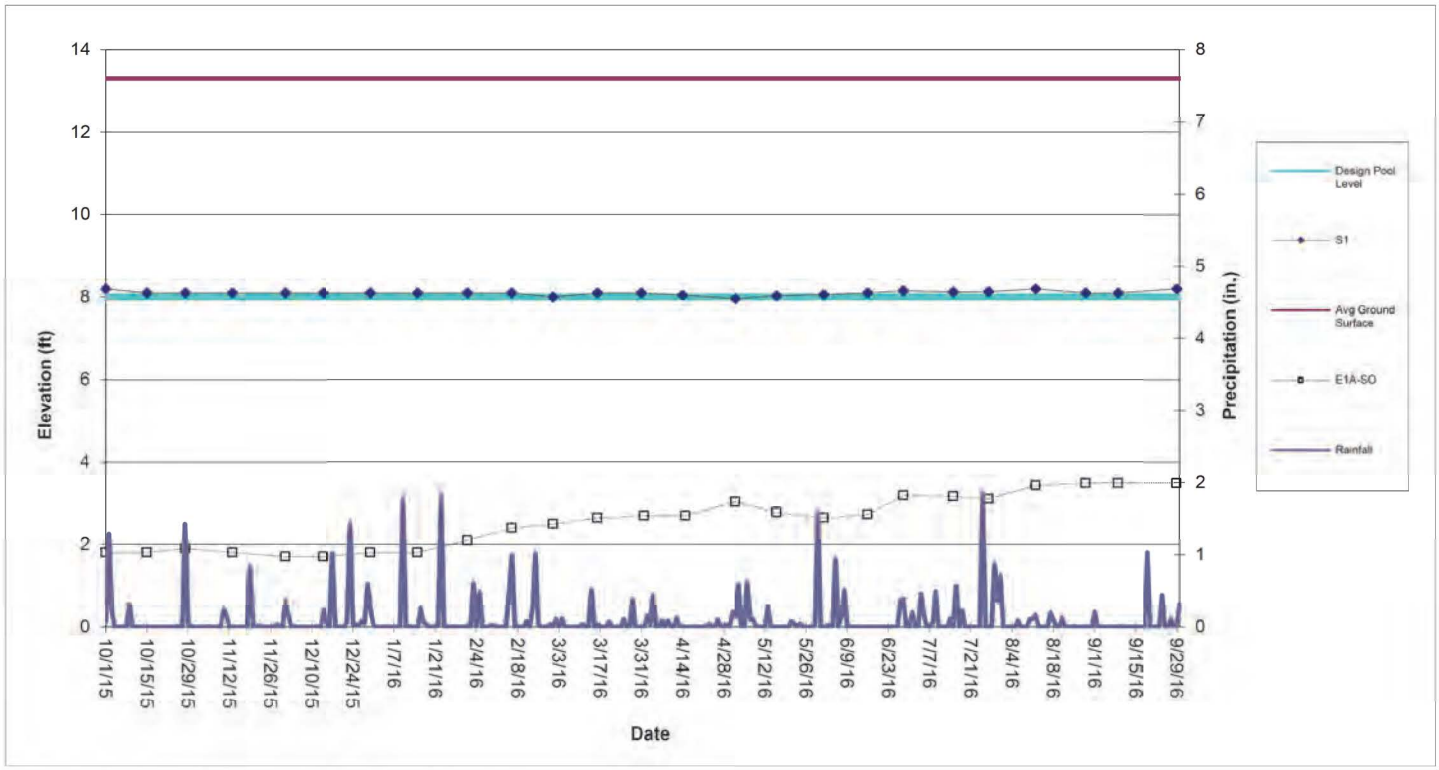
Perimeter Pool N4 (Sta. N6+80 to N10+23) Honeywell is evaluating if additional flushing of the perimeter pool line is needed.



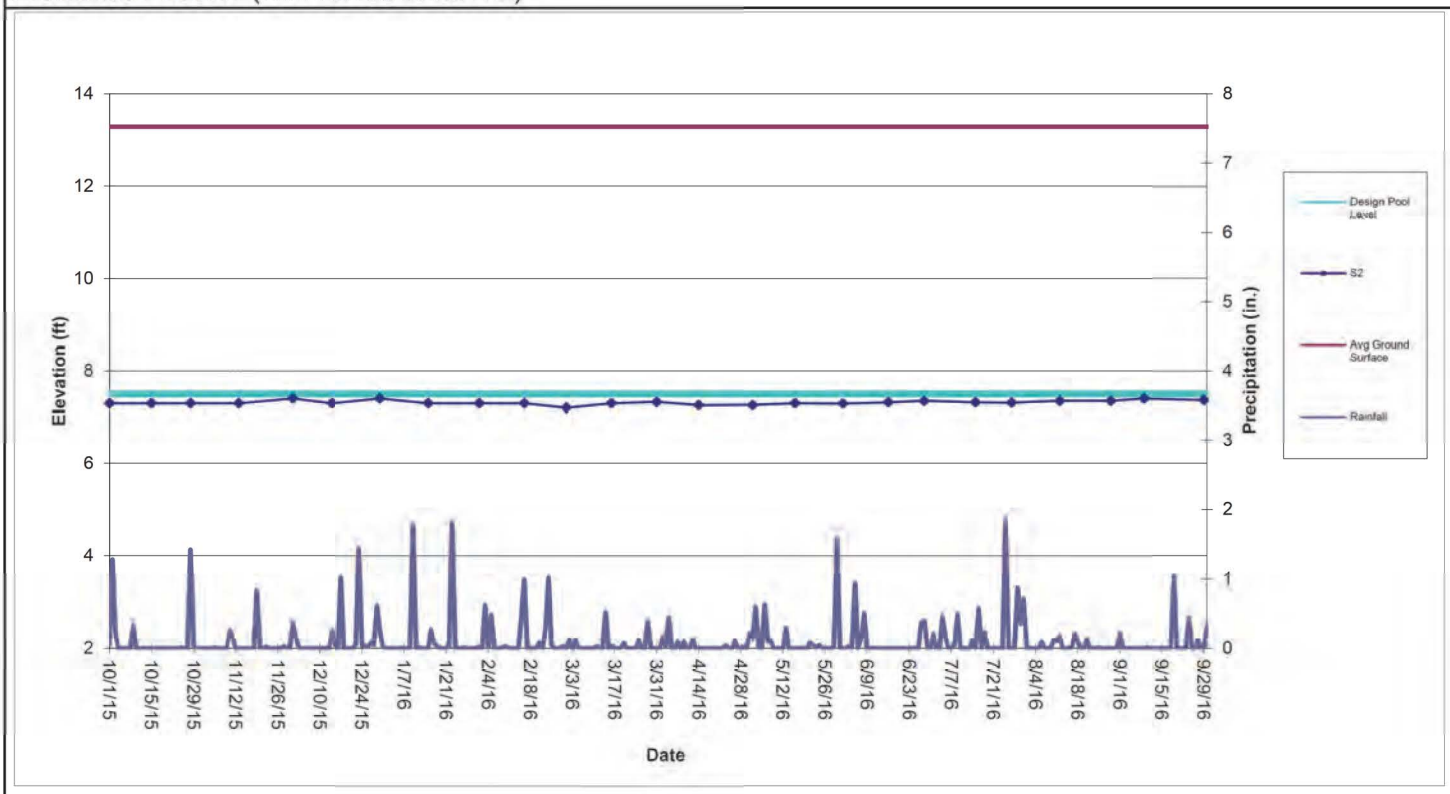
Perimeter Pool E1 (Sta. E0+50 to E3+75)



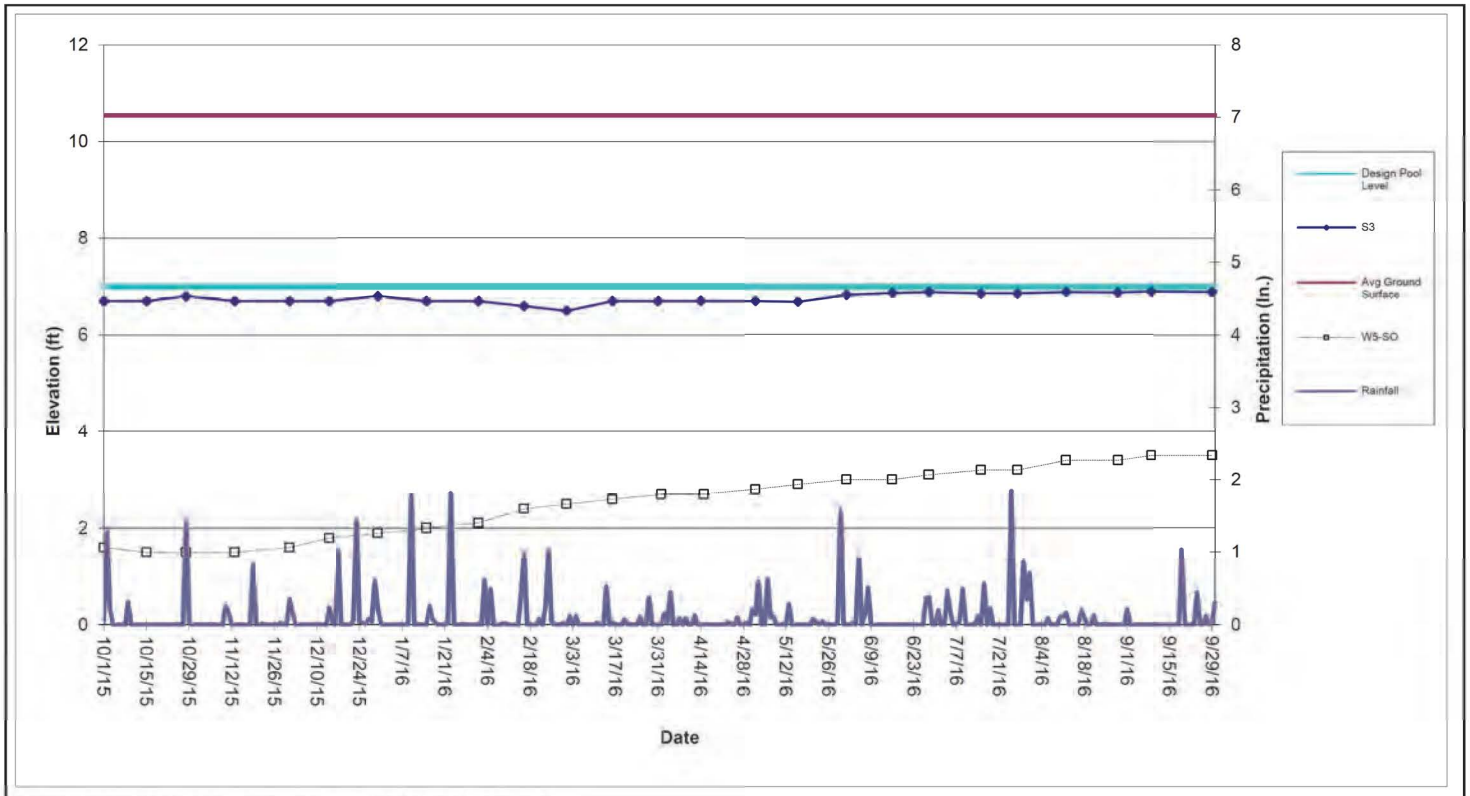
Perimeter Pool E2 (Sta. E4+50 to E7+25)



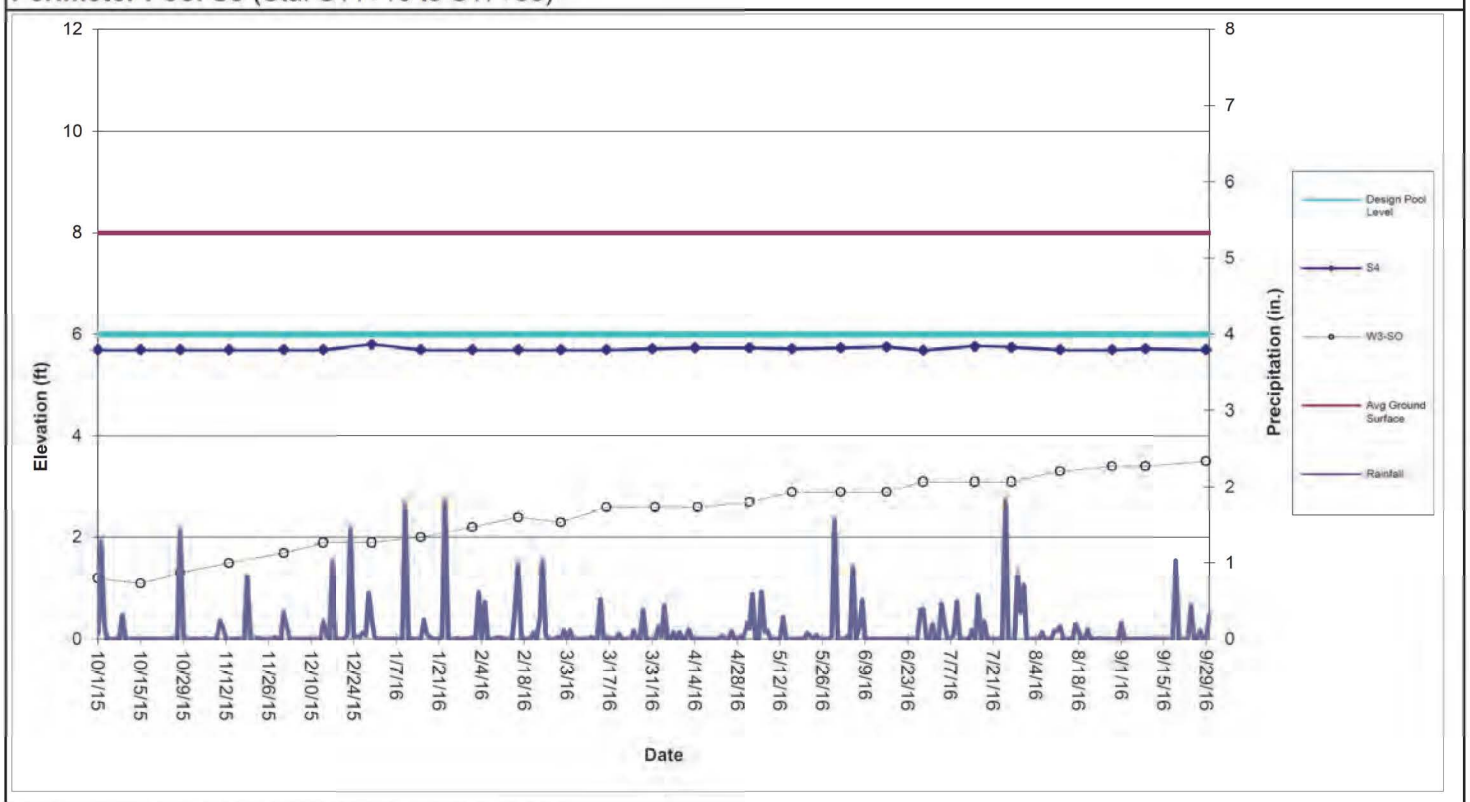
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North			
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-5	FS-6	FS-7	FS-13
Date													
10/1/2015	1.8	4.5	5.2	3.2	3.7		1.2	1.6	5.8	4.4	4.4	3.5	
10/15/2015	1.8	4.5	5.1	4.1	4.2		1.1	1.5	6.1	4.7	4.6	4.0	4.0
10/28/2015	1.9	4.6	4.9	3.9	4.1	6.9	1.3	1.5	6.1	4.7	4.6	3.9	3.8
11/13/2015	1.8	4.4	4.9	3.5	3.9	6.4	1.5	1.5	5.8	4.6	4.6	3.7	3.4
12/1/2015	1.7	4.2	4.8	3.6	3.9	6.2	1.7	1.6	5.6	4.5	5.0	3.8	3.5
12/14/2015	1.7	4.3	4.7	3.3	3.8	6.2	1.9	1.8	5.8		3.5	3.6	
12/30/2015	1.8	4.1	4.8	4.9	4.8	7.5	1.9	1.9	6.9	5.2			4.6
1/15/2016	1.8	4.4	4.8			7.9	2.0	2.0	7.4	6.0			5.6
2/1/2016	2.1	4.3	6.0	5.1		7.7	2.2	2.1	7.6	6.5			6.2
2/16/2016	2.4	4.5	5.3	5.6	5.4	6.7	2.4	2.4	5.5	6.0			5.7
3/1/2016	2.5	5.1	6.2	4.9	5.4	5.1	2.3	2.5	4.0	5.6			5.0
3/16/2016	2.7	5.5	6.1	3.3	4.0	4.2	2.6	2.6	3.1	2.7			3.6
4/1/2016	2.7	5.6	5.9	2.7	4.3	3.5	2.6	2.7	2.6	2.1			
4/15/2016	2.7	5.5	5.8	2.5	4.0	2.9	2.6	2.7	2.1	1.8			
5/2/2016	3.0	5.5	5.8	2.6	4.1		2.7	2.8	2.2	1.6			
5/16/2016	2.8	5.5	5.9	2.4	2.9	2.4	2.9	2.9	1.6				
6/1/2016	2.7	5.2	5.5	2.5	3.0	2.5	2.9	3.0	1.7				
6/16/2016	2.7	5.2	5.6		3.0	2.5	2.9	3.0	1.7				
6/28/2016	3.2	5.2	5.6	2.4	3.2	2.3	3.1	3.1	1.8				
7/15/2016	3.2	5.3	5.6	2.5	3.3	2.4	3.1	3.2	1.8				
7/27/2016	3.1	5.3	5.4	2.6	3.2	2.3	3.1	3.2	2.0				
8/12/2016	3.4	5.3	5.6	3.2	2.6	2.8	3.3	3.4	2.5				
8/29/2016	3.5	5.1	5.4	3.1	2.6	2.8	3.4	3.4	2.7				
9/9/2016	3.5	5.0	5.4	3.2	3.4	2.6	3.4	3.5	2.3				
9/29/2016	3.5	4.8	5.2	3.2	3.3	3.1	3.5	3.5	1.7				

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4, FS-5, FS-6, FS-7, FS-13
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09,

Attachment 8: Groundwater Quality Data

(not included in this reporting period)

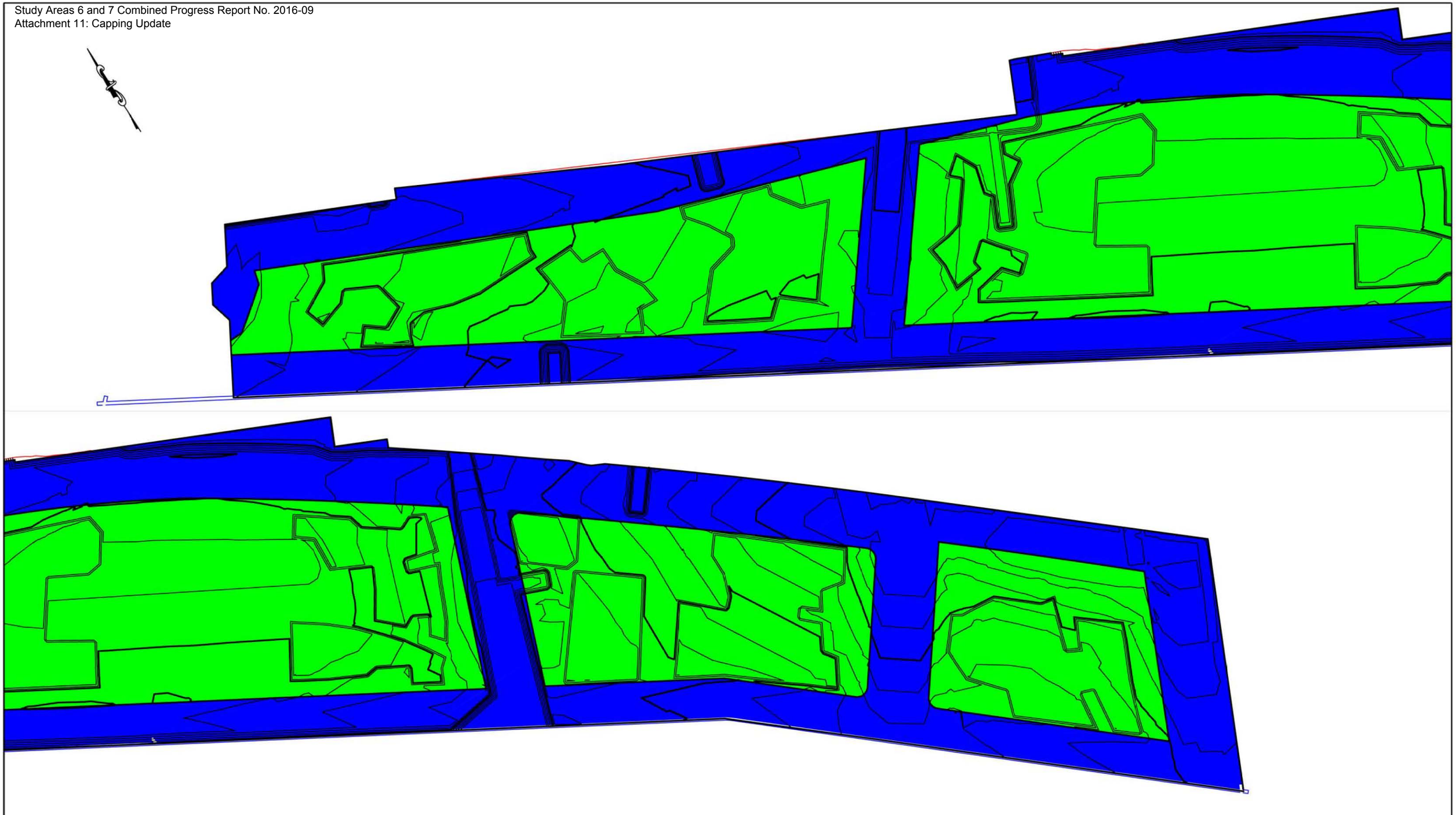
Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

(not included in this reporting period)

Attachment 11: Capping Update (SA-6 Cap Subgrade Progress Maps)



LEGEND

HORIZON C SOIL PLACED

STRUCTURAL FILL PLACED

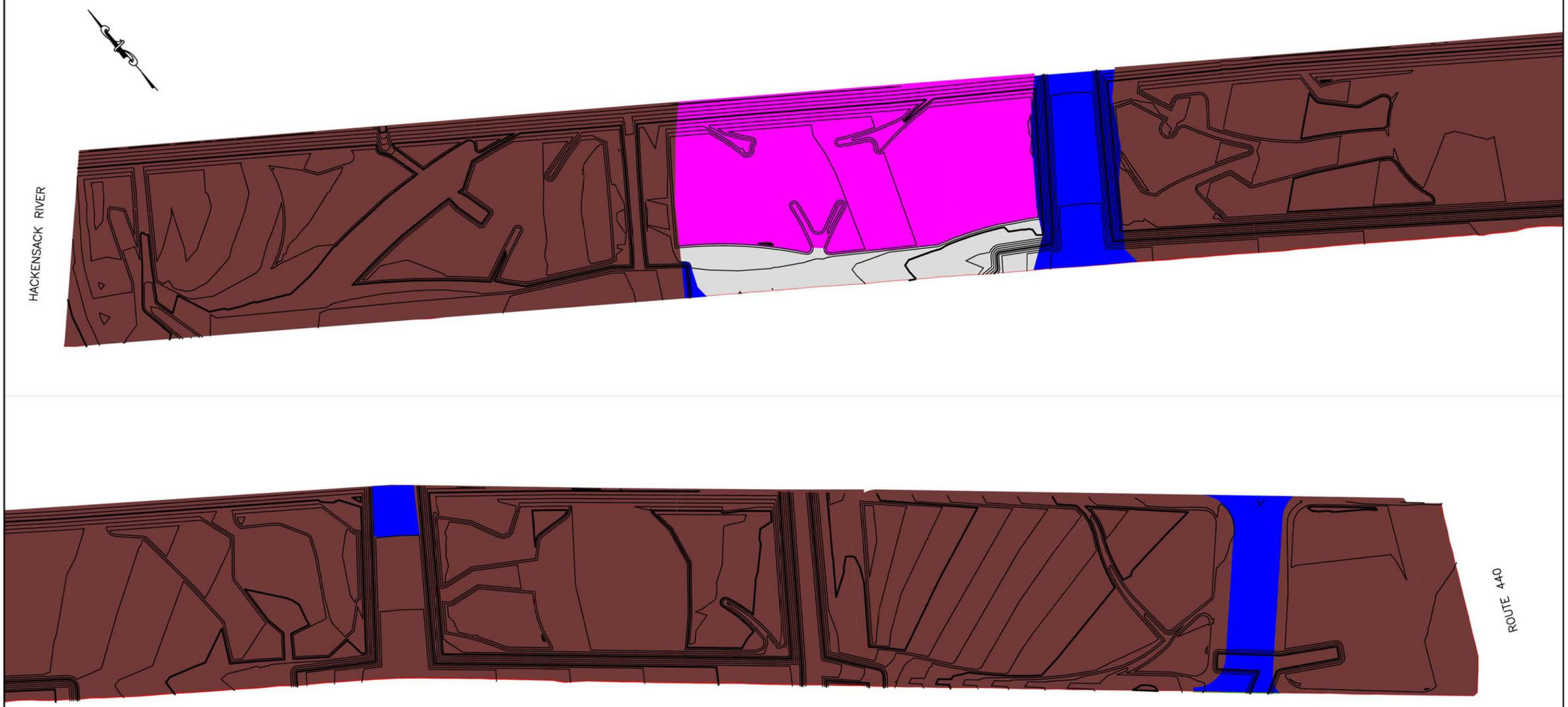
SCB WALL

HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 NORTH CAP COVER SOILS PROGRESS MAP
10/03/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



LEGEND

- HORIZON B PLACED AND READY FOR TOPSOIL
- HORIZON C PLACED AND READY FOR TOPSOIL
- TOPSOIL PLACED
- STRUCTURAL FILL PLACED
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP COVER SOILS PROGRESS MAP
10/03/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: September 2, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1,2
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		3
Ponded Storm Water	X			
Housekeeping		X		4
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		5
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 09/06/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, September 02, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJIf

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	No sediment controls are currently in place for the newly-installed historic fill lifts along Droyer's Cove on SA-6 South.
2	IA2Q4A1AL8	Additional sandbags are needed in the low areas along the eastern edge of the south cap to prevent Horizon A soils from eroding off site during storm events.
3	IA2Q4A1AL8	The filter fabric in the catch basins along the north side of Kellogg Street is blinded with sediment.
4	IA2Q4A1AL8	Garbage has accumulated on the grass area by the Kellogg Street jughandle
5	IA2Q4A1AL8	The filter fabric in the catch basins by the former JCIA garbage pit on SA-6 North is blinded with sediment.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 09/06/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Install silt fence or else geotextile with stone cover along the edge of Droyer's Cove on the southern development area.	9/8/16 RAD
2	Place additional sandbags along the low areas on the eastern end of the south cap area.	
3	Replace the filter fabric in the five catch basins along the north side of Kellogg Street, starting at the truck entrance and going westward to the end of the street.	
4	Pick up and dispose of the accumulated garbage/debris.	
5	Replace the filter fabric in the catch basins to the north of the former JCIA trash pit.	

Construction Manager: _____ Date: 09/08/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: September 9, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		2
Ponded Storm Water	X			
Housekeeping		X		3
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		4
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		5
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 09/12/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, September 09, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJIf

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	**REPEAT:** No sediment controls are currently in place for the newly-installed historic fill lifts along Droyer's Cove on SA-6 South.
2	IA2Q4A1AL8	REPEAT: The filter fabric in the catch basins along the north side of Kellogg Street is blinded with sediment.
3	IA2Q4A1AL8	**REPEAT:** Garbage has accumulated on the grass area by the Kellogg Street jughandle
4	IA2Q4A1AL8	No erosion control measures are in place between the MUA South Driveway work area and the public sidewalk on Rt. 440.
5	IA2Q4A1AL8	**REPEAT:** The filter fabric in the catch basins by the former JCIA garbage pit on SA-6 North is blinded with sediment.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: [signature] Date: 09/12/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Install silt fence or else geotextile with #57 stone cover along the edge of Droyer's Cove on the southern development area.	9-15-16 RAD
2	Replace the filter fabric in the five catch basins along the north side of Kellogg Street, starting at the truck entrance and going westward to the end of the street.	
3	Pick up and dispose of the accumulated garbage/debris.	
4	Install erosion control measures in this area.	
5	Replace the filter fabric in the catch basins to the north of the former JCIA trash pit.	

Construction Manager: [signature] Date: 09/15/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: September 16, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		1
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 09/19/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, September 16, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJI f

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Additional sandbags are needed at the eastern end of the SA-6 South cap where it abutts the Rt. 440 sidewalk.
2	IA2Q4A1AL8	Garbage and other debris is present in the Rt. 440 pedestrian walkway at the eastern end of SA-6 North.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 09/19/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Place additional sandbags on top of the existing ones (where needed) to prevent stormwater runoff from carrying sediment to the Rt. 440 sidewalk and catch basins.	9-19-16 RAD
2	Pick up and dispose of accumulated litter and garbage in the SA-6 North pedestrian walkway.	✓

Construction Manager: _____ Date: 09/19/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: September 23, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection		X		2
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 09/26/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, September 23, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJIf

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen on the perimeter fence by the MUA administrative building is detached or missing in two areas.
2	IA2Q4A1AL8	Sediment has accumulated on the filter fabric in the catch basin near the eastern side of the sedimentation basin.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature **Date:** 09/26/16

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach or replace windscreen fabric on the perimeter fence adjacent to the MUA admin building as needed.	9/26/16 RAD
2	Replace the filter fabric in the catch basin.	✓

Construction Manager: _____ **Date:** 09/29/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: September 30, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 09/30/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, September 30, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJIf

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Garbage and debris has accumulated on the grassy area by the Kellogg Street jughandle.
2	IA2Q4A1AL8	REPEAT: Windscreen on the perimeter fence by the MUA administrative building is detached or missing in two areas.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 09/30/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Pick up and dispose of accumulated garbage along the Kellogg Street jughandle and along Kellogg Street.	10/5/16 RAD
2	Re-attach or replace windscreen fabric on the perimeter fence adjacent to the MUA admin building as needed.	↓

Construction Manager: _____ Date: 10/05/16

Attachment 13: GWTP Update (525/575 Route 440 GWTP PVSC Discharge Monitoring Report - submitted August 2016)

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

September 19, 2016

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the August 2016 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy /SGF

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
8	01	16	8	31	16
\	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	77,329	82,476 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	0.72	0.77	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.015	<0.015	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.1	<5.1	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1595	0.1595	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

09/16/2016

Date

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
8	01	16	8	31	16
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD	
2,397,212	GALS
CU. FT X 7.48 - GALLONS	
EFFLUENT METER READING LAST DAY THIS PERIOD	71,049,856

DATE	BOD (mg/l)	TSS (mg/l)
8/9/2016	<5.0	4.2

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE 09/15/2016

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG **Honeywell Jersey City GWTP; SA-6 North (Permit #20630025)** **MONTH: August 2016**

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
8/1/2016	Angel Trujillo	68652644	68728330	75,686	0.075686	7.22	1.120									0.71
8/2/2016	Angel Trujillo	68728330	68804226	75,896	0.075896	7.96	1.120									0.71
8/3/2016	Angel Trujillo	68804226	68881512	77,286	0.077286	8.17	1.120									0.72
8/4/2016	Angel Trujillo	68881512	68958126	76,614	0.076614	7.86	1.120									0.72
8/5/2016	Angel Trujillo	68958126	69036568	78,442	0.078442	8.03	1.120									0.73
8/6/2016	Angel Trujillo	69036568	69118306	81,738	0.081738	8.13	1.120									0.76
8/7/2016	Angel Trujillo	69118306	69192009	73,703	0.073703	8.10	1.120									0.69
8/8/2016	Angel Trujillo	69192009	69265712	73,703	0.073703	7.97	1.120									0.69
8/9/2016	Angel Trujillo	69265712	69348188	82,476	0.082476	7.12	1.120	<5.1	<5.0		<0.010	<0.015	<0.010	<0.0002	<0.020	0.77
8/10/2016	Angel Trujillo	69348188	69422849	74,661	0.074661	8.05	1.120									0.70
8/11/2016	Angel Trujillo	69422849	69500076	77,227	0.077227	8.15	1.120									0.72
8/12/2016	Angel Trujillo	69500076	69579008	78,932	0.078932	8.15	1.120									0.74
8/13/2016	Angel Trujillo	69579008	69658212	79,204	0.079204	8.19	1.120									0.74
8/14/2016	Angel Trujillo	69658212	69733571	75,359	0.075359	8.10	1.120									0.70
8/15/2016	Angel Trujillo	69733571	69808930	75,359	0.075359	8.11	1.120									0.70
8/16/2016	Angel Trujillo	69808930	69886178	77,248	0.077248	8.09	1.120									0.72
8/17/2016	Angel Trujillo	69886178	69963024	76,846	0.076846	8.10	1.120									0.72
8/18/2016	Angel Trujillo	69963024	70038618	75,594	0.075594	8.25	1.120									0.71
8/19/2016	Angel Trujillo	70038618	70117954	79,336	0.079336	8.12	1.120									0.74
8/20/2016	Angel Trujillo	70117954	70196154	78,200	0.0782	7.99	1.120									0.73
8/21/2016	Angel Trujillo	70196154	70273460	77,306	0.077306	8.20	1.120									0.72
8/22/2016	Angel Trujillo	70273460	70350766	77,306	0.077306	8.18	1.120									0.72
8/23/2016	Angel Trujillo	70350766	70424330	73,564	0.073564	8.20	1.120									0.69
8/24/2016	Angel Trujillo	70424330	70503620	79,290	0.07929	8.21	1.120									0.74
8/25/2016	Angel Trujillo	70503620	70581100	77,480	0.07748	8.27	1.120									0.72
8/26/2016	Angel Trujillo	70581100	70658594	77,494	0.077494	8.12	1.120									0.72
8/27/2016	Angel Trujillo	70658594	70739518	80,924	0.080924	8.23	1.120									0.76
8/28/2016	Angel Trujillo	70739518	70815334	75,816	0.075816	7.10	1.120									0.71
8/29/2016	Angel Trujillo	70815334	70891150	75,816	0.075816	7.95	1.120									0.71
8/30/2016	Angel Trujillo	70891150	70968302	77,152	0.077152	8.16	1.120									0.72
8/31/2016	Angel Trujillo	70968302	71049856	81,554	0.081554	8.25	1.120									0.76
TOTAL				**2,397,212**	**2.397212**			<5.1	<5.0		<0.010	<0.015	<0.010	<0.0002	<0.020	
			High:	**82,476**											**High:**	**0.77**
			Average:	**77,329**											**Average:**	**0.72**

WW

E

JC25469

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell

Chain Of Custody / Analysis Request

AESI Ref: 42591.41809
COC#: 087-WW-080916

Privileged & Confidential

Site Name: Hudson County
Phase: CS
Lab Proj # (SDG):
Location of Site: Jersey City, NJ
Sampling Program: 087: JCIA
Lab ID: ACTD
Site ID: HudsonCo
Lab Job #: HWINJM32815
Authorized User: Honeywell

Sampling Co.: MACTEC
EDD To:
Client Contact: (name, co., address)
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962
Preliminary Data To
Sample Receipt Acknowledgement To
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)

Sampler: Frank Schroyer
PO #
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Full Report TAT: 28 Days

Text & Excel File Drive: Excel & Text File Order

Copyright AESI: Version 8.0 Unauthorized use strictly prohibited.

	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
											Units		Preservative	3	3	3	1	2	2	0	0	2						
1	087-WW			087-WWE-080916-A	8/9/2016	14:50	WW	WATER	REG	5	comp	N	X	X	X	X			X	X		1					
2	087-WW			087-WWE-080916-B	8/9/2016	14:55	WW	WATER	REG	5	grab	N					X	X				2					A7
3	087-WW			087-WWI-080916	8/9/2016	15:00	WW	WATER	REG	3	grab	N									X	3					G2
4																											L23
5																											V862
6																											
7																											
8																											
9																											
10																											
11																											
12																											

Relinquished by: 7.12 S.U. @7.5°C	Company: AMEC Foster Wheeler	Received by:	Company:		Condition:		Custody Seals Intact:	
Frank Schroyer	8/9/16 Date/Time: 1505		8-9 Date/Time: 1505		Cooler Temp.:			
Relinquished by:	Company:	Received by:	Company: SGS		Condition:		Custody Seals Intact:	
	8-9 Date/Time: 1630		Date/Time: 8/9/16 1630		Cooler Temp.:			

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

INITIAL ASESSMENT 2A-OB 04.5 SP

LABEL VERIFICATION_____

SGS Accutest LabLink@926159 15:42 09-Sep-2016

Report of Analysis

Client Sample ID:	087-WWE-080916-A		
Lab Sample ID:	JC25469-1	Date Sampled:	08/09/16
Matrix:	AQ - Water	Date Received:	08/09/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.1 4

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1120	10	ug/l	1	08/10/16	08/11/16	KS	EPA 200.7 [2]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	08/10/16	08/11/16	KS	EPA 200.7 [2]	EPA 200.7 [4]
Lead [a]	< 15	15	ug/l	5	08/10/16	08/12/16	ND	EPA 200.7 [3]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	08/11/16	08/11/16	MS	EPA 245.1 [1]	EPA 245.1 [5]
Nickel	< 10	10	ug/l	1	08/10/16	08/11/16	KS	EPA 200.7 [2]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	08/10/16	08/11/16	KS	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA40059
(2) Instrument QC Batch: MA40065
(3) Instrument QC Batch: MA40073
(4) Prep QC Batch: MP95353
(5) Prep QC Batch: MP95382

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

SGS Accutest LabLink@926159 15:42 09-Sep-2016

Report of Analysis

Client Sample ID:	087-WWE-080916-A		
Lab Sample ID:	JC25469-1	Date Sampled:	08/09/16
Matrix:	AQ - Water	Date Received:	08/09/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	4.2	4.0	mg/l	1	08/11/16 11:00	AT	SM2540 D-11
pH [a]	6.93		su	1	08/09/16 16:33	OB	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

SGS Accutest LabLink@926159 15:42 09-Sep-2016

Report of Analysis

4.2 4

Client Sample ID:	087-WWE-080916-A		
Lab Sample ID:	JC25469-1A	Date Sampled:	08/09/16
Matrix:	AQ - Water	Date Received:	08/09/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 5.0	5.0	mg/l	1	08/10/16 19:16	LS	SM5210 B-11

RL = Reporting Limit

SGS Accutest LabLink@926159 15:42 09-Sep-2016

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-080916-B		
Lab Sample ID:	JC25469-2	Date Sampled:	08/09/16
Matrix:	AQ - Water	Date Received:	08/09/16
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	N256771.D	1	08/10/16	BM	n/a	n/a	VN10847
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	10	1.3	ug/l	
107-13-1	Acrylonitrile	ND	10	1.2	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	3.7	1.0	0.11	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.14	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	3.5	1.0	0.19	ug/l	
108-90-7	Chlorobenzene	0.21	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.19	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.73	ug/l	
67-66-3	Chloroform	23.1	1.0	0.11	ug/l	
74-87-3	Chloromethane	ND	1.0	0.22	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.19	ug/l	
95-50-1	1,2-Dichlorobenzene	0.33	1.0	0.15	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.15	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.54	ug/l	
75-34-3	1,1-Dichloroethane	0.37	1.0	0.16	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.22	ug/l	
156-59-2	cis-1,2-Dichloroethene	62.8	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethene	2.5	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.17	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.16	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.17	ug/l	
123-91-1	1,4-Dioxane	ND	130	27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.11	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.81	1.0	0.16	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.18	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@926159 15:42 09-Sep-2016

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-080916-B		
Lab Sample ID:	JC25469-2	Date Sampled:	08/09/16
Matrix:	AQ - Water	Date Received:	08/09/16
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.12	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.17	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.18	ug/l	
79-01-6	Trichloroethene	62.2	1.0	0.16	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.55	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.19	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	95%		72-125%
2037-26-5	Toluene-D8 (SUR)	97%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	100%		74-115%
1868-53-7	Dibromofluoromethane (S)	100%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@926159 15:42 09-Sep-2016

Report of Analysis

Client Sample ID:	087-WWE-080916-B		
Lab Sample ID:	JC25469-2	Date Sampled:	08/09/16
Matrix:	AQ - Water	Date Received:	08/09/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3 4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.1	5.1	mg/l	1	08/11/16 11:30	TT	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending September 2016

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only as clarification or response to RFI.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only as clarification or response to RFI.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only as clarification or response to RFI.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2014-6-10	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-6-10 includes the french drain installation, as well as pump and access station manholes for SA-6 South. Some design details, including the electrical design, will be finalized based field obersvations and constructability review.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2014-11-20	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-11-20 includes the french drain installation, electrical supply and discharge piping for SA-6 North.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2016-6-10	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-6-10 includes the revised electrical supply and discharge piping for SA-6 North.	To be submitted to Parties as Attachment to Declaration 004.
DC 2015-2-12	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-2-24 is a follow up to DC 2014-6-10, the SA-6 South CGWES trench design. DC 2015-2-24 includes details for electrical supply and discharge piping.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2015-2-24	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to document the changes in the SA 6 North and South cap subgrades that resulted from the change to a trench system.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2015-9-03	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-9-03 is a follow up to DC 2015-2-24, the SA-6 South CGWES electrical supply. DC 2015-9-03 provides a revised electrical plan.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016

SA-6 North/South Field Change Log - Month Ending September 2016

Changed Item Identifier	Description of Change	Comments
DC 2016-5-24	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to address the elimination of a drop structure, the elmination of a flow meter, conduit sizing changes, and to clarify Entact's scope.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead.	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only as clarification or response to RFI.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA-6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	To be submitted to Parties as Attachment to Declaration 004.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.

SA-6 North/South Field Change Log - Month Ending September 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Parties on July 2, 2015.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groundwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2015-06-18	Bayfront Redevelopment Civil Designer has eliminated one utility corridor along the eastern portion of SA-6 South (water main and sewer line were relocated to another utility corridor). In addition, it was identified that minor increases in the Bayfront final grades of up to 0.25 feet may be made in the landscaped areas (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 South Consent Decree and the 100% Design.	Submitted to all Parties on June 18, 2015.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.
DC 2015-11-12	Amec Foster Wheeler has provided Final Cap Grades (in CAD) to Entact. Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.	To be submitted to Parties as Attachment to Declaration 005.
DC 2016-04-15	Amec Foster Wheeler has provided final restoration grades for SA-6 South Development Area. The DCB also includes the final cover types in revised Drawing C-128.	To be submitted to Parties as Attachment to Declaration 005.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on 6/22/15.
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.

SA-6 North/South Field Change Log - Month Ending September 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-10-06	GCL is required to be installed over the SCB wall and Barrier Wall at the locations shown in the annotated PDF of C-121 (rev 4, 8/13/15).	Submitted to Contractor only as clarification or response to RFI.
DC 2015-07-22	Detail BN has been modified to extend the LLDPE up and over the SCB Wall. The prior detail showed both the GDL and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-28	Drawing 304, Detail CE and associated notes regarding the "Liner Anchor to Concrete Structure" have been modified.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-07-31	The sheet pile pair is located at Sta. 0+50. Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA-6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	To be submitted to Parties as Attachment to Declaration 004.

SA-6 North/South Field Change Log - Month Ending September 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	To be submitted to Parties as Attachment to Declaration 003.
DC 2015-11-18	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	To be submitted to Parties as Attachment to Declaration 003.
DC 2015-09-28	Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling.	Submitted to Parties on October 1, 2015.
DC 2015-12-21	Amec Foster Wheeler (AmecFW), Entact and Maser Consulting have developed alternative methods for documentation/survey of the excavation bottom in Site 163. The alternative methods were developed in light of safety considerations for surveyor access into a sheet piled excavation to elevation –8.0. The bottom of the excavation will be in very low strength Stratum O soils. These alternative survey control methods are different from those previously used in the SA-6 South Development Area.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.
DC 2015-10-22	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-12-14	Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds that cannot be tested by other means. Spark testing will be performed in accordance withASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative. Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	Submitted to Parties on January 14, 2016.

SA-6 North/South Field Change Log - Month Ending September 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-11-30	EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation. A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals. EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits. A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.	To be submitted to Parties as Attachment to Declaration 003.
DC 2016-02-03	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design.	To be submitted to Parties as Attachment to Declaration 004.
DC 2016-02-22	AmecFW revised the SA-6 North cap subgrade in a single localized area in order to accommodate Entact's request to relocate Pump Station #1 (RFI 64). The subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location. In addition, for grading purposes, any hydraulic barrier sheets within the Sedimentation Basin that have sections below elevation 12.0 will be trimmed to a uniform elevation of 11.5.	To be submitted to Parties as Attachment to Declaration 004.
DC 2016-02-25	This DCB has been issued to provide Entact with the latest SA-6 North HB Wall and SCB wall plan and profile drawings (SN-201 thru SN-205), which were modified to reflect changes made in DC 2016-02-22.	To be submitted to Parties as Attachment to Declaration 004.
DC 2016-05-03	The laboratory results of all gradations for planting soils shall be presented in terms of the USDA classification system rather than the USCS classification system.	Submitted to Contractor only as clarification or response to RFI.
DC 2016-03-18	This DC 2016-03-18 documents the revised acceptable ranges of physical parameters and provides an updated specification made in consultation with Dr. Grabosky of Rutgers University. Dr. Grabosky provided his recommendations in correspondence dated 3/17/2016.	Submitted to Parties on March 22, 2016. Plaintiffs responded in a letter dated April 15, 2016. Plaintiffs and Honeywell subsequently held discussions and DCB 2016-04-20 was developed to document an agreement reached by all parties on the Special Master All-Hands monthly call on April 19, 2016.
DC 2016-03-21	Nature's Choice was identified as the source that best met the physical requirements for Horizon C soils by Dr. Grabosky; however, several samples of Nature's Choice Horizon C soils have hexavalent chromium concentration >1.0 mg/kg. Consequently, Honeywell is proposing a design change to allow the hexavalent chromium concentration in Nature's Choice Horizon C soils to be less than 1.8 mg/kg, as agreed to by the parties, as documented in the attached emails. For future sampling, hexavalent chromium soil samples will be composited from 10 grab sample locations per 5,000 CY (maximum). There are additional conditions in Attachment A that are part of this DCB and specific to Nature's Choice Horizon C soil. All other requirements specified in the 100% Design for imported soils will be met by the Nature's Choice Horizon C soils as amended in previous DC 2015-09-17.	Submitted to Parties on March 22, 2016.
DC 2016-04-20	This DCB documents the approved sources of Horizon B and Horizon C materials, as agreed to by all parties on the Special Master All-Hands monthly call on April 19, 2016.	Submitted to Parties on April 21, 2016.
DC 2016-05-06	To allow for traffic flow within the project site following completion of the SA-6S Cap, a road will be installed within the "B Street" corridor. The road will be constructed by continuing the "Structural Fill under Roadways to within 6 inches of final grade"	Submitted to Parties on June 30, 2016.
DC 2016-05-31	This DCB documents the vault sketch Drawing C-310 (Rev 5, 5/31/16)	Submitted to Contractor only as clarification or response to RFI.

SA-6 North/South Field Change Log - Month Ending September 2016

Changed Item Identifier	Description of Change	Comments
DC 2016-5-11	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design. As part of DC 2016-5-11, AmecFW issued SA-6 North Interim Grades to Entact.	To be submitted to Parties as Attachment to Declaration 004.
DC 2016-5-20	After further review, AmecFW lowered the geomembrane Pump Station #1 on the SA-6 North cap in order to provide additional separation between the geomembrane and the bottom of the vault. (Refer to DC 2016-02-22).	Submitted to Parties on June 15, 2016.
DC 2016-7-12	DC 2016-7-12 clarifies the limit of GCL deployment and the location of the sand bentonite plug in the SA-6 North cap.	Included as an attachment to July 2016 Monthly Progress Report.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

SA-6 AND SA-7 COMBINED PROGRESS REPORT

NOVEMBER 14, 2016

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

November 14, 2016

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2016-10

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from October 1 – October 31, 2016.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Global Director, Remediation
Design and Construction

WJH:jtc/sgf

Attachment: October 2016 SA-6/7 Combined Monthly Progress Report No. 2016-10

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.
Mary Hogan - Walsh Pizzi O'Reilly Falanga LLP (electronic copy)
Hector Ruiz - Walsh Pizzi O'Reilly Falanga LLP (electronic copy)
Liza Walsh - Walsh Pizzi O'Reilly Falanga LLP (electroni copy)

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2016-10

Project SA-6 & 7 Remediation

October 2016

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
10/11/16	Special Master All Parties Conference Call	n/a
10/12/16	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2016-09	Honorable Robert G. Torricelli Office of the Special Master
10/13/16	New Source of Horizon A Topsoil Study Area 6 (SA-6) Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
10/17/16	SA-5-7 Financial Assurances (Arnold & Porter correspondence)	Honorable Robert G. Torricelli Office of the Special Master
10/19/16	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
10/20/16	ICO v. Honeywell Response to Plaintiffs' Comments of August 29, 2016 Regarding the SA-7 Sediment Remedy Long-Term Monitoring Program – Year 2 Report	Honorable Robert G. Torricelli Office of the Special Master

SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	10/9/16	10/16/16	10/23/16	10/30/16
Construction Management (AMEC)	9	8	8	9
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	24	25	24	17
Arecon/US Ecology Subcontractors	0	0	0	0

Team	Week Ending			
	10/9/16	10/16/16	10/23/16	10/30/16
E&V Dirt Works	0	0	0	0
Langan	0	0	0	0
ERFS	1	1	0	1
Evoqua	1	1	1	1
B&B Drilling	0	1	0	0
Cornerstone	2	1	1	2
TOTAL STAFF	42	42	39	35

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Conducted perimeter air monitoring activities using hand-held portable devices for nuisance dust.
- Continued installation of CGWES components within the SA-6 North Open Space Areas to include installation of spare conduit pipe for future piezometer instrumentation on the north side of the SA-6 North Open Space Area.
- Completed installation of the CGWES dual wall force main pipe on the north side of the SA-6 North Open Space Area to approximately 8 feet outside of the GWTP.
- ERFS completed injections in Treatment Area 10-1 in accordance with NJDEP-DGW permit.
- Continued post-injection groundwater sampling and monitoring in Treatment Area 10-1 in accordance with the NJDEP – Discharge to Groundwater Permit.
- An inspector from the Hudson Essex Passaic Soil Conservation District was on site on October 25, 2016 for an inspection of the current erosion and sediment controls. There were no findings and all items were in compliance.
- Conducted S-3 Mass Removal Injection Event No. 32 in injection well 088-IW-01.
- Conducted S-3 Mass Removal Injection Event No. 33 in injection well 088-IW-02.
- Collected October PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Obtained NJDOT Permit for Restoration of Sidewalks within work limits along Rt. 440.

B. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned downstream process tanks T-300 (neutralization tank) and T-400 (effluent tank).
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on October 11, 2016.

- Reviewed submittals from the mechanical contractor, Brownfield Science & Technology, Inc. (BTSI), associated with piping installation from the CGWTS force mains to the neutralization tank.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	10/9/16	10/16/16	10/23/16	10/30/16
Avg. Gallons Treated & Discharged (per day)	78,882	77,380	78,011	78,861
Average Flow (gpm) for Operating Period	56	55	56	56
Avg. Hours of Plant Operation	23	23	23	23
GWTP Influent Tanks (gal.)	5,784	4,266	3,669	2,431

C. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Completed routine dewatering activities and associated discharge to the construction water treatment facility.
- Initiated cleaning and demobilization of temporary Construction Water Treatment Plant.
- Completed cutting of temporary sheetpile along the SA-6 South Kellogg Street Jug handle.
- Completed placement of historic fill cap to include geotextile and 6-inches of stone in the SA-6 South Development Area.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/FCI	Roll-off	Sarnia, Ontario Canada	Stablex	WWTP Filer Cake	0	0	0

2. EXCAVATION & BACKFILL PROGRESS

Description	Areas
Backfill in Progress	3/8” stone Historic Fill Cap – SA-6 South Development Area

3. BACKFILL MATERIALS USED (TONS)

Source	Week Ending			
	10/9/16	10/16/16	10/23/16	10/30/16
Natures Choice Topsoil	0	0	0	994
EME Topsoil	0	0	0	294.53
Tilcon Mount Hope I-8	203	256	203	868
Natures Choice Horizon C	0	0	0	0
Tilcon 3/8" Stone	53	51	52	0
Tilcon Mt. Hope 1.5"	316	153	154	105
Tilcon Mt. Hope #57	0	676	356	0
Weldon Screenings	0	0	0	290.32

- A total of 37 loads totaling approximately 834 cubic yards on crushed concrete were relocated from the SA-6 North former JCIA area to the south of the former JCDPW "H" building. This concrete stockpile will be sampled and managed in accordance with the approved materials management plan by the non-chromium contractor.

D. SURCHARGE OPERATIONS

- All surcharging activities are completed.

E. SHEET PILE OPERATIONS

- All sheet pile operations are complete.

F. CAPPING OPERATIONS

- Continued importing and placing Horizon A soils on SA-6 South Open Space Area.
- Completed construction of the SA-6 South Temporary Access Road in utility corridor B.
- Completed installation of toe drain on the north site of the SA-6 South Open Space Area.
- Performed hydro-seeding of SA-6 South Open Space Area to include placement of erosion control matting. Approximately 5 acres were hydro-seeded.
- Initiated installation of toe drain on the south side slope of the SA-6 North Open Space Area.
- Completed placement structural fill to included compaction on the SA-6 North Open Space Area.
- Initiated importing and placing Horizon A soils on SA-6 North Open Space Area.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012 Extension Obtained 5/17/2015	Renewal Not Needed	10/04/2019	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013 Extension Obtained 3/16/2015	Not Specified, Est. 3/31/2016	6/30/2016*	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 08/04/2016	Not Specified	Not Specified	9/12/16
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDEP Individual Upland Waterfront Development Permit and Water Quality Certificate for Bulkhead Expansion Project	SA-7	Issued: 5/10/2016	TBD	5/9/2021	-
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Obtained 12/24/15	12/03/16	Pending
USACE Nationwide Permit No. 27 for Droyers Cove Beneficial Environmental Project	Bayfront	Issued: 4/15/2016	TBD	3/18/2017	5/4/16
NJDEP Coastal General Permit 24 for the living shoreline	Bayfront	Issued: 10/15/2015	TBD	10/14/2020	5/4/16

** Amec Foster Wheeler reviewed the expiration of this TWA with NJDEP, Division of Water Quality and no extension is necessary.*

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete importing and placement of Horizon A Topsoil on the SA-6 South Open Space Area.
- Complete hydro-seeding of SA-6 South Open Space Area.
- Initiate installation of the Contingent Groundwater Extraction System Components within the GWTP including the mechanical piping and conduit.
- Complete importing and placement of Horizon A Topsoil on the SA-6 North Open Space Area.
- Complete hydro-seeding of SA-6 North Open Space Area.
- Complete storm-water management activities associated with construction.
- Complete cleaning and demobilization of temporary CWTS.
- Complete NJDOT sidewalk restoration and removal of Highway Occupancy Permit traffic control devices.
- Complete SWPPP inspections associated with construction.
- Conduct S-3 Mass Removal Injection Event No. 34 in well 088-IW-03.
- Initiate periodic groundwater level monitoring in accordance with Draft Long-Term Monitoring Plan at SA-6 South and perimeter pools.
- Demobilize Entact office trailers and equipment.

ATTACHMENTS:

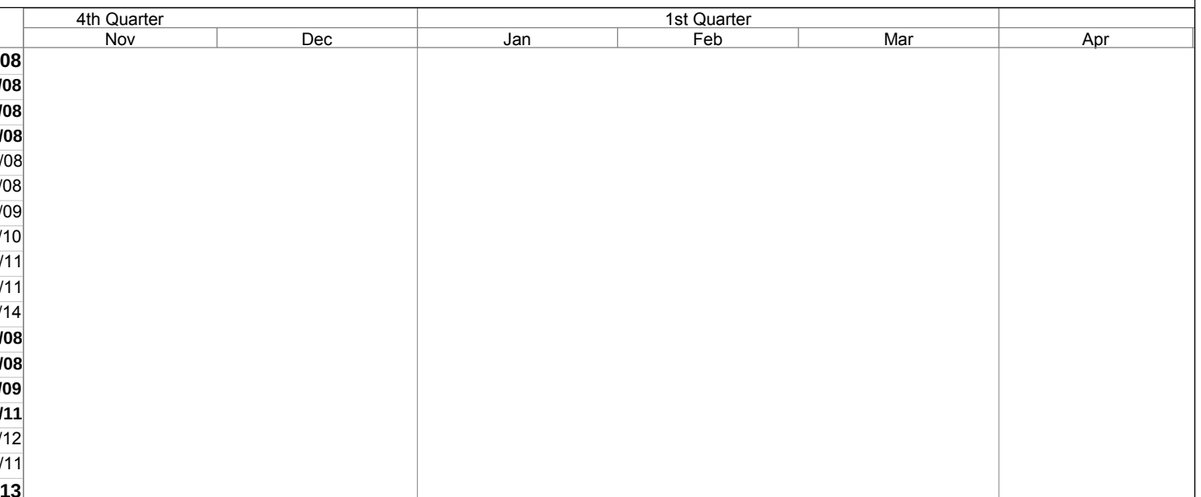
1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill (Progression Chart)
4. Dewatering Operations Update *(not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data *(not included in this reporting period)*
7. Perimeter Pools Update
8. Groundwater Quality Data
9. Surcharge Monitoring Update *(not included in this reporting period)*
10. Sheet Pile Update *(not included in this reporting period)*
11. Capping Update (SA-6 Cap Subgrade Progress Maps)
12. Weekly SWPPP Reports
13. GWTP Update
14. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**Fri 1/4/08**
2	**Remedial Action Work Plan**	**33 days**	**Fri 1/4/08**
5	**Remedial Action Design**	**1522 days**	**Wed 2/20/08**
18	**JCIA/JCDPW Relocation**	**1780 days**	**Mon 8/11/08**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09
22	Relocation Contractor Procurement	392 days	Thu 4/15/10
23	JCIA and JCDPW Relocation	949 days	Mon 10/17/11
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11
24a	Demolition of JCIA Structures	146 days	Mon 9/1/14
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**
26	**Remedial Action Work Plan**	**187 days**	**Fri 7/11/08**
32	**Remedial Action Design**	**1161 days**	**Mon 2/2/09**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**
58	New GWTP Construction Completion	502 days	Mon 3/5/12
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11
60	**SA-6 North/South Field Implementation**	**894 days**	**Fri 3/1/13**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	Mon 6/17/13
60b	SA-6S (Site 163) In-Situ Treatment	555 days	Fri 11/15/13
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**
61a	Mobilization	87 days	Fri 3/1/13
62	**Surcharge Install/Instrumentation**	**706 days**	**Mon 6/17/13**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	Mon 6/17/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	Tue 4/8/14
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Tue 6/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	Mon 6/16/14
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	Mon 10/6/14
63	**Barrier Wall Install**	**569 days**	**Mon 8/12/13**
63a	SA 6N Installation of Barrier Wall	159 days	Mon 3/9/15
63b	SA 6S Installation of Barrier Wall	210 days	Mon 8/12/13
64	**Excavation**	**507 days**	**Tue 10/22/13**
64a	SA 6N Excavation	218 days	Mon 12/1/14
64b	SA 6S Excavation	295 days	Tue 10/22/13
65	**Backfill**	**558 days**	**Mon 11/11/13**
65a	SA 6N Backfill	283 days	Mon 12/1/14
65b	SA 6S Backfill	384 days	Mon 11/11/13
66	**Capping and Cover Soil Placement**	**426 days**	**Mon 12/1/14**
66a	SA 6N Capping and Cover Soil Placement	83 days	Thu 3/24/16
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14
67	**Restoration**	**234 days**	**Tue 9/1/15**
67a	Restoration	234 days	Tue 9/1/15
68	**Demobilization**	**22 days**	**Fri 7/1/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead	1 day	Fri 3/1/13
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line	1 day	Fri 3/1/13
69	**SA-6 North Project Closeout**	**311 days**	**Thu 10/1/15**
75	**SA-6 South Project Closeout**	**311 days**	**Thu 10/1/15**
81	**SA-6 North Long Term Protections**	**1830 days**	**Wed 10/1/08**
92	**SA-6 South Long Term Protections**	**2569 days**	**Thu 6/5/08**



Project: SA-6 Remediation Schedule
Revision 4
Date: 8/2/2016

Task | Milestone ◆ | Summary | Critical

Note: Current field implementation schedule shows restoration in November 2016.

Attachment 2: Site Photographs

Site Photograph 1: Dust suppression activities SA-6S Open Space Area.

Site Photograph 2: Grading imported Horizon C clean fill on SA-6N Open Space Area.

Site Photograph 3: Grading imported stone in the SA-6S Restoration Areas.

Site Photograph 4: Hydroseeding along the eastern portion SA-6S Open Space Area.

Site Photograph 5: Installing Erosion Control Matting on the north slope of the SA-6S Open Space Area.

Site Photograph 6: Placement of Contingent Groundwater System cleanout station.

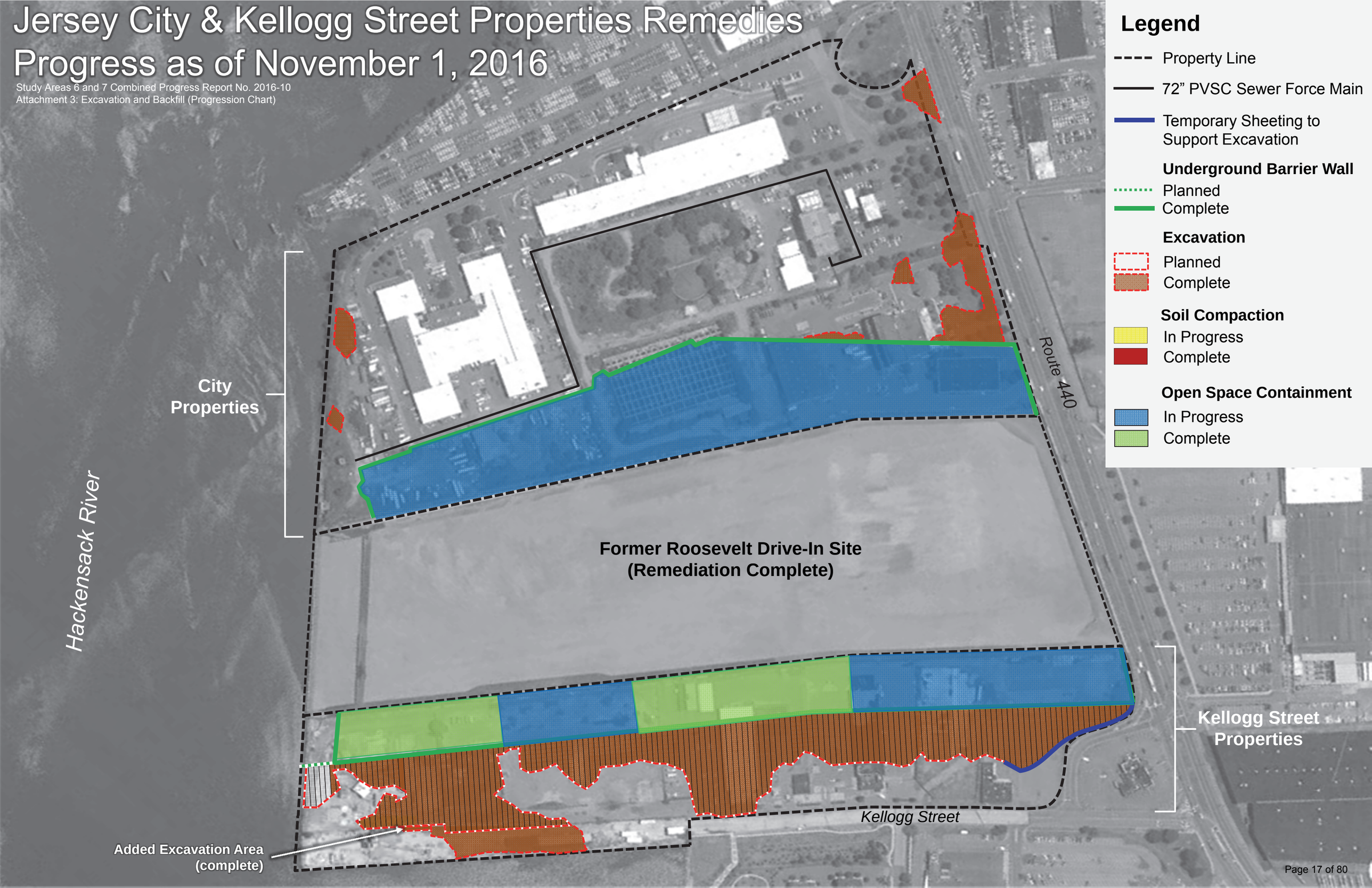
Site Photograph 7: Toe drain construction north side of SA-6S Open Space Area.

Site Photograph 8: View of SA-6S Kellogg St Properties Final Restoration.

Attachment 3: Excavation and Backfill Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of November 1, 2016

Study Areas 6 and 7 Combined Progress Report No. 2016-10
Attachment 3: Excavation and Backfill (Progression Chart)



Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

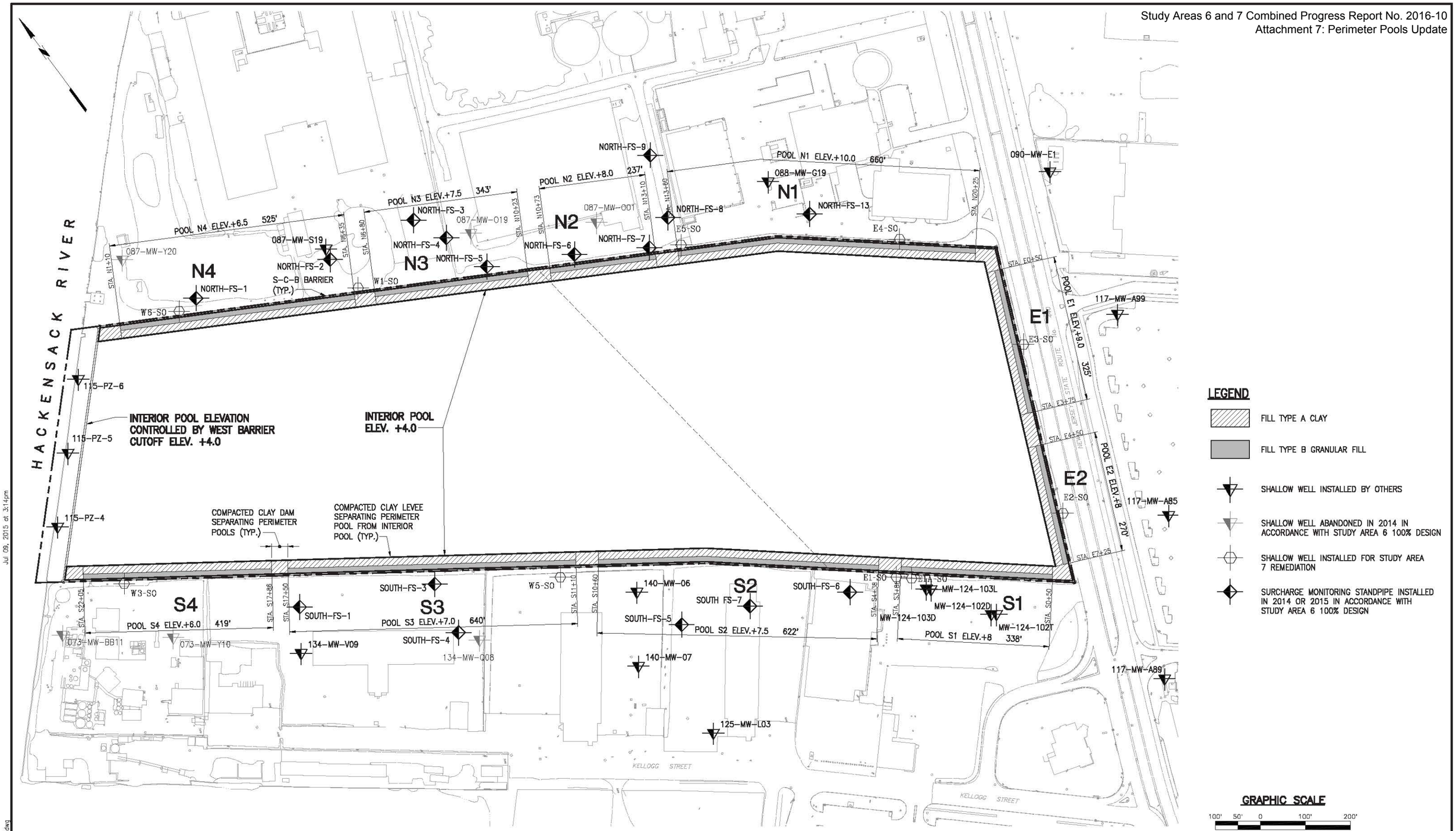
DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
07/07/16	7:30	12:00	4:30	43,596.37	43,642.93	46,560	43,642,480	PVSC Compliance Sample Collected
07/15/16	10:00	14:00	4:00	43,642.93	43,692.98	50,050	43,692,530	
07/26/16	9:00	14:00	5:00	43,692.98	43,794.27	101,290	43,793,820	
07/27/16	7:00	15:00	8:00	43,794.27	43,826.36	32,090	43,825,910	
07/28/16	9:00	15:00	6:00	43,826.36	43,860.98	34,620	43,860,530	
08/01/16	9:00	15:00	6:00	43,860.98	43,896.38	35,400	43,895,930	PVSC Compliance Sample Collected
08/11/16	9:00	16:00	7:00	43,896.38	43,958.93	62,550	43,958,480	
08/12/16	9:30	13:45	4:15	43,958.93	43,998.63	39,700	43,998,180	
08/19/16	8:00	13:30	5:30	43,998.63	44,062.58	63,950	44,062,130	
09/08/16	7:00	13:00	6:00	44,062.58	44,120.80	58,220	44,120,350	PVSC Compliance Sample Collected
10/05/16	8:00	11:00	3:00	44,120.80	44,158.46	37,660	44,158	PVSC Compliance Sample Collected
11/01/16	8:00	10:00	2:00	44,158.46	44,204.91	46,450	44,205	Final reading; system disassembled 11/1/16

Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

(not included in this reporting period)

Attachment 7: Perimeter Pools Update



IN PROGRESS
06-10-2015

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

Jul 09, 2015 at 3:14pm
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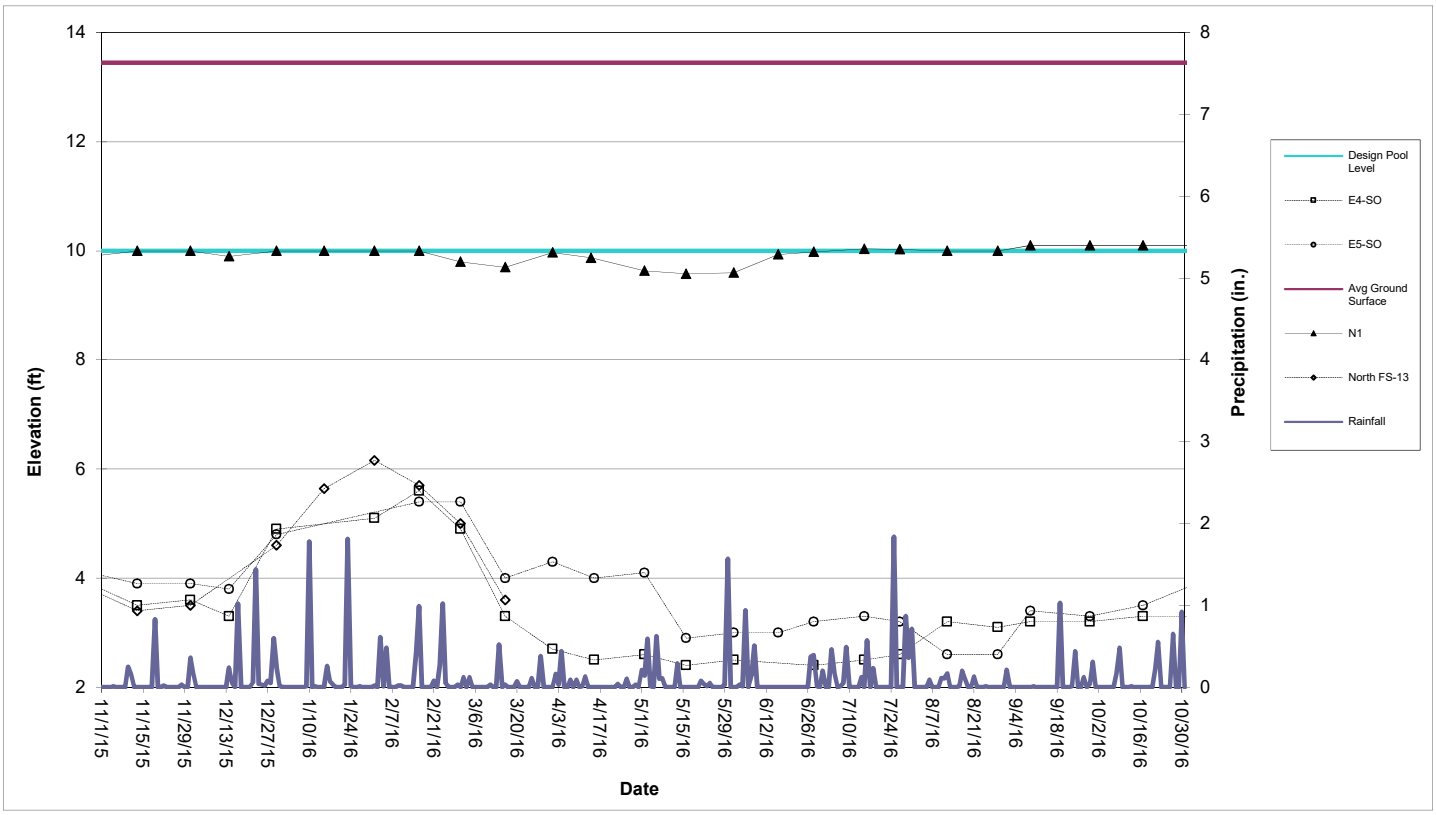
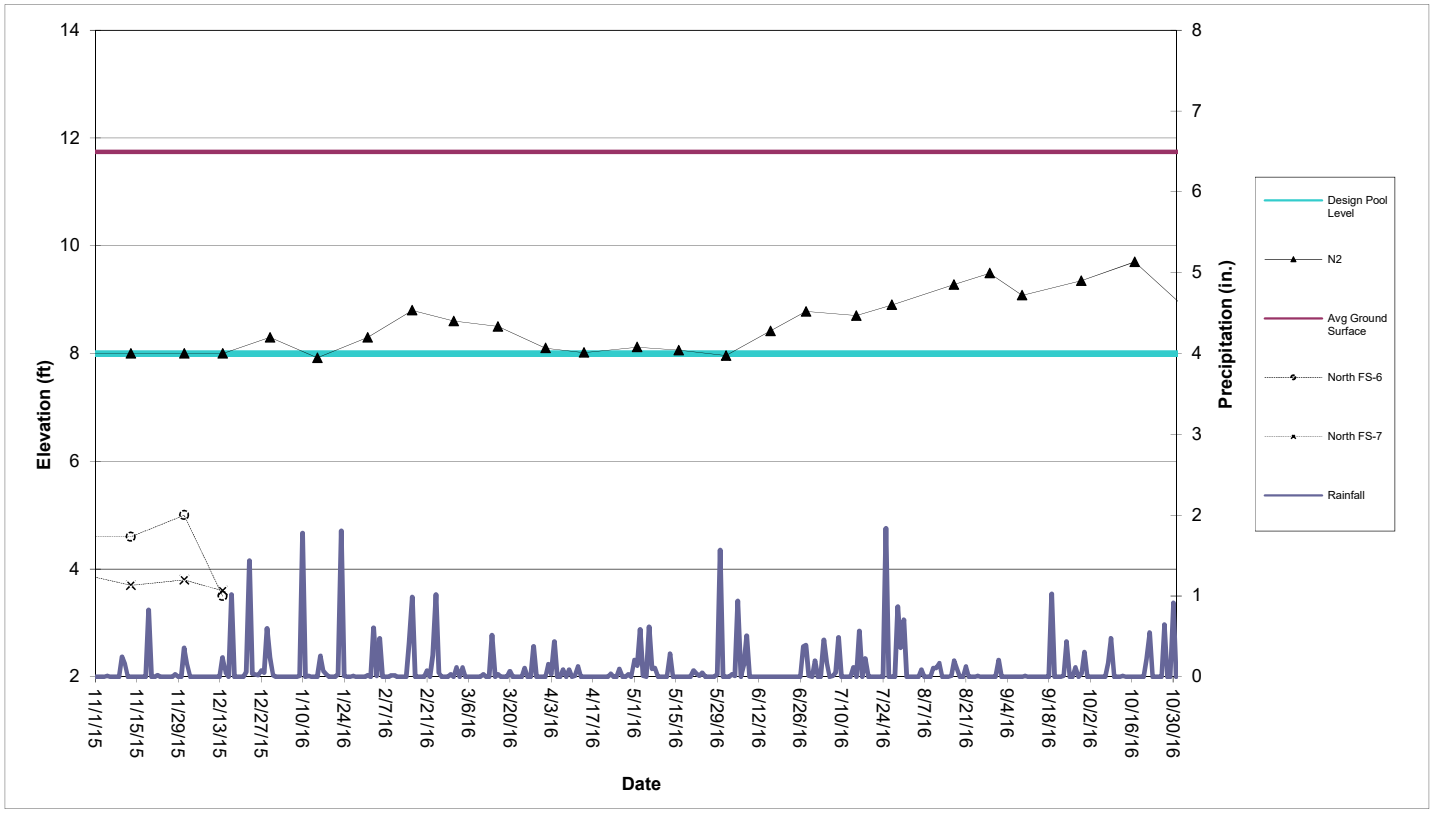
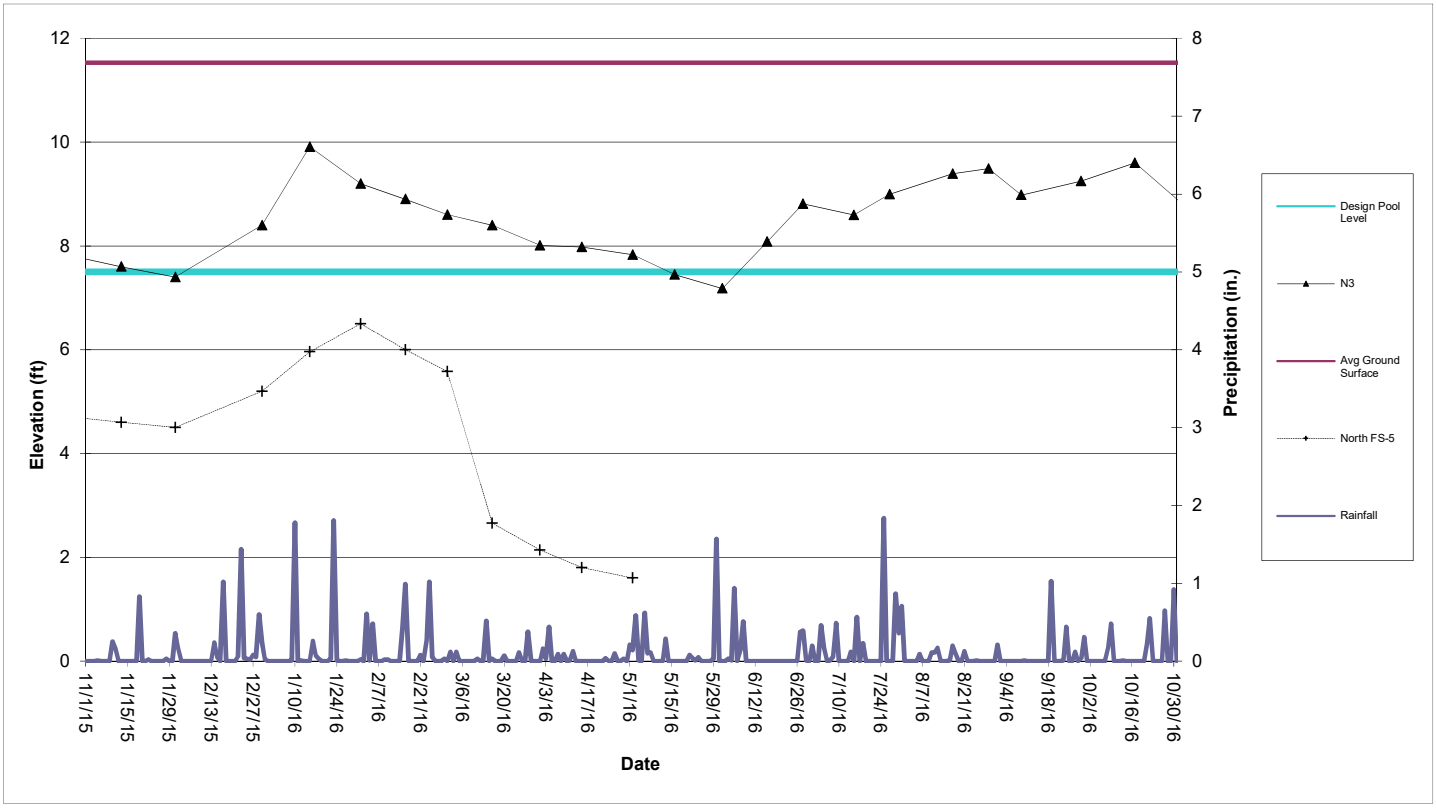
bboscaino



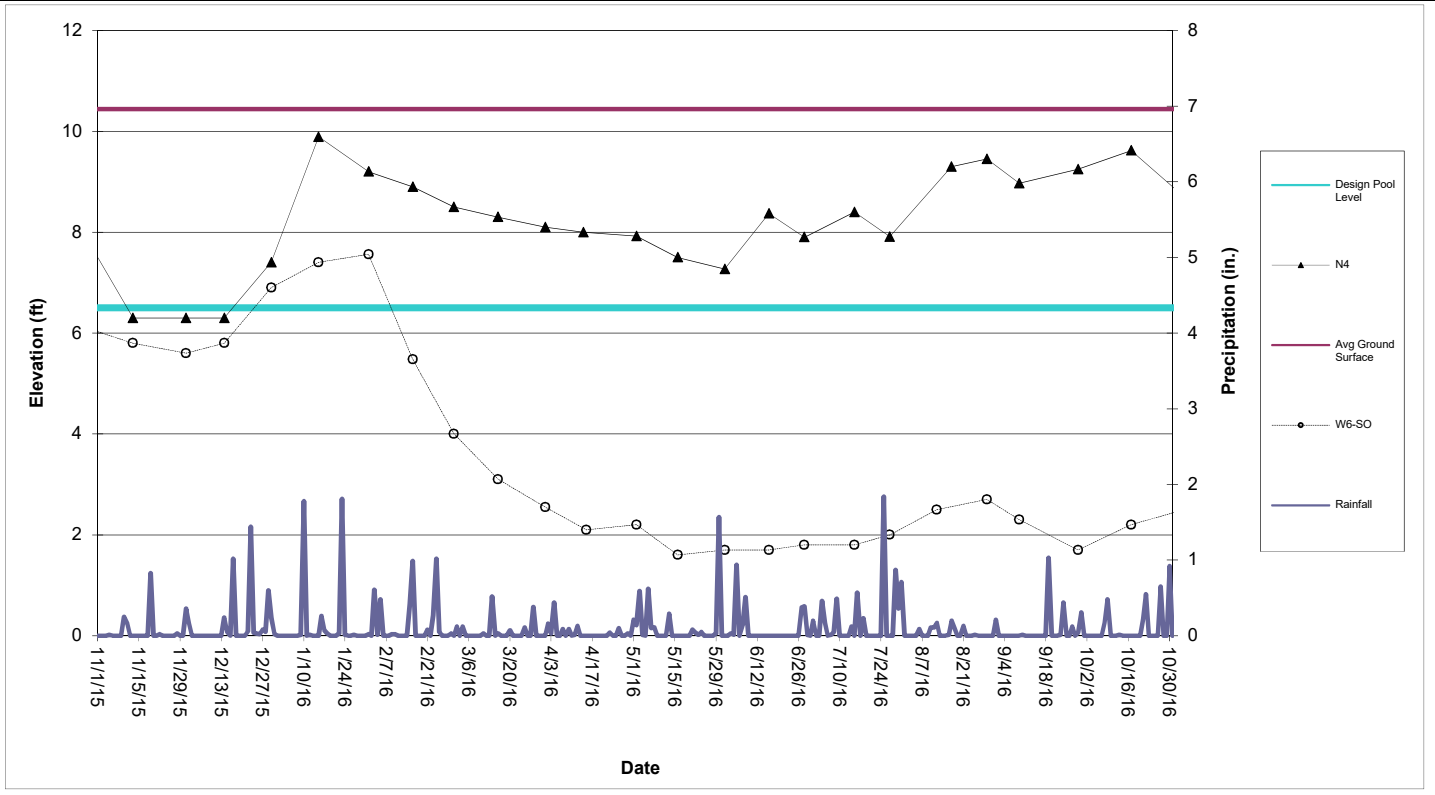
Perimeter Pool N1 (Sta. N13+60 to N20+25)



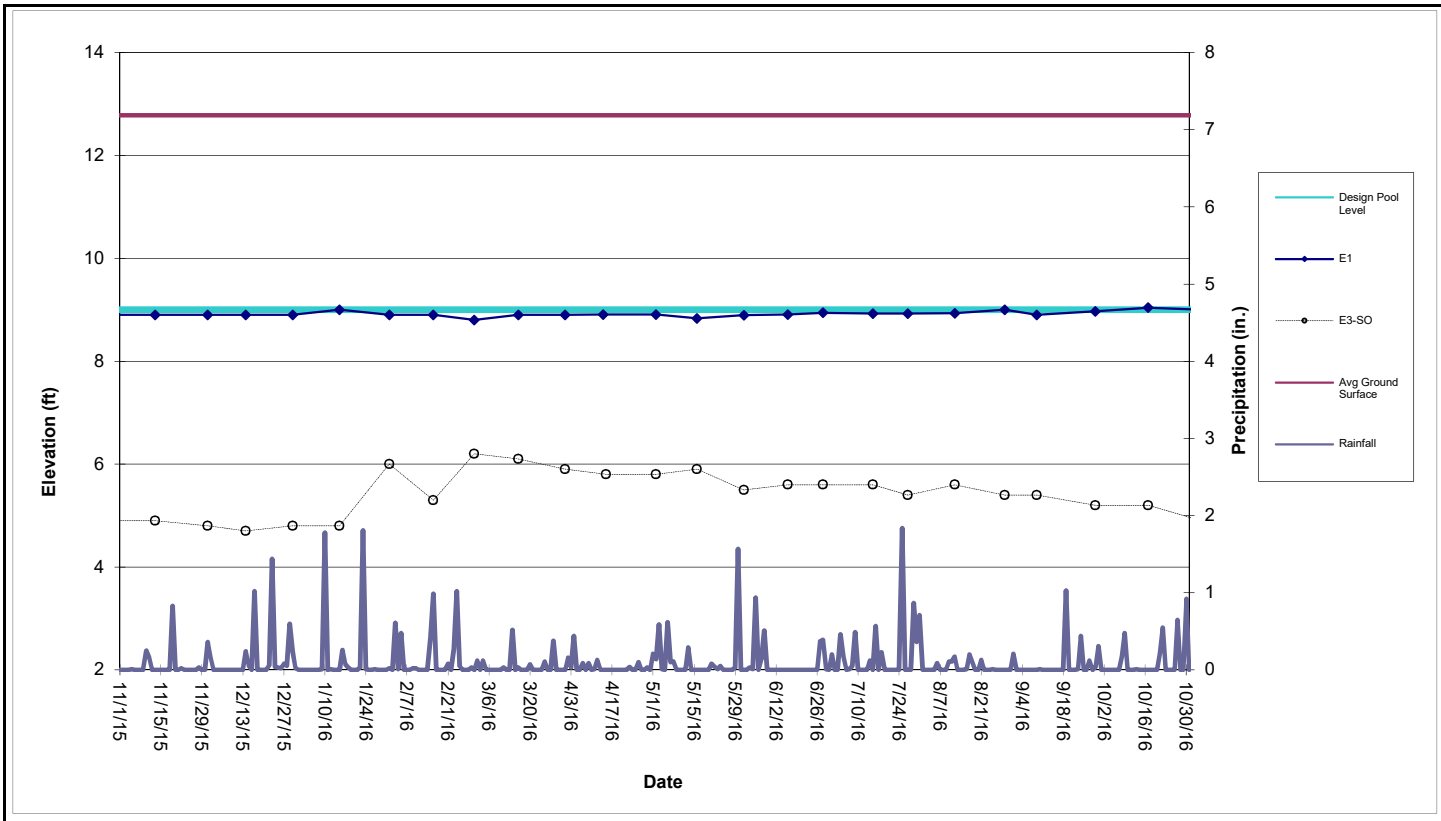
Perimeter Pool N2 (Sta. N10+73 to N13+10)



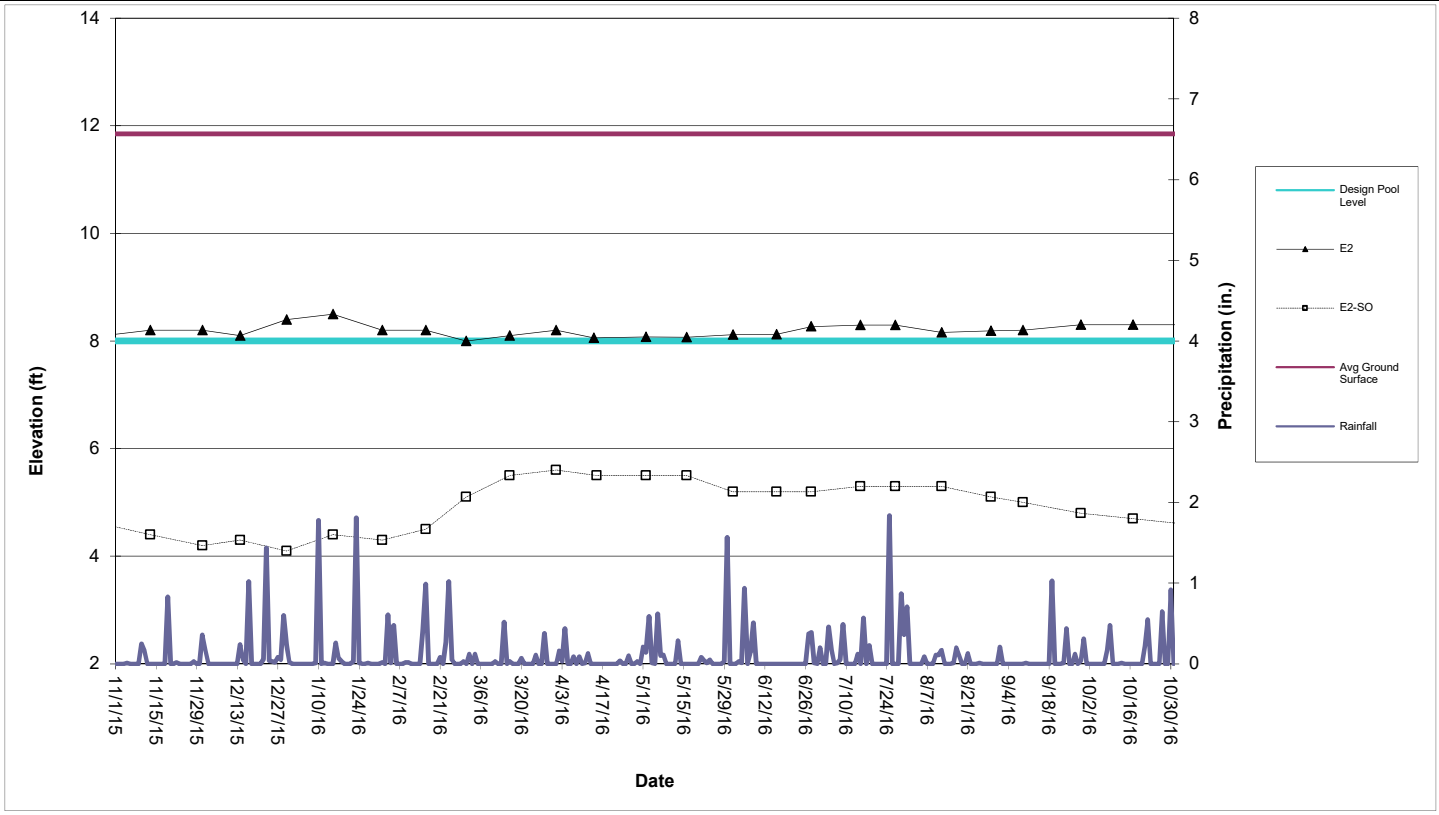
Perimeter Pool N3 (Sta. N6+80 to N10+23)



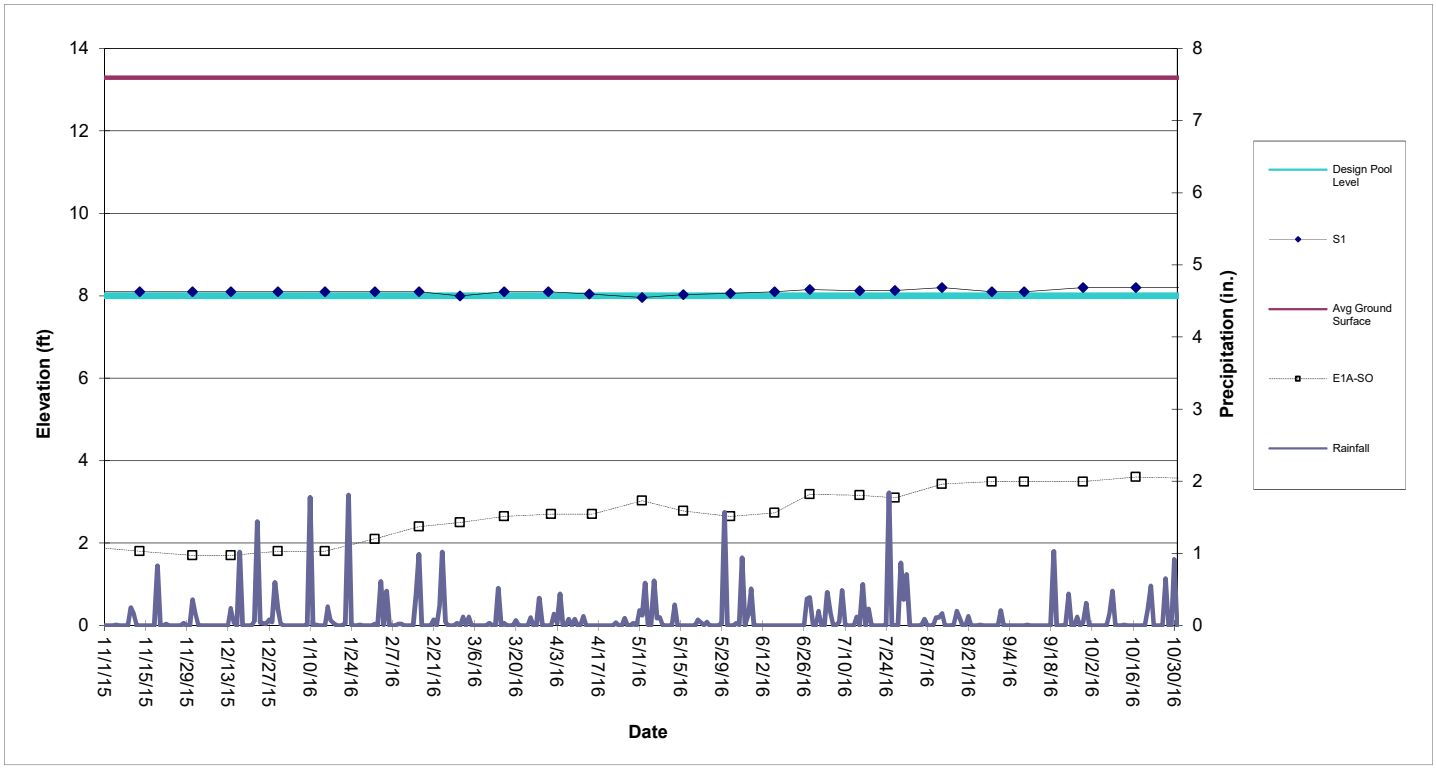
Perimeter Pool N4 (Sta. N6+80 to N10+23)



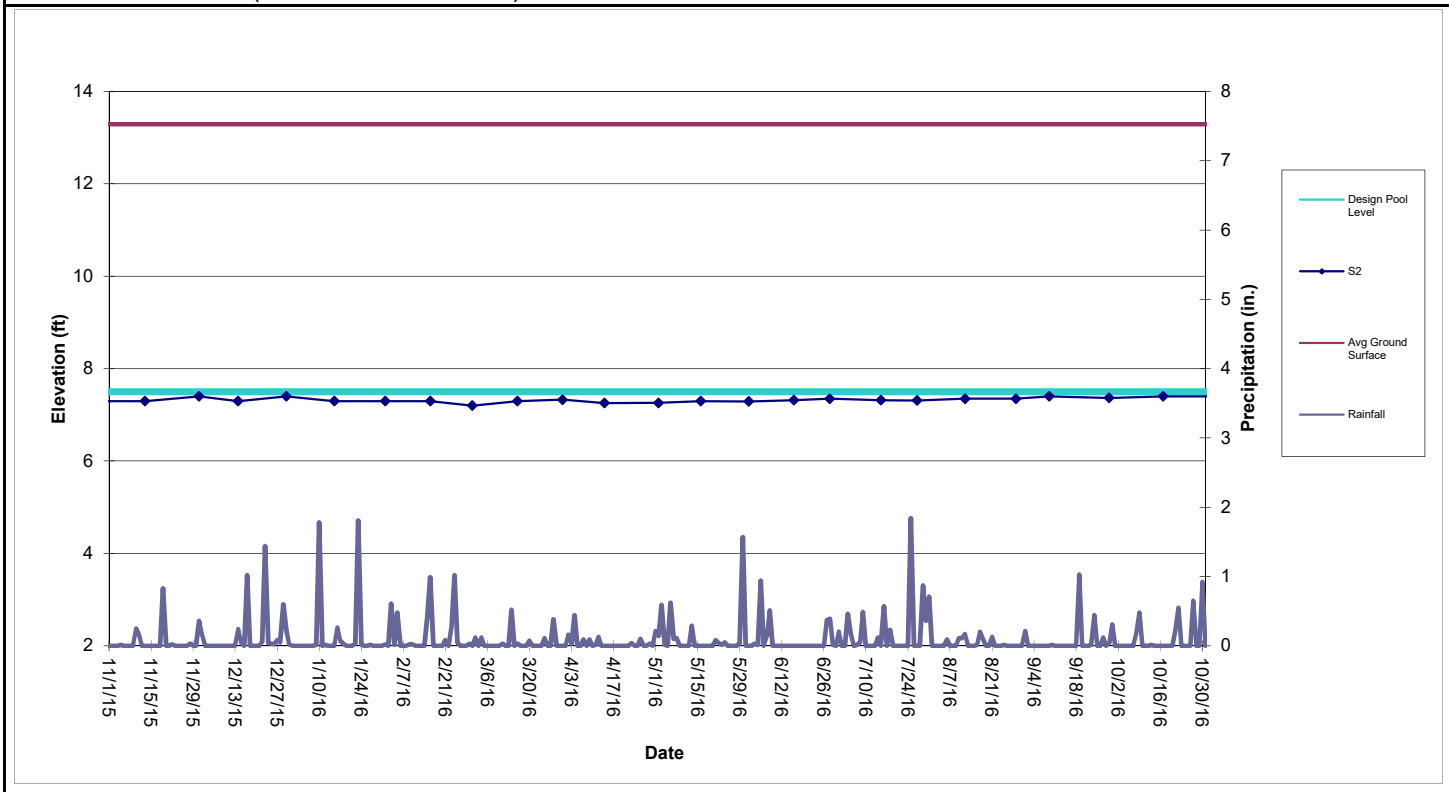
Perimeter Pool E1 (Sta. E0+50 to E3+75)



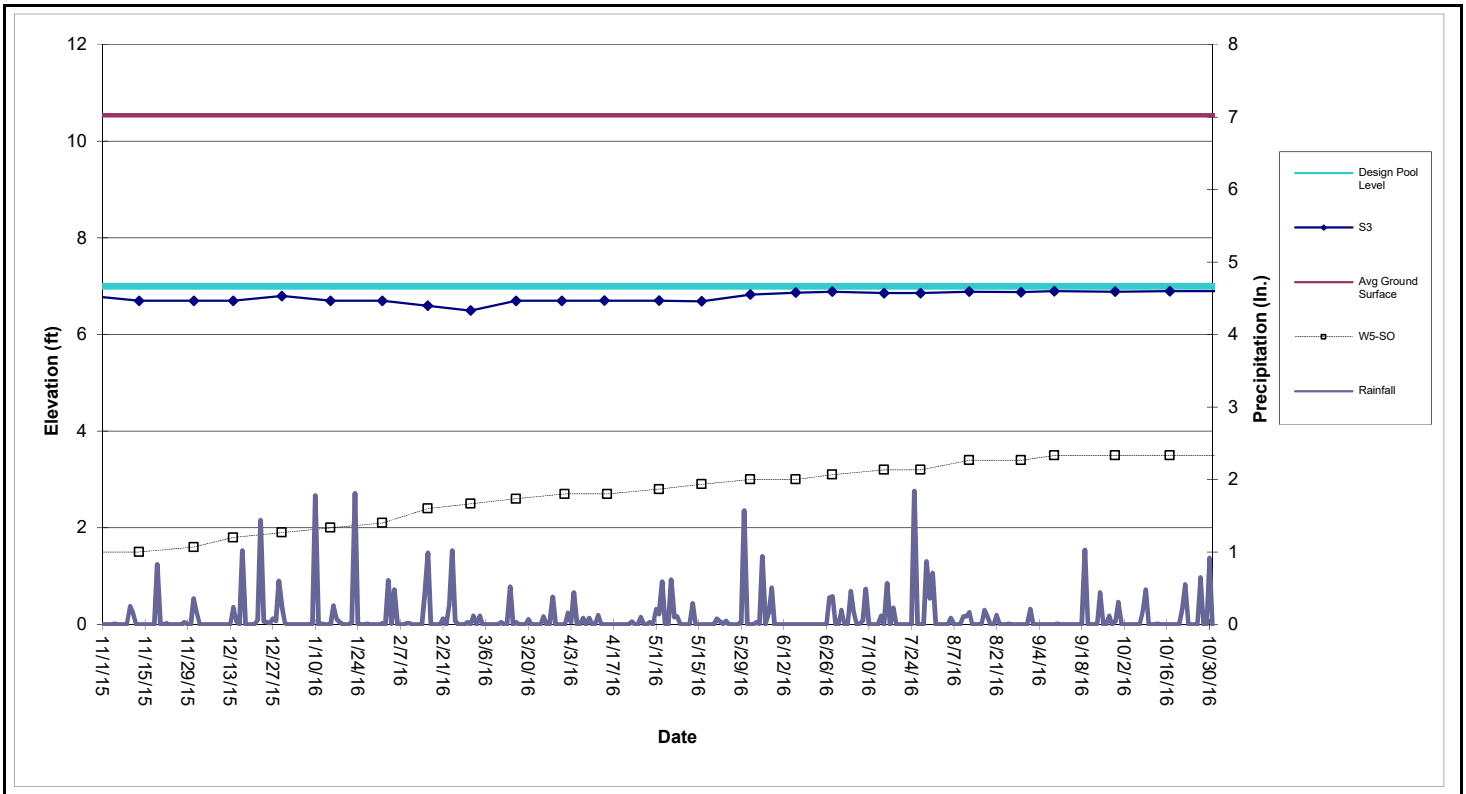
Perimeter Pool E2 (Sta. E4+50 to E7+25)



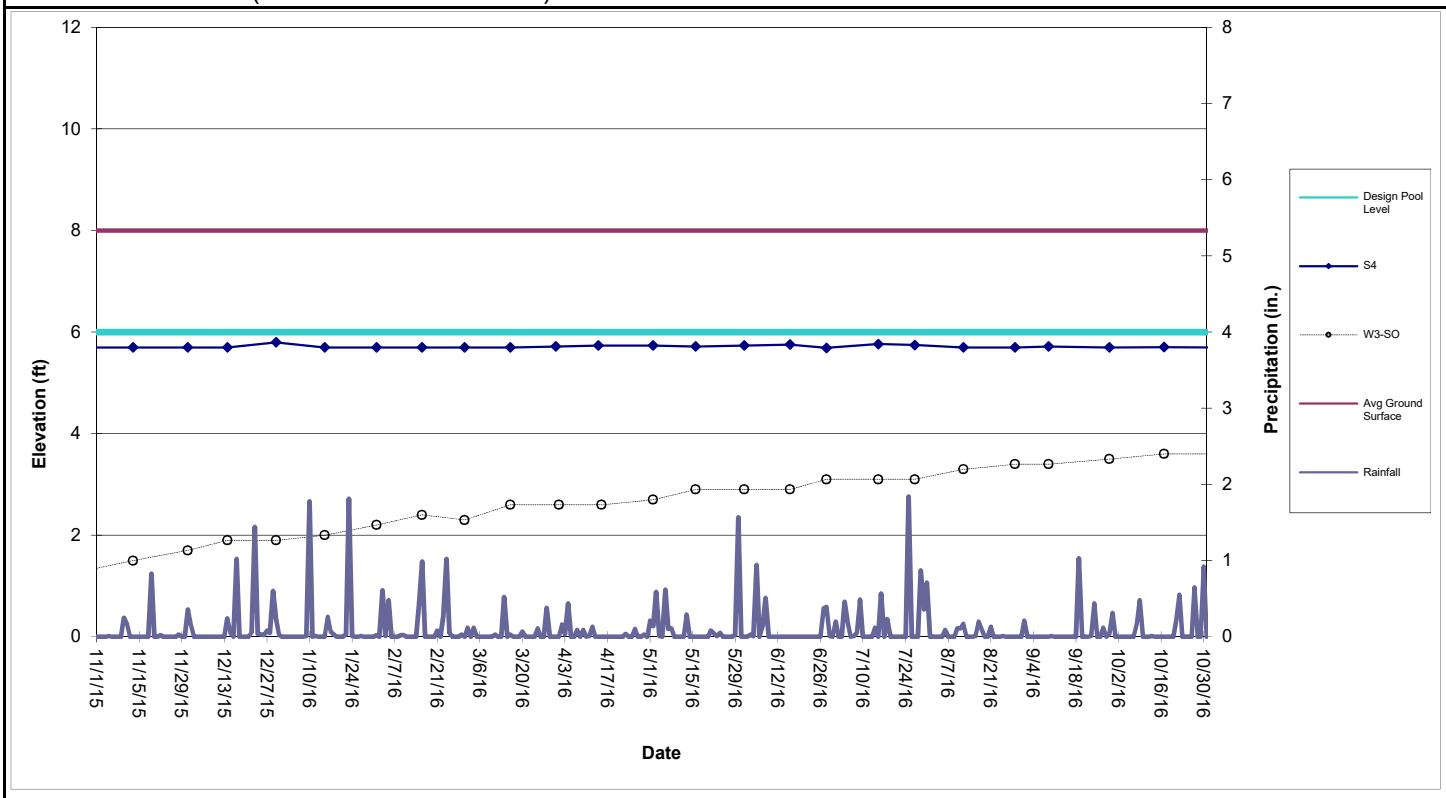
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North			
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-5	FS-6	FS-7	FS-13
Date													
11/13/2015	1.8	4.4	4.9	3.5	3.9	6.4	1.5	1.5	5.8	4.6	4.6	3.7	3.4
12/1/2015	1.7	4.2	4.8	3.6	3.9	6.2	1.7	1.6	5.6	4.5	5.0	3.8	3.5
12/14/2015	1.7	4.3	4.7	3.3	3.8	6.2	1.9	1.8	5.8		3.5	3.6	
12/30/2015	1.8	4.1	4.8	4.9	4.8	7.5	1.9	1.9	6.9	5.2			4.6
1/15/2016	1.8	4.4	4.8			7.9	2.0	2.0	7.4	6.0			5.6
2/1/2016	2.1	4.3	6.0	5.1		7.7	2.2	2.1	7.6	6.5			6.2
2/16/2016	2.4	4.5	5.3	5.6	5.4	6.7	2.4	2.4	5.5	6.0			5.7
3/1/2016	2.5	5.1	6.2	4.9	5.4	5.1	2.3	2.5	4.0	5.6			5.0
3/16/2016	2.7	5.5	6.1	3.3	4.0	4.2	2.6	2.6	3.1	2.7			3.6
4/1/2016	2.7	5.6	5.9	2.7	4.3	3.5	2.6	2.7	2.6	2.1			
4/15/2016	2.7	5.5	5.8	2.5	4.0	2.9	2.6	2.7	2.1	1.8			
5/2/2016	3.0	5.5	5.8	2.6	4.1		2.7	2.8	2.2	1.6			
5/16/2016	2.8	5.5	5.9	2.4	2.9	2.4	2.9	2.9	1.6				
6/1/2016	2.7	5.2	5.5	2.5	3.0	2.5	2.9	3.0	1.7				
6/16/2016	2.7	5.2	5.6		3.0	2.5	2.9	3.0	1.7				
6/28/2016	3.2	5.2	5.6	2.4	3.2	2.3	3.1	3.1	1.8				
7/15/2016	3.2	5.3	5.6	2.5	3.3	2.4	3.1	3.2	1.8				
7/27/2016	3.1	5.3	5.4	2.6	3.2	2.3	3.1	3.2	2.0				
8/12/2016	3.4	5.3	5.6	3.2	2.6	2.8	3.3	3.4	2.5				
8/29/2016	3.5	5.1	5.4	3.1	2.6	2.8	3.4	3.4	2.7				
9/9/2016	3.5	5.0	5.4	3.2	3.4	2.6	3.4	3.5	2.3				
9/29/2016	3.5	4.8	5.2	3.2	3.3	3.1	3.5	3.5	1.7				
10/17/2016	3.6	4.7	5.2	3.3	3.5	2.3	3.6	3.5	2.2				

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4, FS-5, FS-6, FS-7, FS-13
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09,

Attachment 8: Groundwater Quality Data

Table 1: Summary of Groundwater Quality Data
(Attachment 8: Groundwater Quality Data)

Honeywell

Table 1
Summary of Groundwater Quality Data from GWET Wells

Parameter	30-Jun-16			19-Oct-16		
	PW-1 (ug/L)	**PW-3** (ug/L)	**115-MW-215BR** (ug/L)	**PW-1** (ug/L)	**PW-3** (ug/L)	**115-MW-215BR** (ug/L)
Benzene	2.7	27.3	ND	2.5	17.4	ND
Carbon Tetrachloride	4.1	14.6	2.1	4.6	8.2	3.0
Chloroform	24.2	111	0.25	21.9	77.3	0.29
1,1-Dichloroethene	0.55	0.34	ND	0.49	ND	ND
cis-1,2-Dichloroethene	125	59.9	ND	100	46.8	ND
trans-1,2-Dichloroethene	3.5	0.44	ND	3.4	0.32	ND
Toluene	ND	ND	ND	ND	ND	ND
Trichloroethene	86.8	347	ND	80.7	205	ND
1,1-Dichloroethane	0.65	0.25	ND	0.65	ND	ND
Methylene chloride	0.75	3.7	ND	0.58	2.2	ND
Vinyl chloride	17.0	15.2	ND	13.2	6.9	ND
1,2-Dichlorobenzene	0.54	0.19	ND	0.52	ND	ND
Chlorobenzene	0.35	ND	ND	0.33	ND	ND
Ethylbenzene	ND	0.28	ND	ND	ND	ND
Xylenes (total)	ND	0.44	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND
Hexavalent Chromium	31,300	68,800	14,400	31,000	56,300	19,200
Total Chromium	31,700	37,100	12,900	30,200	58,500	17,800

NA = Not Available for Testing due to COPR excavation activities.
NT = Not Tested
ND = Not detected above reporting limit.

Table 2: Third Quarter 2016
(Attachment 8: Groundwater Quality Data)

TABLE 2
Third Quarter 2016

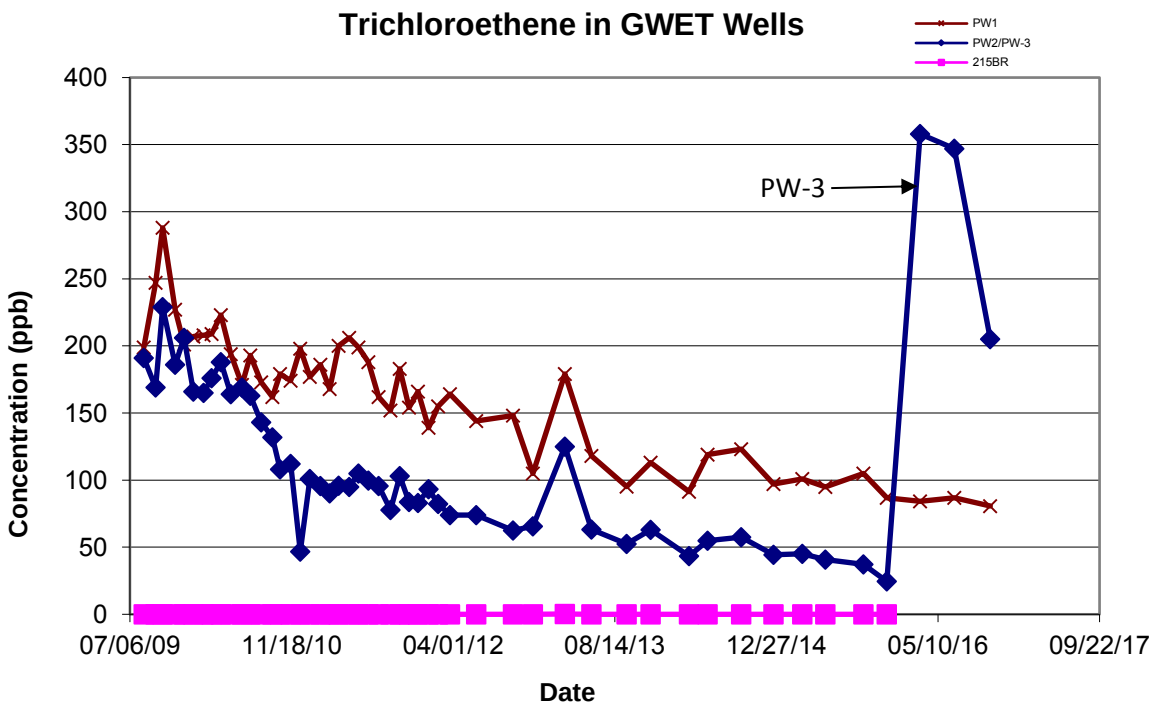
Honeywell

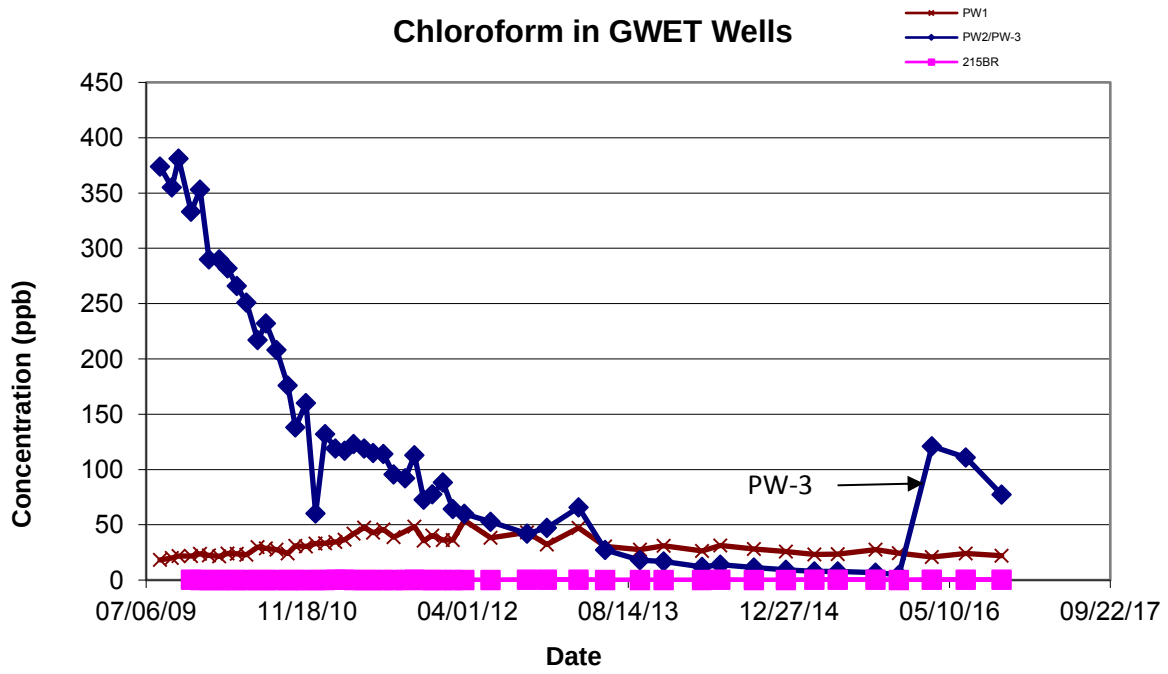
Wells Date: September 27, 2016	Top of Casing Elevation (ft. msl)	Depth to Water (ft., btoc)	Groundwater Elevation (ft., msl)	Comments *GW Elevations are not corrected for tidal influence*
087-MW-25D*	NA	8.71	NA	casing extended
087-MW-25T*	NA	8.73	NA	casing extended
087-MW-35	18.29	NA	NA	Well abandoned
087-OBS-1D	15.13	12.07	3.06	
087-OBS-1L	15.27	12.65	2.62	
087-OBS-1T	15.23	13.65	1.58	
087-PW-2	13.02	10.93	2.09	Inactive, use as obs well only
087-PW-3*	13.00	17.08	-4.08	
087-OBS-7*	13.00	13.66	-0.66	
087-MW-08	12.98	11.46	1.52	
087-OBS-3L	12.88	11.39	1.49	
087-MW-13	12.93	11.47	1.46	
087-OBS-5D	12.72	11.95	0.77	
087-OBS-5T	12.62	12.30	0.32	
087-PW-1	12.66	39.75	-27.09	
087-MW-34	12.73	12.88	-0.15	
087-OBS-2D	12.68	14.07	-1.39	
SA6-MW-AA1D	19.36	17.56	1.80	
SA6-MW-AA1T	15.31	13.78	1.53	
SA6-MW-5BR-1	17.06	14.59	2.47	
087-OBS-4T	11.60	10.52	1.08	
087-MW-O29D	10.32	8.67	1.65	
087-MW-O29T	9.98	NA	N/A	Well abandoned
115-MW-203BR*	8.70	7.13	N/A	casing extended
073-MW-1	25.25	25.70	-0.45	retro-fitted as top-of-rock well
073-MW-10BR-1	6.67	NA	NA	Flute does not purge
115-MW-215BR	8.82	11.71	-2.89	

* Reference point elevation to be confirmed.

Graphs: Trichloroethene/ Chloroform/ Hexavalent Chromium/ Carbon Tetrachloride in GWET Wells

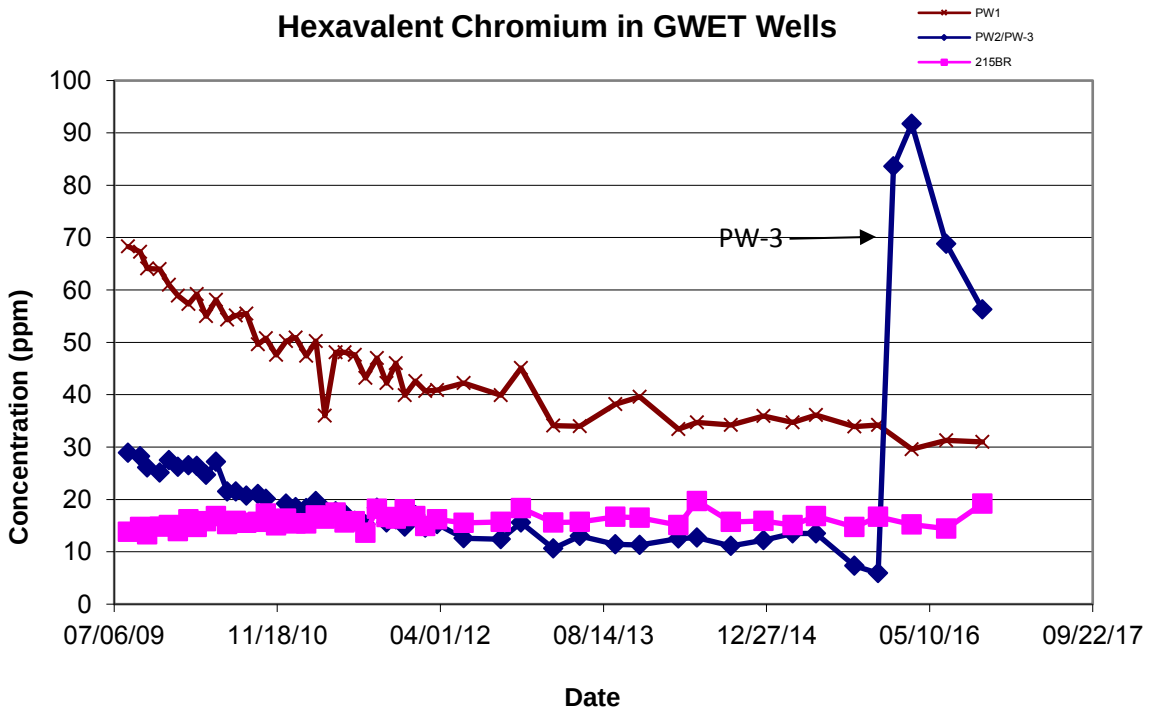
(Attachment 8: Groundwater Quality Data)

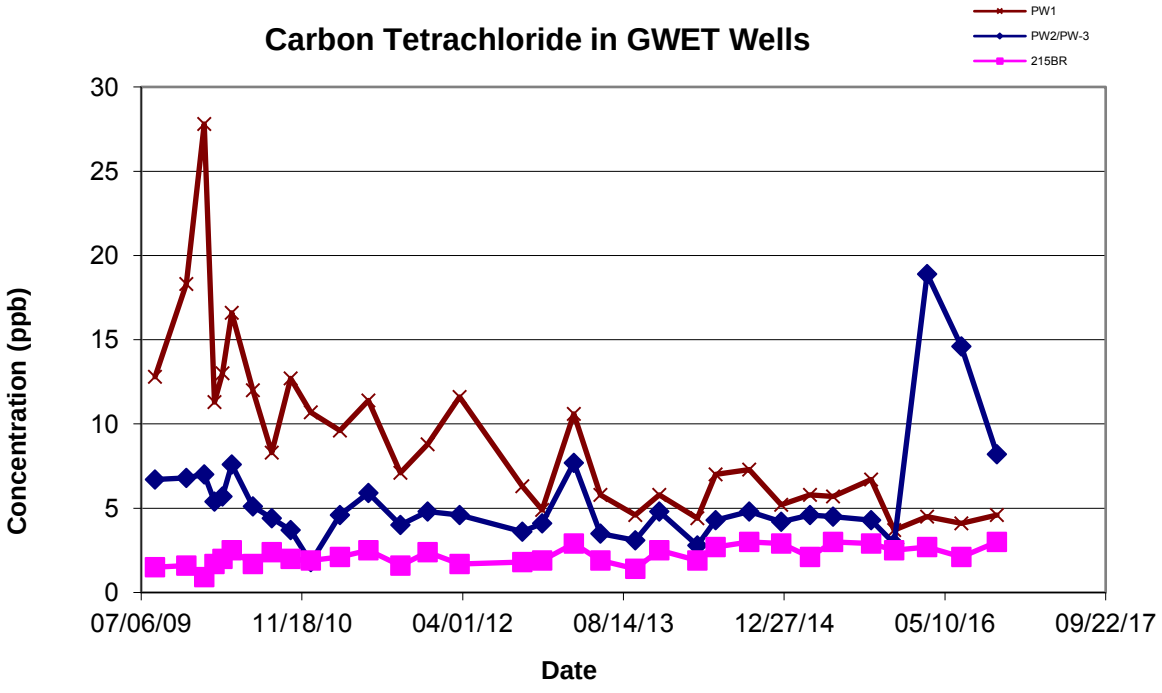




Note:

Notes:
Well 115-MW-203BR was replaced with 115-MW-215BR on 3/3/14.
Well 087-PW-2 was replaced with well 087-PW-3 on 12/2215.





Notes:
Well 115-MW-203BR was replaced with 115-MW-215BR on 3/3/14.
Well 087-PW-2 was replaced with well 087-PW-3 on 12/2215.

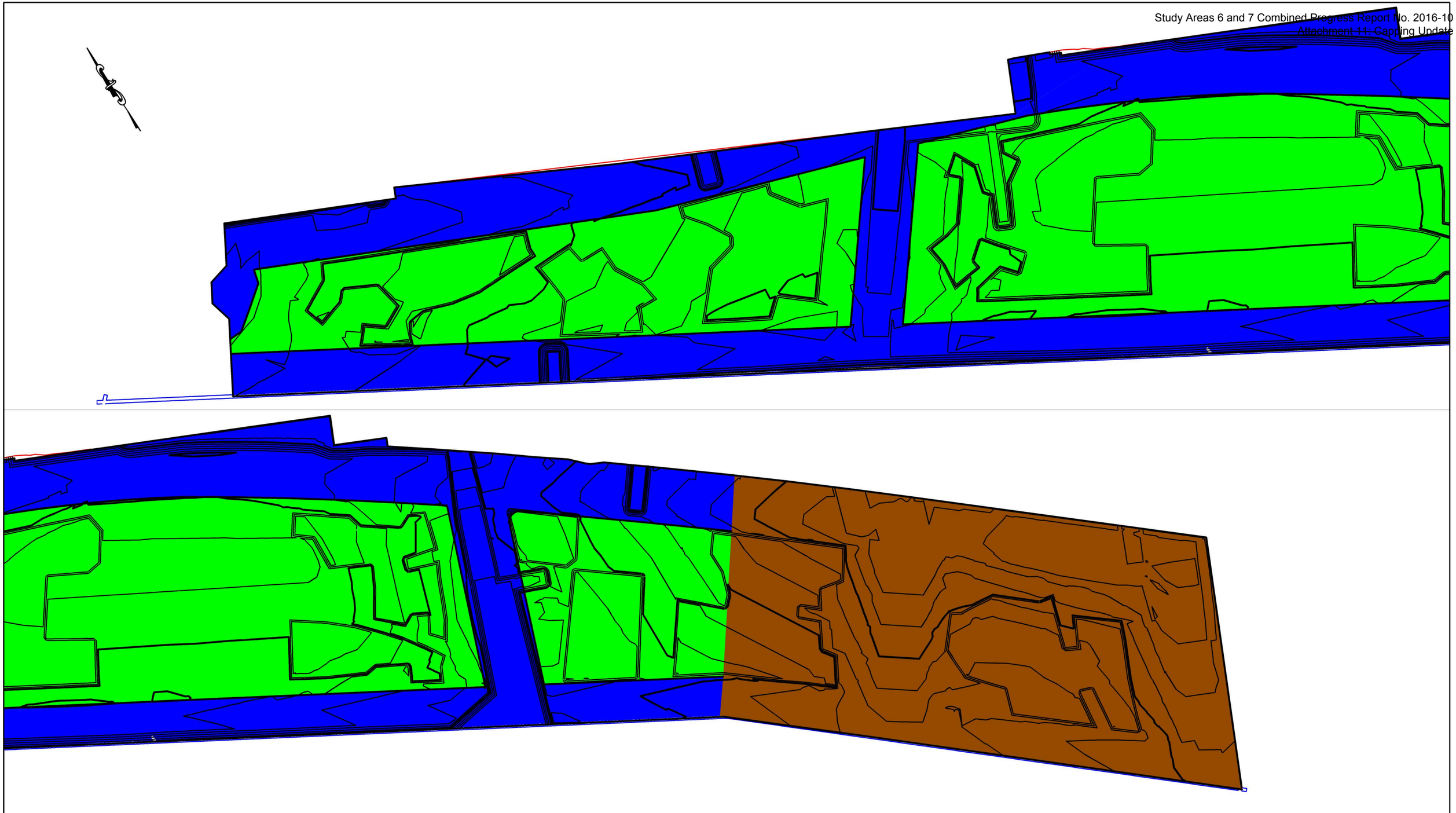
Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

(not included in this reporting period)

Attachment 11: Capping Update (SA-6 Cap Subgrade Progress Maps)



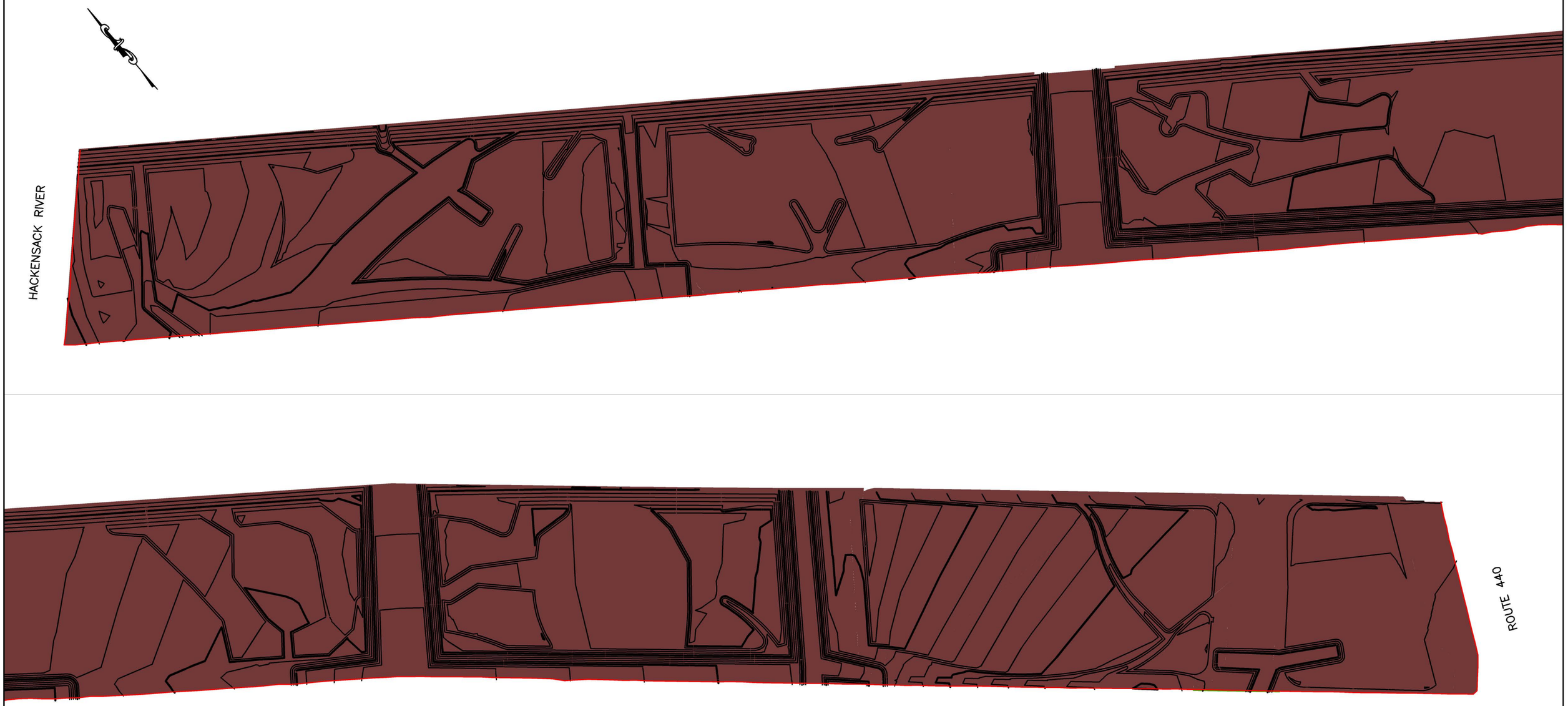
LEGEND

- HORIZON C SOIL PLACED
- STRUCTURAL FILL PLACED
- SCB WALL
- HB WALL
- TOPSOIL PLACED

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 NORTH CAP COVER SOILS PROGRESS MAP
11/04/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



LEGEND

TOPSOIL PLACED

SCB WALL

HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP COVER SOILS PROGRESS MAP
11/04/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 7, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		1
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/07/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, October 07, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJI

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Filter fabric in the stormwater catch basins at the western end of Kellogg Street has become blinded.
2	IA2Q4A1AL8	Garbage and debris has accumulated on the grassy area by the Kellogg Street jughandle

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 10/07/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Replace the catch basin filter fabric as required.	10/12/16 RAD
2	Pick up and dispose of accumulated garbage along the Kellogg Street jughandle and along Kellogg Street.	✓

Construction Manager: _____ **Date:** 10/13/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 14, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		1
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		3
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		4
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/14/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, October 14, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJI f

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Mud and other sediment is present on the western end of Kellogg Street by the truck entrance gate.
2	IA2Q4A1AL8	Garbage and debris is present on the grass by the Kellogg Street jughandle.
3	IA2Q4A1AL8	Garbage and debris is present in the SA-6 North, Rt. 440 pedestrian walkway.
4	IA2Q4A1AL8	The silt fence surrounding the Novartis stockpile area on Study Area 7 requires maintenance or replacement.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 10/14/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Clean up and remove mud and sediment from the road surface and from the strip along the perimeter fence jersey barriers.	10/20/16 RAD
2	Pick up and dispose of the accumulated garbage and debris.	
3	Pick up and dispose of the accumulated garbage and debris.	
4	Repair or replace the erosion control measures as required.	in progress

Construction Manager: _____ **Date:** 10/20/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 21, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☒ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment			X	
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		2
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/21/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, October 21, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
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RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJI f

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Garbage and debris is present on the grass by the Kellogg Street jughandle.
2	IA2Q4A1AL8	The silt fence surrounding the Novartis stockpile area on Study Area 7 requires maintenance or replacement.
3	IA2Q4A1AL8	Sediment is present on the Study Area 7 north roadway where the berm material was recently removed

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 10/27/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Pick up and dispose of the accumulated garbage and debris.	10/27/16 (RAD)
2	Repair or replace the erosion control measures as required.	✓
3	Clean the paved haul road on SA-7 as required.	✓

Construction Manager: _____ Date: 10/27/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 28, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☒ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment			X	
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		2
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		3
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/28/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, October 28, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710
PERMIT CLOSED

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJIf

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen material has become detached from the perimeter fence on SA-6 North by the Rt. 440 pedestrian walkway.
2	IA2Q4A1AL8	The silt fence surrounding the Novartis stockpile area on Study Area 7 requires maintenance or replacement.
3	IA2Q4A1AL8	The filter fabric in the stormwater catch basin at the Northeast corner of SA-7 is blinded with sediment and requires replacement.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 10/28/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach the windscreen fabric to the perimeter fence as required.	11/3/16 RAD
2	Repair or replace the erosion control measures as required.	
3	Replace the filter fabric in the catch basin.	✓

Construction Manager: _____ Date: 11/03/16

Attachment 13: GWTP Update (525/575 Route 440 GWTP PVSC Discharge Monitoring Report - submitted September 2016)

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

October 19, 2016

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the September 2016 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
9	01	16	9	30	16
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	77,623	81,075
		(see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100

Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	0.66	0.69	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.015	<0.015	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.0	<5.0	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1516	0.1516	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analytes are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris VP

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

Oct 18, 2016

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North
ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962
FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305
NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
9	01	16	9	30	16
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,328,702 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 73,378,558

DATE	BOD (mg/l)	TSS (mg/l)
9/13/2016	<5.0	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris VP	John J. Morris	(973) 455-4003
		DATE Oct 18, 2016

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG Honeywell Jersey City GWTP; SA-6 North (Permit #20630025) MONTH: September, 2016

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits		5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
9/1/2016	Angel Trujillo	71049856	71125968	76,112	0.076112	8.29	1.020									0.65
9/2/2016	Angel Trujillo	71125968	71205920	79,952	0.079952	7.01	1.020									0.68
9/3/2016	Angel Trujillo	71205920	71285772	79,852	0.079852	7.02	1.020									0.68
9/4/2016	Angel Trujillo	71285772	71363511	77,739	0.077739	7.10	1.020									0.66
9/5/2016	Angel Trujillo	71363511	71441250	77,739	0.077739	7.09	1.020									0.66
9/6/2016	Angel Trujillo	71441250	71515976	74,726	0.074726	7.01	1.020									0.64
9/7/2016	Angel Trujillo	71515976	71592442	76,466	0.076466	7.16	1.020									0.65
9/8/2016	Angel Trujillo	71592442	71669950	77,508	0.077508	7.16	1.020									0.66
9/9/2016	Angel Trujillo	71669950	71748819	78,869	0.078869	6.95	1.020									0.67
9/10/2016	Angel Trujillo	71748819	71828328	79,509	0.079509	7.23	1.020									0.68
9/11/2016	Angel Trujillo	71828328	71902394	74,066	0.074066	7.10	1.020									0.63
9/12/2016	Angel Trujillo	71902394	71976460	74,066	0.074066	7.11	1.020									0.63
9/13/2016	Angel Trujillo	71976460	72056256	79,796	0.079796	6.83	1.020	<5.0	<5.0		<0.010	<0.015	<0.010	<0.0002	<0.020	0.68
9/14/2016	Angel Trujillo	72056256	72132192	75,936	0.075936	7.09	1.020									0.65
9/15/2016	Angel Trujillo	72132192	72210400	78,208	0.078208	7.80	1.020									0.67
9/16/2016	Angel Trujillo	72210400	72288135	77,735	0.077735	7.05	1.020									0.66
9/17/2016	Angel Trujillo	72288135	72369210	81,075	0.081075	7.13	1.020									0.69
9/18/2016	Angel Trujillo	72369210	72444517	75,307	0.075307	7.20	1.020									0.64
9/19/2016	Angel Trujillo	72444517	72519824	75,307	0.075307	7.30	1.020									0.64
9/20/2016	Angel Trujillo	72519824	72596090	76,266	0.076266	7.28	1.020									0.65
9/21/2016	Angel Trujillo	72596090	72672621	76,531	0.076531	7.14	1.020									0.65
9/22/2016	Angel Trujillo	72672621	72753213	80,592	0.080592	7.22	1.020									0.69
9/23/2016	Angel Trujillo	72753213	72829818	76,605	0.076605	7.19	1.020									0.65
9/24/2016	Angel Trujillo	72829818	72908564	78,746	0.078746	7.24	1.020									0.67
9/25/2016	Angel Trujillo	72908564	72986986	78,422	0.078422	7.30	1.020									0.67
9/26/2016	Angel Trujillo	72986986	73065408	78,422	0.078422	7.21	1.020									0.67
9/27/2016	Angel Trujillo	73065408	73144654	79,246	0.0792	7.33	1.020									0.67
9/28/2016	Angel Trujillo	73144654	73221560	76,906	0.076906	7.35	1.020									0.65
9/29/2016	Angel Trujillo	73221560	73300054	78,494	0.078494	7.15	1.020									0.67
9/30/2016	Angel Trujillo	73300054	73378558	78,504	0.078504	7.18	1.020									0.67
TOTAL				2,328,702	2.328702			<5.0	<5.0		<0.010	<0.015	<0.010	<0.0002	<0.020	
			High:	81,075											High:	0.69
			Average:	77,623											Average:	0.66

WW

E

JC 27484

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell

Chain Of Custody / Analysis Request

AESI Ref: 42828.48208
COC#: 087-WW-091316
Lab Proj # (SDG):
Lab ID: ACTD
Site ID: HudsonCo
Lab Job #: HWINJM32815
Authorized User: Honeywell
Text & Excel File Drive: Excel & Text File Order

Privileged & Confidential

Site Name: Hudson County
Phase: CS
Location of Site: Jersey City, NJ
Sampling Program: 087: JCIA

Sampling Co.: MACTEC
EDD To:
Client Contact: (name, co., address)
Sampler: Frank Schroyer
Helen Fahy P: (973) 455-2989 E. helen.fahy@honeywell.com
PO #:
Honeywell International
115 Tabor Road, Morris Plains, NJ 07950
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Preliminary Data To
Sample Receipt Acknowledgement To
Hard Copy To: Helen Fahy (Honeywell)
Full Report TAT: 28 Days
Invoice To: Helen Fahy (Honeywell)

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	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
											Units		Preservative	3	3	3	1	2	2	0	0	2						
1	087-WW			087-WWE-091316-A	9/13/2016	14:20	WW	WATER	REG	5	comp	N	X	X	X	X			X	X		1					
2	087-WW			087-WWE-091316-B	9/13/2016	14:25	WW	WATER	REG	5	grab	N					X	X				2					A29
3	087-WW			087-WWI-091316	9/13/2016	14:30	WW	WATER	REG	3	grab	N									X	3					G56
4																											L29
5																											V1125
6																											
7																											
8																											
9																											
10																											
11																											
12																											

Relinquished by: 6.83 S.U.	9.5°C	Company: AMEC Foster Wheeler	Received by:	Company:		Condition:		Custody Seals Intact:	
Frank Schroyer	9/13/16	Date/Time: 1515		9-13-16	Date/Time: 1515		Cooler Temp.		
Relinquished by:	9-13-16	Date/Time: 1650	Received by:	Company: SGS	Date/Time: 9-13-16 1650		Condition:		Custody Seals Intact:
							Cooler Temp.		

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

INITIAL ASESSMENT 3BJM

LABEL VERIFICATION

049

SGS Accutest LabLink@929339 14:20 05-Oct-2016

Report of Analysis

Client Sample ID:	087-WWE-091316-A		
Lab Sample ID:	JC27484-1	Date Sampled:	09/13/16
Matrix:	AQ - Water	Date Received:	09/13/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.1 4

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1020	10	ug/l	1	09/16/16	09/17/16	GT	EPA 200.7 [2]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	09/16/16	09/17/16	GT	EPA 200.7 [2]	EPA 200.7 [4]
Lead [a]	< 15	15	ug/l	5	09/16/16	09/17/16	GT	EPA 200.7 [2]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	09/14/16	09/14/16	JPM	EPA 245.1 [1]	EPA 245.1 [3]
Nickel	< 10	10	ug/l	1	09/16/16	09/17/16	GT	EPA 200.7 [2]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	09/16/16	09/17/16	GT	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA40293
(2) Instrument QC Batch: MA40321
(3) Prep QC Batch: MP95994
(4) Prep QC Batch: MP96034

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

SGS Accutest LabLink@929339 14:20 05-Oct-2016

Report of Analysis

4.1 4

Client Sample ID:	087-WWE-091316-A		
Lab Sample ID:	JC27484-1	Date Sampled:	09/13/16
Matrix:	AQ - Water	Date Received:	09/13/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	09/14/16 11:15	AT	SM2540 D-11
pH [a]	6.82		su	1	09/13/16 17:46	HFM	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

SGS Accutest LabLink@929339 14:20 05-Oct-2016

Report of Analysis

Client Sample ID:	087-WWE-091316-A		
Lab Sample ID:	JC27484-1A	Date Sampled:	09/13/16
Matrix:	AQ - Water	Date Received:	09/13/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.2 4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 5.0	5.0	mg/l	1	09/14/16 17:02	DM	SM5210 B-11

RL = Reporting Limit

SGS Accutest LabLink@929339 14:20 05-Oct-2016

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-091316-B		
Lab Sample ID:	JC27484-2	Date Sampled:	09/13/16
Matrix:	AQ - Water	Date Received:	09/13/16
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	N257494.D	1	09/15/16	SC	n/a	n/a	VN10876
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	10	1.3	ug/l	
107-13-1	Acrylonitrile	ND	10	1.2	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	3.7	1.0	0.11	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.14	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	3.7	1.0	0.19	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.12	ug/l	
75-00-3	Chloroethane	ND	1.0	0.19	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.73	ug/l	
67-66-3	Chloroform	23.6	1.0	0.11	ug/l	
74-87-3	Chloromethane	ND	1.0	0.22	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.19	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.15	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.15	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.54	ug/l	
75-34-3	1,1-Dichloroethane	0.43	1.0	0.16	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.22	ug/l	
156-59-2	cis-1,2-Dichloroethene	60.6	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.6	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.17	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.16	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.17	ug/l	
123-91-1	1,4-Dioxane	ND	130	27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.11	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.81	1.0	0.16	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.18	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@929339 14:20 05-Oct-2016

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-091316-B		
Lab Sample ID:	JC27484-2	Date Sampled:	09/13/16
Matrix:	AQ - Water	Date Received:	09/13/16
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene [b]	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.12	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.17	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.18	ug/l	
79-01-6	Trichloroethene	55.2	1.0	0.16	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.55	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.19	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	102%		72-125%
2037-26-5	Toluene-D8 (SUR)	100%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	97%		74-115%
1868-53-7	Dibromofluoromethane (S)	103%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.
(b) This compound in BS is outside in house QC limits bias high.

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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Client Sample ID:	087-WWE-091316-B		
Lab Sample ID:	JC27484-2	Date Sampled:	09/13/16
Matrix:	AQ - Water	Date Received:	09/13/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.0	5.0	mg/l	1	09/14/16 17:20	LS	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending October 2016

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only as clarification or response to RFI.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only as clarification or response to RFI.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only as clarification or response to RFI.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2014-6-10	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-6-10 includes the french drain installation, as well as pump and access station manholes for SA-6 South. Some design details, including the electrical design, will be finalized based field obersvations and constructability review.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
DC 2014-11-20	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-11-20 includes the french drain installation, electrical supply and discharge piping for SA-6 North.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
DC 2016-6-10	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-6-10 includes the revised electrical supply and discharge piping for SA-6 North.	To be submitted to Parties as Attachment to Declaration 004.
DC 2015-2-12	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-2-24 is a follow up to DC 2014-6-10, the SA-6 South CGWES trench design. DC 2015-2-24 includes details for electrical supply and discharge piping.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
DC 2015-2-24	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to document the changes in the SA 6 North and South cap subgrades that resulted from the change to a trench system.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
DC 2015-9-03	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-9-03 is a follow up to DC 2015-2-24, the SA-6 South CGWES electrical supply. DC 2015-9-03 provides a revised electrical plan.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.

SA-6 North/South Field Change Log - Month Ending October 2016

Changed Item Identifier	Description of Change	Comments
DC 2016-5-24	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to address the elimination of a drop structure, the elmination of a flow meter, conduit sizing changes, and to clarify Entact's scope.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead.	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only as clarification or response to RFI.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA-6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	To be submitted to Parties as Attachment to Declaration 004.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.

SA-6 North/South Field Change Log - Month Ending October 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Parties on July 2, 2015.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groundwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
DC 2015-06-18	Bayfront Redevelopment Civil Designer has eliminated one utility corridor along the eastern portion of SA-6 South (water main and sewer line were relocated to another utility corridor). In addition, it was identified that minor increases in the Bayfront final grades of up to 0.25 feet may be made in the landscaped areas (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 South Consent Decree and the 100% Design.	Submitted to all Parties on June 18, 2015.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.
DC 2015-11-12	Amec Foster Wheeler has provided Final Cap Grades (in CAD) to Entact. Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.	To be submitted to Parties as Attachment to Declaration 005.
DC 2016-04-15	Amec Foster Wheeler has provided final restoration grades for SA-6 South Development Area. The DCB also includes the final cover types in revised Drawing C-128.	To be submitted to Parties as Attachment to Declaration 005.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on 6/22/15.
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.

SA-6 North/South Field Change Log - Month Ending October 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-10-06	GCL is required to be installed over the SCB wall and Barrier Wall at the locations shown in the annotated PDF of C-121 (rev 4, 8/13/15).	Submitted to Contractor only as clarification or response to RFI.
DC 2015-07-22	Detail BN has been modified to extend the LLDPE up and over the SCB Wall. The prior detail showed both the GDL and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-28	Drawing 304, Detail CE and associated notes regarding the "Liner Anchor to Concrete Structure" have been modified.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-07-31	The sheet pile pair is located at Sta. 0+50. Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA-6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	To be submitted to Parties as Attachment to Declaration 004.

SA-6 North/South Field Change Log - Month Ending October 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	To be submitted to Parties as Attachment to Declaration 003.
DC 2015-11-18	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	To be submitted to Parties as Attachment to Declaration 003.
DC 2015-09-28	Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling.	Submitted to Parties on October 1, 2015.
DC 2015-12-21	Amec Foster Wheeler (AmecFW), Entact and Maser Consulting have developed alternative methods for documentation/survey of the excavation bottom in Site 163. The alternative methods were developed in light of safety considerations for surveyor access into a sheet piled excavation to elevation –8.0. The bottom of the excavation will be in very low strength Stratum O soils. These alternative survey control methods are different from those previously used in the SA-6 South Development Area.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.
DC 2015-10-22	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-12-14	Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds that cannot be tested by other means. Spark testing will be performed in accordance withASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative. Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	Submitted to Parties on January 14, 2016.

SA-6 North/South Field Change Log - Month Ending October 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-11-30	EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation. A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals. EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits. A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.	To be submitted to Parties as Attachment to Declaration 003.
DC 2016-02-03	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design.	To be submitted to Parties as Attachment to Declaration 004.
DC 2016-02-22	AmecFW revised the SA-6 North cap subgrade in a single localized area in order to accommodate Entact's request to relocate Pump Station #1 (RFI 64). The subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location. In addition, for grading purposes, any hydraulic barrier sheets within the Sedimentation Basin that have sections below elevation 12.0 will be trimmed to a uniform elevation of 11.5.	To be submitted to Parties as Attachment to Declaration 004.
DC 2016-02-25	This DCB has been issued to provide Entact with the latest SA-6 North HB Wall and SCB wall plan and profile drawings (SN-201 thru SN-205), which were modified to reflect changes made in DC 2016-02-22.	To be submitted to Parties as Attachment to Declaration 004.
DC 2016-05-03	The laboratory results of all gradations for planting soils shall be presented in terms of the USDA classification system rather than the USCS classification system.	Submitted to Contractor only as clarification or response to RFI.
DC 2016-03-18	This DC 2016-03-18 documents the revised acceptable ranges of physical parameters and provides an updated specification made in consultation with Dr. Grabosky of Rutgers University. Dr. Grabosky provided his recommendations in correspondence dated 3/17/2016.	Submitted to Parties on March 22, 2016. Plaintiffs responded in a letter dated April 15, 2016. Plaintiffs and Honeywell subsequently held discussions and DCB 2016-04-20 was developed to document an agreement reached by all parties on the Special Master All-Hands monthly call on April 19, 2016.
DC 2016-03-21	Nature's Choice was identified as the source that best met the physical requirements for Horizon C soils by Dr. Grabosky; however, several samples of Nature's Choice Horizon C soils have hexavalent chromium concentration >1.0 mg/kg. Consequently, Honeywell is proposing a design change to allow the hexavalent chromium concentration in Nature's Choice Horizon C soils to be less than 1.8 mg/kg, as agreed to by the parties, as documented in the attached emails. For future sampling, hexavalent chromium soil samples will be composited from 10 grab sample locations per 5,000 CY (maximum). There are additional conditions in Attachment A that are part of this DCB and specific to Nature's Choice Horizon C soil. All other requirements specified in the 100% Design for imported soils will be met by the Nature's Choice Horizon C soils as amended in previous DC 2015-09-17.	Submitted to Parties on March 22, 2016.
DC 2016-04-20	This DCB documents the approved sources of Horizon B and Horizon C materials, as agreed to by all parties on the Special Master All-Hands monthly call on April 19, 2016.	Submitted to Parties on April 21, 2016.
DC 2016-05-06	To allow for traffic flow within the project site following completion of the SA-6S Cap, a road will be installed within the "B Street" corridor. The road will be constructed by continuing the "Structural Fill under Roadways to within 6 inches of final grade"	Submitted to Parties on June 30, 2016.
DC 2016-05-31	This DCB documents the vault sketch Drawing C-310 (Rev 5, 5/31/16)	Submitted to Contractor only as clarification or response to RFI.

SA-6 North/South Field Change Log - Month Ending October 2016

Changed Item Identifier	Description of Change	Comments
DC 2016-5-11	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design. As part of DC 2016-5-11, AmecFW issued SA-6 North Interim Grades to Entact.	To be submitted to Parties as Attachment to Declaration 004.
DC 2016-5-20	After further review, AmecFW lowered the geomembrane Pump Station #1 on the SA-6 North cap in order to provide additional separation between the geomembrane and the bottom of the vault. (Refer to DC 2016-02-22).	Submitted to Parties on June 15, 2016.
DC 2016-7-12	DC 2016-7-12 clarifies the limit of GCL deployment and the location of the sand bentonite plug in the SA-6 North cap.	Included as an attachment to July 2016 Monthly Progress Report.
DC 2016-10-21	Amee Foster Wheeler has consulted with Dr. James Murphy of the Rutgers Cooperative Extension regarding seed mixes that are suitable for use at this time of year. Based on the Rutgers' recommendations either one of the two seed mixes noted below is considered acceptable. Seed Mix 1: • 80% tall fescue • 20% perennial ryegrass • seeded at 360 pounds per acre Seed Mix 2: • 70% ta ll fescue • 10% Kentucky bluegrass • 20% perennial ryegrass • seeded at 360 pounds per acre	Included as an attachment to October 2016 Monthly Progress Report.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

SA-6 AND SA-7 COMBINED PROGRESS REPORT

DECEMBER 13, 2016

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

December 13, 2016

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2016-11

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from November 1 – November 30, 2016.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Global Director, Remediation
Design and Construction

WJH:jtc/sgf

Attachment: Novembefr 2016 SA-6/7 Combined Monthly Progress Report No. 2016-11

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.
Mary Hogan - Walsh Pizzi O'Reilly Falanga LLP (electronic copy)
Hector Ruiz - Walsh Pizzi O'Reilly Falanga LLP (electronic copy)
Liza Walsh - Walsh Pizzi O'Reilly Falanga LLP (electroni copy)

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2016-11

Project SA-6 & 7 Remediation

November 2016

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
11/07/16	Initiation of Long Term Groundwater Monitoring Study Area 6 (SA-6) South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
11/09/16	SA-6 South Declaration No. 2	The Honorable Robert G. Torricelli Office of the Special Master
11/14/16	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2016-10	Honorable Robert G. Torricelli Office of the Special Master
11/17/16	SA-6 South 12-month transition period groundwater elevation data (Presentation Slides)	*Upload to Louis Berger SharePoint Site*
11/15/16	Special Master All Parties Meeting	n/a
11/21/16	Study Area 6 Chromium Remediation – PVSC Connection Fee Jersey City, NJ Connection File # 15830	Frank Grant Passaic Valley Sewerage Commission
11/21/16	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Manager of Industrial & Pollution Control Passaic Valley Sewerage Commission
11/30/16	SA-6 North Declaration No. 4	The Honorable Robert G. Torricelli Office of the Special Master
11/30/16	Groundwater Sampling Results Study Area 6 (SA-6) South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master

SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	11/6/16	11/13/16	11/20/16	11/27/16
Construction Management (AMEC)	9	8	10	7
Engineering (AMEC)	1	1	1	1

Team	Week Ending			
	11/6/16	11/13/16	11/20/16	11/27/16
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	19	20	22	16
Arecon/US Ecology Subcontractors	0	0	0	1
Maser	1	0	1	1
Langan	0	0	0	0
ERFS	0	0	0	1
Evoqua	1	1	1	1
B&B Drilling	0	0	1	0
Cornerstone	0	0	1	2
TOTAL STAFF	**35**	**34**	**41**	**34**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Conducted perimeter air monitoring activities using hand-held portable devices for nuisance dust.
- Completed installation of CGWES components within the SA-6 North Open Space Areas to include installation of spare conduit pipe for future piezometer instrumentation on the north side of the SA-6 North Open Space Area.
- Initiated long-term groundwater monitoring activities at SA-6 South in accordance with the correspondence submitted by Honeywell to All Parties, dated November 7, 2016. This correspondence also transmitted results of samples collected from piezometers located on the interior of both SA-6 North and SA-6 South Open Areas.
- Completed post-injection groundwater sampling and monitoring in Treatment Area 10-1 in accordance with the NJDEP – Discharge to Groundwater Permit.
- On December 5, 2016, collected post-injection soil samples for total and hexavalent chromium and sulfide from the TA-10-1 area in accordance with the Amec Foster Wheeler memo entitled, “Proposed In-Situ-Treatment Event for Remaining Hexavalent Chromium Impacted Soils – Treatment Area 10-1”, dated July 11, 2016.
- Conducted S-3 Mass Removal Injection Event No. 34 in injection well 088-IW-03.
- Completed sidewalk restoration activities within the work limits along Route 440.
- Removed Highway Occupancy Permit Fence and barricades along Route 440.

B. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned downstream process tanks T-300 (neutralization tank) and T-400 (effluent tank).
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on November 15, 2016.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	11/06/16	11/13/16	11/20/16	11/27/16
Avg. Gallons Treated & Discharged (per day)	77,961	77,307	78,910	74,929
Average Flow (gpm) for Operating Period	55	55	56	58
Avg. Hours of Plant Operation	23	23	23	22
GWTP Influent Tanks (gal.)	3,246	2,844	4,300	3,463

C. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Completed cleaning and demobilization of temporary Construction Water Treatment Plant.
- Initiated placement of geotextile and 6 inches of #57 Stone in the SA-6 North in the area just north of the Open Space Area and south of the JCMUA property. The restoration serves as both final restoration of disturbed areas and also as historic fill cap.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/FCI	Roll-off	Sarnia, Ontario Canada	Stablex	WWTP Filer Cake	1	17	17
Montecalvo	Tri-axle	Keasby, NJ	Bay shore Recycling	Non Haz Cr	4	24	96

2. EXCAVATION & BACKFILL PROGRESS

Description	Areas
Backfill in Progress	#57 Stone Historic Fill Cap – SA6 N Restoration Area

3. BACKFILL MATERIALS USED (TONS)

Source	Week Ending			
	11/06/16	11/13/16	11/20/16	11/27/16
Natures Choice Topsoil	801	0	1,241	287
EME Topsoil	4,640	5,090	3,566	1,524
Tilcon Mount Hope I-8	104	0	52	0
Natures Choice Horizon C	203	0	0	108
Tilcon DGA	0	0	0	100
Tilcon Mt. Hope 1.5”	0	52	51	77
Tilcon Mt. Hope #57	0	513	1,427	1,189
Weldon Screenings	277	139	0	0

- The EME Horizon A clean fill new source information dated October 13, 2016 is included in Attachment 15.
- This new source transmittal includes the EME certification that materials from their identified quarries being used for the Horizon A Topsoil are both virgin and not commingled. In addition, this transmittal includes all initial analytical and geotechnical data that supported the material meets the SA-6 100% Design and DCB adjusted specifications for Horizon A topsoil.
- In response to Plaintiffs’ initial questions, we are also attaching the October 19, 2016 e-mail transmittal which confirmed earlier discussions (among Amec Foster Wheeler and the Parties during a conference call on October 4, 2016) which identified that the EME facility needed to increase the organic content via blending of an amendment to meet SA-6 100% Design and DCB adjusted specifications.
- The October 19, 2016 transmittal also clarifies that a natural Peat material was the organic amendment being used in the blending process at the EME facility. Honeywell further provided a separate clean fill certification from the Peat organic amendment supplier.
- Lastly, the October 19, 2016 response by Honeywell includes a clarification statement that Amec Foster Wheeler obtained the analytical and geotechnical samples on the blended Horizon A Topsoil product to be imported to SA-6.

D. SURCHARGE OPERATIONS

- All surcharging activities are completed.

E. SHEET PILE OPERATIONS

- All sheet pile operations are complete.

F. CAPPING OPERATIONS

- Completed importing and placing Horizon A soils on SA-6 South Open Space Area.

- Completed hydro-seeding of SA-6 South Open Space Area and placement of erosion control matting.
- Completed installation of toe drain on the south side slope of the SA-6 North Open Space Area.
- Performed hydro-seeding of the SA-6 North Open Space Area and placement of erosion control matting.
- Completed importing and placing Horizon A soils on SA-6 North Open Space Area.
- Stockpiled a small quantity of Horizon A & C soils within SA-7 for potential future repairs of the SA-6 South and SA-6 North Open Space Areas.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012 Extension Obtained 5/17/2015	Renewal Not Needed	10/04/2019	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013 Extension Obtained 3/16/2015	Not Specified, Est. 3/31/2016	6/30/2016*	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 08/04/2016	Not Specified	Not Specified	9/12/16
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Individual Upland Waterfront Development Permit and Water Quality Certificate for Bulkhead Expansion Project	SA-7	Issued: 5/10/2016	TBD	5/9/2021	-
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Obtained 12/24/15	12/03/16	Pending
USACE Nationwide Permit No. 27 for Droyers Cove Beneficial Environmental Project	Bayfront	Issued: 4/15/2016	TBD	3/18/2017	5/4/16
NJDEP Coastal General Permit 24 for the living shoreline	Bayfront	Issued: 10/15/2015	TBD	10/14/2020	5/4/16

** Amec Foster Wheeler reviewed the expiration of this TWA with NJDEP, Division of Water Quality and no extension is necessary.*

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete installation of the Contingent Groundwater Extraction System Components final connections within the GWTP including the mechanical piping and conduit.
- Complete hydro-seeding of SA-6 North Open Space Area.
- Complete storm-water management activities associated with construction.
- Complete placement of geotextile and 6 inches of #57 Stone in the SA-6 North Restoration Area.
- Complete SWPPP inspections associated with construction.
- Conduct fourth quarter regional groundwater level monitoring event.
- Complete demobilization of Entact crew, office trailers and equipment.

ATTACHMENTS:

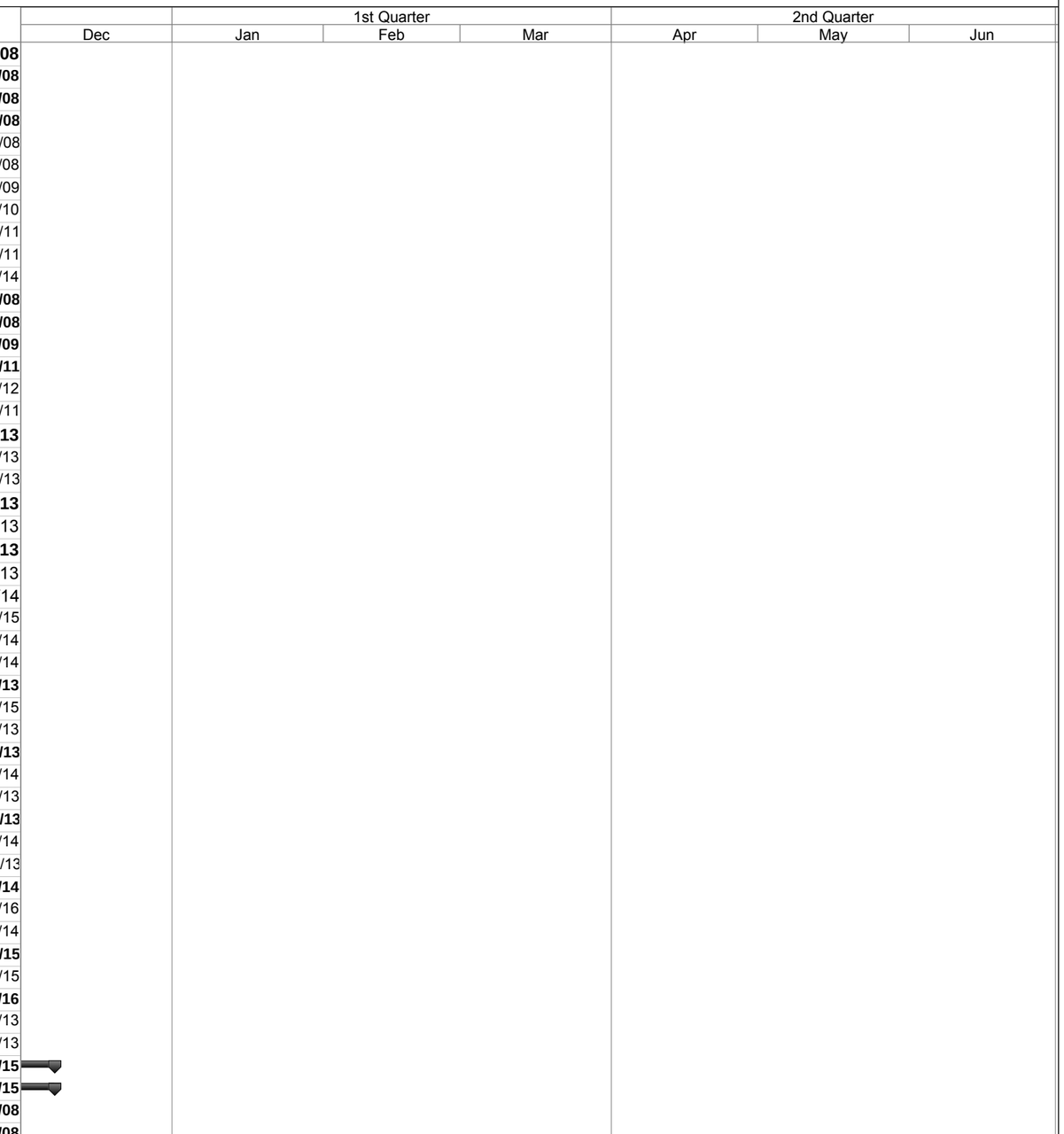
1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill (Progression Chart)
4. Dewatering Operations Update *(not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data *(not included in this reporting period)*
7. Perimeter Pools Update
8. Groundwater Quality Data *(provided quarterly, not included in this reporting period)*
9. Surcharge Monitoring Update *(not included in this reporting period)*
10. Sheet Pile Update *(not included in this reporting period)*
11. Capping Update (SA-6 Cap Subgrade Progress Maps)
12. Weekly SWPPP Reports
13. GWTP Update
14. SA-6 North & South Design Change Tracking Log
    - DCB 2016-7-14: Design change documenting minor grading adjustments to improvements to drainage off of the SA-6N Open Space Area
15. EME Soils
    - 10/13/16 – Transmittal: SA-6 New Source of Topsoil
    - 10/19/16 – E-mail Transmittal: Response to Email -- 101716 Horizon A Analytical Results 21319

Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**Fri 1/4/08**
2	**Remedial Action Work Plan**	**33 days**	**Fri 1/4/08**
5	**Remedial Action Design**	**1522 days**	**Wed 2/20/08**
18	**JCIA/JCDPW Relocation**	**1780 days**	**Mon 8/11/08**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09
22	Relocation Contractor Procurement	392 days	Thu 4/15/10
23	JCIA and JCDPW Relocation	949 days	Mon 10/17/11
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11
24a	Demolition of JCIA Structures	146 days	Mon 9/1/14
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**
26	**Remedial Action Work Plan**	**187 days**	**Fri 7/11/08**
32	**Remedial Action Design**	**1161 days**	**Mon 2/2/09**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**
58	New GWTP Construction Completion	502 days	Mon 3/5/12
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11
60	**SA-6 North/South Field Implementation**	**894 days**	**Fri 3/1/13**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	Mon 6/17/13
60b	SA-6S (Site 163) In-Situ Treatment	555 days	Fri 11/15/13
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**
61a	Mobilization	87 days	Fri 3/1/13
62	**Surcharge Install/Instrumentation**	**706 days**	**Mon 6/17/13**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	Mon 6/17/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	Tue 4/8/14
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Tue 6/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	Mon 6/16/14
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	Mon 10/6/14
63	**Barrier Wall Install**	**569 days**	**Mon 8/12/13**
63a	SA 6N Installation of Barrier Wall	159 days	Mon 3/9/15
63b	SA 6S Installation of Barrier Wall	210 days	Mon 8/12/13
64	**Excavation**	**507 days**	**Tue 10/22/13**
64a	SA 6N Excavation	218 days	Mon 12/1/14
64b	SA 6S Excavation	295 days	Tue 10/22/13
65	**Backfill**	**558 days**	**Mon 11/11/13**
65a	SA 6N Backfill	283 days	Mon 12/1/14
65b	SA 6S Backfill	384 days	Mon 11/11/13
66	**Capping and Cover Soil Placement**	**426 days**	**Mon 12/1/14**
66a	SA 6N Capping and Cover Soil Placement	83 days	Thu 3/24/16
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14
67	**Restoration**	**234 days**	**Tue 9/1/15**
67a	Restoration	234 days	Tue 9/1/15
68	**Demobilization**	**22 days**	**Fri 7/1/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead	1 day	Fri 3/1/13
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line	1 day	Fri 3/1/13
69	**SA-6 North Project Closeout**	**311 days**	**Thu 10/1/15**
75	**SA-6 South Project Closeout**	**311 days**	**Thu 10/1/15**
81	**SA-6 North Long Term Protections**	**1830 days**	**Wed 10/1/08**
92	**SA-6 South Long Term Protections**	**2569 days**	**Thu 6/5/08**



Project: SA-6 Remediation Schedule
Revision 4
Date: 8/2/2016

Task | Milestone ◆ | Summary | Critical

Note: Current field implementation schedule shows final restoration activities and demobilization in December 2016.

Attachment 2: Site Photographs

Site Photograph 1: Finishing toe drain at SA-6S Open Space Area.

Site Photograph 2: Grading topsoil along north slope of the SA-6N Open Space Area.

Site Photograph 3: Hydroseeding the top of SA-6S Open Space Area.

Site Photograph 4: Restoring curb and sidewalk along Route 440.

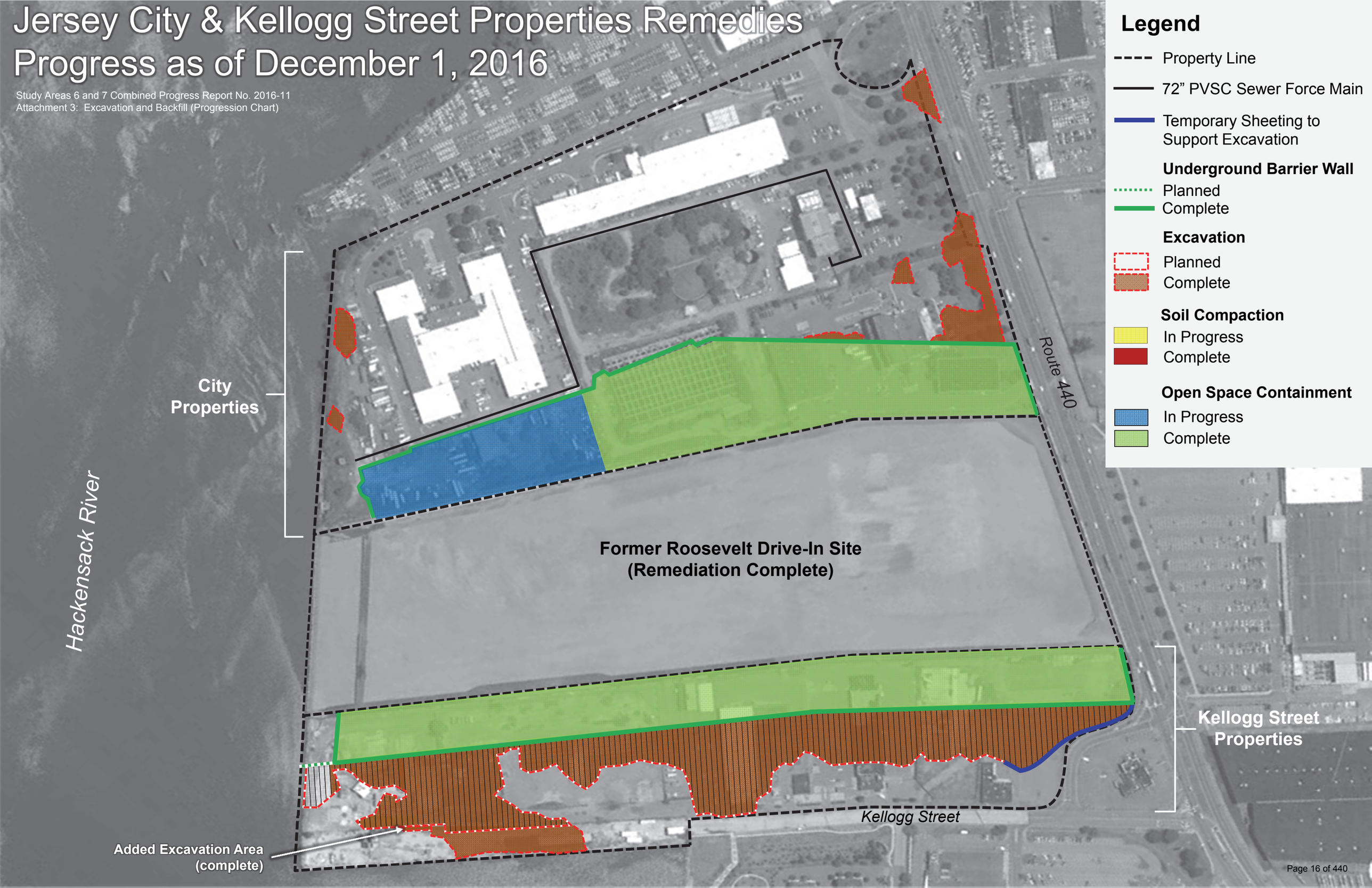
Site Photograph 5: Securing straw matting on SA-6S Open Space Area.

Site Photograph 6: Watering the SA-6S Open Space Area.

Attachment 3: Excavation and Backfill Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of December 1, 2016

Study Areas 6 and 7 Combined Progress Report No. 2016-11
Attachment 3: Excavation and Backfill (Progression Chart)



Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

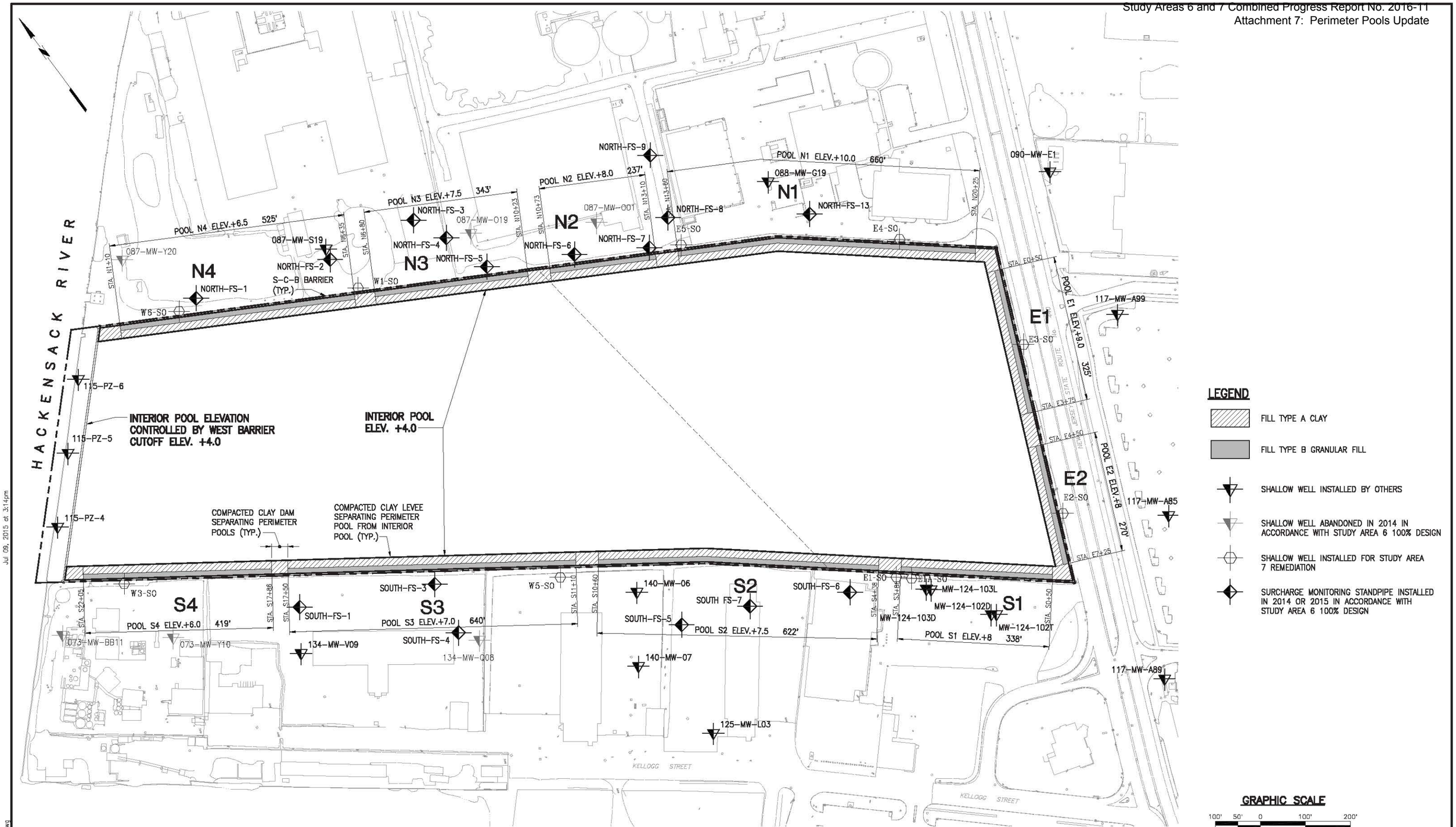
DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
07/07/16	7:30	12:00	4:30	43,596.37	43,642.93	46,560	43,642,480	PVSC Compliance Sample Collected
07/15/16	10:00	14:00	4:00	43,642.93	43,692.98	50,050	43,692,530	
07/26/16	9:00	14:00	5:00	43,692.98	43,794.27	101,290	43,793,820	
07/27/16	7:00	15:00	8:00	43,794.27	43,826.36	32,090	43,825,910	
07/28/16	9:00	15:00	6:00	43,826.36	43,860.98	34,620	43,860,530	
08/01/16	9:00	15:00	6:00	43,860.98	43,896.38	35,400	43,895,930	PVSC Compliance Sample Collected
08/11/16	9:00	16:00	7:00	43,896.38	43,958.93	62,550	43,958,480	
08/12/16	9:30	13:45	4:15	43,958.93	43,998.63	39,700	43,998,180	
08/19/16	8:00	13:30	5:30	43,998.63	44,062.58	63,950	44,062,130	
09/08/16	7:00	13:00	6:00	44,062.58	44,120.80	58,220	44,120,350	PVSC Compliance Sample Collected
10/05/16	8:00	11:00	3:00	44,120.80	44,158.46	37,660	44,158	PVSC Compliance Sample Collected
11/01/16	8:00	10:00	2:00	44,158.46	44,204.91	46,450	44,205	Final reading; system disassembled 11/1/16

Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

(not included in this reporting period)

Attachment 7: Perimeter Pools Update



IN PROGRESS

06-10-2015

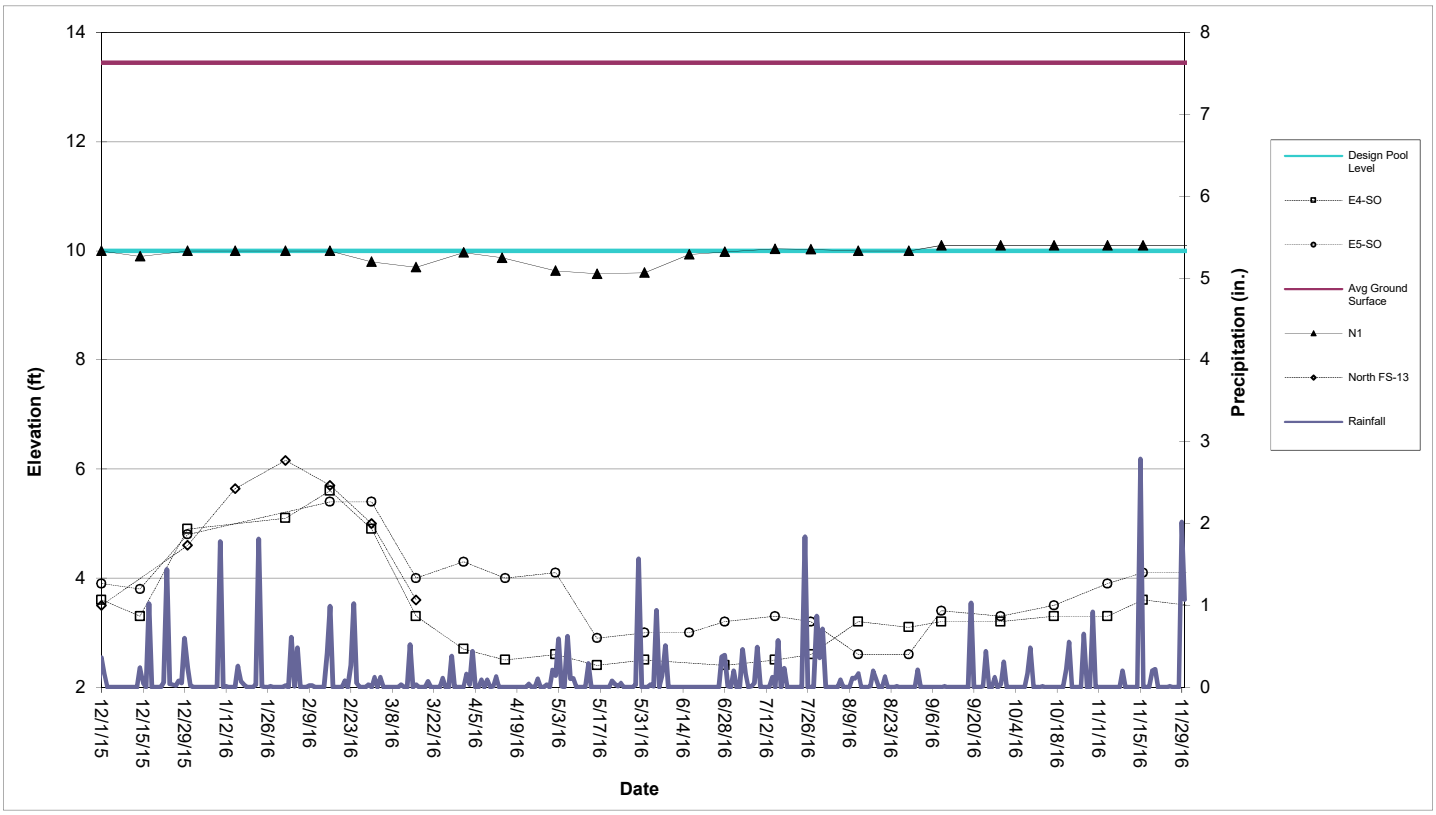
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

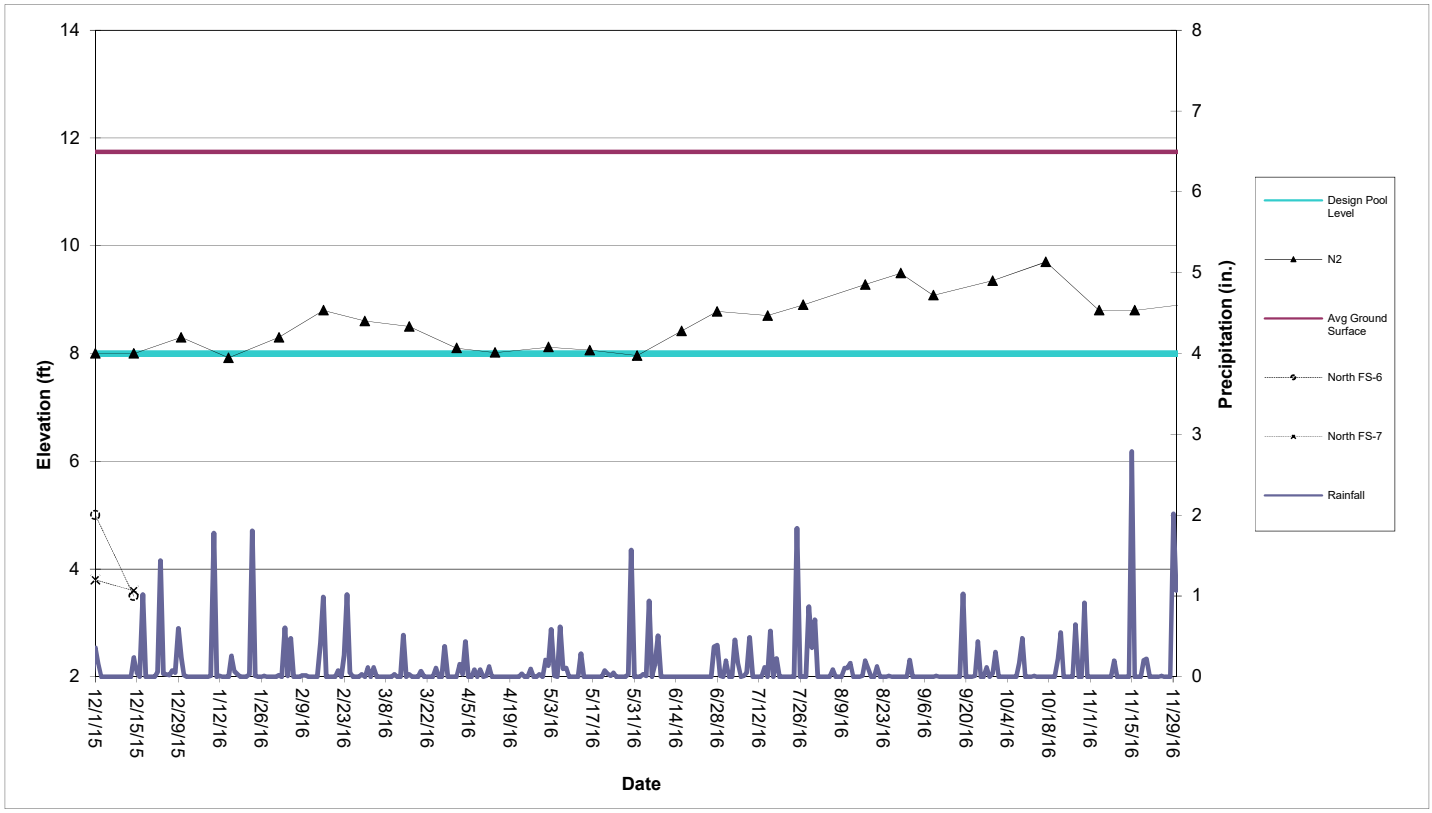
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

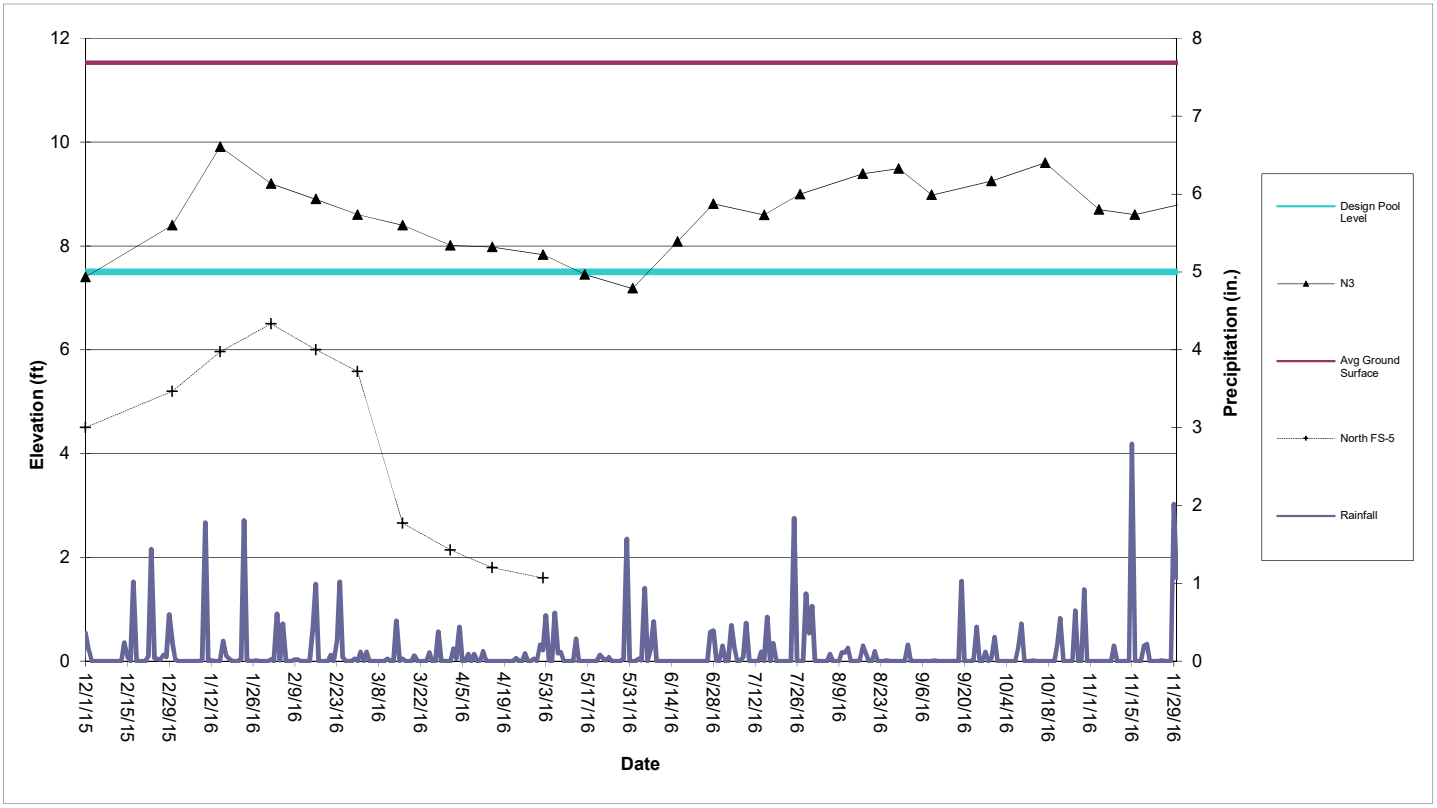
Jul 09, 2015 at 3:14pm
G:\DWGS\102\10210\Dewatering\PP-1.dwg
bboscaino



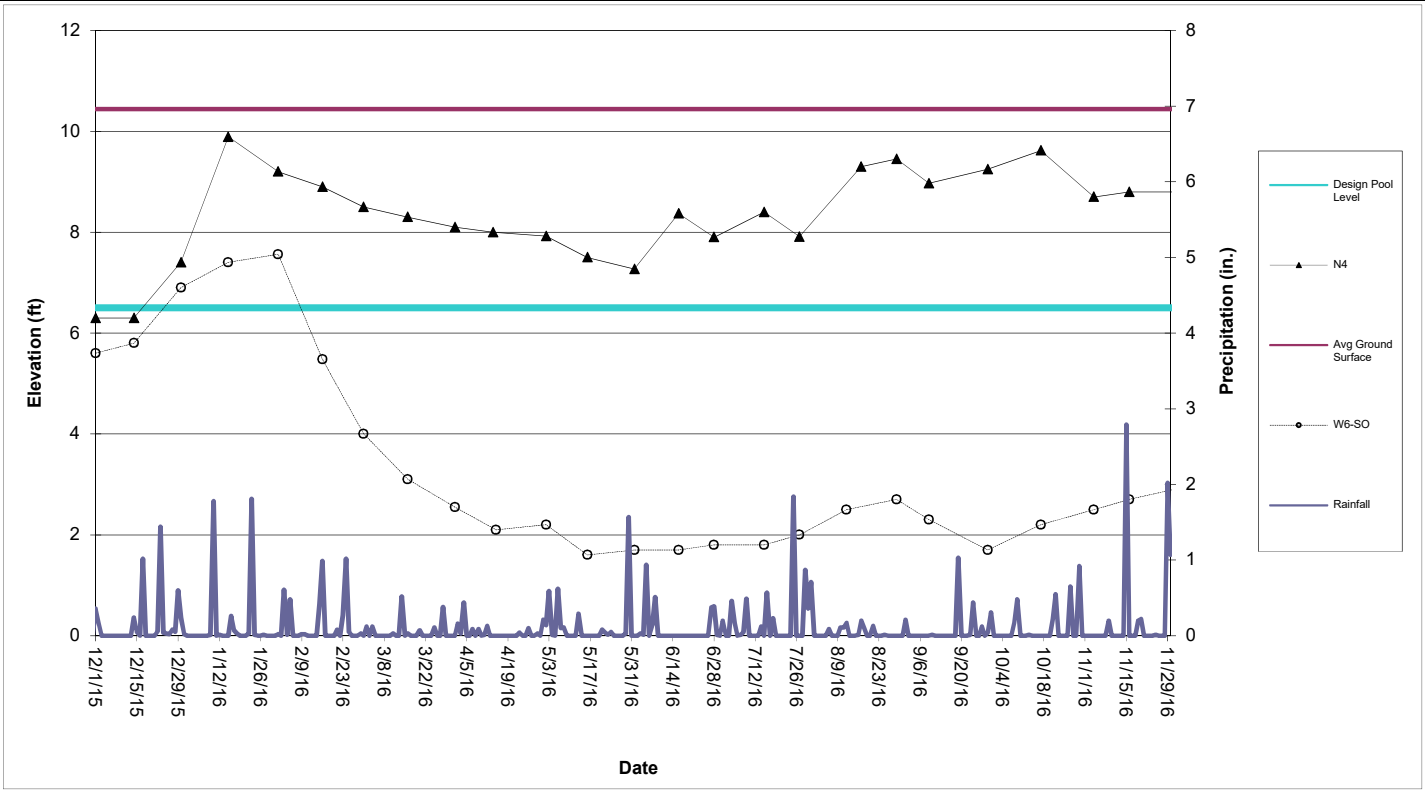
Perimeter Pool N1 (Sta. N13+60 to N20+25)



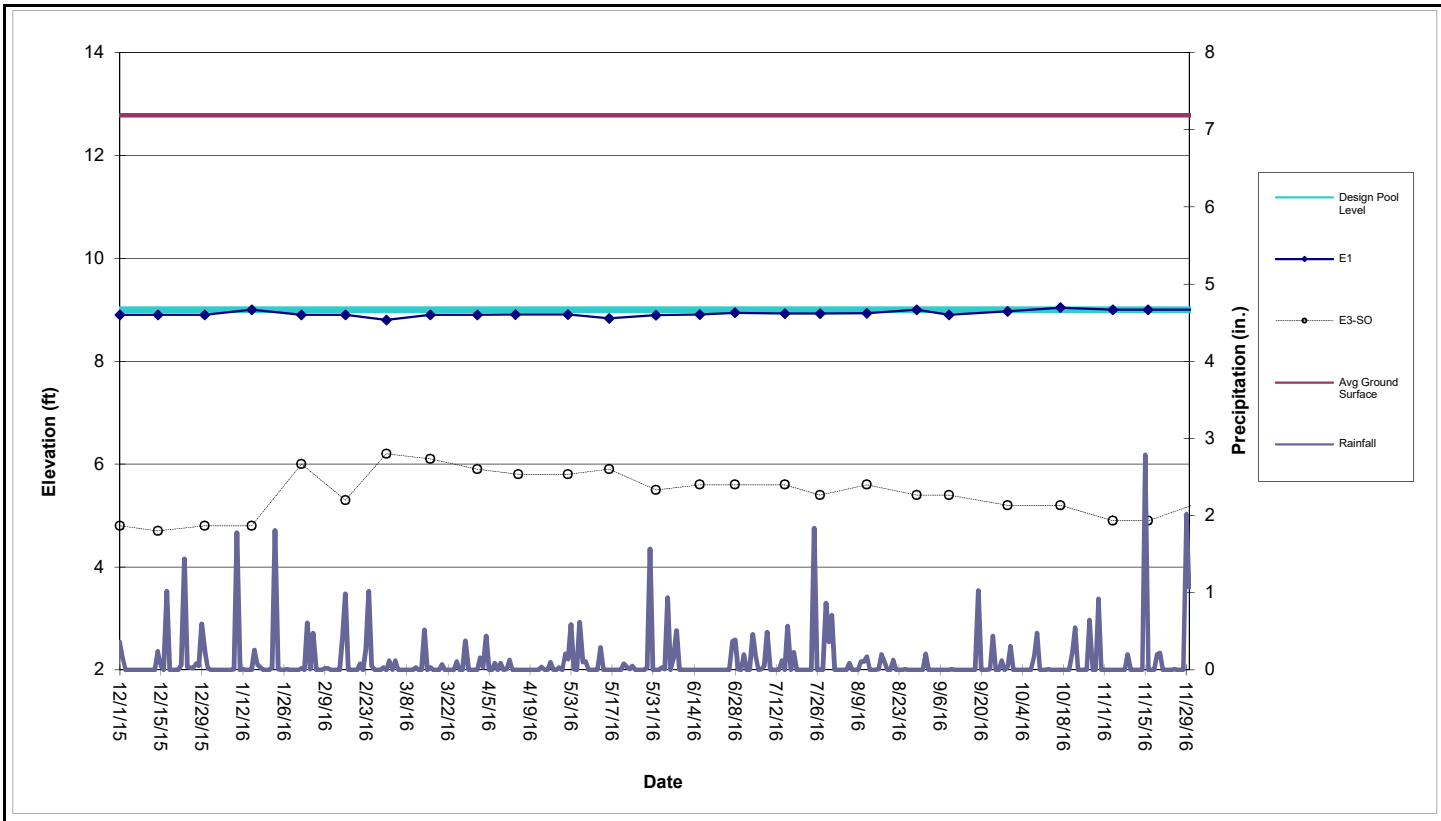
Perimeter Pool N2 (Sta. N10+73 to N13+10)



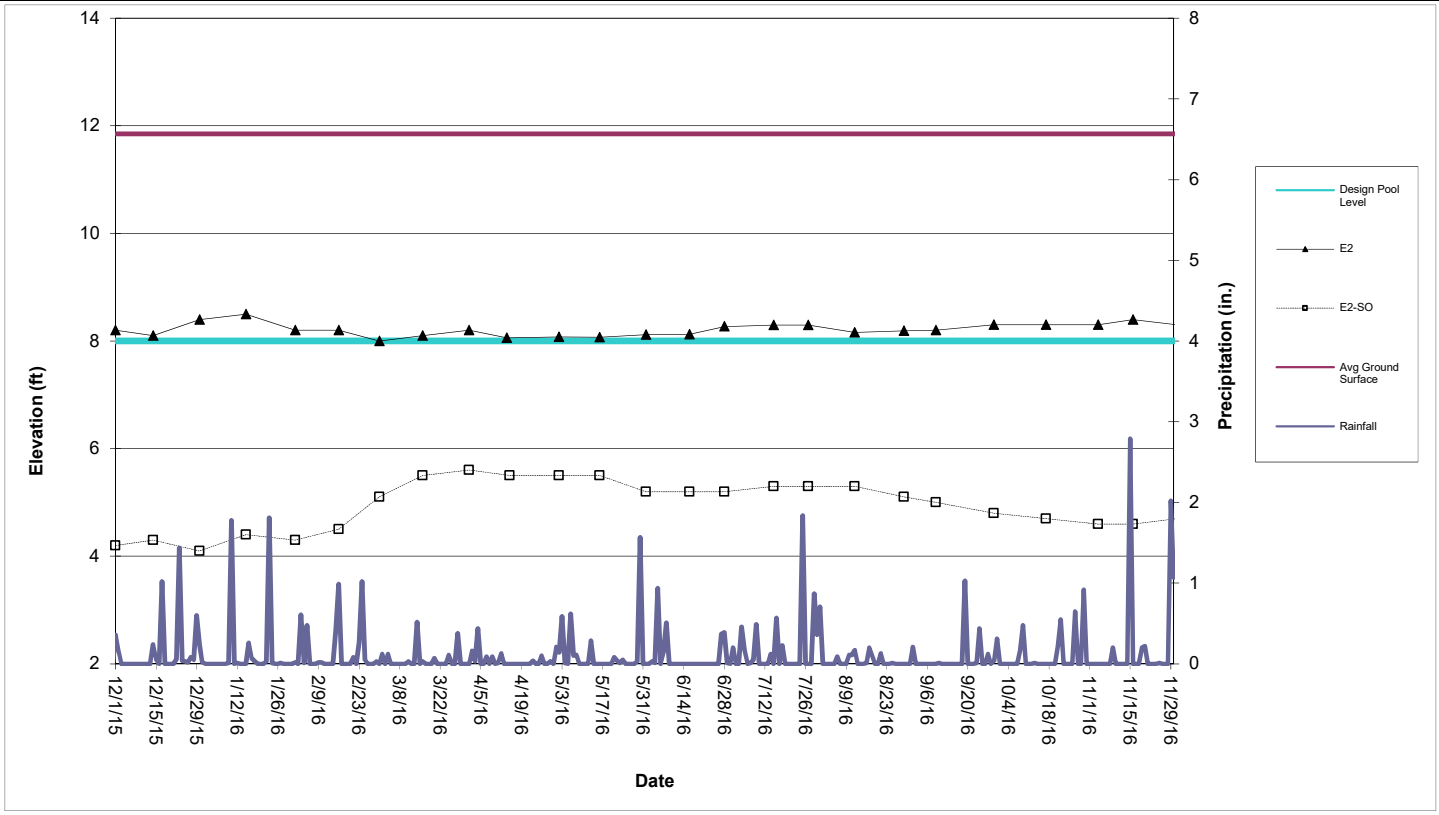
Perimeter Pool N3 (Sta. N6+80 to N10+23)



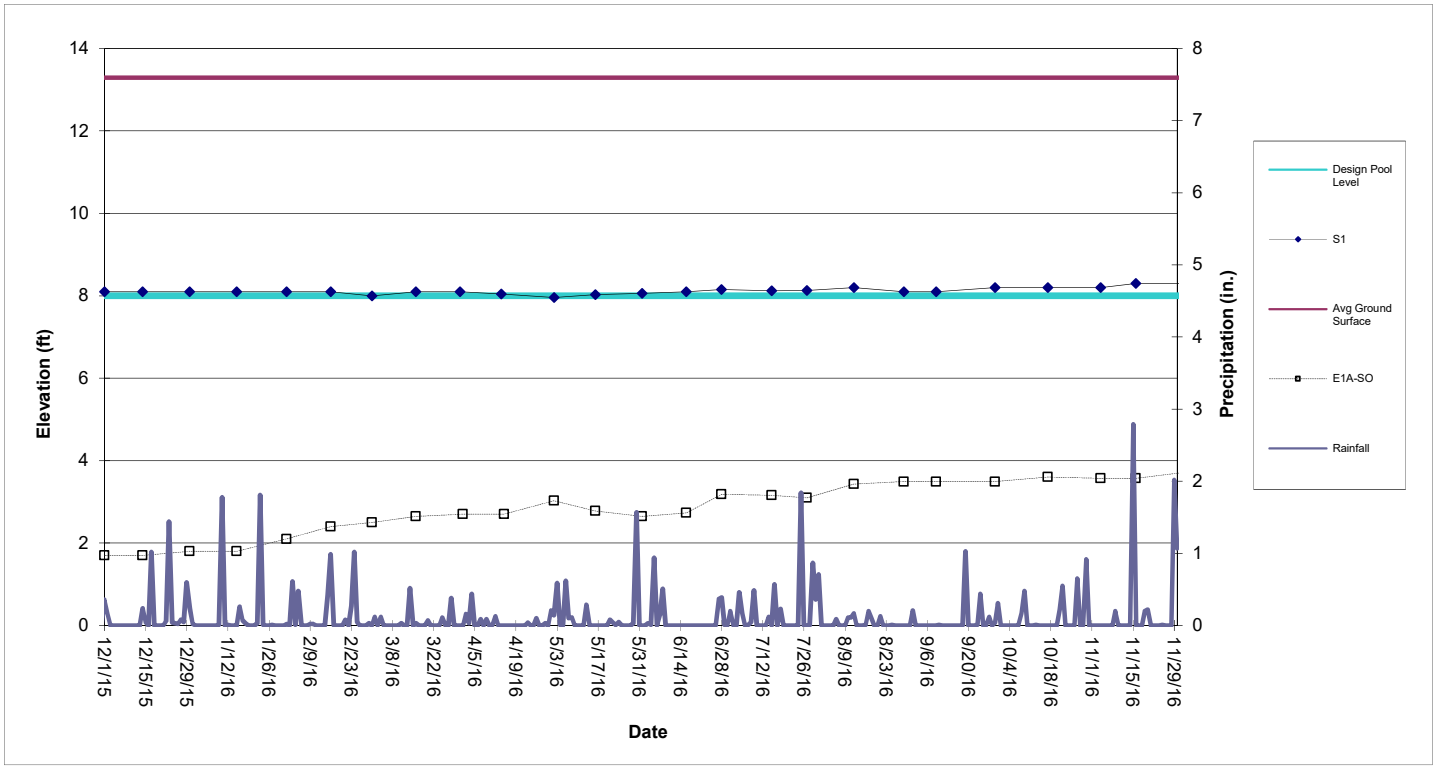
Perimeter Pool N4 (Sta. N6+80 to N10+23)



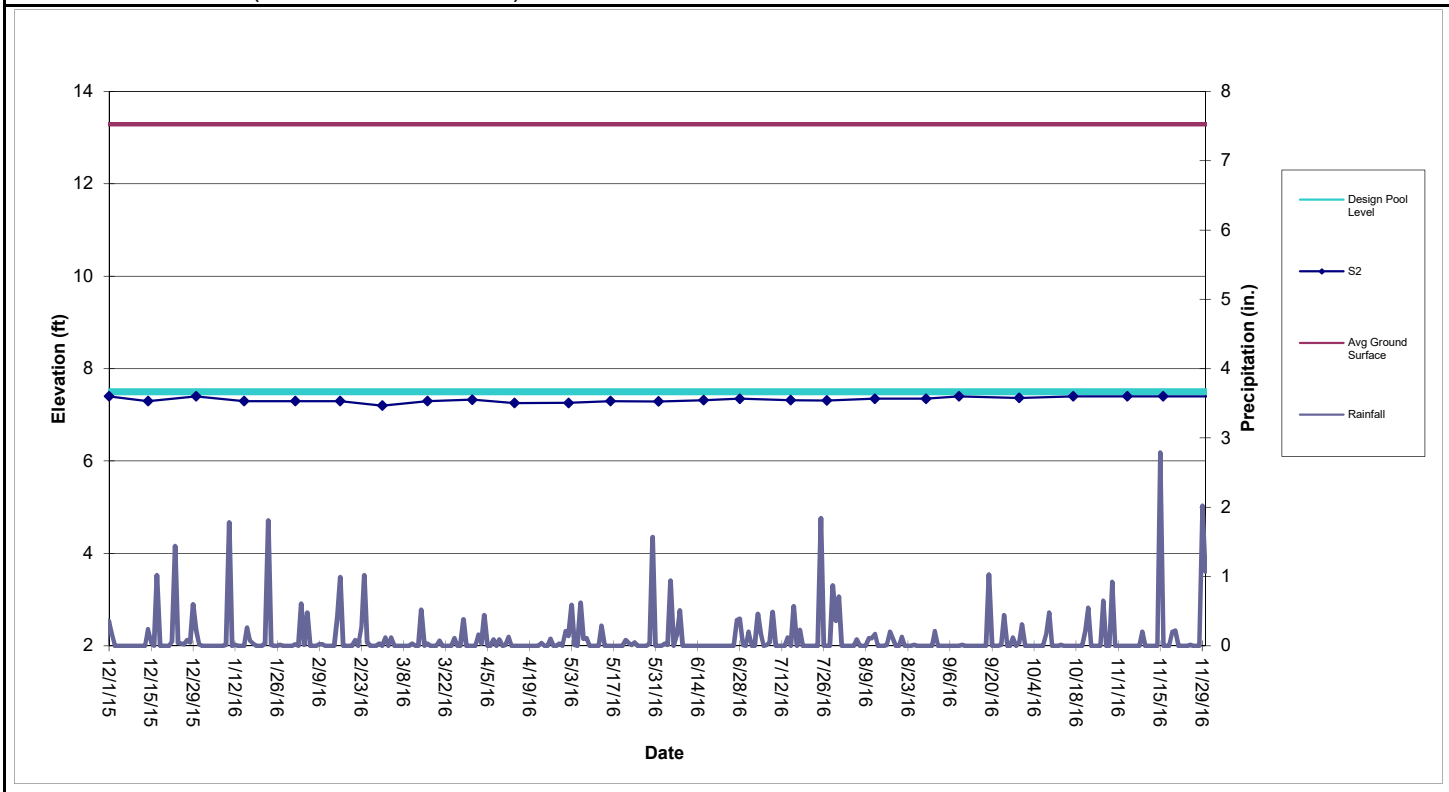
Perimeter Pool E1 (Sta. E0+50 to E3+75)



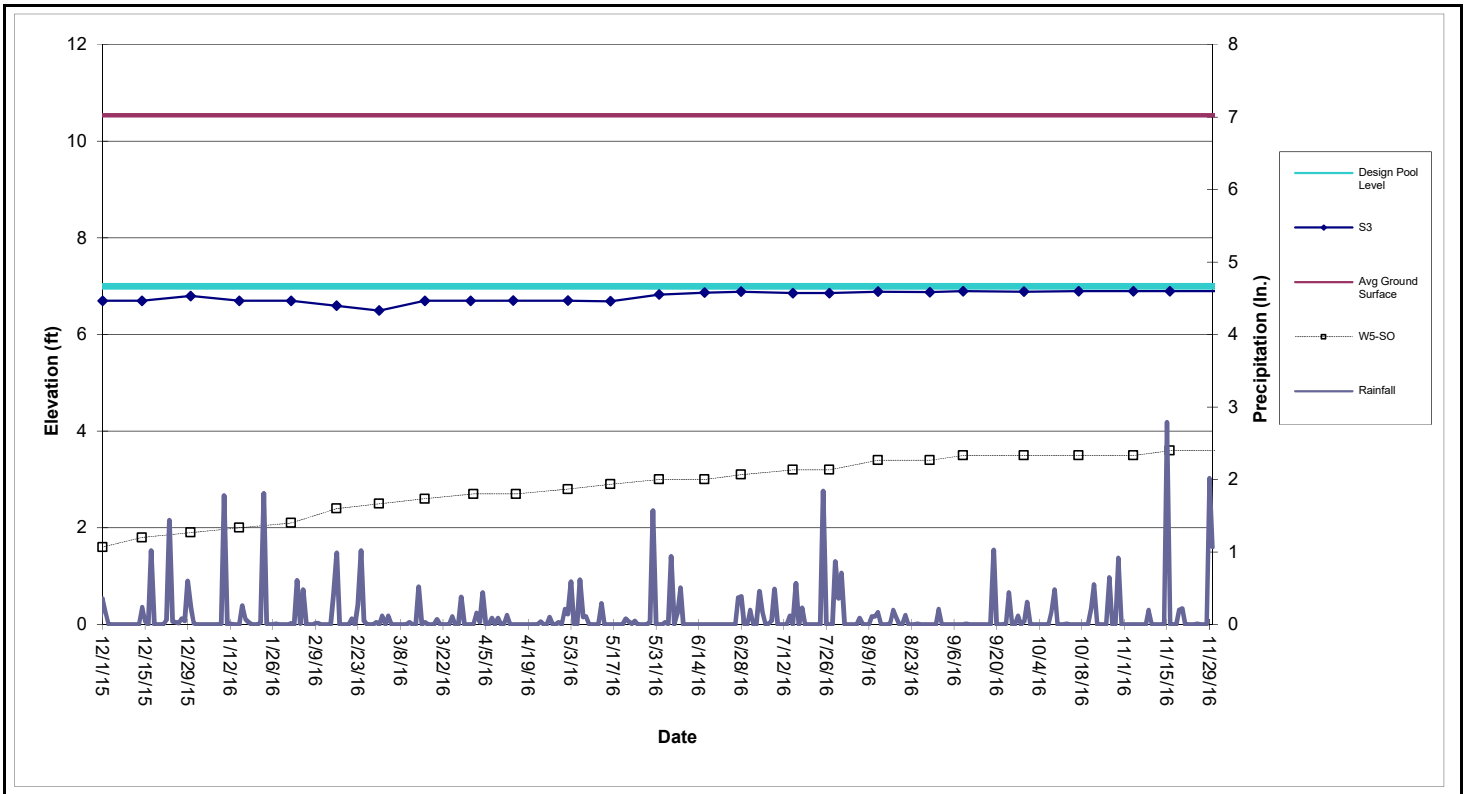
Perimeter Pool E2 (Sta. E4+50 to E7+25)



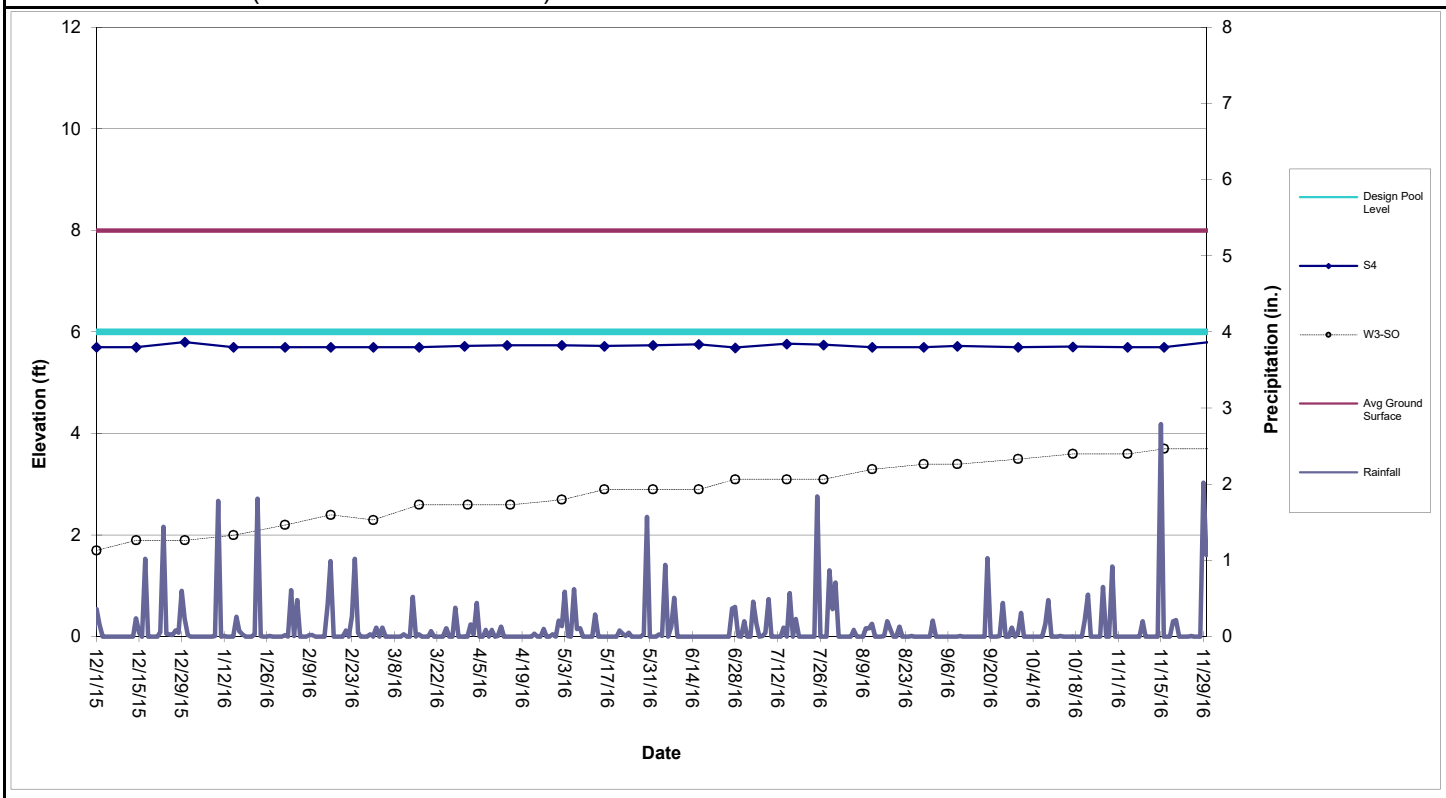
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North			
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-5	FS-6	FS-7	FS-13
Date													
12/1/2015	1.7	4.2	4.8	3.6	3.9	6.2	1.7	1.6	5.6	4.5	5.0	3.8	3.5
12/14/2015	1.7	4.3	4.7	3.3	3.8	6.2	1.9	1.8	5.8		3.5	3.6	
12/30/2015	1.8	4.1	4.8	4.9	4.8	7.5	1.9	1.9	6.9	5.2			4.6
1/15/2016	1.8	4.4	4.8			7.9	2.0	2.0	7.4	6.0			5.6
2/1/2016	2.1	4.3	6.0	5.1		7.7	2.2	2.1	7.6	6.5			6.2
2/16/2016	2.4	4.5	5.3	5.6	5.4	6.7	2.4	2.4	5.5	6.0			5.7
3/1/2016	2.5	5.1	6.2	4.9	5.4	5.1	2.3	2.5	4.0	5.6			5.0
3/16/2016	2.7	5.5	6.1	3.3	4.0	4.2	2.6	2.6	3.1	2.7			3.6
4/1/2016	2.7	5.6	5.9	2.7	4.3	3.5	2.6	2.7	2.6	2.1			
4/15/2016	2.7	5.5	5.8	2.5	4.0	2.9	2.6	2.7	2.1	1.8			
5/2/2016	3.0	5.5	5.8	2.6	4.1		2.7	2.8	2.2	1.6			
5/16/2016	2.8	5.5	5.9	2.4	2.9	2.4	2.9	2.9	1.6				
6/1/2016	2.7	5.2	5.5	2.5	3.0	2.5	2.9	3.0	1.7				
6/16/2016	2.7	5.2	5.6		3.0	2.5	2.9	3.0	1.7				
6/28/2016	3.2	5.2	5.6	2.4	3.2	2.3	3.1	3.1	1.8				
7/15/2016	3.2	5.3	5.6	2.5	3.3	2.4	3.1	3.2	1.8				
7/27/2016	3.1	5.3	5.4	2.6	3.2	2.3	3.1	3.2	2.0				
8/12/2016	3.4	5.3	5.6	3.2	2.6	2.8	3.3	3.4	2.5				
8/29/2016	3.5	5.1	5.4	3.1	2.6	2.8	3.4	3.4	2.7				
9/9/2016	3.5	5.0	5.4	3.2	3.4	2.6	3.4	3.5	2.3				
9/29/2016	3.5	4.8	5.2	3.2	3.3	3.1	3.5	3.5	1.7				
10/17/2016	3.6	4.7	5.2	3.3	3.5	2.3	3.6	3.5	2.2				
11/4/2016	3.6	4.6	4.9	3.3	3.9	2.5	3.6	3.5	2.5				
11/16/2016	3.6	4.6	4.9	3.6	4.1	2.7	3.7	3.6	2.7				

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4, FS-5, FS-6, FS-7, FS-13
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09,

Attachment 8: Groundwater Quality Data

(not included in this reporting period)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

(not included in this reporting period)

Attachment 11: Capping Update (SA-6 Cap Subgrade Progress Maps)

LEGEND

HORIZON C SOIL PLACED

STRUCTURAL FILL PLACED

SCB WALL

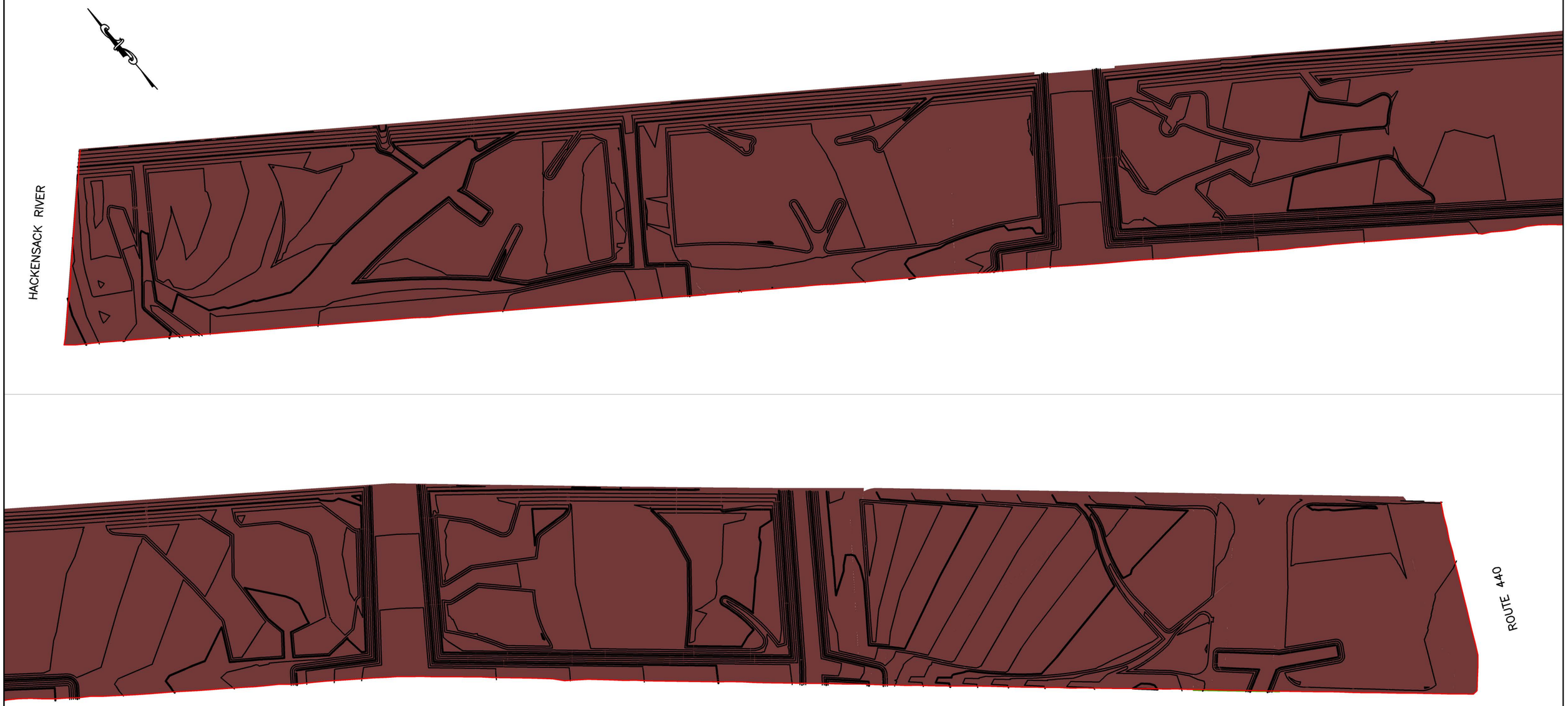
HB WALL

TOPSOIL PLACED

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 NORTH CAP COVER SOILS PROGRESS MAP
12/05/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



LEGEND

TOPSOIL PLACED

SCB WALL

HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP COVER SOILS PROGRESS MAP
11/04/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: November 4, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☒ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment			X	
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		3
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		4
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 11/07/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, November 04, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710
PERMIT CLOSED

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJI f

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen material has become detached from the perimeter fence on SA-6 South along Kellogg Street and by the Kellogg Street jughandle.
2	IA2Q4A1AL8	Garbage has accumulated on the grassy area by the Kellogg Street jughandle.
3	IA2Q4A1AL8	Windscreen material has become detached from the perimeter fence on SA-6 north adjacent to the JCMUA property.
4	IA2Q4A1AL8	Garbage has accumulated in the SA-6 North pedestrian walkway along Rte. 440.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 11/07/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach the windscreen fabric to the perimeter fence as required.	RAD 11/10/16
2	Pick up and dispose of accumulated garbage/refuse.	
3	Re-attach the windscreen fabric to the perimeter fence as required.	
4	Pick up and dispose of accumulated garbage/refuse.	

Construction Manager: _____ Date: 11/10/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: November 11, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment			X	
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X	X		2
Ponded Storm Water	X			
Housekeeping		X		3
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		4
Storm Drain Protection		X		5
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		6
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		7
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 11/14/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, November 11, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710
PERMIT CLOSED

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJIf

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	REPEAT: Windscreen material has become detached from the perimeter fence on SA-6 South along Kellogg Street and by the Kellogg Street jughandle.
2	IA2Q4A1AL8	Filter fabric in all catch basins on SA-6 South must be replaced prior to demobilization.
3	IA2Q4A1AL8	REPEAT: Garbage has accumulated on the grassy area by the Kellogg Street jughandle.
4	IA2Q4A1AL8	Windscreen material has become detached from the perimeter fence along the JCMUA parking lot.
5	IA2Q4A1AL8	Filter fabric in all catch basins on SA-6 North must be replaced prior to demobilization.
6	EEPSQU02YB	Sediment control measures (silt fence or hay bales) are missing in several areas surrounding the Novartis material stockpile area on SA-7.
7	IA2Q4A1AL8	Filter fabric in all catch basins on SA-7 must be replaced prior to demobilization.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 11/14/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach the windscreen fabric to the perimeter fence as required.	All will
2	Replace filter fabric in all catch basins on SA-6 South and on Kellogg Street.	be done
3	Pick up and dispose of accumulated garbage/refuse.	prior to
4	Re-attach the windscreen fabric to the perimeter fence as required.	demob.
5	Replace filter fabric in all catch basins on SA-6 North.	RAD
6	Complete the installation of sediment control measures around the Novartis stockpile area on SA-7.	
7	Replace filter fabric in all catch basins on SA-7.	11-17-16

Construction Manager: _____ Date: 11/17/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: November 18, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment			X	
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X	X		2
Ponded Storm Water	X			
Housekeeping		X		3
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		4
Storm Drain Protection		X		5
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		6
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 11/21/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, November 18, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710
PERMIT CLOSED

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJIf

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	**REPEAT:** Windscreen material has become detached from the perimeter fence on SA-6 South along Kellogg Street and by the Kellogg Street jughandle.
2	IA2Q4A1AL8	**REPEAT:** Filter fabric in all catch basins on SA-6 South must be replaced prior to demobilization.
3	IA2Q4A1AL8	**REPEAT:** Garbage has accumulated on the grassy area by the Kellogg Street jughandle.
4	IA2Q4A1AL8	**REPEAT:** Windscreen material has become detached from the perimeter fence along the JCMUA parking lot.
5	IA2Q4A1AL8	**REPEAT:** Filter fabric in all catch basins on SA-6 North must be replaced prior to demobilization.
6	EEPSQU02YB	**REPEAT:** Sediment control measures (silt fence or hay bales) are missing in several areas surrounding the Novartis material stockpile area on SA-7.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 11/21/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach the windscreen fabric to the perimeter fence as required.	11/23/16 RAD
2	Replace filter fabric in all catch basins on SA-6 South and on Kellogg Street.	
3	Pick up and dispose of accumulated garbage/refuse.	
4	Re-attach the windscreen fabric to the perimeter fence as required.	
5	Replace filter fabric in all catch basins on SA-6 North.	
6	Complete the installation of sediment control measures around the Novartis stockpile area on SA-7.	

Construction Manager: _____ Date: 11/23/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: November 23, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment			X	
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection		X		2
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 11/23/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Wednesday, November 23, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710
PERMIT CLOSED

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJI

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	REPEAT: Windscreen material has become detached from the perimeter fence along the JCMUA parking lot.
2	IA2Q4A1AL8	REPEAT: Filter fabric in all catch basins on SA-6 North must be replaced prior to demobilization.
3	EEPSQU02YB	REPEAT: Sediment control measures (silt fence or hay bales) are missing in several areas surrounding the Novartis material stockpile area on SA-7.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 11/23/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach the windscreen fabric to the perimeter fence as required.	12/1/16 RWD
2	Replace filter fabric in all catch basins on SA-6 North.	
3	Complete the installation of sediment control measures around the Novartis stockpile area on SA-7.	

Construction Manager: _____ Date: 12/01/16

Attachment 13: GWTP Update (525/575 Route 440 GWTP PVSC Discharge Monitoring Report - submitted October 2016)

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

November 21, 2016

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the October 2016 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy /sbc

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
10	01	16	10	31	16
\	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	78,106	84,582 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	0.96	1.04	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.1	<5.1	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1699	0.1699	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

11/17/2016

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North
ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)
FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305
NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
10	01	16	10	31	16
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,421,276 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 75,799,834

DATE	BOD (mg/l)	TSS (mg/l)
10/11/2016	5.9	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE 11/17/2016

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG — Honeywell Jersey City GWTP; SA-6 North (Permit #20630025) — MONTH: October 2016

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
10/1/2016	Angel Trujillo	73378558	73460508	81,950	0.08195	7.23	1.480									1.01
10/2/2016	Angel Trujillo	73460508	73536160	75,652	0.075652	7.40	1.480									0.93
10/3/2016	Angel Trujillo	73536160	73611812	75,652	0.075652	7.29	1.480									0.93
10/4/2016	Angel Trujillo	73611812	73689504	77,692	0.077692	7.31	1.480									0.96
10/5/2016	Angel Trujillo	73689504	73766524	77,020	0.07702	7.36	1.480									0.95
10/6/2016	Angel Trujillo	73766524	73849214	82,690	0.08269	7.46	1.480									1.02
10/7/2016	Angel Trujillo	73849214	73925458	76,244	0.076244	7.40	1.480									0.94
10/8/2016	Angel Trujillo	73925458	74007834	82,376	0.082376	7.35	1.480									1.02
10/9/2016	Angel Trujillo	74007834	74085721	77,887	0.077887	7.40	1.480									0.96
10/10/2016	Angel Trujillo	74085721	74163608	77,887	0.077887	7.79	1.480									0.96
10/11/2016	Angel Trujillo	74163608	74241954	78,346	0.078346	7.33	1.480	<5.1	5.9		<0.010	<0.030	<0.010	<0.0002	<0.020	0.97
10/12/2016	Angel Trujillo	74241954	74317348	75,394	0.075394	7.51	1.480									0.93
10/13/2016	Angel Trujillo	74317348	74394862	77,514	0.077514	7.51	1.480									0.96
10/14/2016	Angel Trujillo	74394862	74470970	76,108	0.076108	7.44	1.480									0.94
10/15/2016	Angel Trujillo	74470970	74555552	84,582	0.084582	7.41	1.480									1.04
10/16/2016	Angel Trujillo	74555552	74630410	74,858	0.074858	7.40	1.480									0.92
10/17/2016	Angel Trujillo	74630410	74705268	74,858	0.074858	7.41	1.480									0.92
10/18/2016	Angel Trujillo	74705268	74780890	75,622	0.075622	7.46	1.480									0.93
10/19/2016	Angel Trujillo	74780890	74858587	77,697	0.077697	7.47	1.480									0.96
10/20/2016	Angel Trujillo	74858587	74937348	78,761	0.078761	7.51	1.480									0.97
10/21/2016	Angel Trujillo	74937348	75014720	77,372	0.077372	7.37	1.480									0.96
10/22/2016	Angel Trujillo	75014720	75098742	84,022	0.084022	7.55	1.480									1.04
10/23/2016	Angel Trujillo	75098742	75175023	76,281	0.076281	7.30	1.480									0.94
10/24/2016	Angel Trujillo	75175023	75251304	76,281	0.076281	7.43	1.480									0.94
10/25/2016	Angel Trujillo	75251304	75329662	78,358	0.078358	7.49	1.480									0.97
10/26/2016	Angel Trujillo	75329662	75407004	77,342	0.077342	7.44	1.480									0.95
10/27/2016	Angel Trujillo	75407004	75484996	77,992	0.077992	7.40	1.480									0.96
10/28/2016	Angel Trujillo	75484996	75564766	79,770	0.07977	7.52	1.480									0.98
10/29/2016	Angel Trujillo	75564766	75646364	81,598	0.081598	7.51	1.480									1.01
10/30/2016	Angel Trujillo	75646364	75723099	76,735	0.076735	7.30	1.480									0.95
10/31/2016	Angel Trujillo	75723099	75799834	76,735	0.076735	7.39	1.480									0.95
TOTAL				2,421,276	2.421276			<5.1	5.9		<0.010	<0.030	<0.010	<0.0002	<0.020	
			High:	84,582											High:	1.04
			Average:	78,106											Average:	0.96

WW

E

JC 29431

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell

Chain Of Custody / Analysis Request

AESI Ref: 42863.61793
COC#: 087-WW-101116

Privileged & Confidential

Site Name: Hudson County
Phase: CS
Lab Proj # (SDG):
Location of Site: Jersey City, NJ
Sampling Program: 087: JCIA
Lab ID: ACTD
Site ID: HudsonCo
Lab Job #: HWINJM32815
Authorized User: Honeywell

Sampling Co.: MACTEC
EDD To:
Client Contact: (name, co., address)
Sampler: Frank Schroyer
Helen Fahy P. (973) 455-2989 E: helen.fahy@honeywell.com
PO #
Honeywell International
115 Tabor Road, Morris Plains, NJ 07950
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Preliminary Data To
Sample Receipt Acknowledgement To: Frank Schroyer
Hard Copy To: Helen Fahy (Honeywell)
Full Report TAT: 28 Days
Invoice To: Helen Fahy (Honeywell)

Text & Excel File Drive | Excel & Text File Order

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	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA W24-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
											Units																
	Preservative												3	3	3	1	2	2	0	0	2						
1	087-WW			087-WWE-101116-A	10/11/2016	14:25	WW	WATER	REG	5	comp	N	X	X	X	X			X	X		1					A7
2	087-WW			087-WWE-101116-B	10/11/2016	14:30	WW	WATER	REG	5	grab	N					X	X				2					G13
3	087-WW			087-WWI-101116	10/11/2016	14:35	WW	WATER	REG	3	grab	N									X	3					C32
4																											V237
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

Relinquished by: 7.03 S.U. @ 7.4°C	Company: AMEC Foster Wheeler	Received by:	Company: ACCUTEST	Condition		Custody Seals Intact	
Frank Schroyer	Date/Time: 10/11/16 1500		Date/Time: 10/11/16 1500	Cooler Temp.			
Relinquished by:	Company: ACCUTEST	Received by:	Company: SGS	Condition: UFC		Custody Seals Intact	
	Date/Time: 10/11/16 1800		Date/Time: 10/11/16 1800	Cooler Temp: 22.9	B	727 ACCUTEST	

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

INITIAL ASESSMENT ZAM

LABEL VERIFICATION OK

SGS Accutest LabLink@934243 14:51 09-Nov-2016

Report of Analysis

Client Sample ID:	087-WWE-101116-A		
Lab Sample ID:	JC29431-1	Date Sampled:	10/11/16
Matrix:	AQ - Water	Date Received:	10/11/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.1 4

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1480	10	ug/l	1	10/12/16	10/13/16	ND	EPA 200.7 [2]	EPA 200.7 [3]
Copper	< 10	10	ug/l	1	10/12/16	10/13/16	ND	EPA 200.7 [2]	EPA 200.7 [3]
Lead [a]	< 30	30	ug/l	10	10/12/16	10/13/16	ND	EPA 200.7 [2]	EPA 200.7 [3]
Mercury	< 0.20	0.20	ug/l	1	10/13/16	10/13/16	JPM	EPA 245.1 [1]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	10/12/16	10/13/16	ND	EPA 200.7 [2]	EPA 200.7 [3]
Zinc	< 20	20	ug/l	1	10/12/16	10/13/16	ND	EPA 200.7 [2]	EPA 200.7 [3]

(1) Instrument QC Batch: MA40513
(2) Instrument QC Batch: MA40520
(3) Prep QC Batch: MP96496
(4) Prep QC Batch: MP96513

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

SGS Accutest LabLink@934243 14:51 09-Nov-2016

Report of Analysis

4.1 4

Client Sample ID:	087-WWE-101116-A		
Lab Sample ID:	JC29431-1	Date Sampled:	10/11/16
Matrix:	AQ - Water	Date Received:	10/11/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	10/13/16 12:45	RI	SM2540 D-11
pH [a]	6.94		su	1	10/11/16 18:24	JM	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

SGS Accutest LabLink@934243 14:51 09-Nov-2016

Report of Analysis

Client Sample ID:	087-WWE-101116-A		
Lab Sample ID:	JC29431-1A	Date Sampled:	10/11/16
Matrix:	AQ - Water	Date Received:	10/11/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.2 4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	5.9	5.0	mg/l	1	10/11/16 20:58	LS	SM5210 B-11

RL = Reporting Limit

SGS Accutest LabLink@934243 14:51 09-Nov-2016

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-101116-B		
Lab Sample ID:	JC29431-2	Date Sampled:	10/11/16
Matrix:	AQ - Water	Date Received:	10/11/16
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	T220132.D	1	10/12/16	BK	n/a	n/a	VT9043
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	10	1.3	ug/l	
107-13-1	Acrylonitrile	ND	10	1.2	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	4.2	1.0	0.11	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.14	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	3.9	1.0	0.19	ug/l	
108-90-7	Chlorobenzene	0.23	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.19	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.73	ug/l	
67-66-3	Chloroform	26.5	1.0	0.11	ug/l	
74-87-3	Chloromethane	ND	1.0	0.22	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.19	ug/l	
95-50-1	1,2-Dichlorobenzene	0.35	1.0	0.15	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.15	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.54	ug/l	
75-34-3	1,1-Dichloroethane	0.46	1.0	0.16	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.22	ug/l	
156-59-2	cis-1,2-Dichloroethene	67.5	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.1	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.17	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.16	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.17	ug/l	
123-91-1	1,4-Dioxane	ND	130	27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.11	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.80	1.0	0.16	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.18	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@934243 14:51 09-Nov-2016

Report of Analysis

Client Sample ID:	087-WWE-101116-B		
Lab Sample ID:	JC29431-2	Date Sampled:	10/11/16
Matrix:	AQ - Water	Date Received:	10/11/16
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3
4

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.12	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.17	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.18	ug/l	
79-01-6	Trichloroethene	62.9	1.0	0.16	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.55	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.19	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	99%		72-125%
2037-26-5	Toluene-D8 (SUR)	99%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	102%		74-115%
1868-53-7	Dibromofluoromethane (S)	100%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@934243 14:51 09-Nov-2016

Report of Analysis

Client Sample ID:	087-WWE-101116-B		
Lab Sample ID:	JC29431-2	Date Sampled:	10/11/16
Matrix:	AQ - Water	Date Received:	10/11/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3 4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.1	5.1	mg/l	1	10/13/16 14:25	TT	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log		
Changed Item Identifier	**Description of Change**	**Comments**
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentation Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only as clarification or response to RFI.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2014-11-20	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-11-20 includes the french drain installation, electrical supply and discharge piping for SA-6 North.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
DC 2016-6-6	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-6-10 includes the revised electrical supply and discharge piping for SA-6 North.	Submitted to Parties as Attachment to Declaration 004. (Design Change ID changed from DC 2016-6-10 to DC 2016-6-6 to reflect actual date on Design Change form).
DC 2015-2-24	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to document the changes in the SA-6 North and South cap subgrades that resulted from the change to a trench system.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA-6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Parties as Attachment to Declaration 004.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on May 27, 2015.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on May 27, 2015.

SA-6 North/South Field Change Log		
Changed Item Identifier	**Description of Change**	**Comments**
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-04-30	A concrete protuberance was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groundwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on June 22, 2015.
DC 2015-07-31	The sheet pile pair is located at Sta. 0+50. Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA-6S Caps. As such, Paragraph 3.02 is no longer required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	Submitted to Parties as Attachment to Declaration 004.
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	Submitted to Parties as Attachment to Declaration 003.

SA-6 North/South Field Change Log		
Changed Item Identifier	**Description of Change**	**Comments**
DC 2015-11-18	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	Submitted to Parties as Attachment to Declaration 003.
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.
DC 2015-10-22	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-12-14	Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds that cannot be tested by other means. Spark testing will be performed in accordance with ASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative. Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	Submitted to Parties on January 14, 2016.
DC 2015-11-30	EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation. A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals. EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits. A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.	Submitted to Parties as Attachment to Declaration 003.
DC 2016-02-02	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design.	Submitted to Parties as Attachment to Declaration 004. (Design Change ID changed from DC 2016-02-03 to DC 2016-02-02 to reflect actual date on Design Change form).
DC 2016-02-22	AmecFW revised the SA-6 North cap subgrade in a single localized area in order to accommodate Entact's request to relocate Pump Station #1 (RFI 64). The subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location. In addition, for grading purposes, any hydraulic barrier sheets within the Sedimentation Basin that have sections below elevation 12.0 will be trimmed to a uniform elevation of 11.5.	Submitted to Parties as Attachment to Declaration 004.
DC 2016-02-25	This DCB has been issued to provide Entact with the latest SA-6 North HB Wall and SCB wall plan and profile drawings (SN-201 thru SN-205), which were modified to reflect changes made in DC 2016-02-22.	Submitted to Parties as Attachment to Declaration 004.
DC 2016-05-03	The laboratory results of all gradations for planting soils shall be presented in terms of the USDA classification system rather than the USCS classification system.	Submitted to Contractor only as clarification or response to RFI.

SA-6 North/South Field Change Log		
Changed Item Identifier	**Description of Change**	**Comments**
DC 2016-03-18	This DC 2016-03-18 documents the revised acceptable ranges of physical parameters and provides an updated specification made in consultation with Dr. Grabosky of Rutgers University. Dr. Grabosky provided his recommendations in correspondence dated 3/17/2016.	Submitted to Parties on March 22, 2016. Plaintiffs responded in a letter dated April 15, 2016. Plaintiffs and Honeywell subsequently held discussions and DCB 2016-04-20 was developed to document an agreement reached by all parties on the Special Master All-Hands monthly call on April 19, 2016.
DC 2016-03-21	Nature's Choice was identified as the source that best met the physical requirements for Horizon C soils by Dr. Grabosky; however, several samples of Nature's Choice Horizon C soils have hexavalent chromium concentration >1.0 mg/kg. Consequently, Honeywell is proposing a design change to allow the hexavalent chromium concentration in Nature's Choice Horizon C soils to be less than 1.8 mg/kg, as agreed to by the parties, as documented in the attached emails. For future sampling, hexavalent chromium soil samples will be composited from 10 grab sample locations per 5,000 CY (maximum). There are additional conditions in Attachment A that are part of this DCB and specific to Nature's Choice Horizon C soil. All other requirements specified in the 100% Design for imported soils will be met by the Nature's Choice Horizon C soils as amended in previous DC 2015-09-17.	Submitted to Parties on March 22, 2016.
DC 2016-04-20	This DCB documents the approved sources of Horizon B and Horizon C materials, as agreed to by all parties on the Special Master All-Hands monthly call on April 19, 2016.	Submitted to Parties on April 21, 2016.
DC 2016-5-11	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design. As part of DC 2016-5-11, AmecFW issued SA-6 North Interim Grades to Entact.	Submitted to Parties as Attachment to Declaration 004.
DC 2016-5-20	After further review, AmecFW lowered the geomembrane Pump Station #1 on the SA-6 North cap in order to provide additional separation between the geomembrane and the bottom of the vault. (Refer to DC 2016-02-22).	Submitted to Parties on June 15, 2016.
DC 2016-7-14	Design change documenting minor grading adjustments to improvements to drainage off of the SA6N Open Space Area.	DCB will be provided to Parties in the November 2016 monthly progress report and included in the finalized Declaration No. 4.
DC 2016-7-12	DC 2016-7-12 clarifies the limit of GCL deployment and the location of the sand bentonite plug in the SA-6 North cap.	Included as an attachment to July 2016 Monthly Progress Report.

DCB-2016-7-14: North Cap – Field Engineered Subgrade Adjustments
(Attachment 14: SA-6 North & South Design Change Tracking Log)

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PDESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** **Type:** Minor(a) **Effective Date:** 7/14/16
Project Location: SA-6 North	**Associated RFI:**
Title: North Cap - Field Engineered Subgrade Adjustments	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

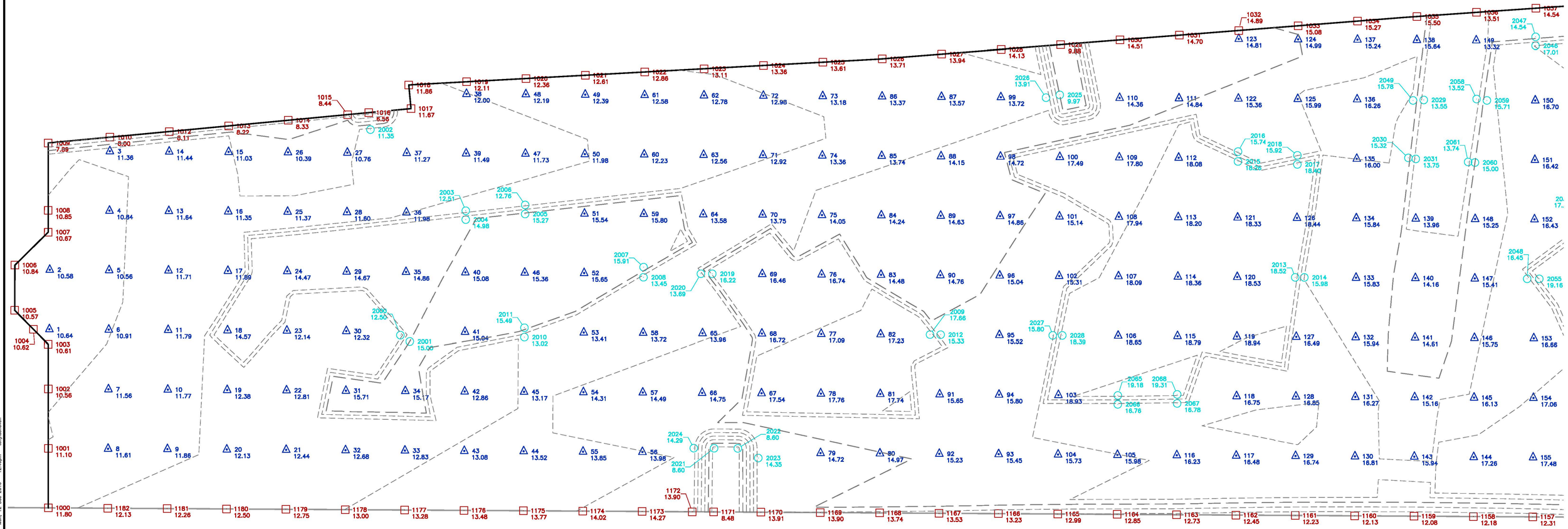
Description.

During the course of subgrade construction two field conditions were identified that resulted in the need for minor adjustments to several small localized areas of the subgrade to achieve positive drainage. In one area these field developed changes resulted in a change in elevation of the Construction Control Grid subgrade elevation.

In addition there were several minor changes in the top elevation of the Hydraulic Barrier wall. These changes were made to avoid major changes to the Construction Water Treatment forcemain and to address several locations where the final top elevations of driven sheets were slightly below the design levels. These changes did result in a very small reduction in capacity under the cap and had no impact on the containment and hydraulic requirements of the wall. The changes are so minor they are not readily visible on the hard copy drawings. Revisions were issued to Entact in electronic format and will be incorporated in As Built documentation.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:**
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** Construction Control Grid Top of Barrier Wall and Subgrade
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 12/12/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



153 16.66 GRID POINT

2054 17.00 BREAK POINT

1157 12.31 BOUND POINT

0 10 20 40
SCALE IN FEET

DCB 054.5 – REVISED CONTROL GRID ELEVATIONS 12/12/16

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

NOTE: REFER TO FIGURE 1.3 FOR REVISED GRID POINT ELEVATION SUMMARY TABLE.

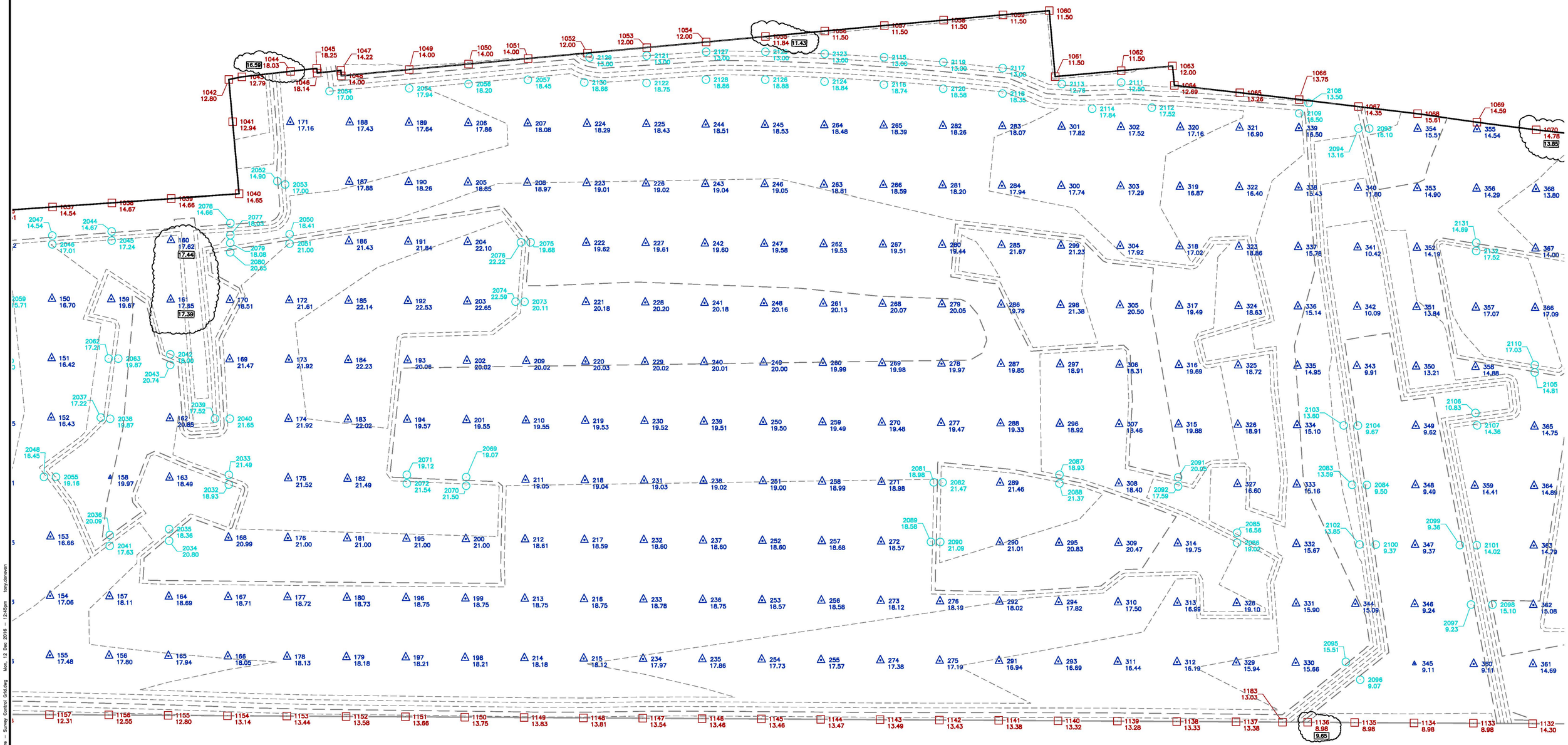
Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28001900

SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 1 OF 3
Project 3480-13-0377
Figure 1.1

C:\Donovan\SA- 6 North\2013 Excavation Surfaces\SA- 6 North Cap Surveys\Figure - Survey Control Grid.dwg Mon, 12 Dec 2016 - 12:46pm tony.donovan



153 16.66 GRID POINT

2054 17.00 BREAK POINT

1157 12.31 BOUND POINT

NOTE: REFER TO FIGURE 1.3 FOR REVISED GRID POINT ELEVATION SUMMARY TABLE.

0 10 20 40
SCALE IN FEET

DCB 054.5 – REVISED CONTROL GRID ELEVATIONS 12/12/16

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

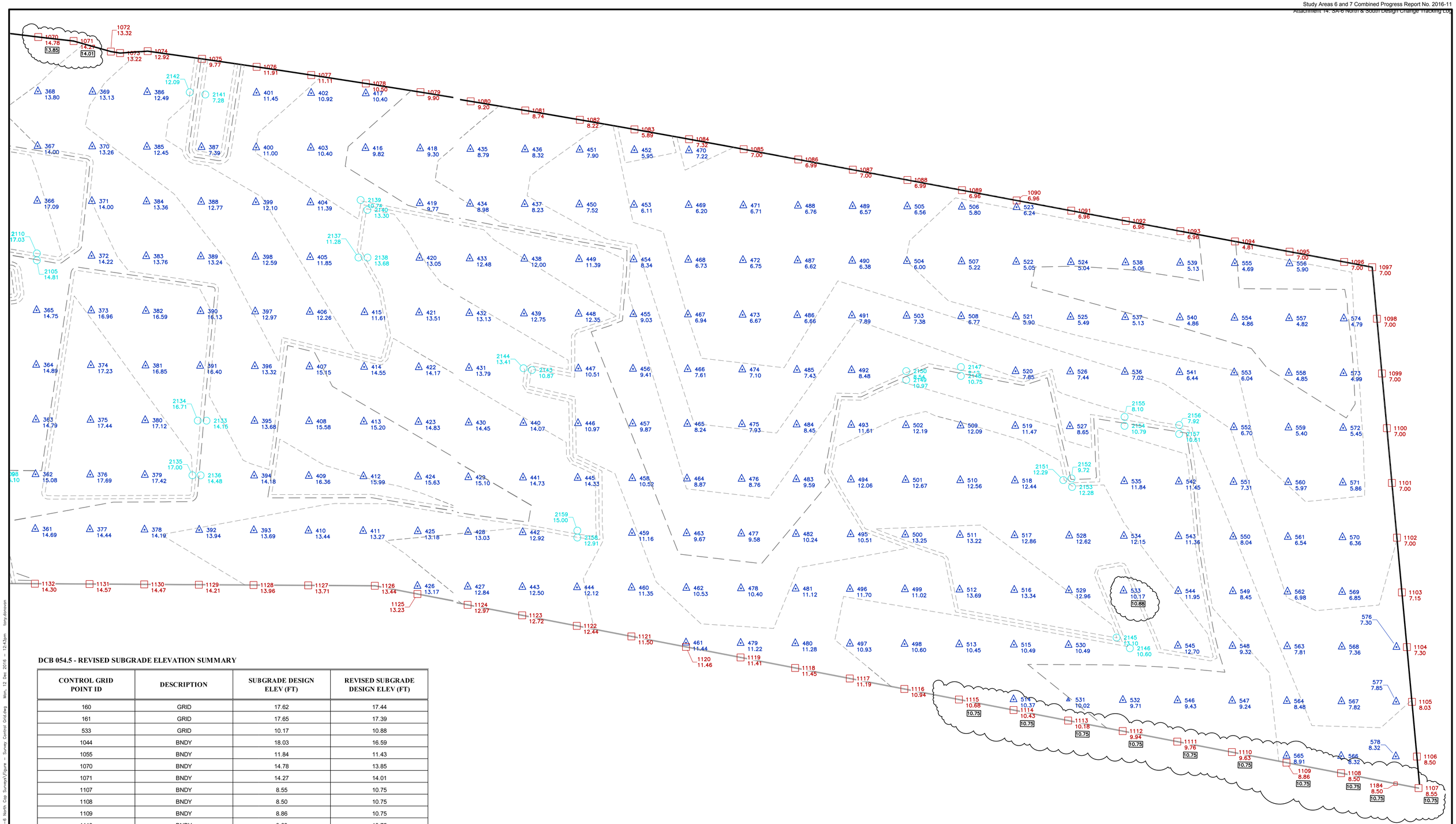
Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28019900

SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 2 OF 3
Project 3480-13-0377
Figure 1.2

C:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North Cap Surveys\Figure - Survey Control G06.dwg Mon, 12 Dec 2016 - 12:45pm tony.donovan



DCB 054.5 - REVISED SUBGRADE ELEVATION SUMMARY

CONTROL GRID POINT ID	DESCRIPTION	SUBGRADE DESIGN ELEV (FT)	REVISED SUBGRADE DESIGN ELEV (FT)
160	GRID	17.62	17.44
161	GRID	17.65	17.39
533	GRID	10.17	10.88
1044	BNDY	18.03	16.59
1055	BNDY	11.84	11.43
1070	BNDY	14.78	13.85
1071	BNDY	14.27	14.01
1107	BNDY	8.55	10.75
1108	BNDY	8.50	10.75
1109	BNDY	8.86	10.75
1110	BNDY	9.63	10.75
1111	BNDY	9.76	10.75
1112	BNDY	9.94	10.75
1113	BNDY	10.18	10.75
1114	BNDY	10.43	10.75
1115	BNDY	10.68	10.75
1136	BNDY	8.98	9.65
1184	BNDY	8.50	10.75

DCB 054.5 – REVISED CONTROL GRID ELEVATIONS 12/12/16

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 3 OF 3
Project 3480-13-0377
Figure 1.3

O:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North Cap Surveys\Figure - Survey Control Grid.dwg Mon, 12 Dec 2016 - 12:42pm tony.donovan

Attachment 15: EME Soils

10/13/16 Honeywell Corr: New Source of Horizon A Topsoil - SA-6
(Attachment 15: EME Soils)
Included in electronic copy only

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

October 13, 2016 ***via Electronic Mail***

The Honorable Robert G. Torricelli
Office of the Special Master
RGTSpecialMaster@aol.com

Re: New Source of Horizon A Topsoil
Study Area 6 (SA-6)
Jersey City, New Jersey

Dear Senator Torricelli:

Honeywell is preparing this letter to advise the parties that we have identified a new fill material from the Excavating Materials & Equipment, Inc. quarry in New Egypt, NJ, which can be used at SA-6 for Horizon A topsoil needs. A clean fill certification and mine registration certificate are provided in Attachment A.

Although the fill material is certified by the quarry, an analytical sample was collected and compared to the NJDEP Residential Soil Remediation Standards. The soil sample was analyzed for VOCs, SVOCs, PCBs, pesticides, metals, cyanide, and hexavalent Cr.

All the data was found to meet NJDEP unrestricted use criteria and the hexavalent Cr was found to be < 1 mg/kg. Consistent with our prior practice, we are providing the parties with a copy of the final laboratory data package, which includes the Horizon A topsoil sample collected by Amec Foster Wheeler, WOOLSTON-TS-002.

In addition, Amec Foster Wheeler collected a geotechnical sample to confirm that the material meets the topsoil specifications in the approved 100% Design and DC 2015-09-17 (provided to Parties in a letter dated September 23, 2015). Amec Foster Wheeler found that the materials meet the topsoil specifications. A copy of the geotechnical data is also attached to this letter (Attachment B).

Should you have any questions please contact the undersigned at (973) 455-2175.

Sincerely,

William J. Hague
Global Director, Remediation
Design and Construction

WJH:egc/sgf

Encl.: Attachment A: Clean Fill Certification/ Mine Registration Certificate/ WOOLSTON-TS-002 Sample Results
Attachment B: Geotechnical Results - Rutgers Soil Testing Laboratory

cc: (electronic copy only)
Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall
Jason Watson – City Hall
Agnieszka Antonian - Connell Foley LLP
Kevin Coakley, Esq. - Connell Foley LLP
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP
Dr. Benjamin Ross - Disposal Safety, Inc.
Tom Byrne - Honeywell
Maria Kaouris - Honeywell
John Morris - Honeywell
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP
Steve Egnaczyk - The Louis Berger Group, Inc.
Thomas Lewis - The Louis Berger Group, Inc.
Mary Hogan - Walsh Pizzi O'Reilly Falanga LLP
Hector Ruiz - Walsh Pizzi O'Reilly Falanga LLP
Liza Walsh - Walsh Pizzi O'Reilly Falanga LLP

ATTACHMENT A

CLEAN FILL CERTIFICATION/ MINE REGISTRATION CERTIFICATE/ WOOLSTON-TS-002 LAB RESULTS

EXCAVATING MATERIALS & EQUIPMENT, INC.
849 ROUTE 539 • NEW EGYPT, NJ 08533 • 609.758.3400 • FAX: 609.758.5545

10-12-16

GENERAL CONTRACTOR : Entach Corp

CERTIFICATION: Clean Fill Certification

PROJECT: Honeywell Jersey City NJ.

Please accept this letter as our certification that the Clean Fill to be supplied to you through EME for the above referenced project is produced at our Plumsted Township Plant located at 849 Route 539, New Egypt, NJ 08533. Block 80 lot 4.

The material provided from our pit is:
Excavated from undisturbed geologic formations;
Obtained from a licensed quarry/mine;
Not been subject to a discharged hazardous substance at any time;
Not located on or impacted by other contaminant sources;
Not comingled with any other materials;
Not known or suspected of being contaminated.
Not adversely impacted by discharges of hazardous materials or chemical applications;
Not affected by conditions or processes that would result in the introduction of contaminates into the licensed quarry/mine material in concentrations above regulatory concern; and
Not affected by conditions or processes that would increase the concentrations of contaminants already present in the licensed quarry/mine to concentrations above regulatory concern.
Also please find a copy of our state mine registration.

If you need any further assistance, please feel free to contact me.

Sincerely,

Keith Prince
Vice President

State of New Jersey
Department of Labor and Workforce Development

Certificate No. 004218
Expiration Date 3/31/2017

MINE REGISTRATION CERTIFICATE

ISSUED TO: EME Inc

LOCATION: 849 Route 539
New Egypt, NJ

BLK NO(S): 80
LOT NO(S): 4
COUNTY: Ocean

Issued pursuant to the provisions of N.J.S.A. 34:6-98.1 et. seq. Failure to comply with the provisions of the Act, and the Rules promulgated thereunder, shall be good cause for the revocation of this Certificate.

Harold J. Wirths
Commissioner

THIS CERTIFICATE MUST BE POSTED AT ALL TIMES

ES 148 (R-1-05)

SGS Accutest New Jersey					10/12/2016 7:08
Job Number:	JC28902				
Account:	Honeywell International Inc.				
Project:	HLANJPR: Study Area 6 Chrome Remedy				
Project Number:					
Results flagged as "Exceed" if any of the selected criteria exceeded (most stringent).			Legend:	Hit	Exceed
Client Sample ID:		NJ Residential Direct Contact Soil (NJAC 7: 26D 5/12)[1]	NJ Default Impact to Groundwater Soil Screening (NJAC 7:26D 11/13)	WOOLSTON-TS-002	WOOLSTON-TS-002
Lab Sample ID:				JC28902-1	JC28902-1R
Date Sampled:				10/4/2016	10/4/2016
Matrix:				Soil	Soil
GC/MS Volatiles (SW846 8260C)					
Acetone	ug/kg	70000000	19000	ND (9.6)	-
Benzene	ug/kg	2000	5	ND (0.23)	-
Bromochloromethane	ug/kg	-	-	ND (0.61)	-
Bromodichloromethane	ug/kg	1000	5	ND (0.29)	-
Bromoform	ug/kg	81000	30	ND (0.51)	-
Bromomethane	ug/kg	25000	40	ND (0.93)	-
2-Butanone (MEK)	ug/kg	3100000	900	ND (3.4)	-
Carbon disulfide	ug/kg	7800000	6000	ND (0.33)	-
Carbon tetrachloride	ug/kg	600	5	ND (0.32)	-
Chlorobenzene	ug/kg	510000	600	ND (0.31)	-
Chloroethane	ug/kg	220000	NA	ND (0.83)	-
Chloroform	ug/kg	600	400	ND (0.46)	-
Chloromethane	ug/kg	4000	NA	ND (0.41)	-
Cyclohexane	ug/kg	-	-	ND (1.1)	-
1,2-Dibromo-3-chloropropane	ug/kg	80	5	ND (0.93)	-
Dibromochloromethane	ug/kg	3000	5	ND (0.29)	-
1,2-Dibromoethane	ug/kg	8	5	ND (0.47)	-
1,2-Dichlorobenzene	ug/kg	5300000	17000	ND (0.33)	-
1,3-Dichlorobenzene	ug/kg	5300000	19000	ND (0.26)	-
1,4-Dichlorobenzene	ug/kg	5000	2000	ND (0.29)	-
Dichlorodifluoromethane	ug/kg	490000	39000	ND (1.1)	-
1,1-Dichloroethane	ug/kg	8000	200	ND (0.36)	-
1,2-Dichloroethane	ug/kg	900	5	ND (0.33)	-
1,1-Dichloroethene	ug/kg	11000	8	ND (0.29)	-
cis-1,2-Dichloroethene	ug/kg	230000	300	ND (0.84)	-
trans-1,2-Dichloroethene	ug/kg	300000	600	ND (0.30)	-
1,2-Dichloropropane	ug/kg	2000	5	ND (0.60)	-
cis-1,3-Dichloropropene	ug/kg	2000	5	ND (0.38)	-
trans-1,3-Dichloropropene	ug/kg	2000	5	ND (0.43)	-
Ethylbenzene	ug/kg	7800000	13000	ND (0.29)	-
Freon 113	ug/kg	-	-	ND (0.93)	-
2-Hexanone	ug/kg	-	-	ND (2.7)	-
Isopropylbenzene	ug/kg	-	-	ND (0.30)	-
Methyl Acetate	ug/kg	78000000	22000	ND (3.9)	-
Methylcyclohexane	ug/kg	-	-	ND (0.97)	-
Methyl Tert Butyl Ether	ug/kg	110000	200	ND (0.51)	-
4-Methyl-2-pentanone(MIBK)	ug/kg	-	-	ND (1.6)	-
Methylene chloride	ug/kg	34000	10	ND (1.9)	-
Styrene	ug/kg	90000	3000	ND (0.28)	-
1,1,2,2-Tetrachloroethane	ug/kg	1000	7	ND (0.46)	-
Tetrachloroethene	ug/kg	2000	5	ND (0.54)	-
Toluene	ug/kg	6300000	7000	ND (0.24)	-
1,2,3-Trichlorobenzene	ug/kg	-	-	ND (0.44)	-
1,2,4-Trichlorobenzene	ug/kg	73000	700	ND (0.35)	-
1,1,1-Trichloroethane	ug/kg	290000	300	ND (0.32)	-
1,1,2-Trichloroethane	ug/kg	2000	20	ND (0.62)	-
Trichloroethene	ug/kg	7000	10	ND (0.37)	-
Trichlorofluoromethane	ug/kg	23000000	34000	ND (1.2)	-
Vinyl chloride	ug/kg	700	5	ND (0.39)	-
m,p-Xylene	ug/kg	12000000	19000	ND (0.42)	-
o-Xylene	ug/kg	12000000	19000	ND (0.39)	-
Xylene (total)	ug/kg	12000000	19000	ND (0.39)	-
GC/MS Volatile TIC					
Total TIC, Volatile	ug/kg	-	-	0	-
Total Alkanes	ug/kg	-	-	0	-
GC/MS Semi-volatiles (SW846 8270D)					
2-Chlorophenol	ug/kg	310000	800	ND (19)	-
4-Chloro-3-methyl phenol	ug/kg	-	-	ND (23)	-
2,4-Dichlorophenol	ug/kg	180000	200	ND (32)	-
2,4-Dimethylphenol	ug/kg	1200000	1000	ND (68)	-
2,4-Dinitrophenol	ug/kg	120000	300	ND (140)	-
4,6-Dinitro-o-cresol	ug/kg	6000	300	ND (41)	-
2-Methylphenol	ug/kg	310000	NA	ND (24)	-
3&4-Methylphenol	ug/kg	-	-	ND (31)	-
2-Nitrophenol	ug/kg	-	-	ND (25)	-
4-Nitrophenol	ug/kg	-	-	ND (100)	-
Pentachlorophenol	ug/kg	3000	300	ND (36)	-
Phenol	ug/kg	18000000	8000	ND (20)	-
2,3,4,6-Tetrachlorophenol	ug/kg	-	-	ND (25)	-
2,4,5-Trichlorophenol	ug/kg	6100000	68000	ND (28)	-
2,4,6-Trichlorophenol	ug/kg	19000	200	ND (23)	-
Acenaphthene	ug/kg	3400000	110000	ND (13)	-
Acenaphthylene	ug/kg	NA	NA	ND (19)	-

SGS Accutest New Jersey					10/12/2016 7:08
Job Number:	JC28902				
Account:	Honeywell International Inc.				
Project:	HLANJPR: Study Area 6 Chrome Remedy				
Project Number:					
Results flagged as "Exceed" if any of the selected criteria exceeded (most stringent).			Legend:	Hit	Exceed
Client Sample ID:		NJ Residential Direct Contact Soil (NJAC 7: 26D 5/12)[1]	NJ Default Impact to Groundwater Soil Screening (NJAC 7:26D 11/13)	WOOLSTON-TS-002	WOOLSTON-TS-002
Lab Sample ID:				JC28902-1	JC28902-1R
Date Sampled:				10/4/2016	10/4/2016
Matrix:				Soil	Soil
Acetophenone	ug/kg	2000	3000	15.8 J	-
Anthracene	ug/kg	17000000	2400000	ND (23)	-
Atrazine	ug/kg	210000	200	ND (16)	-
Benzo(a)anthracene	ug/kg	600	800	ND (11)	-
Benzo(a)pyrene	ug/kg	200	200	ND (17)	-
Benzo(b)fluoranthene	ug/kg	600	2000	ND (17)	-
Benzo(g,h,i)perylene	ug/kg	380000000	NA	ND (19)	-
Benzo(k)fluoranthene	ug/kg	6000	25000	ND (18)	-
4-Bromophenyl phenyl ether	ug/kg	-	-	ND (15)	-
Butyl benzyl phthalate	ug/kg	1200000	230000	ND (9.3)	-
1,1'-Biphenyl	ug/kg	3100000	140000	ND (5.2)	-
Benzaldehyde	ug/kg	6100000	NA	11.3 J	-
2-Chloronaphthalene	ug/kg	-	-	ND (9.1)	-
4-Chloroaniline	ug/kg	-	-	ND (14)	-
Carbazole	ug/kg	24000	NA	ND (5.5)	-
Caprolactam	ug/kg	31000000	12000	ND (15)	-
Chrysene	ug/kg	62000	80000	ND (12)	-
bis(2-Chloroethoxy)methane	ug/kg	-	-	ND (8.1)	-
bis(2-Chloroethyl)ether	ug/kg	400	200	ND (16)	-
bis(2-Chloroisopropyl)ether	ug/kg	23000	5000	ND (14)	-
4-Chlorophenyl phenyl ether	ug/kg	-	-	ND (12)	-
2,4-Dinitrotoluene	ug/kg	700	NA	ND (12)	-
2,6-Dinitrotoluene	ug/kg	700	NA	ND (19)	-
3,3'-Dichlorobenzidine	ug/kg	1000	200	ND (32)	-
1,4-Dioxane	ug/kg	-	-	ND (25)	-
Dibenzo(a,h)anthracene	ug/kg	200	800	ND (17)	-
Dibenzofuran	ug/kg	-	-	ND (15)	-
Di-n-butyl phthalate	ug/kg	6100000	760000	ND (6.2)	-
Di-n-octyl phthalate	ug/kg	2400000	3300000	ND (9.5)	-
Diethyl phthalate	ug/kg	49000000	88000	ND (8.1)	-
Dimethyl phthalate	ug/kg	-	-	ND (6.8)	-
bis(2-Ethylhexyl)phthalate	ug/kg	35000	1200000	ND (8.9)	-
Fluoranthene	ug/kg	2300000	1300000	ND (17)	-
Fluorene	ug/kg	2300000	170000	ND (17)	-
Hexachlorobenzene	ug/kg	300	200	ND (9.6)	-
Hexachlorobutadiene	ug/kg	6000	900	ND (15)	-
Hexachlorocyclopentadiene	ug/kg	45000	320000	ND (15)	-
Hexachloroethane	ug/kg	35000	200	ND (19)	-
Indeno(1,2,3-cd)pyrene	ug/kg	600	7000	ND (18)	-
Isophorone	ug/kg	510000	200	ND (8.1)	-
2-Methylnaphthalene	ug/kg	230000	8000	ND (8.6)	-
2-Nitroaniline	ug/kg	39000	NA	ND (9.0)	-
3-Nitroaniline	ug/kg	-	-	ND (9.5)	-
4-Nitroaniline	ug/kg	-	-	ND (9.8)	-
Naphthalene	ug/kg	6000	25000	ND (11)	-
Nitrobenzene	ug/kg	31000	200	ND (15)	-
N-Nitroso-di-n-propylamine	ug/kg	200	200	ND (11)	-
N-Nitrosodiphenylamine	ug/kg	99000	400	ND (14)	-
Phenanthrene	ug/kg	NA	NA	ND (13)	-
Pyrene	ug/kg	1700000	840000	ND (12)	-
1,2,4,5-Tetrachlorobenzene	ug/kg	-	-	ND (9.7)	-
GC/MS Semi-volatile TIC					
Total TIC, Semi-Volatile	ug/kg	-	-	41160 J	-
Total Alkanes	ug/kg	-	-	600 J	-
GC Semi-volatiles (NJDEP EPH)					
EPH (C9-C28)	mg/kg	-	-	88.4	-
EPH (>C28-C40)	mg/kg	-	-	358	-
Total EPH (C9-C40)	mg/kg	-	-	447	-
GC Semi-volatiles (SW846 8081B)					
Aldrin	ug/kg	40	200	ND (1.2)	-
alpha-BHC	ug/kg	100	2	ND (1.3)	-
beta-BHC	ug/kg	400	2	ND (1.5)	-
delta-BHC	ug/kg	-	-	ND (1.1)	-
gamma-BHC (Lindane)	ug/kg	400	2	ND (1.1)	-
alpha-Chlordane	ug/kg	200	50	ND (1.2)	-
gamma-Chlordane	ug/kg	200	50	ND (1.1)	-
Chlordane (alpha and gamma)	ug/kg	200	50	ND (1.1)	-
Dieldrin	ug/kg	40	3	ND (1.2)	-
4,4'-DDD	ug/kg	3000	4000	ND (1.6)	-
4,4'-DDE	ug/kg	2000	18000	ND (1.3)	-
4,4'-DDT	ug/kg	2000	11000	ND (1.5)	-
Endrin	ug/kg	23000	1000	ND (1.2)	-
Endosulfan sulfate	ug/kg	470000	2000	ND (0.99)	-

SGS Accutest New Jersey

10/12/2016 7:08

Job Number:	JC28902
Account:	Honeywell International Inc.
Project:	HLANJPR: Study Area 6 Chrome Remedy
Project Number:	

Results flagged as "Exceed" if any of the selected criteria exceeded (most stringent). Legend: Hit | Exceed

Client Sample ID:		NJ Residential Direct Contact Soil (NJAC 7: 26D 5/12)[1]	NJ Default Impact to Groundwater Soil Screening (NJAC 7:26D 11/13)	WOOLSTON-TS-002	WOOLSTON-TS-002
Lab Sample ID:				JC28902-1	JC28902-1R
Date Sampled:				10/4/2016	10/4/2016
Matrix:				Soil	Soil
Endrin aldehyde	ug/kg	-	-	ND (1.5)	-
Endosulfan-I	ug/kg	470000	4000	ND (1.3)	-
Endosulfan-II	ug/kg	470000	4000	ND (1.3)	-
Heptachlor	ug/kg	100	500	ND (1.2)	-
Heptachlor epoxide	ug/kg	70	10	ND (1.3)	-
Methoxychlor	ug/kg	390000	160000	ND (1.2)	-
Endrin ketone	ug/kg	-	-	ND (1.9)	-
Toxaphene	ug/kg	600	300	ND (26)	-
GC Semi-volatiles (SW846 8082A)					
Aroclor 1016	ug/kg	200	200	ND (29)	-
Aroclor 1221	ug/kg	200	200	ND (29)	-
Aroclor 1232	ug/kg	200	200	ND (23)	-
Aroclor 1242	ug/kg	200	200	ND (21)	-
Aroclor 1248	ug/kg	200	200	ND (38)	-
Aroclor 1254	ug/kg	200	200	ND (30)	-
Aroclor 1260	ug/kg	200	200	ND (25)	-
Aroclor 1268	ug/kg	200	200	ND (21)	-
Aroclor 1262	ug/kg	200	200	ND (40)	-
GC Semi-volatiles (SW846 8151)					
2,4-D	ug/kg	-	-	ND (17)	-
2,4,5-TP (Silvex)	ug/kg	-	-	ND (2.7)	-
2,4,5-T	ug/kg	-	-	ND (2.9)	-
Dalapon	ug/kg	-	-	ND (5.1)	-
Dicamba	ug/kg	-	-	ND (3.8)	-
Dichloroprop	ug/kg	-	-	ND (11)	-
Dinoseb	ug/kg	-	-	ND (25)	-
MCPA	ug/kg	-	-	ND (860)	-
MCPP	ug/kg	-	-	ND (820)	-
Pentachlorophenol	ug/kg	3000	300	ND (3.3)	-
2,4-DB	ug/kg	-	-	ND (12)	-
Metals Analysis					
Aluminum	mg/kg	78000	6000	3160	-
Antimony	mg/kg	31	6	<2.3	-
Arsenic	mg/kg	19	19	5.4	-
Barium	mg/kg	16000	2100	<23	-
Beryllium	mg/kg	16	0.7	<0.23	-
Cadmium	mg/kg	78	2	<0.58	-
Calcium	mg/kg	-	-	1380	-
Chromium	mg/kg	-	-	7.2	-
Cobalt	mg/kg	1600	90	<5.8	-
Copper	mg/kg	3100	11000	3.5	-
Iron	mg/kg	-	-	7460	-
Lead	mg/kg	400	90	4.3	-
Magnesium	mg/kg	-	-	637	-
Manganese	mg/kg	11000	65	12.7	-
Mercury	mg/kg	23	0.1	<0.038	-
Nickel	mg/kg	1600	48	<4.6	-
Potassium	mg/kg	-	-	<1200	-
Selenium	mg/kg	390	11	<2.3	-
Silver	mg/kg	390	1	<0.58	-
Sodium	mg/kg	-	-	<1200	-
Thallium	mg/kg	5	3	<1.2	-
Vanadium	mg/kg	78	NA	9.1	-
Zinc	mg/kg	23000	930	<5.8	-
General Chemistry					
Chromium, Hexavalent	mg/kg	-	-	<0.45	<0.46
Cyanide	mg/kg	1600	20	<0.23	-
Redox Potential Vs H2	mv	-	-	302	-
Solids, Percent	%	-	-	86.5	-
pH	su	-	-	5.55	-

Regulatory limits listed in this document have been obtained from the latest version of the regulations cited and are used for advisory purposes only. SGS Accutest assumes no responsibility for errors in regulatory documents or changes to criteria detailed in later versions of the referenced regulation. It is the responsibility of the user to verify these limits before using or reporting any data.

No results exceeded regulatory criteria.

[1] NOTE: Soil Remediation Standards from June 2008 were incorporated in the May 2012 rule without change.

SGS ACCUTEST
New Jersey

10/12/16

SGS ACCUTEST IS PART OF SGS, THE WORLD'S LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

e-Hardcopy 2.0
Automated Report

Technical Report for

Honeywell International Inc.

HLANJPR: Study Area 6 Chrome Remedy

SGS Accutest Job Number: JC28902

Sampling Date: 10/04/16

Report to:

AMEC Environment & Infrastructure, Inc.

jenna.desiderio@amecfw.com

ATTN: Jenna Desiderio

Total number of pages in report: 349

NELAP ACCREDITED TNI LABORATORY

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Nancy Cole
Laboratory Director

Client Service contact: Marty Vitanza 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (L-A-B L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS Accutest.
Test results relate only to samples analyzed.

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Sample Summary

Honeywell International Inc.

Job No: JC28902

HLANJPR: Study Area 6 Chrome Remedy

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC28902-1	10/04/16	08:30	JD	10/04/16	SO	Soil	WOOLSTON-TS-002
JC28902-1R	10/04/16	08:30	JD	10/04/16	SO	Soil	WOOLSTON-TS-002

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

2

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Honeywell International Inc.	**Job No**	JC28902
Site:	HLANJPR: Study Area 6 Chrome Remedy	**Report Date**	10/11/2016 5:29:27 P

On 10/04/2016, 1 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS Accutest at a maximum corrected temperature of 5.2 C. Samples were intact and chemically preserved, unless noted below. A SGS Accutest Job Number of JC28902 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section. Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Please refer to certification exceptions summary for additional certification information.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

Volatiles by GCMS By Method SW846 8260C

Matrix: SO **Batch ID:** VY7259

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC28964-1DUP, JC28964-2MS, JC28964-1DUP were used as the QC samples indicated.
- RPD(s) for Duplicate for 2-Butanone (MEK), Acetone, Benzene, Carbon disulfide, Chloroform, Cyclohexane, Ethylbenzene, Isopropylbenzene, m,p-Xylene, Methylcyclohexane, o-Xylene, Toluene, Xylene (total) are outside control limits for sample JC28964-1DUP. Outside control limits due to different encores.

Extractables by GCMS By Method SW846 8270D

Matrix: SO **Batch ID:** OP97539

- All samples were extracted within the recommended method holding time.
- Sample(s) JC28910-1MS, JC28910-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JC28902-1: Confirmation run.
- JC28902-1 for 2-Fluorobiphenyl: Outside control limits due to matrix interference.

Extractables by GC By Method NJDEP EPH

Matrix: SO **Batch ID:** OP97541

- All samples were extracted within the recommended method holding time.
- Sample(s) JC28906-2MS, JC28906-2MSD, JC28910-2DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Matrix Spike Recovery(s) for EPH (>C28-C40) are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- Matrix Spike / Matrix Spike Duplicate Recovery(s) for EPH (C9-C28), Total EPH (C9-C40) are outside control limits. Outside control limits due to high level in sample relative to spike amount.

2

Extractables by GC By Method SW846 8081B

Matrix: SO **Batch ID:** OP97536

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC28906-1MS, JC28906-1MSD, OP97536-MSMSD were used as the QC samples indicated.

Extractables by GC By Method SW846 8082A

Matrix: SO **Batch ID:** OP97535

- All samples were extracted within the recommended method holding time.
- Sample(s) JC28902-1MS, JC28902-1MSD, OP97535-MSMSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- OP97535-BS1 for Aroclor 1260: Reported from 2nd signal. %D of check calibration on 1st signal exceed method criteria (20%) so using for confirmation only.

Extractables by GC By Method SW846 8151

Matrix: SO **Batch ID:** OP97538

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC28904-1AMS, JC28904-1AMSD were used as the QC samples indicated.
- Matrix Spike Recovery(s) for 2,4-DB, Dinoseb, MCPA, MCPP are outside control limits. Outside control limits due to matrix interference.
- Matrix Spike Duplicate Recovery(s) for Dinoseb, MCPA, MCPP are outside control limits. Outside control limits due to matrix interference.
- RPD(s) for MSD for 2,4,5-T, 2,4,5-TP (Silvex), 2,4-DB, Dalapon, Dicamba, Dichloroprop, Pentachlorophenol are outside control limits for sample OP97538-MSD.
- OP97538-MSD for 2,4-DB: Outside the QC limits.

Metals By Method SW846 6010C

Matrix: SO **Batch ID:** MP96373

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC28910-1MS, JC28910-1MSD, JC28910-1SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Antimony, Arsenic, Barium, Cadmium, Calcium, Chromium, Cobalt, Copper, Lead, Nickel, Potassium, Sodium, Vanadium are outside control limits for sample MP96373-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- MP96373-SD1 for Zinc: Serial dilution indicates possible matrix interference.
- MP96373-MB1 for Zinc: All reported results >10x MB value or with RL> 2X of this value.

Metals By Method SW846 7471B

Matrix: SO **Batch ID:** MP96393

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC28910-1MS, JC28910-1MSD were used as the QC samples for metals.

2

Wet Chemistry By Method ASTM D1498-76M

Matrix: SO	Batch ID: GN52967

- Sample(s) JC28819-1DUP were used as the QC samples for Redox Potential Vs H2.

Wet Chemistry By Method SM2540 G-97

Matrix: SO	Batch ID: GN52970

- The data for SM2540 G-97 meets quality control requirements.

Wet Chemistry By Method SW846 3060A/7199

Matrix: SO	Batch ID: GP574

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC28902-1PS, JC28902-1MS, JC28902-1DUP were used as the QC samples for Chromium, Hexavalent.
- Matrix Spike Recovery(s) for Chromium, Hexavalent are outside control limits. Insoluble XCR matrix spike recovery indicates possible matrix interference. See additional comments on soluble matrix spike recovery.
- RPD(s) for Duplicate for Chromium, Hexavalent are outside control limits for sample GP574-D1. RPD acceptable due to low duplicate and sample concentrations.
- GP574-S1 for Chromium, Hexavalent: Soluble XCR matrix spike recovery indicates possible matrix interference. Good post spike recovery (102%) on this sample.

Matrix: SO	Batch ID: GP648

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC28902-1RPS, JC28902-1RMS, JC28902-1RDUP were used as the QC samples for Chromium, Hexavalent.
- Matrix Spike Recovery(s) for Chromium, Hexavalent are outside control limits. Insoluble XCR matrix spike recovery indicates possible matrix interference. See additional comments on soluble matrix spike recovery.
- RPD(s) for Duplicate for Chromium, Hexavalent are outside control limits for sample GP648-D1. RPD acceptable due to low duplicate and sample concentrations.
- GP648-S1 for Chromium, Hexavalent: Soluble XCR matrix spike recovery indicates possible matrix interference. Good post spike recovery (97.2%) on this sample.

Wet Chemistry By Method SW846 9012B/LACHAT

Matrix: SO	Batch ID: GP585

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC28906-1DUP, JC28906-1MS were used as the QC samples for Cyanide.
- Matrix Spike Recovery(s) for Cyanide are outside control limits. Spike recovery indicates possible matrix interference.

Wet Chemistry By Method SW846 9045D

Matrix: SO	Batch ID: GN52968

- Sample(s) JC28819-1DUP were used as the QC samples for pH.

SGS Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS Accutest is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS Accutest indicated via signature on the report cover

Summary of Hits

Job Number: JC28902
Account: Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Collected: 10/04/16

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC28902-1	**WOOLSTON-TS-002**					
Acetophenone		15.8 J	190	8.2	ug/kg	SW846 8270D
Benzaldehyde		11.3 J	190	9.4	ug/kg	SW846 8270D
Total TIC, Semi-Volatile		41160 J			ug/kg	
Total Alkanes		600 J			ug/kg	
EPH (C9-C28)		88.4	7.0	3.6	mg/kg	NJDEP EPH
EPH (> C28-C40)		358	7.0	3.6	mg/kg	NJDEP EPH
Total EPH (C9-C40)		447	7.0	3.6	mg/kg	NJDEP EPH
Aluminum		3160	58		mg/kg	SW846 6010C
Arsenic		5.4	2.3		mg/kg	SW846 6010C
Calcium		1380	580		mg/kg	SW846 6010C
Chromium		7.2	1.2		mg/kg	SW846 6010C
Copper		3.5	2.9		mg/kg	SW846 6010C
Iron		7460	58		mg/kg	SW846 6010C
Lead		4.3	2.3		mg/kg	SW846 6010C
Magnesium		637	580		mg/kg	SW846 6010C
Manganese		12.7	1.7		mg/kg	SW846 6010C
Vanadium		9.1	5.8		mg/kg	SW846 6010C
Redox Potential Vs H2		302			mv	ASTM D1498-76M
pH		5.55			su	SW846 9045D

JC28902-1R **WOOLSTON-TS-002**

No hits reported in this sample.

SGS ACCUTEST New Jersey

Section 4

4

Sample Results

Report of Analysis

SGS Accutest LabLink@930131 07:10 12-Oct-2016

Report of Analysis

Client Sample ID:	WOOLSTON-TS-002		
Lab Sample ID:	JC28902-1	**Date Sampled:**	10/04/16
Matrix:	SO - Soil	**Date Received:**	10/04/16
Method:	SW846 8260C SW846 5035	**Percent Solids:**	86.5
Project:	HLANJPR: Study Area 6 Chrome Remedy		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y166776.D	1	10/06/16	PS	10/05/16 10:00	n/a	VY7259
Run #2							

	Initial Weight
Run #1	3.0 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	19	9.6	ug/kg	
71-43-2	Benzene	ND	0.96	0.23	ug/kg	
74-97-5	Bromochloromethane	ND	9.6	0.61	ug/kg	
75-27-4	Bromodichloromethane	ND	3.9	0.29	ug/kg	
75-25-2	Bromoform	ND	9.6	0.51	ug/kg	
74-83-9	Bromomethane	ND	9.6	0.93	ug/kg	
78-93-3	2-Butanone (MEK)	ND	19	3.4	ug/kg	
75-15-0	Carbon disulfide	ND	3.9	0.33	ug/kg	
56-23-5	Carbon tetrachloride	ND	3.9	0.32	ug/kg	
108-90-7	Chlorobenzene	ND	3.9	0.31	ug/kg	
75-00-3	Chloroethane	ND	9.6	0.83	ug/kg	
67-66-3	Chloroform	ND	3.9	0.46	ug/kg	
74-87-3	Chloromethane	ND	9.6	0.41	ug/kg	
110-82-7	Cyclohexane	ND	3.9	1.1	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	3.9	0.93	ug/kg	
124-48-1	Dibromochloromethane	ND	3.9	0.29	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.9	0.47	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.9	0.33	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.9	0.26	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.9	0.29	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	9.6	1.1	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.9	0.36	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.9	0.33	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.9	0.29	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.9	0.84	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.9	0.30	ug/kg	
78-87-5	1,2-Dichloropropane	ND	3.9	0.60	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	3.9	0.38	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	3.9	0.43	ug/kg	
100-41-4	Ethylbenzene	ND	1.9	0.29	ug/kg	
76-13-1	Freon 113	ND	9.6	0.93	ug/kg	
591-78-6	2-Hexanone	ND	9.6	2.7	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@930131 07:10 12-Oct-2016

Report of Analysis

Client Sample ID:	WOOLSTON-TS-002		
Lab Sample ID:	JC28902-1	**Date Sampled:**	10/04/16
Matrix:	SO - Soil	**Date Received:**	10/04/16
Method:	SW846 8260C SW846 5035	**Percent Solids:**	86.5
Project:	HLANJPR: Study Area 6 Chrome Remedy		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	3.9	0.30	ug/kg	
79-20-9	Methyl Acetate	ND	9.6	3.9	ug/kg	
108-87-2	Methylcyclohexane	ND	3.9	0.97	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.9	0.51	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	9.6	1.6	ug/kg	
75-09-2	Methylene chloride	ND	9.6	1.9	ug/kg	
100-42-5	Styrene	ND	3.9	0.28	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	3.9	0.46	ug/kg	
127-18-4	Tetrachloroethene	ND	3.9	0.54	ug/kg	
108-88-3	Toluene	ND	1.9	0.24	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	9.6	0.44	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	9.6	0.35	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	3.9	0.32	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	3.9	0.62	ug/kg	
79-01-6	Trichloroethene	ND	1.9	0.37	ug/kg	
75-69-4	Trichlorofluoromethane	ND	9.6	1.2	ug/kg	
75-01-4	Vinyl chloride	ND	3.9	0.39	ug/kg	
	m,p-Xylene	ND	1.9	0.42	ug/kg	
95-47-6	o-Xylene	ND	1.9	0.39	ug/kg	
1330-20-7	Xylene (total)	ND	1.9	0.39	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		70-122%
17060-07-0	1,2-Dichloroethane-D4	109%		68-124%
2037-26-5	Toluene-D8	100%		77-125%
460-00-4	4-Bromofluorobenzene	121%		72-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	
	Total Alkanes		0	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@930131 07:10 12-Oct-2016

Report of Analysis

Client Sample ID:	WOOLSTON-TS-002		
Lab Sample ID:	JC28902-1	**Date Sampled:**	10/04/16
Matrix:	SO - Soil	**Date Received:**	10/04/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	86.5
Project:	HLANJPR: Study Area 6 Chrome Remedy		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M128187.D	1	10/07/16	CS	10/06/16	OP97539	EM5462
Run #2 [a]	M128186.D	1	10/07/16	CS	10/06/16	OP97539	EM5462

	Initial Weight	Final Volume
Run #1	30.4 g	1.0 ml
Run #2	6.5 g	1.0 ml

ABN TCL List (SOM0 2.0)

CAS No.	Compound	Result	RL	MDL	Units	Q
95-57-8	2-Chlorophenol	ND	76	19	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	190	23	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	190	32	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	190	68	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	190	140	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	190	41	ug/kg	
95-48-7	2-Methylphenol	ND	76	24	ug/kg	
	3&4-Methylphenol	ND	76	31	ug/kg	
88-75-5	2-Nitrophenol	ND	190	25	ug/kg	
100-02-7	4-Nitrophenol	ND	380	100	ug/kg	
87-86-5	Pentachlorophenol	ND	150	36	ug/kg	
108-95-2	Phenol	ND	76	20	ug/kg	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	190	25	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	190	28	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	190	23	ug/kg	
83-32-9	Acenaphthene	ND	38	13	ug/kg	
208-96-8	Acenaphthylene	ND	38	19	ug/kg	
98-86-2	Acetophenone	15.8	190	8.2	ug/kg	J
120-12-7	Anthracene	ND	38	23	ug/kg	
1912-24-9	Atrazine	ND	76	16	ug/kg	
56-55-3	Benzo(a)anthracene	ND	38	11	ug/kg	
50-32-8	Benzo(a)pyrene	ND	38	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	38	17	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	38	19	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	38	18	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	76	15	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	76	9.3	ug/kg	
92-52-4	1,1'-Biphenyl	ND	76	5.2	ug/kg	
100-52-7	Benzaldehyde	11.3	190	9.4	ug/kg	J
91-58-7	2-Chloronaphthalene	ND	76	9.1	ug/kg	
106-47-8	4-Chloroaniline	ND	190	14	ug/kg	
86-74-8	Carbazole	ND	76	5.5	ug/kg	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@930131 07:10 12-Oct-2016

Report of Analysis

Client Sample ID:	WOOLSTON-TS-002		
Lab Sample ID:	JC28902-1	**Date Sampled:**	10/04/16
Matrix:	SO - Soil	**Date Received:**	10/04/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	86.5
Project:	HLANJPR: Study Area 6 Chrome Remedy		

ABN TCL List (SOM0 2.0)

CAS No.	Compound	Result	RL	MDL	Units	Q
105-60-2	Caprolactam	ND	76	15	ug/kg	
218-01-9	Chrysene	ND	38	12	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	76	8.1	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	76	16	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	76	14	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	76	12	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	38	12	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	38	19	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	76	32	ug/kg	
123-91-1	1,4-Dioxane	ND	38	25	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	38	17	ug/kg	
132-64-9	Dibenzofuran	ND	76	15	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	76	6.2	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	76	9.5	ug/kg	
84-66-2	Diethyl phthalate	ND	76	8.1	ug/kg	
131-11-3	Dimethyl phthalate	ND	76	6.8	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	76	8.9	ug/kg	
206-44-0	Fluoranthene	ND	38	17	ug/kg	
86-73-7	Fluorene	ND	38	17	ug/kg	
118-74-1	Hexachlorobenzene	ND	76	9.6	ug/kg	
87-68-3	Hexachlorobutadiene	ND	38	15	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	380	15	ug/kg	
67-72-1	Hexachloroethane	ND	190	19	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	38	18	ug/kg	
78-59-1	Isophorone	ND	76	8.1	ug/kg	
91-57-6	2-Methylnaphthalene	ND	76	8.6	ug/kg	
88-74-4	2-Nitroaniline	ND	190	9.0	ug/kg	
99-09-2	3-Nitroaniline	ND	190	9.5	ug/kg	
100-01-6	4-Nitroaniline	ND	190	9.8	ug/kg	
91-20-3	Naphthalene	ND	38	11	ug/kg	
98-95-3	Nitrobenzene	ND	76	15	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	76	11	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	190	14	ug/kg	
85-01-8	Phenanthrene	ND	38	13	ug/kg	
129-00-0	Pyrene	ND	38	12	ug/kg	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	190	9.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	32%	53%	30-106%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@930131 07:10 12-Oct-2016

Report of Analysis

Client Sample ID:	WOOLSTON-TS-002		
Lab Sample ID:	JC28902-1	**Date Sampled:**	10/04/16
Matrix:	SO - Soil	**Date Received:**	10/04/16
Method:	SW846 8270D SW846 3546	**Percent Solids:**	86.5
Project:	HLANJPR: Study Area 6 Chrome Remedy		

ABN TCL List (SOM0 2.0)

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-62-2	Phenol-d5	31%	53%	30-106%
118-79-6	2,4,6-Tribromophenol	40%	72%	24-140%
4165-60-0	Nitrobenzene-d5	31%	62%	26-122%
321-60-8	2-Fluorobiphenyl	35% [b]	56%	36-112%
1718-51-0	Terphenyl-d14	36%	59%	36-132%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	3.20	1500	ug/kg	J
	system artifact	3.53	2100	ug/kg	J
	system artifact/aldol-condensation	3.59	4600	ug/kg	J
	unknown	5.39	1100	ug/kg	J
1470-50-4	2-Octenoic acid	6.05	600	ug/kg	JN
67-47-0	2-Furancarboxaldehyde, 5-(hydroxymethyl)	6.20	980	ug/kg	JN
	unknown	10.48	530	ug/kg	J
	alkene	16.02	1200	ug/kg	J
	unknown	17.30	670	ug/kg	J
	unknown	18.11	730	ug/kg	J
	unknown	18.56	1300	ug/kg	J
	unknown	18.91	5300	ug/kg	J
	unknown	19.23	1400	ug/kg	J
	Tocopherol	19.37	680	ug/kg	J
	unknown	19.48	2200	ug/kg	J
	unknown	19.58	1300	ug/kg	J
	unknown	19.65	1100	ug/kg	J
	Tocopherol	19.79	900	ug/kg	J
	unknown	20.39	960	ug/kg	J
	unknown	20.44	1700	ug/kg	J
	unknown	20.78	990	ug/kg	J
	unknown	21.03	4600	ug/kg	J
	unknown	21.18	6100	ug/kg	J
	unknown	21.32	610	ug/kg	J
	unknown	21.45	2900	ug/kg	J
	unknown	21.55	810	ug/kg	J
	unknown	21.71	2500	ug/kg	J
	Total TIC, Semi-Volatile		41160	ug/kg	J
	Total Alkanes		600	ug/kg	J

(a) Confirmation run.
(b) Outside control limits due to matrix interference.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@930131 07:10 12-Oct-2016

Report of Analysis

Client Sample ID:	WOOLSTON-TS-002		
Lab Sample ID:	JC28902-1	**Date Sampled:**	10/04/16
Matrix:	SO - Soil	**Date Received:**	10/04/16
Method:	SW846 8151 SW846 8151/3550C	**Percent Solids:**	86.5
Project:	HLANJPR: Study Area 6 Chrome Remedy		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OA120273.D	2	10/07/16	VDT	10/06/16	OP97538	GOA4139
Run #2							

	Initial Weight	Final Volume
Run #1	15.4 g	5.0 ml
Run #2		

Herbicide List

CAS No.	Compound	Result	RL	MDL	Units	Q
94-75-7	2,4-D	ND	38	17	ug/kg	
93-72-1	2,4,5-TP (Silvex)	ND	7.5	2.7	ug/kg	
93-76-5	2,4,5-T	ND	7.5	2.9	ug/kg	
75-99-0	Dalapon	ND	7.5	5.1	ug/kg	
1918-00-9	Dicamba	ND	7.5	3.8	ug/kg	
120-36-5	Dichloroprop	ND	38	11	ug/kg	
88-85-7	Dinoseb	ND	38	25	ug/kg	
94-74-6	MCPA	ND	3800	860	ug/kg	
93-65-2	MCPP	ND	3800	820	ug/kg	
87-86-5	Pentachlorophenol	ND	3.8	3.3	ug/kg	
94-82-6	2,4-DB	ND	38	12	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	94%		10-156%
19719-28-9	2,4-DCAA	101%		10-156%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@930131 07:10 12-Oct-2016

Report of Analysis

Client Sample ID:	WOOLSTON-TS-002		
Lab Sample ID:	JC28902-1	**Date Sampled:**	10/04/16
Matrix:	SO - Soil	**Date Received:**	10/04/16
Method:	SW846 8081B SW846 3546	**Percent Solids:**	86.5
Project:	HLANJPR: Study Area 6 Chrome Remedy		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4G73355.D	1	10/06/16	DS	10/06/16	OP97536	G4G1919
Run #2							

	Initial Weight	Final Volume
Run #1	4.7 g	10.0 ml
Run #2		

Pesticide TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	2.5	1.2	ug/kg	
319-84-6	alpha-BHC	ND	2.5	1.3	ug/kg	
319-85-7	beta-BHC	ND	2.5	1.5	ug/kg	
319-86-8	delta-BHC	ND	2.5	1.1	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	2.5	1.1	ug/kg	
5103-71-9	alpha-Chlordane	ND	2.5	1.2	ug/kg	
5103-74-2	gamma-Chlordane	ND	2.5	1.1	ug/kg	
57-74-9	Chlordane (alpha and gamma)	ND	2.5	1.1	ug/kg	
60-57-1	Dieldrin	ND	2.5	1.2	ug/kg	
72-54-8	4,4'-DDD	ND	2.5	1.6	ug/kg	
72-55-9	4,4'-DDE	ND	2.5	1.3	ug/kg	
50-29-3	4,4'-DDT	ND	2.5	1.5	ug/kg	
72-20-8	Endrin	ND	2.5	1.2	ug/kg	
1031-07-8	Endosulfan sulfate	ND	2.5	0.99	ug/kg	
7421-93-4	Endrin aldehyde	ND	2.5	1.5	ug/kg	
959-98-8	Endosulfan-I	ND	2.5	1.3	ug/kg	
33213-65-9	Endosulfan-II	ND	2.5	1.3	ug/kg	
76-44-8	Heptachlor	ND	2.5	1.2	ug/kg	
1024-57-3	Heptachlor epoxide	ND	2.5	1.3	ug/kg	
72-43-5	Methoxychlor	ND	4.9	1.2	ug/kg	
53494-70-5	Endrin ketone	ND	2.5	1.9	ug/kg	
8001-35-2	Toxaphene	ND	61	26	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	77%		24-136%
877-09-8	Tetrachloro-m-xylene	74%		24-136%
2051-24-3	Decachlorobiphenyl	65%		10-153%
2051-24-3	Decachlorobiphenyl	78%		10-153%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@930131 07:10 12-Oct-2016

Report of Analysis

Client Sample ID:	WOOLSTON-TS-002		
Lab Sample ID:	JC28902-1	**Date Sampled:**	10/04/16
Matrix:	SO - Soil	**Date Received:**	10/04/16
Method:	SW846 8082A SW846 3546	**Percent Solids:**	86.5
Project:	HLANJPR: Study Area 6 Chrome Remedy		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX198049.D	1	10/06/16	HB	10/06/16	OP97535	GXX5823
Run #2							

	Initial Weight	Final Volume
Run #1	9.7 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	60	29	ug/kg	
11104-28-2	Aroclor 1221	ND	60	29	ug/kg	
11141-16-5	Aroclor 1232	ND	60	23	ug/kg	
53469-21-9	Aroclor 1242	ND	60	21	ug/kg	
12672-29-6	Aroclor 1248	ND	60	38	ug/kg	
11097-69-1	Aroclor 1254	ND	60	30	ug/kg	
11096-82-5	Aroclor 1260	ND	60	25	ug/kg	
11100-14-4	Aroclor 1268	ND	60	21	ug/kg	
37324-23-5	Aroclor 1262	ND	60	40	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	89%		20-152%
877-09-8	Tetrachloro-m-xylene	88%		20-152%
2051-24-3	Decachlorobiphenyl	83%		12-157%
2051-24-3	Decachlorobiphenyl	80%		12-157%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@930131 07:10 12-Oct-2016

Report of Analysis

Client Sample ID:	WOOLSTON-TS-002		
Lab Sample ID:	JC28902-1	**Date Sampled:**	10/04/16
Matrix:	SO - Soil	**Date Received:**	10/04/16
Method:	NJDEP EPH SW846 3546	**Percent Solids:**	86.5
Project:	HLANJPR: Study Area 6 Chrome Remedy		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5Y36634.D	1	10/06/16	SP	10/06/16	OP97541	G5Y1211
Run #2							

	Initial Weight	Final Volume
Run #1	16.6 g	2.0 ml
Run #2		

NJDEP EPH List

CAS No.	Compound	Result	RL	MDL	Units	Q
	EPH (C9-C28)	88.4	7.0	3.6	mg/kg	
	EPH (> C28-C40)	358	7.0	3.6	mg/kg	
	Total EPH (C9-C40)	447	7.0	3.6	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	63%		40-140%
3386-33-2	1-Chlorooctadecane	69%		40-140%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@930131 07:10 12-Oct-2016

Report of Analysis

Client Sample ID:	WOOLSTON-TS-002		
Lab Sample ID:	JC28902-1	**Date Sampled:**	10/04/16
Matrix:	SO - Soil	**Date Received:**	10/04/16
		Percent Solids:	86.5
Project:	HLANJPR: Study Area 6 Chrome Remedy		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	3160	58	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Antimony	< 2.3	2.3	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Arsenic	5.4	2.3	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Barium	< 23	23	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Beryllium	< 0.23	0.23	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Cadmium	< 0.58	0.58	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Calcium	1380	580	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Chromium	7.2	1.2	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Cobalt	< 5.8	5.8	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Copper	3.5	2.9	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Iron	7460	58	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Lead	4.3	2.3	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Magnesium	637	580	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Manganese	12.7	1.7	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Mercury	< 0.038	0.038	mg/kg	1	10/06/16	10/06/16	JPM	SW846 7471B [2]	SW846 7471B [4]
Nickel	< 4.6	4.6	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Potassium	< 1200	1200	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Selenium	< 2.3	2.3	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Silver	< 0.58	0.58	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Sodium	< 1200	1200	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Thallium	< 1.2	1.2	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Vanadium	9.1	5.8	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Zinc	< 5.8	5.8	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]

(1) Instrument QC Batch: MA40457
(2) Instrument QC Batch: MA40466
(3) Prep QC Batch: MP96373
(4) Prep QC Batch: MP96393

RL = Reporting Limit

SGS Accutest LabLink@930131 07:10 12-Oct-2016

Report of Analysis

Client Sample ID:	WOOLSTON-TS-002		
Lab Sample ID:	JC28902-1	**Date Sampled:**	10/04/16
Matrix:	SO - Soil	**Date Received:**	10/04/16
		Percent Solids:	86.5
Project:	HLANJPR: Study Area 6 Chrome Remedy		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	< 0.45	0.45	mg/kg	1	10/07/16 11:04	TT	SW846 3060A/7199
Cyanide	< 0.23	0.23	mg/kg	1	10/07/16 10:09	YZ	SW846 9012B/LACHAT
Redox Potential Vs H2	302		mv	1	10/05/16 14:10	AC	ASTM D1498-76M
Solids, Percent	86.5		%	1	10/05/16 14:00	AT	SM2540 G-97
pH	5.55		su	1	10/05/16 13:45	AC	SW846 9045D

RL = Reporting Limit

SGS Accutest LabLink@930131 07:10 12-Oct-2016

Report of Analysis

Client Sample ID:	WOOLSTON-TS-002		
Lab Sample ID:	JC28902-1R	**Date Sampled:**	10/04/16
Matrix:	SO - Soil	**Date Received:**	10/04/16
		Percent Solids:	86.5
Project:	HLANJPR: Study Area 6 Chrome Remedy		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	< 0.46	0.46	mg/kg	1	10/10/16 19:47	AT	SW846 3060A/7199

RL = Reporting Limit

ACCUTEST
New Jersey

Section 5

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

Parameter Certification Exceptions

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

The following parameters included in this report are exceptions to NELAC certification.
The certification status of each is indicated below.

Parameter	CAS#	Method	Mat	Certification Status
Redox Potential Vs H2		**ASTM D1498-76M**	SO	Accutest is not certified for this parameter.[a]

(a) Lab cert for analyte not supported by NJDEP, OQA. Only methods/analytes required for reporting by the State of NJ can be certified in NJ. Use of this analyte for compliance must be verified through the appropriate regulatory office.

Certification exceptions shown are based on the New Jersey DEP certifications. Applicability in other states may vary. Please contact your laboratory representative if additional information is required for a specific regulatory program.

SLL

ACCUTEST
Fresh Ponds Corporate Village, Building B
2235 Route 130,Dayton, New Jersey 08810
732-329-0200 Phone, 732-329-3499 Fax

Honeywell **Chain Of Custody / Analysis Request**

AESI Ref: 38439.43925
COC # : 37394-092716
Lab Use Only
Lab Proj # HWINJM 45341
Lab ID ACTD

Privileged & Confidential: Y
EDD To: Andrew Shust (AMEC)
Site Name: HUDSONCO
Location of Site: SA-6 Cr Remedy

Client Contact: (name, co., address)
Andrew Shust, AMEC Hamilton, NJ
200 American Metro Blvd., Suite 113
Hamilton, NJ 08619

Sampler: Jenna Desiderio
P O #
Analysis Turnaround Time: 3 day TAT
Standard -
Rush Charges Authorized for - Y
2 weeks -
1 week -
48 Hours -

Hardcopy Report To: See above
Invoice To: Maria Kaouris - Honeywell PM 101 Columbia Rd. Morristown, NJ 07962

PAGE 1 of 1
Job No. JC28902

What is in the Text File? Mouse over here.
Written and maintained by AESI (Ver 3_7) 02-01-05 renesurgi@aol.com

	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Grab/Composite	Field Filtered Sample ?	EPA 7199 Hexavalent Chromium	TAL Metals 6010B	TCL VOC 8260B	TCL SVOCs 8270C	Non- fractionated EPH	PCB	SW846 9012A	Pesticides 8081A	SW8151 Total Herb	Lab Sample Numbers
											Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
											Preservative		0	0	0	0	0	0	0	0	0	
1	WOOLSTON-TS			WOOLSTON-TS-002 *	10/4/2016	8:30	SOIL	Soil	REG	4	grab	N	X	X	X	X	X	X	X	X	X	1
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

D10
P1
14Q3
4013

INITIAL ASSESSMENT AM 10
LABEL VERIFICATION Am

3 day TAT

* 3X5 G ENC 10/4/16 AM

Relinquished by	Company	Date/Time	Received by	Company	Date/Time	Condition	Custody Seals Intact
	AMEC	10/4/16 8:40		ACTD	10-4-16 1500		
Relinquished by	Company	Date/Time	Received by	Company	Date/Time	Cooler Temp.	
		10-4-16 1652		SGS	10/4/16 1738		
				Accutest		Condition	Custody Seals Intact
						Cooler Temp.	

Preservatives: 0 = None; [1 = HCL]; [2 = HNO3]; [3 = H2SO4]; [4 = NaOH]; [5 = Zn. Acetate]; [6 = MeOH]; [7 = NaHSO4]; 8 = Other (specify):

04.1 SSP

5.2 5

JC28902: Chain of Custody
Page 1 of 3

SGS Accutest Sample Receipt Summary

Job Number: JC28902 **Client:** **Project:**

Date / Time Received: 10/4/2016 4:52:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (4.1);

Cooler Temps (Corrected) °C: Cooler 1: (5.0);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control _Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	☐
2. Trip Blank listed on COC:	☐	☑	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☐	☐	☑

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

JC28902: Chain of Custody
Page 2 of 3

Job Change Order: JC28902

Requested Date:	10/7/2016	**Received Date:**	10/4/2016
Account Name:	Honeywell International Inc.	**Due Date:**	10/20/2016
Project Description:	HLANJPR: Study Area 6 Chrome Remedy	**Deliverable:**	FULT1
CSR:	mayurp	**TAT (Days):**	3

==========

Sample #: JC28902-1

Dept:

TAT: 3

WOOLSTON-TS-002

Change:
Relog the sample for XXCRA7199R, HOMOGENIZE
move HWSHEET to relogged email

==========

Above Changes Per:

Date/Time: 10/7/2016 3:38:35 PM

To Client: This Change Order is confirmation of the revisions, previously discussed with the SGS Accutest Client Service Representative.

Page 1 of 1

5.2 5

JC28902: Chain of Custody
Page 3 of 3

SGS Accutest

Internal Sample Tracking Chronicle

Honeywell International Inc.

Job No: JC28902

HLANJPR: Study Area 6 Chrome Remedy

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC28902-1	Collected: 04-OCT-16 08:30 By: JD		Received: 04-OCT-16 By: JK			
WOOLSTON-TS-002						
JC28902-1	SW846 9045D	05-OCT-16 13:45	AC			PH
JC28902-1	SM2540 G-97	05-OCT-16 14:00	AT			SOL104
JC28902-1	ASTM D1498-76M	05-OCT-16 14:10	AC			EH
JC28902-1	SW846 6010C	05-OCT-16 23:30	ND	05-OCT-16	DM	AG,AL,AS,BA,BE,CA,CD,CO,CR, CU,FE,K,MG,MN,NA,NI,PB,SB, SE,TL,V,ZN
JC28902-1	SW846 7471B	06-OCT-16 11:51	JPM	06-OCT-16	JPM	HG
JC28902-1	NJDEP EPH	06-OCT-16 16:01	SP	06-OCT-16	SZ	BNJEPHCAT2NF
JC28902-1	SW846 8082A	06-OCT-16 17:57	HB	06-OCT-16	SZ	P8082PCB11AO
JC28902-1	SW846 8081B	06-OCT-16 18:11	DS	06-OCT-16	SZ	P8081PESTTCL
JC28902-1	SW846 8260C	06-OCT-16 21:54	PS			V8260TCL20+
JC28902-1	SW846 9012B/LACHAT	07-OCT-16 10:09	YZ	06-OCT-16	HS	CN
JC28902-1	SW846 3060A/7199	07-OCT-16 11:04	TT	06-OCT-16	MP	XCRA7199
JC28902-1	SW846 8151	07-OCT-16 12:09	VDT	06-OCT-16	RG	H8151FL
JC28902-1	SW846 8270D	07-OCT-16 14:49	CS	06-OCT-16	FN	AB8270TCL20+
JC28902-1	SW846 8270D	07-OCT-16 15:17	CS	06-OCT-16	FN	AB8270TCL20+
JC28902-1R	Collected: 04-OCT-16 08:30 By: JD		Received: 04-OCT-16 By: JK			
WOOLSTON-TS-002						
JC28902-1R	SW846 3060A/7199	10-OCT-16 19:47	AT	10-OCT-16	AP	XCRA7199

SGS Accutest Internal Chain of Custody

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Received: 10/04/16

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC28902-1.1	Secured Storage	Alfredo Crespo	10/05/16 08:10	Retrieve from Storage
JC28902-1.1	Alfredo Crespo	Secured Staging Area	10/05/16 08:10	Return to Storage
JC28902-1.1	Secured Staging Area	Diana Mathes	10/05/16 10:02	Retrieve from Storage
JC28902-1.1	Diana Mathes	Andrew Csimbok	10/05/16 10:17	Custody Transfer
JC28902-1.1	Andrew Csimbok	Secured Storage	10/05/16 17:16	Return to Storage
JC28902-1.1	Secured Storage	Steven Zarchy	10/06/16 06:38	Retrieve from Storage
JC28902-1.1	Steven Zarchy	Deanna Hornig	10/06/16 07:37	Custody Transfer
JC28902-1.1	Deanna Hornig	Secured Storage	10/06/16 09:34	Return to Storage
JC28902-1.1	Secured Storage	Todd Shoemaker	10/06/16 15:27	Retrieve from Storage
JC28902-1.1	Todd Shoemaker	Secured Staging Area	10/06/16 15:27	Return to Storage
JC28902-1.1	Secured Staging Area	Hans Seignon	10/06/16 16:49	Retrieve from Storage
JC28902-1.1	Hans Seignon	Secured Storage	10/07/16 00:21	Return to Storage
JC28902-1.1	Secured Storage	Alfredo Crespo	10/10/16 07:27	Retrieve from Storage
JC28902-1.1	Alfredo Crespo	Secured Staging Area	10/10/16 07:27	Return to Storage
JC28902-1.1	Secured Staging Area	Aesha Patel	10/10/16 09:15	Retrieve from Storage
JC28902-1.1	Lisa Brassell		10/10/16 11:17	Depleted
Bottle was returned to secure storage, but inadvertently not scanned.				
JC28902-1.1.1	Diana Mathes	Metals Digestion	10/05/16 10:14	Digestate from JC28902-1.1
JC28902-1.1.1	Metals Digestion	Diana Mathes	10/05/16 10:14	Digestate from JC28902-1.1
JC28902-1.1.1	Diana Mathes	Metals Digestate Storage	10/05/16 10:14	Return to Storage
JC28902-1.1.2	Steven Zarchy	Organics Prep	10/06/16 06:39	Extract from JC28902-1.1
JC28902-1.1.2	Organics Prep	Steven Zarchy	10/06/16 11:54	Extract from JC28902-1.1
JC28902-1.1.2	Steven Zarchy	Extract Storage	10/06/16 11:54	Return to Storage
JC28902-1.1.2	Extract Storage	Sarah Patterson	10/06/16 16:06	Retrieve from Storage
JC28902-1.1.2	Sarah Patterson	GC5Y	10/06/16 16:06	Load on Instrument
JC28902-1.1.2	GC5Y	Sarah Patterson	10/07/16 16:10	Unload from Instrument
JC28902-1.1.2	Sarah Patterson	Extract Freezer	10/07/16 16:10	Return to Storage
JC28902-1.1.3	Steven Zarchy	Organics Prep	10/06/16 06:41	Extract from JC28902-1.1
JC28902-1.1.3	Organics Prep	Steven Zarchy	10/06/16 13:15	Extract from JC28902-1.1
JC28902-1.1.3	Steven Zarchy	Extract Storage	10/06/16 13:15	Return to Storage
JC28902-1.1.3	Extract Storage	Humarah Bano	10/06/16 17:33	Retrieve from Storage
JC28902-1.1.3	Humarah Bano	GCXX	10/06/16 17:33	Load on Instrument
JC28902-1.1.4	Steven Zarchy	Organics Prep	10/06/16 06:42	Extract from JC28902-1.1
JC28902-1.1.4	Organics Prep	Steven Zarchy	10/06/16 13:15	Extract from JC28902-1.1
JC28902-1.1.4	Steven Zarchy	Extract Storage	10/06/16 13:15	Return to Storage
JC28902-1.1.4	Extract Storage	Kristen Drake	10/06/16 16:35	Retrieve from Storage
JC28902-1.1.4	Kristen Drake	GC4G	10/06/16 16:35	Load on Instrument
JC28902-1.1.4	GC4G	Dhara Saparia	10/10/16 09:44	Unload from Instrument
JC28902-1.1.4	Dhara Saparia	Extract Freezer	10/10/16 09:45	Return to Storage

SGS Accutest Internal Chain of Custody

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Received: 10/04/16

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC28902-1.1.5	Deanna Hornig	Organics Prep	10/06/16 07:40	Extract from JC28902-1.1
JC28902-1.1.5	Organics Prep	Finley Nyaata	10/06/16 17:34	Extract from JC28902-1.1
JC28902-1.1.5	Finley Nyaata	Extract Storage	10/06/16 17:34	Return to Storage
JC28902-1.1.5	Extract Storage	Ashley Noble	10/07/16 13:20	Retrieve from Storage
JC28902-1.1.5	Ashley Noble	GCMS6P	10/07/16 13:20	Load on Instrument
JC28902-1.1.5	Arielle Cocozza	Extract Freezer	10/08/16 12:06	Return to Storage
JC28902-1.1.5	GCMS6P	Arielle Cocozza	10/08/16 12:06	Unload from Instrument
JC28902-1.1.6	Deanna Hornig	Organics Prep	10/06/16 07:42	Extract from JC28902-1.1
JC28902-1.1.6	Organics Prep	Rebecca Gluckman	10/06/16 17:46	Extract from JC28902-1.1
JC28902-1.1.6	Rebecca Gluckman	Extract Storage	10/06/16 17:46	Return to Storage
JC28902-1.1.6	Extract Storage	Vincent Drago	10/07/16 09:44	Retrieve from Storage
JC28902-1.1.6	Vincent Drago	GCOA	10/07/16 09:44	Load on Instrument
JC28902-1.1.6	GCOA	Vincent Drago	10/10/16 09:37	Unload from Instrument
JC28902-1.1.6	Vincent Drago	Extract Freezer	10/10/16 09:37	Return to Storage
JC28902-1.1.7	Deanna Hornig	Miti Patel	10/06/16 08:23	Aliquot from JC28902-1.1
JC28902-1.1.7	Miti Patel		10/06/16 11:53	Depleted
JC28902-1.2	Secured Storage	Todd Shoemaker	10/05/16 08:49	Retrieve from Storage
JC28902-1.2	Todd Shoemaker	Secured Staging Area	10/05/16 08:49	Return to Storage
JC28902-1.2	Secured Staging Area	Amir Takla	10/05/16 08:52	Retrieve from Storage
JC28902-1.2	Amir Takla	Secured Storage	10/05/16 17:18	Return to Storage
JC28902-1.2	Secured Storage	Alfredo Crespo	10/06/16 07:49	Retrieve from Storage
JC28902-1.2	Alfredo Crespo	Secured Staging Area	10/06/16 07:49	Return to Storage
JC28902-1.2	Secured Staging Area	James Patrick McIlvaine	10/06/16 08:47	Retrieve from Storage
JC28902-1.2	Secured Storage	Alfredo Crespo	10/06/16 09:12	Retrieve from Storage
Bottle was returned to secure storage, but inadvertently not scanned.				
JC28902-1.2	Alfredo Crespo	Secured Staging Area	10/06/16 09:12	Return to Storage
JC28902-1.2	Deanna Hornig		10/06/16 09:34	Depleted
Analyst unavailable for custody transfer.				
JC28902-1.4	Secured Storage	Jayna Patel	10/05/16 10:15	Retrieve from Storage
JC28902-1.4	Jayna Patel	Secured Storage	10/05/16 10:15	Return to Storage
JC28902-1.5	Secured Storage	Jayna Patel	10/05/16 10:15	Retrieve from Storage
JC28902-1.5	Jayna Patel	Secured Storage	10/05/16 10:15	Return to Storage
JC28902-1.5	Secured Storage	Prashant Shukla	10/06/16 15:59	Retrieve from Storage
JC28902-1.5	Prashant Shukla	GCMSY	10/06/16 15:59	Load on Instrument
JC28902-1.5	GCMSY	Prashant Shukla	10/08/16 09:37	Unload from Instrument
JC28902-1.5	Prashant Shukla		10/08/16 09:37	Depleted
JC28902-1.6	Secured Storage	Jayna Patel	10/05/16 10:15	Retrieve from Storage
JC28902-1.6	Jayna Patel	Secured Storage	10/05/16 10:15	Return to Storage

ACCUTEST
New Jersey

Section 6

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY7259-MB	Y166756.D	1	10/06/16	PS	n/a	n/a	VY7259

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC28902-1

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/kg	
71-43-2	Benzene	ND	0.50	0.12	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	0.32	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	0.15	ug/kg	
75-25-2	Bromoform	ND	5.0	0.27	ug/kg	
74-83-9	Bromomethane	ND	5.0	0.49	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	1.8	ug/kg	
75-15-0	Carbon disulfide	ND	2.0	0.17	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.0	0.17	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	0.16	ug/kg	
75-00-3	Chloroethane	ND	5.0	0.43	ug/kg	
67-66-3	Chloroform	ND	2.0	0.24	ug/kg	
74-87-3	Chloromethane	ND	5.0	0.21	ug/kg	
110-82-7	Cyclohexane	ND	2.0	0.55	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.48	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	0.15	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.24	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.17	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.14	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.15	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	0.55	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.0	0.19	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.0	0.15	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.44	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.16	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	0.31	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.20	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.22	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.15	ug/kg	
76-13-1	Freon 113	ND	5.0	0.48	ug/kg	
591-78-6	2-Hexanone	ND	5.0	1.4	ug/kg	
98-82-8	Isopropylbenzene	ND	2.0	0.15	ug/kg	
79-20-9	Methyl Acetate	ND	5.0	2.0	ug/kg	
108-87-2	Methylcyclohexane	ND	2.0	0.51	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.27	ug/kg	

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY7259-MB	Y166756.D	1	10/06/16	PS	n/a	n/a	VY7259

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC28902-1

CAS No.	Compound	Result	RL	MDL	Units	Q
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	0.85	ug/kg	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/kg	
100-42-5	Styrene	ND	2.0	0.15	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.24	ug/kg	
127-18-4	Tetrachloroethene	ND	2.0	0.28	ug/kg	
108-88-3	Toluene	ND	1.0	0.13	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.23	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.18	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.17	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.32	ug/kg	
79-01-6	Trichloroethene	ND	1.0	0.19	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	0.63	ug/kg	
75-01-4	Vinyl chloride	ND	2.0	0.20	ug/kg	
	m,p-Xylene	ND	1.0	0.22	ug/kg	
95-47-6	o-Xylene	ND	1.0	0.20	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.20	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	99%	70-122%
17060-07-0	1,2-Dichloroethane-D4	99%	68-124%
2037-26-5	Toluene-D8	100%	77-125%
460-00-4	4-Bromofluorobenzene	105%	72-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

Blank Spike Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY7259-BS	Y166757.D	1	10/06/16	PS	n/a	n/a	VY7259

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC28902-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	50	53.1	106	30-150
71-43-2	Benzene	50	46.7	93	77-122
74-97-5	Bromochloromethane	50	49.1	98	81-126
75-27-4	Bromodichloromethane	50	48.7	97	82-130
75-25-2	Bromoform	50	49.7	99	78-134
74-83-9	Bromomethane	50	48.9	98	56-141
78-93-3	2-Butanone (MEK)	50	53.1	106	61-139
75-15-0	Carbon disulfide	50	46.6	93	68-131
56-23-5	Carbon tetrachloride	50	51.2	102	73-139
108-90-7	Chlorobenzene	50	49.8	100	79-120
75-00-3	Chloroethane	50	54.2	108	64-150
67-66-3	Chloroform	50	51.4	103	77-123
74-87-3	Chloromethane	50	49.1	98	50-140
110-82-7	Cyclohexane	50	54.3	109	66-131
96-12-8	1,2-Dibromo-3-chloropropane	50	50.8	102	70-128
124-48-1	Dibromochloromethane	50	49.6	99	82-129
106-93-4	1,2-Dibromoethane	50	49.2	98	83-125
95-50-1	1,2-Dichlorobenzene	50	49.8	100	79-118
541-73-1	1,3-Dichlorobenzene	50	48.7	97	76-119
106-46-7	1,4-Dichlorobenzene	50	49.0	98	75-118
75-71-8	Dichlorodifluoromethane	50	54.4	109	31-170
75-34-3	1,1-Dichloroethane	50	48.0	96	78-129
107-06-2	1,2-Dichloroethane	50	50.1	100	77-140
75-35-4	1,1-Dichloroethene	50	49.2	98	71-128
156-59-2	cis-1,2-Dichloroethene	50	50.0	100	73-123
156-60-5	trans-1,2-Dichloroethene	50	46.7	93	72-122
78-87-5	1,2-Dichloropropane	50	49.2	98	80-129
10061-01-5	cis-1,3-Dichloropropene	50	49.7	99	75-124
10061-02-6	trans-1,3-Dichloropropene	50	49.2	98	75-129
100-41-4	Ethylbenzene	50	48.7	97	75-121
76-13-1	Freon 113	50	54.2	108	67-136
591-78-6	2-Hexanone	50	52.9	106	63-140
98-82-8	Isopropylbenzene	50	50.1	100	70-126
79-20-9	Methyl Acetate	50	51.7	103	59-131
108-87-2	Methylcyclohexane	50	46.9	94	62-131
1634-04-4	Methyl Tert Butyl Ether	100	99.5	100	77-121

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY7259-BS	Y166757.D	1	10/06/16	PS	n/a	n/a	VY7259

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC28902-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
108-10-1	4-Methyl-2-pentanone(MIBK)	50	51.8	104	73-141
75-09-2	Methylene chloride	50	50.8	102	71-124
100-42-5	Styrene	50	51.2	102	79-125
79-34-5	1,1,2,2-Tetrachloroethane	50	48.7	97	72-121
127-18-4	Tetrachloroethene	50	49.2	98	70-135
108-88-3	Toluene	50	48.4	97	75-123
87-61-6	1,2,3-Trichlorobenzene	50	56.1	112	76-128
120-82-1	1,2,4-Trichlorobenzene	50	58.3	117	74-129
71-55-6	1,1,1-Trichloroethane	50	53.0	106	75-134
79-00-5	1,1,2-Trichloroethane	50	50.7	101	78-130
79-01-6	Trichloroethene	50	50.1	100	79-127
75-69-4	Trichlorofluoromethane	50	50.4	101	64-141
75-01-4	Vinyl chloride	50	50.3	101	57-136
	m,p-Xylene	100	95.1	95	75-122
95-47-6	o-Xylene	50	50.0	100	76-121
1330-20-7	Xylene (total)	150	145	97	76-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	70-122%
17060-07-0	1,2-Dichloroethane-D4	102%	68-124%
2037-26-5	Toluene-D8	101%	77-125%
460-00-4	4-Bromofluorobenzene	98%	72-130%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC28964-2MS	Y166764.D	1	10/06/16	PS	n/a	n/a	VY7259
JC28964-2	Y166760.D	1	10/06/16	PS	n/a	n/a	VY7259

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC28902-1

CAS No.	Compound	JC28964-2 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Limits
67-64-1	Acetone	ND		61.2	36.8	60	10-180
71-43-2	Benzene	ND		61.2	53.5	87	48-136
74-97-5	Bromochloromethane	ND		61.2	51.6	84	53-137
75-27-4	Bromodichloromethane	ND		61.2	51.7	85	50-145
75-25-2	Bromoform	ND		61.2	47.7	78	39-148
74-83-9	Bromomethane	ND		61.2	56.1	92	12-156
78-93-3	2-Butanone (MEK)	ND		61.2	41.7	68	26-164
75-15-0	Carbon disulfide	ND		61.2	59.2	97	34-146
56-23-5	Carbon tetrachloride	ND		61.2	58.8	96	43-152
108-90-7	Chlorobenzene	ND		61.2	56.3	92	38-144
75-00-3	Chloroethane	ND		61.2	60.6	99	26-154
67-66-3	Chloroform	ND		61.2	58.6	96	52-134
74-87-3	Chloromethane	ND		61.2	55.3	90	41-142
110-82-7	Cyclohexane	ND		61.2	60.7	99	22-154
96-12-8	1,2-Dibromo-3-chloropropane	ND		61.2	46.0	75	29-145
124-48-1	Dibromochloromethane	ND		61.2	51.3	84	49-142
106-93-4	1,2-Dibromoethane	ND		61.2	49.0	80	46-139
95-50-1	1,2-Dichlorobenzene	ND		61.2	53.8	88	30-144
541-73-1	1,3-Dichlorobenzene	ND		61.2	54.0	88	28-148
106-46-7	1,4-Dichlorobenzene	ND		61.2	53.4	87	30-142
75-71-8	Dichlorodifluoromethane	ND		61.2	63.4	104	31-161
75-34-3	1,1-Dichloroethane	ND		61.2	55.8	91	54-137
107-06-2	1,2-Dichloroethane	ND		61.2	51.7	85	56-140
75-35-4	1,1-Dichloroethene	ND		61.2	60.2	98	41-143
156-59-2	cis-1,2-Dichloroethene	ND		61.2	56.7	93	45-137
156-60-5	trans-1,2-Dichloroethene	ND		61.2	55.4	91	42-141
78-87-5	1,2-Dichloropropane	ND		61.2	54.6	89	53-139
10061-01-5	cis-1,3-Dichloropropene	ND		61.2	51.1	84	41-144
10061-02-6	trans-1,3-Dichloropropene	ND		61.2	49.1	80	36-148
100-41-4	Ethylbenzene	ND		61.2	56.1	92	34-145
76-13-1	Freon 113	ND		61.2	59.0	96	30-152
591-78-6	2-Hexanone	ND		61.2	45.1	74	16-176
98-82-8	Isopropylbenzene	ND		61.2	58.2	95	36-145
79-20-9	Methyl Acetate	ND		61.2	47.0	77	26-176
108-87-2	Methylcyclohexane	ND		61.2	50.1	82	14-153
1634-04-4	Methyl Tert Butyl Ether	ND		122	99.3	81	54-129

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC28964-2MS	Y166764.D	1	10/06/16	PS	n/a	n/a	VY7259
JC28964-2	Y166760.D	1	10/06/16	PS	n/a	n/a	VY7259

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC28902-1

CAS No.	Compound	JC28964-2 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Limits
108-10-1	4-Methyl-2-pentanone(MIBK)	ND		61.2	47.3	77	33-154
75-09-2	Methylene chloride	ND		61.2	55.6	91	47-133
100-42-5	Styrene	ND		61.2	56.4	92	32-156
79-34-5	1,1,2,2-Tetrachloroethane	ND		61.2	47.7	78	31-149
127-18-4	Tetrachloroethene	ND		61.2	56.5	92	34-163
108-88-3	Toluene	ND		61.2	55.0	90	40-141
87-61-6	1,2,3-Trichlorobenzene	ND		61.2	54.2	89	14-153
120-82-1	1,2,4-Trichlorobenzene	ND		61.2	57.7	94	14-156
71-55-6	1,1,1-Trichloroethane	ND		61.2	61.7	101	48-144
79-00-5	1,1,2-Trichloroethane	ND		61.2	50.9	83	43-146
79-01-6	Trichloroethene	ND		61.2	57.2	94	42-152
75-69-4	Trichlorofluoromethane	ND		61.2	55.9	91	39-153
75-01-4	Vinyl chloride	ND		61.2	57.6	94	38-149
	m,p-Xylene	ND		122	107	87	32-148
95-47-6	o-Xylene	ND		61.2	55.7	91	36-145
1330-20-7	Xylene (total)	ND		184	163	89	34-146

CAS No.	Surrogate Recoveries	MS	JC28964-2	Limits
1868-53-7	Dibromofluoromethane	99%	102%	70-122%
17060-07-0	1,2-Dichloroethane-D4	93%	104%	68-124%
2037-26-5	Toluene-D8	100%	101%	77-125%
460-00-4	4-Bromofluorobenzene	100%	104%	72-130%

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC28964-1DUP	Y166759.D	1	10/06/16	PS	n/a	n/a	VY7259
JC28964-1	Y166763.D	1	10/06/16	PS	n/a	n/a	VY7259

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC28902-1

CAS No.	Compound	JC28964-1 ug/kg	Q	DUP ug/kg	Q	RPD	Limits
67-64-1	Acetone	35.3		ND		200* [a]	35
71-43-2	Benzene	0.26	J	ND		200* [a]	17
74-97-5	Bromochloromethane	ND		ND		nc	30
75-27-4	Bromodichloromethane	ND		ND		nc	30
75-25-2	Bromoform	ND		ND		nc	30
74-83-9	Bromomethane	ND		ND		nc	30
78-93-3	2-Butanone (MEK)	5.2	J	ND		200* [a]	30
75-15-0	Carbon disulfide	0.81	J	ND		200* [a]	20
56-23-5	Carbon tetrachloride	ND		ND		nc	30
108-90-7	Chlorobenzene	ND		ND		nc	30
75-00-3	Chloroethane	ND		ND		nc	30
67-66-3	Chloroform	ND		0.40	J	200* [a]	30
74-87-3	Chloromethane	ND		ND		nc	30
110-82-7	Cyclohexane	2.4		ND		200* [a]	30
96-12-8	1,2-Dibromo-3-chloropropane	ND		ND		nc	30
124-48-1	Dibromochloromethane	ND		ND		nc	30
106-93-4	1,2-Dibromoethane	ND		ND		nc	30
95-50-1	1,2-Dichlorobenzene	ND		ND		nc	30
541-73-1	1,3-Dichlorobenzene	ND		ND		nc	30
106-46-7	1,4-Dichlorobenzene	ND		ND		nc	30
75-71-8	Dichlorodifluoromethane	ND		ND		nc	30
75-34-3	1,1-Dichloroethane	ND		ND		nc	30
107-06-2	1,2-Dichloroethane	ND		ND		nc	30
75-35-4	1,1-Dichloroethene	ND		ND		nc	30
156-59-2	cis-1,2-Dichloroethene	ND		ND		nc	30
156-60-5	trans-1,2-Dichloroethene	ND		ND		nc	30
78-87-5	1,2-Dichloropropane	ND		ND		nc	30
10061-01-5	cis-1,3-Dichloropropene	ND		ND		nc	30
10061-02-6	trans-1,3-Dichloropropene	ND		ND		nc	30
100-41-4	Ethylbenzene	0.27	J	ND		200* [a]	23
76-13-1	Freon 113	ND		ND		nc	30
591-78-6	2-Hexanone	ND		ND		nc	30
98-82-8	Isopropylbenzene	0.31	J	ND		200* [a]	22
79-20-9	Methyl Acetate	ND		ND		nc	30
108-87-2	Methylcyclohexane	23.6		ND		200* [a]	18
1634-04-4	Methyl Tert Butyl Ether	ND		ND		nc	30

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC28964-1DUP	Y166759.D	1	10/06/16	PS	n/a	n/a	VY7259
JC28964-1	Y166763.D	1	10/06/16	PS	n/a	n/a	VY7259

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC28902-1

CAS No.	Compound	JC28964-1 ug/kg	Q	DUP ug/kg	Q	RPD	Limits
108-10-1	4-Methyl-2-pentanone(MIBK)	ND		ND		nc	30
75-09-2	Methylene chloride	ND		ND		nc	37
100-42-5	Styrene	ND		ND		nc	30
79-34-5	1,1,2,2-Tetrachloroethane	ND		ND		nc	30
127-18-4	Tetrachloroethene	ND		ND		nc	30
108-88-3	Toluene	0.24	J	ND		200* [a]	22
87-61-6	1,2,3-Trichlorobenzene	ND		ND		nc	30
120-82-1	1,2,4-Trichlorobenzene	ND		ND		nc	30
71-55-6	1,1,1-Trichloroethane	ND		ND		nc	30
79-00-5	1,1,2-Trichloroethane	ND		ND		nc	30
79-01-6	Trichloroethene	ND		ND		nc	17
75-69-4	Trichlorofluoromethane	ND		ND		nc	30
75-01-4	Vinyl chloride	ND		ND		nc	30
	m,p-Xylene	0.51	J	ND		200* [a]	20
95-47-6	o-Xylene	0.86	J	ND		200* [a]	19
1330-20-7	Xylene (total)	1.4		ND		200* [a]	21

CAS No.	Surrogate Recoveries	DUP	JC28964-1	Limits
1868-53-7	Dibromofluoromethane	101%	103%	70-122%
17060-07-0	1,2-Dichloroethane-D4	103%	105%	68-124%
2037-26-5	Toluene-D8	101%	104%	77-125%
460-00-4	4-Bromofluorobenzene	105%	109%	72-130%

(a) Outside control limits due to different encores.

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: VY7258-BFB
Lab File ID: Y166738.D
Instrument ID: GCMSY
Injection Date: 10/05/16
Injection Time: 12:58

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	29648	21.1		Pass
75	30.0 - 60.0% of mass 95	69402	49.4		Pass
95	Base peak, 100% relative abundance	140400	100.0		Pass
96	5.0 - 9.0% of mass 95	9399	6.69		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	110045	78.4		Pass
175	5.0 - 9.0% of mass 174	8437	6.01	(7.67) [a]	Pass
176	95.0 - 101.0% of mass 174	107696	76.7	(97.9) [a]	Pass
177	5.0 - 9.0% of mass 176	7186	5.12	(6.67) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VY7258-IC7258	Y166739.D	10/05/16	13:36	00:38	Initial cal 0.2
VY7258-IC7258	Y166740.D	10/05/16	14:04	01:06	Initial cal 0.5
VY7258-IC7258	Y166741.D	10/05/16	14:32	01:34	Initial cal 1
VY7258-IC7258	Y166742.D	10/05/16	15:00	02:02	Initial cal 2
VY7258-IC7258	Y166743.D	10/05/16	15:28	02:30	Initial cal 4
VY7258-IC7258	Y166744.D	10/05/16	15:56	02:58	Initial cal 8
VY7258-IC7258	Y166745.D	10/05/16	16:24	03:26	Initial cal 20
VY7258-ICC7258	Y166746.D	10/05/16	16:53	03:55	Initial cal 50
VY7258-IC7258	Y166747.D	10/05/16	17:21	04:23	Initial cal 100
VY7258-IC7258	Y166748.D	10/05/16	17:49	04:51	Initial cal 200
VY7258-ICV7258	Y166751.D	10/05/16	19:14	06:16	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: VY7259-BFB
Lab File ID: Y166753.D
Instrument ID: GCMSY
Injection Date: 10/06/16
Injection Time: 10:47

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	30877	21.8		Pass
75	30.0 - 60.0% of mass 95	71696	50.6		Pass
95	Base peak, 100% relative abundance	141672	100.0		Pass
96	5.0 - 9.0% of mass 95	9423	6.65		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	109643	77.4		Pass
175	5.0 - 9.0% of mass 174	8398	5.93	(7.66) [a]	Pass
176	95.0 - 101.0% of mass 174	107021	75.5	(97.6) [a]	Pass
177	5.0 - 9.0% of mass 176	7348	5.19	(6.87) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VY7259-CC7258	Y166754.D	10/06/16	11:20	00:33	Continuing cal 20
VY7259-MB	Y166756.D	10/06/16	12:24	01:37	Method Blank
VY7259-BS	Y166757.D	10/06/16	13:00	02:13	Blank Spike
JC28964-1DUP	Y166759.D	10/06/16	13:56	03:09	Duplicate
JC28964-2	Y166760.D	10/06/16	14:24	03:37	(used for QC only; not part of job JC28902)
JC28964-3	Y166761.D	10/06/16	14:52	04:05	(used for QC only; not part of job JC28902)
ZZZZZZ	Y166762.D	10/06/16	15:20	04:33	(unrelated sample)
JC28964-1	Y166763.D	10/06/16	15:48	05:01	(used for QC only; not part of job JC28902)
JC28964-2MS	Y166764.D	10/06/16	16:16	05:29	Matrix Spike
ZZZZZZ	Y166766.D	10/06/16	17:13	06:26	(unrelated sample)
ZZZZZZ	Y166767.D	10/06/16	17:41	06:54	(unrelated sample)
ZZZZZZ	Y166768.D	10/06/16	18:09	07:22	(unrelated sample)
ZZZZZZ	Y166769.D	10/06/16	18:37	07:50	(unrelated sample)
ZZZZZZ	Y166770.D	10/06/16	19:06	08:19	(unrelated sample)
ZZZZZZ	Y166771.D	10/06/16	19:34	08:47	(unrelated sample)
ZZZZZZ	Y166772.D	10/06/16	20:02	09:15	(unrelated sample)
ZZZZZZ	Y166773.D	10/06/16	20:30	09:43	(unrelated sample)
ZZZZZZ	Y166774.D	10/06/16	20:58	10:11	(unrelated sample)
JC28964-3DUP	Y166775.D	10/06/16	21:26	10:39	Duplicate
JC28902-1	Y166776.D	10/06/16	21:54	11:07	WOOLSTON-TS-002
ZZZZZZ	Y166777.D	10/06/16	22:23	11:36	(unrelated sample)

Volatile Internal Standard Area Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	VY7259-CC7258	**Injection Date:**	10/06/16
Lab File ID:	Y166754.D	**Injection Time:**	11:20
Instrument ID:	GCMSY	**Method:**	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	207250	7.12	438461	9.34	702778	10.25	494671	13.40	233044	15.71
Upper Limit [a]	414500	7.62	876922	9.84	1405556	10.75	989342	13.90	466088	16.21
Lower Limit [b]	103625	6.62	219231	8.84	351389	9.75	247336	12.90	116522	15.21

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VY7259-MB	189890	7.11	450817	9.33	726112	10.24	519035	13.40	224416	15.71
VY7259-BS	211182	7.12	438407	9.33	712045	10.25	499349	13.40	236255	15.71
JC28964-1DUP	225773	7.12	471009	9.33	765539	10.24	553047	13.40	239877	15.71
JC28964-2	228305	7.12	462441	9.33	746100	10.24	544205	13.40	237964	15.71
JC28964-3	220112	7.12	475491	9.33	773150	10.24	560467	13.40	241667	15.71
ZZZZZZ	221345	7.11	457506	9.33	742458	10.24	532212	13.40	235600	15.71
JC28964-1	235825	7.12	477465	9.33	784176	10.24	560475	13.40	240827	15.71
JC28964-2MS	172075	7.11	477485	9.33	780754	10.24	536100	13.40	245738	15.71
ZZZZZZ	224967	7.11	471990	9.33	772252	10.24	551240	13.40	227284	15.71
ZZZZZZ	236455	7.11	460548	9.33	754302	10.24	549486	13.40	234477	15.71
ZZZZZZ	238555	7.12	475717	9.33	778798	10.24	559392	13.40	239460	15.71
ZZZZZZ	254139	7.12	461856	9.33	767808	10.24	561452	13.40	247073	15.71
ZZZZZZ	239023	7.11	456330	9.33	749096	10.24	542088	13.40	237096	15.71
ZZZZZZ	266193	7.12	465247	9.33	767579	10.24	557811	13.40	239885	15.71
ZZZZZZ	210513	7.11	469800	9.33	768831	10.24	559250	13.40	238827	15.71
ZZZZZZ	199302	7.11	444538	9.33	729759	10.24	522204	13.40	224150	15.71
ZZZZZZ	209506	7.11	465690	9.33	765480	10.24	544409	13.40	230564	15.71
JC28964-3DUP	226008	7.11	435516	9.33	729365	10.24	535178	13.40	229919	15.71
JC28902-1	154672	7.11	443977	9.33	722047	10.24	488363	13.40	169486	15.71
ZZZZZZ	225252	7.12	455552	9.33	756181	10.24	548333	13.40	232113	15.71

IS 1 = Tert Butyl Alcohol-D9
IS 2 = Pentafluorobenzene
IS 3 = 1,4-Difluorobenzene
IS 4 = Chlorobenzene-D5
IS 5 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Surrogate Recovery Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Method: SW846 8260C **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JC28902-1	Y166776.D	105	109	100	121
JC28964-1DUP	Y166759.D	101	103	101	105
JC28964-2MS	Y166764.D	99	93	100	100
VY7259-BS	Y166757.D	103	102	101	98
VY7259-MB	Y166756.D	99	99	100	105

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	70-122%
S2 = 1,2-Dichloroethane-D4	68-124%
S3 = Toluene-D8	77-125%
S4 = 4-Bromofluorobenzene	72-130%

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: VY7258-ICC7258
Lab FileID: Y166746.D

```
                         Response Factor Report  MSY

Method       : C:\MSDCHEM\1\METHODS\MYS7258.M (RTE Integrator)
Title        : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
Last Update  : Fri Oct 07 09:37:12 2016
Response via : Initial Calibration

Calibration Files
4   =Y166743.D   8   =Y166744.D   0.5 =Y166740.D   50  =Y166746.D
100 =Y166747.D   1   =Y166741.D   200 =Y166748.D   20  =Y166745.D
2   =Y166742.D   0.2 =Y166739.D       =                =

Compound
        4     8     0.5   50    100   1     200   20    2     0.2    Avg   %RSD
-------------------------------------------------------------------------------

1) I   Tert Butyl Alcohol-d9 ----------------ISTD---------------------
2)  1,4-dioxane
     0.105 0.121       0.119 0.114       0.125 0.123              0.118    6.23
3)  tertiary butyl alcohol
     1.483 1.471       1.428 1.374       1.518 1.469 1.466        1.458    3.12

4) I   pentafluorobenzene    ----------------ISTD---------------------
5)  propene
                                                                  0.000   -1.00
6)  chlorodifluoromethane
     0.830 0.824       0.800 0.761       0.760 0.833 0.854        0.809    4.54
7)  dichlorodifluoromethane
     0.753 0.699       0.686 0.646 0.664 0.655 0.699 0.658        0.683    5.12
8)  chloromethane
     1.268 0.971       0.877 0.855       0.875 0.898              0.957   16.43
9)  vinyl chloride
     0.959 0.889       0.829 0.792 0.910 0.793 0.844 0.846        0.858    6.77
10)  1,3-butadiene
                                                                  0.000   -1.00
11)  bromomethane
     0.610 0.494       0.436 0.360             0.466              0.473   19.27
12)  chloroethane
     0.479 0.439       0.401 0.365 0.441 0.332 0.423 0.416        0.412   11.23
13)  Vinyl Bromide
     0.758 0.697 0.740 0.656 0.619 0.658 0.624 0.673 0.651        0.675    7.16
14)  trichlorofluoromethane
     0.875 0.777       0.747 0.717       0.734 0.759              0.768    7.33
15)  ethyl ether
     0.356 0.319       0.312 0.308 0.320 0.314 0.323 0.350        0.325    5.47
16)  2-chloropropane
                                                                  0.000   -1.00
17)  acrolein
     0.105 0.101       0.098 0.091       0.092 0.100 0.104        0.099    5.35
18)  1,1-dichloroethene
     1.008 0.978       0.900 0.882 0.852 0.895 0.957 1.045        0.940    7.22
19)  acetone
           0.268       0.170 0.188       0.205 0.237              0.213   18.34
20)  allyl chloride
     0.392 0.361       0.367 0.351       0.357 0.390 0.434        0.379    7.63
21)  acetonitrile
     0.055 0.054       0.051 0.047       0.049 0.051              0.051    5.69
22)  iodomethane
     1.082 1.008       0.937 0.932 0.829 0.960 0.996 1.019        0.970    7.75
23)  carbon disulfide
```

Initial Calibration Summary

Job Number: JC28902 **Sample:** VY7258-ICC7258
Account: HWINJM Honeywell International Inc. **Lab FileID:** Y166746.D
Project: HLANJPR: Study Area 6 Chrome Remedy

```
      2.274 2.164       1.966 1.911 1.928 1.959 2.062 2.237        2.063    7.02
24)  1-chloropropane
                                                                   0.000   -1.00
25)  methylene chloride
      1.016 0.769       0.646 0.623       0.627 0.691              0.729   20.74
            ----- Linear regression -----  Coefficient =  0.9998
              Response Ratio = 0.02952 + 0.61555 *A

26)  methyl acetate
      0.440 0.378       0.392 0.370       0.381 0.398              0.393    6.35
27)  methyl tert butyl ether
      1.864 1.729       1.667 1.637 1.618 1.677 1.714 1.938        1.730    6.54
28)  trans-1,2-dichloroethene
      1.057 1.007 1.155 0.933 0.915 0.935 0.927 0.988 1.049 1.059  1.002    7.76
29)  di-isopropyl ether
      2.494 2.573 2.197 2.345 2.290 2.254 2.328 2.415 2.463        2.373    5.15
30)  ethyl tert-butyl ether
      2.139 2.191 1.935 2.063 2.030 1.997 2.086 2.093 2.085        2.069    3.65
31)  2-butanone
      0.057 0.062       0.056 0.058       0.063 0.063              0.060    5.02
32)  1,1-dichloroethane
      1.323 1.230 1.470 1.122 1.103 1.063 1.109 1.203 1.280 1.300  1.220   10.35
33)  chloroprene
      0.945 0.997 0.860 0.913 0.894 0.882 0.921 0.944 0.970        0.925    4.71
34)  acrylonitrile
      0.199 0.178       0.180 0.173 0.162 0.178 0.189 0.187        0.181    6.10
35)  vinyl acetate
      0.065 0.078       0.085 0.082       0.084 0.086              0.080    9.68
36)  ethyl acetate
      0.109 0.089       0.079 0.075       0.075 0.086              0.086   14.98
37)  2,2-dichloropropane
      1.019 0.959       0.871 0.854 0.956 0.866 0.922 1.087        0.942    8.66
38)  cis-1,2-dichloroethene
      0.734 0.649       0.620 0.609 0.556 0.609 0.658 0.696        0.641    8.71
39)  propionitrile
      0.074 0.067       0.068 0.065       0.066 0.070              0.068    4.68
40)  bromochloromethane
      0.391 0.369 0.402 0.360 0.355 0.317 0.360 0.371 0.399        0.369    7.13
41)  tetrahydrofuran
            0.076       0.066 0.063       0.064 0.070              0.068    8.02
42)  chloroform
      1.172 1.087       1.018 1.015 1.017 1.043 1.067 1.184        1.075    6.36
43)  tert-Butyl Formate
      0.589 0.592       0.571 0.558 0.528 0.574 0.566 0.556        0.567    3.62
44)  isobutyl alcohol
                                                                   0.000   -1.00
45)  dibromofluoromethane (s)
      0.528 0.522 0.523 0.524 0.522 0.530 0.513 0.522 0.533 0.536  0.525    1.26
46)  1,2-dichloroethane-d4 (s)
      0.566 0.543 0.556 0.552 0.545 0.558 0.536 0.547 0.565 0.563  0.553    1.86
47)  freon 113
      0.399 0.421       0.375 0.362       0.351 0.391 0.400        0.385    6.32
48)  methacrylonitrile
      0.207 0.183       0.192 0.189       0.197 0.198 0.168        0.191    6.65
49)  1,1,1-trichloroethane
      0.919 0.848       0.804 0.808 0.756 0.832 0.840 0.913        0.840    6.56
50)  Cyclohexane
      0.871 0.868 0.750 0.786 0.751 0.769 0.751 0.825 0.906        0.808    7.50
51)  2,2,4-trimethylpentane
      2.596 2.664 2.440 2.554 2.422 2.295 2.366 2.549 2.602 2.490  2.498    4.65
```

Initial Calibration Summary

Job Number: JC28902 **Sample:** VY7258-ICC7258
Account: HWINJM Honeywell International Inc. **Lab FileID:** Y166746.D
Project: HLANJPR: Study Area 6 Chrome Remedy

```
52)  tert-amyl methyl ether
      1.862 1.915       1.801 1.756 1.845 1.789 1.829 1.843        1.830    2.66

53) I   1,4-difluorobenzene   ----------------ISTD---------------------
54)  epichlorohydrin
      0.030 0.030       0.028 0.027       0.028 0.029 0.025        0.028    6.12
55)  n-butyl alcohol
      0.009 0.009       0.010 0.010       0.010 0.010 0.007        0.009   12.32
56)  carbon tetrachloride
      0.501 0.483       0.444 0.445 0.432 0.459 0.478 0.520        0.470    6.51
57)  1,1-dichloropropene
      0.502 0.496       0.455 0.451 0.432 0.460 0.493 0.530        0.477    6.89
58)  hexane   **This compound does not meet IC QC criteria**
      0.568 0.582       0.528 0.500 0.577 0.493 0.551 0.595        0.549    6.99
59)  Tert Amyl Alcohol
                                                                   0.000   -1.00
60)  benzene
      1.636 1.544 1.977 1.391 1.375 1.491 1.381 1.496 1.641        1.548   12.28
61)  heptane
      0.316 0.319 0.313 0.295 0.282 0.279 0.283 0.304 0.313        0.300    5.35
62)  isopropyl acetate
      0.046 0.055       0.053 0.053       0.054 0.057 0.050        0.053    6.42
63)  1,2-dichloroethane
      0.529 0.487       0.463 0.459 0.446 0.476 0.491 0.515        0.483    5.85
64)  trichloroethene
      0.376 0.366       0.334 0.335 0.318 0.341 0.357 0.381        0.351    6.43
65)  ethyl acrylate
      0.339 0.314       0.321 0.318       0.333 0.334 0.304        0.323    3.91
66)  2-nitropropane **This compound does not meet IC QC criteria**
      0.122 0.109       0.094 0.093       0.098 0.097              0.102   10.91
67)  2-chloroethyl vinyl ether
      0.078 0.081       0.079 0.077 0.068 0.081 0.078 0.070        0.076    6.37
68)  methyl methacrylate
      0.055 0.055       0.060 0.059       0.061 0.063 0.053        0.058    6.60
69)  1,2-dichloropropane
      0.436 0.421       0.380 0.379 0.361 0.375 0.416 0.437        0.401    7.50
70)  methylcyclohexane
      0.718 0.744 0.666 0.680 0.640 0.664 0.608 0.708 0.733 0.682  0.684    6.21
71)  Tert-amyl ethyl ether
                                                                   0.000   -1.00
72)  dibromomethane
      0.221 0.208 0.213 0.199 0.193 0.190 0.197 0.211 0.213        0.205    5.15
73)  bromodichloromethane
      0.528 0.493 0.540 0.475 0.481 0.432 0.496 0.503 0.507        0.495    6.36
74)  cis-1,3-dichloropropene
      0.614 0.578 0.614 0.551 0.547 0.506 0.563 0.584 0.614 0.606  0.578    6.29
75)  toluene-d8 (s)
      1.104 1.101 1.093 1.088 1.086 1.094 1.074 1.107 1.101 1.113  1.096    1.06
76)  4-methyl-2-pentanone
      0.118 0.108       0.112 0.108       0.110 0.116 0.101        0.111    5.05
77)  toluene
      1.407 1.349       1.211 1.207 1.281 1.208 1.308 1.419        1.299    6.71
78)  3-methyl-1-butanol
      0.007 0.007       0.008 0.007       0.008 0.008 0.006        0.007    9.71
79)  trans-1,3-dichloropropene
      0.531 0.491       0.463 0.454 0.449 0.450 0.493 0.535        0.483    7.25
80)  ethyl methacrylate
      0.349 0.326       0.335 0.329 0.274 0.328 0.348 0.325        0.327    7.09
81)  1,1,2-trichloroethane
      0.233 0.219 0.228 0.211 0.203 0.189 0.200 0.223 0.233 0.180  0.212    8.71
```

Initial Calibration Summary

Job Number: JC28902 **Sample:** VY7258-ICC7258
Account: HWINJM Honeywell International Inc. **Lab FileID:** Y166746.D
Project: HLANJPR: Study Area 6 Chrome Remedy

```
 82)  2-hexanone
       0.099 0.088       0.089 0.087       0.088 0.094 0.091        0.091    4.55

 83) I   chlorobenzene-d5      ----------------ISTD---------------------
 84)  tetrachloroethene
       0.425 0.421       0.399 0.399 0.365 0.433 0.431 0.438        0.414    6.00
 85)  1,3-dichloropropane
       0.656 0.608 0.658 0.583 0.566 0.538 0.574 0.618 0.627        0.603    6.79
 86)  butyl acetate
       0.244 0.243       0.252 0.243       0.248 0.258              0.248    2.51
 87)  dibromochloromethane
       0.456 0.422 0.432 0.424 0.430 0.353 0.445 0.430 0.445        0.426    6.92
 88)  1,2-dibromoethane
       0.371 0.349 0.341 0.343 0.338 0.300 0.347 0.355 0.352        0.344    5.59
 89)  3,3-Dimethyl-1-Butanol
       0.043 0.039       0.043 0.041 0.039 0.044 0.043 0.041        0.041    4.54
 90)  n-butyl ether
       2.029 1.946       1.858 1.836       1.873 1.932 1.985        1.923    3.67
 91)  chlorobenzene
       1.141 1.097       1.020 1.018 0.924 1.066 1.071 1.131        1.058    6.68
 92)  1,1,1,2-tetrachloroethane
       0.462 0.435 0.475 0.408 0.413 0.386 0.426 0.430 0.447        0.431    6.40
 93)  ethylbenzene
       2.052 1.942       1.762 1.761 1.796 1.784 1.893 2.071        1.883    6.80
 94)  m,p-xylene
       0.765 0.718 0.900 0.657 0.649 0.675 0.655 0.698 0.758        0.719   11.17
 95)  o-xylene
       1.709 1.616       1.495 1.484 1.491 1.497 1.587 1.713        1.574    6.20
 96)  styrene
       1.146 1.103       1.076 1.072 0.962 1.094 1.114 1.145        1.089    5.36
 97)  bromoform
       0.259 0.244 0.270 0.247 0.249 0.213 0.266 0.252 0.262        0.251    6.66
 98)  butyl acrylate
                                                                    0.000   -1.00

 99) I   1,4-dichlorobenzene-d ----------------ISTD---------------------
100)  isopropylbenzene
       4.067 3.956       3.654 3.600 3.616 3.699 3.912 4.132        3.830    5.56
101)  4-bromofluorobenzene (s)
       1.091 1.097 1.112 1.065 1.063 1.136 1.061 1.086 1.103 1.110  1.092    2.22
102)  cis-1,4-dichloro-2-butene
                                                                    0.000   -1.00
103)  bromobenzene
       1.078 0.990       0.905 0.885 0.912 0.919 0.967 1.059        0.964    7.56
104)  cyclohexanone
       0.157 0.170       0.129 0.140 0.153 0.155 0.176 0.166        0.156    9.88
105)  1,1,2,2-tetrachloroethane
       1.021 0.932       0.888 0.844 0.876 0.860 0.959 0.982        0.920    6.88
106)  trans-1,4-dichloro-2-butene
       0.272 0.252       0.243 0.237 0.206 0.252 0.254 0.233        0.244    7.90
107)  1,2,3-trichloropropane
       0.229 0.205       0.198 0.187       0.192 0.209              0.203    7.33
108)  n-propylbenzene
       4.904 4.771       4.276 4.162 4.373 4.238 4.612 4.752        4.511    6.28
109)  4-Ethyltoluene
                                                                    0.000   -1.00
110)  2-chlorotoluene
       1.005 0.963       0.890 0.856 0.834 0.865 0.950 1.056        0.927    8.49
111)  4-chlorotoluene
       3.233 3.016       2.758 2.709 2.874 2.820 2.940 3.293        2.955    7.23
```

Initial Calibration Summary

Job Number: JC28902 **Sample:** VY7258-ICC7258
Account: HWINJM Honeywell International Inc. **Lab FileID:** Y166746.D
Project: HLANJPR: Study Area 6 Chrome Remedy

```
112)  1,3,5-trimethylbenzene
       3.586 3.452       3.183 3.113 3.090 3.149 3.443 3.543        3.320    6.20
113)  tert-butylbenzene
       0.582 0.550       0.532 0.539 0.515 0.560 0.578 0.559        0.552    4.16
114)  pentachloroethane
       0.671 0.619 0.694 0.618 0.606 0.595 0.624 0.625 0.631        0.632    4.98
115)  1,2,4-trimethylbenzene
       3.643 3.453       3.225 3.176 3.188 3.266 3.436 3.652        3.380    5.78
116)  sec-butylbenzene
       4.363 4.235 4.902 3.975 3.905 3.653 4.033 4.211 4.392 4.450  4.212    8.24
117)  1,3-dichlorobenzene
       2.008 1.856       1.751 1.716 1.668 1.807 1.861 1.923        1.824    6.14
118)  p-isopropyltoluene
       3.576 3.483       3.314 3.271 3.025 3.376 3.495 3.728        3.408    6.26
119)  1,4-dichlorobenzene
       1.938 1.818       1.704 1.680 1.626 1.778 1.820 1.931        1.787    6.33
120)  1,2-dichlorobenzene
       1.843 1.743       1.671 1.625 1.534 1.712 1.766 1.812        1.713    5.93
121)  n-butylbenzene
       1.944 1.893 2.074 1.834 1.766 1.540 1.814 1.917 1.895        1.853    7.91
122)  p-Diethylbenzene
                                                                    0.000   -1.00
123)  1,2-dibromo-3-chloropropane
       0.166 0.148       0.159 0.154       0.165 0.161 0.161        0.159    3.93
124)  1,3,5-Trichlorobenzene
       1.480 1.444 1.516 1.455 1.392 1.149 1.500 1.473 1.419 1.553  1.438    7.78
125)  1,2,4-trichlorobenzene
       1.036 1.049       1.227 1.196       1.313 1.181 0.912        1.131   12.13
126)  1,2,4,5-tetramethylbenzene
                                                                    0.000   -1.00
127)  hexachlorobutadiene
       0.929 0.884       0.860 0.832 0.773 0.876 0.910 0.910        0.872    5.79
128)  naphthalene
       1.683 1.699       2.084 2.107       2.299 1.974              1.974   12.31
129)  1,2,3-trichlorobenzene
       0.927 0.902       1.071 1.063       1.156 1.039 0.825        0.998   11.62
130)  hexachloroethane
       0.626 0.604       0.596 0.611 0.523 0.657 0.617 0.626        0.607    6.41
131)  Benzyl chloride
       1.584 1.704       1.592 1.510 1.748 1.581 1.645 1.654        1.627    4.68
132)  2-ethylhexyl acrylate
                                                                    0.000   -1.00
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           MYS7258.M         Fri Oct 07 11:26:07 2016   RPT1
```

Initial Calibration Verification

Job Number: JC28902 **Sample:** VY7258-ICV7258
Account: HWINJM Honeywell International Inc. **Lab FileID:** Y166751.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\Y166751.D Vial: 14
Acq On : 5 Oct 2016 7:14 pm Operator: prashans
Sample : ICV7258-50 Inst : MSY
Misc : MS7637,VY7258,5.0,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MYS7258.M (RTE Integrator)
Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
Last Update : Fri Oct 07 09:37:12 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	100	0.00	7.12
2	1,4-dioxane	0.118	0.112	5.1	94	0.00	10.96
3	tertiary butyl alcohol	1.458	1.445	0.9	102	0.00	7.23
4 I	pentafluorobenzene	1.000	1.000	0.0	102	0.00	9.33
5	propene		----------NA----------				
6	chlorodifluoromethane	0.809	0.725	10.4	92	0.00	3.90
7	dichlorodifluoromethane	0.683	0.586	14.2	87	0.00	3.89
8	chloromethane	0.957	0.800	16.4	93	0.00	4.19
9	vinyl chloride	0.858	0.727	15.3	89	0.00	4.45
10	1,3-butadiene		----------NA----------				
11	bromomethane	0.473	0.412	12.9	96	0.00	5.06
12	chloroethane	0.412	0.378	8.3	96	0.00	5.21
13	Vinyl Bromide	0.675	0.638	5.5	99	0.00	5.56
14	trichlorofluoromethane	0.768	0.659	14.2	90	0.00	5.68
15	ethyl ether	0.325	0.319	1.8	104	0.00	6.06
16	2-chloropropane		----------NA----------				
17	acrolein	0.099	0.110	-11.1	114	-0.01	6.28
18	1,1-dichloroethene	0.940	0.868	7.7	98	0.00	6.47
19	acetone	0.213	0.173	18.8	104	0.00	6.49
20	allyl chloride	0.379	0.353	6.9	98	0.00	6.97
21	acetonitrile	0.051	0.048	5.9	97	-0.01	6.90
22	iodomethane	0.970	0.897	7.5	97	0.00	6.74
23	carbon disulfide	2.063	1.868	9.5	97	0.00	6.88
24	1-chloropropane		----------NA----------				
	----------	True	Calc.	% Drift	----------		
25	methylene chloride	50.000	49.617	0.8	101	0.00	7.15
	----------	AvgRF	CCRF	% Dev	----------		
26	methyl acetate	0.393	0.395	-0.5	102	0.00	6.96
27	methyl tert butyl ether	1.730	1.678	3.0	102	0.00	7.49
28	trans-1,2-dichloroethene	1.002	0.895	10.7	97	0.00	7.54
29	di-isopropyl ether	2.373	2.418	-1.9	105	0.00	8.09
30	ethyl tert-butyl ether	2.069	2.164	-4.6	107	0.00	8.55
31	2-butanone	0.060	0.056	6.7	101	0.00	8.76
32	1,1-dichloroethane	1.220	1.115	8.6	101	0.00	8.09
33	chloroprene	0.925	0.892	3.6	99	0.00	8.20
34	acrylonitrile	0.181	0.186	-2.8	105	0.00	7.45
35	vinyl acetate	0.080	0.088	-10.0	104	0.00	8.07
36	ethyl acetate	0.086	0.081	5.8	104	0.00	8.80
37	2,2-dichloropropane	0.942	0.838	11.0	98	0.00	8.83

Initial Calibration Verification

Job Number: JC28902 **Sample:** VY7258-ICV7258
Account: HWINJM Honeywell International Inc. **Lab FileID:** Y166751.D
Project: HLANJPR: Study Area 6 Chrome Remedy

38		cis-1,2-dichloroethene	0.641	0.616	3.9	101	0.00	8.81
39		propionitrile	0.068	0.069	-1.5	103	0.00	8.84
40		bromochloromethane	0.369	0.359	2.7	101	0.00	9.12
41		tetrahydrofuran	0.068	0.068	0.0	105	0.00	9.16
42		chloroform	1.075	1.068	0.7	107	0.00	9.17
43		tert-Butyl Formate	0.567	0.437	22.9	78	0.00	9.22
44		isobutyl alcohol		----------NA----------				
45	S	dibromofluoromethane (s)	0.525	0.532	-1.3	103	0.00	9.37
46	S	1,2-dichloroethane-d4 (s)	0.553	0.558	-0.9	103	0.00	9.79
47		freon 113	0.385	0.373	3.1	101	0.00	6.46
48		methacrylonitrile	0.191	0.186	2.6	98	0.00	9.03
49		1,1,1-trichloroethane	0.840	0.813	3.2	103	0.00	9.45
50		Cyclohexane	0.808	0.764	5.4	99	0.00	9.54
51		2,2,4-trimethylpentane	2.498	2.429	2.8	97	0.00	9.91
52		tert-amyl methyl ether	1.830	1.822	0.4	103	0.00	9.92
53	I	1,4-difluorobenzene	1.000	1.000	0.0	101	0.00	10.24
54		epichlorohydrin	0.028	0.028	0.0	103	0.00	11.48
55		n-butyl alcohol	0.009	0.010	-11.1	96	0.00	10.35
56		carbon tetrachloride	0.470	0.433	7.9	99	0.00	9.65
57		1,1-dichloropropene	0.477	0.449	5.9	100	0.00	9.62
58		hexane	0.549	0.336	38.8#	65	0.00	7.86
59		Tert Amyl Alcohol		----------NA----------				
60		benzene	1.548	1.377	11.0	100	0.00	9.88
61		heptane	0.300	0.281	6.3	97	0.00	10.08
62		isopropyl acetate	0.053	0.054	-1.9	104	0.00	9.79
63		1,2-dichloroethane	0.483	0.474	1.9	104	0.00	9.87
64		trichloroethene	0.351	0.330	6.0	100	0.00	10.60
65		ethyl acrylate	0.323	0.333	-3.1	105	0.00	10.59
66		2-nitropropane	0.102	0.094	7.8	102	0.00	11.33
67		2-chloroethyl vinyl ether	0.076	0.081	-6.6	105	0.00	11.38
68		methyl methacrylate	0.058	0.060	-3.4	101	0.00	10.86
69		1,2-dichloropropane	0.401	0.382	4.7	102	0.00	10.84
70		methylcyclohexane	0.684	0.564	17.5	84	0.00	10.84
71		Tert-amyl ethyl ether		----------NA----------				
72		dibromomethane	0.205	0.201	2.0	103	0.00	11.00
73		bromodichloromethane	0.495	0.468	5.5	100	0.00	11.13
74		cis-1,3-dichloropropene	0.578	0.556	3.8	102	0.00	11.60
75	S	toluene-d8 (s)	1.096	1.088	0.7	101	0.00	11.90
76		4-methyl-2-pentanone	0.111	0.109	1.8	99	0.00	11.69
77		toluene	1.299	1.195	8.0	100	0.00	11.97
78		3-methyl-1-butanol	0.007	0.008	-14.3	99	0.00	11.70
79		trans-1,3-dichloropropene	0.483	0.462	4.3	101	0.00	12.15
80		ethyl methacrylate	0.327	0.330	-0.9	100	0.00	12.16
81		1,1,2-trichloroethane	0.212	0.208	1.9	100	0.00	12.36
82		2-hexanone	0.091	0.087	4.4	99	0.00	12.54
83	I	chlorobenzene-d5	1.000	1.000	0.0	101	0.00	13.40
84		tetrachloroethene	0.414	0.388	6.3	98	0.00	12.56
85		1,3-dichloropropane	0.603	0.584	3.2	101	0.00	12.55
86		butyl acetate	0.248	0.257	-3.6	103	0.00	12.63
87		dibromochloromethane	0.426	0.420	1.4	100	0.00	12.81
88		1,2-dibromoethane	0.344	0.337	2.0	99	0.00	12.96
89		3,3-Dimethyl-1-Butanol	0.041	0.042	-2.4	99	0.00	12.71
90		n-butyl ether	1.923	2.195	-14.1	119	0.00	13.37
91		chlorobenzene	1.058	1.025	3.1	101	0.00	13.43
92		1,1,1,2-tetrachloroethane	0.431	0.406	5.8	100	0.00	13.49
93		ethylbenzene	1.883	1.747	7.2	100	0.00	13.49
94		m,p-xylene	0.719	0.646	10.2	99	0.00	13.60
95		o-xylene	1.574	1.490	5.3	101	0.00	14.01

Initial Calibration Verification

Job Number: JC28902 **Sample:** VY7258-ICV7258
Account: HWINJM Honeywell International Inc. **Lab FileID:** Y166751.D
Project: HLANJPR: Study Area 6 Chrome Remedy

96		styrene	1.089	1.080	0.8	101	0.00	14.02
97		bromoform	0.251	0.245	2.4	100	0.00	14.27
98		butyl acrylate		----------NA----------				
99	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	103	0.00	15.71
100		isopropylbenzene	3.830	3.475	9.3	98	0.00	14.35
101	S	4-bromofluorobenzene (s)	1.092	1.064	2.6	103	0.00	14.54
102		cis-1,4-dichloro-2-butene		----------NA----------				
103		bromobenzene	0.964	0.887	8.0	101	0.00	14.74
104		cyclohexanone	0.156	0.112	28.2	89	0.00	14.49
105		1,1,2,2-tetrachloroethane	0.920	0.849	7.7	98	0.00	14.63
106		trans-1,4-dichloro-2-bute	0.244	0.247	-1.2	104	0.00	14.68
107		1,2,3-trichloropropane	0.203	0.189	6.9	98	0.00	14.71
108		n-propylbenzene	4.511	4.190	7.1	101	0.00	14.76
109		4-Ethyltoluene		----------NA----------				
110		2-chlorotoluene	0.927	0.844	9.0	97	0.00	14.90
111		4-chlorotoluene	2.955	2.662	9.9	99	0.00	14.99
112		1,3,5-trimethylbenzene	3.320	3.030	8.7	98	0.00	14.91
113		tert-butylbenzene	0.552	0.524	5.1	101	0.00	15.26
114		pentachloroethane	0.632	0.608	3.8	101	0.00	15.33
115		1,2,4-trimethylbenzene	3.380	3.165	6.4	101	0.00	15.30
116		sec-butylbenzene	4.212	3.765	10.6	97	0.00	15.47
117		1,3-dichlorobenzene	1.824	1.671	8.4	98	0.00	15.65
118		p-isopropyltoluene	3.408	3.167	7.1	98	0.00	15.59
119		1,4-dichlorobenzene	1.787	1.640	8.2	99	0.00	15.73
120		1,2-dichlorobenzene	1.713	1.614	5.8	99	0.00	16.12
121		n-butylbenzene	1.853	1.689	8.9	95	0.00	16.00
122		p-Diethylbenzene		----------NA----------				
123		1,2-dibromo-3-chloropropa	0.159	0.151	5.0	97	0.00	16.87
124		1,3,5-Trichlorobenzene	1.438	1.442	-0.3	102	0.00	17.08
125		1,2,4-trichlorobenzene	1.131	1.143	-1.1	96	0.00	17.70
126		1,2,4,5-tetramethylbenzen		----------NA----------				
127		hexachlorobutadiene	0.872	0.818	6.2	98	0.00	17.83
128		naphthalene	1.974	1.975	-0.1	97	0.00	17.97
129		1,2,3-trichlorobenzene	0.998	0.997	0.1	96	0.00	18.22
130		hexachloroethane	0.607	0.586	3.5	101	0.00	16.39
131		Benzyl chloride	1.627	1.451	10.8	94	0.00	15.84
132		2-ethylhexyl acrylate		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Y166746.D MYS7258.M Fri Oct 07 11:26:29 2016 RPT1

Continuing Calibration Summary

Job Number: JC28902 **Sample:** VY7259-CC7258
Account: HWINJM Honeywell International Inc. **Lab FileID:** Y166754.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\Y\...7260\vy7259\Y166754.D Vial: 2
Acq On    :  6 Oct 2016  11:20 am                    Operator: prashans
Sample    : CC7258-20                                Inst    : MSY
Misc      : MS7637,VY7259,5.0,,,,1                   Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\MYS7258.M (RTE Integrator)
Title        : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
Last Update  : Mon Sep 13 11:48:20 2010
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	99	0.00	7.12
2	1,4-dioxane	0.118	0.112	5.1	90	0.01	10.97
3	tertiary butyl alcohol	1.458	1.369	6.1	92	0.02	7.24
4 I	pentafluorobenzene	1.000	1.000	0.0	94	0.00	9.34
5	propene		----------NA----------				
6	chlorodifluoromethane	0.809	1.013	-25.2#	115	0.00	3.90
7	dichlorodifluoromethane	0.683	0.820	-20.1#	110	0.01	3.90
8	chloromethane	0.957	1.048	-9.5	110	-0.02	4.17
9	vinyl chloride	0.858	0.998	-16.3	111	0.00	4.44
10	1,3-butadiene		----------NA----------				
11	bromomethane	0.473	0.535	-13.1	108	0.00	5.05
12	chloroethane	0.412	0.489	-18.7	109	0.01	5.22
13	Vinyl Bromide	0.675	0.788	-16.7	110	0.00	5.56
14	trichlorofluoromethane	0.768	0.905	-17.8	112	0.00	5.68
15	ethyl ether	0.325	0.337	-3.7	98	0.00	6.06
16	2-chloropropane		----------NA----------				
17	acrolein	0.099	0.104	-5.1	97	0.00	6.28
18	1,1-dichloroethene	0.940	1.100	-17.0	108	0.00	6.47
19	acetone	0.213	0.192	9.9	76	0.00	6.49
20	allyl chloride	0.379	0.408	-7.7	99	0.00	6.98
21	acetonitrile	0.051	0.056	-9.8	103	0.00	6.91
22	iodomethane	0.970	1.100	-13.4	104	0.00	6.74
23	carbon disulfide	2.063	2.375	-15.1	108	0.00	6.88
24	1-chloropropane		----------NA----------				
	----------	True	Calc.	% Drift	----------		
25	methylene chloride	20.000	21.755	-8.8	101	0.00	7.16
	----------	AvgRF	CCRF	% Dev	----------		
26	methyl acetate	0.393	0.410	-4.3	97	0.00	6.96
27	methyl tert butyl ether	1.730	1.813	-4.8	100	0.00	7.50
28	trans-1,2-dichloroethene	1.002	1.105	-10.3	105	0.00	7.54
29	di-isopropyl ether	2.373	2.585	-8.9	101	0.00	8.09
30	ethyl tert-butyl ether	2.069	2.211	-6.9	99	0.00	8.56
31	2-butanone	0.060	0.059	1.7	88	0.00	8.77
32	1,1-dichloroethane	1.220	1.301	-6.6	102	0.00	8.09
33	chloroprene	0.925	1.065	-15.1	106	0.00	8.21
34	acrylonitrile	0.181	0.192	-6.1	96	0.00	7.46
35	vinyl acetate	0.080	0.083	-3.8	91	0.00	8.07
36	ethyl acetate	0.086	0.080	7.0	88	0.00	8.80
37	2,2-dichloropropane	0.942	1.055	-12.0	108	0.00	8.83

Continuing Calibration Summary

Job Number: JC28902 **Sample:** VY7259-CC7258
Account: HWINJM Honeywell International Inc. **Lab FileID:** Y166754.D
Project: HLANJPR: Study Area 6 Chrome Remedy

38		cis-1,2-dichloroethene	0.641	0.702	-9.5	100	0.00	8.82
39		propionitrile	0.068	0.070	-2.9	94	0.00	8.85
40		bromochloromethane	0.369	0.394	-6.8	100	0.00	9.12
41		tetrahydrofuran	0.068	0.070	-2.9	94	0.00	9.17
42		chloroform	1.075	1.152	-7.2	102	0.00	9.18
43		tert-Butyl Formate	0.567	0.593	-4.6	99	0.00	9.22
44		isobutyl alcohol		----------NA----------				
45	S	dibromofluoromethane (s)	0.525	0.533	-1.5	96	0.00	9.37
46	S	1,2-dichloroethane-d4 (s)	0.553	0.556	-0.5	96	0.00	9.79
47		freon 113	0.385	0.451	-17.1	109	0.00	6.46
48		methacrylonitrile	0.191	0.185	3.1	88	0.00	9.04
49		1,1,1-trichloroethane	0.840	0.957	-13.9	107	0.00	9.45
50		Cyclohexane	0.808	0.961	-18.9	110	0.00	9.54
51		2,2,4-trimethylpentane	2.498	2.764	-10.6	102	0.00	9.91
52		tert-amyl methyl ether	1.830	1.906	-4.2	98	0.00	9.93
53	I	1,4-difluorobenzene	1.000	1.000	0.0	95	0.00	10.25
54		epichlorohydrin	0.028	0.029	-3.6	93	0.00	11.48
55		n-butyl alcohol	0.009	0.010	-11.1	90	0.00	10.36
56		carbon tetrachloride	0.470	0.542	-15.3	107	0.00	9.66
57		1,1-dichloropropene	0.477	0.545	-14.3	105	0.00	9.62
58		hexane	0.549	0.583	-6.2	100	0.00	7.86
59		Tert Amyl Alcohol		----------NA----------				
60		benzene	1.548	1.610	-4.0	102	0.00	9.88
61		heptane	0.300	0.301	-0.3	94	0.00	10.08
62		isopropyl acetate	0.053	0.053	0.0	89	0.00	9.80
63		1,2-dichloroethane	0.483	0.505	-4.6	97	0.00	9.87
64		trichloroethene	0.351	0.382	-8.8	101	0.00	10.60
65		ethyl acrylate	0.323	0.331	-2.5	94	0.00	10.59
66		2-nitropropane	0.102	0.103	-1.0	100	0.00	11.33
67		2-chloroethyl vinyl ether	0.076	0.078	-2.6	94	0.00	11.38
68		methyl methacrylate	0.058	0.061	-5.2	92	0.00	10.86
69		1,2-dichloropropane	0.401	0.428	-6.7	97	0.00	10.85
70		methylcyclohexane	0.684	0.801	-17.1	107	0.00	10.84
71		Tert-amyl ethyl ether		----------NA----------				
72		dibromomethane	0.205	0.213	-3.9	95	0.00	11.00
73		bromodichloromethane	0.495	0.513	-3.6	96	0.00	11.13
74		cis-1,3-dichloropropene	0.578	0.590	-2.1	95	0.00	11.59
75	S	toluene-d8 (s)	1.096	1.094	0.2	93	0.00	11.90
76		4-methyl-2-pentanone	0.111	0.115	-3.6	94	0.00	11.69
77		toluene	1.299	1.377	-6.0	100	0.00	11.97
78		3-methyl-1-butanol	0.007	0.008	-14.3	92	0.00	11.70
79		trans-1,3-dichloropropene	0.483	0.494	-2.3	95	0.00	12.15
80		ethyl methacrylate	0.327	0.342	-4.6	93	0.00	12.16
81		1,1,2-trichloroethane	0.212	0.221	-4.2	94	0.00	12.37
82		2-hexanone	0.091	0.088	3.3	89	0.00	12.55
83	I	chlorobenzene-d5	1.000	1.000	0.0	94	0.00	13.40
84		tetrachloroethene	0.414	0.451	-8.9	99	0.00	12.57
85		1,3-dichloropropane	0.603	0.614	-1.8	94	0.00	12.55
86		butyl acetate	0.248	0.246	0.8	90	0.00	12.63
87		dibromochloromethane	0.426	0.426	0.0	94	0.00	12.81
88		1,2-dibromoethane	0.344	0.350	-1.7	93	0.00	12.96
89		3,3-Dimethyl-1-Butanol	0.041	0.041	0.0	90	0.00	12.71
90		n-butyl ether	1.923	2.133	-10.9	104	0.00	13.37
91		chlorobenzene	1.058	1.122	-6.0	99	0.00	13.43
92		1,1,1,2-tetrachloroethane	0.431	0.457	-6.0	100	0.00	13.49
93		ethylbenzene	1.883	2.016	-7.1	100	0.00	13.49
94		m,p-xylene	0.719	0.742	-3.2	100	0.00	13.60
95		o-xylene	1.574	1.690	-7.4	100	0.00	14.01

Continuing Calibration Summary

Job Number: JC28902 **Sample:** VY7259-CC7258
Account: HWINJM Honeywell International Inc. **Lab FileID:** Y166754.D
Project: HLANJPR: Study Area 6 Chrome Remedy

96		styrene	1.089	1.167	-7.2	99	0.00	14.02
97		bromoform	0.251	0.247	1.6	93	0.00	14.27
98		butyl acrylate		----------NA----------				
99	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	97	0.00	15.71
100		isopropylbenzene	3.830	4.162	-8.7	103	0.00	14.36
101	S	4-bromofluorobenzene (s)	1.092	1.065	2.5	95	0.00	14.55
102		cis-1,4-dichloro-2-butene		----------NA----------				
103		bromobenzene	0.964	0.983	-2.0	99	0.00	14.74
104		cyclohexanone	0.156	0.124	20.5#	68	0.00	14.49
105		1,1,2,2-tetrachloroethane	0.920	0.921	-0.1	93	0.00	14.64
106		trans-1,4-dichloro-2-bute	0.244	0.255	-4.5	97	0.00	14.68
107		1,2,3-trichloropropane	0.203	0.208	-2.5	97	0.00	14.71
108		n-propylbenzene	4.511	4.896	-8.5	103	0.00	14.76
109		4-Ethyltoluene		----------NA----------				
110		2-chlorotoluene	0.927	0.996	-7.4	102	0.00	14.90
111		4-chlorotoluene	2.955	3.018	-2.1	100	0.00	15.00
112		1,3,5-trimethylbenzene	3.320	3.597	-8.3	101	0.00	14.92
113		tert-butylbenzene	0.552	0.599	-8.5	101	0.00	15.26
114		pentachloroethane	0.632	0.647	-2.4	100	0.00	15.33
115		1,2,4-trimethylbenzene	3.380	3.636	-7.6	103	0.00	15.30
116		sec-butylbenzene	4.212	4.568	-8.5	105	0.00	15.47
117		1,3-dichlorobenzene	1.824	1.901	-4.2	99	0.00	15.65
118		p-isopropyltoluene	3.408	3.747	-9.9	104	0.00	15.59
119		1,4-dichlorobenzene	1.787	1.827	-2.2	97	0.00	15.73
120		1,2-dichlorobenzene	1.713	1.774	-3.6	98	0.00	16.12
121		n-butylbenzene	1.853	2.029	-9.5	103	0.00	16.00
122		p-Diethylbenzene		----------NA----------				
123		1,2-dibromo-3-chloropropa	0.159	0.152	4.4	92	0.00	16.88
124		1,3,5-Trichlorobenzene	1.438	1.575	-9.5	104	0.00	17.08
125		1,2,4-trichlorobenzene	1.131	1.243	-9.9	102	0.00	17.71
126		1,2,4,5-tetramethylbenzen		----------NA----------				
127		hexachlorobutadiene	0.872	0.957	-9.7	102	0.00	17.83
128		naphthalene	1.974	1.985	-0.6	98	0.00	17.98
129		1,2,3-trichlorobenzene	0.998	1.065	-6.7	99	0.00	18.22
130		hexachloroethane	0.607	0.648	-6.8	102	0.00	16.39
131		Benzyl chloride	1.627	1.592	2.2	94	0.00	15.84
132		2-ethylhexyl acrylate		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Y166745.D MYS7258.M Fri Oct 07 12:37:30 2016 ACC-VOA-DP

ACCUTEST
New Jersey

Section 7

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (DFTPP)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-MB1	P107983.D	1	10/06/16	RL	10/06/16	OP97539	EP4787

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Compound	Result	RL	MDL	Units	Q
95-57-8	2-Chlorophenol	ND	67	16	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	170	20	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	170	28	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	170	59	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	170	130	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	170	36	ug/kg	
95-48-7	2-Methylphenol	ND	67	21	ug/kg	
	3&4-Methylphenol	ND	67	27	ug/kg	
88-75-5	2-Nitrophenol	ND	170	22	ug/kg	
100-02-7	4-Nitrophenol	ND	330	89	ug/kg	
87-86-5	Pentachlorophenol	ND	130	31	ug/kg	
108-95-2	Phenol	ND	67	17	ug/kg	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	170	22	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	170	25	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	170	20	ug/kg	
83-32-9	Acenaphthene	ND	33	11	ug/kg	
208-96-8	Acenaphthylene	ND	33	17	ug/kg	
98-86-2	Acetophenone	ND	170	7.2	ug/kg	
120-12-7	Anthracene	ND	33	20	ug/kg	
1912-24-9	Atrazine	ND	67	14	ug/kg	
56-55-3	Benzo(a)anthracene	ND	33	9.4	ug/kg	
50-32-8	Benzo(a)pyrene	ND	33	15	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	33	15	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	33	17	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	33	16	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	67	13	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	67	8.1	ug/kg	
92-52-4	1,1'-Biphenyl	ND	67	4.6	ug/kg	
100-52-7	Benzaldehyde	ND	170	8.3	ug/kg	
91-58-7	2-Chloronaphthalene	ND	67	7.9	ug/kg	
106-47-8	4-Chloroaniline	ND	170	12	ug/kg	
86-74-8	Carbazole	ND	67	4.8	ug/kg	
105-60-2	Caprolactam	ND	67	13	ug/kg	
218-01-9	Chrysene	ND	33	10	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	67	7.1	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	67	14	ug/kg	

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-MB1	P107983.D	1	10/06/16	RL	10/06/16	OP97539	EP4787

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	67	12	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	67	11	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	33	10	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	33	17	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	67	28	ug/kg	
123-91-1	1,4-Dioxane	ND	33	22	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	33	15	ug/kg	
132-64-9	Dibenzofuran	ND	67	14	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	67	5.4	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	67	8.3	ug/kg	
84-66-2	Diethyl phthalate	ND	67	7.1	ug/kg	
131-11-3	Dimethyl phthalate	ND	67	5.9	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	67	7.8	ug/kg	
206-44-0	Fluoranthene	ND	33	15	ug/kg	
86-73-7	Fluorene	ND	33	15	ug/kg	
118-74-1	Hexachlorobenzene	ND	67	8.4	ug/kg	
87-68-3	Hexachlorobutadiene	ND	33	13	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	330	13	ug/kg	
67-72-1	Hexachloroethane	ND	170	16	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	33	16	ug/kg	
78-59-1	Isophorone	ND	67	7.1	ug/kg	
91-57-6	2-Methylnaphthalene	ND	67	7.5	ug/kg	
88-74-4	2-Nitroaniline	ND	170	7.9	ug/kg	
99-09-2	3-Nitroaniline	ND	170	8.3	ug/kg	
100-01-6	4-Nitroaniline	ND	170	8.6	ug/kg	
91-20-3	Naphthalene	ND	33	9.4	ug/kg	
98-95-3	Nitrobenzene	ND	67	13	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	67	9.6	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	170	12	ug/kg	
85-01-8	Phenanthrene	ND	33	11	ug/kg	
129-00-0	Pyrene	ND	33	11	ug/kg	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	170	8.5	ug/kg	

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-MB1	P107983.D	1	10/06/16	RL	10/06/16	OP97539	EP4787

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	74%	30-106%
4165-62-2	Phenol-d5	76%	30-106%
118-79-6	2,4,6-Tribromophenol	83%	24-140%
4165-60-0	Nitrobenzene-d5	87%	26-122%
321-60-8	2-Fluorobiphenyl	88%	36-112%
1718-51-0	Terphenyl-d14	90%	36-132%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	2.83	400	ug/kg	J
	system artifact	3.15	290	ug/kg	J
	system artifact/aldol-condensation	3.22	410	ug/kg	J
	Total TIC, Semi-Volatile		0	ug/kg	

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-MB1	Z114917.D	1	10/07/16	AD	10/06/16	OP97539	EZ5729

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Compound	Result	RL	MDL	Units	Q
95-57-8	2-Chlorophenol	ND	67	16	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	170	20	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	170	28	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	170	59	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	170	130	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	170	36	ug/kg	
95-48-7	2-Methylphenol	ND	67	21	ug/kg	
	3&4-Methylphenol	ND	67	27	ug/kg	
88-75-5	2-Nitrophenol	ND	170	22	ug/kg	
100-02-7	4-Nitrophenol	ND	330	89	ug/kg	
87-86-5	Pentachlorophenol	ND	130	31	ug/kg	
108-95-2	Phenol	ND	67	17	ug/kg	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	170	22	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	170	25	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	170	20	ug/kg	
83-32-9	Acenaphthene	ND	33	11	ug/kg	
208-96-8	Acenaphthylene	ND	33	17	ug/kg	
98-86-2	Acetophenone	ND	170	7.2	ug/kg	
120-12-7	Anthracene	ND	33	20	ug/kg	
1912-24-9	Atrazine	ND	67	14	ug/kg	
56-55-3	Benzo(a)anthracene	ND	33	9.4	ug/kg	
50-32-8	Benzo(a)pyrene	ND	33	15	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	33	15	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	33	17	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	33	16	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	67	13	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	67	8.1	ug/kg	
92-52-4	1,1'-Biphenyl	ND	67	4.6	ug/kg	
100-52-7	Benzaldehyde	ND	170	8.3	ug/kg	
91-58-7	2-Chloronaphthalene	ND	67	7.9	ug/kg	
106-47-8	4-Chloroaniline	ND	170	12	ug/kg	
86-74-8	Carbazole	ND	67	4.8	ug/kg	
105-60-2	Caprolactam	ND	67	13	ug/kg	
218-01-9	Chrysene	ND	33	10	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	67	7.1	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	67	14	ug/kg	

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-MB1	Z114917.D	1	10/07/16	AD	10/06/16	OP97539	EZ5729

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	67	12	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	67	11	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	33	10	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	33	17	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	67	28	ug/kg	
123-91-1	1,4-Dioxane	ND	33	22	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	33	15	ug/kg	
132-64-9	Dibenzofuran	ND	67	14	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	67	5.4	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	67	8.3	ug/kg	
84-66-2	Diethyl phthalate	ND	67	7.1	ug/kg	
131-11-3	Dimethyl phthalate	ND	67	5.9	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	67	7.8	ug/kg	
206-44-0	Fluoranthene	ND	33	15	ug/kg	
86-73-7	Fluorene	ND	33	15	ug/kg	
118-74-1	Hexachlorobenzene	ND	67	8.4	ug/kg	
87-68-3	Hexachlorobutadiene	ND	33	13	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	330	13	ug/kg	
67-72-1	Hexachloroethane	ND	170	16	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	33	16	ug/kg	
78-59-1	Isophorone	ND	67	7.1	ug/kg	
91-57-6	2-Methylnaphthalene	ND	67	7.5	ug/kg	
88-74-4	2-Nitroaniline	ND	170	7.9	ug/kg	
99-09-2	3-Nitroaniline	ND	170	8.3	ug/kg	
100-01-6	4-Nitroaniline	ND	170	8.6	ug/kg	
91-20-3	Naphthalene	ND	33	9.4	ug/kg	
98-95-3	Nitrobenzene	ND	67	13	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	67	9.6	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	170	12	ug/kg	
85-01-8	Phenanthrene	ND	33	11	ug/kg	
129-00-0	Pyrene	ND	33	11	ug/kg	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	170	8.5	ug/kg	

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-MB1	Z114917.D	1	10/07/16	AD	10/06/16	OP97539	EZ5729

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	70%	30-106%
4165-62-2	Phenol-d5	73%	30-106%
118-79-6	2,4,6-Tribromophenol	84%	24-140%
4165-60-0	Nitrobenzene-d5	83%	26-122%
321-60-8	2-Fluorobiphenyl	93%	36-112%
1718-51-0	Terphenyl-d14	88%	36-132%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	2.72	360	ug/kg	J
	system artifact	3.05	320	ug/kg	J
	system artifact/aldol-condensation	3.12	500	ug/kg	J
	Total TIC, Semi-Volatile		0	ug/kg	

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-MB1	M128185.D	1	10/07/16	CS	10/06/16	OP97539	EM5462

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Compound	Result	RL	MDL	Units	Q
95-57-8	2-Chlorophenol	ND	67	16	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	170	20	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	170	28	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	170	59	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	170	130	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	170	36	ug/kg	
95-48-7	2-Methylphenol	ND	67	21	ug/kg	
	3&4-Methylphenol	ND	67	27	ug/kg	
88-75-5	2-Nitrophenol	ND	170	22	ug/kg	
100-02-7	4-Nitrophenol	ND	330	89	ug/kg	
87-86-5	Pentachlorophenol	ND	130	31	ug/kg	
108-95-2	Phenol	ND	67	17	ug/kg	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	170	22	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	170	25	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	170	20	ug/kg	
83-32-9	Acenaphthene	ND	33	11	ug/kg	
208-96-8	Acenaphthylene	ND	33	17	ug/kg	
98-86-2	Acetophenone	ND	170	7.2	ug/kg	
120-12-7	Anthracene	ND	33	20	ug/kg	
1912-24-9	Atrazine	ND	67	14	ug/kg	
56-55-3	Benzo(a)anthracene	ND	33	9.4	ug/kg	
50-32-8	Benzo(a)pyrene	ND	33	15	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	33	15	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	33	17	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	33	16	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	67	13	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	67	8.1	ug/kg	
92-52-4	1,1'-Biphenyl	ND	67	4.6	ug/kg	
100-52-7	Benzaldehyde	ND	170	8.3	ug/kg	
91-58-7	2-Chloronaphthalene	ND	67	7.9	ug/kg	
106-47-8	4-Chloroaniline	ND	170	12	ug/kg	
86-74-8	Carbazole	ND	67	4.8	ug/kg	
105-60-2	Caprolactam	ND	67	13	ug/kg	
218-01-9	Chrysene	ND	33	10	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	67	7.1	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	67	14	ug/kg	

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-MB1	M128185.D	1	10/07/16	CS	10/06/16	OP97539	EM5462

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	67	12	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	67	11	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	33	10	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	33	17	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	67	28	ug/kg	
123-91-1	1,4-Dioxane	ND	33	22	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	33	15	ug/kg	
132-64-9	Dibenzofuran	ND	67	14	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	67	5.4	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	67	8.3	ug/kg	
84-66-2	Diethyl phthalate	ND	67	7.1	ug/kg	
131-11-3	Dimethyl phthalate	ND	67	5.9	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	67	7.8	ug/kg	
206-44-0	Fluoranthene	ND	33	15	ug/kg	
86-73-7	Fluorene	ND	33	15	ug/kg	
118-74-1	Hexachlorobenzene	ND	67	8.4	ug/kg	
87-68-3	Hexachlorobutadiene	ND	33	13	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	330	13	ug/kg	
67-72-1	Hexachloroethane	ND	170	16	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	33	16	ug/kg	
78-59-1	Isophorone	ND	67	7.1	ug/kg	
91-57-6	2-Methylnaphthalene	ND	67	7.5	ug/kg	
88-74-4	2-Nitroaniline	ND	170	7.9	ug/kg	
99-09-2	3-Nitroaniline	ND	170	8.3	ug/kg	
100-01-6	4-Nitroaniline	ND	170	8.6	ug/kg	
91-20-3	Naphthalene	ND	33	9.4	ug/kg	
98-95-3	Nitrobenzene	ND	67	13	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	67	9.6	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	170	12	ug/kg	
85-01-8	Phenanthrene	ND	33	11	ug/kg	
129-00-0	Pyrene	ND	33	11	ug/kg	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	170	8.5	ug/kg	

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-MB1	M128185.D	1	10/07/16	CS	10/06/16	OP97539	EM5462

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	81%	30-106%
4165-62-2	Phenol-d5	84%	30-106%
118-79-6	2,4,6-Tribromophenol	108%	24-140%
4165-60-0	Nitrobenzene-d5	90%	26-122%
321-60-8	2-Fluorobiphenyl	82%	36-112%
1718-51-0	Terphenyl-d14	85%	36-132%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	1.78	1600	ug/kg	J
	system artifact	2.19	220	ug/kg	J
	system artifact	3.21	310	ug/kg	J
	system artifact	3.48	210	ug/kg	J
	system artifact/aldol-condensation	3.59	350	ug/kg	J
	Total TIC, Semi-Volatile		0	ug/kg	

Blank Spike Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-BS1	P107984.D	1	10/06/16	RL	10/06/16	OP97539	EP4787

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
95-57-8	2-Chlorophenol	1670	1410	85	54-98
59-50-7	4-Chloro-3-methyl phenol	1670	1570	94	52-107
120-83-2	2,4-Dichlorophenol	1670	1540	92	53-105
105-67-9	2,4-Dimethylphenol	1670	1470	88	49-115
51-28-5	2,4-Dinitrophenol	3330	2740	82	30-127
534-52-1	4,6-Dinitro-o-cresol	1670	1500	90	41-114
95-48-7	2-Methylphenol	1670	1430	86	53-103
	3&4-Methylphenol	1670	1370	82	53-102
88-75-5	2-Nitrophenol	1670	1530	92	52-104
100-02-7	4-Nitrophenol	1670	1320	79	36-143
87-86-5	Pentachlorophenol	1670	1110	67	29-128
108-95-2	Phenol	1670	1240	74	45-106
58-90-2	2,3,4,6-Tetrachlorophenol	1670	1420	85	47-113
95-95-4	2,4,5-Trichlorophenol	1670	1450	87	55-112
88-06-2	2,4,6-Trichlorophenol	1670	1610	97	57-108
83-32-9	Acenaphthene	1670	1470	88	60-108
208-96-8	Acenaphthylene	1670	1390	83	54-94
98-86-2	Acetophenone	1670	1360	82	53-110
120-12-7	Anthracene	1670	1450	87	59-109
1912-24-9	Atrazine	1670	1500	90	59-126
56-55-3	Benzo(a)anthracene	1670	1520	91	52-113
50-32-8	Benzo(a)pyrene	1670	1500	90	56-122
205-99-2	Benzo(b)fluoranthene	1670	1440	86	53-119
191-24-2	Benzo(g,h,i)perylene	1670	1440	86	48-117
207-08-9	Benzo(k)fluoranthene	1670	1460	88	52-115
101-55-3	4-Bromophenyl phenyl ether	1670	1530	92	58-114
85-68-7	Butyl benzyl phthalate	1670	1680	101	44-132
92-52-4	1,1'-Biphenyl	1670	1440	86	54-101
100-52-7	Benzaldehyde	1670	1460	88	39-117
91-58-7	2-Chloronaphthalene	1670	1400	84	54-103
106-47-8	4-Chloroaniline	1670	1020	61	10-110
86-74-8	Carbazole	1670	1520	91	55-105
105-60-2	Caprolactam	1670	1080	65	42-111
218-01-9	Chrysene	1670	1410	85	51-119
111-91-1	bis(2-Chloroethoxy)methane	1670	1380	83	51-106
111-44-4	bis(2-Chloroethyl)ether	1670	1440	86	48-107

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-BS1	P107984.D	1	10/06/16	RL	10/06/16	OP97539	EP4787

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
108-60-1	bis(2-Chloroisopropyl)ether	1670	1270	76	46-103
7005-72-3	4-Chlorophenyl phenyl ether	1670	1450	87	54-112
121-14-2	2,4-Dinitrotoluene	1670	1600	96	56-116
606-20-2	2,6-Dinitrotoluene	1670	1550	93	56-115
91-94-1	3,3'-Dichlorobenzidine	3330	2040	61	22-103
123-91-1	1,4-Dioxane	1670	813	49	14-110
53-70-3	Dibenzo(a,h)anthracene	1670	1500	90	49-118
132-64-9	Dibenzofuran	1670	1540	92	55-103
84-74-2	Di-n-butyl phthalate	1670	1610	97	56-117
117-84-0	Di-n-octyl phthalate	1670	1720	103	47-137
84-66-2	Diethyl phthalate	1670	1470	88	54-112
131-11-3	Dimethyl phthalate	1670	1440	86	56-108
117-81-7	bis(2-Ethylhexyl)phthalate	1670	1630	98	45-130
206-44-0	Fluoranthene	1670	1490	89	58-110
86-73-7	Fluorene	1670	1450	87	59-108
118-74-1	Hexachlorobenzene	1670	1420	85	55-114
87-68-3	Hexachlorobutadiene	1670	1380	83	44-118
77-47-4	Hexachlorocyclopentadiene	3330	2180	65	41-137
67-72-1	Hexachloroethane	1670	1400	84	50-107
193-39-5	Indeno(1,2,3-cd)pyrene	1670	1450	87	48-120
78-59-1	Isophorone	1670	1350	81	54-109
91-57-6	2-Methylnaphthalene	1670	1400	84	48-104
88-74-4	2-Nitroaniline	1670	1530	92	49-124
99-09-2	3-Nitroaniline	1670	1140	68	22-110
100-01-6	4-Nitroaniline	1670	1540	92	50-107
91-20-3	Naphthalene	1670	1360	82	49-100
98-95-3	Nitrobenzene	1670	1390	83	47-108
621-64-7	N-Nitroso-di-n-propylamine	1670	1290	77	49-106
86-30-6	N-Nitrosodiphenylamine	1670	1440	86	53-112
85-01-8	Phenanthrene	1670	1470	88	57-105
129-00-0	Pyrene	1670	1520	91	50-117
95-94-3	1,2,4,5-Tetrachlorobenzene	1670	1350	81	52-109

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-BS1	P107984.D	1	10/06/16	RL	10/06/16	OP97539	EP4787

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	83%	30-106%
4165-62-2	Phenol-d5	77%	30-106%
118-79-6	2,4,6-Tribromophenol	85%	24-140%
4165-60-0	Nitrobenzene-d5	91%	26-122%
321-60-8	2-Fluorobiphenyl	93%	36-112%
1718-51-0	Terphenyl-d14	96%	36-132%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-MS	P107985.D	1	10/06/16	RL	10/06/16	OP97539	EP4787
OP97539-MSD	P107986.D	1	10/06/16	RL	10/06/16	OP97539	EP4787
JC28910-1	P107987.D	1	10/06/16	RL	10/06/16	OP97539	EP4787

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Compound	JC28910-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
95-57-8	2-Chlorophenol	ND		1680	1310	78	1670	1260	75	4	33-106/35
59-50-7	4-Chloro-3-methyl phenol	ND		1680	1540	92	1670	1500	90	3	27-124/34
120-83-2	2,4-Dichlorophenol	ND		1680	1490	89	1670	1470	88	1	25-122/34
105-67-9	2,4-Dimethylphenol	ND		1680	1580	94	1670	1550	93	2	23-133/34
51-28-5	2,4-Dinitrophenol	ND		3360	2560	76	3340	2420	72	6	10-110/51
534-52-1	4,6-Dinitro-o-cresol	ND		1680	1490	89	1670	1380	83	8	10-113/49
95-48-7	2-Methylphenol	ND		1680	1430	85	1670	1330	80	7	32-111/34
	3&4-Methylphenol	ND		1680	1400	83	1670	1290	77	8	32-113/34
88-75-5	2-Nitrophenol	ND		1680	1490	89	1670	1470	88	1	17-118/37
100-02-7	4-Nitrophenol	ND		1680	1370	82	1670	1300	78	5	14-154/39
87-86-5	Pentachlorophenol	ND		1680	1070	64	1670	939	56	13	10-131/43
108-95-2	Phenol	ND		1680	1190	71	1670	1110	66	7	25-112/33
58-90-2	2,3,4,6-Tetrachlorophenol	ND		1680	1400	83	1670	1340	80	4	19-125/37
95-95-4	2,4,5-Trichlorophenol	ND		1680	1420	84	1670	1380	83	3	30-125/35
88-06-2	2,4,6-Trichlorophenol	ND		1680	1490	89	1670	1540	92	3	26-126/35
83-32-9	Acenaphthene	ND		1680	1410	84	1670	1390	83	1	34-125/36
208-96-8	Acenaphthylene	ND		1680	1350	80	1670	1340	80	1	28-113/34
98-86-2	Acetophenone	ND		1680	1340	80	1670	1200	72	11	26-120/34
120-12-7	Anthracene	ND		1680	1430	85	1670	1390	83	3	31-131/41
1912-24-9	Atrazine	ND		1680	1470	87	1670	1420	85	3	34-138/36
56-55-3	Benzo(a)anthracene	ND		1680	1490	89	1670	1420	85	5	23-136/43
50-32-8	Benzo(a)pyrene	ND		1680	1530	91	1670	1440	86	6	22-144/42
205-99-2	Benzo(b)fluoranthene	ND		1680	1450	86	1670	1370	82	6	18-145/43
191-24-2	Benzo(g,h,i)perylene	ND		1680	1520	90	1670	1360	81	11	20-138/43
207-08-9	Benzo(k)fluoranthene	ND		1680	1480	88	1670	1370	82	8	27-129/43
101-55-3	4-Bromophenyl phenyl ether	ND		1680	1450	86	1670	1430	86	1	39-124/33
85-68-7	Butyl benzyl phthalate	ND		1680	1650	98	1670	1540	92	7	27-143/35
92-52-4	1,1'-Biphenyl	ND		1680	1370	82	1670	1340	80	2	33-116/32
100-52-7	Benzaldehyde	ND		1680	1320	79	1670	1230	74	7	20-129/34
91-58-7	2-Chloronaphthalene	ND		1680	1370	82	1670	1370	82	0	38-110/32
106-47-8	4-Chloroaniline	ND		1680	1130	67	1670	1070	64	5	10-110/49
86-74-8	Carbazole	ND		1680	1480	88	1670	1420	85	4	27-129/38
105-60-2	Caprolactam	ND		1680	1060	63	1670	1030	62	3	18-127/35
218-01-9	Chrysene	ND		1680	1380	82	1670	1330	80	4	21-142/43
111-91-1	bis(2-Chloroethoxy)methane	ND		1680	1350	80	1670	1280	77	5	32-116/33
111-44-4	bis(2-Chloroethyl)ether	ND		1680	1620	96	1670	1290	77	23	30-113/37

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-MS	P107985.D	1	10/06/16	RL	10/06/16	OP97539	EP4787
OP97539-MSD	P107986.D	1	10/06/16	RL	10/06/16	OP97539	EP4787
JC28910-1	P107987.D	1	10/06/16	RL	10/06/16	OP97539	EP4787

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Compound	JC28910-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
108-60-1	bis(2-Chloroisopropyl)ether	ND		1680	1290	77	1670	1170	70	10	28-110/33
7005-72-3	4-Chlorophenyl phenyl ether	ND		1680	1400	83	1670	1400	84	0	38-119/33
121-14-2	2,4-Dinitrotoluene	ND		1680	1580	94	1670	1540	92	3	28-126/36
606-20-2	2,6-Dinitrotoluene	ND		1680	1480	88	1670	1460	87	1	31-126/34
91-94-1	3,3'-Dichlorobenzidine	ND		3360	2450	73	3340	2160	65	13	10-115/44
123-91-1	1,4-Dioxane	ND		1680	740	44	1670	691	41	7	10-110/38
53-70-3	Dibenzo(a,h)anthracene	ND		1680	1540	92	1670	1430	86	7	25-135/41
132-64-9	Dibenzofuran	ND		1680	1470	87	1670	1470	88	0	30-125/35
84-74-2	Di-n-butyl phthalate	ND		1680	1580	94	1670	1510	90	5	32-131/34
117-84-0	Di-n-octyl phthalate	ND		1680	1700	101	1670	1620	97	5	28-144/35
84-66-2	Diethyl phthalate	ND		1680	1450	86	1670	1390	83	4	35-124/32
131-11-3	Dimethyl phthalate	ND		1680	1410	84	1670	1390	83	1	36-121/33
117-81-7	bis(2-Ethylhexyl)phthalate	ND		1680	1610	96	1670	1490	89	8	25-146/35
206-44-0	Fluoranthene	ND		1680	1500	89	1670	1430	86	5	15-143/46
86-73-7	Fluorene	ND		1680	1420	84	1670	1400	84	1	30-129/37
118-74-1	Hexachlorobenzene	ND		1680	1430	85	1670	1340	80	6	34-125/34
87-68-3	Hexachlorobutadiene	ND		1680	1370	82	1670	1280	77	7	29-120/34
77-47-4	Hexachlorocyclopentadiene	ND		3360	2060	61	3340	1970	59	4	10-127/46
67-72-1	Hexachloroethane	ND		1680	1420	84	1670	1210	72	16	21-109/38
193-39-5	Indeno(1,2,3-cd)pyrene	ND		1680	1480	88	1670	1390	83	6	23-141/44
78-59-1	Isophorone	ND		1680	1330	79	1670	1270	76	5	31-124/32
91-57-6	2-Methylnaphthalene	ND		1680	1360	81	1670	1290	77	5	21-125/33
88-74-4	2-Nitroaniline	ND		1680	1440	86	1670	1450	87	1	29-138/33
99-09-2	3-Nitroaniline	ND		1680	1200	71	1670	1160	69	3	12-112/38
100-01-6	4-Nitroaniline	ND		1680	1450	86	1670	1470	88	1	21-117/38
91-20-3	Naphthalene	ND		1680	1360	81	1670	1270	76	7	24-118/35
98-95-3	Nitrobenzene	ND		1680	1360	81	1670	1260	75	8	28-118/32
621-64-7	N-Nitroso-di-n-propylamine	ND		1680	1280	76	1670	1140	68	12	26-121/34
86-30-6	N-Nitrosodiphenylamine	ND		1680	1430	85	1670	1380	83	4	24-142/35
85-01-8	Phenanthrene	ND		1680	1460	87	1670	1390	83	5	14-144/44
129-00-0	Pyrene	ND		1680	1490	89	1670	1410	84	6	16-147/46
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		1680	1320	79	1670	1300	78	2	37-115/32

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-MS	P107985.D	1	10/06/16	RL	10/06/16	OP97539	EP4787
OP97539-MSD	P107986.D	1	10/06/16	RL	10/06/16	OP97539	EP4787
JC28910-1	P107987.D	1	10/06/16	RL	10/06/16	OP97539	EP4787

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Surrogate Recoveries	MS	MSD	JC28910-1	Limits
367-12-4	2-Fluorophenol	70%	74%	72%	30-106%
4165-62-2	Phenol-d5	84%	70%	75%	30-106%
118-79-6	2,4,6-Tribromophenol	87%	83%	79%	24-140%
4165-60-0	Nitrobenzene-d5	89%	86%	89%	26-122%
321-60-8	2-Fluorobiphenyl	88%	90%	91%	36-112%
1718-51-0	Terphenyl-d14	94%	92%	88%	36-132%

* = Outside of Control Limits.

Instrument Performance Check (DFTPP)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EM5442-DFTPP
Lab File ID: M127785.D
Instrument ID: GCMSM
Injection Date: 09/24/16
Injection Time: 08:54

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	105373	35.1		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	149572	49.9		Pass
70	Less than 2.0% of mass 69	724	0.24	(0.48) [a]	Pass
127	40.0 - 60.0% of mass 198	166918	55.6		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	299946	100.0		Pass
199	5.0 - 9.0% of mass 198	21993	7.33		Pass
275	10.0 - 30.0% of mass 198	65058	21.7		Pass
365	1.0 - 100.0% of mass 198	7342	2.45		Pass
441	Present, but less than mass 443	35006	11.7	(78.7) [b]	Pass
442	40.0 - 100.0% of mass 198	230498	76.8		Pass
443	17.0 - 23.0% of mass 442	44478	14.8	(19.3) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EM5442-IC5442	M127786.D	09/24/16	09:06	00:12	Initial cal 2
EM5442-IC5442	M127787.D	09/24/16	09:34	00:40	Initial cal 1
EM5442-IC5442	M127788.D	09/24/16	10:03	01:09	Initial cal 100
EM5442-ICC5442	M127789.D	09/24/16	10:31	01:37	Initial cal 50
EM5442-IC5442	M127790.D	09/24/16	10:59	02:05	Initial cal 5
EM5442-IC5442	M127791.D	09/24/16	11:27	02:33	Initial cal 10
EM5442-IC5442	M127792.D	09/24/16	11:56	03:02	Initial cal 25
EM5442-IC5442	M127793.D	09/24/16	12:24	03:30	Initial cal 80

Instrument Performance Check (DFTPP)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EM5443-DFTPP
Lab File ID: M127794.D
Instrument ID: GCMSM
Injection Date: 09/24/16
Injection Time: 12:54

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	104664	35.3		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	160739	54.2		Pass
70	Less than 2.0% of mass 69	480	0.16	(0.30) [a]	Pass
127	40.0 - 60.0% of mass 198	177138	59.7		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	296520	100.0		Pass
199	5.0 - 9.0% of mass 198	21189	7.15		Pass
275	10.0 - 30.0% of mass 198	69023	23.3		Pass
365	1.0 - 100.0% of mass 198	11253	3.80		Pass
441	Present, but less than mass 443	42406	14.3	(87.1) [b]	Pass
442	40.0 - 100.0% of mass 198	262675	88.6		Pass
443	17.0 - 23.0% of mass 442	48678	16.4	(18.5) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EM5443-IC5443	M127795.D	09/24/16	13:05	00:11	Initial cal 100
EM5443-IC5443	M127796.D	09/24/16	13:34	00:40	Initial cal 80
EM5443-IC5443	M127797.D	09/24/16	14:02	01:08	Initial cal 25
EM5443-IC5443	M127798.D	09/24/16	14:30	01:36	Initial cal 10
EM5443-IC5443	M127799.D	09/24/16	14:58	02:04	Initial cal 5
EM5443-IC5443	M127800.D	09/24/16	15:27	02:33	Initial cal 2
EM5443-IC5443	M127801.D	09/24/16	15:55	03:01	Initial cal 1
EM5443-ICC5443	M127802.D	09/24/16	16:23	03:29	Initial cal 50
EM5443-ICV5442	M127803.D	09/24/16	16:52	03:58	Initial cal verification 50
EM5443-ICV5442	M127804.D	09/24/16	17:20	04:26	Initial cal verification 50
EM5443-ICV5442	M127805.D	09/24/16	17:48	04:54	Initial cal verification 50
EM5443-ICV5443	M127806A.D	09/24/16	18:16	05:22	Initial cal verification 50
EM5443-ICV5442	M127806.D	09/24/16	18:16	05:22	Initial cal verification 50
EM5443-ICV5442	M127808.D	09/24/16	19:13	06:19	Initial cal verification 50
EM5443-ICV5443	M127808A.D	09/24/16	19:13	06:19	Initial cal verification 50
EM5443-ICV5443	M127809.D	09/24/16	19:41	06:47	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EM5444-DFTPP
Lab File ID: M127815.D
Instrument ID: GCMSM
Injection Date: 09/26/16
Injection Time: 13:01

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	113048	30.4		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	164640	44.3		Pass
70	Less than 2.0% of mass 69	1333	0.36	(0.81) [a]	Pass
127	40.0 - 60.0% of mass 198	203253	54.7		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	371328	100.0		Pass
199	5.0 - 9.0% of mass 198	24176	6.51		Pass
275	10.0 - 30.0% of mass 198	86575	23.3		Pass
365	1.0 - 100.0% of mass 198	11199	3.02		Pass
441	Present, but less than mass 443	49731	13.4	(88.0) [b]	Pass
442	40.0 - 100.0% of mass 198	314922	84.8		Pass
443	17.0 - 23.0% of mass 442	56522	15.2	(17.9) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EM5444-ICV5443	M127816A.D	09/26/16	13:14	00:13	Initial cal verification 50
EM5444-ICV5442	M127816.D	09/26/16	13:14	00:13	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EM5462-DFTPP
Lab File ID: M128174.D
Instrument ID: GCMSM
Injection Date: 10/07/16
Injection Time: 09:03

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	100448	31.7		Pass
68	Less than 2.0% of mass 69	963	0.30	(0.67) [a]	Pass
69	Mass 69 relative abundance	143925	45.4		Pass
70	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
127	40.0 - 60.0% of mass 198	172026	54.2		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	317319	100.0		Pass
199	5.0 - 9.0% of mass 198	22762	7.17		Pass
275	10.0 - 30.0% of mass 198	81666	25.7		Pass
365	1.0 - 100.0% of mass 198	12639	3.98		Pass
441	Present, but less than mass 443	45802	14.4	(76.7) [b]	Pass
442	40.0 - 100.0% of mass 198	314111	99.0		Pass
443	17.0 - 23.0% of mass 442	59677	18.8	(19.0) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EM5462-CC5442	M128175.D	10/07/16	09:15	00:12	Continuing cal 25
EM5462-CC5443	M128178.D	10/07/16	10:49	01:46	Continuing cal 25
OP97337A-MB1	M128180.D	10/07/16	12:27	03:24	Method Blank
OP97337A-BS1	M128181.D	10/07/16	12:55	03:52	Blank Spike
OP97337A-BSD	M128182.D	10/07/16	13:24	04:21	Blank Spike Duplicate
ZZZZZZ	M128183.D	10/07/16	13:52	04:49	(unrelated sample)
OP97539-MB1	M128185.D	10/07/16	14:20	05:17	Method Blank
JC28902-1	M128186.D	10/07/16	14:49	05:46	WOOLSTON-TS-002
JC28902-1	M128187.D	10/07/16	15:17	06:14	WOOLSTON-TS-002
ZZZZZZ	M128184.D	10/07/16	15:46	06:43	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EP4769-DFTPP
Lab File ID: P107661A.D
Instrument ID: GCMSP
Injection Date: 09/21/16
Injection Time: 15:01

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	18792	37.0		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	25458	50.1		Pass
70	Less than 2.0% of mass 69	73	0.14	(0.29) [a]	Pass
127	40.0 - 60.0% of mass 198	23152	45.6		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	50773	100.0		Pass
199	5.0 - 9.0% of mass 198	3727	7.34		Pass
275	10.0 - 30.0% of mass 198	13590	26.8		Pass
365	1.0 - 100.0% of mass 198	1408	2.77		Pass
441	Present, but less than mass 443	5138	10.1	(83.1) [b]	Pass
442	40.0 - 100.0% of mass 198	32706	64.4		Pass
443	17.0 - 23.0% of mass 442	6186	12.2	(18.9) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EP4769-IC4769	P107662.D	09/21/16	15:24	00:23	Initial cal 100
EP4769-IC4769	P107663.D	09/21/16	15:52	00:51	Initial cal 1
EP4769-ICC4769	P107664.D	09/21/16	16:25	01:24	Initial cal 50
EP4769-IC4769	P107665.D	09/21/16	16:53	01:52	Initial cal 2
EP4769-IC4769	P107666.D	09/21/16	17:21	02:20	Initial cal 5
EP4769-IC4769	P107667.D	09/21/16	17:49	02:48	Initial cal 10
EP4769-IC4769	P107668.D	09/21/16	18:17	03:16	Initial cal 25
EP4769-IC4769	P107669.D	09/21/16	18:45	03:44	Initial cal 80
EP4769-ICV4769	P107670.D	09/21/16	19:14	04:13	Initial cal verification 50
EP4769-ICV4769	P107672.D	09/21/16	20:11	05:10	Initial cal verification 50
EP4769-ICV4769	P107673.D	09/21/16	20:39	05:38	Initial cal verification 50
EP4769-ICV4769	P107674.D	09/21/16	21:07	06:06	Initial cal verification 50
EP4769-ICV4769	P107675.D	09/21/16	21:34	06:33	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EP4770-DFTPP
Lab File ID: P107676.D
Instrument ID: GCMSP
Injection Date: 09/22/16
Injection Time: 08:26

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	20850	37.5		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	27904	50.2		Pass
70	Less than 2.0% of mass 69	63	0.11	(0.23) [a]	Pass
127	40.0 - 60.0% of mass 198	25264	45.5		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	55546	100.0		Pass
199	5.0 - 9.0% of mass 198	3673	6.61		Pass
275	10.0 - 30.0% of mass 198	14326	25.8		Pass
365	1.0 - 100.0% of mass 198	1638	2.95		Pass
441	Present, but less than mass 443	5853	10.5	(83.3) [b]	Pass
442	40.0 - 100.0% of mass 198	35394	63.7		Pass
443	17.0 - 23.0% of mass 442	7029	12.7	(19.9) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EP4770-IC4770	P107677.D	09/22/16	08:42	00:16	Initial cal 100
EP4770-IC4770	P107678.D	09/22/16	09:10	00:44	Initial cal 80
EP4770-ICC4770	P107679.D	09/22/16	09:38	01:12	Initial cal 50
EP4770-IC4770	P107680.D	09/22/16	10:06	01:40	Initial cal 25
EP4770-IC4770	P107681.D	09/22/16	10:34	02:08	Initial cal 10
EP4770-IC4770	P107682.D	09/22/16	11:02	02:36	Initial cal 5
EP4770-IC4770	P107683.D	09/22/16	11:30	03:04	Initial cal 2
EP4770-IC4770	P107684.D	09/22/16	11:57	03:31	Initial cal 1
EP4770-ICV4770	P107685.D	09/22/16	12:25	03:59	Initial cal verification 50
EP4770-ICV4770	P107686.D	09/22/16	12:53	04:27	Initial cal verification 51
EP4770-ICV4770	P107687.D	09/22/16	13:21	04:55	Initial cal verification 50
EP4770-ICV4770	P107688.D	09/22/16	13:50	05:24	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EP4771-DFTPP
Lab File ID: P107689.D
Instrument ID: GCMSP
Injection Date: 09/22/16
Injection Time: 14:47

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	14988	30.3		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	22418	45.4		Pass
70	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
127	40.0 - 60.0% of mass 198	21310	43.1		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	49426	100.0		Pass
199	5.0 - 9.0% of mass 198	3344	6.77		Pass
275	10.0 - 30.0% of mass 198	13218	26.7		Pass
365	1.0 - 100.0% of mass 198	1379	2.79		Pass
441	Present, but less than mass 443	5951	12.0	(84.7) [b]	Pass
442	40.0 - 100.0% of mass 198	37178	75.2		Pass
443	17.0 - 23.0% of mass 442	7026	14.2	(18.9) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EP4771-ICV4769	P107690.D	09/22/16	15:22	00:35	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EP4787-DFTPP
Lab File ID: P107973.D
Instrument ID: GCMSP
Injection Date: 10/06/16
Injection Time: 09:57

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	16322	34.4		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	21158	44.6		Pass
70	Less than 2.0% of mass 69	157	0.33	(0.74) [a]	Pass
127	40.0 - 60.0% of mass 198	21293	44.9		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	47453	100.0		Pass
199	5.0 - 9.0% of mass 198	3321	7.00		Pass
275	10.0 - 30.0% of mass 198	12276	25.9		Pass
365	1.0 - 100.0% of mass 198	1559	3.29		Pass
441	Present, but less than mass 443	5311	11.2	(82.5) [b]	Pass
442	40.0 - 100.0% of mass 198	32325	68.1		Pass
443	17.0 - 23.0% of mass 442	6440	13.6	(19.9) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EP4787-CC4769	P107974.D	10/06/16	10:09	00:12	Continuing cal 25
EP4787-CC4770	P107975.D	10/06/16	10:36	00:39	Continuing cal 25
OP95519-MB1	P107978.D	10/06/16	12:18	02:21	Method Blank
OP97539-MB1	P107983.D	10/06/16	14:37	04:40	Method Blank
OP97539-BS1	P107984.D	10/06/16	15:05	05:08	Blank Spike
JC28910-1	P107987.D	10/06/16	15:33	05:36	(used for QC only; not part of job JC28902)
ZZZZZZ	P107988.D	10/06/16	16:01	06:04	(unrelated sample)
OP97539-MS	P107985.D	10/06/16	16:29	06:32	Matrix Spike
OP97539-MSD	P107986.D	10/06/16	16:57	07:00	Matrix Spike Duplicate
ZZZZZZ	P107989.D	10/06/16	17:25	07:28	(unrelated sample)
ZZZZZZ	P107990.D	10/06/16	17:53	07:56	(unrelated sample)
ZZZZZZ	P107991.D	10/06/16	18:21	08:24	(unrelated sample)
ZZZZZZ	P107992.D	10/06/16	18:48	08:51	(unrelated sample)
ZZZZZZ	P107993.D	10/06/16	19:16	09:19	(unrelated sample)
ZZZZZZ	P107994.D	10/06/16	19:44	09:47	(unrelated sample)
ZZZZZZ	P107995.D	10/06/16	20:12	10:15	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EZ5695-DFTPP
Lab File ID: Z114090.D
Instrument ID: GCMSZ
Injection Date: 09/14/16
Injection Time: 14:10

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	57762	30.1		Pass
68	Less than 2.0% of mass 69	490	0.26	(0.61) [a]	Pass
69	Mass 69 relative abundance	79784	41.6		Pass
70	Less than 2.0% of mass 69	416	0.22	(0.52) [a]	Pass
127	40.0 - 60.0% of mass 198	95874	50.0		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	191730	100.0		Pass
199	5.0 - 9.0% of mass 198	13255	6.91		Pass
275	10.0 - 30.0% of mass 198	44994	23.5		Pass
365	1.0 - 100.0% of mass 198	5571	2.91		Pass
441	Present, but less than mass 443	17773	9.27	(76.3) [b]	Pass
442	40.0 - 100.0% of mass 198	123016	64.2		Pass
443	17.0 - 23.0% of mass 442	23306	12.2	(18.9) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EZ5695-IC5695	Z114092A.D	09/14/16	14:38	00:28	Initial cal 2
EZ5695-IC5695	Z114093.D	09/14/16	15:05	00:55	Initial cal 1
EZ5695-IC5695	Z114094.D	09/14/16	15:33	01:23	Initial cal 100
EZ5695-ICC5695	Z114095.D	09/14/16	16:01	01:51	Initial cal 50
EZ5695-IC5695	Z114096.D	09/14/16	16:28	02:18	Initial cal 80
EZ5695-IC5695	Z114097.D	09/14/16	16:55	02:45	Initial cal 25
EZ5695-IC5695	Z114098.D	09/14/16	17:23	03:13	Initial cal 10
EZ5695-IC5695	Z114099.D	09/14/16	17:49	03:39	Initial cal 5

Instrument Performance Check (DFTPP)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EZ5696-DFTPP
Lab File ID: Z114103.D
Instrument ID: GCMSZ
Injection Date: 09/15/16
Injection Time: 07:35

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	47954	30.4		Pass
68	Less than 2.0% of mass 69	1125	0.71	(1.75) [a]	Pass
69	Mass 69 relative abundance	64142	40.6		Pass
70	Less than 2.0% of mass 69	591	0.37	(0.92) [a]	Pass
127	40.0 - 60.0% of mass 198	76333	48.3		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	157941	100.0		Pass
199	5.0 - 9.0% of mass 198	10519	6.66		Pass
275	10.0 - 30.0% of mass 198	36816	23.3		Pass
365	1.0 - 100.0% of mass 198	4277	2.71		Pass
441	Present, but less than mass 443	14771	9.35	(74.1) [b]	Pass
442	40.0 - 100.0% of mass 198	102917	65.2		Pass
443	17.0 - 23.0% of mass 442	19940	12.6	(19.4) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EZ5696-IC5696	Z114104.D	09/15/16	07:50	00:15	Initial cal 100
EZ5696-IC5696	Z114105.D	09/15/16	08:17	00:42	Initial cal 2
EZ5696-IC5696	Z114106.D	09/15/16	08:43	01:08	Initial cal 80
EZ5696-ICC5696	Z114107.D	09/15/16	09:09	01:34	Initial cal 50
EZ5696-IC5696	Z114108.D	09/15/16	09:35	02:00	Initial cal 25
EZ5696-IC5696	Z114109.D	09/15/16	10:01	02:26	Initial cal 10
EZ5696-IC5696	Z114110.D	09/15/16	10:26	02:51	Initial cal 5
EZ5696-IC5696	Z114111.D	09/15/16	10:52	03:17	Initial cal 1
EZ5696-ICV5695	Z114112.D	09/15/16	11:18	03:43	Initial cal verification 50
EZ5696-ICV5695	Z114113.D	09/15/16	11:43	04:08	Initial cal verification 50
EZ5696-ICV5695	Z114114.D	09/15/16	12:09	04:34	Initial cal verification 50
EZ5696-ICV5695	Z114115.D	09/15/16	12:35	05:00	Initial cal verification 50
EZ5696-ICV5696	Z114115A.D	09/15/16	12:35	05:00	Initial cal verification 50
EZ5696-ICV5695	Z114116.D	09/15/16	13:01	05:26	Initial cal verification 50
EZ5696-ICV5696	Z114116A.D	09/15/16	13:01	05:26	Initial cal verification 50
EZ5696-ICV5695	Z114117.D	09/15/16	13:26	05:51	Initial cal verification 50
EZ5696-ICV5696	Z114118.D	09/15/16	13:52	06:17	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EZ5729-DFTPP
Lab File ID: Z114913.D
Instrument ID: GCMSZ
Injection Date: 10/07/16
Injection Time: 09:43

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	30500	39.2		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	35041	45.0		Pass
70	Less than 2.0% of mass 69	185	0.24	(0.53) [a]	Pass
127	40.0 - 60.0% of mass 198	40669	52.3		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	77808	100.0		Pass
199	5.0 - 9.0% of mass 198	5292	6.80		Pass
275	10.0 - 30.0% of mass 198	21245	27.3		Pass
365	1.0 - 100.0% of mass 198	2872	3.69		Pass
441	Present, but less than mass 443	9795	12.6	(75.0) [b]	Pass
442	40.0 - 100.0% of mass 198	65941	84.7		Pass
443	17.0 - 23.0% of mass 442	13063	16.8	(19.8) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EZ5729-CC5695	Z114914.D	10/07/16	10:11	00:28	Continuing cal 50
EZ5729-CC5696	Z114915.D	10/07/16	10:38	00:55	Continuing cal 25
OP97539-MB1	Z114917.D	10/07/16	11:56	02:13	Method Blank
ZZZZZZ	Z114918.D	10/07/16	12:22	02:39	(unrelated sample)
ZZZZZZ	Z114919.D	10/07/16	12:48	03:05	(unrelated sample)
ZZZZZZ	Z114920.D	10/07/16	13:13	03:30	(unrelated sample)
OP97072-MB1	Z114923.D	10/07/16	14:44	05:01	Method Blank
ZZZZZZ	Z114924.D	10/07/16	15:10	05:27	(unrelated sample)
OP97582-MB1	Z114925.D	10/07/16	15:35	05:52	Method Blank
OP97582-BS1	Z114926.D	10/07/16	16:01	06:18	Blank Spike
ZZZZZZ	Z114927.D	10/07/16	16:27	06:44	(unrelated sample)
ZZZZZZ	Z114929.D	10/07/16	17:19	07:36	(unrelated sample)
ZZZZZZ	Z114930.D	10/07/16	17:45	08:02	(unrelated sample)
ZZZZZZ	Z114931.D	10/07/16	18:11	08:28	(unrelated sample)
JC29041-1	Z114932.D	10/07/16	18:37	08:54	(used for QC only; not part of job JC28902)
OP97582-MS	Z114933.D	10/07/16	19:02	09:19	Matrix Spike
OP97582-MSD	Z114934.D	10/07/16	19:28	09:45	Matrix Spike Duplicate
ZZZZZZ	Z114935.D	10/07/16	19:54	10:11	(unrelated sample)
ZZZZZZ	Z114936.D	10/07/16	20:20	10:37	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EZ5729-DFTPP
Lab File ID: Z114913.D
Instrument ID: GCMSZ
Injection Date: 10/07/16
Injection Time: 09:43

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	Z114937.D	10/07/16	20:46	11:03	(unrelated sample)
ZZZZZZ	Z114938.D	10/07/16	21:12	11:29	(unrelated sample)
ZZZZZZ	Z114939.D	10/07/16	21:37	11:54	(unrelated sample)

Semivolatile Internal Standard Area Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	EM5462-CC5442	**Injection Date:**	10/07/16
Lab File ID:	M128175.D	**Injection Time:**	09:15
Instrument ID:	GCMSM	**Method:**	SW846 8270D

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	1564755	4.81	6266363	5.97	4409431	8.33	8338826	10.96	9356188	16.12	9550995	18.75
Upper Limit [a]	3129510	5.31	12532726	6.47	8818862	8.83	16677652	11.46	18712376	16.62	19101990	19.25
Lower Limit [b]	782378	4.31	3133182	5.47	2204716	7.83	4169413	10.46	4678094	15.62	4775498	18.25

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP97337A-MB1	1443873	4.82	5498150	5.97	4067136	8.33	8184417	10.96	10374822	16.12	10489244	18.74
OP97337A-BS1	1345553	4.81	5109687	5.97	3903056	8.33	7564553	10.96	9242235	16.12	9553446	18.75
OP97337A-BSD	1206467	4.82	4550809	5.97	3442851	8.33	6630668	10.96	8032963	16.12	8203376	18.74
ZZZZZZ	1339665	4.81	5221911	5.97	3761953	8.33	6801974	10.96	7987181	16.12	7785895	18.75
OP97539-MB1	1069851	4.81	4338474	5.97	3161657	8.33	6311133	10.96	7825280	16.11	7732888	18.74
JC28902-1 [c]	1266058	4.82	4992434	5.97	3504143	8.33	6695282	10.96	7324592	16.12	6956599	18.74
JC28902-1	1511417	4.81	5744728	5.97	3994359	8.33	7055287	10.96	6529861	16.12	6342825	18.75
ZZZZZZ	1123328	4.82	4350213	5.98	2927301	8.34	4867320	10.97	4606748*	16.15	3988049*	18.78

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Confirmation run.

Semivolatile Internal Standard Area Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	EP4787-CC4769	**Injection Date:**	10/06/16
Lab File ID:	P107974.D	**Injection Time:**	10:09
Instrument ID:	GCMSP	**Method:**	SW846 8270D

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	71259	4.46	257092	5.37	166163	6.71	303426	8.47	302776	13.61	283483	16.63
Upper Limit [a]	142518	4.96	514184	5.87	332326	7.21	606852	8.97	605552	14.11	566966	17.13
Lower Limit [b]	35630	3.96	128546	4.87	83082	6.21	151713	7.97	151388	13.11	141742	16.13

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP95519-MB1	76414	4.46	280288	5.37	168797	6.71	291849	8.47	276157	13.60	240391	16.63
OP97539-MB1	60226	4.46	220032	5.37	135194	6.71	232261	8.47	225935	13.59	198577	16.62
OP97539-BS1	54326	4.46	195164	5.37	124084	6.71	215327	8.47	205213	13.60	189146	16.63
JC28910-1	59192	4.46	212254	5.37	130260	6.71	224493	8.47	214462	13.59	188062	16.62
ZZZZZZ	51850	4.46	195309	5.37	118936	6.71	207619	8.47	204760	13.59	178909	16.62
OP97539-MS	51844	4.46	188812	5.37	121906	6.71	209623	8.47	203761	13.60	185366	16.63
OP97539-MSD	55309	4.46	191919	5.37	121660	6.71	212805	8.47	207278	13.60	189179	16.63
ZZZZZZ	63770	4.45	226926	5.37	138117	6.71	238349	8.47	229133	13.59	202599	16.63
ZZZZZZ	58559	4.46	214602	5.37	132321	6.71	223664	8.47	218082	13.59	190491	16.62
ZZZZZZ	57175	4.45	209081	5.37	125888	6.71	212740	8.47	215167	13.59	186251	16.62
ZZZZZZ	57166	4.46	191618	5.37	129133	6.71	231521	8.48	251796	13.63	238740	16.68
ZZZZZZ	58093	4.46	203400	5.38	142093	6.72	239854	8.49	256783	13.67	241391	16.73
ZZZZZZ	68126	4.46	225395	5.38	138085	6.72	241402	8.49	250469	13.64	235910	16.69
ZZZZZZ	64550	4.46	224029	5.38	138304	6.71	225185	8.48	212555	13.63	199804	16.67

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Semivolatile Internal Standard Area Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std: EZ5729-CC5695 **Injection Date:** 10/07/16
Lab File ID: Z114914.D **Injection Time:** 10:11
Instrument ID: GCMSZ **Method:** SW846 8270D

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	149398	4.38	601366	5.31	362486	6.60	647623	8.11	607929	11.84	623634	13.91
Upper Limit [a]	298796	4.88	1202732	5.81	724972	7.10	1295246	8.61	1215858	12.34	1247268	14.41
Lower Limit [b]	74699	3.88	300683	4.81	181243	6.10	323812	7.61	303965	11.34	311817	13.41

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP97539-MB1	138512	4.38	581118	5.30	341107	6.60	565828	8.11	551004	11.83	530923	13.91
ZZZZZZ	155463	4.38	608829	5.30	358788	6.60	615167	8.10	590480	11.83	572563	13.91
ZZZZZZ	163845	4.38	654866	5.30	363793	6.60	609109	8.11	550235	11.83	514601	13.91
ZZZZZZ	139743	4.38	565459	5.30	315416	6.60	526461	8.11	486996	11.83	452345	13.91
OP97072-MB1	107724	4.38	431814	5.30	249368	6.60	435183	8.11	405529	11.83	389973	13.91
ZZZZZZ	110121	4.38	454910	5.30	260870	6.60	452202	8.11	434611	11.83	421621	13.91
OP97582-MB1	135422	4.38	557129	5.30	311685	6.60	523878	8.11	508122	11.83	486665	13.91
OP97582-BS1	123265	4.38	486608	5.31	289308	6.60	500480	8.11	476904	11.84	500999	13.91
ZZZZZZ	124285	4.38	485273	5.30	255434	6.60	450808	8.11	458885	11.84	448402	13.92
ZZZZZZ	120214	4.38	415100	5.31	287075	6.63	518536	8.14	596638	11.84	569743	13.91
ZZZZZZ	150509	4.38	574839	5.30	293743	6.61	514540	8.12	550644	11.84	518092	13.91
ZZZZZZ	115829	4.39	388351	5.31	268845	6.64	530225	8.16	618022	11.86	597836	13.92
JC29041-1	138087	4.38	442350	5.31	266919	6.63	520247	8.15	582900	11.86	558949	13.91
OP97582-MS	142343	4.38	473051	5.31	284591	6.64	552399	8.16	622142	11.86	613345	13.92
OP97582-MSD	137481	4.38	444968	5.31	270810	6.63	506060	8.15	551784	11.86	553747	13.92
ZZZZZZ	170595	4.38	661122	5.30	375612	6.60	630256	8.11	594861	11.85	579792	13.92
ZZZZZZ	176107	4.38	664746	5.30	384115	6.60	646129	8.11	602690	11.84	578549	13.92
ZZZZZZ	138501	4.38	534640	5.30	312408	6.61	508770	8.11	468210	11.86	462808	13.93
ZZZZZZ	157213	4.38	619851	5.31	366827	6.61	628365	8.12	562592	11.86	537657	13.93
ZZZZZZ	190302	4.38	737277	5.31	417548	6.61	696231	8.12	625443	11.85	591876	13.93

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Semivolatile Surrogate Recovery Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Method: SW846 8270D **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
JC28902-1	M128187.D	32	31	40	31	35* [a]	36
JC28902-1	M128186.D	53	53	72	62	56	59
OP97539-BS1	P107984.D	83	77	85	91	93	96
OP97539-MB1	P107983.D	74	76	83	87	88	90
OP97539-MB1	Z114917.D	70	73	84	83	93	88
OP97539-MB1	M128185.D	81	84	108	90	82	85
OP97539-MS	P107985.D	70	84	87	89	88	94
OP97539-MSD	P107986.D	74	70	83	86	90	92

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	30-106%
S2 = Phenol-d5	30-106%
S3 = 2,4,6-Tribromophenol	24-140%
S4 = Nitrobenzene-d5	26-122%
S5 = 2-Fluorobiphenyl	36-112%
S6 = Terphenyl-d14	36-132%

(a) Outside control limits due to matrix interference.

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EM5442-ICC5442
Lab FileID: M127789.D

Response Factor Report Instrument #1

Method : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Tue Sep 27 14:20:13 2016
Response via : Initial Calibration

Calibration Files
2 =M127786.D 5 =M127790.D 100 =M127788.D 50 =M127789.D
1 =M127787.D 10 =M127791.D 80 =M127793.D 25 =M127792.D

Compound	2	5	100	50	1	10	80	25	Avg	%RSD
1) I 1,4-Dichlorobenzene-d					ISTD					
2) 1,4-Dioxane	0.490	0.519	0.512	0.512	0.601	0.549	0.526	0.519	0.528	6.38
3) Pyridine	1.095	1.177	1.218	1.182	0.958	1.238	1.224	1.272	1.170	8.61
4) N-Nitrosodim	0.428	0.412	0.417	0.423	0.475	0.444	0.423	0.443	0.433	4.71
5) 2-Fluorophen	1.139	1.264	1.218	1.291	1.212	1.354	1.277	1.330	1.261	5.51
6) Indene	2.295	2.342	1.811	2.083	2.321	2.478	1.907	2.231	2.183	10.54
7) Cumene	3.051	3.296	2.406	2.819	3.170	3.334	2.522	3.043	2.955	11.66
8) Phenol-d5	1.444	1.569	1.354	1.509	1.381	1.683	1.420	1.584	1.493	7.60
9) Phenol	1.720	1.835	1.387	1.579	1.427	1.867	1.451	1.681	1.619	11.50
10) Aniline	1.968	1.947		1.405	1.856	1.913	1.181	1.597	1.695	18.18
11) bis(2-Chloro	1.018	1.242	0.954	1.093	1.162	1.232	1.104	1.146	1.119	8.85
12) 2-Chlorophen	1.376	1.395	1.140	1.260	1.391	1.429	1.202	1.323	1.314	7.87
13) Decane	0.948	0.944	0.630	0.729	0.976	0.924	0.671	0.797	0.827	16.70
14) 1,3-Dichloro	1.621	1.633	1.316	1.476	1.686	1.729	1.374	1.574	1.551	9.57
15) 1,4-Dichloro	1.448	1.523	1.266	1.403	1.506	1.525	1.315	1.469	1.432	6.79
16) Benzyl alcoh	0.626	0.697	0.706	0.777	0.574	0.799	0.747	0.792	0.715	11.35
17) 1,2-Dichloro	1.551	1.581	1.192	1.356	1.658	1.653	1.254	1.464	1.464	12.22
18) Acetophenone	1.757	1.816	1.419	1.589	1.704	1.878	1.494	1.728	1.673	9.50
19) 2-Methylphen	1.119	1.256	1.037	1.125	1.196	1.267	1.097	1.195	1.161	6.92
20) 2,2'-oxybis(	0.470	0.460	0.399	0.431	0.494	0.492	0.415	0.458	0.452	7.67
21) 3&4-Methylph	1.205	1.299	1.131	1.207	1.153	1.325	1.193	1.241	1.219	5.48
22) n-Nitroso-di	0.719	0.809	0.696	0.796	0.705	0.924	0.745	0.860	0.782	10.35
23) Hexachloroet	0.491	0.503	0.438	0.471	0.489	0.508	0.449	0.493	0.480	5.25
24) I Naphthalene-d8					ISTD					
25) Nitrobenzene	0.284	0.320	0.290	0.316	0.266	0.356	0.305	0.329	0.308	9.18
26) Nitrobenzene	0.307	0.336	0.273	0.304	0.315	0.368	0.289	0.318	0.314	9.19
27) Quinoline	0.732	0.806	0.707	0.765	0.711	0.885	0.740	0.811	0.770	7.93
28) Isophorone	0.542	0.621	0.531	0.601	0.480	0.690	0.565	0.640	0.584	11.54
29) 2-Nitropheno	0.151	0.164	0.173	0.186	0.134	0.201	0.182	0.194	0.173	12.93
30) 2,4-Dimethyl	0.289	0.295	0.272	0.294	0.272	0.310	0.284	0.291	0.288	4.38
31) Benzoic acid		0.067	0.252	0.229		0.120	0.253	0.185	0.184	41.35
---- Quadratic regression ---- Coefficient = 0.9990										
Response Ratio = -0.02898 + 0.24000 *A + 0.01062 *A^2										
32) bis(2-Chloro	0.353	0.382	0.309	0.349	0.361	0.411	0.334	0.372	0.359	8.58
33) 2,4-Dichloro	0.300	0.312	0.275	0.309	0.289	0.355	0.290	0.331	0.308	8.29
34) 2,6-Dichloro	0.286	0.296	0.262	0.289	0.284	0.333	0.273	0.300	0.290	7.30
35) 1,3,5-Trichl	0.408	0.381	0.281	0.324	0.388	0.398	0.297	0.351	0.354	13.63
36) 1,2,4-Trichl	0.364	0.359	0.281	0.314	0.359	0.374	0.292	0.334	0.334	10.60
37) 1,2,3-Trichl	0.330	0.352	0.277	0.309	0.337	0.368	0.289	0.329	0.324	9.53
38) Naphthalene	1.056	1.099	0.824	0.986	1.052	1.176	0.864	1.059	1.014	11.68
39) 4-Chloroanil	0.423	0.485	0.331	0.397	0.458	0.507	0.351	0.448	0.425	14.66
40) 2,3-Dichloro	0.400	0.411	0.310	0.352	0.369	0.440	0.325	0.383	0.374	11.73
41) Caprolactam	0.088	0.108	0.121	0.126		0.131	0.126	0.127	0.118	12.75
42) Hexachlorobu	0.174	0.170	0.142	0.156	0.156	0.180	0.147	0.168	0.162	8.39

Initial Calibration Summary

Job Number: JC28902 **Sample:** EM5442-ICC5442
Account: HWINJM Honeywell International Inc. **Lab FileID:** M127789.D
Project: HLANJPR: Study Area 6 Chrome Remedy

```
43) 4-Chloro-3-m 0.287 0.288 0.271 0.294 0.246 0.327 0.282 0.308 0.288   8.33
44) 2-Methylnaph 0.740 0.722 0.541 0.619 0.682 0.769 0.566 0.676 0.664  12.37
45) 1-Methylnaph 0.835 0.835 0.654 0.747 0.816 0.902 0.676 0.791 0.782  10.79
46) Dimethylnaph 0.726 0.750 0.582 0.655 0.704 0.804 0.606 0.712 0.692  10.72

47) I   Acenaphthene-d10      ----------------ISTD---------------------
48) Hexachlorocy 0.242 0.252 0.247 0.278 0.206 0.293 0.256 0.283 0.257  10.78
49) 2,4,6-Trichl 0.317 0.346 0.302 0.336 0.275 0.388 0.316 0.357 0.330  10.69
50) 2,4,5-Trichl 0.369 0.379 0.351 0.372 0.388 0.410 0.363 0.389 0.378   4.83
51) 2-Fluorobiph 1.461 1.470 1.085 1.255 1.420 1.508 1.161 1.352 1.339  11.67
52) 2-Chloronaph 1.196 1.216 0.905 1.033 1.252 1.211 0.956 1.110 1.110  11.83
53) Biphenyl     1.663 1.648 1.224 1.444 1.575 1.728 1.309 1.574 1.521  11.75
54) 2-Nitroanili 0.181 0.228 0.220 0.238 0.179 0.257 0.232 0.244 0.222  12.84
55) Dimethylphth 1.280 1.299 1.112 1.232 1.135 1.377 1.173 1.319 1.241   7.59
56) Acenaphthyle 1.778 1.982 1.505 1.764 1.704 2.088 1.587 1.921 1.791  11.04
57) 2,6-Dinitrot 0.183 0.236 0.276 0.298 0.171 0.302 0.294 0.298 0.257  20.95
            ---- Quadratic regression ----  Coefficient =  0.9995
              Response Ratio = -0.00842 + 0.33313 *A + -0.02048 *A^2

58) 3-Nitroanili 0.179 0.264 0.310 0.315       0.302 0.324 0.311 0.287  17.86
59) Acenaphthene 1.219 1.245 0.975 1.119 1.235 1.334 1.030 1.203 1.170  10.24
60) 2,4-Dinitrop 0.059 0.076 0.184 0.180       0.133 0.185 0.165 0.140  37.97
            ---- Quadratic regression ----  Coefficient =  0.9997
              Response Ratio = -0.02345 + 0.18780 *A + 0.00040 *A^2

61) 4-Nitropheno 0.098 0.104 0.136 0.135       0.133 0.136 0.132 0.125  13.15
62) Dibenzofuran 1.720 1.773 1.301 1.504 1.687 1.840 1.359 1.636 1.602  12.20
63) 2,4-Dinitrot 0.237 0.314 0.343 0.361 0.188 0.375 0.358 0.366 0.318  21.58
            ---- Quadratic regression ----  Coefficient =  0.9998
              Response Ratio = -0.00735 + 0.39457 *A + -0.01885 *A^2

64) 2,3,4,6-Tetr 0.246 0.268 0.276 0.297 0.216 0.293 0.284 0.297 0.272  10.44
65) Diethylphtha 1.123 1.297 1.047 1.179 1.078 1.396 1.103 1.278 1.188  10.39
66) Fluorene     1.427 1.455 1.103 1.256 1.425 1.522 1.159 1.354 1.338  11.21
67) 4-Chlorophen 0.671 0.662 0.499 0.560 0.674 0.659 0.517 0.582 0.603  12.05
68) 4-Nitroanili 0.212 0.304 0.322 0.342       0.372 0.332 0.357 0.320  16.37

69) I   Phenanthrene-d10      ----------------ISTD---------------------
70) 4,6-Dinitro- 0.045 0.063 0.139 0.135       0.106 0.142 0.126 0.108  36.34
            ---- Quadratic regression ----  Coefficient =  0.9995
              Response Ratio = -0.00853 + 0.14351 *A + -0.00006 *A^2

71) n-Nitrosodip 0.555 0.585 0.487 0.551 0.520 0.647 0.511 0.590 0.556   9.24
72) 1,2-Diphenyl 0.515 0.613 0.494 0.561 0.485 0.666 0.527 0.608 0.559  11.60
73) 2,4,6-Tribro 0.093 0.095 0.114 0.123 0.088 0.121 0.117 0.123 0.109  13.44
74) 4-Bromopheny 0.217 0.227 0.190 0.215 0.237 0.251 0.198 0.228 0.220   9.13
75) Hexachlorobe 0.264 0.266 0.210 0.236 0.271 0.275 0.218 0.249 0.248  10.01
76) Pentachlorop 0.091 0.089 0.130 0.139       0.129 0.133 0.138 0.121  17.81
77) Phenanthrene 1.168 1.198 0.888 1.042 1.166 1.243 0.935 1.118 1.095  11.69
78) Anthracene   1.086 1.171 0.918 1.082 0.974 1.298 0.965 1.171 1.083  11.82
79) Carbazole    1.095 1.227 0.952 1.108 1.025 1.316 1.007 1.195 1.116  11.04
80) Di-n-butylph 0.842 1.160 1.008 1.227       1.399 1.085 1.318 1.148  16.49
81) Fluoranthene 1.186 1.324 1.017 1.184 1.139 1.418 1.062 1.260 1.199  11.08
82) Octadecane   0.313 0.373 0.285 0.336 0.311 0.408 0.309 0.364 0.337  12.21

83) I   Chrysene-d12          ----------------ISTD---------------------
84) Pyrene       1.265 1.364 1.079 1.241 1.176 1.451 1.160 1.328 1.258   9.61
85) Terphenyl-d1 0.862 0.877 0.759 0.856 0.792 0.972 0.823 0.911 0.857   7.84
86) Butylbenzylp 0.287 0.421 0.539 0.581 0.248 0.570 0.580 0.592 0.477  29.51
            ---- Quadratic regression ----  Coefficient =  0.9993
```

Initial Calibration Summary

Job Number: JC28902 **Sample:** EM5442-ICC5442
Account: HWINJM Honeywell International Inc. **Lab FileID:** M127789.D
Project: HLANJPR: Study Area 6 Chrome Remedy

```
                Response Ratio = -0.02107 + 0.66311 *A + -0.04377 *A^2

 87) Benzo[a]anth 0.966 1.074 1.006 1.111 0.978 1.194 1.068 1.152 1.069   7.68
 88) 3,3'-Dichlor 0.279 0.358 0.407 0.433 0.257 0.417 0.423 0.425 0.375  18.67
 89) Chrysene     1.142 1.159 0.938 1.059 1.097 1.215 0.998 1.127 1.092   8.26
 90) bis(2-Ethylh 0.367 0.589 0.708 0.786 0.309 0.778 0.763 0.795 0.637  30.88
             ---- Quadratic regression ----  Coefficient =  0.9995
               Response Ratio = -0.02900 + 0.90693 *A + -0.07233 *A^2


 91) I   Perylene-d12          ----------------ISTD---------------------
 92) Di-n-octylph 0.583 0.952 1.039 1.274 0.516 1.314 1.148 1.324 1.019  31.26
             ---- Quadratic regression ----  Coefficient =  0.9997
               Response Ratio = -0.05099 + 1.55963 *A + -0.19828 *A^2

 93) Benzo[b]fluo 1.164 1.252 1.010 1.099 1.126 1.308 1.064 1.188 1.151   8.52
 94) Benzo[k]fluo 1.143 1.179 0.905 1.101 1.126 1.274 0.960 1.182 1.109  10.91
 95) Benzo[a]pyre 0.901 1.068 0.918 1.041 0.849 1.179 0.966 1.095 1.002  11.19
 96) Indeno[1,2,3 0.958 1.105 1.080 1.163 0.895 1.229 1.107 1.150 1.086  10.09
 97) Dibenz(a,h)a 0.824 0.974 0.926 1.011 0.805 1.077 0.957 1.034 0.951  10.15
 98) Dibenz[a,h]a 1.073 1.192 1.033 1.165 1.094 1.273 1.072 1.190 1.137   7.13
 99) 7,12-Dimethy 0.418 0.487 0.466 0.519 0.381 0.548 0.485 0.532 0.479  11.88
100) Benzo[g,h,i] 1.094 1.172 1.082 1.160 1.045 1.269 1.101 1.180 1.138   6.26


 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           MM5442.M          Tue Sep 27 14:20:44 2016   MSM
```

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EM5443-ICC5443
Lab FileID: M127802.D

```
                          Response Factor Report  Instrument #1

  Method       : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
  Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
  Last Update  : Tue Sep 27 14:28:37 2016
  Response via : Initial Calibration

  Calibration Files
  2   =Copy of M127800.D  5   =M127799.D  100 =M127795.D  50  =M127802.D
  1   =Copy of M127801.D  10  =M127798.D  80  =M127796.D  25  =M127797.D

   Compound         2     5     100   50    1     10    80    25    Avg %RSD
  ---------------------------------------------------------------------------

101) I   1,4-Dichlorobenzene-d ----------------ISTD---------------------
102) Benzaldehyde 1.158 1.226 0.666 0.765 1.222 1.139 0.716 1.033 0.991  23.90
             ---- Quadratic regression ----  Coefficient =  0.9959
               Response Ratio = 0.03626 + 0.92101 *A + -0.10988 *A^2


103) I   Acenaphthene-d10a     ----------------ISTD---------------------
104) 1,2,4,5-Tetr 0.679 0.671 0.468 0.472 0.681 0.585 0.479 0.544 0.572  16.67
105) Atrazine     0.142 0.196 0.187 0.170 0.129 0.197 0.189 0.199 0.176  15.28

106) I   Chrysene-d12a         ----------------ISTD---------------------
107) Benzidine          0.653 0.497 0.575       0.765 0.472 0.700 0.610  19.01
108) 1-chloroocta 0.237 0.284 0.220 0.235 0.210 0.278 0.222 0.257 0.243  11.28

109) I   Phenanthrene-d10a     ----------------ISTD---------------------
110) o-terphenyl  0.723 0.727 0.505 0.523 0.718 0.665 0.522 0.600 0.623  15.62

111) I   Naphthalene-d8a       ----------------ISTD---------------------
112) Hydroquinone 0.241 0.312 0.359 0.326       0.359 0.355 0.353 0.329  13.00


 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           MM5442.M          Tue Sep 27 14:29:38 2016   MSM
```

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EM5443-ICV5442
Lab FileID: M127803.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\em5443\M127803.D          Vial: 10
Acq On    : 24 Sep 2016   4:52 pm                   Operator: ariellec
Sample    : icv5442-50                              Inst    : Instrument #1
Misc      : op96678,em5443                          Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update  : Tue Sep 27 14:34:33 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	118	0.00	4.92
9	t	Phenol	1.619	1.518	6.2	113	0.00	4.69
12	t	2-Chlorophenol	1.314	1.315	-0.1	123	0.00	4.78
19	t	2-Methylphenol	1.161	1.148	1.1	120	0.00	5.15
21	t	3&4-Methylphenol	1.219	1.188	2.5	116	0.00	5.28
24	I	Naphthalene-d8	1.000	1.000	0.0	111	0.00	6.10
29	t	2-Nitrophenol	0.173	0.206	-19.1	123	0.00	5.71
30	t	2,4-Dimethylphenol	0.288	0.306	-6.3	116	0.00	5.76
		----------	True	Calc.	% Drift	----------		
31	t	Benzoic acid	50.000	40.264	19.5	87	0.02	5.90
		----------	AvgRF	CCRF	% Dev	----------		
33	t	2,4-Dichlorophenol	0.308	0.312	-1.3	112	0.00	5.96
34	t	2,6-Dichlorophenol	0.290	0.303	-4.5	117	0.00	6.20
43	t	4-Chloro-3-methylphenol	0.288	0.277	3.8	104	0.00	6.80
47	I	Acenaphthene-d10	1.000	1.000	0.0	108	0.00	8.48
49	t	2,4,6-Trichlorophenol	0.330	0.367	-11.2	118	0.00	7.35
50	t	2,4,5-Trichlorophenol	0.378	0.367	2.9	107	0.00	7.41
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	100.000	41.818	16.4	94	0.00	8.63
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.125	0.135	-8.0	108	0.00	8.87
		----------	AvgRF	CCRF	% Dev	----------		
64	t	2,3,4,6-Tetrachlorophenol	0.272	0.288	-5.9	105	0.00	9.07
69	I	Phenanthrene-d10	1.000	1.000	0.0	104	0.00	11.12
		----------	True	Calc.	% Drift	----------		
70	t	4,6-Dinitro-2-methylpheno	50.000	46.919	6.2	98	0.00	9.55
		----------	AvgRF	CCRF	% Dev	----------		
76	t	Pentachlorophenol	0.121	0.136	-12.4	100	0.00	10.82

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of M127802.D MM5442.M Tue Sep 27 14:38:22 2016 MSM

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EM5443-ICV5442
Lab FileID: M127804.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\em5443\M127804.D          Vial: 11
Acq On    : 24 Sep 2016   5:20 pm                   Operator: ariellec
Sample    : icv5442-50                              Inst    : Instrument #1
Misc      : op96678,em5443                          Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update  : Tue Sep 27 14:34:33 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	96	0.00	4.92
3	t	Pyridine	1.170	1.171	-0.1	95	0.05	2.95
10	t	Aniline	1.695	1.728	-1.9	118	0.00	4.69
16	t	Benzyl alcohol	0.715	0.829	-15.9	102	0.00	5.05
24	I	Naphthalene-d8	1.000	1.000	0.0	103	0.00	6.10
39	t	4-Chloroaniline	0.425	0.349	17.9	90	0.00	6.20
44	t	2-Methylnaphthalene	0.664	0.560	15.7	93	0.00	6.94
47	I	Acenaphthene-d10	1.000	1.000	0.0	100	0.00	8.48
54	t	2-Nitroaniline	0.222	0.232	-4.5	97	0.00	7.83
58	t	3-Nitroaniline	0.287	0.272	5.2	86	0.00	8.49
62	t	Dibenzofuran	1.602	1.539	3.9	102	0.00	8.83
68	t	4-Nitroaniline	0.320	0.336	-5.0	98	0.00	9.56
69	I	Phenanthrene-d10	1.000	1.000	0.0	103	0.00	11.12
79	t	Carbazole	1.116	1.031	7.6	96	0.00	11.64

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 Copy of M127802.D MM5442.M        Tue Sep 27 14:41:12 2016   MSM
```

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EM5443-ICV5442
Lab FileID: M127805.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\em5443\M127805.D          Vial: 12
Acq On    : 24 Sep 2016   5:48 pm                   Operator: ariellec
Sample    : icv5442-50                              Inst    : Instrument #1
Misc      : op96678,em5443                          Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update  : Mon Sep 26 10:51:56 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	125	0.00	4.92
5	S	2-Fluorophenol	1.261	1.038	17.7	101	0.00	3.97
8	S	Phenol-d5	1.493	1.240	16.9	103	0.00	4.68
24	I	Naphthalene-d8	1.000	1.000	0.0	121	0.00	6.10
25	S	Nitrobenzene-d5	0.308	0.281	8.8	108	0.00	5.40
47	I	Acenaphthene-d10	1.000	1.000	0.0	115	0.00	8.48
51	S	2-Fluorobiphenyl	1.339	1.197	10.6	110	0.00	7.45
69	I	Phenanthrene-d10	1.000	1.000	0.0	113	-0.01	11.12
73	S	2,4,6-Tribromophenol	0.109	0.101	7.3	93	-0.01	9.85
83	I	Chrysene-d12	1.000	1.000	0.0	113	-0.02	16.28
85	S	Terphenyl-d14	0.857	0.768	10.4	101	-0.01	14.27

```
   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    Copy of M127802.D MM5442.M         Mon Sep 26 11:14:45 2016   MSM
```

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EM5443-ICV5442
Lab FileID: M127806.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\em5443\M127806.D Vial: 13
Acq On : 24 Sep 2016 6:16 pm Operator: ariellec
Sample : icv5442-50 Inst : Instrument #1
Misc : op96678,em5443 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Mon Sep 26 10:51:56 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	99	0.00	4.92
4	t	N-Nitrosodimethylamine	0.433	0.386	10.9	91	0.00	2.84
11	t	bis(2-Chloroethyl)ether	1.119	1.160	-3.7	105	0.00	4.71
14	t	1,3-Dichlorobenzene	1.551	1.498	3.4	101	0.00	4.87
15	t	1,4-Dichlorobenzene	1.432	1.381	3.6	98	0.00	4.93
17	t	1,2-Dichlorobenzene	1.464	1.423	2.8	104	0.00	5.07
20	t	2,2'-oxybis(1-Chloropropa	0.452	0.427	5.5	98	0.00	5.13
22	t	n-Nitroso-di-n-propylamin	0.782	0.743	5.0	93	-0.01	5.25
23	t	Hexachloroethane	0.480	0.478	0.4	101	0.00	5.35
24	I	Naphthalene-d8	1.000	1.000	0.0	97	0.00	6.10
26	t	Nitrobenzene	0.314	0.298	5.1	95	0.00	5.42
28	t	Isophorone	0.584	0.542	7.2	87	-0.02	5.62
32	t	bis(2-Chloroethoxy)methan	0.359	0.357	0.6	99	0.00	5.83
36	t	1,2,4-Trichlorobenzene	0.334	0.329	1.5	101	0.00	6.03
38	t	Naphthalene	1.014	0.935	7.8	92	0.00	6.12
42	t	Hexachlorobutadiene	0.162	0.165	-1.9	103	0.00	6.25
47	I	Acenaphthene-d10	1.000	1.000	0.0	95	0.00	8.48
48	t	Hexachlorocyclopentadiene	0.257	0.270	-5.1	92	0.00	7.16
52	t	2-Chloronaphthalene	1.110	1.109	0.1	102	-0.01	7.62
55	t	Dimethylphthalate	1.241	1.191	4.0	91	-0.01	8.09
56	t	Acenaphthylene	1.791	1.621	9.5	87	-0.01	8.25
		----------	True	Calc.	% Drift	----------		
57	t	2,6-Dinitrotoluene	50.000	43.780	12.4	84	-0.01	8.19
		----------	AvgRF	CCRF	% Dev	----------		
59	t	Acenaphthene	1.170	1.065	9.0	90	0.00	8.54
		----------	True	Calc.	% Drift	----------		
63	t	2,4-Dinitrotoluene	50.000	47.402	5.2	91	-0.01	8.85
		----------	AvgRF	CCRF	% Dev	----------		
65	t	Diethylphthalate	1.188	1.120	5.7	90	-0.01	9.28
66	t	Fluorene	1.338	1.213	9.3	91	0.00	9.41
67	t	4-Chlorophenyl-phenylethe	0.603	0.556	7.8	94	0.00	9.44
69	I	Phenanthrene-d10	1.000	1.000	0.0	95	-0.01	11.12
71	t	n-Nitrosodiphenylamine	0.556	0.502	9.7	87	-0.02	9.66
72	t	1,2-Diphenylhydrazine	0.559	0.523	6.4	89	0.00	9.72
74	t	4-Bromophenyl-phenylether	0.220	0.210	4.5	94	-0.01	10.31

Initial Calibration Verification

Job Number: JC28902 **Sample:** EM5443-ICV5442
Account: HWINJM Honeywell International Inc. **Lab FileID:** M127806.D
Project: HLANJPR: Study Area 6 Chrome Remedy

75	t	Hexachlorobenzene	0.248	0.235	5.2	95	0.00	10.40
77	t	Phenanthrene	1.095	0.984	10.1	90	-0.01	11.17
78	t	Anthracene	1.083	0.987	8.9	87	-0.01	11.26
80	t	Di-n-butylphthalate	1.148	1.091	5.0	85	0.00	12.36
81	t	Fluoranthene	1.199	1.084	9.6	87	-0.01	13.45
83	I	Chrysene-d12	1.000	1.000	0.0	91	-0.01	16.28
84	t	Pyrene	1.258	1.196	4.9	87	-0.01	13.89
		----------	True	Calc.	% Drift	----------		
86	t	Butylbenzylphthalate	50.000	44.631	10.7	83	0.00	15.31
		----------	AvgRF	CCRF	% Dev	----------		
87	t	Benzo[a]anthracene	1.069	1.040	2.7	85	0.00	16.26
89	t	Chrysene	1.092	0.958	12.3	82	-0.01	16.34
		----------	True	Calc.	% Drift	----------		
90	t	bis(2-Ethylhexyl)phthalat	50.000	43.409	13.2	80	0.00	16.47
		----------	AvgRF	CCRF	% Dev	----------		
91	I	Perylene-d12	1.000	1.000	0.0	89	-0.01	18.90
		----------	True	Calc.	% Drift	----------		
92	t	Di-n-octylphthalate	50.000	44.959	10.1	81	0.00	17.68
		----------	AvgRF	CCRF	% Dev	----------		
93	t	Benzo[b]fluoranthene	1.151	1.067	7.3	87	-0.01	18.26
94	t	Benzo[k]fluoranthene	1.109	1.064	4.1	86	-0.02	18.30
95	t	Benzo[a]pyrene	1.002	1.013	-1.1	87	-0.02	18.80
96	t	Indeno[1,2,3-cd]pyrene	1.086	1.042	4.1	80	-0.02	20.67
98	t	Dibenz[a,h]anthracene	1.137	1.087	4.4	83	-0.02	20.71
100	t	Benzo[g,h,i]perylene	1.138	1.094	3.9	84	-0.03	21.17

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of M127802.D MM5442.M Mon Sep 26 11:14:47 2016 MSM

7.7.6

7

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EM5443-ICV5443
Lab FileID: M127806A.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\em5443\M127806a.D          Vial: 13
Acq On    : 24 Sep 2016   6:16 pm                    Operator: ariellec
Sample    : icv5443-50                               Inst    : Instrument #1
Misc      : op96678,em5443                           Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update  : Mon Sep 26 10:51:56 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%

       Compound                   AvgRF   CCRF      %Dev Area%  Dev(min)R.T.
---------------------------------------------------------------------------


           ------------------------ AvgRF   CCRF     % Dev   -------------
103 I   Acenaphthene-d10a           1.000   1.000      0.0   85   0.00    8.48
104 I   1,2,4,5-Tetrachlorobenzen   0.572   0.518      9.4   94   0.00    7.16


    (#) = Out of Range               SPCC's out = 0  CCC's out = 0
     Copy of M127802.D MM5442.M         Mon Sep 26 11:14:49 2016   MSM
```

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EM5443-ICV5442
Lab FileID: M127808.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\em5443\M127808.D          Vial: 15
Acq On    : 24 Sep 2016   7:13 pm                   Operator: ariellec
Sample    : icv5442-50                              Inst    : Instrument #1
Misc      : op96678,em5443                          Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update  : Mon Sep 26 10:51:56 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
83	I	Chrysene-d12	1.000	1.000	0.0	105	-0.02	16.28
88	t	3,3'-Dichlorobenzidine	0.375	0.394	-5.1	95	0.00	16.32

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of M127802.D MM5442.M Mon Sep 26 11:19:00 2016 MSM

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EM5443-ICV5443
Lab FileID: M127808A.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\em5443\M127808a.D          Vial: 15
Acq On    : 24 Sep 2016   7:13 pm                    Operator: ariellec
Sample    : icv5443-50                               Inst    : Instrument #1
Misc      : op96678,em5443                           Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update  : Tue Sep 27 14:28:37 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
106 I	Chrysene-d12a	1.000	1.000	0.0	98	0.00	16.28
107 t	Benzidine	0.610	0.785	-28.7	133	0.00	13.83

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of M127802.D MM5442.M Tue Sep 27 14:33:41 2016 MSM

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EM5443-ICV5443
Lab FileID: M127809.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\em5443\M127809.D          Vial: 16
Acq On    : 24 Sep 2016   7:41 pm                   Operator: ariellec
Sample    : icv5443-50                              Inst    : Instrument #1
Misc      : op96678,em5443                          Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update  : Mon Sep 26 10:51:56 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
111 I	Naphthalene-d8a	1.000	1.000	0.0	98	0.00	6.09
112	Hydroquinone	0.329	0.370	-12.5	111	0.00	6.63

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of M127802.D MM5442.M Mon Sep 26 11:14:53 2016 MSM

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EM5444-ICV5442
Lab FileID: M127816.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EM5444\M127816.D Vial: 2
Acq On : 26 Sep 2016 1:14 pm Operator: chriss2
Sample : icv5442-50 Inst : Instrument #1
Misc : op96678,em5444 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Mon Sep 26 10:51:56 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	121	-0.02	4.90
2	t	1,4-Dioxane	0.528	0.373	29.4	88	-0.02	2.51
6	t	Indene	2.183	1.843	15.6	107	-0.03	5.11
7	t	Cumene	2.955	2.164	26.8	93	-0.02	4.28
13	t	Decane	0.827	0.599	27.6	99	-0.02	4.74
18	t	Acetophenone	1.673	1.335	20.2	101	-0.03	5.23
24	I	Naphthalene-d8	1.000	1.000	0.0	127	-0.03	6.07
27	t	Quinoline	0.770	0.569	26.1	94	-0.06	6.48
40	t	2,3-Dichloroaniline	0.374	0.305	18.4	110	-0.03	7.33
41	t	Caprolactam	0.118	0.085	28.0	85	-0.08	6.57
45	t	1-Methylnaphthalene	0.782	0.553	29.3	94	-0.03	7.05
46	t	Dimethylnaphthalene	0.692	0.550	20.5	107	-0.03	7.79
47	I	Acenaphthene-d10	1.000	1.000	0.0	119	-0.03	8.45
53	t	Biphenyl	1.521	1.275	16.2	105	-0.04	7.56
69	I	Phenanthrene-d10	1.000	1.000	0.0	121	-0.04	11.09
82	t	Octadecane	0.337	0.257	23.7	93	-0.03	10.97
91	I	Perylene-d12	1.000	1.000	0.0	117	-0.04	18.87
99	t	7,12-Dimethylbenz(a)anthr	0.479	0.411	14.2	93	-0.06	18.22

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of M127802.D MM5442.M Tue Sep 27 09:34:14 2016 MSM

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EM5444-ICV5443
Lab FileID: M127816A.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\EM5444\M127816a.D          Vial: 2
Acq On    : 26 Sep 2016   1:14 pm                    Operator: chriss2
Sample    : icv5443-50                               Inst    : Instrument #1
Misc      : op96678,em5444                           Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update  : Mon Sep 26 10:51:56 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%

        Compound                    AvgRF   CCRF      %Dev Area%  Dev(min)R.T.
 ---------------------------------------------------------------------------

101 I   1,4-Dichlorobenzene-d4a     1.000   1.000      0.0  105  -0.02    4.90

            ----------------------- True    Calc.   % Drift  ------------
102 t   Benzaldehyde               50.000  44.863     10.3  102  -0.02    4.57


            ----------------------- AvgRF   CCRF     % Dev   -------------
103 I   Acenaphthene-d10a           1.000   1.000      0.0  108  -0.03    8.45
105 t   Atrazine                    0.176   0.189     -7.4  120  -0.03   10.68


 ---------------------------------------------------------------------------
 ---------------------------------------------------------------------------

    (#) = Out of Range              SPCC's out = 0  CCC's out = 0
     Copy of M127802.D MM5442.M         Tue Sep 27 09:34:16 2016   MSM
```

Continuing Calibration Summary

Job Number: JC28902 **Sample:** EM5462-CC5442
Account: HWINJM Honeywell International Inc. **Lab FileID:** M128175.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EM5462\M128175.D Vial: 2
Acq On : 7 Oct 2016 9:15 am Operator: chriss2
Sample : cc5442-25 Inst : Instrument #1
Misc : op96678,em5462 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Fri Oct 07 09:45:00 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	89	0.00	4.81
2	t	1,4-Dioxane	0.528	0.414	21.6#	71	0.02	2.42
3	t	Pyridine	1.170	1.085	7.3	76	0.00	2.78
4	t	N-Nitrosodimethylamine	0.433	0.458	-5.8	92	0.02	2.73
5	S	2-Fluorophenol	1.261	1.139	9.7	76	0.01	3.90
6	t	Indene	2.183	2.132	2.3	85	0.00	5.02
7	t	Cumene	2.955	2.669	9.7	78	0.00	4.21
8	S	Phenol-d5	1.493	1.407	5.8	79	0.01	4.61
9	t	Phenol	1.619	1.597	1.4	85	0.02	4.62
10	t	Aniline	1.695	1.347	20.5#	75	0.00	4.59
11	t	bis(2-Chloroethyl)ether	1.119	1.203	-7.5	93	0.00	4.61
12	t	2-Chlorophenol	1.314	1.332	-1.4	90	0.01	4.69
13	t	Decane	0.827	0.790	4.5	88	0.00	4.66
14	t	1,3-Dichlorobenzene	1.551	1.439	7.2	81	0.00	4.77
15	t	1,4-Dichlorobenzene	1.432	1.375	4.0	83	0.00	4.83
16	t	Benzyl alcohol	0.715	0.808	-13.0	91	0.00	4.95
17	t	1,2-Dichlorobenzene	1.464	1.430	2.3	87	0.00	4.96
18	t	Acetophenone	1.673	1.726	-3.2	89	0.00	5.15
19	t	2-Methylphenol	1.161	1.170	-0.8	87	0.03	5.07
20	t	2,2'-oxybis(1-Chloropropa	0.452	0.449	0.7	87	0.00	5.03
21	t	3&4-Methylphenol	1.219	1.273	-4.4	91	0.03	5.20
22	t	n-Nitroso-di-n-propylamin	0.782	0.877	-12.1	91	0.00	5.14
23	t	Hexachloroethane	0.480	0.492	-2.5	89	0.00	5.24
24	I	Naphthalene-d8	1.000	1.000	0.0	97	0.00	5.97
25	S	Nitrobenzene-d5	0.308	0.306	0.6	91	0.00	5.29
26	t	Nitrobenzene	0.314	0.308	1.9	94	0.00	5.31
27	t	Quinoline	0.770	0.806	-4.7	97	0.02	6.38
28	t	Isophorone	0.584	0.615	-5.3	93	0.00	5.51
29	t	2-Nitrophenol	0.173	0.202	-16.8	101	0.00	5.60
30	t	2,4-Dimethylphenol	0.288	0.273	5.2	91	0.01	5.66
		----------	True	Calc.	% Drift	----------		
31	t	Benzoic acid	25.000	27.437	-9.7	118	0.03	5.80
		----------	AvgRF	CCRF	% Dev	----------		
32	t	bis(2-Chloroethoxy)methan	0.359	0.356	0.8	93	0.00	5.71
33	t	2,4-Dichlorophenol	0.308	0.314	-1.9	92	0.02	5.86
34	t	2,6-Dichlorophenol	0.290	0.301	-3.8	97	0.00	6.09
35	t	1,3,5-Trichlorobenzene	0.354	0.339	4.2	94	0.00	5.59
36	t	1,2,4-Trichlorobenzene	0.334	0.321	3.9	93	0.00	5.91
37	t	1,2,3-Trichlorobenzene	0.324	0.327	-0.9	97	0.00	6.16

Continuing Calibration Summary

Job Number: JC28902 **Sample:** EM5462-CC5442
Account: HWINJM Honeywell International Inc. **Lab FileID:** M128175.D
Project: HLANJPR: Study Area 6 Chrome Remedy

38	t	Naphthalene	1.014	0.980	3.4	90	0.00	6.00
39	t	4-Chloroaniline	0.425	0.423	0.5	92	0.00	6.08
40	t	2,3-Dichloroaniline	0.374	0.412	-10.2	105	0.00	7.22
41	t	Caprolactam	0.118	0.146	-23.7#	111	0.02	6.50
42	t	Hexachlorobutadiene	0.162	0.171	-5.6	99	0.00	6.12
43	t	4-Chloro-3-methylphenol	0.288	0.312	-8.3	98	0.05	6.71
44	t	2-Methylnaphthalene	0.664	0.634	4.5	91	0.00	6.80
45	t	1-Methylnaphthalene	0.782	0.767	1.9	94	0.00	6.94
46	t	Dimethylnaphthalene	0.692	0.734	-6.1	100	0.00	7.67
47	I	Acenaphthene-d10	1.000	1.000	0.0	111	0.00	8.33
48	t	Hexachlorocyclopentadiene	0.257	0.215	16.3	84	-0.01	7.02
49	t	2,4,6-Trichlorophenol	0.330	0.344	-4.2	107	0.00	7.22
50	t	2,4,5-Trichlorophenol	0.378	0.379	-0.3	108	0.03	7.31
51	S	2-Fluorobiphenyl	1.339	1.171	12.5	96	0.00	7.31
52	t	2-Chloronaphthalene	1.110	1.008	9.2	101	0.00	7.47
53	t	Biphenyl	1.521	1.359	10.7	96	0.00	7.45
54	t	2-Nitroaniline	0.222	0.258	-16.2	117	0.00	7.69
55	t	Dimethylphthalate	1.241	1.317	-6.1	111	0.00	7.95
56	t	Acenaphthylene	1.791	1.753	2.1	101	0.00	8.11
		----------	True	Calc.	% Drift	----------		
57	t	2,6-Dinitrotoluene	25.000	25.682	-2.7	117	0.00	8.04
		----------	AvgRF	CCRF	% Dev	----------		
58	t	3-Nitroaniline	0.287	0.328	-14.3	117	0.02	8.35
59	t	Acenaphthene	1.170	1.086	7.2	100	0.00	8.38
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	50.000	57.302	-14.6	132	0.03	8.50
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.125	0.121	3.2	101	0.05	8.82
62	t	Dibenzofuran	1.602	1.575	1.7	107	0.00	8.67
		----------	True	Calc.	% Drift	----------		
63	t	2,4-Dinitrotoluene	25.000	28.539	-14.2	128	0.02	8.71
		----------	AvgRF	CCRF	% Dev	----------		
64	t	2,3,4,6-Tetrachlorophenol	0.272	0.312	-14.7	116	0.03	8.94
65	t	Diethylphthalate	1.188	1.301	-9.5	113	0.01	9.13
66	t	Fluorene	1.338	1.345	-0.5	110	0.01	9.25
67	t	4-Chlorophenyl-phenylethe	0.603	0.639	-6.0	122	0.01	9.28
68	t	4-Nitroaniline	0.320	0.373	-16.6	116	0.03	9.42
69	I	Phenanthrene-d10	1.000	1.000	0.0	126	0.00	10.96
		----------	True	Calc.	% Drift	----------		
70	t	4,6-Dinitro-2-methylpheno	25.000	28.359	-13.4	149	0.00	9.41
		----------	AvgRF	CCRF	% Dev	----------		
71	t	n-Nitrosodiphenylamine	0.556	0.534	4.0	114	-0.01	9.51
72	t	1,2-Diphenylhydrazine	0.559	0.521	6.8	108	-0.02	9.56
73	S	2,4,6-Tribromophenol	0.109	0.138	-26.6#	140	0.00	9.70
74	t	4-Bromophenyl-phenylether	0.220	0.233	-5.9	128	0.00	10.15
75	t	Hexachlorobenzene	0.248	0.268	-8.1	135	0.00	10.24
76	t	Pentachlorophenol	0.121	0.128	-5.8	117	0.02	10.69
77	t	Phenanthrene	1.095	1.052	3.9	118	0.00	11.00
78	t	Anthracene	1.083	1.092	-0.8	117	0.00	11.10
79	t	Carbazole	1.116	1.107	0.8	117	0.02	11.48

Continuing Calibration Summary

Job Number: JC28902 **Sample:** EM5462-CC5442
Account: HWINJM Honeywell International Inc. **Lab FileID:** M128175.D
Project: HLANJPR: Study Area 6 Chrome Remedy

80	t	Di-n-butylphthalate	1.148	1.262	-9.9	121	0.02	12.20
81	t	Fluoranthene	1.199	1.276	-6.4	127	0.03	13.29
82	t	Octadecane	0.337	0.310	8.0	107	0.00	10.84
83	I	Chrysene-d12	1.000	1.000	0.0	144	0.00	16.12
84	t	Pyrene	1.258	1.177	6.4	128	0.02	13.72
85	S	Terphenyl-d14	0.857	0.894	-4.3	142	-0.03	14.10
		----------	True	Calc.	% Drift	----------		
86	t	Butylbenzylphthalate	25.000	22.322	10.7	131	-0.02	15.14
		----------	AvgRF	CCRF	% Dev	----------		
87	t	Benzo[a]anthracene	1.069	1.123	-5.1	141	0.00	16.10
88	t	3,3'-Dichlorobenzidine	0.375	0.460	-22.7#	156	0.00	16.15
89	t	Chrysene	1.092	1.099	-0.6	141	0.00	16.17
		----------	True	Calc.	% Drift	----------		
90	t	bis(2-Ethylhexyl)phthalat	25.000	22.795	8.8	135	0.00	16.29
		----------	AvgRF	CCRF	% Dev	----------		
91	I	Perylene-d12	1.000	1.000	0.0	145	0.00	18.75
		----------	True	Calc.	% Drift	----------		
92	t	Di-n-octylphthalate	25.000	22.436	10.3	133	-0.03	17.50
		----------	AvgRF	CCRF	% Dev	----------		
93	t	Benzo[b]fluoranthene	1.151	1.221	-6.1	149	0.00	18.10
94	t	Benzo[k]fluoranthene	1.109	1.140	-2.8	139	0.00	18.14
95	t	Benzo[a]pyrene	1.002	1.088	-8.6	144	0.00	18.64
96	t	Indeno[1,2,3-cd]pyrene	1.086	1.195	-10.0	150	0.01	20.48
97	t	Dibenz(a,h)acridine	0.951	1.057	-11.1	148	0.00	20.09
98	t	Dibenz[a,h]anthracene	1.137	1.219	-7.2	148	0.00	20.52
99	t	7,12-Dimethylbenz(a)anthr	0.479	0.515	-7.5	140	-0.02	18.09
100	t	Benzo[g,h,i]perylene	1.138	1.184	-4.0	145	0.02	20.96

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of M127797.D MM5442.M Fri Oct 07 16:16:41 2016 MSM

Continuing Calibration Summary

Job Number: JC28902 **Sample:** EM5462-CC5443
Account: HWINJM Honeywell International Inc. **Lab FileID:** M128178.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\EM5462\M128178.D          Vial: 3
Acq On    :  7 Oct 2016  10:49 am                   Operator: chriss2
Sample    : cc5443-25                               Inst    : Instrument #1
Misc      : op96678,em5462                          Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
Title        : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update  : Fri Oct 07 09:45:00 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 200%

        Compound                    AvgRF   CCRF      %Dev Area%  Dev(min)R.T.
 ---------------------------------------------------------------------------
101 I   1,4-Dichlorobenzene-d4      1.000   1.000      0.0   79   0.00    4.82

            ----------------------- True    Calc.   % Drift  ------------
102 t   Benzaldehyde               25.000  25.766     -3.1   71   0.00    4.50


            ----------------------- AvgRF   CCRF     % Dev   -------------
103 I   Acenaphthene-d10a           1.000   1.000      0.0  104   0.00    8.33
104 I   1,2,4,5-Tetrachlorobenzen   0.572   0.454     20.6#  86  -0.01    7.03
105 t   Atrazine                    0.176   0.239    -35.8# 125   0.02   10.55

106 I   Chrysene-d12a               1.000   1.000      0.0  148  -0.01   16.11
107 t   Benzidine                   0.610   0.552      9.5  117   0.02   13.67
108 s   1-chlorooctadecane          0.243   0.190     21.8# 110  -0.02   13.17

109 I   Phenanthrene-d10a           1.000   1.000      0.0  120   0.00   10.96
110 s   o-terphenyl                 0.623   0.595      4.5  119   0.00   11.74

111 I   Naphthalene-d8a             1.000   1.000      0.0   85   0.00    5.97
112     Hydroquinone                0.329   0.374    -13.7   90   0.00    6.55
 ---------------------------------------------------------------------------
 ---------------------------------------------------------------------------

    (#) = Out of Range              SPCC's out = 0  CCC's out = 0
     Copy of M127797.D MM5442.M        Fri Oct 07 16:16:44 2016   MSM
```

Initial Calibration Summary

Job Number: JC28902 **Sample:** EP4769-ICC4769
Account: HWINJM Honeywell International Inc. **Lab FileID:** P107664.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Response Factor Report MSP

Method : C:\MSDCHEM\1\METHODS\MP4769.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Thu Sep 22 16:22:13 2016
Response via : Initial Calibration

Calibration Files
2 =P107665.D 5 =P107666.D 25 =P107668.D 80 =P107669.D
100 =P107662.D 50 =P107664.D 10 =P107667.D 1 =P107663.D

Compound	2	5	25	80	100	50	10	1	Avg	%RSD
1) I 1,4-Dichlorobenzene-d	----------ISTD----------									
2) 1,4-Dioxane	0.665	0.693	0.771	0.763	0.744	0.791	0.789	0.787	0.751	6.30
3) Pyridine	1.552	1.578	1.967	1.833	1.779	1.840	1.996	1.474	1.752	11.17
4) N-Nitrosodim	0.791	0.791	0.882	0.820	0.800	0.861	0.911	0.865	0.840	5.45
5) 2-Fluorophen	1.228	1.423	1.569	1.482	1.443	1.555	1.552	1.285	1.442	8.83
6) Indene	2.427	2.511	2.425	2.227	2.099	2.374	2.567	2.516	2.393	6.63
7) Cumene	3.740	3.891	3.824	3.211	3.025	3.547	4.211	3.731	3.647	10.42
8) Phenol-d5	1.976	2.046	1.993	1.777	1.683	1.898	2.073	1.802	1.906	7.35
9) Phenol	2.191	2.281	2.247	1.944	1.836	2.089	2.400	2.324	2.164	8.97
10) Aniline	2.386	2.545	2.290	1.906	1.835	2.177	2.573	2.547	2.282	12.69
11) bis(2-Chloro	1.473	1.473	1.400	1.235	1.197	1.308	1.513	1.493	1.386	8.95
12) 2-Chlorophen	1.534	1.465	1.438	1.291	1.225	1.370	1.540	1.391	1.407	7.90
13) Decane	1.493	1.426	1.315	1.140	1.110	1.268	1.420	1.530	1.338	11.71
14) 1,3-Dichloro	1.577	1.611	1.560	1.419	1.358	1.519	1.671	1.565	1.535	6.63
15) 1,4-Dichloro	1.577	1.502	1.511	1.383	1.328	1.467	1.589	1.532	1.486	6.12
16) Benzyl alcoh	0.802	0.851	0.951	0.929	0.893	0.946	0.993	0.679	0.880	11.54
17) 1,2-Dichloro	1.472	1.458	1.490	1.323	1.262	1.404	1.562	1.465	1.430	6.75
18) Acetophenone	2.084	2.021	2.023	1.927	1.837	1.984	2.157	2.035	2.008	4.82
19) 2-Methylphen	1.335	1.380	1.337	1.270	1.214	1.306	1.414	1.333	1.324	4.70
20) 2,2'-oxybis(	0.406	0.466	0.436	0.421	0.398	0.414	0.463	0.457	0.433	6.20
21) 3&4-Methylph	1.438	1.462	1.458	1.372	1.336	1.416	1.571	1.392	1.431	4.98
22) n-Nitroso-di	1.186	1.184	1.177	1.068	1.037	1.123	1.277	1.262	1.164	7.30
23) Hexachloroet	0.563	0.558	0.585	0.565	0.547	0.579	0.597	0.573	0.571	2.82
24) I Naphthalene-d8	----------ISTD----------									
25) Nitrobenzene	0.466	0.489	0.490	0.446	0.423	0.467	0.529	0.466	0.472	6.72
26) Nitrobenzene	0.495	0.480	0.464	0.413	0.393	0.440	0.520	0.461	0.458	9.14
27) Quinoline	0.741	0.803	0.805	0.780	0.746	0.795	0.858	0.715	0.780	5.77
28) Isophorone	0.828	0.914	0.871	0.769	0.733	0.824	0.954	0.825	0.840	8.61
29) 2-Nitropheno	0.189	0.200	0.213	0.195	0.187	0.210	0.229	0.188	0.201	7.41
30) 2,4-Dimethyl	0.386	0.397	0.377	0.366	0.349	0.380	0.409	0.368	0.379	5.00
31) Benzoic acid			0.275	0.313	0.305	0.297	0.241		0.286	10.12
32) bis(2-Chloro	0.467	0.482	0.478	0.428	0.405	0.449	0.514	0.446	0.459	7.47
33) 2,4-Dichloro	0.295	0.341	0.335	0.305	0.287	0.326	0.359	0.281	0.316	8.86
34) 2,6-Dichloro	0.291	0.311	0.313	0.285	0.270	0.302	0.337	0.288	0.300	6.93
35) 1,3,5-Trichl	0.376	0.404	0.384	0.331	0.314	0.352	0.422	0.397	0.372	10.02
36) 1,2,4-Trichl	0.353	0.398	0.371	0.327	0.309	0.348	0.394	0.363	0.358	8.58
37) 1,2,3-Trichl	0.357	0.367	0.358	0.322	0.306	0.343	0.387	0.350	0.349	7.29
38) Naphthalene	1.129	1.125	1.061	0.908	0.840	1.004	1.170	1.079	1.039	11.07
39) 4-Chloroanil	0.444	0.489	0.469	0.411	0.393	0.449	0.519	0.449	0.453	8.93
40) 2,3-Dichloro	0.382	0.428	0.412	0.388	0.367	0.399	0.452	0.416	0.405	6.68
41) Caprolactam	0.147	0.168	0.182	0.178	0.176	0.179	0.188	0.194	0.176	8.05
42) Hexachlorobu	0.223	0.235	0.229	0.210	0.196	0.220	0.237	0.218	0.221	6.07
43) 4-Chloro-3-m	0.322	0.379	0.406	0.368	0.350	0.378	0.412	0.348	0.370	8.12
44) 2-Methylnaph	0.671	0.657	0.647	0.559	0.521	0.607	0.699	0.647	0.626	9.55
45) 1-Methylnaph	0.802	0.840	0.813	0.696	0.653	0.757	0.886	0.808	0.782	9.78

Initial Calibration Summary

Job Number: JC28902 **Sample:** EP4769-ICC4769
Account: HWINJM Honeywell International Inc. **Lab FileID:** P107664.D
Project: HLANJPR: Study Area 6 Chrome Remedy

```
46) Dimethylnaph 0.701 0.765 0.732 0.649 0.615 0.703 0.807 0.714 0.711   8.56

47) I   Acenaphthene-d10      ----------------ISTD---------------------
48) Hexachlorocy 0.037 0.082 0.209 0.242 0.233 0.232 0.167       0.172  47.50
         ----- Quadratic regression -----                 Coefficient =  0.9990
              Response Ratio = -0.03821 + 0.25346 *A + -0.00199 *A^2

49) 2,4,6-Trichl 0.336 0.368 0.361 0.326 0.314 0.346 0.391 0.348 0.349   7.02
50) 2,4,5-Trichl 0.374 0.401 0.380 0.357 0.342 0.384 0.426 0.339 0.375   7.83
51) 2-Fluorobiph 1.422 1.406 1.260 1.035       1.158 1.424 1.412 1.302  11.97
52) 2-Chloronaph 1.172 1.120 1.039 0.898 0.848 0.962 1.161 1.136 1.042  12.07
53) Biphenyl     1.521 1.580 1.442 1.229 1.151 1.359 1.628 1.581 1.436  12.23
54) 2-Nitroanili 0.375 0.436 0.422 0.384 0.369 0.405 0.471 0.380 0.405   8.74
55) Dimethylphth 1.309 1.265 1.250 1.124 1.063 1.161 1.263 1.302 1.217   7.41
56) Acenaphthyle 1.795 1.826 1.738 1.479 1.413 1.675 1.902 1.822 1.706  10.24
57) 2,6-Dinitrot 0.272 0.297 0.304 0.298 0.289 0.306 0.305 0.247 0.290   7.13
58) 3-Nitroanili 0.277 0.330 0.336 0.332 0.326 0.342 0.346 0.274 0.320   8.90
59) Acenaphthene 1.117 1.169 1.137 0.982 0.940 1.077 1.243 1.147 1.101   9.02
60) 2,4-Dinitrop 0.003 0.026 0.125 0.174 0.172 0.151 0.088       0.106  65.54
         ----- Quadratic regression -----                 Coefficient =  0.9982
              Response Ratio = -0.02875 + 0.15053 *A + 0.00596 *A^2

61) 4-Nitropheno 0.111 0.144 0.185 0.179 0.174 0.186 0.176       0.165  16.89
         ----- Quadratic regression -----                 Coefficient =  1.0000
              Response Ratio = -0.00589 + 0.20233 *A + -0.01028 *A^2

62) Dibenzofuran 1.620 1.704 1.569 1.315 1.234 1.466 1.802 1.705 1.552  12.85
63) 2,4-Dinitrot 0.311 0.387 0.402 0.348 0.332 0.381 0.435 0.279 0.359  14.26
64) 2,3,4,6-Tetr 0.265 0.309 0.341 0.346 0.339 0.353 0.346 0.282 0.323  10.40
65) Diethylphtha 1.221 1.313 1.263 1.110 1.053 1.210 1.397 1.285 1.232   8.96
66) Fluorene     1.378 1.442 1.331 1.119 1.054 1.226 1.449 1.364 1.295  11.38
67) 4-Chlorophen 0.696 0.714 0.677 0.595 0.566 0.638 0.742 0.698 0.666   9.15
68) 4-Nitroanili 0.237 0.277 0.328 0.323 0.321 0.333 0.338 0.264 0.303  12.53

69) I   Phenanthrene-d10      ----------------ISTD---------------------
70) 4,6-Dinitro- 0.025 0.064 0.135 0.150 0.146 0.143 0.112       0.111  43.49
         ----- Quadratic regression -----                 Coefficient =  0.9995
              Response Ratio = -0.00995 + 0.15536 *A + -0.00185 *A^2

71) n-Nitrosodip 0.561 0.578 0.559 0.494 0.466 0.537 0.613 0.519 0.541   8.75
72) 1,2-Diphenyl 0.784 0.853 0.794 0.675 0.627 0.744 0.860 0.774 0.764  10.59
73) 2,4,6-Tribro 0.081 0.090 0.101 0.100 0.096 0.102 0.103       0.096   8.34
74) 4-Bromopheny 0.225 0.233 0.239 0.223 0.211 0.237 0.258 0.216 0.230   6.55
75) Hexachlorobe 0.235 0.237 0.232 0.208 0.203 0.222 0.250 0.272 0.232   9.59
76) Pentachlorop 0.043 0.077 0.116 0.120 0.119 0.119 0.096       0.099  29.63
         ----- Quadratic regression -----                 Coefficient =  0.9999
              Response Ratio = -0.01153 + 0.12621 *A + -0.00091 *A^2

77) Phenanthrene 1.112 1.116 1.078 0.942 0.883 1.027 1.172 1.129 1.057   9.44
78) Anthracene   1.132 1.168 1.125 0.967 0.904 1.073 1.224 1.140 1.092   9.78
79) Carbazole    1.065 1.098 1.092 0.957 0.910 1.045 1.199 1.065 1.054   8.40
80) Di-n-butylph 1.045 1.214 1.251 1.092 1.017 1.192 1.298 1.011 1.140   9.88
81) Fluoranthene 1.247 1.322 1.321 1.130 1.066 1.236 1.374 1.221 1.240   8.31
82) Octadecane   0.444 0.497 0.468 0.404 0.380 0.441 0.491 0.442 0.446   8.99

83) I   Chrysene-d12          ----------------ISTD---------------------
84) Pyrene       1.284 1.346 1.348 1.217 1.179 1.275 1.444 1.298 1.299   6.33
85) Terphenyl-d1 0.829 0.868 0.895 0.859 0.823 0.870 0.915 0.847 0.863   3.61
86) Butylbenzylp 0.418 0.500 0.553 0.544 0.534 0.554 0.534 0.416 0.507  11.38
87) Benzo[a]anth 1.116 1.179 1.209 1.169 1.141 1.202 1.246 1.223 1.186   3.63
```

Initial Calibration Summary

Job Number: JC28902 **Sample:** EP4769-ICC4769
Account: HWINJM Honeywell International Inc. **Lab FileID:** P107664.D
Project: HLANJPR: Study Area 6 Chrome Remedy

```
 88) 3,3'-Dichlor 0.328 0.381 0.414 0.426 0.422 0.429 0.414 0.349 0.395   9.71
 89) Chrysene     1.118 1.148 1.142 1.073 1.069 1.122 1.198 1.103 1.122   3.76
 90) bis(2-Ethylh 0.511 0.603 0.731 0.716 0.699 0.735 0.729       0.675  12.69

 91) I   Perylene-d12          ----------------ISTD--------------------
 92) Di-n-octylph 0.910 1.111 1.336 1.253 1.156 1.340 1.314       1.203  13.05
 93) Benzo[b]fluo 1.169 1.307 1.304 1.228 1.181 1.259 1.415 1.313 1.272   6.33
 94) Benzo[k]fluo 1.236 1.274 1.211 1.092 0.993 1.187 1.310 1.221 1.191   8.59
 95) Benzo[a]pyre 1.064 1.128 1.176 1.108 1.038 1.156 1.215 1.173 1.132   5.30
 96) Indeno[1,2,3 0.899 1.013 1.079 1.051 0.988 1.063 1.124 0.930 1.018   7.49
 97) Dibenz(a,h)a 0.812 0.891 0.982 0.936 0.865 0.966 1.004 0.860 0.914   7.43
 98) Dibenz[a,h]a 0.965 1.008 1.013 1.014 0.955 1.048 1.113 0.935 1.006   5.65
 99) 7,12-Dimethy 0.476 0.532 0.578 0.558 0.541 0.586 0.596 0.478 0.543   8.50
100) Benzo[g,h,i] 1.100 1.091 1.154 1.093 1.030 1.129 1.223 1.048 1.108   5.49

 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          MP4769.M          Thu Sep 22 16:22:41 2016
```

7.7.15

7

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EP4769-ICV4769
Lab FileID: P107670.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\EP4769\P107670.D Vial: 10
Acq On : 21 Sep 2016 7:14 pm Operator: robertl1
Sample : ICV4769-50 Inst : MSP
Misc : OP97024,EP4769 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP4769.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Thu Sep 22 11:48:02 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 48% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	124	0.00	4.50
4	t	N-Nitrosodimethylamine	0.840	0.731	13.0	105	0.02	2.33
11	t	bis(2-Chloroethyl)ether	1.386	1.484	-7.1	141	0.00	4.30
14	t	1,3-Dichlorobenzene	1.535	1.550	-1.0	126	0.00	4.46
15	t	1,4-Dichlorobenzene	1.486	1.398	5.9	118	0.00	4.51
17	t	1,2-Dichlorobenzene	1.430	1.396	2.4	123	0.00	4.62
20	t	2,2'-oxybis(1-Chloropropa	0.433	0.414	4.4	124	0.00	4.70
22		n-Nitroso-di-n-propylamin	1.164	1.086	6.7	120	0.00	4.79
23	t	Hexachloroethane	0.571	0.550	3.7	117	0.00	4.87
24	I	Naphthalene-d8	1.000	1.000	0.0	114	0.00	5.42
26	t	Nitrobenzene	0.458	0.437	4.6	113	0.00	4.91
28	t	Isophorone	0.840	0.759	9.6	105	0.00	5.08
32	t	bis(2-Chloroethoxy)methan	0.459	0.470	-2.4	119	0.00	5.24
36	t	1,2,4-Trichlorobenzene	0.358	0.357	0.3	117	0.00	5.38
38	t	Naphthalene	1.039	0.958	7.8	109	0.00	5.43
42	t	Hexachlorobutadiene	0.221	0.221	0.0	115	0.00	5.52
47	I	Acenaphthene-d10	1.000	1.000	0.0	106	0.00	6.77
		----------	True	Calc.	% Drift	----------		
48	t	Hexachlorocyclopentadiene	50.000	47.891	4.2	96	0.00	6.04
		----------	AvgRF	CCRF	% Dev	----------		
52	t	2-Chloronaphthalene	1.042	1.028	1.3	113	0.00	6.29
55	t	Dimethylphthalate	1.217	1.129	7.2	103	0.00	6.52
56	t	Acenaphthylene	1.706	1.489	12.7	94	0.00	6.64
57	t	2,6-Dinitrotoluene	0.290	0.275	5.2	96	0.00	6.58
59	t	Acenaphthene	1.101	1.006	8.6	99	0.00	6.80
		----------	True	Calc.	% Drift	----------		
		----------	AvgRF	CCRF	% Dev	----------		
63	t	2,4-Dinitrotoluene	0.359	0.354	1.4	99	0.00	6.96
65	t	Diethylphthalate	1.232	1.104	10.4	97	0.00	7.20
66	t	Fluorene	1.295	1.116	13.8	97	0.00	7.33
67	t	4-Chlorophenyl-phenylethe	0.666	0.593	11.0	99	0.00	7.32
69	I	Phenanthrene-d10	1.000	1.000	0.0	100	0.00	8.55
71	t	n-Nitrosodiphenylamine	0.541	0.485	10.4	90	0.00	7.47
72	t	1,2-Diphenylhydrazine	0.764	0.718	6.0	97	0.00	7.51
74	t	4-Bromophenyl-phenylether	0.230	0.222	3.5	94	0.00	7.92

Initial Calibration Verification

Job Number: JC28902 **Sample:** EP4769-ICV4769
Account: HWINJM Honeywell International Inc. **Lab FileID:** P107670.D
Project: HLANJPR: Study Area 6 Chrome Remedy

75	t	Hexachlorobenzene	0.232	0.211	9.1	95	0.00	8.02
77	t	Phenanthrene	1.057	0.958	9.4	93	0.00	8.59
78	t	Anthracene	1.092	0.955	12.5	89	0.00	8.66
80	t	Di-n-butylphthalate	1.140	1.077	5.5	90	0.00	9.60
81	t	Fluoranthene	1.240	1.090	12.1	88	0.00	10.66
83	I	Chrysene-d12	1.000	1.000	0.0	85	0.00	13.71
84	t	Pyrene	1.299	1.307	-0.6	87	0.00	11.10
86	t	Butylbenzylphthalate	0.507	0.552	-8.9	85	0.00	12.67
87	t	Benzo[a]anthracene	1.186	1.130	4.7	80	0.00	13.69
89	t	Chrysene	1.122	1.027	8.5	78	0.00	13.77
90	t	bis(2-Ethylhexyl)phthalat	0.675	0.694	-2.8	80	0.00	14.07
91	I	Perylene-d12	1.000	1.000	0.0	81	0.00	16.74
92	t	Di-n-octylphthalate	1.203	1.323	-10.0	80	0.00	15.50
93	t	Benzo[b]fluoranthene	1.272	1.174	7.7	76	0.00	15.99
94	t	Benzo[k]fluoranthene	1.191	1.149	3.5	79	0.00	16.05
95	t	Benzo[a]pyrene	1.132	1.108	2.1	78	0.00	16.62
96	t	Indeno[1,2,3-cd]pyrene	1.018	0.929	8.7	71	0.00	18.69
98	t	Dibenz[a,h]anthracene	1.006	0.933	7.3	73	0.00	18.74
100	t	Benzo[g,h,i]perylene	1.108	1.034	6.7	75	0.00	19.11

(#) = Out of Range SPCC's out = 0 CCC's out = 0
P107679a.D MP4769.M Thu Sep 22 11:56:07 2016

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EP4769-ICV4769
Lab FileID: P107672.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\EP4769\P107672.D Vial: 12
Acq On : 21 Sep 2016 8:11 pm Operator: robertl1
Sample : ICV4769-50 Inst : MSP
Misc : OP97024,EP4769 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP4769.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Thu Sep 22 12:40:53 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 48% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	127	0.00	4.50
9	t	Phenol	2.164	2.012	7.0	123	0.00	4.28
12	t	2-Chlorophenol	1.407	1.443	-2.6	134	0.00	4.36
19	t	2-Methylphenol	1.324	1.350	-2.0	132	0.00	4.70
21	t	3&4-Methylphenol	1.431	1.410	1.5	127	0.00	4.82
24	I	Naphthalene-d8	1.000	1.000	0.0	116	0.00	5.42
29	t	2-Nitrophenol	0.201	0.223	-10.9	123	0.00	5.15
30	t	2,4-Dimethylphenol	0.379	0.416	-9.8	127	0.00	5.19
31	t	Benzoic acid	0.286	0.270	5.6	106	0.02	5.30
33	t	2,4-Dichlorophenol	0.316	0.322	-1.9	115	0.00	5.33
34		2,6-Dichlorophenol	0.300	0.317	-5.7	122	0.00	5.48
43	t	4-Chloro-3-methylphenol	0.370	0.359	3.0	111	0.00	5.83
47	I	Acenaphthene-d10	1.000	1.000	0.0	113	0.00	6.77
49	t	2,4,6-Trichlorophenol	0.349	0.382	-9.5	125	0.00	6.14
50	t	2,4,5-Trichlorophenol	0.375	0.370	1.3	108	-0.01	6.17
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	50.000	44.533	10.9	88	-0.06	6.84
61	t	4-Nitrophenol	50.000	47.370	5.3	107	0.00	6.94
		----------	AvgRF	CCRF	% Dev	----------		
64		2,3,4,6-Tetrachlorophenol	0.323	0.336	-4.0	107	0.00	7.10
69	I	Phenanthrene-d10	1.000	1.000	0.0	102	0.00	8.55
		----------	True	Calc.	% Drift	----------		
70	t	4,6-Dinitro-2-methylpheno	50.000	47.344	5.3	98	0.00	7.40
		----------	True	Calc.	% Drift	----------		
76	t	Pentachlorophenol	50.000	51.745	-3.5	104	0.00	8.30

(#) = Out of Range SPCC's out = 0 CCC's out = 0
P107679a.D MP4769.M Thu Sep 22 12:43:47 2016

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EP4769-ICV4769
Lab FileID: P107673.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\EP4769\P107673.D Vial: 13
Acq On : 21 Sep 2016 8:39 pm Operator: robertl1
Sample : ICV4769-50 Inst : MSP
Misc : OP97024,EP4769 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP4769.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Thu Sep 22 11:48:02 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 48% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	100	0.00	4.50
3	t	Pyridine	1.752	1.885	-7.6	103	0.11	2.45
10	t	Aniline	2.282	2.621	-14.9	121	0.01	4.27
16	t	Benzyl alcohol	0.880	1.017	-15.6	108	0.00	4.61
24	I	Naphthalene-d8	1.000	1.000	0.0	108	0.00	5.42
39	t	4-Chloroaniline	0.453	0.427	5.7	103	0.00	5.47
44	t	2-Methylnaphthalene	0.626	0.540	13.7	96	0.00	5.92
47	I	Acenaphthene-d10	1.000	1.000	0.0	97	0.00	6.77
54	t	2-Nitroaniline	0.405	0.406	-0.2	97	0.00	6.38
58	t	3-Nitroaniline	0.320	0.323	-0.9	92	0.00	6.74
62	t	Dibenzofuran	1.552	1.539	0.8	102	0.00	6.96
68	t	4-Nitroaniline	0.303	0.320	-5.6	93	0.00	7.37
69	I	Phenanthrene-d10	1.000	1.000	0.0	103	0.00	8.55
79	t	Carbazole	1.054	0.930	11.8	92	0.00	8.94

(#) = Out of Range SPCC's out = 0 CCC's out = 0
P107679a.D MP4769.M Thu Sep 22 11:56:09 2016

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EP4769-ICV4769
Lab FileID: P107674.D

Evaluate Continuing Calibration Report

```
Data File : C:\MSDCHEM\1\DATA\EP4769\P107674.D          Vial: 14
Acq On    : 21 Sep 2016   9:07 pm                   Operator: robertl1
Sample    : ICV4769-50                              Inst    : MSP
Misc      : OP97024,EP4769                          Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\MP4769.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Thu Sep 22 11:48:02 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  48%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
83 I	Chrysene-d12	1.000	1.000	0.0	97	0.00	13.71
88 t	3,3'-Dichlorobenzidine	0.395	0.397	-0.5	90	0.00	13.73

(#) = Out of Range SPCC's out = 0 CCC's out = 0
P107679a.D MP4769.M Thu Sep 22 11:56:10 2016

7.7.19

7

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EP4769-ICV4769
Lab FileID: P107675.D

Evaluate Continuing Calibration Report

```
Data File : C:\MSDCHEM\1\DATA\EP4769\P107675.D          Vial: 15
Acq On    : 21 Sep 2016   9:34 pm                   Operator: robertl1
Sample    : ICV4769-50                              Inst    : MSP
Misc      : OP97024,EP4769                          Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\MP4769.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Thu Sep 22 11:48:02 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  48%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	129	0.00	4.50
5	S	2-Fluorophenol	1.442	1.452	-0.7	121	0.00	3.55
8	S	Phenol-d5	1.906	1.851	2.9	126	0.00	4.27
24	I	Naphthalene-d8	1.000	1.000	0.0	122	0.00	5.42
25	S	Nitrobenzene-d5	0.472	0.445	5.7	116	0.00	4.90
47	I	Acenaphthene-d10	1.000	1.000	0.0	109	0.00	6.77
51	S	2-Fluorobiphenyl	1.302	1.186	8.9	112	0.00	6.19
69	I	Phenanthrene-d10	1.000	1.000	0.0	102	0.00	8.55
73	S	2,4,6-Tribromophenol	0.096	0.101	-5.2	102	0.00	7.61
83	I	Chrysene-d12	1.000	1.000	0.0	96	0.00	13.71
85	S	Terphenyl-d14	0.863	0.831	3.7	91	0.00	11.52

(#) = Out of Range SPCC's out = 0 CCC's out = 0
P107679a.D MP4769.M Thu Sep 22 11:56:11 2016

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EP4770-ICC4770
Lab FileID: P107679.D

```
                          Response Factor Report  MSP

  Method       : C:\MSDCHEM\1\METHODS\MP4770.M (RTE Integrator)
  Title        : Semi Volatile Extractables by GC/MS
  Last Update  : Thu Sep 22 15:52:56 2016
  Response via : Initial Calibration

  Calibration Files
  2   =P107683.D  5   =P107682.D  25  =P107680.D  80  =P107678.D
  100 =P107677.D  50  =P107679.D  10  =P107681.D  1   =P107684.D

   Compound         2     5     25    80    100   50    10    1     Avg %RSD
  ---------------------------------------------------------------------------

158) I   1,4-Dichlorobenzene-d ----------------ISTD---------------------
159) Benzaldehyde 1.387 1.407 1.195 0.831 0.708 0.931 1.311 1.503 1.159  25.65
          ----- Quadratic regression -----                Coefficient =  0.9980
               Response Ratio = 0.02275 + 1.21397 *A + -0.20464 *A^2


160) I   Phenanthrene-d10b     ----------------ISTD---------------------
161) Atrazine     0.232 0.270 0.248 0.236 0.234 0.244 0.254 0.206 0.241   7.73

162) I   Chrysene-d12b         ----------------ISTD---------------------
163) Benzidine          0.604 0.658 0.395       0.509 0.688       0.571  20.95

164) I   Naphthalene-d8b       ----------------ISTD---------------------
165) Hydroquinone 0.250 0.341 0.385 0.395 0.377 0.397 0.352       0.357  14.46

166) I   Acenaphthene-d10b     ----------------ISTD---------------------
167) 1,2,4,5-Tetr 0.742 0.750 0.637 0.574 0.563 0.593 0.671 0.750 0.660  12.09

 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           MP4769.M          Thu Sep 22 15:53:27 2016
```

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EP4770-ICV4770
Lab FileID: P107685.D

Evaluate Continuing Calibration Report

```
Data File : C:\MSDCHEM\1\DATA\EP4770\P107685.D          Vial: 10
Acq On    : 22 Sep 2016  12:25 pm                   Operator: robertl1
Sample    : ICV4770-50                              Inst    : MSP
Misc      : OP97024,EP4770                          Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\MP4769.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Thu Sep 22 16:22:13 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  48%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
166 I	Acenaphthene-d10b	1.000	1.000	0.0	83	0.00	6.77
167	1,2,4,5-Tetrachlorobenzen	0.660	0.634	3.9	88	0.00	6.05

(#) = Out of Range SPCC's out = 0 CCC's out = 0
P107679a.D MP4769.M Thu Sep 22 16:30:45 2016

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EP4770-ICV4770
Lab FileID: P107686.D

Evaluate Continuing Calibration Report

```
Data File : C:\MSDCHEM\1\DATA\EP4770\P107686.D          Vial: 11
Acq On    : 22 Sep 2016  12:53 pm                   Operator: robertl1
Sample    : ICV4770-51                              Inst    : MSP
Misc      : OP97024,EP4770                          Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\MP4769.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Thu Sep 22 12:51:15 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  48%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%

       Compound                    AvgRF   CCRF      %Dev Area%  Dev(min)R.T.
 ---------------------------------------------------------------------------


158 I   1,4-Dichlorobenzene-d4b     1.000   1.000      0.0   83   0.00    4.50

            ----------------------- True    Calc.   % Drift  ------------
159     Benzaldehyde               50.000  54.386     -8.8   92   0.00    4.18


            ----------------------- AvgRF   CCRF     % Dev   -------------
160 I   Phenanthrene-d10b           1.000   1.000      0.0   80   0.00    8.55
161     Atrazine                    0.241   0.233      3.3   76   0.00    8.18

 ---------------------------------------------------------------------------
 ---------------------------------------------------------------------------

    (#) = Out of Range              SPCC's out = 0  CCC's out = 0
     P107679a.D MP4769.M         Thu Sep 22 15:51:09 2016
```

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EP4770-ICV4770
Lab FileID: P107687.D

Evaluate Continuing Calibration Report

```
Data File : C:\MSDCHEM\1\DATA\EP4770\P107687.D          Vial: 12
Acq On    : 22 Sep 2016   1:21 pm                   Operator: robertl1
Sample    : ICV4770-50                              Inst    : MSP
Misc      : OP97024,EP4770                          Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\MP4769.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Thu Sep 22 15:52:56 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  48%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
162 I	Chrysene-d12b	1.000	1.000	0.0	86	0.00	13.70
163	Benzidine	0.571	0.772	-35.2#	131	0.00	11.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
P107679a.D MP4769.M Thu Sep 22 15:58:34 2016

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EP4770-ICV4770
Lab FileID: P107688.D

Evaluate Continuing Calibration Report

```
Data File : C:\MSDCHEM\1\DATA\EP4770\P107688.D          Vial: 13
Acq On    : 22 Sep 2016   1:50 pm                   Operator: robertl1
Sample    : ICV4770-50                              Inst    : MSP
Misc      : OP97024,EP4770                          Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\MP4769.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Thu Sep 22 12:51:15 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  48%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
164 I	Naphthalene-d8b	1.000	1.000	0.0	87	0.00	5.42
165	Hydroquinone	0.357	0.414	-16.0	91	-0.01	5.74

(#) = Out of Range SPCC's out = 0 CCC's out = 0
P107679a.D MP4769.M Thu Sep 22 15:51:10 2016

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EP4771-ICV4769
Lab FileID: P107690.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\EP4771\P107690.D Vial: 2
Acq On : 22 Sep 2016 3:22 pm Operator: ashleyd
Sample : icv4769-50 Inst : MSP
Misc : OP97024,EP4771 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP4769.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Thu Sep 22 15:52:56 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 48% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	134	0.00	4.49
2	t	1,4-Dioxane	0.751	0.591	21.3	100	0.01	2.01
6	t	Indene	2.393	2.242	6.3	126	0.00	4.68
7	t	Cumene	3.647	2.965	18.7	112	0.00	3.90
13	t	Decane	1.338	1.089	18.6	115	-0.01	4.37
18	t	Acetophenone	2.008	1.774	11.7	119	0.00	4.78
24	I	Naphthalene-d8	1.000	1.000	0.0	129	-0.01	5.40
26	t	Nitrobenzene	0.458	0.443	3.3	130	-0.14	4.78
27	t	Quinoline	0.780	0.662	15.1	107	-0.01	5.66
40	t	2,3-Dichloroaniline	0.405	0.325	19.8	105	0.00	6.13
41	t	Caprolactam	0.176	0.127	27.8	91	-0.02	5.70
45	t	1-Methylnaphthalene	0.782	0.622	20.5	106	0.00	5.99
46	t	Dimethylnaphthalene	0.711	0.599	15.8	110	0.00	6.39
47	I	Acenaphthene-d10	1.000	1.000	0.0	121	-0.01	6.76
53	t	Biphenyl	1.436	1.232	14.2	110	0.00	6.26
69	I	Phenanthrene-d10	1.000	1.000	0.0	109	-0.02	8.54
82	t	Octadecane	0.446	0.417	6.5	103	-0.01	8.44
91	I	Perylene-d12	1.000	1.000	0.0	96	-0.02	16.72
99	t	7,12-Dimethylbenz(a)anthr	0.543	0.455	16.2	75	-0.02	15.98

(#) = Out of Range SPCC's out = 0 CCC's out = 0
P107679a.D MP4769.M Thu Sep 22 16:05:15 2016

Continuing Calibration Summary

Job Number: JC28902 **Sample:** EP4787-CC4769
Account: HWINJM Honeywell International Inc. **Lab FileID:** P107974.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\EP4787\P107974.D Vial: 2
Acq On : 6 Oct 2016 10:09 am Operator: robertl1
Sample : CC4769-25 Inst : MSP
Misc : OP97024,EP4787 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP4769.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Thu Oct 06 14:50:26 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 48% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	66	-0.02	4.46
2	t	1,4-Dioxane	0.751	0.689	8.3	59	0.00	1.98
3	t	Pyridine	1.752	1.643	6.2	55	0.01	2.33
4	t	N-Nitrosodimethylamine	0.840	0.831	1.1	62	0.01	2.31
5	S	2-Fluorophenol	1.442	1.494	-3.6	63	0.05	3.58
6	t	Indene	2.393	2.417	-1.0	66	-0.02	4.65
7	t	Cumene	3.647	3.866	-6.0	67	-0.02	3.86
8	S	Phenol-d5	1.906	1.845	3.2	61	0.04	4.29
9	t	Phenol	2.164	1.886	12.8	55	0.05	4.30
10	t	Aniline	2.282	2.304	-1.0	66	0.00	4.23
11	t	bis(2-Chloroethyl)ether	1.386	1.502	-8.4	71	-0.01	4.27
12	t	2-Chlorophenol	1.407	1.407	0.0	64	0.01	4.35
13	t	Decane	1.338	1.353	-1.1	68	-0.02	4.34
14	t	1,3-Dichlorobenzene	1.535	1.553	-1.2	66	-0.02	4.42
15	t	1,4-Dichlorobenzene	1.486	1.524	-2.6	67	-0.02	4.47
16	t	Benzyl alcohol	0.880	0.896	-1.8	62	0.00	4.59
17	t	1,2-Dichlorobenzene	1.430	1.512	-5.7	67	-0.02	4.58
18	t	Acetophenone	2.008	2.060	-2.6	67	-0.03	4.76
19	t	2-Methylphenol	1.324	1.402	-5.9	69	-0.07	4.71
20	t	2,2'-oxybis(1-Chloropropa	0.433	0.436	-0.7	66	-0.03	4.66
21	t	3&4-Methylphenol	1.431	1.435	-0.3	65	-0.07	4.82
22		n-Nitroso-di-n-propylamin	1.164	1.148	1.4	64	-0.01	4.76
23	t	Hexachloroethane	0.571	0.587	-2.8	66	-0.01	4.82
24	I	Naphthalene-d8	1.000	1.000	0.0	65	-0.02	5.37
25	S	Nitrobenzene-d5	0.472	0.487	-3.2	64	-0.01	4.87
26	t	Nitrobenzene	0.458	0.473	-3.3	66	-0.01	4.88
27	t	Quinoline	0.780	0.791	-1.4	64	-0.02	5.63
28	t	Isophorone	0.840	0.858	-2.1	64	-0.02	5.05
29	t	2-Nitrophenol	0.201	0.215	-7.0	65	-0.01	5.11
30	t	2,4-Dimethylphenol	0.379	0.425	-12.1	73	0.00	5.17
31	t	Benzoic acid	0.286	0.242	15.4	57	0.01	5.29
32	t	bis(2-Chloroethoxy)methan	0.459	0.459	0.0	62	-0.02	5.20
33	t	2,4-Dichlorophenol	0.316	0.331	-4.7	64	0.01	5.32
34		2,6-Dichlorophenol	0.300	0.317	-5.7	66	0.00	5.45
35		1,3,5-Trichlorobenzene	0.372	0.397	-6.7	67	-0.02	5.11
36	t	1,2,4-Trichlorobenzene	0.358	0.359	-0.3	63	-0.02	5.34
37		1,2,3-Trichlorobenzene	0.349	0.350	-0.3	63	-0.02	5.50
38	t	Naphthalene	1.039	1.069	-2.9	65	-0.02	5.39
39	t	4-Chloroaniline	0.453	0.471	-4.0	65	-0.01	5.44
40	t	2,3-Dichloroaniline	0.405	0.405	0.0	64	-0.01	6.09
41	t	Caprolactam	0.176	0.171	2.8	61	0.00	5.70

Continuing Calibration Summary

Job Number: JC28902 **Sample:** EP4787-CC4769
Account: HWINJM Honeywell International Inc. **Lab FileID:** P107974.D
Project: HLANJPR: Study Area 6 Chrome Remedy

42	t	Hexachlorobutadiene	0.221	0.221	0.0	63	-0.02	5.47
43	t	4-Chloro-3-methylphenol	0.370	0.389	-5.1	62	0.02	5.83
44	t	2-Methylnaphthalene	0.626	0.637	-1.8	64	-0.02	5.88
45	t	1-Methylnaphthalene	0.782	0.782	0.0	62	-0.02	5.95
46	t	Dimethylnaphthalene	0.711	0.729	-2.5	65	-0.02	6.35
47	I	Acenaphthene-d10	1.000	1.000	0.0	62	-0.03	6.71
		----------	True	Calc.	% Drift	----------		
48	t	Hexachlorocyclopentadiene	50.000	37.390	25.2#	47	-0.03	5.99
		----------	AvgRF	CCRF	% Dev	----------		
49	t	2,4,6-Trichlorophenol	0.349	0.374	-7.2	64	-0.04	6.11
50	t	2,4,5-Trichlorophenol	0.375	0.375	0.0	61	-0.01	6.17
51	S	2-Fluorobiphenyl	1.302	1.329	-2.1	65	-0.02	6.14
52	t	2-Chloronaphthalene	1.042	1.081	-3.7	64	-0.02	6.24
53	t	Biphenyl	1.436	1.486	-3.5	64	-0.02	6.22
54	t	2-Nitroaniline	0.405	0.426	-5.2	62	0.00	6.35
55	t	Dimethylphthalate	1.217	1.278	-5.0	63	-0.02	6.47
56	t	Acenaphthylene	1.706	1.772	-3.9	63	-0.02	6.59
57	t	2,6-Dinitrotoluene	0.290	0.309	-6.6	63	-0.02	6.53
58	t	3-Nitroaniline	0.320	0.331	-3.4	61	0.00	6.70
59	t	Acenaphthene	1.101	1.151	-4.5	63	-0.03	6.74
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	50.000	44.315	11.4	57	0.00	6.80
61	t	4-Nitrophenol	25.000	22.779	8.9	57	0.08	6.99
		----------	AvgRF	CCRF	% Dev	----------		
62	t	Dibenzofuran	1.552	1.669	-7.5	66	-0.03	6.91
63	t	2,4-Dinitrotoluene	0.359	0.413	-15.0	64	-0.02	6.92
64		2,3,4,6-Tetrachlorophenol	0.323	0.305	5.6	55	0.00	7.06
65	t	Diethylphthalate	1.232	1.318	-7.0	64	-0.03	7.14
66	t	Fluorene	1.295	1.371	-5.9	64	-0.03	7.26
67	t	4-Chlorophenyl-phenylethe	0.666	0.692	-3.9	63	-0.03	7.26
68	t	4-Nitroaniline	0.303	0.335	-10.6	63	0.00	7.33
69	I	Phenanthrene-d10	1.000	1.000	0.0	63	-0.04	8.47
		----------	True	Calc.	% Drift	----------		
70	t	4,6-Dinitro-2-methylpheno	25.000	23.151	7.4	59	-0.02	7.35
		----------	AvgRF	CCRF	% Dev	----------		
71	t	n-Nitrosodiphenylamine	0.541	0.536	0.9	60	-0.03	7.40
72	t	1,2-Diphenylhydrazine	0.764	0.779	-2.0	62	-0.04	7.44
73	S	2,4,6-Tribromophenol	0.096	0.096	0.0	60	-0.03	7.55
74	t	4-Bromophenyl-phenylether	0.230	0.235	-2.2	62	-0.04	7.85
75	t	Hexachlorobenzene	0.232	0.221	4.7	60	-0.04	7.94
		----------	True	Calc.	% Drift	----------		
76	t	Pentachlorophenol	50.000	39.427	21.1#	48	-0.02	8.25
		----------	AvgRF	CCRF	% Dev	----------		
77	t	Phenanthrene	1.057	1.065	-0.8	62	-0.04	8.50
78	t	Anthracene	1.092	1.101	-0.8	61	-0.04	8.58
79	t	Carbazole	1.054	1.087	-3.1	62	-0.02	8.88
80	t	Di-n-butylphthalate	1.140	1.282	-12.5	64	-0.06	9.50
81	t	Fluoranthene	1.240	1.292	-4.2	61	-0.05	10.57
82	t	Octadecane	0.446	0.458	-2.7	61	-0.06	8.35

Continuing Calibration Summary

Job Number: JC28902 **Sample:** EP4787-CC4769
Account: HWINJM Honeywell International Inc. **Lab FileID:** P107974.D
Project: HLANJPR: Study Area 6 Chrome Remedy

83	I	Chrysene-d12	1.000	1.000	0.0	62	-0.04	13.61
84	t	Pyrene	1.299	1.313	-1.1	61	-0.04	11.00
85	S	Terphenyl-d14	0.863	0.885	-2.5	62	-0.05	11.40
86	t	Butylbenzylphthalate	0.507	0.566	-11.6	64	-0.05	12.55
87	t	Benzo[a]anthracene	1.186	1.199	-1.1	62	-0.04	13.58
88	t	3,3'-Dichlorobenzidine	0.395	0.395	0.0	59	-0.03	13.64
89	t	Chrysene	1.122	1.092	2.7	60	-0.04	13.66
90	t	bis(2-Ethylhexyl)phthalat	0.675	0.755	-11.9	64	-0.06	13.94
91	I	Perylene-d12	1.000	1.000	0.0	63	-0.05	16.63
92	t	Di-n-octylphthalate	1.203	1.379	-14.6	65	-0.02	15.36
93	t	Benzo[b]fluoranthene	1.272	1.220	4.1	59	-0.05	15.89
94	t	Benzo[k]fluoranthene	1.191	1.145	3.9	59	-0.07	15.94
95	t	Benzo[a]pyrene	1.132	1.118	1.2	60	-0.05	16.52
96	t	Indeno[1,2,3-cd]pyrene	1.018	1.063	-4.4	62	-0.05	18.58
97	t	Dibenz(a,h)acridine	0.914	0.938	-2.6	60	-0.06	18.21
98	t	Dibenz[a,h]anthracene	1.006	1.025	-1.9	63	-0.05	18.63
99	t	7,12-Dimethylbenz(a)anthr	0.543	0.583	-7.4	63	-0.08	15.88
100	t	Benzo[g,h,i]perylene	1.108	1.071	3.3	58	-0.05	19.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0
P107680a.D MP4769.M Thu Oct 06 15:50:36 2016

7.7.27

7

Continuing Calibration Summary

Job Number: JC28902 **Sample:** EP4787-CC4770
Account: HWINJM Honeywell International Inc. **Lab FileID:** P107975.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

```
Data File : C:\MSDCHEM\1\DATA\EP4787\P107975.D          Vial: 3
Acq On    :  6 Oct 2016  10:36 am                   Operator: robertl1
Sample    : CC4770-25                               Inst    : MSP
Misc      : OP97024,EP4787                          Multiplr: 1.00
MS Integration Params: rteint.p

Method       : C:\MSDCHEM\1\METHODS\MP4769.M (RTE Integrator)
Title        : Semi Volatile Extractables by GC/MS
Last Update  : Thu Oct 06 14:50:26 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  48%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 200%

        Compound                   AvgRF   CCRF      %Dev Area%  Dev(min)R.T.
 ---------------------------------------------------------------------------
101 I   1,4-Dichlorobenzene-d4b     1.000   1.000      0.0   71  -0.02    4.46

            ----------------------- True    Calc.   % Drift  ------------
102     Benzaldehyde               25.000  27.059     -8.2   71   0.03    4.14


            ----------------------- AvgRF   CCRF     % Dev   -------------
103 I   Phenanthrene-d10b           1.000   1.000      0.0   69  -0.04    8.47
104     Atrazine                    0.241   0.260     -7.9   72   0.04    8.10

105 I   Chrysene-d12b               1.000   1.000      0.0   69  -0.05   13.60
106     Benzidine                   0.571   0.540      5.4   57   0.06   10.92

107 I   Naphthalene-d8b             1.000   1.000      0.0   70  -0.02    5.37
108     Hydroquinone                0.357   0.423    -18.5   77   0.04    5.74

109 I   Acenaphthene-d10b           1.000   1.000      0.0   70  -0.03    6.71
110     1,2,4,5-Tetrachlorobenzen   0.660   0.659      0.2   73   0.03    6.00
 ---------------------------------------------------------------------------
 ---------------------------------------------------------------------------

    (#) = Out of Range               SPCC's out = 0  CCC's out = 0
     P107680a.D MP4769.M         Thu Oct 06 15:50:37 2016
```

Initial Calibration Summary

Job Number: JC28902 **Sample:** EZ5695-ICC5695
Account: HWINJM Honeywell International Inc. **Lab FileID:** Z114095.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Response Factor Report MSZ

Method : C:\MSDCHEM\1\METHODS\MZ5695.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update : Thu Sep 15 07:33:53 2016
Response via : Initial Calibration

Calibration Files
100 =z114094.D 80 =z114096.D 50 =z114095.D 25 =z114097.D
10 =z114098.D 5 =z114099.D 2 =z114092a.D 1 =z114093.D

Compound	100	80	50	25	10	5	2	1	Avg	%RSD
1) I 1,4-Dichlorobenzene-d					ISTD					
2) 1,4-Dioxane	0.648	0.640	0.689	0.639	0.650	0.692	0.771	0.676	0.676	6.53
3) Pyridine	1.604	1.658	1.794	1.631	1.583	1.952	1.817	1.770	1.726	7.43
4) N-Nitrosodim	0.964	0.955	1.035	0.980	0.990	1.094	0.994	0.968	0.997	4.62
5) 2-Fluorophen	1.371	1.385	1.501	1.444	1.424	1.566	1.441	1.422	1.444	4.36
6) Indene	1.760	1.867	2.155	2.213	2.391	2.777	2.523	2.565	2.281	15.37
7) Cumene	2.896	3.083	3.490	3.412	3.540	3.943	3.598	3.551	3.439	9.37
8) Phenol-d5	1.677	1.715	1.914	1.850	1.875	2.113	1.906	1.936	1.873	7.23
9) Phenol	1.594	1.716	1.984	2.004	2.092	2.382	2.157	2.203	2.017	12.76
10) Aniline		1.557	1.641	1.940	2.155	2.563	2.455	2.384	2.099	19.01
11) bis(2-Chloro	1.152	1.179	1.317	1.296	1.330	1.526	1.413	1.421	1.329	9.41
12) 2-Chlorophen	1.189	1.233	1.395	1.391	1.475	1.638	1.543	1.537	1.425	10.90
13) Decane	0.754	0.801	0.912	0.925	0.999	1.139	1.186	1.148	0.983	16.63
14) 1,3-Dichloro	1.249	1.300	1.471	1.446	1.571	1.743	1.652	1.620	1.506	11.44
15) 1,4-Dichloro	1.206	1.247	1.418	1.395	1.495	1.648	1.598	1.579	1.448	11.21
16) Benzyl alcoh	0.833	0.855	0.931	0.900	0.950	1.049	0.955	0.951	0.928	7.23
17) 1,2-Dichloro	1.150	1.207	1.374	1.377	1.468	1.646	1.566	1.542	1.416	12.28
18) Acetophenone	1.481	1.528	1.779	1.799	2.002	2.270	2.090	2.186	1.892	15.52
19) 2-Methylphen	0.941	1.000	1.161	1.208	1.316	1.457	1.359	1.397	1.230	15.23
20) 2,2'-oxybis(	0.346	0.359	0.394	0.399	0.431	0.484	0.427	0.429	0.409	10.78
21) 3&4-Methylph	0.986	1.049	1.217	1.237	1.358	1.570	1.430	1.460	1.288	15.79
22) n-Nitroso-di	0.722	0.751	0.876	0.907	1.012	1.225	1.126	1.176	0.974	19.62
23) Hexachloroet	0.429	0.443	0.506	0.486	0.508	0.578	0.511	0.532	0.499	9.52
24) I Naphthalene-d8					ISTD					
25) Nitrobenzene	0.341	0.345	0.389	0.370	0.392	0.435	0.412	0.421	0.388	8.87
26) Nitrobenzene	0.330	0.333	0.386	0.377	0.399	0.447	0.429	0.429	0.391	11.16
27) Quinoline	0.669	0.666	0.747	0.708	0.736	0.851	0.768	0.798	0.743	8.52
28) Isophorone	0.631	0.640	0.715	0.710	0.735	0.855	0.796	0.813	0.737	10.89
29) 2-Nitropheno	0.173	0.178	0.202	0.193	0.189	0.214	0.187	0.180	0.189	7.09
30) 2,4-Dimethyl	0.298	0.306	0.331	0.308	0.327	0.364	0.333	0.359	0.328	7.38
31) Benzoic Acid	0.293	0.289	0.314	0.261	0.226	0.236	0.173		0.256	18.87
32) bis(2-Chloro	0.355	0.361	0.410	0.393	0.422	0.483	0.458	0.459	0.418	11.25
33) 2,4-Dichloro	0.248	0.255	0.293	0.285	0.302	0.337	0.312	0.303	0.292	10.04
34) 2,6-Dichloro	0.225	0.229	0.268	0.263	0.285	0.315	0.297	0.306	0.273	12.36
35) 1,3,5-Trichl	0.259	0.273	0.316	0.314	0.338	0.402	0.351	0.364	0.327	14.38
36) 1,2,4-Trichl	0.262	0.266	0.308	0.303	0.317	0.372	0.345	0.350	0.315	12.39
37) 1,2,3-Trichl	0.243	0.250	0.294	0.291	0.310	0.366	0.340	0.336	0.304	14.29
38) Naphthalene	0.817	0.848	0.978	0.956	1.028	1.191	1.102	1.140	1.008	13.30
39) 4-Chloroanil	0.338	0.352	0.403	0.408	0.446	0.516	0.469	0.484	0.427	14.72
40) 2,3-Dichloro	0.285	0.291	0.341	0.338	0.360	0.424	0.388	0.407	0.354	14.31
41) Caprolactam	0.131	0.130	0.136	0.129	0.136	0.153	0.149	0.164	0.141	9.11
42) Hexachlorobu	0.138	0.142	0.168	0.161	0.170	0.200	0.172	0.188	0.167	12.39
43) 4-Chloro-3-m	0.284	0.291	0.336	0.318	0.320	0.378	0.320	0.355	0.325	9.54
44) 2-Methylnaph	0.449	0.467	0.549	0.541	0.560	0.656	0.597	0.590	0.551	12.33
45) 1-Methylnaph	0.462	0.486	0.562	0.561	0.586	0.696	0.633	0.644	0.579	13.72

Initial Calibration Summary

Job Number: JC28902 **Sample:** EZ5695-ICC5695
Account: HWINJM Honeywell International Inc. **Lab FileID:** Z114095.D
Project: HLANJPR: Study Area 6 Chrome Remedy

```
46) Dimethylnaph 0.474 0.494 0.565 0.566 0.601 0.705 0.634 0.649 0.586  13.32

47) I   Acenaphthene-d10      ----------------ISTD---------------------
48) Hexachlorocy 0.238 0.248 0.291 0.289 0.312 0.342 0.293 0.285 0.287  11.52
49) 2,4,6-Trichl 0.260 0.270 0.318 0.315 0.348 0.409 0.362 0.350 0.329  14.97
50) 2,4,5-Trichl 0.313 0.316 0.359 0.350 0.369 0.431 0.386 0.363 0.361  10.54
51) 2-Fluorobiph 0.911 0.954 1.138 1.121 1.238 1.458 1.355 1.338 1.189  16.34
52) 2-Chloronaph 0.796 0.820 0.968 0.954 1.052 1.253 1.135 1.169 1.019  16.08
53) Biphenyl     1.049 1.092 1.314 1.290 1.411 1.653 1.534 1.562 1.363  16.05
54) 2-Nitroanili 0.283 0.286 0.325 0.307 0.318 0.353 0.324 0.306 0.313   7.27
55) Dimethylphth 1.013 1.047 1.216 1.162 1.229 1.460 1.334 1.286 1.219  12.05
56) Acenaphthyle 1.392 1.464 1.731 1.699 1.823 2.147 1.949 1.930 1.767  14.28
57) 2,6-Dinitrot 0.237 0.244 0.278 0.251 0.254 0.289 0.250 0.204 0.251  10.24
58) 3-Nitroanili 0.302 0.306 0.343 0.324 0.330 0.367 0.312 0.301 0.323   7.13
59) Acenaphthene 0.816 0.850 1.004 0.970 1.052 1.251 1.132 1.149 1.028  14.52
60) 2,4-Dinitrop 0.150 0.152 0.162 0.142 0.115 0.106 0.044       0.125  32.70
            ---- Quadratic regression ----  Coefficient =  0.9990
              Response Ratio = -0.02041 + 0.17438 *A + -0.00409 *A^2

61) 4-Nitropheno 0.164 0.165 0.185 0.170 0.170 0.190 0.147 0.146 0.167   9.43
62) Dibenzofuran 1.140 1.199 1.428 1.415 1.535 1.808 1.623 1.668 1.477  15.52
63) 2,4-Dinitrot 0.314 0.328 0.377 0.352 0.351 0.395 0.317 0.252 0.336  13.09
64) 2,3,4,6-Tetr 0.258 0.260 0.300 0.285 0.296 0.331 0.278 0.274 0.285   8.39
65) Diethylphtha 1.047 1.078 1.251 1.204 1.269 1.494 1.284 1.295 1.240  11.21
66) Fluorene     0.878 0.936 1.126 1.111 1.253 1.505 1.326 1.316 1.182  17.79
67) 4-Chlorophen 0.405 0.430 0.508 0.505 0.561 0.668 0.588 0.576 0.530  16.30
68) 4-Nitroanili 0.291 0.311 0.345 0.329 0.335 0.391 0.332 0.308 0.330   9.14

69) I   Phenanthrene-d10      ----------------ISTD---------------------
70) 4,6-Dinitro- 0.120 0.122 0.133 0.119 0.103 0.101             0.116  10.61
71) n-Nitrosodip 0.417 0.432 0.506 0.478 0.516 0.598 0.550 0.569 0.508  12.58
72) 1,2-Diphenyl 0.608 0.631 0.750 0.719 0.775 0.885 0.832 0.858 0.757  13.39
73) 2,4,6-Tribro 0.096 0.097 0.110 0.104 0.104 0.116 0.102 0.095 0.103   7.18
74) 4-Bromopheny 0.166 0.169 0.197 0.184 0.199 0.219 0.195 0.196 0.191   9.03
75) Hexachlorobe 0.179 0.183 0.212 0.200 0.217 0.248 0.222 0.229 0.211  11.05
76) Pentachlorop 0.122 0.127 0.145 0.136 0.140 0.149 0.125 0.096 0.130  12.96
77) Phenanthrene 0.793 0.824 0.981 0.920 1.001 1.172 1.062 1.079 0.979  13.19
78) Anthracene   0.806 0.841 0.986 0.957 1.029 1.220 1.091 1.107 1.005  13.79
79) Carbazole    0.842 0.881 1.018 0.973 1.056 1.218 1.094 1.117 1.025  12.16
80) Di-n-butylph 1.075 1.121 1.311 1.237 1.281 1.448 1.294 1.290 1.257   9.24
81) Fluoranthene 0.936 0.982 1.153 1.101 1.177 1.348 1.186 1.203 1.136  11.47
82) Octadecane   0.298 0.312 0.371 0.357 0.388 0.443 0.411 0.421 0.375  13.63

83) I   Chrysene-d12          ----------------ISTD---------------------
84) Pyrene       1.264 1.258 1.389 1.320 1.374 1.556 1.458 1.478 1.387   7.61
85) Terphenyl-d1 0.799 0.802 0.855 0.808 0.825 0.937 0.890 0.916 0.854   6.39
86) Butylbenzylp 0.661 0.660 0.712 0.651 0.640 0.718 0.662 0.644 0.668   4.46
87) Benzo[a]anth 1.085 1.094 1.174 1.122 1.152 1.344 1.264 1.303 1.192   8.28
88) 3,3'-Dichlor 0.386 0.391 0.428 0.414 0.415 0.464 0.420 0.423 0.418   5.73
89) Chrysene     1.028 1.024 1.108 1.056 1.113 1.280 1.170 1.146 1.116   7.63
90) bis(2-Ethylh 0.862 0.860 0.929 0.856 0.861 0.960 0.952 0.928 0.901   5.03

91) I   Perylene-d12          ----------------ISTD---------------------
92) Di-n-octylph 1.335 1.392 1.554 1.522 1.530 1.723 1.658 1.734 1.556   9.35
93) Benzo[b]fluo 1.075 0.999 1.137 1.112 1.226 1.390 1.262 1.247 1.181  10.50
94) Benzo[k]fluo 0.758 0.899 1.001 1.010 1.118 1.312 1.193 1.254 1.068  17.51
95) Benzo[a]pyre 0.876 0.898 1.004 1.005 1.082 1.236 1.137 1.171 1.051  12.21
96) Indeno[1,2,3 0.889 0.886 1.009 0.971 1.032 1.171 1.094 1.134 1.023  10.39
97) Dibenz(a,h)a 0.773 0.786 0.877 0.876 0.915 1.043 1.000 1.031 0.913  11.46
98) Dibenz[a,h]a 0.865 0.870 0.985 0.970 1.046 1.153 1.036 1.104 1.004  10.22
```

Initial Calibration Summary

Job Number: JC28902 **Sample:** EZ5695-ICC5695
Account: HWINJM Honeywell International Inc. **Lab FileID:** Z114095.D
Project: HLANJPR: Study Area 6 Chrome Remedy

```
 99) 7,12-Dimethy 0.427 0.430 0.472 0.471 0.479 0.510 0.460 0.459 0.463   5.81
100) Benzo[g,h,i] 0.886 0.898 1.007 0.984 1.061 1.222 1.128 1.185 1.046  11.98


 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          MZ5695.M          Thu Sep 15 07:39:20 2016   RTE
```

Initial Calibration Summary

Job Number: JC28902 **Sample:** EZ5696-ICC5696
Account: HWINJM Honeywell International Inc. **Lab FileID:** Z114107.D
Project: HLANJPR: Study Area 6 Chrome Remedy

```
                         Response Factor Report  MSZ

  Method       : C:\MSDCHEM\1\METHODS\MZ5695.M (RTE Integrator)
  Title        : Semi Volatile  GC/MS, ZB-5MS 15m x .25mm x .25um
  Last Update  : Thu Sep 15 13:44:08 2016
  Response via : Initial Calibration

  Calibration Files
  100 =z114104.D  80  =z114106.D  50  =z114107.D  25  =z114108.D
  10  =z114109.D  5   =z114110.D  2   =z114105.D  1   =z114111.D

   Compound         100   80    50    25    10    5     2     1     Avg %RSD
  ---------------------------------------------------------------------------


101)     1,4-Dichlorobenzene-d ----------------ISTD---------------------
102) Benzaldehyde 0.835 0.861 0.929 1.216 1.336 1.426 1.440       1.149  23.32
             ---- Quadratic regression ----  Coefficient =  0.9963
               Response Ratio = 0.06284 + 1.03330 *A + -0.09365 *A^2


103)     Phenanthrene-d10a     ----------------ISTD---------------------
104) 1-chloroocta 0.268 0.267 0.266 0.297 0.309 0.333 0.328 0.303 0.296   9.13
105) o-terphenyl  0.498 0.505 0.494 0.556 0.593 0.661 0.653 0.655 0.577  12.75
106) Atrazine     0.106 0.105 0.103 0.112 0.117 0.125 0.125 0.110 0.113   7.81

107)     Chrysene-d12a         ----------------ISTD---------------------
108) Benzidine          0.379 0.511 0.715 0.695 0.586 0.437       0.554  24.65

109)     Acenaphthene-d10a     ----------------ISTD---------------------
110) 1,2,4,5-Tetr 0.478 0.490 0.487 0.550 0.600 0.671 0.657 0.655 0.573  14.47

111) I   Naphthalene-d8a       ----------------ISTD---------------------
112) Hydroquinone 0.415 0.416 0.395 0.417 0.403 0.378 0.373 0.283 0.385  11.57

 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           MZ5695.M          Thu Sep 15 13:44:26 2016   RTE
```

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EZ5696-ICV5695
Lab FileID: Z114112.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\ez5696\z114112.D          Vial: 10
Acq On    : 15 Sep 2016  11:18 am                   Operator: ariellec
Sample    : icv5695-50                              Inst    : MSZ
Misc      : op96490,ez5696                          Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MZ5695.M (RTE Integrator)
Title        : Semi Volatile  GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update  : Thu Sep 15 11:21:33 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	114	0.00	4.55
9	t	Phenol	2.017	1.948	3.4	112	0.00	4.29
12	t	2-Chlorophenol	1.425	1.494	-4.8	122	0.00	4.40
19	t	2-Methylphenol	1.230	1.350	-9.8	133	0.00	4.74
21	t	3&4-Methylphenol	1.288	1.387	-7.7	130	0.00	4.84
24	I	Naphthalene-d8	1.000	1.000	0.0	110	0.00	5.47
29	t	2-Nitrophenol	0.189	0.204	-7.9	111	0.00	5.20
30	t	2,4-Dimethylphenol	0.328	0.388	-18.3	129	0.00	5.23
31		Benzoic Acid	0.256	0.249	2.7	87	0.05	5.32
33	t	2,4-Dichlorophenol	0.292	0.298	-2.1	112	0.00	5.37
34		2,6-Dichlorophenol	0.273	0.289	-5.9	119	0.00	5.53
43	t	4-Chloro-3-methylphenol	0.325	0.336	-3.4	110	0.00	5.86
47	I	Acenaphthene-d10	1.000	1.000	0.0	109	0.00	6.81
49	t	2,4,6-Trichlorophenol	0.329	0.371	-12.8	127	0.00	6.19
50	t	2,4,5-Trichlorophenol	0.361	0.340	5.8	103	0.00	6.21
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	100.000	80.740	19.2	82	0.00	6.85
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.167	0.181	-8.4	106	0.00	6.91
64		2,3,4,6-Tetrachlorophenol	0.285	0.293	-2.8	107	0.00	7.11
69	I	Phenanthrene-d10	1.000	1.000	0.0	104	0.00	8.36
70	t	4,6-Dinitro-2-methylpheno	0.116	0.130	-12.1	102	0.00	7.37
76	t	Pentachlorophenol	0.130	0.158	-21.5	112	0.00	8.14

```
(#) = Out of Range                SPCC's out = 0  CCC's out = 0
 Copy of z114107.D MZ5695.M          Thu Sep 15 11:37:43 2016   RTE
```

Initial Calibration Verification

Job Number: JC28902 **Sample:** EZ5696-ICV5695
Account: HWINJM Honeywell International Inc. **Lab FileID:** Z114113.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\ez5696\z114113.D          Vial: 11
Acq On    : 15 Sep 2016  11:43 am                   Operator: ariellec
Sample    : icv5695-50                              Inst    : MSZ
Misc      : op96490,ez5696                          Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MZ5695.M (RTE Integrator)
Title        : Semi Volatile  GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update  : Thu Sep 15 11:21:33 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	90	0.00	4.56
3	t	Pyridine	1.726	1.782	-3.2	89	0.09	2.48
10	t	Aniline	2.099	2.362	-12.5	130	0.00	4.31
16	t	Benzyl alcohol	0.928	0.975	-5.1	94	0.00	4.66
24	I	Naphthalene-d8	1.000	1.000	0.0	91	0.00	5.47
39	t	4-Chloroaniline	0.427	0.448	-4.9	101	0.00	5.52
44	t	2-Methylnaphthalene	0.551	0.530	3.8	88	0.00	5.98
47	I	Acenaphthene-d10	1.000	1.000	0.0	87	0.00	6.81
54	t	2-Nitroaniline	0.313	0.323	-3.2	87	0.00	6.42
58	t	3-Nitroaniline	0.323	0.333	-3.1	85	0.00	6.76
62	t	Dibenzofuran	1.477	1.495	-1.2	91	0.00	6.99
68	t	4-Nitroaniline	0.330	0.338	-2.4	85	0.00	7.33
69	I	Phenanthrene-d10	1.000	1.000	0.0	89	0.00	8.35
79	t	Carbazole	1.025	0.974	5.0	86	0.00	8.65

```
   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    Copy of z114107.D MZ5695.M         Thu Sep 15 12:02:15 2016   RTE
```

Initial Calibration Verification

Job Number: JC28902 **Sample:** EZ5696-ICV5695
Account: HWINJM Honeywell International Inc. **Lab FileID:** Z114114.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\ez5696\z114114.D          Vial: 12
Acq On    : 15 Sep 2016  12:09 pm                   Operator: ariellec
Sample    : icv5695-50                              Inst    : MSZ
Misc      : op96490,ez5696                          Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MZ5695.M (RTE Integrator)
Title        : Semi Volatile  GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update  : Thu Sep 15 11:21:33 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	125	0.00	4.55
5	S	2-Fluorophenol	1.444	1.318	8.7	110	0.00	3.57
8	S	Phenol-d5	1.873	1.669	10.9	109	0.00	4.28
24	I	Naphthalene-d8	1.000	1.000	0.0	125	0.00	5.47
25	S	Nitrobenzene-d5	0.388	0.383	1.3	123	0.00	4.95
47	I	Acenaphthene-d10	1.000	1.000	0.0	116	0.00	6.81
51	S	2-Fluorobiphenyl	1.189	1.168	1.8	119	0.00	6.25
69	I	Phenanthrene-d10	1.000	1.000	0.0	113	0.00	8.35
73	S	2,4,6-Tribromophenol	0.103	0.095	7.8	98	0.00	7.56
83	I	Chrysene-d12	1.000	1.000	0.0	123	0.00	12.13
85	S	Terphenyl-d14	0.854	0.723	15.3	104	0.00	10.58

```
   (#) = Out of Range                SPCC's out = 0  CCC's out = 0
    Copy of z114107.D MZ5695.M          Thu Sep 15 12:29:12 2016   RTE
```

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EZ5696-ICV5696
Lab FileID: Z114115A.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\ez5696\z114115a.D          Vial: 13
Acq On    : 15 Sep 2016  12:35 pm                    Operator: ariellec
Sample    : icv5696-50                               Inst    : MSZ
Misc      : op96490,ez5696                           Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MZ5695.M (RTE Integrator)
Title        : Semi Volatile  GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update  : Thu Sep 15 13:44:08 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
107	Chrysene-d12a	1.000	1.000	0.0	88	0.00	12.13
108	Benzidine	0.554	0.391	29.4	135	0.00	10.20
109	Acenaphthene-d10a	1.000	1.000	0.0	96	0.00	6.81
110	1,2,4,5-Tetrachlorobenzen	0.573	0.502	12.4	99	0.00	6.11

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of z114107.D MZ5695.M Thu Sep 15 13:53:58 2016 RTE

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EZ5696-ICV5695
Lab FileID: Z114115.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\ez5696\z114115.D Vial: 13
Acq On : 15 Sep 2016 12:35 pm Operator: ariellec
Sample : icv5695-50 Inst : MSZ
Misc : op96490,ez5696 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MZ5695.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update : Thu Sep 15 13:44:08 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	112	0.00	4.55
4	t	N-Nitrosodimethylamine	0.997	0.944	5.3	102	0.00	2.36
11	t	bis(2-Chloroethyl)ether	1.329	1.496	-12.6	128	0.00	4.36
14	t	1,3-Dichlorobenzene	1.506	1.555	-3.3	119	0.00	4.51
15	t	1,4-Dichlorobenzene	1.448	1.452	-0.3	115	0.00	4.57
17	t	1,2-Dichlorobenzene	1.416	1.429	-0.9	117	0.00	4.67
20	t	2,2'-oxybis(1-Chloropropa	0.409	0.426	-4.2	121	0.00	4.75
22	t	n-Nitroso-di-n-propylamin	0.974	0.956	1.8	123	0.00	4.84
23	t	Hexachloroethane	0.499	0.508	-1.8	113	0.00	4.92
24	I	Naphthalene-d8	1.000	1.000	0.0	108	0.00	5.47
26	t	Nitrobenzene	0.391	0.383	2.0	107	0.00	4.97
28	t	Isophorone	0.737	0.709	3.8	107	0.00	5.14
32	t	bis(2-Chloroethoxy)methan	0.418	0.461	-10.3	122	0.00	5.29
36	t	1,2,4-Trichlorobenzene	0.315	0.318	-1.0	112	0.00	5.43
38	t	Naphthalene	1.008	0.935	7.2	103	0.00	5.49
42	t	Hexachlorobutadiene	0.167	0.175	-4.8	113	0.00	5.58
47	I	Acenaphthene-d10	1.000	1.000	0.0	105	0.00	6.81
52	t	2-Chloronaphthalene	1.019	1.100	-7.9	119	0.00	6.35
55	t	Dimethylphthalate	1.219	1.175	3.6	101	0.00	6.58
56	t	Acenaphthylene	1.767	1.661	6.0	101	0.00	6.68
57	t	2,6-Dinitrotoluene	0.251	0.253	-0.8	96	0.00	6.62
59	t	Acenaphthene	1.028	0.977	5.0	102	0.00	6.84
63	t	2,4-Dinitrotoluene	0.336	0.313	6.8	87	0.00	6.98
65	t	Diethylphthalate	1.240	1.169	5.7	98	0.00	7.21
66	t	Fluorene	1.182	1.038	12.2	97	0.00	7.32
67	t	4-Chlorophenyl-phenylethe	0.530	0.499	5.8	103	0.00	7.32
69	I	Phenanthrene-d10	1.000	1.000	0.0	105	0.00	8.36
71	t	n-Nitrosodiphenylamine	0.508	0.447	12.0	93	0.00	7.44
72	t	1,2-Diphenylhydrazine	0.757	0.691	8.7	97	0.00	7.48
74	t	4-Bromophenyl-phenylether	0.191	0.189	1.0	101	0.00	7.84
75	t	Hexachlorobenzene	0.211	0.204	3.3	101	0.00	7.92
77	t	Phenanthrene	0.979	0.893	8.8	96	0.00	8.39
78	t	Anthracene	1.005	0.898	10.6	96	0.00	8.45
80	t	Di-n-butylphthalate	1.257	1.172	6.8	94	0.00	9.17
81	t	Fluoranthene	1.136	1.014	10.7	93	0.00	9.97
83	I	Chrysene-d12	1.000	1.000	0.0	97	0.00	12.13
84	t	Pyrene	1.387	1.301	6.2	91	0.00	10.29
86	t	Butylbenzylphthalate	0.668	0.660	1.2	90	0.00	11.37

Initial Calibration Verification

Job Number: JC28902 **Sample:** EZ5696-ICV5695
Account: HWINJM Honeywell International Inc. **Lab FileID:** Z114115.D
Project: HLANJPR: Study Area 6 Chrome Remedy

87	t	Benzo[a]anthracene	1.192	1.080	9.4	89	0.00	12.12
89	t	Chrysene	1.116	1.000	10.4	87	0.00	12.17
90	t	bis(2-Ethylhexyl)phthalat	0.901	0.849	5.8	88	0.00	12.32
91	I	Perylene-d12	1.000	1.000	0.0	94	0.00	14.20
92	t	Di-n-octylphthalate	1.556	1.502	3.5	91	0.00	13.29
93	t	Benzo[b]fluoranthene	1.181	1.021	13.5	85	0.01	13.69
94	t	Benzo[k]fluoranthene	1.068	0.975	8.7	92	0.01	13.73
95	t	Benzo[a]pyrene	1.051	0.975	7.2	92	0.00	14.12
96	t	Indeno[1,2,3-cd]pyrene	1.023	0.970	5.2	91	0.01	15.52
98	t	Dibenz[a,h]anthracene	1.004	0.900	10.4	86	0.01	15.55
100	t	Benzo[g,h,i]perylene	1.046	0.939	10.2	88	0.02	15.84

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of z114107.D MZ5695.M Thu Sep 15 13:49:24 2016 RTE

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EZ5696-ICV5695
Lab FileID: Z114116.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\ez5696\z114116.D Vial: 14
Acq On : 15 Sep 2016 1:01 pm Operator: ariellec
Sample : icv5695-50 Inst : MSZ
Misc : op96490,ez5696 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MZ5695.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update : Thu Sep 15 11:21:33 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	113	0.00	4.55
2		1,4-Dioxane	0.676	0.594	12.1	97	0.00	2.07
6	t	Indene	2.281	2.370	-3.9	124	0.00	4.74
7	t	Cumene	3.439	3.196	7.1	103	0.00	3.96
13	t	Decane	0.983	0.859	12.6	106	0.00	4.44
18	t	Acetophenone	1.892	1.907	-0.8	121	0.00	4.84
24	I	Naphthalene-d8	1.000	1.000	0.0	114	0.00	5.47
27	t	Quinoline	0.743	0.677	8.9	104	0.00	5.72
40	t	2,3-Dichloroaniline	0.354	0.311	12.1	104	0.00	6.19
41	t	Caprolactam	0.141	0.109	22.7	92	0.01	5.76
45	t	1-Methylnaphthalene	0.579	0.510	11.9	104	0.00	6.05
46	t	Dimethylnaphthalene	0.586	0.546	6.8	110	0.00	6.45
47	I	Acenaphthene-d10	1.000	1.000	0.0	107	0.00	6.81
48	t	Hexachlorocyclopentadiene	0.287	0.306	-6.6	112	0.00	6.10
53	t	Biphenyl	1.363	1.338	1.8	108	0.00	6.32
69	I	Phenanthrene-d10	1.000	1.000	0.0	100	0.00	8.35
82	t	Octadecane	0.375	0.394	-5.1	106	0.00	8.27
91	I	Perylene-d12	1.000	1.000	0.0	99	0.00	14.19
99	t	7,12-Dimethylbenz(a)anthr	0.463	0.470	-1.5	98	0.00	13.69

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of z114107.D MZ5695.M Thu Sep 15 13:39:37 2016 RTE

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EZ5696-ICV5696
Lab FileID: Z114116A.D

```
                    Evaluate Continuing Calibration Report

  Data File : C:\msdchem\1\DATA\ez5696\z114116a.D          Vial: 14
  Acq On    : 15 Sep 2016   1:01 pm                     Operator: ariellec
  Sample    : icv5696-50                                Inst    : MSZ
  Misc      : op96490,ez5696                            Multiplr: 1.00
  MS Integration Params: RTEINT.P

  Method       : C:\MSDCHEM\1\METHODS\MZ5695.M (RTE Integrator)
  Title        : Semi Volatile  GC/MS, ZB-5MS 15m x .25mm x .25um
  Last Update  : Thu Sep 15 11:21:33 2016
  Response via : Multiple Level Calibration

  Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
  Max. RRF Dev :  30%     Max. Rel. Area : 200%

        Compound                   AvgRF   CCRF      %Dev Area%  Dev(min)R.T.
  ---------------------------------------------------------------------------
101     1,4-Dichlorobenzene-d4a    1.000   1.000      0.0   97   0.00    4.55

            ----------------------- True    Calc.   % Drift  ------------
102     Benzaldehyde              50.000  57.642    -15.3  113   0.00    4.22


            ----------------------- AvgRF   CCRF     % Dev   -------------
103     Phenanthrene-d10a          1.000   1.000      0.0   93   0.00    8.35
106     Atrazine                   0.113   0.111      1.8  101   0.02    8.04
 ---------------------------------------------------------------------------

    (#) = Out of Range              SPCC's out = 0  CCC's out = 0
     Copy of z114107.D MZ5695.M         Thu Sep 15 13:39:39 2016   RTE
```

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EZ5696-ICV5695
Lab FileID: Z114117.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\ez5696\z114117.D          Vial: 15
Acq On    : 15 Sep 2016   1:26 pm                   Operator: ariellec
Sample    : icv5695-50                              Inst    : MSZ
Misc      : op96490,ez5696                          Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MZ5695.M (RTE Integrator)
Title        : Semi Volatile  GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update  : Thu Sep 15 13:44:08 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
83 I	Chrysene-d12	1.000	1.000	0.0	98	0.00	12.12
88 t	3,3'-Dichlorobenzidine	0.418	0.428	-2.4	98	0.00	12.12

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of z114107.D MZ5695.M Thu Sep 15 13:52:10 2016 RTE

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EZ5696-ICV5696
Lab FileID: Z114118.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\ez5696\z114118.D          Vial: 16
Acq On    : 15 Sep 2016   1:52 pm                   Operator: ariellec
Sample    : icv5696-50                              Inst    : MSZ
Misc      : op96490,ez5696                          Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MZ5695.M (RTE Integrator)
Title        : Semi Volatile  GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update  : Thu Sep 15 13:44:08 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
111 I	Naphthalene-d8a	1.000	1.000	0.0	95	0.00	5.47
112	Hydroquinone	0.385	0.449	-16.6	108	0.02	5.76

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of z114107.D MZ5695.M Thu Sep 15 14:21:19 2016 RTE

Continuing Calibration Summary

Job Number: JC28902 **Sample:** EZ5729-CC5695
Account: HWINJM Honeywell International Inc. **Lab FileID:** Z114914.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EZ5729\z114914.D Vial: 2
Acq On : 7 Oct 2016 10:11 am Operator: ashleyd
Sample : cc5695-50 Inst : MSZ
Misc : op97372,ez5729 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MZ5695.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update : Thu Oct 06 13:37:48 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	75	-0.02	4.38
2		1,4-Dioxane	0.676	0.632	6.5	69	-0.18	1.82
3	t	Pyridine	1.726	1.288	25.4#	54	0.06	2.17
4	t	N-Nitrosodimethylamine	0.997	0.859	13.8	62	-0.08	2.14
5	S	2-Fluorophenol	1.444	1.300	10.0	65	-0.03	3.45
6	t	Indene	2.281	2.355	-3.2	82	-0.01	4.57
7	t	Cumene	3.439	3.243	5.7	70	-0.05	3.78
8	S	Phenol-d5	1.873	1.676	10.5	66	-0.04	4.18
9	t	Phenol	2.017	1.749	13.3	66	0.04	4.19
10	t	Aniline	2.099	1.458	30.5#	67	-0.01	4.15
11	t	bis(2-Chloroethyl)ether	1.329	1.259	5.3	72	-0.02	4.19
12	t	2-Chlorophenol	1.425	1.401	1.7	75	0.00	4.25
13	t	Decane	0.983	1.240	-26.1#	102	-0.03	4.27
14	t	1,3-Dichlorobenzene	1.506	1.457	3.3	74	-0.02	4.34
15	t	1,4-Dichlorobenzene	1.448	1.450	-0.1	77	-0.02	4.40
16	t	Benzyl alcohol	0.928	0.787	15.2	63	0.00	4.51
17	t	1,2-Dichlorobenzene	1.416	1.413	0.2	77	-0.01	4.51
18	t	Acetophenone	1.892	1.861	1.6	78	0.00	4.68
19	t	2-Methylphenol	1.230	1.178	4.2	76	-0.10	4.62
20	t	2,2'-oxybis(1-Chloropropa	0.409	0.401	2.0	76	0.00	4.59
21	t	3&4-Methylphenol	1.288	1.331	-3.3	82	0.00	4.73
22	t	n-Nitroso-di-n-propylamin	0.974	0.973	0.1	83	0.00	4.69
23	t	Hexachloroethane	0.499	0.490	1.8	73	-0.02	4.74
24	I	Naphthalene-d8	1.000	1.000	0.0	81	-0.02	5.31
25	S	Nitrobenzene-d5	0.388	0.338	12.9	70	-0.02	4.79
26	t	Nitrobenzene	0.391	0.329	15.9	69	-0.02	4.81
27	t	Quinoline	0.743	0.739	0.5	80	-0.06	5.57
28	t	Isophorone	0.737	0.632	14.2	71	-0.03	4.97
29	t	2-Nitrophenol	0.189	0.203	-7.4	81	-0.02	5.04
30	t	2,4-Dimethylphenol	0.328	0.325	0.9	79	-0.02	5.10
31		Benzoic Acid	0.256	0.281	-9.8	72	0.09	5.22
32	t	bis(2-Chloroethoxy)methan	0.418	0.366	12.4	72	-0.02	5.13
33	t	2,4-Dichlorophenol	0.292	0.281	3.8	77	0.01	5.24
34		2,6-Dichlorophenol	0.273	0.264	3.3	80	0.00	5.38
35	t	1,3,5-Trichlorobenzene	0.327	0.311	4.9	80	-0.03	5.04
36	t	1,2,4-Trichlorobenzene	0.315	0.296	6.0	78	-0.02	5.27
37	t	1,2,3-Trichlorobenzene	0.304	0.289	4.9	80	-0.01	5.42
38	t	Naphthalene	1.008	0.965	4.3	80	-0.02	5.32
39	t	4-Chloroaniline	0.427	0.377	11.7	75	0.00	5.38
40	t	2,3-Dichloroaniline	0.354	0.356	-0.6	84	0.00	6.02
41	t	Caprolactam	0.141	0.154	-9.2	91	0.03	5.63

Continuing Calibration Summary

Job Number: JC28902 **Sample:** EZ5729-CC5695
Account: HWINJM Honeywell International Inc. **Lab FileID:** Z114914.D
Project: HLANJPR: Study Area 6 Chrome Remedy

42	t	Hexachlorobutadiene	0.167	0.159	4.8	76	-0.02	5.41
43	t	4-Chloro-3-methylphenol	0.325	0.334	-2.8	80	0.04	5.75
44	t	2-Methylnaphthalene	0.551	0.578	-4.9	85	0.00	5.81
45	t	1-Methylnaphthalene	0.579	0.599	-3.5	86	0.00	5.88
46	t	Dimethylnaphthalene	0.586	0.592	-1.0	85	-0.01	6.27
47	I	Acenaphthene-d10	1.000	1.000	0.0	80	-0.03	6.60
48	t	Hexachlorocyclopentadiene	0.287	0.227	20.9#	63	-0.02	5.92
49	t	2,4,6-Trichlorophenol	0.329	0.328	0.3	83	-0.02	6.03
50	t	2,4,5-Trichlorophenol	0.361	0.349	3.3	78	-0.02	6.08
51	S	2-Fluorobiphenyl	1.189	1.164	2.1	82	0.00	6.08
52	t	2-Chloronaphthalene	1.019	0.982	3.6	81	0.00	6.17
53	t	Biphenyl	1.363	1.363	0.0	83	0.00	6.15
54	t	2-Nitroaniline	0.313	0.343	-9.6	85	0.00	6.26
55	t	Dimethylphthalate	1.219	1.240	-1.7	82	-0.01	6.38
56	t	Acenaphthylene	1.767	1.740	1.5	81	-0.01	6.49
57	t	2,6-Dinitrotoluene	0.251	0.289	-15.1	83	0.00	6.44
58	t	3-Nitroaniline	0.323	0.333	-3.1	78	0.00	6.59
59	t	Acenaphthene	1.028	1.087	-5.7	87	-0.02	6.64
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	100.000	116.299	-16.3	90	0.02	6.69
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.167	0.124	25.7#	54	-0.03	6.80
62	t	Dibenzofuran	1.477	1.502	-1.7	84	-0.02	6.79
63	t	2,4-Dinitrotoluene	0.336	0.378	-12.5	80	-0.03	6.79
64		2,3,4,6-Tetrachlorophenol	0.285	0.280	1.8	75	0.00	6.92
65	t	Diethylphthalate	1.240	1.231	0.7	79	-0.02	7.00
66	t	Fluorene	1.182	1.214	-2.7	86	-0.02	7.10
67	t	4-Chlorophenyl-phenylethe	0.530	0.570	-7.5	90	-0.02	7.10
68	t	4-Nitroaniline	0.330	0.329	0.3	76	0.02	7.16
69	I	Phenanthrene-d10	1.000	1.000	0.0	83	-0.03	8.11
70	t	4,6-Dinitro-2-methylpheno	0.116	0.133	-14.7	83	0.02	7.19
71	t	n-Nitrosodiphenylamine	0.508	0.505	0.6	83	-0.01	7.22
72	t	1,2-Diphenylhydrazine	0.757	0.603	20.3#	67	-0.03	7.26
73	S	2,4,6-Tribromophenol	0.103	0.110	-6.8	83	-0.02	7.35
74	t	4-Bromophenyl-phenylether	0.191	0.206	-7.9	87	-0.03	7.60
75	t	Hexachlorobenzene	0.211	0.227	-7.6	89	-0.02	7.68
76	t	Pentachlorophenol	0.130	0.116	10.8	67	0.00	7.92
77	t	Phenanthrene	0.979	0.988	-0.9	84	-0.01	8.14
78	t	Anthracene	1.005	1.012	-0.7	85	0.00	8.20
79	t	Carbazole	1.025	1.011	1.4	83	-0.03	8.42
80	t	Di-n-butylphthalate	1.257	1.267	-0.8	80	-0.03	8.89
81	t	Fluoranthene	1.136	1.172	-3.2	85	0.00	9.70
82	t	Octadecane	0.375	0.446	-18.9	100	-0.04	8.01
83	I	Chrysene-d12	1.000	1.000	0.0	92	-0.02	11.84
84	t	Pyrene	1.387	1.273	8.2	85	-0.03	10.02
85	S	Terphenyl-d14	0.854	0.873	-2.2	94	-0.01	10.29
86	t	Butylbenzylphthalate	0.668	0.617	7.6	80	-0.05	11.07
87	t	Benzo[a]anthracene	1.192	1.169	1.9	92	-0.03	11.82
88	t	3,3'-Dichlorobenzidine	0.418	0.429	-2.6	92	-0.02	11.84
89	t	Chrysene	1.116	1.064	4.7	89	-0.02	11.88
90	t	bis(2-Ethylhexyl)phthalat	0.901	0.818	9.2	81	-0.05	12.00
91	I	Perylene-d12	1.000	1.000	0.0	90	-0.03	13.91
92	t	Di-n-octylphthalate	1.556	1.450	6.8	84	-0.04	12.98
93	t	Benzo[b]fluoranthene	1.181	1.157	2.0	92	-0.02	13.40

Continuing Calibration Summary

Job Number: JC28902 **Sample:** EZ5729-CC5695
Account: HWINJM Honeywell International Inc. **Lab FileID:** Z114914.D
Project: HLANJPR: Study Area 6 Chrome Remedy

94	t	Benzo[k]fluoranthene	1.068	1.084	-1.5	97	-0.02	13.44
95	t	Benzo[a]pyrene	1.051	1.050	0.1	94	-0.02	13.84
96	t	Indeno[1,2,3-cd]pyrene	1.023	1.104	-7.9	98	0.00	15.23
97	t	Dibenz(a,h)acridine	0.913	0.993	-8.8	102	0.00	14.97
98	t	Dibenz[a,h]anthracene	1.004	1.098	-9.4	100	0.00	15.25
99	t	7,12-Dimethylbenz(a)anthr	0.463	0.544	-17.5	104	-0.04	13.40
100	t	Benzo[g,h,i]perylene	1.046	1.090	-4.2	97	-0.07	15.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of z114107.D MZ5695.M Fri Oct 07 14:23:29 2016 RTE

Continuing Calibration Summary

Job Number: JC28902 **Sample:** EZ5729-CC5696
Account: HWINJM Honeywell International Inc. **Lab FileID:** Z114915.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\EZ5729\z114915.D          Vial: 3
Acq On    :  7 Oct 2016  10:38 am                   Operator: ashleyd
Sample    : cc5696-25                               Inst    : MSZ
Misc      : op97372,ez5729                          Multiplr: 1.00
MS Integration Params: RTEINT.P

Method       : C:\MSDCHEM\1\METHODS\MZ5695.M (RTE Integrator)
Title        : Semi Volatile  GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update  : Thu Oct 06 13:37:48 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.050  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
101	1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	65	-0.02	4.38
	----------	True	Calc.	% Drift	----------		
102	Benzaldehyde	25.000	19.763	20.9#	47	-0.03	4.06
	----------	AvgRF	CCRF	% Dev	----------		
103	Phenanthrene-d10a	1.000	1.000	0.0	74	-0.03	8.10
104	Atrazine	0.113	0.119	-5.3	79	-0.01	7.81
105	Chrysene-d12a	1.000	1.000	0.0	81	-0.03	11.83
106	Benzidine	0.554	0.577	-4.2	66	-0.04	9.93
107	Acenaphthene-d10a	1.000	1.000	0.0	74	-0.03	6.60
108	1,2,4,5-Tetrachlorobenzen	0.573	0.543	5.2	73	-0.01	5.93
109 I	Naphthalene-d8a	1.000	1.000	0.0	72	-0.02	5.30
110	Hydroquinone	0.385	0.301	21.8#	52	0.07	5.66

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of z114108.D MZ5695.M Fri Oct 07 14:23:17 2016 RTE

SGS ACCUTEST New Jersey

Section 8

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- DDT/Endrin Breakdown Checks
- GC Identification Summaries (Hits)
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97541-MB1	5Y36627.D	1	10/06/16	SP	10/06/16	OP97541	G5Y1211

The QC reported here applies to the following samples: **Method:** NJDEP EPH

JC28902-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	EPH (C9-C28)	ND	6.7	3.5	mg/kg	
	EPH (> C28-C40)	ND	6.7	3.5	mg/kg	
	Total EPH (C9-C40)	ND	6.7	3.5	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	68%	40-140%
3386-33-2	1-Chlorooctadecane	72%	40-140%

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97541-MB1	5Z30028.D	1	10/06/16	SP	10/06/16	OP97541	G5Z1032

The QC reported here applies to the following samples: **Method:** NJDEP EPH

JC28902-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	EPH (C9-C28)	ND	6.7	3.5	mg/kg	
	EPH (> C28-C40)	ND	6.7	3.5	mg/kg	
	Total EPH (C9-C40)	ND	6.7	3.5	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	84%	40-140%
3386-33-2	1-Chlorooctadecane	97%	40-140%

8.1.2
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Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97538-MB1	OA120269.D	1	10/07/16	VDT	10/06/16	OP97538	GOA4139

The QC reported here applies to the following samples: **Method:** SW846 8151

JC28902-1

CAS No.	Compound	Result	RL	MDL	Units	Q
94-75-7	2,4-D	ND	17	7.5	ug/kg	
93-72-1	2,4,5-TP (Silvex)	ND	3.3	1.2	ug/kg	
93-76-5	2,4,5-T	ND	3.3	1.3	ug/kg	
75-99-0	Dalapon	ND	3.3	2.2	ug/kg	
1918-00-9	Dicamba	ND	3.3	1.7	ug/kg	
120-36-5	Dichloroprop	ND	17	4.7	ug/kg	
88-85-7	Dinoseb	ND	17	11	ug/kg	
94-74-6	MCPA	ND	1700	380	ug/kg	
93-65-2	MCPP	ND	1700	360	ug/kg	
87-86-5	Pentachlorophenol	ND	1.7	1.5	ug/kg	
94-82-6	2,4-DB	ND	17	5.4	ug/kg	

CAS No.	Surrogate Recoveries		Limits
19719-28-9	2,4-DCAA	110%	10-156%
19719-28-9	2,4-DCAA	114%	10-156%

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97536-MB1	4G73353.D	1	10/06/16	DS	10/06/16	OP97536	G4G1919

The QC reported here applies to the following samples: **Method:** SW846 8081B

JC28902-1

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.67	0.32	ug/kg	
319-84-6	alpha-BHC	ND	0.67	0.36	ug/kg	
319-85-7	beta-BHC	ND	0.67	0.42	ug/kg	
319-86-8	delta-BHC	ND	0.67	0.30	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	0.67	0.29	ug/kg	
5103-71-9	alpha-Chlordane	ND	0.67	0.32	ug/kg	
5103-74-2	gamma-Chlordane	ND	0.67	0.29	ug/kg	
57-74-9	Chlordane (alpha and gamma)	ND	0.67	0.29	ug/kg	
60-57-1	Dieldrin	ND	0.67	0.33	ug/kg	
72-54-8	4,4'-DDD	ND	0.67	0.43	ug/kg	
72-55-9	4,4'-DDE	ND	0.67	0.35	ug/kg	
50-29-3	4,4'-DDT	ND	0.67	0.40	ug/kg	
72-20-8	Endrin	ND	0.67	0.31	ug/kg	
1031-07-8	Endosulfan sulfate	ND	0.67	0.27	ug/kg	
7421-93-4	Endrin aldehyde	ND	0.67	0.40	ug/kg	
959-98-8	Endosulfan-I	ND	0.67	0.35	ug/kg	
33213-65-9	Endosulfan-II	ND	0.67	0.35	ug/kg	
76-44-8	Heptachlor	ND	0.67	0.33	ug/kg	
1024-57-3	Heptachlor epoxide	ND	0.67	0.36	ug/kg	
72-43-5	Methoxychlor	ND	1.3	0.33	ug/kg	
53494-70-5	Endrin ketone	ND	0.67	0.51	ug/kg	
8001-35-2	Toxaphene	ND	17	6.9	ug/kg	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	92%	24-136%
877-09-8	Tetrachloro-m-xylene	90%	24-136%
2051-24-3	Decachlorobiphenyl	89%	10-153%
2051-24-3	Decachlorobiphenyl	107%	10-153%

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97535-MB1	XX198040.D	1	10/06/16	HB	10/06/16	OP97535	GXX5823

The QC reported here applies to the following samples: **Method:** SW846 8082A

JC28902-1

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	33	16	ug/kg	
11104-28-2	Aroclor 1221	ND	33	16	ug/kg	
11141-16-5	Aroclor 1232	ND	33	13	ug/kg	
53469-21-9	Aroclor 1242	ND	33	12	ug/kg	
12672-29-6	Aroclor 1248	ND	33	21	ug/kg	
11097-69-1	Aroclor 1254	ND	33	17	ug/kg	
11096-82-5	Aroclor 1260	ND	33	14	ug/kg	
11100-14-4	Aroclor 1268	ND	33	12	ug/kg	
37324-23-5	Aroclor 1262	ND	33	23	ug/kg	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	101%	20-152%
877-09-8	Tetrachloro-m-xylene	95%	20-152%
2051-24-3	Decachlorobiphenyl	114%	12-157%
2051-24-3	Decachlorobiphenyl	96%	12-157%

Blank Spike Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97541-BS11	5Z30027.D	1	10/06/16	SP	10/06/16	OP97541	G5Z1032

The QC reported here applies to the following samples: **Method:** NJDEP EPH

JC28902-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	EPH (C9-C28)	33.3	25.3	76	40-140
	Total EPH (C9-C40)	33.3	25.3	76	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	90%	40-140%
3386-33-2	1-Chlorooctadecane	107%	40-140%

8.2.1
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* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97538-BS1	OA120270.D	1	10/07/16	VDT	10/06/16	OP97538	GOA4139

The QC reported here applies to the following samples: **Method:** SW846 8151

JC28902-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
94-75-7	2,4-D	133	131	98	63-160
93-72-1	2,4,5-TP (Silvex)	26.7	25.6	96	53-132
93-76-5	2,4,5-T	26.7	26.0	98	41-139
75-99-0	Dalapon	26.7	29.3	110	24-160
1918-00-9	Dicamba	26.7	24.2	91	52-144
120-36-5	Dichloroprop	133	143	107	66-141
88-85-7	Dinoseb	133	58.9	44	10-182
94-74-6	MCPA	6670	6340	95	48-147
93-65-2	MCPP	6670	7480	112	42-160
87-86-5	Pentachlorophenol	13.3	9.0	68	47-150
94-82-6	2,4-DB	133	128	96	35-143

CAS No.	Surrogate Recoveries	BSP	Limits
19719-28-9	2,4-DCAA	106%	10-156%
19719-28-9	2,4-DCAA	109%	10-156%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97536-BS1	4G73354.D	1	10/06/16	DS	10/06/16	OP97536	G4G1919

The QC reported here applies to the following samples: **Method:** SW846 8081B

JC28902-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
309-00-2	Aldrin	16.7	12.8	77	40-135
319-84-6	alpha-BHC	16.7	12.8	77	37-134
319-85-7	beta-BHC	16.7	13.3	80	37-131
319-86-8	delta-BHC	16.7	13.1	79	34-132
58-89-9	gamma-BHC (Lindane)	16.7	12.7	76	36-128
5103-71-9	alpha-Chlordane	16.7	13.0	78	40-131
5103-74-2	gamma-Chlordane	16.7	12.0	72	41-133
57-74-9	Chlordane (alpha and gamma)	33.3	25.0	75	41-132
60-57-1	Dieldrin	16.7	13.4	80	33-133
72-54-8	4,4'-DDD	16.7	13.4	80	37-132
72-55-9	4,4'-DDE	16.7	13.2	79	39-133
50-29-3	4,4'-DDT	16.7	15.1	91	26-150
72-20-8	Endrin	16.7	17.9	107	41-134
1031-07-8	Endosulfan sulfate	16.7	14.6	88	38-138
7421-93-4	Endrin aldehyde	16.7	12.7	76	37-129
959-98-8	Endosulfan-I	16.7	12.8	77	39-130
33213-65-9	Endosulfan-II	16.7	13.0	78	40-134
76-44-8	Heptachlor	16.7	12.4	74	36-132
1024-57-3	Heptachlor epoxide	16.7	13.5	81	39-131
72-43-5	Methoxychlor	16.7	15.8	95	28-149
53494-70-5	Endrin ketone	16.7	14.0	84	31-138

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	81%	24-136%
877-09-8	Tetrachloro-m-xylene	78%	24-136%
2051-24-3	Decachlorobiphenyl	79%	10-153%
2051-24-3	Decachlorobiphenyl	97%	10-153%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97535-BS1	XX198041.D	1	10/06/16	HB	10/06/16	OP97535	GXX5823

The QC reported here applies to the following samples: **Method:** SW846 8082A

JC28902-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
12674-11-2	Aroclor 1016	133	120	90	48-167
11104-28-2	Aroclor 1221		ND		70-130
11141-16-5	Aroclor 1232		ND		70-130
53469-21-9	Aroclor 1242		ND		70-130
12672-29-6	Aroclor 1248		ND		70-130
11097-69-1	Aroclor 1254		ND		70-130
11096-82-5	Aroclor 1260	133	116	87 [a]	44-162
11100-14-4	Aroclor 1268		ND		50-150 [b]
37324-23-5	Aroclor 1262		ND		50-150 [b]

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	97%	20-152%
877-09-8	Tetrachloro-m-xylene	91%	20-152%
2051-24-3	Decachlorobiphenyl	103%	12-157%
2051-24-3	Decachlorobiphenyl	89%	12-157%

(a) Reported from 2nd signal. %D of check calibration on 1st signal exceed method criteria (20%) so using for confirmation only.
(b) Advisory control limits.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97541-MS	5Z30030.D	1	10/06/16	SP	10/06/16	OP97541	G5Z1032
OP97541-MSD	5Z30031.D	1	10/06/16	SP	10/06/16	OP97541	G5Z1032
JC28906-2	5Z30029.D	1	10/06/16	SP	10/06/16	OP97541	G5Z1032
JC28906-2	5Z30044.D	5	10/07/16	SP	10/06/16	OP97541	G5Z1033

The QC reported here applies to the following samples: **Method:** NJDEP EPH

JC28902-1

CAS No.	Compound	JC28906-2 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	EPH (C9-C28)	3520 [b]		178	4790	584* [a]	178	4310	315* [a]	11	40-140/50
	EPH (> C28-C40)	162 [b]		89	310	148* [a]	89	258	90	18	40-140/50
	Total EPH (C9-C40)	3680 [b]		267	5100	438* [a]	267	4570	240* [a]	11	40-140/50

CAS No.	Surrogate Recoveries	MS	MSD	JC28906-2	JC28906-2	Limits
84-15-1	o-Terphenyl	105%	103%	100%	102%	40-140%
3386-33-2	1-Chlorooctadecane	85%	84%	76%	81%	40-140%

(a) Outside control limits due to high level in sample relative to spike amount.
(b) Result is from Run #2.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97538-MS	3G103397.D	2	10/07/16	VDT	10/06/16	OP97538	G3G3614
OP97538-MSD	3G103398.D	2	10/07/16	VDT	10/06/16	OP97538	G3G3614
JC28904-1A	3G103396.D	2	10/07/16	VDT	10/06/16	OP97538	G3G3614

The QC reported here applies to the following samples: **Method:** SW846 8151

JC28902-1

CAS No.	Compound	JC28904-1A ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
94-75-7	2,4-D	ND		144	74.4	52	146	132	90	56	10-176/56
93-72-1	2,4,5-TP (Silvex)	ND		28.9	7.5	26	29.3	30.9	106	122* [a]	10-146/52
93-76-5	2,4,5-T	ND		28.9	5.5	19	29.3	22.5	77	121* [a]	10-145/56
75-99-0	Dalapon	ND		28.9	13.9	48	29.3	42.8	146	102* [a]	10-203/60
1918-00-9	Dicamba	ND		28.9	8.4	29	29.3	26.7	91	104* [a]	10-162/53
120-36-5	Dichloroprop	ND		144	35.2	24	146	76.5	52	74* [a]	10-169/50
88-85-7	Dinoseb	ND		144	ND	0* [b]	146	ND	0* [b]	nc	10-193/48
94-74-6	MCPA	ND		7220	ND	0* [b]	7320	ND	0* [b]	nc	10-153/51
93-65-2	MCPP	ND		7220	ND	0* [b]	7320	ND	0* [b]	nc	10-184/51
87-86-5	Pentachlorophenol	ND		14.4	4.7	33	14.6	13.6	93	97* [a]	10-178/48
94-82-6	2,4-DB	ND		144	ND	0* [b]	146	271	185* [a]	200* [a]	10-164/49

CAS No.	Surrogate Recoveries	MS	MSD	JC28904-1A	Limits
19719-28-9	2,4-DCAA	14%	73%	34%	10-156%
19719-28-9	2,4-DCAA	18%	113%	71%	10-156%

(a) Outside the QC limits.
(b) Outside control limits due to matrix interference.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97536-MS	4G73391.D	1	10/07/16	RK	10/06/16	OP97536	G4G1920
OP97536-MSD	4G73392.D	1	10/07/16	RK	10/06/16	OP97536	G4G1920
JC28906-1	4G73390.D	1	10/07/16	RK	10/06/16	OP97536	G4G1920

The QC reported here applies to the following samples: **Method:** SW846 8081B

JC28902-1

CAS No.	Compound	JC28906-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
309-00-2	Aldrin	ND		17.8	10.9	61	17.8	13.8	78	23	19-147/48
319-84-6	alpha-BHC	6.7		17.8	16.6	56	17.8	20.2	76	20	13-155/50
319-85-7	beta-BHC	ND		17.8	10.3	58	17.8	12.7	72	21	10-145/53
319-86-8	delta-BHC	ND		17.8	12.8	72	17.8	15.1	85	16	11-148/51
58-89-9	gamma-BHC (Lindane)	ND		17.8	10.4	59	17.8	13.1	74	23	16-143/47
5103-71-9	alpha-Chlordane	0.67	J	17.8	11.4	60	17.8	13.7	73	18	15-151/50
5103-74-2	gamma-Chlordane	1.8		17.8	12.1	58	17.8	14.0	69	15	13-151/50
57-74-9	Chlordane (alpha and gamma)	2.5		35.5	23.4	59	35.5	27.2	70	15	22-136/52
60-57-1	Dieldrin	1.1		17.8	13.1	68	17.8	14.9	78	13	10-157/54
72-54-8	4,4'-DDD	ND		17.8	11.9	67	17.8	14.9	84	22	10-157/52
72-55-9	4,4'-DDE	ND		17.8	13.0	73	17.8	17.5	99	30	10-155/49
50-29-3	4,4'-DDT	3.4		17.8	13.8	59	17.8	18.3	84	28	10-187/49
72-20-8	Endrin	ND		17.8	16.3	92	17.8	19.9	112	20	14-154/53
1031-07-8	Endosulfan sulfate	ND		17.8	10.3	58	17.8	14.0	79	30	16-140/55
7421-93-4	Endrin aldehyde	ND		17.8	3.8	21	17.8	5.5	31	37	10-156/51
959-98-8	Endosulfan-I	ND		17.8	10.3	58	17.8	12.7	72	21	12-142/47
33213-65-9	Endosulfan-II	ND		17.8	9.2	52	17.8	11.4	64	21	10-150/52
76-44-8	Heptachlor	ND		17.8	12.3	69	17.8	14.7	83	18	10-159/49
1024-57-3	Heptachlor epoxide	0.43	J	17.8	11.5	62	17.8	14.3	78	22	16-150/51
72-43-5	Methoxychlor	ND		17.8	12.3	69	17.8	14.7	83	18	10-166/52
53494-70-5	Endrin ketone	ND		17.8	15.4	87	17.8	19.1	108	21	10-171/52
8001-35-2	Toxaphene	ND			ND			ND		nc	50-150/30

CAS No.	Surrogate Recoveries	MS	MSD	JC28906-1	Limits
877-09-8	Tetrachloro-m-xylene	84%	105%	85%	24-136%
877-09-8	Tetrachloro-m-xylene	62%	77%	67%	24-136%
2051-24-3	Decachlorobiphenyl	58%	70%	52%	10-153%
2051-24-3	Decachlorobiphenyl	68%	84%	77%	10-153%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97535-MS	XX198050.D	1	10/06/16	HB	10/06/16	OP97535	GXX5823
OP97535-MSD	XX198051.D	1	10/06/16	HB	10/06/16	OP97535	GXX5823
JC28902-1	XX198049.D	1	10/06/16	HB	10/06/16	OP97535	GXX5823

The QC reported here applies to the following samples: **Method:** SW846 8082A

JC28902-1

CAS No.	Compound	JC28902-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	ND		149	116	78	149	102	68	13	32-176/47
11104-28-2	Aroclor 1221	ND			ND			ND		nc	70-130/30
11141-16-5	Aroclor 1232	ND			ND			ND		nc	70-130/30
53469-21-9	Aroclor 1242	ND			ND			ND		nc	70-130/30
12672-29-6	Aroclor 1248	ND			ND			ND		nc	70-130/30
11097-69-1	Aroclor 1254	ND			ND			ND		nc	70-130/30
11096-82-5	Aroclor 1260	ND		149	102	68	149	97.6	65	4	19-180/49
11100-14-4	Aroclor 1268	ND			ND			ND		nc	-/30
37324-23-5	Aroclor 1262	ND			ND			ND		nc	-/30

CAS No.	Surrogate Recoveries	MS	MSD	JC28902-1	Limits
877-09-8	Tetrachloro-m-xylene	83%	65%	89%	20-152%
877-09-8	Tetrachloro-m-xylene	86%	68%	88%	20-152%
2051-24-3	Decachlorobiphenyl	77%	69%	83%	12-157%
2051-24-3	Decachlorobiphenyl	78%	74%	80%	12-157%

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97541-DUP	5Y36630.D	1	10/06/16	SP	10/06/16	OP97541	G5Y1211
JC28910-2	5Y36629.D	1	10/06/16	SP	10/06/16	OP97541	G5Y1211

The QC reported here applies to the following samples: **Method:** NJDEP EPH

JC28902-1

CAS No.	Compound	JC28910-2 mg/kg	Q	DUP mg/kg	Q	RPD	Limits
	EPH (C9-C28)	ND		ND		nc	50
	EPH (> C28-C40)	ND		ND		nc	50
	Total EPH (C9-C40)	ND		ND		nc	50

CAS No.	Surrogate Recoveries	DUP	JC28910-2	Limits
84-15-1	o-Terphenyl	68%	70%	40-140%
3386-33-2	1-Chlorooctadecane	74%	76%	40-140%

8.4.1
8

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G4G1919-CC1911	**Injection Date:**	10/06/16
Lab File ID:	4G73351.D	**Injection Time:**	17:13
Instrument ID:	GC4G	**Method:**	SW846 8081B

	IS 1 AREA	RT	IS 2 AREA	RT
Check Std	313852376	1.33	433214677	1.54
Upper Limit [a]	627704752	1.83	866429354	2.04
Lower Limit [b]	156926188	0.83	216607339	1.04

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT
OP97536-MB1	267521183	1.33	367619848	1.54
OP97536-BS1	280482044	1.33	392329723	1.54
JC28902-1	285220657	1.33	379496517	1.54
ZZZZZZ	204412703	1.33	263668459	1.54
ZZZZZZ	282690633	1.33	387242090	1.54
ZZZZZZ	296271135	1.33	418448094	1.54
ZZZZZZ	213657532	1.33	271399774	1.54

IS 1 = 1-Bromo-2-nitrobenzene (Signal #2)
IS 2 = 1-Bromo-2-nitrobenzene (Signal #1)

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Semivolatile Internal Standard Area Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G4G1920-CC1911	**Injection Date:**	10/07/16
Lab File ID:	4G73382.D	**Injection Time:**	09:09
Instrument ID:	GC4G	**Method:**	SW846 8081B

	IS 1 AREA	RT	IS 2 AREA	RT
Check Std	346598203	1.32	483445268	1.53
Upper Limit [a]	693196406	1.82	966890536	2.03
Lower Limit [b]	173299102	0.82	241722634	1.03

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT
OP97573-MB1	252307651	1.32	339570631	1.54
OP97573-BS1	286580679	1.32	399664794	1.54
ZZZZZZ	258504359	1.32	342478265	1.53
ZZZZZZ	274453871	1.32	366781109	1.54
JC28906-1	199891166	1.33	242933370	1.54
OP97536-MS	210790555	1.33	256735275	1.54
OP97536-MSD	211667972	1.33	256610267	1.54
ZZZZZZ	210803696	1.33	268376486	1.54
ZZZZZZ	284030853	1.33	364314186	1.54
ZZZZZZ	285695462	1.33	374546949	1.54
ZZZZZZ	284146781	1.32	410550818	1.54
ZZZZZZ	264437338	1.33	377972145	1.54
JC28920-6A	279854987	1.33	392582877	1.54
OP97573-LS12	268524908	1.33	376179941	1.54
OP97573-MS	268524908	1.33	376179941	1.54
OP97573-MSD	277451975	1.33	383219357	1.54
OP97573-LB31	274105568	1.33	384763465	1.54

IS 1 = 1-Bromo-2-nitrobenzene (Signal #2)
IS 2 = 1-Bromo-2-nitrobenzene (Signal #1)

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

DDT/Endrin Breakdown Check

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample:	G4G1911-DDT	**Injection Date:**	09/28/16
Lab File ID:	4G72942.D	**Injection Time:**	18:11
Instrument ID:	GC4G		

Compound	Response Signal 1	Response Signal 2
4,4'-DDD	21567067	19693440
4,4'-DDE	12804498	8741360
4,4'-DDT	827661617	478047746
DDT Breakdown [a]	4 %	5.6 %
Endrin aldehyde	19289512	16710867
Endrin ketone	43465767	27626447
Endrin	384878674	278309171
Endrin Breakdown [b]	14 %	13.7 %

(a) Calculated as: (DDD + DDE) / (DDD + DDE + DDT) x 100
(b) Calculated as: (Endrin Aldehyde + Endrin Ketone) / (Endrin Aldehyde + Endrin Ketone + Endrin) x 100

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
G4G1911-IC1911	4G72944.D	09/28/16	18:40	00:29	Initial cal 1
G4G1911-IC1911	4G72945.D	09/28/16	18:55	00:44	Initial cal 2
G4G1911-IC1911	4G72946.D	09/28/16	19:09	00:58	Initial cal 5
G4G1911-IC1911	4G72947.D	09/28/16	19:24	01:13	Initial cal 10
G4G1911-ICC1911	4G72948.D	09/28/16	19:38	01:27	Initial cal 25
G4G1911-IC1911	4G72949.D	09/28/16	19:53	01:42	Initial cal 50
G4G1911-IC1911	4G72950.D	09/28/16	20:07	01:56	Initial cal 75
G4G1911-IC1911	4G72951.D	09/28/16	20:22	02:11	Initial cal 100
G4G1911-IC1911	4G72952.D	09/28/16	20:36	02:25	Initial cal 500
G4G1911-IC1911	4G72953.D	09/28/16	20:51	02:40	Initial cal 500
G4G1911-ICV1911	4G72954.D	09/28/16	21:05	02:54	Initial cal verification 25
G4G1911-ICV1911	4G72955.D	09/28/16	21:20	03:09	Initial cal verification 25
G4G1911-ICV1911	4G72956.D	09/28/16	21:34	03:23	Initial cal verification 500
G4G1911-ICV1911	4G72957.D	09/28/16	21:49	03:38	Initial cal verification 500

DDT/Endrin Breakdown Check

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample:	G4G1919-DDT	**Injection Date:**	10/06/16
Lab File ID:	4G73350.D	**Injection Time:**	16:59
Instrument ID:	GC4G		

Compound	Response Signal 1	Response Signal 2
4,4'-DDD	9719194	9227782
4,4'-DDE	12667378	5921347
4,4'-DDT	1047090615	605414779
DDT Breakdown [a]	2.1 %	2.4 %
Endrin aldehyde	6356626	4711502
Endrin ketone	23269961	19729894
Endrin	536086930	387188115
Endrin Breakdown [b]	5.2 %	5.9 %

(a) Calculated as: (DDD + DDE) / (DDD + DDE + DDT) x 100
(b) Calculated as: (Endrin Aldehyde + Endrin Ketone) / (Endrin Aldehyde + Endrin Ketone + Endrin) x 100

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
G4G1919-CC1911	4G73351.D	10/06/16	17:13	00:14	Continuing cal 25
OP97536-MB1	4G73353.D	10/06/16	17:42	00:43	Method Blank
OP97536-BS1	4G73354.D	10/06/16	17:56	00:57	Blank Spike
JC28902-1	4G73355.D	10/06/16	18:11	01:12	WOOLSTON-TS-002
ZZZZZZ	4G73360.D	10/06/16	19:23	02:24	(unrelated sample)
ZZZZZZ	4G73362.D	10/06/16	19:52	02:53	(unrelated sample)
ZZZZZZ	4G73363.D	10/06/16	20:06	03:07	(unrelated sample)
ZZZZZZ	4G73366.D	10/06/16	20:49	03:50	(unrelated sample)

DDT/Endrin Breakdown Check

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: G4G1920-DDT
Lab File ID: 4G73381.D
Instrument ID: GC4G
Injection Date: 10/07/16
Injection Time: 08:54

Compound	Response Signal 1	Response Signal 2
4,4'-DDD	29741342	23736858
4,4'-DDE	13246422	10842480
4,4'-DDT	1157608144	705845177
DDT Breakdown [a]	3.6 %	4.7 %
Endrin aldehyde	8251616	9089682
Endrin ketone	28637204	23153861
Endrin	625394352	446375802
Endrin Breakdown [b]	5.6 %	6.7 %

(a) Calculated as: (DDD + DDE) / (DDD + DDE + DDT) x 100
(b) Calculated as: (Endrin Aldehyde + Endrin Ketone) / (Endrin Aldehyde + Endrin Ketone + Endrin) x 100

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
G4G1920-CC1911	4G73382.D	10/07/16	09:09	00:15	Continuing cal 50
OP97573-MB1	4G73384.D	10/07/16	09:54	01:00	Method Blank
OP97573-BS1	4G73385.D	10/07/16	10:08	01:14	Blank Spike
ZZZZZZ	4G73386.D	10/07/16	10:23	01:29	(unrelated sample)
ZZZZZZ	4G73389.D	10/07/16	11:06	02:12	(unrelated sample)
JC28906-1	4G73390.D	10/07/16	11:21	02:27	(used for QC only; not part of job JC28902)
OP97536-MS	4G73391.D	10/07/16	11:35	02:41	Matrix Spike
OP97536-MSD	4G73392.D	10/07/16	11:49	02:55	Matrix Spike Duplicate
ZZZZZZ	4G73393.D	10/07/16	12:04	03:10	(unrelated sample)
ZZZZZZ	4G73394.D	10/07/16	12:18	03:24	(unrelated sample)
ZZZZZZ	4G73395.D	10/07/16	12:33	03:39	(unrelated sample)
ZZZZZZ	4G73396.D	10/07/16	12:47	03:53	(unrelated sample)
ZZZZZZ	4G73397.D	10/07/16	13:01	04:07	(unrelated sample)
JC28920-6A	4G73398.D	10/07/16	13:16	04:22	(used for QC only; not part of job JC28902)
OP97573-LS12	4G73399.D	10/07/16	13:30	04:36	Leachate Spike
OP97573-MS	4G73399.D	10/07/16	13:30	04:36	Matrix Spike
OP97573-MSD	4G73400.D	10/07/16	13:45	04:51	Matrix Spike Duplicate
OP97573-LB31	4G73401.D	10/07/16	13:59	05:05	Leachate Blank

GC Identification Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	GOA4139-CC4125	**Injection Date:**	10/07/16
Lab File ID:	OA120267.D	**Injection Time:**	09:18
Instrument ID:	GCOA	**Method:**	SW846 8151

Sample ID:	OP97538-BS1	**Injection Date:**	10/07/16
Lab File ID:	OA120270.D	**Injection Time:**	10:44
Client ID:	Blank Spike		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
2,4-D	1	8.50	8.51	137		ug/kg	4.5
2,4-D	2 [a]	9.62	9.62	131		ug/kg	
2,4,5-TP (Silvex)	1	9.54	9.55	28.2		ug/kg	9.7
2,4,5-TP (Silvex)	2 [a]	10.73	10.74	25.6		ug/kg	
2,4,5-T	1	9.89	9.91	27.9		ug/kg	7.1
2,4,5-T	2 [a]	11.28	11.28	26.0		ug/kg	
Dalapon	1	2.32	2.32	30.4	E	ug/kg	3.7
Dalapon	2 [a]	2.50	2.51	29.3		ug/kg	
Dicamba	1	7.38	7.38	25.7		ug/kg	6.0
Dicamba	2 [a]	8.28	8.28	24.2		ug/kg	
Dichloroprop	1	8.23	8.23	145		ug/kg	1.4
Dichloroprop	2 [a]	9.19	9.20	143		ug/kg	
Dinoseb	1	12.02	12.03	89.0		ug/kg	40.7
Dinoseb	2 [a]	12.40	12.41	58.9		ug/kg	
MCPA	1	7.79	7.80	11200	E	ug/kg	55.4
MCPA	2 [a]	8.74	8.75	6340		ug/kg	
MCPP	1	7.62	7.63	8830	E	ug/kg	16.6
MCPP	2 [a]	8.43	8.44	7480		ug/kg	
Pentachlorophenol	1 [a]	8.72	8.73	9.0		ug/kg	18.2
Pentachlorophenol	2	10.12	10.12	10.8		ug/kg	
2,4-DB	1	10.60	10.62	141		ug/kg	9.7
2,4-DB	2 [a]	12.00	12.01	128		ug/kg	

(a) QC results reported from this column.

GC Identification Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G3G3614-CC3591	**Injection Date:**	10/07/16
Lab File ID:	3G103394.D	**Injection Time:**	09:07
Instrument ID:	GC3G	**Method:**	SW846 8151

Sample ID:	OP97538-MS	**Injection Date:**	10/07/16
Lab File ID:	3G103397.D	**Injection Time:**	10:39
Client ID:	Matrix Spike		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
2,4-D	1 [a]	8.52	8.53	74.4		ug/kg	58.1
2,4-D	2	9.68	9.69	40.9		ug/kg	
2,4,5-TP (Silvex)	1 [a]	9.55	9.57	7.5		ug/kg	6.9
2,4,5-TP (Silvex)	2	10.78	10.79	7.0	J	ug/kg	
2,4,5-T	1 [a]	9.91	9.93	5.5	J	ug/kg	0.0
2,4,5-T	2	11.33	11.36	5.5	J	ug/kg	
Dalapon	1 [a]	2.33	2.33	13.9		ug/kg	39.3
Dalapon	2	2.54	2.53	20.7		ug/kg	
Dicamba	1 [a]	7.39	7.40	8.4		ug/kg	192.6
Dicamba	2	8.33	8.32	447	E	ug/kg	
Dichloroprop	1 [a]	8.25	8.25	35.2	J	ug/kg	74.6
Dichloroprop	2	9.24	9.25	77.1		ug/kg	
Pentachlorophenol	1 [a]	8.75	8.75	4.7		ug/kg	12.0
Pentachlorophenol	2	10.17	10.17	5.3		ug/kg	

(a) QC results reported from this column.

GC Identification Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G3G3614-CC3591	**Injection Date:**	10/07/16
Lab File ID:	3G103394.D	**Injection Time:**	09:07
Instrument ID:	GC3G	**Method:**	SW846 8151

Sample ID:	OP97538-MSD	**Injection Date:**	10/07/16
Lab File ID:	3G103398.D	**Injection Time:**	11:09
Client ID:	Matrix Spike Duplicate		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
2,4-D	1 [a]	8.51	8.53	132		ug/kg	7.1
2,4-D	2	9.67	9.69	123		ug/kg	
2,4,5-TP (Silvex)	1 [a]	9.56	9.57	30.9		ug/kg	109.7
2,4,5-TP (Silvex)	2	10.77	10.79	106	E	ug/kg	
2,4,5-T	1 [a]	9.91	9.93	22.5		ug/kg	53.4
2,4,5-T	2	11.33	11.36	38.9		ug/kg	
Dalapon	1 [a]	2.33	2.33	42.8		ug/kg	40.9
Dalapon	2	2.53	2.53	64.8		ug/kg	
Dicamba	1 [a]	7.39	7.40	26.7		ug/kg	118.3
Dicamba	2	8.30	8.32	104	E	ug/kg	
Dichloroprop	1 [a]	8.24	8.25	76.5		ug/kg	171.4
Dichloroprop	2	9.27	9.25	994	E	ug/kg	
Pentachlorophenol	1 [a]	8.75	8.75	13.6		ug/kg	39.5
Pentachlorophenol	2	10.18	10.17	20.3		ug/kg	
2,4-DB	1 [a]	10.62	10.63	271		ug/kg	1.1
2,4-DB	2	12.07	12.08	274		ug/kg	

(a) QC results reported from this column.

GC Identification Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G4G1919-CC1911	**Injection Date:**	10/06/16
Lab File ID:	4G73351.D	**Injection Time:**	17:13
Instrument ID:	GC4G	**Method:**	SW846 8081B

Sample ID:	OP97536-BS1	**Injection Date:**	10/06/16
Lab File ID:	4G73354.D	**Injection Time:**	17:56
Client ID:	Blank Spike		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aldrin	1 [a]	3.37	3.37	12.8		ug/kg	4.6
Aldrin	2	3.47	3.47	13.4		ug/kg	
alpha-BHC	1 [a]	2.39	2.39	12.8		ug/kg	6.8
alpha-BHC	2	2.36	2.36	13.7		ug/kg	
beta-BHC	1	2.71	2.71	13.9		ug/kg	4.4
beta-BHC	2 [a]	2.76	2.76	13.3		ug/kg	
delta-BHC	1 [a]	2.87	2.87	13.1		ug/kg	12.9
delta-BHC	2	3.06	3.06	14.9		ug/kg	
gamma-BHC (Lindane)	1 [a]	2.64	2.64	12.7		ug/kg	6.1
gamma-BHC (Lindane)	2	2.68	2.68	13.5		ug/kg	
alpha-Chlordane	1 [a]	4.34	4.34	13.0		ug/kg	4.5
alpha-Chlordane	2	4.59	4.59	13.6		ug/kg	
gamma-Chlordane	1 [a]	4.18	4.18	12.0		ug/kg	12.5
gamma-Chlordane	2	4.40	4.40	13.6		ug/kg	
Chlordane (alpha and gamma)	n/a [b]			25.0		ug/kg	
Dieldrin	1 [a]	4.81	4.81	13.4		ug/kg	8.6
Dieldrin	2	5.04	5.04	14.6		ug/kg	
4,4'-DDD	1 [a]	5.25	5.25	13.4		ug/kg	9.3
4,4'-DDD	2	5.71	5.71	14.7		ug/kg	
4,4'-DDE	1 [a]	4.45	4.45	13.2		ug/kg	7.3
4,4'-DDE	2	4.86	4.86	14.2		ug/kg	
4,4'-DDT	1	5.64	5.64	15.7		ug/kg	3.9
4,4'-DDT	2 [a]	6.19	6.19	15.1		ug/kg	
Endrin	1	5.12	5.12	18.4		ug/kg	2.8
Endrin	2 [a]	5.48	5.48	17.9		ug/kg	
Endosulfan sulfate	1 [a]	6.71	6.71	14.6		ug/kg	10.4
Endosulfan sulfate	2	6.77	6.77	16.2		ug/kg	
Endrin aldehyde	1 [a]	6.04	6.04	12.7		ug/kg	6.8
Endrin aldehyde	2	6.34	6.34	13.6		ug/kg	
Endosulfan-I	1 [a]	4.51	4.51	12.8		ug/kg	4.6
Endosulfan-I	2	4.66	4.66	13.4		ug/kg	
Endosulfan-II	1 [a]	5.43	5.43	13.0		ug/kg	8.1
Endosulfan-II	2	5.81	5.81	14.1		ug/kg	
Heptachlor	1	3.07	3.07	13.8		ug/kg	10.7
Heptachlor	2 [a]	3.12	3.12	12.4		ug/kg	
Heptachlor epoxide	1	4.03	4.03	13.6		ug/kg	0.7
Heptachlor epoxide	2 [a]	4.15	4.15	13.5		ug/kg	
Methoxychlor	1	6.42	6.42	17.8		ug/kg	11.9
Methoxychlor	2 [a]	7.38	7.38	15.8		ug/kg	
Endrin ketone	1 [a]	7.12	7.12	14.0		ug/kg	7.6
Endrin ketone	2	7.65	7.65	15.1		ug/kg	

GC Identification Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G4G1919-CC1911	**Injection Date:**	10/06/16
Lab File ID:	4G73351.D	**Injection Time:**	17:13
Instrument ID:	GC4G	**Method:**	SW846 8081B

Sample ID:	OP97536-BS1	**Injection Date:**	10/06/16
Lab File ID:	4G73354.D	**Injection Time:**	17:56
Client ID:	Blank Spike		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc

(a) QC results reported from this column.
(b) Final reported result.

8.7.4
8

GC Identification Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G4G1920-CC1911	**Injection Date:**	10/07/16
Lab File ID:	4G73382.D	**Injection Time:**	09:09
Instrument ID:	GC4G	**Method:**	SW846 8081B

Sample ID:	OP97536-MS	**Injection Date:**	10/07/16
Lab File ID:	4G73391.D	**Injection Time:**	11:35
Client ID:	Matrix Spike		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aldrin	1 [a]	3.38	3.37	10.9		ug/kg	7.1
Aldrin	2	3.47	3.47	11.7		ug/kg	
alpha-BHC	1	2.39	2.39	20.6		ug/kg	21.5
alpha-BHC	2 [a]	2.36	2.36	16.6		ug/kg	
beta-BHC	1 [a]	2.72	2.71	10.3		ug/kg	22.4
beta-BHC	2	2.76	2.75	12.9		ug/kg	
delta-BHC	1 [a]	2.88	2.87	12.8		ug/kg	9.8
delta-BHC	2	3.06	3.06	11.6		ug/kg	
gamma-BHC (Lindane)	1 [a]	2.65	2.64	10.4		ug/kg	65.4
gamma-BHC (Lindane)	2	2.68	2.68	20.5		ug/kg	
alpha-Chlordane	1	4.34	4.34	12.5		ug/kg	9.2
alpha-Chlordane	2 [a]	4.59	4.59	11.4		ug/kg	
gamma-Chlordane	1	4.18	4.18	13.8		ug/kg	13.1
gamma-Chlordane	2 [a]	4.40	4.40	12.1		ug/kg	
Chlordane (alpha and gamma)	n/a [b]			23.4		ug/kg	
Dieldrin	1	4.81	4.81	11.5		ug/kg	13.0
Dieldrin	2 [a]	5.04	5.04	13.1		ug/kg	
4,4'-DDD	1 [a]	5.25	5.24	11.9		ug/kg	14.1
4,4'-DDD	2	5.70	5.71	13.7		ug/kg	
4,4'-DDE	1 [a]	4.45	4.45	13.0		ug/kg	11.4
4,4'-DDE	2	4.85	4.85	11.6		ug/kg	
4,4'-DDT	1	5.64	5.64	14.5		ug/kg	4.9
4,4'-DDT	2 [a]	6.18	6.18	13.8		ug/kg	
Endrin	1 [a]	5.12	5.11	16.3		ug/kg	17.3
Endrin	2	5.48	5.48	13.7		ug/kg	
Endosulfan sulfate	1 [a]	6.71	6.71	10.3		ug/kg	42.7
Endosulfan sulfate	2	6.77	6.77	15.9		ug/kg	
Endrin aldehyde	1 [a]	6.01	6.04	3.8		ug/kg	11.1
Endrin aldehyde	2	6.34	6.34	3.4		ug/kg	
Endosulfan-I	1 [a]	4.51	4.51	10.3		ug/kg	0.0
Endosulfan-I	2	4.66	4.66	10.3		ug/kg	
Endosulfan-II	1 [a]	5.43	5.43	9.2		ug/kg	11.3
Endosulfan-II	2	5.81	5.81	10.3		ug/kg	
Heptachlor	1 [a]	3.08	3.07	12.3		ug/kg	25.7
Heptachlor	2	3.12	3.12	9.5		ug/kg	
Heptachlor epoxide	1 [a]	4.04	4.03	11.5		ug/kg	7.5
Heptachlor epoxide	2	4.16	4.15	12.4		ug/kg	
Methoxychlor	1 [a]	6.41	6.41	12.3		ug/kg	0.8
Methoxychlor	2	7.38	7.38	12.4		ug/kg	
Endrin ketone	1 [a]	7.12	7.12	15.4		ug/kg	22.4
Endrin ketone	2	7.64	7.64	12.3		ug/kg	

GC Identification Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G4G1920-CC1911	**Injection Date:**	10/07/16
Lab File ID:	4G73382.D	**Injection Time:**	09:09
Instrument ID:	GC4G	**Method:**	SW846 8081B

Sample ID:	OP97536-MS	**Injection Date:**	10/07/16
Lab File ID:	4G73391.D	**Injection Time:**	11:35
Client ID:	Matrix Spike		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc

(a) QC results reported from this column.
(b) Final reported result.

8.7.5
8

GC Identification Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G4G1920-CC1911	**Injection Date:**	10/07/16
Lab File ID:	4G73382.D	**Injection Time:**	09:09
Instrument ID:	GC4G	**Method:**	SW846 8081B

Sample ID:	OP97536-MSD	**Injection Date:**	10/07/16
Lab File ID:	4G73392.D	**Injection Time:**	11:49
Client ID:	Matrix Spike Duplicate		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aldrin	1 [a]	3.38	3.37	13.8		ug/kg	4.9
Aldrin	2	3.47	3.47	14.5		ug/kg	
alpha-BHC	1	2.40	2.39	24.7		ug/kg	20.0
alpha-BHC	2 [a]	2.36	2.36	20.2		ug/kg	
beta-BHC	1 [a]	2.72	2.71	12.7		ug/kg	20.5
beta-BHC	2	2.76	2.75	15.6		ug/kg	
delta-BHC	1 [a]	2.88	2.87	15.1		ug/kg	6.1
delta-BHC	2	3.06	3.06	14.2		ug/kg	
gamma-BHC (Lindane)	1 [a]	2.65	2.64	13.1		ug/kg	62.8
gamma-BHC (Lindane)	2	2.68	2.68	25.1		ug/kg	
alpha-Chlordane	1	4.34	4.34	14.9		ug/kg	8.4
alpha-Chlordane	2 [a]	4.59	4.59	13.7		ug/kg	
gamma-Chlordane	1	4.18	4.18	13.6		ug/kg	2.9
gamma-Chlordane	2 [a]	4.40	4.40	14.0		ug/kg	
Chlordane (alpha and gamma)	n/a [b]			27.2		ug/kg	
Dieldrin	1	4.81	4.81	13.8		ug/kg	7.7
Dieldrin	2 [a]	5.04	5.04	14.9		ug/kg	
4,4'-DDD	1 [a]	5.25	5.24	14.9		ug/kg	16.6
4,4'-DDD	2	5.71	5.71	17.6		ug/kg	
4,4'-DDE	1 [a]	4.45	4.45	17.5		ug/kg	20.8
4,4'-DDE	2	4.85	4.85	14.2		ug/kg	
4,4'-DDT	1	5.64	5.64	16.3		ug/kg	11.6
4,4'-DDT	2 [a]	6.18	6.18	18.3		ug/kg	
Endrin	1 [a]	5.12	5.11	19.9		ug/kg	20.5
Endrin	2	5.48	5.48	16.2		ug/kg	
Endosulfan sulfate	1 [a]	6.71	6.71	14.0		ug/kg	27.7
Endosulfan sulfate	2	6.77	6.77	18.5		ug/kg	
Endrin aldehyde	1 [a]	6.03	6.04	5.5		ug/kg	13.6
Endrin aldehyde	2	6.34	6.34	4.8		ug/kg	
Endosulfan-I	1 [a]	4.51	4.51	12.7		ug/kg	0.8
Endosulfan-I	2	4.67	4.66	12.6		ug/kg	
Endosulfan-II	1 [a]	5.43	5.43	11.4		ug/kg	11.6
Endosulfan-II	2	5.81	5.81	12.8		ug/kg	
Heptachlor	1 [a]	3.08	3.07	14.7		ug/kg	23.6
Heptachlor	2	3.12	3.12	11.6		ug/kg	
Heptachlor epoxide	1 [a]	4.04	4.03	14.3		ug/kg	2.8
Heptachlor epoxide	2	4.16	4.15	13.9		ug/kg	
Methoxychlor	1 [a]	6.41	6.41	14.7		ug/kg	2.8
Methoxychlor	2	7.38	7.38	14.3		ug/kg	
Endrin ketone	1 [a]	7.12	7.12	19.1		ug/kg	24.0
Endrin ketone	2	7.64	7.64	15.0		ug/kg	

GC Identification Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G4G1920-CC1911	**Injection Date:**	10/07/16
Lab File ID:	4G73382.D	**Injection Time:**	09:09
Instrument ID:	GC4G	**Method:**	SW846 8081B

Sample ID:	OP97536-MSD	**Injection Date:**	10/07/16
Lab File ID:	4G73392.D	**Injection Time:**	11:49
Client ID:	Matrix Spike Duplicate		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc

(a) QC results reported from this column.
(b) Final reported result.

GC Identification Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	GXX5823-CC5786	**Injection Date:**	10/06/16
Lab File ID:	XX198038.D	**Injection Time:**	14:28
Instrument ID:	GCXX	**Method:**	SW846 8082A

Sample ID:	OP97535-BS1	**Injection Date:**	10/06/16
Lab File ID:	XX198041.D	**Injection Time:**	15:19
Client ID:	Blank Spike		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aroclor 1016	1			124		ug/kg	3.3
Aroclor 1016	2 [a]			120		ug/kg	
AR1016-A	1	3.19	3.19	126		ug/kg	
AR1016-A	2	3.98	3.98	119		ug/kg	
AR1016-B	1	3.58	3.58	127		ug/kg	
AR1016-B	2	4.52	4.52	123		ug/kg	
AR1016-C	1	4.15	4.15	110		ug/kg	
AR1016-C	2	5.16	5.16	116		ug/kg	
AR1016-D	1	4.31	4.31	127		ug/kg	
AR1016-D	2	5.34	5.34	126		ug/kg	
AR1016-E	1	4.81	4.81	132		ug/kg	
AR1016-E	2	5.99	6.00	118		ug/kg	
Aroclor 1260	1			115		ug/kg	0.9
Aroclor 1260 [b]	2 [a]			116		ug/kg	
AR1260-A	1	7.21	7.21	88.0		ug/kg	
AR1260-A	2	8.61	8.60	96.9		ug/kg	
AR1260-B	1	7.34	7.33	139		ug/kg	
AR1260-B	2	8.72	8.72	131		ug/kg	
AR1260-C	1	7.68	7.67	118		ug/kg	
AR1260-C	2	9.15	9.15	119		ug/kg	
AR1260-D	1	8.13	8.13	134		ug/kg	
AR1260-D	2	9.51	9.51	122		ug/kg	
AR1260-E	1	8.55	8.55	96.5		ug/kg	
AR1260-E	2	10.05	10.05	112		ug/kg	

(a) QC results reported from this column.
(b) Reported from 2nd signal. %D of check calibration on 1st signal exceed method criteria (20%) so using for confirmation only.

GC Identification Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	GXX5823-CC5786	**Injection Date:**	10/06/16
Lab File ID:	XX198044.D	**Injection Time:**	16:24
Instrument ID:	GCXX	**Method:**	SW846 8082A

Sample ID:	OP97535-MS	**Injection Date:**	10/06/16
Lab File ID:	XX198050.D	**Injection Time:**	18:13
Client ID:	Matrix Spike		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aroclor 1016	1 [a]			116		ug/kg	5.0
Aroclor 1016	2			122		ug/kg	
AR1016-A	1	3.19	3.19	122		ug/kg	
AR1016-A	2	3.98	3.98	117		ug/kg	
AR1016-B	1	3.58	3.58	126		ug/kg	
AR1016-B	2	4.52	4.53	113		ug/kg	
AR1016-C	1	4.15	4.15	121		ug/kg	
AR1016-C	2	5.16	5.16	114		ug/kg	
AR1016-D	1	4.31	4.31	95.5		ug/kg	
AR1016-D	2	5.34	5.34	150		ug/kg	
AR1016-E	1	4.81	4.81	113		ug/kg	
AR1016-E	2	5.99	5.99	116		ug/kg	
Aroclor 1260	1 [a]			102		ug/kg	18.7
Aroclor 1260	2			123		ug/kg	
AR1260-A	1	7.18	7.21	85.5		ug/kg	
AR1260-A	2	8.60	8.60	87.6		ug/kg	
AR1260-B	1	7.33	7.33	112		ug/kg	
AR1260-B	2	8.71	8.72	136		ug/kg	
AR1260-C	1	7.67	7.67	95.8		ug/kg	
AR1260-C	2	9.14	9.15	155		ug/kg	
AR1260-D	1	8.10	8.13	96.8		ug/kg	
AR1260-D	2	9.50	9.51	128		ug/kg	
AR1260-E	1	8.50	8.55	120		ug/kg	
AR1260-E	2	10.04	10.05	111		ug/kg	

(a) QC results reported from this column.

GC Identification Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	GXX5823-CC5786	**Injection Date:**	10/06/16
Lab File ID:	XX198044.D	**Injection Time:**	16:24
Instrument ID:	GCXX	**Method:**	SW846 8082A

Sample ID:	OP97535-MSD	**Injection Date:**	10/06/16
Lab File ID:	XX198051.D	**Injection Time:**	18:30
Client ID:	Matrix Spike Duplicate		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aroclor 1016	1 [a]			102		ug/kg	10.2
Aroclor 1016	2			113		ug/kg	
AR1016-A	1	3.19	3.19	83.2		ug/kg	
AR1016-A	2	3.98	3.98	106		ug/kg	
AR1016-B	1	3.58	3.58	118		ug/kg	
AR1016-B	2	4.52	4.53	108		ug/kg	
AR1016-C	1	4.15	4.15	113		ug/kg	
AR1016-C	2	5.16	5.16	116		ug/kg	
AR1016-D	1	4.31	4.31	91.5		ug/kg	
AR1016-D	2	5.34	5.34	127		ug/kg	
AR1016-E	1	4.81	4.81	106		ug/kg	
AR1016-E	2	5.99	5.99	107		ug/kg	
Aroclor 1260	1 [a]			97.6		ug/kg	18.9
Aroclor 1260	2			118		ug/kg	
AR1260-A	1	7.18	7.21	87.9		ug/kg	
AR1260-A	2	8.59	8.60	88.6		ug/kg	
AR1260-B	1	7.33	7.33	95.9		ug/kg	
AR1260-B	2	8.71	8.72	133		ug/kg	
AR1260-C	1	7.67	7.67	88.3		ug/kg	
AR1260-C	2	9.14	9.15	147		ug/kg	
AR1260-D	1	8.11	8.13	92.7		ug/kg	
AR1260-D	2	9.50	9.51	118		ug/kg	
AR1260-E	1	8.50	8.55	123		ug/kg	
AR1260-E	2	10.04	10.05	102		ug/kg	

(a) QC results reported from this column.

Semivolatile Surrogate Recovery Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Method: SW846 8151 **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
JC28902-1	OA120273.D	94	101
OP97538-BS1	OA120270.D	106	109
OP97538-MB1	OA120269.D	110	114
OP97538-MS	3G103397.D	14	18
OP97538-MSD	3G103398.D	73	113

Surrogate Compounds	Recovery Limits
S1 = 2,4-DCAA	10-156%

(a) Recovery from GC signal #2
(b) Recovery from GC signal #1

Semivolatile Surrogate Recovery Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Method: SW846 8081B **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]	S2 [a]	S2 [b]
JC28902-1	4G73355.D	77	74	65	78
OP97536-BS1	4G73354.D	81	78	79	97
OP97536-MB1	4G73353.D	92	90	89	107
OP97536-MS	4G73391.D	84	62	58	68
OP97536-MSD	4G73392.D	105	77	70	84

Surrogate Compounds	Recovery Limits
S1 = Tetrachloro-m-xylene	24-136%
S2 = Decachlorobiphenyl	10-153%

(a) Recovery from GC signal #1
(b) Recovery from GC signal #2

Semivolatile Surrogate Recovery Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Method: SW846 8082A **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]	S2 [a]	S2 [b]
JC28902-1	XX198049.D	89	88	83	80
OP97535-BS1	XX198041.D	97	91	103	89
OP97535-MB1	XX198040.D	101	95	114	96
OP97535-MS	XX198050.D	83	86	77	78
OP97535-MSD	XX198051.D	65	68	69	74

Surrogate Compounds	Recovery Limits
S1 = Tetrachloro-m-xylene	20-152%
S2 = Decachlorobiphenyl	12-157%

(a) Recovery from GC signal #1
(b) Recovery from GC signal #2

Semivolatile Surrogate Recovery Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Method: NJDEP EPH **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S2 [a]
JC28902-1	5Y36634.D	63	69
OP97541-BS11	5Z30027.D	90	107
OP97541-DUP	5Y36630.D	68	74
OP97541-MB1	5Y36627.D	68	72
OP97541-MB1	5Z30028.D	84	97
OP97541-MS	5Z30030.D	105	85
OP97541-MSD	5Z30031.D	103	84

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	40-140%
S2 = 1-Chlorooctadecane	40-140%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G5Y1211-CC1190	**Injection Date:**	10/06/16
Lab File ID:	5Y36625.D	**Injection Time:**	10:21
Instrument ID:	GC5Y	**Method:**	NJDEP EPH

	S1 [a] RT	S2 [a] RT
Check Std	11.97	13.28

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S2 [a] RT
OP97541-MB1	5Y36627.D	10/06/16	12:05	11.96	13.28
ZZZZZZ	5Y36628.D	10/06/16	12:36	11.96	13.27
JC28910-2	5Y36629.D	10/06/16	13:07	11.96	13.27
OP97541-DUP	5Y36630.D	10/06/16	13:38	11.96	13.28

Surrogate Compounds

S1 = o-Terphenyl
S2 = 1-Chlorooctadecane

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G5Y1211-CC1190	**Injection Date:**	10/06/16
Lab File ID:	5Y36632.D	**Injection Time:**	14:41
Instrument ID:	GC5Y	**Method:**	NJDEP EPH

	S1 [a] RT	S2 [a] RT
Check Std	11.96	13.27

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S2 [a] RT
JC28902-1	5Y36634.D	10/06/16	16:01	11.96	13.28
ZZZZZZ	5Y36635.D	10/06/16	16:32	11.97	13.28

Surrogate Compounds

S1 = o-Terphenyl
S2 = 1-Chlorooctadecane

(a) Retention time from GC signal #1

8.9.2

8

GC Surrogate Retention Time Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G5Z1032-CC1024	**Injection Date:**	10/06/16
Lab File ID:	5Z30025.D	**Injection Time:**	10:21
Instrument ID:	GC5Z	**Method:**	NJDEP EPH

	S1 [a] RT	S2 [a] RT
Check Std	11.67	12.97

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S2 [a] RT
OP97541-BS11	5Z30027.D	10/06/16	12:05	11.67	12.97
OP97541-MB1	5Z30028.D	10/06/16	12:36	11.67	12.97
JC28906-2	5Z30029.D	10/06/16	13:07	11.69	12.98
OP97541-MS	5Z30030.D	10/06/16	13:38	11.70	12.99
OP97541-MSD	5Z30031.D	10/06/16	14:09	11.70	12.98

Surrogate Compounds

S1 = o-Terphenyl
S2 = 1-Chlorooctadecane

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G3G3614-CC3591	**Injection Date:**	10/07/16
Lab File ID:	3G103394.D	**Injection Time:**	09:07
Instrument ID:	GC3G	**Method:**	SW846 8151

	S1 [a] RT	S1 [b] RT
Check Std	8.10	7.20

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
JC28904-1A	3G103396.D	10/07/16	10:08	8.09	7.18
OP97538-MS	3G103397.D	10/07/16	10:39	8.10	7.21
OP97538-MSD	3G103398.D	10/07/16	11:09	8.09	7.20
OP97571-MB1	3G103399.D	10/07/16	11:39	8.10	7.20
OP97571-BS1	3G103400.D	10/07/16	12:10	8.09	7.20
ZZZZZZ	3G103401.D	10/07/16	12:40	8.10	7.20
ZZZZZZ	3G103402.D	10/07/16	13:11	8.10	7.20
ZZZZZZ	3G103403.D	10/07/16	13:41	8.10	7.20

Surrogate Compounds

S1 = 2,4-DCAA

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	GOA4139-CC4125	**Injection Date:**	10/07/16
Lab File ID:	OA120267.D	**Injection Time:**	09:18
Instrument ID:	GCOA	**Method:**	SW846 8151

	S1 [a] RT	S1 [b] RT
Check Std	8.05	7.19

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
OP97538-MB1	OA120269.D	10/07/16	10:16	8.05	7.19
OP97538-BS1	OA120270.D	10/07/16	10:44	8.05	7.18
ZZZZZZ	OA120271.D	10/07/16	11:12	8.05	7.18
ZZZZZZ	OA120272.D	10/07/16	11:41	8.05	7.18
JC28902-1	OA120273.D	10/07/16	12:09	8.05	7.19
ZZZZZZ	OA120274.D	10/07/16	12:37	0.00	0.00

Surrogate Compounds

S1 = 2,4-DCAA

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	GXX5823-CC5786	**Injection Date:**	10/06/16
Lab File ID:	XX198038.D	**Injection Time:**	14:28
Instrument ID:	GCXX	**Method:**	SW846 8082A

	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
Check Std	2.80	3.34	10.03	11.71

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
OP97535-MB1	XX198040.D	10/06/16	15:02	2.80	3.34	10.03	11.71
OP97535-BS1	XX198041.D	10/06/16	15:19	2.81	3.34	10.03	11.71
ZZZZZZ	XX198042.D	10/06/16	15:35	2.81	3.34	10.03	11.71
ZZZZZZ	XX198043.D	10/06/16	15:52	2.81	3.34	10.03	11.71

Surrogate Compounds

S1 = Tetrachloro-m-xylene
S2 = Decachlorobiphenyl

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

GC Surrogate Retention Time Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G4G1919-CC1911	**Injection Date:**	10/06/16
Lab File ID:	4G73351.D	**Injection Time:**	17:13
Instrument ID:	GC4G	**Method:**	SW846 8081B

	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
Check Std	1.99	1.88	8.88	9.83

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
OP97536-MB1	4G73353.D	10/06/16	17:42	1.99	1.88	8.88	9.83
OP97536-BS1	4G73354.D	10/06/16	17:56	1.99	1.88	8.88	9.83
JC28902-1	4G73355.D	10/06/16	18:11	1.99	1.89	8.88	9.83
ZZZZZZ	4G73360.D	10/06/16	19:23	2.00	1.89	8.88	9.83
ZZZZZZ	4G73362.D	10/06/16	19:52	2.00	1.89	8.88	9.83
ZZZZZZ	4G73363.D	10/06/16	20:06	2.00	1.89	8.88	9.83
ZZZZZZ	4G73366.D	10/06/16	20:49	2.00	1.89	8.88	9.83

Surrogate Compounds

S1 = Tetrachloro-m-xylene
S2 = Decachlorobiphenyl

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

GC Surrogate Retention Time Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G4G1920-CC1911	**Injection Date:**	10/07/16
Lab File ID:	4G73382.D	**Injection Time:**	09:09
Instrument ID:	GC4G	**Method:**	SW846 8081B

	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
Check Std	1.99	1.88	8.88	9.83

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
OP97573-MB1	4G73384.D	10/07/16	09:54	1.99	1.87	8.89	9.83
OP97573-BS1	4G73385.D	10/07/16	10:08	1.99	1.88	8.88	9.83
ZZZZZZ	4G73386.D	10/07/16	10:23	1.99	1.88	8.88	9.83
ZZZZZZ	4G73389.D	10/07/16	11:06	1.99	1.88	8.88	9.83
JC28906-1	4G73390.D	10/07/16	11:21	2.00	1.89	8.88	9.83
OP97536-MS	4G73391.D	10/07/16	11:35	2.00	1.89	8.88	9.83
OP97536-MSD	4G73392.D	10/07/16	11:49	2.00	1.89	8.88	9.83
ZZZZZZ	4G73393.D	10/07/16	12:04	2.00	1.89	8.88	9.83
ZZZZZZ	4G73394.D	10/07/16	12:18	2.00	1.89	8.88	9.83
ZZZZZZ	4G73395.D	10/07/16	12:33	2.00	1.89	8.88	9.83
ZZZZZZ	4G73396.D	10/07/16	12:47	1.99	1.88	8.88	9.83
ZZZZZZ	4G73397.D	10/07/16	13:01	1.99	1.89	8.88	9.83
JC28920-6A	4G73398.D	10/07/16	13:16	1.99	1.89	8.88	9.83
OP97573-LS12	4G73399.D	10/07/16	13:30	1.99	1.88	8.88	9.83
OP97573-MS	4G73399.D	10/07/16	13:30	1.99	1.88	8.88	9.83
OP97573-MSD	4G73400.D	10/07/16	13:45	2.00	1.89	8.88	9.83
OP97573-LB31	4G73401.D	10/07/16	13:59	2.00	1.89	8.88	9.83

Surrogate Compounds

S1 = Tetrachloro-m-xylene
S2 = Decachlorobiphenyl

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

GC Surrogate Retention Time Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	GXX5823-CC5786	**Injection Date:**	10/06/16
Lab File ID:	XX198044.D	**Injection Time:**	16:24
Instrument ID:	GCXX	**Method:**	SW846 8082A

	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
Check Std	2.80	3.34	10.03	11.71

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
ZZZZZZ	XX198046.D	10/06/16	17:06	2.80	3.34	10.03	11.71
ZZZZZZ	XX198047.D	10/06/16	17:23	2.80	3.34	10.02	11.70
ZZZZZZ	XX198048.D	10/06/16	17:40	2.81	3.34	10.02	11.70
JC28902-1	XX198049.D	10/06/16	17:57	2.81	3.34	10.02	11.71
OP97535-MS	XX198050.D	10/06/16	18:13	2.81	3.34	10.02	11.71
OP97535-MSD	XX198051.D	10/06/16	18:30	2.80	3.34	10.02	11.71
ZZZZZZ	XX198052.D	10/06/16	18:47	2.80	3.34	10.02	11.71

Surrogate Compounds

S1 = Tetrachloro-m-xylene
S2 = Decachlorobiphenyl

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: G3G3591-ICC3591
Lab FileID: 3G102648.D

Response Factor Report GC3G

Method : C:\MSDCHEM\1\METHODS\3H3591.M (Chemstation Integrator)
Title : HERB
Last Update : Thu Sep 08 16:38:34 2016
Response via : Initial Calibration

Calibration Files
500 =3G102650.D 400 =3G102649.D 300 =3G102648.D 200 =3G102647.D
100 =3G102646.D 50 =3G102645.D

	Compound	500	400	300	200	100	50	Avg		%RSD
1)	Dalapon	7.441	7.576	7.657	8.096	8.746	8.717	8.039	E6	7.21
2) S	2,4-DCAA	4.488	4.601	4.685	5.000	5.590	6.096	5.077	E6	12.57
3)	Dicamba	2.136	2.196	2.221	2.343	2.612	2.805	2.386	E7	11.16
4)	MCPP	1.341	1.382	1.409	1.489	1.684		1.461	E4	9.30
5)	MCPA	2.015	2.098	2.158	2.341	2.909		2.304	E4	15.58
6)	Dichloroprop	4.947	5.121	5.749	5.794	6.542	7.249	5.900	E6	14.74
7)	2,4-D	6.369	6.539	7.146	7.245	7.648	7.771	7.120	E6	8.00
8)	Pentachlorophenol	1.188	1.207	1.243	1.265	1.294	1.320	1.253	E8	4.04
9)	2,4,5-TP	3.651	3.746	3.825	3.968	4.021	3.630	3.807	E7	4.26
10)	2,4,5-T	3.713	3.741	3.766	3.896	3.904	4.031	3.842	E7	3.19
11)	2,4-DB	3.415	3.457	3.642	4.134	4.017	4.635	3.884	E6	12.11
12)	Dinoseb	1.850	1.911	1.944	2.140	2.334	2.810	2.165	E7	16.76
13)	Picloram	3.454	3.522	3.529	3.655	3.730	3.777	3.611	E7	3.57

Signal #2

1)	Dalapon	1.426	1.458	1.477	1.542	1.615	1.731	1.541	E7	7.43
2) S	2,4-DCAA	5.027	5.152	5.310	5.679	6.571	7.517	5.876	E6	16.64
3)	Dicamba	3.509	3.609	3.701	3.783	4.115	4.473	3.865	E7	9.38
4)	MCPP	8.629	8.397	7.687	6.670	5.076		7.292	E3	19.95
5)	MCPA	1.369	1.322	1.239	1.091	0.856		1.175	E4	17.64
6)	Dichloroprop	0.738	0.756	0.807	0.839	0.980	1.032	0.859	E7	14.07
7)	2,4-D	0.841	0.977	0.938	1.050	1.215	1.179	1.033	E7	13.92
8)	Pentachlorophenol	2.637	2.682	2.602	2.648	2.684	2.732	2.664	E8	1.70
9)	2,4,5-TP	7.944	8.044	8.225	8.278	8.589	8.636	8.286	E7	3.39
10)	2,4,5-T	7.661	7.552	7.701	7.682	8.169	8.303	7.845	E7	3.96
11)	2,4-DB	5.219	5.231	5.299	5.455	5.522	4.760	5.248	E6	5.11
12)	Dinoseb	3.428	3.528	3.636	3.861	4.183	4.791	3.904	E7	13.09
13)	Picloram	1.054	1.090	1.098	1.114	1.164	1.082	1.100	E8	3.35

(#) = Out of Range

3H3591.M Thu Sep 08 16:40:51 2016 GC3G

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: G3G3591-ICV3591
Lab FileID: 3G102651.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\MSDCHEM\1\DATA\3G3591\3G102651.D\ECD1A.CH Vial: 42
Signal #2 : C:\MSDCHEM\1\DATA\3G3591\3G102651.D\ECD2B.CH
Acq On    : 9-8-2016 04:03:33 PM                    Operator: josephr
Sample    : icv3591-300                             Inst    : GC3G
Misc      : op96824,g3g3591,100,,,10,1              Multiplr: 1.00
IntFile Signal #1: autoint1.e     IntFile Signal #2: autoint2.e

Method       : C:\MSDCHEM\1\METHODS\3H3591.M (Chemstation Integrator)
Title        : HERB
Last Update  : Thu Sep 08 16:38:34 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1		Dalapon	8.039	8.262 E6	-2.8	108	0.00	2.32- 2.38
2	S	2,4-DCAA	5.077	4.901 E6	3.5	105	0.00	7.19- 7.25
3		Dicamba	23.856	23.451 E6	1.7	106	0.00	7.39- 7.45
4		MCPP	14.612	14.352 E3	1.8	102	0.00	7.63- 7.69
5		MCPA	23.041	21.441 E3	6.9	99	0.00	7.80- 7.86
6		Dichloroprop	5.900	5.200 E6	11.9	90	0.00	8.24- 8.30
7		2,4-D	7.120	7.427 E6	-4.3	104	0.00	8.52- 8.59
8		Pentachlorophenol	125.289	106.292 E6	15.2	86	0.00	8.75- 8.81
9		2,4,5-TP	38.069	40.238 E6	-5.7	105	0.00	9.56- 9.62
10		2,4,5-T	38.419	41.865 E6	-9.0	111	0.00	9.92- 9.99
11		2,4-DB	3.884	3.934 E6	-1.3	108	0.00	10.61-10.71
12		Dinoseb	21.651	24.001 E6	-10.9	123	0.00	12.02-12.08
13		Picloram	36.110	32.478 E6	10.1	92	0.00	11.80-11.86

***** Signal #2 *****

1		Dalapon	15.415	14.532 E6	5.7	98	0.00	2.51- 2.57
2	S	2,4-DCAA	5.876	5.418 E6	7.8	102	0.00	8.07- 8.13
3		Dicamba	38.652	38.721 E6	-0.2	105	0.00	8.30- 8.36
4		MCPP	7.292	8.131 E3	-11.5	106	0.00	8.45- 8.51
5		MCPA	11.752	11.916 E3	-1.4	96	0.00	8.77- 8.83
6		Dichloroprop	8.587	7.591 E6	11.6	94	0.00	9.22- 9.28
7		2,4-D	10.335	9.802 E6	5.2	104	0.00	9.66- 9.72
8		Pentachlorophenol	266.397	225.381 E6	15.4	87	0.00	10.16-10.22
9		2,4,5-TP	82.859	86.037 E6	-3.8	105	0.00	10.77-10.83
10		2,4,5-T	78.445	81.729 E6	-4.2	106	0.00	11.30-11.42
11		2,4-DB	5.248	5.503 E6	-4.9	104	0.00	12.03-12.13
12		Dinoseb	39.044	44.833 E6	-14.8	123	0.00	12.44-12.51
13		Picloram	110.022	97.680 E6	11.2	89	0.00	13.92-13.98

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3G102648.D 3H3591.M Thu Sep 08 16:41:05 2016 GC3G

Continuing Calibration Summary

Job Number: JC28902 **Sample:** G3G3614-CC3591
Account: HWINJM Honeywell International Inc. **Lab FileID:** 3G103394.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

```
Signal #1 : C:\MSDCHEM\1\DATA\3G3614\3G103394.D\ECD1A.CH Vial: 2
Signal #2 : C:\MSDCHEM\1\DATA\3G3614\3G103394.D\ECD2B.CH
Acq On    : 10-7-2016 09:07:41 AM                    Operator: vinced
Sample    : cc3591-200                               Inst    : GC3G
Misc      : op97545,g3g3614,100,,,10,1               Multiplr: 1.00
IntFile Signal #1: autoint1.e     IntFile Signal #2: autoint2.e

Method       : C:\MSDCHEM\1\METHODS\3H3591.M (Chemstation Integrator)
Title        : HERB
Last Update  : Fri Oct 07 15:00:12 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Dalapon	8.039	7.187 E6	10.6	89	0.00	2.30- 2.36
2 S	2,4-DCAA	5.077	5.089 E6	-0.2	102	0.00	7.17- 7.23
3	Dicamba	23.856	22.810 E6	4.4	97	0.00	7.37- 7.43
4	MCPP	14.612	17.805 E3	-21.9#	120	0.00	7.61- 7.67
5	MCPA	23.041	28.445 E3	-23.5#	122	0.00	7.78- 7.84
6	Dichloroprop	5.900	6.108 E6	-3.5	105	0.00	8.22- 8.28
7	2,4-D	7.120	7.739 E6	-8.7	107	0.00	8.50- 8.57
8	Pentachlorophenol	125.289	131.244 E6	-4.8	104	0.00	8.72- 8.78
9	2,4,5-TP	38.069	40.968 E6	-7.6	103	0.00	9.54- 9.60
10	2,4,5-T	38.419	40.220 E6	-4.7	103	0.00	9.90- 9.97
11	2,4-DB	3.884	4.086 E6	-5.2	99	0.00	10.59-10.68
12	Dinoseb	21.651	24.967 E6	-15.3	117	0.00	11.98-12.04
13	Picloram	36.110	40.249 E6	-11.5	110	0.00	11.77-11.83

***** Signal #2 *****

1	Dalapon	15.415	15.425 E6	-0.1	100	0.00	2.50- 2.56
2 S	2,4-DCAA	5.876	5.878 E6	-0.0	103	0.00	8.07- 8.13
3	Dicamba	38.652	40.496 E6	-4.8	107	0.00	8.29- 8.35
4	MCPP	7.292	6.753 E3	7.4	101	0.00	8.45- 8.51
5	MCPA	11.752	10.713 E3	8.8	98	0.00	8.76- 8.82
6	Dichloroprop	8.587	8.727 E6	-1.6	104	0.00	9.22- 9.28
7	2,4-D	10.335	10.761 E6	-4.1	102	0.00	9.66- 9.72
8	Pentachlorophenol	266.397	284.104 E6	-6.6	107	0.00	10.14-10.20
9	2,4,5-TP	82.859	88.805 E6	-7.2	107	0.00	10.76-10.82
10	2,4,5-T	78.445	83.934 E6	-7.0	109	0.00	11.30-11.42
11	2,4-DB	5.248	4.616 E6	12.0	85	0.00	12.03-12.12
12	Dinoseb	39.044	45.888 E6	-17.5	119	0.00	12.43-12.50
13	Picloram	110.022	120.574 E6	-9.6	108	0.00	13.91-13.97

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3G102647.D 3H3591.M Fri Oct 07 15:00:21 2016 GC3G

Continuing Calibration Summary

Job Number: JC28902 **Sample:** G3G3614-CC3591
Account: HWINJM Honeywell International Inc. **Lab FileID:** 3G103404.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

```
Signal #1 : C:\MSDCHEM\1\DATA\3G3614\3G103404.D\ECD1A.CH Vial: 3
Signal #2 : C:\MSDCHEM\1\DATA\3G3614\3G103404.D\ECD2B.CH
Acq On    : 10-7-2016 02:12:11 PM                    Operator: vinced
Sample    : cc3591-300                               Inst    : GC3G
Misc      : op97571,g3g3614,100,,,10,1               Multiplr: 1.00
IntFile Signal #1: autoint1.e     IntFile Signal #2: autoint2.e

Method       : C:\MSDCHEM\1\METHODS\3H3591.M (Chemstation Integrator)
Title        : HERB
Last Update  : Fri Oct 07 15:00:12 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Dalapon	8.039	6.965 E6	13.4	91	0.00	2.30- 2.36
2 S	2,4-DCAA	5.077	4.812 E6	5.2	103	0.00	7.17- 7.23
3	Dicamba	23.856	21.956 E6	8.0	99	0.00	7.36- 7.42
4	MCPP	14.612	17.344 E3	-18.7	123	0.00	7.61- 7.67
5	MCPA	23.041	28.003 E3	-21.5#	130	0.00	7.78- 7.84
6	Dichloroprop	5.900	5.654 E6	4.2	98	0.00	8.21- 8.27
7	2,4-D	7.120	7.272 E6	-2.1	102	0.00	8.49- 8.56
8	Pentachlorophenol	125.289	126.431 E6	-0.9	102	0.00	8.72- 8.78
9	2,4,5-TP	38.069	40.372 E6	-6.0	106	0.00	9.53- 9.59
10	2,4,5-T	38.419	40.130 E6	-4.5	107	0.00	9.89- 9.96
11	2,4-DB	3.884	3.851 E6	0.8	106	0.00	10.58-10.68
12	Dinoseb	21.651	21.023 E6	2.9	108	0.00	11.98-12.04
13	Picloram	36.110	35.826 E6	0.8	102	0.00	11.77-11.83

***** Signal #2 *****

1	Dalapon	15.415	14.945 E6	3.0	101	0.00	2.50- 2.56
2 S	2,4-DCAA	5.876	5.548 E6	5.6	104	0.00	8.07- 8.13
3	Dicamba	38.652	39.679 E6	-2.7	107	0.00	8.29- 8.35
4	MCPP	7.292	7.874 E3	-8.0	102	0.00	8.45- 8.51
5	MCPA	11.752	12.414 E3	-5.6	100	0.00	8.76- 8.82
6	Dichloroprop	8.587	8.350 E6	2.8	104	0.00	9.21- 9.27
7	2,4-D	10.335	10.359 E6	-0.2	110	0.00	9.66- 9.72
8	Pentachlorophenol	266.397	280.898 E6	-5.4	108	0.00	10.14-10.20
9	2,4,5-TP	82.859	86.124 E6	-3.9	105	0.00	10.76-10.82
10	2,4,5-T	78.445	82.053 E6	-4.6	107	0.00	11.29-11.41
11	2,4-DB	5.248	5.822 E6	-10.9	110	0.00	12.03-12.12
12	Dinoseb	39.044	37.336 E6	4.4	103	0.00	12.43-12.50
13	Picloram	110.022	117.539 E6	-6.8	107	0.00	13.91-13.97

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3G102648.D 3H3591.M Fri Oct 07 15:00:39 2016 GC3G

Initial Calibration Summary

Job Number: JC28902 **Sample:** G4G1911-ICC1911
Account: HWINJM Honeywell International Inc. **Lab FileID:** 4G72948.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Response Factor Report GC4G

Method : C:\MSDCHEM\1\METHODS\4PST1911.M (ChemStation Integrator)
Title : PEST/PCB
Last Update : Thu Sep 29 09:14:27 2016
Response via : Initial Calibration

Calibration Files
2 =4g72945.D 5 =4g72946.D 10 =4g72947.D 25 =4g72948.D
50 =4g72949.D 100 =4g72951.D 1 =4g72944.D 75 =4g72950.D

Compound	2	5	10	25	50	100	1	75	Avg	%RSD
1) I 1-bromo-2-nitrobenzen					ISTD					
2) Tetrachloro-	0.750	0.863	0.865	0.870	0.876	0.916		0.891	0.861	6.09
3) alpha-BHC	1.131	1.103	1.114	1.159	1.225	1.393	1.290	1.293	1.214	8.62
4) gamma-BHC	1.166	1.069	1.105	1.065	1.121	1.267	1.254	1.175	1.153	6.72
5) Heptachlor	1.077	1.002	0.995	0.989	1.023	1.141	1.161	1.070	1.057	6.31
6) beta-BHC	0.588	0.494	0.505	0.478	0.484	0.520	0.495	0.502	0.508	6.82
7) delta-BHC	0.933	0.906	0.935	0.924	1.012	1.121	1.092	1.081	1.001	8.69
8) Aldrin	1.041	0.999	0.976	0.997	1.047	1.178	1.161	1.087	1.061	7.14
9) Heptachlor E	0.943	0.939	0.936	0.934	0.957	1.023	0.990	0.976	0.962	3.29
10) gamma-Chlord	1.128	1.006	0.974	0.958	0.983	1.089	1.513	1.014	1.083	16.90
11) alpha-Chlord	1.022	0.953	0.950	0.936	0.964	1.068	1.146	0.994	1.004	7.17
12) Endosulfan I	0.974	0.929	0.924	0.916	0.939	1.032	1.124	0.965	0.975	7.26
13) 4,4'-DDE	0.953	0.917	0.924	0.927	0.963	1.079	1.215	0.999	0.997	10.32
14) Dieldrin	0.981	0.954	0.940	0.953	0.990	1.103	1.149	1.027	1.012	7.51
15) Endrin	0.746	0.692	0.676	0.670	0.691	0.756	0.915	0.709	0.732	10.98
16) 4,4'-DDD	0.785	0.761	0.763	0.772	0.804	0.906	0.851	0.838	0.810	6.32
17) Endosulfan I	0.931	0.883	0.861	0.853	0.872	0.951	1.119	0.908	0.922	9.37
18) 4,4'-DDT	0.708	0.645	0.648	0.661	0.707	0.809	0.934	0.749	0.733	13.43
19) Endrin Aldeh	0.734	0.731	0.727	0.730	0.740	0.812	0.902	0.776	0.769	7.97
20) Endosulfan S	0.707	0.673	0.695	0.674	0.699	0.744	0.863	0.719	0.722	8.54
21) Methoxychlor	0.338	0.330	0.342	0.341	0.357	0.387	0.435	0.366	0.362	9.61
22) Mirex	0.862	0.772	0.768	0.741	0.738	0.782	0.983	0.744	0.799	10.56
23) Endrin Keton	0.888	0.851	0.883	0.861	0.891	0.982	1.069	0.929	0.919	7.97
24) Decachlorobi	1.082	0.917	0.880	0.863	0.859	0.916	1.168	0.872	0.945	12.26
25) I 1-bromo-2-nitrobenzen					ISTD					
26) Toxaphene{A}					0.014				0.014	0.00
27) Toxaphene{B}					0.030				0.030	0.00
28) Toxaphene{C}					0.029				0.029	0.00
29) Toxaphene{D}					0.028				0.028	0.00
30) Toxaphene{E}					0.026				0.026	0.00
31) I 1-bromo-2-nitrobenzen					ISTD					
32) Chlordane {A					0.048				0.048	0.00
33) Chlordane {B					0.044				0.044	0.00
34) Chlordane {C					0.131				0.131	0.00
35) Chlordane {D					0.207				0.207	0.00
36) Chlordane {E					0.035				0.035	0.00

Signal #2

1) I 1-bromo-2-nitrobenzen					ISTD					
2) Tetrachloro-	0.914	0.882	0.882	0.847	0.870	0.887	0.956	0.875	0.889	3.68
3) alpha-BHC	1.076	1.099	1.094	1.136	1.238	1.320	1.091	1.262	1.165	8.11
4) gamma-BHC	1.013	1.015	1.003	1.041	1.104	1.176	0.993	1.134	1.060	6.49

Initial Calibration Summary

Job Number: JC28902 **Sample:** G4G1911-ICC1911
Account: HWINJM Honeywell International Inc. **Lab FileID:** 4G72948.D
Project: HLANJPR: Study Area 6 Chrome Remedy

5)	Heptachlor	1.118	1.083	1.023	1.021	1.058	1.089	1.220	1.072	1.086	5.84
6)	beta-BHC	0.530	0.532	0.503	0.478	0.496	0.496	0.480	0.488	0.500	4.12
7)	delta-BHC	0.734	0.770	0.771	0.823	0.913	0.969	0.764	0.964	0.838	11.44
8)	Aldrin	1.033	1.004	0.979	1.003	1.052	1.106	1.065	1.070	1.039	4.07
9)	Heptachlor E	0.995	0.963	0.931	0.927	0.950	0.984	0.993	0.962	0.963	2.73
10)	gamma-Chlord	0.982	0.972	0.928	0.927	0.958	1.006	1.037	0.976	0.973	3.79
11)	alpha-Chlord	0.971	0.959	0.905	0.902	0.931	0.968	1.081	0.942	0.957	5.89
12)	Endosulfan I	0.953	0.943	0.891	0.889	0.911	0.942	1.057	0.921	0.938	5.72
13)	4,4'-DDE	0.934	0.930	0.879	0.888	0.927	0.979	0.952	0.943	0.929	3.49
14)	Dieldrin	0.931	0.955	0.924	0.925	0.968	1.016	1.036	0.984	0.967	4.36
15)	Endrin	0.750	0.714	0.690	0.692	0.721	0.743	0.792	0.729	0.729	4.59
16)	4,4'-DDD	0.676	0.714	0.678	0.700	0.729	0.767	0.816	0.745	0.728	6.51
17)	Endosulfan I	0.870	0.922	0.864	0.869	0.884	0.904	0.960	0.891	0.895	3.64
18)	4,4'-DDT	0.399	0.441	0.470	0.500	0.563	0.622	0.428	0.594	0.502	16.35
19)	Endrin Aldeh	0.728	0.702	0.692	0.678	0.697	0.707	0.689	0.708	0.700	2.14
20)	Endosulfan S	0.649	0.621	0.625	0.612	0.639	0.648	0.603	0.659	0.632	3.10
21)	Methoxychlor	0.255	0.246	0.255	0.283	0.299	0.308	0.370	0.306	0.290	14.02
22)	Mirex	0.816	0.746	0.691	0.675	0.665	0.654	0.818	0.654	0.715	9.73
23)	Endrin Keton	0.805	0.780	0.747	0.773	0.798	0.822	0.854	0.816	0.799	4.10
24)	Decachlorobi	0.837	0.788	0.757	0.723	0.721	0.714	0.726	0.710	0.747	6.00

25) I 1-bromo-2-nitrobenzen ----------ISTD----------

26)	Toxaphene{A}	0.020	0.020	0.00
27)	Toxaphene{B}	0.024	0.024	0.00
28)	Toxaphene{C}	0.035	0.035	0.00
29)	Toxaphene{D}	0.022	0.022	0.00
30)	Toxaphene{E}	0.022	0.022	0.00

31) I 1-bromo-2-nitrobenzen ----------ISTD----------

32)	Chlordane {A	0.045	0.045	0.00
33)	Chlordane {B	0.039	0.039	0.00
34)	Chlordane {C	0.121	0.121	0.00
35)	Chlordane {D	0.195	0.195	0.00
36)	Chlordane {E	0.029	0.029	0.00

(#) = Out of Range ### Number of calibration levels exceeded format ###

4PST1911.M Thu Sep 29 09:23:05 2016 RPT1

8.10.5

8

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: G4G1911-ICV1911
Lab FileID: 4G72954.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\msdchem\1\DATA\4G1911\4g72954.D\ECD1A.ch  Vial: 13
Signal #2 : C:\msdchem\1\DATA\4G1911\4g72954.D\ECD2B.ch
Acq On    : 28 Sep 2016   9:05 pm                    Operator: rebeccak
Sample    : icv1911-25                               Inst    : GC4G
Misc      : op97218,g4g1911,100,,,10,1               Multiplr: 1.00
IntFile Signal #1: autoint1.e   IntFile Signal #2: autoint2.e

Method       : C:\MSDCHEM\1\METHODS\4PST1911.M (ChemStation Integrator)
Title        : PEST/PCB
Last Update  : Thu Sep 29 09:14:27 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	101	0.00	1.51- 1.57
2	SAB	Tetrachloro-m-xylene	0.861	0.774	10.1	90	0.00	1.97- 2.03
3	A	alpha-BHC	1.214	1.110	8.6	96	0.00	2.37- 2.43
4	MA	gamma-BHC	1.153	1.026	11.0	97	0.00	2.62- 2.68
5	MA	Heptachlor	1.057	0.939	11.2	96	0.00	3.05- 3.11
6	B	beta-BHC	0.508	0.460	9.4	97	0.00	2.69- 2.75
7	B	delta-BHC	1.001	0.929	7.2	101	0.00	2.85- 2.91
8	MB	Aldrin	1.061	0.969	8.7	98	0.00	3.35- 3.41
9	B	Heptachlor Epoxide	0.962	0.909	5.5	98	0.00	4.01- 4.07
10	B	gamma-Chlordane	1.083	0.928	14.3	98	0.00	4.16- 4.22
11	B	alpha-Chlordane	1.004	0.904	10.0	97	0.00	4.32- 4.38
12	A	Endosulfan I	0.975	0.879	9.8	97	0.00	4.49- 4.55
13	B	4,4'-DDE	0.997	0.890	10.7	97	0.00	4.43- 4.49
14	MA	Dieldrin	1.012	0.922	8.9	97	0.00	4.79- 4.85
15	MA	Endrin	0.732	0.679	7.2	102	0.00	5.10- 5.16
16	A	4,4'-DDD	0.810	0.735	9.3	96	0.00	5.23- 5.29
17	B	Endosulfan II	0.922	0.809	12.3	95	0.00	5.41- 5.47
18	MA	4,4'-DDT	0.733	0.629	14.2	96	0.00	5.62- 5.68
19	B	Endrin Aldehyde	0.769	0.727	5.5	100	0.00	6.02- 6.08
20	B	Endosulfan Sulfate	0.722	0.644	10.8	96	0.00	6.69- 6.75
21	A	Methoxychlor	0.362	0.322	11.0	95	0.00	6.40- 6.46
23	B	Endrin Ketone	0.919	0.842	8.4	98	0.00	7.11- 7.17
24	SA	Decachlorobiphenyl	0.945	0.840	11.1	98	0.00	8.86- 8.92

***** Signal #2 *****

1	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	104	0.00	1.31- 1.37
2	SAB	Tetrachloro-m-xylene	0.889	0.762	14.3	94	0.00	1.87- 1.93
3	A	alpha-BHC	1.165	1.089	6.5	100	0.00	2.34- 2.40
4	MA	gamma-BHC	1.060	0.972	8.3	97	0.00	2.67- 2.73
5	MA	Heptachlor	1.086	0.976	10.1	99	0.00	3.10- 3.16
6	B	beta-BHC	0.500	0.474	5.2	103	0.00	2.75- 2.81
7	B	delta-BHC	0.838	0.777	7.3	98	0.00	3.05- 3.11
8	MB	Aldrin	1.039	0.937	9.8	97	0.00	3.46- 3.52
9	B	Heptachlor Epoxide	0.963	0.881	8.5	99	0.00	4.15- 4.21
10	B	gamma-Chlordane	0.973	0.877	9.9	98	0.00	4.39- 4.45
11	B	alpha-Chlordane	0.957	0.850	11.2	98	0.00	4.59- 4.65
12	A	Endosulfan I	0.938	0.829	11.6	97	0.00	4.66- 4.72

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: G4G1911-ICV1911
Lab FileID: 4G72954.D

13	B	4,4'-DDE	0.929	0.843	9.3	99	0.00	4.86- 4.92
14	MA	Dieldrin	0.967	0.887	8.3	100	0.00	5.04- 5.10
15	MA	Endrin	0.729	0.687	5.8	103	0.00	5.48- 5.54
16	A	4,4'-DDD	0.728	0.650	10.7	97	0.00	5.72- 5.78
17	B	Endosulfan II	0.895	0.817	8.7	98	0.00	5.81- 5.87
18	MA	4,4'-DDT	0.502	0.464	7.6	96	0.00	6.19- 6.25
19	B	Endrin Aldehyde	0.700	0.662	5.4	102	0.00	6.34- 6.40
20	B	Endosulfan Sulfate	0.632	0.591	6.5	100	0.00	6.77- 6.83
21	A	Methoxychlor	0.290	0.268	7.6	99	0.00	7.39- 7.45
23	B	Endrin Ketone	0.799	0.729	8.8	98	0.00	7.65- 7.71
24	SA	Decachlorobiphenyl	0.747	0.712	4.7	102	0.00	9.83- 9.89

(#) = Out of Range SPCC's out = 0 CCC's out = 0
4g72948.D 4PST1911.M Thu Sep 29 09:21:09 2016 RPT1

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: G4G1911-ICV1911
Lab FileID: 4G72955.D

```
                    Evaluate Continuing Calibration Report

 Signal #1 : C:\msdchem\1\DATA\4G1911\4g72955.D\ECD1A.ch  Vial: 14
 Signal #2 : C:\msdchem\1\DATA\4G1911\4g72955.D\ECD2B.ch
 Acq On    : 28 Sep 2016   9:20 pm                    Operator: rebeccak
 Sample    : icv1911-25                               Inst    : GC4G
 Misc      : op97218,g4g1911,100,,,10,1               Multiplr: 1.00
 IntFile Signal #1: autoint1.e   IntFile Signal #2: autoint2.e

 Method       : C:\MSDCHEM\1\METHODS\4PST1911.M (ChemStation Integrator)
 Title        : PEST/PCB
 Last Update  : Thu Sep 29 09:14:27 2016
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
 Max. RRF Dev :  20%     Max. Rel. Area : 200%

        Compound                AvgRF   CCRF      %Dev Area% Dev(min)RT Window
 ---------------------------------------------------------------------------
 1 I   1-bromo-2-nitrobenzene   1.000   1.000      0.0   96   0.00    1.52- 1.58

22     Mirex                    0.799   0.738      7.6   96   0.00    6.48- 6.54


*****  Signal #2   *****


 1 I   1-bromo-2-nitrobenzene   1.000   1.000      0.0  102   0.00    1.31- 1.37

22     Mirex                    0.715   0.642     10.2   97   0.00    7.55- 7.61

---------------------------------------------------------------------------
---------------------------------------------------------------------------

   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    4g72948.D  4PST1911.M       Thu Sep 29 09:21:11 2016   RPT1
```

8.10.7

8

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: G4G1911-ICV1911
Lab FileID: 4G72956.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\msdchem\1\DATA\4G1911\4g72956.D\ECD1A.ch  Vial: 15
Signal #2 : C:\msdchem\1\DATA\4G1911\4g72956.D\ECD2B.ch
Acq On    : 28 Sep 2016   9:34 pm                    Operator: rebeccak
Sample    : icv1911-500                              Inst    : GC4G
Misc      : op97218,g4g1911,100,,,10,1               Multiplr: 1.00
IntFile Signal #1: autoint1.e   IntFile Signal #2: autoint2.e

Method       : C:\MSDCHEM\1\METHODS\4PST1911.M (ChemStation Integrator)
Title        : PEST/PCB
Last Update  : Thu Sep 29 09:14:27 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	98	0.00	1.52- 1.58
2	SAB	Tetrachloro-m-xylene	0.861	0.785	8.8	88	0.00	1.97- 2.03
24	SA	Decachlorobiphenyl	0.945	0.816	13.7	93	0.00	8.86- 8.92
31	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	98	0.00	1.45- 1.65
32		Chlordane {A}	0.048	0.047	2.1	95	0.00	2.98- 3.18
33		Chlordane {B}	0.044	0.038	13.6	86	0.00	3.42- 3.62
34		Chlordane {C}	0.131	0.124	5.3	93	0.00	4.09- 4.29
35		Chlordane {D}	0.207	0.199	3.9	94	0.00	4.24- 4.44
36		Chlordane {E}	0.035	0.032	8.6	90	0.00	5.24- 5.44

***** Signal #2 *****

1	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	99	0.00	1.31- 1.37
2	SAB	Tetrachloro-m-xylene	0.889	0.793	10.8	90	0.00	1.87- 1.93
24	SA	Decachlorobiphenyl	0.747	0.708	5.2	97	0.00	9.83- 9.89
31	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	96	0.00	1.24- 1.44
32		Chlordane {A}	0.045	0.048	-6.7	102	0.00	3.03- 3.23
33		Chlordane {B}	0.039	0.036	7.7	90	0.00	3.56- 3.76
34		Chlordane {C}	0.121	0.120	0.8	95	0.00	4.32- 4.52
35		Chlordane {D}	0.195	0.190	2.6	93	0.00	4.51- 4.71
36		Chlordane {E}	0.029	0.026	10.3	86	0.00	5.80- 6.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
4g72949.D 4PST1911.M Thu Sep 29 09:21:25 2016 RPT1

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: G4G1911-ICV1911
Lab FileID: 4G72957.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\msdchem\1\DATA\4G1911\4g72957.D\ECD1A.ch  Vial: 16
Signal #2 : C:\msdchem\1\DATA\4G1911\4g72957.D\ECD2B.ch
Acq On    : 28 Sep 2016   9:49 pm                    Operator: rebeccak
Sample    : icv1911-500                              Inst    : GC4G
Misc      : op97218,g4g1911,100,,,10,1               Multiplr: 1.00
IntFile Signal #1: autoint1.e   IntFile Signal #2: autoint2.e

Method       : C:\MSDCHEM\1\METHODS\4PST1911.M (ChemStation Integrator)
Title        : PEST/PCB
Last Update  : Thu Sep 29 09:14:27 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	96	0.00	1.51- 1.57
2	SAB	Tetrachloro-m-xylene	0.861	0.788	8.5	86	0.00	1.97- 2.03
24	SA	Decachlorobiphenyl	0.945	0.886	6.2	99	0.00	8.86- 8.92
25	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	98	0.00	1.44- 1.64
26	L8	Toxaphene{A}	0.014	0.015	-7.1	108	0.00	4.73- 4.93
27	L8	Toxaphene{B}	0.030	0.031	-3.3	103	0.00	5.33- 5.53
28	L8	Toxaphene{C}	0.029	0.031	-6.9	104	0.00	5.49- 5.69
29	L8	Toxaphene{D}	0.028	0.028	0.0	99	0.00	5.82- 6.02
30	L8	Toxaphene{E}	0.026	0.027	-3.8	102	0.00	6.44- 6.64

***** Signal #2 *****

1	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	102	0.00	1.31- 1.37
2	SAB	Tetrachloro-m-xylene	0.889	0.778	12.5	91	0.00	1.87- 1.93
24	SA	Decachlorobiphenyl	0.747	0.701	6.2	99	0.00	9.83- 9.89
25	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	101	0.00	1.24- 1.44
26	L8	Toxaphene{A}	0.020	0.020	0.0	104	0.00	4.93- 5.13
27	L8	Toxaphene{B}	0.024	0.024	0.0	103	0.00	5.71- 5.91
28	L8	Toxaphene{C}	0.035	0.036	-2.9	103	0.00	5.86- 6.06
29	L8	Toxaphene{D}	0.022	0.023	-4.5	103	0.00	6.27- 6.47
30	L8	Toxaphene{E}	0.022	0.022	0.0	103	0.00	7.09- 7.29

(#) = Out of Range SPCC's out = 0 CCC's out = 0
4g72949.D 4PST1911.M Thu Sep 29 09:21:27 2016 RPT1

Continuing Calibration Summary

Job Number: JC28902 **Sample:** G4G1919-CC1911
Account: HWINJM Honeywell International Inc. **Lab FileID:** 4G73351.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

```
Signal #1 : C:\msdchem\1\DATA\4G1919\4g73351.D\ECD1A.ch  Vial: 2
Signal #2 : C:\msdchem\1\DATA\4G1919\4g73351.D\ECD2B.ch
Acq On    :  6 Oct 2016   5:13 pm                    Operator: kristend
Sample    : cc1911-25                                Inst    : GC4G
Misc      : op97520,g4g1919,100,,,10,1               Multiplr: 1.00
IntFile Signal #1: autoint1.e   IntFile Signal #2: autoint2.e

Method       : C:\MSDCHEM\1\METHODS\4PST1911.M (ChemStation Integrator)
Title        : PEST/PCB
Last Update  : Thu Oct 06 11:37:41 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	95	0.00	1.51- 1.57
2	SAB	Tetrachloro-m-xylene	0.861	0.841	2.3	92	0.00	1.96- 2.02
3	A	alpha-BHC	1.214	1.137	6.3	93	0.00	2.36- 2.42
4	MA	gamma-BHC	1.153	1.021	11.4	91	0.00	2.61- 2.67
5	MA	Heptachlor	1.057	1.009	4.5	97	0.00	3.04- 3.10
6	B	beta-BHC	0.508	0.446	12.2	89	0.00	2.68- 2.74
7	B	delta-BHC	1.001	0.887	11.4	91	0.00	2.84- 2.90
8	MB	Aldrin	1.061	0.937	11.7	89	0.00	3.34- 3.40
9	B	Heptachlor Epoxide	0.962	0.795	17.4	81	0.00	4.00- 4.06
10	B	gamma-Chlordane	1.083	0.903	16.6	89	0.00	4.15- 4.21
11	B	alpha-Chlordane	1.004	0.849	15.4	86	0.00	4.31- 4.37
12	A	Endosulfan I	0.975	0.844	13.4	87	0.00	4.48- 4.54
13	B	4,4'-DDE	0.997	0.868	12.9	89	0.00	4.42- 4.48
14	MA	Dieldrin	1.012	0.886	12.5	88	0.00	4.78- 4.84
15	MA	Endrin	0.732	0.846	-15.6	120	0.00	5.09- 5.15
16	A	4,4'-DDD	0.810	0.711	12.2	87	0.00	5.22- 5.28
17	B	Endosulfan II	0.922	0.807	12.5	90	0.00	5.40- 5.46
18	MA	4,4'-DDT	0.733	0.742	-1.2	107	0.00	5.61- 5.67
19	B	Endrin Aldehyde	0.769	0.642	16.5	83	0.00	6.01- 6.07
20	B	Endosulfan Sulfate	0.722	0.691	4.3	97	0.00	6.68- 6.74
21	A	Methoxychlor	0.362	0.421	-16.3	117	0.00	6.39- 6.45
22		Mirex	0.799	0.690	13.6	88	0.00	6.47- 6.53
23	B	Endrin Ketone	0.919	0.833	9.4	92	0.00	7.09- 7.15
24	SA	Decachlorobiphenyl	0.945	0.813	14.0	89	0.00	8.85- 8.91

***** Signal #2 *****

1	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	98	0.00	1.30- 1.36
2	SAB	Tetrachloro-m-xylene	0.889	0.833	6.3	96	0.00	1.85- 1.91
3	A	alpha-BHC	1.165	1.141	2.1	98	0.00	2.33- 2.39
4	MA	gamma-BHC	1.060	0.988	6.8	93	0.00	2.65- 2.71
5	MA	Heptachlor	1.086	0.869	20.0	83	0.00	3.09- 3.15
6	B	beta-BHC	0.500	0.451	9.8	92	0.00	2.73- 2.79
7	B	delta-BHC	0.838	0.857	-2.3	102	0.00	3.03- 3.09
8	MB	Aldrin	1.039	0.945	9.0	92	0.00	3.44- 3.50
9	B	Heptachlor Epoxide	0.963	0.849	11.8	90	0.00	4.12- 4.18
10	B	gamma-Chlordane	0.973	0.847	12.9	89	0.00	4.37- 4.43
11	B	alpha-Chlordane	0.957	0.834	12.9	90	0.00	4.56- 4.62
12	A	Endosulfan I	0.938	0.814	13.2	90	0.00	4.63- 4.69
13	B	4,4'-DDE	0.929	0.851	8.4	94	0.00	4.83- 4.89

Continuing Calibration Summary

Job Number: JC28902 **Sample:** G4G1919-CC1911
Account: HWINJM Honeywell International Inc. **Lab FileID:** 4G73351.D
Project: HLANJPR: Study Area 6 Chrome Remedy

14	MA	Dieldrin	0.967	0.883	8.7	93	0.00	5.01- 5.07
15	MA	Endrin	0.729	0.817	-12.1	115	0.00	5.45- 5.51
16	A	4,4'-DDD	0.728	0.696	4.4	97	0.00	5.68- 5.74
17	B	Endosulfan II	0.895	0.811	9.4	91	0.00	5.78- 5.84
18	MA	4,4'-DDT	0.502	0.477	5.0	93	0.00	6.16- 6.22
19	B	Endrin Aldehyde	0.700	0.617	11.9	89	0.00	6.31- 6.37
20	B	Endosulfan Sulfate	0.632	0.675	-6.8	108	0.00	6.74- 6.80
21	A	Methoxychlor	0.290	0.291	-0.3	101	0.00	7.35- 7.41
22		Mirex	0.715	0.656	8.3	95	0.00	7.51- 7.57
23	B	Endrin Ketone	0.799	0.796	0.4	101	0.00	7.62- 7.68
24	SA	Decachlorobiphenyl	0.747	0.779	-4.3	105	0.00	9.80- 9.86

(#) = Out of Range SPCC's out = 0 CCC's out = 0
4g72948.D 4PST1911.M Fri Oct 07 08:32:46 2016 RPT1

8.10.10
8

Continuing Calibration Summary

Job Number: JC28902 **Sample:** G4G1920-CC1911
Account: HWINJM Honeywell International Inc. **Lab FileID:** 4G73382.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

```
Signal #1 : C:\msdchem\1\DATA\4G1920\4g73382.D\ECD1A.ch  Vial: 4
Signal #2 : C:\msdchem\1\DATA\4G1920\4g73382.D\ECD2B.ch
Acq On    :  7 Oct 2016   9:09 am                    Operator: rebeccak
Sample    : cc1911-50                                Inst    : GC4G
Misc      : op97536,g4g1920,15.3,,,10,1              Multiplr: 1.00
IntFile Signal #1: autoint1.e   IntFile Signal #2: autoint2.e

Method       : C:\MSDCHEM\1\METHODS\4PST1911.M (ChemStation Integrator)
Title        : PEST/PCB
Last Update  : Thu Oct 06 11:37:41 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	106	0.00	1.50- 1.56
2	SAB	Tetrachloro-m-xylene	0.861	0.860	0.1	104	0.00	1.96- 2.02
3	A	alpha-BHC	1.214	1.215	-0.1	106	0.00	2.36- 2.42
4	MA	gamma-BHC	1.153	1.079	6.4	102	0.00	2.61- 2.67
5	MA	Heptachlor	1.057	1.053	0.4	109	0.00	3.04- 3.10
6	B	beta-BHC	0.508	0.456	10.2	100	0.00	2.68- 2.74
7	B	delta-BHC	1.001	0.970	3.1	102	0.00	2.84- 2.90
8	MB	Aldrin	1.061	0.993	6.4	101	0.00	3.34- 3.40
9	B	Heptachlor Epoxide	0.962	0.851	11.5	95	0.00	4.00- 4.06
10	B	gamma-Chlordane	1.083	0.891	17.7	96	0.00	4.15- 4.21
11	B	alpha-Chlordane	1.004	0.867	13.6	96	0.00	4.31- 4.37
12	A	Endosulfan I	0.975	0.862	11.6	98	0.00	4.48- 4.54
13	B	4,4'-DDE	0.997	0.895	10.2	99	0.00	4.42- 4.48
14	MA	Dieldrin	1.012	0.928	8.3	100	0.00	4.78- 4.84
15	MA	Endrin	0.732	0.868	-18.6	134	0.00	5.08- 5.14
16	A	4,4'-DDD	0.810	0.751	7.3	99	0.00	5.21- 5.27
17	B	Endosulfan II	0.922	0.822	10.8	100	0.00	5.40- 5.46
18	MA	4,4'-DDT	0.733	0.735	-0.3	111	0.00	5.61- 5.67
19	B	Endrin Aldehyde	0.769	0.658	14.4	94	0.00	6.01- 6.07
20	B	Endosulfan Sulfate	0.722	0.715	1.0	109	0.00	6.68- 6.74
21	A	Methoxychlor	0.362	0.402	-11.0	120	0.00	6.38- 6.44
22		Mirex	0.799	0.671	16.0	97	0.00	6.47- 6.53
23	B	Endrin Ketone	0.919	0.852	7.3	102	0.00	7.09- 7.15
24	SA	Decachlorobiphenyl	0.945	0.752	20.4#	93	0.00	8.85- 8.91
25	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	108	0.00	1.43- 1.63
26	L8	Toxaphene{A}		----------NA----------				
27	L8	Toxaphene{B}		----------NA----------				
28	L8	Toxaphene{C}		----------NA----------				
29	L8	Toxaphene{D}		----------NA----------				
30	L8	Toxaphene{E}		----------NA----------				
31	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	106	0.00	1.43- 1.63
32		Chlordane {A}		----------NA----------				
33		Chlordane {B}		----------NA----------				
34		Chlordane {C}		----------NA----------				
35		Chlordane {D}		----------NA----------				
36		Chlordane {E}		----------NA----------				

***** Signal #2 *****

Continuing Calibration Summary

Job Number: JC28902 **Sample:** G4G1920-CC1911
Account: HWINJM Honeywell International Inc. **Lab FileID:** 4G73382.D
Project: HLANJPR: Study Area 6 Chrome Remedy

1	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	109	0.00	1.29- 1.35
2	SAB	Tetrachloro-m-xylene	0.889	0.857	3.6	107	0.00	1.85- 1.91
3	A	alpha-BHC	1.165	1.232	-5.8	108	0.00	2.33- 2.39
4	MA	gamma-BHC	1.060	1.055	0.5	104	0.00	2.65- 2.71
5	MA	Heptachlor	1.086	1.027	5.4	106	0.00	3.09- 3.15
6	B	beta-BHC	0.500	0.455	9.0	100	0.00	2.72- 2.78
7	B	delta-BHC	0.838	0.965	-15.2	115	0.00	3.03- 3.09
8	MB	Aldrin	1.039	0.992	4.5	103	0.00	3.44- 3.50
9	B	Heptachlor Epoxide	0.963	0.871	9.6	100	0.00	4.12- 4.18
10	B	gamma-Chlordane	0.973	0.889	8.6	101	0.00	4.37- 4.43
11	B	alpha-Chlordane	0.957	0.866	9.5	101	0.00	4.56- 4.62
12	A	Endosulfan I	0.938	0.842	10.2	101	0.00	4.63- 4.69
13	B	4,4'-DDE	0.929	0.885	4.7	104	0.00	4.82- 4.88
14	MA	Dieldrin	0.967	0.922	4.7	104	0.00	5.01- 5.07
15	MA	Endrin	0.729	0.852	-16.9	128	0.00	5.45- 5.51
16	A	4,4'-DDD	0.728	0.739	-1.5	110	-0.01	5.68- 5.74
17	B	Endosulfan II	0.895	0.831	7.2	102	0.00	5.78- 5.84
18	MA	4,4'-DDT	0.502	0.588	-17.1	114	0.00	6.15- 6.21
19	B	Endrin Aldehyde	0.700	0.637	9.0	99	0.00	6.30- 6.37
20	B	Endosulfan Sulfate	0.632	0.687	-8.7	117	0.00	6.74- 6.80
21	A	Methoxychlor	0.290	0.336	-15.9	122	0.00	7.35- 7.41
22		Mirex	0.715	0.630	11.9	103	0.00	7.51- 7.57
23	B	Endrin Ketone	0.799	0.826	-3.4	113	0.00	7.61- 7.67
24	SA	Decachlorobiphenyl	0.747	0.725	2.9	109	0.00	9.80- 9.86
25	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	108	0.00	1.22- 1.42
26	L8	Toxaphene{A}		----------NA----------				
27	L8	Toxaphene{B}		----------NA----------				
28	L8	Toxaphene{C}		----------NA----------				
29	L8	Toxaphene{D}		----------NA----------				
30	L8	Toxaphene{E}		----------NA----------				
31	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	105	0.00	1.22- 1.42
32		Chlordane {A}		----------NA----------				
33		Chlordane {B}		----------NA----------				
34		Chlordane {C}		----------NA----------				
35		Chlordane {D}		----------NA----------				
36		Chlordane {E}		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
4g72949.D 4PST1911.M Fri Oct 07 15:45:45 2016 RPT1

8.10.11

8

Continuing Calibration Summary

Job Number: JC28902 **Sample:** G4G1920-CC1911
Account: HWINJM Honeywell International Inc. **Lab FileID:** 4G73403.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

```
Signal #1 : C:\msdchem\1\DATA\4G1920\4g73403.D\ECD1A.ch  Vial: 2
Signal #2 : C:\msdchem\1\DATA\4G1920\4g73403.D\ECD2B.ch
Acq On    :  7 Oct 2016   5:10 pm                    Operator: dharas
Sample    : cc1911-25                                Inst    : GC4G
Misc      : op97573,g4g1920,100,,,10,1               Multiplr: 1.00
IntFile Signal #1: autoint1.e   IntFile Signal #2: autoint2.e

Method       : C:\MSDCHEM\1\METHODS\4PST1911.M (ChemStation Integrator)
Title        : PEST/PCB
Last Update  : Thu Oct 06 11:37:41 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	107	0.00	1.50- 1.56
2	SAB	Tetrachloro-m-xylene	0.861	0.860	0.1	106	0.00	1.96- 2.02
3	A	alpha-BHC	1.214	1.147	5.5	106	0.00	2.36- 2.42
4	MA	gamma-BHC	1.153	1.034	10.3	104	0.00	2.61- 2.67
5	MA	Heptachlor	1.057	1.019	3.6	111	0.00	3.04- 3.10
6	B	beta-BHC	0.508	0.460	9.4	103	0.00	2.68- 2.74
7	B	delta-BHC	1.001	0.894	10.7	104	0.00	2.84- 2.90
8	MB	Aldrin	1.061	0.956	9.9	103	0.00	3.34- 3.40
9	B	Heptachlor Epoxide	0.962	0.840	12.7	97	0.00	4.00- 4.06
10	B	gamma-Chlordane	1.083	0.848	21.7#	95	0.00	4.15- 4.21
11	B	alpha-Chlordane	1.004	0.848	15.5	97	0.00	4.31- 4.37
12	A	Endosulfan I	0.975	0.850	12.8	100	0.00	4.48- 4.54
13	B	4,4'-DDE	0.997	0.865	13.2	100	0.00	4.42- 4.48
14	MA	Dieldrin	1.012	0.897	11.4	101	0.00	4.78- 4.84
15	MA	Endrin	0.732	0.841	-14.9	135	0.00	5.08- 5.14
16	A	4,4'-DDD	0.810	0.726	10.4	101	0.00	5.22- 5.28
17	B	Endosulfan II	0.922	0.805	12.7	101	0.00	5.40- 5.46
18	MA	4,4'-DDT	0.733	0.693	5.5	112	0.00	5.61- 5.67
19	B	Endrin Aldehyde	0.769	0.648	15.7	95	0.00	6.01- 6.07
20	B	Endosulfan Sulfate	0.722	0.700	3.0	111	0.00	6.68- 6.74
21	A	Methoxychlor	0.362	0.399	-10.2	126	0.00	6.39- 6.45
22		Mirex	0.799	0.694	13.1	100	0.00	6.47- 6.53
23	B	Endrin Ketone	0.919	0.795	13.5	99	0.00	7.09- 7.15
24	SA	Decachlorobiphenyl	0.945	0.810	14.3	101	0.00	8.85- 8.91
25	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	0#	0.00	1.43- 1.63
26	L8	Toxaphene{A}		----------NA----------				
27	L8	Toxaphene{B}		----------NA----------				
28	L8	Toxaphene{C}		----------NA----------				
29	L8	Toxaphene{D}		----------NA----------				
30	L8	Toxaphene{E}		----------NA----------				
31	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	0#	0.00	1.43- 1.63
32		Chlordane {A}		----------NA----------				
33		Chlordane {B}		----------NA----------				
34		Chlordane {C}		----------NA----------				
35		Chlordane {D}		----------NA----------				
36		Chlordane {E}		----------NA----------				

***** Signal #2 *****

Continuing Calibration Summary

Job Number: JC28902 **Sample:** G4G1920-CC1911
Account: HWINJM Honeywell International Inc. **Lab FileID:** 4G73403.D
Project: HLANJPR: Study Area 6 Chrome Remedy

1	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	108	0.00	1.29- 1.35
2	SAB	Tetrachloro-m-xylene	0.889	0.849	4.5	108	0.00	1.85- 1.91
3	A	alpha-BHC	1.165	1.170	-0.4	111	0.00	2.33- 2.39
4	MA	gamma-BHC	1.060	1.014	4.3	105	0.00	2.65- 2.71
5	MA	Heptachlor	1.086	1.027	5.4	108	0.00	3.09- 3.15
6	B	beta-BHC	0.500	0.464	7.2	104	0.00	2.73- 2.79
7	B	delta-BHC	0.838	0.881	-5.1	115	0.00	3.03- 3.09
8	MB	Aldrin	1.039	0.967	6.9	104	0.00	3.44- 3.50
9	B	Heptachlor Epoxide	0.963	0.857	11.0	99	0.00	4.12- 4.18
10	B	gamma-Chlordane	0.973	0.875	10.1	101	0.00	4.37- 4.43
11	B	alpha-Chlordane	0.957	0.855	10.7	102	0.00	4.56- 4.62
12	A	Endosulfan I	0.938	0.836	10.9	101	0.00	4.63- 4.69
13	B	4,4'-DDE	0.929	0.863	7.1	105	0.00	4.82- 4.88
14	MA	Dieldrin	0.967	0.897	7.2	104	0.00	5.01- 5.07
15	MA	Endrin	0.729	0.830	-13.9	129	0.00	5.45- 5.51
16	A	4,4'-DDD	0.728	0.716	1.6	110	0.00	5.68- 5.74
17	B	Endosulfan II	0.895	0.829	7.4	103	0.00	5.78- 5.84
18	MA	4,4'-DDT	0.502	0.561	-11.8	121	0.00	6.15- 6.21
19	B	Endrin Aldehyde	0.700	0.634	9.4	101	0.00	6.31- 6.37
20	B	Endosulfan Sulfate	0.632	0.678	-7.3	119	0.00	6.74- 6.80
21	A	Methoxychlor	0.290	0.352	-21.4#	134	0.00	7.35- 7.41
22		Mirex	0.715	0.666	6.9	106	0.00	7.51- 7.57
23	B	Endrin Ketone	0.799	0.772	3.4	107	0.00	7.61- 7.67
24	SA	Decachlorobiphenyl	0.747	0.777	-4.0	116	0.00	9.80- 9.86
25	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	0#	0.00	1.22- 1.42
26	L8	Toxaphene{A}		----------NA----------				
27	L8	Toxaphene{B}		----------NA----------				
28	L8	Toxaphene{C}		----------NA----------				
29	L8	Toxaphene{D}		----------NA----------				
30	L8	Toxaphene{E}		----------NA----------				
31	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	0#	0.00	1.22- 1.42
32		Chlordane {A}		----------NA----------				
33		Chlordane {B}		----------NA----------				
34		Chlordane {C}		----------NA----------				
35		Chlordane {D}		----------NA----------				
36		Chlordane {E}		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
4g72948.D 4PST1911.M Mon Oct 10 11:38:10 2016 RPT1

8.10.12

8

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: G5Y1190-ICC1190
Lab FileID: 5Y35988.D

Response Factor Report GC5Y5Z

Method : C:\msdchem\1\METHODS\EPH5Y1190.M (ChemStation Integrator)
Title : NJDEP Extractable Petroleum Hydrocarbons
Last Update : Thu Sep 01 09:01:07 2016
Response via : Initial Calibration

Calibration Files
5 =5y35985.D 10 =5y35986.D 50 =5y35988.D 100 =5y35989.D
2 =5y35984.D 20 =5y35987.D =

Compound	5	10	50	100	2	20	Avg	%RSD
1)T C9	7.953	8.186	8.036	8.026	7.967	8.165	8.055 E5	1.22
2)T C10	8.019	8.274	8.115	8.103	8.073	8.251	8.139 E5	1.25
3)T C12	8.124	8.416	8.245	8.257	8.202	8.395	8.273 E5	1.36
4)T C14	8.280	8.608	8.431	8.404	8.385	8.561	8.445 E5	1.43
5)T C16	8.537	8.882	8.625	8.528	8.730	8.794	8.683 E5	1.65
6)T C18	8.814	9.173	8.838	8.519	9.055	9.033	8.906 E5	2.62
7)T C20	8.969	9.318	8.916	8.730	9.235	9.151	9.053 E5	2.44
8)T C21	9.075	9.451	9.020	8.805	9.335	9.286	9.162 E5	2.60
9)T C22	9.188	9.484	8.998	8.765	9.702	9.299	9.239 E5	3.63
10)T C24	9.137	9.464	8.984	8.716	9.537	9.288	9.188 E5	3.35
11)T C26	9.219	9.504	8.977	8.665	9.686	9.304	9.226 E5	3.97
12)T C28	9.008	9.328	8.835	8.496	9.336	9.155	9.026 E5	3.58
13)H EPH (C9-C28)	8.694	9.007	8.668	8.501	8.937	8.890	8.783 E5	2.20
14)T C30	9.133	9.407	8.859	8.507	9.552	9.242	9.117 E5	4.18
15)T C32	8.945	9.308	8.756	8.403	9.301	9.101	8.969 E5	3.89
16)T C34	8.626	8.958	8.392	8.055	9.034	8.746	8.635 E5	4.24
17)T C36	8.541	8.936	8.311	7.984	8.954	8.671	8.566 E5	4.37
18)T C38	8.240	8.681	7.967	7.677	8.667	8.308	8.257 E5	4.76
19)T C40	7.655	8.054	7.576	7.334	7.911	7.878	7.735 E5	3.40
20)H EPH (>C28-C40)	8.523	8.891	8.310	7.993	8.903	8.658	8.546 E5	4.12
21)H TOTAL PHC	8.637	8.969	8.549	8.332	8.926	8.813	8.704 E5	2.80
22)S o-Terphenyl (S)	9.505	9.885	9.569	9.437	9.761	9.763	9.653 E5	1.81
23)S 1-chlorooctadecan	7.822	8.146	7.797	7.620	8.043	8.012	7.907 E5	2.46
24)S 2-Fluorobiphenyl							0.000#	-1.00
25)S 2-Bromonaphthalen							0.000#	-1.00

(#) = Out of Range

EPH5Y1190.M Thu Sep 01 09:06:12 2016

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: G5Y1190-ICV1190
Lab FileID: 5Y35990.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\G5Y1190\5y35990.D          Vial: 17
Acq On    :  1 Sep 2016   2:16 am                    Operator: sarahp1
Sample    : icv1190-50                               Inst    : GC5Y5Z
Misc      : op96611,g5y1190,15.0,,,2,1               Multiplr: 1.00
IntFile   : autoint1.e

Method       : C:\msdchem\1\METHODS\EPH5Y1190.M (ChemStation Integrator)
Title        : NJDEP Extractable Petroleum Hydrocarbons
Last Update  : Thu Sep 01 09:01:07 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.100  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	T	C9	805.526	744.966 E3	7.5	93	0.00	3.40- 3.46
2	T	C10	813.928	748.854 E3	8.0	92	0.00	4.37- 4.43
3	T	C12	827.299	745.180 E3	9.9	90	0.00	6.35- 6.41
4	T	C14	844.484	786.633 E3	6.9	93	0.00	8.16- 8.22
5	T	C16	868.268	798.085 E3	8.1	93	0.00	9.79- 9.85
6	T	C18	890.552	802.201 E3	9.9	91	0.00	11.27-11.33
7	T	C20	905.330	813.193 E3	10.2	91	0.00	12.67-12.73
8	T	C21	916.198	813.063 E3	11.3	90	0.00	13.36-13.42
9	T	C22	923.910	818.830 E3	11.4	91	0.00	14.05-14.11
10	T	C24	918.775	813.764 E3	11.4	91	0.00	15.37-15.43
11	T	C26	922.586	810.254 E3	12.2	90	0.00	16.63-16.69
12	T	C28	902.633	801.729 E3	11.2	91	0.00	17.81-17.87
13	H	EPH (C9-C28)	878.291	791.396 E3	9.9	91	0.00	3.30-18.10
14	T	C30	911.681	801.910 E3	12.0	91	0.00	18.93-18.99
15	T	C32	896.888	786.318 E3	12.3	90	0.00	19.98-20.04
16	T	C34	863.538	776.202 E3	10.1	92	0.00	20.97-21.05
17	T	C36	856.611	744.374 E3	13.1	90	0.00	22.03-22.09
18	T	C38	825.673	718.862 E3	12.9	90	0.00	23.35-23.41
19	T	C40	773.463	694.937 E3	10.2	92	0.00	25.11-25.17
20	H	EPH (>C28-C40)	854.642	753.767 E3	11.8	91	0.00	18.10-25.30
21	H	TOTAL PHC	870.408	778.853 E3	10.5	91	0.00	3.30-25.30

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5y35990.D EPH5Y1190.M Thu Sep 01 09:02:30 2016

Continuing Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: G5Y1211-CC1190
Lab FileID: 5Y36625.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\G5Y1211\5y36625.D          Vial: 3
Acq On    :  6 Oct 2016  10:21 am                    Operator: sarahp1
Sample    : cc1190-50                                Inst    : GC5Y5Z
Misc      : op97508,g5y1211,15.0,,,2,1               Multiplr: 1.00
IntFile   : autoint1.e

Method       : C:\msdchem\1\METHODS\EPH5Y1190.M (ChemStation Integrator)
Title        : NJDEP Extractable Petroleum Hydrocarbons
Last Update  : Thu Sep 22 09:13:58 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.100  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	T	C9	805.526	939.957 E3	-16.7	117	0.00	3.37- 3.43
2	T	C10	813.928	941.832 E3	-15.7	116	0.00	4.34- 4.40
3	T	C12	827.299	919.871 E3	-11.2	112	0.00	6.31- 6.37
4	T	C14	844.484	883.349 E3	-4.6	105	0.00	8.12- 8.18
5	T	C16	868.268	850.501 E3	2.0	99	0.00	9.75- 9.81
6	T	C18	890.552	830.340 E3	6.8	94	0.00	11.22-11.28
7	T	C20	905.330	813.066 E3	10.2	91	0.00	12.63-12.69
8	T	C21	916.198	813.060 E3	11.3	90	0.00	13.32-13.38
9	T	C22	923.910	804.901 E3	12.9	89	0.00	14.00-14.06
10	T	C24	918.775	792.921 E3	13.7	88	0.00	15.32-15.38
11	T	C26	922.586	785.939 E3	14.8	88	0.00	16.57-16.63
12	T	C28	902.633	772.377 E3	14.4	87	0.00	17.76-17.82
13	H	EPH (C9-C28)	878.291	845.676 E3	3.7	98	0.00	3.30-18.10
14	T	C30	911.681	775.411 E3	14.9	88	0.00	18.87-18.93
15	T	C32	896.888	772.994 E3	13.8	88	0.00	19.92-19.98
16	T	C34	863.538	750.116 E3	13.1	89	0.00	20.91-20.99
17	T	C36	856.611	751.962 E3	12.2	90	0.00	21.96-22.02
18	T	C38	825.673	739.019 E3	10.5	93	0.00	23.27-23.33
19	T	C40	773.463	647.903 E3	16.2	86	0.00	25.00-25.06
20	H	EPH (>C28-C40)	854.642	739.568 E3	13.5	89	0.00	18.10-25.30
21	H	TOTAL PHC	870.408	810.307 E3	6.9	94	0.00	3.30-25.30
22	S	o-Terphenyl (S)	965.337	909.051 E3	5.8	95	0.00	11.94-12.00
23	S	1-chlorooctadecane (S)	790.673	689.983 E3	12.7	88	0.00	13.25-13.31

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5y36451.D EPH5Y1190.M Thu Oct 06 14:21:39 2016

8.10.15
8

Continuing Calibration Summary

Job Number: JC28902 **Sample:** G5Y1211-CC1190
Account: HWINJM Honeywell International Inc. **Lab FileID:** 5Y36632.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\G5Y1211\5y36632.D          Vial: 2
Acq On    :  6 Oct 2016   2:41 pm                    Operator: sarahp1
Sample    : cc1190-20                                Inst    : GC5Y5Z
Misc      : op97541,g5y1211,15.0,,,2,1               Multiplr: 1.00
IntFile   : autoint1.e

Method       : C:\msdchem\1\METHODS\EPH5Y1190.M (ChemStation Integrator)
Title        : NJDEP Extractable Petroleum Hydrocarbons
Last Update  : Thu Oct 06 15:18:54 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.100  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	T	C9	805.526	982.289 E3	-21.9	120	0.00	3.37- 3.43
2	T	C10	813.928	984.159 E3	-20.9	119	0.00	4.33- 4.39
3	T	C12	827.299	981.492 E3	-18.6	117	0.00	6.30- 6.36
4	T	C14	844.484	971.984 E3	-15.1	114	0.00	8.12- 8.18
5	T	C16	868.268	960.057 E3	-10.6	109	0.00	9.75- 9.81
6	T	C18	890.552	947.127 E3	-6.4	105	0.00	11.22-11.28
7	T	C20	905.330	926.749 E3	-2.4	101	0.00	12.62-12.68
8	T	C21	916.198	927.207 E3	-1.2	100	0.00	13.31-13.37
9	T	C22	923.910	916.300 E3	0.8	99	0.00	13.99-14.05
10	T	C24	918.775	893.903 E3	2.7	96	0.00	15.31-15.37
11	T	C26	922.586	877.021 E3	4.9	94	0.00	16.57-16.63
12	T	C28	902.633	854.093 E3	5.4	93	0.00	17.75-17.81
13	H	EPH (C9-C28)	878.291	935.198 E3	-6.5	106	0.00	3.30-18.10
14	T	C30	911.681	850.430 E3	6.7	92	0.00	18.87-18.93
15	T	C32	896.888	840.965 E3	6.2	92	0.00	19.91-19.97
16	T	C34	863.538	807.793 E3	6.5	92	0.00	20.90-20.98
17	T	C36	856.611	791.873 E3	7.6	91	0.00	21.95-22.01
18	T	C38	825.673	724.825 E3	12.2	87	0.00	23.25-23.31
19	T	C40	773.463	592.635 E3	23.4	75	0.00	24.98-25.04
20	H	EPH (>C28-C40)	854.642	768.087 E3	10.1	88	0.00	18.10-25.30
21	H	TOTAL PHC	870.408	879.494 E3	-1.0	97	0.00	3.30-25.30
22	S	o-Terphenyl (S)	965.337	1020.885 E3	-5.8	105	0.00	11.93-11.99
23	S	1-chlorooctadecane (S)	790.673	776.699 E3	1.8	97	0.00	13.24-13.30

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5y36632.D EPH5Y1190.M Thu Oct 06 15:19:51 2016

8.10.16

8

Continuing Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: G5Y1211-CC1190
Lab FileID: 5Y36638.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\G5Y1211\5y36638.D          Vial: 3
Acq On    :  6 Oct 2016   6:06 pm                    Operator: sarahp1
Sample    : cc1190-50                                Inst    : GC5Y5Z
Misc      : op97541,g5y1211,15.0,,,2,1               Multiplr: 1.00
IntFile   : autoint1.e

Method       : C:\msdchem\1\METHODS\EPH5Y1190.M (ChemStation Integrator)
Title        : NJDEP Extractable Petroleum Hydrocarbons
Last Update  : Thu Oct 06 15:18:54 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.100  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	T	C9	805.526	961.600 E3	-19.4	120	0.00	3.37- 3.43
2	T	C10	813.928	963.354 E3	-18.4	119	0.00	4.34- 4.40
3	T	C12	827.299	941.164 E3	-13.8	114	0.00	6.31- 6.37
4	T	C14	844.484	917.845 E3	-8.7	109	0.00	8.12- 8.18
5	T	C16	868.268	901.790 E3	-3.9	105	0.00	9.75- 9.81
6	T	C18	890.552	895.449 E3	-0.5	101	0.00	11.22-11.28
7	T	C20	905.330	883.883 E3	2.4	99	0.00	12.63-12.69
8	T	C21	916.198	888.107 E3	3.1	98	0.00	13.32-13.38
9	T	C22	923.910	881.274 E3	4.6	98	0.00	14.00-14.06
10	T	C24	918.775	867.987 E3	5.5	97	0.00	15.32-15.38
11	T	C26	922.586	855.882 E3	7.2	95	0.00	16.58-16.64
12	T	C28	902.633	836.385 E3	7.3	95	0.00	17.76-17.82
13	H	EPH (C9-C28)	878.291	899.560 E3	-2.4	104	0.00	3.30-18.10
14	T	C30	911.681	835.500 E3	8.4	94	0.00	18.87-18.93
15	T	C32	896.888	834.632 E3	6.9	95	0.01	19.92-19.98
16	T	C34	863.538	807.658 E3	6.5	96	0.01	20.91-20.99
17	T	C36	856.611	808.802 E3	5.6	97	0.02	21.96-22.02
18	T	C38	825.673	804.361 E3	2.6	101	0.02	23.27-23.33
19	T	C40	773.463	790.299 E3	-2.2	104	0.03	25.00-25.06
20	H	EPH (>C28-C40)	854.642	813.542 E3	4.8	98	0.00	18.10-25.30
21	H	TOTAL PHC	870.408	870.887 E3	-0.1	101	0.00	3.30-25.30
22	S	o-Terphenyl (S)	965.337	971.458 E3	-0.6	102	0.00	11.94-12.00
23	S	1-chlorooctadecane (S)	790.673	763.558 E3	3.4	98	0.00	13.25-13.31

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5y36451.D EPH5Y1190.M Fri Oct 07 10:23:25 2016

8.10.17
8

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: G5Z1024-ICC1024
Lab FileID: 5Z29836.D

Response Factor Report GC5Y5Z

Method : C:\msdchem\1\METHODS\EPH5Z1024.M (ChemStation Integrator)
Title : NJDEP Extractable Petroleum Hydrocarbons
Last Update : Tue Sep 20 09:42:33 2016
Response via : Initial Calibration

Calibration Files
5 =5z29833.D 10 =5z29834.D 50 =5z29836.D 100 =5z29837.D
2 =5z29832.D 20 =5z29835.D =

	Compound	5	10	50	100	2	20	Avg	%RSD
1)T	C9	7.124	7.464	6.996	6.978	6.882	7.179	7.104 E5	2.90
2)T	C10	7.288	7.637	7.151	7.184	7.057	7.312	7.272 E5	2.78
3)T	C12	7.579	7.978	7.519	7.591	7.348	7.633	7.608 E5	2.72
4)T	C14	7.822	8.303	7.848	7.941	7.738	7.957	7.935 E5	2.49
5)T	C16	8.057	8.614	8.146	8.217	8.102	8.305	8.240 E5	2.46
6)T	C18	8.292	8.907	8.408	8.443	8.496	8.627	8.529 E5	2.53
7)T	C20	8.411	9.045	8.541	8.569	8.679	8.832	8.680 E5	2.63
8)T	C21	8.527	9.159	8.678	8.696	8.781	8.996	8.806 E5	2.63
9)T	C22	8.569	9.177	8.692	8.709	9.163	9.037	8.891 E5	2.99
10)T	C24	8.619	9.106	8.736	8.732	8.980	9.114	8.881 E5	2.40
11)T	C26	8.621	9.037	8.762	8.731	9.010	9.144	8.884 E5	2.33
12)T	C28	8.569	8.871	8.699	8.657	9.007	9.104	8.818 E5	2.39
13)H	EPH (C9-C28)	8.123	8.608	8.181	8.204	8.270	8.437	8.304 E5	2.21
14)T	C30	8.734	8.858	8.792	8.729	9.204	9.230	8.924 E5	2.59
15)T	C32	8.760	8.783	8.791	8.711	9.223	9.265	8.922 E5	2.81
16)T	C34	8.478	8.458	8.488	8.401	8.606	8.973	8.567 E5	2.45
17)T	C36	8.461	8.451	8.491	8.398	8.891	8.986	8.613 E5	2.97
18)T	C38	8.593	8.427	8.259	8.146	9.033	8.757	8.536 E5	3.85
19)T	C40	7.844	7.962	7.920	7.828	8.140	8.358	8.009 E5	2.55
20)H	EPH (>C28-C40)	8.478	8.490	8.457	8.369	8.849	8.928	8.595 E5	2.71
21)H	TOTAL PHC	8.241	8.569	8.273	8.259	8.463	8.600	8.401 E5	1.95
22)S	o-Terphenyl (S)	8.873	9.498	9.018	9.079	9.039	9.211	9.120 E5	2.35
23)S	1-chlorooctadecan	7.341	7.881	7.476	7.499	7.551	7.731	7.580 E5	2.57
24)S	2-Fluorobiphenyl							0.000#	-1.00
25)S	2-Bromonaphthalen							0.000#	-1.00

(#) = Out of Range

EPH5Z1024.M Tue Sep 20 09:50:28 2016

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: G5Z1024-ICV1024
Lab FileID: 5Z29838.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\G5Z1024\5z29838.D          Vial: 58
Acq On    : 19 Sep 2016   9:55 pm                    Operator: sarahp1
Sample    : icv1024-50                               Inst    : GC5Y5Z
Misc      : op97053,g5z1024,15.0,,,2,1               Multiplr: 1.00
IntFile   : autoint1.e

Method       : C:\msdchem\1\METHODS\EPH5Z1024.M (ChemStation Integrator)
Title        : NJDEP Extractable Petroleum Hydrocarbons
Last Update  : Tue Sep 20 09:42:33 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.100  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	T	C9	710.380	654.871 E3	7.8	94	0.00	3.16- 3.22
2	T	C10	727.177	679.290 E3	6.6	95	0.00	4.12- 4.18
3	T	C12	760.809	754.321 E3	0.9	100	0.00	6.08- 6.14
4	T	C14	793.477	781.764 E3	1.5	100	0.00	7.89- 7.95
5	T	C16	824.025	821.287 E3	0.3	101	0.00	9.51- 9.57
6	T	C18	852.903	846.616 E3	0.7	101	0.00	10.97-11.03
7	T	C20	867.953	874.717 E3	-0.8	102	0.00	12.35-12.41
8	T	C21	880.596	881.309 E3	-0.1	102	0.00	13.04-13.10
9	T	C22	889.120	891.767 E3	-0.3	103	0.00	13.71-13.77
10	T	C24	888.123	890.268 E3	-0.2	102	0.00	14.85-14.91
11	T	C26	888.421	879.222 E3	1.0	100	0.00	15.73-15.79
12	T	C28	881.780	868.097 E3	1.6	100	0.00	16.69-16.75
13	H	EPH (C9-C28)	830.397	818.627 E3	1.4	100	0.00	3.10-16.90
14	T	C30	892.441	858.999 E3	3.7	98	0.00	17.68-17.74
15	T	C32	892.199	830.685 E3	6.9	94	0.00	18.66-18.72
16	T	C34	856.729	807.111 E3	5.8	95	0.00	19.60-19.68
17	T	C36	861.290	763.630 E3	11.3	90	0.00	20.52-20.58
18	T	C38	853.588	734.803 E3	13.9	89	0.00	21.43-21.49
19	T	C40	800.858	710.971 E3	11.2	90	0.00	22.53-22.59
20	H	EPH (>C28-C40)	859.518	784.366 E3	8.7	93	0.00	16.90-22.70
21	H	TOTAL PHC	840.104	807.207 E3	3.9	96	0.00	3.10-22.70

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5z29836.D EPH5Z1024.M Tue Sep 20 09:43:49 2016

Continuing Calibration Summary

Job Number: JC28902 **Sample:** G5Z1032-CC1024
Account: HWINJM Honeywell International Inc. **Lab FileID:** 5Z30025.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\G5Z1032\5z30025.D          Vial: 2
Acq On    :  6 Oct 2016  10:21 am                    Operator: sarahp1
Sample    : cc1024-20                                Inst    : GC5Y5Z
Misc      : op97337,g5z1032,15.0,,,2,1               Multiplr: 1.00
IntFile   : autoint1.e

Method       : C:\MSDCHEM\1\METHODS\EPH5Z1024.M (ChemStation Integrator)
Title        : NJDEP Extractable Petroleum Hydrocarbons
Last Update  : Tue Sep 27 16:33:21 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.100  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	T	C9	710.380	791.878 E3	-11.5	110	0.00	3.15- 3.21
2	T	C10	727.177	825.827 E3	-13.6	113	-0.01	4.10- 4.16
3	T	C12	760.809	881.021 E3	-15.8	115	-0.01	6.05- 6.11
4	T	C14	793.477	938.575 E3	-18.3	118	-0.01	7.86- 7.92
5	T	C16	824.025	990.456 E3	-20.2	119	-0.01	9.48- 9.54
6	T	C18	852.903	1021.910 E3	-19.8	118	-0.01	10.95-11.01
7	T	C20	867.953	1038.560 E3	-19.7	118	-0.01	12.32-12.38
8	T	C21	880.596	1048.435 E3	-19.1	117	-0.01	13.01-13.07
9	T	C22	889.120	1044.884 E3	-17.5	116	-0.01	13.68-13.74
10	T	C24	888.123	1033.511 E3	-16.4	113	0.00	14.83-14.89
11	T	C26	888.421	1018.600 E3	-14.7	111	0.00	15.71-15.77
12	T	C28	881.780	994.464 E3	-12.8	109	-0.01	16.66-16.72
13	H	EPH (C9-C28)	830.397	969.010 E3	-16.7	115	0.00	3.10-16.90
14	T	C30	892.441	989.418 E3	-10.9	107	0.00	17.65-17.71
15	T	C32	892.199	977.060 E3	-9.5	105	-0.01	18.63-18.69
16	T	C34	856.729	935.908 E3	-9.2	104	0.00	19.56-19.64
17	T	C36	861.290	930.891 E3	-8.1	104	0.00	20.49-20.55
18	T	C38	853.588	904.990 E3	-6.0	103	-0.01	21.39-21.45
19	T	C40	800.858	870.483 E3	-8.7	104	-0.01	22.47-22.53
20	H	EPH (>C28-C40)	859.518	934.792 E3	-8.8	105	0.00	16.90-22.70
21	H	TOTAL PHC	840.104	957.604 E3	-14.0	110	0.00	3.10-22.70
22	S	o-Terphenyl (S)	911.965	1084.760 E3	-18.9	118	-0.01	11.64-11.70
23	S	1-chlorooctadecane (S)	757.982	900.081 E3	-18.7	116	-0.01	12.94-13.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5z29913.D EPH5Z1024.M Thu Oct 06 14:38:43 2016

Continuing Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: G5Z1032-CC1024
Lab FileID: 5Z30033.D

Evaluate Continuing Calibration Report

```
Data File : C:\msdchem\1\DATA\G5Z1032\5z30033.D          Vial: 3
Acq On    :  6 Oct 2016   3:12 pm                    Operator: sarahp1
Sample    : cc1024-50                                Inst    : GC5Y5Z
Misc      : op97541,g5z1032,15.0,,,2,1               Multiplr: 1.00
IntFile   : autoint1.e

Method       : C:\MSDCHEM\1\METHODS\EPH5Z1024.M (ChemStation Integrator)
Title        : NJDEP Extractable Petroleum Hydrocarbons
Last Update  : Tue Sep 27 16:33:21 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.100  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	T	C9	710.380	761.994 E3	-7.3	109	0.00	3.15- 3.21
2	T	C10	727.177	787.356 E3	-8.3	110	0.00	4.10- 4.16
3	T	C12	760.809	829.527 E3	-9.0	110	0.00	6.06- 6.12
4	T	C14	793.477	865.430 E3	-9.1	110	0.00	7.87- 7.93
5	T	C16	824.025	889.336 E3	-7.9	109	0.00	9.49- 9.55
6	T	C18	852.903	907.980 E3	-6.5	108	0.00	10.95-11.01
7	T	C20	867.953	918.901 E3	-5.9	108	0.00	12.33-12.39
8	T	C21	880.596	931.371 E3	-5.8	107	0.00	13.01-13.07
9	T	C22	889.120	930.480 E3	-4.7	107	0.00	13.69-13.75
10	T	C24	888.123	932.577 E3	-5.0	107	0.00	14.83-14.89
11	T	C26	888.421	931.749 E3	-4.9	106	0.00	15.71-15.77
12	T	C28	881.780	921.287 E3	-4.5	106	0.00	16.67-16.73
13	H	EPH (C9-C28)	830.397	883.999 E3	-6.5	108	0.00	3.10-16.90
14	T	C30	892.441	924.176 E3	-3.6	105	0.00	17.66-17.72
15	T	C32	892.199	916.880 E3	-2.8	104	0.00	18.63-18.69
16	T	C34	856.729	874.507 E3	-2.1	103	0.00	19.57-19.65
17	T	C36	861.290	862.550 E3	-0.1	102	0.00	20.49-20.55
18	T	C38	853.588	826.510 E3	3.2	100	0.00	21.40-21.46
19	T	C40	800.858	784.876 E3	2.0	99	0.00	22.48-22.54
20	H	EPH (>C28-C40)	859.518	864.917 E3	-0.6	102	0.00	16.90-22.70
21	H	TOTAL PHC	840.104	877.638 E3	-4.5	105	0.00	3.10-22.70
22	S	o-Terphenyl (S)	911.965	972.089 E3	-6.6	108	0.00	11.65-11.71
23	S	1-chlorooctadecane (S)	757.982	801.317 E3	-5.7	107	0.00	12.94-13.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5z29836.D EPH5Z1024.M Thu Oct 06 15:39:31 2016

8.10.21
8

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: GOA4125-ICC4125
Lab FileID: OA119877.D

Response Factor Report GCOA

Method : C:\MSDCHEM\1\METHODS\HOA4125.M (Chemstation Integrator)
Title : HERB
Last Update : Tue Sep 20 14:28:40 2016
Response via : Initial Calibration

Calibration Files
500 =OA119879.D 400 =OA119878.D 300 =OA119877.D 200 =OA119876.D
100 =OA119875.D 50 =OA119874.D

	Compound	500	400	300	200	100	50	Avg	%RSD
1)	Dalapon	2.368	2.419	2.442	2.598	2.707	2.866	2.567 E7	7.54
2) S	2,4-DCAA	1.250	1.274	1.312	1.409	1.603	1.838	1.448 E7	15.90
3)	Dicamba	7.572	7.792	8.027	8.303	8.722	9.195	8.268 E7	7.33
4)	MCPP	3.165	3.150	3.083	3.080	2.909		3.077 E4	3.31
5)	MCPA	4.487	4.461	4.380	4.433	4.216		4.395 E4	2.45
6)	Dichloroprop	1.518	1.581	1.665	1.813	2.112	2.363	1.842 E7	18.00
7)	2,4-D	1.819	1.904	1.982	2.167	2.473	2.748	2.182 E7	16.58
8)	Pentachlorophenol	4.804	4.805	4.660	4.778	4.653	4.628	4.721 E8	1.75
9)	2,4,5-TP	1.370	1.403	1.407	1.457	1.488	1.547	1.445 E8	4.51
10)	2,4,5-T	1.299	1.319	1.323	1.350	1.385	1.420	1.349 E8	3.39
11)	2,4-DB	0.998	1.026	1.051	1.126	1.358	1.316	1.146 E7	13.52
12)	Dinoseb	5.288	5.450	5.536	5.914	5.867	6.369	5.738 E7	6.85
13)	Picloram	1.280	1.344	1.332	1.369	1.296	1.305	1.321 E8	2.52

Signal #2

1)	Dalapon	1.026	1.055	1.073	1.144	1.195	1.257	1.125 E7	7.96
2) S	2,4-DCAA	0.683	0.705	0.724	0.777	0.876	1.016	0.797 E7	16.00
3)	Dicamba	2.882	3.010	3.126	3.299	3.559	3.953	3.305 E7	11.97
4)	MCPP	3.130	3.271	3.449	3.818	4.418		3.617 E4	14.28
5)	MCPA	4.903	5.155	5.528	6.278	7.656		5.904 E4	18.77
6)	Dichloroprop	0.707	0.737	0.772	0.840	0.964	1.103	0.854 E7	17.89
7)	2,4-D	0.946	0.985	1.010	1.089	1.204	1.369	1.100 E7	14.57
8)	Pentachlorophenol	1.572	1.621	1.598	1.658	1.685	1.741	1.646 E8	3.76
9)	2,4,5-TP	5.044	5.204	5.287	5.542	5.759	6.129	5.494 E7	7.31
10)	2,4,5-T	5.161	5.277	5.323	5.552	5.691	6.298	5.550 E7	7.46
11)	2,4-DB	5.687	5.850	5.933	6.367	7.009	8.603	6.575 E6	16.76
12)	Dinoseb	2.610	2.684	2.746	2.901	3.084	3.384	2.901 E7	10.02
13)	Picloram	4.120	4.239	4.368	4.586	4.920	5.372	4.601 E7	10.25

(#) = Out of Range

HOA4125.M Tue Sep 20 14:31:46 2016 RPT1

Initial Calibration Verification

Job Number: JC28902 **Sample:** GOA4125-ICV4125
Account: HWINJM Honeywell International Inc. **Lab FileID:** OA119880.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

```
Signal #1 : C:\MSDCHEM\1\DATA\GOA4125\OA119880.D\ECD1A.CH Vial: 8
Signal #2 : C:\MSDCHEM\1\DATA\GOA4125\OA119880.D\ECD2B.CH
Acq On    : 9-20-16 01:14:14 PM                      Operator: vinced
Sample    : icv4125-300                              Inst    : GCOA
Misc      : op97082,GOA4125,100,,,10,1               Multiplr: 1.00
IntFile Signal #1: autoint1.e     IntFile Signal #2: autoint2.e

Method       : C:\MSDCHEM\1\METHODS\HOA4125.M (Chemstation Integrator)
Title        : HERB
Last Update  : Tue Sep 20 14:28:40 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Dalapon	25.667	26.058 E6	-1.5	107	0.00	2.30- 2.36
2 S	2,4-DCAA	14.477	13.287 E6	8.2	101	0.00	7.16- 7.22
3	Dicamba	82.685	83.685 E6	-1.2	104	0.00	7.35- 7.41
4	MCPP	30.773	32.522 E3	-5.7	105	0.00	7.60- 7.66
5	MCPA	43.955	43.234 E3	1.6	99	0.00	7.77- 7.83
6	Dichloroprop	18.421	15.831 E6	14.1	95	0.00	8.20- 8.26
7	2,4-D	21.820	20.880 E6	4.3	105	0.00	8.48- 8.54
8	Pentachlorophenol	472.131	401.625 E6	14.9	86	0.00	8.70- 8.76
9	2,4,5-TP	144.525	147.302 E6	-1.9	105	0.00	9.52- 9.58
10	2,4,5-T	134.940	147.574 E6	-9.4	112	0.00	9.87- 9.93
11	2,4-DB	11.459	11.040 E6	3.7	105	0.00	10.58-10.64
12	Dinoseb	57.376	65.123 E6	-13.5	118	0.00	12.00-12.06
13	Picloram	132.126	105.815 E6	19.9	79	0.00	11.75-11.81

***** Signal #2 *****

1	Dalapon	11.250	11.463 E6	-1.9	107	0.00	2.48- 2.54
2 S	2,4-DCAA	7.968	7.313 E6	8.2	101	0.00	8.02- 8.08
3	Dicamba	33.048	32.930 E6	0.4	105	0.00	8.25- 8.31
4	MCPP	36.173	35.978 E3	0.5	104	0.00	8.40- 8.46
5	MCPA	59.040	56.303 E3	4.6	102	0.00	8.71- 8.77
6	Dichloroprop	8.538	7.418 E6	13.1	96	0.00	9.16- 9.22
7	2,4-D	11.005	10.773 E6	2.1	107	0.00	9.59- 9.65
8	Pentachlorophenol	164.597	139.505 E6	15.2	87	0.00	10.09-10.15
9	2,4,5-TP	54.943	56.353 E6	-2.6	107	0.00	10.70-10.76
10	2,4,5-T	55.505	58.781 E6	-5.9	110	0.00	11.25-11.31
11	2,4-DB	6.575	6.305 E6	4.1	106	0.00	11.97-12.03
12	Dinoseb	29.015	32.435 E6	-11.8	118	0.00	12.37-12.43
13	Picloram	46.008	35.411 E6	23.0#	81	0.00	13.82-13.88

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 OA119877.D HOA4125.M        Tue Sep 20 14:32:14 2016   RPT1
```

Continuing Calibration Summary

Job Number: JC28902 **Sample:** GOA4139-CC4125
Account: HWINJM Honeywell International Inc. **Lab FileID:** OA120267.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

```
Data File : C:\MSDCHEM\1\DATA\GOA4139\OA120267.D\ECD1A.CH Vial: 2
Acq On    : 10-7-16 09:18:54 AM                      Operator: vinced
Sample    : cc4125-200                               Inst    : GCOA
Misc      : op97511,GOA4139,15.8,,,5,1               Multiplr: 1.00
IntFile   : autoint1.e

Data File : C:\MSDCHEM\1\DATA\GOA4139\OA120267.D\ECD2B.CH Vial: 2
Acq On    : 10-7-16 09:18:53 AM                      Operator: vinced
Sample    : cc4125-200                               Inst    : GCOA
Misc      : op97511,GOA4139,15.8,,,5,1               Multiplr: 1.00
IntFile   : autoint2.e

Method       : C:\MSDCHEM\1\METHODS\HOA4125.M (Chemstation Integrator)
Title        : HERB
Last Update  : Fri Oct 07 14:31:09 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Dalapon	25.667	28.399 E6	-10.6	109	0.00	2.29- 2.35
2 S	2,4-DCAA	14.477	15.970 E6	-10.3	113	0.00	7.16- 7.22
3	Dicamba	82.685	91.454 E6	-10.6	110	0.00	7.35- 7.41
4	MCPP	30.773	32.133 E3	-4.4	104	0.00	7.60- 7.66
5	MCPA	43.955	44.928 E3	-2.2	101	0.00	7.77- 7.83
6	Dichloroprop	18.421	21.395 E6	-16.1	118	0.00	8.20- 8.26
7	2,4-D	21.820	25.442 E6	-16.6	117	0.00	8.48- 8.54
8	Pentachlorophenol	472.131	537.735 E6	-13.9	113	0.00	8.70- 8.76
9	2,4,5-TP	144.525	164.863 E6	-14.1	113	0.00	9.52- 9.58
10	2,4,5-T	134.940	151.466 E6	-12.2	112	0.00	9.88- 9.94
11	2,4-DB	11.459	14.074 E6	-22.8#	125	0.00	10.59-10.65
12	Dinoseb	57.376	69.809 E6	-21.7#	118	0.00	12.00-12.06
13	Picloram	132.126	147.862 E6	-11.9	108	0.00	11.75-11.81

***** Signal #2 *****

1	Dalapon	11.250	10.610 E6	5.7	93	0.00	2.48- 2.54
2 S	2,4-DCAA	7.968	7.944 E6	0.3	102	0.00	8.02- 8.08
3	Dicamba	33.048	32.960 E6	0.3	100	0.00	8.25- 8.31
4	MCPP	36.173	40.796 E3	-12.8	107	0.00	8.41- 8.47
5	MCPA	59.040	70.509 E3	-19.4	112	0.00	8.72- 8.78
6	Dichloroprop	8.538	8.104 E6	5.1	96	0.00	9.17- 9.23
7	2,4-D	11.005	10.982 E6	0.2	101	0.00	9.59- 9.65
8	Pentachlorophenol	164.597	168.378 E6	-2.3	102	0.00	10.09-10.15
9	2,4,5-TP	54.943	54.078 E6	1.6	98	0.00	10.71-10.77
10	2,4,5-T	55.505	53.361 E6	3.9	96	0.00	11.25-11.31
11	2,4-DB	6.575	7.081 E6	-7.7	111	0.00	11.98-12.04
12	Dinoseb	29.015	30.851 E6	-6.3	106	0.00	12.38-12.44
13	Picloram	46.008	41.047 E6	10.8	89	0.00	13.82-13.88

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 OA119876.D HOA4125.M        Fri Oct 07 14:31:20 2016   RPT1
```

Continuing Calibration Summary

Job Number: JC28902 **Sample:** GOA4139-CC4125
Account: HWINJM Honeywell International Inc. **Lab FileID:** OA120276.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

```
Signal #1 : C:\MSDCHEM\1\DATA\GOA4139\OA120276.D\ECD1A.CH Vial: 3
Signal #2 : C:\MSDCHEM\1\DATA\GOA4139\OA120276.D\ECD2B.CH
Acq On    : 10-7-16 01:34:50 PM                      Operator: vinced
Sample    : cc4125-300                               Inst    : GCOA
Misc      : op97538,GOA4139,15.4,,,5,2               Multiplr: 1.00
IntFile Signal #1: autoint1.e     IntFile Signal #2: autoint2.e

Method       : C:\MSDCHEM\1\METHODS\HOA4125.M (Chemstation Integrator)
Title        : HERB
Last Update  : Fri Oct 07 14:31:09 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Dalapon	25.667	24.755 E6	3.6	101	-0.02	2.28- 2.34
2 S	2,4-DCAA	14.477	13.176 E6	9.0	100	0.00	7.16- 7.22
3	Dicamba	82.685	81.455 E6	1.5	101	0.00	7.35- 7.41
4	MCPP	30.773	30.259 E3	1.7	98	0.00	7.59- 7.65
5	MCPA	43.955	40.007 E3	9.0	91	0.00	7.76- 7.82
6	Dichloroprop	18.421	17.269 E6	6.3	104	0.00	8.20- 8.26
7	2,4-D	21.820	21.048 E6	3.5	106	0.00	8.48- 8.54
8	Pentachlorophenol	472.131	471.454 E6	0.1	101	0.00	8.70- 8.76
9	2,4,5-TP	144.525	143.743 E6	0.5	102	0.00	9.52- 9.58
10	2,4,5-T	134.940	130.483 E6	3.3	99	0.00	9.87- 9.93
11	2,4-DB	11.459	11.780 E6	-2.8	112	0.00	10.59-10.65
12	Dinoseb	57.376	61.099 E6	-6.5	110	0.00	11.99-12.05
13	Picloram	132.126	125.895 E6	4.7	94	0.00	11.75-11.81

***** Signal #2 *****

1	Dalapon	11.250	10.279 E6	8.6	96	-0.02	2.46- 2.52
2 S	2,4-DCAA	7.968	6.453 E6	19.0	89	0.00	8.02- 8.08
3	Dicamba	33.048	28.808 E6	12.8	92	0.00	8.25- 8.31
4	MCPP	36.173	32.312 E3	10.7	94	0.00	8.40- 8.46
5	MCPA	59.040	50.298 E3	14.8	91	0.00	8.71- 8.77
6	Dichloroprop	8.538	6.919 E6	19.0	90	0.00	9.16- 9.22
7	2,4-D	11.005	8.914 E6	19.0	88	0.00	9.59- 9.65
8	Pentachlorophenol	164.597	142.713 E6	13.3	89	0.00	10.09-10.15
9	2,4,5-TP	54.943	48.378 E6	11.9	92	0.00	10.70-10.76
10	2,4,5-T	55.505	45.265 E6	18.4	85	0.00	11.25-11.31
11	2,4-DB	6.575	5.570 E6	15.3	94	0.00	11.98-12.04
12	Dinoseb	29.015	25.999 E6	10.4	95	0.00	12.37-12.43
13	Picloram	46.008	36.241 E6	21.2#	83	0.00	13.82-13.88

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 OA119877.D HOA4125.M        Fri Oct 07 14:31:38 2016   RPT1
```

8.10.25

8

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: GXX5786-ICC5786
Lab FileID: XX195648.D

Response Factor Report HP G1530A

Method : C:\MSDCHEM\1\METHODS\PCB5786.M (Chemstation Integrator)
Title :
Last Update : Wed Aug 24 14:53:46 2016
Response via : Initial Calibration

Calibration Files
50 =xx195645.D 250 =xx195646.D 500 =xx195647.D 1000=xx195648.D
2000 =xx195649.D 3000 =xx195650.D

	Compound	50	250	500	1000	2000	3000	Avg		%RSD
1) S	Tetrachloro-m-xylen	2.204	2.096	2.076	2.090	2.192	2.173	2.139	E7	2.68
2)	AR1221-A				1.160			1.160	E5	0.00
3)	AR1221-B				2.037			2.037	E5	0.00
4)	AR1221-C				6.156			6.156	E5	0.00
5)	AR1221-D				5.282			5.282	E4	0.00
6)	AR1221-E				7.028			7.028	E4	0.00
7)	AR1232-A				5.131			5.131	E5	0.00
8)	AR1232-B				3.495			3.495	E5	0.00
9)	AR1232-C				7.782			7.782	E5	0.00
10)	AR1232-D				2.851			2.851	E5	0.00
11)	AR1232-E				2.749			2.749	E5	0.00
12)	AR1242-A				5.938			5.938	E5	0.00
13)	AR1242-B				1.384			1.384	E6	0.00
14)	AR1242-C				5.074			5.074	E5	0.00
15)	AR1242-D				5.503			5.503	E5	0.00
16)	AR1242-E				6.048			6.048	E5	0.00
17)	AR1248-A				3.066			3.066	E5	0.00
18)	AR1248-B				9.241			9.241	E5	0.00
19)	AR1248-C				8.231			8.231	E5	0.00
20)	AR1248-D				8.498			8.498	E5	0.00
21)	AR1248-E				4.678			4.678	E5	0.00
22)	AR1248-F				9.409			9.409	E5	0.00
23)	AR1248-G				1.025			1.025	E6	0.00
24)	AR1254-A				7.377			7.377	E5	0.00
25)	AR1254-B				9.543			9.543	E5	0.00
26)	AR1254-C				7.598			7.598	E5	0.00
27)	AR1254-D				1.527			1.527	E6	0.00
28)	AR1254-E				1.202			1.202	E6	0.00
29)	AR1254-F				1.077			1.077	E6	0.00
30)	AR1254-G				1.505			1.505	E6	0.00
31)	AR1262-A				1.107			1.107	E6	0.00
32)	AR1262-B				1.792			1.792	E6	0.00
33)	AR1262-C				1.375			1.375	E6	0.00
34)	AR1262-D				4.043			4.043	E6	0.00
35)	AR1262-E				2.394			2.394	E6	0.00
36)	AR1268-A				3.924			3.924	E6	0.00
37)	AR1268-B				4.578			4.578	E6	0.00
38)	AR1268-C				3.485			3.485	E6	0.00
39)	AR1268-D				1.353			1.353	E6	0.00
40)	AR1268-E				9.700			9.700	E6	0.00
41)	AR1016-A	4.296	3.954	3.928	3.862	3.769	3.666	3.912	E5	5.52
42)	AR1016-B	7.876	7.210	7.130	7.023	6.821	6.641	7.117	E5	5.99
43)	AR1016-C	1.776	1.654	1.665	1.670	1.667	1.651	1.680	E6	2.81
44)	AR1016-D	6.453	6.105	6.116	6.093	6.024	5.945	6.123	E5	2.85
45)	AR1016-E	6.806	6.361	6.439	6.455	6.439	6.404	6.484	E5	2.49
46)	AR1260-A	2.095	2.037	2.060	2.065	2.178	2.195	2.105	E6	3.14
47)	AR1260-B	0.994	0.975	0.975	0.968	1.023	1.029	0.994	E6	2.66

Initial Calibration Summary

Job Number: JC28902 **Sample:** GXX5786-ICC5786
Account: HWINJM Honeywell International Inc. **Lab FileID:** XX195648.D
Project: HLANJPR: Study Area 6 Chrome Remedy

48)		AR1260-C	9.106	8.715	8.884	8.849	9.448	9.544	9.091	E5	3.73
49)		AR1260-D	2.643	2.761	2.868	2.857	3.053	3.098	2.880	E6	5.98
50)		AR1260-E	1.792	1.646	1.675	1.667	1.788	1.816	1.731	E6	4.37
51)	S	Decachlorobiphenyl	2.210	2.042	2.021	2.045	2.172	2.207	2.116	E7	4.22

Signal #2

1)	S	Tetrachloro-m-xylen	1.128	1.110	1.079	1.091	1.135	1.140	1.114	E7	2.23
2)		AR1221-A				6.822			6.822	E4	0.00
3)		AR1221-B				1.062			1.062	E5	0.00
4)		AR1221-C				2.651			2.651	E5	0.00
5)		AR1221-D				4.644			4.644	E4	0.00
6)		AR1221-E				3.177			3.177	E4	0.00
7)		AR1232-A				2.316			2.316	E5	0.00
8)		AR1232-B				1.805			1.805	E5	0.00
9)		AR1232-C				3.961			3.961	E5	0.00
10)		AR1232-D				1.639			1.639	E5	0.00
11)		AR1232-E				1.060			1.060	E5	0.00
12)		AR1242-A				3.008			3.008	E5	0.00
13)		AR1242-B				6.931			6.931	E5	0.00
14)		AR1242-C				2.823			2.823	E5	0.00
15)		AR1242-D				2.038			2.038	E5	0.00
16)		AR1242-E				2.702			2.702	E5	0.00
17)		AR1248-A				1.625			1.625	E5	0.00
18)		AR1248-B				4.502			4.502	E5	0.00
19)		AR1248-C				2.464			2.464	E5	0.00
20)		AR1248-D				3.274			3.274	E5	0.00
21)		AR1248-E				3.733			3.733	E5	0.00
22)		AR1248-F				4.670			4.670	E5	0.00
23)		AR1248-G				4.244			4.244	E5	0.00
24)		AR1254-A				4.180			4.180	E5	0.00
25)		AR1254-B				4.656			4.656	E5	0.00
26)		AR1254-C				3.763			3.763	E5	0.00
27)		AR1254-D				7.706			7.706	E5	0.00
28)		AR1254-E				6.092			6.092	E5	0.00
29)		AR1254-F				5.994			5.994	E5	0.00
30)		AR1254-G				7.662			7.662	E5	0.00
31)		AR1262-A				6.132			6.132	E5	0.00
32)		AR1262-B				9.701			9.701	E5	0.00
33)		AR1262-C				7.277			7.277	E5	0.00
34)		AR1262-D				1.758			1.758	E6	0.00
35)		AR1262-E				1.086			1.086	E6	0.00
36)		AR1268-A				1.945			1.945	E6	0.00
37)		AR1268-B				1.836			1.836	E6	0.00
38)		AR1268-C				1.532			1.532	E6	0.00
39)		AR1268-D				5.904			5.904	E5	0.00
40)		AR1268-E				4.342			4.342	E6	0.00
41)		AR1016-A	2.072	1.910	1.882	1.840	1.783	1.752	1.873	E5	6.08
42)		AR1016-B	4.302	3.944	3.854	3.780	3.684	3.610	3.862	E5	6.36
43)		AR1016-C	9.420	8.519	8.405	8.365	8.296	8.236	8.540	E5	5.17
44)		AR1016-D	3.921	3.517	3.436	3.385	3.329	3.287	3.479	E5	6.65
45)		AR1016-E	2.583	2.499	2.459	2.448	2.425	2.408	2.470	E5	2.57
46)		AR1260-A	7.668	7.183	7.169	7.273	7.412	7.413	7.353	E5	2.55
47)		AR1260-B	5.820	5.453	5.418	5.444	5.530	5.532	5.533	E5	2.68
48)		AR1260-C	5.335	5.148	5.128	5.203	5.290	5.314	5.236	E5	1.70
49)		AR1260-D	1.278	1.269	1.285	1.319	1.347	1.345	1.307	E6	2.63
50)		AR1260-E	8.062	7.668	7.717	7.922	8.158	8.253	7.963	E5	2.98
51)	S	Decachlorobiphenyl	1.157	0.926	0.908	0.928	0.979	0.993	0.982	E7	9.37

(#) = Out of Range

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: GXX5786-ICC5786
Lab FileID: XX195648.D

PCB5786.M Wed Aug 24 14:58:55 2016

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: GXX5786-ICV5786
Lab FileID: XX195655.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\msdchem\1\DATA\gx...6\xx195655.D\ECD1A.CH Vial: 36
Signal #2 : C:\msdchem\1\DATA\gxx5786\xx195655.D\ECD2B.CH
Acq On    : 24 Aug 2016   1:09 pm                    Operator: josephr
Sample    : icv5786-1000                             Inst    : HP G1530A
Misc      : op96505,GXX5786,1.0,,,10,1               Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e

Method       : C:\MSDCHEM\1\METHODS\PCB5786.M (Chemstation Integrator)
Title        :
Last Update  : Wed Aug 24 14:53:46 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1 S	Tetrachloro-m-xylene	21.385	23.677 E6	-10.7	113	0.00	2.77- 2.83
41	AR1016-A	391.249	390.290 E3	0.2	101	0.00	3.15- 3.21
42	AR1016-B	711.705	759.388 E3	-6.7	108	0.00	3.55- 3.61
43	AR1016-C	1.680	1.799 E6	-7.1	108	0.00	4.11- 4.17
44	AR1016-D	612.273	656.654 E3	-7.2	108	0.00	4.28- 4.34
45	AR1016-E	648.408	682.502 E3	-5.3	106	0.00	4.78- 4.85
46	AR1260-A	2.105	2.106 E6	-0.0	102	0.00	7.16- 7.22
47	AR1260-B	993.962	1089.537 E3	-9.6	113	0.00	7.31- 7.37
48	AR1260-C	909.103	992.104 E3	-9.1	112	0.00	7.64- 7.71
49	AR1260-D	2.880	3.233 E6	-12.3	113	0.00	8.09- 8.15
50	AR1260-E	1.731	1.854 E6	-7.1	111	0.00	8.48- 8.54
51 S	Decachlorobiphenyl	21.162	22.259 E6	-5.2	109	0.00	10.01-10.08
*****	Signal #2 *****						
1 S	Tetrachloro-m-xylene	11.139	12.232 E6	-9.8	112	0.00	3.32- 3.38
41	AR1016-A	187.295	188.889 E3	-0.9	103	0.00	3.96- 4.02
42	AR1016-B	386.236	406.162 E3	-5.2	107	0.00	4.51- 4.57
43	AR1016-C	854.000	898.775 E3	-5.2	107	0.00	5.14- 5.20
44	AR1016-D	347.914	364.222 E3	-4.7	108	0.00	5.33- 5.39
45	AR1016-E	247.019	256.690 E3	-3.9	105	0.00	5.98- 6.04
46	AR1260-A	735.326	696.493 E3	5.3	96	0.00	8.59- 8.65
47	AR1260-B	553.265	586.990 E3	-6.1	108	0.00	8.71- 8.77
48	AR1260-C	523.633	555.791 E3	-6.1	107	0.00	9.14- 9.20
49	AR1260-D	1.307	1.422 E6	-8.8	108	0.00	9.49- 9.55
50	AR1260-E	796.347	849.098 E3	-6.6	107	0.00	10.04-10.10
51 S	Decachlorobiphenyl	9.819	9.755 E6	0.7	105	0.00	11.71-11.77

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 xx195648.D PCB5786.M        Wed Aug 24 15:09:08 2016
```

8.10.27

8

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: GXX5786-ICV5786
Lab FileID: XX195656.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\msdchem\1\DATA\gx...6\xx195656.D\ECD1A.CH Vial: 37
Signal #2 : C:\msdchem\1\DATA\gxx5786\xx195656.D\ECD2B.CH
Acq On    : 24 Aug 2016   1:26 pm                    Operator: josephr
Sample    : icv5786-1000                             Inst    : HP G1530A
Misc      : op96505,GXX5786,1.0,,,10,1               Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e

Method       : C:\MSDCHEM\1\METHODS\PCB5786.M (Chemstation Integrator)
Title        :
Last Update  : Wed Aug 24 14:53:46 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
2	AR1221-A	115.968	122.306 E3	-5.5	105	0.00	2.19- 2.39
3	AR1221-B	203.717	211.141 E3	-3.6	104	0.00	2.87- 3.07
4	AR1221-C	615.572	630.515 E3	-2.4	102	0.00	3.08- 3.28
5	AR1221-D	52.818	55.527 E3	-5.1	105	0.00	3.48- 3.68
6	AR1221-E	70.283	72.542 E3	-3.2	103	0.00	3.71- 3.91
24	AR1254-A	737.712	730.099 E3	1.0	99	0.00	5.20- 5.40
25	AR1254-B	954.289	938.756 E3	1.6	98	0.00	5.55- 5.75
26	AR1254-C	759.766	754.251 E3	0.7	99	0.00	5.91- 6.11
27	AR1254-D	1.527	1.509 E6	1.2	99	0.00	6.08- 6.28
28	AR1254-E	1.202	1.186 E6	1.3	99	0.00	6.46- 6.66
29	AR1254-F	1.077	1.068 E6	0.8	99	0.00	6.70- 6.90
30	AR1254-G	1.505	1.497 E6	0.5	99	0.00	7.09- 7.29
*****	Signal #2 *****						
2	AR1221-A	68.215	72.659 E3	-6.5	107	0.00	2.76- 2.82
3	AR1221-B	106.191	111.372 E3	-4.9	105	0.00	3.62- 3.82
4	AR1221-C	265.081	274.045 E3	-3.4	103	0.00	3.89- 4.09
5	AR1221-D	46.442	49.690 E3	-7.0	107	0.00	4.43- 4.63
6	AR1221-E	31.767	34.461 E3	-8.5	108	0.00	4.52- 4.72
24	AR1254-A	417.978	416.167 E3	0.4	100	0.00	6.51- 6.71
25	AR1254-B	465.593	461.935 E3	0.8	99	0.00	6.77- 6.97
26	AR1254-C	376.295	372.595 E3	1.0	99	0.00	7.27- 7.47
27	AR1254-D	770.648	765.276 E3	0.7	99	0.00	7.43- 7.63
28	AR1254-E	609.235	605.768 E3	0.6	99	0.00	7.75- 7.95
29	AR1254-F	599.395	597.515 E3	0.3	100	0.00	8.26- 8.46
30	AR1254-G	766.235	763.102 E3	0.4	100	0.00	8.52- 8.72

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 xx195648.D PCB5786.M        Wed Aug 24 15:09:09 2016
```

8.10.28

8

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: GXX5786-ICV5786
Lab FileID: XX195657.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\msdchem\1\DATA\gx...6\xx195657.D\ECD1A.CH Vial: 38
Signal #2 : C:\msdchem\1\DATA\gxx5786\xx195657.D\ECD2B.CH
Acq On    : 24 Aug 2016   1:43 pm                    Operator: josephr
Sample    : icv5786-1000                             Inst    : HP G1530A
Misc      : op96505,GXX5786,1.0,,,10,1               Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e

Method       : C:\MSDCHEM\1\METHODS\PCB5786.M (Chemstation Integrator)
Title        :
Last Update  : Wed Aug 24 14:53:46 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
7	AR1232-A	513.144	494.661 E3	3.6	96	0.00	3.08- 3.28
8	AR1232-B	349.540	345.951 E3	1.0	99	0.00	3.48- 3.68
9	AR1232-C	778.245	763.396 E3	1.9	98	0.00	4.04- 4.24
10	AR1232-D	285.104	281.104 E3	1.4	99	0.00	4.20- 4.40
11	AR1232-E	274.868	271.148 E3	1.4	99	0.00	4.71- 4.91
31	AR1262-A	1.107	1.099 E6	0.7	99	0.00	6.70- 6.90
32	AR1262-B	1.792	1.799 E6	-0.4	100	0.00	7.24- 7.44
33	AR1262-C	1.375	1.374 E6	0.1	100	0.00	7.58- 7.78
34	AR1262-D	4.043	4.071 E6	-0.7	101	0.00	8.02- 8.22
35	AR1262-E	2.394	2.403 E6	-0.4	100	0.00	8.45- 8.65
*****	Signal #2 *****						
7	AR1232-A	231.586	229.081 E3	1.1	99	0.00	3.89- 4.09
8	AR1232-B	180.512	179.727 E3	0.4	100	0.00	4.44- 4.64
9	AR1232-C	396.146	391.833 E3	1.1	99	0.00	5.07- 5.27
10	AR1232-D	163.907	163.133 E3	0.5	100	0.00	5.26- 5.46
11	AR1232-E	106.029	107.017 E3	-0.9	101	0.00	5.91- 6.11
31	AR1262-A	613.156	614.246 E3	-0.2	100	0.00	7.99- 8.19
32	AR1262-B	970.145	971.357 E3	-0.1	100	0.00	8.64- 8.84
33	AR1262-C	727.743	735.212 E3	-1.0	101	0.00	9.07- 9.27
34	AR1262-D	1.758	1.773 E6	-0.9	101	0.00	9.42- 9.62
35	AR1262-E	1.086	1.101 E6	-1.4	101	0.00	9.94-10.14

(#) = Out of Range SPCC's out = 0 CCC's out = 0
xx195648.D PCB5786.M Wed Aug 24 15:09:10 2016

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: GXX5786-ICV5786
Lab FileID: XX195658.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\msdchem\1\DATA\gx...6\xx195658.D\ECD1A.CH Vial: 39
Signal #2 : C:\msdchem\1\DATA\gxx5786\xx195658.D\ECD2B.CH
Acq On    : 24 Aug 2016   2:00 pm                    Operator: josephr
Sample    : icv5786-1000                             Inst    : HP G1530A
Misc      : op96505,GXX5786,1.0,,,10,1               Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e

Method       : C:\MSDCHEM\1\METHODS\PCB5786.M (Chemstation Integrator)
Title        :
Last Update  : Wed Aug 24 14:53:46 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
12	AR1242-A	593.808	600.737 E3	-1.2	101	0.00	3.48- 3.68
13	AR1242-B	1.384	1.396 E6	-0.9	101	0.00	4.04- 4.24
14	AR1242-C	507.434	515.637 E3	-1.6	102	0.00	4.20- 4.40
15	AR1242-D	550.341	548.099 E3	0.4	100	0.00	4.71- 4.91
16	AR1242-E	604.805	602.154 E3	0.4	100	0.00	5.30- 5.50
36	AR1268-A	3.924	3.952 E6	-0.7	101	0.00	8.45- 8.65
37	AR1268-B	4.578	4.677 E6	-2.2	102	0.00	8.51- 8.71
38	AR1268-C	3.485	3.493 E6	-0.2	100	0.00	8.78- 8.98
39	AR1268-D	1.353	1.368 E6	-1.1	101	0.00	9.28- 9.48
40	AR1268-E	9.700	9.948 E6	-2.6	103	0.00	9.68- 9.88
*****	Signal #2 *****						
12	AR1242-A	300.777	326.382 E3	-8.5	109	0.00	4.44- 4.64
13	AR1242-B	693.144	706.392 E3	-1.9	102	0.00	5.07- 5.27
14	AR1242-C	282.345	290.663 E3	-2.9	103	0.00	5.26- 5.46
15	AR1242-D	203.794	206.947 E3	-1.5	102	0.00	5.91- 6.11
16	AR1242-E	270.245	267.054 E3	1.2	99	0.00	6.51- 6.71
36	AR1268-A	1.945	1.971 E6	-1.3	101	0.00	9.94-10.14
37	AR1268-B	1.836	1.891 E6	-3.0	103	0.00	10.01-10.21
38	AR1268-C	1.532	1.549 E6	-1.1	101	0.00	10.38-10.58
39	AR1268-D	590.372	609.602 E3	-3.3	103	0.00	10.78-10.98
40	AR1268-E	4.342	4.391 E6	-1.1	101	0.00	11.26-11.46

(#) = Out of Range SPCC's out = 0 CCC's out = 0
xx195648.D PCB5786.M Wed Aug 24 15:09:11 2016

8.10.30
8

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: GXX5786-ICV5786
Lab FileID: XX195659.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\msdchem\1\DATA\gx...6\xx195659.D\ECD1A.CH Vial: 40
Signal #2 : C:\msdchem\1\DATA\gxx5786\xx195659.D\ECD2B.CH
Acq On    : 24 Aug 2016   2:17 pm                    Operator: josephr
Sample    : icv5786-1000                             Inst    : HP G1530A
Misc      : op96505,GXX5786,1.0,,,10,1               Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e

Method       : C:\MSDCHEM\1\METHODS\PCB5786.M (Chemstation Integrator)
Title        :
Last Update  : Wed Aug 24 14:53:46 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
17	AR1248-A	306.591	289.515 E3	5.6	94	0.00	3.48- 3.68
18	AR1248-B	924.124	929.102 E3	-0.5	101	0.00	4.04- 4.24
19	AR1248-C	823.058	858.406 E3	-4.3	104	0.00	4.45- 4.65
20	AR1248-D	849.812	887.777 E3	-4.5	104	0.00	4.71- 4.91
21	AR1248-E	467.823	495.619 E3	-5.9	106	0.00	4.82- 5.02
22	AR1248-F	940.893	1032.620 E3	-9.7	110	0.00	5.30- 5.50
23	AR1248-G	1.025	1.104 E6	-7.7	108	0.00	5.55- 5.75
*****	Signal #2 *****						
17	AR1248-A	162.475	154.637 E3	4.8	95	0.00	4.44- 4.64
18	AR1248-B	450.220	452.940 E3	-0.6	101	0.00	5.07- 5.27
19	AR1248-C	246.380	253.110 E3	-2.7	103	0.00	5.53- 5.73
20	AR1248-D	327.428	340.601 E3	-4.0	104	0.00	5.91- 6.11
21	AR1248-E	373.318	399.393 E3	-7.0	107	0.00	6.09- 6.29
22	AR1248-F	466.998	506.339 E3	-8.4	108	0.00	6.51- 6.71
23	AR1248-G	424.369	466.444 E3	-9.9	110	0.00	6.84- 7.04

(#) = Out of Range SPCC's out = 0 CCC's out = 0
xx195648.D PCB5786.M Wed Aug 24 15:09:12 2016

8.10.31
8

Continuing Calibration Summary

Job Number: JC28902 **Sample:** GXX5823-CC5786
Account: HWINJM Honeywell International Inc. **Lab FileID:** XX198038.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

```
Signal #1 : C:\msdchem\1\DATA\gx...3\xx198038.D\ECD1A.CH Vial: 96
Signal #2 : C:\msdchem\1\DATA\gxx5823\xx198038.D\ECD2B.CH
Acq On    : 06 Oct 2016   2:28 pm                    Operator: humarahb
Sample    : cc5786-500                               Inst    : HP G1530A
Misc      : op97555,GXX5823,1000,,,1,1               Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e

Method       : C:\MSDCHEM\1\METHODS\PCB5786.M (Chemstation Integrator)
Title        :
Last Update  : Fri Sep 23 11:13:15 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1 S	Tetrachloro-m-xylene	21.385	22.363 E6	-4.6	108	0.00	2.77- 2.83
2	AR1221-A		----------NA----------				
3	AR1221-B		----------NA----------				
4	AR1221-C		----------NA----------				
5	AR1221-D		----------NA----------				
6	AR1221-E		----------NA----------				
7	AR1232-A		----------NA----------				
8	AR1232-B		----------NA----------				
9	AR1232-C		----------NA----------				
10	AR1232-D		----------NA----------				
11	AR1232-E		----------NA----------				
12	AR1242-A		----------NA----------				
13	AR1242-B		----------NA----------				
14	AR1242-C		----------NA----------				
15	AR1242-D		----------NA----------				
16	AR1242-E		----------NA----------				
17	AR1248-A		----------NA----------				
18	AR1248-B		----------NA----------				
19	AR1248-C		----------NA----------				
20	AR1248-D		----------NA----------				
21	AR1248-E		----------NA----------				
22	AR1248-F		----------NA----------				
23	AR1248-G		----------NA----------				
24	AR1254-A		----------NA----------				
25	AR1254-B		----------NA----------				
26	AR1254-C		----------NA----------				
27	AR1254-D		----------NA----------				
28	AR1254-E		----------NA----------				
29	AR1254-F		----------NA----------				
30	AR1254-G		----------NA----------				
31	AR1262-A		----------NA----------				
32	AR1262-B		----------NA----------				
33	AR1262-C		----------NA----------				
34	AR1262-D		----------NA----------				
35	AR1262-E		----------NA----------				
36	AR1268-A		----------NA----------				
37	AR1268-B		----------NA----------				
38	AR1268-C		----------NA----------				
39	AR1268-D		----------NA----------				
40	AR1268-E		----------NA----------				
41	AR1016-A	391.249	393.159 E3	-0.5	100	0.00	3.16- 3.22

Continuing Calibration Summary

Job Number: JC28902 **Sample:** GXX5823-CC5786
Account: HWINJM Honeywell International Inc. **Lab FileID:** XX198038.D
Project: HLANJPR: Study Area 6 Chrome Remedy

42		AR1016-B	711.705	795.151	E3	-11.7	112	0.00	3.55- 3.61
43		AR1016-C	1.680	1.533	E6	8.8	92	0.00	4.12- 4.18
44		AR1016-D	612.273	642.657	E3	-5.0	105	0.00	4.28- 4.34
45		AR1016-E	648.408	682.878	E3	-5.3	106	0.00	4.77- 4.84
46		AR1260-A	2.105	1.814	E6	13.8	88	0.02	7.18- 7.24
47		AR1260-B	993.962	1039.411	E3	-4.6	107	0.00	7.30- 7.36
48		AR1260-C	909.103	785.499	E3	13.6	88	0.00	7.64- 7.71
49		AR1260-D	2.880	2.893	E6	-0.5	101	0.00	8.10- 8.16
50		AR1260-E	1.731	1.191	E6	31.2#	71	0.00	8.52- 8.58
51	S	Decachlorobiphenyl	21.162	22.761	E6	-7.6	113	0.00	9.99-10.06

***** Signal #2 *****

1	S	Tetrachloro-m-xylene	11.139	10.958	E6	1.6	102	0.00	3.31- 3.37
2		AR1221-A		----------NA----------					
3		AR1221-B		----------NA----------					
4		AR1221-C		----------NA----------					
5		AR1221-D		----------NA----------					
6		AR1221-E		----------NA----------					
7		AR1232-A		----------NA----------					
8		AR1232-B		----------NA----------					
9		AR1232-C		----------NA----------					
10		AR1232-D		----------NA----------					
11		AR1232-E		----------NA----------					
12		AR1242-A		----------NA----------					
13		AR1242-B		----------NA----------					
14		AR1242-C		----------NA----------					
15		AR1242-D		----------NA----------					
16		AR1242-E		----------NA----------					
17		AR1248-A		----------NA----------					
18		AR1248-B		----------NA----------					
19		AR1248-C		----------NA----------					
20		AR1248-D		----------NA----------					
21		AR1248-E		----------NA----------					
22		AR1248-F		----------NA----------					
23		AR1248-G		----------NA----------					
24		AR1254-A		----------NA----------					
25		AR1254-B		----------NA----------					
26		AR1254-C		----------NA----------					
27		AR1254-D		----------NA----------					
28		AR1254-E		----------NA----------					
29		AR1254-F		----------NA----------					
30		AR1254-G		----------NA----------					
31		AR1262-A		----------NA----------					
32		AR1262-B		----------NA----------					
33		AR1262-C		----------NA----------					
34		AR1262-D		----------NA----------					
35		AR1262-E		----------NA----------					
36		AR1268-A		----------NA----------					
37		AR1268-B		----------NA----------					
38		AR1268-C		----------NA----------					
39		AR1268-D		----------NA----------					
40		AR1268-E		----------NA----------					
41		AR1016-A	187.295	202.178	E3	-7.9	107	0.00	3.95- 4.01
42		AR1016-B	386.236	381.132	E3	1.3	99	0.00	4.49- 4.55
43		AR1016-C	854.000	782.272	E3	8.4	93	0.00	5.13- 5.19
44		AR1016-D	347.914	325.192	E3	6.5	95	0.00	5.31- 5.37
45		AR1016-E	247.019	224.798	E3	9.0	91	0.00	5.97- 6.03
46		AR1260-A	735.326	769.438	E3	-4.6	107	0.00	8.57- 8.63
47		AR1260-B	553.265	547.083	E3	1.1	101	0.00	8.69- 8.75

Continuing Calibration Summary

Job Number: JC28902 **Sample:** GXX5823-CC5786
Account: HWINJM Honeywell International Inc. **Lab FileID:** XX198038.D
Project: HLANJPR: Study Area 6 Chrome Remedy

48		AR1260-C	523.633	486.651	E3	7.1	95	0.00	9.12- 9.18
49		AR1260-D	1.307	1.285	E6	1.7	100	0.00	9.48- 9.54
50		AR1260-E	796.347	649.721	E3	18.4	84	0.00	10.02-10.08
51	S	Decachlorobiphenyl	9.819	9.126	E6	7.1	101	-0.01	11.68-11.74

(#) = Out of Range SPCC's out = 0 CCC's out = 0
xx195647.D PCB5786.M Thu Oct 06 15:47:59 2016

8.10.32

8

Continuing Calibration Summary

Job Number: JC28902 **Sample:** GXX5823-CC5786
Account: HWINJM Honeywell International Inc. **Lab FileID:** XX198044.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

```
Signal #1 : C:\msdchem\1\DATA\gx...3\xx198044.D\ECD1A.CH Vial: 3
Signal #2 : C:\msdchem\1\DATA\gxx5823\xx198044.D\ECD2B.CH
Acq On    : 06 Oct 2016   4:24 pm                    Operator: humarahb
Sample    : cc5786-1000                              Inst    : HP G1530A
Misc      : op97535,GXX5823,16.4,,,10,1              Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e

Method       : C:\MSDCHEM\1\METHODS\PCB5786.M (Chemstation Integrator)
Title        :
Last Update  : Fri Sep 23 11:13:15 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1 S	Tetrachloro-m-xylene	21.385	23.255 E6	-8.7	111	0.00	2.77- 2.83
2	AR1221-A		----------NA----------				
3	AR1221-B		----------NA----------				
4	AR1221-C		----------NA----------				
5	AR1221-D		----------NA----------				
6	AR1221-E		----------NA----------				
7	AR1232-A		----------NA----------				
8	AR1232-B		----------NA----------				
9	AR1232-C		----------NA----------				
10	AR1232-D		----------NA----------				
11	AR1232-E		----------NA----------				
12	AR1242-A		----------NA----------				
13	AR1242-B		----------NA----------				
14	AR1242-C		----------NA----------				
15	AR1242-D		----------NA----------				
16	AR1242-E		----------NA----------				
17	AR1248-A		----------NA----------				
18	AR1248-B		----------NA----------				
19	AR1248-C		----------NA----------				
20	AR1248-D		----------NA----------				
21	AR1248-E		----------NA----------				
22	AR1248-F		----------NA----------				
23	AR1248-G		----------NA----------				
24	AR1254-A		----------NA----------				
25	AR1254-B		----------NA----------				
26	AR1254-C		----------NA----------				
27	AR1254-D		----------NA----------				
28	AR1254-E		----------NA----------				
29	AR1254-F		----------NA----------				
30	AR1254-G		----------NA----------				
31	AR1262-A		----------NA----------				
32	AR1262-B		----------NA----------				
33	AR1262-C		----------NA----------				
34	AR1262-D		----------NA----------				
35	AR1262-E		----------NA----------				
36	AR1268-A		----------NA----------				
37	AR1268-B		----------NA----------				
38	AR1268-C		----------NA----------				
39	AR1268-D		----------NA----------				
40	AR1268-E		----------NA----------				
41	AR1016-A	391.249	397.901 E3	-1.7	103	0.00	3.16- 3.22

Continuing Calibration Summary

Job Number: JC28902 **Sample:** GXX5823-CC5786
Account: HWINJM Honeywell International Inc. **Lab FileID:** XX198044.D
Project: HLANJPR: Study Area 6 Chrome Remedy

42		AR1016-B	711.705	764.392	E3	-7.4	109	0.00	3.55- 3.61
43		AR1016-C	1.680	1.568	E6	6.7	94	0.00	4.12- 4.18
44		AR1016-D	612.273	657.374	E3	-7.4	108	0.00	4.28- 4.34
45		AR1016-E	648.408	706.503	E3	-9.0	109	0.00	4.77- 4.84
46		AR1260-A	2.105	1.935	E6	8.1	94	0.02	7.18- 7.24
47		AR1260-B	993.962	1096.388	E3	-10.3	113	0.00	7.30- 7.36
48		AR1260-C	909.103	837.828	E3	7.8	95	0.00	7.64- 7.71
49		AR1260-D	2.880	3.149	E6	-9.3	110	0.00	8.10- 8.16
50		AR1260-E	1.731	1.287	E6	25.6#	77	0.00	8.52- 8.58
51	S	Decachlorobiphenyl	21.162	24.923	E6	-17.8	122	0.00	9.99-10.06

***** Signal #2 *****

1	S	Tetrachloro-m-xylene	11.139	11.118	E6	0.2	102	0.00	3.31- 3.37
2		AR1221-A		----------NA----------					
3		AR1221-B		----------NA----------					
4		AR1221-C		----------NA----------					
5		AR1221-D		----------NA----------					
6		AR1221-E		----------NA----------					
7		AR1232-A		----------NA----------					
8		AR1232-B		----------NA----------					
9		AR1232-C		----------NA----------					
10		AR1232-D		----------NA----------					
11		AR1232-E		----------NA----------					
12		AR1242-A		----------NA----------					
13		AR1242-B		----------NA----------					
14		AR1242-C		----------NA----------					
15		AR1242-D		----------NA----------					
16		AR1242-E		----------NA----------					
17		AR1248-A		----------NA----------					
18		AR1248-B		----------NA----------					
19		AR1248-C		----------NA----------					
20		AR1248-D		----------NA----------					
21		AR1248-E		----------NA----------					
22		AR1248-F		----------NA----------					
23		AR1248-G		----------NA----------					
24		AR1254-A		----------NA----------					
25		AR1254-B		----------NA----------					
26		AR1254-C		----------NA----------					
27		AR1254-D		----------NA----------					
28		AR1254-E		----------NA----------					
29		AR1254-F		----------NA----------					
30		AR1254-G		----------NA----------					
31		AR1262-A		----------NA----------					
32		AR1262-B		----------NA----------					
33		AR1262-C		----------NA----------					
34		AR1262-D		----------NA----------					
35		AR1262-E		----------NA----------					
36		AR1268-A		----------NA----------					
37		AR1268-B		----------NA----------					
38		AR1268-C		----------NA----------					
39		AR1268-D		----------NA----------					
40		AR1268-E		----------NA----------					
41		AR1016-A	187.295	184.918	E3	1.3	101	0.00	3.95- 4.01
42		AR1016-B	386.236	378.236	E3	2.1	100	0.00	4.50- 4.56
43		AR1016-C	854.000	810.371	E3	5.1	97	0.00	5.13- 5.19
44		AR1016-D	347.914	352.170	E3	-1.2	104	0.00	5.31- 5.37
45		AR1016-E	247.019	233.262	E3	5.6	95	0.00	5.96- 6.02
46		AR1260-A	735.326	768.363	E3	-4.5	106	0.00	8.57- 8.63
47		AR1260-B	553.265	559.232	E3	-1.1	103	0.00	8.69- 8.75

Continuing Calibration Summary

Job Number: JC28902 **Sample:** GXX5823-CC5786
Account: HWINJM Honeywell International Inc. **Lab FileID:** XX198044.D
Project: HLANJPR: Study Area 6 Chrome Remedy

48		AR1260-C	523.633	506.163	E3	3.3	97	0.00	9.12- 9.18
49		AR1260-D	1.307	1.346	E6	-3.0	102	0.00	9.48- 9.54
50		AR1260-E	796.347	657.733	E3	17.4	83	0.00	10.02-10.08
51	S	Decachlorobiphenyl	9.819	9.429	E6	4.0	102	-0.01	11.68-11.74

(#) = Out of Range SPCC's out = 0 CCC's out = 0
xx195648.D PCB5786.M Thu Oct 06 16:45:52 2016

8.10.33

8

Continuing Calibration Summary

Job Number: JC28902 **Sample:** GXX5823-CC5786
Account: HWINJM Honeywell International Inc. **Lab FileID:** XX198055.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

```
Signal #1 : C:\msdchem\1\DATA\gx...3\xx198055.D\ECD1A.CH Vial: 10
Signal #2 : C:\msdchem\1\DATA\gxx5823\xx198055.D\ECD2B.CH
Acq On    : 06 Oct 2016   7:37 pm                    Operator: humarahb
Sample    : cc5786-500                               Inst    : HP G1530A
Misc      : op97535,GXX5823,16.4,,,10,1              Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e

Method       : C:\MSDCHEM\1\METHODS\PCB5786.M (Chemstation Integrator)
Title        :
Last Update  : Fri Sep 23 11:13:15 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1 S	Tetrachloro-m-xylene	21.385	23.354 E6	-9.2	112	0.00	2.77- 2.83
2	AR1221-A		----------NA----------				
3	AR1221-B		----------NA----------				
4	AR1221-C		----------NA----------				
5	AR1221-D		----------NA----------				
6	AR1221-E		----------NA----------				
7	AR1232-A		----------NA----------				
8	AR1232-B		----------NA----------				
9	AR1232-C		----------NA----------				
10	AR1232-D		----------NA----------				
11	AR1232-E		----------NA----------				
12	AR1242-A		----------NA----------				
13	AR1242-B		----------NA----------				
14	AR1242-C		----------NA----------				
15	AR1242-D		----------NA----------				
16	AR1242-E		----------NA----------				
17	AR1248-A		----------NA----------				
18	AR1248-B		----------NA----------				
19	AR1248-C		----------NA----------				
20	AR1248-D		----------NA----------				
21	AR1248-E		----------NA----------				
22	AR1248-F		----------NA----------				
23	AR1248-G		----------NA----------				
24	AR1254-A		----------NA----------				
25	AR1254-B		----------NA----------				
26	AR1254-C		----------NA----------				
27	AR1254-D		----------NA----------				
28	AR1254-E		----------NA----------				
29	AR1254-F		----------NA----------				
30	AR1254-G		----------NA----------				
31	AR1262-A		----------NA----------				
32	AR1262-B		----------NA----------				
33	AR1262-C		----------NA----------				
34	AR1262-D		----------NA----------				
35	AR1262-E		----------NA----------				
36	AR1268-A		----------NA----------				
37	AR1268-B		----------NA----------				
38	AR1268-C		----------NA----------				
39	AR1268-D		----------NA----------				
40	AR1268-E		----------NA----------				
41	AR1016-A	391.249	421.343 E3	-7.7	107	0.00	3.16- 3.22

Continuing Calibration Summary

Job Number: JC28902 **Sample:** GXX5823-CC5786
Account: HWINJM Honeywell International Inc. **Lab FileID:** XX198055.D
Project: HLANJPR: Study Area 6 Chrome Remedy

42		AR1016-B	711.705	775.225	E3	-8.9	109	0.00	3.55- 3.61
43		AR1016-C	1.680	1.674	E6	0.4	101	0.00	4.12- 4.18
44		AR1016-D	612.273	655.047	E3	-7.0	107	0.00	4.28- 4.34
45		AR1016-E	648.408	688.110	E3	-6.1	107	0.00	4.77- 4.84
46		AR1260-A	2.105	1.940	E6	7.8	94	0.00	7.17- 7.23
47		AR1260-B	993.962	976.032	E3	1.8	100	0.00	7.30- 7.36
48		AR1260-C	909.103	796.438	E3	12.4	90	0.00	7.64- 7.71
49		AR1260-D	2.880	2.713	E6	5.8	95	0.00	8.09- 8.15
50		AR1260-E	1.731	1.254	E6	27.6#	75	0.00	8.51- 8.57
51	S	Decachlorobiphenyl	21.162	19.692	E6	6.9	97	0.00	10.00-10.07

***** Signal #2 *****

1	S	Tetrachloro-m-xylene	11.139	11.156	E6	-0.2	103	0.00	3.31- 3.37
2		AR1221-A		----------NA----------					
3		AR1221-B		----------NA----------					
4		AR1221-C		----------NA----------					
5		AR1221-D		----------NA----------					
6		AR1221-E		----------NA----------					
7		AR1232-A		----------NA----------					
8		AR1232-B		----------NA----------					
9		AR1232-C		----------NA----------					
10		AR1232-D		----------NA----------					
11		AR1232-E		----------NA----------					
12		AR1242-A		----------NA----------					
13		AR1242-B		----------NA----------					
14		AR1242-C		----------NA----------					
15		AR1242-D		----------NA----------					
16		AR1242-E		----------NA----------					
17		AR1248-A		----------NA----------					
18		AR1248-B		----------NA----------					
19		AR1248-C		----------NA----------					
20		AR1248-D		----------NA----------					
21		AR1248-E		----------NA----------					
22		AR1248-F		----------NA----------					
23		AR1248-G		----------NA----------					
24		AR1254-A		----------NA----------					
25		AR1254-B		----------NA----------					
26		AR1254-C		----------NA----------					
27		AR1254-D		----------NA----------					
28		AR1254-E		----------NA----------					
29		AR1254-F		----------NA----------					
30		AR1254-G		----------NA----------					
31		AR1262-A		----------NA----------					
32		AR1262-B		----------NA----------					
33		AR1262-C		----------NA----------					
34		AR1262-D		----------NA----------					
35		AR1262-E		----------NA----------					
36		AR1268-A		----------NA----------					
37		AR1268-B		----------NA----------					
38		AR1268-C		----------NA----------					
39		AR1268-D		----------NA----------					
40		AR1268-E		----------NA----------					
41		AR1016-A	187.295	189.093	E3	-1.0	100	0.00	3.95- 4.01
42		AR1016-B	386.236	393.610	E3	-1.9	102	0.00	4.49- 4.55
43		AR1016-C	854.000	802.521	E3	6.0	95	0.00	5.13- 5.19
44		AR1016-D	347.914	332.855	E3	4.3	97	0.00	5.31- 5.37
45		AR1016-E	247.019	232.324	E3	5.9	94	0.00	5.96- 6.02
46		AR1260-A	735.326	732.816	E3	0.3	102	0.00	8.57- 8.63
47		AR1260-B	553.265	523.349	E3	5.4	97	0.00	8.69- 8.75

Continuing Calibration Summary

Job Number: JC28902 **Sample:** GXX5823-CC5786
Account: HWINJM Honeywell International Inc. **Lab FileID:** XX198055.D
Project: HLANJPR: Study Area 6 Chrome Remedy

48		AR1260-C	523.633	481.526	E3	8.0	94	0.00	9.12- 9.18
49		AR1260-D	1.307	1.173	E6	10.3	91	0.00	9.47- 9.53
50		AR1260-E	796.347	659.268	E3	17.2	85	0.00	10.02-10.08
51	S	Decachlorobiphenyl	9.819	9.124	E6	7.1	101	-0.01	11.68-11.74

(#) = Out of Range SPCC's out = 0 CCC's out = 0
xx195647.D PCB5786.M Fri Oct 07 09:36:00 2016

8.10.34

8

ACCUTEST
New Jersey

Section 9

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries
- IDL and Linear Range Summaries

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
Analyst: ND Run ID: MA40457
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
20:15	MA40457-STD1	1		STDA
20:20	MA40457-STD2	1		STDB
20:26	ZZZZZZ	1		
20:32	ZZZZZZ	1		
20:38	MA40457-ICV1	1		
20:44	MA40457-ICB1	1		
20:50	MA40457-CCV1	1		
20:55	MA40457-CCB1	1		
21:01	MA40457-CRI1	1		
21:07	MA40457-CRID1	1		
21:13	MA40457-ICSA1	1		
21:19	MA40457-ICSAB1	1		
21:25	MA40457-HSTD1	1		
21:31	MA40457-HSTD2	1		Minerals
21:36	ZZZZZZ	1		
21:42	ZZZZZZ	1		
21:48	ZZZZZZ	1		
21:54	MA40457-CCV2	1		
22:00	MA40457-CCB2	1		
22:06	MA40457-CRIA1	1		
22:12	MP96352-MB2	1		
22:18	MP96352-B2	1		
22:24	ZZZZZZ	1		
22:30	MP96373-MB1	1		Zn=3ppm
22:35	MP96373-B1	1		
22:41	MP96373-S1	1		
22:47	MP96373-S2	1		
22:53	JC28910-1	1		(sample used for QC only; not part of login JC28902)
22:58	MP96373-SD1	5		
23:04	MA40457-CCV3	1		
23:10	MA40457-CCB3	1		
23:18	MP96373-MB1	1		Confirmation
23:24	ZZZZZZ	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
Analyst: ND Run ID: MA40457
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

	Time	Sample Description	Dilution Factor	PS Recov	Comments
	23:30	JC28902-1	1		
---------->	Last reportable sample/prep for job JC28902				
	23:35	ZZZZZZ	1		
	23:41	ZZZZZZ	1		
	23:47	MP96385-MB1	5		
	23:53	MP96385-B1	5		
	23:59	MP96385-S1	5		
	00:04	MP96385-S2	5		
	00:10	MA40457-CCV4	1		
	00:16	MA40457-CCB4	1		
	00:22	JC28768-1	5		(sample used for QC only; not part of login JC28902)
	00:28	MP96385-SD1	25		
	00:33	ZZZZZZ	5		
	00:39	ZZZZZZ	5		
	00:45	ZZZZZZ	5		
	00:51	MP96289-MB3	1		
	00:57	MP96289-B3	1		
	01:03	ZZZZZZ	1		
	01:09	ZZZZZZ	1		
	01:14	ZZZZZZ	1		
	01:20	MA40457-CCV5	1		
	01:26	MA40457-CCB5	1		
	01:32	ZZZZZZ	1		
	01:38	ZZZZZZ	1		
	01:44	MP96332-MB3	5		
	01:50	MP96332-B3	5		
	01:55	ZZZZZZ	5		
	02:01	ZZZZZZ	1		
	02:07	ZZZZZZ	1		
	02:13	ZZZZZZ	1		
	02:19	ZZZZZZ	2		
	02:25	MA40457-CCV6	1		
	02:30	MA40457-CCB6	1		
	02:36	ZZZZZZ	2		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
Analyst: ND Run ID: MA40457
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

	Time	Sample Description	Dilution Factor	PS Recov	Comments
	02:42	ZZZZZZ	2		
	02:48	ZZZZZZ	1		
	02:54	ZZZZZZ	2		
	03:00	ZZZZZZ	1		
	03:05	ZZZZZZ	1		
	03:11	ZZZZZZ	3		
	03:17	MA40457-CCV7	1		
	03:23	MA40457-CCB7	1		
	03:29	MA40457-CRI2	1		
	03:35	MA40457-CRID2	1		
	03:41	MA40457-CRIA2	1		
	03:47	MA40457-ICSA2	1		
	03:53	MA40457-ICSAB2	1		
	03:58	MA40457-CCV8	1		
	04:04	MA40457-CCB8	1		
---------->	Last reportable CCB for job JC28902				
	04:10	ZZZZZZ	1		
	04:16	ZZZZZZ	1		
	04:22	ZZZZZZ	1		
	04:27	ZZZZZZ	2		
	04:33	ZZZZZZ	1		
	04:39	ZZZZZZ	1		
	04:45	ZZZZZZ	5		
	04:51	ZZZZZZ	10		
	04:57	ZZZZZZ	3		
	05:02	ZZZZZZ	2		
	05:08	MA40457-CCV9	1		
	05:14	MA40457-CCB9	1		
	05:20	ZZZZZZ	2		
	05:26	ZZZZZZ	1		
	05:32	ZZZZZZ	1		
	05:38	ZZZZZZ	1		
	05:43	ZZZZZZ	1		
	05:49	ZZZZZZ	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
Analyst: ND Run ID: MA40457
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
05:55	ZZZZZZ	1		
06:01	ZZZZZZ	1		
06:07	ZZZZZZ	1		
06:12	MA40457-CCV10	1		
06:18	MA40457-CCB10	1		
06:24	ZZZZZZ	1		
06:30	ZZZZZZ	1		
06:36	ZZZZZZ	1		
06:41	ZZZZZZ	1		
06:47	ZZZZZZ	1		
06:53	ZZZZZZ	1		
06:59	ZZZZZZ	1		
07:05	MA40457-CCV11	1		
07:11	MA40457-CCB11	1		
07:16	MA40457-CRI3	1		
07:22	MA40457-CRID3	1		
07:28	MA40457-CRIA3	1		
07:34	MA40457-CCV12	1		
07:40	MA40457-CCB12	1		
07:46	ZZZZZZ	1		
07:52	ZZZZZZ	1		
07:58	ZZZZZZ	1		
08:04	ZZZZZZ	1		
08:10	ZZZZZZ	1		
08:16	ZZZZZZ	1		
08:22	ZZZZZZ	1		
08:28	ZZZZZZ	1		
08:34	ZZZZZZ	1		

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
Analyst: ND Run ID: MA40457
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
20:15	MA40457-STD1	2761 R	80960 R	3496 R	6071 R
20:20	MA40457-STD2	2521	73433	3397	5149
20:26	ZZZZZZ	2598	75946	3405	5345
20:32	ZZZZZZ	2729	80633	3459	6016
20:38	MA40457-ICV1	2579	75767	3412	5328
20:44	MA40457-ICB1	2729	80849	3453	6030
20:50	MA40457-CCV1	2610	76404	3418	5400
20:55	MA40457-CCB1	2714	80520	3468	6036
21:01	MA40457-CRI1	2693	79946	3436	5893
21:07	MA40457-CRID1	2718	80967	3433	6009
21:13	MA40457-ICSA1	2407	70185	3331	4817
21:19	MA40457-ICSAB1	2392	70205	3310	4813
21:25	MA40457-HSTD1	2665	79579	3415	5845
21:31	MA40457-HSTD2	2421	71067	3274	4844
21:36	ZZZZZZ	2662	79604	3395	5984
21:42	ZZZZZZ	2629	78627	3405	6030
21:48	ZZZZZZ	2726	81765	3394	6107
21:54	MA40457-CCV2	2594	76900	3326	5421
22:00	MA40457-CCB2	2707	81328	3348	6081
22:06	MA40457-CRIA1	2700	81073	3335	6035
22:12	MP96352-MB2	2730	82170	3429	6139
22:18	MP96352-B2	2596	77519	3300	5510
22:24	ZZZZZZ	2738	84029	3470	6189
22:30	MP96373-MB1	2746	83522	3441	6205
22:35	MP96373-B1	2631	79354	3334	5647
22:41	MP96373-S1	2641	79506	3358	5636
22:47	MP96373-S2	2646	79043	3365	5641
22:53	JC28910-1	2740	82868	3371	6122
22:58	MP96373-SD1	2720	82203	3377	6114
23:04	MA40457-CCV3	2596	77543	3270	5458
23:10	MA40457-CCB3	2715	82069	3365	6116
23:18	MP96373-MB1	No results reported for the elements associated with this internal standard.			
23:24	ZZZZZZ	2720	83942	3387	6113

INTERNAL STANDARD SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
Analyst: ND Run ID: MA40457
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
23:30	JC28902-1	2715	82557	3458	5891
23:35	ZZZZZZ	2629	79605	3425	5512
23:41	ZZZZZZ	2721	81422	3478	5628
23:47	MP96385-MB1	2553	75779	3262	5353
23:53	MP96385-B1	2562	76574	3313	5327
23:59	MP96385-S1	2550	75390	3331	5211
00:04	MP96385-S2	2558	75876	3292	5225
00:10	MA40457-CCV4	2603	78004	3280	5518
00:16	MA40457-CCB4	2714	80211	3288	6171
00:22	JC28768-1	2543	75909	3309	5238
00:28	MP96385-SD1	2632	80263	3287	5731
00:33	ZZZZZZ	2505	75673	3231	5140
00:39	ZZZZZZ	2524	75461	3254	5282
00:45	ZZZZZZ	2538	76864	3283	5350
00:51	MP96289-MB3	2732	84315	3390	6242
00:57	MP96289-B3	2636	80769	3314	5690
01:03	ZZZZZZ	2727	83603	3369	6075
01:09	ZZZZZZ	2738	83316	3387	6075
01:14	ZZZZZZ	2719	83265	3401	6001
01:20	MA40457-CCV5	2620	79311	3350	5546
01:26	MA40457-CCB5	2770	83780	3377	6260
01:32	ZZZZZZ	2760	83768	3424	6099
01:38	ZZZZZZ	2750	83795	3428	6059
01:44	MP96332-MB3	2612	77585	3341	5465
01:50	MP96332-B3	2614	78382	3349	5429
01:55	ZZZZZZ	2530	76360	3291	5241
02:01	ZZZZZZ	2727	82403	3413	5875
02:07	ZZZZZZ	2801	82695	3477	6367
02:13	ZZZZZZ	2755	80381	3536	5798
02:19	ZZZZZZ	2831	86035	3543	5985
02:25	MA40457-CCV6	2685	79801	3401	5630
02:30	MA40457-CCB6	2801	84843	3423	6321
02:36	ZZZZZZ	2791	83601	3518	5970

INTERNAL STANDARD SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
Analyst: ND Run ID: MA40457
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
02:42	ZZZZZZ	2764	83687	3488	5890
02:48	ZZZZZZ	2767	84223	3526	5884
02:54	ZZZZZZ	2777	84519	3450	6021
03:00	ZZZZZZ	2840	86138	3572	5859
03:05	ZZZZZZ	2766	83399	3462	5889
03:11	ZZZZZZ	2835	86601	3498	6072
03:17	MA40457-CCV7	2644	80705	3285	5668
03:23	MA40457-CCB7	2753	85630	3338	6341
03:29	MA40457-CRI2	2709	84650	3277	6167
03:35	MA40457-CRID2	2734	85756	3318	6304
03:41	MA40457-CRIA2	2751	85570	3307	6355
03:47	MA40457-ICSA2	2404	74040	3183	5016
03:53	MA40457-ICSAB2	2411	74358	3183	5013
03:58	MA40457-CCV8	2661	81124	3287	5738
04:04	MA40457-CCB8	2751	83766	3312	6372
04:10	ZZZZZZ	2753	85993	3303	6390
04:16	ZZZZZZ	2657	82347	3281	5857
04:22	ZZZZZZ	2574	81289	3256	5310
04:27	ZZZZZZ	2699	84671	3348	6088
04:33	ZZZZZZ	2790	87098	3345	6432
04:39	ZZZZZZ	2665	83388	3316	5830
04:45	ZZZZZZ	2814	87384	3398	6221
04:51	ZZZZZZ	2819	86724	3384	6288
04:57	ZZZZZZ	2627	83105	3356	5878
05:02	ZZZZZZ	2825	86573	3464	6129
05:08	MA40457-CCV9	2681	81461	3331	5708
05:14	MA40457-CCB9	2818	86479	3369	6437
05:20	ZZZZZZ	2722	83733	3461	5986
05:26	ZZZZZZ	2769	84005	3369	5949
05:32	ZZZZZZ	2857	87989	3464	6485
05:38	ZZZZZZ	No results reported for the elements associated with this internal standard.			
05:43	ZZZZZZ	2846	87924	3457	6375
05:49	ZZZZZZ	999999 !a	81960	3485	999999 !a

INTERNAL STANDARD SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
Analyst: ND Run ID: MA40457
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
05:55	ZZZZZZ	2733	82946	3523	5635
06:01	ZZZZZZ	2909	87637	3538	6229
06:07	ZZZZZZ	2826	85520	3642	5943
06:12	MA40457-CCV10	2764	82164	3404	5803
06:18	MA40457-CCB10	2911	87176	3454	6555
06:24	ZZZZZZ	3017	89753	3675	6059
06:30	ZZZZZZ	3038	90724	3712	6052
06:36	ZZZZZZ	2996	89894	3782	5747
06:41	ZZZZZZ	2805	84846	3493	5888
06:47	ZZZZZZ	2903	87678	3587	6113
06:53	ZZZZZZ	2739	83237	3508	5845
06:59	ZZZZZZ	2690	84090	3545	5905
07:05	MA40457-CCV11	2775	82871	3385	5826
07:11	MA40457-CCB11	2880	87469	3429	6523
07:16	MA40457-CRI3	2855	86343	3439	6353
07:22	MA40457-CRID3	2901	87851	3441	6511
07:28	MA40457-CRIA3	2879	87378	3426	6484
07:34	MA40457-CCV12	2782	83154	3409	5834
07:40	MA40457-CCB12	2896	88040	3460	6506
07:46	ZZZZZZ	2929	82735	3547	5825
07:52	ZZZZZZ	2909	87418	3486	6499
07:58	ZZZZZZ	2902	88003	3484	6481
08:04	ZZZZZZ	2934	88110	3505	6538
08:10	ZZZZZZ	2925	87615	3486	6518
08:16	ZZZZZZ	2906	88354	3514	6516
08:22	ZZZZZZ	2668	80455	3366	5593
08:28	ZZZZZZ	2683	79812	3401	5580
08:34	ZZZZZZ	2975	88454	3551	6608

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	70-130 %
Istd#2	Yttrium (3600)	70-130 %
Istd#3	Yttrium (3710)	70-130 %
Istd#4	Indium	70-130 %

(a) No samples reported for the elements associated with this internal standard.

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: result < RL Run ID: MA40457 Units: ug/l

Time:			20:44		20:55		22:00		23:10	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	20	7.9	<500	3.1	<500	-16	<500	-3.6	<500
Antimony	20	1.2	0.70	<20	0.50	<20	0.30	<20	0.0	<20
Arsenic	20	1.5	1.0	<20	1.7	<20	0.80	<20	1.8	<20
Barium	200	.5	0.20	<200	0.60	<200	0.50	<200	0.60	<200
Beryllium	2.0	.3	0.40	<2.0	0.50	<2.0	0.30	<2.0	0.20	<2.0
Bismuth	20	2.3								
Boron	100	1.9								
Cadmium	5.0	.2	0.20	<5.0	0.50	<5.0	0.20	<5.0	0.50	<5.0
Calcium	2000	8.2	10.3	<5000	6.1	<5000	4.7	<5000	8.6	<5000
Chromium	10	.6	0.80	<10	0.50	<10	0.60	<10	0.80	<10
Cobalt	50	.2	0.10	<50	0.10	<50	0.10	<50	0.30	<50
Copper	10	.8	0.30	<25	0.60	<25	0.60	<25	0.0	<25
Iron	100	8.9	2.5	<500	-2.9	<500	-6.2	<500	6.2	<500
Lead	20	1	-0.30	<20	0.80	<20	0.90	<20	0.80	<20
Lithium	20	2.9								
Magnesium	2000	88	-16	<5000	8.5	<5000	6.8	<5000	53.7	<5000
Manganese	15	.1	0.20	<15	0.30	<15	0.20	<15	0.30	<15
Molybdenum	20	.3	anr							
Nickel	10	.4	0.10	<40	0.30	<40	0.10	<40	0.30	<40
Palladium	50	2.1								
Potassium	2000	78	-30	<10000	17.2	<10000	-17	<10000	23.4	<10000
Selenium	20	2.6	0.0	<20	0.60	<20	-1.3	<20	-1.6	<20
Silicon	200	2.6								
Silver	5.0	.7	-0.20	<5.0	0.10	<5.0	-0.50	<5.0	-0.50	<5.0
Sodium	2000	20	16.2	<10000	30.3	<10000	12.2	<10000	3.4	<10000
Strontium	10	.2								
Sulfur	50	4.8								
Thallium	10	1.2	0.60	<10	0.20	<10	0.40	<10	0.50	<10
Tin	10	.5								
Titanium	10	.7								
Tungsten	50	1.1								
Vanadium	50	.5	0.30	<50	0.20	<50	0.30	<50	0.70	<50
Zinc	20	.1	0.40	<50	0.50	<50	0.30	<50	0.60	<50

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: result < RL Run ID: MA40457 Units: ug/l

Time:			20:44		20:55		22:00		23:10	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.3								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: result < RL Run ID: MA40457 Units: ug/l

Time:			00:16		01:26		02:30		03:23	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	20	1.6	<500	0.50	<200	17.9	<500	9.4	<500
Antimony	20	1.2	1.1	<20	0.90	<100	1.2	<20	1.9	<20
Arsenic	20	1.5	1.7	<20	1.2	<100	0.80	<20	1.6	<20
Barium	200	.5	0.70	<200	0.30	<200	0.80	<200	1.0	<200
Beryllium	2.0	.3	0.30	<2.0	0.30	<5.0	0.40	<2.0	0.70	<2.0
Bismuth	20	2.3								
Boron	100	1.9								
Cadmium	5.0	.2	0.40	<5.0	0.30	<5.0	0.60	<5.0	0.70	<5.0
Calcium	2000	8.2	6.3	<5000	6.1	<2000	11.4	<5000	20.0	<5000
Chromium	10	.6	0.90	<10	0.60	<10	0.80	<10	1.3	<10
Cobalt	50	.2	0.10	<50	0.10	<50	0.40	<50	0.40	<50
Copper	10	.8	0.70	<25	0.0	<10	-0.20	<25	0.50	<25
Iron	100	8.9	3.1	<500	13.0	<100	10.9	<500	26.1	<500
Lead	20	1	1.0	<20	1.2	<100	0.90	<20	0.80	<20
Lithium	20	2.9								
Magnesium	2000	88	-32	<5000	4.5	<2000	5.1	<5000	-66	<5000
Manganese	15	.1	0.40	<15	0.20	<15	0.40	<15	0.70	<15
Molybdenum	20	.3	anr							
Nickel	10	.4	0.0	<40	0.0	<10	0.40	<40	0.40	<40
Palladium	50	2.1								
Potassium	2000	78	-11	<10000	27.5	<2000	-30	<10000	-79	<10000
Selenium	20	2.6	0.0	<20	-0.10	<100	0.0	<20	0.20	<20
Silicon	200	2.6								
Silver	5.0	.7	-0.50	<5.0	-0.60	<10	-0.40	<5.0	-0.70	<5.0
Sodium	2000	20	73.4	<10000	39.7	<2000	47.1	<10000	46.4	<10000
Strontium	10	.2								
Sulfur	50	4.8								
Thallium	10	1.2	0.60	<10	0.50	<100	0.10	<10	0.40	<10
Tin	10	.5								
Titanium	10	.7								
Tungsten	50	1.1								
Vanadium	50	.5	0.50	<50	0.40	<50	0.70	<50	0.90	<50
Zinc	20	.1	0.50	<50	0.40	<20	0.70	<50	0.80	<50

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: result < RL Run ID: MA40457 Units: ug/l

Time:			00:16		01:26		02:30		03:23	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.3								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: result < RL Run ID: MA40457 Units: ug/l

Time:			04:04	
Sample ID:			CCB8	
Metal	RL	IDL	raw	final
Aluminum	200	20	33.4	<500
Antimony	20	1.2	0.40	<20
Arsenic	20	1.5	0.90	<20
Barium	200	.5	1.4	<200
Beryllium	2.0	.3	0.80	<2.0
Bismuth	20	2.3		
Boron	100	1.9		
Cadmium	5.0	.2	0.60	<5.0
Calcium	2000	8.2	27.9	<5000
Chromium	10	.6	1.3	<10
Cobalt	50	.2	0.50	<50
Copper	10	.8	1.1	<25
Iron	100	8.9	19.5	<500
Lead	20	1	0.80	<20
Lithium	20	2.9		
Magnesium	2000	88	20.8	<5000
Manganese	15	.1	0.80	<15
Molybdenum	20	.3	anr	
Nickel	10	.4	0.40	<40
Palladium	50	2.1		
Potassium	2000	78	-3.7	<10000
Selenium	20	2.6	-0.80	<20
Silicon	200	2.6		
Silver	5.0	.7	-0.60	<5.0
Sodium	2000	20	20.6	<10000
Strontium	10	.2		
Sulfur	50	4.8		
Thallium	10	1.2	1.0	<10
Tin	10	.5		
Titanium	10	.7		
Tungsten	50	1.1		
Vanadium	50	.5	0.80	<50
Zinc	20	.1	0.80	<50

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: result < RL Run ID: MA40457 Units: ug/l

Time:			04:04	
Sample ID:			CCB8	
Metal	RL	IDL	raw	final
Zirconium	10	.3		

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA40457 Units: ug/l

Time:		20:38			20:50			21:54	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	40000	41300	103.3	40000	40500	101.3	40000	40600	101.5
Antimony	2000	2000	100.0	2000	1990	99.5	2000	1980	99.0
Arsenic	2000	2000	100.0	2000	1980	99.0	2000	1990	99.5
Barium	2000	1990	99.5	2000	2030	101.5	2000	2070	103.5
Beryllium	2000	2050	102.5	2000	2050	102.5	2000	2050	102.5
Bismuth									
Boron									
Cadmium	2000	1980	99.0	2000	2000	100.0	2000	2010	100.5
Calcium	40000	41700	104.3	40000	40800	102.0	40000	41100	102.8
Chromium	2000	2020	101.0	2000	2020	101.0	2000	2000	100.0
Cobalt	2000	1980	99.0	2000	2010	100.5	2000	2010	100.5
Copper	2000	1950	97.5	2000	1980	99.0	2000	1990	99.5
Iron	40000	40900	102.3	40000	41200	103.0	40000	41900	104.8
Lead	2000	2000	100.0	2000	2020	101.0	2000	2010	100.5
Lithium									
Magnesium	40000	39900	99.8	40000	40800	102.0	40000	41100	102.8
Manganese	2000	2030	101.5	2000	2030	101.5	2000	2010	100.5
Molybdenum	anr								
Nickel	2000	2000	100.0	2000	2010	100.5	2000	1990	99.5
Palladium									
Potassium	40000	39400	98.5	40000	40000	100.0	40000	41400	103.5
Selenium	2000	1980	99.0	2000	2000	100.0	2000	2000	100.0
Silicon									
Silver	250	256	102.4	250	248	99.2	250	248	99.2
Sodium	40000	39300	98.3	40000	40300	100.8	40000	41300	103.3
Strontium									
Sulfur									
Thallium	2000	2090	104.5	2000	2070	103.5	2000	2060	103.0
Tin									
Titanium									
Tungsten									
Vanadium	2000	1990	99.5	2000	2010	100.5	2000	2000	100.0
Zinc	2000	2030	101.5	2000	2040	102.0	2000	2050	102.5

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA40457 Units: ug/l

Time:		20:38			20:50			21:54	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA40457 Units: ug/l

Time:		23:04			00:10			01:20	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	40000	40700	101.8	40000	40300	100.8	40000	39400	98.5
Antimony	2000	1980	99.0	2000	1960	98.0	2000	1960	98.0
Arsenic	2000	2000	100.0	2000	1980	99.0	2000	1970	98.5
Barium	2000	2070	103.5	2000	2060	103.0	2000	2020	101.0
Beryllium	2000	2050	102.5	2000	2020	101.0	2000	1980	99.0
Bismuth									
Boron									
Cadmium	2000	2020	101.0	2000	2010	100.5	2000	2000	100.0
Calcium	40000	41100	102.8	40000	40700	101.8	40000	39800	99.5
Chromium	2000	1990	99.5	2000	1970	98.5	2000	1930	96.5
Cobalt	2000	2000	100.0	2000	1970	98.5	2000	1970	98.5
Copper	2000	1990	99.5	2000	2000	100.0	2000	1950	97.5
Iron	40000	42000	105.0	40000	42000	105.0	40000	41100	102.8
Lead	2000	2010	100.5	2000	1980	99.0	2000	1980	99.0
Lithium									
Magnesium	40000	41500	103.8	40000	41200	103.0	40000	40300	100.8
Manganese	2000	2000	100.0	2000	1980	99.0	2000	1950	97.5
Molybdenum	anr								
Nickel	2000	1980	99.0	2000	1950	97.5	2000	1940	97.0
Palladium									
Potassium	40000	41700	104.3	40000	41900	104.8	40000	40900	102.3
Selenium	2000	2000	100.0	2000	1980	99.0	2000	1980	99.0
Silicon									
Silver	250	247	98.8	250	247	98.8	250	242	96.8
Sodium	40000	41400	103.5	40000	41300	103.3	40000	40500	101.3
Strontium									
Sulfur									
Thallium	2000	2060	103.0	2000	2020	101.0	2000	2020	101.0
Tin									
Titanium									
Tungsten									
Vanadium	2000	2000	100.0	2000	1990	99.5	2000	1960	98.0
Zinc	2000	2070	103.5	2000	2050	102.5	2000	2050	102.5

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA40457 Units: ug/l

Time:		23:04			00:10			01:20	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA40457 Units: ug/l

Time:		02:25			03:17			03:58	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	40000	38800	97.0	40000	39400	98.5	40000	38800	97.0
Antimony	2000	1900	95.0	2000	1900	95.0	2000	1900	95.0
Arsenic	2000	1910	95.5	2000	1920	96.0	2000	1920	96.0
Barium	2000	1980	99.0	2000	2000	100.0	2000	1980	99.0
Beryllium	2000	1960	98.0	2000	1970	98.5	2000	1950	97.5
Bismuth									
Boron									
Cadmium	2000	1930	96.5	2000	1970	98.5	2000	1970	98.5
Calcium	40000	39500	98.8	40000	39700	99.3	40000	39400	98.5
Chromium	2000	1920	96.0	2000	1890	94.5	2000	1870	93.5
Cobalt	2000	1930	96.5	2000	1910	95.5	2000	1900	95.0
Copper	2000	1920	96.0	2000	1930	96.5	2000	1930	96.5
Iron	40000	40600	101.5	40000	41000	102.5	40000	40800	102.0
Lead	2000	1930	96.5	2000	1920	96.0	2000	1910	95.5
Lithium									
Magnesium	40000	39800	99.5	40000	40000	100.0	40000	40000	100.0
Manganese	2000	1940	97.0	2000	1900	95.0	2000	1880	94.0
Molybdenum	anr								
Nickel	2000	1900	95.0	2000	1870	93.5	2000	1850	92.5
Palladium									
Potassium	40000	39900	99.8	40000	41000	102.5	40000	40400	101.0
Selenium	2000	1910	95.5	2000	1920	96.0	2000	1920	96.0
Silicon									
Silver	250	239	95.6	250	240	96.0	250	239	95.6
Sodium	40000	39500	98.8	40000	39900	99.8	40000	39300	98.3
Strontium									
Sulfur									
Thallium	2000	1970	98.5	2000	1950	97.5	2000	1940	97.0
Tin									
Titanium									
Tungsten									
Vanadium	2000	1940	97.0	2000	1910	95.5	2000	1900	95.0
Zinc	2000	1990	99.5	2000	2010	100.5	2000	2020	101.0

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA40457 Units: ug/l

Time:		02:25			03:17			03:58	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA40457 Units: ug/l

Time:		21:25			21:31	
Sample ID:	HSTD	HSTD1		HSTD	HSTD2	
Metal	True	Results	% Rec	True	Results	% Rec
Aluminum				300000	299000	99.7
Antimony	5000	4980	99.6			
Arsenic	5000	4900	98.0			
Barium	5000	5070	101.4			
Beryllium	5000	5090	101.8			
Bismuth						
Boron						
Cadmium	5000	4950	99.0			
Calcium				150000	150000	100.0
Chromium	5000	5030	100.6			
Cobalt	5000	4910	98.2			
Copper	5000	5090	101.8			
Iron				150000	147000	98.0
Lead	5000	5000	100.0			
Lithium						
Magnesium				300000	299000	99.7
Manganese	5000	5020	100.4			
Molybdenum	anr					
Nickel	5000	4900	98.0			
Palladium						
Potassium				150000	162000	108.0
Selenium	5000	4920	98.4			
Silicon						
Silver	625	611	97.8			
Sodium				150000	153000	102.0
Strontium						
Sulfur						
Thallium	5000	5160	103.2			
Tin						
Titanium						
Tungsten						
Vanadium	5000	4970	99.4			
Zinc	5000	5130	102.6			

HIGH STANDARD CHECK SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA40457 Units: ug/l

Time:		21:25			21:31	
Sample ID:	HSTD	HSTD1		HSTD	HSTD2	
Metal	True	Results	% Rec	True	Results	% Rec
Zirconium						

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA40457 Units: ug/l

Time:				21:01		21:07		22:06	
Sample ID:	CRI	CRIA	CRID	CRI1		CRID1		CRIA1	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	200	500	100	205	102.5	84.5	84.5	521	104.2
Antimony	6.0	20	3.0	5.4	90.0	4.3	143.3*(a	23.4	117.0
Arsenic	8.0	20	3.0	8.9	111.3	3.7	123.3	21.5	107.5
Barium	200		4.0	210	105.0	4.3	107.5		
Beryllium	2.0		1.0	2.2	110.0	1.1	110.0		
Bismuth	20								
Boron	100		10						
Cadmium	3.0		1.0	3.1	103.3	1.2	120.0		
Calcium	5000	2000	1000	5100	102.0	1040	104.0	2100	105.0
Chromium	10		2.0	11.0	110.0	2.6	130.0		
Cobalt	50		3.0	53.1	106.2	2.9	96.7		
Copper	10		2.0	10.7	107.0	2.4	120.0		
Iron	100	500		104	104.0			515	103.0
Lead	3.0	20	2.5	2.8	93.3	3.3	132.0*(a	21.2	106.0
Lithium	20								
Magnesium	5000	2000	100	5060	101.2	113	113.0	2070	103.5
Manganese	15		3.0	16.4	109.3	3.2	106.7		
Molybdenum	20			anr					
Nickel	10		4.0	10.0	100.0	3.7	92.5		
Palladium	50								
Potassium	5000		2000	4850	97.0	2060	103.0		
Selenium	10	20	5.0	9.2	92.0	4.4	88.0	18.7	93.5
Silicon	200								
Silver	5.0		2.0	5.0	100.0	1.8	90.0		
Sodium	5000		1000	5010	100.2	1040	104.0		
Strontium	10								
Sulfur	50								
Thallium	10		2.0	11.4	114.0	2.4	120.0		
Tin	10								
Titanium	10								
Tungsten	50								
Vanadium	50		2.0	52.8	105.6	2.4	120.0		
Zinc	20		10	21.8	109.0	10.6	106.0		

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA40457 Units: ug/l

Time:				21:01		21:07		22:06	
Sample ID:	CRI	CRIA	CRID	CRI1		CRID1		CRIA1	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium	10								

(*) Outside of QC limits
(anr) Analyte not requested
(a) No samples reported for this element at this RL in the area bracketed by this QC.

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA40457 Units: ug/l

Time:				03:29		03:35		03:41	
Sample ID:	CRI	CRIA	CRID	CRI2		CRID2		CRIA2	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	200	500	100	201	100.5	98.0	98.0	496	99.2
Antimony	6.0	20	3.0	6.3	105.0	4.1	136.7*(a	22.6	113.0
Arsenic	8.0	20	3.0	9.5	118.8	3.6	120.0	20.9	104.5
Barium	200		4.0	211	105.5	4.8	120.0		
Beryllium	2.0		1.0	2.0	100.0	1.0	100.0		
Bismuth	20								
Boron	100		10						
Cadmium	3.0		1.0	3.1	103.3	1.1	110.0		
Calcium	5000	2000	1000	5000	100.0	1010	101.0	2030	101.5
Chromium	10		2.0	10.7	107.0	2.3	115.0		
Cobalt	50		3.0	51.1	102.2	2.8	93.3		
Copper	10		2.0	12.1	121.0	2.9	145.0*(a		
Iron	100	500		99.2	99.2			515	103.0
Lead	3.0	20	2.5	2.1	70.0	3.5	140.0*(a	19.8	99.0
Lithium	20								
Magnesium	5000	2000	100	5010	100.2	102	102.0	2150	107.5
Manganese	15		3.0	15.3	102.0	2.9	96.7		
Molybdenum	20			anr					
Nickel	10		4.0	9.8	98.0	3.7	92.5		
Palladium	50								
Potassium	5000		2000	5080	101.6	2060	103.0		
Selenium	10	20	5.0	8.8	88.0	4.0	80.0	19.2	96.0
Silicon	200								
Silver	5.0		2.0	4.5	90.0	1.4	70.0		
Sodium	5000		1000	5050	101.0	1050	105.0		
Strontium	10								
Sulfur	50								
Thallium	10		2.0	10.7	107.0	1.9	95.0		
Tin	10								
Titanium	10								
Tungsten	50								
Vanadium	50		2.0	50.6	101.2	2.3	115.0		
Zinc	20		10	21.9	109.5	10.7	107.0		

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA40457 Units: ug/l

Time:				03:29		03:35		03:41	
Sample ID:	CRI	CRIA	CRID	CRI2		CRID2		CRIA2	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium	10								

(*) Outside of QC limits
(anr) Analyte not requested
(a) No samples reported for this element at this RL in the area bracketed by this QC.

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA40457 Units: ug/l

Time:			21:13		21:19		03:47		03:53	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	500000	500000	495000	99.0	492000	98.4	487000	97.4	481000	96.2
Antimony		1000	2.2		1000	100.0	2.6		973	97.3
Arsenic		1000	-0.80		1040	104.0	-0.10		1020	102.0
Barium		500	-0.60		508	101.6	-0.10		505	101.0
Beryllium		500	0.50		495	99.0	0.30		479	95.8
Bismuth		500	10.8		518	103.6	7.7		504	100.8
Boron		500	1.2		484	96.8	0.20		474	94.8
Cadmium		1000	0.60		1020	102.0	0.60		1020	102.0
Calcium	400000	400000	381000	95.3	373000	93.3	373000	93.3	363000	90.8
Chromium		500	-1.5		495	99.0	-0.40		464	92.8
Cobalt		500	0.40		490	98.0	-0.10		473	94.6
Copper		500	-6.3		498	99.6	-1.2		490	98.0
Iron	200000	200000	186000	93.0	185000	92.5	187000	93.5	184000	92.0
Lead		1000	-0.40		950	95.0	4.0		920	92.0
Lithium		500	-26		592	118.4	-23		552	110.4
Magnesium	500000	500000	485000	97.0	481000	96.2	477000	95.4	473000	94.6
Manganese		500	3.6		497	99.4	4.0		464	92.8
Molybdenum		500	0.30		485	97.0	0.70		481	96.2
Nickel		1000	-1.5		976	97.6	-1.8		919	91.9
Palladium		500	-46		469	93.8	-44		432	86.4
Potassium			66.3		124		41.4		15.4	
Selenium		1000	7.6		997	99.7	5.4		971	97.1
Silicon		500	-22		484	96.8	-20		470	94.0
Silver		1000	5.3		958	95.8	3.8		930	93.0
Sodium			3.9		6.0		23.7		22.3	
Strontium		500	6.1		521	104.2	6.4		516	103.2
Sulfur		500	1.5		484	96.8	2.1		478	95.6
Thallium		1000	1.3		973	97.3	0.0		937	93.7
Tin		500	-4.2		469	93.8	-4.3		463	92.6
Titanium		500	-3.8		483	96.6	-3.3		456	91.2
Tungsten		500	2.9		482	96.4	4.9		473	94.6
Vanadium		500	-1.8		485	97.0	-1.4		461	92.2
Zinc		1000	-4.6		965	96.5	-4.8		966	96.6

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA40457 Units: ug/l

Time:			21:13		21:19		03:47		03:53	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium		500	5.5		498	99.6	6.0		465	93.0

(*) Outside of QC limits
(anr) Analyte not requested

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: H5100616S1.CSV Date Analyzed: 10/06/16 Methods: SW846 7471A, SW846 7471B
Analyst: JPM Run ID: MA40466
Parameters: Hg

Time	Sample Description	Dilution Factor	PS Recov	Comments
11:20	MA40466-STD1	1		B=1.0658e-004,C=-2.2890e-002,R=0.9998783
11:21	MA40466-STD2	1		STDB
11:23	MA40466-STD3	1		STDC
11:24	MA40466-STD4	1		STDD
11:26	MA40466-STD5	1		STDE
11:27	MA40466-STD6	1		STDF
11:30	MA40466-STD7	1		STDE
11:32	MA40466-STD8	1		STDF
11:34	MA40466-ICV1	1		
11:35	MA40466-ICB1	1		
11:37	MA40466-CCV1	1		
11:38	MA40466-CCB1	1		
11:40	MA40466-CRI1	1		
11:42	MP96393-MB1	1		
11:43	MP96393-B1	1		
11:45	MP96393-S1	1		
11:46	MP96393-S2	1		
11:48	JC28910-1	1		(sample used for QC only; not part of login JC28902)
11:50	ZZZZZZ	1		
11:51	JC28902-1	1		
---------->	Last reportable sample/prep for job JC28902			
11:52	ZZZZZZ	1		
11:53	ZZZZZZ	1		
11:55	MA40466-CCV2	1		
11:57	MA40466-CCB2	1		
---------->	Last reportable CCB for job JC28902			
11:58	ZZZZZZ	1		
12:00	ZZZZZZ	1		
12:01	ZZZZZZ	1		
12:03	ZZZZZZ	1		
12:05	ZZZZZZ	1		
12:06	ZZZZZZ	1		
12:08	ZZZZZZ	1		
12:09	ZZZZZZ	1		
12:11	ZZZZZZ	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: H5100616S1.CSV Date Analyzed: 10/06/16 Methods: SW846 7471A, SW846 7471B
Analyst: JPM Run ID: MA40466
Parameters: Hg

Time	Sample Description	Dilution Factor	PS Recov	Comments
12:13	ZZZZZZ	1		
12:14	MA40466-CCV3	1		
12:16	MA40466-CCB3	1		
12:18	ZZZZZZ	1		
12:19	ZZZZZZ	1		
12:20	ZZZZZZ	1		
12:22	ZZZZZZ	1		
12:23	ZZZZZZ	1		
12:24	MP96353-MB2	1		
12:26	MP96353-B2	1		
12:27	ZZZZZZ	1		
12:29	MA40466-CCV4	1		
12:30	MA40466-CCB4	1		

Refer to raw data for calibration curve and standards.

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: H5100616S1.CSV Date Analyzed: 10/06/16 Methods: SW846 7471A, SW846 7471B
QC Limits: result < RL Run ID: MA40466 Units: ug/l

Time:			11:35		11:38		11:57	
Sample ID:			ICB1		CCB1		CCB2	
Metal	RL	IDL	raw	final	raw	final	raw	final
Mercury	0.20	.039	-0.025	<0.20	-0.031	<0.20	-0.027	<0.20

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: H5100616S1.CSV Date Analyzed: 10/06/16 Methods: SW846 7471A, SW846 7471B
QC Limits: 90 to 110 % Recovery Run ID: MA40466 Units: ug/l

Time:		11:34			11:37			11:55	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Mercury	3.0	3.0	100.0	2.5	2.5	100.0	2.5	2.5	100.0

(*) Outside of QC limits
(anr) Analyte not requested

9.2.2
9

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: H5100616S1.CSV Date Analyzed: 10/06/16 Methods: SW846 7471A, SW846 7471B
QC Limits: 70 to 130 % Recovery Run ID: MA40466 Units: ug/l

Time:			11:40	
Sample ID:	CRI	CRIA	CRI1	
Metal	True	True	Results	% Rec
Mercury	0.20		0.21	105.0

(*) Outside of QC limits
(anr) Analyte not requested

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
Analyst: KS Run ID: MA40471
Parameters: Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
16:48	MA40471-STD1	1		STDA
16:54	MA40471-STD2	1		STDB
17:00	ZZZZZZ	1		
17:06	ZZZZZZ	1		
17:13	MA40471-ICV1	1		
17:23	MA40471-ICB1	1		
17:28	MA40471-ICCV1	1		
17:40	MA40471-CCB1	1		
17:47	MA40471-CRI1	1		
17:53	MA40471-CRID1	1		TLNJ out
17:59	MA40471-CRIA1	1		
18:05	MA40471-ICSA1	1		
18:11	MA40471-ICSAB1	1		
18:17	MA40471-HSTD1	1		
18:23	MA40471-HSTD2	1		Minerals
18:30	ZZZZZZ	1		
18:36	ZZZZZZ	1		
18:42	ZZZZZZ	1		
18:48	MA40471-CCV1	1		
18:54	MA40471-CCB2	1		
19:00	MA40471-CRID2	1		
19:06	ZZZZZZ	5		
19:12	ZZZZZZ	5		
19:18	MP96360-S1	5		
19:24	MP96360-S2	5		
19:30	MP96360-SD1	25		
19:36	MP96377-B1	1		
19:42	MP96377-MB1	1		
19:48	MP96377-S1	1		
19:54	MP96377-S2	1		
20:00	MA40471-CCV2	1		
20:06	MA40471-CCB3	1		
20:13	JC28888-2	1		(sample used for QC only; not part of login JC28902)

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
Analyst: KS Run ID: MA40471
Parameters: Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
20:19	MP96377-SD1	5		
20:25	ZZZZZZ	1		
20:31	ZZZZZZ	1		
20:37	ZZZZZZ	1		
20:43	ZZZZZZ	1		
20:50	ZZZZZZ	1		
20:56	ZZZZZZ	1		
21:02	ZZZZZZ	1		
21:08	MA40471-CCV3	1		
21:14	MA40471-CCB4	1		
21:20	MP96277-MB1	1		
21:26	MP96277-MB2	1		
21:32	MP96277-B1	1		
21:38	MP96277-B2	1		
21:44	MP96277-S1	1		
21:50	MP96277-S2	1		
21:56	JC28495-2	1		(sample used for QC only; not part of login JC28902)
22:02	MP96277-SD1	5		
22:08	MP96277-S3	1		
22:14	MA40471-CCV4	1		
22:20	MA40471-CCB5	1		
22:27	MP96277-S4	1		
22:33	JC28495-2F	1		(sample used for QC only; not part of login JC28902)
22:39	MP96277-SD2	5		
22:45	ZZZZZZ	1		
22:51	ZZZZZZ	1		
22:57	ZZZZZZ	1		
23:03	ZZZZZZ	1		
23:09	ZZZZZZ	1		
23:15	ZZZZZZ	1		
23:21	MA40471-CCV5	1		
23:27	MA40471-CCB6	1		
23:34	MA40471-CRID3	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
Analyst: KS Run ID: MA40471
Parameters: Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
23:40	MA40471-CRI2	1		
23:46	MA40471-CRIA2	1		
23:52	MA40471-ICSA2	1		
23:58	MA40471-ICSAB2	1		
00:04	MA40471-CCV6	1		
00:10	MA40471-CCB7	1		
00:16	ZZZZZZ	1		
00:22	ZZZZZZ	1		
00:28	ZZZZZZ	1		
00:34	ZZZZZZ	1		
00:40	ZZZZZZ	1		
00:47	ZZZZZZ	1		
00:53	ZZZZZZ	1		
00:59	ZZZZZZ	1		
01:05	ZZZZZZ	1		
01:11	ZZZZZZ	1		
01:17	MA40471-CCV7	1		
01:23	MA40471-CCB8	1		
01:29	ZZZZZZ	1		
01:35	ZZZZZZ	1		
01:41	MP96382-B1	1		
01:47	MP96382-MB1	1		
01:53	MP96382-MB2	1		
01:59	MP96382-B2	1		
02:05	MP96382-S1	1		
02:11	MP96382-S2	1		
02:17	JC28861-2	1		(sample used for QC only; not part of login JC28902)
02:24	MP96382-SD1	5		
02:30	MA40471-CCV8	1		
02:36	MA40471-CCB9	1		
02:42	ZZZZZZ	1		
02:48	ZZZZZZ	1		
02:54	ZZZZZZ	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
Analyst: KS Run ID: MA40471
Parameters: Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
03:01	ZZZZZZ	1		
03:07	ZZZZZZ	1		
03:13	ZZZZZZ	1		
03:19	ZZZZZZ	1		
03:25	ZZZZZZ	1		
03:31	ZZZZZZ	1		
03:37	MA40471-CCV9	1		
03:43	MA40471-CCB10	1		
03:49	ZZZZZZ	1		
03:55	ZZZZZZ	1		
04:02	ZZZZZZ	1		
04:08	ZZZZZZ	1		
04:14	ZZZZZZ	1		
04:20	ZZZZZZ	1		
04:26	ZZZZZZ	1		
04:32	ZZZZZZ	1		
04:38	ZZZZZZ	1		
04:44	MA40471-CCV10	1		
04:50	MA40471-CCB11	1		
04:57	ZZZZZZ	1		
05:03	ZZZZZZ	1		
05:09	MP96373-MB1	1		
---------->	Last reportable sample/prep for job JC28902			
05:15	ZZZZZZ	1		
05:21	ZZZZZZ	1		
05:27	ZZZZZZ	1		
05:33	ZZZZZZ	1		
05:39	ZZZZZZ	1		
05:45	ZZZZZZ	1		
05:51	MA40471-CCV11	1		
05:57	MA40471-CCB12	1		
06:03	ZZZZZZ	1		
06:09	ZZZZZZ	1		
06:15	ZZZZZZ	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
Analyst: KS Run ID: MA40471
Parameters: Zn

	Time	Sample Description	Dilution Factor	PS Recov	Comments
	06:21	ZZZZZZ	1		
	06:27	ZZZZZZ	1		
	06:33	ZZZZZZ	1		
	06:39	ZZZZZZ	1		
	06:45	ZZZZZZ	1		
	06:51	ZZZZZZ	1		
	06:57	MA40471-CCV12	1		
	07:03	MA40471-CCB13	1		
	07:09	MA40471-CRI3	1		
	07:15	MA40471-CRID4	1		TLNJ out
	07:21	MA40471-CRIA3	1		
	07:27	MA40471-ICSA3	1		
	07:33	MA40471-ICSAB3	1		
	07:40	MA40471-CCV13	1		
	07:46	MA40471-CCB14	1		
---------->	Last reportable CCB for job JC28902				
	07:52	MP96388-MB1	1		
	07:58	MP96388-B1	1		
	08:25	MP96388-S1	1		
	08:31	MP96388-S2	1		
	08:37	JC28915-6	1		(sample used for QC only; not part of login JC28902)
	08:43	MP96388-SD1	5		
	08:49	ZZZZZZ	1		
	08:55	ZZZZZZ	1		
	09:01	ZZZZZZ	1		
	09:07	MA40471-CCV14	1		
	09:13	MA40471-CCB15	1		
	09:20	ZZZZZZ	1		
	09:26	ZZZZZZ	1		
	09:30	ZZZZZZ	1		
	09:35	ZZZZZZ	1		
	09:40	ZZZZZZ	1		
	09:45	ZZZZZZ	1		
	10:20	MP96398-B1	1		To be reanalyzed with the batch.

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
Analyst: KS Run ID: MA40471
Parameters: Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:24	ZZZZZZ	1		
10:30	MP96398-MB1	1		To be reanalyzed with the batch.
10:34	MA40471-CRI4	1		
10:39	MA40471-CCV15	1		
10:44	MA40471-CCB16	1		

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
Analyst: KS Run ID: MA40471
Parameters: Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
16:48	MA40471-STD1	3604 R	174060 R	29730 R	7820 R
16:54	MA40471-STD2	3325	161780	28839	6691
17:00	ZZZZZZ	3426	166240	29183	6954
17:06	ZZZZZZ	3577	171890	29218	7772
17:13	MA40471-ICV1	3422	165020	29090	6961
17:23	MA40471-ICB1	3584	172150	29229	7792
17:28	MA40471-ICCV1	3435	167040	29319	6987
17:40	MA40471-CCB1	3588	173150	29296	7812
17:47	MA40471-CRI1	3542	172320	29369	7599
17:53	MA40471-CRID1	3568	172880	29444	7733
17:59	MA40471-CRIA1	3579	174840	29721	7752
18:05	MA40471-ICSA1	3180	154190	27981	6199
18:11	MA40471-ICSAB1	3162	152970	27984	6188
18:17	MA40471-HSTD1	3478	169540	29079	7438
18:23	MA40471-HSTD2	3222	156670	28437	6234
18:30	ZZZZZZ	3466	168770	28970	7615
18:36	ZZZZZZ	3508	174490	29325	7771
18:42	ZZZZZZ	3566	171650	29389	7727
18:48	MA40471-CCV1	3382	163420	29037	6875
18:54	MA40471-CCB2	3556	169630	29292	7706
19:00	MA40471-CRID2	3525	169710	29206	7626
19:06	ZZZZZZ	3547	171000	29504	7714
19:12	ZZZZZZ	3485	169250	29495	7435
19:18	MP96360-S1	3447	166810	29281	7291
19:24	MP96360-S2	3448	166570	29263	7284
19:30	MP96360-SD1	3509	169510	29491	7621
19:36	MP96377-B1	3416	165550	29610	7120
19:42	MP96377-MB1	3527	170600	29777	7778
19:48	MP96377-S1	3105	154750	28134	6267
19:54	MP96377-S2	3121	152960	27908	6279
20:00	MA40471-CCV2	3364	160240	28938	6861
20:06	MA40471-CCB3	3526	169340	29390	7697
20:13	JC28888-2	3150	155870	28149	6377

INTERNAL STANDARD SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
Analyst: KS Run ID: MA40471
Parameters: Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
20:19	MP96377-SD1	3344	163100	28756	7059
20:25	ZZZZZZ	3477	168170	31410	6599
20:31	ZZZZZZ	3158	156540	28521	6390
20:37	ZZZZZZ	3445	166540	31320	6581
20:43	ZZZZZZ	3175	154770	27991	6426
20:50	ZZZZZZ	3296	161160	29238	6937
20:56	ZZZZZZ	3175	155900	28276	6409
21:02	ZZZZZZ	3215	159600	28905	6686
21:08	MA40471-CCV3	3395	162170	28688	6921
21:14	MA40471-CCB4	3514	167240	28842	7658
21:20	MP96277-MB1	3511	167680	28936	7674
21:26	MP96277-MB2	3550	169860	29531	7760
21:32	MP96277-B1	3407	164100	29178	7078
21:38	MP96277-B2	3440	165160	29528	7160
21:44	MP96277-S1	3310	162510	29195	6741
21:50	MP96277-S2	3293	162240	29113	6703
21:56	JC28495-2	3311	164140	29015	6875
22:02	MP96277-SD1	3471	169570	29337	7435
22:08	MP96277-S3	3291	161770	29211	6739
22:14	MA40471-CCV4	3416	164810	28915	6980
22:20	MA40471-CCB5	3583	170310	28971	7825
22:27	MP96277-S4	3319	164190	29472	6786
22:33	JC28495-2F	3319	164740	29005	6899
22:39	MP96277-SD2	3475	169370	29187	7434
22:45	ZZZZZZ	3215	160550	28720	6606
22:51	ZZZZZZ	3175	156670	28339	6182
22:57	ZZZZZZ	3251	162530	28709	6636
23:03	ZZZZZZ	3153	155450	28282	6140
23:09	ZZZZZZ	3570	173560	29602	7828
23:15	ZZZZZZ	3601	174700	29523	7886
23:21	MA40471-CCV5	3447	166690	28901	7021
23:27	MA40471-CCB6	3578	172920	29218	7822
23:34	MA40471-CRID3	3614	174410	29291	7854

INTERNAL STANDARD SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
Analyst: KS Run ID: MA40471
Parameters: Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
23:40	MA40471-CRI2	3552	171260	28706	7627
23:46	MA40471-CRIA2	3585	173310	28967	7797
23:52	MA40471-ICSA2	3185	154410	27957	6220
23:58	MA40471-ICSAB2	3186	153870	28010	6241
00:04	MA40471-CCV6	3473	168140	29041	7060
00:10	MA40471-CCB7	3603	173030	28787	7850
00:16	ZZZZZZ	3426	169220	29300	7174
00:22	ZZZZZZ	3334	165030	28926	6852
00:28	ZZZZZZ	3340	167010	29271	6867
00:34	ZZZZZZ	3550	175150	29829	7565
00:40	ZZZZZZ	3509	172450	29753	7490
00:47	ZZZZZZ	3603	173960	29423	7861
00:53	ZZZZZZ	3464	170240	29066	7257
00:59	ZZZZZZ	3333	166270	29163	6867
01:05	ZZZZZZ	3355	164190	29742	6888
01:11	ZZZZZZ	3591	173820	29233	7621
01:17	MA40471-CCV7	3454	165910	28746	7038
01:23	MA40471-CCB8	3692	177860	29605	8047
01:29	ZZZZZZ	3562	174510	29412	7591
01:35	ZZZZZZ	3650	177550	29795	7959
01:41	MP96382-B1	3510	170290	29196	7273
01:47	MP96382-MB1	3655	178580	29734	7991
01:53	MP96382-MB2	3649	176480	29643	7975
01:59	MP96382-B2	3544	172160	29462	7349
02:05	MP96382-S1	3395	166950	29137	6967
02:11	MP96382-S2	3464	169770	29553	7096
02:17	JC28861-2	3485	171570	29556	7300
02:24	MP96382-SD1	3613	175150	29485	7773
02:30	MA40471-CCV8	3540	171100	29104	7192
02:36	MA40471-CCB9	3704	178790	29653	8047
02:42	ZZZZZZ	3232	160840	28052	6424
02:48	ZZZZZZ	3455	171060	28958	7296
02:54	ZZZZZZ	3360	167230	28598	6929

INTERNAL STANDARD SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
Analyst: KS Run ID: MA40471
Parameters: Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
03:01	ZZZZZZ	3498	171510	28956	7302
03:07	ZZZZZZ	3552	174010	29394	7377
03:13	ZZZZZZ	3245	157730	28255	6248
03:19	ZZZZZZ	3192	159990	27760	6400
03:25	ZZZZZZ	3316	165950	28469	6752
03:31	ZZZZZZ	3227	162010	27892	6516
03:37	MA40471-CCV9	3492	167910	28529	7088
03:43	MA40471-CCB10	3662	177300	28964	7952
03:49	ZZZZZZ	3257	161790	27956	6563
03:55	ZZZZZZ	3217	157860	27970	6161
04:02	ZZZZZZ	3215	160400	27623	6459
04:08	ZZZZZZ	3300	164750	28212	6712
04:14	ZZZZZZ	3248	163200	28025	6566
04:20	ZZZZZZ	3388	169310	28589	6982
04:26	ZZZZZZ	3587	175900	29416	7619
04:32	ZZZZZZ	3529	173800	29314	7454
04:38	ZZZZZZ	3288	163620	27919	6730
04:44	MA40471-CCV10	3528	170450	28756	7152
04:50	MA40471-CCB11	3679	178510	28876	7999
04:57	ZZZZZZ	3331	165370	28430	6810
05:03	ZZZZZZ	3526	170910	28428	7291
05:09	MP96373-MB1	3687	177950	29022	8025
05:15	ZZZZZZ	3732	180150	29816	7691
05:21	ZZZZZZ	3710	177400	29762	7623
05:27	ZZZZZZ	3757	180790	29781	7686
05:33	ZZZZZZ	No results reported for the elements associated with this internal standard.			
05:39	ZZZZZZ	No results reported for the elements associated with this internal standard.			
05:45	ZZZZZZ	No results reported for the elements associated with this internal standard.			
05:51	MA40471-CCV11	3546	170500	28362	7186
05:57	MA40471-CCB12	3709	178290	29019	8042
06:03	ZZZZZZ	No results reported for the elements associated with this internal standard.			
06:09	ZZZZZZ	3792	181790	30168	7701
06:15	ZZZZZZ	3795	177300	29635	7716

INTERNAL STANDARD SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
Analyst: KS Run ID: MA40471
Parameters: Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
06:21	ZZZZZZ	3648	173690	29130	7488
06:27	ZZZZZZ	3696	175230	29705	7610
06:33	ZZZZZZ	3823	182350	30514	7461
06:39	ZZZZZZ	3788	181800	30149	7387
06:45	ZZZZZZ	3783	180670	29744	7655
06:51	ZZZZZZ	3743	178790	29662	7599
06:57	MA40471-CCV12	3553	169190	28783	7218
07:03	MA40471-CCB13	3728	180400	29083	8106
07:09	MA40471-CRI3	3638	176640	28936	7823
07:15	MA40471-CRID4	3669	178810	28880	7949
07:21	MA40471-CRIA3	3673	178080	29240	7960
07:27	MA40471-ICSA3	3291	159380	28018	6391
07:33	MA40471-ICSAB3	3293	157590	28057	6421
07:40	MA40471-CCV13	3549	171860	28791	7184
07:46	MA40471-CCB14	3674	177310	28665	7972
07:52	MP96388-MB1	3718	179530	29672	8149
07:58	MP96388-B1	3605	171320	29546	7459
08:25	MP96388-S1	3334	163380	27978	6734
08:31	MP96388-S2	3339	163850	28601	6747
08:37	JC28915-6	3409	165890	28542	6906
08:43	MP96388-SD1	3595	174510	28952	7567
08:49	ZZZZZZ	3545	173290	29840	7532
08:55	ZZZZZZ	3614	175540	29864	7796
09:01	ZZZZZZ	3525	171460	29415	7475
09:07	MA40471-CCV14	3509	168790	28600	7115
09:13	MA40471-CCB15	3624	176640	29581	7852
09:20	ZZZZZZ	3642	175930	29354	7866
09:26	ZZZZZZ	3640	175980	29348	7908
09:30	ZZZZZZ	3681	176820	29277	7994
09:35	ZZZZZZ	3626	174460	28861	7876
09:40	ZZZZZZ	3616	174230	29412	7865
09:45	ZZZZZZ	3632	175530	29486	7886
10:20	MP96398-B1	No results reported for the elements associated with this internal standard.			

INTERNAL STANDARD SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
Analyst: KS Run ID: MA40471
Parameters: Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
10:24	ZZZZZZ	3678	178810	32513	6837
10:30	MP96398-MB1	No results reported for the elements associated with this internal standard.			
10:34	MA40471-CRI4	3615	175550	29977	7803
10:39	MA40471-CCV15	3517	169670	29087	7166
10:44	MA40471-CCB16	3725	180600	30336	8156

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	70-130 %
Istd#2	Yttrium (3600)	70-130 %
Istd#3	Yttrium (3710)	70-130 %
Istd#4	Indium	70-130 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA40471 Units: ug/l

Time:			17:23		17:40		18:54		20:06	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	6.8	anr							
Antimony	6.0	1.6	anr							
Arsenic	3.0	1.5	anr							
Barium	200	.2	anr							
Beryllium	1.0	.05	anr							
Bismuth	20	1.5	anr							
Boron	100	1.1								
Cadmium	3.0	.2	anr							
Calcium	5000	13	anr							
Chromium	10	.4	anr							
Cobalt	50	.3	anr							
Copper	10	.6	anr							
Iron	100	9.7	anr							
Lead	3.0	1.2	anr							
Lithium	20	1.3								
Magnesium	5000	19	anr							
Manganese	15	.1	anr							
Molybdenum	20	.3								
Nickel	10	.3	anr							
Palladium	50	1.7								
Potassium	10000	35	anr							
Selenium	10	1.9	anr							
Silicon	200	5.1								
Silver	10	.5	anr							
Sodium	10000	11	anr							
Sulfur	50	2.2	anr							
Strontium	10	.1								
Thallium	2.0	1.3	anr							
Tin	10	.9								
Titanium	10	.4								
Tungsten	50	2.3								
Vanadium	50	.3	anr							
Zinc	20	1	0.0	<20	0.10	<20	0.0	<20	0.0	<20

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA40471 Units: ug/l

Time:			17:23		17:40		18:54		20:06	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.2								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA40471 Units: ug/l

Time:			21:14		22:20		23:27		00:10	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	6.8	anr							
Antimony	6.0	1.6	anr							
Arsenic	3.0	1.5	anr							
Barium	200	.2	anr							
Beryllium	1.0	.05	anr							
Bismuth	20	1.5	anr							
Boron	100	1.1								
Cadmium	3.0	.2	anr							
Calcium	5000	13	anr							
Chromium	10	.4	anr							
Cobalt	50	.3	anr							
Copper	10	.6	anr							
Iron	100	9.7	anr							
Lead	3.0	1.2	anr							
Lithium	20	1.3								
Magnesium	5000	19	anr							
Manganese	15	.1	anr							
Molybdenum	20	.3								
Nickel	10	.3	anr							
Palladium	50	1.7								
Potassium	10000	35	anr							
Selenium	10	1.9	anr							
Silicon	200	5.1								
Silver	10	.5	anr							
Sodium	10000	11	anr							
Sulfur	50	2.2	anr							
Strontium	10	.1								
Thallium	2.0	1.3	anr							
Tin	10	.9								
Titanium	10	.4								
Tungsten	50	2.3								
Vanadium	50	.3	anr							
Zinc	20	1	0.10	<20	0.20	<20	0.20	<20	0.30	<20

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA40471 Units: ug/l

Time:			21:14		22:20		23:27		00:10	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.2								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA40471 Units: ug/l

Time:			01:23		02:36		03:43		04:50	
Sample ID:			CCB8		CCB9		CCB10		CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	6.8	anr							
Antimony	6.0	1.6	anr							
Arsenic	3.0	1.5	anr							
Barium	200	.2	anr							
Beryllium	1.0	.05	anr							
Bismuth	20	1.5	anr							
Boron	100	1.1								
Cadmium	3.0	.2	anr							
Calcium	5000	13	anr							
Chromium	10	.4	anr							
Cobalt	50	.3	anr							
Copper	10	.6	anr							
Iron	100	9.7	anr							
Lead	3.0	1.2	anr							
Lithium	20	1.3								
Magnesium	5000	19	anr							
Manganese	15	.1	anr							
Molybdenum	20	.3								
Nickel	10	.3	anr							
Palladium	50	1.7								
Potassium	10000	35	anr							
Selenium	10	1.9	anr							
Silicon	200	5.1								
Silver	10	.5	anr							
Sodium	10000	11	anr							
Sulfur	50	2.2	anr							
Strontium	10	.1								
Thallium	2.0	1.3	anr							
Tin	10	.9								
Titanium	10	.4								
Tungsten	50	2.3								
Vanadium	50	.3	anr							
Zinc	20	1	0.20	<20	0.30	<20	0.50	<20	0.50	<20

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA40471 Units: ug/l

Time:			01:23		02:36		03:43		04:50	
Sample ID:			CCB8		CCB9		CCB10		CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.2								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA40471 Units: ug/l

Time:			05:57		07:03		07:46	
Sample ID:			CCB12		CCB13		CCB14	
Metal	RL	IDL	raw	final	raw	final	raw	final
Aluminum	200	6.8	anr					
Antimony	6.0	1.6	anr					
Arsenic	3.0	1.5	anr					
Barium	200	.2	anr					
Beryllium	1.0	.05	anr					
Bismuth	20	1.5	anr					
Boron	100	1.1						
Cadmium	3.0	.2	anr					
Calcium	5000	13	anr					
Chromium	10	.4	anr					
Cobalt	50	.3	anr					
Copper	10	.6	anr					
Iron	100	9.7	anr					
Lead	3.0	1.2	anr					
Lithium	20	1.3						
Magnesium	5000	19	anr					
Manganese	15	.1	anr					
Molybdenum	20	.3						
Nickel	10	.3	anr					
Palladium	50	1.7						
Potassium	10000	35	anr					
Selenium	10	1.9	anr					
Silicon	200	5.1						
Silver	10	.5	anr					
Sodium	10000	11	anr					
Sulfur	50	2.2	anr					
Strontium	10	.1						
Thallium	2.0	1.3	anr					
Tin	10	.9						
Titanium	10	.4						
Tungsten	50	2.3						
Vanadium	50	.3	anr					
Zinc	20	1	0.60	<20	-0.10	<20	0.10	<20

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA40471 Units: ug/l

Time:			05:57		07:03		07:46	
Sample ID:			CCB12		CCB13		CCB14	
Metal	RL	IDL	raw	final	raw	final	raw	final
Zirconium	10	.2						

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA40471 Units: ug/l

Time:		17:28	
Sample ID:	ICCV	ICCV1	
Metal	True	Results	% Rec
Aluminum	anr		
Antimony	anr		
Arsenic	anr		
Barium	anr		
Beryllium	anr		
Bismuth	anr		
Boron			
Cadmium	anr		
Calcium	anr		
Chromium	anr		
Cobalt	anr		
Copper	anr		
Iron	anr		
Lead	anr		
Lithium			
Magnesium	anr		
Manganese	anr		
Molybdenum			
Nickel	anr		
Palladium			
Potassium	anr		
Selenium	anr		
Silicon			
Silver	anr		
Sodium	anr		
Sulfur	anr		
Strontium			
Thallium	anr		
Tin			
Titanium			
Tungsten			
Vanadium	anr		
Zinc	2000	2040	102.0

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA40471 Units: ug/l

Time:		17:28	
Sample ID:	ICCV	ICCV1	
Metal	True	Results	% Rec
Zirconium			

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA40471 Units: ug/l

Time:		17:13			18:48			20:00	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth	anr								
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Palladium									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Sulfur	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	2000	2030	101.5	2000	2070	103.5	2000	2050	102.5

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA40471 Units: ug/l

Time:		17:13			18:48			20:00	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA40471 Units: ug/l

Time:		21:08			22:14			23:21	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth	anr								
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Palladium									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Sulfur	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	2000	2060	103.0	2000	2060	103.0	2000	2060	103.0

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA40471 Units: ug/l

Time:		21:08			22:14			23:21	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA40471 Units: ug/l

Time:		00:04			01:17			02:30	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth	anr								
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Palladium									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Sulfur	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	2000	2050	102.5	2000	2080	104.0	2000	2020	101.0

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA40471 Units: ug/l

Time:		00:04			01:17			02:30	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA40471 Units: ug/l

Time:		03:37			04:44			05:51	
Sample ID:	CCV	CCV9		CCV	CCV10		CCV	CCV11	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth	anr								
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Palladium									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Sulfur	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	2000	2060	103.0	2000	2050	102.5	2000	2040	102.0

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA40471 Units: ug/l

Time:		03:37			04:44			05:51	
Sample ID:	CCV	CCV9		CCV	CCV10		CCV	CCV11	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA40471 Units: ug/l

Time:		06:57			07:40	
Sample ID:	CCV	CCV12		CCV	CCV13	
Metal	True	Results	% Rec	True	Results	% Rec
Aluminum	anr					
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Bismuth	anr					
Boron						
Cadmium	anr					
Calcium	anr					
Chromium	anr					
Cobalt	anr					
Copper	anr					
Iron	anr					
Lead	anr					
Lithium						
Magnesium	anr					
Manganese	anr					
Molybdenum						
Nickel	anr					
Palladium						
Potassium	anr					
Selenium	anr					
Silicon						
Silver	anr					
Sodium	anr					
Sulfur	anr					
Strontium						
Thallium	anr					
Tin						
Titanium						
Tungsten						
Vanadium	anr					
Zinc	2000	2070	103.5	2000	2060	103.0

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA40471 Units: ug/l

Time:		06:57			07:40	
Sample ID:	CCV	CCV12		CCV	CCV13	
Metal	True	Results	% Rec	True	Results	% Rec
Zirconium						

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA40471 Units: ug/l

Time:		18:17			18:23	
Sample ID:	HSTD	HSTD1		HSTD	HSTD2	
Metal	True	Results	% Rec	True	Results	% Rec
Aluminum						
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Bismuth	anr					
Boron						
Cadmium	anr					
Calcium						
Chromium	anr					
Cobalt	anr					
Copper	anr					
Iron						
Lead	anr					
Lithium						
Magnesium						
Manganese	anr					
Molybdenum						
Nickel	anr					
Palladium						
Potassium						
Selenium	anr					
Silicon						
Silver	anr					
Sodium						
Sulfur	anr					
Strontium						
Thallium	anr					
Tin						
Titanium						
Tungsten						
Vanadium	anr					
Zinc	5000	5210	104.2			

HIGH STANDARD CHECK SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA40471 Units: ug/l

Time:		18:17			18:23	
Sample ID:	HSTD	HSTD1		HSTD	HSTD2	
Metal	True	Results	% Rec	True	Results	% Rec
Zirconium						

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA40471 Units: ug/l

Time:				17:47		17:53		17:59	
Sample ID:	CRI	CRIA	CRID	CRI1		CRID1		CRIA1	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	200	500	100	anr					
Antimony	6.0	20	3.0	anr					
Arsenic	8.0	20	3.0	anr					
Barium	200		4.0	anr					
Beryllium	2.0		1.0	anr					
Bismuth	20			anr					
Boron	100		10						
Cadmium	3.0		1.0	anr					
Calcium	5000	2000	1000	anr					
Chromium	10		2.0	anr					
Cobalt	50		3.0	anr					
Copper	10		2.0	anr					
Iron	100	500		anr					
Lead	3.0	20	2.5	anr					
Lithium	20								
Magnesium	5000	2000	100	anr					
Manganese	15		3.0	anr					
Molybdenum	20								
Nickel	10		4.0	anr					
Palladium	50								
Potassium	5000		2000	anr					
Selenium	10	20	5.0	anr					
Silicon	200								
Silver	5.0		2.0	anr					
Sodium	5000		1000	anr					
Sulfur	50			anr					
Strontium	10								
Thallium	10		2.0	anr					
Tin	10								
Titanium	10								
Tungsten	50								
Vanadium	50		2.0	anr					
Zinc	20		10	21.8	109.0	10.4	104.0		

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA40471 Units: ug/l

Time:				17:47		17:53		17:59	
Sample ID:	CRI	CRIA	CRID	CRI1		CRID1		CRIA1	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium	10								

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA40471 Units: ug/l

Time:				19:00		23:34		23:40	
Sample ID:	CRI	CRIA	CRID	CRID2		CRID3		CRI2	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	200	500	100	anr					
Antimony	6.0	20	3.0	anr					
Arsenic	8.0	20	3.0	anr					
Barium	200		4.0	anr					
Beryllium	2.0		1.0	anr					
Bismuth	20								
Boron	100		10						
Cadmium	3.0		1.0	anr					
Calcium	5000	2000	1000	anr					
Chromium	10		2.0	anr					
Cobalt	50		3.0	anr					
Copper	10		2.0	anr					
Iron	100	500							
Lead	3.0	20	2.5	anr					
Lithium	20								
Magnesium	5000	2000	100	anr					
Manganese	15		3.0	anr					
Molybdenum	20								
Nickel	10		4.0	anr					
Palladium	50								
Potassium	5000		2000	anr					
Selenium	10	20	5.0	anr					
Silicon	200								
Silver	5.0		2.0	anr					
Sodium	5000		1000	anr					
Sulfur	50								
Strontium	10								
Thallium	10		2.0	anr					
Tin	10								
Titanium	10								
Tungsten	50								
Vanadium	50		2.0	anr					
Zinc	20		10	10.5	105.0	10.5	105.0	22.3	111.5

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA40471 Units: ug/l

Time:				19:00		23:34		23:40	
Sample ID:	CRI	CRIA	CRID	CRID2		CRID3		CRI2	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium	10								

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA40471 Units: ug/l

Time:				23:46		07:09		07:15	
Sample ID:	CRI	CRIA	CRID	CRIA2		CRI3		CRID4	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	200	500	100	anr					
Antimony	6.0	20	3.0	anr					
Arsenic	8.0	20	3.0	anr					
Barium	200		4.0						
Beryllium	2.0		1.0						
Bismuth	20								
Boron	100		10						
Cadmium	3.0		1.0						
Calcium	5000	2000	1000	anr					
Chromium	10		2.0						
Cobalt	50		3.0						
Copper	10		2.0						
Iron	100	500		anr					
Lead	3.0	20	2.5	anr					
Lithium	20								
Magnesium	5000	2000	100	anr					
Manganese	15		3.0						
Molybdenum	20								
Nickel	10		4.0						
Palladium	50								
Potassium	5000		2000						
Selenium	10	20	5.0	anr					
Silicon	200								
Silver	5.0		2.0						
Sodium	5000		1000						
Sulfur	50								
Strontium	10								
Thallium	10		2.0						
Tin	10								
Titanium	10								
Tungsten	50								
Vanadium	50		2.0						
Zinc	20		10			21.9	109.5	10.5	105.0

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA40471 Units: ug/l

Time:				23:46		07:09		07:15	
Sample ID:	CRI	CRIA	CRID	CRIA2		CRI3		CRID4	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium	10								

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA40471 Units: ug/l

Time:				07:21	
Sample ID:	CRI	CRIA	CRID	CRIA3	
Metal	True	True	True	Results	% Rec
Aluminum	200	500	100	anr	
Antimony	6.0	20	3.0	anr	
Arsenic	8.0	20	3.0	anr	
Barium	200		4.0		
Beryllium	2.0		1.0		
Bismuth	20				
Boron	100		10		
Cadmium	3.0		1.0		
Calcium	5000	2000	1000	anr	
Chromium	10		2.0		
Cobalt	50		3.0		
Copper	10		2.0		
Iron	100	500		anr	
Lead	3.0	20	2.5	anr	
Lithium	20				
Magnesium	5000	2000	100	anr	
Manganese	15		3.0		
Molybdenum	20				
Nickel	10		4.0		
Palladium	50				
Potassium	5000		2000		
Selenium	10	20	5.0	anr	
Silicon	200				
Silver	5.0		2.0		
Sodium	5000		1000		
Sulfur	50				
Strontium	10				
Thallium	10		2.0		
Tin	10				
Titanium	10				
Tungsten	50				
Vanadium	50		2.0		
Zinc	20		10		

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA40471 Units: ug/l

Time:				07:21	
Sample ID:	CRI	CRIA	CRID	CRIA3	
Metal	True	True	True	Results	% Rec
Zirconium	10				

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA40471 Units: ug/l

Time:			18:05		18:11		23:52		23:58	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	500000	500000	487000	97.4	476000	95.2	483000	96.6	474000	94.8
Antimony		1000	-1.5		987	98.7	0.10		976	97.6
Arsenic		1000	0.90		1020	102.0	1.4		1010	101.0
Barium		500	-0.80		495	99.0	-1.0		500	100.0
Beryllium		500	-0.50		480	96.0	-0.50		479	95.8
Bismuth		500	-2.7		509	101.8	-1.7		506	101.2
Boron		500	-1.9		472	94.4	-2.3		471	94.2
Cadmium		1000	-0.80		1030	103.0	-0.50		1030	103.0
Calcium	400000	400000	370000	92.5	360000	90.0	368000	92.0	354000	88.5
Chromium		500	-1.4		494	98.8	-2.2		489	97.8
Cobalt		500	1.5		473	94.6	1.3		477	95.4
Copper		500	6.6		513	102.6	6.1		513	102.6
Iron	200000	200000	183000	91.5	180000	90.0	180000	90.0	176000	88.0
Lead		1000	3.6		943	94.3	-0.20		938	93.8
Lithium		500	-19		528	105.6	-19		536	107.2
Magnesium	500000	500000	489000	97.8	478000	95.6	484000	96.8	472000	94.4
Manganese		500	-0.20		498	99.6	0.40		499	99.8
Molybdenum		500	-1.1		473	94.6	-1.5		469	93.8
Nickel		1000	0.0		972	97.2	-0.10		968	96.8
Palladium		500	0.60		529	105.8	-1.5		536	107.2
Potassium			99.8		90.6		163		138	
Selenium		1000	5.8		978	97.8	5.2		974	97.4
Silicon		500	23.9		524	104.8	25.0		522	104.4
Silver		1000	-0.10		1000	100.0	4.1		994	99.4
Sodium			-4.4		13.3		28.9		33.5	
Sulfur		500	41.9		509	101.8	39.1		518	103.6
Strontium		500	5.4		498	99.6	6.0		503	100.6
Thallium		1000	-3.1		979	97.9	0.10		988	98.8
Tin		500	-9.7		458	91.6	-9.4		458	91.6
Titanium		500	-2.9		486	97.2	-3.0		483	96.6
Tungsten		500	4.8		475	95.0	4.5		469	93.8
Vanadium		500	-0.20		479	95.8	-0.60		471	94.2
Zinc		1000	-0.70		951	95.1	-0.10		958	95.8

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA40471 Units: ug/l

Time:			18:05		18:11		23:52		23:58	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium		500	-2.4		482	96.4	-2.4		482	96.4

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA40471 Units: ug/l

Time:			07:27		07:33	
Sample ID:	ICSA	ICSAB	ICSA3		ICSAB3	
Metal	True	True	Results	% Rec	Results	% Rec
Aluminum	500000	500000	481000	96.2	471000	94.2
Antimony		1000	-1.7		959	95.9
Arsenic		1000	1.2		988	98.8
Barium		500	-1.0		491	98.2
Beryllium		500	-0.50		459	91.8
Bismuth		500	-1.2		494	98.8
Boron		500	-3.1		460	92.0
Cadmium		1000	-0.70		1010	101.0
Calcium	400000	400000	359000	89.8	351000	87.8
Chromium		500	-1.6		489	97.8
Cobalt		500	1.3		466	93.2
Copper		500	5.6		503	100.6
Iron	200000	200000	173000	86.5	169000	84.5
Lead		1000	0.20		930	93.0
Lithium		500	-18		528	105.6
Magnesium	500000	500000	470000	94.0	456000	91.2
Manganese		500	-0.50		493	98.6
Molybdenum		500	-1.2		462	92.4
Nickel		1000	0.20		957	95.7
Palladium		500	-0.70		523	104.6
Potassium			151		180	
Selenium		1000	2.3		952	95.2
Silicon		500	23.7		510	102.0
Silver		1000	-1.3		985	98.5
Sodium			-11		-3.6	
Sulfur		500	33.9		496	99.2
Strontium		500	5.8		494	98.8
Thallium		1000	-0.70		957	95.7
Tin		500	-8.9		450	90.0
Titanium		500	-2.9		480	96.0
Tungsten		500	4.0		462	92.4
Vanadium		500	-0.20		471	94.2
Zinc		1000	-0.10		945	94.5

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA40471 Units: ug/l

Time:			07:27		07:33	
Sample ID:	ICSA	ICSAB	ICSA3		ICSAB3	
Metal	True	True	Results	% Rec	Results	% Rec
Zirconium		500	-2.6		476	95.2

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96373
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 10/05/16

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	.68	2	0.68	<50
Antimony	2.0	.12	.29	0.020	<2.0
Arsenic	2.0	.15	.21	0.15	<2.0
Barium	20	.02	.081	0.12	<20
Beryllium	0.20	.005	.022	-0.010	<0.20
Bismuth	2.0	.15	.24		
Boron	10	.11	.45		
Cadmium	0.50	.02	.05	-0.010	<0.50
Calcium	500	.82	1.9	14.2	<500
Chromium	1.0	.04	.12	0.060	<1.0
Cobalt	5.0	.02	.059	-0.010	<5.0
Copper	2.5	.06	.22	0.44	<2.5
Iron	50	.89	.79	2.2	<50
Lead	2.0	.1	.22	0.050	<2.0
Lithium	2.0	.13	.45		
Magnesium	500	1.9	5.9	-0.39	<500
Manganese	1.5	.01	.036	0.050	<1.5
Molybdenum	2.0	.03	.081		
Nickel	4.0	.03	.076	0.050	<4.0
Palladium	5.0	.17	.47		
Potassium	1000	3.5	18	-5.2	<1000
Selenium	2.0	.19	.46	-0.15	<2.0
Silicon	20	.26	3.7		
Silver	0.50	.05	.099	-0.040	<0.50
Sodium	1000	1.1	3.9	3.4	<1000
Strontium	1.0	.01	.024		
Sulfur	5.0	.22	.59		
Thallium	1.0	.12	.4	-0.030	<1.0
Tin	5.0	.05	.53		
Titanium	1.0	.04	.13		
Tungsten	5.0	.11	.33		
Vanadium	5.0	.03	.083	0.050	<5.0
Zinc	5.0	.1	.22	3.2	<5.0 (a)

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96373 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 10/05/16

Metal	RL	IDL	MDL	MB raw	final
Zirconium	2.0	.02	.13		

Associated samples MP96373: JC28902-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) All reported results >10x MB value or with RL> 2X of this value.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96373
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 10/05/16

Metal	JC28910-1 Original	MS	Spikelot MPSPK1	% Rec	QC Limits
Aluminum	376	3450	2540	121.2	75-125
Antimony	0.14	186	203	91.6	75-125
Arsenic	0.45	190	203	93.4	75-125
Barium	1.8	199	203	97.2	75-125
Beryllium	0.0	196	203	96.6	75-125
Bismuth					
Boron					
Cadmium	0.030	191	203	94.1	75-125
Calcium	25.6	2550	2540	99.5	75-125
Chromium	1.7	191	203	93.3	75-125
Cobalt	0.081	190	203	93.6	75-125
Copper	0.37	192	203	94.4	75-125
Iron	641	3180	2540	100.1	75-125
Lead	0.90	191	203	93.7	75-125
Lithium					
Magnesium	0.0	2540	2540	100.1	75-125
Manganese	1.8	192	203	93.7	75-125
Molybdenum	anr				
Nickel	0.23	187	203	92.0	75-125
Palladium					
Potassium	13.4	2580	2540	101.2	75-125
Selenium	0.0	188	203	92.6	75-125
Silicon					
Silver	0.0	23.8	25.4	93.8	75-125
Sodium	8.1	2540	2540	99.8	75-125
Strontium					
Sulfur					
Thallium	0.0	196	203	96.6	75-125
Tin					
Titanium					
Tungsten					
Vanadium	1.4	192	203	93.9	75-125
Zinc	1.0	197	203	96.6	75-125

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96373 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 10/05/16

Metal	JC28910-1 Original MS	Spikelot MPSPK1	% Rec	QC Limits
Zirconium				

Associated samples MP96373: JC28902-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96373
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 10/05/16

Metal	JC28910-1 Original	MSD	Spikelot MPSPK1	% Rec	MSD RPD	QC Limit
Aluminum	376	3410	2610	116.1	1.2	20
Antimony	0.14	190	209	90.8	2.1	20
Arsenic	0.45	194	209	92.5	2.1	20
Barium	1.8	205	209	97.2	3.0	20
Beryllium	0.0	200	209	95.6	2.0	20
Bismuth						
Boron						
Cadmium	0.030	196	209	93.7	2.6	20
Calcium	25.6	2600	2610	98.5	1.9	20
Chromium	1.7	196	209	92.9	2.6	20
Cobalt	0.081	194	209	92.7	2.1	20
Copper	0.37	196	209	93.5	2.1	20
Iron	641	3390	2610	105.2	6.4	20
Lead	0.90	196	209	93.3	2.6	20
Lithium						
Magnesium	0.0	2610	2610	99.8	2.7	20
Manganese	1.8	196	209	92.9	2.1	20
Molybdenum	anr					
Nickel	0.23	192	209	91.7	2.6	20
Palladium						
Potassium	13.4	2630	2610	100.1	1.9	20
Selenium	0.0	192	209	91.8	2.1	20
Silicon						
Silver	0.0	24.1	26.1	92.2	1.3	20
Sodium	8.1	2600	2610	99.1	2.3	20
Strontium						
Sulfur						
Thallium	0.0	201	209	96.1	2.5	20
Tin						
Titanium						
Tungsten						
Vanadium	1.4	197	209	93.5	2.6	20
Zinc	1.0	201	209	95.6	2.0	20

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96373 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 10/05/16

Metal	JC28910-1 Original MSD	Spikelot MPSPK1	% Rec	MSD RPD	QC Limit
Zirconium					

Associated samples MP96373: JC28902-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96373
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 10/05/16

Metal	BSP Result	Spikelot MPSPK1	% Rec	QC Limits
Aluminum	2270	2450	92.6	80-120
Antimony	176	196	89.8	80-120
Arsenic	175	196	89.3	80-120
Barium	179	196	91.3	80-120
Beryllium	178	196	90.8	80-120
Bismuth				
Boron				
Cadmium	177	196	90.3	80-120
Calcium	2310	2450	94.2	80-120
Chromium	171	196	87.2	80-120
Cobalt	173	196	88.2	80-120
Copper	175	196	89.3	80-120
Iron	2350	2450	95.9	80-120
Lead	174	196	88.7	80-120
Lithium				
Magnesium	2320	2450	94.7	80-120
Manganese	174	196	88.7	80-120
Molybdenum	anr			
Nickel	170	196	86.7	80-120
Palladium				
Potassium	2300	2450	93.8	80-120
Selenium	173	196	88.2	80-120
Silicon				
Silver	21.8	24.5	88.9	80-120
Sodium	2320	2450	94.7	80-120
Strontium				
Sulfur				
Thallium	181	196	92.3	80-120
Tin				
Titanium				
Tungsten				
Vanadium	173	196	88.2	80-120
Zinc	180	196	91.8	80-120

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96373 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 10/05/16

Metal	BSP Result	Spikelot MPSPK1	% Rec	QC Limits
Zirconium				

Associated samples MP96373: JC28902-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96373
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/05/16

Metal	JC28910-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum	3710	3620	2.4	0-10
Antimony	1.40	0.00	100.0(a)	0-10
Arsenic	4.40	9.00	104.5(a)	0-10
Barium	17.3	19.9	15.0 (a)	0-10
Beryllium	0.00	0.00	NC	0-10
Bismuth				
Boron				
Cadmium	0.300	0.00	100.0(a)	0-10
Calcium	252	357	41.7 (a)	0-10
Chromium	16.3	20.1	23.3 (a)	0-10
Cobalt	0.800	0.00	100.0(a)	0-10
Copper	3.60	0.00	100.0(a)	0-10
Iron	6320	6300	0.3	0-10
Lead	8.90	10.5	18.0 (a)	0-10
Lithium				
Magnesium	0.00	0.00	NC	0-10
Manganese	17.7	18.0	1.7	0-10
Molybdenum	anr			
Nickel	2.30	0.00	100.0(a)	0-10
Palladium				
Potassium	133	0.00	100.0(a)	0-10
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium	80.2	117	46.0 (a)	0-10
Strontium				
Sulfur				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Tungsten				
Vanadium	14.1	15.6	10.6 (a)	0-10
Zinc	10.1	13.3	31.7*(b)	0-10

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96373 Methods: SW846 6010C
Matrix Type: SOLID Units: ug/l

Prep Date: 10/05/16

Metal	JC28910-1 Original SDL 1:5	%DIF	QC Limits
Zirconium			

Associated samples MP96373: JC28902-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96393
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 10/06/16

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.033	.0065	.0053	-0.0019	<0.033

Associated samples MP96393: JC28902-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96393
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 10/06/16

Metal	JC28910-1 Original	MS	Spikelot HGPWS1	% Rec	QC Limits
Mercury	0.0	0.33	0.322	102.6	80-120

Associated samples MP96393: JC28902-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96393 Methods: SW846 7471B
Matrix Type: SOLID Units: mg/kg

Prep Date: 10/06/16

Metal	JC28910-1 Original	MSD	Spikelot HGPWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	0.35	0.337	103.9	5.9	20

Associated samples MP96393: JC28902-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96393
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 10/06/16

Metal	BSP Result	Spikelot HGPWS1	% Rec	QC Limits
Mercury	0.37	0.333	111.1	80-120

Associated samples MP96393: JC28902-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

9.5.3

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Instrument Detection Limits

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Instrument ID: LEEMANHG5 **Effective Date:** 09/08/16

Analyte	IDL ug/l
Mercury	.0388

The above applies to the following instrument runs:
MA40466

Instrument Detection Limits

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Instrument ID: SSTRACE3 **Effective Date:** 10/04/16

Analyte	IDL ug/l
Aluminum	19.7
Antimony	1.2
Arsenic	1.5
Barium	.5
Beryllium	.3
Bismuth	2.3
Boron	1.9
Cadmium	.2
Calcium	8.2
Chromium	.6
Cobalt	.2
Copper	.8
Iron	8.9
Lead	1
Lithium	2.9
Magnesium	88.1
Manganese	.1
Molybdenum	.3
Nickel	.4
Palladium	2.1
Potassium	77.9
Selenium	2.6
Silicon	2.6
Silver	.7
Sodium	19.9
Sulfur	4.8
Strontium	.2
Thallium	1.2
Tin	.5
Titanium	.7
Tungsten	1.1
Vanadium	.5
Yttrium	5
Zinc	.1
Zirconium	.3

The above applies to the following instrument runs:
MA40457

Instrument Detection Limits

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Instrument ID: SSTRACE4 **Effective Date:** 09/02/16

Analyte	IDL ug/l
Aluminum	6.8
Antimony	1.6
Arsenic	1.5
Barium	.2
Beryllium	.05
Bismuth	1.5
Boron	1.1
Cadmium	.2
Calcium	12.6
Chromium	.4
Cobalt	.3
Copper	.6
Iron	9.7
Lead	1.2
Lithium	1.3
Magnesium	19.2
Manganese	.1
Molybdenum	.3
Nickel	.3
Palladium	1.7
Potassium	35.1
Selenium	1.9
Silicon	5.1
Silver	.5
Sodium	11
Sulfur	2.2
Strontium	.1
Thallium	1.3
Tin	.9
Titanium	.4
Tungsten	2.3
Vanadium	.3
Zinc	1
Zirconium	.2

The above applies to the following instrument runs:
MA40471

Instrument Linear Ranges

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Instrument ID: LEEMANHG5 **Effective Date:** 05/13/13

Analyte	Linear Range ug/l
Mercury	5

The above applies to the following instrument runs:
MA40466

Instrument Linear Ranges

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Instrument ID: SSTRACE3 **Effective Date:** 12/09/15

Analyte	Linear Range ug/l
Aluminum	600000
Antimony	10000
Arsenic	10000
Barium	10000
Beryllium	10000
Bismuth	10000
Boron	10000
Cadmium	10000
Calcium	300000
Chromium	10000
Cobalt	10000
Copper	10000
Iron	300000
Lead	10000
Lithium	10000
Magnesium	600000
Manganese	10000
Molybdenum	10000
Nickel	10000
Palladium	10000
Potassium	300000
Selenium	10000
Silicon	50000
Silver	1250
Sodium	300000
Sulfur	100000
Strontium	10000
Thallium	10000
Tin	10000
Titanium	10000
Tungsten	10000
Vanadium	10000
Zinc	10000
Zirconium	10000

The above applies to the following instrument runs:
MA40457

Instrument Linear Ranges

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Instrument ID: SSTRACE4 **Effective Date:** 12/09/15

Analyte	Linear Range ug/l
Aluminum	600000
Antimony	10000
Arsenic	10000
Barium	10000
Beryllium	10000
Bismuth	10000
Boron	10000
Cadmium	10000
Calcium	300000
Chromium	10000
Cobalt	10000
Copper	10000
Iron	300000
Lead	10000
Lithium	10000
Magnesium	600000
Manganese	10000
Molybdenum	10000
Nickel	10000
Palladium	10000
Potassium	300000
Selenium	10000
Silicon	50000
Silver	1250
Sodium	300000
Sulfur	100000
Strontium	10000
Thallium	10000
Tin	10000
Titanium	10000
Tungsten	10000
Vanadium	10000
Zinc	10000
Zirconium	10000

The above applies to the following instrument runs:
MA40471

SGS ACCUTEST New Jersey

Section 10

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC
- Percent Solids Raw Data Summary

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METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chromium, Hexavalent	GP574/GN53097	0.40	0.0	mg/kg	40	34.4	86.0	80-120%
Chromium, Hexavalent	GP574/GN53097			mg/kg	1260	1110	88.4	80-120%
Chromium, Hexavalent	GP574/GN53097			mg/kg	551	471	75.7	71-95%
Chromium, Hexavalent	GP648/GN53231	0.40	0.0	mg/kg	40	40.9	102.3	80-120%
Chromium, Hexavalent	GP648/GN53231			mg/kg	952	842	88.4	80-120%
Chromium, Hexavalent	GP648/GN53231			mg/kg	551	487	88.4	71-95%
Cyanide	GP585/GN53120	0.24	0.0	mg/kg	1	0.997	99.7	90-110%

Associated Samples:
Batch GP574: JC28902-1
Batch GP585: JC28902-1
Batch GP648: JC28902-1R
(*) Outside of QC limits

10.1
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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chromium, Hexavalent	GP574/GN53097	JC28902-1	mg/kg	0.0	0.18	200.0(a)	0-20%
Chromium, Hexavalent	GP648/GN53231	JC28902-1R	mg/kg	0.37	0.19	64.3(a)	0-20%
Cyanide	GP585/GN53120	JC28906-1	mg/kg	0.092	0.080	14.0	0-21%
Redox Potential Vs H2	GN52967	JC28819-1	mv	335	339	1.2	0-18%
pH	GN52968	JC28819-1	su	7.77	7.90	1.7	0-5%

Associated Samples:
Batch GP574: JC28902-1
Batch GP585: JC28902-1
Batch GP648: JC28902-1R
Batch GN52967: JC28902-1
Batch GN52968: JC28902-1
(*) Outside of QC limits
(a) RPD acceptable due to low duplicate and sample concentrations.

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chromium, Hexavalent	GP574/GN53097	JC28902-1	mg/kg	0.0	45.2	3.0	6.6N(a)	75-125%
Chromium, Hexavalent	GP574/GN53097	JC28902-1	mg/kg	0.0	860	1150	133.7N(b)	75-125%
Chromium, Hexavalent	GP648/GN53231	JC28902-1R	mg/kg	0.37	46.6	1.1	1.6N(c)	75-125%
Chromium, Hexavalent	GP648/GN53231	JC28902-1R	mg/kg	0.37	1010	1.7	0.1N(b)	75-125%
Cyanide	GP585/GN53120	JC28906-1	mg/kg	0.092	0.947	0.20	11.4N(d)	21-163%

Associated Samples:
Batch GP574: JC28902-1
Batch GP585: JC28902-1
Batch GP648: JC28902-1R
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Soluble XCR matrix spike recovery indicates possible matrix interference. Good post spike recovery (102%) on this sample.
(b) Insoluble XCR matrix spike recovery indicates possible matrix interference. See additional comments on soluble matrix spike recovery.
(c) Soluble XCR matrix spike recovery indicates possible matrix interference. Good post spike recovery (97.2%) on this sample.
(d) Spike recovery indicates possible matrix interference.

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: 816100701.TXT Date Analyzed: 10/07/16 Methods: SW846 3060A/7199
Analyst: TT Run ID: GN53097
Parameters: Chromium, Hexavalent

Time	Sample Description	Dilution Factor	PS Recov	Comments
08:48	GN53097-STD1	1		STDA
08:56	GN53097-STD2	1		STDB
09:04	GN53097-STD3	1		STDC
09:12	GN53097-STD4	1		STDD
09:20	GN53097-STD5	1		STDE
09:29	GN53097-CCV1	1		
09:37	GN53097-CCB1	1		
09:45	GP574-MB1	1		
09:53	GP574-MB1	1		
10:00	GP574-B1	4		
10:08	GP574-B1	4		
10:16	GP574-B2	130		
10:24	GP574-B2	130		
10:32	GP574-LC1	1		
10:40	GP574-LC1	10		
10:48	GP574-LC1	10		corrected for 97.3% sol
10:56	JC28902-1	1		
11:04	JC28902-1	1		
11:12	GP574-S1	1		
11:20	GP574-S1	1		
11:27	GP574-S2	1		
11:35	GP574-S2	1		
11:43	ZZZZZZ	1		
11:51	ZZZZZZ	1		
11:59	GP574-PS1	4		
12:07	GP574-PS1	4		
12:15	GN53097-CCV2	1		
12:23	GN53097-CCB2	1		
12:31	GP574-S2	100		
12:39	GP574-S2	100		
12:47	GN53097-CCV3	1		
12:55	GN53097-CCB3	1		
13:23	GP574-D1	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: 816100701.TXT Date Analyzed: 10/07/16 Methods: SW846 3060A/7199
Analyst: TT Run ID: GN53097
Parameters: Chromium, Hexavalent

Time	Sample Description	Dilution Factor	PS Recov	Comments
13:31	GP574-D1	1		
13:57	GN53097-CCV4	1		
14:04	GN53097-CCB4	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: 816100701.TXT Date Analyzed: 10/07/16 Methods: SW846 3060A/7199
Run ID: GN53097 Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN53097-CCV1	Chromium, Hexavalent	0.24	0.010	0.0028	.25	96.0	90-110
GN53097-CCB1	Chromium, Hexavalent	0.0028 U	0.010	0.0028			
GN53097-CCV2	Chromium, Hexavalent	0.24	0.010	0.0028	.25	96.0	90-110
GN53097-CCB2	Chromium, Hexavalent	0.0028 U	0.010	0.0028			
GN53097-CCV3	Chromium, Hexavalent	0.24	0.010	0.0028	.25	96.0	90-110
GN53097-CCB3	Chromium, Hexavalent	0.0028 U	0.010	0.0028			
GN53097-CCV4	Chromium, Hexavalent	0.23	0.010	0.0028	.25	92.0	90-110
GN53097-CCB4	Chromium, Hexavalent	0.0028 U	0.010	0.0028			

(!) Outside of QC limits

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: E100716W1.CN Date Analyzed: 10/07/16 Methods: EPA 335.4/LACHAT, SW846 9012B/LACHAT, SW846 CHAP
Analyst: YZ Run ID: GN53120
Parameters: Cyanide

Time	Sample Description	Dilution Factor	PS Recov	Comments
09:36	GN53120-STD1	1		STDA
09:37	GN53120-STD2	1		STDB
09:39	GN53120-STD3	1		STDC
09:40	GN53120-STD4	1		STDD
09:41	GN53120-STD5	1		STDE
09:43	GN53120-STD6	1		STDF
09:44	GN53120-STD7	1		STDG
09:45	GN53120-ICV1	1		
09:47	GN53120-ICB1	1		
09:48	GN53120-CCV1	1		
09:50	GN53120-CCB1	1		
09:51	GP561-MB2	1		
09:52	GP561-B2	1		
09:54	ZZZZZZ	1		
09:55	ZZZZZZ	1		
09:56	ZZZZZZ	1		
09:58	ZZZZZZ	1		
09:59	GP585-MB1	1		
10:00	GP585-B1	1		
10:02	GP585-S1	1		
10:03	GP585-S2	1		
10:05	GN53120-CCV2	1		
10:06	GN53120-CCB2	1		
10:07	GP585-D1	1		
10:09	JC28902-1	1		
10:10	ZZZZZZ	1		
10:11	JC28906-1	1		(sample used for QC only; not part of login JC28902)
10:13	JC28906-2	1		(sample used for QC only; not part of login JC28902)
10:14	ZZZZZZ	1		
10:16	ZZZZZZ	1		
10:17	ZZZZZZ	1		
10:18	ZZZZZZ	1		
10:20	ZZZZZZ	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: E100716W1.CN Date Analyzed: 10/07/16 Methods: EPA 335.4/LACHAT, SW846 9012B/LACHAT, SW846 CHAP
Analyst: YZ Run ID: GN53120
Parameters: Cyanide

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:21	GN53120-CCV3	1		
10:22	GN53120-CCB3	1		
10:24	ZZZZZZ	1		
10:25	ZZZZZZ	1		
10:26	ZZZZZZ	1		
10:28	ZZZZZZ	1		
10:29	ZZZZZZ	1		
10:31	ZZZZZZ	1		
10:32	GP586-MB1	1		
10:33	GP586-B1	1		
10:35	GP586-S1	1		
10:36	GP586-S2	1		
10:37	GN53120-CCV4	1		
10:39	GN53120-CCB4	1		
10:40	GP586-D1	1		
10:41	JC28920-2	1		(sample used for QC only; not part of login JC28902)
10:43	JC28920-4	1		(sample used for QC only; not part of login JC28902)
10:44	ZZZZZZ	1		
10:46	ZZZZZZ	1		
10:47	ZZZZZZ	1		
10:48	ZZZZZZ	1		
10:50	ZZZZZZ	1		
10:51	ZZZZZZ	1		
10:52	ZZZZZZ	1		
10:54	GN53120-CCV5	1		
10:55	GN53120-CCB5	1		
10:57	ZZZZZZ	1		
10:58	ZZZZZZ	1		
10:59	ZZZZZZ	1		
11:01	ZZZZZZ	1		
11:02	ZZZZZZ	1		
11:03	ZZZZZZ	1		
11:05	ZZZZZZ	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: E100716W1.CN Date Analyzed: 10/07/16 Methods: EPA 335.4/LACHAT, SW846 9012B/LACHAT, SW846 CHAP
Analyst: YZ Run ID: GN53120
Parameters: Cyanide

Time	Sample Description	Dilution Factor	PS Recov	Comments
11:06	GP588-MB1	1		
11:08	GP588-B1	1		
11:09	GP588-D1	1		
11:10	GN53120-CCV6	1		
11:12	GN53120-CCB6	1		
11:13	LA26022-2A	1		(sample used for QC only; not part of login JC28902)
11:14	ZZZZZZ	1		
11:16	ZZZZZZ	1		
11:17	ZZZZZZ	1		
11:18	ZZZZZZ	1		
11:20	ZZZZZZ	1		
11:21	ZZZZZZ	1		
11:23	ZZZZZZ	1		
11:24	ZZZZZZ	1		
11:25	ZZZZZZ	1		
11:27	GN53120-CCV7	1		
11:28	GN53120-CCB7	1		
11:29	ZZZZZZ	1		
11:31	ZZZZZZ	1		
11:32	ZZZZZZ	1		
11:33	ZZZZZZ	1		
11:35	ZZZZZZ	1		
11:36	ZZZZZZ	1		
11:38	ZZZZZZ	1		
11:39	GP488-MB3	1		
11:40	GP488-B3	1		
11:42	ZZZZZZ	1		
11:43	GN53120-CCV8	1		
11:44	GN53120-CCB8	1		
11:46	ZZZZZZ	1		
11:47	ZZZZZZ	1		
11:49	ZZZZZZ	1		
11:50	GP589-MB1	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: E100716W1.CN Date Analyzed: 10/07/16 Methods: EPA 335.4/LACHAT, SW846 9012B/LACHAT, SW846 CHAP
Analyst: YZ Run ID: GN53120
Parameters: Cyanide

Time	Sample Description	Dilution Factor	PS Recov	Comments
11:51	GP589-B1	1		
11:53	GP589-D1	1		
11:54	LA26009-3	1		(sample used for QC only; not part of login JC28902)
11:55	ZZZZZZ	1		
11:57	ZZZZZZ	1		
12:00	GN53120-CCV9	1		
12:01	GN53120-CCB9	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: E100716W1.CN Date Analyzed: 10/07/16 Methods: EPA 335.4/LACHAT, SW846 9012B/LACHAT, SW846 CHAP
Run ID: GN53120 Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN53120-ICV1	Cyanide	0.32	0.010	0.0027	.3	106.7	90-110
GN53120-ICB1	Cyanide	0.0027 U	0.010	0.0027			
GN53120-CCV1	Cyanide	0.41	0.010	0.0027	.4	102.5	90-110
GN53120-CCB1	Cyanide	0.0027 U	0.010	0.0027			
GN53120-CCV2	Cyanide	0.41	0.010	0.0027	.4	102.5	90-110
GN53120-CCB2	Cyanide	-0.0027	0.010	0.0027			
GN53120-CCV3	Cyanide	0.41	0.010	0.0027	.4	102.5	90-110
GN53120-CCB3	Cyanide	0.0027 U	0.010	0.0027			
GN53120-CCV4	Cyanide	0.41	0.010	0.0027	.4	102.5	90-110
GN53120-CCB4	Cyanide	0.0027 U	0.010	0.0027			
GN53120-CCV5	Cyanide	0.41	0.010	0.0027	.4	102.5	90-110
GN53120-CCB5	Cyanide	0.0027 U	0.010	0.0027			
GN53120-CCV6	Cyanide	0.41	0.010	0.0027	.4	102.5	90-110
GN53120-CCB6	Cyanide	-0.0040	0.010	0.0027			
GN53120-CCV7	Cyanide	0.41	0.010	0.0027	.4	102.5	90-110
GN53120-CCB7	Cyanide	0.0027 U	0.010	0.0027			
GN53120-CCV8	Cyanide	0.41	0.010	0.0027	.4	102.5	90-110
GN53120-CCB8	Cyanide	0.0027 U	0.010	0.0027			
GN53120-CCV9	Cyanide	0.41	0.010	0.0027	.4	102.5	90-110
GN53120-CCB9	Cyanide	0.0027 U	0.010	0.0027			

(!) Outside of QC limits

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: 816101002.TXT Date Analyzed: 10/10/16 Methods: SW846 3060A/7199
Analyst: AT Run ID: GN53231
Parameters: Chromium, Hexavalent

Time	Sample Description	Dilution Factor	PS Recov	Comments
17:32	GN53231-STD1	1		STDA
17:40	GN53231-STD2	1		STDB
17:48	GN53231-STD3	1		STDC
17:56	GN53231-STD4	1		STDD
18:04	GN53231-STD5	1		STDE
18:12	GN53231-CCV1	1		
18:20	GN53231-CCB1	1		
18:28	GP648-MB1	1		
18:36	GP648-MB1	1		
18:43	GP648-B1	4		
18:51	GP648-B1	4		
18:59	GP648-B2	100		
19:07	GP648-B2	100		
19:15	GP648-LC1	1		
19:23	GP648-LC1	10		corrected for 97.3%sol
19:31	GP648-LC1	10		
19:39	JC28902-1R	1		
19:47	JC28902-1R	1		
19:55	GP648-S1	1		
20:03	GP648-S1	1		
20:10	GP648-S2	1		
20:18	GP648-S2	1		
20:26	GP648-D1	1		
20:34	GP648-D1	1		
20:54	GP648-PS1	4		
21:02	GP648-PS1	4		
21:10	GN53231-CCV2	1		
21:18	GN53231-CCB2	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: 816101002.TXT Date Analyzed: 10/10/16 Methods: SW846 3060A/7199
Run ID: GN53231 Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN53231-CCV1	Chromium, Hexavalent	0.27	0.010	0.0028	.25	108.0	90-110
GN53231-CCB1	Chromium, Hexavalent	0.0028 U	0.010	0.0028			
GN53231-CCV2	Chromium, Hexavalent	0.27	0.010	0.0028	.25	108.0	90-110
GN53231-CCB2	Chromium, Hexavalent	0.0028 U	0.010	0.0028			

(!) Outside of QC limits

Percent Solids Raw Data Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: JC28902-1 **Analyzed:** 05-OCT-16 by AT **Method:** SM2540 G-97
ClientID: WOOLSTON-TS-002

Wet Weight (Total)	26.06	g
Tare Weight	19.98	g
Dry Weight (Total)	25.24	g
Solids, Percent	86.5	%

ATTACHMENT B

GEOTECHNICAL RESULTS (RUTGERS SOIL TESTING LABORATORY)

RUTGERS
New Jersey Agricultural Experiment Station

Soil Testing Laboratory
Rutgers, The State University
ASB II
57 US Highway 1 South
New Brunswick, NJ 08901-8554

Soil Test Report
Lab #: 2016-54830

Entact
Caroline Panico
60 Kellogg St.
(Honeywell SA6)
Jersey City, NJ 07305

cpanico@entact.com
(630)669-4257

Date Received: 2016-10-03
Date Reported: 2016-10-11

Sample ID: Woolston-TS-002

Results and Interpretations

Sandy Loam

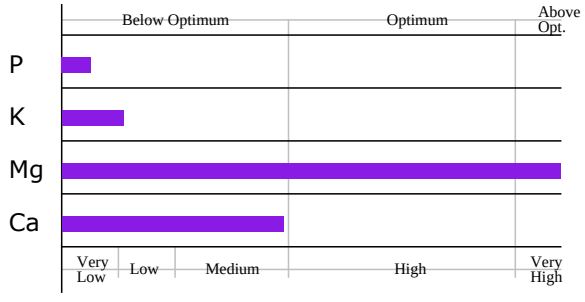
pH: 5.94 Moderately acidic; below optimum for many plants but tolerated by acid-loving species.

Lime Requirement Index: 7.72

The Lime Requirement Index (LRI) is a measure of the buffering capacity of the soil, its resistance to pH change, and is used to determine the appropriate amount of limestone, when necessary. LRI value near 8.0 indicates low buffering capacity of soil and a lower rate of limestone amendment compared to soil with high buffering capacity (LRI near 7.0).

Macronutrients (pounds per acre)

Phosphorus:	12	(Below Optimum)
Potassium:	42	(Below Optimum)
Magnesium:	520	(Above Optimum)
Calcium:	1397	(Below Optimum)



by Mehlich 3 extraction

Micronutrients (parts per million)

Zinc(Zn)	Copper(Cu)	Manganese(Mn)	Boron(B)	Iron(Fe)
1.46 (Adequate)	1.51 (Adequate)	5.28 (Adequate)	0.78 (Adequate)	101.30 (High)

Special Tests Results

Soluble Salts- Electrical conductivity= 0.15 mmho/cm

(Satisfactory)

Organic Matter by Carbon Analysis: Organic Matter=5.7%

Very High for Sandy Loam

Gravel Content- Larger than 2mm: 4.3%

Mechanical Analysis- Sand= 73% Silt=13% Clay= 14% Texture: Sandy Loam

USDA sieve analysis of sand fraction:

Very Coarse	Coarse	Medium	Fine	Very Fine
1-2mm	0.5-1mm	0.25-0.5mm	0.1-0.25mm	0.05-0.1mm
1.6%	3.0%	18.0%	60.5%	16.9%

Comments:

Find Rutgers Cooperative Extension Fact Sheets at www.njaes.rutgers.edu/pubs

Soil Program 2015
NAPT
Participating Laboratory

10/19/16 E-mail Transmittal: Response to Email -- 101716 Horizon A Analytical Results 21319

(Attachment 15: EME Soils)

Graham, Stephanie

From: Clifford, Joseph T <Joseph.Clifford@amecfw.com>
Sent: Friday, December 09, 2016 10:52 AM
To: Graham, Stephanie
Cc: Ambrose, David M
Subject: FW: Response to Email -- 101716 Horizon A Analytical Results 21319
Attachments: EME Topsoil Organic Matter Cert.png

From: Clifford, Joseph T
Sent: Wednesday, October 19, 2016 6:29 PM
To: Kim Bell Hosea (k.bell@cea-enviro.com) <k.bell@cea-enviro.com>
Cc: Hague, William <william.hague@honeywell.com>; 'Egnaczyk, Steve' <segnaczyk@louisberger.com>; aalcorn@tpmlaw.com; Jeremy.Karpatkin@aporter.com
Subject: Response to Email -- 101716 Horizon A Analytical Results 21319

Kim,

EME has confirmed that they needed to increase the % organic matter to meet our site specifications for Horizon A Topsoil. They confirmed that the organic additive used is Sphagnum Peat Moss.
A copy of the supplier's letter certifying that the Peat Moss is also a virgin source material is attached. The analytical and geotechnical data provided in our new Horizon A source data package was run on the actual blended soils with this Peat Moss added.

Per agreed upon protocols going back to the SA7 project implementation, Honeywell provides the full analytical data packages to all parties to demonstrate acceptability of each new source prior to beginning import. Subsequent sample data collected per the frequency identified in the specifications is provided at the end of the project in the final closeout documentation. Honeywell is continuing that process for SA6.

Please let us know if you have any further questions.

Thank you. -Joe

From: Kim Hosea [mailto:k.hosea@cea-enviro.com]
Sent: Monday, October 17, 2016 11:05 AM
To: Clifford, Joseph T <Joseph.Clifford@amecfw.com>
Cc: Hague, William [william.hague@honeywell.com] <william.hague@honeywell.com>; Egnaczyk, Steve <segnaczyk@louisberger.com>; Alicia Clark Alcorn <aalcorn@tpmlaw.com>
Subject: 101716 Horizon A Analytical Results 21319

Good afternoon Joe –

We have reviewed the New Source of Horizon A Topsoil data for EME and have one question. During the Technical All-Parties pre-call on October 4, you stated that the EME soil was mostly acceptable but might need some amendments with on-site material to meet the required % of organic matter as specified in the 100% design and DC 2014-09-17. The

clean fill certification states that the material has not been comingled with other materials. Please confirm that amending the material was not required or, provide additional information regarding the use of an amendment.

Also, please provide confirmation data for the Horizon A, B, and C soils used on site to date and going forward. Our records contain one set of data each for Horizon C and B dated October 26, 2015, and September 15, 2015, respectively. The data is to be collected on an on-going basis from every 5,000 cubic yards of material brought on-site.

Thank you –

Kim

Kim Bell Hosea
Senior Vice-President
Carpenter Environmental Associates, Inc.
610 County Route 1, Unit 2F
Pine Island, New York 10969

k.hosea@cea-enviro.com
(O) 845-781-4844 ext. 309
(F) 845-782-5591
(M) 862-812-3397

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PARTAC PEAT CORPORATION
ONE KELSEY PARK, GREAT MEADOWS, NEW JERSEY 07838
800-247-BEAM (2326) • 908-637-4191 • FAX 908-637-8421
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Kelsey Park Sod Farms

PARTAC
GOLF COURSE
TOP-DRESSINGS
www.partac.com

October 18, 2016

EME, Inc.
849 Route 539
New Egypt, NJ 08533

Att: Keith Prince

Dear Keith:

This is to certify that our **SPHAGNUM PEAT MOSS** comes from a virgin, non-contaminated source in Maine.

Sincerely yours,

PARTAC PEAT CORPORATION

Jim

James C. Kelsey, President

Your "One-Stop Source" for America's Sports Surfaces & Supplies!

APPENDIX T

PART 14 OF 22

PROGRESS REPORTS

2017 MONTHLY REPORTS

SA-6 AND SA-7 COMBINED PROGRESS REPORT

JANUARY 18, 2017

Honeywell

STUDY AREAS 6 AND 7 COMBINED
MONTHLY PROGRESS/HIGHLIGHTS
REPORT NO. 2016-12
Project SA-6 & 7 Remediation

December 2016

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
12/07/16	ARCADIS Phase III Proposed Sediment Sampling Location Map SA-7 (upload to Louis Berger SharePoint Site)	Honorable Robert G. Torricelli Office of the Special Master
12/13/16	Study Area 6 (SA-6) South Cr Remedial Action Report SA-6 South Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
12/13/16	Special Master All Parties Conference Call	n/a
12/14/16	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
12/22/16	Study Area 6 (SA-6) South Cr Remedial Action Report SA-6 South Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master

SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending				
	12/4/16	12/11/16	12/18/16	12/25/16	1/1/17
Construction Management (AMEC)	7	9	10	8	2
Engineering (AMEC)	1	1	1	1	0
Air Monitoring (Emilcott)	1	1	1	0	0
Security (Securitas)	3	3	3	3	3
Entact/Subcontractors	20	18	10	8	0
Arecon/US Ecology Subcontractors	0	0	0	0	0
Maser	1	1	0	0	0

Team	Week Ending				
	12/4/16	12/11/16	12/18/16	12/25/16	1/1/17
BSTI	0	0	0	1	
GWTT	1	0	0	0	0
Evoqua	1	1	1	1	1
B&B Drilling	1	1	0	0	
Cornerstone	2	0	0	1	0
TOTAL STAFF	**38**	**35**	**26**	**23**	**6**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued demobilization of Entact crew to include equipment and miscellaneous materials.
- Completed perimeter air monitoring activities using hand-held portable devices for nuisance dust. Intrusive Site activities have been completed and no additional perimeter air monitoring will be required.
- Continued long-term groundwater monitoring activities at SA-6 South in accordance with the correspondence submitted by Honeywell to All Parties, dated November 7, 2016.
- On December 5, 2016, collected initial post-injection soil samples for total and hexavalent chromium and sulfide from the TA-10-1 area in accordance with the Amec Foster Wheeler memo titled, “Proposed In-Situ-Treatment Event for Remaining Hexavalent Chromium Impacted Soils – Treatment Area 10-1”, dated July 11, 2016.
- Conducted fourth quarterly regional LTMP groundwater level measurement round.
- Conducted semi-annual groundwater sampling of selected monitoring well for the S-3 Mass Removal Program.
- Resampled monitoring well 124-MW-106T.

B. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned downstream process tanks T-300 (neutralization tank) and T-400 (effluent tank).
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on December 15, 2016.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending				
	12/4/16	12/11/16	12/18/16	12/25/18	1/1/17
Avg. Gallons Treated & Discharged (per day)	78,945	77,997	78,530	79,079	76,367
Average Flow (gpm) for Operating Period	57	55	56	57	56
Avg. Hours of Plant Operation	23	24	23	23	23
GWTP Influent Tanks (gal.)	4,668	4,749	4,181	3,741	3,621

C. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Completed placement of geotextile and 6 inches of #57 Stone in the SA-6 North in the area just north of the Open Space Area and south of the JCMUA property. The restoration serves as both final restoration of disturbed areas and also as historic fill cap.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/FCI	Roll-off	Sarnia, Ontario Canada	Stablex	WWTP Filer Cake	0	0	0
Montecalvo	Tri-axle	Keasby, NJ	Bay shore Recycling	Non Haz Cr	1	18	18

2. EXCAVATION & BACKFILL PROGRESS

Description	Areas
Backfill in Progress	#57 Stone Historic Fill Cap – SA6 N Restoration Area - Completed

3. BACKFILL MATERIALS USED (TONS)

Source	Week Ending				
	12/4/16	12/11/16	12/18/16	12/25/16	1/1/17
Natures Choice Topsoil	0	151	52	0	0
EME Topsoil	0	0	0	0	0
Tilcon Mount Hope I-8	0	180	0	0	0

D. SURCHARGE OPERATIONS

- All surcharging activities are completed.

E. SHEET PILE OPERATIONS

- All sheet pile operations are complete.

F. CAPPING OPERATIONS

- Completed minor erosion repairs to the SA-6 South Open Space Area as part of punch list closeout.
- Completed hydro-seeding of the SA-6 North Open Space Area and placement of erosion control matting.
- Stockpiled a small quantity of Horizon A & C soils within SA-7 for potential future maintenance of the SA-6 South and SA-6 North Open Space Areas.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012 Extension Obtained 5/17/2015	Renewal Not Needed	10/04/2019	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013 Extension Obtained 3/16/2015	Not Specified, Est. 3/31/2016	6/30/2016*	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 08/04/2016	Not Specified	Not Specified	9/12/16
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDEP Individual Upland Waterfront Development Permit and Water Quality Certificate for Bulkhead Expansion Project	SA-7	Issued: 5/10/2016	TBD	5/9/2021	-
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Obtained 12/24/15	12/03/16	Pending
USACE Nationwide Permit No. 27 for Droyers Cove Beneficial Environmental Project	Bayfront	Issued: 4/15/2016	TBD	3/18/2017	5/4/16
NJDEP Coastal General Permit 24 for the living shoreline	Bayfront	Issued: 10/15/2015	TBD	10/14/2020	5/4/16

** Amec Foster Wheeler reviewed the expiration of this TWA with NJDEP, Division of Water Quality and no extension is necessary.*

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Continue groundwater monitoring activities at SA-6 South and initiate post construction long term monitoring activities at both SA-6 North and South.

ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill (Progression Chart)
4. Dewatering Operations Update *(not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data *(not included in this reporting period)*
7. Perimeter Pools Update
8. Groundwater Quality Data *(sampled late in December: will be provided in next quarterly, reporting period)*
9. Surcharge Monitoring Update *(not included in this reporting period)*
10. Sheet Pile Update *(not included in this reporting period)*
11. Capping Update (SA-6 Cap Subgrade Progress Maps)
12. Weekly SWPPP Reports
13. GWTP Update
14. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**Fri 1/4/08**
2	**Remedial Action Work Plan**	**33 days**	**Fri 1/4/08**
5	**Remedial Action Design**	**1522 days**	**Wed 2/20/08**
18	**JCIA/JCDPW Relocation**	**1780 days**	**Mon 8/11/08**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09
22	Relocation Contractor Procurement	392 days	Thu 4/15/10
23	JCIA and JCDPW Relocation	949 days	Mon 10/17/11
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11
24a	Demolition of JCIA Structures	146 days	Mon 9/1/14
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**
26	**Remedial Action Work Plan**	**187 days**	**Fri 7/11/08**
32	**Remedial Action Design**	**1161 days**	**Mon 2/2/09**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**
58	New GWTP Construction Completion	502 days	Mon 3/5/12
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11
60	**SA-6 North/South Field Implementation**	**894 days**	**Fri 3/1/13**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	Mon 6/17/13
60b	SA-6S (Site 163) In-Situ Treatment	555 days	Fri 11/15/13
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**
61a	Mobilization	87 days	Fri 3/1/13
62	**Surcharge Install/Instrumentation**	**706 days**	**Mon 6/17/13**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	Mon 6/17/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	Tue 4/8/14
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Tue 6/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	Mon 6/16/14
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	Mon 10/6/14
63	**Barrier Wall Install**	**569 days**	**Mon 8/12/13**
63a	SA 6N Installation of Barrier Wall	159 days	Mon 3/9/15
63b	SA 6S Installation of Barrier Wall	210 days	Mon 8/12/13
64	**Excavation**	**507 days**	**Tue 10/22/13**
64a	SA 6N Excavation	218 days	Mon 12/1/14
64b	SA 6S Excavation	295 days	Tue 10/22/13
65	**Backfill**	**558 days**	**Mon 11/11/13**
65a	SA 6N Backfill	283 days	Mon 12/1/14
65b	SA 6S Backfill	384 days	Mon 11/11/13
66	**Capping and Cover Soil Placement**	**426 days**	**Mon 12/1/14**
66a	SA 6N Capping and Cover Soil Placement	83 days	Thu 3/24/16
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14
67	**Restoration**	**234 days**	**Tue 9/1/15**
67a	Restoration	234 days	Tue 9/1/15
68	**Demobilization**	**22 days**	**Fri 7/1/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead	1 day	Fri 3/1/13
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line	1 day	Fri 3/1/13
69	**SA-6 North Project Closeout**	**311 days**	**Thu 10/1/15**
75	**SA-6 South Project Closeout**	**311 days**	**Thu 10/1/15**
81	**SA-6 North Long Term Protections**	**1830 days**	**Wed 10/1/08**
92	**SA-6 South Long Term Protections**	**2569 days**	**Thu 6/5/08**

Project: SA-6 Remediation Schedule
Revision 4
Date: 8/2/2016

Task | Milestone ◆ | Summary | Critical

Note: Final restoration activities and demobilization completed in December 2016.

Attachment 2: Site Photographs

Site Photograph 1: Placement of temporary barriers along eastern portion of the SA-6 South Open Space Area.

Site Photograph 2: Placing Erosion control matting on the south slope of the SA-6 North Open Space Area.

Site Photograph 3: View of north slope at SA-6 South Open Space Area showing completed erosion control.

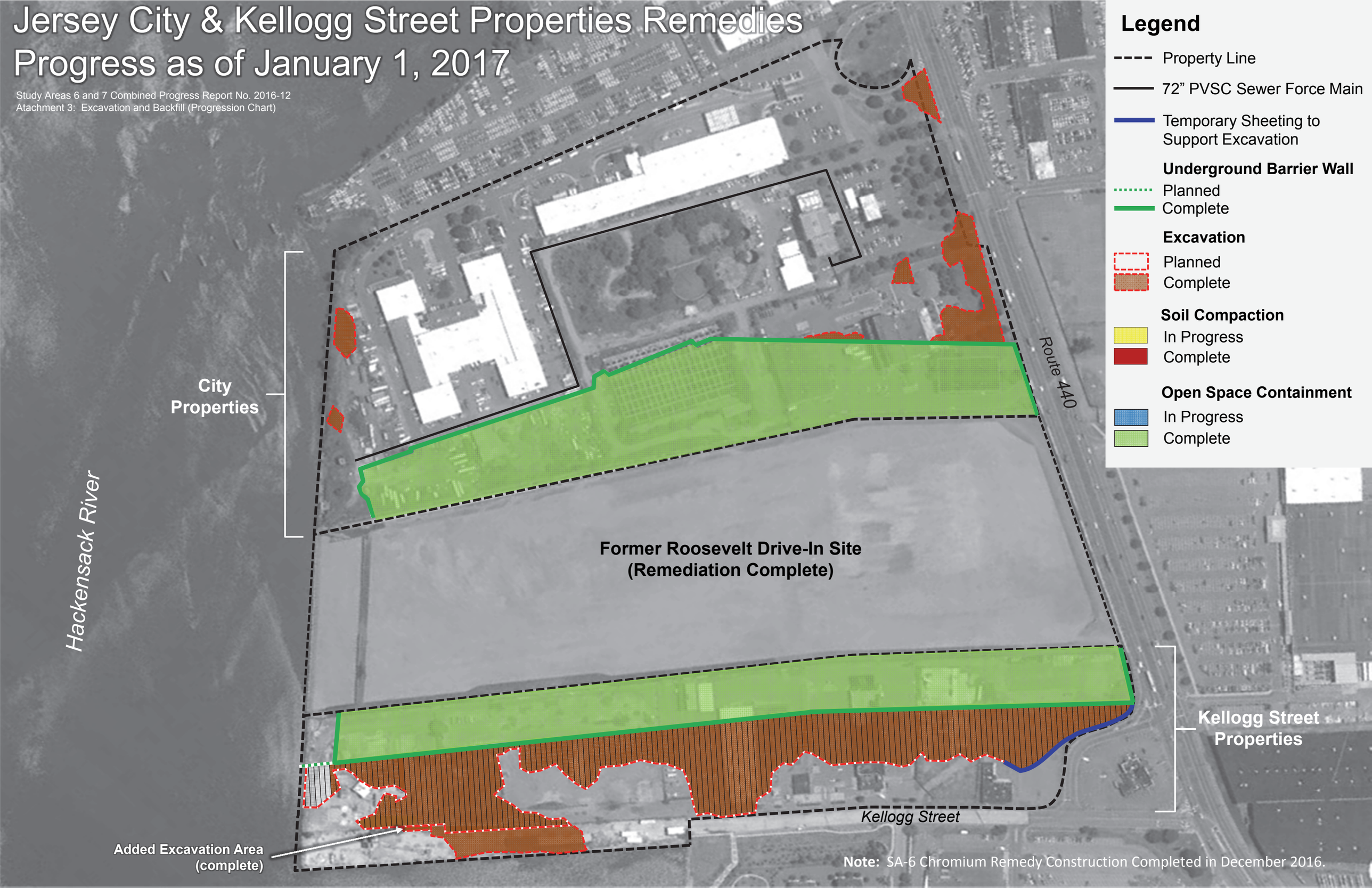
p

Site Photograph 4: View of south slope SA-6 South Open Space Area.

Attachment 3: Excavation and Backfill Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of January 1, 2017

Study Areas 6 and 7 Combined Progress Report No. 2016-12
Atachment 3: Excavation and Backfill (Progression Chart)



Note: SA-6 Chromium Remedy Construction Completed in December 2016.

Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

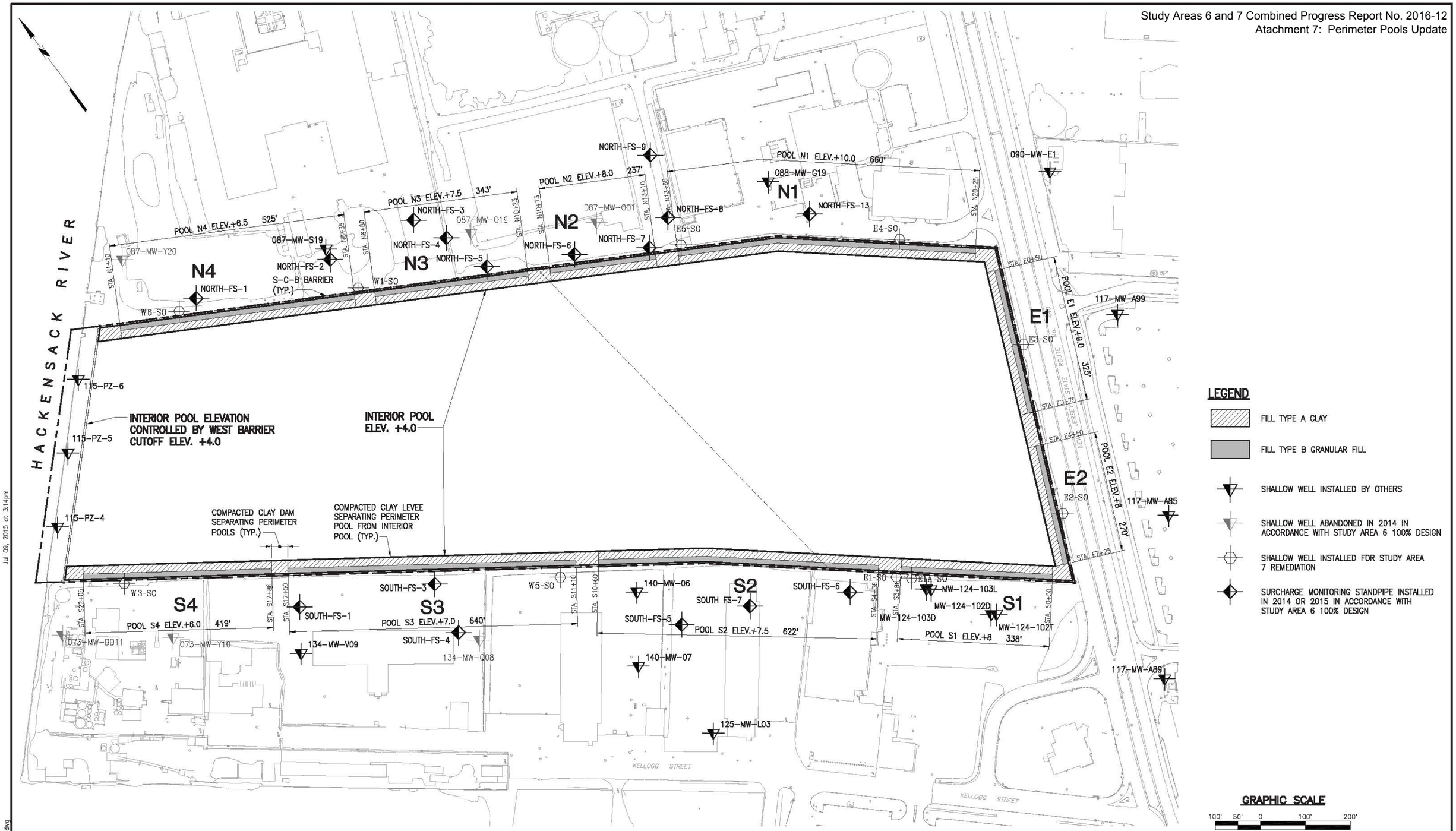
DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
07/07/16	7:30	12:00	4:30	43,596.37	43,642.93	46,560	43,642,480	PVSC Compliance Sample Collected
07/15/16	10:00	14:00	4:00	43,642.93	43,692.98	50,050	43,692,530	
07/26/16	9:00	14:00	5:00	43,692.98	43,794.27	101,290	43,793,820	
07/27/16	7:00	15:00	8:00	43,794.27	43,826.36	32,090	43,825,910	
07/28/16	9:00	15:00	6:00	43,826.36	43,860.98	34,620	43,860,530	
08/01/16	9:00	15:00	6:00	43,860.98	43,896.38	35,400	43,895,930	PVSC Compliance Sample Collected
08/11/16	9:00	16:00	7:00	43,896.38	43,958.93	62,550	43,958,480	
08/12/16	9:30	13:45	4:15	43,958.93	43,998.63	39,700	43,998,180	
08/19/16	8:00	13:30	5:30	43,998.63	44,062.58	63,950	44,062,130	
09/08/16	7:00	13:00	6:00	44,062.58	44,120.80	58,220	44,120,350	PVSC Compliance Sample Collected
10/05/16	8:00	11:00	3:00	44,120.80	44,158.46	37,660	44,158	PVSC Compliance Sample Collected
11/01/16	8:00	10:00	2:00	44,158.46	44,204.91	46,450	44,205	Final reading; system disassembled 11/1/16

Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

(not included in this reporting period)

Attachment 7: Perimeter Pools Update



IN PROGRESS

06-10-2015

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP–1

Jul 09, 2015 at 3:14pm

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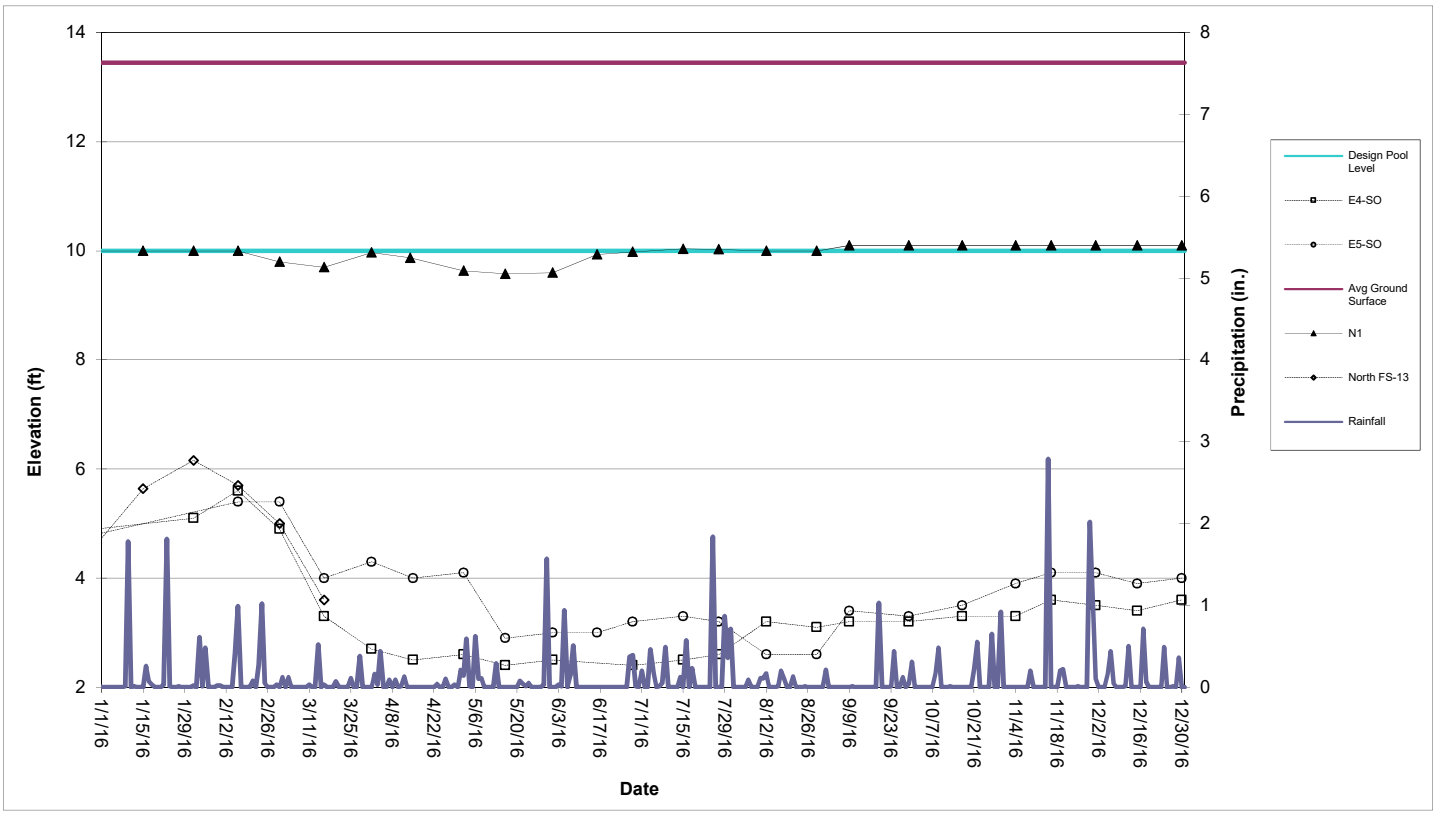
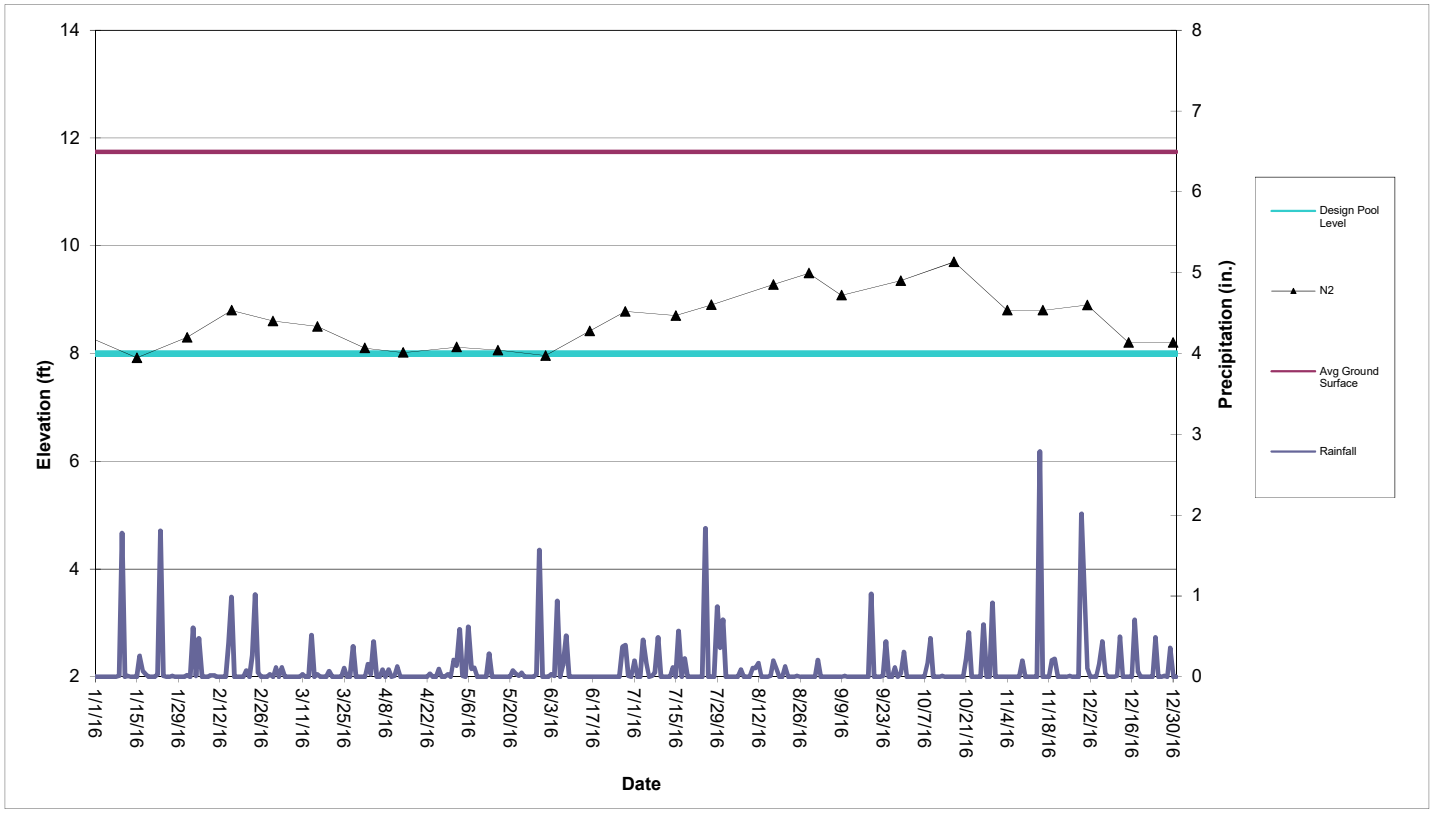
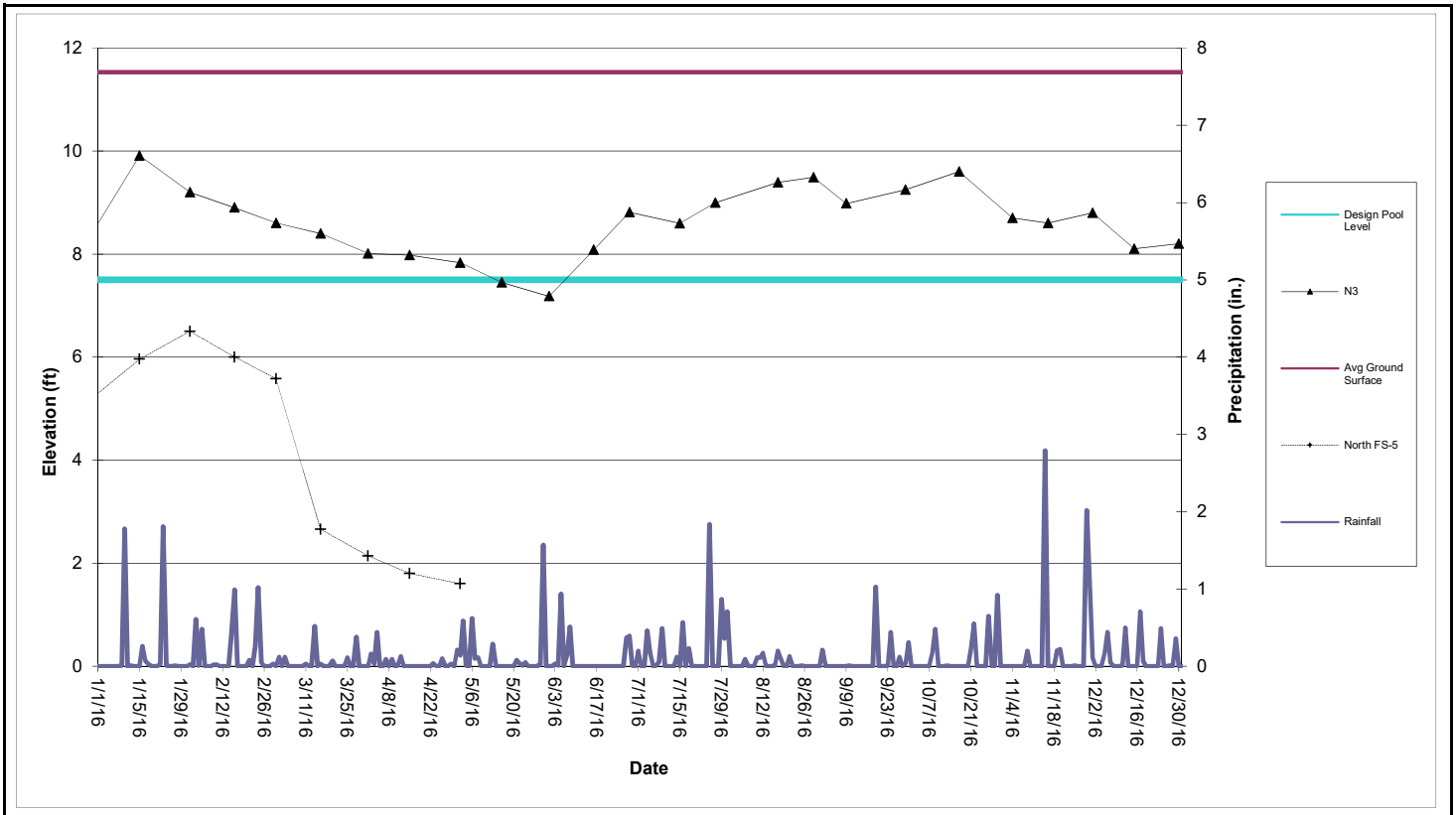
bboscaino



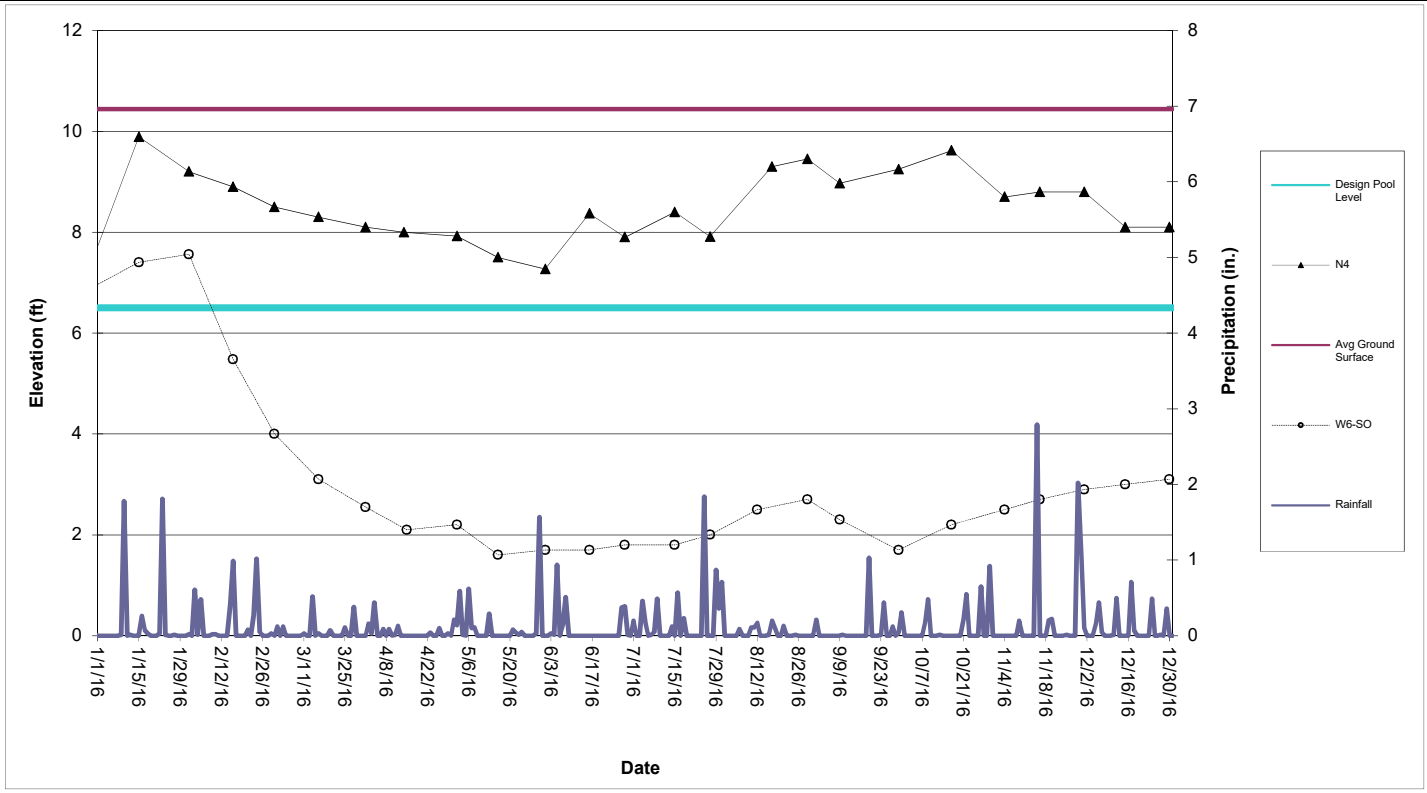
Perimeter Pool N1 (Sta. N13+60 to N20+25)



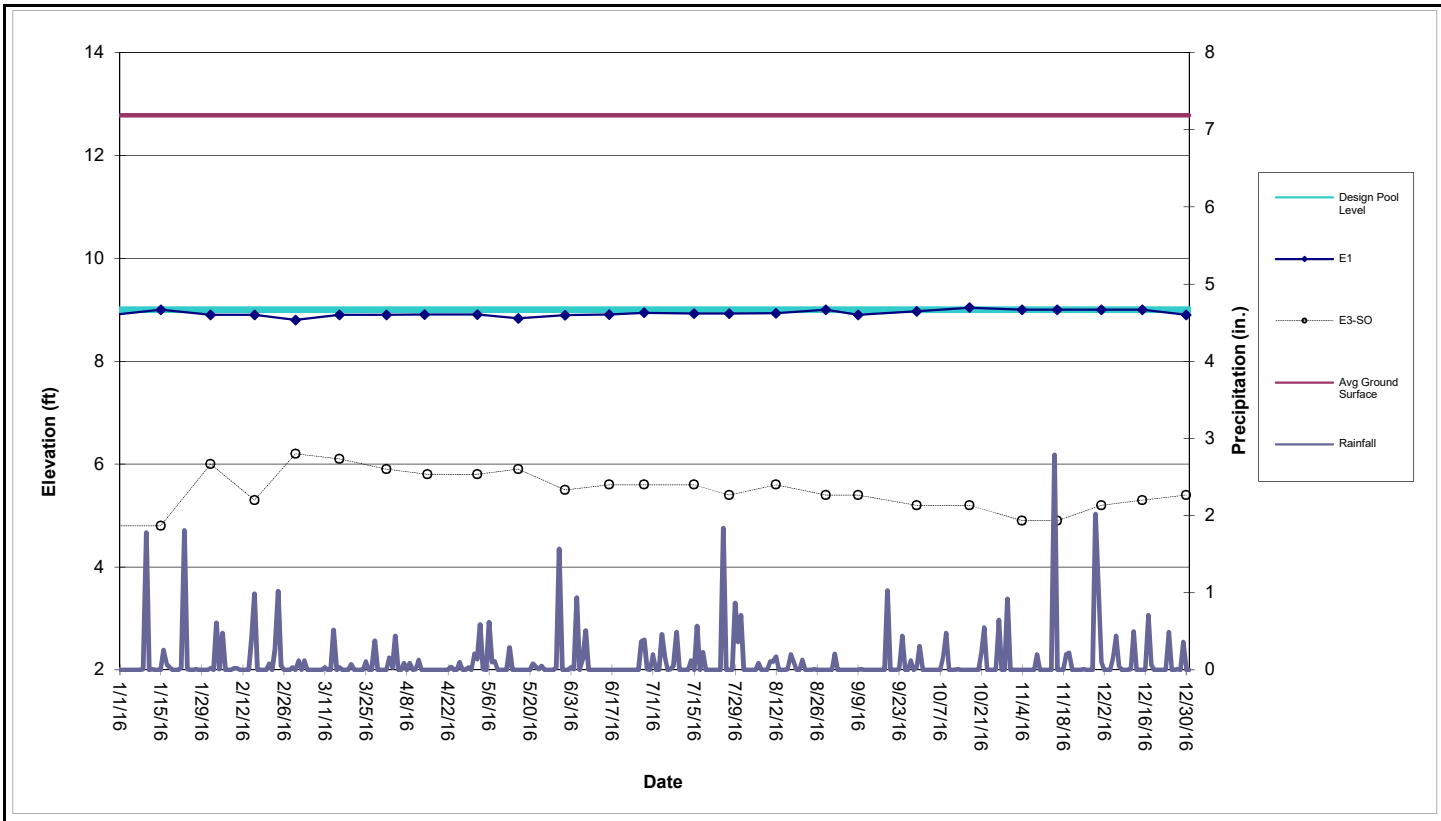
Perimeter Pool N2 (Sta. N10+73 to N13+10)



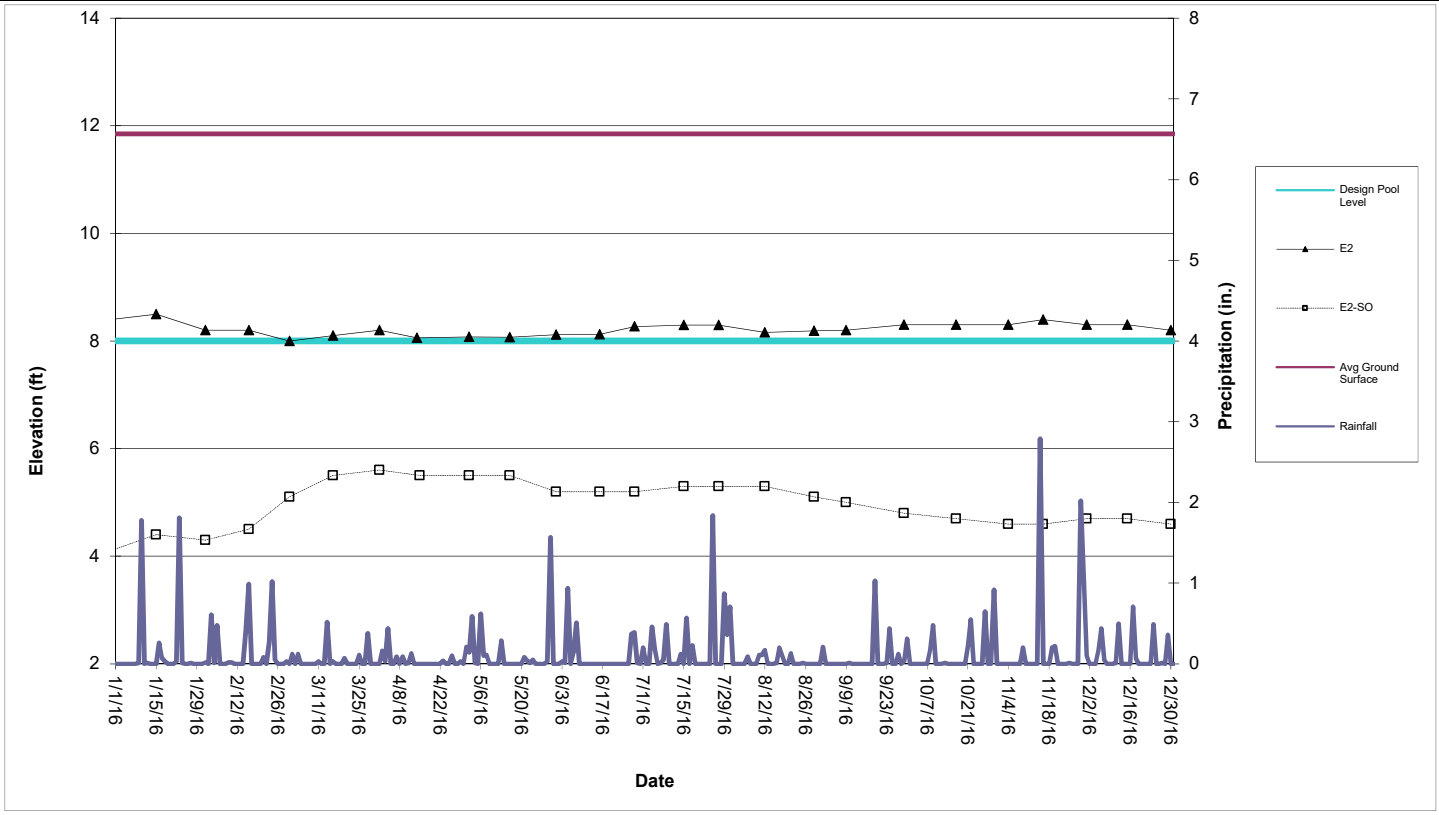
Perimeter Pool N3 (Sta. N6+80 to N10+23)



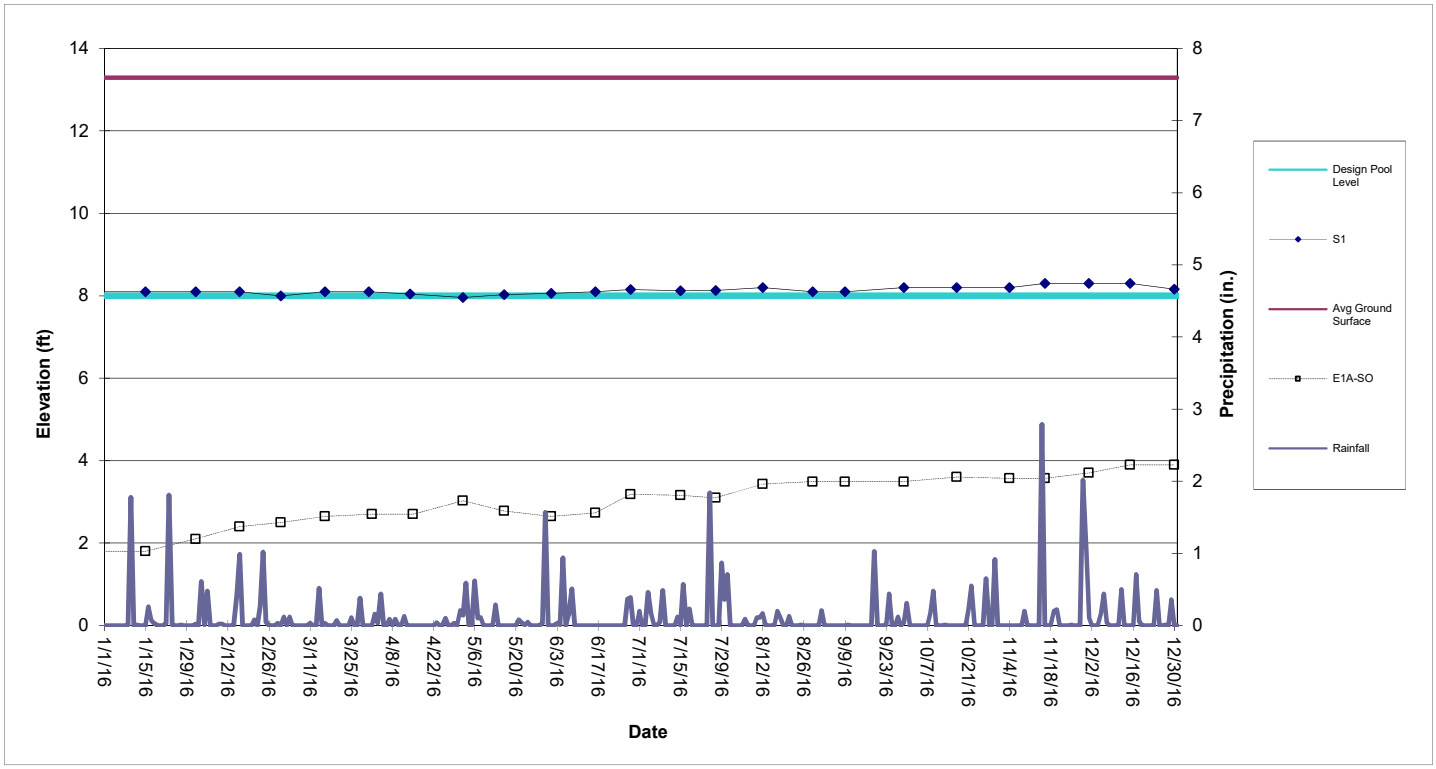
Perimeter Pool N4 (Sta. N6+80 to N10+23)



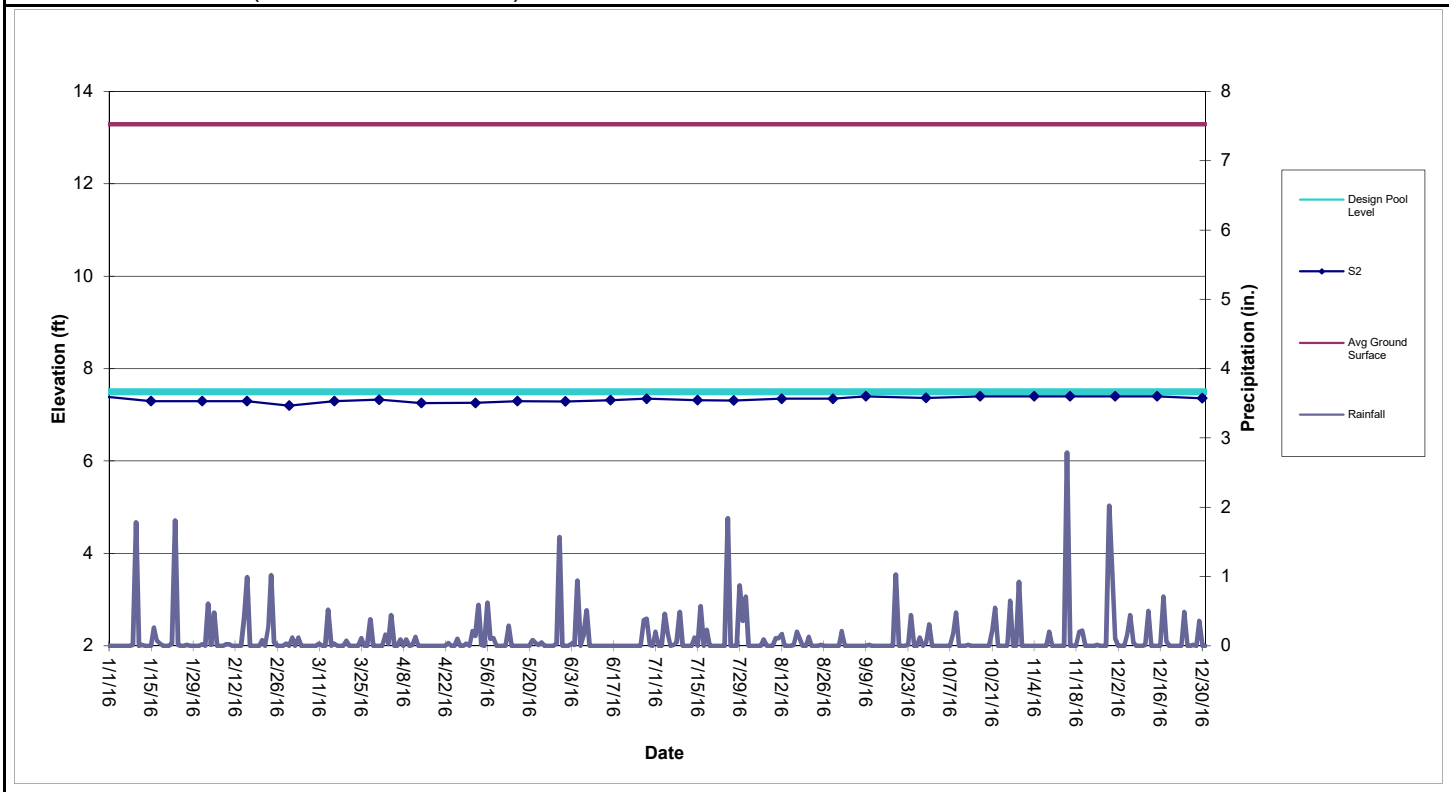
Perimeter Pool E1 (Sta. E0+50 to E3+75)



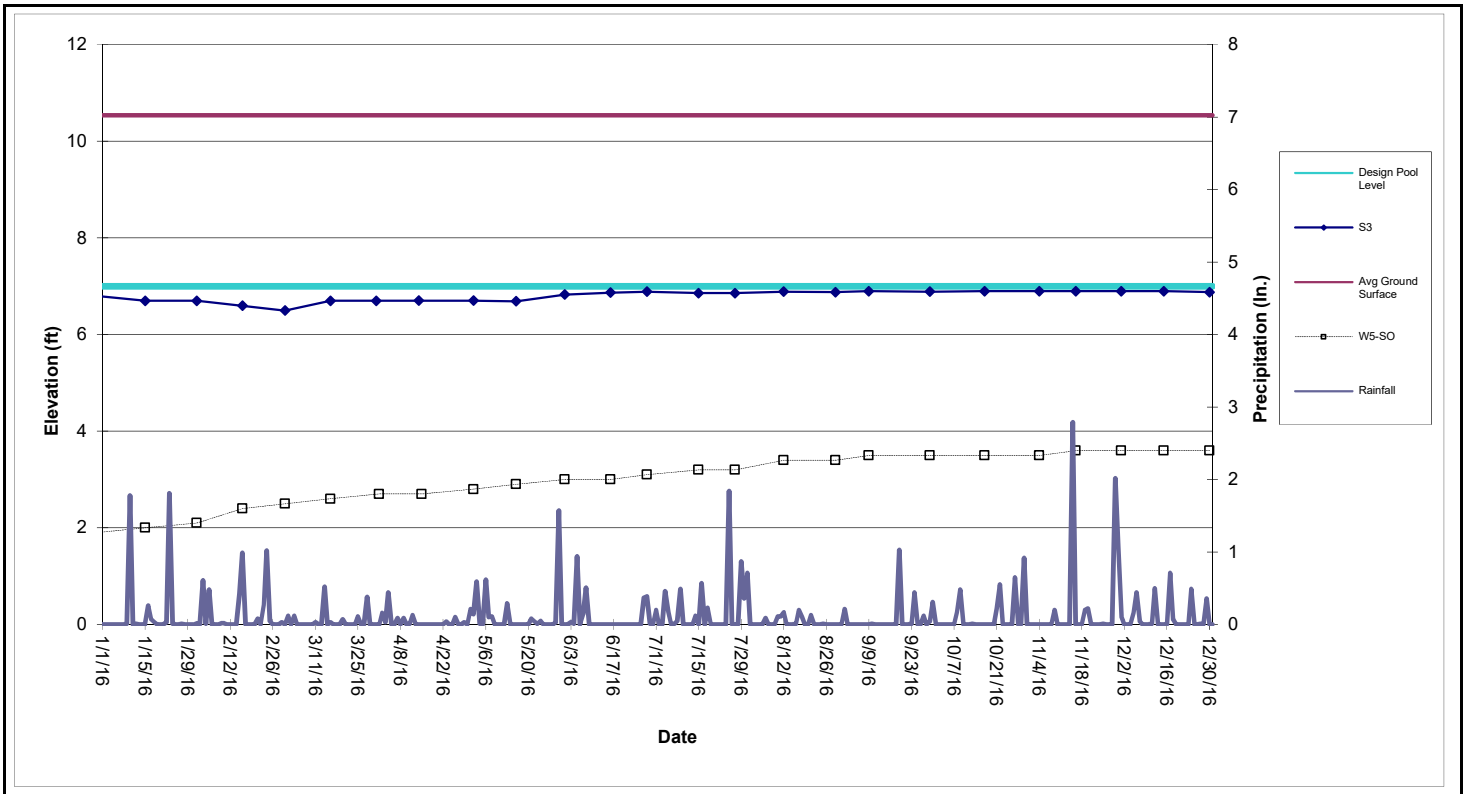
Perimeter Pool E2 (Sta. E4+50 to E7+25)



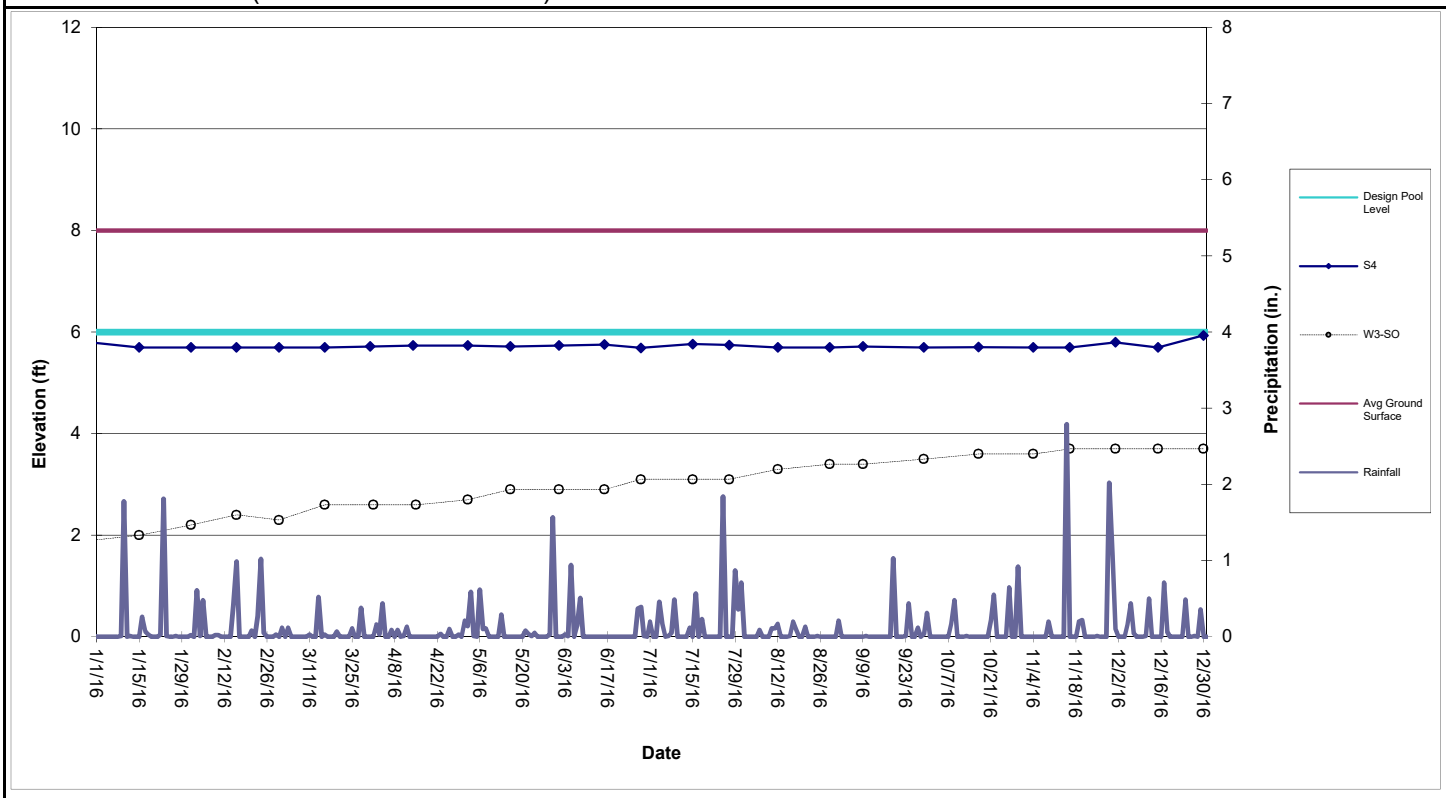
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North	
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-5	FS-13
Date											
1/15/2016	1.8	4.4	4.8			7.9	2.0	2.0	7.4	6.0	5.6
2/1/2016	2.1	4.3	6.0	5.1		7.7	2.2	2.1	7.6	6.5	6.2
2/16/2016	2.4	4.5	5.3	5.6	5.4	6.7	2.4	2.4	5.5	6.0	5.7
3/1/2016	2.5	5.1	6.2	4.9	5.4	5.1	2.3	2.5	4.0	5.6	5.0
3/16/2016	2.7	5.5	6.1	3.3	4.0	4.2	2.6	2.6	3.1	2.7	3.6
4/1/2016	2.7	5.6	5.9	2.7	4.3	3.5	2.6	2.7	2.6	2.1	
4/15/2016	2.7	5.5	5.8	2.5	4.0	2.9	2.6	2.7	2.1	1.8	
5/2/2016	3.0	5.5	5.8	2.6	4.1		2.7	2.8	2.2	1.6	
5/16/2016	2.8	5.5	5.9	2.4	2.9	2.4	2.9	2.9	1.6		
6/1/2016	2.7	5.2	5.5	2.5	3.0	2.5	2.9	3.0	1.7		
6/16/2016	2.7	5.2	5.6		3.0	2.5	2.9	3.0	1.7		
6/28/2016	3.2	5.2	5.6	2.4	3.2	2.3	3.1	3.1	1.8		
7/15/2016	3.2	5.3	5.6	2.5	3.3	2.4	3.1	3.2	1.8		
7/27/2016	3.1	5.3	5.4	2.6	3.2	2.3	3.1	3.2	2.0		
8/12/2016	3.4	5.3	5.6	3.2	2.6	2.8	3.3	3.4	2.5		
8/29/2016	3.5	5.1	5.4	3.1	2.6	2.8	3.4	3.4	2.7		
9/9/2016	3.5	5.0	5.4	3.2	3.4	2.6	3.4	3.5	2.3		
9/29/2016	3.5	4.8	5.2	3.2	3.3	3.1	3.5	3.5	1.7		
10/17/2016	3.6	4.7	5.2	3.3	3.5	2.3	3.6	3.5	2.2		
11/4/2016	3.6	4.6	4.9	3.3	3.9	2.5	3.6	3.5	2.5		
11/16/2016	3.6	4.6	4.9	3.6	4.1	2.7	3.7	3.6	2.7		
12/1/2016	3.7	4.7	5.2	3.5	4.1	2.6	3.7	3.6	2.9		
12/15/2016	3.9	4.7	5.3	3.4	3.9	2.7	3.7	3.6	3.0		
12/30/2016	3.9	4.6	5.4	3.6	4.0	2.8	3.7	3.6	3.1		

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4, FS-5, FS-6, FS-7, FS-13
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09,

Attachment 8: Groundwater Quality Data

(not included in this reporting period)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

(not included in this reporting period)

Attachment 11: Capping Update (SA-6 Cap Subgrade Progress Maps)

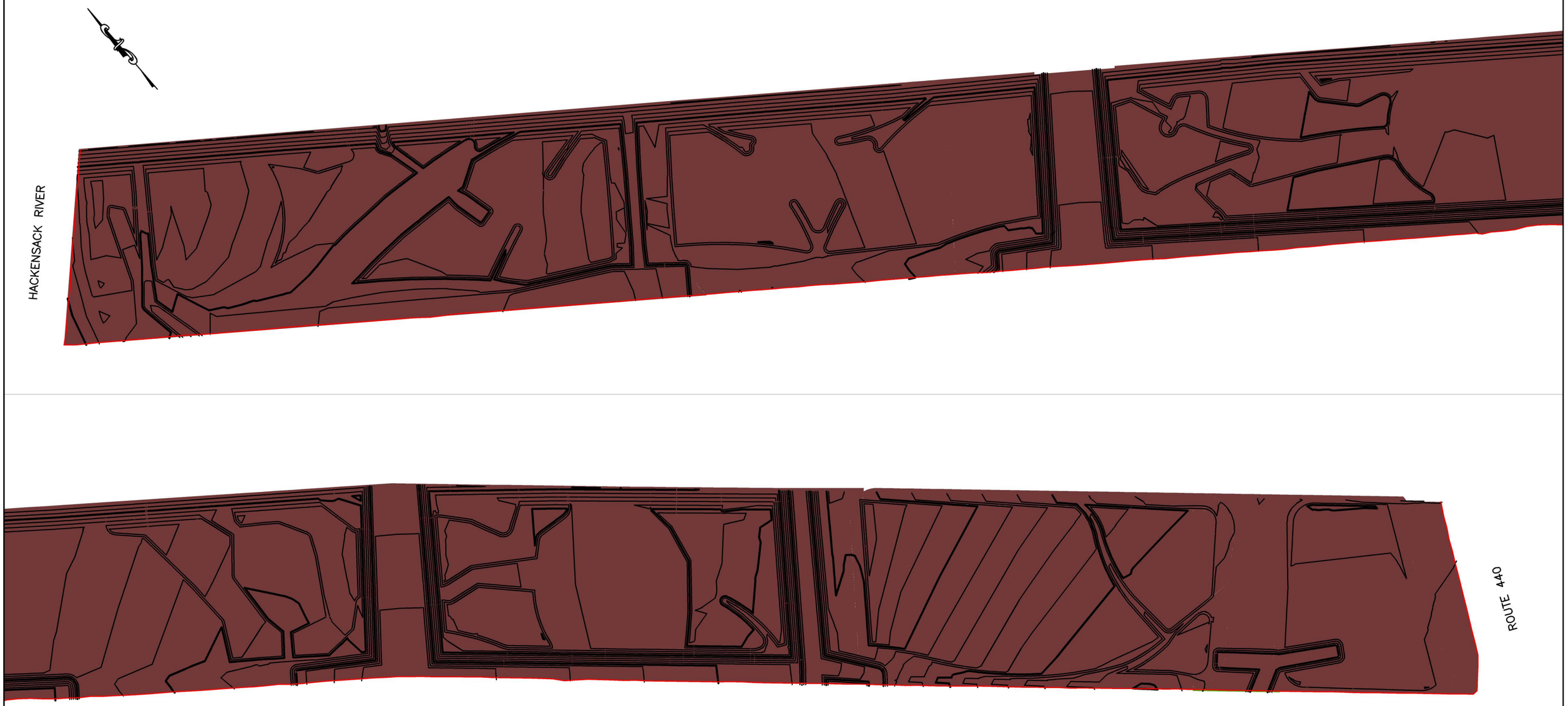
LEGEND

- HORIZON C SOIL PLACED
- STRUCTURAL FILL PLACED
- SCB WALL
- HB WALL
- TOPSOIL PLACED

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 NORTH CAP COVER SOILS PROGRESS MAP
12/05/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



LEGEND

TOPSOIL PLACED

SCB WALL

HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP COVER SOILS PROGRESS MAP
11/04/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: December 2, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other_____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment			X	
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		2
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		3
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 12/05/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, December 02, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710
PERMIT CLOSED

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJI f

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen material has become detached from the perimeter fence along Kellogg Street.
2	EEPSQU02YB	Erosion control measures (berms and silt fence) are insufficient around the Novartis Stockpile Area on Study Area 7.
3	IA2Q4A1AL8	Silt fence has become detached from the perimeter fence along Rt. 440 on Study Area 7.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 12/05/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach the windscreen fabric to the perimeter fence where it has blown loose as required.	12/09/16 for RD
2	Install additional silt fence where it is missing around the Novartis Stockpile Area.	↓
3	Reattach the silt fence to the perimeter chainlink fencing as required.	↓

Construction Manager: _____ **Date:** 12/09/16

Attachment 13: GWTP Update (525/575 Route 440 GWTP PVSC Discharge Monitoring Report - submitted November 2016)

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

December 14, 2016

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the November 2016 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
11	01	16	11	30	16
\	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	77,528	84,780 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	1.11	1.21	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.2	<5.2	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1526	0.1526	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

December 13, 2016

Date

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North
ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)
FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305
NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
11	01	16	11	30	16
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,325,834 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 78,125,668

DATE	BOD (mg/l)	TSS (mg/l)
11/15/2016	<20	5.1

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J Morris	John J. Morris	(973) 455-4003
		DATE December 13, 2016

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG Honeywell Jersey City GWTP; SA-6 North (Permit #20630025) MONTH: November, 2016

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits		5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
11/1/2016	Angel Trujillo	75799834	75875934	76,100	0.0761	7.60	1.710									1.09
11/2/2016	Angel Trujillo	75875934	75952556	76,622	0.076622	7.11	1.710									1.09
11/3/2016	Angel Trujillo	75952556	76031228	78,672	0.078672	7.25	1.710									1.12
11/4/2016	Angel Trujillo	76031228	76108560	77,332	0.077332	7.09	1.710									1.10
11/5/2016	Angel Trujillo	76108560	76193340	84,780	0.08478	7.21	1.710									1.21
11/6/2016	Angel Trujillo	76193340	76269453	76,113	0.076113	7.10	1.710									1.09
11/7/2016	Angel Trujillo	76269453	76345566	76,113	0.076113	7.21	1.710									1.09
11/8/2016	Angel Trujillo	76345566	76423004	77,438	0.077438	7.35	1.710									1.10
11/9/2016	Angel Trujillo	76423004	76500418	77,414	0.077414	7.27	1.710									1.10
11/10/2016	Angel Trujillo	76500418	76576747	76,329	0.076329	7.22	1.710									1.09
11/11/2016	Angel Trujillo	76576747	76654950	78,203	0.078203	7.36	1.710									1.12
11/12/2016	Angel Trujillo	76654950	76735664	80,714	0.080714	7.43	1.710									1.15
11/13/2016	Angel Trujillo	76735664	76811190	75,526	0.075526	7.20	1.710									1.08
11/14/2016	Angel Trujillo	76811190	76886716	75,526	0.075526	7.13	1.710									1.08
11/15/2016	Angel Trujillo	76886716	76970294	83,578	0.083578	7.10	1.710	<5.2	<20		<0.010	<0.030	<0.010	<0.0002	<0.020	1.19
11/16/2016	Angel Trujillo	76970294	77047122	76,828	0.076828	7.15	1.710									1.10
11/17/2016	Angel Trujillo	77047122	77126406	79,284	0.079284	7.10	1.710									1.13
11/18/2016	Angel Trujillo	77126406	77204946	78,540	0.07854	7.10	1.710									1.12
11/19/2016	Angel Trujillo	77204946	77284896	79,950	0.07995	7.11	1.710									1.14
11/20/2016	Angel Trujillo	77284896	77361994	77,098	0.077098	6.90	1.710									1.10
11/21/2016	Angel Trujillo	77361994	77439092	77,098	0.077098	6.88	1.710									1.10
11/22/2016	Angel Trujillo	77439092	77520547	81,455	0.081455	7.15	1.710									1.16
11/23/2016	Angel Trujillo	77520547	77594508	73,961	0.073961	7.10	1.710									1.05
11/24/2016	Angel Trujillo	77594508	77656568	62,060	0.06206	6.80	1.710									0.89
11/25/2016	Angel Trujillo	77656568	77718627	62,060	0.06206	7.14	1.710									0.89
11/26/2016	Angel Trujillo	77718627	77801329	82,702	0.082702	6.90	1.710									1.18
11/27/2016	Angel Trujillo	77801329	77884031	82,702	0.0827	6.89	1.710									1.18
11/28/2016	Angel Trujillo	77884031	77963600	79,569	0.079569	7.08	1.710									1.13
11/29/2016	Angel Trujillo	77963600	78040924	77,324	0.077324	7.07	1.710									1.10
11/30/2016	Angel Trujillo	78040924	78125668	84,744	0.084744	7.12	1.710									1.21
TOTAL				2,325,834	2.325834			<5.2	<20		<0.010	<0.030	<0.010	<0.0002	<0.020	
			High:	84,780											High:	1.21
			Average:	77,528											Average:	1.11

WW

JC31794

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell — Chain Of Custody / Analysis Request

AESI Ref: 42689.43440
COC#: 087 WW: 111516

Privileged & Confidential | Site Name: Hudson County | Phase: CS | Lab Proj # (SDG):

Sampling Co.: MACTEC | EDD To: | Location of Site: Jersey City, NJ | Sampling Program: 087: JCIA | Lab ID: ACTD

Client Contact: (name, co., address) | Sampler: Frank Schroyer | Site ID: HudsonCo

Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com | PO # | Lab Job #: HWINJM32815

Honeywell International | Analysis Turnaround Time (TAT): 3 | Authorized User: Honeywell

115 Tabor Road, Morris Plains, NJ 07950 | Consultant: CH2M

Preliminary Data To | Text & Excel File Deliv: Excel & Text File Deliv

Sample Receipt acknowledgement To

Hard Copy To: Helen Fahy (Honeywell) | Full Report TAT: 28 Days

Invoice To: Helen Fahy (Honeywell)

Copyright AESI: Version 8.0 Unauthorized use strictly prohibited.

	Sample Identification: Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
											Units		Preservative	3	3	3	1	2	2	0	0	2						
1	087-WW			087-WWE-111516-A	11/15/2016	14:30	WW	WATER	REG	5	comp	N	X	X	X	X			X	X		1					A25
2	087-WW			087-WWE-111516-B	11/15/2016	14:35	WW	WATER	REG	5	grab	N					X	X				2					C59
3	087-WW			087-WWI-111516	11/15/2016	14:45	WW	WATER	REG	3	grab	N									X	3					C37
4																											V532
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

Relinquished by: 7.10 s.u. @ 7.9°C	Company:	AMEC Foster Wheeler	Received by:	ACCUTEST	Company:	Condition:	Custody Seals Intact: 927
Frank Schroyer	Date/Time:	11/15/16		11/15	Date/Time: 12:05	Cooler Temp. 4.7	
Relinquished by:	Company:		Received by:		Company: SGS	Condition:	Custody Seals Intact:
	Date/Time: 11/15 1745				Date/Time: 11/15/16 1745	Cooler Temp.	

Preservatives: (Other; Specify): 0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

ALL SAMPLES RECEIVED PRESERVED AS APPLICABLE OK

INITIAL ASESSMENT 3A JK

LABEL VERIFICATION

SGS Accutest LabLink@938005 13:33 09-Dec-2016

Report of Analysis

Client Sample ID:	087-WWE-111516-A		
Lab Sample ID:	JC31794-1	Date Sampled:	11/15/16
Matrix:	AQ - Water	Date Received:	11/15/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.1 4

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1710	10	ug/l	1	11/16/16	11/17/16	AB	EPA 200.7 [1]	EPA 200.7 [3]
Copper	< 10	10	ug/l	1	11/16/16	11/17/16	AB	EPA 200.7 [1]	EPA 200.7 [3]
Lead [a]	< 30	30	ug/l	10	11/16/16	11/17/16	AB	EPA 200.7 [1]	EPA 200.7 [3]
Mercury	< 0.20	0.20	ug/l	1	11/18/16	11/18/16	JA	EPA 245.1 [2]	EPA 245.7 [4]
Nickel	< 10	10	ug/l	1	11/16/16	11/17/16	AB	EPA 200.7 [1]	EPA 200.7 [3]
Zinc	< 20	20	ug/l	1	11/16/16	11/17/16	AB	EPA 200.7 [1]	EPA 200.7 [3]

(1) Instrument QC Batch: MA40791
(2) Instrument QC Batch: MA40796
(3) Prep QC Batch: MP97168
(4) Prep QC Batch: MP97202

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

SGS Accutest LabLink@938005 13:33 09-Dec-2016

Report of Analysis

Client Sample ID:	087-WWE-111516-A		
Lab Sample ID:	JC31794-1	Date Sampled:	11/15/16
Matrix:	AQ - Water	Date Received:	11/15/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.1 4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	5.1	4.0	mg/l	1	11/16/16 19:45	SA	SM2540 D-11
pH [a]	7.01		su	1	11/15/16 18:24	HFM	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

SGS Accutest LabLink@938005 13:33 09-Dec-2016

Report of Analysis

4.2 4

Client Sample ID:	087-WWE-111516-A		
Lab Sample ID:	JC31794-1A	Date Sampled:	11/15/16
Matrix:	AQ - Water	Date Received:	11/15/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 20	20	mg/l	1	11/16/16 22:01	SA	SM5210 B-11

RL = Reporting Limit

SGS Accutest LabLink@938005 13:33 09-Dec-2016

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-111516-B		
Lab Sample ID:	JC31794-2	Date Sampled:	11/15/16
Matrix:	AQ - Water	Date Received:	11/15/16
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	L285907.D	1	11/17/16	SC	n/a	n/a	VL7935
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	10	1.3	ug/l	
107-13-1	Acrylonitrile	ND	10	1.2	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	3.8	1.0	0.11	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.14	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	3.6	1.0	0.19	ug/l	
108-90-7	Chlorobenzene	0.19	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.19	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.73	ug/l	
67-66-3	Chloroform	23.8	1.0	0.11	ug/l	
74-87-3	Chloromethane	ND	1.0	0.22	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.19	ug/l	
95-50-1	1,2-Dichlorobenzene	0.36	1.0	0.15	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.15	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.54	ug/l	
75-34-3	1,1-Dichloroethane	0.47	1.0	0.16	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.22	ug/l	
156-59-2	cis-1,2-Dichloroethene	60.1	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.1	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.17	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.16	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.17	ug/l	
123-91-1	1,4-Dioxane	ND	130	27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.11	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.57	1.0	0.16	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.18	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@938005 13:33 09-Dec-2016

Report of Analysis

Client Sample ID:	087-WWE-111516-B		
Lab Sample ID:	JC31794-2	Date Sampled:	11/15/16
Matrix:	AQ - Water	Date Received:	11/15/16
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3 4

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.12	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.17	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.18	ug/l	
79-01-6	Trichloroethene	56.6	1.0	0.16	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.55	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.19	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	106%		72-125%
2037-26-5	Toluene-D8 (SUR)	99%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	98%		74-115%
1868-53-7	Dibromofluoromethane (S)	99%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@938005 13:33 09-Dec-2016

Report of Analysis

Client Sample ID:	087-WWE-111516-B		
Lab Sample ID:	JC31794-2	Date Sampled:	11/15/16
Matrix:	AQ - Water	Date Received:	11/15/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3 4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.2	5.2	mg/l	1	11/16/16 21:30	CB	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log and October 2016 DCB for Site Restoration

SA-6 North/South Field Change Log - December 2016		
Changed Item Identifier	**Description of Change**	**Comments**
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentation Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only as clarification or response to RFI.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only as clarification or response to RFI.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only as clarification or response to RFI.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2014-6-10	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-6-10 includes the french drain installation, as well as pump and access station manholes for SA-6 South. Some design details, including the electrical design, will be finalized based field observations and constructability review.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2014-11-20	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-11-20 includes the french drain installation, electrical supply and discharge piping for SA-6 North.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
DC 2016-6-6	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-6-10 includes the revised electrical supply and discharge piping for SA-6 North.	Submitted to Parties as Attachment to Declaration 004. (Design Change ID changed from DC 2016-6-10 to DC 2016-6-6 to reflect actual date on Design Change form).
DC 2015-2-12	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-2-24 is a follow up to DC 2014-6-10, the SA-6 South CGWES trench design. DC 2015-2-24 includes details for electrical supply and discharge piping.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2015-9-03	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-9-03 is a follow up to DC 2015-2-24, the SA-6 South CGWES electrical supply. DC 2015-9-03 provides a revised electrical plan.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2016-5-24	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to address the elimination of a drop structure, the elimination of a flow meter, conduit sizing changes, and to clarify Entact's scope.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016

SA-6 North/South Field Change Log - December 2016		
Changed Item Identifier	**Description of Change**	**Comments**
DC 2016-12-20	This DCB documents a number of minor field changes that have been conveyed by the EOR to Entact during the course of the work and also includes revisions to the (E series) electrical drawings for both SA-6N and SA-6S.	DCB will be provided to Parties in the December 2016 monthly progress report.
DC 2015-2-24	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to document the changes in the SA-6 North and South cap subgrades that resulted from the change to a trench system.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead.	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS Site Vision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only as clarification or response to RFI.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA-6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Parties as Attachment to Declaration 004.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.

SA-6 North/South Field Change Log - December 2016		
Changed Item Identifier	**Description of Change**	**Comments**
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Parties on July 2, 2015.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-04-30	A concrete protuberance was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groundwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2015-06-18	Bayfront Redevelopment Civil Designer has eliminated one utility corridor along the eastern portion of SA-6 South (water main and sewer line were relocated to another utility corridor). In addition, it was identified that minor increases in the Bayfront final grades of up to 0.25 feet may be made in the landscaped areas (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 South Consent Decree and the 100% Design.	Submitted to all Parties on June 18, 2015.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.
DC 2015-11-12	Amec Foster Wheeler has provided Final Cap Grades (in CAD) to Entact. Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.	To be submitted to Parties as Attachment to Declaration 005.
DC 2016-04-15	Amec Foster Wheeler has provided final restoration grades for SA-6 South Development Area. The DCB also includes the final cover types in revised Drawing C-128.	To be submitted to Parties as Attachment to Declaration 005.
Sep-16	The design change documents revisions to the final grading and SESCP drawings on the SA-6 South Chromium Remedy. Minor grading changes were performed in the field to improve surface drainage. In addition, the extent of demarcation fabric, crushed stone and DGA placed over the Development Area was increased to meet historic fill regulations. SESCP changes included installation of crushed stone toe drain along SA-7, installation of erosion mat, installation of supplemental diversion berms, and installation of stone check dams.	DCB will be provided to Parties in the December 2016 monthly progress report.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on 6/22/15.

SA-6 North/South Field Change Log - December 2016		
Changed Item Identifier	**Description of Change**	**Comments**
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-10-06	GCL is required to be installed over the SCB wall and Barrier Wall at the locations shown in the annotated PDF of C-121 (rev 4, 8/13/15).	Submitted to Contractor only as clarification or response to RFI.
DC 2015-07-22	Detail BN has been modified to extend the LLDPE up and over the SCB Wall. The prior detail showed both the GDL and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-28	Drawing 304, Detail CE and associated notes regarding the "Liner Anchor to Concrete Structure" have been modified.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-07-31	The sheet pile pair is located at Sta. 0+50. Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA-6S Caps. As such, Paragraph 3.02 is no longer required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.

SA-6 North/South Field Change Log - December 2016		
Changed Item Identifier	**Description of Change**	**Comments**
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	Submitted to Parties as Attachment to Declaration 004.
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	Submitted to Parties as Attachment to Declaration 003.
DC 2015-11-18	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	Submitted to Parties as Attachment to Declaration 003.
DC 2015-09-28	Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling.	Submitted to Parties on October 1, 2015.
DC 2015-12-21	Amec Foster Wheeler (AmecFW), Entact and Maser Consulting have developed alternative methods for documentation/survey of the excavation bottom in Site 163. The alternative methods were developed in light of safety considerations for surveyor access into a sheet piled excavation to elevation –8.0. The bottom of the excavation will be in very low strength Stratum O soils. These alternative survey control methods are different from those previously used in the SA-6 South Development Area.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.
DC 2015-10-22	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only as clarification or response to RFI.

SA-6 North/South Field Change Log - December 2016		
Changed Item Identifier	**Description of Change**	**Comments**
DC 2015-12-14	Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds that cannot be tested by other means. Spark testing will be performed in accordance with ASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative. Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	Submitted to Parties on January 14, 2016.
DC 2015-11-30	EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation. A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals. EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits. A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.	Submitted to Parties as Attachment to Declaration 003.
DC 2016-02-02	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design.	Submitted to Parties as Attachment to Declaration 004. (Design Change ID changed from DC 2016-02-03 to DC 2016-02-02 to reflect actual date on Design Change form).
DC 2016-02-22	AmecFW revised the SA-6 North cap subgrade in a single localized area in order to accommodate Entact's request to relocate Pump Station #1 (RFI 64). The subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location. In addition, for grading purposes, any hydraulic barrier sheets within the Sedimentation Basin that have sections below elevation 12.0 will be trimmed to a uniform elevation of 11.5.	Submitted to Parties as Attachment to Declaration 004.
DC 2016-02-25	This DCB has been issued to provide Entact with the latest SA-6 North HB Wall and SCB wall plan and profile drawings (SN-201 thru SN-205), which were modified to reflect changes made in DC 2016-02-22.	Submitted to Parties as Attachment to Declaration 004.
DC 2016-5-11	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and	Submitted to Parties as Attachment to Declaration 004.
DC 2016-5-20	After further review, AmecFW lowered the geomembrane Pump Station #1 on the SA-6 North cap in order to provide additional separation between the geomembrane and the bottom of the vault. (Refer to DC 2016-02-22).	Submitted to Parties on June 15, 2016.
DC 2016-7-14	Design change documenting minor field changes needed to achieve positive drainage in the cap area.	DCB will be provided to Parties in the November 2016 monthly progress report and included in the finalized Declaration No. 4.
Sep-16	The design change documents revisions to the interim/final grading and SESCP drawings on the SA-6 North Chromium Remedy. Minor grading changes were performed in the field to improve surface drainage pending redevelopment. SESCP changes included installation of crushed stone toe	DCB will be provided to Parties in the December 2016 monthly progress report.

SA-6 North/South Field Change Log - December 2016		
Changed Item Identifier	**Description of Change**	**Comments**
DC 2016-05-03	The laboratory results of all gradations for planting soils shall be presented in terms of the USDA classification system rather than the USCS classification system.	Submitted to Contractor only as clarification or response to RFI.
DC 2016-03-18	This DC 2016-03-18 documents the revised acceptable ranges of physical parameters and provides an updated specification made in consultation with Dr. Grabosky of Rutgers University. Dr. Grabosky provided his recommendations in correspondence dated 3/17/2016.	Submitted to Parties on March 22, 2016. Plaintiffs responded in a letter dated April 15, 2016. Plaintiffs and Honeywell subsequently held discussions and DCB 2016-04-20 was developed to document an agreement reached by all parties on the Special Master All-Hands monthly call on April 19, 2016.
DC 2016-03-21	Nature's Choice was identified as the source that best met the physical requirements for Horizon C soils by Dr. Grabosky; however, several samples of Nature's Choice Horizon C soils have hexavalent chromium concentration >1.0 mg/kg. Consequently, Honeywell is proposing a design change to allow the hexavalent chromium concentration in Nature's Choice Horizon C soils to be less than 1.8 mg/kg, as agreed to by the parties, as documented in the attached emails. For future sampling, hexavalent chromium soil samples will be composited from 10 grab sample locations per 5,000 CY (maximum)	Submitted to Parties on March 22, 2016.
DC 2016-05-06	To allow for traffic flow within the project site following completion of the SA-6S Cap, a road will be installed within the "B Street" corridor. The road will be constructed by continuing the "Structural Fill under Roadways to within 6 inches of final grade"	Submitted to Parties on June 30, 2016.
DC 2016-04-20	This DCB documents the approved sources of Horizon B and Horizon C materials, as agreed to by all parties on the Special Master All-Hands monthly call on April 19, 2016.	Submitted to Parties on April 21, 2016.
DC 2016-05-31	This DCB documents the vault sketch Drawing C-310 (Rev 5, 5/31/16)	Submitted to Contractor only as clarification or response to RFI.
DC 2016-12-23	The limits and the type of restoration north of the SA-6N cap has been modified to be integrated with the SA-6N Non Chrome Remedy.	DCB will be provided to Parties in the January 2016 monthly progress report.
DC 2016-7-12	DC 2016-7-12 clarifies the limit of GCL deployment and the location of the sand bentonite plug in the SA-6 North cap.	Included as an attachment to July 2016 Monthly Progress Report.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 61 **Type:** Minor(a) **Effective Date:** October 2016
Project Location: SA-6N	**Associated RFI:**
Title: Site Restoration	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. The limits and the type of restoration north of the SA-6N cap has been modified to be integrated with the SA-6N Non Chrome Remedy. This DCB information confirms direction provided to Entact following discussions with JCMUA and the SA-6N Non Chrome Remedy Contractor (OSC)A modified Restoration Drawing CN-127 showing is attached. The drawing includes the changes in scope that have occurred subsequent to the "IFC" drawingThe following items are specifically noted.

- EA-7 and EA-8 Final Grading of these areas and placement of Historic Fill Cover will be conducted as part of the Non Chrome remedy along the Hackensack River.
- The former JCIA property that has become part of the JCMUA owned Lot 6 will receive a geotextile demarcation layer and 6 inches of crushed stone cover over the historic fill. A survey control grid similar to that used on the SA-6S Development Area will be set out and submitted to AmecFW for approval. The grid will be used to document that the thickness requirements have been met. A survey grid matrix documenting the elevations and depth at each grid point will be provided along with a topographic survey of the surface of the restored area.
- Historic Fill stockpiles west of the former JCMUA digesters will be processed by others.
- The footprint of the Chromium Remedy Construction Water Treatment plant will be finished with crushed stone over an LLDPE demarcation layer.
- A temporary fence will be erected along the Lot 6 Boundary. JCMUA will install a new fence following their re-purposing of the former JCIA property in Lot 6.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** **Changed limits of disturbance/interface with the Non Chrome scope and changes in Property Lines** **Attachments:** ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** CN-127

Honeywell (AP) Review:

Individual: Geoff Shallard **Discipline:** EOR **Initial:** [illegible] **Date:** 12/01/16

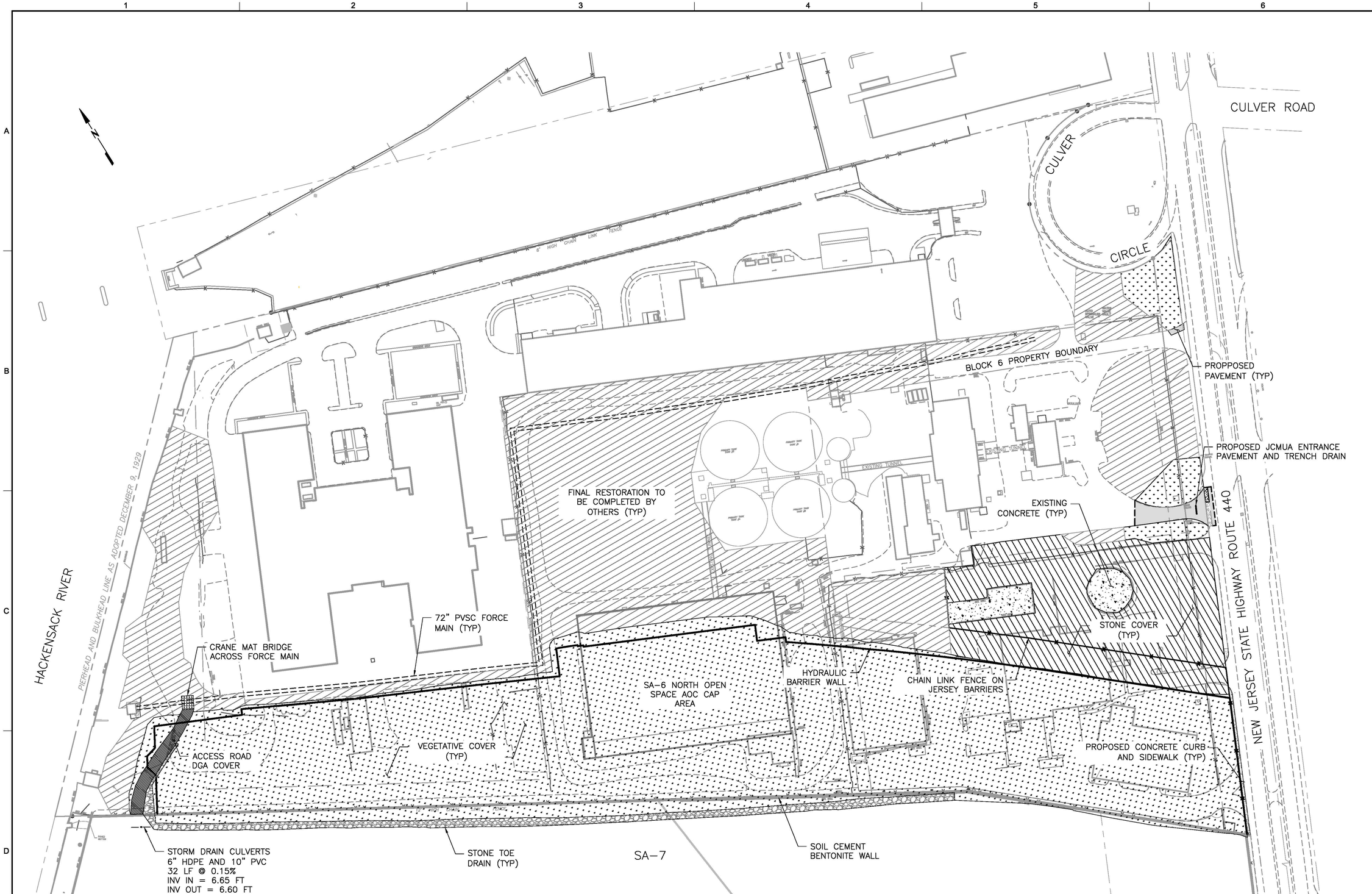
(Name / Signature):

Does DCB Result in CCO? ☐ Yes (b) ☑ No

Date:

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTE:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.

0 40 80 160
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
2	12/10/16	DCB 061 - REVISED RESTORATION LIMITS	TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR TDD CHK RJR APVD SGS

SAMUEL G SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2108, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

RESTORATION PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 Horizon Blvd, Suite 100, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Cert of Authorization 24GA28010900

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-127
SHEET	32 OF 70

SA-6 AND SA-7 COMBINED PROGRESS REPORT

FEBRUARY 13, 2017

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2017-01

Project SA-6 & 7 Remediation

January 2017

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
01/11/17	SA-7 Sediment: Response to Terris Pravlik Millian Comments Sediment Remedy Long Term Monitoring Program Year 2 Implementation Report SA-7 Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
01/12/17	Summary of Additional In-Situ Injection of Calcium Polysulfide for Treatment of Hexavalent Chromium Impacted Soils Treatment Area 10-1 Study Area 6 (SA-6) North (Site 087) Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
01/18/17	Response to Comments (Update on Resampling of Well 124-MW-106T) Integrated Annual Groundwater Performance Report for 2015 SA-5, -6, and -7 Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
01/18/17	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
01/18/17	Study Areas 6 and 7 Combined Monthly Progress/ Highlights Report No. 2016-11	Honorable Robert G. Torricelli Office of the Special Master
01/19/17	Draft Declaration No. 003 SA-6 North Jersey City, NJ	Uploaded to Louis Berger SharePoint Site
01/24/17	Special Master All Parties Conference Call	N/A
01/25/17	Installation of 4 New Piezometers SA-7 Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
01/27/17	Arnold & Porter Kaye Scholer LLP correspondence: Study Area 6 South Remedial Action Report SA-6 South Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master

SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	1/8/17	1/15/17	1/22/17	1/29/17
Construction Management (AMEC)	4	4	4	4
Security (Securitas)	3	3	3	3
Evoqua	1	1	1	1
B&B Drilling	0	0	2	2
Cornerstone	0	0	1	1
TOTAL STAFF	8	8	11	11

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Completed demobilization of Entact crew and miscellaneous materials.
- Continued long-term groundwater level monitoring activities at SA-6 South in accordance with the correspondence, titled "Initiation of Long Term Groundwater Monitoring, Study Area 6 (SA-6) South," submitted by Honeywell to All Parties, dated November 7, 2016.
- On January 26, 2017, initiated re-injection activities in the TA-10-1 area in accordance with the correspondence titled, "Summary of Additional In-Situ Injection of Calcium Polysulfide for Treatment of Hexavalent Chromium Impacted Soils, Treatment Area 10-1", submitted by Honeywell to All Parties, dated January 12, 2017.
- On January 30 and 31, 2017 installed 4 piezometers on SA-7 in accordance with Honeywell correspondence titled "Installation of 4 New Piezometers, Study Area 7 (SA-7)," submitted by Honeywell to All Parties, dated January 25, 2017.

B. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned downstream process tanks T-300 (neutralization tank) and T-400 (effluent tank).
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on January 18, 2017.

1. WEEKLY SUMMARY

GWTP Data	Week Ending			
	1/8/17	1/15/17	1/22/17	1/29/17
Avg. Gallons Treated & Discharged (per day)	78,871	78,006	78,238	78,644
Average Flow (gpm) for Operating Period	57	56	56	56
Avg. Hours of Plant Operation	23	23	23	23
GWTP Influent Tanks (gal.)	2,460	4,257	3,024	3,300

C. LONG-TERM MONITORING *(see Attachment 6. Long-Term Monitoring Update)*

- Conducted fourth quarterly LTMP groundwater quality sampling round SA-6 South (see Table 1).
- Continued monthly regional LTMP groundwater level measurements (see Tables 2 and 3).
- Initiated monthly methane monitoring of both SA-6 North and South Open Space Areas (see Table 4).
- Initiated water level readings in the 4 piezometers on SA-7 (see Table 5). An as-built drawing showing the piezometer locations is also included.

D. INSPECTIONS

- Routine inspections of remaining erosion controls and fencing/windscreen completed.
- Initial quarterly inspection of open space areas will be completed in March 2017.

E. ACTIVE SITE PERMITS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012 Extension Obtained 5/17/2015	Renewal Not Needed	10/04/2019	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013
NJDEP Individual Upland Waterfront Development Permit and Water Quality Certificate for Bulkhead Expansion Project	SA-7	Issued: 5/10/2016	TBD	5/9/2021	-
USACE Nationwide Permit No. 27 for Droyers Cove Beneficial Environmental Project	Bayfront	Issued: 4/15/2016	TBD	3/18/2017	5/4/16
NJDEP Coastal General Permit 24 for the living shoreline	Bayfront	Issued: 10/15/2015	TBD	10/14/2020	5/4/16

** Amec Foster Wheeler reviewed the expiration of this TWA with NJDEP, Division of Water Quality and no extension is necessary.*

F. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Continue Erosions and Sediment control maintenance as required.
- Continue monthly methane monitoring.
- Continue post construction long term monitoring activities at both SA-6 North and South.

ATTACHMENTS:

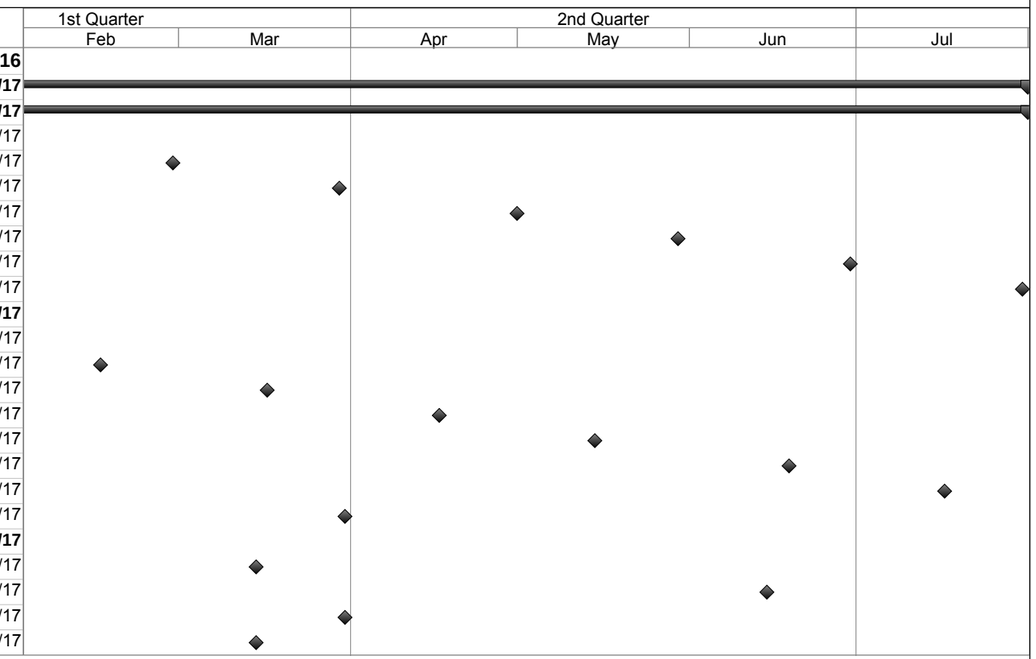
1. LTMP Schedule – 6 Month Look Ahead
2. Perimeter Pools Update
3. Weekly SWPPP Reports
4. GWTP Update
5. Site Photographs
6. Long-Term Monitoring Update

Attachment 1: LTMP Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Long Term Monitoring Schedule

ID	Task Name	Duration	Start	Finish
60	**SA-6 North/South Field Implementation**	**988 days**	**Fri 3/1/13**	**Fri 12/9/16**
106	**SA-6 North and South Long Term Monitoring**	**133 days**	**Thu 1/26/17**	**Mon 7/31/17**
107	**Methane Monitoring**	**133 days**	**Thu 1/26/17**	**Mon 7/31/17**
108	Methane Monitoring 1	1 day	Thu 1/26/17	Thu 1/26/17
109	Methane Monitoring 2	1 day	Tue 2/28/17	Tue 2/28/17
110	Methane Monitoring 3	1 day	Thu 3/30/17	Thu 3/30/17
111	Methane Monitoring 4	1 day	Mon 5/1/17	Mon 5/1/17
112	Methane Monitoring 5	1 day	Tue 5/30/17	Tue 5/30/17
113	Methane Monitoring 6	1 day	Fri 6/30/17	Fri 6/30/17
114	Methane Monitoring 7	1 day	Mon 7/31/17	Mon 7/31/17
115	**Water Level Monitoring**	**120 days**	**Tue 1/31/17**	**Mon 7/17/17**
116	Water Level Monitoring 1	1 day	Tue 1/31/17	Tue 1/31/17
117	Water Level Monitoring 2	1 day	Wed 2/15/17	Wed 2/15/17
118	Water Level Monitoring 3	1 day	Fri 3/17/17	Fri 3/17/17
119	Water Level Monitoring 4	1 day	Mon 4/17/17	Mon 4/17/17
120	Water Level Monitoring 5	1 day	Mon 5/15/17	Mon 5/15/17
121	Water Level Monitoring 6	1 day	Mon 6/19/17	Mon 6/19/17
122	Water Level Monitoring 7	1 day	Mon 7/17/17	Mon 7/17/17
123	Groundwater Quality Sampling (SA-6 South Only)	1 day	Fri 3/31/17	Fri 3/31/17
124	**Long Term Monitoring Inspections**	**67 days**	**Wed 3/15/17**	**Thu 6/15/17**
125	Long Term Monitoring Inspections 1	1 day	Wed 3/15/17	Wed 3/15/17
126	Long Term Monitoring Inspections 2	1 day	Thu 6/15/17	Thu 6/15/17
127	L-Well Sampling	1 day	Fri 3/31/17	Fri 3/31/17
128	TA-10-1 Soil Sampling	1 day	Wed 3/15/17	Wed 3/15/17



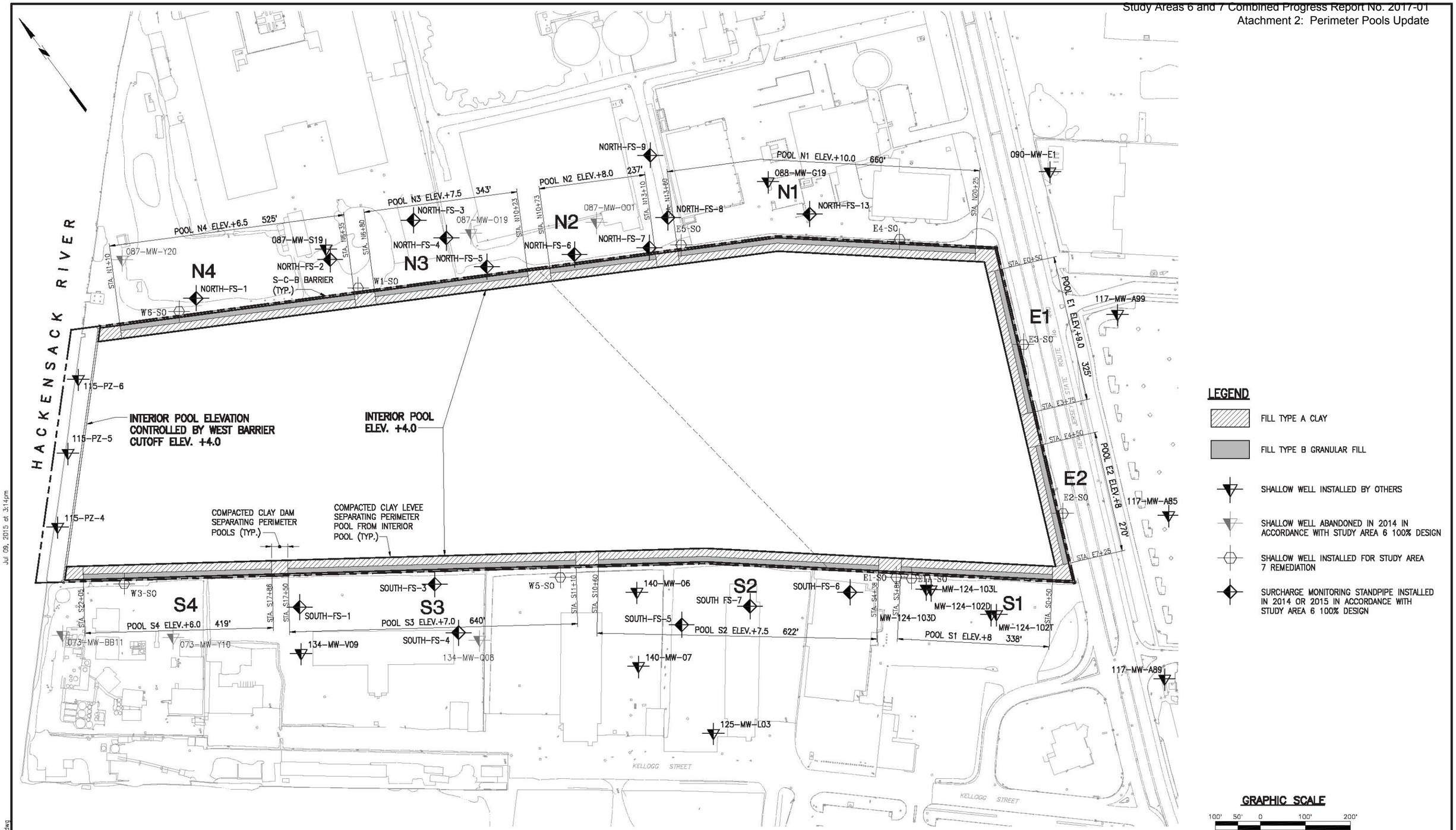
Project: SA-6 Remediation Schedule
Revision 5
Date: 2/8/17

Task | Milestone | Summary | Critical

Notes:
1.) Dates shown area approximate and will be adjusted as field conditions require.
2.) The schedule will be upated as necessary to reflect the LTMP when finalized.

Attachment 2: Perimeter Pools Update

Drawing PP-1: Study Area 7 Perimeter Pool Design Elevations
Perimeter Pool N1, N2, N3, N4
Perimeter Pool E1, E2
Perimeter Pool S1, S2, S3, S4
Table 1: Shallow Groundwater Data



IN PROGRESS
06-10-2015

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

Jul 09, 2015 at 3:14pm
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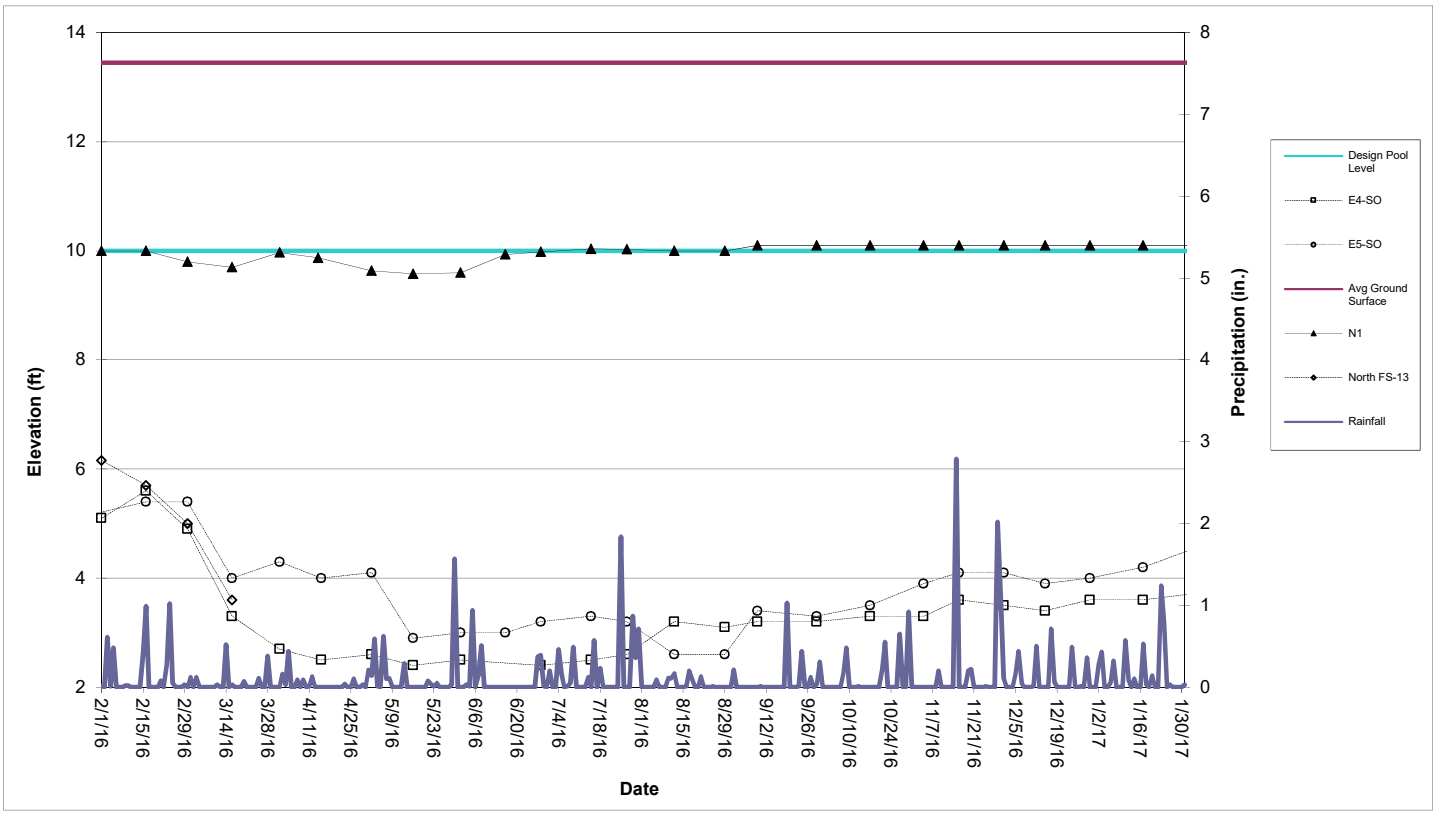
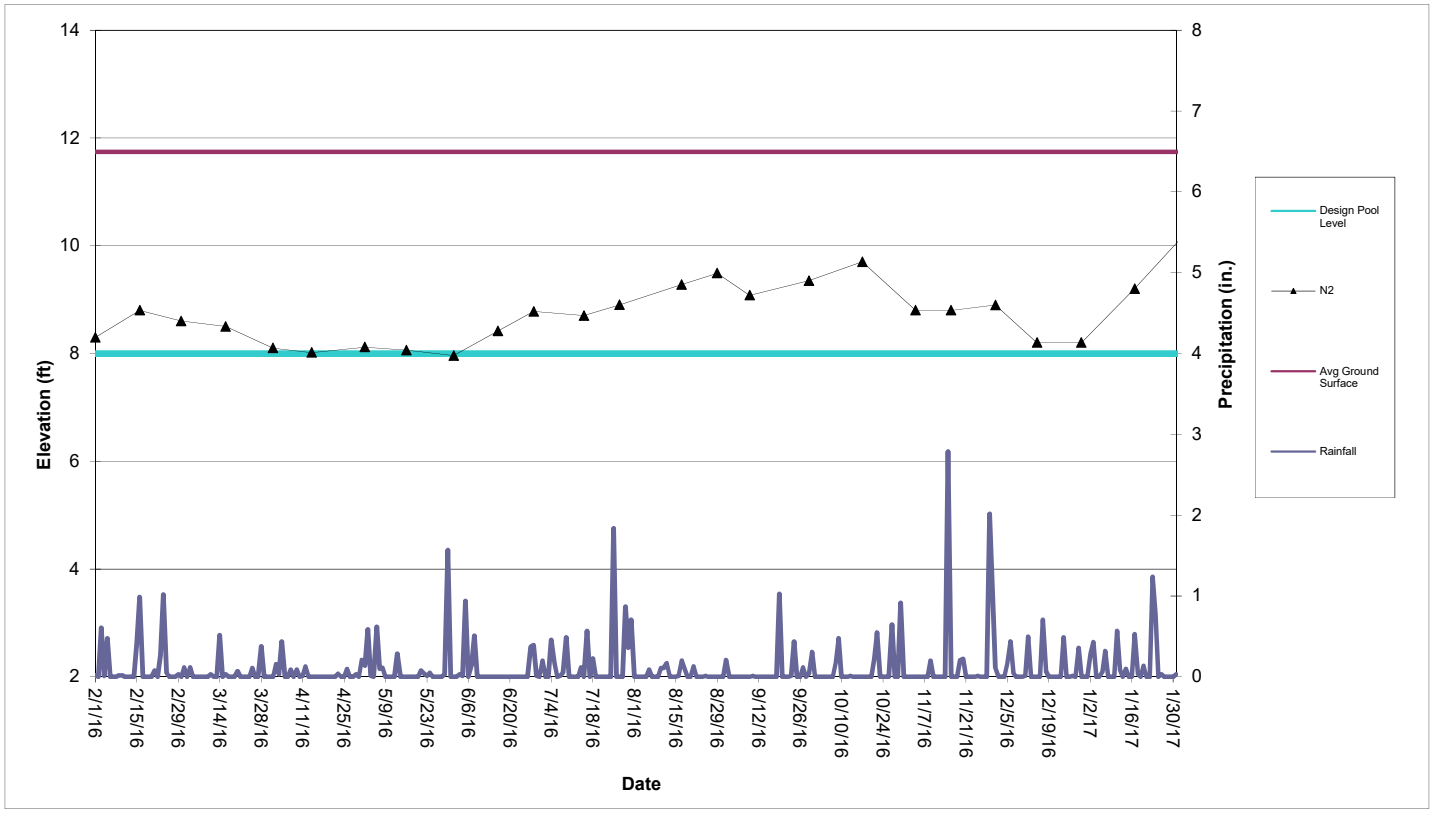
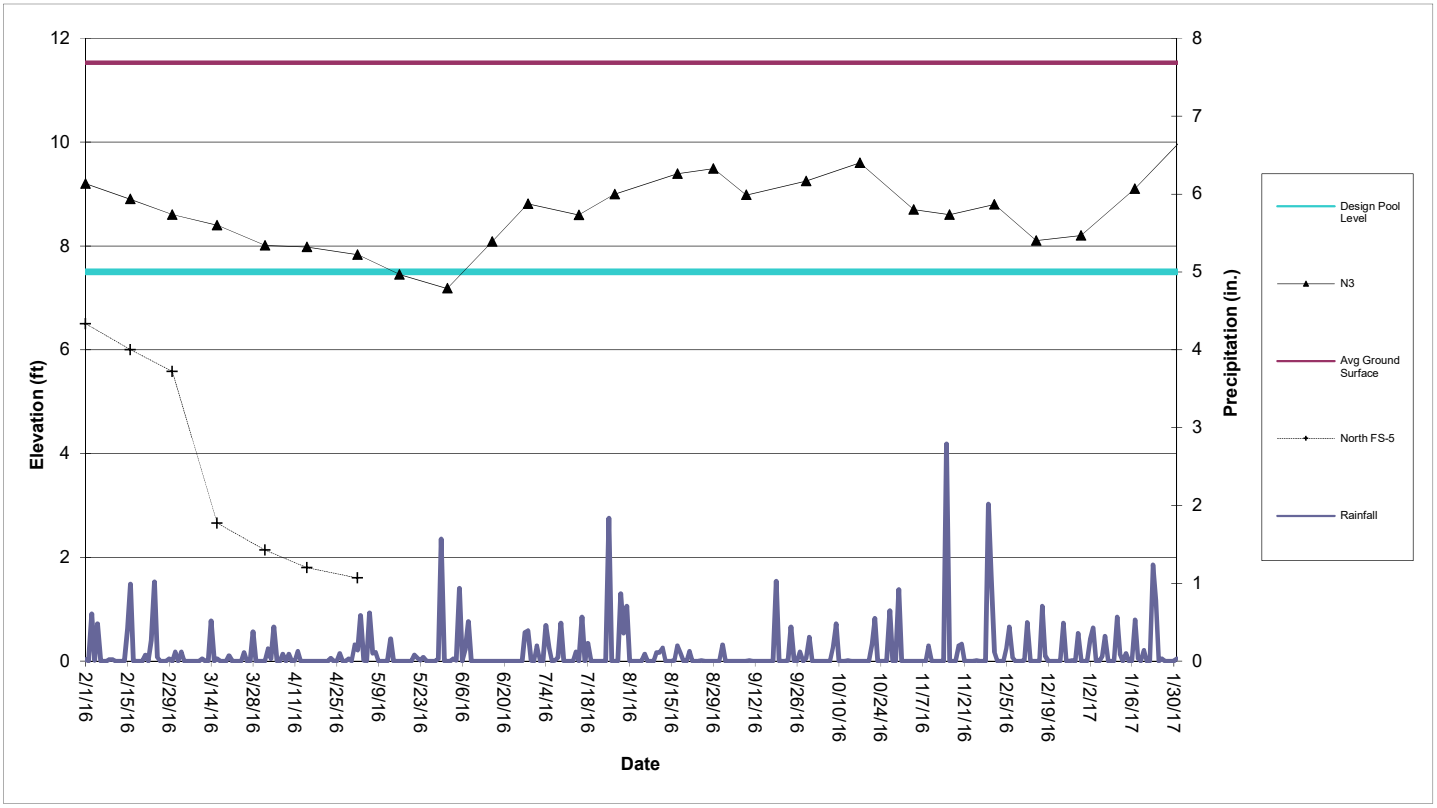
bboscaino



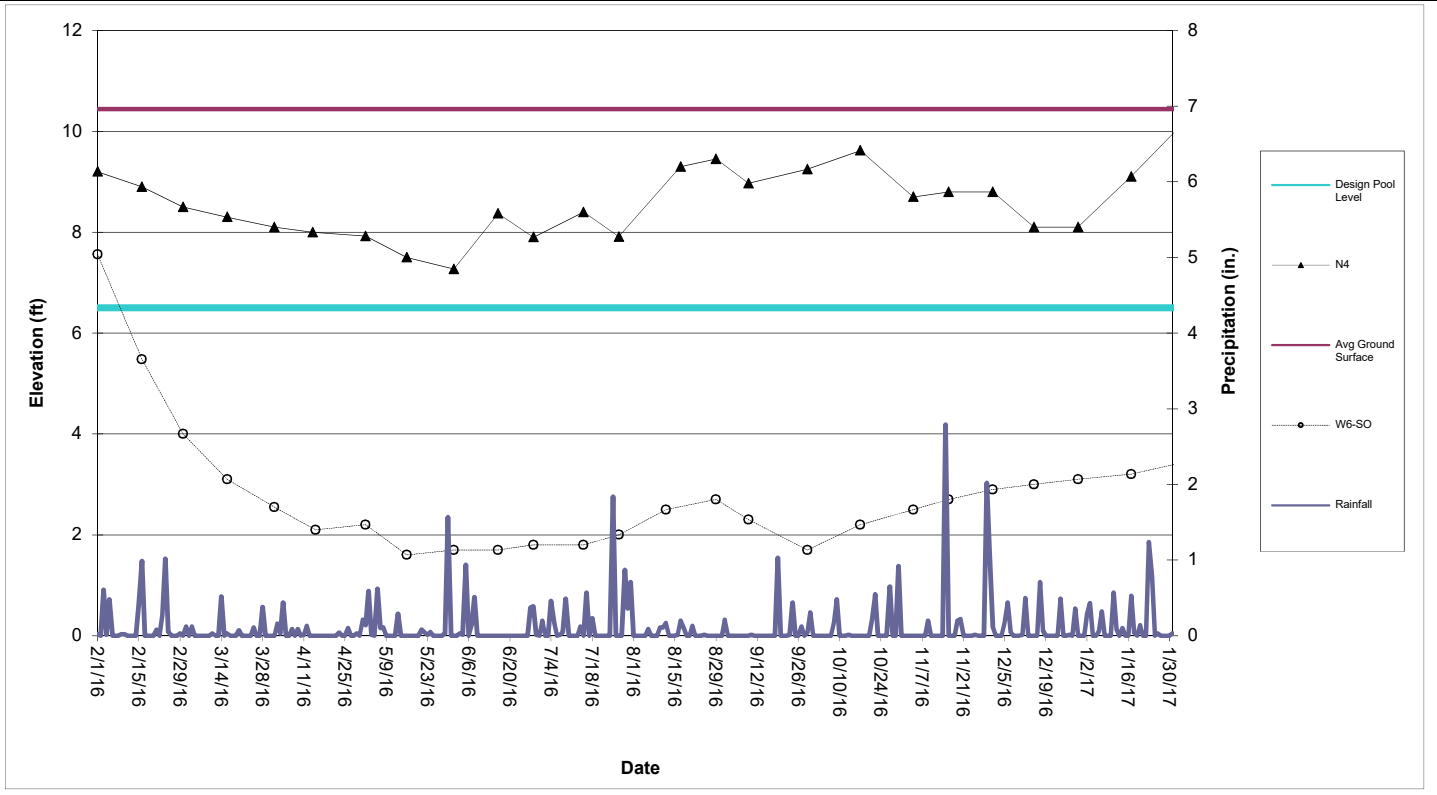
Perimeter Pool N1 (Sta. N13+60 to N20+25)



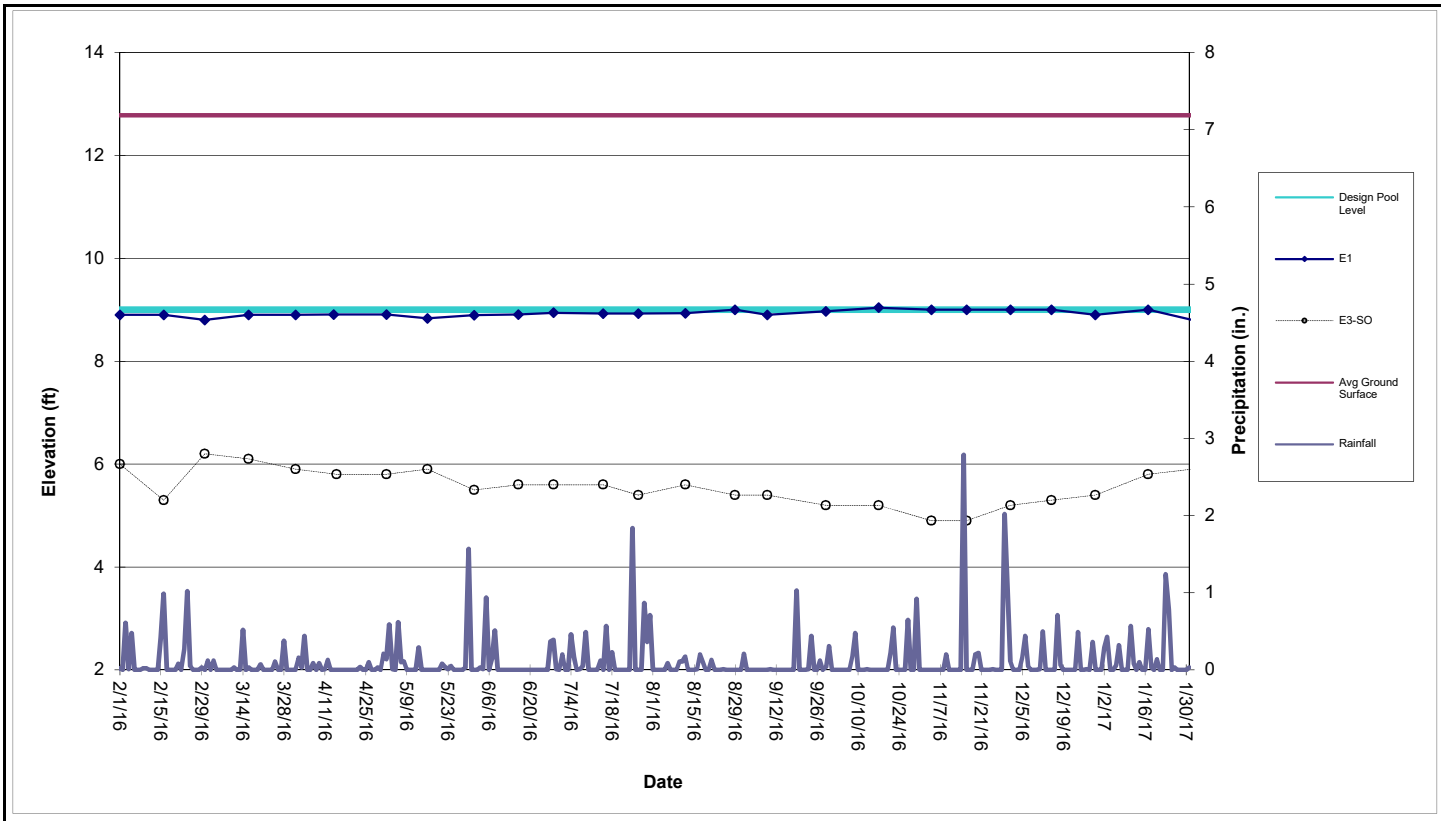
Perimeter Pool N2 (Sta. N10+73 to N13+10)



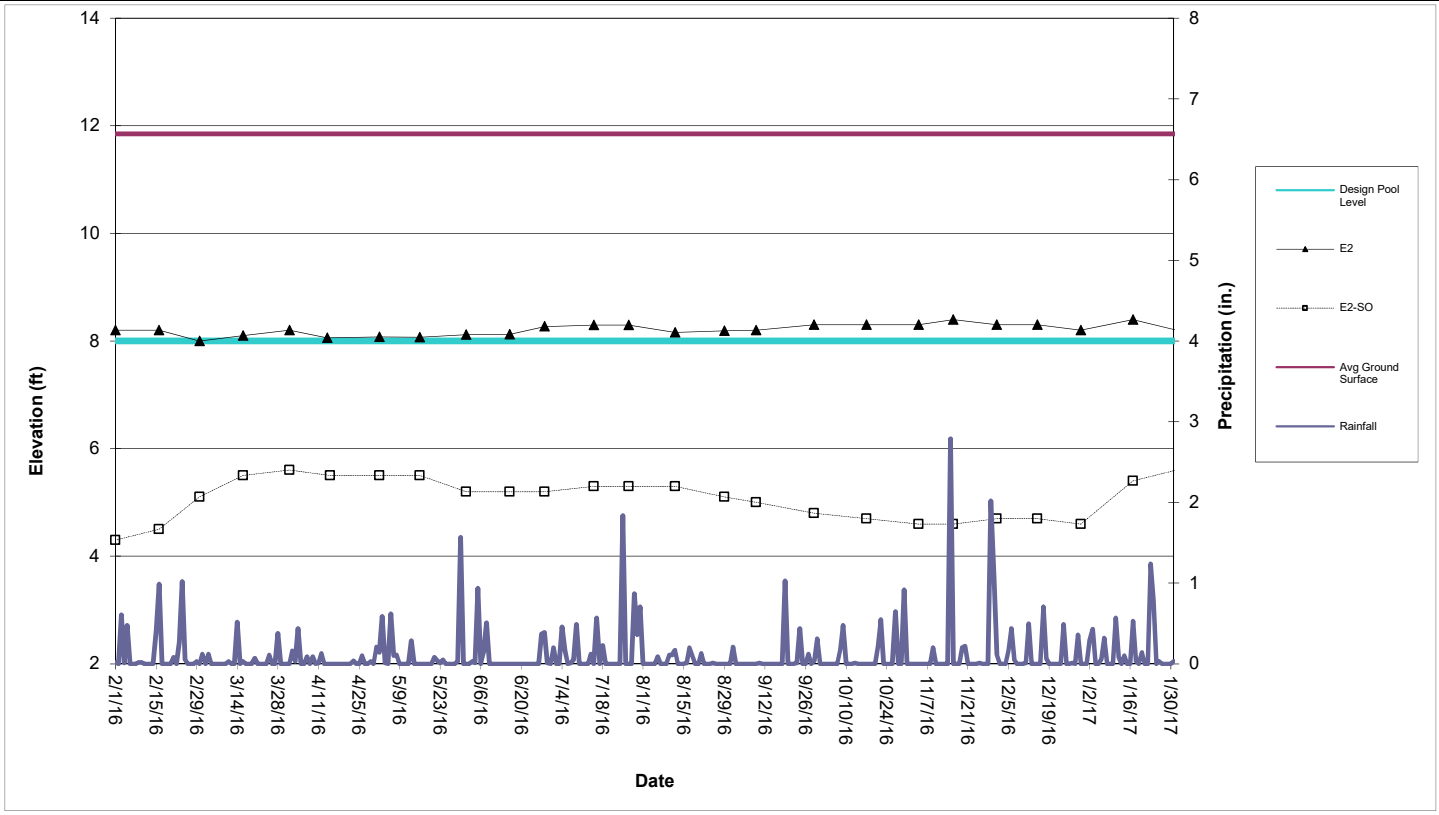
Perimeter Pool N3 (Sta. N6+80 to N10+23) Note: will be flushed in February 2017



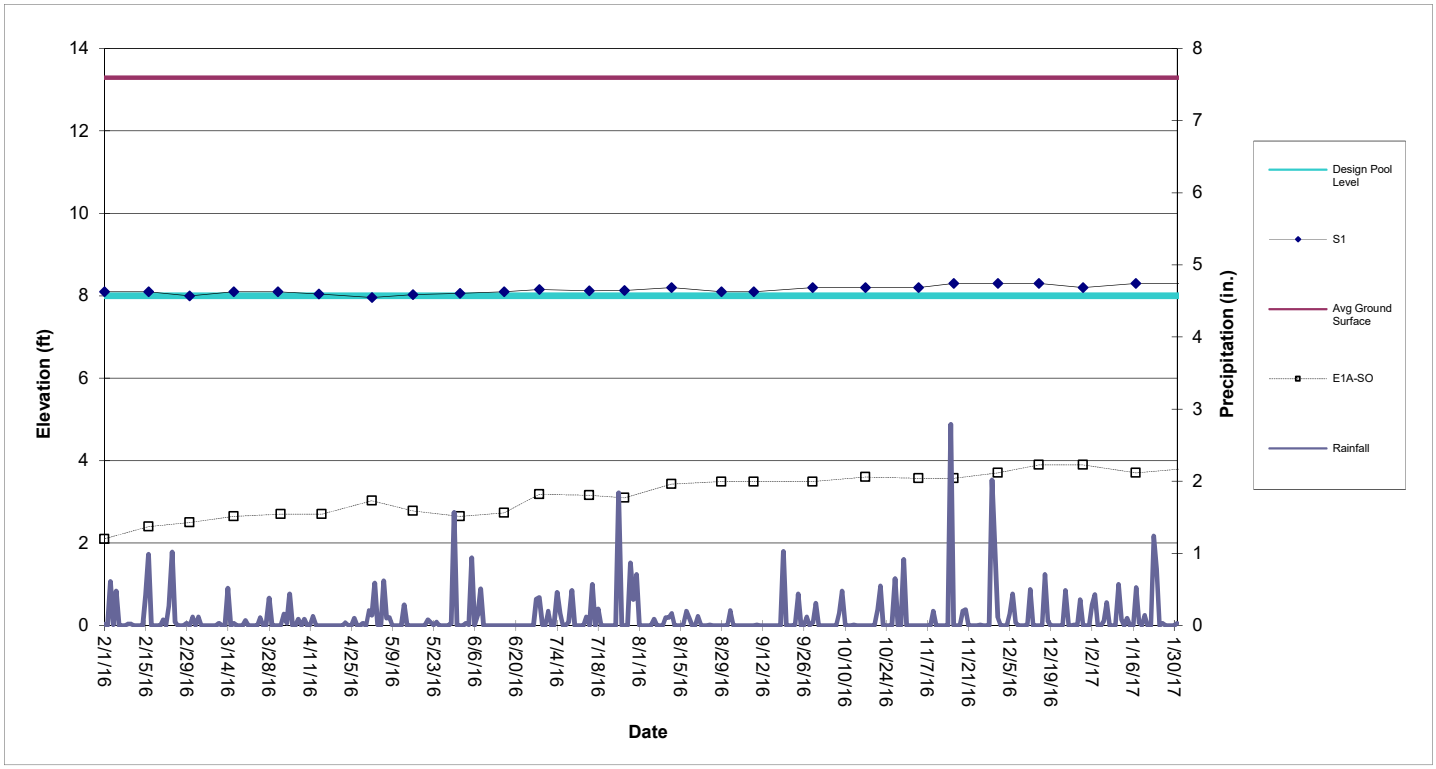
Perimeter Pool N4 (Sta. N6+80 to N10+23) Note: will be flushed in February 2017



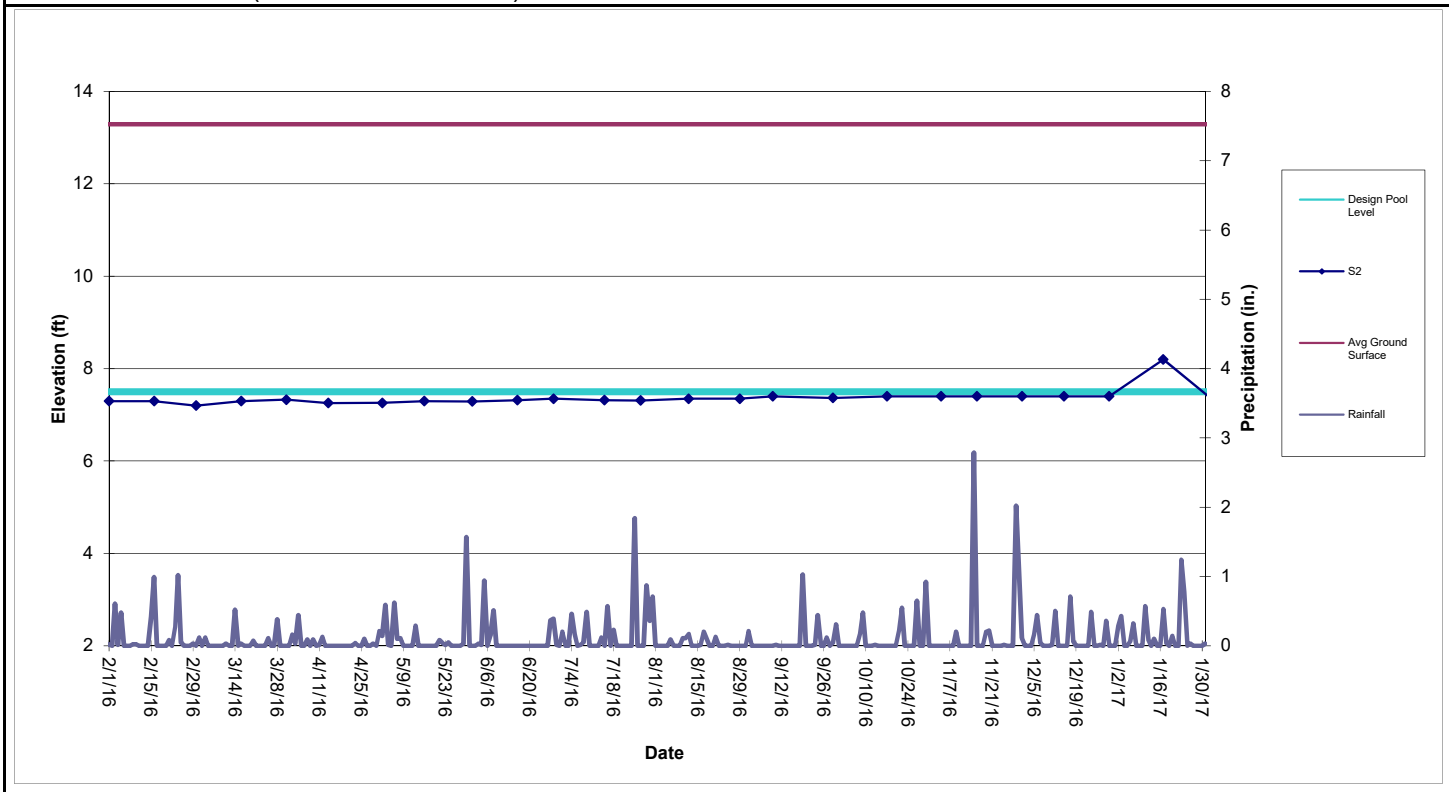
Perimeter Pool E1 (Sta. E0+50 to E3+75)



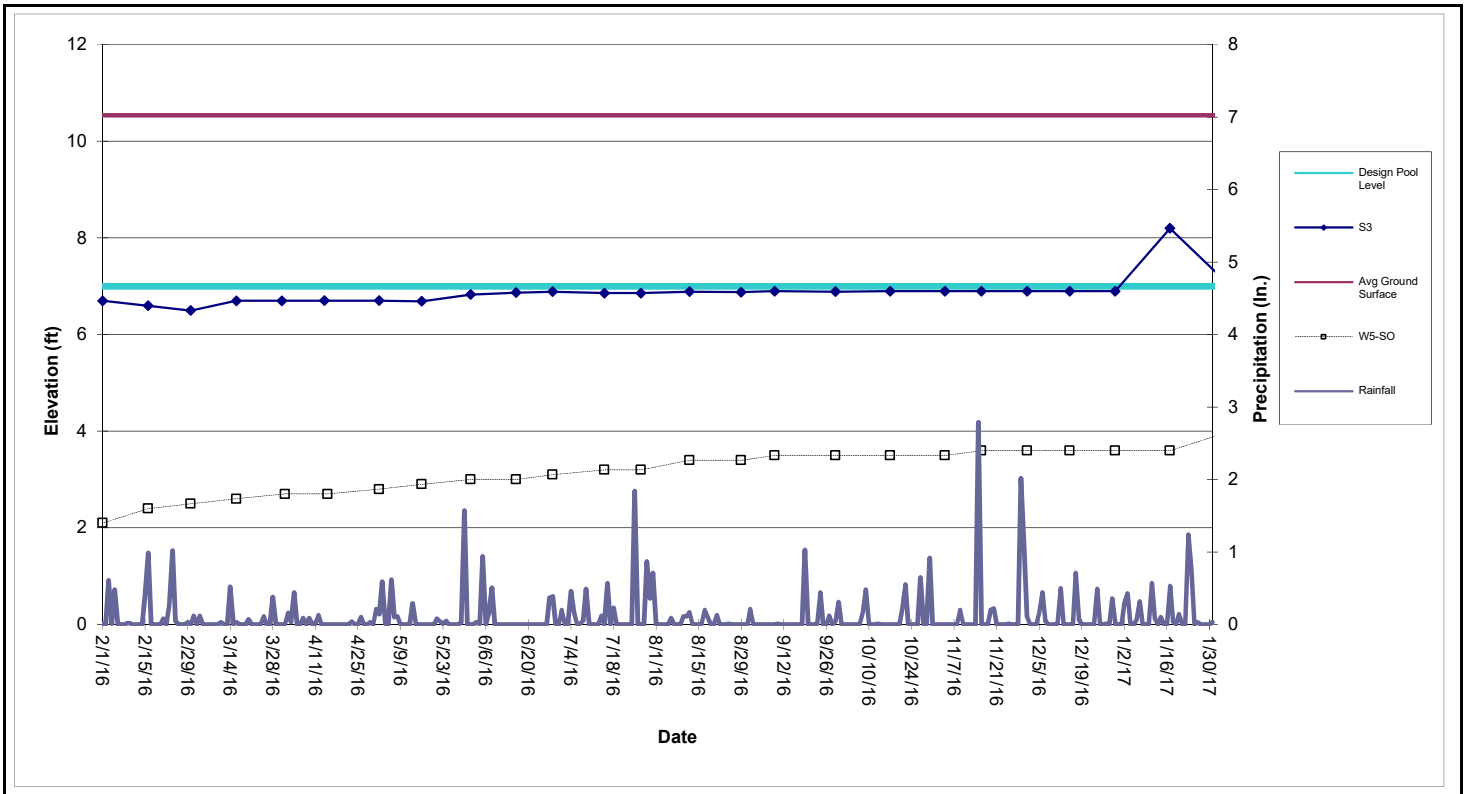
Perimeter Pool E2 (Sta. E4+50 to E7+25)



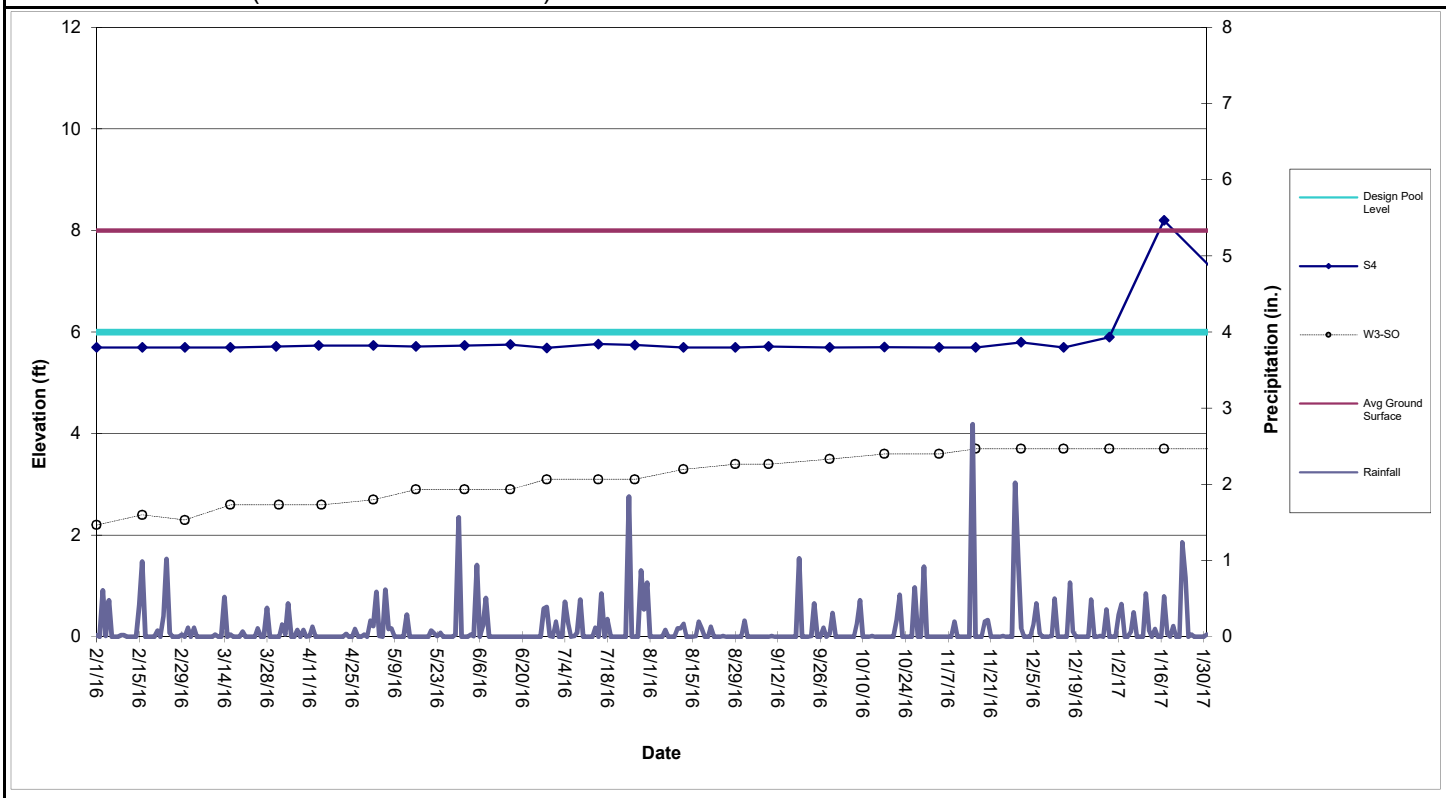
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North	
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-5	FS-13
Date											
2/1/2016	2.1	4.3	6.0	5.1		7.7	2.2	2.1	7.6	6.5	6.2
2/16/2016	2.4	4.5	5.3	5.6	5.4	6.7	2.4	2.4	5.5	6.0	5.7
3/1/2016	2.5	5.1	6.2	4.9	5.4	5.1	2.3	2.5	4.0	5.6	5.0
3/16/2016	2.7	5.5	6.1	3.3	4.0	4.2	2.6	2.6	3.1	2.7	3.6
4/1/2016	2.7	5.6	5.9	2.7	4.3	3.5	2.6	2.7	2.6	2.1	
4/15/2016	2.7	5.5	5.8	2.5	4.0	2.9	2.6	2.7	2.1	1.8	
5/2/2016	3.0	5.5	5.8	2.6	4.1		2.7	2.8	2.2	1.6	
5/16/2016	2.8	5.5	5.9	2.4	2.9	2.4	2.9	2.9	1.6		
6/1/2016	2.7	5.2	5.5	2.5	3.0	2.5	2.9	3.0	1.7		
6/16/2016	2.7	5.2	5.6		3.0	2.5	2.9	3.0	1.7		
6/28/2016	3.2	5.2	5.6	2.4	3.2	2.3	3.1	3.1	1.8		
7/15/2016	3.2	5.3	5.6	2.5	3.3	2.4	3.1	3.2	1.8		
7/27/2016	3.1	5.3	5.4	2.6	3.2	2.3	3.1	3.2	2.0		
8/12/2016	3.4	5.3	5.6	3.2	2.6	2.8	3.3	3.4	2.5		
8/29/2016	3.5	5.1	5.4	3.1	2.6	2.8	3.4	3.4	2.7		
9/9/2016	3.5	5.0	5.4	3.2	3.4	2.6	3.4	3.5	2.3		
9/29/2016	3.5	4.8	5.2	3.2	3.3	3.1	3.5	3.5	1.7		
10/17/2016	3.6	4.7	5.2	3.3	3.5	2.3	3.6	3.5	2.2		
11/4/2016	3.6	4.6	4.9	3.3	3.9	2.5	3.6	3.5	2.5		
11/16/2016	3.6	4.6	4.9	3.6	4.1	2.7	3.7	3.6	2.7		
12/1/2016	3.7	4.7	5.2	3.5	4.1	2.6	3.7	3.6	2.9		
12/15/2016	3.9	4.7	5.3	3.4	3.9	2.7	3.7	3.6	3.0		
12/30/2016	3.9	4.6	5.4	3.6	4.0	2.8	3.7	3.6	3.1		
1/17/2017	3.7	5.4	5.8	3.6	4.2	2.9	3.7	3.6	3.2		

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4, FS-5, FS-6, FS-7, FS-13
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09,

Attachment 3: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: January 6, 2017

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☒ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment		X		1
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation			X	
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance			X	
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen			X	
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the comment section below.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 1/6/2017

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Friday, January 06, 2017

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710
PERMIT CLOSED

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Horizon A stockpile plastic covering needs to be secured.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: Ed Rose — Signature **Date:** 1/6/2017

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Secure plastic covering Horizon A stockpile on SA-7	1/6/2017

Construction Manager: Ed Rose **Date:** 1/6/2017

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: January 12, 2017

Type of Inspection: ☐ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☒ Post Storm

Weather Conditions: ☐ Fair ☒ Cloudy ☒ Other: Wind
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation			X	
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance			X	
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen			X	
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the comment section below.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 1/12/17

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Thursday, January 12, 2017

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710
PERMIT CLOSED

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Perimter fence at the Kellogg St. Jug Handle was damaged due to the high winds. Area was secured immediately after the damage occurred.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: Signature **Date:** 1/12/17

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair damage perimter fence as soon as possible	1-19-17

Construction Manager: **Date:** 1-19-17

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: January 17, 2017

Type of Inspection: ☐ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☒ Post Storm

Weather Conditions: ☐ Fair ☒ Cloudy ☒ Other: Wind
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation			X	
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance			X	
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen			X	
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the comment section below.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 1/17/17

SWPPP Observer: Paul Chase
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Tuesday, January 17, 2017

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710
PERMIT CLOSED

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen along Route 440 is damaged and requires repair

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 1/17/17
Signature

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair wind screen as soon as possible	1/20/17

Construction Manager: _____ **Date:** 1/20/17

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: January 25, 2017

Type of Inspection: ☐ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☒ Post Storm

Weather Conditions: ☐ Fair ☒ Cloudy ☐ Other: Wind
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation			X	
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance			X	
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen			X	
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the comment section below.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 1/25/17

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Wednesday, January 25, 2017

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710
PERMIT CLOSED

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Erosion ruts observed along the southern slope of the SA 6 North Open Space Area in four locations.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 1/25/17
Signature

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair erosion ruts and cover the area with erosion control blanket	2/3/17

Construction Manager: _____ **Date:** 2/3/17

Attachment 4: GWTP Update *(525/575 Route 440 GWTP PVSC Discharge Monitoring Report - submitted January 2017)*

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

January 18, 2017

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the December 2016 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
12	01	16	12	31	16
\	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	78,449	84,932 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	1.20	1.30	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	0.00022	0.00022	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.3	<5.3	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1775	0.1775	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris HP

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

01/17/2017

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North
ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)
FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305
NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
12	01	16	12	31	16
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,431,914 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 80,557,582

DATE	BOD (mg/l)	TSS (mg/l)
12/15/2016	<20	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE 01/17/2017

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG Honeywell Jersey City GWTP; SA-6 North (Permit #20630025) MONTH: December 2016

DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
12/1/2016	Angel Trujillo	78125668	78201848	76,180	0.07618	7.13	1.840									1.17
12/2/2016	Angel Trujillo	78201848	78279677	77,829	0.077829	7.53	1.840									1.19
12/3/2016	Angel Trujillo	78279677	78362206	82,529	0.082529	7.55	1.840									1.27
12/4/2016	Angel Trujillo	78362206	78439211	77,005	0.077005	7.40	1.840									1.18
12/5/2016	Angel Trujillo	78439211	78516216	77,005	0.077005	7.49	1.840									1.18
12/6/2016	Angel Trujillo	78516216	78590992	74,776	0.074776	7.60	1.840									1.15
12/7/2016	Angel Trujillo	78590992	78667392	76,400	0.0764	7.38	1.840									1.17
12/8/2016	Angel Trujillo	78667392	78745926	78,534	0.078534	7.59	1.840									1.21
12/9/2016	Angel Trujillo	78745926	78828724	82,798	0.082798	7.56	1.840									1.27
12/10/2016	Angel Trujillo	78828724	78910977	82,253	0.082253	7.41	1.840									1.26
12/11/2016	Angel Trujillo	78910977	78986587	75,610	0.07561	7.40	1.840									1.16
12/12/2016	Angel Trujillo	78986587	79062196	75,610	0.07561	7.61	1.840									1.16
12/13/2016	Angel Trujillo	79062196	79139978	77,782	0.077782	7.75	1.840									1.19
12/14/2016	Angel Trujillo	79139978	79217552	77,574	0.077574	7.48	1.840									1.19
12/15/2016	Angel Trujillo	79217552	79302484	84,932	0.084932	7.03	1.840	<5.3	<20		<0.010	<0.030	<0.010	0.00022	<0.020	1.30
12/16/2016	Angel Trujillo	79302484	79377374	74,890	0.07489	7.46	1.840									1.15
12/17/2016	Angel Trujillo	79377374	79458446	81,072	0.081072	7.47	1.840									1.24
12/18/2016	Angel Trujillo	79458446	79534818	76,372	0.076372	7.60	1.840									1.17
12/19/2016	Angel Trujillo	79534818	79611190	76,372	0.076372	7.58	1.840									1.17
12/20/2016	Angel Trujillo	79611190	79687768	76,578	0.076578	7.51	1.840									1.18
12/21/2016	Angel Trujillo	79687768	79767894	80,126	0.080126	7.58	1.840									1.23
12/22/2016	Angel Trujillo	79767894	79849842	81,948	0.081948	7.64	1.840									1.26
12/23/2016	Angel Trujillo	79849842	79928138	78,296	0.078296	7.59	1.840									1.20
12/24/2016	Angel Trujillo	79928138	80010060	81,922	0.081922	7.66	1.840									1.26
12/25/2016	Angel Trujillo	80010060	80087149	77,089	0.077089	7.50	1.840									1.18
12/26/2016	Angel Trujillo	80087149	80164238	77,089	0.077089	7.66	1.840									1.18
12/27/2016	Angel Trujillo	80164238	80241838	77,600	0.0776	7.61	1.840									1.19
12/28/2016	Angel Trujillo	80241838	80318532	76,694	0.076694	7.56	1.840									1.18
12/29/2016	Angel Trujillo	80318532	80397374	78,842	0.078842	7.76	1.840									1.21
12/30/2016	Angel Trujillo	80397374	80475524	78,150	0.07815	7.68	1.840									1.20
12/31/2016	Angel Trujillo	80475524	80557582	82,058	0.082058	7.61	1.840									1.26
TOTAL				2,431,914	2.431914			<5.3	<20		<0.010	<0.030	<0.010	0.00022	<0.020	
			High:	84,932											High:	1.30
			Average:	78,449											Average:	1.20

WW

E

J133792

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell

Chain Of Custody / Analysis Request

AESI Ref: 42719.53324
COC#: 087-WW-121516

Privileged & Confidential

Site Name: Hudson County
Location of Site: Jersey City, NJ
Phase: CS
Sampling Program: 087: JCIA
Lab Proj # (SDG):
Lab ID: ACTB
Site ID: HudsonCo
Lab Job #: HWINJM32815
Authorized User: Honeywell

Sampling Co.: MACTEC
EDD To:
Client Contact: (name, co., address)
Sampler: Frank Schroyer
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com
PO #
Honeywell International
115 Tabor Road, Morris Plains, NJ 07950
Preliminary Data To
Sample Receipt Acknowledgement To
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Full Report TAT: 28 Days

Test & Certificate Order | Field & Test Data Order

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	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
	Sample Identification										Units																
													Preservative	3	3	3	1	2	2	0	0	2					
1	087-WW			087-WWE-121516-A	12/15/2016	14:15	WW	WATER	REG	5	comp	N	X	X	X	X			X	X		1					
2	087-WW			087-WWE-121516-B	12/15/2016	14:20	WW	WATER	REG	5	grab	N					X	X				2					A26
3	087-WW			087-WWI-121516	12/15/2016	14:25	WW	WATER	REG	3	grab	N									X	3					M25
4																											C33
5																											V840
6																											
7																											
8																											
9																											
10																											
11																											
12																											

INITIAL ASESSMENT 2A DOM
LABEL VERIFICATION

Relinquished by	Company	Received by	Company	Condition	Custody Seals Intact
7.03 SU. @ 2.2°C	AMEC Foster Wheeler				
Frank Schroyer — Date/Time: 12/15/16		R Temp 15:05 — Date/Time		Cooler Temp.	
Relinquished by	Company	Received by	Company: SGS	Condition	Custody Seals Intact
R. Temp — Date/Time: 12-15-16 17:50		— Date/Time: 12/15 1750		Cooler Temp.	

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

#310 - 2.7C IP

ALL SAMPLES RECEIVED

SGS Accutest LabLink@941782 14:00 10-Jan-2017

Report of Analysis

4.1
4

Client Sample ID:	087-WWE-121516-A		
Lab Sample ID:	JC33792-1	Date Sampled:	12/15/16
Matrix:	AQ - Water	Date Received:	12/15/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1840	10	ug/l	1	12/16/16	12/19/16	ND	EPA 200.7 [2]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	12/16/16	12/19/16	ND	EPA 200.7 [2]	EPA 200.7 [4]
Lead [a]	< 30	30	ug/l	10	12/16/16	12/20/16	ND	EPA 200.7 [3]	EPA 200.7 [4]
Mercury	0.22	0.20	ug/l	1	12/19/16	12/19/16	MS	EPA 245.1 [1]	EPA 245.1 [5]
Nickel	< 10	10	ug/l	1	12/16/16	12/19/16	ND	EPA 200.7 [2]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	12/16/16	12/19/16	ND	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA40990
(2) Instrument QC Batch: MA40995
(3) Instrument QC Batch: MA41003
(4) Prep QC Batch: MP97678
(5) Prep QC Batch: MP97718

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

SGS Accutest LabLink@941782 14:00 10-Jan-2017

Report of Analysis

Client Sample ID:	087-WWE-121516-A		
Lab Sample ID:	JC33792-1	Date Sampled:	12/15/16
Matrix:	AQ - Water	Date Received:	12/15/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.1

4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	12/19/16 12:15	BM	SM2540 D-11
pH [a]	6.87		su	1	12/15/16 19:39	JM	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

SGS Accutest LabLink@941782 14:00 10-Jan-2017

Report of Analysis

Client Sample ID:	087-WWE-121516-A		
Lab Sample ID:	JC33792-1A	Date Sampled:	12/15/16
Matrix:	AQ - Water	Date Received:	12/15/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.2 4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 20	20	mg/l	1	12/15/16 22:28	SA	SM5210 B-11

RL = Reporting Limit

SGS ACCUTEST JC33792

SGS Accutest LabLink@941782 14:00 10-Jan-2017

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-121516-B		
Lab Sample ID:	JC33792-2	Date Sampled:	12/15/16
Matrix:	AQ - Water	Date Received:	12/15/16
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	N260202.D	1	12/16/16	SC	n/a	n/a	VN10980
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	10	1.3	ug/l	
107-13-1	Acrylonitrile	ND	10	1.2	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	4.2	1.0	0.11	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.14	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	3.6	1.0	0.19	ug/l	
108-90-7	Chlorobenzene	0.26	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.19	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.73	ug/l	
67-66-3	Chloroform	27.1	1.0	0.11	ug/l	
74-87-3	Chloromethane	ND	1.0	0.22	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.19	ug/l	
95-50-1	1,2-Dichlorobenzene	0.37	1.0	0.15	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.15	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.54	ug/l	
75-34-3	1,1-Dichloroethane	0.58	1.0	0.16	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.22	ug/l	
156-59-2	cis-1,2-Dichloroethene	71.7	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.9	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.17	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.16	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.17	ug/l	
123-91-1	1,4-Dioxane	ND	130	27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.11	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	ND	1.0	0.16	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.18	ug/l	

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS ACCUTEST JC33792

SGS Accutest LabLink@941782 14:00 10-Jan-2017

Report of Analysis

Client Sample ID:	087-WWE-121516-B		
Lab Sample ID:	JC33792-2	Date Sampled:	12/15/16
Matrix:	AQ - Water	Date Received:	12/15/16
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3 4

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.12	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.17	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.18	ug/l	
79-01-6	Trichloroethene	65.8	1.0	0.16	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.55	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.19	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	104%		72-125%
2037-26-5	Toluene-D8 (SUR)	101%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	98%		74-115%
1868-53-7	Dibromofluoromethane (S)	105%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@941782 14:00 10-Jan-2017

Report of Analysis

Client Sample ID:	087-WWE-121516-B		
Lab Sample ID:	JC33792-2	Date Sampled:	12/15/16
Matrix:	AQ - Water	Date Received:	12/15/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3

4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.3	5.3	mg/l	1	12/20/16 20:45	CB	EPA 1664A

RL = Reporting Limit

Attachment 5: Site Photographs

Site Photograph 3: View of north slope SA-6 South Open Space Area.

Site Photograph 4: View west of SA-6 South restoratiopn area.

Site Photograph 1: View east of north slope of SA-6 South Open Space Area.

Site Photograph 2: View looking Southwest of SA-6 South Open Space Area.

Attachment 6: Long-Term Monitoring Update

Table 1: Summary of Groundwater Sample Analytical Results (SA-6 South)
Table 2: Groundwater Elevation Monitoring (SA-6 North)
Table 3: Groundwater Elevation Monitoring (SA-6 South)
Table 4: Methane Monitoring (SA-6 North and South)
Table 5: Groundwater Elevations in SA-7 Piezometers
Figure 1: SA-6 North & South Contingent Groundwater Extraction Trenches and Sampled Monitoring Well Locations
Figure: SA-6 North Cap GVL/GCL Layout (Class A Geotextile/Gas Vent Layer/ Geosyntheic Clay Liner)
Figure: SA-6 South Cap GVL/GCL Layout (Class A Geotextile/Gas Vent Layer/ Geosyntheic Clay Liner)
Figure: As-Built Locations of SA-7 Interior Pool Piezometers

TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS - JANUARY 2017
Study Area 6 South Development AOC
Honeywell International Inc.
Jersey City, New Jersey

Client Sample ID:	Groundwater Quality Standard (GWQS)	Units	073-MW-06-011717		073-MW-06-011717F		073-MW-07-011717		073-MW-07-011717F		073-MW-08-011917		073-MW-08-011917F		124-MW-12-011817		124-MW-12-011817F	
Lab Sample ID			JC35733-2		JC35733-2F		JC35620-1		JC35620-1F		JC35794-1		JC35794-1F		JC35733-3		JC35733-3F	
Date Sampled:			01/18/2017		01/18/2017		01/17/2017		01/17/2017		01/19/2017		01/19/2017		01/18/2017		01/18/2017	
Matrix:			Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
Filtered:			Unfiltered		Filtered		Unfiltered		Filtered		Unfiltered		Filtered		Unfiltered		Filtered	
Metals Analysis																		
CHROMIUM	70	µg/L	10.0	U	10.0	U	4.0	U	4.0	U	10.0	U	10.0	U	10.0	U	10.0	U
General Chemistry																		
HEXAVALENT CHROMIUM	-	mg/L	0.0055	U	0.0055	U	0.0055	U	0.0055	U	0.0055	U	0.0055	U	0.0055	U	0.0055	U

Notes:
GWQS: NJDEP Groundwater Quality Standards ,
N.J.A.C 7:9C; last amended 7/20/2010
Bolded and highlighted concentrations exceed the GWQS

Bolded only indicates detections below the GWQS
µg/L: micrograms per liter
mg/L: milligrams per liter
U: Not detected above method detection limit
J: Estimated concentration

Prepared By: JLD 02/10/2017
Checked By: NAW 02/10/2017

TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS - JANUARY 2017
Study Area 6 South Development AOC
Honeywell International Inc.
Jersey City, New Jersey

Client Sample ID:	Groundwater Quality Standard (GWQS)	Units	124-MW-13-011817		124-MW-13-011817F		125-MW-02-011717		125-MW-02-011717F		125-MW-03-011817		125-MW-03-011817-F		125-MW-03-011817-DP		125-MW-03-011817-DPF		134-MW-03-011917		134-MW-03-011917F		134-MW-04-011917		134-MW-04-011917F	
Lab Sample ID			**JC35733-1**		**JC35733-1F**		**JC35620-2**		**JC35620-2F**		**JC35733-5**		**JC35733-5F**		**JC35733-6**		**JC35733-6F**		**JC35794-4**		**JC35794-4F**		**JC35794-2**		**JC35794-2F**	
Date Sampled:			**01/18/2017**		**01/18/2017**		**01/17/2017**		**01/17/2017**		**01/18/2017**		**01/18/2017**		**01/18/2017**		**01/18/2017**		**01/19/2017**		**01/19/2017**		**01/19/2017**		**01/19/2017**	
Matrix:			**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**		**Groundwater**	
Filtered:			**Unfiltered**		**Filtered**		**Unfiltered**		**Filtered**		**Unfiltered**		**Unfiltered**		**Unfiltered**		**Filtered-0.1 µ**		**Unfiltered**		**Filtered**		**Unfiltered**		**Filtered**	
Metals Analysis																										
CHROMIUM	70	µg/L	10.0	U	10.0	U	**3,260**		**14**		10.0	U	10.0	U	10.0	U	10.0	U	**24.8**		10.0	U	10.0	U	10.0	U
General Chemistry																										
HEXAVALENT CHROMIUM	-	mg/L	0.0055	U	0.0055	U	0.0055	U	0.0055	U	0.0055	U	0.0055	U	0.0055	U	0.0055	U	0.0055	U	0.0055	U	0.0055	U	0.0055	U

Notes:
GWQS: NJDEP Groundwater Quality Standards , N.J.A.C 7:9C; last amended 7/20/2010
Bolded and highlighted concentrations exceed the GWQS

Bolded only indicates detections below the GWQS
µg/L: micrograms per liter
mg/L: milligrams per liter
U: Not detected above method detection limit
J: Estimated concentration

Prepared By: JLD 02/10/2017
Checked By: NAW 02/10/2017

TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS - JANUARY 2017
Study Area 6 South Development AOC
Honeywell International Inc.
Jersey City, New Jersey

Client Sample ID:	Groundwater Quality Standard (GWQS)	Units	140-MW-09-011917		140-MW-09-011917F		140-MW-10-011917		140-MW-10-011917F		163-MW-02R-011817		163-MW-02R-011817F		163-FB-011717		163-FB-011817		163-FB-011917	
Lab Sample ID			JC35794-3		JC35794-3F		JC35794-5		JC35794-5F		JC35733-4		JC35733-4F		JC35620-3		JC35733-7		JC35794-6	
Date Sampled:			01/19/2017		01/19/2017		01/19/2017		01/19/2017		01/18/2017		01/18/2017		01/17/2017		01/18/2017		01/19/2017	
Matrix:			Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
Filtered:			Unfiltered		Filtered		Unfiltered		Filtered		Unfiltered		Filtered		Unfiltered		Unfiltered		Unfiltered	
Metals Analysis																				
CHROMIUM	70	µg/L	**14.4**		10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	4.0	U	10.0	U	10.0	U
General Chemistry																				
HEXAVALENT CHROMIUM	-	mg/L	0.0055	U	0.0055	U	0.0055	U	0.0055		0.0055	U	0.0055	U	0.0055	U	0.0055	U	0.0055	U

Notes:
GWQS: NJDEP Groundwater Quality Standards , N.J.A.C 7:9C; last amended 7/20/2010
Bolded and highlighted concentrations exceed the GWQS

Bolded only indicates detections below the GWQS
µg/L: micrograms per liter
mg/L: milligrams per liter
U: Not detected above method detection limit
J: Estimated concentration

Prepared By: JLD 02/10/2017
Checked By: NAW 02/10/2017

TABLE 2

Groundwater Elevation Monitoring

Study Area 6 North
Honeywell International Inc.
Jersey City, New Jersey

	SA-6 North Cap Contingent Groundwater System Water Elevations			
	Access MH#1 STA 1+50	Extraction Pump Station #1	Extraction Pump Station #2	Access MH#2 STA 18+00
10/1/2015	Temp. Unavailable	4.60	2.74	2.81
10/28/2015	Temp. Unavailable	4.65	2.97	3.06
12/1/2015	Temp. Unavailable	4.58	2.05	2.22
12/30/2015	Temp. Unavailable	5.40	1.54	4.34
2/1/2016	Temp. Unavailable	7.73	2.45	6.24
3/1/2016	0.80	0.90	0.60	3.34
4/1/2016	1.00	1.70	0.72	2.19
5/2/2016	0.79	1.30	1.09	2.00
6/1/2016	1.10	1.21	1.43	2.14
6/28/2016	1.25	1.45	1.80	2.27
7/27/2016	1.25	1.45	1.80	2.27
8/29/2016	2.63	2.77	2.89	3.02
9/29/2016	1.54	1.53	3.25	3.32
11/4/2016	2.25	2.47	3.32	3.19
12/1/2016	2.64	2.86	3.46	3.36
1/17/2017	Temp. Unavailable	3.16	3.51	3.36

	SA-6 North Monitoring Wells								
	087-MW-132	087-MW-133	087-MW-134	115-W6-SO	115-W1-SO	115-E4-SO	115-E5-SO	088-MW-112	088-MW-111
10/1/2015	5.16	5.08	5.07	5.76	NR	3.24	3.65	NR	NR
10/28/2015	5.48	5.52	5.56	6.06	6.92	3.94	4.05	NR	NR
12/1/2015	5.26	5.23	5.37	5.56	6.22	3.64	3.85	2.18	2.25
12/30/2015	5.75	5.80	5.83	6.85	7.55	4.93	4.75	Temp. Unavailable	Temp. Unavailable
2/1/2016	5.94	Temp. Unavailable	6.06	7.52	7.72	6.18	Temp. Unavailable	2.73	3.02
3/1/2016	6.23	3.60	6.28	3.96	5.12	4.94	5.37	3.63	3.72
4/1/2016	5.89	5.89	5.88	2.51	3.52	2.69	4.27	3.12	3.17
5/2/2016	5.71	5.74	5.70	2.10	Temp. Unavailable	2.63	4.10	2.89	3.02
6/1/2016	5.60	5.70	5.68	1.66	2.48	2.55	3.02	2.79	2.89
6/28/2016	5.72	5.74	5.70	1.73	2.35	2.42	3.23	2.60	2.69
7/27/2016	5.98	6.22	6.05	2.00	2.34	2.62	3.25	2.93	3.00
8/29/2016	5.40	5.43	5.46	2.65	2.77	3.16	2.56	3.05	3.10
9/29/2016	5.16	5.18	5.22	1.71	2.99	3.27	3.32	2.80	2.90
11/4/2016	5.63	5.71	5.71	2.43	2.39	3.37	3.29	2.74	Abandoned
12/1/2016	6.44	6.71	6.57	2.84	2.47	3.54	4.13	2.96	Abandoned
1/17/2017	6.71	6.78	6.80	3.16	2.75	3.60	4.18	3.42	Abandoned

Prepared by: JLD 02/09/2017
Reviewed by: DEN 02/09/2017

TABLE 2

Groundwater Elevation Monitoring

Study Area 6 North

Honeywell International Inc.

Jersey City, New Jersey

	SA-6 North Piezometers									
	087-PZ-1	087-PZ-2	087-PZ-3	087-PZ-4	087-PZ-5	087-PZ-6	087-PZ-7	087-PZ-8	087-PZ-9	087-PZ-10
10/1/2015	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
10/28/2015	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
12/1/2015	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
12/30/2015	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
2/1/2016	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
3/1/2016	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
4/1/2016	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
5/2/2016	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
6/1/2016	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
6/28/2016	3.47	2.66	2.73	3.05	Temp. Unavailable	Temp. Unavailable	5.48	1.44	2.12	1.72
7/27/2016	3.54	2.68	2.85	3.22	Temp. Unavailable	Temp. Unavailable	5.63	1.52	2.11	1.86
8/29/2016	3.35	3.21	3.11	3.18	Temp. Unavailable	Temp. Unavailable	5.22	2.50	2.50	2.58
9/29/2016	3.21	3.21	2.80	3.27	Temp. Unavailable	Temp. Unavailable	4.96	1.50	3.03	1.48
11/4/2016	3.53	3.31	2.76	3.38	3.70	3.25	5.36	2.32	2.51	2.37
12/1/2016	4.96	3.27	3.00	3.46	5.82	3.39	6.39	2.64	2.77	2.99
1/17/2017	4.59	3.60	3.45	3.51	5.30	3.50	6.41	2.97	2.07	3.18

Notes

NI	Not Installed at time of measurement
Temp. Unavailable	Could not be accessed
NR	Not Recorded
NAVD88	North American Vertical Datum of 1988
Elev.	Groundwater Elevation, feet NAVD88

Prepared by: JLD 02/09/2017
Reviewed by: DEN 02/09/2017

TABLE 3

Groundwater Elevation Monitoring

Study Area 6 South
Honeywell International Inc.
Jersey City, New Jersey

	SA-6 South Cap Contingent Groundwater System Water Elevations			
	Pump Station	Access MH #1	Access MH #2	Access MH #3
10/1/2015	0.42	0.58	1.62	1.73
10/28/2015	0.82	0.68	1.62	1.72
12/1/2015	1.74	1.48	1.64	1.66
12/30/2015	1.97	1.84	0.87	1.88
2/1/2016	2.25	2.08	2.17	2.16
3/1/2016	2.52	2.48	Temp. Unavailable	2.46
4/1/2016	2.86	2.68	2.77	2.69
5/2/2016	2.80	2.79	2.73	2.86
6/1/2016	3.00	2.98	2.95	3.01
6/28/2016	3.05	3.16	3.19	3.19
7/27/2016	3.21	3.31	3.35	3.36
8/29/2016	3.40	3.45	3.45	3.46
9/29/2016	3.49	3.56	3.51	3.51
11/4/2016	3.52	3.55	3.56	3.54
12/1/2016	3.61	3.63	3.63	3.61
1/17/2017	3.61	3.67	3.67	3.61

	SA-6 South Monitoring Wells								
	115-W3-SO	115-W5-SO	115-E1A-SO	073-MW-07	124-MW-11	124-MW-12	134-MW-03	140-MW-10	163-MW-1
10/1/2015	1.16	1.58	1.83	NR	NR	NR	NR	NR	NR
10/28/2015	1.26	1.48	1.93	NR	NR	NR	NR	NR	NR
12/1/2015	1.66	1.58	1.73	NR	NR	NR	NR	NR	NR
12/30/2015	1.83	1.85	1.83	NR	NR	NR	NR	NR	NR
2/1/2016	2.12	2.13	2.18	NR	NR	NR	NR	NR	NR
3/1/2016	2.26	2.48	2.53	NR	NR	NR	NR	NR	NR
4/1/2016	2.59	2.69	2.73	NR	NR	NR	NR	NR	NR
5/2/2016	2.60	2.83	2.86	NR	NR	NR	NR	NR	NR
6/1/2016	2.82	3.00	2.68	2.99	5.07	5.03	3.61	3.91	3.26
6/28/2016	3.07	3.18	3.21	3.85	4.67	6.24	4.18	3.70	3.32
7/27/2016	3.06	3.30	3.17	3.88	4.73	6.17	4.20	3.86	3.34
8/29/2016	3.35	3.48	3.52	2.96	4.21	4.40	3.48	3.70	3.88
9/29/2016	3.45	3.52	3.57	2.94	4.14	4.91	3.31	3.56	3.53
11/4/2016	3.57	3.57	3.60	3.78	4.59	4.65	3.91	4.25	3.84
12/1/2016	3.65	3.65	3.69	4.43	6.12	5.82	4.44	4.97	4.18
1/17/2017	3.69	3.70	3.73	4.00	5.29	5.85	4.76	5.60	4.21

Prepared by: JLD 02/09/2017
Reviewed by: DEN 02/09/2017

TABLE 3

Groundwater Elevation Monitoring

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

	SA-6 South Piezometers									
	124-PZ-11	124-PZ-12	124-PZ-13	124-PZ-14	124-PZ-15	124-PZ-16	124-PZ-17	124-PZ-18	124-PZ-19	124-PZ-20
10/1/2015	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
10/28/2015	3.64	2.55	4.54	1.94	4.23	1.91	4.07	1.13	4.96	0.88
12/1/2015	3.09	2.15	4.36	1.77	3.86	1.59	3.61	1.63	2.79	1.71
12/30/2015	6.04	2.44	6.17	1.95	4.76	1.81	4.74	1.69	3.13	1.94
2/1/2016	6.34	2.77	7.04	2.58	5.79	2.13	5.87	2.13	2.76	2.18
3/1/2016	6.49	3.17	6.82	3.13	5.76	2.49	5.17	2.48	2.41	2.48
4/1/2016	4.81	3.22	5.98	2.93	5.16	2.78	4.27	2.74	2.59	2.83
5/2/2016	3.96	3.11	5.42	2.98	4.63	2.88	3.66	2.64	2.71	2.95
6/1/2016	5.65	3.22	5.68	3.13	3.67	3.00	3.73	2.97	2.71	3.03
6/28/2016	4.51	3.43	5.27	3.38	4.39	3.28	3.65	2.93	2.82	3.25
7/27/2016	5.63	3.49	5.17	3.43	4.36	3.35	3.91	3.01	2.81	3.41
8/29/2016	4.22	3.58	4.89	3.62	4.24	3.55	3.55	3.20	3.04	3.56
9/29/2016	3.64	3.48	4.30	3.52	3.90	3.54	3.36	3.12	4.26	3.57
11/4/2016	4.38	3.46	4.96	3.57	4.44	3.62	3.91	3.26	3.63	3.72
12/1/2016	5.11	3.71	3.72	3.67	4.84	3.75	4.52	3.44	3.82	3.78
1/17/2017	6.82	3.88	6.89	3.89	5.72	3.79	4.82	3.45	2.93	3.82

Notes

NI	Not Installed at time of measurement
Temp. Unavailable	Could not be accessed
NR	Not Recorded
NAVD88	North American Vertical Datum of 1988
Elev.	Groundwater Elevation, feet NAVD88

Prepared by: JLD 02/09/2017
Reviewed by: DEN 02/09/2017

TABLE 4
Methane Monitoring
Study Area 6 South and North
Honeywell International Inc.
Jersey City, New Jersey

	Project:	SA-6 LTMP: Methane Monitoring			Data Collectors:	Jenna Desiderio & Mike Senna
	Date:	1/26/2017				
South Cap	**Vent Number**	**Time**	**Methane Reading (%)**	**Methane (% of LEL)**	**Velocity (ft/min)**	**Barometric Pressure (inHg)**
	SGV-7 (Closest to Water)	10:10	2.0	40%	16.0	29.41
	SGV-6	10:14	0.0	0%	2.0	29.41
	SGV-5	10:20	0.0	0%	76.0	29.41
	SGV-4	10:24	0.2	4%	84.0	29.41
	SGV-3	10:27	0.2	4%	7.0	29.41
	SGV-2	10:31	0.0	0%	1.0	29.40
	SGV-1	10:34	0.1	2%	30.0	29.40
	SGV-0 (Closest to 440)	10:36	0.0	0%	0.0	29.39
North Cap	**Vent Number**	**Time**	**Methane Reading (%)**	**Methane (% of LEL)**	**Velocity (ft/min)**	**Barometric Pressure (inHg)**
	GV-6 (Closest to Water)	10:43	3.7	74%	13.0	29.39
	GV-5	10:47	0.1	2%	26.0	29.39
	GV-4	10:49	0.4	8%	26.0	29.38
	GV-3	10:52	0.9	18%	71.0	29.38
	GV-2	10:54	0.0	0%	39.0	29.38
	GV-1 (Closest to 440)	10:56	0.4	8%	39.0	29.38

SGV-7		
Time	**Velocity (ft/min)**	**Barometric Pressure (inHg)**
6:29	22	29.42
7:05	27	29.42
7:38	2	29.42
8:03	12	29.42
8:37	26	29.42
9:04	7	29.42
9:34	37	29.41
10:09	16	29.41
10:41	13	29.40
11:07	25	29.39
11:35	26	29.38
12:14	26	29.35
13:03	73	29.33
13:32	79	29.31
14:00	-55	29.33
14:32	-47	29.32
15:01	-59	29.35
15:27	-69	29.37
16:03	-72	29.38
16:33	-77	29.40

Notes

Methane Lower Explosive Limit	
Exceedance of Lower Explosive Limit	
inHg	Inches of Mercury
ft/min	Feet per Minute
%	Percent

Prepared by: JLD 02/10/2017
Reviewed by: DEN 02/10/2017

TABLE 5

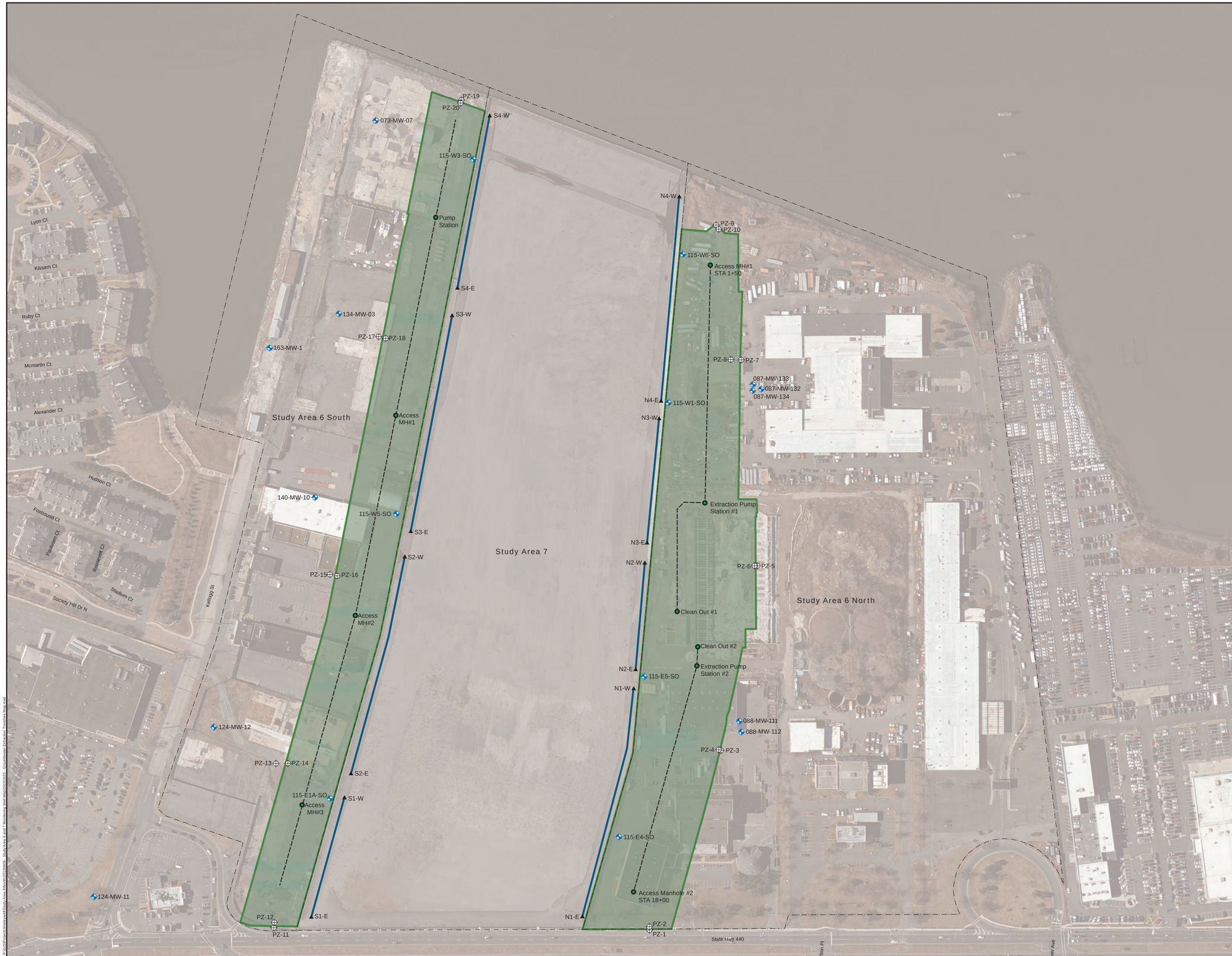
Groundwater Elevations in SA-7 Piezometers
Study Area 7
Honeywell International Inc.
Jersey City, New Jersey

Piezometer Name	115-PZ-500			115-PZ-501			115-PZ-502			115-PZ-503		
	TOC	DTW	Elev.	TOC	DTW	Elev.	TOC	DTW	Elev.	TOC	DTW	Elev.
2/1/2017	6.67	2.21	4.46	14.47	9.05	5.42	14.51	9.69	4.82	7.32	2.65	4.67
2/3/2017	6.67	2.16	4.51	14.47	9.08	5.39	14.51	9.72	4.79	7.32	2.65	4.67

Notes

TOC	Top of Casing, feet NAVD88
DTW	Depth to Water Reading, feet from TOC
NAVD88	North American Vertical Datum of 1988
Elev.	Groundwater Elevation, feet NAVD88

Prepared By: JLD 02/10/2017
Checked By: DEN 02/10/2017



Legend

- Piezometer Location
- Existing Monitoring Well Location
- Groundwater Collection Manhole (approx.)
- Standpipe Location
- Perimeter Pool Location (approx.)
- Contingent Groundwater Trenches (approx.)
- Cap Area
- Study Area Boundary

Source:
New Jersey 2012 - 2013 High Resolution Orthophotography, NAD83 NJ State Plane Feet, MrSID Tile; NJ Office of Information Technology (NJOIT), Office of Geographic Information Systems (OGIS); Trenton, NJ; 2013/03.

120 60 0 120 240
SCALE IN FEET

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

Amec Project No.
3480130354

Prepared/Date
WSL 05/28/2014

Checked/Date

Figure 1
SA-6 North & South Contingent Groundwater Extraction Trenches and Sampled Monitoring Well Locations
Study Area 6 & Study Area 7
Jersey City, New Jersey

Path: P:\GIS\Projects\Honeywell\Study Area 6\North\20130909_Study Area 6 and 7 Monitoring Well Map\20131023_Groundwater Extraction Trenches Map.mxd

LEGEND

- CLASS A/16 OZ GEOTEXTILE
- GEOCOMPOSITE GAS VENT LAYER (GVL)
- GEOSYNTHETIC CLAY LINER (GCL)
- GAS VENT (NOT TO SCALE)
- GAS VENT PIPE
- SCB WALL
- HB WALL (Inner Edge)

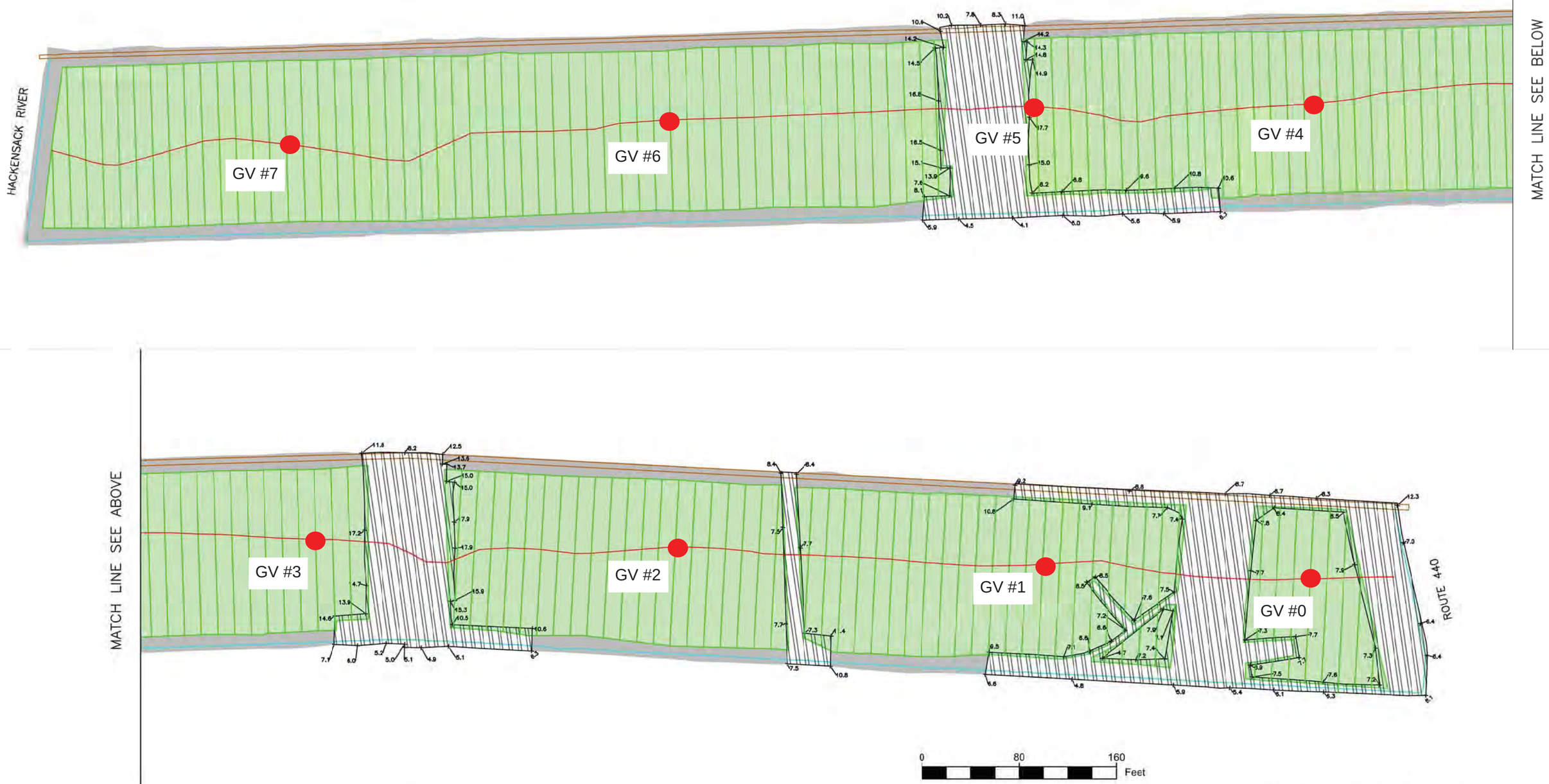
NOTE: Drawing is schematic in nature. Actual seam locations may vary due to the geomembrane grading.

REV	DATE	BY	CHK'D	APPR'VD	DESCRIPTION
0	10/27/16	EP	CP	CP	RECORD DRAWING
1	11/04/16	EP	CP	CP	RECORD DRAWING

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SA6 NORTH CAP GVL/GCL Layout
Class A Geotextile/Gas Vent Layer/Geosynthetic Clay Liner
11/04/16

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



LEGEND

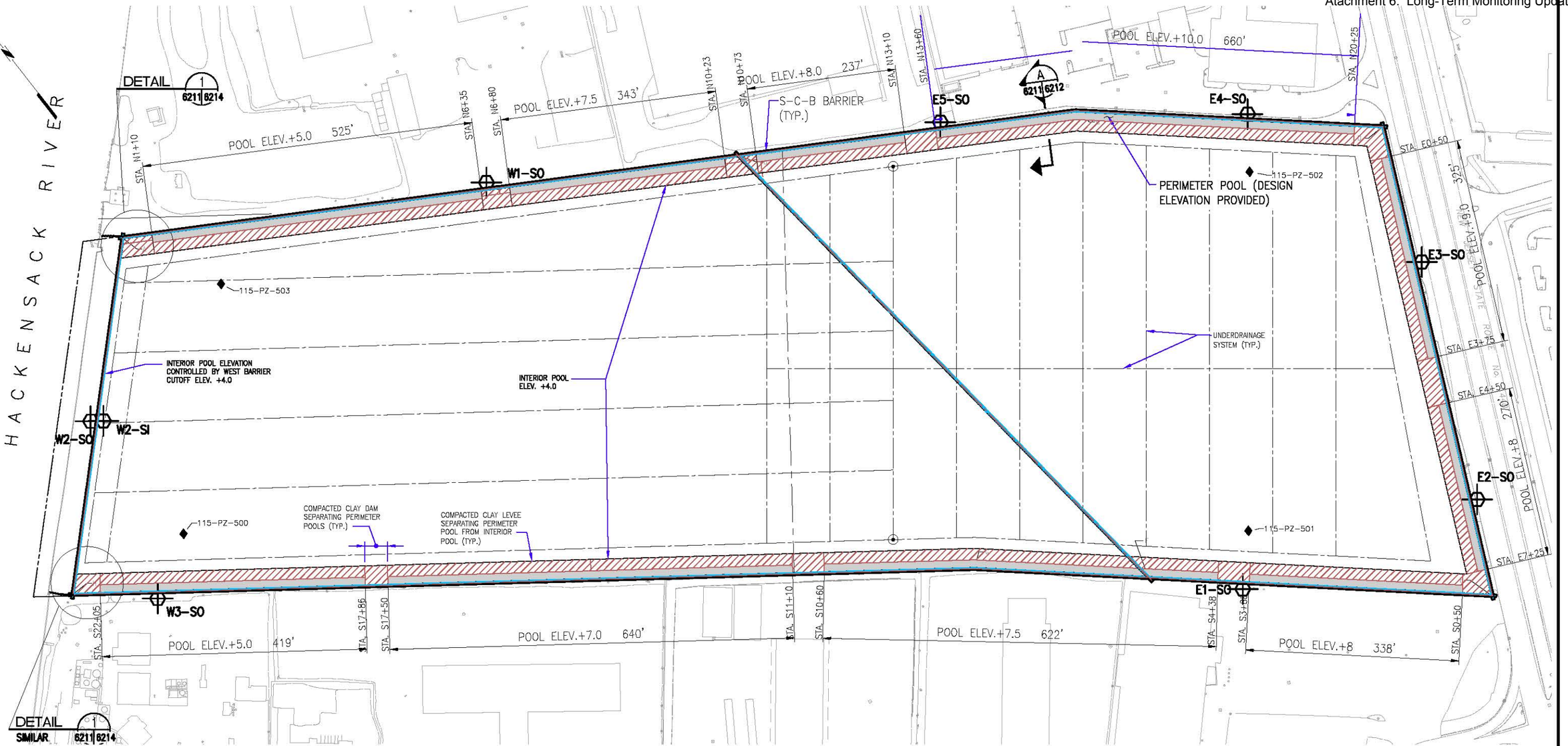
- GEOCOMPOSITE GAS VENT LAYER (GVL)
- GEOSYNTHETIC CLAY LINER (GCL)
- Class A/16 oz Geotextile
- SCB WALL
- HB WALL (Inner Edge)
- GAS VENT PIPE
- GAS VENT (NOT TO SCALE)
- X 0.0 SPOT ELEVATION (ft)

J.H. 01/28/2016

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SA6 SOUTH CAP GVL/GCL LAYOUT
Class A Geotextile/Gas Vent Layer/Geosythetic Clay Liner
01/28/16

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



Legend:

10 / 9 – CONTOUR OF FINISHED GRADE

♦ – PROPOSED NEW SA-7 PIEZOMETE

– PERIMETER POOL

– SCB WALL

Notes:

1. For locations of perimeter pools and under drains see Drawing No. 1700-R.
2. For locations of underground utilities see Drawing No. 1701-R.
3. As-Built information was taken from final grades Drawing, SA7 and SA6 North/South, prepared by Entact, Dated 04/12/2010.

0 40 80 160
SCALE IN FEET

REV.	DATE	STATUS	PRPD BY	CHKD BY

Amec Foster Wheeler PROJECT No. 3480160527
DRAWING: 6-1800-R

PREPARED/DATE: STR 01/24/17
CHECKED/DATE: DEN 01/25/17

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE, Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

AS-BUILT LOCATIONS OF SA-7
INTERIOR POOL PIEZOMETERS
STUDY AREA 7 (SA-7)
JERSEY CITY, NEW JERSEY

APPENDIX T

PART 17 OF 22

SA-6 NORTH
DECLARATION #3
AND
MAY 18, 2016 EMAIL TO NJDOT

CHROMIUM REMEDY
SA-6 NORTH

DECLARATION # 3

UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY

JERSEY CITY INCINERATOR AUTHORITY,

Plaintiffs,

v.

HONEYWELL INTERNATIONAL INC., et al.,

Defendants.

Civil Action No. 05-5993 Consolidated with Docket No 05-5955 under Docket No. 95-2097 (DMC)
Civil Action No 06-22 Consolidated with Docket No. 05-5955 (DMC) under Docket No. 95-2097

Civil Action No. 06-0022 (JLL)
(Consolidated under Civ. No. 05-5955 (JLL))

SA-6 North Consent Decree Declaration #3

On August 14, 2012, the United States District Court for the District of New Jersey entered into the First Amended Consent Decree Regarding Remediation and Redevelopment of Study Area 6 North ("Consent Decree"); pursuant to Article III, Honeywell may file one or more Declarations showing compliance with said SA-6 North Consent Decree. The initial SA-6 South Consent Decree Declaration ("Declaration #1) was filed by Honeywell with the consent of the other parties to memorialize Honeywell's partial compliance with the terms of the SA-6 South Consent Decree on March 18, 2016, ECF No. 1403-1. A second SA-6 South Declaration (Declaration #2) was filed by Honeywell on January 30, 2017, ECF No. 1464-1 with the consent of the other parties to memorialize partial compliance with the terms of the SA-6 South Consent Decree completed subsequent to Declaration #1. This Declaration #3 is hereby filed by Honeywell with the consent of the other parties to memorialize Honeywell's partial compliance with the terms of the SA-6 North Consent Decree. Declaration #3 is the third declaration for the Study Area 6 North and Study Area 6 South remediation.

We, the undersigned, declare as follows:

1. William J. Hague is Director of Remediation Design and Construction for Honeywell International Inc. ("Honeywell") for Study Area 6 North (SA-6 North) New Jersey

Department of Environmental Protection (NJDEP) Sites 087 and 088 ("Site"). Mr. Hague has direct responsibility on behalf of Honeywell for the management of remediation construction activities at SA-6 North related to the implementation of the Chromium Remedy as defined in Article III of the Consent Decree. Remediation and site restoration activities were performed in accordance with the Consent Decree, the NJDEP Technical Requirements for Site Remediation, and the NJDEP-approved *Remedial Action Selection Report (RASR)/Remedial Action Work Plan (RAWP)* to address chromium contamination at SA-6 North, dated January 2008 and amended in February 2008; the SA-6 Chromium Remedy 100% Design Report dated June 28, 2013 ("Final 100% Design"); and seven field changes (DC 2013-8-14 - "Hydraulic Barrier/ Surcharge Relocation Adjacent 72 inch FM," DC 2014-8-13 - "Barrier Wall Sedimentation Basin," DC 2014-9-2 - "Re-align Barrier Wall due to 72 in. FM Field Verified Location," DC 2015-3-30 - "Barrier Wall Realignment SA-6N Station 8+25," DC 2015-9-4 - "Additional Excavation Areas: EA-8, EA-2&3, and EA-5," DC 2015-11-18 - "Additional Excavation Areas: EA-8 and EA-2 & EA-3," and DC 2015-11-30 - "EA-2 & 3 Clarifications and EA-8 Supplemental Excavation") that materially impacted the Final 100% Design (referred to herein as "Design Changes"), with the continued oversight and supervision of the appointed Special Master. The Final 100% Design, including Design Drawings and Technical Specifications, was developed consistent with the Consent Decree and NJDEP-approved RAWP and was approved by all Parties. On June 12, 2013, the Special Master approved the SA-6 100% Design for submittal to the Court so that the proposed implementation of the remedy could start on time, subject to Honeywell's confirmation regarding several issues. On June 28, 2013 Honeywell submitted the Final 100% Design Submittal for the Study Area 6 North and South projects (Note: To simplify implementation of the SA-6 North and South remediation projects, a number of documents including the Technical Specifications and several Work Plans were merged into a single document that has been utilized for both SA-6 North and South. In addition, slightly different terminology is contained in the SA-6 North and South Consent Decrees. For SA-6 North, the AOC 1 Open Space Area is referred to as the "Open Space Area" and the AOC 1 Residential Area and AOC Additional Excavation Areas are referred to as the Development or "Residential Area".)

2. The elements of the remedy that are the subject of this Declaration were substantially completed between February 2016 and April 2016.

3. Future Declarations will document the work on the elements of the remedy set forth in the Consent Decree implemented or completed after April 2016.

4. To implement the requirements of the Consent Decree, Honeywell retained AMEC Environment and Infrastructure, Inc. (now Amec Foster Wheeler) to design and coordinate the construction activities related to the Chromium Remedy of SA-6 North. Amec Foster Wheeler is the Engineer of Record for the design and implementation of construction activities related to the Chromium Remedy of SA-6 North. Mr. Joseph T. Clifford is a licensed Professional Engineer in the State of New Jersey (Professional Engineer, NJ, GE38067), a Principal Engineer at Amec Foster Wheeler and is the engineer at Amec Foster Wheeler with primary responsibility for management of the design and construction coordination activities at SA-6 North.

Declaration #3 pertains to the following elements of the SA-6 North Chromium Remedy.

I. Excavation,

II. Barrier Wall Installation,

III. Backfill Activities, and

IV. Soil Management.

Based on our professional opinion, the data and information set forth for the specific work elements noted in and attached to this Declaration were performed consistent with the Final 100% Design and Design Changes.

Further details related to elements I-IV are provided below. Supporting documentation is provided in the Attachments.

I. Excavation. This Declaration addresses excavation of soils at SA-6 North containing hexavalent chromium at levels greater than 20 milligrams/kilogram ("mg/kg") to meet the requirements of Paragraphs 55(a) and (b) of the Consent Decree during the period of June 16, 2015 through March 9, 2016. SA-6 North was divided into two general areas as defined in the Consent Decree: the "Open Space Area" and the "Residential Area."

Paragraph 57 of the Consent Decree required the excavation of Additional Excavation Areas (EAs) within the Residential Area. These seven Excavation Areas were designated in the Final 100% Design as EA-1, EA-2, EA-3, EA-4, EA-5, EA-7 and EA-8.

Pre-Design Investigation (PDI) sampling and analytical results delineated the lateral and vertical limits of the Excavation Areas, except in EA-8, EA-2, EA-3, and EA-5 where additional post-excavation confirmation sampling was relied upon to confirm excavation consistent with the requirements of the Consent Decree. The PDI program was based on standards and conditions set forth in the RAWP, which was approved by the NJDEP, and supplemental discussions held during a January 11, 2012 meeting with the NJDEP wherein sampling frequency was discussed. The PDI sample results established the

design depth(s) of excavation for an excavation area with the understanding that if Stratum D (i.e., "meadow mat") was encountered or if other field conditions impacted achievement of the design excavation depth, the excavation may be halted at a shallower depth. In addition, during the final PDI, EA-2 and EA-3 were combined into a single large excavation area – "EA-2/3".

Honeywell conducted the excavation operations in SA-6 North consistent with the SA-6 South Standard Operating Procedure (SOP) - Confirmation of Excavation Limits, dated April 24, 2014 (and including Honeywell's letter and attachments to Honorable Robert G. Torricelli, dated April 24, 2014). This SOP and referenced correspondence are included in Attachment G.

Following the excavation of each Excavation Area, the horizontal and vertical extents of the completed Excavation Areas were surveyed by a New Jersey-licensed surveyor. Honeywell then submitted documentation to the Parties confirming completion of excavation to or beyond the horizontal and vertical limits established in the PDI program. In their submittals, Honeywell summarized the activities undertaken to complete the excavation of the referenced Excavation Areas as required by the Final 100% Design. The submittals included the following statement from Honeywell's engineer, Amec Foster Wheeler: "Amec inspectors certify to the best of our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling had been met." Honeywell also noted, where applicable/appropriate, that the excavation in the referenced Excavation Areas terminated [by depth] in the Stratum D and provided an Excavation Bottom Map that included the surveyed post-excavation bottom and sidewall elevations for the Excavation Area(s). In these submittals, Honeywell also informed the Special Master and parties that it was ready to commence backfilling the Excavation Areas and requested that the Special Master acknowledge receipt of the submittals. The Special Master acknowledged receipt of Honeywell's submittals and the notification that the contractor was ready to backfill the respective Excavation Area(s) or completed portion of the Excavation Area(s).

In the Excavation Complete submittals, Honeywell provided updated figures depicting the bottom of excavation in each of the seven Excavation Areas. The figures are included in this Declaration as Attachment A-1, along with a master plan showing the locations of all seven Excavation Areas. The figures in Attachment A-1 indicate the surveyed Confirmatory Bottom and Sidewall ("edge of excavation") Sample Locations that confirm that the horizontal and vertical limits established in the PDI program were reached, the extent of Stratum D exposed (if present) by the excavation, as well as the Limits of Excavation for each Excavation Area. In addition, because the sidewalls of the excavation areas needed to be sloped back to confirm the lateral or horizontal extent of

excavation was reached and to provide stable conditions, the top of excavation slope was shown on the figures.

The Excavation Bottom Maps also show the limits of geocomposite clay liner ("GCL") installation within the EAs. GCL was used to repair the Stratum D. Repairs were made where cracks were visible and in several locations where piles were removed that penetrated the Stratum D. During the course of the excavation efforts, the horizontal and vertical limits of the excavations were adjusted in several areas. The adjustments were documented in submittals to the Plaintiffs and the Special Master in the form of emails and/or Design Changes. The following Design Changes are included in Attachment E.

- Delineation of Excavation Intervals below Elevation 7.0 in Excavation Area 8 (EA-8) and the Revised Designation of Soils for Offsite Disposal (DC 2015-09-04)
- Revised Limits of Excavation below Elevation 7.0 in EA-8 and Revised Hatching in EA-2/3 (DC 2015-11-18)
- Clarification of Excavation Limits in EA-1, EA-2/3 and EA-8 (DC 2015-11-30)

As demonstrated by completion submittals prepared by Amec Foster Wheeler during the course of the excavation that were periodically sent to the Special Master, the bottom and lateral limits (and to the extent that an Excavation Area bordered the perimeter barrier wall, the perimeter barrier wall as well) of each Excavation Area were visually inspected by personnel from Amec Foster Wheeler for the potential presence of visible hexavalent chromium-impacted materials and/or any visually suspect ("anomalous") material. To the extent that additional hexavalent-chromium-impacted materials and/or visually suspect material were observed, Honeywell contractors conducted further removal activities until Amec Foster Wheeler inspectors were satisfied upon visual inspection that the materials had been removed and/or confirmation samples were collected to confirm that the requirements of the Final 100% Design were met. Attachment A-2 contains Tables 1.0 and 2.0 that provide by Excavation Area the coordinates of the PDI bottom and sidewall points and the actual excavation depth ("elevation") and design depth at the respective PDI locations. The location of bottom and sidewall confirmatory points were surveyed by a New Jersey-licensed surveyor to verify that the excavation was carried to or beyond the confirmatory points.

Topographic maps of the bottom of the Excavation Areas are provided on the Drawings titled "SA-6 North As-Built Excavation Plans" (Attachment A-3). All confirmation bottom and sidewall sample locations are shown in the Excavation Plans in Attachment A-3. Post-excavation confirmation bottom and sidewall samples taken at EA-8 and EA-2/3 during remedy implementation are listed in the table included in Attachment A-3 to distinguish them from PDI confirmatory samples. The list of confirmatory points and

the topographic maps were prepared by R. Thomas Hugg, NJ Professional Land Surveyor.

In addition, the following items are noted based on the implementation of the excavation program:

- The Final 100% Design required that the contractor excavate EA-8 to Elevation 7 to allow for additional sampling beneath the steep slope. The additional sampling and analysis was used to define the final excavation limits as described in DC 2015-09-04, DC 2015-11-18, and DC 2015-11-30.

- One supplemental post-excavation confirmation sample was required at EA-2/3, to verify that the excavation was terminated in material containing less than 20 mg/kg hexavalent chromium.

- A post-excavation sample of potentially anomalous material was taken at EA-5. The results indicated that the hexavalent chromium level was less than 20 mg/kg.

- During the EA-5 excavation, two unknown underground storage tanks (USTs) were uncovered. Upon discovery, Honeywell immediately notified the Licensed Site Remediation Professional (LSRP) overseeing the non-chromium Areas of Concern at the Site. After the LSRP registered the tanks with the NJDEP, Honeywell removed the tanks from the Site.

- During visual inspection of the EA-1 sidewall, a small lens of potentially chromium impacted soil was identified on the north face of the excavation adjacent to Culver Circle. The excavation was extended to the NJDOT property line and the identified material was removed. No samples were collected. Honeywell notified the NJDOT of the visibly suspect material via e-mail on May 18, 2016.

- The Deferred Areas are localized areas that were identified for remediation by excavation in the Final 100% Design. Portions of EA-1 and EA-2/3 were deferred due to their proximity to the old PSE&G 24 inch ductile iron/leaded joint gas line. The Deferred Areas will be discussed in greater detail in a future declaration.

Descriptions of the sample results and additional excavations required are included in the e-mail certifications submitted to the Parties following completion of each Excavation Area. The e-mails have been incorporated into this Declaration as Attachment F.

Items listed above will also be provided in the final Remedial Action Report.

II. Barrier Wall Installation. The SA-6 North Chromium Remedy includes a containment system consisting of a vertical hydraulic barrier wall, a flexible geomembrane liner cap, and contingent groundwater collection trench system. The underground vertical barrier wall "encloses" the Open Space Area utilizing the existing SA-7 Soil-Cement-Bentonite (SCB) Barrier Wall on the southern boundary and new steel sheet pile hydraulic barriers that have been constructed along the northern, western (adjacent to the Hackensack River bulkhead), and eastern (adjacent to Route 440) boundaries of the Open Space Area. The steel sheet pile barrier wall was keyed into the meadow mat (Stratum D) or Stratum O to meet the requirements of paragraph 58(b) of the Consent Decree. See Attachment B. Barrier Wall driving commenced on March 4, 2014 and was completed on February 19, 2016. The barrier wall consists of single sheets, welded pairs, and specially fabricated sheets. Based on the pH of groundwater, the (connecting) field joints were sealed with a cement bentonite grout between Station 0+00 and Station 5+00 (east wall and eastern portion of north wall) and with hydrophilic sealant between Station 5+00 and Station 23+38 where the barrier connects to the SCB wall.

- The Barrier Wall was installed to the line and grade defined in the Final 100% Design and Design Changes DC 2013-8-14, DC 2014-8-13, DC 2014-9-02, and DC 2015-3-30, included as part of Attachment E.
- The top of the Barrier Wall elevation as initially installed was consistent with temporary flood control requirements and subgrade/surcharge requirements. The top of the wall was then trimmed to final elevations in preparation of cap deployment.
- As-Built drawings of the Barrier Wall Plan and Profile are provided in Attachment B.

III. Backfill Activities. Soil excavated from the Site and consolidated within the Open Space Area or disposed offsite is required by paragraph 55(c) of the Consent Decree to be replaced by backfill soil. Backfilling within the Open Space Area included the spreading/placing, compacting, and grading of onsite non-chromium impacted and chromium-impacted soils containing 20 – 240 mg/kg hexavalent chromium in accordance with the approved RAWP. Any backfill soil brought to the Site is required to either meet all applicable federal and NJDEP criteria, including NJDEP residential soil criteria, or comply with the NJDEP-approved Soil Management Plan (SMP) which was part of the Final 100% Design and subject to review and comment by the Parties and approval by the Special Master.

- The majority of SA-6 North Excavation Areas were backfilled with historic fill available on site. The historic fill was sampled prior to reuse in the SA-6 North

Excavation Areas in accordance with the SMP. Historic fill was compacted in accordance with methodology established in the Final 100% Design Specification Section 02315-3.12.B.5.

- The topographic drawing included as Attachment C indicates the top of the backfill grade in the Residential Area as of April 14, 2016. The Final Site Grading will be provided in a future Declaration.

IV. Soil Management. Excavated soils were managed consistent with paragraph 55 of the Consent Decree from June 16, 2015 through March 15, 2016. The Consent Decree provided for different soil management requirements for soils containing hexavalent chromium at concentrations greater than 20 mg/kg. The SMP established guidelines and the minimum requirements for the reuse and disposal of soil, concrete, and asphalt during the implementation of the chromium remedies at the Site.

Soils from the EAs with a concentration of hexavalent chromium of 240 mg/kg or greater were removed from the Site for disposal in accordance with paragraph 55(a) of the Consent Decree. Excavated soils with a concentration of hexavalent chromium greater than 240 mg/kg designated as hazardous waste were disposed of at the Heritage Environmental Services facility in Indianapolis, IN. Soils with a concentration of hexavalent chromium greater than 240 mg/kg designated as non-hazardous were disposed of at the Middlesex County Landfill in East Brunswick, NJ. Excavated soils with hexavalent chromium concentrations of 20-240 mg/kg were managed in accordance with the requirements of paragraph 55(b) of the Consent Decree and the Final 100% Design and consolidated under the SA-6 North cap. Soils designated as less than 20 mg/kg were excavated, stockpiled and sampled. The majority of the soils sampled were less than 20 mg/kg and were reused as backfill in the EAs. Stockpiled soils that were sampled and re-classified as 20 – 240 mg/kg were segregated and placed in the SA-6 North cap in accordance with the SMP. In addition to the 20 – 240 mg/kg soils generated form SA-6 North, excess 20 – 240 mg/kg soils from the SA-6 South excavation were transported to and consolidated under the SA-6 North cap, where there was additional cap capacity.

The Summary of Soil Management Activities for SA-6 North is tabulated in Attachment D. The Soil Management Activities table shows the disposition of the designated soil classifications, as defined by paragraph 55 of the Consent Decree, managed during excavation activities at SA-6 North as of April 2016.

1. Based on our professional experience, the data and information set forth in and attached to this Declaration, and our supervision of the SA-6 North construction activities, we

believe that hexavalent chromium-impacted materials greater than 20 mg/kg and as defined in the Final 100% Design have been removed from the excavated areas and areas on the perimeter barrier wall in the Residential Area in accordance with the Consent Decree and the Final 100% Design.

2. We certify that the foregoing is true and correct to the best of our respective knowledge.

William J. Hague	Joseph T. Clifford PE NJ, GE38067
Date 04/19/2017	Date 04/18/2017

List of Attachments

A. Excavation Limits

   A-1 – SA-6 North Excavation Areas Master Plan and Excavation Bottom Elevations (EA-1, EA-2/3, EA-4, EA-5, EA-7, and EA-8)

   A-2 – SA-6 North As-Built Excavation Confirmation Points

   A-3 – SA-6 North As-Built Excavation Plans

B. Hydraulic Barrier Wall Plan and Profile (Drawings SN-201, SN-202, and SN-203)

C. SA-6 North As-Built Backfill Plan

D. Table Summary of Soil Management Activities

E. Design Changes

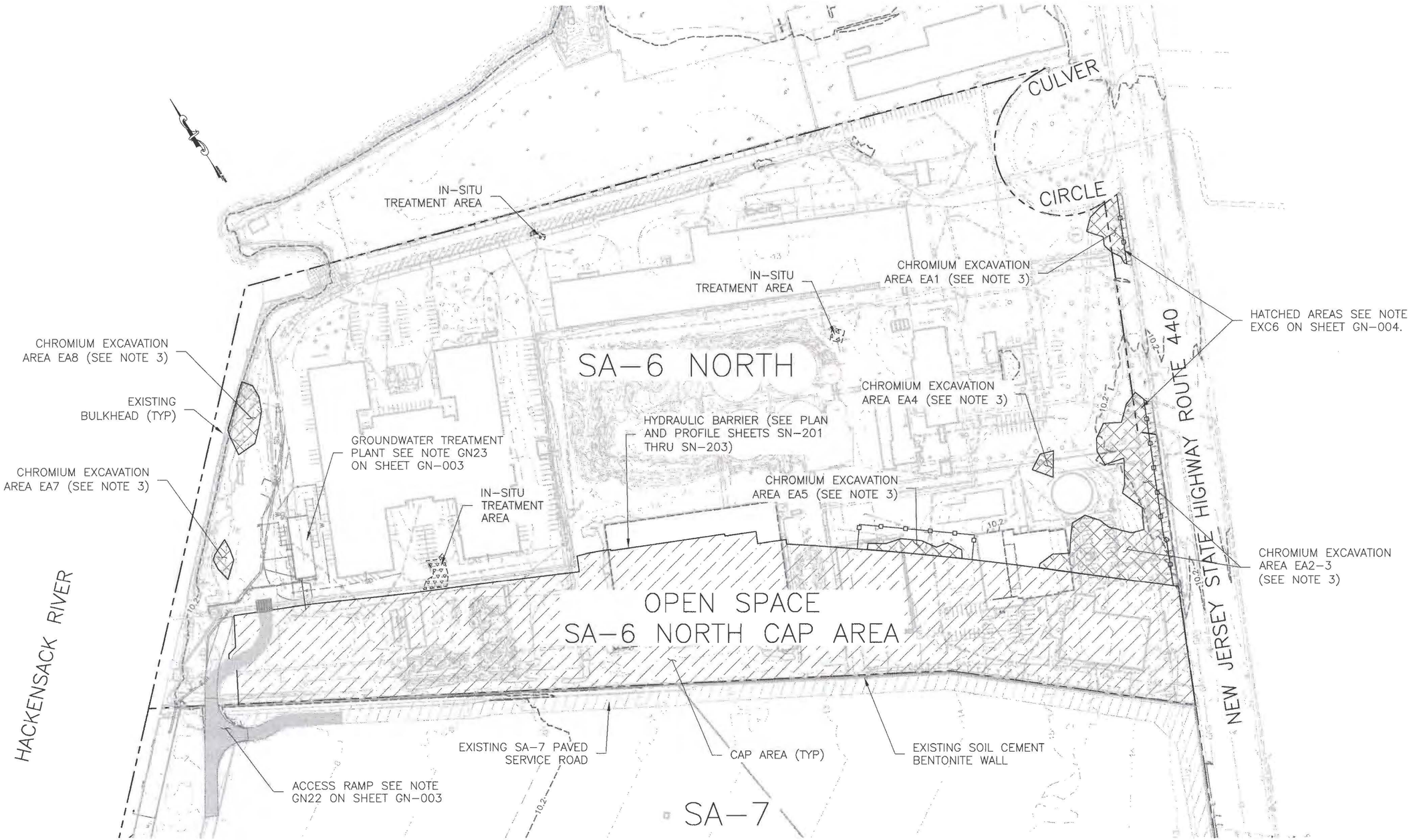
F. Excavation Area E-mail Certifications (EA-1, EA-2/3, EA-4, EA-5, EA-7 and EA-8)

G. SA-6 South Standard Operating Procedure (SOP) – Confirmation of Excavation Limits and Correspondence from Honeywell dated April 24, 2014

ATTACHMENTS

ATTACHMENT A-1
SA-6 NORTH EXCAVATION AREAS MASTER PLAN AND EXCAVATION BOTTOM ELEVATIONS (EA-1, EA-2/3, EA-4, EA-5, EA-7, AND EA-8)

*The Excavation Bottom Maps included in Attachment A-1 were prepared by Entact and submitted to the Parties by Amec Foster Wheeler as part of the Excavation Completion Submittal for each respective SA-6 North Excavation Area. The Excavation Bottom Map dates are included in the drawing title for each Excavation Area.



In-situ Treatment Areas are shown for illustration only. The actual limits of work is part of future Declaration 5.

In-situ Treatment Areas are shown for illustration only. In-situ Treatment Area actual limits of work are part of future Declaration 5.

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. SEE SHEETS CN-113 THRU CN-115 FOR EXCAVATION LAYOUT PLANS OF ALL CHROMIUM EXCAVATION AREAS.
4. CHROMIUM EXCAVATION AREA (EA6) WAS ELIMINATED BY INCORPORATING THE AREA WITHIN THE LIMITS OF THE HYDRAULIC BARRIER.

0 50 100 200
SCALE IN FEET

SAMUEL G. SHALLARD

NO	DATE	REVISION	BY	APVD
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN	DR	CHK	APVD
TDD	RJR	TDD	SGS

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

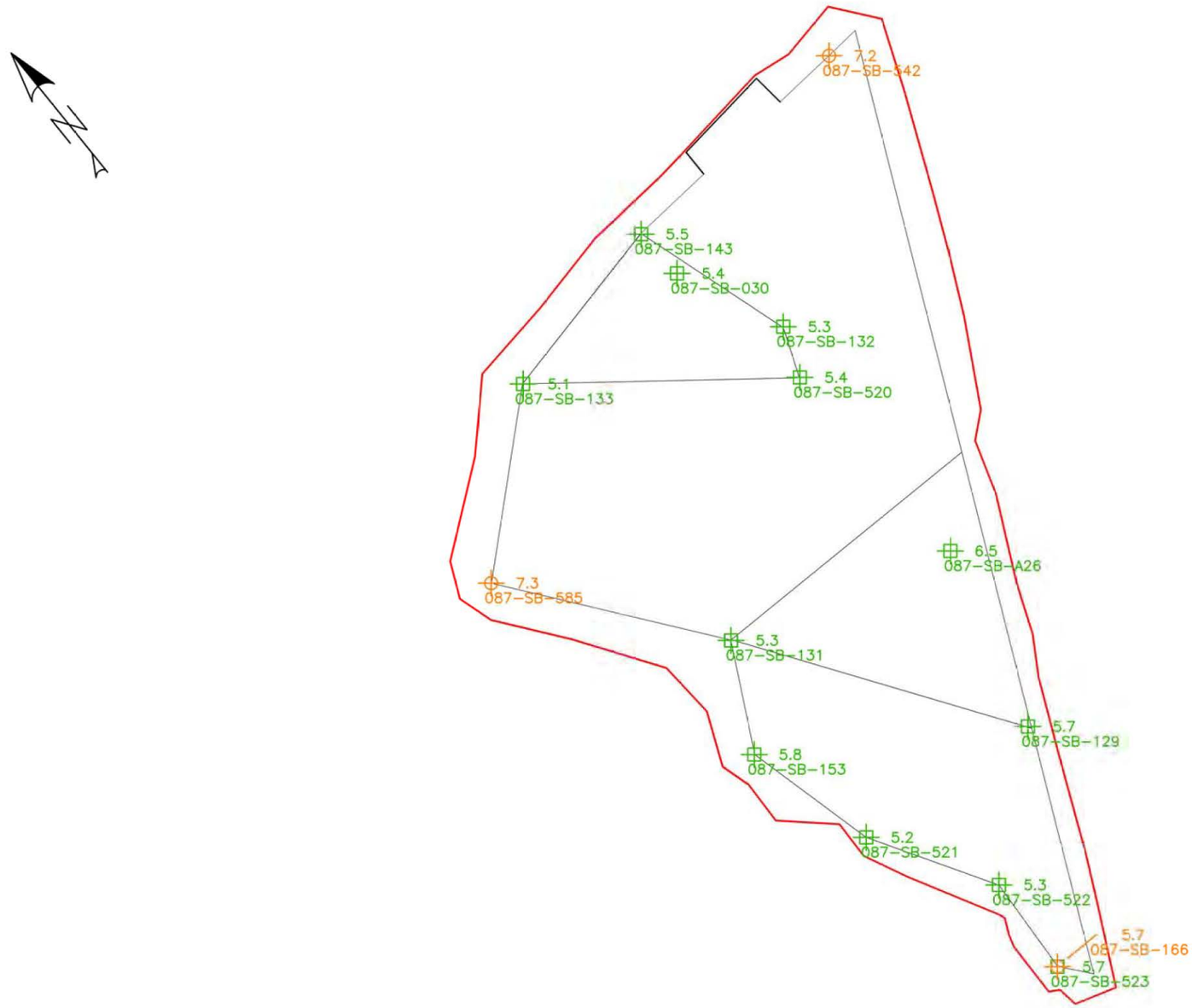
GENERAL REMEDY PLAN

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010800

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-103
SHEET	8 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.



LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- PREVIOUSLY SUBMITTED DATA
- EXCAVATION TO STRATUM D
- LIMIT OF GCL INSTALLATION
- LIMIT OF EXCAVATION AREA
- TOP OF EXCAVATION SLOPE

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS EA1
03-15-16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

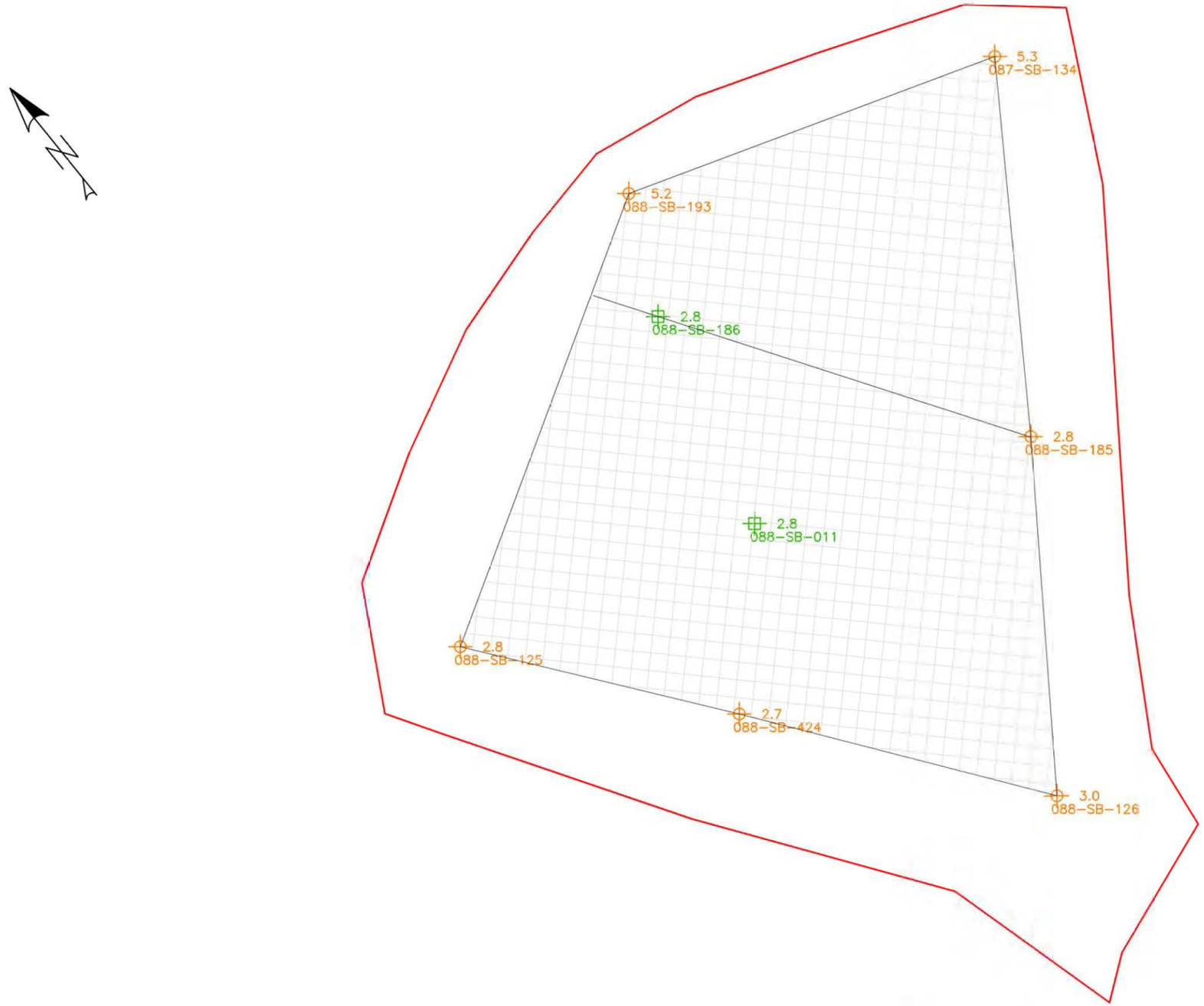
LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- PREVIOUSLY SUBMITTED DATA
- EXCAVATION TO STRATUM D
- LIMIT OF GCL INSTALLATION
- LIMIT OF EXCAVATION AREA
- TOP OF EXCAVATION SLOPE

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS EA2/3
03-03-16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



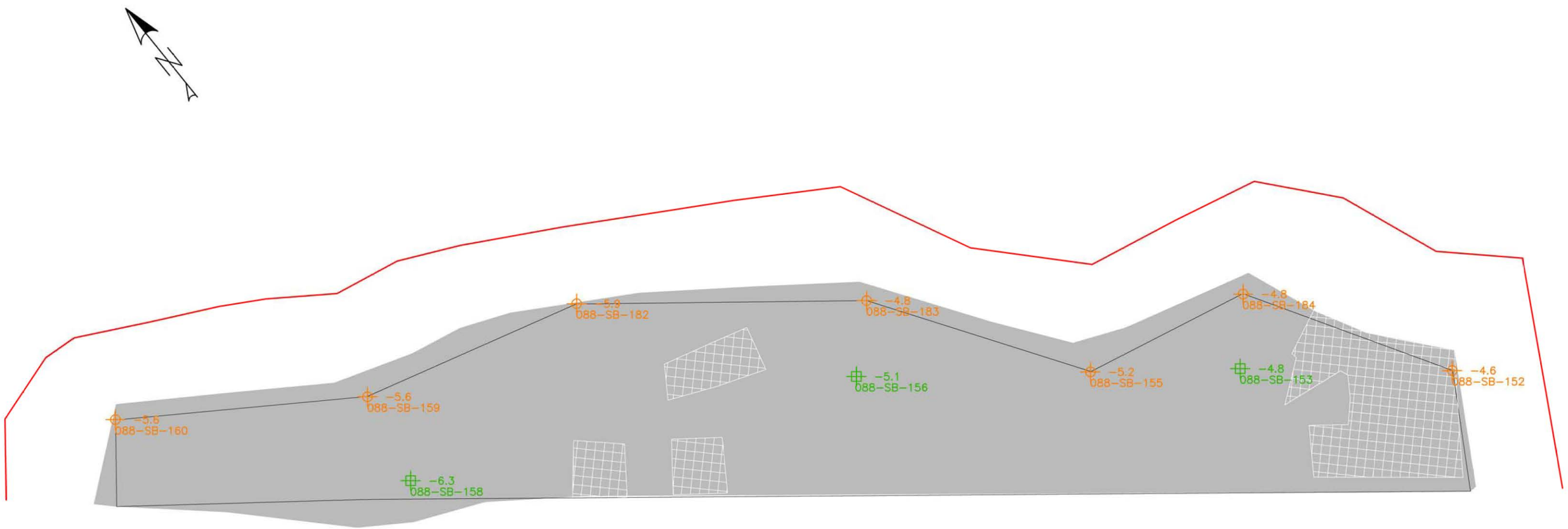
LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- CURRENT EXCAVATION TO <20 PPM
- LIMIT OF EXCAVATION AREA
- TOP OF EXCAVATION SLOPE

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS EA4
08-26-15

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- LIMIT OF GCL INSTALLATION
- LIMIT OF EXCAVATION AREA
- TOP OF EXCAVATION SLOPE

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS EA5
09-24-15

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- CURRENT EXCAVATION TO <20 PPM
- LIMIT OF EXCAVATION AREA
- TOP OF EXCAVATION SLOPE

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS EA7
06-30-15

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- LIMIT OF GCL INSTALLATION
- LIMIT OF EXCAVATION AREA
- TOP OF EXCAVATION SLOPE

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS EA8
12-17-15

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

ATTACHMENT A-2
SA-6 NORTH AS-BUILT EXCAVATION CONFIRMATION POINTS

MASER CONSULTING P.A.

Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

156 Stagecoach Road
Marmora, NJ 08223
T: 609.390.1927
F: 609.390.0040
www.maserconsulting.com

SA-6 North Excavation: Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Excavation Area	Date Obtained	Elevation	Comments
686226.6	602197.5	3.7	087-SB-043	EA7	6/26/2015	3.4	Target Elevation Reached
686242.4	602173.1	7.8	087-SB-107	EA7	6/26/2015	3.5	Target Elevation Reached
685477.1	603650.1	8.4	088-SB-126	EA4	8/26/2015	3.0	Target Elevation Reached
685505.3	603645.5	3.0	088-SB-011	EA4	8/26/2015	2.8	Target Elevation Reached
685521.0	603649.4	5.3	088-SB-186	EA4	8/26/2015	2.8	Target Elevation Reached
685474.0	603398.6	-6.2	088-SB-153	EA5	8/31/2015	-4.8	Stratum D Reached
685486.7	603382.3	-4.0	088-SB-155	EA5	9/3/2015	-5.2	Stratum D Reached
685506.6	603356.6	-6.0	088-SB-156	EA5	9/3/2015	-5.1	Stratum D Reached
685534.2	603299.6	-6.2	088-SB-158	EA5	9/9/2015	-6.3	Stratum D Reached
685291.6	603615.5	-2.6	088-SB-177	EA2/3	11/23/2015	-1.7	Stratum D Reached
685359.5	603616.1	3.9	088-SB-179[2]	EA2/3	11/23/2015	1.7	Target Elevation Reached
685302.9	603632.4	-4.9	088-SB-C19	EA2/3	11/23/2015	-1.5	Stratum D Reached
685329.2	603629.5	2.0	088-SB-106	EA2/3	11/23/2015	-1.8	Stratum D Reached
685271.5	603641.2	-1.9	088-SB-175	EA2/3	12/3/2015	-1.4	Stratum D Reached
685301.3	603684.1	-2.0	088-SB-108	EA2/3	12/3/2015	-1.4	Stratum D Reached
685341.4	603647.7	-1.0	088-SB-134	EA2/3	12/3/2015	-1.9	Stratum D Reached
685250.2	603664.4	-2.3	088-SB-174	EA2/3	12/8/2015	-1.7	Stratum D Reached
685285.8	603689.8	-4.2	088-SB-189	EA2/3	12/8/2015	-1.6	Stratum D Reached
685316.8	603704.9	2.0	088-SB-420[2]	EA2/3	12/8/2015	-1.5	Stratum D Reached
686418.4	602378.4	2.7	087-SB-646	EA8	12/9/2015	1.1	Target Elevation Reached
686465.8	602361.7	4.5	087-SB-640	EA8	10/21/2015	2.2	Target Elevation Reached
686457.4	602359.1	1.6	087-SB-643	EA8	10/21/2015	1.6	Target Elevation Reached
686444.8	602379.1	3.9	087-SB-511	EA8	10/21/2015	3.3	Target Elevation Reached
686492.9	602411.9	6.5	087-SB-638	EA8	10/21/2015	3.3	Target Elevation Reached
686473.9	602384.0	2.0	087-SB-642	EA8	10/21/2015	1.8	Target Elevation Reached
686460.5	602386.2	2.0	087-SB-509	EA8	10/21/2015	1.4	Target Elevation Reached
686468.7	602395.1	3.7	087-SB-144	EA8	10/21/2015	1.6	Target Elevation Reached
686478.6	602406.8	3.8	087-SB-148	EA8	10/21/2015	1.6	Target Elevation Reached
686396.4	602358.6	7.5	087-SB-W25	EA8	10/21/2015	6.9	Target Elevation Reached
686427.6	602332.7	7.4	087-SB-102	EA8	6/26/2015	6.7	Target Elevation Reached

686443.9	602351.8	2.7	087-SB-644	EA8	12/9/2015	1.6	Target Elevation Reached
685488.8	603862.2	-1.7	087-SB-125	EA2/3	12/10/2015	-1.7	Stratum D Reached
685528.7	603877.3	-0.8	087-SB-127[2]	EA2/3	12/10/2015	-1.4	Stratum D Reached
685518.5	603849.4	-0.4	087-SB-128[2]	EA2/3	12/10/2015	-1.1	Stratum D Reached
685507.5	603867.4	-4.5	087-SB-A22	EA2/3	12/10/2015	-1.3	Stratum D Reached
685434.5	603843.6	-1.2	088-SB-162	EA2/3	12/17/2015	-1.4	Stratum D Reached
685245.4	603715.8	-4.1	088-SB-166	EA2/3	12/17/2015	-0.6	Stratum D Reached
685230.4	603688.7	-3.5	088-SB-173	EA2/3	12/17/2015	-1.6	Stratum D Reached
685262.8	603736.1	-0.1	088-SB-110	EA2/3	12/17/2015	-1.9	Stratum D Reached
685459.1	603857.6	-1.4	088-SB-117	EA2/3	12/17/2015	-1.2	Stratum D Reached
685459.4	603824.1	-1.2	088-SB-118	EA2/3	12/17/2015	-0.9	Stratum D Reached
685488.5	603833.2	-0.5	088-SB-161	EA2/3	12/17/2015	-0.7	Stratum D Reached
685497.0	603784.2	5.8	087-SB-603	EA2/3	12/17/2015	1.4	Target Elevation Reached
685472.5	603810.7	2.6	087-SB-584	EA2/3	12/17/2015	1.3	Target Elevation Reached
685292.2	603744.5	-1.5	088-SB-167[2]	EA2/3	12/22/2015	-0.6	Stratum D Reached
685200.1	603727.7	-8.1	088-SB-004	EA2/3	12/22/2015	-2.6	Stratum D Reached
685267.3	603764.3	0.1	088-SB-131	EA2/3	12/28/2015	-0.5	Stratum D Reached
685291.5	603775.8	-1.3	088-SB-164	EA2/3	12/30/2015	-0.9	Stratum D Reached
685330.7	603765.7	-0.2	088-SB-111[2]	EA2/3	12/30/2015	-0.6	Stratum D Reached
685354.3	603756.4	4.1	088-SB-422[2]	EA2/3	12/30/2015	3.0	Target Elevation Reached
685406.1	603785.8	3.6	088-SB-170	EA2/3	1/5/2016	3.5	Target Elevation Reached
685386.9	603759.9	4.4	088-SB-169[2]	EA2/3	1/5/2016	3.4	Target Elevation Reached
685362.9	603780.5	3.7	088-SB-113	EA2/3	1/5/2016	-0.6	Stratum D Reached
685449.2	603797.2	-0.6	088-SB-172	EA2/3	1/6/2016	-1.2	Stratum D Reached
685415.9	603805.7	-1.2	088-SB-115	EA2/3	1/6/2016	-0.2	Stratum D Reached
685445.5	603757.3	8.9	088-SB-425	EA2/3	1/6/2016	5.4	Target Elevation Reached
685465.0	603767.1	5.8	087-SB-604	EA2/3	1/6/2016	1.1	Target Elevation Reached
685432.1	603787.8	4.3	088-SB-423[2]	EA2/3	1/6/2016	-0.7	Stratum D Reached
685864.7	604018.0	5.8	087-SB-030	EA1	2/26/2016	5.4	Target Elevation Reached
685783.3	604016.3	8.0	087-SB-129	EA1	2/23/2016	5.7	Target Elevation Reached
685819.4	603991.1	9.1	087-SB-131[4]	EA1	2/23/2016	5.3	Target Elevation Reached
685849.3	604024.9	8.0	087-SB-132	EA1	2/26/2016	5.3	Target Elevation Reached
685866.4	603991.0	8.6	087-SB-133[4]	EA1	2/26/2016	5.1	Target Elevation Reached
685872.4	604017.6	9.2	087-SB-143[4]	EA1	2/26/2016	5.5	Target Elevation Reached
685804.7	603983.5	8.3	087-SB-153[4]	EA1	2/23/2016	5.8	Target Elevation Reached
685842.3	604022.2	8.5	087-SB-520	EA1	2/26/2016	5.4	Target Elevation Reached
685768.3	603998.9	6.3	087-SB-522[4]	EA1	2/19/2016	5.3	Target Elevation Reached
685754.1	603998.1	6.2	087-SB-523	EA1	2/19/2016	5.7	Target Elevation Reached
685809.6	604023.4	6.9	087-SB-A26	EA1	2/23/2016	6.5	Target Elevation Reached
685785.5	603988.4	7.0	087-SB-521[4]	EA1	2/19/2016	5.2	Target Elevation Reached

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

SA-6 North Excavation: Sidewall Confirmatory Points (Table 2.0)

Sidewall Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Excavation Area	Date Obtained	Elevation	Comments
686220.7	602206.9	8.2	087-SB-043A	EA7	6/26/2015	3.4	Target Elevation Reached
686264.1	602213.4	8.5	087-SB-106	EA7	6/26/2015	3.3	Target Elevation Reached
686195.0	602176.6	8.3	087-SB-108	EA7	6/26/2015	3.2	Target Elevation Reached
686242.4	602211.8	8.4	087-SB-514	EA7	6/26/2015	3.4	Target Elevation Reached
686249.6	602181.1	8.8	087-SB-515	EA7	6/26/2015	3.3	Target Elevation Reached
686222.5	602171.4	8.6	087-SB-516	EA7	6/26/2015	3.4	Target Elevation Reached
685520.2	603679.3	6.4	087-SB-134	EA4	8/26/2015	5.3	Target Elevation Reached
685511.7	603623.9	8.5	088-SB-125	EA4	8/26/2015	2.8	Target Elevation Reached
685477.1	603650.1	10.3	088-SB-126	EA4	8/26/2015	3.0	Target Elevation Reached
685497.9	603664.5	8.3	088-SB-185	EA4	8/26/2015	2.8	Target Elevation Reached
685528.9	603653.4	7.6	088-SB-193	EA4	8/26/2015	5.2	Target Elevation Reached
685495.6	603636.2	8.3	088-SB-424	EA4	8/26/2015	2.7	Target Elevation Reached
685455.3	603421.3	-1.0	088-SB-152	EA5	8/31/2015	-4.6	Stratum D Reached
685486.7	603382.3	-2.0	088-SB-155	EA5	9/3/2015	-5.2	Stratum D Reached
685547.1	603302.2	-3.6	088-SB-159	EA5	9/10/2015	-5.6	Stratum D Reached
685566.5	603273.1	-4.1	088-SB-160	EA5	9/10/2015	-5.6	Stratum D Reached
685538.8	603332.8	-4.3	088-SB-182	EA5	9/9/2015	-5.9	Stratum D Reached
685513.9	603364.3	-4.8	088-SB-183	EA5	9/3/2015	-4.8	Stratum D Reached
685481.8	603405.4	-4.4	088-SB-184	EA5	8/31/2015	-4.8	Stratum D Reached
685333.3	603596.6	3.5	088-SB-105	EA2/3	11/18/2015	1.7	Target Elevation Reached
685350.3	603567.5	2.9	088-SB-132	EA2/3	11/18/2015	1.8	Target Elevation Reached
685348.1	603535.9	1.9	088-SB-190[3]	EA2/3	11/18/2015	1.9	Target Elevation Reached
685379.9	603632.8	6.5	088-SB-120	EA2/3	11/23/2015	1.3	Target Elevation Reached
685359.5	603616.1	7.9	088-SB-179[2]	EA2/3	11/23/2015	1.7	Target Elevation Reached
685333.5	603689.5	3.6	088-SB-129	EA2/3	12/3/2015	-1.3	Stratum D Reached
685379.3	603662.1	5.4	088-SB-180	EA2/3	12/3/2015	1.4	Target Elevation Reached
685355.1	603681.3	3.9	088-SB-181	EA2/3	12/3/2015	1.7	Target Elevation Reached
685316.8	603704.9	3.5	088-SB-420[2]	EA2/3	12/8/2015	-1.5	Stratum D Reached
686463.4	602423.6	6.3	087-SB-150	EA8	10/21/2015	3.4	Target Elevation Reached
686417.1	602325.5	7.5	087-SB-641	EA8	10/21/2015	6.7	Target Elevation Reached
686436.4	602412.0	3.9	087-SB-145	EA8	10/21/2015	3.3	Target Elevation Reached
686505.3	602412.1	7.5	087-SB-633	EA8	10/21/2015	6.9	Target Elevation Reached
686389.4	602327.8	8.4	087-SB-103	EA8	6/26/2015	7.0	Target Elevation Reached
686488.3	602424.8	8.5	087-SB-149	EA8	6/26/2015	6.5	Target Elevation Reached
686415.9	602393.1	8.5	087-SB-512	EA8	6/26/2015	6.6	Target Elevation Reached
686390.7	602366.9	7.9	087-SB-W25A	EA8	6/26/2015	6.7	Target Elevation Reached
685528.7	603877.3	4.7	087-SB-127[2]	EA2/3	12/10/2015	-1.4	Stratum D Reached

685518.5	603849.4	3.1	087-SB-128[2]	EA2/3	12/10/2015	-1.1	Stratum D Reached
685494.1	603822.7	8.4	088-SB-187	EA2/3	12/17/2015	-0.8	Stratum D Reached
685511.9	603791.7	8.3	087-SB-605	EA2/3	12/17/2015	1.4	Target Elevation Reached
685494.8	603764.3	9.3	087-SB-606	EA2/3	12/17/2015	1.3	Target Elevation Reached
685472.6	603750.7	8.2	087-SB-607	EA2/3	12/17/2015	5.1	Target Elevation Reached
685300.2	603720.8	3.0	088-SB-145	EA2/3	12/22/2015	-1.1	Stratum D Reached
685292.2	603744.5	1.0	088-SB-167[2]	EA2/3	12/22/2015	-0.6	Stratum D Reached
685330.7	603765.7	3.8	088-SB-111[2]	EA2/3	12/30/2015	-0.6	Stratum D Reached
685354.3	603756.4	8.6	088-SB-422[2]	EA2/3	12/30/2015	3.0	Target Elevation Reached
685312.4	603754.6	4.6	088-SB-421	EA2/3	12/30/2015	-0.9	Stratum D Reached
685376.0	603748.3	8.7	088-SB-146	EA2/3	1/5/2016	3.5	Target Elevation Reached
685386.9	603759.9	8.4	088-SB-169[2]	EA2/3	1/5/2016	3.4	Target Elevation Reached
685411.9	603776.3	7.9	088-SB-188	EA2/3	1/5/2016	3.5	Target Elevation Reached
685441.6	603749.6	8.0	088-SB-426	EA2/3	1/6/2016	5.3	Target Elevation Reached
685432.1	603787.8	6.3	088-SB-423[2]	EA2/3	1/6/2016	-0.7	Stratum D Reached
685819.4	603991.1	10.1	087-SB-131[4]	EA1	2/23/2016	5.3	Target Elevation Reached
685866.4	603991.0	10.1	087-SB-133[4]	EA1	2/26/2016	5.1	Target Elevation Reached
685872.4	604017.6	11.2	087-SB-143[4]	EA1	2/26/2016	5.5	Target Elevation Reached
685804.7	603983.5	10.3	087-SB-153[4]	EA1	2/23/2016	5.8	Target Elevation Reached
685768.3	603998.9	8.8	087-SB-522[4]	EA1	2/19/2016	5.3	Target Elevation Reached
685754.1	603998.1	7.7	087-SB-166	EA1	2/19/2016	5.7	Target Elevation Reached
685785.5	603988.4	8.5	087-SB-521[4]	EA1	2/19/2016	5.2	Target Elevation Reached
685875.2	604054.3	10.5	087-SB-542	EA1	2/25/2016	7.2	Target Elevation Reached
685847.2	603969.7	10.4	087-SB-585	EA1	2/25/2016	7.3	Target Elevation Reached

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

2 The IFC 100% Design for EA 2&3 included 9 perimeter borings that delineated both horizontal and vertical excavation limits. Sidewall and bottom confirmatory samples at these locations were collected from two separate elevation intervals. All sample results in these borings were <20ppm Hex Cr. The locations are color coded on the Excavation Bottom figure in green as Bottom Samples.

3 088-SB-190 was located in the earthen basement of the JCIA incinerator building in close proximity to the JCIA Pit. The boring log indicates that the materials appeared to be clean backfill. The western portion of the EA-2 excavation was observed to be a visibly clean imported sand backfill consistent with what was observed in the boring. Boring 088-SB-190 included <20 sample results below the design bottom elevation. A supplemental sample was taken post excavation to verify that the excavation was terminated in <20 PPM material. The result was <1 mg/Kg.

4 The IFC 100% Design for EA 1 included 6 perimeter borings that delineated both horizontal and vertical excavation limits. Sidewall and bottom confirmatory samples at these locations were collected from two separate elevation intervals. All sample results in these borings were <20ppm Hex Cr. The locations are color coded on the Excavation Bottom figure in green as Bottom Samples.

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Sidewall Confirmatory Sidewall Points in Table 2 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation areas.

R. Thomas Hugg 3/16/16

R. THOMAS HUGG

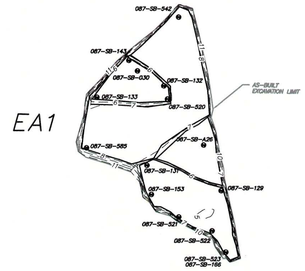
NEW JERSEY PROFESSIONAL LAND SURVEYOR

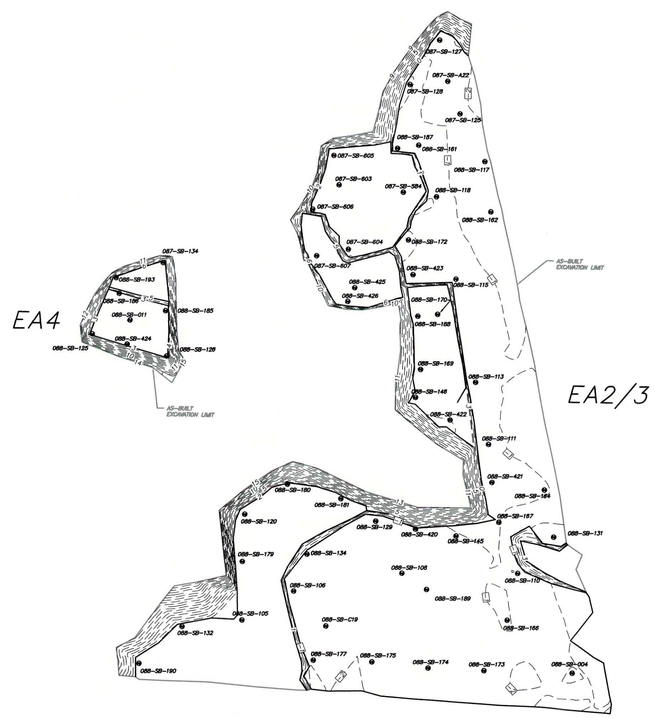
LICENSE NO. 36737

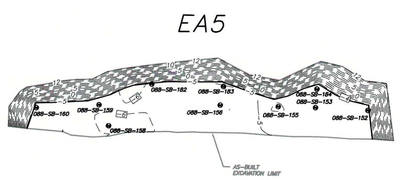
ATTACHMENT A-3
SA-6 NORTH AS-BUILT EXCAVATION PLANS

HACKENSACK RIVER

ROUTE 440







LEGEND:

- —5— MAJOR CONTOUR
- —4— MINOR CONTOUR
- —3— POSITIVE ELEVATION
- —(-2)— NEGATIVE ELEVATION

0 20 40 80
SCALE IN FEET

GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW POST-EXCAVATION ELEVATIONS WITHIN THE SA6 NORTH EXCAVATION AREAS AT THE PROJECT SITE.
2. POST-EXCAVATION LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. AND ENTACT ON MULTIPLE FIELD VISITS FROM 6/26/15 THROUGH 3/9/16.
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

NO.	DATE	REVISION	BY	APVD
1	12/28/16	GENERAL REVISIONS	BSB	RTH

DSGN GE DR CHK BSB RTH

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

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Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 NORTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

FILE NUMBER 12001511A

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
EXCAVATION PLAN FOR EXCAVATION AREAS 1, 2/3, 4 AND 5

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0340
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 198 STAGECOACH ROAD - MARMORA, NJ 080223

amec foster wheeler
Environment & Infrastructure, Inc.
200 Horizon Center Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2623

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	8/19/16
PROJ	3480-10-0027
DWG	C-111
SHEET	1 OF 2

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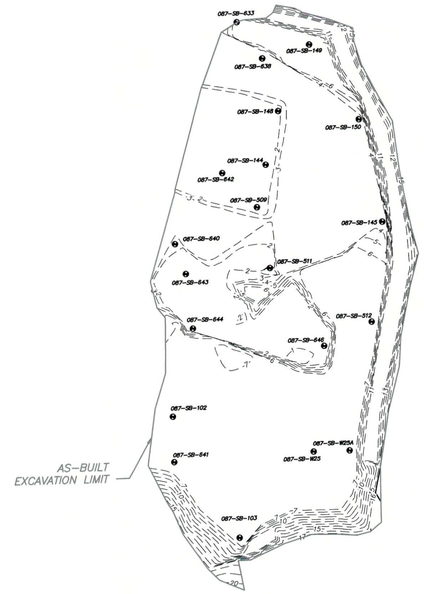
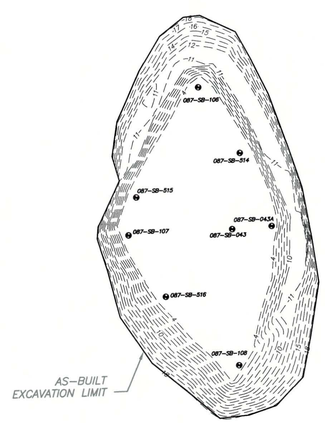
HACKENSACK RIVER



EA8

ROUTE 440



EA7

LEGEND:

- 5 — MAJOR CONTOUR
- 4 — MINOR CONTOUR
- 3 — POSITIVE ELEVATION
- -2 — NEGATIVE ELEVATION

0 15 20 40
SCALE IN FEET

GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW POST-EXCAVATION ELEVATIONS WITHIN THE SA6 NORTH EXCAVATION AREAS AT THE PROJECT SITE.
2. POST-EXCAVATION LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. AND ENTACT ON MULTIPLE FIELD VISITS FROM 6/26/15 THROUGH 3/9/16.
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 080223

FILE NUMBER 12001511A

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL

EXCAVATION PLAN FOR EXCAVATION
AREAS 7 AND 8

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 NORTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

amec foster wheeler
Environment & Infrastructure, Inc.
2020 Princeton Hightstown Road, Suite 113
Hamilton, NJ. 08619
(609) 689 - 2829

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	8/19/16
PROJ	3480-10-0027
DWG	C-112
SHEET	2 OF 2

NO.	DATE	REVISION	BY	APVD
1	12/28/16	GENERAL REVISIONS	BSB	RTH

DSGN GE DR CHK APVD
BSB RTH

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

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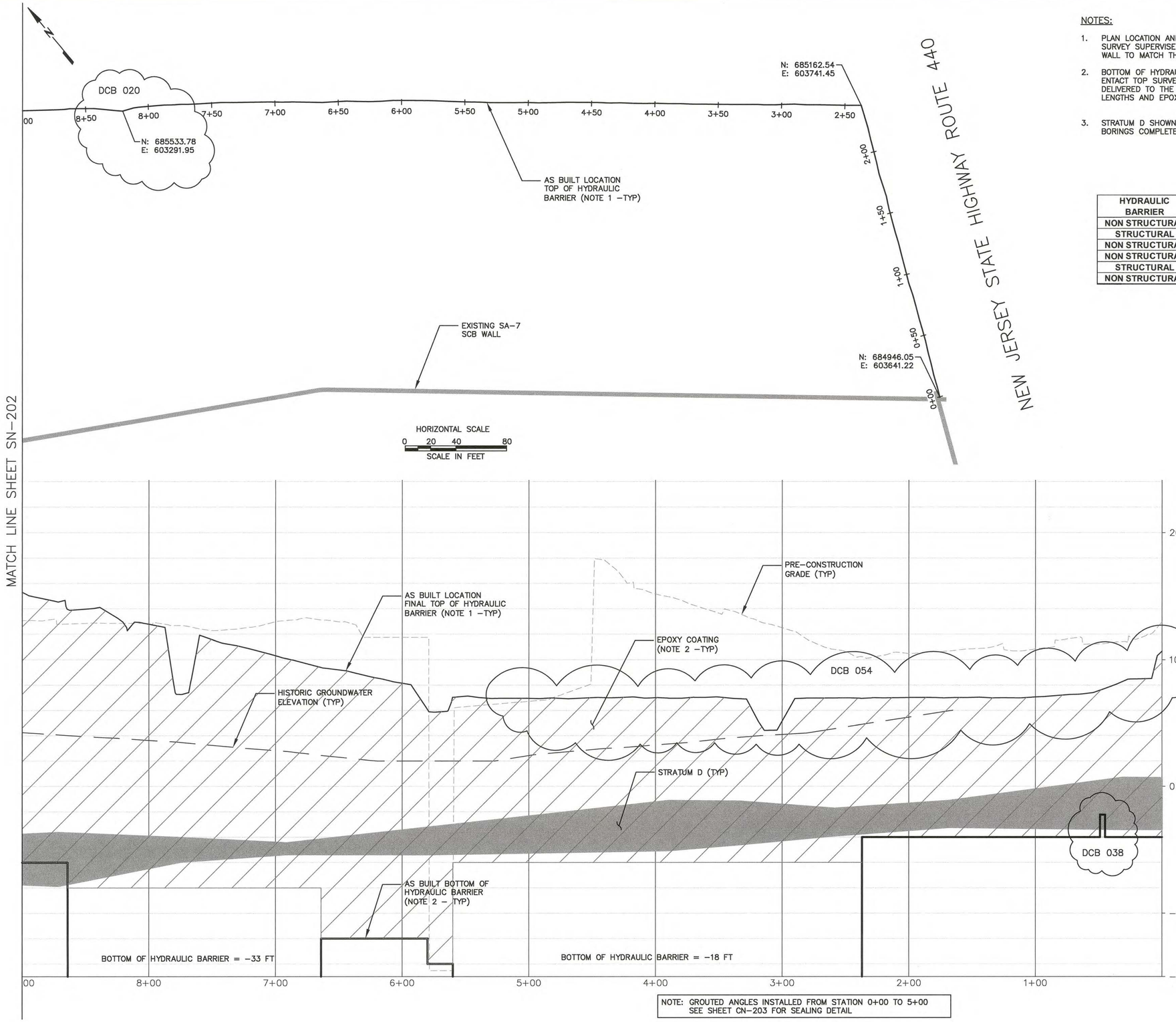
SA-6 North - List of Post-Excavation Samples	
Sample	**Location**
088-SB-190	EA-2/3
087-SB-633	EA-8
087-SB-638	EA-8
087-SB-640	EA-8
087-SB-641	EA-8
087-SB-642	EA-8
087-SB-643	EA-8
087-SB-644	EA-8
087-SB-646	EA-8

Note:
The samples listed above are confirmatory samples taken during Chromium Remedy implementation and shown on the Excavation Plan. They are provided in order to distinguish them from the pre-design investigation samples that are also shown on the Excavation Plan.

ATTACHMENT B
HYDRAULIC BARRIER WALL PLAN AND PROFILE
(DRAWINGS SN-201, SN-202, AND SN-203)



NOTE: GROUTED ANGLES INSTALLED FROM STATION 0+00 TO 5+00
SEE SHEET CN–203 FOR SEALING DETAIL

NOTES:

1. PLAN LOCATION AND TOP ELEVATION OF HYDRAULIC BARRIER BASED ON SURVEY SUPERVISED BY MASER CONSULTING AND UPON CUTTING OF THE WALL TO MATCH THE INSTALLED LINER GRADE.
2. BOTTOM OF HYDRAULIC BARRIER AND EXTENT OF EPOXY COATING BASED ON ENTACT TOP SURVEY AND SHEET PILE FABRICATION DRAWINGS. ALL SHEETS DELIVERED TO THE SITE WERE INSPECTED BY AMEC PERSONNEL TO VERIFY LENGTHS AND EPOXY COATING.
3. STRATUM D SHOWN FOR REFERENCE ONLY AND IS BASED ON GEOTECHNICAL BORINGS COMPLETED DURING THE PRELIMINARY DESIGN INVESTIGATION.

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	0+00	2+37	-4	AZ 19-700
STRUCTURAL	2+37	5+60	-18	AZ 19-700
NON STRUCTURAL	5+60	5+80	-14	AZ 19-700
NON STRUCTURAL	5+80	6+64	-12	AZ 19-700
STRUCTURAL	6+64	8+64	-33	AZ 38-700N
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	DSGN	DR	CHK	APVD
2	12/8/16	DECLARATION NO 3 - SA-6 NORTH VHB AS BUILT	TDD	SGS		SGS
2	8/25/16	DECLARATION NO 3 - ISSUED FOR CLIENT REVIEW	TDD	SGS		APVD
1			BY	APVD		
			TDD	RJR	TDD	

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CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
AS BUILT DRAWINGS

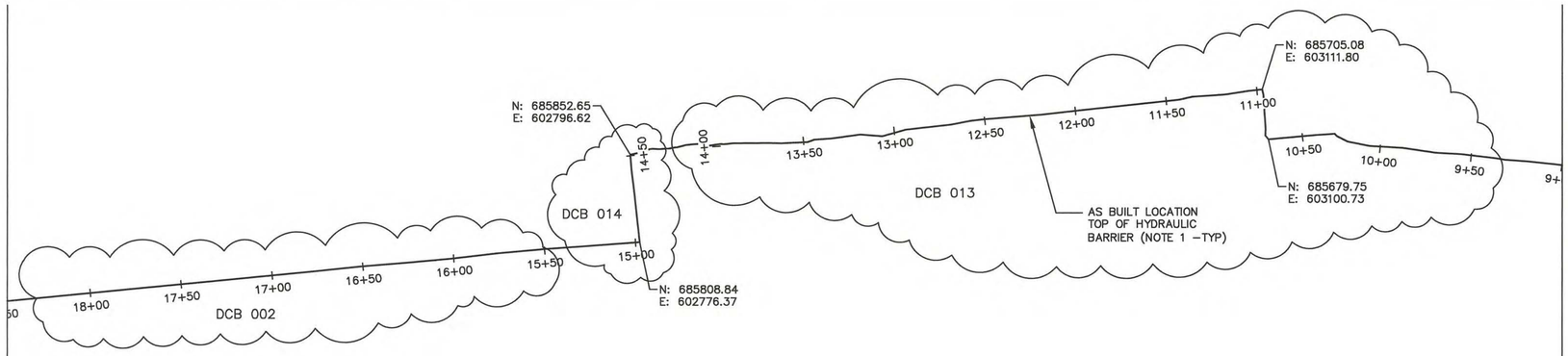
HYDRAULIC BARRIER
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	6/7/13
PROJ	3480-12-0317
DWG	SN-201
SHEET	54 OF 70

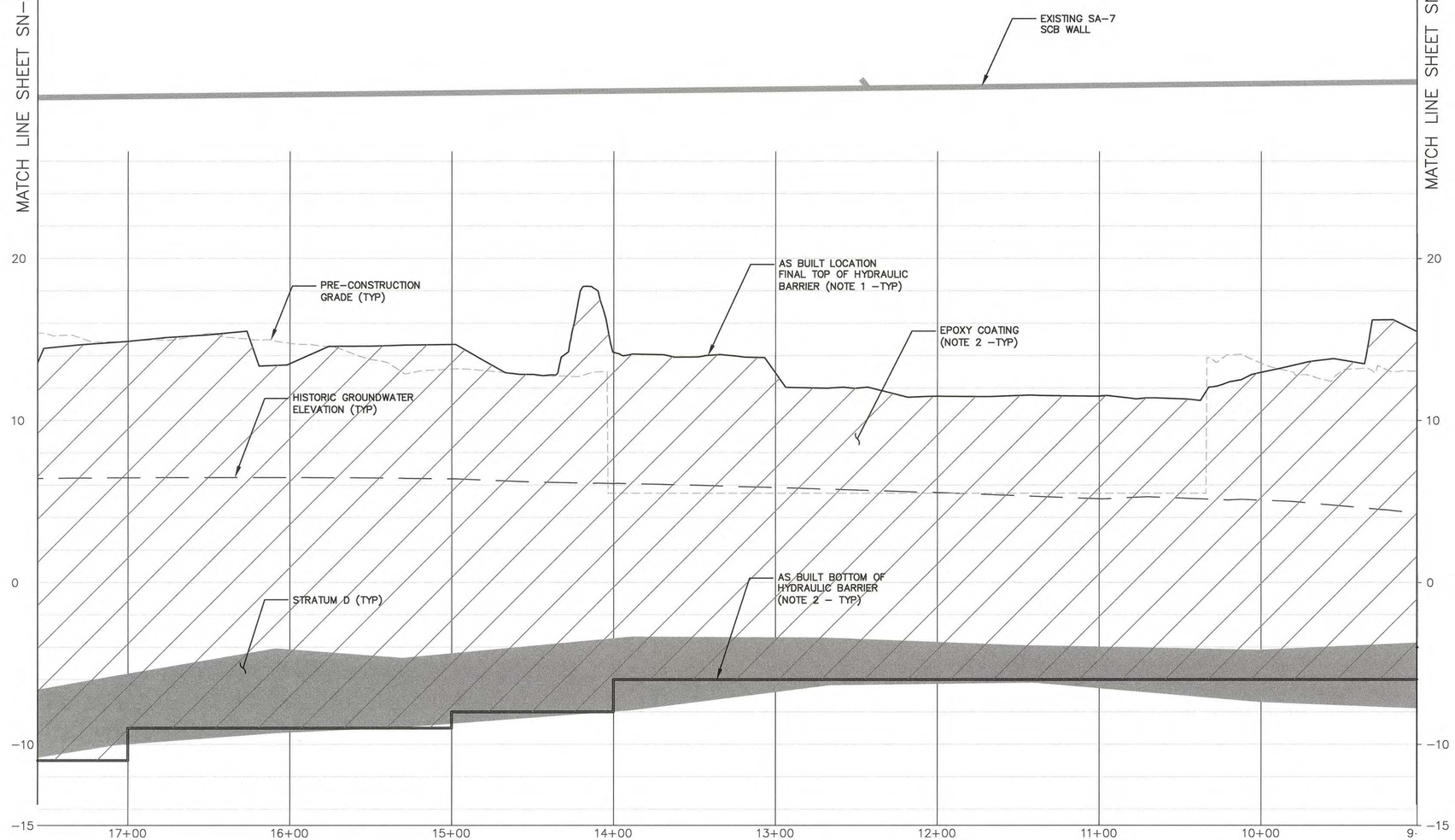
FILE NAME: C:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North VHB\SA-6 North VHB As Built.dwg PLOT DATE: Wed, 28 Dec 2016 PLOT TIME: 9:36 AM



NOTES:

1. REFER TO NOTES 1 THRU 3 ON SHEET SN–201

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700
NON STRUCTURAL	9+85	14+00	-6	AZ 19-700
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700



HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

SAMUEL G. SHALLARD

NO.	DATE	DESCRIPTION	BY	APV'D
2	12/8/16	DECLARATION NO 3 - SA-6 NORTH VHB AS BUILT	TDD	SGS
1	8/25/16	DECLARATION NO 3 - ISSUED FOR CLIENT REVIEW	TDD	SGS

DSGN TDD DR RJR CHK TDD APV'D SGS

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
AS BUILT DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

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Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 989 - 2029
NJ Cert of Authorization 24GA28011900

VERIFY SCALE
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0 1"

DATE	6/7/13
PROJ	3480-12-0317
DWG	SN-202
SHEET	55 OF 70

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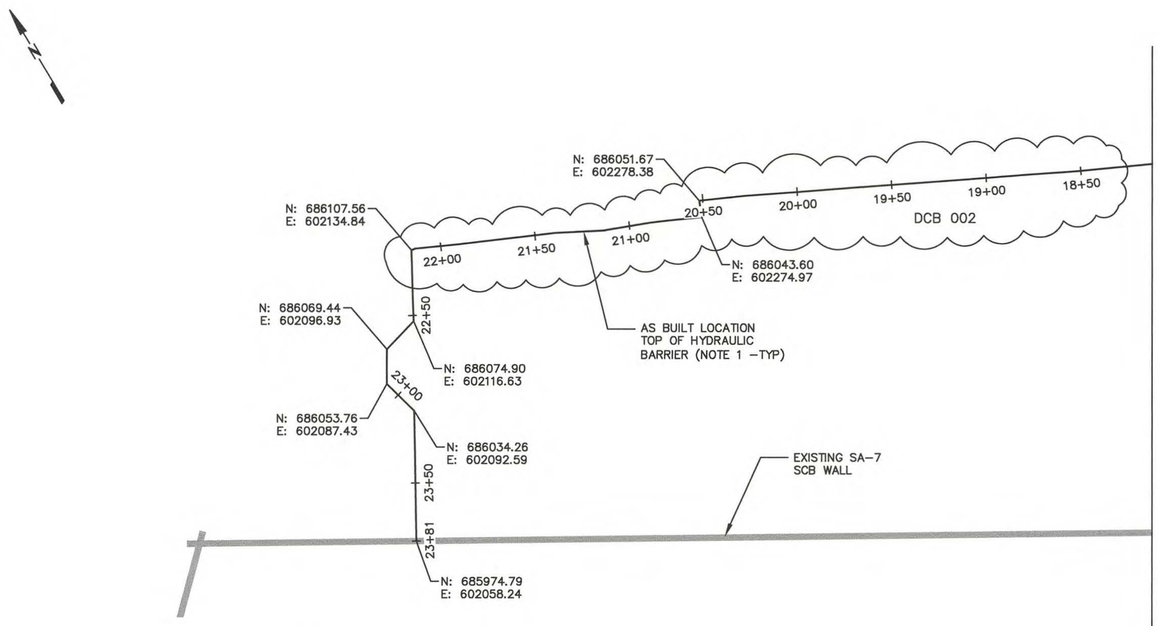
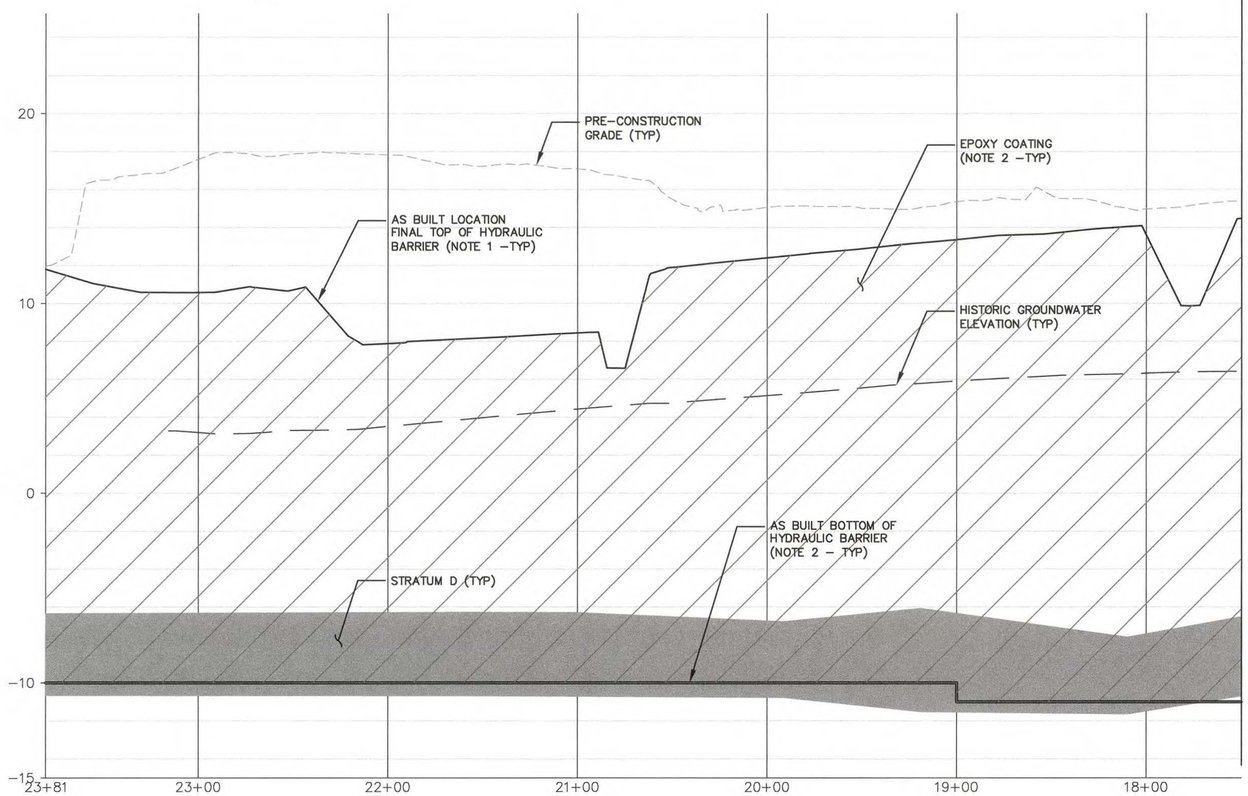
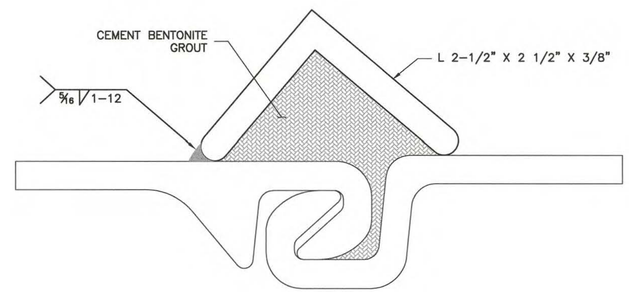




NOTES:

1. REFER TO NOTES 1 THRU 3 ON SHEET SN–201.

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700
NON STRUCTURAL	19+00	23+38	-10	AZ 19-700



SEE NOTE HB19 ON SHEET GN–003

SHEET SEALING DETAIL (F)
NTS
SN–201 | CN–301

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
2	12/8/16	DECLARATION NO 3 - SA-6 NORTH VHB AS BUILT	TDD	SGS
1	8/25/16	DECLARATION NO 3 - ISSUED FOR CLIENT REVIEW	TDD	SGS

DSGN TDD | DR RJR | CHK TDD | APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
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CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
AS BUILT DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2929
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	6/7/13
PROJ	3480-12-0317
DWG	SN-203
SHEET	56 OF 70

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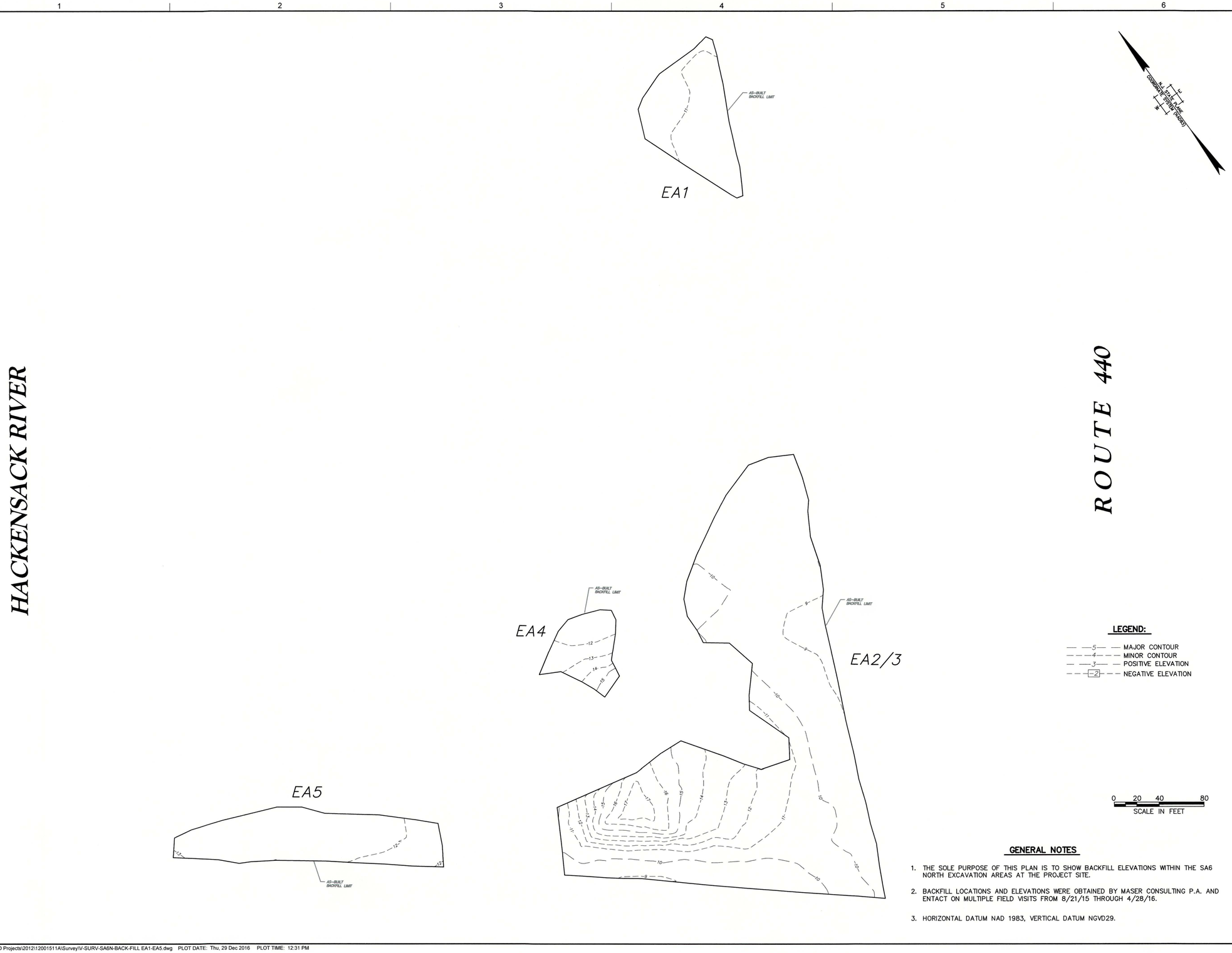
ATTACHMENT C
SA-6 NORTH AS-BUILT BACKFILL PLAN



GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW BACKFILL ELEVATIONS WITHIN THE SA6 NORTH EXCAVATION AREAS AT THE PROJECT SITE.
2. BACKFILL LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. AND ENTACT ON MULTIPLE FIELD VISITS FROM 8/21/15 THROUGH 4/28/16.
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

NO.	DATE	GENERAL REVISIONS	BSB	RTH
1	12/28/16	REVISION	BY	APVD
DSGN	GE	DR	CHK	RTH

BSB

R. THOMAS HUGG

N.J. PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 08223

FILE NUMBER 12001511A

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
BACKFILL PLAN FOR EXCAVATION
AREAS 1, 2/3, 4 AND 5

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 NORTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

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Hamilton, NJ 08619
(609) 689 - 2229

VERIFY SCALE
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0 1"

DATE	8/23/16
PROJ	3480-10-0027
DWG	C-111A
SHEET	1 OF 2

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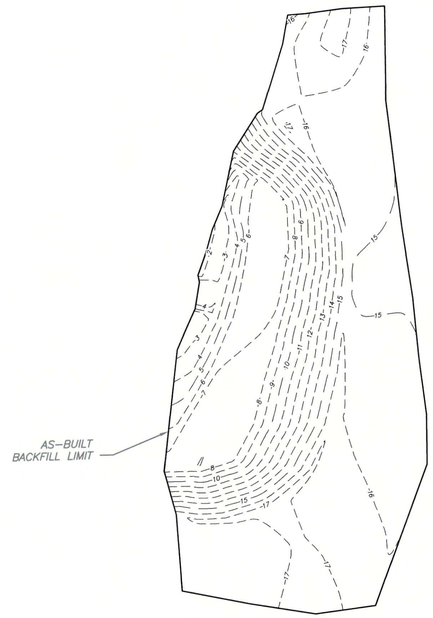
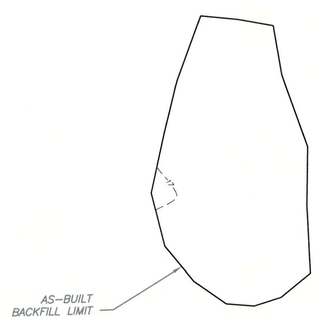
FILE NAME: C:\Civil 3D Projects\2012\12001511A\Survey\V-SURV-SA6N-BACK-FILL EA1-EA5.dwg PLOT DATE: Thu, 29 Dec 2016 PLOT TIME: 12:31 PM

HACKENSACK RIVER



EA8



EA7

ROUTE 440

LEGEND:

- MAJOR CONTOUR
- MINOR CONTOUR
- POSITIVE ELEVATION
- NEGATIVE ELEVATION

0 15 30 60
SCALE IN FEET

GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW BACKFILL ELEVATIONS WITHIN THE SA6 NORTH EXCAVATION AREAS AT THE PROJECT SITE.
2. BACKFILL LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. AND ENTACT ON MULTIPLE FIELD VISITS FROM 8/21/15 THROUGH 4/28/16.
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 080223

FILE NUMBER 12001511A

NO.	DATE	REVISION	BY	APVD
1	12/28/16	GENERAL REVISIONS	BSB	RTH

DSGN GE | DR | CHK BSB | APVD RTH

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS38737

Honeywell
101 COLUMBIA RD. BOX 2108, MORRISTOWN, NJ 07962

STUDY AREA 6 NORTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

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DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
BACKFILL PLAN FOR EXCAVATION
AREAS 7 AND 8

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Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2629

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	8/23/16
PROJ	3480-10-0027
DWG	C-112A
SHEET	2 OF 2

ATTACHMENT D
TABLE SUMMARY OF SOIL MANAGEMENT ACTIVITIES

ATTACHMENT D
SUMMARY OF SOIL MANAGEMENT ACTIVITIES

Study Area 6 North
SA-6 Chromium Remedy
Jersey City, NJ

Excavated Material Description	Approximate Excavation Volume (CYs)	Approximate Off Site Disposal Volume (CYs)	Approximate Reused as Backfill in Development Area Volume (CYs)	Approximate Volume Consolidated Under North Cap
<20 mg/kg Overburden	8,800	0	8,500	300
20-240 mg/kg Chromium-Impacted	11,700	0	0	11,700
>240 mg/kg Chromium-Impacted (Haz)	6,000	6,000	0	0
>240 mg/kg Chromium-Impacted (Non-haz)	2,500	2,500	0	0
20-240 mg/kg Chromium-Impacted (South)	0	0	0	29,500
Total	**29,000**	**8,500**	**8,500**	**41,500**

1. The volumes provided on this table are estimated and may be based upon conversion factors or other non-surveyed means of soil measurement procedures.

ATTACHMENT E
DESIGN CHANGES

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: Major (a)(b) Effective Date: 8/14/13
Project Location: SA-6 NORTH Title: Hydraulic Barrier/Surcharge Relocation adjacent to 72 inch FM SA-6 North	Associated RFI: ☐ Yes, RFI No. ___ ☑ None
Contractor (Subcontractor): Entact	Project No.: 3480130377

Description of Change/Modification:

The Barrier Wall alignment and Surcharge Program from Station 14+50 to Station 22+13 has been modified to address the concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of the 72 inch forcemain. The relocation also impacts subgrade/liner grading and final grades for the Chromium Remedy. Design Drawings have to be modified and design calculations revised in support of the design modification. The Surcharge Monitoring Plan has also been amended and acoustical monitoring will be installed by PVSC.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Modified due to barrier wall relocation in conjunction with 72-in FM protection. Attachments: ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments: Major DCB anticipated, requires review and approval by third parties.	Design Documents Affected: Drawings – 8-11,13-15, 20,29, 31-35, 45-53, 54, 55, 56, 58, 59

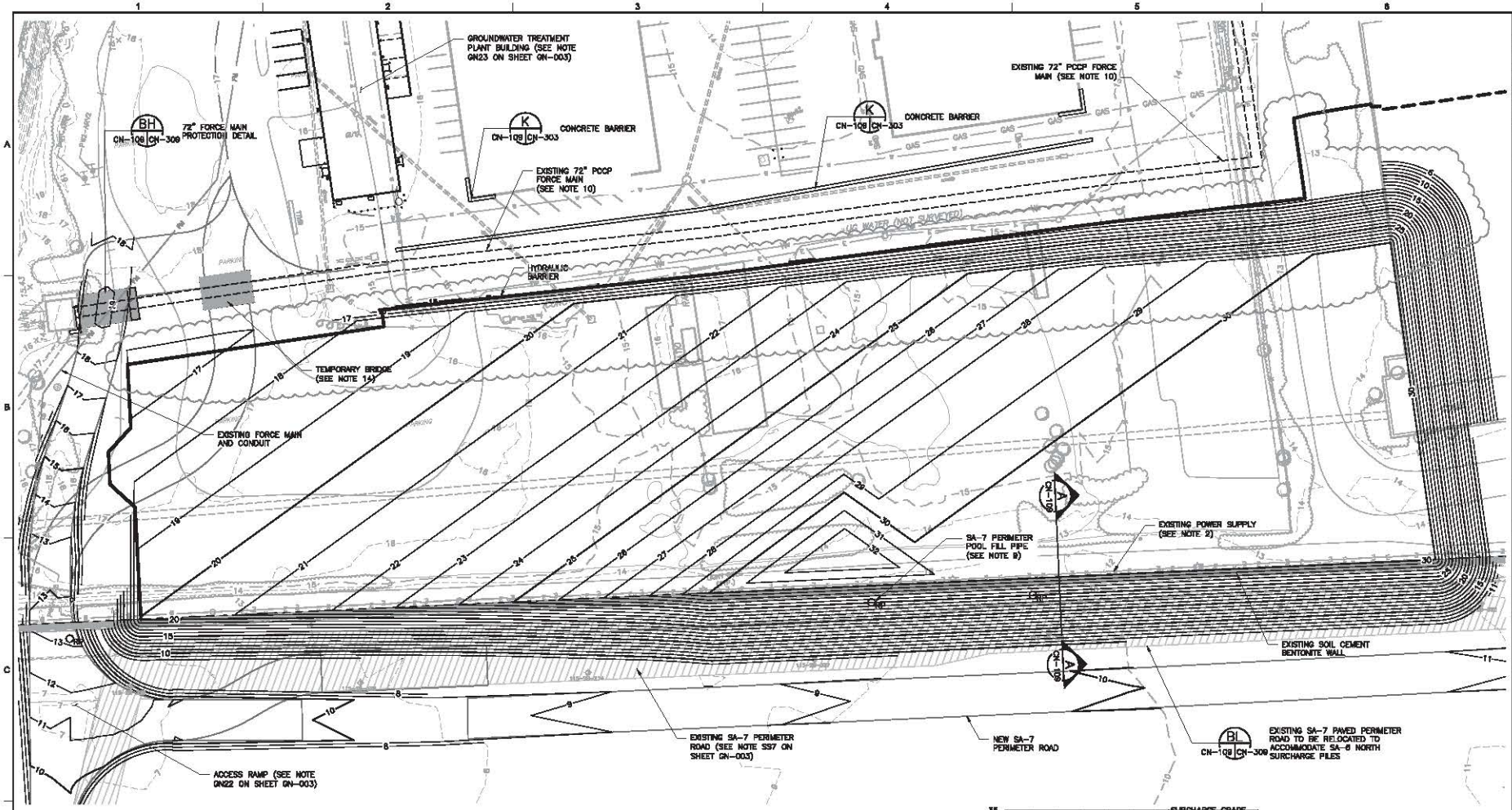
Honeywell (AP) Review:

Individual	Discipline	Initial	Date

(Name / Signature):	Does DCB Result in CCO? ☐ Yes Yes (b) ☑ No Date:

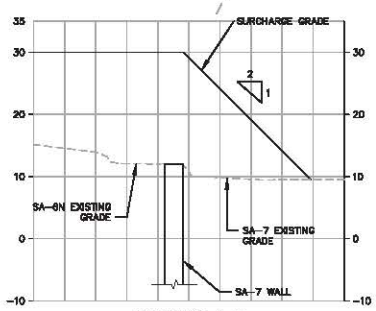
Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS PRIOR TO SURCHARGE PLACEMENT.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE PLACEMENT.
4. TOE OF SURCHARGE PILE EXTENDS INTO THE SEDIMENTATION BASIN.
5. BEGIN SURCHARGE PLACEMENT PROXIMATE TO THE SEDIMENTATION BASIN IN AREAS REQUIRING THE MOST FILL AND WORK TOWARDS THE RIVER.
6. SURCHARGE PILE TO BE SLOPED TO SHED SURFACE WATER TO THE NORTH.
7. COORDINATE WITH SA-7 ENGINEER TO MAINTAIN ACCESS AND FUNCTION TO PERIMETER POOL INSTRUMENTATION AND RECHARGE SYSTEM.
8. SURCHARGE PILE SLOPE EXTENDS ONTO SA-7.
9. OBSERVATION, RECHARGE, AND MONITORING WELLS ON SA-7 WILL BE EXTENDED AS NECESSARY TO MAINTAIN OPERATIONAL CAPABILITY WHILE SURCHARGING.
10. EXISTING JCMUA 72" FORCE MAIN PROTECTIVE MEASURES TO BE COMPLETED PRIOR TO PLACING SURCHARGE WITHIN 50 FEET OF THE FM. ~~(SEE SHEET GN-006 FOR INSTALLATION OF GEOFOAM BLOCK PROTECTION FOR THE FM.~~ 1
11. SOIL EROSION AND SEDIMENT CONTROL, (SESC) MEASURES WILL BE INSTALLED PRIOR TO COMMENCEMENT OF ROLLING SURCHARGE AND SHALL BE REMOVED, RELOCATED, AND ADJUSTED AS NECESSARY IN CONJUNCTION WITH THE ROLLING SURCHARGE. SESC MEASURES SHALL BE REMOVED FOLLOWING SURCHARGE COMPLETION.
12. THE DIVISION OF THE SURCHARGE AREAS MAY BE SUBJECT TO CHANGE. THE TOTAL AMOUNT OF SURCHARGE AND THE INSTRUMENT LOCATIONS AS SHOWN WILL DEPEND ON ANY REVISIONS TO THE INTERNAL BOUNDARIES BETWEEN THE SURCHARGE AREAS.
13. ~~CONTRACTOR MAY ELECT TO BUILD VERTICAL MECHANICAL STABILIZED ENBANKMENT SLOPE IN LIEU OF TOE OF SLOPE SHOWN IN SURCHARGE PILE.~~ 1
14. TEMPORARY BRIDGE BY OTHERS RELOCATED BY CONTRACTOR AS REQUIRED.
15. FILL LOW AREAS AND EXISTING DEPRESSIONS TO TARGET SURCHARGE ELEVATION.CUTS ARE NOT REQUIRED TO BE COMPLETED DURING SURCHARGE GRADING.
16. REFER TO GENERAL NOTES ON SHEETS GN-003 AND GN-004.
17. REFER TO LEGEND AND ABBREVIATIONS ON SHEET GN-002.



SECTION A-A

0 15 30 60
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
1	09/13/13	H&W RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	09/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. - BOX 9104, MORRISTOWN, NJ 07960

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CAP AREA SURCHARGE
GRADING PLAN
AREA 1N

amec
Environmental & Infrastructure, Inc.
2800 Ameriplex Metro Blvd., Suite 115
Hamilton, NJ, 08619
(609) 890-1500
NJ Certificate of Authorization Number 24GA28001800

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE
PROJ 3480-12-0317
DWG CN-109
SHEET 14 OF 70

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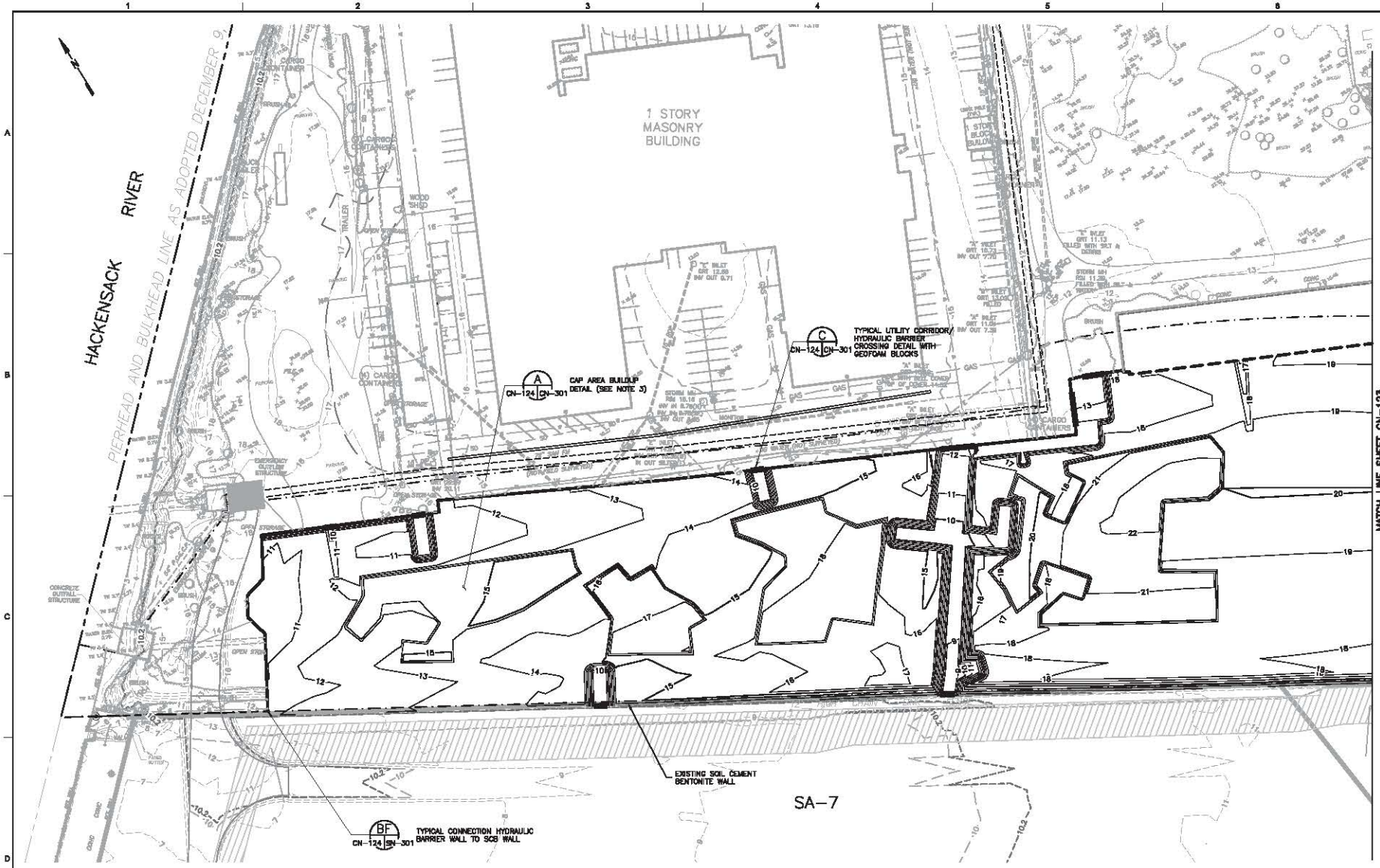

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE LINEAR LOW DENSITY POLYETHYLENE MEMBRANE (60 MIL) LINER/ TOP OF SUBGRADE.
4. CONSERVATION EASEMENT REPRESENTS THE LIMIT OF THE RESTRICTED AREA PER THE CONSENT DECREE.

SAMUEL G. SHALLAND

NO.	DATE	REVISION	BY	APV'D
1	09/13/13	H&W RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	09/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APV'D SGS

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
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CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

GEOMEMBRANE GRADING PLAN

amec
Environmental & Infrastructure, Inc.
2000 Artificial Metro Blvd, Suite 115
Hamilton, NJ, 08619
(609) 890-2000
NJ Certificate of Authorization Number 24GA28018800

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DATE	
PROJ	34BD-12-0317
DWG	CN-124
SHEET	29 OF 70

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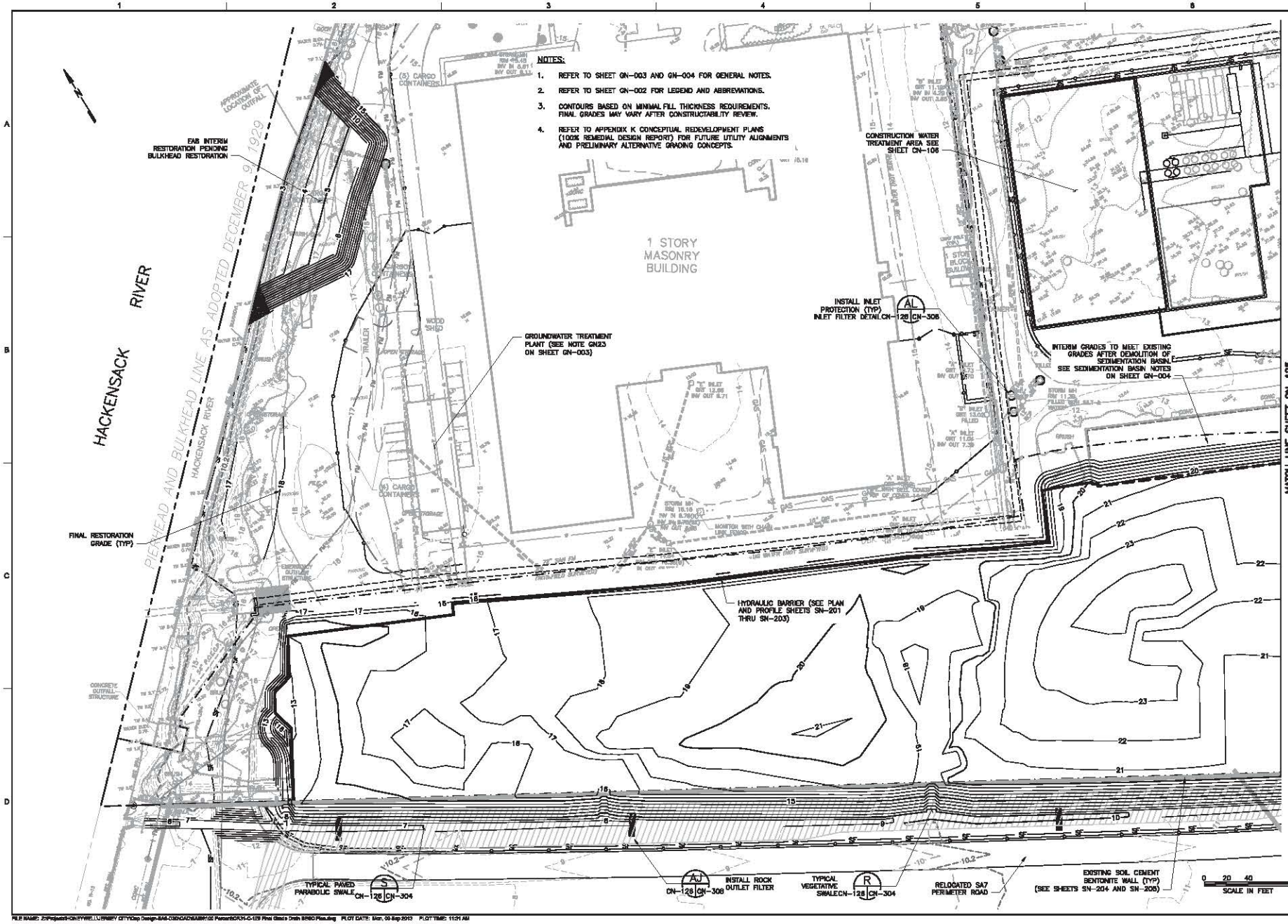
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-CSB\CADD\ABBN\02 Parcel\CR29-C-124 Bioremediation Grade.dwg PLOT DATE: Mon, 30 Sep 2013 PLOT TIME: 11:19 AM



NO.	DATE	REVISION	BY	APVD
1	09/13/13	H&W RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	09/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD., BOX 9158, MORRISTOWN, NJ 07960

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

INTERIM GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

amec
Environmental & Infrastructure, Inc.
2200 Arrowhead Metro Blvd, Suite 115
Hamilton, N.J. 08619
(609) 890-1500
NJ Certificate of Authorization Number 24GA28018800

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	34BD-12-0317
DWG	CN-128
SHEET	31 OF 70

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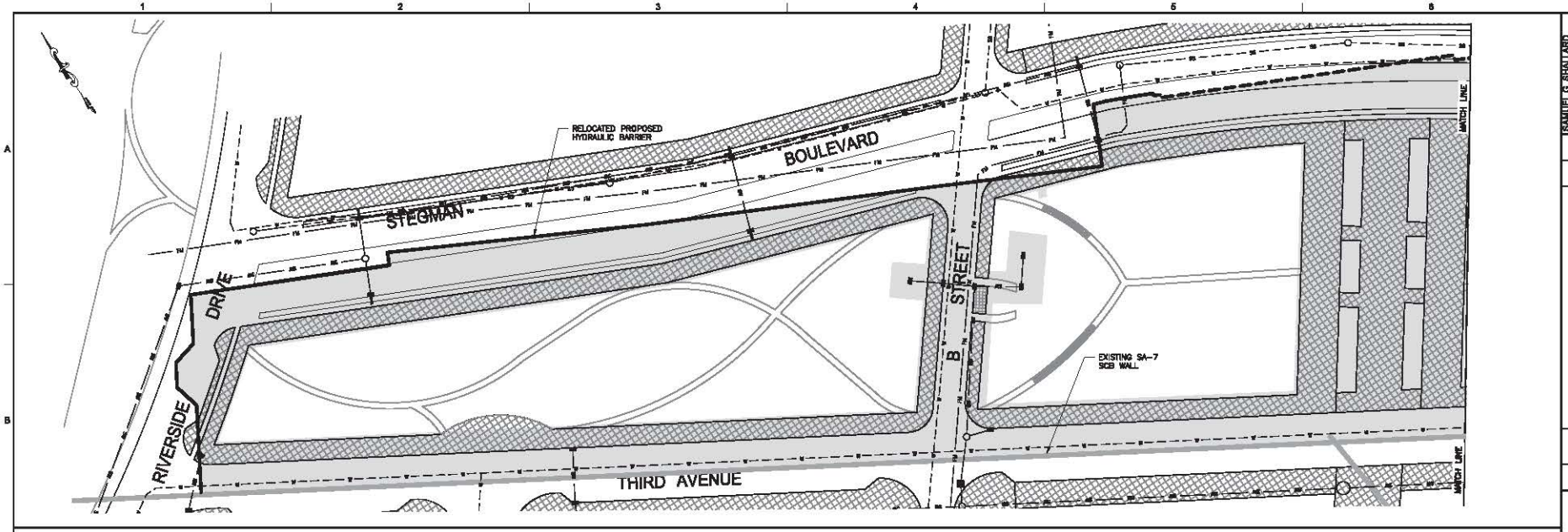
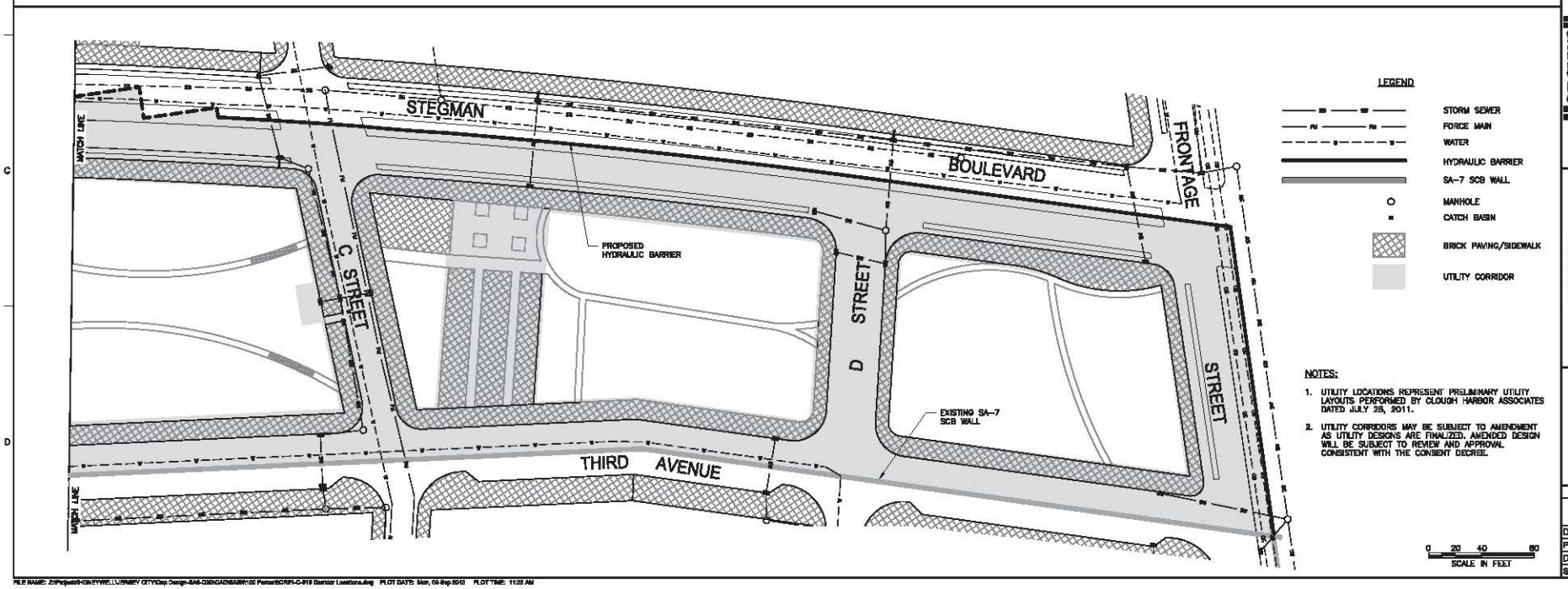
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3\DCAD\SA6NN02 Parcel\ROH-C-129 Final Grade Drain SA6C Plan.dwg PLOT DATE: Mon, 09 Sep 2013 PLOT TIME: 11:21 AM





NOTES:

1. UTILITY LOCATIONS REPRESENT PRELIMINARY UTILITY LAYOUTS PERFORMED BY CLOUGH HARBOR ASSOCIATES DATED JULY 25, 2011.
2. UTILITY CORRIDORS MAY BE SUBJECT TO AMENDMENT AS UTILITY DESIGNS ARE FINALIZED. AMENDED DESIGN WILL BE SUBJECT TO REVIEW AND APPROVAL CONSISTENT WITH THE CONSENT DECREE.

SAMUEL G. SHALLARD

NO.	DATE	REVISION	BY	APV'D
1	09/13/13	H&W RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APV'D SGS

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. MAIL # 1-18, MORRISTOWN, NJ 07960

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

UTILITY CORRIDOR LOCATIONS

amec
Environmental & Infrastructure, Inc.
392 Alexander Metro Blvd, Suite 110
Hamilton, NJ, 08619
Phone: (609) 890-1500
NJ Certificate of Authorization Number 24GA28018600

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0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-515
SHEET	51 OF 70

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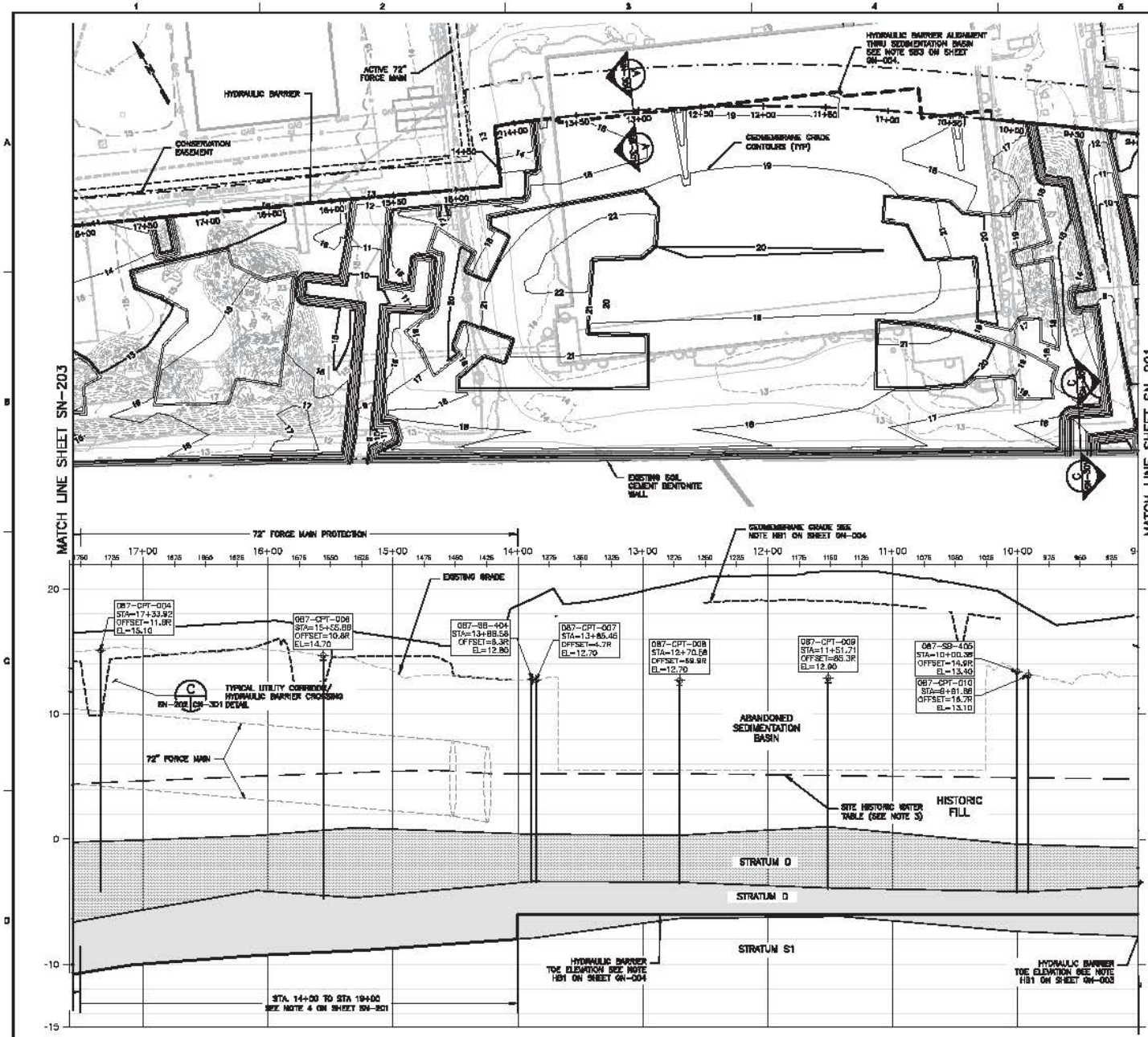
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-087\CAD\SA6MAIN100 Percent\CRP1-C-919 Barrier Locations.dwg PLOT DATE: Mon, 09 Sep 2013 PLOT TIME: 11:28 AM



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE H817 AND DETAIL E ON SHEET GN GN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700
NON STRUCTURAL	9+85	14+00	-6	AZ 19-700
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	DR.	CHK.	REVISION	BY	APVD
1	09/13/13			NEW RE-ALIGNMENT ADJACENT TO 72-INCH FM		
0	08/27/13			ISSUED FOR CONSTRUCTION		

DESIGN TIDD DR. RJR CHK. TIDD APVD

MANUEL D. SHULLANI

Honeywell
101 SOUTHERN BLVD, EAST HANOVER, NJ 07936

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
560 Sylvan Avenue, Suite 115
Englewood Cliffs, NJ 07632
(201) 568-2220
NJ Certificate of Authorization Number 24GA28001300

NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 41997

VERIFY SCALE
BAR IS 2 INCH ON ORIGINAL DRAWING
0 1"

DATE
PROJ 3455-12-0317
DWG SN-203
SHEET 56 OF 78

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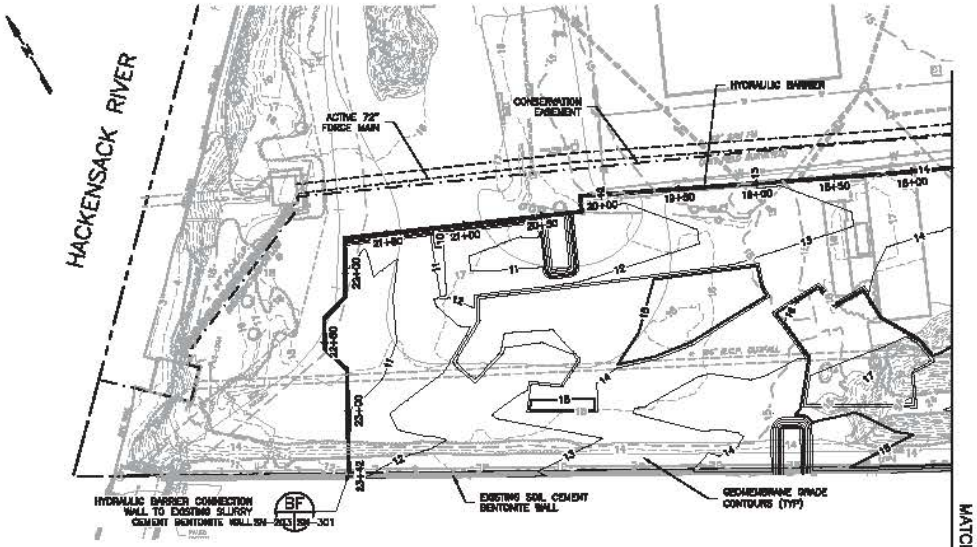

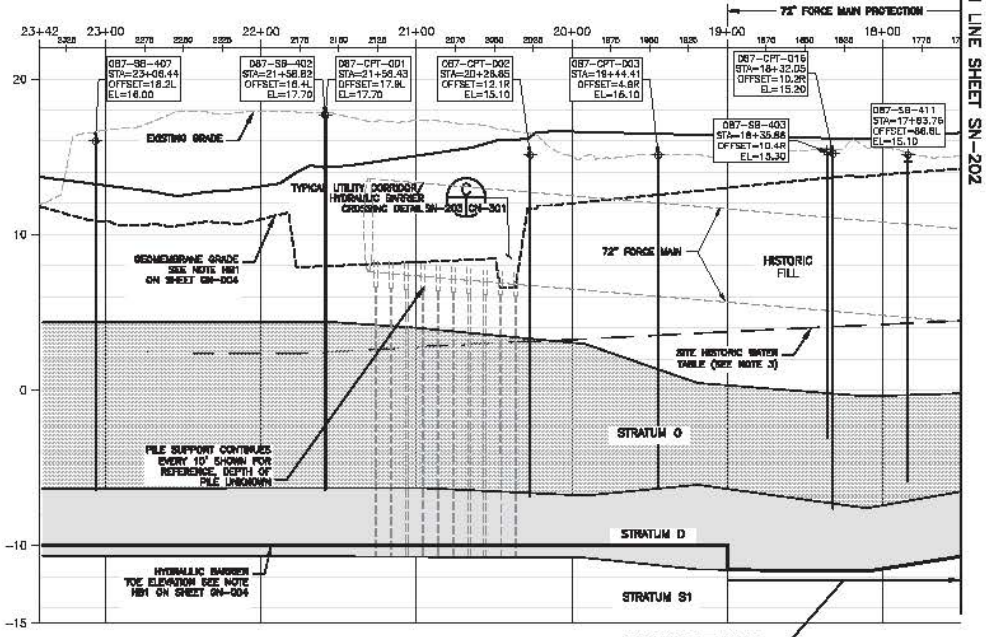

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700
NON STRUCTURAL	19+00	23+38	-10	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET GN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
1	09/13/13	NEW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGB
0	08/27/13	ISSUED FOR CONSTRUCTION	TDD	SGB

DESIGN TDD DR RJR CHK TDD APVD SGB

MANUEL D. SHULLANI
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 41997

Honeywell
101 CORPORATE BLVD., NEW JERSEY, NJ 07305

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environmental & Infrastructure, Inc.
590 Madison Ave., Suite 19
Hoboken, NJ 07030
(201) 659-2000
NJ Certificate of Authorization 24GA28001300

VERIFY SCALE
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0 1"

DATE
PROJ 5455-12-0317
DWG SN-203
SHEET 58 OF 78

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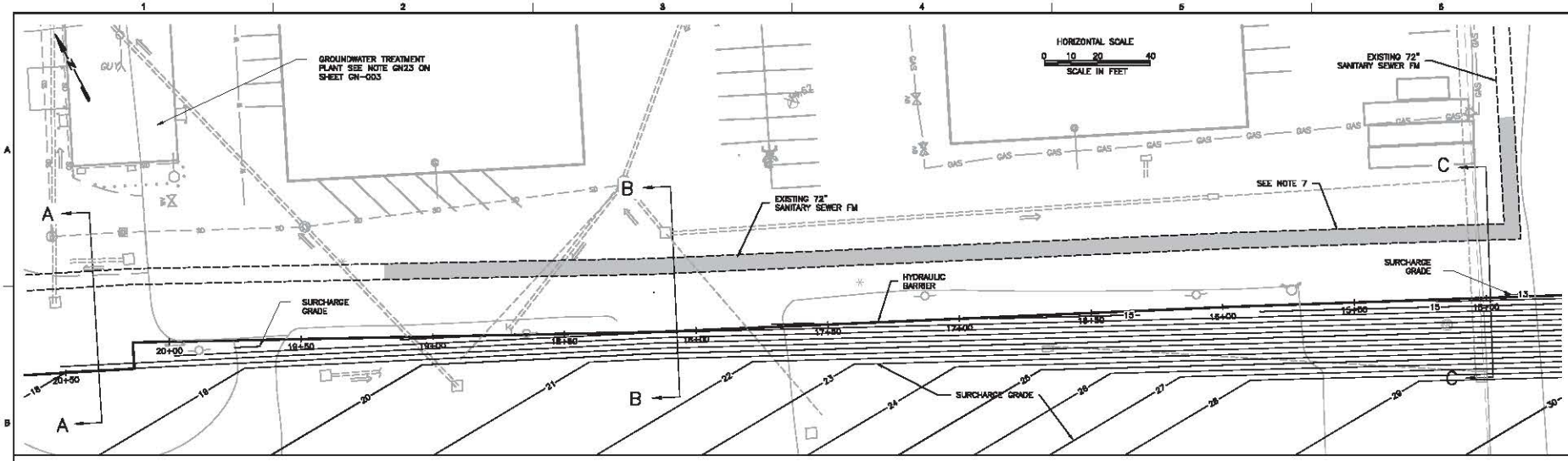
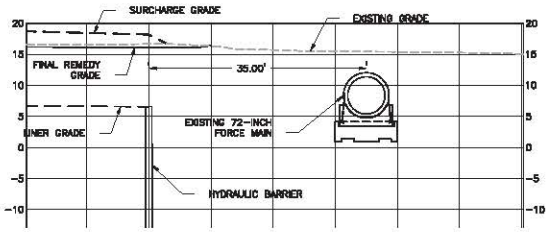
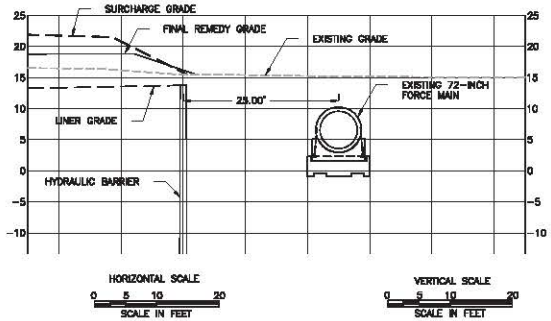


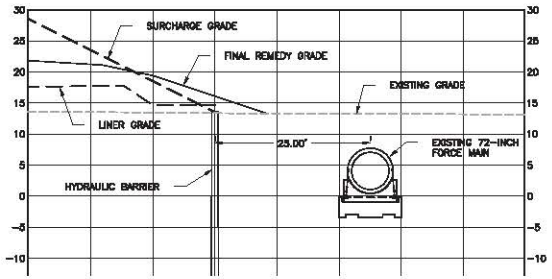
SECTION A–A



SECTION B–B



SECTION C–C



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. ~~REMOVE EXISTING FILL FROM OVER FORCE MAIN TO REDUCE DEPTH OF SOIL TO THE GROUND OF THE PIPE TO 4-FEET. AN ADDITIONAL FOOT MAY BE REMOVED AT THE ENGINEERS DIRECTION.~~ 1
4. ~~CUT GRADE SOUTH OF THE BARRIER WALL TO THE SAME ELEVATION AS OVER THE FORCE MAIN SO THAT THE BASE OF THE MSE WALL IS AT THE SAME ELEVATION AS THE COVER SOIL OVER THE FORCE MAIN. (SEE SECTION A–A AND C–C).~~ 1
5. ~~A MECHANICALLY STABILIZED EMBANKMENT (MSE) WILL BE INSTALLED WITH THE SURCHARGE FILL TO RETAIN THE FACE OF THE SURCHARGE PILE.~~ 1
6. MONITORING WILL BE CONDUCTED IN ACCORDANCE WITH APPENDIX N: THE SURCHARGE MONITORING PLAN
7. 72" FORCE MAIN INFORMATION WAS TAKEN FROM THE DRAWING ENTITLED "HUDSON COUNTY UTILITIES AUTHORITY AND JERSEY CITY SEWERAGE AUTHORITY, JERSEY CITY, NEW JERSEY, CONTRACT 3, (REMAINING INFORMATION IS MISSING ON THE SHEET). UNDERWATER 72-INCH SEWER PIPELINE, PIPELINE, PAYMENT LINES AND SECTIONS, PREPARED BY LAWLER, MATUSKY & SKELLY ENGINEERS, DATED FEB, 28,1988, DRAWING U-11.
8. REFERENCE DRAWINGS 72FM-C101 AND 72FM-C301 FOR 72-INCH FORCE MAIN MONITORING LAYOUT PLAN AND DETAILS. 1
9. ~~THE RESULTS OF THE PVSC INVESTIGATION WILL BE USED TO EVALUATE THE NEED TO IMPLEMENT OTHER MEASURES TO REDUCE THE LOAD ON THE FORCE MAIN IMPOSED BY THE REMEDY CAP GRADING.~~ 1
10. ~~FOLLOWING COMPLETION OF SURCHARGING, REMOVE SURCHARGE PILE AND THE MSE.~~ 1
11. INSTALL AZ 19-700 SHEETPILE BARRIER WALL. THE SHEETPILE WILL BE DRIVEN TO THE DEPTH SHOWN ON DRAWINGS SN-202 AND SN-203. TOP OF SHEETPILE MATCHES GEOMEMBRANE GRADE. DRIVING EQUIPMENT TO OPERATE FROM THE SOUTH/SURCHARGE SIDE OF THE 72-INCH FORCE MAIN.
12. VIBRATION MONITORING WILL BE CONDUCTED DURING SHEETPILE INSTALLATION.
13. THE MAXIMUM ACCELERATION DETERMINED BY PVSC IS 1 INCH PER SECOND. 1
14. IF VIBRATION APPROACHES THE DESIGNATED ACCELERATION LIMIT WORK WILL CEASE AND ALTERNATIVE OPTIONS FOR FACILITATING SHEET INSTALLATION WILL BE EVALUATED.

NO.	DATE	REVISION	BY	APV'D
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	08/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DESIGN TDD DR RJR CHK TDD APV'D SGS

SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43567

Honeywell
101 COLUMBIA RD. BOX 9161, MORRISTOWN, NJ 07960

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

72 INCH FORCE MAIN PROTECTION
PLAN AND DETAILS

anec
Environment & Infrastructure, Inc.
300 American Metro Blvd, Suite 115
Hamilton, NJ, 08619
(609) 890-1500
NJ Certificate of Authorization Number 24GA28019500

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-208
SHEET	59 OF 70

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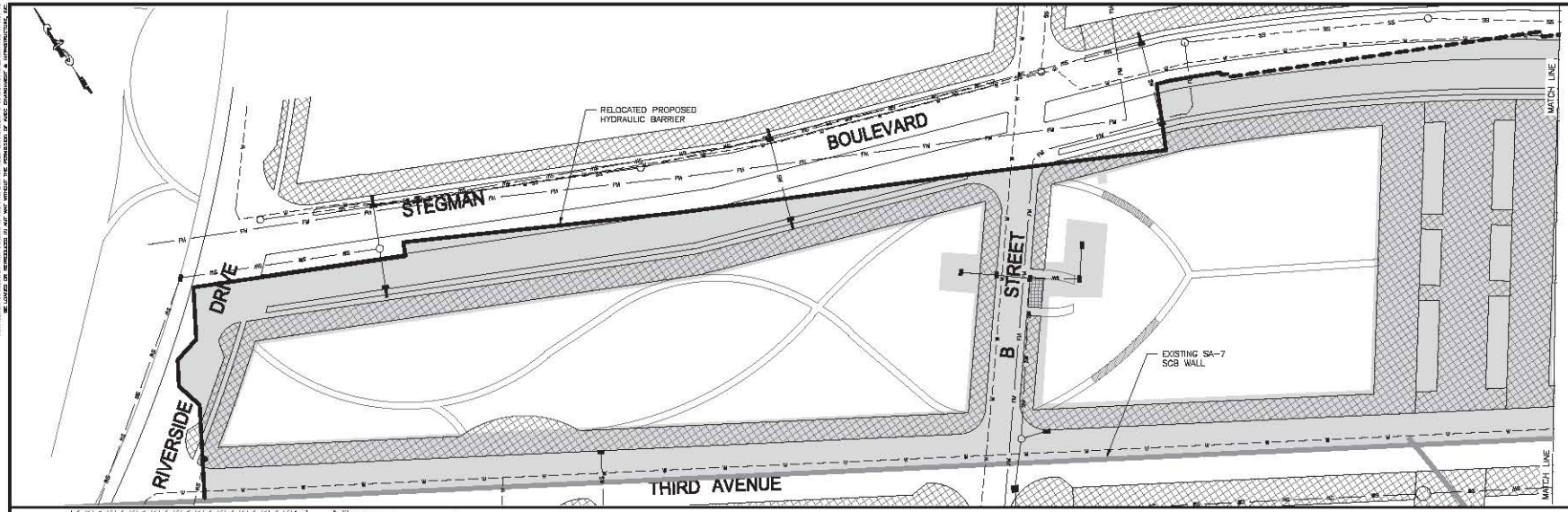
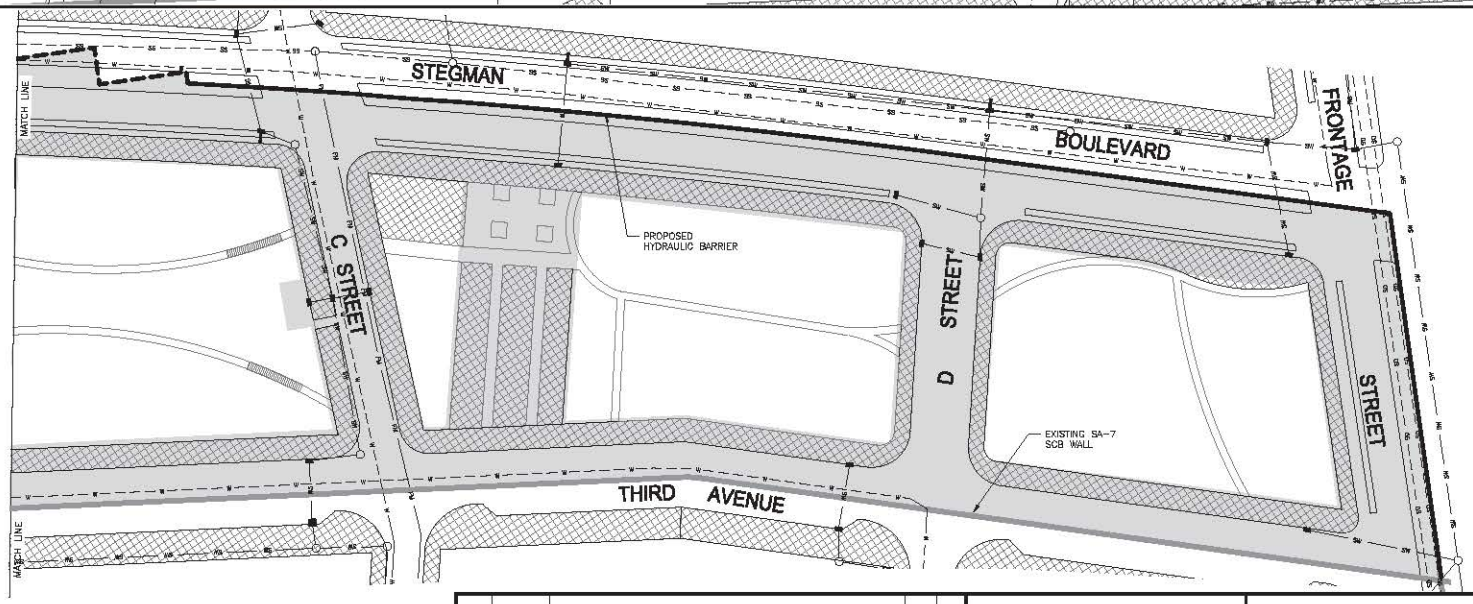
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-CROMIUM\SN\SN Plans\SN03-SN-208 72-Inch Force Main Protection.dwg PLOT DATE: Mon, 09 Sep 2013 PLOT TIME: 12:19 PM

DESIGN CHANGE BULLETIN			
Sheet #	**Drawing #**	**Drawing Title**	**Comments**
8	CN-103	General Remedy Plan	Drawings with incidental line work changes
9	CN-104	Subgrade Demolition Plan	Drawings with incidental line work changes
10	CN-105	Traffic Control and Decontamination Plan	Drawings with incidental line work changes
11	CN-106	Construction Water Treatment System Plan	Drawings with incidental line work changes
13	CN-108	Cap Area Surcharge Grading Plan	Drawings with incidental line work changes
14	**CN-109**	**Cap Area Surcharge Grading Plan Area 1N**	**100% Design Drawings Revised due to Hydraulic Barrier realignment and Included with this submittal**
15	CN-110	Civil Cap Area Surcharge Grading Plan Area 2N	Drawings with incidental line work changes
20	CN-115	Excavation and Erosion Control Plan Excavation Areas EA7 and EA8	Drawings with incidental line work changes
29	**CN-124**	**Geomembrane Grading Plan**	**100% Design Drawings Revised due to Hydraulic Barrier realignment and Included with this submittal**
31	**CN-126**	**Interim Grading, Drainage, and Soil Erosion Sediment Control Plan**	**100% Design Drawings Revised due to Hydraulic Barrier realignment and Included with this submittal**
32	CN-127	Restoration Plan	Drawings with incidental line work changes
33	CN-201	Contingent Groundwater Extraction System Plan and Profile	Drawings with incidental line work changes
34	CN-202	Contingent Groundwater Extraction System Plan and Profile	Drawings with incidental line work changes
35	CN-203	Contingent Groundwater Extraction System Plan and Profile	Drawings with incidental line work changes

DESIGN CHANGE BULLETIN			
Sheet #	**Drawing #**	**Drawing Title**	**Comments**
45	CN-501	Cap Cross Section Plan	Drawings with incidental line work changes
46	CN-502	Cap Cross Sections	Drawings with incidental line work changes
47	CN-503	Cap Cross Sections	Drawings with incidental line work changes
48	CN-504	Cap Cross Sections	Drawings with incidental line work changes
49	CN-505	Cap Cross Sections	Drawings with incidental line work changes
50	CN-506	Cap Cross Sections	Drawings with incidental line work changes
51	**CN-515**	**Utility Corridor Locations**	**100% Design Drawings Revised due to Hydraulic Barrier realignment and Included with this submittal**
52	CN-516	Gas Venting System and Details	Drawings with incidental line work changes
53	CN-517	Structural Fill Under Roadways	Drawings with incidental line work changes
55	**SN-202**	**Hydraulic Barrier Plan and Profile**	**100% Design Drawings Revised due to Hydraulic Barrier realignment and Included with this submittal**
56	**SN-203**	**Hydraulic Barrier Plan and Profile**	**100% Design Drawings Revised due to Hydraulic Barrier realignment and Included with this submittal**
58	SN-205	Existing SA-7 SCB Wall Plan and Profile	Drawings with incidental line work changes
59	**SN-206**	**72 Inch Force Main Protection Plan and Details**	**100% Design Drawings Revised due to Hydraulic Barrier realignment and Included with this submittal**





LEGEND

- STORM SEWER
- FORCE MAIN
- WATER
- HYDRAULIC BARRIER
- SA-7 SCB WALL
- MANHOLE
- CATCH BASIN
- BRICK PAVING/SIDEWALK
- UTILITY CORRIDOR

NOTES:

1. UTILITY LOCATIONS REPRESENT PRELIMINARY UTILITY LAYOUTS PERFORMED BY CLOUGH HARBOR ASSOCIATES DATED JULY 29, 2011.
2. UTILITY CORRIDORS MAY BE SUBJECT TO AMENDMENT AS UTILITY DESIGNS ARE FINALIZED. AMENDED DESIGN WILL BE SUBJECT TO REVIEW AND APPROVAL CONSISTENT WITH THE CONSENT DECREE.

0 20 40 80
SCALE IN FEET

SOURCE MAP REFERENCE:
XXXXXXXXXXX

REV.	DATE	STATUS	PRPD BY	CHKD BY

AMEC PROJECT No. 3480120317
DRAWING: CR51-C-S15 CORRIDOR LOCATIONS

PREPARED/DATE: RJR 09/11/13
CHECKED/DATE: TDD 09/11/13

amec
ENVIRONMENT & INFRASTRUCTURE
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 1
HYDRAULIC BARRIER WITH BAYFRONT UTILITY OVERLAY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

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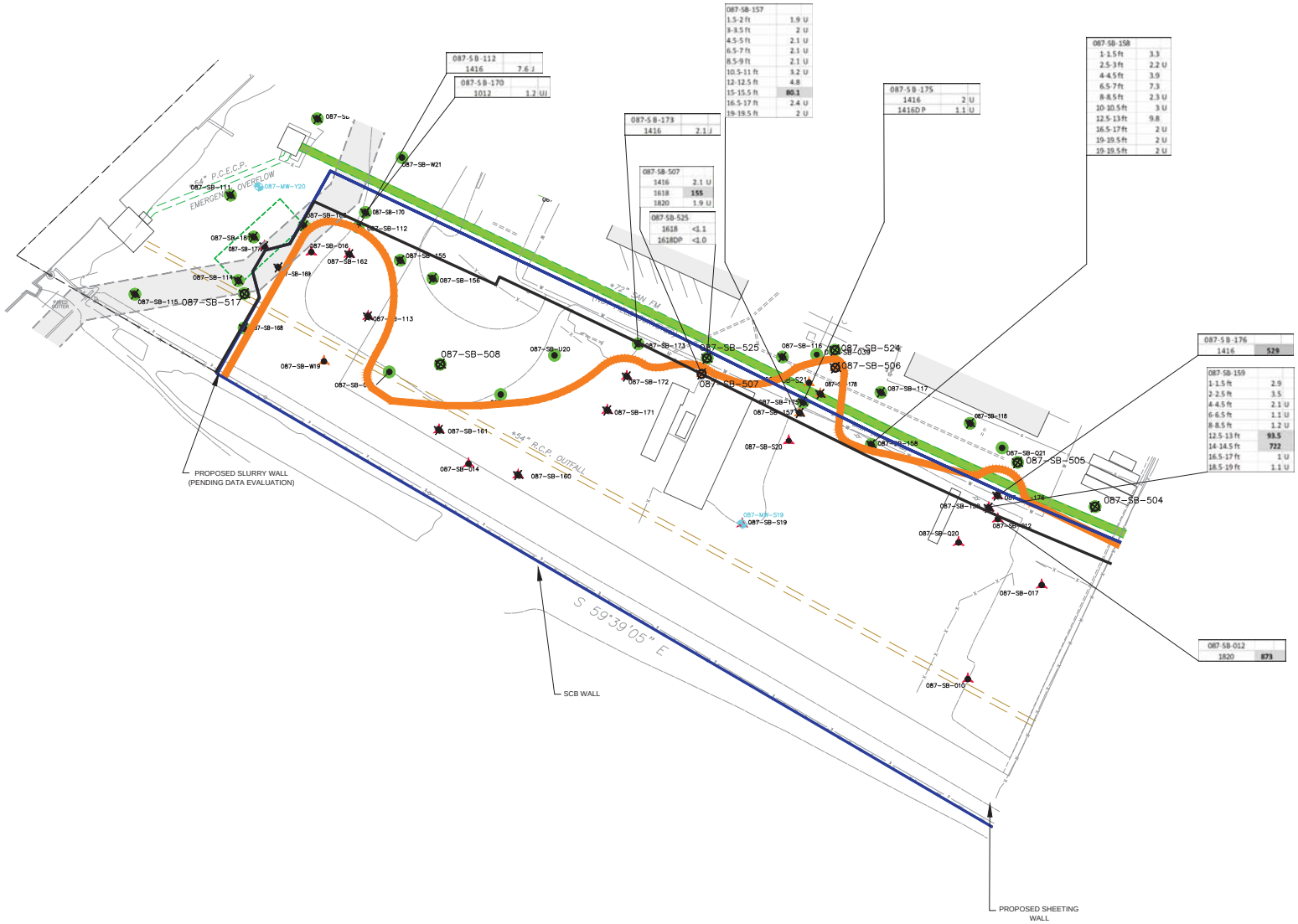
P:\CAD\NEWELL\JERSEY CITY\SA 6 NORTH_SCRATCH\CR51-C-S15 Corridor Locations.dwg Wed, 11 Sep 2013 - 3:03pm scott.radin Layout: Layout1



LEGEND

- EXISTING BUILDINGS
- BLOCK/LOT LINE (APPROXIMATE LOCATION)
- UNDERGROUND STORAGE TANK AREA
- STORM SEWER
- SANITARY SEWER
- GAS LINE
- WATER LINE
- CONSERVATION EASEMENT
- EXISTING SHALOW MONITORING WELL LOCATIONS ASSOCIATED WITH CHROMIUM REMEDIAL INVESTIGATION
- EXISTING DEEP MONITORING WELL LOCATIONS ASSOCIATED WITH CHROMIUM REMEDIAL INVESTIGATION
- EXISTING MONITORING WELL LOCATIONS ASSOCIATED WITH PREVIOUS UST INVESTIGATIONS NOTED IN THE FIELD ON JCIA AND JCMUA PROPERTIES (LOCATION IDs ASSIGNED BY MACTEC 2005)
- PDI SOIL BORINGS
- PREVIOUS RIR SOIL BORING LOCATIONS COMPLETED
- SEDIMENT BASIN HORIZONTAL DRILLING
- PDI BORING (2009)
- >20 ppm HEXAVALENT CHROMIUM SAMPLE LOCATION
- 20–240 ppm HEXAVALENT CHROMIUM SAMPLE LOCATION
- >240 ppm HEXAVALENT CHROMIUM SAMPLE LOCATION
- 20–240 ppm HEXAVALENT CHROMIUM
- SIDEWALL
- 72" FORCEMAIN SANITARY SEWER
- ORIGINAL HYDRAULIC BARRIER ALIGNMENT
- PROPOSED HYDRAULIC BARRIER ALIGNMENT
- SOIL EXCAVATION AREA >240 ppm HEXAVALENT CHROMIUM
- SOIL EXCAVATION AREA 20–240 ppm HEXAVALENT CHROMIUM

U NOT DETECTED

J ESTIMATED CONCENTRATION

UTILITY LOCATIONS BASED ON ALTA/ASCM LAND TITLE SURVEY FOR BLOCK 1290.1 – LOTS 2D,2E,15D, 15B & 16A, DATED 5/23/08

SIDEWALL PERIMETER: 122'
AREA = 1,863 SQ. FT.

0 20 40 80
SCALE IN FEET

REV.	DATE	STATUS	BY

MACTEC PROJECT No. 3480090006
DRAWING: FIGURE 01 THRU FIGURE 08 – PDI BORING LOCATIONS

PREPARED/DATE: STR 09/03/13

CHECKED/DATE: DEN 09/03/13

amec
ENVIRONMENT & INFRASTRUCTURE
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

EXHIBIT A
BARRIER WALL RELOCATION WITH PRE-DESIGN SAMPLING DATA
REMEDIAL ACTION WORK PLAN
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY

F:\CADD\HONEWELL\JERSEY CITY\CADD ex-EV\FIGURE 01 THRU FIGURE 08 – PDI BORING LOCATIONS.dwg Tue, 03 Sep 2013 – 6:15pm scott.rudkin Layout: FIG 6

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6, Jersey City, NJ	**DCB Type:** **Minor (a)** Effective Date: 08/13/14
Project Location: SA-6 NORTH, SA6-SOUTH **Title: Barrier Wall Sedimentation Basin**	**Associated RFI:** ☐ Yes, RFI No. ____ ☑ None
Contractor (Subcontractor): Entact	**Project No.: 3480130377**

Description of Change/Modification:

The Barrier wall is proposed to be realigned through the Sedimentation Basin to reduce the number of corners and reduce the potential for conflicts with the existing timber piles that support the sedimentation basin and over-pour of concrete at edge details. The alignment will be moved approximately 4 ft. north of the existing alignment and 8 ft. east of the existing alignment as shown on the attached figure.

In addition where the Barrier Wall alignment is north of the centerline (as shown on Amec drawing SN-202 and the figure), the top of the barrier wall will be installed at approximately elevation 12. The cap in the northern half of the future Stegman Boulevard would be depressed to approximately elevation 12 as shown on the annotated section Drawing CN-503 Sta. 209+00.

There are no proposed changes to the approved 100% Design detail of liner installation over the barrier wall and the modified barrier wall alignment continues to remain within the defined conservation easement limits.

These changes will provide a wider utility corridor in the future Stegman Boulevard and allow for additional clearance between the liner and future Bayfront utilities. As noted in Section 10.1.9 of the Chromium Remedy 100% Design Report, it was contemplated that the barrier wall may be subject to further minor changes in alignment following pre-trenching and verification of pile locations.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	**Explanation or Reason:** Simplify barrier wall fabrication detailing and reduce potential conflict with future Bayfront utilities **Attachments:** ☑ Yes ☐ No **Cost Implication:** ☐ Yes ☑ No **>$50k** ☐ Yes ☑ No **Schedule Implication** ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:**

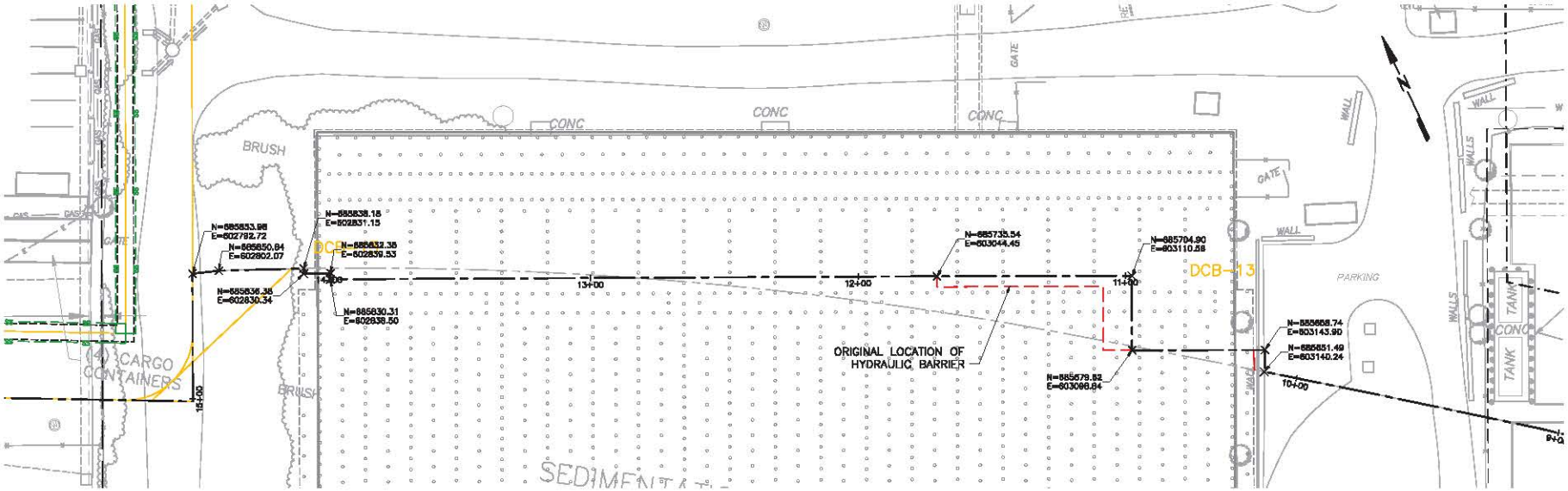
Honeywell (AP) Review:

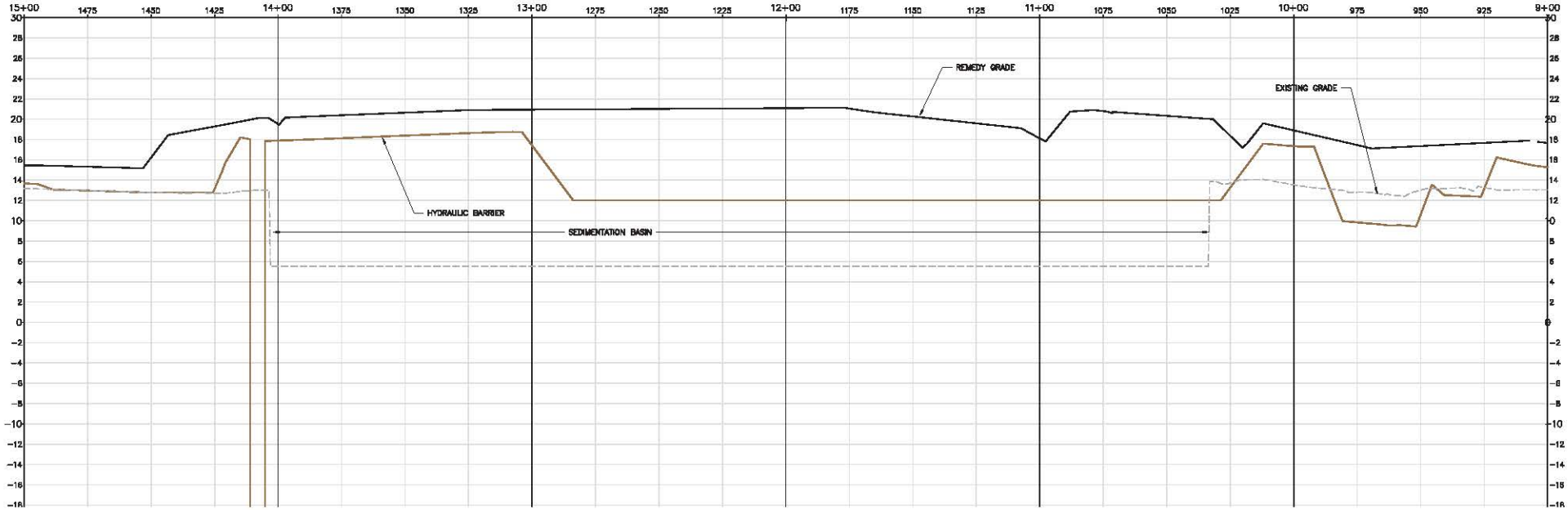
Individual:	**Discipline:**	**Initial**	**Date**

(Name / Signature):	**Does DCB Result in CCO?**	☐ Yes (b) ☑ No
		Date:

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





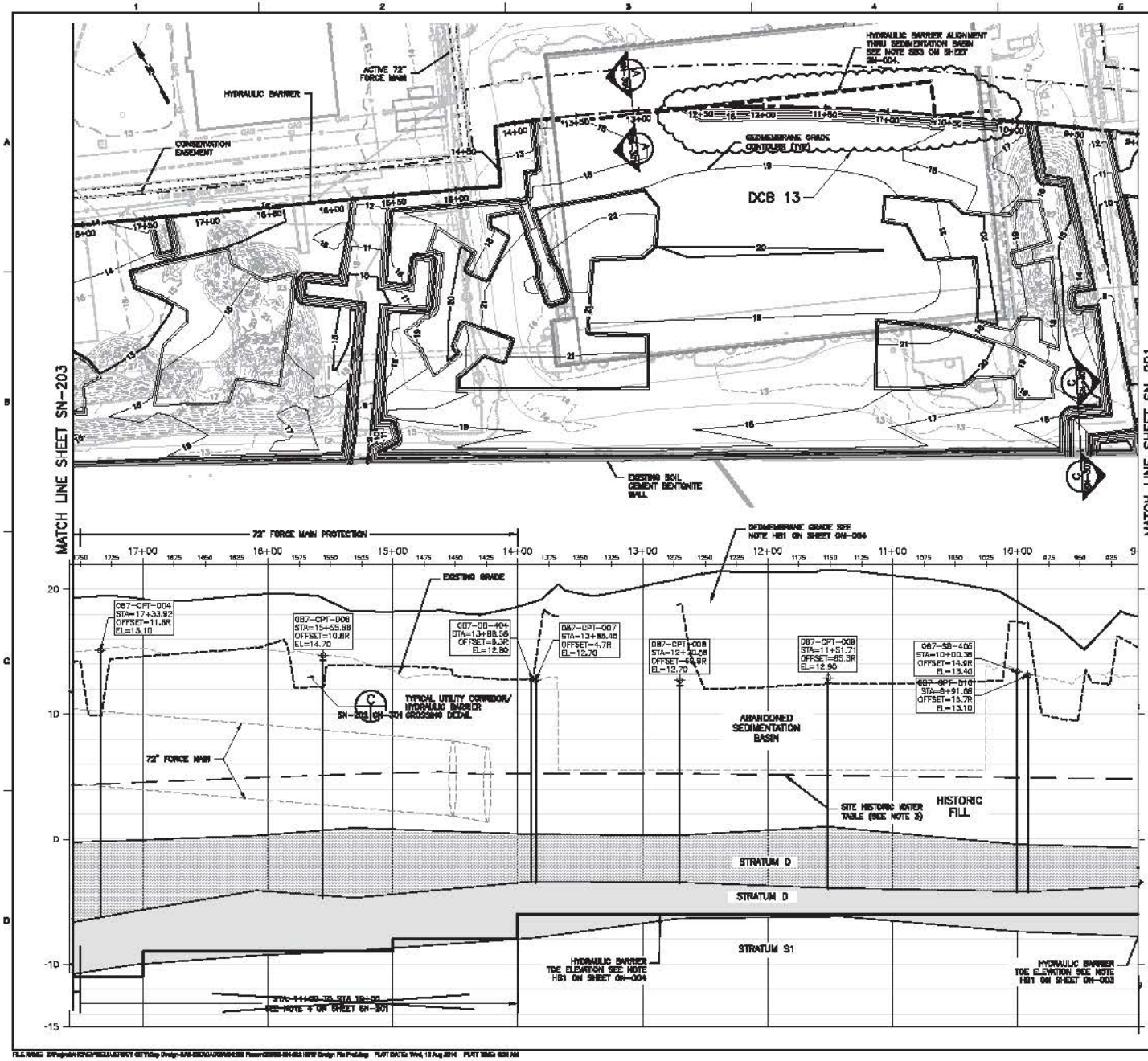
0 10 20 40
SCALE IN FEET

Honeywell

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec

Project 3480-03-0008



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET GN GN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.
4. DCB 13. THE HYDRAULIC BARRIER HAS BEEN REALIGNED BETWEEN STA 10+12 TO STA 12+80. THE TOP OF WALL HAS ALSO BEEN LOWERED TO EFFECTIVELY INCREASE THE SIZE OF THE UTILITY CORRIDOR ON THE NORTHERN HALF OF STEGMAN BOULEVARD. REFER TO DRAWINGS GN-123 AND GN-124 FOR ASSOCIATED REVISIONS TO THE GEOMEMBRANE GRADING IN THIS LOCATION.

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700
NON STRUCTURAL	9+85	14+00	-6	AZ 19-700
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700

HORIZONTAL SCALE 0 20 40 80 SCALE IN FEET

VERTICAL SCALE 0 2 4 8 SCALE IN FEET

NO.	DATE	DESCRIPTION	BY	APVD
2	06/12/14	DCB 13 HYDRAULIC BARRIER REALIGNMENT	BGB	RJR
1	10/15/13	NEW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	BGB
0	09/27/13	ISSUED FOR CONSTRUCTION	TDO	BGB

DESIGN TDO DR RJR CHK TDO APVD BGB

SAMUEL D. SPAULDING

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43897

Honeywell
101 COLUMBIA, RD. P.O. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

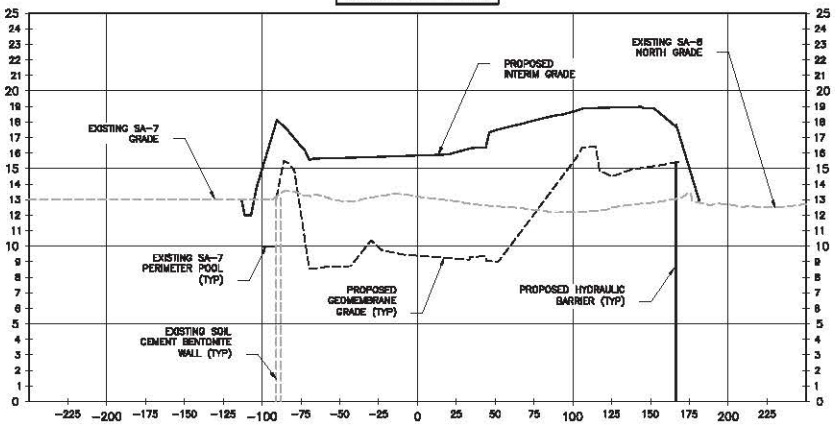
HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 Auburn Foley Blvd., Suite 115
Hamilton, NJ 08610
(609) 890-2000
NJ Certificate of Authorization Number 24GA28001300

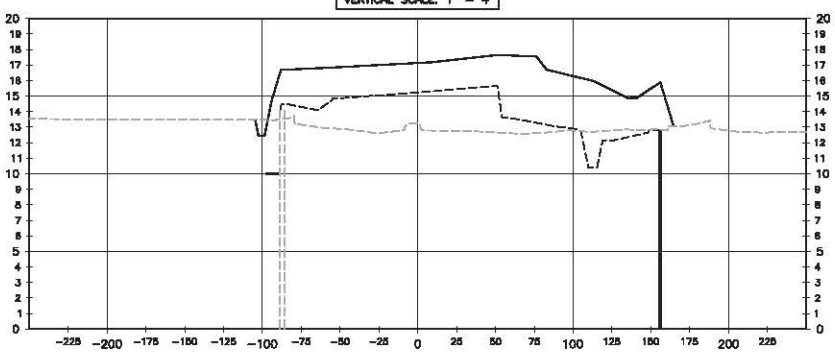
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE
PROJ 3468-12-0317
DWG SN-202
SHEET 59 OF 78

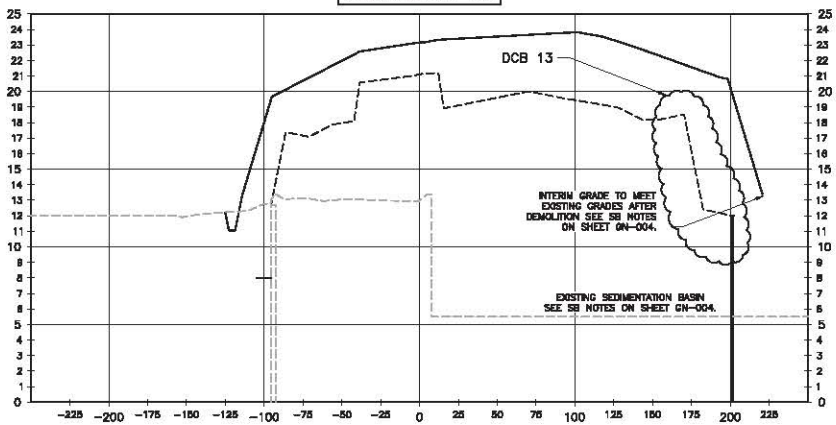
SECTION STATION: 207+00
VERTICAL SCALE: 1" = 4'



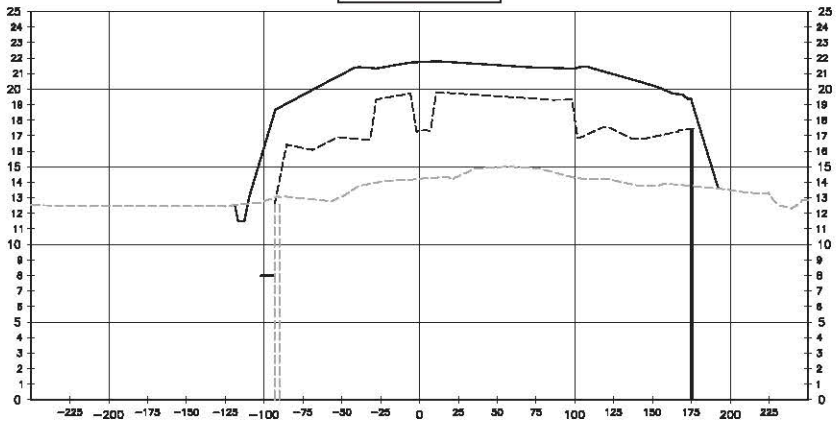
SECTION STATION: 208+00
VERTICAL SCALE: 1" = 4'



SECTION STATION: 209+00
VERTICAL SCALE: 1" = 4'



SECTION STATION: 208+00
VERTICAL SCALE: 1" = 4'



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 4'
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
2	06/12/14	DCB 13 HYDRAULIC BARRIER & GEOMEMBRANE	RJR	SGS
1	03/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	09/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43557

Honeywell
101 COLUMBIA RD. MAIL STOP, MORRISTOWN, NJ 07960

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CAP CROSS SECTIONS

amec
Environment & Infrastructure, Inc.
5200 Anderson Metro Blvd., Suite 115
Harrison, NJ, 08918
(973) 399-7500
NJ Certificate of Authorization Number
24GA28019500

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-503
SHEET	47 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC AND MAY NOT BE USED IN ANY FASHION FOR ANY PURPOSE WITHOUT WRITTEN PERMISSION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DIMENSIONS, DRAWINGS AND DATA. ALL DIMENSIONS TO BE VERIFIED AT THE JOB SITE. ANY DISCREPANCIES SHOULD BE REPORTED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB Type Minor (a) Effective Date: 9/2/14
Project Location: SA-6 NORTH/SA6-SOUTH	Associated RFI:
Title: Re-align Barrier Wall due to 72 in. FM field verified location	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): Entact	

In preparation for advancing the installation of the sheet pile barrier wall adjacent to the north/south run of the 72-inch force main a test pit was excavated and two points surveyed on the crown of the pipe which indicated that this run of the 72-inch force main near the sedimentation basin is located approximately 4 ft east of the position shown in the existing conditions drawing. In order to provide a clearance of 25 ft. between the centerline of the 72-inch force main and the barrier wall as previously agreed with PVSC, it is proposed that this small section of the barrier wall will be relocated approximately 4 ft. - 2in. east of the location shown in the 100% Design.

Note: 4 ft. - 2in. corresponds to the width of one sheet pile welded pair.

The proposed barrier wall realignment is shown in the attached Figure 1. The proposed realignment of this section of the barrier wall will result in an area of approximately 60 sq. ft. where the greater than 20 PPM chromium impacted soil is located between the force main and barrier wall. It is further proposed that this 60 sq. ft. area be added to the area currently designated for in situ treatment because of its proximity to the 72-inch force main.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Modified due to verified location of 72" force main and 25 ft. set back requirement Attachments: ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected: Geomembrane Subgrade Interim (Final) Grade Barrier Wall Plan and Profile Insitu Treatment Plan

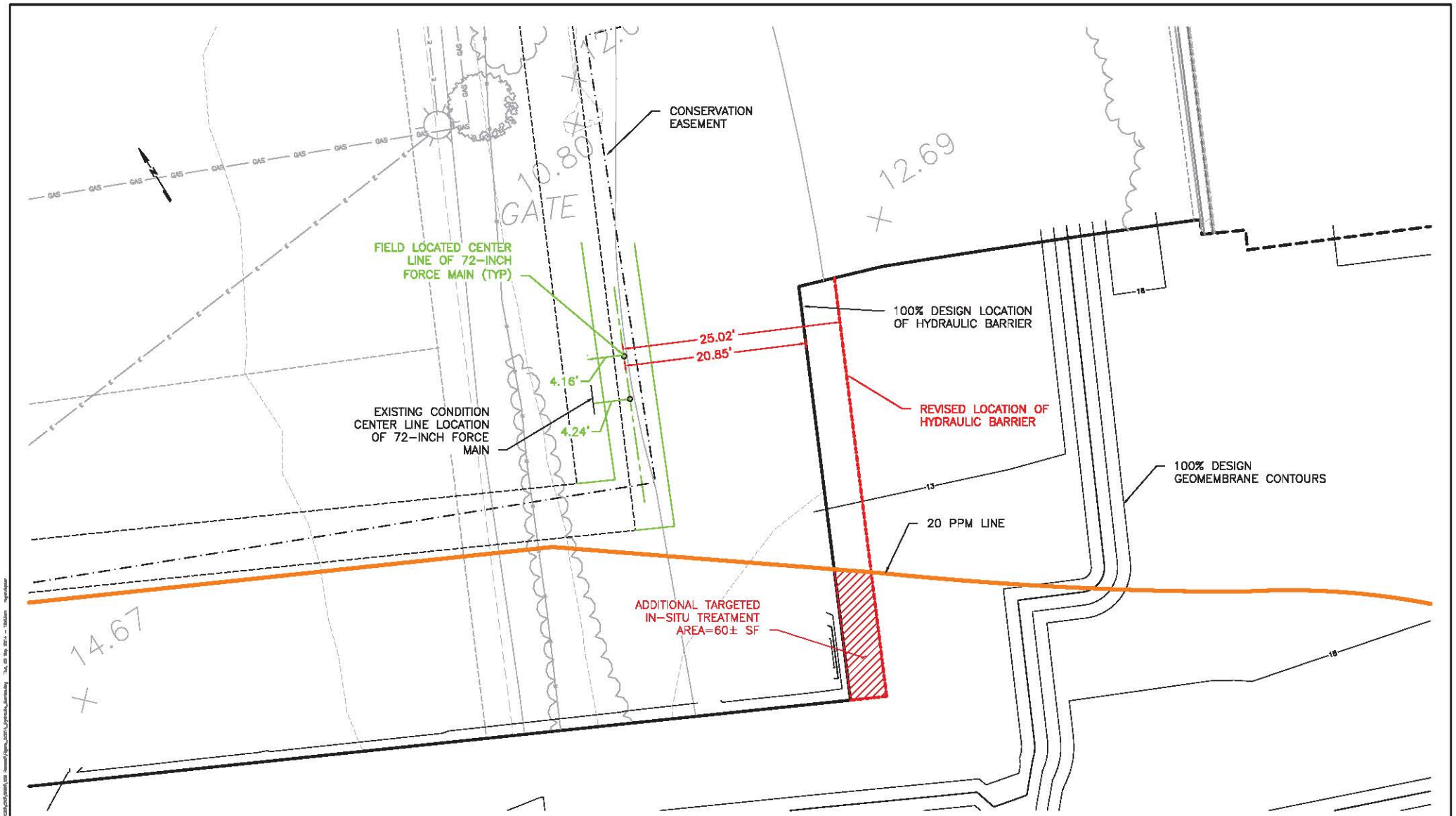
Honeywell (AP) Review:

Individual	Discipline	Initial	Date

(Name / Signature): Samuel G. Shallard	Does DCB Result in CCO? ☐ Yes (b) ☑ No Date: 9/2/14

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE LINEAR LOW DENSITY POLYETHYLENE MEMBRANE (80 MIL) LINER/ TOP OF SUBGRADE.
4. CONSERVATION EASEMENT REPRESENTS THE LIMIT OF THE RESTRICTED AREA PER THE CONSENT DECREE.

0 2.5 5 10
SCALE IN FEET

Prepared/Date: RJR 09/02/14
Checked/Date: BGS 09/03/14

Honeywell 101 CRAGWOOD RD., SUITE 210 SCARBOROUGH, N. 07922	CHROMIUM REMEDY STUDY AREA 6 NORTH JERSEY CITY, NEW JERSEY HONEYWELL SITE ID - 37472	amec	DCS 14 HYDRAULIC BARRIER ADJUSTMENT Project 3480-12-0377 Figure 1

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: Minor (a) Effective Date: 3/30/15
Project Location: SA-6 NORTH Title: Barrier Wall Realignment SA-6N Station 8+25	Associated RFI: ☐ Yes, RFI No. NA ☑ None
Contractor (Subcontractor): Entact	Project No.: 3480130377

A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.

The wall will deviate approx. 3 ft. south of the design alignment adjacent to the pile cap and arc back on both sides to the original alignment. The impacted alignment will be approximately 35 ft. in length.

Due to the minor nature of the change there will be no change or re-issue of the design drawings. The final location of the wall and the increased limit of EA-5 will be documented in the As-Built drawings.

The decision process effectively resulted in a one day delay in pile driving operations.

The change will have no impact on the Open Space development.

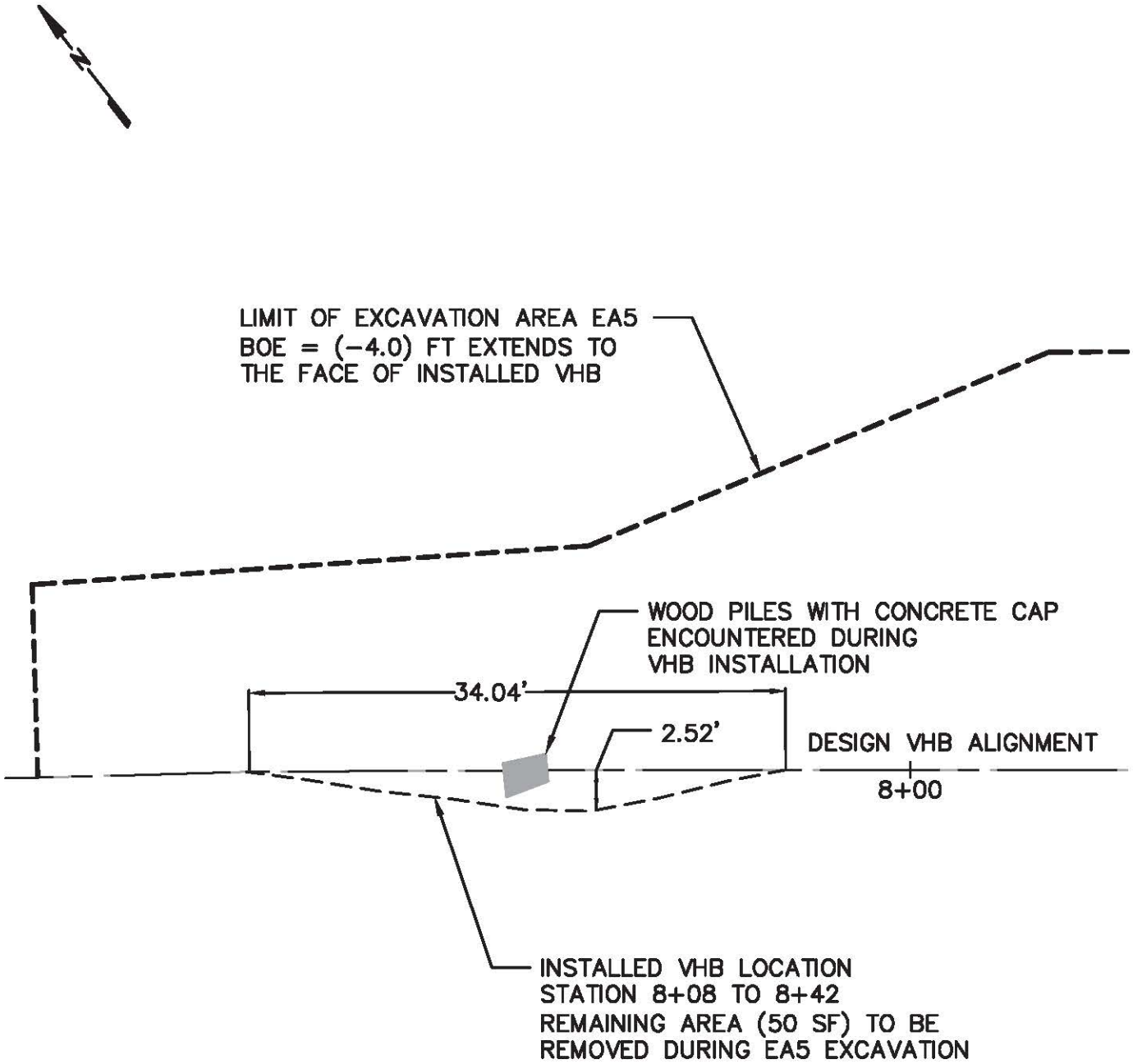
The reduction in cap area and increase in impacted soil excavation are considered to be “diminimus” values from a design perspective.

The deviation in alignment will increase the total wall length slightly. The design and current Durabond layout and fabrication drawings anticipate the use of a “Special” at the JCIA pit that will accommodate any changes in drive length. The slight increase in width of the special is not anticipated to change the cost of the special.

EA-5 excavation is immediately north of this section of wall. The excavation area will increase by an equivalent amount to the decrease in cap area. The Bottom of Excavation at elevation -4 will be extended to the Barrier Wall.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Necessary to realign wall due to differing conditions/timber piles on alignment Attachments: ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☑ Yes ☐ No
Additional Comments: Schedule impact was limited to approximately 1 day while evaluating options.	Design Documents Affected: None
Honeywell (AP) Review: Individual Discipline Initial Date	
(Name / Signature): Samuel Shallard	Does DCB Result in CCO? TBD Date:
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



0 5 10 20

SCALE IN FEET

Prepared/Date: TDD 3/30/15
Checked/Date: SGS 3/30/15

CHROMIUM REMEDY STUDY AREA 6 NORTH JERSEY CITY, NEW JERSEY	amec foster wheeler Environment & Infrastructure, Inc. 200 American Metro Blvd. Suite 113 Hamilton, NJ 08619 Phone: (609) 689 - 2829 NJ Certificate of Authorization Number 24GA28010900	FIGURE 1 VHB ALIGNMENT REVISION Project 3480-10-0027 DCB 20

Honeywell RES

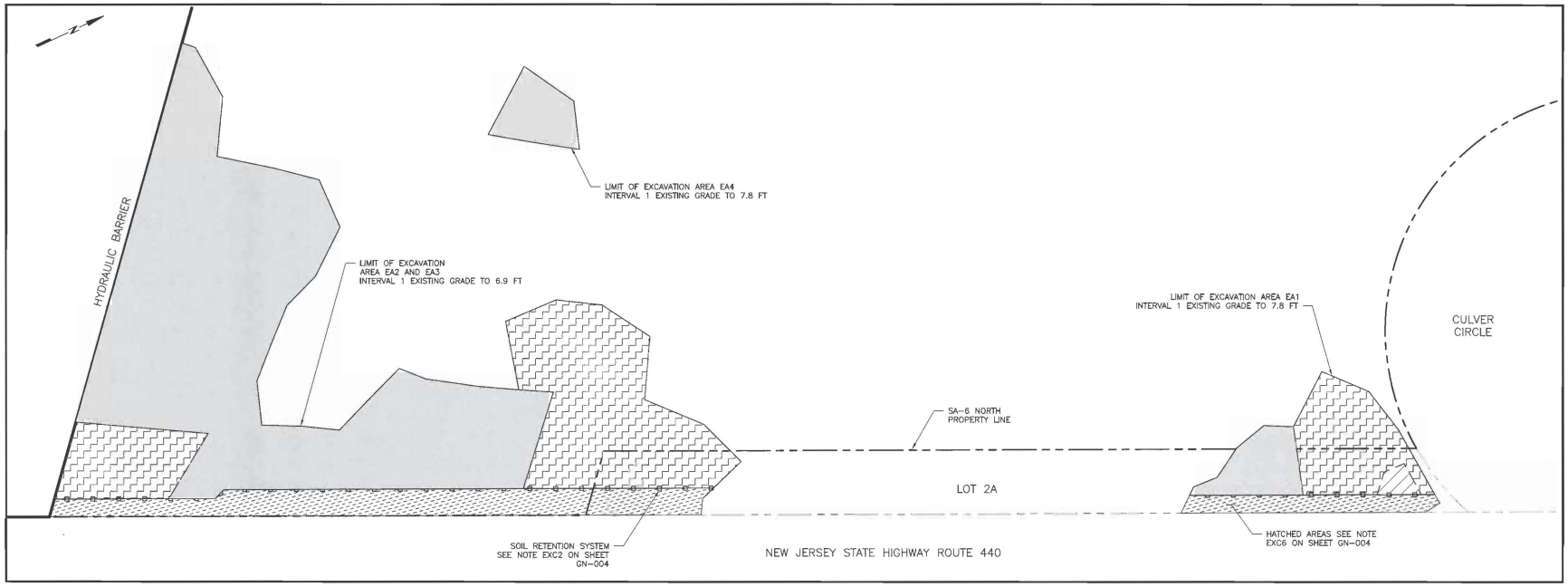
DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.: DCB** **Type:** Major(a) **Effective Date: 9/04/15**
Project Location: SA-6 N	**Associated RFI:**
Title: Additional Excavation Areas EA-8 (define excavation limits below elevation 7, and EA-2, EA-3, and EA-5 (redefine soil classification limits for Non Hazardous Disposal.	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

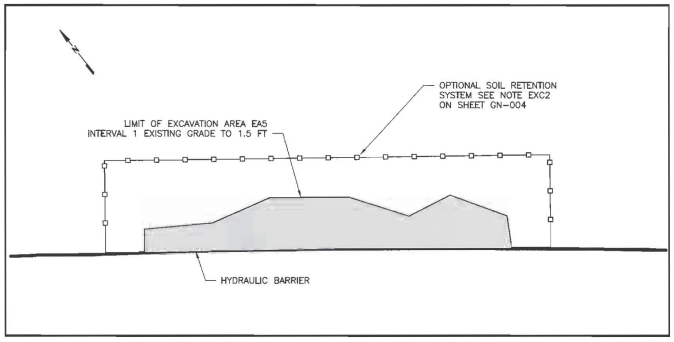
Description: EA-8 Additional Excavation Intervals below elevation 7.0 ft. have been included based on sampling results obtained after initial excavation activities as defined in the 100% Design.

EA-2, EA-3 and EA-5. Excavation limits by interval remain the same. The delineation of internal boundaries of soil designated for offsite disposal (>240 ppm soils-Hazardous and Non Hazardous) have been re-defined based on Waste Characterization Sampling. The total volume of offsite disposal is projected to be the same.

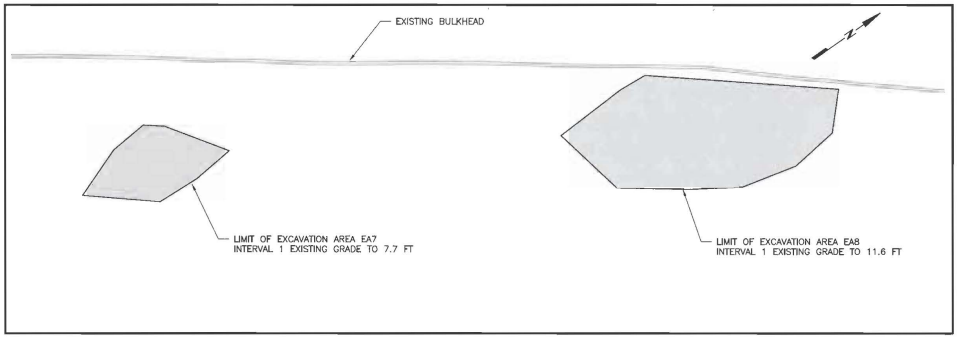
Reason for Change/Modification: ☐Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other. Additional Waste Classification Sample results obtained.	**Explanation or Reason:** See additional comments **Attachments:** ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☑ Yes ☐No Schedule Implication ☑ Yes ☐ No
Additional Comments: EA-8 100% Design limits were based on sampling limits that had been constrained by access to the Hackensack River embankment. The design required sampling after completing excavation to elevation 7.0 ft. Following excavation to elevation 7.0 ft. additional samples were collected consistent with the established and approved protocols. Analytical results from the additional samples were used to develop final excavation limits and depths within EA-8. Waste Characterization was completed on soil identified as >240 ppm in the 100% Design and designated for off-site disposal. Results indicated portions of this material can be classified as Non-Hazardous for off-site disposal. The actual limits of >240 ppm soil remain consistent with the 100% Design.	**Design Documents Affected:** Excavation Intervals EA-8 PDI table has been modified to include the expanded limits. CN-116, CN-117, CN-118, CN-119, CN-120, CN-121, CN-122.
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 9/14/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	



EXCAVATION AREAS EA1, EA2 3, AND EA4



EXCAVATION AREA EA5



EXCAVATION AREAS EA7 AND EA8

NOTES:
1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. IT HAS BEEN ASSUMED THAT 0-4 FOOT EXCAVATION CAN BE IMPLEMENTED WITH VERTICAL SIDE SLOPE SUBJECT TO ASSESSMENT OF SUPPORT OF UTILITIES AND ADJACENT STRUCTURES.

LEGEND
- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20-240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (HAZARDOUS OFF SITE DIPSOSAL)
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (NON HAZARDOUS OFF SITE DIPSOSAL)
- NO EXCAVATION REQUIRED

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6-INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

0 15 30 60
SCALE IN FEET

NO	DATE	DR	CHK	APV'D	BY	APV'D
1	09/03/15	EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS			TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION			TDD	SGS
DSGN		REDRAWN				
	TDD	RJR	TDD			

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
SGS

Honeywell
101 COLUMBIA RD. BOX 9102, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES OB7 AND OB8
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 1

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton Township, New Jersey 08619
NJ Cert of Authorization 24GA28001000

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-116
SHEET	21 OF 70

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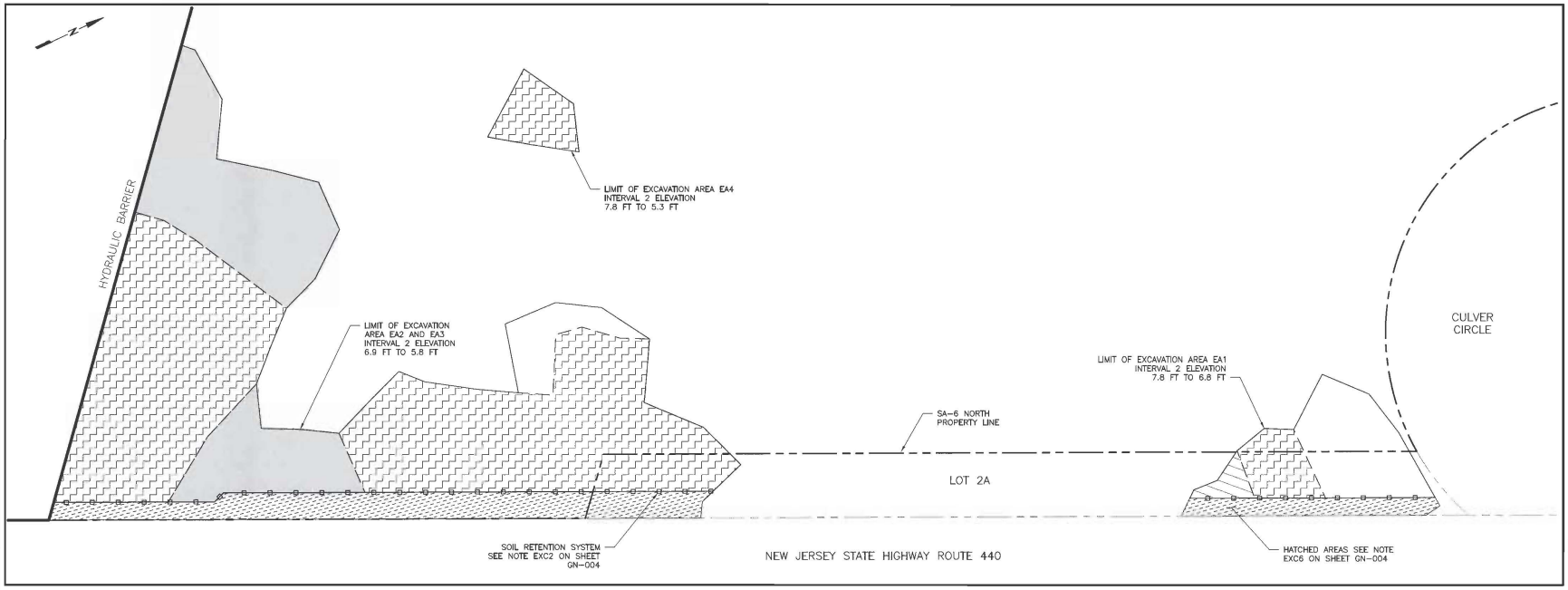
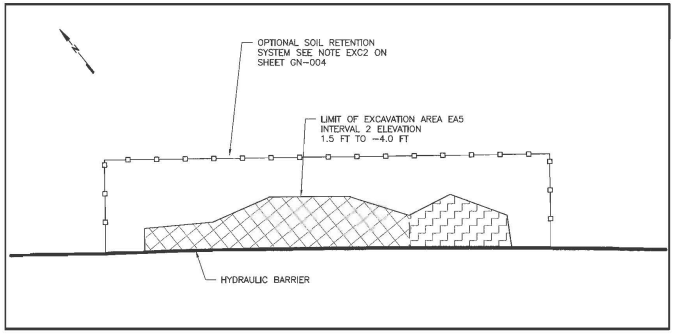
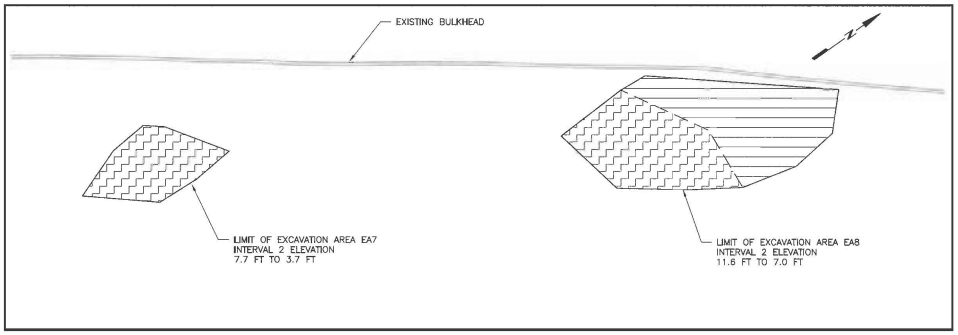
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR21-C-116 Chromium Excavation Interval 1.dwg PLOT DATE: Thu, 03 Sep 2015 PLOT TIME: 10:14 AM



EXCAVATION AREAS EA1, EA2 3, AND EA4



EXCAVATION AREA EA5



EXCAVATION AREAS EA7 AND EA8

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. IT HAS BEEN ASSUMED THAT 0-4 FOOT EXCAVATION CAN BE IMPLEMENTED WITH VERTICAL SIDE SLOPE SUBJECT TO ASSESSMENT OF SUPPORT OF UTILITIES AND ADJACENT STRUCTURES.

LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20-240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (HAZARDOUS OFF SITE DIPSOSAL)
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (NON HAZARDOUS OFF SITE DIPSOSAL)
- NO EXCAVATION REQUIRED

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6-INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

0 15 30 60
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	REVISION	BY	APVD
1	09/03/15	TDD	TDD	APVD	EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS	TDD	SGS
0	06/07/13		RJR		ISSUED FOR CONSTRUCTION	TDD	SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 45507
SGS

Honeywell
101 COLUMBIA RD., BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 2

amec foster wheeler
Environment & Infrastructure, Inc.
2101 Cottontail Lane, Suite A-113
Hamilton, NJ, 08619, (609) 689-2229
NJ Cert of Authorization 24GA28018900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-117
SHEET	22 OF 70

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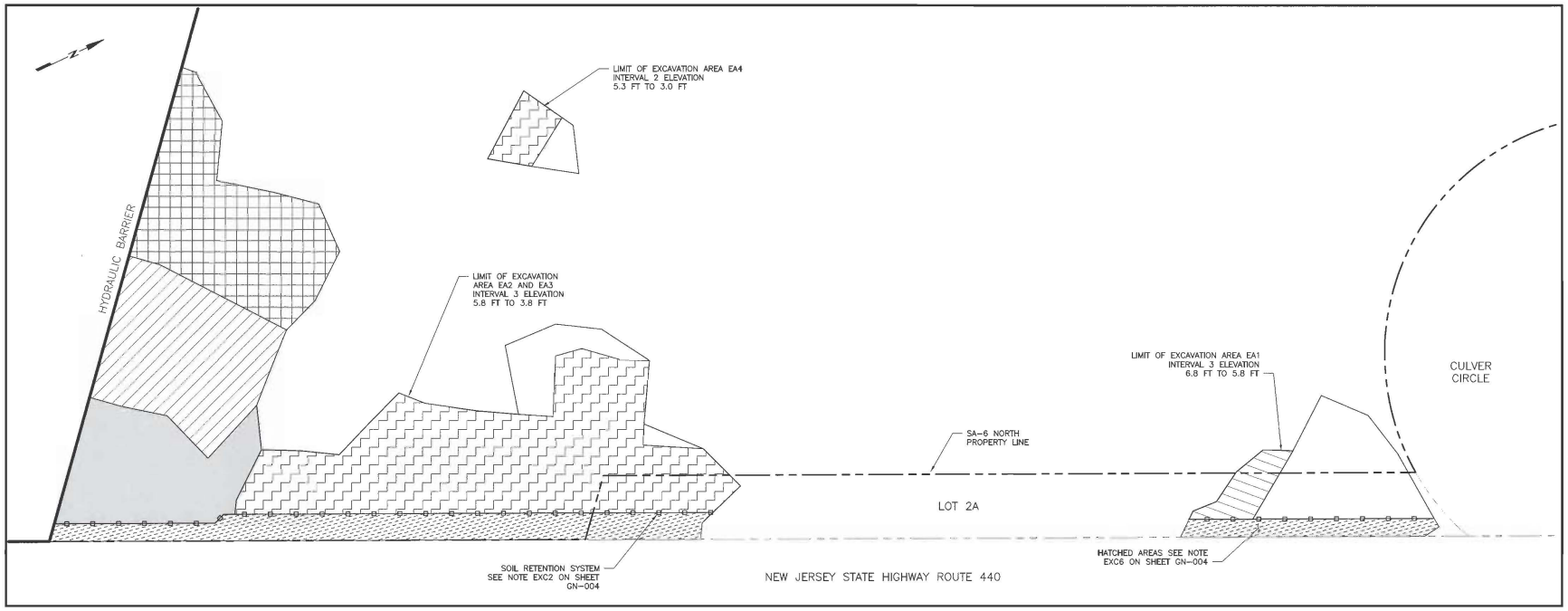
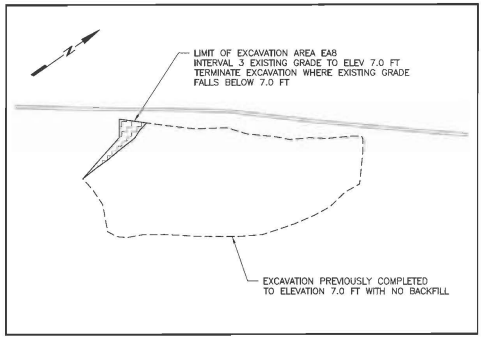
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR22-C-117 Chromium Excavation Interval 2.dwg PLOT DATE: Thu, 03 Sep 2015 PLOT TIME: 10:17 AM



EXCAVATION AREAS EA1, EA2 3, AND EA4



ADDITIONAL EXCAVATION AREA EA8

0 15 30 60
SCALE IN FEET

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6-INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. IT HAS BEEN ASSUMED THAT 0-4 FOOT EXCAVATION CAN BE IMPLEMENTED WITH VERTICAL SIDE SLOPE SUBJECT TO ASSESSMENT OF SUPPORT OF UTILITIES AND ADJACENT STRUCTURES.

LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20-240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (HAZARDOUS OFF SITE DIPSOSAL)
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (NON HAZARDOUS OFF SITE DIPSOSAL)
- NO EXCAVATION REQUIRED

SAMUEL G. SHALLARD

NO.	DATE	REVISION	BY	APVD
1	09/03/15	EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 45527

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 3

amec foster wheeler
Environment & Infrastructure, Inc.
2101 Cottontail Lane, Suite 1-113
Hamilton, NJ 08619, (609) 689-2823
NJ Cert of Authorization #24GA28019600

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-118
SHEET	23 OF 70

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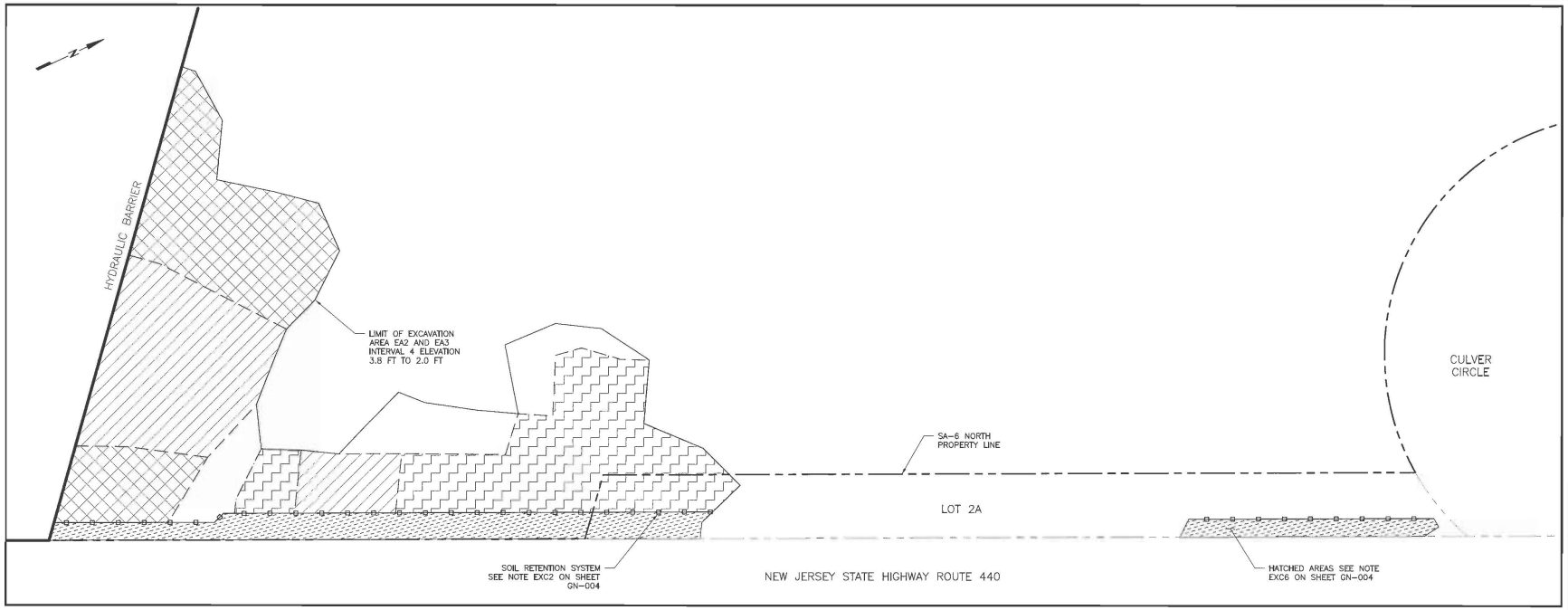
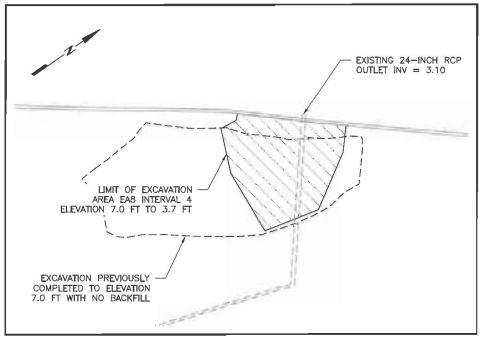


EXCAVATION AREA EA2 3



ADDITIONAL EXCAVATION AREA EA8

NOTE: REFER TO SHEET CN-120 FOR EA8 EXCAVATION AND BACKFILL REQUIREMENTS BELOW ELEVATION 7.0 FT

0 15 30 60
SCALE IN FEET

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- NO EXCAVATION REQUIRED

SAMUEL G. SHALLARD

NO.	DATE	REVISION	BY	APVD
1	09/03/15	EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2126, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 4

amec foster wheeler
Environment & Infrastructure, Inc.
2101 Cottontail Lane, Suite 113
Hamilton, NJ, 08619, (609) 989-2939
NJ Cert of Authorization 24GA28015900

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DATE	
PROJ	3480-12-0317
DWG	CN-119
SHEET	24 OF 70

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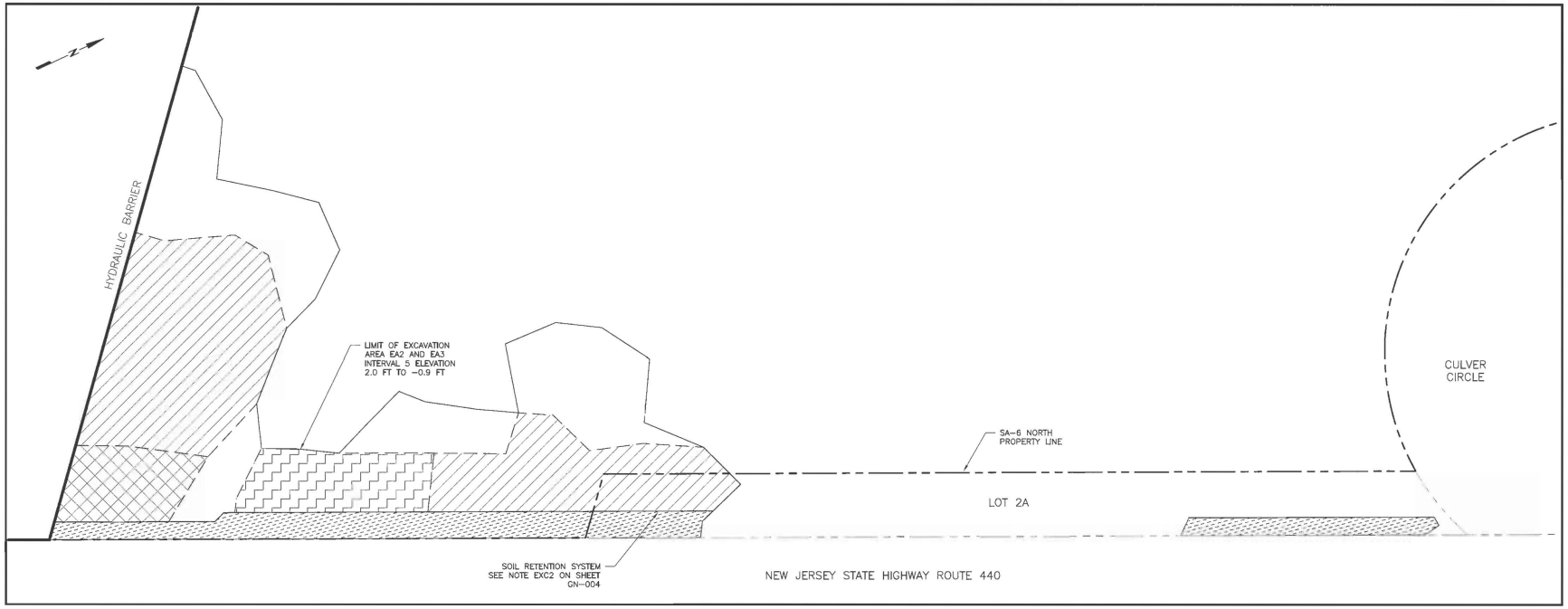
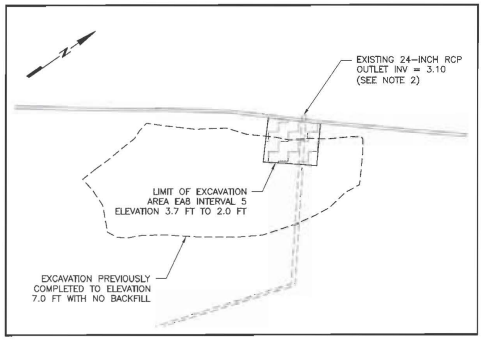
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR24-C-119 Chromium Excavation Interval 4.dwg PLOT DATE: Thu, 03 Sep 2015 PLOT TIME: 1:30 PM



EXCAVATION AREAS EA2 3



ADDITIONAL EXCAVATION AREA EA8

SEE NOTES THIS SHEET

EA8 ADDTIONAL EXCAVATION NOTES

1. CONTRACTOR TO VERIFY AND MARK THE LOCATION OF THE 24-INCH STORM SEWER PRIOR TO EXCAVATION.
2. EXISTING 24-INCH RCP STORM SEWER WILL BE REMOVED IF NECESSARY TO COMPLETE THE EXCAVATION. THE RCP WILL BE REPLACED WITH DOUBLE WALL ADS N12 (WATER TIGHT JOINTS) OR EQUIVALENT AS APPROVED BY THE ENGINEER. CONTRACTOR SHALL ALSO PROVIDE A TRANSITION FITTING FOR CONNECTING RCP AND ADS N12 PIPE.
2. EXCAVATION ADJACENT TO BULKHEAD TO BE PERFORMED AT LOW TIDE.
3. INSPECT BULKHEAD FOR ANY INDICATION OF TIEBACKS PRIOR TO STARTING EXCAVATION.
4. INDEPENDENT OF INSPECTION RESULTS BE VIGILANT FOR THE PRESENCE OF STEEL TIE BACKS OR CRIBBING THAT MAY BE PROVIDING WALL RESTRAINT.
5. EXERCISE EXTREME CARE WHEN EXCAVATING IMMEDIATELY BEHIND THE BULKHEAD AND USE METHODS THAT DO NOT CREATE LOCALIZED LOAD.
6. PROVIDE PUMPS FOR LOCALIZED DEWATERING IF REQUIRED.
7. FOLLOW ESTABLISHED PROTOCOLS FOR DOCUMENTATION OF COMPLETION.
8. HAVE ON SITE APPROVED MATERIALS TO FACILITATE BACKFILL UPON APPROVAL OF EXCAVATION.
9. DRAPE SINGLE LAYER OF 8 OZ FILTER FABRIC OVER THE BULKHEAD AND 10 FT INTO THE EXCAVATION TO ASSIST IN PREVENTING FINES MIGRATION FROM THE EXCAVATION INTO THE RIVER DURING BACKFILL.
10. DO NOT OPERATE EQUIPMENT IN SUCH A WAY DURING EXCAVATION OF BACKFILL THAT ADDS LOAD TO THE BULKHEAD.
11. USE OF VIBRATORY COMPACTION EQUIPMENT IS PROHIBITED.
12. PLACE A LAYER OF 12 OZ GEOTEXTILE AT ELEVATION 5 TO ACT AS SOIL REINFORCEMENT. THE GEOTEXTILE WILL BE LAID AT RIGHT ANGLES TO THE SLOPE.

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NOTES:

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LEGEND

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- NO EXCAVATION REQUIRED

0 15 30 60
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43537

NO.	DATE	DR	CHK	REVISION	BY	APVD
1	09/03/15			EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS	TDD	SGS
0	06/07/13			ISSUED FOR CONSTRUCTION	TDD	SGS
DSGN		TDD	RJR	TDD	APVD	SGS

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 5

amec foster wheeler
Environment & Infrastructure, Inc.
1 Eastmond Road, Suite 1-113
Hamilton, NJ. 08619, (609) 689-2528
NJ Cert of Authorization 24GA28019900

VERIFY SCALE
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DATE	
PROJ	3480-12-0317
DWG	CN-120
SHEET	25 OF 70

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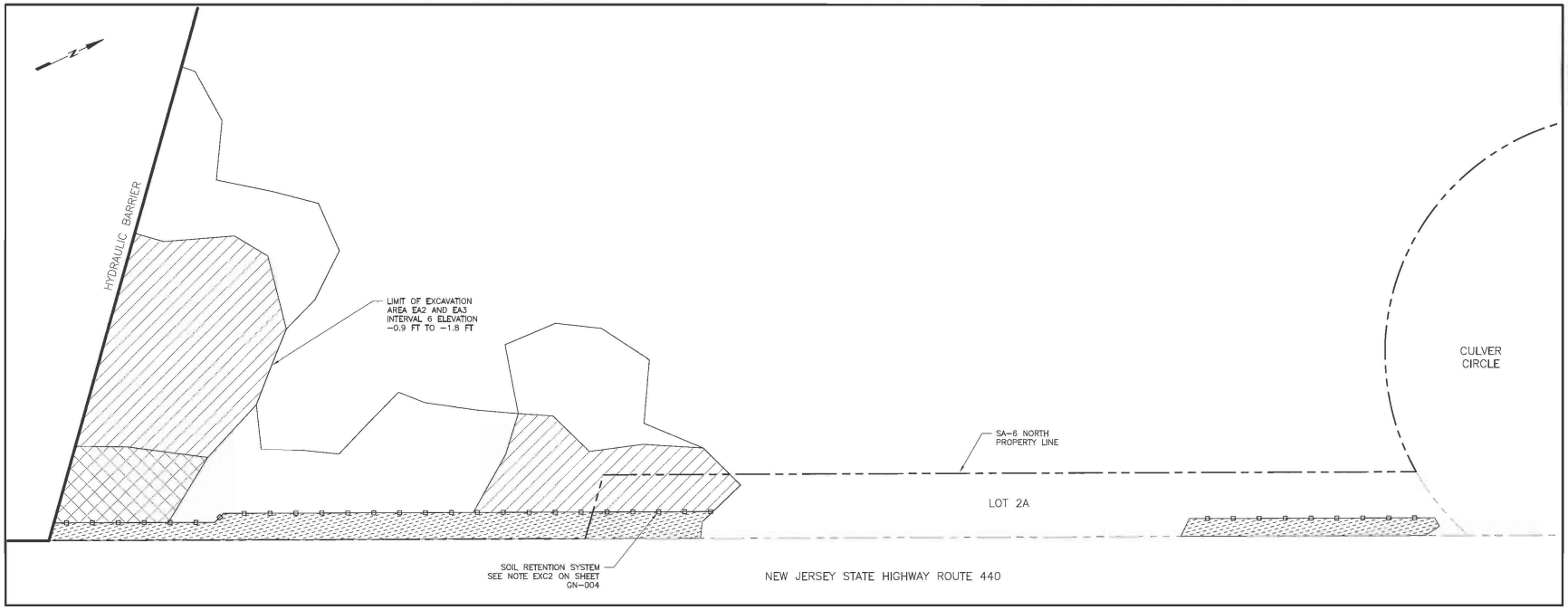
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR25-C-120 Chromium Excavation Interval 5.dwg PLOT DATE: Wed, 09 Sep 2015 PLOT TIME: 8:06 AM



EXCAVATION AREAS EA2 3

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6-INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

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0 15 30 60
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	09/03/15	TDD	TDD	RJR	TDD	TDD	SGS
0	06/27/13	ISSUED FOR CONSTRUCTION					

REVISIONS

EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2175, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6, NORTH
SITES 87 AND 88
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 6

amec foster wheeler
Environment & Infrastructure, Inc.
220 American Metro Blvd, Suite 113
Hamilton, New Jersey 08619 (609) 890-1789
NJ Cert of Authorization: 24GA28015900

VERIFY SCALE
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0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-121
SHEET	26 OF 70

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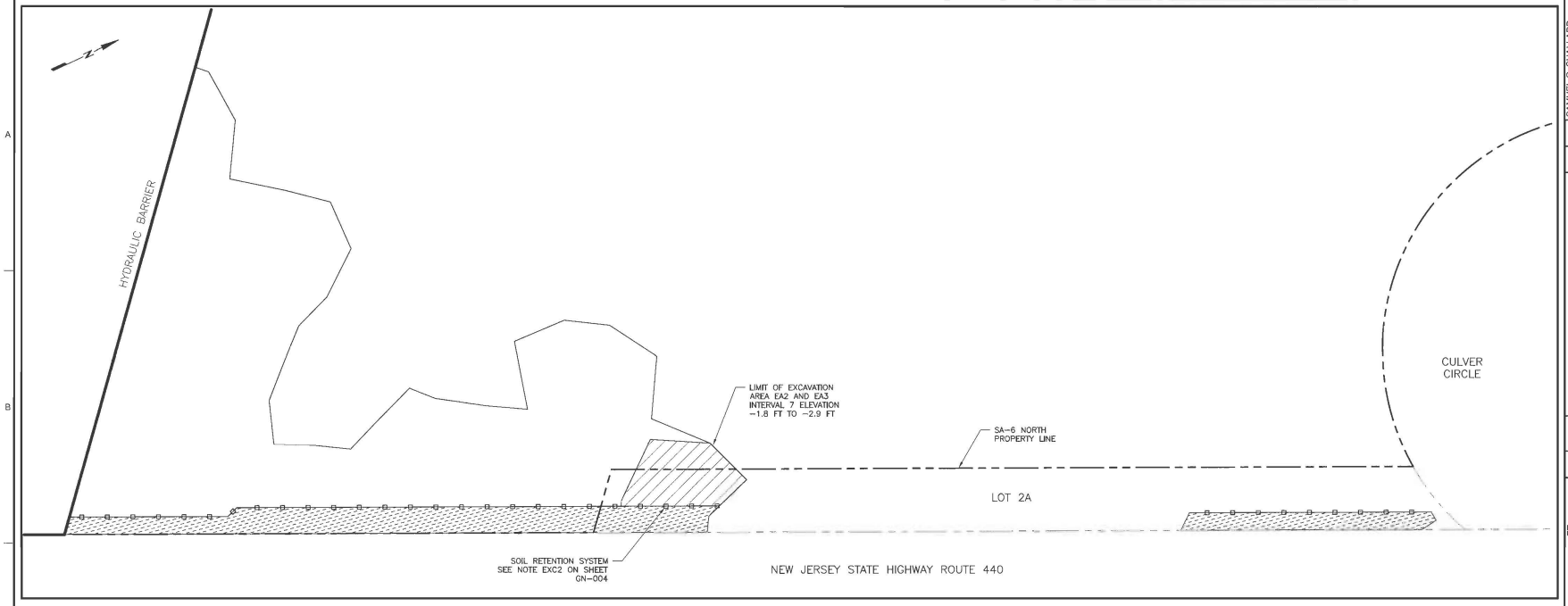
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR26-C-121 Chromium Excavation Interval 6.dwg PLOT DATE: Thu, 03 Sep 2015 PLOT TIME: 2:33 PM



EXCAVATION AREAS EA2 3

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- NO EXCAVATION REQUIRED

0 15 30 60
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
1	09/13/15	E4&I INTERVALS AND NON HAZ DISPOSAL LIMITS	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR TDD CHK RJR APVD SGS

Honeywell
101 COLUMBIA RD. BOX 2108 MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 7

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton Township, New Jersey 08619
NJ Cert of Authorization 24GA28019900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-122
SHEET	27 OF 70

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR27-C-122 Chromium Excavation Interval 7.dwg PLOT DATE: Thu, 03 Sep 2015 PLOT TIME: 2:35 PM

DESIGN CHANGE BULLETIN

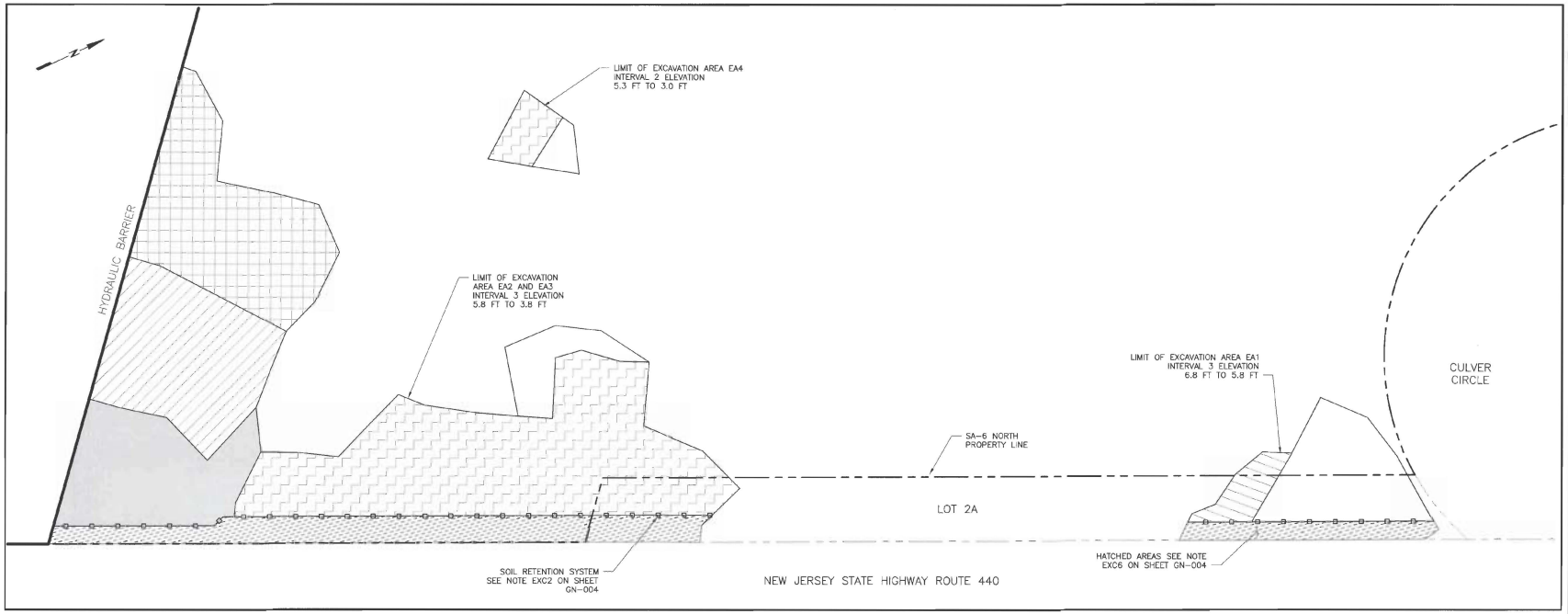
Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** **DCB Type:** Major(a) **Effective Date:** 11/18/15
Project Location: SA-6 North	**Associated RFI:**
Title: Additional Excavation Areas: EA-8 – Define expanded excavation limits below elevation 7 EA-2 & EA-3 – Correct Interval 3, 20-240 PPM hatch	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description: *EA-8 Additional Excavation Intervals below elevation 7.0 ft.* DCB 047 provided excavation limits below elevation 7 based on sampling results collected from elevation 7. Observation of the excavation and additional sampling resulted in a revision to the limits of excavation. Drawing CN-118 has been revised to show the additional excavation.

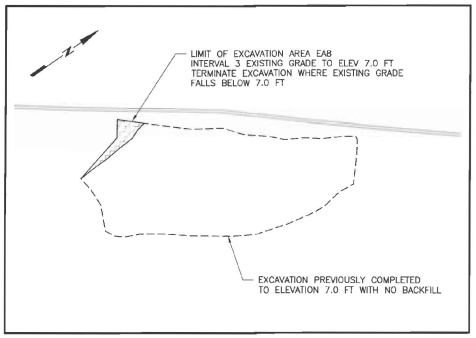
EA-2, EA-3. Review of DCB 047 Rev 1 indicated one small area where the 20-240 PPM hatch had not been carried to the outer limit of excavation. CN-118 Rev 2 (Interval 3) has been issued to correct the hatch designation. The result is an increase in the 20-240 ppm soils volume of approx. 11 CY.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other. Additional Waste Classification Sample results obtained.	**Explanation or Reason:** See Description. **Attachments:** ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☑No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** CN-118
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 11/18/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval



EXCAVATION AREAS EA1, EA2 3, AND EA4



ADDITIONAL EXCAVATION AREA EA8

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0 15 30 60
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 45507

NO	DATE	DR	CHK	APV'D	DESCRIPTION
2	11/17/15	TDD	RJR	TDD	EA2 / EA3 INTERNAL 20-240 PPM REVISION
1	09/03/15				EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS
0	06/07/13				ISSUED FOR CONSTRUCTION

DSGN TDD REDRAWN TDD BY SGS
CHK RJR APV'D ACTG SGS

Honeywell
101 COLUMBIA RD. BOX 1053, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 5 NORTH
SITE 827 AND 828
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 3

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Lawrence Township, New Jersey 08648
N.J. Cert of Authorization 24GA28015900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-118
SHEET	23 OF 70

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Clap Design-SA6-C3D\CAD\SA6N\100 Percent\CR23-C-118 Chromium Excavation Interval 3.dwg PLOT DATE: Tue, 17 Nov 2015 PLOT TIME: 3:47 PM

Honeywell RES

→Honeywell.com

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** **DCB Type:** Minor(a) **Effective Date:** 11/30/2015
Project Location: SA-6	**Associated RFI:**
Title: EA 2&3 Clarifications and EA-8 Supplemental Excavation	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation.

A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals.

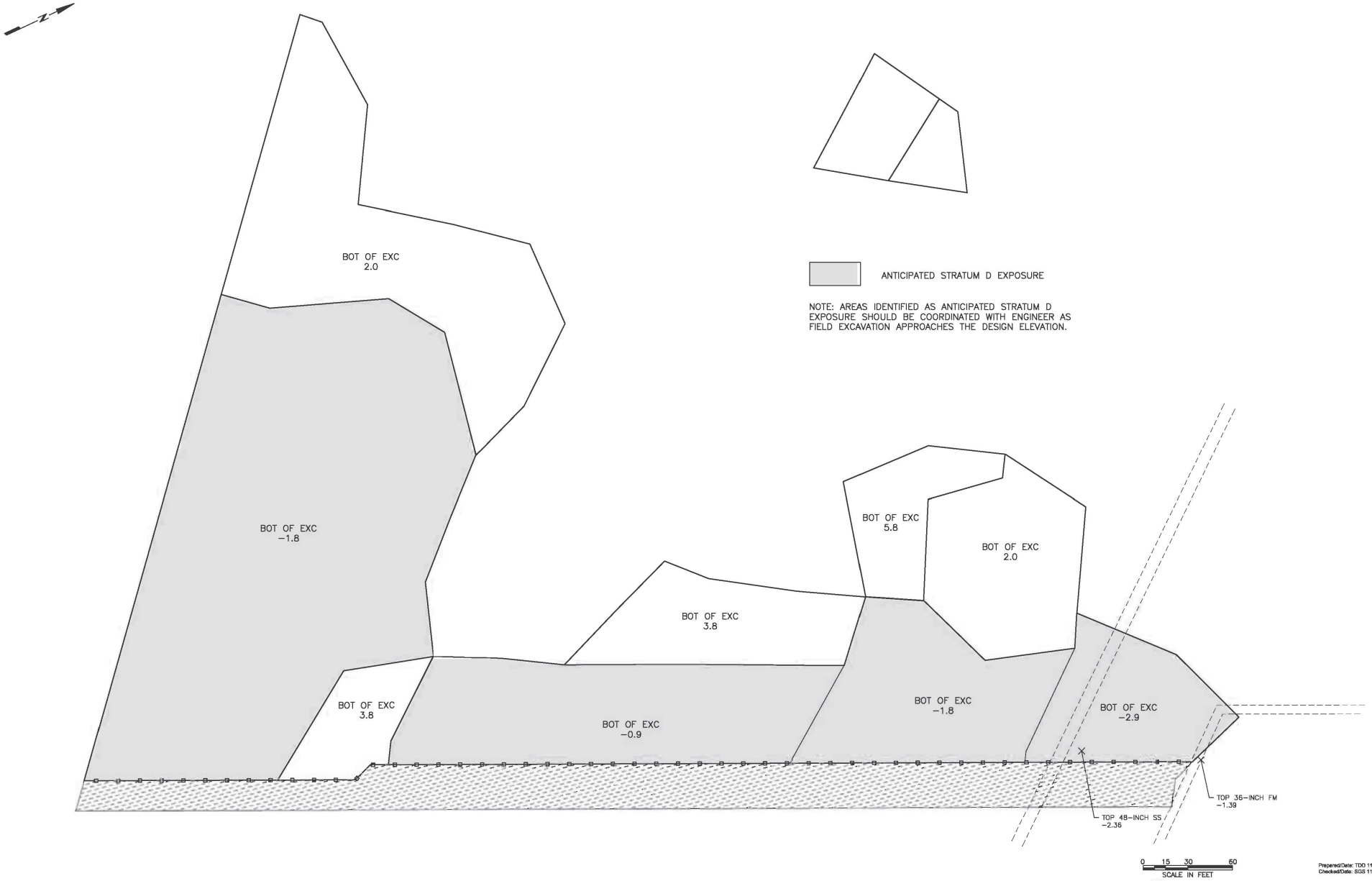
EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits.

A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.

A Figure has been included for informational purposes defining those areas where it is anticipated that Stratum D will be encountered within EA 2&3. If Stratum D is encountered the surface will be cleaned and surveyed. No further excavation will be required.

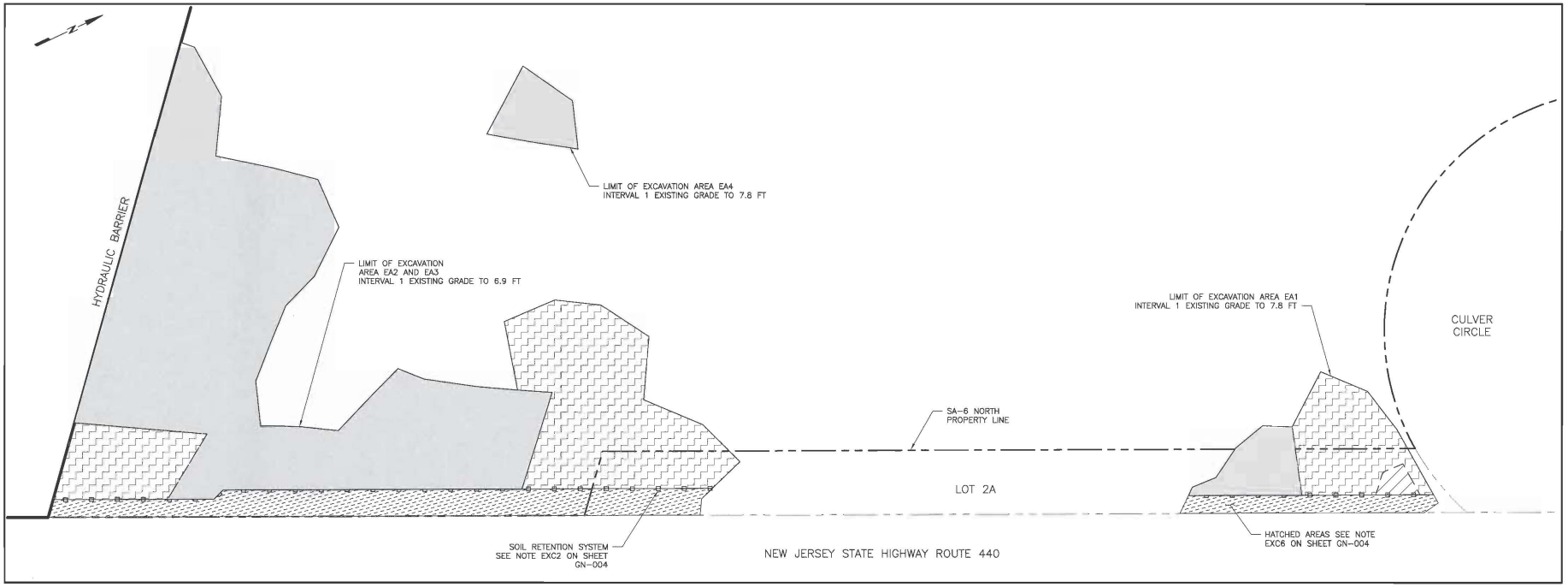
Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** See description and additional comments. **Attachments:** ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: The protocols for establishing internal delineation of waste streams was refined on SA-6S after the IFC design. This DCB updates the SA-6N drawings to be consistent with steps taken on SA-6S per DCB 060. This includes the provision of the Stratum D drawing to aid field crew in decisions regarding excavation depths and to provide assistance to all parties observing the excavation.	**Design Documents Affected:** NA
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 11/30/15
(Name / Signature):	Does DCB Result in CCO? ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

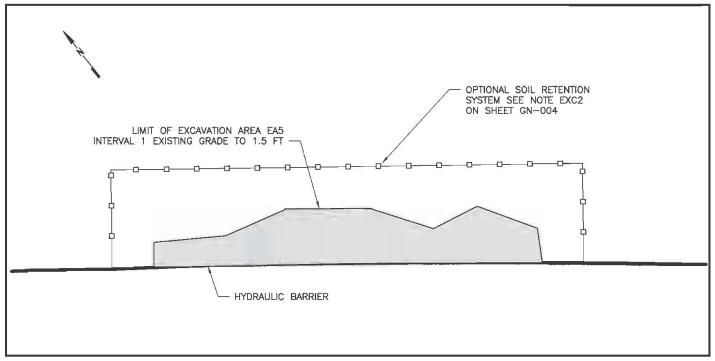


Prepared/Date: TDO 11/30/15
Checked/Date: SGS 11/30/15

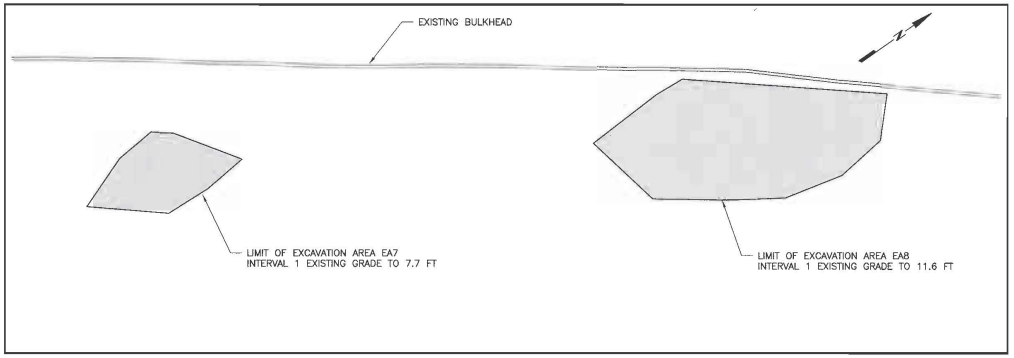
Honeywell 101 COLUMBIA RD. BOX 2105 MORRISTOWN, NJ 07962	CHROMIUM REMEDY STUDY AREA 6 NORTH JERSEY CITY, NEW JERSEY HONEYWELL SITE ID - 37472	amec foster wheeler Environment & Infrastructure, Inc. 300 American Metro Blvd, Suite 113 Hamilton, NJ 08619, (609) 584 - 2639 NJ Certificate of Authorization Number 24GA28018900	EXCAVATION AREA EA2 / EA3 STRATUM D EXPOSURE Project 3480-13-0377 FIGURE 1



EXCAVATION AREAS EA1, EA2 3, AND EA4



EXCAVATION AREA EA5



EXCAVATION AREAS EA7 AND EA8

NOTES:
1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. IT HAS BEEN ASSUMED THAT 0-4 FOOT EXCAVATION CAN BE IMPLEMENTED WITH VERTICAL SIDE SLOPE SUBJECT TO ASSESSMENT OF SUPPORT OF UTILITIES AND ADJACENT STRUCTURES.

LEGEND
- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20-240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (HAZARDOUS OFF SITE DIPSOSAL)
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (NON HAZARDOUS OFF SITE DIPSOSAL)
- NO EXCAVATION REQUIRED

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6-INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

0 15 30 60
SCALE IN FEET

SAMUEL G. SHALLARD

NO.	DATE	REVISION	BY	APV'D
2	11/30/15	DCB 063 - ADDITIONAL EA8 AND EA2 CLARIFICATIONS	TDD	SGS
1	09/03/15	EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR TDD CHK RJR APV'D SGS

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2115, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 1

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, New Jersey 08619 USA
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
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DATE	
PROJ	3480-12-0317
DWG	CN-116
SHEET	21 OF 70

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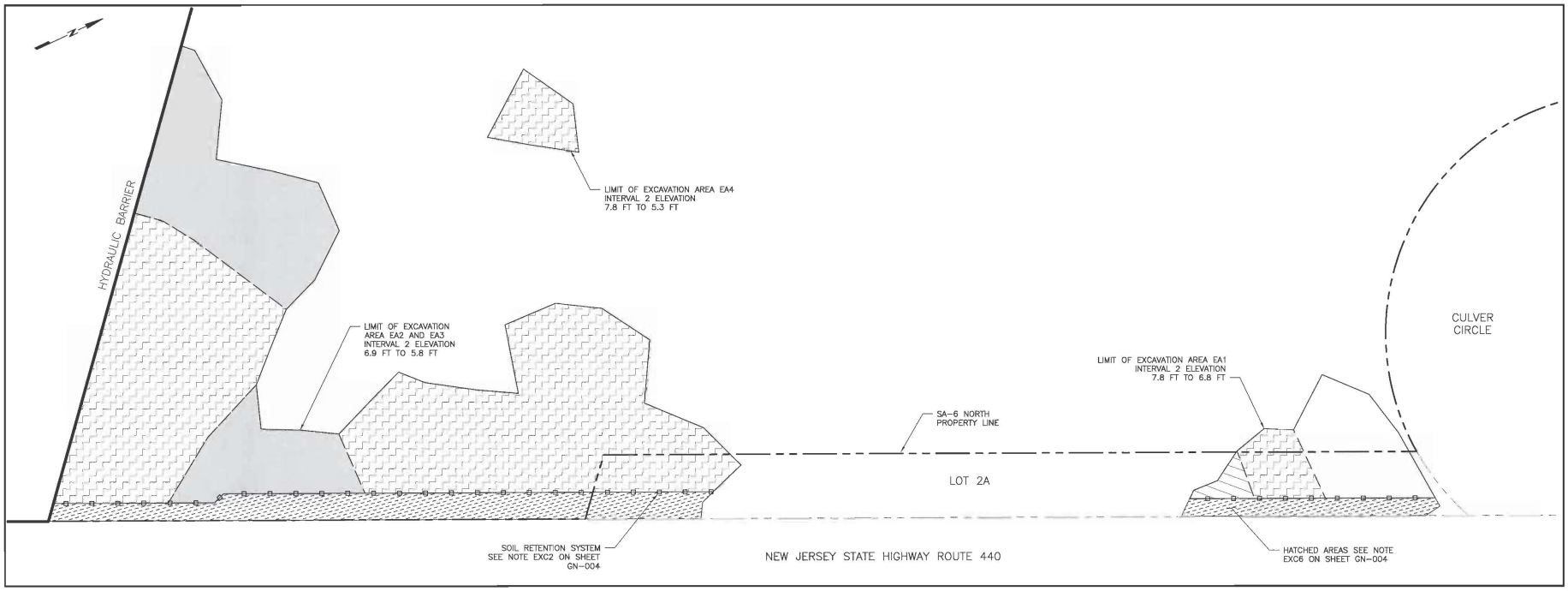
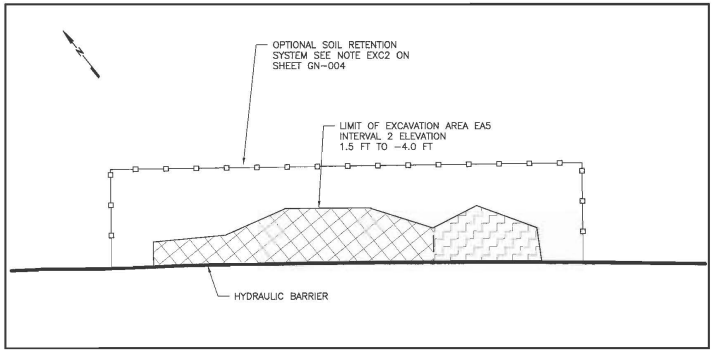
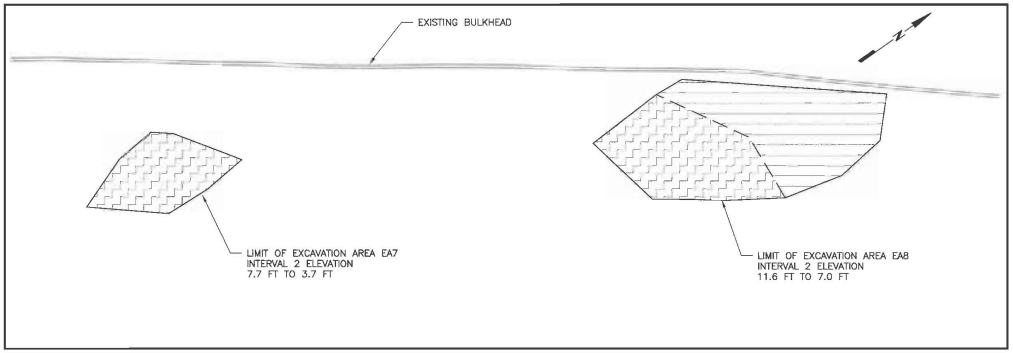
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR21-C-116 Chromium Excavation Interval 1.dwg PLOT DATE: Mon, 30 Nov 2015 PLOT TIME: 1:19 PM



EXCAVATION AREAS EA1, EA2 3, AND EA4



EXCAVATION AREA EA5



EXCAVATION AREAS EA7 AND EA8

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. IT HAS BEEN ASSUMED THAT 0-4 FOOT EXCAVATION CAN BE IMPLEMENTED WITH VERTICAL SIDE SLOPE SUBJECT TO ASSESSMENT OF SUPPORT OF UTILITIES AND ADJACENT STRUCTURES.

LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
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- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (HAZARDOUS OFF SITE DIPSOSAL)
- NO EXCAVATION REQUIRED
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (NON HAZARDOUS OFF SITE DIPSOSAL)

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6-INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

0 15 30 60
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
2	11/30/15	DCB 053 - ADDITIONAL EA8 AND EA2 CLARIFICATIONS	TDD	SGS
1	09/03/15	EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 2

amec foster wheeler
Environment & Infrastructure, Inc.
20 Horizon Blvd., Suite 1, Bldg. 13
Hamilton, NJ. 08619, (609) 588 - 2828
NJ Cert of Authorization 24GA28015000

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PROJ	3480-12-0317
DWG	CN-117
SHEET	22 OF 70

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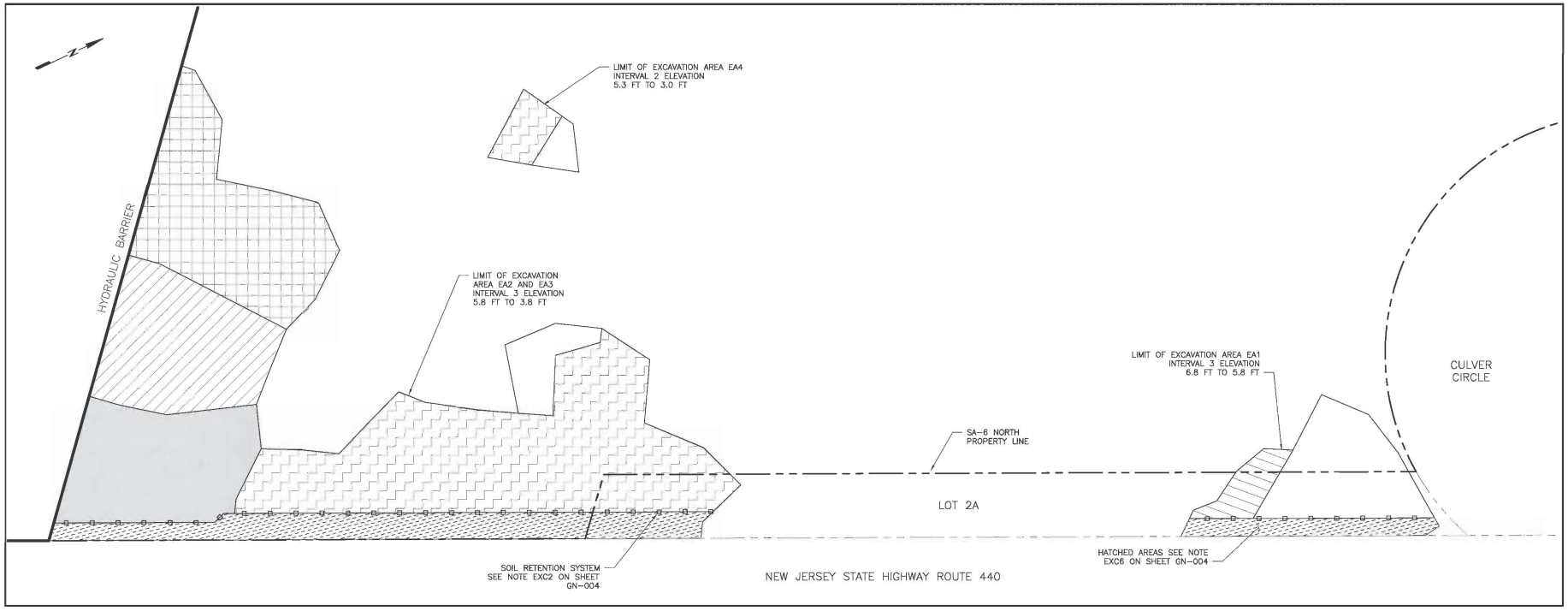
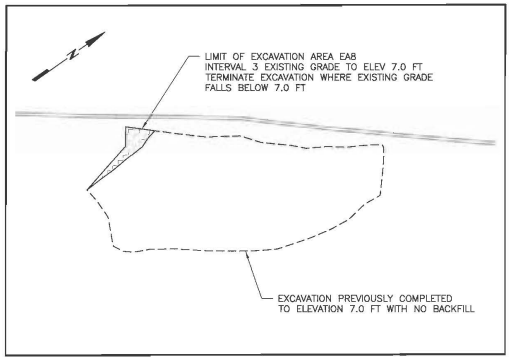
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Csp Design-SA6-C3D\CAD\SA6M100 Percent\CR22-C-117 Chromium Excavation Interval 2.dwg PLOT DATE: Mon, 30 Nov 2015 PLOT TIME: 1:17 PM



EXCAVATION AREAS EA1, EA2 3, AND EA4



ADDITIONAL EXCAVATION AREA EA8

0 15 30 60
SCALE IN FEET

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6-INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

NOTES:

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2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
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- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (NON HAZARDOUS OFF SITE DIPSOSAL)
- NO EXCAVATION REQUIRED

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
2	11/30/15	DCB 053 - ADDITIONAL EA8 AND EA2 CLARIFICATIONS	TDD	SGS
1	09/03/15	EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 3

amec foster wheeler
Environment & Infrastructure, Inc.
2000 Cottontail Lane, Suite 140-1
Hamilton, NJ 08610 (609) 889-2309
NJ Cert of Authorization 24GA28015000

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DWG	CN-118
SHEET	23 OF 70

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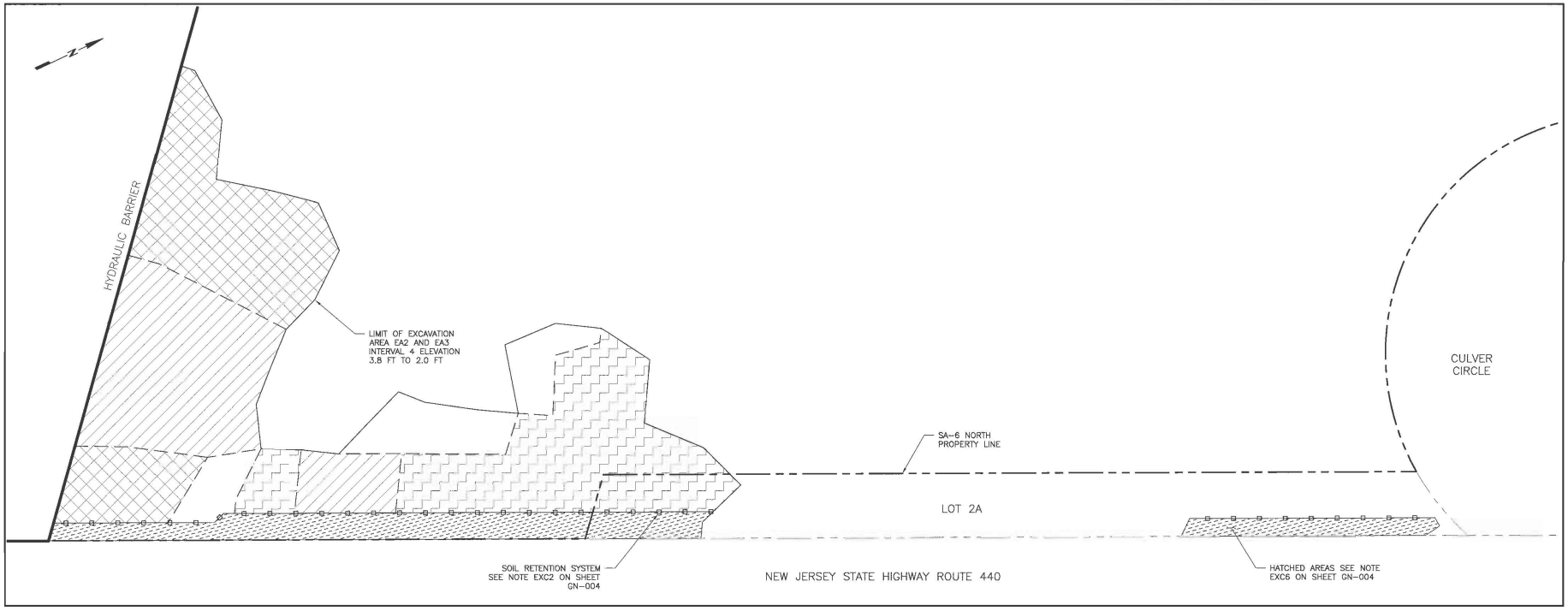
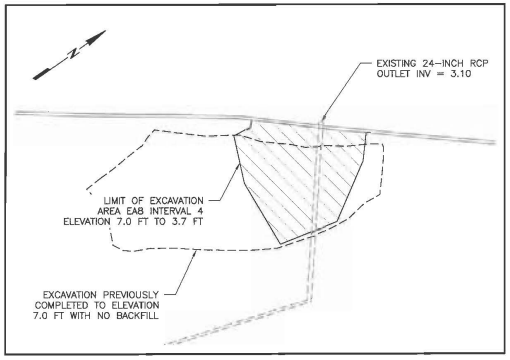


EXCAVATION AREA EA2 3



ADDITIONAL EXCAVATION AREA EA8

NOTE: REFER TO SHEET CN-120 FOR EA8 EXCAVATION AND BACKFILL REQUIREMENTS BELOW ELEVATION 7.0 FT

0 15 30 60
SCALE IN FEET

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LEGEND

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SAMUEL G. SHALLARD

NO.	DATE	REVISION	BY	APV'D
2	11/30/15	DCB 053 - ADDITIONAL EA8 AND EA2 CLARIFICATIONS	TDD	SGS
1	09/03/15	EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APV'D SGS

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 4

amec foster wheeler
Environment & Infrastructure, Inc.
220 American Metro Blvd, Suite 113
Hamilton, NJ 08619 Phone: (609) 587-8229
NJ Cert of Authorization 24GA28010900

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DWG	CN-119
SHEET	24 OF 70

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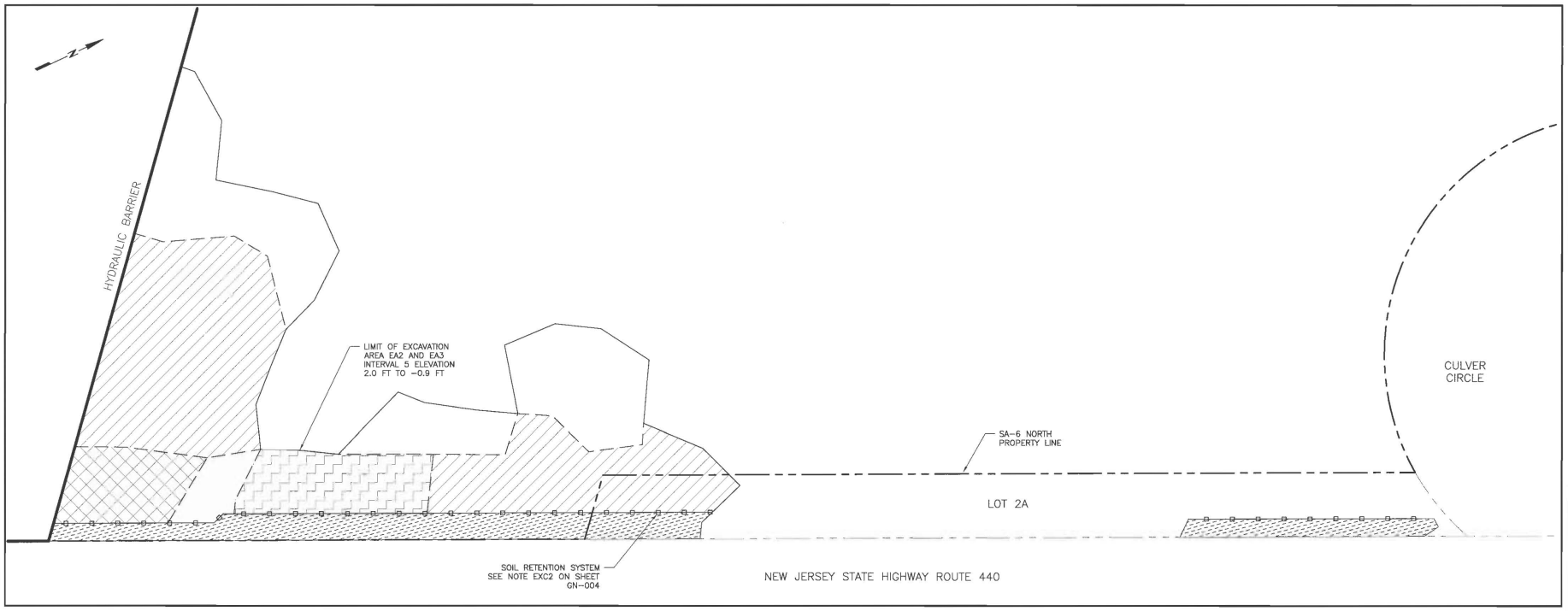
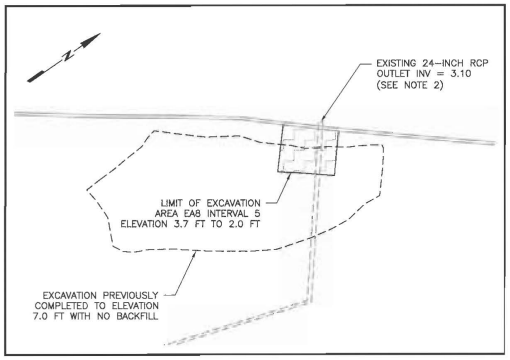
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR24-C-119 Chromium Excavation Interval 4.dwg PLOT DATE: Mon, 30 Nov 2015 PLOT TIME: 1:14 PM



EXCAVATION AREAS EA2 3



ADDITIONAL EXCAVATION AREA EA8

SEE NOTES THIS SHEET

EA8 ADDTIONAL EXCAVATION NOTES

1. CONTRACTOR TO VERIFY AND MARK THE LOCATION OF THE 24−INCH STORM SEWER PRIOR TO EXCAVATION.
2. EXISTING 24−INCH RCP STORM SEWER WILL BE REMOVED IF NECESSARY TO COMPLETE THE EXCAVATION. THE RCP WILL BE REPLACED WITH DOUBLE WALL ADS N12 WITH WATER TIGHT JOINTS OR EQUIVALENT AS APPROVED BY THE ENGINEER.
3. EXCAVATION ADJACENT TO BULKHEAD TO BE PERFORMED AT LOW TIDE.
4. INSPECT BULKHEAD FOR ANY INDICATION OF TIEBACKS PRIOR TO STARTING EXCAVATION.
5. INDEPENDENT OF INSPECTION RESULTS BE VIGILANT FOR THE PRESENCE OF STEEL TIE BACKS OR CRIBBING THAT MAY BE PROVIDING WALL RESTRAINT.
6. EXERCISE EXTREME CARE WHEN EXCAVATING IMMEDIATELY BEHIND THE BULKHEAD AND USE METHODS THAT DO NOT CREATE LOCALIZED LOAD.
7. PROVIDE PUMPS FOR LOCALIZED DEWATERING IF REQUIRED.
8. FOLLOW ESTABLISHED PROTOCOLS FOR DOCUMENTATION OF COMPLETION.
9. HAVE ON SITE APPROVED MATERIALS TO FACILITATE BACKFILL UPON APPROVAL OF EXCAVATION.
10. DRAPE SINGLE LAYER OF 8 OZ FILTER FABRIC OVER THE BULKHEAD AND 10 FT INTO THE EXCAVATION TO ASSIST IN PREVENTING FINES MIGRATION FROM THE EXCAVATION INTO THE RIVER DURING BACKFILL.
11. DO NOT OPERATE EQUIPMENT IN SUCH A WAY DURING EXCAVATION OF BACKFILL THAT ADDS LOAD TO THE BULKHEAD.
12. USE OF VIBRATORY COMPACTION EQUIPMENT IS PROHIBITED.
13. PLACE A LAYER OF 12 OZ GEOTEXTILE AT ELEVATION 5 TO ACT AS SOIL REINFORCEMENT. THE GEOTEXTILE WILL BE LAID AT RIGHT ANGLES TO THE SLOPE.

LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20−240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (HAZARDOUS OFF SITE DIPSOSAL)
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (NON HAZARDOUS OFF SITE DIPSOSAL)
- NO EXCAVATION REQUIRED

NOTES:

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0 15 30 60
SCALE IN FEET

SAMUEL G. SHALLARD

NO.	DATE	REVISION	BY	APV'D
2	11/30/15	DCB 063 - ADDITIONAL EA8 AND EA2 CLARIFICATIONS	TDD	SGS
1	09/03/15	EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APV'D SGS

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 5

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, New Jersey 08619 (609) 890-7123
NJ Cert of Authorization 24GA28010000

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DATE	
PROJ	3480-12-0317
DWG	CN-120
SHEET	25 OF 70

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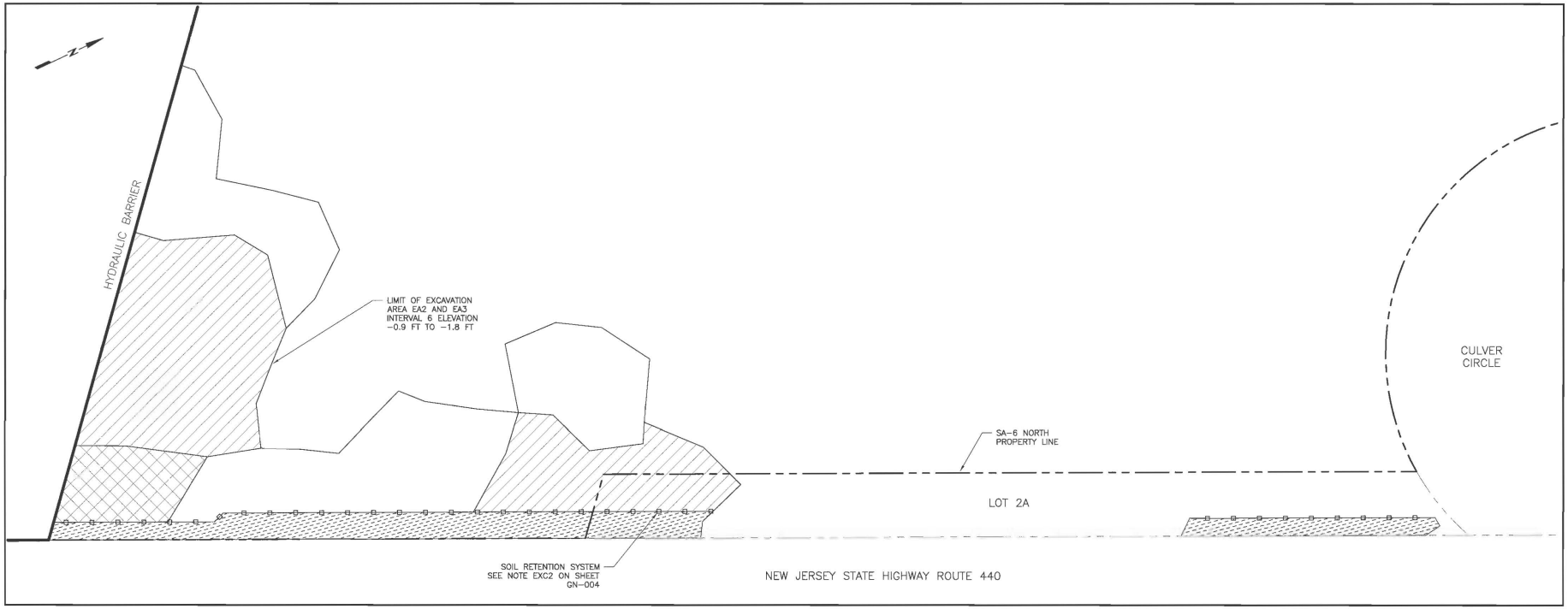
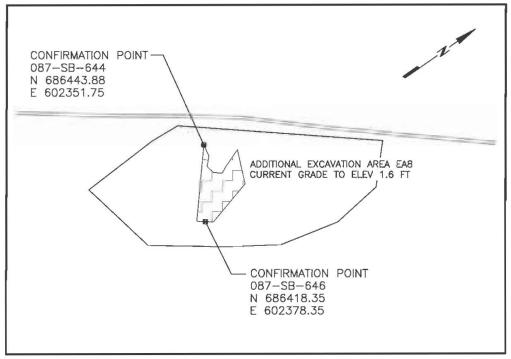


EXCAVATION AREAS EA2 3



ADDITIONAL EXCAVATION AREA EA8

0 15 30 60
SCALE IN FEET

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LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20−240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (HAZARDOUS OFF SITE DIPSOSAL)
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (NON HAZARDOUS OFF SITE DIPSOSAL)
- NO EXCAVATION REQUIRED

NO.	DATE	REVISION	BY	APVD
2	11/30/15	DCB 053 - ADDITIONAL EA8 AND EA2 CLARIFICATIONS	TDD	SGS
1	09/03/15	EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD | DR TDD | CHK RJR | APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD., BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 6

amec foster wheeler
Environment & Infrastructure, Inc.
20 Lecamp Avenue, Suite 113
Hamilton, NJ, 08619, (609) 989-2626
NJ Cert of Authorization 24GA28010500

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-121
SHEET	26 OF 70

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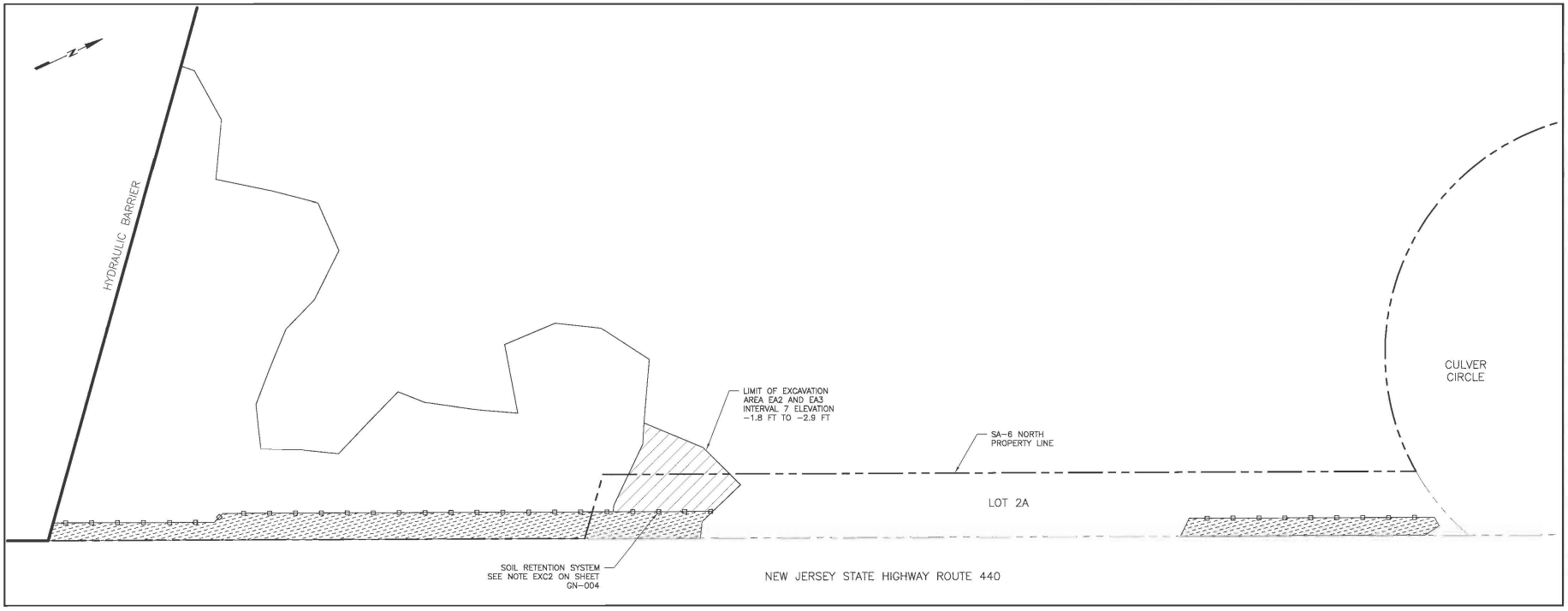
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR26-C-121 Chromium Excavation Interval 6.dwg PLOT DATE: Mon, 30 Nov 2015 PLOT TIME: 1:06 PM



EXCAVATION AREAS EA2 3

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. IT HAS BEEN ASSUMED THAT 0-4 FOOT EXCAVATION CAN BE IMPLEMENTED WITH VERTICAL SIDE SLOPE SUBJECT TO ASSESSMENT OF SUPPORT OF UTILITIES AND ADJACENT STRUCTURES.

LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20-240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (HAZARDOUS OFF SITE DIPSOSAL)
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM (NON HAZARDOUS OFF SITE DIPSOSAL)
- NO EXCAVATION REQUIRED

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6-INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

0 15 30 60
SCALE IN FEET

NO.	DATE	REVISION	BY	APV'D
2	11/30/15	DCB 063 - ADDITIONAL EA8 AND EA2 CLARIFICATIONS	TDD	SGS
1	09/13/15	EA8 INTERVALS AND NON HAZ DISPOSAL LIMITS	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR CHK RJR APV'D TDD

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2102, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITE 887 AND 888
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CHROMIUM EXCAVATION
INTERVAL 7

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, New Jersey 08619-3828
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-122
SHEET	27 OF 70

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR27-C-122 Chromium Excavation Interval 7.dwg PLOT DATE: Mon, 30 Nov 2015 PLOT TIME: 1:12 PM

ATTACHMENT F
EXCAVATION AREA E-MAIL CERTIFICATIONS
(EA-1, EA-2/3, EA-4, EA-5, EA-7 AND EA-8)

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, December 07, 2016 11:42 AM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E
Subject: FW: Honeywell Response to Steve Egnaczyk Email -- SA-6 North Excavation Complete Submittal - Area EA-1 @ SA-6N
Attachments: Figure 1 EA1 - Culver Circle Lens.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Eric, use this one for EA1.

Put the EA areas in sequential order (EA-1, EA-2/3, etc.) in your attachment for Declaration 3.

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, May 09, 2016 4:09 PM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Lewis, Thomas <tlewis@louisberger.com>; Morris, John (MTO) <John.Morris@honeywell.com>; JFarrell@jcnj.org; Francis J. Borin <FBORIN@decotiislaw.com>; JWatson@jcnj.org; Clifford, Joseph T <Joseph.Clifford@amec.com>; Daneker, Michael D. <Michael.Daneker@APORTER.COM>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; Jeremy.Karpatkin@aporter.com <Jeremy.Karpatkin@aporter.com>; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; Kim Hosea (k.hosea@cea-enviro.com) <k.hosea@cea-enviro.com>
Subject: Honeywell Response to Steve Egnaczyk Email -- SA-6 North Excavation Complete Submittal - Area EA-1 @ SA-6N

Steve,

Honeywell and Amec have reviewed your questions received via email on May 2, 2016 regarding our earlier email notification of Excavation Area EA-1 Completion dated April 3, 2016.

We have parsed your email into four specific items and our clarifications and/or responses to each are provided below. We are also attaching a new Figure 1 to support our responses.

1. Please confirm whether samples were collected and analyzed for hexavalent chromium from the small lens of greenish grey material that was identified on the north face of the excavation adjacent to Culver Circle as potentially chromium impacted and whether confirmation samples were collected following excavation and visual confirmation that the (potentially) impacted area had been removed to less than 20 ppm.

   - As previously discussed, no samples of the suspect greenish gray material were collected based upon our field team's positive identification as COPR. No post-excavation soil samples were

collected on NJDOT Right of Way (ROW) as we excavated all visible material within the SA-6 property boundary limits along the NJDOT-Culver Circle Right of Way. See attached Figure 1 which provides limits of excavation and also shows the property boundary line separating SA-6 North site and NJDOT ROW.

2. If samples were collected, please also provide the sample locations and results for samples collected and analyzed for hexavalent chromium on the Excavation Bottom Map. If samples were not collected before and/or following excavation, please provide the rationale.

   - No samples were collected. Honeywell's obligations for remediation of SA-6 North Site have been achieved in accordance the approved RAWP and 100% Design; therefore, we can closeout the site within property boundaries.

3. In addition, if different from the surveyed "Limit of Excavation Area" (i.e., "grey line"), shown for the northern and eastern extents of the excavation please provide or specifically identify the location of the NJDOT property line (i.e., associated with Culver Circle) and the Route 440 right-of-way (i.e., the "deferred area") on the Excavation Bottom Map.

   - See attached Figure 1.

4. Lastly, please confirm the manner of notification to the NJDOT/NJDEP regarding the assumed continued lens of greenish grey material onto NJDOT property that was identified on the north face of the excavation adjacent to Culver Circle.

   - As previously discussed at our monthly All Parties call, Honeywell has not identified any specific regulatory obligation to report to NJDOT. However, Honeywell will make notice to NJDOT this week. In addition, Honeywell will notify NJDEP at our next regular site status call/meeting and include this issue in the Final Remedial Action Report.

Please let us know if you have any further questions on this item.

Regards,

Bill

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Monday, May 02, 2016 10:37 AM
To: Hague, William <william.hague@honeywell.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org; Clifford, Joseph T

<Joseph.Clifford@amec.com>; Daneker, Michael D. <Michael.Daneker@APORTER.COM>
Subject: RE: SA-6 North Excavation Complete Submittal - Area EA-1 @ SA-6N
Importance: High

Bill,

The Special Master is in receipt of your April 3, 2016 email and the supporting documentation regarding Excavation Completion in Excavation Area (EA) -1 and the notification that the contractor is ready to backfill EA-1 as part of the SA6 North Chromium Remedy. Please confirm whether samples were collected and analyzed for hexavalent chromium from the small lens of greenish grey material that was identified on the north face of the excavation adjacent to Culver Circle as potentially chromium impacted and whether confirmation samples were collected following excavation and visual confirmation that the (potentially) impacted area had been removed to less than 20 ppm. If samples were collected, please also provide the sample locations and results for samples collected and analyzed for hexavalent chromium on the Excavation Bottom Map. If samples were not collected before and/or following excavation, please provide the rationale. In addition, if different from the surveyed "Limit of Excavation Area" (i.e., "grey line"), shown for the northern and eastern extents of the excavation please provide or specifically identify the location of the NJDOT property line (i.e., associated with Culver Circle) and the Route 440 right-of-way (i.e., the "deferred area") on the Excavation Bottom Map. Lastly, please confirm the manner of notification to the NJDOT/NJDEP regarding the assumed continued lens of greenish grey material onto NJDOT property that was identified on the north face of the excavation adjacent to Culver Circle.

Regards, Steve

Steven J. Egnaczyk
Program Director | Environmental and Disaster Management Services

direct +1.610.363.5395
mobile +1.610.212.1492
fax +1.610.363.5390
email segnaczyk@louisberger.com
web louisberger.com

Louis Berger
350 Eagleview Boulevard | Exton | PA | 19341-1178| USA

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Sunday, April 03, 2016 7:52 PM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)'

<k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org; Clifford, Joseph T <joseph.clifford@amecfw.com>; Daneker, Michael D. <Michael.Daneker@APORTER.COM>
Subject: SA-6 North Excavation Complete Submittal - Area EA-1 @ SA-6N

Steve,

We are providing this email notification that our contractor is complete in Excavation Area 1 (EA-1) which is part of the SA-6 North Chromium Remedy.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of EA-1 excavation completion covers the individual period of 02/17/16 to 03/09/16. This submittal includes the full extent of EA-1 as shown on the approved 100% Design drawings plus additional excavations up to the NJDOT property line along Culver Circle to address the visual anomaly identified in the northern face of the excavation as described below.

Attachments to the submittal include the Maser Table with bottom and sidewall confirmation points, and an Excavation Bottom Map showing sample locations and excavation limits.

- Coordinates for Survey of the finished excavation at the PDI bottom and sidewall locations are tabulated in the Maser Tables.
- Due to the shallow depth of excavation sidewall slopes were close to vertical.
- There was a total of 12 Confirmatory Bottom samples and 9 Confirmatory Sidewall Samples shown in the Maser Table. These samples are shaded yellow in the Maser Table.
- The Excavation Bottom Elevation Map showing the PDI locations and the limits of this submittal is attached.
- The color coding in the excavation Bottom Map shows only 3 orange sidewall samples. There were an additional 6 Sidewall samples that were also at locations where there was a separate bottom sample at a lower depth, However consistent with comments on EA-2/3 (and per Footnote 4), the soil boring locations with dual sidewall and bottom samples were color coded green as bottom samples.
- The 24-inch gas main runs along the eastern edge of the excavation. To maintain safe distances as mandated by PSE&G, the eastern edge be terminated at the limit of the “deferred area” identified in the 100% Design. As a result no Confirmatory sidewall samples exist on the eastern edge.
- The bottom and sides of the excavation at the final limits were visually inspected by Amec personnel in accordance with the SOP. There was a small lens of greenish grey material on the north face adjacent to Culver Circle that was identified as potentially chromium impacted. The lens is approx. 1.5 ft. below the ground surface, 2-6 inches thick and less than 10 ft. long. The lens was excavated to the NJDOT property line. The limit of the additional materials excavated was surveyed and is shown on the Excavation Bottom map.
- In the area bounded by 087-SB-143 , 087-SB-132 087-SB-520 and 087-SB-133, the excavation depth was lowered to expose the Confirmatory Bottom Sample at 087-SB-039 at elevation 5.4 ft.
- Maser collected additional bottom of excavation points which will be used in conjunction with the PDI points to prepare a topographic Map of the bottom of excavation as required by the 100% Design

- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed to the property line and that the requirements to allow backfilling have been met.

Regards,
Bill Hague

William J. Hague P.E.

Honeywell
Director - Remediation Design & Construction
Corporate HSE&R
115 Tabor Road
Morris Plains, NJ 07950
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

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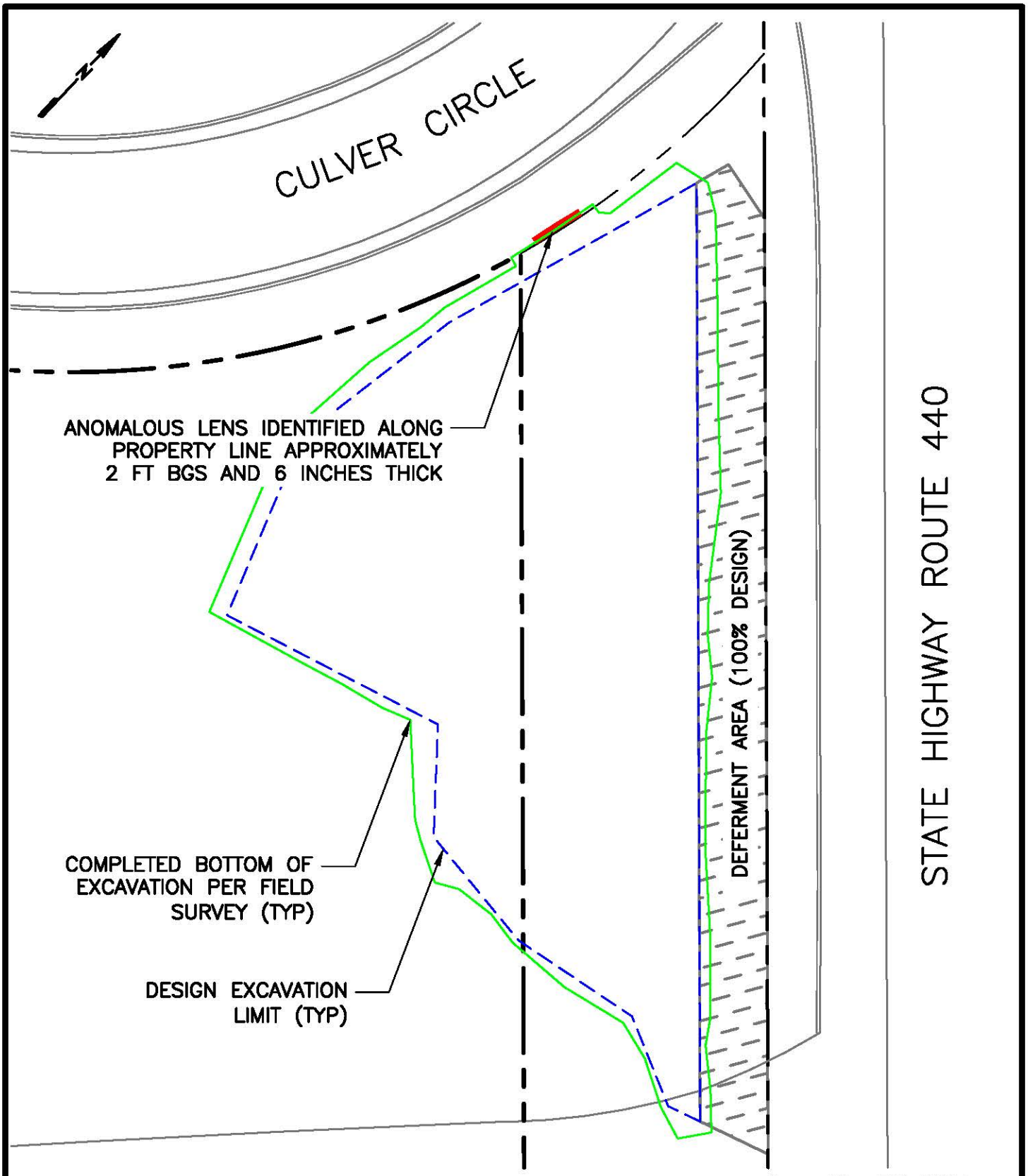

SCALE: 1 INCH = 20 FEET

Prepared/Date: TDD 3/10/16
Checked/Date: DEF 00/00/00

CHROMIUM REMEDY STUDY AREA 6 SOUTH JERSEY CITY, NEW JERSEY	amec foster wheeler Environment & Infrastructure, Inc. 200 American Metro Blvd, Suite 113 Hamilton, NJ, 08619, (609) 689-2829 NJ Certificate of Authorization Number 24GA28010900	SA-6 NORTH EA1 ANOMALOUS LENS LOCATION Project 3480-10-0027 FIGURE 1

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, August 03, 2016 2:02 PM
To: Christodoulatos, Eric G
Cc: Shallard, Samuel G.; Nagg, Dennis E
Subject: FW: Amended - SA-6 North Excavation Complete Submittal - Area EA-2/3 @ SA-6N

Here is EA2/3

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Sunday, May 01, 2016 5:08 PM
To: Hague, William <william.hague@honeywell.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; JWatson@jcnj.org; Clifford, Joseph T <Joseph.Clifford@amec.com>; Daneker, Michael D. <Michael.Daneker@APORTER.COM>
Subject: RE: Amended - SA-6 North Excavation Complete Submittal - Area EA-2/3 @ SA-6N

Bill,

The Special Master acknowledges receipt of your April 3, 2016 email and the supporting documentation accompanying the Amended Certification for Excavation Complete for Excavation Areas (EAs) - 2/3 [both the Northern and Southern portions] at SA6 North.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Sunday, April 03, 2016 6:13 PM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org; Clifford, Joseph T <joseph.clifford@amecfw.com>; Daneker, Michael D. <Michael.Daneker@APORTER.COM>
Subject: Amended - SA-6 North Excavation Complete Submittal - Area EA-2/3 @ SA-6N

AMENDED CERTIFICATION FOR EXCAVATION COMPLETE EA-2/3 at SA-6 NORTH

Steve,

We are providing this amended certification regarding completion of excavation of the combined area designated as EA-2/3. This amended certification supersedes the original certification for EA-2/3 which was submitted by Honeywell to the parties in two separate transmittals, EA-2/3 Southern Portion via email on December 22, 2015 and EA2/3 Northern Portion via email on January 20, 2016.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this amended notification.

After your questions raised in your email of January 5, 2016, and a subsequent technical discussion on January 7, 2016 between you and Joe Clifford of Amec, it was agreed that Honeywell would provide an amended certification combining the original certification including the supporting information requested. Specifically, you requested that we provide the following in the amended email certification:

- Address the inconsistency in the use of the term “Design Elevation Reached” vs. “Target Elevation Reached” in the Maser Tables: SA-6 North Excavation: Sidewall Confirmatory Points (Table 2.0);
- Clarify the “As-Built Elevation” of 1.9 feet compared to the “Sidewall Target Coordinate” of 0.6 feet;
- Add a statement to the certification to confirm that all survey points in the excavation were at or below design elevations and representative of final excavation grades; and,
- Provide a footnote and/or different legend for boring locations which had distinctly separate sample intervals that were used as both a sidewall sample and bottom sample.

Amec, Entact and Maser developed a revised Maser Table 1.0 and 2.0 (attached).
Revisions to address the above requested items are as follow:

- For soil boring location 088-SB-190, the Comments were revised from Design Elevation Reached to Target Elevation Reached and the Target Elevation was changed to reflect the correct value of 1.9 feet.
- In addition, a Footnote 3 was added to this boring location which indicates that a supplemental soil sample was collected at the 1.9 feet elevation to verify that the excavation sidewall limit was terminated at a location with a known sample point with hexavalent chromium < 1 ppm.
- Lastly, a Footnote 2 was added to the nine soil boring locations which included distinct soil sample elevation intervals which were used for both sidewall and confirmatory samples. The nine soil borings are:

    - 088-SB-179
    - 088-SB-420
    - 087-SB-127
    - 087-SB-128
    - 088-SB-167
    - 088-SB-111
    - 088-SB-422
    - 088-SB-169

- 088-SB-423

The Footnote 2 cross-references the Entact Bottom Figure for EA 2/3 and indicates that these locations are shown as Green for Bottom.

++

This submittal notification of EA 2/3 excavation completion covers the period from December 10, 2015 to January 6, 2016. Amec - Figure 1 which depicts the Northern and Southern Portion of the overall EA2/3 excavation is included for reference.

Attachments to the submittal include the revised Maser Tables dated March 10, 2016 with bottom and sidewall confirmation points and an Excavation Bottom Map dated March 3, 2016 showing sample locations and excavation limits.

- Coordinates for Survey of the finished excavation are tabulated in the Maser Tables.
- The sidewall slopes were laid back to provide stable conditions.
- There was a total of 27 Confirmatory Bottom samples and 16 Confirmatory Sidewall Samples. These samples are included and shaded yellow in the Maser Table.
- The Excavation Bottom Elevation Map showing the PDI locations and the limits of this submittal is attached.
- The bottom and sides of the excavation at the final limits were visually inspected by Amec personnel to confirm there was no indication of visibly impacted soils.
- The westerly portion of the excavation was terminated at or below the target elevation.
- Analogous to email completion submittals for SA-6 South areas, the area where the bottom of excavation was terminated on Stratum D has been shaded on the figure and “Stratum D reached” noted in the Maser table comments.
- All survey points in the excavation areas were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation areas.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.

Please let us know if you have any other questions on this item.

Regards,
Bill Hague

William J. Hague P.E.

Honeywell
Director - Remediation Design & Construction
Corporate HSE&R
115 Tabor Road
Morris Plains, NJ 07950
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, August 03, 2016 2:05 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E; Shallard, Samuel G.
Subject: FW: SA-6 North Excavation Complete Submittal - Area EA-4

Here is EA4

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, September 16, 2015 3:55 PM
To: Hague, William <william.hague@honeywell.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; 'Daneker, Michael' <Michael_Daneker@aporter.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org
Subject: RE: SA-6 North Excavation Complete Submittal - Area EA-4

Bill,

The Special Master is in receipt of your September 11, 2015 email and the supporting documentation regarding Excavation Completion in Excavation Area 4 (EA-4) and the notification that the contractor is ready to backfill EA-4 as part of the SA6 North Chromium Remedy.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Friday, September 11, 2015 8:17 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6 North Excavation Complete Submittal - Area EA-4

Steve,

We are providing this email notification that our contractor is ready to backfill Excavation Area 4 (EA-4) which is part of the SA-6 North Chromium Remedy.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of EA-4 excavation completion covers the individual period from 08/24/15 to 08/26/15.

This Excavation Submittal includes the full extent of EA-4 as shown on the approved 100% Design drawings.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables.
- As no sheet pile was used, the sidewall slopes were laid back to provide stable conditions.
- The bottom and lateral limits of EA-4 were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met for EA-4.
- An Excavation Bottom Map showing EA-4 is provided.
- There were three Confirmation Bottom samples and six Confirmatory Sidewall samples for EA-4. These sample locations are included and shaded in yellow in the Maser Table.
- All survey points in the excavation were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation limits.

Regards,
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, August 03, 2016 2:04 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E; Shallard, Samuel G.
Subject: FW: SA-6 North Excavation Complete Submittal - Area EA-5

Importance: High

Here is EA5

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, October 16, 2015 10:22 AM
To: Hague, William <william.hague@honeywell.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org; Michael.Daneker@aporter.com
Subject: RE: SA-6 North Excavation Complete Submittal - Area EA-5
Importance: High

Bill,

The Special Master is in receipt of your October 12, 2015 email and the supporting documentation regarding Excavation Completion in Excavation Area 5 (EA-5) and the notification that the contractor is ready to backfill EA-5 as part of the SA6 North Chromium Remedy.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, October 12, 2015 7:58 PM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea

(k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org; Michael.Daneker@aporter.com
Subject: SA-6 North Excavation Complete Submittal - Area EA-5

Steve,

We are providing this email notification that our contractor is ready to backfill Excavation Area 5 (EA-5) which is part of the SA-6 North Chromium Remedy.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of EA-5 excavation completion covers the individual period from 08/27/15 to 09/24/15.

This Excavation Submittal includes the full extent of EA-5 as shown on the approved 100% Design drawings.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables.
- The south side of the excavation abuts the Barrier Wall.
- No sheet pile was used on the other sides, the sidewall slopes were laid back to provide stable conditions.
- The alignment of the Barrier Wall in this area had been moved slightly to the South due to piles on the alignment. This resulted in the EA-5 excavation being slightly larger in plan than shown on the 100% Design. Notification of this change was provided previously to all parties through the DCB process.
- An Excavation Bottom Map showing EA-5 is provided.
- There were four Confirmation Bottom samples and seven Confirmatory Sidewall samples for EA-5. These sample locations are included and shaded in yellow in the Maser Table.
- The bottom of the excavation was terminated in Stratum D.
- During excavation, structural concrete supported by concrete piles was encountered. Where the removal of these piles resulted in penetration of the Stratum D, holes were filled with bentonite and a layer of GCL placed over the general area in accordance with the approved 100% Design. The limits of GCL are shown on the Bottom Elevation Plan.
- An abandoned UST was also found in the back-sloped area to the north. Tank removal and associated sampling is being performed as a separate activity under the LSRP.
- The bottom and sides of the excavation was visually inspected by Amec personnel immediately following excavation. A portion of the sidewall exhibited discoloration ~6-8 ft. above the Stratum D. A soil sample was collected from the anomalous material in this location and sent for offsite analysis. The sample result was < 1mg/kg for hexavalent chromium.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met for

Please let us know if you have any other questions on this item.
Regards,
Bill Hague

William J. Hague P.E.

Honeywell
Director - Remediation Design & Construction
Corporate HSE&R
115 Tabor Road
Morris Plains, NJ 07950
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, August 03, 2016 2:05 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E; Shallard, Samuel G.
Subject: FW: SA-6 North Excavation Complete Submittal - Area EA-7

Importance: High

Here is EA7, is that all of them???

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Monday, August 03, 2015 12:07 PM
To: Hague, William <william.hague@honeywell.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; 'Daneker, Michael' <Michael_Daneker@aporter.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org
Subject: RE: SA-6 North Excavation Complete Submittal - Area EA-7
Importance: High

Bill,

The Special Master is in receipt of your July 20, 2015 email and the supporting documentation regarding Excavation Completion in Area EA-7 and the notification that the contractor is ready to backfill this area.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, July 20, 2015 1:23 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6 North Excavation Complete Submittal - Area EA-7

Steve,

We are providing this email notification that our contractor is ready to backfill Excavation Area 7 (EA-7) which is part of the SA-6 North Chromium Remedy.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of EA-7 excavation completion covers the individual period from 06/22/15 to 06/26/15.

This Excavation Submittal includes the full extent of EA-7 as shown on the approved 100% Design drawings.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables.
- As no sheet pile was used, the sidewall slopes were laid back to provide stable conditions.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel. As shown on the attached photographs, the excavation was performed without active dewatering. We note that some seepage/rainfall accumulated in the bottom, but this did not impact the inspection or survey process.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Bottom Map showing EA-7 is provided.
- There were two Confirmation Bottom samples and six Confirmatory Sidewall samples for EA-7. These sample locations are included and shaded in yellow in the Maser Table.
- All survey points in the excavation were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation limits.

Please let us know if you have any other questions on this item.
Regards,
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

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statements herein do not constitute a binding commitment or warranty by Louis Berger. Louis Berger assumes no responsibility for any misperceptions, errors or misunderstandings. You are urged to verify any information that is confusing and report any errors/concerns to us in writing.

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, August 03, 2016 2:02 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E; Shallard, Samuel G.
Subject: FW: SA-6 North Excavation Complete Submittal - Area EA-8 Addendum

Here is EA8

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Thursday, March 03, 2016 9:00 PM
To: Hague, William <william.hague@honeywell.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org; Michael.Daneker@aporter.com
Subject: RE: SA-6 North Excavation Complete Submittal - Area EA-8 Addendum

Bill,

The Special Master is in receipt of your January 25, 2016 email and the supporting documentation regarding the Amended Certification for Excavation Complete in Area EA-8 and the notification that the contractor is ready to backfill these Cells.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, January 25, 2016 6:33 PM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org; Michael.Daneker@aporter.com
Subject: SA-6 North Excavation Complete Submittal - Area EA-8 Addendum

AMENDED CERTIFICATION FOR EXCAVATION COMPLETE EA-8 at SA-6 NORTH

Steve,

We are providing this amended certification regarding completion of excavation the area designated EA-8 which was originally submitted by Honeywell to the parties by email on December 21, 2015.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this amended notification.

After your questions raised in your email of December 31, 2015, and a subsequent technical call on January 7, 2016 between you and Joe Clifford of Amec, it was agreed that Honeywell would provide an amended certification to include supporting information on the additional soil sampling data collected and the extents of the visual anomaly originally identified. Specifically, your December 31, 2015 email requested that we provide in the amended email certification:

- Locations of additional excavations that were driven by reported anomalies and those that were driven by supplemental sampling results with > 20 ppm hexavalent chromium;
- Superimpose the additional excavations boundaries and depths with the original 100% Design excavation boundaries and depths; and,
- Confirm that all survey points in the excavation were at or below design elevations and representative of final excavation grades.

Amec developed an additional Figure 1 which provides the above requested information which is attached to this email. Additional clarifications are provided below. Also, although the original Maser Table and Entact Bottom of Excavation maps do not require correction, they are attached to this amended certification for completeness.

The 100% Design for EA-8 was unique in that the PDI investigation provided for definition of the area boundaries, but not the final depths, of the excavation. This was due to general geoprobe inaccessibility of the footprint area as there was a steep slope and JCDPW still had active operations and material storage. As a result, the 100% Design required additional vertical sampling to be performed once the excavation footprint was advanced to elevation 7.0 feet above mean sea level (ft msl).

After excavation to elevation 7.0 ft msl, Amec collected the additional samples and exceedances of 20 ppm hexavalent chromium were identified in select locations as shown on Figure 1. This necessitated deepening the excavation of a portion of the original 100% Design footprint to elevations 3.7 ft and 2.0 ft msl. The limits of this additional excavation were designated as Area 1 and Area 2 as shown on the Amec Figure 1 attached.

During Amec inspection of Area 1 limits, an anomaly was identified in the southern sidewall necessitating additional sampling and excavation of Areas 3 and 4 to elevation 1.6 ft msl. Lastly, Amec inspectors identified an anomaly in the southern sidewall proximate to 087-SB-102, necessitating additional excavation and sampling to closeout that boundary which was designated Area 5.

This submittal notification of EA-8 excavation completion covers the individual period of 06/26/15 to 12/09/15. This submittal includes the full extent of EA-8 as shown on the approved 100% Design

drawings plus additional excavations as necessary to address supplemental soil sampling results with > 20 ppm hexavalent chromium.

Attachments to this submittal include the Maser Table with bottom and sidewall confirmation points, and an Excavation Bottom Map showing sample locations and excavation limits. The Maser Table includes both the 100% Design PDI points and the above-describe sampling points added through the sampling and excavation process.

- Coordinates for Survey of the finished excavation are tabulated in the Maser Tables.
- The sidewall slopes were laid back to provide stable conditions.
- There was a total of 12 Confirmatory Bottom samples and 8 Confirmatory Sidewall Samples. These samples are included and shaded yellow in the Maser Table.
- The Excavation Bottom Elevation Map showing EA-8 is attached.
- The bottom and sides of the excavation at the final limits as noted above were visually inspected by Amec personnel to confirm there was no indication of visibly impacted soils.
- All survey points in the excavation were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation limits.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.

Please let us know if you have any other questions on this item.

Regards,
Bill Hague

William J. Hague P.E.

Honeywell
Director - Remediation Design & Construction
Corporate HSE&R
115 Tabor Road
Morris Plains, NJ 07950
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

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ATTACHMENT G
SA-6 SOUTH STANDARD OPERATING PROCEDURE (SOP) –
CONFIRMATION OF EXCAVATION LIMITS AND CORRESPONDENCE FROM HONEYWELL DATED APRIL 24, 2014

NOTE: While this SOP was developed for SA-6 South, the procedures were also followed for the SA-6 North excavation.

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

April 24, 2014 *Via Express Mail*

Honorable Robert G. Torricelli
Office of the Special Master
41 W. State St., Suite 2F
Trenton, NJ 08608

Subject: Response to Comments Provided by Plaintiffs, April 11, 2004
Standard Operating Procedure for Confirmation of Excavation Limits
Study Area 6 South

Dear Senator Torricelli:

Honeywell has attached a memorandum prepared by its engineer, Amec, responding to comments provided by Plaintiffs on April 11th, pertaining to Standard Operating Procedure for Confirmation of Excavation Limits.

As discussed at the Special Master meeting on April 22, Honeywell is confident that the existing Quality Control/ Quality Assurance program provides the assurances to the parties that the SA-6 project needs for proper implementation are being satisfied.

If you have any questions, please contact the undersigned at (973) 455-2175.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:sgf

Encl: 04/24/14 Amec Memorandum re: Response to Comments on Study Area 6 South Consent Decree – Standard Operating Procedure for Confirmation of Excavation Limits
Revised SA-6 South Standard Operating Procedure – Confirmation of Excavation Limits (April 24, 2014)
Typical Excavation Submittal:
Excavation Confirmatory Points (Maser Consulting P.A.)
Excavation Progress Map (Entact)
Excavation Bottom Elevations (Entact)
Figure 1: Stratum D Cells 44 Thru 52
Amec transmittal including certification

cc: (electronic copy only)
Joe Clifford - AMEC
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP
Dr. Bruce Bell - Carpenter Environmental Associates, Inc.

Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall
Jason Watson – City Hall
Agnieszka Antonian - Connell Foley LLP
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC
Tom Byrne - Honeywell
Maria Kaouris - Honeywell
John Morris - Honeywell
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP
Steve Egnaczyk - The Louis Berger Group, Inc.
Thomas Lewis - The Louis Berger Group, Inc.

Memo

Date:	**4/24/2014**	cc:	**John Morris, Maria Kaouris, John Mojka, Jeremy Karpatkin, Michael Daneker**
From:	**Joe Clifford/Geoff Shallard**		
To:	**Bill Hague**		
Subject:	**Response to Comments on Study Area 6 South Consent Decree – Standard Operating Procedure for Confirmation of Excavation Limits**		

AMEC Environment & Infrastructure, Inc. (Amec), on behalf of Honeywell, has prepared the following responses to the comments that were submitted by Plaintiffs regarding the Study Area 6 South Consent Decree – Standard Operating Procedure for Confirmation of Excavation Limits in a letter dated April 11, 2014. For convenience, Amec has listed each comment from either Terris, Pravlik & Millian, LLP or Kim Bell Hosea, or both when similar, in italics below and the corresponding technical response from Amec.

Responses to Comments from Kim Bell Hosea (KBH) and from Terris, Pravlik and Millian (TPM)

Terris, Pravlik and Millian Comment (TPM-1):

Agreed standard operating procedures (SOP) for the excavation activities will assist in ensuring compliance with the required excavation depths. However, as discussed in Ms. Hosea's comments, plaintiffs submit that AMEC, as the engineer of record for the project, should be the entity to conduct the spot-checking of the Excavation Contractor's work using a GPS rover prior to final surveying. Having the Excavation Contractor confirm its own work does not provide sufficient independent verification that the excavation has been completed to meet requirements.

Kim Bell Hosea Comment (KBH-2):

We have two concerns about the SOP being used to document excavation depth where no Stratum D is present. First, AMEC, as the engineer of record for the project, should be the entity to conduct the spot-checking of the Excavation Contractor's work using a GPS rover prior to final surveying. Having the Excavation Contractor confirm its own work does not provide sufficient independent verification that the excavation has been completed to meet requirements. A visual inspection by AMEC provides no data as to whether the excavation has been completed to the appropriate depth.

AMEC
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
Tel 609-689-2829
Fax 609-689-2838
amec.com

Amec Response: As discussed at the Special Master All Hands meeting on April 22, the requirement for Quality Control resides with the primary subcontractor and Quality Assurance is typically done by either the construction engineer or a 3rd party. The SOP provided by Amec includes a three party confirmation process that identifies their respective roles and responsibilities as follows:

- The Excavation Contractor is required to conduct his own quality control (QC) process, in this case using the GPS rover to verify that the excavation performed using GPS machine control, conforms to the requirements of the 100% Design.
- To provide the independent verification noted by plaintiffs, Maser (the New Jersey Licensed Surveyor) surveys the points as required to document the excavation submittals and any additional points required to produce the topographical survey of the bottom of excavation consistent with the requirements of the technical specifications.
- Amec, as the Engineer, visually inspects the excavation including the Excavation Staking described in the SOP. Further, Amec reviews all the surveyor point files for compliance with the 100% Design prior to acceptance of the work and submittal of certifications.

This three-party approach involving the Contractor, Engineer and Independent Licensed Surveyor is a comprehensive and industry standard approach to documenting compliance with design objectives. The above-described requirements and responsibilities are in conformance with the approved Study Area-6 South Chromium Remedy 100% Design.

Terris, Pravlik and Millian Comment (TPM-2):
The SOP (p. 3) states that "[t]he Surveyor documents the elevations at the approximate corners and center of each excavation cell and other points that they deem necessary to prepare the topographic survey." We request that Honeywell confirm that this means that each of these survey points are measured within each separate excavation area within an excavation cell.

Kim Bell Hosea Comment (KBH-1):
The section of the SOP entitled Bottom Excavation Limits Met at Design Elevations (p. 3) applies where Stratum D is not encountered. In those cells (or excavation areas within cells), the bottom of the cell must be documented to ensure that the excavation depth specified in the 100% Design is met. A given cell may have several excavation areas – each with a different specified excavation depth. The SOP states that the spot checking of surface elevations are conducted using a GPS rover by an engineer for Entact (the Excavation Contractor). After Entact's spot checking, an engineer for AMEC conducts a visual inspection of the excavation bottom surface. After AMEC's

visual inspection, the surveyor is authorized to document the elevation by taking elevations at the four corners and center of "each excavation cell." We understand this to mean that survey points are measured at the center and approximate four corners of each separate excavation area within a cell. We request confirmation of this point from Honeywell.

Amec Response: Amec confirms that the survey points are measured at the center and approximate four corners of each separate excavation area within a cell.

Terris, Pravlik and Millian Comment (TPM-3):
In addition, we request that Honeywell confirm that all data points, not just the center and corner points, taken by the surveyor will be used to develop as-built drawings for the final completion reports. If any of these additional data points are inconsistent with the center and corner data points, we request that such additional data points be included in the periodic confirmation documentation submitted to the Special Master and plaintiffs.

Amec Response: Amec confirms all data points, not just the center and corner points, taken by the surveyor will be used to develop as-built drawings for the final completion reports.

Amec assumes that in this case the commenter's use of the word "inconsistent" is intended to mean elevations higher than the design excavation elevation.

Amec notes that as part of the SOP (last bullet under BOTTOM EXCAVATION LIMITS AT DESIGN ELEVATIONS), Amec will review the survey results and visually inspect the excavation surface to verify that it is at or below the design bottom elevation. If non-conforming (inconsistent) points were identified, Amec would direct the Excavation Contractor to perform additional excavation and re-survey the area prior to preparing the excavation submittal. We therefore do not foresee a situation where "additional data points are inconsistent with the center and corner data points." If however a point was discovered that was higher than the design elevation the Special Master and plaintiffs would be notified as part of our certification process.

Kim Bell Hosea Comment (KBH-3):
Second, we understood that the surveyor was taking numerous elevation measurements for documentation of excavation completion, not just the corner and center elevations. The SOP states that, in addition to the center and corners, the

surveyor will also measure "other points that they deem necessary to prepare the excavation topographic survey." We request that Honeywell confirm that these additional data points will be used to develop as-built drawings for the final completion reports.

Amec Response: Amec confirms that these additional data points will be used to develop as-built drawings for the final completion reports.

Terris, Pravlik and Millian Comment (TPM-4):
Plaintiffs recognize that it would be impractical for the confirmation work to be redone in areas where the current SOP was used. However, the SOP should be amended to provide that, going forward, AMEC, the engineer of record for the project, will conduct the confirmation work with a GPS rover prior to surveying. The amended SOP should be used for all future confirmation work.

In addition, since the SOP was developed after the excavation work began we request that Honeywell certify that all excavation limit confirmation documentation that has been collected to date has been done in accordance with the SOP. If the SOP is amended as we have recommended, Honeywell should certify after the amendment that subsequent work is done in accordance with the amended SOP.

Kim Bell Hosea Comment (KBH-4):
We note that the SOP was drafted and will be finalized after significant excavation is complete on SA-6 South. Therefore, once the SOP is finalized, we request a certification from Honeywell that all excavation limit confirmation documentation collected to date has been completed either in accordance with original SOP or with the final SOP, as amended.

Amec Response: For the reasons discussed at the Special Master All Hands meeting on April 22, Amec does not consider it appropriate to modify the SOP to require Amec to operate the GPS rover.

While the SOP was formalized in response to the parties' requests subsequent to beginning the excavation, the basic approach and responsibilities of the Contractor, Surveyor and Engineer have not changed, only how we document the work. The formal certification will include the NJ Licensed Surveyor's topographic map of the bottom of excavation and the Amec certification language as engineer (similar to that included in the transmittal e-mail of the weekly submittals). It is our belief that the current certification of the tables by the

Surveyor and certification by the Engineer in the transmittal e-mail of the Excavation Submittals is sufficient without further modification. Therefore, we do not believe that there is any basis or merit in requiring certification related to the Excavation SOP.

Further, while Amec does not consider it necessary to modify the procedures in the Excavation SOP, it does appear that a revision would be helpful to clarify certain points, specifically in Section 5.0 Reporting. It appears from the Plaintiffs' comment letter of April 11th, that procedures undertaken to prepare the Excavation Submittal (bulleted list at the start of Section 5.0 of the SOP) are being confused with items to be submitted as part of the excavation submittal (numbered list 1-4).

We note that there is a fundamental difference between excavation to Stratum D and other areas terminated at a design elevation. In the Stratum D areas, the Stratum D is exposed over its entire area and the excavation is terminated at that surface. While taking survey elevations is important for purposes of production of the as-built topographic survey, the elevations at any corner point have no influence on the depth of excavation or conformance with the 100% design. The elevation of the Stratum D as shown in the design and as observed in the field is relatively uniform. In recognition of these items unique to completion of excavation at the Stratum D surface, and for ease of review, the Maser Survey Tables and Excavation Bottom Elevation Drawings submitted to date have only included center points by cell for Stratum D. Nonetheless, Amec will add corner point elevations for Stratum D impacted areas in future submittals.

Amec proposes amending the SOP language by adding emphasis to clarify the procedures used to prepare the excavation submittal and the information that will be in the excavation submittal. An amended version of the Excavation SOP and a typical excavation submittal are attached.

Revised SA-6 South Standard Operating Procedure
Confirmation of Excavation Limits

April 24, 2014

SA-6 SOUTH
STANDARD OPERATING PROCEDURE (SOP)
CONFIRMATION OF EXCAVATION LIMITS

April 24, 2014

1.0 PURPOSE

This Standard Operating Procedure (SOP) provides the basis for assessing and demonstrating that the limits of excavation as defined in the 100% Design are being met and documented. This SOP has been prepared to define the individual roles and responsibilities of the Excavation Contractor (Entact LLC), Licensed Land Surveyor (Maser Consulting PA), Engineer (Amec Environment & Infrastructure), and the Owner (Honeywell).

2.0 SCOPE/APPLICABILITY

- This procedure applies to the SA-6 South excavations of chromium-impacted soils in the Development Area.
- The 100% Design defines the bottom and sidewall excavation limits that are to be achieved by the Excavation Contractor, as depicted on Drawing C-111.
- The bottom design limits vary across the excavation area and are further defined by the 9 intervals that are depicted on Drawings C-112 through C-120.
    - The bottom excavation is complete when:
        - The Excavation Contractor has removed all material to the elevation shown on Drawing C-111; or
        - In the event that Stratum D (meadow mat) is encountered before achieving the bottom of excavation limits as shown on Drawing C-111, the bottom of excavation limit will follow the surface of the Stratum D; or
        - As directed by the Engineer, the excavation may be extended beyond the limits as shown on Drawing C-111, and/or additional post excavation sampling may be conducted if any of the conditions listed in Section 10.3 of the Design Report are observed.
- The westerly, southerly and easterly sidewall excavation limits are defined by the 20 PPM line or the property boundary. The northerly excavation limit is defined by the location of the southerly limit of the hydraulic barrier wall.
    - The sidewall excavation is complete when:
        - The design bottom excavation elevation is completed to the Limit of Excavation (20 PPM line) shown on Drawing C-111; or

  - As directed by the Engineer, the excavation may be extended beyond the limits as shown on Drawing C-111, and/or additional post excavation sampling may be conducted if any of the conditions listed in Section 10.3 of the Design Report are observed.

- The 100% Design also defines the specific Pre-design confirmatory sidewall and bottom sample locations (x, y, z coordinates). The bottom of excavation elevation (z) must be surveyed at the (x, y) locations and the coordinates documented to demonstrate removal of the confirmatory location.

3.0 ORGANIZATION AND RESPONSIBLE INDIVIDUALS

- *Honeywell Design and Construction Manager* – is responsible to confirm compliance with the general requirements of this SOP.

- *Amec Engineer or Designee (Engineer)* – is responsible for reviewing survey information, performing inspections of the excavation and preparing final submittal documentation which certifies that the requirements of 100% Design are being met.

- *Excavation Contractor [Entact]* – is responsible for performing the excavation work in accordance with the specifications and limits defined in the 100% Design.

- *Licensed Land Surveyor (Surveyor) [Maser]* – is responsible for performing post-excavation surveys and providing documentation in accordance with the 100% Design under the seal of a New Jersey Licensed surveyor.

4.0 PROCEDURES

EXCAVATION

- In excavation areas where Stratum D (aka Meadow Mat) is encountered, the bottom of the excavation will follow the surface of the Stratum D.

- In areas where excavation is terminated above the Stratum D the excavation will be carried out to the elevations defined in the 100% Design.

- In either case, the final excavation cut to the bottom elevations specified in the 100% Design is performed with a smooth-edged bucket.

- The excavators are equipped with real-time global positioning system (GPS) machine control. The operator uses the machine control display to verify the 100% Design elevation is attained.

BOTTOM EXCAVATION LIMITS MET AT STRATUM D

- In areas where Stratum D is encountered the bottom of excavation will follow the surface of the Stratum D. The 100% Design stipulates that a final “clean up cut” of no more than 6 inches in Stratum D will be performed.

- Upon notification by the Excavation Contractor that the excavation is complete, the excavation is inspected by the Engineer.
- The Engineer visually inspects the excavation to verify the presence of Stratum D. As directed by the Engineer the Excavation Contractor may be required to perform a final surface clean-up cut of up to 6 inches.
- The Engineer will indicate when the area is ready for the documentation survey by the Surveyor. The Surveyor documents elevations at the approximate corners and center of each excavation cell (see attached figure entitled "SA-6 Excavation Cells" prepared by Entact) and other points that the Surveyor deems necessary to prepare the excavation topographic survey.

BOTTOM EXCAVATION LIMITS MET AT DESIGN ELEVATIONS

- Following completion of the excavation using the Machine Control the Excavation Contractor's engineer conducts spot checks of the excavation surface elevations using a GPS rover.
- If these GPS rover spot checks identify areas where the design elevation has not been reached additional excavation is conducted.
- Upon notification by the Excavation Contractor that excavation is complete; the excavation is inspected by the Engineer.
- The Engineer visually inspects the bottom of the excavation for consistent grade and to verify that none of the field conditions described in Section 10.3 of the SA-6 South Chromium Remedy 100% Design Report are present.
- If necessary, the Engineer may direct the Excavation Contractor to perform a final surface clean-up cut.
- The Engineer then indicates the area is ready for the documentation survey by the Surveyor. The Surveyor documents elevations at the approximate corners and center of each excavation cell and other points that they deem necessary to prepare the excavation topographic survey.
- The Excavation Contractor will review the survey results with the Surveyor at the time of survey any identify locations which are found to not conform to the 100% Design. If an area is identified as being above the design elevation, the Excavation Contractor will excavate additional material to attain the design elevation and the Surveyor will resurvey the area to verify conformance.
- The Excavation Contractor and Amec will review the survey results and visually inspect the excavation surface to verify that it is at or below the design bottom elevation.

SIDEWALL EXCAVATION LIMITS MET

- All Pre-design confirmatory sidewall samples are located on the horizontal limit of excavation line. Excavation to the horizontal Limit of Excavation at the design elevation will demonstrate compliance with the requirement to complete excavations to the coordinates of each of these confirmatory sample locations.

- The Excavation Contractor will use Machine Control followed by spot checks with the GPS Rover to verify that the design elevation is extended to the horizontal Limit of Excavation (20 PPM line).
- The Surveyor will verify the elevation at the corner points of the cells and the 20 PPM line.
- The Excavation Contractor will notify the Engineer that the excavation limit has been reached.
- The Engineer will visually inspect the limit of the excavation to verify the horizontal Limit of Excavation has been achieved and that none of the field conditions described in Section 10.3 of the SA-6 South Chromium Remedy 100% Design Report are present.

EXCAVATION STAKING

- Following excavation and prior to inspection by Amec, the Excavation Contractor will place grade stakes at the corners and center of the cells.
- The grade stakes will be marked with a permanent marker and fluorescent tape to show the Design Grade of the area.
- The Excavation Contractor and the Engineer will inspect the grade stakes to verify that the Design Grade has been reached at the stake, and use a visual line of sight between stakes to verify that excavation surface is at or below the design grade.

5.0 REPORTING

5.1 The following procedures will be followed to develop the Weekly Excavation Submittals:

- The Surveyor (Maser) submits a data tabulation to the Excavation Contractor indicating the coordinates of all survey points that will be used to prepare the topographic survey of the excavation. The tabulation will be signed by the licensed surveyor and include the following certification.

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

- The Excavation Contractor will provide a submittal package to Amec including the Maser Tables, and Bottom of Excavation and Excavation Progress Figures. The data tabulations are reviewed by the Excavation Contractor and the Engineer for conformance with the 100% Design.
- The Excavation Contractor will certify that Maser Consulting P.A. has surveyed the bottom of excavations and that the final excavation grade(s) are at or below the design excavation grades throughout the corresponding excavation except for those areas where Stratum D is encountered.
- Amec will prepare a cover memo summarizing pertinent details related to the excavation and certification that “All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered”.

- The tabulations are then transmitted to Honeywell for submittal to the Special Master and Plaintiffs as part of the Weekly Excavation Submittals.

5.2 The Weekly Excavation Submittals submitted by Honeywell to the Special Master shall include the following items (samples of each from a recent submittal are attached hereto)

1. Maser's tabulated confirmatory survey points;
2. Entact's Weekly Excavation Progress Map;
3. Entact's Excavation Bottom Elevations; and
4. Amec transmittal e-mail including certification.

Typical Excavation Submittal:

Excavation Confirmatory Points (Maser Consulting P.A.)
Excavation Progress Map (Entact)
Excavation Bottom Elevations (Entact)
*Figure 1: Stratum D Cells 44 Thru 52
Amec transmittal including certification

***** *The information provided in Figure 1 (Stratum D Cells 44 Thru 52) will be included in the Excavation Bottom Elevations (Entact) figure in future submittals.*

ENTACT
302 Unity Plaza
Latrobe, PA 15650

Letter of Transmittal
Honeywell SA6 North and South
Jersey City, New Jersey

To:	Eric Christodoulatis – AMEC
From:	Caroline Panico – ENTACT
CC:	Kurt Gimbel – ENTACT
	Keith Goisse – ENTACT
	Jim Hosgood – ENTACT
Project Number/Title:	E8140C/Honeywell SA6 North and South
Transmittal Title:	Survey Data and Verification
	Cells 49 - 52
Submission Date:	April 01, 2014

Documents Attached:

1) Excavation Confirmatory Points (Maser Consulting P.A.)
2) Excavation Bottom Elevations
3) Excavation Progress Map

Survey Data Verification:

Entact verifies that Maser Consulting P.A. has surveyed the bottom of excavations and that the final excavation grade(s) are at or below the design excavation grades throughout the corresponding excavation cells.

Signature: Caroline Panico **Date:** 4-01-14

Caroline Panico
ENTACT Quality Control

MASER CONSULTING P.A.

Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

156 Stagecoach Road
Marmora, NJ 08223
T: 609.390.1927
F: 609.390.0040
www.maserconsulting.com

SA-6 South Excavation: Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684123.8	603224.1	-0.8	124-SB-043R	1	10/24/2013	-1.7*	Stratum D Reached
684134.6	603208.6	-0.8	124-SB-130	2	10/24/2013	-1.2	Stratum D Reached
684150.2	603204.3	-1.4	124-SB-037	3	10/31/2013	-0.8	Stratum D Reached
684138.4	603182.8	-0.8	124-SB-043R	4	10/31/2013	-0.5*	Stratum D Reached
684146.2	603165.7	-0.8	124-SB-043R	5	10/31/2013	-0.6*	Stratum D Reached
684145.4	603158.6	-0.8	124-SB-038	6	11/5/2013	-0.7	Stratum D Reached
684186.5	603160.3	-2.1	124-SB-036	7	11/5/2013	-0.8	Stratum D Reached
684142.9	603119.3	0.7	124-SB-079	7	11/7/2013	-0.7	Stratum D Reached
684156.2	603128.2	-1.8	124-SB-045	8	11/7/2013	-1.3	Stratum D Reached
684180.8	603117.2	-1.3	124-SB-033	9	11/7/2013	-1.3	Stratum D Reached
684208.6	603119.4	-4.5	124-SB-C04	10	11/14/2013	-1.4	Stratum D Reached
684204.6	603115.9	-1.6	124-SB-138	10	11/14/2013	-1.3	Stratum D Reached
684221.9	603112.3	-2.9	124-SB-067	11	11/14/2013	-1.3	Stratum D Reached
684191.5	603080.1	-3.1	124-SB-044	12	11/14/2013	-2.0	Stratum D Reached
684181.7	603072.3	-1.0	124-SB-078	12	11/14/2013	-0.2	Stratum D Reached
684217.2	603081.8	-2.0	124-SB-035	13	11/21/2013	-1.3	Stratum D Reached
684241.3	603065.1	-2.2	124-SB-122	14	11/21/2013	-1.3	Stratum D Reached
684196.6	603033.7	-2.2	124-SB-077	14	11/25/2013	-0.7	Stratum D Reached
684184.0	603001.0	-3.5	124-SB-013	15	12/5/2013	-0.8	Stratum D Reached
684258.4	603074.7	-2.6	124-SB-032	15	12/5/2013	-1.9	Stratum D Reached
684221.8	603013.0	-0.8	124-SB-043R	16	12/5/2013	-0.7*	Stratum D Reached
684262.7	603034.6	-1.7	124-SB-139	17	12/10/2013	-1.3	Stratum D Reached
684220.6	603006.7	0.8	124-SB-046	17	12/10/2013	-0.8	Stratum D Reached
684181.0	602955.9	1.7	124-SB-049	18	12/10/2013	-1.1	Stratum D Reached
684215.6	602967.4	0.4	124-SB-047	18	12/10/2013	-0.5	Stratum D Reached
684211.8	602961.2	-1.5	124-SB-125	19	12/10/2013	-0.6	Stratum D Reached
684304.7	603027.7	-2.5	124-SB-031	19	12/12/2013	-1.5	Stratum D Reached
684187.4	602932.2	2.4	124-SB-073R	19	12/12/2013	2.0*	Target Elevation Reached
684283.2	602988.7	-2.8	124-SB-068	20	12/12/2013	-1.7	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.1)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684257.2	602964.2	0.7	124-SB-071	20	12/12/2013	-1.2	Stratum D Reached
684256.4	602965.5	-0.8	124-SB-043	20	12/12/2013	-0.7	Stratum D Reached
684229.0	602947.0	-1.6	124-SB-012	20	12/12/2013	-1.5	Stratum D Reached
684217.9	602935.3	-1.8	124-SB-135	20	12/12/2013	-1.6	Stratum D Reached
684198.3	602920.8	2.4	124-SB-073R	20	12/12/2013	2.0*	Target Elevation Reached
684291.1	602978.2	-2.3	124-SB-134	21	12/19/2013	-2.1	Stratum D Reached
684200.8	602904.5	2.4	124-SB-073R	21	12/19/2013	1.9*	Target Elevation Reached
684204.7	602890.6	2.4	124-SB-073	22	1/9/2014	2.0	Target Elevation Reached
684218.2	602907.9	1.8	124-SB-054	22	1/9/2014	-0.1	Target Elevation Reached
684272.8	602944.8	-0.8	124-SB-043R	22	12/19/2013	-0.9*	Stratum D Reached
684258.9	602918.2	0.1	124-SB-053	23	12/19/2013	-0.8	Stratum D Reached
684338.0	602980.2	-2.9	124-SB-040	23	12/19/2013	-2.1	Stratum D Reached
684217.2	602879.5	2.4	124-SB-073R	23	12/19/2013	1.9*	Target Elevation Reached
684293.5	602922.8	-0.8	124-SB-043R	24	1/2/2014	-0.9*	Stratum D Reached
684227.9	602869.9	2.4	124-SB-073R	24	1/2/2014	2.1*	Target Elevation Reached
684338.6	602935.1	-3.4	124-SB-030	25	1/2/2014	-1.7	Stratum D Reached
684300.2	602911.6	0.3	124-SB-042	25	1/2/2014	-1.1	Stratum D Reached
684247.0	602862.1	1.6	124-SB-051R	25	1/2/2014	0.4*	Target Elevation Reached
684264.7	602869.3	0.0	124-SB-129	26	1/2/2014	-1.3	Stratum D Reached
684273.8	602864.2	1.6	124-SB-051R	26	1/16/2014	0.3*	Target Elevation Reached
684294.0	602874.0	1.4	124-SB-011	27	1/10/2014	-1.2	Stratum D Reached
684373.8	602937.7	-2.3	124-SB-133	27	1/10/2014	-2.4	Stratum D Reached
684285.9	602856.5	1.6	124-SB-051R	27	1/10/2014	0.4*	Target Elevation Reached
684296.4	602850.5	1.6	124-SB-051	28	1/16/2014	0.2	Target Elevation Reached
684308.9	602854.3	1.9	124-SB-127	28	1/16/2014	-1.7	Stratum D Reached
684398.5	602909.7	-2.7	124-SB-039	29	1/16/2014	-2.7	Stratum D Reached
684343.7	602873.5	-0.4	124-SB-069	29	1/16/2014	-1.7	Stratum D Reached
684305.4	602833.3	3.5	124-SB-021R	29	1/16/2014	2.1*	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.2)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684392.6	602878.7	-2.8	124-SB-123	30	1/23/2014	-2.4	Stratum D Reached
684311.9	602821.5	3.5	124-SB-021R	30	1/23/2014	1.9*	Target Elevation Reached
684381.0	602861.0	-2.3	124-SB-110	31	1/23/2014	-2.3	Stratum D Reached
684362.9	602837.4	3.2	124-SB-124	31	1/23/2014	-2.1	Stratum D Reached
684340.0	602818.0	3.2	124-SB-109	31	1/23/2014	-1.6	Stratum D Reached
684318.6	602806.8	3.5	124-SB-021R	31	1/23/2014	1.9*	Target Elevation Reached
684416.9	602861.1	-2.8	124-SB-029	32	1/30/2014	-2.5	Stratum D Reached
684335.2	602800.6	3.5	124-SB-021R	32	1/30/2014	2.0*	Target Elevation Reached
684411.9	602839.0	-2.2	124-SB-092	33	1/30/2014	-2.5	Stratum D Reached
684348.7	602791.2	3.5	124-SB-021R	33	1/30/2014	2.0*	Target Elevation Reached
684372.0	602797.0	2.6	124-PT-14	34	2/4/2014	-1.9	Stratum D Reached
684355.8	602781.0	3.5	124-SB-021R	34	2/4/2014	2.0	Target Elevation Reached
684458.4	602838.3	-2.3	124-SB-027	35	2/4/2014	-2.7	Stratum D Reached
684367.5	602768.5	3.5	124-SB-021R	35	2/4/2014	2.0	Target Elevation Reached
684440.8	602806.0	-2.8	124-SB-091	36	2/11/2014	-2.7	Stratum D Reached
684371.2	602753.4	3.5	124-SB-021R	36	2/11/2014	2.1*	Target Elevation Reached
684394.0	602777.3	4.7	124-SB-117A	36	2/11/2014	-1.6	Stratum D Reached
684473.9	602819.4	-2.8	124-SB-026	37	2/11/2014	-2.9	Stratum D Reached
684430.7	602784.0	-1.3	124-SB-023	37	2/11/2014	-3.6	Stratum D Reached
684412.9	602766.1	2.0	124-SB-121A	37	2/11/2014	-2.5	Stratum D Reached
684400.0	602762.0	-0.1	124-PT-04	37	2/11/2014	-2.2	Stratum D Reached
684380.7	602742.6	3.5	124-SB-021R	37	2/11/2014	2.1*	Target Elevation Reached
684463.2	602783.7	-2.3	124-SB-136	38	2/20/2014	-2.9	Stratum D Reached
684397.4	602736.2	3.5	124-SB-021R	38	2/20/2014	2.1	Target Elevation Reached
684448.4	602763.0	4.7	124-SB-022	39	2/20/2014	-2.7	Stratum D Reached
684412.3	602733.9	3.5	124-SB-021	39	2/20/2014	2.0	Target Elevation Reached
684505.3	602786.0	-2.8	124-SB-024	40	2/27/2014	-3.4	Stratum D Reached
684482.9	602770.8	-3.3	124-SB-025	40	2/27/2014	-3.0	Stratum D Reached
684430.0	602730.0	1.7	124-PT-03	40	2/27/2014	0.0	Target Elevation Reached
684468.5	602745.2	1.8	124-SB-066	40	2/27/2014	-2.2	Stratum D Reached
684491.3	602754.6	-2.3	124-SB-136R	41	2/27/2014	-2.9	Stratum D Reached
684432.9	602706.0	0.4	125-SB-029R	41	2/27/2014	0.1	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.3)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684524.5	602765.0	-3.5	125-SB-017	42	3/5/2014	-3.1	Stratum D Reached
684439.6	602692.4	0.4	125-SB-029R	42	3/5/2014	0.1	Target Elevation Reached
684513.0	602736.0	-4.3	125-PT-22	43	3/5/2014	-3.5	Stratum D Reached
684496.0	602718.9	-1.7	125-SB-086	43	3/5/2014	-2.6	Stratum D Reached
684473.0	602698.0	0.3	125-PT-21	43	3/17/2014	-3.0	Stratum D Reached
684446.6	602677.9	0.5	125-SB-028	43	3/5/2014	0.1	Target Elevation Reached
684543.1	602743.1	-3.9	125-SB-018	44	3/11/2014	-3.6	Stratum D Reached
684431.0	602654.0	0.7	125-PT-20	44	3/11/2014	0.2	Target Elevation Reached
684467.4	602652.6	1.0	125-SB-027	45	3/11/2014	0.2	Target Elevation Reached
684495.1	602674.9	0.4	125-SB-025	45	3/11/2014	0.3	Target Elevation Reached
684512.8	602689.3	0.3	125-SB-024	45	3/11/2014	-3.6	Stratum D Reached
684561.9	602720.2	-3.3	125-SB-019	46	3/17/2014	-3.0	Stratum D Reached
684543.0	602699.0	-4.7	125-PT-17	46	3/17/2014	-3.2	Stratum D Reached
684539.5	602702.1	-3.7	125-SB-022	46	3/17/2014	-3.3	Stratum D Reached
684503.0	602661.0	1.0	125-PT-16	46	3/17/2014	-2.9	Stratum D Reached
684472.4	602641.2	0.4	125-SB-029R	46	3/17/2014	0.2	Target Elevation Reached
684544.9	602683.5	-2.3	124-SB-136R	47	3/17/2014	-3.2	Stratum D Reached
684481.2	602625.7	1.7	125-SB-089	47	3/17/2014	0.1	Target Elevation Reached
684488.7	602626.5	1.3	125-SB-026	47	3/17/2014	0.2	Target Elevation Reached
684581.0	602697.1	-3.4	125-SB-020	48	3/20/2014	-2.9	Stratum D Reached
684558.6	602678.9	-4.0	125-SB-021	48	3/20/2014	-3.4	Stratum D Reached
684492.6	602619.5	0.4	125-SB-029R	48	3/20/2014	0.4	Target Elevation Reached
684545.6	602650.2	-3.3	125-SB-038	49	3/20/2014	-3.3	Stratum D Reached
684597.3	602676.1	-3.5	125-SB-037	49	3/25/2014	-2.6	Stratum D Reached
684574.9	602657.9	-3.4	125-SB-039	49	3/25/2014	-3.3	Stratum D Reached
684535.1	602625.9	0.6	125-SB-032	49	3/25/2014	-3.3	Stratum D Reached
684516.6	602611.2	1.1	125-SB-031	49	3/25/2014	0.1	Target Elevation Reached
684511.6	602592.1	-1.0	125-SB-090	50	3/25/2014	-1.3	Target Elevation Reached
684526.0	602608.3	0.4	125-SB-029R	50	3/25/2014	0.3	Target Elevation Reached
684574.8	602647.4	-2.3	124-SB-136R	50	3/25/2014	-3.6	Stratum D Reached
684514.6	602580.4	-1.0	125-SB-090R	51	3/28/2014	-1.4	Target Elevation Reached
684535.3	602597.8	0.4	125-SB-029R	51	3/28/2014	0.3	Target Elevation Reached
684584.1	602636.9	-2.3	124-SB-136R	51	3/28/2014	-3.0	Stratum D Reached
684619.0	602648.6	-1.5	125-SB-035	52	3/28/2014	-2.5	Stratum D Reached
684596.6	602630.5	-3.6	125-SB-034	52	3/28/2014	-3.0	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.4)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684574.5	602612.8	0.7	125-SB-033	52	3/28/2014	-3.4	Stratum D Reached
684556.8	602598.4	0.8	125-SB-030	52	3/28/2014	0.3	Target Elevation Reached
684538.3	602583.7	0.4	125-SB-029	52	3/28/2014	0.4	Target Elevation Reached
684523.8	602562.3	-0.9	125-SB-078	52	3/28/2014	-1.4	Target Elevation Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area. Coordinates come from Center Points within that specific cell.

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

SA-6 South Excavation: Center Points (Table 2.0)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684123.8	603224.1	-1.2	C1	1	10/24/2013	-1.7	Stratum D Reached
684124.9	603209.0	-1.2	C2	2	10/31/2013	-0.9	Stratum D Reached
684132.1	603196.4	-1.2	C3	3	10/31/2013	-1.1	Stratum D Reached
684138.4	603182.8	-1.2	C4	4	10/31/2013	-0.5	Stratum D Reached
684146.2	603165.7	-1.2	C5	5	10/31/2013	-0.6	Stratum D Reached
684153.8	603153.9	-1.2	C6	6	11/5/2013	-0.6	Stratum D Reached
684163.6	603140.8	-1.2	C7	7	11/7/2013	-1.0	Stratum D Reached
684171.5	603131.4	-1.2	C8	8	11/7/2013	-1.1	Stratum D Reached
684179.9	603119.5	-1.2	C9	9	11/7/2013	-1.2	Stratum D Reached
684187.6	603106.3	-1.2	C10	10	11/14/2013	-1.4	Stratum D Reached
684195.7	603093.1	-1.2	C11	11	11/14/2013	-1.5	Stratum D Reached
684200.6	603078.4	-1.2	C12	12	11/14/2013	-1.8	Stratum D Reached
684206.7	603063.8	-1.2	C13	13	11/21/2013	-1.6	Stratum D Reached
684214.8	603050.6	-1.2	C14	14	11/21/2013	-1.7	Stratum D Reached
684222.7	603033.3	-1.2	C15	15	12/5/2013	-0.8	Stratum D Reached
684221.8	603013.0	-1.2	C16	16	12/5/2013	-0.7	Stratum D Reached
684234.5	603010.3	-1.2	C17	17	12/10/2013	-0.5	Stratum D Reached
684247.3	602999.0	-1.2	C18	18	12/10/2013	-0.5	Stratum D Reached
684238.6	602972.8	-1.2	C19	19	12/12/2013	-1.0	Stratum D Reached
684187.4	602932.2	2.1	C19-1	19	12/12/2013	2.0	Target Elevation Reached
684248.1	602961.0	-1.2	C20	20	12/12/2013	-1.7	Stratum D Reached
684198.3	602920.8	2.1	C20-1	20	12/12/2013	2.0	Target Elevation Reached
684267.7	602959.2	-1.2	C-21	21	12/19/2013	-0.9	Stratum D Reached
684200.8	602904.5	2.1	C-21-1	21	12/19/2013	1.9	Target Elevation Reached
684272.8	602944.8	-1.2	C-22	22	12/19/2013	-0.9	Stratum D Reached
684207.2	602890.0	2.1	C-22-1	22	1/9/2014	2.1	Target Elevation Reached
684281.0	602931.9	-1.2	C-23	23	12/19/2013	-0.9	Stratum D Reached
684217.2	602879.5	2.1	C-23-1	23	12/19/2013	1.9	Target Elevation Reached
684293.5	602922.8	-1.2	C-24	24	1/2/2014	-0.9	Stratum D Reached
684227.9	602869.9	2.1	C-24-1	24	1/2/2014	2.1	Target Elevation Reached
684302.0	602910.0	-1.2	C-25	25	1/2/2014	-1.1	Stratum D Reached
684247.0	602862.1	0.4	C-25-1	25	1/2/2014	0.4	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.1)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684325.2	602907.2	-1.2	C-26	26	1/10/2014	-1.5	Stratum D Reached
684273.8	602864.2	0.4	C-26-1	26	1/10/2014	0.3	Target Elevation Reached
684335.7	602896.8	-1.2	C-27	27	1/10/2014	-1.5	Stratum D Reached
684285.9	602856.5	0.4	C-27-1	27	1/10/2014	0.4	Target Elevation Reached
684347.4	602890.7	-1.2	C-28	28	1/16/2014	-1.8	Stratum D Reached
684295.1	602846.5	0.4	C-28-1	28	1/16/2014	0.3	Target Elevation Reached
684357.8	602876.2	-1.2	C-29	29	1/16/2014	-2.1	Stratum D Reached
684305.4	602833.3	2.1	C-29-1	29	1/16/2014	2.1	Target Elevation Reached
684373.5	602871.7	-2.5	C-30	30	1/23/2014	-2.1	Stratum D Reached
684311.9	602821.5	2.1	C-30-1	30	1/23/2014	1.9	Target Elevation Reached
684384.9	602861.2	-2.5	C-31	31	1/23/2014	-2.3	Stratum D Reached
684318.6	602806.8	2.1	C-31-1	31	1/23/2014	1.9	Target Elevation Reached
684383.8	602841.5	-2.5	C-32	32	1/30/2014	-1.8	Stratum D Reached
684335.2	602800.6	2.1	C-32-1	32	1/30/2014	2.0	Target Elevation Reached
684393.5	602830.6	-2.5	C-33	33	1/30/2014	-1.9	Stratum D Reached
684348.7	602791.2	2.1	C-33-1	33	1/30/2014	2.0	Target Elevation Reached
684412.7	602824.5	-2.5	C-34	34	2/4/2014	-2.1	Stratum D Reached
684355.8	602781.0	2.1	C-34-1	34	2/4/2014	2.0	Target Elevation Reached
684422.4	602815.2	-2.5	C-35	35	2/4/2014	-2.1	Stratum D Reached
684367.5	602768.5	2.1	C-35-1	35	2/4/2014	2.0	Target Elevation Reached
684432.1	602801.8	-2.5	C-36	36	2/11/2014	-2.4	Stratum D Reached
684371.2	602753.4	2.1	C-36-1	36	2/11/2014	2.1	Target Elevation Reached
684440.7	602791.6	-2.5	C-37	37	2/11/2014	-2.5	Stratum D Reached
684380.7	602742.6	2.1	C-37-1	37	2/11/2014	2.1	Target Elevation Reached
684460.4	602787.7	-2.5	C-38	38	2/20/2014	-2.8	Stratum D Reached
684397.4	602736.2	2.1	C-38-1	38	2/20/2014	2.1	Target Elevation Reached
684471.9	602777.2	-2.5	C-39	39	2/20/2014	-2.9	Stratum D Reached
684416.4	602732.1	2.1	C-39-1	39	2/20/2014	2.1	Target Elevation Reached
684481.8	602765.6	-2.5	C-40	40	2/27/2014	-3.1	Stratum D Reached
684427.0	602721.5	0.4	C-40-1	40	2/27/2014	0.2	Target Elevation Reached
684491.3	602754.6	-2.5	C-41	41	2/27/2014	-2.9	Stratum D Reached
684432.9	602706.0	0.4	C-41-1	41	2/27/2014	0.1	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.2)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684496.7	602740.4	-2.5	C-42	42	3/5/2014	-3.3	Stratum D Reached
684439.6	602692.4	0.4	C-42-1	42	3/5/2014	0.1	Target Elevation Reached
684507.5	602729.5	-2.5	C-43	43	3/5/2014	-3.3	Stratum D Reached
684447.1	602679.0	0.4	C-43-1	43	3/5/2014	0.1	Target Elevation Reached
684524.2	602722.2	-2.5	C-44	44	3/11/2014	-3.5	Stratum D Reached
684454.3	602665.7	0.4	C-44-1	44	3/11/2014	0.2	Target Elevation Reached
684536.0	602714.2	-2.5	C-45	45	3/11/2014	-3.2	Stratum D Reached
684464.6	602655.3	0.4	C-45-1	45	3/11/2014	0.2	Target Elevation Reached
684535.1	602693.1	-2.5	C-46	46	3/17/2014	-3.2	Stratum D Reached
684472.4	602641.2	0.4	C-46-1	46	3/17/2014	0.2	Target Elevation Reached
684544.9	602683.5	-2.5	C-47	47	3/17/2014	-3.2	Stratum D Reached
684483.8	602632.5	0.4	C-47-1	47	3/17/2014	0.2	Target Elevation Reached
684551.5	602667.8	-2.5	C-48	48	3/20/2014	-3.0	Stratum D Reached
684492.6	602619.5	0.4	C-48-1	48	3/20/2014	0.4	Target Elevation Reached
684564.6	602658.9	-2.5	C-49	49	3/25/2014	-3.0	Stratum D Reached
684501.1	602607.9	0.4	C-49-1	49	3/25/2014	0.3	Target Elevation Reached
684574.8	602647.4	-2.5	C-50	50	3/25/2014	-3.6	Stratum D Reached
684526.0	602608.3	0.4	C-50-1	50	3/25/2014	0.3	Target Elevation Reached
684507.7	602591.7	-1.2	C-50-2	50	3/25/2014	-1.3	Target Elevation Reached
684584.1	602636.9	-2.5	C-51	51	3/28/2014	-3.0	Stratum D Reached
684535.3	602597.8	0.4	C-51-1	51	3/28/2014	0.3	Target Elevation Reached
684514.6	602580.4	-1.2	C-51-2	51	3/28/2014	-1.4	Target Elevation Reached
684596.7	602626.3	-2.5	C-52	52	3/28/2014	-2.9	Stratum D Reached
684547.0	602587.9	0.4	C-52-1	52	3/28/2014	0.2	Target Elevation Reached
684524.8	602569.7	-1.2	C-52-2	52	3/28/2014	-1.3	Target Elevation Reached

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)

Sidewall Target Coordinates					As-built Elevations		
Northing	Easting	Elevation	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684162.0	603071.0	4.9	124-SB-017	11	11/14/2013	-0.2	Stratum D Reached
684174.4	602980.6	1.2	124-SB-048	16	12/5/2013	-0.5	Stratum D Reached
684172.0	602944.6	4.3	124-SB-126	18	12/10/2013	-0.9	Stratum D Reached
684178.0	602906.0	4.5	124-SB-014	20	12/12/2013	2.0	Stratum D Reached
684192.9	602874.5	3.8	124-SB-090	22	12/19/2013	2.1	Target Elevation Reached
684234.9	602864.2	0.9	124-SB-019	25	1/2/2014	0.5	Target Elevation Reached
684289.2	602837.4	2.9	124-SB-050	28	1/16/2014	0.3	Target Elevation Reached
684301.0	602795.0	2.6	124-SB-108	31	1/23/2014	1.9	Target Elevation Reached
684328.2	602790.2	3.3	124-SB-063	32	1/30/2014	1.8	Target Elevation Reached
684338.1	602786.6	4.7	124-SB-056	33	1/30/2014	1.7	Target Elevation Reached
684348.0	602746.0	3.4	124-PT-02	35	2/4/2014	2.0	Target Elevation Reached
684386.0	602707.0	3.3	124-PT-01	39	2/20/2014	2.0	Target Elevation Reached
684411.1	602714.2	3.9	124-SB-065	40	2/27/2014	0.2	Target Elevation Reached
684408.4	602664.2	2.2	125-SB-088	42	3/5/2014	0.1	Target Elevation Reached
684419.7	602644.6	1.8	125-SB-067	44	3/11/2014	0.2	Target Elevation Reached
684457.0	602620.0	1.1	125-PT-15	47	3/17/2014	0.1	Target Elevation Reached
684479.5	602597.5	3.7	125-SB-081	49	3/20/2014	0.1	Target Elevation Reached
684495.3	602579.6	0.8	125-SB-091	50	3/25/2014	-1.4	Target Elevation Reached
684499.2	602575.0	2.3	125-SB-080	51	3/28/2014	-1.3	Target Elevation Reached
684513.9	602557.6	0.6	125-SB-092	52	3/28/2014	-1.3	Target Elevation Reached

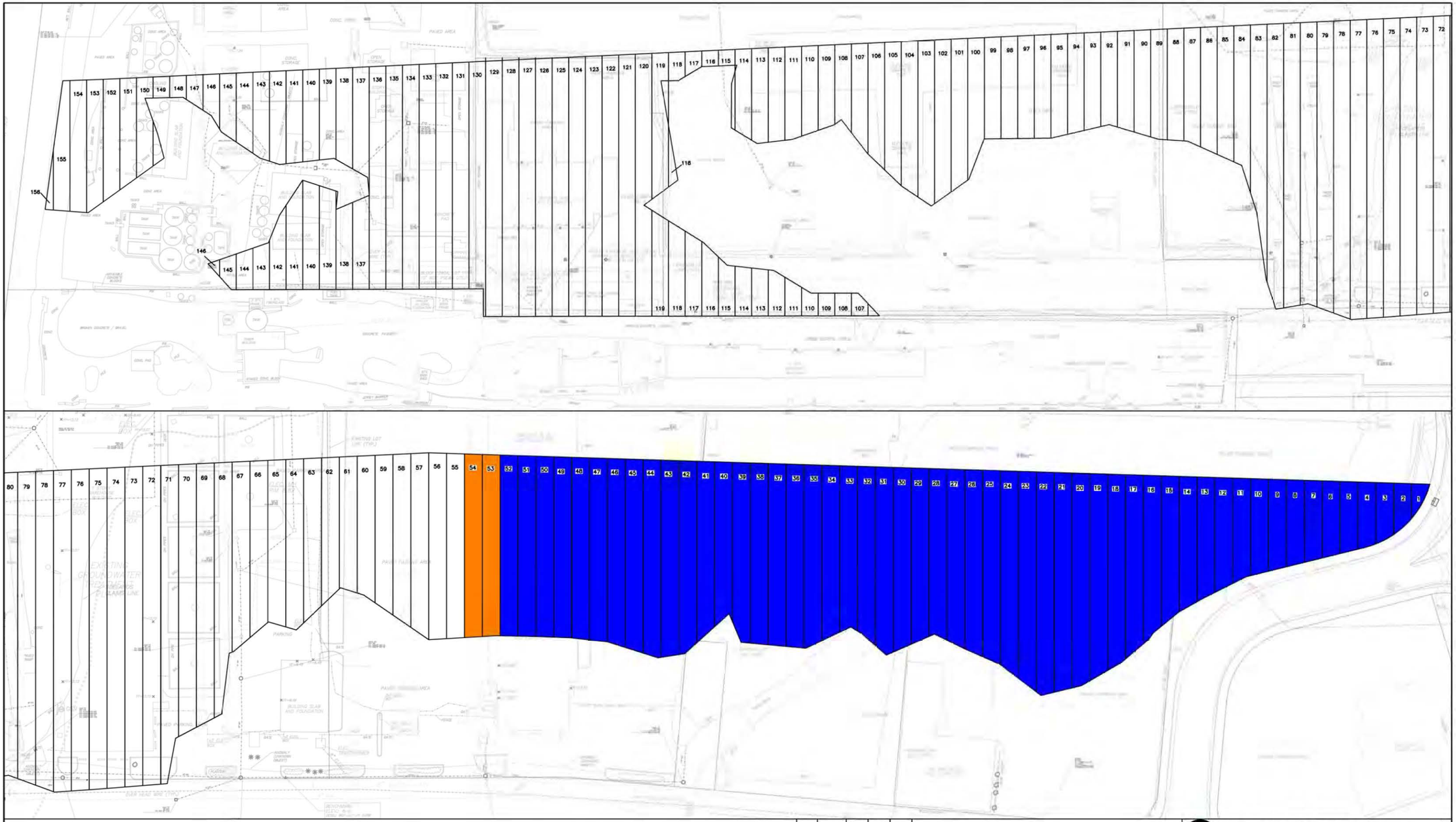
Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

R. Thomas Hugg 4/2/14

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR

LICENSE NO. 36737



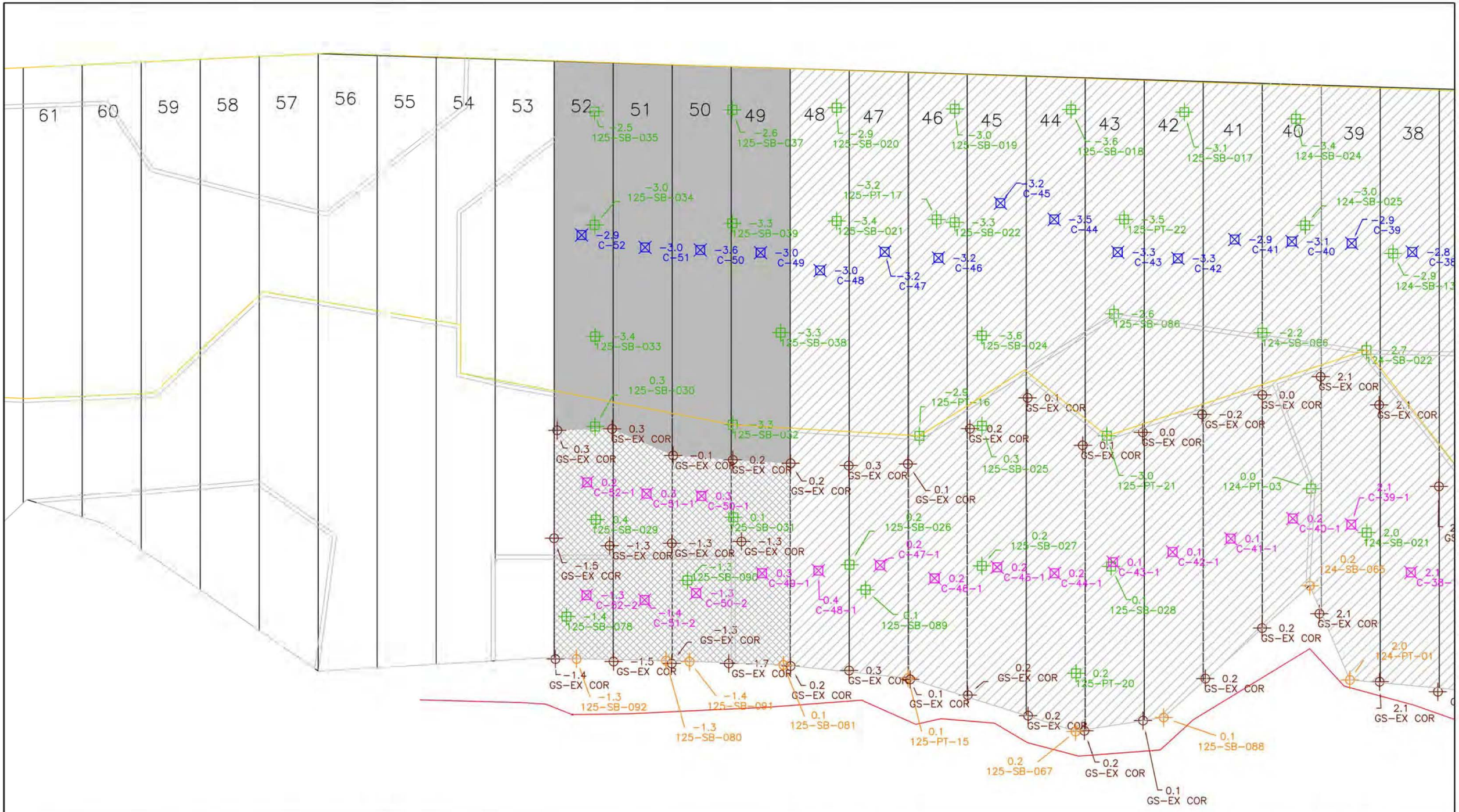
LEGEND

- TO BE EXCAVATED
- EXCAVATION UNDERWAY
- EXCAVATION COMPLETE
- BACKFILL COMPLETE

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION PROGRESS MAP
03-28-14

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- BOTTOM CENTER POINT ELEVATION STRATUM D
- BOTTOM CENTER POINT ELEVATION <20 PPM
- BOTTOM CORNER POINT ELEVATION <20 PPM
- DESIGNED STRATUM O EXCAVATION LIMIT
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- CURRENT EXCAVATION TO <20 PPM
- TOP OF EXCAVATION SLOPE
- LIMIT OF EXCAVATION AREA

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME

EXCAVATION BOTTOM ELEVATIONS
PERIOD 03-21-14 TO 03-27-14

PROJECT NAME & LOCATION

HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

CAP AREA (TYP)

HYDRAULIC BARRIER (TYP)

−2.2 −2.5 −2.6 −2.5 −2.6 −2.8 −3.2 −3.1 −3.3 −3.3

59 58 57 56 55 54 53 52 51 50 49 48 47 46 45 44 43 42 41 40 39 38

BOT OF EXC
AREA 6 = (2.50)

BOT OF EXC
AREA 7 = (1.20)

−3.7 −3.8 −3.3 −2.8

−2.7 −2.8 −2.7 −3.3 −3.3 −2.8

BOT OF EXC
AREA 8 = 0.40

LIMIT OF STRATUM D EXPOSURE PER
THIRD PARTY SURVEY (TYP)

BOT OF EXC
AREA 9 = (1.20)

LIMIT OF ANTICIPATED STRATUM D
EXPOSURE PER DESIGN (TYP)

−3.8 BOE ELEVATION AT EDGE OF STRATUM D
PER THIRD PARTY SURVEY (TYP)

0 5 10 20
SCALE IN FEET

Prepared/Date: TDD 4/18/14
Checked/Date: SGS 4/18/14

Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec

SA-6 SOUTH
STRATUM D CELLS 44 THRU 52
FIGURE 1

This submittal notification of SA-6 South excavation completion covers the individual period from 03/21/14 to 03/27/14.

- *Approximately 60% of the bottom of Cells 49, 50, 51 and 52 were terminated in Stratum D. The Southern limit of cells 49, 50, 51 and 52 were terminated in Stratum O <20 PPM soils.*
- *An Excavation Bottom Elevation Figure is included for the cells noted above.*
- *Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft. There is a naturally occurring narrow east west trending ridge in the surface of the Stratum D (fibrous brown meadow mat) near the midpoint of the excavation that rises above the general elevation of the Stratum D on these cells. The ridge is part of the contiguous Stratum D geologic horizon.*
- *A significant number of pilings continue to be encountered. The pilings supported the 60 Kellogg St warehouse structure. Pilings are being sheared flush with the bottom of excavation.*
- *Confirmatory Bottom Points located within Cells 49, 50, 51 and 52 are shown on the Excavation Bottom Elevation figure.*
- *Confirmatory Sidewall Samples 125-SB-081 for Cell 49, 125-SB-091 for Cell 50, 125-SB-080 for Cell 51 and 125-SB-092 for Cell 52 are also shown on the Excavation Bottom Elevation figure.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to Cells 49, 50, 51 and 52.*
- *The northern limits of Cells 49, 50, 51 and 52 consist of sheet pile Barrier Wall. The Southern Limit of excavation of cells 49, 50, 51 and 52 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *An Excavation Progress Maps is provided. Excavation is continuing in Cells 53 and 54.*
- *All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.*

Please note that additional lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the southern limits of Cells 50, 51 and 52, Stratum O is divided by the line separating designated Area 8 from Area 9.

End Page

MAY 18, 2016 EMAIL TO NJDOT

Nagg, Dennis E

From: Bills, Stuart B
Sent: Wednesday, May 18, 2016 10:46 AM
To: gabriel.nunez@dot.nj.gov
Cc: Jeremy.Karpatkin@aporter.com; william.hague@honeywell.com; Nagg, Dennis E; Clifford, Joseph T
Subject: Honeywell - Culver Circle, Jersey City
Attachments: Figure 1 EA1 - Culver Circle Lens.pdf

Gabriel,

This email follows up on our phone conversation of May 17 regarding the possible presence of chromium impacted materials within the NJDOT property at Culver Circle in Jersey City, NJ.

Honeywell performed a shallow excavation of chromium impacted material along Route 440 up to the NJDOT property line at Culver Circle. During this excavation it was noted that visibly suspect material extended from the excavation into the NJDOT property as shown on the attached Figure 1.

Honeywell can, if needed, provide additional information to DOT. Please let us know if you need additional information, and if there is anyone else at DOT with whom we should be communicating.

Sincerely;

Stuart B. Bills
Senior Associate Construction Manager
Amec Foster Wheeler E&I, Inc.
(252) 202-1411

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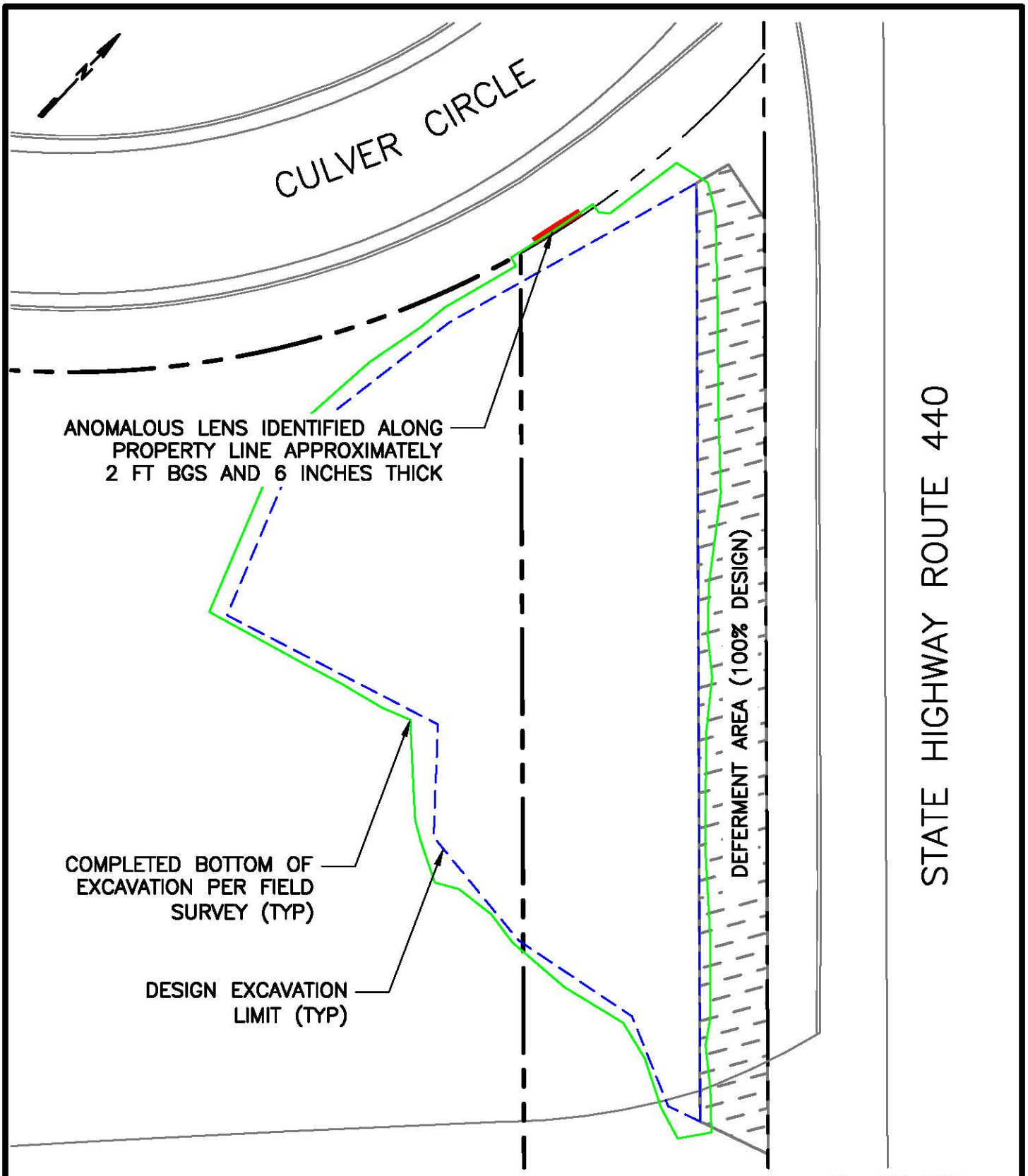

SCALE: 1 INCH = 20 FEET

Prepared/Date: TDD 3/10/16
Checked/Date: DEF 00/00/00

CHROMIUM REMEDY STUDY AREA 6 SOUTH JERSEY CITY, NEW JERSEY	amec foster wheeler Environment & Infrastructure, Inc. 200 American Metro Blvd, Suite 113 Hamilton, NJ, 08619, (609) 689-2829 NJ Certificate of Authorization Number 24GA28010900	SA-6 NORTH EA1 ANOMALOUS LENS LOCATION Project 3480-10-0027 FIGURE 1

APPENDIX T

PART 21 OF 22

DECLARATION #5
(Part 1 of 2)
Attachments A – P (Part 1)

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW JERSEY

JERSEY CITY INCINERATOR AUTHORITY *et al.*, Plaintiffs, *v.* HONEYWELL INTERNATIONAL INC., *et al.* Defendants.	CHROMIUM REMEDY SA-6 DECLARATION #5 Civil Action No. 05-5993 (Consolidated with Docket No. 05-5955 under Docket No. 95-2097 (JLL)) Civil Action No. 06-22 (Consolidated with Docket No. 05-5955 under Docket. No. 95-2097 (JLL))

Study Area 6 North Consent Decree Declaration #5

On August 14, 2012, the United States District Court for the District of New Jersey entered the First Amended Consent Decree Regarding Remediation and Redevelopment of Study Area 6 North ("SA-6 North Consent Decree") and the First Amended Consent Decree Regarding Remediation and Redevelopment of Study Area South ("SA-6 South Consent Decree") (referred to together as "SA-6 Consent Decrees"). Pursuant to Article III, Honeywell may file one or more Declarations showing compliance with the SA-6 Consent Decrees. The initial SA-6 South Consent Decree Declaration ("Declaration #1) was filed by Honeywell with the consent of the other parties to memorialize Honeywell's partial compliance with the terms of the SA-6 South Consent Decree on March 18, 2016, ECF No. 1403-1. A second SA-6 South Declaration (Declaration #2) was filed by Honeywell on January 30, 2017, ECF No. 1464-1 with the consent of the other parties to memorialize partial compliance with the terms of the SA-6 South Consent Decree completed subsequent to Declaration #1. The initial SA-6 North Consent Decree Declaration ("Declaration #3") was filed by Honeywell with the consent of the other parties to memorialize Honeywell's partial compliance with the terms of the SA-6 North Consent Decree on May 9, 2017, ECF No. 1484. A second SA-6 North Declaration ("Declaration #4") was filed by Honeywell on June 21, 2017, ECF No. 1487 with the consent of the other parties to memorialize partial compliance with the terms of the SA-6 North Consent Decree completed subsequent to Declaration #3. Declaration #5 is hereby filed by Honeywell with the consent of the other parties to memorialize partial compliance with the terms of the SA-6 Consent Decrees that were not included in Declarations #1, #2, #3 and #4.

We, the undersigned, declare as follows:

1. William J. Hague is Director of Remediation Design and Construction for Honeywell International Inc. ("Honeywell") for Study Area 6 North (SA-6 North) New Jersey Department of Environmental Protection (NJDEP) Sites 087 and 088 and Study Area 6 (SA-6 South) NJDEP Sites 073, 124, 125, 134, 140 and 163. Mr. Hague has direct responsibility on behalf of Honeywell for the management of remediation construction activities at SA-6 North and South related to the implementation of the Chromium Remedy as defined in Article III of the SA-6 Consent Decrees.

2. Remediation and site restoration activities documented in this Declaration were performed in accordance with the SA-6 Consent Decrees, the NJDEP Technical Requirements for Site Remediation, the NJDEP-approved *Remedial Action Selection Report/Remedial Action Work Plan* to address chromium contamination at SA-6 North, dated January 2008 and amended in February 2008; the NJDEP-approved *Supplemental Remedial Investigation Report, Remedial Action Selection Report, and Remedial Action Work Plan for Chromium* to address chromium contamination at SA-6 South, dated December 23, 2008, the NJDEP- approved *Supplemental Remedial Investigation Report, Remedial Action Selection Report, and Remedial Action Work Plan*, to address chromium contamination at Site 163 only, dated, May 18, 2012 (collectively referred to as the RAWPs), the Final – Issued for Construction ("IFC") Chromium Remedy 100% Design Report for Study Area 6 North & Study Area 6 South dated June 28, 2013 ("Final 100% Design"); sixteen field changes that materially affected the Final 100% Design (DC 2013-8-14: HB Wall – "Hydraulic Barrier/Surcharge Relocation adjacent to 72 inch FM SA-6 North," DC 2014-7-28 – "Revised Monitoring Well Abandonment Plan Tables," DC 2014-11-20 – "GW Extraction System (North)," DC 2015-2-12 – "GW Extraction System (South)," DC 2015-6-18 (North) – "SA-6 North, Site 087 In-situ Injections," DC 2015-9-17 – "Planting Soil Specifications," DC 2015-9-28 – "Site 163 Excavation," DC 2015-9-03 – "GW Extraction System – Revisions of Electrical to Replace Wells with Trenches," DC 2015-10-22 – "Move Western Limit of Stratum D Repair," DC 2016-3-21 – " Planting Soil Specifications, Nature's Choice Only," DC 2016-4-20 – "Planting Soil Specifications," DC 2016-05-06 – "Temporary Construction Road in SA-6 South Cap," DC 2016-11-09 – "Site Restoration," DC 2016-12-20 – "Contingent GW E&I Revisions," DC September 2016-North – "Interim Grading SA-6N," and DC September 2016-South – "Cap Final Grading and Development Final Grading and Restoration"), and fifteen field changes that were minor in nature (DC 2014-5-19 – "Degen Deferred Area," DC 2014-12-23 – "Site 163 Deferred Areas," DC 2015-4-30 – "JCIA Trash Pit Closure," DC 2015-6-05 – "SA-6 South Contingent GW Piezometer Locations," DC 2015-10-02 – "Warning Tape above Root Barrier," DC 2015-11-12 – "Final Grade Revisions," DC 2016-2-02 – "Increase Grade 0.25' In Landscape Area," DC 2016-2-22 – "Geomembrane Subgrade Revisions," DC 2016-2-25 – "Barrier Wall & SCB Wall Plan

and Profile," DC 2016-4-15 – "Final Grade Revisions," DC 2016-5-3 – "Planting Soil Gradations USDA Clarification," DC 2016-5-11 – "SA-6 North Interim Grade Revisions," DC 2016-5-20 – "Geomembrane Subgrade Revisions – Pump Station #1 Corridor," DC 2016-6-06 – "GW Extraction System – FM and E&I," and DC 2016-7-14 – "North Cap – Field Engineered Subgrade Adjustments") referred to herein as "Design Changes" and included as Attachment P, and with the continued oversight and supervision of the appointed Special Master. The Final 100% Design, including Design Drawings and Technical Specifications, was developed consistent with the SA-6 Consent Decrees and NJDEP-approved RAWPs and was approved by all Parties. On June 12, 2013, the Special Master approved the SA-6 100% Design for submittal to the Court so that the proposed implementation of the remedy could start on time, subject to Honeywell's confirmation regarding several issues. On June 28, 2013, Honeywell submitted the Final 100% Design to the Court (ECF No. 1176), and the Court entered the Final 100% Design on July 9, 2013 (ECF No. 1180).

3. The elements of the remedy that are the subject of this Declaration were substantially completed between June 2013 and December 2016. The timeframe of this Declaration # 5 overlaps with that of previously entered Declaration #1 (ECF No. 1403-1), Declaration #2 (ECF No. 1464-1), Declaration #3 (ECF No. 1484) and Declaration #4 (ECF No.1487) because the Declarations are developed based upon the completion of major remediation components and several of the Declaration #5 remediation components (such as monitoring well installation/abandonment and in-situ treatment) required long durations which were started soon after mobilization in June 2013.

4. In five areas, the work to implement the Chromium Remedy required by the SA-6 Consent Decrees was deferred with the approval of the Parties and the Special Master, based on field conditions. After the Chromium Remedy has been fully implemented in the Deferred Areas, a future Declaration will be submitted to document the Deferred Areas Chromium Remedy work.

5. To implement the requirements of the SA-6 Consent Decrees, Honeywell retained AMEC Environment and Infrastructure, Inc. (now Amec Foster Wheeler Environment & Infrastructure, Inc., "Amec Foster Wheeler") to design and coordinate the construction activities related to the Chromium Remedy of SA-6 North and South. Amec Foster Wheeler is the Engineer of Record for the design and implementation of construction activities related to the Chromium Remedy of SA-6 North and South. Amec Foster Wheeler engaged Entact, LLC ("Entact") to perform the construction. Entact was responsible for implementing the SA-6 North and South construction in accordance with

the Final 100% Design and Design Changes. Entact reported directly to Amec Foster Wheeler and provided the final construction details, including Record Drawings, upon project completion. Mr. Joseph T. Clifford is a licensed Professional Engineer in the State of New Jersey (Professional Engineer, NJ, GE38067), a Principal Engineer at Amec Foster Wheeler and is the engineer at Amec Foster Wheeler with primary responsibility for management of the design and construction coordination activities at SA-6 North and South.

6. It is our professional opinion that the data and information set forth for the specific work elements noted in and attached to this Declaration were performed consistent with the Final 100% Design and Design Changes.

7. Declaration #5 pertains to the following elements of the SA-6 Chromium Remedy:

I. SA-6 South 60 Kellogg and Site 163 Excavations;
II. SA-6 North and South Contingent Groundwater Force Main, Electrical and Piezometers;
III. SA-6 North and South Gas Vent Systems;
IV. SA-6 North and South Deferred Areas;
V. SA-6 North and South In-situ Treatment;
VI. SA-6 North Meadow Mat Repair near Trash Pit;
VII. SA-6 North and South Cap Cover Soils;
VIII. SA-6 North and South Development Area Grading;
IX. SA-6 North and South Soil Erosion and Sediment Control;
X. SA-6 North and South Monitoring Well Abandonment;
XI. SA-6 South Monitoring Well Installation; and
XII. SA-6 North and South Institutional Controls.

Further details related to elements I-XII are provided below. Supporting documentation is provided in the Attachments. Excluding the Deferred Areas and installation of wiring for the contingent groundwater collection trench, construction activities in accordance with the Final 100% Design and Design Changes related to the remediation of both SA-6 North South are considered complete. Honeywell still needs to submit a report on the shallow groundwater remedy for the Development AOC, pursuant to paragraph 70 of the Study Area 6 South Consent Decree, and to implement required institutional controls (e.g., deed notices and conservation restrictions). The contingent groundwater collection trench, force mains, and electrical and instrumentation (E&I) conduits associated with the groundwater remedy have been installed. The installation of associated wiring was completed in the second quarter of 2017. The pumps will be stored on-site and installed if the long term groundwater monitoring program indicates the need for pumping.

Remedial Action Reports for both Sites are being prepared in accordance with the NJDEP Technical Requirements for Site Remediation (TRSR), (New Jersey Administrative Code [N.J.A.C.] 7:26E-5.7) for submission to NJDEP, the Parties, and the Court. The project is now considered to be in the Long Term Monitoring phase.

Honeywell is preparing final Construction Completion Reports ("CCR") for Study Area 6 North and for Study Area 6 South to document the completion of the Study Area 6 North and South Remedy, except for the deferred areas, consistent with requirements of the SA-6 Consent Decrees. The CCRs will include the final Record Drawings. Once approved, each CCR will be entered with the Court, along with a Consent Order explaining that the CCR supersedes the 100% Design, pursuant to paragraph 5 of the Consent Order Entering Consolidated 100% Design for Study Area 6 North and Study Area 6 South, *Jersey City Municipal Utilities Auth., et al., v. Honeywell*, D.N.J., Consol. Cases, Civ. No. 95-2097, July 9, 2013, ECF No. 1180. Honeywell will prepare an additional CCR upon completion of each of the deferred areas. Once approved, each CCR for a deferred area will be submitted by Honeywell to the Court along with an appropriate Consent Order for approval and entry. The CCR, along with its Consent Order and attachments, "shall supplant" the 100% Design documentation submitted to the Court in July 2013 with ECF No. 1180 "for all further purposes referencing the 100% Design under the Study Area 6 North Consent Decree and the Study Area 6 South Consent Decree and any amendments thereto." *See* ECF No. 1180, para. 5.

Thus, all future activity and any related need for final Record Drawing documentation of the Chromium Remedies at Study Area 6 North and Study Area 6 South will be based on the CCRs approved and entered by the Court pursuant to the requirements of the Consent Order Entering Consolidated 100% Design for Study Area 6 North and Study Area 6 South, ECF No. 1180, and the LTMP. Future versions of the LTMP will reference the CCRs, along with its Consent Order and attachments, for each aspect of the Chromium Remedies at Study Area 6 North and Study Area 6 South.

I. SA-6 South 60 Kellogg and Site 163 Excavations. Following demolition of the 60 Kellogg Street building raised slab, Amec Foster Wheeler personnel collected a soil sample biased to a greenish discoloration in surficial soils identified between timber piles that formerly supported the 60 Kellogg Street building. This initial soil sample confirmed the presence of COPR and resulted in a shallow excavation plan to remove these soils. On June 2, 2016, the excavation was conducted to depths ranging from approximately 2.9 ft to 4.2 ft below ground surface ("bgs"). The bottom and sides of the excavation at the final limits were visually inspected by Amec Foster

Wheeler personnel. All of the original greenish discoloration was removed but some whitish material was observed in several sidewall locations. The excavation was subsequently extended to approximately 14 ft by 14 ft in width and length to remove additional soil exhibiting whitish discolorations. Five soil samples were collected from the excavation: one from each sidewall and one from the bottom of the excavation. Sidewall samples were biased to include residual whitish material where observed. The bottom sample was located in the area where additional suspect material was also observed during excavation. All hexavalent chromium results were less than 20 mg/kg. An excavation completion certification was submitted to the Special Master and Parties for review on June 28, 2016 and is included as Attachment A-1. A copy of the Maser Excavation Table and a detailed Bottom of Excavation Drawing are included in Attachment A-2. The 60 Kellogg excavation is shown on the updated Maser Excavation Plan included in Attachment B-1.

In the Final 100% Design, remediation at Site 163 included a combination of shallow excavation to a depth of four feet bgs and in-situ injection treatment in chromium-impacted soils deeper than four feet bgs. The Site 163 shallow excavation is addressed in Declaration #1. Following the initial in-situ treatment event there was a technical disagreement among the parties of the efficacy of treatment of chromium-impacted soils at varying depths. Therefore, an agreement regarding additional remediation was reached between the Parties and documented in DC 2015-9-28.

DC 2015-9-28 modified the excavation depths in select areas of Site 163 and is addressed in Declaration #1. Chromium-impacted soils that were deeper than four feet bgs in the future residential area of Site 163 were excavated. In the non-residential area of Site 163, chromium-impacted soils deeper than four feet bgs were left in place and pursuant to the SA-6 South Consent Decree, paragraph 61, ownership of the area will be transferred to the City of Jersey City and a deed notice and conservation restriction will be implemented. The Site 163 deed noticed area where chromium-impacted soils remain in place is shown on Figure 5 in Attachment G.

To accomplish the Site 163 additional excavation, temporary sheeting was installed and a phased excavation was conducted to the design depths identified in DC 2015-9-28. An e-mail certification of excavation

completion was submitted to the Parties for review on April 25, 2016, and an e-mail response to verbal questions was provided on May 5, 2016. The certification and e-mail response are included as Attachment C-1. A copy of the Maser Excavation table and a detailed bottom of Excavation Drawing are included in Attachment C-2. The excavation limits are shown on the updated Maser Excavation Plan (Attachment B-1).

Declaration #3 included e-mail certifications of excavation completion for the SA-6 North excavation areas. For consistency, e-mail certifications for the SA-6 South excavation are included in this Declaration #5 in Attachment B-2. As previously noted in Declaration No. 1 for SA-6 South, following the excavation of distinct portions (or cells) of the excavation, the horizontal and vertical extents of the completed cells were surveyed and Honeywell submitted documentation confirming the completion of excavation. In their submittals, Honeywell summarized the activities undertaken to complete the excavation of the referenced cells and included the following statement from Honeywell's Engineer, Amec Foster Wheeler: "Amec inspectors certify to the best of our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling had been met." Honeywell also noted, where applicable/appropriate, that the excavation in the referenced cells terminated by depth in the Stratum D and provided an Excavation Bottom Map that included the surveyed post-excavation bottom elevations for the cell(s). Honeywell further requested an acknowledgement that the Special Master was in receipt of the email and accompanying information in order that Honeywell could proceed with backfill. The Special Master monitored the excavation pursuant to the First Amended Consent Decree Regarding Remediation and Redevelopment Of Study Area 6 North ("SA-6 North Consent Decree") and the First Amended Consent Decree Regarding Remediation And Redevelopment Of Study Area South ("SA-6 South Consent Decree"). At a Special Master All Parties meeting in April 2014, the parties discussed the process for acknowledging Honeywell's notification that the contractor was ready to backfill a certain portion of excavated cells; and an e-mail from then-counsel for the Special Master, Kevin J. Coakley, Esq., (included in Attachment B-2) outlined the procedure that would be followed. At the meeting, and in Mr. Coakley's email, the parties also acknowledged Honeywell's intention to backfill Cells 44-56.

II. SA-6 North and South Contingent Groundwater Force Main, Electrical and Piezometers. Details on the contingent groundwater collection trenches were provided in Declaration #2 (SA-6 South) and Declaration #4 (SA-6 North). This Declaration provides the Record Drawings, in Attachment D, for the installation of the effluent force mains and electrical and instrumentation ("E&I") conduit conducted pursuant to the Final 100% Design and DC 2014-11-20, DC 2015-2-12, DC 2015-9-03, DC 2016-6-6, and DC 2016-12-20. The force main discharge point was changed from the JCMUA grit chamber to the Groundwater Treatment Plant ("GWTP"). The force mains and E&I conduits and associated structures were installed from the Pump Station manholes to the GWTP by Entact. Connection at the treatment plant and piping within the GWTP were performed by Brownfield Science and Technology Inc. (BSTI). The Entact Record Drawings indicate the final installed locations for the force mains and conduit (Attachment D-1). The BSTI Record Drawing shows the connection and piping within the GWTP (Attachment D-2).

Declaration #2 identifies the deferral of certain components of the contingent groundwater collection trenches until completion of the cap and stabilization of the groundwater system. The previously deferred components of the groundwater collection trenches are now complete, including the installation of the pumps, starter panels, level controls, flow meter instrumentation and automated shutdown control components in June 2017. The Contingent Groundwater Extraction System will be operated, as needed, in accordance with the final LTMP.

The location of paired piezometers to be used for evaluation of groundwater gradients across the barrier walls were included in Declaration #2 for SA-6 South and Declaration # 4 for SA-6 North. Declaration #2 (SA-6 South) and Declaration #4 (SA-6 North) included figures showing the piezometer design locations. In this Declaration, Honeywell is providing figures that show the as-built locations for the paired piezometers. Minor relocations were required to account for development details such as sidewalk and road locations (DC 2015-06-05). Tables showing screen elevations are included in the figure for each piezometer set. The figures are included in Attachment E.

III. SA-6 North and South Gas Vent Systems. The gas vent system for each cap area includes a geocomposite layer installed below the geomembrane, an 8-

inch diameter collection pipe running the east-west length of the cap, and vents. The limits of the gas vent geocomposite layer, plan location of the collection pipe, and location of the vents were provided in Declaration #2 (SA-6 South) and Declaration #4 (SA-6 North). The Record Drawings were modified to include the gas vent coordinates (see Attachment F).

IV. SA-6 North and South Deferred Areas. Portions of the following areas were designated as Deferred Areas.

- SA-6 North EA-1 along Route 440
- SA-6 North EA-2/3 along Route 440
- SA-6 North Shallow Excavation in Former Treatment Area 7
- SA-6 South Route 440
- SA-6 South Bulkhead

The Deferred Areas are localized areas that were identified for remediation by excavation in the approved 100% Design. SA-6 North EA-1 and EA-2/3, and a portion of SA-6 South along Route 440 were deferred due to their proximity to the old PSE&G 24 inch ductile iron/leaded joint gas line. These areas are referred to as the Route 440 Right-of-Way Deferred Areas in the CCRs for SA-6 North and South.

Excavation adjacent to the SA-6 South Bulkhead, referred to in the SA-6 South CCR as the Site 073 Bulkhead Deferred Area, was deferred due to the poor condition of the bulkhead combined with extensive concrete and isolated deep excavation (DC 2014-5-19, DC 2014-12-23). It was agreed upon with the parties to defer this area pending installation of the new bulkhead. The planned limits of the Deferred Areas are shown in Attachment G. The Deferred Areas will be subject to a Deed Notice until these areas are remediated, at which time the Deed Notices will be terminated.

V. SA-6 North and South In-situ Treatment. In-situ Treatment was implemented at the locations listed below. A General Remedy Plan showing all in-situ locations is included in Attachment H. Treatment Area specific figures are also included in the attachment.

- SA-6 South Site 163 – Site 163 was excavated in lieu of in-situ treatment as discussed in Section 7.I of this Declaration.
- SA-6 North Treatment Area 7 – Honeywell implemented in-situ injections in TA-7 in June 2013 and a 3-Year post-treatment performance assessment sampling event in June 2016 in accordance with a Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 2013 ("TA-7 & TA-8 Revised WP"). Eight soil samples were collected during the 3-

Year sampling event (four shallow samples and four deep samples). The samples were analyzed for hexavalent chromium using United States Environmental Protection Agency (USEPA) Method 7199 and indicated that seven of the eight post-treatment soils samples were below 20 mg/kg hexavalent chromium. One recalcitrant sample in the shallow portion of TA-7 exceeded 20 mg/kg hexavalent chromium. Correspondence provided to all Parties by Honeywell dated August 16, 2016 indicated Honeywell's proposal to excavate the shallow soils following relocation of the fueling system in this area by JCMUA (DN #10 as shown in Attachment G). In the meantime, Honeywell will establish a deed notice for this area. Once the shallow soils have been excavated, the deed notice will be terminated. This area lies within the Bayfront Development Block 6 and will not be impacted by Development activities.

- SA-6 North Treatment Area 8 – Injections and 3-Year sampling in TA-8 were performed concurrently with TA-7 in accordance with the TA-7 & TA-8 Revised WP. Eight soil samples were collected during the 3-Year sampling event (four shallow samples and four deep samples). The samples were analyzed for hexavalent chromium using USEPA Method 7199 and indicated that TA-8 has been remediated to below 20 mg/kg hexavalent chromium.
- SA-6 North Treatment Area 10 – In-situ treatment area 10 (TA-10) is located immediately proximate to and north of the hydraulic barrier and overlies a section of the 72-inch diameter force main (FM). Because of the proximity of the FM, excavation of impacted soils in TA-10 would potentially result in structurally impacting the FM during removal of the impacted soils. Therefore, Honeywell implemented an in-situ injection program in the portion of TA-10 (subarea TA-10-1) that lies north of the northern curb line of the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project (DC 2015-06-18 (North). The remainder of the TA-10 area, a portion of subarea TA-10-1 that lies south of the northern curb line of the future Stegman Boulevard and subareas TA-10-2 and TA-10-3, will be capped by Stegman Boulevard and be subject to a Deed Notice and Conservation Restriction (DN #7 as shown in Attachment G). Honeywell conducted an injection event at TA-10-1 between August and September 2015 and 6-Month post-treatment soil sampling was conducted in March 2016 in accordance with an Updated Work Plan for In-Situ Treatment of Chromium Impacted Soils, dated August 2015 (Updated Work Plan). The 6-Month post-treatment soil samples were analyzed for hexavalent chromium using USEPA Method 7199 and indicated that the majority of areas treated were now below 20 mg/kg for hexavalent chromium, as detailed in a May 6, 2016 technical

memorandum. However, 5 out of 20 sample points exceeded 20 mg/kg; therefore, Honeywell implemented a supplemental Calcium Polysulfide ("CAPS") injection program to further remediate soils in these areas in accordance with a July 11, 2016 submittal entitled, Additional In-Situ Injection of Calcium Polysulfide for Treatment of Hexavalent Chromium Impacted Soils, and a technical memorandum entitled, Proposed In-Situ Treatment Event for Remaining Hexavalent Chromium Impacted Soils – Treatment Area 10-1 SA-6 North, dated July 8, 2016 (Proposed Implementation Plan). Modifications were made to the initial approach which included a slower and prolonged injection delivery approach over the course of several weeks through injection wells installed in the area. Honeywell performed the subsequent modified slower and prolonged re-injection approach at TA-10-1 between August and October 2016. Twenty post-treatment soil samples were subsequently collected on December 5, 2016. The 6-Month post-treatment soil samples were analyzed for hexavalent chromium using USEPA Method 7199 and indicated that nineteen of the twenty samples were below 20 mg/kg hexavalent chromium, but one recalcitrant sample exceeded the 20 mg/kg hexavalent chromium criteria. Honeywell implemented an additional slower and prolonged injection event in the exceedance location on January 26, 2017 and February 2, 2017 in accordance with a technical memorandum titled, Summary of Additional In-Situ Injection of Calcium Polysulfide for Treatment of Hexavalent Chromium Impacted Soils, SA-6 North, TA-10-1, dated January 12, 2017. Post-treatment re-sampling at the re-injection location occurred in March 2017 and the results showed that the one soil sample collected in December 2016 that exceeded 20 mg/kg hexavalent chromium is now below 20 mg/kg hexavalent chromium. TA-10 location and limits are shown in Attachment H. TA-10 limits were modified as a result of DC 2013-8-14 related to the hydraulic barrier wall alignment.

VI. SA-6 North Meadow Mat Repair near Trash Pit. The former JCIA Incinerator pit penetrates through the Stratum D. The 100% Design Report indicated that "it has been determined that the Stratum D (Meadow Mat) layer is absent in a 25-30 ft. halo around the JCIA Trash Pit. It is believed that portions of the Stratum D were removed during the construction of the trash pit." To mitigate this condition, measures were implemented to repair the Stratum D around the trash pit, north of the barrier wall alignment. The repair was conducted by excavating the area to elevation 3. Vinyl sheetpile was then driven from elevation 3 on an alignment that was approximately 25 ft. outside of the exterior walls of the main trash pit. The limits of Stratum D north of the Barrier Wall were interpreted based on prior GeoProbe and investigation

borings. The alignment was selected to intersect the Stratum D. The sheetpile was driven approximately 3 ft. into the Stratum D. The final alignment deviated slightly from the initial design alignment at some locations to avoid timber piles that were encountered along the alignment (in accordance with DC 2015-10-22). A geosynthetic clay blanket was then placed over the area at elevation 3 between the vinyl sheetpile, trash pit and barrier wall (DC 2015-04-30). The Record Drawings for the Stratum D repair is included in Attachment I.

After completion of Stratum D repairs, but prior to backfilling inside and around the trash pit, the concrete walls south of the barrier wall (under the cap and inside the containment) were penetrated ("breached or punctured") below the groundwater table to reduce the potential for perched groundwater in the pit under the cap.

VII. SA-6 North and South Cap Cover Soils. Protective cover soil, Horizon C, Horizon B, Horizon A and structural fill under roadways composed of Clean Fill meeting the NJ Residential standards were placed above the cap geosynthetics in accordance with the 100% Design and the following Design Changes:

- DC September 2016-South
- DC 2015-9-17
- DC 2016-3-21
- DC 2016-4-20
- DC September 2016-North
- DC 2016-04-15
- DC 2016-05-03
- DC 2015-11-12

The average thickness of the cap cover soils, and minimum thickness of the cap cover soils, meet the requirements of Section 56 (c) of the SA-6 North Consent Decree and Section 65 (c) of the SA-6 South Consent Decree, namely, an average of 36-inches or more, with a minimum of 24-inches of protective cover soil above the cap warning layer. To deter root penetration in planned landscape areas, a bright white colored woven geotextile root barrier was installed above the first 12-inches of protective cover soil across the entire cap area and then covered by the Horizon A-C soils as required by the Final 100% Design. Prior to the placement of the Horizon A-C soils warning tape was placed on top of the root barrier pursuant to DC 2015-10-02. Registered surveys of the top of the root barrier are included in Attachment J for both the North and South cap areas. The surveyed elevations of the installed root barrier

are critical to any future ground disturbance work as it provides a reference point for potential supplemental requirements which are to be implemented as described in the LTMP. Structural Fill under Roadways was placed in future roadways above the protective cover soil. Structural fill Record Drawings for the SA-6 North and SA-6 South caps are included in Attachment K. The placement of the root barrier, warning tape and structural fill under roadways meets the provisions of the Open Space Design Standards (OSDS) Appendix L to the Final 100% Design.

In the landscape areas, 6 inches of Horizon C were placed, compacted, and compaction tested to verify compliance with the specification. Following approval of the 6-inch compacted layer the remainder of the Horizon C, B and A soils were placed in accordance with the Final 100% Design and Design Changes DC 2015-9-17, DC 2015-11-12, DC 2016-3-21, DC 2016-04-15, DC 2016-4-20, DC 2016-05-03, DC September 2016-South and DC September 2016-North. The total depth and type of Horizon soil varied based on the planting classification/depth. SA-6 North and South cap compaction logs for structural fill and 6-inches of Horizon C are included in Attachment L.

The elevations of the cover soils and root barrier were recorded at the Construction Control Grid nodes. The SA-6 North Open Space Cap Area – Construction Control Grid Summary Table and the SA-6 South Open Space Cap Area – Construction Control Grid Summary Table document the elevation readings and cover soil type thicknesses to confirm that the minimum specified thickness requirements were met in the cap areas. The “North Cap Final Grading Plan” and “South Cap Topsoil Grading Plan” are registered surveys of the surface grades following placement of Horizon A soil. The SA-6 North and South Construction Control Grid Summary tables are included in this Declaration as Attachment M-1. The Grading Plans are included as Attachment M-2.

Horizon A topsoil, as approved by the Parties, was placed to the remediation design grades. The cap area and adjacent slopes were hydro-seeded with a seed mix prepared in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey. Horizon A soil was placed over the entirety of the Open Space Areas, including the future roadway corridors, with the exception of the future B Street on SA-6 South and the future Riverside Drive on SA-6 North. In the Final 100% Design, SA-6 South B Street was to be restored with topsoil and grass. Honeywell modified B Street into a temporary roadway by DC 2016-05-06 to provide access for site inspections, long term monitoring

activities, and general maintenance. Construction details for the SA-6 South B Street temporary roadway were identified in DC 2016-05-06 and approved by the Parties. The temporary roadway on the future Riverside Drive on SA-6 North was installed consistent with the Final 100% Design. The temporary road locations are shown on the Maser finished grade drawings (Attachment M-2) and the SA-6 North and South Restoration Plans, included in Attachments N-4.

VIII. SA-6 North and South Development Area Grading

- SA-6 North. The SA-6 North Chromium Remedy designated isolated Additional Excavation Areas outside of the limits of the cap portion of the remedy. These areas are located within the external boundaries of the SA-6 North Non-Chromium Remedy. The IFC Chromium Remedy restoration plan also indicated restoration of areas occupied by the former JCIA entity and an area of soil/debris piles west of the JCMUA digester structures. A revised Restoration Drawing (CN-127) has been issued as part of DC 2016-11-09 to indicate the limits of restoration to be performed in SA-6 North. There are three Restoration surface finishes: asphalt paving, 1 ft. of clean fill including topsoil and seeding, and installation of a geotextile demarcation layer and 6 inches of clean crushed stone. The As-Built limits of each area are shown in Attachment N-4. Table 1 – Stone Cover Thickness Summary for SA-6 North provides survey data documenting crushed stone thickness in areas where the 6 inch crushed stone cover was placed over historic fill. The table and accompanying figure are included in Attachment N-1.

  A survey grid was established over the JCIA crushed stone area. Elevations were taken at the nodes and tabulated in Table 1 – Stone Cover Thickness Summary for SA-6 North to document compliance with the design requirements. The SA-6 North "As-Built Restoration Plan" drawing is included in Attachment N-4. The drawing titled "Final Grading for Excavation Areas" is a registered survey of the surface of the Clean Fill and is included in Attachment N-3.

- SA-6 South. The Development area was covered in its entirety with a geotextile demarcation layer and a minimum of 6 inches of clean fill (crushed stone or Dense Graded Aggregate) with the exception of the temporary slope that transitions from the vegetated Open Space AOC cap to the post remediation grades in the Development Area. A survey grid was also established over the area. Elevations were taken at the nodes and tabulated in Table 1 – Stone Cover Thickness Summary for SA-6 South to

document compliance with the design requirements. The table and accompanying figure are included in Attachment N-2. The SA-6 South "As-Built Restoration Plan" drawing is included in Attachment N-4. The drawing titled "SA-6 South Stone Layer" is a registered survey of the surface of the Clean Fill and is included in Attachment N-3.

IX. SA-6 North and South Soil Erosion and Sediment Control. Post-Construction Sedimentation and Erosion Control measures including final seeding were implemented in accordance with the approved 100% Design, DC September 2016-North, DC September 2016-South, NJ Sedimentation and Erosion Control manual, and the Sedimentation and Control plan approved by Hudson, Essex, and Passaic Soil Conservation District on May 16, 2013. The IFC designs for SA-6 North and SA-6 South were amended to add a toe drain where the cap slope meets existing grade on SA-7 (DC September 2016-North, DC September 2016-South). The toe drain and associated check drains, and other controls left in place at the end of the work are shown in Attachment N-4. Erosion control mat (or "blanket") was also placed over the more steeply sloped areas of the cap. A drawing showing the location of the erosion control mat on the SA-6 North and South caps is included in Attachment Q. Where these measures were implemented, perimeter silt fence was reduced or eliminated. The installed measures are considered to be more resilient than the 100% Design and satisfy the SESC permit requirements. Honeywell will maintain these controls in accordance with the Long Term Monitoring Plan.

X. SA-6 North and South Monitoring Well Abandonment. The Monitoring Well Abandonment Plan (MWAP) in the 100% Design and DC 2014-7-28 established the monitoring wells and piezometers that would be abandoned or retained during the course of the remedy. The MWAP also included a list of new monitoring wells and piezometers to be installed during the Chromium Remedy. Amec Foster Wheeler and Entact abandoned the designated monitoring wells and piezometers from October 2013 to October 2016. Wells designated as "retain" in the MWAP were protected and adjusted accordingly during the course of construction.

XI. SA-6 South Monitoring Well Installation. Twelve monitoring wells were installed in the SA-6 South Development Area in February 2016 in accordance with the 100% Design. The purpose of the wells is to monitor post remedy water quality in the SA-6 South Development Area. A figure showing the as-built locations of the wells is included in Attachment O.

XII. SA-6 North and South Institutional Controls. Honeywell will establish appropriate institutional controls at SA-6 North and South that supplement the remedial actions in accordance with the SA-6 Consent Decrees. These include the following:

- Deed notices;
- Remedial action permit for soils;
- Remedial action permit for groundwater;
- Potential revision of the boundary of the shallow groundwater CEA based upon post-remediation shallow groundwater results from SA-6 South Development AOC; and
- Conservation restrictions on both SA-6 Open Space Areas, at TA-10 and on the Deed Noticed portion of Site 163.

Additional details regarding the Institutional Controls are provided in the SA-6 North and South Construction Completion Reports (CCRs). Draft deed notices and remedial action permit applications are included as attachments in the CCRs.

1. Based on our professional experience, the data and information set forth in and attached to this Declaration, and our supervision of the SA-6 construction activities, we believe that the aforementioned remediation activities were completed in accordance with the SA-6 North and South Consent Decrees and the Final 100% Design and Design Changes.

2. We certify that the foregoing is true and correct to the best of our respective knowledge.

William J. Hague

Date

Joseph T. Clifford PE NJ, GE38067

Date 10/16/2017

List of Attachments

A. 60 Kellogg Excavation

- A-1. 60 Kellogg Excavation Certification E-mail
- A-2. 60 Kellogg Confirmation Points and Post Excavation Plan

B. SA-6 South Excavation

- B-1. SA-6 South Excavation Plan
- B-2. SA-6 South E-mail Certifications of Excavation Completion

C. Site 163 Excavation

- C-1. Site 163 Excavation Certification E-mail
- C-2. Site 163 Post Confirmation Points and Post Excavation Plan

D. SA-6 North and South Contingent Groundwater Extraction System Record Drawings

- D-1. Force Main, Electrical Conduit and Instrumentation
- D-2. GWTP Interior Piping and Instrumentation

E. SA-6 North and South Piezometer As-Built Locations

F. SA-6 North and South Gas Vent Record Drawings

G. SA-6 North and South Deferred Areas (Figure 5)

H. In-Situ Locations and Summary Tables

I. Stratum D Repair Record Drawing

J. SA-6 North and South Root Barrier Topographic

K. SA-6 North and South Structural Fill Record Drawings

L. SA-6 North and South Cap Compaction Logs

M. SA-6 North and South Cap Cover Soils and Final Grades

- M-1. SA-6 North and South Construction Control Grid As-Built Summaries
- M-2. SA-6 North and South Final Grade Topographic

N. SA-6 North and South Development Area Final Grading

- N-1. SA-6 North Construction Control Grid As-Built Summary and Survey Control Grid Drawing

N-2. SA-6 South Construction Control Grid As-Built Summary and Survey Control Grid Drawing

N-3. SA-6 North and South Development Area Topographics

N-4. SA-6 North and South Restoration Plans

O. SA-6 South Development Area Monitoring Well Locations

P. Design Changes

Q. SA-6 North and South Soil Erosion and Sediment Control Record Drawing

ATTACHMENT A-1
60 KELLOGG EXCAVATION CERTIFICATION E-MAIL

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, August 03, 2016 2:00 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E; Shallard, Samuel G.
Subject: FW: SA-6 South Excavation Complete Submittal - 60 Kellogg Building Area

Here is SM acknowledgement of 60 Kellogg

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, July 13, 2016 5:29 PM
To: Hague, William <william.hague@honeywell.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Morris, John <John.Morris@honeywell.com>; JFarrell@jcnj.org; Francis J. Borin <FBORIN@decotiislaw.com>; JWatson@jcnj.org; Clifford, Joseph T <Joseph.Clifford@amec.com>; Daneker, Michael D. <Michael.Daneker@APORTER.COM>; Jeremy.Karpatkin@aporter.com <Jeremy.Karpatkin@aporter.com>; Liza Walsh (LWalsh@TheWalshFirm.com) <LWalsh@TheWalshFirm.com>; Hector Ruiz (HRuiz@TheWalshFirm.com) <HRuiz@TheWalshFirm.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; Kim Hosea (k.hosea@cea-enviro.com) <k.hosea@cea-enviro.com>
Subject: RE: SA-6 South Excavation Complete Submittal - 60 Kellogg Building Area

Bill,

The Special Master acknowledges receipt of your June 28, 2016 email and the supporting documentation accompanying the SA-6 South Excavation Complete Submittal for the 60 Kellogg Building Area and your subsequent emails confirming that the white-ish material observed in the excavation was included in the sidewall soil samples collected where residual material was observed for final confirmation and represented in the final post-excavation soil sampling results provided in your June 28 email and where all hexavalent chromium results were reported at less than 20 mg/kg.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Tuesday, July 12, 2016 11:16 AM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Lewis, Thomas <tlewis@louisberger.com>; Morris, John <John.Morris@honeywell.com>; JFarrell@jcnj.org; Francis J. Borin <FBORIN@decotiislaw.com>; JWatson@jcnj.org; Clifford, Joseph T <Joseph.Clifford@amec.com>; Daneker, Michael D. <Michael.Daneker@APORTER.COM>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; Jeremy.Karpatkin@aporter.com <Jeremy.Karpatkin@aporter.com>; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; Kim Hosea (k.hosea@cea-enviro.com) <k.hosea@cea-enviro.com>
Subject: RE: SA-6 South Excavation Complete Submittal - 60 Kellogg Building Area

Steve,

I have reviewed your email question with the Amec field team who observed the excavation and collected the post-excavation sidewall soil samples.
Amec indicates that the whitish material was included in the sidewall soil samples where residual material was observed.
Please let us know if you have any remaining questions on this item.

Regards,
Bill Hague

William J. Hague P.E.

Honeywell
Director - Remediation Design & Construction
Corporate HSE&R
115 Tabor Road
Morris Plains, NJ 07950
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Saturday, July 02, 2016 5:22 PM
To: Hague, William
Cc: RGT Special Master; Lewis, Thomas; Morris, John; JFarrell@jcnj.org; Francis J. Borin; JWatson@jcnj.org; Clifford, Joseph T; Daneker, Michael D.; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); ' (kmillian@tpmlaw.com)'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; Jeremy.Karpatkin@aporter.com; 'Ben Ross (bross@disposalsafety.com)'; Kim Hosea (k.hosea@cea-enviro.com)
Subject: RE: SA-6 South Excavation Complete Submittal - 60 Kellogg Building Area

Bill,

Please see the following regarding the June 28, 2016 Excavation Complete Submittal for the 60 Kellogg Building Area:

The email states that "the post-excavation soil sampling location selection was biased according to field observations and not just geometrically predetermined" and that "Sidewall samples were biased to include residual whitish material if observed." Please confirm, as requested in my June 16 email, that the white-ish material was directly sampled and analyzed to determine whether hexavalent chromium concentrations in this material are above or below 20 ppm.

In addition, your email states: "The excavation was subsequently extended to approximately 14 ft by 14 ft in width and length to remove additional soil exhibiting whitish discolorations". However, as noted in my June 16 email, during my June 14 site visit I observed what appeared to be white-ish material in the southwestern face of the excavation, approximately 2 feet below the surface at what appeared to be the final excavation boundary. If the white-ish material was directly sampled and determined to contain less that 20ppm hexavalent

chromium, then leaving residual material in the excavation is not an issue. However, if the white-ish material was determined to contain hexavalent chromium above 20ppm, please confirm whether or not the observed white-ish material was subsequently removed as part of continued excavation efforts so that no white-ish material confirmed above 20 ppm hexavalent chromium remained visible at the excavation boundaries.

We look forward to your response.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Tuesday, June 28, 2016 9:45 PM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Lewis, Thomas <tlewis@louisberger.com>; Morris, John <John.Morris@honeywell.com>; JFarrell@jcnj.org; Francis J. Borin <FBORIN@decotiislaw.com>; JWatson@jcnj.org; Clifford, Joseph T <Joseph.Clifford@amec.com>; Daneker, Michael D. <Michael.Daneker@APORTER.COM>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; Jeremy.Karpatkin@aporter.com <Jeremy.Karpatkin@aporter.com>; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; Kim Hosea (k.hosea@cea-enviro.com) <k.hosea@cea-enviro.com>
Subject: SA-6 South Excavation Complete Submittal - 60 Kellogg Building Area

Steve,

We are providing this email notification that our laboratory data validation has been completed, all soil sample results showing concentrations of hexavalent chromium < 20 ppm are now final, thus, the added Excavation Area at 60 Kellogg Street can now be closed out (which is part of the SA-6 South Chromium Remedy).

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of excavation completion covers the work completed on 06/02/16. This submittal includes the excavation around the 60 Kellogg Street Building (Site 125 on SA-6 South) where suspect material had been observed and sampled in accordance with the submittal to All Parties, dated May 17, 2016. We are also addressing your email to Honeywell dated June 16, 2016 with clarification that the post-excavation soil sampling location selection was biased according to field observations and not just geometrically predetermined.

Attachments to the submittal include the Maser Table with bottom and sidewall confirmation points, and an Excavation Bottom Map showing sample locations and excavation limits.

- Initially, Amec personnel collected a soil sample (post demolition of the 60 Kellogg building raised slab) biased to a greenish discoloration in surficial soils identified between timber piles that formerly supported the 60 Kellogg building.
- This initial soil sample confirmed the presence of COPR and resulted in a proposed shallow excavation plan to address these soils by removing an area ~10 ft by 10 ft by 3 ft deep in size around this sample location (as detailed in the May 17, 2016 submittal to the parties).

- On June 2, 2016, the excavation was conducted to depths ranging from approximately 2.9 ft to 4.2 ft Below Ground Surface.
- The bottom and sides of the excavation at the final limits were visually inspected by Amec personnel. All of the original greenish discoloration was removed but some whitish material was observed in several sidewall locations.
- The excavation was subsequently extended to approximately 14 ft by 14 ft in width and length to remove additional soil exhibiting whitish discolorations.
- Five soil samples were collected from the excavation: one from each sidewall and one from the bottom of the excavation. Sidewall samples were biased to include residual whitish material if observed. The bottom sample was located the area where additional suspect material was also observed during excavation.
- This sampling frequency meets the approved frequencies established in the 100% Design.
- Coordinates for Survey of the finished excavation at the bottom and sidewall sample locations are tabulated in the Maser Tables.
- Sample locations are shown on the Entact “As Built” Excavation Figure attached.
- The final post-excavation soil sampling results were as follow:
    - 125-SB-308 <0.55 mg/Kg
    - 125-SB-309 0.66 mg/Kg
    - 125-SB-310 <0.52 mg/Kg
    - 125-SB-311 2.3 mg/Kg
    - 125-SB-312 1.9 mg/Kg
- All hexavalent chromium results were less than 20 mg/kg, thus, no further remediation is necessary.
- Maser collected bottom of excavation points to prepare a topographic Map of the bottom of excavation.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.

Regards,
Bill Hague

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ATTACHMENT A-2
60 KELLOGG EXCAVATION
CONFIRMATION POINTS AND POST EXCAVATION PLAN

MASER CONSULTING P.A.

Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

156 Stagecoach Road
Marmora, NJ 08223
T: 609.390.1927
F: 609.390.0040
www.maserconsulting.com

SA-6 South: 60 Kellogg Excavation (2016): Post Excavation Points (Table 1.0)

Bottom Target Coordinates				As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Date Obtained	Elevation	Comments
684474.8	602542.4	6.3	125-SB-312	6/10/2016	6.2	Target Elevation Reached

SA-6 South: 60 Kellogg Excavation (2016): Sidewall Post Excavation Points (Table 2.0)

Sidewall Target Coordinates				As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Date Obtained	Elevation	Comments
684465.7	602542.9	6.0	125-SB-308	6/10/2016	6.0	Target Elevation Reached
684460.7	602551.9	6.8	125-SB-309	6/10/2016	6.7	Target Elevation Reached
684476.4	602554.5	6.0	125-SB-310	6/10/2016	6.0	Target Elevation Reached
684477.8	602543.5	6.4	125-SB-311	6/10/2016	6.4	Target Elevation Reached

1 This is the actual elevation of the samples that were collected post excavation (6/2/16).

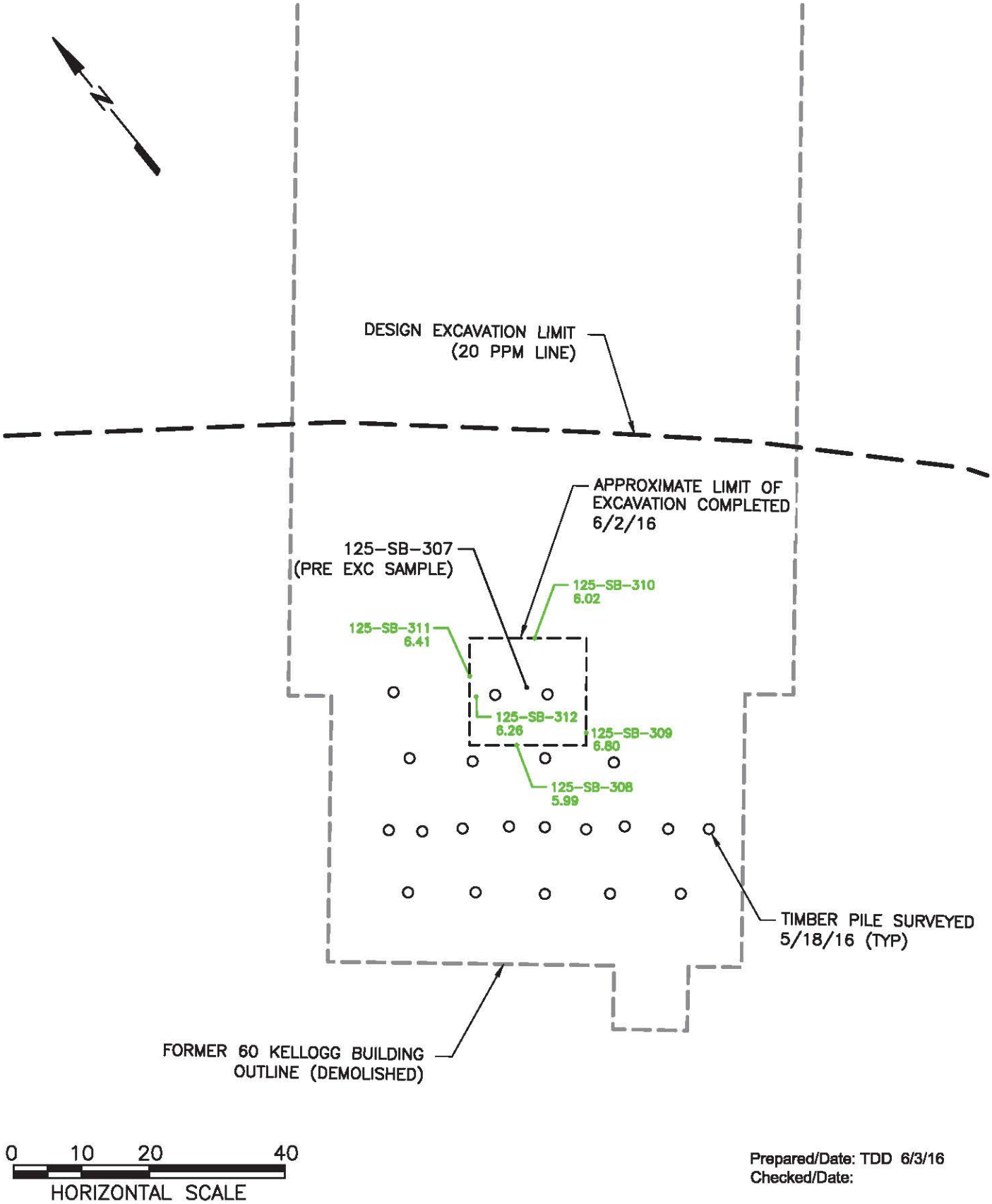
Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Post Excavation Points depicted in Table 1, Post Excavation Sidewall Points Table 2 are correct, and representative of the as-built post-excavation grades.

R. Thomas Hugg 6/17/16

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR

LICENSE NO. 36737

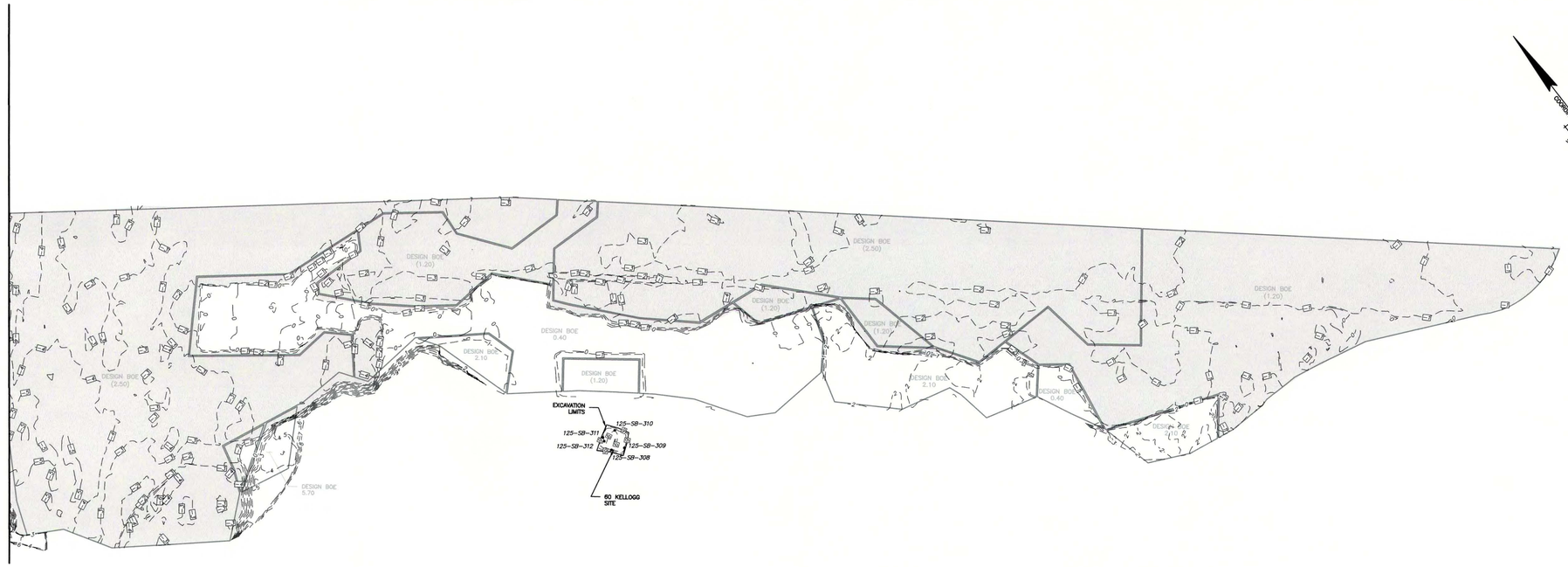


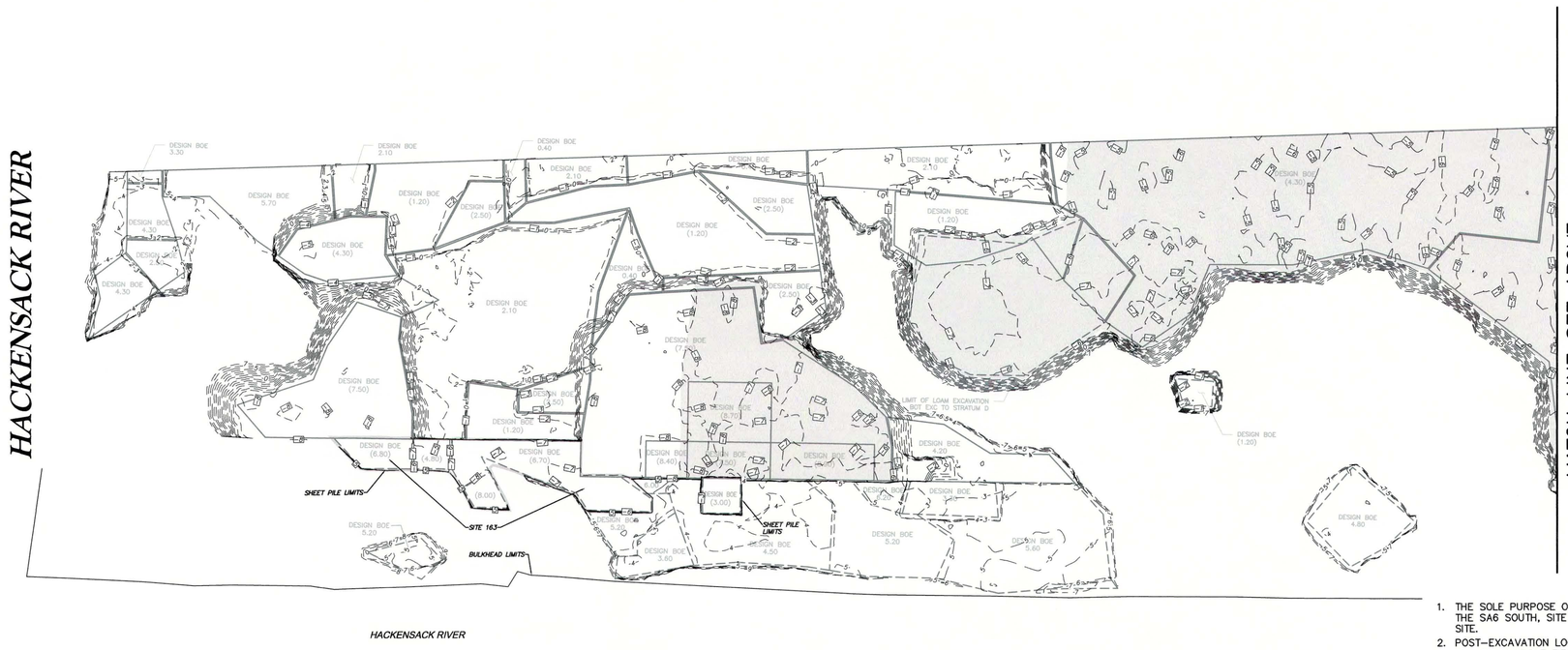
Prepared/Date: TDD 6/3/16
Checked/Date:

CHROMIUM REMEDY STUDY AREA 6 SOUTH JERSEY CITY, NEW JERSEY	amec foster wheeler	60 KELLOGG STREET POST EXCAVATION PLAN Project 3480-15-0488 FIGURE 1

C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\SA-6 South 60 Kellogg\Figure 1 60 Kellogg Post Excavation.dwg Fri, 03 Jun 2016 - 9:25am tony.donovan

ATTACHMENT B-1
SA-6 SOUTH EXCAVATION PLAN





LEGEND:

- 5 — MAJOR CONTOUR
- 4 — MINOR CONTOUR
- 3 — POSITIVE ELEVATION
- 2 — NEGATIVE ELEVATION
- DESIGN EXCAVATION LIMIT
- DESIGN BOE (1.20)
- EXCAVATED TO STRATUM D

0 25 50 100
SCALE IN FEET

GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW POST–EXCAVATION ELEVATIONS WITHIN THE SA6 SOUTH, SITE 163 & SITE 60 KELLOGG EXCAVATION AREAS AT THE PROJECT SITE.
2. POST–EXCAVATION LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS FROM 10/23/13 THROUGH 12/22/14, 1/4/16 THROUGH 3/4/16 & 6/10/16. POST EXCAVATION SURFACES AND CONTOURS WERE GENERATED BY ENTACT AND CONFIRMED BY MASER CONSULTING P.A. WITH MINOR ADJUSTMENTS.
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

NO.	DATE	REVISION	BY	APVD
3	7/30/16	UPDATED DESIGN BOE LIMITS	BSB	RTH
2	7/12/16	ADDED SITE 163 DATA & 60 KELLOGG TOPO	BSB	RTH
1	3/13/15	REVISED PER CLIENT COMMENTS 3/4/15	BSB	RTH

DSGN BSB DR CHK JR APVD RTH

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 08223

FILE NUMBER XXXXX

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
EXCAVATION PLAN

Honeywell
101 COLUMBIA RD. BOX 2108, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	3/3/15
PROJ	3480-10-0027
DWG	C-111
SHEET	1 OF 1

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ATTACHMENT B-2
SA-6 SOUTH E-MAIL CERTIFICATIONS OF EXCAVATION COMPLETION

Egnaczyk, Steve

From: Kevin J. Coakley <KCoakley@connellfoley.com>
Sent: Friday, April 25, 2014 8:56 AM
To: 'kmillian@tpmlaw.com'; 'aalcorn@tpmlaw.com'; 'eric@golub-isabel.com'; 'kkinsella@decotiislaw.com'; 'Michael D. Daneker (Michael.Daneker@aporter.com)'; 'Jeremy Karpatkin (Jeremy.Karpatkin@aporter.com)'; 'Jeremy Farrell' (JFarrell@jcnj.org)
Cc: 'rgtspecialmaster@aol.com'; Sean Jackson (Sean@RosemontAssocs.com); Egnaczyk, Steve; Lewis, Thomas; Liza M. Walsh; Agnes Antonian
Subject: Honeywell Excavation Submittals

Dear Counsel:

During Tuesday's Special Master All Parties Meeting, it was agreed that Honeywell would continue to provide notifications to the parties certifying that cells within the SA6 North and South excavation have been completed in accordance with the 100% Design and request an email acknowledgement only from the Special Master that the Special Master is in receipt of the supporting documentation accompanying the notification. The Special Master's technical representative will continue to perform periodic visual inspections of the completed excavation areas prior to backfilling and provide a response to Honeywell's email submittals within 48-hours.

Honeywell will continue to conduct the excavation operations as detailed in the SA-6 South Standard Operating Procedure (SOP) - Confirmation of Excavation Limits, dated March 3, 2014 that provides Honeywell's basis for assessing and demonstrating that the limits of excavation as defined in the 100% Design are being met and documented.

Specifically and as noted in Honeywell's April 17, 2014 Response to Plaintiffs' Comments regarding Excavation of Cells 44-52, Honeywell will:

- continue to collect the survey data necessary to prepare the topographic map as indicated in the first bullet of Section 5.0 in the SOP,
- prepare the topographic map to meet the requirements of Section 02315 Part 3.03 Topographic Surveys, Part C. Post Excavation Survey of the Technical Specifications, and
- provide the topographic survey as part of the final certification.

Honeywell acknowledges that as it is no longer waiting for ICO acknowledgement of the above described progress reports on cell excavation confirmation, and therefore Honeywell will be proceeding at risk as it relates to these specific issues from ICO's perspective, or for that matter, Jersey City's perspective as well. Honeywell will continue to submit these reports to all parties at the same time it transmits them to the Special Master.

Please respond to this email within 48 hours if you do not concur that this description represents the agreement reached at Tuesday's meeting.

Kevin J. Coakley

Partner
Connell Foley LLP
85 Livingston Avenue
Roseland, NJ 07068
Office: (973) 535-0500
Direct: (973) 533-4230
Fax: (973) 535-9217

kcoakley@connellfoley.com
www.connellfoley.com
Vcard

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:41 AM
To: Christodoulatos, Eric G
Subject: FW: SA6 South Remedy Implementation

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, November 01, 2013 10:06 AM
To: Clifford, Joseph T; Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; ' (John.Morris@honeywell.com)'; 'cpravlik@tpmlaw.com'; ' (Michael_Daneker@aporter.com)'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'Rob Antonicello'; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA6 South Remedy Implementation

Joe,

This email responds to your email of October 29, 2013 requesting approval to backfill cells 1 and 2 at the Study Area 6 South excavation. The October 29 email responded to the Special Master's email of October 26 and prior emails, which requested that Honeywell confirm that the excavation areas were completed and provide supporting documents that describe the survey protocol addressing how the excavation was completed, especially in areas where the meadow mat was encountered above the projected excavation depth. The Special Master also requested a document tracking the progress and status of the excavation. In its October 29 submittal Honeywell attached two documents: (1) Excavation Bottom Elevations Plan for the period of 10/22/13 to 10/24/13 and (b) Excavation and Backfill Progress Summary End of October 2, 2013 Plan. The Excavation Bottom Elevations Plan shows that the excavation in Cells 1 and 2 was performed to Stratum D. The October 29, email confirms that the excavation in both cells terminates in Stratum D as visually confirmed by Amec personnel. Amec inspectors certified that the impacted soils in the 100% Design have been removed and that the requirements to allow backfilling have been met. In addition, I observed the conditions of the excavation on Tuesday, 10/29 and then again, with the Special Master on Wednesday, October 30, 2013. The Special Master and his team's visual observations are consistent with Amec's representation that the Stratum D is clearly visible as a continuous layer in these two cells. The Special Master has also received Plaintiffs letter of October 31, 2013 approving Honeywell's request. Based on Honeywell's certified representations in the October 29, 2013 email and the documents attached thereto, the Special Master's observations, and the fact that the Stratum D is well defined and continuous, the Special Master approves backfilling of Cells 1 and 2.

To ensure that in the future the confirmation process is efficient and does not delay the project going forward, the Special Master requests that in addition to the documents provided with the October 29 email, Honeywell include additional information clearly defining the final excavation depths in the cells and, as requested before, drawings showing the extent of the meadow mat. Such information will also support the Excavation Declarations that will be filed with the Court to document compliance with the Consent Order and the 100% Design. While the initial two cells had a clearly defined final depth of excavation for each cell, that is not likely to be the case in the future, especially when the excavation cells become larger. The Special Master suggests that a table (similar to the example shown below) would provide the necessary information to the Special Master and the parties to ensure an efficient and effective review and confirmation. This table should provide a reference to the PDI sample result(s) that established the original depth(s) of excavation for the Excavation Cell or general area, realizing that an explanation would be required if meadow mat was

encountered and the excavation was halted at a shallower depth or if other field conditions impacted achieving the design excavation depth. This table is similar to what was provided during the COPR excavation.

Excavation Cell	100% Design PDI Sample Result Depths(s) and sample location(s)	Actual Excavation Depth(s) and reference, for example: bgs, MSL	Comments/Exceptions
1	(-) 9.5 ft based on PDI Confirmatory Sample Location XXX-SB-XXX	(-) 4.5 ft.	Excavated to depth of meadow mat at (-) 4.5 ft MSL.
2	(-) 8.5 ft in Area A *[Areas to be defined in the Excavation Bottom Plan;* (-) 6 ft in Area B	Area A: (-) 9 ft Area B: (-) 8.5 ft	

The Special Master is looking forward to further discussing these issues at the next technical call. At that time the Special Master would like to address the number of survey points that will be necessary to document the excavation bottom, especially in the larger cells with anticipated varying depths of excavation.

Further, we request that Honeywell prepare for discussion a form of Declaration to be filed with the Court showing excavation completion in accordance with the 100% Design. We would expect that the form of Declaration will be in a format substantially similar to that filed in connection with Study Area 7.

Regards, Steve

Steven J. Egnaczyk
Program Director
THE Louis Berger Group, INC.
350 Eagleview Boulevard |Suite 250 | Exton, PA 19341-1178
Phone: 610.363.5395 | Fax: 610.363.5390
Cell: 610.212.1492
Email: segnaczyk@louisberger.com
http://www.louisberger.com

From: Clifford, Joseph T [mailto:Joseph.Clifford@amec.com]
Sent: Tuesday, October 29, 2013 9:05 PM
To: Egnaczyk, Steve; Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; ' (John.Morris@honeywell.com)'; 'cpravlik@tpmlaw.com'; ' (Michael_Daneker@aporter.com)'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'Rob Antonicello'; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; Isabelle Procaccino; McWatters, Michael
Subject: RE: SA6 South Remedy Implementation

Steve,

I am sending this email on behalf of Honeywell.

As discussed at our weekly meetings, we are at a point of being ready to backfill and approval of the submittal content is critical to moving forward.

Below is a description of completed excavation activities for which we are requesting an acknowledgement in order that we can proceed with backfill.

We are also attaching herein two supporting drawings:

1. Exhibit A - depicts the 156, 15-ft wide cells that comprise the SA-6 South excavation which will be used as a excavation progress chart;
2. Excavation Bottom Map -includes the surveyed post-excavation bottom elevations for the first two cells completed as described below.

- *Full scale excavation of Chromium Impacted Materials began on 10/21/2013.*
- *For planning and implementation purposes, the excavation is subdivided into 156, 15 ft wide cells with Cell 1 located near Route 440.*
- *For the period ending 10/24/2013 excavation is complete for Cells 1 and 2.*
- *The excavation in both cells terminates in Stratum D.*
- *A survey of the bottom is attached.*
- *Based upon the design documentation, a bottom-of-excavation confirmatory point is located within Cell 2.*
- *The surveyed coordinates of the bottom-of-excavation confirmatory point are included in the attached figure.*
- *The easterly limit of Cell 1 and the north and south limits of Cells 1 and 2 consist of sheet pile.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*

Honeywell acknowledges that your email includes a request for potential additional information regarding locations where meadow is encountered, we will respond separately to that item.

Please let us know if you have comments or questions on the information contained in this email. Thank you. –Joe

Joseph T. Clifford, P.E.
AMEC Environment & Infrastructure
200 American Metro Blvd, Suite 113, Hamilton NJ 08619
973-455-4163 direct dial
610-505-9315 cell

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Saturday, October 26, 2013 2:34 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; ' (John.Morris@honeywell.com)'; 'cpravlik@tpmlaw.com'; ' (Michael_Daneker@aporter.com)'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'Rob Antonicello'; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com;

Clifford, Joseph T; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; Isabelle Procaccino; McWatters, Michael; Clifford, Joseph T
Subject: SA6 South Remedy Implementation

Bill,

As we discussed earlier this week, please advise when you plan to forward the information Honeywell proposes to provide to the Special Master and the parties to confirm the completion of excavation for delineated excavation cells. We are also expecting a document that will track the progress and status of the excavation (i.e., a drawing delineating the excavation grids similar to the drawing provide for the SA7 COPR Excavation). Recognizing that excavation work is now underway, it is important to get these items to us so the parties and the Special Master have sufficient time to review them without causing delay to your planned schedule to backfill the completed cells. In addition, during this week's site construction meeting there were some new drawings that Honeywell has generated that appear to show the projected extent of the meadow mat within each excavation cell. The presence of the meadow mat in the excavation cells raises a question as to how Honeywell intends to document/address the areas where meadow mat is encountered above the anticipated floor of excavation (especially if the meadow mat was not previously anticipated in such an area). A description of the survey protocol addressing this issue as well as the new drawings that Honeywell has generated would be useful for the parties to have as we follow the implementation of the excavation plan; please confirm when Honeywell can provide these new drawings and survey protocols to the Special Master and Plaintiffs.

Regards, Steve

Steven J. Egnaczyk
Program Director
THE Louis Berger Group, INC.
350 Eagleview Boulevard |Suite 250 | Exton, PA 19341-1178
Phone: 610.363.5395 | Fax: 610.363.5390
Cell: 610.212.1492
Email: segnaczyk@louisberger.com
http://www.louisberger.com

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:41 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E
Subject: FW: SA6 South Remedy Implementation

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Friday, November 08, 2013 10:08 PM
To: Clifford, Joseph T <Joseph.Clifford@amec.com>; Mojka, John <John.Mojka@Honeywell.com>; Bills, Stuart B <Stuart.Bills@amec.com>
Subject: FW: SA6 South Remedy Implementation

FYI

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, November 08, 2013 3:29 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'Rob Antonicello'; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA6 South Remedy Implementation

Bill,

We are in receipt of your email of November 5 regarding Excavation Bottom Elevations for the period 10-25-13 to 10-31-13 and your notification that your contractor is ready to backfill Excavation Cells 3, 4 and 5. During my site visit on November 5, I observed the excavation area and that Excavation Cells 3, 4, and 5 were fully excavated to the meadow mat. In addition, during our discussion on November 6 you clarified the information shown on the Figure ("Excavation Bottom Elevations, Period 10-25-13 to 10-31-13") and the Table prepared by Maser ("SA-6 South Excavation: Confirmatory Points") that were included in your November 5 submittal. The Special Master looks forward to receiving this figure and table in future submittals revised as we discussed as this will aid the Special Master in evaluating the excavation completion. Please be advised that the Special Master continues to evaluate what the process should be regarding excavation completion/backfill approval and we will be following up with the parties shortly. Recognizing that this part of the site is still within the boundary of the meadow mat the Special Master is comfortable in authorizing the backfill of Excavation Cells 3, 4 and 5.

Regards, Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Tuesday, November 05, 2013 5:36 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'Rob Antonicello'; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA6 South Remedy Implementation

Steve,

As discussed at our weekly meeting today, we are hereby notifying you that our contractor is ready to backfill Cells 3, 4 and 5 starting on Friday Nov 8.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

Below is a description of completed excavation activities specific for these Cells consistent with the language provided in our description of completed Cells 1 and 2.

- *For the period 10/25/2013 to 10/31/2013 excavation is complete for Cells 3, 4 and 5.*
- *The excavation in all cells terminates in Stratum D.*
- *A survey of the bottom is attached.*
- *Based upon the design documentation, a bottom-of-excavation confirmatory point is located within Cell 3.*
- *The surveyed location of the bottom-of-excavation confirmatory point is included in the attached figure.*
- *The north and south limits of Cells 3, 4 and 5 consist of sheet pile.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*

We are also attaching herein three supporting documents:

1. Excavation Progress Map through October 31, 2013 - depicts the 156, 15-ft wide cells that comprise the SA-6 South excavation and the updated excavation progress chart;
2. Excavation Bottom Map -includes the surveyed post-excavation bottom elevations for Cells 3, 4 and 5 which have been completed as described below.
3. Post-Excavation Confirmatory Sample Table Survey 103113 – provides the PDI Sampling Location and updated survey information post-excavation which corresponds to this set of Cells.

Please let us know if you have comments or questions on the proposed backfill schedule for these cells.

Thank you
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:41 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 6 through 9

Importance: High

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, November 15, 2013 11:13 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'Rob Antonicello'; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 6 through 9
Importance: High

Bill,

We are in receipt of your email of November 13 and attached Excavation Bottom Map and Post-Excavation Confirmatory Sample Table Survey regarding Excavation Bottom Elevations for the period 11-1-13 to 11-7-13. The November 13 email includes information regarding the excavation procedures and certifies that the excavation met the 100% Design requirements. Honeywell indicates that the contractor is ready to backfill Excavation Cells 6, 7, 8 and 9 and requests the Special Master's response. The Special Master has reviewed the documents provided by Honeywell and his representatives visited the site on November 12 and observed the excavation area. Based on our visual observations and the documentation provided by Honeywell it appears that Excavation Cells 6, 7, 8 and 9 were fully excavated to the meadow mat. Therefore, the Special Master has no objection to Honeywell's proposal to backfill these cells. The Special Master reiterates the concern raised previously and discussed yesterday on the technical call with Joe Clifford and ICO representatives as it relates to how the depth of excavation points have been identified. As this area is entirely meadow mat, the Special Master is comfortable with Honeywell proceeding with backfill. However, the Special Master still has unresolved questions as it relates to those cells where the depth of excavation will not reach or be defined by the meadow mat. It is our expectation that we can discuss, and hopefully resolve, those issues at Tuesday's meeting.

Regards, Steve

Steven J. Egnaczyk
Program Director
THE Louis Berger Group, INC.
350 Eagleview Boulevard |Suite 250 | Exton, PA 19341-1178
Phone: 610.363.5395 | Fax: 610.363.5390
Cell: 610.212.1492
Email: segnaczyk@louisberger.com
http://www.louisberger.com

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Wednesday, November 13, 2013 8:39 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'Rob Antonicello'; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 6 through 9

Steve,

As a follow up to our weekly meeting yesterday, we are hereby notifying you that our contractor is ready to backfill Cells 6 through 9 starting on Friday Nov 15th.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

Below is a description of completed excavation activities specific for these cells. consistent

- *For the period 11/01/2013 to 11/07/2013 excavation is complete for Cells 6, 7, 8 and 9.*
- *The excavation in all cells terminates in Stratum D.*
- *A survey of the bottom is attached.*
- *Based upon the design documentation, bottom of excavation confirmatory points are located within Cells 6, 7, 8 and 9.*
- *The surveyed location of the bottom of excavation confirmatory points are included in the attached figure.*
- *The location of confirmatory sidewall samples are listed in the PDI. To date none of the PDI confirmatory sidewall sample locations have been encountered.*
- *The north and south limits of Cells 6, 7, 8 and 9 consist of sheet pile.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
-

We are also attaching two supporting documents:

1. Excavation Bottom Map -includes the surveyed post-excavation bottom elevations for Cells 6 through 9 which have been completed.
2. Post-Excavation Confirmatory Sample Table Survey 1109713 – provides the PDI Sampling Location and updated survey information post-excavation which corresponds to this set of Cells.

Please let us know if you have comments or questions on the proposed backfill schedule for these cells.

Thank you
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:42 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 10 through 12

Importance: High

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Monday, November 25, 2013 3:50 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 10 through 12
Importance: High

Bill,

We are in receipt of your email of November 21 and attached Excavation Bottom Map – 111413, Confirmatory Points Certification - 111413 and Excavation Progress Map – 111413 regarding Excavation Bottom Elevations for the period 11-8-13 to 11-14-13. The November 21 email includes information regarding the excavation procedures and certifies that the excavation met the 100% Design requirements. Honeywell indicates that the contractor is ready to backfill Excavation Cells 10, 11 and 12 and requests the Special Master's response. The Special Master has reviewed the documents provided by Honeywell and his representatives visited the site on November 21 and observed the excavation area. Based on our visual observations and the documentation provided by Honeywell it appears that Excavation Cells 10, 11 and 12 were fully excavated to the meadow mat. Therefore, the Special Master has no objection to Honeywell's proposal to backfill these cells.

Regards, Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Thursday, November 21, 2013 1:24 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'Rob Antonicello'; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 10 through 12

Steve,

As discussed in our all parties meeting Tuesday, we are hereby notifying you that our contractor is ready to backfill Cells 10 through 12 starting on Friday Nov 22th.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

Below is a description of completed excavation activities specific for these cells.

- *For the period 11/08/2013 to 11/14/2013 excavation is complete for Cells 10, 11 and 12.*
- *The excavation in all cells terminates in Stratum D.*
- *A survey of the bottom is attached.*
- *Based upon the design documentation, bottom of excavation confirmatory points are located within Cells 10, 11 and 12.*
- *The surveyed location of the bottom of excavation confirmatory points are included in the attached figure.*
- *The first confirmatory PDI sidewall sample is identified in Cell 11. The sample location is inside the temporary sheetpile which was driven along the section Kellogg Street Jughandle.*
- *The north and south limits of Cells 10, 11 and 12 consist of sheet pile.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*

We are also attaching three supporting documents:

1. Excavation Bottom Map -includes the surveyed post-excavation bottom elevations for Cells 10 through 12 which have been completed.
2. Post-Excavation Confirmatory Sample Table Survey 111413 – provides the PDI Sampling Location and updated survey information post-excavation which corresponds to this set of Cells.
3. Excavation Progress Map – includes excavation status of the cells as of 111413.

We are in the process of working with Amec and the surveyor on making improvements to the supporting documents as discussed in our meeting and should have those soon.

Please let us know if you have comments or questions on the proposed backfill schedule for these cells.

Thank you
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962

973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:42 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 13 through 16

Importance: High

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Sunday, December 22, 2013 8:07 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 13 through 16
Importance: High

Bill,

We are in receipt of your email of December 16 and attached Confirmation Points Certification – 112113, Excavation Bottom Map – 112513 (Rev.1), Excavation Progress Map – 112113, Confirmation Points Certification – 120513, Excavation Bottom Map – 120513 (Rev.1), and Excavation Progress Map – 120513. The December 16 email includes information regarding the excavation procedures and certifies that the excavation met the 100% Design requirements. Honeywell indicates that the contractor is ready to backfill Excavation Cells 13, 14, 15 and 16 and requests the Special Master's response. The Special Master has reviewed the documents provided by Honeywell and his representatives visited the site on November 21, November 26, December 3, and December 5 and observed the excavation areas. Based on our visual observations and the documentation provided by Honeywell it appears that Excavation Cells 13, 14, 15 and 16 were fully excavated to the meadow mat. Therefore, the Special Master has no objection to Honeywell's proposal to backfill these cells.

Regards, Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, December 16, 2013 10:23 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell

Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 13 through 16

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 13 through 16 .

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers two periods:

- 11/15/13 to 11/25/13 - Cells 13 and 14
- 11/26/13 to 12/05/13 - Cells 15 and 16

For ease of review the attachments for each period are grouped together.

1. The bottom of excavation for Cells 13, 14, 15 and 16 was terminated in Stratum D. Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft.
2. Excavation Bottom Elevation Figures are included for both periods.
    1. Confirmatory points located within Cells 13 and 14 are shown on the Excavation Bottom Elevation figure for 11/15 to 11/25
    2. Confirmatory Bottom points located within Cells 15 and the Sidewall Samples for Cell 16 are shown on the Excavation Bottom Elevation figure for 11/26 to 12/05. A Reference Confirmatory Point was used for the bottom of Cell 16
3. Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A separate table is included for each period and the Cells which are the subject of the submittal period are highlighted in yellow.
4. The north and south limits of Cells 13, 14, 15 and 16 consist of sheet pile.
5. Sheet pile on the excavation face has been cleaned of visible soil materials.
6. The bottom and lateral limits of each cell were visually inspected by Amec personnel.
7. Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
8. Excavation progress Maps are shown for each period. Excavation is continuing in Cells 17 and 18 as shown in the Excavation Progress Map.

Please let us know if you have comments or questions on the proposed backfill schedule for these cells. We understand you will be on-site this week to review the progress.

Thank you
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction

Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:42 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 17 through 20

Importance: High

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, January 24, 2014 10:58 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 17 through 20
Importance: High

Bill,

We are in receipt of your email of January 8, 2014 and the following attachments: Confirmation Points Certification – 121213, Excavation Bottom Map – 121313 (Rev.2), and Excavation Progress Map – 121213. The January 8 email includes information regarding the excavation procedures and certifies that the excavation of Cells 17 through 20 met the 100% Design requirements. Honeywell indicates that the contractor is ready to backfill Excavation Cells 17, 18, 19 and 20 and requests the Special Master's response. The Special Master has reviewed the documents provided by Honeywell and his representatives visited the site on December 10, December 13, and December 17, 2013 and observed the excavation areas. Based on our visual observations and the documentation provided by Honeywell it appears that Excavation Cells 17 and 18 were fully excavated to the meadow mat and that Excavation Cells 19 and 20 were partially excavated to the meadow mat. For the areas of Excavation Cells 19 and 20 that were not excavated to the meadow mat, Honeywell provided the attachment "Excavation Bottom Map – 121313 (Rev.2)" showing the Excavation Bottom Elevations for the period 12-06-13 to 12-12-13 and "Confirmation Points Certification – 121213" that compares the Bottom Target Coordinates (based on PDI) versus the Actual Excavation Elevation that shows the following for Excavation Cells 19 and 20:

Excavation Cell No.*	Bottom Target Coordinate (MSL)	Actual Coordinates (of the confirmatory bottom sample survey point) (MSL)
19	2.4	2.0
20	2.4	2.0

*where meadow mat was not encountered

Honeywell notes on the Confirmation Points Certification table that in establishing the Bottom Target Coordinate for an excavation cell based on the PDI results reported in the 100% Design, an "R" designates a "Reference Confirmatory Point for a designated Bottom Excavation Area" that has not been shown on the Excavation Bottom Figure (i.e., the excavation has not yet reached the cell where the PDI boring was located). In future submittals, it would be helpful if Honeywell

would provide the location or reference the Cell Number of the Reference Point on the Excavation Bottom Figure for reference purposes even if the respective excavation cell where the PDI result is located has not yet been reached.

Based on the information provided by Honeywell in this notification and the discussions held during this week's Special Master All Parties Meeting where Plaintiffs noted no objection, the Special Master has no objection to Honeywell's proposal to backfill these cells.

Regards, Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Wednesday, January 08, 2014 11:25 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 17 through 20

Steve,

We are providing this email notification that our contractor is read to backfill Cells 17 through 20.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the period 12/06/13 to 12/12/13.

Cells 17, 18, 19 and 20

- The bottom of excavation for Cells 17, 18, was terminated in Stratum D. The majority of the bottom of Cells 19, 20, was terminated in Stratum D. The Southern section of cells 19 and 20 was terminated in Stratum O <20 PPM soils.
- Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft.
- An Excavation Bottom Elevation Figure is included for the period.
- Confirmatory points located within Cells 17, 18, 19 and 20 are shown on the Excavation Bottom Elevation figure.
- Confirmatory Sidewall Samples for Cells 18 and 20 are shown on the Excavation Bottom Elevation figure.
- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables.
- The northern limits of Cells 17, 18, 19 and 20 consist of sheet pile Barrier Wall. Approximately half of the southern extent of Cell 17 is terminated at the temporary sheetpile. The remainder of cell 17 and

cells 18, 19 and 20 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.

- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- Excavation progress Maps are provided. Excavation is continuing in Cells 21 and 22.

Please let us know if you have comments or questions on the proposed backfill schedule for these cells. We understand you will be on-site this week to review the progress. Also please note we did upload data on backfill materials yesterday in response to earlier comments

Thank you
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:43 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 21 through 25

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Thursday, March 06, 2014 4:38 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 21 through 25

Bill,
Thanks very much for your reply. Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Thursday, March 06, 2014 4:36 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 21 through 25

Steve
Thanks for your note below. I have reviewed the results with the Amec team for rows 21 through 25 and can confirm that all survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.

Regards
Bill Hague

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Tuesday, March 04, 2014 2:26 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 21 through 25

Bill,

We are in receipt of your email of January 28, 2014 and the following attachments: Confirmation Points Certification – 010914 (rev1), Excavation Bottom Elevations Period – 121313 to 010914 (Rev.1), and Excavation Progress Map – 010914. The January 28 email includes information regarding the excavation procedures and certifies that the excavation of Cells 21 through 25 met the 100% Design requirements. Honeywell indicated that the contractor is ready to backfill Excavation Cells 21, 22, 23, 24 and 25 and requests the Special Master's acknowledgment of the notification. The Special Master has reviewed the documents provided by Honeywell and his representatives visited the site on December 17, 19, 24 and 31, 2013 and observed the excavation areas. Based on our visual observations and the documentation provided by Honeywell it appears that portions of Excavation Cells 21 through 25 were partially excavated to the meadow mat and the attached table and survey elevations report the survey elevation of the meadow mat. For the areas of Excavation Cells 21 through 25 that were not excavated to the meadow mat, Honeywell provided the attachment "Excavation Bottom Elevations Period – 121313 to 010914 (Rev.1)" showing the Excavation Bottom Elevations for the period 12-13-13 to 1-09-14 and "Confirmation Points Certification – 010914" that compares the Bottom Target Coordinates (based on PDI) versus the Actual Excavation Elevation that shows the following for Excavation Cells 21 and 25:

Excavation Cell No.*	Bottom Target Coordinate (MSL)	Actual Coordinates (of the confirmatory bottom sample survey point) (MSL)
21	2.4	1.9
22	2.4	2.0
22	1.8	-0.1
23	2.4	-1.9
24	2.4	2.1
25	1.6	0.4

*where meadow mat was not encountered

In addition, the Special Master acknowledges Plaintiffs' February 21, 2014 email regarding excavation of cells 21-29 where Plaintiffs noted they have no further comments regarding the excavation of cells 21-29 and agreed that cells 21-29 have been excavated to the appropriate depth and may be backfilled.

The Special Master has no objection to Honeywell's proposal to backfill Cells 21 through 25, subject to Honeywell confirming by email that it agrees that the following statement, inserted in its subsequent Excavation Completion Reports, also applies to these cells (numbers 21 thru 25):

"All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered."

Please confirm via email.

Regards, Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Tuesday, January 28, 2014 2:02 PM

To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 21 through 25

Steve
Apologies to all, I had the incorrect attachments on the initial email. Correct attachments are provided here.
Thanks
Bill

From: Hague, William
Sent: Tuesday, January 28, 2014 1:35 PM
To: 'Egnaczyk, Steve'
Cc: 'RGT Special Master'; 'Kevin J. Coakley (KCoakley@connellfoley.com)'; "Liza M. Walsh' (LWalsh@connellfoley.com)'; "AGNES ANTONIAN' (AAntonian@connellfoley.com)'; 'Lewis, Thomas'; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; 'JFarrell@jcnj.org'; 'Dfanciullo@jcnj.org'; 'David Isabel'; 'Eric Tomaszewski'; 'Francis J. Borin'; 'Clifford, Joseph T'; 'KKINSELLA@decotiislaw.com'; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; 'McWatters, Michael'; 'JWatson@jcnj.org'
Subject: SA-6S : Excavation Completion in Cells 21 through 25

Steve,

We are providing this email notification that our contractor is read to backfill Cells 21 through 25.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the period: 12/13/13 to 01/09/14 - Cells 21, 22, 23, 24 and 25.

- *The majority of the bottom of Cells 21, 22, 23, 24 and 25 were terminated in Stratum D. The Southern limit of cells 21, 22, 23, 24 and 25 were terminated in Stratum O <20 PPM soils.*
- *Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft.*
- *An Excavation Bottom Elevation Figure is included for the period.*
- *Confirmatory Bottom Points located within Cells 21, 22, 23, 24 and 25 are shown on the Excavation Bottom Elevation figure.*
- *A Confirmatory Sidewall Sample for Cells 22 and 25 is also shown on the Excavation Bottom Elevation figure.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables.*
- *The northern limits of Cells 21, 22, 23, 24 and 25 consist of sheet pile Barrier Wall. The Southern Limit of excavation of cells 21, 22, 23, 24 and 25 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*

- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *Excavation progress Maps are provided. Excavation is continuing in Cells 26, 27, and 28.*

Note that we are also preparing a PDI location map for the SA-6 South area as requested by Kim Hosea at the last Special Master All Hands mtg and should have this available tomorrow which we will release with the next cell excavation summary email..

Please let us know if you have comments or questions on the proposed backfill schedule for these cells. We understand you were on-site this week to review the progress.

Thank you
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:44 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 26 through 29

-----Original Message-----
From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, March 07, 2014 5:54 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; (kmillian@tpmlaw.com); Morris, John (MTO); cpravlik@tpmlaw.com; Daneker, Michael; DelisleB@jcnj.org; Aalcorn@tpmlaw.com; MWeaver@tpmlaw.com; Jeremy.Karpatkin@aporter.com; JFarrell@jcnj.org; David Isabel; Eric Tomaszewski; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; Ben Ross (bross@disposalsafety.com); Bruce A. Bell; Kim Bell Hosea (k.bell@cea-enviro.com); McWatters, Michael; JWatson@jcnj.org
Subject: Re: SA-6S : Excavation Completion in Cells 26 through 29

Bill,
Thanks very much.
Steve

Sent from my iPhone

On Mar 7, 2014, at 5:39 PM, "Hague, William" <william.hague@honeywell.com<mailto:william.hague@honeywell.com>> wrote:

Steve
To follow up on your email below. We confirm that all survey points in the excavation cells 26 through 29 were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.

Please contact me if there are any additional questions.

Regards
Bill Hague

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, March 07, 2014 2:04 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com<mailto:KCoakley@connellfoley.com>); 'Liza M. Walsh' (LWalsh@connellfoley.com<mailto:LWalsh@connellfoley.com>); 'AGNES ANTONIAN' (AAntonian@connellfoley.com<mailto:AAntonian@connellfoley.com>); Lewis, Thomas; '(kmillian@tpmlaw.com<mailto:kmillian@tpmlaw.com>)'; Morris, John (MTO); 'cpravlik@tpmlaw.com<mailto:cpravlik@tpmlaw.com>'; Daneker, Michael; 'DelisleB@jcnj.org<mailto:DelisleB@jcnj.org>'; 'Aalcorn@tpmlaw.com<mailto:Aalcorn@tpmlaw.com>'; 'MWeaver@tpmlaw.com<mailto:MWeaver@tpmlaw.com>';

'Jeremy.Karpatkin@aporter.com<mailto:Jeremy.Karpatkin@aporter.com>'; JFarrell@jcnj.org<mailto:JFarrell@jcnj.org>; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com<mailto:KKINSELLA@decotiislaw.com>; 'Ben Ross (bross@disposalsafety.com<mailto:bross@disposalsafety.com>)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com<mailto:k.bell@cea-enviro.com>)'; McWatters, Michael; JWatson@jcnj.org<mailto:JWatson@jcnj.org>
Subject: RE: SA-6S : Excavation Completion in Cells 26 through 29
Importance: High

Bill,

We are in receipt of your email of January 29, 2014 and the following attachments: Confirmation Points Certification – 011614 (rev1), Excavation Bottom Elevations Period – 011014 to 011614 (Rev.1), and Excavation Progress Map – 011614. The January 29 email includes information regarding the excavation procedures and certifies that the excavation of Cells 26 through 29 met the 100% Design requirements. Honeywell indicated that the contractor is ready to backfill Excavation Cells 26, 27, 28 and 29 and requests the Special Master's acknowledgment of the notification. The Special Master has reviewed the documents provided by Honeywell and his representatives visited the site on December 31, 2013 and January 7, 9 and 14, 2014 and observed the excavation areas. Based on our visual observations and the documentation provided by Honeywell it appears that portions of Excavation Cells 26 through 29 were partially excavated to the meadow mat and the attached table and survey elevations report the survey elevations of the meadow mat. For the areas of Excavation Cells 26 through 29 that were not excavated to the meadow mat, Honeywell provided the attachment "Excavation Bottom Elevations Period – 011014 to 011614 (Rev.1)" showing the Excavation Bottom Elevations for the period 1-10-14 to 1-16-14 and "Confirmation Points Certification – 011614" that compares the Bottom Target Coordinates (based on PDI) versus the Actual Excavation Elevation that shows the following for Excavation Cells 26 through 29:

Excavation Cell No.*

Bottom Target Coordinate – based on PDI
(MSL)

Bottom Target Coordinate – based on Predetermined Bottom Elevations1
(MSL)

Actual Coordinates
(of the confirmatory bottom sample survey point)
(MSL)

26

1.6

0.4

0.3**

27

1.6

0.4

0.4**

28

1.6

0.4

0.2

29

3.5

2.1

2.1**

*where meadow mat was not encountered
**elevation based on Surveyed Center Point
1 Corresponds with the 9 “standardized” excavation intervals shown on Figure 4: SA-6 South Color Coded Excavation with Reference Samples, 1/28/14.

Honeywell also provided confirmation that the southern limit of excavation of cells 26, 27, 28, and 29 terminates at the less than (“<”)20 ppm line (delineated by Honeywell) at the bottom of excavation and the cells are cut back at a stable slope beyond the 20ppm line.

In addition, the Special Master acknowledges Plaintiffs' February 21, 2014 email regarding excavation of cells 21-29 where Plaintiffs noted they have no further comments regarding the excavation of cells 21-29 and agreed that cells 21-29 have been excavated to the appropriate depth and may be backfilled.

The Special Master has no objection to Honeywell's proposal to backfill Cells 26 through 29, subject to Honeywell confirming that it agrees that the following statement, inserted in its subsequent Excavation Completion Reports, also applies to these cells (numbers 26 thru 29):

"All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered."

Please confirm via email.

Regards, Steve

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From: Hague, William [mailto:william.hague@honeywell.com]

Sent: Wednesday, January 29, 2014 2:27 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com<mailto:KCoakley@connellfoley.com>); 'Liza M. Walsh' (LWalsh@connellfoley.com<mailto:LWalsh@connellfoley.com>); 'AGNES ANTONIAN' (AAntonian@connellfoley.com<mailto:AAntonian@connellfoley.com>); Lewis, Thomas; ' (kmillian@tpmlaw.com<mailto:kmillian@tpmlaw.com>)'; Morris, John (MTO); 'cpravlik@tpmlaw.com<mailto:cpravlik@tpmlaw.com>'; Daneker, Michael; 'DelisleB@jcnj.org<mailto:DelisleB@jcnj.org>'; 'Aalcorn@tpmlaw.com<mailto:Aalcorn@tpmlaw.com>'; 'MWeaver@tpmlaw.com<mailto:MWeaver@tpmlaw.com>'; 'Jeremy.Karpatkin@aporter.com<mailto:Jeremy.Karpatkin@aporter.com>'; JFarrell@jcnj.org<mailto:JFarrell@jcnj.org>; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com<mailto:KKINSELLA@decotiislaw.com>; 'Ben Ross (bross@disposalsafety.com<mailto:bross@disposalsafety.com>)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com<mailto:k.bell@cea-enviro.com>)'; McWatters, Michael; JWatson@jcnj.org<mailto:JWatson@jcnj.org>
Subject: RE: SA-6S : Excavation Completion in Cells 26 through 29

Steve,

We are providing this email notification that our contractor is read to backfill Cells 26 through 29.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the period: 01/10/14 to 01/16/14 - Cells 26, 27, 28 and 29.

Ø The majority of the bottom of Cells 26, 27, 28, and 29 were terminated in Stratum D. The Southern limit of cells 26, 27, 28, and 29 were terminated in Stratum O <20 PPM soils.

Ø Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft.

Ø An Excavation Bottom Elevation Figure is included for the period.

Ø Confirmatory Bottom Points located within Cells 26, 27, 28, and 29 are shown on the Excavation Bottom Elevation figure.

Ø A Confirmatory Sidewall Sample for Cell 28 is also shown on the Excavation Bottom Elevation figure.

Ø Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables.

Ø The northern limits of Cells 26, 27, 28, and 29 consist of sheet pile Barrier Wall. The Southern Limit of excavation of cells 26, 27, 28, and 29 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.

Ø Sheet pile on the excavation face has been cleaned of visible soil materials.

Ø The bottom and lateral limits of each cell were visually inspected by Amec personnel.

Ø Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.

Ø Excavation progress Maps are provided. Excavation is continuing in Cells 30 and 31.

Note that this submittal includes the additional PDI Reference Bottom Sample Location Map for SA-6 South requested during the January 21, 2014 SM Meeting. This location map corresponds to the Figure presented depicting the 41 individual color-coded bottom excavation areas within SA-6 South, and the Reference Boring Summary Table identifying the coordinates and the corresponding Cell location previously provided to the parties.

Please let us know if you have comments or questions on the proposed backfill schedule for these cells. We understand you were on-site this week to review the progress.

Thank you
Bill Hague

Honeywell
William J. Hague P.E.
Director - Remediation Design & Construction Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com<mailto:william.hague@honeywell.com>

_____
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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:44 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 30 through 37

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Monday, March 10, 2014 10:32 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 30 through 37

Bill,
Thanks very much. The additional figures you provided record the progress of excavation for Cells 30-35. Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, March 10, 2014 10:23 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 30 through 37

Steve,

We believe your question arises from the fact that we submitted a single email package of tables and supporting figures for several weekly periods.

I have asked Amec to provide just the original Excavation Bottom Map for each of the four weekly periods which document the surveying for Cells 30 through 37. These survey maps are attached for weeks ending 01/23/14 (Cells 30 and 31), 01/30/14 (Cells 32 and 33), 02/06/14 (Cells 34 and 35), and 02/13/14 (Cells 36 and 37).

Please let me know if you have any other questions.

Regards,
Bill Hague

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, March 07, 2014 2:11 PM
To: Hague, William

Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 30 through 37

Bill,

We are in receipt of your email of February 28, 2014 and the following attachments: Confirmation Points Certification – 021314, Excavation Bottom Elevations Period – 020914 to 021314, and Excavation Progress Maps – 012314, – 013014, – 020614, and– 021314. The February 28 email includes information regarding the excavation procedures and certifies that the excavation of Cells 30 through 37 met the 100% Design requirements. Honeywell indicated that the contractor is ready to backfill Excavation Cells 30, 31, 32, 33, 34, 35, 36 and 37 and requests the Special Master's acknowledgment of the notification. The Special Master has reviewed the documents provided by Honeywell and his representatives visited the site on January 16, 23, 28, 30, and February 4 and 11, 2014 and observed the excavation areas. Based on our visual observations and the documentation provided by Honeywell it appears that portions of Excavation Cells 30 through 37 were partially excavated to the meadow mat and the attached table and survey elevations report the survey elevations of the meadow mat. For the areas of Excavation Cells 30 through 37 that were not excavated to the meadow mat, Honeywell provided the attachment "Excavation Bottom Elevations Period – 020914 to 021314" showing the Excavation Bottom Elevations for the period 2-9-14 to 2-13-14 and "Confirmation Points Certification – 021314" that compares the Bottom Target Coordinates (based on PDI) versus the Actual Excavation Elevation that shows the following for Excavation Cells 30 through 37:

Excavation Cell No.*	Bottom Target Coordinate – based on PDI (MSL)	Bottom Target Coordinate – based on Predetermined Bottom Elevations[1] (MSL)	(of the c
30	3.5	2.1	
31	3.5	2.1	
32	3.5	2.1	
33	3.5	2.1	
34	3.5	2.1	
35	3.5	2.1	
36	3.5	2.1	
37	3.5	2.1	

*where meadow mat was not encountered

**elevation based on Surveyed Center Point

[1] Corresponds with the 9 "standardized" excavation intervals shown on Figure 4: SA-6 South Color Coded Excavation with Reference Samples, 1/28/14.

Please note Figure: "Excavation Bottom Elevations Period – 020914 to 021314" appears to show current excavation to Stratum D (gray shading) only in Excavation Cells 36 and 37 and Excavation Cells 30 through 35 with cross-hatching depicting "Previously Submitted Data". However, the Special Master is not aware of a previous submittal showing Cells 30 through 35 with gray shading denoting being excavated to Stratum D and Table: "Confirmation Points Certification – 021314"reports that Stratum D was reached in portions of Excavation Cells 30 through 37. Please confirm whether the Figure is correct.

Honeywell also provided confirmation that the southern limit of excavation of cells 30 through 37 terminates at the less than ("<")20 ppm line (delineated by Honeywell) at the bottom of excavation and [the cells] are cut back at a stable slope beyond the 20ppm line.

In addition, the Special Master acknowledges Plaintiffs' March 5, 2014 correspondence regarding excavation of cells 30-39 where Plaintiffs noted they believe that Honeywell has excavated cells 30 through 39 to the appropriate depth.

Following confirmation of the question raised above regarding the depiction of areas excavated to the meadow mat, the Special Master has no objection to Honeywell's proposal to backfill Cells 30 through 37.

Regards, Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Friday, February 28, 2014 10:29 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 26 through 29

Steve,

We are providing this email notification that our contractor is read to backfill Cells 30 through 37.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the following individual periods:

01/17/14 to 01/23/14 - Cells 30 and 31
01/24/14 to 01/30/14 – Cells 32 and 33
01/31/14 to 02/06/14 – Cells 34 and 35
02/07/14 to 02/13/14 – Cells 36 and 37

- *The majority of the bottom of Cells 30 through 37 were terminated in Stratum D. The Southern limit of cells 30 through 37 were terminated in Stratum O <20 PPM soils. Area 4 was carried down to Stratum D.*
- *Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft.*
- *An Excavation Bottom Elevation Figure is included for Cells 30 through 37.*
- *Confirmatory Bottom Points located within Cells 30 through 37 are shown on the Excavation Bottom Elevation figure.*
- *A Confirmatory Sidewall Sample for Cell 31, 32,33, and 35 are also shown on the Excavation Bottom Elevation figure.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to Cells 30 through 37.*

- *The northern limits of Cells 30 through 37 consist of sheet pile Barrier Wall. The Southern Limit of excavation of cells 30 and 37 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *Excavation progress Maps for each grouping of cells are provided*
- *Excavation is continuing in Cells 38 and 39.*
- *Amec confirms that all survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.*

Note that this submittal includes the additional "four corner points" identifying the surveyed locations and elevations of excavation bottoms which were completed above the meadow mat consistent with our comment responses to the parties.

Please let us know if you have comments or questions on the proposed backfill schedule for these cells. We understand you were on-site this week to review the progress.

Thank you
Bill Hague

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:43 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 38 and 39

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, March 07, 2014 2:19 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 38 and 39

Bill,

We are in receipt of your email of March 3, 2014 and the following attachments: Confirmation Points Certification – 022014, Excavation Bottom Elevations Period – 021414 to 022014, and Excavation Progress Map – 022014. The March 3 email includes information regarding the excavation procedures and certifies that the excavation of Cells 38 and 39 met the 100% Design requirements. Honeywell indicated that the contractor is ready to backfill Excavation Cells 38 and 39 and requests the Special Master's acknowledgment of the notification. The Special Master has reviewed the documents provided by Honeywell and his representatives visited the site on February 11 and 18, 2014 and observed the excavation areas. Based on our visual observations and the documentation provided by Honeywell it appears that portions of Excavation Cells 38 through 39 were partially excavated to the meadow mat and the attached table and survey elevations report the survey elevations of the meadow mat. For the areas of Excavation Cells 38 and 39 that were not excavated to the meadow mat, Honeywell provided the attachment "Excavation Bottom Elevations Period – 021414 to 022014" showing the Excavation Bottom Elevations for the period 2-14-14 to 2-20-14 and "Confirmation Points Certification – 022014" that compares the Bottom Target Coordinates (based on PDI) versus the Actual Excavation Elevation that shows the following for Excavation Cells 38 and 39:

Excavation Cell No.*	Bottom Target Coordinate – based on PDI (MSL)	Bottom Target Coordinate – based Predetermined Bottom Elevations[1] (MSL)	Actual Coordinate (of the confirmatory bottom samp (MSL)
38	3.5	2.1	2.1
39	3.5	2.1	2.0

*where meadow mat was not encountered

[1] Corresponds with the 9 "standardized" excavation intervals shown on Figure 4: SA-6 South Color Coded Excavation with Reference Samples, 1/28/14.

Honeywell also provided confirmation that the southern limit of excavation of cells 38 and 39 terminates at the less than ("<")20 ppm line (delineated by Honeywell) at the bottom of excavation and [the cells] are cut back at a stable slope beyond the 20ppm line.

In addition, the Special Master acknowledges Plaintiffs' March 5, 2014 correspondence regarding excavation of cells 30-39 where Plaintiffs noted they believe that Honeywell has excavated cells 30 through 39 to the appropriate depth.

The Special Master has no objection to Honeywell's proposal to backfill Cells 38 and 39.

Regards, Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, March 03, 2014 8:03 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 38 and 39

Steve,

We are providing this email notification that our contractor is read to backfill Cells 38 and 39.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the following individual period: 02/14/14 to 02/20/14 – Cells 38 and 39

Please note that we will be sending to your attention later today the SOP you requested for excavation depth/ survey confirmation.

- *The majority of the bottom of Cells 38 and 39 were terminated in Stratum D. The Southern limit of cells 38 and 39 were terminated in Stratum O <20 PPM soils. Area 4 was carried down to Stratum D.*
- *Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft.*
- *Excavation Bottom Elevation Figures are included for each of the cell groupings noted above.*
- *Confirmatory Bottom Points located within Cells 38 and 39 are shown on the Excavation Bottom Elevation figures.*
- *A Confirmatory Sidewall Sample for Cell 39 is also shown on the Excavation Bottom Elevation figure.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to Cells 38 and 39.*
- *The northern limits of Cells 38 and 39 consist of sheet pile Barrier Wall. The Southern Limit of excavation of cells 38 and 39 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*

- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *Excavation progress Maps for Cells 38 and 39. Excavation is continuing in Cells 40 and 41.*
- *All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.*

Note that this submittal includes the additional language regarding certification that elevations of excavation bottoms were at or below design excavation elevations and representative of final excavation complete grade(s) throughout the portion of cells where we did not encounter Stratum D.

Please let us know if you have comments or questions on the proposed backfill schedule for these cells. We understand you were on-site this week to review the progress.

Thank you
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:44 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 40 through 43

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, March 28, 2014 4:21 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 40 through 43

Bill,

We are in receipt of your email of March 23, 2014 and the following attachments: Confirmation Points Certification – 022714 and Confirmation Points Certification – 030614 containing the Confirmation Points Certification Tables and the following figures: Excavation Bottom Elevations - Period 022114 to 022714, Excavation Bottom Elevations Period - 022814 to 030614, Excavation Progress Map – 022714, and Excavation Progress Map – 030614. The March 23 email includes information regarding the excavation procedures and certifies that the excavation of Cells 40 through 43 met the 100% Design requirements. Honeywell indicated that the contractor is ready to backfill Excavation Cells 40 through 43 and requests the Special Master's acknowledgment of the notification. The Special Master has reviewed the documents provided by Honeywell and his representatives visited the site on February 18 and 25 and March 4 and March 11, 2014 and observed the excavation areas. Based on our visual observations and the documentation provided by Honeywell it appears that portions of Excavation Cells 40 through 43 were excavated to the meadow mat and the attached tables and survey elevations report the final survey elevation of the meadow mat. For the areas of Excavation Cells 40 through 43 that were not excavated to the meadow mat, Honeywell provided the following figures and tables: Excavation Bottom Elevations Period – 022114 to 022414 (Figure), Excavation Bottom Elevations Period – 022814 to 030614 (Figure) and ENTACT Letters of Transmittal dated March 11, 2014 (re: Survey Data and Verification – Cells 40 and 41) and March 14, 2014 (re: Survey Data and Verification – Cells 42 and 43) that compare the Bottom Target Coordinates (based on PDI) versus the Actual Excavation Elevation and the Bottom Target Coordinates based on the Predetermined Bottom Elevations versus the Surveyed Center Point Elevation that shows the following for Excavation Cells 40 through 43:

Excavation Cell No.*	Reference Table 1.2		Referenc
	Bottom Target Coordinate – based on PDI (MSL)	Actual Coordinates (of the confirmatory bottom sample survey point) (MSL)	Bottom Target Coordinate – based Predetermined Bottom Elevations** (MSL)	T
40	1.7	0.0	0.4	
41	0.4	0.1	0.4	
42	0.4	0.1	0.4	

43	0.5	0.1	0.4

*where Stratum D (meadow mat) was not encountered

** Correspond to the 9 “standardized” excavation intervals shown on Figure 4: SA-6 South Color Coded Excavation with Reference Samples, 1/28/14.

In addition, Honeywell confirmed in the email that “All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.” In addition, the ENTACT transmittals include a verification that Maser Consulting, P.A. (“Maser)has surveyed the bottom of excavations and that the final excavation grade(s) are at or below the design excavation grades throughout the corresponding excavation cells and a certification from Maser that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

Honeywell also provided confirmation that the Southern Limit of excavation of Cells 40, 41, 42, and 43 terminate at the less than (“<”)20 ppm line (delineated by Honeywell) at the bottom of excavation and [the cells] are cut back at a stable slope beyond the 20ppm line and that Standardized Excavation Interval - Area 7 was excavated down to Stratum D.

Lastly, the Special Master acknowledges Plaintiffs' March 28, 2014 email regarding excavation of cells 40-43 where Plaintiffs noted they believe cells 40 through 43 have been excavated to the appropriate depth.

The Special Master has no objection to Honeywell's proposal to backfill Cells 40 through 43.

Regards, Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Sunday, March 23, 2014 7:33 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 40 through 43

Steve,

We are providing this email notification that our contractor is read to backfill Cells 40, 41, 42 and 43.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the following individual periods:

02/21/14 to 02/27/14 – Cells 40 and 41
02/28/14 to 03/06/14 – Cells 42 and 43

- *The majority of Cells 40 and 41 were terminated in Stratum D. Approximately half of the bottom of Cells 42 and 43 were terminated in Stratum D. The Southern limit of cells 40, 41, 42 and 43 were terminated in Stratum O <20 PPM soils. Area 7 was carried down to Stratum D.*
- *Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft.*
- *The Excavation Bottom Elevation Figures is included for the cells noted above.*
- *Confirmatory Bottom Points located within Cells 40, 42 and 43 are shown on the Excavation Bottom Elevation figures.*
- *Confirmatory Sidewall Samples for Cell 40 and 42 are also shown on the Excavation Bottom Elevation figures.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to Cells 40 and 41 and Cells 42 and 43 for each of the weekly periods.*
- *The northern limits of Cells 40, 41, 42 and 43 consist of sheet pile Barrier Wall. The Southern Limit of excavation of Cells 40, 41, 42 and 43 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *Excavation progress Maps for each grouping are provided. Excavation is continuing in Cells 44 through 48.*
- *All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.*

Note that this submittal includes the additional language regarding certification that elevations of excavation bottoms were at or below design excavation elevations and representative of final excavation complete grade(s) throughout the portion of cells where we did not encounter Stratum D.

Please let us know if you have comments or questions on the proposed backfill schedule for these cells. We understand you were on-site this week to review the progress.

Thank you
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, March 06, 2017 10:00 AM
To: Christodoulatos, Eric G
Subject: FW: SA6South excavation of cells 44-52

Follow Up Flag: Follow up
Flag Status: Flagged

From: Karpatkin, Jeremy C. [mailto:Jeremy.Karpatkin@apks.com]
Sent: Monday, March 06, 2017 9:58 AM
To: Clifford, Joseph T <Joseph.Clifford@amecfw.com>
Subject: FW: SA6South excavation of cells 44-52

_____

Jeremy C. Karpatkin
Arnold & Porter Kaye Scholer LLP
601 Massachusetts Ave., NW | Washington | DC 20001-3743
T: +1 202.942.5564 | F: +1 202.942.5999
jeremy.karpatkin@apks.com | www.apks.com

From: segnaczyk@louisberger.com
Sent: Thursday, April 17, 2014 4:12 PM
To: Hague, William
Cc: aantonian@connellfoley.com; kcoakley@connellfoley.com; lwalsh@connellfoley.com; tlewis@louisberger.com; Daneker, Michael D.; Karpatkin, Jeremy C.; Morris, John (MTO); 'Jeremy Farrell (jfarrell@jcnj.org)'; 'Jason T. Watson (jwatson@jcnj.org)'; kmillian@tpmlaw.com; Graham, Stephanie; 'A. Kim Bell Hosea'; b.bell@cea-enviro.com; bross@disposalsafety.com; rgtspecialmaster@aol.com; aalcorn@tpmlaw.com
Subject: RE: SA6South excavation of cells 44-52

Bill,
Letter was received.
Thanks, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Thursday, April 17, 2014 4:04 PM
To: Egnaczyk, Steve
Cc: 'Agnes Antonian'; 'Kevin Coakley'; 'Liza M. Walsh'; Lewis, Thomas; Daneker, Michael; 'Jeremy Karpatkin'; Morris, John (MTO); 'Jeremy Farrell (jfarrell@jcnj.org)'; 'Jason T. Watson (jwatson@jcnj.org)'; Kathleen L. Millian; Graham, Stephanie; 'A. Kim Bell Hosea'; 'Bruce A. Bell'; BRoss@disposalsafety.com; 'Senator Robert Torricelli'; Alicia Clark Alcorn
Subject: RE: SA6South excavation of cells 44-52

Steve
Our response to this letter you reference went out about ½ hour ago at 3:25.
Let me know if you have an issue getting access.

Regards
Bill

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Thursday, April 17, 2014 3:52 PM
To: Hague, William
Cc: 'Agnes Antonian'; 'Kevin Coakley'; 'Liza M. Walsh'; Lewis, Thomas; Daneker, Michael; 'Jeremy Karpatkin'; Morris, John (MTO); 'Jeremy Farrell (jfarrell@jcnj.org)'; 'Jason T. Watson (jwatson@jcnj.org)'; Kathleen L. Millian; 'A. Kim Bell Hosea'; 'Bruce A. Bell'; BRoss@disposalsafety.com; 'Senator Robert Torricelli'; Alicia Clark Alcorn
Subject: RE: SA6South excavation of cells 44-52

Bill,

Could you please provide the status of your reply to Plaintiff's letter regarding excavation of cells 44-52?

Regards, Steve

This message, including any attachments hereto, may contain privileged and/or confidential information and is intended solely for the attention and use of the intended addressee(s). If you are not the intended addressee, you may neither use, copy, nor deliver to anyone this message or any of its attachments. In such case, you should immediately destroy this message and its attachments and kindly notify the sender by reply mail. Unless made by a person with actual authority conferred by Louis Berger or its respective affiliated companies (collectively, "LB"), the information and statements herein do not constitute a binding commitment or warranty by LB, and LB assumes no responsibility for any misperceptions, errors or misunderstandings.

From: Alicia Clark Alcorn [mailto:aalcorn@tpmlaw.com]
Sent: Friday, April 11, 2014 12:33 PM
To: 'Senator Robert Torricelli'
Cc: 'Agnes Antonian'; 'Kevin Coakley'; 'Liza M. Walsh'; Lewis, Thomas; Egnaczyk, Steve; 'Michael Daneker'; 'Jeremy Karpatkin'; 'Hague, William'; 'John Morris (john.morris@honeywell.com)'; 'Jeremy Farrell (jfarrell@jcnj.org)'; 'Jason T. Watson (jwatson@jcnj.org)'; Kathleen L. Millian; 'A. Kim Bell Hosea'; 'Bruce A. Bell'; BRoss@disposalsafety.com
Subject: SA6South excavation of cells 44-52

Please see the attached.

Alicia C. Alcorn
Terris, Pravlik & Millian, LLP
1121 12th Street N.W.
Washington, DC 20005-4632
Main Telephone: 202-682-2100 ext.8471
Direct Dial: 202-204-8471
Facsimile: 202-289-6795
E-Mail: aalcorn@tpmlaw.com

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For more information about Arnold & Porter Kaye Scholer LLP, click here:
http://www.apks.com

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

April 17, 2014 *Via Express Mail*

Honorable Robert G. Torricelli
Office of the Special Master
41 W. State St., Suite 2F
Trenton, NJ 08608

Subject: Response to Comments Provided by Plaintiffs, April 11, 2004
Excavation of Cells 44 Through 52
Study Area 6 South

Dear Senator Torricelli:

Honeywell has attached a memorandum prepared by its engineer, Amec, responding to comments provided by Plaintiffs on April 11th, pertaining to the excavation of cells 44 through 52 in Study Area 6 South.

If you have any questions, please contact the undersigned at (973) 455-2175.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:sgf

Encl: 04/17/14 Amec Memorandum re: Response to Comments on Study Area 6 South – Excavation of Cells 44 Through 52

cc: (electronic copy only)
Joe Clifford - AMEC
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP
Dr. Bruce Bell - Carpenter Environmental Associates, Inc.
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall
Jason Watson – City Hall
Agnieszka Antonian - Connell Foley LLP
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC
Tom Byrne - Honeywell
Maria Kaouris - Honeywell

John Morris - Honeywell
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP
Steve Egnaczyk - The Louis Berger Group, Inc.
Thomas Lewis - The Louis Berger Group, Inc.

Memo

Date:	**4/17/2014**	cc:	**John Morris, Maria Kaouris, John Mojka, Jeremy Karpatkin, Michael Daneker**
From:	**Joe Clifford/Geoff Shallard**		
To:	**Bill Hague**		
Subject:	**Response to Comments on Study Area 6 South – Excavation of Cells 44 Through 52**		

AMEC Environment & Infrastructure, Inc. (Amec), on behalf of Honeywell, has prepared the following responses to the comments that were submitted by Plaintiffs regarding the Study Area 6 South – Excavation of Cells 44 through 52 in a letter dated April 11, 2014. For convenience, Amec has listed each comment from Terris, Pravlik & Millian, LLP and the corresponding technical response from Amec.

Responses to Comments from Terris, Pravlik and Millian (TPM)

Terris, Pravlik and Millian Comment (TPM-1):
On March 3, 2014, Honeywell provided the SA-6 South Standard Operating Procedure Confirmation of Excavation Limits ("SOP"). Plaintiffs are in the process of reviewing and preparing technical comments on the SOP which we will circulate to all parties in the near future. However, we note that the documentation of the excavation of cells 42-52 provided by Honeywell does not conform to the requirements of Honeywell's SOP.

Amec Response: Contrary to the Plaintiffs' assertion, Amec believes that the documentation of cells 44-52 (we assume the 42-52 was a typographical error) is being provided in conformance with the Honeywell SOP as explained in Amec's second response below.

Terris, Pravlik and Millian Comment (TPM-2):
In Particular, the SOP (p.3) states that for the bottom excavation in excavation areas where Stratum D is encountered, "[t]he Surveyor documents the elevations at the approximate corners and center of each excavation cell and other points that they deem necessary to prepare the topographic survey." With respect to cells 44-52, the documentation provided by Honeywell does not include survey data for the corner points of the Stratum D excavation area within each cell. If these data were collected, Honeywell should provide the data to the Special Master and parties. If the corner points data were not collected, we request that Honeywell provide an explanation as to why the SOP is not being followed. In addition, if the data were not collected,

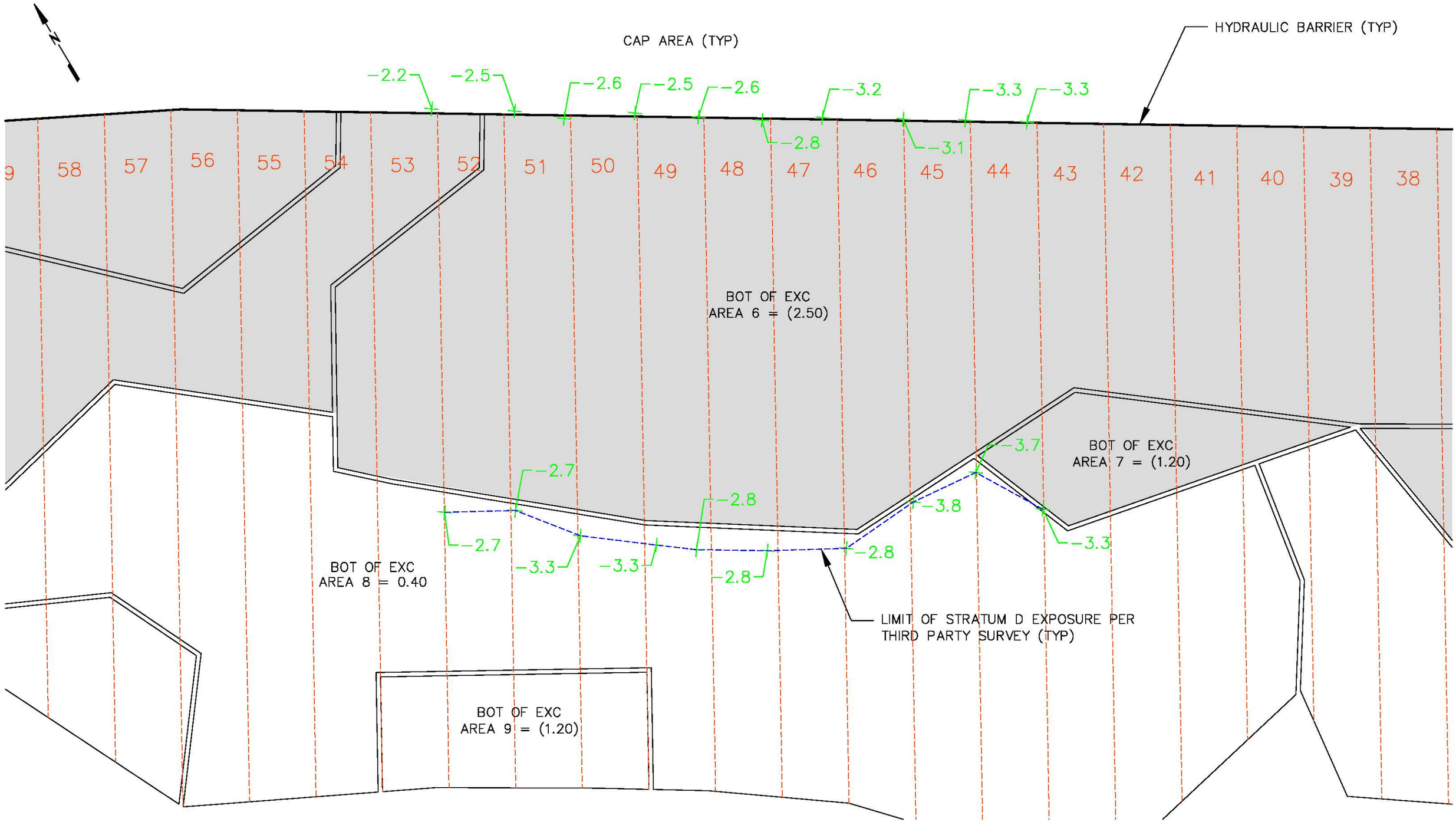
AMEC
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
Tel 609-689-2829
Fax 609-689-2838
amec.com

Honeywell should require that the contractors go back and collect all the data points required by the SOP.

Amec Response: Amec confirms that the surveyor has collected the data necessary to prepare the topographic map as indicated in the first bullet of Section 5.0 in the SOP. The topographic map will be prepared to meet the requirements of Section 02315 Part 3.03 Topographic Surveys, Part C. Post Excavation Survey of the Technical Specifications. Copies of the survey points at Stratum D approximate to the corners of cells 44-52 are attached. The topographic survey will be provided as part of the final certification.

Terris, Pravlik and Millian Comment (TPM-3):
Based upon the documentation provided by Honeywell regarding the excavation areas within cells 44-52 that were excavated to a depth other than the Stratum D, plaintiffs concur that Honeywell has excavated those areas to the appropriate depth. As to the excavation areas within cells 44-52 that were to be excavated to the Stratum D, plaintiffs will wait for Honeywell's response to these comments prior to making a determination as to whether excavation was to the appropriate depth.

Amec Response: The requested information has been provided as noted above.



LIMIT OF ANTICIPATED STRATUM D EXPOSURE PER DESIGN (TYP)

-3.8 BOE ELEVATION AT EDGE OF STRATUM D PER THIRD PARTY SURVEY (TYP)

0 5 10 20
SCALE IN FEET

Prepared/Date: TDD 4/18/14
Checked/Date: SGS 4/18/14

Honeywell 101 COLUMBIA RD. BOX 2105 MORRISTOWN, NJ 07962	CHROMIUM REMEDY STUDY AREA 6 SOUTH JERSEY CITY, NEW JERSEY	amec	SA-6 SOUTH STRATUM D CELLS 44 THRU 52 FIGURE 1

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:55 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E
Subject: FW: SA-6S : Excavation Completion in Cells 44 through 48

Same as last email, don't see an acknowledgement from SM, use this as placeholder.

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:44 PM
To: Clifford, Joseph T <Joseph.Clifford@amecfw.com>
Subject: FW: SA-6S : Excavation Completion in Cells 44 through 48

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Sunday, April 06, 2014 1:11 PM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; Daneker, Michael <Michael_Daneker@aporter.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 44 through 48

Steve,

We are providing this email notification that our contractor is read to backfill Cells 44, 45, 46, 47 and 48.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the following two individual periods:

03/07/14 to 03/13/14 – Cells 44 and 45
03/14/14 to 03/20/14 – Cells 46, 47 and 48

- *Approximately half of the bottom of Cells 44 and 45 were terminated in Stratum D. The Southern limit of cells 44 and 45 were terminated in Stratum O <20 PPM soils. Area 7 was carried down to Stratum D.*

- *Approximately 30-40% of the bottom of Cells 46, 47 and 48 were terminated in Stratum D. The Southern limit of cells 46, 47 and 48 were terminated in Stratum O <20 PPM soils. Area 7 was carried down to Stratum D.*
- *Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft. There is a naturally occurring narrow east west trending ridge in the surface of the Stratum D (fibrous brown meadow mat) near the midpoint of the excavation that rises up to 2 feet above the general elevation of the Stratum D on these cells. The ridge appears to be more prominent as the excavation has advanced to the west. The ridge is part of the contiguous Stratum D geologic horizon.*
- *A significant number of pilings are being encountered. The pilings supported the 60 Kellogg St warehouse structure. Pilings are being sheared flush with the bottom of excavation.*
- *Excavation Bottom Elevation Figures are included for the cells noted above.*
- *Confirmatory Bottom Points located within Cells 44, 45, 46, 47 and 48 are shown on the Excavation Bottom Elevation figure.*
- *A Confirmatory Sidewall Sample 125-SB-067 for Cell 44 and Sample 125-PT-15 for Cell 47 are also shown on the respective Excavation Bottom Elevation figure.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to Cells 44 and 45 for the week ending 03/13/14 and Cells 46, 47 and 48 for the week ending 03/20/14.*
- *The northern limits of Cells 44, 45, 46, 47 and 48 consist of sheet pile Barrier Wall. The Southern Limit of excavation of Cells 44, 45, 46, 47 and 48 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials. There are several joints where excess grout from the grouted joint is evident adhering to the sheets. Some grout that is strongly adhering to the sheet was left in place.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *Excavation Progress Maps are provided. Excavation is continuing in Cells 49 and 50.*
- *All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.*

Thanks
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:44 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 49 through 52

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, April 09, 2014 10:53 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 49 through 52

Bill,
Thanks very much. Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Wednesday, April 09, 2014 10:50 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 49 through 52

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 49, 50, 51 and 52.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 03/21/14 to 03/27/14.

- *Approximately 60% of the bottom of Cells 49, 50, 51 and 52 were terminated in Stratum D. The Southern limit of cells 49, 50, 51 and 52 were terminated in Stratum O*

- *An Excavation Bottom Elevation Figure is included for the cells noted above.*
- *Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft. There is a naturally occurring narrow east west trending ridge in the surface of the Stratum D (fibrous brown meadow mat) near the midpoint of the excavation that rises above the general elevation of the Stratum D on these cells. The ridge is part of the contiguous Stratum D geologic horizon.*
- *A significant number of pilings continue to be encountered. The pilings supported the 60 Kellogg St warehouse structure. Pilings are being sheared flush with the bottom of excavation.*
- *Confirmatory Bottom Points located within Cells 49, 50, 51 and 52 are shown on the Excavation Bottom Elevation figure.*
- *Confirmatory Sidewall Samples 125-SB-081 for Cell 49, 125-SB-091 for Cell 50, 125-SB-080 for Cell 51 and 125-SB-092 for Cell 52 are also shown on the Excavation Bottom Elevation figure.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to Cells 49, 50, 51 and 52.*
- *The northern limits of Cells 49, 50, 51 and 52 consist of sheet pile Barrier Wall. The Southern Limit of excavation of cells 49, 50, 51 and 52 terminate at the*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *An Excavation Progress Maps is provided. Excavation is continuing in Cells 53 and 54.*

- *All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.*

Please note that additional lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the southern limits of Cells 50, 51 and 52, Stratum O is divided by the line separating designated Area 8 from Area 9.

Thanks
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:54 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E
Subject: FW: SA-6S : Excavation Completion in Cells 53 through 56

Eric, there was a period in time where the SM had my email incorrect, so I don't think I have the acknowledgement for this one. Use this as placeholder

---

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:45 PM
To: Clifford, Joseph T <Joseph.Clifford@amecfw.com>
Subject: FW: SA-6S : Excavation Completion in Cells 53 through 56

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Friday, April 11, 2014 8:32 AM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; Daneker, Michael <Michael_Daneker@aporter.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 53 through 56

Steve,

We are providing this email notification that our contractor is read to backfill Cells 53, 54, 55 and 56.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 03/28/14 to 04/04/14.

- *Approximately 40% of the bottom of Cells 53, 54, 55 and 56 were terminated in Stratum D. The Southern limit of cells 53, 54, 55 and 56 were terminated in Stratum O <20 PPM soils.*

- *An Excavation Bottom Elevation Figure is included for the cells noted above.*
- *Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft. There is a naturally occurring narrow east west trending ridge in the surface of the Stratum D (fibrous brown meadow mat) near the midpoint of the excavation that rises above the general elevation of the Stratum D on these cells. The ridge is part of the contiguous Stratum D geologic horizon. Portion of the top of the ridge was removed in Cells 55 and 56 to permit clean excavation to the Area 8 boundary.*
- *Lines has been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the southern limits of Cells 53, 54, 55 and 56 the Stratum O is divided by Area 8, Area 9 and Area 10*
- *Pilings from the 60 Kellogg St warehouse were sheared flush with the bottom of excavation.*
- *Confirmatory Bottom Points located within Cells 53, 54, 55 and 56 are shown on the Excavation Bottom Elevation figure.*
- *Confirmatory Sidewall Samples 125-SB-079 for Cell 53, and 125-SB-087, 125-SB-080 for Cell 56, are also shown on the Excavation Bottom Elevation figure.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to Cells 53, 54, 55 and 56*
- *The northern limits of Cells 53, 54, 55 and 56 consist of sheet pile Barrier Wall. The Southern Limit of excavation of Cells 53, 54, 55 and 56 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *An Excavation Progress Map is provided. Excavation is continuing in Cells 57 and 58.*

- *All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.*

Thanks
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:44 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 57 & 58

Importance: High

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Thursday, May 01, 2014 5:23 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 57 & 58
Importance: High

Bill,

The Special Master is in receipt of your April 28, 2014 email and the supporting documentation regarding Excavation Completion in Cells 57 and 58 and the notification that the contractor is ready to backfill Cells 57 and 58. We have no objection to Honeywell's proposal to backfill Cells 57 and 58.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, April 28, 2014 7:49 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 57 & 58

Steve,

We are providing this email notification that our contractor is read to backfill Cells 57 and 58.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 04/05/14 to 04/11/14.

- *Approximately 40% of the bottom of Cells 57 and 58 were terminated in Stratum D. The Southern limit of cells 57 and 58 were terminated in Stratum O <20 PPM soils.*
- *An Excavation Bottom Elevation Figure is included for the cells noted above.*
- *Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft. There is a naturally occurring narrow east west trending ridge in the surface of the Stratum D (fibrous brown meadow mat) near the midpoint of the excavation that rises above the general elevation of the Stratum D on these cells. The ridge is part of the contiguous Stratum D geologic horizon. Portion of the top of the ridge was removed in cells 57 and 58 to permit clean excavation to the Area 8 boundary.*
- *Lines has been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the southern limits of Cells 57 and 58 the Stratum O is terminated at the respective Area 8 and Area 10 excavation elevations.*
- *Pilings from the 60 Kellogg St warehouse were sheared flush with the bottom of excavation.*
- *Confirmatory Bottom Points located within Cells 57 and 58 are shown on the Excavation Bottom Elevation figure.*
- *Confirmatory Sidewall Samples. There were no confirmatory sidewall samples in cells 57 and 58.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to Cells 57 and 58.*
- *The northern limits of Cells 57 and 58 consist of sheet pile Barrier Wall. The Southern Limit of excavation of cells 57 and 58 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *An Excavation Progress Map is provided. Excavation has been temporarily terminated in Cell 59. The excavation and backfill faces will be stabilized and excavation will be started at the western portion of the site in Cell 153/154.*

- *All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.*

Also please find attached the Figure 1 showing Stratum D corner elevations as discussed at our last all parties meeting. We had previously sent this figure for Cells 44-52 in response to plaintiffs comments, so we are herein attaching the figure for Cells 53-58.

Thanks
Bill Hague

Honeywell
William J. Hague P.E.
Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road

Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:12 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E
Subject: FW: SA-6 South Excavation Complete Submittal Cells 59 through 68

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, December 12, 2014 11:47 AM
To: Hague, William <william.hague@honeywell.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; 'Daneker, Michael' <Michael_Daneker@aporter.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JWatson@jcnj.org; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; Morris, John (MTO) <John.Morris@honeywell.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>
Subject: RE: SA-6 South Excavation Complete Submittal Cells 59 through 68

Bill,

The Special Master is in receipt of your November 24, 2014 email and the supporting documentation regarding Excavation Completion in Cells 59-68 and your notification that the requirements to allow backfilling have been met. Honeywell has also reported that as indicated in the previous submittal for Cells 69-75, the lens of anomalous white material approximately 2 feet below ground surface (BGS) was also observed in Cells 68 to 61. Consistent with the response to Cells 69 to 75 and as reported in Honeywell's November 17 response to Plaintiffs' November 11, 2014 email, the anomalous white material was previously identified and sampled during the PDI program and found to be less than 20 ppm hexavalent chromium in all locations shown on the updated Figure 1. Honeywell further reported in the November 17 response that an additional sample of the material was collected at the same depth during the active excavation and this result was also reported at less than 20 ppm hexavalent chromium.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, November 24, 2014 12:31 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael;

JWatson@jcnj.org
Subject: SA-6 South Excavation Complete Submittal Cells 59 through 68

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 59 through 68.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 10/17/14 to 10/30/14.

This Excavation Submittal includes Cells 59 through 68.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- As indicated in the previous submittal for cells 69-75 Amec inspectors identified a lens of white material approximately 2 ft. below ground surface. This lens was also observed in Cells 68 to 61. Based on review of the PDI data and a targeted sample taken from the lens at the time of excavation that lens shows no indication of the presence of chromium above 20 mg/KG. The extent and testing of the lens has been addressed in previous emails with the Special Master and Plaintiffs.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells.
- Lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas in the Cells 59 through 68.
- The bottom of excavation for Area 11 and Area 14 were both terminated in Stratum D.
- The bottom of excavation for Areas 8, 10 and 12 were terminated in Stratum O, at or below the respective Excavation Bottom Elevations.
- The contiguous excavation in SA-6S between Cell 1 and Cell 156 is complete excluding the deferred Area by the Hackensack River.
- Excavation will proceed in Site 163 and the lens of anomalous material extending south of Cell 104.
- Confirmatory Bottom Points are located within Cells 59, 61, 63, 64 66, 67, and 68. Reference Points were also used in Cells 59, 60, 61, 62, 63, 65, 66, 67, and 68.
- The northern excavation limit was the Barrier Wall.
- The southern limit of Cells 59 through Cell 68 is sloped excavation.
- There were Confirmatory Sidewall Samples in Cells 59, 60, 61, 64, 65, 67, and 68.

As previously discussed, we intend on issuing a separate certification email on the Site 163 shallow excavation and an amended certification once the Cell 104 anomalous material excavation is complete.

Regards,

Bill Hague

Honeywell
William J. Hague P.E.
Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, December 01, 2014 10:32 AM
To: Ambrose, David M; Shallard, Samuel G.
Cc: Bills, Stuart B; Christodoulatos, Eric G
Subject: FW: SA-6 South Excavation Complete Submittal Cells 69-75

This is the last set of cells that SM has responded to.

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, November 26, 2014 10:01 AM
To: 'Hague, William'; Clifford, Joseph T
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6 South Excavation Complete Submittal Cells 69-75

Bill/Joe,

The Special Master is in receipt of your November 3, 2014 email and the supporting documentation regarding Excavation Completion in Cells 69-75 and your notification that the requirements to allow backfilling have been met. In addition, the Special Master is in receipt of Honeywell's November 17 email response and updated Figure 1 showing locations of additional analytical information and the extent of the observed anomalous white material in response to Plaintiffs' November 11, 2014 email. As reported in Honeywell's November 17 response, the anomalous white material was previously identified and sampled during the PDI program and found to be less than 20 ppm hexavalent chromium in all locations shown on the updated Figure 1. Honeywell then collected an additional sample of the material at the same depth during the active excavation and this result was also reported at less than 20 ppm hexavalent chromium.

Regards, Steve

Steven J. Egnaczyk
Program Director | Environmental and Disaster Management Services

direct +1.610.363.5395
mobile +1.610.212.1492
fax +1.610.363.5390
email segnaczyk@louisberger.com
web louisberger.com

Louis Berger
350 Eagleview Boulevard | Exton | PA | 19341-1178| USA

Celebrating 60 Years

From: Clifford, Joseph T [mailto:Joseph.Clifford@amec.com]
Sent: Monday, November 03, 2014 2:37 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6 South Excavation Complete Submittal Cells 69-75

Steve,

I am providing this email on behalf of Honeywell.

We are providing this email notification that our contractor is ready to backfill Cells 69 through 75.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 10/03/14 to 10/16/14.

This Excavation Submittal includes Cells 69 through 75.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits.
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors identified a lens of white material approximately 2 ft. below ground surface over at the southern end of Cell 70. Review of the PDI data shows sidewall soil samples at a similar depth interval (140-SB-025, 140-SB-034 and 140-SB-072) indicated hexavalent chromium results that were
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells.
- Lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas in the Cells 69 through 75.
- Area 14 was terminated in Stratum D.
- Areas elevations for 8, 12 and 13 were terminated in Stratum O at or below at the respective Excavation Bottom Elevations.
- Excavation will proceed from Cell 68 to the east.
- The excavation will continue through Cell 59 at which point it will connect to the previously excavated area of Cells 1 through 58.
- Confirmatory Bottom Points located within Cells 75, 74, 73, 72, 71, 70 and 69.
- The northern excavation limit was the Barrier Wall.

- The southern limit of Cells 69 through the eastern portion of Cell 71 is sloped excavation. The southern limit of the western portion of Cell 71 and Cells 72 through 75 is temporary sheetpile.
- There were Confirmatory Sidewall Samples in Cells 71 (2 locations) and 75.

Regards.

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, February 27, 2017 8:25 AM
To: Christodoulatos, Eric G; Nagg, Dennis E
Subject: FW: SA-6 South Excavation Complete Submittal Cells 76-79
Attachments: GCL Area 100314_2.pdf

From: Clifford, Joseph T
Sent: Wednesday, November 05, 2014 10:47 AM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; 'Daneker, Michael' <Michael_Daneker@aporter.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org; Hague, William [william.hague@honeywell.com] <william.hague@honeywell.com>
Subject: RE: SA-6 South Excavation Complete Submittal Cells 76-79

Steve,

I am providing this email on behalf of Honeywell.

We are providing this response to your clarification request received in an email dated October 30, 2014 regarding the Excavation Complete Submittal on Cells 76 - 79. HON has reviewed the requested information with Amec and can offer the following statements:

- The 100% Design for Cell 76 and 77 indicates excavation to Stratum D at a target elevation of -2.5 feet.
- After reaching the Stratum D layer within the excavation, Amec inspectors identified a limited discontinuity in the Stratum D surface.
- Amec instructed the contractor to remove additional material which revealed that the discontinuity was smaller than thought, and then directed the contractor to repair the area using GCL in accordance with 100% Design.
- Amec confirms that the excavation limits and the repaired area both meet the requirements of the 100% Design.

We are also including an updated figure of the actual GCL repair area, with the “drawing scale” now added, in response to a separate email request from Kim Hosea received on October 27, 2014.

Please let us know if you need more information on this item.

Regards.

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Thursday, October 30, 2014 6:28 PM
To: Hague, William; Clifford, Joseph T
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6 South Excavation Complete Submittal Cells 76-79

Bill/Joe,

The Special Master is in receipt of your October 24, 2014 email and the supporting documentation regarding Excavation Completion in Cells 76-79 and your notification that the requirements to allow backfilling have been met. Honeywell reports that in the southern limit of Cells 76/77 there were portions of the Stratum D material missing. Honeywell also reports their contractor successfully completed repairs to this area. Please provide a certification which confirms that: 1) impacted soils as defined in the 100% Design were removed from the discontinuous area to the design depth for Excavation Area 14, and 2) the area was repaired and the requirements to allow backfilling as required in the 100% Design were met.

Regards, Steve

From: Clifford, Joseph T [mailto:Joseph.Clifford@amec.com]
Sent: Friday, October 24, 2014 7:27 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6 South Excavation Complete Submittal Cells 76-79

Steve,

I am providing this email on behalf of Honeywell.

We are providing this email notification that our contractor is ready to backfill Cells 76 through 79.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 09/25/14 to 10/02/14.

This Excavation Submittal includes Cells 76 through 79.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- The northern excavation limit was the Barrier Wall.
- The southern limit is temporary sheet pile.
- There was one Confirmatory Sidewall Samples in Cell 77.
- All Cells are in Area 14.
- Area 14 was designed to terminate in Stratum D.
- All cells terminated in Stratum D with the exception of an area of discontinuous Stratum D as discussed below.
- At the southern limit of Cell 76/77, a discontinuity was identified in the Stratum D. The area of the discontinuity is shown on the attached Figure titled "As Built GCL Area Cells 75, 76 and 77". There appeared to be a vertical displacement downward in the stratum D along the western edge of the area shaded in yellow on the figure. Excavation revealed that the Stratum D sloped back up to the typical Stratum D top elevation along the eastern edge of the area. To establish continuity in the Stratum D a Geosynthetic Clay Liner (GCL) was deployed over the area as depicted by the green shading on the figure. The Stratum D was continuous east of the repair area.
- The Confirmatory Bottom Point sample locations are provided for Cells 76 through 79.
- Excavation will proceed from Cell 75 to the east.

Regards.

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Christodoulatos, Eric G

From: Bills, Stuart B
Sent: Monday, October 20, 2014 10:49 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6 South Excavation Complete Submittal Cells 80 through 83

Importance: High

Follow Up Flag: Follow up
Flag Status: Completed

Stuart B. Bills
Senior Associate Construction Manager
AMEC E&I, Inc.
(252) 202-1411

stuart.bills@amec.com
www.amec.com

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From: Clifford, Joseph T
Sent: Monday, October 20, 2014 10:25 AM
To: Shallard, Samuel G.; Bills, Stuart B; Nagg, Dennis E
Cc: Ambrose, David M; Mojka, John
Subject: FW: SA-6 South Excavation Complete Submittal Cells 80 through 83
Importance: High

Good to go.

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, October 15, 2014 9:51 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6 South Excavation Complete Submittal Cells 80 through 83
Importance: High

Bill,

The Special Master is in receipt of your October 10, 2014 email and the supporting documentation regarding Excavation Completion in Cells 80-83 and the notification that the contractor is ready to backfill these Cells.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Friday, October 10, 2014 1:14 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6 South Excavation Complete Submittal Cells 80 through 83

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 80 through 83.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 09/05/14 to 09/25/14.

This Excavation Submittal includes Cells 80 through 83.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits.
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- Cells 80 through 83 are all in Area 14 which was designed to terminate in Stratum D.
- Cells 80 through 83 all terminated in Stratum D.
- The Confirmatory Bottom Point sample locations are provided for Cells 80 through 83 on the attached Excavation Bottom Map.
- The northern excavation limit was the Barrier Wall.
- The southern limit is partially temporary sheet pile (Cell 80 and part of 81) and partially sloped excavation (Cell 83, 82 and part of 81).
- There were Confirmatory Sidewall Samples in Cells 80, 82 and 83.
- Excavation will proceed from Cell 79 to the east.

Regards,

Bill Hague

Honeywell
William J. Hague P.E.
Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:15 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E
Subject: FW: SA-6 South Excavation Complete Submittal Cells 84-89

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Thursday, October 16, 2014 1:12 PM
To: Clifford, Joseph T <Joseph.Clifford@amec.com>; Hague, William <william.hague@honeywell.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; 'Daneker, Michael' <Michael_Daneker@aporter.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org
Subject: RE: SA-6 South Excavation Complete Submittal Cells 84-89

Joe,
Thanks very much. Steve

From: Clifford, Joseph T [mailto:Joseph.Clifford@amec.com]
Sent: Thursday, October 16, 2014 11:58 AM
To: Egnaczyk, Steve; Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6 South Excavation Complete Submittal Cells 84-89

Steve,

I am sending this email on behalf of Honeywell.

Per your request, attached please find the Maser Consulting Survey Data Table inclusive of Cells 84 - 89 with the signed ENTACT Letter of Transmittal cover page.

This attachment replaces the one submitted in the original email from Bill Hague on October 2, 2014 which did not include the ENTACT transmittal.

Please let us know if you need any other information relative to Cells 84 – 89 completion submittal.

Regards.

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, October 15, 2014 9:49 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6 South Excavation Complete Submittal Cells 84-89
Importance: High

Bill,

The Special Master is in receipt of your October 2, 2014 email and the supporting documentation regarding Excavation Completion in Cells 84-89 and the notification that the contractor is ready to backfill these Cells. Consistent with previous submittals, please either provide the ENTACT Letter of Transmittal with the signed Survey Data Verification, confirming that Maser Consulting, P.A. ("Maser) has surveyed the bottom of excavations and that the final excavation grade(s) are at or below the design excavation grades throughout the corresponding excavation cells or confirmation that this verification is not applicable to this submittal.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Thursday, October 02, 2014 7:38 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6 South Excavation Complete Submittal Cells 84-89

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 84 through 89.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 08/22/14 to 09/04/14.

This Excavation Submittal includes Cells 84 through 89.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits.
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- All cells were terminated were terminated in Stratum D.
- Confirmatory Bottom Points located within Cells 89, 88, 87, 86, 85. A Reference Point was used for Cell 84.
- The northern excavation limit was the Barrier Wall.
- The southern limit is sloped excavation.
- There were Confirmatory Sidewall Samples in Cells 89 and 84.
- It is noted that the southerly limit of the <20 PPM line was straightened in Cells 84 through 89 and carried further to the south to simplify excavation geometry in this area. We excavated in a straight line between 134-SB-100 (Cell 89) and 140-SB-059 (Cell 83) to simply excavation rather than jogging back in to 140-SB-060 (Cell 84). This results in the sidewall sample in Cell 84 (140-SB-060) being located within the final excavation limits.
- Excavation will proceed from Cell 83 to the east.

Regards,
Bill Hague

Honeywell
William J. Hague P.E.
Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

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Christodoulatos, Eric G

From: Bills, Stuart B
Sent: Friday, September 05, 2014 10:36 AM
To: Christodoulatos, Eric G
Subject: Fwd: SA-6S : Excavation Completion in Cells 90 through 99

Stuart Bills
AMEC E&I

Sent via the Samsung GALAXY S®4, an AT&T 4G LTE smartphone

-------- Original message --------
From: "Clifford, Joseph T"
Date:09/05/2014 10:34 (GMT-05:00)
To: "Shallard, Samuel G." ,"Bills, Stuart B"
Cc: "Nagg, Dennis E" ,"Ambrose, David M" ,"Mojka, John"
Subject: FW: SA-6S : Excavation Completion in Cells 90 through 99

Good to go

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, September 05, 2014 10:02 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 90 through 99

Bill,
The Special Master is in receipt of your September 3, 2014 email and the supporting documentation regarding Excavation Completion in Cells 90 through 99 and the notification that the contractor is ready to backfill these Cells.
Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Wednesday, September 03, 2014 9:37 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 90 through 99

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 90 through 99.
We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.
This submittal notification of SA-6 South excavation completion covers the individual period from 08/08/14 to 08/21/14.
It is noted that a sidewall sample was taken from of a thin lens of grayish material identified directly above the Stratum D in the face of the step up from Area 15 into Area 16 in Cell 104. This sample came back with a validated result of hexavalent chromium > 20 ppm. Further investigation and sampling is being conducted as needed to delineate and remove this material.
As discussed, this over-excavation of the 100% Design footprint (based upon the 20 ppm contour established during the PDI) will result in an amended certification email for affected cells and additional laboratory data on sidewall will be provided once validated.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- All cells were terminated were terminated in Stratum D.
- Confirmatory Bottom Points located within Cells 99, 98, 97, 96, 95, 93, 91, and 90.
- The northern excavation limit was the Barrier Wall. The southern limit is sloped excavation
- There were Confirmatory Sidewall Samples in Cells 92 and 96.
- Excavation will proceed from Cell 89 to the east.

Regards,
Bill

Honeywell
William J. Hague P.E.
Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:12 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E
Subject: FW: AMENDED CERTIFICATION FOR EXCAVATION COMPLETE IN CELLS 100 TO 106A AND NEW EXCAVATION COMPLETE CERTIFICATION FOR AREA 41

Importance: High

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, February 04, 2015 6:23 PM
To: Hague, William <william.hague@honeywell.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; 'Daneker, Michael' <Michael_Daneker@aporter.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; Ben Davis <bdavis@tpmlaw.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org
Subject: RE: AMENDED CERTIFICATION FOR EXCAVATION COMPLETE IN CELLS 100 TO 106A AND NEW EXCAVATION COMPLETE CERTIFICATION FOR AREA 41
Importance: High

Bill,

The Special Master is in receipt of your January 7, 2015 email and the supporting documentation regarding the Amended Certification for Excavation Complete in Cells 100 to 106A and new Excavation Complete Certification for Area 41 and your notification that the requirements to allow backfilling have been met. Please confirm that the certification statements contained in your email refer to both the expanded excavation in Cells 100 to 106A and Area 41.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Wednesday, January 07, 2015 2:40 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T;

KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: AMENDED CERTIFICATION FOR EXCAVATION COMPLETE IN CELLS 100 TO 106A AND NEW EXCAVATION COMPLETE CERTIFICATION FOR AREA 41

AMENDED CERTIFICATION FOR EXCAVATION COMPLETE IN CELLS 100 TO 106A AND NEW EXCAVATION COMPLETE CERTIFICATION FOR AREA 41

Steve,

We are providing an amended certification regarding completion of excavation in Cells 100 to 106A which was originally submitted by Honeywell to the parties by email on August 18, 2014.

As discussed in the September 16, 2014 monthly Special Master meeting/call, Honeywell and Amec indicated that an amended certification would be needed based upon analytical information received on the anomalous material indicating hexavalent concentrations > 20 ppm.

Subsequent to the original submittal, Honeywell also directed Amec to determine the lateral extent of the anomaly and collect additional sidewall soil samples consistent with our approved plans. Honeywell kept the parties informed that the additional delineation would require some time as other site conditions including stockpile management had to be completed by the excavation contractor before a drill rig could access the area.

The investigation resulted in collection of a total of 16 soil samples for hexavalent chromium, 15 of these using a drill rig and the last one collected as a post-excavation sidewall sample (see Figure 10 Anomalous Lens Boring Location Map attached).

The lateral extent of the lens was defined by locations of soil samples 134-SB-170, 134-SB-171, 134-SB175 and 134-SB-177, which all had hexavalent chromium < 20 ppm. This last soil sample designated as 134-SB-177 was collected post-excavation and confirmed to be < 20 ppm. The area was excavated to these soil sample locations in late November/early December and inspected by Amec and resurveyed by Maser on December 8, 2014.

The investigation program confirmed that the lens was present just above the Stratum D. Excavation was continued laterally to the excavation limits or until there was no visible grey lens. Area 41 is a small isolated excavation area identified in the 100% Design which was performed concurrent with the anomaly material excavation. The faces of excavation were inspected by Amec as noted below:

- Coordinates for Survey of the finished excavation to Stratum D are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal.
- The excavation was extended from Cell 104 in a Southwest to West direction.
- The bottom of the excavation followed the surface of the Stratum D.
- The excavation was extended to the limits defined by the investigation.
- The bottom of the excavation was visually inspected by Amec personnel to confirm that all of the grey lens had been removed and Stratum D exposed.
- The sidewall slopes were laid back to provide stable conditions.
- The limits of the excavation were visually inspected by Amec personal to confirm that the grey lens was no longer visible.
- In cases where the lens was determined to still be visible the excavation was expanded and the process repeated until a visibly clean limit was established.

- Additional confirmation sampling was conducted in these cases to provide a sidewall sampling frequency that met the NJDEP Technical Regulation requirements incorporated into the approved 100% Design.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- There was a total of 8 Confirmatory Sidewall Samples, 4 locations for the limits of the Cell 104 anomalous material and 4 locations for Area 41.
- 10 Confirmatory Center Point elevations were recorded consistent with the Cell Layout to provide a record in this submittal of the elevation of the Stratum D. Additional coordinates were surveyed and will be used for production of the excavation bottom survey.

An Amended Excavation Bottom Elevation Map showing the additional area of excavation of visually-impacted concrete and subsequent soil > 20 ppm is attached and highlighted in gray.

The added < 20 ppm soil sample confirmatory locations are also shown on the map. Analytical data for the additional soil samples collected in this excavation area was provided in the SA-6 Monthly Progress Reports and is updated in Figure 10 attached.

The Maser Survey Table showing the confirmatory points has been updated to reflect the added soil sample locations with hexavalent chromium < 20 ppm (highlighted in yellow on page 19 of 20 and labeled as “Lens Area”) which are additional sidewall confirmatory samples for SA-6 South.

As all of the over excavation for this anomalous material extended to Stratum D, no additional bottom samples were necessary.

Lastly, during a recent weekly progress meeting, you asked about a single point in the HON/Amec submittal of Excavation Complete in Cells 59 through 68 (originally submitted on November 24, 2014). Specifically you asked if the table correctly identified the Target Elevation for the Depth of Excavation in the Maser Table for point C-70-3. Amec Engineers have reviewed the Maser table and concur that the Target Depth for point C-70-3 should be 0.4 feet (consistent with the target excavation depth for Area 13) and the corrected Maser table (attached).

Regards
Bill Hague

Honeywell
William J. Hague P.E.
Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, February 27, 2017 8:37 AM
To: Christodoulatos, Eric G; Nagg, Dennis E
Subject: FW: SA-6 South Excavation Complete Submittal - Area 41

Importance: High

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, February 11, 2015 5:31 PM
To: Hague, William <william.hague@honeywell.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; 'Daneker, Michael' <Michael_Daneker@aporter.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; Ben Davis <bdavis@tpmlaw.com> (bdavis@tpmlaw.com) <bdavis@tpmlaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org
Subject: RE: SA-6 South Excavation Complete Submittal - Area 41
Importance: High

Bill,

The Special Master is in receipt of your February 9, 2015 email and the supporting documentation regarding Excavation Completion in Area 41 and your notification that the requirements to allow backfilling have been met.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, February 09, 2015 2:48 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6 South Excavation Complete Submittal - Area 41

Steve,

We are providing an amended certification regarding completion of excavation in Area 41 which was originally submitted by Honeywell to the parties by email on January 7, 2015.

In response to your questions raised last week via phone call with Amec, we understand that a clarification was requested to certify that the standard inspections were also performed specific to Area 41 and not just Cells 100 to 106A.

As a result, we are providing this amended certification for Area 41 only.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

The following statements and attached data are specific to Area 41:

- Coordinates for Survey of the finished excavation are tabulated in the Maser Tables.
- The bottom of the excavation was terminated in Stratum O.
- One PDI bottom sample location 134-SB-026 is associated with Area 41 and is shaded yellow on Page 9 of the Maser Table.
- The sidewall slopes were laid back to provide stable conditions.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- There was a total of 4 Confirmatory Sidewall Samples for Area 41. These samples and included and shaded yellow on Page 20 of the Maser Table. The samples form the corners of the Excavation.
- The Excavation Bottom Elevation Map showing Area 41 is attached.
- The bottom and sides of the excavation was visually inspected by Amec personnel to confirm there was no indication of visibly impacted soils.
- Backfill in Area 41 has been initiated.

Note that there were no changes needed to the attachments.

Please let us know if you have any other questions on this item.
Regards,
Bill Hague

Honeywell
William J. Hague P.E.
Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

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Christodoulatos, Eric G

From: Bills, Stuart B
Sent: Wednesday, August 13, 2014 2:52 PM
To: Christodoulatos, Eric G
Subject: Fwd: SA-6S : Excavation Completion in Cells 106B through 118B and 107A through 114A

Importance: High

Stuart Bills
AMEC E&I
Sent via the Samsung GALAXY S®4, an AT&T 4G
LTE smartphone

-------- Original message --------
From: "Clifford, Joseph T"
Date:08/13/2014 14:10 (GMT-05:00)
To: "Bills, Stuart B" ,"Mojka, John"
Cc: "Kaouris, Maria" ,"Ambrose, David M" ,"Shallard, Samuel G."
Subject: FW: SA-6S : Excavation Completion in Cells 106B through 118B and 107A through 114A

fyi

From: Egnaczyk, Steve [segnaczyk@louisberger.com]
Sent: Wednesday, August 13, 2014 11:32 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 106B through 118B and 107A through 114A

Bill,
The Special Master is in receipt of your August 4, 2014 email and the supporting documentation regarding Excavation Completion in Cells 106B through 118B and 107A through 114A and the notification that the contractor is ready to backfill these Cells.
Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, August 04, 2014 7:59 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T;

Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 106B through 118B and 107A through 114A
Steve,
We are providing this email notification that our contractor is ready to backfill Cells 106B through 118B and 107A through 114A.
We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.
This submittal notification of SA-6 South excavation completion covers the individual period from 06/30/14 to 07/14/14.
As previously indicated, select cells are being split into subparts A and B at the discretion of the Engineer. The split is based on either the geometry of the excavation and cell overlay or due to constructability considerations related to the need to backfill adjacent to the Barrier wall prior to completion and approval of the full cell. The A designation will be applied to the portion of the cell adjacent to the hydraulic barrier and the B designation includes the southern part of the cell.
Cells 106 through 118 are physically divided into an A and B designation by a peninsula of
Commencing at Cell 105 the cells are no longer divided by the
Please note that the Maser table has been updated to include the missing reference points in Cells 117 and 119.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits.
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells.
- Lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the Cells 106B through 118B and 107A through 114A, the excavation is terminated at the respective Area 15, 16, 17, 18, 24, 28 and 29 excavation elevations.
- Excavation will proceed from Cell 106 to the east to Cell 104.
- Cells 118 B, 117 B, 116B and a significant portion of 115B encountered Stratum D and was terminated accordingly (see Excavation Bottom Elevation figure). In general the northern portion of the excavation (Cells with A designation) was terminated in Stratum O at or below the Target Elevations.
- Stratum D was encountered in the easterly portion of Cell 107 A (Area 15). Area 15 (-4.3 bottom elev.) will be excavated to Stratum D as the excavation moves to the east.
- In Cells 112B to 114B the excavation limits were deepened to beyond the defined chromium impacted soil limits to remove soils below 3 UST's.
- Confirmatory Bottom Points located within Cells 106B through 118B and 107A through 114A are shown on the Excavation Bottom Elevation figure.
- The northern excavation limit was the Barrier Wall. The southern limit as the Temporary Sheetpile wall. There were Confirmatory Sidewall Samples in Cells 113A, 111A, 109A, 107A, 118B, 116B, 115B, 112B, 110B and 107B.
- The remedial design calls for an area south of the temporary sheetpile support and bulkhead to be remediated by a combination of shallow excavation and insitu treatment. This work will be tracked separately to the main excavation currently being conducted.

Regards,
Bill

Honeywell
William J. Hague P.E.
Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

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Question regarding Cell 117 was addressed in the submittal for Cells 106B through 118B and 107A through 114A, submitted to Parties on August 4, 2014.

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:17 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E
Subject: FW: SA-6S : Excavation Completion in Cells 115a to 120

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Thursday, July 24, 2014 9:41 AM
To: Hague, William <william.hague@honeywell.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; Daneker, Michael <Michael_Daneker@aporter.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 115a to 120

Bill,

I have one (1) question regarding the submittal: Could you please clarify/confirm why there was no entry for Cell 117 on Maser Table 1.4 listing the SA-6 South Excavation: Confirmatory Points (Page 5 of 1) provided with the ENTACT Transmittal)?

Otherwise, the Special Master is in receipt of your July 16, 2014 email and the supporting documentation regarding Excavation Completion in Cells 115a to 120 and the notification that the contractor is ready to backfill these Cells.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Wednesday, July 16, 2014 8:53 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea

(k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 115a to 120

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 115A to 120.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 06/26/14 to 06/30/14.

As previously indicated, select cells are being split into subparts A and B at the discretion of the Engineer. The split is based on either the geometry of the excavation and cell overlay or due to constructability considerations related to the need to backfill adjacent to the Barrier wall prior to completion and approval of the full cell. The A designation will be applied to the portion of the cell adjacent to the hydraulic barrier and the B designation includes the southern part of the cell.

For reporting purposes Cells 120 is treated as a complete cell without the A and B designation.
Cells 115 through 119 are physically divided into an A and B designation by a peninsula of <20 PPM soil.
For this report both the A and B portion of Cell 119 is included.
For Cells 115 through 118 only the A portion is included. The B portion of these cells will be included in future submittals.
.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells.
- Lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the Cells 121 through 125, the excavation is terminated at the respective Area 17, 18, 19, 20, 21, 22, 24 and 28 excavation elevations.
- Excavation will proceed from Cell 119B to the east to Cell 116B. Excavation will proceed from Cell 114A to the east to Cell 112A.
- A significant portion of the Southern portion of the cells encountered Stratum D and was terminated accordingly (see Excavation Bottom Elevation figure). The northern portion of the excavation was terminated in Stratum O at or below the Target Elevations.
- In Cells 115 to 118 the excavation limits were extended to the south and deepened to beyond the defined chromium impacted soil limits to remove VOC impacted soils
- Confirmatory Bottom Points located within Cells 115A through 120 are shown on the Excavation Bottom Elevation figure.
- The northern excavation limit was the Barrier Wall. The southern limit as the Temporary Sheetpile wall. There were Confirmatory Sidewall Samples in Cells 115, 117, 119, and 120.

- The remedial design calls for an area south of the temporary sheetpile support and bulkhead to be remediated by a combination of shallow excavation and insitu treatment. This work will be tracked separately to the main excavation currently being conducted.

Regards,
Bill

Honeywell
William J. Hague P.E.
Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:38 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 121 through 125

-----Original Message-----
From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Thursday, July 10, 2014 5:51 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 121 through 125

Bill,

The Special Master is in receipt of your July 3, 2014 email and the supporting documentation regarding Excavation Completion in Cells 121 through 125 and the notification that the contractor is ready to backfill these Cells.

Regards, Steve

From: Hague, William [william.hague@honeywell.com]
Sent: Thursday, July 03, 2014 10:29 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 121 through 125

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 121 to 125.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 06/11/14 to 06/25/14.

As previously indicated, select cells are being split into subparts A and B at the discretion of the Engineer. The split is based on either the geometry of the excavation and cell overlay or due to constructability considerations related to the need to backfill adjacent to the Barrier wall prior to completion and approval of the full cell. The A designation will be applied to the portion of the cell adjacent to the hydraulic barrier and the B designation includes the southern part of the cell.

During daily excavation and survey confirmation, Cells 121 through 125 were completed in full without the need to subdivide into A and B sections. Therefore, in this submittal the full north to south area of each cell was completed without the A/B designation as reflected in the Excavation Bottom Elevation Figure and Maser Tables.

* Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits

* Sheet pile on the excavation face has been cleaned of visible soil materials.

* The bottom and lateral limits of each cell were visually inspected by Amec personnel.

* Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.

* An Excavation Progress Map is provided.

* All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells.

* Lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the Cells 121 through 125, the excavation is terminated at the respective Area 19, 20, 21, 22, 23, 25 26, and 27 excavation elevations.

* Excavation will proceed from Cell 120 to the east to Cell 114. Starting in Cell 120 the excavation will again be split into A and B segments with a peninsula of <20 PPM soils separating the A and B areas.

* A significant portion of the Southern portion of the cells encountered Stratum D and was terminated accordingly (see Excavation Bottom Elevation figure). The northern portion of the excavation was terminated in Stratum O at or below the Target Elevations.

* Confirmatory Bottom Points located within Cells 121 through 125 are shown on the Excavation Bottom Elevation figure.

* The northern excavation limit was the Barrier Wall. The southern limit as the Temporary Sheetpile wall. There were no Confirmatory Sidewall Samples in Cells 121 to 125. The remedial design calls for an area south of the temporary sheetpile support and bulkhead to be remediated by a combination of shallow excavation and insitu treatment. This work will be tracked separately to the main excavation currently being conducted.

Regards,
Bill

Honeywell

William J. Hague P.E.
Director - Remediation Design & Construction Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com<mailto:william.hague@honeywell.com>

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Christodoulatos, Eric G

From: Bills, Stuart B
Sent: Friday, June 27, 2014 9:30 AM
To: Christodoulatos, Eric G
Subject: Fwd: SA-6S : Excavation Completion in Cells 126 to 128

Importance: High

Follow Up Flag: Follow up
Flag Status: Completed

Stuart Bills
AMEC E&I
Sent via the Samsung GALAXY S®4, an AT&T 4G
LTE smartphone

-------- Original message --------
From: "Clifford, Joseph T"
Date:06/27/2014 09:25 (GMT-05:00)
To: "Bills, Stuart B" ,"Shallard, Samuel G." ,"Nagg, Dennis E"
Cc: "Mojka, John" ,"Kaouris, Maria"
Subject: FW: SA-6S : Excavation Completion in Cells 126 to 128

Fyi.

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, June 27, 2014 9:23 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 126 to 128
Importance: High

Bill,

The Special Master is in receipt of your June 19, 2014 email and the supporting documentation regarding Excavation Completion in Cells 126 to 128 and the notification that the contractor is ready to backfill these Cells.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Thursday, June 19, 2014 8:01 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 126 to 128

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 126 to 128.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 05/22/14 to 06/10/14.

As previously indicated cells are being spilt into subparts A and B at the discretion of the Engineer. The split is based on either the geometry of the excavation and cell overlay or due to constructability considerations related to the need to backfill adjacent to the Barrier wall prior to completion and approval of the full cell. The A designation will be applied to the portion of the cell adjacent to the hydraulic barrier and the B designation includes the southern part of the cell.

During daily excavation and survey confirmation Cells 129 through 133 were divided into A and B sections as reflected in the Maser Tables. There is no clean unexcavated dividing line in the middle of site as there was in Cells 137 through 146. For this submittal the full north south area of each cell was completed as indicated in the Excavation Bottom Elevation figure.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells.
- Lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the Cells 129 to 133, the excavation is terminated at the respective Area 21, 22, 23, 26, 30, 32 and 34 excavation elevations.
- Excavation will proceed from Cell 125 to the east into Cell 123.
- The excavation was continued to the Target Elevations in <u>all</u> locations.

- A limited portion of the deeper excavations Area 24 and 26 (southern portion of the excavation) was terminated at or below the Target level which was coincidental with the upper surface of the Stratum D. The remainder of the excavations was terminated in Stratum O.
- Confirmatory Bottom Points located within Cells 126 through 129 are shown on the Excavation Bottom Elevation figure.
- The northern excavation limit was the Barrier Wall. The southern limit as the Temporary Sheetpile wall. There were no Confirmatory Sidewall Samples in Cells 126 to 129. The remedial design calls for an area south of the temporary sheetpile support and bulkhead to be remediated by a combination of shallow excavation and insitu treatment. This work will be tracked separately to the main excavation currently being conducted.

Per the SOP, we are showing the corner elevations as discussed.

Regards,
Bill

Honeywell
William J. Hague P.E.
Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

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Christodoulatos, Eric G

From: Bills, Stuart B
Sent: Thursday, June 12, 2014 5:14 PM
To: Christodoulatos, Eric G
Subject: Fwd: SA-6S : Excavation Completion in Cells 129 through 133

Importance: High

Follow Up Flag: Follow up
Flag Status: Completed

Stuart Bills
AMEC E&I
Sent via the Samsung GALAXY S®4, an AT&T 4G
LTE smartphone

-------- Original message --------
From: "Clifford, Joseph T"
Date:06/12/2014 17:06 (GMT-05:00)
To: "Shallard, Samuel G." ,"Bills, Stuart B" ,"Nagg, Dennis E"
Cc: "Kaouris, Maria" ,"Mojka, John"
Subject: FW: SA-6S : Excavation Completion in Cells 129 through 133

FYI.

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, June 11, 2014 5:26 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 129 through 133
Importance: High

Bill,
The Special Master is in receipt of your June 8, 2014 email and the supporting documentation regarding Excavation Completion in Cells 129 to 133 and the notification that the contractor is ready to backfill these Cells.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Sunday, June 08, 2014 5:57 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 129 through 133

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 129 to 133.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 05/20/14 to 05/27/14.

As previously indicated cells are being spilt into subparts A and B at the discretion of the Engineer. The split is based on either the geometry of the excavation and cell overlay or due to constructability considerations related to the need to backfill adjacent to the Barrier wall prior to completion and approval of the full cell. The A designation will be applied to the portion of the cell adjacent to the hydraulic barrier and the B designation includes the southern part of the cell.

During daily excavation and survey confirmation Cells 129 through 133 were divided into A and B sections as reflected in the Maser Tables. There is no clean unexcavated dividing line in the middle of site as there was in Cells 137 through 146. For this submittal the full north south area of each cell was completed as indicated in the Excavation Bottom Elevation figure.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells except for those areas noted for deferral.
- Lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the Cells 129 to 133, the excavation is terminated at the respective Area 21, 23, 30, 31, 32, 34, and 35 excavation elevations.
- Excavation will proceed from Cell 128 to the east into Cell 125.
- The bottom of cells 129 through 133 were terminated in Stratum O.

- Confirmatory Bottom Points located within Cells 129 through 133 are shown on the Excavation Bottom Elevation figure.
- The northern excavation limit was the Barrier Wall. The southern limit as the Temporary Sheetpile wall.
- There were no Confirmatory Sidewall Samples in Cells 129-133. The remedial design calls for an area south of the temporary sheetpile support and bulkhead to be remediated by a combination of shallow excavation and insitu treatment. This work will be tracked separately to the main excavation currently being conducted.

Per the SOP, we are showing the corner elevations as discussed at our last all parties meeting.

Regards,
Bill

Honeywell
William J. Hague P.E.
Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

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Please note: This e-mail documented excavation completion in cells 137B through 146B. The cells identified in the subject line were mislabeled. EGC 2/27/17

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:36 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 134 to 136 and 138B to 145B

Importance: High

1st of many emails you requested

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Sunday, June 08, 2014 7:17 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 134 to 136 and 138B to 145B
Importance: High

Bill,

The Special Master is in receipt of your May 27, 2014 email and the supporting documentation regarding Excavation Completion in Cells 134 to 136 and 138B to 145B and the notification that the contractor is ready to backfill these Cells.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Tuesday, May 27, 2014 7:58 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 134 to 136 and 138B to 145B

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 134 to 136 and 138B to 145B.

As discussed in our weekly meetings, we have separated the western cells into A and B designations with A being the portion of cells closest to the barrier wall and B being the portion closest to Kellogg St. We provided in a previous email on May 18, 2014 the figure.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 05/01/14 to 05/19/14.

- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *An Excavation Progress Map is provided.*
- *All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells except for those areas noted for deferral.*
- *Lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the Cells 134 to 136 and 138B to 146B, the excavation is terminated at the respective Area 31, 32, 33, 36 and 39 excavation elevations.*
- *Excavation will proceed from Cell 134 to the east.*

EXCAVATION CELLS 137B THROUGH 146B

- *The bottom of Cells 137B through 146B were terminated in Stratum O.*
- *Confirmatory Bottom Points located within Cells 137B through 146B are shown on the Excavation Bottom Elevation figure.*
- *Confirmatory Sidewall Samples are shown in Cells 138B, 141B, 142B 143B and 146B.*
- *Sample 073-SB-051 is interior to the excavation approximately on the dividing line of Cells 138B and 139B. This is an area where the excavation limits shown on the 100% design for Cells 139B and 140B was adjusted to the north to simplify the excavation geometry.*
- *The northern limits of Cells 137 B THROUGH 146 B terminates at the 20 PPM line that is interior to the site. The profile of the excavation face is composed of very loose Stratum O sands overlain by several feet of historic fill. The slope had to be laid back much more than at the east end of the site to provide a stable slope. This results in the top of slope being significantly further beyond the <20 PPM line than the eastern portion of the site.*
- *The Southern limits of Cells 137 B to 146 B were terminated at the temporary sheet pile that forms the southern limit of excavation in these cells.*

EXCAVATION CELLS 134 to 136

- *These cells were not split.*
- *For Cells 134 through 136, the bottom of the excavation was terminated in Stratum O.*
- *The Southern limits of Cells 134 through 136 were terminated at the temporary sheet pile that forms the southern limit of excavation in these cells which is coincident with the <20 PPM line..*
- *Confirmatory Bottom Points located within Cells 134 to 136 are shown on the Excavation Bottom Elevation figure.*

- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal.*
- *The northern limits of Cells 134 to 136 consist of sheet pile Barrier Wall.*

Per the SOP, we are showing the corner elevations as discussed at our last all parties meeting.

Regards,
Bill

Honeywell
William J. Hague P.E.
Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
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william.hague@honeywell.com

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:36 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 137A to 146A and 147 to 152

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Tuesday, May 27, 2014 3:43 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 137A to 146A and 147 to 152

Bill,

The Special Master is in receipt of your May 18, 2014 email and the supporting documentation regarding Excavation Completion in Cells 137A to 146A and 147 to 152 and the notification that the contractor is ready to backfill these Cells.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Sunday, May 18, 2014 8:31 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 137A to 146A and 147 to 152

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 137A to 146A and 147 to 152 .

As discussed in our weekly meetings, we have separated the western cells into A and B designations with A being the portion of cells closest to the barrier wall and B being the portion closest to Kellogg St. We are providing herein a new figure (see SA-6 South Split Cells 4.pdf which provides the graphical delineation for purposes of better understanding our statements below.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 04/25/14 to 04/29/14.

EXCAVATION CELLS 149 THROUGH 152

- *Excavation commenced on 4/14 in the western portion of the site. This portion of the site had a surface primarily composed of a series of foundations and slabs at variable elevations.*
- *Due to the presence of several feet of concrete, Cell 153 is only partially excavated at this time and as a result is not being included in the email indicating that excavation is complete at this time.*
- *The approved 100% Design in this area (Area 40) indicated deferral of excavation below elevation 5.7.*
- *Visual inspection of the bottom and sidewalls of Cells 149 through 152 indicated the presence of chromium impacted concrete. Removal of these materials vertically resulted in excavation below elevation 5.7. Visually impacted concrete was removed laterally along the south easterly edge of the Cell 150 into Cell 149 as evidenced by the limit of excavation shown on the Bottom Excavation Elevation figure.*
- *Cells 149 through 152 were terminated in historic fill.*
- *Confirmatory Bottom Points located within Cells 148-152 are shown on the Excavation Bottom Elevation figure.*
- *Confirmatory Sidewall Samples are shown in Cells 149, 150 and 152.*
- *The northern limits of Cells 149-152 consist of sheet pile Barrier Wall.*
- *The Southern limit of cells 149-152 were terminated in 0 <20 PPM historic fill soils.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% Design limits. In several areas of Cell 149-152 the excavation depth was increased (we were able to get additional materials and minimize future deferral volumes remaining) and these locations are shown with a green shading. These areas are also outlined in Excavation Bottom Elevation figure.*

EXCAVATION CELLS 147 to 148 and 137A to 146A

- *The cell excavation designations in this area have been split into subparts A and B. The A designation is applied to the portion of the cell adjacent to the hydraulic barrier and the B designation includes the southern part of the cell. This designation clarification was made for two reasons:*
    - *For Cells 137 through 146, the excavation area is not continuous north to south, meaning there is an area of <20 PPM soils not requiring excavation In the middle of the cells (see Figure 2 Color Coded Excavation Bottom).*
    - *For Cells 136 to the east this approach was used to facilitate surveying of the subarea A (including corners and center points). This reduces the time cycle between excavation and backfill adjacent to the hydraulic barrier which helps to minimize sheet deflection.*
- *Cells 137A through 146A, 147 and 148 excavation was terminated in either historic fill or Stratum O.*
- *The Southern limit of Cells 137A to 146A, 145 and 148 was terminated in either historic fill or Stratum O <20 PPM soils.*
- *Lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the Cells 137A-146A and 147 to 148, the excavation is terminated at the respective Area 32, 33, 36, 37, 38 and 40 excavation elevations.*
- *Confirmatory Bottom Points located within Cells 137A-146A, 147 and 148 are shown on the Excavation Bottom Elevation figure.*

- *Confirmatory Sidewall Samples are shown in Cells 137A, 139A, 142A, 143A and 148.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal.*
- *The northern limits of Cells 137 to 146 consist of sheet pile Barrier Wall.*
- *The Southern Limit of excavation of Cells 137A to 146A, 147 and 148 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *An Excavation Progress Map is provided.*
- *Excavation will proceed from Cell 136A to the east and from Cell 146B to the east.*
- *All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells except for those areas noted for deferral.*

Per the SOP, we are showing the corner elevations as discussed at our last all parties meeting.

Regards,
Bill

Honeywell
William J. Hague P.E.
Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:10 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E
Subject: FW: Amendment to SA-6S : Excavation Completion in Cells 149 to 152

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, October 29, 2014 4:15 PM
To: Clifford, Joseph T <Joseph.Clifford@amec.com>; Hague, William <william.hague@honeywell.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; 'Daneker, Michael' <Michael_Daneker@aporter.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org
Subject: RE: Amendment to SA-6S : Excavation Completion in Cells 149 to 152

Bill/Joe,

The Special Master is in receipt of your October 23, 2014 email providing supplementation information for the Amended Certification for Excavation Completion in Cells 149 to 152 emailed on October 1, 2014 and that the requirements to allow backfilling have been met.

Regards, Steve

From: Clifford, Joseph T [mailto:Joseph.Clifford@amec.com]
Sent: Thursday, October 23, 2014 8:32 AM
To: Egnaczyk, Steve; Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: Amendment to SA-6S : Excavation Completion in Cells 137A to 146A and 147 to 152

SUPPLEMENTAL INFORMATION FOR AMENDED CERTIFICATION FOR EXCAVATION COMPLETE IN CELLS 149 TO 152 EMAILED ON OCTOBER 1, 2014.

Steve,

I am sending this email on behalf of Honeywell.

In response to your email dated October 10 to Bill Hague, Honeywell and Amec are providing the following supplemental information:

- The top portion of the design excavation in Cells 149 through 152 consisted of a combination of reinforced and unreinforced concrete. As indicated in the May 27th submittal the concrete at the design limits was observed to be chromium impacted: "Visual inspection of the bottom of excavation and sidewalls of Cells 149 through 152 indicated the presence of chromium impacted concrete in the concrete sidewall". The excavation was therefore expanded to remove the visibly impacted concrete.

- The expansion of the design excavation necessitated obtaining additional sidewall samples. Two new Confirmatory Sidewall Soil Samples (designated 073-SB-079 and 073-SB-082) were collected and documented in the Maser table attached to the October 1, 2014 email from Honeywell (see page 14 of 15).

- The Final Limits of excavation (highlighted in green) and location of the Confirmatory Sidewall Soil Samples are shown on the Bottom Excavation Map (Amended) attached to the October 1, 2014 email from Honeywell.

- The bottom of excavation elevation matched the adjacent excavation in Cell 149 and Cell 150. As indicated in the Bottom Excavation Map (Amended), the southern portion of the additional excavation was excavated to elevation 2 and the northern portion to approximately elevation 4.

- The vertical and horizontal limits of excavation were surveyed by Maser, including supplemental survey points for use in preparation of the as-built excavation topographic map that will accompany the Declaration which will be submitted following completion of the SA-6S excavation.

- The additional excavation area depicted on the Bottom Excavation Map (Amended and highlighted in green) represents the boundaries of the area resurveyed on July 31, 2014.

- The bottom and lateral limits of the additional excavation area were visually inspected by Amec personnel prior to the July 31, 2014 Maser Survey. Amec personnel did not observe any additionally impacted soils.

- Amec inspectors certify to the best of our technical ability that impacted soils as defined in the 100% Design have been removed from the additional excavation area and that the requirements to allow backfilling have been met.

We are re-submitting the two attachments from our October 1, 2014 transmittal.

Please let us know if you have any more questions regarding this Amended Submittal for Cells 149 to 152.

Regards.

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, October 10, 2014 3:24 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: Amendment to SA-6S : Excavation Completion in Cells 137A to 146A and 147 to 152
Importance: High

Bill,

The Special Master is in receipt of your October 1, 2014 email below regarding the Amended Certification for Excavation Complete in Cells 149 to 152 and provides the following comments:

1. Because Honeywell needed to perform additional excavation to address this area of contamination that extended beyond the defined excavation boundaries presented in the color-coded excavation map (i.e., Figure 4 that depicts the 41 areas of the SA6 South excavation and the pre-determined depths of excavation) to fully comply with the SA6 South 100% Design, consistent with the initial May 27, 2014 submittal, please provide a re-certification from Honeywell/AMEC/Maser that:
    a. The bottom and lateral limits of the expanded excavation area were visually inspected by Honeywell/Amec personnel and no additional visually impacted area was observed.
    b. Impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling [of this additional excavation area]have been met.
    c. The additional excavation area depicted on the attached figure (and highlighted in green) represents the boundaries of area resurveyed on July 31, 2014.
2. Please confirm whether any additional survey points were collected in the expanded excavation area from the bottom of the completed excavation area.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Wednesday, October 01, 2014 10:40 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: Amendment to SA-6S : Excavation Completion in Cells 137A to 146A and 147 to 152

AMENDED CERTIFICATION FOR EXCAVATION COMPLETE IN CELLS 149 TO 152.

Steve,

We are providing an amended certification regarding completion of excavation in Cells 149 to 152 which was originally submitted by Honeywell to the parties by email on May 27, 2014.

As noted in the original May 27, 2014 email for these cells, the following observation was noted by the Amec engineer:

- *Visual inspection of the bottom and sidewalls of Cells 149 through 152 indicated the presence of chromium impacted concrete. Removal of these materials vertically resulted in excavation below elevation 5.7. Visually impacted concrete was removed laterally along the south easterly edge of the Cell 150 into Cell 149 as evidenced by the limit of excavation shown on the Bottom Excavation Elevation figure.*

Once the visually-impacted concrete was removed, Honeywell made the original email certification to the parties.

Subsequent to the submittal, Honeywell also directed Amec to collect two additional sidewall soil samples on the eastern excavation edge 073-SB-079 and 073-SB-080. While hexavalent chromium in soil sample 073-SB-079 was < 20 ppm, the second sample 073-SB-080 was > 20 ppm, which necessitated a step out soil sample approximately five feet to the east. This last soil sample designated as 073-SB-082 was confirmed to be < 20 ppm and the contractor returned to this area to remove the small area of residual soil > 20 ppm. The area was excavated in July and resurveyed on July 31, 2014.

An Amended Excavation Bottom Elevation Map showing the additional area of excavation of visually-impacted concrete and subsequent soil > 20 ppm is attached and highlighted in green. As shown in this figure, the area slightly enlarges the limits of Cells 148, 149 and 150.

The added < 20 ppm soil sample confirmatory locations are also shown on the map. Analytical data for the three soil samples collected in this excavation area was provided in the SA-6 Monthly Progress Report No. 2014-07 submitted to the parties on August 14, 2014.

Lastly, the Maser Survey Table showing the confirmatory points has been updated to reflect the two recent soil sample locations with hexavalent chromium < 20 ppm (highlighted in green on page 14 of 15) which are additional sidewall confirmatory samples for SA-6 South.

Regards,
Bill

Honeywell
William J. Hague P.E.
Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Tuesday, January 31, 2017 10:45 AM
To: Christodoulatos, Eric G
Cc: Shallard, Samuel G.
Subject: FW: SA-6 South Site 163 Post-Remediation Sampling

Follow Up Flag: Follow up
Flag Status: Flagged

Found it!

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, May 13, 2015 7:55 PM
To: Kathleen L. Millian <kmillian@tpmlaw.com>; Michael.Daneker@aporter.com
Cc: RGT Special Master <RGTSpecialMaster@aol.com>; Jeremy.Karpatkin@aporter.com; B.Bell@cea-enviro.com; K.Hosea@cea-enviro.com; JFarrell@jcnj.org; jwatson@jcnj.org; AAntonian@connellfoley.com; KCoakley@connellfoley.com; LWalsh@connellfoley.com; FBORIN@decotiislaw.com; KKINSELLA@decotiislaw.com; BRoss@disposalsafety.com; disabel@golub-isabel.com; Byrne, Tom (MTO) <tom.byrne@honeywell.com>; Kaouris, Maria <Maria.Kaouris@Honeywell.com>; Alicia Clark Alcorn <aalcorn@tpmlaw.com>; Carolyn Smith Pravlik <cpravlik@tpmlaw.com>; Lewis, Thomas <tlewis@louisberger.com>; McWatters, Michael <mmcwatters@louisberger.com>; Ben Davis <bdavis@tpmlaw.com>; Toskos, Theodoros <Theodoros.Toskos@amec.com>; Morris, John (MTO) [John.Morris@honeywell.com] <John.Morris@honeywell.com>; Hague, William [william.hague@honeywell.com] <william.hague@honeywell.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>
Subject: RE: SA-6 South Site 163 Post-Remediation Sampling

All,

As Honeywell has provided the information requested by Plaintiffs' in their April 30, email, the Special Master requests the parties be prepared to address the issue of "rebound" at next week's Special Master All Parties Meeting. The Special Master refers to the discussion in Honeywell's April 3, 2015 correspondence regarding post-treatment "rebound" of residual soil concentrations of hexavalent chromium, and specifically, to define "rebound" should there be detections of hexavalent chromium above 20 ppm during post-remediation sampling at Site 163, as well as Treatment Areas 7, 8, and 10 on SA6 North.

Regards, Steve

From: Clifford, Joseph T [mailto:joseph.clifford@amecfw.com]
Sent: Wednesday, May 13, 2015 9:03 AM
To: Kathleen L. Millian; Egnaczyk, Steve
Cc: RGT Special Master; Michael.Daneker@aporter.com; Jeremy.Karpatkin@aporter.com; B.Bell@cea-enviro.com; K.Hosea@cea-enviro.com; JFarrell@jcnj.org; jwatson@jcnj.org; AAntonian@connellfoley.com; KCoakley@connellfoley.com; LWalsh@connellfoley.com; FBORIN@decotiislaw.com; KKINSELLA@decotiislaw.com; BRoss@disposalsafety.com; disabel@golub-isabel.com; Byrne, Tom (MTO); Kaouris, Maria; Alicia Clark Alcorn; Carolyn Smith Pravlik; Lewis, Thomas; McWatters, Michael; Ben Davis; Toskos, Theodoros; Morris, John (MTO) [John.Morris@honeywell.com]; Hague, William [william.hague@honeywell.com]
Subject: RE: SA-6 South Site 163 Post-Remediation Sampling

Kathy/Steve,

I am sending this email on behalf of Honeywell.

Please find attached the figure you requested showing the location of the Soil Boring 140-SB-P05 which was the location used for the cores sent to Battelle. The figure also shows the proximate PDI soil delineation used in the 100% Design. The area around this boring was excavated to Stratum D.

Let us know if you have any other questions on this item.

Thank you. -Joe

From: Kathleen L. Millian [mailto:kmillian@tpmlaw.com]
Sent: Thursday, April 30, 2015 3:13 PM
To: Morris, John (MTO); Hague, William
Cc: RGT Special Master; Clifford, Joseph T; Michael.Daneker@aporter.com; Jeremy.Karpatkin@aporter.com; B.Bell@cea-enviro.com; K.Hosea@cea-enviro.com; JFarrell@jcnj.org; jwatson@jcnj.org; AAntonian@connellfoley.com; KCoakley@connellfoley.com; LWalsh@connellfoley.com; FBORIN@decotiislaw.com; KKINSELLA@decotiislaw.com; BRoss@disposalsafety.com; disabel@golub-isabel.com; Byrne, Tom (MTO); Kaouris, Maria; Alicia Clark Alcorn; Carolyn Smith Pravlik; SEgnaczyk@louisberger.com; TLewis@louisberger.com; mmcwatters@louisberger.com; Ben Davis; Toskos, Theodoros
Subject: RE: SA-6 South Site 163 Post-Remediation Sampling

Plaintiffs write concerning the issue of potential rebound at Site 163. On April 3, 2015, Honeywell submitted to the Special Master a memorandum prepared by Amec Foster Wheeler, entitled "Analysis of Chromium 'Rebound,' with Application to Site 163." Some of Amec's positions on rebound are based on a draft report that was prepared by Battelle in September 2008, entitled "Investigation of Chromium in SA-6S Core Segments."

Plaintiffs' experts, Benjamin Ross, Ph.D. and George Flowers, Ph.D., request certain additional information to enable a full understanding of the September 2008 draft report. In particular, we request to know the location from which the core segments were taken. Plaintiffs request that Honeywell provide a figure of the relevant portion of Study Area 6 South showing both: (1) the location from which the core was taken; and (2) the locations of and contaminant levels at the borings which were used to delineate the hexavalent chromium in the vicinity of the core.

Thank your for your attention to this matter.

Sincerely,

Kathleen L. Millian
TERRIS, PRAVLIK & MILLIAN, LLP
1121 12th Street, N.W.
Washington, D.C. 20005
Main Telephone: 202-682-2100
Direct Dial: 202-204-8478
Facsimile: 202-289-6795
email: kmillian@tpmlaw.com

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From: Graham, Stephanie [mailto:Stephanie.Graham@honeywell.com]
Sent: Friday, April 03, 2015 4:17 PM
To: RGT Special Master
Cc: Joseph.Clifford@amecfw.com; Michael.Daneker@aporter.com; Jeremy.Karpatkin@aporter.com; B.Bell@cea-enviro.com; K.Hosea@cea-enviro.com; JFarrell@jcnj.org; jwatson@jcnj.org; AAntonian@connellfoley.com; KCoakley@connellfoley.com; LWalsh@connellfoley.com; FBORIN@decotiislaw.com; KKINSELLA@decotiislaw.com; BRoss@disposalsafety.com; disabel@golub-isabel.com; Byrne, Tom (MTO); Hague, William; Kaouris, Maria; Morris, John (MTO); Alicia Clark Alcorn; Kathleen L. Millian; Carolyn Smith Pravlik; SEgnaczyk@louisberger.com; TLewis@louisberger.com; mmcwatters@louisberger.com; Ben Davis; Toskos, Theodoros
Subject: SA-6 South Site 163 Post-Remediation Sampling

Attached please find Honeywell correspondence re:

Site 163 Post-Remediation Sampling
Study Area 6 (SA-6) South
Jersey City, New Jersey

Please note that this information has also been made available on the Louis Berger SharePoint Site.

Thank you,

Stephanie Graham

Amec Foster Wheeler
c/o Honeywell
101 Columbia Tpke
Morristown, NJ 07962
Phone: 973-455-4209

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Tuesday, January 03, 2017 10:47 AM
To: Christodoulatos, Eric G; Shallard, Samuel G.
Subject: FW: SA-6 South Excavation Complete Submittal - Site 163

Follow Up Flag: Follow up
Flag Status: Flagged

Here is the first part. I will search for the follow up email.

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, December 31, 2014 10:57 AM
To: Hague, William
Cc: RGT Special Master ; Kevin J. Coakley (KCoakley@connellfoley.com) ; 'Liza M. Walsh' (LWalsh@connellfoley.com) ; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) ; Lewis, Thomas ; ' (kmillian@tpmlaw.com)' ; 'Aalcorn@tpmlaw.com' ; 'cpravlik@tpmlaw.com' ; Ben Davis ; 'Daneker, Michael' ; 'Jeremy.Karpatkin@aporter.com' ; Morris, John (MTO) ; 'DelisleB@jcnj.org' ; JFarrell@jcnj.org; JWatson@jcnj.org; 'David Isabel' ; 'Eric Tomaszewski' ; Francis J. Borin ; KKINSELLA@decotiislaw.com; Clifford, Joseph T ; 'Ben Ross (bross@disposalsafety.com)' ; 'Bruce A. Bell' ; 'Kim Bell Hosea (k.bell@cea-enviro.com)' ; McWatters, Michael
Subject: RE: SA-6 South Excavation Complete Submittal - Site 163

Bill,

The Special Master is in receipt of your December 11, 2014 email and the supporting documentation regarding Excavation Completion of Site 163 and the small (undesignated) diamond shaped area west of the "main" Site 163 excavation area and your notification that the requirements to allow backfilling have been met. Honeywell also reports that as a result of an inspection and evaluation of the Droyer's Cove bulkhead and associated mass concrete located along the shoreline of Droyer's Cove that borders the southern limit of the excavation, a decision was reached by Honeywell as to the safe limits of excavation and several areas were deferred from excavation. The Special Master concurs with Plaintiffs' request contained in their December 19 email that Honeywell provide information regarding the three (3) areas shown in the figure attached to your email (Excavation Bottom Elevations, Site 163, Period 10-30-4 to 11-13-14) that have been deferred from excavation.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Thursday, December 11, 2014 4:34 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6 South Excavation Complete Submittal - Site 163

Steve,

We are providing this email notification that our contractor is ready to backfill the shallow (0-4 feet below grade) soil excavation in Site 163.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 10/30/14 to 11/13/14.

This submittal covers the main Chromium portion of the Site 163 excavation and the diamond shaped area west of the "main excavation". Additional shallow excavation will be conducted to remove non-chromium impacted soils west of the "main excavation" limits shown. The Issued for Construction design indicated Excavation for site 163 using below ground surface depths. These depths were converted to elevation (NGVD 29 datum) prior to implementation of the excavation. All excavation depths and the Maser table reports based on elevations.

Due to the shallow depth and geometry of the excavation "cell numbering" was not used.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% Design limits.
- Temporary sheetpile which was driven at the southern limit for the excavation of Cells 106 through 129 was still in place and served as the northern limit of the Site 163 excavation. The face of the temporary sheet was cleaned of visible soil materials.
- The southern excavation limit was designed with variable offsets from the Droyer's Cove bulkhead based on the PDI samples. The bulkhead and associated mass concrete was inspected as excavation progressed and decisions reached as to the safe limits of removal. As a result of this inspection and evaluation process one concrete structure was left in place at the southwest corner of the excavation and a sliver of material was left in place at the south east corner as shown on the Excavation Bottom Elevation plan. There was no visual indication of chromium impact in the concrete left in place.
- The top 6 inches of the "deadmen" for the bulkhead were exposed in the bottom of the excavation.
- The bottom and lateral limits of the excavation was visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met subject to the isolated areas noted above.
- An Excavation Progress Map is provided.
- All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells.
- Lines have been added to the Excavation Bottom Map to delineate the limits of the steps in bottom elevations in the Excavation Area.
- The bottom of excavation was terminated in Stratum O or fill at or below the respective Excavation Bottom Elevations.
- Excavation will proceed to remove the Lens of Anomalous material that extended beyond the design limit by Cell 104.
- There were 11 Confirmatory Sidewall Samples taken in the main area and 4 Confirmatory sidewall samples in the Diamond shaped area.

We note that a field decision was made to add an additional protective measure to protect the clean backfill. This measure included use of a geotextile and riprap/crushed concrete with the objective of increasing erosion protection

until the new bulkhead is installed by Bayfront. The Design Change Bulletin showing this enhancement of the 100% Design is being prepared for distribution to the parties.

Regards
Bill Hague

Honeywell
William J. Hague P.E.
Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

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ATTACHMENT C-1
SITE 163 EXCAVATION CERTIFICATION E-MAIL

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, February 27, 2017 8:18 AM
To: Christodoulatos, Eric G; Nagg, Dennis E
Subject: FW: SA-6 South Excavation Submittal - Site 163 Residential Area
Attachments: Final AB PDI Locations Site 163_ Feb 2016_1.pdf; Figure 1 - Site 163 Addtional Excavation Areas.pdf; Confirmation Points Cert site163 2016 Chrome area_041316-signed.pdf

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, April 25, 2016 10:53 AM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org; Clifford, Joseph T <Joseph.Clifford@amec.com>; Daneker, Michael D. <Michael.Daneker@APORTER.COM>
Subject: SA-6 South Excavation Submittal - Site 163 Residential Area

Steve,

We are providing this email notification that our contractor is complete in Excavation Area at Site 163 Residential Footprint which is part of the SA-6 South Chromium Remedy. The excavation of this specific area within Site 163 was developed subsequent to the 100% Design (which originally identified this area as an in-situ treatment area) and as a result is documented by the figures included in the approved Design Change Bulletin - DCB 2015-0928.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of Site 163 excavation completion covers the individual period of 12/28/15 to 02/19/16. This submittal includes the full extent of Site 163 as shown on the approved DCB 2015-0928 drawings.

- The submittal include a “Maser” signed table of the Confirmation Points and the Entact “As Built” Excavation Figure.
- The excavation was conducted using temporary sheetpile on all sides. The sheetpile was driven so that the inside face of the sheetpile was at or slightly beyond the excavation limits shown on Figure 1 of DCB 2015-0928. (copy attached).
- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables.

- The bottom excavation elevations were measured using the Machine Control GPS.
- The bottom of excavation elevations were at or below the design Bottom of Excavation Elevations.
- For safety reasons no entry was permitted to inspect the bottom of the excavation. The bottom of the excavation was visually inspected by Amec personnel from outside the sheetpile.
- The Bottom of Excavation was observed to be of a consistent elevation and at or below the elevation at the survey confirmation locations.
- As shown on the As Built excavation bottom figure only one area was noted to be at being Stratum D. Stratum D fragments were detected at in other isolated locations within the deepest excavation. The majority of the excavation was terminated in a silty sand, Stratum O type soil.
- The web of the sheetpile was outside of the designated excavation limit.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design and subsequent DCB 2015-0928 have been removed and that the requirements to allow backfilling were met.
- Lines have been added to the As Built Excavation Map to delineate the limits of the steps in bottom elevations in the Excavation Area.
- Changes in elevation between areas was small and therefore near vertical faces were excavated at locations where the design bottom elevations changed.
- There were 5 Confirmatory Sidewall, and 5 Confirmatory Bottom locations exposed during the excavation and these are depicted on the Maser Survey Tables and Entact Bottom of Excavation Figure.

Please call or email me with any questions.
Regards,
Bill Hague

William J. Hague P.E.

Honeywell
Director - Remediation Design & Construction
Corporate HSE&R
115 Tabor Road
Morris Plains, NJ 07950
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, February 27, 2017 8:22 AM
To: Christodoulatos, Eric G; Nagg, Dennis E
Subject: FW: Response to Verbal Questions on Site 163 Excavation

---

From: Clifford, Joseph T
Sent: Thursday, May 05, 2016 7:40 AM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>
Cc: Hague, William [william.hague@honeywell.com] <william.hague@honeywell.com>
Subject: Response to Verbal Questions on Site 163 Excavation

Steve,

I am sending this email on behalf of Honeywell, and in response to your call on April 27, 2016, when you asked two questions regarding our April 25, 2016 - Site 163 Excavation Completion Email Notification to the parties.

Below are the questions and our responses.

1. **What is our rationale for the BOE design for Area B, which does not have a bottom PDI sample?**

   - *"PDI samples from across the localized area were used and interpolated consistent with the 100% Design approach. The approved DCB 2015-0928 explicitly stated that Honeywell would implement this excavation without any additional sampling required."*

2. **We mention that no Amec inspections were performed in the bottom of the excavation, yet at some point we did have Entact laborers in the backfill placing geotextile**.

   - *"At the time of excavation completion, the bottom soils were deemed too soft to safely enter the excavation. The excavation was sufficiently dewatered to allow our inspections from the existing grade as necessary to attest to our inspection protocols. Once the initial bridge lift was placed and the bottom stabilized, Entact crew was able to enter the excavation to place the geotextile in accordance with the 100% Design specifications."*

If these responses adequately address your inquiry, Honeywell would be pleased to provide an Amended Certification of Excavation Complete Email adding these clarifications upon your request.

Please contact me on my cell at 610-505-9315 or Bill Hague at 973-455-2175 with any further questions on this item.

Thank you. -Joe

Joseph T. Clifford, P.E.
Sr. Principal Engineer

Cell Phone (610) 505- 9315
Email joseph.clifford@amecfw.com

ATTACHMENT C-2
SITE 163 EXCAVATION CONFIRMATION POINTS
AND POST EXCAVATION PLAN

MASER CONSULTING P.A.

Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

156 Stagecoach Road
Marmora, NJ 08223
T: 609.390.1927
F: 609.390.0040
www.maserconsulting.com

SA-6 South: Site 163 Chrome Excavation (2016): Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)				As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Date Obtained	Elevation	Comments
685069.7	601654.2	-3.0	163-SB-011	1/15/2016	-3.2	Target Elevation Reached
685102.9	601588.4	-6.7	163-SB-015	1/19/2016	-6.8	Target Elevation Reached
685184.5	601554.4	-6.7	163-SB-104	2/12/2016	-7.1	Target Elevation Reached
685186.5	601509.2	-8.0	163-SB-016	2/19/2016	-8.3	Target Elevation Reached 2
685247.3	601467.8	-6.6	163-SB-105	2/19/2016	-7.1	Target Elevation Reached

SA-6 South: Site 163 Chrome Excavation (2016): Sidewall Confirmatory Points (Table 2.0)

Sidewall Target Coordinates				As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Date Obtained	Elevation	Comments
685138.0	601563.6	-5.3	163-SB-078	1/19/2016	-6.9	Target Elevation Reached
685165.5	601546.0	-3.5	163-SB-080	2/12/2016	-7.1	Target Elevation Reached
685201.0	601525.8	-5.0	163-SB-019	2/19/2016	-7.1	Target Elevation Reached
685207.2	601503.5	-3.0	163-SB-037	2/19/2016	-7.1	Target Elevation Reached
685247.6	601452.5	-5.2	163-SB-021	2/19/2016	-7.2	Target Elevation Reached

1 This is the actual elevation of the PDI sample included with the approved Figure 1 - Site 163 Additional Chromium Excavation Areas dated 9/22/15.

2 Elevation -8.3 ft. was coincidental with the top of Stratum D.

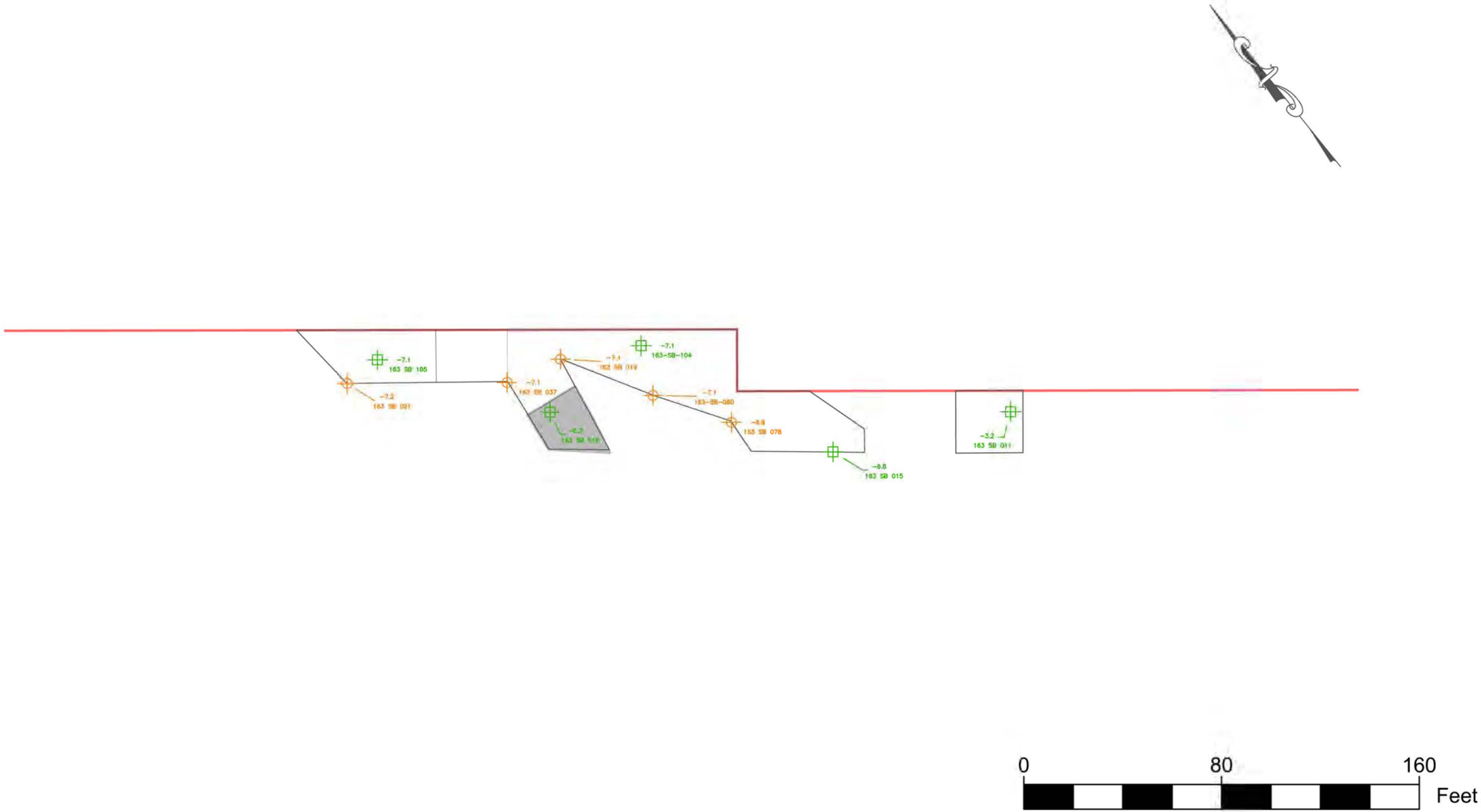
Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Sidewall Confirmatory Sidewall Points Table 2 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades.

R Thomas Hugg 3/16/16

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR

LICENSE NO. 36737



CONFIRMATORY BOTTOM SAMPLE ELEVATION

CONFIRMATORY SIDEWALL SAMPLE ELEVATION

0.0 POINT ELEVATION

POINT POINT DESCRIPTION

CURRENT EXCAVATION TO STRATUM D

DESIGN EXCAVATION AREA

DESIGN EXCAVATION LIMIT

Temporary sheetpile alignment used in the SA6 South main excavation

ENTACT 302 Unity Plaza Latrobe, PA 15650

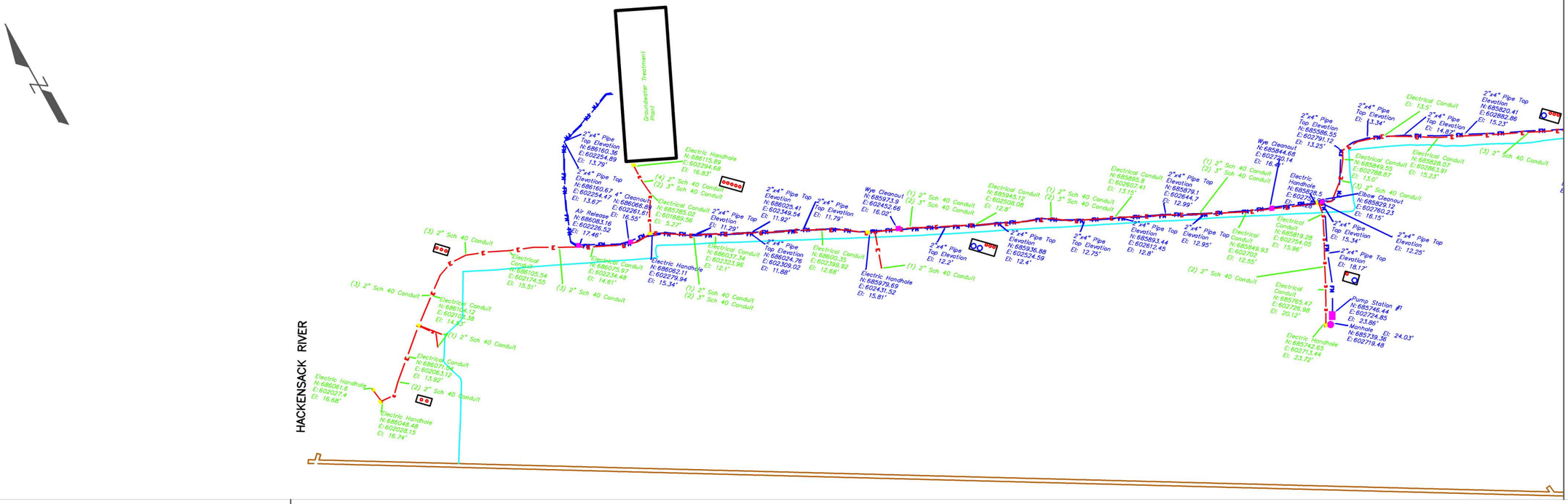
DRAWING NAME

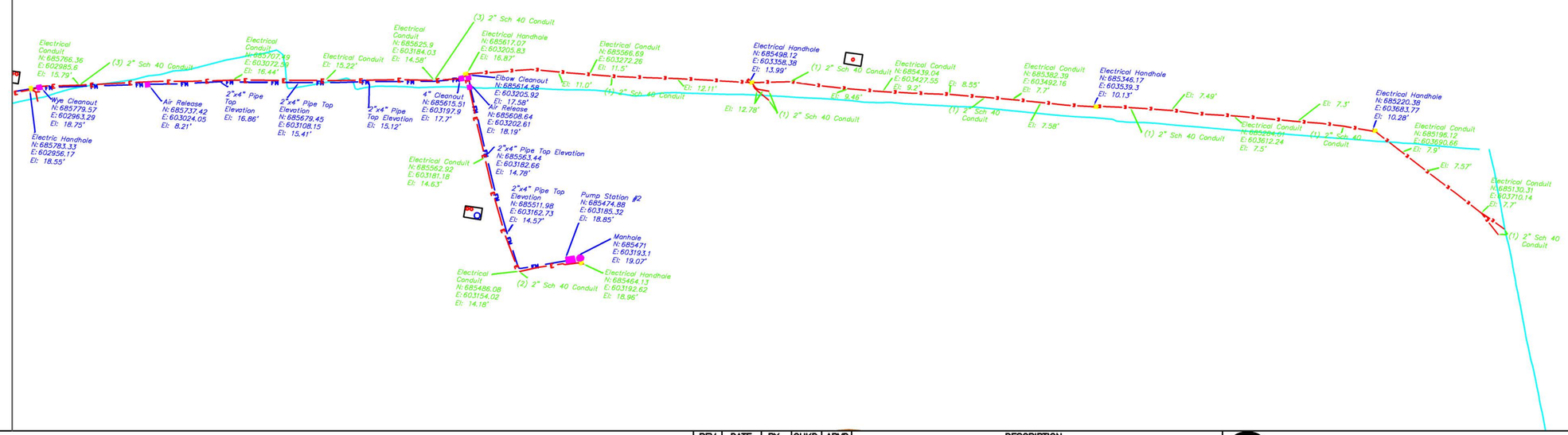
SA-6 SOUTH, SITE 163 (2016) AS-BUILT: EXCAVATION CONFIRMATION POINTS

PROJECT NAME & LOCATION

HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

ATTACHMENT D-1
SA-6 NORTH AND SOUTH CONTINGENT GROUNDWATER EXTRACTION SYSTEM RECORD DRAWINGS – FORCE MAIN, ELECTRICAL CONDUIT AND INSTRUMENTATION





RECORD DRAWING - 01/06/17

LEGEND

- FORCEMAIN STATIONS
- ELECTRIC HANDHOLE
- SCB WALL
- HB WALL (Inner Edge)
- ELECTRICAL CONDUIT
- FORCEMAIN
- TEXT ELECTRICAL DESCRIPTION
- TEXT FORCEMAIN DESCRIPTION

0 80 160 Feet

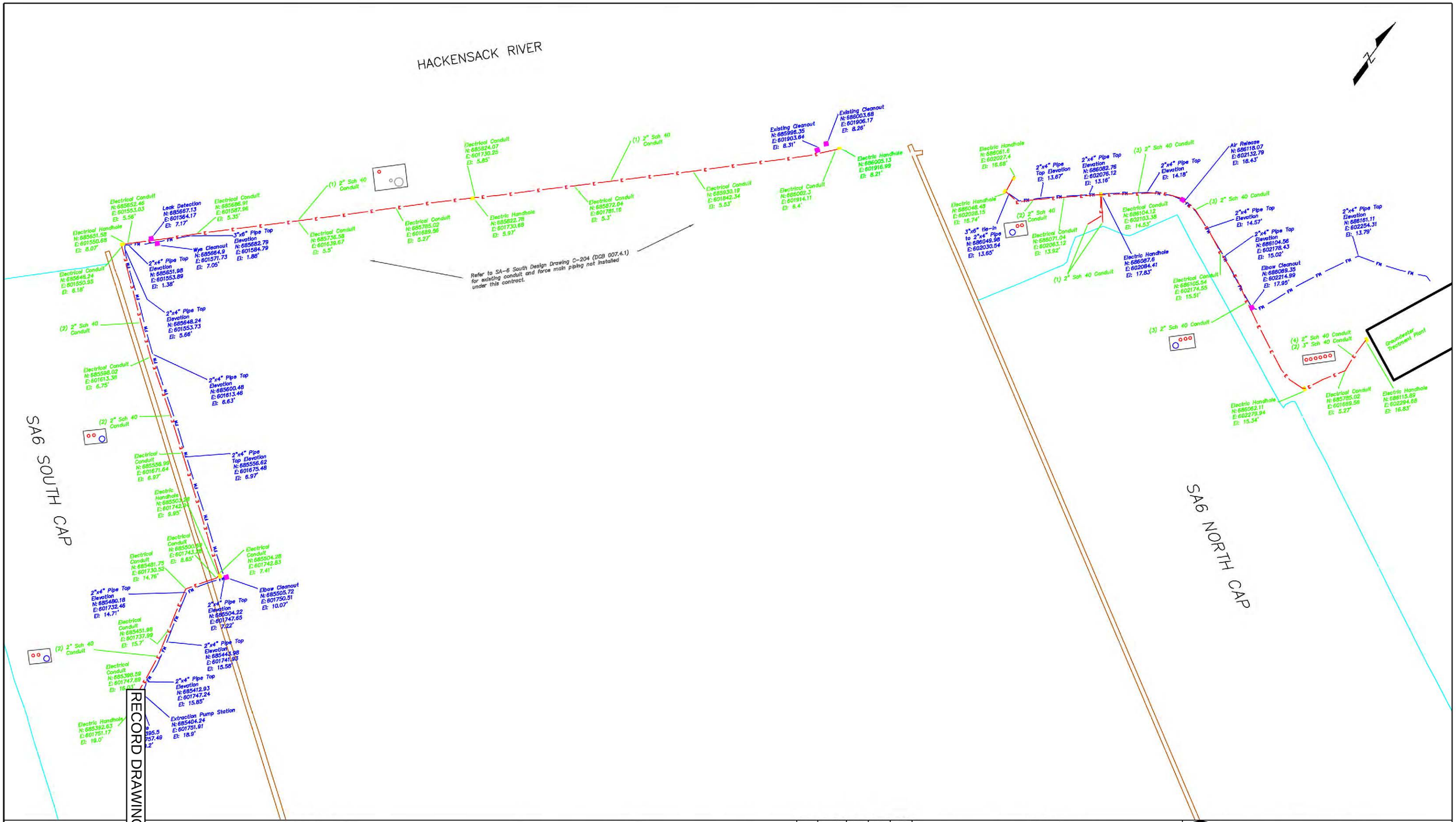
SCALE

REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	12/12/16	EJP	AE	AE	Contingent Groundwater Extraction System – NORTH CAP
1	01/06/17	EJP	AE	AE	ADDED FORCEMAIN AND CONDUIT CROSS SECTION

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: Contingent Groundwater Extraction System NORTH CAP 01/06/17

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



RECORD DRAWING - 12/19/16

LEGEND

- FORCEMAIN STATIONS
- ELECTRIC HANDHOLE
- SOUTH CAP WALL
- HB WALL (Inner Edge)
- ELECTRICAL CONDUIT
- FORCEMAIN
- TEXT — ELECTRICAL DESCRIPTION
- TEXT — FORCEMAIN DESCRIPTION

0 80 160 Feet

SCALE

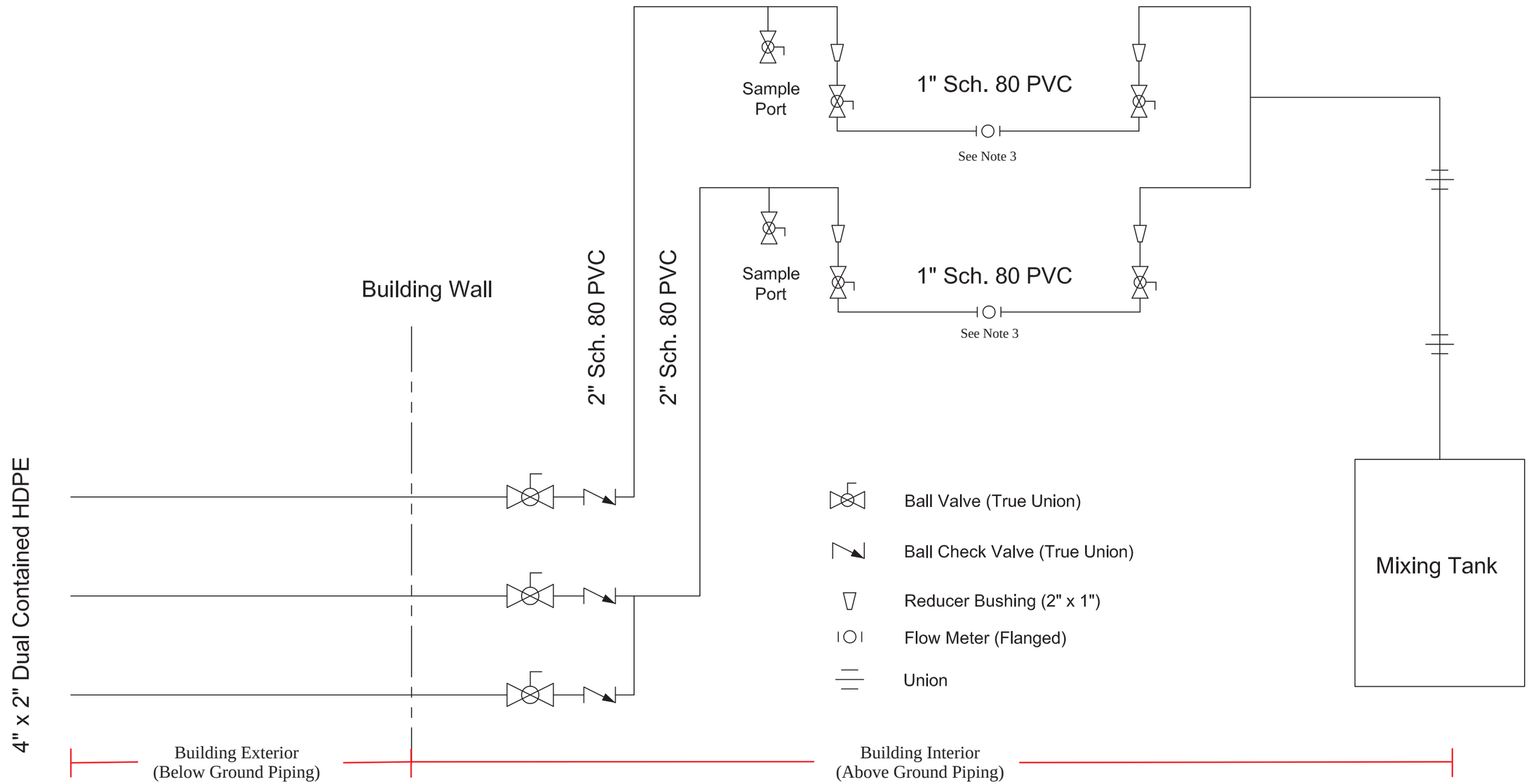
REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	12/12/16	EJP	AE	AE	CONTINGENT GROUNDWATER EXTRACTION SYSTEM – SOUTH CAP
1	12/19/16	EJP	AE	AE	ADDED NOTES INDICATING QUANTITY OF CONDUITS

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
CONTINGENT GROUNDWATER EXTRACTION SYSTEM
SOUTH CAP
12/19/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

ATTACHMENT D-2
SA-6 NORTH AND SOUTH CONTINGENT GROUNDWATER EXTRACTION SYSTEM RECORD DRAWING – GWTP INTERIOR PIPING AND INSTRUMENTATION



RECORD DRAWING - 01/03/17

BSTI
science that works for you

3157 Limestone Rd., Cochranville Pa, 19330

Notes:
1. Below ground piping daylights inside the building at the wall penetration.
2. All below ground piping was heat traced and insulated prior to backfilling.
3. Flow meters were not installed at the time of construction, spool pieces were used in place of the meters.

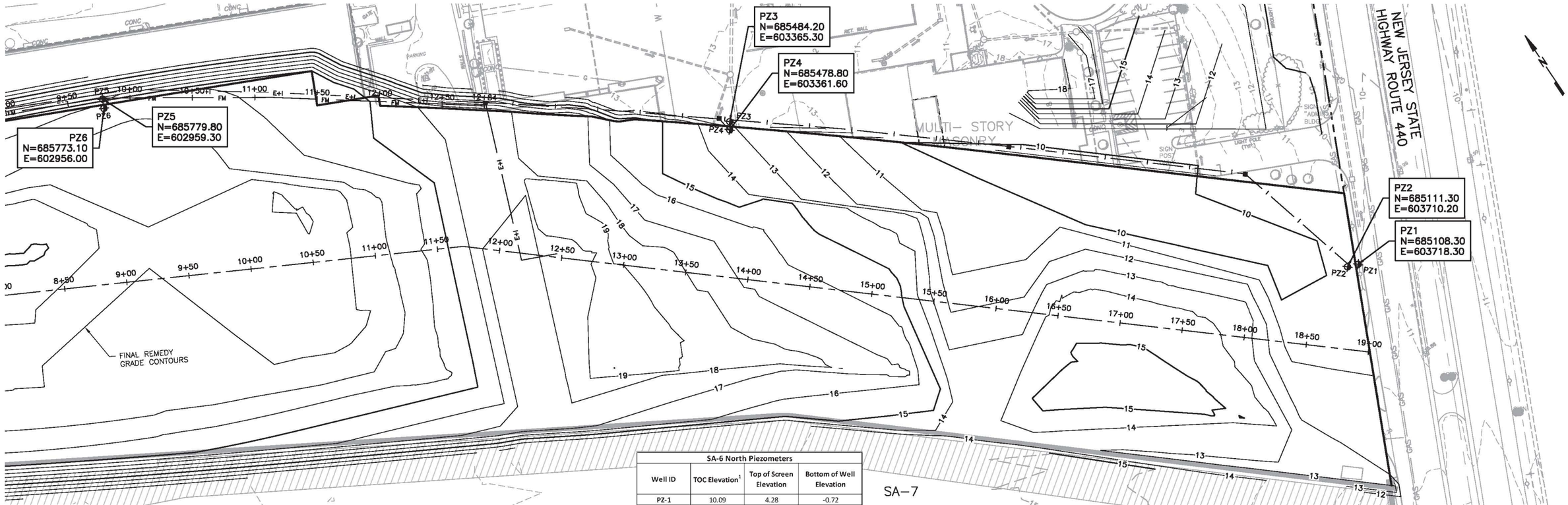
GWTP ADDITIONAL WELL P&ID

Honeywell - Jersey City

Jersey City, NJ

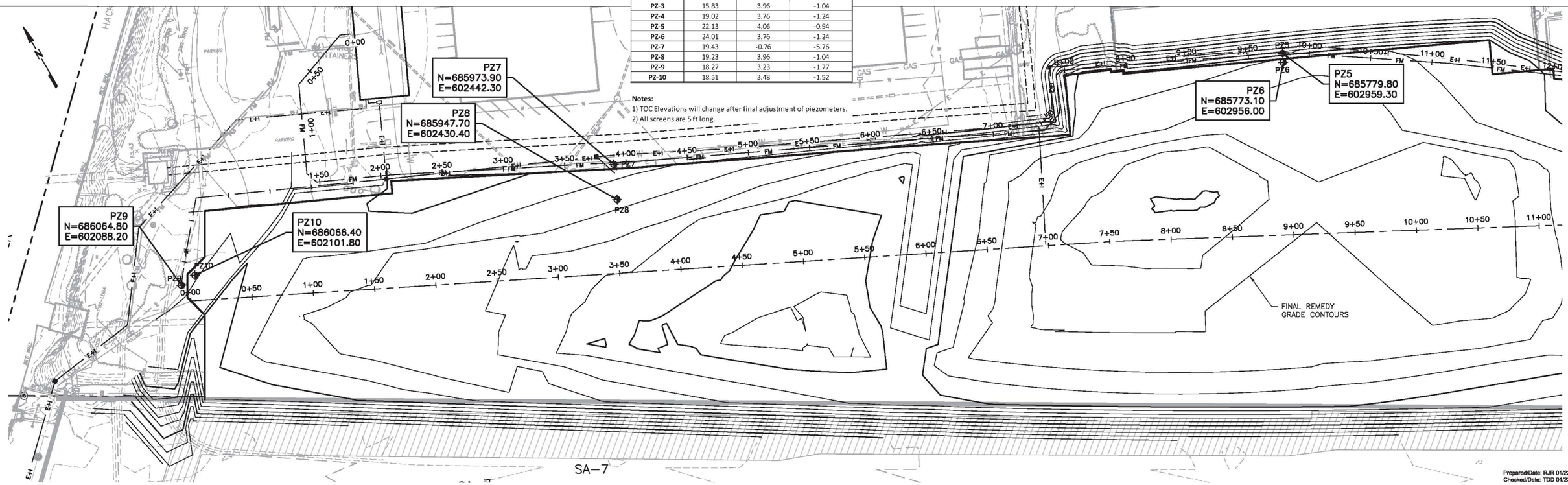
Date:	Drawn By:	Checked By:	BSTI Job Number:	Figure Number:
1/03/17	GW	TF	759	1

ATTACHMENT E
SA-6 NORTH AND SOUTH PIEZOMETER AS-BUILT LOCATIONS



SA-6 North Piezometers			
Well ID	TOC Elevation[1]	Top of Screen Elevation	Bottom of Well Elevation
PZ-1	10.09	4.28	-0.72
PZ-2	13.68	3.47	-1.53
PZ-3	15.83	3.96	-1.04
PZ-4	19.02	3.76	-1.24
PZ-5	22.13	4.06	-0.94
PZ-6	24.01	3.76	-1.24
PZ-7	19.43	-0.76	-5.76
PZ-8	19.23	3.96	-1.04
PZ-9	18.27	3.23	-1.77
PZ-10	18.51	3.48	-1.52

Notes:
1) TOC Elevations will change after final adjustment of piezometers.
2) All screens are 5 ft long.



Prepared/Date: RJR 01/23/17
Checked/Date: TDD 01/23/17

RECORD DRAWING - 01/23/17

0 20 40 80
SCALE IN FEET
HORIZONTAL SCALE

Honeywell
115 TARBOR ROAD MORRIS PLAINS, NJ 07950

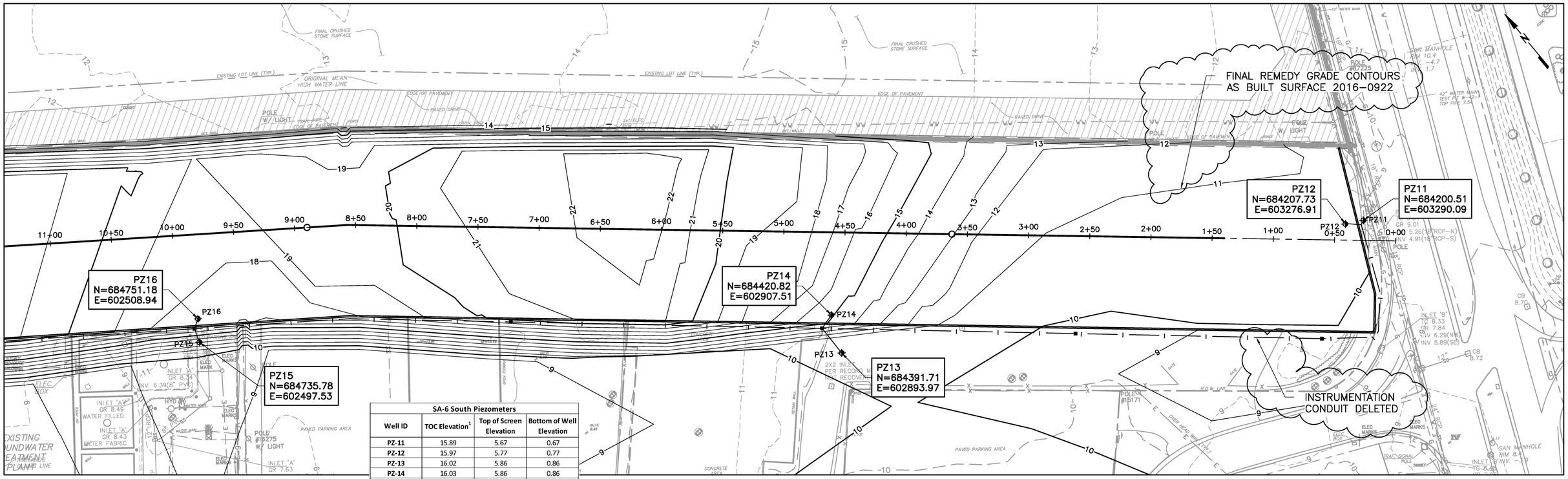
CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 889 - 2929
NJ Certificate of Authorization Number 24GA28019000

Piezometer As Built Location
Project 3480-13-0377
Figure 1

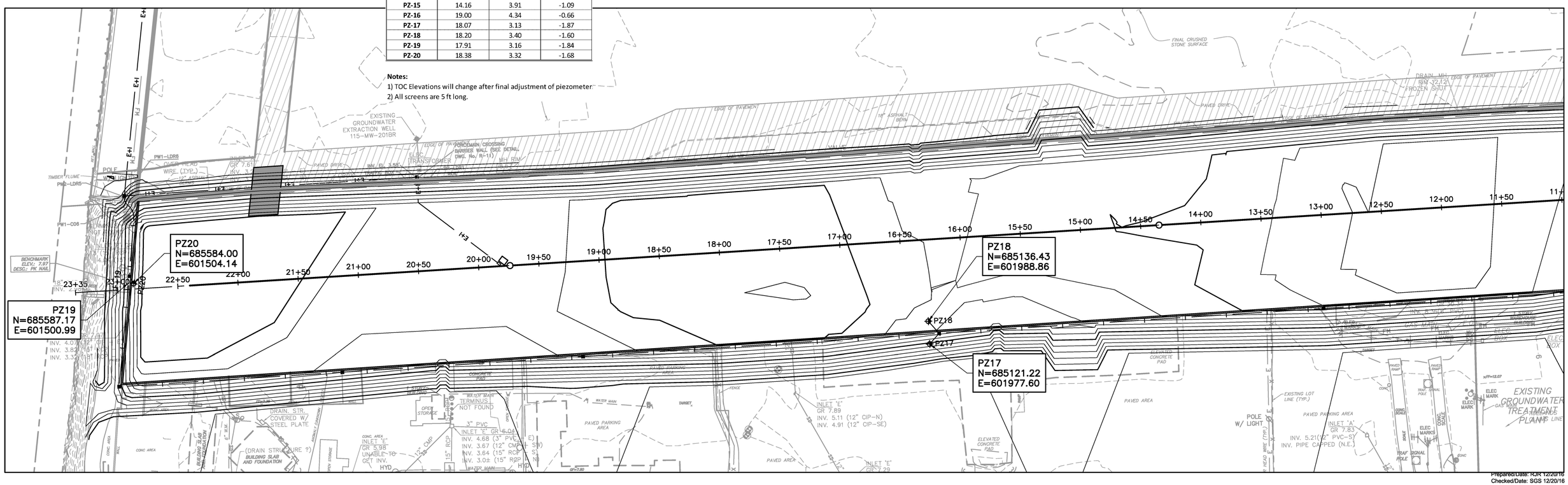
Z:\Projects\HONEYWELL\JERSEY CITY\Dwg Design-SAB-CDR\DAN\SA6-North-South-DR_Excavation_Trench\Figure - Piezometer Location.dwg Tue, 14 Feb 2017 - 2:19pm roger.ripular

RECORD DRAWING - 12/20/16



SA-6 South Piezometers			
Well ID	TOC Elevation[1]	Top of Screen Elevation	Bottom of Well Elevation
PZ-11	15.89	5.67	0.67
PZ-12	15.97	5.77	0.77
PZ-13	16.02	5.86	0.86
PZ-14	16.03	5.86	0.86
PZ-15	14.16	3.91	-1.09
PZ-16	19.00	4.34	-0.66
PZ-17	18.07	3.13	-1.87
PZ-18	18.20	3.40	-1.60
PZ-19	17.91	3.16	-1.84
PZ-20	18.38	3.32	-1.68

Notes:
1) TOC Elevations will change after final adjustment of piezometer.
2) All screens are 5 ft long.



Prepared/Date: RJR 12/20/16
Checked/Date: SGS 12/20/16

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

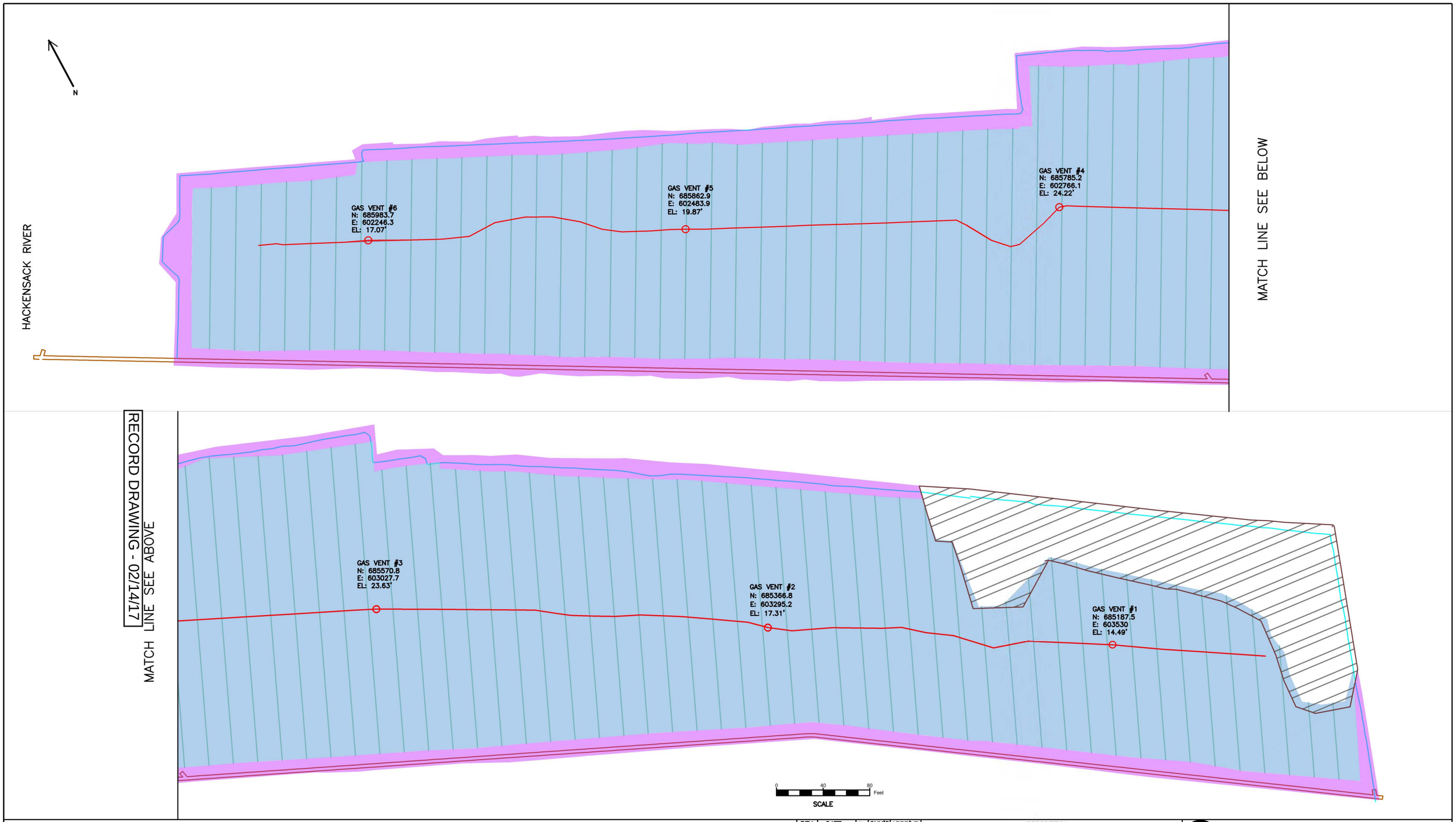
amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28015900

Piezometer As Built Location
Project 3480-13-0377
Figure 2

RECORD DRAWINGS - 12/20/16

Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-2351\CAD\SA6-North-South-RW_Extraction_Trench\2934-C-201_Cont_RWE_Trench.dwg Tue, 05 Sep 2017 - 2:48pm tony.donovan

ATTACHMENT F
SA-6 NORTH AND SOUTH GAS VENT RECORD DRAWINGS



LEGEND

- CLASS A/16 OZ GEOTEXTILE
- GEOCOMPOSITE GAS VENT LAYER (GVL)
- GEOSYNTHETIC CLAY LINER (GCL)
- GAS VENT (NOT TO SCALE)
- GAS VENT PIPE
- SCB WALL
- HB WALL (Inner Edge)

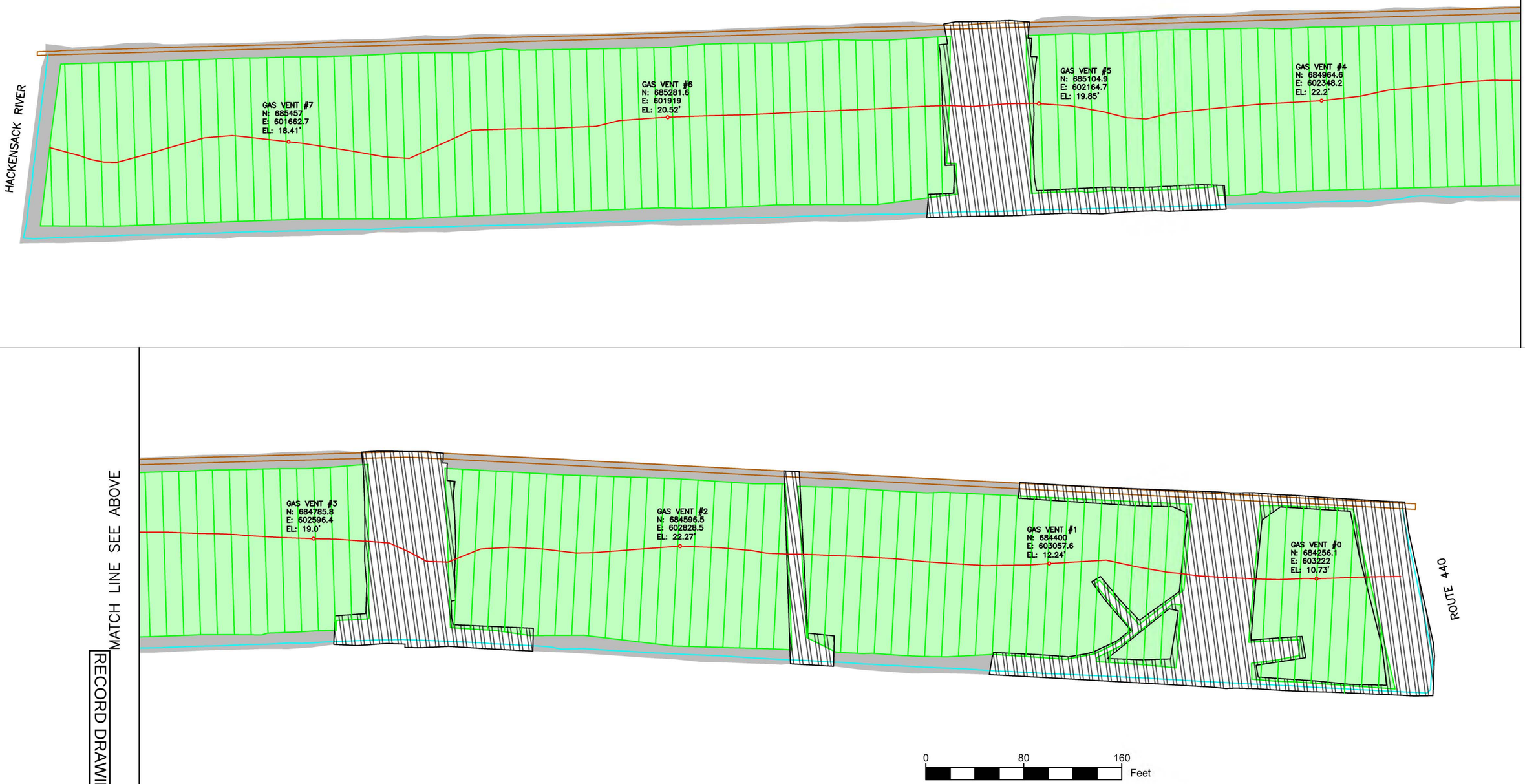
NOTE: Drawing is schematic in nature. Actual seam locations may vary due to the geomembrane grading.

REV	DATE	BY	CHK'D	APPR'VD	DESCRIPTION
0	10/27/16	EP	CP	CP	RECORD DRAWING
1	11/04/16	EP	CP	CP	RECORD DRAWING
2	11/21/16	EP	CP	CP	RECORD DRAWING
3	11/29/16	EP	CP	CP	RECORD DRAWING
4	02/14/16	EP	CP	CP	RECORD DRAWING

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 NORTH CAP GVL/GCL Layout
Class A Geotextile/Gas Vent Layer/Geosynthetic Clay Liner
02/14/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



RECORD DRAWING - 02/14/17

LEGEND

- GEOCOMPOSITE GAS VENT LAYER (GVL)
- GEOSYNTHETIC CLAY LINER (GCL)
- Class A/16 oz Geotextile
- SCB WALL
- HB WALL (Inner Edge)
- GAS VENT PIPE
- GAS VENT (NOT TO SCALE)

REV	DATE	BY	CHKD	APVD	DESCRIPTION
1	02/14/17	EJP	AE	AE	ADDED GAS VENT DETAIL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP GVL/GCL LAYOUT
Class A Geotextile/Gas Vent Layer/Geosynthetic Clay Liner
02/14/17

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

ATTACHMENT G
SA-6 NORTH AND SOUTH DEFERRED AREAS (FIGURE 5)

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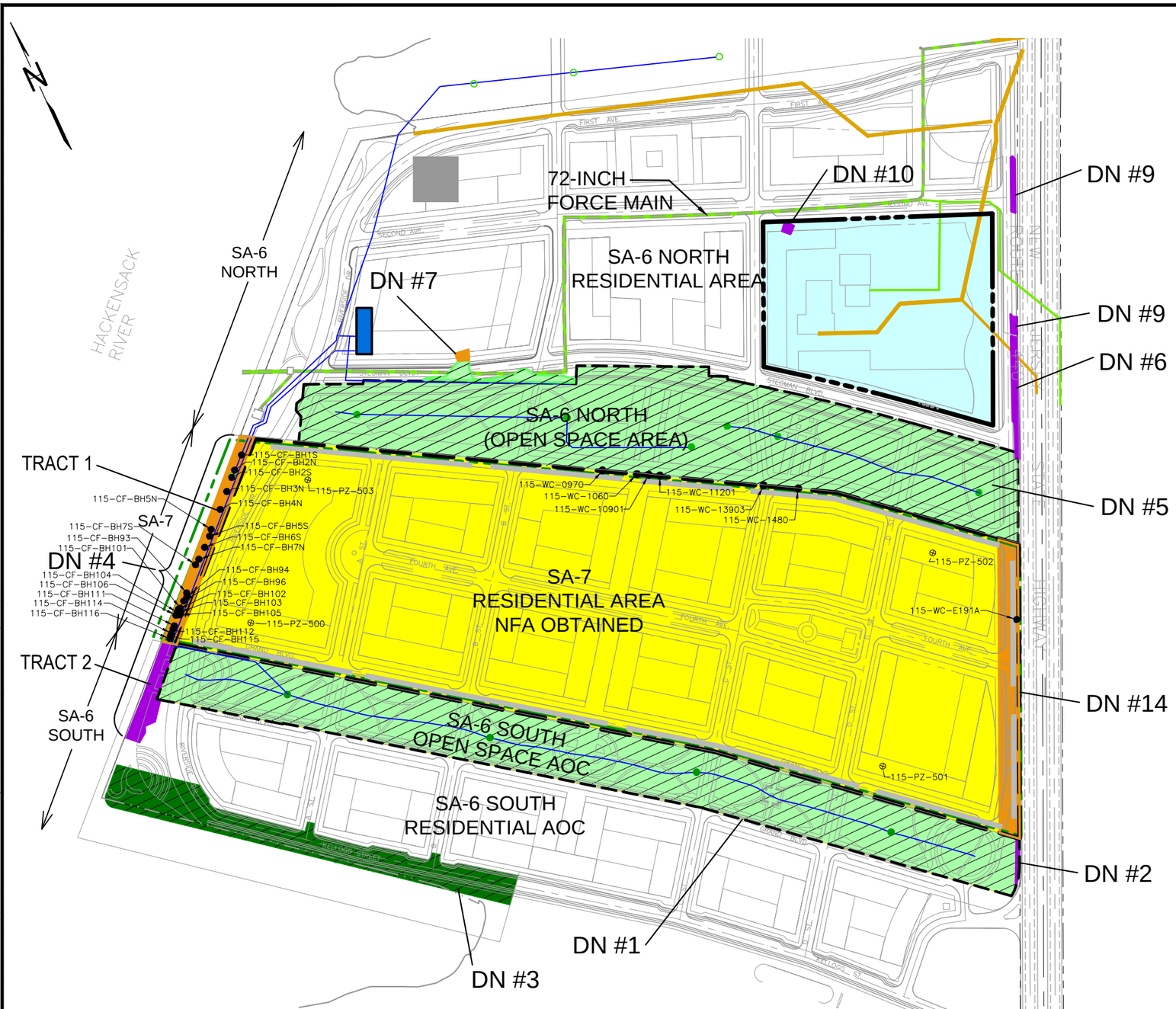

LEGEND

- 72-INCH FORCE MAIN
- STORMWATER / 96-INCH CSO
- GROUNDWATER COLLECTION PIPING / TEMPORARY TREATMENT PLANT LOCATION (● ACCESS MANHOLE, EXTRACTION PUMP STATION OR CLEANOUT)
- SA-7 PERIMETER POOL
- SA-6 NORTH & SA-6 SOUTH VERTICAL STEEL HYDRAULIC BARRIER
- SA-7 SOIL/CEMENT BENTONITE BARRIER
- ● APPROXIMATE LOCATION OF HEXAVALENT CHROMIUM SOIL > 20 MILLIGRAMS PER KILOGRAM ON SA-7
- OPEN SPACE AREA WITH DEED NOTICE AND CONSERVATION RESTRICTION
- BLOCK 6 JCMUA PROPERTY
- BAYFRONT TRAILERS
- GROUNDWATER TREATMENT PLANT
- DEFERRED AREAS TO BE COMPLETED AFTER BULKHEAD REPLACEMENT / ROAD WIDENING/ JCMUA FUEL ISLAND RELOCATION
- AREA SUBJECT TO DEED NOTICE
- AREA SUBJECT TO A DEED NOTICE AND CONSERVATION RESTRICTION UNDER RIVER FRONT PARK, RIVERSIDE DRIVE AND KELLOGG STREET
- AREA GETS CONSERVATION RESTRICTION

NOTES:

1. NFA = NO FURTHER ACTION
2. SITE-WIDE SHALLOW GROUNDWATER IS SUBJECT TO A CLASSIFICATION EXCEPTION AREA (CEA) FOR BOTH CHROMIUM & NON-CHROMIUM CONTAMINANTS
3. SA-6 NORTH AND SA-6 SOUTH WILL BE SUBJECT TO A DEED NOTICE FOR BOTH CHROMIUM AND NON-CHROMIUM CONTAMINANTS

0 150 300 600
SCALE IN FEET

DEFERRED AREA TABLE	
SA 6 NORTH EA-1	PART OF DN # 9
SA 6 NORTH EA-2/3	PART OF DN # 6 & 9
SA 6 NORTH TA 7	PART OF DN # 10
SA 6 SOUTH RT 440	PART OF DN # 2
SA 6 SOUTH BULKHEAD	PART OF DN # 4

REV.	DATE	STATUS	PRPD BY	CHKD BY

Amec Foster Wheeler PROJECT No. 3480170562
DRAWING: 3480170562-6100-DRA0-0002

PREPARED/DATE: STR 10/12/17
CHECKED/DATE: DEN 10/12/17

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 5
CHROMIUM DEED NOTICE AND CONSERVATION RESTRICTION AREAS
STUDY AREAS 6 NORTH, 6 SOUTH & 7
JERSEY CITY, NEW JERSEY

P:\CADD\HONEWELL\JERSEY CITY\SA 6 SOUTH\3480150488\5710\571004\tmp\3480170562-6100-DRA0-0002.dwg Thu, 12 Oct 2017 - 3:23pm scott.rudkin Layout: Layout1

ATTACHMENT H
IN-SITU LOCATIONS AND SUMMARY TABLES

LEGEND

- BLOCK/LOT LINE (APPROXIMATE LOCATION)
- STORM SEWER
- 72" FORCEMAIN SANITARY SEWER
- 96" COMBINED SEWER OUTLET
- 84" SANITARY SEWER
- 54" OUTFALL (ABANDONED)
- NORTHERN EDGE OF BAYFRONT REDEVELOPMENT CURBLINE OF NEW STEGMAN BOULEVARD
- PROPOSED SLURRY WALL
- 20–240 ppm HEXAVALENT CHROMIUM
- >240 ppm HEXAVALENT CHROMIUM
- EXISTING BUILDINGS
- SOIL EXCEEDANCE AREA >20 ppm HEXAVALENT CHROMIUM
- IN–SITU TREATMENT AREA

0 100 200 400
SCALE IN FEET

UTILITY LOCATIONS BASED ON ALTA/ASCM LAND TITLE SURVEY FOR BLOCK 1290.1 – LOTS 2D,2E,15D, 15B & 16A, DATED 5/23/08

REV.	DATE	STATUS	PRPD BY	CHKD BY

Amec Foster Wheeler PROJECT No. 3480150438
DRAWING: TARGETED IN–SITU TREATMENT AREAS–03

PREPARED/DATE: STR 06/09/15

CHECKED/DATE: DN 06/09/15

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ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 2 (REVISED)
TARGETED IN-SITU
TREATMENT AREAS
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY

"WHICH HAS BEEN DELIVERED AND OTHER USE OR RELIANCE ON THE DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY"

P:\CADD\HONEYWELL\JERSEY CITY\SA 6 NORTH\REPORT\3480150438\5710\CURRENT DRAWINGS\TARGETED IN-SITU TREATMENT AREAS-03.dwg Tue, 09 Jun 2015 - 3:34pm rcott.radke Layout: FIG. 2

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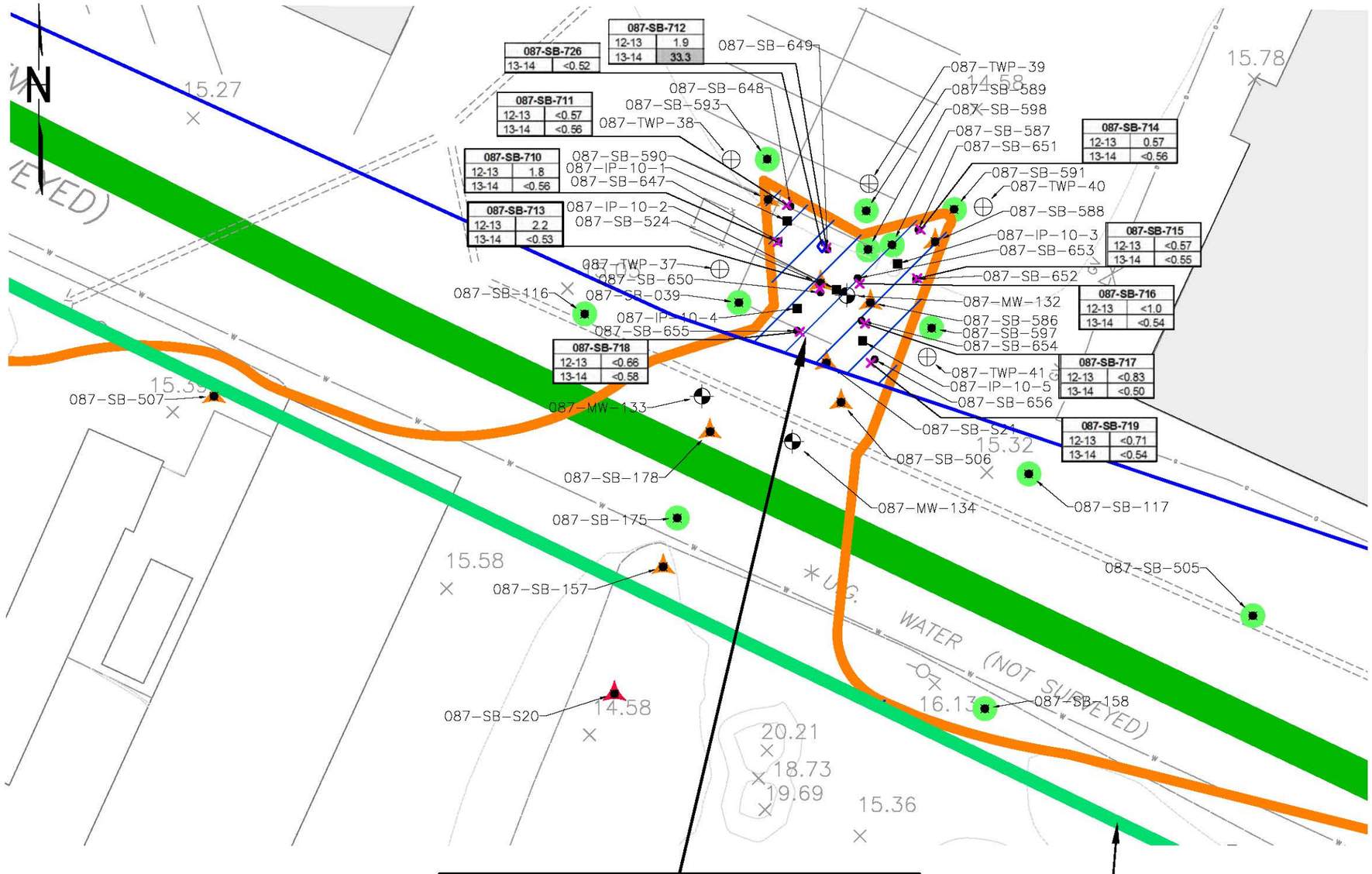

TARGETED TREATMENT AREA 10-1
- 5 INJECTION POINTS – SPACED @ 15' O.C.
- CONTAMINATED ZONE 12'-14'
- INJECTION ZONE 10'-16'
- NUMBER OF INJECTION POINTS MAY BE ADJUSTED IN THE FIELD

AREA = APPROX. 800 SF

PROPOSED HYDRAULIC BARRIER WALL.

LEGEND

- DECEMBER 2016 SOIL BORING
- MARCH 2017 SOIL BORING
- MARCH 2016 (6-MONTH) SOIL BORING
- PREVIOUS SOIL BORINGS
- EXISTING NEW PERMANENT MONITORING WELL LOCATION
- INJECTION POINT LOCATION
- EXISTING OBSERVATION TEMPORARY WELL POINT (TWP)
- <20 ppm HEXAVALENT CHROMIUM SAMPLE LOCATION
- 20-240 ppm HEXAVALENT CHROMIUM SAMPLE LOCATION
- >240 ppm HEXAVALENT CHROMIUM SAMPLE LOCATION
- BLOCK/LOT LINE (APPROXIMATE LOCATION)
- STORM SEWER
- 72" FORCEMAIN SANITARY SEWER
- 54" OUTFALL (ABANDONED)
- NORTHERN EDGE OF BAYFRONT REDEVELOPMENT CURBLINE OF NEW STEGMAN BOULEVARD
- LIMITS OF TARGETED IN-SITU TREATMENT
- RELOCATED HYDRAULIC BARRIER
- APPROXIMATE LIMITS OF AREA WHERE DETECTED HEXAVALENT CHROMIUM CONCENTRATION VALUES >20 mg/kg
- EXISTING BUILDINGS
- IN-SITU TREATMENT AREA
- U NOT DETECTED
- J ESTIMATED CONCENTRATION

UTILITY LOCATIONS BASED ON ALTA/ASCM LAND TITLE SURVEY FOR BLOCK 1290.1 – LOTS 2D,2E,15D, 15B & 16A, DATED 5/23/08

NOTES:

1. SEE FIGURE 2 FOR LOCATION OF DETAIL MAP.
2. FIGURE PROVIDED TO SUMMARIZE MULTIPLE SAMPLING EVENTS FROM RI TO POST-INJECTION PERFORMANCE ASSESSMENTS.

0 10 20 40
SCALE IN FEET

REV.	DATE	STATUS	PRPD BY	CHKD BY
1	07/28/16	REVISED TO ADJUST INJECTION POINTS (INCLUDED IN 07/28/16 DGW-PBR APPLICATION)	STR	DEN

Amec Foster Wheeler PROJECT No. 3480150438
DRAWING: TARGETED IN-SITU TREATMENT NORTHERN PORTION 02

PREPARED/DATE: STR 06/05/15
CHECKED/DATE: DN 06/05/15

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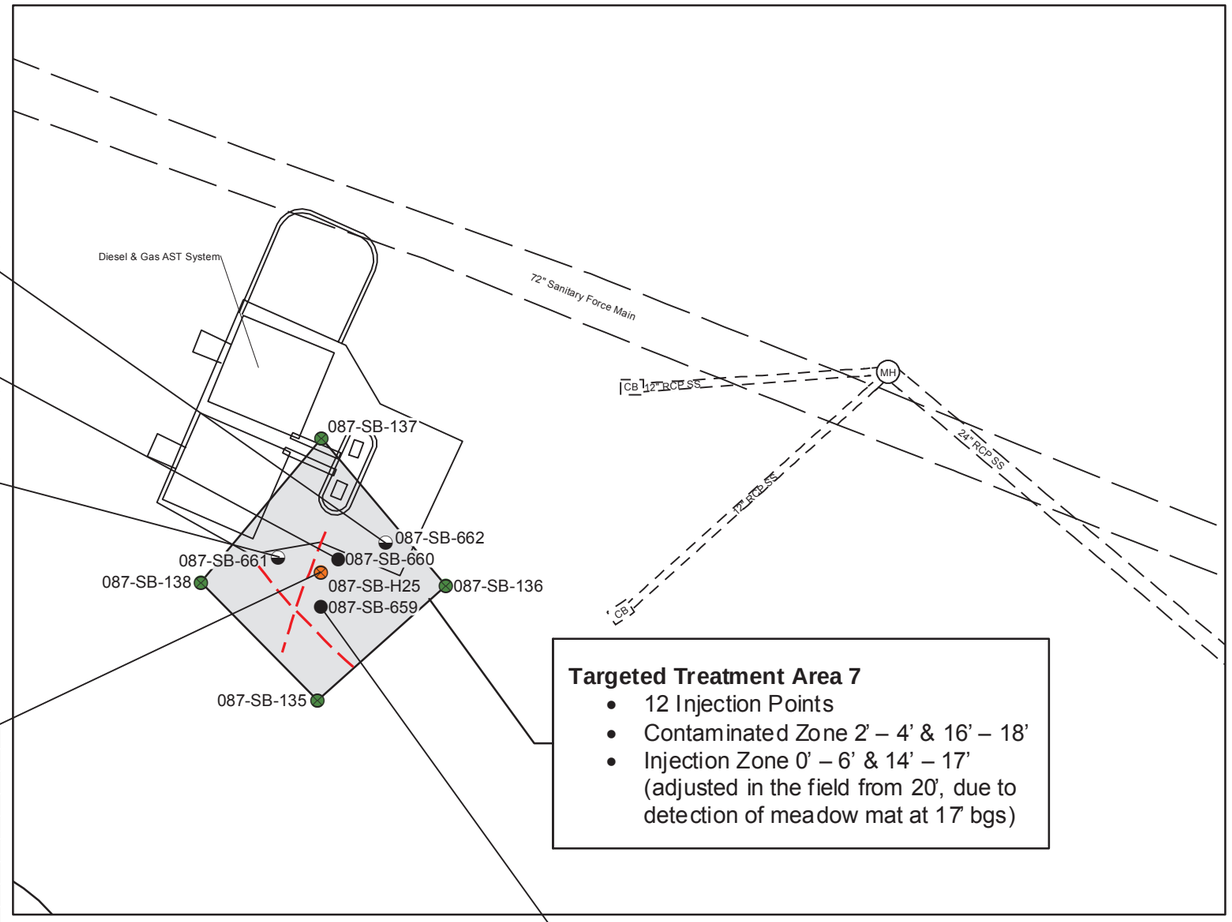
HAMILTON, NEW JERSEY 08619

FIGURE 5A (REVISED)
IN-SITU INJECTION
NORTHERN PORTION OF
TREATMENT AREA 10-1
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY

087-SB-662		
Sample Depth	16 - 17	17 - 17.5
Sample Date	6/27/2016	6/27/2016
HEXAVALENT CHROMIUM	0.92 U	1.7

087-SB-660		
Sample Depth	2 - 3	3 - 4
Sample Date	6/27/2016	6/27/2016
HEXAVALENT CHROMIUM	**26.3 J**	1.3

087-SB-661		
Sample Depth	16 - 17	17 - 17.5
Sample Date	6/27/2016	6/27/2016
HEXAVALENT CHROMIUM	0.77 U	1.7

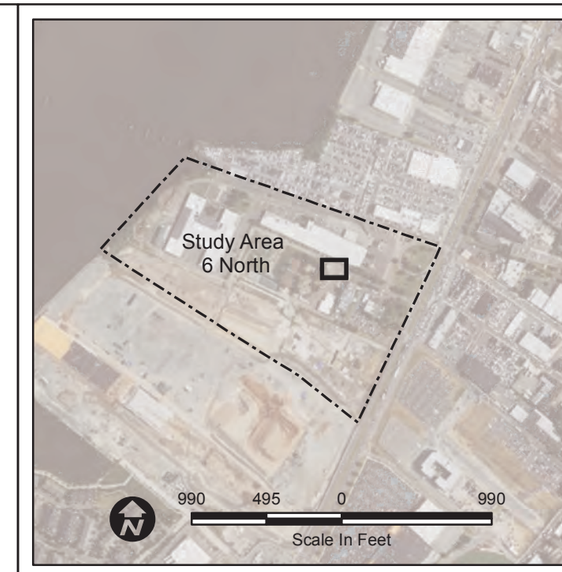


Targeted Treatment Area 7

- 12 Injection Points
- Contaminated Zone 2' – 4' & 16' – 18'
- Injection Zone 0' – 6' & 14' – 17' (adjusted in the field from 20', due to detection of meadow mat at 17' bgs)

087-SB-H25		
02-04	**43.6**	J
04-06	7.6	J
06-08	2	U
08-10	2	U
10-12	2	U
14-16	2	U
16-18	**84.4**	
18-20	2	U

087-SB-659		
Sample Depth	2 - 3	3 - 4
Sample Date	6/27/2016	6/27/2016
HEXAVALENT CHROMIUM	0.54 U	0.55 U



Legend

- Shallow Soil Boring
- Deep Soil Boring
- Previous Soil Sample Location (Hexavalent Chromium Result < 20 ppm)
- Previous Soil Sample Location (Hexavalent Chromium Result > 20 ppm)
- SS Storm Sewer
- CB Catch Basin
- MH Manhole
- Buried Electrical Utility
- Treatment Area 7

20 10 0 20
Scale In Feet

Project Number:
3480150488

Prepared/Date:
WSL 06/22/2016

Checked/Date:
DEN 06/22/2016

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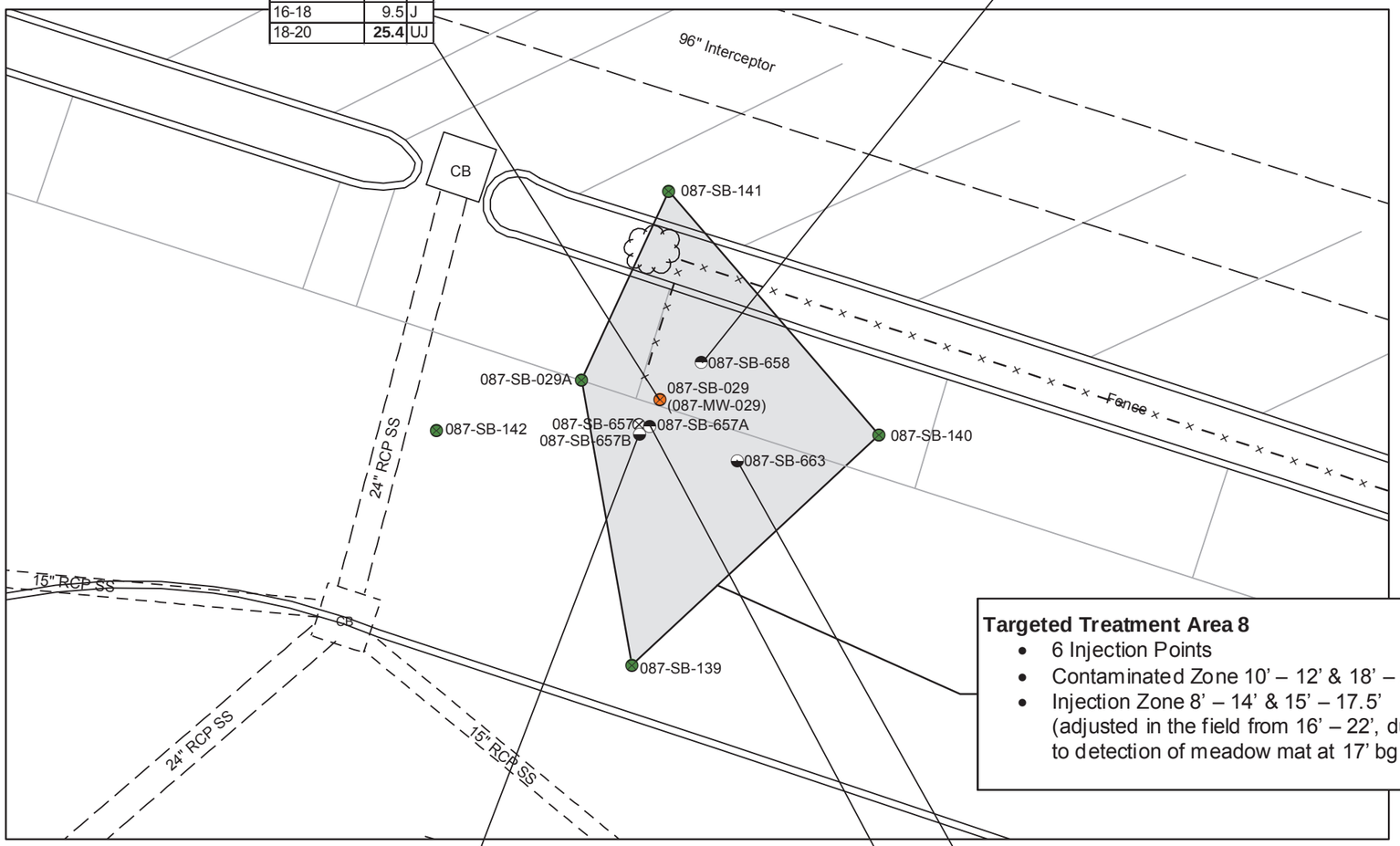
ENVIRONMENT & INFRASTRUCTURE
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

Figure 1
Treatment Area 7
In-situ Chemical Injection Treatment Process
Study Area 6 North
Jersey City, New Jersey

087-SB-O29		
00-02	4.5	J
02-04	2.5	UJ
04-06	2.5	UJ
06-08	4.1	J
08-10	5.5	J
10-12	**68.8**	J
12-14	2.5	UJ
14-16	13.7	J
16-18	9.5	J
18-20	**25.4**	UJ

087-SB-658		
Sample Depth	10 - 11	11 - 12
Sample Date	6/27/2016	6/27/2016
HEXAVALENT CHROMIUM	0.74	0.49 U



Targeted Treatment Area 8

- 6 Injection Points
- Contaminated Zone 10' – 12' & 18' – 20'
- Injection Zone 8' – 14' & 15' – 17.5' (adjusted in the field from 16' – 22', due to detection of meadow mat at 17' bgs)

087-SB-657B		
Sample Depth	15.5 - 16.5	16.5 - 17.5
Sample Date	6/27/2016	6/27/2016
HEXAVALENT CHROMIUM	0.81 U	0.82

087-SB-663		
Sample Depth	15.5 - 16.5	16.5 - 17.5
Sample Date	6/27/2016	6/27/2016
HEXAVALENT CHROMIUM	0.92	0.69 U

087-SB-657A		
Sample Depth	10 - 11	11 - 12
Sample Date	6/27/2016	6/27/2016
HEXAVALENT CHROMIUM	0.49 U	0.61

Legend

- Soil Boring (Refusal, No Samples Taken)
- Shallow Soil Boring
- Deep Soil Boring
- Previous Soil Sample Location (Hexavalent Chromium Result < 20 ppm)
- Previous Soil Sample Location (Hexavalent Chromium Result > 20 ppm)
- SS Storm Sewer
- CB Catch Basin
- MH Manhole
- Treatment Area 8

10 5 0 10
Scale In Feet

Project Number:
3480150488

Prepared/Date:
WSL 06/26/2013

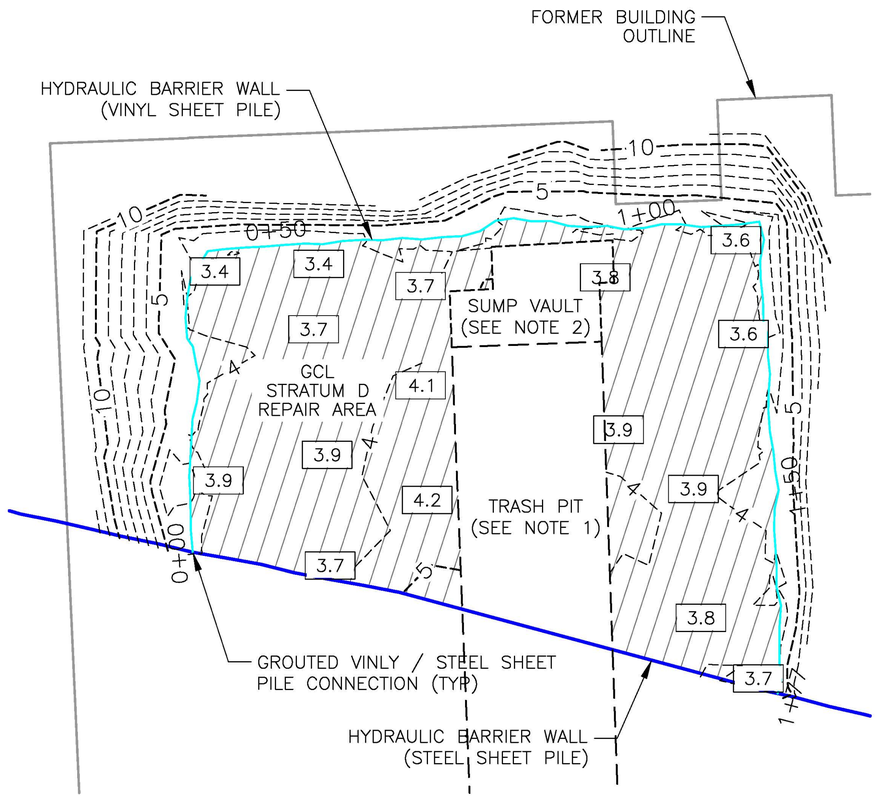
Checked/Date:
DEN 06/14/2016

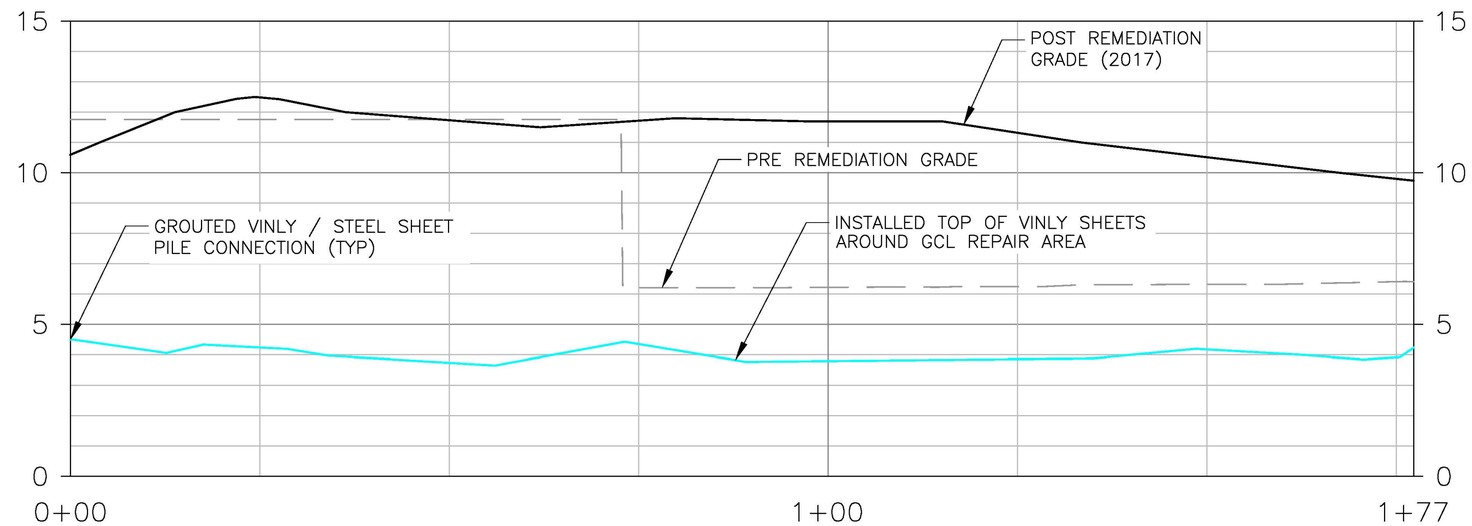
amec foster wheeler

ENVIRONMENT & INFRASTRUCTURE
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

Figure 2
Treatment Area 8
In-situ Chemical Injection Treatment Process
Study Area 6 North
Jersey City, New Jersey

ATTACHMENT I
STRATUM D REPAIR RECORD DRAWING

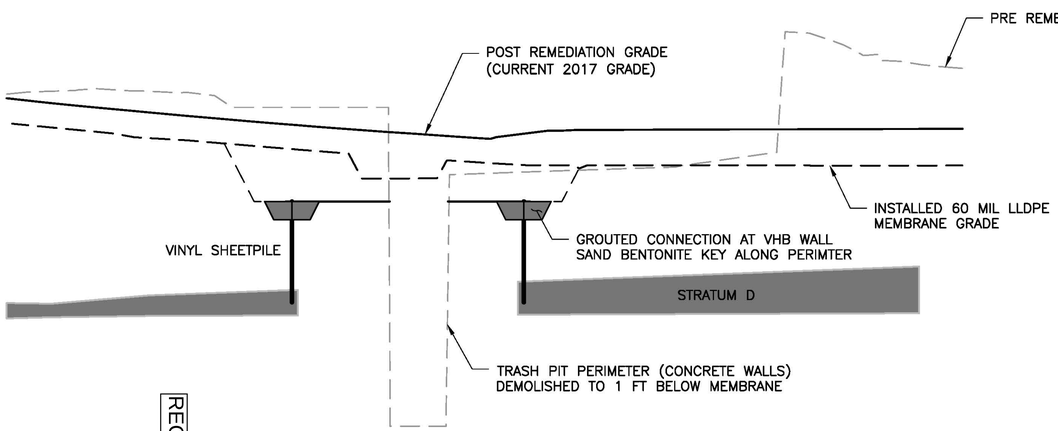




TOP OF VINYL SHEET PILE PROFILE

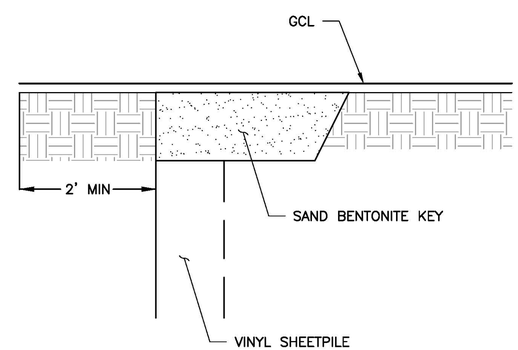
HORIZONTAL SCALE: 1"=20'

VERTICAL SCALE: 1"=5'



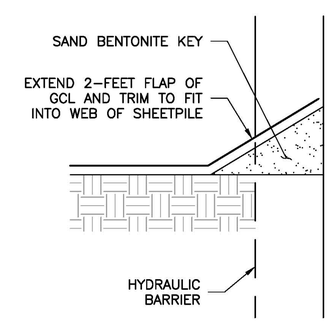
TYPICAL REPAIR SECTION ALONG HYDRAULIC BARRIER

NTS



SAND BENTONITE KEY DETAIL

NTS



GCL CONNECTION TO HYDRAULIC BARRIER

NTS

LEGEND

- VINLY SHEET PILE AS BUILT
- HYDRAULIC BARRIER AS BUILT
- EXCAVATION CONTOURS
- GEOSYNTHETIC CLAY LINER (GCL)
- 3.7 — GCL SPOT ELEVATION

RECORD DRAWING - 12/08/16

NOTES

1. TRASH PIT WAS BACKFILLED WITH SOIL TO THE TOP OF THE CONCRETE WALLS WHICH WERE DEMOLISHED TO AN APPROXIMATE ELEVATION OF 7.0 FT TO 10.0 FT.
2. SUMP VAULT WAS BACKFILLED WITH FLOWABLE FILL TO AN APPROXIMATE ELEVATION OF 5.0 FT AND THEN SOIL BACKFILL WAS PLACED TO THE TOP OF THE VAULT AT AN ELEVATION OF APPROXIMATELY 12.0 FT.

0 20 40 FEET

SCALE

REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	12/8/16	EJP	AE	AE	AB-JCIA Trash Pit Meadow Mat Repair

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: JCIA Trash Pit As Built Vinyl Sheetpile and Meadow Mat Repair 12/08/16

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

ATTACHMENT J
SA-6 NORTH AND SOUTH ROOT BARRIER TOPOGRAPHIC

LEGEND:

5 MAJOR CONTOUR
4 MINOR CONTOUR

0 20 40 80
SCALE IN FEET

GENERAL NOTES

1. *THE SOLE PURPOSE OF THIS PLAN IS TO SHOW AS-BUILT GDL COVER SOIL GRADING ELEVATIONS WITHIN THE SA6 NORTH CAP AREA AT THE PROJECT SITE.*
2. *AS-BUILT GDL COVER SOIL GRADING LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS FROM JULY 2016 THROUGH SEPT. 2016*
3. *HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.*

NOTE: ROOT BARRIER INSTALLED DIRECTLY ON THE AS-BUILT GDL COVER SOIL CONTOURS SHOWN ON THIS DRAWING

R. THOMAS HUGG

NO.	DATE	REVISION	BY	APVD
DSGN	DR	CHK	APVD	

N.J. PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS38737

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Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 NORTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
NORTH CAP GDL COVER
SOIL GRADING PLAN

FILE NUMBER
12001511A

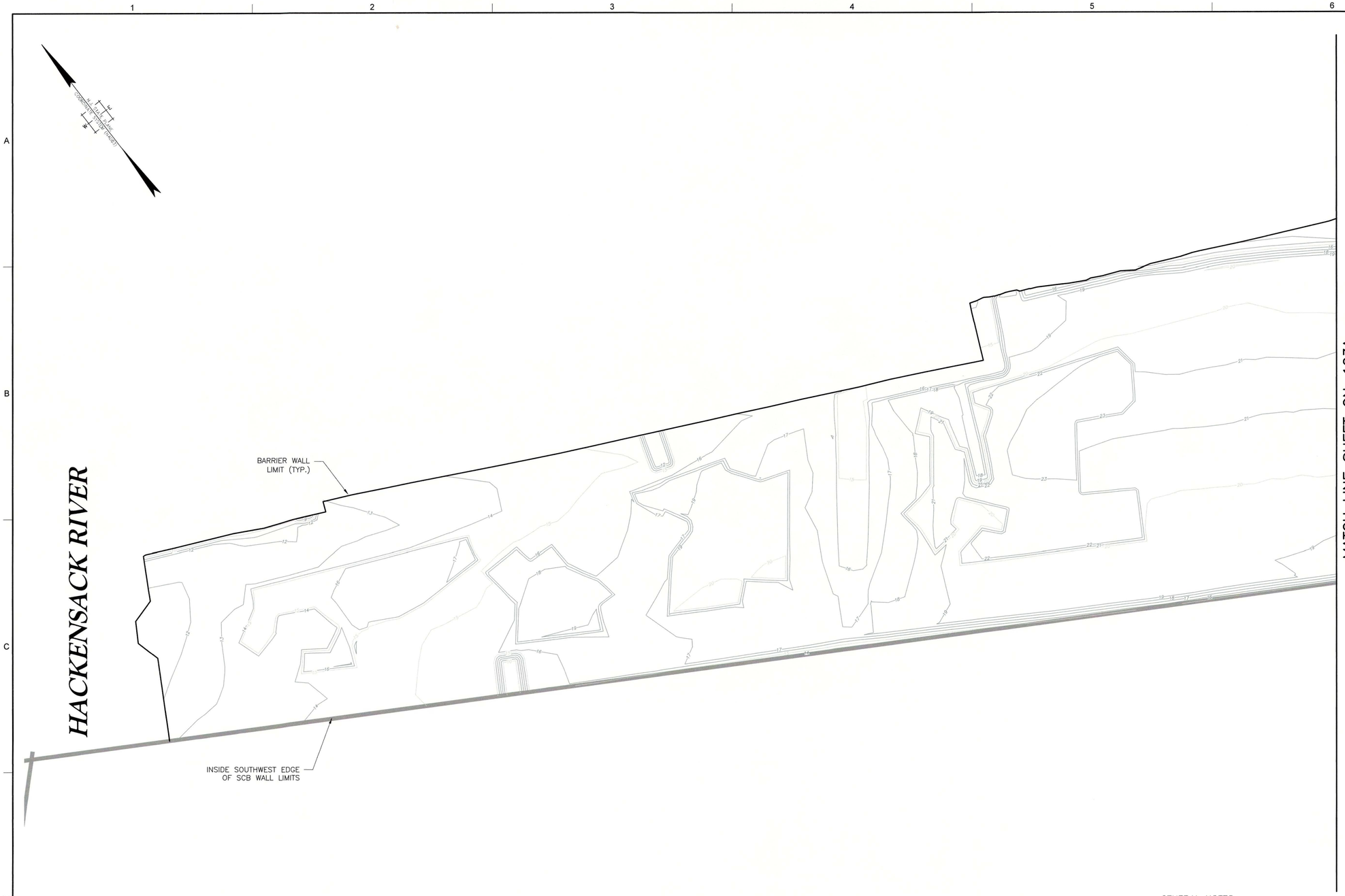
MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 159 STAGECOACH ROAD - MARMORA, NJ 08223

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 3825

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	11/16/16
PROJ	3480-10-0027
DWG	CN-123A
SHEET	1 OF 2

FILE NAME: C:\Civil 3D Projects\2012\12001511A\Survey\NORTH CAP GDL COVER SOIL SURVEY-11-16-16.dwg PLOT DATE: Tue, 31 Jan 2017 PLOT TIME: 12:10 PM



LEGEND:

5 MAJOR CONTOUR
4 MINOR CONTOUR

0 20 40 80
SCALE IN FEET

GENERAL NOTES

1. *THE SOLE PURPOSE OF THIS PLAN IS TO SHOW AS-BUILT GDL COVER SOIL GRADING ELEVATIONS WITHIN THE SA6 NORTH CAP AREA AT THE PROJECT SITE.*
2. *AS-BUILT GDL COVER SOIL GRADING LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS FROM JULY 2016 THROUGH SEPT. 2016*
3. *HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.*

NOTE: ROOT BARRIER INSTALLED DIRECTLY ON THE AS-BUILT GDL COVER SOIL CONTOURS SHOWN ON THIS DRAWING

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 080223

FILE NUMBER 12001511A

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
NORTH CAP GDL COVER
SOIL GRADING PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 Horizon Center Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	11/16/16
PROJ	3480-10-0027
DWG	CN-124A
SHEET	2 OF 2

Honeywell
101 COLUMBIA RD., BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 NORTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

NO.	DATE	REVISION	BY	APVD
DSGN	DR	CHK	APVD	

R. THOMAS HUGG

N.J PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS38737

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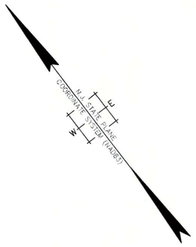
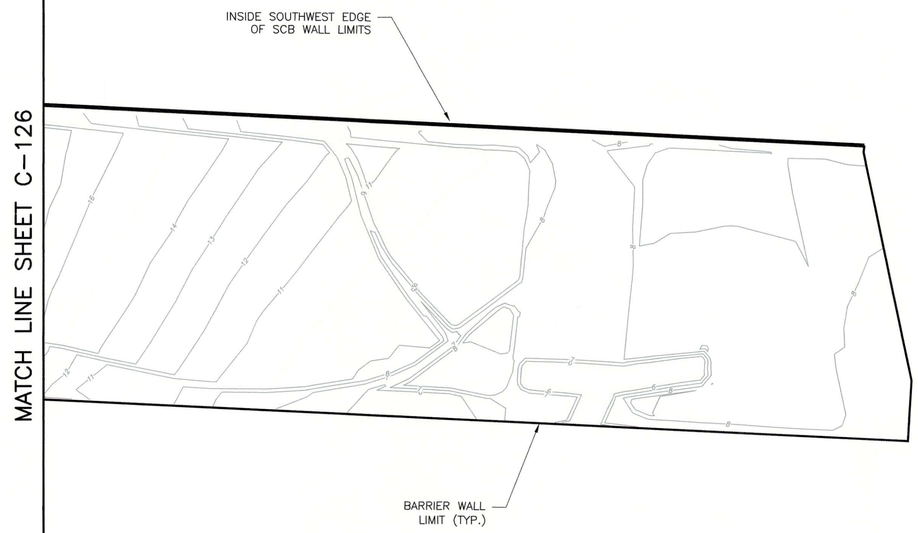
NOTE: ROOT BARRIER INSTALLED DIRECTLY ON THE AS-BUILT GDL COVER SOIL CONTOURS SHOWN ON THIS DRAWING.





LEGEND:

5 MAJOR CONTOUR
4 MINOR CONTOUR

0 20 40 80
SCALE IN FEET

GENERAL NOTES

1. *THE SOLE PURPOSE OF THIS PLAN IS TO SHOW AS-BUILT GDL COVER SOIL GRADING ELEVATIONS WITHIN THE SA6 SOUTH CAP AREA AT THE PROJECT SITE.*
2. *AS-BUILT SOUTH CAP GDL COVER SOIL GRADING LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS FROM OCT. 2015 THROUGH MAY 2016*
3. *HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.*

R. THOMAS HUGG

NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

NO.	DATE	REVISION	BY	APVD
DSGN	DR	CHK	APVD	

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
SOUTH CAP GDL COVER
SOIL GRADING PLAN

FILE NUMBER
12001511A

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 08223

amec foster wheeler
Environment & Infrastructure, Inc.
2200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2929

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	11/17/16
PROJ	3480-10-0027
DWG	C-125
SHEET	1 OF 3

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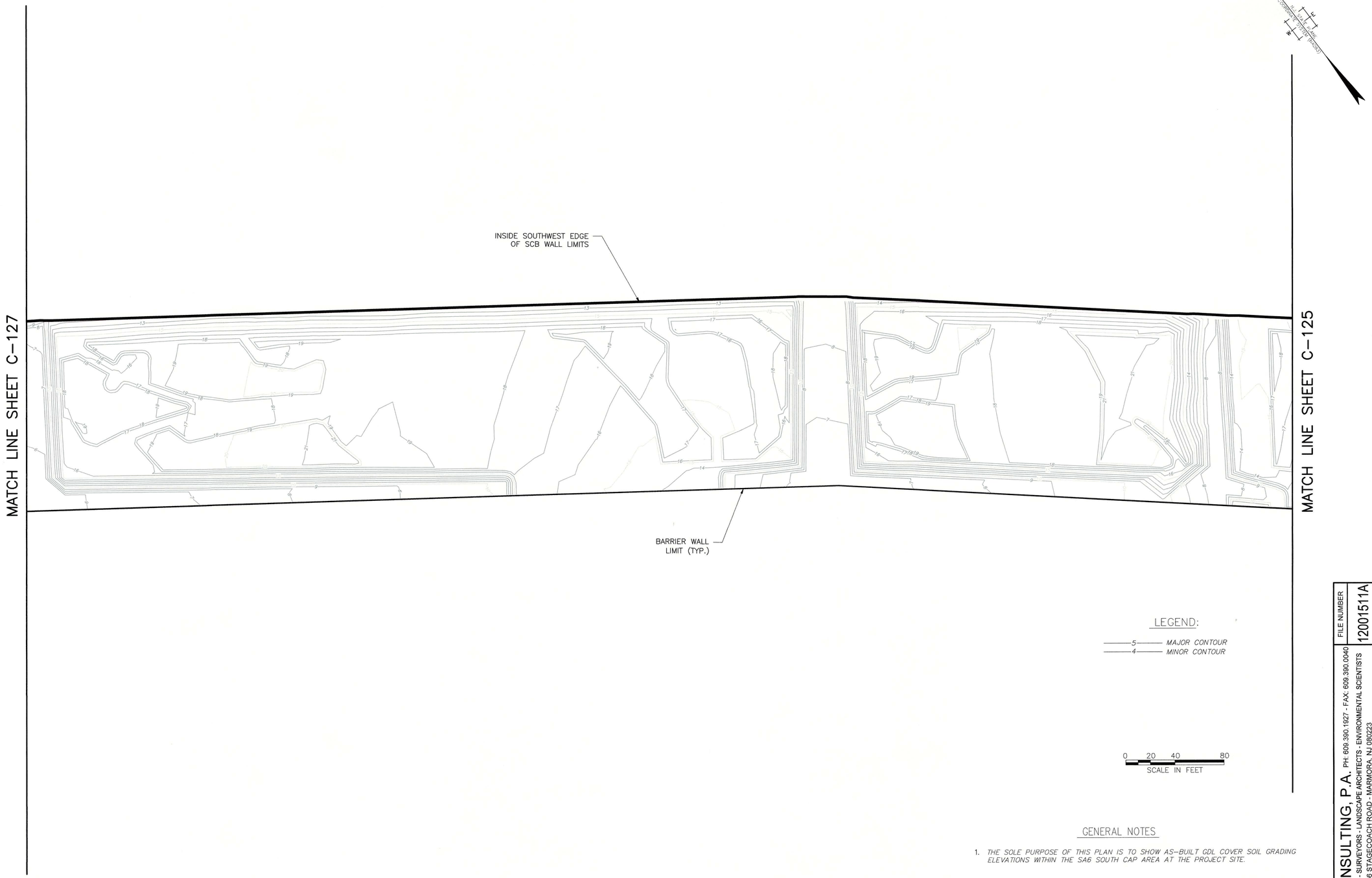

LEGEND:

5 — MAJOR CONTOUR
4 — MINOR CONTOUR

0 20 40 80
SCALE IN FEET

GENERAL NOTES

1. *THE SOLE PURPOSE OF THIS PLAN IS TO SHOW AS-BUILT GDL COVER SOIL GRADING ELEVATIONS WITHIN THE SA6 SOUTH CAP AREA AT THE PROJECT SITE.*
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NOTE: ROOT BARRIER INSTALLED DIRECTLY ON THE AS-BUILT GDL COVER SOIL CONTOURS SHOWN ON THIS DRAWING

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FILE NUMBER 12001511A

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
SOUTH CAP GDL COVER
SOIL GRADING PLAN

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ. 08619
(609) 689 - 2829

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	11/17/16
PROJ	3480-10-0027
DWG	C-126
SHEET	2 OF 3

NO.	DATE	REVISION	BY	APVD
DSGN	DR	CHK	APVD	

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS35737

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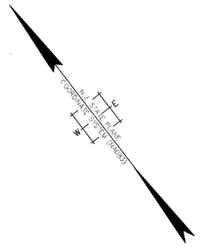

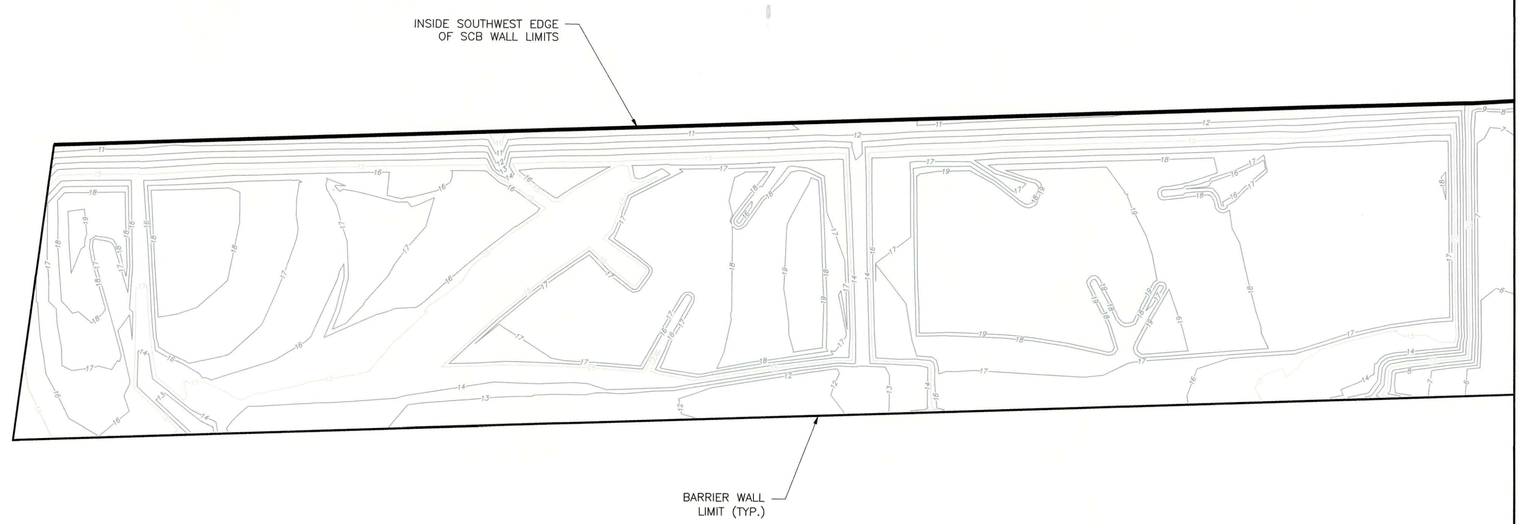

LEGEND:

———5——— MAJOR CONTOUR
———4——— MINOR CONTOUR

0 20 40 80
SCALE IN FEET

GENERAL NOTES

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3. *HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.*

NOTE: ROOT BARRIER INSTALLED DIRECTLY ON THE AS-BUILT GDL COVER SOIL CONTOURS SHOWN ON THIS DRAWING

R. THOMAS HUGGS

NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

NO.	DATE	REVISION	BY	APVD

DSGN | DR | CHK | APVD

Honeywell
101 COLUMBIA RD. BOX 2108, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

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DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
SOUTH CAP GDL COVER
SOIL GRADING PLAN

FILE NUMBER
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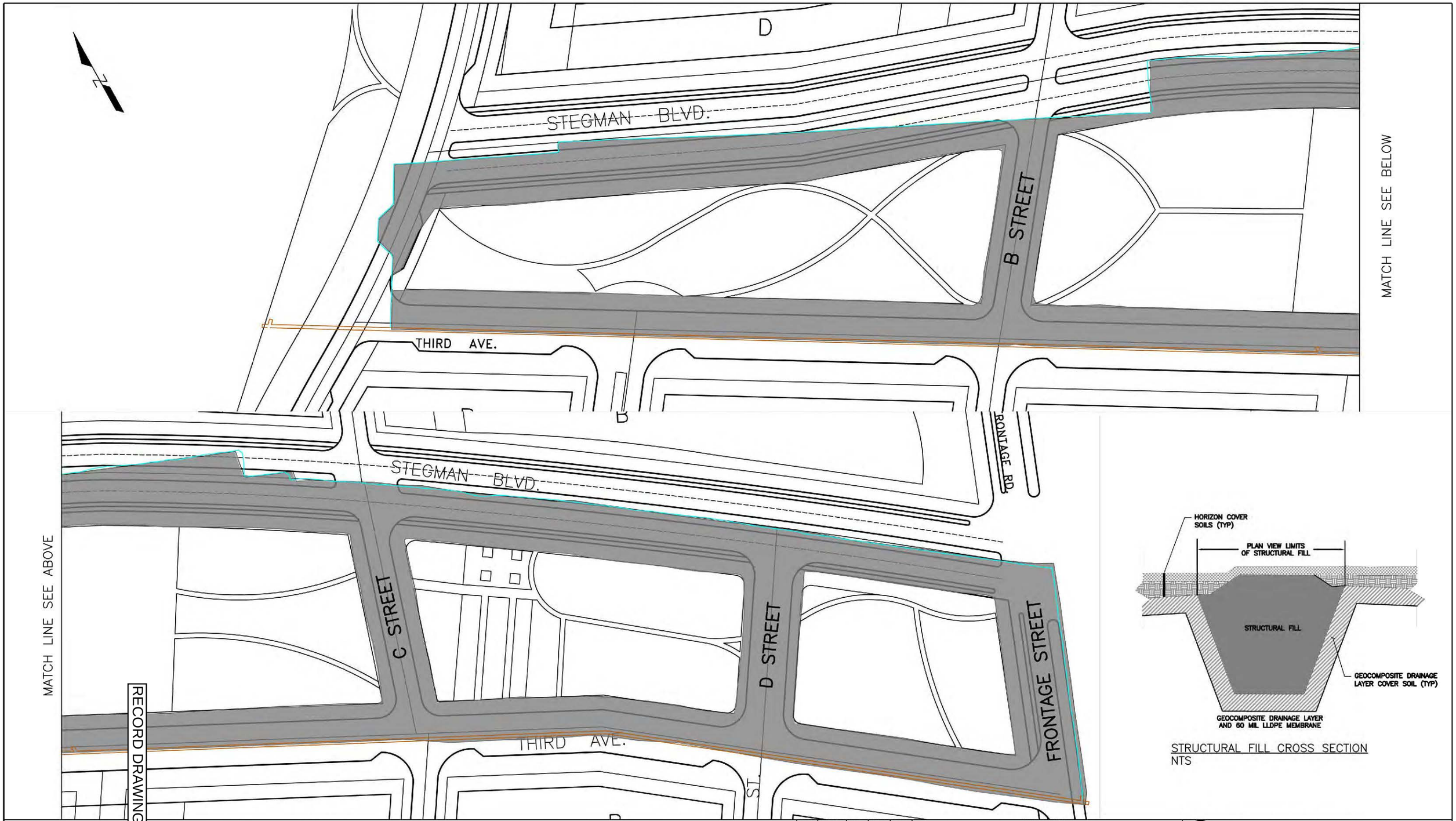
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	11/17/16
PROJ	3480-10-0027
DWG	C-127
SHEET	3 OF 3

ATTACHMENT K
SA-6 NORTH AND SOUTH STRUCTURAL FILL RECORD DRAWINGS



STRUCTURAL FILL CROSS SECTION
NTS

LEGEND

- Structural Fill Under Roadways
- SCE WALL
- HB WALL (Inner Edge)

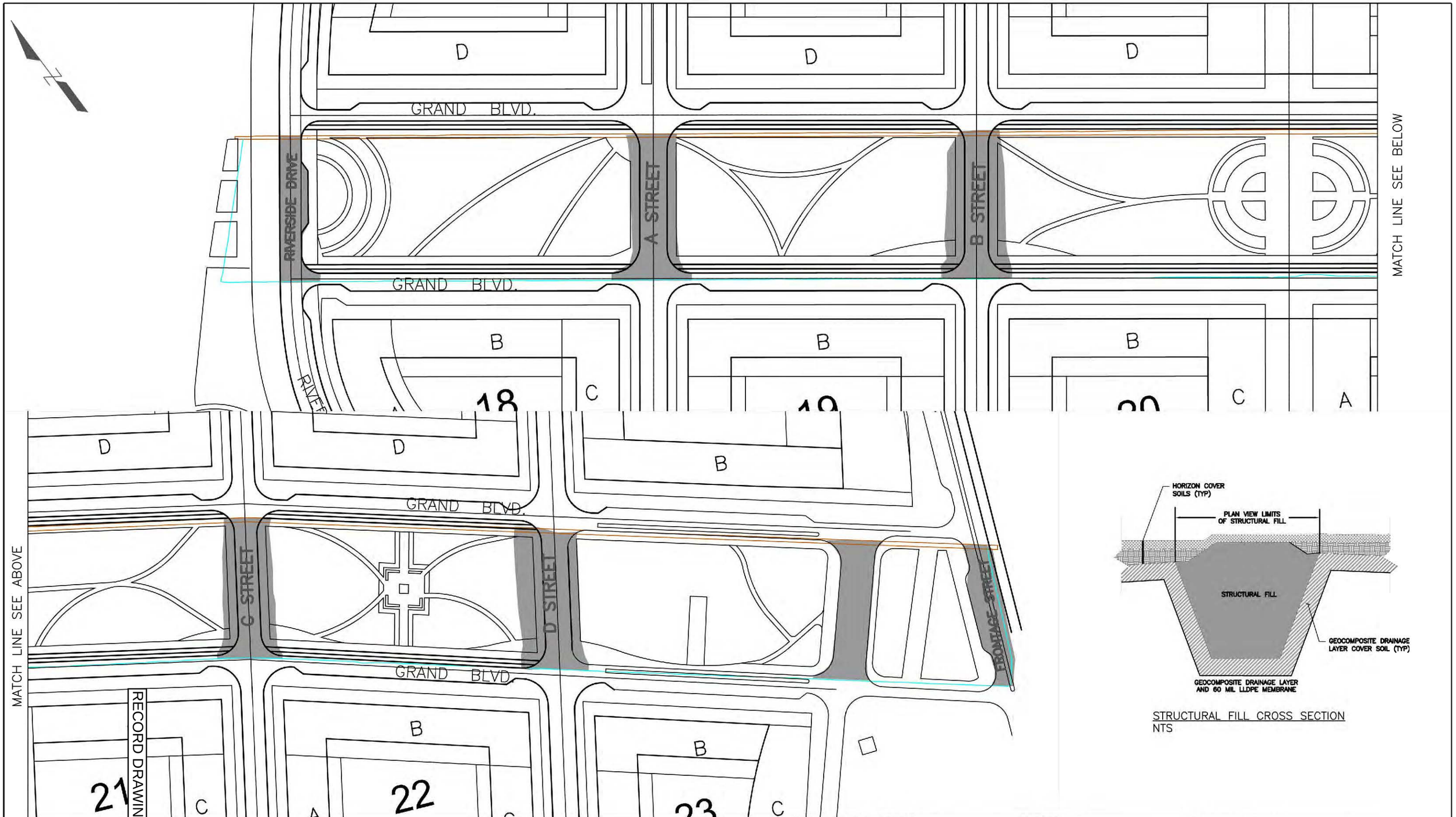
0 80 160 Feet
SCALE

REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	12/7/16	EJP	AE	AE	STRUCTURAL FILL UNDER ROADWAYS – NORTH CAP
1	12/15/16	EJP	AE	AE	ADDED FUTURE DEVELOPMENT LAYOUT & STRUCTURAL FILL X-SECTION

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: Structural Fill Under Roadways NORTH CAP 12/15/16

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



STRUCTURAL FILL CROSS SECTION
NTS

RECORD DRAWING - 12/15/16

LEGEND

Stru al Fill Under Roadways

SCE LL

HB WALL (Inner Edge)

0 80 160 Feet

SCALE

REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	12/7/16	EJP	AE	AE	STRUCTURAL FILL UNDER ROADWAYS – SOUTH CAP
1	12/15/16	EJP	AE	AE	ADDED FUTURE DEVELOPMENT LAYOUT & STRUCTURAL FILL X-SECTION

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: STRUCTURAL FILL UNDER ROADWAYS SOUTH CAP 12/15/16

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

ATTACHMENT L
SA-6 NORTH AND SOUTH CAP COMPACTION LOGS

1.0 Field Density Test Summary Log

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-01-1	7/13/2016	686056.7	602102.5	11.70	107.6	7.8	117	8.6	92.0	90	1	GDL Cover Soil		V5N
1	CS-02-1	7/13/2016	686078.8	602160.6	12.30	111.1	7.5	117	8.6	95.0	90	1	GDL Cover Soil		V5N
1	CS-03-1	7/13/2016	686035.6	602132.4	12.50	107.5	7.8	117	8.6	92.0	90	1	GDL Cover Soil		V5N
1	CS-04-1	7/13/2016	685983.2	602018.1	12.90	111.1	7.5	117	8.6	95.0	90	1	GDL Cover Soil		V5N
1	CS-05-1	7/13/2016	685959.4	602142.7	13.50	110	7.5	117	8.6	94.0	90	1	GDL Cover Soil		V5N
1	CS-06-1	7/13/2016	685999.9	602165.7	15.70	112.15	7	117	8.6	96.0	90	1	GDL Cover Soil		V5N
1	CS-07-1	7/13/2016	686052.5	602190.6	12.30	110	8.4	117	8.6	94.0	90	1	GDL Cover Soil		V5N
1	CS-08-1	7/13/2016	685932.8	602188.2	14.00	107.5	7.8	117	8.6	91.9	90	2	GDL Cover Soil		V5N
1	CS-09-1	7/13/2016	685996.5	602222	15.90	108.16	8.3	117	8.6	93.0	90	2	GDL Cover Soil		V5N
1	CS-10-1	7/13/2016	686031.2	602252.7	12.40	111.1	7.2	117	8.6	95.0	90	2	GDL Cover Soil		V5N
1	CS-11-1	7/18/2016	686019.3	602311.2	13.10	121.1	5.2	117	8.6	103.5	90	3	GDL Cover Soil		V5N
1	CS-12-1	7/18/2016	686002.8	602277.9	13.00	116.6	5.3	117	8.6	99.7	90	3	GDL Cover Soil		V5N
1	CS-13-1	7/18/2016	685956.2	602253.6	16.30	115.9	5.1	117	8.6	99.1	90	3	GDL Cover Soil		V5N
1	CS-14-1	7/18/2016	685902.6	602234.8	14.50	117.2	7.9	117	8.6	100.2	90	3	GDL Cover Soil		V5N
1	SF-01-1	7/18/2016	686054.2	602111.9	13.40	117.5	3.9	112.2	9.7	104.7	95	1	Structural Fill	Final Elevation	V5N
1	SF-02-1	7/18/2016	686072.1	602155.3	13.41	118.1	1.8	112.2	9.7	105.3	95	1	Structural Fill		V5N
2	SF-02-2	7/18/2016	686067.9	602166.2	13.80	113.1	2.5	112.2	9.7	100.8	95	1	Structural Fill	Final Elevation	V5N
1	SF-03-1	7/18/2016	686058.0	602202.1	13.40	114.9	1.6	112.2	9.7	102.4	95	1	Structural Fill		V5N
1	SF-04-1	7/18/2016	686035.3	602247.1	13.30	115.0	2.2	112.2	9.7	102.5	95	2	Structural Fill		V5N
1	HC-24-1	8/29/2016	685713.6	602653.3	21.60	115.4	8.5	126	9.5	91.6	90	6	Horizon C	Back Scatter	V5N
1	HC-25-1	8/29/2016	685766.9	602684.5	18.80	116.7	8.8	126	9.5	92.6	90	6	Horizon C	Back Scatter	V5N
1	HC-26-1	8/29/2016	685809.6	602705.3	18.70	118.9	8.4	126	9.5	94.4	90	6	Horizon C	Back Scatter	V5N
1	HC-92-1	9/16/2016	685103.9	603560.3	13.90	105.7	7.5	126	9.5	83.9	90	12	Horizon C	HC-92-1R (Page 8)	V5N
1	HC-01-1	7/20/2016	686011.1	602089.8	12.90	120.5	5.2	126	9.5	95.6	90	1	Horizon C	Back Scatter	V5N
1	SF-12-1	7/20/2016	685987.4	602075.7	13.50	107.0	3.8	112.2	9.7	95.4	95	1	Structural Fill		V5N
1	SF-13-1	7/20/2016	685963.8	602121.8	14.20	107.6	3.7	112.2	9.7	95.9	95	1	Structural Fill		V5N
1	SF-14-1	7/20/2016	685931.2	602176.8	14.90	108.5	3.5	112.2	9.7	96.7	95	2	Structural Fill		V5N
1	CS-15-1	7/22/2016	685859.2	602274.7	15.30	113.6	5.3	117	8.6	97.1	90	3	GDL Cover Soil		V5N
1	CS-16-1	7/22/2016	685889.8	602275.9	15.50	115.1	7.5	117	8.6	98.4	90	3	GDL Cover Soil		V5N
1	CS-17-1	7/22/2016	685930.0	602308.4	16.90	114.7	5.2	117	8.6	98.0	90	3	GDL Cover Soil		V5N
1	CS-18-1	7/22/2016	685978.5	602322.4	13.70	115.2	6.3	117	8.6	98.5	90	3	GDL Cover Soil		V5N
1	CS-19-1	7/22/2016	685995.4	602358.6	13.60	112.3	7.3	117	8.6	96.0	90	3	GDL Cover Soil		V5N
1	CS-20-1	7/22/2016	685974.2	602407.6	14.20	110.5	8.5	117	8.6	94.4	90	3	GDL Cover Soil		V5N
1	CS-21-1	7/22/2016	685955.3	602367.3	14.20	115.2	4.6	117	8.6	98.5	90	3	GDL Cover Soil		V5N
1	CS-22-1	7/22/2016	685908.8	602343.5	15.00	121.8	9.2	117	8.6	104.1	90	3	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-23-1	7/22/2016	685867.1	602319.4	16.10	113.1	5.3	117	8.6	96.7	90	3	GDL Cover Soil		V5N
1	HC-02-1	7/20/2016	685997.1	602121.8	13.40	120.0	5.0	126	9.5	95.2	90	1	Horizon C	Back Scatter	V5N
1	HC-03-1	7/20/2016	686032.1	602156.7	12.40	119.3	5.6	126	9.5	94.7	90	1	Horizon C	Back Scatter	V5N
2	SF-03-2	7/22/2016	686050.7	602208.4	14.20	114.8	1.7	112.2	9.7	102.3	95	1	Structural Fill	Final Elevation	V5N
2	SF-04-2	7/22/2016	686035.2	602238.3	14.20	115.6	1.4	112.2	9.7	103.0	95	1	Structural Fill	Final Elevation	V5N
1	HC-04-1	7/20/2016	686008.8	602201.9	16.20	122.0	5.4	126	9.5	96.8	90	1	Horizon C	Back Scatter	V5N
1	HC-05-1	7/20/2016	685970.9	602168.3	14.40	119.5	5.6	126	9.5	94.8	90	1	Horizon C	Back Scatter	V5N
1	SF-05-1	7/28/2016	686021.4	602296.2	14.40	107.5	8.2	112.2	9.7	95.8	95	3	Structural Fill	Final Elevation	V5N
2	SF-12-2	7/28/2016	685986.7	602075.0	14.00	108.8	7.5	112.2	9.7	97.0	95	1	Structural Fill	Final Elevation	V5N
2	SF-13-2	7/28/2016	685958.4	602125.9	15.00	107.6	8.0	112.2	9.7	95.9	95	1	Structural Fill	Final Elevation	V5N
1	SF-15-1	7/28/2016	685894.5	602235.3	15.80	106.7	8.3	112.2	9.7	95.1	95	3	Structural Fill		V5N
1	CS-24-1	8/3/2016	685812.8	602367.6	16.10	108.1	8.3	117	8.6	92.4	90	4	GDL Cover Soil		V5N
1	CS-25-1	8/3/2016	685841.8	602355.4	16.40	107.6	8.9	117	8.6	92.0	90	4	GDL Cover Soil		V5N
1	CS-26-1	8/3/2016	685887.8	602387.1	18.10	108.9	8.8	117	8.6	93.1	90	4	GDL Cover Soil		V5N
1	CS-27-1	8/3/2016	685931.8	602410.4	15.10	107.6	9.5	117	8.6	92.0	90	4	GDL Cover Soil		V5N
1	CS-28-1	8/3/2016	685951.7	602456.4	14.70	108.9	8.5	117	8.6	93.1	90	4	GDL Cover Soil		V5N
1	CS-29-1	8/3/2016	685908.7	602454.7	15.80	110.0	6.5	117	8.6	94.0	90	4	GDL Cover Soil		V5N
1	CS-30-1	8/3/2016	685864.2	602431.3	16.00	107.6	8.8	117	8.6	92.0	90	4	GDL Cover Soil		V5N
1	CS-31-1	8/3/2016	685820.3	602408.9	16.90	110.0	6.1	117	8.6	94.0	90	4	GDL Cover Soil		V5N
1	HC-06-1	7/22/2016	685943.5	602217.1	16.60	121.2	8.2	126	9.5	96.2	90	1	Horizon C	Back Scatter	V5N
1	HC-07-1	7/22/2016	685985.9	602241.3	16.50	123.9	10.2	126	9.5	98.3	90	1	Horizon C	Back Scatter	V5N
1	HC-08-1	7/28/2016	685953.9	602285.9	17.12	114.2	8.9	126	9.5	90.6	90	2	Horizon C	Back Scatter	V5N
1	HC-09-1	7/28/2016	685921.7	602262.1	15.00	113.5	9.2	126	9.5	90.1	90	2	Horizon C	Back Scatter	V5N
1	HC-10-1	8/5/2016	685897.1	602316.3	15.80	117.5	8.2	126	9.5	93.3	90	2	Horizon C	Back Scatter	V5N
1	HC-11-1	8/5/2016	685939.6	602343.2	17.70	119.5	7.1	126	9.5	94.8	90	3	Horizon C	Back Scatter	V5N
1	SF-06-1	8/5/2016	686001.6	602337.9	14.70	110.0	2.3	112.2	9.7	98.0	95	3	Structural Fill	Final Elevation	V5N
1	SF-07-1	8/5/2016	685981.7	602383.3	15.20	111.0	1.1	112.2	9.7	98.9	95	3	Structural Fill	Final Elevation	V5N
2	SF-14-2	8/5/2016	685921.2	602172.6	15.20	110.0	1.8	112.2	9.7	98.0	95	2	Structural Fill	Final Elevation	V5N
2	SF-15-2	8/5/2016	685896.6	602231.8	16.40	110.0	1.8	112.2	9.7	98.0	95	3	Structural Fill	Final Elevation	V5N
1	SF-16-1	8/5/2016	685843.1	602309.5	16.40	111.0	1.1	112.2	9.7	98.9	95	3	Structural Fill	Final Elevation	V5N
1	CS-32-1	8/10/2016	685796.3	602441.1	17.30	106.1	8.8	117	8.6	90.7	90	4	GDL Cover Soil		V5N
1	CS-33-1	8/10/2016	685845.9	602479.3	16.50	105.6	10.0	117	8.6	90.3	90	5	GDL Cover Soil		V5N
1	CS-34-1	8/10/2016	685890.1	602491.3	18.50	105.9	7.2	117	8.6	90.5	90	5	GDL Cover Soil		V5N
1	CS-35-1	8/10/2016	685926.5	602522.2	11.00	108.3	9.6	117	8.6	92.6	90	5	GDL Cover Soil		V5N
1	CS-36-1	8/10/2016	685910.8	602551.9	15.70	105.9	9.8	117	8.6	90.5	90	5	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-37-1	8/10/2016	685859.0	602544.1	19.20	110.0	7.8	117	8.6	94.0	90	5	GDL Cover Soil		V5N
1	CS-38-1	8/10/2016	685818.5	602520.0	19.60	106.0	10.2	117	8.6	90.6	90	5	GDL Cover Soil		V5N
1	CS-39-1	8/10/2016	685771.2	602499.5	17.90	106.0	10.2	117	8.6	90.6	90	5	GDL Cover Soil		V5N
1	CS-40-1	8/10/2016	685761.7	602455.7	17.10	112.2	7.8	117	8.6	95.9	90	5	GDL Cover Soil		V5N
1	CS-41-1	8/10/2016	685727.7	602509.9	17.80	105.6	9.2	117	8.6	90.3	90	5	GDL Cover Soil		V5N
1	CS-42-1	8/10/2016	685750.8	602543.2	17.90	105.6	8.9	117	8.6	90.3	90	5	GDL Cover Soil		V5N
1	CS-43-1	8/10/2016	685790.6	602568.0	17.10	106.0	8.9	117	8.6	90.6	90	5	GDL Cover Soil		V5N
1	CS-44-1	8/10/2016	685829.9	602580.0	19.50	112.5	7.8	117	8.6	96.2	90	5	GDL Cover Soil		V5N
1	CS-45-1	8/10/2016	685883.5	602613.3	16.10	105.5	9.2	117	8.6	90.2	90	5	GDL Cover Soil		V5N
1	SF-08-1	8/10/2016	685947.6	602444.5	15.50	107.6	5.6	112.2	9.7	95.9	95	4	Structural Fill	Final Elevation	V5N
1	HC-12-1	8/5/2016	685923.2	602385.8	15.60	118.5	9.6	126	9.5	94.0	90	3	Horizon C	Back Scatter	V5N
1	HC-13-1	8/5/2016	685878.4	602355.3	18.70	116.5	11.6	126	9.5	92.5	90	3	Horizon C	Back Scatter	V5N
1	HC-14-1	8/5/2016	685857.5	602397.8	19.00	116.5	10.6	126	9.5	92.5	90	3	Horizon C	Back Scatter	V5N
1	HC-15-1	8/5/2016	685901.5	602426.6	16.00	117.5	8.9	126	9.5	93.3	90	3	Horizon C	Back Scatter	V5N
1	HC-16-1	8/11/2016	685877.5	602467.2	16.50	119.8	4.5	126	9.5	95.1	90	3	Horizon C	Back Scatter	V5N
1	SF-09-1	8/11/2016	685919.3	602481.2	16.30	107.8	5.2	112.2	9.7	96.1	95	4	Structural Fill	Final Elevation	V5N
1	SF-18-1	8/11/2016	685796.5	602421.3	18.00	107.8	5.0	112.2	9.7	96.1	95	4	Structural Fill		V5N
1	SF-19-1	8/11/2016	685765.4	602477.7	18.70	108.5	5.2	112.2	9.7	96.7	95	5	Structural Fill		V5N
1	CS-46-1	8/16/2016	685858.5	602654.7	16.70	106.7	5.4	117	8.6	91.2	90	6	GDL Cover Soil		V5N
1	CS-47-1	8/16/2016	685816.0	602640.9	14.90	117.6	6.3	117	8.6	100.5	90	6	GDL Cover Soil	Start Reduced Frequency	V5N
1	CS-48-1	8/16/2016	685772.5	602607.5	15.30	118.0	7.6	117	8.6	100.9	90	6	GDL Cover Soil		V5N
1	CS-49-1	8/16/2016	685725.8	602586.9	16.30	115.6	7.1	117	8.6	98.8	90	6	GDL Cover Soil		V5N
1	CS-50-1	8/16/2016	685696.7	602558.7	17.20	116.2	5.8	117	8.6	99.3	90	6	GDL Cover Soil		V5N
1	CS-51-1	8/16/2016	685666.9	602613.2	18.90	112.5	4.4	117	8.6	96.2	90	6	GDL Cover Soil		V5N
1	CS-52-1	8/16/2016	685706.9	602626.6	18.00	118.2	5.7	117	8.6	101.0	90	6	GDL Cover Soil		V5N
1	CS-53-1	8/16/2016	685738.4	602639.4	17.60	114.5	6.7	117	8.6	97.9	90	6	GDL Cover Soil		V5N
1	CS-54-1	8/16/2016	685793.1	602675.7	17.50	113.7	6.0	117	8.6	97.2	90	6	GDL Cover Soil		V5N
1	CS-55-1	8/16/2016	685830.0	602699.4	15.70	113.0	8.9	117	8.6	96.6	90	6	GDL Cover Soil		V5N
1	CS-94-1	8/19/2016	685064.3	603656.9	7.50	109.8	5.4	117	8.6	93.8	90	7	GDL Cover Soil		V5N
1	CS-95-1	8/19/2016	685177.8	603698.4	6.20	113.7	7.9	117	8.6	97.2	90	7	GDL Cover Soil		V5N
1	HC-17-1	8/11/2016	685824.6	602442.2	17.50	122.7	6.4	126	9.5	97.4	90	3	Horizon C	Back Scatter	V5N
1	HC-18-1	8/11/2016	685791.3	602476.8	20.80	118.5	5.8	126	9.5	94.0	90	3	Horizon C	Back Scatter	V5N
1	HC-19-1	8/11/2016	685833.9	602502.6	19.80	124.1	5.3	126	9.5	98.5	90	3	Horizon C	Back Scatter	V5N
1	SF-10-1	8/19/2016	685907.4	602542.6	16.80	120.0	2.4	112.2	9.7	107.0	95	5	Structural Fill		V5N
1	SF-17-1	8/19/2016	685816.7	602355.7	17.40	119.0	1.2	112.2	9.7	106.1	95	4	Structural Fill	Final Elevation	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	SF-20-1	8/19/2016	685723.9	602524.1	19.30	115.8	2.8	112.2	9.7	103.2	95	5	Structural Fill	Final Elevation	V5N
1	CS-57-1	8/24/2016	685725.4	602744.3	23.00	119.0	6.2	117	8.6	101.7	90	8	GDL Cover Soil		V5N
1	CS-58-1	8/24/2016	685648.5	602672.7	19.40	114.0	7.6	117	8.6	97.4	90	8	GDL Cover Soil		V5N
1	CS-59-1	8/24/2016	685678.3	602742.7	22.60	120.3	5.3	117	8.6	102.8	90	9	GDL Cover Soil		V5N
1	CS-60-1	8/24/2016	685783.3	602811.9	19.60	114.3	8.3	117	8.6	97.7	90	9	GDL Cover Soil		V5N
1	CS-61-1	8/24/2016	685983.1	602881.8	19.10	118.6	6.6	117	8.6	101.4	90	9	GDL Cover Soil		V5N
1	CS-62-1	8/24/2016	685690.9	602859.0	21.30	115.6	4.5	117	8.6	98.8	90	9	GDL Cover Soil		V5N
1	CS-63-1	8/24/2016	685600.9	602803.9	19.90	116.4	6.2	117	8.6	99.5	90	9	GDL Cover Soil		V5N
1	CS-64-1	8/24/2016	685711.9	602937.4	20.40	108.3	3.9	117	8.6	92.6	90	9	GDL Cover Soil		V5N
1	CS-65-1	8/24/2016	685611.8	602885.6	20.30	110.2	4.8	117	8.6	94.2	90	9	GDL Cover Soil		V5N
1	CS-66-1	8/24/2016	685705.6	603007.6	19.70	117.8	7.7	117	8.6	100.7	90	9	GDL Cover Soil		V5N
1	CS-67-1	8/24/2016	685615.9	602991.2	21.40	113.1	6.6	117	8.6	96.7	90	9	GDL Cover Soil		V5N
1	CS-68-1`	8/24/2016	685536.6	602916.2	19.40	112.3	6.2	117	8.6	96.0	90	9	GDL Cover Soil		V5N
1	SF-11-1	8/24/2016	685873.3	602605.8	17.50	115.1	2.4	112.2	9.7	103.7	95	5	Structural Fill		V5N
1	SF-24-1	8/24/2016	685854.9	602653.8	17.90	112.2	1.9	112.2	9.7	100.0	95	5	Structural Fill	Final Elevation	V5N
1	CS-56-1	8/29/2016	685809.2	602783.8	15.90	111.2	6.3	117	8.6	95.0	90	9	GDL Cover Soil	Moved point to Area 9	V5N
1	CS-69-1	8/29/2016	685642.2	603080.6	18.90	110.3	3.9	117	8.6	94.3	90	10W	GDL Cover Soil		V5N
1	CS-73-1	8/29/2016	685596.9	603156.9	17.20	113.3	5.7	117	8.6	96.8	90	10W	GDL Cover Soil		V5N
1	CS-75-1	8/29/2016	685451.4	603140.5	10.70	119.1	5.6	117	8.6	101.8	90	10	GDL Cover Soil	Corridor	V5N
1	DGA-1-1	8/29/2016	685498.1	603803.2	9.10	129.1	1.7	135.9	9.5	95.0	95	MUA	DGA	Driveway	V5N
1	DGA-2-1	8/29/2016	685479.7	603838.2	8.70	129.4	1.6	135.9	9.5	95.2	95	MUA	DGA	Driveway	V5N
1	DGA-3-1	8/29/2016	685462.6	603871.9	8.40	131.0	1.5	135.9	9.5	96.4	95	MUA	DGA	Driveway	V5N
1	HC-23-1	8/19/2016	685768.3	602522.6	18.50	116.8	9.7	126	9.5	92.7	90	5	Horizon C	Back Scatter	V5N
1	HC-28-1	8/31/2016	685753.3	602747.5	23.20	115.2	8.3	126	9.5	91.4	90	8	Horizon C	Back Scatter	V5N
1	HC-29-1	8/31/2016	685711.3	602718.5	23.00	113.4	10.9	126	9.5	90.0	90	8	Horizon C	Back Scatter	V5N
2	SF-10-2	8/29/2016	685907.0	602542.6	16.90	115.8	0.9	112.2	9.7	103.2	95	5	Structural Fill	Final Elevation	V5N
2	SF-11-2	8/29/2016	685878.3	602607.5	17.60	116.2	1.1	112.2	9.7	103.6	95	5	Structural Fill	Final Elevation	V5N
2	SF-18-2	8/29/2016	685782.4	602413.8	18.10	119.7	0.9	112.2	9.7	106.7	95	4	Structural Fill	Final Elevation	V5N
2	SF-19-2	8/29/2016	685755.2	602456.9	18.80	118.4	0.7	112.2	9.7	105.5	95	5	Structural Fill	Final Elevation	V5N
1	SF-21-1	8/29/2016	685788.0	602599.6	17.50	112.7	1.2	112.2	9.7	100.4	95	6	Structural Fill		V5N
2	SF-21-2	8/29/2016	685735.3	602583.2	18.40	117.9	1.0	112.2	9.7	105.1	95	6	Structural Fill	Final Elevation	V5N
1	SF-22-1	8/29/2016	685788.0	602599.6	16.40	115.8	1.3	112.2	9.7	103.2	95	6	Structural Fill		V5N
2	SF-22-2	8/29/2016	685777.9	602614.3	17.40	113.0	1.0	112.2	9.7	100.7	95	6	Structural Fill	Final Elevation	V5N
1	SF-23-1	8/29/2016	685822.7	602629.9	16.50	111.7	1.4	112.2	9.7	99.6	95	6	Structural Fill		V5N
2	SF-23-2	8/29/2016	685825.2	602646.2	17.50	121.4	1.0	112.2	9.7	108.2	95	6	Structural Fill	Final Elevation	V5N

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LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	SF-35-1	8/29/2016	685689.1	602585.9	19.30	117.3	0.9	112.2	9.7	104.5	95	6	Structural Fill		V5N
1	SF-36-1	8/29/2016	685656.5	602646.9	20.20	117.3	1.6	112.2	9.7	104.5	95	8	Structural Fill	Final Elevation	V5N
1	SF-37-1	8/29/2016	685618.4	602697.5	20.70	108.6	2.7	112.2	9.7	96.8	95	9	Structural Fill	Final Elevation	V5N
1	HC-30-1	8/31/2016	686686.8	602719.5	22.90	125.9	8.7	126	9.5	99.9	90	8	Horizon C	Back Scatter	V5N
1	HC-31-1	8/31/2016	685632.8	602740.5	20.40	123.4	10.8	126	9.5	97.9	90	9	Horizon C	Back Scatter	V5N
1	HC-32-1	8/31/2016	685685.6	602764.1	23.40	113.4	7.4	126	9.5	90.0	90	9	Horizon C	Back Scatter	V5N
1	HC-33-1	8/31/2016	685727.2	602785.9	24.00	113.4	7.8	126	9.5	90.0	90	9	Horizon C	Back Scatter	V5N
1	HC-34-1	8/31/2016	685766.6	602816.6	23.10	114.4	6.6	126	9.5	90.8	90	9	Horizon C	Back Scatter	V5N
1	HC-35-1	8/31/2016	685741.4	602861.8	23.70	115.8	6.9	126	9.5	91.9	90	9	Horizon C	Back Scatter	V5N
1	HC-36-1	8/31/2016	685690.7	602833.7	21.70	117.7	7.6	126	9.5	93.4	90	9	Horizon C	Back Scatter	V5N
1	HC-37-1	8/31/2016	685656.1	602815.9	20.80	113.4	8.1	126	9.5	90.0	90	9	Horizon C	Back Scatter	V5N
1	HC-38-1	8/31/2016	685609.9	602779.5	20.40	115.1	9.2	126	9.5	91.3	90	9	Horizon C	Back Scatter	V5N
1	HC-39-1	8/31/2016	685592.8	602825.4	20.30	118.1	10.2	126	9.5	93.7	90	9	Horizon C	Back Scatter	V5N
1	HC-40-1	8/31/2016	685635.7	602852.3	20.90	116.1	9.9	126	9.5	92.1	90	9	Horizon C	Back Scatter	V5N
1	HC-41-1	8/31/2016	685681.5	602878.3	21.90	121.1	8.2	126	9.5	96.1	90	9	Horizon C	Back Scatter	V5N
1	HC-42-1	8/31/2016	685732.8	602895.5	20.90	117.1	7.8	126	9.5	92.9	90	9	Horizon C	Back Scatter	V5N
1	HC-27-1	9/1/2016	685785.7	602767.0	22.40	115.4	8.6	126	9.5	91.6	90	8	Horizon C	Back Scatter	V5N
1	HC-43-1	9/2/2016	685692.1	602950.2	21.10	127.0	9.9	126	9.5	100.8	90	9	Horizon C	Back Scatter	V5N
2	SF-35-2	8/31/2016	685677.8	602581.4	19.50	110.5	0.9	112.2	9.7	98.5	95	6	Structural Fill	Final Elevation	V5N
1	SF-38-1	8/31/2016	685584.9	602752.8	20.80	110.9	1.7	112.2	9.7	98.8	95	9	Structural Fill	Final Elevation	V5N
1	SF-39-1	8/31/2016	685552.4	602813.4	20.90	109.0	1.4	112.2	9.7	97.1	95	9	Structural Fill	Final Elevation	V5N
1	SF-44-1	8/31/2016	685384.5	603107.9	11.70	109.1	1.7	112.2	9.7	97.2	95	10	Structural Fill	Corridor	V5N
1	SF-45-1	8/31/2016	685416.7	603122.6	11.40	114.9	2.3	112.2	9.7	102.4	95	10	Structural Fill	Corridor	V5N
1	SF-46-1	8/31/2016	685463.1	603138.2	11.50	117.0	2.6	112.2	9.7	104.3	95	10	Structural Fill	Corridor	V5N
1	SF-47-1	8/31/2016	685499.8	603155.4	11.80	113.5	1.5	112.2	9.7	101.2	95	10	Structural Fill	Corridor	V5N
1	SF-48-1	8/31/2016	685543.0	603169.7	12.40	122.2	1.8	112.2	9.7	108.9	95	10	Structural Fill	Corridor	V5N
1	SF-49-1	8/31/2016	685580.7	603190.4	14.10	114.0	2.4	112.2	9.7	101.6	95	10	Structural Fill	Corridor	V5N
1	CS-70-1	9/1/2016	685518.2	603005.1	22.20	107.7	3.9	117	8.6	92.1	90	10W	GDL Cover Soil		V5N
1	CS-71-1	9/1/2016	685425.6	603080.3	17.00	112.9	6.5	117	8.6	96.5	90	10W	GDL Cover Soil		V5N
1	CS-72-1	9/1/2016	685558.2	603808.0	21.10	106.3	4.7	117	8.6	91.3	90	10W	GDL Cover Soil		V5N
1	CS-74-1	9/1/2016	685553.7	603203.7	15.60	111.6	4.5	117	8.6	95.4	90	11	GDL Cover Soil		V5N
1	CS-76-1	9/1/2016	685407.5	603198.1	18.50	119.5	5.3	117	8.6	102.1	90	11	GDL Cover Soil		V5N
1	CS-77-1	9/1/2016	685455.1	603251.1	15.10	113.9	4.3	117	8.6	97.3	90	11	GDL Cover Soil		V5N
1	CS-78-1	9/1/2016	685525.3	603246.0	14.70	117.4	6.8	117	8.6	100.3	90	11	GDL Cover Soil		V5N
1	HC-44-1	9/2/2016	685685.5	602922.7	22.00	114.5	11.1	126	9.5	90.9	90	9	Horizon C	Back Scatter	V5N

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JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
2	SF-44-2	9/1/2016	685376.0	603128.1	12.90	113.7	2.3	112.2	9.7	101.3	95	10	Structural Fill	Corridor	V5N
2	SF-45-2	9/1/2016	685427.3	603121.1	12.40	111.6	0.7	112.2	9.7	99.5	95	10	Structural Fill	Corridor	V5N
2	SF-46-2	9/1/2016	685470.5	603140.4	12.50	112.4	2.3	112.2	9.7	100.2	95	10	Structural Fill	Corridor	V5N
2	SF-47-2	9/1/2016	685511.7	603155.8	12.90	109.0	2.8	112.2	9.7	97.1	95	10	Structural Fill	Corridor	V5N
3	SF-47-3	9/1/2016	685497.9	603142.1	13.70	106.8	1.9	112.2	9.7	95.2	95	10	Structural Fill	Corridor	V5N
2	SF-48-2	9/1/2016	685556.8	603171.4	13.80	115.0	2.6	112.2	9.7	102.5	95	10	Structural Fill	Corridor	V5N
3	SF-48-3	9/1/2016	685539.6	603160.2	14.50	110.6	1.7	112.2	9.7	98.6	95	10	Structural Fill	Corridor	V5N
2	SF-49-2	9/1/2016	685586.0	603189.3	15.50	113.9	2.1	112.2	9.7	101.5	95	10	Structural Fill	Corridor	V5N
3	SF-49-3	9/1/2016	685587.9	603182.3	16.70	110.4	2.3	112.2	9.7	98.4	95	10	Structural Fill	Corridor	V5N
1	HC-45-1	9/2/2016	685613.1	602897.6	20.90	120.4	11.2	126	9.5	95.6	90	9	Horizon C	Back Scatter	V5N
1	HC-46-1	9/2/2016	685561.8	602872.7	20.30	121.0	9.3	126	9.5	96.0	90	9	Horizon C	Back Scatter	V5N
1	HC-47-1	9/9/2016	685537.9	602916.9	20.00	118.8	8.4	126	9.5	94.3	90	9	Horizon C	Back Scatter	V5N
1	HC-48-1	9/9/2016	685583.8	602941.4	20.80	113.6	7.6	126	9.5	90.2	90	9	Horizon C	Back Scatter	V5N
3	SF-44-3	9/2/2016	685386.8	603098.2	13.50	114.6	1.5	112.2	9.7	102.1	95	10	Structural Fill	Corridor	V5N
4	SF-44-4	9/2/2016	685379.0	603091.5	14.30	112.2	1.4	112.2	9.7	100.0	95	10	Structural Fill	Corridor	V5N
3	SF-45-3	9/2/2016	685416.0	603110.5	13.40	112.0	1.4	112.2	9.7	99.8	95	10	Structural Fill	Corridor	V5N
4	SF-45-4	9/2/2016	685414.5	603134.8	14.60	117.7	2.4	112.2	9.7	104.9	95	10	Structural Fill	Corridor	V5N
3	SF-46-3	9/2/2016	685468.8	603132.3	13.60	109.4	2.3	112.2	9.7	97.5	95	10	Structural Fill	Corridor	V5N
4	SF-46-4	9/2/2016	685459.8	603149.2	14.20	115.6	4.5	112.2	9.7	103.0	95	10	Structural Fill	Corridor	V5N
4	SF-47-4	9/2/2016	685504.7	603162.0	15.00	111.7	1.9	112.2	9.7	99.6	95	10	Structural Fill	Corridor	V5N
4	SF-48-4	9/2/2016	685553.1	603160.5	15.90	115.6	1.9	112.2	9.7	103.0	95	10	Structural Fill	Corridor	V5N
4	SF-49-4	9/2/2016	685598.7	603192.5	17.10	115.0	1.5	112.2	9.7	102.5	95	10	Structural Fill	Corridor	V5N
5	SF-44-5	9/6/2016	685384.8	603100.8	15.70	112.6	1.3	112.2	9.7	100.4	95	10	Structural Fill	Corridor	V5N
5	SF-45-5	9/6/2016	685421.0	603123.8	15.50	111.2	0.6	112.2	9.7	99.1	95	10	Structural Fill	Corridor	V5N
5	SF-46-5	9/6/2016	685468.8	603153.0	15.50	114.8	1.6	112.2	9.7	102.3	95	10	Structural Fill	Corridor	V5N
5	SF-47-5	9/6/2016	685504.2	603163.1	16.00	112.2	2.0	112.2	9.7	100.0	95	10	Structural Fill	Corridor	V5N
5	SF-48-5	9/6/2016	685545.7	603167.0	17.00	114.0	1.0	112.2	9.7	101.6	95	10	Structural Fill	Corridor	V5N
5	SF-49-5	9/6/2016	685589.2	603187.0	17.70	115.4	0.7	112.2	9.7	102.9	95	10	Structural Fill	Corridor	V5N
1	SF-74-1	9/6/2016	684991.4	603626.7	10.00	110.1	2.2	112.2	9.7	98.1	95	7	Structural Fill		V5N
1	SF-75-1	9/6/2016	685034.3	603648.9	9.00	115.2	1.3	112.2	9.7	102.7	95	7	Structural Fill		V5N
1	SF-76-1	9/6/2016	685079.9	603671.0	8.10	116.6	1.1	112.2	9.7	103.9	95	7	Structural Fill		V5N
1	SF-77-1	9/6/2016	685125.3	603689.7	7.30	112.0	1.5	112.2	9.7	99.8	95	7	Structural Fill		V5N
1	SF-78-1	9/6/2016	685172.3	603710.2	7.70	108.3	1.5	112.2	9.7	96.5	95	7	Structural Fill		V5N
1	CS-88-1	9/9/2016	685132.1	603471.8	12.00	112.8	12.6	117	8.6	96.4	90	12	GDL Cover Soil		V5N
1	CS-89-1	9/9/2016	685169.3	603521.9	13.90	110.0	12.5	117	8.6	94.0	90	12	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-90-1	9/9/2016	685268.8	603557.9	7.20	125.5	5.3	117	8.6	107.3	90	12	GDL Cover Soil		V5N
1	CS-91-1	9/9/2016	685224.0	603612.4	6.10	123.9	4.4	117	8.6	105.9	90	12	GDL Cover Soil		V5N
1	CS-92-1	9/9/2016	685120.8	603577.5	13.30	117.7	12.5	117	8.6	100.6	90	12	GDL Cover Soil		V5N
1	CS-93-1	9/9/2016	685042.5	603563.7	10.70	112.8	12.6	117	8.6	96.4	90	12	GDL Cover Soil		V5N
1	HC-49-1	9/9/2016	685632.4	602967.4	22.10	120.9	8.3	126	9.5	96.0	90	9	Horizon C	Back Scatter	V5N
1	HC-50-1	9/9/2016	685653.4	602989.2	21.40	114.6	7.8	126	9.5	91.0	90	9	Horizon C	Back Scatter	V5N
1	HC-51-1	9/12/2016	685642.6	603022.5	21.10	117.7	7.3	126	9.5	93.4	90	10W	Horizon C	Back Scatter	V5N
1	HC-52-1	9/12/2016	685608.9	603003.9	21.90	114.8	7.7	126	9.5	91.1	90	10W	Horizon C	Back Scatter	V5N
1	SF-25-1	9/9/2016	685816.9	602808.8	19.70	107.9	0.7	112.2	9.7	96.2	95	9	Structural Fill		V5N
1	SF-26-1	9/9/2016	685807.0	602858.9	19.90	107.2	0.9	112.2	9.7	95.5	95	9	Structural Fill		V5N
1	SF-27-1	9/9/2016	685764.8	602882.0	20.30	112.2	1.0	112.2	9.7	100.0	95	9	Structural Fill		V5N
1	SF-28-1	9/9/2016	685759.8	602946.2	20.90	107.7	1.0	112.2	9.7	96.0	95	9	Structural Fill		V5N
1	SF-29-1	9/9/2016	685724.7	602967.2	20.90	109.8	0.7	112.2	9.7	97.9	95	9	Structural Fill		V5N
1	SF-34-1	9/9/2016	685609.4	603156.3	18.80	107.3	1.4	112.2	9.7	95.6	95	10	Structural Fill	Final Elevation	V5N
1	SF-40-1	9/9/2016	685511.6	602875.5	20.20	116.1	1.3	112.2	9.7	103.5	95	9	Structural Fill	Final Elevation	V5N
6	SF-44-6	9/9/2016	685379.5	603113.0	16.70	119.9	1.2	112.2	9.7	106.9	95	10	Structural Fill	Corridor - Final Elevation	V5N
6	SF-45-6	9/9/2016	685417.8	603125.7	17.70	111.4	1.3	112.2	9.7	99.3	95	10	Structural Fill	Corridor - Final Elevation	V5N
6	SF-46-6	9/9/2016	685459.9	603141.3	17.20	118.2	1.2	112.2	9.7	105.3	95	10	Structural Fill	Corridor - Final Elevation	V5N
6	SF-47-6	9/9/2016	685503.4	603156.5	17.40	111.4	1.3	112.2	9.7	99.3	95	10	Structural Fill	Corridor - Final Elevation	V5N
6	SF-48-6	9/9/2016	685542.9	603167.8	18.00	109.7	0.5	112.2	9.7	97.8	95	10	Structural Fill	Corridor - Final Elevation	V5N
6	SF-49-6	9/9/2016	685585.9	603190.5	18.10	117.2	1.1	112.2	9.7	104.5	95	10	Structural Fill	Corridor - Final Elevation	V5N
1	HC-53-1	9/12/2016	685562.7	602969.1	20.70	113.7	5.2	126	9.5	90.2	90	10W	Horizon C	Back Scatter	V5N
1	HC-54-1	9/12/2016	685924.9	602941.0	20.00	118.7	7.4	126	9.5	94.2	90	10W	Horizon C	Back Scatter	V5N
1	HC-55-1	9/12/2016	685496.4	603002.0	22.20	121.1	7.0	126	9.5	96.1	90	10W	Horizon C	Back Scatter	V5N
1	HC-56-1	9/12/2016	685541.3	603022.2	20.60	117.7	6.4	126	9.5	93.4	90	10W	Horizon C	Back Scatter	V5N
1	HC-57-1	9/12/2016	685582.8	603050.8	23.00	117.1	7.1	126	9.5	92.9	90	10W	Horizon C	Back Scatter	V5N
1	HC-58-1	9/12/2016	685623.4	603079.4	19.70	118.5	7.6	126	9.5	94.0	90	10W	Horizon C	Back Scatter	V5N
1	HC-59-1	9/12/2016	685595.3	603109.6	18.70	113.4	7.2	126	9.5	90.0	90	10W	Horizon C	Back Scatter	V5N
1	HC-60-1	9/12/2016	685558.4	603089.5	21.30	114.9	10.0	126	9.5	91.2	90	10W	Horizon C	Back Scatter	V5N
1	HC-61-1	9/12/2016	685513.2	603080.7	21.00	120.7	9.0	126	9.5	95.8	90	10W	Horizon C	Back Scatter	V5N
1	HC-62-1	9/12/2016	685479.1	603082.3	20.10	115.2	9.0	126	9.5	91.4	90	10W	Horizon C	Back Scatter	V5N
1	HC-63-1	9/12/2016	685464.5	603107.4	16.30	127.2	8.2	126	9.5	101.0	90	10W	Horizon C	Back Scatter	V5N
1	HC-64-1	9/12/2016	685549.8	603137.7	17.10	119.2	9.1	126	9.5	94.6	90	10W	Horizon C	Back Scatter	V5N
1	HC-84-1	9/16/2016	685149.3	603473.7	12.90	140.0	6.5	126	9.5	111.1	90	12	Horizon C	Back Scatter	V5N
1	HC-85-1	9/16/2016	685181.9	603500.3	14.50	132.8	7.4	126	9.5	105.4	90	12	Horizon C	Back Scatter	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	SF-31-1	9/12/2016	685698.8	603047.0	20.60	104.8	2.1	112.2	9.7	93.4	95	10W	Structural Fill	SF-31-1R (Page 10)	V5N
1	SF-32-1	9/12/2016	685674.9	603084.1	20.10	114.3	2.2	112.2	9.7	101.9	95	10W	Structural Fill	Final Elevation	V5N
1	SF-33-1	9/12/2016	685636.1	603109.1	19.80	116.7	1.4	112.2	9.7	104.0	95	10W	Structural Fill	Final Elevation	V5N
1	SF-41-1	9/12/2016	685488.9	602934.6	20.10	117.4	1.3	112.2	9.7	104.6	95	10W	Structural Fill	Final Elevation	V5N
1	SF-42-1	9/12/2016	685453.4	602993.1	18.80	113.6	1.3	112.2	9.7	101.2	95	10W	Structural Fill		V5N
1	SF-43-1	9/12/2016	685417.9	603050.3	18.00	120.5	1.6	112.2	9.7	107.4	95	10W	Structural Fill		V5N
2	SF-74-2	9/12/2016	685922.0	603639.7	11.10	107.4	1.4	112.2	9.7	95.7	95	7	Structural Fill	Final Elevation	V5N
2	SF-75-2	9/12/2016	685032.9	603647.8	10.20	111.3	1.9	112.2	9.7	99.2	95	7	Structural Fill		V5N
2	SF-76-2	9/12/2016	685078.6	603666.6	9.40	107.8	1.0	112.2	9.7	96.1	95	7	Structural Fill		V5N
2	SF-77-2	9/12/2016	685124.8	603686.5	8.30	122.6	0.4	112.2	9.7	109.3	95	7	Structural Fill		V5N
2	SF-78-2	9/12/2016	685171.5	603702.0	8.50	120.9	1.0	112.2	9.7	107.8	95	7	Structural Fill		V5N
1	CS-79-1	9/14/2016	685460.8	603320.9	12.30	108.4	4.4	117	8.6	92.6	90	13	GDL Cover Soil		V5N
1	CS-80-1	9/14/2016	685363.7	603260.3	14.80	112.2	4.0	117	8.6	95.9	90	13	GDL Cover Soil		V5N
1	CS-81-1	9/14/2016	685314.2	603305.3	16.60	111.4	2.4	117	8.6	95.2	90	13	GDL Cover Soil		V5N
1	CS-82-1	9/14/2016	685340.0	603361.1	14.60	109.4	3.6	117	8.6	93.5	90	13	GDL Cover Soil		V5N
1	CS-83-1	9/14/2016	685428.3	603400.0	10.40	105.4	3.7	117	8.6	90.1	90	13	GDL Cover Soil		V5N
1	CS-84-1	9/14/2016	685372.9	603440.9	8.70	112.6	4.6	117	8.6	96.2	90	13	GDL Cover Soil		V5N
1	CS-85-1	9/14/2016	685225.6	603341.5	13.50	107.2	4.5	117	8.6	91.6	90	13	GDL Cover Soil		V5N
1	CS-86-1	9/14/2016	685194.1	603420.0	11.10	108.7	4.3	117	8.6	92.9	90	13	GDL Cover Soil		V5N
1	CS-87-1	9/14/2016	685379.7	603494.2	7.80	114.4	4.7	117	8.6	97.8	90	13	GDL Cover Soil		V5N
1	SF-30-1	9/14/2016	685715.6	603030.6	20.40	109.0	2.5	112.2	9.7	97.1	95	9	Structural Fill		V5N
1	HC-86-1	9/16/2016	685218.9	603514.8	13.40	125.6	6.5	126	9.5	99.7	90	12	Horizon C	Back Scatter	V5N
1	HC-87-1	9/16/2016	685257.0	603523.4	9.70	137.8	8.5	126	9.5	109.4	90	12	Horizon C	Back Scatter	V5N
1	HC-88-1	9/16/2016	685222.5	603581.8	8.20	135.3	8.3	126	9.5	107.4	90	12	Horizon C	Back Scatter	V5N
1	HC-89-1	9/16/2016	685193.5	603514.6	12.40	121.4	7.5	126	9.5	96.3	90	12	Horizon C	Back Scatter	V5N
1	HC-90-1	9/16/2016	685154.9	603541.7	14.40	130.7	8.2	126	9.5	103.7	90	12	Horizon C	Back Scatter	V5N
1	HC-91-1	9/16/2016	685130.5	603507.9	15.30	126.3	6.2	126	9.5	100.2	90	12	Horizon C	Back Scatter	V5N
1	HC-92-1R	9/16/2016	685103.9	603560.3	13.90	131.2	7.8	126	9.5	104.1	90	12	Horizon C	Back Scatter; re-test	V5N
1	HC-93-1	9/16/2016	685158.5	603571.5	13.70	129.0	7.8	126	9.5	102.4	90	12	Horizon C	Back Scatter	V5N
1	HC-94-1	9/16/2016	685188.9	603612.2	8.60	135.5	7.0	126	9.5	107.5	90	12	Horizon C	Back Scatter	V5N
1	HC-95-1	9/16/2016	685154.8	603655.0	7.80	117.6	9.6	126	9.5	93.3	90	12	Horizon C	Back Scatter	V5N
1	HC-96-1	9/16/2016	685118.9	603631.3	9.50	113.4	9.5	126	9.5	90.0	90	12	Horizon C	Back Scatter	V5N
1	HC-97-1	9/16/2016	685068.2	603614.3	10.00	115.0	6.3	126	9.5	91.3	90	12	Horizon C	Back Scatter	V5N
1	HC-65-1	9/21/2016	685396.8	603159.5	16.50	122.8	12.4	126	9.5	97.5	90	13	Horizon C	Back Scatter	V5N
1	HC-66-1	9/21/2016	685443.4	603171.9	15.90	124.1	12.2	126	9.5	98.5	90	13	Horizon C	Back Scatter	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	HC-67-1	9/21/2016	685504.6	603210.9	18.70	130.8	13.2	126	9.5	103.8	90	13	Horizon C	Back Scatter	V5N
1	SF-61-1	9/16/2016	685187.4	603409.9	12.30	115.1	1.1	112.2	9.7	102.6	95	12	Structural Fill		V5N
1	SF-62-1	9/16/2016	685220.9	603427.0	11.50	114.8	1.8	112.2	9.7	102.3	95	12	Structural Fill		V5N
1	SF-63-1	9/16/2016	685258.9	603458.9	9.70	116.0	1.8	112.2	9.7	103.4	95	12	Structural Fill		V5N
1	SF-64-1	9/16/2016	685298.0	603490.9	9.00	117.8	1.0	112.2	9.7	105.0	95	12	Structural Fill		V5N
1	SF-65-1	9/16/2016	685327.5	603571.4	8.70	118.9	1.4	112.2	9.7	106.0	95	12	Structural Fill		V5N
1	SF-66-1	9/16/2016	685294.2	603549.0	8.50	115.0	1.4	112.2	9.7	102.5	95	12	Structural Fill		V5N
1	SF-67-1	9/16/2016	685264.5	603588.1	7.50	114.9	1.3	112.2	9.7	102.4	95	12	Structural Fill	Final Elevation	V5N
1	SF-68-1	9/16/2016	685234.2	603626.7	7.10	120.5	1.7	112.2	9.7	107.4	95	12	Structural Fill		V5N
1	SF-69-1	9/16/2016	685202.1	603666.6	7.40	115.5	1.5	112.2	9.7	102.9	95	12	Structural Fill		V5N
1	SF-70-1	9/16/2016	685149.2	603437.2	13.00	117.3	1.1	112.2	9.7	104.5	95	12	Structural Fill		V5N
1	SF-71-1	9/16/2016	685105.7	603488.2	12.90	117.5	1.1	112.2	9.7	104.7	95	12	Structural Fill		V5N
1	SF-72-1	9/16/2016	685061.4	603541.1	12.10	119.4	1.5	112.2	9.7	106.4	95	12	Structural Fill		V5N
1	SF-73-1	9/16/2016	685019.3	603590.9	11.10	109.6	1.5	112.2	9.7	97.7	95	12	Structural Fill		V5N
3	SF-75-3	9/16/2016	685048.3	603631.9	10.80	112.4	1.1	112.2	9.7	100.2	95	7	Structural Fill	Final Elevation	V5N
1	HC-68-1	9/21/2016	685468.1	603245.9	15.60	126.8	12.5	126	9.5	100.6	90	13	Horizon C	Back Scatter	V5N
1	HC-69-1	9/21/2016	685415.3	603236.1	18.50	120.0	11.5	126	9.5	95.2	90	13	Horizon C	Back Scatter	V5N
1	HC-70-1	9/21/2016	685377.4	603205.9	19.00	120.2	12.5	126	9.5	95.4	90	13	Horizon C	Back Scatter	V5N
1	HC-71-1	9/21/2016	685343.8	603244.9	15.80	136.7	11.6	126	9.5	108.5	90	13	Horizon C	Back Scatter	V5N
1	HC-72-1	9/21/2016	685385.8	603275.1	15.00	125.8	12.5	126	9.5	99.8	90	13	Horizon C	Back Scatter	V5N
1	HC-73-1	9/21/2016	685455.7	603281.1	14.80	125.9	12.7	126	9.5	99.9	90	13	Horizon C	Back Scatter	V5N
1	HC-74-1	9/21/2016	685420.3	603319.5	13.60	133.3	13.8	126	9.5	105.8	90	13	Horizon C	Back Scatter	V5N
1	HC-75-1	9/21/2016	685356.5	603338.7	15.60	118.7	9.8	126	9.5	94.2	90	13	Horizon C	Back Scatter	V5N
1	HC-76-1	9/21/2016	685317.1	603293.5	17.40	114.0	10.5	126	9.5	90.5	90	13	Horizon C	Back Scatter	V5N
1	HC-77-1	9/21/2016	685280.8	603340.2	16.70	120.3	8.9	126	9.5	95.5	90	13	Horizon C	Back Scatter	V5N
1	HC-78-1	9/21/2016	685319.9	603353.4	15.80	128.0	8.9	126	9.5	101.6	90	13	Horizon C	Back Scatter	V5N
1	HC-79-1	9/21/2016	685392.9	603361.5	14.80	113.6	11.0	126	9.5	90.2	90	13	Horizon C	Back Scatter	V5N
1	HC-80-1	9/21/2016	685366.5	603390.4	14.10	113.4	11.0	126	9.5	90.0	90	13	Horizon C	Back Scatter	V5N
1	HC-81-1	9/21/2016	685330.2	603424.2	18.60	114.0	9.9	126	9.5	90.5	90	13	Horizon C	Back Scatter	V5N
1	HC-82-1	9/21/2016	685315.5	603390.5	14.90	118.9	9.6	126	9.5	94.4	90	13	Horizon C	Back Scatter	V5N
1	HC-83-1	9/21/2016	685251.5	603374.3	16.20	117.5	9.2	126	9.5	93.3	90	13	Horizon C	Back Scatter	V5N
1	HC-20-1	8/11/2016	685874.8	602528.7	19.50	117.0	5.2	126	9.5	92.9	90	3	Horizon C	Back Scatter	V5N
1	HC-21-1	8/19/2016	685852.9	602578.1	17.60	117.1	9.1	126	9.5	92.9	90	5	Horizon C	Back Scatter	V5N
1	HC-22-1	8/19/2016	685815.3	602550.0	20.10	118.5	8.9	126	9.5	94.0	90	5	Horizon C	Back Scatter	V5N
2	SF-25-2	9/21/2016	685815.2	602802.2	20.30	107.3	1.2	112.2	9.7	95.6	95	9	Structural Fill	Final Elevation	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
2	SF-26-2	9/21/2016	685805.7	602859.6	20.20	109.0	1.2	112.2	9.7	97.1	95	9	Structural Fill	Final Elevation	V5N
2	SF-27-2	9/21/2016	685764.4	602879.3	21.60	111.9	1.1	112.2	9.7	99.7	95	9	Structural Fill	Final Elevation	V5N
2	SF-28-2	9/21/2016	685759.9	602945.9	21.30	105.1	0.9	112.2	9.7	93.7	95	9	Structural Fill	SF-28-2R (Page 10)	V5N
1	SF-31-1R	9/21/2016	685674.0	603030.0	20.60	106.6	1.9	112.2	9.7	95.0	95	10W	Structural Fill	Re-test from 9/12/16	V5N
1	SF-50-1	9/21/2016	685544.9	603236.4	16.10	116.3	3.7	112.2	9.7	103.7	95	11	Structural Fill		V5N
1	SF-51-1	9/21/2016	685512.5	603275.8	14.90	109.0	2.7	112.2	9.7	97.1	95	11	Structural Fill		V5N
1	SF-52-1	9/21/2016	685474.8	603320.8	13.50	111.2	2.0	112.2	9.7	99.1	95	13	Structural Fill		V5N
1	SF-53-1	9/21/2016	685451.1	603352.7	12.30	112.6	2.5	112.2	9.7	100.4	95	13	Structural Fill		V5N
1	SF-54-1	9/21/2016	685418.6	603393.2	11.20	112.2	1.8	112.2	9.7	100.0	95	13	Structural Fill		V5N
1	SF-55-1	9/21/2016	685388.8	603432.7	10.00	116.4	1.2	112.2	9.7	103.7	95	13	Structural Fill		V5N
1	SF-56-1	9/21/2016	685357.4	603473.3	9.20	109.9	1.1	112.2	9.7	98.0	95	13	Structural Fill		V5N
1	SF-57-1	9/21/2016	685345.4	603162.0	16.80	109.2	2.7	112.2	9.7	97.3	95	13	Structural Fill	Final Elevation	V5N
1	SF-58-1	9/21/2016	685313.8	603223.0	16.40	108.7	1.7	112.2	9.7	96.9	95	13	Structural Fill	Final Elevation	V5N
1	SF-59-1	9/21/2016	685280.5	603280.7	15.70	117.8	1.6	112.2	9.7	105.0	95	11	Structural Fill	Final Elevation	V5N
1	SF-60-1	9/21/2016	685237.1	603333.1	15.10	110.0	1.6	112.2	9.7	98.0	95	13	Structural Fill	Final Elevation	V5N
2	SF-65-2	9/21/2016	685327.5	603511.4	9.50	106.2	1.2	112.2	9.7	94.7	95	12	Structural Fill	SF-65-2R (Page 11)	V5N
2	SF-67-2	9/21/2016	685261.2	603594.2	8.50	110.8	1.4	112.2	9.7	98.8	95	12	Structural Fill		V5N
2	SF-68-2	9/21/2016	685235.2	603625.3	8.10	106.6	1.3	112.2	9.7	95.0	95	12	Structural Fill		V5N
2	SF-69-2	9/21/2016	685200.6	603661.2	8.40	111.1	2.1	112.2	9.7	99.0	95	12	Structural Fill		V5N
3	SF-76-3	9/21/2016	685079.7	603667.9	10.20	113.9	1.4	112.2	9.7	101.5	95	7	Structural Fill	Final Elevation	V5N
3	SF-77-3	9/21/2016	685126.3	603688.7	9.30	115.5	1.4	112.2	9.7	102.9	95	7	Structural Fill	Final Elevation	V5N
3	SF-78-3	9/21/2016	685171.1	603708.0	9.80	107.5	2.0	112.2	9.7	95.8	95	7	Structural Fill	Final Elevation	V5N
2	SF-28-2R	9/28/2016	685759.9	602945.9	21.30	110.0	1.3	112.2	9.7	98.0	95	9	Structural Fill	Re-test from 9/21/16	V5N
2	SF-29-2	9/28/2016	685724.2	602963.6	22.10	116.1	1.4	112.2	9.7	103.5	95	9	Structural Fill	Final Elevation	V5N
2	SF-30-2	9/28/2016	685721.9	603032.1	20.80	108.6	1.0	112.2	9.7	96.8	95	10W	Structural Fill	Final Elevation	V5N
2	SF-31-2	9/28/2016	685681.0	603029.6	21.10	107.2	1.3	112.2	9.7	95.5	95	10W	Structural Fill	Final Elevation	V5N
2	SF-42-2	9/28/2016	685452.8	602991.9	19.50	110.7	2.8	112.2	9.7	98.7	95	10W	Structural Fill	Final Elevation	V5N
2	SF-43-2	9/28/2016	685420.1	603045.0	18.80	107.3	2.4	112.2	9.7	95.6	95	10W	Structural Fill	Final Elevation	V5N
2	SF-50-2	9/28/2016	685545.7	603239.7	17.30	116.2	2.0	112.2	9.7	103.6	95	11	Structural Fill	Final Elevation	V5N
2	SF-51-2	9/28/2016	685573.3	603275.6	15.50	111.4	1.3	112.2	9.7	99.3	95	11	Structural Fill	Final Elevation	V5N
2	SF-52-2	9/28/2016	685477.1	603319.6	14.10	114.7	1.5	112.2	9.7	102.2	95	13	Structural Fill	Final Elevation	V5N
2	SF-53-2	9/28/2016	685450.4	603352.9	13.10	113.3	1.6	112.2	9.7	101.0	95	13	Structural Fill	Final Elevation	V5N
2	SF-54-2	9/28/2016	685422.3	603390.4	12.00	114.2	1.2	112.2	9.7	101.8	95	13	Structural Fill	Final Elevation	V5N
2	SF-55-2	9/28/2016	685390.8	603429.9	10.80	115.1	1.0	112.2	9.7	102.6	95	13	Structural Fill	Final Elevation	V5N
2	SF-56-2	9/28/2016	685358.3	603469.2	10.00	120.1	1.1	112.2	9.7	107.0	95	13	Structural Fill	Final Elevation	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

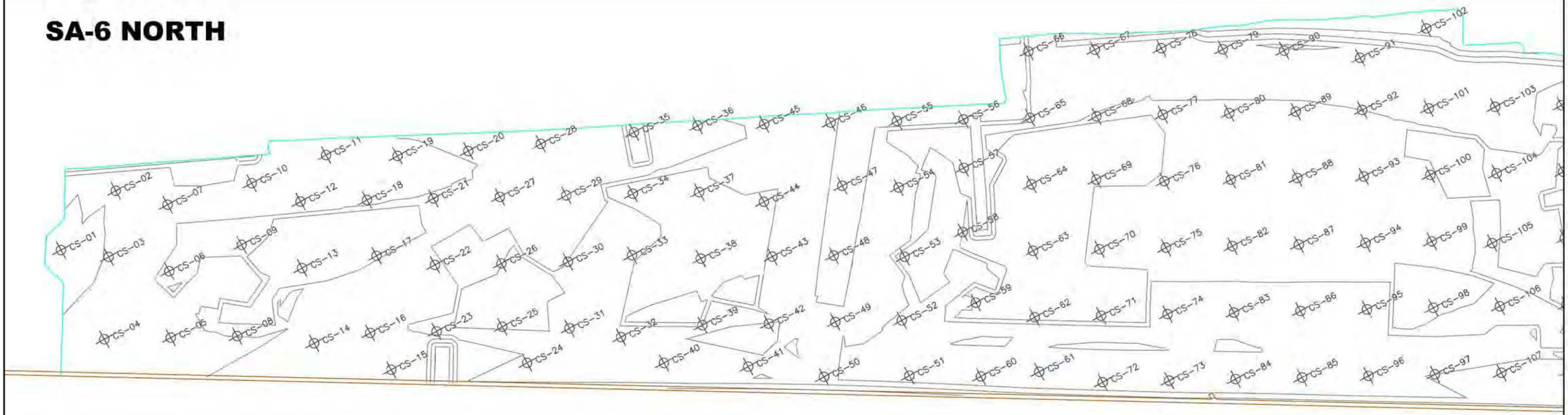
LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
2	SF-61-2	9/28/2016	685193.4	603386.6	13.30	122.8	2.2	112.2	9.7	109.4	95	13	Structural Fill	Final Elevation	V5N
2	SF-62-2	9/28/2016	685223.2	603428.2	12.50	110.4	1.0	112.2	9.7	98.4	95	13	Structural Fill	Final Elevation	V5N
2	SF-63-2	9/28/2016	685259.7	603460.0	11.10	113.6	1.4	112.2	9.7	101.2	95	13	Structural Fill	Final Elevation	V5N
2	SF-64-2	9/28/2016	685299.4	603486.9	9.80	114.6	1.6	112.2	9.7	102.1	95	13	Structural Fill	Final Elevation	V5N
2	SF-65-2R	9/28/2016	685327.5	603511.4	9.50	119.8	1.1	112.2	9.7	106.8	95	13	Structural Fill	Re-test from 9/21	V5N
2	SF-66-2	9/28/2016	685298.5	603550.4	9.50	118.1	1.2	112.2	9.7	105.3	95	12	Structural Fill	Final Elevation	V5N
3	SF-67-3	9/28/2016	685263.1	603589.9	9.50	113.2	1.1	112.2	9.7	100.9	95	12	Structural Fill	Final Elevation	V5N
3	SF-68-3	9/28/2016	685233.3	603627.8	9.40	112.8	1.4	112.2	9.7	100.5	95	12	Structural Fill	Final Elevation	V5N
3	SF-69-3	9/28/2016	685201.4	603664.6	9.60	113.8	1.6	112.2	9.7	101.4	95	12	Structural Fill	Final Elevation	V5N
2	SF-70-2	9/28/2016	685149.5	603436.1	14.00	116.6	1.2	112.2	9.7	103.9	95	12	Structural Fill	Final Elevation	V5N
2	SF-71-2	9/28/2016	685102.8	603489.6	13.40	111.7	1.4	112.2	9.7	99.6	95	12	Structural Fill	Final Elevation	V5N
2	SF-72-2	9/28/2016	685058.3	603539.5	12.90	110.4	1.8	112.2	9.7	98.4	95	12	Structural Fill	Final Elevation	V5N
2	SF-73-2	9/28/2016	685017.1	603590.8	12.20	111.8	1.2	112.2	9.7	99.6	95	12	Structural Fill	Final Elevation	V5N

R = Will be placed after sample ID if the test location is reworked and the compaction test is run again

2.0 Test Location Drawings

- **GDL Cover Soil (Initial and Reduced Frequency)**
- **Horizon C**
- **Structural Fill**

SA-6 NORTH



NOTES:

1) Testing locations are based on testing frequency specified in 012315 3.13 A. 2. a.

LEGEND:

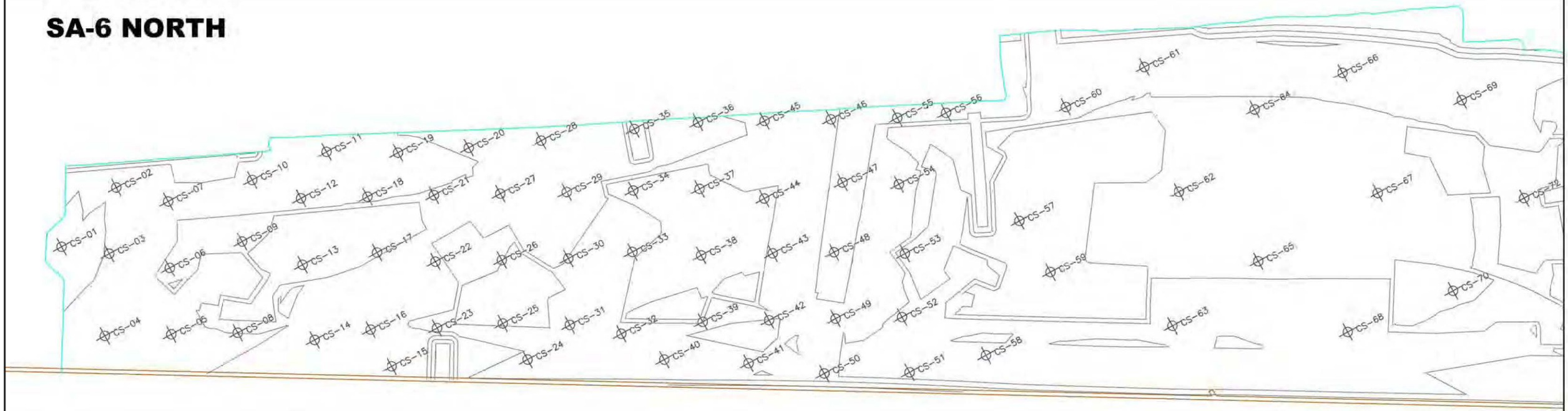
COMPACTION TEST LOCATION — CS-XX

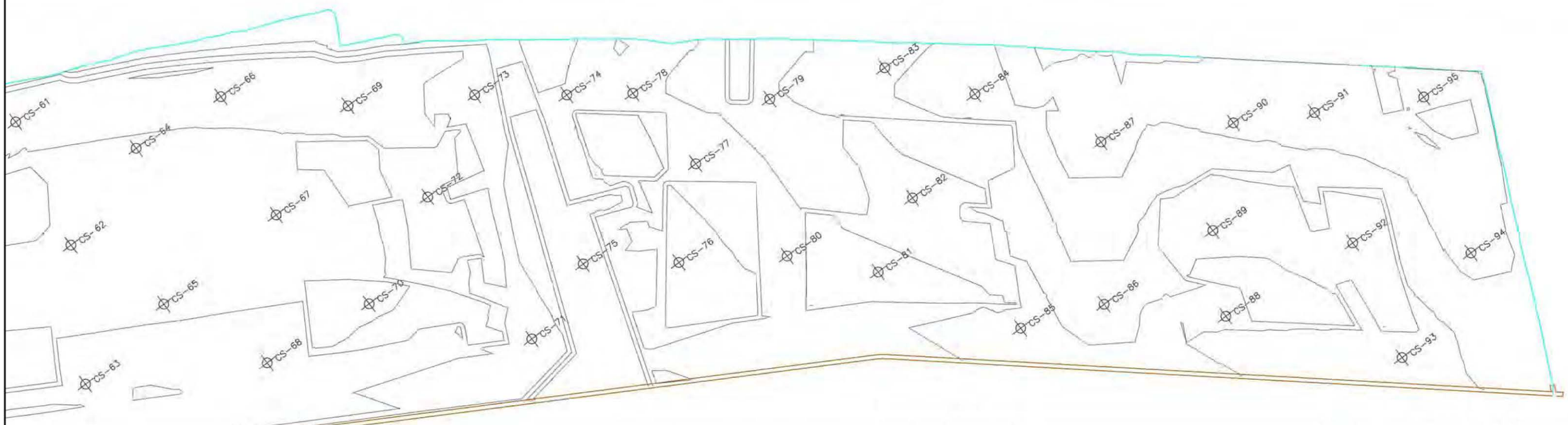
GDL COVER SOIL ELEVATION CONTOURS

ENTACT
302 Unity Plaza
Latrobe, PA 15650
412-357-1102

DRAWING NAME	GDL COVER SOIL COMPACTION LOCATIONS				
PROJECT NAME & LOCATION	HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ				
DRAWN BY	T. COLLIER	APPROVED BY			
DATE	7/12/16	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

SA-6 NORTH





NOTES:

1) Testing locations are based an testing frequency specified by approval of RFI-076

LEGEND:

COMPACTION TEST LOCATION — CS-XX

GDL COVER SOIL ELEVATION CONTOURS

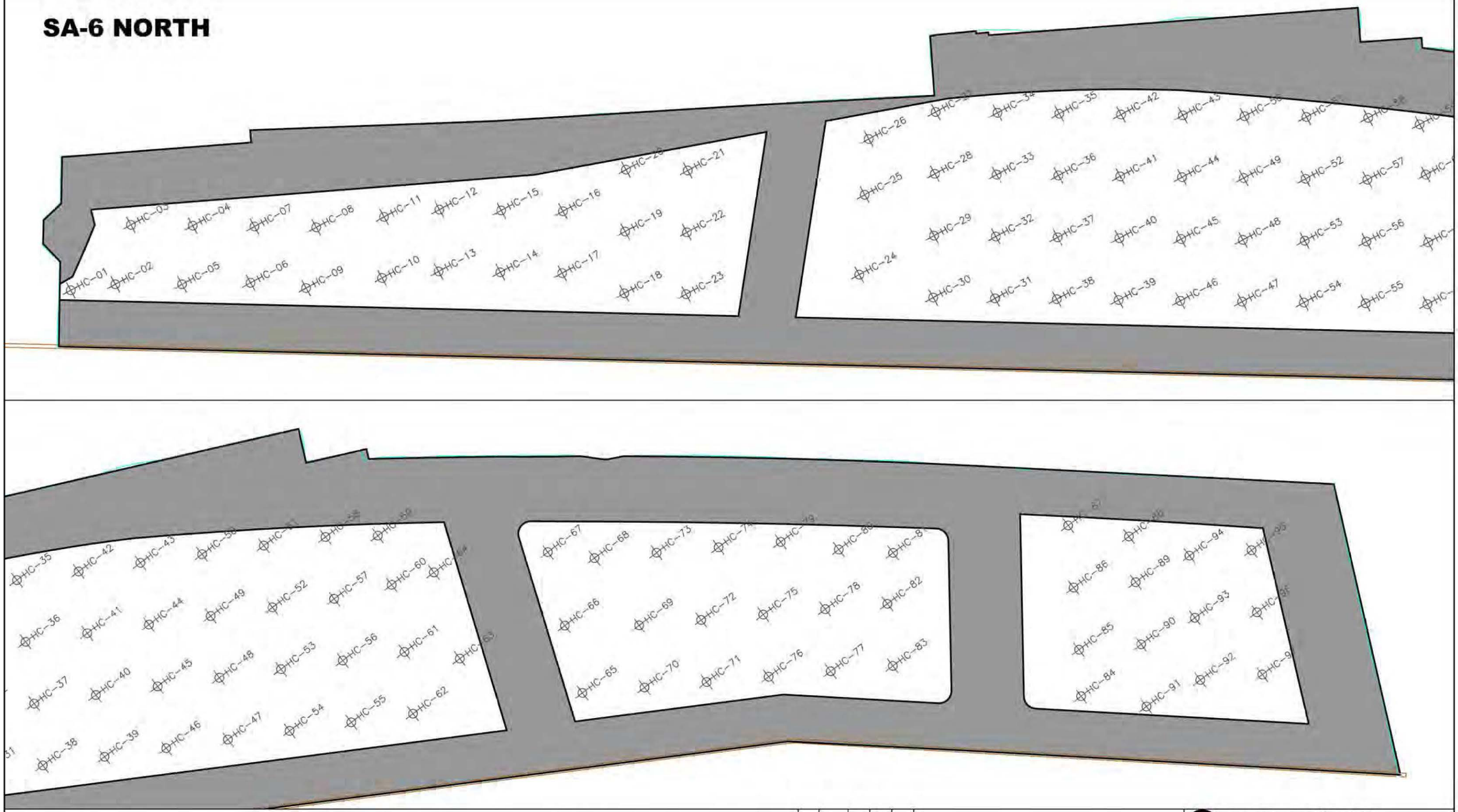
ENTACT
302 Unity Plaza
Latrobe, PA 15650
412-357-1102

DRAWING NAME: GDL COVER SOIL REDUCED FREQUENCY COMPACTION LOCATIONS

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

DRAWN BY	T. COLLIER	APPROVED BY			
DATE	8/18/16	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

SA-6 NORTH



NOTES:

1) Testing locations are based on testing frequency specified in 012315 3.13 A. 2. a.

LEGEND:

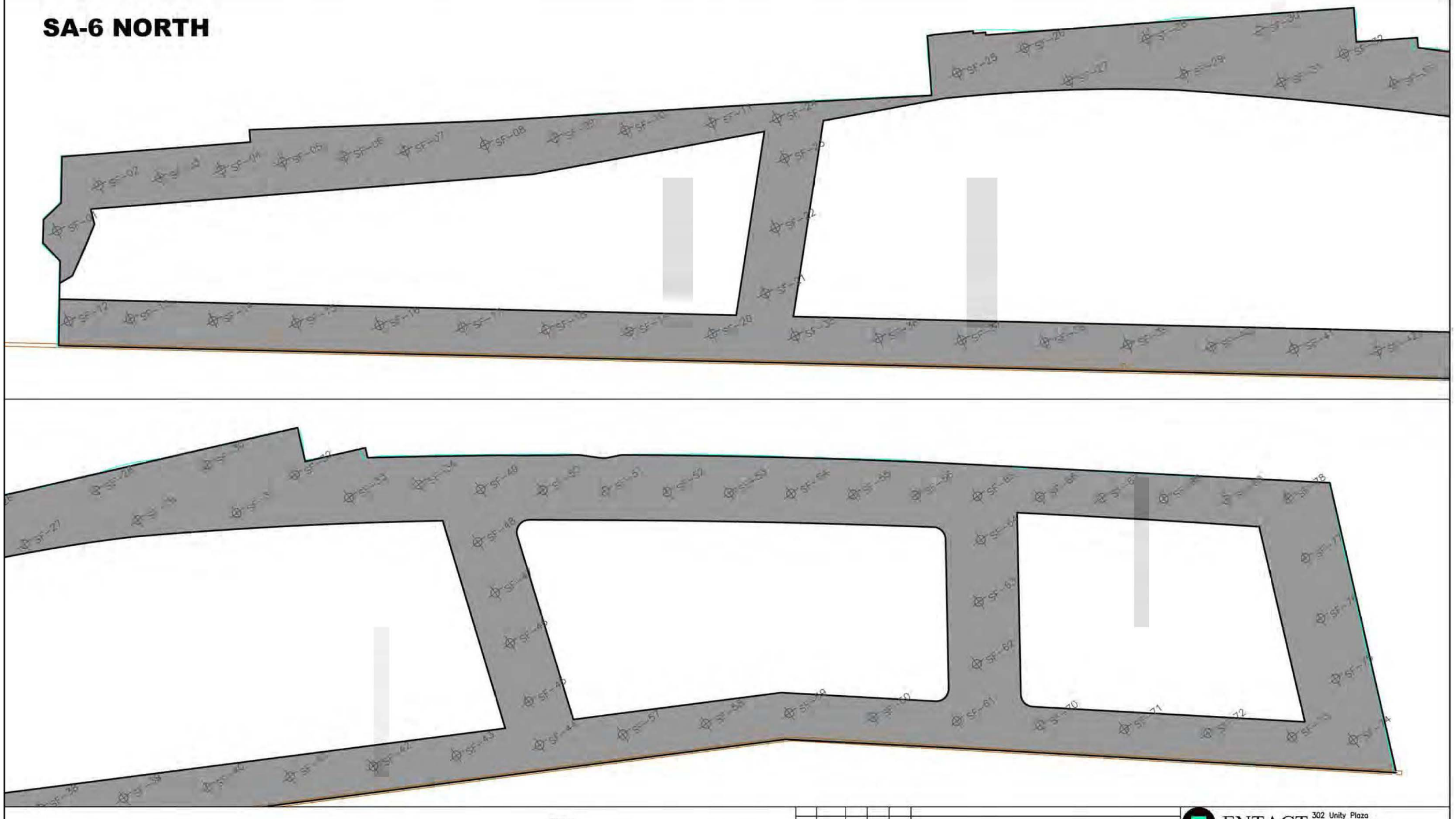
COMPACTION TEST LOCATION — HC-XX

STRUCTURAL FILL LIMITS

ENTACT
302 Unity Plaza
Latrobe, PA 15650
412-357-1102

DRAWING NAME	HORIZON C COMPACTION LOCATIONS				
PROJECT NAME & LOCATION	HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ				
DRAWN BY	T. COLLIER	APPROVED BY			
DATE	7/15/16	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

SA-6 NORTH



NOTES:

1) Testing locations are based on testing frequency specified in 012315 3.13 A. 2. a.

LEGEND:

COMPACTION TEST LOCATION — SF-XX

STRUCTURAL FILL LIMITS

ENTACT
302 Unity Plaza
Latrobe, PA 15650
412-357-1102

DRAWING NAME	STRUCTURAL FILL COMPACTION LOCATIONS				
PROJECT NAME & LOCATION	HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ				
DRAWN BY	T. COLLIER	APPROVED BY			
DATE	7/15/16	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

1.0 Field Density Test Summary Log

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-03-1	10/20/2015	685534.39	601506.6	17.45	114.3	3.3	117	8.6	97.7	90	10	GDL Cover Soil		V5N
1	CS-04-1	10/20/2015	685573.6	601571	18.25	118	4.1	117	8.6	100.9	90	10	GDL Cover Soil		V5N
1	CS-05-1	10/20/2015	685530.6	601543.8	17.84	116.6	6.4	117	8.6	99.7	90	1	GDL Cover Soil		V5N
1	CS-06-1	10/20/2015	685488.8	601532.7	14.72	118.6	7.1	117	8.6	101.4	90	1	GDL Cover Soil		V5N
1	CS-07-1	10/20/2015	685512.5	601575.8	17.71	115	5.9	117	8.6	98.3	90	1	GDL Cover Soil		V5N
1	CS-08-1	10/20/2015	685536.3	601610.7	17.61	117.3	5.4	117	8.6	100.3	90	1	GDL Cover Soil		V5N
1	CS-09-1	10/20/2015	685492.5	601601.9	16.43	122.4	3.7	117	8.6	104.6	90	1	GDL Cover Soil		V5N
1	CS-10-1	10/20/2015	685448.8	601585.8	14.79	114.5	5.6	117	8.6	97.9	90	1	GDL Cover Soil		V5N
1	CS-11-1	10/20/2015	685477.6	601634.6	17.08	122.2	5.8	117	8.6	104.4	90	1	GDL Cover Soil		V5N
1	CS-12-1	10/20/2015	685503.5	601668.8	17.32	115.3	5.9	117	8.6	98.5	90	1	GDL Cover Soil		V5N
1	CS-13-1	10/20/2015	685462.1	601659.8	16.59	115.5	4.5	117	8.6	98.7	90	1	GDL Cover Soil		V5N
1	CS-14-1	10/20/2015	685423.8	601646.8	14.54	117.9	3.2	117	8.6	100.8	90	1	GDL Cover Soil		V5N
1	CS-15-1	10/20/2015	685444.3	601687.7	14.73	114.8	5	117	8.6	98.1	90	1	GDL Cover Soil		V5N
1	CS-16-1	10/20/2015	685460.2	601724.9	16.34	115.8	4	117	8.6	99.0	90	1	GDL Cover Soil		V5N
1	CS-17-1	10/20/2015	685433.8	601722.1	14.62	113.7	7.3	117	8.6	97.2	90	1	GDL Cover Soil		V5N
1	CS-18-1	10/20/2015	685394.4	601715.0	17.21	118.9	3.4	117	8.6	101.6	90	1	GDL Cover Soil		V5N
1	CS-129-1	11/4/2015	684281.4	603180.2	8.75	120.2	8.0	117	8.6	102.7	90	2	GDL Cover Soil		V5N
1	CS-130-1	11/4/2015	684216.2	603153.2	8.83	113.6	6.7	117	8.6	97.1	90	2	GDL Cover Soil		V5N
1	CS-131-1	11/4/2015	684261.4	603206.7	8.42	114.1	10.9	117	8.6	97.5	90	2	GDL Cover Soil		V5N
1	CS-132-1	11/4/2015	684292.4	603250.5	9.53	118.3	6.2	117	8.6	101.1	90	2	GDL Cover Soil		V5N
1	CS-133-1	11/4/2015	684236.5	603231.2	8.64	111.6	8.1	117	8.6	95.4	90	2	GDL Cover Soil		V5N
1	CS-134-1	11/4/2015	684175.3	603214.9	8.57	122.5	7.7	117	8.6	104.7	90	2	GDL Cover Soil		V5N
1	CS-135-1	11/4/2015	684215.0	603254.8	8.32	118.4	6.6	117	8.6	101.2	90	2	GDL Cover Soil		V5N
1	CS-136-1	11/4/2015	684251.9	603305.8	8.40	115.1	8.8	117	8.6	98.4	90	2	GDL Cover Soil		V5N
1	CS-137-1	11/4/2015	684189.5	603274.7	7.64	116.9	9.3	117	8.6	99.9	90	2	GDL Cover Soil		V5N
1	CS-138-1	11/4/2015	684143.3	603253.5	7.36	117.9	10.5	117	8.6	100.8	90	2	GDL Cover Soil		V5N
1	CS-125-1	11/6/2015	684314.5	603125.9	7.68	111.2	8.2	117	8.6	95.0	90	3	GDL Cover Soil		V5N
1	CS-126-1	11/6/2015	684270.3	603123.5	7.05	120.0	9.7	117	8.6	102.6	90	3	GDL Cover Soil		V5N
1	CS-127-1	11/6/2015	684305.4	603158.0	7.55	115.7	7.6	117	8.6	98.9	90	3	GDL Cover Soil		V5N
1	CS-128-1	11/6/2015	684334.4	603202.5	7.75	117.7	7.4	117	8.6	100.6	90	2	GDL Cover Soil		V5N
1	SF-17-1	11/6/2015	684184.8	603260.8	8.67	126.8	5.4	133	8.6	95.3	95	2	Structural Fill -Liberty	East Side	V5N
1	SF-18-1	11/6/2015	684230.8	603283.7	9.16	127.2	5.9	133	8.6	95.6	95	2	Structural Fill -Liberty	East Side	V5N
1	CS-117-1	11/10/2015	684405.2	603020.3	11.64	111.0	5.2	117	8.6	94.9	90	4	GDL Cover Soil		V5N
1	CS-118-1	11/10/2015	684350.5	603002.3	9.66	115.2	7.3	117	8.6	98.5	90	4	GDL Cover Soil		V5N
1	CS-119-1	11/10/2015	684384.6	603051.2	10.55	116.0	6.3	117	8.6	99.1	90	4	GDL Cover Soil		V5N
1	CS-120-1	11/10/2015	684422.3	603088.8	11.72	115.7	6.6	117	8.6	98.9	90	4	GDL Cover Soil		V5N
1	CS-122-1	11/10/2015	684307.2	603059.7	8.50	116.8	7.5	117	8.6	99.8	90	3	GDL Cover Soil		V5N
1	CS-110-1	11/11/2015	684445.1	602994.4	13.50	115.5	9.7	117	8.6	98.7	90	5	GDL Cover Soil		V5N
1	CS-111-1	11/11/2015	684477.2	602955.6	15.83	125.3	9.0	117	8.6	107.1	90	4	GDL Cover Soil		V5N
1	CS-112-1	11/11/2015	684507.0	602999.4	16.21	122.7	9.0	117	8.6	104.9	90	4	GDL Cover Soil		V5N
1	CS-113-1	11/11/2015	684455.2	602974.1	14.56	118.0	9.0	117	8.6	100.9	90	4	GDL Cover Soil		V5N
1	CS-114-1	11/11/2015	684396.7	602954.9	12.21	120.6	10.0	117	8.6	103.1	90	4	GDL Cover Soil		V5N
1	CS-115-1	11/11/2015	684426.7	603002.4	12.86	118.5	8.4	117	8.6	101.3	90	4	GDL Cover Soil		V5N
1	CS-116-1	11/11/2015	684459.1	603046.2	13.60	122.3	8.1	117	8.6	104.5	90	4	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-121-1	11/11/2015	684364.2	603084.9	9.73	121.3	9.3	117	8.6	103.7	90	4	GDL Cover Soil		V5N
1	CS-123-1	11/11/2015	684344.5	603105.3	9.51	119.7	10.3	117	8.6	102.3	90	3	GDL Cover Soil		V5N
1	CS-124-1	11/11/2015	684370.5	603148.7	9.80	116.4	11.3	117	8.6	99.5	90	3	GDL Cover Soil		V5N
1	SF-15-1	11/11/2015	684280.3	603136.7	7.80	131.4	7.0	133	8.6	98.8	95	3	Structural Fill -Liberty		V5N
2	SF-15-2	11/11/2015	684279.3	603138.5	9.15	129.9	6.8	133	8.6	97.7	95	3	Structural Fill -Liberty		V5N
3	SF-15-3	11/11/2015	684271.2	603129.6	9.64	132.5	3.3	133	8.6	99.6	95	3	Structural Fill -Liberty		V5N
1	SF-16-1	11/11/2015	684316.8	603171.2	8.29	133.6	6.8	133	8.6	100.5	95	3	Structural Fill -Liberty		V5N
2	SF-16-2	11/11/2015	684319.3	603178.5	9.48	133.6	5.4	133	8.6	100.5	95	3	Structural Fill -Liberty		V5N
3	SF-16-3	11/11/2015	684314.6	603172.8	10.70	135.6	5.0	133	8.6	102.0	95	3	Structural Fill -Liberty		V5N
2	SF-17-2	11/11/2015	684184.9	603258.9	9.56	126.4	6.7	133	8.6	95.0	95	2	Structural Fill -Liberty	East Side	V5N
2	SF-18-2	11/11/2015	684234.3	603282.9	9.71	133.9	6.3	133	8.6	100.7	95	2	Structural Fill -Liberty	East Side	V5N
1	HC-10-1	11/13/2015	685444.5	601588.5	15.22	114.6	9.5	126	9.5	91.0	90	1	Horizon C	Back Scatter	V5N
1	HC-11-1	11/13/2015	685477.6	601635.1	17.64	122.2	9.7	126	9.5	97.0	90	1	Horizon C	Back Scatter	V5N
1	HC-128-1	11/13/2015	684307.4	603209.5	9.94	114.5	10.8	126	9.5	90.9	90	2	Horizon C	Back Scatter	V5N
1	HC-129-1	11/13/2015	684280.0	603181.7	9.33	110.0	10.2	126	9.5	87.3	90	2	Horizon C	SF-129-1R (Page 2)	V5N
1	HC-13-1	11/13/2015	685461.4	601657.1	17.20	122.5	9.3	126	9.5	97.2	90	1	Horizon C	Back Scatter	V5N
1	HC-131-1	11/13/2015	684261.3	603208.3	8.99	119.8	10.7	126	9.5	95.1	90	2	Horizon C	Back Scatter	V5N
1	HC-130-1	11/13/2015	684238.9	603170.2	9.33	121.4	10.6	126	9.5	96.3	90	2	Horizon C	Back Scatter	V5N
1	HC-132-1	11/13/2015	684294.6	603252.5	10.11	114.6	13.1	126	9.5	91.0	90	2	Horizon C	Back Scatter	V5N
1	HC-133-1	11/13/2015	684236.1	603230.2	9.14	124.7	11.3	126	9.5	99.0	90	2	Horizon C	Back Scatter	V5N
1	HC-134-1	11/13/2015	684173.7	603204.1	9.17	120.2	11	126	9.5	95.4	90	2	Horizon C	Back Scatter	V5N
1	HC-135-1	11/13/2015	684223.3	603252.6	8.92	120	11.5	126	9.5	95.2	90	2	Horizon C	Back Scatter	V5N
1	HC-136-1	11/13/2015	684264.7	603275	9.06	128.5	10.45	126	9.5	102.0	90	2	Horizon C	Back Scatter	V5N
1	HC-137-1	11/13/2015	684206.1	603237.7	9.16	118.4	10.5	126	9.5	94.0	90	2	Horizon C	Back Scatter	V5N
1	HC-138-1	11/13/2015	684160.6	603231.8	7.70	110.2	12.4	126	9.5	87.5	90	2	Horizon C	SF-138-1R (Page 2)	V5N
1	HC-14-1	11/13/2015	685422.6	601647.6	15.13	117.4	9.9	126	9.5	93.2	90	1	Horizon C	Back Scatter	V5N
1	HC-15-1	11/13/2015	684443.2	601689.6	15.42	117.3	9.9	126	9.5	93.1	90	1	Horizon C	Back Scatter	V5N
1	CS-106-1	11/17/2015	684477.6	602852.8	7.70	117.5	8.0	117	8.6	100.4	90	5	GDL Cover Soil		V5N
1	CS-107-1	11/17/2015	684525.2	602897.0	7.36	108.0	4.3	117	8.6	92.3	90	5	GDL Cover Soil		V5N
1	CS-108-1	11/17/2015	684553.4	602948.7	15.71	123.4	7.5	117	8.6	105.5	90	5	GDL Cover Soil		V5N
1	CS-109-1	11/17/2015	684499.0	602921.5	14.74	119.4	5.9	117	8.6	102.1	90	5	GDL Cover Soil		V5N
1	HC-118-1	11/17/2015	684353.8	603000.7	10.34	113.6	11.1	126	9.5	90.2	90	4	Horizon C	Back Scatter	V5N
1	HC-119-1	11/17/2015	684385.6	603051.8	11.10	120.1	12.4	126	9.5	95.3	90	4	Horizon C	Back Scatter	V5N
1	HC-120-1	11/17/2015	684417.3	603086.2	12.07	128.7	10.9	126	9.5	102.1	90	4	Horizon C	Back Scatter	V5N
1	HC-121-1	11/17/2015	684363.8	603008.5	10.29	116.5	8.3	126	9.5	92.5	90	4	Horizon C	Back Scatter	V5N
1	HC-122-1	11/17/2015	684319.6	603062.6	9.47	115.4	10.1	126	9.5	91.6	90	3	Horizon C	Back Scatter	V5N
1	HC-123-1	11/17/2015	684343.7	603110.5	10.08	122.0	12.0	126	9.5	96.8	90	3	Horizon C	Back Scatter	V5N
1	HC-124-1	11/17/2015	684373.8	603148.2	10.36	116.8	9.5	126	9.5	92.7	90	3	Horizon C	Back Scatter	V5N
1	HC-125-1	11/17/2015	684322.9	603123.8	9.85	113.4	11.3	126	9.5	90.0	90	3	Horizon C	Back Scatter	V5N
1	HC-126-1	11/17/2015	684294.5	603104.5	9.33	113.7	9.7	126	9.5	90.2	90	3	Horizon C	Back Scatter	V5N
1	HC-127-1	11/17/2015	684344.3	603150.7	10.16	118.9	11.6	126	9.5	94.4	90	3	Horizon C	Back Scatter	V5N
1	HC-129-1R	11/17/2015	684276.4	603183.7	9.24	113.4	9.2	126	9.5	90.0	90	2	Horizon C	Back Scatter	V5N
1	HC-138-1R	11/17/2015	684162.8	603230.4	7.91	114.8	10.3	126	9.5	91.1	90	2	Horizon C	Back Scatter	V5N
1	HC-108-1	11/19/2015	684536.2	902967.2	18.62	113.4	10.0	126	9.5	90.0	90	5	Horizon C	Back Scatter	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
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JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	HC-109-1	11/19/2015	684492.9	602930.4	18.27	127.2	10.0	126	9.5	101.0	90	5	Horizon C	Back Scatter	V5N
1	HC-110-1	11/19/2015	684449.3	602900.5	14.40	115.7	10.0	126	9.5	91.8	90	5	Horizon C	Back Scatter	V5N
1	HC-111-1	11/19/2015	684475.6	602955.2	16.38	118.6	11.3	126	9.5	94.1	90	4	Horizon C	Back Scatter	V5N
1	HC-112-1	11/19/2015	684507.3	602998.5	16.87	119.2	9.9	126	9.5	94.6	90	4	Horizon C	Back Scatter	V5N
1	HC-113-1	11/19/2015	684452.2	602978.3	14.98	121.1	12.1	126	9.5	96.1	90	4	Horizon C	Back Scatter	V5N
1	HC-114-1	11/19/2015	684397.7	602956.1	12.85	121.5	10.7	126	9.5	96.4	90	4	Horizon C	Back Scatter	V5N
1	HC-115-1	11/19/2015	684428.1	603001.7	13.53	125.5	9.9	126	9.5	99.6	90	4	Horizon C	Back Scatter	V5N
1	HC-116-1	11/19/2015	684461.4	603048.2	14.24	115.4	9.9	126	9.5	91.6	90	4	Horizon C	Back Scatter	V5N
1	HC-117-1	11/19/2015	684402.1	603019.3	12.08	121.6	10.5	126	9.5	96.5	90	4	Horizon C	Back Scatter	V5N
1	SF-12-1	11/19/2015	684485.9	602888.7	15.10	129.8	3.5	133	8.6	97.6	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
1	SF-13-1	11/19/2015	684515.4	602913.9	15.90	129.9	4.3	133	8.6	97.7	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
1	SF-14-1	11/19/2015	684548.8	602937.5	16.40	125.4	3.5	133	8.6	94.3	95	5	Structural Fill -Liberty	SF-14-1R (Page 3)	V5N
1	SF-14-1R	11/19/2015	684548.8	602937.5	16.40	127.3	3.5	133	8.6	95.7	95	5	Structural Fill -Liberty	Re-roll/re-test; D Street-shallow	V5N
1	SF-19-1	11/19/2015	684505.8	602882.5	8.54	129.3	3.3	133	8.6	97.2	95	5	Structural Fill -Liberty	Location added to D Street	V5N
2	SF-19-2	11/19/2015	684507.6	602881.4	9.70	126.4	4.4	133	8.6	95.0	95	5	Structural Fill -Liberty	Location added to D Street	V5N
3	SF-19-3	11/19/2015	684507.5	602880.7	10.66	131.5	3.7	133	8.6	98.9	95	5	Structural Fill -Liberty	Location added to D Street	V5N
4	SF-19-4	11/19/2015	684508.0	602880.1	11.49	131.0	4.7	133	8.6	98.5	95	5	Structural Fill -Liberty	Location added to D Street	V5N
1	SF-20-1	11/19/2015	684546.3	602907.6	8.77	129.3	4.3	133	8.6	97.2	95	5	Structural Fill -Liberty	Location added to D Street	V5N
2	SF-20-2	11/19/2015	684545.4	602907.4	9.83	129.9	3.2	133	8.6	97.7	95	5	Structural Fill -Liberty	Location added to D Street	V5N
3	SF-20-3	11/19/2015	684547.9	602908.6	10.90	130.1	3.5	133	8.6	97.8	95	5	Structural Fill -Liberty	Location added to D Street	V5N
4	SF-20-4	11/19/2015	684548.3	602910.0	11.78	129.3	3.5	133	8.6	97.2	95	5	Structural Fill -Liberty	Location added to D Street	V5N
1	CS-100-1	11/24/2015	684631.4	602847.9	21.61	115.7	8.1	117	8.6	98.9	90	6	GDL Cover Soil		V5N
1	CS-101-1	11/24/2015	684579.4	602829.3	21.00	122.2	5.3	117	8.6	104.4	90	6	GDL Cover Soil		V5N
1	CS-103-1	11/24/2015	684559.4	602849.9	20.50	117.0	4.5	117	8.6	100.0	90	6	GDL Cover Soil		V5N
1	CS-104-1	11/24/2015	684591.9	602894.4	20.26	118.5	6.3	117	8.6	101.3	90	6	GDL Cover Soil		V5N
1	CS-105-1	11/24/2015	684549.1	602875.2	19.46	116.3	8.1	117	8.6	99.4	90	6	GDL Cover Soil		V5N
1	CS-93-1	11/24/2015	684673.4	602728.7	17.07	115.0	9.4	117	8.6	98.3	90	7	GDL Cover Soil		V5N
1	CS-95-1	11/24/2015	684652.5	602744.8	17.71	126.5	5.5	117	8.6	108.1	90	7	GDL Cover Soil		V5N
1	CS-96-1	11/24/2015	684681.1	602793.4	18.36	119.7	6.8	117	8.6	102.3	90	6	GDL Cover Soil		V5N
1	CS-97-1	11/24/2015	684634.5	602782.1	18.43	115.4	6.5	117	8.6	98.6	90	6	GDL Cover Soil		V5N
1	CS-98-1	11/24/2015	684578.8	602757.8	18.44	117.4	6.3	117	8.6	100.3	90	6	GDL Cover Soil		V5N
1	CS-99-1	11/24/2015	684610.9	602806.5	18.70	118.6	6.8	117	8.6	101.4	90	6	GDL Cover Soil		V5N
5	SF-19-5	11/24/2015	684507.1	602879.1	13.03	133.2	5.6	133	8.6	100.2	95	5	Structural Fill -Liberty	Location added to D Street	V5N
6	SF-19-6	11/24/2015	684506.8	602882.9	14.10	131.8	3.7	133	8.6	99.1	95	5	Structural Fill -Liberty	Location added to D Street	V5N
7	SF-19-7	11/24/2015	684510.4	602881.3	15.06	130.9	4.2	133	8.6	98.4	95	5	Structural Fill -Liberty	Location added to D Street	V5N
5	SF-20-5	11/24/2015	684546.9	602907.7	12.52	126.8	6.7	133	8.6	95.3	95	5	Structural Fill -Liberty	Location added to D Street	V5N
6	SF-20-6	11/24/2015	684545.9	602910.3	13.50	133.1	4.7	133	8.6	100.1	95	5	Structural Fill -Liberty	Location added to D Street	V5N
7	SF-20-7	11/24/2015	684540.5	602910.5	14.48	129.1	4.7	133	8.6	97.1	95	5	Structural Fill -Liberty	Location added to D Street	V5N
1	CS-102-1	12/8/2015	684522.1	602789.6	9.92	119.0	9.9	117	8.6	101.7	90	6	GDL Cover Soil		V5N
1	CS-86-1	12/8/2015	684691.4	602613.8	6.27	120.7	8.5	117	8.6	103.2	90	7	GDL Cover Soil		V5N
1	CS-87-1	12/8/2015	684741.0	602650.3	9.32	120.8	8.7	117	8.6	103.2	90	7	GDL Cover Soil		V5N
1	CS-88-1	12/8/2015	684774.1	602700.3	8.44	122.0	9.4	117	8.6	104.3	90	7	GDL Cover Soil		V5N
1	CS-89-1	12/8/2015	684713.8	602685.9	19.10	113.6	5.5	117	8.6	97.1	90	7	GDL Cover Soil		V5N
1	CS-90-1	12/8/2015	684663.9	602654.3	15.96	115.2	6.4	117	8.6	98.5	90	7	GDL Cover Soil		V5N

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LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-91-1	12/8/2015	684668.9	602109.2	19.40	113.2	8.2	117	8.6	96.8	90	7	GDL Cover Soil		V5N
1	CS-92-1	12/8/2015	684729.2	602749.3	16.89	117.9	7.2	117	8.6	100.8	90	7	GDL Cover Soil		V5N
1	CS-94-1	12/8/2015	684610.2	602684.0	7.41	116.3	9.6	117	8.6	99.4	90	7	GDL Cover Soil		V5N
1	HC-100-1	12/8/2015	684624.6	602844.3	22.22	116.6	10.6	126	9.5	92.5	90	6	Horizon C	Back Scatter	V5N
1	HC-101-1	12/8/2015	684579.3	602829.2	21.65	128.5	9.0	126	9.5	102.0	90	6	Horizon C	Back Scatter	V5N
1	HC-102-1	12/8/2015	684517.4	602793.0	10.54	115.0	11.3	126	9.5	91.3	90	6	Horizon C	Back Scatter	V5N
1	HC-103-1	12/8/2015	684558.5	602852.7	20.94	121.1	10.2	126	9.5	96.1	90	6	Horizon C	Back Scatter	V5N
1	HC-104-1	12/8/2015	684589.0	602899.7	20.69	119.1	11.1	126	9.5	94.5	90	6	Horizon C	Back Scatter	V5N
1	HC-105-1	12/8/2015	684547.5	602874.7	20.00	114.1	12.6	126	9.5	90.6	90	6	Horizon C	Back Scatter	V5N
1	HC-106-1	12/8/2015	684488.5	602824.5	11.23	117.5	10.4	126	9.5	93.3	90	5	Horizon C	Back Scatter	V5N
1	HC-97-1	12/8/2015	684634.5	602785.1	19.13	113.4	10.4	126	9.5	90.0	90	6	Horizon C	Back Scatter	V5N
1	HC-98-1	12/8/2015	684580.8	602761.3	19.04	114.9	10.3	126	9.5	91.2	90	6	Horizon C	Back Scatter	V5N
1	HC-99-1	12/8/2015	684613.8	602809.7	19.33	115.5	9.6	126	9.5	91.7	90	6	Horizon C	Back Scatter	V5N
1	SF-10-1	12/8/2015	684712.0	602632.9	8.47	146.3	3.0	133	8.6	110.0	95	7	Structural Fill -Liberty	C Street Corridor	V5N
1	SF-11-1	12/8/2015	684764.1	602680.4	9.70	138.2	4.8	133	8.6	103.9	95	7	Structural Fill -Liberty	C Street Corridor	V5N
2	SF-12-2	12/8/2015	684486.5	602887.8	16.20	132.2	7.3	133	8.6	99.4	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
3	SF-12-3	12/8/2015	684483.4	602896.1	17.66	129.1	8.2	133	8.6	97.1	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
2	SF-13-2	12/8/2015	684519.0	602908.4	17.00	127.7	6.0	133	8.6	96.0	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
3	SF-13-3	12/8/2015	684517.8	602915.5	18.34	130.7	6.3	133	8.6	98.3	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
2	SF-14-2	12/8/2015	684545.3	602935.8	17.44	127.2	6.6	133	8.6	95.6	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
3	SF-14-3	12/8/2015	684538.7	602936.2	18.35	127.2	7.0	133	8.6	95.6	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
8	SF-19-8	12/8/2015	684511.3	602878.7	16.16	133.8	6.3	133	8.6	100.6	95	5	Structural Fill -Liberty	Location added to D Street	V5N
9	SF-19-9	12/8/2015	684512.4	602884.5	17.40	120.8	7.0	133	8.6	90.8	95	5	Structural Fill -Liberty	SF-19-9R (Page 4)	V5N
9	SF-19-9R	12/8/2015	684512.0	602884.0	17.40	130.2	7.4	133	8.6	97.9	95	5	Structural Fill -Liberty	Re-test lift after rolling	V5N
8	SF-20-8	12/8/2015	684559.3	602906.9	15.66	127.8	7.6	133	8.6	96.1	95	5	Structural Fill -Liberty	Location added to D Street	V5N
9	SF-20-9	12/8/2015	684559.5	602915.7	17.27	126.7	7.4	133	8.6	95.3	95	5	Structural Fill -Liberty	Location added to D Street	V5N
2	SF-10-2	12/10/2015	684716.8	602639.7	9.79	132.4	6.0	133	8.6	99.5	95	7	Structural Fill -Liberty	C Street Corridor	V5N
3	SF-10-3	12/10/2015	684718.1	602641.1	10.74	129.7	3.0	133	8.6	97.5	95	7	Structural Fill -Liberty	C Street Corridor	V5N
2	SF-11-2	12/10/2015	684763.0	602675.2	10.41	130.5	6.0	133	8.6	98.1	95	7	Structural Fill -Liberty	C Street Corridor	V5N
3	SF-11-3	12/10/2015	684762.5	602675.9	11.33	125.7	3.0	133	8.6	94.5	95	7	Structural Fill -Liberty	SF-11-3R (Page 4)	V5N
4	SF-10-4	12/14/2015	684719.5	602644.8	11.71	126.4	1.9	133	8.6	95.0	95	7	Structural Fill -Liberty	C Street Corridor	V5N
5	SF-10-5	12/14/2015	684713.2	602644.6	12.77	126.4	2.5	133	8.6	95.0	95	7	Structural Fill -Liberty	C Street Corridor	V5N
6	SF-10-6	12/14/2015	684716.5	602649.2	13.99	126.5	3.4	133	8.6	95.1	95	7	Structural Fill -Liberty	C Street Corridor	V5N
3	SF-11-3R	12/14/2015	684762.0	602675.0	11.33	126.4	1.5	133	8.6	95.0	95	7	Structural Fill -Liberty	Re-test lift after rolling	V5N
4	SF-11-4	12/14/2015	684761.3	602678.2	12.57	127.9	2.1	133	8.6	96.2	95	7	Structural Fill -Liberty	C Street Corridor	V5N
5	SF-11-5	12/14/2015	684770.8	602673.9	13.60	126.6	3.2	133	8.6	95.2	95	7	Structural Fill -Liberty	C Street Corridor	V5N
6	SF-11-6	12/14/2015	684762.3	602666.3	14.54	126.6	3.9	133	8.6	95.2	95	7	Structural Fill -Liberty	C Street Corridor	V5N
7	SF-10-7	12/15/2015	684716.8	602641.2	15.03	131.0	5.3	133	8.6	98.5	95	7	Structural Fill -Liberty	C Street Corridor	V5N
8	SF-10-8	12/15/2015	684716.0	602649.9	16.07	126.7	3.3	133	8.6	95.3	95	7	Structural Fill -Liberty	C Street Corridor	V5N
9	SF-10-9	12/15/2015	684719.3	602639.9	16.86	128.9	5.7	133	8.6	96.9	95	7	Structural Fill -Liberty	C Street Corridor-final el	V5N
7	SF-11-7	12/15/2015	684765.3	602680.3	15.76	126.3	3.4	133	8.6	95.0	95	7	Structural Fill -Liberty	C Street Corridor	V5N
8	SF-11-8	12/15/2015	684762.4	602675.2	16.71	128.1	5.7	133	8.6	96.3	95	7	Structural Fill -Liberty	C Street Corridor	V5N
9	SF-11-9	12/15/2015	684752.5	602686.1	16.86	130.0	7.4	133	8.6	97.7	95	7	Structural Fill -Liberty	C Street Corridor-final el	V5N
5	SF-10-5R	3/6/2016	684712.8	602643.3	13.55	108.2	2.5	112.2	9.7	96.4	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
4	SF-10-4R	3/16/2016	684708.7	602643.3	12.47	111.6	2.8	112.2	9.7	99.5	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
4	SF-11-4R	3/16/2016	684760.2	602681.4	12.15	112.0	2.5	112.2	9.7	99.8	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
5	SF-11-5R	3/16/2016	684748.8	602679.9	13.15	108.0	2.4	112.2	9.7	96.3	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
6	SF-10-6R	3/17/2016	684707.5	602634.2	15.23	109.5	2.3	112.2	9.7	97.6	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
7	SF-10-7R	3/17/2016	684716.6	602642.7	16.50	114.0	3.2	112.2	9.7	101.6	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
6	SF-11-6R	3/17/2016	684750.5	602661.5	15.23	107.3	2.2	112.2	9.7	95.6	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
7	SF-11-7R	3/17/2016	684750.3	602672.5	16.40	115.4	2.5	112.2	9.7	102.9	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
1	CS-12-1R	4/14/2016	685504.9	601673	17.30	121.5	8.7	117	8.6	103.8	90	1	GDL Cover Soil	Reworked area	V5N
1	CS-16-1R	4/14/2016	685457.6	601721.7	16.30	117.9	7.8	117	8.6	100.8	90	1	GDL Cover Soil	Reworked area	V5N
1	CS-17-1R	4/14/2016	685434.6	601718.5	14.70	122.5	8.0	117	8.6	104.7	90	1	GDL Cover Soil	Reworked area	V5N
1	CS-18-1R	4/14/2016	685395.1	601714.8	17.20	120.3	5.3	117	8.6	102.8	90	1	GDL Cover Soil	Reworked area	V5N
1	CS-19-1	4/14/2016	685414.3	601758.3	17.20	120.6	5.6	117	8.6	103.1	90	8	GDL Cover Soil		V5N
1	CS-20-1	4/14/2016	685421.8	601782.3	17.30	122.8	7.0	117	8.6	105.0	90	8	GDL Cover Soil		V5N
1	CS-21-1	4/14/2016	685388.8	601769.3	17.40	120.0	6.8	117	8.6	102.6	90	8	GDL Cover Soil		V5N
1	CS-22-1	4/14/2016	685341.2	601751.2	17.60	119.0	8.0	117	8.6	101.7	90	8	GDL Cover Soil		V5N
1	CS-23-1	4/14/2016	685366.5	601794.2	18.10	121.4	4.7	117	8.6	103.8	90	8	GDL Cover Soil		V5N
1	CS-24-1	4/14/2016	685390.4	601829.7	18.20	114.8	6.0	117	8.6	98.1	90	8	GDL Cover Soil		V5N
1	CS-25-1	4/14/2016	685348.8	601819.2	19.00	121.5	7.7	117	8.6	103.8	90	8	GDL Cover Soil		V5N
1	CS-26-1	4/14/2016	685305.2	601804.9	19.30	117.9	5.4	117	8.6	100.8	90	9	GDL Cover Soil		V5N
1	CS-27-1	4/14/2016	685325.1	601846.4	16.90	120.3	7.0	117	8.6	102.8	90	9	GDL Cover Soil		V5N
1	CS-28-1	4/15/2016	685354.8	601891.6	16.00	125.7	6.8	117	8.6	107.4	90	12	GDL Cover Soil		V5N
1	CS-29-1	4/15/2016	685310.4	601883.3	19.60	120.1	7.3	117	8.6	102.6	90	12	GDL Cover Soil		V5N
1	CS-30-1	4/15/2016	685259.5	601859.9	17.30	120.9	6.7	117	8.6	103.3	90	12	GDL Cover Soil		V5N
1	CS-31-1	4/15/2016	685289.6	601902.5	19.60	125.3	7.4	117	8.6	107.1	90	12	GDL Cover Soil		V5N
1	HC-08-1	4/15/2016	685535.1	601617.9	17.00	115.8	9.8	126	9.8	91.9	90	1	Horizon C	Back Scatter	V5N
1	HC-09-1	4/15/2016	685492.6	601603.4	17.10	116.4	9.7	126	9.5	92.4	90	1	Horizon C	Back Scatter	V5N
1	HC-12-1	4/15/2016	685500.6	601671.6	17.90	115.1	9.4	126	9.5	91.3	90	1	Horizon C	Back Scatter	V5N
1	HC-16-1	4/15/2016	685457.5	601729.1	16.80	120.2	9.4	126	9.5	95.4	90	1	Horizon C	Back Scatter	V5N
1	SF-04-01	4/18/2016	685309.3	601839.5	14.50	107.5	1.7	112.2	9.7	95.8	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
2	SF-04-02	4/18/2016	685311.3	601840.4	16.00	110.5	1.6	112.2	9.7	98.5	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
3	SF-04-03	4/18/2016	685289.9	601837.7	17.60	108.1	1.8	112.2	9.7	96.3	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
1	SF-05-01	4/18/2016	685325.3	601867.3	18.00	114.9	2.0	112.2	9.7	102.4	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
1	SF-06-01	4/18/2016	685357.4	601889.1	17.50	111.6	2.0	112.2	9.7	99.5	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
4	SF-04-04	4/20/2016	685294.4	601842.4	19.10	106.6	2.0	112.2	9.7	95.0	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
2	SF-05-02	4/20/2016	685320.8	601866.4	19.70	107.7	2.0	112.2	9.7	96.0	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
2	SF-06-02	4/20/2016	685348.9	601890.6	19.50	106.6	2.0	112.2	9.7	95.0	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
1	HC-17-01	4/20/2016	685432.8	601721.6	15.20	122.4	9.5	126	9.5	97.1	90	1	Horizon C	Back Scatter	V5N
1	HC-18-01	4/20/2016	685393.5	601712.7	17.70	117.2	10.2	126	9.5	93.0	90	1	Horizon C	Back Scatter	V5N
1	HC-19-01	4/20/2016	685419.8	601751.3	15.30	117.4	9.5	126	9.5	93.2	90	8	Horizon C	Back Scatter	V5N
1	HC-20-01	4/20/2016	685423.4	601782.8	17.80	125.8	8.8	126	9.5	99.8	90	8	Horizon C	Back Scatter	V5N
1	HC-21-01	4/20/2016	685383.0	601770.6	18.20	127.3	8.9	126	9.5	101.0	90	8	Horizon C	Back Scatter	V5N
1	HC-22-01	4/20/2016	685340.2	601758.3	18.30	118.4	8.6	126	9.5	94.0	90	8	Horizon C	Back Scatter	V5N
1	HC-23-01	4/20/2016	685366.4	601793.6	18.50	122.2	8.8	126	9.5	97.0	90	8	Horizon C	Back Scatter	V5N
1	HC-24-01	4/20/2016	685392.1	601831.1	18.90	119.7	8.4	126	9.5	95.0	90	8	Horizon C	Back Scatter	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	HC-25-01	4/20/2016	685351.7	601822.1	19.40	129.8	9.2	126	9.5	103.0	90	8	Horizon C	Back Scatter	V5N
1	HC-26-01	4/20/2016	685303.8	601806.5	19.90	113.4	8.1	126	9.5	90.0	90	9	Horizon C	Back Scatter	V5N
1	HC-27-01	4/20/2016	685361.7	601845.0	19.70	121.0	9.0	126	9.5	96.0	90	9	Horizon C	Back Scatter	V5N
1	CS-01-01	4/20/2016	685552.1	601486.2	16.40	111.2	9.0	117	8.6	95.1	90	10	GDL Cover Soil		V5N
1	CS-02-01	4/20/2016	685571.4	601519.1	18.50	120.5	9.1	117	8.6	103.0	90	10	GDL Cover Soil		V5N
1	CS-47-01	4/22/2016	685133.2	602127.9	6.50	117.0	8.6	117	8.6	100.0	90	13	GDL Cover Soil	B Street Corridor	V5N
1	CS-48-01	4/22/2016	685161.9	602170.3	7.10	115.8	8.4	117	8.6	99.0	90	14	GDL Cover Soil	B Street Corridor	V5N
1	CS-49-01	4/22/2016	685114.8	602135.6	6.40	111.2	8.4	117	8.6	95.0	90	14	GDL Cover Soil	B Street Corridor	V5N
1	HC-05-01	4/22/2016	685511.7	601549.5	18.30	113.4	8.2	126	9.5	90.0	90	1	Horizon C	Back Scatter	V5N
1	HC-06-01	4/22/2016	685479.0	601533.4	15.00	119.7	8.0	126	9.5	95.0	90	1	Horizon C	Back Scatter	V5N
1	HC-07-01	4/22/2016	685514.3	601578.6	18.30	113.4	8.2	126	9.5	90.0	90	1	Horizon C	Back Scatter	V5N
1	SF-01-01	4/22/2016	685510.3	601523.6	16.60	107.7	8.0	112.2	9.7	96.0	95	10	Structural Fill - Tilcon	Riverside Drive	V5N
1	SF-02-01	4/22/2016	685547.6	601542.6	18.30	102.0	8.1	112.2	9.7	90.9	95	10	Structural Fill - Tilcon	SF-02-01R (Page 6)	V5N
1	SF-03-01	4/22/2016	685585.2	601572.6	18.20	106.6	8.2	112.2	9.7	95.0	95	10	Structural Fill - Tilcon	Riverside Drive	V5N
1	SF-02-01R	4/22/2016	685547.6	601542.6	18.30	106.6	8.1	112.2	9.7	95.0	95	10	Structural Fill - Tilcon	Riverside Drive; reroll and retes	V5N
1	HC-04-01	4/26/2016	685586.2	601559.0	19.40	117.5	9.1	126	9.5	93.3	90	10	Horizon C	Back Scatter	V5N
1	HC-02-01	4/26/2016	685575.9	601519.7	19.30	114.2	10.6	126	9.5	90.6	90	10	Horizon C	Back Scatter	V5N
1	HC-03-01	4/26/2016	685531.2	601505.9	17.90	124.3	8.1	126	9.5	98.7	90	10	Horizon C	Back Scatter	V5N
1	HC-01-01	4/26/2016	685554.0	601483.2	16.80	114.7	9.6	126	9.5	91.0	90	10	Horizon C	Back Scatter	V5N
2	SF-01-02	4/26/2016	685512.5	601525.3	17.50	118.2	7.0	112.2	9.7	105.3	95	10	Structural Fill - Tilcon	Riverside Drive	V5N
2	SF-02-02	4/26/2016	685553.1	601555.1	18.90	114.9	4.7	112.2	9.7	102.4	95	10	Structural Fill - Tilcon	Riverside Drive	V5N
2	SF-03-02	4/26/2016	685577.3	601575.2	19.30	120.3	4.9	112.2	9.7	107.2	95	10	Structural Fill - Tilcon	Riverside Drive	V5N
1	CS-32-01	4/26/2016	685305.2	601932.9	19.50	117.6	7.2	117	8.6	100.5	90	12	GDL Cover Soil		V5N
1	CS-33-01	4/26/2016	685271.2	601934.8	19.60	117.0	10.6	117	8.6	100.0	90	12	GDL Cover Soil		V5N
1	CS-34-01	4/26/2016	685225.8	601921.4	19.80	117.7	9.8	117	8.6	100.6	90	12	GDL Cover Soil		V5N
1	CS-35-01	4/26/2016	685251.7	601967.3	19.30	117.6	10.5	117	8.6	100.5	90	12	GDL Cover Soil		V5N
1	CS-36-01	4/26/2016	685269.0	601997.3	18.80	114.6	9.7	117	8.6	97.9	90	12	GDL Cover Soil		V5N
1	SF-07-01	4/26/2016	685096.6	606106.8	7.10	130.5	6.2	112.2	9.7	116.3	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
1	SF-08-01	4/26/2016	685131.5	602130.1	7.40	129.9	5.8	112.2	9.7	115.8	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
1	SF-09-01	4/26/2016	685163.1	602153.3	7.60	127.8	5.7	112.2	9.7	113.9	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
2	SF-07-02	4/26/2016	685098.7	602108.8	7.90	124.6	4.8	112.2	9.7	111.1	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
2	SF-08-02	4/26/2016	685134.0	602134.2	8.20	116.8	3.7	112.2	9.7	104.1	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
2	SF-09-02	4/26/2016	685173.6	602160.2	8.60	128.1	5.5	112.2	9.7	114.2	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
3	SF-07-03	4/27/2016	685096.6	602106.8	9.40	113.2	2.8	112.2	9.7	100.9	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
3	SF-08-03	4/27/2016	685131.5	602133.6	9.60	112.5	3.2	112.2	9.7	100.3	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
3	SF-09-03	4/27/2016	685168.9	602159.4	10.00	116.2	2.9	112.2	9.7	103.6	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
4	SF-07-04	4/28/2016	685089.9	602105.5	10.40	107.2	4.7	112.2	9.7	95.5	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
4	SF-08-04	4/28/2016	685130.3	602135.1	10.50	108.4	2.6	112.2	9.7	96.6	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
4	SF-09-04	4/28/2016	685158.3	602159.3	10.80	110.9	3.7	112.2	9.7	98.8	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
5	SF-07-05	4/28/2016	658087.4	602109.5	11.30	106.9	4.6	112.2	9.7	95.3	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
5	SF-08-05	4/28/2016	685126.7	602137.8	11.60	115.8	3.2	112.2	9.7	103.2	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
5	SF-09-05	4/28/2016	685164.5	602163.5	11.50	112.6	3.3	112.2	9.7	100.4	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
1	CS-37-01	4/28/2016	685234.1	601983.7	18.80	121.7	8.8	117	8.6	104.0	90	12	GDL Cover Soil		V5N
1	CS-38-01	4/28/2016	685185.5	601970.6	18.70	116.6	6.7	117	8.6	99.7	90	12	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-39-01	4/28/2016	685213.8	602102.2	18.20	122.0	8.3	117	8.6	104.3	90	12	GDL Cover Soil		V5N
1	CS-40-01	4/28/2016	685227.8	602065.5	17.70	119.1	8.7	117	8.6	101.8	90	12	GDL Cover Soil		V5N
1	CS-41-01	4/28/2016	685193.2	602041.5	17.40	120.0	10.9	117	8.6	102.6	90	12	GDL Cover Soil		V5N
1	CS-42-01	4/28/2016	685152.5	602025.7	17.30	119.6	8.9	117	8.6	102.2	90	13	GDL Cover Soil		V5N
6	SF-07-06	4/29/2016	658082.9	602108.5	12.26	114.3	2.7	112.2	9.7	101.9	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
6	SF-08-06	4/29/2016	685136.5	602126.5	12.47	110.8	2.4	112.2	9.7	98.8	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
6	SF-09-06	4/29/2016	685146.5	602166.6	12.35	113.3	2.4	112.2	9.7	101.0	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
1	HC-28-01	4/29/2016	685334.6	601903.6	19.80	119.8	9.5	126	9.5	95.1	90	12	Horizon C	Back Scatter	V5N
1	HC-29-01	4/29/2016	685294.7	601866.8	20.20	128.7	8.4	126	9.5	102.1	90	12	Horizon C	Back Scatter	V5N
1	HC-30-01	4/29/2016	685258.9	601854.0	17.80	114.7	10.7	126	9.5	91.0	90	12	Horizon C	Back Scatter	V5N
1	HC-31-01	4/29/2016	685286.1	601905.7	20.20	124.7	9.2	126	9.5	99.0	90	12	Horizon C	Back Scatter	V5N
1	HC-32-01	4/29/2016	685294.9	601951.8	19.90	124.5	8.7	126	9.5	98.8	90	12	Horizon C	Back Scatter	V5N
1	HC-33-01	4/29/2016	685267.6	601932.2	20.10	114.7	10.2	126	9.5	91.0	90	12	Horizon C	Back Scatter	V5N
1	HC-35-01	4/29/2016	685251.4	601960.8	19.80	113.7	10.5	126	9.5	90.2	90	12	Horizon C	Back Scatter	V5N
7	SF-07-07	5/2/2016	685098.9	602107.7	13.20	113.7	2.2	112.2	9.7	101.3	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
7	SF-08-07	5/2/2016	685131.4	602134.6	13.40	113.2	3.4	112.2	9.7	100.9	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
7	SF-09-07	5/2/2016	685141.4	602154.3	13.20	113.0	2.1	112.2	9.7	100.7	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
8	SF-07-08	5/2/2016	685090.8	602099.0	14.20	119.6	4.0	112.2	9.7	106.6	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
8	SF-08-08	5/2/2016	685126.1	602130.8	14.50	116.2	2.6	112.2	9.7	103.6	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
8	SF-09-08	5/2/2016	685060.5	602159.1	14.00	117.3	3.4	112.2	9.7	104.5	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
1	CS-43-01	5/2/2016	685178.7	602060.3	17.20	119.7	10.1	117	8.6	102.3	90	13	GDL Cover Soil		V5N
1	CS-44-01	5/2/2016	685227.7	602065.5	17.70	115.8	7.3	117	8.6	99.0	90	13	GDL Cover Soil		V5N
1	CS-45-01	5/2/2016	685152.4	602803.2	17.60	114.5	7.1	117	8.6	97.9	90	13	GDL Cover Soil		V5N
1	CS-46-01	5/2/2016	685108.7	602067.4	15.00	109.9	7.8	117	8.6	93.9	90	13	GDL Cover Soil		V5N
1	HC-34-01	5/2/2016	685227.3	601914.0	20.50	117.5	10.3	126	9.5	93.3	90	12	Horizon C	Back Scatter	V5N
1	HC-36-01	5/2/2016	685269.4	601989.1	19.50	119.1	11.1	126	9.5	94.5	90	12	Horizon C	Back Scatter	V5N
1	HC-37-01	5/2/2016	685232.0	601988.5	19.30	115.0	9.8	126	9.5	91.3	90	12	Horizon C	Back Scatter	V5N
1	HC-38-01	5/2/2016	685181.9	601969.6	19.30	113.7	11.7	126	9.5	90.2	90	12	Horizon C	Back Scatter	V5N
1	HC-39-01	5/2/2016	685213.9	602004.5	18.70	116.0	8.9	126	9.5	92.1	90	12	Horizon C	Back Scatter	V5N
1	HC-40-01	5/2/2016	685226.0	602151.1	18.10	125.0	10.0	126	9.5	99.2	90	12	Horizon C	Back Scatter	V5N
1	HC-41-01	5/2/2016	685199.7	602037.5	18.00	120.1	10.4	126	9.5	95.3	90	12	Horizon C	Back Scatter	V5N
9	SF-07-09	5/5/2016	685008.1	602099.3	14.90	120.0	3.5	112.2	9.7	107.0	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
9	SF-08-09	5/5/2016	685134.3	602127.7	15.00	123.4	3.2	112.2	9.7	110.0	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
9	SF-09-09	5/5/2016	685169.3	602144.8	14.90	115.7	4.2	112.2	9.7	103.1	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
10	SF-07-10	5/5/2016	685087.7	602155.6	16.50	120.4	4.4	112.2	9.7	107.3	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
10	SF-08-10	5/5/2016	685117.3	602137.9	16.60	111.9	3.8	112.2	9.7	99.7	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
10	SF-09-10	5/5/2016	685155.3	602167.4	16.30	107.8	3.1	112.2	9.7	96.1	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
1	HC-42-01	5/5/2016	685157.1	602028.8	17.80	117.3	11.6	126	9.5	93.1	90	13	Horizon C	Back Scatter	V5N
1	HC-43-01	5/5/2016	685169.9	602065.8	17.80	117.2	12.1	126	9.5	93.0	90	13	Horizon C	Back Scatter	V5N
1	HC-44-01	5/5/2016	685193.6	602102.8	18.00	124.0	11.7	126	9.5	98.4	90	13	Horizon C	Back Scatter	V5N
1	HC-45-01	5/5/2016	685166.2	602112.5	18.40	123.3	10.3	126	9.5	97.9	90	13	Horizon C	Back Scatter	V5N
1	HC-46-01	5/5/2016	685107.4	602064.3	15.40	125.5	11.6	126	9.5	99.6	90	13	Horizon C	Back Scatter	V5N
1	HC-47-01	5/5/2016	685140.2	602092.3	18.30	121.2	9.2	126	9.5	96.2	90	13	Horizon C	Back Scatter	V5N
1	CS-50-01	5/11/2016	685060.3	602129.0	16.00	114.9	9.2	117	8.6	98.2	90	14	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-51-01	5/11/2016	685095.6	602173.6	18.80	115.3	9.2	117	8.6	98.5	90	14	GDL Cover Soil		V5N
1	CS-52-01	5/11/2016	685118.1	602212.6	18.30	116.9	9.2	117	8.6	99.9	90	14	GDL Cover Soil		V5N
1	CS-53-01	5/11/2016	685077.2	602198.8	18.80	115.3	9.8	117	8.6	98.5	90	14	GDL Cover Soil		V5N
1	CS-54-01	5/11/2016	685018.9	602196.7	19.40	113.0	8.8	117	8.6	96.6	90	14	GDL Cover Soil		V5N
1	CS-55-01	5/11/2016	685037.7	602225.0	16.90	112.7	13.2	117	8.6	96.3	90	14	GDL Cover Soil		V5N
1	CS-57-01	5/11/2016	685029.4	602258.5	17.50	116.7	11.6	117	8.6	99.7	90	14	GDL Cover Soil		V5N
1	CS-58-01	5/11/2016	684989.3	602236.4	20.10	117.6	9.4	117	8.6	100.5	90	14	GDL Cover Soil		V5N
1	CS-59-01	5/11/2016	685005.7	602278.3	17.80	119.0	11.8	117	8.6	101.7	90	14	GDL Cover Soil		V5N
1	CS-61-01	5/11/2016	684990.1	602311.3	18.30	112.5	14.7	117	8.6	96.2	90	15	GDL Cover Soil		V5N
1	CS-62-01	5/11/2016	684954.1	602272.2	20.80	116.1	9.5	117	8.6	99.2	90	15	GDL Cover Soil		V5N
1	CS-63-01	5/11/2016	684978.4	602338.7	18.70	110.8	6.8	117	8.6	94.7	90	15	GDL Cover Soil		V5N
11	SF-07-11	5/11/2016	685085.8	602102.0	17.60	108.4	2.1	112.2	9.7	96.6	95	11	Structural Fill - Tilcon	B Street Corridor-final el	V5N
11	SF-08-11	5/11/2016	685120.0	602122.7	17.80	107.5	2.5	112.2	9.7	95.8	95	11	Structural Fill - Tilcon	B Street Corridor-final el	V5N
11	SF-09-11	5/11/2016	685157.2	602150.4	17.70	109.8	2.6	112.2	9.7	97.9	95	11	Structural Fill - Tilcon	B Street Corridor-final el	V5N
3	SF-01-03	5/11/2016	685512.3	601525.2	19.30	113.1	2.0	112.2	9.7	100.8	95	10	Structural Fill - Tilcon	Riverside Drive; final el	V5N
3	SF-02-03	5/11/2016	685546.3	601552.4	19.40	116.2	2.4	112.2	9.7	103.6	95	10	Structural Fill - Tilcon	Riverside Drive; final el	V5N
3	SF-03-03	5/11/2016	685585.6	601575.9	19.30	116.9	2.0	112.2	9.7	104.2	95	10	Structural Fill - Tilcon	Riverside Drive; final el	V5N
1	HC-48-01	5/16/2016	685126.3	602180.8	19.30	114.6	14.9	126	9.5	91.0	90	14	Horizon C	Back Scatter	V5N
1	HC-49-01	5/16/2016	685093.4	602149.0	17.00	145.7	9.9	126	9.5	115.6	90	14	Horizon C	Back Scatter	V5N
1	HC-50-01	5/16/2016	685061.4	602128.9	16.50	119.8	13.2	126	9.5	95.1	90	14	Horizon C	Back Scatter	V5N
1	HC-51-01	5/16/2016	685096.6	602178.9	19.30	120.1	11.0	126	9.5	95.3	90	14	Horizon C	Back Scatter	V5N
1	HC-52-01	5/16/2016	685119.9	602212.3	18.80	114.5	11.6	126	9.5	90.9	90	14	Horizon C	Back Scatter	V5N
1	HC-53-01	5/16/2016	685054.2	602219.1	19.60	118.1	10.7	126	9.5	93.7	90	14	Horizon C	Back Scatter	V5N
1	HC-54-01	5/16/2016	685019.8	602191.5	19.80	114.2	12.4	126	9.5	90.6	90	14	Horizon C	Back Scatter	V5N
1	HC-55-01	5/16/2016	685054.2	602219.1	19.60	120.1	12.8	126	9.5	95.3	90	14	Horizon C	Back Scatter	V5N
1	HC-56-01	5/16/2016	685075.9	602263.9	19.80	116.8	12.7	126	9.5	92.7	90	14	Horizon C	Back Scatter	V5N
1	HC-57-01	5/16/2016	685032.7	602252.7	17.90	118.6	9.8	126	9.5	94.1	90	14	Horizon C	Back Scatter	V5N
1	HC-58-01	5/16/2016	684988.4	602235.8	20.60	114.7	11.1	126	9.5	91.0	90	14	Horizon C	Back Scatter	V5N
1	HC-59-01	5/16/2016	685010.1	602267.9	18.10	122.6	8.7	126	9.5	97.3	90	14	Horizon C	Back Scatter	V5N
1	CS-56-01	5/16/2016	685025.1	602299.5	20.30	118.5	11.5	117	8.6	101.3	90	14	GDL Cover Soil		V5N
1	CS-60-01	5/16/2016	685025.9	602329.2	18.00	113.1	11.9	117	8.6	96.7	90	14	GDL Cover Soil		V5N
5	SF-04-05	5/16/2016	685352.5	601871.7	19.40	114.6	1.5	112.2	9.7	102.1	95	9	Structural Fill - Tilcon	A Street Corridor; final el	V5N
3	SF-05-03	5/16/2016	685321.5	601855.6	19.70	117.7	1.8	112.2	9.7	104.9	95	9	Structural Fill - Tilcon	A Street Corridor; final el	V5N
3	SF-06-03	5/16/2016	685289.7	601832.8	19.70	108.3	1.4	112.2	9.7	96.5	95	9	Structural Fill - Tilcon	A Street Corridor; final el	V5N
1	CS-64-01	5/18/2016	684999.1	602372.6	18.70	115.6	7.7	117	8.6	98.8	90	15	GDL Cover Soil		V5N
1	CS-65-01	5/18/2016	684995.4	602360.5	18.90	116.5	11.3	117	8.6	99.6	90	15	GDL Cover Soil		V5N
1	CS-66-01	5/18/2016	684907.9	602343.4	19.00	120.8	9.0	117	8.6	103.2	90	15	GDL Cover Soil		V5N
1	CS-67-01	5/18/2016	684935.3	602386.4	18.90	115.3	11.1	117	8.6	98.5	90	15	GDL Cover Soil		V5N
1	CS-68-01	5/18/2016	684960.5	602427.3	18.80	112.6	9.6	117	8.6	96.2	90	15	GDL Cover Soil		V5N
1	CS-69-01	5/18/2016	684918.4	602414.4	18.70	114.0	11.0	117	8.6	97.4	90	15	GDL Cover Soil		V5N
1	CS-71-01	5/18/2016	684888.7	602434.3	18.00	116.7	12.4	117	8.6	99.7	90	16	GDL Cover Soil		V5N
1	CS-72-01	5/18/2016	684917.8	602480.4	18.00	117.5	8.8	117	8.6	100.4	90	16	GDL Cover Soil		V5N
1	HC-49-01R	5/18/2016	685093.4	602149.0	17.00	117.5	9.9	126	9.5	93.3	90	14	Horizon C	Back Scatter; re-run test	V5N
1	CS-70-01	5/20/2016	684860.3	602329.6	18.20	111.8	7.6	117	8.6	95.6	90	16	GDL Cover Soil		V5N

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LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-73-01	5/20/2016	684869.9	602462.4	17.40	115.6	11.7	117	8.6	98.8	90	16	GDL Cover Soil		V5N
1	CS-74-01	5/20/2016	684821.2	602444.5	16.60	116.4	12.6	117	8.6	99.5	90	16	GDL Cover Soil		V5N
1	CS-75-01	5/20/2016	684852.3	602488.7	16.60	114.2	10.0	117	8.6	97.6	90	16	GDL Cover Soil		V5N
1	HC-60-01	5/20/2016	685036.3	602315.7	18.50	117.4	9.5	126	9.5	93.2	90	15	Horizon C	Back Scatter	V5N
1	HC-61-01	5/20/2016	685958.1	602318.7	19.30	123.7	11.9	126	9.5	98.2	90	15	Horizon C	Back Scatter	V5N
1	HC-62-01	5/20/2016	684943.1	602291.6	21.70	116.8	10.2	126	9.5	92.7	90	15	Horizon C	Back Scatter	V5N
1	HC-63-01	5/20/2016	684974.6	602334.4	19.20	116.1	13.3	126	9.5	92.1	90	15	Horizon C	Back Scatter	V5N
1	HC-64-01	5/20/2016	685000.9	602370.5	19.20	116.7	9.4	126	9.5	92.6	90	15	Horizon C	Back Scatter	V5N
1	HC-65-01	5/20/2016	684954.1	602361.6	19.50	120.6	13.2	126	9.5	95.7	90	15	Horizon C	Back Scatter	V5N
1	HC-66-01	5/20/2016	684906.2	602342.6	19.50	114.5	11.8	126	9.5	90.9	90	15	Horizon C	Back Scatter	V5N
1	HC-68-01	5/20/2016	684955.8	602413.4	19.40	120.4	12.5	126	9.5	95.6	90	15	Horizon C	Back Scatter	V5N
1	HC-69-01	5/20/2016	684906.3	602419.1	19.00	123.7	10.1	126	9.5	98.2	90	15	Horizon C	Back Scatter	V5N
1	HC-70-01	5/20/2016	684858.7	302396.2	18.70	124.3	11.1	126	9.5	98.7	90	16	Horizon C	Back Scatter	V5N
1	HC-71-01	5/20/2016	684882.1	602433.1	18.50	114.6	13.6	126	9.5	91.0	90	16	Horizon C	Back Scatter	V5N
1	HC-72-01	5/20/2016	684913.9	602473.4	18.60	124.6	11.3	126	9.5	98.9	90	16	Horizon C	Back Scatter	V5N
1	HC-73-01	5/20/2016	684870.2	602464.3	18.00	122.3	12.4	126	9.5	97.1	90	16	Horizon C	Back Scatter	V5N
1	HC-74-01	5/20/2016	684819.9	602423.5	16.90	124.6	11.3	126	9.5	98.9	90	16	Horizon C	Back Scatter	V5N
1	CS-76-01	5/27/2016	684877.8	602531.3	19.20	107.5	6.6	117	8.6	91.9	90	17	GDL Cover Soil		V5N
1	CS-77-01	5/27/2016	684831.7	602514.5	15.90	111.5	9.1	117	8.6	95.3	90	17	GDL Cover Soil		V5N
1	CS-78-01	5/27/2016	684774.7	602493.1	14.40	111.0	8.8	117	8.6	94.9	90	17	GDL Cover Soil		V5N
1	CS-79-01	5/27/2016	684809.3	602541.2	17.60	111.8	6.4	117	8.6	95.6	90	17	GDL Cover Soil		V5N
1	CS-80-01	5/27/2016	684830.6	602582.9	15.20	113.6	9.0	117	8.6	97.1	90	17	GDL Cover Soil		V5N
1	CS-81-01	5/27/2016	684786.1	602567.2	14.90	113.7	8.1	117	8.6	97.2	90	17	GDL Cover Soil		V5N
1	CS-82-01	5/27/2016	684747.7	602551.4	14.30	108.8	8.0	117	8.6	93.0	90	17	GDL Cover Soil		V5N
1	CS-83-01	5/27/2016	684775.8	602598.9	15.40	108.9	8.7	117	8.6	93.1	90	17	GDL Cover Soil		V5N
1	CS-84-01	5/27/2016	684806.4	602648.6	15.30	107.6	10.1	117	8.6	92.0	90	17	GDL Cover Soil		V5N
1	CS-85-01	5/27/2016	684758.7	602624.2	18.20	111.2	7.6	117	8.6	95.0	90	17	GDL Cover Soil		V5N
1	HC-67-01	5/27/2016	684934.5	602386.8	19.50	122.9	10.4	126	9.5	97.5	90	16	Horizon C	Back Scatter	V5N
1	HC-75-01	5/27/2016	684852.9	602485.9	17.20	114.0	7.0	126	9.5	90.5	90	16	Horizon C	Back Scatter	V5N
1	HC-76-01	6/2/2016	684876.3	602531.1	19.70	119.3	9.3	126	9.5	94.0	90	17	Horizon C	Back Scatter	V5N
1	HC-77-01	6/2/2016	684830.6	602514.8	16.40	122.3	8.4	126	9.5	97.0	90	17	Horizon C	Back Scatter	V5N
1	HC-78-01	6/2/2016	684776.0	602494.2	15.10	114.4	8.4	126	9.5	90.8	90	17	Horizon C	Back Scatter	V5N
1	HC-79-01	6/2/2016	684810.5	602540.7	18.10	122.2	7.3	126	9.5	97.0	90	17	Horizon C	Back Scatter	V5N
1	HC-80-01	6/2/2016	684834.1	602583.5	15.80	121.5	8.2	126	9.5	96.4	90	17	Horizon C	Back Scatter	V5N
1	HC-81-01	6/2/2016	684789.9	602568.2	15.50	122.3	12.2	126	9.5	97.1	90	17	Horizon C	Back Scatter	V5N
1	HC-82-01	6/2/2016	684752.2	602543.1	17.30	126.2	10.2	126	9.5	100.2	90	17	Horizon C	Back Scatter	V5N
1	HC-83-01	6/2/2016	684781.1	602601.8	16.00	118.6	10.2	126	9.5	94.1	90	17	Horizon C	Back Scatter	V5N
1	HC-84-01	6/2/2016	684801.5	602638.4	17.70	124.5	9.3	126	9.5	98.8	90	17	Horizon C	Back Scatter	V5N
1	HC-85-01	6/2/2016	684757.6	602625.7	18.70	121.4	8.7	126	9.5	96.3	90	17	Horizon C	Back Scatter	V5N
1	HC-86-01	6/2/2016	684704.4	602572.9	8.10	126.9	11.6	126	9.5	100.7	90	17	Horizon C	Back Scatter	V5N
1	HC-87-01	6/2/2016	684739.4	602607.5	18.30	124.2	9.8	126	9.5	98.6	90	17	Horizon C	Back Scatter	V5N
1	HC-88-01	6/2/2016	684755.1	602716.9	16.70	113.2	13.2	126	9.5	90.0	90	7	Horizon C	Back Scatter	V5N
1	HC-89-01	6/2/2016	684729.9	602698.7	19.60	115.7	11.8	126	9.5	91.8	90	7	Horizon C	Back Scatter	V5N
1	HC-90-01	6/2/2016	684676.0	602662.2	19.50	127.3	11.2	126	9.5	101.0	90	7	Horizon C	Back Scatter	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	HC-91-01	6/2/2016	684684.9	602718.4	17.30	120.5	12.8	126	9.5	95.6	90	7	Horizon C	Back Scatter	V5N
1	HC-92-01	6/2/2016	684700.5	602765.4	20.60	113.6	9.3	126	9.5	90.2	90	7	Horizon C	Back Scatter	V5N
1	HC-93-01	6/2/2016	684673.2	602735.5	17.70	116.1	13.6	126	9.5	92.2	90	7	Horizon C	Back Scatter	V5N
1	HC-94-01	6/2/2016	684616.3	602716.8	18.00	125.0	9.4	126	9.5	99.2	90	7	Horizon C	Back Scatter	V5N
1	HC-95-01	6/2/2016	684650.6	602768.2	18.70	120.9	12.6	126	9.5	96.0	90	7	Horizon C	Back Scatter	V5N
1	HC-96-01	6/2/2016	684681.4	602798.3	18.90	113.5	12.7	126	9.5	90.0	90	7	Horizon C	Back Scatter	V5N
8	SF-10-8R	6/2/2016	684712.5	602638.8	17.50	111.0	1.5	112.2	8.6	99.1	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
8	SF-11-8R	6/2/2016	684758.7	602671.8	17.40	110.5	1.8	112.2	8.6	98.7	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
9	SF-10-9R	6/2/2016	684715.2	602640.1	18.40	113.7	1.4	112.2	8.6	101.5	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
9	SF-11-9R	6/2/2016	684759.7	602673.9	18.40	115.7	1.4	112.2	8.6	103.3	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
10	SF-19-10	6/15/2016	684509.5	602871.3	18.50	108.3	2.9	112.2	8.6	96.7	95	5	Structural Fill - Tilcon	D Street Corridor-final el	V5N
10	SF-20-10	6/15/2016	684550.8	602901.1	19.00	108.7	2.6	112.2	8.6	97.0	95	5	Structural Fill - Tilcon	D Street Corridor-final el	V5N

Notes: Maximum Dry Density for Celgene GDL Cover Soil (CS) based on Vertical 5 Northeast Inc Sample ID 12691 approved in Entact Submittal 112B
Maximum Dry Density for 6 inch lift of Horizon C based on Vertical 5 Northeast Inc Sample ID 12934
Maximum Dry Density for Liberty Structural Fill (SF) based on Vertical 5 Northeast Inc Sample ID 12924 approved in Entact Submittal 117A
Maximum Dry Density for Tilcon Structural Fill (SF) based on Vertical 5 Northeast Inc Sample ID 13163 approved in Entact Submittal 128

Sample ID CS-1-2 Where:

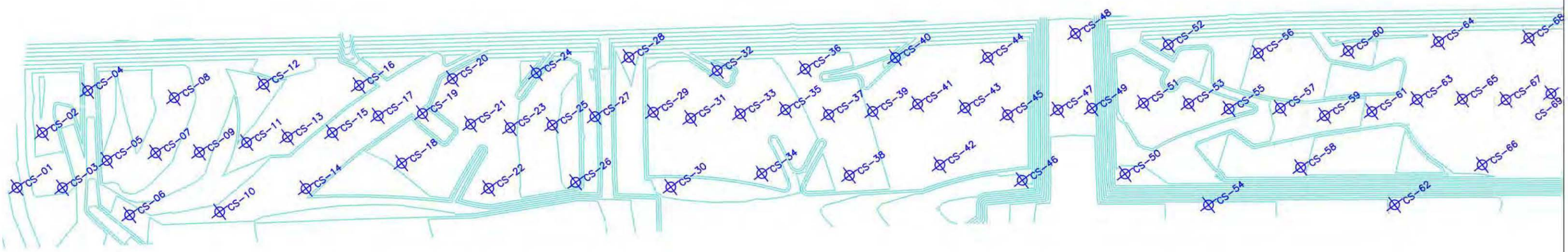
CS=Cover Soil; HC=Horizon C; SF=Structural Fill
1 = Test Location as noted on Compaction Location Figures
2 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again

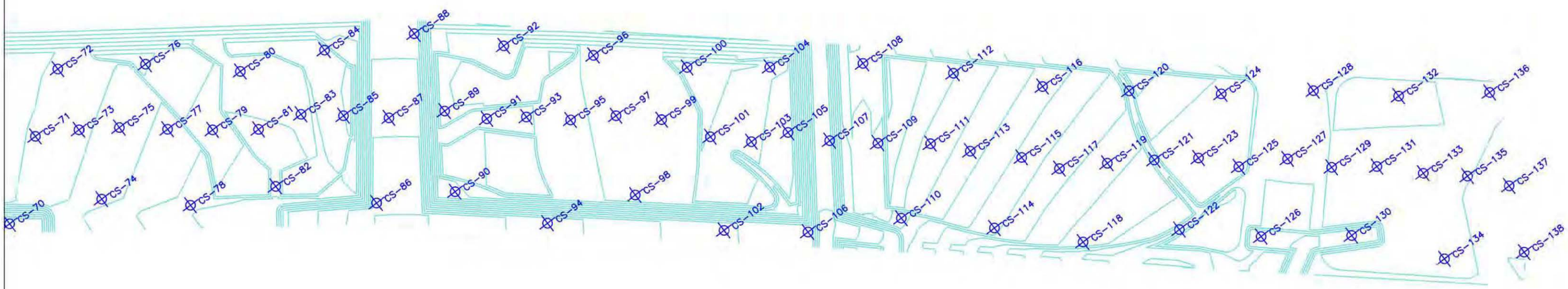
HC-107 became a Structural Fill test location after the D Street Corridor was widened

2.0 Test Location Drawings

- **GDL Cover Soil**
- **Horizon C**
- **Structural Fill**

SA-6 SOUTH





NOTES:

1) Testing locations are based on testing frequency specified in 012315 3.13 A. 2. a.

LEGEND:

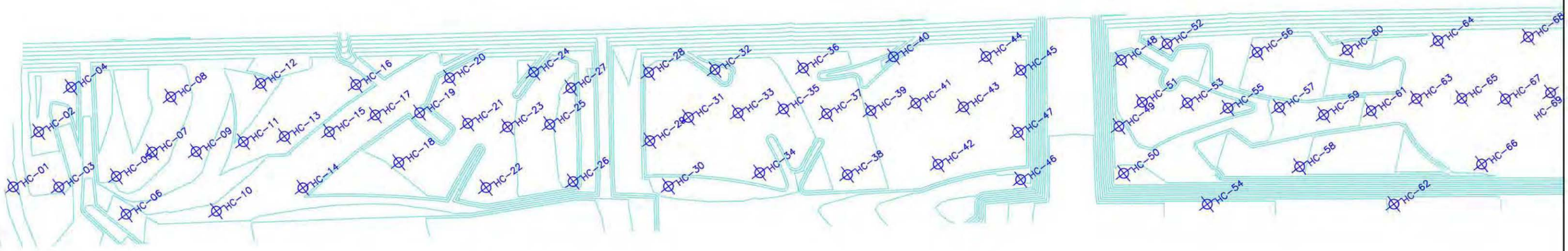
COMPACTION TEST LOCATION — CS-XX

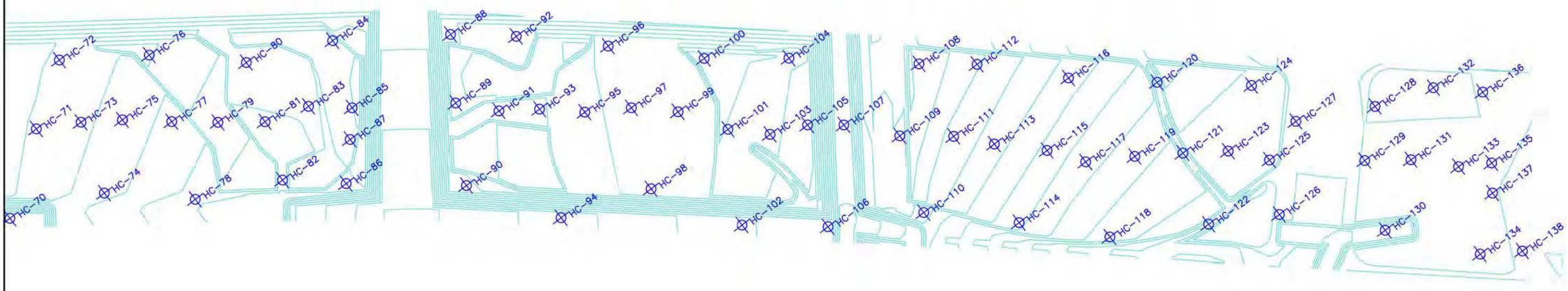
GDL COVER SOIL ELEVATION CONTOURS

ENTACT
302 Unity Plaza
Latrobe, PA 15650
412-357-1102

DRAWING NAME	GDL COVER SOIL COMPACTION LOCATIONS				
PROJECT NAME & LOCATION	HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ				
DRAWN BY	C. CYMBOR	APPROVED BY			
DATE	10/15/15	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

SA-6 SOUTH





NOTES:

1) Testing locations are based on testing frequency specified in 012315 3.13 A. 2. a.

2) HC-107 became a structural fill test location after the D street corridor was widened.

LEGEND:

COMPACTION TEST LOCATION — HC-XX

GDL COVER SOIL ELEVATION CONTOURS

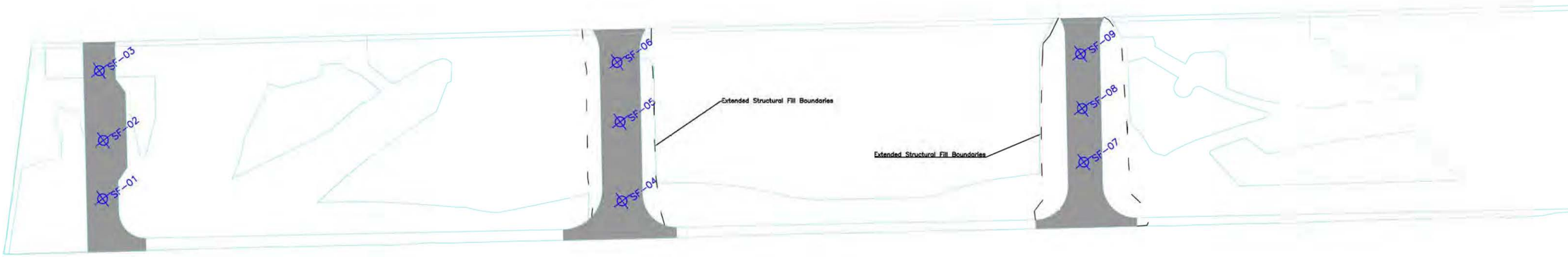
ENTACT
302 Unity Plaza
Latrobe, PA 15650
412-357-1102

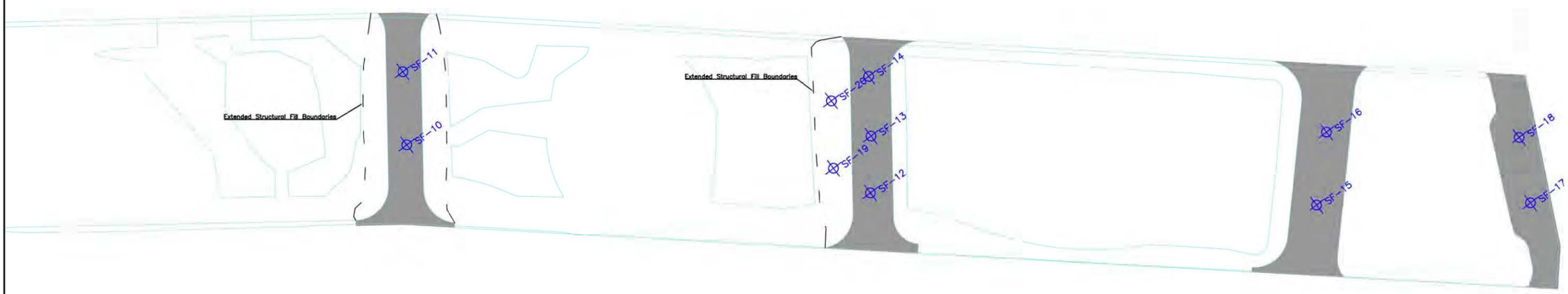
DRAWING NAME: HORIZON C PLANTING SOIL COMPACTION LOCATIONS

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION, JERSEY CITY, NJ

DRAWN BY	J. HOSGOOD	APPROVED BY			
DATE	06/17/16	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

SA-6 SOUTH





NOTES:

1) Testing locations are based on testing frequency specified in 012315 3.13 A. 2. a.

LEGEND:

COMPACTION TEST LOCATION — SF-XX

PLANTING SOIL BOUNDARIES

STRUCTURAL FILL

ENTACT
302 Unity Plaza
Latrobe, PA 15650
412-357-1102

DRAWING NAME: STRUCTURAL COMPACTION LOCATIONS

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION, JERSEY CITY, NJ

DRAWN BY	J. HOSGOOD	APPROVED BY			
DATE	05/19/16	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

ATTACHMENT M-1
SA-6 NORTH AND SOUTH CONSTRUCTION CONTROL GRID AS-BUILT SUMMARIES

Honeywell SA-6 North
Chromium Remedy
Jersey City, New Jersey

Created By: T. Donovan 2/20/17
Checked By:

TABLE 1. SA-6 NORTH OPEN SPACE CAP AREA - CONSTRUCTION CONTROL GRID AS BUILT SUMMARY

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
1	686039.50	602096.13	GRID_DGA	10.64	10.56	1.29		16.57	1.00		6.02
2	686061.08	602108.76	GRID_DGA	10.58	10.52	1.29		16.90	0.70		6.37
3	686091.59	602155.60	GRID	11.36	11.29	1.23		16.99		2.57	5.70
4	686070.02	602142.97	GRID_DGA	10.84	10.76	1.16		16.83	0.41		6.07
5	686048.45	602130.34	GRID	10.56	10.57	1.18		15.03		0.52	4.47
6	686026.87	602117.70	GRID	10.91	10.98	1.12	0.75	15.07		0.61	4.09
7	686005.30	602105.07	GRID	11.56	11.50	1.17	0.87	15.32		0.65	3.82
8	685983.72	602092.44	GRID	11.61	11.63	1.19		15.12		0.67	3.49
9	685971.09	602114.02	GRID	11.86	11.83	1.25		15.75		0.69	3.92
10	685992.67	602126.65	GRID	11.77	11.80	1.13	0.55	16.19		0.66	4.39
11	686014.24	602139.28	GRID	11.79	11.73	1.20	0.63	15.85		0.68	4.12
12	686035.82	602151.91	GRID	11.71	11.64	1.24	0.83	15.55		0.55	3.91
13	686057.39	602164.54	GRID	11.64	11.57	1.27		15.73		0.54	4.16
14	686078.96	602177.17	GRID_DGA	11.44	11.43	1.25		17.54	0.82		6.11
15	686066.33	602198.75	GRID	11.03	10.99	1.22		15.83		0.51	4.84
16	686044.76	602186.12	GRID	11.35	11.27	1.32		15.74		0.59	4.46
17	686023.18	602173.48	GRID	11.89	11.83	1.23	0.48	16.53		0.87	4.70
18	686001.61	602160.85	GRID	14.57	14.50	1.22	0.53	16.84		0.60	2.34
19	685980.04	602148.22	GRID	12.38	12.33	1.23	0.51	16.81		0.67	4.48
20	685958.46	602135.59	GRID	12.13	12.08	1.26		15.95		0.58	3.87
21	685945.83	602157.16	GRID	12.44	12.39	1.20		16.22		0.61	3.83
22	685967.40	602169.80	GRID	12.81	12.77	1.14	0.65	17.17		0.63	4.39
23	685988.98	602182.43	GRID	12.14	12.09	1.19	0.69	17.09		0.69	5.01
24	686010.55	602195.06	GRID	14.47	14.42	1.23	0.49	16.71		0.57	2.29
25	686032.13	602207.69	GRID	11.37	11.28	1.20		15.45		0.60	4.17
26	686053.70	602220.32	GRID	10.39	10.40	1.15		15.50		0.68	5.10
27	686041.07	602241.90	GRID	10.76	10.73	1.20		15.16		0.62	4.44
28	686019.49	602229.26	GRID	11.60	11.52	1.18		15.47		0.55	3.95
29	685997.92	602216.63	GRID	14.67	14.59	1.18	0.54	16.92		0.60	2.32
30	685976.35	602204.00	GRID	12.32	12.25	1.23	0.81	17.43		0.68	5.18
31	685954.77	602191.37	GRID	15.71	15.66	1.24	0.54	17.95		0.51	2.29
32	685933.20	602178.74	GRID	12.68	12.64	1.15		16.47		0.62	3.83
33	685920.57	602200.31	GRID	12.83	12.78	1.26		16.79		0.58	4.00
34	685942.14	602212.94	GRID	15.17	15.22	1.14	0.53	17.48		0.60	2.26
35	685985.29	602238.21	GRID	14.86	14.82	1.21	0.51	17.18		0.64	2.35
36	686006.86	602250.84	GRID	11.98	12.02	1.18		16.08		0.93	4.06
37	686028.44	602263.47	GRID	11.27	11.24	1.23		15.04		0.56	3.80
38	686037.38	602297.68	GRID	12.00	11.92	1.18		14.32		0.53	2.40
39	686015.81	602285.04	GRID	11.49	11.43	1.24		15.23		0.63	3.80
40	685972.66	602259.78	GRID	15.08	15.02	1.14	0.61	17.36		0.59	2.34
41	685951.08	602247.15	GRID	15.04	14.98	1.15	0.59	17.29		0.57	2.31
42	685929.51	602234.52	GRID	12.86	12.82	1.20	0.58	17.48		0.86	4.67
43	685907.93	602221.89	GRID	13.08	13.07	1.17		17.13		0.62	4.06
44	685895.30	602243.46	GRID	13.52	13.47	1.19		17.24		0.57	3.77
45	685916.88	602256.09	GRID	13.17	13.10	1.17	0.61	17.66		0.69	4.56
46	685960.03	602281.36	GRID	15.36	15.32	1.14	0.58	17.66		0.63	2.34
47	686003.17	602306.62	GRID	11.73	11.65	1.21		15.60		0.67	3.94
48	686024.75	602319.25	GRID	12.19	12.12	1.17		14.66		0.62	2.54
49	686012.12	602340.82	GRID	12.39	12.32	1.15		14.94		0.61	2.62
50	685990.54	602328.19	GRID	11.98	11.95	1.23		15.86		0.57	3.91
51	685968.97	602315.56	GRID	15.54	15.45	1.20	0.54	17.75		0.56	2.29
52	685947.39	602302.93	GRID	15.65	15.59	1.19	0.55	17.91		0.59	2.32
53	685925.82	602290.30	GRID	13.41	13.36	1.14	0.61	18.00		0.81	4.64
54	685904.25	602277.67	GRID	14.31	14.30	1.13	0.60	17.89		0.65	3.59
55	685882.67	602265.03	GRID	13.85	13.86	1.19		17.46		0.63	3.60
56	685870.04	602286.61	GRID	13.98	13.97	1.16		17.23		0.63	3.26
57	685891.61	602299.24	GRID	14.49	14.43	1.23	0.74	18.12		0.60	3.69
58	685913.19	602311.87	GRID	13.72	13.67	1.15	0.78	18.28		0.82	4.61

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
59	685956.34	602337.14	GRID	15.80	15.80	1.10	0.59	18.01		0.52	2.21
60	685977.91	602349.77	GRID	12.23	12.30	1.10		16.24		0.66	3.94
61	685999.49	602362.40	GRID	12.58	12.53	1.16		15.23		0.57	2.70
62	685986.85	602383.97	GRID	12.78	12.70	1.18		15.57		0.66	2.87
63	685965.28	602371.34	GRID	12.56	12.56	1.14		16.56		0.68	4.00
64	685943.71	602358.71	GRID	13.58	13.65	1.08	0.78	18.09		0.69	4.44
65	685900.56	602333.45	GRID	13.96	13.89	1.24	0.65	18.69		0.97	4.80
66	685878.98	602320.81	GRID	14.75	14.69	1.19	0.54	18.60		0.54	3.91
67	685866.35	602342.39	GRID	17.54	17.50	1.29	0.42	19.79		0.57	2.28
68	685887.93	602355.02	GRID	16.72	16.69	1.18	0.50	19.13		0.76	2.44
69	685909.50	602367.65	GRID	16.46	16.40	1.25	0.51	18.85		0.70	2.45
70	685931.07	602380.28	GRID	13.75	13.66	1.23	0.69	18.14		0.83	4.48
71	685952.65	602392.91	GRID	12.92	12.94	1.12		16.85		0.61	3.91
72	685974.22	602405.55	GRID	12.98	12.93	1.16		15.89		0.63	2.96
73	685961.59	602427.12	GRID	13.18	13.11	1.18		16.16		0.59	3.05
74	685940.02	602414.49	GRID	13.36	13.29	1.20		17.26		0.67	3.97
75	685918.44	602401.86	GRID	14.05	14.02	1.23	0.54	18.33		0.73	4.31
76	685896.87	602389.23	GRID	16.74	16.67	1.30	0.43	19.19		0.78	2.52
77	685875.29	602376.59	GRID	17.09	17.06	1.14	0.53	19.57		0.84	2.51
78	685853.72	602363.96	GRID	17.76	17.72	1.13	0.59	20.29		0.85	2.57
79	685832.15	602351.33	GRID	14.72	14.77	1.06		18.51		0.68	3.75
80	685819.51	602372.91	GRID	14.97	14.97	1.15		18.71		0.62	3.73
81	685841.09	602385.54	GRID	17.74	17.65	1.19	0.60	20.26		0.81	2.61
82	685862.66	602398.17	GRID	17.23	17.16	1.25	0.52	19.81		0.88	2.65
83	685884.24	602410.80	GRID	14.48	14.40	1.24	0.57	19.37		0.79	4.96
84	685905.81	602423.43	GRID	14.24	14.19	1.19	0.58	18.79		0.73	4.60
85	685927.39	602436.06	GRID	13.74	13.67	1.18		17.55		0.64	3.88
86	685948.96	602448.69	GRID	13.37	13.42	1.09		16.57		0.71	3.15
87	685936.33	602470.27	GRID	13.57	13.51	1.25		16.83		0.64	3.32
88	685914.75	602457.64	GRID	14.15	14.12	1.25		17.96		0.63	3.84
89	685893.18	602445.01	GRID	14.63	14.56	1.24	0.63	19.11		0.62	4.55
90	685871.61	602432.37	GRID	14.76	14.70	1.17	0.63	19.70		0.90	5.00
91	685828.46	602407.11	GRID	15.65	15.59	1.27	0.75	20.03		0.84	4.45
92	685806.88	602394.48	GRID	15.23	15.20	1.23		18.99		0.71	3.79
93	685794.25	602416.05	GRID	15.45	15.41	1.22		19.18		0.57	3.77
94	685815.83	602428.69	GRID	15.80	15.71	1.25	0.54	20.34		0.75	4.63
95	685837.40	602441.32	GRID	15.52	15.42	1.26	0.56	20.38		0.91	4.96
96	685858.97	602453.95	GRID	15.04	14.98	1.22	0.55	19.91		0.79	4.93
97	685880.55	602466.58	GRID	14.86	14.78	1.25	0.52	19.54		0.69	4.76
98	685902.12	602479.21	GRID	14.72	14.65	1.30	0.48	18.74		0.68	4.09
99	685923.70	602491.84	GRID	13.72	13.72	1.17		17.22		0.70	3.50
100	685889.49	602500.79	GRID	17.49	17.44	1.17	0.52	19.80		0.67	2.37
101	685867.92	602488.15	GRID	15.14	15.07	1.23	0.56	19.94		0.64	4.87
102	685846.34	602475.52	GRID	15.31	15.24	1.20	0.85	20.22		0.67	4.98
103	685803.19	602450.26	GRID	18.93	18.84	1.17	0.58	21.16		0.56	2.32
104	685781.62	602437.63	GRID	15.73	15.71	1.18		19.45		0.63	3.75
105	685768.99	602459.20	GRID	15.98	15.97	1.18		19.68		0.58	3.71
106	685812.14	602484.47	GRID	18.65	18.59	1.19	0.56	20.98		0.65	2.39
107	685833.71	602497.10	GRID	18.09	18.02	1.17	0.59	20.44		0.66	2.42
108	685855.28	602509.73	GRID	17.94	17.87	1.17	0.59	20.32		0.69	2.45
109	685876.86	602522.36	GRID	17.80	17.73	1.18	0.59	20.19		0.70	2.46
110	685898.43	602534.99	GRID	14.36	14.27	1.27		18.20		0.74	3.92
111	685885.80	602556.57	GRID	14.84	14.77	1.27		18.68		0.81	3.91
112	685864.23	602543.93	GRID	18.08	18.01	1.23	0.49	20.46		0.73	2.45
113	685842.65	602531.30	GRID	18.20	18.14	1.16	0.59	20.57		0.68	2.43
114	685821.08	602518.67	GRID	18.36	18.27	1.21	0.53	20.80		0.78	2.53
115	685799.50	602506.04	GRID	18.79	18.74	1.16	0.59	21.07		0.58	2.33
116	685756.36	602480.78	GRID	16.23	16.18	1.18		19.89		0.61	3.71
117	685743.73	602502.35	GRID	16.48	16.52	1.07		20.07		0.66	3.55
118	685765.30	602514.98	GRID	16.75	16.68	1.18	0.57	21.20		0.86	4.53
119	685786.87	602527.61	GRID	18.94	18.88	1.17	0.57	21.29		0.68	2.41
120	685808.45	602540.25	GRID	18.53	18.46	1.18	0.56	20.97		0.77	2.51
121	685830.02	602552.88	GRID	18.33	18.27	1.19	0.56	20.79		0.77	2.52

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
122	685873.17	602578.14	GRID	15.36	15.31	1.27		19.10		0.68	3.79
123	685894.74	602590.77	GRID	14.81	14.76	1.16		17.23		0.58	2.47
124	685882.11	602612.35	GRID	14.99	14.96	1.16		17.79		0.72	2.82
125	685860.54	602599.71	GRID	15.99	15.91	1.21	0.52	19.74		0.83	3.82
126	685817.39	602574.45	GRID	18.44	18.37	1.27	0.49	20.87		0.74	2.50
127	685774.24	602549.19	GRID	16.49	16.44	1.14	0.77	21.07		0.80	4.63
128	685752.67	602536.56	GRID	16.85	16.79	1.15	0.60	21.32		0.82	4.53
129	685731.09	602523.92	GRID	16.74	16.76	1.21		20.13		0.63	3.37
130	685718.46	602545.50	GRID	16.81	16.81	1.14		19.98		0.68	3.17
131	685740.04	602558.13	GRID	16.27	16.28	1.18	0.47	20.64		0.65	4.36
132	685761.61	602570.76	GRID	15.94	15.88	1.16	0.56	19.95		0.93	4.07
133	685783.18	602583.39	GRID	15.83	15.75	1.25	0.54	19.89		0.94	4.14
134	685804.76	602596.02	GRID	15.84	15.76	1.19	0.56	19.94		0.75	4.18
135	685826.33	602608.66	GRID	16.00	15.95	1.18	0.65	20.01		0.66	4.07
136	685847.91	602621.29	GRID	16.26	16.20	1.16	0.63	20.06		0.91	3.86
137	685869.48	602633.92	GRID	15.24	15.26	1.07		18.13		0.69	2.87
138	685856.85	602655.49	GRID	15.64	15.73	1.09		18.55		0.60	2.82
139	685792.13	602617.60	GRID	13.96	13.90	1.18		18.18		0.67	4.27
140	685770.55	602604.97	GRID	14.16	14.13	1.17		18.11		0.61	3.99
141	685748.98	602592.34	GRID	14.61	14.58	1.13		18.18		0.71	3.60
142	685727.40	602579.70	GRID	15.16	15.09	1.23		19.11		0.57	4.03
143	685705.83	602567.07	GRID	15.94	15.93	1.19		19.61		0.64	3.68
144	685693.20	602588.65	GRID	17.26	17.26	1.09		21.18		0.85	3.92
145	685714.77	602601.28	GRID	16.13	16.06	1.25	0.70	20.46		0.86	4.41
146	685736.35	602613.91	GRID	15.75	15.67	1.33		20.11		0.72	4.44
147	685757.92	602626.54	GRID	15.41	15.49	1.16		19.80		0.90	4.31
148	685779.50	602639.17	GRID	15.25	15.26	1.08		19.22		0.72	3.96
149	685844.22	602677.07	GRID	13.32	13.36	1.20		18.01		0.55	4.65
150	685810.01	602686.01	GRID	16.70	16.61	1.18	0.61	20.57		0.61	3.96
151	685788.44	602673.38	GRID	16.42	16.36	1.19	0.54	20.83		0.79	4.47
152	685766.86	602660.75	GRID	16.43	16.35	1.20	0.62	21.13		0.87	4.77
153	685723.72	602635.48	GRID	16.66	16.61	1.21	0.53	21.71		0.72	5.10
154	685702.14	602622.85	GRID	17.06	16.98	1.21	0.59	21.93		0.67	4.95
155	685680.57	602610.22	GRID	17.48	17.47	1.08		21.48		0.81	4.01
156	685667.94	602631.80	GRID	17.80	17.85	1.15		21.64		0.76	3.79
157	685689.51	602644.43	GRID	18.11	18.17	1.09	0.53	22.47		0.58	4.30
158	685732.66	602669.69	GRID	19.97	20.01	1.14	0.52	22.22		0.56	2.21
159	685797.38	602707.58	GRID	19.67	19.62	1.19	0.56	21.97		0.59	2.35
160	685806.32	602741.79	GRID	17.62	17.35	1.22	0.56	21.91		0.62	4.56
161	685784.75	602729.16	GRID	17.65	17.43	1.05	0.72	22.65		0.55	5.21
162	685741.60	602703.90	GRID	20.85	20.87	1.10	0.56	23.17		0.64	2.30
163	685720.03	602691.26	GRID	18.49	18.44	1.27	0.70	23.25		0.79	4.81
164	685676.88	602666.00	GRID	18.69	18.78	1.04	0.56	22.74		0.67	3.96
165	685655.30	602653.37	GRID	17.94	18.01	1.12		21.74		0.72	3.72
166	685642.67	602674.94	GRID	18.05	18.12	1.02		21.84		0.68	3.72
167	685664.25	602687.58	GRID	18.71	18.73	1.21	0.56	22.88		0.73	4.15
168	685685.82	602700.21	GRID	20.99	21.08	1.11	0.48	23.42		0.75	2.34
169	685750.54	602738.10	GRID	21.47	21.51	1.22	0.50	23.89		0.74	2.38
170	685772.12	602750.73	GRID	18.51	18.43	1.34	0.67	23.26		0.63	4.83
171	685824.21	602810.20	GRID	17.16	17.20	1.21		20.85		0.67	3.65
172	685759.49	602772.31	GRID	21.61	21.52	1.31	0.46	23.89		0.61	2.37
173	685737.91	602759.68	GRID	21.92	21.90	1.25	0.47	24.19		0.57	2.29
174	685716.34	602747.04	GRID	21.92	21.88	1.24	0.50	24.16		0.54	2.28
175	685694.76	602734.41	GRID	21.52	21.60	1.01	0.62	23.88		0.66	2.28
176	685673.19	602721.78	GRID	21.00	20.93	1.27	0.45	23.46		0.81	2.53
177	685651.62	602709.15	GRID	18.72	18.72	1.16	0.54	22.89		0.66	4.17
178	685630.04	602696.52	GRID	18.13	18.19	1.05		22.02		0.76	3.83
179	685617.41	602718.09	GRID	18.18	18.27	1.16		22.00		0.64	3.73
180	685638.98	602730.72	GRID	18.73	18.70	1.20	0.54	22.97		0.69	4.26
181	685660.56	602743.36	GRID	21.00	21.00	1.24	0.45	23.51		0.82	2.51
182	685682.13	602755.99	GRID	21.49	21.51	1.21	0.52	23.78		0.56	2.28
183	685703.71	602768.62	GRID	22.02	22.02	1.17	0.53	24.25		0.54	2.24
184	685725.28	602781.25	GRID	22.23	22.18	1.14	0.59	24.49		0.60	2.32

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
185	685746.85	602793.88	GRID	22.14	22.15	1.17	0.51	24.45		0.62	2.30
186	685768.43	602806.51	GRID	21.43	21.45	1.13	0.52	23.75		0.65	2.30
187	685790.00	602819.14	GRID	17.88	17.86	1.16		21.66		0.65	3.81
188	685811.58	602831.78	GRID	17.43	17.42	1.27		20.93		0.59	3.51
189	685798.95	602853.35	GRID	17.64	17.66	1.14		21.17		0.55	3.50
190	685777.37	602840.72	GRID	18.26	18.34	1.17		21.93		0.57	3.59
191	685755.80	602828.09	GRID	21.84	21.86	1.17	0.51	24.29		0.76	2.43
192	685734.22	602815.46	GRID	22.53	22.54	1.23	0.53	24.93		0.71	2.38
193	685712.65	602802.82	GRID	20.06	20.06	1.22	0.46	24.83		0.66	4.77
194	685691.07	602790.19	GRID	19.57	19.49	1.19	0.54	24.33		0.67	4.84
195	685647.93	602764.93	GRID	21.00	20.99	1.20	0.52	23.46		0.75	2.47
196	685626.35	602752.30	GRID	18.75	18.67	1.29	0.55	23.00		0.71	4.33
197	685604.78	602739.67	GRID	18.21	18.20	1.12		22.23		0.84	4.02
198	685592.15	602761.24	GRID	18.21	18.22	1.15		21.91		0.56	3.70
199	685613.72	602773.87	GRID	18.75	18.67	1.26	0.53	22.95		0.57	4.27
200	685635.30	602786.50	GRID	21.00	20.95	1.25	0.51	23.42		0.71	2.47
201	685678.44	602811.77	GRID	19.56	19.58	1.11	0.70	24.31		0.60	4.73
202	685700.02	602824.40	GRID	20.02	19.97	1.19	0.67	24.83		0.62	4.86
203	685721.59	602837.03	GRID	22.65	22.67	1.18	0.51	24.87		0.50	2.20
204	685743.17	602849.66	GRID	22.10	22.13	1.17	0.49	24.36		0.57	2.22
205	685764.74	602862.29	GRID	18.85	18.77	1.17	0.63	22.28		0.64	3.51
206	685786.31	602874.92	GRID	17.86	17.81	1.22		21.39		0.54	3.58
207	685773.68	602896.50	GRID	18.08	18.06	1.18		21.86		0.72	3.80
208	685752.11	602883.87	GRID	18.97	19.03	1.03	0.63	22.63		0.66	3.60
209	685687.39	602845.97	GRID	20.02	20.00	1.15	0.57	24.57		0.68	4.57
210	685665.81	602833.34	GRID	19.55	19.59	1.08	0.61	23.89		0.65	4.30
211	685644.24	602820.71	GRID	19.05	19.05	1.14	0.58	23.39		0.61	4.34
212	685622.66	602808.08	GRID	18.61	18.60	1.17	0.55	23.01		0.67	4.41
213	685601.09	602795.45	GRID	18.75	18.71	1.27	0.52	22.84		0.56	4.13
214	685579.52	602782.81	GRID	18.18	18.25	1.13		21.89		0.54	3.65
215	685566.88	602804.39	GRID	18.12	18.11	1.14		21.85		0.52	3.74
216	685588.46	602817.02	GRID	18.75	18.67	1.27	0.52	22.65		0.62	3.98
217	685610.03	602829.65	GRID	18.59	18.50	1.18	0.60	22.81		0.65	4.30
218	685631.61	602842.28	GRID	19.04	18.99	1.16	0.62	23.37		0.95	4.38
219	685653.18	602854.91	GRID	19.53	19.55	1.07	0.62	23.89		1.01	4.34
220	685674.75	602867.55	GRID	20.03	20.02	1.11	0.62	24.22		0.84	4.20
221	685696.33	602880.18	GRID	20.18	20.16	1.11	0.60	24.47		0.64	4.31
222	685717.90	602892.81	GRID	19.62	19.66	1.09	0.56	23.82		0.90	4.16
223	685739.48	602905.44	GRID	19.01	18.92	1.19	0.63	22.64		0.62	3.71
224	685761.05	602918.07	GRID	18.29	18.32	1.22		22.24		0.73	3.92
225	685748.42	602939.65	GRID	18.43	18.47	1.18		22.39		0.71	3.92
226	685726.85	602927.02	GRID	19.03	18.97	1.26	0.55	22.88		0.58	3.91
227	685705.27	602914.38	GRID	19.61	19.53	1.16	0.66	23.04		0.57	3.52
228	685683.70	602901.75	GRID	20.20	20.13	1.22	0.57	23.81		0.59	3.67
229	685662.12	602889.12	GRID	20.02	20.02	1.15	0.54	23.49		0.65	3.47
230	685640.55	602876.49	GRID	19.52	19.54	1.14	0.54	23.07		0.66	3.53
231	685618.97	602863.86	GRID	19.03	19.08	1.10	0.56	22.81		0.61	3.73
232	685597.40	602851.23	GRID	18.60	18.59	1.11	0.62	22.68		0.70	4.09
233	685575.83	602838.59	GRID	18.78	18.75	1.20	0.54	22.55		0.64	3.80
234	685554.25	602825.96	GRID	17.97	18.06	1.16		21.75		0.59	3.69
235	685541.62	602847.54	GRID	17.86	17.92	1.18		21.67		0.58	3.74
236	685563.19	602860.17	GRID	18.75	18.66	1.27	0.61	22.39		0.53	3.73
237	685584.77	602872.80	GRID	18.60	18.60	1.09	0.64	22.51		0.56	3.92
238	685606.34	602885.43	GRID	19.02	19.02	1.18	0.54	22.58		0.55	3.57
239	685627.92	602898.06	GRID	19.51	19.52	1.14	0.61	22.83		0.51	3.31
240	685649.49	602910.69	GRID	20.01	19.95	1.23	0.57	23.11		0.55	3.16
241	685671.07	602923.33	GRID	20.18	20.20	1.17	0.58	23.31		0.59	3.11
242	685692.64	602935.96	GRID	19.60	19.59	1.13	0.62	23.05		0.64	3.46
243	685714.21	602948.59	GRID	19.04	19.00	1.26	0.48	22.87		0.62	3.87
244	685735.79	602961.22	GRID	18.51	18.49	1.21		22.43		0.66	3.94
245	685723.16	602982.80	GRID	18.53	18.52	1.20		22.36		0.62	3.83
246	685701.58	602970.16	GRID	19.05	19.08	1.18	0.51	22.78		0.67	3.70
247	685680.01	602957.53	GRID	19.58	19.55	1.26	0.46	22.76		0.61	3.21

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
248	685658.43	602944.90	GRID	20.16	20.15	1.14	0.64	23.30		0.62	3.15
249	685636.86	602932.27	GRID	20.00	19.94	1.15	0.65	23.22		0.57	3.28
250	685615.29	602919.64	GRID	19.50	19.56	1.04	0.62	22.98		0.57	3.41
251	685593.71	602907.01	GRID	19.00	19.07	1.07	0.56	22.73		0.53	3.66
252	685572.14	602894.37	GRID	18.60	18.55	1.18	0.59	22.38		0.61	3.82
253	685550.56	602881.74	GRID	18.57	18.55	1.17	0.58	22.21		0.56	3.67
254	685528.99	602869.11	GRID	17.73	17.73	1.24		21.45		0.56	3.72
255	685516.36	602890.69	GRID	17.57	17.61	1.18		21.36		0.58	3.75
256	685537.93	602903.32	GRID	18.58	18.49	1.27	0.67	22.17		0.58	3.68
257	685559.51	602915.95	GRID	18.68	18.65	1.14	0.72	22.56		0.49	3.91
258	685581.08	602928.58	GRID	18.99	19.05	1.07	0.65	22.95		0.54	3.90
259	685602.65	602941.21	GRID	19.49	19.53	1.16	0.52	23.23		0.58	3.70
260	685624.23	602953.84	GRID	19.99	19.97	1.15	0.67	23.40		0.70	3.43
261	685645.80	602966.47	GRID	20.13	20.16	1.16	0.61	23.41		0.62	3.25
262	685667.38	602979.11	GRID	19.53	19.53	1.20	0.55	23.08		0.72	3.56
263	685688.95	602991.74	GRID	18.81	18.76	1.29	0.58	22.42		0.69	3.66
264	685710.53	603004.37	GRID	18.48	18.54	1.20		22.05		0.61	3.52
265	685697.89	603025.94	GRID	18.39	18.48	1.15		21.70		0.65	3.21
266	685676.32	603013.31	GRID	18.59	18.54	1.24		22.15		0.68	3.61
267	685654.75	603000.68	GRID	19.51	19.51	1.11	0.63	23.71		0.80	4.20
268	685633.17	602988.05	GRID	20.07	20.03	1.18	0.58	23.65		0.66	3.62
269	685611.60	602975.42	GRID	19.98	20.00	1.15	0.52	23.63		0.65	3.63
270	685590.02	602962.79	GRID	19.48	19.52	1.12	0.60	23.57		0.61	4.05
271	685568.45	602950.15	GRID	18.98	19.04	1.16	0.48	23.24		0.62	4.20
272	685546.87	602937.52	GRID	18.57	18.63	1.18	0.53	22.96		0.60	4.33
273	685525.30	602924.89	GRID	18.12	18.05	1.24	0.55	22.50		0.61	4.44
274	685503.73	602912.26	GRID	17.38	17.44	1.17		21.14		0.59	3.70
275	685491.09	602933.83	GRID	17.19	17.24	1.18		20.90		0.54	3.67
276	685512.67	602946.47	GRID	18.19	18.22	1.05	0.63	22.50		0.59	4.28
277	685577.39	602984.36	GRID	19.47	19.48	1.15	0.66	23.74		0.70	4.26
278	685598.97	602996.99	GRID	19.97	19.91	1.32	0.46	23.71		0.69	3.81
279	685620.54	603009.62	GRID	20.05	20.01	1.18	0.56	23.56		0.70	3.55
280	685642.11	603022.25	GRID	19.44	19.50	1.18	0.52	24.00		0.71	4.51
281	685663.69	603034.89	GRID	18.20	18.22	1.19		21.70		0.67	3.49
282	685685.26	603047.52	GRID	18.26	18.32	1.18		21.37		0.65	3.05
283	685672.63	603069.09	GRID	18.07	18.12	1.10		21.01		0.67	2.89
284	685651.06	603056.46	GRID	17.94	18.00	1.20		21.31		0.71	3.31
285	685629.48	603043.83	GRID	21.67	21.65	1.15	0.59	23.96		0.57	2.31
286	685607.91	603031.20	GRID	19.79	19.81	1.16	0.55	23.88		0.66	4.08
287	685586.33	603018.57	GRID	19.85	19.83	1.19	0.56	23.94		0.72	4.11
288	685564.76	603005.93	GRID	19.33	19.42	1.09	0.53	23.90		0.66	4.48
289	685543.19	602993.30	GRID	21.46	21.49	1.14	0.54	23.78		0.61	2.29
290	685521.61	602980.67	GRID	21.01	20.97	1.15	0.58	23.40		0.70	2.43
291	685478.46	602955.41	GRID	16.94	16.99	1.09		20.68		0.67	3.69
292	685500.04	602968.04	GRID	18.02	18.05	1.17	0.51	22.43		0.65	4.38
293	685465.83	602976.98	GRID	16.69	16.75	1.09		20.41		0.65	3.66
294	685487.41	602989.61	GRID	17.82	17.88	1.14	0.53	22.22		0.78	4.33
295	685508.98	603002.25	GRID	20.83	20.90	1.04	0.59	23.15		0.62	2.25
296	685552.13	603027.51	GRID	18.92	18.95	1.13	0.58	23.44		0.71	4.49
297	685573.70	603040.14	GRID	18.91	18.96	1.08	0.58	23.47		0.64	4.50
298	685595.28	603052.77	GRID	21.38	21.34	1.21	0.54	23.71		0.62	2.37
299	685616.85	603065.40	GRID	21.23	21.26	1.10	0.56	23.65		0.73	2.39
300	685638.42	603078.03	GRID	17.74	17.70	1.28		21.13		0.62	3.43
301	685660.00	603090.67	GRID	17.82	17.89	1.10		20.67		0.62	2.78
302	685647.37	603112.24	GRID	17.52	17.44	1.30		20.57		0.70	3.13
303	685625.79	603099.61	GRID	17.29	17.27	1.14		20.86		0.60	3.59
304	685604.22	603086.98	GRID	17.92	17.88	1.18	0.61	22.29		0.53	4.42
305	685582.64	603074.35	GRID	20.50	20.54	1.09	0.57	22.88		0.68	2.34
306	685561.07	603061.71	GRID	18.31	18.36	1.10	0.83	22.76		0.60	4.40
307	685539.50	603049.08	GRID	18.46	18.49	1.22	0.72	22.81		0.71	4.33
308	685517.92	603036.45	GRID	18.40	18.48	1.06	0.83	23.26		0.72	4.77
309	685496.35	603023.82	GRID	20.47	20.49	1.09	0.59	22.74		0.57	2.25
310	685474.77	603011.19	GRID	17.50	17.54	1.12	0.54	21.76		0.60	4.22

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
311	685453.20	602998.56	GRID	16.44	16.51	1.05		20.17		0.67	3.66
312	685440.57	603020.13	GRID	16.19	16.28	1.12		19.91		0.62	3.63
313	685462.14	603032.76	GRID	16.99	17.04	1.02	0.68	21.69		0.69	4.65
314	685483.72	603045.39	GRID	19.75	19.79	1.17	0.48	22.02		0.58	2.23
315	685526.87	603070.66	GRID	19.88	19.90	1.08	0.61	22.23		0.65	2.33
316	685548.44	603083.29	GRID	19.69	19.78	0.99	0.64	21.96		0.56	2.18
317	685570.01	603095.92	GRID	19.49	19.54	1.14	0.50	21.91		0.72	2.36
318	685591.59	603108.55	GRID	17.02	17.04	1.08	0.66	21.59		0.55	4.55
319	685613.16	603121.18	GRID	16.87	16.87	1.16		20.18		0.66	3.30
320	685634.74	603133.81	GRID	17.16	17.10	1.27		19.80		0.59	2.70
321	685622.10	603155.39	GRID	16.90	16.93	1.10		19.32		0.58	2.39
322	685600.53	603142.76	GRID	16.40	16.47	1.19		19.83		0.65	3.36
323	685578.96	603130.13	GRID	18.86	18.83	1.23	0.53	21.21		0.63	2.39
324	685557.38	603117.49	GRID	18.63	18.71	1.11	0.52	21.10		0.76	2.39
325	685535.81	603104.86	GRID	18.73	18.80	1.08	0.55	21.08		0.64	2.27
326	685514.23	603092.23	GRID	18.91	18.91	1.14	0.55	21.21		0.61	2.31
327	685492.66	603079.60	GRID	16.60	16.67	1.06	0.92	21.35		0.65	4.68
328	685449.51	603054.34	GRID	19.10	19.10	1.12	0.58	21.41		0.60	2.31
329	685427.94	603041.70	GRID	15.94	16.04	1.10		19.65		0.57	3.62
330	685415.31	603063.28	GRID	15.66	15.72	1.14		19.41		0.59	3.70
331	685436.88	603075.91	GRID	15.90	15.85	1.17	0.62	20.35		0.65	4.50
332	685458.45	603088.54	GRID	15.67	15.68	1.16	0.55	20.28		0.65	4.60
333	685480.03	603101.17	GRID	15.16	15.20	1.11	0.77	20.14		0.65	4.94
334	685501.60	603113.80	GRID	15.10	15.19	1.06	0.57	20.00		0.69	4.81
335	685523.18	603126.44	GRID	14.95	15.03	1.12	0.53	19.78		0.68	4.75
336	685544.75	603139.07	GRID	15.14	15.18	1.13	0.51	19.47		0.57	4.29
337	685566.32	603151.70	GRID	15.78	15.87	1.08	0.54	19.38		0.74	3.51
338	685587.90	603164.33	GRID	15.43	15.46	1.20		19.03		0.57	3.56
339	685609.47	603176.96	GRID	16.50	16.59	1.12		18.78		0.61	2.19
340	685575.27	603185.91	GRID	11.80	11.78	1.21		18.59		0.68	6.81
341	685553.69	603173.27	GRID	10.42	10.51	1.05		18.71		0.63	8.20
342	685532.12	603160.64	GRID	10.09	10.04	1.26		18.52		0.54	8.48
343	685510.54	603148.01	GRID	9.91	9.94	1.19		18.02		0.54	8.08
344	685424.25	603097.48	GRID	15.09	15.16	1.16	0.71	19.17		0.52	4.01
345	685390.04	603106.43	GRID	9.11	9.08	1.20		17.78		0.62	8.70
346	685411.62	603119.06	GRID	9.24	9.17	1.30		17.72		0.60	8.55
347	685433.19	603131.69	GRID	9.37	9.32	1.26		17.70		0.51	8.38
348	685454.76	603144.32	GRID	9.49	9.45	1.28		17.79		0.59	8.34
349	685476.34	603156.95	GRID	9.62	9.59	1.28		17.87		0.55	8.29
350	685497.91	603169.58	GRID	13.21	13.26	1.15		17.94		0.57	4.68
351	685519.49	603182.22	GRID	13.84	13.87	1.20		18.13		0.64	4.26
352	685541.06	603194.85	GRID	14.19	14.20	1.17		18.37		0.56	4.17
353	685562.64	603207.48	GRID	14.90	14.90	1.12		18.16		0.61	3.26
354	685584.21	603220.11	GRID	15.51	15.46	1.16		18.14		0.51	2.68
355	685571.58	603241.69	GRID	14.54	14.49	1.21		17.48		0.62	2.99
356	685550.00	603229.05	GRID	14.29	14.32	1.08		17.75		0.63	3.43
357	685506.86	603203.79	GRID	17.07	17.10	1.16	0.54	19.42		0.63	2.33
358	685485.28	603191.16	GRID	14.88	14.82	1.24	0.62	18.75		0.49	3.92
359	685442.13	603165.90	GRID	14.41	14.50	1.10	0.58	18.22		0.75	3.72
360	685377.41	603128.00	GRID	9.11	9.04	1.27		17.75		0.56	8.71
361	685364.78	603149.58	GRID	14.69	14.63	1.25		18.19		0.73	3.56
362	685386.35	603162.21	GRID	15.08	15.09	1.17	0.55	19.17		0.77	4.07
363	685407.93	603174.84	GRID	14.79	14.82	1.15	0.55	19.03		0.64	4.21
364	685429.50	603187.47	GRID	14.89	14.90	1.13	0.57	18.89		0.67	3.98
365	685451.08	603200.10	GRID	14.75	14.77	1.07	0.63	18.85		0.69	4.08
366	685494.22	603225.36	GRID	17.09	17.11	1.15	0.53	19.31		0.52	2.20
367	685515.80	603238.00	GRID	14.00	14.03	1.21		18.43		0.99	4.40
368	685537.37	603250.63	GRID	13.80	13.75	1.13		17.51		0.66	3.76
369	685524.74	603272.20	GRID	13.13	13.21	1.10		16.32		0.62	3.10
370	685503.17	603259.57	GRID	13.26	13.29	1.20		16.69		0.54	3.41
371	685481.59	603246.94	GRID	14.00	14.07	1.10	0.54	18.04		0.49	3.97
372	685460.02	603234.31	GRID	14.22	14.25	1.13	0.57	18.97		0.65	4.71
373	685438.44	603221.68	GRID	16.96	16.94	1.11	0.63	19.23		0.56	2.30

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
374	685416.87	603209.04	GRID	17.23	17.16	1.16	0.60	19.58		0.66	2.42
375	685395.30	603196.41	GRID	17.44	17.36	1.17	0.62	19.67		0.52	2.31
376	685373.72	603183.78	GRID	17.69	17.60	1.19	0.61	19.94		0.53	2.33
377	685352.15	603171.15	GRID	14.44	14.39	1.30		17.86		0.62	3.47
378	685339.52	603192.72	GRID	14.19	14.22	1.20		17.58		0.63	3.36
379	685361.09	603205.36	GRID	17.42	17.33	1.22	0.57	19.70		0.57	2.36
380	685382.66	603217.99	GRID	17.12	17.06	1.21	0.57	19.46		0.62	2.40
381	685404.24	603230.62	GRID	16.85	16.77	1.23	0.54	19.11		0.58	2.34
382	685425.81	603243.25	GRID	16.59	16.52	1.21	0.55	18.85		0.58	2.33
383	685447.39	603255.88	GRID	13.76	13.72	1.28	0.48	17.80		0.70	4.08
384	685468.96	603268.51	GRID	13.36	13.40	1.11	0.59	16.81		0.62	3.41
385	685490.54	603281.14	GRID	12.45	12.36	1.23		15.82		0.53	3.46
386	685512.11	603293.78	GRID	12.49	12.58	1.07		15.66		0.65	3.07
387	685477.90	603302.72	GRID	7.40	7.37	1.23		14.99		0.54	7.62
388	685456.33	603290.09	GRID	12.77	12.68	1.32	0.46	16.15		0.55	3.46
389	685434.76	603277.46	GRID	13.24	13.20	1.17	0.58	17.27		0.55	4.07
390	685413.18	603264.82	GRID	16.13	16.05	1.24	0.58	18.35		0.47	2.29
391	685391.61	603252.19	GRID	16.40	16.31	1.27	0.54	18.62		0.50	2.31
392	685326.88	603214.30	GRID	13.94	13.90	1.19		17.30		0.62	3.40
393	685314.25	603235.87	GRID	13.69	13.71	1.24		17.06		0.61	3.36
394	685335.83	603248.50	GRID	14.18	14.11	1.23	0.57	18.41		0.63	4.30
395	685357.40	603261.14	GRID	13.68	13.60	1.26	0.51	18.45		0.71	4.86
396	685378.98	603273.77	GRID	13.32	13.25	1.28	0.50	18.05		0.65	4.80
397	685400.55	603286.40	GRID	12.97	12.94	1.21	0.53	17.47		0.50	4.53
398	685422.12	603299.03	GRID	12.59	12.50	1.29	0.51	16.80		0.61	4.30
399	685443.70	603311.66	GRID	12.10	12.12	1.22	0.49	15.51		0.53	3.39
400	685465.27	603324.29	GRID	11.00	10.96	1.20		14.66		0.59	3.69
401	685486.85	603336.92	GRID	11.45	11.40	1.24		14.24		0.65	2.84
402	685474.21	603358.50	GRID	10.92	10.83	1.20		13.33		0.61	2.50
403	685452.64	603345.87	GRID	10.40	10.37	1.12		13.85		0.59	3.48
404	685431.07	603333.24	GRID	11.39	11.37	1.29	0.46	14.72		0.54	3.35
405	685409.49	603320.60	GRID	11.85	11.87	1.17	0.55	16.33		0.56	4.46
406	685387.92	603307.97	GRID	12.26	12.26	1.18	0.56	16.82		0.56	4.56
407	685366.34	603295.34	GRID	15.15	15.09	1.32	0.46	17.37		0.50	2.28
408	685344.77	603282.71	GRID	15.58	15.48	1.29	0.50	17.82		0.55	2.33
409	685323.20	603270.08	GRID	16.36	16.28	1.30	0.50	18.60		0.53	2.33
410	685301.62	603257.45	GRID	13.44	13.46	1.19		16.84		0.63	3.38
411	685288.99	603279.02	GRID	13.27	13.22	1.29		16.60		0.56	3.38
412	685310.56	603291.65	GRID	15.99	15.93	1.20	0.55	18.33		0.64	2.40
413	685332.14	603304.28	GRID	15.20	15.15	1.22	0.53	17.49		0.59	2.34
414	685353.71	603316.92	GRID	14.55	14.59	1.14	0.52	16.77		0.52	2.18
415	685375.29	603329.55	GRID	11.61	11.55	1.26	0.54	16.21		0.56	4.65
416	685440.01	603367.44	GRID	9.82	9.82	1.15		13.22		0.65	3.40
417	685461.58	603380.07	GRID	10.40	10.43	1.05		12.66		0.54	2.23
418	685427.38	603389.02	GRID	9.30	9.32	1.13		12.50		0.60	3.18
419	685405.80	603376.38	GRID	9.77	9.72	1.25		13.12		0.65	3.40
420	685384.23	603363.75	GRID	13.05	13.03	1.16	0.56	15.28		0.52	2.25
421	685362.66	603351.12	GRID	13.51	13.43	1.25	0.54	15.74		0.53	2.31
422	685341.08	603338.49	GRID	14.17	14.08	1.26	0.53	16.38		0.52	2.31
423	685319.51	603325.86	GRID	14.83	14.73	1.26	0.54	17.05		0.52	2.32
424	685297.93	603313.23	GRID	15.63	15.59	1.20	0.54	17.98		0.65	2.39
425	685276.36	603300.59	GRID	13.18	13.15	1.23		16.56		0.58	3.40
426	685254.78	603287.96	GRID	13.17	13.11	1.13		15.45		0.62	2.34
427	685242.15	603309.54	GRID	12.84	12.83	1.14		15.38		0.55	2.55
428	685263.73	603322.17	GRID	13.03	13.02	1.24		16.51		0.63	3.49
429	685285.30	603334.80	GRID	15.10	15.09	1.17	0.54	17.41		0.61	2.32
430	685306.88	603347.43	GRID	14.45	14.38	1.22	0.56	16.68		0.53	2.30
431	685328.45	603360.06	GRID	13.79	13.70	1.28	0.52	16.02		0.51	2.31
432	685350.02	603372.69	GRID	13.13	13.06	1.15	0.62	15.39		0.56	2.33
433	685371.60	603385.33	GRID	12.48	12.43	1.26	0.48	14.73		0.55	2.29
434	685393.17	603397.96	GRID	8.98	8.94	1.28		12.48		0.70	3.54
435	685414.75	603410.59	GRID	8.79	8.79	1.10		11.82		0.61	3.03
436	685402.11	603432.16	GRID	8.32	8.31	1.26		11.18		0.52	2.87

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
437	685380.54	603419.53	GRID	8.23	8.28	1.08		11.77		0.55	3.49
438	685358.97	603406.90	GRID	12.00	11.93	1.19	0.58	14.20		0.50	2.28
439	685337.39	603394.27	GRID	12.75	12.68	1.23	0.55	14.99		0.53	2.31
440	685294.24	603369.01	GRID	14.07	13.99	1.25	0.53	16.29		0.52	2.30
441	685272.67	603356.37	GRID	14.73	14.71	1.13	0.60	16.96		0.52	2.25
442	685251.10	603343.74	GRID	12.92	12.90	1.16	0.64	16.53		0.54	3.62
443	685229.52	603331.11	GRID	12.50	12.46	1.18		15.39		0.63	2.92
444	685216.89	603352.69	GRID	12.12	12.06	1.16		15.31		0.62	3.26
445	685260.04	603377.95	GRID	14.33	14.32	1.17	0.54	16.57		0.54	2.25
446	685281.61	603390.58	GRID	10.97	10.91	1.27	0.52	15.81		0.62	4.90
447	685303.19	603403.21	GRID	10.51	10.57	1.14	0.57	15.15		0.60	4.58
448	685324.76	603415.84	GRID	12.35	12.26	1.23	0.57	14.59		0.53	2.33
449	685346.33	603428.47	GRID	11.39	11.33	1.20	0.59	13.65		0.53	2.32
450	685367.91	603441.11	GRID	7.52	7.57	1.15		11.21		0.59	3.63
451	685389.48	603453.74	GRID	7.90	7.82	1.24		10.57		0.52	2.74
452	685376.85	603475.31	GRID	5.95	6.03	1.12		10.16		0.54	4.13
453	685355.28	603462.68	GRID	6.11	6.20	1.16		10.70		0.56	4.50
454	685333.70	603450.05	GRID	8.34	8.36	1.22	0.64	12.61		0.62	4.25
455	685312.13	603437.42	GRID	9.03	9.03	1.26	0.49	13.13		0.51	4.10
456	685290.55	603424.79	GRID	9.41	9.37	1.26	0.50	13.26		0.59	3.89
457	685268.98	603412.15	GRID	9.87	9.93	1.17	0.49	13.64		0.52	3.71
458	685247.41	603399.52	GRID	10.52	10.47	1.22	0.52	14.39		0.61	3.91
459	685225.83	603386.89	GRID	11.16	11.17	1.21	0.48	15.22		0.50	4.05
460	685204.26	603374.26	GRID	11.35	11.40	1.14		15.12		0.58	3.72
461	685170.05	603383.20	GRID	11.44	11.42	1.19		14.74		0.63	3.31
462	685191.63	603395.83	GRID	10.53	10.46	1.26		14.04		0.57	3.58
463	685213.20	603408.47	GRID	9.67	9.60	1.28		13.73		0.60	4.13
464	685234.78	603421.10	GRID	8.87	8.86	1.25		12.86		0.60	4.00
465	685256.35	603433.73	GRID	8.24	8.15	1.32		12.01		0.60	3.86
466	685277.92	603446.36	GRID	7.61	7.53	1.30		11.17		0.61	3.64
467	685299.50	603458.99	GRID	6.94	6.92	1.28		10.32		0.60	3.40
468	685321.07	603471.62	GRID	6.73	6.66	1.26		10.49		0.62	3.83
469	685342.65	603484.25	GRID	6.20	6.18	1.20		10.26		0.63	4.07
470	685364.22	603496.89	GRID	7.22	7.13	1.34		9.65		0.60	2.51
471	685330.01	603505.83	GRID	6.71	6.64	1.25		10.05		0.62	3.40
472	685308.44	603493.20	GRID	6.75	6.68	1.21		10.21		0.60	3.52
473	685286.87	603480.57	GRID	6.67	6.63	1.26		10.41		0.57	3.77
474	685265.29	603467.93	GRID	7.10	7.04	1.21		11.31		0.59	4.27
475	685243.72	603455.30	GRID	7.93	7.85	1.24		12.11		0.58	4.26
476	685222.14	603442.67	GRID	8.76	8.69	1.23		13.00		0.61	4.31
477	685200.57	603430.04	GRID	9.58	9.54	1.25		13.82		0.57	4.28
478	685179.00	603417.41	GRID	10.40	10.49	1.00		14.03		0.58	3.54
479	685157.42	603404.78	GRID	11.22	11.29	1.18		14.34		0.53	3.05
480	685144.79	603426.35	GRID	11.28	11.21	1.26		14.05		0.55	2.84
481	685166.36	603438.98	GRID	11.12	11.19	1.16		14.85		0.54	3.66
482	685187.94	603451.61	GRID	10.24	10.16	1.32	0.50	14.12		0.57	3.96
483	685209.51	603464.25	GRID	9.59	9.51	1.24	0.58	13.20		0.59	3.69
484	685231.09	603476.88	GRID	8.45	8.51	1.19		12.25		0.59	3.74
485	685252.66	603489.51	GRID	7.43	7.39	1.30		11.38		0.58	4.00
486	685274.23	603502.14	GRID	6.66	6.58	1.24		10.54		0.57	3.96
487	685295.81	603514.77	GRID	6.62	6.55	1.31		10.22		0.59	3.67
488	685317.38	603527.40	GRID	6.76	6.73	1.26		10.04		0.61	3.31
489	685304.75	603548.98	GRID	6.57	6.49	1.19		10.00		0.58	3.51
490	685283.18	603536.35	GRID	6.38	6.33	1.26	0.52	10.17		0.58	3.84
491	685261.60	603523.71	GRID	7.89	7.84	1.26	0.52	11.20		0.55	3.36
492	685240.03	603511.08	GRID	8.48	8.49	1.14	0.58	12.59		0.59	4.10
493	685218.45	603498.45	GRID	11.61	11.53	1.34	0.50	14.00		0.69	2.48
494	685196.88	603485.82	GRID	12.06	12.10	1.22	0.45	14.64		0.87	2.54
495	685175.31	603473.19	GRID	10.51	10.48	1.26	0.49	14.84		0.57	4.35
496	685153.81	603460.42	GRID	11.70	11.63	1.15	0.60	15.39		0.56	3.76
497	685132.16	603447.92	GRID	10.93	10.87	1.25		14.16		0.60	3.29
498	685119.53	603469.50	GRID	10.60	10.53	1.26		14.17		0.54	3.64
499	685141.10	603482.13	GRID	11.02	10.97	1.28	0.61	15.29		0.61	4.32

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
500	685162.67	603494.76	GRID	13.25	13.25	1.20	0.52	15.51		0.55	2.27
501	685184.25	603507.39	GRID	12.67	12.59	1.23	0.52	14.91		0.56	2.32
502	685205.82	603520.03	GRID	12.19	12.12	1.18	0.61	14.41		0.51	2.30
503	685248.97	603545.29	GRID	7.38	7.33	1.15	0.62	11.50		0.60	4.17
504	685270.55	603557.92	GRID	6.00	5.92	1.20		10.00		0.56	4.07
505	685292.12	603570.55	GRID	6.56	6.48	1.18		9.98		0.56	3.50
506	685279.49	603592.13	GRID	5.80	5.77	1.12		9.99		0.54	4.22
507	685257.91	603579.49	GRID	5.22	5.16	1.19		10.04		0.62	4.88
508	685236.34	603566.86	GRID	6.77	6.73	1.21	0.55	10.70		0.55	3.97
509	685193.19	603541.60	GRID	12.09	12.02	1.21	0.55	14.33		0.55	2.31
510	685171.62	603528.97	GRID	12.56	12.49	1.20	0.56	14.79		0.53	2.30
511	685150.04	603516.34	GRID	13.22	13.15	1.20	0.57	15.43		0.52	2.29
512	685128.47	603503.70	GRID	13.69	13.61	1.21	0.58	15.91		0.51	2.30
513	685106.89	603491.07	GRID	10.45	10.38	1.30		14.19		0.56	3.81
514	685072.69	603500.02	GRID	10.37	10.29	1.29		13.95		0.51	3.66
515	685094.26	603512.65	GRID	10.49	10.44	1.23		14.21		0.55	3.78
516	685115.84	603525.28	GRID	13.34	13.25	1.24	0.55	15.56		0.53	2.32
517	685137.41	603537.91	GRID	12.86	12.79	1.20	0.60	15.13		0.54	2.34
518	685158.99	603550.54	GRID	12.44	12.36	1.24	0.55	14.66		0.51	2.30
519	685180.56	603563.17	GRID	11.47	11.39	1.20	0.59	13.86		0.68	2.47
520	685202.13	603575.80	GRID	7.85	7.77	1.18	0.61	12.28		0.53	4.51
521	685223.71	603588.44	GRID	5.90	5.86	1.24	0.71	9.74		0.57	3.89
522	685245.28	603601.07	GRID	5.05	4.98	1.16		9.86		0.53	4.88
523	685266.86	603613.70	GRID	6.24	6.18	1.16		9.99		0.55	3.81
524	685232.65	603622.64	GRID	5.04	4.97	1.16		9.93		0.60	4.97
525	685211.08	603610.01	GRID	5.49	5.42	1.15	0.66	9.89		0.59	4.46
526	685189.50	603597.38	GRID	7.44	7.42	1.14	0.56	11.66		0.60	4.24
527	685167.93	603584.75	GRID	8.65	8.55	1.33	0.71	13.41		0.60	4.86
528	685124.78	603559.48	GRID	12.62	12.54	1.21	0.56	14.88		0.57	2.34
529	685103.21	603546.85	GRID	12.96	12.87	1.19	0.60	15.28		0.62	2.41
530	685081.63	603534.22	GRID	10.49	10.39	1.27		14.29		0.63	3.90
531	685060.06	603521.59	GRID	10.02	9.94	1.16		13.16		0.58	3.22
532	685047.43	603543.16	GRID	9.71	9.63	1.22		13.26		0.59	3.64
533	685090.57	603568.43	GRID	10.17	10.88	1.18	0.80	14.90		0.59	4.02
534	685112.15	603581.06	GRID	12.15	12.07	1.19	0.60	14.38		0.52	2.31
535	685133.72	603593.69	GRID	11.84	11.74	1.21	0.57	14.12		0.59	2.38
536	685176.87	603618.95	GRID	7.02	7.11	1.05	0.56	10.80		0.58	3.69
537	685198.45	603631.58	GRID	5.13	5.07	1.15	0.69	9.95		0.61	4.88
538	685220.02	603644.22	GRID	5.06	4.98	1.28		10.03		0.53	5.04
539	685207.39	603665.79	GRID	5.13	5.05	1.19		10.27		0.58	5.22
540	685185.81	603653.16	GRID	4.86	4.83	1.23	0.55	9.94		0.57	5.12
541	685164.24	603640.53	GRID	6.44	6.37	1.18	0.61	10.16		0.61	3.80
542	685121.09	603615.26	GRID	11.45	11.38	1.16	0.61	13.72		0.57	2.34
543	685099.52	603602.63	GRID	11.36	11.29	1.28	0.49	13.62		0.56	2.32
544	685077.94	603590.00	GRID	11.95	11.87	1.22	0.56	14.17		0.52	2.30
545	685056.37	603577.37	GRID	12.70	12.62	1.24	0.53	14.90		0.51	2.28
546	685034.79	603564.74	GRID	9.43	9.36	1.18		13.36		0.54	4.00
547	685022.16	603586.31	GRID	9.24	9.26	1.09		13.10		0.54	3.84
548	685043.74	603598.94	GRID	9.32	9.23	1.17	0.64	13.35		0.60	4.13
549	685065.31	603611.58	GRID	8.45	8.43	1.11	0.59	12.43		0.61	4.00
550	685086.89	603624.21	GRID	8.04	8.01	1.13	0.62	11.72		0.64	3.71
551	685108.46	603636.84	GRID	7.31	7.25	1.15	0.69	11.36		0.60	4.11
552	685130.03	603649.47	GRID	6.70	6.63	1.23	0.69	10.52		0.55	3.89
553	685151.61	603662.10	GRID	6.04	5.96	1.19	0.65	9.61		0.54	3.66
554	685173.18	603674.73	GRID	4.86	4.82	1.26		9.89		0.62	5.07
555	685194.76	603687.36	GRID	4.69	4.77	1.17		10.54		0.51	5.77
556	685182.12	603708.94	GRID	5.90	5.96	1.04		10.59		0.55	4.63
557	685160.55	603696.31	GRID	4.82	4.84	1.18		10.11		0.59	5.27
558	685138.98	603683.68	GRID	4.85	4.82	1.18		9.79		0.52	4.96
559	685117.40	603671.04	GRID	5.40	5.31	1.28		10.00		0.53	4.69
560	685095.83	603658.41	GRID	5.97	5.89	1.17		10.51		0.58	4.62
561	685074.25	603645.78	GRID	6.54	6.48	1.15		10.80		0.55	4.33
562	685052.68	603633.15	GRID	6.98	7.07	1.15		11.30		0.56	4.23

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
563	685031.11	603620.52	GRID	7.81	7.72	1.18		11.85		0.56	4.13
564	685009.53	603607.89	GRID	8.48	8.41	1.31		12.47		0.60	4.06
565	684987.96	603595.26	GRID	8.91	8.93	1.21		13.55		0.56	4.62
566	684975.33	603616.83	GRID	8.32	8.23	1.26		13.10		0.51	4.86
567	684996.90	603629.46	GRID	7.82	7.82	1.08		11.94		0.56	4.12
568	685018.47	603642.09	GRID	7.36	7.29	1.22		11.76		0.62	4.47
569	685040.05	603654.72	GRID	6.85	6.87	1.10		11.25		0.59	4.38
570	685061.62	603667.36	GRID	6.36	6.29	1.18		10.99		0.59	4.70
571	685083.20	603679.99	GRID	5.86	5.81	1.13		10.74		0.55	4.93
572	685104.77	603692.62	GRID	5.45	5.38	1.20		10.25		0.49	4.88
573	685126.35	603705.25	GRID	4.99	4.90	1.20		10.19		0.54	5.29
574	685147.92	603717.88	GRID	4.79	4.75	1.16		10.14		0.52	5.39
576	685005.84	603663.67	GRID	7.30	7.22	1.18		11.60		0.84	4.37
577	684984.27	603651.03	GRID	7.85	7.77	1.18		11.66		0.71	3.89
578	684962.69	603638.40	GRID	8.32	8.31	1.26		12.50		0.80	4.19
1000	685974.79	602058.24	BNDY	11.80	11.80	1.13		14.01		0.70	2.22
1001	685996.44	602070.73	BNDY	11.10	11.05	1.14		14.64		0.94	3.58
1002	686018.09	602083.22	BNDY	10.56	10.58	1.10	0.61	14.35		0.59	3.77
1003	686034.27	602092.56	BNDY_DGA	10.61	10.57	1.29		17.04	2.60		6.47
1004	686042.93	602090.28	BNDY_DGA	10.62	10.58	1.26		17.24	1.39		6.67
1005	686053.71	602087.45	BNDY_DGA	10.57	10.58	1.14		17.25	0.93		6.67
1006	686070.10	602097.03	BNDY	10.84	10.88	1.05		17.32		0.68	6.44
1007	686075.12	602116.13	BNDY	10.67	10.65	1.18		17.35		0.75	6.69
1008	686083.05	602120.71	BNDY	10.85	10.86	1.10		17.41		0.59	6.55
1009	686107.56	602134.84	BNDY	7.89	7.93	1.22		17.52		0.47	9.59
1010	686096.69	602158.58	BNDY	8.00	7.99	1.14		17.46		0.45	9.48
1012	686086.24	602181.43	BNDY_DGA	8.11	8.10	1.24		17.83	0.54		9.73
1013	686075.78	602204.28	BNDY	8.22	8.22	1.24		16.14		0.75	7.93
1014	686065.33	602227.13	BNDY	8.33	8.37	1.05		15.57		0.67	7.20
1015	686054.87	602249.98	BNDY	8.44	8.48	1.21		15.22		0.51	6.73
1016	686051.14	602258.14	BNDY	6.56	6.62	1.09		15.14		0.66	8.52
1017	686043.71	602274.37	BNDY	11.67	11.64	1.22		14.80		0.77	3.16
1018	686052.80	602278.53	BNDY	11.86	11.86	1.13		14.91		0.52	3.05
1019	686041.80	602300.26	BNDY	12.11	12.13	1.09		14.33		0.76	2.20
1020	686030.48	602322.60	BNDY	12.36	12.38	1.06		14.43		0.58	2.05
1021	686019.16	602344.95	BNDY	12.61	12.63	1.09		14.62		0.50	1.99
1022	686007.84	602367.29	BNDY	12.86	12.85	1.12		14.89		0.53	2.04
1023	685996.52	602389.63	BNDY	13.11	13.11	1.11		15.16		0.52	2.05
1024	685985.21	602411.98	BNDY	13.36	13.32	1.11		15.39		0.56	2.06
1025	685973.89	602434.32	BNDY	13.61	13.58	1.12		15.69		0.62	2.11
1026	685962.60	602456.68	BNDY	13.71	13.66	1.19		15.88		0.72	2.22
1027	685951.80	602479.33	BNDY	13.94	13.92	1.13		15.96		0.53	2.04
1028	685941.01	602501.98	BNDY	14.13	14.09	1.12		16.18		0.69	2.09
1029	685930.21	602524.63	BNDY	9.88	9.84	1.28		16.44		0.67	6.59
1030	685919.41	602547.28	BNDY	14.51	14.45	1.26		16.55		0.57	2.10
1031	685908.62	602569.92	BNDY	14.70	14.70	1.11		16.72		0.53	2.02
1032	685897.82	602592.57	BNDY	14.89	14.86	1.16		16.92		0.59	2.05
1033	685887.02	602615.22	BNDY	15.08	15.12	1.05		17.13		0.66	2.01
1034	685876.23	602637.87	BNDY	15.27	15.28	1.06		17.28		0.61	2.00
1035	685865.39	602660.49	BNDY	15.50	15.51	1.07		17.53		0.60	2.02
1036	685854.39	602683.02	BNDY	13.51	13.43	1.24		17.77		0.57	4.34
1037	685843.40	602705.56	BNDY	14.54	14.57	1.05		18.02		0.59	3.45
1038	685832.40	602728.09	BNDY	14.67	14.59	1.28		18.42		0.59	3.83
1039	685821.41	602750.62	BNDY	14.66	14.66	1.10		18.86		0.66	4.20
1040	685808.84	602776.37	BNDY	14.65	14.69	1.18		19.58		0.88	4.90
1041	685836.50	602789.20	BNDY	12.94	12.95	1.11		19.13		0.70	6.18
1042	685852.65	602796.69	BNDY	12.80	12.84	1.14		19.45		0.66	6.60
1043	685850.84	602802.07	BNDY	12.79	12.76	1.21		19.80		0.84	7.04
1044	685842.61	602820.98	BNDY	18.03	16.59	2.58		20.36		0.62	3.77
1045	685838.18	602831.15	BNDY	18.25	18.18	1.16		20.39		0.68	2.22
1046	685836.38	602830.34	BNDY	18.14	18.09	1.16		20.39		0.54	2.30
1047	685832.35	602839.53	BNDY	14.22	14.15	1.17		20.38		0.64	6.23
1048	685830.31	602838.50	BNDY	14.00	14.07	1.18		20.42		0.68	6.35

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
1049	685818.27	602864.66	BNDY	14.00	14.06	1.04		20.35		0.51	6.29
1050	685807.77	602887.48	BNDY	14.00	14.00	1.14		20.51		0.61	6.51
1051	685797.27	602910.31	BNDY	14.00	13.91	1.23		20.72		0.65	6.80
1052	685786.76	602933.13	BNDY	12.00	12.04	1.15		20.91		0.50	8.87
1053	685776.25	602955.94	BNDY	12.00	11.99	1.24		21.05		0.56	9.06
1054	685765.76	602978.77	BNDY	12.00	12.06	1.19		21.12		0.56	9.06
1055	685755.26	603001.59	BNDY	11.84	11.43	1.53		21.22		0.62	9.79
1056	685744.76	603024.41	BNDY	11.50	11.48	1.14		21.13		0.71	9.64
1057	685734.25	603047.23	BNDY	11.50	11.46	1.23		20.88		0.65	9.41
1058	685723.69	603070.02	BNDY	11.50	11.56	1.14		20.68		0.57	9.12
1059	685713.13	603092.80	BNDY	11.50	11.52	1.23		20.35		0.59	8.84
1060	685704.90	603110.56	BNDY	11.50	11.47	1.16		20.14		0.60	8.67
1061	685679.62	603098.84	BNDY	11.50	11.56	1.17		20.38		0.69	8.83
1062	685667.86	603124.24	BNDY	11.50	11.42	1.18		20.39		0.63	8.97
1063	685658.74	603143.90	BNDY	12.00	12.06	1.18		19.64		0.54	7.57
1064	685651.29	603140.51	BNDY	12.69	12.70	1.19		19.73		0.69	7.03
1065	685634.84	603162.84	BNDY	13.26	13.33	1.17		19.16		0.64	5.83
1066	685619.86	603183.04	BNDY	13.75	13.82	1.08		18.52		0.62	4.69
1067	685604.77	603203.18	BNDY	14.35	14.32	1.22		18.51		0.60	4.19
1068	685589.69	603223.32	BNDY	15.61	15.64	1.06		18.16		0.56	2.52
1069	685574.11	603243.17	BNDY	14.59	14.64	1.08		17.45		0.50	2.80
1070	685558.86	603263.21	BNDY	14.78	13.85	2.04		17.81		0.58	3.96
1071	685549.17	603276.30	BNDY	14.27	14.01	1.48		16.80		0.62	2.78
1072	685536.47	603288.67	BNDY	13.32	13.30	1.17		15.84		0.65	2.54
1073	685533.78	603291.95	BNDY	13.22	13.17	1.18		15.73		0.61	2.55
1074	685528.21	603303.34	BNDY	12.92	12.85	1.22		15.45		0.59	2.60
1075	685512.73	603323.11	BNDY	9.77	9.76	1.21		14.76		0.56	5.00
1076	685497.08	603342.92	BNDY	11.91	11.87	1.15		14.13		0.71	2.26
1077	685481.35	603362.67	BNDY	11.11	11.19	1.16		13.18		0.57	1.99
1078	685465.52	603382.38	BNDY	10.50	10.43	1.17		12.52		0.50	2.09
1079	685449.61	603402.03	BNDY	9.90	9.93	1.07		11.93		0.53	2.00
1080	685433.60	603421.63	BNDY	9.20	9.26	1.09		11.34		0.55	2.08
1081	685417.51	603441.17	BNDY	8.74	8.82	1.12		10.79		0.54	1.97
1082	685401.32	603460.67	BNDY	8.22	8.28	1.04		10.25		0.53	1.97
1083	685385.04	603480.11	BNDY	5.89	5.97	1.17		9.76		0.54	3.78
1084	685368.67	603499.49	BNDY	7.32	7.25	1.31		9.40		0.62	2.15
1085	685352.21	603518.83	BNDY	7.00	6.94	1.25		9.97		0.57	3.04
1086	685335.68	603538.11	BNDY	6.99	6.96	1.13		9.94		0.55	2.98
1087	685319.13	603557.40	BNDY	7.00	6.94	1.30		9.95		0.58	3.01
1088	685302.59	603576.68	BNDY	6.99	7.04	1.06		9.99		0.58	2.95
1089	685286.05	603595.97	BNDY	6.96	6.92	1.13		9.97		0.60	3.06
1090	685269.51	603615.25	BNDY	6.96	6.93	1.12		10.06		0.67	3.14
1091	685252.96	603634.53	BNDY	6.96	6.93	1.16		10.06		0.59	3.13
1092	685236.42	603653.82	BNDY	6.96	6.95	1.14		10.08		0.61	3.13
1093	685219.88	603673.10	BNDY	6.96	7.00	1.16		10.48		0.60	3.49
1094	685203.33	603692.39	BNDY	4.81	4.74	1.33		10.87		0.61	6.13
1095	685186.79	603711.67	BNDY	7.00	6.92	1.16		10.73		0.61	3.81
1096	685170.25	603730.95	BNDY	7.00	6.97	1.29		10.58		0.61	3.61
1097	685161.74	603740.86	BNDY_SW	7.00	6.96	1.14		10.09	0.44		3.13
1098	685140.27	603730.95	BNDY_SW	7.00	6.97	1.11		10.28	0.43		3.31
1099	685117.46	603720.43	BNDY_SW	7.00	6.97	1.15		10.55	0.59		3.58
1100	685094.65	603709.90	BNDY_SW	7.00	6.99	1.14		10.83	0.69		3.84
1101	685071.85	603699.37	BNDY_SW	7.00	6.97	1.12		11.02	0.74		4.06
1102	685049.04	603688.85	BNDY_SW	7.00	6.95	1.14		11.23	1.11		4.27
1103	685026.23	603678.32	BNDY_SW	7.15	7.09	1.24		11.35	0.89		4.26
1104	685003.42	603667.80	BNDY_SW	7.30	7.24	1.25		11.41	0.71		4.17
1105	684980.62	603657.27	BNDY_SW	8.03	7.95	1.17		11.75	0.96		3.80
1106	684957.81	603646.75	BNDY_SW	8.50	8.48	1.14		11.85	0.50		3.38
1107	684944.97	603640.17	BNDY_SW	8.55	10.75	1.26		12.02	-0.40		1.92
1108	684968.60	603612.89	BNDY	8.50	8.50	3.49		13.68		0.52	5.18
1109	684985.25	603593.67	BNDY	8.86	8.93	3.01		13.81		0.51	4.88
1110	685001.90	603574.45	BNDY	9.63	9.66	2.31		13.76		0.51	4.10
1111	685018.55	603555.23	BNDY	9.76	9.72	2.21		13.91		0.51	4.20

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
1112	685035.20	603536.01	BNDY	9.94	9.97	1.92		14.10		0.54	4.13
1113	685051.85	603516.79	BNDY	10.18	10.27	1.68		14.17		0.52	3.91
1114	685068.50	603497.56	BNDY	10.43	10.52	1.35		14.58		0.52	4.07
1115	685085.15	603478.34	BNDY	10.68	10.66	1.20		14.95		0.50	4.29
1116	685101.80	603459.12	BNDY	10.94	10.93	1.10		14.92		0.53	3.99
1117	685118.45	603439.90	BNDY	11.19	11.22	1.09		14.91		0.54	3.69
1118	685135.10	603420.68	BNDY	11.45	11.41	1.20		14.98		0.57	3.57
1119	685151.75	603401.46	BNDY	11.41	11.41	1.18		14.97		0.58	3.56
1120	685168.40	603382.23	BNDY	11.46	11.46	1.12		14.83		0.53	3.37
1121	685185.05	603363.01	BNDY	11.50	11.46	1.16		14.78		0.77	3.32
1122	685201.70	603343.79	BNDY	12.44	12.35	1.18		14.96		0.56	2.61
1123	685218.35	603324.57	BNDY	12.72	12.71	1.14		15.08		0.51	2.37
1124	685235.00	603305.35	BNDY	12.97	13.02	1.05		15.00		0.56	1.98
1125	685251.65	603286.13	BNDY	13.23	13.26	1.07		15.27		0.59	2.01
1126	685264.65	603271.12	BNDY	13.44	13.45	1.09		15.45		0.53	1.99
1127	685280.05	603244.81	BNDY	13.71	13.78	1.02		15.73		0.46	1.95
1128	685292.68	603223.24	BNDY	13.96	14.02	1.07		15.98		0.52	1.96
1129	685305.31	603201.67	BNDY	14.21	14.25	1.17		16.22		0.50	1.97
1130	685317.94	603180.09	BNDY	14.47	14.50	1.21		16.54		0.53	2.04
1131	685330.57	603158.52	BNDY	14.57	14.63	1.19		16.82		0.53	2.19
1132	685343.21	603136.94	BNDY	14.30	14.35	1.04		16.98		0.51	2.62
1133	685355.84	603115.37	BNDY	8.98	9.01	2.92		17.04		0.58	8.03
1134	685368.47	603093.80	BNDY	8.98	8.94	2.98		17.14		0.71	8.20
1135	685381.10	603072.22	BNDY	8.98	9.05	2.88		17.74		0.53	8.69
1136	685391.11	603055.12	BNDY	8.98	9.65	2.24		17.94		0.49	8.29
1137	685406.36	603029.07	BNDY	13.38	13.41	1.09		18.27		0.60	4.86
1138	685418.99	603007.50	BNDY	13.33	13.39	1.08		18.49		0.52	5.10
1139	685431.63	602985.92	BNDY	13.28	13.33	1.18		18.74		0.57	5.41
1140	685444.26	602964.35	BNDY	13.32	13.38	1.10		19.02		0.61	5.64
1141	685456.89	602942.78	BNDY	13.38	13.37	1.27		19.23		0.54	5.86
1142	685469.52	602921.20	BNDY	13.43	13.49	1.17		19.53		0.60	6.03
1143	685482.15	602899.63	BNDY	13.49	13.50	1.16		19.72		0.60	6.22
1144	685494.78	602878.05	BNDY	13.47	13.50	1.18		19.93		0.54	6.43
1145	685507.41	602856.48	BNDY	13.46	13.48	1.07		20.09		0.63	6.61
1146	685520.05	602834.91	BNDY	13.46	13.48	1.18		20.20		0.55	6.71
1147	685532.68	602813.33	BNDY	13.54	13.55	1.17		20.36		0.59	6.80
1148	685545.31	602791.76	BNDY	13.81	13.77	1.16		20.40		0.61	6.63
1149	685557.94	602770.18	BNDY	13.83	13.83	1.25		20.53		0.56	6.70
1150	685570.57	602748.61	BNDY	13.75	13.74	1.26		20.66		0.74	6.92
1151	685583.20	602727.03	BNDY	13.66	13.65	1.23		20.54		0.65	6.90
1152	685595.84	602705.46	BNDY	13.58	13.64	1.19		20.62		0.78	6.98
1153	685608.47	602683.89	BNDY	13.44	13.47	1.20		20.47		0.71	7.00
1154	685621.10	602662.31	BNDY	13.14	13.20	1.13		20.45		0.67	7.25
1155	685633.73	602640.74	BNDY	12.80	12.88	1.15		20.33		0.74	7.46
1156	685646.36	602619.16	BNDY	12.55	12.60	1.15		20.22		0.75	7.62
1157	685658.99	602597.59	BNDY	12.31	12.25	1.26		20.01		0.75	7.75
1158	685671.62	602576.02	BNDY	12.18	12.21	1.18		19.80		0.81	7.60
1159	685684.26	602554.44	BNDY	12.08	12.09	1.25		19.52		0.68	7.43
1160	685696.89	602532.87	BNDY	12.13	12.11	1.15		19.32		0.62	7.21
1161	685709.52	602511.29	BNDY	12.23	12.24	1.12		19.09		0.72	6.86
1162	685722.15	602489.72	BNDY	12.45	12.42	1.26		18.78		0.66	6.35
1163	685734.78	602468.14	BNDY	12.73	12.71	1.14		18.53		0.64	5.82
1164	685747.41	602446.57	BNDY	12.85	12.82	1.15		18.28		0.65	5.47
1165	685760.05	602425.00	BNDY	12.99	13.05	1.02		18.02		0.57	4.97
1166	685772.68	602403.42	BNDY	13.23	13.26	1.22		17.82		0.60	4.55
1167	685785.31	602381.85	BNDY	13.53	13.47	1.17		17.58		0.69	4.12
1168	685797.94	602360.27	BNDY	13.74	13.72	1.24		17.32		0.71	3.60
1169	685810.57	602338.70	BNDY	13.90	13.90	1.13		17.05		0.65	3.15
1170	685823.20	602317.13	BNDY	13.91	13.89	1.26		16.85		0.73	2.97
1171	685833.24	602300.00	BNDY	8.48	8.46	1.27		16.60		0.66	8.14
1172	685837.79	602292.20	BNDY	13.90	13.95	1.15		16.53		0.58	2.58
1173	685848.45	602274.01	BNDY	14.27	14.25	1.23		16.52		0.73	2.27
1174	685861.10	602252.40	BNDY	14.02	14.01	1.10		16.04		0.52	2.03

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
1175	685873.73	602230.83	BNDY	13.77	13.76	1.13		15.81		0.57	2.05
1176	685886.36	602209.26	BNDY	13.48	13.52	1.08		15.56		0.64	2.04
1177	685899.00	602187.68	BNDY	13.28	13.25	1.19		15.35		0.61	2.10
1178	685911.63	602166.11	BNDY	13.00	12.99	1.16		15.04		0.53	2.05
1179	685924.26	602144.54	BNDY	12.75	12.76	1.12		14.76		0.52	2.00
1180	685936.89	602122.96	BNDY	12.50	12.52	1.13		14.52		0.50	2.00
1181	685949.52	602101.39	BNDY	12.26	12.34	1.11		14.38		0.65	2.03
1182	685962.15	602079.81	BNDY	12.13	12.15	1.08		14.14		0.52	1.98
1183	685396.47	603045.97	BNDY	13.03	13.01	1.15		18.03		0.60	5.02
1184	684951.95	603632.11	BNDY	8.50	8.42	3.58		13.38		0.52	4.96
2000	685963.46	602222.86	BRK	12.50	12.59	1.02	0.64	17.35		0.84	4.76
2001	685959.21	602224.98	BRK	15.00	14.92	1.31	0.49	17.36		0.64	2.44
2002	686044.61	602255.15	BRK	11.35	11.28	1.17		15.00		0.54	3.72
2003	685995.00	602272.86	BRK	12.51	12.56	1.08	0.66	16.51		0.69	3.95
2004	685991.78	602270.98	BRK	14.98	14.91	1.22	0.52	17.19		0.54	2.28
2005	685981.32	602293.82	BRK	15.27	15.24	1.25	0.48	17.49		0.52	2.25
2006	685984.59	602295.74	BRK	12.76	12.75	1.17	0.70	16.70		0.81	3.96
2007	685937.03	602325.83	BRK	15.91	15.88	1.18	0.51	18.27		0.69	2.38
2008	685933.35	602323.67	BRK	13.45	13.48	1.11	0.80	18.31		1.00	4.84
2009	685852.16	602416.10	BRK	17.66	17.60	1.14	0.61	20.02		0.66	2.42
2010	685936.65	602267.67	BRK	13.02	13.10	1.12	0.68	17.74		0.93	4.64
2011	685940.05	602269.66	BRK	15.49	15.45	1.15	0.58	17.75		0.57	2.30
2012	685849.90	602419.96	BRK	15.33	15.27	1.16	0.68	20.05		0.93	4.78
2013	685796.12	602561.30	BRK	18.52	18.50	1.19	0.50	20.83		0.64	2.33
2014	685794.18	602564.61	BRK	15.98	16.08	1.06	0.87	20.62		0.81	4.54
2015	685850.37	602564.79	BRK	18.26	18.19	1.27	0.48	20.47		0.57	2.28
2016	685853.96	602566.89	BRK	15.74	15.81	1.18	0.57	20.38		0.72	4.57
2017	685836.81	602585.82	BRK	18.40	18.35	1.29	0.46	20.64		0.55	2.29
2018	685840.09	602587.74	BRK	15.92	15.87	1.21	0.87	20.36		0.70	4.50
2019	685920.13	602349.50	BRK	16.22	16.25	1.20	0.46	18.61		0.71	2.37
2020	685922.56	602345.35	BRK	13.69	13.75	1.16	0.55	18.50		0.89	4.75
2021	685856.33	602313.51	BRK	8.60	8.60	1.25		17.85		0.65	9.25
2022	685851.29	602322.14	BRK	8.60	8.69	1.17		17.95		0.66	9.26
2023	685843.45	602327.59	BRK	14.35	14.32	1.27		17.83		0.59	3.50
2024	685860.64	602306.13	BRK	14.29	14.24	1.16		17.43		0.67	3.19
2025	685912.14	602513.81	BRK	9.97	9.92	1.29		17.65		0.73	7.73
2026	685914.02	602508.21	BRK	13.91	13.90	1.17		17.51		0.64	3.61
2027	685826.05	602460.69	BRK	15.80	15.75	1.28	0.76	20.63		0.87	4.88
2028	685824.03	602464.16	BRK	18.39	18.45	1.07	0.52	20.70		0.65	2.24
2029	685833.67	602645.46	BRK	13.55	13.60	1.12		18.09		0.57	4.48
2030	685815.80	602627.68	BRK	15.32	15.40	1.05		18.60		0.59	3.20
2031	685813.88	602630.17	BRK	13.75	13.84	1.03		18.16		0.64	4.33
2032	685705.01	602711.44	BRK	18.93	18.85	1.34	0.63	23.69		0.72	4.85
2033	685708.54	602713.51	BRK	21.49	21.43	1.21	0.54	23.71		0.53	2.28
2034	685697.16	602677.88	BRK	20.80	20.86	1.16	0.53	23.18		0.73	2.31
2035	685701.40	602680.36	BRK	18.36	18.31	1.27	0.69	23.22		0.68	4.91
2036	685711.77	602657.46	BRK	20.09	20.03	1.24	0.48	22.43		0.68	2.40
2037	685756.42	602678.84	BRK	17.22	17.19	1.22	0.88	22.05		0.77	4.86
2038	685753.99	602681.99	BRK	19.87	19.96	1.11	0.51	22.16		0.59	2.20
2039	685731.99	602720.32	BRK	17.52	17.48	1.29	0.62	23.88		0.73	6.39
2040	685728.85	602725.67	BRK	21.65	21.70	1.05	0.59	23.91		0.57	2.21
2041	685707.79	602655.13	BRK	17.63	17.71	1.19	0.68	22.38		0.62	4.68
2042	685764.85	602717.51	BRK	18.00	18.00	1.23	0.69	22.97		0.65	4.97
2043	685761.00	602715.25	BRK	20.74	20.69	1.14	0.58	23.04		0.62	2.35
2044	685822.01	602722.01	BRK	14.67	14.70	1.23	0.58	21.05		0.52	6.36
2045	685818.67	602720.05	BRK	17.24	17.25	1.10	0.60	21.20		0.59	3.95
2046	685829.80	602697.60	BRK	17.01	16.95	1.19	0.52	20.49		0.63	3.54
2047	685833.01	602699.48	BRK	14.54	14.53	1.17		20.39		0.73	5.86
2048	685746.78	602645.58	BRK	16.45	16.51	1.20	0.66	21.38		0.79	4.87
2049	685835.75	602641.45	BRK	15.78	15.83	1.16		18.86		0.58	3.04
2050	685783.49	602786.36	BRK	18.41	18.42	1.22	0.57	22.93		0.64	4.51
2051	685780.08	602784.37	BRK	21.01	20.96	1.25	0.48	23.23		0.54	2.27
2052	685805.33	602792.97	BRK	14.90	14.94	1.21		21.06		0.58	6.12

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
2053	685802.49	602795.13	BRK	17.00	17.00	1.18		21.20		0.55	4.21
2054	685827.17	602830.98	BRK	17.00	17.09	1.10		20.52		0.60	3.43
2055	685744.19	602649.99	BRK	19.16	19.17	1.08	0.60	21.56		0.71	2.39
2056	685800.49	602883.22	BRK	18.20	18.19	1.12		20.84		0.55	2.65
2057	685789.54	602905.78	BRK	18.45	18.41	1.14		21.05		0.53	2.65
2058	685822.88	602664.93	BRK	13.52	13.60	1.10		18.05		0.55	4.45
2059	685820.20	602668.39	BRK	15.71	15.70	1.19		19.00		0.72	3.31
2060	685800.10	602650.98	BRK	15.00	15.03	1.11		18.73		0.69	3.70
2061	685801.75	602648.60	BRK	13.74	13.73	1.11		18.24		0.73	4.51
2062	685776.28	602694.14	BRK	17.21	17.27	1.11	0.69	21.94		0.65	4.67
2063	685774.25	602697.61	BRK	19.87	19.79	1.17	0.58	22.10		0.56	2.31
2064	685811.43	602860.66	BRK	17.94	17.92	1.15		20.58		0.55	2.66
2065	685790.56	602471.83	BRK	19.18	19.11	1.26	0.47	21.43		0.59	2.32
2066	685787.33	602469.94	BRK	16.76	16.78	1.19	0.86	21.14		0.76	4.36
2067	685775.15	602491.78	BRK	16.78	16.81	1.20	0.67	21.30		0.85	4.49
2068	685778.43	602493.70	BRK	19.31	19.24	1.24	0.49	21.55		0.57	2.31
2069	685657.73	602799.64	BRK	19.07	19.02	1.29	0.63	23.81		0.65	4.79
2070	685654.59	602797.80	BRK	21.50	21.41	1.16	0.62	23.72		0.52	2.30
2071	685671.07	602778.48	BRK	19.12	19.17	1.20	0.67	23.85		0.66	4.68
2072	685667.93	602776.64	BRK	21.54	21.46	1.25	0.55	23.77		0.51	2.31
2073	685709.39	602857.87	BRK	20.11	20.18	1.16	0.72	24.96		0.64	4.78
2074	685711.30	602854.60	BRK	22.59	22.62	1.21	0.46	24.98		0.70	2.37
2075	685729.75	602872.58	BRK	19.68	19.68	1.20	0.62	24.61		0.57	4.92
2076	685731.81	602869.06	BRK	22.22	22.20	1.24	0.46	24.79		0.89	2.59
2077	685795.65	602764.51	BRK	18.03	17.99	1.24	0.48	22.38		0.54	4.39
2078	685800.03	602767.07	BRK	14.66	14.70	1.16	0.69	21.81		0.69	7.11
2079	685792.82	602762.85	BRK	18.08	18.07	1.25	0.52	22.66		0.62	4.59
2080	685789.43	602760.87	BRK	20.65	20.68	1.16	0.50	22.89		0.55	2.21
2081	685557.32	602969.16	BRK	18.98	19.01	1.22	0.75	23.66		0.68	4.65
2082	685555.43	602972.39	BRK	21.47	21.40	1.16	0.60	23.83		0.67	2.43
2083	685468.23	603121.32	BRK	13.59	13.65	1.17		18.70		0.70	5.05
2084	685465.10	603126.67	BRK	9.50	9.54	1.23		18.12		0.64	8.59
2085	685475.11	603069.32	BRK	16.56	16.64	1.15	0.76	21.28		0.62	4.64
2086	685471.46	603067.19	BRK	19.02	19.03	1.08	0.61	21.30		0.59	2.27
2087	685533.61	603016.66	BRK	18.93	19.00	1.19	0.74	23.64		0.72	4.65
2088	685530.40	603014.78	BRK	21.37	21.27	1.18	0.62	23.74		0.67	2.47
2089	685536.26	602955.65	BRK	18.58	18.61	1.19	0.84	23.25		0.68	4.64
2090	685534.28	602959.03	BRK	21.09	21.02	1.21	0.57	23.52		0.71	2.50
2091	685507.65	603059.40	BRK	20.05	19.97	1.19	0.60	22.39		0.62	2.41
2092	685504.39	603057.50	BRK	17.59	17.56	1.29	0.81	22.35		0.67	4.80
2093	685594.51	603202.52	BRK	16.10	16.14	1.07		18.54		0.55	2.40
2094	685596.79	603198.62	BRK	13.16	13.12	1.20		18.61		0.65	5.49
2095	685405.10	603081.78	BRK	15.51	15.52	1.14		19.24		0.65	3.72
2096	685395.56	603083.28	BRK	9.07	9.17	1.14		18.76		0.53	9.60
2097	685399.62	603139.55	BRK	9.23	9.31	1.13		17.85		0.58	8.54
2098	685395.05	603147.36	BRK	15.10	15.02	1.19	0.64	18.27		0.70	3.24
2099	685423.65	603147.98	BRK	9.36	9.42	1.13		17.85		0.56	8.43
2100	685441.55	603117.41	BRK	9.37	9.45	1.18		18.22		0.72	8.77
2101	685420.05	603154.14	BRK	14.02	14.06	1.10		18.05		0.60	3.99
2102	685444.98	603111.56	BRK	13.85	13.90	1.13		18.81		0.77	4.91
2103	685491.69	603130.73	BRK	13.60	13.69	1.14		18.65		0.58	4.96
2104	685488.65	603135.92	BRK	9.67	9.73	1.17		18.01		0.54	8.28
2105	685470.76	603211.63	BRK	14.81	14.88	1.06	0.95	19.20		0.64	4.33
2106	685468.49	603181.46	BRK	10.83	10.89	1.17	0.71	18.67		0.97	7.78
2107	685463.60	603179.43	BRK	14.36	14.39	1.15	0.67	18.47		0.84	4.08
2108	685616.58	603185.75	BRK	13.50	13.55	1.15		18.52		0.62	4.98
2109	685614.80	603180.19	BRK	16.50	16.58	1.08		18.66		0.58	2.07
2110	685473.49	603213.23	BRK	17.03	16.95	1.18	0.59	19.31		0.59	2.36
2111	685663.53	603121.70	BRK	12.50	12.57	1.17		20.53		0.63	7.96
2112	685647.93	603127.59	BRK	17.52	17.45	1.31		20.17		0.56	2.72
2113	685675.50	603099.74	BRK	12.76	12.84	1.09		20.43		0.55	7.59
2114	685660.09	603105.58	BRK	17.84	17.78	1.25		20.64		0.57	2.85
2115	685722.72	603040.48	BRK	13.00	12.98	1.12		21.30		0.69	8.33

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
2116	685712.78	603034.66	BRK	18.74	18.82	1.01		21.47		0.66	2.65
2117	685693.81	603081.49	BRK	13.00	13.04	1.07		20.64		0.63	7.60
2118	685684.52	603076.05	BRK	18.35	18.40	1.04		20.79		0.63	2.39
2119	685708.47	603061.11	BRK	13.00	13.08	1.11		20.93		0.60	7.85
2120	685698.80	603055.44	BRK	18.58	18.52	1.16		21.14		0.65	2.62
2121	685773.30	602954.21	BRK	13.00	13.04	1.16		21.26		0.55	8.22
2122	685763.36	602948.39	BRK	18.75	18.78	1.07		21.80		0.53	3.02
2123	685736.47	603019.56	BRK	13.00	13.08	1.06		21.52		0.79	8.43
2124	685726.38	603013.65	BRK	18.84	18.84	1.21		21.65		0.58	2.81
2125	685749.74	602998.36	BRK	13.00	13.08	1.04		21.42		0.63	8.34
2126	685739.58	602992.41	BRK	18.88	18.91	1.10		21.96		0.50	3.06
2127	685762.24	602976.71	BRK	13.00	13.03	1.14		21.38		0.68	8.35
2128	685752.10	602970.77	BRK	18.86	18.84	1.23		22.08		0.69	3.24
2129	685784.68	602932.96	BRK	13.00	13.07	1.09		21.06		0.64	7.99
2130	685776.69	602925.78	BRK	18.66	18.66	1.19		21.44		0.52	2.77
2131	685530.42	603217.59	BRK	14.69	14.71	1.22		18.23		0.62	3.52
2132	685527.38	603215.81	BRK	17.52	17.47	1.15	0.63	19.77		0.53	2.31
2133	685368.49	603242.19	BRK	14.15	14.21	1.19	0.55	18.91		0.70	4.69
2134	685370.51	603238.74	BRK	16.71	16.63	1.19	0.62	19.08		0.65	2.46
2135	685350.10	603224.13	BRK	17.00	16.93	1.28	0.51	19.27		0.55	2.34
2136	685348.20	603227.37	BRK	14.48	14.56	1.18	0.78	18.99		0.56	4.42
2137	685398.33	603339.67	BRK	11.28	11.38	1.05	0.84	15.97		0.58	4.60
2138	685396.24	603343.25	BRK	13.68	13.60	1.23	0.56	15.92		0.53	2.32
2139	685420.59	603353.66	BRK	10.74	10.81	1.17	0.63	13.92		0.73	3.11
2140	685415.13	603354.10	BRK	13.30	13.31	1.22	0.50	15.53		0.51	2.23
2141	685497.87	603316.26	BRK	7.28	7.33	1.20		14.80		0.64	7.46
2142	685502.33	603310.60	BRK	12.09	12.16	1.19		15.11		0.62	2.95
2143	685313.22	603384.52	BRK	10.87	10.92	1.21	0.77	15.61		0.60	4.69
2144	685315.87	603381.57	BRK	13.41	13.46	1.18	0.47	15.64		0.53	2.18
2145	685073.63	603554.95	BRK	13.10	13.03	1.16	0.61	15.32		0.52	2.28
2146	685066.32	603557.78	BRK	10.60	10.54	1.19	0.59	14.18		0.60	3.64
2147	685216.30	603555.13	BRK	8.12	8.15	1.08	0.88	12.63		0.61	4.49
2148	685212.78	603553.07	BRK	10.75	10.67	1.32	0.50	12.97		0.53	2.30
2149	685223.70	603530.49	BRK	10.97	10.95	1.17	0.56	13.28		0.61	2.34
2150	685227.20	603532.54	BRK	8.54	8.55	1.23	0.73	13.02		0.58	4.48
2151	685148.13	603569.83	BRK	12.29	12.20	1.22	0.57	14.53		0.54	2.33
2152	685146.90	603573.50	BRK	9.72	9.65	1.32	0.74	14.48		0.63	4.83
2153	685143.40	603571.74	BRK	12.28	12.20	1.23	0.55	14.49		0.51	2.29
2154	685155.60	603606.50	BRK	10.79	10.75	1.18	0.55	13.01		0.54	2.26
2155	685159.12	603608.56	BRK	8.10	8.15	1.06	0.79	12.68		0.58	4.53
2156	685143.43	603628.34	BRK	7.92	7.82	1.34	0.78	12.53		0.61	4.71
2157	685139.90	603626.27	BRK	10.61	10.52	1.20	0.58	12.92		0.62	2.40
2158	685236.54	603364.19	BRK	12.91	12.84	1.27	0.56	16.78		0.56	3.94
2159	685239.27	603365.79	BRK	15.00	14.91	1.32	0.49	17.32		0.60	2.41

Honeywell SA-6 South
Chromium Remedy
Jersey City, New Jersey

Created By: T. Donovan 12/21/16
Checked By: S. Shallard 12/21/16

TABLE 1. SA-6 SOUTH OPEN SPACE CAP AREA - CONSTRUCTION CONTROL GRID AS BUILT SUMMARY

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
2	685518.44	601481.51	GRID	15.72	15.73	1.11	0.55	20.00		0.66	4.28
3	685543.44	601481.51	GRID	15.32	15.35	1.13	0.68	20.09		0.57	4.74
4	685493.4362	601506.5129	GRID	14.21	14.19	1.29		19.44		0.55	5.25
6	685543.44	601506.51	GRID	16.56	16.64	1.12	0.45	20.14		0.61	3.50
7	685568.44	601506.51	GRID	16.96	16.94	1.19	0.49	20.13		0.55	3.19
8	685468.44	601531.51	GRID	13.09	13.12	1.11	0.74	18.81		0.54	5.69
9	685493.44	601531.51	GRID	13.72	13.75	1.19	0.52	19.99		0.54	6.24
10	685543.4362	601531.5129	GRID	14.75	14.84	1.17		20.09		0.53	5.25
11	685568.44	601531.51	GRID	15.00	15.08	1.18	0.64	20.29		0.59	5.21
12	685593.44	601531.51	GRID	18.07	17.96	1.28	0.58	20.29		0.46	2.32
14	685468.44	601556.51	GRID	13.86	13.86	1.21	0.56	18.98		0.59	5.12
15	685493.44	601556.51	GRID	15.86	15.83	1.23	0.52	20.07		0.50	4.24
16	685518.44	601556.51	GRID	16.67	16.76	1.14	0.48	20.07		0.53	3.32
17	685543.4362	601556.5129	GRID	17.01	16.97	1.29		20.19		0.61	3.22
18	685568.4362	601556.5129	GRID	14.11	14.15	1.11		20.23		0.57	6.08
19	685593.44	601556.51	GRID	17.41	17.49	1.17	0.48	20.16		0.55	2.67
20	685443.44	601581.51	GRID	13.26	13.31	1.11	0.65	18.25		0.49	4.94
21	685468.44	601581.51	GRID	14.37	14.35	1.28	0.68	18.91		0.49	4.56
22	685493.44	601581.51	GRID	15.75	15.69	1.30	0.49	20.04		0.56	4.35
23	685518.44	601581.51	GRID	16.64	16.64	1.21	0.48	20.09		0.51	3.45
24	685543.44	601581.51	GRID	17.49	17.50	1.10	0.50	20.15		0.56	2.64
25	685568.4362	601581.5129	GRID	17.03	17.13	1.15		20.10		0.57	2.97
26	685418.44	601606.51	GRID	11.91	11.97	1.19	0.53	17.40		0.60	5.43
27	685443.44	601606.51	GRID	13.82	13.80	1.30	0.65	18.39		0.62	4.59
29	685493.44	601606.51	GRID	15.28	15.29	1.24	0.74	19.99		0.60	4.70
30	685518.44	601606.51	GRID	16.15	16.21	1.17	0.67	20.09		0.59	3.89
31	685543.44	601606.51	GRID	16.75	16.75	1.21	0.53	20.13		0.58	3.37
32	685393.44	601631.51	GRID	11.44	11.47	1.19	0.72	17.23		0.62	5.76
33	685418.44	601631.51	GRID	13.25	13.31	1.14	0.62	17.90		0.55	4.58

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
34	685443.44	601631.51	GRID	13.79	13.80	1.19	0.51	18.27		0.57	4.47
35	685468.44	601631.51	GRID	15.71	15.71	1.25	0.48	18.78		0.66	3.06
36	685493.44	601631.51	GRID	14.79	14.80	1.26	0.54	19.52		0.59	4.72
37	685518.44	601631.51	GRID	15.60	15.58	1.26	0.73	20.08		0.61	4.50
38	685543.44	601631.51	GRID	16.01	15.98	1.26	0.58	20.10		0.56	4.12
39	685393.44	601656.51	GRID	12.63	12.66	1.19	0.57	17.68		0.58	5.02
40	685443.44	601656.51	GRID	13.74	13.70	1.21	0.59	18.34		0.65	4.64
41	685468.44	601656.51	GRID	15.64	15.68	1.18	0.54	18.67		0.57	3.00
42	685493.44	601656.51	GRID	16.11	16.13	1.22	0.48	19.10		0.46	2.98
43	685518.44	601656.51	GRID	16.65	16.55	1.24	0.64	20.05		0.51	3.50
44	685368.44	601681.51	GRID	11.59	11.63	1.22	0.66	17.43		0.50	5.80
45	685393.44	601681.51	GRID	15.72	15.72	1.24	0.47	18.05		0.62	2.34
46	685443.44	601681.51	GRID	13.67	13.64	1.25	0.47	18.22		0.63	4.58
47	685468.44	601681.51	GRID	15.52	15.52	1.25	0.47	18.58		0.57	3.06
48	685493.44	601681.51	GRID	15.97	15.95	1.26	0.47	18.97		0.58	3.02
49	685343.44	601706.51	GRID	10.97	10.90	1.36	0.52	17.39		0.54	6.49
50	685393.44	601706.51	GRID	15.97	15.96	1.21	0.58	18.27		0.52	2.31
51	685443.44	601706.51	GRID	13.55	13.52	1.27	0.67	18.14		0.51	4.62
52	685468.44	601706.51	GRID	15.38	15.37	1.21	0.48	18.07		0.50	2.69
53	685493.44	601706.51	GRID	14.27	14.32	1.20	0.55	18.36		0.50	4.04
54	685318.44	601731.51	GRID	10.69	10.63	1.18	0.52	17.92		0.54	7.29
55	685368.44	601731.51	GRID	16.17	16.14	1.22	0.60	18.51		0.55	2.37
56	685393.44	601731.51	GRID	16.28	16.24	1.25	0.50	18.61		0.62	2.37
57	685443.44	601731.51	GRID	13.53	13.48	1.32	0.50	18.08		0.54	4.60
58	685343.44	601756.51	GRID	16.57	16.54	1.14	0.52	18.99		0.65	2.45
59	685368.44	601756.51	GRID	16.33	16.35	1.15	0.60	18.71		0.61	2.36
61	685443.44	601756.51	GRID	13.55	13.55	1.12	0.84	18.09		0.61	4.53
62	685293.4362	601781.5129	GRID	10.50	10.42	1.25		19.14		0.60	8.73
63	685318.44	601781.51	GRID	17.40	17.40	1.15	0.50	19.62		0.57	2.22
64	685343.44	601781.51	GRID	16.94	16.91	1.13	0.53	19.47		0.65	2.55
65	685368.44	601781.51	GRID	16.55	16.53	1.20	0.58	18.97		0.66	2.44
66	685393.44	601781.51	GRID	16.31	16.26	1.21	0.62	18.61		0.51	2.34
67	685418.44	601781.51	GRID	16.14	16.13	1.17	0.52	18.36		0.53	2.22
69	685268.4362	601806.5129	GRID	11.03	10.95	1.32		19.36		0.56	8.41

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
70	685318.44	601806.51	GRID	18.11	18.05	1.20	0.50	20.30		0.56	2.25
71	685343.44	601806.51	GRID	17.66	17.63	1.17	0.45	19.87		0.56	2.24
72	685368.44	601806.51	GRID	17.12	17.11	1.13	0.56	19.39		0.59	2.28
73	685393.44	601806.51	GRID	16.68	16.61	1.20	0.52	18.96		0.63	2.35
74	685418.44	601806.51	GRID	16.28	16.27	1.19	0.48	18.56		0.56	2.29
75	685243.4362	601831.5129	GRID	12.66	12.64	1.28		19.11		0.46	6.47
77	685318.4362	601831.5129	GRID	15.70	15.68	1.28		20.55		0.55	4.87
78	685343.44	601831.51	GRID	18.29	18.27	1.19	0.47	20.61		0.68	2.34
79	685368.44	601831.51	GRID	17.73	17.67	1.22	0.45	20.02		0.59	2.35
80	685393.44	601831.51	GRID	17.22	17.25	1.05	0.51	19.27		0.46	2.02
81	685243.44	601856.51	GRID	15.58	15.64	1.18	0.50	20.33		0.52	4.69
82	685268.44	601856.51	GRID	16.08	16.08	1.25	0.48	20.55		0.54	4.47
83	685293.4362	601856.5129	GRID	15.74	15.83	1.18		20.72		0.65	4.89
85	685368.44	601856.51	GRID	18.00	17.99	1.20	0.45	20.24		0.60	2.26
86	685218.44	601881.51	GRID	15.64	15.58	1.16	0.60	20.38		0.58	4.81
87	685243.44	601881.51	GRID	16.37	16.38	1.15	0.55	20.84		0.66	4.47
88	685268.44	601881.51	GRID	18.72	18.68	1.16	0.54	20.97		0.58	2.29
89	685293.44	601881.51	GRID	18.57	18.49	1.19	0.60	20.86		0.58	2.37
90	685343.4362	601881.5129	GRID	15.15	15.20	1.20		20.12		0.48	4.91
91	685368.4362	601881.5129	GRID	11.78	11.78	1.23		17.65		0.52	5.86
92	685193.44	601906.51	GRID	15.54	15.50	1.14	0.75	20.38		0.69	4.89
93	685218.44	601906.51	GRID	16.30	16.26	1.19	0.53	20.87		0.69	4.61
94	685243.44	601906.51	GRID	18.74	18.67	1.21	0.56	21.09		0.66	2.43
95	685268.44	601906.51	GRID	18.62	18.56	1.17	0.58	20.84		0.53	2.28
96	685293.44	601906.51	GRID	18.47	18.40	1.16	0.59	20.71		0.56	2.31
97	685318.44	601906.51	GRID	18.31	18.32	1.14	0.49	20.56		0.60	2.23
99	685193.44	601931.51	GRID	15.75	15.79	1.10	0.81	20.60		0.78	4.81
101	685243.44	601931.51	GRID	18.58	18.54	1.17	0.53	20.81		0.57	2.27
102	685268.44	601931.51	GRID	18.48	18.43	1.15	0.58	20.72		0.56	2.29
103	685293.44	601931.51	GRID	18.37	18.36	1.19	0.51	20.57		0.51	2.21
104	685168.44	601956.51	GRID	14.56	14.64	1.11	0.65	19.76		0.63	5.12
105	685193.44	601956.51	GRID	18.03	18.13	1.04	0.52	20.27		0.58	2.14
107	685243.44	601956.51	GRID	18.28	18.37	1.05	0.55	20.57		0.61	2.20
108	685268.44	601956.51	GRID	18.29	18.38	1.03	0.58	20.62		0.63	2.24

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
109	685293.44	601956.51	GRID	18.22	18.30	1.02	0.57	20.56		0.66	2.26
110	685143.44	601981.51	GRID	13.64	13.74	1.03	0.59	18.81		0.77	5.08
111	685168.44	601981.51	GRID	17.22	17.31	1.04	0.56	19.46		0.55	2.15
112	685193.44	601981.51	GRID	17.44	17.54	1.01	0.60	19.70		0.56	2.16
113	685218.44	601981.51	GRID	17.67	17.75	1.04	0.55	19.88		0.55	2.13
114	685243.44	601981.51	GRID	17.85	17.94	1.00	0.62	20.15		0.59	2.21
115	685268.44	601981.51	GRID	17.92	18.01	1.02	0.52	20.30		0.75	2.29
116	685118.44	602006.51	GRID	13.00	13.10	1.00	0.58	17.83		0.59	4.74
117	685168.44	602006.51	GRID	16.62	16.71	1.05	0.55	19.20		0.72	2.49
118	685193.44	602006.51	GRID	16.85	16.94	1.06	0.52	19.20		0.67	2.26
119	685218.44	602006.51	GRID	17.08	17.16	1.05	0.55	19.37		0.60	2.20
121	685268.44	602006.51	GRID	17.52	17.59	1.05	0.58	19.69		0.47	2.10
122	685118.44	602031.51	GRID	13.00	13.10	1.12	0.45	17.95		0.59	4.85
123	685143.44	602031.51	GRID	16.11	16.20	1.03	0.55	19.08		0.61	2.87
124	685168.44	602031.51	GRID	16.20	16.30	1.15	0.55	18.90		0.52	2.60
125	685193.44	602031.51	GRID	16.32	16.39	1.18	0.50	18.93		0.68	2.54
126	685218.44	602031.51	GRID	16.50	16.59	1.07	0.53	18.92		0.72	2.32
127	685118.44	602056.51	GRID	14.00	13.92	1.26	0.59	18.61		0.55	4.69
128	685143.44	602056.51	GRID	16.15	16.22	1.06	0.55	19.10		0.64	2.87
129	685168.44	602056.51	GRID	16.07	16.16	1.02	0.56	19.07		0.53	2.91
130	685193.44	602056.51	GRID	16.21	16.29	1.13	0.45	18.77		0.54	2.48
131	685218.44	602056.51	GRID	16.34	16.43	1.08	0.57	18.64		0.55	2.21
132	685068.4362	602081.5129	GRID	4.37	4.46	1.01		18.34	0.75		13.88
134	685143.44	602081.51	GRID	16.50	16.58	1.08	0.50	19.05		0.56	2.46
135	685168.44	602081.51	GRID	16.30	16.39	1.00	0.58	19.11		0.59	2.72
136	685193.44	602081.51	GRID	16.11	16.19	1.00	0.59	18.95		0.61	2.77
137	685218.44	602081.51	GRID	16.14	16.23	1.10	0.46	18.61		0.56	2.38
138	685043.4362	602106.5129	GRID	4.55	4.49	1.27		18.20		0.55	13.71
140	685093.4362	602106.5129	GRID	4.78	4.86	1.01		19.05	0.56		14.19
141	685118.4362	602106.5129	GRID	5.02	5.08	1.02		19.08		0.64	14.00
142	685168.44	602106.51	GRID	16.64	16.73	1.02	0.61	19.09		0.59	2.36
143	685193.44	602106.51	GRID	16.31	16.40	1.01	0.57	19.12		0.67	2.72
144	685068.44	602131.51	GRID	14.98	15.01	1.16	0.66	19.13		0.53	4.12
145	685118.4362	602131.5129	GRID	5.19	5.13	1.15		19.05	0.55		13.92

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146	685143.4362	602131.5129	GRID	5.42	5.50	1.01		19.07	0.54		13.57
147	685043.44	602156.51	GRID	15.05	15.06	1.23	0.64	19.70		0.54	4.64
148	685093.44	602156.51	GRID	17.85	17.78	1.18	0.58	20.09		0.56	2.31
149	685143.4362	602156.5129	GRID	5.59	5.61	1.10		19.11	0.54		13.50
150	685168.4362	602156.5129	GRID	5.82	5.88	1.03		18.70	0.50		12.82
151	684993.44	602181.51	GRID	5.65	5.58	1.19	0.77	19.43		0.59	13.85
152	685018.44	602181.51	GRID	15.74	15.82	1.18	0.56	20.06		0.58	4.24
153	685043.44	602181.51	GRID	15.20	15.28	1.15	0.83	20.01		0.51	4.73
154	685068.44	602181.51	GRID	17.51	17.56	1.06	0.55	20.16		0.80	2.59
155	685093.44	602181.51	GRID	17.55	17.57	1.06	0.58	19.93		0.72	2.36
156	685118.44	602181.51	GRID	17.55	17.55	1.11	0.59	19.76		0.51	2.21
157	685143.44	602181.51	GRID	14.65	14.72	1.13	0.52	19.19		0.49	4.47
159	684968.44	602206.51	GRID	6.08	6.09	1.08	0.60	20.30		0.57	14.21
160	685018.44	602206.51	GRID	18.26	18.28	1.10	0.58	20.45		0.50	2.17
161	685068.44	602206.51	GRID	17.61	17.61	1.08	0.63	20.11		0.72	2.50
162	684993.44	602231.51	GRID	18.81	18.84	1.12	0.57	21.06		0.53	2.22
163	685018.44	602231.51	GRID	16.00	15.94	1.18	0.90	20.74		0.72	4.80
164	685068.44	602231.51	GRID	17.85	17.78	1.22	0.54	20.12		0.58	2.34
165	685093.44	602231.51	GRID	15.01	15.11	1.06	0.94	19.88		0.69	4.77
166	684968.44	602256.51	GRID	19.36	19.37	1.10	0.55	21.58		0.56	2.21
167	684993.44	602256.51	GRID	19.06	19.05	1.13	0.55	21.28		0.55	2.23
168	685018.44	602256.51	GRID	16.25	16.26	1.08	0.69	20.98		0.76	4.72
169	685043.44	602256.51	GRID	18.43	18.44	1.11	0.60	20.65		0.50	2.21
170	685068.44	602256.51	GRID	18.10	18.08	1.14	0.56	20.30		0.52	2.22
171	684918.44	602281.51	GRID	7.15	7.15	1.13	0.90	21.67		0.49	14.52
172	684968.44	602281.51	GRID	19.61	19.63	1.07	0.59	21.81		0.52	2.17
173	684993.44	602281.51	GRID	16.82	16.83	1.10	0.94	21.50		0.70	4.68
174	685018.44	602281.51	GRID	19.00	19.00	1.09	0.59	21.27		0.58	2.27
175	685043.44	602281.51	GRID	18.69	18.68	1.13	0.60	20.91		0.50	2.23
176	685068.44	602281.51	GRID	18.36	18.36	1.08	0.61	20.60		0.55	2.24
178	684943.44	602306.51	GRID	20.15	20.17	1.10	0.53	22.37		0.57	2.20
179	684968.44	602306.51	GRID	19.86	19.89	1.17	0.48	22.09		0.55	2.20
180	684993.44	602306.51	GRID	17.07	17.10	1.10	0.90	21.85		0.75	4.75
181	685018.44	602306.51	GRID	19.26	19.27	1.09	0.55	21.57		0.66	2.30

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182	685043.44	602306.51	GRID	16.45	16.37	1.23	0.83	21.20		0.69	4.84
183	684918.44	602331.51	GRID	17.91	17.93	1.19	0.49	22.38		0.53	4.45
184	684943.44	602331.51	GRID	17.80	17.81	1.15	0.52	22.29		0.53	4.48
185	684968.44	602331.51	GRID	17.57	17.49	1.23	0.54	22.04		0.49	4.55
186	684993.44	602331.51	GRID	19.82	19.76	1.22	0.53	22.09		0.58	2.33
187	685018.44	602331.51	GRID	17.03	16.94	1.18	0.99	21.41		0.52	4.47
188	684893.44	602356.51	GRID	17.90	17.86	1.21	0.48	22.14		0.49	4.28
189	684918.44	602356.51	GRID	17.87	17.86	1.14	0.57	22.28		0.55	4.42
190	684943.44	602356.51	GRID	17.85	17.84	1.18	0.49	22.25		0.51	4.41
191	684968.44	602356.51	GRID	17.68	17.67	1.16	0.52	22.06		0.47	4.39
192	684993.44	602356.51	GRID	17.48	17.47	1.17	0.53	22.05		0.55	4.58
193	684843.44	602381.51	GRID	8.70	8.73	1.20	0.46	21.34		0.56	12.61
194	684868.44	602381.51	GRID	17.37	17.31	1.20	0.52	21.87		0.53	4.56
195	684893.44	602381.51	GRID	17.65	17.65	1.19	0.47	22.09		0.53	4.44
196	684918.44	602381.51	GRID	17.82	17.83	1.10	0.60	22.19		0.58	4.37
197	684943.44	602381.51	GRID	17.81	17.81	1.17	0.52	22.24		0.56	4.44
198	684968.44	602381.51	GRID	17.78	17.79	1.20	0.51	22.12		0.49	4.34
199	684993.44	602381.51	GRID	17.62	17.62	1.16	0.49	22.02		0.53	4.40
200	684868.44	602406.51	GRID	16.97	16.99	1.16	0.46	21.53		0.52	4.54
201	684893.44	602406.51	GRID	17.32	17.32	1.13	0.54	21.87		0.54	4.55
202	684918.44	602406.51	GRID	17.63	17.62	1.21	0.50	22.11		0.59	4.49
203	684943.44	602406.51	GRID	17.73	17.70	1.17	0.58	22.11		0.51	4.42
204	684968.44	602406.51	GRID	17.76	17.73	1.17	0.55	22.07		0.53	4.34
205	684818.44	602431.51	GRID	15.03	15.11	1.12	0.52	20.06		0.51	4.95
206	684843.44	602431.51	GRID	16.11	16.09	1.23	0.48	20.63		0.51	4.54
207	684868.44	602431.51	GRID	16.57	16.59	1.15	0.54	21.17		0.52	4.58
208	684893.44	602431.51	GRID	17.00	16.94	1.22	0.54	21.54		0.53	4.59
209	684918.44	602431.51	GRID	17.37	17.34	1.20	0.53	21.70		0.53	4.36
210	684943.44	602431.51	GRID	17.60	17.63	1.17	0.48	22.03		0.51	4.40
211	684793.44	602456.51	GRID	14.01	13.97	1.24	0.62	19.12		0.52	5.15
212	684818.44	602456.51	GRID	15.20	15.17	1.24	0.45	19.70		0.54	4.53
213	684843.44	602456.51	GRID	15.74	15.74	1.19	0.50	20.31		0.56	4.57
214	684868.44	602456.51	GRID	16.27	16.27	1.15	0.57	20.85		0.56	4.58
215	684893.44	602456.51	GRID	16.69	16.68	1.17	0.50	21.13		0.57	4.45

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
216	684918.44	602456.51	GRID	17.11	17.07	1.19	0.56	21.26		0.53	4.19
217	684768.44	602481.51	GRID	13.24	13.23	1.15	0.64	18.03		0.57	4.80
218	684793.44	602481.51	GRID	14.27	14.21	1.27	0.53	18.74		0.57	4.53
219	684818.44	602481.51	GRID	14.86	14.85	1.18	0.51	19.41		0.56	4.56
220	684843.44	602481.51	GRID	15.42	15.44	1.18	0.49	19.97		0.50	4.53
221	684868.44	602481.51	GRID	15.93	15.91	1.20	0.49	20.48		0.51	4.57
222	684893.44	602481.51	GRID	16.43	16.40	1.16	0.58	21.03		0.55	4.63
223	684918.44	602481.51	GRID	16.87	16.84	1.17	0.58	21.07		0.55	4.23
224	684768.44	602506.51	GRID	13.31	13.28	1.25	0.58	18.06		0.59	4.77
225	684793.44	602506.51	GRID	13.98	14.03	1.04	0.65	18.50		0.55	4.47
226	684818.44	602506.51	GRID	14.55	14.49	1.19	0.69	19.12		0.55	4.63
227	684843.44	602506.51	GRID	15.10	15.05	1.22	0.58	19.68		0.55	4.63
228	684868.44	602506.51	GRID	15.62	15.62	1.16	0.60	20.33		0.59	4.71
229	684893.44	602506.51	GRID	16.12	16.18	1.12	0.56	20.66		0.46	4.48
230	684743.44	602531.51	GRID	12.58	12.60	1.14	0.76	17.67		0.52	5.07
231	684768.44	602531.51	GRID	15.82	15.81	1.21	0.47	18.01		0.52	2.20
232	684793.44	602531.51	GRID	16.25	16.22	1.22	0.47	18.48		0.56	2.26
233	684818.44	602531.51	GRID	16.76	16.69	1.26	0.47	18.91		0.49	2.22
234	684843.44	602531.51	GRID	17.30	17.35	1.12	0.54	19.59		0.58	2.24
235	684868.44	602531.51	GRID	17.86	17.87	1.17	0.50	20.12		0.59	2.26
236	684718.44	602556.51	GRID	7.45	7.45	1.21	0.84	17.22		0.55	9.77
237	684743.44	602556.51	GRID	15.59	15.67	1.18	0.46	17.80		0.50	2.14
239	684843.44	602556.51	GRID	17.05	17.13	1.05	0.57	19.29		0.55	2.16
240	684868.44	602556.51	GRID	17.59	17.65	1.03	0.56	19.81		0.58	2.17
241	684693.4362	602581.5129	GRID	5.82	5.81	1.28		17.31		0.57	11.50
242	684718.44	602581.51	GRID	13.18	13.26	1.14	0.51	17.84		0.47	4.58
243	684743.44	602581.51	GRID	15.71	15.69	1.19	0.49	17.99		0.59	2.30
244	684768.44	602581.51	GRID	13.86	13.79	1.26	0.55	18.43		0.51	4.64
245	684793.44	602581.51	GRID	14.14	14.11	1.13	0.68	18.80		0.54	4.69
246	684818.44	602581.51	GRID	14.12	14.10	1.19	0.55	19.01		0.53	4.90
247	684843.44	602581.51	GRID	14.33	14.41	1.11	0.77	19.01		0.56	4.59
248	684693.4362	602606.5129	GRID	5.20	5.29	1.15		18.71		0.56	13.41
249	684743.44	602606.51	GRID	16.46	16.49	1.12	0.54	19.12		0.59	2.64
250	684768.44	602606.51	GRID	15.98	16.03	1.19	0.53	19.10		0.54	3.07

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
251	684793.44	602606.51	GRID	14.46	14.37	1.24	0.54	19.06		0.54	4.69
252	684818.44	602606.51	GRID	14.27	14.32	1.10	0.60	19.08		0.53	4.76
253	684693.4362	602631.5129	GRID	5.45	5.52	1.07		19.05		0.56	13.53
254	684718.4362	602631.5129	GRID	5.80	5.85	1.10		19.11		0.52	13.26
255	684768.44	602631.51	GRID	17.04	17.07	1.17	0.45	19.31		0.55	2.23
256	684793.44	602631.51	GRID	16.34	16.43	1.03	0.56	19.09		0.50	2.66
257	684818.44	602631.51	GRID	16.19	16.18	1.12	0.59	19.04		0.52	2.86
259	684718.4362	602656.5129	GRID	6.06	5.98	1.28		19.35		0.52	13.37
260	684743.4362	602656.5129	GRID	6.41	6.45	1.08		19.24		0.62	12.79
261	684793.44	602656.51	GRID	14.54	14.62	1.12	0.61	19.07		0.55	4.46
263	684743.4362	602681.5129	GRID	6.67	6.69	1.22		19.49		0.64	12.81
264	684768.4362	602681.5129	GRID	7.01	7.01	1.13		18.98		0.59	11.97
265	684793.4362	602681.5129	GRID	7.37	7.34	1.21		17.88		0.65	10.54
545	685526.43	601442.32	BNDY	12.92	13.01	1.02	0.57	15.13		0.54	2.12
546	685543.45	601459.45	BNDY	13.45	13.37	1.27	0.46	15.63		0.52	2.25
547	685561.91	601478.03	BNDY	14.24	14.20	1.12	0.59	16.42		0.51	2.22
548	685583.37	601539.44	BRK	15.12	15.18	1.13	0.81	20.20		0.48	5.02
549	685595.8952	601578.0005	BRK	14.21	14.27	1.19		18.24		0.50	3.96
550	685562.63	601543.70	BRK	17.48	17.45	1.17	0.49	20.14		0.54	2.69
551	685559.4866	601547.9749	BRK	13.94	14.02	1.16		20.17		0.59	6.15
552	685555.5634	601552.5373	BRK	13.93	13.97	1.17		20.10		0.47	6.13
553	685552.5036	601556.6952	BRK	17.37	17.31	1.21		20.17		0.56	2.86
554	685602.63	601551.44	BRK	17.71	17.63	1.26	0.49	20.17		0.52	2.54
555	685524.8988	601529.9774	BRK	13.12	13.20	1.18		20.09		0.55	6.89
556	685521.8453	601534.1334	BRK	16.56	16.41	1.25		20.11		0.58	3.70
557	685518.43	601506.14	BRK	15.53	15.44	1.25	0.47	20.01		0.53	4.57
558	685516.84	601455.37	BNDY	13.73	13.68	1.13	0.56	18.14		0.45	4.47
559	685566.10	601602.95	BRK	17.39	17.30	1.29	0.63	20.11		0.89	2.81
560	685557.11	601621.51	BRK	16.15	16.11	1.29	0.53	19.95		0.50	3.83
561	685572.96	601633.24	BNDY	9.96	10.05	1.17	0.46	13.83		0.57	3.79
562	685589.38	601610.88	BNDY	10.19	10.10	1.25	0.48	13.66		0.54	3.56
563	685606.3327	601587.7847	BNDY	9.93	10.03	1.06		13.51		0.55	3.48
564	685633.80	601550.37	BNDY	9.78	9.77	1.23	0.48	13.00		0.75	3.23
565	685622.62	601565.61	BNDY	9.96	10.03	1.14	0.48	13.19		0.56	3.16

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566	685614.41	601530.85	BNDY	15.70	15.79	1.01	0.58	17.88		0.50	2.09
567	685591.47	601507.77	BNDY	15.02	15.06	1.08	0.54	17.21		0.53	2.15
568	685577.88	601494.10	BNDY	14.55	14.65	1.13	0.45	16.73		0.50	2.09
569	685488.0585	601495.4211	BNDY	14.30	14.31	1.09		18.26		0.52	3.95
570	685501.08	601477.69	BNDY	14.94	14.96	1.05	0.55	18.25		0.51	3.29
571	685474.3133	601513.2966	BNDY	13.64	13.58	1.31		18.30		0.52	4.71
572	685459.92	601533.74	BNDY	12.84	12.83	1.08	0.65	18.25		0.64	5.42
573	685442.87	601556.12	BNDY	12.43	12.43	1.11	0.87	18.08		0.53	5.66
574	685428.08	601576.27	BNDY	12.19	12.21	1.06	0.59	17.34		0.65	5.14
575	685413.27	601596.44	BNDY	11.95	12.02	1.10	0.53	17.08		0.57	5.06
576	685398.47	601616.59	BNDY	11.42	11.44	1.17	0.55	17.02		0.55	5.58
577	685383.68	601636.74	BNDY	11.34	11.31	1.18	0.59	16.96		0.64	5.65
578	685368.88	601656.89	BNDY	11.27	11.24	1.18	0.58	15.82		0.53	4.58
579	685558.28	601653.23	BNDY	9.90	9.93	1.22	0.51	13.58		0.54	3.65
581	685543.38	601673.52	BNDY	9.88	9.87	1.24	0.48	13.37		0.49	3.50
582	685528.60	601693.65	BNDY	9.84	9.81	1.10	0.61	13.23		0.50	3.41
583	685469.10	601609.94	BRK	15.99	15.91	1.21	0.66	18.82		0.57	2.91
584	685468.06	601601.70	BRK	14.55	14.56	1.21	0.80	18.89		0.60	4.33
585	685534.63	601655.70	BRK	15.46	15.38	1.32	0.46	19.31		0.51	3.93
586	685515.15	601685.29	BRK	14.82	14.60	1.37	0.56	18.44		0.55	3.84
587	685503.84	601702.15	BRK	14.49	14.45	1.13	0.62	17.92		0.47	3.48
588	685484.63	601722.61	BRK	15.55	15.47	1.25	0.54	17.98		0.53	2.52
589	685482.47	601731.53	BRK	11.10	11.14	1.21	0.78	17.58		0.57	6.44
590	685467.89	601733.01	BRK	13.13	13.22	1.16	0.84	17.99		0.51	4.77
591	685467.14	601729.90	BRK	15.25	15.18	1.19	0.63	18.01		0.48	2.83
592	685465.84	601749.83	BRK	15.15	15.09	1.19	0.58	17.93		1.01	2.84
593	685444.26	601779.76	BRK	13.57	13.66	1.14	0.78	17.81		0.59	4.15
594	685429.29	601800.21	BRK	15.09	15.00	1.31	0.49	17.52		0.66	2.53
595	685453.48	601767.05	BRK	15.07	14.98	1.26	0.56	17.98		0.57	3.00
596	685514.37	601713.04	BNDY	9.77	9.72	1.19	0.52	12.96		0.54	3.25
597	685499.50	601733.28	BNDY	9.70	9.78	1.22	0.52	12.69		0.52	2.91
598	685485.10	601752.90	BNDY	9.64	9.66	1.33	0.50	12.54		0.54	2.89
599	685469.40	601774.28	BNDY	9.60	9.70	1.11	0.45	12.32		0.67	2.62
600	685454.74	601794.25	BNDY	9.64	9.70	1.20	0.60	12.05		0.55	2.35

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601	685439.85	601814.53	BNDY	9.68	9.64	1.28	0.42	12.00		0.58	2.36
602	685425.01	601834.73	BNDY	9.73	9.66	1.29	0.40	11.86		0.52	2.20
603	685418.25	601641.07	BRK	13.45	13.41	1.26	0.62	18.04		0.60	4.63
604	685415.60	601650.93	BRK	15.85	15.62	1.37	0.55	18.05		0.51	2.43
605	685417.81	601680.87	BRK	15.90	15.77	1.24	0.56	18.14		0.57	2.37
606	685421.62	601680.64	BRK	13.35	13.42	1.20	0.79	18.06		0.57	4.64
607	685417.84	601705.42	BRK	16.07	15.91	1.40	0.48	18.33		0.54	2.42
608	685421.83	601705.56	BRK	13.40	13.43	1.20	0.80	18.14		0.51	4.71
609	685420.68	601733.21	BRK	13.46	13.54	1.08	0.86	18.20		0.59	4.66
610	685416.60	601732.96	BRK	16.18	16.19	1.13	0.55	18.33		0.45	2.14
611	685420.69	601759.40	BRK	13.52	13.60	1.13	0.70	18.20		0.56	4.60
612	685417.42	601761.34	BRK	16.06	16.08	1.13	0.57	18.32		0.54	2.24
613	685367.91	601704.46	BRK	13.34	13.35	1.18	0.73	18.01		0.54	4.66
614	685370.79	601706.98	BRK	15.89	15.67	1.46	0.48	18.25		0.64	2.58
615	685343.44	601731.17	BRK	13.71	13.67	1.28	0.58	18.23		0.52	4.55
616	685345.91	601734.17	BRK	16.30	16.33	1.07	0.50	18.48		0.57	2.15
617	685303.14	601806.86	BRK	18.27	18.27	1.14	0.47	20.42		0.55	2.15
618	685298.7657	601809.6667	BRK	15.77	15.84	1.26		20.32		0.63	4.48
619	685294.5364	601809.7779	BRK	15.35	15.41	1.17		20.16		0.57	4.75
620	685288.9198	601805.6788	BRK	10.72	10.67	1.28		19.94		0.56	9.26
621	685298.8544	601821.3782	BRK	15.76	15.72	1.27		20.29		0.57	4.57
622	685295.9426	601825.3091	BRK	12.49	12.56	1.16		20.29		0.51	7.72
623	685294.6542	601831.8216	BRK	12.53	12.55	1.14		20.38		0.51	7.83
624	685291.7461	601835.7476	BRK	15.79	15.46	1.52		20.41		0.54	4.95
625	685324.5764	601840.1333	BRK	15.86	15.66	1.46		20.55		0.51	4.89
626	685321.5217	601844.257	BRK	12.44	12.40	1.25		20.60		0.54	8.19
627	685322.6741	601852.5775	BRK	12.42	12.40	1.28		20.57		0.62	8.16
628	685319.6365	601856.6782	BRK	15.82	15.69	1.32		20.47		0.51	4.78
629	685341.3972	601852.7202	BRK	15.72	15.42	1.39		20.31		0.53	4.89
630	685338.4032	601856.762	BRK	12.37	12.42	1.17		20.32		0.53	7.90
631	685345.647	601844.394	BRK	15.88	15.94	1.28		20.33		0.54	4.39
632	685347.89	601841.36	BRK	18.39	18.30	1.25	0.49	20.52		0.47	2.22
633	685372.8508	601864.5453	BRK	15.31	15.40	1.18		19.83		0.57	4.43
634	685364.474	601869.9863	BRK	15.23	15.14	1.17		20.03		0.59	4.88

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
635	685361.5623	601873.917	BRK	11.96	12.06	1.26		20.08		0.62	8.03
636	685354.9207	601876.4641	BRK	12.04	12.13	1.10		20.05		0.52	7.92
637	685350.4407	601879.237	BRK	15.34	15.19	1.38		20.08		0.55	4.89
638	685354.08	601677.04	BNDY	11.30	11.10	1.30	0.63	17.09		0.64	5.99
639	685353.62	601747.98	BRK	16.38	16.33	1.30	0.50	18.71		0.57	2.38
640	685357.16	601746.52	BRK	13.83	13.77	1.31	0.74	18.66		0.70	4.90
641	685361.58	601753.32	BRK	13.86	13.90	1.17	0.89	18.69		0.76	4.79
642	685364.98	601751.93	BRK	16.31	16.20	1.29	0.53	18.71		0.69	2.51
643	685324.49	601717.35	BNDY	11.30	10.63	1.80	0.47	17.27		0.60	6.64
644	685339.29	601697.19	BNDY	11.30	10.61	1.91	0.46	17.08		0.61	6.47
645	685381.55	601830.67	BRK	17.46	17.42	1.20	0.47	19.67		0.58	2.25
646	685385.39	601829.73	BRK	14.82	14.77	1.30	0.68	19.40		0.76	4.64
647	685383.26	601850.36	BRK	17.59	17.51	1.20	0.49	19.67		0.48	2.16
648	685408.65	601820.74	BRK	16.62	16.54	1.18	0.62	18.93		0.59	2.39
649	685309.86	601737.62	BNDY	10.63	10.59	1.22	0.52	18.08		0.60	7.49
650	685295.20	601757.86	BNDY	10.54	10.64	1.05	0.48	18.48		0.61	7.85
651	685280.5071	601778.0937	BNDY	10.44	10.29	1.31		18.88		0.59	8.59
652	685265.6993	601798.2407	BNDY	10.74	10.78	1.29		19.03		0.55	8.25
653	685250.8952	601818.3828	BNDY	11.94	11.95	1.30		19.05		0.51	7.11
654	685236.0879	601838.5324	BNDY	15.09	15.11	1.09		19.55		0.76	4.45
655	685221.28	601858.68	BNDY	15.58	15.61	1.12	0.49	20.00		0.62	4.39
656	685206.48	601878.81	BNDY	15.50	15.41	1.22	0.50	19.99		0.57	4.59
657	685191.67	601898.96	BNDY	15.50	15.46	1.13	0.54	20.04		0.65	4.58
658	685176.87	601919.10	BNDY	15.42	15.45	1.18	0.47	19.84		0.46	4.39
659	685410.29	601854.79	BNDY	9.65	9.55	1.35	0.42	11.85		0.53	2.30
660	685395.44	601875.02	BNDY	9.64	9.58	1.12	0.55	11.73		0.48	2.16
661	685380.6628	601895.1371	BNDY	9.65	9.67	1.10		11.74		0.52	2.07
662	685365.9126	601915.2263	BNDY	9.73	9.69	1.12		11.83		0.68	2.14
663	685351.03	601935.49	BNDY	9.87	9.86	1.26	0.47	12.08		0.49	2.22
664	685336.28	601955.58	BNDY	9.93	9.88	1.29	0.47	12.19		0.54	2.30
665	685321.52	601975.69	BNDY	9.98	9.91	1.26	0.46	12.26		0.63	2.35
666	685306.70	601995.87	BNDY	9.98	9.92	1.28	0.47	12.31		0.65	2.40
667	685292.04	602015.84	BNDY	9.96	9.96	1.22	0.49	12.21		0.54	2.25
668	685277.22	602036.03	BNDY	9.95	10.01	1.08	0.57	12.29		0.63	2.28

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669	685262.73	602055.75	BNDY	9.91	9.95	1.17	0.48	12.51		0.55	2.56
670	685247.66	602076.28	BNDY	10.02	10.09	1.19	0.47	12.62		0.63	2.53
671	685232.64	602096.74	BNDY	10.21	10.12	1.33	0.51	12.86		0.58	2.74
672	685359.0086	601899.4038	BRK	14.46	14.43	1.20		16.65		0.51	2.22
673	685328.78	601922.42	BRK	18.12	18.18	1.07	0.53	20.32		0.54	2.14
674	685299.89	601934.58	BRK	18.32	18.37	1.12	0.50	20.55		0.56	2.18
675	685300.62	601938.23	BRK	15.84	15.80	1.23	0.91	20.55		0.79	4.75
676	685305.79	601944.00	BRK	15.75	15.75	1.22	0.90	20.52		0.79	4.77
677	685308.02	601946.97	BRK	18.23	18.08	1.25	0.63	20.49		0.52	2.40
678	685292.65	601972.35	BRK	18.06	18.06	1.10	0.58	20.23		0.49	2.17
679	685305.3308	601869.9088	BRK	15.99	16.07	1.18		20.59		0.51	4.52
680	685303.05	601872.98	BRK	18.54	18.11	1.67	0.46	20.73		0.49	2.62
681	685268.9883	601832.9886	BRK	12.10	12.16	1.10		20.11		0.49	7.95
682	685272.6449	601835.6573	BRK	15.11	14.74	1.54		20.26		0.53	5.52
683	685218.81	601931.92	BRK	18.60	18.17	1.55	0.48	20.90		0.70	2.73
684	685217.81	601935.62	BRK	16.04	16.10	1.19	0.98	20.79		0.71	4.69
685	685217.77	601956.54	BRK	18.21	18.12	1.16	0.63	20.43		0.53	2.31
686	685214.25	601958.05	BRK	15.65	15.75	1.15	0.95	20.47		0.82	4.73
687	685162.06	601939.25	BNDY	14.94	14.89	1.18	0.63	19.38		0.54	4.48
688	685246.08	602006.05	BRK	17.34	17.40	1.13	0.51	19.62		0.57	2.21
689	685249.42	602007.82	BRK	14.83	14.91	1.18	0.87	19.55		0.79	4.64
690	685250.13	602009.68	BRK	14.79	14.82	1.19	0.93	19.48		0.74	4.66
691	685253.44	602011.40	BRK	17.28	17.25	1.18	0.51	19.51		0.56	2.25
692	685256.80	602026.88	BRK	16.95	17.03	1.07	0.54	19.19		0.55	2.16
693	685147.26	601959.39	BNDY	14.32	14.41	1.03	0.54	18.38		0.66	3.97
694	685132.45	601979.53	BNDY	13.68	13.77	1.02	0.59	18.27		0.81	4.50
695	685117.65	601999.68	BNDY	13.18	13.25	1.05	0.59	17.65		0.56	4.40
696	685102.93	602019.90	BNDY	10.35	10.37	1.24	0.77	17.17		0.64	6.79
697	685088.04	602039.97	BNDY	6.10	6.14	1.10	0.90	17.13		0.61	10.99
698	685073.2297	602060.1093	BNDY	4.74	4.79	1.16		17.18		0.67	12.39
699	685058.4247	602080.2525	BNDY	4.27	4.36	1.16		17.74	1.10		13.38
700	685043.6189	602100.3969	BNDY	4.49	4.45	1.17		18.06		0.53	13.61
701	685028.81	602120.54	BNDY	4.79	4.88	1.12	0.72	18.10		0.55	13.22
702	685014.01	602140.69	BNDY	5.10	5.19	1.06	0.60	19.00		0.56	13.80

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703	684999.20	602160.83	BNDY	5.40	5.38	1.11	0.66	19.06		0.51	13.68
704	684984.40	602180.97	BNDY	5.71	5.66	1.13	0.65	19.13		0.52	13.47
705	685217.90	602116.82	BNDY	10.37	10.28	1.24	0.54	13.02		0.58	2.74
706	685203.10	602136.97	BNDY	10.48	10.57	1.15	0.59	13.16		0.60	2.60
707	685188.3051	602157.12	BNDY	6.02	6.10	2.95		15.50	2.87		9.40
708	685173.5091	602177.2715	BNDY	6.02	5.97	3.02		15.58	2.86		9.61
709	685143.92	602217.57	BNDY	11.24	11.16	1.16	0.57	13.60		0.53	2.44
710	685158.71	602197.42	BNDY	11.06	11.02	1.19	0.55	13.49		0.69	2.47
711	685129.12	602237.73	BNDY	11.43	11.43	1.13	0.55	13.87		0.49	2.44
712	685114.32	602257.88	BNDY	11.62	11.62	1.08	0.65	14.13		0.69	2.51
713	685099.53	602278.03	BNDY	11.79	11.71	1.25	0.53	14.35		0.61	2.64
714	685084.73	602298.18	BNDY	11.98	11.98	1.15	0.48	14.60		0.52	2.62
715	685069.94	602318.33	BNDY	11.95	11.96	1.18	0.46	14.94		0.51	2.98
716	685055.15	602338.47	BNDY	11.91	11.90	1.12	0.56	15.16		0.55	3.26
717	685040.35	602358.63	BNDY	11.85	11.88	1.11	0.56	15.42		0.52	3.54
718	685025.55	602378.78	BNDY	11.82	11.88	1.05	0.59	15.64		0.54	3.76
719	685010.76	602398.93	BNDY	11.80	11.88	1.07	0.52	15.58		0.52	3.71
720	684995.96	602419.08	BNDY	11.79	11.72	1.23	0.53	15.49		0.51	3.77
721	684981.17	602439.24	BNDY	11.72	11.71	1.13	0.53	15.47		0.53	3.76
722	684966.37	602459.39	BNDY	11.57	11.61	1.15	0.50	15.40		0.51	3.80
723	684951.57	602479.54	BNDY	11.50	11.53	1.06	0.56	15.22		0.47	3.70
724	684936.78	602499.69	BNDY	11.52	11.60	1.01	0.59	14.95		0.50	3.35
725	684921.98	602519.84	BNDY	11.56	11.53	1.14	0.56	14.69		0.53	3.16
726	684907.19	602539.99	BNDY	11.59	11.57	1.27	0.54	14.43		0.49	2.86
727	684892.39	602560.14	BNDY	11.60	11.67	1.08	0.54	14.18		0.47	2.51
728	684877.59	602580.30	BNDY	11.56	11.60	1.17	0.48	14.20		0.53	2.60
729	684862.80	602600.45	BNDY	11.68	11.71	1.23	0.51	14.36		0.49	2.65
730	684848.00	602620.60	BNDY	11.71	11.79	1.16	0.45	14.81		0.52	3.02
731	684969.59	602201.11	BNDY	6.02	6.01	1.11	0.55	20.03		0.57	14.03
732	684954.79	602221.26	BNDY	6.32	6.37	1.09	0.59	20.16		0.51	13.79
733	684939.98	602241.40	BNDY	6.63	6.62	1.11	0.92	20.27		0.52	13.66
734	684925.18	602261.55	BNDY	6.93	6.84	1.29	0.86	20.94		0.47	14.09
735	684910.37	602281.69	BNDY	7.13	7.19	1.13	0.84	20.92		0.46	13.73
736	684895.57	602301.83	BNDY	7.40	7.44	1.20	0.82	20.94		0.56	13.50

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737	684880.76	602321.98	BNDY	7.76	7.85	1.08	0.89	20.93		0.51	13.09
738	684865.95	602342.12	BNDY	8.16	8.16	1.16	0.55	20.95		0.55	12.79
739	684851.15	602362.27	BNDY	8.46	8.54	1.05	0.62	20.93		0.54	12.39
740	684827.24	602394.80	BNDY	8.95	8.94	1.26	0.82	20.67		0.55	11.73
741	684821.28	602402.91	BNDY	15.66	15.65	1.13	0.58	20.43		0.55	4.78
742	684806.74	602422.70	BNDY	15.05	15.04	1.14	0.53	19.80		0.54	4.76
743	684792.02	602442.92	BNDY	14.42	14.43	1.17	0.55	19.16		0.55	4.74
744	684833.20	602640.76	BNDY	11.75	11.84	1.18	0.50	14.82		0.50	2.98
745	684818.41	602660.91	BNDY	11.73	11.80	1.18	0.52	14.89		0.52	3.09
746	684803.6081	602681.0604	BNDY	9.08	9.10	1.17		15.19		0.61	6.09
747	684790.6	602698.7769	BNDY	7.50	7.59	0.99		14.25		0.54	6.66
761	684777.12	602462.99	BNDY	13.79	13.79	1.14	0.55	18.36		0.58	4.58
762	684762.31	602483.14	BNDY	13.20	13.12	1.16	0.56	17.73		0.51	4.61
763	684747.51	602503.28	BNDY	12.75	12.70	1.20	0.52	17.42		0.52	4.72
764	684732.70	602523.42	BNDY	12.49	12.41	1.28	0.67	17.11		0.53	4.70
765	684717.90	602543.56	BNDY	7.90	7.91	1.20	0.82	16.49		0.53	8.58
766	684703.09	602563.72	BNDY	6.74	6.81	1.10	0.78	17.01		0.53	10.20
767	684687.1063	602585.4579	BNDY	5.47	5.54	1.11		17.10		0.54	11.56
768	684672.8746	602604.8211	BNDY	4.91	4.96	1.19		17.31		0.65	12.35
769	684656.5065	602623.7179	BNDY	4.99	5.01	1.17		18.32		0.68	13.31
822	685209.17	602098.14	BRK	16.12	16.21	1.02	0.54	18.37		0.60	2.16
823	685187.68	602127.24	BRK	16.40	16.47	1.16	0.47	19.02		0.73	2.55
824	685169.69	602121.14	BRK	16.91	16.98	1.08	0.50	19.19		0.63	2.21
825	685159.5985	602134.7709	BRK	5.60	5.69	1.05		19.16		0.59	13.47
826	685142.99	602100.91	BRK	16.77	16.71	1.18	0.56	19.07		0.56	2.36
827	685132.6767	602114.8475	BRK	5.21	5.29	1.19		19.05		0.53	13.77
828	685117.94	602082.20	BRK	16.50	16.46	1.14	0.56	19.07		0.59	2.61
829	685108.0441	602096.6184	BRK	4.85	4.94	1.06		19.03		0.51	14.09
830	685097.56	602070.88	BRK	13.71	13.78	1.03	0.69	18.44		0.66	4.66
831	685091.6225	602084.4656	BRK	4.62	4.71	1.06		18.83		0.55	14.12
832	685079.0777	602074.2284	BRK	4.44	4.53	1.06		18.20		0.69	13.67
833	685087.2307	602063.2368	BRK	5.15	5.21	1.14		17.68		0.59	12.47
834	685228.90	602033.89	BRK	16.52	16.51	1.25	0.48	18.98		0.74	2.47
835	685232.50	602033.47	BRK	14.10	14.17	1.18	1.01	18.97		0.70	4.80

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836	685239.46	602034.31	BRK	14.12	14.21	1.16	1.14	18.93		0.77	4.72
837	685243.00	602035.55	BRK	16.62	16.54	1.16	0.59	18.94		0.65	2.40
838	685241.70	602050.98	BRK	16.30	16.34	1.19	0.49	18.61		0.59	2.26
839	685057.3284	602100.4637	BRK	4.41	4.45	1.21		18.40		0.46	13.95
840	685060.41	602121.19	BRK	14.47	14.50	1.20	0.51	19.02		0.53	4.53
841	685068.9275	602108.102	BRK	4.57	4.65	1.09		18.88		0.54	14.23
842	685048.4367	602112.4097	BRK	4.57	4.61	1.19		18.48		0.53	13.88
843	685096.9218	602128.8191	BRK	4.97	5.04	1.16		19.06		0.58	14.03
844	685091.28	602143.63	BRK	15.20	15.25	1.18	0.50	19.15		0.51	3.90
845	685121.5544	602147.0482	BRK	5.33	5.37	1.16		19.33		0.60	13.96
846	685109.62	602161.54	BRK	17.81	17.77	1.15	0.52	19.91		0.46	2.14
847	685117.56	602193.69	BRK	17.43	17.36	1.17	0.57	19.64		0.53	2.27
848	685118.92	602197.25	BRK	14.89	14.96	1.09	1.00	19.53		0.69	4.58
849	685119.73	602203.55	BRK	14.81	14.87	1.06	0.73	19.58		0.72	4.71
850	685121.10	602206.98	BRK	17.27	17.30	1.06	0.63	19.45		0.47	2.16
851	685114.98	602226.59	BRK	17.17	17.11	1.14	0.60	19.49		0.64	2.38
852	685105.19	602198.82	BRK	17.35	17.38	1.08	0.57	19.73		0.69	2.35
853	685103.22	602203.76	BRK	14.79	14.84	1.21	0.71	19.78		0.71	4.94
854	685088.02	602208.76	BRK	17.36	17.29	1.26	0.52	19.91		0.72	2.62
855	685089.52	602212.18	BRK	14.88	14.95	1.17	0.68	19.88		0.68	4.92
856	685085.84	602227.09	BRK	15.07	15.15	1.09	0.93	19.98		0.75	4.83
857	685083.49	602230.12	BRK	17.63	17.55	1.17	0.62	20.00		0.66	2.45
858	685094.99	602252.22	BRK	17.70	17.67	1.13	0.59	19.87		0.48	2.20
859	685081.79	602269.14	BRK	18.05	18.07	1.13	0.52	20.27		0.56	2.21
860	685047.09	602237.51	BRK	15.69	15.73	1.22	0.82	20.41		0.70	4.68
861	685043.77	602234.95	BRK	18.21	18.13	1.22	0.55	20.43		0.54	2.30
862	685039.91	602232.72	BRK	15.73	15.69	1.31	0.80	20.46		0.73	4.77
863	685042.37	602238.43	BRK	15.71	15.79	1.16	0.88	20.48		0.66	4.69
864	685066.11	602161.84	BRK	17.75	17.67	1.18	0.55	19.94		0.54	2.27
865	685062.13	602161.07	BRK	15.28	15.35	1.13	0.72	19.97		0.63	4.62
866	685052.96	602208.15	BRK	17.82	17.75	1.23	0.56	20.21		0.67	2.47
867	685049.31	602206.51	BRK	15.37	15.37	1.24	0.75	20.21		0.73	4.84
868	685045.11	602202.48	BRK	15.62	15.59	1.28	0.76	20.22		0.72	4.63
869	685042.10	602200.70	BRK	17.89	17.81	1.17	0.61	20.22		0.63	2.40

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
870	685022.96	602172.09	BRK	15.38	15.35	1.17	0.96	19.96		0.59	4.62
871	685044.91	602142.21	BRK	14.83	14.76	1.27	0.48	19.40		0.54	4.63
872	684994.42	602217.26	BRK	18.66	18.67	1.09	0.58	20.88		0.53	2.20
873	684975.68	602242.79	BRK	19.14	19.08	1.17	0.58	21.41		0.59	2.33
874	685005.71	602243.75	BRK	18.78	18.75	1.14	0.55	21.02		0.59	2.27
875	685009.09	602245.47	BRK	16.25	16.35	1.06	0.57	20.97		0.66	4.63
876	685025.00	602263.80	BRK	16.24	16.33	1.15	0.55	20.95		0.66	4.62
877	685027.83	602266.24	BRK	18.73	18.65	1.18	0.59	20.94		0.52	2.29
878	685053.73	602299.58	BRK	18.74	18.68	1.16	0.57	20.90		0.49	2.22
879	685053.33	602303.33	BRK	16.27	16.33	1.18	0.93	20.86		0.54	4.52
880	685060.48	602307.84	BRK	16.22	16.14	1.22	0.53	19.44		0.52	3.30
881	685039.62	602323.93	BRK	18.58	18.51	1.17	0.55	21.05		0.51	2.54
882	685021.34	602349.28	BRK	18.40	18.31	1.20	0.58	21.16		0.49	2.84
883	685006.56	602373.52	BRK	17.51	17.47	1.15	0.61	21.78		0.46	4.31
884	684985.52	602400.52	BRK	17.74	17.67	1.21	0.53	22.01		0.57	4.34
885	684968.75	602423.06	BRK	17.72	17.72	1.22	0.47	22.01		0.53	4.29
886	684958.59	602266.06	BRK	19.57	19.50	1.20	0.56	21.80		0.54	2.30
887	684944.51	602285.23	BRK	19.93	19.97	1.15	0.45	22.12		0.55	2.15
888	684924.17	602312.77	BRK	20.38	20.34	1.14	0.58	22.59		0.53	2.25
889	684896.37	602343.10	BRK	18.02	17.95	1.19	0.59	22.22		0.51	4.28
890	684880.77	602362.80	BRK	17.79	17.78	1.22	0.55	22.11		0.52	4.32
891	684869.32	602354.21	BRK	8.25	8.30	1.13	0.89	22.08		0.58	13.78
892	684884.22	602334.10	BRK	7.94	7.99	1.06	0.98	22.09		0.52	14.10
893	684908.58	602301.22	BRK	7.44	7.48	1.17	0.86	22.10		0.58	14.63
894	684928.96	602273.71	BRK	7.02	6.99	1.14	0.98	21.67		0.63	14.67
895	684943.18	602254.50	BRK	6.73	6.71	1.22	0.82	21.32		0.57	14.60
896	684960.30	602231.40	BRK	6.38	6.42	1.18	0.57	20.89		0.52	14.46
897	684979.15	602205.95	BRK	5.99	6.03	1.21	0.65	20.37		0.55	14.34
898	685010.86	602163.13	BRK	5.34	5.42	1.14	0.51	19.49		0.57	14.07
899	685032.93	602133.34	BRK	4.89	4.95	1.17	0.68	19.05		0.63	14.11
900	684953.81	602443.85	BRK	17.56	17.51	1.17	0.55	21.86		0.48	4.35
901	684933.84	602472.48	BRK	17.17	17.21	1.09	0.52	21.01		0.50	3.80
902	684913.09	602504.45	BRK	16.54	16.57	1.17	0.48	20.21		0.49	3.64
909	684858.28	602571.33	BRK	14.73	14.82	1.13	0.85	19.30		0.55	4.48

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910	684887.04	602531.88	BRK	18.22	18.19	1.14	0.56	20.48		0.59	2.29
911	684720.03	602604.99	BRK	14.67	14.64	1.11	0.57	19.08		0.55	4.44
912	684710.9277	602615.2523	BRK	5.53	5.61	1.16		19.11		0.60	13.50
913	684795.24	602555.71	BRK	13.67	13.76	1.17	0.70	18.40		0.57	4.65
914	684795.33	602552.00	BRK	16.14	16.20	1.10	0.54	18.41		0.46	2.21
915	684770.38	602552.44	BRK	15.78	15.71	1.25	0.51	18.02		0.56	2.31
916	684771.04	602556.03	BRK	13.34	13.44	1.16	0.88	18.06		0.54	4.62
917	684841.91	602602.61	BRK	16.61	16.54	1.19	0.55	19.02		0.55	2.47
919	684835.00	602400.55	BRK	8.95	8.99	1.22	0.88	20.89		0.55	11.90
920	684843.87	602407.12	BRK	16.31	16.30	1.27	0.54	20.99		0.56	4.68
921	684754.50	602627.17	BRK	17.19	17.10	1.18	0.57	19.37		0.52	2.27
922	684744.7356	602640.3266	BRK	6.26	6.33	1.19		19.37		0.64	13.04
923	684774.69	602642.80	BRK	17.28	17.19	1.28	0.49	19.50		0.54	2.31
924	684765.2453	602655.538	BRK	6.71	6.79	1.08		19.28		0.64	12.49
925	684807.26	602664.88	BRK	13.82	13.73	1.17	0.59	17.20		0.58	3.47
927	684774.9564	602705.0711	BRK	7.36	7.44	1.09		18.03		0.51	10.59
929	684725.0996	602668.0939	BRK	6.28	6.34	1.15		19.63		0.66	13.30
933	684699.1256	602648.8297	BRK	5.72	5.76	1.22		19.31		0.57	13.56
934	684677.3237	602632.6599	BRK	5.25	5.34	1.04		18.86		0.54	13.52
936	684665.7626	602624.1345	BRK	5.02	4.97	1.21		18.48		0.61	13.50
979	685388.74	601749.07	BRK	13.50	13.43	1.33	0.88	18.64		0.68	5.21
980	685384.77	601750.03	BRK	16.23	16.26	1.10	0.62	18.63		0.66	2.38
2000	684774.23	602717.67	BNDY	12.40	12.49	1.04	0.83	15.78		0.66	3.29
2001	684757.86	602736.57	BNDY	12.87	12.80	1.20	0.52	16.10		0.68	3.30
2002	684741.50	602755.47	BNDY	13.17	13.10	1.18	0.53	16.38		0.62	3.28
2003	684725.13	602774.36	BNDY	13.48	13.39	1.19	0.53	16.61		0.57	3.21
2004	684708.76	602793.26	BNDY	13.77	13.70	1.16	0.60	16.89		0.54	3.19
2005	684692.39	602812.16	BNDY	13.98	13.89	1.30	0.49	17.19		0.67	3.29
2006	684676.02	602831.05	BNDY	13.61	13.67	1.18	0.79	17.06		0.49	3.39
2007	684659.66	602849.95	BNDY	13.71	13.73	1.17	0.61	17.34		0.64	3.60
2008	684643.29	602868.85	BNDY	13.80	13.79	1.15	0.81	17.47		0.65	3.67
2009	684626.92	602887.74	BNDY	13.90	13.94	1.08	0.71	17.56		0.58	3.62
2010	684610.55	602906.64	BNDY	13.99	14.08	1.02	0.60	17.68		0.55	3.60
2011	684589.1204	602931.3825	BNDY	6.65	6.66	1.24		17.76		0.56	11.10

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2012	684575.9627	602946.5728	BNDY	13.30	13.28	1.28		17.39		0.53	4.11
2013	684545.08	602982.23	BNDY	13.75	13.76	1.26	0.65	16.62		0.50	2.86
2014	684561.447	602963.331	BNDY	14.75	14.79	1.14		17.09		0.63	2.31
2015	684528.71	603001.12	BNDY	12.84	12.83	1.19	0.64	16.17		0.51	3.34
2016	684512.34	603020.02	BNDY	11.93	12.01	1.13	0.72	15.83		0.54	3.82
2017	684495.97	603038.92	BNDY	11.01	11.06	1.06	0.77	15.35		0.67	4.29
2018	684479.61	603057.81	BNDY	10.10	10.06	1.15	0.82	14.80		0.62	4.74
2019	684463.24	603076.71	BNDY	9.19	9.14	1.31	0.50	14.33		1.61	5.19
2020	684446.87	603095.61	BNDY	8.28	8.34	1.16	0.66	13.64		1.10	5.30
2021	684430.50	603114.50	BNDY	7.48	7.52	1.16	0.84	12.50		0.88	4.98
2022	684414.13	603133.40	BNDY	6.81	6.88	1.19	0.74	12.07		0.62	5.20
2023	684397.77	603152.30	BNDY	6.28	6.36	1.16	0.88	12.13		0.67	5.76
2024	684381.40	603171.20	BNDY	6.50	6.46	1.26	0.84	12.10		0.96	5.65
2025	684365.0301	603190.0917	BNDY	6.55	6.51	1.27		11.97		0.46	5.46
2026	684348.6621	603208.9884	BNDY	6.83	6.80	1.26		11.99		0.61	5.18
2027	684332.29	603227.89	BNDY	6.81	6.78	1.16	0.68	11.94		1.42	5.16
2028	684315.93	603246.78	BNDY	7.74	7.83	1.11	0.59	11.86		1.48	4.04
2029	684299.56	603265.68	BNDY	7.92	7.91	1.17	0.67	11.63		1.43	3.73
2030	684283.19	603284.58	BNDY	8.06	8.14	1.02	0.63	11.32		1.30	3.19
2031	684258.4125	603313.1804	BNDY	8.20	8.12	1.24		11.68		1.77	3.56
2032	684238.1787	603303.292	BNDY	7.08	7.09	1.16		10.44		0.75	3.35
2033	684215.7175	603292.3151	BNDY	6.83	6.86	1.21		10.58		0.55	3.72
2034	684193.2563	603281.3381	BNDY	6.47	6.48	1.17		10.48		0.63	4.00
2035	684170.795	603270.3612	BNDY	6.39	6.38	1.17		10.11		0.59	3.73
2036	684148.3338	603259.3842	BNDY	6.33	6.35	1.08		9.61		0.55	3.26
2037	684124.1262	603238.3439	BNDY	6.10	6.16	1.05		8.89		0.48	2.73
2038	684149.11	603209.50	BNDY	6.10	6.14	1.11	0.70	9.04		0.52	2.90
2039	684165.48	603190.60	BNDY	6.10	6.16	1.12	0.59	9.08		0.55	2.92
2040	684182.05	603171.63	BNDY	6.11	6.14	1.12	0.58	9.08		0.54	2.95
2041	684198.59	603153.14	BNDY	6.13	6.06	1.18	0.65	9.09		0.52	3.04
2042	684214.58	603133.91	BNDY	6.10	6.15	1.16	0.57	9.10		0.49	2.95
2043	684230.9841	603114.9778	BNDY	4.58	4.59	1.07		9.74		0.60	5.15
2044	684247.3179	603096.1207	BNDY	6.24	6.21	1.14		9.60		0.58	3.39
2045	684263.6863	603077.2236	BNDY	5.91	5.92	1.08		9.72		0.67	3.80

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2046	684280.05	603058.33	BNDY	4.16	4.18	1.17	0.61	9.87		0.67	5.69
2047	684296.42	603039.43	BNDY	4.26	4.26	1.09	0.66	9.98		0.58	5.73
2048	684312.79	603020.53	BNDY	4.62	4.62	1.19	0.55	10.27		0.59	5.65
2049	684329.16	603001.64	BNDY	5.15	5.11	1.26	0.53	10.53		0.62	5.41
2050	684345.53	602982.74	BNDY	5.85	5.82	1.29	0.45	10.79		0.54	4.97
2051	684361.89	602963.84	BNDY	6.71	6.75	1.04	0.65	11.24		0.74	4.49
2052	684378.26	602944.95	BNDY	7.74	7.79	1.21	0.69	12.20		0.63	4.41
2053	684394.63	602926.05	BNDY	8.91	8.97	1.16	0.50	13.28		0.56	4.31
2054	684411.00	602907.15	BNDY	10.10	10.02	1.24	0.53	14.50		0.67	4.48
2055	684427.9409	602887.5938	BNDY	8.45	8.54	0.99		15.56		0.66	7.02
2056	684443.7347	602869.3601	BNDY	10.37	10.38	1.10		16.56		0.56	6.18
2057	684459.7017	602850.9264	BNDY	5.87	5.95	1.18		17.65		0.53	11.70
2058	684476.47	602831.57	BNDY	9.77	9.75	1.17	0.68	18.94		0.51	9.19
2059	684492.84	602812.67	BNDY	9.33	9.41	1.12	0.52	20.12		0.55	10.71
2060	684509.31	602793.66	BNDY	8.89	8.98	1.11	0.50	20.99		0.53	12.00
2061	684525.58	602774.88	BNDY	8.46	8.43	1.27	0.51	20.87		0.49	12.44
2062	684541.94	602755.98	BNDY	8.03	8.12	1.07	0.71	20.87		0.59	12.75
2063	684558.31	602737.08	BNDY	7.60	7.61	1.21	0.56	20.23		0.63	12.62
2064	684574.68	602718.19	BNDY	7.16	7.15	1.12	0.56	20.08		0.53	12.93
2065	684591.05	602699.29	BNDY	6.73	6.70	1.10	0.66	20.05		0.56	13.35
2066	684607.42	602680.39	BNDY	6.29	6.33	1.19	0.82	19.71		0.57	13.37
2067	684623.78	602661.50	BNDY	5.86	5.85	1.21	0.55	19.23		0.61	13.38
2068	684640.15	602642.60	BNDY	5.43	5.37	1.14	0.87	18.68		0.53	13.31
2069	684743.44	602706.51	GRID	17.78	17.79	1.16	0.48	20.00		0.57	2.21
2070	684743.44	602731.51	GRID	15.37	15.39	1.16	0.71	19.42		0.60	4.03
2071	684718.44	602756.51	GRID	15.80	15.79	1.14	1.03	20.68		0.61	4.88
2072	684718.44	602706.51	GRID	18.02	18.02	1.18	0.50	20.38		0.52	2.36
2073	684693.44	602706.51	GRID	15.37	15.35	1.18	1.24	20.69		0.56	5.34
2074	684693.44	602731.51	GRID	18.43	18.47	1.13	0.53	21.03		0.50	2.56
2075	684693.44	602756.51	GRID	18.84	18.84	1.10	0.60	21.19		0.58	2.36
2076	684693.44	602781.51	GRID	19.25	19.26	1.08	0.59	21.45		0.52	2.19
2077	684668.44	602806.51	GRID	17.44	17.40	1.22	0.51	21.63		0.62	4.23
2078	684668.44	602781.51	GRID	17.08	17.10	1.14	0.56	21.38		0.54	4.28
2079	684668.44	602756.51	GRID	16.38	16.40	1.16	0.57	21.08		0.53	4.69

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2080	684668.44	602731.51	GRID	15.99	15.95	1.21	0.70	21.03		0.55	5.08
2081	684668.44	602706.51	GRID	18.32	18.33	1.11	0.52	20.75		0.54	2.43
2082	684668.44	602681.51	GRID	17.91	17.82	1.27	0.50	20.31		0.49	2.48
2083	684668.44	602656.51	GRID	14.93	14.87	1.28	0.80	19.61		0.56	4.73
2084	684643.44	602706.51	GRID	18.61	18.56	1.22	0.53	20.88		0.57	2.32
2085	684643.44	602731.51	GRID	16.27	16.19	1.29	0.50	21.08		0.59	4.88
2086	684643.44	602756.51	GRID	16.85	16.78	1.22	0.52	21.19		0.56	4.40
2087	684643.44	602781.51	GRID	17.25	17.23	1.23	0.49	21.59		0.57	4.36
2088	684643.44	602806.51	GRID	17.61	17.60	1.18	0.76	21.92		0.55	4.32
2089	684643.44	602831.51	GRID	17.71	17.69	1.21	0.83	22.32		0.55	4.63
2090	684618.44	602731.51	GRID	16.56	16.60	1.19	0.45	21.10		0.58	4.50
2091	684618.44	602756.51	GRID	17.06	17.07	1.18	0.52	21.45		0.55	4.38
2092	684618.44	602781.51	GRID	17.42	17.43	1.14	0.57	21.79		0.55	4.37
2093	684618.44	602806.51	GRID	17.59	17.56	1.21	0.58	22.16		0.54	4.59
2094	684618.44	602831.51	GRID	17.69	17.63	1.21	0.55	22.41		0.55	4.79
2095	684618.44	602856.51	GRID	20.32	20.30	1.17	0.57	22.66		0.64	2.37
2096	684593.44	602881.51	GRID	19.56	19.51	1.16	0.58	22.18		0.75	2.67
2097	684593.44	602856.51	GRID	19.93	19.88	1.22	0.49	22.40		0.73	2.52
2098	684593.44	602806.51	GRID	17.57	17.50	1.24	0.53	22.20		0.57	4.70
2099	684593.44	602781.51	GRID	17.47	17.47	1.17	0.57	21.94		0.58	4.47
2100	684593.44	602756.51	GRID	17.23	17.22	1.22	0.48	21.62		0.62	4.40
2101	684593.44	602706.51	GRID	6.81	6.79	1.23	0.60	20.38		0.58	13.59
2102	684568.44	602731.51	GRID	7.41	7.46	1.13	0.55	20.44		0.68	12.97
2103	684568.44	602781.51	GRID	17.44	17.39	1.22	0.57	21.82		0.53	4.43
2104	684568.44	602831.51	GRID	19.87	19.85	1.12	0.65	22.32		0.70	2.47
2105	684568.44	602856.51	GRID	19.43	19.38	1.21	0.56	21.98		0.77	2.59
2106	684568.44	602881.51	GRID	18.79	18.77	1.16	0.57	21.39		0.75	2.62
2108	684543.4362	602956.5129	GRID	14.35	14.32	1.26		19.11		0.55	4.79
2109	684543.4362	602931.5129	GRID	13.88	13.96	1.03		19.21		0.65	5.25
2110	684543.4362	602906.5129	GRID	6.37	6.46	1.14		19.75		0.58	13.29
2111	684543.44	602856.51	GRID	18.74	18.76	1.12	0.57	21.17		0.72	2.41
2112	684543.44	602831.51	GRID	19.47	19.49	1.14	0.55	21.74		0.58	2.26
2113	684543.44	602806.51	GRID	19.60	19.64	1.10	0.65	22.07		0.59	2.43
2114	684518.44	602831.51	GRID	18.61	18.57	1.28	0.45	20.90		0.60	2.33

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
2115	684518.44	602856.51	GRID	18.10	18.16	1.20	0.46	20.30		0.49	2.15
2116	684518.4362	602906.5129	GRID	12.95	12.99	1.11		19.06		0.59	6.08
2117	684518.4362	602931.5129	GRID	13.70	13.78	1.16		19.13		0.54	5.35
2118	684518.44	602956.51	GRID	16.84	16.83	1.11	0.58	19.00		0.49	2.18
2119	684518.44	602981.51	GRID	15.93	15.93	1.10	0.60	18.18		0.54	2.24
2121	684493.44	603006.51	GRID	14.49	14.44	1.20	0.53	16.76		0.59	2.32
2122	684493.44	602981.51	GRID	14.91	14.90	1.14	0.57	17.23		0.62	2.33
2123	684493.44	602956.51	GRID	15.48	15.48	1.19	0.54	17.94		0.55	2.47
2124	684493.44	602931.51	GRID	16.57	16.66	1.01	0.62	18.79		0.50	2.13
2125	684493.4362	602906.5129	GRID	13.39	13.44	1.16		18.71		0.60	5.27
2126	684493.44	602831.51	GRID	9.60	9.61	1.19	0.48	19.85		0.50	10.24
2127	684468.44	603031.51	GRID	13.11	13.10	1.17	0.53	15.41		0.62	2.31
2128	684468.44	603006.51	GRID	13.49	13.50	1.10	0.58	15.81		0.63	2.31
2129	684468.44	602981.51	GRID	13.91	13.92	1.21	0.50	16.27		0.64	2.35
2130	684468.44	602956.51	GRID	14.41	14.46	1.09	0.58	16.76		0.60	2.30
2131	684468.44	602931.51	GRID	15.04	15.05	1.12	0.55	17.57		0.54	2.52
2132	684468.4362	602856.5129	GRID	5.94	5.95	1.12		18.08		0.61	12.13
2133	684443.4362	602881.5129	GRID	7.90	7.89	1.11		16.78		0.71	8.89
2134	684443.4362	602906.5129	GRID	12.14	12.14	1.14		16.66		0.62	4.52
2135	684443.44	602931.51	GRID	13.75	13.83	1.07	0.61	16.15		0.65	2.33
2136	684443.44	602956.51	GRID	13.27	13.32	1.16	0.47	15.60		0.65	2.28
2137	684443.44	602981.51	GRID	12.85	12.85	1.09	0.62	15.17		0.61	2.32
2138	684443.44	603006.51	GRID	12.44	12.46	1.11	0.54	14.78		0.67	2.32
2139	684443.44	603031.51	GRID	12.01	11.99	1.15	0.58	14.38		0.67	2.39
2140	684443.44	603056.51	GRID	11.69	11.64	1.14	0.55	13.96		0.63	2.32
2141	684443.44	603081.51	GRID	11.40	11.37	1.15	0.60	13.63		0.51	2.26
2142	684418.44	603106.51	GRID	10.24	10.18	1.26	0.49	12.46		0.54	2.28
2143	684418.44	603081.51	GRID	10.44	10.46	1.10	0.59	12.79		0.64	2.33
2144	684418.44	603056.51	GRID	10.65	10.58	1.17	0.59	13.22		0.79	2.64
2145	684418.44	603031.51	GRID	10.92	10.83	1.21	0.77	13.42		0.61	2.59
2146	684418.44	603006.51	GRID	11.27	11.35	1.04	0.73	13.83		0.71	2.48
2147	684418.44	602981.51	GRID	11.70	11.69	1.19	0.50	14.07		0.69	2.38
2148	684418.44	602956.51	GRID	12.12	12.10	1.21	0.52	14.50		0.67	2.40
2149	684418.44	602906.51	GRID	9.84	9.79	1.34	0.64	15.00		0.55	5.21

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
2150	684393.44	602931.51	GRID	8.63	8.62	1.19	0.75	13.32		0.64	4.70
2151	684393.44	602956.51	GRID	10.95	10.94	1.19	0.66	13.29		0.49	2.34
2152	684393.44	602981.51	GRID	10.53	10.56	1.21	0.65	13.01		0.60	2.45
2153	684393.44	603006.51	GRID	10.15	10.09	1.19	0.55	12.68		0.79	2.59
2154	684393.44	603031.51	GRID	9.91	9.90	1.17	0.58	12.31		0.66	2.41
2155	684393.44	603056.51	GRID	9.70	9.65	1.20	0.56	12.02		0.61	2.37
2156	684393.44	603106.51	GRID	9.38	9.33	1.25	0.53	11.70		0.52	2.37
2157	684393.44	603131.51	GRID	9.32	9.24	1.18	0.64	11.91		0.61	2.67
2159	684368.4362	603181.5129	GRID	6.44	6.36	1.29		11.99		0.55	5.63
2160	684368.44	603156.51	GRID	8.56	8.52	1.29	0.53	11.62		0.62	3.10
2161	684368.44	603131.51	GRID	8.65	8.58	1.18	0.62	11.41		0.52	2.83
2162	684368.44	603106.51	GRID	8.75	8.68	1.19	0.64	11.31		0.59	2.63
2163	684368.44	603056.51	GRID	8.85	8.80	1.14	0.61	11.37		0.52	2.57
2164	684368.44	603031.51	GRID	8.98	8.95	1.14	0.56	11.52		0.58	2.56
2165	684368.44	603006.51	GRID	9.17	9.13	1.25	0.52	11.54		0.55	2.41
2166	684368.44	602981.51	GRID	9.38	9.32	1.32	0.48	11.79		0.67	2.47
2167	684343.44	603006.51	GRID	8.26	8.19	1.28	0.48	10.85		0.60	2.66
2168	684343.44	603031.51	GRID	8.15	8.11	1.17	0.58	10.78		0.56	2.66
2169	684343.44	603056.51	GRID	8.17	8.16	1.13	0.58	10.76		0.54	2.60
2170	684343.44	603106.51	GRID	8.37	8.37	1.09	0.66	10.91		0.55	2.53
2171	684343.44	603131.51	GRID	8.36	8.39	1.08	0.62	10.97		0.54	2.59
2172	684343.4362	603181.5129	GRID	6.47	6.46	1.14		11.46		1.02	5.01
2173	684343.4362	603206.5129	GRID	6.78	6.70	1.26		11.85		0.56	5.15
2174	684318.44	603231.51	GRID	8.81	8.74	1.22	0.54	11.68		1.18	2.94
2175	684318.44	603206.51	GRID	6.84	6.89	1.08	0.66	11.28		0.81	4.39
2176	684318.4362	603181.5129	GRID	6.51	6.46	1.20		10.99		0.59	4.53
2177	684318.4362	603156.5129	GRID	6.25	6.17	1.22		10.85		0.59	4.68
2178	684318.44	603031.51	GRID	4.71	4.79	1.14	0.66	10.30		0.46	5.52
2179	684293.44	603056.51	GRID	4.35	4.27	1.18	0.76	10.05		0.57	5.78
2180	684293.44	603081.51	GRID	7.37	7.32	1.30	0.71	10.21		0.60	2.89
2181	684293.4362	603131.5129	GRID	5.94	5.89	1.23		10.45		0.60	4.56
2182	684293.4362	603156.5129	GRID	6.32	6.33	1.11		10.59		0.52	4.26
2183	684293.44	603181.51	GRID	6.52	6.60	1.18	0.55	10.75		0.55	4.15
2184	684293.44	603206.51	GRID	7.97	7.98	1.14	0.58	10.92		0.57	2.94

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
2185	684293.44	603231.51	GRID	8.29	8.21	1.26	0.61	11.13		0.58	2.92
2186	684293.44	603256.51	GRID	8.50	8.46	1.43	0.45	11.56		1.03	3.09
2187	684268.44	603281.51	GRID	7.07	7.05	1.28	0.53	11.07		0.56	4.02
2188	684268.44	603256.51	GRID	8.18	8.12	1.25	0.52	11.04		0.62	2.92
2189	684268.44	603231.51	GRID	7.79	7.80	1.10	0.59	10.86		0.54	3.06
2190	684268.44	603206.51	GRID	7.41	7.49	1.12	0.56	10.77		0.58	3.29
2191	684268.44	603181.51	GRID	7.46	7.49	1.18	0.49	10.64		0.56	3.16
2192	684268.44	603156.51	GRID	6.21	6.19	1.12	0.66	10.48		0.55	4.30
2193	684268.4362	603131.5129	GRID	5.85	5.85	1.18		10.29		0.59	4.44
2194	684268.4362	603106.5129	GRID	3.07	3.12	1.06		10.16		0.62	7.04
2195	684268.4362	603081.5129	GRID	5.85	5.88	1.13		9.88		0.41	4.01
2196	684243.44	603131.51	GRID	2.98	3.02	1.10	0.67	10.13		0.53	7.11
2197	684243.44	603181.51	GRID	7.56	7.52	1.27	0.50	10.45		0.55	2.92
2198	684243.44	603206.51	GRID	7.25	7.29	1.08	0.66	10.59		0.52	3.29
2199	684243.44	603231.51	GRID	7.47	7.47	1.20	0.54	10.70		0.58	3.23
2200	684243.44	603256.51	GRID	7.83	7.79	1.22	0.54	10.69		0.53	2.90
2201	684243.4362	603281.5129	GRID	7.25	7.20	1.20		10.52		0.58	3.32
2202	684218.4362	603281.5129	GRID	6.93	6.95	1.14		10.53		0.50	3.58
2203	684218.44	603256.51	GRID	7.09	7.10	1.19	0.57	10.44		0.58	3.34
2204	684218.44	603231.51	GRID	7.43	7.43	1.19	0.52	10.42		0.52	2.99
2205	684218.44	603206.51	GRID	7.25	7.21	1.19	0.56	10.38		0.53	3.18
2206	684218.44	603156.51	GRID	7.69	7.70	1.14	0.54	10.15		0.59	2.45
2208	684193.4362	603181.5129	GRID	7.48	7.44	1.27	0.45	10.16		0.60	2.72
2209	684193.4362	603206.5129	GRID	7.25	7.28	1.09	0.59	10.17		0.56	2.89
2210	684193.4362	603231.5129	GRID	7.34	7.30	1.19	0.56	10.19		0.52	2.89
2211	684193.4362	603256.5129	GRID	6.74	6.76	1.14		10.24		0.60	3.48
2212	684168.4362	603256.5129	GRID	6.51	6.46	1.22		10.03		0.59	3.57
2213	684168.4362	603231.5129	GRID	6.45	6.50	1.15	0.61	10.04		0.59	3.54
2214	684168.4362	603206.5129	GRID	7.60	7.60	1.10	0.67	10.06		0.60	2.46
2215	684143.4362	603231.5129	GRID	6.43	6.49	1.19		9.76		0.65	3.27
2216	684768.70	602713.78	BRK	14.50	14.53	1.15	0.48	17.86		0.58	3.34
2217	684755.49	602705.02	BRK	14.78	14.86	1.07	0.56	19.36		0.60	4.50
2218	684750.5364	602706.2925	BRK	17.38	17.30	1.18	0.54	19.62		0.52	2.32
2219	684719.5112	602728.0937	BRK	18.07	17.99	1.30	0.45	20.61		0.56	2.62

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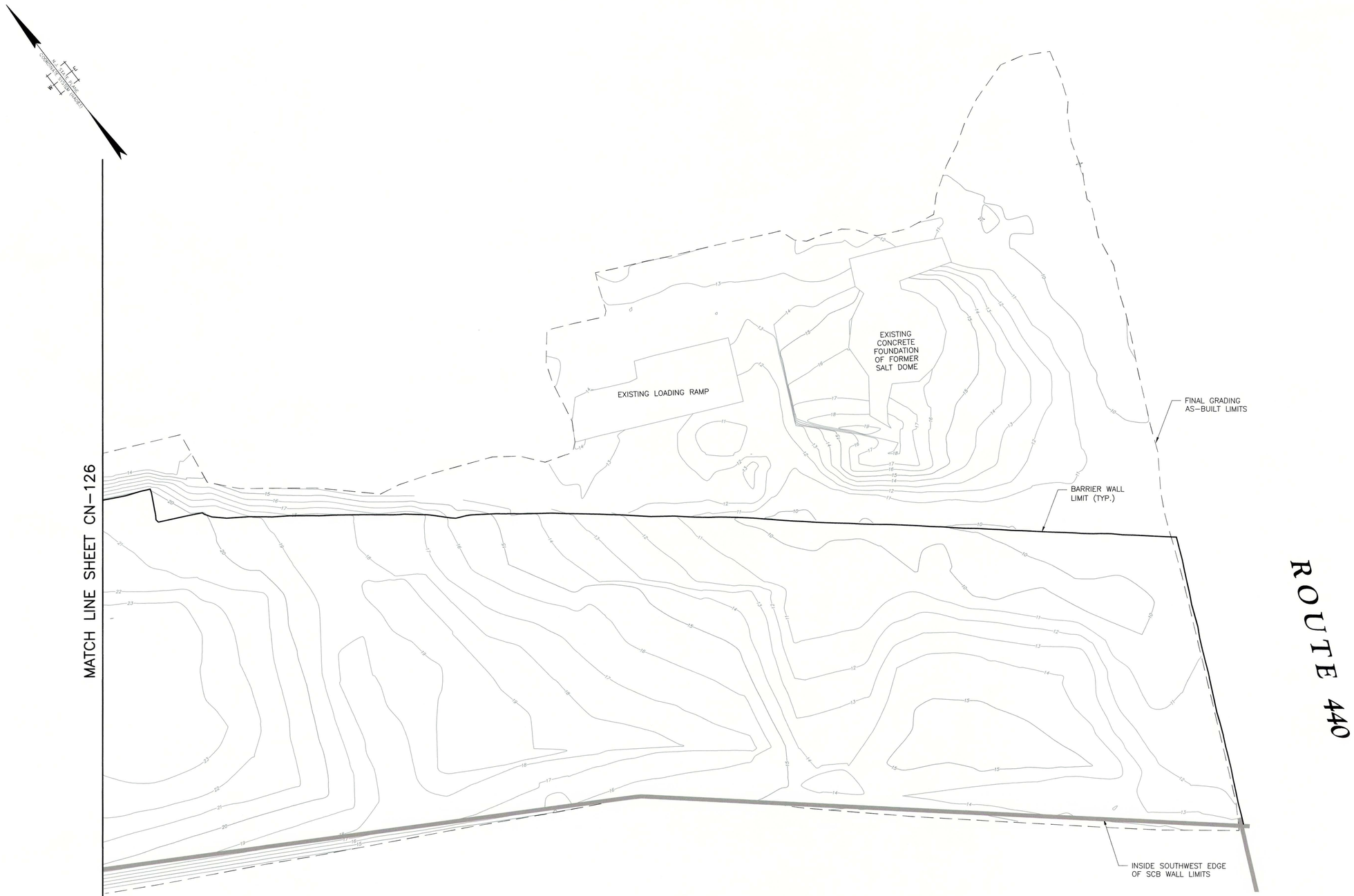
2220	684721.25	602731.77	BRK	15.36	15.36	1.23	0.79	20.54		0.55	5.18
2222	684686.52	602801.63	BRK	17.16	17.18	1.08	0.70	20.72		0.60	3.54
2223	684714.8245	602681.948	BRK	17.78	17.74	1.25	0.48	20.02		0.55	2.28
2224	684695.23	602678.31	BRK	15.18	15.25	1.15	0.79	20.15		0.63	4.90
2225	684691.1633	602677.7592	BRK	17.91	17.89	1.21	0.48	20.16		0.58	2.27
2226	684679.2563	602656.4152	BRK	17.47	17.43	1.18	0.53	19.79		0.65	2.37
2227	684678.94	602651.43	BRK	14.87	14.85	1.28	0.60	19.57		0.56	4.72
2228	684668.1313	602643.1239	BRK	14.48	14.54	1.04		19.15		0.57	4.61
2229	684657.2632	602634.2584	BRK	5.13	5.21	1.15		18.69		0.53	13.48
2230	684652.03	602663.18	BRK	15.06	15.12	1.05	0.59	19.65		0.53	4.53
2231	684641.00	602654.19	BRK	5.58	5.57	1.24	0.68	19.21		0.54	13.64
2232	684642.3753	602682.8752	BRK	18.24	18.17	1.23	0.52	20.37		0.45	2.20
2233	684640.23	602679.29	BRK	15.45	15.55	1.11	0.72	20.20		0.63	4.65
2234	684618.68	602681.55	BRK	6.20	6.28	1.15	0.79	20.09		0.70	13.81
2235	684632.7117	602692.9947	BRK	18.26	18.21	1.27	0.46	20.60		0.66	2.39
2236	684620.0994	602708.5791	BRK	18.67	18.58	1.22	0.51	20.95		0.63	2.37
2239	684603.43	602700.25	BRK	6.62	6.69	1.10	0.65	20.52		0.63	13.83
2240	684580.79	602728.00	BRK	7.24	7.30	1.12	0.76	20.82		0.76	13.52
2241	684592.09	602737.22	BRK	16.96	16.96	1.12	0.64	21.25		0.53	4.30
2245	684652.97	602837.52	BRK	17.97	17.92	1.14	0.63	21.66		0.60	3.73
2248	684632.9903	602849.2342	BRK	20.53	20.48	1.21	0.55	22.74		0.51	2.27
2249	684573.19	602760.13	BRK	17.37	17.33	1.24	0.50	21.53		0.54	4.21
2250	684562.02	602751.01	BRK	7.76	7.85	1.13	0.58	21.32		0.62	13.46
2251	684549.64	602787.35	BRK	17.30	17.31	1.11	0.56	21.81		0.53	4.50
2252	684539.27	602778.90	BRK	8.39	8.43	1.20	0.65	21.45		0.51	13.02
2253	684568.32	602806.28	BRK	17.40	17.45	1.20	0.67	22.12		0.56	4.67
2254	684565.5811	602809.0345	BRK	19.99	19.95	1.16	0.56	22.34		0.68	2.40
2255	684590.8103	602830.4334	BRK	20.31	20.27	1.13	0.58	22.50		0.52	2.23
2256	684593.43	602827.27	BRK	17.57	17.64	1.18	0.48	22.33		0.55	4.69
2257	684611.5712	602875.6442	BRK	20.29	20.21	1.18	0.58	22.52		0.54	2.31
2259	684588.8716	602908.3113	BRK	19.04	19.11	1.12	0.49	21.37		0.65	2.26
2261	684576.8825	602901.086	BRK	18.28	18.32	1.19	0.46	21.15		0.68	2.84
2262	684562.2754	602912.3889	BRK	6.48	6.55	1.12		20.16		0.60	13.61
2263	684546.9908	602879.913	BRK	18.10	18.01	1.23	0.58	20.48		0.52	2.46

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
2264	684536.885	602894.4246	BRK	6.32	6.38	1.19		19.87		0.58	13.49
2265	684518.8905	602881.693	BRK	6.20	6.26	1.20		19.67		0.59	13.41
2266	684529.1345	602867.2143	BRK	18.03	17.99	1.12	0.61	20.34		0.56	2.35
2267	684498.05	602850.83	BRK	14.79	14.79	1.20	0.65	19.61		0.55	4.81
2268	684490.4473	602861.5687	BRK	6.02	6.09	1.20		19.03		0.62	12.94
2269	684529.6237	602815.0512	BRK	19.24	19.20	1.12	0.59	21.47		0.55	2.26
2270	684517.71	602805.33	BRK	8.99	9.02	1.13	0.68	21.32		0.55	12.30
2271	684492.1914	603028.6259	BRK	14.08	14.16	1.03	0.59	16.31		0.52	2.14
2272	684495.31	603031.35	BRK	11.32	11.38	1.05	0.93	16.05		0.61	4.68
2273	684467.4432	603056.9831	BRK	12.70	12.63	1.22	0.56	14.91		0.51	2.28
2274	684470.54	603059.69	BRK	9.95	9.95	1.10	0.62	14.78		0.50	4.83
2275	684469.1556	602880.7528	BRK	13.16	13.25	1.10		18.07		0.59	4.83
2276	684420.7841	602931.9468	BRK	12.65	12.68	1.12	0.56	15.04		0.67	2.36
2277	684418.27	602928.58	BRK	9.85	9.93	1.18	0.79	14.81		0.62	4.88
2278	684497.2553	602878.6355	BRK	6.10	6.09	1.23		18.81		0.55	12.72
2279	684491.4795	602886.7988	BRK	12.77	12.69	1.19		18.60		0.56	5.92
2280	684466.7342	602909.2074	BRK	16.17	16.17	1.12	0.53	18.34		0.51	2.16
2281	684469.256	602906.0452	BRK	13.48	13.50	1.17		18.23		0.53	4.73
2282	684569.9023	602930.035	BRK	6.56	6.58	1.18		19.90		0.54	13.32
2283	684564.1649	602938.2256	BRK	13.23	13.27	1.17		19.44		0.54	6.18
2284	684462.8239	602873.5669	BRK	6.77	6.86	1.15		17.80		0.62	10.94
2285	684396.208	603081.167	BRK	9.60	9.51	1.21	0.58	11.89		0.58	2.38
2286	684394.9524	603084.8241	BRK	7.02	6.94	1.29	0.80	11.83		0.57	4.89
2287	684370.173	603081.0797	BRK	6.46	6.46	1.22	0.84	11.35		0.60	4.88
2288	684369.7302	603084.5148	BRK	8.77	8.80	1.17	0.57	11.25		0.54	2.45
2289	684346.8159	603155.6092	BRK	8.42	8.34	1.28	0.58	11.18		0.62	2.85
2290	684344.2815	603158.0189	BRK	6.97	6.96	1.23		11.16		0.71	4.20
2291	684343.8322	603080.6842	BRK	5.89	5.86	1.21	0.87	10.84		0.55	4.98
2292	684344.0192	603084.2703	BRK	8.28	8.25	1.22	0.54	10.86		0.58	2.62
2293	684318.4322	603058.4683	BRK	7.59	7.53	1.25	0.52	10.36		0.61	2.83
2294	684314.6302	603057.9817	BRK	5.03	5.12	1.16	0.82	10.34		0.61	5.23
2296	684244.6142	603103.2697	BRK	6.25	6.16	1.25		9.75		0.58	3.59
2297	684317.0076	603131.3066	BRK	6.55	6.47	1.30		10.67		0.58	4.21
2298	684318.8822	603129.9683	BRK	8.06	8.09	1.10	0.56	10.73		0.57	2.64

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
2299	684244.4868	603157.7645	BRK	7.52	7.53	1.10	0.61	10.36		0.59	2.83
2300	684238.7773	603154.4036	BRK	3.11	3.14	1.22	0.59	10.26		0.58	7.12
2301	684221.7368	603183.6523	BRK	7.75	7.68	1.20	0.55	10.33		0.57	2.66
2302	684225.099	603177.8813	BRK	3.30	3.26	1.21	0.80	10.31		0.59	7.05
2303	684293.4362	603106.5129	GRID	7.12	7.15	1.15	0.75	10.33		0.55	3.18
2304	684318.4362	603081.5129	GRID	5.36	5.28	1.35	0.78	10.53		0.63	5.25
2305	684268.0011	603302.1104	BNDY	8.15	8.20	1.14		11.54		1.61	3.34
2306	684383.2214	603153.3604	BRK	8.95	8.87	1.19	0.61	11.85		0.54	2.98
2307	684386.53	603155.86	BRK	6.58	6.53	1.30	0.82	11.96		0.56	5.43
2308	684541.16	602978.86	BRK	13.86	13.78	1.33	0.77	18.44		0.49	4.66
2309	684537.9282	602976.1552	BRK	16.66	16.72	1.03	0.54	19.01		0.56	2.29
2310	684519.64	603003.49	BRK	12.67	12.64	1.25	0.82	17.60		0.56	4.95
2311	684516.5171	603000.7679	BRK	15.43	15.47	1.05	0.58	17.70		0.59	2.22
2312	684688.247	602662.9919	BRK	17.62	17.65	1.20	0.46	19.87		0.55	2.21
2313	684666.34	602822.94	BRK	17.70	17.62	1.21	0.58	21.27		0.48	3.65

ATTACHMENT M-2
SA-6 NORTH AND SOUTH FINAL GRADE TOPOGRAPHIC



LEGEND:

5 MAJOR CONTOUR
4 MINOR CONTOUR

0 20 40 80
SCALE IN FEET

GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW FINAL GRADING ELEVATIONS WITHIN THE SA6 NORTH CAP AREA AT THE PROJECT SITE.
2. FINAL GRADING LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS FROM NOV. 4, 2016 THROUGH NOV. 28, 2016
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

R. THOMAS HUGG

NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER: GS35737

NO.	DATE	REVISION	BY	APVD
0.	1/24/17	SA-6 NORTH FINAL GRADING	DMS	RTH
DSGN		DR	CHK	APVD

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 NORTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

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DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
NORTH CAP FINAL GRADING PLAN

FILE NUMBER
12001511A

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 08223

amec foster wheeler
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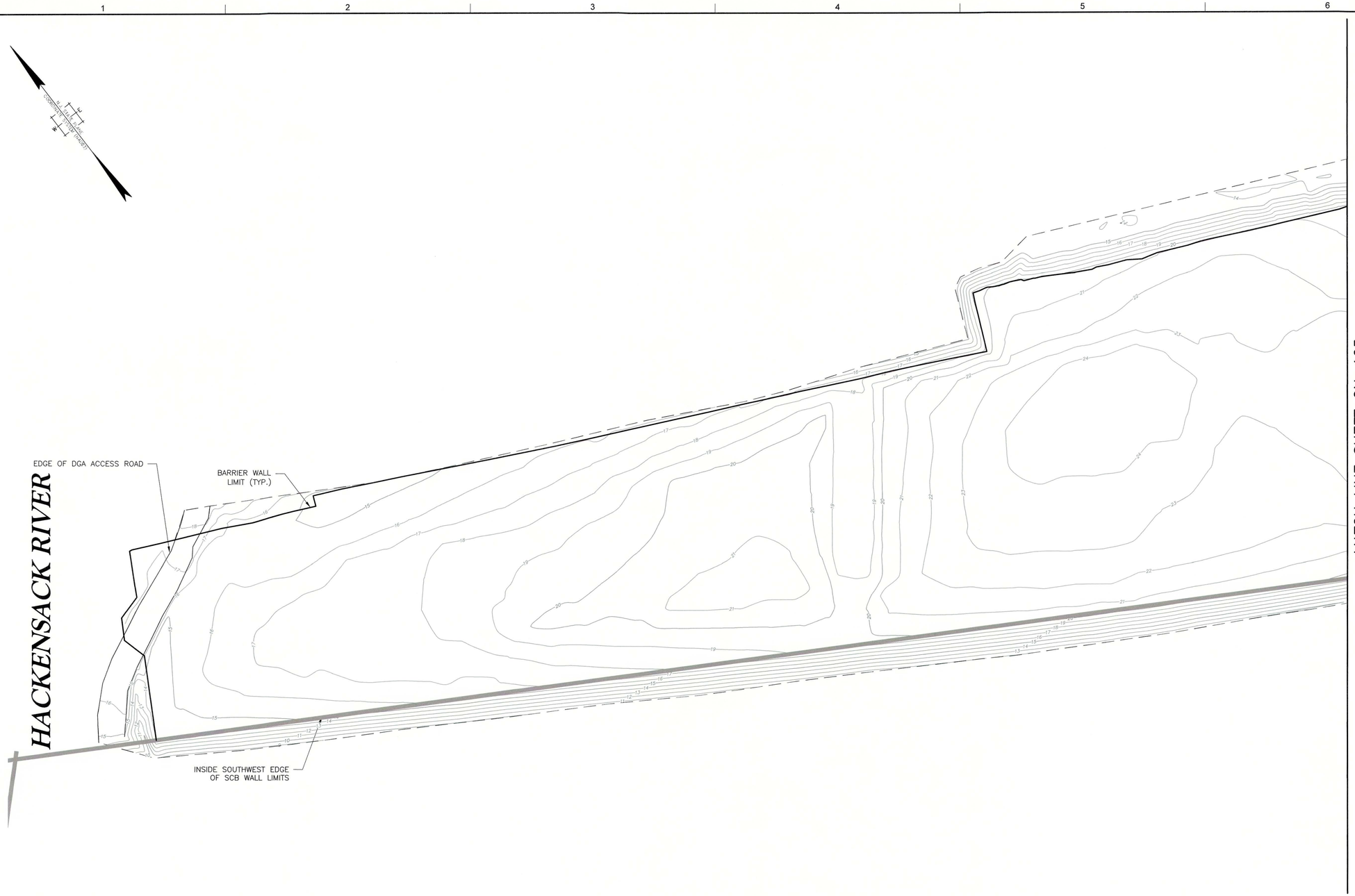
SHEET	1 OF 2



LEGEND:

5 MAJOR CONTOUR
4 MINOR CONTOUR

0 20 40 80
SCALE IN FEET

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FILE NUMBER
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DWG	CN-126
SHEET	2 OF 2

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NO.	DATE		BY	
0	1/24/17	SA-6 NORTH FINAL GRADING	DMS	RTH
		REVISION	BY	APVD
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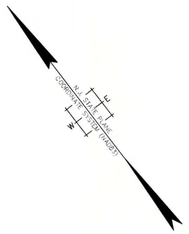

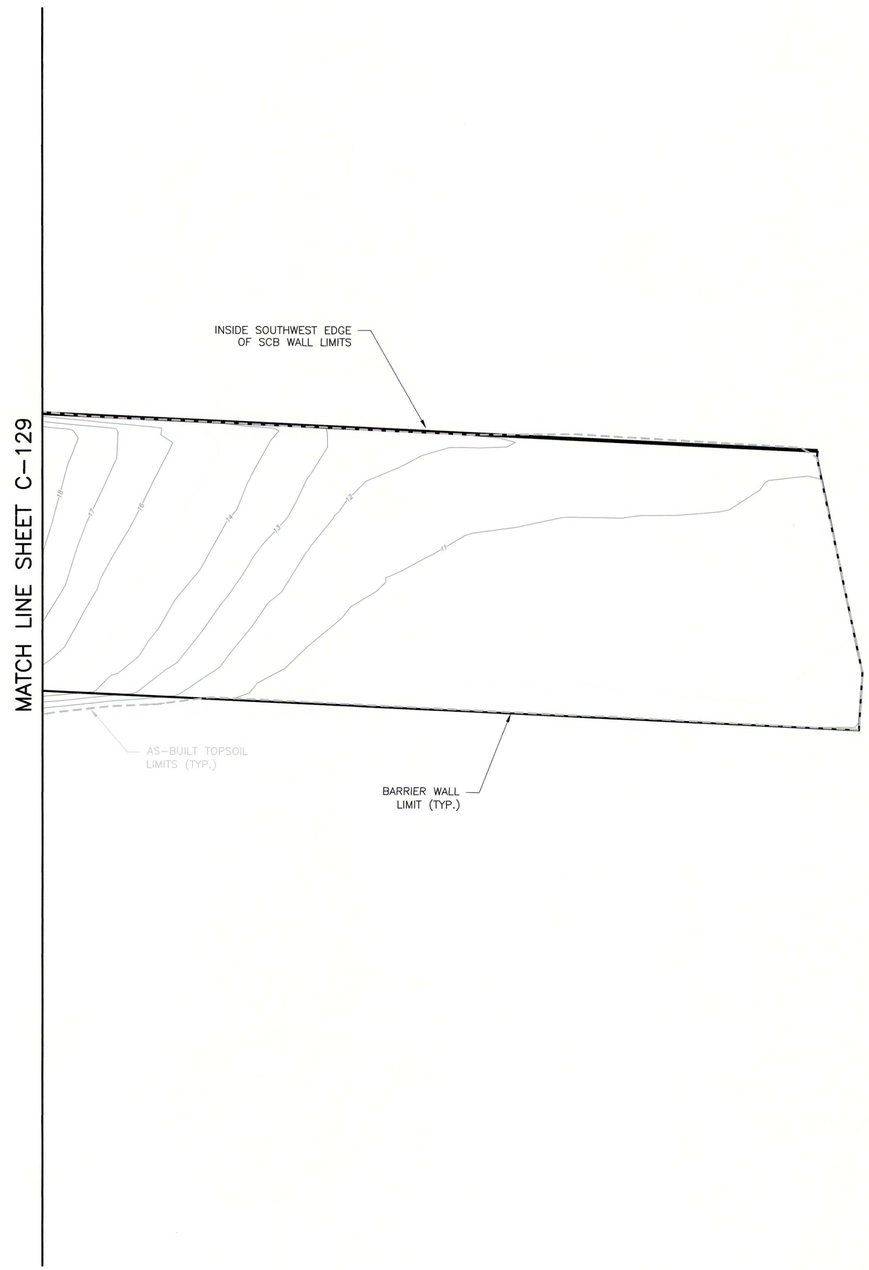

LEGEND:

5 — MAJOR CONTOUR
4 — MINOR CONTOUR

0 20 40 80
SCALE IN FEET

GENERAL NOTES

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3. *HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.*

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FILE NUMBER
12001511A

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
SOUTH CAP TOPSOIL
GRADING PLAN

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

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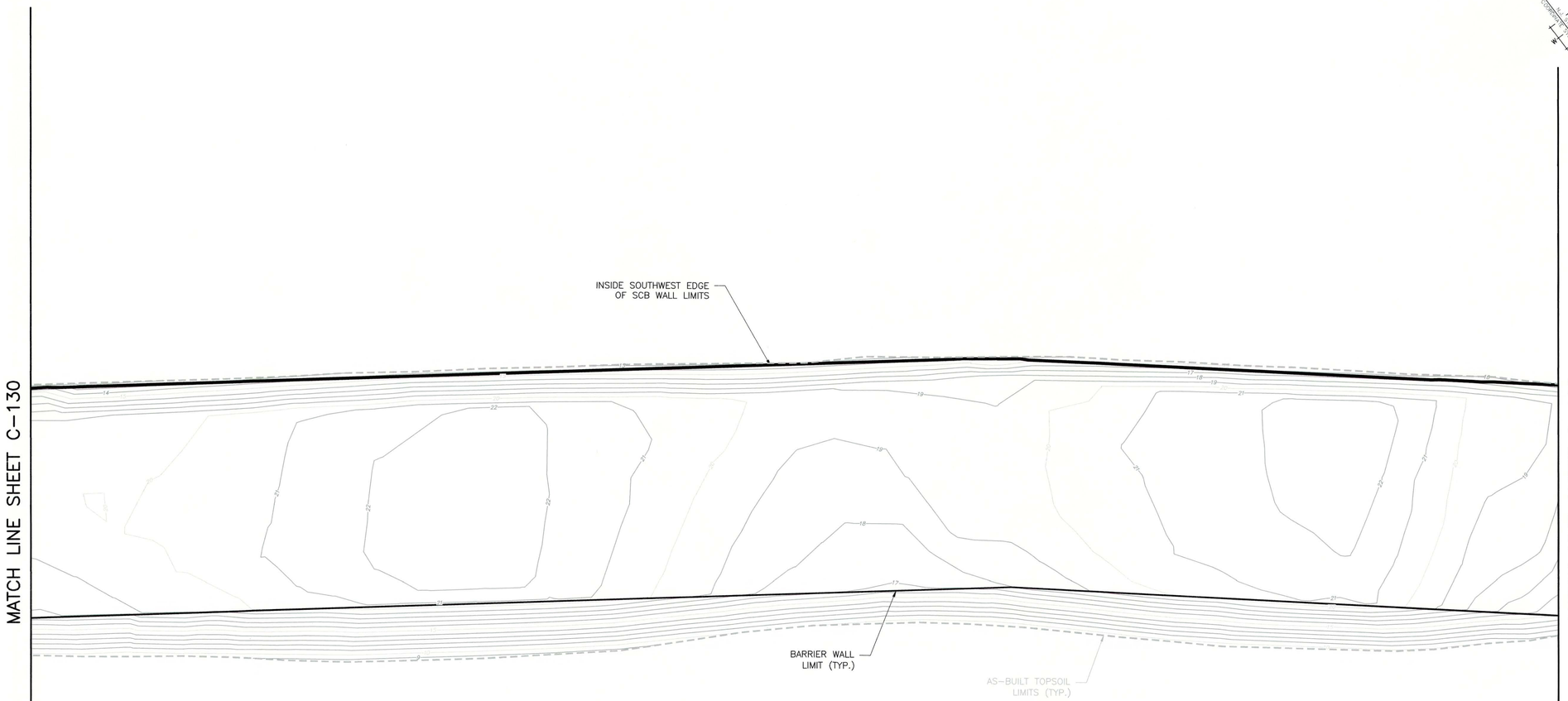
PROJ	3480-10-0027
DWG	C-128
SHEET	1 OF 3



LEGEND:

5 MAJOR CONTOUR
4 MINOR CONTOUR

0 20 40 80
SCALE IN FEET

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3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

NO.	DATE	REVISION	BY	APVD
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FILE NUMBER 12001511A

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CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
SOUTH CAP TOPSOIL
GRADING PLAN

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DATE	12/20/16
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DWG	C-129
SHEET	2 OF 3

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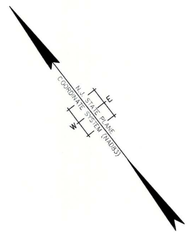

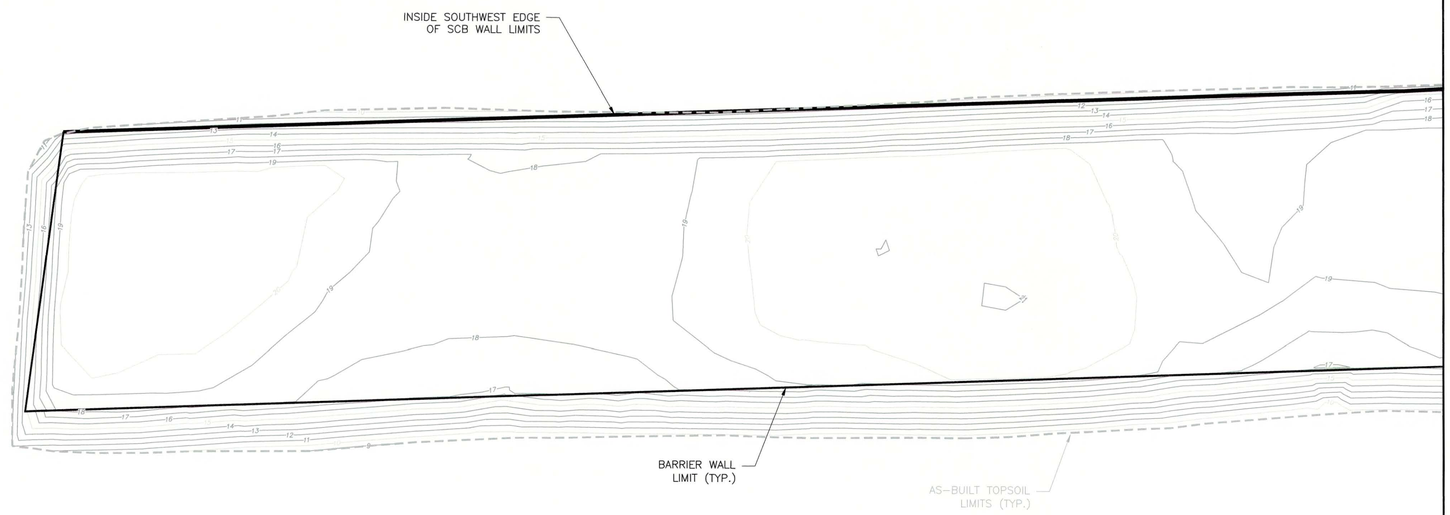

MATCH LINE SHEET C-129

LEGEND:

5 MAJOR CONTOUR
4 MINOR CONTOUR

0 20 40 80
SCALE IN FEET

GENERAL NOTES

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FILE NUMBER 12001511A

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
SOUTH CAP TOPSOIL
GRADING PLAN

amec foster wheeler
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(609) 689 - 2329

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0 1"

DATE	12/20/16
PROJ	3480-10-0027
DWG	C-130
SHEET	3 OF 3

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101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

NO.	DATE	REVISION	BY	APVD
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LICENSE NUMBER GS36737

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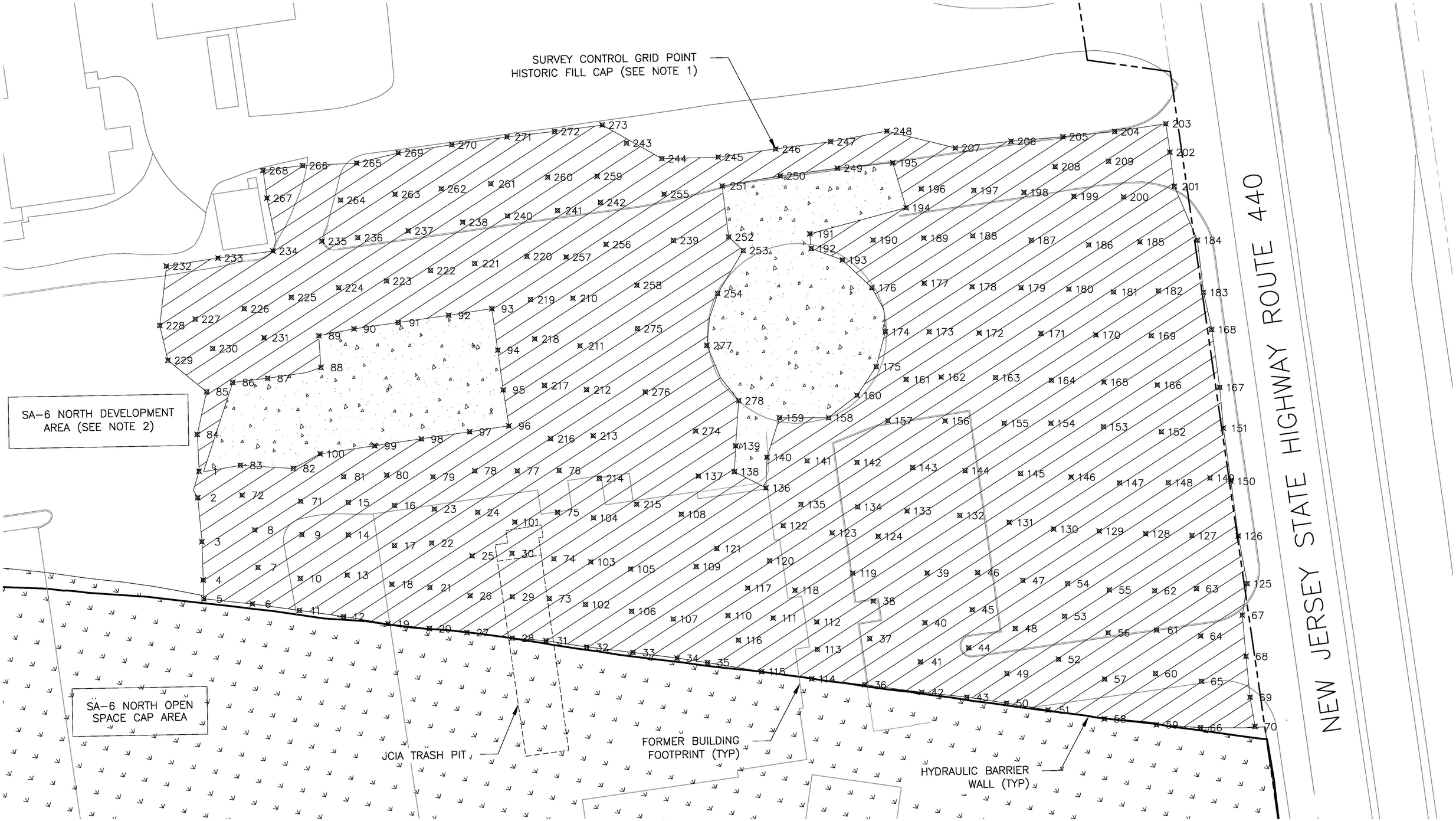
ATTACHMENT N-1
SA-6 NORTH DEVELOPMENT AREA SURVEY CONTROL GRID AND AS-BUILT SUMMARY



NOTES:

1. REFER TO TABLE 1 – STONE COVER THICKNESS SUMMARY FOR SURVEY DOCUMENTATION OF 6 INCH HISTORIC FILL CAP INSTALLATION. TABLE PROVIDES SURVEYED SUBGRADE PRIOR TO DEPLOYMENT OF DEMARCATION LAYER AND FINAL TOP OF STONE ELEVATIONS.

2. HISTORIC FILL CAP OVER REMAINDER OF SA-6 NORTH DEVELOPMENT AREA TO BE INSTALLED BY OTHERS AS PART OF THE NON CHROMIUM REMEDIATION ACTIVITIES.

LEGEND

- HISTORIC FILL CAP – AASHTO #57 STONE
- EXISTING CONCRETE
- VEGETATIVE CAP AREA

0 40 80 160
SCALE IN FEET

Prepared/Date: TDD 2/23/17
Checked/Date: NAW 2/27/17

Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 889 - 2829
NJ Certificate of Authorization Number 24GA28016300

SURVEY CONTROL GRID
HISTORIC FILL STONE CAP
Project 3480-13-0354
FIGURE 1

C:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North RAR\SA-6 North HF Stone Cap Control Grid.dwg Mon, 27 Feb 2017 - 4:21pm tony.donovan

Honeywell SA-6 North
Devlopment Area Historic Fill Cap - JCIA Stone Area
Jersey City, New Jersey

Prepared By: T. Donovan 2/21/17
Checked By:

TABLE 1 - STONE COVER THICKNESS SUMMARY

Point	Northing	Easting	Surveyed Subgrade	Surveyd Final Grade	Installed Stone Thickness
1	685523.28	603405.93	13.40	13.93	0.53
2	685513.73	603399.02	13.18	13.79	0.61
3	685496.18	603389.85	12.79	13.32	0.53
4	685481.52	603381.02	12.44	12.96	0.52
5	685474.27	603376.65	12.22	12.78	0.56
6	685460.54	603393.63	11.78	12.33	0.55
7	685472.85	603404.64	12.25	12.76	0.52
8	685487.69	603412.55	12.17	12.74	0.57
9	685474.43	603429.07	12.00	12.73	0.72
10	685458.39	603417.84	11.98	12.52	0.54
11	685446.63	603409.72	11.32	11.84	0.52
12	685433.57	603424.77	10.72	11.35	0.63
13	685448.21	603436.25	12.08	12.63	0.55
14	685463.05	603446.44	11.72	12.66	0.94
15	685475.20	603454.36	11.89	12.55	0.67
16	685462.84	603470.96	11.02	11.69	0.67
17	685447.76	603461.24	11.71	12.28	0.58
18	685433.94	603450.78	11.97	12.53	0.56
19	685419.97	603439.68	10.56	11.08	0.53
20	685408.16	603454.03	10.12	10.66	0.54
21	685423.48	603464.23	11.91	12.45	0.54
22	685439.65	603475.75	11.10	11.64	0.55
23	685451.75	603485.07	10.30	10.83	0.53
24	685439.98	603500.51	10.17	10.74	0.56
25	685425.05	603487.84	11.95	12.50	0.55
26	685410.56	603477.32	12.19	12.72	0.53
27	685397.54	603467.19	9.67	10.36	0.68
28	685384.42	603482.80	9.58	10.13	0.55
29	685399.85	603492.96	12.37	12.89	0.52
30	685416.20	603503.33	12.77	13.29	0.53
31	685375.27	603494.81	9.31	9.87	0.56
32	685362.92	603508.54	8.95	9.81	0.86
33	685349.54	603524.64	9.29	10.07	0.78
34	685336.73	603539.80	9.41	10.19	0.78
35	685327.61	603550.13	9.40	9.92	0.52
36	685281.01	603603.74	9.37	9.97	0.60
37	685297.06	603616.87	9.99	10.86	0.86
38	685310.26	603627.35	12.43	13.39	0.96
39	685307.69	603654.40	13.06	13.61	0.56
40	685289.59	603641.42	10.44	12.02	1.59
41	685276.06	603630.23	9.72	10.23	0.52
42	685264.24	603623.31	9.41	9.93	0.53
43	685251.42	603639.00	9.41	9.97	0.56
44	685269.54	603651.81	10.00	10.67	0.67
45	685282.97	603662.38	11.65	12.21	0.56
46	685295.57	603673.40	12.02	12.60	0.59
47	685281.54	603688.46	11.24	11.76	0.53
48	685265.41	603673.94	10.38	10.92	0.54
49	685250.53	603659.83	9.63	10.18	0.55
50	685239.56	603652.46	9.51	10.07	0.56
51	685226.86	603666.40	9.69	10.28	0.59
52	685243.34	603682.70	9.97	10.56	0.59
53	685257.98	603695.42	10.53	11.07	0.54
54	685269.45	603704.51	10.76	11.30	0.53

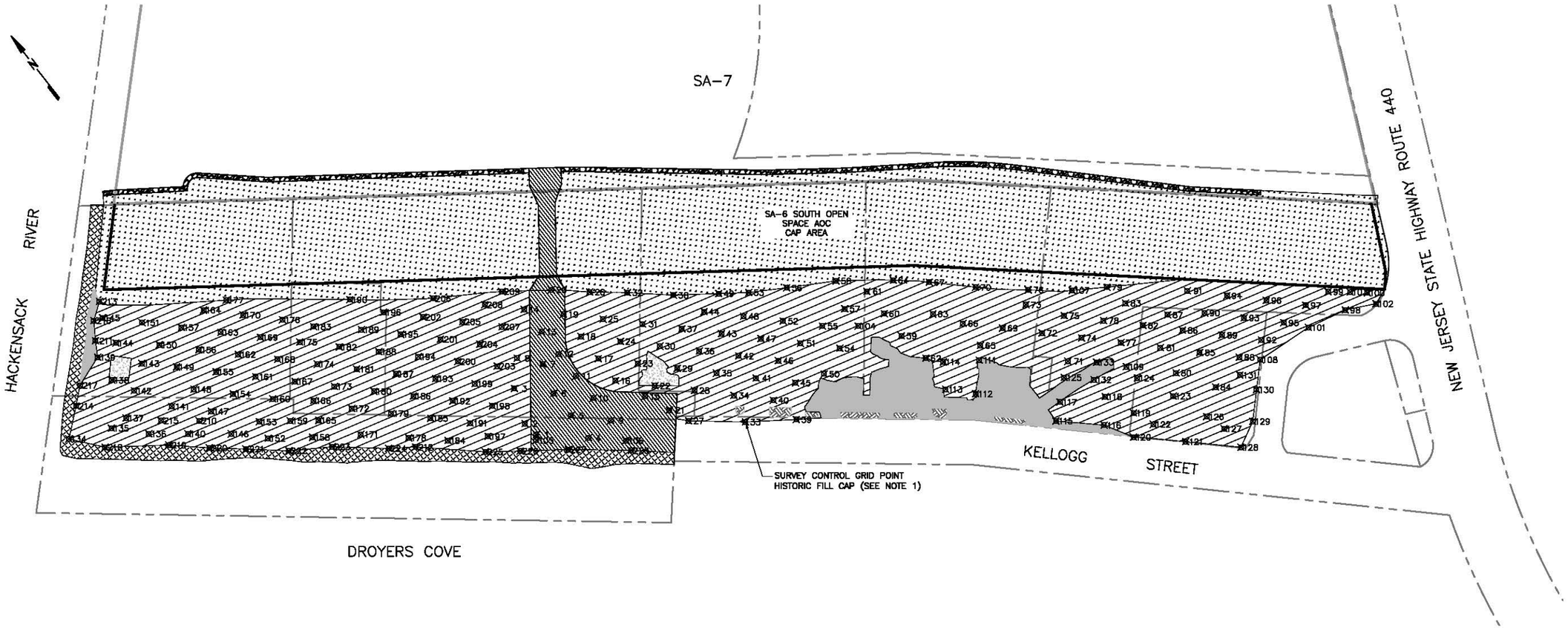
Point	Northing	Easting	Surveyed Subgrade	Surveyd Final Grade	Installed Stone Thickness
55	685256.97	603718.61	10.55	11.09	0.53
56	685241.17	603707.77	10.38	10.94	0.56
57	685224.67	603695.14	10.22	10.74	0.52
58	685209.82	603685.37	10.11	10.68	0.57
59	685194.95	603703.46	10.22	10.76	0.55
60	685214.38	603715.59	10.41	10.95	0.54
61	685230.39	603726.61	10.24	10.74	0.50
62	685245.62	603735.46	10.16	10.71	0.55
63	685236.23	603751.65	9.73	10.27	0.53
64	685217.43	603741.69	9.76	10.35	0.59
65	685200.22	603730.88	10.20	10.74	0.54
66	685183.06	603719.28	10.07	10.62	0.55
67	685215.11	603762.34	9.51	10.04	0.53
68	685198.78	603753.76	9.67	10.19	0.53
69	685182.41	603745.26	9.93	10.46	0.53
70	685170.23	603740.01	9.86	10.40	0.54
71	685487.22	603436.76	12.20	13.00	0.80
72	685503.86	603416.27	12.84	13.46	0.63
73	685390.17	603506.35	10.58	11.11	0.54
74	685403.99	603517.82	10.57	11.38	0.82
75	685420.55	603530.44	10.62	11.15	0.53
76	685435.83	603541.23	10.96	11.50	0.54
77	685445.86	603525.47	10.53	11.05	0.53
78	685456.27	603509.54	10.15	10.73	0.58
79	685464.15	603492.32	10.00	10.57	0.56
80	685476.15	603475.42	11.16	11.95	0.79
81	685486.05	603458.89	11.72	12.25	0.54
82	685501.34	603442.04	12.18	12.71	0.54
83	685515.44	603422.88	12.98	13.65	0.67
84	685537.55	603414.23	13.51	14.07	0.55
85	685551.27	603428.10	13.13	13.66	0.52
86	685548.41	603440.18	13.49	14.03	0.54
87	685541.41	603454.32	13.35	13.91	0.57
88	685532.50	603476.98	12.70	13.34	0.64
89	685544.94	603483.88	12.71	13.59	0.88
90	685538.89	603498.74	12.66	13.60	0.94
91	685530.51	603516.92	12.74	13.39	0.66
92	685520.97	603537.61	12.38	13.27	0.89
93	685512.89	603555.37	12.23	13.27	1.04
94	685495.92	603547.56	11.67	12.44	0.76
95	685479.71	603539.89	11.10	11.83	0.73
96	685464.81	603533.26	10.74	11.38	0.64
97	685472.16	603517.09	11.08	11.61	0.54
98	685481.21	603497.24	11.35	11.94	0.60
99	685490.04	603478.09	11.85	12.51	0.66
100	685500.34	603455.60	11.92	12.64	0.72
101	685427.26	603512.07	10.33	10.99	0.66
102	685379.17	603518.49	9.78	10.34	0.56
103	685393.80	603530.86	10.18	10.88	0.70
104	685409.67	603542.63	10.99	11.58	0.60
105	685381.45	603544.08	10.36	11.34	0.98
106	685365.37	603534.17	9.71	10.25	0.54
107	685352.32	603547.96	9.81	10.43	0.63
108	685389.63	603576.42	14.44	15.20	0.77
109	685366.42	603569.28	15.75	16.27	0.52
110	685340.26	603569.27	10.00	10.92	0.93
111	685328.33	603585.65	9.98	11.34	1.36
112	685316.29	603601.04	10.17	11.67	1.50
113	685305.80	603594.64	9.69	10.44	0.75

Point	Northing	Easting	Surveyed Subgrade	Surveyd Final Grade	Installed Stone Thickness
114	685296.15	603585.30	9.59	10.11	0.52
115	685311.07	603568.24	9.65	10.19	0.53
116	685328.51	603567.24	9.61	10.24	0.63
117	685345.79	603583.34	13.54	14.27	0.73
118	685333.45	603600.60	13.43	14.58	1.14
119	685325.77	603626.43	14.91	15.43	0.52
120	685350.68	603598.21	16.53	17.10	0.58
121	685368.10	603581.44	16.64	17.55	0.91
122	685360.58	603611.90	17.22	18.06	0.84
123	685345.88	603628.53	15.60	16.15	0.55
124	685333.37	603644.98	14.14	14.69	0.56
125	685225.73	603771.87	9.55	10.09	0.54
126	685245.80	603780.16	9.48	10.07	0.59
127	685257.19	603762.86	9.46	10.12	0.66
128	685269.18	603745.93	9.68	10.39	0.70
129	685281.52	603729.15	10.50	11.13	0.63
130	685293.33	603712.58	11.00	11.62	0.62
131	685306.67	603697.52	11.76	12.43	0.68
132	685321.33	603680.67	12.75	13.30	0.55
133	685335.92	603661.97	13.65	14.42	0.77
134	685349.41	603644.44	14.73	15.33	0.60
135	685364.16	603623.73	16.79	17.31	0.51
136	685378.92	603614.62	18.62	19.18	0.56
137	685399.77	603592.18	17.89	18.41	0.52
138	685392.67	603606.73	17.60	18.12	0.52
139	685402.01	603613.49	16.49	17.03	0.53
140	685390.10	603622.47	16.99	17.53	0.54
141	685378.98	603636.66	16.21	16.85	0.64
142	685366.30	603654.95	15.01	15.57	0.56
143	685350.79	603674.67	14.05	14.65	0.60
144	685336.85	603693.57	13.41	14.14	0.73
145	685322.26	603713.63	12.60	13.14	0.54
146	685308.59	603731.80	11.28	11.81	0.52
147	685294.62	603748.51	9.81	10.57	0.76
148	685282.83	603766.87	9.34	9.89	0.55
149	685274.40	603783.71	9.06	9.62	0.56
150	685268.12	603790.72	9.42	9.94	0.53
151	685289.85	603800.78	9.35	9.89	0.54
152	685303.57	603776.68	9.19	9.75	0.57
153	685319.57	603756.13	10.34	10.91	0.57
154	685333.72	603737.28	11.95	12.47	0.53
155	685345.08	603719.79	13.05	13.59	0.54
156	685360.35	603698.16	14.23	14.76	0.53
157	685374.32	603676.80	15.12	15.65	0.53
158	685389.93	603655.19	15.62	16.16	0.53
159	685401.91	603636.79	15.63	16.18	0.55
160	685391.44	603671.29	15.47	15.99	0.52
161	685385.41	603693.60	15.28	15.80	0.52
162	685377.78	603707.36	14.43	14.98	0.55
163	685364.28	603727.60	12.72	13.26	0.55
164	685349.70	603747.91	10.91	11.53	0.61
165	685336.19	603767.24	9.87	10.42	0.55
166	685322.07	603786.53	9.07	9.61	0.54
167	685305.98	603809.37	9.65	10.17	0.52
168	685329.67	603820.48	9.47	9.98	0.51
169	685342.02	603796.31	9.07	9.63	0.56
170	685355.84	603775.69	9.72	10.27	0.55
171	685369.79	603755.44	10.37	10.99	0.61
172	685385.02	603732.34	12.49	13.15	0.66

Point	Northing	Easting	Surveyed Subgrade	Surveyd Final Grade	Installed Stone Thickness
173	685397.71	603713.91	14.76	15.30	0.54
174	685408.35	603697.47	15.32	15.86	0.53
175	685397.48	603685.54	15.35	15.88	0.53
176	685428.19	603703.15	15.28	15.79	0.51
177	685417.14	603723.85	14.22	14.75	0.54
178	685404.09	603740.98	11.84	12.38	0.55
179	685391.77	603759.07	10.06	10.93	0.87
180	685379.63	603776.72	9.57	10.13	0.56
181	685367.64	603792.79	9.03	9.68	0.64
182	685357.17	603809.89	8.94	9.45	0.51
183	685345.58	603826.40	9.33	9.86	0.53
184	685366.65	603836.85	9.33	9.86	0.53
185	685379.98	603814.87	9.03	9.59	0.56
186	685391.37	603794.93	9.01	9.74	0.73
187	685407.13	603774.52	9.48	10.41	0.93
188	685423.08	603753.63	10.55	11.15	0.60
189	685434.08	603734.68	12.31	13.00	0.70
190	685445.77	603715.19	14.85	15.39	0.53
191	685463.49	603692.91	15.29	15.82	0.53
192	685457.66	603689.90	15.26	15.78	0.52
193	685445.74	603698.83	15.27	15.83	0.56
194	685449.80	603735.42	10.28	10.86	0.58
195	685469.91	603741.38	10.24	10.77	0.53
196	685453.16	603745.70	9.87	10.66	0.79
197	685439.76	603765.07	9.59	10.31	0.72
198	685426.86	603783.39	9.21	9.92	0.71
199	685413.18	603801.19	8.97	9.89	0.91
200	685400.85	603819.70	8.61	9.55	0.94
201	685392.46	603841.26	8.58	9.41	0.83
202	685406.36	603847.95	8.60	9.35	0.75
203	685418.02	603853.38	8.77	9.45	0.68
204	685427.53	603832.24	9.21	9.87	0.66
205	685438.23	603811.58	9.26	9.97	0.72
206	685449.14	603790.99	9.32	10.09	0.77
207	685460.27	603768.49	9.57	10.32	0.75
208	685428.91	603801.39	9.20	10.01	0.81
209	685417.88	603822.74	9.09	9.67	0.58
210	685497.04	603588.38	12.31	13.18	0.87
211	685477.45	603579.45	11.74	12.65	0.91
212	685459.42	603571.21	11.61	12.36	0.76
213	685440.57	603562.49	11.56	12.45	0.89
214	685423.05	603554.41	11.60	12.53	0.94
215	685404.25	603562.11	12.72	13.53	0.81
216	685449.84	603545.77	10.80	11.38	0.58
217	685471.28	603556.45	11.16	11.67	0.52
218	685491.10	603564.10	11.68	12.25	0.56
219	685506.90	603572.07	11.95	12.76	0.81
220	685523.96	603581.32	12.73	13.26	0.53
221	685534.03	603559.97	12.14	12.99	0.85
222	685542.20	603541.68	12.37	13.14	0.77
223	685548.91	603522.61	12.67	13.34	0.67
224	685558.06	603503.06	12.65	13.20	0.55
225	685566.03	603482.88	12.58	13.14	0.57
226	685573.22	603462.46	12.67	13.18	0.51
227	685581.27	603441.54	12.44	13.09	0.65
228	685587.54	603426.70	12.30	12.84	0.54
229	685572.50	603421.26	12.31	12.86	0.54
230	685565.98	603440.95	12.68	13.48	0.80
231	685557.49	603462.88	12.83	13.42	0.59

Point	Northing	Easting	Surveyed Subgrade	Surveyd Final Grade	Installed Stone Thickness
232	685608.18	603443.66	13.01	13.59	0.58
233	685598.62	603464.93	12.90	13.48	0.58
234	685587.85	603487.26	12.48	13.15	0.67
235	685579.62	603508.01	12.24	12.99	0.75
236	685572.20	603522.38	12.66	13.41	0.76
237	685562.43	603542.98	13.26	13.88	0.62
238	685552.43	603565.49	12.64	13.18	0.54
239	685494.23	603640.21	12.90	13.44	0.54
240	685543.89	603583.80	12.58	13.15	0.58
241	685533.66	603603.95	12.49	13.04	0.56
242	685526.28	603622.07	12.35	13.03	0.68
243	685542.16	603646.27	11.45	12.06	0.60
244	685527.72	603655.76	11.54	12.08	0.54
245	685514.57	603677.21	11.59	12.12	0.53
246	685503.62	603700.80	11.20	11.97	0.78
247	685492.98	603723.16	10.86	11.39	0.54
248	685483.20	603746.84	10.66	11.18	0.52
249	685481.37	603719.29	11.13	11.65	0.52
250	685492.42	603695.95	11.81	12.34	0.53
251	685502.78	603671.70	11.97	12.52	0.54
252	685482.06	603661.74	13.49	14.01	0.53
253	685473.47	603663.87	15.37	15.90	0.54
254	685463.53	603643.83	15.47	16.01	0.54
255	685513.89	603647.90	11.79	12.36	0.57
256	685509.17	603613.94	12.81	13.68	0.87
257	685514.16	603595.86	13.08	13.61	0.54
258	685486.38	603615.52	13.80	14.41	0.61
259	685536.92	603627.15	11.68	12.20	0.52
260	685548.62	603608.36	11.64	12.21	0.57
261	685560.01	603585.43	11.85	12.54	0.68
262	685570.20	603565.58	11.95	12.48	0.53
263	685579.38	603546.97	12.06	12.58	0.52
264	685590.49	603525.08	11.82	12.37	0.55
265	685600.46	603540.04	11.90	12.41	0.52
266	685612.62	603519.30	11.06	11.68	0.62
267	685609.19	603497.93	12.03	12.66	0.63
268	685620.49	603503.16	11.38	11.94	0.57
269	685594.15	603558.21	11.20	11.95	0.75
270	685584.11	603580.26	11.38	12.00	0.62
271	685573.64	603602.92	11.34	12.04	0.70
272	685564.04	603622.10	11.70	12.25	0.55
273	685554.89	603641.58	11.65	12.19	0.55
274	685417.33	603602.10	16.31	16.85	0.54
275	685469.91	603605.18	14.84	15.38	0.54
276	685444.27	603592.66	15.68	16.21	0.53
277	685446.73	603627.16	15.45	15.99	0.54
278	685418.24	603625.60	15.55	16.09	0.54

ATTACHMENT N-2
SA-6 SOUTH DEVELOPMENT AREA SURVEY CONTROL GRID AND AS-BUILT SUMMARY



NOTES:

1. REFER TO ATTACHED TABLE FOR SURVEY DOCUMENTATION OF 6 INCH HISTORIC FILL CAP INSTALLATION. TABLE PROVIDES SURVEYED SUBGRADE PRIOR TO DEPLOYMENT OF HISTORIC FILL DEMARCATION LAYER AND FINAL TOP OF STONE ELEVATIONS.

2. REFER TO FIGURE 1 FOR INSTALLED HISTORIC FILL CAP LIMITS.

0 50 100 200
SCALE IN FEET

Prepared/Date: TDD 11/15/16
Checked/Date: DEN 11/15/16
Revised/Date: TDD 12/21/16

Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

NON-CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2229
NJ Certificate of Authorization Number 24GA28012300

HISTORIC FILL CAP
SURVEY CONTROL GRID
PROJECT 3480-16-0515
FIGURE 2

Honeywell SA-6 South
Devlopment Area Historic Fill Cap
Jersey City, New Jersey

Prepared By: T. Donovan 10/21/16
Checked By: N. Warner 11/17/16
Revised By: T.Donovan 12/21/16

TABLE 1 - STONE COVER THICKNESS SUMMARY

Point	Northing	Easting	Surveyed Subgrade	Proposed Final Grade	Surveyd Final Grade	Installed Stone Thickness
1	684850.53	601890.86	8.48	8.98	9.03	0.55
2	684878.09	601886.77	7.98	8.48	8.51	0.54
3	684938.83	601910.40	7.94	8.44	8.49	0.55
4	684788.76	601960.51	8.44	8.94	8.98	0.54
5	684838.82	601960.40	8.42	8.92	8.95	0.53
6	684888.87	601960.14	8.34	8.84	8.88	0.54
7	684941.99	601977.09	8.47	8.97	8.99	0.52
8	684978.23	601947.46	7.96	8.46	8.59	0.63
9	684788.61	602010.46	8.05	8.55	8.56	0.52
10	684838.88	602010.42	8.02	8.52	8.54	0.52
11	684888.76	602010.35	8.28	8.78	8.84	0.56
12	684938.87	602010.44	8.42	8.92	8.98	0.56
13	684988.66	602010.40	8.79	9.29	9.36	0.58
14	685038.80	602010.45	9.11	9.61	9.64	0.54
15	684784.65	602084.60	8.12	8.62	8.69	0.57
16	684838.95	602060.58	8.45	8.95	8.96	0.52
17	684888.63	602060.53	8.50	9.00	9.04	0.54
18	684938.91	602060.54	8.34	8.84	8.89	0.55
19	684988.96	602060.41	8.46	8.96	9.06	0.60
20	685036.50	602069.93	9.48	9.98	10.06	0.58
21	684738.84	602104.02	8.01	8.51	8.72	0.71
22	684788.71	602110.46	8.27	8.77	8.81	0.54
23	684838.96	602110.44	7.56	8.06	8.31	0.75
24	684888.70	602110.46	7.95	8.45	8.47	0.52
25	684938.82	602110.49	8.21	8.71	8.82	0.61
26	684991.33	602121.34	8.49	8.99	9.09	0.61
27	684702.90	602119.08	6.79	7.29	7.34	0.55
28	684738.91	602160.55	6.64	7.14	7.16	0.52
29	684788.83	602160.58	7.88	8.38	8.43	0.55
30	684838.77	602160.57	7.48	7.98	8.03	0.55
31	684888.90	602160.51	7.75	8.25	8.29	0.54
32	684949.21	602173.60	8.49	8.99	9.11	0.62
33	684638.88	602197.41	6.52	7.02	7.05	0.53
34	684688.86	602210.42	6.54	7.04	7.10	0.57
35	684738.91	602210.37	6.75	7.25	7.30	0.56
36	684788.78	602210.40	7.03	7.53	7.62	0.59
37	684838.87	602210.43	7.28	7.78	7.85	0.57
38	684895.42	602235.22	7.46	7.96	8.18	0.72
39	684586.72	602271.55	6.93	7.43	7.48	0.55
40	684638.81	602260.41	6.47	6.97	7.00	0.53
41	684688.77	602260.49	6.73	7.23	7.27	0.53
42	684738.85	602260.36	6.96	7.46	7.49	0.52
43	684788.88	602260.50	7.25	7.75	7.79	0.54
44	684838.81	602260.36	7.42	7.92	7.98	0.57
45	684638.83	602310.40	7.11	7.61	7.63	0.52
46	684689.00	602310.59	6.95	7.45	7.48	0.53
47	684738.74	602310.39	7.14	7.64	7.72	0.58
48	684788.83	602310.46	7.37	7.87	7.88	0.51
49	684848.05	602300.52	7.44	7.94	8.22	0.78
50	684619.91	602360.46	7.98	8.48	8.51	0.54
51	684688.83	602360.58	7.63	8.13	8.15	0.52
52	684739.13	602360.50	7.50	8.00	8.06	0.56

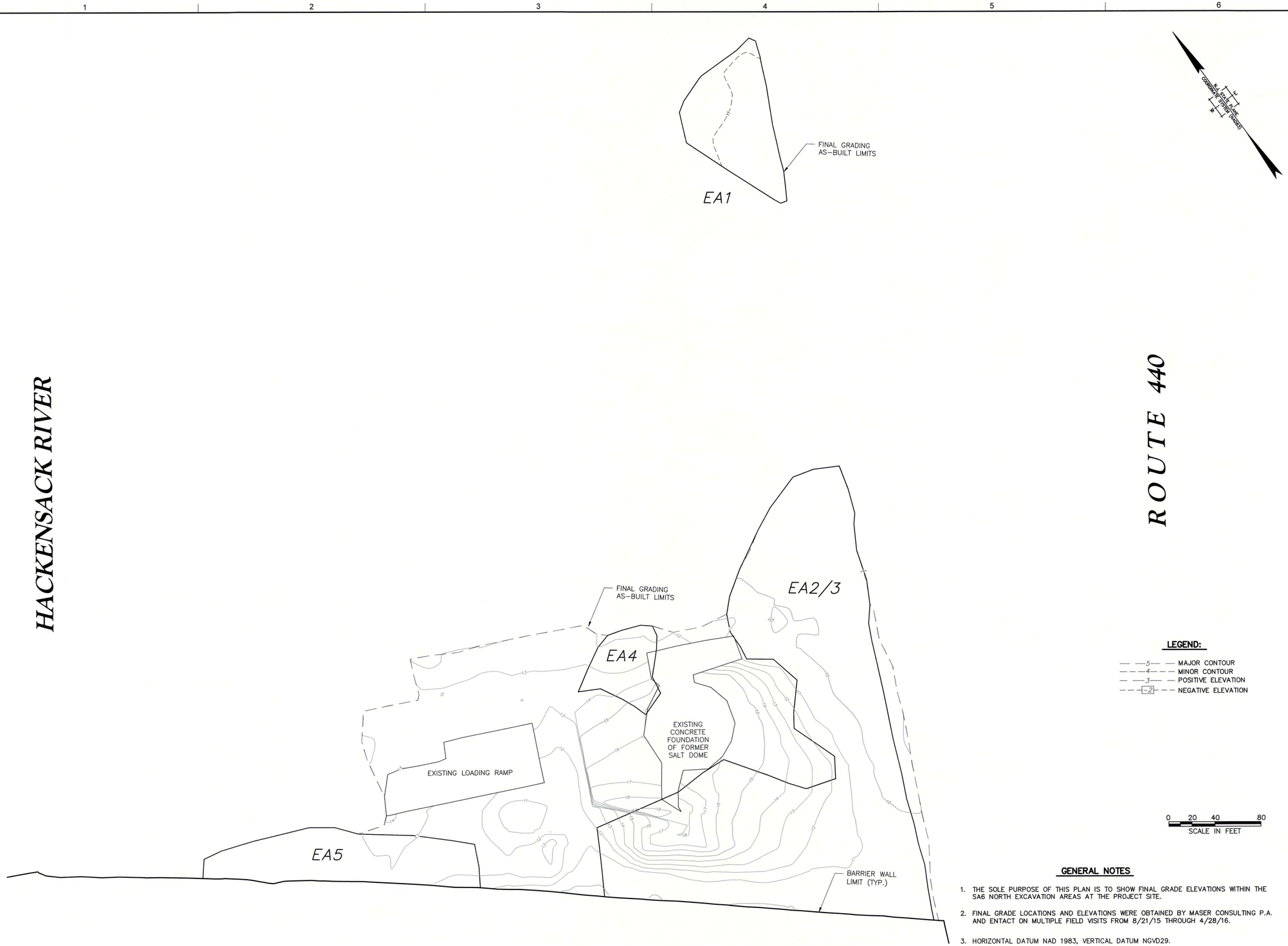
Point	Northing	Easting	Surveyed Subgrade	Proposed Final Grade	Surveyd Final Grade	Installed Stone Thickness
53	684816.55	602343.81	7.51	8.01	8.44	0.93
54	684638.63	602410.42	8.46	8.96	8.99	0.53
55	684688.76	602410.52	8.28	8.78	8.83	0.55
56	684781.49	602402.20	8.51	9.01	9.03	0.53
57	684688.66	602460.47	8.63	9.13	9.21	0.58
58	684737.30	602478.82	9.54	10.04	10.29	0.75
59	684588.71	602510.27	8.28	8.78	8.81	0.53
60	684638.69	602510.50	8.25	8.75	8.78	0.53
61	684688.88	602510.53	8.64	9.14	9.16	0.52
62	684530.78	602520.13	9.17	9.67	9.70	0.53
63	684584.76	602578.22	7.41	7.91	7.98	0.57
64	684675.41	602559.84	8.52	9.02	9.39	0.87
65	684488.74	602610.39	8.41	8.91	8.94	0.53
66	684538.76	602610.26	7.83	8.33	8.36	0.53
67	684633.33	602608.11	8.53	9.03	9.32	0.79
69	684488.79	602660.54	8.16	8.66	8.74	0.57
70	684575.62	602667.46	8.52	9.02	9.31	0.79
71	684370.71	602715.69	9.25	9.75	9.76	0.51
72	684438.80	602710.54	8.64	9.14	9.20	0.56
73	684496.01	602718.89	8.52	9.02	9.04	0.52
74	684388.65	602760.45	9.06	9.56	9.61	0.55
75	684438.79	602760.46	8.68	9.18	9.23	0.55
76	684514.09	602738.44	9.50	10.00	10.15	0.65
77	684338.82	602810.43	9.53	10.03	10.05	0.53
78	684388.72	602810.44	8.98	9.48	9.53	0.54
79	684431.95	602851.50	9.53	10.03	10.08	0.56
80	684236.11	602854.74	9.99	10.49	10.69	0.71
81	684288.76	602860.37	9.66	10.16	10.20	0.55
82	684338.78	602860.35	9.47	9.97	10.00	0.53
83	684388.99	602860.30	9.41	9.91	9.94	0.53
84	684172.97	602894.67	10.97	11.47	11.49	0.52
85	684238.76	602910.44	10.12	10.62	10.67	0.55
86	684288.63	602910.46	9.80	10.30	10.37	0.57
87	684326.56	602906.44	9.50	10.00	10.04	0.54
88	684188.78	602960.47	10.27	10.77	10.80	0.53
89	684238.84	602960.43	9.81	10.31	10.34	0.53
90	684288.81	602960.31	9.25	9.75	9.80	0.54
91	684338.79	602960.55	9.95	10.45	10.46	0.52
92	684188.77	603010.41	9.41	9.91	9.96	0.55
93	684238.70	603010.36	9.06	9.56	9.58	0.51
94	684288.66	603010.40	9.20	9.70	9.74	0.54
95	684188.60	603060.40	8.75	9.25	9.28	0.53
96	684238.88	603060.50	8.62	9.12	9.15	0.52
97	684188.84	603110.46	8.35	8.85	8.88	0.53
98	684138.84	603160.56	8.35	8.85	8.87	0.52
99	684183.32	603156.53	8.43	8.93	8.96	0.53
100	684138.93	603210.41	8.41	8.91	8.92	0.51
101	684154.79	603090.07	8.48	8.98	9.00	0.53
102	684114.14	603210.60	8.43	8.93	8.97	0.54
103	684158.66	603187.23	8.41	8.91	8.96	0.55
104	684649.94	602460.53	8.45	8.95	8.98	0.53
105	684842.24	601884.19	8.99	9.49	9.54	0.55
106	684743.69	602009.93	8.47	8.97	8.99	0.53
107	684465.34	602799.24	9.48	9.98	10.01	0.53
108	684162.46	602987.20	10.56	11.06	11.11	0.55
109	684299.28	602791.88	9.91	10.41	10.46	0.56
111	684469.46	602592.76	9.75	10.25	10.29	0.54

Point	Northing	Easting	Surveyed Subgrade	Proposed Final Grade	Surveyd Final Grade	Installed Stone Thickness
112	684426.35	602551.07	8.95	9.45	9.67	0.71
113	684465.37	602513.85	9.54	10.04	10.19	0.66
114	684506.30	602540.54	9.09	9.59	9.62	0.53
115	684300.35	602633.76	9.37	9.87	9.96	0.59
116	684241.58	602696.86	9.64	10.14	10.20	0.55
117	684322.55	602660.05	9.71	10.21	10.22	0.51
118	684280.62	602729.42	9.98	10.48	10.68	0.70
119	684226.49	602751.17	11.31	11.81	11.91	0.60
120	684192.72	602724.85	10.86	11.36	11.41	0.55
121	684129.32	602792.92	10.28	10.78	10.85	0.57
122	684189.03	602766.50	11.19	11.69	11.70	0.52
123	684206.60	602825.41	10.84	11.34	11.37	0.53
124	684271.32	602794.41	11.65	12.15	12.16	0.52
125	684352.11	602692.92	9.51	10.01	10.15	0.65
126	684141.54	602849.80	10.73	11.23	11.25	0.52
127	684105.24	602861.12	10.75	11.25	11.26	0.51
128	684061.00	602864.26	10.95	11.45	11.45	0.50
129	684084.37	602909.12	11.19	11.69	11.73	0.54
130	684124.50	602949.30	11.31	11.81	11.83	0.52
131	684163.34	602941.90	10.84	11.34	11.36	0.52
132	684316.22	602732.34	10.46	10.96	11.00	0.54
133	684338.20	602754.97	9.70	10.20	10.27	0.57
134	685355.89	601230.69	9.11	9.61	9.61	0.50
135	685324.33	601302.06	9.00	9.50	9.69	0.68
136	685275.64	601348.34	9.19	9.69	9.72	0.53
137	685322.51	601333.80	8.76	9.26	9.29	0.53
138	685391.57	601355.09	9.53	10.03	10.12	0.59
139	685438.87	601360.40	9.62	10.12	10.13	0.51
140	685233.03	601403.24	9.48	9.98	10.27	0.79
141	685288.85	601410.45	9.33	9.83	9.88	0.55
142	685352.13	601375.02	8.13	8.63	8.75	0.62
143	685381.70	601415.65	8.02	8.52	8.59	0.57
144	685438.76	601401.67	9.16	9.66	10.08	0.92
145	685488.71	601410.53	9.19	9.69	9.76	0.56
146	685185.04	601463.89	8.49	8.99	9.22	0.73
147	685238.86	601460.43	7.80	8.30	8.34	0.54
148	685288.63	601460.34	7.93	8.43	8.49	0.56
149	685338.77	601460.53	7.95	8.45	8.52	0.57
150	685388.72	601460.53	8.14	8.64	8.82	0.67
151	685438.85	601460.42	8.51	9.01	9.10	0.59
152	685138.89	601510.39	8.45	8.95	9.07	0.61
153	685171.47	601516.47	7.95	8.45	8.52	0.57
154	685238.84	601510.42	7.91	8.41	8.50	0.60
155	685288.87	601510.50	7.99	8.49	8.58	0.59
156	685338.72	601510.43	8.06	8.56	8.60	0.54
157	685388.81	601510.45	8.25	8.75	8.77	0.52
158	685091.55	601573.95	9.01	9.51	9.54	0.53
159	685139.17	601560.87	8.01	8.51	8.52	0.51
160	685188.95	601560.43	7.98	8.48	8.49	0.52
161	685238.79	601560.52	7.95	8.45	8.57	0.63
162	685288.79	601560.44	8.02	8.52	8.59	0.57
163	685338.83	601560.54	8.14	8.64	8.69	0.56
164	685388.81	601560.55	8.26	8.76	8.80	0.53
165	685108.25	601601.30	8.02	8.52	8.57	0.55
166	685141.73	601615.66	8.10	8.60	8.56	0.47
167	685188.81	601610.44	8.01	8.51	8.60	0.59
168	685238.77	601610.51	8.02	8.52	8.56	0.54

Point	Northing	Easting	Surveyed Subgrade	Proposed Final Grade	Surveyd Final Grade	Installed Stone Thickness
169	685288.72	601610.43	8.09	8.59	8.63	0.54
170	685338.74	601610.37	8.22	8.72	8.75	0.53
171	685042.54	601644.70	8.49	8.99	9.01	0.53
172	685088.79	601660.54	7.97	8.47	8.51	0.54
173	685138.80	601660.45	7.97	8.47	8.48	0.51
174	685188.79	601660.67	8.58	9.08	9.14	0.55
175	685238.85	601660.43	8.57	9.07	9.20	0.62
176	685288.82	601660.43	8.30	8.80	8.81	0.51
177	685378.00	601603.14	9.01	9.51	9.56	0.55
178	684985.35	601708.30	8.48	8.98	9.03	0.55
179	685038.72	601710.44	7.95	8.45	8.47	0.52
180	685088.70	601710.51	7.95	8.45	8.48	0.53
181	685138.70	601710.42	8.00	8.50	8.53	0.53
182	685188.77	601710.45	8.10	8.60	8.65	0.54
183	685245.18	601696.62	9.11	9.61	9.67	0.56
184	684938.65	601760.43	8.48	8.98	9.01	0.53
185	684988.83	601760.39	7.79	8.29	8.35	0.57
186	685038.79	601760.40	7.88	8.38	8.38	0.50
187	685088.76	601760.49	7.94	8.44	8.47	0.52
188	685138.85	601760.56	7.99	8.49	8.52	0.53
189	685188.77	601760.47	8.08	8.58	8.62	0.54
190	685243.48	601776.76	8.52	9.02	9.53	1.01
191	684938.83	601810.34	7.95	8.45	8.50	0.55
192	684988.71	601810.51	7.92	8.42	8.44	0.52
193	685038.93	601810.65	7.93	8.43	8.45	0.52
194	685088.74	601810.48	8.01	8.51	8.55	0.55
195	685138.84	601810.44	8.15	8.65	8.70	0.55
196	685188.76	601810.45	8.23	8.73	8.76	0.53
197	684900.77	601820.97	8.49	8.99	9.03	0.55
198	684938.61	601860.44	7.95	8.45	8.49	0.54
199	684988.79	601860.38	7.92	8.42	8.50	0.57
200	685038.71	601860.53	7.95	8.45	8.56	0.61
201	685088.78	601860.46	8.08	8.58	8.59	0.51
202	685138.76	601860.39	8.27	8.77	8.82	0.56
203	684989.00	601910.71	7.95	8.45	8.48	0.53
204	685038.68	601910.43	8.04	8.54	8.56	0.51
205	685089.10	601910.60	8.17	8.67	8.70	0.53
206	685153.99	601894.76	8.50	9.00	9.18	0.69
207	685038.79	601960.46	8.16	8.66	8.72	0.56
208	685088.76	601960.51	8.20	8.70	8.75	0.55
209	685088.34	601998.68	8.53	9.03	9.08	0.55
210	685238.84	601433.13	7.83	8.33	8.95	1.12
211	685464.45	601375.39	9.22	9.72	9.76	0.53
212	684965.05	601707.90	7.69	8.19	8.22	0.53
213	685514.96	601424.03	12.02	12.52	12.57	0.55
214	685394.14	601276.89	9.54	10.04	10.07	0.54
215	685280.99	601380.01	9.16	9.66	9.68	0.53
216	685494.34	601395.26	9.62	10.12	10.14	0.52
217	685418.92	601304.80	10.54	11.04	11.06	0.52
218	685304.76	601272.35	8.73	9.23	9.26	0.52
219	685238.01	601363.97	8.56	9.06	9.30	0.75
220	685189.66	601417.66	7.95	8.45	8.73	0.78
221	685148.00	601467.87	9.25	9.75	9.81	0.56
222	685098.56	601526.04	7.53	8.03	8.09	0.56
223	685056.74	601591.18	7.60	8.10	8.31	0.71
224	684992.62	601668.34	7.03	7.53	7.79	0.76
225	684881.94	601800.15	6.54	7.04	7.33	0.79

Point	Northing	Easting	Surveyed Subgrade	Proposed Final Grade	Surveyd Final Grade	Installed Stone Thickness
226	684845.03	601850.20	8.45	8.95	9.13	0.69
227	684794.36	601918.98	7.45	7.95	8.06	0.61
228	684724.35	602006.36	7.22	7.72	7.74	0.52

ATTACHMENT N-3
SA-6 NORTH AND SOUTH DEVELOPMENT AREA TOPOGRAPHICS



LEGEND:

- —5— MAJOR CONTOUR
- —4— MINOR CONTOUR
- —3— POSITIVE ELEVATION
- —-2— NEGATIVE ELEVATION

GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW FINAL GRADE ELEVATIONS WITHIN THE SA6 NORTH EXCAVATION AREAS AT THE PROJECT SITE.
2. FINAL GRADE LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. AND ENTACT ON MULTIPLE FIELD VISITS FROM 8/21/15 THROUGH 4/28/16.
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

NO.	DATE	REVISION	BY	APV'D
0	01/26/17	SA-6 NORTH FINAL GRADING	BSB	RTH

DSGN GE DR BSB CHK RTH

R. THOMAS HUGG
N.J. PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS38737

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STUDY AREA 6 NORTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
FINAL GRADING PLAN
FOR EXCAVATION
AREAS 1, 2/3, 4 AND 5

FILE NUMBER
12001511A

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 158 STAGECOACH ROAD - MARMORA, NJ 08223

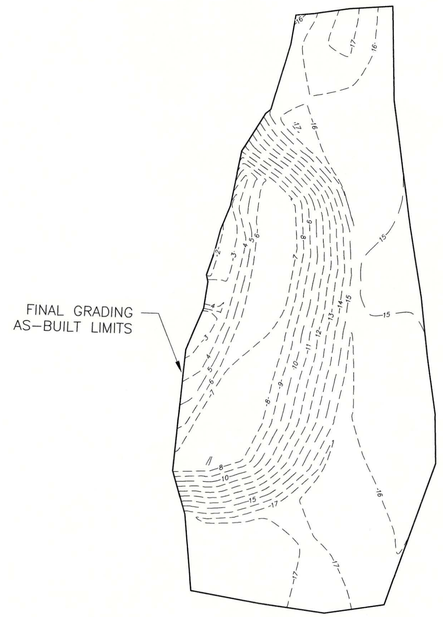
amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ. 08619
(609) 689 - 2029

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	8/23/16
PROJ	3480-10-0027
DWG	CN-114A
SHEET	1 OF 2

FILE NAME: C:\Civil 3D Projects\2012\12001511A\Survey\V-SURV-SA6N-BACK-FILL EA1-EA5.dwg PLOT DATE: Tue, 31 Jan 2017 PLOT TIME: 1:02 PM

HACKENSACK RIVER



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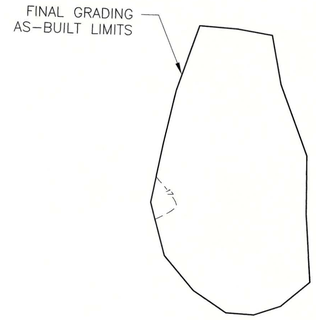
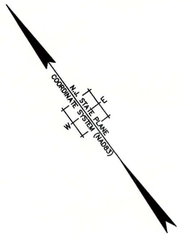


EA7

ROUTE 440



LEGEND:

- 5 — MAJOR CONTOUR
- 4 — MINOR CONTOUR
- 3 — POSITIVE ELEVATION
- -2 — NEGATIVE ELEVATION

0 15 30 60
SCALE IN FEET

GENERAL NOTES

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FILE NUMBER 12001511A

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
FINAL GRADING PLAN
FOR EXCAVATION
AREAS 7 AND 8

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2929

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	8/23/16
PROJ	3480-10-0027
DWG	CN-115A
SHEET	2 OF 2

Honeywell
101 COLUMBIA RD. BOX 2108, MORRISTOWN, NJ 07962

STUDY AREA 6 NORTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

NO.	DATE	REVISION	BY	APVD
0	01/26/17	SA-6 NORTH FINAL GRADING	BSB	RTH

DSGN GE | DR | CHK BSB | APVD RTH

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

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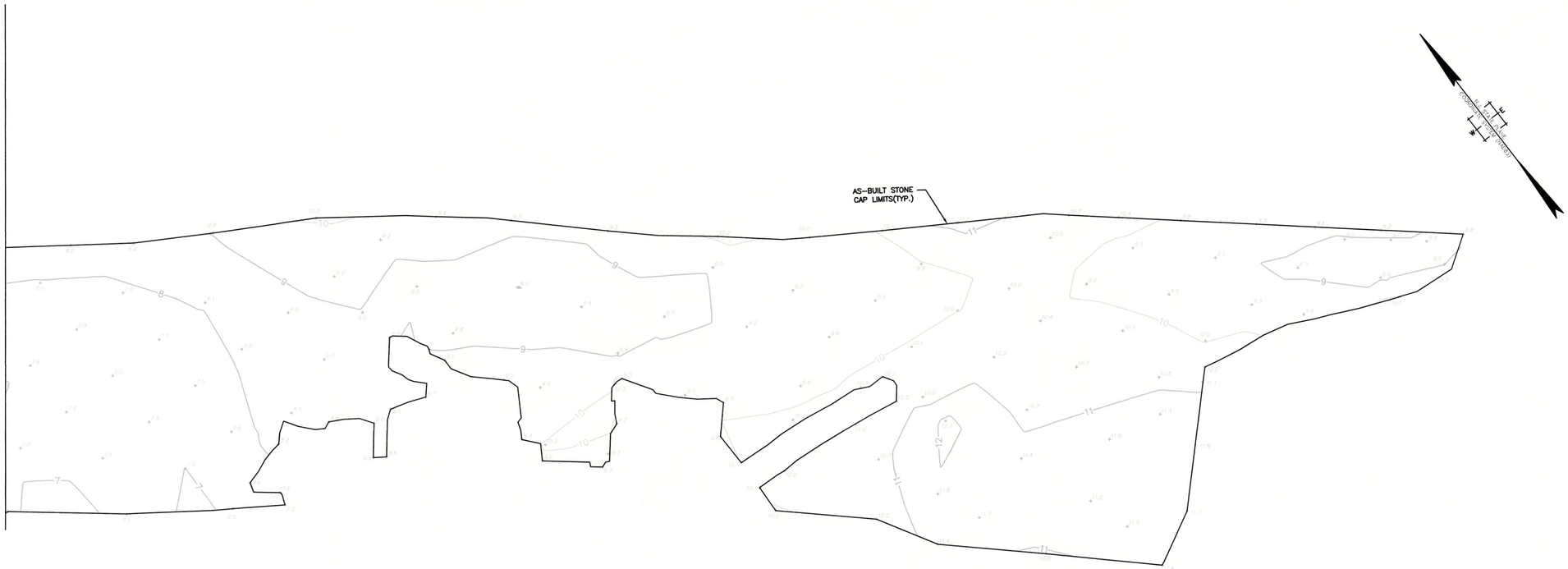

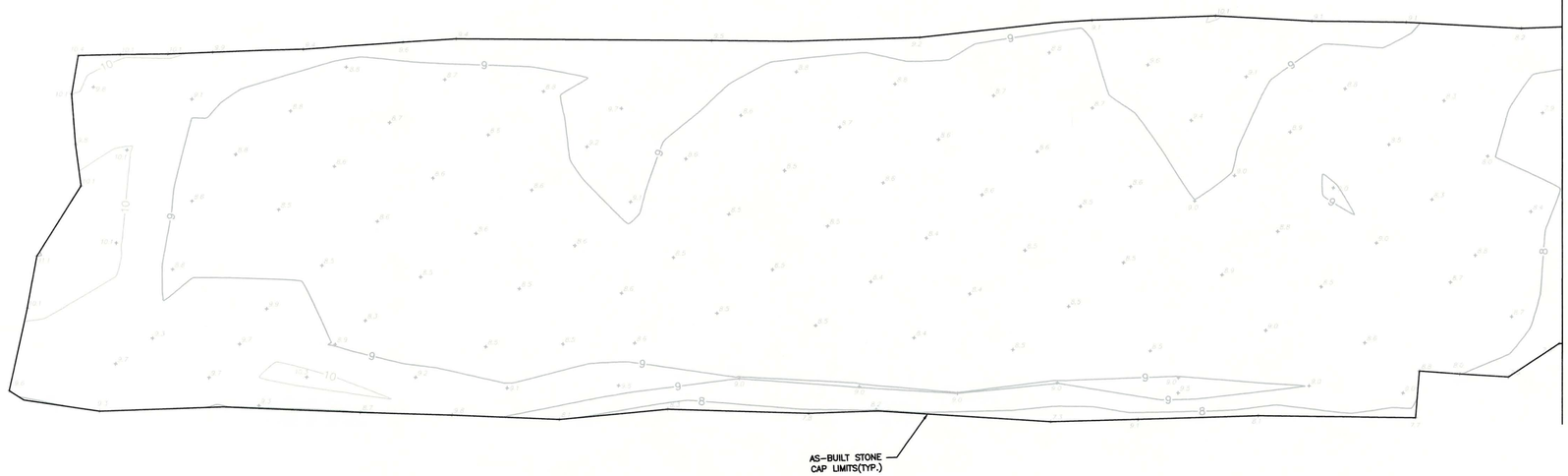

LEGEND:

5 MAJOR CONTOUR

7 MINOR CONTOUR

0 25 50 100
SCALE IN FEET

GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW TOP OF STONE ELEVATIONS WITHIN THE SA6 SOUTH EXCAVATION AREAS AT THE PROJECT SITE.
2. STONE LAYER LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. AND ENTACT ON MULTIPLE FIELD VISITS FROM 10/5/16, 10/6/16, AND 10/20/16.
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 158 STAGECOACH ROAD - MARMORA, NJ 08223

FILE NUMBER 12-1511A

R. THOMAS HUGG

NO.	DATE	REVISION	BY	APVD
			BSB	

DSGN M.H.S. DR CHK B.S.B. APVD R.T.H.

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Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
SA6 SOUTH STONE LAYER

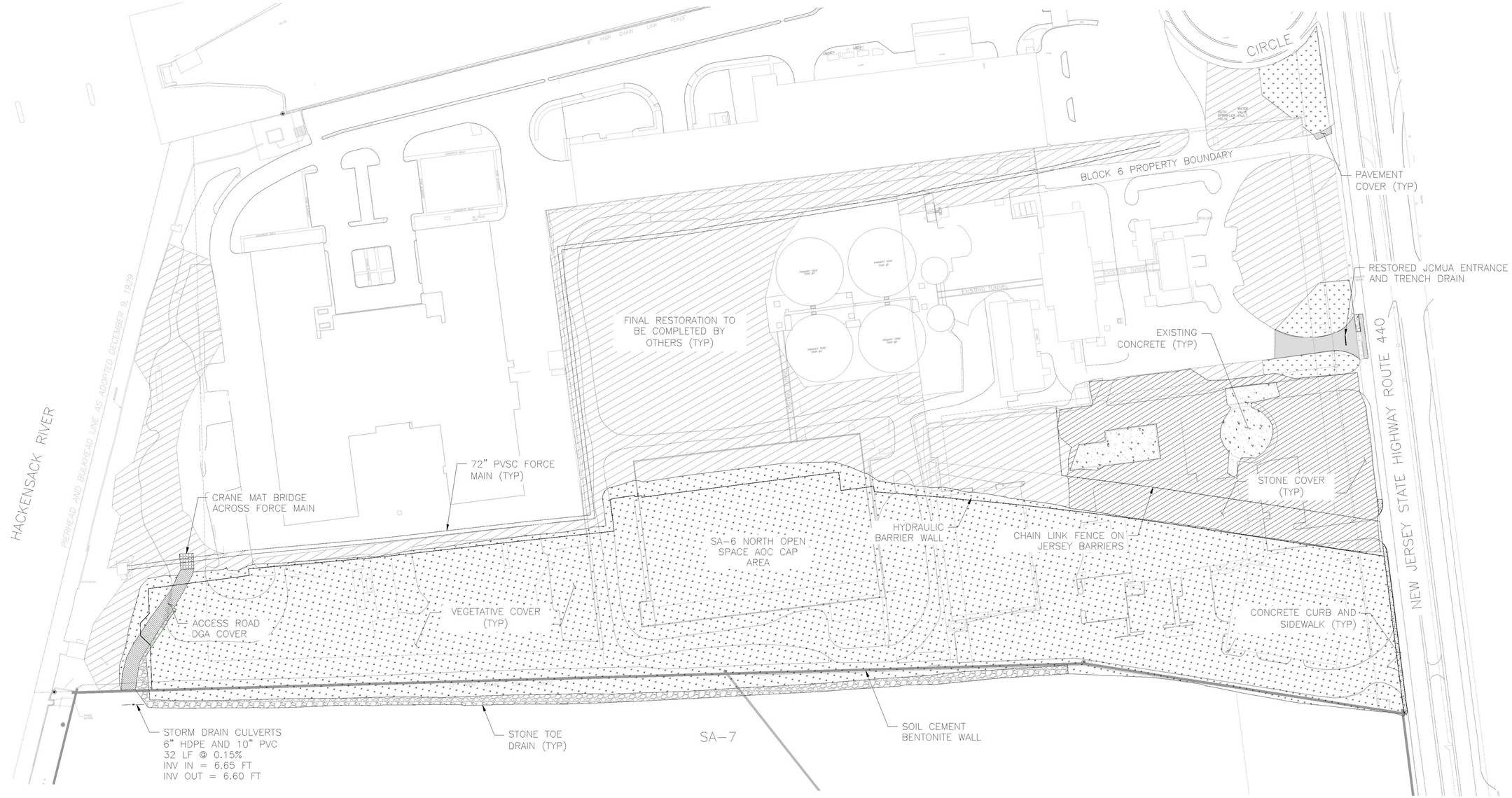
amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 989 - 2829

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	12/19/16
PROJ	3480-10-0027
DWG	C-113
SHEET	1 OF 1

FILE NAME: C:\Civil 3D Projects\2012\12001511A\Survey\V-SURV-SA6S-SOUTH-STONE.dwg PLOT DATE: Tue, 20 Dec 2016 PLOT TIME: 10:44 AM

ATTACHMENT N-4
SA-6 NORTH AND SOUTH RESTORATION PLANS



NOTE:

1. REFER TO CONSTRUCTION CONTROL GRID FIGURE AND ATTACHED TABLES FOR SURVEY DOCUMENTATION OF 6 INCH GRAVEL HISTORIC FILL CAP INSTALLATION.
2. OPEN SPACE CAP AREA WITHIN LIMITS OF THE BARRIER WALLS IS COVERED WITH CLEAN IMPORTED SOILS TO THE DEPTHS IDENTIFIED IN THE DESIGN. THE VEGETATED SLOPE WITHIN THE DEVELOPMENT AREA IS COVERED WITH A MINIMUM OF 12 INCHES OF CLEAN IMPORTED FILL. THE VEGETATED SLOPE ALONG SA-7 WAS CONSTRUCTED ENTIRELY FROM CLEAN IMPORTED FILL.
3. REMAINING RESTORATION AREAS IDENTIFIED ON THE CHROMIUM REMEDY 100% DESIGN DRAWINGS WILL BE ADDRESSED AS PART OF THE NON CHROMIUM REMEDIATION WORK CURRENTLY BEING COMPLETED. FINAL RESTORATION OF ALL AREAS IS SCHEDULED TO BE COMPLETE IN MARCH 2017.

STONE COVER
DGA COVER
VEGETATED COVER
RESTORATION BY OTHERS
PAVEMENT COVER
STONE TOE DRAIN
CONCRETE COVER
SD — STORM DRAIN PIPE

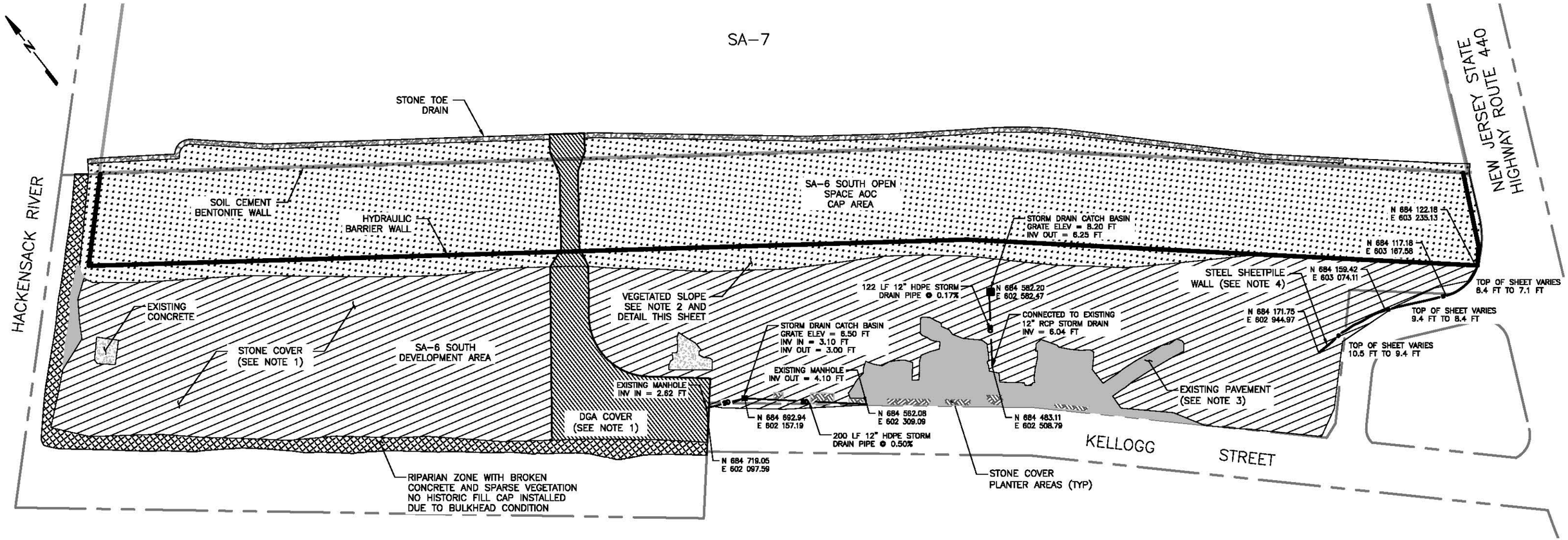
0 80 160 FEET
SCALE

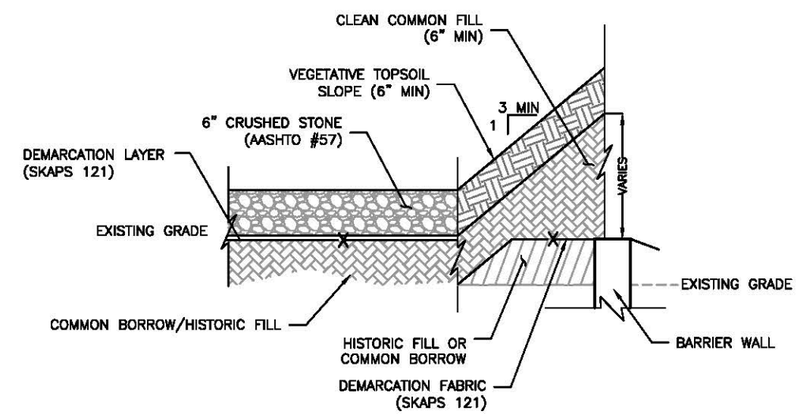
REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	1/7/17	EJP	AE	AE	AS BUILT RESTORATION PLAN

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
AS BUILT RESTORATION PLAN
SA-6 NORTH – SHEET 001
1/6/17

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ





NOTE: NO HISTORIC FILL SHALL BE PLACED ON SA-7

TYPICAL VEGETATED SLOPE
NTS

NOTE:

1. REFER TO FIGURE 2 FOR CONSTRUCTION CONTROL GRID AND ATTACHED TABLES FOR SURVEY DOCUMENTATION OF 6 INCH GRAVEL HISTORIC FILL CAP INSTALLATION.
2. OPEN SPACE CAP AREA WITHIN LIMITS OF THE BARRIER WALLS IS COVERED WITH CLEAN IMPORTED SOILS TO THE DEPTHS IDENTIFIED IN THE DESIGN. THE VEGETATED SLOPE ON THE DEVELOPMENT AREA IS COVERED WITH A MINIMUM OF 12 INCHES OF CLEAN IMPORTED FILL AS SHOWN ON THE TYPICAL VEGETATED SLOPE DETAIL. THE VEGETATED SLOPE ALONG SA-7 WAS CONSTRUCTED ENTIRELY FROM CLEAN IMPORTED FILL.
3. EXISTING PAVEMENT WAS FIELD INSPECTED BY LSRP AND SUBJECT TO MINOR CRACK FILLING TO SATISFY HISTORIC FILL CAP REQUIREMENTS.
4. STEEL SHEETPILE WALL WAS INSTALLED AS EXCAVATION SUPPORT ALONG THIS AREA AND THEN CUT BELOW CURRENT GRADE AND LEFT IN PLACE. THE TOP OF SHEETPILE IS GENERALLY 0.5 TO 2.0 FT BELOW CURRENT GRADES.

STONE COVER
VEGETATED COVER
PAVEMENT COVER
CONCRETE COVER
STONE COVER IN PLANTER AREAS
RIPARIAN ZONE
DGA COVER
STONE TOE DRAIN
STEEL SHEETPILE WALL
STORM DRAIN PIPE
STORM DRAIN CATCH BASIN

0 80 160 FEET
SCALE

REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	12/12/16	EJP	AE	AE	AS BUILT RESTORATION PLAN

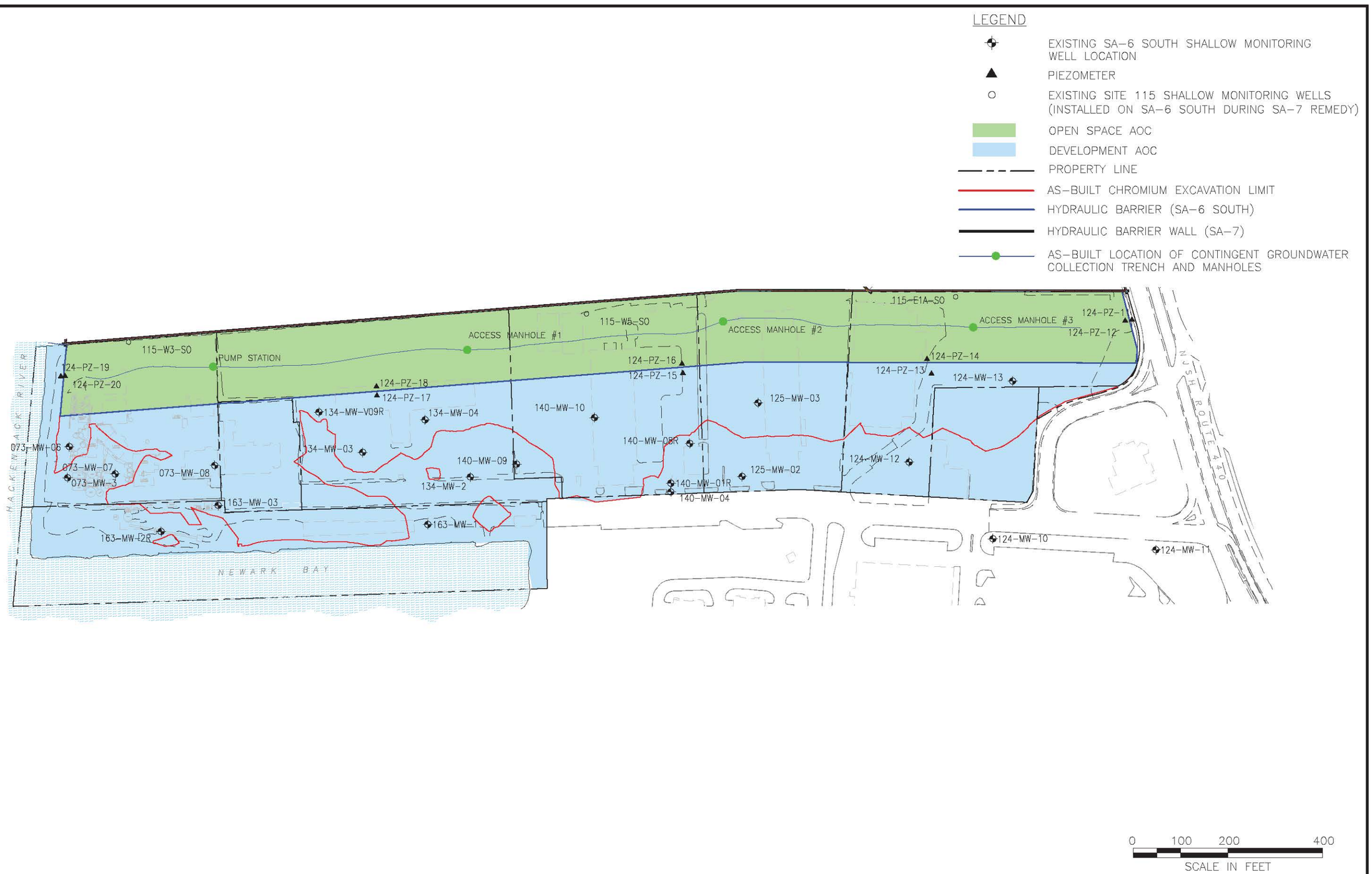
ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
AS BUILT RESTORATION PLAN
SA-6 SOUTH – SHEET 001
12/12/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

ATTACHMENT O
SA-6 SOUTH DEVELOPMENT AREA MONITORING WELL LOCATIONS

IS CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED. (2) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE COURSE AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN ISSUED. ANY USE BY THIRD PARTIES OR RELIANCE ON THE DOCUMENT BY ANY THIRD PARTY IS AT THEIR OWN RISK AND DISCRETION.



SOURCE:
BASEMAP TOPOGRAPHIC SURVEY COMPLETED BY MASER CONSULTING, P.A. 331 NEWMAN SPRINGS ROAD, SUITE 203, RED BANK, NEW JERSEY.
JOB NO. 10000292A, DATED DECEMBER 17, 2010.

REV.	DATE	STATUS	PRPD BY	CHKD BY

Amec Foster Wheeler PROJECT No. 3480150488
DRAWING: 3480150488-5710-MWLO-F900

PREPARED/DATE: STR 07/08/16
CHECKED/DATE: DEN 07/08/16

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 10
MONITORING WELL LOCATIONS
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

P:\2010\10NEWELL\JERSEY CITY\SA 6 SOUTH\3480150488\3710\5710MW\CURRENT DRAWINGS\3480150488-5710-MWLO-F900.dwg Wed, 07 Dec 2016 - 2:37pm scottj.ceklin Layout: cr

ATTACHMENT P
DESIGN CHANGES
PART 1

SA-6 North/South Field Change Log				
AmecFW ID	**Changed Item Identifier**	**Description of Change**	**Comments**	**Site**
2	**DC 2013-8-14 (HB Wall)**	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.	North
7.2	**DC 2014-11-20**	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-11-20 includes the french drain installation, electrical supply and discharge piping for SA-6 North.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.	North
7.22	**DC 2016-6-6**	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-6-10 includes the revised electrical supply and discharge piping for SA-6 North.	Submitted to Parties as Attachment to Declaration 004. (Design Change ID changed from DC 2016-6-10 to DC 2016-6-6 to reflect actual date on Design Change form).	North
7.3	**DC 2015-2-12**	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-2-24 is a follow up to DC 2014-6-10, the SA-6 South CGWES trench design. DC 2015-2-24 includes details for electrical supply and discharge piping.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016	South
7.4	**DC 2015-9-03**	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-9-03 is a follow up to DC 2015-2-24, the SA-6 South CGWES electrical supply. DC 2015-9-03 provides a revised electrical plan.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016	South
7.4.2	**DC 2016-12-20**	This DCB documents a number of minor field changes that have been conveyed by the EOR to Entact during the course of the work and also includes revisions to the (E series) electrical drawings for both SA-6N and SA-6S.	Included as an attachment to Declaration 005.	SA-6 North & SA-6 South
10	**DC 2014-5-19**	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.	South
11	**DC 2014-7-28**	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.	SA-6 North & SA-6 South
18	**DC 2014-12-23**	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.	South
23	**DC 2015-04-30**	A concrete protuberance was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only as clarification or response to RFI.	North
29	**DC 2015-06-05**	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.	South
30	**DC 2015-11-12**	Amec Foster Wheeler has provided Final Cap Grades (in CAD) to Entact. Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.	Included as an attachment to Declaration 005.	South
30.1	**DC 2016-04-15**	Amec Foster Wheeler has provided final restoration grades for SA-6 South Development Area. The DCB also includes the final cover types in revised Drawing C-128.	Included as an attachment to Declaration 005.	South
30.2	**September 2016-South**	The design change documents revisions to the final grading and SESCP drawings on the SA-6 South Chromium Remedy. Minor grading changes were performed in the field to improve surface drainage. In addition, the extent of demarcation fabric, crushed stone and DGA placed over the Development Area was increased to meet historic fill regulations. SESCP changes included installation of crushed stone toe drain along SA-7, installation of erosion mat, installation of supplemental diversion berms, and installation of stone check dams.	Included as an attachment to Declaration 005.	South
33	**DC 2015-06-18 (North)**	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.	North
46	**DC 2015-9-17**	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.	SA-6 North & SA-6 South

SA-6 North/South Field Change Log				
AmecFW ID	**Changed Item Identifier**	**Description of Change**	**Comments**	**Site**
48	**DC 2015-09-28**	Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling.	Submitted to Parties on October 1, 2015.	South
50	**DC 2015-10-02**	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.	SA-6 North & SA-6 South
51	**DC 2015-10-22**	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only as clarification or response to RFI.	North
54	**DC 2016-02-02**	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design.	Submitted to Parties as Attachment to Declaration 004. (Design Change ID changed from DC 2016-02-03 to DC 2016-02-02 to reflect actual date on Design Change form).	North
54.1	**DC 2016-02-22**	AmecFW revised the SA-6 North cap subgrade in a single localized area in order to accommodate Entact's request to relocate Pump Station #1 (RFI 64). The subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location. In addition, for grading purposes, any hydraulic barrier sheets within the Sedimentation Basin that have sections below elevation 12.0 will be trimmed to a uniform elevation of 11.5.	Submitted to Parties as Attachment to Declaration 004.	North
54.2	**DC 2016-02-25**	This DCB has been issued to provide Entact with the latest SA-6 North HB Wall and SCB wall plan and profile drawings (SN-201 thru SN-205), which were modified to reflect changes made in DC 2016-02-22.	Submitted to Parties as Attachment to Declaration 004.	North
54.3	**DC 2016-5-11**	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design. As part of DC 2016-5-11, AmecFW issued SA-6 North Interim Grades to Entact.	Submitted to Parties as Attachment to Declaration 004.	North
54.4	**DC 2016-5-20**	After further review, AmecFW lowered the geomembrane Pump Station #1 on the SA-6 North cap in order to provide additional separation between the geomembrane and the bottom of the vault. (Refer to DC 2016-02-22).	Submitted to Parties on June 15, 2016.	North
54.5	**DC 2016-7-14**	Design change documenting minor field changes needed to achieve positive drainage in the cap area.	Included as an attachment to November 2016 monthly progress report and included in the finalized Declaration 004.	North
54.6	**September 2016-North**	The design change documents revisions to the interim/final grading and SESCP drawings on the SA-6 North Chromium Remedy. Minor grading changes were performed in the field to improve surface drainage pending redevelopment. SESCP changes included installation of crushed stone toe drain along SA-7, installation of erosion mat, installation of supplemental diversion berms, and installation of stone check dams.	Included as an attachment to Declaration 005.	North
55	**DC 2016-05-03**	The laboratory results of all gradations for planting soils shall be presented in terms of the USDA classification system rather than the USCS classification system.	Submitted to Contractor only as clarification or response to RFI.	SA-6 North & SA-6 South
57	**DC 2016-03-21**	Nature's Choice was identified as the source that best met the physical requirements for Horizon C soils by Dr. Grabosky; however, several samples of Nature's Choice Horizon C soils have hexavalent chromium concentration >1.0 mg/kg. Consequently, Honeywell is proposing a design change to allow the hexavalent chromium concentration in Nature's Choice Horizon C soils to be less than 1.8 mg/kg, as agreed to by the parties, as documented in the attached emails. For future sampling, hexavalent chromium soil samples will be composited from 10 grab sample locations per 5,000 CY (maximum). There are additional conditions in Attachment A that are part of this DCB and specific to Nature's Choice Horizon C soil. All other requirements specified in the 100% Design for imported soils will be met by the Nature's Choice Horizon C soils as amended in previous DC 2015-09-17.	Submitted to Parties on March 22, 2016.	SA-6 North & SA-6 South
58	**DC 2016-05-06**	To allow for traffic flow within the project site following completion of the SA-6S Cap, a road will be installed within the "B Street" corridor. The road will be constructed by continuing the "Structural Fill under Roadways to within 6 inches of final grade"	Submitted to Parties on June 30, 2016.	South
59	**DC 2016-04-20**	This DCB documents the approved sources of Horizon B and Horizon C materials, as agreed to by all parties on the Special Master All-Hands monthly call on April 19, 2016.	Submitted to Parties on April 21, 2016.	SA-6 North & SA-6 South
61	**DC 2016-11-09**	The limits and the type of restoration north of the SA-6N cap has been modified to be integrated with the SA-6N Non Chrome Remedy.	Included as an attachment to Declaration 005.	North

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 002 Major (a)(b) Effective Date: 8/14/13
Project Location: SA-6 NORTH	Associated RFI:
Title: Hydraulic Barrier/Surcharge Relocation adjacent to 72 inch FM SA-6 North	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): Entact	

Description of Change/Modification:

The Barrier Wall alignment and Surcharge Program from Station 14+50 to Station 22+13 has been modified to address the concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of the 72 inch forcemain. The relocation also impacts subgrade/liner grading and final grades for the Chromium Remedy. Design Drawings have to be modified and design calculations revised in support of the design modification. The Surcharge Monitoring Plan has also been amended and acoustical monitoring will be installed by PVSC.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Modified due to barrier wall relocation in conjunction with 72-in FM protection. Attachments: ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments: Major DCB anticipated, requires review and approval by third parties.	Design Documents Affected: Drawings – 8-11,13-15, 20,29, 31-35, 45-53, 54, 55, 56, 58, 59

Honeywell (AP) Review:

Individual	Discipline	Initial	Date

(Name / Signature): Samuel G Shallard	Does DCB Result in CCO? ☐ Yes Yes (b)☑ No Date:

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

DESIGN CHANGE BULLETIN			
Sheet #	**Drawing #**	**Drawing Title**	**Comments**
14	CN-109	Cap Area Surcharge Grading Plan Area 1N	Drawings Revised due to Hydraulic Barrier realignment
29	CN-124	Geomembrane Grading Plan	Drawings Revised due to Hydraulic Barrier realignment
31	CN-126	Interim Grading, Drainage, and Soil Erosion Sediment Control Plan	Drawings Revised due to Hydraulic Barrier realignment
51	CN-515	Utility Corridor Locations	Drawings Revised due to Hydraulic Barrier realignment
55	SN-202	Hydraulic Barrier Plan and Profile	Drawings Revised due to Hydraulic Barrier realignment
56	SN-203	Hydraulic Barrier Plan and Profile	Drawings Revised due to Hydraulic Barrier realignment
59	SN-206	72 Inch Force Main Protection Plan and Details	Drawings Revised due to Hydraulic Barrier realignment
8	C-103	Existing Conditions Plan	Drawings with incidental line work changes
9	C-104	General Remedy Plan	Drawings with incidental line work changes
10	C-105	Subgrade Demolition Plan	Drawings with incidental line work changes
11	C-106	Civil Traffic Control and Decontamination Plan	Drawings with incidental line work changes
13	C-108	Civil Cap Area Surcharge Grading Plan Area 1S	Drawings with incidental line work changes
15	C-110	Civil Cap Area Surcharge Grading Plan Area 3S	Drawings with incidental line work changes
20	C-115	Civil Chromium Excavation Interval 4	Drawings with incidental line work changes

32	C-127	Civil Remediation Final Grading, Drainage, and Soil Erosion Sediment Control Plan	Drawings with incidental line work changes
33	C-128	Civil Restoration Plan	Drawings with incidental line work changes
34	C-201	Civil Contingent Groundwater Extraction System Plan and Profile	Drawings with incidental line work changes
35	C-202	Civil Contingent Groundwater Extraction System Plan and Profile	Drawings with incidental line work changes
45	C-309	Miscellaneous Details	Drawings with incidental line work changes
46	C-501	Cap Cross Section Plan	Drawings with incidental line work changes
47	C-502	Cap Cross Sections	Drawings with incidental line work changes
48	C-503	Cap Cross Sections	Drawings with incidental line work changes
49	C-504	Cap Cross Sections	Drawings with incidental line work changes
50	C-505	Cap Profile	Drawings with incidental line work changes
52	C-517	Structural Fill Under Roadways	Drawings with incidental line work changes
53	S-201	Hydraulic Barrier Plan and Profile	Drawings with incidental line work changes
54	S-202	Hydraulic Barrier Plan and Profile	Drawings with incidental line work changes
58	S-206	Existing SA-7 SCB Wall Plan and Profile	Drawings with incidental line work changes
62	S-504	Temporary Support of Excavation Plans	Drawings with incidental line work changes

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6, Jersey City, New Jersey	**DCB No.: 011, Minor(a)** **Effective Date: 7/28/14**
Project Location: SA-6 North & South	**Associated RFI:**
Title: Revised Monitoring Well Abandonment Plan Tables	☐ Yes, RFI No. _____ ☒ None **Project No.: 3480130377**
Contractor (*Subcontractor*): ENTACT	

Description of Change/Modification:

Revised tables of wells to be abandoned and retained are provided. The designation (abandon/retain) of several wells has been modified to accommodate the changing site conditions and future work at the site.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☒ Design Revision ☐ Owner/Client Request ☐ Other (describe)	**Explanation or Reason:** Clarify well abandonment requirements **Attachments:** ☒ Yes ☐ No **Cost Implication:** ☐ Yes ☒ No **>$50K** ☐ Yes ☒ No **Schedule Impact** ☐ Yes ☒ No
Additional Comments:	**Design Documents Affected:** Appendix A-2, Monitoring Well Abandonment Plan Tables
Honeywell (AP) Review: **Individual: Geoff Shallard Discipline: EOR**	**Initial** GS **Date** 7/30/14
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☒ No **Date**

Distribution: Caroline Panico, ENTACT; Adam Ewert, ENTACT; Keith Goisse, ENTACT; Kurt Gimbel, ENTACT; Dennis Nagg, Amec; Stuart Bills, Amec; David Ambrose, Amec

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval.
(b) – If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

TABLE 1a
PROPOSED SHALLOW ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
SA-6 North	087	087-EW-4 (aka 087-MW-142)	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-EW-5	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-EW-6	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-EW-7	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-001	**Abandon**	S-3 Injection Program	Plaintiffs Requested Monitoring of this Well
		087-MW-101	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-102	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-103	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-104	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-105	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-106 (aka 087-MW-121)	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-106	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-107	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-108	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-109	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-110	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-111	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-112	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-113	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-114	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-115	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-116	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-117	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-118	**Retain**	Non-Cr - JCDPW-1B UST AOC	Post remediation GW monitoring
		087-MW-119	**Retain**	Non-Cr - JCDPW-1B UST AOC	Post remediation GW monitoring
		087-MW-120	**Retain**	Non-Cr - JCDPW-1B UST AOC	Post remediation GW monitoring
		087-MW-121 (aka 087-MW-106)		See Above	

* Retain if feasible, monitoring well is in excavation area.

TABLE 1a
PROPOSED SHALLOW ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
		087-MW-122	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-123	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-124	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-125	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-126	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-127	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-128	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-129	**Retain**	Non-Cr - JCMUA-1A UST AOC	UST AOC Monitoring
		087-MW-140	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-141	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-142 (aka 087-EW-4)	See Above		
		087-MW-A26	**Retain***	Site-wide LTMP	Shallow GW level monitoring near Rt. 440 sewers
		087-MW-I30	Retain	None	
		087-MW-O19	Abandon	None	
		087-MW-O23	**Retain**	Non-Cr - CEA	Monitoring for CEA
		087-MW-O29	**Retain**	In-Situ	Monitoring GW for In-Situ Program
		087-MW-S19	Abandon (hold off)	None	
		087-MW-U28	Abandon	None	
		087-MW-W25	Abandon	None	
		087-MW-Y20	Abandon	None	
		ME-02 (aka 087-SB-410)	Abandon	Geotech - Methane Monitoring	
		ME-03 (aka 087-SB-409)	Abandon	Geotech - Methane Monitoring	
		ME-04 (aka 087-SB-408)	Abandon	Geotech - Methane Monitoring	
		087-PZ-001	Abandon	None	
		087-PZ-003	Abandon	None	

* Retain if feasible, monitoring well is in excavation area.

TABLE 1a
PROPOSED SHALLOW ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
		087-PZ-005	Abandon	None	
	088	088-MW-001	**Retain***	Site-wide LTMP	Shallow GW level monitoring near Rt. 440 sewers
		088-MW-002	Abandon	None	
		088-MW-101	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	Monitoring for EAISB Program
		088-MW-102	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	Monitoring for EAISB Program
		088-MW-103	Abandon	Non-Cr - JCIA-1A UST AOC	Monitoring for EAISB Program
		088-MW-105	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-106	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-107	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-108	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-109	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-110	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-111	**Retain**	Non-Cr - JCIA-1B UST AOC	Post remediation GW monitoring
		088-MW-112	**Retain**	Non-Cr - JCIA-1B UST AOC	Post remediation GW monitoring
		088-MW-113	**Retain**	Non-Cr - JCIA-1B UST AOC	Post remediation GW monitoring
		088-MW-114	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-115	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-G19	Abandon	None	
		ME-01 (aka 088-SB-306)	Abandon	Geotech - Methane Monitoring	
		088-PZ-001	Abandon	None	
		088-PZ-003	Abandon	None	
SA-6 South	73	073-MW-3	**Retain**	None	
		073-MW-4	Abandon	None	
		073-MW-5	Abandon	None	
		073-MW-BB11	Abandon	None	
		073-MW-Y10	Abandon	None	
		073-PZ-001	Abandon	None	
	124	124-MW-01	Abandon		

* Retain if feasible, monitoring well is in excavation area.

TABLE 1a
PROPOSED SHALLOW ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
		124-MW-02	Abandon	None	
		124-MW-07	Abandon		
		124-MW-09	Abandon		
		124-MW-10	**Retain**	None	Potential additional offsite GW monitoring
		124-MW-11	**Retain**	None	Potential additional offsite GW monitoring
		ME-01 (aka 124-SB-503)	Abandon	Geotech - Methane Monitoring	
	125	125-MW-01	Abandon	None	
		ME-02 (aka 125-SB-501)	Abandon	Geotech - Methane Monitoring	
		125-PZ-001	Abandon	None	
		125-PZ-003	Abandon	None	
	134	134-MW-01	Abandon		
		134-MW-02	**Retain**	Non-Cr - CEA	Quarterly source area monitoring for MNA
		134-MW-Q08	Abandon	None	
		134-MW-V09	**Retain**	Non-Cr - CEA	Quarterly source area monitoring for MNA
		ME-03 (aka 134-SB-503)	Abandon	Geotech - Methane Monitoring	
		ME-04 (aka 134-SB-504)	Abandon	Geotech - Methane Monitoring	
		134-PZ-001	Abandon	None	
		134-PZ-003	Abandon	None	
	140	140-MW-01	Abandon		
		140-MW-04	**Retain**	Non-Cr - CEA	Monitor for previous owner's MNA/CEA program
		140-MW-06	Abandon	None	
		140-MW-07	Abandon	None	

* Retain if feasible, monitoring well is in excavation area.

TABLE 1a
PROPOSED SHALLOW ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
		140-MW-08	Retain	Non-Cr	In Non-Cr Former UST AOC Excavation
		140-MW-1R	**Retain**	Non-Cr - CEA	Monitor for previous owner's MNA/CEA program
		140-PZ-001	Abandon	None	
		140-MW-106	Abandon	None	
	163	163-MW-1	**Retain**	Non-Cr - CEA	Monitoring for CEA
		163-MW-CC8R	Abandon		
		163-MW-R05	Abandon	None	
		163-MW-2R	**Retain**	Non-Cr & Chromium	Quarterly monitoring of VOC plume fringe (See Table 1b)
		163-MW-Y6R	Abandon		

* Retain if feasible, monitoring well is in excavation area.

* Retain if feasible, monitoring well is in excavation area.

TABLE 1b
PROPOSED SHALLOW ZONE WELLS
FOR POST-REMEDY INSTALLATION

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Well	New / Replace / Retain	Related Monitoring Program	Reason to Install
SA-6 North	115-W1-SO	Retain	SA-6 North LTMP	Monitor hydraulic gradients across SA-7 SCB
	115-W6-SO	Retain	SA-6 South LTMP	Monitor hydraulic gradients across SA-7 SCB
	115-E4-SO	Retain	SA-6 North LTMP	Monitor hydraulic gradients across SA-7 SCB
	115-E5-SO	Retain	SA-6 North LTMP	Monitor hydraulic gradients across SA-7 SCB
	SA6N-PZ1-SI	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ1-SO	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ2-SI	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ2-SO	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ3-SI	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ3-SO	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ4-SI	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ4SO	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ5-SI	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ5-SO	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
SA-6 South	115-E1-SO	Abandon	SA-6 South LTMP	Monitor hydraulic gradients across SA-7 SCB
	115-E1A-SO	Retain	SA-6 South LTMP	Monitor hydraulic gradients across SA-7 SCB
	115-W3-SO	Retain	SA-6 South LTMP	Monitor hydraulic gradients across SA-7 SCB
	115-W5-SO	Retain	SA-6 South LTMP	Monitor hydraulic gradients across SA-7 SCB
	SA6S-PZ1-SI	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ1-SO	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ2-SI	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ2-SO	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ3-SI	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ3-SO	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ4-SI	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ4SO	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier

* Retain if feasible, monitoring well is in excavation area.

TABLE 1b
PROPOSED SHALLOW ZONE WELLS
FOR POST-REMEDY INSTALLATION

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Well	New / Replace / Retain	Related Monitoring Program	Reason to Install
	SA6S-PZ5-SI	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ5-SO	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-MW-01	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-02	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-03	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-04	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-05	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-06	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-07	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-08	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-09	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-10	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-11	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	163-MW-2R (SA6S-MW-12)	Retain	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC

* Retain if feasible, monitoring well is in excavation area.

TABLE 2
PROPOSED INTERMEDIATE ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
SA-6 North	087	087-MW-13	**Retain**		
		087-MW-A26D	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		087-MW-W25D	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		087-MW-O29D	**Retain**	S-3 Injection	Monitor S-3 Injection
		087-MW-O19D	**Retain***	GWET LTMP	Annual GWET LTMP water quality sampling
		087-MW-35	Abandon	GWET LTMP	
		087-OBS-1D	**Retain**	GWET LTMP	
		087-OBS-1L	**Retain**	GWET LTMP	
		087-OBS-2D	**Retain**	GWET LTMP	
		087-OBS-3L	**Retain**	GWET LTMP	
		087-OBS-5D	**Retain**	GWET LTMP	
		087-OBS-6D	Abandon	GWET LTMP	
		087-PZ-002	Abandon	SA-6N Design Investigation	
		087-PZ-004	Abandon	SA-6N Design Investigation	
		087-PZ-006	Abandon	SA-6N Design Investigation	
	088	088-MW-15	**Retain**	GWET LTMP	Define regional flow direction quarterly
		088-PZ-002	Abandon	SA-6N Design Investigation	
		088-PZ-004	Abandon	SA-6N Design Investigation	
SA-6 South	73	073-PZ-002	Abandon	SA-6S Design Investigation	
	124	124-MW-102D	Abandon	Deep Overburden Invest.	
		124-MW-103D	Abandon	Deep Overburden Invest.	
		124-MW-104D	Abandon	Deep Overburden Invest.	
		124-MW-105D	Abandon	Deep Overburden Invest.	
		124-MW-GO2D	**Retain**	Deep Overburden Invest.	Define regional flow direction quarterly
	125	125-PZ-002	Abandon	SA-6S Design Investigation	
		125-PZ-004	Abandon	SA-6S Design Investigation	
	134	134-PZ-002	**Retain**	SA-6S Design Investigation	Define regional flow direction quarterly
		134-PZ-004	Abandon	SA-6S Design Investigation	
	140	140-PZ-002	Abandon	SA-6S Design Investigation	
		140-MW-P05D	**Retain**	Deep Overburden Invest.	Define regional flow direction quarterly

TABLE 2
PROPOSED INTERMEDIATE ZONE WELLS
FOR ABANDONMENT / RETAINMENT

SA-7	115	115-E1-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E1-DO	Abandon	SA-7 Perimeter Pools	
		115-E2-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E2-DO	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E3-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E3-DO	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E4-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E4-DO	Abandon	SA-7 Perimeter Pools	
		115-E5-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E5-DO	Abandon	SA-7 Perimeter Pools	
		115-E6-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E6-DO	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-MW-17	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-MW-20	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-MW-A12T	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-MW-E14D	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-MW-U14D	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-W1-DO	Abandon	SA-7 Perimeter Pools	
		115-W4-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-W4-DO	Abandon		

*Optionally, to be re-located north of the open space area

TABLE 3
PROPOSED DEEP ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
SA-6 North	087	087-MW-A26T	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		087-MW-W25T	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		087-OBS-1T	**Retain**		
		087-OBS-4T	**Retain**	GWET LTMP	Monitor GWET drawdown
		087-OBS-5T	**Retain**		
		087-MW-01	**Retain**	GWET LTMP	Monitor S-3 Injection
		087-MW-02	**Retain**		
		087-MW-03	Abandon	None	
		087-MW-08	**Retain**		
		087-MW-34	**Retain**		
		087-IW-01	**Retain**	S-3 Injection	Inject and monitor S-3 Injection
	088	088-MW-G19T	**Retain**	S-3 Injection	Monitor S-3 Injection
		088-IW-01	**Retain**	S-3 Injection	Inject and monitor S-3 Injection
		088-IW-02	**Retain**	S-3 Injection	Inject and monitor S-3 Injection
SA-6 South	124	124-MW-GO2T	**Retain**	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-102T	Abandon	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-103L	Abandon	Plume Diversion	Collect In-situ groundwater sample prior to capping
		124-MW-104T	Abandon*	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-104L	**Retain***	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-105T	**Retain***	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-106T	**Retain***	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-107T	Abandon	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-06	Abandon	None	
SA-7	115	115-MW-04	**Retain**		
		115-MW-05	**Retain**		

		115-MW-21	**Retain**		
		115-MW-E14T	**Retain**		
		115-MW-U14T	**Retain**		
Offsite, South of SA-6 South	119	119-MW-01T	**Retain**	Plume Diversion	"L-Well" Monitoring Plan Sampling
		119-MW-02T	**Retain**	Plume Diversion	"L-Well" Monitoring Plan Sampling

* Retain if feasible, monitoring well is in excavation area.
*Abandon: monitoring well could not be retained durnig excavation.

TABLE 4
PROPOSED BEDROCK WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
SA-6 North	087	087-MW-O29T	Abandon	None	
		087-MW-I30T	Abandon	None	
		087-MW-14	Abandon	None	
SA-6 South	073	073-MW-1BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		073-MW-10BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
	119	119-MW-16BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
	124	124-MW-8BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		124-MW-17BR-1	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		124-MW-17BR-2	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
	140	140-MW-9BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
SA-7	115	115-MW-208BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		115-MW-211BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		115-MW-215BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		115-MW-216BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 007.2 Major Effective Date: 11/20/14
Project Location: SA-6 NORTH	Associated RFI:
Title: GW EXTRACTION SYSTEM	o Yes, RFI No. ____ þ None
REPLACE WELLS WITH TRENCHES	Project No.: 3480130377
Contractor (Subcontractor): Entact	

DCB-007.1 was issued for the trench detail portion of the modified groundwater system design. At the time of issue details for the SA-6N trench were subject to potential further modification. DCB-007.2 provides the final details for the SA-6N groundwater collection trenches and associated electrical supply and groundwater discharge piping.

The 100% Design included a Conceptual Design for the Groundwater Extraction system that was based on use of 9 extraction wells in each open space area and common header system. Section 10.3 of the Design Report stated "Honeywell reserves the right to propose alternative groundwater extraction designs capable of meeting the criteria stated in Article III.A (56) of the Consent Decree.

Details related to the Administrative basis for the change are provided in DCB 007.1.

DCB 007.2 is applicable to the SA-6N Groundwater Extraction System trench design.

The design was modeled by Cornerstone. The model results indicate that the design will achieve the required gradients. Figure 1, 2 and 3 from the model runs are attached for reference.

The changes impact the following drawings
The following Issued for Construction Drawings are deleted

- CN-201
- CN-202
- CN-203

These following drawings were added

Contingent Groundwater Extractions System Plan and Profile

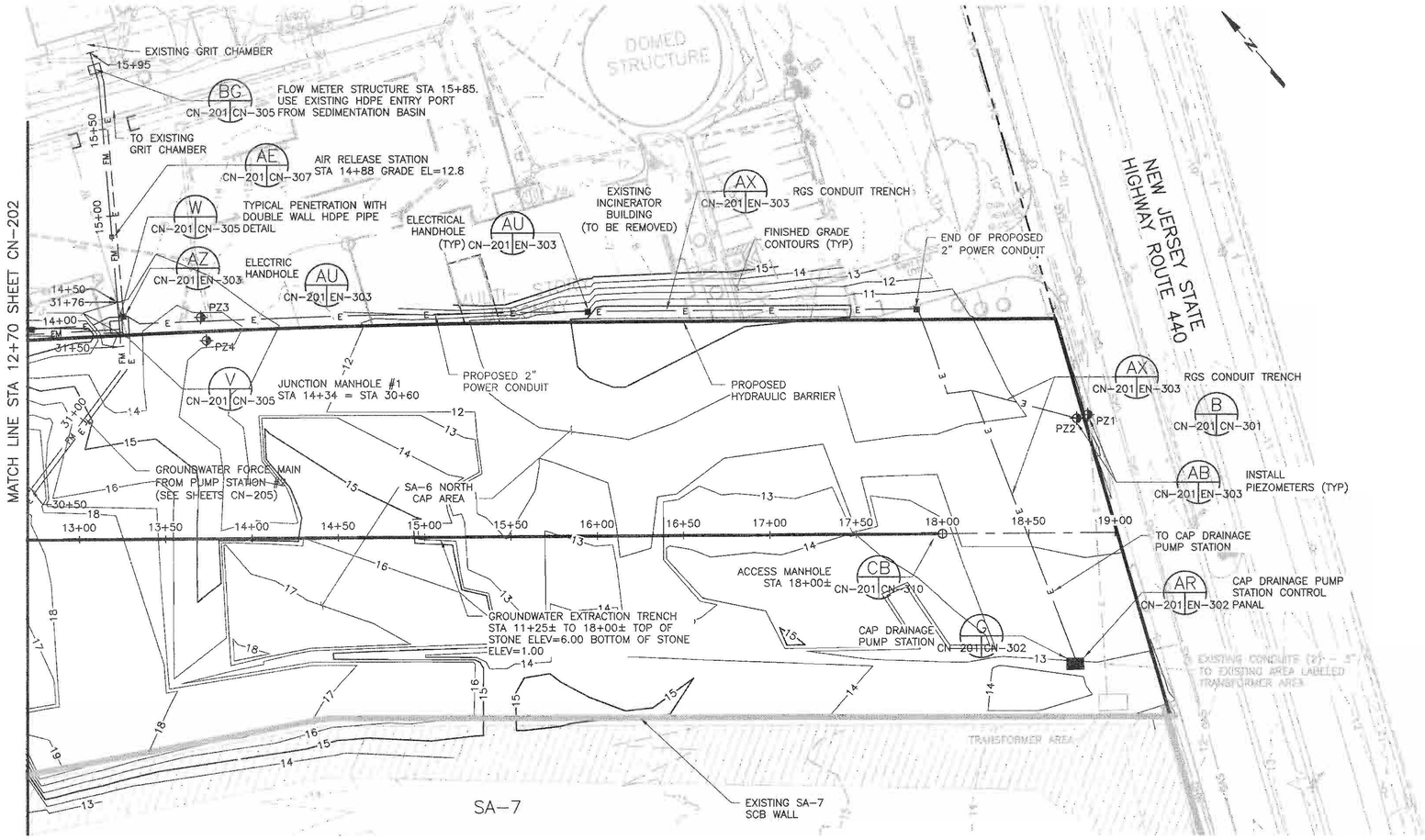
- CN-201
- CN-202
- CN-203
- CN-204 (discharge force main and electrical)
- CN-310 (Groundwater Extraction Trench Details).

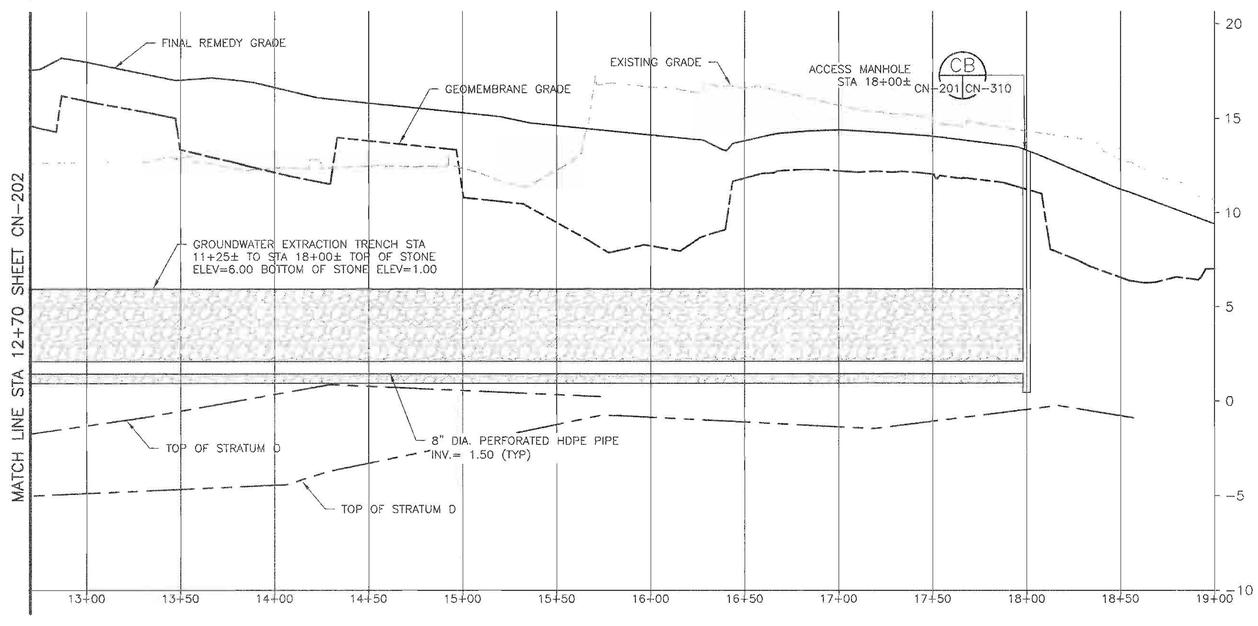
The changes from the well concept to the trench will also impact the Geomembrane Liner Grading CN-123 and CN-124. The Geomembrane liner changes will be issued separately.

It is noted that the 5 piezometric pairs on SA-6N are not included in this DCB. Amec is currently evaluating data collection and transmission options for the piezometers. The piezometer designs will be issued in a separate DCB.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Design changed based on information gathered during construction Attachments: ☑ Yes ☐ No Cost Implication: ☑ Yes ☐No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected: Contingent GW system plans and profiles-see drawing list in description
Honeywell (AP) Review: Individual Discipline Initial Date	
(Name / Signature):	Does DCB Result in CCO? ☑ Yes (b) ☐ No Date: 11/21/14
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FOR FORCE MAIN PROFILE INFORMATION SEE SHEET CN-204.
4. FINAL PLAN VIEW ALIGNMENT MAY BE ADJUSTED SUBJECT TO THE APPROVAL OF THE ENGINEER TO AVOID OBSTRUCTIONS SUCH AS EXISTING BUILDING FOUNDATIONS, ABANDONED UTILITIES AND PILES.
5. TRENCH INVERT HAS BEEN DESIGNED TO BE ABOVE STRATUM O AND STRATUM D. INVERTS MAY BE ADJUSTED DURING DESIGN DEVELOPMENT OR IN RESPONSE TO OBSERVED FIELD CONDITIONS SUBJECT TO THE APPROVAL OF THE ENGINEER AND GROUNDWATER MODELER.
6. PLACE STONE LOOSE IN GROUNDWATER COLLECTION TRENCH. RUN PLATE COMPACTOR OR EQUAL OVER TRENCH PRIOR TO INSTALLING GEOTEXTILE FABRIC.
7. BACKFILL ABOVE GEOTEXTILE FABRIC MAY BE COMPOSED OF EXCAVATED TRENCH SPOIL OR OTHER MATERIAL THAT CAN BE READILY COMPACTED. WET SOIL OVERSIZED DEBRIS OR OTHER MATERIALS AS DEEMED UNSUITABLE CONSISTENT WITH THE EARTHWORK SPECIFICATION 1.04.B. WILL NOT BE USED. BACKFILL WILL BE PLACED IN LIFTS CONSISTENT WITH THE EARTHWORKS SPECIFICATION 3.12.B.4.
8. FLEXIBLE COUPLINGS SHALL BE FLEXJOINT COUPLING AS MANUFACTURED BY ETHYLENE, LLC OR EQUAL. FLEXIBLE COUPLINGS SHALL HAVE A MINIMUM OF (2) BELLOWS AND BE TEFLON-LINED WITH 316 SS FLANGES (POWER BAKED EPOXY COATING APPLIED) AND VITON GASKETS.
9. PIEZOMETRIC PAIRS MAY BE INSTALLED USING SOLAR PANELS FOR POWER AND CELL TOWER OR SATELLITE DATA TRANSMITTING. DESIGN OF PIEZOMETRIC PAIR WILL BE ISSUED UNDER SEPARATE COVER.

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43597

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
2	11/19/14	TDD				TDD	SGS
1	09/13/13	RJR				RJR	SGS
0	06/07/13	TDD				TDD	SGS

DCB 007.2
HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM
ISSUED FOR CONSTRUCTION
REVISION

Honeywell
101 COLUMBIA RD. BOX 2108, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, N.J. 08619
Phone: (609) 890-2020
NJ Certificate of Authorization Number 24GA28010900

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DATE	
PROJ	3480-12-0317
DWG	CN-201
SHEET	33 OF 70

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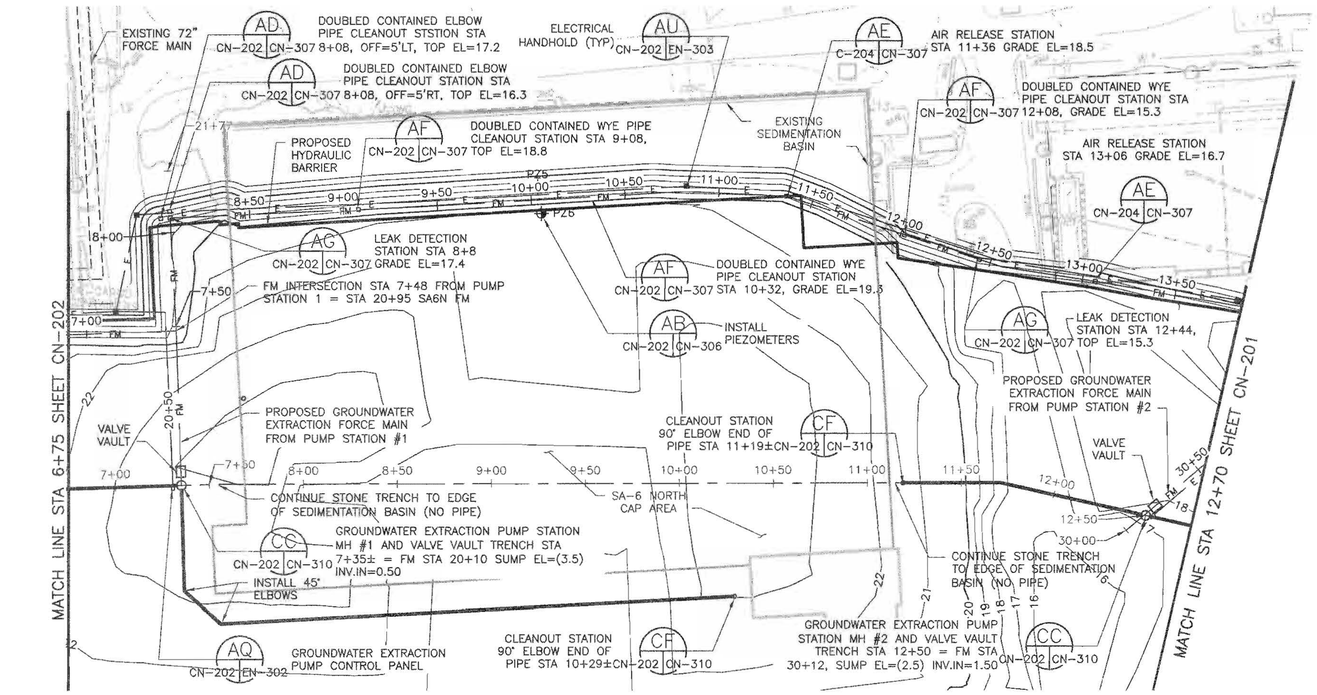
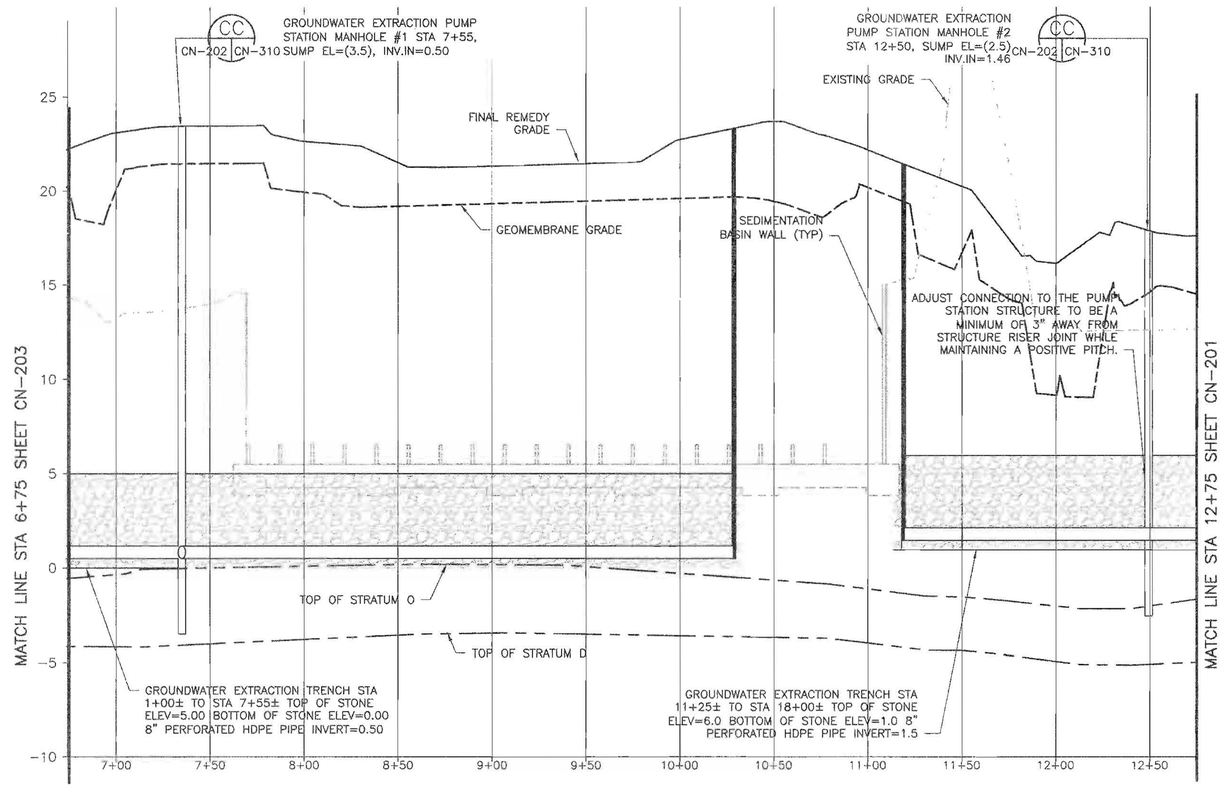
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\NCR33-CN-201-Cont Pump Well Sections.dwg PLOT DATE: Wed, 19 Nov 2014 PLOT TIME: 2:55 PM





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET CN-201 FOR NOTES.
4. BARRIER WALL ALIGNMENT SUBJECT TO FINAL LAYOUT CHANGES.

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
2	11/19/14	DCB 007.2	TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43567

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

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SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM PLAN AND PROFILE

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(609) 689 - 28239
NJ Certificate of Authorization Number 24GA28010900

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PROJ	3480-12-0317
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SHEET	34 OF 70

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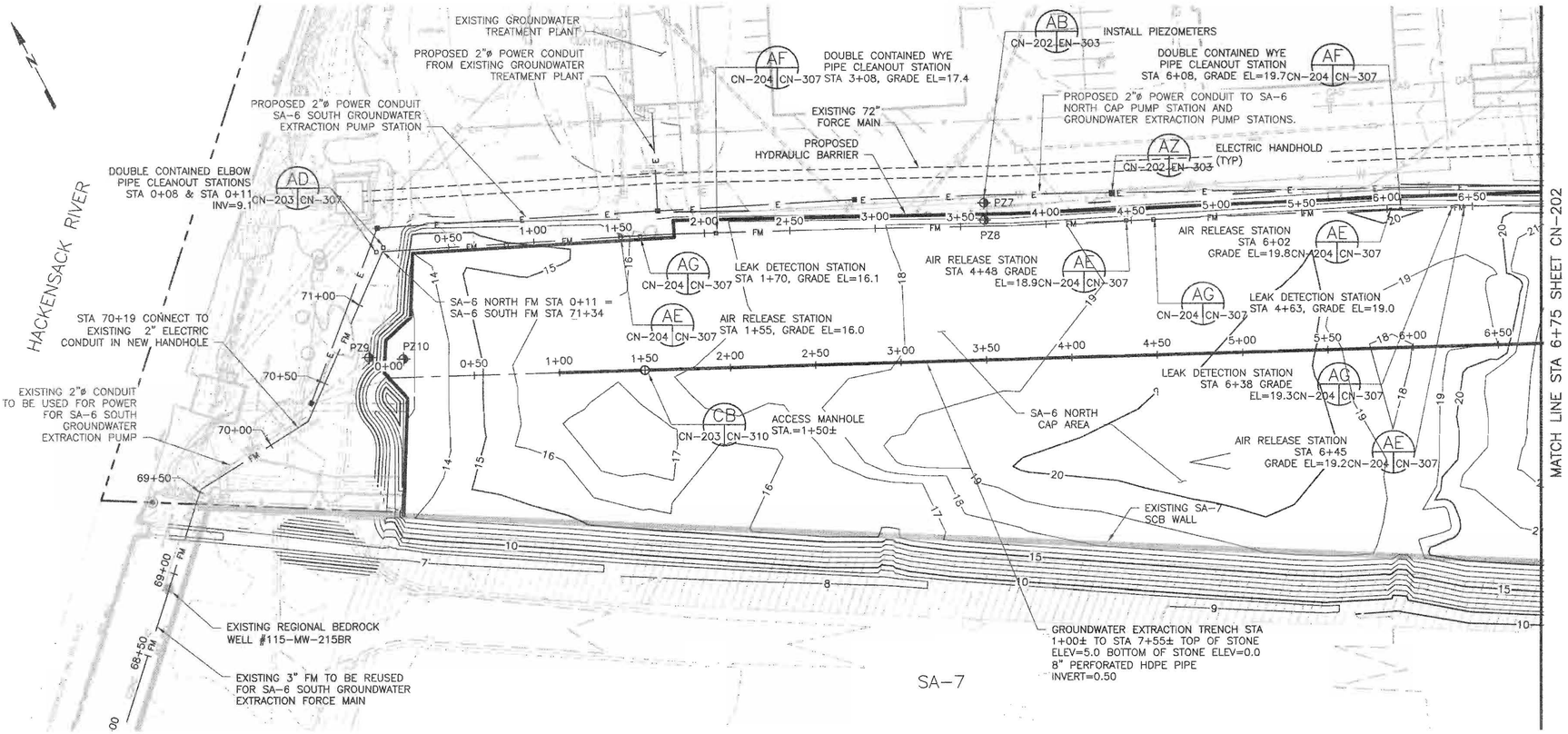
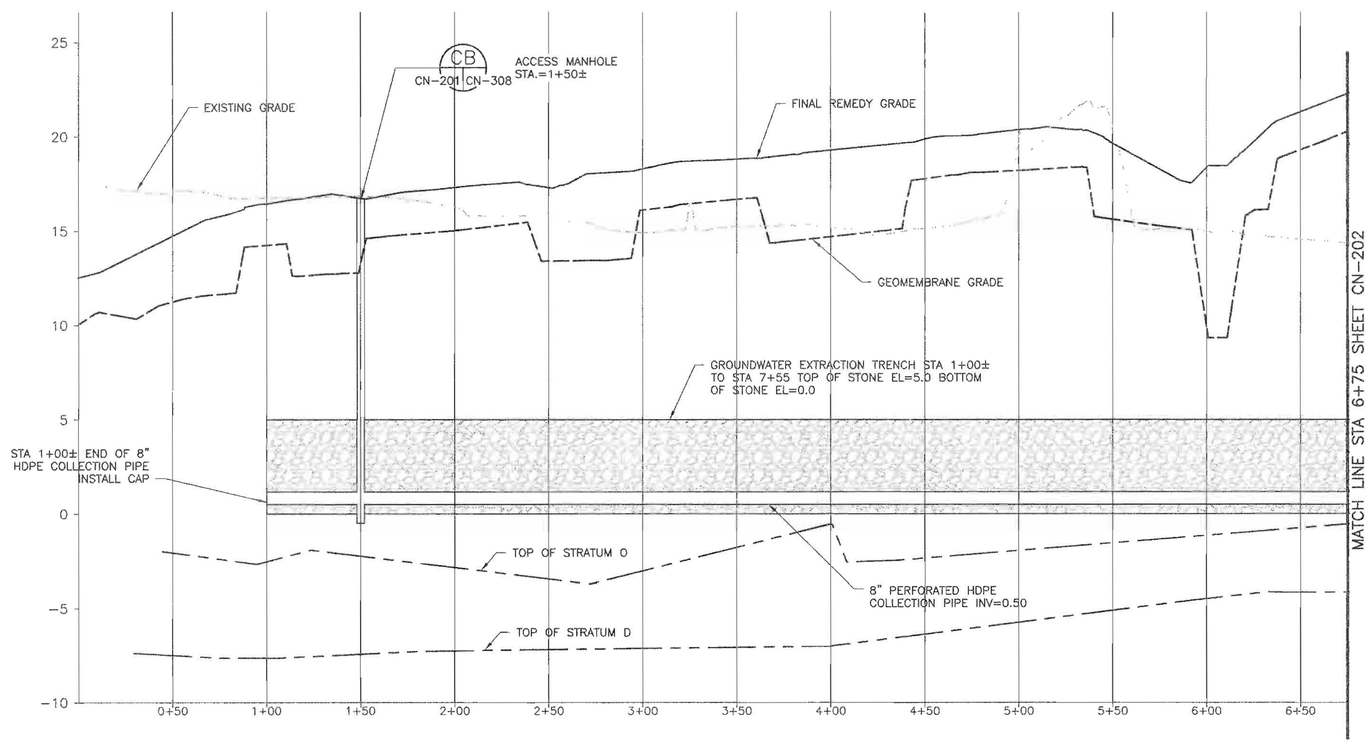
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\NCR34-CN-202-Cont_GWE_Trench.dwg PLOT DATE: Thu, 20 Nov 2014 PLOT TIME: 3:15 PM





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET CN-201 FOR NOTES.

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
2	11/19/14	TDD	RJR	TDD		TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM				RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION				TDD	SGS
		REVISION				BY	APVD

DCB 007.2

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

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CONTINGENT GROUNDWATER EXTRACTION SYSTEM PLAN AND PROFILE

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(609) 689 - 2829
NJ Certificate of Authorization Number 24GA29010500

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SHEET	35 OF 70

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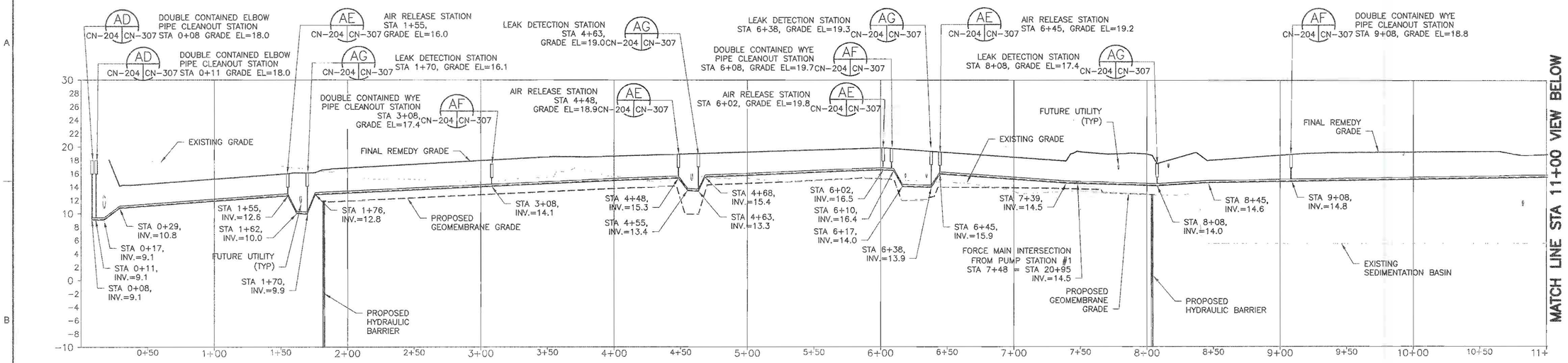

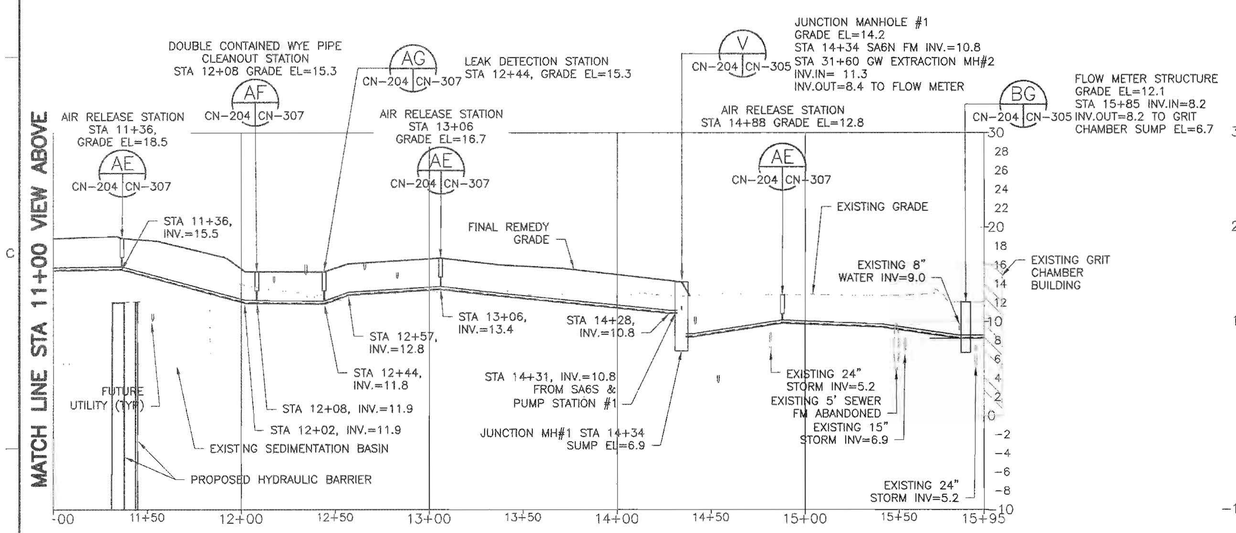

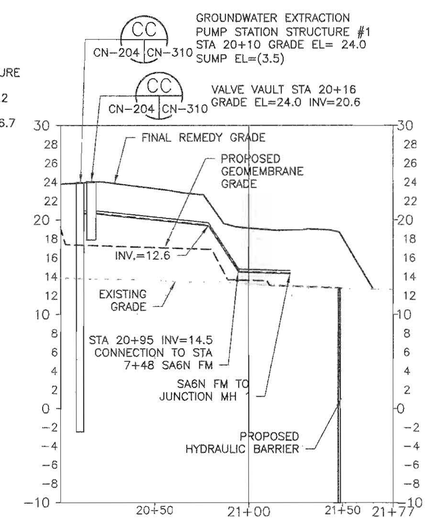

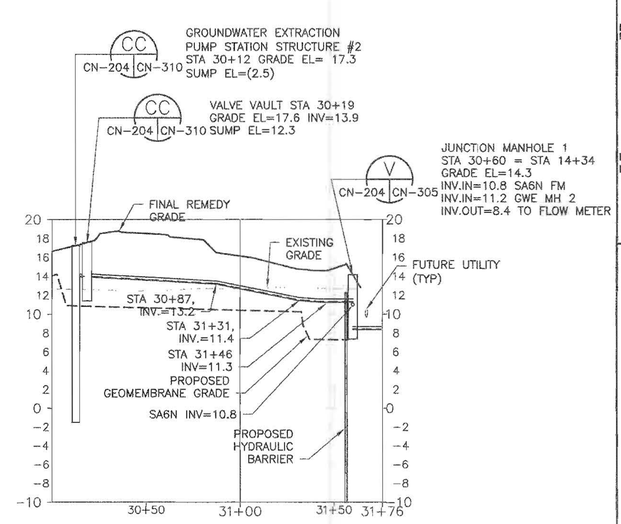

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. THE DESIGN OF THE CONTINGENT GROUNDWATER EXTRACTION SYSTEM IS CONCEPTUAL AND HAS BEEN BASED ON THE AVAILABLE HYDROGEOLOGIC INFORMATION. THE DESIGN IS BASED ON A THEORETICAL SCENARIO USING CONSERVATIVE ASSUMPTIONS. HONEYWELL WILL CONTINUE TO EVALUATE PERTINENT INFORMATION GATHERED THROUGH DEWATERING AND OTHER CONSTRUCTION OPERATIONS. THIS INFORMATION WILL BE USED TO CALIBRATE THE GROUNDWATER CAPTURE MODEL. SUBJECT TO RESULTS OF THAT MODEL CALIBRATION AND EVALUATION OF THE IMPACTS ON THE SYSTEM DESIGN HONEYWELL MAY PROPOSE ALTERNATIVE GROUNDWATER EXTRACTION DESIGNS CAPABLE OF MEETING THE CRITERIA STATED IN ARTICLE III A 58 OF THE CONSENT DECREE.

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
2	11/19/14	DCB 007.2	TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR TDD CHK RJR APVD TDD

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507
SGS

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

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PROJ	3480-12-0317
DWG	CN-204
SHEET	36 OF 70

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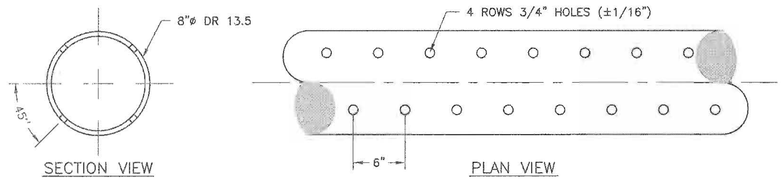
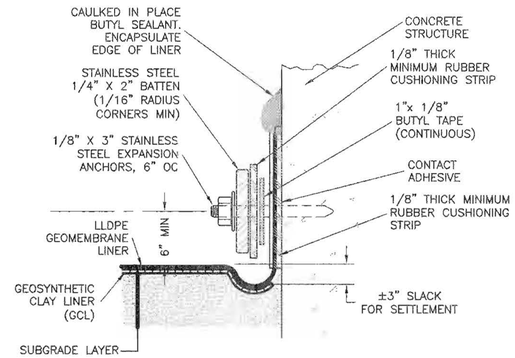
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\NCR36-CN-204-Cont_GWE_Trench.dwg PLOT DATE: Thu, 20 Nov 2014 PLOT TIME: 3:15 PM



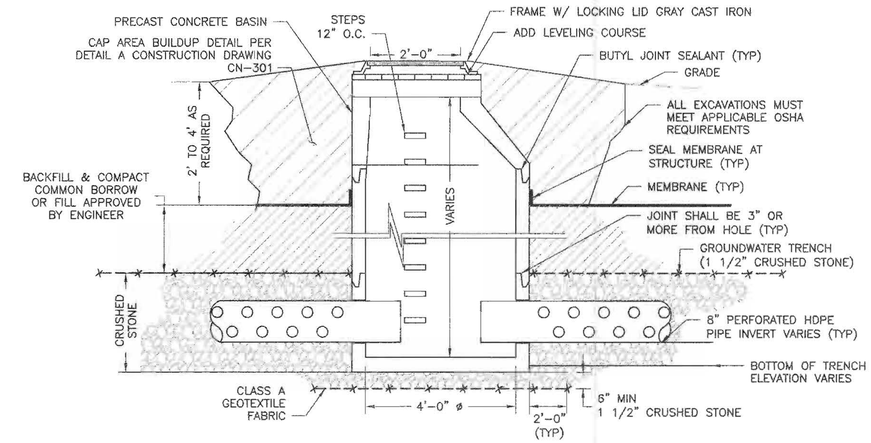
PIPE PERFORATIONS (CD)
NTS TYP CN-310

CONSTRUCTION SEQUENCE

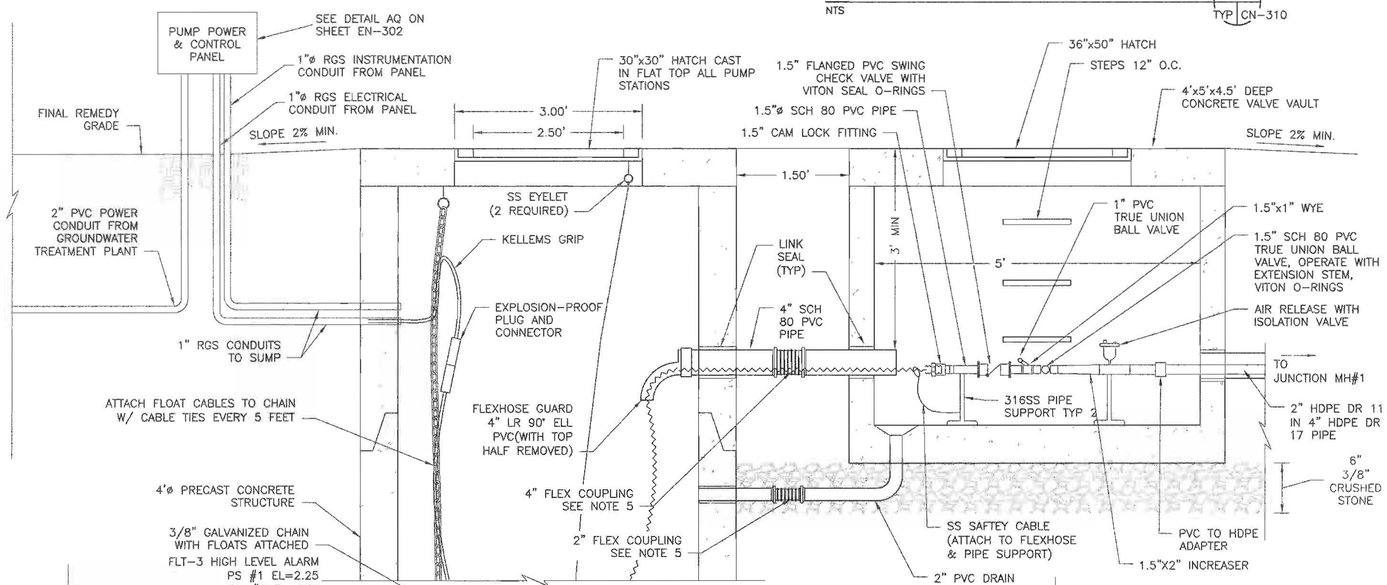
- SET MANHOLE BASE AND RISER SECTIONS.
- EXTEND RISER WITH SURCHARGE AND FILL PLACEMENT.
- PLACE TEMPORARY COVER.
- MEASURE TOP/ BOTTOM ELEVATION POST SURCHARGE.
- REVIEW RISER SECTIONS AND IF NECESSARY ORDER A NEW RISER TO MEET DESIGN GRADE.
- OR ADJUST DESIGN GRADE TO MATCH AVAILABLE RISERS – SUBJECT TO ENGINEERS APPROVAL.



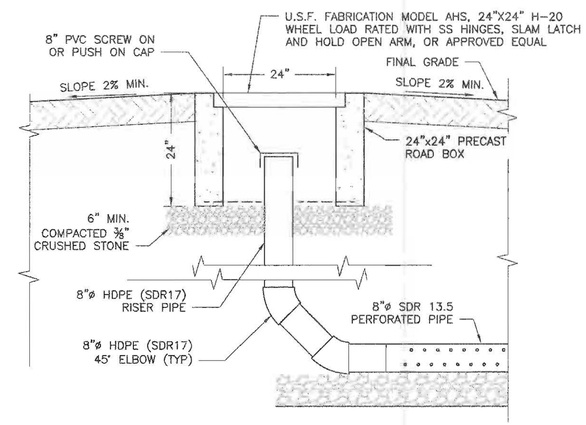
LINER ANCHOR TO CONCRETE STRUCTURE (CE)
NTS TYP CN-310



TYPICAL ACCESS MANHOLE FINAL CONDITION (CB)
NTS STA=1+55±, AND STA=18+00± CN-201 CN-203 CN-310



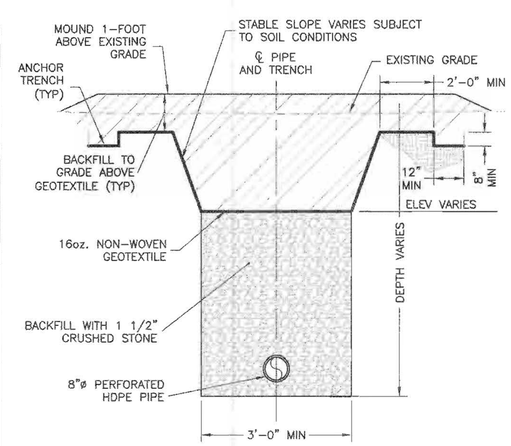
GROUNDWATER EXTRACTION PUMP STATION
STA 7+35± & STA 12+50± (CC)
NTS CN-202 CN-203 CN-310



ELBOW PIPE CLEANOUT (CF)
NTS CN-202 CN-310

PARTS LIST

ITEM	QTY	MANUFACTURER\ PART NO.	DESCRIPTION
30" X 30" PUMP STATION HATCH	1	ej FABRICATION PRODUCT H30303191 OR APPROVED EQUAL	SPRING LOADED ALUMINUM VAULT HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION
1.5" TRUE UNION BALL VALVE	1	CHEMTROL OR APPROVED EQUAL	TRUE UNION SERIES PVC VITON O RINGS AND TEFLON SEALS
1.5" DIA. FLEXHOSE	1	GRANGER OR APPROVED EQUAL	ITEM #3JT48 25' LENGTH EACH
1.5" DIA. CAMLOCK QUICK DISCONNECTS	1–MALE 1–FEMALE	GRANGER OR APPROVED EQUAL	ITEM #3LX22 ITEM #3LX14 (GET FROM GRANGER)
EXPLOSION–PROOF PLUG AND CONNECTOR	2–SETS	MELTRIC 22–14043 22–18043 OR APPROVED EQUAL	INLINE PLUG AND RECEPTACLE W/ MALE CAP, HANDLES AND FINGER DRAW PLATES
1" TRUE UNION BALL VALVE	1	CHEMTROL OR APPROVED EQUAL	TRUE UNION SERIES PVC WITH VITON O RINGS AND TEFLON SEALS
1.5" SWING CHECK VALVE	1	SPEARS OR APPROVED EQUAL	MODEL 4423–015 VITON SEAL AND O RINGS
36' X 50" VALVE VAULT HATCH	1	PENNSYLVANIA INSERT CORP STOCK# ATH3050D I*2 OR APPROVED EQUAL	SPRING LOADED ALUMINUM HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION
FLEX COUPLING	2	ETHYLENE, LLC OR APPROVED EQUAL	FLEXIJOINT COUPLING MIN. (2) BELLOWS, TEFLON–LINED W/ 316 SS FLANGES, POWER BAKED EPOXY COATING, AND VITON GASKETS



GROUNDWATER TRENCH
NTS SURCHARGE CONDITION (CA)
TYP CN-310

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43607

NO.	DATE	REVISION	BY	APVD
2	11/19/14	DCB 007.2	TDD	SGS
1	05/14/14	DCB 007	TDD	SGS

DSGN	DR	CHK	APVD
TDD	RJR	TDD	SGS

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
GROUNDWATER EXTRACTION TRENCH DETAILS

amec
Environment & Infrastructure, Inc.
200 Airport Metro Blvd. Suite 113
Hamilton, NJ. 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

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SHEET	45 OF 70

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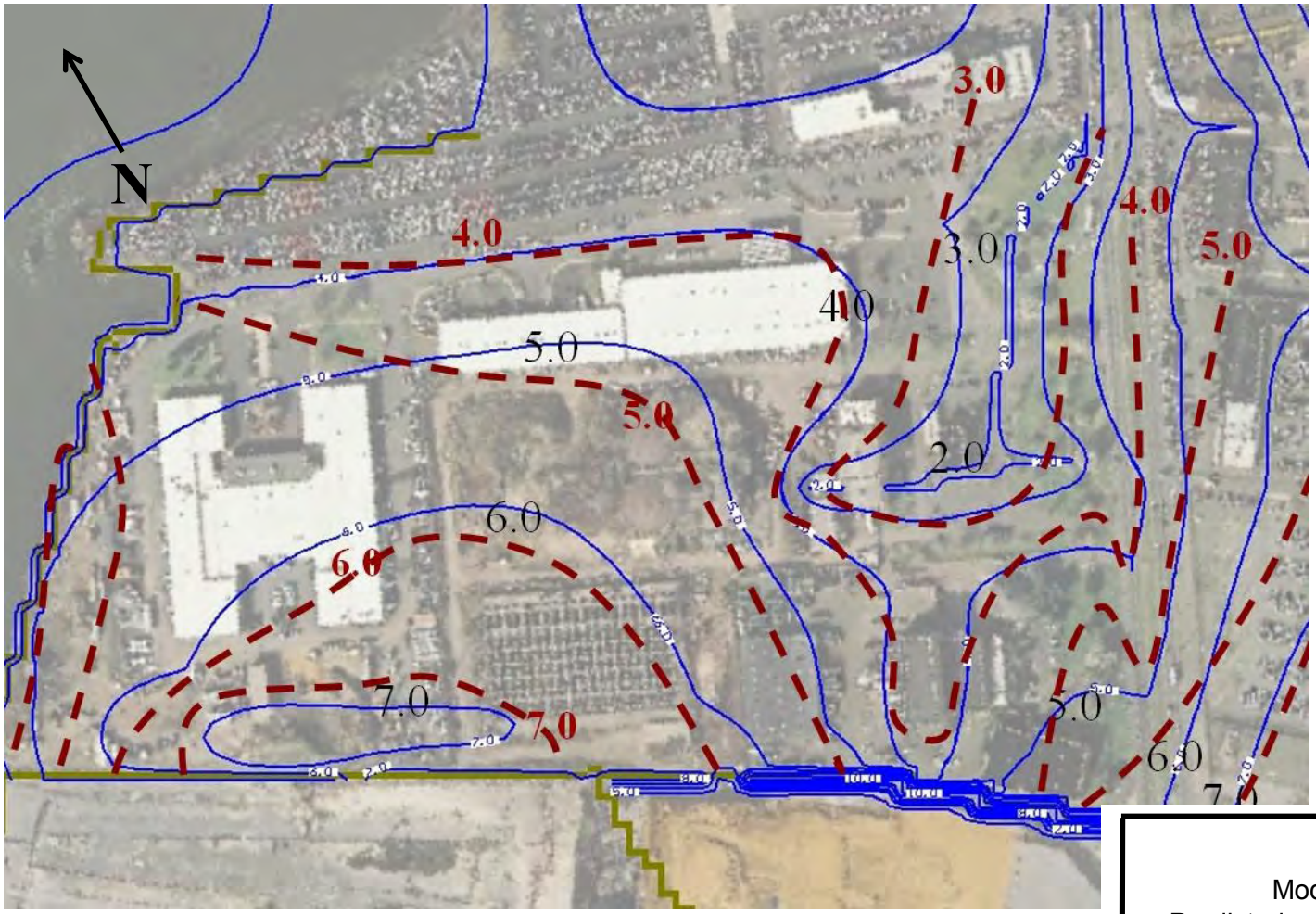


LEGEND

5.0 Predicted Heads

5.0 Measured Heads

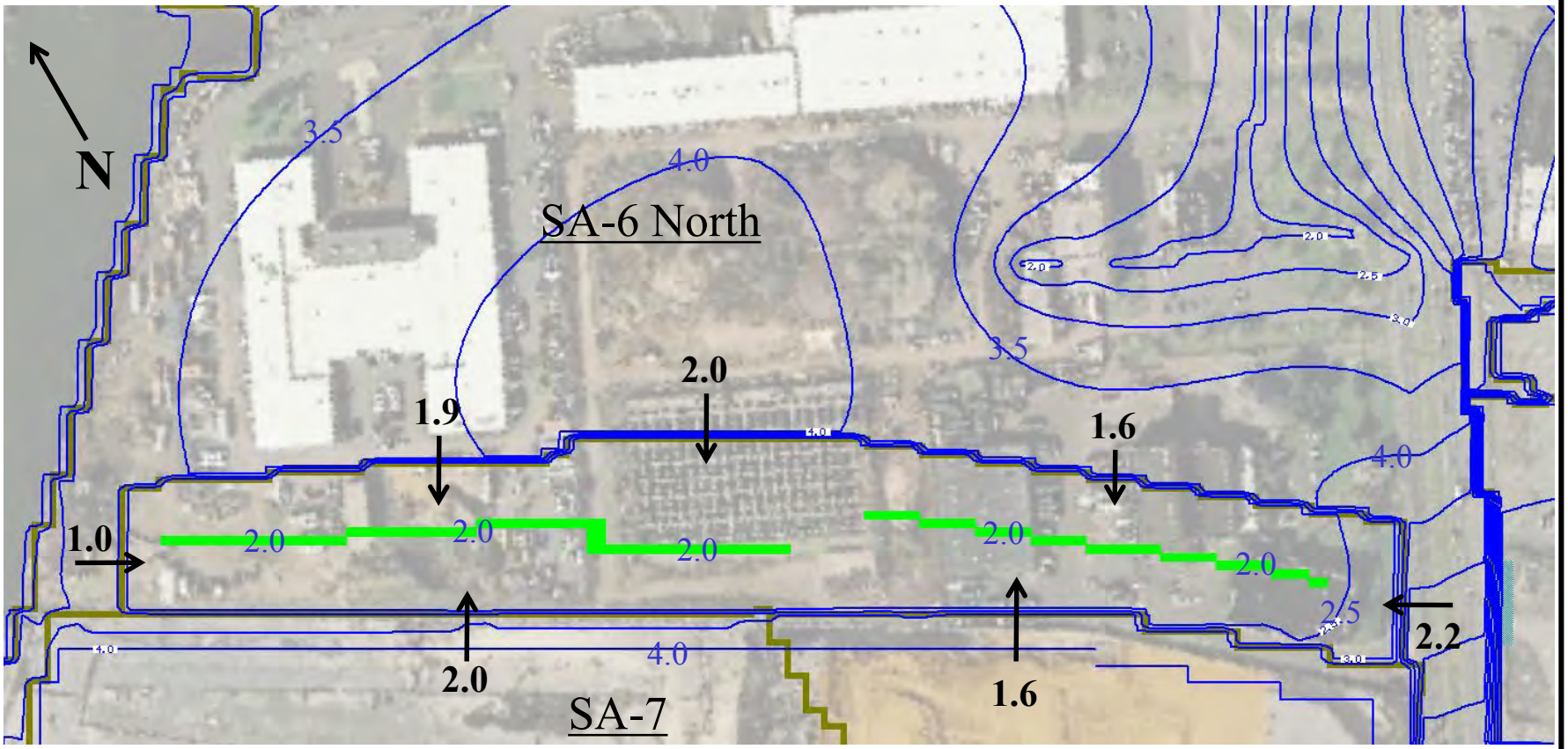
NTS

FIGURE 1

Model Calibration
Predicted versus Measured Heads
Model Layer 1 (Shallow Zone)

Study Area 6 North
Jersey City, NJ

cornerstone environmental



LEGEND

Contingent Pumping System Drain Line

3.2 ← Head Diff. Across Wall

5.0 Predicted Heads

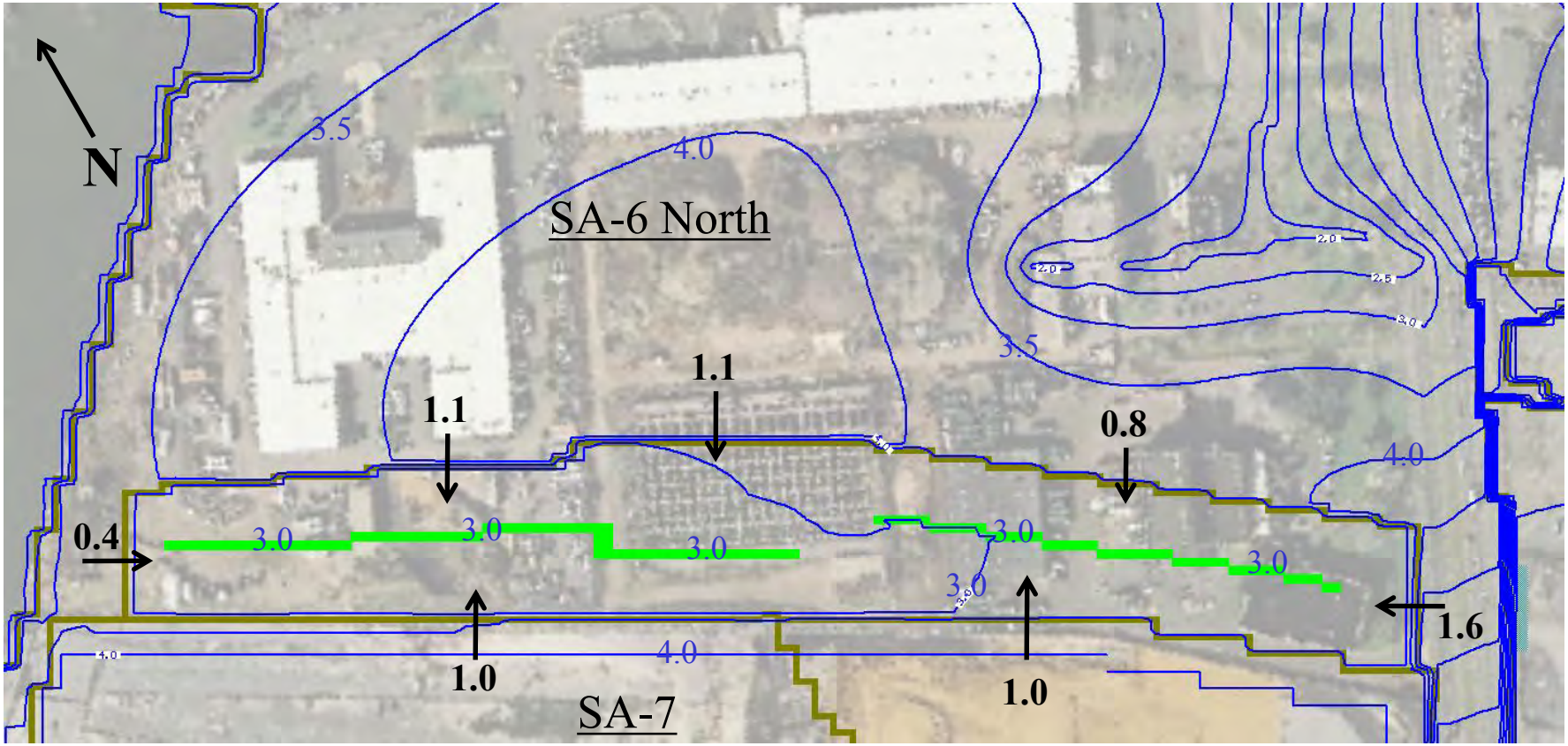
NTS

FIGURE 2

Post-development Predicted Heads
SA-7 Perimeter Pools Non-functioning
Head in Drain at +2.0'

Study Area 6 North
Jersey City, NJ

cornerstone environmental



LEGEND

Contingent Pumping System Drain Line

3.2 ← Head Diff. Across Wall

5.0 Predicted Heads

NTS

FIGURE 3

Post-development Predicted Heads
SA-7 Perimeter Pools Non-functioning
Head in Drain at +3.0'

Study Area 6 North
Jersey City, NJ

cornerstone environmental

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 007.3 Major (a) Effective Date: 02/12/15
Project Location: SA-6 SOUTH	Associated RFI:
Title: GW EXTRACTION SYSTEM	o Yes, RFI No. NA_ None
REPLACE WELLS WITH TRENCHES	Project No.: 3480130377
Contractor (Subcontractor): Entact	

DCB-007.1 was issued for the trench detail portion of the modified groundwater system design. At the time of issue details for the SA-6N trench had not been finalized.
DCB-007.2 provided the details for the SA-6N groundwater collection trenches and associated electrical supply and groundwater discharge piping.
DCB-007.3 provides the details for the SA-6S groundwater collection trenches and associated electrical supply and groundwater discharge piping.

The 100% Design included a Conceptual Design for the Groundwater Extraction system that was based on use of 9 extraction wells in each open space area and common header system. The revised Design uses a trench design. Details related to the Administrative basis for the change are provided in DCB 007.1.

DCB 007.3 impacts the following drawings
The following Issued for Construction Drawings Extraction System that was based on 9 extraction wells are deleted

- C-201 Plan and Profile
- C-202 Plan and Profile
- C-203 Plan and Profile
- C-304 System Details

The following drawings for the Trench design were added.

- C-201 Trench Plan and Profile
- C-202 Trench Plan and Profile
- C-203 Trench Plan and Profile
- C-204 Discharge Force Main Plan and Profile)
- C-304 Details
- C-306 Details
- C-310 Details).

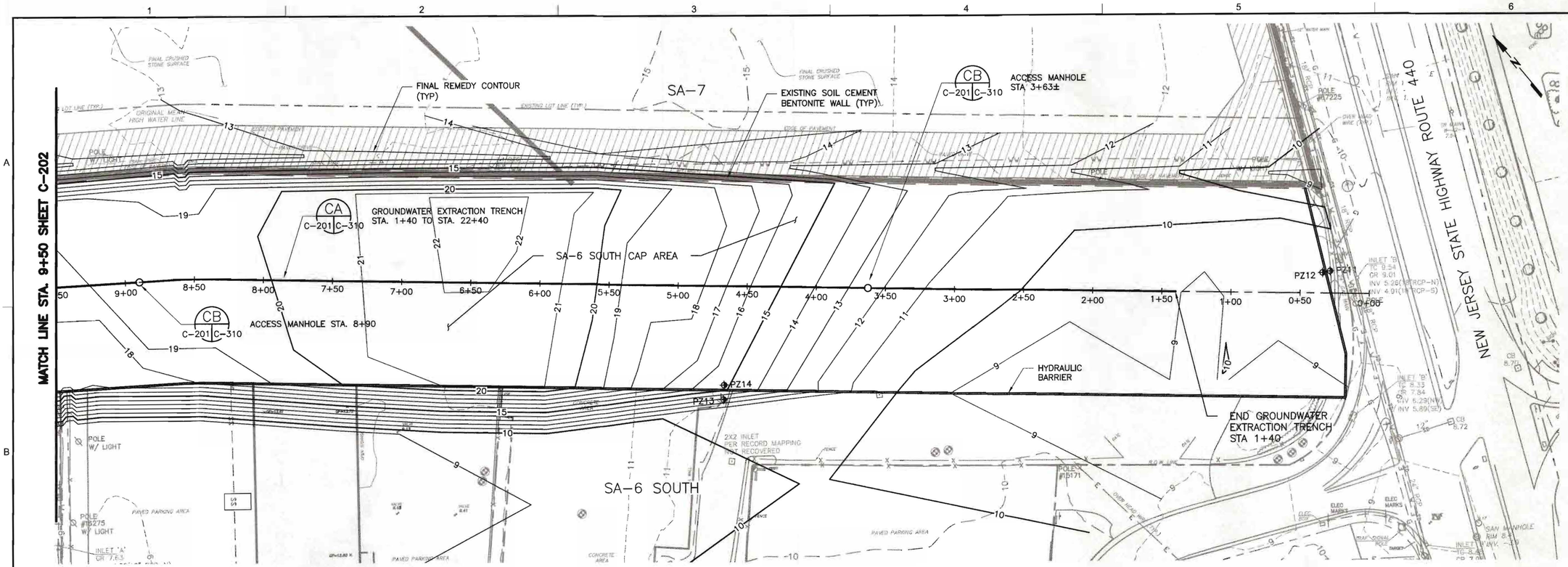
The changes from the well concept to the trench will also impact the Electrical Drawings. E-101, E-301, E-302 and E-303. The Electrical changes will be issued separately under DCB 007.4. It is noted that DCB 007.2 and DCB 007.3 does show the details for all pumps, motors and controls for the trench design.

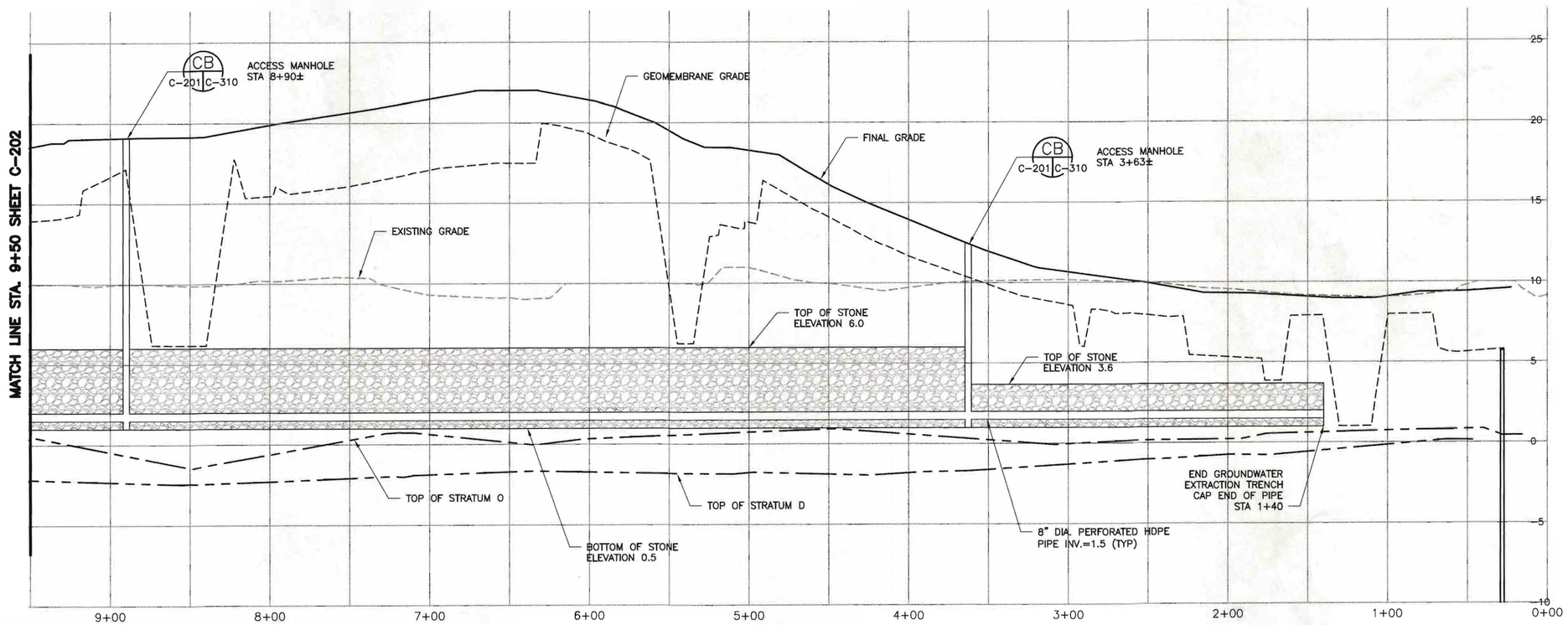
The changes from the well concept to the trench will also impact the Geomembrane Liner Grading. The Geomembrane liner changes will be issued separately under DCB 007.5.

Note; piezometric pairs will be installed as shown on both SA-6N and SA-6S. The piezometers on north were previously shown as clouded/temporarily deferred.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Design changed based on information gathered during construction Attachments: ☑ Yes ☐ No Cost Implication: ☑ Yes ☐No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected: Contingent GW system plans and profiles-see drawing list in description
Honeywell (AP) Review: Individual Discipline Initial Date	
(Name / Signature): Samuel G Shallard	Does DCB Result in CCO? ☑ Yes (b) ☐ No Date: 2/16/15
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. DEWATER AS NECESSARY TO PROVIDE SUITABLE CONDITIONS FOR PLACEMENT OF STONE AND HDPE PIPE.
4. USE SHEETING/SHORING TRENCH BOXES OR OTHER MEANS AS NECESSARY TO ALLOW FOR PLACEMENT OF FILTER STONE AND HDPE PIPE.
5. FINAL PLAN VIEW ALIGNMENT MAY BE ADJUSTED SUBJECT TO THE APPROVAL OF THE ENGINEER TO AVOID OBSTRUCTIONS SUCH AS EXISTING BUILDING FOUNDATIONS, ABANDONED UTILITIES AND PILES.
6. TRENCH INVERT HAS BEEN DESIGNED TO BE ABOVE STRATUM O AND STRATUM D. INVERTS MAY BE ADJUSTED DURING DESIGN DEVELOPMENT OR IN RESPONSE TO OBSERVED FIELD CONDITIONS SUBJECT TO THE APPROVAL OF THE ENGINEER AND GROUNDWATER MODELER.
7. PLACE STONE LOOSE IN GROUNDWATER COLLECTION TRENCH. RUN PLATE COMPACTOR OR EQUAL OVER TRENCH PRIOR TO INSTALLING GEOTEXTILE FABRIC.
8. BACKFILL ABOVE GEOTEXTILE FABRIC MAY BE COMPOSED OF EXCAVATED TRENCH SPOIL OR OTHER MATERIAL THAT CAN BE READILY COMPACTED. WET SOIL, OVERSIZED DEBRIS OR OTHER MATERIALS AS DEEMED UNSUITABLE CONSISTENT WITH THE EARTHWORK SPECIFICATION 1.04.B. WILL NOT BE USED. BACKFILL WILL BE PLACED IN LIFTS CONSISTENT WITH THE EARTHWORKS SPECIFICATION 3.12.B.4.
9. FLEXIBLE COUPLINGS SHALL BE FLEXJOINT COUPLING AS MANUFACTURED BY ETHYLENE, LLC OR EQUAL. FLEXIBLE COUPLINGS SHALL HAVE A MINIMUM OF (2) BELLOWS AND BE TEFLON-LINED WITH 316 SS FLANGES (POWER BAKED EPOXY COATING APPLIED) AND VITON CASKETS.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
2	02/13/15	TDD	TDD	TDD		TDD	SGS
1	06/06/14	TDD	RJR			TDD	SGS

REVISION: DCB 007.3 / DCB 007

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
GROUNDWATER EXTRACTION TRENCH PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd. Suite 113
Hamilton, NJ. 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

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BAR IS ONE INCH ON ORIGINAL DRAWING.
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DATE	
PROJ	3480-12-0317
DWG	C-201
SHEET	OF 66

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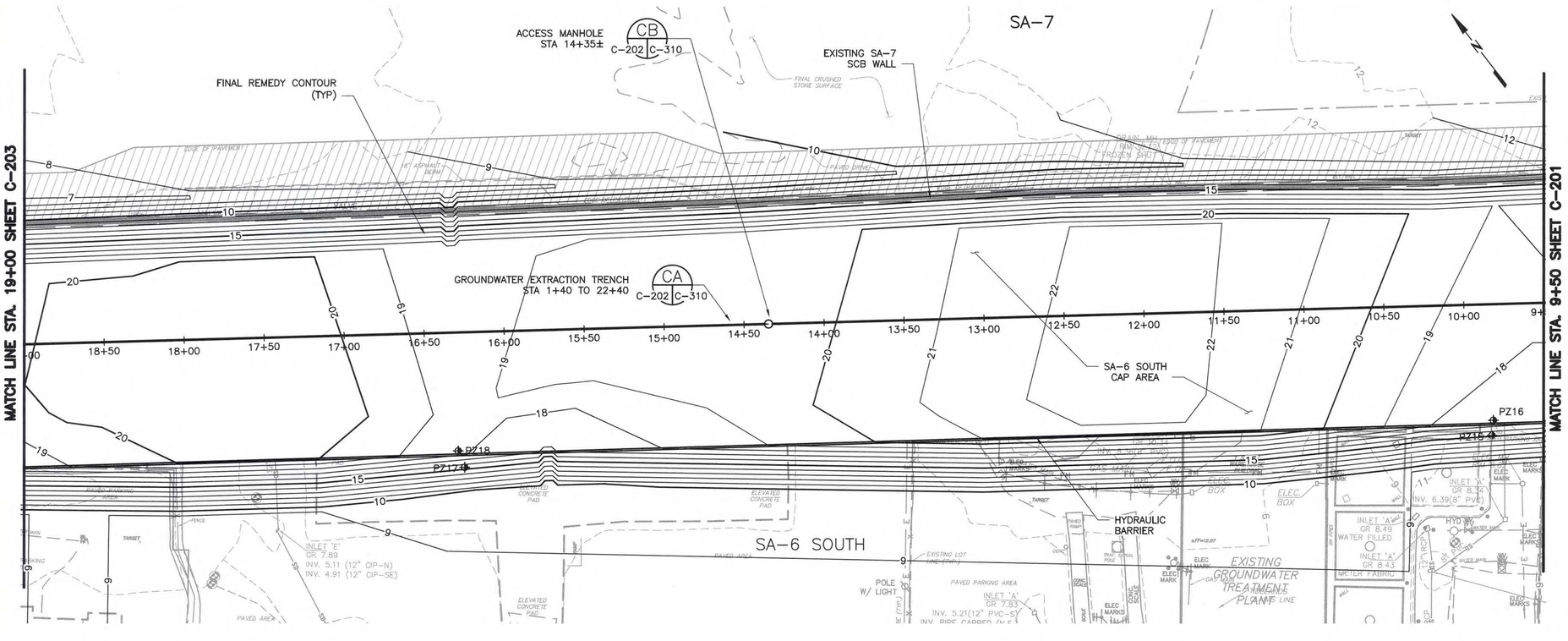
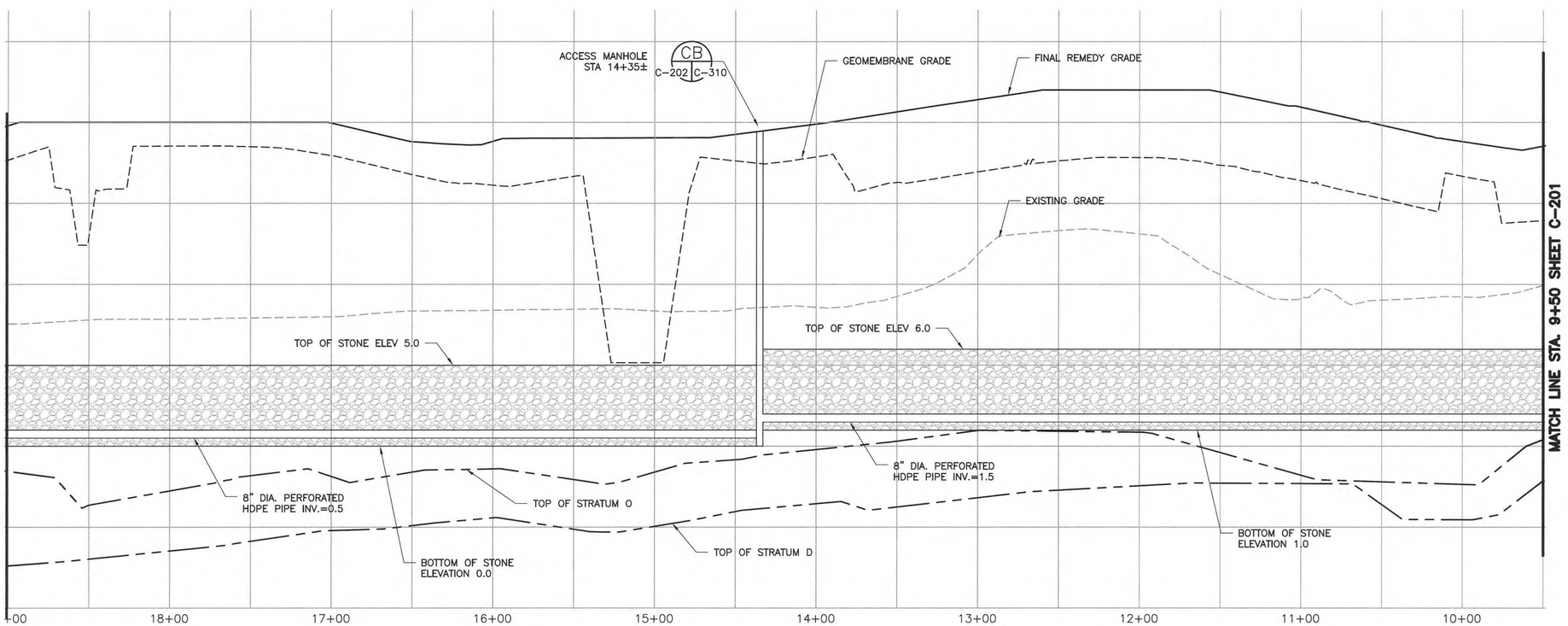
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR34-C-201_Cont_GWE_Trench.dwg PLOT DATE: Fri, 13 Feb 2015 PLOT TIME: 2:44 PM





NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. REFER TO NOTES ON SHEET C-201.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD	REVISION	BY	APVD
3	02/13/15	TDD	TDD	RJR	TDD	DCB 007.3	TDD	SGS
2	07/30/14	TDD				DCB 007.1	TDD	SGS
1	06/08/14	TDD				DCB 007	TDD	SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
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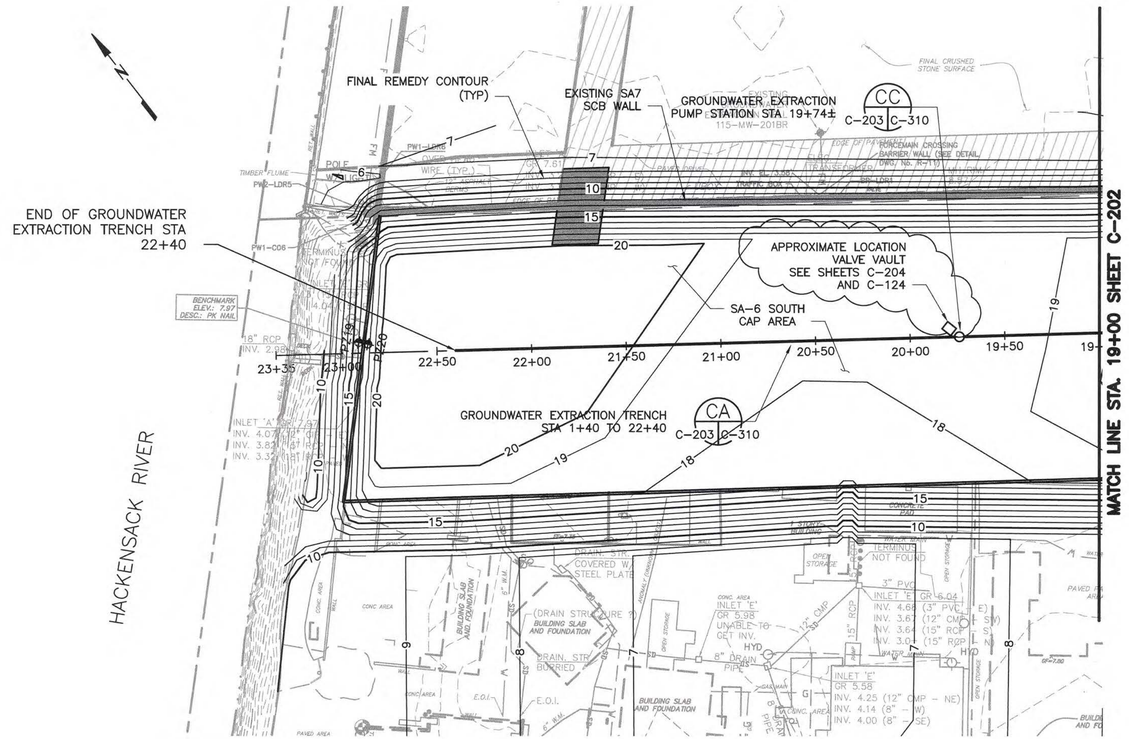

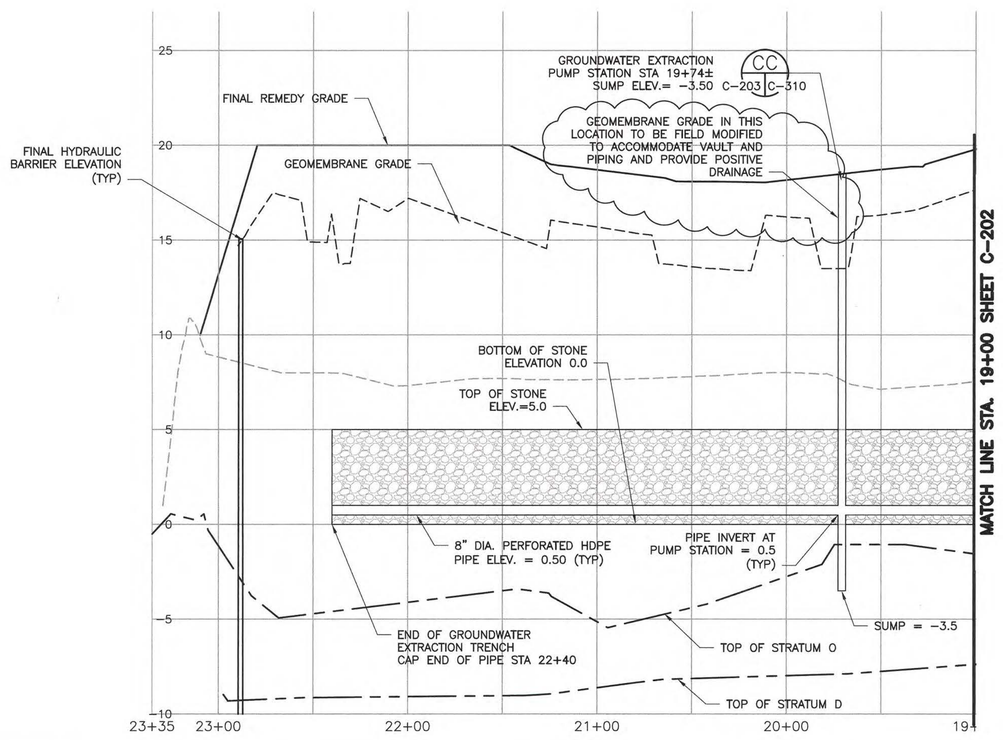

NOTES:

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3. REFER TO NOTES ON SHEET C-201.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
3	02/13/15	DCB 007.3	TDD	SGS
2	07/30/14	DCB 007.1	TDD	SGS
1	06/06/14	DCB 007	TDD	SHM

DSGN TDD DR TDD CHK RJR APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

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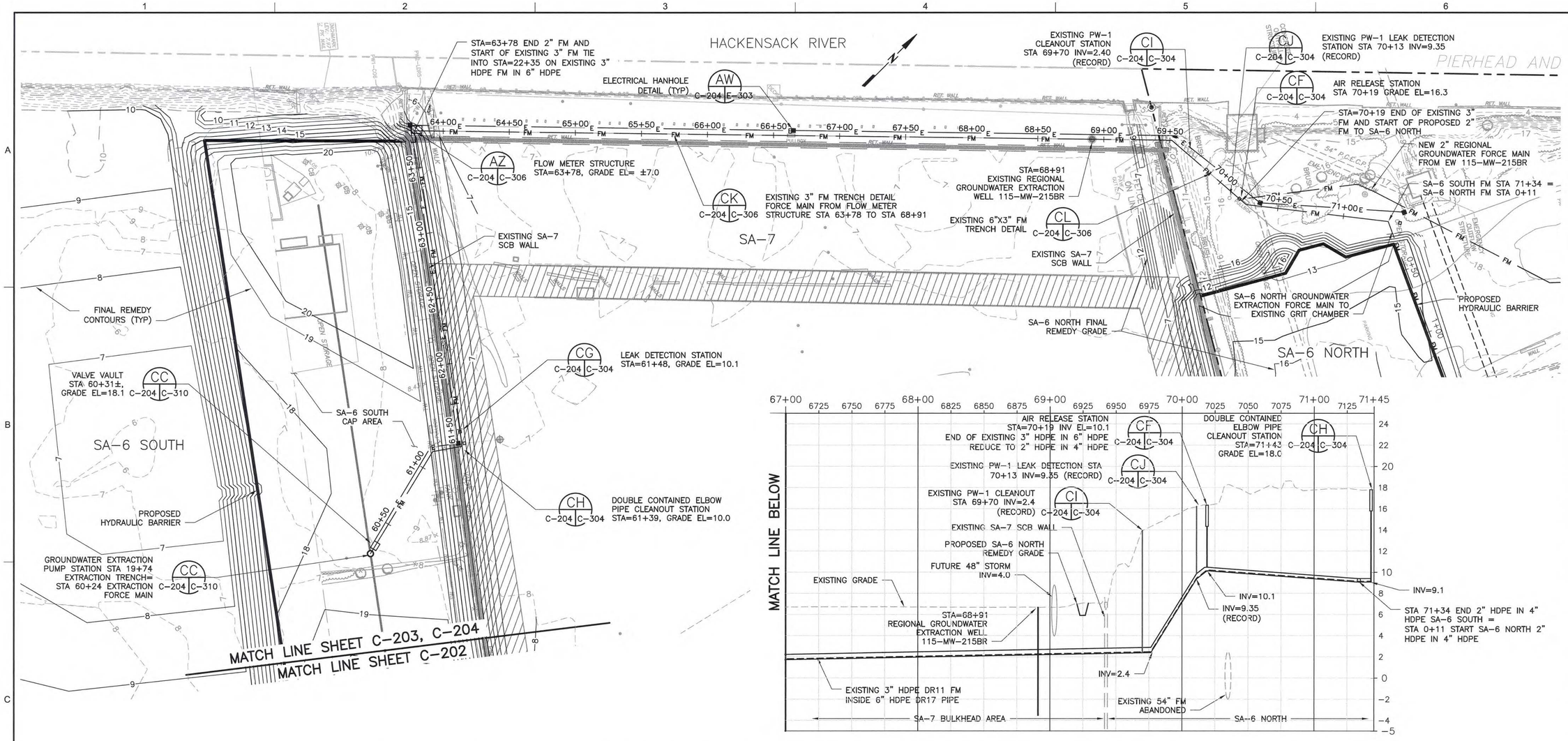

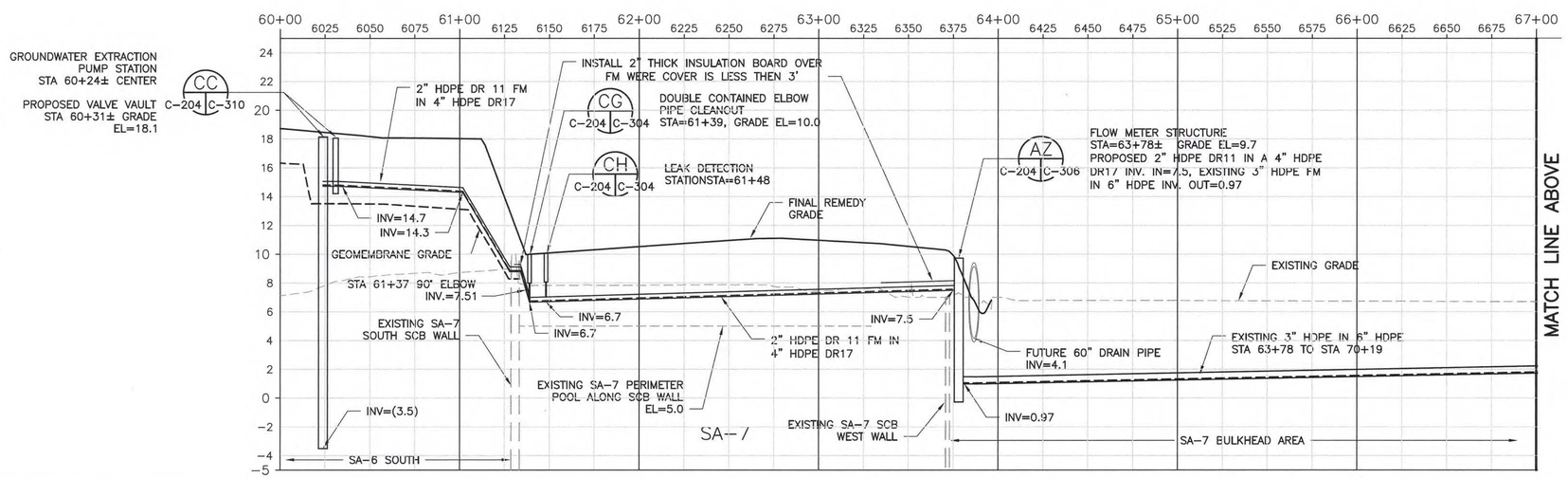

NOTES:

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4. USE SHEETING/SHORING TRENCH BOXES OR OTHER MEANS AS NECESSARY TO ALLOW FOR PLACEMENT OF STONE AND HDPE PIPE.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 5'
0 2.5 5 10
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
3	02/13/15	DCB 007.3	TDD	SGS
2	05/16/14	REVISED GROUNDWATER EXTRACTION PUMP STATION	RJR	SGS
1	05/14/14	DCB 007	TDD	SHM

DSGN TDD DR TDD CHK RJR APVD SGS

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DWG	C-204
SHEET	OF 66

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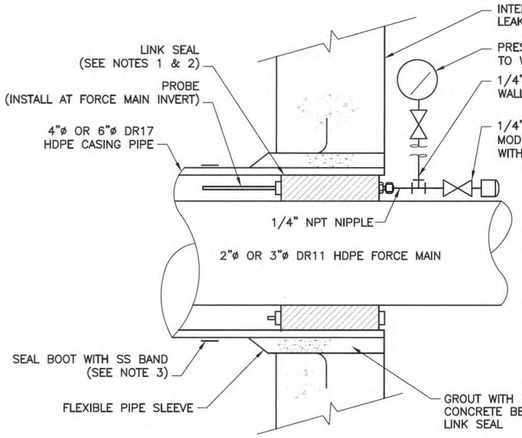
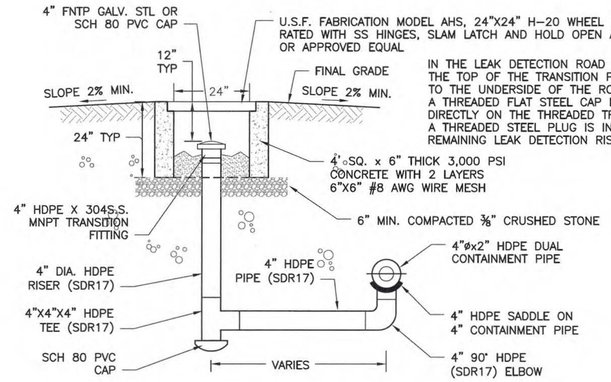


NOTES:

1. USE THUNDERLINE LINK-SEAL TYPE LS 300-C FOR 2"ø OR 3" ø PIPELINES AND TYPE LS 425-C FOR 1"ø AND 1-1/4" PIPELINES OR EQUAL AT ALL MANHOLES AND STRUCTURES.
2. USE PRESSURE GAGE AND PROBE ON PIPELINES THAT SLOPE UPWARDS FROM STRUCTURES ONLY, BASED ON FORCE MAIN ORIENTATION.
3. USE LOCK-JOINT FLEXIBLE MANHOLE SLEEVE OR KOR-N-SEAL JOINT SLEEVE OR EQUAL AT ALL PENETRATIONS.

TYPICAL PENETRATION W/DOUBLE WALL HDPE PIPE DETAIL (X) C-304 | C-306

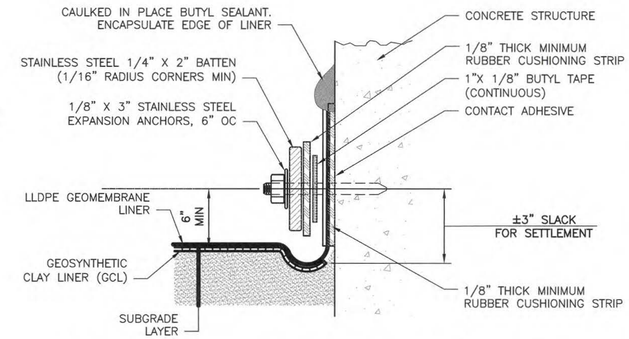
NTS



IN THE LEAK DETECTION ROAD BOXES WHERE THE TOP OF THE TRANSITION PIECE IS CLOSE TO THE UNDERSIDE OF THE ROAD BOX COVER A THREADED FLAT STEEL CAP IS INSTALLED DIRECTLY ON THE THREADED TRANSITION PIECE. A THREADED STEEL PLUG IS INSTALLED IN THE REMAINING LEAK DETECTION RISERS.

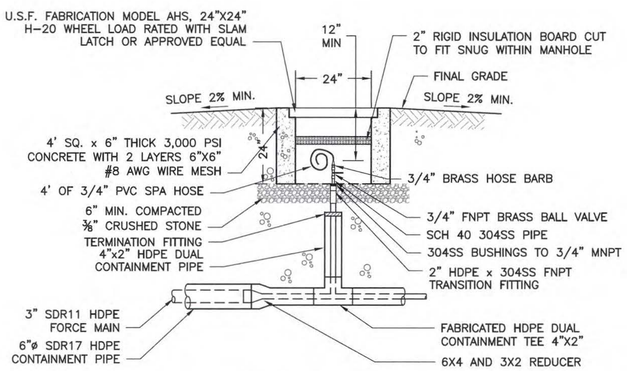
LEAK DETECTION STATION (CG) C-204 | C-304

NTS



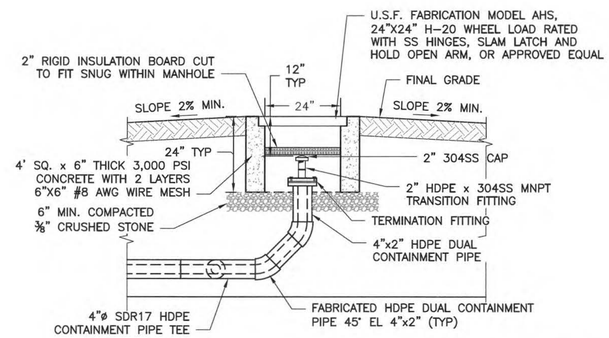
LINER ANCHOR TO CONCRETE STRUCTURE (CE) TYP | C-304

NTS



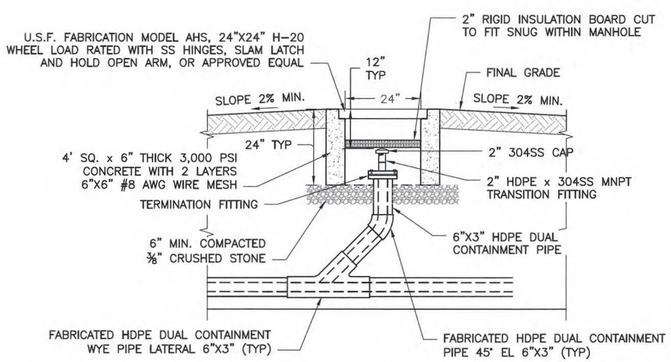
AIR RELEASE STATION (CF) C-204 | C-304

NTS



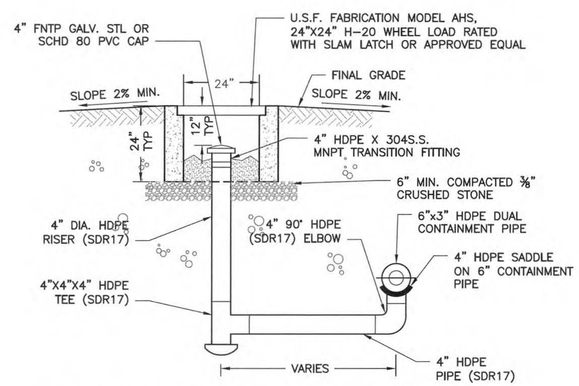
DOUBLE CONTAINED ELBOW PIPE CLEANOUT (CH) C-204 | C-304

NTS



EXISTING DOUBLE CONTAINED WYE PIPE CLEANOUT (CI) C-204 | C-304

NTS



EXISTING 3" LEAK DETECTION STATION (CJ) C-204 | C-304

NTS

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND C-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

NO.	DATE	REVISION	DSGN	DR	CHK	APVD	BY	APVD
1	02/13/15	DCB 007.3	REO	REO	RJR	REO	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION					TDD	SHM

Honeywell
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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

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(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

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DATE	
PROJ	3480-12-0317
DWG	C-304
SHEET	41 OF 66

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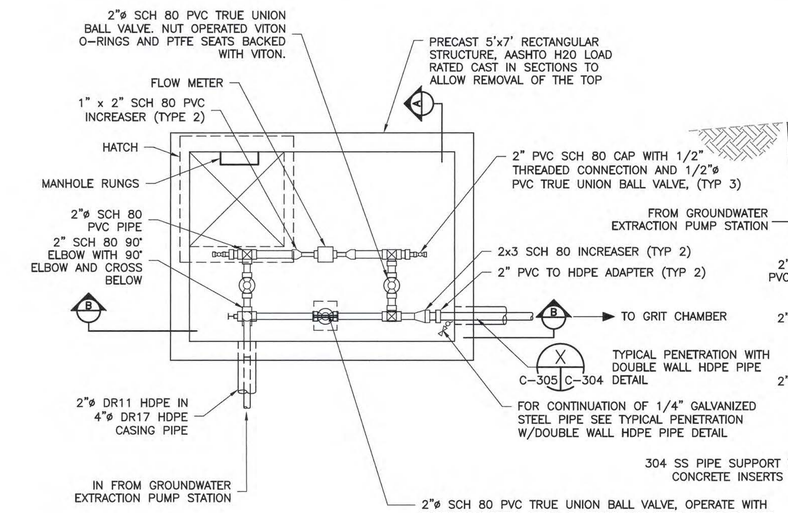
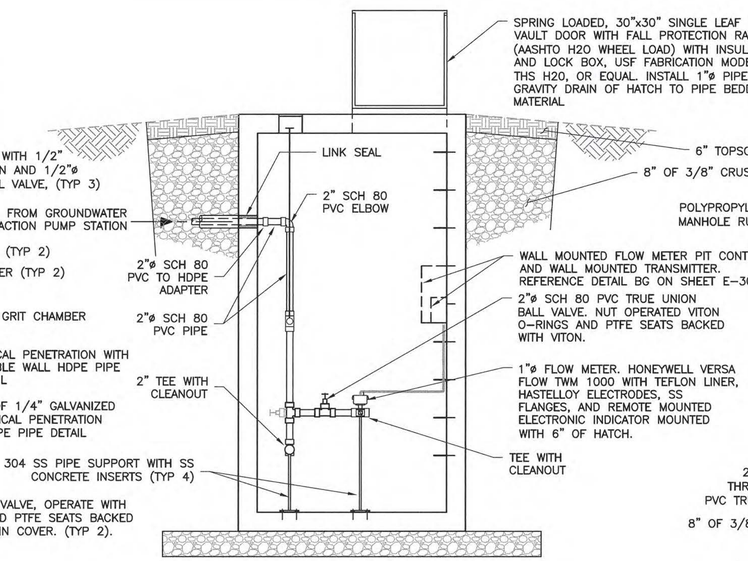
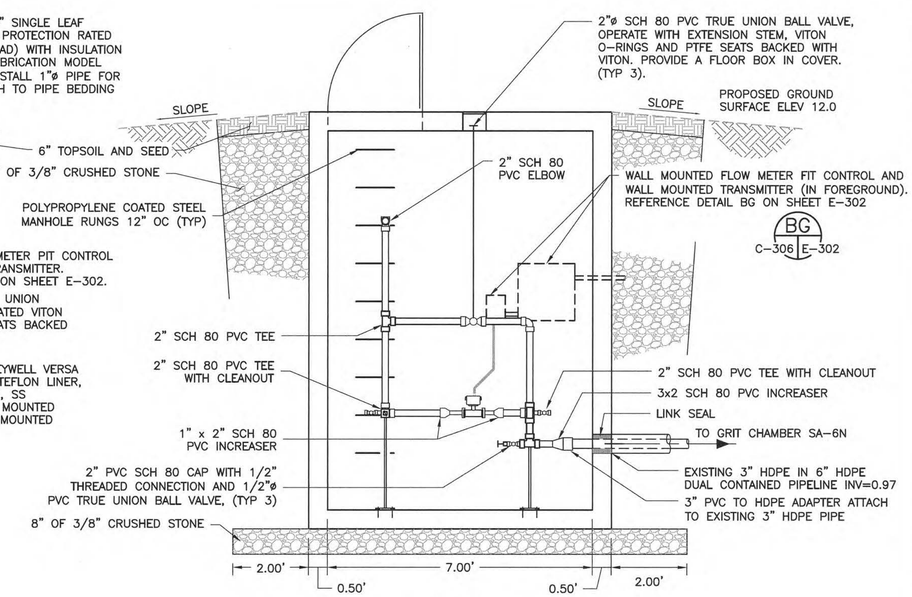


PLAN

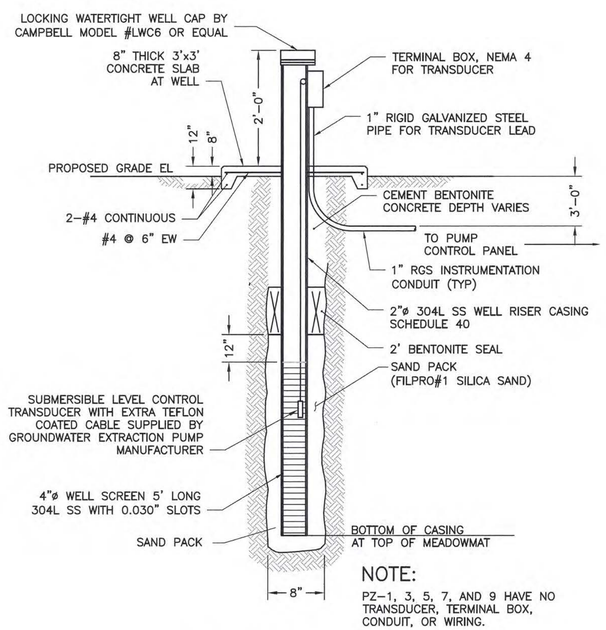


SECTION AA



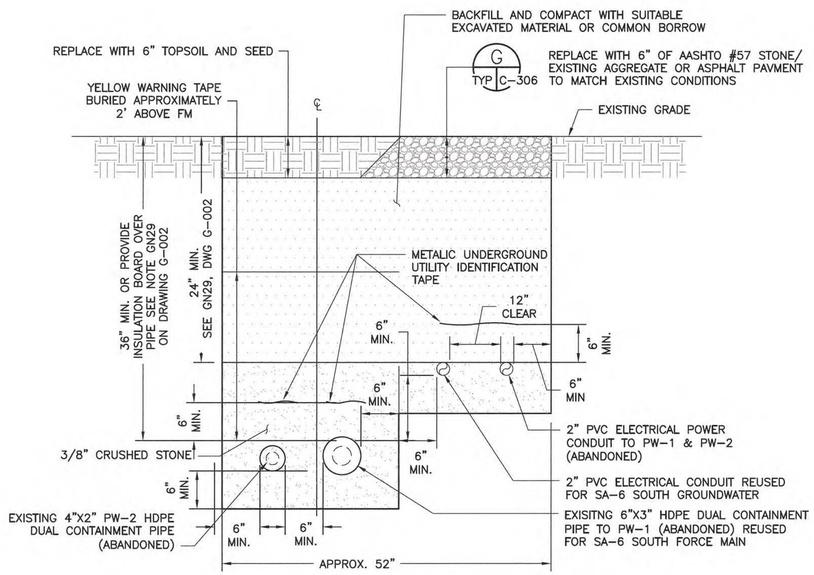
SECTION BB

FLOW METER STRUCTURE DETAIL (AZ)
NTS STA 63+78 C-204 C-306

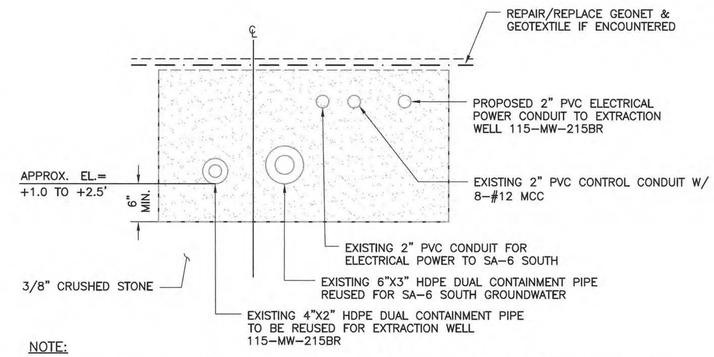


NOTE:
PZ-1, 3, 5, 7, AND 9 HAVE NO TRANSDUCER, TERMINAL BOX, CONDUIT, OR WIRING.

PIEZOMETER DETAIL (AE)
NTS C-201 C-202 C-203 C-306



EXISTING 3" FM TRENCH DETAIL (CK)
NTS STA 63+78 TO STA 68+91 C-204 C-306



NOTE:
SUBCONTRACTOR IS REQUIRED TO VERIFY PRIOR TO BEGINNING WORK FROM STA. 68+91 TO STA. 70+19

TRENCH DETAIL (CL)
NTS C-204 C-306

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND C-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.
3. SEE SHEET C-304 FOR HATCH SPEC.

STEPHEN H. MITCHELL
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 24GE04322400

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	02/13/15	REO	REO	RJR	REO	TDD	SHM
0	06/07/13					TDD	SGS

DCB 007.3
ISSUED FOR CONSTRUCTION
REVISION

Honeywell
101 COLUMBIA RD. BOX 2108, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 586-2929
NJ Certificate of Authorization Number 24GA28015900

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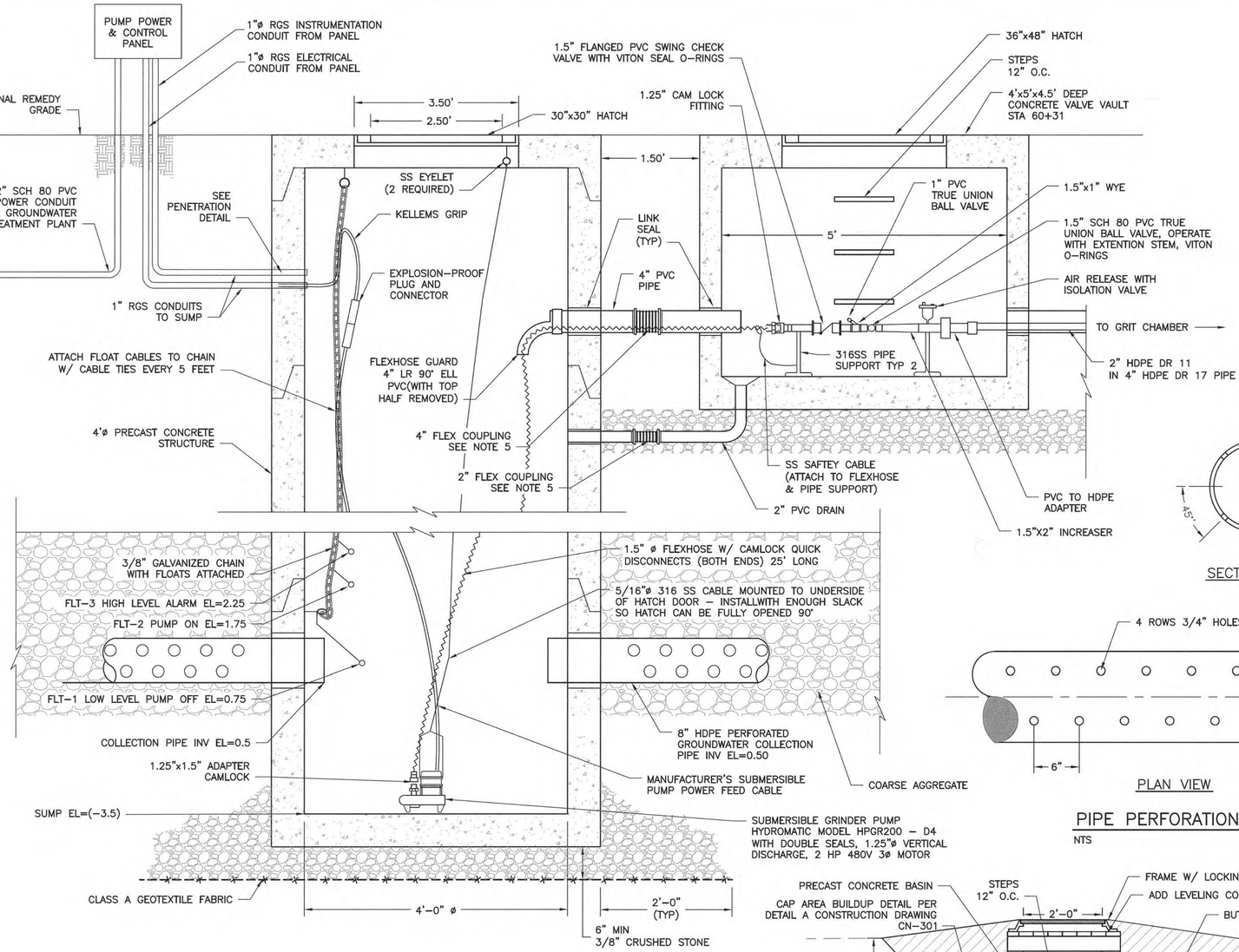
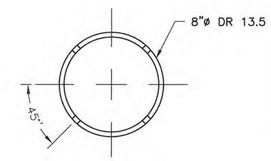
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-306
SHEET	42 OF 66





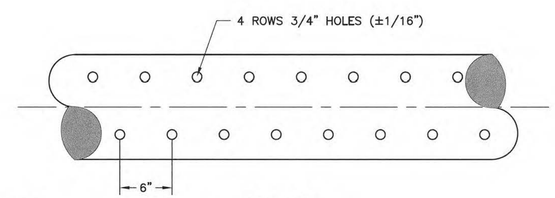
SECTION VIEW

GROUNDWATER EXTRACTION PUMP STATION STA.=19+74± (CC)

NTS

C-203 C-310
C-204

- SET MANHOLE BASE AND RISER SECTIONS.
- EXTEND RISER WITH SURCHARGE AND FILL PLACEMENT.
- PLACE TEMPORARY COVER.
- MEASURE TOP/ BOTTOM ELEVATION POST SURCHARGE.
- REVIEW RISER SECTIONS AND IF NECESSARY ORDER A NEW RISER TO MEET DESIGN GRADE.
- DESIGN GRADE TO MATCH AVAILABLE RISERS REVIEW WITH ENGINEER PRIOR TO INSTALLING RISERS AND PERMANENT COVER.

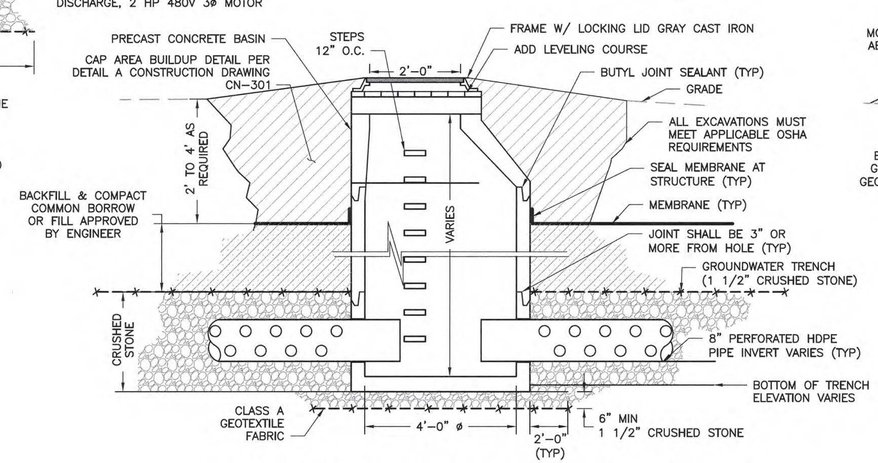


PLAN VIEW

PIPE PERFORATIONS (CD)

NTS

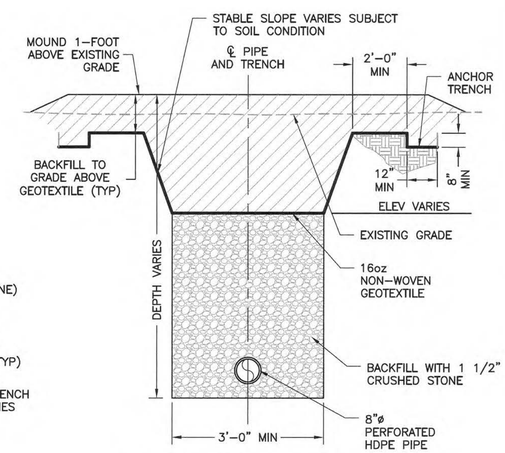
TYP C-310



TYPICAL ACCESS MANHOLE FINAL CONDITION STA.=3+63, STA.=8+90, STA.=14+35 (CB)

NTS

C-201 C-310
C-202



GROUNDWATER TRENCH TEMPORARY CONDITION (CA)

NTS

C-201 C-310
C-202
C-203

PARTS LIST

ITEM	QTY	MANUFACTURER\ PART NO.	DESCRIPTION
30" X 30" PUMP STATION HATCH	1	ej FABRICATION PRODUCT H30303191 OR APPROVED EQUAL	SPRING LOADED ALUMINUM VAULT HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION
1.5" TRUE UNION BALL VALVE	1	CHEMTROL OR APPROVED EQUAL	TRUE UNION SERIES PVC VITON O RINGS AND TEFLON SEALS
1.5" DIA. FLEXHOSE	1	GRANGER OR APPROVED EQUAL	ITEM #3JT48 25' LENGTH EACH
1.5" DIA. CAMLOCK QUICK DISCONNECTS	1-MALE 1-FEMALE	GRANGER OR APPROVED EQUAL	ITEM #3LX22 ITEM #3LX14
EXPLOSION-PROOF PLUG AND CONNECTOR	2-SETS	MELTRIC 22-14043 22-18043 OR APPROVED EQUAL	INLINE PLUG AND RECEPTACLE W/ MALE CAP, HANDLES AND FINGER DRAW PLATES
1" TRUE UNION BALL VALVE	1	CHEMTROL OR APPROVED EQUAL	TRUE UNION SERIES PVC WITH VITON O RINGS AND TEFLON SEALS
1.5" SWING CHECK VALVE	1	SPEARS OR APPROVED EQUAL	MODEL 4423-015 VITON SEAL AND O RINGS
36' X 50" VALVE VAULT HATCH	2	PENNSYLVANIA INSERT CORP STOCK# ATH3050D I*2 OR APPROVED EQUAL	SPRING LOADED ALUMINUM HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, AND HOLD OPEN ARM
FLEX COUPLING	2	ETHYLENE, LLC OR APPROVED EQUAL	FLEXIJOINT COUPLING MIN. (2) BELLOWS, TEFLON-LINED W/ 316 SS FLANGES, POWER BAKED EPOXY COATING, AND VITON GASKETS

SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

NO.	DATE	REVISION	CHK	APVD
2	02/02/15	DCB 007.3	TDD	SGS
1	06/06/14	DCB 007	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS BY

Honeywell
101 COLUMBIA RD. BOX 2109, MORRISTOWN, NJ 07962

CHROMIUM REMEDY STUDY AREA 6 SOUTH SITES 073, 124, 125, 134, 140, AND 163 JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
GROUNDWATER EXTRACTION TRENCH DETAILS

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 890-2020
NJ Certificate of Authorization Number 24GA28010900

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0 1"

DATE	
PROJ	3480-12-0317
DWG	C-310
SHEET	OF 66

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB Type:** Major (a) **Effective Date:** 6/18/15
Project Location: SA-6 North **Title:** SA-6 North, Site 087 In-situ Injections	**Associated RFI:** ☐ Yes, RFI No. ___ ☑ None
Contractor (Subcontractor): ERFS	**Project No.:** 3480150438.5710.571001

Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72-inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. See attached memorandum, figures, and Table 1 prepared by Amec Foster Wheeler. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved *Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil*, dated February 19, 2013.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** Focused injections north of 72-inch force main to avoid impact to concrete shell of pipeline. **Attachments:** ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** *Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil*, dated February 19, 2013 and *Work Plan for In-Situ Treatment of Chromium Impacted Soils*, dated January 29, 2014

Honeywell (AP) Review:

Individual: Dennis Nagg	**Discipline:**	**Initial:**	**Date:**
(Name / Signature):		**Does DCB Result in CCO?** ☑ **Yes (b)** ☐ **No** **Date:**	

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 046 **DCB Type:** Minor (a) **Effective Date:** 9/17/15
Project Location: SA-6	**Associated RFI:**
Title: Planting Soil Specifications	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377
Description. Revisions to the Planting soil Specifications.	
Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** See additional comments **Attachments:** ☑ Yes ☐ No Dr. Jason Grabosky letter Specification 02315, Section 2.12 , Table 1 Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: Extensive searching of available soil suppliers (including 6 identified by Dr. Grabosky/Rutgers University) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	**Design Documents Affected:** Specification 02315, Section 2.12
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** GS **Date:** 10/22/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

RUTGERS
School of Environmental
and Biological Sciences

Urban and Community Forestry Program
Dept. of Ecology Evolutionand Natural Resources
Environmental and Natural Resources Bld, Room 144
Rutgers, The State University of New Jersey
14 College Farm Road
New Brunswick, NJ 08901-8551

September 17, 2015

To whom it may concern:

I was contacted by the Mr Shallard of ***Amec Foster Wheeler Environment & Infrastructure, Inc*** with regard to questions on the soil materials available for a NJ Project. Honeywell/AmecFW submitted results of analysis of Planting Soil samples from multiple vendors, selected from a list provided by Rutgers, for Horizon A, B and C that are under consideration for use on the SA-6 Project (refer to attached excel table). These data were to be used to select the vendor and soil products available for each of the soil layers to be used on the project. It is my understanding that multiple vendors have been contacted including those provided by Rutgers (email May 13th 2015) as potential sources and, that the list and samples provided, is indicative of what is available in the market place at this time.

While the list of criteria (Sand/Silt/clay/organics/pH) is applicable to all samples the importance of each of these criteria varies due to the intended purpose of each Horizon.
In my review I have identified samples listed which I consider acceptable, or acceptable subject to minor modification, to meet the project goals. The following samples are acceptable to accomplish the goals of the many design demands on this system.

Horizon A topsoil:
Nature's Choice (NC-TS-002-NCCWS) as the preferred or Nature's Choice (NC-TS-002-NCCW).
Both exceed the gravel percentage component of the specification, however one might envision the percentages as targets, and the excess of gravel in these cases does not change the functional behavior of the material for plant growth or drainage potential. NCCW has a higher organic component which is high enough to exhibit shrinkage as the organic materials decompose, so while a functionally acceptable soil material for the purpose, the shrinkage will be noticed on landscape edges next to structures such as sidewalks, thus CCCWS is preferred. The acceptable gravel content of the specification should be revised upward from 5% to <10%.

Horizon B:
Nature’s Choice (NC-HC-001) would be a good choice, as the lower organic level is not problematic, and actually sets a natural layering and gradation as underlayment to the topsoil. The pH increases from 5.0 in the topsoil to 5.96, and I do not see this as an issue, several species may well prefer the nutrient availability afforded by the higher pH. One might consider adding some organic content and blending into the B horizon material. I am not in favor of the effort and expense, as the proposed layers will change in organic content and develop a natural progression on their own over time. The Sand % should be changed from a single number of 80% to a range of 80-90%. The pH maximum should be increased from 7 to 7.5. Organic content should be changed from a range of 1.5 - 3.5% to <4%.

Horizon C:
Nature's Choice Sample (NC-HC1-002) is very close to meeting the originally specified requirements. The Clay content is 12% as compared with the specified maximum of 15-20% and the pH was reported to be

7.57 as compared with the 7.5 specified. These deviations are not considered to be significant. This sample will meet the original design objectives. The Clay Content specification should be broadened to 10-20% and pH specification modified to less than 7.7 to provide for consistency between the sample and specifications.
Advanced Soil Technologies (AST-HB-002) is also a potential candidate if the sand content could be reduced to <80%. The organic level is elevated, but not problematic. Organic content should be changed from 1% maximum to <4%.

Table 1 attached summarizes the proposed changes.

In total the three layers would be very reasonable for acceptable landscape growth expectations, and provide available moisture for plants and drainage potential in a normal manner *as long as the materials are not heavily compacted after placement by construction equipment.*

As with any project, the key to success will ultimately be in the construction management/traffic controls/equipment storage planning as related to the protection of the soil investment after placement. This will be particularly important with the landscape contractor equipment in planting the trees and other landscape elements, as much as with the pavement contracting for sidewalks and structures.

Respectfully submitted,

Jason Grabosky
John and Eleanor Faculty Scholar in Urban and Community Forestry
Department of Ecology, Evolution and Natural Resources
Rutgers University
New Brunswick, NJ

Table 1 summarizes the modified criteria based on availability. Provision of soils meeting the criteria listed in Table 1 below will meet the objectives of providing soils that are suitable for the SA-6 project. These changes have been reviewed with the AmecFW Engineer of Record and it is recommended that both the project specification and Open Space Design Standard be amended as noted in the Table 1 below.

SA-6 Planting Soil Specification-TABLE 1						
Revision 1 September 2015						
Material SPEC 02315 SECT 2.12	**Description (USDA soil triangle)**	**% Sand**	**% Silt**	**% Clay**	**% Organic Matter**	**pH**
Horizon A Modified	Friable Fertile Sandy loam/loamy sand	60-80	◘20	<20	3.5-6	5-6.5
Horizon B Modified	Loamy sand	80-90	<10	10-15	<4%	5.5-7.5
Horizon C Modified	Sandy loam to loamy sand	70-80	<10	10-20	<4%	5-7.7

1. *Horizon C. Clay content lowered from a minimum of 15% to a minimum of 10%. Organic content increased from <1 to <4%. pH content maximum increased from 7.5 to 7.7.*
2. *Horizon B. Sand changed from a single number of 80% to a range of 80-90%. pH maximum increased from 7 to 7.5. Organic content changed from a range of 1.5- 3.5% to <4%.*
3. *Horizon A. Gravel content increased from 5% maximum to <10%.*
4. *Soil Descriptions. The Planting Soil specifications include soil descriptions based on the USDA Soil Texture Triangle. Soils provided should be consistent with the Soil Texture Triangle.*

SA-6 Planting Soil Specification-TABLE 1						
Revision 1 September 2015						
Material SPEC 02315 SECT 2.12	**Description (USDA soil triangle)**	**% Sand**	**% Silt**	**% Clay**	**% Organic Matter**	**pH**
Horizon A Topsoil	Friable fertile loam, fine sandy loam or sandy loam	--	--	--	3.5-6%	5.0-6.5
Horizon A Modified 9/16/15	Friable Fertile Sandy loam/loamy sand	60-80	<=20	<20	3.5-6	5-6.5
Horizon B	Sandy Loam	80-85%	≤10%	10-15%	1.5-3.5%	5.5-7.0
Horizon B Modified 9/16/15	Loamy sand	80-90	<10	10-15%	<4%	5.5-7.5
Horizon C	Uniform Sandy Loam	70-80%	≤10%	15-20%	1% max	5.0-7.5
Horizon C Modified 9/16/15	Sandy loam to loamy sand	70-80	<10	10 – 20%	<4%	5-7.7

1. *Soil Descriptions. The Planting Soil specifications include soil descriptions based on the USDA Soil Texture Triangle. Soils provided should be consistent with the Soil Texture Triangle.*

2.12 PLANTING SOILS

Planting Soils have been designated as Horizon A, B and C. Soil Horizon A – Topsoil will be a nominal thickness of 6 inches and shall conform to the requirement noted below.

A. Topsoil - Topsoil shall be placed over the Horizon B and C planting soils to final development grades shown in the design drawings. Topsoil will have a nominal depth of 6 inches. Topsoil shall be in accordance with Section 02900, "Topsoil and Seeding". Topsoil shall be certified clean from the borrow source or origin, based on analytical testing data, as approved by the Engineer. Topsoil shall be natural, friable, fertile loam, fine sandy loam or loamy sand with an organic matter content of 3.5% - 6% and a pH range of 5.0 – 6.5. Sand 60-80%, Silt ≤20%, Clay <20%. Specification 02900 requires that all materials pass a 1.5 inch sieve. Spec 02900 will be modified to allow <10% Gravel.

B. Soil Horizon B - soils will only be used in areas where the total depth of cover soils exceeds 36 inches. During the Interim Phase no Horizon B soil will be placed. Horizon B soils will be a loamy sand having the following properties:

Loamy Sand classification having ~~80~~ 80-90% sand, < 10% silt, 10-15% clay.
pH range 5.5 – 7.5 ~~7.0~~.
Organic Matter (by weight) ~~1.5-3.5~~ < 4 %

C. Soil Horizon C – During Interim Grading Horizon C Soil will be placed between the root barrier and the Horizon A soil. The first 6 inches of Horizon C soils to be placed directly above the root barrier will be compacted to a minimum 90% of Standard Proctor. To meet Final Grading and planting requirements Horizon A soils will be stripped as necessary and Horizon C soils shall be re-graded to provide an appropriate depth of 18 inches. Horizon C soil shall consist of sandy loam to loamy sand having the following properties:

1. Sandy loam to loamy sand classification with 70-80% sand, <10% silt, ~~10 – 15%~~ 10 - 20% clay.
2. pH range 5.0 – 7.7 ~~7.5~~.
3. Organic Matter (by weight) ~~1~~ < 4 % ~~max~~.

Horizon A Soils- Geotechnical Sample Results
Study Area 6
Jersey City, NJ

Sample Date	Material	% Sand	% Silt	% Clay	% Gravel[2]	% Organic Matter	pH
	Revised Specification Values[1]	**60 - 80%**	**≤20%**	**<20%**	**<10%**	**3.5 - 6%**	**5.0 - 6.5**
6/11/2015	Advanced Soil Technologies Topsoil (AST TS -001)	80.0%	10.0%	10.0%	11.7%	4.3%	7.84
6/15/2015	Natures Choice Topsoil (NC TS-001)	75.0%	13.0%	11.0%	21.6%	5.4%	7.33
6/29/2015	Advanced Soil Technologies (AST HA-002)	74.0%	14.0%	12.0%	11.4%	9.0%	7.48
7/6/2015	Nature's Choice (NC-HB1-002)	76.0%	10.0%	14.0%	13.3%	3.9%	7.46
7/7/2015	Nature's Choice (NC-TS-002-NCCWS)	68.0%	20.0%	12.0%	5.8%	3.8%	5
7/7/2015	Nature's Choice (NC-TS-002-NCCW)	64.0%	22.0%	14.0%	6.9%	6.4%	5

Notes:
1.) Specification values revised according to letter from Dr. Jason Grabosky of Rutgers University, dated September 17, 2015.
Samples deemed acceptable in Dr. Grabosky's letter are highlighted in green.
2.) Refer to Specification 02900 - Topsoil and Seeding, Section 2.01.B.2.

Horizon B Soils - Geotechnical Sample Results
Study Area 6
Jersey City, NJ

Sample Date	Material	% Sand	% Silt	% Clay	% Organic Matter	pH
	Revised Specification Values[1]	**80 - 90%**	**<10%**	**10 - 15%**	**<4%**	**5.5 - 7.5**
6/11/2015	Advanced Soils Technologies (AST HB-001)	87.0%	7.0%	6.0%	5.4%	7.19
6/11/2015	Advanced Soils Technologies (AST HC-001)	67.0%	20.0%	13.0%	2.3%	7.56
6/15/2015	Nature's Choice (NC-HB-001)	78.0%	8.0%	13.0%	2.9%	7.05
6/15/2015	Nature's Choice (NC-HC-001)	84.0%	3.0%	13.0%	0.2%	5.96
6/29/2015	Advanced Soils Technologies (AST HB-002)	87.0%	7.0%	6.0%	4.0%	7.4
6/29/2015	Advanced Soils Technologies (AST HC-002)	72.0%	14.0%	14.0%	0.9%	7.8
7/6/2015	Nature's Choice (NC-HB1-002)	76.0%	10.0%	14.0%	3.9%	6.66

Note:
1.) Specification values revised according to letter from Dr. Jason Grabosky of Rutgers University, dated September 17, 2015. Samples deemed acceptable in Dr. Grabosky's letter are highlighted in green.

Horizon C Soils - Geotechnical Sample Results
Study Area 6
Jersey City, NJ

Sample Date	Material	% Sand	% Silt	% Clay	% Organic Matter	pH
	Revised Specification Values[1]	**70 - 80%**	**<10%**	**10 - 20%**	**<4%**	**5.0 - 7.7**
6/11/2015	Advanced Soils Technologies (AST HB-001)	87.0%	7.0%	6.0%	5.4%	7.19
6/11/2015	Advanced Soils Technologies (AST HC-001)	67.0%	20.0%	13.0%	2.3%	7.56
6/15/2015	Nature's Choice (NC-HB-001)	78.0%	8.0%	13.0%	2.9%	7.05
6/15/2015	Nature's Choice (NC-HC-001)	84.0%	3.0%	13.0%	0.2%	5.96
6/29/2015	Advanced Soils Technologies (AST HB-002)	87.0%	7.0%	6.0%	4.0%	7.4
6/29/2015	Advanced Soils Technologies (AST HC-002)	72.0%	14.0%	14.0%	0.9%	7.8
7/6/2015	Nature's Choice (NC-HC1-002)	79.0%	9.0%	12.0%	0.3%	7.57
7/6/2015	Nature's Choice (NC-HC2-002)	85.0%	9.0%	6.0%	0.3%	8.25
7/6/2015	Nature's Choice (NC-HC3-002)	85.0%	11.0%	4.0%	0.1%	8.37

Note:
1.) Specification values revised according to letter from Dr. Jason Grabosky of Rutgers University, dated September 17, 2015.
Samples deemed acceptable in Dr. Grabosky's letter are highlighted in green.

DESIGN CHANGE BULLETIN

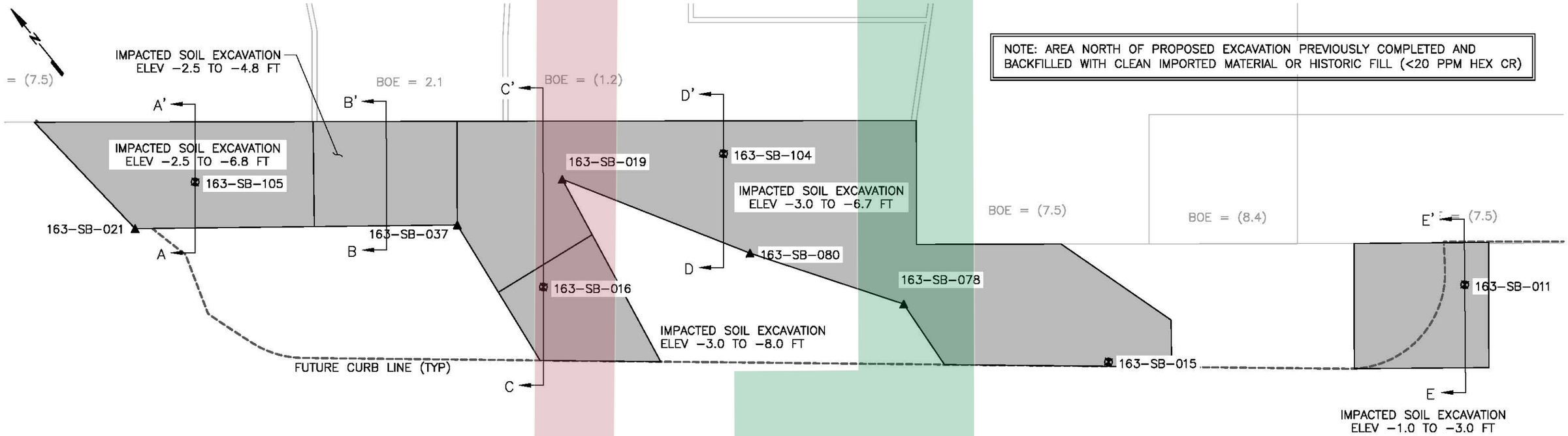
Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** **DCB Type:** Major (a) **Effective Date:** 9/28/15
Project Location: SA-6 South, Site 163	**Associated RFI:**
Title: Site 163 Excavation	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

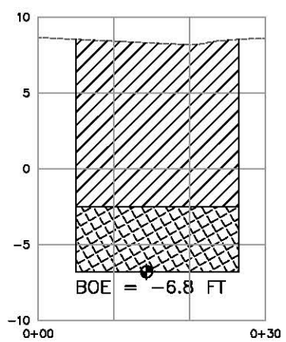
Description: Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling. The residential footprint includes the area north of the northern curbline of the future River Front Park/Riverside Drive/Kellogg Street to be constructed during the Bayfront Redevelopment project. A plan view and cross sections of the excavation area are included in the attached Figure 1. Soils that were treated successfully will not be subject to excavation or to further sampling. The remaining chromium-impacted soils identified in the area south of the northern curbline are within the future River Front Park/Riverside Drive /Kellogg Street as depicted on the attached Figure 2 and will be subject to a deed restriction and not be subject to further sampling.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** Noted in Description **Attachments:** ☑ Yes ☐ No Figure 1 Cost Implication: ☑ Yes ☐ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** A new drawing C-129 will be issued showing the limits of excavation depicted on Figure 1.
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 10/1/15
(Name / Signature):	**Does DCB Result in CCO?** ☑ **Yes (b)** ☐ **No** **Date:**
Distribution:	

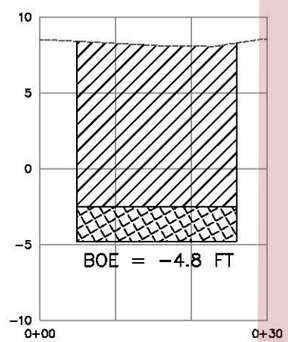
(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

NOTE: AREA NORTH OF PROPOSED EXCAVATION PREVIOUSLY COMPLETED AND BACKFILLED WITH CLEAN IMPORTED MATERIAL OR HISTORIC FILL (<20 PPM HEX CR)

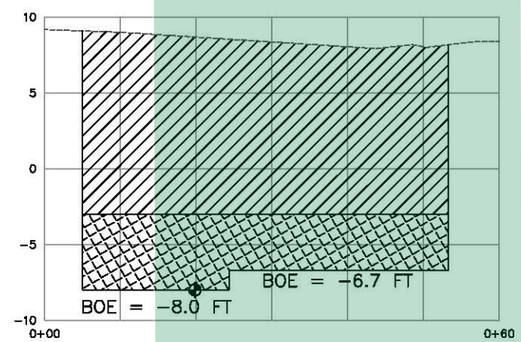




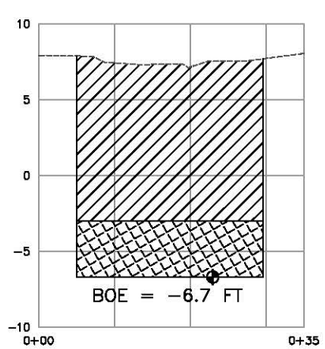
SECTION A−A'



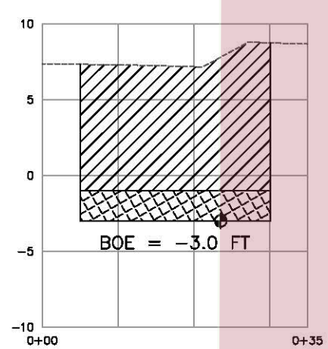
SECTION B−B'



SECTION C−C'



SECTION D−D'



SECTION E−E'

0 5 10 20
HORIZONTAL SCALE

0 5 10
VERTICAL SCALE

LEGEND

- PDI BOTTOM SAMPLE LOCATION
- PDI SIDEWALL SAMPLE LOCATION
- LIMIT OF EXCAVATION
- OVERBURDEN (<20 PPM HEX CR)
- CHROMIUM IMPACTED SOIL (20−240 PPM HEX CR)

NOTES:

1. HONEYWELL WILL EXCAVATE THE AREA DEPICTED ON THIS FIGURE AND IS PLANNING LOGISTICS WITH IT'S CONSTRUCTION MANAGEMENT TEAM AND REMEDIAL CONTRACTOR(S).
1. UNDER THE EXCAVATION SCENARIO, HONEYWELL WILL CONTINUE TO EVALUATE USING SHEETPILE FOR TEMPORARY EXCAVATION SUPPORT, BACKSLOPING, OR A COMBINATION OF BOTH.
2. OVERBURDEN MATERIAL WILL BE EXCAVATED, STOCKPILED, AND HANDLED IN ACCORDANCE WITH THE APPROVED SOIL MANAGEMENT PLAN IN THE 100% DESIGN.
3. CHROMIUM−IMPACTED MATERIAL WILL BE EXCAVATED, STOCKPILED, AND HANDLED IN ACCORDANCE WITH THE APPROVED SOIL MANAGEMENT PLAN IN THE 100% DESIGN.
4. BACKFILLING WILL OCCUR UPON VERIFICATION BY INDEPENDENT THIRD PARTY LICENSED LAND SURVEYOR THAT HORIZONTAL AND VERTICAL EXTENTS OF EXCAVATION HAVE BEEN ACHIEVED.
5. HONEYWELL MAY IMPLEMENT THIS EXCAVATION BY THE END OF 2015.
6. HONEYWELL MAY ELECT TO USE A CONTRACTOR OTHER THAN ENTACT TO IMPLEMENT THIS EXCAVATION ACTIVITY.
7. THE PROPOSED EXCAVATION FOOTPRINT IS 6,335 SF AND 5 BOTTOM SAMPLES SATISFIES THE NJDEP APPROVED FREQUENCY OF 1:1300 SF AS IDENTIFIED IN THE 100% DESIGN REPORT.

Prepared/Date: TDD 9/22/15
Checked/Date: DEN 9/22/15

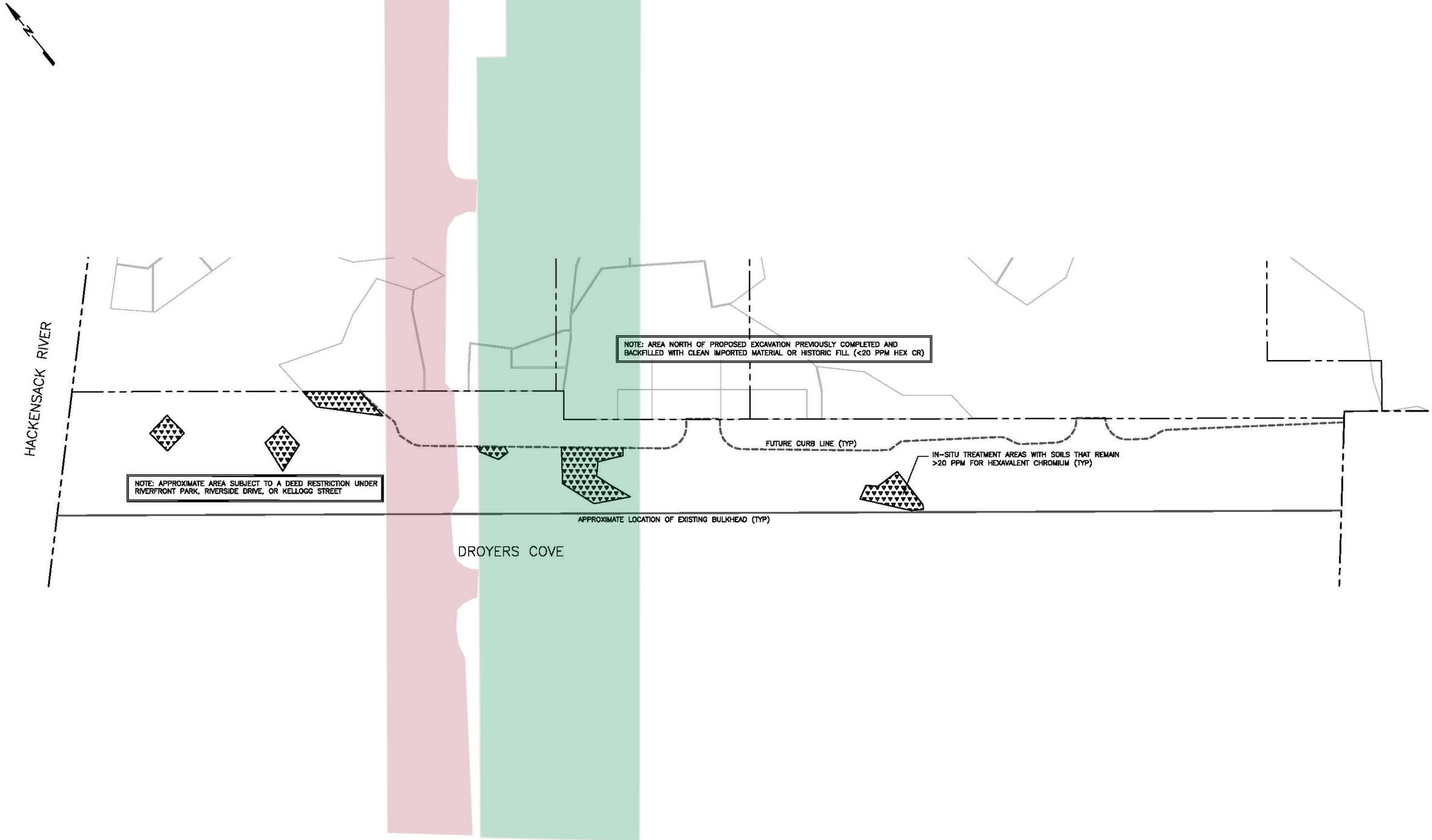
Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2929
NJ Certificate of Authorization Number 24GA28013600

SITE 163 - ADDITIONAL
CHROMIUM EXCAVATION AREAS
FIGURE 1

C:\Denovan\SR-6 South: Excavation Limits April 2012\2013 Excavation Shapes\SR-6 South Design Change Bulletins\Site 163 Excavation SHP\Figure 1 Site 163 Additional Excavation Areas.dwg Tue, 29 Sep 2015 - 10:28am tony.denovan



0 20 40 80
HORIZONTAL SCALE

Prepared/Date: TDD 9/24/15
Checked/Date: DEN 9/24/15

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SITE 163
DEED RESTRICTED AREAS
FIGURE 2

C:\Darrowm\U6-6 South Excavation Limits April 2017\2013 Excavation Shapes\U6-6 South Design Change Bulletins\Site 163 Excavation SHP\Figure 2 Site 163 Deed Restricted Areas.dwg Mon, 28 Sep 2015 - 4:15pm bong.dawonson

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 007.4 **DCB Type:** Major(a) **Effective Date:** 9/3/15; **Rev. 1**
Project Location: SA-6	**Associated RFI:**
Title: GW Extraction System – Revisions of Electrical to Replace Wells with Trenches	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description:

DCB-007.1 was issued for the trench detail portion of the modified groundwater system design. At the time of issue details for the SA-6N trench were subject to potential further modification.

DCB-007.2 provided the final details for the SA-6N groundwater collection trenches and associated electrical supply and groundwater discharge piping.

DCB-007.3 provided the final details for the SA-6N groundwater collection trenches and associated electrical supply and groundwater discharge piping

DCB-007.4 provides the revised electrical plan, one line electrical drawings and electrical details for SA-6S.

The 100% Design included a Conceptual Design for the Groundwater Extraction system that was based on use of 9 extraction wells in each open space area and common header system. The revised Design uses a trench design. Details related to the Administrative basis for the change are provided in DCB 007.1.

DCB 007.4 is applicable to the Groundwater Extraction System electrical drawings for SA-6S (electrical plan and one line electrical drawing).

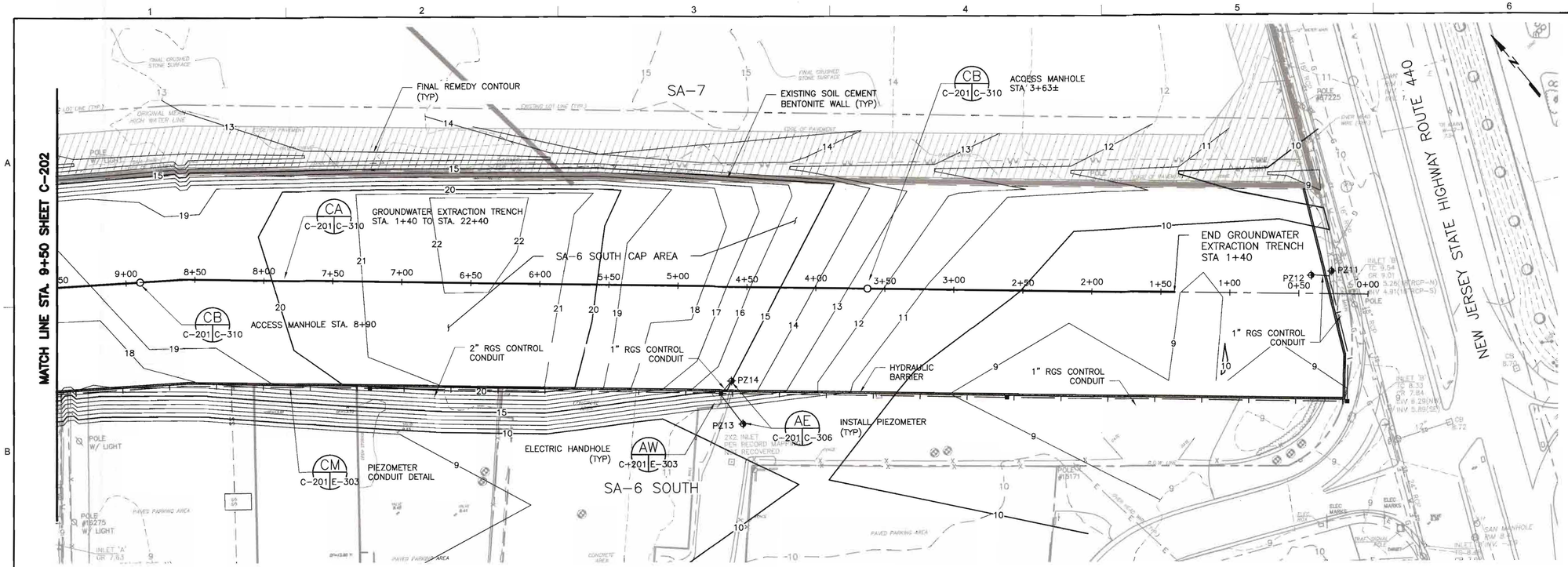
Drawings that are revised in this DCB are:
SA-6S

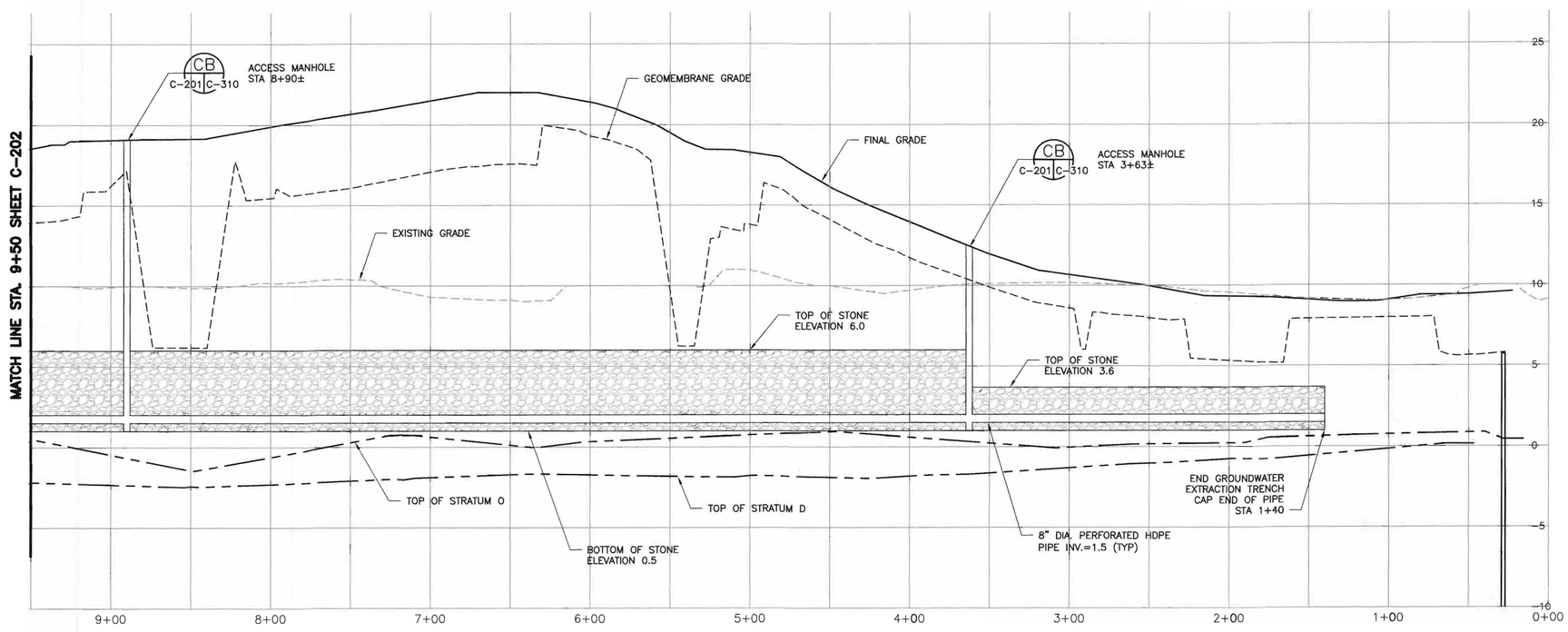
- C-201
- C-202
- C-203
- C-204
- C-306
- C-310
- E-301
- E-302
- E-303

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** : Design changed based on information gathered during construction
	Attachments: ☑ Yes ☐ No C-201, C-202, C-203, C-204, C-306, C-310, E-301, E-302, E-303
	Cost Implication: ☑ Yes ☐ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No

Additional Comments:		**Design Documents Affected:** C-201, C-202, C-203, C-204, C-306, C-310, E-301, E-302, E-303	
Honeywell (AP) Review:			
Individual: Geoff Shallard	**Discipline:** EOR	**Initial:**	**Date:**
(Name / Signature):		**Does DCB Result in CCO?** ☑ **Yes (b)** ☐ **No** **Date:**	
Distribution:			

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. DEWATER AS NECESSARY TO PROVIDE SUITABLE CONDITIONS FOR PLACEMENT OF STONE AND HDPE PIPE.
4. USE SHEETING/SHORING TRENCH BOXES OR OTHER MEANS AS NECESSARY TO ALLOW FOR PLACEMENT OF FILTER STONE AND HDPE PIPE.
5. FINAL PLAN VIEW ALIGNMENT MAY BE ADJUSTED SUBJECT TO THE APPROVAL OF THE ENGINEER TO AVOID OBSTRUCTIONS SUCH AS EXISTING BUILDING FOUNDATIONS, ABANDONED UTILITIES AND PILES.
6. TRENCH INVERT HAS BEEN DESIGNED TO BE ABOVE STRATUM O AND STRATUM D. INVERTS MAY BE ADJUSTED DURING DESIGN DEVELOPMENT OR IN RESPONSE TO OBSERVED FIELD CONDITIONS SUBJECT TO THE APPROVAL OF THE ENGINEER AND GROUNDWATER MODELER.
7. PLACE STONE LOOSE IN GROUNDWATER COLLECTION TRENCH. RUN PLATE COMPACTOR OR EQUAL OVER TRENCH PRIOR TO INSTALLING GEOTEXTILE FABRIC.
8. BACKFILL ABOVE GEOTEXTILE FABRIC MAY BE COMPOSED OF EXCAVATED TRENCH SPOIL OR OTHER MATERIAL THAT CAN BE READILY COMPACTED. WET SOIL OVERSIZED DEBRIS OR OTHER MATERIALS AS DEEMED UNSUITABLE CONSISTENT WITH THE EARTHWORK SPECIFICATION 1.04.B. WILL NOT BE USED. BACKFILL WILL BE PLACED IN LIFTS CONSISTENT WITH THE EARTHWORKS SPECIFICATION 3.12.B.4.
9. FLEXIBLE COUPLINGS SHALL BE FLEXJOINT COUPLING AS MANUFACTURED BY ETHYLENE, LLC OR EQUAL. FLEXIBLE COUPLINGS SHALL HAVE A MINIMUM OF (2) BELLOWS AND BE TEFLON-LINED WITH 316 SS FLANGES (POWER BAKED EPOXY COATING APPLIED) AND VITON GASKETS.
10. INSTALL INSTRAMENTATION CONDUIT FOR PAIRE PIEZOMETERSREADIED WITH PULL STRINGS FOR FUTURE INSTRAMENTATION CABLE INSTALLED BY OTHERS.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
3	08/14/15	TDD	RJR	TDD	SGS	RJR	SGS
2	02/13/15					TDD	SGS
1	06/06/14					TDD	SGS

REVISION: DCB 007.4; DCB 007.3; DCB 007

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GROUNDWATER EXTRACTION TRENCH PLAN AND PROFILE

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(609) 890-2020
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VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-201
SHEET	OF 66

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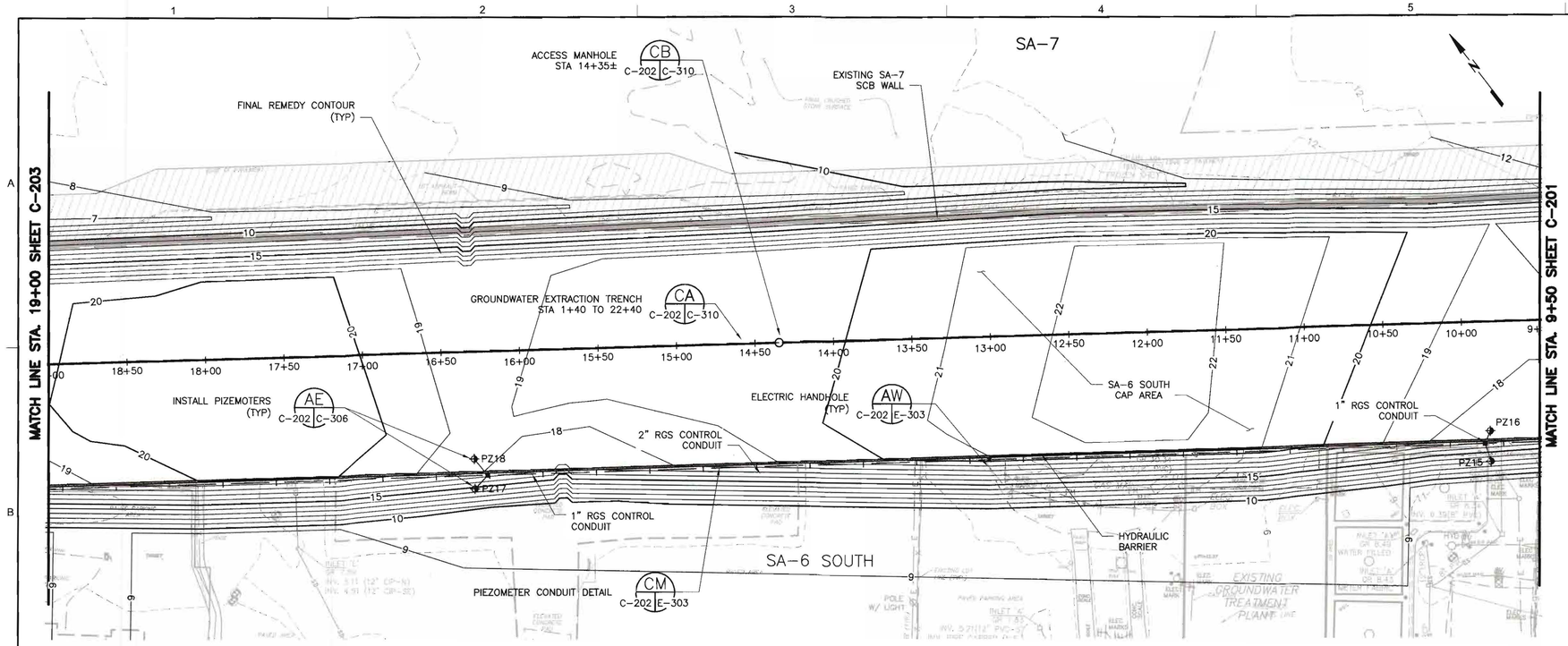

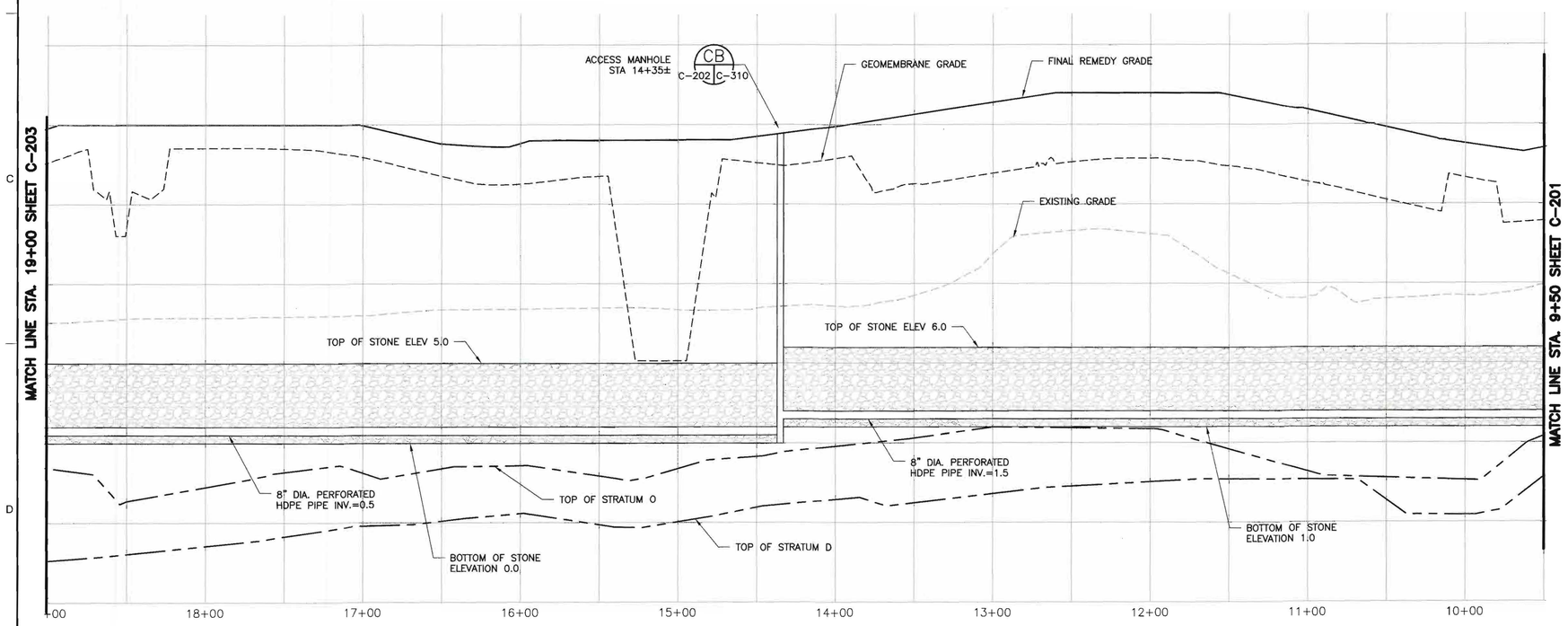

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. REFER TO NOTES ON SHEET C-201.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
4	08/14/15	DCB 007.4	RJR	SGS
3	02/13/15	DCB 007.3	TDD	SGS
2	07/30/14	DCB 007.1	TDD	SGS
1	06/06/14	DCB 007	TDD	SGS

DSGN TDD DR TDD CHK RJR APVD TDD APVD SGS

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0 1"

DATE	
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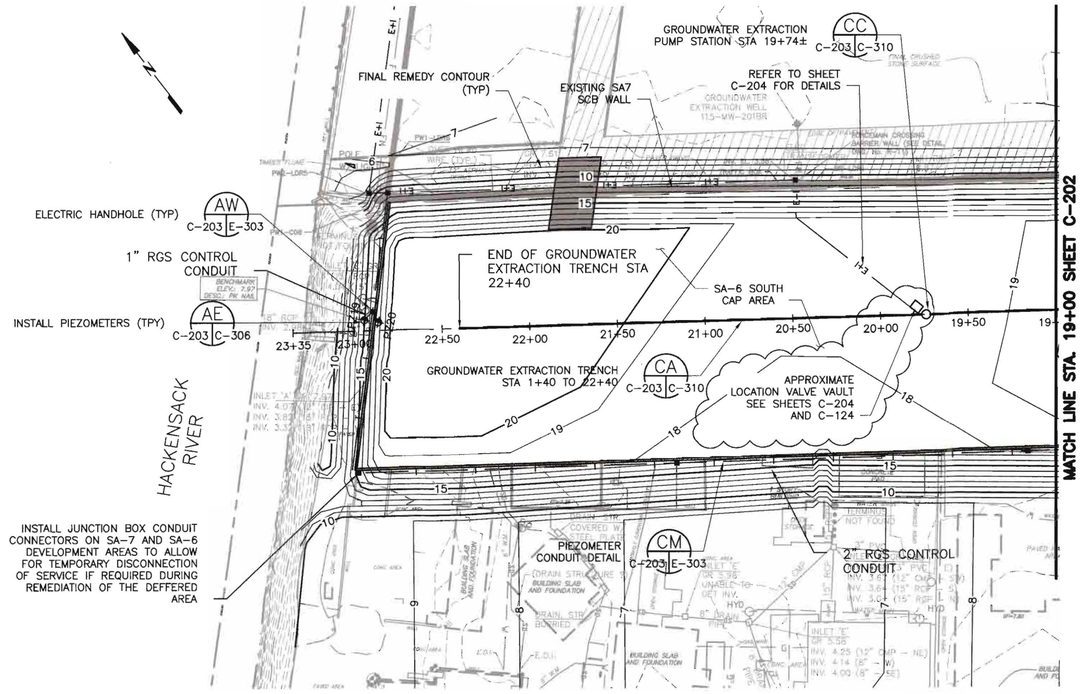
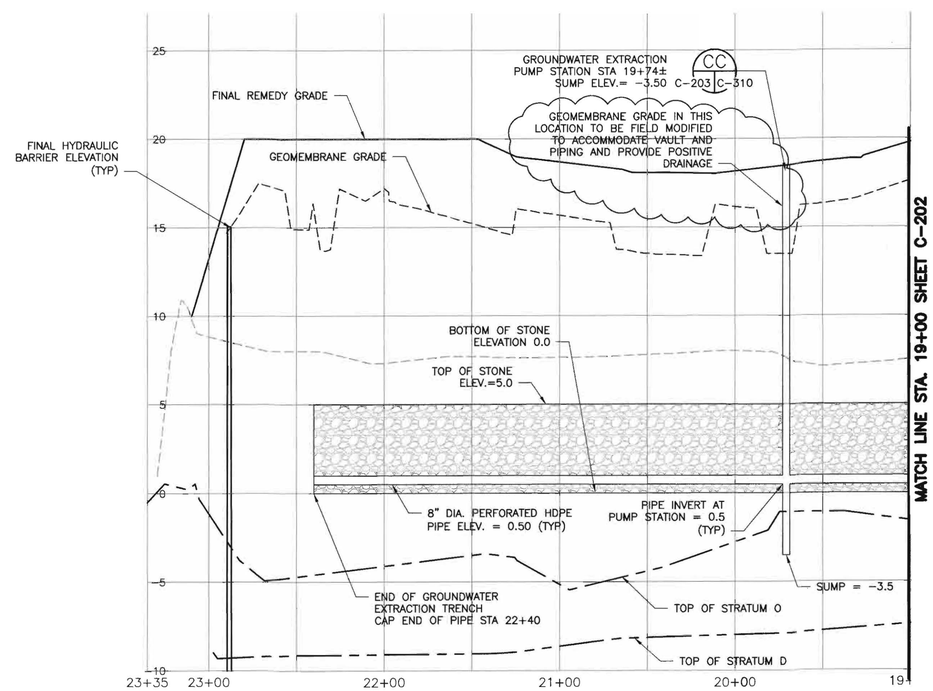
DWG	C-202
SHEET	OF 66





NOTES:

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2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. REFER TO NOTES ON SHEET C-201.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
4	08/14/15	DCB 007.4	RJR	SGS
3	02/13/15	DCB 007.3	TDD	SGS
2	07/30/14	DCB 007.1	TDD	SGS
1	06/06/14	DCB 007	TDD	SHM

DSGN TDD DR RJR CHK TDD APVD SGS

SAMUEL G. SHALLARD
N.J PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

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SHEET	OF 66

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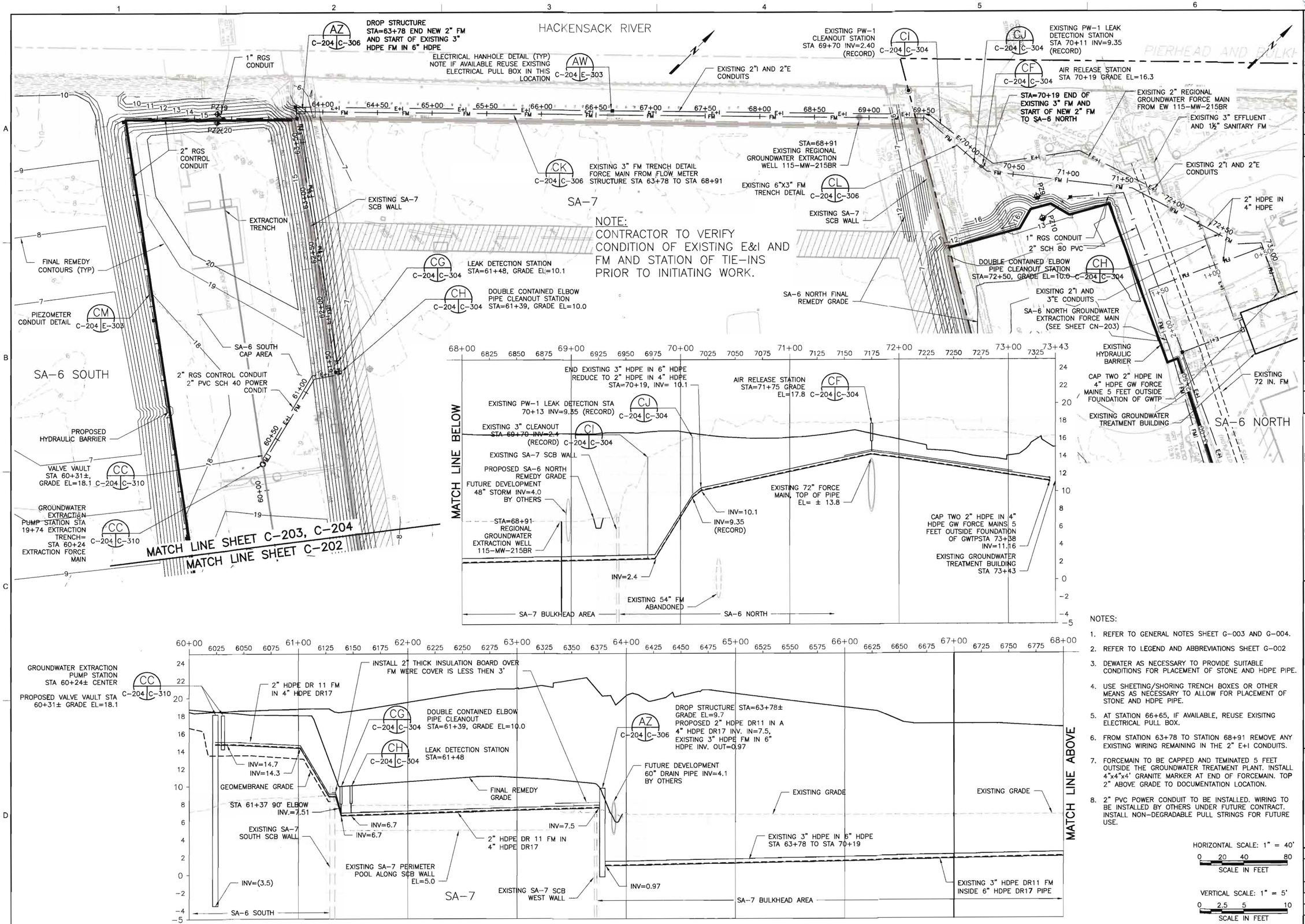
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR36-C-203_Cont_GWE_Trench.dwg PLOT DATE: Fri, 14 Aug 2015 PLOT TIME: 9:09 AM

APPENDIX T

PART 22 OF 22

DECLARATION #5
(Part 2 of 2)
Attachments P (Part 2) – Q

ATTACHMENT P
DESIGN CHANGES
PART 2



NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. DEWATER AS NECESSARY TO PROVIDE SUITABLE CONDITIONS FOR PLACEMENT OF STONE AND HDPE PIPE.
4. USE SHEETING/SHORING TRENCH BOXES OR OTHER MEANS AS NECESSARY TO ALLOW FOR PLACEMENT OF STONE AND HDPE PIPE.
5. AT STATION 66+65, IF AVAILABLE, REUSE EXISITNG ELECTRICAL PULL BOX.
6. FROM STATION 63+78 TO STATION 68+91 REMOVE ANY EXISTING WIRING REMAINING IN THE 2" E+I CONDUITS.
7. FORCEMAIN TO BE CAPPED AND TEMINATED 5 FEET OUTSIDE THE GROUNDWATER TREATMENT PLANT. INSTALL 4"x4"x4' GRANITE MARKER AT END OF FORCEMAIN. TOP 2" ABOVE GRADE TO DOCUMENTATION LOCATION.
8. 2" PVC POWER CONDUIT TO BE INSTALLED. WIRING TO BE INSTALLED BY OTHERS UNDER FUTURE CONTRACT. INSTALL NON-DEGRADABLE PULL STRINGS FOR FUTURE USE.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 5'
0 2.5 5 10
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APV'D	BY	APV'D
4	08/14/15	TDD	RJR	TDD	SGS	RJR	SGS
3	02/13/15	TDD		TDD	SGS	TDD	SGS
2	05/16/14	REVISION		REVISION		TDD	SHM
1	05/14/14	DCB 007		DCB 007.3		TDD	SHM
				DCB 007.4			

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SHEET	OF 66

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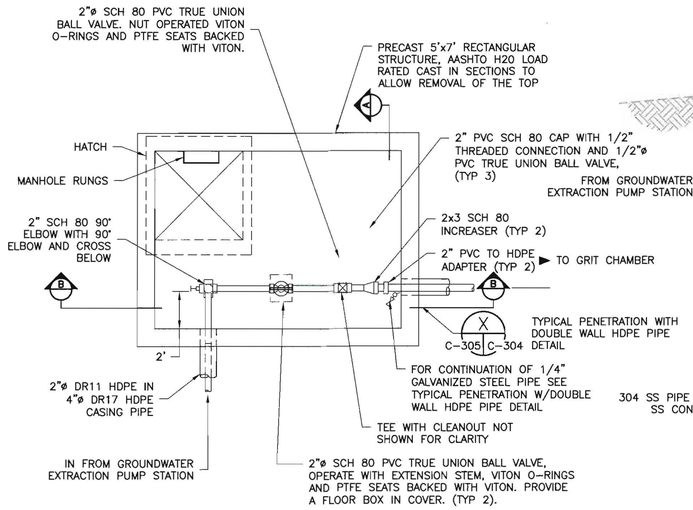
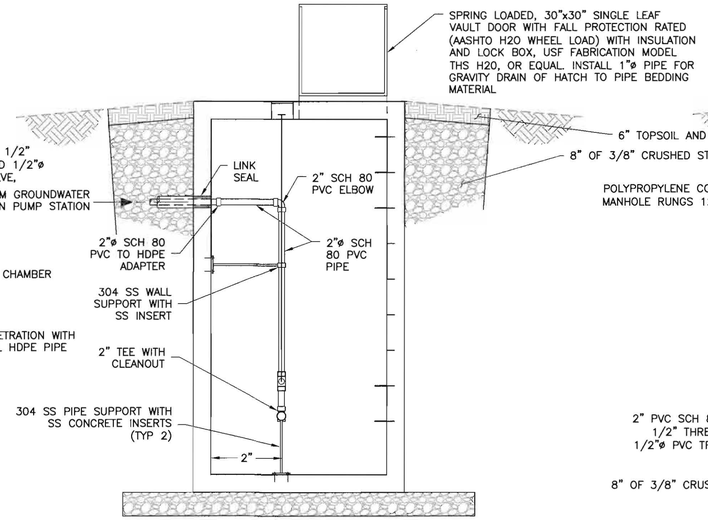
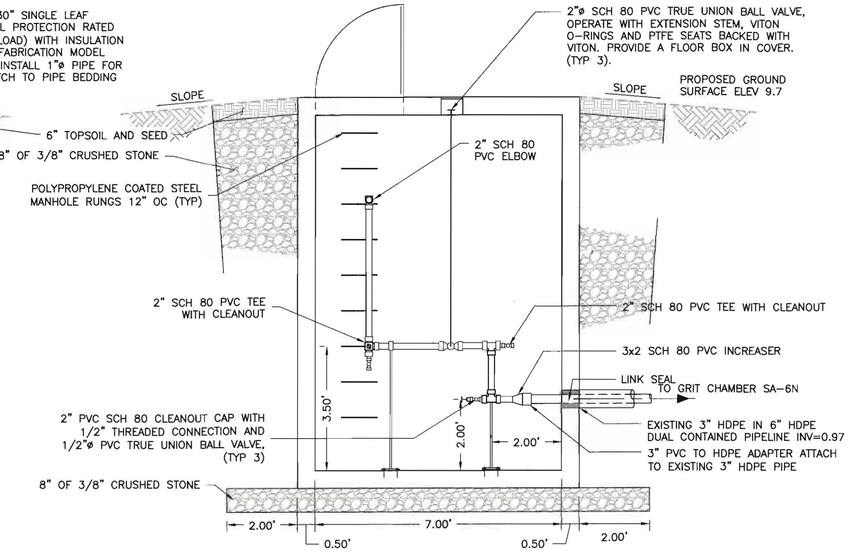
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR37-C-204_Cont_GWE_Trench_FM.dwg PLOT DATE: Fri, 14 Aug 2015 PLOT TIME: 9:16 AM



PLAN

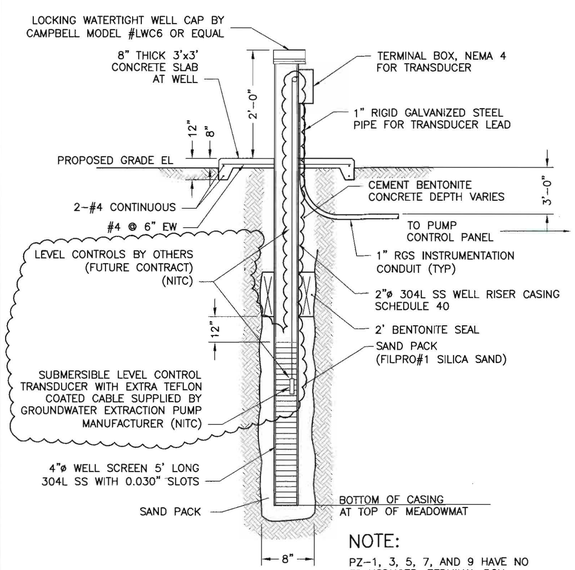


SECTION AA



SECTION BB

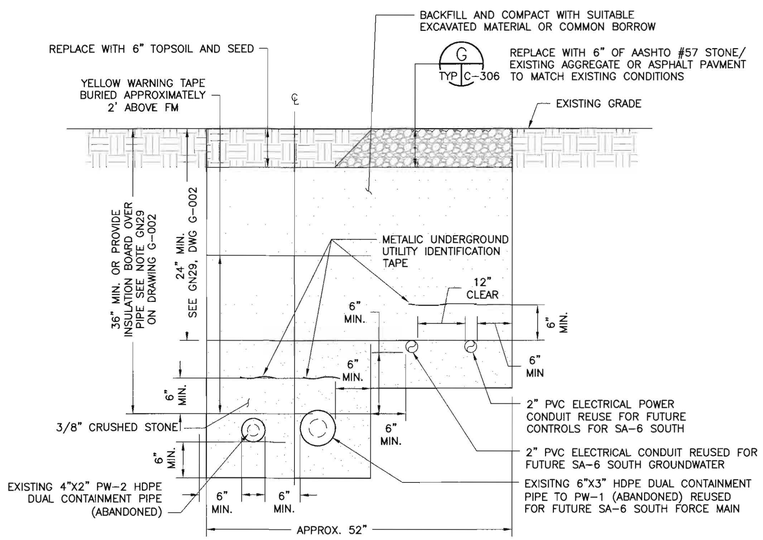
DROP STRUCTURE DETAIL (AZ)
NTS STA 63+78 C-204 C-306



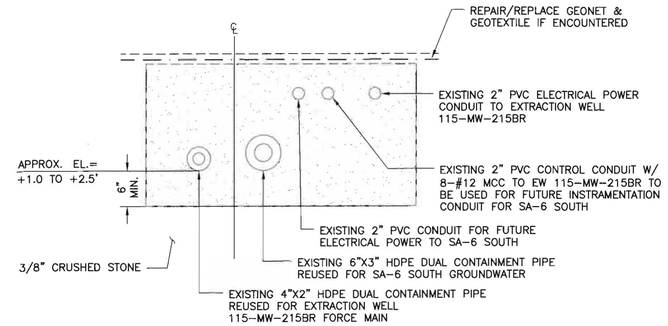
NOTE:

PZ-1, 3, 5, 7, AND 9 HAVE NO TRANSDUCER, TERMINAL BOX, CONDUIT, OR WIRING.

PIEZOMETER DETAIL (AE)
NTS C-201 C-202 C-203 C-306



EXISTING 3" FM TRENCH DETAIL (CK)
NTS STA 63+78 TO STA 68+91 C-204 C-306



TRENCH DETAIL (CL)
NTS C-204 C-306

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND C-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

NO.	DATE	DSGN	DR	REO	CHK	RJR	REO	APVD	TDD	SGS	BY	APVD	SHM
2	08/14/15	RJR	SGS										
1	02/13/15	TDD	SGS		DCB 007.4								
0	06/07/13	TDD	SHM		DCB 007.3								

REVISION — ISSUED FOR CONSTRUCTION

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS
CIVIL

CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

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(609) 587-2629
NJ Certificate of Authorization Number 24GA28010000

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VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
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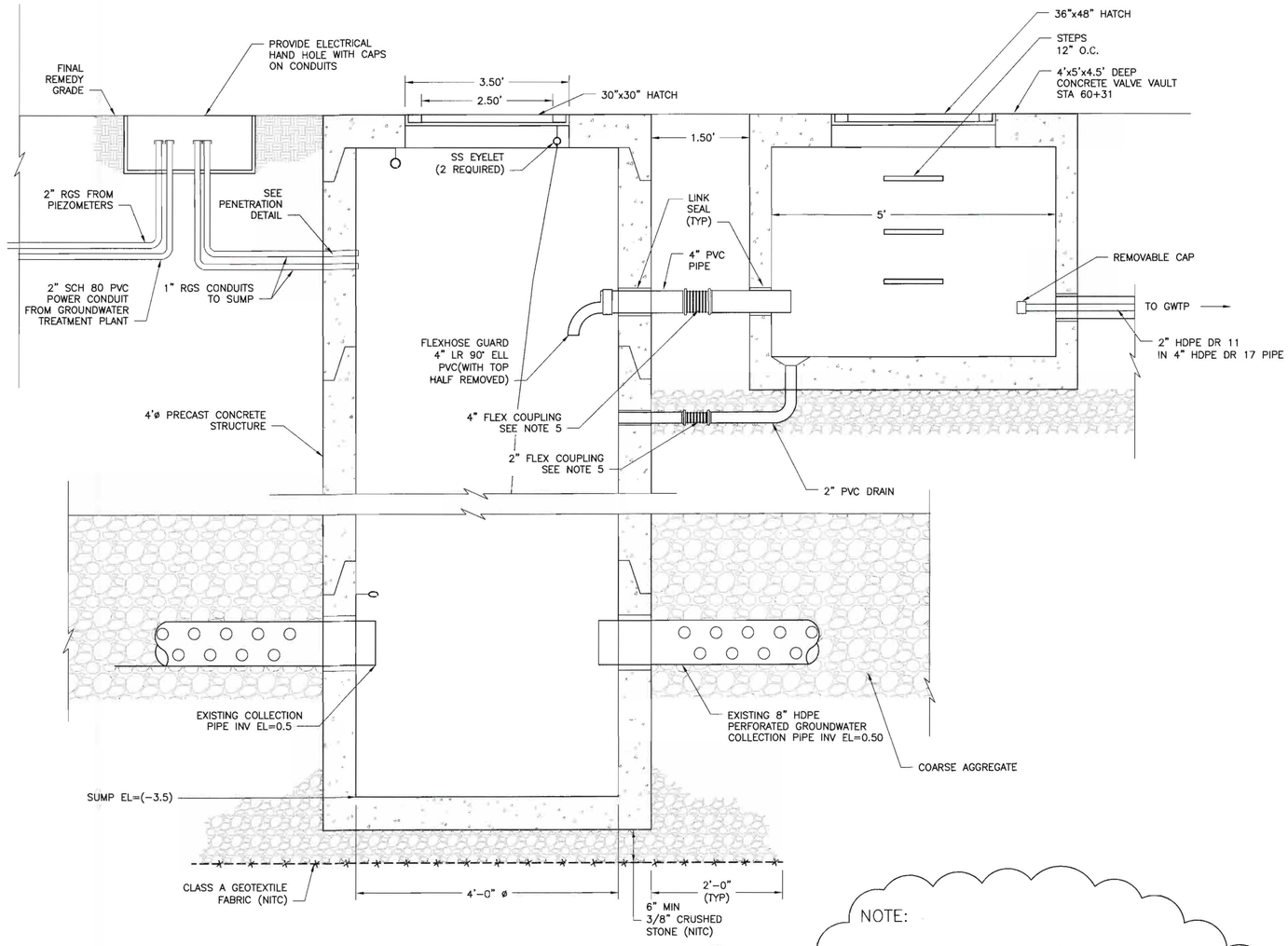
DATE	
PROJ	3480-12-0317
DWG	C-306
SHEET	42 OF 66



GROUNDWATER EXTRACTION PUMP STATION STA.=19+74± (CC)

NTS

C-203 C-204 C-310

- SET MANHOLE BASE AND RISER SECTIONS. (NITC)
- EXTEND RISER WITH SURCHARGE AND FILL PLACEMENT.
- PLACE TEMPORARY COVER.
- MEASURE TOP/ BOTTOM ELEVATION POST SURCHARGE.
- REVIEW RISER SECTIONS AND IF NECESSARY ORDER A NEW RISER TO MEET DESIGN GRADE.
- DESIGN GRADE TO MATCH AVAILABLE RISERS REVIEW WITH ENGINEER PRIOR TO INSTALLING RISERS AND PERMANENT COVER.

NOTE:

INSTALL PULL STRING/WIRE IN E&I CONDUIT FOR INSTALLATION OF PUMPS, WIRING, CONTROLS IN THE FUTURE BY OTHERS.

PARTS LIST

ITEM	QTY	MANUFACTURER\ PART NO.	DESCRIPTION
30" X 30" PUMP STATION HATCH	1	ej FABRICATION PRODUCT H30303191 OR APPROVED EQUAL	SPRING LOADED ALUMINUM VAULT HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION
36' X 50" VALVE VAULT HATCH	2	PENNSYLVANIA INSERT CORP STOCK# ATH3050D I*2 OR APPROVED EQUAL	SPRING LOADED ALUMINUM HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, AND HOLD OPEN ARM
FLEX COUPLING	2	ETHYLENE, LLC OR APPROVED EQUAL	FLEXIJOINT COUPLING MIN. (2) BELLOWS, TEFLON-LINED W/ 316 SS FLANGES, POWER BAKED EPOXY COATING, AND VITON GASKETS

SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
3	08/14/15	DCB 007.4	RJR	SGS
2	02/02/15	DCB 007.3	TDD	SGS
1	06/06/14	DCB 007	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163,
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
GROUNDWATER EXTRACTION TRENCH DETAILS

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Phone No. 732-906-2020
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
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0 1"

DATE	
PROJ	3480-12-0317
DWG	C-310
SHEET	OF 66

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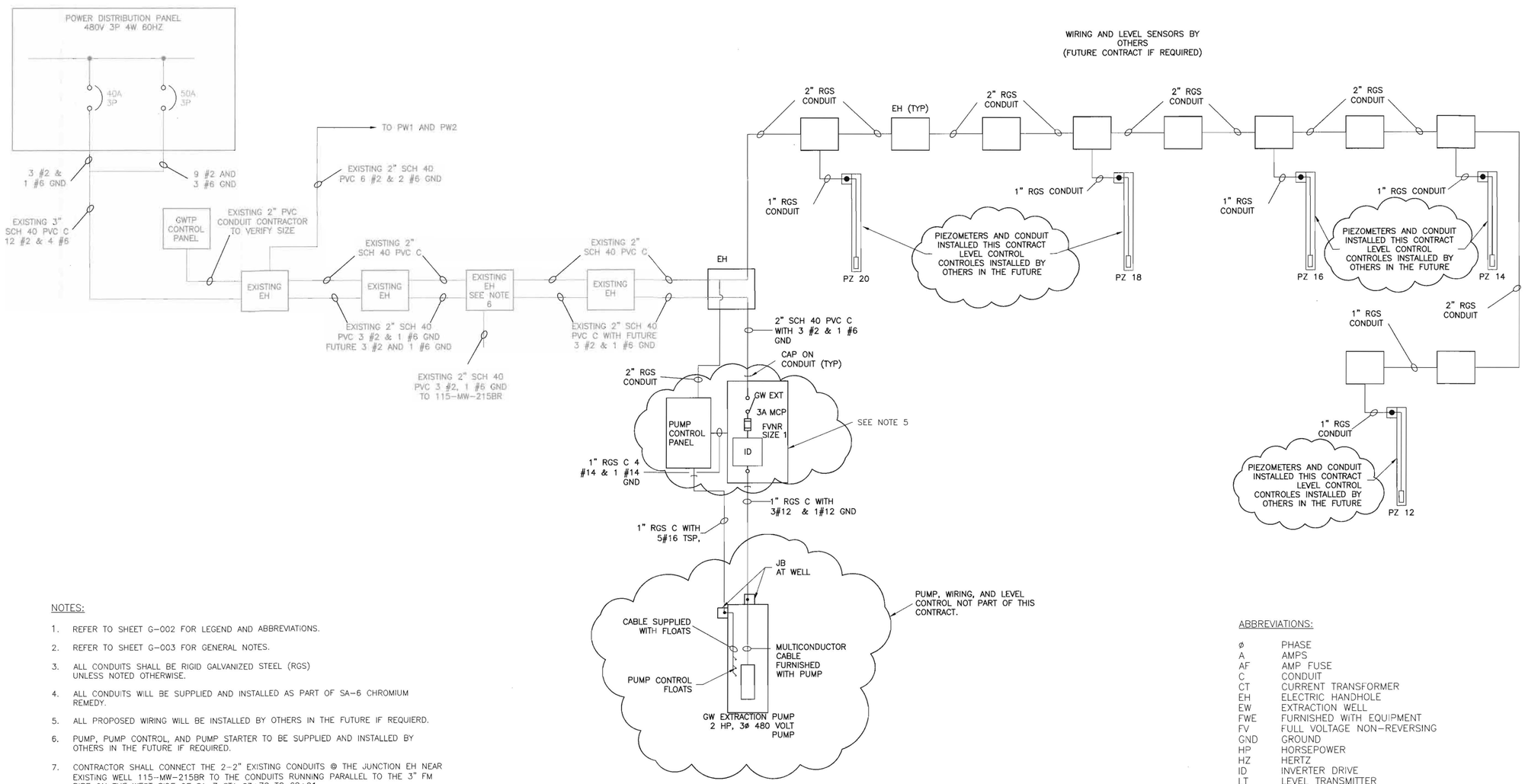

NOTES:

1. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.
2. REFER TO SHEET G-003 FOR GENERAL NOTES.
3. ALL CONDUITS SHALL BE RIGID GALVANIZED STEEL (RGS) UNLESS NOTED OTHERWISE.
4. ALL CONDUITS WILL BE SUPPLIED AND INSTALLED AS PART OF SA-6 CHROMIUM REMEDY.
5. ALL PROPOSED WIRING WILL BE INSTALLED BY OTHERS IN THE FUTURE IF REQUIERD.
6. PUMP, PUMP CONTROL, AND PUMP STARTER TO BE SUPPLIED AND INSTALLED BY OTHERS IN THE FUTURE IF REQUIRED.
7. CONTRACTOR SHALL CONNECT THE 2-2" EXISTING CONDUITS @ THE JUNCTION EH NEAR EXISTING WELL 115-MW-215BR TO THE CONDUITS RUNNING PARALLEL TO THE 3" FM PIPE ON THE WEST SIDE OF SA-7 STA 63+78 TO 68+91.
8. PULL STRING/WIRE TO BE INSTALLED IN ALL E&I CONDIT FOR WIRE INSTALLATION IN THE FUTURE BY OTHERS.

ABBREVIATIONS:

ø	PHASE
A	AMPS
AF	AMP FUSE
C	CONDUIT
CT	CURRENT TRANSFORMER
EH	ELECTRIC HANDHOLE
EW	EXTRACTION WELL
FWE	FURNISHED WITH EQUIPMENT
FV	FULL VOLTAGE NON-REVERSING
GND	GROUND
HP	HORSEPOWER
HZ	HERTZ
ID	INVERTER DRIVE
LT	LEVEL TRANSMITTER
LTMF	LIQUID-TIGHT METALLIC FLEXIBLE CONDUIT
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRICAL CODE
P	POLE
PIC	PROCESS INDICATING CONTROLLER
RGS	RIGID GALVANIZED STEEL
SE	SERVICE ENTRANCE
TSP	TWISTED SHIELDED PAIR
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
V	VOLTAGE
W	WIRE

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	DR	CHK	APVD	BY	APVD
1	08/14/15	ISSUED FOR CONSTRUCTION				RJR	SGS
0	06/07/13	DCB 007.4				TDD	SHM
DSGN			TDD	RJR	SHM		SGS

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

ONE LINE DIAGRAM

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DATE	
PROJ	3480-12-0317
DWG	E-301
SHEET	64 OF 66

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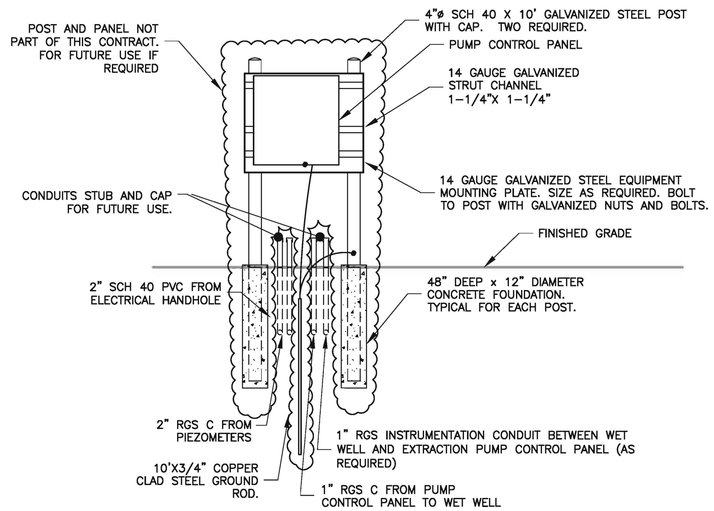


EXTRACTION WELL PUMP CONTROL PANEL DETAIL (AO)

NTS — TYP | E-302

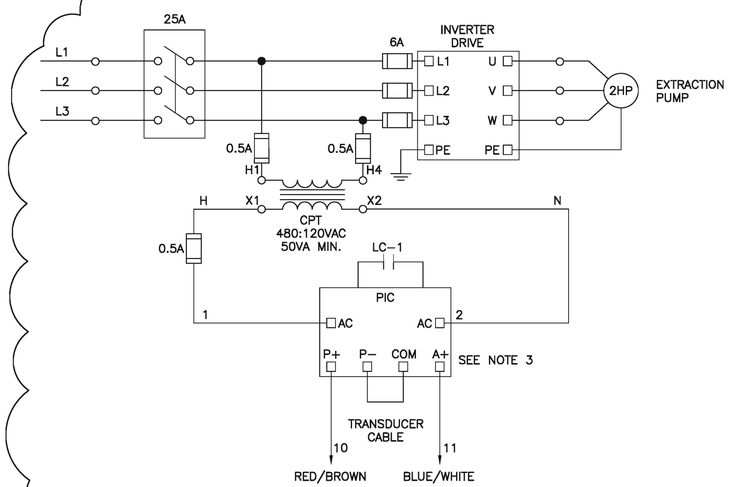
NOTES:

1. ALL CONDUITS SHALL BE 1" RGS MINIMUM, UNLESS OTHERWISE SHOWN. WHEN DISTANCE IS LESS THAN 6 FEET, LIQUID TIGHT METAL FLEXIBLE CONDUIT MAY BE USED.
2. LOCATE THE PUMP MOTOR STARTER WITHIN 3' OF THE EXTRACTION WELL PUMP STATION.

NOTES:

1. REFER TO SHEET G-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.

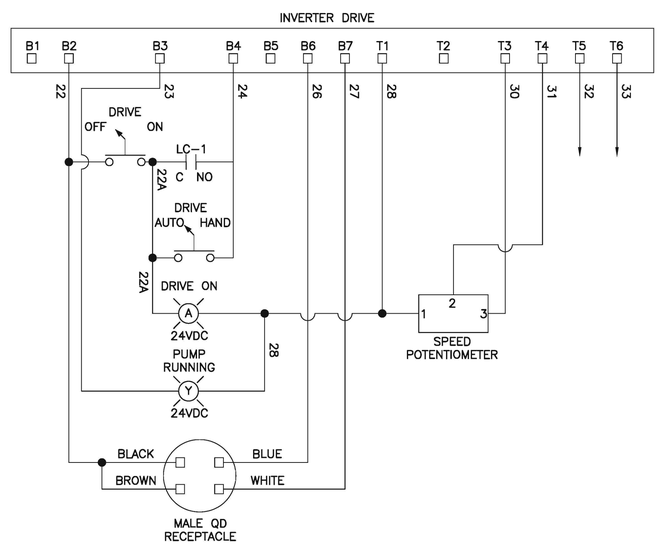
NOT PART OF THIS CONTRACT ELECTRICAL POWER AND INSTRUMENTATION CONTROLS TO BE RE-EVALUATED FOLLOWING INITIAL DRAWDOWN AND TRENCH PERFORMANCE EVALUATION.



PUMP CONTROL PANEL WIRING DIAGRAM (AP)

NTS — TYP | E-302

TYPICAL FOR ONE LEVEL TRANSDUCER AND ONE EXTRACTION WELL PUMP CONTROL (SEE NOTE 3)



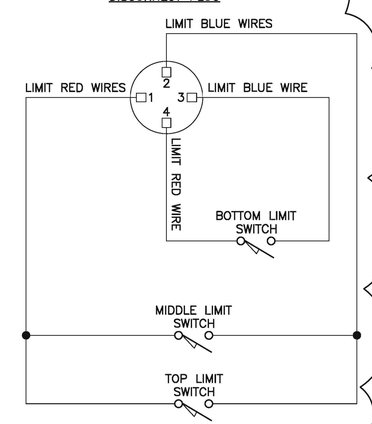
INVERTER DRIVE WIRING DIAGRAM (AQ)

NTS — TYP | E-302

FIELD TERMINAL STRIP CONNECTION SUMMARY

GND	EARTH GROUND
10	RED TRANSDUCER WIRE
11	BLUE TRANSDUCER WIRE
22	MALE QD RECEPTACLE BROWN AND BLACK
26	MALE QD RECEPTACLE BLUE
27	MALE QD RECEPTACLE WHITE
32	FAULT CONTACT SUPPLY
33	FAULT CONTACT RETURN

FEMALE QUICK DISCONNECT PLUG



PLUG & TERMINAL STRIP WIRING DIAGRAM (AR)

NTS — TYP | E-302

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	08/14/15	TDD	TDD	RJR	SHM	RJR	SGS
0	06/07/13					TDD	SHM

DCB 007.4

ISSUED FOR CONSTRUCTION

REVISION

SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY STUDY AREA 6 SOUTH SITES 073, 124, 125, 134, 140, AND 163 JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

WIRING DIAGRAMS

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Hamilton, NJ 08619
(609) 890-2023
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0 1"

DATE	
PROJ	3480-12-0317
DWG	E-302
SHEET	65 OF 66

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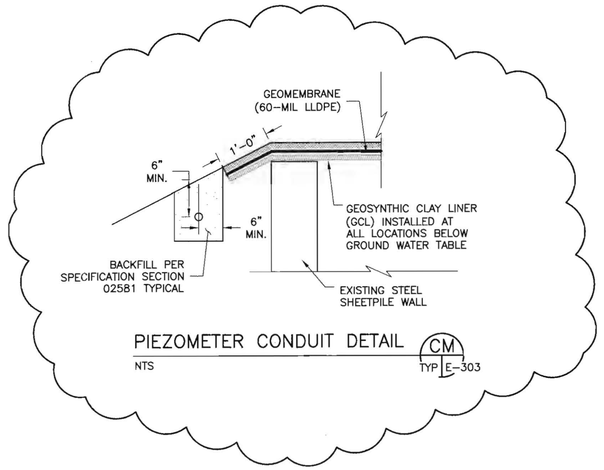
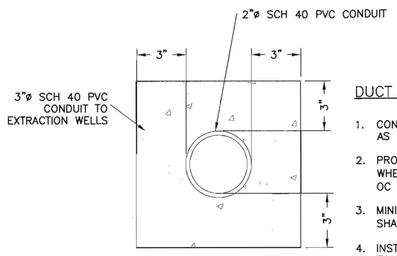


PIEZOMETER CONDUIT DETAIL (CM / TYP E-303)

NTS

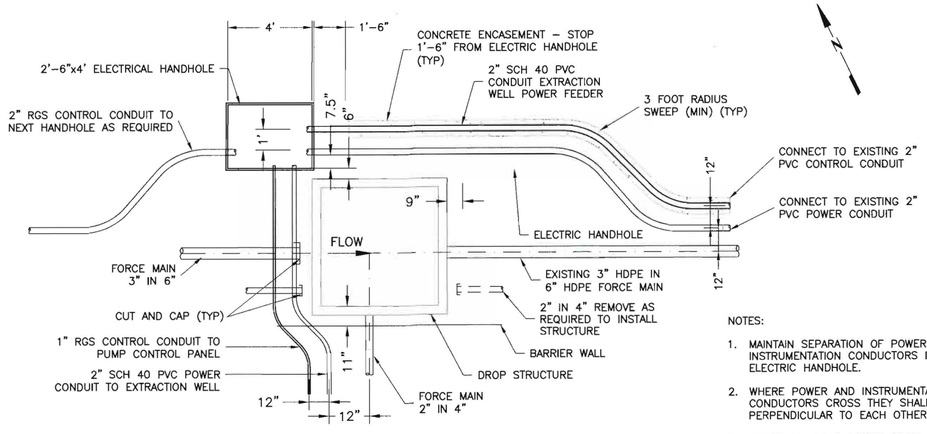


DUCT WAY NOTES:

1. CONCRETE SHALL BE 3000 P.S.I. @ 28 DAYS, OR AS SPECIFIED.
2. PROVIDE REINFORCING RODS ON TOP OF DUCTS WHEN CROSSING OR PLACED IN ROADWAY #4@12" OC MIN 2. EXTEND 4' BEYOND ROAD EDGE.
3. MINIMUM COVER TO TOP OF CONCRETE ENVELOPE SHALL BE 24" [610mm].
4. INSTALL IN A 4'-0" MAX WIDTH TRENCH SIMILAR TO DETAIL Z ON C-306.

DUCT BANK DETAILS (AT / TYP E-303)

NTS

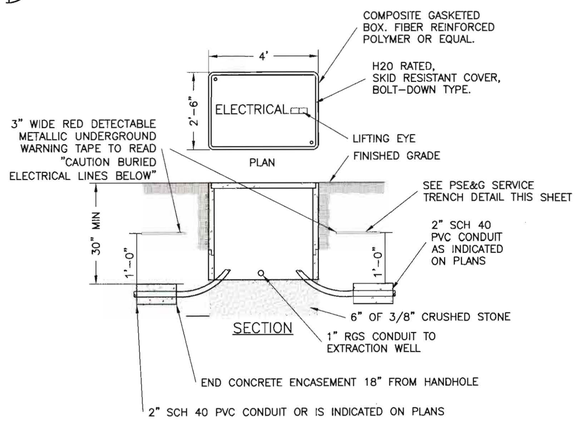


NOTES:

1. MAINTAIN SEPARATION OF POWER AND INSTRUMENTATION CONDUCTORS IN ELECTRIC HANDHOLE.
2. WHERE POWER AND INSTRUMENTATION CONDUCTORS CROSS THEY SHALL CROSS PERPENDICULAR TO EACH OTHER.
3. ELECTRICAL HAND HOLES SHALL BE LOCATED TO AVOID CLEANOUT MANHOLES.

ELECTRICAL HANDHOLE ORIENTATION DETAIL (AY / C-201 C-202 C-203 / E-303)

NTS



ELECTRICAL HANDHOLE DETAIL (AW / C-201 C-202 C-203 / E-303)

NTS

NOTES:

1. REFER TO SHEET G-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.

NO.	DATE	REVISION	BY	APVD
1	08/14/15	DCB 007.4	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD | DR RJR | CHK SGS | APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

ELECTRICAL DETAILS

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200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number
24GA27001900

VERIFY SCALE
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0 1"

DATE	
PROJ	3480-12-0317
DWG	E-303
SHEET	66 OF 66

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 051 **DCB Type:** Minor (a) **Effective Date:** 10/22/15
Project Location: SA-6 North	**Associated RFI:**
Title: Move western Limit of Stratum D Repair	☑ Yes, RFI Nos. ☐ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the vinyl sheetpile alignment. The location with the most significant conflicts was along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D.

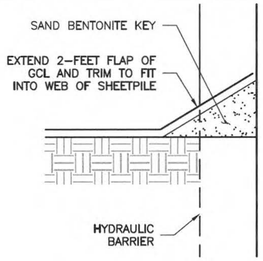
In lieu of removing sheetpile the western side was relocated approximately 6 ft. further west. The flexibility of the sheets was used to avoid piles at other locations. This will result in an expansion of the repair plan area from approximately 14,000 SF to, approximately 14,500 SF.

This change has no impact of the functionality of the chromium remedy or on the future site development.

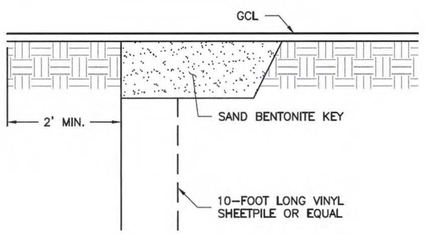
Drawing SN-302 has been amended to indicate the installed location of the vinyl sheetpile wall and the timber piles that were identified and left in place.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** **Attachments:** ☑ Yes ☐ No Cost Implication: ☑ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** Drawing SN-302 (Rev 01)
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** GS **Date:** 11/18/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

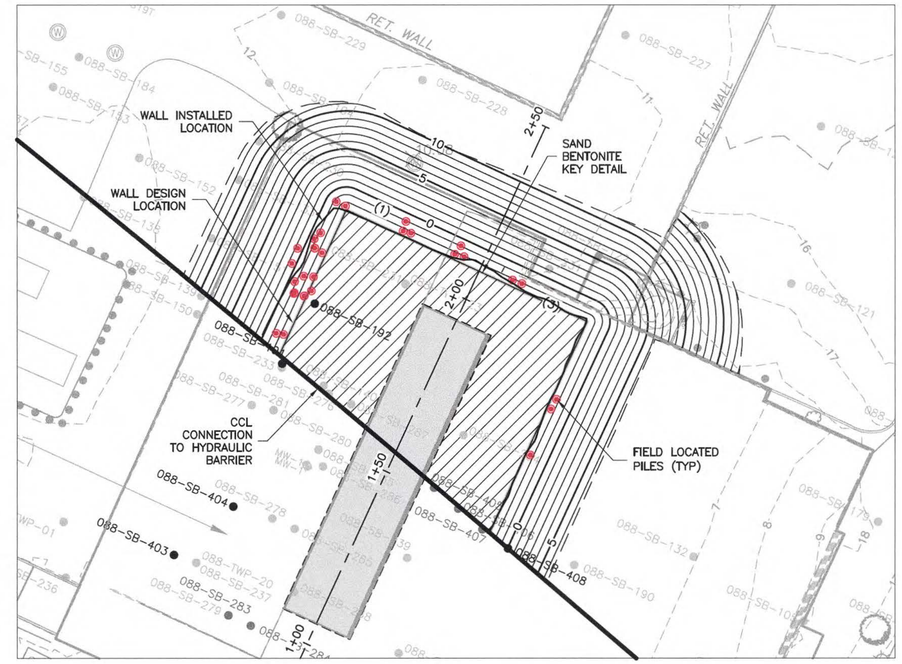
(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



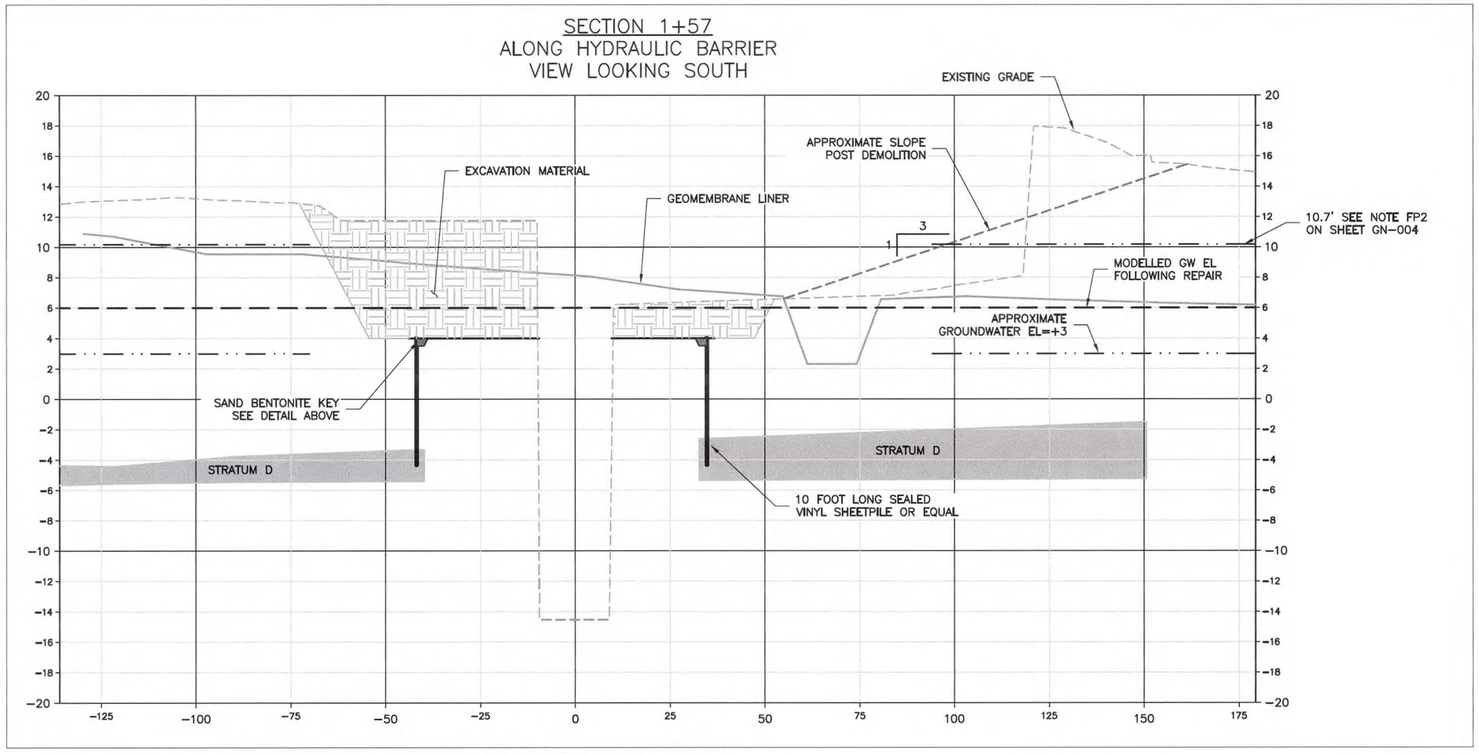
GCL CONNECTION TO HYDRAULIC BARRIER



SAND BENTONITE KEY DETAIL



OPEN EXCAVATION GCL BARRIER WALL OPTION



OPEN EXCAVATION OPTION

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.

SEQUENCE OF CONSTRUCTION

1. INSTALL HYDRAULIC BARRIER WALL.
2. EXCAVATE TO APRROXIMATELY ELEVATION 4 (APPROXIMATELY 1 FOOT OVER THE GROUNDWATER LEVEL).
3. INSTALL A SEALED VINLY SHEETPILE WALL AROUND THE PERIMETER OF THE REPAIR.
4. INSTALL A BENTONITE SAND CONNECTION DETAIL IN ACCORDANCE WITH DETAIL BI.
5. PLACE GCL LAYER OVER THE AREA OF THE REPAIR.
6. BACKFILL TO GRADE.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	11/16/15	DCB 051 MOVE SHEETPILE TO AVOID TIMBER PILES				TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION				TDD	SGS
			TDD	RJR	TDD		SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD., BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

STRATUM D REPAIR
JCIA TRASH PIT AREA

amec foster wheeler
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Hamilton, NJ 08619 (609) 890-1333
NJ Cert of Authorization 24GA28010300

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-302
SHEET	61 OF 70

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR61-SN-302 JCIA Pit Stratum D Restoration.dwg PLOT DATE: Mon, 16 Nov 2015 PLOT TIME: 12:20 PM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 057 **DCB Type:** Minor (a) **Effective Date:** 03/21/16
Project Location: SA-6 **Title:** Planting Soil Specifications (Nature's Choice - Horizon C ONLY)	**Associated RFI:** ☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377
Description. Revisions to the Horizon C planting soil specifications for the Nature's Choice Horizon C Soil Source Only.	
Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** See additional comments **Attachments:** ☑ Yes ☐ No Laboratory reports of chemical analysis Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: Nature's Choice was identified as the source that best met the physical requirements for Horizon C soils by Dr. Grabosky; however, several samples of Nature's Choice Horizon C soils have hexavalent chromium concentration >1.0 mg/kg. Consequently, Honeywell is proposing a design change to allow the hexavalent chromium concentration in Nature's Choice Horizon C soils to be less than 1.8 mg/kg, as agreed to by the Parties. For future sampling, hexavalent chromium soil samples will be composited from 10 grab sample locations per 5,000 CY (maximum). There are additional conditions in Attachment A that are part of this DCB and specific to Nature's Choice Horizon C soil. All other requirements specified in the 100% Design for imported soils will be met by the Nature's Choice Horizon C soils as amended in previous DCB 046.	**Design Documents Affected:** Specification 02315, Section 2.12.C Open Space Design Standards, Section 2.1.2
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 4/26/2016
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

Attachment A – Supplemental Requirements for DCB 057

During the March 17 teleconference, Honeywell explained that the proposed material would come from an excavation pit (with concentration characteristics similar to those from which data was previously collected). Based on the information provided by Honeywell, plaintiffs will accept Honeywell's proposal to use the Nature's Choice material as Horizon C soils at Study Areas 6 North and South so long as Honeywell agrees to the following conditions:

1. Plaintiffs' agreement to use soils in excess of the 100% Design 1 ppm hexavalent chromium standard is limited to the Nature's Choice materials in question for use as Horizon C soils and is not a modification of the 100% Design standards as they apply to any future fill, repair or restoration work. This limited deviation from the 100% Design is set forth in this Design Change Bulletin.

2. The Nature's Choice materials shall contain less than 1.8 mg/kg hexavalent chromium. In addition, Honeywell shall use best efforts to maintain an average hexavalent chromium concentration as estimated based on the upper limit of the 95th percentile confidence interval around the mean of 1.1 mg/kg in the Horizon C soils.

3. The Nature's Choice materials shall be sampled for hexavalent chromium no less frequently than once every 5,000 cubic yards. Hexavalent chromium sampling shall use composite samples that are made up of a minimum of 10 grab samples. The grab samples shall be collected as evenly as possible throughout the volume of material being sampled to ensure true representation of the hexavalent chromium concentrations coming onto the Study Area 6 sites.

4. All other sampling and analysis protocols will follow the customarily used NJDEP and USEPA protocols. To be consistent with the NJDEP protocols, one of the individual 10 grab samples will be used for all other required analytical parameters (VOCs, SVOCs, metals, etc.) to demonstrate compliance with clean fill requirements.

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 059 **DCB Type:** Minor (a) **Effective Date:** 4/20/16
Project Location: SA-6	**Associated RFI:**
Title: Planting Soil Specifications	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. Planting Soil Source Acceptance Variance for Select Horizon B and C Soils.

DCB-046 expanded the ranges of acceptable physical parameters (gradations, pH and organic content) in Horizon B and C soils that were included in the Earthwork Specification 02315. DCB-046 was accepted by all Parties and Specification 02315 was revised accordingly.

Subsequent to the acceptance of DCB-046, Entact encountered difficulty locating available Horizon B and C sources that comply with the revised Specification and meet hexavalent chromium design criteria of 1 mg/kg or less.

This DCB-059 was developed to document an agreement reached by all parties on the Special Master All-Hands monthly call on April 19, 2016. Based on the agreement, Honeywell will proceed to import fill material from suppliers as noted below to support the project needs for Horizon B and Horizon C soils to meet the demands for fill quantity and schedule for cover soils on SA-6 South and North.

It is noted that an exhaustive search of potential sources resulted in a short list of potentially viable Horizon B and C sources being recommended, following consultation with Dr. Grabosky who provided his recommendations in correspondence dated March 17, 2016. Dr. Grabosky's recommendation is attached and made part of this DCB. The specific sub set of soil sources agreed to by all parties is as follows:

Horizon B Approved Sources	Horizon C Approved Sources
Cedar Hill	Natures Choice (Per DCB-057)
EME - B001	Impact - AB33
Impact - AD17	Impact - AD25

DCB-059 applies to the completion of importing soils for SA-6 North and South grades as presented in the 100% design and does not permanently change the Earthwork Specification 02315 for physical parameters (gradations, pH and organic content) in Horizon B and C soils that were memorialized in DCB-046.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** **Attachments:** ☑ Yes ☐ No Dr. Jason Grabosky letter (3/17/16) Plaintiffs' letter dated 04/15/16. Cost Implication: ☐ Yes ☐ No >$50k ☐ Yes ☐ No Schedule Implication ☐ Yes ☐ No
Additional Comments: See DCB-057 for acceptability conditions of Nature's Choice Horizon C soils.	**Design Documents Affected:** Specification 02315, Section 2.12
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 4/26/2016
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

DR. JASON GRABOSKY RECOMMENDATION

RUTGERS
School of Environmental
and Biological Sciences

Urban and Community Forestry Program
Dept. of Ecology Evolutionand Natural Resources
Environmental and Natural Resources Bld, Room 144
Rutgers, The State University of New Jersey
14 College Farm Road
New Brunswick, NJ 08901-8551

March 17, 2016

To all concerned:

I spoke on the phone with Geoff in between meetings during the past week. For all concerned, there was a delay in this set of conversations due to some snags in our e-mail communications (I was not getting e-mails through my server for some reason), but we developed some work arounds to share the soils tables under review and spoke during a brief conversation on Tuesday Morning from 8:00-8:15 a.m. once I had the soils tables in front of me while chatting over the phone.

There are issues with the Nature's choice source, in terms of supply and in terms of some testing results. For that reason, it has been necessary to identify alternative Horizon B and Horizon C sources. To reduce risks in material supply, chemistry and gradation, I have identified multiple sources/mixes for both Horizon B and Horizon C. In making specific recommendations I also considered both the expense of shipping, and the environmental cost (or the carbon footprint) in shipping, and the limitations in time management from the haulage/transportation logistics.

Horizon B:
In a technical sense, Nature's choice remains an approved and acceptable layer B material. However, there is an open question of availability of material in the volume needed for project execution.

The Cedar Hill material can fit the B Layer source designation. Clay is at 10% right at the lower end of the clay specification. As discussed with Geoff Shallard, in an engineering/drainage view, this is a good material. We would also have to consider a lower the min clay value in the specification to account for variability. The pH of this material (6.22) seems to be in line with the goals for the specification. Given a concession in lowering the clay content also opens consideration of the Impact Materials.

Impact AD17 : While the fines (silts and clays) are flipped from a best case scenario (and thus falling out of specification), the material would suit for the B horizon. In the clay component, this material is comparable to the Cedar Hill material. The silts exceed the specified maximum percentage. However, this maximum is largely in consideration of frost heave susceptibility. For the depths of the B layer relative to expected frost penetration to depth in Jersey City, especially in consideration of all future climate predictions of warmer temperatures, the frost potential is deemed less critical. Indeed, the pH is a tad high, but not so much as to consider it unworkable from a horticulture management sense. The sand portion of the Impact AD17 blend (which is the bulk of the blend) sits 10 minutes away from the site in Kearny, NJ and therefore has a low carbon footprint and ease of logistics. Additionally, it may yield a continuum in similarity if the C horizon also is determined to come from an Impact source.

EME B001-HORB: The EME grouping of materials benefit from a high level of control, and would be considered a useful source ***if*** the material could lower the organics to <4. Given the systems in question,

there is every possibility of shrinkage over time as the OM degrades, which could have negative impacts on the final developed site. A principal detraction of this source would be distance (about 65 miles), both in expense in shipping, the environmental cost (or carbon footprint if you will) in shipping from and the limitations in time management from the haulage/transportation logistics.

Horizon C

Impact AB33 and Impact AD25: While the fines (silts and clays) are flipped from a best case scenario (and thus falling out of specification), the materials would suit for the C horizon. pH is in line with the specification. I have a preference for the AB33 for the lower pH and slight increase in clay, but both would be suitable. Of the materials in the tables, a discussion with Geoff indicated the sands in the Impact materials are coarse and to our benefit in workability and drainage capacity, which for the level of construction traffic on site, works toward the stability of the system in a physical-mechanical sense. The sand portion which is the bulk of the Impact blends also is located in Kearny, NJ and therefore has a low carbon footprint and ease of logistics.

EME B002-HORC: The EME grouping of materials benefit from a high level of control, and would be considered a useful source ***if*** the material could lower the organics to <4. Given the systems in question, there is every possibility of shrinkage over time as the OM degrades, which could have negative impacts on the final developed site. A principal detraction of this source would be distance (about 65 miles), both in expense in shipping, the environmental cost (or carbon footprint if you will) in shipping from and the limitations in time management from the haulage/transportation logistics.

Recommendations:
I would retain EME as a Vendor option for both Horizon B and Horizon C with an assumption the organic fractions can be reduced. While the materials seem very good, the costs likely outweigh the advantages for the B and C horizons. The vast majority of the plant root systems are in the A horizon, thus the goals for the lower levels are about support, drainage and depth/distance to cap. Given the timing and the difficulty associated with getting materials into conformance I make the following recommendations. Pragmatically, one might argue I am siding on convenience. However, upon the consideration of developing a system, I feel what we develop from the recommendations provides a working solution, albeit with a higher system pH than originally targeted. The plant palette was chosen to bias toward shallower rooting species, and the higher ph will encourage the proliferation of roots where the mineral nutrition is available, which biases toward the surface with the increased pH of the lower layers. We provide a loamy-sand to sandy loam transition in the b to c horizon depths, which would provide a continuum for the water column through the layers provided compaction of each layer is not excessive and the interface blending described in the early documentation occurs. The increase of pH does not place the plant species selected into peril to my knowledge.

I would recommend:

Horizon B soils:

Adopt Impact AD17% as the primary source, and Cedar Hill as the secondary source. To accomplish this in specification language, adjust the B layer % Silt to <15% and % Clay to 5-15%. Raise acceptable pH to 7.6 from 7.5 or figure out how to lower the AD17 pH in the mix process.

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Horizon C soils:

Adopt Impact AB33% as the primary source. To accomplish this in specification language, adjust the C layer % Silt to <15% and % Clay to 5-15%. Retain the Impact AD25 as an alternative to Impact AB33%.

Respectfully submitted,

Jason Grabosky
John and Eleanor Kuser Faculty Scholar in Urban and Community Forestry
Director: S.E.B.S. General Honors Program
Co-Director: Center for Resilient Landscapes, a USDA FS/Rutgers Joint Venture
Editor-in-Chief; Arboriculture & Urban Forestry
Department of Ecology, Evolution and Natural Resources

PLAINTIFFS' RESPONSE LESTTER (4/15/16)

BRUCE J. TERRIS
CAROLYN SMITH PRAVLIK
KATHLEEN L. MILLIAN
ALICIA C. ALCORN
ZENIA SANCHEZ FUENTES
PATRICK A. SHELDON
TODD A. GLUCKMAN

TERRIS, PRAVLIK & MILLIAN, LLP
1121 12TH STREET, N.W.
WASHINGTON, D.C. 20005-4632
(202) 682-2100
FAX 202-289-6795
tpminfo@tpmlaw.com

MICHAEL L. HUANG
NICHOLAS SOARES
BENJAMIN S. DAVIS
STEPHANIE ANN MADISON

LYNN E. CUNNINGHAM
Of Counsel

April 15, 2016

VIA ELECTRONIC MAIL

Jeremy Karpatkin
Arnold & Porter, LLP
Thurman Arnold Building
555 12th Street, N.W.
Washington, DC 20004-1206

Re: Study Areas 6 North and South – DCB 2016-3-18 Horizon B and C Soil Specifications

Dear Jeremy:

We write to provide plaintiffs' position with respect to the Design Change Bulletin (DCB) DCB 2016-03-18 that seeks to modify the geotechnical specifications for Horizon B and C soils, which the parties previously modified in September 2015. We note that, like the September 2015 modification, the current proposal of Honeywell would apply to all Horizon B and C soils to be brought to the site, not just in the initial phases of development, but permanently. As set forth in the 100% Design and the Open Space Design Standards (OSDS), there is to be a distinction between the characteristics of the soils in Horizon B and Horizon C to ensure the growth of only appropriate types of vegetation and trees on top of the cap, so as not to endanger the cap. *See* Technical Specification 2315 Earthwork, 2.12 Planting Soils; OSDS 2.1.2 Restrictions on the Use and Placement of Fill, Subsection D Specific Requirements for Fill Soils in Landscaped Areas.

On April 7, 2016, plaintiffs requested additional information regarding the planned schedule for the importation and use of the Horizon B soils. Honeywell provided the requested information on April 12, 2016. Plaintiffs and their experts have reviewed the April 12 response. Plaintiffs agree with Honeywell's analysis that Horizon B soils may be imported and placed now in the Study Area 6 South Open Space, and that Horizon B soils cannot be placed in the Study Area 6 North Open Space until the redevelopment.

Plaintiffs understand that Honeywell wishes to have multiple sources of Horizon B and C soils available for use so that it will not incur delays such as those incurred this winter with respect to Horizon C soils. However, Honeywell is proposing to change permanently the geotechnical specifications for both Horizon B and C soils based on the analysis by Dr. Grabosky of particular sources for the Horizon B and C soils. Dr. Grabosky's analysis establishes that the particular soil sources that he recommends, based upon the potential sources

provided to him by Honeywell, will maintain the necessary distinction between the soil horizons even though the recommended sources may deviate slightly from the geotechnical specifications as modified in September 2015.

Based upon the recommendations of Dr. Grabosky as set forth in his correspondence of March 17, 2016, which was included with DCB 2016-03-18, as set forth below, plaintiffs will agree to the use at Study Area 6 of certain particular sources for Horizon B and C soils addressed by Dr. Grabosky, even though some of the sources may deviate slightly from the geotechnical specifications in the 100% Design for Horizon B and C soils. However, plaintiffs are not willing to agree to modify permanently the geotechnical specifications for the Horizon B and C soils of the 100% Design standards to accommodate use of the sources for Horizon B and C soils under consideration by Honeywell at this time.

Plaintiffs agree to the use of Horizon B soils for the Study Area 6 North and South Open Space areas from Nature's Choice, Cedar Hill, and EME (EME-B001 blend) because these sources meet the geotechnical specifications. In addition, plaintiffs agree to the use of Horizon B soils from Impact Environmental, which deviate from the geotechnical specifications, as a secondary source should the Nature's Choice, Cedar Hill, and EME (EME-B001 blend) soils not be available. Plaintiffs do not agree to the use of the EME (Horizon "B" Modified) soils because of the high organic material content of the soils.

Plaintiffs agree to the use of Horizon C soils for the Study Areas 6 North and South Open Space areas from Nature's Choice as set forth in DCB 2016-03-21. In addition, plaintiffs agree to the use of Horizon C soils from Impact Environmental (Impact AB33 and Impact AD25), which deviate from the geotechnical specifications, as secondary sources should Nature's Choice not be available. Plaintiffs do not agree to the use of the Horizon C soils from EME because Dr. Grabosky did not recommend the use of these sources and because of the high organic material content of those soils.

Plaintiffs' agreement to the use of certain Horizon B and C sources that deviate from the geotechnical standards, as set forth above, is not an agreement to modify the 100% Design standards as they apply to any future fill, repair, or restoration work. This more limited agreement to deviate from the 100% Design should be set forth in a modified Design Change Bulletin.

Please contact me with any questions. We look forward to your response.

Sincerely,

Bruce J. Terris
Kathleen L. Millian
Alicia C. Alcorn
Counsel for Plaintiffs

cc: Senator Robert Torricelli
Tom Lewis/Steve Egnaczyk
Michael Daneker
William Hague
John Morris
Kevin Coakley/Liza Walsh/Agnes Antonian
Jeremy Farrell/Jason Watson/Bhavini Doshi
Frank Borin/Kevin Kinsella
Davis Isabel/ Eric Tomaszewski

Honeywell RES

Honeywell.com

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 058 **DCB Type:** Minor (a)
	Effective Date: 5/6/16
Project Location: SA-6 South	**Associated RFI:**
Title: Temporary Construction Road in SA-6 South Cap	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description.

To allow for traffic flow within the project site following completion of the SA-6S Cap, a road will be installed within the "B Street" corridor.

The Chromium Remedy Design indicates that the Open Space AOC will be finished with topsoil and be seeded. Section 2.2.1.B of the Open Space Design Standards ("OSDS," Appendix L of the SA-6 North 100% Design Report) was written in anticipation of the need for "temporary construction roads" across the cap, post Chromium Remedy completion, and prior to construction of the final redevelopment roads. These construction road(s) will initially be used to provide access for general site inspections, access for the long term monitoring plan and maintenance activities such as mowing.

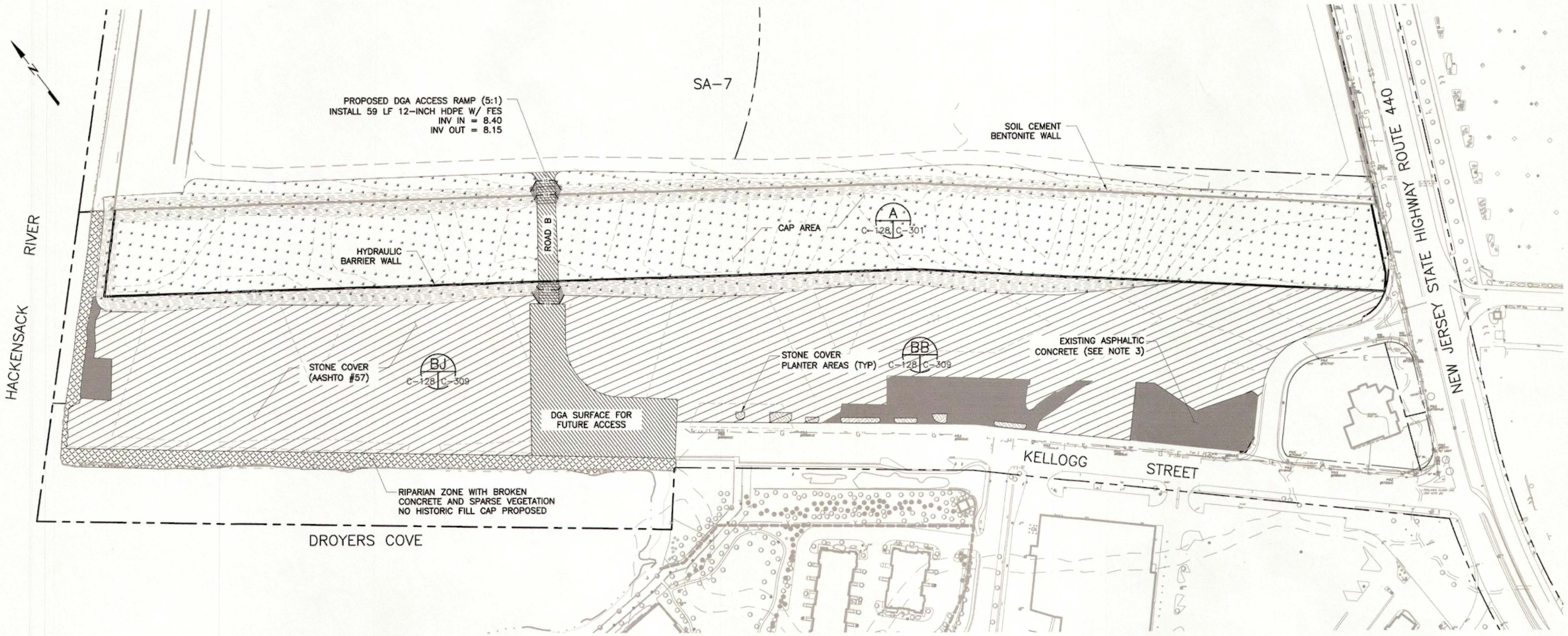
The roads will be constructed by continuing the "Structural Fill under Roadways to within 6 inches of final grade". The Topsoil shown within the construction road limits would be replaced with a load bearing geotextile (min 8 oz. non-woven) and 6 inches of Dense Grade Aggregate consistent with the OSDS "temporary construction road" requirements.

Table I of the OSDS was developed to show the minimum cover requirements for specific traffic loading conditions. The analysis supporting Table 1 was shared with the Plaintiffs during development of the OSDS. These communications were documented in Response to Plaintiff's Comments dated 07/13/2012. The calculation provided indicates that a 36 inch cover was adequate to provide protection of the cap when subject to H20 truck loading. When graded to the Chromium Remedy grades the typical fill depth in "B Street" is 8 ft. (OSDS Figure 4I is attached for reference). At the northern end of B Street, as the remedy surface transitions into SA-7, the minimum depth is 4 ft. These conditions meet the 36 inch cover requirement stated in Table 1.

The road as constructed during the Chromium Remedy will therefore meet Section 2.2.1.B of the OSDS.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** **Attachments:** ☑ Yes ☐ No Table 1 (Page 20 of OSDS); Section 2.2.1.B of OSDS (pages 24 – 25); Figure 4I Cost Implication: ☐ Yes ☐ No >$50k ☐ Yes ☐ No Schedule Implication ☐ Yes ☐ No
Additional Comments:	**Design Documents Affected:**
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 6/23/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTE:

1. REFER TO SHEET G-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET G-002 FOR LEGEND AND
3. EXISTING ASPHALTIC PAVEMENT AREAS TO BE FIELD INSPECTED BY LSRP DURING RESTORATION ACTIVITIES. FINAL HISTORIC FILL CAP IN THESE AREAS MAY INCLUDE CRACK FILLING OR INSTALLING A GRAVEL COVER SYSTEM.

0 50 100 200
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
4	6/20/16	DCB 30.2 - ROAD B ACCESS GRADING	TDD	SGS
3	4/18/16	DCB 30.1 - REVISED GRADING AND RESTORATION	TDD	SGS
2	05/06/15	REVISED EDGE DETAIL	TDD	SGS
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD DR RJR CHK TDD APVD SHM

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD BOX 2245, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

RESTORATION PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 Horizon Center Blvd., Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization 24GA28019000

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-128
SHEET	33 OF

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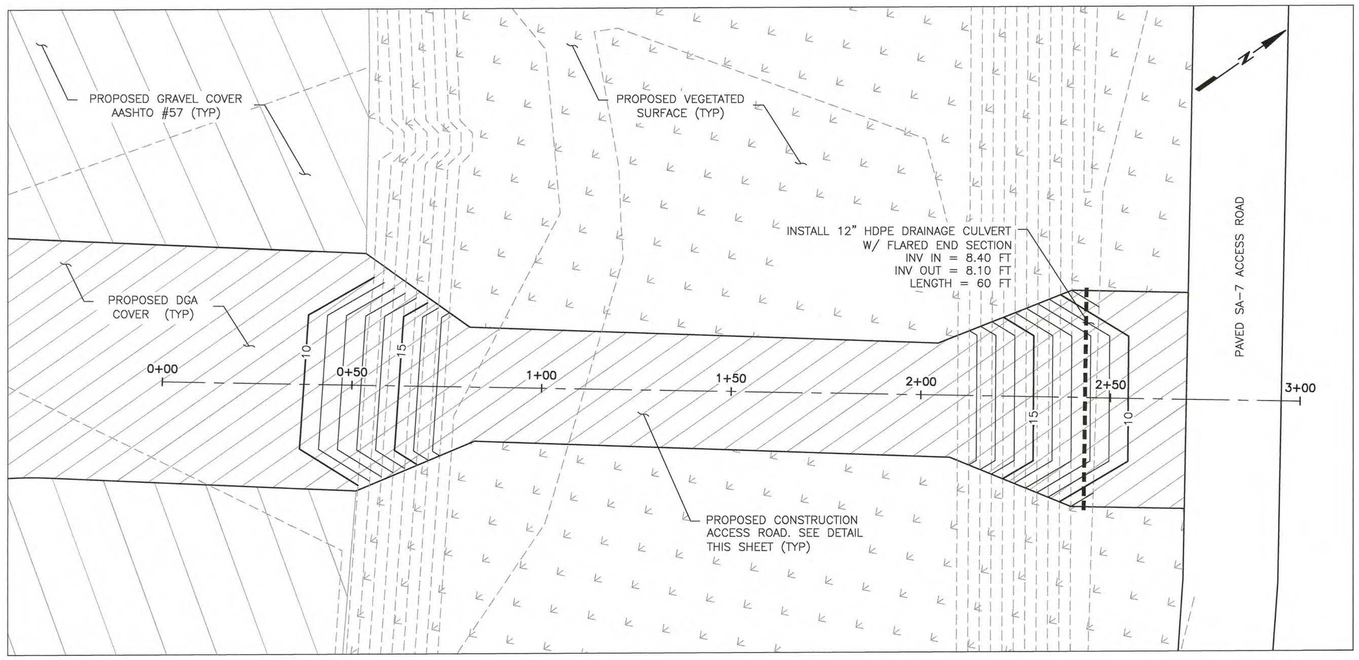
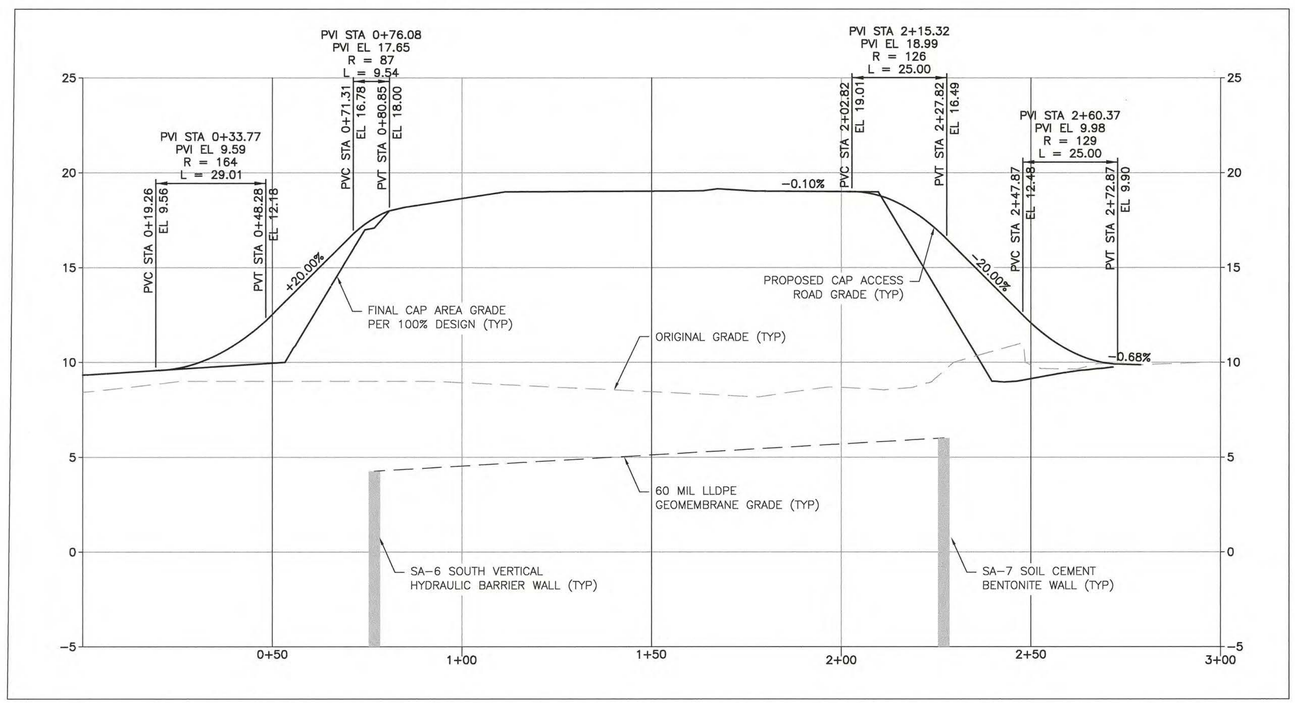
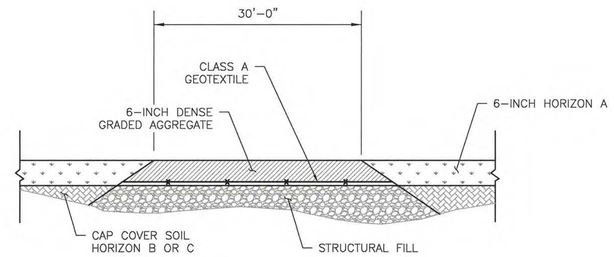
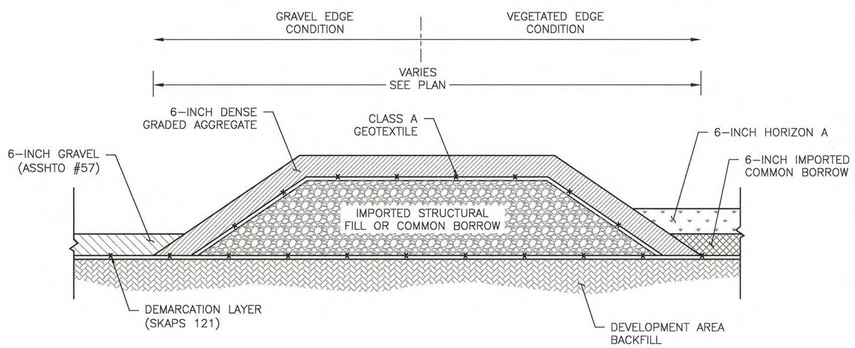
FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\CR33-C-128 Surface Restoration Plan.dwg PLOT DATE: Mon, 20 Jun 2016 PLOT TIME: 2:15 PM







CONSTRUCTION ACCESS ROAD DETAIL
NTS (TOP PLATEAU)



CONSTRUCTION ACCESS ROAD DETAIL
NTS (APPROACH SLOPE)

0 10 20 40
HORIZONTAL SCALE FEET

0 4 8
VERTICAL SCALE FEET

SAMUEL G. SHALLARD

NO.	DATE	REVISION	BY	APVD
0	7/25/16	90% Temp Const Road Details	TDD	

DSGN TDD | DR TDD | CHK SGS | APVD SGS

NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43597

Honeywell
101 COLUMBIA RD. BOX 2151, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
CONSTRUCTION ACCESS ROAD
FUTURE B STREET

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number
24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-128A
SHEET	33A OF 66

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FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\SA-6 South Cap Grading\C-128A Cap Access Road.dwg PLOT DATE: Mon, 25 Jul 2016 PLOT TIME: 12:26 PM

Table 1: Allowable Ground Pressure versus Fill Depth

Maximum Ground Pressure	Fill Depth Over Warning Layer/Liner
Maximum Ground Pressure for Maintenance Equipment	
< 5 psi	12 inches
5-10 psi	18 inches
>10-40 psi	24 inches
Additional Maximum Ground Pressure for Temporary Roads	
Fully Loaded Highway Truck (>40-80 psi)	36 inches
Permanent Roadways	
No maximum ground pressure limit	36 inches

The load limits on temporary roads and on Landscape and Hardscape Areas allow for heavier loads where a rigid pavement or temporary load spreading system such as matts is used to spread the load and reduce the bearing pressures to below the limits specified in Table 1, and where a licensed New Jersey Professional Engineer has certified to Honeywell and Jersey City that the rigid pavement or temporary load spreading system will reduce the bearing pressures to below the limits specified in Table 1.

E. Bearing Area – Foundations, Footers and Separation from Cap

1. Each point load from a Permissible Development Element shall have a minimum bearing area of 2 square feet except that traffic light poles and street light poles shall have a minimum bearing area of 3.5 square feet.
2. Each Permissible Development Element requiring a footer shall have a shallow footer.
3. Anchoring systems for Permissible Development Elements such as site furnishings shall be designed for surface mounting on spread footings. Hardscape areas shall accommodate surface mounted anchoring on spread footings.

Remedy and such certification will be included in a Development Plan reviewed and approved by the Special Master or the Federal Court. No curb and pavement box design shall be certified or approved unless it is demonstrated that it will not jeopardize the integrity of the Chromium Remedy.

8. Through trucks are prohibited on Roadways. Roadways shall be posted to prohibit through trucks. Jersey City shall prohibit through trucks and require the posting of such prohibition in an ordinance prior to the installation of the Roadways. The standard becomes effective upon the effective date of a Jersey City ordinance prohibiting through trucks on Roadways.

9. Every five years from the initial surfacing, a licensed New Jersey Professional Engineer shall inspect all Roadways in the Open Space Areas to evaluate whether the condition of any Roadway or segment thereof has compromised or is likely to compromise the structural integrity of the underlying subgrade or utilities. Within 30 days of the completion of the inspection, the licensed New Jersey Professional Engineer shall submit a certified report to Honeywell and Jersey City that describes the inspection undertaken and the repairs needed, if any, in order to address any condition that has compromised or is likely to compromise the structural integrity of the underlying subgrade or utilities. Within 18 months of the submission of the report, the repairs described in the report shall be completed. In the event that in the report the licensed New Jersey Professional Engineer deems a condition to constitute an emergency requiring immediate repair, such repair shall be made as soon as possible, and, if necessary, interim measures shall be employed to protect the cap, subgrade and utilities. Within 60 days of completion of the repairs, emergency or otherwise, a licensed New Jersey Professional Engineer shall inspect the repairs and certify that the repairs have been satisfactorily completed.

B. Temporary Construction Roads. The following requirements apply to all temporary construction roads:

1. In the event temporary construction roads are installed, these roads shall be limited to the locations designated for Roadways in the 100% Design on Drawings CN-515 and C-516. Temporary roads shall be installed using a load bearing geotextile fabric to isolate the wearing surface from the

subgrade. A wearing surface shall be installed that is sufficient to handle the intended temporary traffic loadings. Temporary roads shall be designed consistent with the projected loads and frequency. Temporary roads shall be designed to be protective of the Chromium Remedy. A licensed New Jersey Professional Engineer shall certify that the temporary road design is protective of the Chromium Remedy and such certification shall be included in a Development Plan reviewed and approved by the Special Master or the Federal Court. No temporary road design shall be certified or approved unless it is demonstrated that it will not jeopardize the integrity of the Chromium Remedy.

2. The load limitations specificed in Section 2.1.4.D of the OSDS and Section 02374 Part 3.3 G 7 of the Technical Specifications shall apply to all loads on the temporary roadways.

2.2.2 Hardscape Areas including Pedestrian Thoroughfare

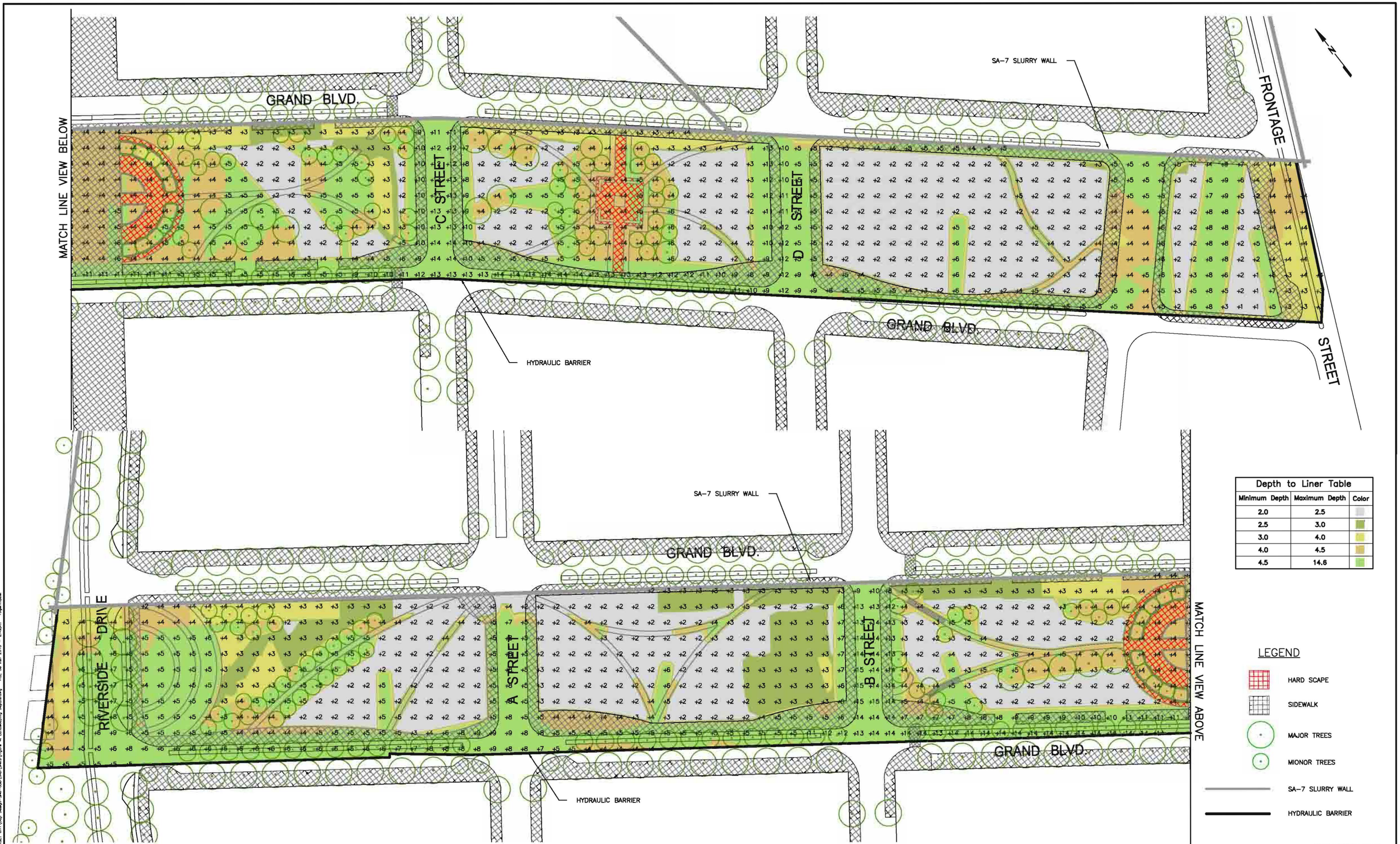
Hardscape Areas shall have a minimum separation of 12 inches between the Warning Layer/Liner and the underside of the hard surfacing. The surface and subgrade materials shall be of sufficient strength to accommodate Maintenance Equipment.

2.2.3 Utilities

All utilities including those supporting the pump and treat system for groundwater remediation, with the exception of any extraction wells or collection trenches, shall be placed above the Cap as required in Paragraph 56(b) of the Study Area 6 North Consent Decree.

2.2.4 Utility Corridors

A. Public Utilities. All public utilities shall be located in a designated utility corridor and shall be installed in accordance with Paragraphs 60(j)(v)(6) and (7) of the Study Area 6 North Consent Decree. The location of the utility corridors is shown on Drawing CN-515 of the Study Area 6 North 100% Design and C-516 of the Study Area 6 South 100% Design. During the Initial Development Period, the modification of designated utility corridors or the designation of additional utility corridors, if necessary shall be subject to the review and approval of Honeywell, Jersey City, and the Special Master.



Depth to Liner Table		
Minimum Depth	Maximum Depth	Color
2.0	2.5	
2.5	3.0	
3.0	4.0	
4.0	4.5	
4.5	14.6	

Prepared/Date: RJR 06/09/13
Checked/Date: SGS 06/09/13

Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

OPEN SPACE DESIGN STANDARDS
CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec

PROMENADE
LANDSCAPING AND SOIL SPOT
DEPTHS TO WARNING LAYER/LINER
Figure 41

Z:\Projects\HONEWELL\JERSEY CITY\Dsp Design-SA6-CDD\DWG\SAR5\Figure 41 Landscaping Depths.dwg Thu, 06 Jun 2013 - 2:49pm roger.ripley

DESIGN CHANGE BULLETIN

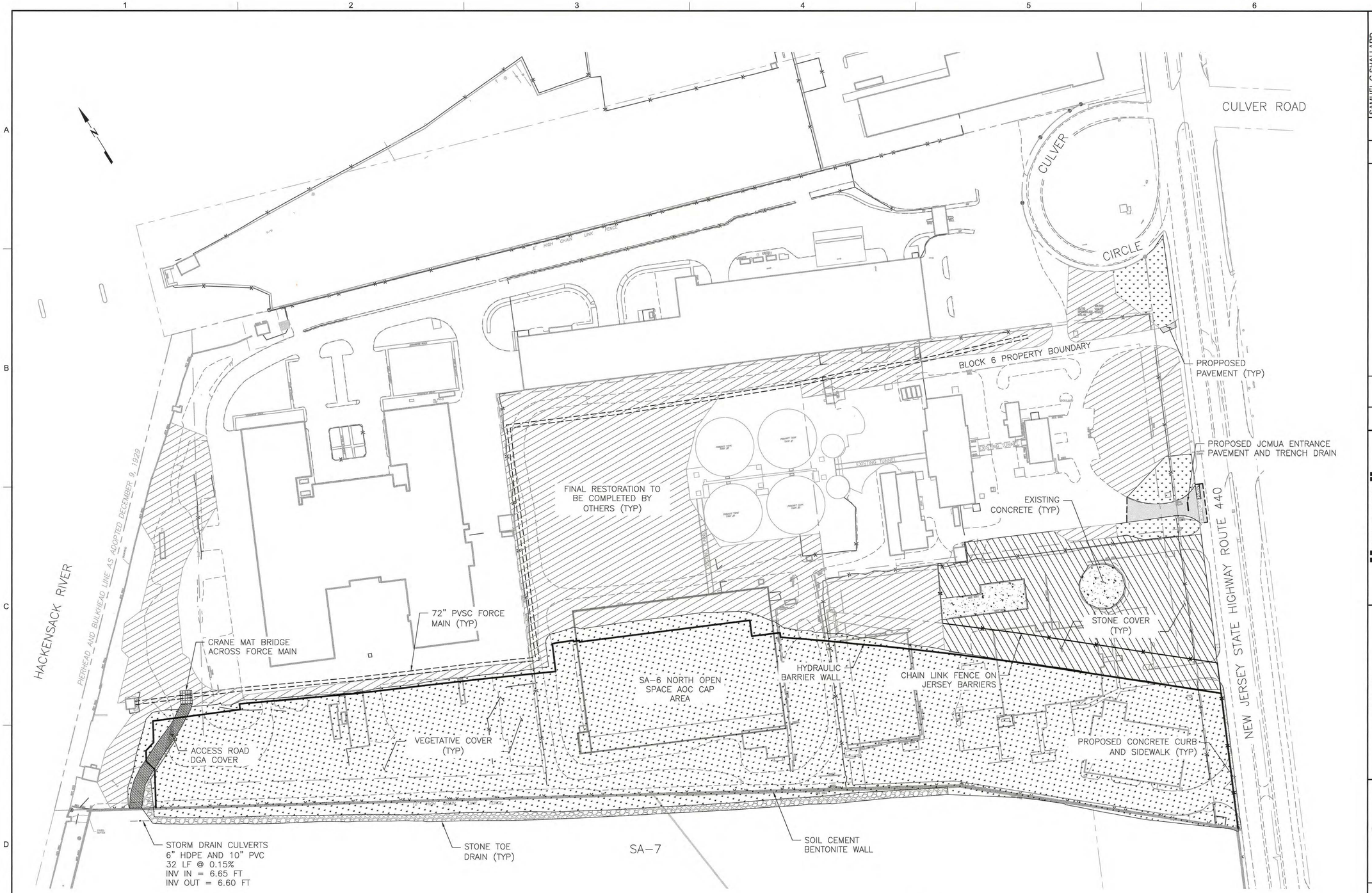
Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 61 **Type:** Minor(a) **Effective Date:** 11/9/16
Project Location: SA-6N **Title:** Site Restoration	**Associated RFI:** ☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. The limits and the type of restoration north of the SA-6N cap has been modified to be integrated with the SA-6N Non Chrome Remedy. This DCB information confirms direction provided to Entact following discussions with JCMUA and the SA-6N Non Chrome Remedy Contractor (OSC). A modified Restoration Drawing CN-127 is attached. The drawing includes the changes in scope that have occurred subsequent to the "IFC" drawings. The following items are specifically noted:

- EA-7 and EA-8: Final Grading of these areas and placement of Historic Fill Cover will be conducted as part of the Non Chrome remedy along the Hackensack River.
- The former JCIA property that has become part of the JCMUA owned Lot 6 will receive a geotextile demarcation layer and 6 inches of crushed stone cover over the historic fill. A survey control grid similar to that used on the SA-6S Development Area will be set out and submitted to AmecFW for approval. The grid will be used to document that the thickness requirements have been met. A survey grid matrix documenting the elevations and depth at each grid point will be provided along with a topographic survey of the surface of the restored area.
- Historic Fill stockpiles west of the former JCMUA digesters will be processed by others.
- The footprint of the Chromium Remedy Construction Water Treatment plant will be finished with crushed stone over an LLDPE demarcation layer.
- A temporary fence will be erected along the Lot 6 Boundary. JCMUA will install a new fence following their re-purposing of the former JCIA property in Lot 6.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** Changed limits of disturbance/interface with the Non Chrome scope and changes in Property Lines **Attachments:** ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** CN-127
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** [signature] **Date:** 12/28/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTE:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.

NO.	DATE	DR	CHK	APV'D	BY	APV'D
2	12/10/16	DCB.061 - REVISED RESTORATION LIMITS			TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM			RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION			TDD	SGS
DSGN		TDD	RJR	TDD	SGS	

SAMUEL G SHALLARD

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

RESTORATION PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd. Suite 113
Lawrenceville, New Jersey 08648-2709
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
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DATE	
PROJ	3480-12-0317
DWG	CN-127
SHEET	32 OF 70

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FILE NAME: C:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North RAR\SA-6 North Restoration AB.dwg PLOT DATE: Wed, 11 Jan 2017 PLOT TIME: 3:51 PM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** DCB 7.4.2 **Type:** Minor(a) **Effective Date:** 12/20/2016
Project Location: SA-6 North and South	**Associated RFI:**
Title: Contingent GW E&I Revisions	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. The Contingent GW system was modified from wells to trenches. This resulted in a reduction in from 9 pumps on the North, and 9 pumps on the South, to 2 pump stations on North, and 1 pump station on South. The electrical and instrumentation (E&I) requirements and associated conduit runs changed accordingly.

This DCB documents a number of minor field changes that have been conveyed by the EOR to Entact during the course of the work and also includes revisions to the (E series) electrical drawings for both SA-6N and SA-6S.

The IFC conduit runs were designed to allow for hard wiring of the piezometric pairs used to monitor the gradients. The piezometric instrumentation conduit run has been eliminated on SA-6S. The piezometric pairs will initially be monitored manually. Manual monitoring may be supplemented by use of data loggers (Solinst Levelogger or similar) in selected wells. Based on the technical advancement in data loggers subsequent to the IFC design, data collection options that do not require hard wiring are a viable and preferred. Wireless data loggers eliminate the risk of damage and associated subsurface repair in the future. As a result, conduit runs for the piezometers were deleted from SA-6S. Due to the progress of work and scheduling, a piezometer conduit was installed on SA-6N; however, wiring has not been installed and it is the engineer's recommendation that wireless installation be used.

Investigation of existing conduit runs at the west end of SA-7 indicated that one 2 inch conduit shown on the IFC design as existing was not present. A new conduit run was added in its place.

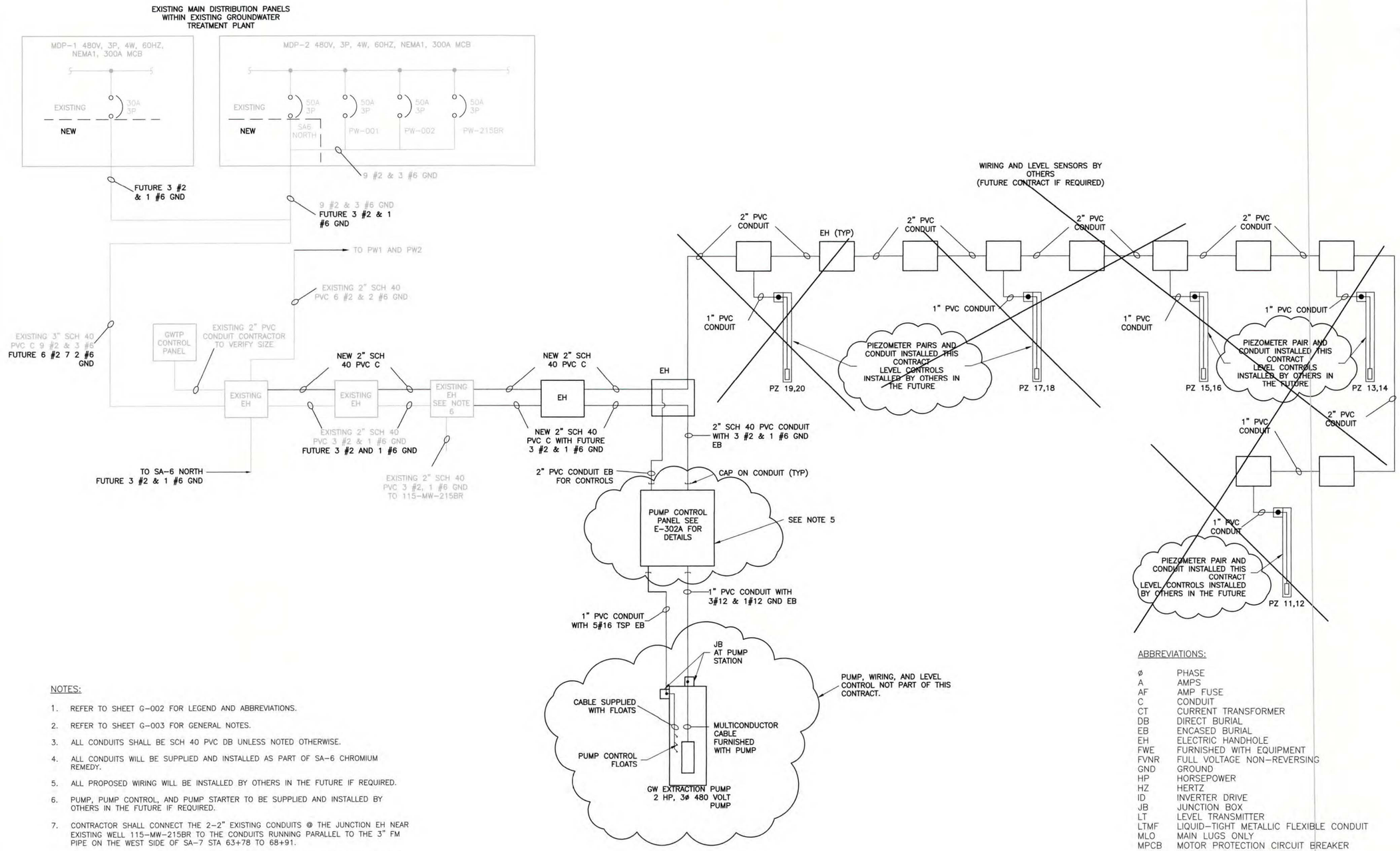
All pump stations, force-mains and E&I conduit runs except as noted above have been installed.

The reason for considering this a "Contingent" System is that modeling predictions indicate that **no pumping** will be required i.e. there is no technical design basis for determining a flow rate. In the absence of a theoretical or verified design flow the forcemains have been sized at 2 inches in diameter and the pumps and associated wiring to operate at 5 GPM. Larger pumps and wire sizes could be readily installed in the unlikely event they are required. As of the date of issue of this DCB, pumping has not been required. This covers a period of more than 12 months on SA-6S, and 4 months on SA-6N. To provide an allowance for pumping at some nominal flow rate, pumps and power have been sized assuming a steady 5 GPM flow rate. The pump and controls design is based on operation of only one pump station at a time. The 5 GPM is based on the capacity of the existing GWTP effluent pumps. The forcemain and pumps have been sized for greater capacity, and greater flows could be readily achieved, if the effluent pump capacity was increased. It is recommended that a final decision on pump sizes, and related wiring and instrumentation, be revisited if it is determined that pumping is required. The GWTP has been modified under separate contract with RSTI to

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:**
	Attachments: ☑ Yes ☐ No
12/21/16	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No

Additional Comments:	**Design Documents Affected:** E-301, E-302 and E-302A (SA-6S). EN-301, EN-302 and EN-302A (SA-6N)
Honeywell (AP) Review:	
Individual: Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 12/21/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.
2. REFER TO SHEET G-003 FOR GENERAL NOTES.
3. ALL CONDUITS SHALL BE SCH 40 PVC DB UNLESS NOTED OTHERWISE.
4. ALL CONDUITS WILL BE SUPPLIED AND INSTALLED AS PART OF SA-6 CHROMIUM REMEDY.
5. ALL PROPOSED WIRING WILL BE INSTALLED BY OTHERS IN THE FUTURE IF REQUIRED.
6. PUMP, PUMP CONTROL, AND PUMP STARTER TO BE SUPPLIED AND INSTALLED BY OTHERS IN THE FUTURE IF REQUIRED.
7. CONTRACTOR SHALL CONNECT THE 2-2" EXISTING CONDUITS @ THE JUNCTION EH NEAR EXISTING WELL 115-MW-215BR TO THE CONDUITS RUNNING PARALLEL TO THE 3" FM PIPE ON THE WEST SIDE OF SA-7 STA 63+78 TO 68+91.
8. PULL STRING/WIRE TO BE INSTALLED IN ALL E&I CONDUIT FOR WIRE INSTALLATION IN THE FUTURE BY OTHERS.
9. THE WIRE SIZING AND CONFIGURATION SHOWN IS BASED ON INFORMATION AVAILABLE AS OF DECEMBER 2016. IF IT IS DETERMINED THAT IT IS NECESSARY TO ACTIVATE THE CONTINGENT GROUNDWATER SYSTEM, PUMP SIZING AND CONTROLS SHOULD BE RE-EVALUATED BASED ON THE PROJECTED PUMPING RATES AND DURATION DETERMINED AT THAT TIME. PUMPS, CONDUITS AND WIRE HAVE BEEN SIZED CONSERVATIVELY. HEAVIER WIRE AND LARGER PUMPS COULD BE INSTALLED IN THE EXISTING CONDUIT IN THE EVENT IT WAS DEEMED NECESSARY.

ABBREVIATIONS:

ø	PHASE
A	AMPS
AF	AMP FUSE
C	CONDUIT
CT	CURRENT TRANSFORMER
DB	DIRECT BURIAL
EB	ENCASED BURIAL
EH	ELECTRIC HANDHOLE
FWE	FURNISHED WITH EQUIPMENT
FVNR	FULL VOLTAGE NON-REVERSING
GND	GROUND
HP	HORSEPOWER
HZ	HERTZ
ID	INVERTER DRIVE
JB	JUNCTION BOX
LT	LEVEL TRANSMITTER
LTMF	LIQUID-TIGHT METALLIC FLEXIBLE CONDUIT
MLO	MAIN LUGS ONLY
MPCB	MOTOR PROTECTION CIRCUIT BREAKER
NEC	NATIONAL ELECTRICAL CODE
P	POLE
PIC	PROCESS INDICATING CONTROLLER
PVC	POLYVINYL CHLORIDE
RGS	RIGID GALVANIZED STEEL
SE	SERVICE ENTRANCE
SPD	SURGE PROTECTIVE DEVICE
TSP	TWISTED SHIELDED PAIR
V	VOLTAGE
W	WIRE

NO.	DATE	REVISION	BY	APVD
3	12/02/16	DCB 007.4.2	SGS	TCK
2	05/20/16	DCB 007.4.1	TDD	SGS
1	08/14/15	DCB 007.4	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD DR RJR CHK SHM APVD SGS

TIMOTHY C. KESSLER
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE03749500

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

ONE LINE DIAGRAM

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

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0 1"

DATE	
PROJ	3480-12-0317
DWG	E-301
SHEET	64 OF 66

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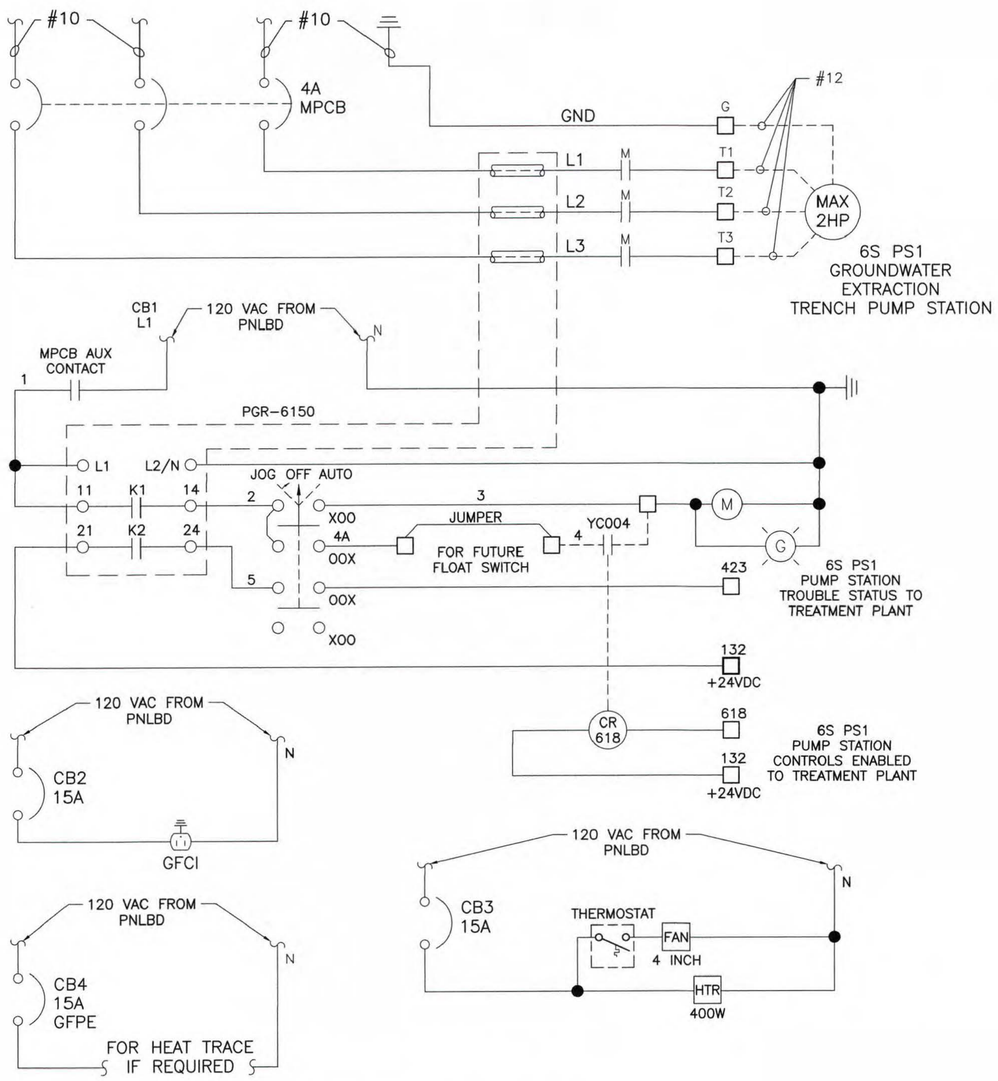
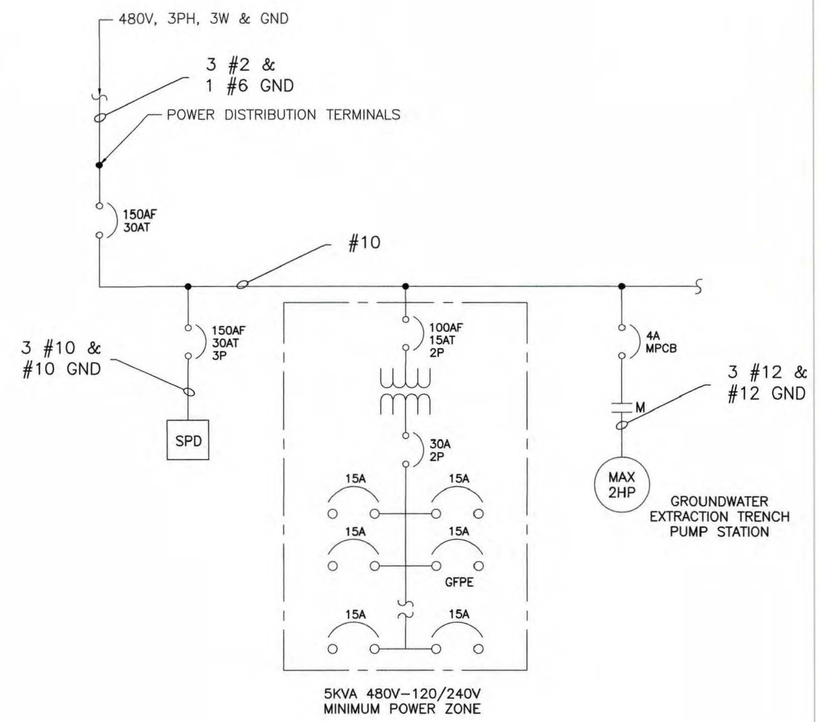


6 SOUTH PUMP STATION CONTROL SCHEMATIC

NTS



TYPICAL PUMP STATION ONE LINE

NTS

NOTE:

THE WIRE SIZING AND CONFIGURATION SHOWN IS BASED ON INFORMATION AVAILABLE AS OF DECEMBER 2016. IF IT IS DETERMINED THAT IT IS NECESSARY TO ACTIVATE THE CONTINGENT GROUNDWATER SYSTEM, PUMP SIZING AND CONTROLS SHOULD BE RE–EVALUATED BASED ON THE PROJECTED PUMPING RATES AND DURATION DETERMINED AT THAT TIME. PUMPS, CONDUITS AND WIRE HAVE BEEN SIZED CONSERVATIVELY. HEAVIER WIRE AND LARGER PUMPS COULD BE INSTALLED IN THE EXISTING CONDUIT IN THE EVENT IT WAS DEEMED NECESSARY.

☐ TERMINAL IN PUMP PANEL

– – – – – – – – – FIELD WIRING

NO.	DATE	REVISION	DSGN	DR	CHK	APVD	BY	APVD
3	12/02/16	DCB 007.4.2	TDD	RJR	SHM	SGS	SGS	TCK
2	05/20/16	DCB 007.4.1				TDD	SGS	
1	08/14/15	DCB 007.4				RJR	SGS	
0	06/07/13	ISSUED FOR CONSTRUCTION				TDD	SHM	

TIMOTHY C. KESSLER, P.E.

NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE03749500

SGS

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134,
140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

WIRING DIAGRAM

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number
24GA28010900

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DATE	
PROJ	3480-12-0317
DWG	E-302
SHEET	65 OF 66

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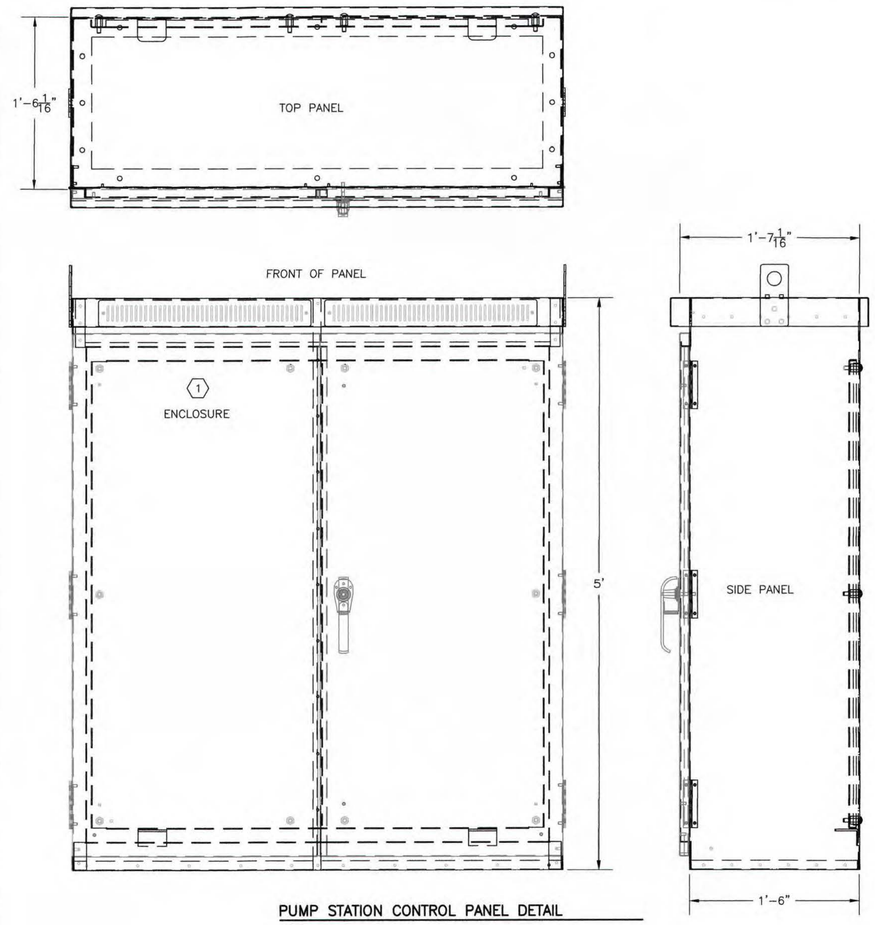
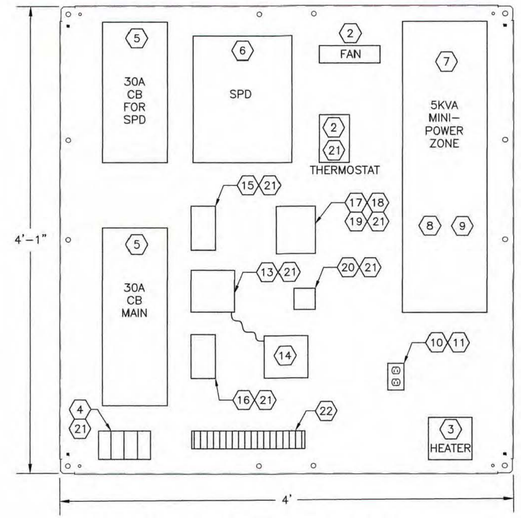
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR65-E-302 Wiring Diagram.dwg PLOT DATE: Mon, 05 Dec 2016 PLOT TIME: 6:14 AM



PUMP STATION CONTROL PANEL DETAIL
NTS



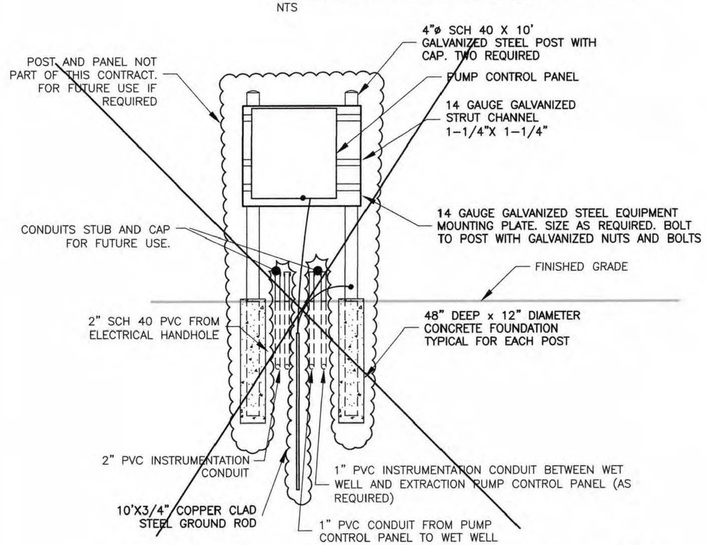
PUMP STATION CONTROL PANEL BACK DETAIL
NTS

NOTE:

THE WIRE SIZING AND CONFIGURATION SHOWN IS BASED ON INFORMATION AVAILABLE AS OF DECEMBER 2016. IF IT IS DETERMINED THAT IT IS NECESSARY TO ACTIVATE THE CONTINGENT GROUNDWATER SYSTEM, PUMP SIZING AND CONTROLS SHOULD BE RE-EVALUATED BASED ON THE PROJECTED PUMPING RATES AND DURATION DETERMINED AT THAT TIME. PUMPS, CONDUITS AND WIRE HAVE BEEN SIZED CONSERVATIVELY. HEAVIER WIRE AND LARGER PUMPS COULD BE INSTALLED IN THE EXISTING CONDUIT IN THE EVENT IT WAS DEEMED NECESSARY.

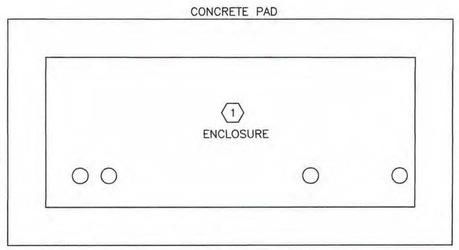
BILL OF MATERIALS

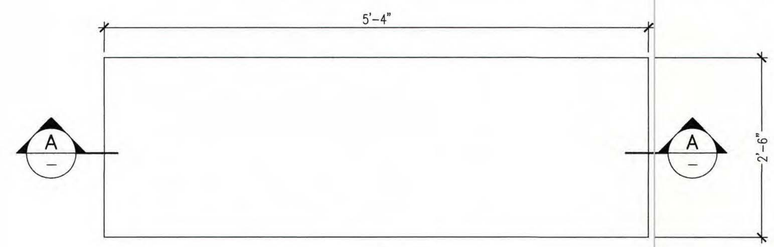
ITEM	QTY	DESCRIPTION	MFG	PART NO.
1	1	60" H x 52" W x 18" D 2-Door NEMA 3R Pad-Mount Enclosure with back panel	Hoffman or Equal	A60R5218FSLP & A49P48N
2	1	4 inch cooling fan with bracket and thermostat, 120 Vac	Hoffman or Equal	A4AXFN, ABRKT4, & ATEMNO
3	1	400 Watt heater with fan and thermostat, 120 Vac	Hoffman or Equal	DAH4001B
4	4	175A Power Distribution Terminal Block, #2/0 to #14 AWG Wire Size Range, IP20 Finger-Safe	Bussmann or Equal	PDBFS220
5	2	Square D H-Frame, 30A, 3P, 600V, Thermal-Magnetic Circuit Breaker and NEMA 1 Surface -Mount Enclosure	Square D or Equal	HDL36030 & J250S
6	1	Type 1 Surge Protective Device, 480V, 3 Phase Delta, 3-Wire + Ground with Transient Filter and Surge Counter	Joslyn or Equal	JSP240-3D480-FB
7	1	Square D Mini-Power Zone, 5kVA, 480V-240/120V, NEMA 3R Enclosure with Primary & Secondary Main Breakers	Square D or Equal	MPZ5S40F
8	5	Square D Type QO Plug-On Circuit Breaker, 15A, 1P, 120/240V for MPZ Panelboard	Square D or Equal	QO115
9	1	Square D Type QO Plug-On Circuit Breaker, 15A, 1P, 120/240V with 30 mA Ground Fault Protection for MPZ Panelboard	Square D or Equal	QO115EPD
10	1	Duplex 15A, 125V, GFCI Type Receptacle, Heavy Duty, 2P, 3-Wire Grounded, Ivory	Hubbell or Equal	GF15IL
11	1	Handy Box and Receptacle Cover	Raco or Equal	8660 & 864
12	1	Copper Bonded Steel Ground Rod, 3/4" Dia x 10 Ft Long	Erico or Equal	613400
13	1	3-Phase Motor Protection Relay, 120Vac Control Power, 13 Protective Functions, Trip and Alarm Fail-Safe Relays	Littelfuse Powr-Gard	PGR-6150-120
14	1	Operator Interface for Motor Protection Relay	Littelfuse Powr-Gard	PGR-6150-OPI
15	1	Motor Protection Circuit Breaker, Red/Yellow Lockable Knob, 480v, 3 PH, 60Hz 2.5 to 4A Adjustable Range with Front-Mounted N.O. Aux Contact	Allen-Bradley	140M-C2E-B40-KY & 140M-C-AFA10
16	1	IEC Contactor, 9A, 480V, 3 Ph, 60 Hz 120V, 1 N.O. Aux Contact, 60Hz Coil	Allen-Bradley	100-C09D10
17	1	3 Position Selector Switch, Spring-Return from Left, 2 Contact Blocks with Hand-Off-Auto Legend Plate	Allen-Bradley	800T-J4B & 800T-X511
18	1	Green LED Pilot Light, 120Vac, 60 Hz	Allen-Bradley	800T-QH2G
19	1	NEMA 4/13 Die Cast, 2-Hole Surface Mount Pushbutton Enclosure	Allen-Bradley	800T-2TZ
20	1	DPDT Plug-In Relay, 24VDC Coil, LED, Push-to-Test and Manual Override and Socket	Allen-Bradley	700-HA32Z24-3-4 & 700-HN100
21	Lot	DIN Rail #3 for Mounting Components as required	Allen-Bradley	199-DR1
22	Lot	DIN Rail, 30A Terminal Blocks, End Anchors, End Barriers as required	Allen-Bradley	1492-N22, 1492-HM1 1492-N23, 1492-NM36



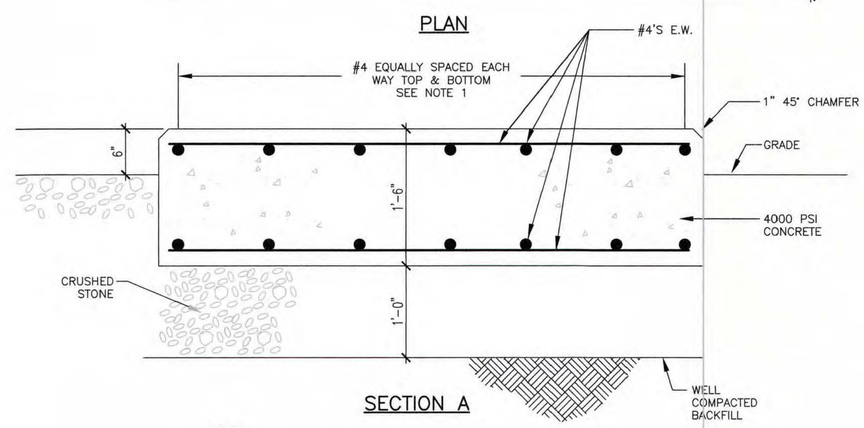
EXTRACTION WELL PUMP CONTROL PANEL DETAIL
NTS

AO
TYP E-302A





PLAN



SECTION A

NOTES:

1. 7 BARS PERPENDICULAR TO 5'-4" DIMENSION TOP AND BOTTOM.
   4 BARS PERPENDICULAR TO 2'-6" DIMENSION TOP AND BOTTOM

CONTROL PANEL PAD DETAIL
NTS

TIMOTHY C. KESSLER, P.E.
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE03749500

NO.	DATE	DR	CHK	APVD	BY	REVISION
3	12/02/16	TDD	RJR	SHM	TDD	DCB 007.4.2
2	05/20/16				TDD	DCB 007.4.1
1	08/14/15				RJR	DCB 007.4
0	06/07/13				TDD	ISSUED FOR CONSTRUCTION

DSGN TDD DR RJR CHK SHM APVD SGS

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

WIRING DIAGRAM

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	E-302A
SHEET	65A OF 66

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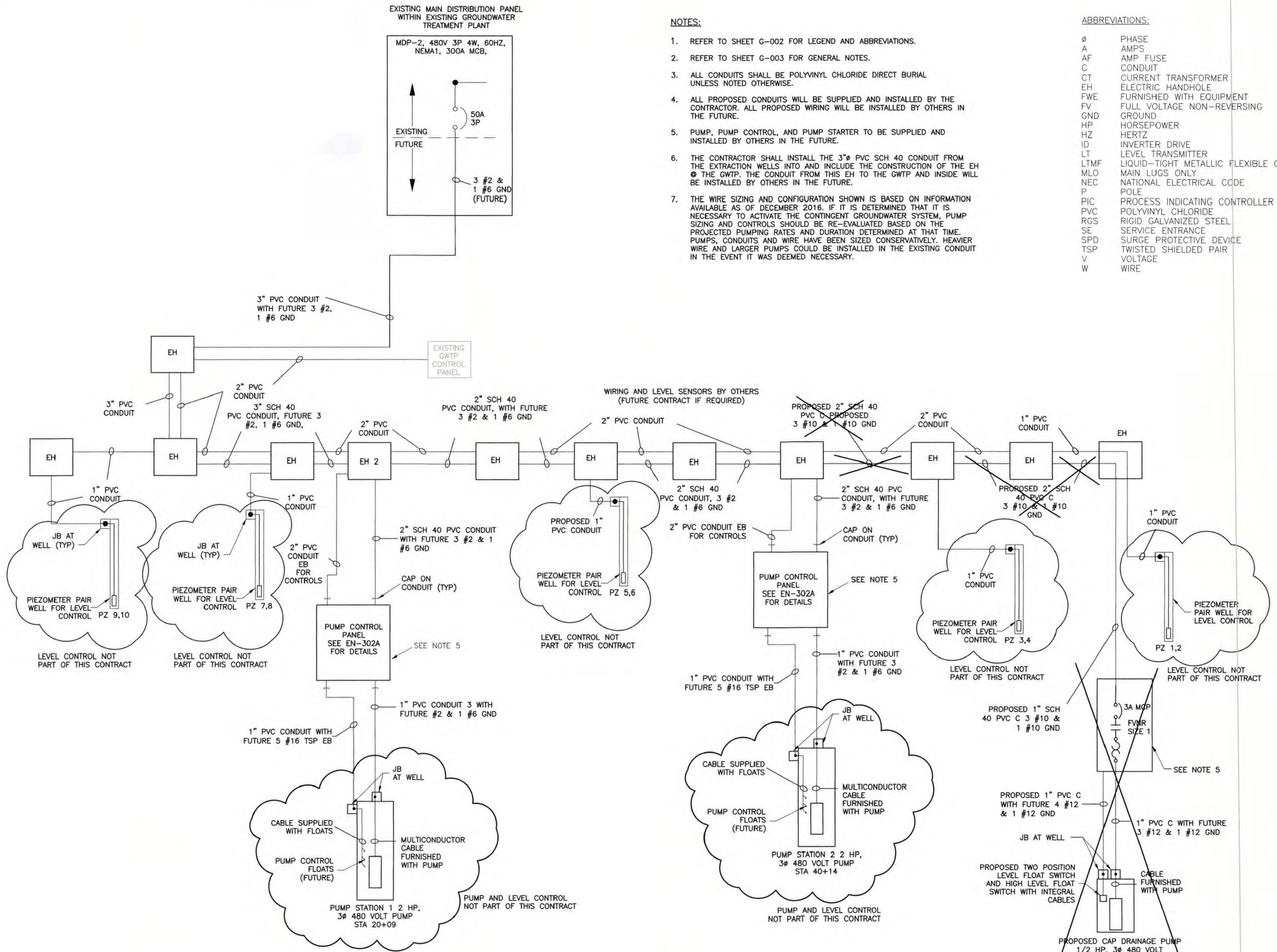

NOTES:

1. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.
2. REFER TO SHEET G-003 FOR GENERAL NOTES.
3. ALL CONDUITS SHALL BE POLYVINYL CHLORIDE DIRECT BURIAL UNLESS NOTED OTHERWISE.
4. ALL PROPOSED CONDUITS WILL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR. ALL PROPOSED WIRING WILL BE INSTALLED BY OTHERS IN THE FUTURE.
5. PUMP, PUMP CONTROL, AND PUMP STARTER TO BE SUPPLIED AND INSTALLED BY OTHERS IN THE FUTURE.
6. THE CONTRACTOR SHALL INSTALL THE 3"ø PVC SCH 40 CONDUIT FROM THE EXTRACTION WELLS INTO AND INCLUDE THE CONSTRUCTION OF THE EH @ THE GWTP. THE CONDUIT FROM THIS EH TO THE GWTP AND INSIDE WILL BE INSTALLED BY OTHERS IN THE FUTURE.
7. THE WIRE SIZING AND CONFIGURATION SHOWN IS BASED ON INFORMATION AVAILABLE AS OF DECEMBER 2016. IF IT IS DETERMINED THAT IT IS NECESSARY TO ACTIVATE THE CONTINGENT GROUNDWATER SYSTEM, PUMP SIZING AND CONTROLS SHOULD BE RE-EVALUATED BASED ON THE PROJECTED PUMPING RATES AND DURATION DETERMINED AT THAT TIME. PUMPS, CONDUITS AND WIRE HAVE BEEN SIZED CONSERVATIVELY. HEAVIER WIRE AND LARGER PUMPS COULD BE INSTALLED IN THE EXISTING CONDUIT IN THE EVENT IT WAS DEEMED NECESSARY.

ABBREVIATIONS:

ø	PHASE
A	AMPS
AF	AMP FUSE
C	CONDUIT
CT	CURRENT TRANSFORMER
EH	ELECTRIC HANDHOLE
FWE	FURNISHED WITH EQUIPMENT
FV	FULL VOLTAGE NON-REVERSING
GND	GROUND
HP	HORSEPOWER
HZ	HERTZ
ID	INVERTER DRIVE
LT	LEVEL TRANSMITTER
LTMF	LIQUID-TIGHT METALLIC FLEXIBLE CONDUIT
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRICAL CODE
P	POLE
PIC	PROCESS INDICATING CONTROLLER
PVC	POLYVINYL CHLORIDE
RGS	RIGID GALVANIZED STEEL
SE	SERVICE ENTRANCE
SPD	SURGE PROTECTIVE DEVICE
TSP	TWISTED SHIELDED PAIR
V	VOLTAGE
W	WIRE

NO.	DATE	REVISION	BY	APVD
3	12/02/16	DCB 007.4.2	SGS	TCK
2	05/06/16	DCB 007.2.2	TDD	SGS
1	09/02/15	DCB 007.2.1	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	GCP	SGS

DSGN GCP | DR RJR | CHK GCP | APVD SGS

TIMOTHY C. KESSLER
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE03749500

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

ONE LINE DIAGRAM

amec
Environment & Infrastructure, Inc.
200 Ainsworth Avenue, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28019500

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DATE	
PROJ	3480-12-0317
DWG	EN-301
SHEET	67 OF 70

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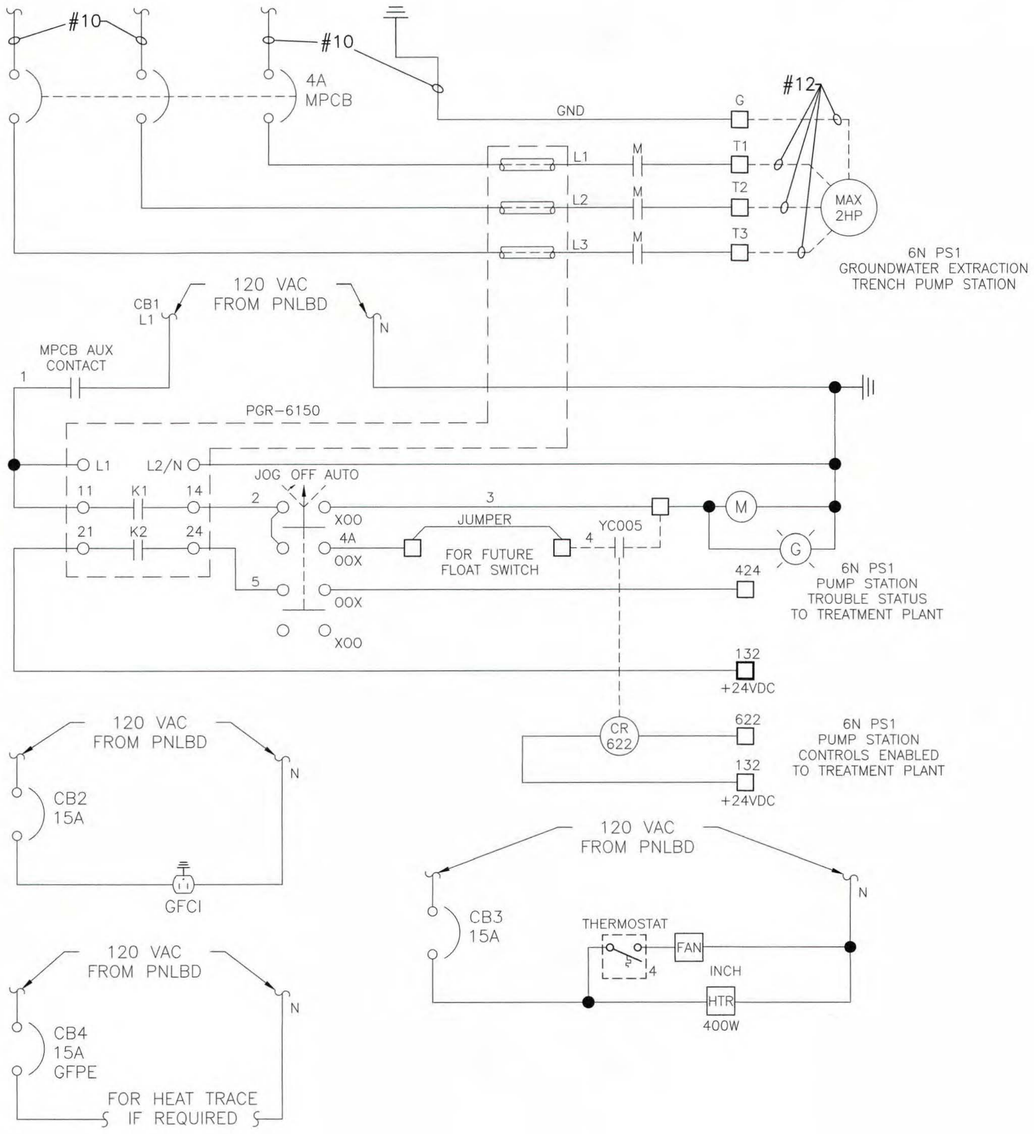
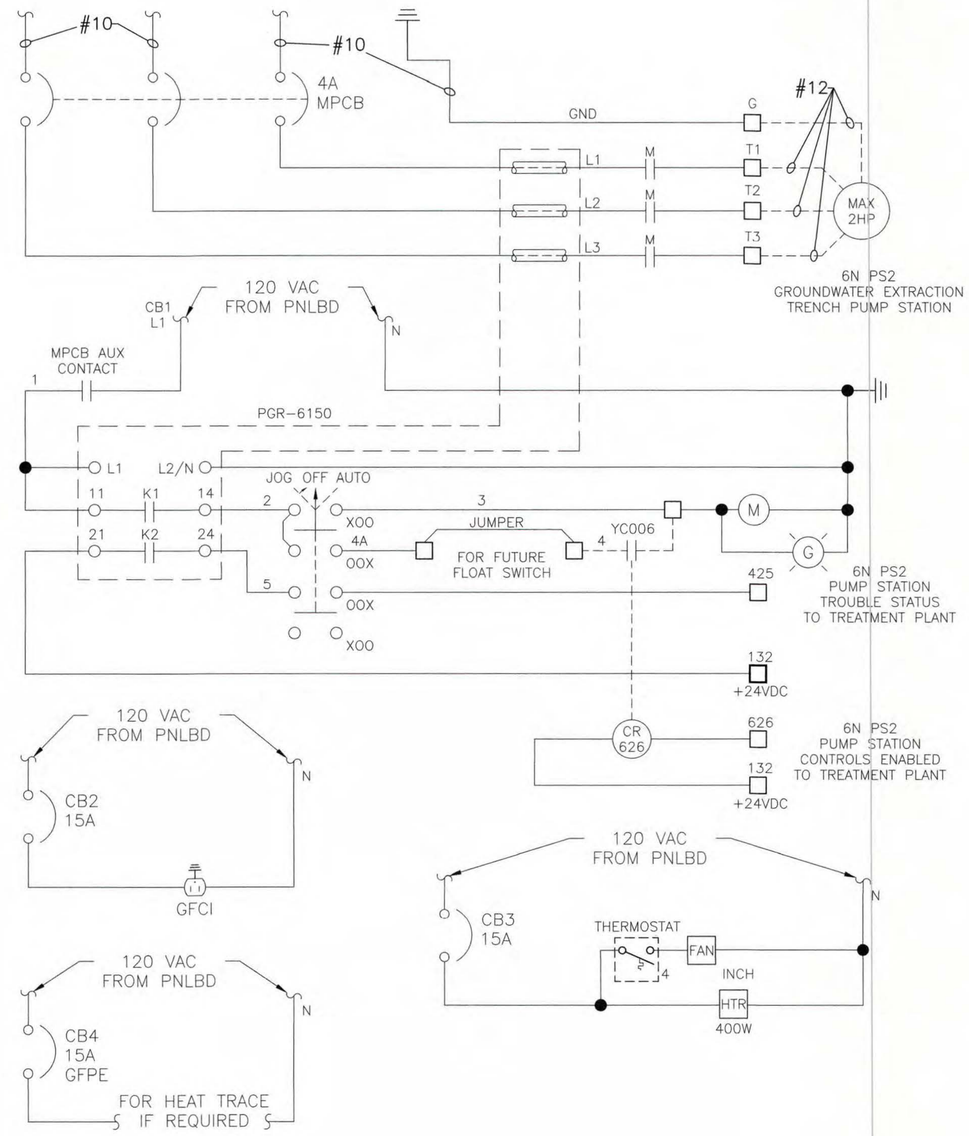
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\NCR67-EN-301 ONE LINE DIAGRAM.dwg PLOT DATE: Thu, 15 Dec 2016 PLOT TIME: 3:43 PM



6 NORTH PUMP STATION 1 CONTROL SCHEMATIC

NTS



6 NORTH PUMP STATION 2 CONTROL SCHEMATIC

NTS

NOTE:

THE WIRE SIZING AND CONFIGURATION SHOWN IS BASED ON INFORMATION AVAILABLE AS OF DECEMBER 2016. IF IT IS DETERMINED THAT IT IS NECESSARY TO ACTIVATE THE CONTINGENT GROUNDWATER SYSTEM, PUMP SIZING AND CONTROLS SHOULD BE RE-EVALUATED BASED ON THE PROJECTED PUMPING RATES AND DURATION DETERMINED AT THAT TIME. PUMPS, CONDUITS AND WIRE HAVE BEEN SIZED CONSERVATIVELY. HEAVIER WIRE AND LARGER PUMPS COULD BE INSTALLED IN THE EXISTING CONDUIT IN THE EVENT IT WAS DEEMED NECESSARY.

☐ TERMINAL IN PUMP PANEL

- - - - - - - - - FIELD WIRING

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
3	12/02/16	DCB 007.4.2				SGS	TCK
2	05/06/16	DCB 007.2.2				TDD	SGS
1	09/02/15	DCB 007.2.1				TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION				GCP	SGS
		REVISION	GCP	RJR	GCP		SGS

TIMOTHY C. KESSLER

NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE03749500

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Honeywell
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CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

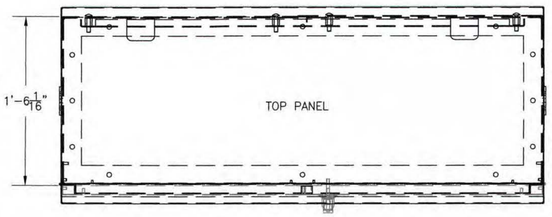
ONE LINE DIAGRAM

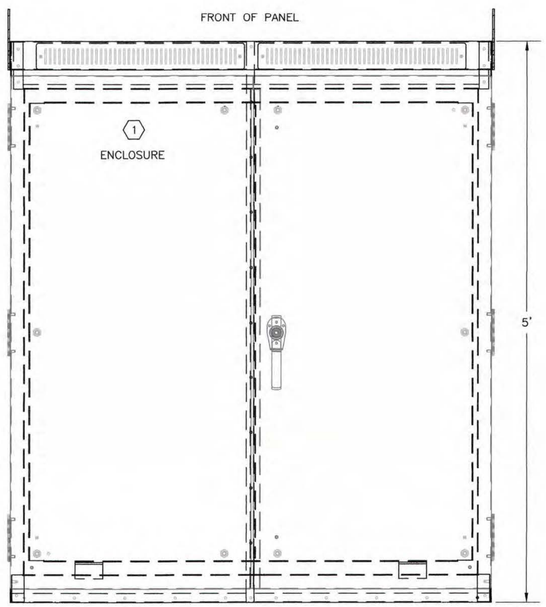
amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 890-2929
NJ Certificate of Authorization Number
24GA28010500

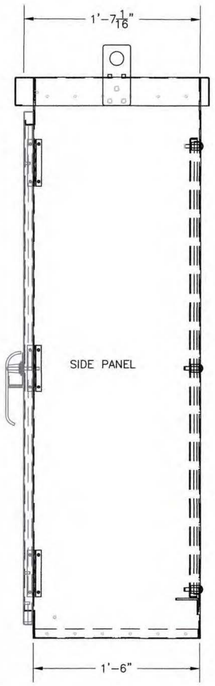
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	EN-302
SHEET	68 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\NCR68-EN-302 WIRING DIAGRAM.dwg PLOT DATE: Fri, 02 Dec 2016 PLOT TIME: 2:05 PM







PUMP STATION CONTROL PANEL DETAIL

NTS

NOTE:

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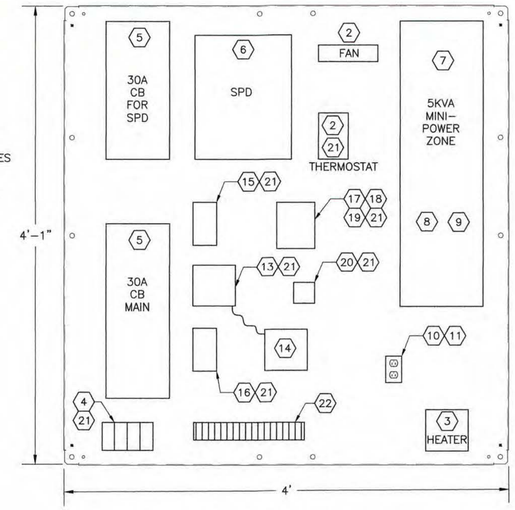
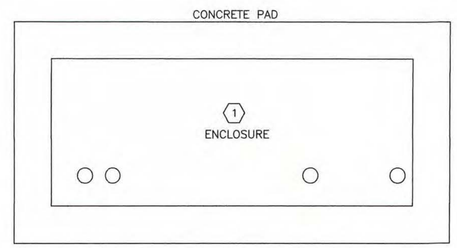
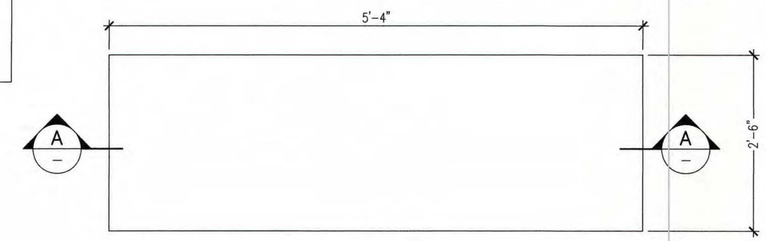


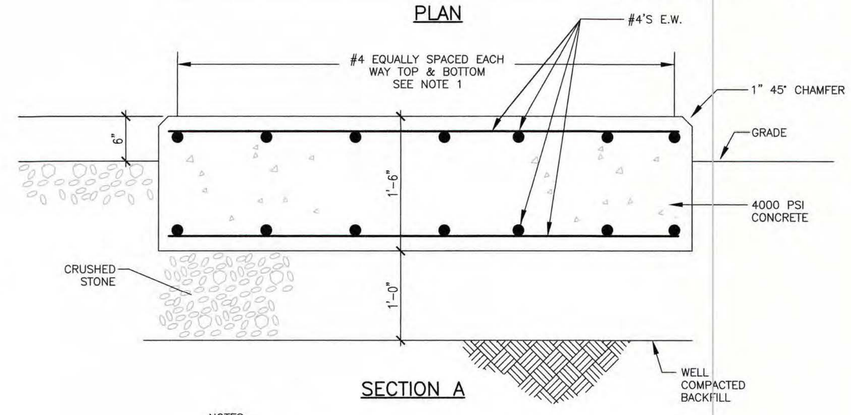
EXTRACTION WELL PUMP CONTROL PANEL BACK DETAIL

NTS





PLAN



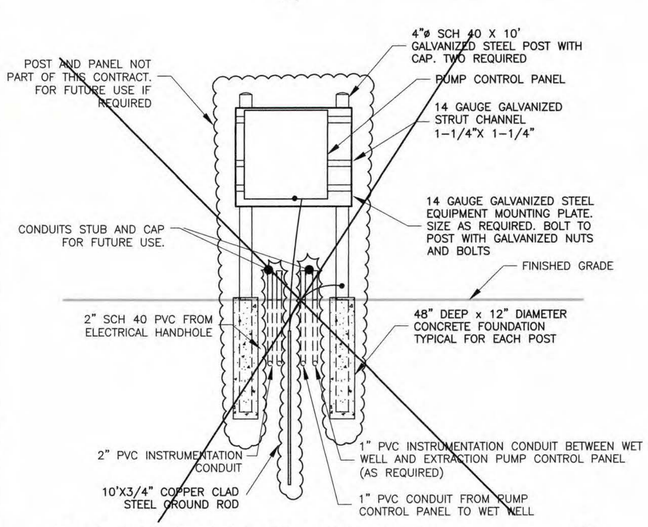
SECTION A

NOTES:

1. 7 BARS PERPENDICULAR TO 5'-4" DIMENSION TOP AND BOTTOM.
   4 BARS PERPENDICULAR TO 2'-6" DIMENSION TOP AND BOTTOM

CONTROL PANEL PAD DETAIL

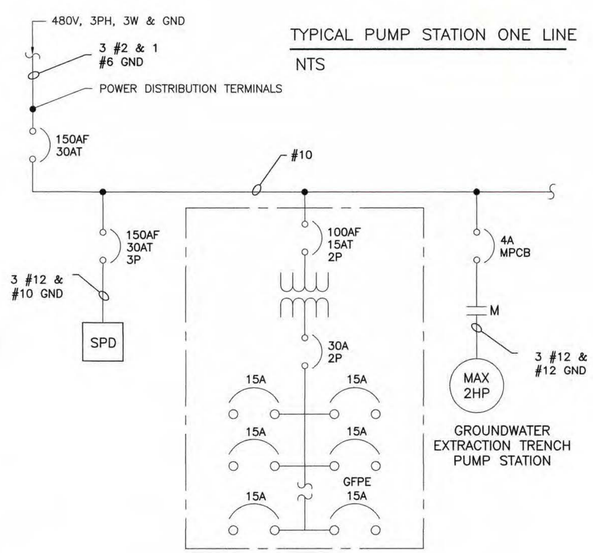
NTS



PUMP STATION CONTROL PANEL DETAIL

NTS

AQ
TYP E-302A



TYPICAL PUMP STATION ONE LINE

NTS

BILL OF MATERIALS

ITEM	QTY	DESCRIPTION	MFG	PART NO.
1	1	60" H x 52" W x 18" D 2-Door NEMA 3R Pad-Mount Enclosure with back panel	Hoffman or Equal	A60R5218FSLP & A49P48N
2	1	4 inch cooling fan with bracket and thermostat, 120 Vac	Hoffman or Equal	A4AXFN, ABRKT4, & ATEMNO
3	1	400 Watt heater with fan and thermostat, 120 Vac	Hoffman or Equal	DAH4001B
4	4	175A Power Distribution Terminal Block, #2/0 to #14 AWG Wire Size Range, IP20 Finger-Safe	Bussmann or Equal	PDBFS220
5	2	Square D H-Frame, 30A, 3P, 600V, Thermal-Magnetic Circuit Breaker and NEMA 1 Surface -Mount Enclosure	Square D or Equal	HDL36030 & J250S
6	1	Type 1 Surge Protective Device, 480V, 3 Phase Delta, 3-Wire + Ground with Transient Filter and Surge Counter	Joslyn or Equal	JSP240-3D480-FB
7	1	Square D Mini-Power Zone, 5kVA, 480V-240/120V, NEMA 3R Enclosure with Primary & Secondary Main Breakers	Square D or Equal	MPZ5S40F
8	5	Square D Type QO Plug-On Circuit Breaker, 15A, 1P, 120/240V for MPZ Panelboard	Square D or Equal	QO115
9	1	Square D Type QO Plug-On Circuit Breaker, 15A, 1P, 120/240V with 30 mA Ground Fault Protection for MPZ Panelboard	Square D or Equal	QO115EPD
10	1	Duplex 15A, 125V, GFCI Type Receptacle, Heavy Duty, 2P, 3-Wire Grounded, Ivory	Hubbell or Equal	GF15IL
11	1	Handy Box and Receptacle Cover	Raco or Equal	8660 & 864
12	1	Copper Bonded Steel Ground Rod, 3/4" Dia x 10 Ft Long	Erico or Equal	613400
13	1	3-Phase Motor Protection Relay, 120Vac Control Power, 13 Protective Functions, Trip and Alarm Fail-Safe Relays	Littelfuse Powr-Gard	PGR-6150-120
14	1	Operator Interface for Motor Protection Relay	Littelfuse Powr-Gard	PGR-6150-OPI
15	1	Motor Protection Circuit Breaker, Red/Yellow Lockable Knob, 480v, 3 PH, 60Hz 2.5 to 4A Adjustable Range with Front-Mounted N.O. Aux Contact	Allen-Bradley	140M-C2E-B40-KY & 140M-C-AFA10
16	1	IEC Contactor, 9A, 480V, 3 Ph, 60 Hz 120V, 1 N.O. Aux Contact, 60Hz Coil	Allen-Bradley	100-C09D10
17	1	3 Position Selector Switch, Spring-Return from Left, 2 Contact Blocks with Hand-Off-Auto Legend Plate	Allen-Bradley	800T-J4B & 800T-X511
18	1	Green LED Pilot Light, 120Vac, 60 Hz	Allen-Bradley	800T-QH2G
19	1	NEMA 4/13 Die Cast, 2-Hole Surface Mount Pushbutton Enclosure	Allen-Bradley	800T-2TZ
20	1	DPDT Plug-In Relay, 24VDC Coil, LED, Push-to-Test and Manual Override and Socket	Allen-Bradley	700-HA32Z24-3-4 & 700-HN100
21	Lot	DIN Rail #3 for Mounting Components as required	Allen-Bradley	199-DR1
22	Lot	DIN Rail, 30A Terminal Blocks, End Anchors, End Barriers as required	Allen-Bradley	1492-N22, 1492-HM1 1492-N23, 1492-NM36

NO.	DATE	REVISION	BY	APVD
3	12/02/16	DCB 007.4.2	TDD	SGS
2	05/20/16	DCB 007.4.1	TDD	SGS
1	08/14/15	DCB 007.4	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD DR RJR CHK SHM APVD SGS

TIMOTHY C. KESSLER, P.E.
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE03749500

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

WIRING DIAGRAM

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(609) 587-2823
NJ Certificate of Authorization Number 24GA28011900

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DATE	
PROJ	3480-12-0317
DWG	EN-302A
SHEET	65A OF 70

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 054.6 **Type:** Minor(a) **Effective Date:** September 2016
Project Location: SA-6 North	**Associated RFI:**
Title: Interim Grading SA-6N	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. This DCB includes several revisions to the interim/final grading and SESCP drawings on the SA-6 North Chromium Remedy. The changes are depicted on the listed Drawings. This DCB confirms directives issued to Entact in the field.

The minor Grading Changes include localized areas as noted below

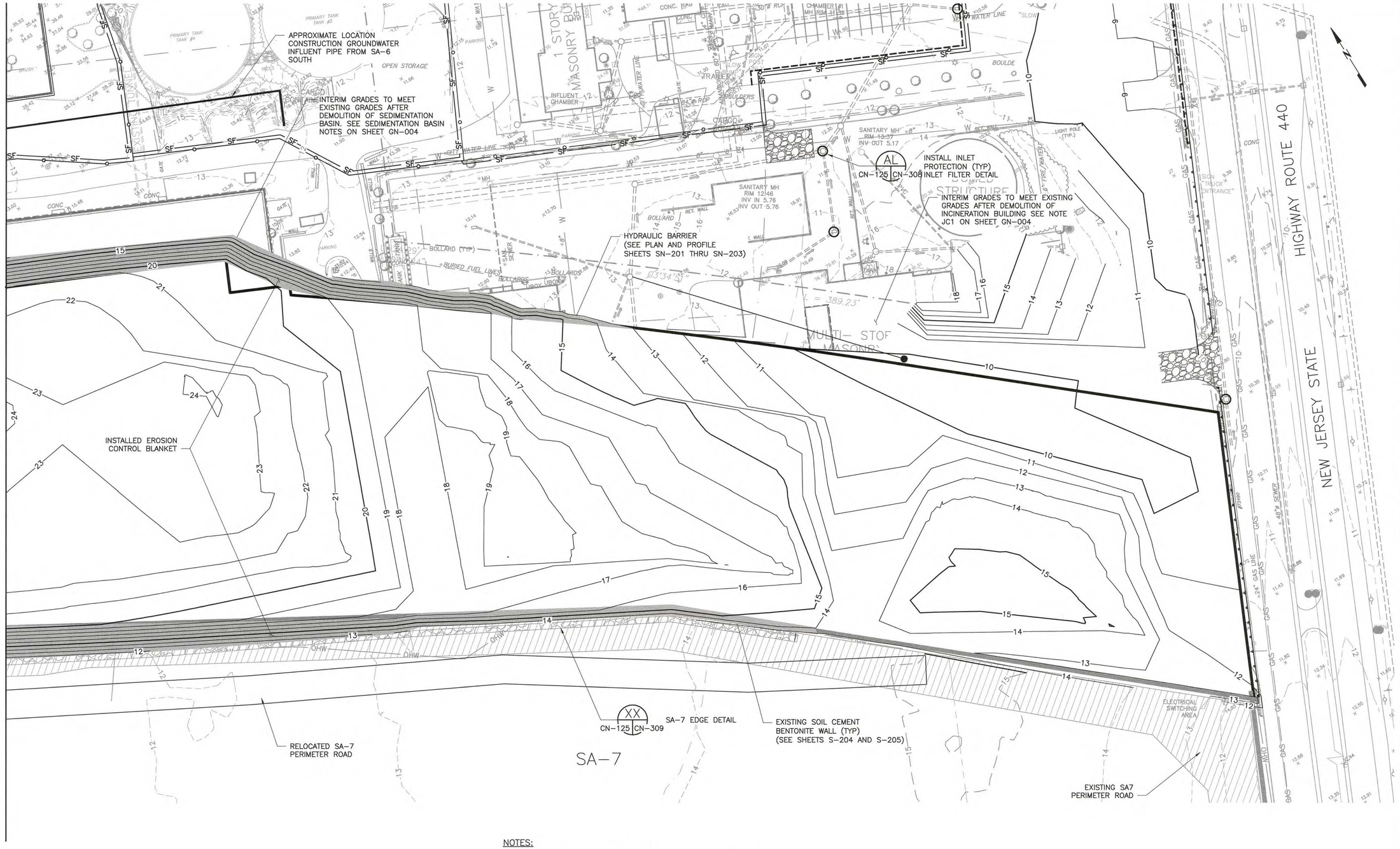
- Relocation and grading of the drainage swale along the temporary road at the west end of the Cap. Flow has been directed to the SA-7 outfall in lieu of sheet-flow over the Hackensack bulkhead embankment.
- Adding fill along the eastern 300 ft of the SA-7/SA-6N boundary on SA-6N to provide for a gradual transition from the SA-7 paved road to the SA-6N interim grades. This will be a temporary condition to improve surface drainage pending redevelopment.

SESCP changes include the following

- Installation of a crushed stone toe drain along SA-7 and use of the former asphalt roadway to conduct stormwater to the Hackensack River in lieu of the in-slope parabolic swale shown in the IFC design on both SA-6N.
- Installation of Erosion Control mat on the steep edge slopes on the north and south sides of both SA-6N. Conditions will continue to be observed and supplemental measures implemented if necessary
- Installation of supplemental diversion berms to direct water through the culverts under the temporary road.
- Installation/restoration of stone check dams near the surface water outfall to the Hackensack River on SA-7. The precise location and dimension of the check dams will be field engineered based on observed flow during storm events.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** **Attachments:** ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** Drawings: CN - 125 CN - 126
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 12/01/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes **(b)** ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS BASED ON MINIMAL FILL THICKNESS REQUIREMENTS. FINAL GRADES MAY VARY AFTER CONTRACTIBILITY REVIEW.
4. REFER TO APPENDIX K CONCEPTUAL REDEVELOPMENT PLANS (100% REMEDIAL DESIGN REPORT) FOR FUTURE UTILITY ALIGNMENTS AND PRELIMINARY ALTERNATIVE GRADING CONCEPTS.
5. THE PRECISE LOCATION AND DIMENSION OF THE CHECK DAMS AND DIVERSION DAMS WILL BE FIELD LOCATED/ENGINEERED BASED ON OBSERVED FLOW DURING STORM EVENTS.

NO.	DATE	DSGN	DR	REVISION	CHK	APVD
2	11/29/16	TDD	RJR	DCB 054.6	TDD	SGS
1	05/13/16	TDD	SGS	DCB 054.3	TDD	SGS
0	06/07/13	TDD	SGS	ISSUED FOR CONSTRUCTION	TDD	SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
115 TABOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

INTERIM GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Cert of Authorization 24GA28018000

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
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DATE	
PROJ	3480-12-0317
DWG	CN-125
SHEET	30 OF 70

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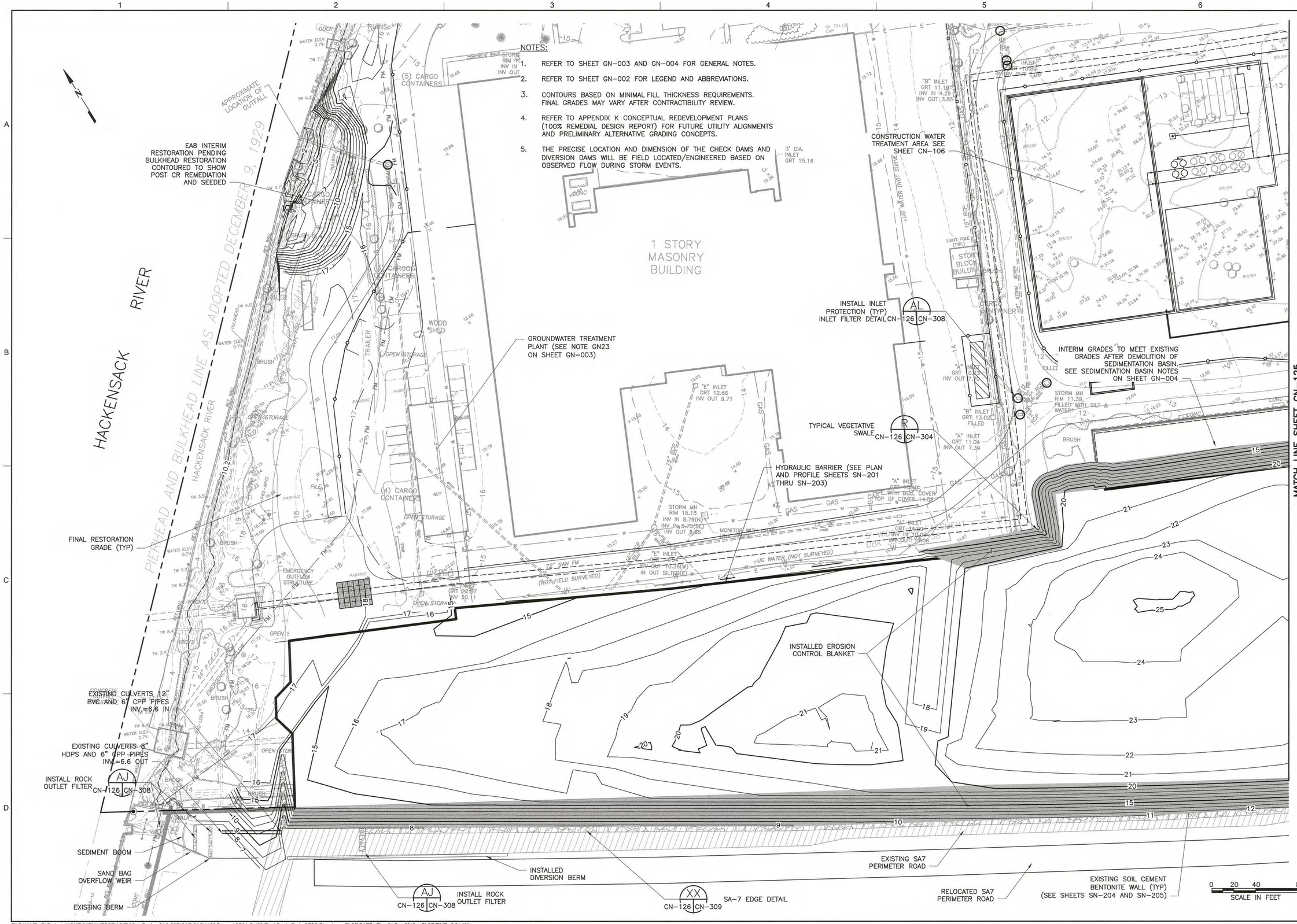
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR30-C-125 Final Grade Drain SESC Plan.dwg PLOT DATE: Thu, 01 Dec 2016 PLOT TIME: 8:56 AM

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS BASED ON MINIMAL FILL THICKNESS REQUIREMENTS. FINAL GRADES MAY VARY AFTER CONTRACTIBILITY REVIEW.
4. REFER TO APPENDIX K CONCEPTUAL REDEVELOPMENT PLANS (100% REMEDIAL DESIGN REPORT) FOR FUTURE UTILITY ALIGNMENTS AND PRELIMINARY ALTERNATIVE GRADING CONCEPTS.
5. THE PRECISE LOCATION AND DIMENSION OF THE CHECK DAMS AND DIVERSION DAMS WILL BE FIELD LOCATED/ENGINEERED BASED ON OBSERVED FLOW DURING STORM EVENTS.



NO.	DATE	DR	CHK	APVD	REVISION
3	11/29/16	TDD	SGS		DCB 054.6
2	05/13/16	TDD	SGS		DCB 054.3
1	09/13/13	RJR	SGS		HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM
0	06/07/13	TDD	SGS		09/13/13

DSGN TDD | DR RJR | CHK TDD | APVD

BY APVD

SAMUEL G. SHALLARD

SGS NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
115 TABOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

INTERIM GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Cert of Authorization 24GA28018800

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-126
SHEET	31 OF 70

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR31-C-126 Final Grade Drain SESC Plan.dwg PLOT DATE: Thu, 01 Dec 2016 PLOT TIME: 9:01 AM

Honeywell RES

→Honeywell.com

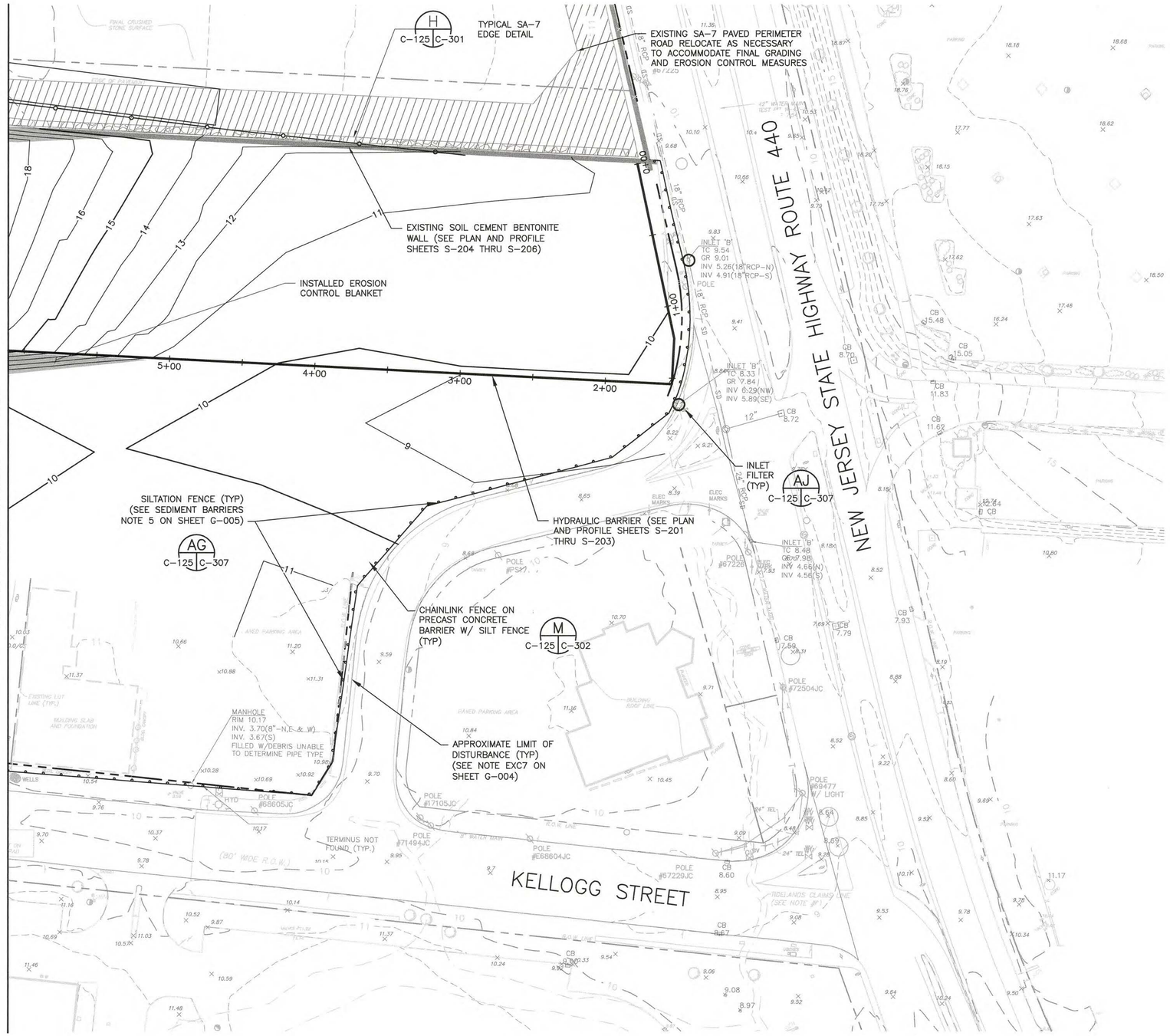
DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 030.2 **Type:** Minor(a) **Effective Date:** September 2016
Project Location: SA-6 South	**Associated RFI:**
Title: Cap Final Grading and Development Area grading and Restoration	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. This DCB summarizes several field engineering directions provided to Entact. This DCB includes several minor revisions to the final grading in the SA-6 South Chromium Remedy Cap and Development Areas. The changes have been made to improve surface water flows and enhance Sedimentation and Erosion Control Drawings C-125, C-126 and C-127 cover the area of both the Cap and the Development Area. The Restoration details previously shown on drawing C-128 have been added to these three drawings. C-128 has been deleted from the set.

- Installation of a crushed stone toe drain along SA-7 toe, and use of the former asphalt roadway to conduct stormwater to the Hackensack River, in lieu of the "in-slope" parabolic swale shown in the IFC design. The drain is located where the toe of slope temporarily terminates in SA-7 pending raising SA-7 to the Bayfront Development grades. The toe drain is considered to be more resilient than the original swale design and will provide equal or better sedimentation and erosion control.
- Adding topsoil over the eastern 300 ft. of the cap along SA-7/SA-6S boundary to provide for a gradual transition from the SA-7 paved road to the SA-6S Final Grades.
- Extent of demarcation geotextile, crushed stone, and DGA placed over the Development Area to meet covering of Historic Fill regulations. The restoration grades were modified to accommodate placement of gravel over foundations and pavement in a number of areas that were not included in the IFC restoration drawing.
- Installation of Erosion Control mat on the steep edge slopes on the north and south sides of SA-6S. The precise limits of mat will be determined in the field based on observed performance.
- Installation of supplement diversion berms to direct water through the culverts under the temporary roads. The location and size of the berms shown on the drawings may be modified in the field based on observation of the performance in storm events
- Installation/restoration of stone check dams and diversion dams near the surface water outfall to the Hackensack River on SA-7. The precise location and dimension of the check dams will be field engineered based on observed flow during storm events.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** Documents minor changes in grading and improved stormwater control. **Attachments:** ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** C-125, C-126, C-127. C-128 deleted.
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** [signature] **Date:** 12/01/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	



NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. THE PRECISE LOCATION AND DIMENSION OF THE CHECK DAMS AND DIVERSION DAMS WILL BE FIELD LOCATED/ENGINEERED BASED ON OBSERVED FLOW DURING STORM EVENTS.

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD

NO.	DATE	DSGN	DR	CHK	BY	APVD	REVISION
3	11/29/16	TDD			TDD	SGS	DCB 030.2
2	4/15/16	TDD			TDD	SGS	DCB 30.1 - REVISED GRADING AND RESTORATION
1	11/16/15	TDD			TDD	SGS	DCB 30 FINAL DEVELOPMENT GRADE REVISIONS 0.25'
0	06/07/13	TDD	TDD	RJR	TDD	SHM	ISSUED FOR CONSTRUCTION

SHM LICENSE NUMBER 43507
NJ PROFESSIONAL ENGINEER

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
REMEDIATION FINAL GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 889 - 2829
NJ Certificate of Authorization Number 24GA28019000

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-125
SHEET	30 OF 66

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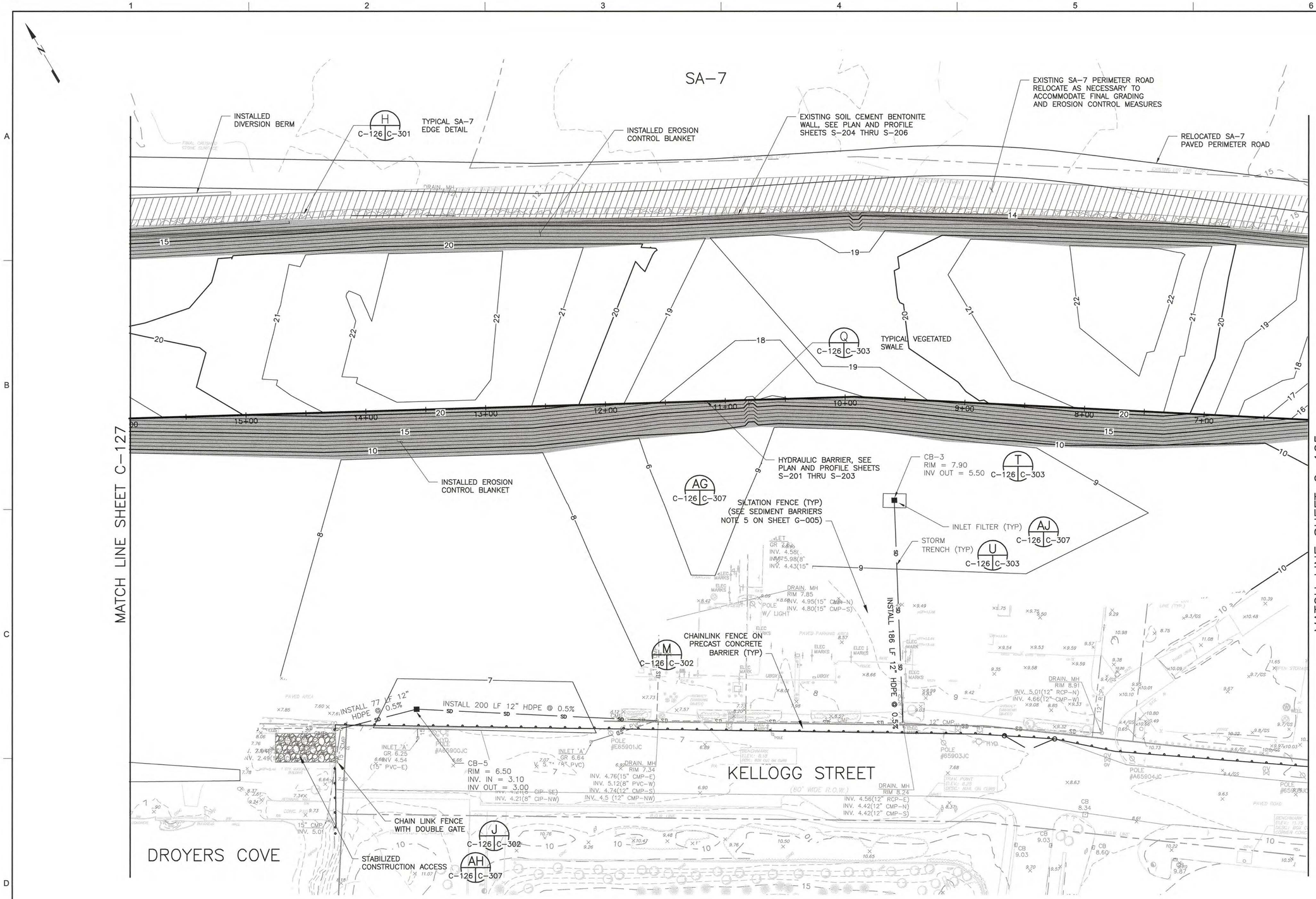
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR30-C-125 Final Grade Plan.dwg PLOT DATE: Thu, 01 Dec 2016 PLOT TIME: 9:06 AM



NOTES:

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2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. THE PRECISE LOCATION AND DIMENSION OF THE CHECK DAMS AND DIVERSION DAMS WILL BE FIELD LOCATED/ENGINEERED BASED ON OBSERVED FLOW DURING STORM EVENTS.

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD	SHM
3	11/29/16	TDD				TDD		SGS
2	4/18/16	DCB 30.1 - REVISED GRADING AND RESTORATION				TDD		SGS
1	11/16/15	DCB 30 FINAL DEVELOPMENT GRADE REVISIONS 0.25'				TDD		SGS
0	06/07/13	ISSUED FOR CONSTRUCTION				TDD		SHM

DCB 030.2

REVISION

TDD RJR TDD

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
REMEDIATION FINAL GRADING, DRAINAGE, AND EROSION SEDIMENT CONTROL PLAN

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Environment & Infrastructure, Inc.
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Hamilton, NJ, 08619, (609) 989 - 2829
NJ Certificate of Authorization Number 24GA28018900

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VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
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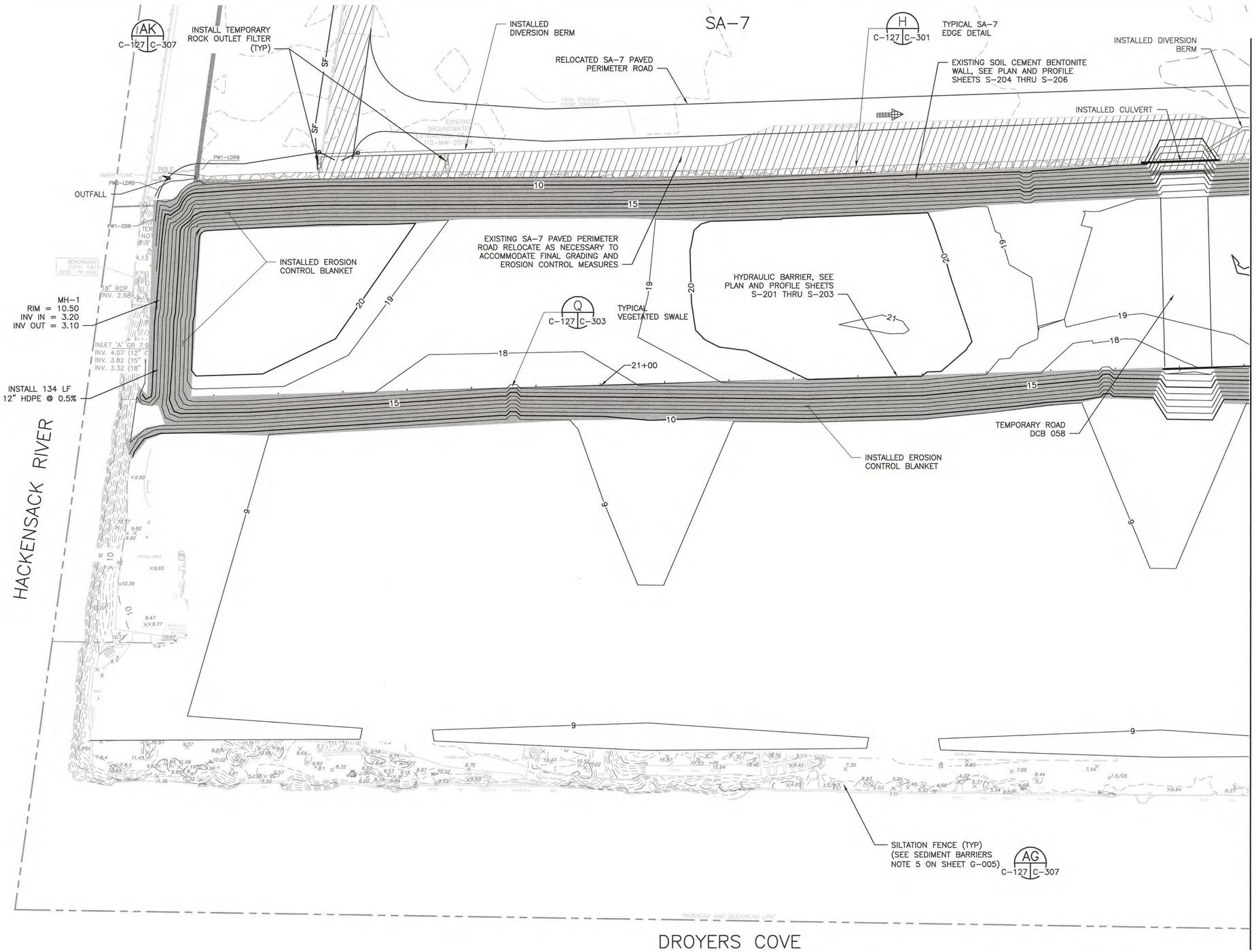
DATE	
PROJ	3480-12-0317
DWG	C-126
SHEET	31 OF 66



NOTES:

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2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. THE PRECISE LOCATION AND DIMENSION OF THE CHECK DAMS AND DIVERSION DAMS WILL BE FIELD LOCATED/ENGINEERED BASED ON OBSERVED FLOW DURING STORM EVENTS.

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
4	11/29/16	DCB 030.2	TDD	SGS
3	4/18/16	DCB 30.1 - REVISED GRADING AND RESTORATION	TDD	SGS
2	11/16/15	DCB 30 FINAL DEVELOPMENT GRADE REVISIONS 0.25'	TDD	SGS
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD | DR RJR | CHK TDD | APVD SHM

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
REMEDIATION FINAL GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28019000

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-127
SHEET	32 OF 66

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6, Jersey City, New Jersey	**DCB Type: Minor** **Effective Date: 05/19/14**
Project Location: SA-6 South **Site Owner: Honeywell**	**Associated RFI:** ☐ Yes, RFI No. _____ ☒ None
Client: AMEC **Contractor (*Subcontractor*): ENTACT**	**Project No.: 3480130377**

Description of Change/Modification:

Honeywell will defer all excavation in the area shown on the attached **Figure 1**. This area includes a portion of Cell 153 and Cell 154 through Cell 156 in their entirety (see Photo 1). This design change is necessary due to unanticipated subsurface conditions, approximately 5 feet of concrete was encountered in the subgrade of this area during excavation in Cell 153 (see cross-section A-A'). Vibration during demolition of the concrete so that excavation may proceed as shown on Drawings C-112 & C-113 in the SA-6 100% Design is expected to impact the integrity of the fragile bulkhead in this area (see Photo 2). Therefore, removal of the concrete/asphalt berm, demolition of subsurface concrete, and excavation to the specified design elevations in the area shown on **Figure 1** will be deferred until implementation of the Bayfront Redevelopment Plan when the bulkhead will be either repaired or replaced.

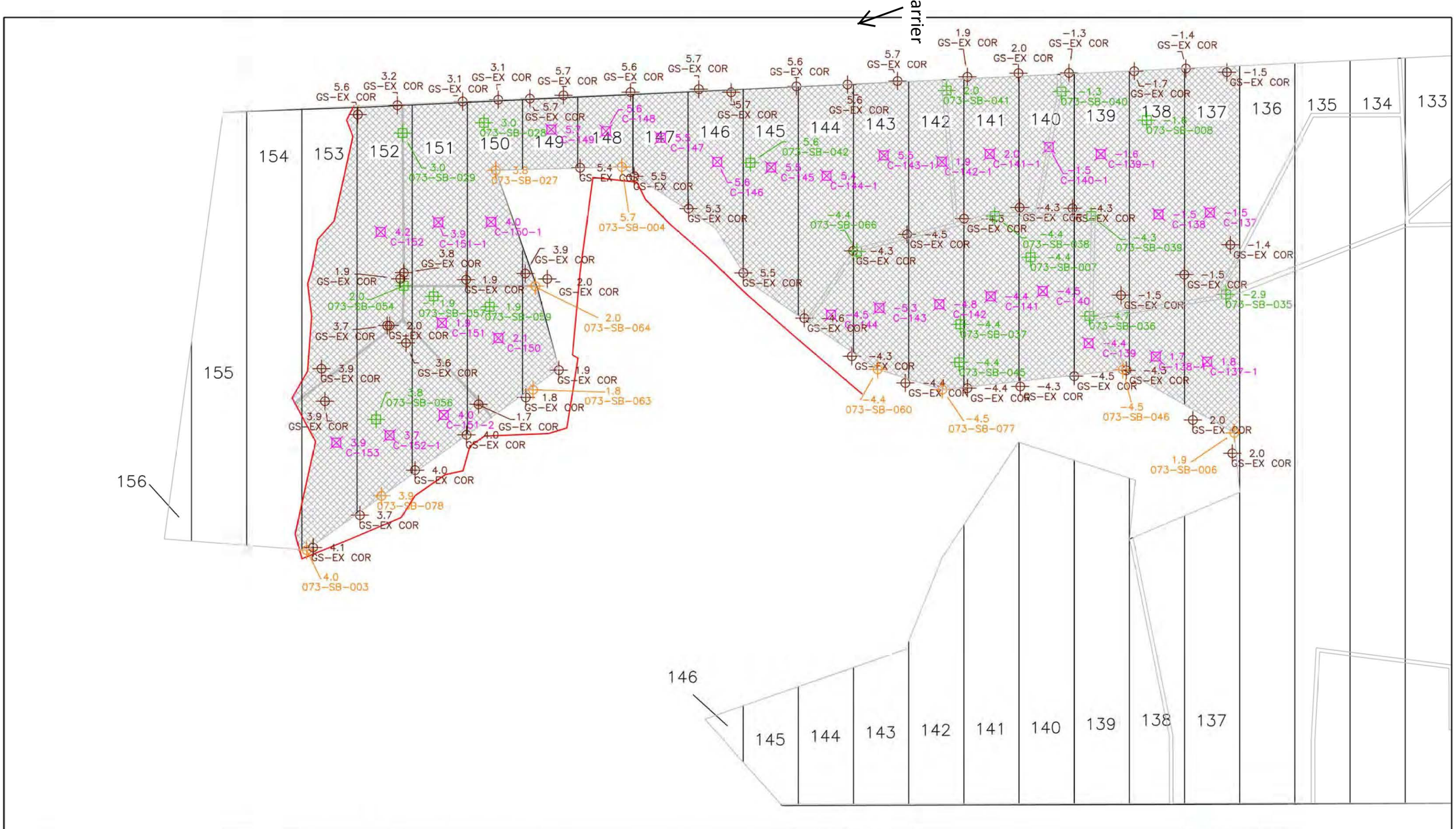
Reason for Change/Modification: ☒ Unforeseen or Differing Site Conditions ☒ Design Revision ☐ Owner/Client Request ☐ Other (describe)	**Explanation or Reason:** Deferred Excavation Due to Unanticipated Excessive Concrete **Attachments:** ☒ Yes ☐ No **Cost Implication:** ☒ Yes ☐ No **>$50K** TBD **Schedule Impact** ☐ Yes ☒ No
Additional Comments: DCB anticipated to require review and approval by third parties.	**Design Documents Affected:** Drawings C-112 & C-113

Honeywell (AP) Review:

Individual: Geoff Shallard	**Discipline: EOR**	**Initial**	**Date**

Contractor (*Subcontractor*) Review: **(Name / Signature):**	**Does DCB Result in CCO?** ☒ Yes ☐ No **Date**

Distribution:



LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- BOTTOM CENTER POINT ELEVATION STRATUM D
- BOTTOM CENTER POINT ELEVATION <20 PPM
- BOTTOM CORNER POINT ELEVATION <20 PPM
- DESIGNED STRATUM 0 EXCAVATION LIMIT
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- CURRENT EXCAVATION TO <20 PPM
- TOP OF EXCAVATION SLOPE
- LIMIT OF EXCAVATION AREA

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS
PERIOD 04-14-14 TO 05-01-14

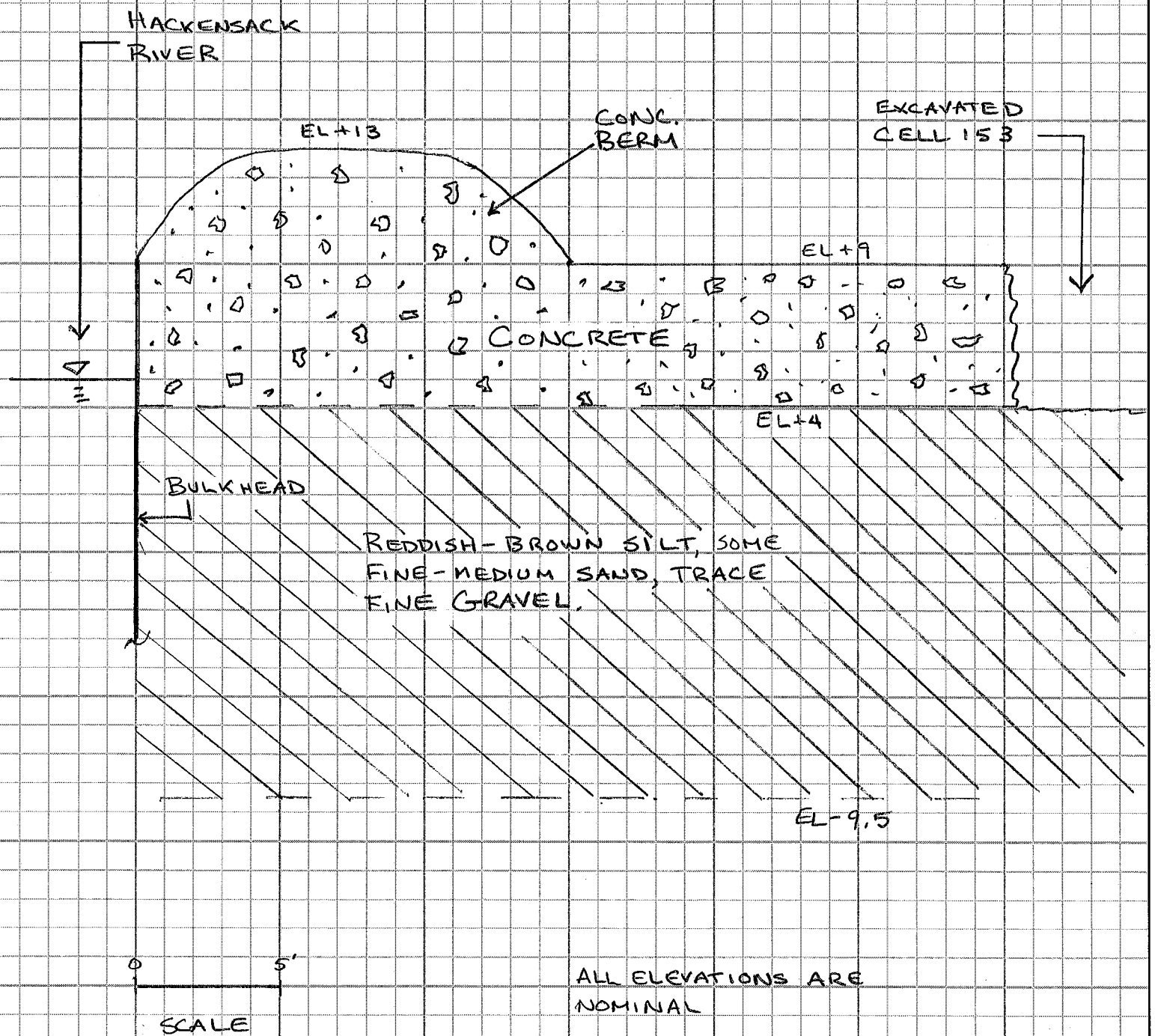
PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Photo 1 - Deferred Area at SA-6 South (Site 073)

JOB NO. 3480130377 SHEET 1 OF 1
PHASE TASK
JOB NAME SA-6 CHROMIUM REMEDY
BY DEM DATE 5/13/14
CHECKED BY DATE

amec
American Metro Center 200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
+1 (609) 689-2829 Fax +1 (609) 689-2838

SECTION A-A'



ALL ELEVATIONS ARE NOMINAL

Photo 2 - Bulkhead at Deferred Area at SA-6 South (Site 073)

Honeywell RES

Honeywell.com

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB Type: Minor (a) Effective Date: 12/23/2014
Project Location: SA-6 NORTH, SA6-SOUTH	Associated RFI:
Title: Site 163 Deferred Areas	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): Entact	

When conducting the Site 163 shallow excavation remedy along the cove, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. These locations were inspected by the Amec engineer and it was determined that removal could be detrimental to the integrity of the bulkhead.

The location and description of the three isolated and small Deferred Areas are shown on the attached drawing.

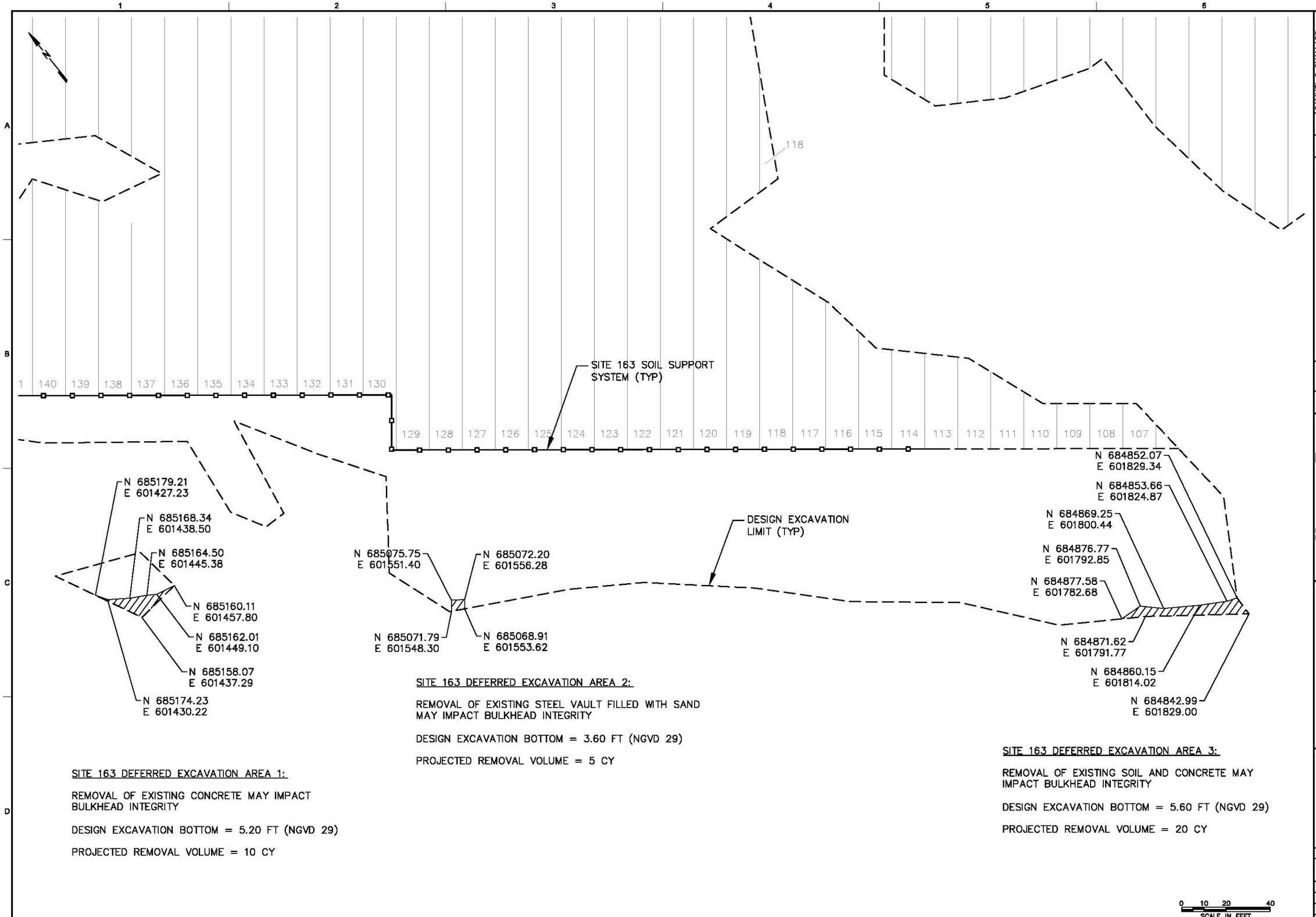
The total volume of the materials left in place is estimated to be less than 35 cubic yards.

As noted the material left in place was concrete. There was no visible sign of the concrete being "chromium impacted".

The remediation of this de minimis material will be completed along with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Modified due to field conditions. Attachments: ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected:
Honeywell (AP) Review: Individual Discipline	Initial [signature] Date 12/20/16
(Name / Signature):	Does DCB Result in CCO? ☐ Yes (b) ☑ No Date:
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD

DSGN TDD DR TDD CHK RJR APVD TDD SGS

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Honeywell
101 COLUMBIA RD. BOX 2108, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
CONSTRUCTION DRAWINGS

SITE 163
DEFERRED EXCAVATION AREAS

amec foster wheeler
Environment & Infrastructure, Inc.
220 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 588 -2929

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	01/21/15
PROJ	3480-10-0027
DWG	001
SHEET	1 OF 1

FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\SA-6 Deferment Areas\Figure 1 Site 163 Deferment Areas.dwg PLOT DATE: Wed, 21 Jan 2015 PLOT TIME: 11:46 AM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 23 DCB Type: Minor (a) Effective Date: 4/30/15
Project Location: SA-6	Associated RFI:
Title: JCIA Trash Pit Closure	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): Entact	

A concrete protuberance was encountered 12-13 ft below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched per the attached sections to clear the concrete. A series of 8" holes were augured and grouted starting at the JCIA pit and moving out along the alignment of the closure section to provide continuity with the pit. The closure sections were then lowered/pushed to the design depth.

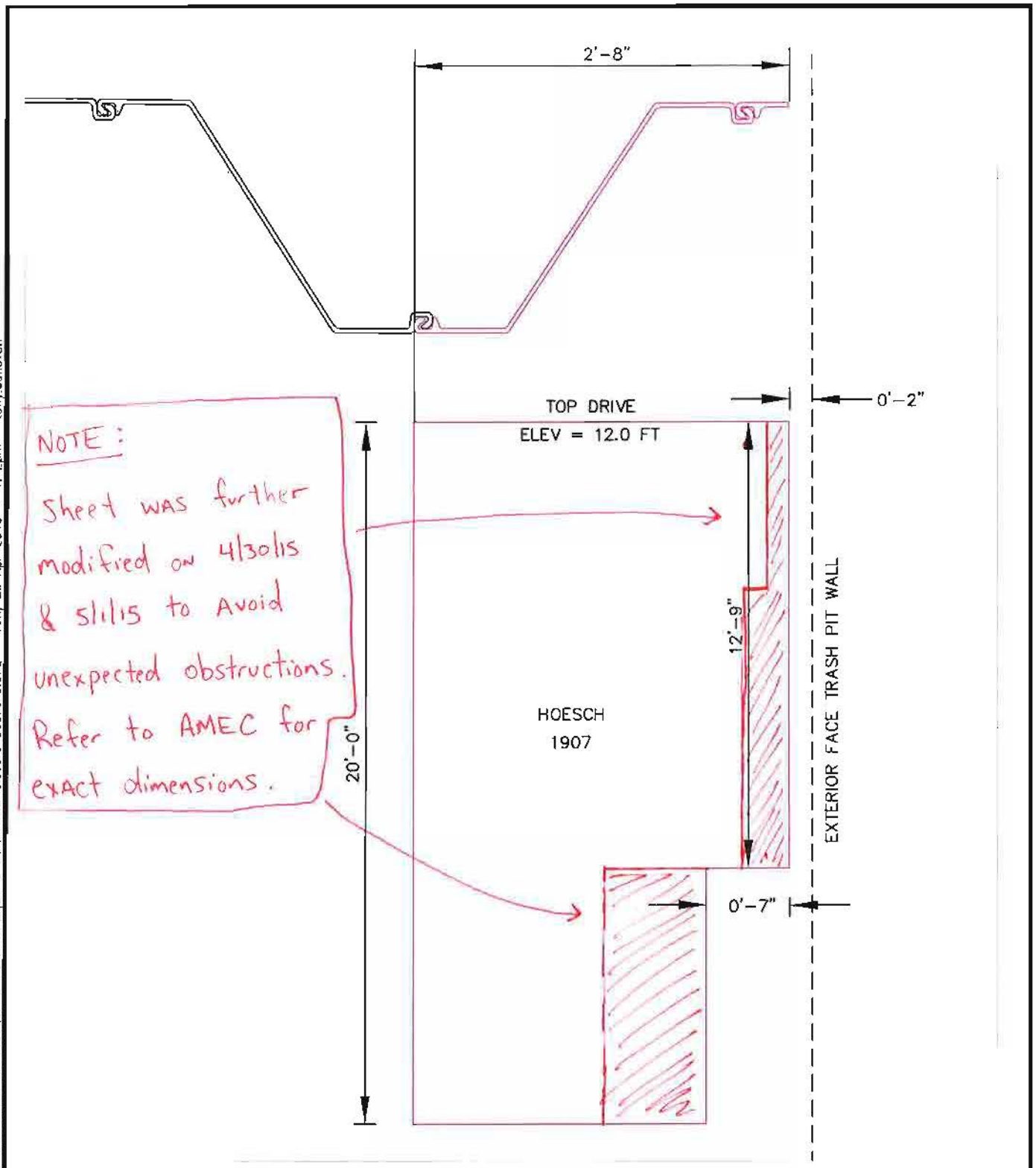
Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	Explanation or Reason: Obstruction encountered during HB sheetpile driving adjacent the JCIA trash pit Attachments: ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected:

Honeywell (AP) Review:

Individual	Discipline	Initial	Date
(Name / Signature):		Does DCB Result in CCO? ☐ Yes (b) ☑ No Date: ~~4/30/15~~ 6/8/15	

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

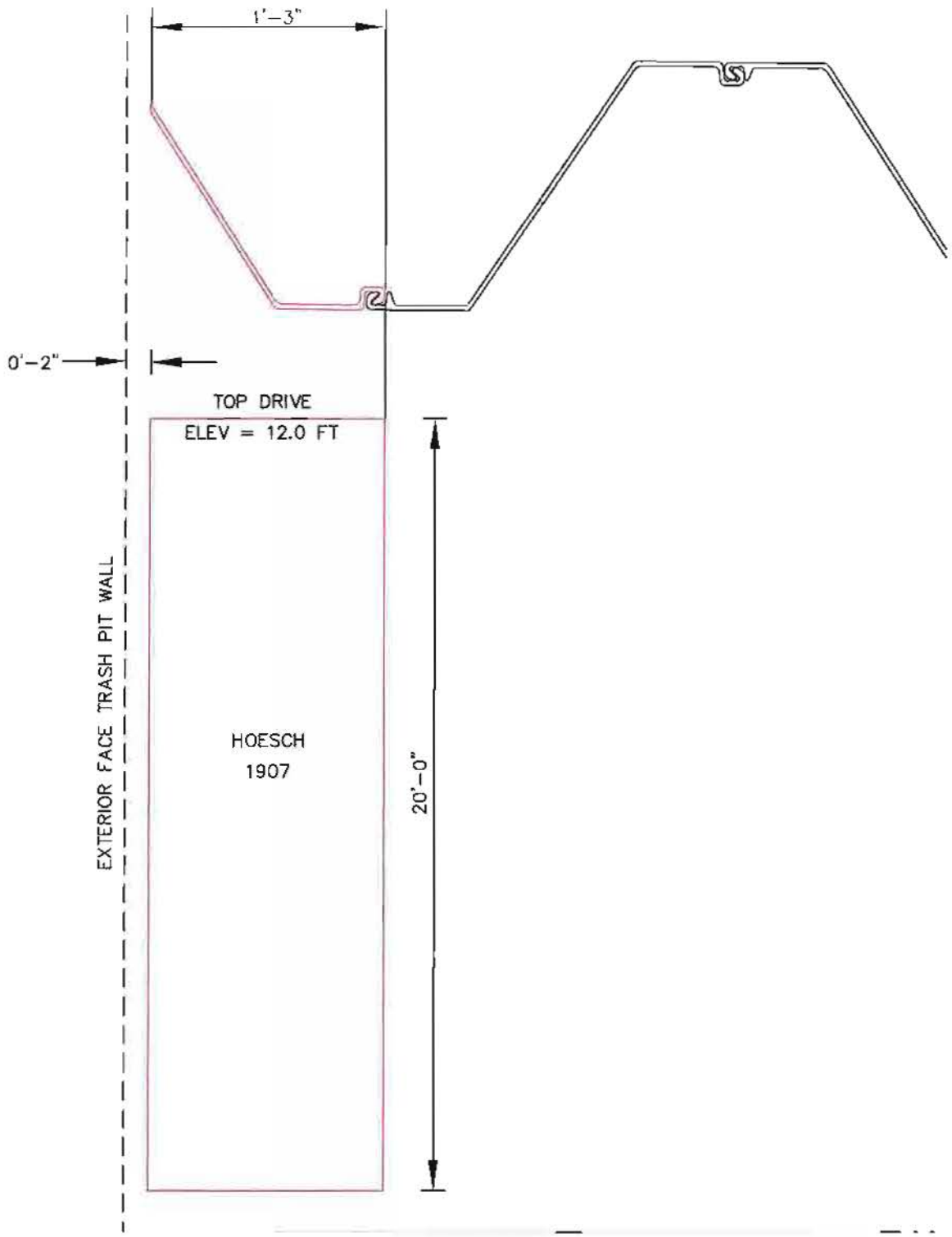


JCIA TRASH PIT – WEST CLOSURE
NTS

Prepared/Date: TDD 4/14/15
Checked/Date:

CHROMIUM REMEDY STUDY AREA 6 NORTH JERSEY CITY, NEW JERSEY	amec foster wheeler Environment & Infrastructure, Inc. 200 American Metro Blvd. Suite 113 Hamilton, NJ 08619 Phone: (609) 689 - 2829 NJ Certificate of Authorization Number 24GA28010900	FIGURE 1 VHB CLOSURE DETAIL Project 3480-10-0027

C:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North VHB\SA-6 North VHB Closure Sections.dwg Mon, 20 Apr 2015 - 1:42pm tony.donovan



JCIA TRASH PIT – EAST CLOSURE
NTS

Prepared/Date: TDD 4/14/15
Checked/Date:

CHROMIUM REMEDY STUDY AREA 6 NORTH JERSEY CITY, NEW JERSEY	amec foster wheeler Environment & Infrastructure, Inc 200 American Metro Blvd. Suite 113 Hamilton, NJ 08619 Phone: (609) 689 - 2829 NJ Certificate of Authorization Number 24GA28010900	FIGURE 2 VHB CLOSURE DETAIL Project 3480-10-0027

C:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North VHB\SA-6 North VHB Closure Sections.dwg Mon, 20 Apr 2015 - 1:43pm tony.donovan

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.: DCB Type: Minor (a)** **Effective Date: 6/5/15**
Project Location: SA-6 South	**Associated RFI:**
Title: SA-6 South Contingent GW Piezometer Locations	**☐ Yes, RFI No. __ ☑ None (Request via e-mail)**
	Project No.: 3480130377
Contractor (Subcontractor): ENTACT	

Description of Change/Modification:

The general location of the paired piezometers was depicted in the Plan view of the Contingent system.

Specific coordinates were not included.

ENTACT has requested specific coordinates.

In preparing the coordinates Amec Foster Wheeler reviewed the locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐Design Revision ☐ Owner/Client Request ☑ Other (See Explanation)	**Explanation or Reason:** Adjustments to avoid conflicts with future development and to keep piezometers out of roadways.
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected:

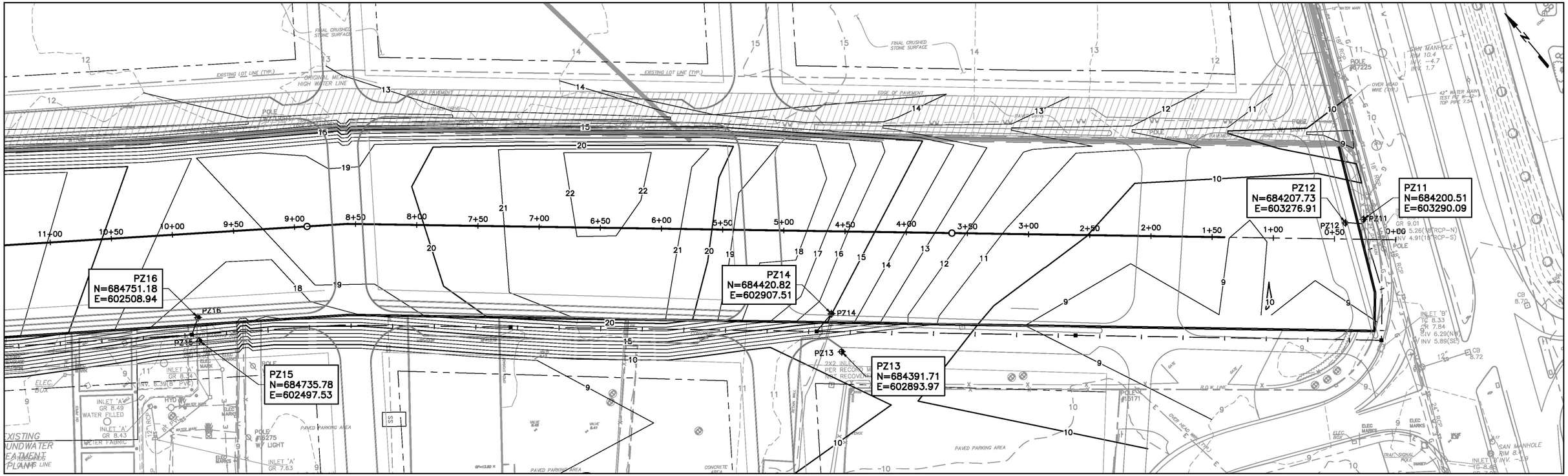
Honeywell (AP) Review:

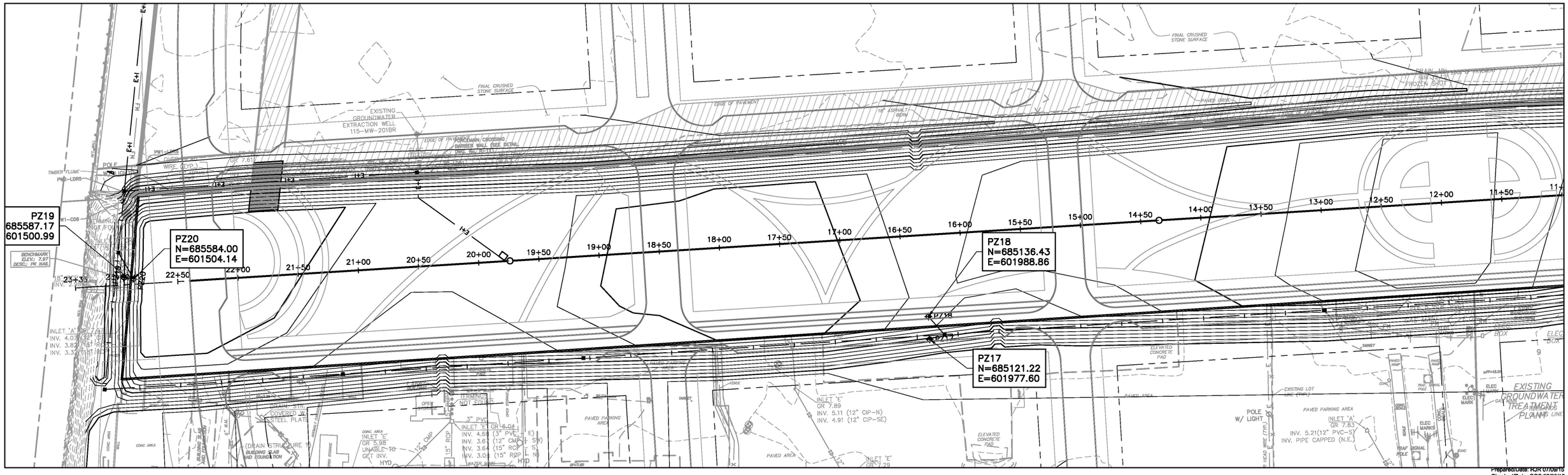
Individual: Geoff Shallard	**Discipline:** EOR	**Initial**	**Date**

(Name / Signature):	Does DCB Result in CCO? ☐ Yes (b) ☑ No Date:

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





Prepared/Date: RJR 07/09/15
Checked/Date: SGS 07/09/15

HORIZONTAL SCALE: 1" = 40'

0 20 40 80

SCALE IN FEET

Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28001900

Piezometer Location
Project 3480-13-0377
Figure 1

Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SAB-C3D\CAD\SAB-North-South-PM_Extraction_Trench\CR34-C-201_Const_DWG_Trench.dwg Thu, 09 Jul 2015 - 8:47am roger.ripster

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 50 **DCB Type:** Minor (a) **Effective Date:** 10/02/15
Project Location: SA-6 North and South	**Associated RFI:**
Title: Warning Tape above Root Barrier	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. ENTACT installed warning tape above the geocomposite drainage layer (GDL), as called for in Drawings C-301 and CN-301. As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.

The warning tape will be the same tape used above the orange GDL warning fabric, i.e. a 6 inch wide yellow PE tape with 3.5 inch bold back lettering which meets the specified requirements for a distinctive colored high-visibility marking. The tape will be placed at no more than 5 ft. on center.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** **Attachments:** ☐ Yes ☑ No Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:**
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 10/2/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.: DCB 030 Type:** Minor(a) **Effective Date: 11/12/2015**
Project Location: SA-6	**Associated RFI:**
Title: Final Grade Revisions	☑ Yes, RFI Nos. 057 ☐ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

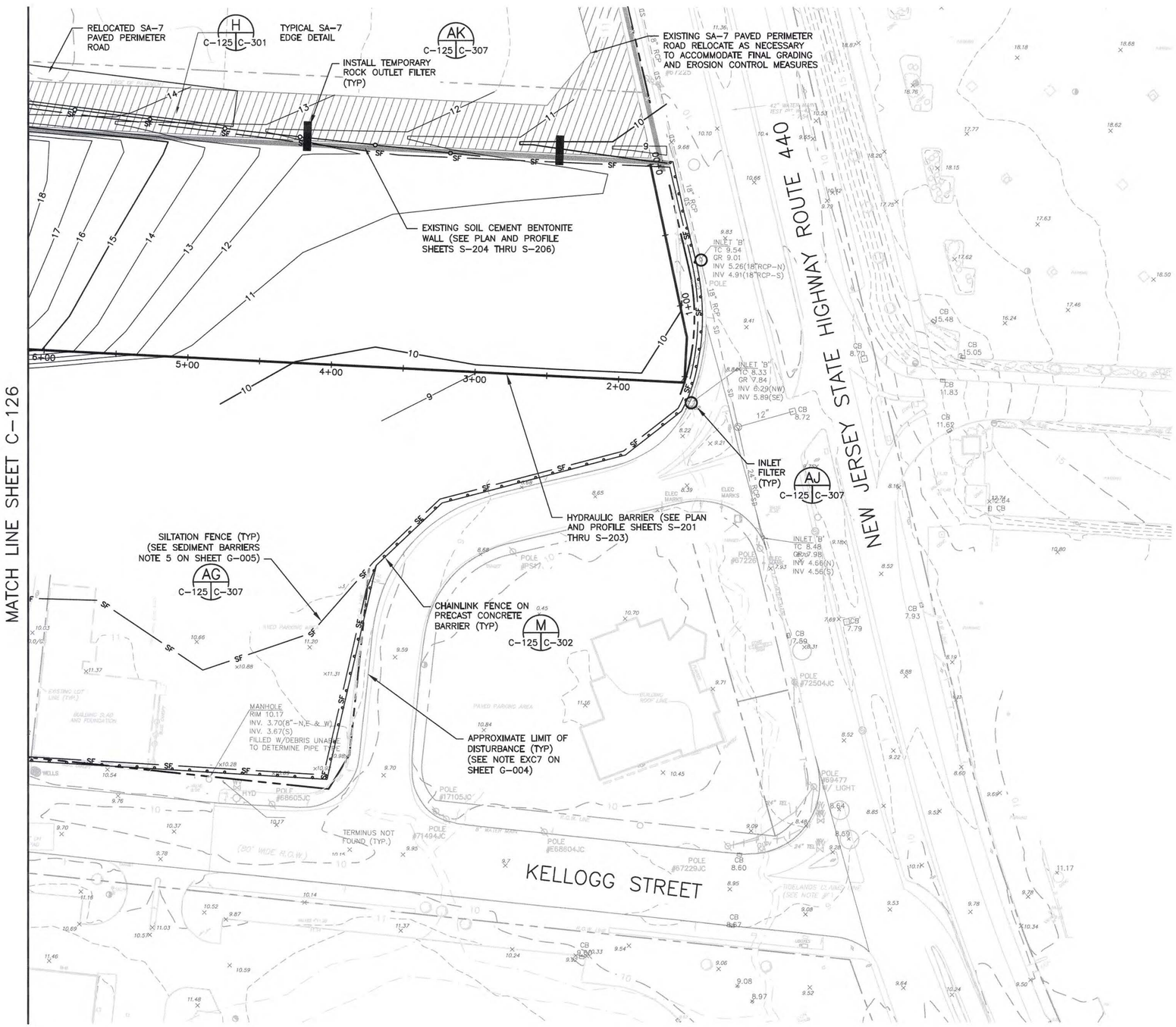
Description. The Final Grades were revised to allow for a 0.25 increase in subgrade elevations eastern portions of SA-6 where subgrade had not been completed at the time (July 2015). The changes in subgrade were made in conjunction with the elimination of the utility corridor near the jug handle. The Subgrade changes were conveyed in DCB 027.

In parallel with the grade changes Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.

Offsets from the final cover soil will be used in the Machine Control to complete cover soil grading as noted in RFI 057. This DCB impacts Final Grade Drawings C-125, C-126 and C-127 and the associated electronic files.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** See description above **Attachments:** ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** Drawings C-125, C-126, C-127
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** GS **Date:** 11/19/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	11/16/15	DCB 30 FINAL DEVELOPMENT GRADE REVISIONS 0.25'	TDD			TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD			TDD	SHM
		REVISION	BY				SHM

Honeywell
101 COLUMBIA RD. BOX 2102, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
REMEDIATION FINAL GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

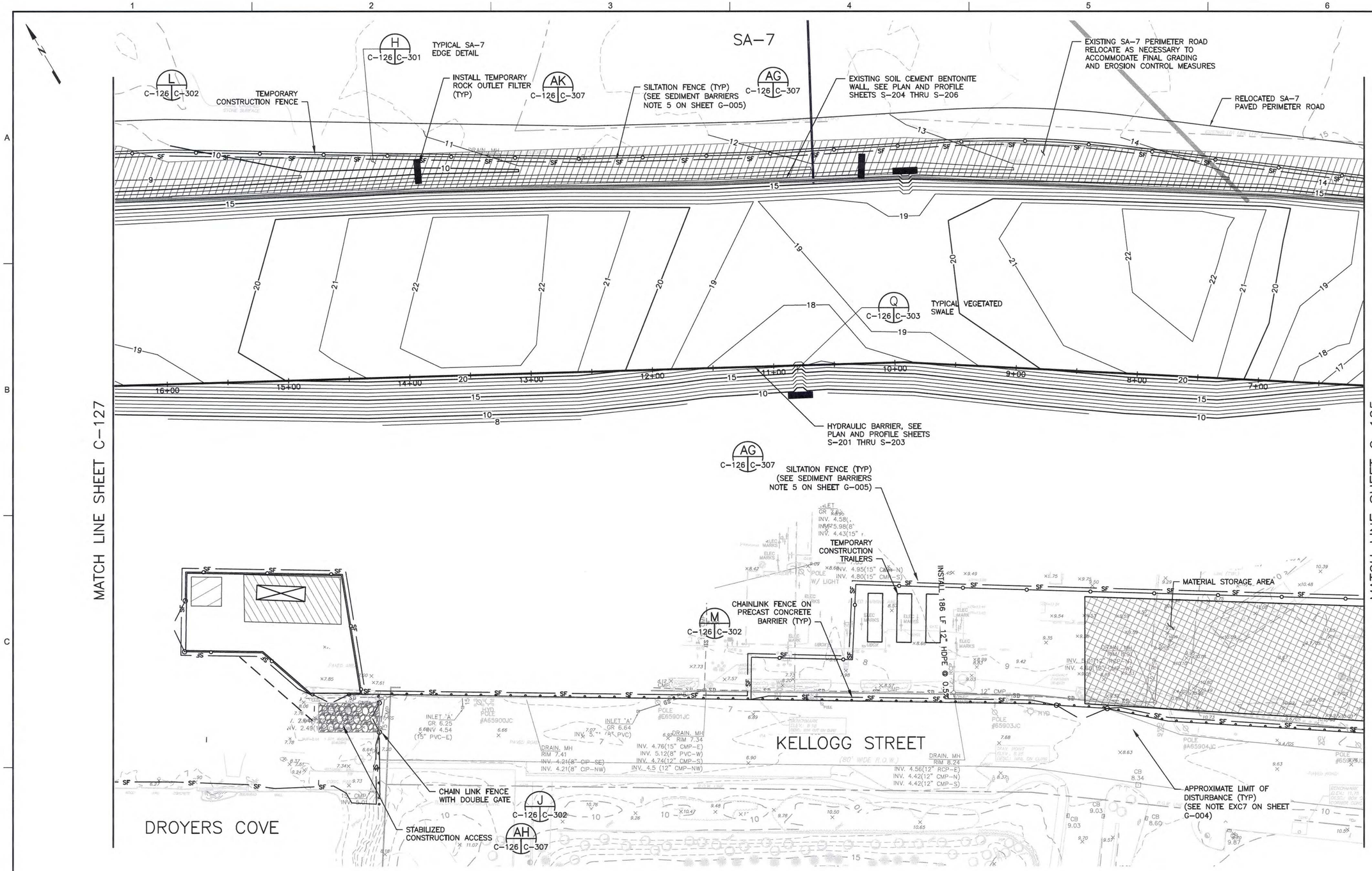
amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 989 - 2629
NJ Certificate of Authorization Number 24GA28000300

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-125
SHEET	30 OF 66

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR30-C-125 Final Grade Plan.dwg PLOT DATE: Mon, 16 Nov 2015 PLOT TIME: 10:45 AM



NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	11/16/15	TDD	TDD	RJR	TDD	TDD	SHM
0	06/07/13	SGS	SHM				

DCB 30 FINAL DEVELOPMENT GRADE REVISIONS 0.25'
ISSUED FOR CONSTRUCTION
REVISION

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
REMEDIATION FINAL GRADING, DRAINAGE, AND EROSION SEDIMENT CONTROL PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
2200 Kuser Road, Suite 3-113
Hamilton, NJ, 08619, (609) 889-2839
NJ Certificate of Authorization Number 24GA28019900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-126
SHEET	31 OF 66

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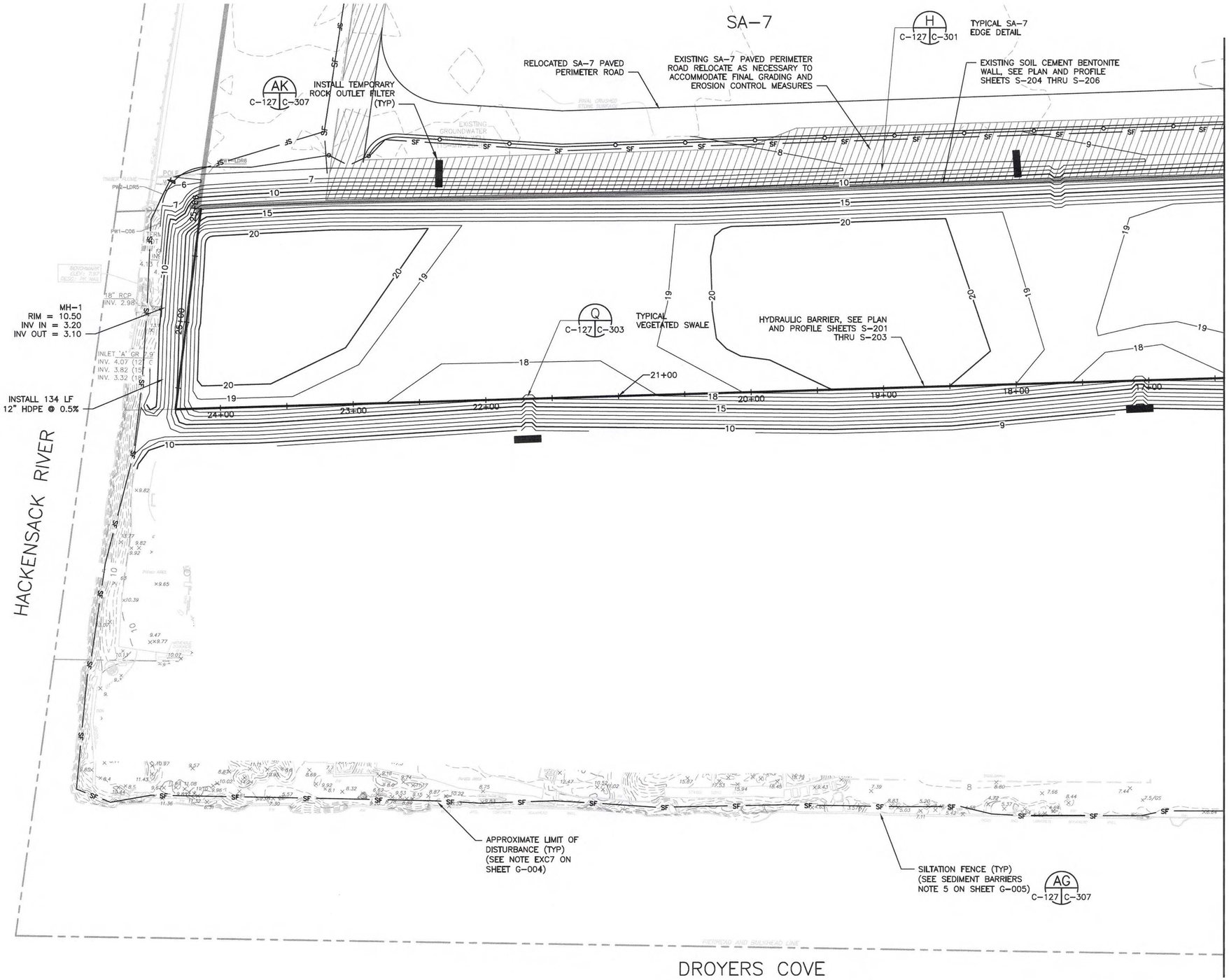

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

0 20 40 80
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
2	11/16/15	DCB 30 FINAL DEVELOPMENT GRADE REVISIONS 0.25'	TDD	SGS			
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT	RJR	SGS			
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM			
		REVISION	TDD		TDD	SHM	

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
REMEDIATION FINAL GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 989 - 2829
NJ Certificate of Authorization Number 24GA28019000

VERIFY SCALE
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0 1"

DATE	
PROJ	3480-12-0317
DWG	C-127
SHEET	32 OF 66

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** DCB-054 **Type:** Minor(a) **Effective Date:** 2/2/2016
Project Location: SA-6N **Title:** Increase grade 0.25' in Landscape Area	**Associated RFI:** ☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. The final grade in the landscape area has been raised by a nominal amount of 0.25'. Roadways and sidewalks have been retained at the IFC design elevations. The approach is consistent with that undertaken on SA-6S.

In the initial transmittal Amec is providing the electronic files for the subgrade/geomembrane surface and the top of SCB and sheetpile Barrier Wall. Hard copy of related drawing files will be submitted under separate cover. The subgrade surface has been extended 10 ft. beyond the Barrier Walls in consideration of Machine Control requirements.

Hard copy drawings will be issued in multiple phases. The first phase will be replacement of Geomembrane Grade drawings CN-123 and CN-124, and Barrier Wall Plan and Profiles SN-201, SN-202, SN-203, SN-204 and SN-205. Second phase will include the Interim Grading plans and associated details. The utility Corridor Drawing CN-515 will also be revised to reflect the latest CHA utility corridors. The location and dimension of the Geofoam blocks will be added to CN-515.

In the process of revision, Amec coordinated the subgrade design with CHA to reflect their latest utility plans. CHA has made a number of changes subsequent to the issue of Amec's IFC design. CHA changes included deletion of some structures and relocation of certain utilities. Amec has adjusted subgrade surfaces where these changes were made. Items of specific note include:

- *Elimination of the cap pump station*
- *Revision to the utility corridors*
- *Simplification of the Geomembrane grading*
- *Revision to the top of SCB/Sheetpile barrier wall at some locations*
- *The area of GCL has been expanded to elevation 7. The IFC design was based on a seasonal high groundwater of 5.5. Readings since that time have indicated that seasonal highs may be slightly higher (max 6.3).*
- *The location and extent of the Sand/Bentonite plug. Note: in locations where the barrier wall is at elevation 7 or higher no plug will be required.*

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** **Attachments:** ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** NA

Honeywell (AP) Review: **Individual:** Geoff Shallard	**Discipline:** EOR	**Initial:**	**Date:** 2/2/16
(Name / Signature):		**Does DCB Result in CCO?** **Date:**	☐ **Yes (b)** ☑ **No**
Distribution:			

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b) – If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 054.1 **DCB Type:** Minor(a) **Effective Date:** 2/22/16
Project Location: SA-6N	**Associated RFI:**
Title: Geomembrane Subgrade Revisions	☑ Yes, RFI #: 64 ☐ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description.

DCB 054 included issuance of a revised subgrade design that included changes resulting from raising the cap grades by 0.25 ft. in the landscaped areas and revisions to utility corridors to reflect the latest CHA utility design.

To accommodate Entact's request to relocate Pump Station #1 (RFI 64) it was necessary to revise the subgrade. Subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location.

In addition AmecFW reviewed the "driven" top of barrier elevations through the Sedimentation Basin. The underlying soils were found to be very soft under the sedimentation basin and Entact experienced difficulty in preventing the previously driven sheet from being drawn down by the next sheet driven. A significant number of sheets were recorded as being between 11.4 ft. and 12.0 ft. For grading purposes, it is necessary to have a reasonably uniform elevation. The attached plan is based on trimming the sections of wall that are below 12.0 to a uniform elevation of 11.5 ft. Trimmed sheets will require touch up of the epoxy coating.

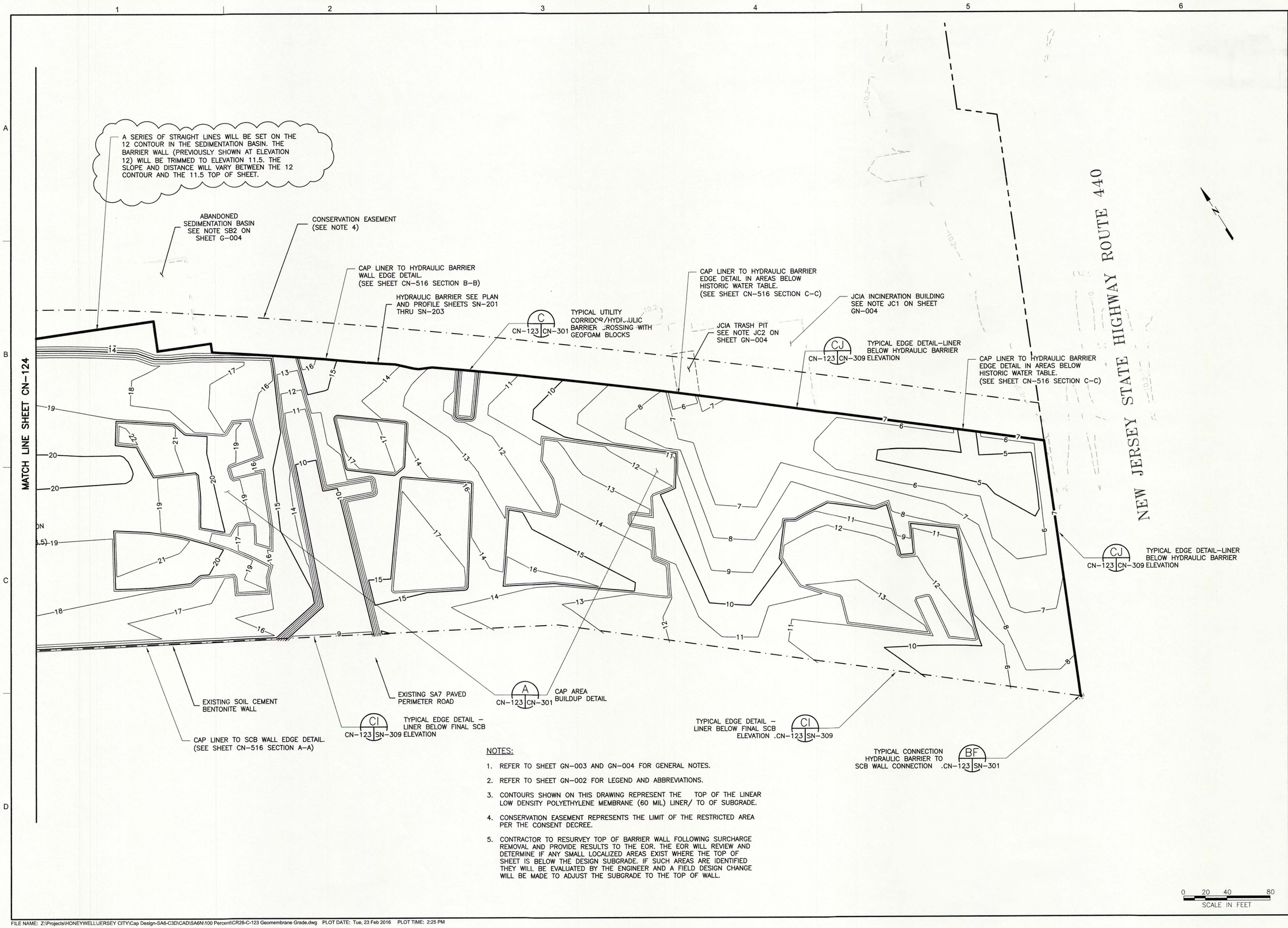
DCB 054 required that the top of wall elevations of the Barrier Wall should be checked following surcharge and prior to trimming the wall. If any discrepancies are observed, they should be immediately brought to the attention of the EOR for resolution.

Some field engineering is likely to be required to smooth the subgrade contours at the locations of the steps down into the Sedimentation Basin on both the east and west sides of the Sedimentation Basin.

The two revised subgrade drawings are attached to this DCB. The electronic files for the geomembrane subgrade and revised top of the barrier wall are also attached.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** Pump Station #1 relocation **Attachments:** ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: Changes were made to accommodate requested contractor change to Pump Station location and actual installed barrier wall elevations.	**Design Documents Affected:** Drawings CN-123, CN-124
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** GS **Date:** 2/23/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE LINEAR LOW DENSITY POLYETHYLENE MEMBRANE (60 MIL) LINER/ TO OF SUBGRADE.
4. CONSERVATION EASEMENT REPRESENTS THE LIMIT OF THE RESTRICTED AREA PER THE CONSENT DECREE.
5. CONTRACTOR TO RESURVEY TOP OF BARRIER WALL FOLLOWING SURCHARGE REMOVAL AND PROVIDE RESULTS TO THE EOR. THE EOR WILL REVIEW AND DETERMINE IF ANY SMALL LOCALIZED AREAS EXIST WHERE THE TOP OF SHEET IS BELOW THE DESIGN SUBGRADE. IF SUCH AREAS ARE IDENTIFIED THEY WILL BE EVALUATED BY THE ENGINEER AND A FIELD DESIGN CHANGE WILL BE MADE TO ADJUST THE SUBGRADE TO THE TOP OF WALL.

NO.	DATE	REVISION	BY	APVD
3	02/19/16	DCB 054.1 REVISED SED BASIN AND PS#1 SUBGRADE	TDD	SGS
2	02/01/16	DCB 054 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS
1	02/24/15	DCB 007.5	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

GEOMEMBRANE GRADING PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619 (609) 890-7300
NJ Cert of Authorization: 24GA28910900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-123
SHEET	28 OF 70

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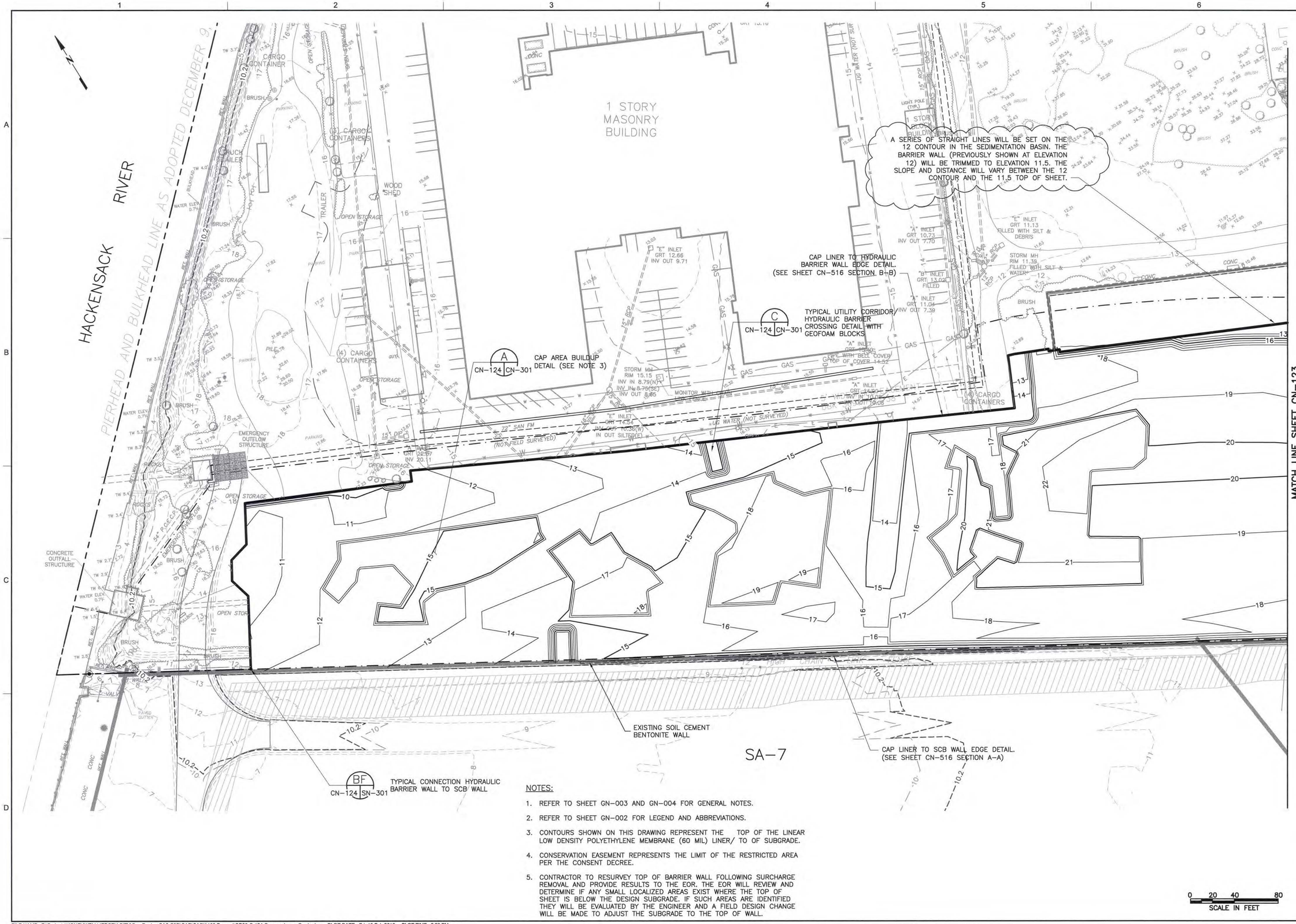
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR28-C-123 Geomembrane Grade.dwg PLOT DATE: Tue, 23 Feb 2016 PLOT TIME: 2:25 PM



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE LINEAR LOW DENSITY POLYETHYLENE MEMBRANE (60 MIL) LINER/ TO OF SUBGRADE.
4. CONSERVATION EASEMENT REPRESENTS THE LIMIT OF THE RESTRICTED AREA PER THE CONSENT DECREE.
5. CONTRACTOR TO RESURVEY TOP OF BARRIER WALL FOLLOWING SURCHARGE REMOVAL AND PROVIDE RESULTS TO THE EOR. THE EOR WILL REVIEW AND DETERMINE IF ANY SMALL LOCALIZED AREAS EXIST WHERE THE TOP OF SHEET IS BELOW THE DESIGN SUBGRADE. IF SUCH AREAS ARE IDENTIFIED THEY WILL BE EVALUATED BY THE ENGINEER AND A FIELD DESIGN CHANGE WILL BE MADE TO ADJUST THE SUBGRADE TO THE TOP OF WALL.

NO.	DATE	REVISION	DSGN	DR	CHK	APVD
4	02/16/16	DCB 054.1 REVISED SED BASIN AND PS#1 SUBGRADE	TDD	TDD	RJR	APVD
3	02/01/16	DCB 054 INCREASE LANDSCAPE GRADE 0.25 FEET	TDD	TDD	SGS	
2	02/24/15	DCB 007.5	TDD	TDD	SGS	
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	RJR	SGS	
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	TDD	SGS	

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

GEOMEMBRANE GRADING PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Cert of Authorization 24GA28018300

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-124
SHEET	29 OF 70

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR29-C-124 Geomembrane Grade.dwg PLOT DATE: Fri, 19 Feb 2016 PLOT TIME: 2:26 PM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 054.2 **DCB Type:** Minor(a)
	Effective Date: 2/25/16
Project Location: SA-6N	**Associated RFI:**
Title: Barrier Wall & SCB Wall Plan and Profile	☑ Yes, RFI Nos. 64 ☐ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. DCB 054 included issuance of a revised subgrade design that included changes resulting from raising the cap grades by 0.25 ft. in the landscaped areas and revisions to utility corridors to reflect the latest CHA utility design.

To accommodate Entact's request to relocate Pump Station #1 (RFI 64) it was necessary to revise the subgrade. Subgrade has been lowered at the new location to accommodate the vault and piping and raised in the original pump station location.

In addition, AmecFW reviewed the "driven" top of barrier elevations through the Sedimentation Basin. The underlying soils were found to be very soft under the sedimentation basin and Entact experienced difficulty in preventing the previously driven sheet from being drawn down by the next sheet driven. A significant number of sheets were recorded as being between 11.4 ft. and 12.0 ft. For grading purposes it is necessary to have a reasonably uniform elevation. The subgrade plan and barrier wall plan and profile are based on trimming the sections of wall that are below 12.0 to a uniform elevation of 11.5 ft. Trimmed sheets will require touch up of the epoxy coating.

DCB 054 required that the top of wall elevations of the Barrier Wall should be checked following surcharge and prior to trimming the wall. If any discrepancies are observed that should be immediately brought to the attention of the EOR for resolution.

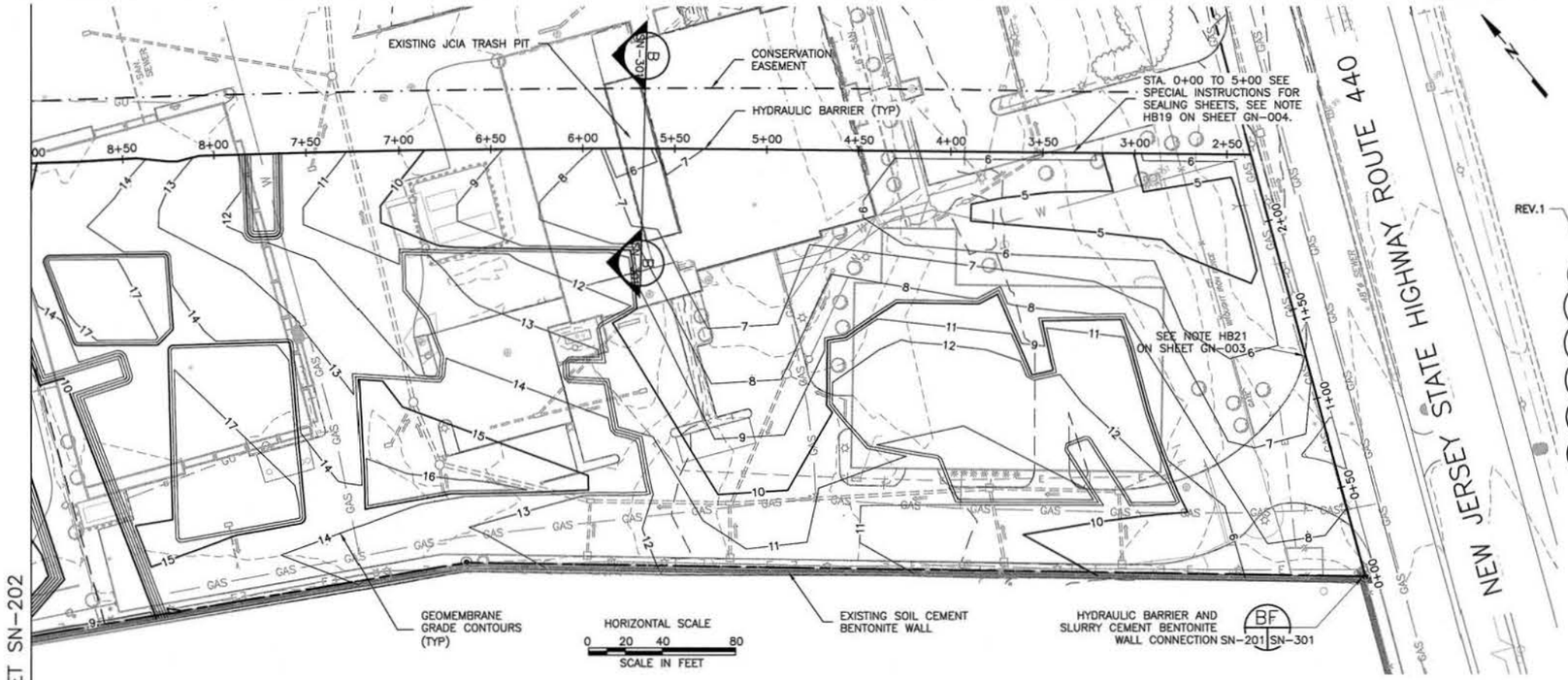
Some field engineering is likely to be required to smooth the subgrade contours at the locations of the steps down into the Sedimentation Basin on both the east and west sides of the Sedimentation Basin.

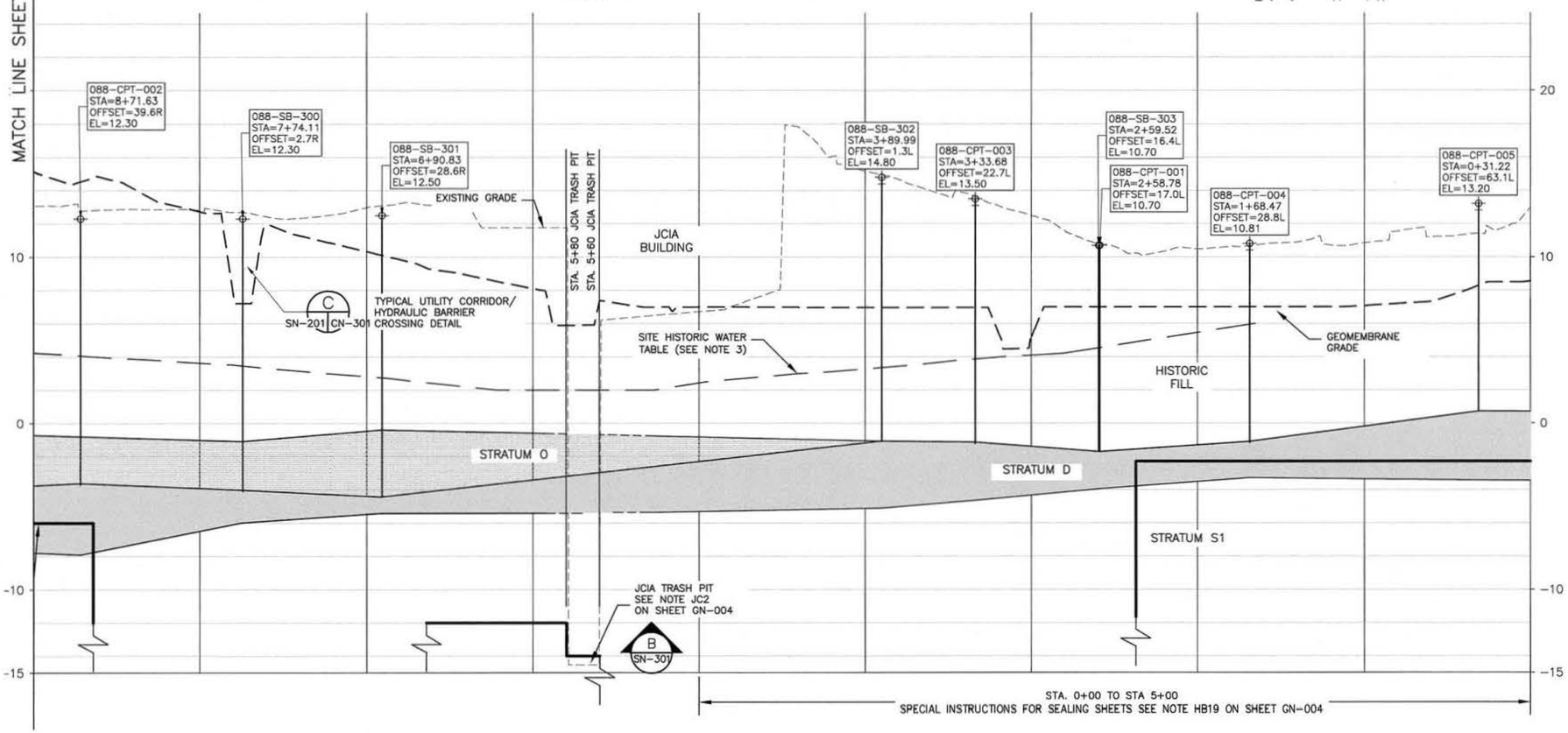
This DCB is limited to issue of the hard copy Signed and Sealed revisions to the SCB Wall and Barrier Wall Plan and Profile Sheets SN-201, SN-202, SN-203, SN-204 and SN-205.

The electronic files that provide the subgrade surface and top of barrier wall profile were provided with DCB 054.1.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** Pump Station#1 relocation **Attachments:** ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: Changes were made to accommodate requested contractor change to Pump Station location and actual installed barrier wall elevations.	**Design Documents Affected:** Drawings SN-201, SN-202, SN-203, SN-204 and SN-205
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** [illegible] **Date:** 3/3/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.
4. STATION ~~14+00 TO 19+00~~ THE TOE OF THE SHEETPILE WILL BE DRIVEN TO THE TOP OF THE ~~STRATUM S1~~.

REV.1

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	0+00	2+37	-4	AZ 19-700
STRUCTURAL	2+37	5+60	-18	AZ 19-700
NON STRUCTURAL	5+60	5+80	-14	AZ 19-700
NON STRUCTURAL	5+80	6+64	-12	AZ 19-700
STRUCTURAL	6+64	8+64	-33	AZ 38-700N
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700

5. REFER TO SHEET CN-125 AND CN-126 FOR INTERIM GRADE.
6. CONTRACTOR TO RESURVEY TOP OF BARRIER WALL FOLLOWING SURCHARGE REMOVAL AND PROVIDE RESULTS TO THE EOR. THE EOR WILL REVIEW AND DETERMINE IF ANY SMALL LOCALIZED AREAS EXIST WHERE THE TOP OF SHEET IS BELOW THE DESIGN SUBGRADE. IF SUCH AREAS ARE IDENTIFIED THEY WILL BE EVALUATED BY THE ENGINEER AND A FIELD DESIGN CHANGE WILL BE MADE TO ADJUST THE SUBGRADE TO THE TOP OF WALL.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
2	02/25/16	DCB 054.2 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS
1	10/10/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR TDD CHK RJR APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

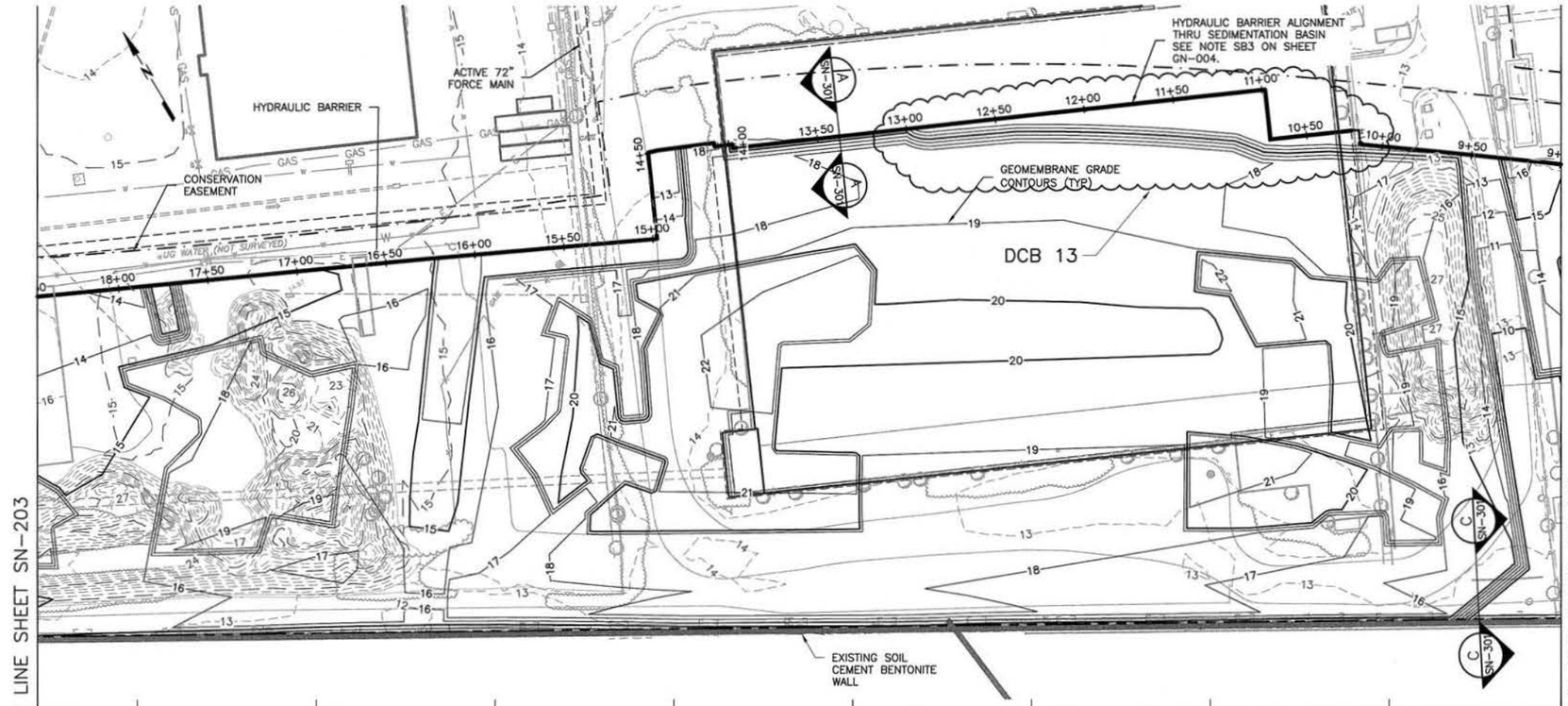
amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689-2829
NJ Cert of Authorization 24GA28010900

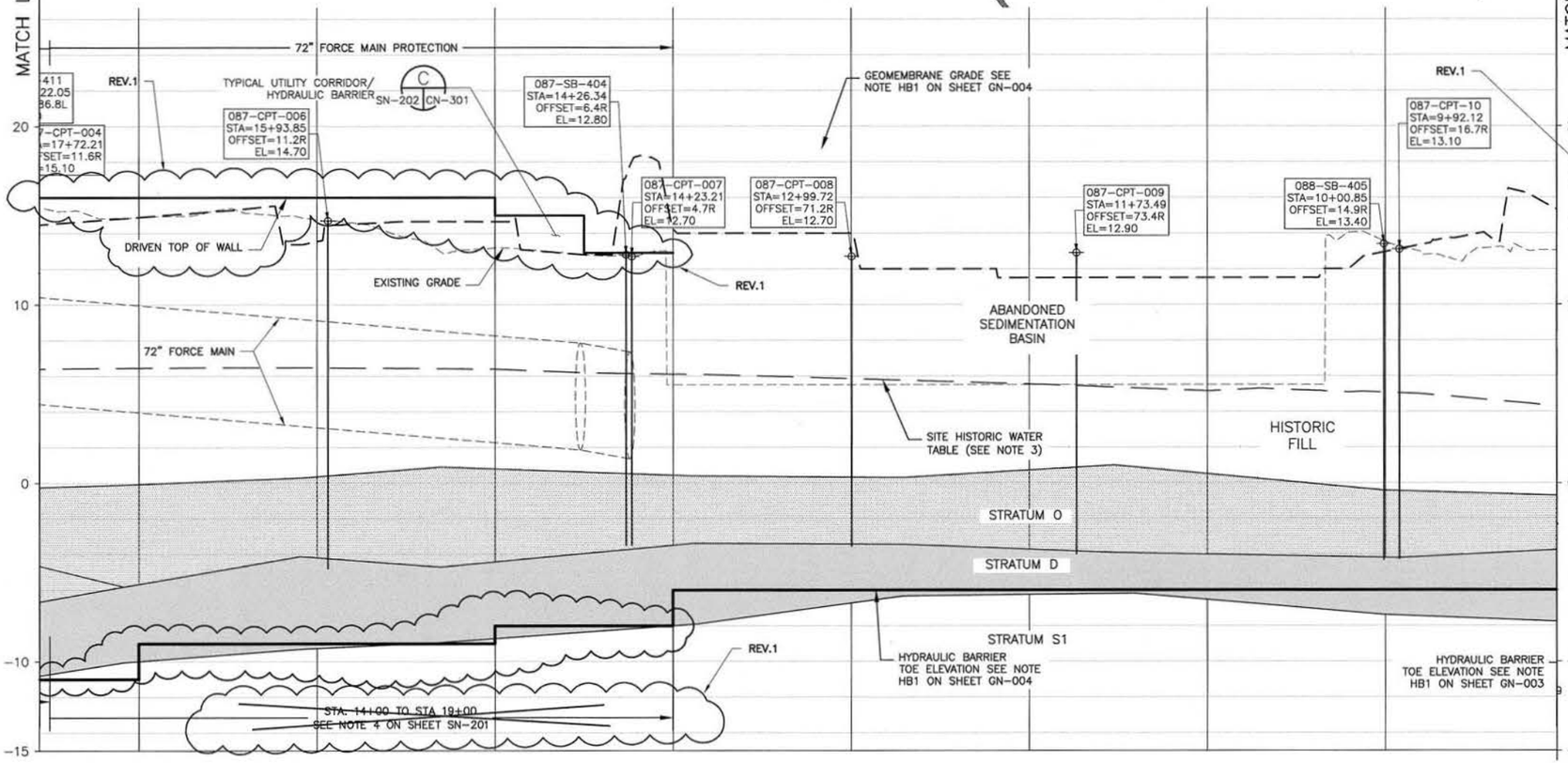
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-201
SHEET	54 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR54-SN-201 HBW Design Pln Prof.dwg PLOT DATE: Fri, 04 Mar 2016 PLOT TIME: 11:44 AM





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET ON CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE
4. DCB 13. THE HYDRAULIC BARRIER HAS BEEN REALIGNED BETWEEN STA 10+12 TO STA 12+50. THE TOP OF WALL HAS ALSO BEEN LOWERED TO EFFECTIVELY INCREASE THE SIZE OF THE UTILITY CORRIDOR ON THE NORTHERN HALF OF STEGMAN BOULEVARD. REFER TO DRAWINGS CN-123 AND CN-124 FOR ASSOCIATED REVISIONS TO THE GEOMEMBRANE GRADING IN THIS LOCATION.

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700
NON STRUCTURAL	9+85	14+00	-6	AZ 19-700
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700

5. REFER TO SHEET CN-125 AND CN-126 FOR INTERIM GRADE.
6. CONTRACTOR TO RESURVEY TOP OF BARRIER WALL FOLLOWING SURCHARGE REMOVAL AND PROVIDE RESULTS TO THE EOR. THE EOR WILL REVIEW AND DETERMINE IF ANY SMALL LOCALIZED AREAS EXIST WHERE THE TOP OF SHEET IS BELOW THE DESIGN SUBGRADE. IF SUCH AREAS ARE IDENTIFIED THEY WILL BE EVALUATED BY THE ENGINEER AND A FIELD DESIGN CHANGE WILL BE MADE TO ADJUST THE SUBGRADE TO THE TOP OF WALL.

HORIZONTAL SCALE 0 20 40 80 SCALE IN FEET

VERTICAL SCALE 0 2 4 8 SCALE IN FEET

NO.	DATE	REVISION	BY	APV'D
3	02/25/16	DCB 054.2 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS
2	08/12/14	DCB 13 HYDRAULIC BARRIER REALIGNMENT	SGS	RJR
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APV'D BCO

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507
3/4/16

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ. 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2629
NJ Cert of Authorization: PA/CA28/10/0800

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-202
SHEET	55 OF 70

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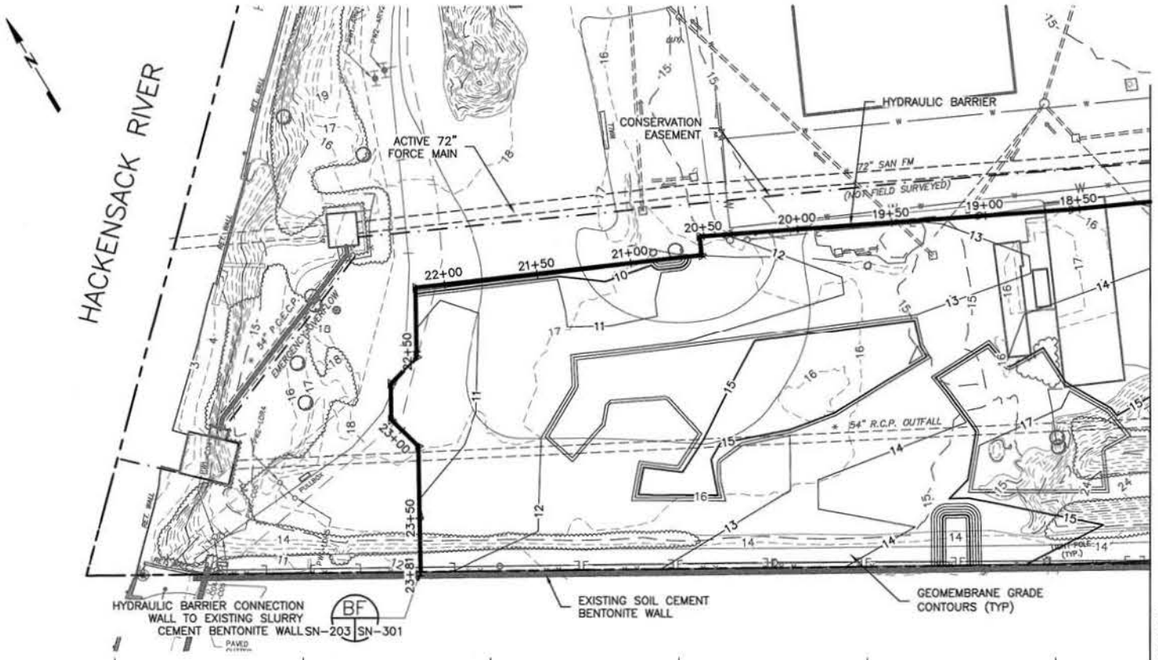
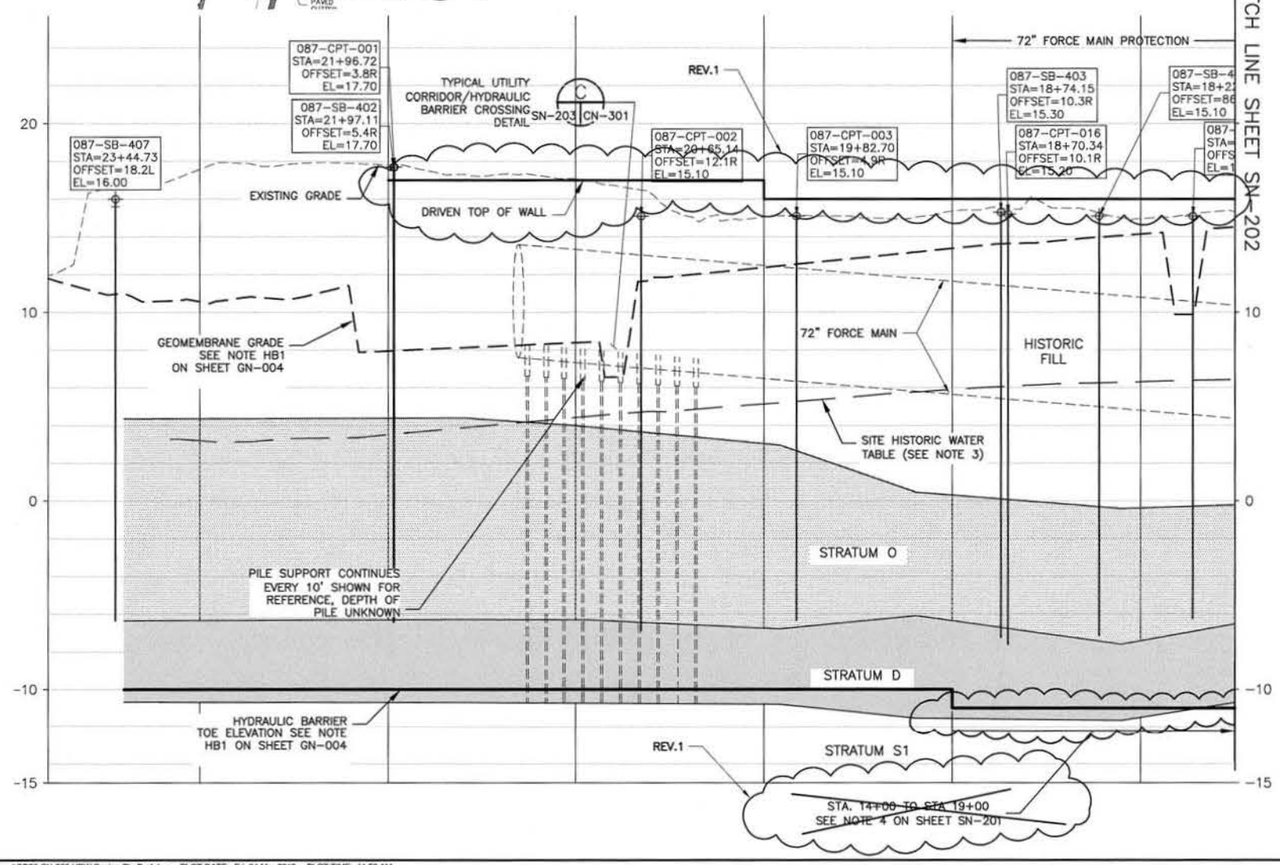
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR55-SN-202 HBW Design Pln Prof.dwg PLOT DATE: Fri, 04 Mar 2016 PLOT TIME: 11:51 AM





REV.1

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700
NON STRUCTURAL	19+00	23+38	-10	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.
4. REFER TO SHEET CN-125 AND CN-126 FOR INTERIM GRADE.
5. CONTRACTOR TO RESURVEY TOP OF BARRIER WALL FOLLOWING SURCHARGE REMOVAL AND PROVIDE RESULTS TO THE EOR. THE EOR WILL REVIEW AND DETERMINE IF ANY SMALL LOCALIZED AREAS EXIST WHERE THE TOP OF SHEET IS BELOW THE DESIGN SUBGRADE. IF SUCH AREAS ARE IDENTIFIED THEY WILL BE EVALUATED BY THE ENGINEER AND A FIELD DESIGN CHANGE WILL BE MADE TO ADJUST THE SUBGRADE TO THE TOP OF WALL.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
2	02/25/16	DCB 054.2 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2102, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Cert of Authorization 24GA28076500

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-203
SHEET	56 OF 70

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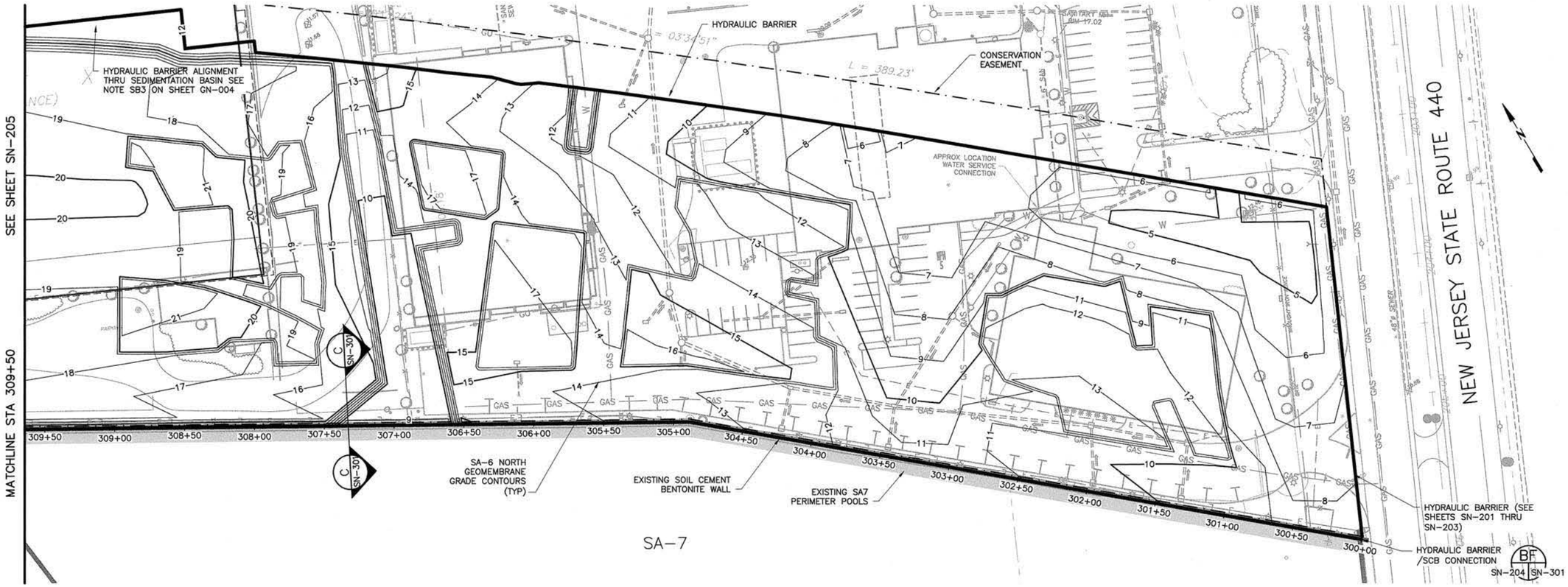
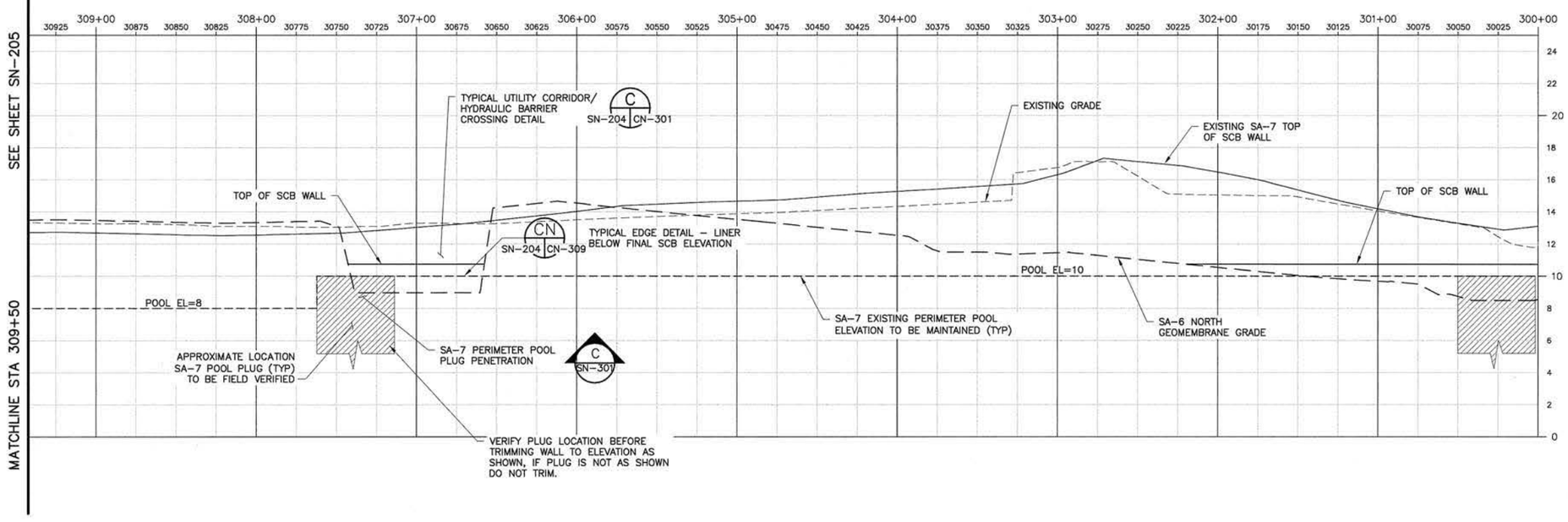
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR56-SN-203 HBW Design Pln Prof.dwg PLOT DATE: Fri, 04 Mar 2016 PLOT TIME: 11:58 AM



SA-7



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET CN-125 AND CN-126 FOR INTERIM GRADE.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
1	02/25/16	DCB 054.2 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR TDD CHK RJR APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

EXISTING SA-7 SCB WALL
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2929
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-204
SHEET	57 OF 70

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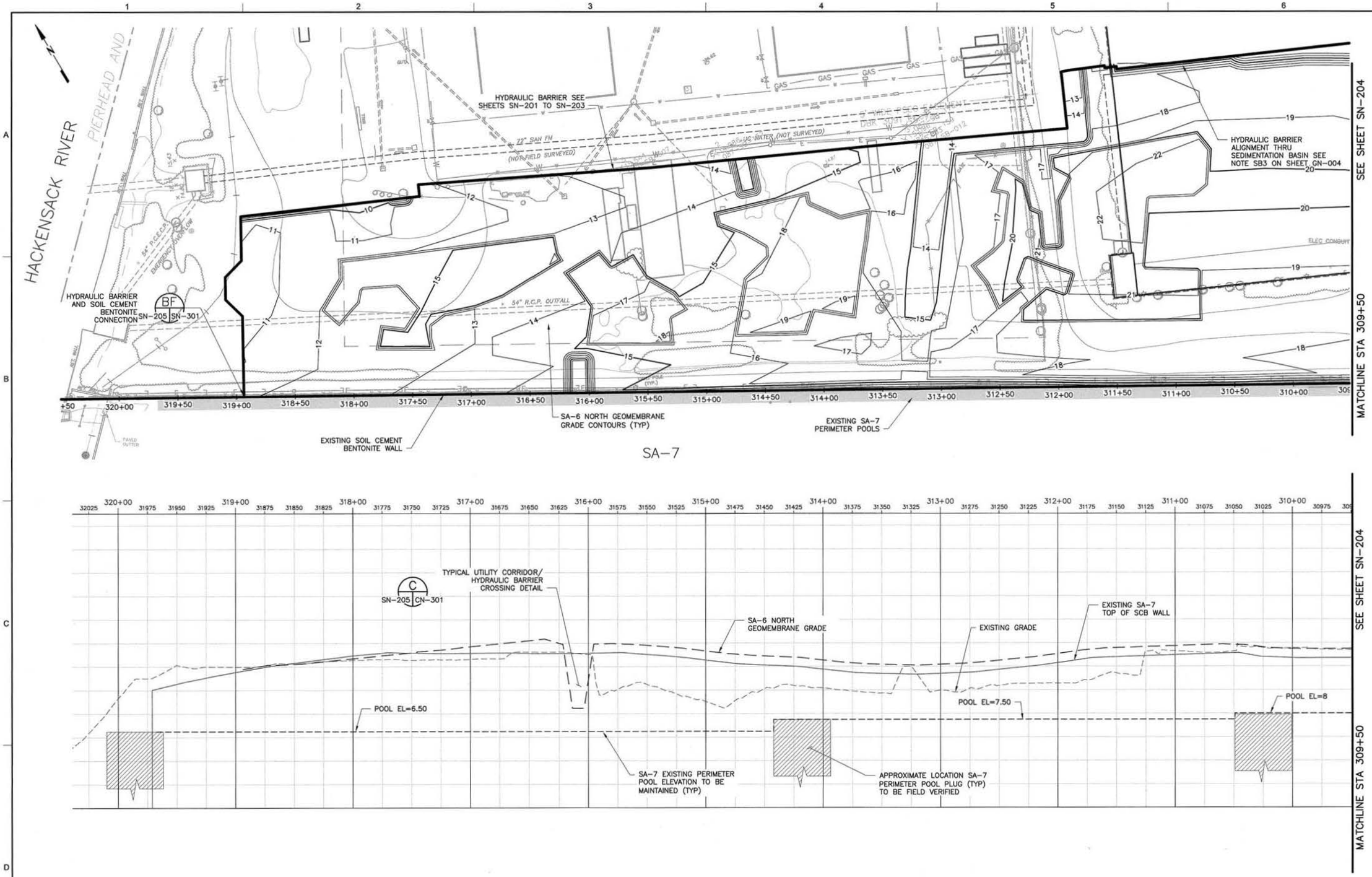
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR57-SN-204 SCB Plan and Profile.dwg PLOT DATE: Fri, 04 Mar 2016 PLOT TIME: 1:56 PM



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET CN-125 AND CN-126 FOR INTERIM GRADE.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	DSGN	BY	APVD
2	02/25/16	DCB 054.2 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

REVISION — DR: TDD — CHK: RJR — APVD: TDD

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507
3/8/16

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

EXISTING SA-7 SCB WALL
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2929
NJ Cert of Authorization 24GA28010500

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-205
SHEET	58 OF 70

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR58-SN-205 SCB Plan and Profile.dwg PLOT DATE: Fri, 04 Mar 2016 PLOT TIME: 2:02 PM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 030.1 **DCB Type:** Minor(a) **Effective Date:** 4/15/16
Project Location: SA-6 South	**Associated RFI:**
Title: Final Grade Revisions	☐ Yes: ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. DCB 030 provided for revision to the Final Grades to allow for a 0.25 foot increase in subgrade elevations in the eastern portions of SA-6S Open Space AOC.

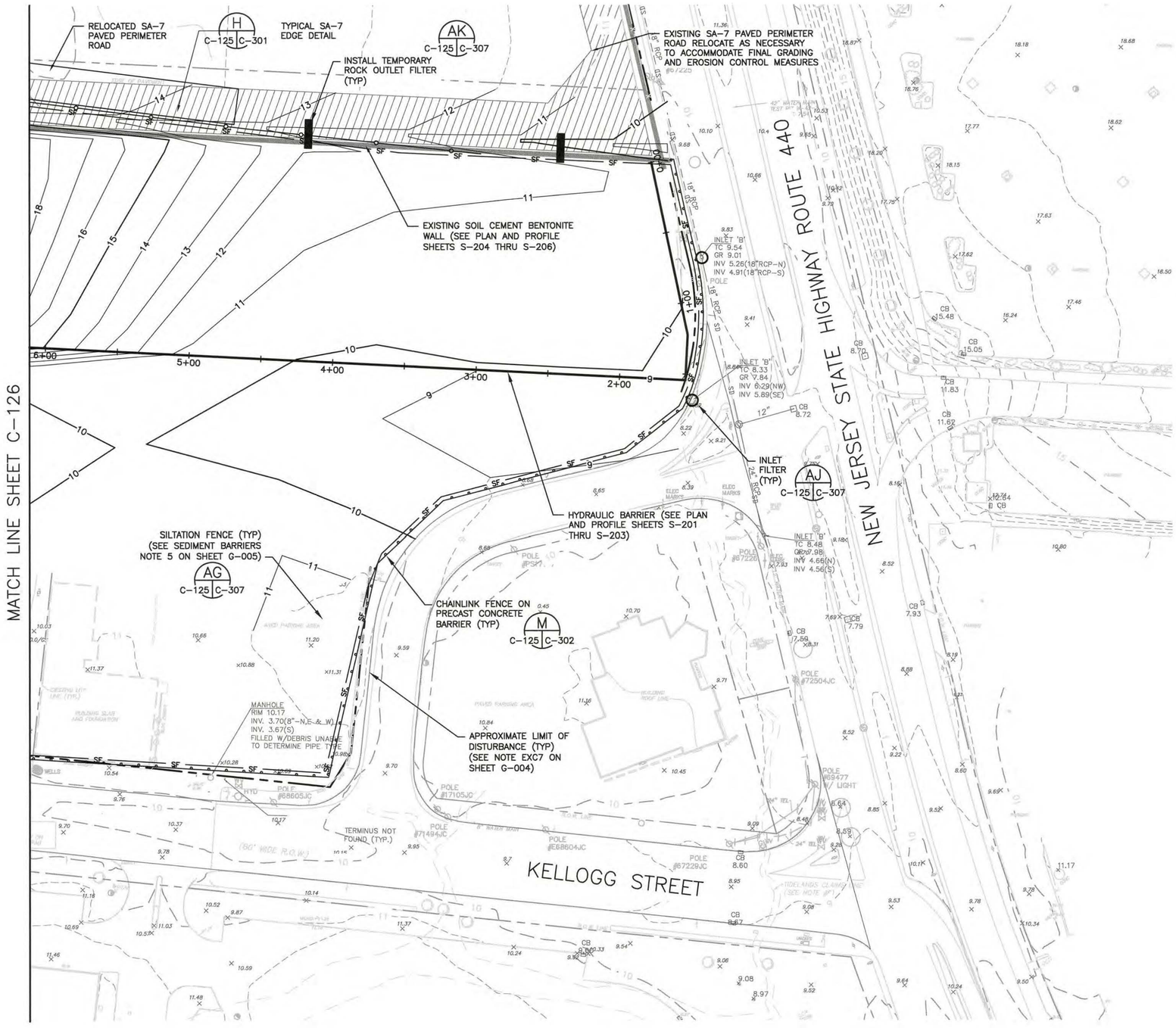
DCB 030.1 relates to the Final Grades in the "Development AOC" south of the Open Space AOC. Both the Open Space AOC and the Development AOC grading is shown on the Final Grade Drawings C-125, C-126 and C-127.

The associated electronic files for the grading will be transmitted as part of this DCB. The Development Plan grading is shown at 1 ft. contours. Due to the relatively "flat" final grades,p 1 ft. contours as shown in the hard copy do not provide details on break points. The electronic files provided as part of this DCB do provide detailed information on the grading. Therefore the electronic files will be used for grading.

The Final Cover Soil types are shown on the Restoration Plan C-128. Sheet C 309 Civil Details has been updated to reflect the use of Skaps 121 as the demarcation layer.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** See description above
	Attachments: ☑ Yes ☐ No Drawings C-125, C-126, C-127, C-128, C-309
	Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** Drawings C-125, C-126, C-127, C-128, C-309
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 4/20/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002

NO.	DATE	REVISION	BY	APV'D
2	4/15/16	DCB 30.1 - REVISED GRADING AND RESTORATION	TDD	SGS
1	11/16/15	DCB 30 FINAL DEVELOPMENT GRADE REVISIONS 0.25'	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD DR RJR CHK TDD APV'D SHM

SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

REMEDIATION FINAL GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689-2828
NJ Certificate of Authorization Number 24GA28019600

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-125
SHEET	30 OF 66

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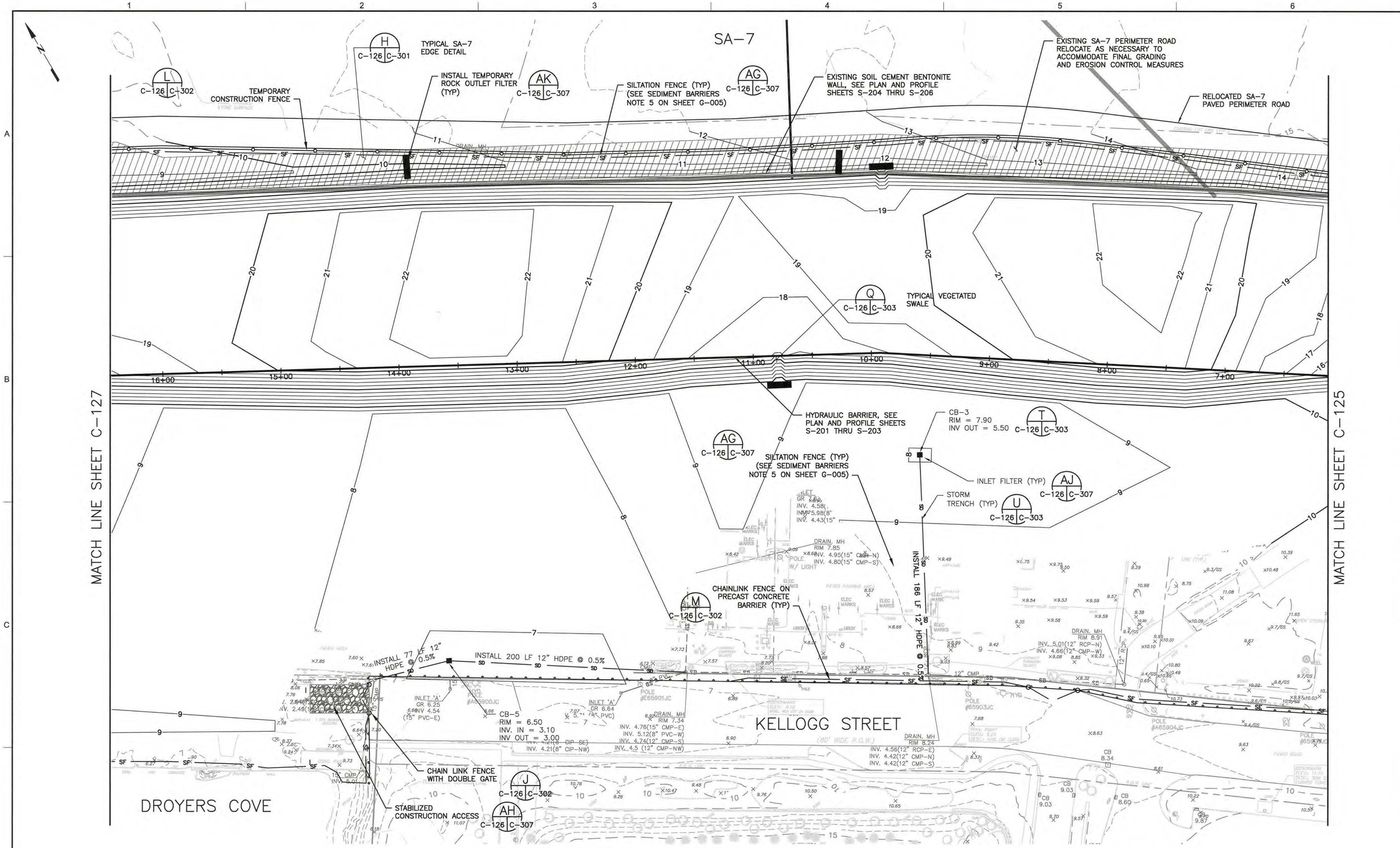
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR30-C-125 Final Grade Plan.dwg PLOT DATE: Mon, 18 Apr 2016 PLOT TIME: 11:56 AM



NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

0 20 40 80
SCALE IN FEET

NO.	DATE	REVISION	BY	APV'D
2	4/18/16	DCB 30.1 - REVISED GRADING AND RESTORATION	TDD	SGS
1	11/16/15	DCB 30 FINAL DEVELOPMENT GRADE REVISIONS 0.25'	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD | DR TDD | CHK RJR | APV'D SHM

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER: 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

REMEDIATION FINAL GRADING, DRAINAGE, AND EROSION SEDIMENT CONTROL PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28001600

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-126
SHEET	31 OF 66

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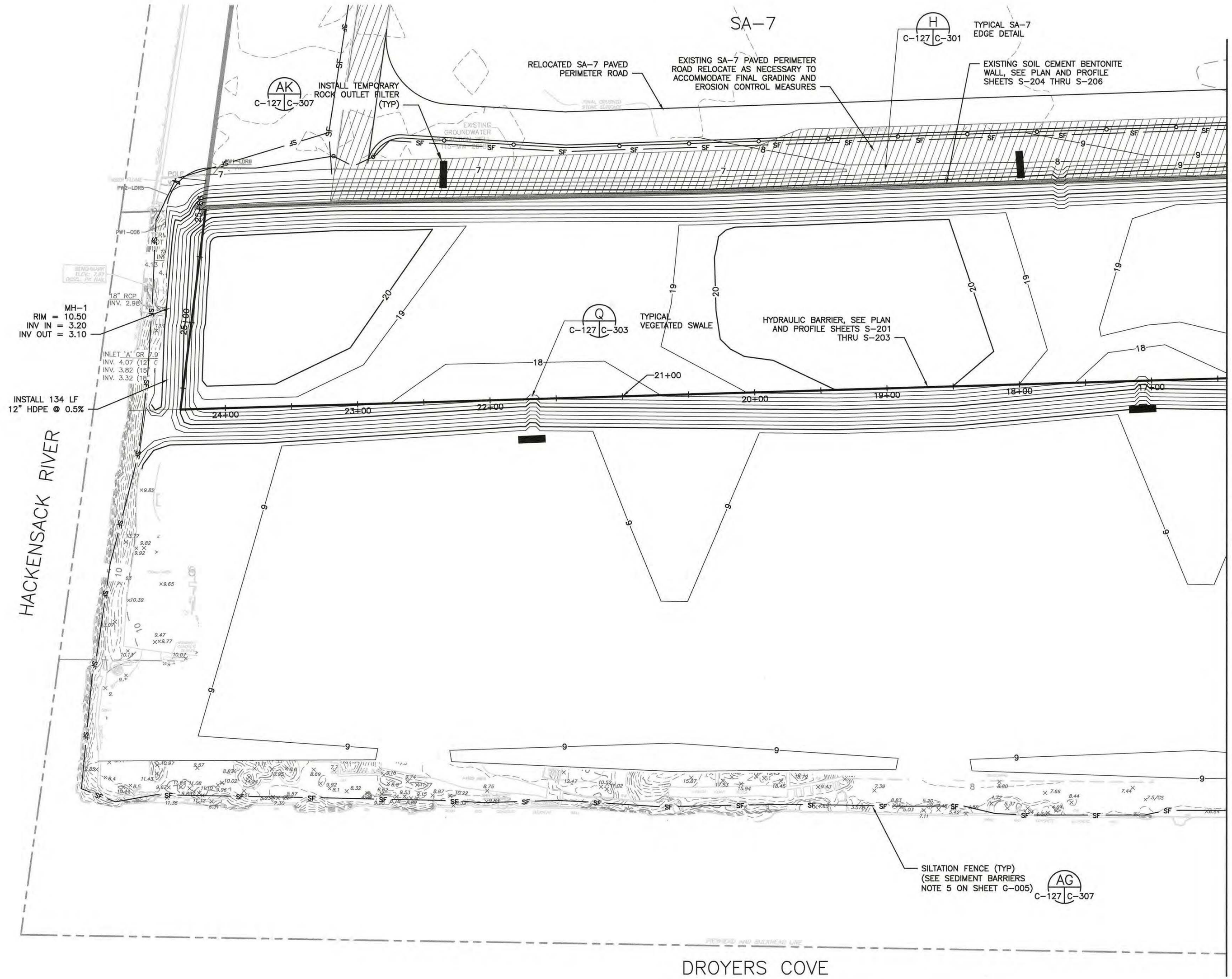
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR31-C-126 Final Grade Plan.dwg PLOT DATE: Mon, 18 Apr 2016 PLOT TIME: 12:02 PM



NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

0 20 40 80
SCALE IN FEET

NO.	DATE	REVISION	DR	CHK	APV'D
3	4/18/16	DCB 30.1 - REVISED GRADING AND RESTORATION	TDD	TDD	SGS
2	11/16/15	DCB 30 FINAL DEVELOPMENT GRADE REVISIONS 0.25'	TDD	TDD	SGS
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT	RJR	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM	SHM

DSGN TDD | BY APV'D

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
REMEDIATION FINAL GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

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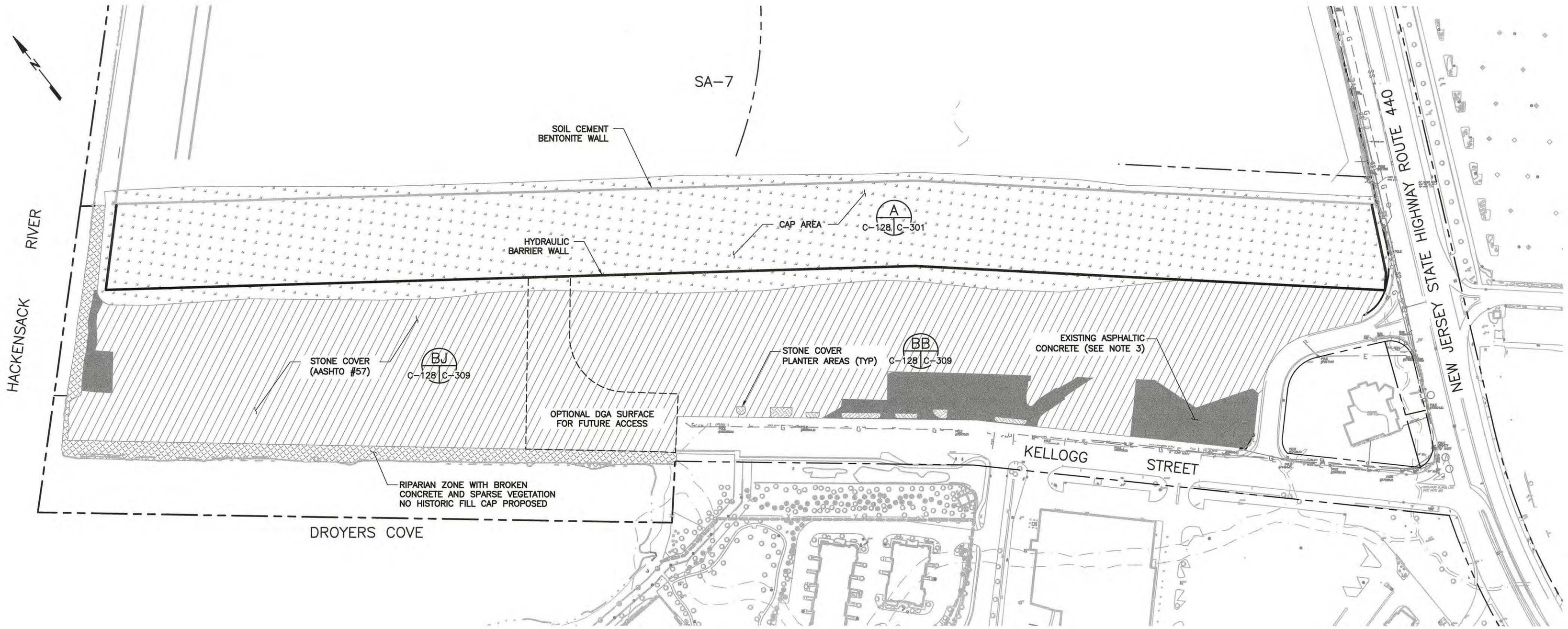
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-127
SHEET	32 OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR32-C-127 Final Grade Plan.dwg PLOT DATE: Mon, 18 Apr 2016 PLOT TIME: 12:05 PM



NOTE:

1. REFER TO SHEET G-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET G-002 FOR LEGEND AND
3. EXISTING ASPHALTIC PAVEMENT AREAS TO BE FIELD INSPECTED BY LSRP DURING RESTORATION ACTIVITIES. FINAL HISTORIC FILL CAP IN THESE AREAS MAY INCLUDE CRACK FILLING OR INSTALLING A GRAVEL COVER SYSTEM.

0 50 100 200
SCALE IN FEET

SAMUEL G. SHALLARD

NO.	DATE	REVISION	BY	APV'D
3	4/18/16	DCB 30.1 - REVISED GRADING AND RESTORATION	TDD	SGS
2	05/06/15	REVISED EDGE DETAIL	TDD	SGS
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD | DR RJR | CHK TDD | APV'D SHM

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

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SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

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(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28018600

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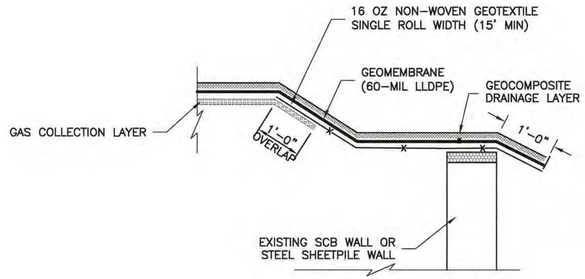
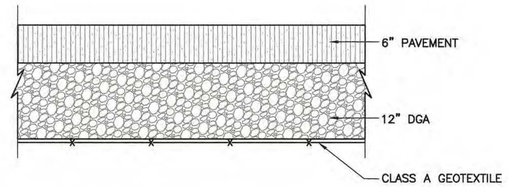
DATE	
PROJ	3480-12-0317
DWG	C-128
SHEET	33 OF 66

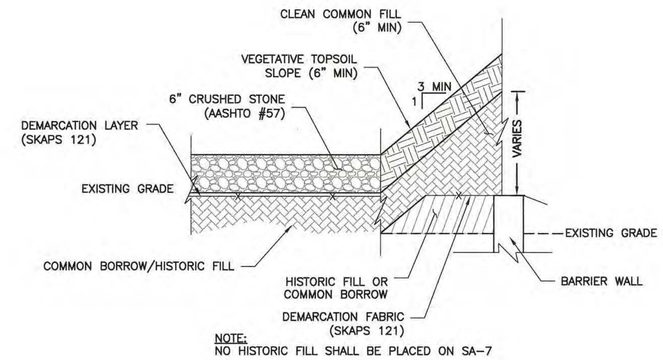
FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\CR33-C-128 Surface Restoration Plan.dwg PLOT DATE: Mon, 18 Apr 2016 PLOT TIME: 12:17 PM



TYPICAL EDGE DETAIL ABOVE GROUNDWATER TABLE (BO)
NTS
C-121 | C-309

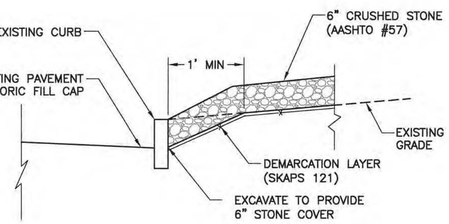


PAVEMENT SECTION DETAIL (BA)
NTS
C-108 | C-309
C-109
C-110

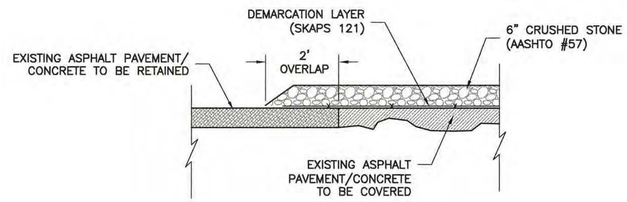


NOTE:
NO HISTORIC FILL SHALL BE PLACED ON SA-7

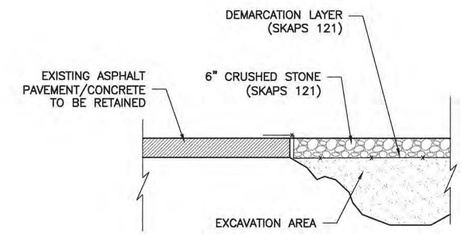
EXCAVATION AREA (BJ)
NTS
TYP | C-309



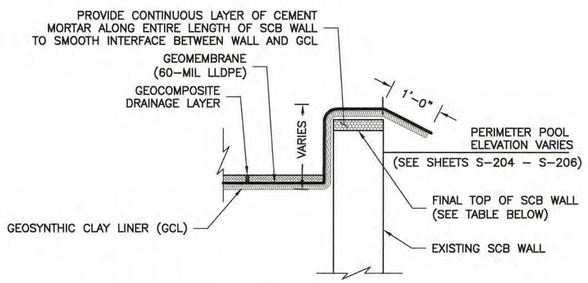
HISTORIC FILL CAP PLANTER AREAS (BB)
TYP | C-309



PAVEMENT TRANSITION DETAIL (BL)
NTS
TYP | C-309



EXCAVATION EDGE RESTORATION DETAIL (BM)
NTS
TYP | C-309

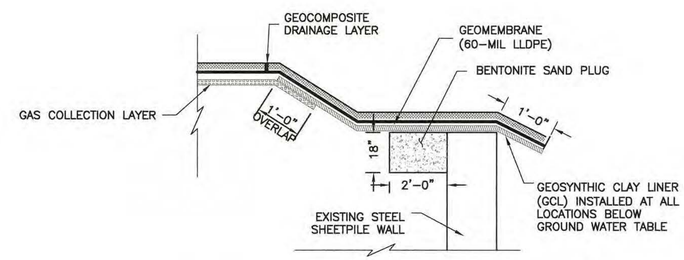


BELOW GROUNDWATER

GCL AREAS STA 0+00 TO STA 15+00

TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION (BN)
NTS
C-121 | C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER (G)
NTS
TYP | C-309

NOTE:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

NO.	DATE	REVISION	BY	APVD
5	04/18/16	DCB 30.1 - REVISED GRADING AND RESTORATION	TDD	SGS
4	07/21/15	REVISED DETAIL BN	RJR	SGS
3	05/27/15	REVISED DETAILS	TDD	SGS
2	05/20/15	REVISED DETAILS	RJR	SGS
1	05/05/15	REVISED DETAIL	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD | DR RJR | CHK TDD | APVD SHM

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
MISCELLANEOUS DETAILS

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DATE	
PROJ	3480-12-0317
DWG	C-309
SHEET	45 OF 66

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 55 **DCB Type:** Minor(a) **Effective Date:** 5/3/16
Project Location: SA-6	**Associated RFI:**
Title: Planting Soil Gradations USDA Clarification	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description.

The laboratory results of all gradations for planting soils shall be presented in terms of the USDA classification system rather than USCS.

The ASTM methodology, which includes hydrometer, remains the same, with the exception that a #270 sieve should be added to align with the USDA classification of silt at 0.05 mm.

The laboratory reports should clearly designate that the classification is based on USDA and any values stated for Gravel/Sand/Silt &Clay should also be calculated based on the USDA analysis.

The Specification values for the Horizon A, Horizon B and Horizon C soils are all defined based on the USDA Soil Classification. When calculating the Sand, Silt and Clay percentage, the Gravel component (% retained on the #10 sieve), should be removed from the calculation.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Otherp	**Explanation or Reason:**
	Attachments: ☑ Yes ☐ No USCS and USDA Classification Comparison
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** NA
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 4/20/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

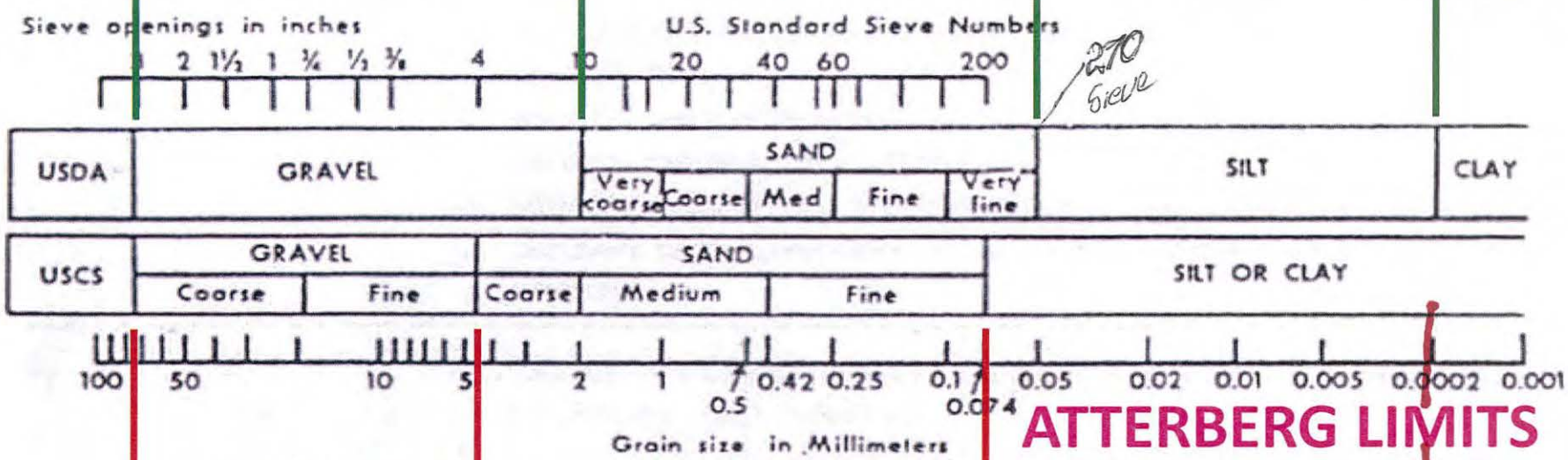
(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

USCS vs. USDA Particle Size Comparison

USDA Soil Classification System

75 mm 2.00 mm 0.05 mm 0.002 mm

GRAVEL SAND SILT CLAY



ATTERBERG LIMITS

GRAVEL SAND SILT and CLAY

75 mm 4.75 mm (#4 0.074 mm (#200 sieve)

Unified Soil Classification System

OhioEPA

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 054.3 **DCB Type:** Minor(a) **Effective Date:** 5/11/16
Project Location: SA-6N	**Associated RFI:**
Title: Interim Grade Revisions	☐ Yes, RFI No.: ☐ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description.

DCB 054 included issuance of a revised subgrade design that included changes resulting from raising the cap grades by 0.25 ft. in the landscaped areas and revisions to utility corridors to reflect the latest CHA utility design.

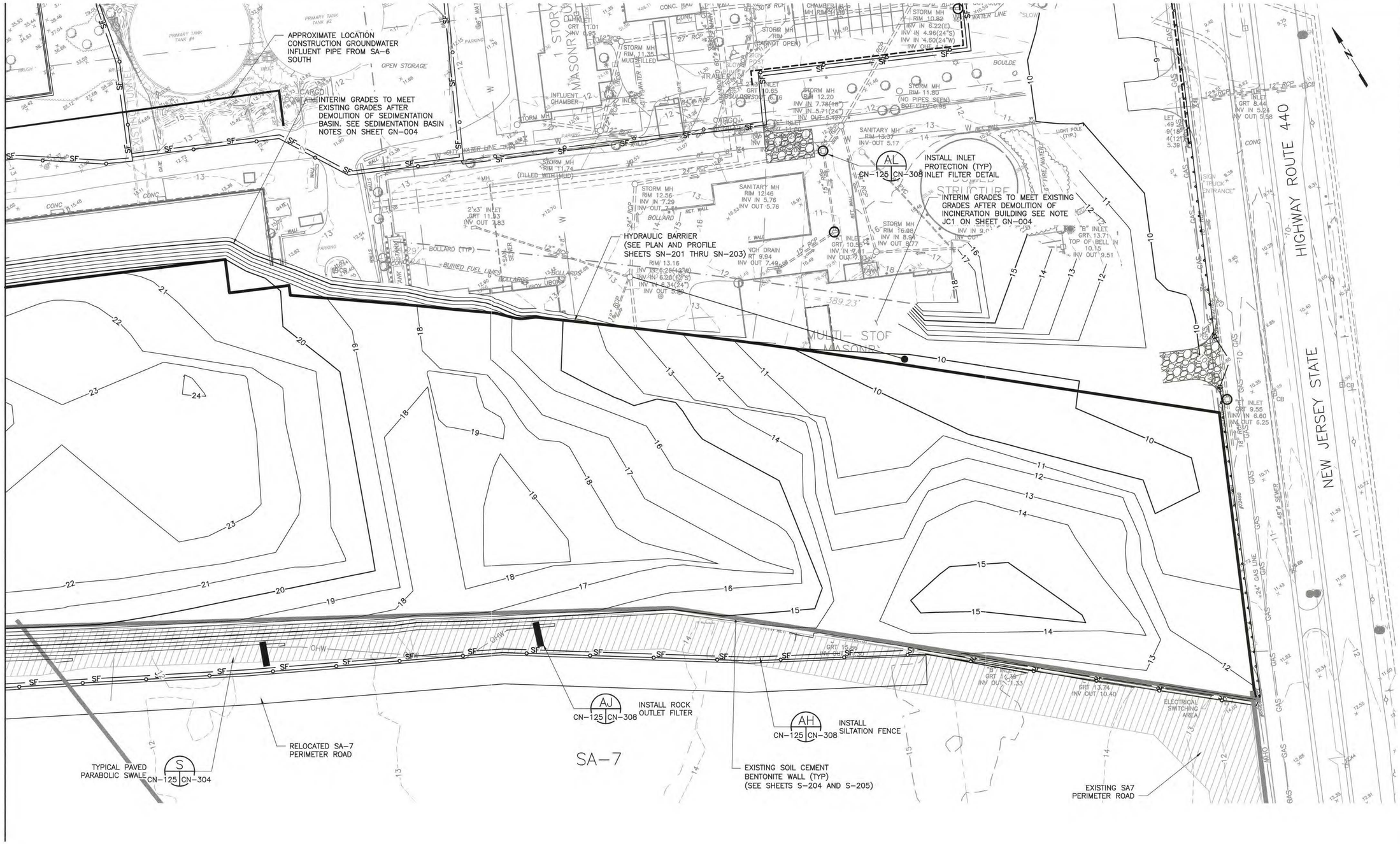
This change impacted the Geomembrane/Subgrade surface (DCB 054.1), Barrier Wall plan and profiles (DCB 054.2) and the Interim Grades (DCB 054.3)

The two revised interim grade drawings are attached to this DCB. The electronic files for the interim grade are also attached.

This file replaces the CAD file that was provided on May 02, 2016 for "Planning Purposes" and volume calculations. The changes in the file since that time has been limited to smoothing of contours to simplify grading.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** Subgrade was adjusted to increase capacity below the liner. **Attachments:** ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: To meet minimum cover requirements the Interim grade also required revision.	**Design Documents Affected:** Drawings CN-125, CN-126
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 5/26/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS BASED ON MINIMAL FILL THICKNESS REQUIREMENTS. FINAL GRADES MAY VARY AFTER CONSTRUCTIBILITY REVIEW.
4. REFER TO APPENDIX K CONCEPTUAL REDEVELOPMENT PLANS (100% REMEDIAL DESIGN REPORT) FOR FUTURE UTILITY ALIGNMENTS AND PRELIMINARY ALTERNATIVE GRADING CONCEPTS.

SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	05/13/16	TDD	TDD	TDD	SGS	TDD	SGS
0	06/07/13	TDD	RJR		SGS	TDD	SGS

REVISION

ISSUED FOR CONSTRUCTION

DCB 054.3

Honeywell
115 TABOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

INTERIM GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

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DATE	
PROJ	3480-12-0317
DWG	CN-125
SHEET	30 OF 70

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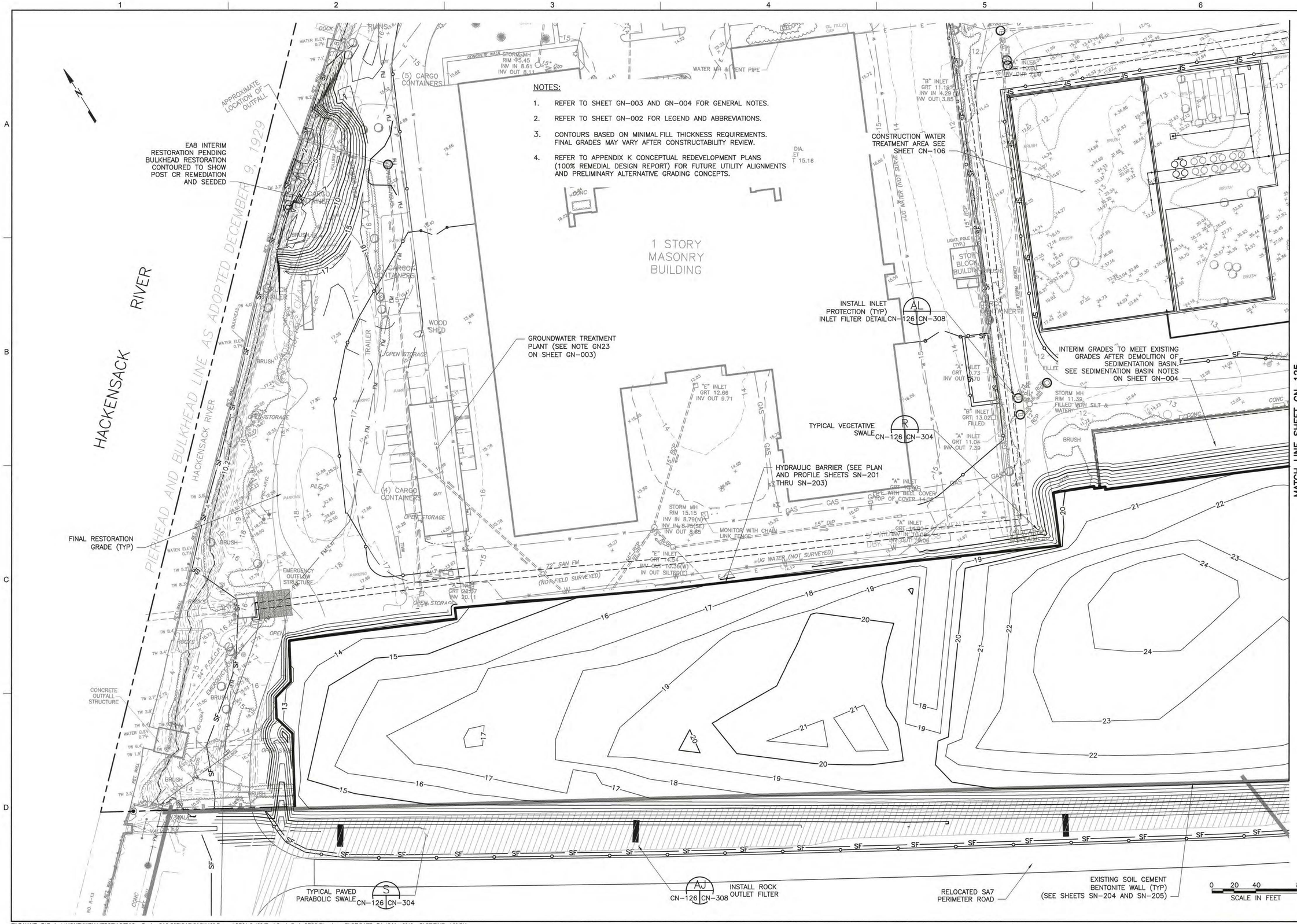
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR30-C-125 Final Grade Drain SESC Plan.dwg PLOT DATE: Fri, 13 May 2016 PLOT TIME: 1:37 PM

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS BASED ON MINIMAL FILL THICKNESS REQUIREMENTS. FINAL GRADES MAY VARY AFTER CONSTRUCTABILITY REVIEW.
4. REFER TO APPENDIX K CONCEPTUAL REDEVELOPMENT PLANS (100% REMEDIAL DESIGN REPORT) FOR FUTURE UTILITY ALIGNMENTS AND PRELIMINARY ALTERNATIVE GRADING CONCEPTS.



NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD	
2	05/13/16	TDD				TDD	SGS	
1	09/13/13	RJR	DCB 054.3 HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM			RJR	SGS	
0	06/07/13	TDD				TDD	SGS	
		TDD	RJR	TDD	APVD		SGS	

REVISION

SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

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115 TABOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

INTERIM GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

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DATE	
PROJ	3480-12-0317
DWG	CN-126
SHEET	31 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR31-C-126 Final Grade Drain SESC Plan.dwg PLOT DATE: Fri, 13 May 2016 PLOT TIME: 1:38 PM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 054.4 **DCB Type:** Minor(a) **Effective Date:** 5/20/16
Project Location: SA-6N	**Associated RFI:**
Title: Geomembrane Subgrade Revisions - Pump Station #1 Corridor	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description.

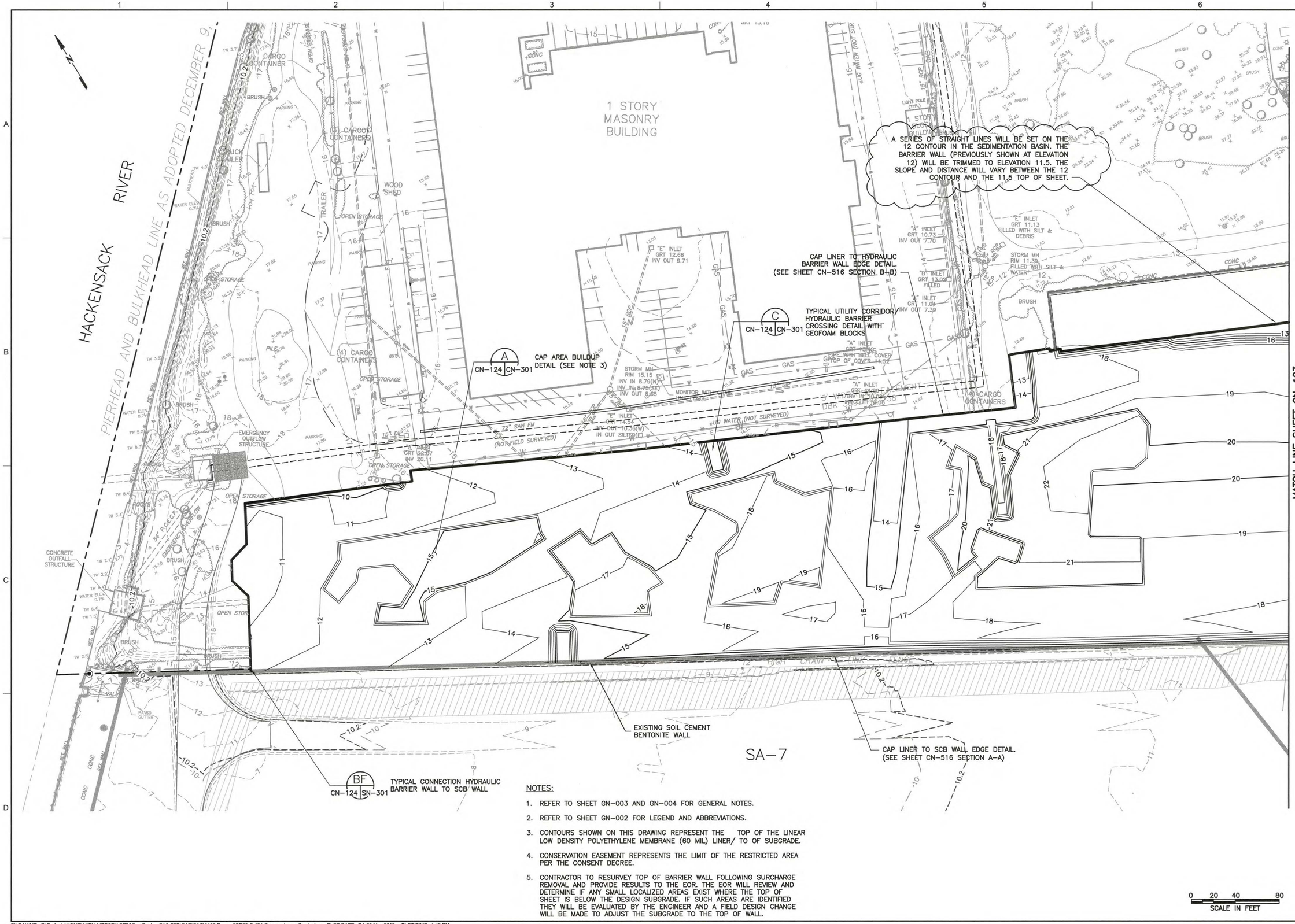
DCB 054 included issuance of a revised subgrade design that included changes resulting from raising the cap grades by 0.25 ft. in the landscaped areas and revisions to utility corridors to reflect the latest CHA utility design.

To accommodate Entact's request to relocate Pump Station #1 (RFI 64) it was necessary to revise the subgrade. The Subgrade was lowered at the new location to accommodate the vault and piping and raised in the original pump station location. An initial revision was made in DCB 054.1.

Following further review it was deemed necessary to lower the geomembrane in this area to provide additional separation between the geomembrane and bottom of the vault.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** Pump Station #1 relocation: increase subgrade clearance
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** Drawing CN-124
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** [signature] **Date:** 5/23/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE LINEAR LOW DENSITY POLYETHYLENE MEMBRANE (60 MIL) LINER/ TO OF SUBGRADE.
4. CONSERVATION EASEMENT REPRESENTS THE LIMIT OF THE RESTRICTED AREA PER THE CONSENT DECREE.
5. CONTRACTOR TO RESURVEY TOP OF BARRIER WALL FOLLOWING SURCHARGE REMOVAL AND PROVIDE RESULTS TO THE EOR. THE EOR WILL REVIEW AND DETERMINE IF ANY SMALL LOCALIZED AREAS EXIST WHERE THE TOP OF SHEET IS BELOW THE DESIGN SUBGRADE. IF SUCH AREAS ARE IDENTIFIED THEY WILL BE EVALUATED BY THE ENGINEER AND A FIELD DESIGN CHANGE WILL BE MADE TO ADJUST THE SUBGRADE TO THE TOP OF WALL.

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
5	05/20/16	DCB 054.4 PUMP STATION #1 CORRIDOR				TDD	SGS
4	02/16/16	DCB 054.1 REVISED SED BASIN AND PS#1 SUBGRADE				TDD	SGS
3	02/01/16	DCB 054 INCREASE LANDSCAPE GRADE 0.25 FEET				TDD	SGS
2	02/24/15	DCB 007.5				TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM				RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION				TDD	SGS
		REVISION					

SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
115 TABOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

GEOMEMBRANE GRADING PLAN

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PROJ	3480-12-0317
DWG	CN-124
SHEET	29 OF 70

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR29-C-124 Geomembrane Grade.dwg PLOT DATE: Fri, 20 May 2016 PLOT TIME: 1:49 PM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 7.2.2 **DCB Type:** Minor (a) **Effective Date:** 6/6/16
Project Location: SA-6 North	**Associated RFI:**
Title: GW Extraction System – FM and E&I	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description:

DCB-007.1, issued to Entact on 6/12/14, was provided for the trench detail portion of the modified groundwater system design. At the time of issue details for the SA-6N trench were subject to potential further modification.

DCB-007.2, issued to Entact on 11/24/14, provided the details for the SA-6N groundwater collection trenches and associated electrical supply and groundwater discharge piping.

DCB-007.2.1, draft prepared on 9/2/15, provided a revised version of 007.2. DCB-007.2.1 was not issued to Entact. However Entact was verbally briefed on the proposed changes, including elimination of E&I wiring from the scope, the same as for SA-6S. The revisions pertained to the following items:

- Electrical wiring and Instrumentation wire was eliminated
- Conduit sizes and type were updated.
- Conduit was shown terminating outside of the groundwater treatment plant
- Conduit and piping from Pump Station MH#2 was re-routed into the adjacent utility corridor to the west. The re-routing reduced excavation of subgrade and provided a more direct routing now that all discharge is to be routed to the GWTP.

DCB 007.2.2 was triggered by the following several changes in project scope:

- Re-re-routing of the Contingent Groundwater System Discharge for both SA-6N and SA-6S from the JCMUA grit chamber to the new GWTP.
- Revisions to the Cap grading and utility corridors which allowed for elimination of the Cap Drainage Pump Station.
- Running PS#1 FM as a separate line to the GWTP

The following drawings will be re-issued as part of DCB 7.2.2:

Contingent Groundwater Extractions System Plan and Profile and Details

- CN-201
- CN-202
- CN-203
- CN-204
- CN-305 (Groundwater Extraction System Details)
- CN-306 (Groundwater Extraction System Details)
- CN-310 (Groundwater Extraction Trench Details).

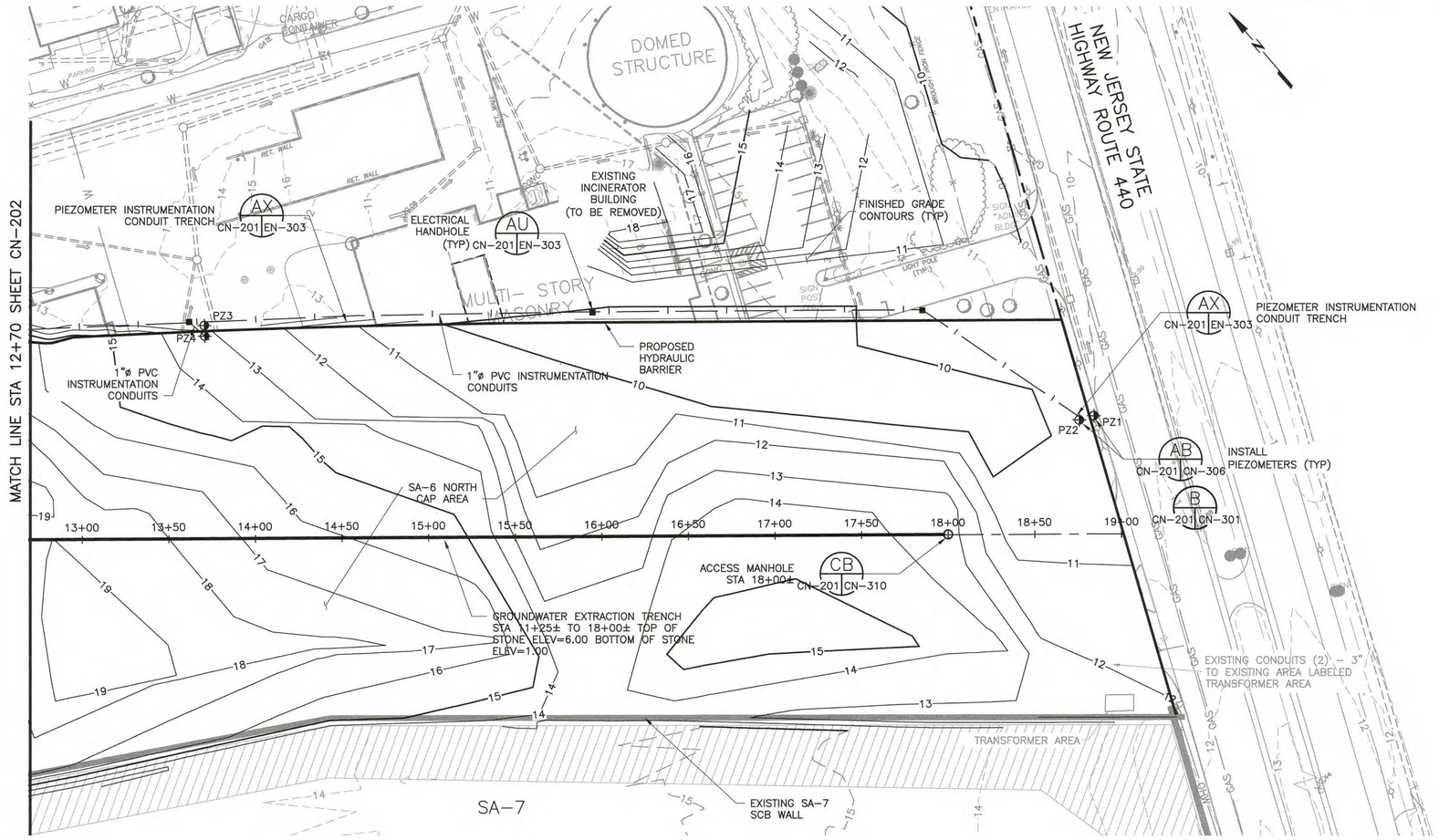
Electrical Drawings

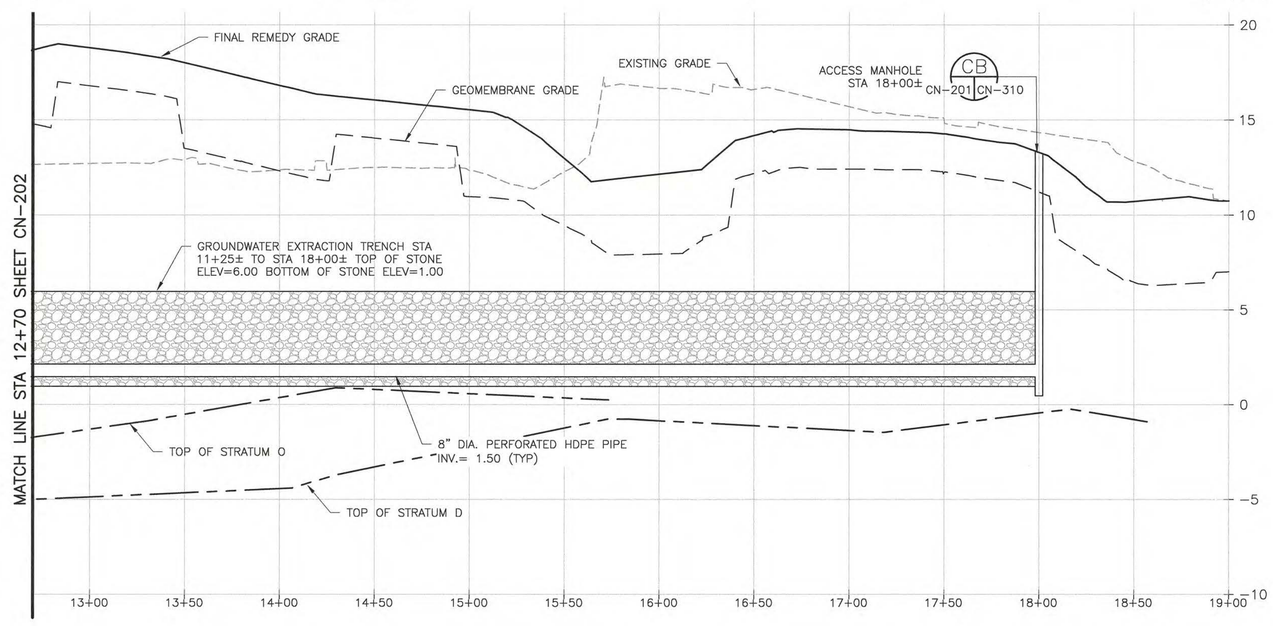
- EN-301 (Not for Construction)
- EN-302 (Not for Construction)
- EN-303

It is noted that the 5 piezometric pairs on SA-6N are not included in this DCB. The piezometers are to be installed by Amec Foster Wheeler. Access to each location will be provided by Entact.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** : Design changed based on information gathered during construction **Attachments:** ☑ Yes ☐ No CN-201, CN-202, CN-203, CN-204, CN-305, CN-306, CN-310, EN-301 (Not IFC), EN-302 (Not IFC), EN-303 Cost Implication: ☑ Yes ☐ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** CN-201, CN-202, CN-203, CN-204, CN-305, CN-306, CN-310, EN-301 (Not IFC), EN-302 (Not IFC), EN-303
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 6/10/16
(Name / Signature):	**Does DCB Result in CCO?** ☑ **Yes (b)** ☐ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FOR FORCE MAIN PROFILE INFORMATION SEE SHEET CN-204.
4. FINAL PLAN VIEW ALIGNMENT MAY BE ADJUSTED SUBJECT TO THE APPROVAL OF THE ENGINEER TO AVOID OBSTRUCTIONS SUCH AS EXISTING BUILDING FOUNDATIONS, ABANDONED UTILITIES AND PILES.
5. TRENCH INVERT HAS BEEN DESIGNED TO BE ABOVE STRATUM O AND STRATUM D. INVERTS MAY BE ADJUSTED DURING DESIGN DEVELOPMENT OR IN RESPONSE TO OBSERVED FIELD CONDITIONS SUBJECT TO THE APPROVAL OF THE ENGINEER AND GROUNDWATER MODELER.
6. PLACE STONE LOOSE IN GROUNDWATER COLLECTION TRENCH. RUN PLATE COMPACTOR OR EQUAL OVER TRENCH PRIOR TO INSTALLING GEOTEXTILE FABRIC.
7. BACKFILL ABOVE GEOTEXTILE FABRIC MAY BE COMPOSED OF EXCAVATED TRENCH SPOIL OR OTHER MATERIAL THAT CAN BE READILY COMPACTED. WET SOIL OVERSIZED DEBRIS OR OTHER MATERIALS AS DEEMED UNSUITABLE CONSISTENT WITH THE EARTHWORK SPECIFICATION 1.04.B. WILL NOT BE USED. BACKFILL WILL BE PLACED IN LIFTS CONSISTENT WITH THE EARTHWORKS SPECIFICATION 3.12.B.4.
8. FLEXIBLE COUPLINGS SHALL BE FLEXJOINT COUPLING AS MANUFACTURED BY ETHYLENE, LLC OR EQUAL. FLEXIBLE COUPLINGS SHALL HAVE A MINIMUM OF (2) BELLOWS AND BE TEFLON-LINED WITH 316 SS FLANGES (POWER BAKED EPOXY COATING APPLIED) AND VITON GASKETS.
9. CONCRETE ENCASEMENT REQUIRED ON E&I CONDUIT IF BURIAL DEPTH IS LESS THAN 24" OR OTHERWISE NOTED.

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
4	06/06/16	TDD	TDD	RJR	TDD	SGS	SGS
3	09/02/15	TDD	TDD	RJR	TDD	SGS	SGS
2	11/19/14	TDD	TDD	RJR	TDD	SGS	SGS
1	09/13/13	RJR	TDD	RJR	TDD	SGS	SGS
0	06/07/13	TDD	TDD	RJR	TDD	SGS	SGS

REVISION

DCB 007.2.2
DCB 007.2.1
DCB 007.2
HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM
ISSUED FOR CONSTRUCTION

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-201
SHEET	33 OF 70

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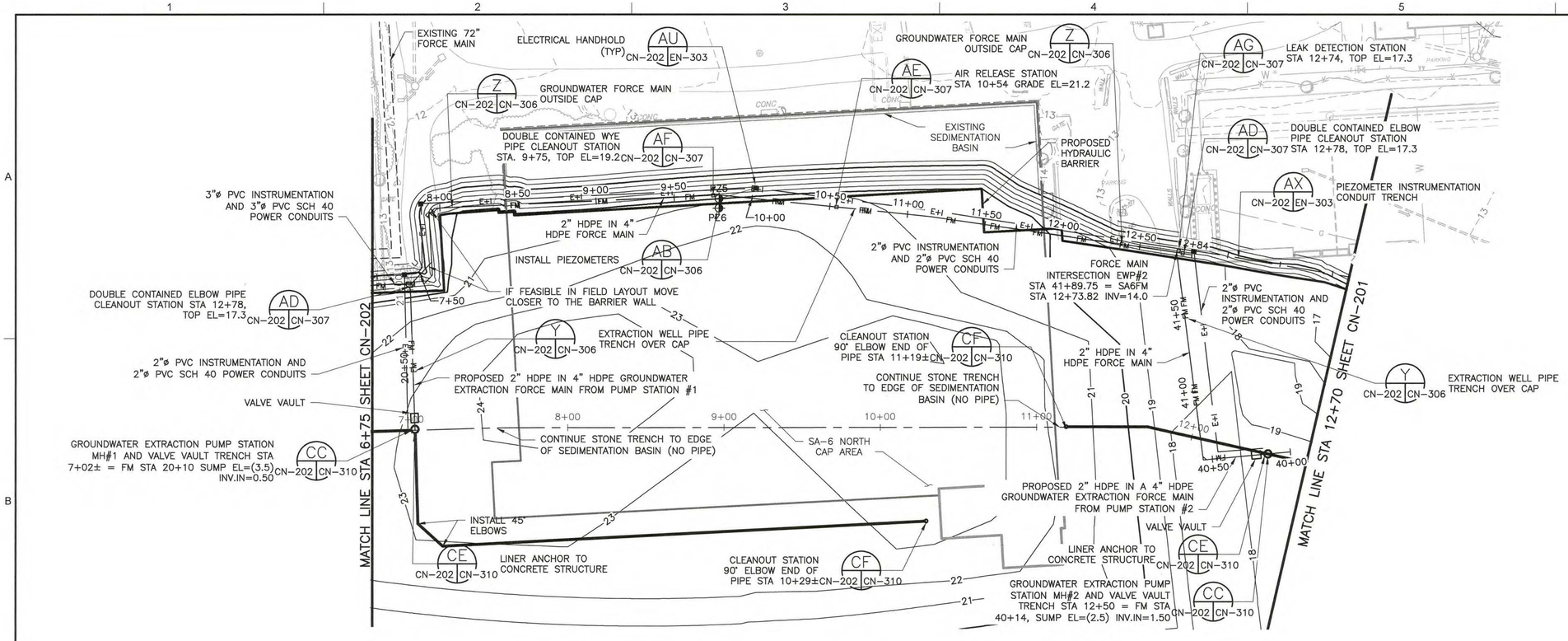
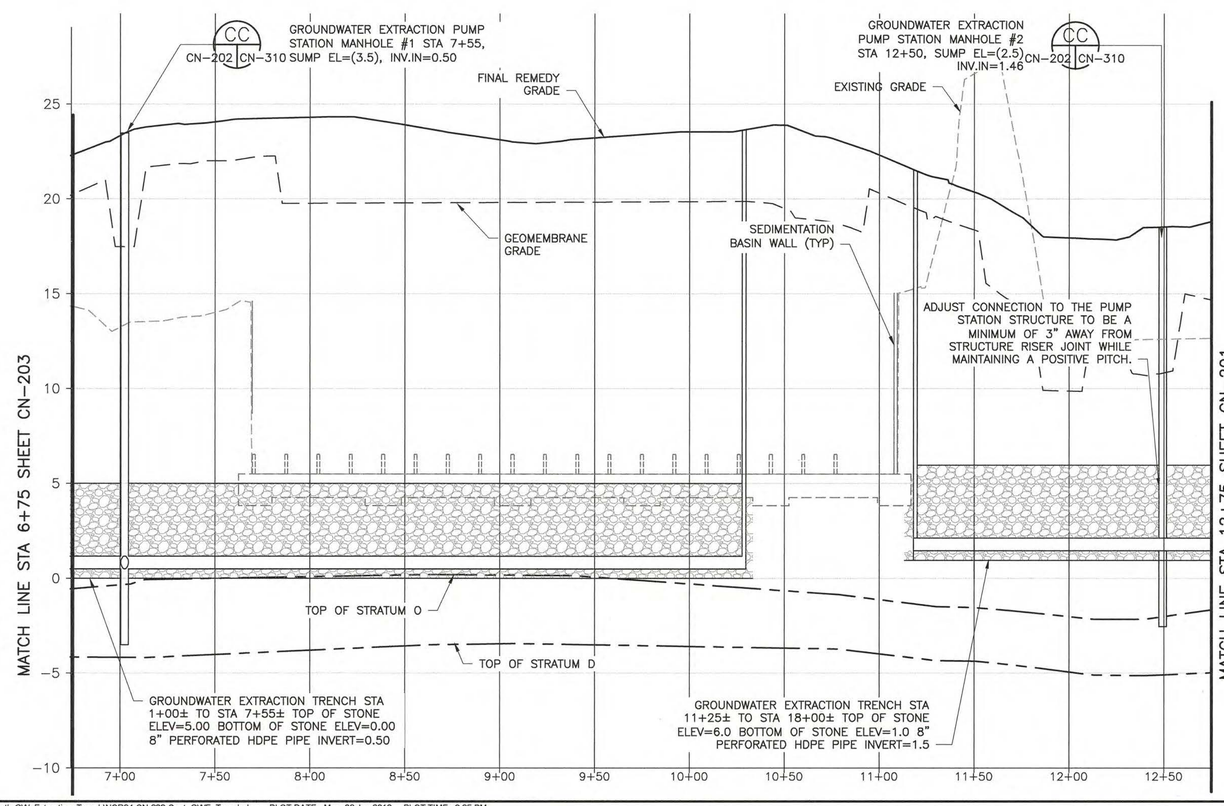
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\NCR33-CN-201-Cont_GWE_Trench.dwg PLOT DATE: Mon, 06 Jun 2016 PLOT TIME: 3:21 PM





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET CN-201 FOR NOTES.
4. ~~BARRIER WALL ALIGNMENT SUBJECT TO FINAL LAYOUT CHANGES.~~

VERTICAL SCALE 0 2 4 8 SCALE IN FEET

HORIZONTAL SCALE 0 20 40 80 SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
4	06/06/16	DCB 007.2.2	RJR	SGS
3	09/02/15	DCB 007.2.1	TDD	SGS
2	11/19/14	DCB 007.2	TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR TDD CHK RJR APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

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DATE	
PROJ	3480-12-0317
DWG	CN-202
SHEET	34 OF 70

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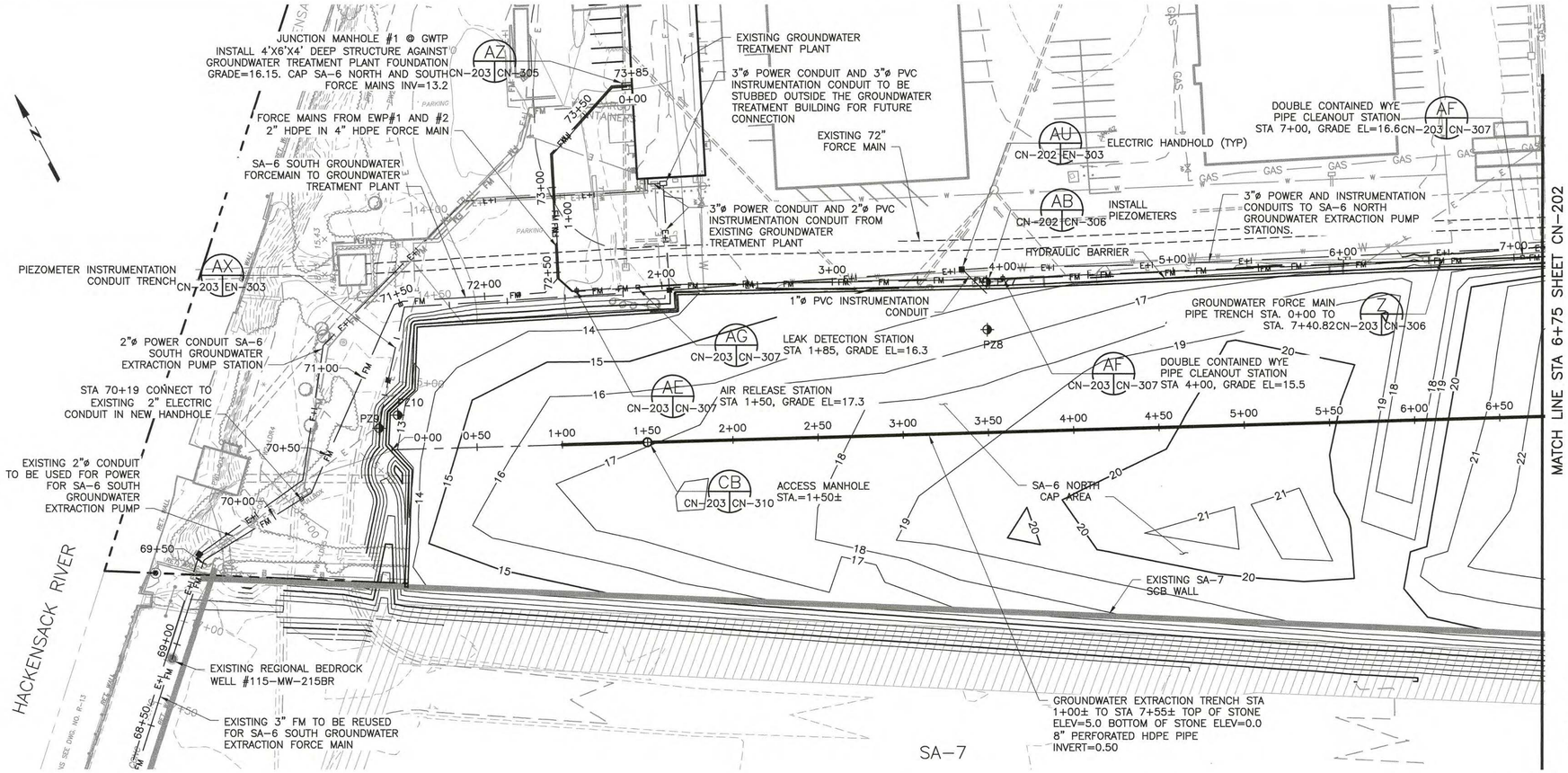

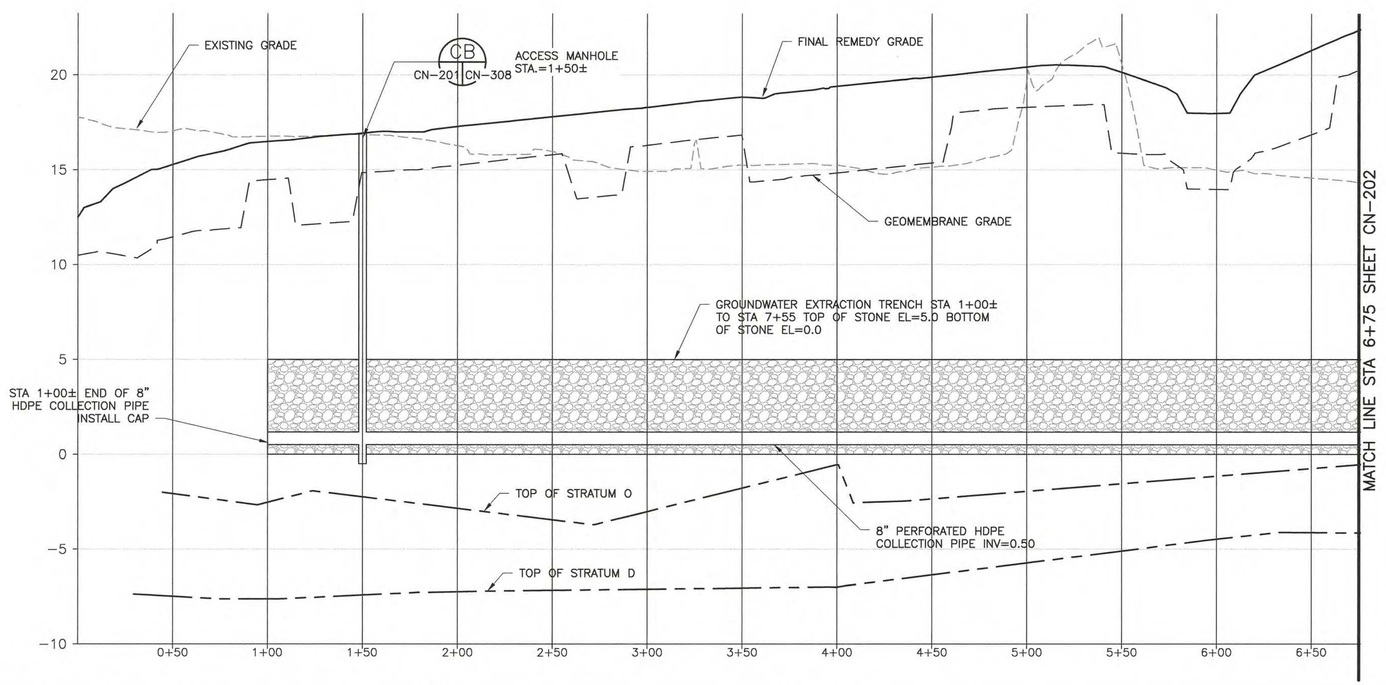

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET CN-201 FOR NOTES.

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

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DSGN TDD DR RJR CHK TDD APVD SGS

SAMUEL G. SHALLARD
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Hamilton, NJ 08619
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PROJ	3480-12-0317
DWG	CN-203
SHEET	35 OF 70

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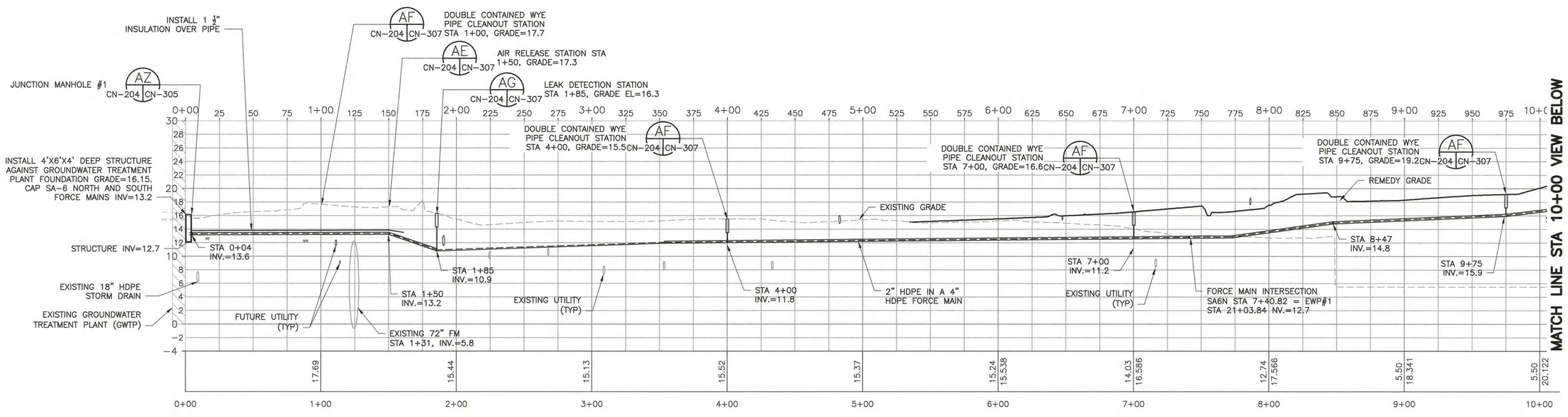
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\NCR35-CN-203-Cont_GWE_Trench.dwg PLOT DATE: Mon, 06 Jun 2016 PLOT TIME: 3:29 PM

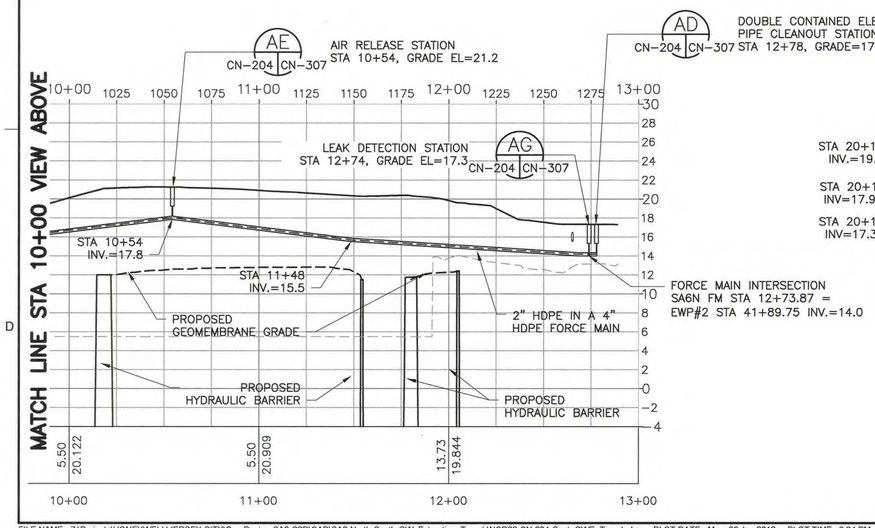


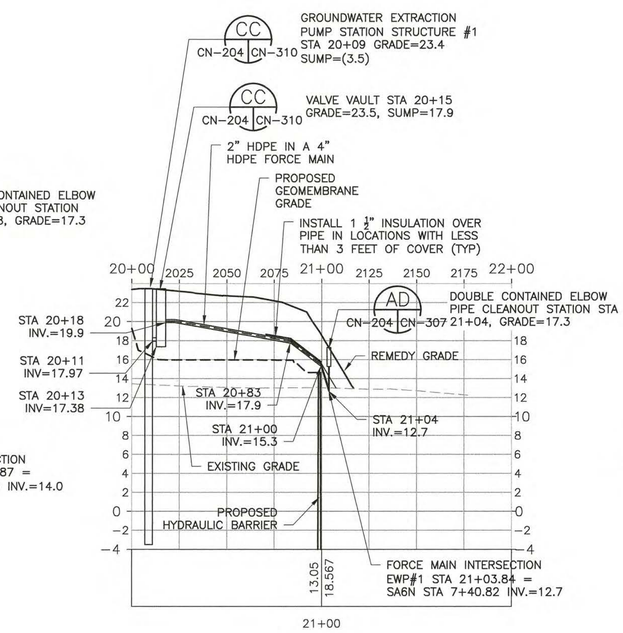
NOTE:

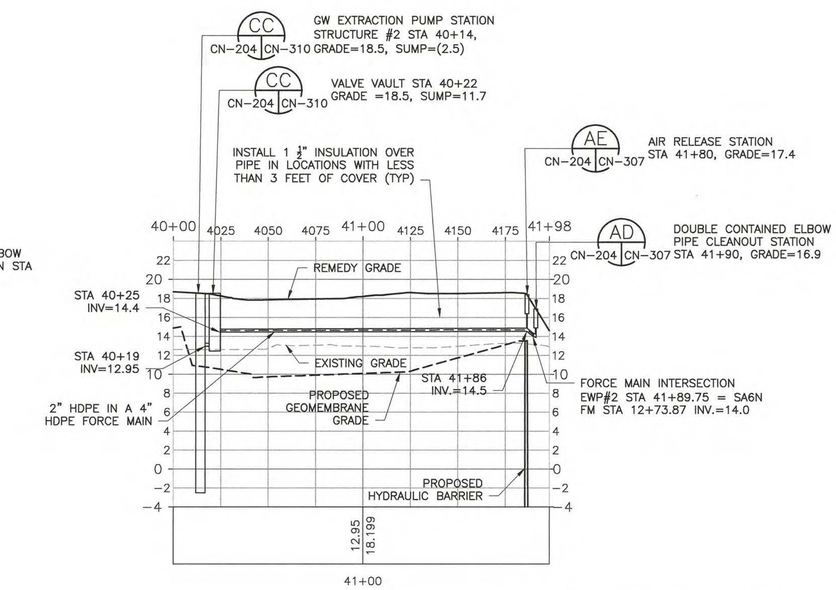
THE FM FROM MH#1 AND MH#2 OCCUPY THE SAME ALIGNMENT BETWEEN THE GWTP 0+00 AND STN. 7+40. THE FM (S) WILL BE INSTALLED ON THE SAME LINE AND GRADE WITH A NOMINAL 6 INCH PLAN VIEW SEPARATION. AIR RELEASE/LEAK DETECTION, AND WYE CLEANOUTS, FOR THE TWO FM'S SHOULD BE COLLOCATED IN THE SAME 2X2 STRUCTURES BETWEEN 0+00 AND 7+40

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. THE DESIGN OF THE CONTINGENT GROUNDWATER EXTRACTION SYSTEM IS CONCEPTUAL AND HAS BEEN BASED ON THE AVAILABLE HYDROGEOLOGIC INFORMATION. THE DESIGN IS BASED ON A THEORETICAL SCENARIO USING CONSERVATIVE ASSUMPTIONS. HONEYWELL WILL CONTINUE TO EVALUATE PERTINENT INFORMATION GATHERED THROUGH DEWATERING AND OTHER CONSTRUCTION OPERATIONS. THIS INFORMATION WILL BE USED TO CALIBRATE THE GROUNDWATER CAPTURE MODEL, SUBJECT TO RESULTS OF THAT MODEL CALIBRATION AND EVALUATION OF THE IMPACTS ON THE SYSTEM DESIGN HONEYWELL MAY PROPOSE ALTERNATIVE GROUNDWATER EXTRACTION DESIGNS CAPABLE OF MEETING THE CRITERIA STATED IN ARTICLE III A 58 OF THE CONSENT DECREE.







HORIZONTAL SCALE 0 20 40 80 SCALE IN FEET

VERTICAL SCALE 0 2 4 8 SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
4	06/06/16	DCB 007.2.2	RJR	SGS
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1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR TDD CHK RJR APVD TDD APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-204
SHEET	36 OF 70

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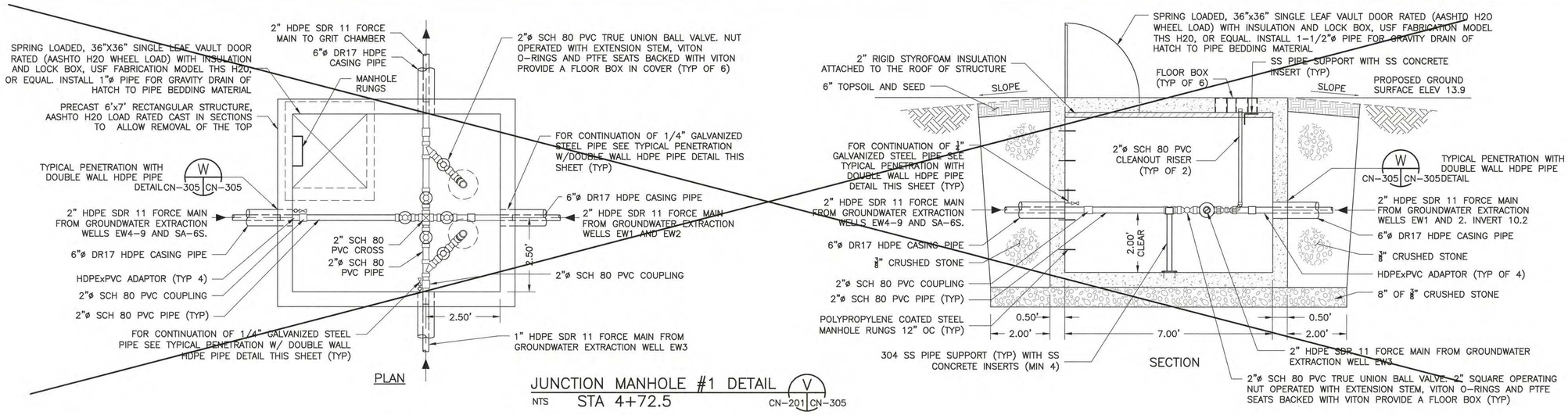
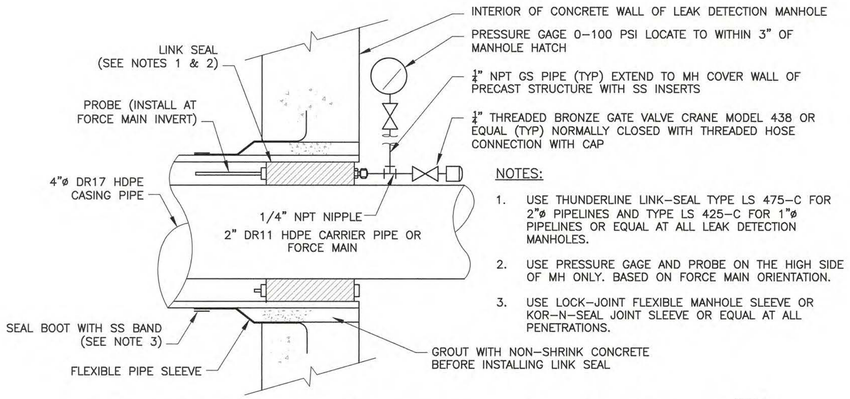


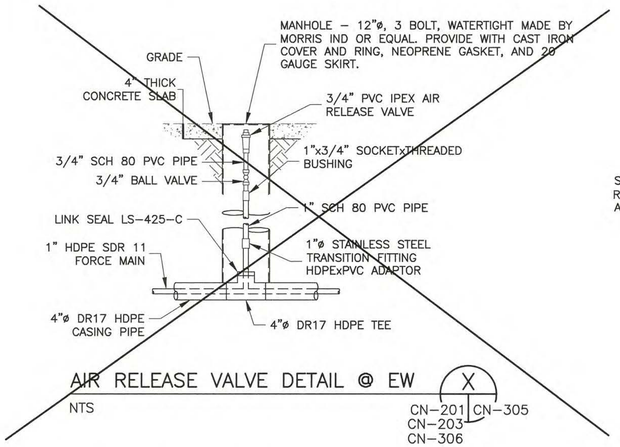
JUNCTION MANHOLE #1 DETAIL (V) CN-201 CN-305
NTS STA 4+72.5



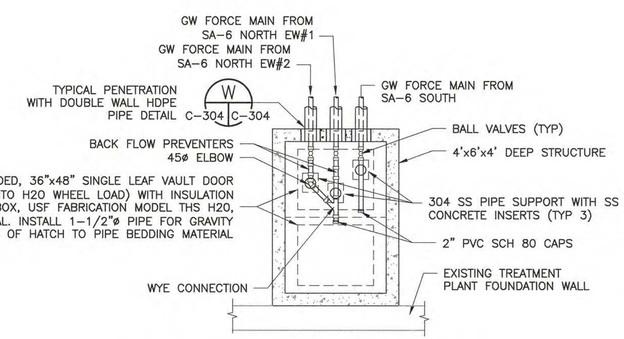
NOTES:

1. USE THUNDERLINE LINK-SEAL TYPE LS 475-C FOR 2"ø PIPELINES AND TYPE LS 425-C FOR 1"ø PIPELINES OR EQUAL AT ALL LEAK DETECTION MANHOLES.
2. USE PRESSURE GAGE AND PROBE ON THE HIGH SIDE OF MH ONLY. BASED ON FORCE MAIN ORIENTATION.
3. USE LOCK-JOINT FLEXIBLE MANHOLE SLEEVE OR KOR-N-SEAL JOINT SLEEVE OR EQUAL AT ALL PENETRATIONS.

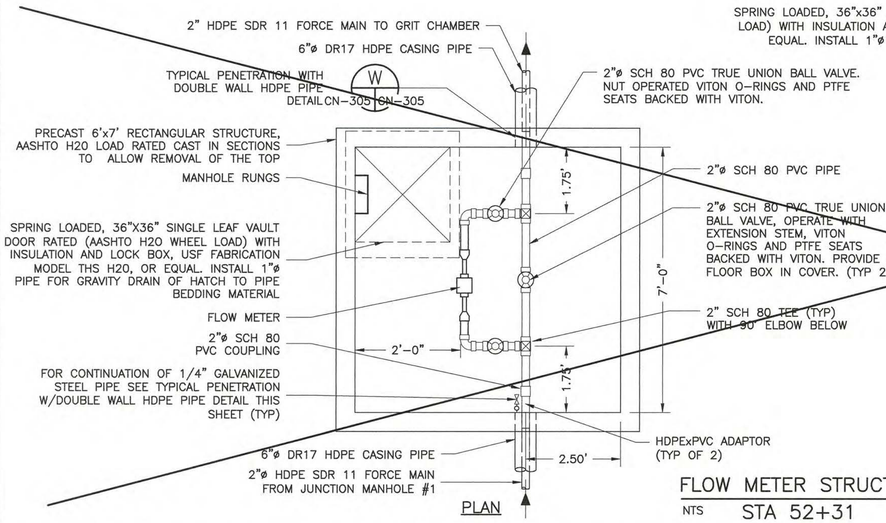
TYPICAL PENETRATION W/DOUBLE WALL HDPE PIPE DETAIL (W) CN-201 CN-305 CN-305
NTS

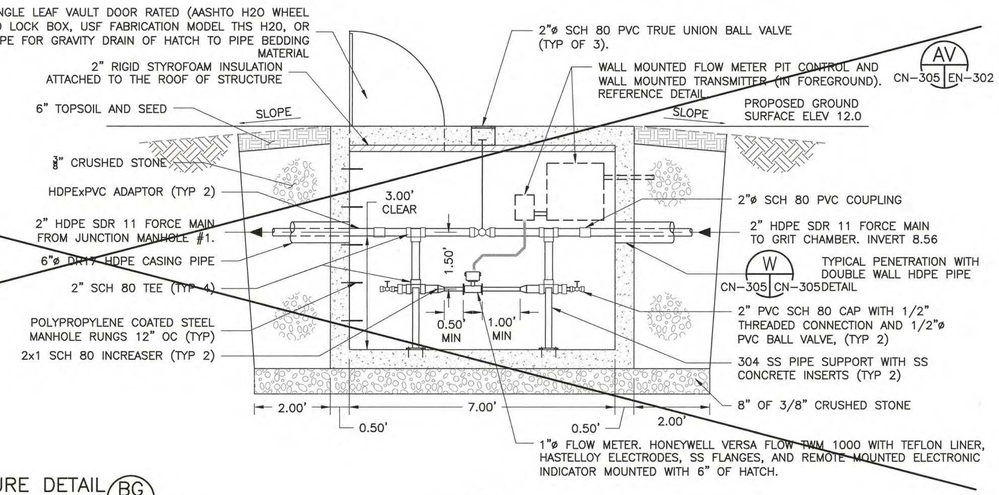


AIR RELEASE VALVE DETAIL @ EW (X) CN-201 CN-305 CN-203 CN-306
NTS



JUNCTION MANHOLE #1 @ GWTP (AZ) CN-204 CN-305
NTS





FLOW METER STRUCTURE DETAIL (BG) CN-201 CN-305
NTS STA 52+31

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. THE INSTALLATION CONTRACTOR SHALL PROVIDE A PERMANENT SIGN INDICATING THAT THE JUNCTION MANHOLE AND THE FLOW METER STRUCTURE IS A CONFINED SPACE ENTRY STRUCTURE.
4. ALL ALUMINUM HATCHES SHALL BE PROVIDED WITH SS HINGES, HOLD OPEN ARMS, AND SPRING ASSIST.

NO.	DATE	REVISION	DR	CHK	APVD
2	06/06/16	DCB 007.2.2	RJR	SGS	SGS
1	05/12/16	DCB 7.2	RJR	SGS	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	REO	SGS	APVD

DSGN REO RJR REO

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
115 TABOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 989 - 2829
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
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DATE	
PROJ	3480-12-0317
DWG	CN-305
SHEET	40 OF 70

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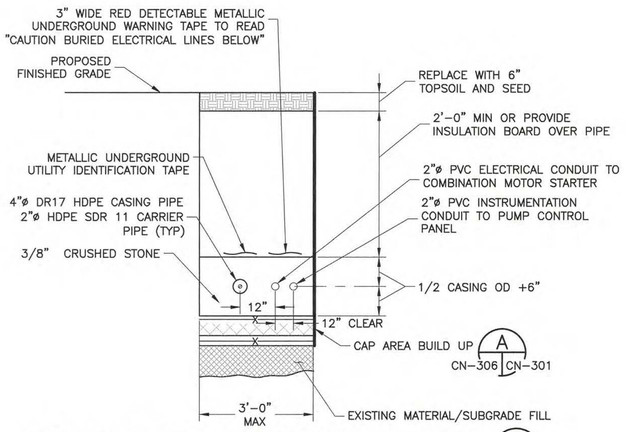
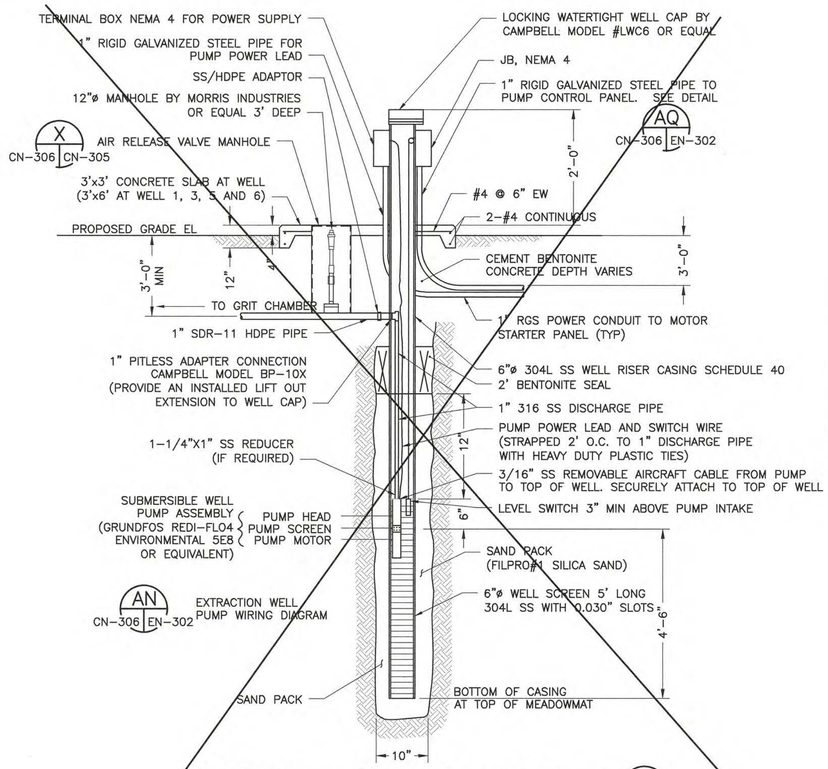
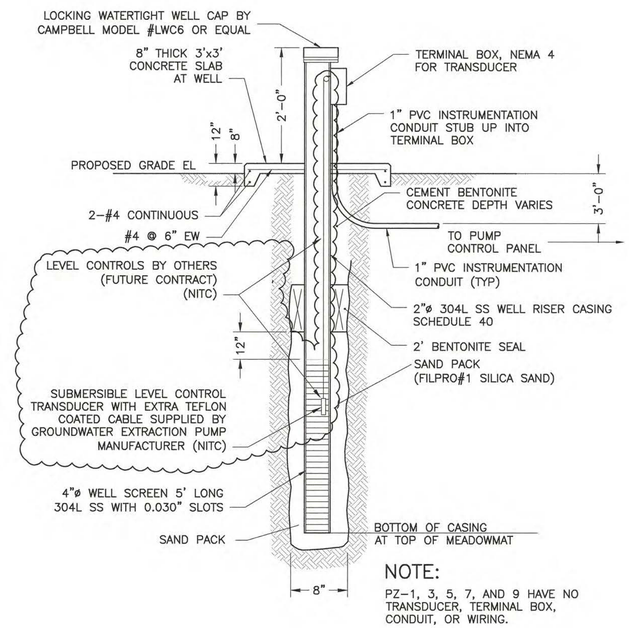


EXTRACTION WELL PIPE TRENCH OVER CAP (Y)
NTS
CN-202 CN-306
CN-304

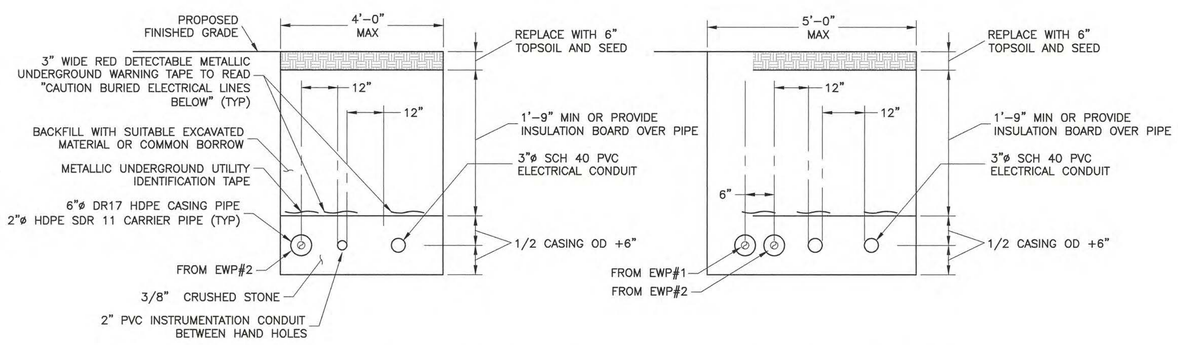


GROUNDWATER EXTRACTION WELL DETAIL (AA)
NTS
CN-201 CN-306
CN-202



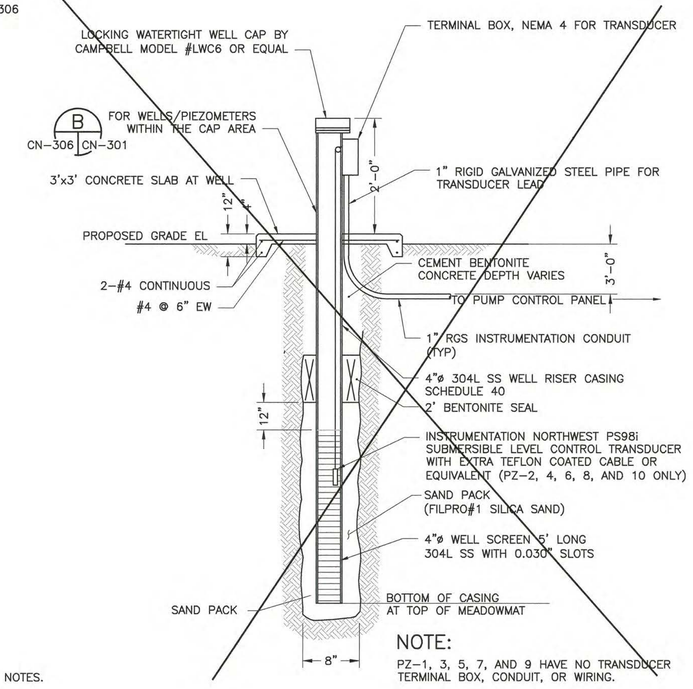
NOTE:
PZ-1, 3, 5, 7, AND 9 HAVE NO TRANSDUCER, TERMINAL BOX, CONDUIT, OR WIRING.

PIEZOMETER DETAIL (AB)
NTS
CN-201 CN-306
CN-202
CN-203



FROM STATION 7+40.82 TO 12+73.82 FROM STATION 0+00 TO 7+40.82.

GROUNDWATER FORCE MAIN PIPE TRENCH OUTSIDE CAP (Z)
NTS
CN-202 CN-306
CN-307



NOTE:
PZ-1, 3, 5, 7, AND 9 HAVE NO TRANSDUCER TERMINAL BOX, CONDUIT, OR WIRING.

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

NO.	DATE	DR	REO	CHK	RJR	APVD	REO
DSGN		REVISION					
1	06/06/16	DCB 007.2.2			RJR	BY	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION			REO	APVD	SGS

Honeywell
115 TABOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619 (609) 889 - 2529
NJ Cert of Authorization 24GA28001900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-306
SHEET	41 OF 70

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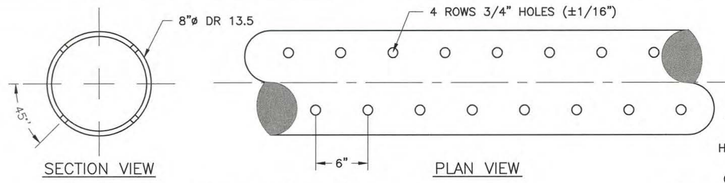
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR41-C-306 Extraction Well Details.dwg PLOT DATE: Mon, 06 Jun 2016 PLOT TIME: 1:47 PM

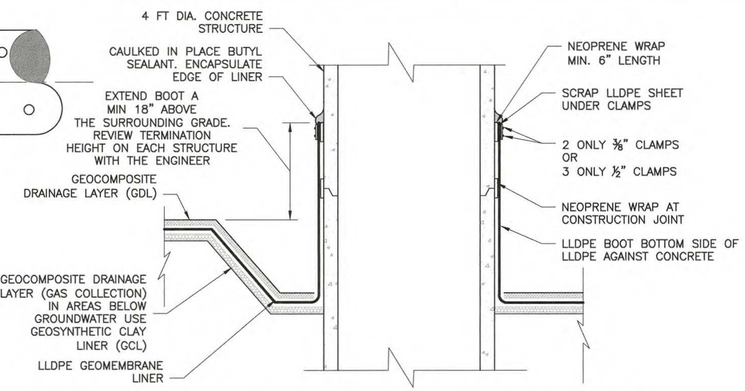


PIPE PERFORATIONS (CD)

NTS — TYP | CN-310

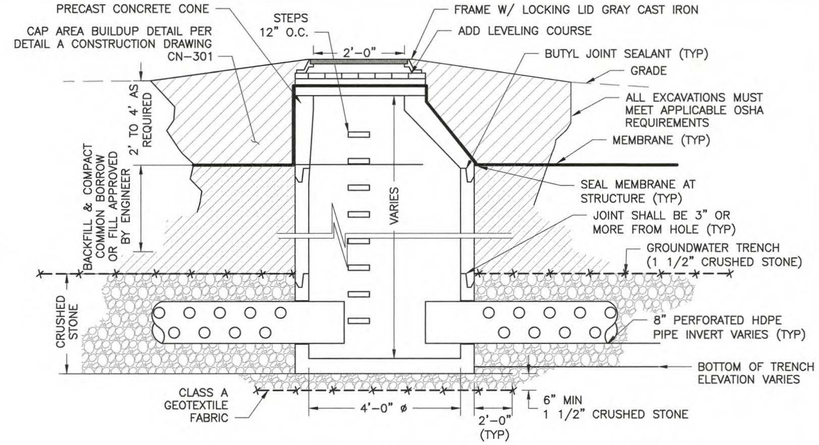
CONSTRUCTION SEQUENCE

- SET MANHOLE BASE AND RISER SECTIONS.
- EXTEND RISER WITH SURCHARGE AND FILL PLACEMENT.
- PLACE TEMPORARY COVER.
- MEASURE TOP/ BOTTOM ELEVATION POST SURCHARGE.
- REVIEW RISER SECTIONS AND IF NECESSARY ORDER A NEW RISER TO MEET DESIGN GRADE.
- OR ADJUST DESIGN GRADE TO MATCH AVAILABLE RISERS – SUBJECT TO ENGINEERS APPROVAL.



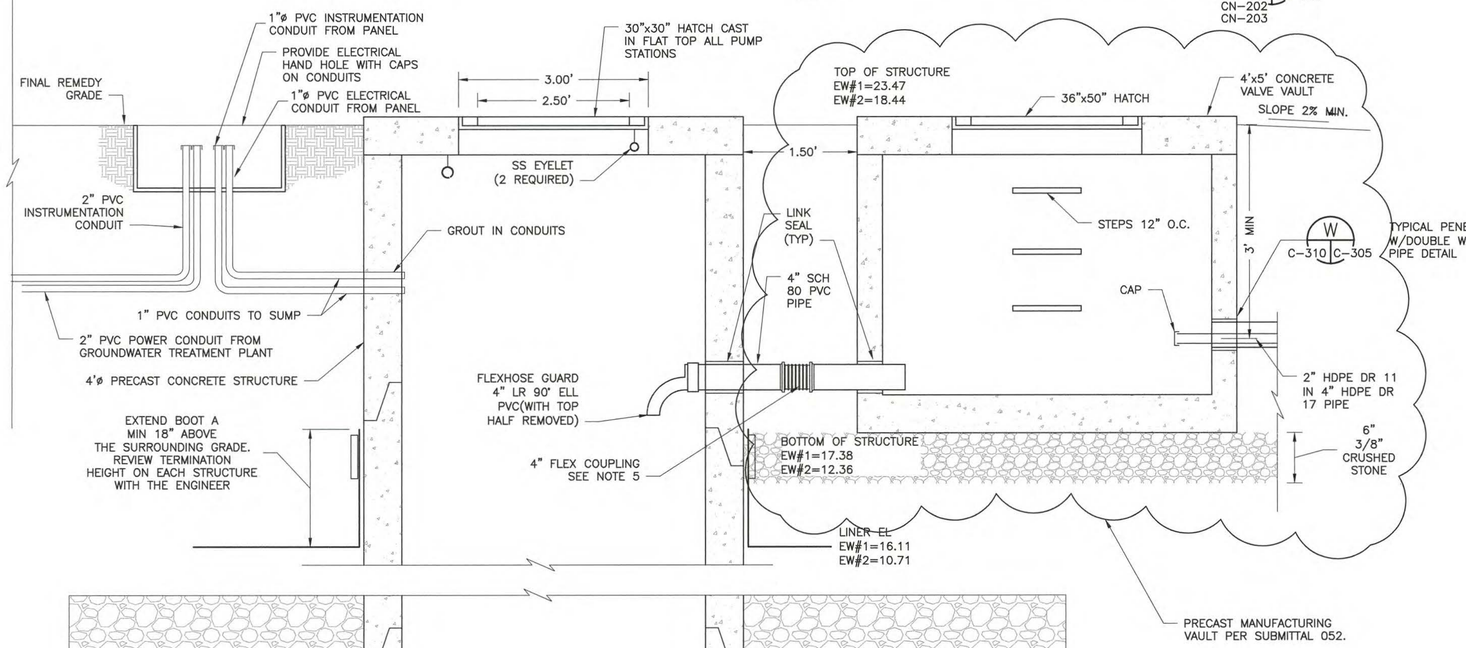
LINER ANCHOR TO CONCRETE STRUCTURE (CE)

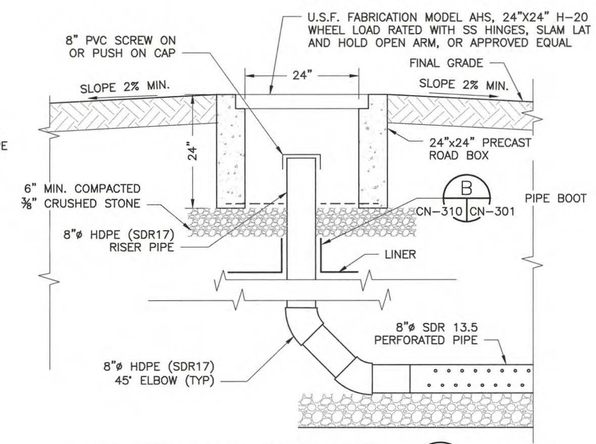
NTS — CN-201 | CN-310, CN-202, CN-203



TYPICAL ACCESS MANHOLE FINAL CONDITION (CB)

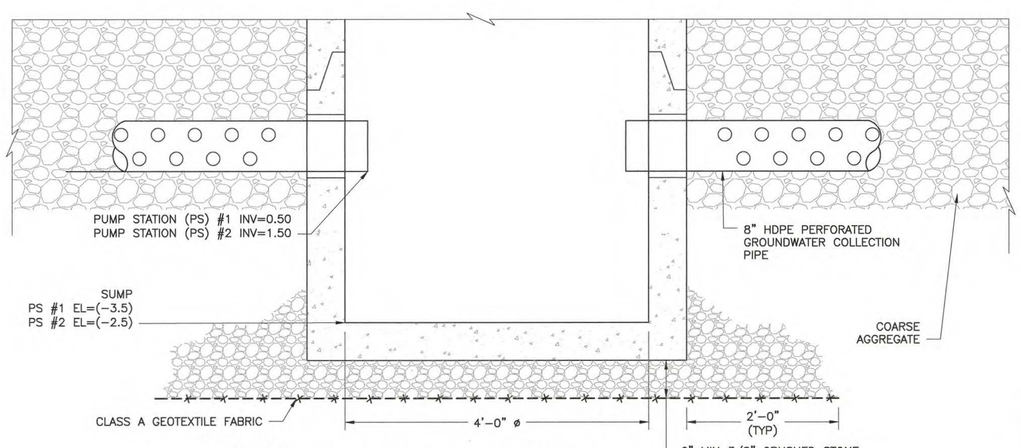
NTS STA=1+55±, AND STA=18+00± — CN-201 | CN-310, CN-203





ELBOW PIPE CLEANOUT (CF)

NTS — CN-202 | CN-310



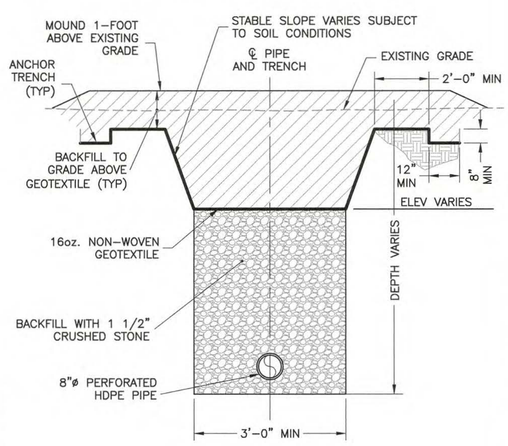
GROUNDWATER EXTRACTION PUMP STATION

STA 7+02± & STA 12+50± (CC)

NTS — CN-202 | CN-310, CN-203, CN-204

NOTE:

PUMPS, WIRING, CONTROLS BY OTHERS UNDER SEPERATE CONTRACT.



GROUNDWATER TRENCH SURCHARGE CONDITION (CA)

NTS — TYP | CN-310

PARTS LIST

ITEM	QTY	MANUFACTURER\ PART NO.	DESCRIPTION
30" X 30" PUMP STATION HATCH	1	ej FABRICATION PRODUCT H30303191 OR APPROVED EQUAL	SPRING LOADED ALUMINUM VAULT HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION
36' X 50" VALVE VAULT HATCH	1	PENNSYLVANIA INSERT CORP STOCK# ATH3050D I*2 OR APPROVED EQUAL	SPRING LOADED ALUMINUM HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION

SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	TDD	CHK	RJR	APVD	TDD	BY	APVD	SGS
4	06/06/16	TDD	DCB 007.2.2		REVISION				TDD	SGS	
3	09/02/15	TDD	DCB 007.2.1 DETAIL CE MODIFIED						TDD	SGS	
2	11/19/14	TDD	DCB 007.2						TDD	SGS	
1	05/14/14	TDD	DCB 007						TDD	SGS	

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Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

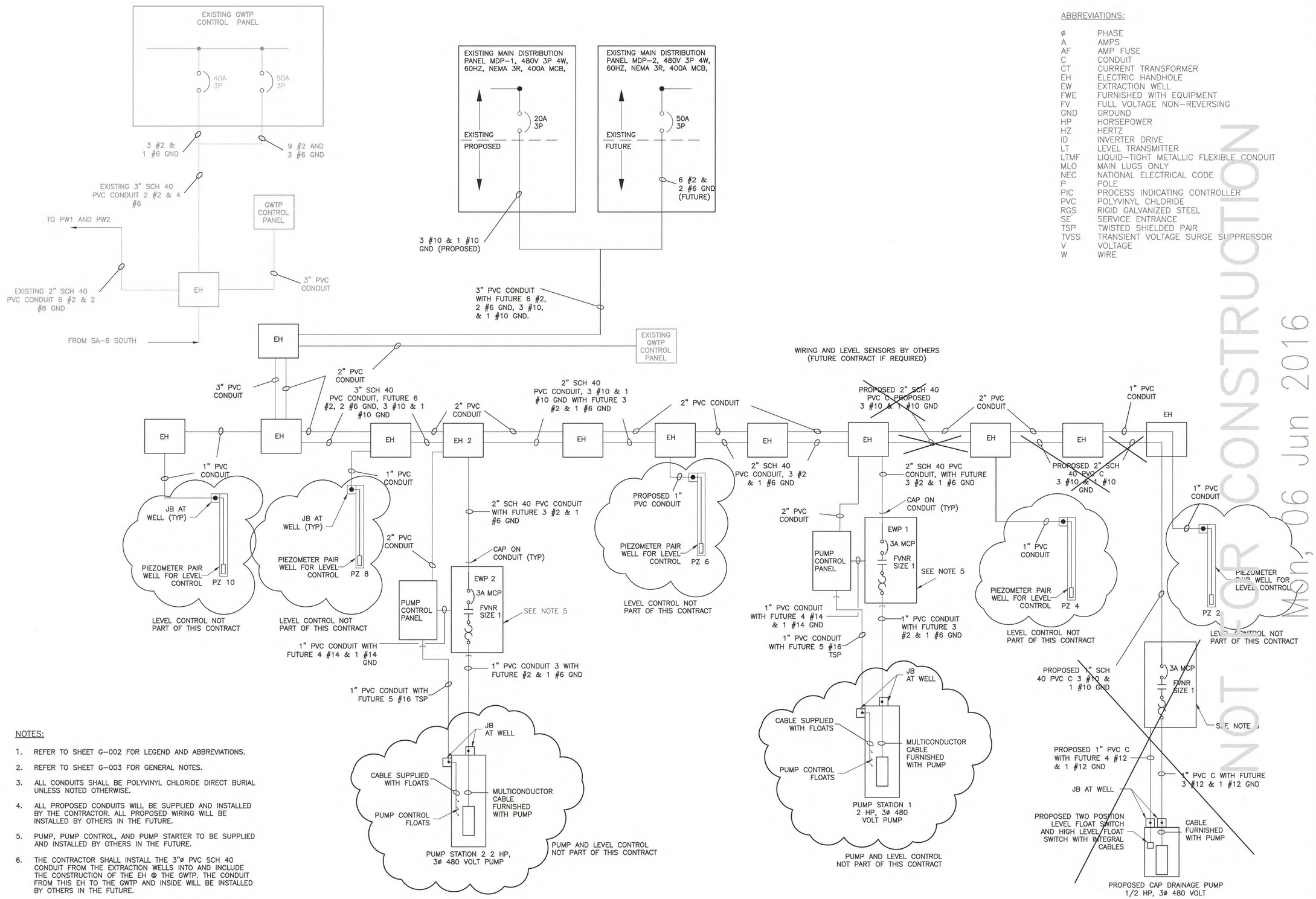
CIVIL

GROUNDWATER EXTRACTION TRENCH DETAILS

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 — 1"

DATE	
PROJ	3480-12-0317
DWG	CN-310
SHEET	45 OF 70



ABBREVIATIONS:

ø	PHASE
A	AMPS
AF	AMP FUSE
C	CONDUIT
CT	CURRENT TRANSFORMER
EH	ELECTRIC HANDHOLE
EW	EXTRACTION WELL
FWE	FURNISHED WITH EQUIPMENT
FV	FULL VOLTAGE NON-REVERSING
GND	GROUND
HP	HORSEPOWER
HZ	HERTZ
ID	INVERTER DRIVE
LT	LEVEL TRANSMITTER
LTMF	LIQUID-TIGHT METALLIC FLEXIBLE CONDUIT
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRICAL CODE
P	POLE
PIC	PROCESS INDICATING CONTROLLER
PVC	POLYVINYL CHLORIDE
RGS	RIGID GALVANIZED STEEL
SE	SERVICE ENTRANCE
TSP	TWISTED SHIELDED PAIR
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
V	VOLTAGE
W	WIRE

NOTES:

1. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.
2. REFER TO SHEET G-003 FOR GENERAL NOTES.
3. ALL CONDUITS SHALL BE POLYVINYL CHLORIDE DIRECT BURIAL UNLESS NOTED OTHERWISE.
4. ALL PROPOSED CONDUITS WILL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR. ALL PROPOSED WIRING WILL BE INSTALLED BY OTHERS IN THE FUTURE.
5. PUMP, PUMP CONTROL, AND PUMP STARTER TO BE SUPPLIED AND INSTALLED BY OTHERS IN THE FUTURE.
6. THE CONTRACTOR SHALL INSTALL THE 3"ø PVC SCH 40 CONDUIT FROM THE EXTRACTION WELLS INTO AND INCLUDE THE CONSTRUCTION OF THE EH @ THE GWTP. THE CONDUIT FROM THIS EH TO THE GWTP AND INSIDE WILL BE INSTALLED BY OTHERS IN THE FUTURE.

NOT FOR CONSTRUCTION
Mon, 06 Jun 2016

SAMUEL G. SHALLARD

NO.	DATE	REVISION	BY	APVD
2	05/06/16	DCB 007.2.2	TDD	SGS
1	09/02/15	DCB 007.2.1	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	GCP	SGS

DSGN GCP DR RJR CHK GCP APVD SGS

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ONE LINE DIAGRAM

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28070900

VERIFY SCALE
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DATE	
PROJ	3480-12-0317
DWG	EN-301
SHEET	67 OF 70

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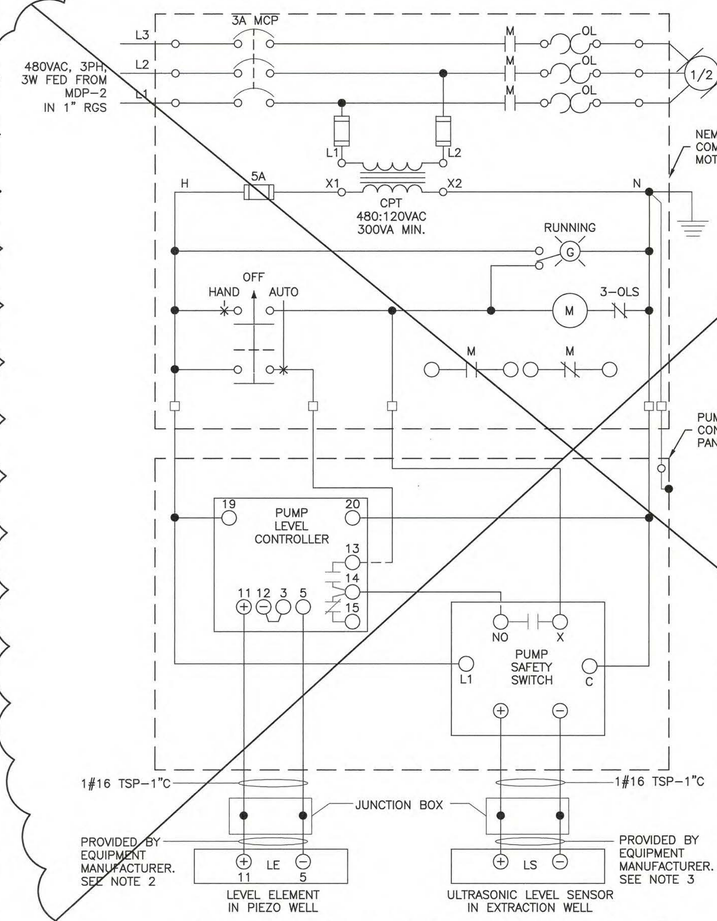


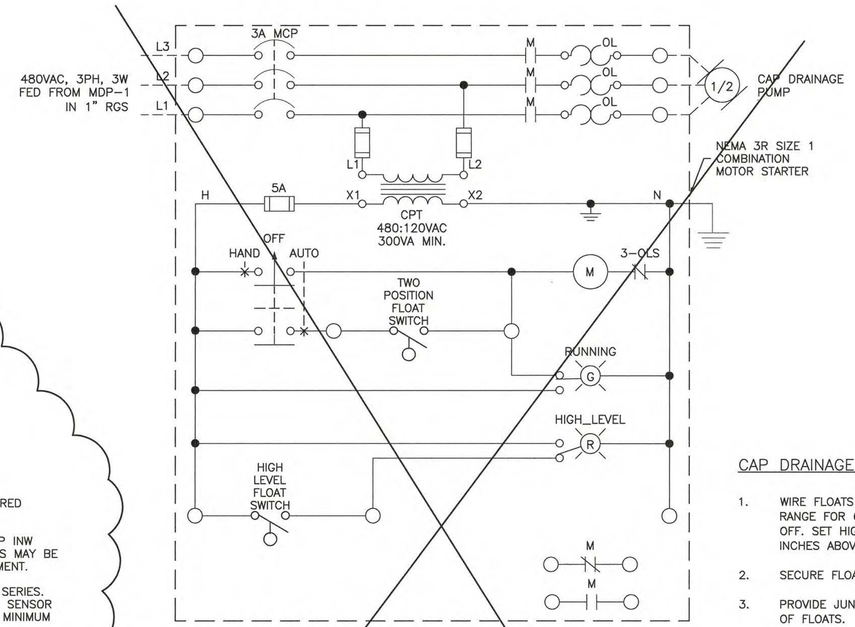
EXTRACTION WELL PUMP WIRING DIAGRAM (AN)
NTS TYPICAL FOR ONE LEVEL TRANSDUCER AND ONE EXTRACTION WELL PUMP CONTROL (SEE NOTE 9)
CN-126 EN-302

NOTE:
ALL 480V WIRING SHALL BE #12 AWG MINIMUM.
CONTROL WIRING SHALL BE #14 AWG MINIMUM

PUMP, PANEL, LEVEL CONTROL, AND WIRING NOT PART OF THIS CONTRACT

EXTRACTION WELL PUMP NOTES:

1. PUMP LEVEL CONTROLLER LOCATED IN THE EVEN NUMBERED PIEZOMETERS IS BASED ON MERCOID SERIES MPCJ.
2. LE ELEMENT BASED ON PS-98i MODEL 3C261T WITH FEP INW CABLE BY INSTRUMENTATION NORTHWEST. SEVERAL PUMPS MAY BE CONNECTED IN SERIES TO THE OUTPUT OF ONE LE ELEMENT.
3. ULTRASONIC LOW LEVEL SENSOR BASED ON OMEGA LVU SERIES. MATERIAL SHALL BE PFA OR EQUAL. SECURE CABLE AND SENSOR TO DISCHARGE PIPE AND SET SENSING POINT 3 INCHES MINIMUM ABOVE PUMP INTAKE.
4. PUMP SAFETY SWITCH BASED ON OMEGA MODEL LVCN.
5. PILOT LIGHTS TO BE PUSH TO TEST AS INDICATED.
6. PUMP CONTROL PANEL SHALL BE NEMA 3R WITH LOCKING HASP. SIZED AS REQUIRED FOR EQUIPMENT. MOUNT COMPONENTS ON DIN RAIL OR STANDARD 1/4 DIN MOUNTING HARDWARE. ALL COMPONENTS SHALL BE INTERNAL TO ENCLOSURE.
7. BOND WELL CASING TO GROUND CONDUCTOR.
8. CONNECT PUMP MOTOR TO GROUND CONDUCTOR.
9. WHEN ONE LEVEL TRANSDUCER IS USED TO CONTROL TWO OR THREE EXTRACTION WELL PUMPS, CONNECT EXTRACTION WELL PUMP PIC CONTROLLERS IN SERIES WITH THE ONE TRANSDUCER IN 4-20mA CURRENT LOOP.
10. ALL PANELS WILL BE DEAD FRONT, LOCKABLE AND WITH NO VISIBLE EXTERIOR LIGHTS.

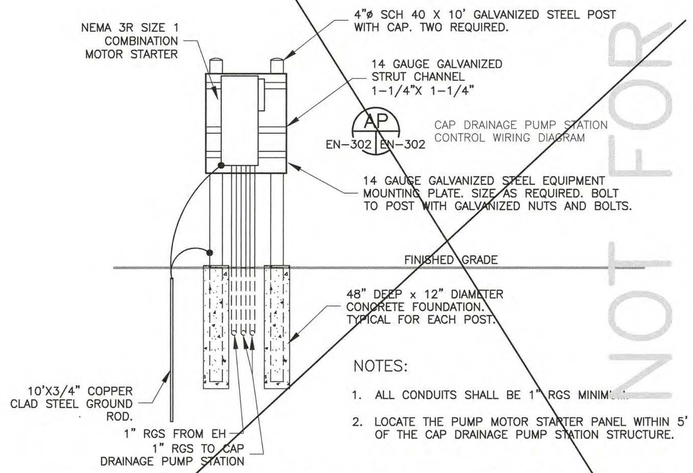


NOTE:
ALL 480V WIRING SHALL BE #12 AWG MINIMUM.
CONTROL WIRING SHALL BE #14 AWG MINIMUM

CAP DRAINAGE PUMP NOTES:

1. WIRE FLOATS FOR PUMP DOWN CONTROL. SET RANGE FOR 6 INCHES BETWEEN PUMP ON TO PUMP OFF. SET HIGH LEVEL SWITCH TO BE ACTIVE 6 INCHES ABOVE PUMP START.
2. SECURE FLOATS TO DISCHARGE PIPE.
3. PROVIDE JUNCTION BOX IN SUMP FOR CONNECTION OF FLOATS.
4. FLOAT SWITCH EQUAL TO DWYER RFW.
5. PILOT LIGHTS TO BE PUSH TO TEST AS INDICATED.
6. CONNECT PUMP MOTOR TO GROUND CONDUCTOR.
7. ALL PANELS WILL BE DEAD FRONT, LOCKABLE AND WITH NO VISIBLE EXTERIOR LIGHTS.

CAP DRAINAGE PUMP STATION CONTROL WIRING DIAGRAM (AP)
NTS
EN-302 EN-302



NOTES:

1. ALL CONDUITS SHALL BE 1" RGS MINIMUM.
2. LOCATE THE PUMP MOTOR STARTER PANEL WITHIN 5' OF THE CAP DRAINAGE PUMP STATION STRUCTURE.

CAP DRAINAGE PUMP STATION CONTROL PANEL DETAIL (AR)
NTS
CN-201 EN-302
CN-202

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. THE COMBINATION OF THE MOTOR CIRCUIT PROTECTOR AND THE OVERLOAD SHALL BE UL MOTOR COMBINATIONS.

NOT FOR CONSTRUCTION
Mon, 06 Jun 2016

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	RGR	CHK	APVD	BY	APVD
2	06/06/16	GCP	GCP	GCP	TDD	SGS	TDD	SGS
1	09/02/15				TDD	SGS	TDD	SGS
0	06/07/13				GCP	SGS	GCP	SGS

REVISION
ISSUED FOR CONSTRUCTION
DCB 007.2.1
DCB 007.2.2

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

WIRING DIAGRAMS

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
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DATE	
PROJ	3480-12-0317
DWG	EN-302
SHEET	68 OF 70

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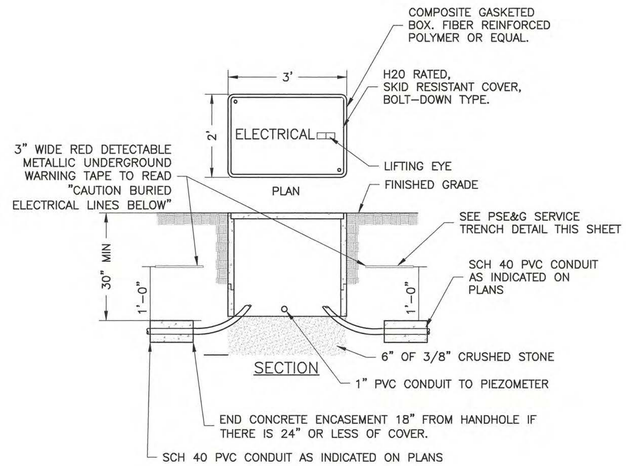
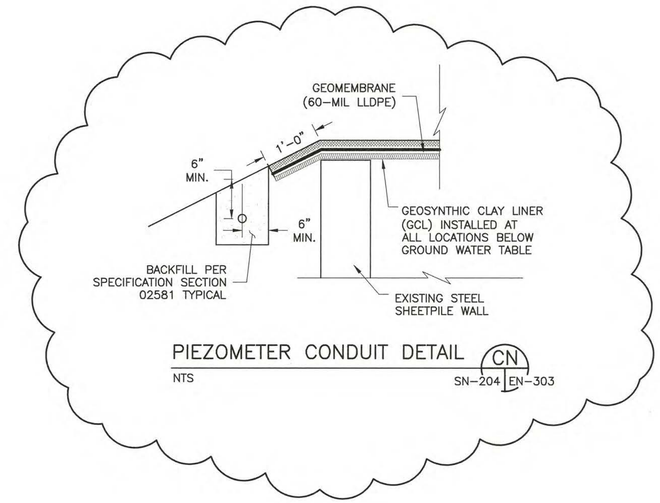
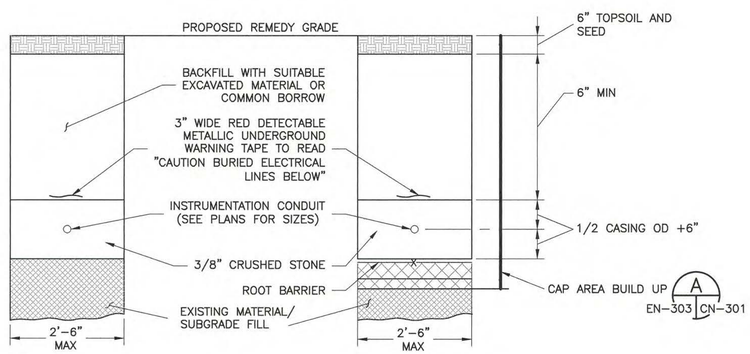


ELECTRICAL HANDHOLE DETAIL (AU)
NTS
CN-105 | EN-303
CN-201
CN-202



PIEZOMETER CONDUIT DETAIL (CN)
NTS
SN-204 | EN-303



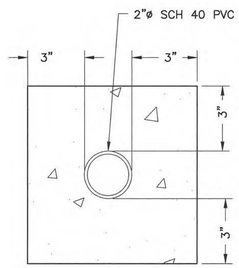
OUTSIDE CAP
(SEE DETAIL CN ON EN-303)

OVER CAP

PIEZOMETER INSTRUMENTATION CONDUIT TRENCH (AX)
NTS
CN-201 | EN-303
CN-202
CN-203

NOTE:

1. PROVIDE CONCRETE ENCASEMENT IF CONDUIT IS LESS THAN 24-INCHES BELOW DEVELOPMENT GRADE.
2. INSTALL PULL STRING/WIRE IN E&I CONDUIT FOR INSTALLATION OF PUMPS, WIRING, CONTROLS IN THE FUTURE BY OTHERS.



DUCT WAY NOTES:

1. ENCASED BURIAL REQUIRED IF THE COVER DEPTH IS LESS THAN 24" OR OTHERWISE SPECIFIED.
2. CONCRETE SHALL BE 3000 P.S.I. @ 28 DAYS, OR AS SPECIFIED.
3. PROVIDE REINFORCING RODS ON TOP OF DUCTS WHEN CROSSING OR PLACED IN ROADWAY WITH LESS THAN 24" OF COVER #4@12" OC MIN 2. EXTEND 4' BEYOND ROAD EDGE.
3. MINIMUM COVER TO TOP OF CONCRETE ENVELOPE SHALL BE 24" [610mm].
4. INSTALL IN A 4'-0" MAX WIDTH TRENCH SIMILAR TO DETAIL Z ON C-306.

DUCT BANK DETAILS (AW)
NTS
EN-303

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.

SAMUEL G. SHALLARD

NO.	DATE	REVISION	BY	APVD
2	06/06/16	DCB 007.2.2	TDD	SGS
1	09/02/15	DCB 007.2.1	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	GCP	SGS
DSGN	GCP	DR RJR	CHK GCP	APVD SGS

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Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL DETAILS

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689-2029
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	EN-303
SHEET	69 OF 70

PDESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** **Type:** Minor(a) **Effective Date:** 7/14/16
Project Location: SA-6 North	**Associated RFI:**
Title: North Cap - Field Engineered Subgrade Adjustments	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

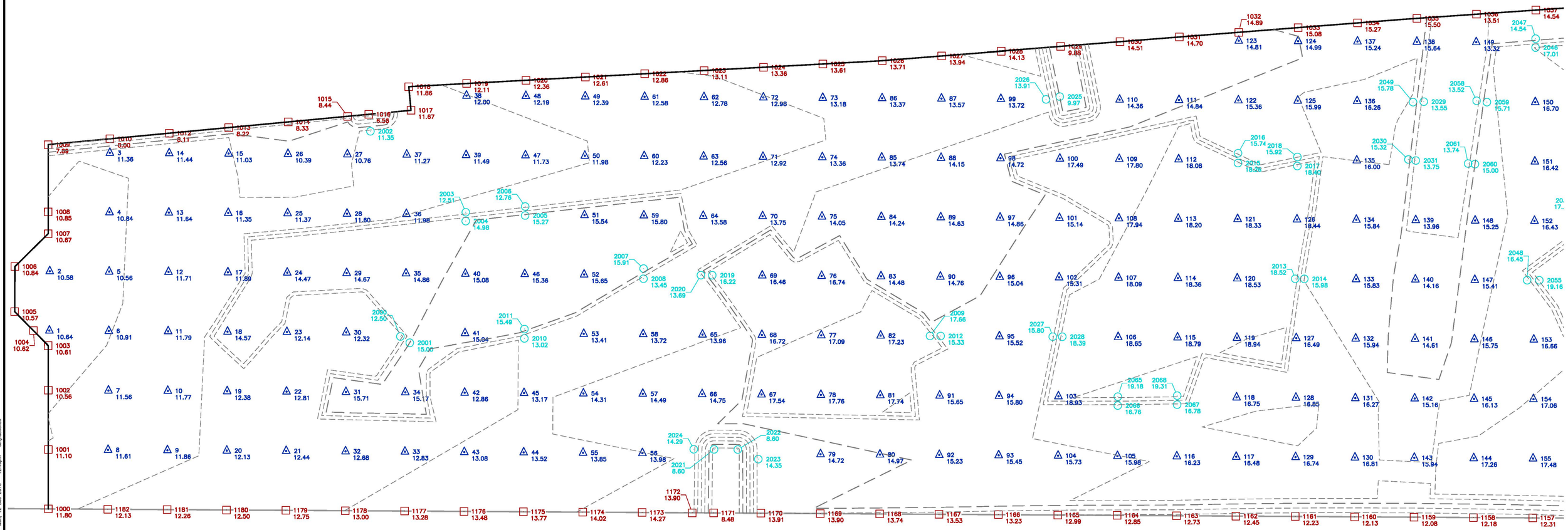
Description.

During the course of subgrade construction two field conditions were identified that resulted in the need for minor adjustments to several small localized areas of the subgrade to achieve positive drainage. In one area these field developed changes resulted in a change in elevation of the Construction Control Grid subgrade elevation.

In addition there were several minor changes in the top elevation of the Hydraulic Barrier wall. These changes were made to avoid major changes to the Construction Water Treatment forcemain and to address several locations where the final top elevations of driven sheets were slightly below the design levels. These changes did result in a very small reduction in capacity under the cap and had no impact on the containment and hydraulic requirements of the wall. The changes are so minor they are not readily visible on the hard copy drawings. Revisions were issued to Entact in electronic format and will be incorporated in As Built documentation.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:**
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** Construction Control Grid Top of Barrier Wall and Subgrade
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 12/12/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



153 16.66 GRID POINT

2054 17.00 BREAK POINT

1157 12.31 BOUND POINT

0 10 20 40
SCALE IN FEET

DCB 054.5 – REVISED CONTROL GRID ELEVATIONS 12/12/16

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

NOTE: REFER TO FIGURE 1.3 FOR REVISED GRID POINT ELEVATION SUMMARY TABLE.

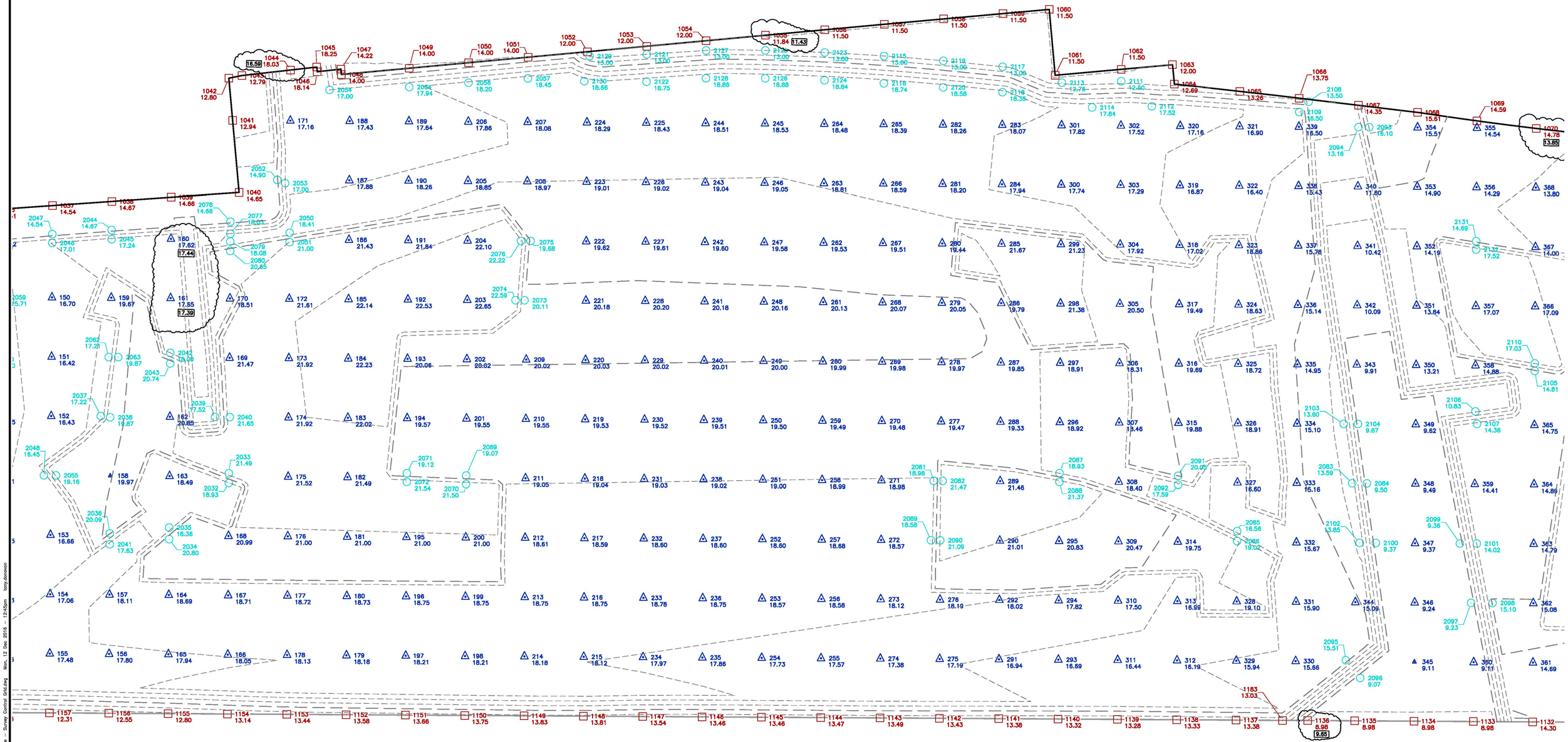
Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28001900

SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 1 OF 3
Project 3480-13-0377
Figure 1.1

C:\Donovan\SA- 6 North\2013 Excavation Surfaces\SA- 6 North Cap Surveys\Figure - Survey Control Grid.dwg Mon, 12 Dec 2016 - 12:46pm tony.donovan



GRID POINT

BREAK POINT

BOUND POINT

NOTE: REFER TO FIGURE 1.3 FOR REVISED GRID POINT ELEVATION SUMMARY TABLE.

0 10 20 40
SCALE IN FEET

DCB 054.5 – REVISED CONTROL GRID ELEVATIONS 12/12/16

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28019900

SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 2 OF 3
Project 3480-13-0377
Figure 1.2

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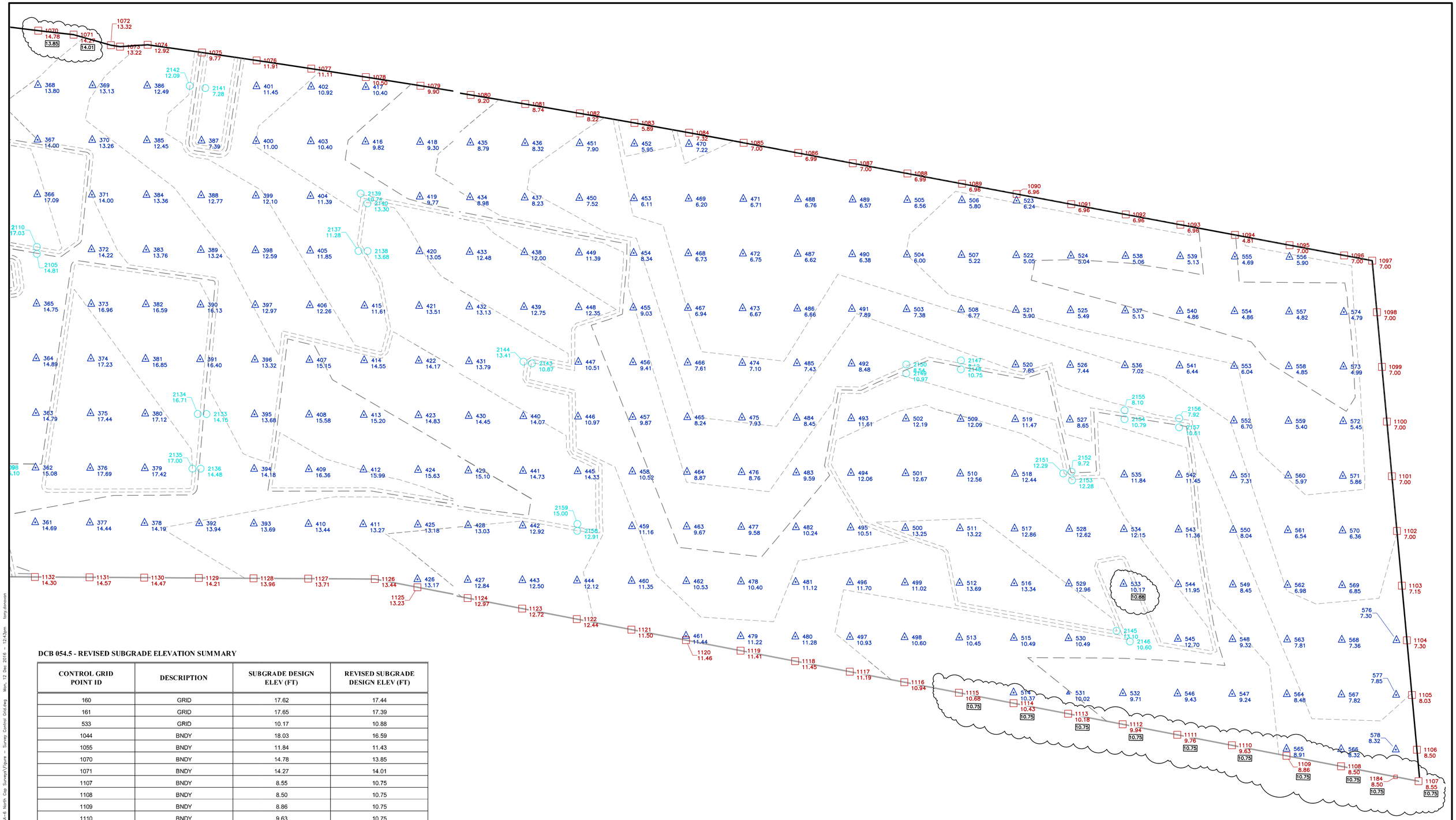


DCB 054.5 - REVISED SUBGRADE ELEVATION SUMMARY

CONTROL GRID POINT ID	DESCRIPTION	SUBGRADE DESIGN ELEV (FT)	REVISED SUBGRADE DESIGN ELEV (FT)
160	GRID	17.62	17.44
161	GRID	17.65	17.39
533	GRID	10.17	10.88
1044	BNDY	18.03	16.59
1055	BNDY	11.84	11.43
1070	BNDY	14.78	13.85
1071	BNDY	14.27	14.01
1107	BNDY	8.55	10.75
1108	BNDY	8.50	10.75
1109	BNDY	8.86	10.75
1110	BNDY	9.63	10.75
1111	BNDY	9.76	10.75
1112	BNDY	9.94	10.75
1113	BNDY	10.18	10.75
1114	BNDY	10.43	10.75
1115	BNDY	10.68	10.75
1136	BNDY	8.98	9.65
1184	BNDY	8.50	10.75

153 16.66 GRID POINT

2054 17.00 BREAK POINT

1157 12.31 BOUND POINT

0 10 20 40
SCALE IN FEET

DCB 054.5 – REVISED CONTROL GRID ELEVATIONS 12/12/16

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

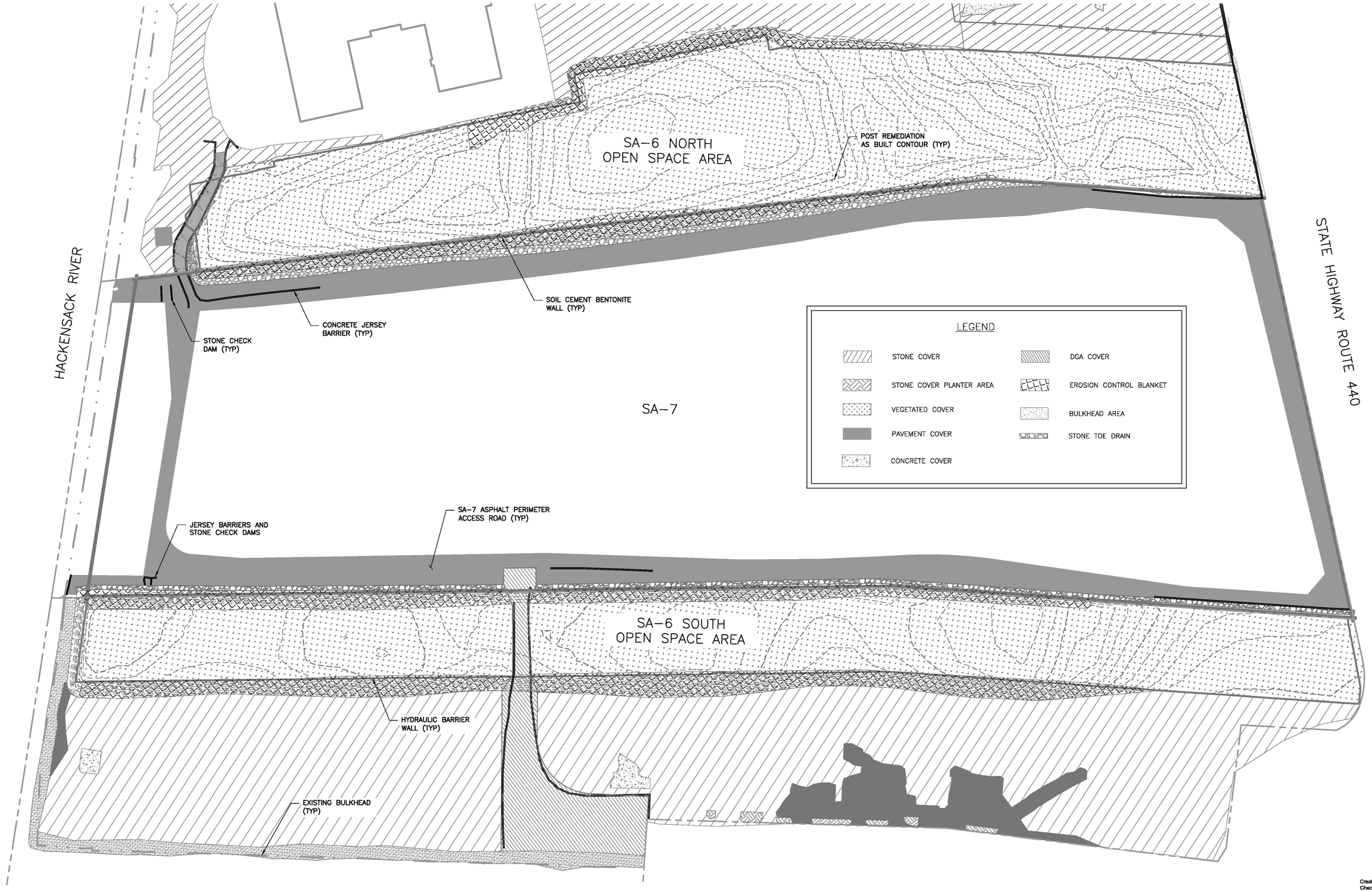
CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 3 OF 3
Project 3480-13-0377
Figure 1.3

O:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North Cap Surveys\Figure - Survey Control Grid.dwg Mon, 12 Dec 2016 - 12:43pm tony.donovan

ATTACHMENT Q
SA-6 NORTH AND SOUTH SOIL EROSION AND SEDIMENT CONTROL
RECORD DRAWING



Created By: TDD 05/26/17
Checked By: EGC 05/26/17

0 20 40 80
SCALE IN FEET

Honeywell
115 TABOR ROAD
MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH AND SOUTH
JERSEY CITY, NEW JERSEY

amec foster wheeler
Environment & Infrastructure, Inc.
511 Congress Street, Suite 200
Portland, Maine 04104 (207) 775-5401

SOIL EROSION AND SEDIMENT CONTROL
RECORD DRAWING
FIGURE 1

C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\SA-6 South Remedial Action Report\SA-6 SESC AB.dwg Fri, 26 May 2017 - 11:46am tony.donovan

APPENDIX T

PART 18 OF 22

SA-6 NORTH
DECLARATION # 4
(Part 1 of 3)
Attachment A – E part 1

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW JERSEY

JERSEY CITY INCINERATOR AUTHORITY *et al.*, Plaintiffs, *v.* HONEYWELL INTERNATIONAL INC., *et al.* Defendants.	CHROMIUM REMEDY SA-6 NORTH DECLARATION #4 Civil Action No. 05-5993 (Consolidated with Docket No. 05-5955 under Docket No. 95-2097 (JLL)) Civil Action No. 06-22 (Consolidated with Docket No. 05-5955 under Docket. No. 95-2097 (JLL))

Study Area 6 North Consent Decree Declaration #4

On August 14, 2012, the United States District Court for the District of New Jersey entered the First Amended Consent Decree Regarding Remediation and Redevelopment of Study Area 6 North ("SA-6 North Consent Decree"). Pursuant to Article III, Honeywell may file one or more Declarations showing compliance with the SA-6 North Consent Decree. The SA-6 South Consent Decree Declaration ("Declaration #1) was filed by Honeywell with the consent of the other parties to memorialize Honeywell's partial compliance with the terms of the SA-6 South Consent Decree on March 18, 2016, ECF No. 1403-1. A second SA-6 South Declaration (Declaration #2) was filed by Honeywell on January 30, 2017, ECF No. 1464-1 with the consent of the other parties to memorialize partial compliance with the terms of the SA-6 South Consent Decree completed subsequent to Declaration #1. The initial SA-6 North Consent Decree Declaration ("Declaration #3") was filed by Honeywell with the consent of the other parties to memorialize Honeywell's partial compliance with the terms of the SA-6 North Consent Decree on May 9, 2017, ECF No. 1484. This second SA-6 North Declaration ("Declaration #4") is hereby filed by Honeywell with the consent of the other parties to memorialize partial compliance with the terms of the SA-6 North Consent Decree completed subsequent to Declaration #3.

We, the undersigned, declare as follows:

1. William J. Hague is Director of Remediation Design and Construction for Honeywell International Inc. ("Honeywell") for Study Area 6 North (SA-6 North) New Jersey Department of Environmental Protection (NJDEP) Sites 087 and 088. Mr. Hague has direct responsibility on behalf of Honeywell for the management of remediation construction activities at SA-6 North related to the implementation of the Chromium Remedy as defined in Article III of the SA-6 North Consent Decree.

2. Remediation and site restoration activities were performed in accordance with the SA-6 North Consent Decree, the NJDEP Technical Requirements for Site Remediation, the NJDEP-approved Remedial Action Selection Report ("RASR")/Remedial Action Work Plan ("RAWP") to address chromium contamination at SA-6 North, dated January 2008 and amended in February 2008; the Chromium Remedy 100% Design Reports for Study Area 6 North & Study Area 6 South dated June 28, 2013 – Issued for Construction ("Final 100% Design"); three field changes (DC 2014-3-25 – "Contingent Groundwater Extraction System – Replace Wells with Trenches," DC 2015-9-02 – "2ft Cut Historic Fill Area," and DC 2016-7-14 – "North Cap Field Engineered Subgrade Adjustments") that materially impacted the Final 100% Design and 14 field changes that were minor in nature (referred to herein as "Design Changes" and included as Attachment G), with the continued oversight and supervision of the appointed Special Master. The Final 100% Design, including Design Drawings and Technical Specifications, was developed consistent with the SA-6 North and SA-6 South Consent Decrees and NJDEP-approved RAWPs and was approved by all Parties. On June 12, 2013, the Special Master approved the Final 100% Design for submittal to the Court so that the proposed implementation of the remedy could start on time, subject to Honeywell's confirmation regarding several issues. On June 28, 2013 Honeywell submitted the Final 100% Design for the Study Area 6 North and South projects to the Court, and the Court entered the Final 100% Design on July 9, 2013. (Note: To simplify implementation of the SA-6 North and South remediation projects, a number of documents including the Technical Specifications and several Work Plans were merged into a single document that has been utilized for both SA-6 North and South. In addition, slightly different terminology is contained in the SA-6 North and South Consent Decrees. For SA-6 North, the AOC 1 Open Space Area is referred to as the "Open Space Area" and the AOC 1 Residential Area and AOC Additional Excavation Areas are referred to as the Development or "Residential Area".)

3. The elements of the remedy that are the subject of this Declaration were substantially completed between March 2016 and August 2016. The timeframe of this Declaration overlaps with that of Declaration #3 because the Declarations are developed based upon the major remediation components. Specifically, this Declaration has been modeled to have similar structure and content to the SA-6 South Chromium Remedy Declaration # 2 (ECF No. 1464-1).

4. This is the fourth Declaration for the combined North and South Chromium Remedy and second Declaration for SA-6 North. Future Declarations will document the work on the elements of the remedy set forth in the SA-6 North Consent Decree implemented or completed after August 2016.

5. To implement the requirements of the SA-6 North Consent Decree, Honeywell retained AMEC Environment and Infrastructure, Inc. (now Amec Foster Wheeler

Environment & Infrastructure, Inc., "Amec Foster Wheeler") to design and coordinate the construction activities related to the Chromium Remedy of SA-6 North. Amec Foster Wheeler is the Engineer of Record for the design and implementation of construction activities related to the Chromium Remedy of SA-6 North. Amec Foster Wheeler engaged Entact, LLC ("Entact") to perform the construction. Entact was responsible for implementing the SA-6 North construction in accordance with the Final 100% Design and Design Changes. Entact reported directly to Amec Foster Wheeler and provided the final construction details, including as-built drawings, upon project completion. Mr. Joseph T. Clifford is a licensed Professional Engineer in the State of New Jersey, a Principal Engineer (Professional Engineer, NJ, GE38067) at Amec Foster Wheeler and is the engineer at Amec Foster Wheeler with primary responsibility for management of the design and construction coordination activities at SA-6 North.

6. Based on our professional opinion, the data and information set forth for the specific work elements noted in and attached to this Declaration were performed consistent with the Final 100% Design and Design Changes.

7. Declaration #4 pertains to the following elements of the SA-6 North Chromium Remedy:

I. Contingent Groundwater Collection Trench

II. Cap Subgrade

III. Cap Geosynthetics

Further details related to elements I-III are provided below. Supporting documentation is provided in the Attachments.

I. Contingent Groundwater Collection Trench. This Declaration addresses installation of the Contingent Groundwater Collection Trenches and associated manhole structures and piezometers to be used for documenting hydraulic gradients across the Barrier Walls at SA-6 North. The contingent groundwater system design was changed from a well-based collection system to a trench-based collection system in DC 2014-3-25. The trench was installed between April 28, 2015 and March 4, 2016 and is designed to meet the requirements of Paragraphs 58(c) of the SA-6 North Consent Decree. Piezometric pairs were installed to allow for the collection of groundwater elevation data to meet the requirements of Paragraphs 58(e) of the SA-6 North Consent Decree. The Contingent Groundwater Collection Trenches are located within the SA-6 North Open Space Area of Concern (AOC).

The Contingent Groundwater Collection system consists of two trench sections along the east-west axis of the SA-6 North Open Space Area. The first section runs from the westernmost portion of the Open Space Area to the southeast corner of the Sedimentation Basin. The second section runs from the east of the Sedimentation Basin to the easternmost portion of the Open Space Area. The bottom of the trenches are designed to be just above the top of the Stratum D soils. Groundwater modeling indicated that the trenches will be effective in meeting the capture zone specified in Section 58(d).

Honeywell collected the survey data necessary to document the plan and profile of the collection trench. The Contingent Groundwater Collection Trench As-Built Drawing is provided in this Declaration as Attachment A. Specific piezometer locations are provided on Figure 4A in Attachment A-1. During the timeframe covered in this declaration, the collection trench was installed and constructed. However, the work to connect the collection trench to the Groundwater Treatment Plant occurred after the time-period covered in this declaration and will be included in a future declaration.

II. Cap Subgrade

- Surcharge Program - The main purpose of the surcharge program in the Open Space AOC Cap was to remove settlement that would be detrimental to the remedy and to permissible development. Surcharging was performed by placing fill materials to reach the surcharge design loads and then monitoring the areas to confirm that the objectives of the program had been met. The Surcharge Program was implemented moving from west to east. For planning and documentation purposes the SA-6 North Open Space AOC cap area was split into 4 Surcharge areas: Area 1N, Area 2N, Area 3N and Area 4N. Individual reports were submitted monthly during the course of the program. Surcharge Monitoring Plan Monthly Report #16 for the March 2016 reporting period, dated April 2016, indicated that surcharging in Areas 1N, 2N, 3N, and 4N was complete. The data contained in the surcharge reports, which were peer reviewed by Mueser Rutledge Consulting Engineers ("MRCE"), documents that the surcharge goal had been met for each area. MRCE letters acknowledging achievement of surcharge goals in Areas 1N, 2N, 3N, and 4N are included in Attachment B. The surcharge reports were also reviewed by O'Connell and Lawrence Inc. on behalf of the Plaintiffs. The Surcharge Completion Evaluation tables for each area are included in Attachment C.

- Grading. Following surcharge, approximately 2 feet of less than 20 mg/kg hexavalent chromium overburden soils were stripped from Area 1N in accordance with SA-6 North Consent Decree paragraph 56(d) and DC 2015-9-02, to create additional capacity for the consolidation of 20-240 mg/kg hexavalent chromium-impacted soils within the SA-6 North Open Space Area. The excavated overburden soils were reused as backfill in the SA-6 North Additional Excavation Areas, as documented in Declaration #3. Following removal of the Area 1N overburden soils, the cap area was graded and compacted in accordance with the lines, grades and compaction requirements indicated in the Final 100% Design and Design Change DC 2016-7-14. Subgrade preparation was performed between April 20, 2016 and August 13, 2016. To document compliance with the grading requirements, a Construction Control Grid was established consistent with Specification 01460. The Construction Control Grid is included as Attachment D-1. Summary tables prepared by Maser Consulting PA (NJ licensed surveyor) comparing the design grades and actual grades at the Construction Control Grid nodes are included as Attachment D-2 confirming that all nodes were within tolerance. A topographic survey of the SA-6 North subgrade to show as-built geomembrane grading elevations within the SA-6 North Cap Area was prepared by Maser Consulting (Attachment D-3).

III. Cap Geosynthetics. Installation of the cap geosynthetics followed Maser Consulting's certification that the subgrade surface conformed to the specified Construction Control Grid. Amec Foster Wheeler provided quality assurance ("QA") approval of Maser's documented subgrade elevations prior to issuing to Langan Engineering and Environmental Services, Inc, ("Langan") for approval for geosynthetics deployment. In addition, as part of the subgrade approvals, Amec Foster Wheeler provided QA approval of the sand bentonite Geosynthetic Clay Liner ("GCL") to barrier wall connections (signed GCL to barrier wall logs are included in Appendix F of the Langan Cap Geosynthetic Quality Assurance (QA) Report for Study Area 6 North, dated December 2016 (" Langan Report")). The Langan Report is included as Attachment E of this Declaration. Amec Foster Wheeler also provided QA approval of spark testing for all cap penetrations. Signed spark test logs are included as Appendix O in the Langan Report. Spark testing in the SA-6 North cap area was conducted in accordance with DC 2015-12-14. The cap geosynthetics were placed between June 22, 2016 and August 19, 2016. The cap geosynthetics included components that were designed to meet the technical requirements of Section

56(a) of the SA-6 North Consent Decree. The cap geosynthetics scope included the following key tasks:

- Subgrade inspection for acceptability prior to geosynthetics deployment,
- Gas Vent/Geotextile and GCL installation over the subgrade and under the geomembrane,
- Geomembrane Installation-60 mil LLDPE,
- Spark testing of cap penetrations,
- Geocomposite drainage/warning layer installation, and
- Warning tape installation.

Honeywell contracted with Langan to provide Independent QA for the SA-6 cap geosynthetics installation. As the Independent QA Engineer, Langan performed the QA activities specified in the Langan Cap Geosynthetic Quality Assurance (QA) Report for Study Area 6 North ("Langan Report"), including monitoring, field oversight, and documentation. Langan certifies that placement of the SA-6 North cap geosynthetics was completed in compliance with the construction design documents, including the Final 100% Design and all Design Changes (see Attachment E).

Acceptance of the geosynthetic materials used for the SA-6 North Cap Construction was completed by Amec Foster Wheeler based on the results of the manufacturer's production quality testing (AGRU America, Inc. and their subcontracted companies). The Amec Foster Wheeler Engineer of Record provided a full-time site Geosynthetics Inspector to inspect materials deployment, installation and documentation for compliance with the Final 100% Design of the capping system. The Geosynthetics Inspector observed the placement of the GDL cover soil to verify that the soil was placed in accordance with the Earthwork and GDL specifications (02315 and 02374, respectively) and that the GDL was not damaged or unnecessarily stressed. The GDL cover soil will be included in a future Declaration. The Geosynthetics Inspector also observed the fabrication, spark testing, installation and extrusion welding and vacuum testing of all boots.

QC for geosynthetics installation was provided by Entact and their specialty installer ESI. Entact also contracted with Geotechnics, Inc. to conduct the specified offsite laboratory testing required as part of the capping project, such as destructive seam testing. All ESI field QC and Geotechnics laboratory tests are incorporated into the Langan Report and are the subject

of the Langan QA Certification. Langan offsite QA laboratory testing was completed by TRI Environmental, Inc. The Langan Report and the Langan engineer certification are included in Attachment E. As-built drawings of the cap geosynthetics (i.e, 60 mil Textured LLDPE Geomembrane, Gas vent Layer/Geosynthetic Clay Liner (GVL/GCL) Layout, Geocomposite Drainage Layer (GDL) Layout) are included as Attachment F.

Items listed above will also be provided in the final Remedial Action Report.

1. Based on our professional experience, the data and information set forth in and attached to this Declaration, and our supervision of the SA-6 North construction activities, we believe that the Contingent Groundwater Collection Trench, Cap Subgrade, and Cap Geosynthetics were installed/completed in accordance with the SA-6 North Consent Decree and the Final 100% Design and Design Changes.

2. We certify that the foregoing is true and correct to the best of our respective knowledge.

William J. Hague

Date 06/08/2017

Joseph T. Clifford PE NJ, GE38067

Date 06/08/2017

List of Attachments

A. Contingent Groundwater Collection Trench As-Built Drawing

    A-1 – Piezometer Locations

B. MRCE Surcharge Completion Letters

C. Surcharge Completion Evaluation Tables

D. SA-6 North Cap Subgrade Approval

    D-1 – Construction Control Grid

    D-2 – SA-6 North Subgrade Grid Points

    D-3 – SA-6 North Cap Subgrade Topographic Survey

E. Langan SA-6 North Cap Quality Assurance Report

F. SA-6 North Cap As-Built Drawings

    F-1 – SA-6 North Cap Panel Layout (60 mil Textured LLDPE Geomembrane)

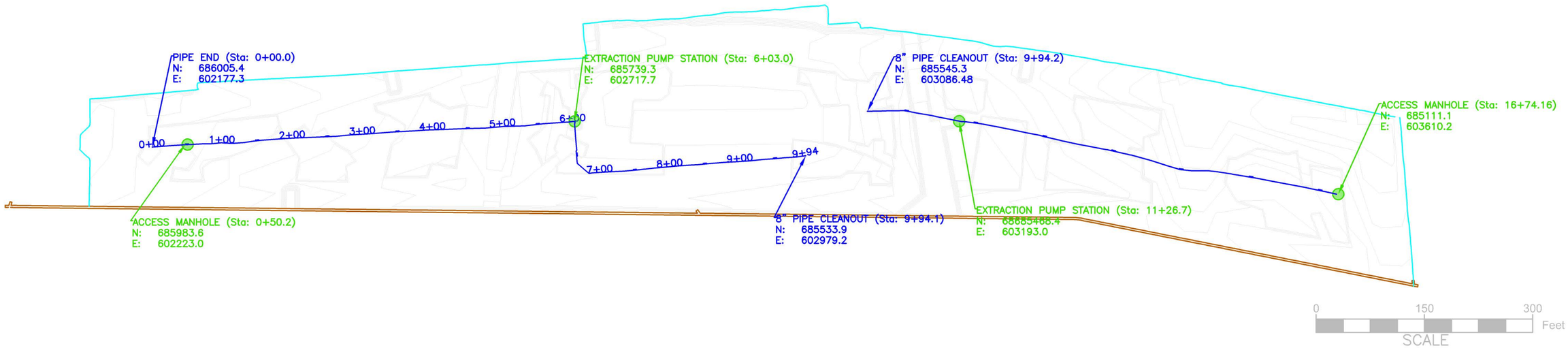
    F-2 – SA-6 North Cap GVL / GCL Layout (Class A Geotextile / Gas Vent Layer / Geosynthetic Clay Liner)

    F-3 – SA-6 North Cap GDL Layout (Geocomposite Drainage Layer)

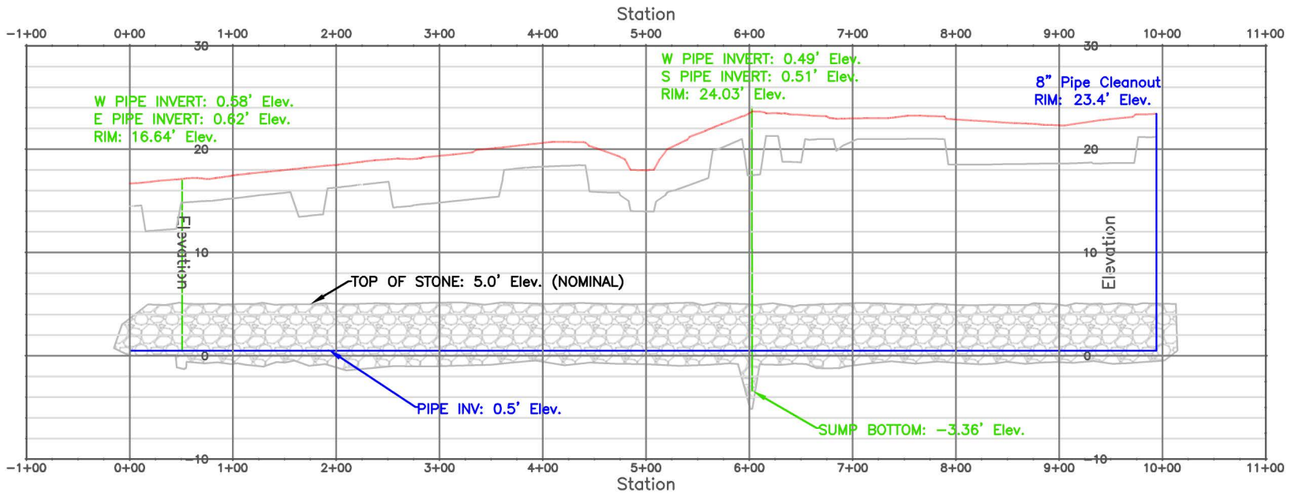
G. Design Changes

ATTACHMENT A
CONTINGENT GROUNDWATER COLLECTION TRENCH
AS-BUILT DRAWING

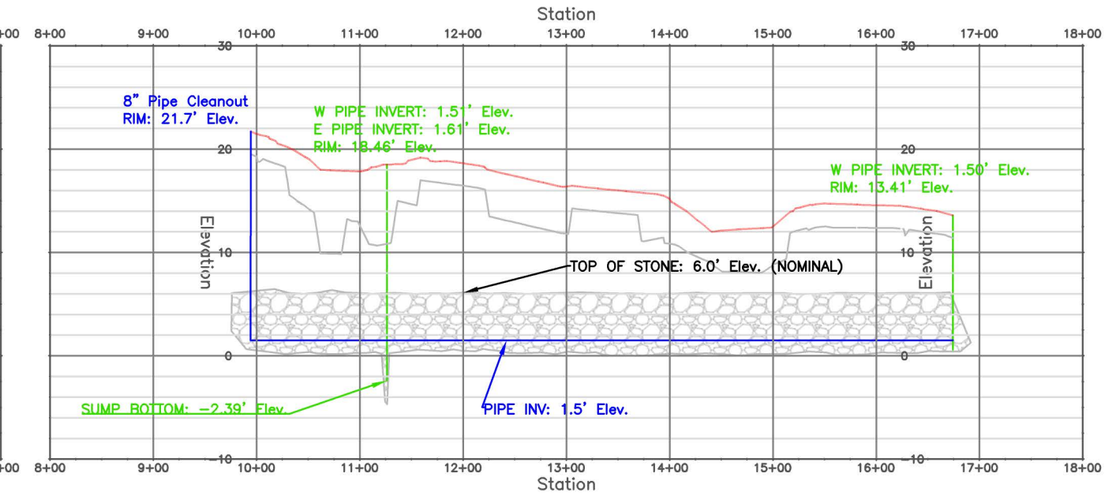
PLAN VIEW



PROFILE VIEW



PROFILE VIEW



LEGEND

- 8" PERFORATED HDPE PIPE INVER (ELEV. TYPICAL)
- 4FT DIA. MANHOLE RISER PROFILE
- SCB WALL
- HYDRAULIC BARRIER WALL
- CAP SUBGRADE (DESIGN)
- CAP FINAL GRADE (DESIGN)
- 4FT DIA. MANHOLE
- 1.5" STONE TRENCH (WIDTH VARIES 3' MIN.)

REV	DATE	BY	CHK'D	APPR'VD	DESCRIPTION
0	5/6/16	CDC	AE	AE	RECORD DRAWING
1	10/03/16	EJP	CP	CP	RECORD DRAWING
2	11/04/16	EJP	CP	CP	RECORD DRAWING

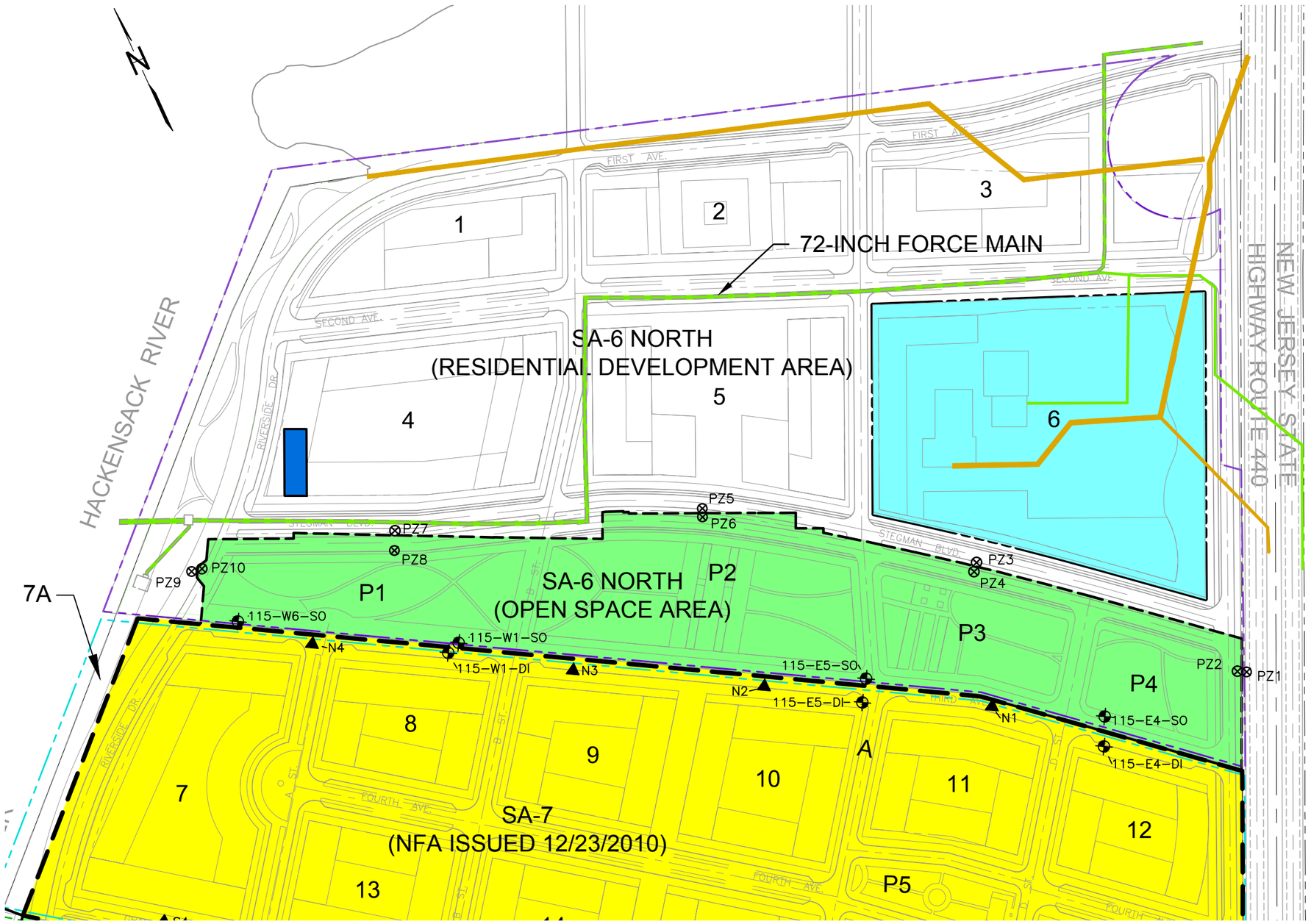
ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 NORTH CAP
CONTINGENT GROUNDWATER COLLECTION TRENCH
RECORD DRAWING 11/04/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

ATTACHMENT A-1
PIEZOMETER LOCATIONS

UNLESS OTHERWISE AGREED IN A WRITTEN CONTRACT BETWEEN AMEC FOSTER WHEELER AND ITS CLIENT: (I) THIS DOCUMENT IS CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (II) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN ISSUED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THE PARTY'S SOLE RISK AND RESPONSIBILITY.



LEGEND

- EXISTING SHALLOW MONITORING WELL LOCATION
- PIEZOMETER
- SA-7 PERIMETER POOL STANDPIPES
- P1 — FUTURE BLOCK / LOT DESIGNATION
- PROPERTY LINE SA-7
- PROPERTY LINE SA-6 NORTH
- 72-INCH FORCE MAIN
- STORMWATER / 96-INCH CSO
- SA-7 SOIL/CEMENT BENTONITE BARRIER
- SA-6 NORTH VERTICAL HYDRAULIC BARRIER (STEEL SHEETPILE) (CHROMIUM DEED NOTICE)
- BLOCK 6
- GROUNDWATER TREATMENT PLANT

NOTES:

1. NFA = NO FURTHER ACTION
2. SITE-WIDE SHALLOW GROUNDWATER WILL BE SUBJECT TO A CLASSIFICATION EXCEPTION AREA (CEA) FOR BOTH CHROMIUM & NON-CHROMIUM CONTAMINANTS

0 150 300 600
SCALE IN FEET

REV.	DATE	STATUS	PRPD BY	CHKD BY

Amec Foster Wheeler PROJECT No. 3480150438
DRAWING: 3480150488-6100-BF6N-F400

PREPARED/DATE: STR 07/13/16
CHECKED/DATE: DEN 07/18/16

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 4A
SHALLOW GROUNDWATER MONITORING WELL LOCATION MAP FOR STUDY AREA 6 NORTH
STUDY AREA 6 NORTH - SITES 87 & 88
JERSEY CITY, NEW JERSEY

P:\CADD\HONEYWELL\JERSEY CITY\SA 6 SOUTH\3480150488\5710\571000A\tmp\3480150488-6100-BF6N-F400.dwg Tue, 19 Jul 2016 - 11:47am scott.radkin Layout: Layout1

ATTACHMENT B
MRCE SURCHARGE COMPLETION LETTERS

Mueser Rutledge
Consulting Engineers
14 Penn Plaza · 225 West 34th Street · New York, NY 10122
Tel: (917) 339-9300 · Fax: (917) 339-9400
www.mrce.com

Alfred H. Brand
David M. Cacoilo
Peter W. Deming
Roderic A. Ellman, Jr.
Francis J. Arland
Partners

David R. Good
Walter E. Kaeck
Associate Partners

James L. Kaufman
Hugh S. Lacy
Joel Moskowitz
George J. Tamaro
Elmer A. Richards
John W. Fowler
Consultants

Domenic D'Argenzio
Robert K. Radske
Ketan H. Trivedi
Hiren J. Shah
Alice Arana
Joel L. Volterra
Tony D. Canale
Jan Cermak
Sissy Nikolaou
Anthony DeVito
Frederick C. Rhyner
Sitotaw Y. Fantaye
Senior Associates

Michael J. Chow
Douglas W. Christie
Gregg V. Piazza
Pablo V. Lopez
Steven R. Lowe
James M. Tantalla
Andrew R. Tognon
T. C. Michael Law
Andrew Pontecorvo
Renzo D. Verastegui
Associates

Joseph N. Courtade
Director of Finance and Administration

Martha J. Huguet
Director of Marketing

August 8, 2014

Geoff Shallard
AMEC Environment & Infrastructure
511 Congress Street
Portland Me 04101

Re: SA-6 North Surcharge Monitoring
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

Mueser Rutledge Consulting Engineers (MRCE) reviewed the settlement and piezometer monitoring data related to Area 1N provided by AMEC, on July 18th 2014. MRCE's review of the available data is summarized below:

1. AMEC indicated boring sampling performed was to define the compressible layer stratification and the Vibrating Wire Piezometers (VWP) were set at the center of the layers. Center of the layer provide the most conservative pore water pressure reading for the effective stress evaluation. MRCE effective stress calculations were made at the center of the layers.

2. MRCE obtained the 06/16/14 measured fill thickness from the "Settlement Platform – Data Report". MRCE calculated the total stress as of 06/16/14 based on the 06/16/14 fill thickness and the "Historic Pre-Construction Conditions" total stresses provided by AMEC. MRCE calculated the pore water pressures based from 06/16/14 piezometer readings on "Vibrating Wire Piezometer – Data Report" and calculated the 06/16/14 effective stresses, as presented in Table 1.

3. MRCE compared calculated 06/16/14 effective stresses with the effective stresses provided by AMEC for "Final Post-Development Conditions". The defined goal of surcharge program was to achieve an equal or greater effective stress than the "Final Post-Development Conditions" effective stress. Accordingly, MRCE evaluated 06/16/14 percentage completion, shown as "MRCE % Completion (06/16/14)" in Table 1. Table 1 also presents 06/30/14 percent completion evaluation of AMEC, "AMEC % Completion (06/30/14)", for comparison.

4. Two settlement monitoring locations, N_FS-04 and N_HS-04 (highlighted in Table 1), had percentage completion less than 100%. These monitoring points did not meet the defined goal of the surcharge program as of 06/16/14.

5. AMEC provided updated settlement and piezometer monitoring data on August 6th 2014. MRCE calculated effective stresses and the percent completion for N_FS-04 and N_HS-04 based on the updated monitoring data, as shown in Table 2.

6. MRCE agrees that the defined goal of the surcharge program of achieving an equal or greater effective stress than the "Final Post-Development Conditions" effective stress is met in all settlement monitoring locations.

Very truly yours,

MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, P.E.

MP:F:\111\11173\SA-6 Surcharge Removal Review\MRCE SA-6 Surcharge Monitoring Review.docx

Table 1. MRCE SA-6 Surcharge Monitoring Review (06/16/14)

Source:		AMEC			Settlement Monitoring Data	VWP Monitoring Data	MRCE				AMEC
Settlement Monitoring Point	Layer	Center of the Layer EL. (ft)	Historic Pre-Construction Conditions Total Stress (psf)	Final Post-Development Conditions Effective Stress (psf)	Fill Thickness (ft)	Elevation Head (ft)	Total Stress 06/16/14 (psf)	Pore Water Pressure 06/16/14 (psf)	Effective Stress 06/16/14 (psf)	% Completion 06/16/14	% Completion 06/30/14
N_FS-01	Center D	-10.8	3073	2308	2.6	6.1	3393	1058	2335	101%	103%
N_FS-02	Center O	-4.6	2262	2279	11.2	11.6	4048	1242	2418	106%	-
N_FS-02	Center D	-8.3	2647	2414	11.2	15.4	3663	1245	2807	116%	117%
N_FS-03	Center O	-2.9	2118	2431	9.8	9.9	3628	1065	2443	100%	-
N_FS-03	Center D	-7.2	2400	2529	9.8	11.5	3346	904	2563	101%	105%
N_FS-04	Center O	-2.2	1830	2598	10.9	12.9	3624	1206	2417	**93%**	-
N_FS-04	Center D	-6.5	2266	2764	10.9	10.1	3189	771	2418	**87%**	92%
N_FS-04	RC	-43.2	6777	4984	10.9	2.7	8135	2866	5269	106%	-
N_HS-01	Center D	-9.6	2886	2287	5.3	5.8	3552	959	2593	113%	110%
N_HS-02	Center D	-9.2	2723	2324	8.7	9.0	3813	1133	2680	115%	115%
N_HS-03	Center D	-8.7	2700	2427	10.9	5.6	4065	894	3171	131%	130%
N_HS-04	Center D	-8.6	2702	2303	3.7	5.7	3163	892	2271	**99%**	96%
N_HS-05	Center D	-9.9	2654	2562	16.7	7.8	4746	1109	3637	142%	145%
N_HS-05	RC	-54.7	7323	4843	16.7	-0.9	9415	3354	6061	125%	-
N_HS-07	Center D	-7.6	2214	2668	12.0	12.0	4374	1224	3149	118%	121%
N_HS-09	Center D	-7.3	2428	2748	12.5	12.5	4429	1235	3194	116%	119%

Table 2. MRCE Surcharge Monitoring Review (August 2014)

Source:		Settlement Monitoring Data	VWP Monitoring Data	MRCE				AMEC
Settlement Monitoring Point	Layer	Fill Thickness (ft)	Elevation Head (ft)	Total Stress 06/16/14 (psf)	Pore Water Pressure 06/16/14 (psf)	Effective Stress 06/16/14 (psf)	% Completion August 14	% Completion August 14
N_FS-04	Center O	16.3	9.6	3867	738	3130	**120%**	-
N_FS-04	Center D	16.3	9.6	4303	1003	3300	**119%**	118%
N_HS-04	Center D	9.4	5.0	3877	847	3030	**132%**	99%

Mueser Rutledge
Consulting Engineers
14 Penn Plaza · 225 West 34th Street · New York, NY 10122
Tel: (917) 339-9300 · Fax: (917) 339-9400
www.mrce.com

Alfred H. Brand
David M. Cacoilo
Peter W. Deming
Roderic A. Ellman, Jr.
Francis J. Arland
Partners

David R. Good
Walter E. Kaeck
Associate Partners

James L. Kaufman
Hugh S. Lacy
Joel Moskowitz
George J. Tamaro
Elmer A. Richards
John W. Fowler
Consultants

Domenic D'Argenzio
Robert K. Radske
Ketan H. Trivedi
Hiren J. Shah
Alice Arana
Joel L. Volterra
Tony D. Canale
Jan Cermak
Sissy Nikolaou
Anthony DeVito
Frederick C. Rhyner
Sitotaw Y. Fantaye
Senior Associates

Michael J. Chow
Douglas W. Christie
Gregg V. Piazza
Pablo V. Lopez
Steven R. Lowe
James M. Tantalla
Andrew R. Tognon
T. C. Michael Law
Andrew Pontecorvo
Renzo D. Verastegui
Associates

Joseph N. Courtade
Director of Finance and Administration

Martha J. Huguet
Director of Marketing

November 21, 2014

AMEC Environment & Infrastructure
511 Congress Street
Portland Me 04101

Attention: Mr. Geoff Shallard

Re: Area 2N Surcharge Review
SA-6 North
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

The Mueser Rutledge Consulting Engineers (MRCE) review of November 17, 2014 AMEC settlement and piezometer monitoring data for Area 2N is summarized below:

AMEC indicated from borings and sampling the Vibrating Wire Piezometers (VWP) were set at the center of the compressible clay layer, which provides the most conservative pore water pressure reading for the effective stress evaluation. All the stress calculations are at the center of the compressible layers.

MRCE used measured fill thickness dated 10/28/14 from "Settlement Platform – Data Report" to calculate the total stress. Pore water was taken from the 10/28/14 "Vibrating Wire Piezometer – Data Report." Effective stress computed for 10/28/14, is presented in Table 1. MRCE compared the 10/28/14 calculated effective stress with the "Final Post-Development Conditions" effective stress estimates provided by AMEC. The defined goal of surcharge program was to achieve an effective stress greater than the "Final Post-Development Conditions."

This review finds all Area 2N monitoring locations have met the surcharge program goal as of 10/28/14.

Very truly yours,
MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, P.E.

MP:F:\111\11173\2014 Surcharge Removal Review\SA-6_Area 2N_Surcharge Removal Review\MRCE SA-6 Surcharge Monitoring Review- Area 2N.112114.docx

Table 1. MRCE SA-6 Surcharge Monitoring Review for Area 2N (10/28/14)

Source:		AMEC				Settlement Monitoring Data	VWP Monitoring Data	MRCE			MRCE	AMEC
Settlement Monitoring Point	Layer	Center of the Layer EL. (ft)	Pre-Surcharge Conditions Total Stress (psf)	Final Development Condition Effective Stress (psf)	Surcharge Conditions Effective Stress (psf)	Fill Thickness (ft)	Elevation Head (ft)	Total Stress 10/28/14 (psf)	Pore Water Pressure 10/28/14 (psf)	Effective Stress 10/28/14 (psf)	% Completion 10/28/14	% Completion 10/28/14
N_FS-05	Center O			2603.1		14.29	7.12	3750.0	812.4	2937.6	113%	-
N_FS-05	Center D	-7.3	2360.6	2765.9	3343.5	14.29	5.41	4146.9	799.3	3347.5	121%	121%
N_FS-06	Center O			2685.9		15.06	6.47	3837.5	640.8	3196.7	119%	-
N_FS-06	Center D	-7.6	2360.6	2833.1	3387.6	15.06	5.96	4218.8	827.4	3391.3	120%	120%
N_FS-06	RC			6075.3		15.06	2.94	10752.5	3135.0	7617.5	125%	-
N_FS-07	Center O			2523.5		10.69	6.61	3486.3	674.5	2811.7	111%	-
N_FS-07	Center D	-6.7	2360.6	2588.0	2972.4	10.69	4.87	3660.0	740.7	2919.3	113%	115%

Notes:

1. % Completion is the ratio of measured effective stress under surcharge with respect to final effective stress in development condition.

Mueser Rutledge Consulting Engineers

14 Penn Plaza · 225 West 34th Street · New York, NY 10122
Tel: (917) 339-9300 · Fax: (917) 339-9400
www.mrce.com

Peter W. Deming
Roderic A. Ellman, Jr.
Francis J. Arland
David R. Good
Walter E. Kaeck
Partners

Tony D. Canale
Jan Cermak
Sitotaw Y. Fantaye
Associate Partners

David M. Cacoilo
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James L. Kaufman
Hugh S. Lacy
Joel Moskowitz
George J. Tamaro
Elmer A. Richards
John W. Fowler
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Ketan H. Trivedi
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Alice Arana
Joel L. Volterra
Frederick C. Rhyner
Steven R. Lowe
Andrew R. Tognon
Senior Associates

Douglas W. Christie
Gregg V. Piazza
Pablo V. Lopez
James M. Tantalla
T. C. Michael Law
Andrew Pontecorvo
Renzo D. Verastegui
Alex Krutovskiy
Srinivas Yenamandra
Farid F. Vastani
Jesse L. Richins
Associates

Joseph N. Courtade
Director of Finance and Administration

Martha J. Huguet
Director of Marketing

March 29, 2016

AMEC Environment & Infrastructure
511 Congress Street
Portland Me 04101

Attn: Mr. Geoff Shallard

Re: Updated Area 3N and 4N Surcharge Review
SA-6 North
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

The Mueser Rutledge Consulting Engineers (MRCE) review of March 15th, 2016 AMEC settlement and piezometer monitoring data for Area 3N and 4N is summarized below:

AMEC indicated boring sampling was performed to define the soil profile and the Vibrating Wire Piezometer (VWP) was set at the center of the compressible layer, so that the pore water pressure reading is the most conservative for effective stress evaluation. All the effective stress calculations were made at the center of the layers.

MRCE used the latest measured elevation head dated March 15th, 2016 from "Vibrating Wire Piezometer – Data Report" to calculate the post-surcharge pore water pressures. Post-surcharge total stresses were calculated using fill thickness measurements from the "Settlement Platform – Data Report" taken on March 9th, 2016. Calculated post-surcharge effective stresses are presented in Table 1 and Table 2. MRCE compared the calculated post-surcharge effective stresses with the "Final Post-Development Conditions" effective stress estimates provided by AMEC. The defined goal of the surcharge program was to achieve an effective stress greater than "Final Post-Development Conditions."

This review finds that with the March 15, 2016 readings all settlement monitoring locations, including the two settlement locations, N_HS-11 in Area 3N (Table 1) and N_FS-12 in Area 4N (Table 2), have met the surcharge program goal. This finding is in agreement with the AMEC data review and interpretation.

Very truly yours,

MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, P.E.

F:\111\11173\2015 Surcharge Removal Review\MRCE Peer Review Area 3N and 4N final.pdf

FOR: SA-6 North Surcharge Monitoring Review

Table 1. Area 3N Surcharge Review

Settlement Monitoring Point	Layer	Existing EL. (ft)	Pre-Surcharge Conditions	Proposed Final Development Conditions	Date of Recording used in calculations		Fill Thickness (ft)	Elevation Head (ft)	Post-Surcharge Conditions			**MRCE**	**AMEC**
			Total Stress (psf)	Effective Stress (psf)	Fill Thickness	VWP Elevation			Total Stress (psf)	Pore Water Pressure (psf)	Effective Stress (psf)	**% Completion**	**% Completion**
N_FS-08	Center D	-7.0	2226.3	2400.5	2/9/2016	2/22/2016	11.8	7.0	3697.5	876.1	2821.4	**118%**	**114%**
N_FS-09	Center D	-4.9	2151.3	2217.8	2/9/2016	2/22/2016	12.0	6.4	3648.8	699.4	2949.4	**133%**	**127%**
N_FS-10	Center O	-3.5	1937.5	2525.6	2/9/2016	2/22/2016	12.4	8.6	3485.0	756.7	2728.3	**108%**	**109%**
	Center D	-6.0	2202.5	2619.0	2/9/2016	2/22/2016	12.4	6.7	3750.0	794.8	2955.2	**113%**	
N_FS-11	Center D	-5.1	2032.5	1919.6	2/9/2016	2/22/2016	6.4	4.2	2837.5	579.8	2257.7	**118%**	**118%**
N_HS-10	Center D	-5.2	2083.8	2216.4	2/9/2016	2/22/2016	7.5	6.4	3026.3	721.5	2304.7	**104%**	**101%**
N_HS-11	Center D	-5.7	2147.5	2280.4	3/9/2016	3/15/2016	6.6	4.2	2975.0	617.3	2357.7	**103%**	**102%**
N_HS-12	Center D	-4.4	2042.5	1931.7	2/9/2016	2/22/2016	5.5	4.5	2730.0	551.0	2179.0	**113%**	**111%**
N_HS-13	Center D	-4.4	1991.3	2050.1	2/9/2016	2/22/2016	5.8	4.3	2711.3	539.3	2172.0	**106%**	**107%**

FOR: SA-6 North Surcharge Monitoring Review

Table 2. Area 4N Surcharge Review

Settlement Monitoring Point	Layer	Existing EL. (ft)	Pre-Surcharge Conditions	Proposed Final Development Conditions	Date of Recording used in calculations		Fill Thickness (ft)	Elevation Head (ft)	Post-Surcharge Conditions			**MRCE**	**AMEC**
			Total Stress (psf)	Effective Stress (psf)	Fill Thickness	VWP Elevation			Total Stress (psf)	Pore Water Pressure (psf)	Effective Stress (psf)	**% Completion**	**% Completion**
N_FS-12	Center D	-4.1	1927.5	1869.2	3/9/2016	3/15/2016	3.4	3.5	2348.8	473.9	1874.9	**100%**	**101%**
N_FS-13	Center D	-4.6	2248.8	2063.8	1/28/2016	2/22/2016	3.1	-0.9	2640.0	232.2	2407.8	**117%**	**119%**

ATTACHMENT C
SURCHARGE COMPLETION EVALUATION TABLES

TABLE 1N-1
SURCHARGE COMPLETION EVALUATION
SUMMARY OF EFFECTIVE STRESS

SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
N_FS-01	2308	2605	**113%**	Data as of August 2014
N_FS-02	2414	3186	**132%**	Data as of August 2014
N_FS-03	2529	2810	**111%**	Data as of August 2014
N_FS-04	2764	3076	**111%**	Data as of August 2014
N_HS-01	2287	2772	**121%**	Data as of August 2014
N_HS-02	2324	2824	**122%**	Data as of August 2014
N_HS-03	2427	3161	**130%**	Data as of August 2014
N_HS-04	2303	2522	**109%**	Data as of August 2014
N_HS-05	2562	3911	**153%**	Data as of August 2014
N_HS-07	2668	3577	**134%**	Data as of August 2014
N_HS-09	2748	3521	**128%**	Data as of August 2014

TABLE 2N-1
SURCHARGE COMPLETION EVALUATION
SUMMARY OF EFFECTIVE STRESS

SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
N_FS-05	2766	2970	**107%**	Data as of November 2014; Pore pressure elevated 9.2 ft. (Stratum D).
N_FS-06	2833	3497	**123%**	Data as of November 2014
N_FS-07	2588	3389	**131%**	Data as of November 2014

Honeywell

TABLE 3N-1
SURCHARGE COMPLETION EVALUATION
SUMMARY OF EFFECTIVE STRESS

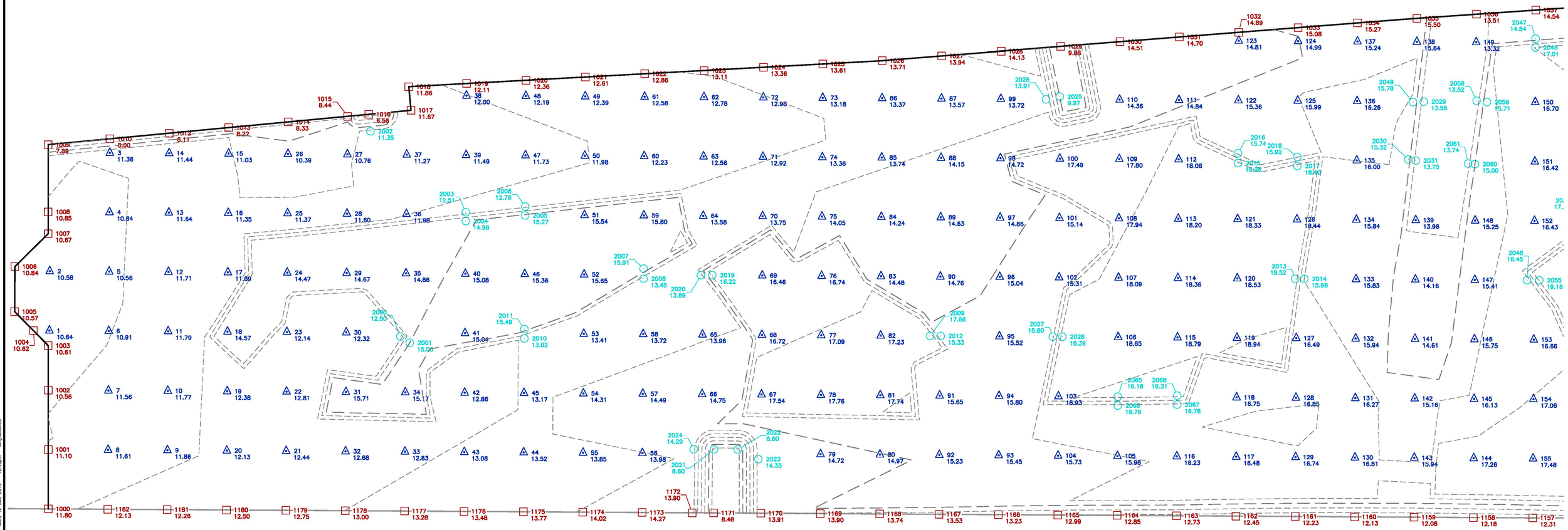
SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
N_FS-08	2401	2832	**118%**	SP and VWP data through 3/9/16.
N_FS-09	2218	2909	**131%**	SP and VWP data through 3/9/16.
N_FS-10	2619	2964	**113%**	SP data through 3/9/16. VWP data through 3/15/16.
N_FS-11	1920	2273	**118%**	SP and VWP data through 3/9/16.
N_HS-10	2216	2313	**104%**	SP and VWP data through 3/9/16.
N_HS-11	2280	2335	**102%**	SP data through 3/9/16. VWP data through 3/24/16.
N_HS-12	1932	2198	**114%**	SP and VWP data through 3/9/16.
N_HS-13	2050	2214	**108%**	SP and VWP data through 3/9/16.

TABLE 4N-1
SURCHARGE COMPLETION EVALUATION
SUMMARY OF EFFECTIVE STRESS

SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
N_FS-12	1869	1897	**101%**	SP data through 3/9/16. VWP data through 3/24/16.
N_FS-13	2064	2433	**118%**	SP and VWP data through 3/9/16.

ATTACHMENT D
SA-6 NORTH CAP SUBGRADE APPROVAL

ATTACHMENT D-1
CONSTRUCTION CONTROL GRID



153 16.66	GRID POINT
2054 17.00	BREAK POINT
1157 12.31	BOUND POINT

0 10 20 40
SCALE IN FEET

DCB 054.5 – REVISED CONTROL GRID ELEVATIONS 12/12/16

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

NOTE: REFER TO FIGURE 1.3 FOR REVISED GRID POINT ELEVATION SUMMARY TABLE.

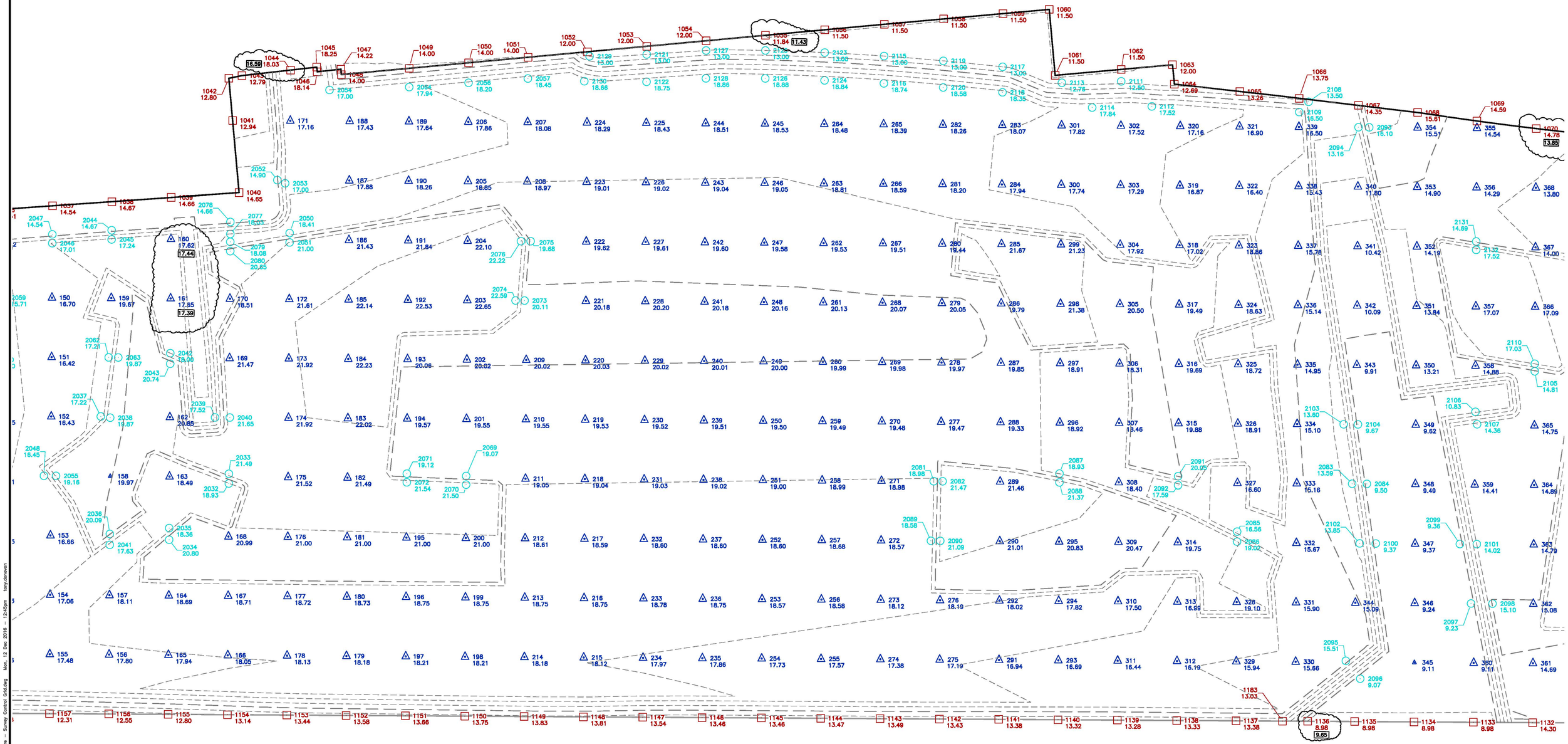
Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28001900

SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 1 OF 3
Project 3480-13-0377
Figure 1.1

C:\Donovan\SA- 6 North\2013 Excavation Surfaces\SA- 6 North Cap Surveys\Figure - Survey Control Grid.dwg Mon, 12 Dec 2016 - 12:46pm tony.donovan



GRID POINT

BREAK POINT

BOUND POINT

0 10 20 40

SCALE IN FEET

DCB 054.5 – REVISED CONTROL GRID ELEVATIONS 12/12/16

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

NOTE: REFER TO FIGURE 1.3 FOR REVISED GRID POINT ELEVATION SUMMARY TABLE.

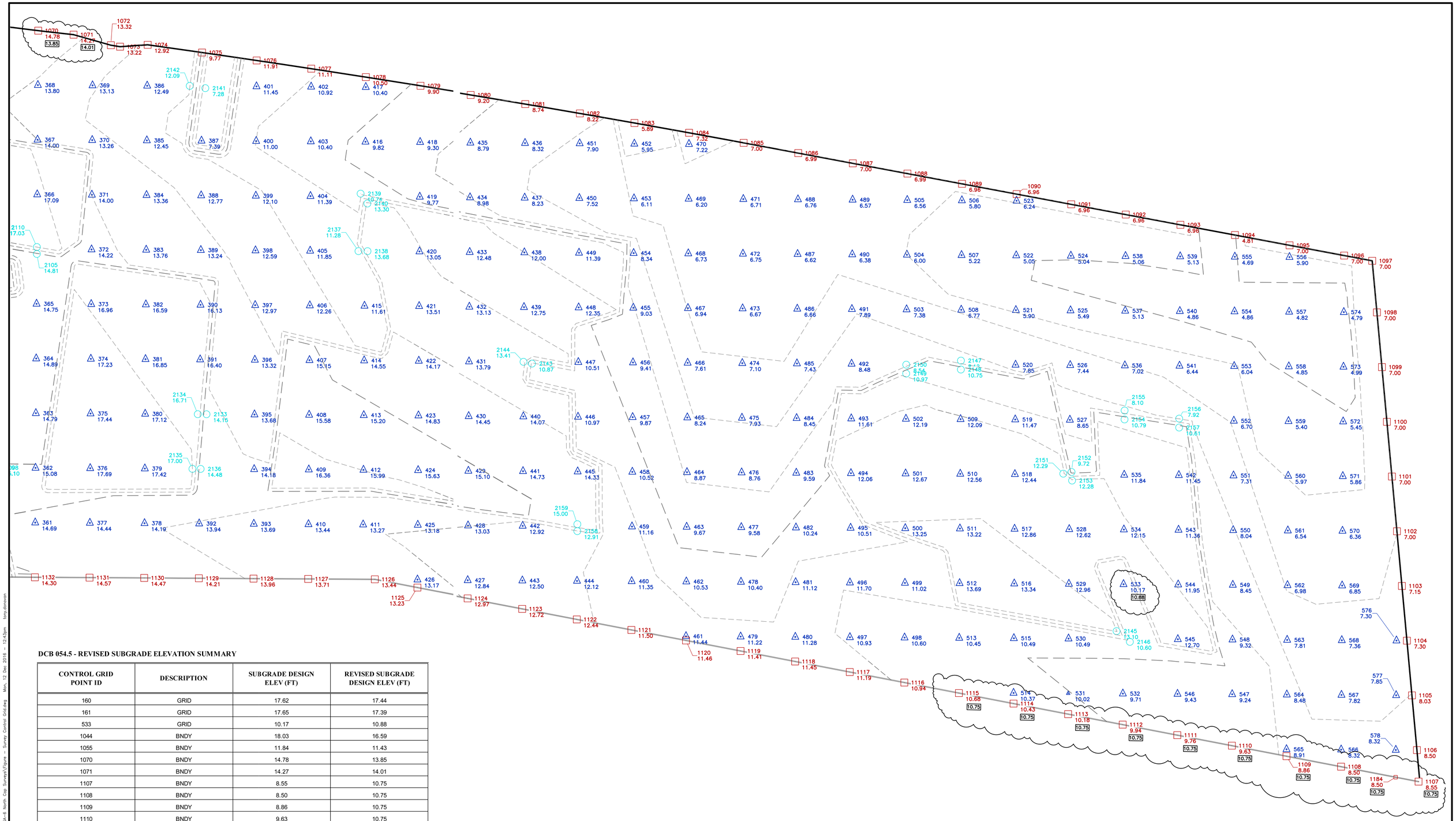
Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28019900

SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 2 OF 3
Project 3480-13-0377
Figure 1.2

C:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North Cap Surveys\Figure - Survey Control G06.dwg Mon, 12 Dec 2016 - 12:45pm tony.donovan



DCB 054.5 - REVISED SUBGRADE ELEVATION SUMMARY

CONTROL GRID POINT ID	DESCRIPTION	SUBGRADE DESIGN ELEV (FT)	REVISED SUBGRADE DESIGN ELEV (FT)
160	GRID	17.62	17.44
161	GRID	17.65	17.39
533	GRID	10.17	10.88
1044	BNDY	18.03	16.59
1055	BNDY	11.84	11.43
1070	BNDY	14.78	13.85
1071	BNDY	14.27	14.01
1107	BNDY	8.55	10.75
1108	BNDY	8.50	10.75
1109	BNDY	8.86	10.75
1110	BNDY	9.63	10.75
1111	BNDY	9.76	10.75
1112	BNDY	9.94	10.75
1113	BNDY	10.18	10.75
1114	BNDY	10.43	10.75
1115	BNDY	10.68	10.75
1136	BNDY	8.98	9.65
1184	BNDY	8.50	10.75

DCB 054.5 – REVISED CONTROL GRID ELEVATIONS 12/12/16

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 3 OF 3
Project 3480-13-0377
Figure 1.3

O:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North Cap Surveys\Figure - Survey Control Grid.dwg Mon, 12 Dec 2016 - 12:43pm tony.donovan

ATTACHMENT D-2
SA-6 NORTH SUBGRADE GRID POINTS

MASER CONSULTING P.A.

Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

156 Stagecoach Road
Marmora, NJ 08223
T: 609.390.1927
F: 609.390.0040
www.maserconsulting.com

SA-6 North Cap Subgrade: Grid Points (Table 1.0)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
1	686039.50	602096.13	10.6	GRID	6/20/2016	10.6	0.0	Point surveyed within Tolerance
2	686061.08	602108.76	10.6	GRID	6/20/2016	10.5	-0.1	Point surveyed within Tolerance
3	686091.59	602155.60	11.4	GRID	6/20/2016	11.3	-0.1	Point surveyed within Tolerance
4	686070.02	602142.97	10.8	GRID	6/20/2016	10.8	0.0	Point surveyed within Tolerance
5	686048.45	602130.34	10.6	GRID	6/20/2016	10.6	0.0	Point surveyed within Tolerance
6	686026.87	602117.70	10.9	GRID	6/20/2016	11.0	0.1	Point surveyed within Tolerance
7	686005.30	602105.07	11.6	GRID	6/20/2016	11.5	-0.1	Point surveyed within Tolerance
8	685983.72	602092.44	11.6	GRID	6/20/2016	11.6	0.0	Point surveyed within Tolerance
9	685971.09	602114.02	11.9	GRID	6/20/2016	11.8	-0.1	Point surveyed within Tolerance
10	685992.67	602126.65	11.8	GRID	6/20/2016	11.8	0.0	Point surveyed within Tolerance
11	686014.24	602139.28	11.8	GRID	6/20/2016	11.7	-0.1	Point surveyed within Tolerance
12	686035.82	602151.91	11.7	GRID	6/20/2016	11.6	-0.1	Point surveyed within Tolerance
13	686057.39	602164.54	11.6	GRID	6/20/2016	11.6	0.0	Point surveyed within Tolerance
14	686078.96	602177.17	11.4	GRID	6/20/2016	11.4	0.0	Point surveyed within Tolerance
15	686066.33	602198.75	11.0	GRID	6/20/2016	11.0	0.0	Point surveyed within Tolerance
16	686044.76	602186.12	11.3	GRID	6/20/2016	11.3	0.0	Point surveyed within Tolerance
17	686023.18	602173.48	11.9	GRID	6/20/2016	11.8	-0.1	Point surveyed within Tolerance
18	686001.61	602160.85	14.6	GRID	6/20/2016	14.5	-0.1	Point surveyed within Tolerance
19	685980.04	602148.22	12.4	GRID	6/20/2016	12.3	-0.1	Point surveyed within Tolerance
20	685958.46	602135.59	12.1	GRID	6/20/2016	12.1	0.0	Point surveyed within Tolerance
21	685945.83	602157.16	12.4	GRID	6/20/2016	12.4	0.0	Point surveyed within Tolerance
22	685967.40	602169.80	12.8	GRID	6/20/2016	12.8	0.0	Point surveyed within Tolerance
23	685988.98	602182.43	12.1	GRID	6/20/2016	12.1	0.0	Point surveyed within Tolerance
24	686010.55	602195.06	14.5	GRID	6/20/2016	14.4	-0.1	Point surveyed within Tolerance
25	686032.13	602207.69	11.4	GRID	6/20/2016	11.3	-0.1	Point surveyed within Tolerance
26	686053.70	602220.32	10.4	GRID	6/20/2016	10.4	0.0	Point surveyed within Tolerance
27	686041.07	602241.90	10.8	GRID	6/20/2016	10.7	-0.1	Point surveyed within Tolerance
28	686019.49	602229.26	11.6	GRID	6/20/2016	11.5	-0.1	Point surveyed within Tolerance
29	685997.92	602216.63	14.7	GRID	6/20/2016	14.6	-0.1	Point surveyed within Tolerance
30	685976.35	602204.00	12.3	GRID	6/20/2016	12.2	-0.1	Point surveyed within Tolerance
31	685954.77	602191.37	15.7	GRID	6/20/2016	15.7	0.0	Point surveyed within Tolerance
32	685933.20	602178.74	12.7	GRID	6/20/2016	12.6	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.1)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
33	685920.57	602200.31	12.8	GRID	6/20/2016	12.8	0.0	Point surveyed within Tolerance
34	685942.14	602212.94	15.2	GRID	6/20/2016	15.2	0.0	Point surveyed within Tolerance
35	685985.29	602238.21	14.9	GRID	6/20/2016	14.8	-0.1	Point surveyed within Tolerance
36	686006.86	602250.84	12.0	GRID	6/20/2016	12.0	0.0	Point surveyed within Tolerance
37	686028.44	602263.47	11.3	GRID	6/20/2016	11.2	-0.1	Point surveyed within Tolerance
38	686037.38	602297.68	12.0	GRID	6/20/2016	11.9	-0.1	Point surveyed within Tolerance
39	686015.81	602285.04	11.5	GRID	6/20/2016	11.4	-0.1	Point surveyed within Tolerance
40	685972.66	602259.78	15.1	GRID	6/20/2016	15.0	-0.1	Point surveyed within Tolerance
41	685951.08	602247.15	15.0	GRID	6/20/2016	15.0	0.0	Point surveyed within Tolerance
42	685929.51	602234.52	12.9	GRID	6/20/2016	12.8	-0.1	Point surveyed within Tolerance
43	685907.93	602221.89	13.1	GRID	6/20/2016	13.1	0.0	Point surveyed within Tolerance
44	685895.30	602243.46	13.5	GRID	6/20/2016	13.5	0.0	Point surveyed within Tolerance
45	685916.88	602256.09	13.2	GRID	6/20/2016	13.1	-0.1	Point surveyed within Tolerance
46	685960.03	602281.36	15.4	GRID	6/20/2016	15.3	-0.1	Point surveyed within Tolerance
47	686003.17	602306.62	11.7	GRID	6/20/2016	11.7	0.0	Point surveyed within Tolerance
48	686024.75	602319.25	12.2	GRID	6/20/2016	12.1	-0.1	Point surveyed within Tolerance
49	686012.12	602340.82	12.4	GRID	6/23/2016	12.3	-0.1	Point surveyed within Tolerance
50	685990.54	602328.19	12.0	GRID	6/23/2016	12.0	0.0	Point surveyed within Tolerance
51	685968.97	602315.56	15.5	GRID	6/23/2016	15.5	0.0	Point surveyed within Tolerance
52	685947.39	602302.93	15.6	GRID	6/23/2016	15.6	0.0	Point surveyed within Tolerance
53	685925.82	602290.30	13.4	GRID	6/23/2016	13.4	0.0	Point surveyed within Tolerance
54	685904.25	602277.67	14.3	GRID	6/23/2016	14.3	0.0	Point surveyed within Tolerance
55	685882.67	602265.03	13.9	GRID	6/23/2016	13.9	0.0	Point surveyed within Tolerance
56	685870.04	602286.61	14.0	GRID	6/23/2016	14.0	0.0	Point surveyed within Tolerance
57	685891.61	602299.24	14.5	GRID	6/23/2016	14.4	-0.1	Point surveyed within Tolerance
58	685913.19	602311.87	13.7	GRID	6/23/2016	13.7	0.0	Point surveyed within Tolerance
59	685956.34	602337.14	15.8	GRID	6/23/2016	15.8	0.0	Point surveyed within Tolerance
60	685977.91	602349.77	12.2	GRID	6/23/2016	12.3	0.1	Point surveyed within Tolerance
61	685999.49	602362.40	12.6	GRID	6/23/2016	12.5	-0.1	Point surveyed within Tolerance
62	685986.85	602383.97	12.8	GRID	6/23/2016	12.7	-0.1	Point surveyed within Tolerance
63	685965.28	602371.34	12.6	GRID	6/23/2016	12.6	0.0	Point surveyed within Tolerance
64	685943.71	602358.71	13.6	GRID	6/23/2016	13.7	0.1	Point surveyed within Tolerance
65	685900.56	602333.45	14.0	GRID	6/23/2016	13.9	-0.1	Point surveyed within Tolerance
66	685878.98	602320.81	14.8	GRID	6/23/2016	14.7	-0.1	Point surveyed within Tolerance
67	685866.35	602342.39	17.5	GRID	6/23/2016	17.5	0.0	Point surveyed within Tolerance
68	685887.93	602355.02	16.7	GRID	6/23/2016	16.7	0.0	Point surveyed within Tolerance
69	685909.50	602367.65	16.5	GRID	6/23/2016	16.4	-0.1	Point surveyed within Tolerance
70	685931.07	602380.28	13.7	GRID	6/23/2016	13.7	0.0	Point surveyed within Tolerance
71	685952.65	602392.91	12.9	GRID	6/23/2016	12.9	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.2)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
72	685974.22	602405.55	13.0	GRID	6/23/2016	12.9	-0.1	Point surveyed within Tolerance
73	685961.59	602427.12	13.2	GRID	6/23/2016	13.1	-0.1	Point surveyed within Tolerance
74	685940.02	602414.49	13.4	GRID	6/23/2016	13.3	-0.1	Point surveyed within Tolerance
75	685918.44	602401.86	14.1	GRID	6/23/2016	14.0	-0.1	Point surveyed within Tolerance
76	685896.87	602389.23	16.7	GRID	6/23/2016	16.7	0.0	Point surveyed within Tolerance
77	685875.29	602376.59	17.1	GRID	6/23/2016	17.1	0.0	Point surveyed within Tolerance
78	685853.72	602363.96	17.8	GRID	6/23/2016	17.7	-0.1	Point surveyed within Tolerance
79	685832.15	602351.33	14.7	GRID	6/23/2016	14.8	0.1	Point surveyed within Tolerance
80	685819.51	602372.91	15.0	GRID	6/27/2016	15.0	0.0	Point surveyed within Tolerance
81	685841.09	602385.54	17.7	GRID	6/27/2016	17.6	-0.1	Point surveyed within Tolerance
82	685862.66	602398.17	17.2	GRID	6/27/2016	17.2	0.0	Point surveyed within Tolerance
83	685884.24	602410.80	14.5	GRID	6/27/2016	14.4	-0.1	Point surveyed within Tolerance
84	685905.81	602423.43	14.2	GRID	6/27/2016	14.2	0.0	Point surveyed within Tolerance
85	685927.39	602436.06	13.7	GRID	6/27/2016	13.7	0.0	Point surveyed within Tolerance
86	685948.96	602448.69	13.4	GRID	6/27/2016	13.4	0.0	Point surveyed within Tolerance
87	685936.33	602470.27	13.6	GRID	6/27/2016	13.5	-0.1	Point surveyed within Tolerance
88	685914.75	602457.64	14.2	GRID	6/27/2016	14.1	-0.1	Point surveyed within Tolerance
89	685893.18	602445.01	14.6	GRID	6/27/2016	14.6	0.0	Point surveyed within Tolerance
90	685871.61	602432.37	14.8	GRID	6/27/2016	14.7	-0.1	Point surveyed within Tolerance
91	685828.46	602407.11	15.7	GRID	6/27/2016	15.6	-0.1	Point surveyed within Tolerance
92	685806.88	602394.48	15.2	GRID	6/27/2016	15.2	0.0	Point surveyed within Tolerance
93	685794.25	602416.05	15.4	GRID	6/27/2016	15.4	0.0	Point surveyed within Tolerance
94	685815.83	602428.69	15.8	GRID	6/27/2016	15.7	-0.1	Point surveyed within Tolerance
95	685837.40	602441.32	15.5	GRID	6/27/2016	15.4	-0.1	Point surveyed within Tolerance
96	685858.97	602453.95	15.0	GRID	6/27/2016	15.0	0.0	Point surveyed within Tolerance
97	685880.55	602466.58	14.9	GRID	6/27/2016	14.8	-0.1	Point surveyed within Tolerance
98	685902.12	602479.21	14.7	GRID	6/27/2016	14.6	-0.1	Point surveyed within Tolerance
99	685923.70	602491.84	13.7	GRID	6/27/2016	13.7	0.0	Point surveyed within Tolerance
100	685889.49	602500.79	17.5	GRID	6/27/2016	17.4	-0.1	Point surveyed within Tolerance
101	685867.92	602488.15	15.1	GRID	6/27/2016	15.1	0.0	Point surveyed within Tolerance
102	685846.34	602475.52	15.3	GRID	6/27/2016	15.2	-0.1	Point surveyed within Tolerance
103	685803.19	602450.26	18.9	GRID	6/27/2016	18.8	-0.1	Point surveyed within Tolerance
104	685781.62	602437.63	15.7	GRID	6/27/2016	15.7	0.0	Point surveyed within Tolerance
105	685768.99	602459.20	16.0	GRID	6/27/2016	16.0	0.0	Point surveyed within Tolerance
106	685812.14	602484.47	18.7	GRID	6/27/2016	18.6	-0.1	Point surveyed within Tolerance
107	685833.71	602497.10	18.1	GRID	6/27/2016	18.0	-0.1	Point surveyed within Tolerance
108	685855.28	602509.73	17.9	GRID	6/27/2016	17.9	0.0	Point surveyed within Tolerance
109	685876.86	602522.36	17.8	GRID	6/27/2016	17.7	-0.1	Point surveyed within Tolerance
110	685898.43	602534.99	14.4	GRID	6/27/2016	14.3	-0.1	Point surveyed within Tolerance
111	685885.80	602556.57	14.8	GRID	6/27/2016	14.8	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.3)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
112	685864.23	602543.93	18.1	GRID	6/27/2016	18.0	-0.1	Point surveyed within Tolerance
113	685842.65	602531.30	18.2	GRID	6/27/2016	18.1	-0.1	Point surveyed within Tolerance
114	685821.08	602518.67	18.4	GRID	6/27/2016	18.3	-0.1	Point surveyed within Tolerance
115	685799.50	602506.04	18.8	GRID	6/27/2016	18.7	-0.1	Point surveyed within Tolerance
116	685756.36	602480.78	16.2	GRID	6/27/2016	16.2	0.0	Point surveyed within Tolerance
117	685743.73	602502.35	16.5	GRID	6/27/2016	16.5	0.0	Point surveyed within Tolerance
118	685765.30	602514.98	16.8	GRID	6/27/2016	16.7	-0.1	Point surveyed within Tolerance
119	685786.87	602527.61	18.9	GRID	6/27/2016	18.9	0.0	Point surveyed within Tolerance
120	685808.45	602540.25	18.5	GRID	6/27/2016	18.5	0.0	Point surveyed within Tolerance
121	685830.02	602552.88	18.3	GRID	6/27/2016	18.3	0.0	Point surveyed within Tolerance
122	685873.17	602578.14	15.4	GRID	6/27/2016	15.3	-0.1	Point surveyed within Tolerance
123	685894.74	602590.77	14.8	GRID	6/27/2016	14.8	0.0	Point surveyed within Tolerance
124	685882.10	602612.30	15.0	GRID	6/29/2016	15.0	0.0	Point surveyed within Tolerance
125	685860.50	602599.70	16.0	GRID	6/29/2016	15.9	-0.1	Point surveyed within Tolerance
126	685817.40	602574.50	18.4	GRID	6/29/2016	18.4	0.0	Point surveyed within Tolerance
127	685774.20	602549.20	16.5	GRID	6/29/2016	16.4	-0.1	Point surveyed within Tolerance
128	685752.70	602536.60	16.8	GRID	6/29/2016	16.8	0.0	Point surveyed within Tolerance
129	685731.10	602523.90	16.7	GRID	6/29/2016	16.8	0.1	Point surveyed within Tolerance
130	685718.50	602545.50	16.8	GRID	6/29/2016	16.8	0.0	Point surveyed within Tolerance
131	685740.00	602558.10	16.3	GRID	6/29/2016	16.3	0.0	Point surveyed within Tolerance
132	685761.60	602570.80	15.9	GRID	6/29/2016	15.9	0.0	Point surveyed within Tolerance
133	685783.20	602583.40	15.8	GRID	6/29/2016	15.8	0.0	Point surveyed within Tolerance
134	685804.80	602596.00	15.8	GRID	6/29/2016	15.8	0.0	Point surveyed within Tolerance
135	685826.30	602608.70	16.0	GRID	6/29/2016	15.9	-0.1	Point surveyed within Tolerance
136	685847.90	602621.30	16.3	GRID	6/29/2016	16.2	-0.1	Point surveyed within Tolerance
137	685869.50	602633.90	15.2	GRID	6/29/2016	15.3	0.1	Point surveyed within Tolerance
138	685856.80	602655.50	15.6	GRID	6/29/2016	15.7	0.1	Point surveyed within Tolerance
139	685792.10	602617.60	14.0	GRID	6/29/2016	13.9	-0.1	Point surveyed within Tolerance
140	685770.60	602605.00	14.2	GRID	6/29/2016	14.1	-0.1	Point surveyed within Tolerance
141	685749.00	602592.30	14.6	GRID	6/29/2016	14.6	0.0	Point surveyed within Tolerance
142	685727.40	602579.70	15.2	GRID	6/29/2016	15.1	-0.1	Point surveyed within Tolerance
143	685705.80	602567.10	15.9	GRID	6/29/2016	15.9	0.0	Point surveyed within Tolerance
144	685693.20	602588.60	17.3	GRID	6/29/2016	17.3	0.0	Point surveyed within Tolerance
145	685714.80	602601.30	16.1	GRID	6/29/2016	16.1	0.0	Point surveyed within Tolerance
146	685736.30	602613.90	15.8	GRID	6/29/2016	15.7	-0.1	Point surveyed within Tolerance
147	685757.90	602626.50	15.4	GRID	6/29/2016	15.5	0.1	Point surveyed within Tolerance
148	685779.50	602639.20	15.3	GRID	6/29/2016	15.3	0.0	Point surveyed within Tolerance
149	685844.20	602677.10	13.3	GRID	6/29/2016	13.4	0.1	Point surveyed within Tolerance
150	685810.00	602686.00	16.7	GRID	6/29/2016	16.6	-0.1	Point surveyed within Tolerance
151	685788.40	602673.40	16.4	GRID	6/29/2016	16.4	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.4)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
152	685766.90	602660.70	16.4	GRID	6/29/2016	16.4	0.0	Point surveyed within Tolerance
153	685723.70	602635.50	16.7	GRID	6/29/2016	16.6	-0.1	Point surveyed within Tolerance
154	685702.10	602622.90	17.1	GRID	6/29/2016	17.0	-0.1	Point surveyed within Tolerance
155	685680.60	602610.20	17.5	GRID	6/29/2016	17.5	0.0	Point surveyed within Tolerance
156	685667.90	602631.80	17.8	GRID	7/1/2016	17.9	0.1	Point surveyed within Tolerance
157	685689.50	602644.40	18.1	GRID	7/1/2016	18.2	0.1	Point surveyed within Tolerance
158	685732.70	602669.70	20.0	GRID	7/1/2016	20.0	0.0	Point surveyed within Tolerance
159	685797.40	602707.60	19.7	GRID	7/1/2016	19.6	-0.1	Point surveyed within Tolerance
160	685806.30	602741.80	17.4	GRID	7/1/2016	17.4	0.0	Point surveyed within Tolerance
161	685784.70	602729.20	17.4	GRID	7/1/2016	17.4	0.0	Point surveyed within Tolerance
162	685741.60	602703.90	20.9	GRID	7/1/2016	20.9	0.0	Point surveyed within Tolerance
163	685720.00	602691.30	18.5	GRID	7/1/2016	18.4	-0.1	Point surveyed within Tolerance
164	685676.90	602666.00	18.7	GRID	7/1/2016	18.8	0.1	Point surveyed within Tolerance
165	685655.30	602653.40	17.9	GRID	7/1/2016	18.0	0.1	Point surveyed within Tolerance
166	685642.70	602674.90	18.1	GRID	7/1/2016	18.1	0.0	Point surveyed within Tolerance
167	685664.20	602687.60	18.7	GRID	7/1/2016	18.7	0.0	Point surveyed within Tolerance
168	685685.80	602700.20	21.0	GRID	7/1/2016	21.1	0.1	Point surveyed within Tolerance
169	685750.50	602738.10	21.5	GRID	7/1/2016	21.5	0.0	Point surveyed within Tolerance
170	685772.10	602750.70	18.5	GRID	7/1/2016	18.4	-0.1	Point surveyed within Tolerance
171	685824.20	602810.20	17.2	GRID	7/7/2016	17.2	0.0	Point surveyed within Tolerance
172	685759.50	602772.30	21.6	GRID	7/1/2016	21.5	-0.1	Point surveyed within Tolerance
173	685737.90	602759.70	21.9	GRID	7/1/2016	21.9	0.0	Point surveyed within Tolerance
174	685716.30	602747.00	21.9	GRID	7/1/2016	21.9	0.0	Point surveyed within Tolerance
175	685694.80	602734.40	21.5	GRID	7/1/2016	21.6	0.1	Point surveyed within Tolerance
176	685673.20	602721.80	21.0	GRID	7/1/2016	20.9	-0.1	Point surveyed within Tolerance
177	685651.60	602709.10	18.7	GRID	7/1/2016	18.7	0.0	Point surveyed within Tolerance
178	685630.00	602696.50	18.1	GRID	7/1/2016	18.2	0.1	Point surveyed within Tolerance
179	685617.40	602718.10	18.2	GRID	7/7/2016	18.3	0.1	Point surveyed within Tolerance
180	685639.00	602730.70	18.7	GRID	7/7/2016	18.7	0.0	Point surveyed within Tolerance
181	685660.60	602743.40	21.0	GRID	7/7/2016	21.0	0.0	Point surveyed within Tolerance
182	685682.10	602756.00	21.5	GRID	7/7/2016	21.5	0.0	Point surveyed within Tolerance
183	685703.70	602768.60	22.0	GRID	7/7/2016	22.0	0.0	Point surveyed within Tolerance
184	685725.30	602781.20	22.2	GRID	7/7/2016	22.2	0.0	Point surveyed within Tolerance
185	685746.90	602793.90	22.1	GRID	7/7/2016	22.1	0.0	Point surveyed within Tolerance
186	685768.40	602806.50	21.4	GRID	7/7/2016	21.4	0.0	Point surveyed within Tolerance
187	685790.00	602819.10	17.9	GRID	7/7/2016	17.9	0.0	Point surveyed within Tolerance
188	685811.60	602831.80	17.4	GRID	7/7/2016	17.4	0.0	Point surveyed within Tolerance
189	685798.90	602853.40	17.6	GRID	7/7/2016	17.7	0.1	Point surveyed within Tolerance
190	685777.40	602840.70	18.3	GRID	7/7/2016	18.3	0.0	Point surveyed within Tolerance
191	685755.80	602828.10	21.8	GRID	7/7/2016	21.9	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.5)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
192	685734.20	602815.50	22.5	GRID	7/7/2016	22.5	0.0	Point surveyed within Tolerance
193	685712.60	602802.80	20.1	GRID	7/7/2016	20.1	0.0	Point surveyed within Tolerance
194	685691.10	602790.20	19.6	GRID	7/7/2016	19.5	-0.1	Point surveyed within Tolerance
195	685647.90	602764.90	21.0	GRID	7/7/2016	21.0	0.0	Point surveyed within Tolerance
196	685626.40	602752.30	18.8	GRID	7/7/2016	18.7	-0.1	Point surveyed within Tolerance
197	685604.80	602739.70	18.2	GRID	7/7/2016	18.2	0.0	Point surveyed within Tolerance
198	685592.10	602761.20	18.2	GRID	7/7/2016	18.2	0.0	Point surveyed within Tolerance
199	685613.70	602773.90	18.8	GRID	7/7/2016	18.7	-0.1	Point surveyed within Tolerance
200	685635.30	602786.50	21.0	GRID	7/7/2016	21.0	0.0	Point surveyed within Tolerance
201	685678.40	602811.80	19.6	GRID	7/7/2016	19.6	0.0	Point surveyed within Tolerance
202	685700.00	602824.40	20.0	GRID	7/7/2016	20.0	0.0	Point surveyed within Tolerance
203	685721.60	602837.00	22.7	GRID	7/7/2016	22.7	0.0	Point surveyed within Tolerance
204	685743.20	602849.70	22.1	GRID	7/7/2016	22.1	0.0	Point surveyed within Tolerance
205	685764.70	602862.30	18.8	GRID	7/7/2016	18.8	0.0	Point surveyed within Tolerance
206	685786.30	602874.90	17.9	GRID	7/7/2016	17.8	-0.1	Point surveyed within Tolerance
207	685773.70	602896.50	18.1	GRID	7/7/2016	18.1	0.0	Point surveyed within Tolerance
208	685752.10	602883.90	19.0	GRID	7/7/2016	19.0	0.0	Point surveyed within Tolerance
209	685687.40	602846.00	20.0	GRID	7/7/2016	20.0	0.0	Point surveyed within Tolerance
210	685665.80	602833.30	19.5	GRID	7/7/2016	19.6	0.1	Point surveyed within Tolerance
211	685644.20	602820.70	19.0	GRID	7/7/2016	19.1	0.1	Point surveyed within Tolerance
212	685622.70	602808.10	18.6	GRID	7/7/2016	18.6	0.0	Point surveyed within Tolerance
213	685601.10	602795.40	18.8	GRID	7/7/2016	18.7	-0.1	Point surveyed within Tolerance
214	685579.50	602782.80	18.2	GRID	7/7/2016	18.2	0.0	Point surveyed within Tolerance
215	685566.90	602804.40	18.1	GRID	7/8/2016	18.1	0.0	Point surveyed within Tolerance
216	685588.50	602817.00	18.8	GRID	7/8/2016	18.7	-0.1	Point surveyed within Tolerance
217	685610.00	602829.70	18.6	GRID	7/8/2016	18.5	-0.1	Point surveyed within Tolerance
218	685631.60	602842.30	19.0	GRID	7/8/2016	19.0	0.0	Point surveyed within Tolerance
219	685653.20	602854.90	19.5	GRID	7/8/2016	19.6	0.1	Point surveyed within Tolerance
220	685674.80	602867.50	20.0	GRID	7/8/2016	20.0	0.0	Point surveyed within Tolerance
221	685696.30	602880.20	20.2	GRID	7/8/2016	20.2	0.0	Point surveyed within Tolerance
222	685717.90	602892.80	19.6	GRID	7/8/2016	19.7	0.1	Point surveyed within Tolerance
223	685739.50	602905.40	19.0	GRID	7/8/2016	18.9	-0.1	Point surveyed within Tolerance
224	685761.10	602918.10	18.3	GRID	7/8/2016	18.3	0.0	Point surveyed within Tolerance
225	685748.40	602939.60	18.4	GRID	7/8/2016	18.5	0.1	Point surveyed within Tolerance
226	685726.80	602927.00	19.0	GRID	7/8/2016	19.0	0.0	Point surveyed within Tolerance
227	685705.30	602914.40	19.6	GRID	7/8/2016	19.5	-0.1	Point surveyed within Tolerance
228	685683.70	602901.80	20.2	GRID	7/8/2016	20.1	-0.1	Point surveyed within Tolerance
229	685662.10	602889.10	20.0	GRID	7/8/2016	20.0	0.0	Point surveyed within Tolerance
230	685640.50	602876.50	19.5	GRID	7/8/2016	19.5	0.0	Point surveyed within Tolerance
231	685619.00	602863.90	19.0	GRID	7/8/2016	19.1	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.6)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
232	685597.40	602851.20	18.6	GRID	7/8/2016	18.6	0.0	Point surveyed within Tolerance
233	685575.80	602838.60	18.8	GRID	7/8/2016	18.8	0.0	Point surveyed within Tolerance
234	685554.30	602826.00	18.0	GRID	7/8/2016	18.1	0.1	Point surveyed within Tolerance
235	685541.60	602847.50	17.9	GRID	7/8/2016	17.9	0.0	Point surveyed within Tolerance
236	685563.20	602860.20	18.7	GRID	7/8/2016	18.7	0.0	Point surveyed within Tolerance
237	685584.80	602872.80	18.6	GRID	7/8/2016	18.6	0.0	Point surveyed within Tolerance
238	685606.30	602885.40	19.0	GRID	7/8/2016	19.0	0.0	Point surveyed within Tolerance
239	685627.90	602898.10	19.5	GRID	7/8/2016	19.5	0.0	Point surveyed within Tolerance
240	685649.50	602910.70	20.0	GRID	7/8/2016	20.0	0.0	Point surveyed within Tolerance
241	685671.10	602923.30	20.2	GRID	7/8/2016	20.2	0.0	Point surveyed within Tolerance
242	685692.60	602936.00	19.6	GRID	7/8/2016	19.6	0.0	Point surveyed within Tolerance
243	685714.20	602948.60	19.0	GRID	7/8/2016	19.0	0.0	Point surveyed within Tolerance
244	685735.80	602961.20	18.5	GRID	7/8/2016	18.5	0.0	Point surveyed within Tolerance
245	685723.20	602982.80	18.5	GRID	7/8/2016	18.5	0.0	Point surveyed within Tolerance
246	685701.60	602970.20	19.0	GRID	7/8/2016	19.1	0.1	Point surveyed within Tolerance
247	685680.00	602957.50	19.6	GRID	7/8/2016	19.6	0.0	Point surveyed within Tolerance
248	685658.40	602944.90	20.2	GRID	7/8/2016	20.1	-0.1	Point surveyed within Tolerance
249	685636.90	602932.30	20.0	GRID	7/8/2016	19.9	-0.1	Point surveyed within Tolerance
250	685615.30	602919.60	19.5	GRID	7/8/2016	19.6	0.1	Point surveyed within Tolerance
251	685593.70	602907.00	19.0	GRID	7/8/2016	19.1	0.1	Point surveyed within Tolerance
252	685572.10	602894.40	18.6	GRID	7/8/2016	18.6	0.0	Point surveyed within Tolerance
253	685550.60	602881.70	18.6	GRID	7/8/2016	18.5	-0.1	Point surveyed within Tolerance
254	685529.00	602869.10	17.7	GRID	7/8/2016	17.7	0.0	Point surveyed within Tolerance
255	685516.40	602890.70	17.6	GRID	7/12/2016	17.6	0.0	Point surveyed within Tolerance
256	685537.90	602903.30	18.6	GRID	7/12/2016	18.5	-0.1	Point surveyed within Tolerance
257	685559.50	602915.90	18.7	GRID	7/12/2016	18.6	-0.1	Point surveyed within Tolerance
258	685581.10	602928.60	19.0	GRID	7/12/2016	19.0	0.0	Point surveyed within Tolerance
259	685602.70	602941.20	19.5	GRID	7/12/2016	19.5	0.0	Point surveyed within Tolerance
260	685624.20	602953.80	20.0	GRID	7/12/2016	20.0	0.0	Point surveyed within Tolerance
261	685645.80	602966.50	20.1	GRID	7/12/2016	20.2	0.1	Point surveyed within Tolerance
262	685667.40	602979.10	19.5	GRID	7/12/2016	19.5	0.0	Point surveyed within Tolerance
263	685689.00	602991.70	18.8	GRID	7/12/2016	18.8	0.0	Point surveyed within Tolerance
264	685710.50	603004.40	18.5	GRID	7/12/2016	18.5	0.0	Point surveyed within Tolerance
265	685697.90	603025.90	18.4	GRID	7/12/2016	18.5	0.1	Point surveyed within Tolerance
266	685676.30	603013.30	18.6	GRID	7/12/2016	18.5	-0.1	Point surveyed within Tolerance
267	685654.70	603000.70	19.5	GRID	7/12/2016	19.5	0.0	Point surveyed within Tolerance
268	685633.20	602988.00	20.1	GRID	7/12/2016	20.0	-0.1	Point surveyed within Tolerance
269	685611.60	602975.40	20.0	GRID	7/12/2016	20.0	0.0	Point surveyed within Tolerance
270	685590.00	602962.80	19.5	GRID	7/12/2016	19.5	0.0	Point surveyed within Tolerance
271	685568.40	602950.20	19.0	GRID	7/12/2016	19.0	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.7)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
272	685546.90	602937.50	18.6	GRID	7/12/2016	18.6	0.0	Point surveyed within Tolerance
273	685525.30	602924.90	18.1	GRID	7/12/2016	18.1	0.0	Point surveyed within Tolerance
274	685503.70	602912.30	17.4	GRID	7/12/2016	17.4	0.0	Point surveyed within Tolerance
275	685491.10	602933.80	17.2	GRID	7/12/2016	17.2	0.0	Point surveyed within Tolerance
276	685512.70	602946.50	18.2	GRID	7/12/2016	18.2	0.0	Point surveyed within Tolerance
277	685577.40	602984.40	19.5	GRID	7/12/2016	19.5	0.0	Point surveyed within Tolerance
278	685599.00	602997.00	20.0	GRID	7/12/2016	19.9	-0.1	Point surveyed within Tolerance
279	685620.50	603009.60	20.0	GRID	7/12/2016	20.0	0.0	Point surveyed within Tolerance
280	685642.10	603022.30	19.4	GRID	7/12/2016	19.5	0.1	Point surveyed within Tolerance
281	685663.70	603034.90	18.2	GRID	7/12/2016	18.2	0.0	Point surveyed within Tolerance
282	685685.30	603047.50	18.3	GRID	7/12/2016	18.3	0.0	Point surveyed within Tolerance
283	685672.60	603069.10	18.1	GRID	7/13/2016	18.1	0.0	Point surveyed within Tolerance
284	685651.10	603056.50	17.9	GRID	7/13/2016	18.0	0.1	Point surveyed within Tolerance
285	685629.50	603043.80	21.7	GRID	7/13/2016	21.6	-0.1	Point surveyed within Tolerance
286	685607.90	603031.20	19.8	GRID	7/13/2016	19.8	0.0	Point surveyed within Tolerance
287	685586.30	603018.60	19.9	GRID	7/13/2016	19.8	-0.1	Point surveyed within Tolerance
288	685564.80	603005.90	19.3	GRID	7/13/2016	19.4	0.1	Point surveyed within Tolerance
289	685543.20	602993.30	21.5	GRID	7/13/2016	21.5	0.0	Point surveyed within Tolerance
290	685521.60	602980.70	21.0	GRID	7/13/2016	21.0	0.0	Point surveyed within Tolerance
291	685478.50	602955.40	16.9	GRID	7/13/2016	17.0	0.1	Point surveyed within Tolerance
292	685500.00	602968.00	18.0	GRID	7/13/2016	18.0	0.0	Point surveyed within Tolerance
293	685465.80	602977.00	16.7	GRID	7/13/2016	16.7	0.0	Point surveyed within Tolerance
294	685487.40	602989.60	17.8	GRID	7/13/2016	17.9	0.1	Point surveyed within Tolerance
295	685509.00	603002.20	20.8	GRID	7/13/2016	20.9	0.1	Point surveyed within Tolerance
296	685552.10	603027.50	18.9	GRID	7/13/2016	19.0	0.1	Point surveyed within Tolerance
297	685573.70	603040.10	18.9	GRID	7/13/2016	19.0	0.1	Point surveyed within Tolerance
298	685595.30	603052.80	21.4	GRID	7/13/2016	21.3	-0.1	Point surveyed within Tolerance
299	685616.90	603065.40	21.2	GRID	7/13/2016	21.3	0.1	Point surveyed within Tolerance
300	685638.40	603078.00	17.7	GRID	7/13/2016	17.7	0.0	Point surveyed within Tolerance
301	685660.00	603090.70	17.8	GRID	7/13/2016	17.9	0.1	Point surveyed within Tolerance
302	685647.40	603112.20	17.5	GRID	7/13/2016	17.4	-0.1	Point surveyed within Tolerance
303	685625.80	603099.60	17.3	GRID	7/13/2016	17.3	0.0	Point surveyed within Tolerance
304	685604.20	603087.00	17.9	GRID	7/13/2016	17.9	0.0	Point surveyed within Tolerance
305	685582.60	603074.30	20.5	GRID	7/13/2016	20.5	0.0	Point surveyed within Tolerance
306	685561.10	603061.70	18.3	GRID	7/13/2016	18.4	0.1	Point surveyed within Tolerance
307	685539.50	603049.10	18.5	GRID	7/13/2016	18.5	0.0	Point surveyed within Tolerance
308	685517.90	603036.50	18.4	GRID	7/13/2016	18.5	0.1	Point surveyed within Tolerance
309	685496.30	603023.80	20.5	GRID	7/13/2016	20.5	0.0	Point surveyed within Tolerance
310	685474.80	603011.20	17.5	GRID	7/13/2016	17.5	0.0	Point surveyed within Tolerance
311	685453.20	602998.60	16.4	GRID	7/13/2016	16.5	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.8)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
312	685440.60	603020.10	16.2	GRID	7/13/2016	16.3	0.1	Point surveyed within Tolerance
313	685462.10	603032.80	17.0	GRID	7/13/2016	17.0	0.0	Point surveyed within Tolerance
314	685483.70	603045.40	19.7	GRID	7/13/2016	19.8	0.1	Point surveyed within Tolerance
315	685526.90	603070.70	19.9	GRID	7/13/2016	19.9	0.0	Point surveyed within Tolerance
316	685548.40	603083.30	19.7	GRID	7/13/2016	19.8	0.1	Point surveyed within Tolerance
317	685570.00	603095.90	19.5	GRID	7/13/2016	19.5	0.0	Point surveyed within Tolerance
318	685591.60	603108.60	17.0	GRID	7/13/2016	17.0	0.0	Point surveyed within Tolerance
319	685613.20	603121.20	16.9	GRID	7/13/2016	16.9	0.0	Point surveyed within Tolerance
320	685634.70	603133.80	17.2	GRID	7/13/2016	17.1	-0.1	Point surveyed within Tolerance
321	685622.10	603155.40	16.9	GRID	7/15/2016	16.9	0.0	Point surveyed within Tolerance
322	685600.50	603142.80	16.4	GRID	7/15/2016	16.5	0.1	Point surveyed within Tolerance
323	685579.00	603130.10	18.9	GRID	7/15/2016	18.8	-0.1	Point surveyed within Tolerance
324	685557.40	603117.50	18.6	GRID	7/15/2016	18.7	0.1	Point surveyed within Tolerance
325	685535.80	603104.90	18.7	GRID	7/15/2016	18.8	0.1	Point surveyed within Tolerance
326	685514.20	603092.20	18.9	GRID	7/15/2016	18.9	0.0	Point surveyed within Tolerance
327	685492.70	603079.60	16.6	GRID	7/15/2016	16.7	0.1	Point surveyed within Tolerance
328	685449.50	603054.30	19.1	GRID	7/15/2016	19.1	0.0	Point surveyed within Tolerance
329	685427.90	603041.70	15.9	GRID	7/15/2016	16.0	0.1	Point surveyed within Tolerance
330	685415.30	603063.30	15.7	GRID	7/15/2016	15.7	0.0	Point surveyed within Tolerance
331	685436.90	603075.90	15.9	GRID	7/15/2016	15.9	0.0	Point surveyed within Tolerance
332	685458.50	603088.50	15.7	GRID	7/15/2016	15.7	0.0	Point surveyed within Tolerance
333	685480.00	603101.20	15.2	GRID	7/15/2016	15.2	0.0	Point surveyed within Tolerance
334	685501.60	603113.80	15.1	GRID	7/15/2016	15.2	0.1	Point surveyed within Tolerance
335	685523.20	603126.40	15.0	GRID	7/15/2016	15.0	0.0	Point surveyed within Tolerance
336	685544.80	603139.10	15.1	GRID	7/15/2016	15.2	0.1	Point surveyed within Tolerance
337	685566.30	603151.70	15.8	GRID	7/15/2016	15.9	0.1	Point surveyed within Tolerance
338	685587.90	603164.30	15.4	GRID	7/18/2016	15.5	0.1	Point surveyed within Tolerance
339	685609.50	603177.00	16.5	GRID	7/18/2016	16.6	0.1	Point surveyed within Tolerance
340	685575.30	603185.90	11.8	GRID	7/21/2016	11.8	0.0	Point surveyed within Tolerance
341	685553.70	603173.30	10.4	GRID	7/21/2016	10.5	0.1	Point surveyed within Tolerance
342	685532.10	603160.60	10.1	GRID	7/21/2016	10.0	-0.1	Point surveyed within Tolerance
343	685510.50	603148.00	9.9	GRID	7/21/2016	9.9	0.0	Point surveyed within Tolerance
344	685424.20	603097.50	15.1	GRID	7/18/2016	15.2	0.1	Point surveyed within Tolerance
345	685390.00	603106.40	9.1	GRID	7/21/2016	9.1	0.0	Point surveyed within Tolerance
346	685411.60	603119.10	9.2	GRID	7/21/2016	9.2	0.0	Point surveyed within Tolerance
347	685433.20	603131.70	9.4	GRID	7/21/2016	9.3	-0.1	Point surveyed within Tolerance
348	685454.80	603144.30	9.5	GRID	7/21/2016	9.4	-0.1	Point surveyed within Tolerance
349	685476.30	603157.00	9.6	GRID	7/21/2016	9.6	0.0	Point surveyed within Tolerance
350	685497.90	603169.60	13.2	GRID	7/21/2016	13.3	0.1	Point surveyed within Tolerance
351	685519.50	603182.20	13.8	GRID	7/21/2016	13.9	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.9)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
352	685541.10	603194.80	14.2	GRID	7/21/2016	14.2	0.0	Point surveyed within Tolerance
353	685562.60	603207.50	14.9	GRID	7/21/2016	14.9	0.0	Point surveyed within Tolerance
354	685584.20	603220.10	15.5	GRID	7/21/2016	15.5	0.0	Point surveyed within Tolerance
355	685571.60	603241.70	14.5	GRID	7/21/2016	14.5	0.0	Point surveyed within Tolerance
356	685550.00	603229.10	14.3	GRID	7/21/2016	14.3	0.0	Point surveyed within Tolerance
357	685506.90	603203.80	17.1	GRID	7/25/2016	17.1	0.0	Point surveyed within Tolerance
358	685485.30	603191.20	14.9	GRID	7/21/2016	14.8	-0.1	Point surveyed within Tolerance
359	685442.10	603165.90	14.4	GRID	7/21/2016	14.5	0.1	Point surveyed within Tolerance
360	685377.40	603128.00	9.1	GRID	7/21/2016	9.0	-0.1	Point surveyed within Tolerance
361	685364.80	603149.60	14.7	GRID	7/21/2016	14.6	-0.1	Point surveyed within Tolerance
362	685386.40	603162.20	15.1	GRID	7/21/2016	15.1	0.0	Point surveyed within Tolerance
363	685407.90	603174.80	14.8	GRID	7/21/2016	14.8	0.0	Point surveyed within Tolerance
364	685429.50	603187.50	14.9	GRID	7/21/2016	14.9	0.0	Point surveyed within Tolerance
365	685451.10	603200.10	14.7	GRID	7/21/2016	14.8	0.1	Point surveyed within Tolerance
366	685494.20	603225.40	17.1	GRID	7/25/2016	17.1	0.0	Point surveyed within Tolerance
367	685515.80	603238.00	14.0	GRID	7/25/2016	14.0	0.0	Point surveyed within Tolerance
368	685537.40	603250.60	13.8	GRID	7/21/2016	13.8	0.0	Point surveyed within Tolerance
369	685524.70	603272.20	13.1	GRID	7/25/2016	13.2	0.1	Point surveyed within Tolerance
370	685503.20	603259.60	13.3	GRID	7/25/2016	13.3	0.0	Point surveyed within Tolerance
371	685481.60	603246.90	14.0	GRID	7/25/2016	14.1	0.1	Point surveyed within Tolerance
372	685460.00	603234.30	14.2	GRID	7/25/2016	14.3	0.1	Point surveyed within Tolerance
373	685438.40	603221.70	17.0	GRID	7/25/2016	16.9	-0.1	Point surveyed within Tolerance
374	685416.90	603209.00	17.2	GRID	7/25/2016	17.2	0.0	Point surveyed within Tolerance
375	685395.30	603196.40	17.4	GRID	7/25/2016	17.4	0.0	Point surveyed within Tolerance
376	685373.70	603183.80	17.7	GRID	7/25/2016	17.6	-0.1	Point surveyed within Tolerance
377	685352.10	603171.10	14.4	GRID	7/25/2016	14.4	0.0	Point surveyed within Tolerance
378	685339.50	603192.70	14.2	GRID	7/25/2016	14.2	0.0	Point surveyed within Tolerance
379	685361.10	603205.40	17.4	GRID	7/25/2016	17.3	-0.1	Point surveyed within Tolerance
380	685382.70	603218.00	17.1	GRID	7/25/2016	17.1	0.0	Point surveyed within Tolerance
381	685404.20	603230.60	16.8	GRID	7/25/2016	16.8	0.0	Point surveyed within Tolerance
382	685425.80	603243.20	16.6	GRID	7/25/2016	16.5	-0.1	Point surveyed within Tolerance
383	685447.40	603255.90	13.8	GRID	7/25/2016	13.7	-0.1	Point surveyed within Tolerance
384	685469.00	603268.50	13.4	GRID	7/25/2016	13.4	0.0	Point surveyed within Tolerance
385	685490.50	603281.10	12.4	GRID	7/25/2016	12.4	0.0	Point surveyed within Tolerance
386	685512.10	603293.80	12.5	GRID	7/25/2016	12.6	0.1	Point surveyed within Tolerance
387	685477.90	603302.70	7.4	GRID	7/25/2016	7.4	0.0	Point surveyed within Tolerance
388	685456.30	603290.10	12.8	GRID	7/25/2016	12.7	-0.1	Point surveyed within Tolerance
389	685434.80	603277.50	13.2	GRID	7/25/2016	13.2	0.0	Point surveyed within Tolerance
390	685413.20	603264.80	16.1	GRID	7/25/2016	16.1	0.0	Point surveyed within Tolerance
391	685391.60	603252.20	16.4	GRID	7/25/2016	16.3	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.10)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
392	685326.90	603214.30	13.9	GRID	7/25/2016	13.9	0.0	Point surveyed within Tolerance
393	685314.30	603235.90	13.7	GRID	7/25/2016	13.7	0.0	Point surveyed within Tolerance
394	685335.80	603248.50	14.2	GRID	7/25/2016	14.1	-0.1	Point surveyed within Tolerance
395	685357.40	603261.10	13.7	GRID	7/25/2016	13.6	-0.1	Point surveyed within Tolerance
396	685379.00	603273.80	13.3	GRID	7/25/2016	13.2	-0.1	Point surveyed within Tolerance
397	685400.50	603286.40	13.0	GRID	7/25/2016	12.9	-0.1	Point surveyed within Tolerance
398	685422.10	603299.00	12.6	GRID	7/25/2016	12.5	-0.1	Point surveyed within Tolerance
399	685443.70	603311.70	12.1	GRID	7/25/2016	12.1	0.0	Point surveyed within Tolerance
400	685465.30	603324.30	11.0	GRID	7/25/2016	11.0	0.0	Point surveyed within Tolerance
401	685486.80	603336.90	11.4	GRID	7/25/2016	11.4	0.0	Point surveyed within Tolerance
402	685474.20	603358.50	10.9	GRID	7/27/2016	10.8	-0.1	Point surveyed within Tolerance
403	685452.60	603345.90	10.4	GRID	7/27/2016	10.4	0.0	Point surveyed within Tolerance
404	685431.10	603333.20	11.4	GRID	7/27/2016	11.4	0.0	Point surveyed within Tolerance
405	685409.50	603320.60	11.9	GRID	7/27/2016	11.9	0.0	Point surveyed within Tolerance
406	685387.90	603308.00	12.3	GRID	7/27/2016	12.3	0.0	Point surveyed within Tolerance
407	685366.30	603295.30	15.2	GRID	7/27/2016	15.1	-0.1	Point surveyed within Tolerance
408	685344.80	603282.70	15.6	GRID	7/27/2016	15.5	-0.1	Point surveyed within Tolerance
409	685323.20	603270.10	16.4	GRID	7/27/2016	16.3	-0.1	Point surveyed within Tolerance
410	685301.60	603257.40	13.4	GRID	7/27/2016	13.5	0.1	Point surveyed within Tolerance
411	685289.00	603279.00	13.3	GRID	7/27/2016	13.2	-0.1	Point surveyed within Tolerance
412	685310.60	603291.70	16.0	GRID	7/27/2016	15.9	-0.1	Point surveyed within Tolerance
413	685332.10	603304.30	15.2	GRID	7/27/2016	15.2	0.0	Point surveyed within Tolerance
414	685353.70	603316.90	14.5	GRID	7/27/2016	14.6	0.1	Point surveyed within Tolerance
415	685375.30	603329.50	11.6	GRID	7/27/2016	11.6	0.0	Point surveyed within Tolerance
416	685440.00	603367.40	9.8	GRID	7/27/2016	9.8	0.0	Point surveyed within Tolerance
417	685461.60	603380.10	10.4	GRID	7/27/2016	10.4	0.0	Point surveyed within Tolerance
418	685427.40	603389.00	9.3	GRID	7/27/2016	9.3	0.0	Point surveyed within Tolerance
419	685405.80	603376.40	9.8	GRID	7/27/2016	9.7	-0.1	Point surveyed within Tolerance
420	685384.20	603363.80	13.0	GRID	7/27/2016	13.0	0.0	Point surveyed within Tolerance
421	685362.70	603351.10	13.5	GRID	7/27/2016	13.4	-0.1	Point surveyed within Tolerance
422	685341.10	603338.50	14.2	GRID	7/27/2016	14.1	-0.1	Point surveyed within Tolerance
423	685319.50	603325.90	14.8	GRID	7/27/2016	14.7	-0.1	Point surveyed within Tolerance
424	685297.90	603313.20	15.6	GRID	7/27/2016	15.6	0.0	Point surveyed within Tolerance
425	685276.40	603300.60	13.2	GRID	7/27/2016	13.2	0.0	Point surveyed within Tolerance
426	685254.80	603288.00	13.2	GRID	7/27/2016	13.1	-0.1	Point surveyed within Tolerance
427	685242.20	603309.50	12.8	GRID	7/27/2016	12.8	0.0	Point surveyed within Tolerance
428	685263.70	603322.20	13.0	GRID	7/27/2016	13.0	0.0	Point surveyed within Tolerance
429	685285.30	603334.80	15.1	GRID	7/27/2016	15.1	0.0	Point surveyed within Tolerance
430	685306.90	603347.40	14.4	GRID	7/27/2016	14.4	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.11)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
431	685328.40	603360.10	13.8	GRID	7/27/2016	13.7	-0.1	Point surveyed within Tolerance
432	685350.00	603372.70	13.1	GRID	7/27/2016	13.1	0.0	Point surveyed within Tolerance
433	685371.60	603385.30	12.5	GRID	7/27/2016	12.4	-0.1	Point surveyed within Tolerance
434	685393.20	603398.00	9.0	GRID	7/27/2016	8.9	-0.1	Point surveyed within Tolerance
435	685414.70	603410.60	8.8	GRID	7/27/2016	8.8	0.0	Point surveyed within Tolerance
436	685402.10	603432.20	8.3	GRID	7/27/2016	8.3	0.0	Point surveyed within Tolerance
437	685380.50	603419.50	8.2	GRID	7/27/2016	8.3	0.1	Point surveyed within Tolerance
438	685359.00	603406.90	12.0	GRID	7/27/2016	11.9	-0.1	Point surveyed within Tolerance
439	685337.40	603394.30	12.8	GRID	7/27/2016	12.7	-0.1	Point surveyed within Tolerance
440	685294.20	603369.00	14.1	GRID	7/27/2016	14.0	-0.1	Point surveyed within Tolerance
441	685272.70	603356.40	14.7	GRID	7/27/2016	14.7	0.0	Point surveyed within Tolerance
442	685251.10	603343.70	12.9	GRID	7/27/2016	12.9	0.0	Point surveyed within Tolerance
443	685229.50	603331.10	12.5	GRID	7/27/2016	12.5	0.0	Point surveyed within Tolerance
444	685216.90	603352.70	12.1	GRID	7/27/2016	12.1	0.0	Point surveyed within Tolerance
445	685260.00	603377.90	14.3	GRID	7/27/2016	14.3	0.0	Point surveyed within Tolerance
446	685281.60	603390.60	11.0	GRID	7/27/2016	10.9	-0.1	Point surveyed within Tolerance
447	685303.20	603403.20	10.5	GRID	7/27/2016	10.6	0.1	Point surveyed within Tolerance
448	685324.80	603415.80	12.3	GRID	7/27/2016	12.3	0.0	Point surveyed within Tolerance
449	685346.30	603428.50	11.4	GRID	7/27/2016	11.3	-0.1	Point surveyed within Tolerance
450	685367.90	603441.10	7.5	GRID	7/27/2016	7.6	0.1	Point surveyed within Tolerance
451	685389.50	603453.70	7.9	GRID	8/3/2016	7.8	-0.1	Point surveyed within Tolerance
452	685376.90	603475.30	5.9	GRID	8/3/2016	6.0	0.1	Point surveyed within Tolerance
453	685355.30	603462.70	6.1	GRID	8/3/2016	6.2	0.1	Point surveyed within Tolerance
454	685333.70	603450.00	8.3	GRID	7/27/2016	8.4	0.1	Point surveyed within Tolerance
455	685312.10	603437.40	9.0	GRID	7/27/2016	9.0	0.0	Point surveyed within Tolerance
456	685290.60	603424.80	9.4	GRID	7/27/2016	9.4	0.0	Point surveyed within Tolerance
457	685269.00	603412.20	9.9	GRID	7/27/2016	9.9	0.0	Point surveyed within Tolerance
458	685247.40	603399.50	10.5	GRID	7/27/2016	10.5	0.0	Point surveyed within Tolerance
459	685225.80	603386.90	11.2	GRID	7/27/2016	11.2	0.0	Point surveyed within Tolerance
460	685204.30	603374.30	11.4	GRID	7/27/2016	11.4	0.0	Point surveyed within Tolerance
461	685170.10	603383.20	11.4	GRID	8/3/2016	11.4	0.0	Point surveyed within Tolerance
462	685191.60	603395.80	10.5	GRID	8/3/2016	10.5	0.0	Point surveyed within Tolerance
463	685213.20	603408.50	9.7	GRID	8/3/2016	9.6	-0.1	Point surveyed within Tolerance
464	685234.80	603421.10	8.9	GRID	8/3/2016	8.9	0.0	Point surveyed within Tolerance
465	685256.30	603433.70	8.2	GRID	8/3/2016	8.2	0.0	Point surveyed within Tolerance
466	685277.90	603446.40	7.6	GRID	8/3/2016	7.5	-0.1	Point surveyed within Tolerance
467	685299.50	603459.00	6.9	GRID	8/3/2016	6.9	0.0	Point surveyed within Tolerance
468	685321.10	603471.60	6.7	GRID	8/3/2016	6.7	0.0	Point surveyed within Tolerance
469	685342.60	603484.30	6.2	GRID	8/3/2016	6.2	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.12)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
470	685364.20	603496.90	7.2	GRID	8/3/2016	7.1	-0.1	Point surveyed within Tolerance
471	685330.00	603505.80	6.7	GRID	8/5/2016	6.6	-0.1	Point surveyed within Tolerance
472	685308.40	603493.20	6.7	GRID	8/5/2016	6.7	0.0	Point surveyed within Tolerance
473	685286.90	603480.60	6.7	GRID	8/5/2016	6.6	-0.1	Point surveyed within Tolerance
474	685265.30	603467.90	7.1	GRID	8/5/2016	7.0	-0.1	Point surveyed within Tolerance
475	685243.70	603455.30	7.9	GRID	8/5/2016	7.9	0.0	Point surveyed within Tolerance
476	685222.10	603442.70	8.8	GRID	8/5/2016	8.7	-0.1	Point surveyed within Tolerance
477	685200.60	603430.00	9.6	GRID	8/5/2016	9.5	-0.1	Point surveyed within Tolerance
478	685179.00	603417.40	10.4	GRID	8/5/2016	10.5	0.1	Point surveyed within Tolerance
479	685157.40	603404.80	11.2	GRID	8/5/2016	11.3	0.1	Point surveyed within Tolerance
480	685144.80	603426.40	11.3	GRID	8/5/2016	11.2	-0.1	Point surveyed within Tolerance
481	685166.40	603439.00	11.1	GRID	8/5/2016	11.2	0.1	Point surveyed within Tolerance
482	685187.90	603451.60	10.2	GRID	8/5/2016	10.2	0.0	Point surveyed within Tolerance
483	685209.50	603464.20	9.6	GRID	8/5/2016	9.5	-0.1	Point surveyed within Tolerance
484	685231.10	603476.90	8.4	GRID	8/5/2016	8.5	0.1	Point surveyed within Tolerance
485	685252.70	603489.50	7.4	GRID	8/5/2016	7.4	0.0	Point surveyed within Tolerance
486	685274.20	603502.10	6.7	GRID	8/5/2016	6.6	-0.1	Point surveyed within Tolerance
487	685295.80	603514.80	6.6	GRID	8/5/2016	6.5	-0.1	Point surveyed within Tolerance
488	685317.40	603527.40	6.8	GRID	8/5/2016	6.7	-0.1	Point surveyed within Tolerance
489	685304.80	603549.00	6.6	GRID	8/5/2016	6.5	-0.1	Point surveyed within Tolerance
490	685283.20	603536.30	6.4	GRID	8/5/2016	6.3	-0.1	Point surveyed within Tolerance
491	685261.60	603523.70	7.9	GRID	8/5/2016	7.8	-0.1	Point surveyed within Tolerance
492	685240.00	603511.10	8.5	GRID	8/5/2016	8.5	0.0	Point surveyed within Tolerance
493	685218.50	603498.50	11.6	GRID	8/5/2016	11.5	-0.1	Point surveyed within Tolerance
494	685196.90	603485.80	12.1	GRID	8/5/2016	12.1	0.0	Point surveyed within Tolerance
495	685175.30	603473.20	10.5	GRID	8/5/2016	10.5	0.0	Point surveyed within Tolerance
496	685153.80	603460.40	11.7	GRID	8/5/2016	11.6	-0.1	Point surveyed within Tolerance
497	685132.20	603447.90	10.9	GRID	8/5/2016	10.9	0.0	Point surveyed within Tolerance
498	685119.50	603469.50	10.6	GRID	8/5/2016	10.5	-0.1	Point surveyed within Tolerance
499	685141.10	603482.10	11.0	GRID	8/5/2016	11.0	0.0	Point surveyed within Tolerance
500	685162.70	603494.80	13.3	GRID	8/5/2016	13.2	-0.1	Point surveyed within Tolerance
501	685184.20	603507.40	12.7	GRID	8/5/2016	12.6	-0.1	Point surveyed within Tolerance
502	685205.80	603520.00	12.2	GRID	8/5/2016	12.1	-0.1	Point surveyed within Tolerance
503	685249.00	603545.30	7.4	GRID	8/5/2016	7.3	-0.1	Point surveyed within Tolerance
504	685270.50	603557.90	6.0	GRID	8/5/2016	5.9	-0.1	Point surveyed within Tolerance
505	685292.10	603570.60	6.6	GRID	8/5/2016	6.5	-0.1	Point surveyed within Tolerance
506	685279.50	603592.10	5.8	GRID	8/9/2016	5.8	0.0	Point surveyed within Tolerance
507	685257.90	603579.50	5.2	GRID	8/9/2016	5.2	0.0	Point surveyed within Tolerance
508	685236.30	603566.90	6.8	GRID	8/9/2016	6.7	-0.1	Point surveyed within Tolerance
509	685193.20	603541.60	12.1	GRID	8/9/2016	12.0	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.13)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
510	685171.60	603529.00	12.6	GRID	8/9/2016	12.5	-0.1	Point surveyed within Tolerance
511	685150.00	603516.30	13.2	GRID	8/9/2016	13.1	-0.1	Point surveyed within Tolerance
512	685128.50	603503.70	13.7	GRID	8/9/2016	13.6	-0.1	Point surveyed within Tolerance
513	685106.90	603491.10	10.5	GRID	8/9/2016	10.4	-0.1	Point surveyed within Tolerance
514	685072.70	603500.00	10.4	GRID	8/9/2016	10.3	-0.1	Point surveyed within Tolerance
515	685094.30	603512.60	10.5	GRID	8/9/2016	10.4	-0.1	Point surveyed within Tolerance
516	685115.80	603525.30	13.3	GRID	8/9/2016	13.2	-0.1	Point surveyed within Tolerance
517	685137.40	603537.90	12.9	GRID	8/9/2016	12.8	-0.1	Point surveyed within Tolerance
518	685159.00	603550.50	12.4	GRID	8/9/2016	12.4	0.0	Point surveyed within Tolerance
519	685180.60	603563.20	11.5	GRID	8/9/2016	11.4	-0.1	Point surveyed within Tolerance
520	685202.10	603575.80	7.9	GRID	8/9/2016	7.8	-0.1	Point surveyed within Tolerance
521	685223.70	603588.40	5.9	GRID	8/9/2016	5.9	0.0	Point surveyed within Tolerance
522	685245.30	603601.10	5.1	GRID	8/9/2016	5.0	-0.1	Point surveyed within Tolerance
523	685266.90	603613.70	6.2	GRID	8/9/2016	6.2	0.0	Point surveyed within Tolerance
524	685232.70	603622.60	5.0	GRID	8/9/2016	5.0	0.0	Point surveyed within Tolerance
525	685211.10	603610.00	5.5	GRID	8/9/2016	5.4	-0.1	Point surveyed within Tolerance
526	685189.50	603597.40	7.4	GRID	8/9/2016	7.4	0.0	Point surveyed within Tolerance
527	685167.90	603584.70	8.6	GRID	8/9/2016	8.5	-0.1	Point surveyed within Tolerance
528	685124.80	603559.50	12.6	GRID	8/9/2016	12.5	-0.1	Point surveyed within Tolerance
529	685103.20	603546.90	13.0	GRID	8/9/2016	12.9	-0.1	Point surveyed within Tolerance
530	685081.60	603534.20	10.5	GRID	8/9/2016	10.4	-0.1	Point surveyed within Tolerance
531	685060.10	603521.60	10.0	GRID	8/9/2016	9.9	-0.1	Point surveyed within Tolerance
532	685047.40	603543.20	9.7	GRID	8/9/2016	9.6	-0.1	Point surveyed within Tolerance
533	685090.60	603568.40	10.2	GRID	8/10/2016	10.9	0.7	Material Added to Facilitate Drainage
534	685112.10	603581.10	12.1	GRID	8/9/2016	12.1	0.0	Point surveyed within Tolerance
535	685133.70	603593.70	11.8	GRID	8/9/2016	11.7	-0.1	Point surveyed within Tolerance
536	685176.90	603619.00	7.0	GRID	8/9/2016	7.1	0.1	Point surveyed within Tolerance
537	685198.40	603631.60	5.1	GRID	8/9/2016	5.1	0.0	Point surveyed within Tolerance
538	685220.00	603644.20	5.1	GRID	8/9/2016	5.0	-0.1	Point surveyed within Tolerance
539	685207.40	603665.80	5.1	GRID	8/10/2016	5.0	-0.1	Point surveyed within Tolerance
540	685185.80	603653.20	4.9	GRID	8/10/2016	4.8	-0.1	Point surveyed within Tolerance
541	685164.20	603640.50	6.4	GRID	8/10/2016	6.4	0.0	Point surveyed within Tolerance
542	685121.10	603615.30	11.4	GRID	8/10/2016	11.4	0.0	Point surveyed within Tolerance
543	685099.50	603602.60	11.4	GRID	8/10/2016	11.3	-0.1	Point surveyed within Tolerance
544	685077.90	603590.00	11.9	GRID	8/10/2016	11.9	0.0	Point surveyed within Tolerance
545	685056.40	603577.40	12.7	GRID	8/10/2016	12.6	-0.1	Point surveyed within Tolerance
546	685034.80	603564.70	9.4	GRID	8/10/2016	9.4	0.0	Point surveyed within Tolerance
547	685022.20	603586.30	9.2	GRID	8/10/2016	9.3	0.1	Point surveyed within Tolerance
548	685043.70	603598.90	9.3	GRID	8/10/2016	9.2	-0.1	Point surveyed within Tolerance
549	685065.30	603611.60	8.5	GRID	8/10/2016	8.4	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.14)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
550	685086.90	603624.20	8.0	GRID	8/10/2016	8.0	0.0	Point surveyed within Tolerance
551	685108.50	603636.80	7.3	GRID	8/10/2016	7.2	-0.1	Point surveyed within Tolerance
552	685130.00	603649.50	6.7	GRID	8/10/2016	6.6	-0.1	Point surveyed within Tolerance
553	685151.60	603662.10	6.0	GRID	8/10/2016	6.0	0.0	Point surveyed within Tolerance
554	685173.20	603674.70	4.9	GRID	8/10/2016	4.8	-0.1	Point surveyed within Tolerance
555	685194.80	603687.40	4.7	GRID	8/10/2016	4.8	0.1	Point surveyed within Tolerance
556	685182.10	603708.90	5.9	GRID	8/10/2016	6.0	0.1	Point surveyed within Tolerance
557	685160.60	603696.30	4.8	GRID	8/12/2016	4.8	0.0	Point surveyed within Tolerance
558	685139.00	603683.70	4.9	GRID	8/10/2016	4.8	-0.1	Point surveyed within Tolerance
559	685117.40	603671.00	5.4	GRID	8/10/2016	5.3	-0.1	Point surveyed within Tolerance
560	685095.80	603658.40	6.0	GRID	8/10/2016	5.9	-0.1	Point surveyed within Tolerance
561	685074.30	603645.80	6.5	GRID	8/10/2016	6.5	0.0	Point surveyed within Tolerance
562	685052.70	603633.10	7.0	GRID	8/10/2016	7.1	0.1	Point surveyed within Tolerance
563	685031.10	603620.50	7.8	GRID	8/10/2016	7.7	-0.1	Point surveyed within Tolerance
564	685009.50	603607.90	8.5	GRID	8/10/2016	8.4	-0.1	Point surveyed within Tolerance
565	684988.00	603595.30	8.9	GRID	8/12/2016	8.9	0.0	Point surveyed within Tolerance
566	684975.30	603616.80	8.3	GRID	8/12/2016	8.2	-0.1	Point surveyed within Tolerance
567	684996.90	603629.50	7.8	GRID	8/12/2016	7.8	0.0	Point surveyed within Tolerance
568	685018.50	603642.10	7.4	GRID	8/12/2016	7.3	-0.1	Point surveyed within Tolerance
569	685040.00	603654.70	6.9	GRID	8/12/2016	6.9	0.0	Point surveyed within Tolerance
570	685061.60	603667.40	6.4	GRID	8/12/2016	6.3	-0.1	Point surveyed within Tolerance
571	685083.20	603680.00	5.9	GRID	8/12/2016	5.8	-0.1	Point surveyed within Tolerance
572	685104.80	603692.60	5.5	GRID	8/13/2016	5.4	-0.1	Point surveyed within Tolerance
573	685126.30	603705.20	5.0	GRID	8/13/2016	4.9	-0.1	Point surveyed within Tolerance
574	685147.90	603717.90	4.8	GRID	8/13/2016	4.7	-0.1	Point surveyed within Tolerance
576	685005.80	603663.70	7.3	GRID	8/12/2016	7.2	-0.1	Point surveyed within Tolerance
577	684984.30	603651.00	7.8	GRID	8/12/2016	7.8	0.0	Point surveyed within Tolerance
578	684962.70	603638.40	8.3	GRID	8/12/2016	8.3	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Break Points (Table 2.0)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2000	685963.50	602222.90	12.5	BRK	6/20/2016	12.6	0.1	Point surveyed within Tolerance
2001	685959.20	602225.00	15.0	BRK	6/20/2016	14.9	-0.1	Point surveyed within Tolerance
2002	686044.60	602255.10	11.4	BRK	6/20/2016	11.3	-0.1	Point surveyed within Tolerance
2003	685995.00	602272.90	12.5	BRK	6/20/2016	12.6	0.1	Point surveyed within Tolerance
2004	685991.80	602271.00	15.0	BRK	6/20/2016	14.9	-0.1	Point surveyed within Tolerance
2005	685981.30	602293.80	15.3	BRK	6/20/2016	15.2	-0.1	Point surveyed within Tolerance
2006	685984.60	602295.70	12.8	BRK	6/20/2016	12.7	-0.1	Point surveyed within Tolerance
2007	685937.00	602325.80	15.9	BRK	6/23/2016	15.9	0.0	Point surveyed within Tolerance
2008	685933.30	602323.70	13.5	BRK	6/23/2016	13.5	0.0	Point surveyed within Tolerance
2009	685852.20	602416.10	17.7	BRK	6/27/2016	17.6	-0.1	Point surveyed within Tolerance
2010	685936.60	602267.70	13.0	BRK	6/20/2016	13.1	0.1	Point surveyed within Tolerance
2011	685940.00	602269.70	15.5	BRK	6/20/2016	15.4	-0.1	Point surveyed within Tolerance
2012	685849.90	602420.00	15.3	BRK	6/27/2016	15.3	0.0	Point surveyed within Tolerance
2013	685796.10	602561.30	18.5	BRK	6/29/2016	18.5	0.0	Point surveyed within Tolerance
2014	685794.20	602564.60	16.0	BRK	6/29/2016	16.1	0.1	Point surveyed within Tolerance
2015	685850.40	602564.80	18.3	BRK	6/27/2016	18.2	-0.1	Point surveyed within Tolerance
2016	685854.00	602566.90	15.7	BRK	6/27/2016	15.8	0.1	Point surveyed within Tolerance
2017	685836.80	602585.80	18.4	BRK	6/29/2016	18.3	-0.1	Point surveyed within Tolerance
2018	685840.10	602587.70	15.9	BRK	6/29/2016	15.9	0.0	Point surveyed within Tolerance
2019	685920.10	602349.50	16.2	BRK	6/23/2016	16.2	0.0	Point surveyed within Tolerance
2020	685922.60	602345.30	13.7	BRK	6/23/2016	13.7	0.0	Point surveyed within Tolerance
2021	685856.30	602313.50	8.6	BRK	6/23/2016	8.6	0.0	Point surveyed within Tolerance
2022	685851.30	602322.10	8.6	BRK	6/23/2016	8.7	0.1	Point surveyed within Tolerance
2023	685843.50	602327.60	14.4	BRK	6/23/2016	14.3	-0.1	Point surveyed within Tolerance
2024	685860.60	602306.10	14.3	BRK	6/23/2016	14.2	-0.1	Point surveyed within Tolerance
2025	685912.10	602513.80	10.0	BRK	6/27/2016	9.9	-0.1	Point surveyed within Tolerance
2026	685914.00	602508.20	13.9	BRK	6/27/2016	13.9	0.0	Point surveyed within Tolerance
2027	685826.00	602460.70	15.8	BRK	6/27/2016	15.8	0.0	Point surveyed within Tolerance
2028	685824.00	602464.20	18.4	BRK	6/27/2016	18.5	0.1	Point surveyed within Tolerance
2029	685833.70	602645.50	13.5	BRK	6/29/2016	13.6	0.1	Point surveyed within Tolerance
2030	685815.80	602627.70	15.3	BRK	6/29/2016	15.4	0.1	Point surveyed within Tolerance
2031	685813.90	602630.20	13.8	BRK	6/29/2016	13.8	0.0	Point surveyed within Tolerance
2032	685705.00	602711.40	18.9	BRK	7/1/2016	18.8	-0.1	Point surveyed within Tolerance
2033	685708.50	602713.50	21.5	BRK	7/1/2016	21.4	-0.1	Point surveyed within Tolerance
2034	685697.20	602677.90	20.8	BRK	7/1/2016	20.9	0.1	Point surveyed within Tolerance
2035	685701.40	602680.40	18.4	BRK	7/1/2016	18.3	-0.1	Point surveyed within Tolerance
2036	685711.80	602657.50	20.1	BRK	7/1/2016	20.0	-0.1	Point surveyed within Tolerance
2037	685756.40	602678.80	17.2	BRK	7/1/2016	17.2	0.0	Point surveyed within Tolerance
2038	685754.00	602682.00	19.9	BRK	7/1/2016	20.0	0.1	Point surveyed within Tolerance
2039	685732.00	602720.30	17.5	BRK	7/1/2016	17.5	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = **Surveyed** Elevation - **Design** Elevation

SA-6 North Cap Subgrade: Break Points (Table 2.1)

Bottom Target Coordinates (based on TIN surface)	As-built Elevations

Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2040	685728.90	602725.70	21.7	BRK	7/1/2016	21.7	0.0	Point surveyed within Tolerance
2041	685707.80	602655.10	17.6	BRK	7/1/2016	17.7	0.1	Point surveyed within Tolerance
2042	685764.90	602717.50	18.0	BRK	7/1/2016	18.0	0.0	Point surveyed within Tolerance
2043	685761.00	602715.30	20.7	BRK	7/1/2016	20.7	0.0	Point surveyed within Tolerance
2044	685822.00	602722.00	14.7	BRK	7/1/2016	14.7	0.0	Point surveyed within Tolerance
2045	685818.70	602720.10	17.2	BRK	7/1/2016	17.3	0.1	Point surveyed within Tolerance
2046	685829.80	602697.60	17.0	BRK	7/1/2016	17.0	0.0	Point surveyed within Tolerance
2047	685833.00	602699.50	14.5	BRK	6/29/2016	14.5	0.0	Point surveyed within Tolerance
2048	685746.80	602645.60	16.5	BRK	6/29/2016	16.5	0.0	Point surveyed within Tolerance
2049	685835.80	602641.50	15.8	BRK	6/29/2016	15.8	0.0	Point surveyed within Tolerance
2050	685783.50	602786.40	18.4	BRK	7/1/2016	18.4	0.0	Point surveyed within Tolerance
2051	685780.10	602784.40	21.0	BRK	7/1/2016	21.0	0.0	Point surveyed within Tolerance
2052	685805.30	602793.00	14.9	BRK	7/7/2016	14.9	0.0	Point surveyed within Tolerance
2053	685802.50	602795.10	17.0	BRK	7/7/2016	17.0	0.0	Point surveyed within Tolerance
2054	685827.20	602831.00	17.0	BRK	7/7/2016	17.1	0.1	Point surveyed within Tolerance
2055	685744.20	602650.00	19.2	BRK	7/1/2016	19.2	0.0	Point surveyed within Tolerance
2056	685800.50	602883.20	18.2	BRK	7/7/2016	18.2	0.0	Point surveyed within Tolerance
2057	685789.50	602905.80	18.5	BRK	7/7/2016	18.4	-0.1	Point surveyed within Tolerance
2058	685822.90	602664.90	13.5	BRK	6/29/2016	13.6	0.1	Point surveyed within Tolerance
2059	685820.20	602668.40	15.7	BRK	6/29/2016	15.7	0.0	Point surveyed within Tolerance
2060	685800.10	602651.00	15.0	BRK	6/29/2016	15.0	0.0	Point surveyed within Tolerance
2061	685801.80	602648.60	13.7	BRK	6/29/2016	13.7	0.0	Point surveyed within Tolerance
2062	685776.30	602694.10	17.2	BRK	7/1/2016	17.3	0.1	Point surveyed within Tolerance
2063	685774.30	602697.60	19.9	BRK	7/1/2016	19.8	-0.1	Point surveyed within Tolerance
2064	685811.40	602860.70	17.9	BRK	7/7/2016	17.9	0.0	Point surveyed within Tolerance
2065	685790.60	602471.80	19.2	BRK	6/27/2016	19.1	-0.1	Point surveyed within Tolerance
2066	685787.30	602469.90	16.8	BRK	6/27/2016	16.8	0.0	Point surveyed within Tolerance
2067	685775.20	602491.80	16.8	BRK	6/27/2016	16.8	0.0	Point surveyed within Tolerance
2068	685778.40	602493.70	19.3	BRK	6/27/2016	19.2	-0.1	Point surveyed within Tolerance
2069	685657.70	602799.60	19.1	BRK	7/7/2016	19.0	-0.1	Point surveyed within Tolerance
2070	685654.60	602797.80	21.5	BRK	7/7/2016	21.4	-0.1	Point surveyed within Tolerance
2071	685671.10	602778.50	19.1	BRK	7/7/2016	19.2	0.1	Point surveyed within Tolerance
2072	685667.90	602776.60	21.5	BRK	7/7/2016	21.5	0.0	Point surveyed within Tolerance
2073	685709.40	602857.90	20.1	BRK	7/7/2016	20.2	0.1	Point surveyed within Tolerance
2074	685711.30	602854.60	22.6	BRK	7/7/2016	22.6	0.0	Point surveyed within Tolerance
2075	685729.70	602872.60	19.7	BRK	7/7/2016	19.7	0.0	Point surveyed within Tolerance
2076	685731.80	602869.10	22.2	BRK	7/7/2016	22.2	0.0	Point surveyed within Tolerance
2077	685795.70	602764.50	18.0	BRK	7/1/2016	18.0	0.0	Point surveyed within Tolerance
2078	685800.00	602767.10	14.7	BRK	7/1/2016	14.7	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Break Points (Table 2.2)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2079	685792.80	602762.90	18.1	BRK	7/1/2016	18.1	0.0	Point surveyed within Tolerance
2080	685789.40	602760.90	20.7	BRK	7/1/2016	20.7	0.0	Point surveyed within Tolerance
2081	685557.30	602969.20	19.0	BRK	7/13/2016	19.0	0.0	Point surveyed within Tolerance
2082	685555.40	602972.40	21.5	BRK	7/13/2016	21.4	-0.1	Point surveyed within Tolerance
2083	685468.20	603121.30	13.6	BRK	7/15/2016	13.6	0.0	Point surveyed within Tolerance
2084	685465.10	603126.70	9.5	BRK	7/18/2016	9.5	0.0	Point surveyed within Tolerance
2085	685475.10	603069.30	16.6	BRK	7/15/2016	16.6	0.0	Point surveyed within Tolerance
2086	685471.50	603067.20	19.0	BRK	7/15/2016	19.0	0.0	Point surveyed within Tolerance
2087	685533.60	603016.70	18.9	BRK	7/13/2016	19.0	0.1	Point surveyed within Tolerance
2088	685530.40	603014.80	21.4	BRK	7/13/2016	21.3	-0.1	Point surveyed within Tolerance
2089	685536.30	602955.60	18.6	BRK	7/13/2016	18.6	0.0	Point surveyed within Tolerance
2090	685534.30	602959.00	21.1	BRK	7/13/2016	21.0	-0.1	Point surveyed within Tolerance
2091	685507.60	603059.40	20.1	BRK	7/13/2016	20.0	-0.1	Point surveyed within Tolerance
2092	685504.40	603057.50	17.6	BRK	7/13/2016	17.6	0.0	Point surveyed within Tolerance
2093	685594.50	603202.50	16.1	BRK	7/21/2016	16.1	0.0	Point surveyed within Tolerance
2094	685596.80	603198.60	13.2	BRK	7/21/2016	13.1	-0.1	Point surveyed within Tolerance
2095	685405.10	603081.80	15.5	BRK	7/15/2016	15.5	0.0	Point surveyed within Tolerance
2096	685395.60	603083.30	9.1	BRK	7/18/2016	9.2	0.1	Point surveyed within Tolerance
2097	685399.60	603139.50	9.2	BRK	7/21/2016	9.3	0.1	Point surveyed within Tolerance
2098	685395.00	603147.40	15.1	BRK	7/21/2016	15.0	-0.1	Point surveyed within Tolerance
2099	685423.70	603148.00	9.4	BRK	7/21/2016	9.4	0.0	Point surveyed within Tolerance
2100	685441.60	603117.40	9.4	BRK	7/18/2016	9.5	0.1	Point surveyed within Tolerance
2101	685420.00	603154.10	14.0	BRK	7/21/2016	14.1	0.1	Point surveyed within Tolerance
2102	685445.00	603111.60	13.8	BRK	7/15/2016	13.9	0.1	Point surveyed within Tolerance
2103	685491.70	603130.70	13.6	BRK	7/15/2016	13.7	0.1	Point surveyed within Tolerance
2104	685488.70	603135.90	9.7	BRK	7/18/2016	9.7	0.0	Point surveyed within Tolerance
2105	685470.80	603211.60	14.8	BRK	7/25/2016	14.9	0.1	Point surveyed within Tolerance
2106	685468.50	603181.50	10.8	BRK	7/21/2016	10.9	0.1	Point surveyed within Tolerance
2107	685463.60	603179.40	14.4	BRK	7/21/2016	14.4	0.0	Point surveyed within Tolerance
2108	685616.60	603185.80	13.5	BRK	7/18/2016	13.5	0.0	Point surveyed within Tolerance
2109	685614.80	603180.20	16.5	BRK	7/15/2016	16.6	0.1	Point surveyed within Tolerance
2110	685473.50	603213.20	17.0	BRK	7/25/2016	17.0	0.0	Point surveyed within Tolerance
2111	685663.50	603121.70	12.5	BRK	7/13/2016	12.6	0.1	Point surveyed within Tolerance
2112	685647.90	603127.60	17.5	BRK	7/13/2016	17.4	-0.1	Point surveyed within Tolerance
2113	685675.50	603099.70	12.8	BRK	7/13/2016	12.8	0.0	Point surveyed within Tolerance
2114	685660.10	603105.60	17.8	BRK	7/13/2016	17.8	0.0	Point surveyed within Tolerance
2115	685722.70	603040.50	13.0	BRK	7/12/2016	13.0	0.0	Point surveyed within Tolerance
2116	685712.80	603034.70	18.7	BRK	7/12/2016	18.8	0.1	Point surveyed within Tolerance
2117	685693.80	603081.50	13.0	BRK	7/13/2016	13.0	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Break Points (Table 2.3)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2118	685684.50	603076.10	18.4	BRK	7/13/2016	18.4	0.0	Point surveyed within Tolerance
2119	685708.50	603061.10	13.0	BRK	7/12/2016	13.1	0.1	Point surveyed within Tolerance
2120	685698.80	603055.40	18.6	BRK	7/12/2016	18.5	-0.1	Point surveyed within Tolerance
2121	685773.30	602954.20	13.0	BRK	7/8/2016	13.0	0.0	Point surveyed within Tolerance
2122	685763.40	602948.40	18.7	BRK	7/8/2016	18.8	0.1	Point surveyed within Tolerance
2123	685736.50	603019.60	13.0	BRK	7/12/2016	13.1	0.1	Point surveyed within Tolerance
2124	685726.40	603013.70	18.8	BRK	7/12/2016	18.8	0.0	Point surveyed within Tolerance
2125	685749.70	602998.40	13.0	BRK	7/8/2016	13.1	0.1	Point surveyed within Tolerance
2126	685739.60	602992.40	18.9	BRK	7/8/2016	18.9	0.0	Point surveyed within Tolerance
2127	685762.20	602976.70	13.0	BRK	7/8/2016	13.0	0.0	Point surveyed within Tolerance
2128	685752.10	602970.80	18.9	BRK	7/8/2016	18.8	-0.1	Point surveyed within Tolerance
2129	685784.70	602933.00	13.0	BRK	7/8/2016	13.1	0.1	Point surveyed within Tolerance
2130	685776.70	602925.80	18.7	BRK	7/8/2016	18.7	0.0	Point surveyed within Tolerance
2131	685530.40	603217.60	14.7	BRK	7/25/2016	14.7	0.0	Point surveyed within Tolerance
2132	685527.40	603215.80	17.5	BRK	7/25/2016	17.5	0.0	Point surveyed within Tolerance
2133	685368.50	603242.20	14.1	BRK	7/25/2016	14.2	0.1	Point surveyed within Tolerance
2134	685370.50	603238.70	16.7	BRK	7/25/2016	16.6	-0.1	Point surveyed within Tolerance
2135	685350.10	603224.10	17.0	BRK	7/25/2016	16.9	-0.1	Point surveyed within Tolerance
2136	685348.20	603227.40	14.5	BRK	7/25/2016	14.6	0.1	Point surveyed within Tolerance
2137	685398.30	603339.70	11.3	BRK	7/27/2016	11.4	0.1	Point surveyed within Tolerance
2138	685396.20	603343.20	13.7	BRK	7/27/2016	13.6	-0.1	Point surveyed within Tolerance
2139	685420.60	603353.70	10.7	BRK	7/27/2016	10.8	0.1	Point surveyed within Tolerance
2140	685415.10	603354.10	13.3	BRK	7/27/2016	13.3	0.0	Point surveyed within Tolerance
2141	685497.90	603316.30	7.3	BRK	7/25/2016	7.3	0.0	Point surveyed within Tolerance
2142	685502.30	603310.60	12.1	BRK	7/25/2016	12.2	0.1	Point surveyed within Tolerance
2143	685313.20	603384.50	10.9	BRK	7/27/2016	10.9	0.0	Point surveyed within Tolerance
2144	685315.90	603381.60	13.4	BRK	7/27/2016	13.5	0.1	Point surveyed within Tolerance
2145	685073.60	603554.90	13.1	BRK	8/9/2016	13.0	-0.1	Point surveyed within Tolerance
2146	685066.30	603557.80	10.6	BRK	8/9/2016	10.5	-0.1	Point surveyed within Tolerance
2147	685216.30	603555.10	8.1	BRK	8/9/2016	8.1	0.0	Point surveyed within Tolerance
2148	685212.80	603553.10	10.8	BRK	8/9/2016	10.7	-0.1	Point surveyed within Tolerance
2149	685223.70	603530.50	11.0	BRK	8/5/2016	10.9	-0.1	Point surveyed within Tolerance
2150	685227.20	603532.50	8.5	BRK	8/5/2016	8.5	0.0	Point surveyed within Tolerance
2151	685148.10	603569.80	12.3	BRK	8/9/2016	12.2	-0.1	Point surveyed within Tolerance
2152	685146.90	603573.50	9.7	BRK	8/9/2016	9.7	0.0	Point surveyed within Tolerance
2153	685143.40	603571.70	12.3	BRK	8/9/2016	12.2	-0.1	Point surveyed within Tolerance
2154	685155.60	603606.50	10.8	BRK	8/9/2016	10.7	-0.1	Point surveyed within Tolerance
2155	685159.10	603608.60	8.1	BRK	8/9/2016	8.2	0.1	Point surveyed within Tolerance
2156	685143.40	603628.30	7.9	BRK	8/10/2016	7.8	-0.1	Point surveyed within Tolerance
2157	685139.90	603626.30	10.6	BRK	8/10/2016	10.5	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Break Points (Table 2.4)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2158	685236.50	603364.20	12.9	BRK	7/27/2016	12.8	-0.1	Point surveyed within Tolerance
2159	685239.30	603365.80	15.0	BRK	7/27/2016	14.9	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Boundary Points (Table 3.0)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
1000	685974.80	602058.20	11.8	BNDY	6/20/2016	11.8	0.0	Point surveyed within Tolerance
1001	685996.40	602070.70	11.1	BNDY	6/20/2016	11.1	0.0	Point surveyed within Tolerance
1002	686018.10	602083.20	10.6	BNDY	6/20/2016	10.6	0.0	Point surveyed within Tolerance
1003	686034.30	602092.60	10.6	BNDY	6/20/2016	10.6	0.0	Point surveyed within Tolerance
1004	686042.90	602090.30	10.6	BNDY	6/20/2016	10.6	0.0	Point surveyed within Tolerance
1005	686053.70	602087.50	10.6	BNDY	6/20/2016	10.6	0.0	Point surveyed within Tolerance
1006	686070.10	602097.00	10.8	BNDY	6/20/2016	10.9	0.1	Point surveyed within Tolerance
1007	686075.10	602116.10	10.7	BNDY	6/20/2016	10.7	0.0	Point surveyed within Tolerance
1008	686083.10	602120.70	10.8	BNDY	6/20/2016	10.9	0.1	Point surveyed within Tolerance
1009	686107.60	602134.80	7.9	BNDY	6/20/2016	7.9	0.0	Point surveyed within Tolerance
1010	686096.70	602158.60	8.0	BNDY	6/20/2016	8.0	0.0	Point surveyed within Tolerance
1012	686086.20	602181.40	8.1	BNDY	6/20/2016	8.1	0.0	Point surveyed within Tolerance
1013	686075.80	602204.30	8.2	BNDY	6/20/2016	8.2	0.0	Point surveyed within Tolerance
1014	686065.30	602227.10	8.3	BNDY	6/20/2016	8.4	0.1	Point surveyed within Tolerance
1015	686054.90	602250.00	8.4	BNDY	6/20/2016	8.5	0.1	Point surveyed within Tolerance
1016	686051.10	602258.10	6.6	BNDY	6/20/2016	6.6	0.0	Point surveyed within Tolerance
1017	686043.70	602274.40	11.7	BNDY	6/20/2016	11.6	-0.1	Point surveyed within Tolerance
1018	686052.80	602278.50	11.9	BNDY	6/20/2016	11.9	0.0	Point surveyed within Tolerance
1019	686041.80	602300.30	12.1	BNDY	6/20/2016	12.1	0.0	Point surveyed within Tolerance
1020	686030.50	602322.60	12.4	BNDY	6/20/2016	12.4	0.0	Point surveyed within Tolerance
1021	686019.20	602344.90	12.6	BNDY	6/23/2016	12.6	0.0	Point surveyed within Tolerance
1022	686007.80	602367.30	12.9	BNDY	6/23/2016	12.9	0.0	Point surveyed within Tolerance
1023	685996.50	602389.60	13.1	BNDY	6/23/2016	13.1	0.0	Point surveyed within Tolerance
1024	685985.20	602412.00	13.4	BNDY	6/23/2016	13.3	-0.1	Point surveyed within Tolerance
1025	685973.90	602434.30	13.6	BNDY	6/23/2016	13.6	0.0	Point surveyed within Tolerance
1026	685962.60	602456.70	13.7	BNDY	6/27/2016	13.7	0.0	Point surveyed within Tolerance
1027	685951.80	602479.30	13.9	BNDY	6/27/2016	13.9	0.0	Point surveyed within Tolerance
1028	685941.00	602502.00	14.1	BNDY	6/27/2016	14.1	0.0	Point surveyed within Tolerance
1029	685930.20	602524.60	9.9	BNDY	6/27/2016	9.8	-0.1	Point surveyed within Tolerance
1030	685919.40	602547.30	14.5	BNDY	6/27/2016	14.5	0.0	Point surveyed within Tolerance
1031	685908.60	602569.90	14.7	BNDY	6/27/2016	14.7	0.0	Point surveyed within Tolerance
1032	685897.80	602592.60	14.9	BNDY	6/27/2016	14.9	0.0	Point surveyed within Tolerance
1033	685887.00	602615.20	15.1	BNDY	6/29/2016	15.1	0.0	Point surveyed within Tolerance
1034	685876.20	602637.90	15.3	BNDY	6/29/2016	15.3	0.0	Point surveyed within Tolerance
1035	685865.40	602660.50	15.5	BNDY	6/29/2016	15.5	0.0	Point surveyed within Tolerance
1036	685854.40	602683.00	13.5	BNDY	6/29/2016	13.4	-0.1	Point surveyed within Tolerance
1037	685843.40	602705.60	14.5	BNDY	6/29/2016	14.6	0.1	Point surveyed within Tolerance
1038	685832.40	602728.10	14.7	BNDY	7/1/2016	14.6	-0.1	Point surveyed within Tolerance
1039	685821.40	602750.60	14.7	BNDY	7/1/2016	14.7	0.0	Point surveyed within Tolerance
1040	685808.80	602776.40	14.7	BNDY	7/1/2016	14.7	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Boundary Points (Table 3.1)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
1041	685836.50	602789.20	12.9	BNDY	7/1/2016	13.0	0.1	Point surveyed within Tolerance
1042	685852.60	602796.70	12.8	BNDY	7/1/2016	12.8	0.0	Point surveyed within Tolerance
1043	685850.80	602802.10	12.8	BNDY	7/1/2016	12.8	0.0	Point surveyed within Tolerance
1044	685842.60	602821.00	18.0	BNDY	7/7/2016	16.6	-1.4	Out of Tolerance due to HB Wall Lower than Design Elevation
1045	685838.20	602831.10	18.3	BNDY	7/7/2016	18.2	-0.1	Point surveyed within Tolerance
1046	685836.40	602830.30	18.1	BNDY	7/7/2016	18.1	0.0	Point surveyed within Tolerance
1047	685832.30	602839.50	14.2	BNDY	7/7/2016	14.2	0.0	Point surveyed within Tolerance
1048	685830.30	602838.50	14.0	BNDY	7/7/2016	14.1	0.1	Point surveyed within Tolerance
1049	685818.30	602864.70	14.0	BNDY	7/7/2016	14.1	0.1	Point surveyed within Tolerance
1050	685807.80	602887.50	14.0	BNDY	7/7/2016	14.0	0.0	Point surveyed within Tolerance
1051	685797.30	602910.30	14.0	BNDY	7/7/2016	13.9	-0.1	Point surveyed within Tolerance
1052	685786.80	602933.10	12.0	BNDY	7/8/2016	12.0	0.0	Point surveyed within Tolerance
1053	685776.20	602955.90	12.0	BNDY	7/8/2016	12.0	0.0	Point surveyed within Tolerance
1054	685765.80	602978.80	12.0	BNDY	7/8/2016	12.1	0.1	Point surveyed within Tolerance
1055	685755.30	603001.60	11.8	BNDY	7/8/2016	11.4	-0.4	Out of Tolerance due to HB Wall Lower than Design Elevation
1056	685744.80	603024.40	11.5	BNDY	7/12/2016	11.5	0.0	Point surveyed within Tolerance
1057	685734.20	603047.20	11.5	BNDY	7/12/2016	11.5	0.0	Point surveyed within Tolerance
1058	685723.70	603070.00	11.5	BNDY	7/12/2016	11.6	0.1	Point surveyed within Tolerance
1059	685713.10	603092.80	11.5	BNDY	7/13/2016	11.5	0.0	Point surveyed within Tolerance
1060	685704.90	603110.60	11.5	BNDY	7/13/2016	11.5	0.0	Point surveyed within Tolerance
1061	685679.60	603098.80	11.5	BNDY	7/13/2016	11.6	0.1	Point surveyed within Tolerance
1062	685667.90	603124.20	11.5	BNDY	7/13/2016	11.4	-0.1	Point surveyed within Tolerance
1063	685658.70	603143.90	12.0	BNDY	7/18/2016	12.1	0.1	Point surveyed within Tolerance
1064	685651.30	603140.50	12.7	BNDY	7/18/2016	12.7	0.0	Point surveyed within Tolerance
1065	685634.80	603162.80	13.3	BNDY	7/18/2016	13.3	0.0	Point surveyed within Tolerance
1066	685619.90	603183.00	13.7	BNDY	7/18/2016	13.8	0.1	Point surveyed within Tolerance
1067	685604.80	603203.20	14.3	BNDY	7/21/2016	14.3	0.0	Point surveyed within Tolerance
1068	685589.70	603223.30	15.6	BNDY	7/21/2016	15.6	0.0	Point surveyed within Tolerance
1069	685574.10	603243.20	14.6	BNDY	7/21/2016	14.6	0.0	Point surveyed within Tolerance
1070	685558.90	603263.20	14.8	BNDY	7/21/2016	13.8	-1.0	Out of Tolerance due to HB Wall Lower than Design Elevation
1071	685549.20	603276.30	14.3	BNDY	7/21/2016	14.0	-0.3	Out of Tolerance due to HB Wall Lower than Design Elevation
1072	685536.50	603288.70	13.3	BNDY	7/25/2016	13.3	0.0	Point surveyed within Tolerance
1073	685533.80	603292.00	13.2	BNDY	7/25/2016	13.2	0.0	Point surveyed within Tolerance
1074	685528.20	603303.30	12.9	BNDY	7/25/2016	12.8	-0.1	Point surveyed within Tolerance
1075	685512.70	603323.10	9.8	BNDY	7/25/2016	9.8	0.0	Point surveyed within Tolerance
1076	685497.10	603342.90	11.9	BNDY	7/25/2016	11.9	0.0	Point surveyed within Tolerance
1077	685481.30	603362.70	11.1	BNDY	7/27/2016	11.2	0.1	Point surveyed within Tolerance
1078	685465.50	603382.40	10.5	BNDY	7/27/2016	10.4	-0.1	Point surveyed within Tolerance
1079	685449.60	603402.00	9.9	BNDY	7/27/2016	9.9	0.0	Point surveyed within Tolerance
1080	685433.60	603421.60	9.2	BNDY	8/3/2016	9.3	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Boundary Points (Table 3.2)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
1081	685417.50	603441.20	8.7	BNDY	8/3/2016	8.8	0.1	Point surveyed within Tolerance
1082	685401.30	603460.70	8.2	BNDY	8/3/2016	8.3	0.1	Point surveyed within Tolerance
1083	685385.00	603480.10	5.9	BNDY	8/3/2016	6.0	0.1	Point surveyed within Tolerance
1084	685368.70	603499.50	7.3	BNDY	8/5/2016	7.2	-0.1	Point surveyed within Tolerance
1085	685352.20	603518.80	7.0	BNDY	8/5/2016	6.9	-0.1	Point surveyed within Tolerance
1086	685335.70	603538.10	7.0	BNDY	8/5/2016	7.0	0.0	Point surveyed within Tolerance
1087	685319.10	603557.40	7.0	BNDY	8/5/2016	6.9	-0.1	Point surveyed within Tolerance
1088	685302.60	603576.70	7.0	BNDY	8/5/2016	7.0	0.0	Point surveyed within Tolerance
1089	685286.00	603596.00	7.0	BNDY	8/9/2016	6.9	-0.1	Point surveyed within Tolerance
1090	685269.50	603615.30	7.0	BNDY	8/9/2016	6.9	-0.1	Point surveyed within Tolerance
1091	685253.00	603634.50	7.0	BNDY	8/9/2016	6.9	-0.1	Point surveyed within Tolerance
1092	685236.40	603653.80	7.0	BNDY	8/9/2016	6.9	-0.1	Point surveyed within Tolerance
1093	685219.90	603673.10	7.0	BNDY	8/10/2016	7.0	0.0	Point surveyed within Tolerance
1094	685203.30	603692.40	4.8	BNDY	8/12/2016	4.7	-0.1	Point surveyed within Tolerance
1095	685186.80	603711.70	7.0	BNDY	8/12/2016	6.9	-0.1	Point surveyed within Tolerance
1096	685170.20	603731.00	7.0	BNDY	8/12/2016	7.0	0.0	Point surveyed within Tolerance
1097	685161.70	603740.90	7.0	BNDY	8/13/2016	7.0	0.0	Point surveyed within Tolerance
1098	685140.30	603731.00	7.0	BNDY	8/13/2016	7.0	0.0	Point surveyed within Tolerance
1099	685117.50	603720.40	7.0	BNDY	8/13/2016	7.0	0.0	Point surveyed within Tolerance
1100	685094.70	603709.90	7.0	BNDY	8/13/2016	7.0	0.0	Point surveyed within Tolerance
1101	685071.80	603699.40	7.0	BNDY	8/13/2016	7.0	0.0	Point surveyed within Tolerance
1102	685049.00	603688.80	7.0	BNDY	8/12/2016	7.0	0.0	Point surveyed within Tolerance
1103	685026.20	603678.30	7.1	BNDY	8/12/2016	7.1	0.0	Point surveyed within Tolerance
1104	685003.40	603667.80	7.3	BNDY	8/12/2016	7.2	-0.1	Point surveyed within Tolerance
1105	684980.60	603657.30	8.0	BNDY	8/12/2016	8.0	0.0	Point surveyed within Tolerance
1106	684957.80	603646.70	8.5	BNDY	8/12/2016	8.5	0.0	Point surveyed within Tolerance
1107	684945.00	603640.20	8.6	BNDY	8/12/2016	10.7	2.1	Out of Tolerance due to SCB Wall Higher than Design Elevation
1108	684968.60	603612.90	8.5	BNDY	8/12/2016	8.5	0.0	Point surveyed within Tolerance
1109	684985.30	603593.70	8.9	BNDY	8/12/2016	8.9	0.0	Point surveyed within Tolerance
1110	685001.90	603574.50	9.6	BNDY	8/10/2016	9.7	0.1	Point surveyed within Tolerance
1111	685018.60	603555.20	9.8	BNDY	8/10/2016	9.7	-0.1	Point surveyed within Tolerance
1112	685035.20	603536.00	9.9	BNDY	8/10/2016	10.0	0.1	Point surveyed within Tolerance
1113	685051.90	603516.80	10.2	BNDY	8/9/2016	10.3	0.1	Point surveyed within Tolerance
1114	685068.50	603497.60	10.4	BNDY	8/9/2016	10.5	0.1	Point surveyed within Tolerance
1115	685085.20	603478.30	10.7	BNDY	8/9/2016	10.7	0.0	Point surveyed within Tolerance
1116	685101.80	603459.10	10.9	BNDY	8/5/2016	10.9	0.0	Point surveyed within Tolerance
1117	685118.50	603439.90	11.2	BNDY	8/5/2016	11.2	0.0	Point surveyed within Tolerance
1118	685135.10	603420.70	11.4	BNDY	8/5/2016	11.4	0.0	Point surveyed within Tolerance
1119	685151.70	603401.50	11.4	BNDY	8/5/2016	11.4	0.0	Point surveyed within Tolerance
1120	685168.40	603382.20	11.5	BNDY	8/3/2016	11.5	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Boundary Points (Table 3.3)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
1121	685185.00	603363.00	11.5	BNDY	8/3/2016	11.5	0.0	Point surveyed within Tolerance
1122	685201.70	603343.80	12.4	BNDY	8/3/2016	12.4	0.0	Point surveyed within Tolerance
1123	685218.30	603324.60	12.7	BNDY	7/27/2016	12.7	0.0	Point surveyed within Tolerance
1124	685235.00	603305.30	13.0	BNDY	7/27/2016	13.0	0.0	Point surveyed within Tolerance
1125	685251.60	603286.10	13.2	BNDY	7/27/2016	13.3	0.1	Point surveyed within Tolerance
1126	685264.60	603271.10	13.4	BNDY	7/27/2016	13.5	0.1	Point surveyed within Tolerance
1127	685280.00	603244.80	13.7	BNDY	7/27/2016	13.8	0.1	Point surveyed within Tolerance
1128	685292.70	603223.20	14.0	BNDY	7/25/2016	14.0	0.0	Point surveyed within Tolerance
1129	685305.30	603201.70	14.2	BNDY	7/25/2016	14.3	0.1	Point surveyed within Tolerance
1130	685317.90	603180.10	14.5	BNDY	7/25/2016	14.5	0.0	Point surveyed within Tolerance
1131	685330.60	603158.50	14.6	BNDY	7/25/2016	14.6	0.0	Point surveyed within Tolerance
1132	685343.20	603136.90	14.3	BNDY	7/21/2016	14.4	0.1	Point surveyed within Tolerance
1133	685355.80	603115.40	9.0	BNDY	7/21/2016	9.0	0.0	Point surveyed within Tolerance
1134	685368.50	603093.80	9.0	BNDY	7/21/2016	8.9	-0.1	Point surveyed within Tolerance
1135	685381.10	603072.20	9.0	BNDY	7/21/2016	9.1	0.1	Point surveyed within Tolerance
1136	685391.10	603055.10	9.0	BNDY	7/18/2016	9.1	0.1	Point surveyed within Tolerance
1137	685406.40	603029.10	13.4	BNDY	7/15/2016	13.4	0.0	Point surveyed within Tolerance
1138	685419.00	603007.50	13.3	BNDY	7/13/2016	13.4	0.1	Point surveyed within Tolerance
1139	685431.60	602985.90	13.3	BNDY	7/13/2016	13.3	0.0	Point surveyed within Tolerance
1140	685444.30	602964.40	13.3	BNDY	7/13/2016	13.4	0.1	Point surveyed within Tolerance
1141	685456.90	602942.80	13.4	BNDY	7/13/2016	13.4	0.0	Point surveyed within Tolerance
1142	685469.50	602921.20	13.4	BNDY	7/12/2016	13.5	0.1	Point surveyed within Tolerance
1143	685482.20	602899.60	13.5	BNDY	7/12/2016	13.5	0.0	Point surveyed within Tolerance
1144	685494.80	602878.10	13.5	BNDY	7/12/2016	13.5	0.0	Point surveyed within Tolerance
1145	685507.40	602856.50	13.5	BNDY	7/8/2016	13.5	0.0	Point surveyed within Tolerance
1146	685520.00	602834.90	13.5	BNDY	7/8/2016	13.5	0.0	Point surveyed within Tolerance
1147	685532.70	602813.30	13.5	BNDY	7/8/2016	13.6	0.1	Point surveyed within Tolerance
1148	685545.30	602791.80	13.8	BNDY	7/8/2016	13.8	0.0	Point surveyed within Tolerance
1149	685557.90	602770.20	13.8	BNDY	7/7/2016	13.8	0.0	Point surveyed within Tolerance
1150	685570.60	602748.60	13.7	BNDY	7/7/2016	13.7	0.0	Point surveyed within Tolerance
1151	685583.20	602727.00	13.7	BNDY	7/7/2016	13.6	-0.1	Point surveyed within Tolerance
1152	685595.80	602705.50	13.6	BNDY	7/7/2016	13.6	0.0	Point surveyed within Tolerance
1153	685608.50	602683.90	13.4	BNDY	7/1/2016	13.5	0.1	Point surveyed within Tolerance
1154	685621.10	602662.30	13.1	BNDY	7/1/2016	13.2	0.1	Point surveyed within Tolerance
1155	685633.70	602640.70	12.8	BNDY	7/1/2016	12.9	0.1	Point surveyed within Tolerance
1156	685646.40	602619.20	12.6	BNDY	7/1/2016	12.6	0.0	Point surveyed within Tolerance
1157	685659.00	602597.60	12.3	BNDY	6/29/2016	12.3	0.0	Point surveyed within Tolerance
1158	685671.60	602576.00	12.2	BNDY	6/29/2016	12.2	0.0	Point surveyed within Tolerance
1159	685684.30	602554.40	12.1	BNDY	6/29/2016	12.1	0.0	Point surveyed within Tolerance
1160	685696.90	602532.90	12.1	BNDY	6/29/2016	12.1	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Boundary Points (Table 3.4)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
1161	685709.50	602511.30	12.2	BNDY	6/29/2016	12.2	0.0	Point surveyed within Tolerance
1162	685722.20	602489.70	12.5	BNDY	6/27/2016	12.4	-0.1	Point surveyed within Tolerance
1163	685734.80	602468.10	12.7	BNDY	6/27/2016	12.7	0.0	Point surveyed within Tolerance
1164	685747.40	602446.60	12.9	BNDY	6/27/2016	12.8	-0.1	Point surveyed within Tolerance
1165	685760.00	602425.00	13.0	BNDY	6/27/2016	13.0	0.0	Point surveyed within Tolerance
1166	685772.70	602403.40	13.2	BNDY	6/27/2016	13.3	0.1	Point surveyed within Tolerance
1167	685785.30	602381.80	13.5	BNDY	6/27/2016	13.5	0.0	Point surveyed within Tolerance
1168	685797.90	602360.30	13.7	BNDY	6/27/2016	13.7	0.0	Point surveyed within Tolerance
1169	685810.60	602338.70	13.9	BNDY	6/23/2016	13.9	0.0	Point surveyed within Tolerance
1170	685823.20	602317.10	13.9	BNDY	6/23/2016	13.9	0.0	Point surveyed within Tolerance
1171	685833.20	602300.00	8.5	BNDY	6/23/2016	8.5	0.0	Point surveyed within Tolerance
1172	685837.80	602292.20	13.9	BNDY	6/23/2016	13.9	0.0	Point surveyed within Tolerance
1173	685848.40	602274.00	14.3	BNDY	6/23/2016	14.2	-0.1	Point surveyed within Tolerance
1174	685861.10	602252.40	14.0	BNDY	6/23/2016	14.0	0.0	Point surveyed within Tolerance
1175	685873.70	602230.80	13.8	BNDY	6/20/2016	13.8	0.0	Point surveyed within Tolerance
1176	685886.40	602209.30	13.5	BNDY	6/20/2016	13.5	0.0	Point surveyed within Tolerance
1177	685899.00	602187.70	13.3	BNDY	6/20/2016	13.2	-0.1	Point surveyed within Tolerance
1178	685911.60	602166.10	13.0	BNDY	6/20/2016	13.0	0.0	Point surveyed within Tolerance
1179	685924.30	602144.50	12.8	BNDY	6/20/2016	12.8	0.0	Point surveyed within Tolerance
1180	685936.90	602123.00	12.5	BNDY	6/20/2016	12.5	0.0	Point surveyed within Tolerance
1181	685949.50	602101.40	12.3	BNDY	6/20/2016	12.3	0.0	Point surveyed within Tolerance
1182	685962.20	602079.80	12.1	BNDY	6/20/2016	12.2	0.1	Point surveyed within Tolerance
1183	685396.50	603046.00	13.0	BNDY	7/18/2016	13.0	0.0	Point surveyed within Tolerance
1184	684952.00	603632.10	8.5	BNDY	8/12/2016	8.4	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

3 Points in 0.1 - 0.5 ft. tolerance are due to a slight overcut in the top of slopes where it wouldn't be suitable for backfill due to compaction difficulties.

Per SPECIFICATION 01460 SURVEY. SECTION 1.05 F. Spot Elevations - Survey shall be constructed to provide an accuracy of 0.1 feet vertically. Ninety percent of all spot elevations placed on the maps shall have an accuracy of at least 0.1', and the remaining 10 percent shall not be in error by more than one-half (1/2) the contour interval (0.5'). Break points added to replace Grid Points that fell on slopes and Boundary Points will be treated as Spot Elevations as defined in Section 1.05 F.

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Grid Points depicted in Table 1, Break Points in Table 2, Boundary Points in Table 3, and topographic spot elevations are correct, and representative of the as-built cap subgrade throughout the SA6 North cap.

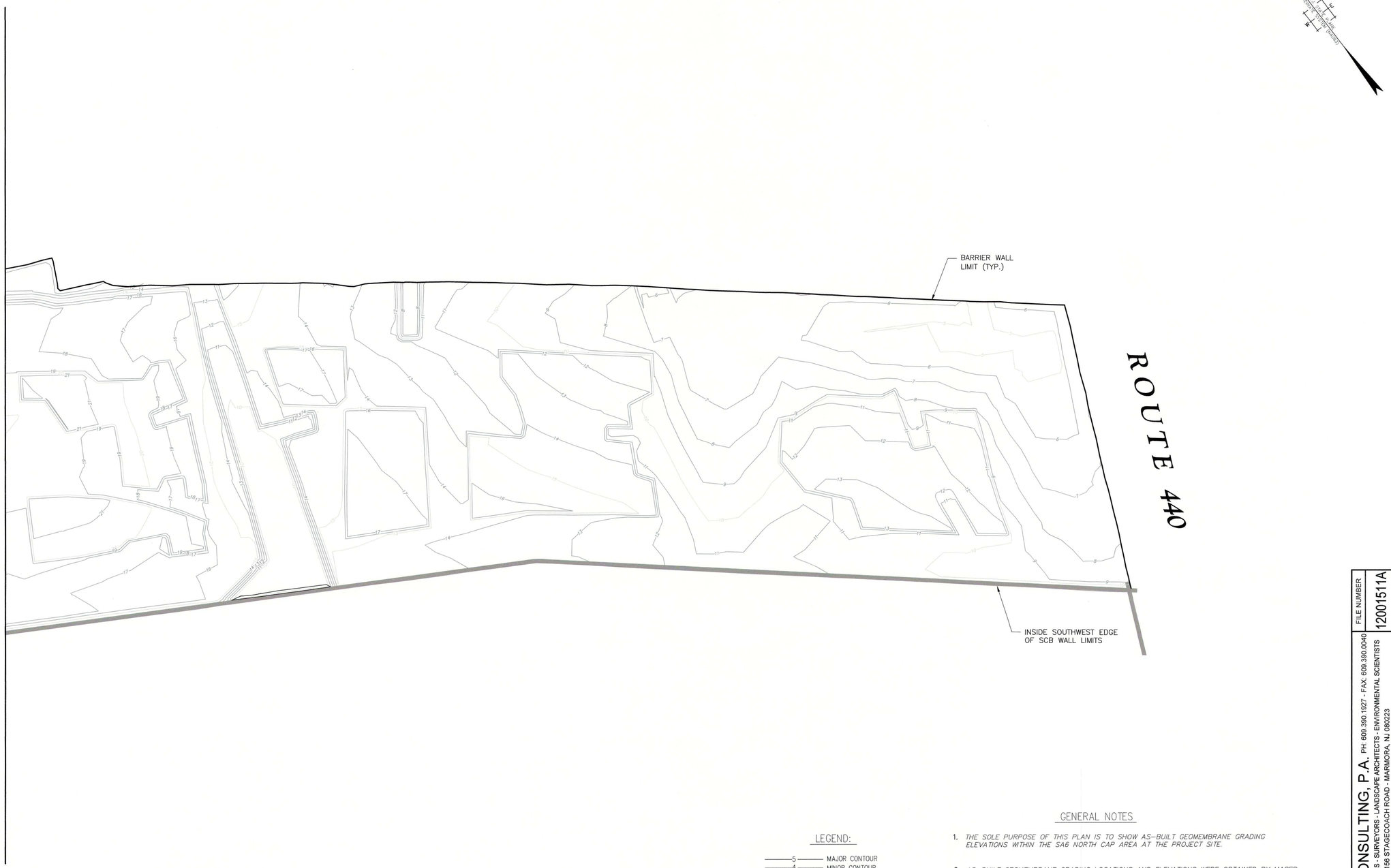
R. Thomas Hugg 11/3/16

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR

LICENSE NO. 36737

ATTACHMENT D-3
SUBGRADE TOPOGRAPHIC SURVEY
(GEOMEMBRANE GRADING PLAN AS-BUILT)



LEGEND:

5 MAJOR CONTOUR
4 MINOR CONTOUR

0 20 40 80
SCALE IN FEET

GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW AS-BUILT GEOMEMBRANE GRADING ELEVATIONS WITHIN THE SA6 NORTH CAP AREA AT THE PROJECT SITE.
2. AS-BUILT GEOMEMBRANE GRADING LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS FROM JUNE 2016 THROUGH AUG. 2016. GEOMEMBRANE GRADING SURFACES AND CONTOURS WERE GENERATED BY ENTACT, CHECKED BY AMEC AND CONFIRMED BY MASER CONSULTING P.A.
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 080223

FILE NUMBER 12001511A

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
NORTH CAP GEOMEMBRANE GRADING PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2229

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	11/16/16
PROJ	3480-10-0027
DWG	CN-123
SHEET	1 OF 2

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

NO.	DATE	REVISION	BY	APVD
DSGN	DR	CHK	APVD	

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS35737

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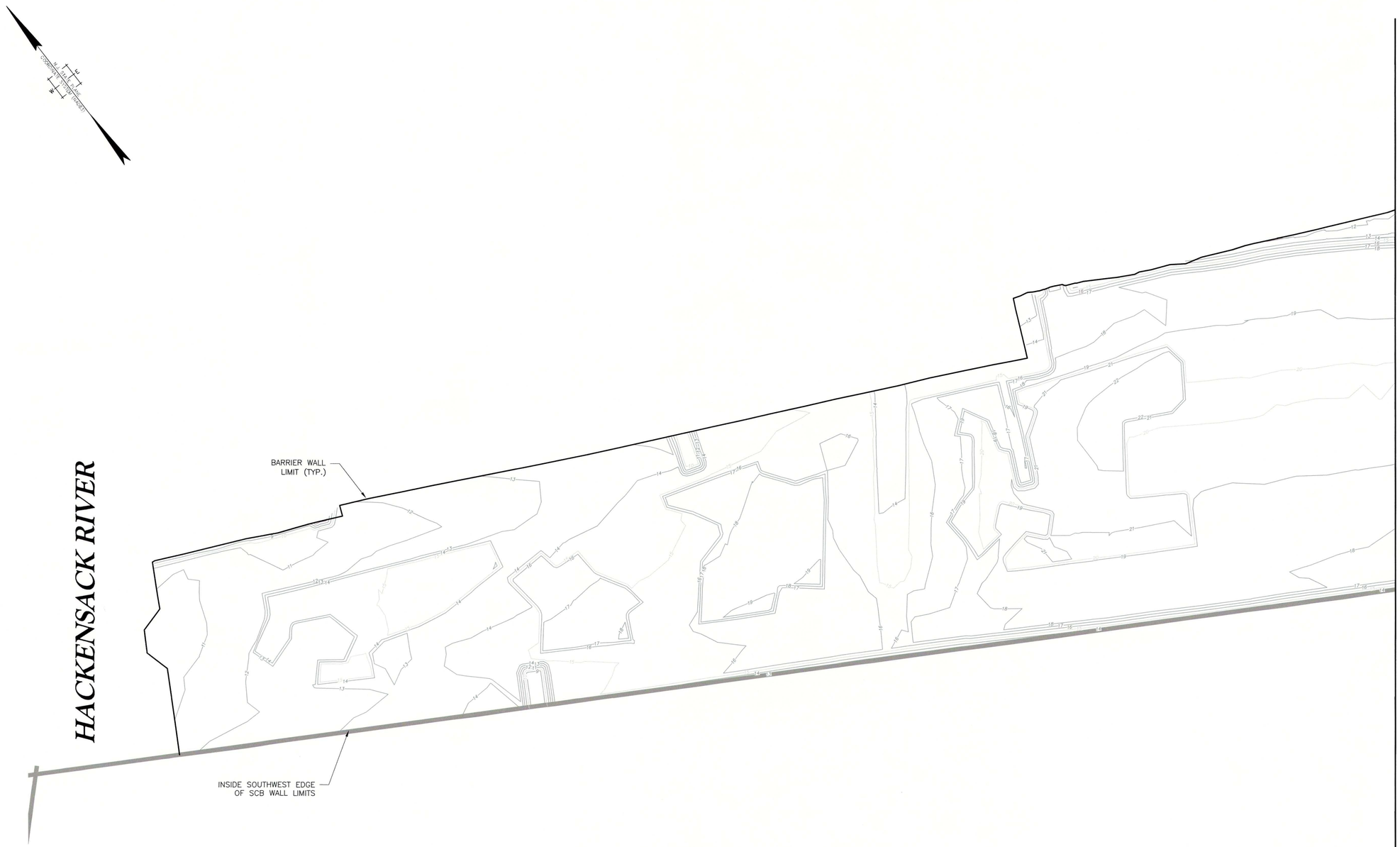
FILE NAME: C:\Civil 3D Projects\2012\12001511A\Survey\NORTH CAP GEOMEMBRANE GRADING PLAN 11-7-16.dwg PLOT DATE: Tue, 31 Jan 2017 PLOT TIME: 12:22 PM



LEGEND:

5 MAJOR CONTOUR
4 MINOR CONTOUR

0 20 40 80
SCALE IN FEET

GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW AS-BUILT GEOMEMBRANE GRADING ELEVATIONS WITHIN THE SA6 NORTH CAP AREA AT THE PROJECT SITE.
2. AS-BUILT GEOMEMBRANE GRADING LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS FROM JUNE 2016 THROUGH AUG. 2016. GEOMEMBRANE GRADING SURFACES AND CONTOURS WERE GENERATED BY ENTACT, CHECKED BY AMEC AND CONFIRMED BY MASER CONSULTING P.A.
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

R. THOMAS HUGG

NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

NO.	DATE	REVISION	BY	APVD
DSGN		CHK	APVD	
DR				

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STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
NORTH CAP GEOMEMBRANE
GRADING PLAN

FILE NUMBER
12001511A

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 080223

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ. 08619
(609) 895 - 2929

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	11/16/16
PROJ	3480-10-0027
DWG	CN-124
SHEET	2 OF 2

FILE NAME: C:\Civil 3D Projects\2012\12001511A\Survey\NORTH CAP GEOMEMBRANE GRADING PLAN 11-7-16.dwg PLOT DATE: Tue, 31 Jan 2017 PLOT TIME: 12:22 PM

ATTACHMENT E
LANGAN SA-6 NORTH CAP QUALITY ASSURANCE REPORT

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

Technical Excellence
Practical Experience
Client Responsiveness

Cap Geosynthetic Quality Assurance (QA) Report

Honeywell SA-6 North

SA-6 North
Jersey City, New Jersey
Project Number: 100530001

December 2016

Honeywell

Cap Geosynthetic Quality Assurance (QA) Report (SA-6 North)

for

SA-6 North
Jersey City, New Jersey

Prepared For:

Honeywell International, Inc.
115 Tabor Road
Morris Plains, New Jersey 07950

Prepared By:

Langan Engineering and Environmental Services, Inc.
300 Kimball Drive
Parsippany, NJ 07054

December 2016

Langan Project No. 100530001

LANGAN

CAP GEOSYNTHETIC QUALITY ASSURANCE (QA) REPORT for SA-6 North

Prepared By:
Langan Engineering & Environmental Services, Inc.
300 Kimball Drive
Parsippany, NJ 07054

Dan Bosworth
Senior Staff Engineer

Jeffrey Stoicescu, P.E.
Associate
New Jersey Professional Engineer License No. 24GE04504400

LANGAN

ENGINEER'S CONSTRUCTION CERTIFICATION

I certify that the placement of the SA-6 North geosynthetics witnessed by myself, and / or a person under my direct supervision, was completed in compliance with the design documents.

Print Name: Jeffrey Stoicescu, P.E. Title: Senior Associate

Signature: Date: 12/13/16

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LIST OF ACRONYMS

AO – Add-On
AOC – Area of Concern
BO – Burnout
CF – Custom Fit Repairs
CQA – Construction Quality Assurance
DCB – Design Change Bulletin
DO – Damage By Others
DS – Destruct Sample (Fusion)
DSX – Destruct Sample (Extrusion)
EOR – Engineer of Record
EPA – Environmental Protection Agency
FS – Failed Seam
FTB – Film Tearing Bond
GCL – Geosynthetic Clay Liner
GDL – Geocomposite Drainage Layer
GVL – Geocomposite Venting Layer
HB – Hydraulic Barrier
IFC – Issued for Construction
LF – Linear Feet
LLDPE – Linear Low-Density Polyethylene
PB – Pipe Boot
PSI – Pounds per Square Inch
RCRA – Resource Conservation & Recovery Act
RFI – Request for Information
RAR – Remedial Action Report
RIR – Receiving Inspection Report
RP - Repair
SA-6 – Study Area 6
SCB – Soil Cement Bentonite
SI – Subgrade Irregularity
SJ – Seam Joint
QA - Quality Assurance
QA Report – Cap Geosynthetic Quality Assurance Report
QC – Quality Control
WR - Wrinkle

1.0 INTRODUCTION

The purpose of this Cap Geosynthetic Quality Assurance Report (QA Report) is to present the observations made, and data collected during the construction of an engineered cap placed within the Study Area 6 (SA-6) North Open Space Area of Concern (AOC) located in Jersey City, New Jersey (site). The capping activities at SA-6 North included the preparation of the soil subgrade, placement of geocomposite venting layer (GVL), geosynthetic clay liner (GCL), linear low-density polyethylene (LLDPE) geomembrane, and a geocomposite drainage layer (GDL). Langan Engineering & Environmental Services, Inc. (Langan) was contracted by Honeywell International, Inc. (Honeywell) to provide independent Quality Assurance (QA) for the installation of the geosynthetic components of the cap.

The Chromium Remedy *100% Design* Issued for Construction dated June 2013, (*100% Design*) was prepared by AMEC Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) on behalf of Honeywell, to address chromium contamination at SA-6 North. The *100% Design* required installation of a Resource Conservation and Recovery Act (RCRA) – equivalent geosynthetic cap system, including a venting layer for naturally occurring methane, covering approximately ten acres of the designated Open Space AOC. As part of this QA Report, the Record Drawings, which outline the placement and construction of the various geosynthetic components of the cap, have been provided as *Appendix A*. Other design details discussed herein, including the Issued for Construction (IFC) drawings, geosynthetics specifications, and geosynthetic products approved for this site are incorporated by reference only. Refer to Amec Foster Wheeler documents titled "*100% Design*," dated June 2013, and "*Remedial Action Report (RAR) for Chromium*" for these details. Additionally, the Construction Quality Assurance Plan (CQA) Plan prepared by Langan in June 2015 was previously submitted as part of the April 2016 SA-6 South QA Report (*Cap Geosynthetic Quality Assurance (QA) Report – Honeywell SA-6 South)* and is incorporated by reference only. The CQA Plan also outlines the details of the scope conducted by Langan, as well as the roles and responsibilities of the owner, Engineer of Record (EOR), earthwork contractor, and liner contractor.

This QA Report documents the results of the QA Geosynthetic activities conducted during the construction of the cap at SA-6 North by both Langan and Amec Foster Wheeler field personnel. Design Change Bulletins (DCBs) and Requests for Information (RFIs) which were generated subsequent to the *100% Design*, and relevant to the QA scope were reviewed and approved by the EOR, and are further summarized in Amec Foster Wheeler's EOR Closure Report.

This QA Report specifically includes the following documentation of the cap construction activities:

- The Record Drawings;
- Summary of the various phases of the work observed as part of this QA Report;
- Daily Reports summarizing the work activities completed each day and other pertinent information;
- Daily cap construction forms submitted by the Geosynthetic Installer which includes: Repair Reports, Trial Weld Logs, Panel Placement Forms, Seam Control Forms, Destructive & Non-Destructive Test Forms, and Subgrade Approval Forms;

- Field testing results for fusion welds and extrusion welds;
- Laboratory testing results for the destructive samples collected (i.e., fusion & extrusion welds);
- Photographs depicting daily work activities and various phases of the capping activities; and
- Independent QA's certification that the placement of the SA-6 North geosynthetics was implemented in general compliance with the design documents.

This QA Report addresses the cap construction of SA-6 North only. The cap construction at SA-6 South was previously completed in November 2015 and was summarized in the *Cap Geosynthetic Quality Assurance (QA) Report – Honeywell SA-6 South* submitted to Honeywell in April 2016.

2.0 SA-6 NORTH CAP CONSTRUCTION AND DOCUMENTATION

2.1 General

This Section describes the construction methods implemented and the Quality Control (QC) and QA documentation completed as part of the construction of SA-6 North. This Section also provides the results of the QC and QA testing that was performed during field activities by Langan (QA Engineer), Environmental Specialties International (ESI) as the Geosynthetic Installer, and Entact, LLC (Entact) as the Construction Contractor and QC Supervisor.

QA activities commenced on June 21, 2016, with Langan conducting observation of the soil subgrade preparation for the western end of SA-6 North (near the Hackensack River). Geocomposite / geotextile placement began on June 22, 2016 and continued until capping activities were completed on August 15, 2016. Relevant observations and QA/QC testing during this timeframe are defined further in this section. A project Certificate of Completion (completed and verified by Entact) certifying that the SA-6 North cap has been constructed and completed in compliance with the project drawings and technical specifications is attached as *Appendix B*.

2.2 Survey Control / Subgrade Elevations

Entact subcontracted Maser Consulting, P.A. (Maser), a licensed New Jersey land surveyor, who provided surveying services during the construction of the cap. Maser completed surveying of the cap from the initial subgrade preparation phases to the placement of the geomembrane. Maser surveyed the subgrade elevations of the cap prior to material placement and tabulated the survey results as compared to the design elevations on the construction control grid. These survey activities included:

1. Measurement of elevations of the subgrade surface in accordance with a pre-determined Construction Control Grid. Conformance to the design lines and grades was verified by Amec Foster Wheeler and Entact by comparing the actual elevations with the design elevations on the Construction Control Grid. The accepted subgrade elevations, and corresponding Construction Control Grid for SA-6 North are provided within *Appendix C1* and *Appendix C2*, respectively.

2. Measurement of the as-built conditions including the perimeter or termination of the geomembrane and geotextile over the hydraulic barrier (HB), and Soil Cement Bentonite (SCB) wall, as well as, the location of the geomembrane repairs, boots / penetrations, and other pertinent information related to the construction of the cap.
3. The subgrade surface was observed to verify uniformity of grade between the construction control grid points.

This survey information is shown on the final Record Drawings attached in *Appendix A.* Amec Foster Wheeler provided QA review and verification of the Maser survey data.

2.3 Soil Subgrade Preparation

Soil subgrade preparation was required prior to the placement of the geotextile and the geomembrane in the areas to be capped. Soil subgrade preparation for the cap was completed by Entact using the following procedures:

- Step 1: Entact conducted rough grading of the subgrade surfaces with the use of track-mounted dozers to prepare the appropriate grades and to clear the surface of large objects (i.e. rocks, metals, debris, etc.);
- Step 2: The subgrade surface was fine-graded and compacted in accordance with the project specifications presented in the *100% Design* package. Subgrade sections not meeting survey or compaction requirements were re-worked by Entact until specified conditions were achieved. At the conclusion of this step, Entact provided a certification that the surface met the grading and compaction requirements. The certifications included the Construction Control Grid tabulation prepared by Maser (as defined in *Section 2.2*) and issuance of a Certificate of Subgrade Surface Acceptance as defined in further detail below;
- Step 3: When precipitation was forecast, the prepared subgrade surface was temporarily covered with a polyethylene plastic sheet to protect the soil from overnight precipitation; and
- Step 4: The subgrade surface would be prepared in approximate 100 ft. sections (moving from west to east across SA-6), followed by extra fine grading conducted by laborers who cleared the surface of extraneous materials greater than ½-inch in diameter, followed by repair and re-compaction of any areas that became inadvertently wetted.

Entact and ESI also conducted their own observation of the subgrade surface to confirm if the surface was acceptable for the placement of the geosynthetic material. Upon notification by Entact that the grading was acceptable, Langan conducted an independent observation to identify that the subgrade was prepared in general accordance with the *100% Design*. As part of the observation activities, the Langan field engineer walked the subgrade in approximate 8 ft. by 200 ft. to 300 ft. (width of SA-6 North from north to south) transects to observe soil compaction, as well as items requiring removal (>1/2") prior to panel placement.

If the soil subgrade surface was deemed acceptable with no additional re-work required, the Langan QA and Entact QC representative signed and submitted an acceptance form for the approved subgrade. The daily QA subgrade approval forms are provided in *Appendix D*, with the ESI Certificate of Subgrade Surface Acceptance forms provided in *Appendix D1*, and the Langan Certificate of Soil Surface provided in *Appendix D2.* In the event the subgrade surface was not deemed acceptable, Steps 2, 3, and 4 outlined above were repeated until an acceptable subgrade surface was achieved (based on conditions outlined in the Langan Certificate of Soil Surface forms) and confirmed by Langan and Entact.

Figure 1 below shows a typical section of subgrade approved for geomembrane placement. Additional photos and summaries of the subgrade preparation activities conducted each day are presented in the Daily Reports and Daily Photo Logs provided in *Appendix E.*

Figure 1 – Typical Soil Subgrade Approved for Geomembrane Placement

2.4 SA-6 North Cap Components

2.4.1 Geotextiles

The geotextile materials installed at SA-6 North were previously delivered to the site in 2015 during the installation of the cap at SA-6 South. The corresponding Receiving Inspection Reports (RIRs) prepared by Amec Foster Wheeler documenting receipt of the geotextile material were outlined in the *Cap Geosynthetic Quality Assurance (QA) Report – Honeywell SA-6 South (SA-6 South QA Report)* submitted in April 2016. As such the RIRs are incorporated in this report as reference only. Additional details on the delivery, handling, and storage of the geotextile material is outlined in the *SA-6 South QA Report*.

Following approval of the subgrade surface at the various sections of the work area, a 16 oz. geotextile layer was placed over the HB and SCB barrier walls around the perimeter of the

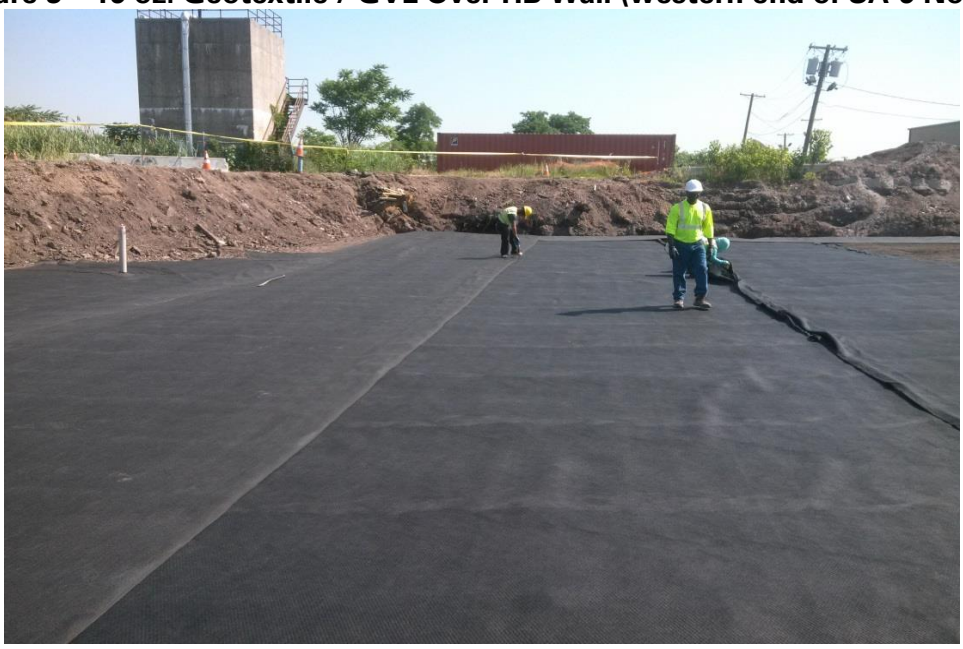
capped area. According to the *100% Design* package, this geotextile layer was designed to protect the 60-mil LLDPE geomembrane from potential puncture damage from the perimeter barriers / walls. The approved 16 oz. non-woven geotextile fabric layer consisted of SKAPS GE-116 (further defined in Amec Foster Wheeler's *EOR Closure Report).*

The 16 oz. geotextile was installed by ESI at locations shown on the Record Drawings (*Appendix A2*). Geotextile was placed along the boundaries of SA-6 North over the HB and SCB wall located along the northern, southern, eastern and western boundaries of the cap. The 15 ft. wide geotextile panels were placed with approximately 14 ft. of the geotextile panel inbound of the perimeter of the HB and SCB walls and with 1 ft. of the geotextile panel extending outbound of the perimeter containment walls. This geotextile was installed in areas where the GVL was placed. For areas where the GCL was installed, the GCL overlapped the HB/SCB wall as shown in *Appendix A2*.

Geotextile panels were overlapped at least 12-inches and seamed using a dual hot wedge welder that melted the two surfaces together to form a bond (also referred to as leistering). The 16 oz. geotextile was placed along the boundary areas of SA-6 North at locations above the Site water table (i.e. locations where geosynthetic clay liner was not required). The geotextile (on the interior of the Cap) overlapped the geocomposite venting layer and was leistered in place following the procedure outlined above. *Figure 2* below shows the 16 oz. geotextile being placed over the SCB wall (southern end of SA-6 North cap), and *Figure 3* shows the geotextile overlapping the GVL Note, the GVL rolls were placed in a general north to south direction across SA-6, while the 16 oz. geotextile rolls were placed in a general east to west direction.

Figure 2 – 16 oz. Geotextile Placed Over SCB Wall (southern end of SA-6 North)

Figure 3 – 16 oz. Geotextile / GVL Over HB Wall (western end of SA-6 North)



2.4.2 Geocomposite Venting Layer (GVL)

Prior to placement of the 60-mil LLDPE geomembrane, GVL was placed over the soil subgrade at locations above the water table to serve as a venting layer for naturally occurring methane that may emanate from below the cap.

The approved GVL (i.e., defined as SKAPS TN-220-2-6 in Amec Foster Wheeler's *EOR Closure Report* consisted of an extruded polyethylene drainage net structure (or geonet) sandwiched between two non-woven geotextile layers. The GVL was placed by ESI, over the approved soil subgrade for areas above the Site water table at locations shown on the Record Drawings (*Appendix A1*).

The GVL rolls were typically oriented in a north to south direction. The leading edge of the GVL panels was held in place by sand bags until the subsequent panels could be placed and seamed. The placement strategy for this material was to limit the amount of GVL to be placed in a day, to an area that could also be covered by the LLDPE geomembrane that same day. This strategy was used to minimize the risk of the GVL and underlying subgrade from becoming wet during overnight rain events. GVL panels were not placed during precipitation events, in the presence of excessive moisture, or during high winds.

GVL panels were placed according to Section 02380 – Gas Venting System as defined in *100% Design* package. GVL was generally placed with the predominant flow direction towards the edge of the cap with GVL panels running parallel to any slopes or elevation changes (i.e. running up/down the slope and not across the slope). For adjacent GVL panels, the following minimum seaming requirements were met:

- Adjacent rolls of GVL were placed so that the geonet overlapped by 2 to 3-inches, and the geotextiles overlapped by at least 4-inches;
- The bottom layer of geotextile (underneath the geonet) was overlapped to ensure that no areas of the soil subgrade were exposed;
- White plastic fasteners were placed at a maximum of every 5 ft. along the seam to connect adjacent pieces of the GVL panels. Additional fasteners were requested by the QA team when the seams extended down slopes or at significant subgrade elevation changes. *Figure 4* below shows placement of the white plastic fasteners; and
- Once the geonet was tied with a sufficient number of fasteners, the top geotextile of the GVL panel was continuously sewn as shown in *Figure 5* below.

Figure 4 – Typical Placement of GVL & Joining of the Net with Plastic Fasteners

Figure 5 – Typical Sewing of GVL (for top layer of geotextile)

During placement of the GVL, butt seams, rips, tears, or other damaged areas of the GVL were repaired by exposing an appropriate area of geonet, placing fasteners as defined in the project specifications, and covering the area with a new piece of geotextile which was leistered in-place. Additional details of the GVL placement are further described in the Langan Daily Reports and Photo Logs provided in *Appendix E*.

2.4.3 Geosynthetic Clay Liner (GCL)

The approved GCL consisted of granular sodium bentonite clay sandwiched between, supported, and encapsulated by two geotextiles, and held together by needled punching. The approved GCL consisted of Cetco Bentomat DN (as further defined in Amec Foster Wheeler's EOR Closure Report.

The approved GCL was deployed by ESI in accordance with Section 02375 – Geosynthetic Clay Liner as defined in the *100% Design* package. GCL was placed directly over the approved soil subgrade, at locations situated below (to 1 ft. above) the site water table. GCL was generally placed along the eastern end of SA-6 North (northern and eastern side of the cap), as the east end of the site was constructed at a lower elevation than the west end. The location of the GCL placement is also shown on the Record Drawings (*Appendix A1*).

During placement of the GCL, granular bentonite was placed along the GCL seams as outlined in the project specifications and shown on *Figure 6* below. No GCL was placed during precipitation, in the presence of excessive moisture, or during high winds.

Figure 6 – ESI Placing Granular Bentonite along GCL Seams

Additional details on the placement of the GCL are further described in the Langan Daily Reports and supporting photo logs provided in *Appendix E*.

2.4.3.1 Bentonite Sand Plug

As outlined in specification Section 02375 – Geosynthetic Clay Liner of the *100% Design* package, a sand bentonite plug was constructed on the inboard side of the HB wall for wall sections below Elevation 7 (below the site groundwater table) along the edges of SA-6 North. This bentonite sand plug was constructed in the field by Entact by mixing clean sand with sodium montmorillonite at a 90% sand to 10% bentonite ratio.

The plug was constructed to a depth of approximately 18-inches below the HB wall elevation, and was approximately 2 ft. wide. Additional details on the edge connection details are provided below in *Section 2.4.3.2*.

2.4.3.2 GCL to Barrier Wall Connection Details

GCL to Barrier Wall Logs are provided within *Appendix F*. As per the approved Langan CQA Plan, Amec Foster Wheeler completed a GCL to Barrier Wall (HB Wall & SCB) Connection Detail form for the low-lying areas of SA-6 North (below the Site water table). This form documented that the bentonite sand plug was appropriately constructed, that the barrier wall was clean and exposed, and that the appropriate GCL overlap (1 ft. minimum) was maintained.

2.4.4 60-mil Low Linear Density Polyethylene (LLDPE) Geomembrane

A textured LLDPE geomembrane manufactured to a nominal 60-mil thickness was placed over the 16 oz geotextile (installed over the HB/SCB wall), GVL and GCL layers at the Site to mitigate groundwater infiltration through the cap. The 60-mil LLDPE geomembrane was placed directly over the GVL and GCL geotextiles. The 60-mil geomembrane was placed in accordance with specification Section 02372 – Cap Geomembrane Liner as defined in the *100% Design* Package. The location and placement of the LLDPE panels is documented on the ESI Panel Placement Logs provided in *Appendix G*.

ESI deployed the geomembrane rolls in a general north to south orientation. Hand clamps were used on the edge of the panels to aid in the final positioning, as required. The leading edge of the LLDPE geomembrane panels were held in place by sand bags until the subsequent panels could be placed and seamed via fusion welding methodology. The number of panels deployed in a single day was limited to the amount that could be field seamed that same day. No panels were placed during precipitation, in the presence of excessive moisture in the subgrade, or during high winds. The minimum ambient temperature for seaming was specified as 32°F, with a maximum ambient temperature of 104°F. No cold or hot weather seaming was conducted as temperatures did not reach below 32°F, or above 104°F during geomembrane installation.

Each individual LLDPE panel was observed for damage by ESI, Entact, and Langan during the installation process. Prior to seaming, the approved geomembrane was observed by Langan to evaluate that the material for defects or damage prior to seaming. Areas observed to be damaged / defective, or areas where the geomembrane had to be custom cut to conform to the subgrade contours, were marked for repair. Repairs were completed in the field by ESI via patching and welding the geomembrane as further described below. All repairs were

documented and recorded on the Record Drawings (*Appendix A2*). Additional details on the repair methodology and types of repairs are further described in *Section 2.4.4.4*.
The LLDPE geomembrane was seamed in the field by one of two welding methods: extrusion and double-fusion. Extrusion welding was used for repairs, short seams, and areas where the double fusion could not operate. Extrusion welding was performed with a hand held extrusion welding gun. The double-fusion seaming (fusion welding) was performed using a self-propelled "wedge welder" which formed an air channel between the two seams. Fusion welding was performed with a minimum of 4-inches overlap as per the project specifications.

The integrity of the welds was monitored by both destructive and non-destructive test methods. The destructive testing consisted of the collection of samples from the completed seams at a minimum frequency of one sample per 500 ft. of weld (for both fusion and extrusion welds) for the first twenty-five (25) samples collected. Based on the results of the first 25 samples, the sampling frequency may be modified as outlined in *Section 2.4.4.3.* A representative of Langan was onsite to confirm the locations of the destructive samples along with a representative of ESI.

The destructive samples were analyzed by Geotechnics, Inc. (Geotechnics) the Contractor's Material Quality Control Laboratory. Langan also collected additional QA samples (approximate 15% of total samples collected) and submitted samples to TRI Environmental, Inc. (TRI) for independent QA testing. Destructive sample locations were repaired in the field and confirmed with vacuum box testing. All destructive sample locations have been recorded and are shown on the Record Drawings (*Appendix A2*). The laboratory results of the destruct samples are discussed further in *Section 2.4.4.3* below.

In addition to the destructive testing, non-destructive testing was completed by ESI during cap construction. Two types of non-destructive tests were used at the Site: air channel tests (pressure tests) and vacuum box tests as defined further below. In addition for all pipe boot / penetrations, spark testing was also completed at the base of the boot and vertical weld (areas not accessible for vacuum box testing) to confirm the integrity of the extrusion weld:

1. Pressure Testing - The pressure tests were conducted on 100% of all the double fusion welded seams where both ends of the seam were clamped and sealed and a pressure needle was inserted into the air channel. The air channel was then pressurized to thirty pounds per square inch (psi) and the pressure was maintained for a minimum of five minutes. If the pressure did not stabilize, or a pressure drop greater than four psi was noted over a five minute span, then the seam was deemed unacceptable and the faulty area was isolated and repaired. Results of the non-destructive testing are discussed further in *Section 2.4.4.2* below.
2. Vacuum Box Testing - For patch / repair work and other areas where extrusion welding was required, the extrusion welds were vacuum box tested by ESI. A soapy solution was applied to the weld area, and a vacuum box was placed over the weld for a minimum of ten seconds and observed for the appearance of soap bubbles. No failed vacuum box tests were encountered during the extrusion weld testing for SA-6 North.
3. Spark Testing – Spark testing was conducted for the vertical weld on the "sleeve" and horizontal weld on the "skirt" (base of boot) weld for the pipe boot / penetrations at the

site. This included piezometers, gas vents, monitoring wells, injection wells, and access manholes. The spark test strategy included installing a copper wire under the extrusion weld, and applying a charged probe to complete the circuit when testing. If any deficiencies were present in the weld, the probe and wire would arc, thus causing a visible spark to identify the location. Individual forms were generated to document the installation of each boot / penetration. Additional details on the pipes / penetrations encountered, as well as the spark testing details, are further described in *Section 2.4.4.5 and Section 2.4.4.5.1*, respectively.

For additional details on the geomembrane placement, destructive and non-destructive testing, patch / repair work, and other geomembrane related construction activities, refer to the Langan Daily Reports and Photo Logs provided in *Appendix E*.

2.4.4.1 Trial Weld Logs

Prior to any seaming of the geomembrane each day, the fusion and/or extrusion welding equipment was used to conduct trial welds (or test strips) to confirm that the material and equipment met the specification requirements. Test strips were collected (using the same 60 mil LLDPE geomembrane placed across the cap) by completing a sample fusion or extrusion weld. This activity included producing several types of seams to qualify that a specific seamer and apparatus would yield the desired specified performance requirements. These seam types included: smooth-to-smooth, smooth-to-texture, and texture-to-texture. It should be noted that the 60 mil geomembrane installed across the cap was textured (60-mil Microspike); however, the manufacturer's product has a smooth edge for welding.

The trial welds were cut and tested on a portable tensiometer by ESI. Langan and Entact observed the trial weld tests to confirm that the minimum peel and shear values were obtained as per specification Section 02372 – Cap Geomembrane Liner defined in the *100% Design* package. These trial welds were completed prior to commencement of seaming at the start of each day, and once every four hours. The results of daily trial weld logs are provided in *Appendix H*.

2.4.4.2 Non-Destructive Testing Results

Non-Destructive Pressure Testing (i.e., using vacuum box testing) was conducted along the geomembrane panels, and the repaired / patched areas by ESI, as per the project specifications. The results of the non-destructive testing for each of the panel seams are provided in the Seam Control Log shown in *Appendix I*. Additionally, the associated repairs and the corresponding vacuum box testing results are presented in the ESI Repair Report attached in *Appendix J*.

During the construction of the cap at SA-6 North, there were no observed non-destructive test failures during the field testing. All vacuum box and pressure tests were in compliance with Section 02372 – Cap Geomembrane Liner.

2.4.4.3 Destructive Testing Results

Destructive testing was conducted for the fusion and extrusion welding that was completed along the edge of the geomembrane panels. Destruct samples were collected at a minimum sampling interval of 500 linear feet (LF) of seaming length for the initial twenty-six (26) samples. The locations of the destruct samples were identified in the field by the Independent QA Engineer (Langan) and are shown on the Record Drawings (*Appendix A2*). Once the destruct sample locations were determined, ESI cut and tested the destruct samples (as per the project specifications).

A total of ten (10) 1-inch wide specimens were cut from the destruct sample for field testing. These samples were then tested by a tensiometer equipped with a drive/pull apparatus rate of 20-inches per minute. Five of the specimens were tested for peel strength, and the remaining five for shear strength. The samples were tested to confirm that the geomembrane met the specified peel and shear strength values outlined in *Table 1* below. Additional details on the test results are provided on the Destructive Sample Information Log attached as *Appendix K.*

Table 1 – LLDPE Geomembrane Seam Property Requirements

Property	Test Method	60-mil LLDPE Value
Shear Strength (min. avg.)	ASTM D 6392	90 lb/in
Peel Strength – Extrusion (min. avg.)	ASTM D 6392	66 lb/in
Peel Strength – Fusion (min. avg.)	ASTM D 6392	75 lb/in

In addition to the field testing completed by ESI, thirty-six (36) fusion weld destruct samples, and seventeen (17) extrusion weld samples were sent to Geotechnics for lab verification.

A total of thirty-six (36) fusion weld destruct samples (DS-1 through DS-36) were collected during the capping of SA-6 North. The first 26 fusion weld destruct samples were collected every 500 LF and all samples met the specified destructive testing requirements outlined in *Table 1* with the exception of sample DS-26 as defined in further detail below. As per the specification, the frequency of fusion weld destruct sampling was reduced from every 500 LF of welded seam to every 1,500 LF of welded seam; however, additional destruct samples were collected (at approximately 500 LF to 600 LF) immediately after sample location DS-26 to confirm that they met the specification requirements. A summary of the peel and shear QA testing conducted for the 36 fusion weld samples collected is summarized in *Appendix L*.

As shown in the fusion weld destruct sample summary, destruct sample DS-26 was reported as EPA Break Classification Code "AD BRK". Although the specimen met the required peel and strength parameters, since the coupons broke at the weld and was not considered a film tearing bond (FTB), the sample was reported as a failed test. As such, additional samples were cut at approximately 10 ft. on either side of DS-26 (DS-26A and DS-26B). Both samples were field tested and the peel and shear criteria were achieved. Additionally, the sample that exhibited the lower peel and shear values (DS-26A) was sent for confirmatory laboratory analysis. The analytical results for sample DS-26A confirmed that the sample met the minimum peel and shear strength values. Additional details on this non-compliance issue are described in further detail in *Section 2.4.6.*

A total of 17 extrusion destruct samples were collected throughout the capping of SA-6 North. *Table 2* below summarizes the results of the extrusion weld destruct samples collected and corresponding laboratory data, peel and shear averages, and compliance with specification Section 02372 – Cap Geomembrane Liner outlined in the *100% Design* package.

Table 2 – Summary of ESI / Langan QA Testing - Extrusion Weld Data

Honeywell SA-6 Capping										
Comparison of ESI / Langan (QA) Destruct Samples - Extrusion Welds										
Sample ID	***Weld Type***	***Submitted By:***	***Test***	***Peel Strength (ppi)***					**Avg. Strength (ppi)**	***Meets Spec Requirement***
DSX-1	Extrusion	Langan	Peel	134	142	137	136	136	**137**	**Yes**
DSX-1		Entact	Peel	140.9	139.6	140.3	138.5	138.5	**139.6**	**Yes**
DSX-1		Langan	Shear	127	130	128	124	126	**127**	**Yes**
DSX-1		Entact	Shear	136.5	137.1	137.1	134.8	134.8	**136.1**	**Yes**
DSX-2	Extrusion	Entact	Peel	128.1	125.7	128.2	126.1	128.5	**127.3**	**Yes**
			Shear	136.2	131.8	132.6	136.1	134.8	**134.3**	**Yes**
DSX-3	Extrusion	Entact	Peel	124.6	124.1	125.2	129.4	125.5	**125.8**	**Yes**
			Shear	128.5	128.9	133.8	127.2	127.8	**129.2**	**Yes**
DSX-4	Extrusion	Entact	Peel	105.1	114	109.8	114.8	112	**111.1**	**Yes**
			Shear	132.5	129.3	136.2	129.2	131	**131.6**	**Yes**
DSX-5	Extrusion	Entact	Peel	120.6	118.6	119.8	118.8	122.8	**120.1**	**Yes**
			Shear	122.3	131.8	120.3	121.7	129.5	**125.1**	**Yes**
DSX-6	Extrusion	Entact	Peel	110.4	117.4	125.7	122.8	120.6	**119.4**	**Yes**
			Shear	127.7	126.1	127.5	127.4	131.5	**128.0**	**Yes**
DSX-7	Extrusion	Entact	Peel	123.4	113.7	115.5	119.5	110.2	**116.5**	**Yes**
			Shear	123.8	127.3	125.5	126.1	122.9	**125.1**	**Yes**
DSX-8	Extrusion	Entact	Peel	93.5	113.2	123.2	102	108.6	**108.1**	**Yes**
			Shear	137.8	141	136.9	135.5	137	**137.6**	**Yes**
DSX-9	Extrusion	Entact	Peel	125.4	129.2	126	122.2	128.9	**126.3**	**Yes**
			Shear	139.5	139.8	145.3	139.6	140.4	**140.9**	**Yes**
DSX-10	Extrusion	Entact	Peel	121.2	118.9	118.5	119.6	113.9	**118.4**	**Yes**
			Shear	124.1	121.4	125.8	122.7	126.1	**124.0**	**Yes**
DSX-11	Extrusion	Entact	Peel	108.7	109.9	110.7	109.4	116.9	**111.1**	**Yes**
			Shear	118.4	118.3	119.5	120.3	124.5	**120.2**	**Yes**
DSX-12	Extrusion	Entact	Peel	102.2	112.6	123.2	118.7	123.8	**116.1**	**No**
			Shear	135.2	134.2	136.6	127.5	134.6	**133.6**	**Yes**
DSX-13	Extrusion	Langan	Peel	140	139	138	155	138	**142**	**Yes**
		Entact	Peel	114.6	112.6	114.7	110.3	112.8	**113.0**	**Yes**
		Langan	Shear	147	149	155	157	151	**152**	**Yes**
		Entact	Shear	115.5	116.8	114.2	114	118.7	**115.8**	**Yes**
DSX-14	Extrusion	Entact	Peel	112.5	111	110.6	113.4	111	**111.7**	**Yes**
			Shear	111.9	113.4	111.5	112	114.6	**112.7**	**Yes**
DSX-15	Extrusion	Entact	Peel	120.7	123	106.2	127.4	121	**119.7**	**Yes**
			Shear	132.2	136	132.7	132	132.1	**133.0**	**Yes**
DSX-16	Extrusion	Entact	Peel	129	127.4	125	125.7	130.7	**127.6**	**Yes**
			Shear	130.3	127.1	129.2	133	133.9	**130.7**	**Yes**
DSX-17	Extrusion	Langan	Peel	118	119	118	119	123	**119**	**Yes**
		Entact	Peel	124	118.5	120.5	126	125	**122.8**	**Yes**
		Langan	Shear	133	130	132	129	130	**131**	**Yes**
		Entact	Shear	129.9	129	129.8	129.2	134	**130.4**	**Yes**

Extrusion weld destruct samples were collected at every 500 LF of weld and as shown on *Table 2*, all extrusion weld samples were in compliance with the project specifications.

In addition, Langan collected a total of six (6) QA samples (4 fusion weld samples and 2 extrusion weld samples) to verify the results of the Geosynthetic Installer's laboratory data. Langan's QA samples were submitted to Texas Research Institute Environmental, Inc. (TRI). The results of the ESI and Langan destruct samples indicated that the peel and shear strength values met the requirements outlined in the project specifications. Furthermore, the additional QA samples collected by Langan yielded values that were in close proximity to the values obtained by ESI (which were generally lower than the values obtained by Langan's QA laboratory). The Laboratory Destruct Test Results are provided in *Appendix L*.

2.4.4.4 Repair Reports

Several different types of repairs were observed and recorded during field activities by ESI. These corresponding repairs are documented in the ESI Repair Report provided in *Appendix J* and depicted on the Record Drawings (*Appendix A2*), and consisted of the following types of repairs:

- Custom Fit Repairs (CF) – Custom Fit Repairs consisted of areas of the geomembrane cap where the geomembrane was cut (and subsequently repaired) to allow the geomembrane to conform to the cap contours. These areas were typically located where there were abrupt elevation changes, such as drainage and utility swales, utility corridors, and planting areas;
- Wrinkles (WR) – Wrinkles consisted of areas where excess geomembrane was observed. Where the size of the wrinkle was determined to be detrimental to the geomembrane (i.e. wrinkles with the potential for folding), the wrinkle was cut, and the excess geomembrane was overlapped and sealed with an extrusion weld in accordance with the project specifications;
- Burnouts (BO) –Wedge burnouts occurred where the wedge became jammed thus causing the welder to burn / melt through the geomembrane seam. These areas were subsequently patched and repaired according to the project specifications;
- Destruct Samples (DS & DSX) – These areas consisted of the geomembrane destruct samples that were cut for laboratory testing. The removal of the sample creates a hole in the seam, thus these areas were subsequently patched according to the project specifications;
- Pipe Boots (PB) – Pipe boots were installed where penetrations of the geomembrane occurred such as at monitoring wells, injection wells, piezometers, gas vents, and access manholes. Additional details regarding the pipe boot construction are provided in *Section 2.4.4.5;*
- Add On (AO) – AO areas consisted of sections of SA-6 North where an additional piece of geomembrane was required to finish a geomembrane run across the cap (from north to south);

- Seam Joints (SJ) – Seam joints consisted of the areas where non-destructive testing (pressure testing) was conducted along a "T" section of the geomembrane;
- Subgrade Irregularities (SI) – Subgrade Irregularities consisted of areas along the geomembrane cap where a rock or object larger than ½-inch in diameter was encountered underneath the geomembrane after the material had been placed. These areas were subsequently cut, the rock/debris removed, and the area patched / repaired according to the project specifications. These SIs were identified as non-compliance issues and are discussed in further detail in *Section 2.4.6* below;
- Damage By Others (DO) – DO areas consisted of a deficiency or cut in the LLDPE geomembrane that required repair. This also included the grounding rod puncture through the LLDPE geomembrane that occurred by an outside contractor after the LLDPE had already been covered with the protective cover soil. This incident was identified as a DO instance and was also considered a non-compliance issue which is discussed in further detail in *Section 2.4.6* below.

Additional details on the geomembrane repairs are provided in *Appendix J* and the non-compliance issues observed during field activities are summarized within *Appendix M*.

2.4.4.5 Geomembrane Penetrations & Pipe Boot Installation

The geomembrane penetration and pipe boot logs are provided in *Appendix N*. The pipe boots were field fabricated by ESI, and the boots were installed at monitoring wells, injection wells, gas vents, piezometers, and access manhole penetrations across the cap.

The geomembrane boots consisted of a vertical (minimum of 2 ft.) section of LLDPE being wrapped around the penetration (i.e. well, gas vent, etc.) from the base to the top of the penetration. Prior to welding, the joints for the pipe boots covering the penetration were equipped with a copper wire to facilitate spark testing as discussed in further detail in *Section 2.4.4.5.1* below. The geomebrane wrap was then heat sealed and an extrusion weld was placed with a vertical seam connecting the two pieces of geomembrane. The end of the boot terminated in a skirt section which was placed over the boot. The skirt and the geomembrane overlapped a minimum of 18-inches and the skirt was welded to the geomembrane.

A neoprene rubber gasket was used between the boot and the penetration and secured with a 1-inch wide stainless steel clamp (or two ½-inch clamps). An LLDPE sacrificial sheet was then placed between the boot and the clamp for protection and a butyl sealant was applied along the top of the boot. *Figure 7* below shows the typical construction of a geomembrane pipe boot in the field by ESI. The welding of each boot was observed by Langan, and each boot fabrication was documented on an individual boot fabrication form provided in *Appendix N*. The seven (7) typical types of penetrations present on the SA-6 North cap are defined below.

Figure 7 – Typical Geomembrane Pipe Boot Construction

Monitoring Wells

A total of four (4) monitoring wells were located within the SA-6 North cap. The monitoring wells were constructed with PVC and were encased within a minimum 4-inch metal casing. Refer to *Appendix N* for the penetration and boot logs for monitoring wells: 115-W1-SO, 115-W6-SO, 115-E4-SO, and 115-E5-SO.

Injection Wells

A total of three (3) injection wells were located within the boundaries of the SA-6 North cap. The injection wells were constructed with PVC and were encased within minimum 4-inch metal casing. Additional details are provided in Appendix N for injection wells 088-IW-01, 088-IW-02, and 088-IW-03 as well as the Record Drawings (*Appendix A2*).

Gas Vents

A total of six (6) gas vents were constructed through the SA-6 North cap. Gas vents were completed in accordance with Section 02380 – Gas Venting System of the *100% Design* Package to allow any naturally occurring methane to vent to the atmosphere. Refer to *Appendix N* for the penetration and boot logs for gas vents GV-1 through GV-6, with the corresponding locations shown on the Record Drawings (*Appendix A2*).

Piezometers

A total of five (5) piezometers were installed through the cap to allow the project team to compare the groundwater within capped area to the groundwater immediately outside of the cap. Piezometers were encased within a minimum of 4-inch steel casing. Refer to *Appendix N* for the penetration and boots logs for piezometers PZ-2, PZ-4, PZ-6, PZ-8, and PZ-10, and to the Record Drawings (*Appendix A2*) for the corresponding piezometer locations.

Cleanout Structures

A total of two (2) cleanout stations were installed at SA-6 North to provide access to the groundwater treatment piping for areas where access manholes were not practical. Additional details are provided in *Appendix N* for the penetration and boot logs completed for Cleanout 1

and Cleanout 2. Refer to the Record Drawings (*Appendix A2*) for the corresponding cleanout locations.

Horizontal Drain Pipe
One horizontal drainage pipe was installed along the southern end of the cap within the bottom of the SA-6 North D-Street utility corridor. This pipe is aligned with the perimeter pool clay plug located between the N1 pool and N2 pool. The drain penetrates the SCB wall and clay plug and drains to the interior of SA-7. The drain allows for gravity flow from the bottom of the utility corridor to the exterior of the cap. Additional details are provided within *Appendix N*, and the Record Drawings (*Appendix A2*).

Pump Station and Access Manholes
A total of two pump stations and two access manholes were completed with field fabricated geomembrane boots. Refer to *Appendix N* for the penetration and boot logs for Access Manhole Sta. 1+00, Extraction Pump Station 1, Extraction Pump Station 2, and Access Manhole Sta. 18+00 with the corresponding locations shown on the Record Drawings (*Appendix A2).*

2.4.4.5.1 Spark Testing

Prior to spark testing, Amec Foster Wheeler conducted methane testing at each pipe boot location to determine the percentage of methane present below the geomembrane boot. In the event that methane was greater than 1%, spark testing was not completed and the weld was visually observed for any deficiencies. If methane testing was less than 1%, spark testing was conducted by ESI and if no sparks were observed the spark test passed. If sparks were observed, then the weld was reported as a failed weld. Failed spark tests were also identified as non-compliance issues as further described in *Section 2.4.6*.

Design Change 2015-12-14 added the spark testing provisions for the SA-6 North cap. Spark testing was completed at the site at the pipe boot / penetration locations across SA-6 North, and was conducted to test the integrity of the vertical weld and base weld of the boot, as these areas could not be tested via vacuum box testing. To complete the spark test, a thin copper wire (approximately 20 gauge) was placed along the base of the boot and vertical weld prior to extrusion welding. The extrusion welding was conducted over the vertical seam and base of the boot where the copper wire was placed. A handheld probe was then utilized to attempt to complete a arc, thus causing the probe and wire to visibly spark. If any sparks were observed, the area was grinded, rewelded, and re-tested. Additional details are provided in the Spark Test Logs provided in *Appendix O*. *Figure 8* below shows ESI conducting spark testing along the base of a boot.

Figure 8 – ESI Conducting Spark Test at Base of Boot

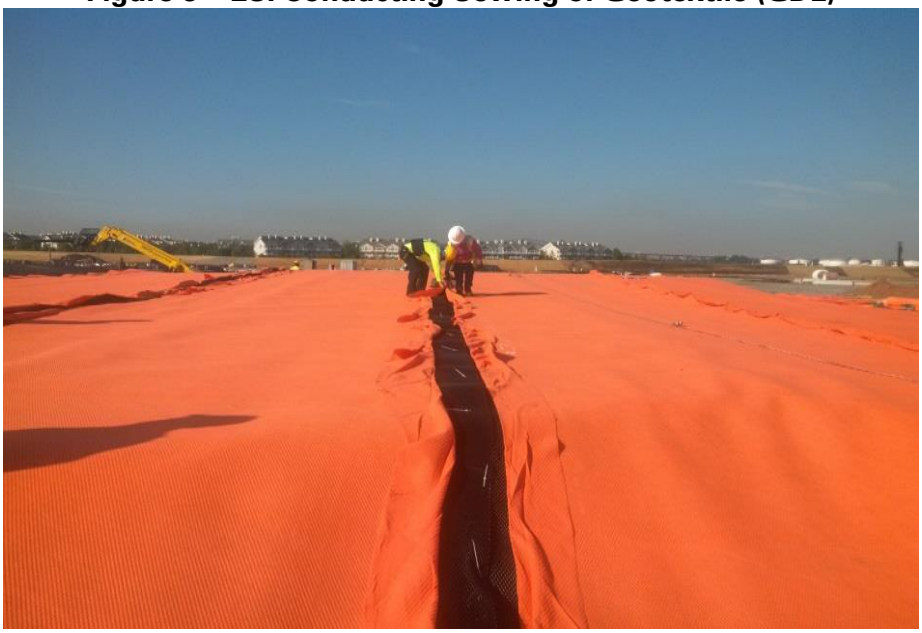
2.4.5 Geocomposite Drainage Layer (GDL)

To facilitate drainage and transport of infiltrated surface water off the cap, a geocomposite drainage layer (GDL) consisting of a geonet with a non-woven geotextile bonded to both sides (i.e., defined as SKAPS TN 330-2-6) was deployed across SA-6 North. The GDL was placed at the site by ESI and was placed directly over the geomembrane cap as shown on the Record Drawings (*Appendix A3*).

GDL panels were placed according to the specification Section 02374 – Geocomposite Drainage Layer as defined in the *100% Design* package. For adjacent GDL panels, the following minimum seaming requirements were met:

- Adjacent rolls of GDL were overlapped so that the geonet overlapped by 2 to 3-inches, and the geotextiles overlapped by at least 4-inches;
- The bottom layer of geotextile (underneath the geonet) was overlapped so that no areas of the underlying geomembrane were exposed;
- White plastic fasteners were placed at a maximum of every 5 ft. along the seam. Additional fasteners were requested by the QA team when the seams extended down the slopes or elevation changes were noted; and
- Once the geonet was tied with a sufficient number of fasteners, the top geotextile of the GDL was continuously sewn as shown in *Figure 9* below.

Figure 9 – ESI Conducting Sewing of Geotextile (GDL)



During placement of the GDL, butt seams, rips, tears, or other damaged areas of the GDL were repaired by exposing an appropriate area of geonet, placing fasteners as defined in the project specifications, and covering the area with a new piece of orange geotextile (same as the GDL geotextile) which was heat sealed in place.

Once the GDL was placed, Entact placed protective cover soil (i.e., 1 ft. layer of material) directly over the GDL. In addition, yellow caution tape was placed every 55-inches over the GDL prior to protective cover soil placement. The caution type had bold type which indicated "Danger Do Not Dig – Peligro No Excavar" in English and Spanish. Additional details on the GDL placement are provided in the Langan Daily Reports and Photo Logs provided in *Appendix E*.

2.4.6 Non-Compliance Issues

Summaries of Non-Compliance & Corrective Action Sheets are provided in *Appendix M*. During the SA-6 North capping activities, any QA field tests, observations, or failed samples that did not comply with the project specifications were documented and recorded as a non-compliance issue followed by repair or correction of these issues in accordance with the specifications. A total of fourteen (14) non-compliance issues were identified and repaired throughout the capping of SA-6 North and are summarized below:

1. Subgrade Irregularities – Refer to Sheet Numbers 1, 2, 5, 6, 7, 8, and 13 of the Non-Compliance & Corrective Action Sheets (*Appendix M)*. In general, the subgrade irregularities consisted of stones or other material greater than ½-inch in size encountered below the geomembrane cap after the material had been placed and secured. These objects were removed by cutting the geomembrane, removing the object, and patching the geomembrane in accordance with the project specifications. The subgrade showed no indication of these items at the time of subgrade approval,

and it is postulated that these items were dislodged from the subgrade as the GVL was drawn across the subgrade surface;

2. Failed Destruct Sample – Refer to Sheet Number 9 (*Appendix M*). Fusion weld destruct sample DS-26, which was collected from Panel Seam P-72 / P-74 was reported as EPA Break Classification Code "AD BRK". Although the peel and shear strength requirements were met, since the coupons broke at the weld and were not considered film tearing bond (FTB), the sample was reported as a failed sample. Two field samples (DS-26A and DS-26B) were cut approximately 10 ft. on each side of the DS-26 seam and field tested. Both samples met the peel and shear strength requirements. Additionally, sample DS-26B (lesser peel and shear strength values than 26-A) was sent for confirmatory laboratory analysis, which indicated peel and shear strength values were in compliance with project specifications.
3. Failed Spark Tests – Refer to Sheet Number 3, 4, 11, 12 and 14. During spark testing of boots Well 115-E4-SO, a spark was observed during testing along the base of the boot and/or vertical weld for Piezometer PZ4, Gas Vent GV-5, Well 115-W1-SO, Well 115-E4-SO, and Well 115-E5-WO. For each of the failed areas where a spark was observed, the area was grinded, re-welded, and retested with the spark retest passing (i.e. no sparks observed); and
4. Geomembrane Puncture (Equipment) – Refer to Sheet Number 10 (*Appendix M*). During outside construction activities at the site, an equipment puncture through SA-6 North on Panel P-36 (north end) was observed as a grounding rod was driven through the membrane. This puncture was subsequently repaired / patched, welded, and vacuum box tested by ESI, according to the project specifications. The repair associated with the puncture was identified as repair RP-418, and was listed as Damage by Others (DO) on the Non-Compliance Log.

Additional details on the non-compliance issues encountered, as well as the subsequent repair activities, are further described in the Langan Daily Reports and Photo Logs provided in *Appendix E*.

3.0 DECLARATIONS

3.1 General

Langan personnel have monitored the construction and field activities completed for the capping of SA-6 North specific to the subgrade preparation and placement of the geotextile and geocomposite materials as defined herein. Based on the field observations made by Langan along with the field and laboratory test data collected by the Contractor and Subcontractors, it is our professional opinion that the construction observed at SA-6 North complied with the approved *100% Design* package. Additional details on the work and approval of materials is outlined in the *EOR Closure Report*.

3.2 Limitations

This Cap Geosynthetic Quality Assurance Report (QA Report) was prepared by Langan (in conjunction with Amec Foster Wheeler) for the exclusive use of Honeywell. This QA Report

applies specifically to the subgrade preparation and construction of the geosynthetics components of the SA-6 North cap only.

The construction observations and monitoring were conducted under the conditions stated. Conclusions made in this report were based on these observations and data obtained from field and laboratory tests conducted on the QA samples collected.

The topographic survey measurements were completed by Entact and their licensed surveyor Maser and were subject to review and approval by Amec Foster Wheeler. Langan did not independently verify the accuracy of this data.

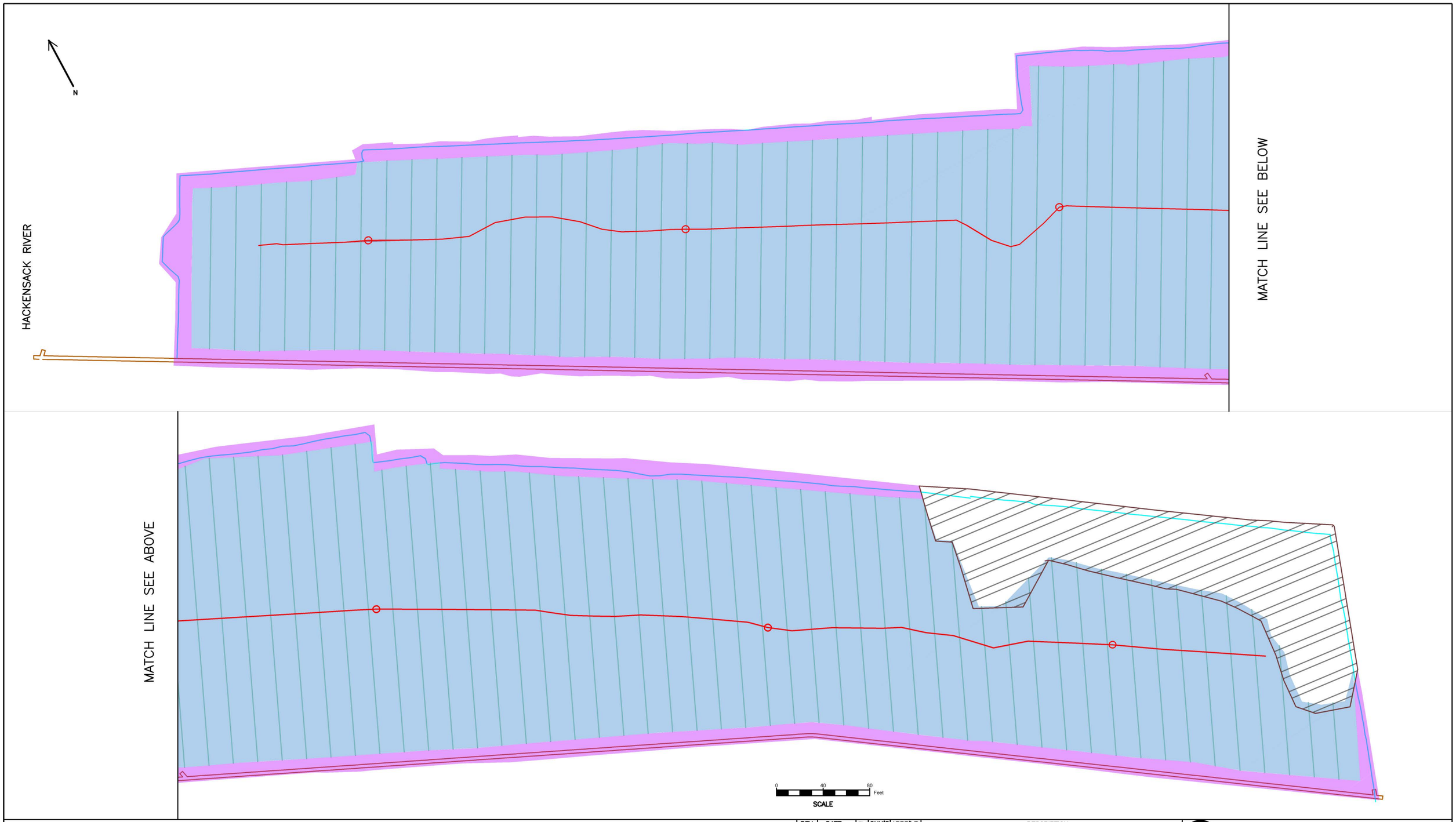
Acceptance of the geosynthetic materials used for the SA-6 North cap construction was completed by Amec Foster Wheeler. Furthermore, the QC laboratory testing was completed by Geotechnics (under the direction of Entact) and QA laboratory testing was completed by TRI (under the direction of Langan).

The approval of all materials used for this project was completed by Amec Foster Wheeler in the *EOR Closure Report*. The geosynthetic production quality testing was completed by AGRU America, Inc. and their subcontracted companies working on their behalf. Langan did not independently verify the accuracy of the conformance test data.

Appendix A : Record Drawings

A1. GVL / GCL Record Drawing
A2. LLDPE Geomembrane Record Drawing
A3. GDL Record Drawing

A1. GVL / GCL Record Drawing



LEGEND

- CLASS A/16 OZ GEOTEXTILE
- GEOCOMPOSITE GAS VENT LAYER (GVL)
- GEOSYNTHETIC CLAY LINER (GCL)
- GAS VENT (NOT TO SCALE)
- GAS VENT PIPE
- SCB WALL
- HB WALL (Inner Edge)

NOTE: Drawing is schematic in nature. Actual seam locations may vary due to the geomembrane grading.

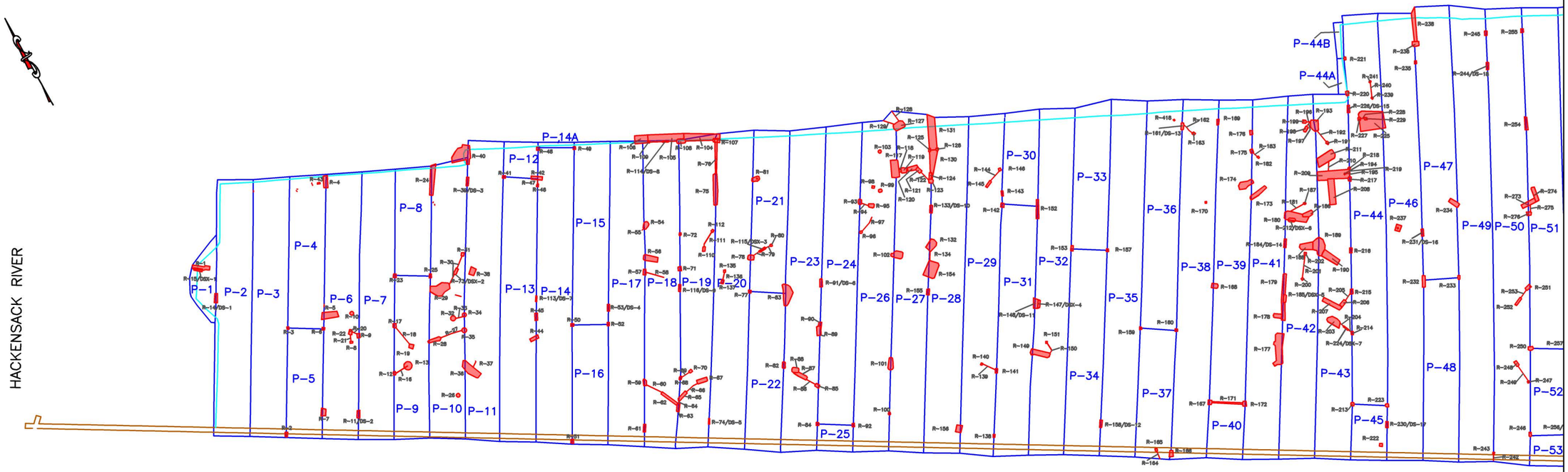
REV	DATE	BY	CHK'D	APPR'VD	DESCRIPTION
0	10/27/16	EP	CP	CP	RECORD DRAWING
1	11/04/16	EP	CP	CP	RECORD DRAWING

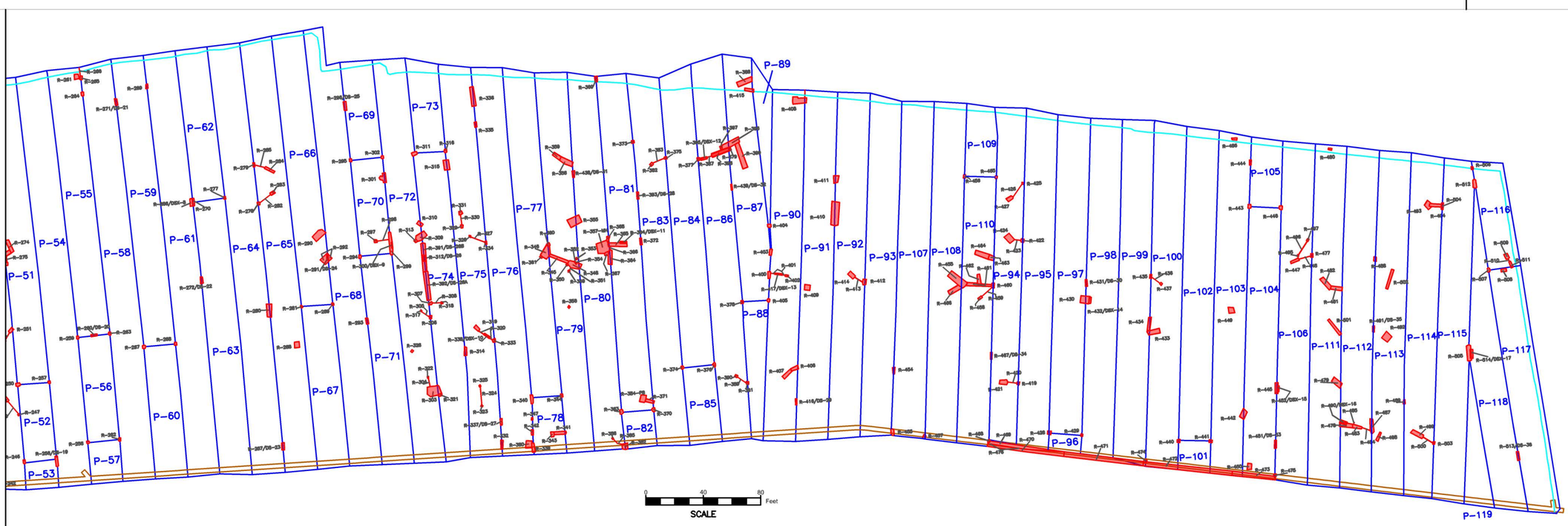
ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 NORTH CAP GVL/GCL Layout
Class A Geotextile/Gas Vent Layer/Geosynthetic Clay Liner
11/04/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

A2. LLDPE Geomembrane Record Drawing





LEGEND

- R-1 (Repair Number)
- LINER SEAM/EDGE
- SCB WALL
- HB WALL (Inner Edge)

R: Repair
DSX: Destructive Extrusion Weld Test
DS: Destructive Fusion Weld Test
P: Panel

NOTE: Drawing details are schematic in nature. Actual seam locations and repair dimensions may vary due to the geomembrane grading. Repair locations are recorded in the repair logs.

NOTE: Refer to ESI Repair Report for repair details

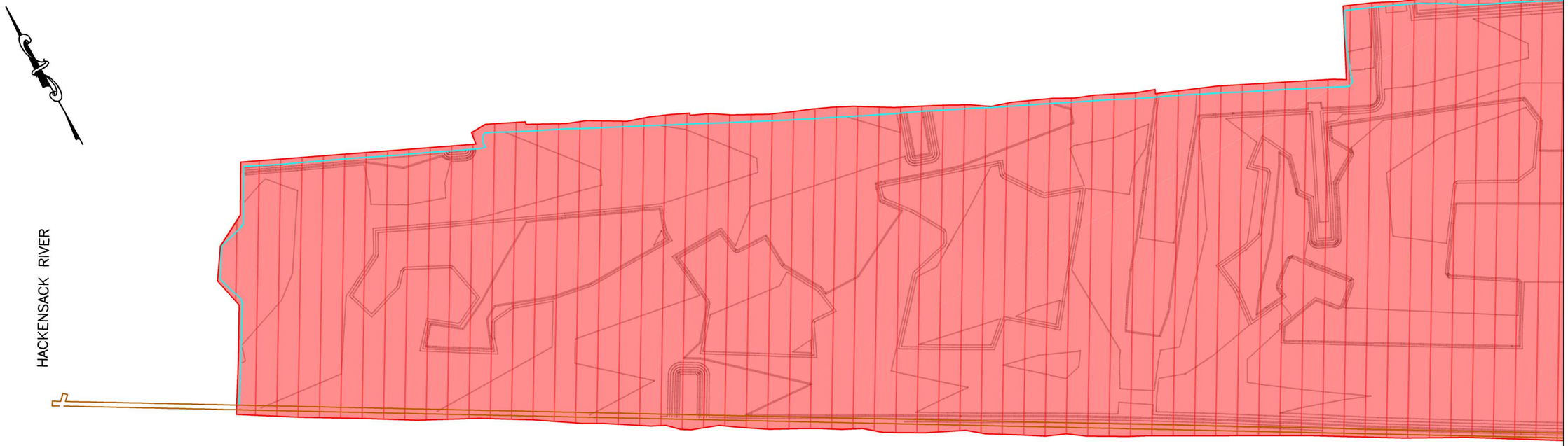
REV	DATE	BY	CHK'D	APPRV'D	DESCRIPTION
0	10/27/16	EP	CP	CP	RECORD DRAWING
1	11/04/16	EP	CP	CP	RECORD DRAWING
2	11/18/16	EP	CP	CP	RECORD DRAWING

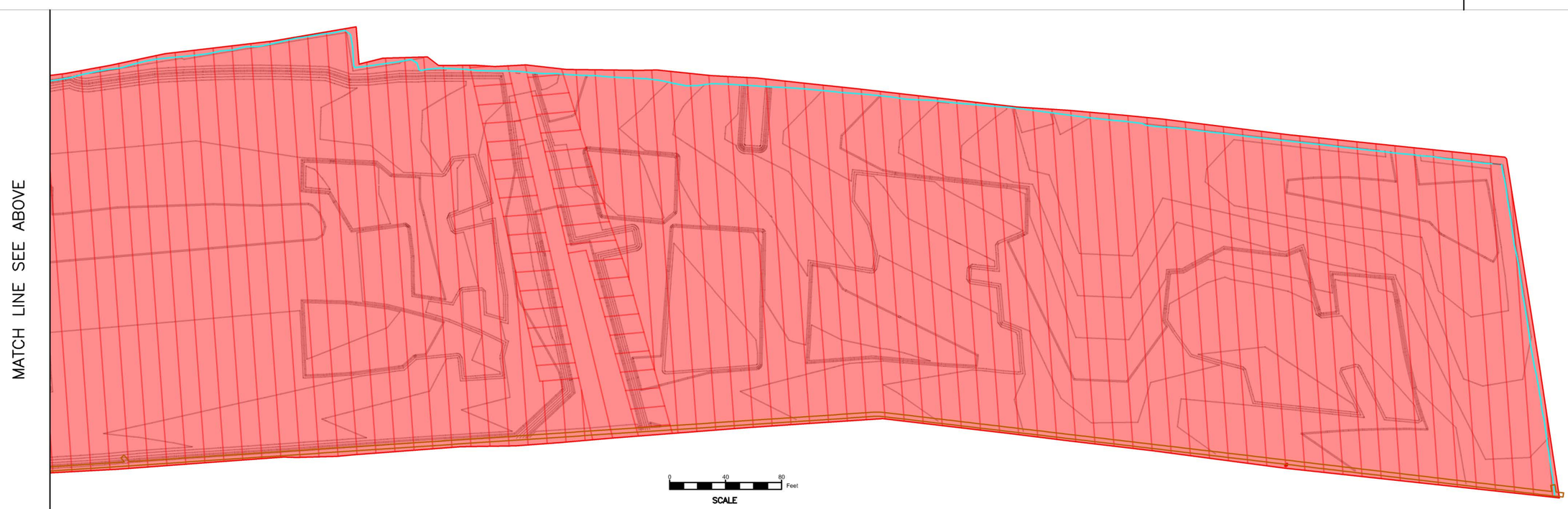
ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 NORTH CAP PANEL LAYOUT
60 mil Textured LLDPE Geomembrane
11/18/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

A3. GDL Record Drawing





LEGEND

- GEOCOMPOSITE DRAINAGE LAYER (GDL)
- CAP SUBGRADE CONTOUR
- SCB WALL
- HB WALL (Inner Edge)

NOTE: Drawing is schematic in nature. Actual seam locations may vary due to geomembrane grading.

REV	DATE	BY	CHK'D	APPR'VD	DESCRIPTION
0	10/27/16	EP	CP	CP	RECORD DRAWING
1	11/04/16	EP	CP	CP	RECORD DRAWING

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SA6 NORTH CAP PANEL LAYOUT GEOCOMPOSITE DRAINAGE LAYER 11/04/16

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

Appendix B
SA-6 North Certificate of Completion

PROJECT COMPLETION REPORT

Project Name: Honeywell Chromium Area

Project Manager: Kevin Simms

Job Number: 12-11-1399

Superintendent: Tony Ung

Date Completed:

Item Number	Item Description	Completed Quantity
1	60 Mil LLPE Text	494,086 s/f
2	DS Composite 22-2-6 (Gas)	378,950 s/f
3	DS Composite 300-2 6 (Drain)	494,086 s/f
4	16 Oz. NW Geotextile	58,845
5	GCL	25,350
6	60" Manholes	4
	Total Linear Feet of Anchor Trench	
	Vertical Feet of Liner in Trench (per Detail)	

Item Number	Item Description	Completed Quantity
7	4" Pipe Boots	5
8	6" Pipe Boots	4
9	8" Pipe Boots	12
	Total Linear Feet of Tie in to Existing	
	Total Linear Feet of Tie in Slope to Floor	

The Quantities Listed Above Are Based On The Following :

- [x] Field measurements
- [ ] Quantities are agreed to at this time
- [ ] Quantities listed include geosynthetics in anchor trench
- [x] Job 100% complete
- [x] Field change orders were Issued — How Many? 1

Check All Applicable Boxes Below:

- [ ] Quantities listed include tie in / run out details
- [ ] Quantities to be verified by survey
- [ ] Quantities listed are per completed survey
- [ ] Job is partially complete.
- [ ] Anticipated remob date is:

- [x] The project has been left, by ESI, in a clean and orderly fashion acceptable to customer.

Initial by Customer / Rep

- [x] All work has been found satisfactorily completed and the work satisfies the Project plans and specifications

Initial by Customer / Rep

ESI Owned Materials Left On Site

Material Description	Roll Count	Total Square Feet	Notes

ESI Superintendent Signature

Tony Ung

Print Name

8-16-16

Date

Authorized Signature

Keith Gorsse

Print Name

Superv. / Entact

Title / Company

8-16-16

Date

Appendix C: Survey Construction Details

C1. Final Maser Subgrade Tables

C2. Subgrade Construction Control Grid

C1. Final Maser Subgrade Tables

Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

156 Stagecoach Road
Marmora, NJ 08223
T: 609.390.1927
F: 609.390.0040
www.maserconsulting.com

SA-6 North Cap Subgrade: Grid Points (Table 1.0)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
1	686039.50	602096.13	10.6	GRID	6/20/2016	10.6	0.0	Point surveyed within Tolerance
2	686061.08	602108.76	10.6	GRID	6/20/2016	10.5	-0.1	Point surveyed within Tolerance
3	686091.59	602155.60	11.4	GRID	6/20/2016	11.3	-0.1	Point surveyed within Tolerance
4	686070.02	602142.97	10.8	GRID	6/20/2016	10.8	0.0	Point surveyed within Tolerance
5	686048.45	602130.34	10.6	GRID	6/20/2016	10.6	0.0	Point surveyed within Tolerance
6	686026.87	602117.70	10.9	GRID	6/20/2016	11.0	0.1	Point surveyed within Tolerance
7	686005.30	602105.07	11.6	GRID	6/20/2016	11.5	-0.1	Point surveyed within Tolerance
8	685983.72	602092.44	11.6	GRID	6/20/2016	11.6	0.0	Point surveyed within Tolerance
9	685971.09	602114.02	11.9	GRID	6/20/2016	11.8	-0.1	Point surveyed within Tolerance
10	685992.67	602126.65	11.8	GRID	6/20/2016	11.8	0.0	Point surveyed within Tolerance
11	686014.24	602139.28	11.8	GRID	6/20/2016	11.7	-0.1	Point surveyed within Tolerance
12	686035.82	602151.91	11.7	GRID	6/20/2016	11.6	-0.1	Point surveyed within Tolerance
13	686057.39	602164.54	11.6	GRID	6/20/2016	11.6	0.0	Point surveyed within Tolerance
14	686078.96	602177.17	11.4	GRID	6/20/2016	11.4	0.0	Point surveyed within Tolerance
15	686066.33	602198.75	11.0	GRID	6/20/2016	11.0	0.0	Point surveyed within Tolerance
16	686044.76	602186.12	11.3	GRID	6/20/2016	11.3	0.0	Point surveyed within Tolerance
17	686023.18	602173.48	11.9	GRID	6/20/2016	11.8	-0.1	Point surveyed within Tolerance
18	686001.61	602160.85	14.6	GRID	6/20/2016	14.5	-0.1	Point surveyed within Tolerance
19	685980.04	602148.22	12.4	GRID	6/20/2016	12.3	-0.1	Point surveyed within Tolerance
20	685958.46	602135.59	12.1	GRID	6/20/2016	12.1	0.0	Point surveyed within Tolerance
21	685945.83	602157.16	12.4	GRID	6/20/2016	12.4	0.0	Point surveyed within Tolerance
22	685967.40	602169.80	12.8	GRID	6/20/2016	12.8	0.0	Point surveyed within Tolerance
23	685988.98	602182.43	12.1	GRID	6/20/2016	12.1	0.0	Point surveyed within Tolerance
24	686010.55	602195.06	14.5	GRID	6/20/2016	14.4	-0.1	Point surveyed within Tolerance
25	686032.13	602207.69	11.4	GRID	6/20/2016	11.3	-0.1	Point surveyed within Tolerance
26	686053.70	602220.32	10.4	GRID	6/20/2016	10.4	0.0	Point surveyed within Tolerance
27	686041.07	602241.90	10.8	GRID	6/20/2016	10.7	-0.1	Point surveyed within Tolerance
28	686019.49	602229.26	11.6	GRID	6/20/2016	11.5	-0.1	Point surveyed within Tolerance
29	685997.92	602216.63	14.7	GRID	6/20/2016	14.6	-0.1	Point surveyed within Tolerance
30	685976.35	602204.00	12.3	GRID	6/20/2016	12.2	-0.1	Point surveyed within Tolerance
31	685954.77	602191.37	15.7	GRID	6/20/2016	15.7	0.0	Point surveyed within Tolerance
32	685933.20	602178.74	12.7	GRID	6/20/2016	12.6	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.1)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
33	685920.57	602200.31	12.8	GRID	6/20/2016	12.8	0.0	Point surveyed within Tolerance
34	685942.14	602212.94	15.2	GRID	6/20/2016	15.2	0.0	Point surveyed within Tolerance
35	685985.29	602238.21	14.9	GRID	6/20/2016	14.8	-0.1	Point surveyed within Tolerance
36	686006.86	602250.84	12.0	GRID	6/20/2016	12.0	0.0	Point surveyed within Tolerance
37	686028.44	602263.47	11.3	GRID	6/20/2016	11.2	-0.1	Point surveyed within Tolerance
38	686037.38	602297.68	12.0	GRID	6/20/2016	11.9	-0.1	Point surveyed within Tolerance
39	686015.81	602285.04	11.5	GRID	6/20/2016	11.4	-0.1	Point surveyed within Tolerance
40	685972.66	602259.78	15.1	GRID	6/20/2016	15.0	-0.1	Point surveyed within Tolerance
41	685951.08	602247.15	15.0	GRID	6/20/2016	15.0	0.0	Point surveyed within Tolerance
42	685929.51	602234.52	12.9	GRID	6/20/2016	12.8	-0.1	Point surveyed within Tolerance
43	685907.93	602221.89	13.1	GRID	6/20/2016	13.1	0.0	Point surveyed within Tolerance
44	685895.30	602243.46	13.5	GRID	6/20/2016	13.5	0.0	Point surveyed within Tolerance
45	685916.88	602256.09	13.2	GRID	6/20/2016	13.1	-0.1	Point surveyed within Tolerance
46	685960.03	602281.36	15.4	GRID	6/20/2016	15.3	-0.1	Point surveyed within Tolerance
47	686003.17	602306.62	11.7	GRID	6/20/2016	11.7	0.0	Point surveyed within Tolerance
48	686024.75	602319.25	12.2	GRID	6/20/2016	12.1	-0.1	Point surveyed within Tolerance
49	686012.12	602340.82	12.4	GRID	6/23/2016	12.3	-0.1	Point surveyed within Tolerance
50	685990.54	602328.19	12.0	GRID	6/23/2016	12.0	0.0	Point surveyed within Tolerance
51	685968.97	602315.56	15.5	GRID	6/23/2016	15.5	0.0	Point surveyed within Tolerance
52	685947.39	602302.93	15.6	GRID	6/23/2016	15.6	0.0	Point surveyed within Tolerance
53	685925.82	602290.30	13.4	GRID	6/23/2016	13.4	0.0	Point surveyed within Tolerance
54	685904.25	602277.67	14.3	GRID	6/23/2016	14.3	0.0	Point surveyed within Tolerance
55	685882.67	602265.03	13.9	GRID	6/23/2016	13.9	0.0	Point surveyed within Tolerance
56	685870.04	602286.61	14.0	GRID	6/23/2016	14.0	0.0	Point surveyed within Tolerance
57	685891.61	602299.24	14.5	GRID	6/23/2016	14.4	-0.1	Point surveyed within Tolerance
58	685913.19	602311.87	13.7	GRID	6/23/2016	13.7	0.0	Point surveyed within Tolerance
59	685956.34	602337.14	15.8	GRID	6/23/2016	15.8	0.0	Point surveyed within Tolerance
60	685977.91	602349.77	12.2	GRID	6/23/2016	12.3	0.1	Point surveyed within Tolerance
61	685999.49	602362.40	12.6	GRID	6/23/2016	12.5	-0.1	Point surveyed within Tolerance
62	685986.85	602383.97	12.8	GRID	6/23/2016	12.7	-0.1	Point surveyed within Tolerance
63	685965.28	602371.34	12.6	GRID	6/23/2016	12.6	0.0	Point surveyed within Tolerance
64	685943.71	602358.71	13.6	GRID	6/23/2016	13.7	0.1	Point surveyed within Tolerance
65	685900.56	602333.45	14.0	GRID	6/23/2016	13.9	-0.1	Point surveyed within Tolerance
66	685878.98	602320.81	14.8	GRID	6/23/2016	14.7	-0.1	Point surveyed within Tolerance
67	685866.35	602342.39	17.5	GRID	6/23/2016	17.5	0.0	Point surveyed within Tolerance
68	685887.93	602355.02	16.7	GRID	6/23/2016	16.7	0.0	Point surveyed within Tolerance
69	685909.50	602367.65	16.5	GRID	6/23/2016	16.4	-0.1	Point surveyed within Tolerance
70	685931.07	602380.28	13.7	GRID	6/23/2016	13.7	0.0	Point surveyed within Tolerance
71	685952.65	602392.91	12.9	GRID	6/23/2016	12.9	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.2)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
72	685974.22	602405.55	13.0	GRID	6/23/2016	12.9	-0.1	Point surveyed within Tolerance
73	685961.59	602427.12	13.2	GRID	6/23/2016	13.1	-0.1	Point surveyed within Tolerance
74	685940.02	602414.49	13.4	GRID	6/23/2016	13.3	-0.1	Point surveyed within Tolerance
75	685918.44	602401.86	14.1	GRID	6/23/2016	14.0	-0.1	Point surveyed within Tolerance
76	685896.87	602389.23	16.7	GRID	6/23/2016	16.7	0.0	Point surveyed within Tolerance
77	685875.29	602376.59	17.1	GRID	6/23/2016	17.1	0.0	Point surveyed within Tolerance
78	685853.72	602363.96	17.8	GRID	6/23/2016	17.7	-0.1	Point surveyed within Tolerance
79	685832.15	602351.33	14.7	GRID	6/23/2016	14.8	0.1	Point surveyed within Tolerance
80	685819.51	602372.91	15.0	GRID	6/27/2016	15.0	0.0	Point surveyed within Tolerance
81	685841.09	602385.54	17.7	GRID	6/27/2016	17.6	-0.1	Point surveyed within Tolerance
82	685862.66	602398.17	17.2	GRID	6/27/2016	17.2	0.0	Point surveyed within Tolerance
83	685884.24	602410.80	14.5	GRID	6/27/2016	14.4	-0.1	Point surveyed within Tolerance
84	685905.81	602423.43	14.2	GRID	6/27/2016	14.2	0.0	Point surveyed within Tolerance
85	685927.39	602436.06	13.7	GRID	6/27/2016	13.7	0.0	Point surveyed within Tolerance
86	685948.96	602448.69	13.4	GRID	6/27/2016	13.4	0.0	Point surveyed within Tolerance
87	685936.33	602470.27	13.6	GRID	6/27/2016	13.5	-0.1	Point surveyed within Tolerance
88	685914.75	602457.64	14.2	GRID	6/27/2016	14.1	-0.1	Point surveyed within Tolerance
89	685893.18	602445.01	14.6	GRID	6/27/2016	14.6	0.0	Point surveyed within Tolerance
90	685871.61	602432.37	14.8	GRID	6/27/2016	14.7	-0.1	Point surveyed within Tolerance
91	685828.46	602407.11	15.7	GRID	6/27/2016	15.6	-0.1	Point surveyed within Tolerance
92	685806.88	602394.48	15.2	GRID	6/27/2016	15.2	0.0	Point surveyed within Tolerance
93	685794.25	602416.05	15.4	GRID	6/27/2016	15.4	0.0	Point surveyed within Tolerance
94	685815.83	602428.69	15.8	GRID	6/27/2016	15.7	-0.1	Point surveyed within Tolerance
95	685837.40	602441.32	15.5	GRID	6/27/2016	15.4	-0.1	Point surveyed within Tolerance
96	685858.97	602453.95	15.0	GRID	6/27/2016	15.0	0.0	Point surveyed within Tolerance
97	685880.55	602466.58	14.9	GRID	6/27/2016	14.8	-0.1	Point surveyed within Tolerance
98	685902.12	602479.21	14.7	GRID	6/27/2016	14.6	-0.1	Point surveyed within Tolerance
99	685923.70	602491.84	13.7	GRID	6/27/2016	13.7	0.0	Point surveyed within Tolerance
100	685889.49	602500.79	17.5	GRID	6/27/2016	17.4	-0.1	Point surveyed within Tolerance
101	685867.92	602488.15	15.1	GRID	6/27/2016	15.1	0.0	Point surveyed within Tolerance
102	685846.34	602475.52	15.3	GRID	6/27/2016	15.2	-0.1	Point surveyed within Tolerance
103	685803.19	602450.26	18.9	GRID	6/27/2016	18.8	-0.1	Point surveyed within Tolerance
104	685781.62	602437.63	15.7	GRID	6/27/2016	15.7	0.0	Point surveyed within Tolerance
105	685768.99	602459.20	16.0	GRID	6/27/2016	16.0	0.0	Point surveyed within Tolerance
106	685812.14	602484.47	18.7	GRID	6/27/2016	18.6	-0.1	Point surveyed within Tolerance
107	685833.71	602497.10	18.1	GRID	6/27/2016	18.0	-0.1	Point surveyed within Tolerance
108	685855.28	602509.73	17.9	GRID	6/27/2016	17.9	0.0	Point surveyed within Tolerance
109	685876.86	602522.36	17.8	GRID	6/27/2016	17.7	-0.1	Point surveyed within Tolerance
110	685898.43	602534.99	14.4	GRID	6/27/2016	14.3	-0.1	Point surveyed within Tolerance
111	685885.80	602556.57	14.8	GRID	6/27/2016	14.8	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.3)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
112	685864.23	602543.93	18.1	GRID	6/27/2016	18.0	-0.1	Point surveyed within Tolerance
113	685842.65	602531.30	18.2	GRID	6/27/2016	18.1	-0.1	Point surveyed within Tolerance
114	685821.08	602518.67	18.4	GRID	6/27/2016	18.3	-0.1	Point surveyed within Tolerance
115	685799.50	602506.04	18.8	GRID	6/27/2016	18.7	-0.1	Point surveyed within Tolerance
116	685756.36	602480.78	16.2	GRID	6/27/2016	16.2	0.0	Point surveyed within Tolerance
117	685743.73	602502.35	16.5	GRID	6/27/2016	16.5	0.0	Point surveyed within Tolerance
118	685765.30	602514.98	16.8	GRID	6/27/2016	16.7	-0.1	Point surveyed within Tolerance
119	685786.87	602527.61	18.9	GRID	6/27/2016	18.9	0.0	Point surveyed within Tolerance
120	685808.45	602540.25	18.5	GRID	6/27/2016	18.5	0.0	Point surveyed within Tolerance
121	685830.02	602552.88	18.3	GRID	6/27/2016	18.3	0.0	Point surveyed within Tolerance
122	685873.17	602578.14	15.4	GRID	6/27/2016	15.3	-0.1	Point surveyed within Tolerance
123	685894.74	602590.77	14.8	GRID	6/27/2016	14.8	0.0	Point surveyed within Tolerance
124	685882.10	602612.30	15.0	GRID	6/29/2016	15.0	0.0	Point surveyed within Tolerance
125	685860.50	602599.70	16.0	GRID	6/29/2016	15.9	-0.1	Point surveyed within Tolerance
126	685817.40	602574.50	18.4	GRID	6/29/2016	18.4	0.0	Point surveyed within Tolerance
127	685774.20	602549.20	16.5	GRID	6/29/2016	16.4	-0.1	Point surveyed within Tolerance
128	685752.70	602536.60	16.8	GRID	6/29/2016	16.8	0.0	Point surveyed within Tolerance
129	685731.10	602523.90	16.7	GRID	6/29/2016	16.8	0.1	Point surveyed within Tolerance
130	685718.50	602545.50	16.8	GRID	6/29/2016	16.8	0.0	Point surveyed within Tolerance
131	685740.00	602558.10	16.3	GRID	6/29/2016	16.3	0.0	Point surveyed within Tolerance
132	685761.60	602570.80	15.9	GRID	6/29/2016	15.9	0.0	Point surveyed within Tolerance
133	685783.20	602583.40	15.8	GRID	6/29/2016	15.8	0.0	Point surveyed within Tolerance
134	685804.80	602596.00	15.8	GRID	6/29/2016	15.8	0.0	Point surveyed within Tolerance
135	685826.30	602608.70	16.0	GRID	6/29/2016	15.9	-0.1	Point surveyed within Tolerance
136	685847.90	602621.30	16.3	GRID	6/29/2016	16.2	-0.1	Point surveyed within Tolerance
137	685869.50	602633.90	15.2	GRID	6/29/2016	15.3	0.1	Point surveyed within Tolerance
138	685856.80	602655.50	15.6	GRID	6/29/2016	15.7	0.1	Point surveyed within Tolerance
139	685792.10	602617.60	14.0	GRID	6/29/2016	13.9	-0.1	Point surveyed within Tolerance
140	685770.60	602605.00	14.2	GRID	6/29/2016	14.1	-0.1	Point surveyed within Tolerance
141	685749.00	602592.30	14.6	GRID	6/29/2016	14.6	0.0	Point surveyed within Tolerance
142	685727.40	602579.70	15.2	GRID	6/29/2016	15.1	-0.1	Point surveyed within Tolerance
143	685705.80	602567.10	15.9	GRID	6/29/2016	15.9	0.0	Point surveyed within Tolerance
144	685693.20	602588.60	17.3	GRID	6/29/2016	17.3	0.0	Point surveyed within Tolerance
145	685714.80	602601.30	16.1	GRID	6/29/2016	16.1	0.0	Point surveyed within Tolerance
146	685736.30	602613.90	15.8	GRID	6/29/2016	15.7	-0.1	Point surveyed within Tolerance
147	685757.90	602626.50	15.4	GRID	6/29/2016	15.5	0.1	Point surveyed within Tolerance
148	685779.50	602639.20	15.3	GRID	6/29/2016	15.3	0.0	Point surveyed within Tolerance
149	685844.20	602677.10	13.3	GRID	6/29/2016	13.4	0.1	Point surveyed within Tolerance
150	685810.00	602686.00	16.7	GRID	6/29/2016	16.6	-0.1	Point surveyed within Tolerance
151	685788.40	602673.40	16.4	GRID	6/29/2016	16.4	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.4)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
152	685766.90	602660.70	16.4	GRID	6/29/2016	16.4	0.0	Point surveyed within Tolerance
153	685723.70	602635.50	16.7	GRID	6/29/2016	16.6	-0.1	Point surveyed within Tolerance
154	685702.10	602622.90	17.1	GRID	6/29/2016	17.0	-0.1	Point surveyed within Tolerance
155	685680.60	602610.20	17.5	GRID	6/29/2016	17.5	0.0	Point surveyed within Tolerance
156	685667.90	602631.80	17.8	GRID	7/1/2016	17.9	0.1	Point surveyed within Tolerance
157	685689.50	602644.40	18.1	GRID	7/1/2016	18.2	0.1	Point surveyed within Tolerance
158	685732.70	602669.70	20.0	GRID	7/1/2016	20.0	0.0	Point surveyed within Tolerance
159	685797.40	602707.60	19.7	GRID	7/1/2016	19.6	-0.1	Point surveyed within Tolerance
160	685806.30	602741.80	17.4	GRID	7/1/2016	17.4	0.0	Point surveyed within Tolerance
161	685784.70	602729.20	17.4	GRID	7/1/2016	17.4	0.0	Point surveyed within Tolerance
162	685741.60	602703.90	20.9	GRID	7/1/2016	20.9	0.0	Point surveyed within Tolerance
163	685720.00	602691.30	18.5	GRID	7/1/2016	18.4	-0.1	Point surveyed within Tolerance
164	685676.90	602666.00	18.7	GRID	7/1/2016	18.8	0.1	Point surveyed within Tolerance
165	685655.30	602653.40	17.9	GRID	7/1/2016	18.0	0.1	Point surveyed within Tolerance
166	685642.70	602674.90	18.1	GRID	7/1/2016	18.1	0.0	Point surveyed within Tolerance
167	685664.20	602687.60	18.7	GRID	7/1/2016	18.7	0.0	Point surveyed within Tolerance
168	685685.80	602700.20	21.0	GRID	7/1/2016	21.1	0.1	Point surveyed within Tolerance
169	685750.50	602738.10	21.5	GRID	7/1/2016	21.5	0.0	Point surveyed within Tolerance
170	685772.10	602750.70	18.5	GRID	7/1/2016	18.4	-0.1	Point surveyed within Tolerance
171	685824.20	602810.20	17.2	GRID	7/7/2016	17.2	0.0	Point surveyed within Tolerance
172	685759.50	602772.30	21.6	GRID	7/1/2016	21.5	-0.1	Point surveyed within Tolerance
173	685737.90	602759.70	21.9	GRID	7/1/2016	21.9	0.0	Point surveyed within Tolerance
174	685716.30	602747.00	21.9	GRID	7/1/2016	21.9	0.0	Point surveyed within Tolerance
175	685694.80	602734.40	21.5	GRID	7/1/2016	21.6	0.1	Point surveyed within Tolerance
176	685673.20	602721.80	21.0	GRID	7/1/2016	20.9	-0.1	Point surveyed within Tolerance
177	685651.60	602709.10	18.7	GRID	7/1/2016	18.7	0.0	Point surveyed within Tolerance
178	685630.00	602696.50	18.1	GRID	7/1/2016	18.2	0.1	Point surveyed within Tolerance
179	685617.40	602718.10	18.2	GRID	7/7/2016	18.3	0.1	Point surveyed within Tolerance
180	685639.00	602730.70	18.7	GRID	7/7/2016	18.7	0.0	Point surveyed within Tolerance
181	685660.60	602743.40	21.0	GRID	7/7/2016	21.0	0.0	Point surveyed within Tolerance
182	685682.10	602756.00	21.5	GRID	7/7/2016	21.5	0.0	Point surveyed within Tolerance
183	685703.70	602768.60	22.0	GRID	7/7/2016	22.0	0.0	Point surveyed within Tolerance
184	685725.30	602781.20	22.2	GRID	7/7/2016	22.2	0.0	Point surveyed within Tolerance
185	685746.90	602793.90	22.1	GRID	7/7/2016	22.1	0.0	Point surveyed within Tolerance
186	685768.40	602806.50	21.4	GRID	7/7/2016	21.4	0.0	Point surveyed within Tolerance
187	685790.00	602819.10	17.9	GRID	7/7/2016	17.9	0.0	Point surveyed within Tolerance
188	685811.60	602831.80	17.4	GRID	7/7/2016	17.4	0.0	Point surveyed within Tolerance
189	685798.90	602853.40	17.6	GRID	7/7/2016	17.7	0.1	Point surveyed within Tolerance
190	685777.40	602840.70	18.3	GRID	7/7/2016	18.3	0.0	Point surveyed within Tolerance
191	685755.80	602828.10	21.8	GRID	7/7/2016	21.9	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.5)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
192	685734.20	602815.50	22.5	GRID	7/7/2016	22.5	0.0	Point surveyed within Tolerance
193	685712.60	602802.80	20.1	GRID	7/7/2016	20.1	0.0	Point surveyed within Tolerance
194	685691.10	602790.20	19.6	GRID	7/7/2016	19.5	-0.1	Point surveyed within Tolerance
195	685647.90	602764.90	21.0	GRID	7/7/2016	21.0	0.0	Point surveyed within Tolerance
196	685626.40	602752.30	18.8	GRID	7/7/2016	18.7	-0.1	Point surveyed within Tolerance
197	685604.80	602739.70	18.2	GRID	7/7/2016	18.2	0.0	Point surveyed within Tolerance
198	685592.10	602761.20	18.2	GRID	7/7/2016	18.2	0.0	Point surveyed within Tolerance
199	685613.70	602773.90	18.8	GRID	7/7/2016	18.7	-0.1	Point surveyed within Tolerance
200	685635.30	602786.50	21.0	GRID	7/7/2016	21.0	0.0	Point surveyed within Tolerance
201	685678.40	602811.80	19.6	GRID	7/7/2016	19.6	0.0	Point surveyed within Tolerance
202	685700.00	602824.40	20.0	GRID	7/7/2016	20.0	0.0	Point surveyed within Tolerance
203	685721.60	602837.00	22.7	GRID	7/7/2016	22.7	0.0	Point surveyed within Tolerance
204	685743.20	602849.70	22.1	GRID	7/7/2016	22.1	0.0	Point surveyed within Tolerance
205	685764.70	602862.30	18.8	GRID	7/7/2016	18.8	0.0	Point surveyed within Tolerance
206	685786.30	602874.90	17.9	GRID	7/7/2016	17.8	-0.1	Point surveyed within Tolerance
207	685773.70	602896.50	18.1	GRID	7/7/2016	18.1	0.0	Point surveyed within Tolerance
208	685752.10	602883.90	19.0	GRID	7/7/2016	19.0	0.0	Point surveyed within Tolerance
209	685687.40	602846.00	20.0	GRID	7/7/2016	20.0	0.0	Point surveyed within Tolerance
210	685665.80	602833.30	19.5	GRID	7/7/2016	19.6	0.1	Point surveyed within Tolerance
211	685644.20	602820.70	19.0	GRID	7/7/2016	19.1	0.1	Point surveyed within Tolerance
212	685622.70	602808.10	18.6	GRID	7/7/2016	18.6	0.0	Point surveyed within Tolerance
213	685601.10	602795.40	18.8	GRID	7/7/2016	18.7	-0.1	Point surveyed within Tolerance
214	685579.50	602782.80	18.2	GRID	7/7/2016	18.2	0.0	Point surveyed within Tolerance
215	685566.90	602804.40	18.1	GRID	7/8/2016	18.1	0.0	Point surveyed within Tolerance
216	685588.50	602817.00	18.8	GRID	7/8/2016	18.7	-0.1	Point surveyed within Tolerance
217	685610.00	602829.70	18.6	GRID	7/8/2016	18.5	-0.1	Point surveyed within Tolerance
218	685631.60	602842.30	19.0	GRID	7/8/2016	19.0	0.0	Point surveyed within Tolerance
219	685653.20	602854.90	19.5	GRID	7/8/2016	19.6	0.1	Point surveyed within Tolerance
220	685674.80	602867.50	20.0	GRID	7/8/2016	20.0	0.0	Point surveyed within Tolerance
221	685696.30	602880.20	20.2	GRID	7/8/2016	20.2	0.0	Point surveyed within Tolerance
222	685717.90	602892.80	19.6	GRID	7/8/2016	19.7	0.1	Point surveyed within Tolerance
223	685739.50	602905.40	19.0	GRID	7/8/2016	18.9	-0.1	Point surveyed within Tolerance
224	685761.10	602918.10	18.3	GRID	7/8/2016	18.3	0.0	Point surveyed within Tolerance
225	685748.40	602939.60	18.4	GRID	7/8/2016	18.5	0.1	Point surveyed within Tolerance
226	685726.80	602927.00	19.0	GRID	7/8/2016	19.0	0.0	Point surveyed within Tolerance
227	685705.30	602914.40	19.6	GRID	7/8/2016	19.5	-0.1	Point surveyed within Tolerance
228	685683.70	602901.80	20.2	GRID	7/8/2016	20.1	-0.1	Point surveyed within Tolerance
229	685662.10	602889.10	20.0	GRID	7/8/2016	20.0	0.0	Point surveyed within Tolerance
230	685640.50	602876.50	19.5	GRID	7/8/2016	19.5	0.0	Point surveyed within Tolerance
231	685619.00	602863.90	19.0	GRID	7/8/2016	19.1	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.6)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
232	685597.40	602851.20	18.6	GRID	7/8/2016	18.6	0.0	Point surveyed within Tolerance
233	685575.80	602838.60	18.8	GRID	7/8/2016	18.8	0.0	Point surveyed within Tolerance
234	685554.30	602826.00	18.0	GRID	7/8/2016	18.1	0.1	Point surveyed within Tolerance
235	685541.60	602847.50	17.9	GRID	7/8/2016	17.9	0.0	Point surveyed within Tolerance
236	685563.20	602860.20	18.7	GRID	7/8/2016	18.7	0.0	Point surveyed within Tolerance
237	685584.80	602872.80	18.6	GRID	7/8/2016	18.6	0.0	Point surveyed within Tolerance
238	685606.30	602885.40	19.0	GRID	7/8/2016	19.0	0.0	Point surveyed within Tolerance
239	685627.90	602898.10	19.5	GRID	7/8/2016	19.5	0.0	Point surveyed within Tolerance
240	685649.50	602910.70	20.0	GRID	7/8/2016	20.0	0.0	Point surveyed within Tolerance
241	685671.10	602923.30	20.2	GRID	7/8/2016	20.2	0.0	Point surveyed within Tolerance
242	685692.60	602936.00	19.6	GRID	7/8/2016	19.6	0.0	Point surveyed within Tolerance
243	685714.20	602948.60	19.0	GRID	7/8/2016	19.0	0.0	Point surveyed within Tolerance
244	685735.80	602961.20	18.5	GRID	7/8/2016	18.5	0.0	Point surveyed within Tolerance
245	685723.20	602982.80	18.5	GRID	7/8/2016	18.5	0.0	Point surveyed within Tolerance
246	685701.60	602970.20	19.0	GRID	7/8/2016	19.1	0.1	Point surveyed within Tolerance
247	685680.00	602957.50	19.6	GRID	7/8/2016	19.6	0.0	Point surveyed within Tolerance
248	685658.40	602944.90	20.2	GRID	7/8/2016	20.1	-0.1	Point surveyed within Tolerance
249	685636.90	602932.30	20.0	GRID	7/8/2016	19.9	-0.1	Point surveyed within Tolerance
250	685615.30	602919.60	19.5	GRID	7/8/2016	19.6	0.1	Point surveyed within Tolerance
251	685593.70	602907.00	19.0	GRID	7/8/2016	19.1	0.1	Point surveyed within Tolerance
252	685572.10	602894.40	18.6	GRID	7/8/2016	18.6	0.0	Point surveyed within Tolerance
253	685550.60	602881.70	18.6	GRID	7/8/2016	18.5	-0.1	Point surveyed within Tolerance
254	685529.00	602869.10	17.7	GRID	7/8/2016	17.7	0.0	Point surveyed within Tolerance
255	685516.40	602890.70	17.6	GRID	7/12/2016	17.6	0.0	Point surveyed within Tolerance
256	685537.90	602903.30	18.6	GRID	7/12/2016	18.5	-0.1	Point surveyed within Tolerance
257	685559.50	602915.90	18.7	GRID	7/12/2016	18.6	-0.1	Point surveyed within Tolerance
258	685581.10	602928.60	19.0	GRID	7/12/2016	19.0	0.0	Point surveyed within Tolerance
259	685602.70	602941.20	19.5	GRID	7/12/2016	19.5	0.0	Point surveyed within Tolerance
260	685624.20	602953.80	20.0	GRID	7/12/2016	20.0	0.0	Point surveyed within Tolerance
261	685645.80	602966.50	20.1	GRID	7/12/2016	20.2	0.1	Point surveyed within Tolerance
262	685667.40	602979.10	19.5	GRID	7/12/2016	19.5	0.0	Point surveyed within Tolerance
263	685689.00	602991.70	18.8	GRID	7/12/2016	18.8	0.0	Point surveyed within Tolerance
264	685710.50	603004.40	18.5	GRID	7/12/2016	18.5	0.0	Point surveyed within Tolerance
265	685697.90	603025.90	18.4	GRID	7/12/2016	18.5	0.1	Point surveyed within Tolerance
266	685676.30	603013.30	18.6	GRID	7/12/2016	18.5	-0.1	Point surveyed within Tolerance
267	685654.70	603000.70	19.5	GRID	7/12/2016	19.5	0.0	Point surveyed within Tolerance
268	685633.20	602988.00	20.1	GRID	7/12/2016	20.0	-0.1	Point surveyed within Tolerance
269	685611.60	602975.40	20.0	GRID	7/12/2016	20.0	0.0	Point surveyed within Tolerance
270	685590.00	602962.80	19.5	GRID	7/12/2016	19.5	0.0	Point surveyed within Tolerance
271	685568.40	602950.20	19.0	GRID	7/12/2016	19.0	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.7)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
272	685546.90	602937.50	18.6	GRID	7/12/2016	18.6	0.0	Point surveyed within Tolerance
273	685525.30	602924.90	18.1	GRID	7/12/2016	18.1	0.0	Point surveyed within Tolerance
274	685503.70	602912.30	17.4	GRID	7/12/2016	17.4	0.0	Point surveyed within Tolerance
275	685491.10	602933.80	17.2	GRID	7/12/2016	17.2	0.0	Point surveyed within Tolerance
276	685512.70	602946.50	18.2	GRID	7/12/2016	18.2	0.0	Point surveyed within Tolerance
277	685577.40	602984.40	19.5	GRID	7/12/2016	19.5	0.0	Point surveyed within Tolerance
278	685599.00	602997.00	20.0	GRID	7/12/2016	19.9	-0.1	Point surveyed within Tolerance
279	685620.50	603009.60	20.0	GRID	7/12/2016	20.0	0.0	Point surveyed within Tolerance
280	685642.10	603022.30	19.4	GRID	7/12/2016	19.5	0.1	Point surveyed within Tolerance
281	685663.70	603034.90	18.2	GRID	7/12/2016	18.2	0.0	Point surveyed within Tolerance
282	685685.30	603047.50	18.3	GRID	7/12/2016	18.3	0.0	Point surveyed within Tolerance
283	685672.60	603069.10	18.1	GRID	7/13/2016	18.1	0.0	Point surveyed within Tolerance
284	685651.10	603056.50	17.9	GRID	7/13/2016	18.0	0.1	Point surveyed within Tolerance
285	685629.50	603043.80	21.7	GRID	7/13/2016	21.6	-0.1	Point surveyed within Tolerance
286	685607.90	603031.20	19.8	GRID	7/13/2016	19.8	0.0	Point surveyed within Tolerance
287	685586.30	603018.60	19.9	GRID	7/13/2016	19.8	-0.1	Point surveyed within Tolerance
288	685564.80	603005.90	19.3	GRID	7/13/2016	19.4	0.1	Point surveyed within Tolerance
289	685543.20	602993.30	21.5	GRID	7/13/2016	21.5	0.0	Point surveyed within Tolerance
290	685521.60	602980.70	21.0	GRID	7/13/2016	21.0	0.0	Point surveyed within Tolerance
291	685478.50	602955.40	16.9	GRID	7/13/2016	17.0	0.1	Point surveyed within Tolerance
292	685500.00	602968.00	18.0	GRID	7/13/2016	18.0	0.0	Point surveyed within Tolerance
293	685465.80	602977.00	16.7	GRID	7/13/2016	16.7	0.0	Point surveyed within Tolerance
294	685487.40	602989.60	17.8	GRID	7/13/2016	17.9	0.1	Point surveyed within Tolerance
295	685509.00	603002.20	20.8	GRID	7/13/2016	20.9	0.1	Point surveyed within Tolerance
296	685552.10	603027.50	18.9	GRID	7/13/2016	19.0	0.1	Point surveyed within Tolerance
297	685573.70	603040.10	18.9	GRID	7/13/2016	19.0	0.1	Point surveyed within Tolerance
298	685595.30	603052.80	21.4	GRID	7/13/2016	21.3	-0.1	Point surveyed within Tolerance
299	685616.90	603065.40	21.2	GRID	7/13/2016	21.3	0.1	Point surveyed within Tolerance
300	685638.40	603078.00	17.7	GRID	7/13/2016	17.7	0.0	Point surveyed within Tolerance
301	685660.00	603090.70	17.8	GRID	7/13/2016	17.9	0.1	Point surveyed within Tolerance
302	685647.40	603112.20	17.5	GRID	7/13/2016	17.4	-0.1	Point surveyed within Tolerance
303	685625.80	603099.60	17.3	GRID	7/13/2016	17.3	0.0	Point surveyed within Tolerance
304	685604.20	603087.00	17.9	GRID	7/13/2016	17.9	0.0	Point surveyed within Tolerance
305	685582.60	603074.30	20.5	GRID	7/13/2016	20.5	0.0	Point surveyed within Tolerance
306	685561.10	603061.70	18.3	GRID	7/13/2016	18.4	0.1	Point surveyed within Tolerance
307	685539.50	603049.10	18.5	GRID	7/13/2016	18.5	0.0	Point surveyed within Tolerance
308	685517.90	603036.50	18.4	GRID	7/13/2016	18.5	0.1	Point surveyed within Tolerance
309	685496.30	603023.80	20.5	GRID	7/13/2016	20.5	0.0	Point surveyed within Tolerance
310	685474.80	603011.20	17.5	GRID	7/13/2016	17.5	0.0	Point surveyed within Tolerance
311	685453.20	602998.60	16.4	GRID	7/13/2016	16.5	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.8)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
312	685440.60	603020.10	16.2	GRID	7/13/2016	16.3	0.1	Point surveyed within Tolerance
313	685462.10	603032.80	17.0	GRID	7/13/2016	17.0	0.0	Point surveyed within Tolerance
314	685483.70	603045.40	19.7	GRID	7/13/2016	19.8	0.1	Point surveyed within Tolerance
315	685526.90	603070.70	19.9	GRID	7/13/2016	19.9	0.0	Point surveyed within Tolerance
316	685548.40	603083.30	19.7	GRID	7/13/2016	19.8	0.1	Point surveyed within Tolerance
317	685570.00	603095.90	19.5	GRID	7/13/2016	19.5	0.0	Point surveyed within Tolerance
318	685591.60	603108.60	17.0	GRID	7/13/2016	17.0	0.0	Point surveyed within Tolerance
319	685613.20	603121.20	16.9	GRID	7/13/2016	16.9	0.0	Point surveyed within Tolerance
320	685634.70	603133.80	17.2	GRID	7/13/2016	17.1	-0.1	Point surveyed within Tolerance
321	685622.10	603155.40	16.9	GRID	7/15/2016	16.9	0.0	Point surveyed within Tolerance
322	685600.50	603142.80	16.4	GRID	7/15/2016	16.5	0.1	Point surveyed within Tolerance
323	685579.00	603130.10	18.9	GRID	7/15/2016	18.8	-0.1	Point surveyed within Tolerance
324	685557.40	603117.50	18.6	GRID	7/15/2016	18.7	0.1	Point surveyed within Tolerance
325	685535.80	603104.90	18.7	GRID	7/15/2016	18.8	0.1	Point surveyed within Tolerance
326	685514.20	603092.20	18.9	GRID	7/15/2016	18.9	0.0	Point surveyed within Tolerance
327	685492.70	603079.60	16.6	GRID	7/15/2016	16.7	0.1	Point surveyed within Tolerance
328	685449.50	603054.30	19.1	GRID	7/15/2016	19.1	0.0	Point surveyed within Tolerance
329	685427.90	603041.70	15.9	GRID	7/15/2016	16.0	0.1	Point surveyed within Tolerance
330	685415.30	603063.30	15.7	GRID	7/15/2016	15.7	0.0	Point surveyed within Tolerance
331	685436.90	603075.90	15.9	GRID	7/15/2016	15.9	0.0	Point surveyed within Tolerance
332	685458.50	603088.50	15.7	GRID	7/15/2016	15.7	0.0	Point surveyed within Tolerance
333	685480.00	603101.20	15.2	GRID	7/15/2016	15.2	0.0	Point surveyed within Tolerance
334	685501.60	603113.80	15.1	GRID	7/15/2016	15.2	0.1	Point surveyed within Tolerance
335	685523.20	603126.40	15.0	GRID	7/15/2016	15.0	0.0	Point surveyed within Tolerance
336	685544.80	603139.10	15.1	GRID	7/15/2016	15.2	0.1	Point surveyed within Tolerance
337	685566.30	603151.70	15.8	GRID	7/15/2016	15.9	0.1	Point surveyed within Tolerance
338	685587.90	603164.30	15.4	GRID	7/18/2016	15.5	0.1	Point surveyed within Tolerance
339	685609.50	603177.00	16.5	GRID	7/18/2016	16.6	0.1	Point surveyed within Tolerance
340	685575.30	603185.90	11.8	GRID	7/21/2016	11.8	0.0	Point surveyed within Tolerance
341	685553.70	603173.30	10.4	GRID	7/21/2016	10.5	0.1	Point surveyed within Tolerance
342	685532.10	603160.60	10.1	GRID	7/21/2016	10.0	-0.1	Point surveyed within Tolerance
343	685510.50	603148.00	9.9	GRID	7/21/2016	9.9	0.0	Point surveyed within Tolerance
344	685424.20	603097.50	15.1	GRID	7/18/2016	15.2	0.1	Point surveyed within Tolerance
345	685390.00	603106.40	9.1	GRID	7/21/2016	9.1	0.0	Point surveyed within Tolerance
346	685411.60	603119.10	9.2	GRID	7/21/2016	9.2	0.0	Point surveyed within Tolerance
347	685433.20	603131.70	9.4	GRID	7/21/2016	9.3	-0.1	Point surveyed within Tolerance
348	685454.80	603144.30	9.5	GRID	7/21/2016	9.4	-0.1	Point surveyed within Tolerance
349	685476.30	603157.00	9.6	GRID	7/21/2016	9.6	0.0	Point surveyed within Tolerance
350	685497.90	603169.60	13.2	GRID	7/21/2016	13.3	0.1	Point surveyed within Tolerance
351	685519.50	603182.20	13.8	GRID	7/21/2016	13.9	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.9)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
352	685541.10	603194.80	14.2	GRID	7/21/2016	14.2	0.0	Point surveyed within Tolerance
353	685562.60	603207.50	14.9	GRID	7/21/2016	14.9	0.0	Point surveyed within Tolerance
354	685584.20	603220.10	15.5	GRID	7/21/2016	15.5	0.0	Point surveyed within Tolerance
355	685571.60	603241.70	14.5	GRID	7/21/2016	14.5	0.0	Point surveyed within Tolerance
356	685550.00	603229.10	14.3	GRID	7/21/2016	14.3	0.0	Point surveyed within Tolerance
357	685506.90	603203.80	17.1	GRID	7/25/2016	17.1	0.0	Point surveyed within Tolerance
358	685485.30	603191.20	14.9	GRID	7/21/2016	14.8	-0.1	Point surveyed within Tolerance
359	685442.10	603165.90	14.4	GRID	7/21/2016	14.5	0.1	Point surveyed within Tolerance
360	685377.40	603128.00	9.1	GRID	7/21/2016	9.0	-0.1	Point surveyed within Tolerance
361	685364.80	603149.60	14.7	GRID	7/21/2016	14.6	-0.1	Point surveyed within Tolerance
362	685386.40	603162.20	15.1	GRID	7/21/2016	15.1	0.0	Point surveyed within Tolerance
363	685407.90	603174.80	14.8	GRID	7/21/2016	14.8	0.0	Point surveyed within Tolerance
364	685429.50	603187.50	14.9	GRID	7/21/2016	14.9	0.0	Point surveyed within Tolerance
365	685451.10	603200.10	14.7	GRID	7/21/2016	14.8	0.1	Point surveyed within Tolerance
366	685494.20	603225.40	17.1	GRID	7/25/2016	17.1	0.0	Point surveyed within Tolerance
367	685515.80	603238.00	14.0	GRID	7/25/2016	14.0	0.0	Point surveyed within Tolerance
368	685537.40	603250.60	13.8	GRID	7/21/2016	13.8	0.0	Point surveyed within Tolerance
369	685524.70	603272.20	13.1	GRID	7/25/2016	13.2	0.1	Point surveyed within Tolerance
370	685503.20	603259.60	13.3	GRID	7/25/2016	13.3	0.0	Point surveyed within Tolerance
371	685481.60	603246.90	14.0	GRID	7/25/2016	14.1	0.1	Point surveyed within Tolerance
372	685460.00	603234.30	14.2	GRID	7/25/2016	14.3	0.1	Point surveyed within Tolerance
373	685438.40	603221.70	17.0	GRID	7/25/2016	16.9	-0.1	Point surveyed within Tolerance
374	685416.90	603209.00	17.2	GRID	7/25/2016	17.2	0.0	Point surveyed within Tolerance
375	685395.30	603196.40	17.4	GRID	7/25/2016	17.4	0.0	Point surveyed within Tolerance
376	685373.70	603183.80	17.7	GRID	7/25/2016	17.6	-0.1	Point surveyed within Tolerance
377	685352.10	603171.10	14.4	GRID	7/25/2016	14.4	0.0	Point surveyed within Tolerance
378	685339.50	603192.70	14.2	GRID	7/25/2016	14.2	0.0	Point surveyed within Tolerance
379	685361.10	603205.40	17.4	GRID	7/25/2016	17.3	-0.1	Point surveyed within Tolerance
380	685382.70	603218.00	17.1	GRID	7/25/2016	17.1	0.0	Point surveyed within Tolerance
381	685404.20	603230.60	16.8	GRID	7/25/2016	16.8	0.0	Point surveyed within Tolerance
382	685425.80	603243.20	16.6	GRID	7/25/2016	16.5	-0.1	Point surveyed within Tolerance
383	685447.40	603255.90	13.8	GRID	7/25/2016	13.7	-0.1	Point surveyed within Tolerance
384	685469.00	603268.50	13.4	GRID	7/25/2016	13.4	0.0	Point surveyed within Tolerance
385	685490.50	603281.10	12.4	GRID	7/25/2016	12.4	0.0	Point surveyed within Tolerance
386	685512.10	603293.80	12.5	GRID	7/25/2016	12.6	0.1	Point surveyed within Tolerance
387	685477.90	603302.70	7.4	GRID	7/25/2016	7.4	0.0	Point surveyed within Tolerance
388	685456.30	603290.10	12.8	GRID	7/25/2016	12.7	-0.1	Point surveyed within Tolerance
389	685434.80	603277.50	13.2	GRID	7/25/2016	13.2	0.0	Point surveyed within Tolerance
390	685413.20	603264.80	16.1	GRID	7/25/2016	16.1	0.0	Point surveyed within Tolerance
391	685391.60	603252.20	16.4	GRID	7/25/2016	16.3	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.10)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
392	685326.90	603214.30	13.9	GRID	7/25/2016	13.9	0.0	Point surveyed within Tolerance
393	685314.30	603235.90	13.7	GRID	7/25/2016	13.7	0.0	Point surveyed within Tolerance
394	685335.80	603248.50	14.2	GRID	7/25/2016	14.1	-0.1	Point surveyed within Tolerance
395	685357.40	603261.10	13.7	GRID	7/25/2016	13.6	-0.1	Point surveyed within Tolerance
396	685379.00	603273.80	13.3	GRID	7/25/2016	13.2	-0.1	Point surveyed within Tolerance
397	685400.50	603286.40	13.0	GRID	7/25/2016	12.9	-0.1	Point surveyed within Tolerance
398	685422.10	603299.00	12.6	GRID	7/25/2016	12.5	-0.1	Point surveyed within Tolerance
399	685443.70	603311.70	12.1	GRID	7/25/2016	12.1	0.0	Point surveyed within Tolerance
400	685465.30	603324.30	11.0	GRID	7/25/2016	11.0	0.0	Point surveyed within Tolerance
401	685486.80	603336.90	11.4	GRID	7/25/2016	11.4	0.0	Point surveyed within Tolerance
402	685474.20	603358.50	10.9	GRID	7/27/2016	10.8	-0.1	Point surveyed within Tolerance
403	685452.60	603345.90	10.4	GRID	7/27/2016	10.4	0.0	Point surveyed within Tolerance
404	685431.10	603333.20	11.4	GRID	7/27/2016	11.4	0.0	Point surveyed within Tolerance
405	685409.50	603320.60	11.9	GRID	7/27/2016	11.9	0.0	Point surveyed within Tolerance
406	685387.90	603308.00	12.3	GRID	7/27/2016	12.3	0.0	Point surveyed within Tolerance
407	685366.30	603295.30	15.2	GRID	7/27/2016	15.1	-0.1	Point surveyed within Tolerance
408	685344.80	603282.70	15.6	GRID	7/27/2016	15.5	-0.1	Point surveyed within Tolerance
409	685323.20	603270.10	16.4	GRID	7/27/2016	16.3	-0.1	Point surveyed within Tolerance
410	685301.60	603257.40	13.4	GRID	7/27/2016	13.5	0.1	Point surveyed within Tolerance
411	685289.00	603279.00	13.3	GRID	7/27/2016	13.2	-0.1	Point surveyed within Tolerance
412	685310.60	603291.70	16.0	GRID	7/27/2016	15.9	-0.1	Point surveyed within Tolerance
413	685332.10	603304.30	15.2	GRID	7/27/2016	15.2	0.0	Point surveyed within Tolerance
414	685353.70	603316.90	14.5	GRID	7/27/2016	14.6	0.1	Point surveyed within Tolerance
415	685375.30	603329.50	11.6	GRID	7/27/2016	11.6	0.0	Point surveyed within Tolerance
416	685440.00	603367.40	9.8	GRID	7/27/2016	9.8	0.0	Point surveyed within Tolerance
417	685461.60	603380.10	10.4	GRID	7/27/2016	10.4	0.0	Point surveyed within Tolerance
418	685427.40	603389.00	9.3	GRID	7/27/2016	9.3	0.0	Point surveyed within Tolerance
419	685405.80	603376.40	9.8	GRID	7/27/2016	9.7	-0.1	Point surveyed within Tolerance
420	685384.20	603363.80	13.0	GRID	7/27/2016	13.0	0.0	Point surveyed within Tolerance
421	685362.70	603351.10	13.5	GRID	7/27/2016	13.4	-0.1	Point surveyed within Tolerance
422	685341.10	603338.50	14.2	GRID	7/27/2016	14.1	-0.1	Point surveyed within Tolerance
423	685319.50	603325.90	14.8	GRID	7/27/2016	14.7	-0.1	Point surveyed within Tolerance
424	685297.90	603313.20	15.6	GRID	7/27/2016	15.6	0.0	Point surveyed within Tolerance
425	685276.40	603300.60	13.2	GRID	7/27/2016	13.2	0.0	Point surveyed within Tolerance
426	685254.80	603288.00	13.2	GRID	7/27/2016	13.1	-0.1	Point surveyed within Tolerance
427	685242.20	603309.50	12.8	GRID	7/27/2016	12.8	0.0	Point surveyed within Tolerance
428	685263.70	603322.20	13.0	GRID	7/27/2016	13.0	0.0	Point surveyed within Tolerance
429	685285.30	603334.80	15.1	GRID	7/27/2016	15.1	0.0	Point surveyed within Tolerance
430	685306.90	603347.40	14.4	GRID	7/27/2016	14.4	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.11)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
431	685328.40	603360.10	13.8	GRID	7/27/2016	13.7	-0.1	Point surveyed within Tolerance
432	685350.00	603372.70	13.1	GRID	7/27/2016	13.1	0.0	Point surveyed within Tolerance
433	685371.60	603385.30	12.5	GRID	7/27/2016	12.4	-0.1	Point surveyed within Tolerance
434	685393.20	603398.00	9.0	GRID	7/27/2016	8.9	-0.1	Point surveyed within Tolerance
435	685414.70	603410.60	8.8	GRID	7/27/2016	8.8	0.0	Point surveyed within Tolerance
436	685402.10	603432.20	8.3	GRID	7/27/2016	8.3	0.0	Point surveyed within Tolerance
437	685380.50	603419.50	8.2	GRID	7/27/2016	8.3	0.1	Point surveyed within Tolerance
438	685359.00	603406.90	12.0	GRID	7/27/2016	11.9	-0.1	Point surveyed within Tolerance
439	685337.40	603394.30	12.8	GRID	7/27/2016	12.7	-0.1	Point surveyed within Tolerance
440	685294.20	603369.00	14.1	GRID	7/27/2016	14.0	-0.1	Point surveyed within Tolerance
441	685272.70	603356.40	14.7	GRID	7/27/2016	14.7	0.0	Point surveyed within Tolerance
442	685251.10	603343.70	12.9	GRID	7/27/2016	12.9	0.0	Point surveyed within Tolerance
443	685229.50	603331.10	12.5	GRID	7/27/2016	12.5	0.0	Point surveyed within Tolerance
444	685216.90	603352.70	12.1	GRID	7/27/2016	12.1	0.0	Point surveyed within Tolerance
445	685260.00	603377.90	14.3	GRID	7/27/2016	14.3	0.0	Point surveyed within Tolerance
446	685281.60	603390.60	11.0	GRID	7/27/2016	10.9	-0.1	Point surveyed within Tolerance
447	685303.20	603403.20	10.5	GRID	7/27/2016	10.6	0.1	Point surveyed within Tolerance
448	685324.80	603415.80	12.3	GRID	7/27/2016	12.3	0.0	Point surveyed within Tolerance
449	685346.30	603428.50	11.4	GRID	7/27/2016	11.3	-0.1	Point surveyed within Tolerance
450	685367.90	603441.10	7.5	GRID	7/27/2016	7.6	0.1	Point surveyed within Tolerance
451	685389.50	603453.70	7.9	GRID	8/3/2016	7.8	-0.1	Point surveyed within Tolerance
452	685376.90	603475.30	5.9	GRID	8/3/2016	6.0	0.1	Point surveyed within Tolerance
453	685355.30	603462.70	6.1	GRID	8/3/2016	6.2	0.1	Point surveyed within Tolerance
454	685333.70	603450.00	8.3	GRID	7/27/2016	8.4	0.1	Point surveyed within Tolerance
455	685312.10	603437.40	9.0	GRID	7/27/2016	9.0	0.0	Point surveyed within Tolerance
456	685290.60	603424.80	9.4	GRID	7/27/2016	9.4	0.0	Point surveyed within Tolerance
457	685269.00	603412.20	9.9	GRID	7/27/2016	9.9	0.0	Point surveyed within Tolerance
458	685247.40	603399.50	10.5	GRID	7/27/2016	10.5	0.0	Point surveyed within Tolerance
459	685225.80	603386.90	11.2	GRID	7/27/2016	11.2	0.0	Point surveyed within Tolerance
460	685204.30	603374.30	11.4	GRID	7/27/2016	11.4	0.0	Point surveyed within Tolerance
461	685170.10	603383.20	11.4	GRID	8/3/2016	11.4	0.0	Point surveyed within Tolerance
462	685191.60	603395.80	10.5	GRID	8/3/2016	10.5	0.0	Point surveyed within Tolerance
463	685213.20	603408.50	9.7	GRID	8/3/2016	9.6	-0.1	Point surveyed within Tolerance
464	685234.80	603421.10	8.9	GRID	8/3/2016	8.9	0.0	Point surveyed within Tolerance
465	685256.30	603433.70	8.2	GRID	8/3/2016	8.2	0.0	Point surveyed within Tolerance
466	685277.90	603446.40	7.6	GRID	8/3/2016	7.5	-0.1	Point surveyed within Tolerance
467	685299.50	603459.00	6.9	GRID	8/3/2016	6.9	0.0	Point surveyed within Tolerance
468	685321.10	603471.60	6.7	GRID	8/3/2016	6.7	0.0	Point surveyed within Tolerance
469	685342.60	603484.30	6.2	GRID	8/3/2016	6.2	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.12)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
470	685364.20	603496.90	7.2	GRID	8/3/2016	7.1	-0.1	Point surveyed within Tolerance
471	685330.00	603505.80	6.7	GRID	8/5/2016	6.6	-0.1	Point surveyed within Tolerance
472	685308.40	603493.20	6.7	GRID	8/5/2016	6.7	0.0	Point surveyed within Tolerance
473	685286.90	603480.60	6.7	GRID	8/5/2016	6.6	-0.1	Point surveyed within Tolerance
474	685265.30	603467.90	7.1	GRID	8/5/2016	7.0	-0.1	Point surveyed within Tolerance
475	685243.70	603455.30	7.9	GRID	8/5/2016	7.9	0.0	Point surveyed within Tolerance
476	685222.10	603442.70	8.8	GRID	8/5/2016	8.7	-0.1	Point surveyed within Tolerance
477	685200.60	603430.00	9.6	GRID	8/5/2016	9.5	-0.1	Point surveyed within Tolerance
478	685179.00	603417.40	10.4	GRID	8/5/2016	10.5	0.1	Point surveyed within Tolerance
479	685157.40	603404.80	11.2	GRID	8/5/2016	11.3	0.1	Point surveyed within Tolerance
480	685144.80	603426.40	11.3	GRID	8/5/2016	11.2	-0.1	Point surveyed within Tolerance
481	685166.40	603439.00	11.1	GRID	8/5/2016	11.2	0.1	Point surveyed within Tolerance
482	685187.90	603451.60	10.2	GRID	8/5/2016	10.2	0.0	Point surveyed within Tolerance
483	685209.50	603464.20	9.6	GRID	8/5/2016	9.5	-0.1	Point surveyed within Tolerance
484	685231.10	603476.90	8.4	GRID	8/5/2016	8.5	0.1	Point surveyed within Tolerance
485	685252.70	603489.50	7.4	GRID	8/5/2016	7.4	0.0	Point surveyed within Tolerance
486	685274.20	603502.10	6.7	GRID	8/5/2016	6.6	-0.1	Point surveyed within Tolerance
487	685295.80	603514.80	6.6	GRID	8/5/2016	6.5	-0.1	Point surveyed within Tolerance
488	685317.40	603527.40	6.8	GRID	8/5/2016	6.7	-0.1	Point surveyed within Tolerance
489	685304.80	603549.00	6.6	GRID	8/5/2016	6.5	-0.1	Point surveyed within Tolerance
490	685283.20	603536.30	6.4	GRID	8/5/2016	6.3	-0.1	Point surveyed within Tolerance
491	685261.60	603523.70	7.9	GRID	8/5/2016	7.8	-0.1	Point surveyed within Tolerance
492	685240.00	603511.10	8.5	GRID	8/5/2016	8.5	0.0	Point surveyed within Tolerance
493	685218.50	603498.50	11.6	GRID	8/5/2016	11.5	-0.1	Point surveyed within Tolerance
494	685196.90	603485.80	12.1	GRID	8/5/2016	12.1	0.0	Point surveyed within Tolerance
495	685175.30	603473.20	10.5	GRID	8/5/2016	10.5	0.0	Point surveyed within Tolerance
496	685153.80	603460.40	11.7	GRID	8/5/2016	11.6	-0.1	Point surveyed within Tolerance
497	685132.20	603447.90	10.9	GRID	8/5/2016	10.9	0.0	Point surveyed within Tolerance
498	685119.50	603469.50	10.6	GRID	8/5/2016	10.5	-0.1	Point surveyed within Tolerance
499	685141.10	603482.10	11.0	GRID	8/5/2016	11.0	0.0	Point surveyed within Tolerance
500	685162.70	603494.80	13.3	GRID	8/5/2016	13.2	-0.1	Point surveyed within Tolerance
501	685184.20	603507.40	12.7	GRID	8/5/2016	12.6	-0.1	Point surveyed within Tolerance
502	685205.80	603520.00	12.2	GRID	8/5/2016	12.1	-0.1	Point surveyed within Tolerance
503	685249.00	603545.30	7.4	GRID	8/5/2016	7.3	-0.1	Point surveyed within Tolerance
504	685270.50	603557.90	6.0	GRID	8/5/2016	5.9	-0.1	Point surveyed within Tolerance
505	685292.10	603570.60	6.6	GRID	8/5/2016	6.5	-0.1	Point surveyed within Tolerance
506	685279.50	603592.10	5.8	GRID	8/9/2016	5.8	0.0	Point surveyed within Tolerance
507	685257.90	603579.50	5.2	GRID	8/9/2016	5.2	0.0	Point surveyed within Tolerance
508	685236.30	603566.90	6.8	GRID	8/9/2016	6.7	-0.1	Point surveyed within Tolerance
509	685193.20	603541.60	12.1	GRID	8/9/2016	12.0	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.13)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
510	685171.60	603529.00	12.6	GRID	8/9/2016	12.5	-0.1	Point surveyed within Tolerance
511	685150.00	603516.30	13.2	GRID	8/9/2016	13.1	-0.1	Point surveyed within Tolerance
512	685128.50	603503.70	13.7	GRID	8/9/2016	13.6	-0.1	Point surveyed within Tolerance
513	685106.90	603491.10	10.5	GRID	8/9/2016	10.4	-0.1	Point surveyed within Tolerance
514	685072.70	603500.00	10.4	GRID	8/9/2016	10.3	-0.1	Point surveyed within Tolerance
515	685094.30	603512.60	10.5	GRID	8/9/2016	10.4	-0.1	Point surveyed within Tolerance
516	685115.80	603525.30	13.3	GRID	8/9/2016	13.2	-0.1	Point surveyed within Tolerance
517	685137.40	603537.90	12.9	GRID	8/9/2016	12.8	-0.1	Point surveyed within Tolerance
518	685159.00	603550.50	12.4	GRID	8/9/2016	12.4	0.0	Point surveyed within Tolerance
519	685180.60	603563.20	11.5	GRID	8/9/2016	11.4	-0.1	Point surveyed within Tolerance
520	685202.10	603575.80	7.9	GRID	8/9/2016	7.8	-0.1	Point surveyed within Tolerance
521	685223.70	603588.40	5.9	GRID	8/9/2016	5.9	0.0	Point surveyed within Tolerance
522	685245.30	603601.10	5.1	GRID	8/9/2016	5.0	-0.1	Point surveyed within Tolerance
523	685266.90	603613.70	6.2	GRID	8/9/2016	6.2	0.0	Point surveyed within Tolerance
524	685232.70	603622.60	5.0	GRID	8/9/2016	5.0	0.0	Point surveyed within Tolerance
525	685211.10	603610.00	5.5	GRID	8/9/2016	5.4	-0.1	Point surveyed within Tolerance
526	685189.50	603597.40	7.4	GRID	8/9/2016	7.4	0.0	Point surveyed within Tolerance
527	685167.90	603584.70	8.6	GRID	8/9/2016	8.5	-0.1	Point surveyed within Tolerance
528	685124.80	603559.50	12.6	GRID	8/9/2016	12.5	-0.1	Point surveyed within Tolerance
529	685103.20	603546.90	13.0	GRID	8/9/2016	12.9	-0.1	Point surveyed within Tolerance
530	685081.60	603534.20	10.5	GRID	8/9/2016	10.4	-0.1	Point surveyed within Tolerance
531	685060.10	603521.60	10.0	GRID	8/9/2016	9.9	-0.1	Point surveyed within Tolerance
532	685047.40	603543.20	9.7	GRID	8/9/2016	9.6	-0.1	Point surveyed within Tolerance
533	685090.60	603568.40	10.2	GRID	8/10/2016	10.9	0.7	Material Added to Facilitate Drainage
534	685112.10	603581.10	12.1	GRID	8/9/2016	12.1	0.0	Point surveyed within Tolerance
535	685133.70	603593.70	11.8	GRID	8/9/2016	11.7	-0.1	Point surveyed within Tolerance
536	685176.90	603619.00	7.0	GRID	8/9/2016	7.1	0.1	Point surveyed within Tolerance
537	685198.40	603631.60	5.1	GRID	8/9/2016	5.1	0.0	Point surveyed within Tolerance
538	685220.00	603644.20	5.1	GRID	8/9/2016	5.0	-0.1	Point surveyed within Tolerance
539	685207.40	603665.80	5.1	GRID	8/10/2016	5.0	-0.1	Point surveyed within Tolerance
540	685185.80	603653.20	4.9	GRID	8/10/2016	4.8	-0.1	Point surveyed within Tolerance
541	685164.20	603640.50	6.4	GRID	8/10/2016	6.4	0.0	Point surveyed within Tolerance
542	685121.10	603615.30	11.4	GRID	8/10/2016	11.4	0.0	Point surveyed within Tolerance
543	685099.50	603602.60	11.4	GRID	8/10/2016	11.3	-0.1	Point surveyed within Tolerance
544	685077.90	603590.00	11.9	GRID	8/10/2016	11.9	0.0	Point surveyed within Tolerance
545	685056.40	603577.40	12.7	GRID	8/10/2016	12.6	-0.1	Point surveyed within Tolerance
546	685034.80	603564.70	9.4	GRID	8/10/2016	9.4	0.0	Point surveyed within Tolerance
547	685022.20	603586.30	9.2	GRID	8/10/2016	9.3	0.1	Point surveyed within Tolerance
548	685043.70	603598.90	9.3	GRID	8/10/2016	9.2	-0.1	Point surveyed within Tolerance
549	685065.30	603611.60	8.5	GRID	8/10/2016	8.4	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Grid Points (Table 1.14)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
550	685086.90	603624.20	8.0	GRID	8/10/2016	8.0	0.0	Point surveyed within Tolerance
551	685108.50	603636.80	7.3	GRID	8/10/2016	7.2	-0.1	Point surveyed within Tolerance
552	685130.00	603649.50	6.7	GRID	8/10/2016	6.6	-0.1	Point surveyed within Tolerance
553	685151.60	603662.10	6.0	GRID	8/10/2016	6.0	0.0	Point surveyed within Tolerance
554	685173.20	603674.70	4.9	GRID	8/10/2016	4.8	-0.1	Point surveyed within Tolerance
555	685194.80	603687.40	4.7	GRID	8/10/2016	4.8	0.1	Point surveyed within Tolerance
556	685182.10	603708.90	5.9	GRID	8/10/2016	6.0	0.1	Point surveyed within Tolerance
557	685160.60	603696.30	4.8	GRID	8/12/2016	4.8	0.0	Point surveyed within Tolerance
558	685139.00	603683.70	4.9	GRID	8/10/2016	4.8	-0.1	Point surveyed within Tolerance
559	685117.40	603671.00	5.4	GRID	8/10/2016	5.3	-0.1	Point surveyed within Tolerance
560	685095.80	603658.40	6.0	GRID	8/10/2016	5.9	-0.1	Point surveyed within Tolerance
561	685074.30	603645.80	6.5	GRID	8/10/2016	6.5	0.0	Point surveyed within Tolerance
562	685052.70	603633.10	7.0	GRID	8/10/2016	7.1	0.1	Point surveyed within Tolerance
563	685031.10	603620.50	7.8	GRID	8/10/2016	7.7	-0.1	Point surveyed within Tolerance
564	685009.50	603607.90	8.5	GRID	8/10/2016	8.4	-0.1	Point surveyed within Tolerance
565	684988.00	603595.30	8.9	GRID	8/12/2016	8.9	0.0	Point surveyed within Tolerance
566	684975.30	603616.80	8.3	GRID	8/12/2016	8.2	-0.1	Point surveyed within Tolerance
567	684996.90	603629.50	7.8	GRID	8/12/2016	7.8	0.0	Point surveyed within Tolerance
568	685018.50	603642.10	7.4	GRID	8/12/2016	7.3	-0.1	Point surveyed within Tolerance
569	685040.00	603654.70	6.9	GRID	8/12/2016	6.9	0.0	Point surveyed within Tolerance
570	685061.60	603667.40	6.4	GRID	8/12/2016	6.3	-0.1	Point surveyed within Tolerance
571	685083.20	603680.00	5.9	GRID	8/12/2016	5.8	-0.1	Point surveyed within Tolerance
572	685104.80	603692.60	5.5	GRID	8/13/2016	5.4	-0.1	Point surveyed within Tolerance
573	685126.30	603705.20	5.0	GRID	8/13/2016	4.9	-0.1	Point surveyed within Tolerance
574	685147.90	603717.90	4.8	GRID	8/13/2016	4.7	-0.1	Point surveyed within Tolerance
576	685005.80	603663.70	7.3	GRID	8/12/2016	7.2	-0.1	Point surveyed within Tolerance
577	684984.30	603651.00	7.8	GRID	8/12/2016	7.8	0.0	Point surveyed within Tolerance
578	684962.70	603638.40	8.3	GRID	8/12/2016	8.3	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Break Points (Table 2.0)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2000	685963.50	602222.90	12.5	BRK	6/20/2016	12.6	0.1	Point surveyed within Tolerance
2001	685959.20	602225.00	15.0	BRK	6/20/2016	14.9	-0.1	Point surveyed within Tolerance
2002	686044.60	602255.10	11.4	BRK	6/20/2016	11.3	-0.1	Point surveyed within Tolerance
2003	685995.00	602272.90	12.5	BRK	6/20/2016	12.6	0.1	Point surveyed within Tolerance
2004	685991.80	602271.00	15.0	BRK	6/20/2016	14.9	-0.1	Point surveyed within Tolerance
2005	685981.30	602293.80	15.3	BRK	6/20/2016	15.2	-0.1	Point surveyed within Tolerance
2006	685984.60	602295.70	12.8	BRK	6/20/2016	12.7	-0.1	Point surveyed within Tolerance
2007	685937.00	602325.80	15.9	BRK	6/23/2016	15.9	0.0	Point surveyed within Tolerance
2008	685933.30	602323.70	13.5	BRK	6/23/2016	13.5	0.0	Point surveyed within Tolerance
2009	685852.20	602416.10	17.7	BRK	6/27/2016	17.6	-0.1	Point surveyed within Tolerance
2010	685936.60	602267.70	13.0	BRK	6/20/2016	13.1	0.1	Point surveyed within Tolerance
2011	685940.00	602269.70	15.5	BRK	6/20/2016	15.4	-0.1	Point surveyed within Tolerance
2012	685849.90	602420.00	15.3	BRK	6/27/2016	15.3	0.0	Point surveyed within Tolerance
2013	685796.10	602561.30	18.5	BRK	6/29/2016	18.5	0.0	Point surveyed within Tolerance
2014	685794.20	602564.60	16.0	BRK	6/29/2016	16.1	0.1	Point surveyed within Tolerance
2015	685850.40	602564.80	18.3	BRK	6/27/2016	18.2	-0.1	Point surveyed within Tolerance
2016	685854.00	602566.90	15.7	BRK	6/27/2016	15.8	0.1	Point surveyed within Tolerance
2017	685836.80	602585.80	18.4	BRK	6/29/2016	18.3	-0.1	Point surveyed within Tolerance
2018	685840.10	602587.70	15.9	BRK	6/29/2016	15.9	0.0	Point surveyed within Tolerance
2019	685920.10	602349.50	16.2	BRK	6/23/2016	16.2	0.0	Point surveyed within Tolerance
2020	685922.60	602345.30	13.7	BRK	6/23/2016	13.7	0.0	Point surveyed within Tolerance
2021	685856.30	602313.50	8.6	BRK	6/23/2016	8.6	0.0	Point surveyed within Tolerance
2022	685851.30	602322.10	8.6	BRK	6/23/2016	8.7	0.1	Point surveyed within Tolerance
2023	685843.50	602327.60	14.4	BRK	6/23/2016	14.3	-0.1	Point surveyed within Tolerance
2024	685860.60	602306.10	14.3	BRK	6/23/2016	14.2	-0.1	Point surveyed within Tolerance
2025	685912.10	602513.80	10.0	BRK	6/27/2016	9.9	-0.1	Point surveyed within Tolerance
2026	685914.00	602508.20	13.9	BRK	6/27/2016	13.9	0.0	Point surveyed within Tolerance
2027	685826.00	602460.70	15.8	BRK	6/27/2016	15.8	0.0	Point surveyed within Tolerance
2028	685824.00	602464.20	18.4	BRK	6/27/2016	18.5	0.1	Point surveyed within Tolerance
2029	685833.70	602645.50	13.5	BRK	6/29/2016	13.6	0.1	Point surveyed within Tolerance
2030	685815.80	602627.70	15.3	BRK	6/29/2016	15.4	0.1	Point surveyed within Tolerance
2031	685813.90	602630.20	13.8	BRK	6/29/2016	13.8	0.0	Point surveyed within Tolerance
2032	685705.00	602711.40	18.9	BRK	7/1/2016	18.8	-0.1	Point surveyed within Tolerance
2033	685708.50	602713.50	21.5	BRK	7/1/2016	21.4	-0.1	Point surveyed within Tolerance
2034	685697.20	602677.90	20.8	BRK	7/1/2016	20.9	0.1	Point surveyed within Tolerance
2035	685701.40	602680.40	18.4	BRK	7/1/2016	18.3	-0.1	Point surveyed within Tolerance
2036	685711.80	602657.50	20.1	BRK	7/1/2016	20.0	-0.1	Point surveyed within Tolerance
2037	685756.40	602678.80	17.2	BRK	7/1/2016	17.2	0.0	Point surveyed within Tolerance
2038	685754.00	602682.00	19.9	BRK	7/1/2016	20.0	0.1	Point surveyed within Tolerance
2039	685732.00	602720.30	17.5	BRK	7/1/2016	17.5	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Break Points (Table 2.1)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2040	685728.90	602725.70	21.7	BRK	7/1/2016	21.7	0.0	Point surveyed within Tolerance
2041	685707.80	602655.10	17.6	BRK	7/1/2016	17.7	0.1	Point surveyed within Tolerance
2042	685764.90	602717.50	18.0	BRK	7/1/2016	18.0	0.0	Point surveyed within Tolerance
2043	685761.00	602715.30	20.7	BRK	7/1/2016	20.7	0.0	Point surveyed within Tolerance
2044	685822.00	602722.00	14.7	BRK	7/1/2016	14.7	0.0	Point surveyed within Tolerance
2045	685818.70	602720.10	17.2	BRK	7/1/2016	17.3	0.1	Point surveyed within Tolerance
2046	685829.80	602697.60	17.0	BRK	7/1/2016	17.0	0.0	Point surveyed within Tolerance
2047	685833.00	602699.50	14.5	BRK	6/29/2016	14.5	0.0	Point surveyed within Tolerance
2048	685746.80	602645.60	16.5	BRK	6/29/2016	16.5	0.0	Point surveyed within Tolerance
2049	685835.80	602641.50	15.8	BRK	6/29/2016	15.8	0.0	Point surveyed within Tolerance
2050	685783.50	602786.40	18.4	BRK	7/1/2016	18.4	0.0	Point surveyed within Tolerance
2051	685780.10	602784.40	21.0	BRK	7/1/2016	21.0	0.0	Point surveyed within Tolerance
2052	685805.30	602793.00	14.9	BRK	7/7/2016	14.9	0.0	Point surveyed within Tolerance
2053	685802.50	602795.10	17.0	BRK	7/7/2016	17.0	0.0	Point surveyed within Tolerance
2054	685827.20	602831.00	17.0	BRK	7/7/2016	17.1	0.1	Point surveyed within Tolerance
2055	685744.20	602650.00	19.2	BRK	7/1/2016	19.2	0.0	Point surveyed within Tolerance
2056	685800.50	602883.20	18.2	BRK	7/7/2016	18.2	0.0	Point surveyed within Tolerance
2057	685789.50	602905.80	18.5	BRK	7/7/2016	18.4	-0.1	Point surveyed within Tolerance
2058	685822.90	602664.90	13.5	BRK	6/29/2016	13.6	0.1	Point surveyed within Tolerance
2059	685820.20	602668.40	15.7	BRK	6/29/2016	15.7	0.0	Point surveyed within Tolerance
2060	685800.10	602651.00	15.0	BRK	6/29/2016	15.0	0.0	Point surveyed within Tolerance
2061	685801.80	602648.60	13.7	BRK	6/29/2016	13.7	0.0	Point surveyed within Tolerance
2062	685776.30	602694.10	17.2	BRK	7/1/2016	17.3	0.1	Point surveyed within Tolerance
2063	685774.30	602697.60	19.9	BRK	7/1/2016	19.8	-0.1	Point surveyed within Tolerance
2064	685811.40	602860.70	17.9	BRK	7/7/2016	17.9	0.0	Point surveyed within Tolerance
2065	685790.60	602471.80	19.2	BRK	6/27/2016	19.1	-0.1	Point surveyed within Tolerance
2066	685787.30	602469.90	16.8	BRK	6/27/2016	16.8	0.0	Point surveyed within Tolerance
2067	685775.20	602491.80	16.8	BRK	6/27/2016	16.8	0.0	Point surveyed within Tolerance
2068	685778.40	602493.70	19.3	BRK	6/27/2016	19.2	-0.1	Point surveyed within Tolerance
2069	685657.70	602799.60	19.1	BRK	7/7/2016	19.0	-0.1	Point surveyed within Tolerance
2070	685654.60	602797.80	21.5	BRK	7/7/2016	21.4	-0.1	Point surveyed within Tolerance
2071	685671.10	602778.50	19.1	BRK	7/7/2016	19.2	0.1	Point surveyed within Tolerance
2072	685667.90	602776.60	21.5	BRK	7/7/2016	21.5	0.0	Point surveyed within Tolerance
2073	685709.40	602857.90	20.1	BRK	7/7/2016	20.2	0.1	Point surveyed within Tolerance
2074	685711.30	602854.60	22.6	BRK	7/7/2016	22.6	0.0	Point surveyed within Tolerance
2075	685729.70	602872.60	19.7	BRK	7/7/2016	19.7	0.0	Point surveyed within Tolerance
2076	685731.80	602869.10	22.2	BRK	7/7/2016	22.2	0.0	Point surveyed within Tolerance
2077	685795.70	602764.50	18.0	BRK	7/1/2016	18.0	0.0	Point surveyed within Tolerance
2078	685800.00	602767.10	14.7	BRK	7/1/2016	14.7	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

Points in 0.1 - 0.5 ft. tolerance are due to a slight overcut in the top of slopes where it wouldn't be suitable for backfill due to compaction difficulties.

SA-6 North Cap Subgrade: Break Points (Table 2.2)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2079	685792.80	602762.90	18.1	BRK	7/1/2016	18.1	0.0	Point surveyed within Tolerance
2080	685789.40	602760.90	20.7	BRK	7/1/2016	20.7	0.0	Point surveyed within Tolerance
2081	685557.30	602969.20	19.0	BRK	7/13/2016	19.0	0.0	Point surveyed within Tolerance
2082	685555.40	602972.40	21.5	BRK	7/13/2016	21.4	-0.1	Point surveyed within Tolerance
2083	685468.20	603121.30	13.6	BRK	7/15/2016	13.6	0.0	Point surveyed within Tolerance
2084	685465.10	603126.70	9.5	BRK	7/18/2016	9.5	0.0	Point surveyed within Tolerance
2085	685475.10	603069.30	16.6	BRK	7/15/2016	16.6	0.0	Point surveyed within Tolerance
2086	685471.50	603067.20	19.0	BRK	7/15/2016	19.0	0.0	Point surveyed within Tolerance
2087	685533.60	603016.70	18.9	BRK	7/13/2016	19.0	0.1	Point surveyed within Tolerance
2088	685530.40	603014.80	21.4	BRK	7/13/2016	21.3	-0.1	Point surveyed within Tolerance
2089	685536.30	602955.60	18.6	BRK	7/13/2016	18.6	0.0	Point surveyed within Tolerance
2090	685534.30	602959.00	21.1	BRK	7/13/2016	21.0	-0.1	Point surveyed within Tolerance
2091	685507.60	603059.40	20.1	BRK	7/13/2016	20.0	-0.1	Point surveyed within Tolerance
2092	685504.40	603057.50	17.6	BRK	7/13/2016	17.6	0.0	Point surveyed within Tolerance
2093	685594.50	603202.50	16.1	BRK	7/21/2016	16.1	0.0	Point surveyed within Tolerance
2094	685596.80	603198.60	13.2	BRK	7/21/2016	13.1	-0.1	Point surveyed within Tolerance
2095	685405.10	603081.80	15.5	BRK	7/15/2016	15.5	0.0	Point surveyed within Tolerance
2096	685395.60	603083.30	9.1	BRK	7/18/2016	9.2	0.1	Point surveyed within Tolerance
2097	685399.60	603139.50	9.2	BRK	7/21/2016	9.3	0.1	Point surveyed within Tolerance
2098	685395.00	603147.40	15.1	BRK	7/21/2016	15.0	-0.1	Point surveyed within Tolerance
2099	685423.70	603148.00	9.4	BRK	7/21/2016	9.4	0.0	Point surveyed within Tolerance
2100	685441.60	603117.40	9.4	BRK	7/18/2016	9.5	0.1	Point surveyed within Tolerance
2101	685420.00	603154.10	14.0	BRK	7/21/2016	14.1	0.1	Point surveyed within Tolerance
2102	685445.00	603111.60	13.8	BRK	7/15/2016	13.9	0.1	Point surveyed within Tolerance
2103	685491.70	603130.70	13.6	BRK	7/15/2016	13.7	0.1	Point surveyed within Tolerance
2104	685488.70	603135.90	9.7	BRK	7/18/2016	9.7	0.0	Point surveyed within Tolerance
2105	685470.80	603211.60	14.8	BRK	7/25/2016	14.9	0.1	Point surveyed within Tolerance
2106	685468.50	603181.50	10.8	BRK	7/21/2016	10.9	0.1	Point surveyed within Tolerance
2107	685463.60	603179.40	14.4	BRK	7/21/2016	14.4	0.0	Point surveyed within Tolerance
2108	685616.60	603185.80	13.5	BRK	7/18/2016	13.5	0.0	Point surveyed within Tolerance
2109	685614.80	603180.20	16.5	BRK	7/15/2016	16.6	0.1	Point surveyed within Tolerance
2110	685473.50	603213.20	17.0	BRK	7/25/2016	17.0	0.0	Point surveyed within Tolerance
2111	685663.50	603121.70	12.5	BRK	7/13/2016	12.6	0.1	Point surveyed within Tolerance
2112	685647.90	603127.60	17.5	BRK	7/13/2016	17.4	-0.1	Point surveyed within Tolerance
2113	685675.50	603099.70	12.8	BRK	7/13/2016	12.8	0.0	Point surveyed within Tolerance
2114	685660.10	603105.60	17.8	BRK	7/13/2016	17.8	0.0	Point surveyed within Tolerance
2115	685722.70	603040.50	13.0	BRK	7/12/2016	13.0	0.0	Point surveyed within Tolerance
2116	685712.80	603034.70	18.7	BRK	7/12/2016	18.8	0.1	Point surveyed within Tolerance
2117	685693.80	603081.50	13.0	BRK	7/13/2016	13.0	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Break Points (Table 2.3)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2118	685684.50	603076.10	18.4	BRK	7/13/2016	18.4	0.0	Point surveyed within Tolerance
2119	685708.50	603061.10	13.0	BRK	7/12/2016	13.1	0.1	Point surveyed within Tolerance
2120	685698.80	603055.40	18.6	BRK	7/12/2016	18.5	-0.1	Point surveyed within Tolerance
2121	685773.30	602954.20	13.0	BRK	7/8/2016	13.0	0.0	Point surveyed within Tolerance
2122	685763.40	602948.40	18.7	BRK	7/8/2016	18.8	0.1	Point surveyed within Tolerance
2123	685736.50	603019.60	13.0	BRK	7/12/2016	13.1	0.1	Point surveyed within Tolerance
2124	685726.40	603013.70	18.8	BRK	7/12/2016	18.8	0.0	Point surveyed within Tolerance
2125	685749.70	602998.40	13.0	BRK	7/8/2016	13.1	0.1	Point surveyed within Tolerance
2126	685739.60	602992.40	18.9	BRK	7/8/2016	18.9	0.0	Point surveyed within Tolerance
2127	685762.20	602976.70	13.0	BRK	7/8/2016	13.0	0.0	Point surveyed within Tolerance
2128	685752.10	602970.80	18.9	BRK	7/8/2016	18.8	-0.1	Point surveyed within Tolerance
2129	685784.70	602933.00	13.0	BRK	7/8/2016	13.1	0.1	Point surveyed within Tolerance
2130	685776.70	602925.80	18.7	BRK	7/8/2016	18.7	0.0	Point surveyed within Tolerance
2131	685530.40	603217.60	14.7	BRK	7/25/2016	14.7	0.0	Point surveyed within Tolerance
2132	685527.40	603215.80	17.5	BRK	7/25/2016	17.5	0.0	Point surveyed within Tolerance
2133	685368.50	603242.20	14.1	BRK	7/25/2016	14.2	0.1	Point surveyed within Tolerance
2134	685370.50	603238.70	16.7	BRK	7/25/2016	16.6	-0.1	Point surveyed within Tolerance
2135	685350.10	603224.10	17.0	BRK	7/25/2016	16.9	-0.1	Point surveyed within Tolerance
2136	685348.20	603227.40	14.5	BRK	7/25/2016	14.6	0.1	Point surveyed within Tolerance
2137	685398.30	603339.70	11.3	BRK	7/27/2016	11.4	0.1	Point surveyed within Tolerance
2138	685396.20	603343.20	13.7	BRK	7/27/2016	13.6	-0.1	Point surveyed within Tolerance
2139	685420.60	603353.70	10.7	BRK	7/27/2016	10.8	0.1	Point surveyed within Tolerance
2140	685415.10	603354.10	13.3	BRK	7/27/2016	13.3	0.0	Point surveyed within Tolerance
2141	685497.90	603316.30	7.3	BRK	7/25/2016	7.3	0.0	Point surveyed within Tolerance
2142	685502.30	603310.60	12.1	BRK	7/25/2016	12.2	0.1	Point surveyed within Tolerance
2143	685313.20	603384.50	10.9	BRK	7/27/2016	10.9	0.0	Point surveyed within Tolerance
2144	685315.90	603381.60	13.4	BRK	7/27/2016	13.5	0.1	Point surveyed within Tolerance
2145	685073.60	603554.90	13.1	BRK	8/9/2016	13.0	-0.1	Point surveyed within Tolerance
2146	685066.30	603557.80	10.6	BRK	8/9/2016	10.5	-0.1	Point surveyed within Tolerance
2147	685216.30	603555.10	8.1	BRK	8/9/2016	8.1	0.0	Point surveyed within Tolerance
2148	685212.80	603553.10	10.8	BRK	8/9/2016	10.7	-0.1	Point surveyed within Tolerance
2149	685223.70	603530.50	11.0	BRK	8/5/2016	10.9	-0.1	Point surveyed within Tolerance
2150	685227.20	603532.50	8.5	BRK	8/5/2016	8.5	0.0	Point surveyed within Tolerance
2151	685148.10	603569.80	12.3	BRK	8/9/2016	12.2	-0.1	Point surveyed within Tolerance
2152	685146.90	603573.50	9.7	BRK	8/9/2016	9.7	0.0	Point surveyed within Tolerance
2153	685143.40	603571.70	12.3	BRK	8/9/2016	12.2	-0.1	Point surveyed within Tolerance
2154	685155.60	603606.50	10.8	BRK	8/9/2016	10.7	-0.1	Point surveyed within Tolerance
2155	685159.10	603608.60	8.1	BRK	8/9/2016	8.2	0.1	Point surveyed within Tolerance
2156	685143.40	603628.30	7.9	BRK	8/10/2016	7.8	-0.1	Point surveyed within Tolerance
2157	685139.90	603626.30	10.6	BRK	8/10/2016	10.5	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Break Points (Table 2.4)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2158	685236.50	603364.20	12.9	BRK	7/27/2016	12.8	-0.1	Point surveyed within Tolerance
2159	685239.30	603365.80	15.0	BRK	7/27/2016	14.9	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Boundary Points (Table 3.0)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
1000	685974.80	602058.20	11.8	BNDY	6/20/2016	11.8	0.0	Point surveyed within Tolerance
1001	685996.40	602070.70	11.1	BNDY	6/20/2016	11.1	0.0	Point surveyed within Tolerance
1002	686018.10	602083.20	10.6	BNDY	6/20/2016	10.6	0.0	Point surveyed within Tolerance
1003	686034.30	602092.60	10.6	BNDY	6/20/2016	10.6	0.0	Point surveyed within Tolerance
1004	686042.90	602090.30	10.6	BNDY	6/20/2016	10.6	0.0	Point surveyed within Tolerance
1005	686053.70	602087.50	10.6	BNDY	6/20/2016	10.6	0.0	Point surveyed within Tolerance
1006	686070.10	602097.00	10.8	BNDY	6/20/2016	10.9	0.1	Point surveyed within Tolerance
1007	686075.10	602116.10	10.7	BNDY	6/20/2016	10.7	0.0	Point surveyed within Tolerance
1008	686083.10	602120.70	10.8	BNDY	6/20/2016	10.9	0.1	Point surveyed within Tolerance
1009	686107.60	602134.80	7.9	BNDY	6/20/2016	7.9	0.0	Point surveyed within Tolerance
1010	686096.70	602158.60	8.0	BNDY	6/20/2016	8.0	0.0	Point surveyed within Tolerance
1012	686086.20	602181.40	8.1	BNDY	6/20/2016	8.1	0.0	Point surveyed within Tolerance
1013	686075.80	602204.30	8.2	BNDY	6/20/2016	8.2	0.0	Point surveyed within Tolerance
1014	686065.30	602227.10	8.3	BNDY	6/20/2016	8.4	0.1	Point surveyed within Tolerance
1015	686054.90	602250.00	8.4	BNDY	6/20/2016	8.5	0.1	Point surveyed within Tolerance
1016	686051.10	602258.10	6.6	BNDY	6/20/2016	6.6	0.0	Point surveyed within Tolerance
1017	686043.70	602274.40	11.7	BNDY	6/20/2016	11.6	-0.1	Point surveyed within Tolerance
1018	686052.80	602278.50	11.9	BNDY	6/20/2016	11.9	0.0	Point surveyed within Tolerance
1019	686041.80	602300.30	12.1	BNDY	6/20/2016	12.1	0.0	Point surveyed within Tolerance
1020	686030.50	602322.60	12.4	BNDY	6/20/2016	12.4	0.0	Point surveyed within Tolerance
1021	686019.20	602344.90	12.6	BNDY	6/23/2016	12.6	0.0	Point surveyed within Tolerance
1022	686007.80	602367.30	12.9	BNDY	6/23/2016	12.9	0.0	Point surveyed within Tolerance
1023	685996.50	602389.60	13.1	BNDY	6/23/2016	13.1	0.0	Point surveyed within Tolerance
1024	685985.20	602412.00	13.4	BNDY	6/23/2016	13.3	-0.1	Point surveyed within Tolerance
1025	685973.90	602434.30	13.6	BNDY	6/23/2016	13.6	0.0	Point surveyed within Tolerance
1026	685962.60	602456.70	13.7	BNDY	6/27/2016	13.7	0.0	Point surveyed within Tolerance
1027	685951.80	602479.30	13.9	BNDY	6/27/2016	13.9	0.0	Point surveyed within Tolerance
1028	685941.00	602502.00	14.1	BNDY	6/27/2016	14.1	0.0	Point surveyed within Tolerance
1029	685930.20	602524.60	9.9	BNDY	6/27/2016	9.8	-0.1	Point surveyed within Tolerance
1030	685919.40	602547.30	14.5	BNDY	6/27/2016	14.5	0.0	Point surveyed within Tolerance
1031	685908.60	602569.90	14.7	BNDY	6/27/2016	14.7	0.0	Point surveyed within Tolerance
1032	685897.80	602592.60	14.9	BNDY	6/27/2016	14.9	0.0	Point surveyed within Tolerance
1033	685887.00	602615.20	15.1	BNDY	6/29/2016	15.1	0.0	Point surveyed within Tolerance
1034	685876.20	602637.90	15.3	BNDY	6/29/2016	15.3	0.0	Point surveyed within Tolerance
1035	685865.40	602660.50	15.5	BNDY	6/29/2016	15.5	0.0	Point surveyed within Tolerance
1036	685854.40	602683.00	13.5	BNDY	6/29/2016	13.4	-0.1	Point surveyed within Tolerance
1037	685843.40	602705.60	14.5	BNDY	6/29/2016	14.6	0.1	Point surveyed within Tolerance
1038	685832.40	602728.10	14.7	BNDY	7/1/2016	14.6	-0.1	Point surveyed within Tolerance
1039	685821.40	602750.60	14.7	BNDY	7/1/2016	14.7	0.0	Point surveyed within Tolerance
1040	685808.80	602776.40	14.7	BNDY	7/1/2016	14.7	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Boundary Points (Table 3.1)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
1041	685836.50	602789.20	12.9	BNDY	7/1/2016	13.0	0.1	Point surveyed within Tolerance
1042	685852.60	602796.70	12.8	BNDY	7/1/2016	12.8	0.0	Point surveyed within Tolerance
1043	685850.80	602802.10	12.8	BNDY	7/1/2016	12.8	0.0	Point surveyed within Tolerance
1044	685842.60	602821.00	18.0	BNDY	7/7/2016	16.6	-1.4	Out of Tolerance due to HB Wall Lower than Design Elevation
1045	685838.20	602831.10	18.3	BNDY	7/7/2016	18.2	-0.1	Point surveyed within Tolerance
1046	685836.40	602830.30	18.1	BNDY	7/7/2016	18.1	0.0	Point surveyed within Tolerance
1047	685832.30	602839.50	14.2	BNDY	7/7/2016	14.2	0.0	Point surveyed within Tolerance
1048	685830.30	602838.50	14.0	BNDY	7/7/2016	14.1	0.1	Point surveyed within Tolerance
1049	685818.30	602864.70	14.0	BNDY	7/7/2016	14.1	0.1	Point surveyed within Tolerance
1050	685807.80	602887.50	14.0	BNDY	7/7/2016	14.0	0.0	Point surveyed within Tolerance
1051	685797.30	602910.30	14.0	BNDY	7/7/2016	13.9	-0.1	Point surveyed within Tolerance
1052	685786.80	602933.10	12.0	BNDY	7/8/2016	12.0	0.0	Point surveyed within Tolerance
1053	685776.20	602955.90	12.0	BNDY	7/8/2016	12.0	0.0	Point surveyed within Tolerance
1054	685765.80	602978.80	12.0	BNDY	7/8/2016	12.1	0.1	Point surveyed within Tolerance
1055	685755.30	603001.60	11.8	BNDY	7/8/2016	11.4	-0.4	Out of Tolerance due to HB Wall Lower than Design Elevation
1056	685744.80	603024.40	11.5	BNDY	7/12/2016	11.5	0.0	Point surveyed within Tolerance
1057	685734.20	603047.20	11.5	BNDY	7/12/2016	11.5	0.0	Point surveyed within Tolerance
1058	685723.70	603070.00	11.5	BNDY	7/12/2016	11.6	0.1	Point surveyed within Tolerance
1059	685713.10	603092.80	11.5	BNDY	7/13/2016	11.5	0.0	Point surveyed within Tolerance
1060	685704.90	603110.60	11.5	BNDY	7/13/2016	11.5	0.0	Point surveyed within Tolerance
1061	685679.60	603098.80	11.5	BNDY	7/13/2016	11.6	0.1	Point surveyed within Tolerance
1062	685667.90	603124.20	11.5	BNDY	7/13/2016	11.4	-0.1	Point surveyed within Tolerance
1063	685658.70	603143.90	12.0	BNDY	7/18/2016	12.1	0.1	Point surveyed within Tolerance
1064	685651.30	603140.50	12.7	BNDY	7/18/2016	12.7	0.0	Point surveyed within Tolerance
1065	685634.80	603162.80	13.3	BNDY	7/18/2016	13.3	0.0	Point surveyed within Tolerance
1066	685619.90	603183.00	13.7	BNDY	7/18/2016	13.8	0.1	Point surveyed within Tolerance
1067	685604.80	603203.20	14.3	BNDY	7/21/2016	14.3	0.0	Point surveyed within Tolerance
1068	685589.70	603223.30	15.6	BNDY	7/21/2016	15.6	0.0	Point surveyed within Tolerance
1069	685574.10	603243.20	14.6	BNDY	7/21/2016	14.6	0.0	Point surveyed within Tolerance
1070	685558.90	603263.20	14.8	BNDY	7/21/2016	13.8	-1.0	Out of Tolerance due to HB Wall Lower than Design Elevation
1071	685549.20	603276.30	14.3	BNDY	7/21/2016	14.0	-0.3	Out of Tolerance due to HB Wall Lower than Design Elevation
1072	685536.50	603288.70	13.3	BNDY	7/25/2016	13.3	0.0	Point surveyed within Tolerance
1073	685533.80	603292.00	13.2	BNDY	7/25/2016	13.2	0.0	Point surveyed within Tolerance
1074	685528.20	603303.30	12.9	BNDY	7/25/2016	12.8	-0.1	Point surveyed within Tolerance
1075	685512.70	603323.10	9.8	BNDY	7/25/2016	9.8	0.0	Point surveyed within Tolerance
1076	685497.10	603342.90	11.9	BNDY	7/25/2016	11.9	0.0	Point surveyed within Tolerance
1077	685481.30	603362.70	11.1	BNDY	7/27/2016	11.2	0.1	Point surveyed within Tolerance
1078	685465.50	603382.40	10.5	BNDY	7/27/2016	10.4	-0.1	Point surveyed within Tolerance
1079	685449.60	603402.00	9.9	BNDY	7/27/2016	9.9	0.0	Point surveyed within Tolerance
1080	685433.60	603421.60	9.2	BNDY	8/3/2016	9.3	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Boundary Points (Table 3.2)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
1081	685417.50	603441.20	8.7	BNDY	8/3/2016	8.8	0.1	Point surveyed within Tolerance
1082	685401.30	603460.70	8.2	BNDY	8/3/2016	8.3	0.1	Point surveyed within Tolerance
1083	685385.00	603480.10	5.9	BNDY	8/3/2016	6.0	0.1	Point surveyed within Tolerance
1084	685368.70	603499.50	7.3	BNDY	8/5/2016	7.2	-0.1	Point surveyed within Tolerance
1085	685352.20	603518.80	7.0	BNDY	8/5/2016	6.9	-0.1	Point surveyed within Tolerance
1086	685335.70	603538.10	7.0	BNDY	8/5/2016	7.0	0.0	Point surveyed within Tolerance
1087	685319.10	603557.40	7.0	BNDY	8/5/2016	6.9	-0.1	Point surveyed within Tolerance
1088	685302.60	603576.70	7.0	BNDY	8/5/2016	7.0	0.0	Point surveyed within Tolerance
1089	685286.00	603596.00	7.0	BNDY	8/9/2016	6.9	-0.1	Point surveyed within Tolerance
1090	685269.50	603615.30	7.0	BNDY	8/9/2016	6.9	-0.1	Point surveyed within Tolerance
1091	685253.00	603634.50	7.0	BNDY	8/9/2016	6.9	-0.1	Point surveyed within Tolerance
1092	685236.40	603653.80	7.0	BNDY	8/9/2016	6.9	-0.1	Point surveyed within Tolerance
1093	685219.90	603673.10	7.0	BNDY	8/10/2016	7.0	0.0	Point surveyed within Tolerance
1094	685203.30	603692.40	4.8	BNDY	8/12/2016	4.7	-0.1	Point surveyed within Tolerance
1095	685186.80	603711.70	7.0	BNDY	8/12/2016	6.9	-0.1	Point surveyed within Tolerance
1096	685170.20	603731.00	7.0	BNDY	8/12/2016	7.0	0.0	Point surveyed within Tolerance
1097	685161.70	603740.90	7.0	BNDY	8/13/2016	7.0	0.0	Point surveyed within Tolerance
1098	685140.30	603731.00	7.0	BNDY	8/13/2016	7.0	0.0	Point surveyed within Tolerance
1099	685117.50	603720.40	7.0	BNDY	8/13/2016	7.0	0.0	Point surveyed within Tolerance
1100	685094.70	603709.90	7.0	BNDY	8/13/2016	7.0	0.0	Point surveyed within Tolerance
1101	685071.80	603699.40	7.0	BNDY	8/13/2016	7.0	0.0	Point surveyed within Tolerance
1102	685049.00	603688.80	7.0	BNDY	8/12/2016	7.0	0.0	Point surveyed within Tolerance
1103	685026.20	603678.30	7.1	BNDY	8/12/2016	7.1	0.0	Point surveyed within Tolerance
1104	685003.40	603667.80	7.3	BNDY	8/12/2016	7.2	-0.1	Point surveyed within Tolerance
1105	684980.60	603657.30	8.0	BNDY	8/12/2016	8.0	0.0	Point surveyed within Tolerance
1106	684957.80	603646.70	8.5	BNDY	8/12/2016	8.5	0.0	Point surveyed within Tolerance
1107	684945.00	603640.20	8.6	BNDY	8/12/2016	10.7	2.1	Out of Tolerance due to SCB Wall Higher than Design Elevation
1108	684968.60	603612.90	8.5	BNDY	8/12/2016	8.5	0.0	Point surveyed within Tolerance
1109	684985.30	603593.70	8.9	BNDY	8/12/2016	8.9	0.0	Point surveyed within Tolerance
1110	685001.90	603574.50	9.6	BNDY	8/10/2016	9.7	0.1	Point surveyed within Tolerance
1111	685018.60	603555.20	9.8	BNDY	8/10/2016	9.7	-0.1	Point surveyed within Tolerance
1112	685035.20	603536.00	9.9	BNDY	8/10/2016	10.0	0.1	Point surveyed within Tolerance
1113	685051.90	603516.80	10.2	BNDY	8/9/2016	10.3	0.1	Point surveyed within Tolerance
1114	685068.50	603497.60	10.4	BNDY	8/9/2016	10.5	0.1	Point surveyed within Tolerance
1115	685085.20	603478.30	10.7	BNDY	8/9/2016	10.7	0.0	Point surveyed within Tolerance
1116	685101.80	603459.10	10.9	BNDY	8/5/2016	10.9	0.0	Point surveyed within Tolerance
1117	685118.50	603439.90	11.2	BNDY	8/5/2016	11.2	0.0	Point surveyed within Tolerance
1118	685135.10	603420.70	11.4	BNDY	8/5/2016	11.4	0.0	Point surveyed within Tolerance
1119	685151.70	603401.50	11.4	BNDY	8/5/2016	11.4	0.0	Point surveyed within Tolerance
1120	685168.40	603382.20	11.5	BNDY	8/3/2016	11.5	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Boundary Points (Table 3.3)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
1121	685185.00	603363.00	11.5	BNDY	8/3/2016	11.5	0.0	Point surveyed within Tolerance
1122	685201.70	603343.80	12.4	BNDY	8/3/2016	12.4	0.0	Point surveyed within Tolerance
1123	685218.30	603324.60	12.7	BNDY	7/27/2016	12.7	0.0	Point surveyed within Tolerance
1124	685235.00	603305.30	13.0	BNDY	7/27/2016	13.0	0.0	Point surveyed within Tolerance
1125	685251.60	603286.10	13.2	BNDY	7/27/2016	13.3	0.1	Point surveyed within Tolerance
1126	685264.60	603271.10	13.4	BNDY	7/27/2016	13.5	0.1	Point surveyed within Tolerance
1127	685280.00	603244.80	13.7	BNDY	7/27/2016	13.8	0.1	Point surveyed within Tolerance
1128	685292.70	603223.20	14.0	BNDY	7/25/2016	14.0	0.0	Point surveyed within Tolerance
1129	685305.30	603201.70	14.2	BNDY	7/25/2016	14.3	0.1	Point surveyed within Tolerance
1130	685317.90	603180.10	14.5	BNDY	7/25/2016	14.5	0.0	Point surveyed within Tolerance
1131	685330.60	603158.50	14.6	BNDY	7/25/2016	14.6	0.0	Point surveyed within Tolerance
1132	685343.20	603136.90	14.3	BNDY	7/21/2016	14.4	0.1	Point surveyed within Tolerance
1133	685355.80	603115.40	9.0	BNDY	7/21/2016	9.0	0.0	Point surveyed within Tolerance
1134	685368.50	603093.80	9.0	BNDY	7/21/2016	8.9	-0.1	Point surveyed within Tolerance
1135	685381.10	603072.20	9.0	BNDY	7/21/2016	9.1	0.1	Point surveyed within Tolerance
1136	685391.10	603055.10	9.0	BNDY	7/18/2016	9.1	0.1	Point surveyed within Tolerance
1137	685406.40	603029.10	13.4	BNDY	7/15/2016	13.4	0.0	Point surveyed within Tolerance
1138	685419.00	603007.50	13.3	BNDY	7/13/2016	13.4	0.1	Point surveyed within Tolerance
1139	685431.60	602985.90	13.3	BNDY	7/13/2016	13.3	0.0	Point surveyed within Tolerance
1140	685444.30	602964.40	13.3	BNDY	7/13/2016	13.4	0.1	Point surveyed within Tolerance
1141	685456.90	602942.80	13.4	BNDY	7/13/2016	13.4	0.0	Point surveyed within Tolerance
1142	685469.50	602921.20	13.4	BNDY	7/12/2016	13.5	0.1	Point surveyed within Tolerance
1143	685482.20	602899.60	13.5	BNDY	7/12/2016	13.5	0.0	Point surveyed within Tolerance
1144	685494.80	602878.10	13.5	BNDY	7/12/2016	13.5	0.0	Point surveyed within Tolerance
1145	685507.40	602856.50	13.5	BNDY	7/8/2016	13.5	0.0	Point surveyed within Tolerance
1146	685520.00	602834.90	13.5	BNDY	7/8/2016	13.5	0.0	Point surveyed within Tolerance
1147	685532.70	602813.30	13.5	BNDY	7/8/2016	13.6	0.1	Point surveyed within Tolerance
1148	685545.30	602791.80	13.8	BNDY	7/8/2016	13.8	0.0	Point surveyed within Tolerance
1149	685557.90	602770.20	13.8	BNDY	7/7/2016	13.8	0.0	Point surveyed within Tolerance
1150	685570.60	602748.60	13.7	BNDY	7/7/2016	13.7	0.0	Point surveyed within Tolerance
1151	685583.20	602727.00	13.7	BNDY	7/7/2016	13.6	-0.1	Point surveyed within Tolerance
1152	685595.80	602705.50	13.6	BNDY	7/7/2016	13.6	0.0	Point surveyed within Tolerance
1153	685608.50	602683.90	13.4	BNDY	7/1/2016	13.5	0.1	Point surveyed within Tolerance
1154	685621.10	602662.30	13.1	BNDY	7/1/2016	13.2	0.1	Point surveyed within Tolerance
1155	685633.70	602640.70	12.8	BNDY	7/1/2016	12.9	0.1	Point surveyed within Tolerance
1156	685646.40	602619.20	12.6	BNDY	7/1/2016	12.6	0.0	Point surveyed within Tolerance
1157	685659.00	602597.60	12.3	BNDY	6/29/2016	12.3	0.0	Point surveyed within Tolerance
1158	685671.60	602576.00	12.2	BNDY	6/29/2016	12.2	0.0	Point surveyed within Tolerance
1159	685684.30	602554.40	12.1	BNDY	6/29/2016	12.1	0.0	Point surveyed within Tolerance
1160	685696.90	602532.90	12.1	BNDY	6/29/2016	12.1	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 North Cap Subgrade: Boundary Points (Table 3.4)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
1161	685709.50	602511.30	12.2	BNDY	6/29/2016	12.2	0.0	Point surveyed within Tolerance
1162	685722.20	602489.70	12.5	BNDY	6/27/2016	12.4	-0.1	Point surveyed within Tolerance
1163	685734.80	602468.10	12.7	BNDY	6/27/2016	12.7	0.0	Point surveyed within Tolerance
1164	685747.40	602446.60	12.9	BNDY	6/27/2016	12.8	-0.1	Point surveyed within Tolerance
1165	685760.00	602425.00	13.0	BNDY	6/27/2016	13.0	0.0	Point surveyed within Tolerance
1166	685772.70	602403.40	13.2	BNDY	6/27/2016	13.3	0.1	Point surveyed within Tolerance
1167	685785.30	602381.80	13.5	BNDY	6/27/2016	13.5	0.0	Point surveyed within Tolerance
1168	685797.90	602360.30	13.7	BNDY	6/27/2016	13.7	0.0	Point surveyed within Tolerance
1169	685810.60	602338.70	13.9	BNDY	6/23/2016	13.9	0.0	Point surveyed within Tolerance
1170	685823.20	602317.10	13.9	BNDY	6/23/2016	13.9	0.0	Point surveyed within Tolerance
1171	685833.20	602300.00	8.5	BNDY	6/23/2016	8.5	0.0	Point surveyed within Tolerance
1172	685837.80	602292.20	13.9	BNDY	6/23/2016	13.9	0.0	Point surveyed within Tolerance
1173	685848.40	602274.00	14.3	BNDY	6/23/2016	14.2	-0.1	Point surveyed within Tolerance
1174	685861.10	602252.40	14.0	BNDY	6/23/2016	14.0	0.0	Point surveyed within Tolerance
1175	685873.70	602230.80	13.8	BNDY	6/20/2016	13.8	0.0	Point surveyed within Tolerance
1176	685886.40	602209.30	13.5	BNDY	6/20/2016	13.5	0.0	Point surveyed within Tolerance
1177	685899.00	602187.70	13.3	BNDY	6/20/2016	13.2	-0.1	Point surveyed within Tolerance
1178	685911.60	602166.10	13.0	BNDY	6/20/2016	13.0	0.0	Point surveyed within Tolerance
1179	685924.30	602144.50	12.8	BNDY	6/20/2016	12.8	0.0	Point surveyed within Tolerance
1180	685936.90	602123.00	12.5	BNDY	6/20/2016	12.5	0.0	Point surveyed within Tolerance
1181	685949.50	602101.40	12.3	BNDY	6/20/2016	12.3	0.0	Point surveyed within Tolerance
1182	685962.20	602079.80	12.1	BNDY	6/20/2016	12.2	0.1	Point surveyed within Tolerance
1183	685396.50	603046.00	13.0	BNDY	7/18/2016	13.0	0.0	Point surveyed within Tolerance
1184	684952.00	603632.10	8.5	BNDY	8/12/2016	8.4	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

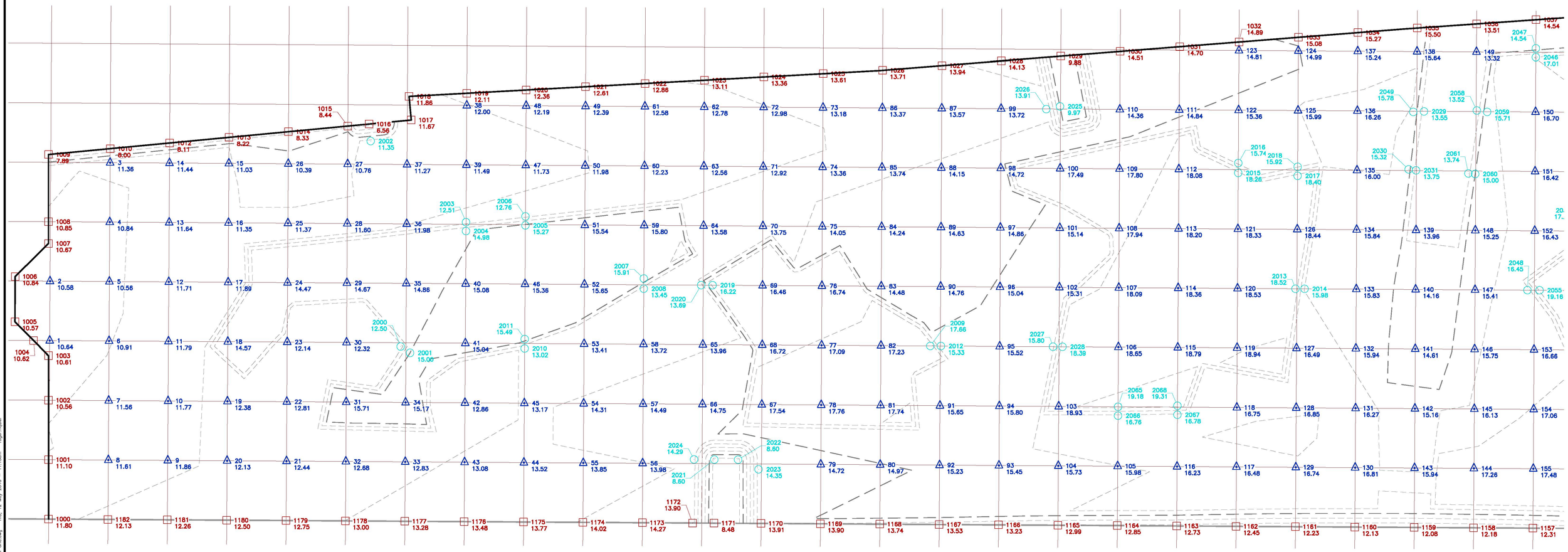
Per SPECIFICATION 01460 SURVEY. SECTION 1.05 F. Spot Elevations - Survey shall be constructed to provide an accuracy of 0.1 feet vertically. Ninety percent of all spot elevations placed on the maps shall have an accuracy of at least 0.1', and the remaining 10 percent shall not be in error by more than one-half (1/2) the contour interval (0.5'). Break points added to replace Grid Points that fell on slopes and Boundary Points will be treated as Spot Elevations as defined in Section 1.05 F.

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Grid Points depicted in Table 1, Break Points in Table 2, Boundary Points in Table 3, and topographic spot elevations are correct, and representative of the as-built cap subgrade throughout the SA6 North cap.

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR
LICENSE NO. 36737

C2. Subgrade Construction Control Grid



153 16.66 GRID POINT

2054 17.00 BREAK POINT

1157 12.31 BOUND POINT

0 10 20 40

SCALE IN FEET

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

Honeywell

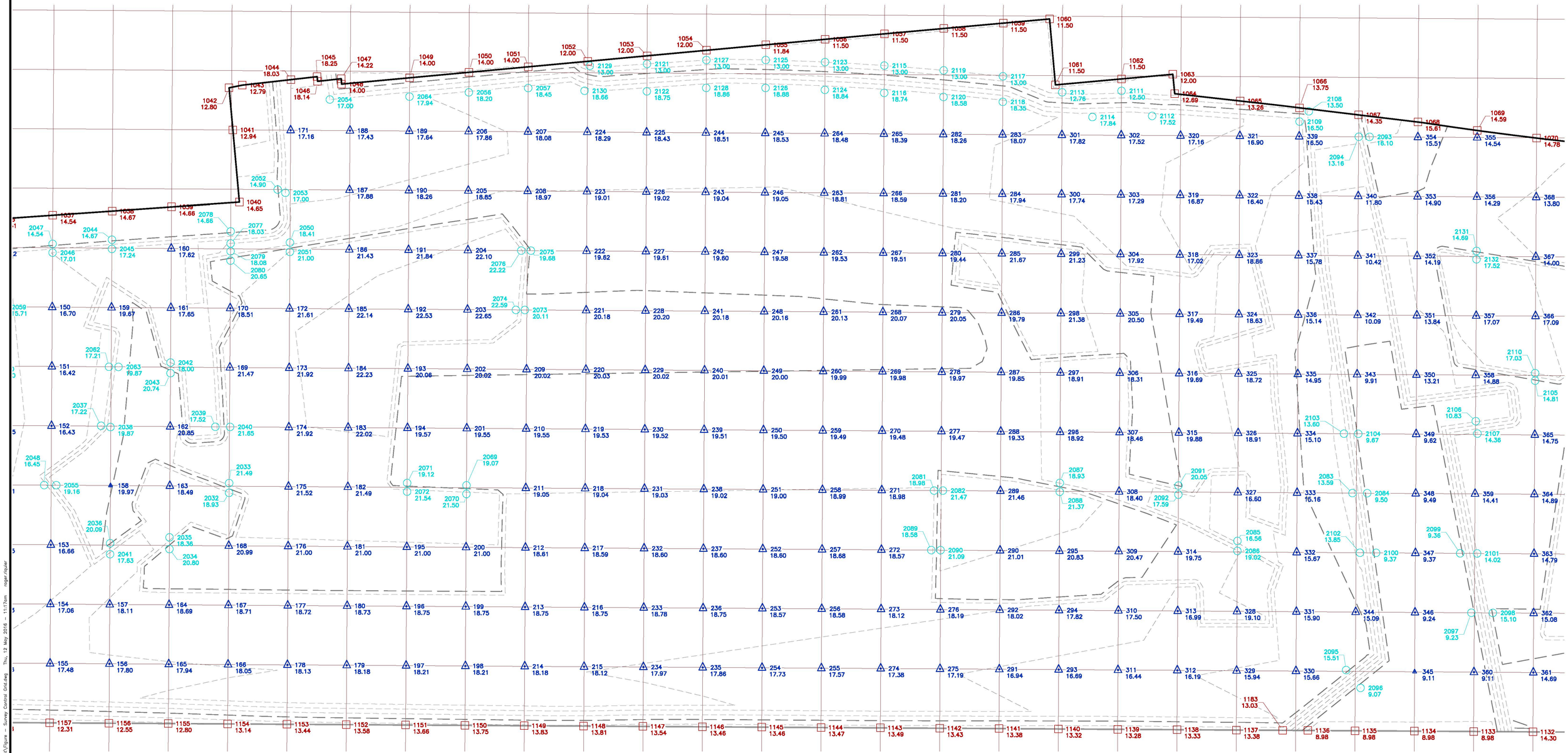
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec foster wheeler

SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 1 OF 3
Project 3480-13-0377
Figure 1.1

Z:\Projects\HONEYWELL\JERSEY CITY\Corp Design-SA6-C33\CADD\SAMN\103 Percent\Figure - Survey Control Grid.dwg Thu, 12 May 2016 - 11:18am roger.rigler



153 16.66 GRID POINT

2054 17.00 BREAK POINT

1157 12.31 BOUND POINT

0 10 20 40

SCALE IN FEET

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

Honeywell

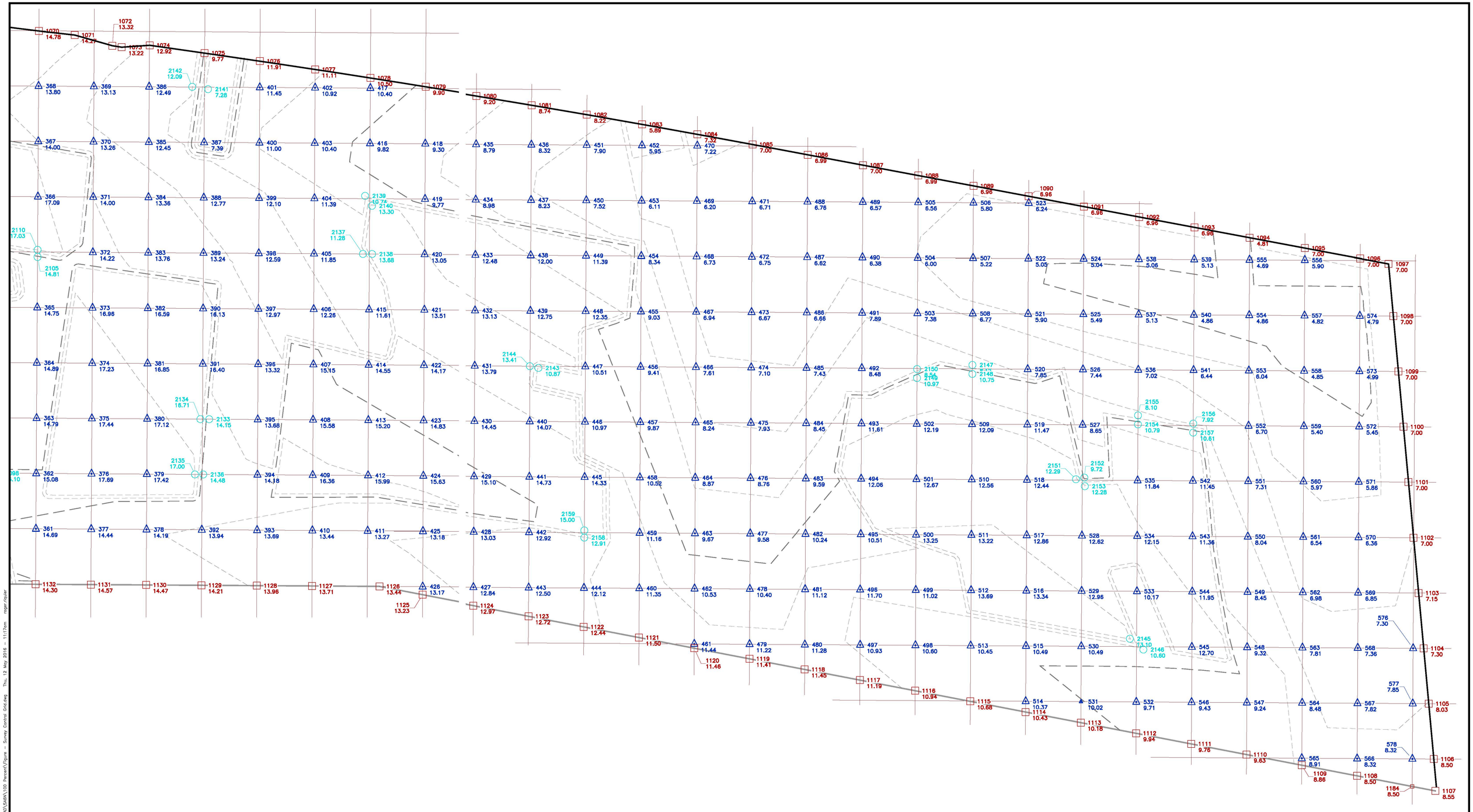
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec foster wheeler

SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 2 OF 3
Project 3480-13-0377
Figure 1.2

Z:\Projects\HONEWELL\JERSEY CITY\Cdp Design-SA6-+30\CAD\SA6N\160 Percent\Figure - Survey Control Grid.dwg Thu, 12 May 2016 - 11:17am rogel.rogular



GRID POINT

BREAK POINT

BOUND POINT

0 10 20 40

SCALE IN FEET

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec foster wheeler

SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 3 OF 3
Project 3480-13-0377
Figure 1.3

Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-12SR\CAD\SA6N\100 Percent\Figure - Survey Control Grid.dwg Thu, 12 May 2016 - 11:17am rajir-rajuar

Appendix D: Soil Subgrade Approval

D1. ESI Certificate of Subgrade Surface Acceptance

D2. Langan Certificate of Soil Surface

D1. ESI Certificate of Subgrade Surface Acceptance

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell S.A.B. North PROJECT NO: 12-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 19,384 Square feet

PANEL NUMBERS: Panel 1 thru 7

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S. Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 6-22-16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
	QC	6/22/16
	INDEPENDENT CQA MONITOR	6/22/16

OWNER REPRESENTATIVE

Signature	Title	DATE
	QC Manager	6/22/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell SA 6 North PROJECT NO: 12-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 16,618 square Feet

PANEL NUMBERS: P8-P13

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S. Sok ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 6/23/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
Khai S Sok	QC	6/23/16
	INDEPENDENT CQA MONITOR	6/23/16

OWNER REPRESENTATIVE

Signature	Title	DATE
Caroline Yanco	QC Manager	6/23/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell SA 6 North PROJECT NO: 12a-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 21,784 square Feet

PANEL NUMBERS: P14 - P19

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 6/24/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
Khai S Sok	QC	6/24/16
[illegible]	INDEPENDENT CQA MONITOR	6/24/16

OWNER REPRESENTATIVE

Signature	Title	DATE
Timothy Collins	Field Engineer	6/27/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell SA 6 Norty PROJECT NO: 12-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 27,225

PANEL NUMBERS: P-20-27

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sok ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 6-27-16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Khai S Sok	QC	6-27-16
Signature	*Title*	*DATE*
OWNER REPRESENTATIVE	INDEPENDENT CQA MONITOR	6/27/16
Caroline Harris	QC Manager	6-28-16
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell SA6 North PROJECT NO: 12-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 19,305

PANEL NUMBERS: P28 & 32

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 6/30/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
Khai S Sok	QC	6/30/16
	INDEPENDENT CQA MONITOR	6/30/16

OWNER REPRESENTATIVE

Signature	Title	DATE
Christian Ramos	QC Manager	7/1/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell S A6 Northcap PROJECT NO: 16-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: P-33 thru 38

PANEL NUMBERS: 33/34/35/36/37/38

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai PSdk, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/1 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title: QC	DATE: 7/1/16
OWNER REPRESENTATIVE	Title: INDEPENDENT CQA MONITOR	7/1/16
Signature	Title: QC Manager	DATE: 7/1/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell SA6 North PROJECT NO: 12-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 15,732

PANEL NUMBERS: P39-42

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/6/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
Khai S Sok	QC	7/6/16
OWNER REPRESENTATIVE	INDEPENDENT CQA MONITOR	7/6/16
Carlos Ramos	QC Manager	7/6/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell PROJECT NO: 12-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 5,520

PANEL NUMBERS: P43

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/7/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
	QC	7/7/16
	INDEPENDENT CQA MONITOR	7/7/16

OWNER REPRESENTATIVE

Signature	Title	DATE
	QC Manager	7/7/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell SA6 North Cap PROJECT NO: _____

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 32,890 sq fee

PANEL NUMBERS: P 44 & 49

GRADE ACCEPTANCE: INSPECTOR: _____

GENERAL CONTRACTOR: _____

OWNER: _____

AUTHORIZED REPRESENTATIVE: _____

The undersigned, Khai S Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/8/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
Khai S Sok	QC	7/8/16
[illegible]	Independent CQA Monitor	7/8/16

OWNER REPRESENTATIVE

Signature	Title	DATE
Carolina Ramos	QC Mgr	7/8/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell SA 6 North cap PROJECT NO: 12-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 26,680

PANEL NUMBERS: P 50 - 57

GRADE ACCEPTANCE: INSPECTOR

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE

The undersigned, Khai S Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/12/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Khai S Sok	QC	7/12/16
Signature	Title	DATE
	INDEPENDENT CQA MONITOR	7/12/16
OWNER REPRESENTATIVE		
Carolyn Marino	QC Manager	7/12/16
Signature		

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell SA 6 North Cap PROJECT NO: 12-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 27,600 sq feet

PANEL NUMBERS: P58 & 63

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/13/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
Khai S Sok	QC	7/13/16
OWNER REPRESENTATIVE	INDEPENDENT CQA MONITOR	7/13/16
Carolyn Parno	QC Manager	7/13/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2786

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell 8A6 North Cap PROJECT NO: 12-11-1399

LOCATION: Jersey City; New Jersey

AREA ACCEPTED: 27,600

PANEL NUMBERS: P64 & 68

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Solk, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/14/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
Khai S Solk	QC	7/14/16

OWNER REPRESENTATIVE		
	INDEPENDENT CQA MONITOR	7/14/16
Caroline Parnes	QC Mgr	7/15/16
Signature	Title	DATE

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell SA6 North cap PROJECT NO: 12-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 26 312 sq feet

PANEL NUMBERS: P69-75

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sok ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/25/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
Khai S Sok	QC	7/25/16

	INDEPENDENT CQA MONITOR	7/25/16

OWNER REPRESENTATIVE

Signature	Title	DATE
Carolina Ramos	QC Manager	7/26/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Sft 6 North cap. PROJECT NO: 12-11-1399

LOCATION: Jersey City; New Jersey

AREA ACCEPTED: 25,024

PANEL NUMBERS: P 76 & 80

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/27/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
[illegible]	QC	7/27/16

OWNER REPRESENTATIVE

Signature	Title	DATE
[illegible]	INDEPENDENT CQA MONITOR	7/27/16
Caroline Marino	QC Mgr	7/28/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: HoneyWell SAb Northcap PROJECT NO: 12-11-1399

LOCATION: Jersey City New Jersey

AREA ACCEPTED: 22,885

PANEL NUMBERS: 81-88

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/28/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
	QC	7/28/16
	INDEPENDENT CQA MONITOR	7/28/16

OWNER REPRESENTATIVE

Signature	Title	DATE
	QC Mgr	7/28/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell PROJECT NO: 12-11-1399

LOCATION: Jersey City ; New Jersey

AREA ACCEPTED: 22,356

PANEL NUMBERS: P89 / P93

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sok ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/3/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
Khai S Sok		8/3/16

OWNER REPRESENTATIVE

Signature	Title	DATE
	INDEPENDENT CQA MONITOR	8/3/16
[illegible]	QC	8/3/16

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywellwell PROJECT NO: 12-11-1399

LOCATION: Jersey City; New Jersey

AREA ACCEPTED: 15,750 sq feet

PANEL NUMBERS: ~~NA~~ 3 TEME

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Soh ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/4/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
Khai S Soh	QC	8/4/16

OWNER REPRESENTATIVE

Signature	Title	DATE
	INDEPENDENT CQA MONITOR	8/4/16
Carolina Parra	QC	8/4/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell PROJECT NO: 12-11-1399

LOCATION: Jesey City, New Jersey

AREA ACCEPTED: 21,620 sq feet

PANEL NUMBERS: P94/P98

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sak, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/5/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC

Signature	Title	DATE
Khai S Sak	QC	8/5/16
	INDEPENDENT CQA MONITOR	8/5/16

OWNER REPRESENTATIVE

Signature	Title	DATE
Carolina Pena	QC Mgr	8/5/16

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CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell 8A6 North cap PROJECT NO: 12-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 10,948 sq feet

PANEL NUMBERS: P99/100

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khoi S Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/8/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
Khoi S Sok	QC	8/8/16
	INDEPENDENT CQA MONITOR	8/8/16

OWNER REPRESENTATIVE

Signature	Title	DATE
Carolina Ramos	QC Mgr	8/8/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell SR6 North cap PROJECT NO: 12-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 21,712 sq feet

PANEL NUMBERS: P 101/106

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/9/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
Khai S Sok	QC	8/9/16

	INDEPENDENT CQA MONITOR	8/9/16

OWNER REPRESENTATIVE

Signature	Title	DATE
Carolina Ramos	QC	8/9/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell SA 6 North cap PROJECT NO: 12-11-1379

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 10,948 sq feet

PANEL NUMBERS: P 111 / P 112

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/11/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
	QC	8/11/16
	Independent CQA Monitor	8/11/16

OWNER REPRESENTATIVE

Signature	Title	DATE
	PL	8/11/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2785

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell SA6 North cap PROJECT NO: 12-11-1379

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 10,764 sq feet

PANEL NUMBERS: P113/P114

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/12/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
	QC	8/12/16

OWNER REPRESENTATIVE	INDEPENDENT CQA MONITOR	8/12/16
Carolina Parra	QC	8/12/16
Signature	Title	DATE

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell SA6 Northcap PROJECT NO: 12-11-1399

LOCATION: Jersey City, New Jersey

AREA ACCEPTED: 44,793 sq feet

PANEL NUMBERS: ~~P113 / P119~~ P115 / P119

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR:

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Khai S Sok, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/13/16 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
Khai S Sok	QC	8/13/16

OWNER REPRESENTATIVE

Signature	Title	DATE
[illegible]	INDEPENDENT CQA MONITOR	8/13/16
Carolin Ramos	QC	8/13/16

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

D2. Langan Certificate of Soil Surface

LANGAN

Certificate of Soil Surface

Sheet # 1

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 319+00 + ~STA 317+75		
QA Monitor	LANGAN	Date	6/22/16		

Description of Soil Surface to be lined: WESTERN END OF SA-6 NORTH (~STA 319+00) APPROX. 125 FT. EAST (STA. 317+75). SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (?½") AND IN CONFORMANCE WITH PROJECT SPECS. NOTE: MINOR CHANGES IN SUBGRADE ELEVATION IN SELECT AREAS TO ALLOW POSITIVE DRAINAGE

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	6/22/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	6/22/16
Title	QC Manager
Representing:	Entact
Signature:	Carolina Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1½") AS OUTLINED IN SECTION 02372-8.
MINOR CHANGES IN SUBGRADE ELEVATION IN SELECT AREAS OF CAP (COMPLETED BY ENTRACT)
- NO GCL TO BE PLACED ALONG WESTERN END OF SA-6 NORTH

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA 319+00	LOOKING N	REFER TO PHOTO #1 (PHOTO LOG 6/22/16)
	2 PHOTO #2	~STA 318+50	LOOKING N	REFER TO PHOTO #2 (PHOTO LOG 6/22/16)

1. REFER TO 6/22/16 PHOTOGRAPH LOG PHOTOS 1 TO 4 FOR SUPPORTING INFORMATION.

2.

LANGAN

Certificate of Soil Surface

Sheet # 2

Project Name	HONEYWELL SA-6 N1	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMECFW	Cell No.	~ STA. 317+75 TO ~ STA. 316+50		
QA Monitor	LANGAN	Date	6/23/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST FROM PANEL P17 (INSTALLED ON 6/22/16) ~~AREA~~ APPROX. STA. 317+75 + 425 FT. EAST TO APPROXIMATE. STA 316+50. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (≥ 1/2") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	6/23/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	6/23/16
Title	QC Manager
Representing:	Entek
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 02372-8.

- NO GCL TO BE PLACED ALONG WESTERN END OF SA-6 NORTH.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 317+50	LOOKING E	REFER TO PHOTO #1 (PHOTO LOG 6/23/16)
	2 PHOTO #2	~STA. 317+56	LOOKING S	REFER TO PHOTO #2 (PHOTO LOG 6/23/16)

1. REFER TO 6/23/16 PHOTOGRAPH LOG PHOTOS 1 TO 4 FOR SUPPORTING INFORMATION.

2.

LANGAN

Certificate of Soil Surface

Sheet # 3

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 316+50 TO ~STA. 315+75		
QA Monitor	LANGAN	Date	6/24/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P12/P13 (INSTALLED ON 6/23/16) FROM APPROX. STA. 316+50 TO APPROX. STA. 315+175. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	6/24/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	6/29/16
Title	QC Manager
Representing:	Entek
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (~1/2")
AS OUTLINED IN SECTION 02372-8.

- NO GCL TO BE PLACED ALONG WESTERN END OF SA-6 NORTH.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA 316+50	LOOKING E	REFER TO PHOTO #1 (PHOTO LOG 6/24/16)
	2 PHOTO #2	~STA 315+75	LOOKING S	REFER TO PHOTO #2 (PHOTO LOG 6/24/16)

1. REFER TO 6/24/16 PHOTOGRAPH LOG PHOTOS 1 TO 3 FOR SUPPORTING INFORMATION.

2.

LANGAN

Certificate of Soil Surface

Sheet # 4

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 315+75 TO ~STA. 314+25		
QA Monitor	LANGAN	Date	6/27/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P19 (INSTALLED ON 6/24/16). FROM APPROX. STA. 315+75 TO APPROX STA. 314+25. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	6/27/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	6/29/16
Title	QC Manager
Representing:	Entrust
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2")
AS OUTLINED IN SECTION 02372-8.

-- NO GCL TO BE PLACED ALONG WESTERN END OF SA-6 NORTH.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 315+75	LOOKING E	REFER TO PHOTO #1 (PHOTO LOG 6/27/16)
	2 PHOTO #2	~STA. 315+00	LOOKING S	REFER TO PHOTO #2 (PHOTO LOG 6/27/16)
1. REFER TO 6/27/16 PHOTOGRAPH LOG PHOTOS 1 TO 3 FOR SUPPORTING INFORMATION				2.

LANGAN

Certificate of Soil Surface

Sheet # 5

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMORANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 314.25 TO ~STA. 313+25		
QA Monitor	LANGAN	Date	6/30/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P27 (INSTALLED ON 6/27/16) FROM APPROX. STA. 314+25 TO APPROX. STA. 313+25. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	6/30/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Andrew Harris
Date:	7/1/16
Title	QC Manager
Representing:	Entact
Signature:	Andrew Harris

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2")
AS OUTLINED IN SECTION 02372-8

- NO GCL TO BE PLACED ALONG WESTERN END OF SA-6 NORTH

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1			REFER TO PHOTO #1 (PHOTO LOG 6/30/16)
	2 PHOTO #2			REFER TO PHOTO #2 (PHOTO LOG 6/30/16)
1. REFER TO 6/30/16 PHOTOGRAPH LOG PHOTOS 1 TO 3 FOR SUPPORTING INFORMATION.				2.

LANGAN

Certificate of Soil Surface

Sheet # 6

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 313+25 TO ~STA. 312+60		
QA Monitor	LANGAN	Date	7/1/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P32 (INSTALLED ON 6/30/16) FROM APPROX STA. 313+25 TO APPROX STA. 312+60. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/1/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolyn Panico
Date:	7/1/16
Title	QC Manager
Representing:	Entek
Signature:	Carolyn Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2")
AS OUTLINED IN SECTION 02372-8.

- NO GCL TO BE PLACED FROM ~STA. 313+25 TO ~STA. 312+60

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 313+25	LOOKING N	REFER TO PHOTO #1 (PHOTO LOG 7/1/16)
	2 PHOTO #2	~STA. 313+25	LOOKING S	REFER TO PHOTO #2 (PHOTO LOG 7/1/16)

1. REFER TO 7/1/16 PHOTOGRAPH LOG PHOTOS 1 TO 3 FOR SUPPORTING INFO.

2.

LANGAN

Certificate of Soil Surface

Sheet # 7

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 312+60 TO ~STA. 311+75		
QA Monitor	LANGAN	Date	7/6/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P38 (INSTALLED ON 7/1/16) FROM APPROX. STA. 312+60 TO APPROX. STA. 311+75. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/6/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7/8/16
Title	QC Mgr
Representing:	Entech
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8

- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT. x 8 FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (i.e. >1/2"). NO GCL TO BE PLACED FROM ~STA. 312+60 TO ~STA. 311+75

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	~STA 312+25	LOOKING S/SE	REFER TO PHOTO #3 (PHOTO LOG 7/6/16)
	2 PHOTO #4	~STA 312+27	LOOKING E	REFER TO PHOTO #4 (PHOTO LOG 7/6/16)
1. REFER TO 7/6/16 PHOTOGRAPH LOG PHOTOS 3 TO 5 FOR SUPPORTING PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 8

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMECFW	Cell No.	~STA. 311+75 TO ~STA. 311+55		
QA Monitor	LANGAN	Date	7/7/16		

Description of Soil Surface to be lined: ~20 FT. AREA IMMEDIATELY EAST OF PANEL P42 (INSTALLED ON 7/6/16) FROM APPROX. STA. 311+75 TO APPROX. STA. 311+55. APPROVED SOIL FOR PLACEMENT OF ONE PANEL SO INSTALLED LINER TERMINATES OUTSIDE OF BOTTOM OF SWALES + DEPRESSED CONTOURS TO PROMOTE + DRAINAGE (PM RAINSTORMS FORECASTED).

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/7/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7/8/16
Title	QC Mgr
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT. × 8 FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>1/2"). NO GCL TO BE PLACED FROM ~STA. 311+75 TO ~STA. 311+55'.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #9	~STA. 311+75	LOOKING N	REFER TO PHOTO #9 (PHOTO LOG 7/7/16)
	2			

1. REFER TO 7/7/16 PHOTO LOG PHOTO 9 (N ALONG ~STA 311+75)

2.

LANGAN

Certificate of Soil Surface

Sheet # 9

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMECFW	Cell No.	~STA. 311+55 TO ~STA. 310+80		
QA Monitor	LANGAN	Date	7/8/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P43 (INSTALLED ON 7/7/16) FROM APPROX. STA. 311+55 TO ~STA. 310+80. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BUDWORTH
Date:	7/8/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7/8/16
Title	QC Mgr
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: Soil Graded, Compacted, And Free of Debris (>1/2")
As outlined In Section 02372-8.
- Subgrade Observed By Field Engineer Who Walked The Placement Area In Approx. 200 ft. x 8 ft. Transects To Observe Soil Compaction As Well As Items Requiring Removal Prior to Panel Placement (>1/2"). No GCL to Be Placed From ~Sta. 311+55 to ~Sta. 310+80.

Photographs	Number	Location	Orientation	Notes
	1 Photo #1	~Sta. 311+55	Looking S/SE	Refer to Photo #1 (7/8/16)
	2 Photo #2	~Sta. 311+55	Looking S	Refer to Photo #2 (7/8/16)

1. Refer to 7/8/16 Photo Log Photos 1+2 for Supporting Subgrade Photos

2.

LANGAN

Certificate of Soil Surface

Sheet # 10

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 310+80 TO ~STA. 309+75		
QA Monitor	LANGAN	Date	7/12/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P49 (INSTALLED ON 7/8/16) APPROX. 105 FT. FROM APPROX STA. 310+80 TO ~STA 309+75. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/12/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	7/15/16
Title	QC Mgr
Representing:	Entek
Signature:	Carolina Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT. x 8 FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>1/2"). NO GCL TO BE PLACED FROM ~STA. 310+80 TO ~STA. 309+75.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #7	~STA. 310+80	LOOKING N	REFER TO PHOTO #7 (7/12/16)
	2 PHOTO #8	~STA. 310+80	LOOKING E	REFER TO PHOTO #8 (7/12/16)
1. REFER TO 7/12/16 PHOTO LOG PHOTOS 7 TO 9 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 11

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 309+75 TO ~STA. 309+00		
QA Monitor	LANGAN	Date	7/13/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P55/P56/P57 (INSTALLED ON 7/12/16) APPROX 75 FT. FROM APPROX. STA. 309+75 TO ~STA. 309+00. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/13/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	7/15/16
Title	QC Mgr
Representing:	Entrade
Signature:	Carolina Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2") AS OUTLINED IN SECTION 023122-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT BY 8 FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (7 1/2"). NO GCL TO BE PLACED FROM ~ STA 309+75 TO ~ STA. 309+00.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	~STA. 309+75	LOOKING S	REFER TO PHOTO #3 (7/13/16)
	2 PHOTO #4	~STA. 309+75	LOOKING E	REFER TO PHOTO #4 (7/13/16)
1. REFER TO 7/13/16 PHOTO LOG PHOTOS 3 TO 5 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 12

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 309+00 TO ~STA. 308+20		
QA Monitor	LANGAN	Date	7/14/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P62 / P63 (INSTALLED ON 7/13/16) APPROX 85 FT FROM APPROX STA. 309+00 TO ~STA. 308+20 SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/14/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7/15/16
Title	QC Mgr
Representing:	Enviro
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT. BY 8 FT. TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>1/2"). NO GCL TO BE PLACED FROM APPROX STA. 309+00 TO ± STA. 308+20.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 309+00	LOOKING E	REFER TO PHOTO #1 (7/14/16)
	2 PHOTO #2	~STA 309+00	LOOKING N	REFER TO PHOTO #2 (7/14/16)
1. REFER TO 7/14/16 PHOTOGRAPH LOG, PHOTOS 1 TO 3 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 13

Project Name	Honeywell SA-6 North	Material Desc.	Geomembrane		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	Honeywell / Amec F&W	Cell No.	~Sta. 308+20 to ~Sta. 307+20		
QA Monitor	Langan	Date	7/25/16		

Description of Soil Surface to be lined: Area immediately east of panel P68 (installed on 7/14/16) approx 100 ft. from approx ~Sta. 308+20 to ~Sta. 307+20 Soil appears to be graded, compacted, and free of debris (>1/2") and in conformance with project specs

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	7/25/16
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	7/25/16
Title	QC Mgr
Representing:	Entec
Signature:	Carolina Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.

- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX 200 FT x 8 FT. TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>1/2"). NO GCL TO BE PLACED FROM ~ STA. 308+20 TO ~ STA. 307+20

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 308+15	LOOKING S	REFER TO PHOTO #1 (11/25/16)
	2 PHOTO #2	~STA 308+15	LOOKING E	REFER TO PHOTO #2 (11/25/16)
1. REFER TO 11/25/16 PHOTOGRAPH LOG PHOTOS 1 TO 3 FOR SUPPORTING SUBGRADE PHOTO				2.

LANGAN

Certificate of Soil Surface

Sheet # 14

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 307+20 TO ~STA. 306+40		
QA Monitor	LANGAN	Date	7/27/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P175 (INSTALLED ON 7/25/16) APPROX 80 FT. FROM ~STA. 307+20 TO ~STA. 306+40. SOIL ADDITIONS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/27/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	7/27/16
Title	QC
Representing:	Entech
Signature:	Carolina Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT. x 8 FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>1/2"). NO GCL TO BE PLACED FROM ~STA. 307+20 TO ~STA. 306+40.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 307+00	LOOKING S	REFER TO PHOTO #1 (11/27/16)
	2 PHOTO #2	~STA. 307+20	LOOKING S	REFER TO PHOTO #2 (11/27/16)

1. REFER TO 11/27/16 PHOTOGRAPH LOG PHOTOS 1 TO 4 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 15

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 306+40 TO ~STA. 305+40		
QA Monitor	LANGAN	Date	7/28/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P86 (INSTALLED ON 7/27/16) APPROX 100 FT. EAST FROM ~ STA. 306+40 TO ~ STA. 305+40 SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/28/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7/28/16
Title	QC
Representing:	Entech
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02317Z-8.

- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT. x 8 FT. TRANSECTS TO OBSERVE SOIL CONDITION AS WELL AS ITEMS REQUIRING REMOVAL TO PANEL PLACEMENT (>1/2"). NO GCL TO BE PLACED FROM APPROX. STA. 306+40 TO ~ STA. 305+40

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	STA. 306+40	LOOKING N	REFER TO PHOTO #1 (7/28/16)
	2 PHOTO #2	STA. 306+40	LOOKING S	REFER TO PHOTO #2 (7/28/16)

1. REFER TO 7/28/16 PHOTOGRAPH LOG PHOTOS 1 TO 3 FOR SUPPORTING SUBGRADE PHOTOS.

2.

LANGAN

Certificate of Soil Surface

Sheet # 16

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 305+40 TO ~STA. 304+60		
QA Monitor	LANGAN	Date	8/3/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P88 (INSTALLED ON 7/28/16) APPROX 80 FT EAST FROM ~STA. 305+40 TO ~STA. 304+60. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/3/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Pania
Date:	8/3/16
Title	QC Mgr
Representing:	Antech
Signature:	Carolina Pania

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.
-SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT BY 8 FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>1/2"). NO GCL TO BE INSTALLED FROM APPROX. STA. 305+40 TO ~ STA. 304+60

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	~STA. 305+40	LOOKING S	REFER TO PHOTO #3 (8/3/16)
	2 PHOTO #4	~STA. 305+40	LOOKING E	REFER TO PHOTO #4 (8/3/16)

1. REFER TO 8/3/16 PHOTOGRAPH LOG PHOTOS 3 TO 5 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 17

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 304+60 TO ~STA. 303+75		
QA Monitor	LANGAN	Date	8/4/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P93 (INSTALLED ON 8/3/16) APPROX. 85 FT. EAST FROM ~STA. 304+60 TO ~STA. 303+75. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS. GCL PLACED ALONG NORTH END OF CAP (~STA. 303+75) FOR AREA BELOW, TO 1 FT. ABOVE SITE WATER TABLE

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/4/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/4/16
Title	QC mgr
Representing:	Entech
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED. AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT BY 8 FT. TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>1/2"). GCL PAPERED ALONG NORTHERN EDGE OF CAP AT APPROX STA. 303+75 FOR AREAS BELOW (TO 1FT ABOVE SITE GROUNDWATER TABLE) @ APPROX EL. 7

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	~STA. 304+60	LOOKING E	REFER TO PHOTO #3 (8/4/16)
	2 PHOTO #4	~STA. 304+60	LOOKING S	REFER TO PHOTO #4 (8/4/16)
1. REFER TO 8/4/16 PHOTOGRAPH LOG PHOTOS 3 TO 5 FOR SUPPORTING SUBGRADE PHOTOS.				2.

LANGAN

Certificate of Soil Surface

Sheet # 18

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 303+75 TO ~STA. 303+15		
QA Monitor	LANGAN	Date	8/5/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF TEMPORARY PANEL 3 (INSTALLED ON 8/4/16) APPROX 60 FT EAST FROM ~STA. 303+75 TO ~STA. 303+15. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS. GCL PLACED ALONG N END OF CAP FOR AREA BELOW (TO 1 FT. ABOVE) SITE WATER TABLE AS INDICATED ON DESIGN DRAWINGS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/5/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/5/16
Title	QC Mgr
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 02372-8.

- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX 200 FT BY 8 FT. TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>½"). GCL PLACED ALONG NORTHERN END OF CAP FROM ±STA. 303+75 TO ±STA 303+15. FOR AREAS BELOW (TO 1FT. ABOVE) SITE WATER TABLE @ APPROX EL. 7 AS ~~INDICATED~~ SHOWN ON DESIGN DRAWINGS

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #5	±STA. 303+75	LOOKING S	REFER TO PHOTO #5 (8/5/16)
	2 PHOTO #6	±STA. 303+75	LOOKING E	REFER TO PHOTO #6 (8/5/16)
1. REFER TO 8/5/16 PHOTOGRAPH LOG PHOTOS 5 TO 8 FOR SUPPORTING SUBGRADE PHOTOS + GCL PLACEMENT				2.

LANGAN

Certificate of Soil Surface

Sheet # 19

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMECFW	Cell No.	~STA. 303+15 TO ~STA. 302+70		
QA Monitor	LANGAN	Date	8/8/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P98 (INSTALLED ON 8/5/16) APPROX 45 FT EAST FROM APPROX ~STA. 303+15 TO ~STA. 302+70. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS. GCL PLACED ALONG N END OF CAP FOR AREAS BELOW (TO 1FT ABOVE) SITE WATER TABLE AS SHOWN ON DESIGN DRAWINGS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/8/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/8/16
Title	QC Manager
Representing:	Anchor
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX ~200 FT BY 8 FT. TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT. ALL PLACED ALONG N END OF CAP FROM APPROX ~STA. 303+15 TO ~STA. 302+70, FOR AREAS BELOW (TO 1FT ABOVE) SITE WATER TABLE @ ~EL. 7 AS SHOWN ON DESIGN DRAWINGS

Photographs	Number	Location	Orientation	Notes
	1			
	2			

1.

2.

LANGAN

Certificate of Soil Surface

Sheet # 20

Project Name	Honeywell SA-6 North	Material Desc.	Geomembrane		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	Honeywell / AMRC FW	Cell No.	~Sta. 302+70 to ~Sta. 301+70		
QA Monitor	Langan	Date	8/9/16		

Description of Soil Surface to be lined: Area immediately east of P100 (installed on 8/8/16) approx 100 ft east from approx ~Sta. 302+70 to ~Sta. 301+70. Soil appears to be graded, compacted, and free of debris (>½") and in conformance with project specs. GCL placed along N end of cap for areas below (to 1ft. above) site water table as shown on design drawings

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-no changes

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	8/9/16
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/9/16
Title	QC Manager
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 02372-8
• SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 12'-00 FT BY SET TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>½"). GCL PLACED ALONG N END OF CAP FROM APPROX. STA. 302+70 TO STA. 301+70 FOR AREAS BELOW (TO 1 FT. ABOVE) SITE WATER TABLE @ APPROX. EL. 7 AS SHOWN ON DESIGN DRAWINGS

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #9	STA 302+70	LOOKING E	REFER TO PHOTO #9 (8/9/16)
	2 PHOTO #10	STA. 302+70	LOOKING S	REFER TO PHOTO #10 (8/9/16)

1. REFER TO 8/9/16 PHOTOGRAPH LOG PHOTOS 9 TO 12 FOR SUPPORTING SUBGRADE PHOTOS + GCL PLACEMENT

2.

LANGAN

Certificate of Soil Surface

Sheet # 21

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 301+70 TO ~STA. 301+25		
QA Monitor	LANGAN	Date	8/11/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P106 (INSTALLED ON 8/9/16) APPROX 45 FT. EAST FROM APPROX ~STA. 301+70 TO ~STA. 301+25. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS. GCL PLACED ALONG N END OF CAP FOR AREAS BELOW (TO 1FT ABOVE) SITE WATER TABLE AS SHOWN ON DESIGN DRAWINGS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DAN BOSWORTH
Date:	8/11/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/11/16
Title	QC Manager
Representing:	Entek
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8

- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX ~200 FT BY 8 FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>1/2"). GCL PLACED ALONG N END OF CAP FROM ~STA. 301+70 TO ~STA. 301+25 FOR AREAS BELOW (TO 1FT. ABOVE) SITE WATER TABLE @ APPROX EL. 7 AS SHOWN ON DESIGN DRAWINGS

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #9	~STA. 301+70	LOOKING S	REFER TO PHOTO #9 (8/11/16)
	2 PHOTO #10	~STA. 301+70	LOOKING S	REFER TO PHOTO #10 (8/11/16)

1. REFER TO 8/11/16 PHOTOGRAPH LOG PHOTOS 9 TO 12 FOR SUPPORTING SUBGRADE PHOTOS + GCL PLACEMENT

2.

LANGAN

Certificate of Soil Surface

Sheet # 22

Project Name	HONEYWELL 5A-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 301+25 TO ~STA. 300+80		
QA Monitor	LANGAN	Date	8/12/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P112 (INSTALLED ON 8/11/16) APPROX 45 FT. EAST FROM ~STA. 301+25 TO ~STA. 300+80. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS. ALL PLACED ALONG N END OF CAP FOR AREAS BELOW (TO 1FT ABOVE) SITE WATER TABLE AS SHOWN ON DESIGN DRAWINGS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DAN BOSWORTH
Date:	8/12/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/12/16
Title	QC Manager
Representing:	Entrack
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. ~200 FT BY 8 FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT
GCL PLACED ALONG N END OF CAP FROM APPROX ~STA. 301+25 TO ~STA. 300+80 FOR AREAS BELOW (TO 1FT. ABOVE) SITE WATER TABLE @ APPROX. EL. 17 AS SHOWN ON DESIGN DRAWINGS.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #9	~STA. 301+25	LOOKING N	REFER TO PHOTO #9 (8/12/16)
	2 PHOTO #10	~STA. 301+25	LOOKING S	REFER TO PHOTO #10 (8/12/16)

1. REFER TO 8/12/16 PHOTOGRAPH LOG PHOTOS 9 TO 12 FOR SUPPORTING SUBGRADE PHOTOS + GCL PLACEMENT

2.

LANGAN

Certificate of Soil Surface

Sheet # 23

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 300+80 TO ~STA. 300+00 (EEOS)		
QA Monitor	LANGAN	Date	8/13/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P114 (INSTALLED ON 8/12/16) APPROX 80 FT. EAST FROM ~STA. 300+80 TO ~STA. 300+00 (EEOS). SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS. GCL PLACED ALONG N AND E END OF CAP FOR AREAS BELOW (TO 1FT ABOVE) SITE WATER TABLE. AS SHOWN ON DESIGN DRAWINGS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DAN BOSWORTH
Date:	8/13/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/13/16
Title	QC Manager
Representing:	Antaeus
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2") AS OUTLINED IN SECTION 02372-8
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX ~200 FT BY 3 FT. TRANSECTS TO ASSESS SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT. GCL PLACED ALONG NORTH + EAST END OF CAP FROM APPROX STA. 300+80 TO ~STA 300+00 (EDGE OF CAP) FOR AREAS BELOW TO 1FT. ABOVE SITE WATER TABLE @ APPROX EL. 7 AS SHOWN ON DESIGN DRAWINGS

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #8	~STA. 300+40	LOOKING N	REFER TO PHOTO #8 (8/13/16)
	2 PHOTO #9	~STA. 300+80	LOOKING N	REFER TO PHOTO #9 (8/13/16)
1. REFER TO 8/13/16 PHOTOGRAPH LOG PHOTOS 8 TO 11 FOR SUPPORTING SUBGRADE PHOTOS + GCL PLACEMENT				2.

Appendix E
Langan Daily Reports & Supporting Photo Logs

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/21/2015
PROJECT:	SA-6 Capping			**WEATHER:**	80/92° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Soil Subgrade Observation		**TIME:**	0745 – 1215

CONTRACTOR & EQUIPMENT: **Entact & ESI** *Equipment:* Dozers, Steel Drum Rollers, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #1** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Philemon **Langan:** Dan Bosworth, Jeff Stoicescu **ENTACT**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite to conduct soil subgrade observation along the west end of SA-6 North. A preliminary kickoff meeting was conducted between AmecFW, Langan, and Entact to discuss the QA / QC activities, along with the strategy and implementation plan for the proposed capping of SA-6 North.
- Following the meeting, Langan and AmecFW conducted a visual observation of the prepared soil subgrade along the western end of SA-6 North. This area included the furthest western part of the cap (approximately 100 ft. from the western end moving east).
- In general, the following soil subgrade properties were observed:
  - Various debris including broken glass, wood fragments, small rocks, etc. were observed along the western end of SA-6 North (specifically along the slopes and elevation changes at the northern end of the cap). It is recommended that this debris addressed so that no objects are penetrating / extruding from the surface, and the overall subgrade is flat and even. Additionally, Entact should provide laborers with a wheelbarrow and equipment to collect various debris as it is encountered.
  - Some slight changes in elevation were observed in areas along the western end of the cap where one area appeared higher than the other. The variations in cap subgrade elevation could potentially result in the ponding of water. Additionally, the mouths along the tree bulb swales appeared to be higher than the swale itself, thus causing water to pond in the swales instead of flowing out and down the sides of the cap. AmecFW to review the survey data and confirm existing grades.
  - Additional details regarding the subgrade are outlined in the 6/21/16 Photograph Log attached as part of this report.
- AmecFW to address the issues outlined above, with follow up subgrade inspection to be completed on 6/22/16 by Langan (prior to deployment of GVL).

Observations Requiring Contractor / QA Engineer Review

- Based on the soil subgrade observation, the soil has not yet been approved for liner installation activities based on the debris / penetrations outlined in this report. It is recommended that the Entact provide the necessary labor to remove the various debris and provide a flat, even surface with no penetrations or extrusions through the subgrade.

Cc Jeff Stoicescu, Rory Johnston, Vikki Hon, File

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items Pending

- QA Engineer - Review SA-6 North capping specifications and drawings. Review product submittals (as provided) and ensure that all data, drawings, and pertinent documents are ready for liner installation kickoff (planned to commence on 6/22/16).

Action Items – Weekly Completions

- None to Date

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- SA-6 North capping to commence on 6/22/16 (pending soil subgrade approval).

Cc: Jeff Stoicescu, Rory Johnston, Vikki Hon, File

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Photograph Log

Photo 1: Wood and various debris observed along northern end of SA-6 North.

Photo 2: Looking south along western end of SA-6 North. Misc. trash and debris to be removed by Entact.

Photograph Log (continued)

Photo 3: Prepared subgrade along western end of SA-6 North. AmecFW to confirm and verify surveyed grades.

Photo 4: Soil subgrade along western end of SA-6 North. Entact to remove debris / penetrations. AmecFW to verify and confirm surveyed grades.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/22/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/92° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0745 – 1630

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #2**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Philemon
Langan: Dan Bosworth
ENTACT: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) starting at the western end of SA-6 North. Material to be placed starting from the western end (approximate Sta. 319+00) of SA-6 North for approximately 125 ft. east. (to approximate Sta. 317+75).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area).
- Prior to placement of geosynthetic material, soil subgrade observation was conducted by Langan and Entact for the area outlined above. Based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #1, 2, 3, and 4 of the daily photo log for 6/22/2016, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications as verified by AmecFW. Additionally, minor modifications to the subgrade elevations were completed by Entact to facilitate positive drainage flow away from the tree bulb swales (located at approximate Sta. 317+75).
- Following soil subgrade approval, ESI began by placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed on the western end of the Site (approximate Sta. 319+00) moving east (to approximate Sta. 317+75). GVL was placed according to the project specifications with white plastic fasteners spaced at a minimum of 5 ft. Additionally the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to 6/22/16 Photo Log for supporting photographs.
- After installation of GVL, geomembrane liner was installed beginning at the western end of SA-6 North and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 319+00 to approximate Sta. 317+75. A total of seven panels were installed (P1, P2, P3, P4, P5, P6, and P7). Note: P1 consisted of an approximate 50 ft. by 18 ft. piece of LLDPE installed along the western end of SA-6 North. During placement of Panel P4, the roll of LLDPE terminated at the approximate center of the cap, thus the remaining run of LLDPE was installed as P5. P2, P3, P6, and P7 ran the entire width of SA-6 North (approximately 162 ft.) from north to south.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- Adjacent panel seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 6/22/16 *Trial Weld Log.*
- Non-destructive testing was then conducted (pressure testing) for the fusion welded seams. 30 psi was applied to the seams and held for 5-minute increments with no more than 4 psi loss measured over the 5-minute interval. The results of the non-destructive tests are outlined in the *Seam Control Form.*
- Destruct test samples and extrusion weld detailing (repairs) to be completed on 6/23/15.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log for 6/22/16. Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, etc.)

Action Items – Weekly Completions

- None to Date

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 317+75 to Sta. 316+75).
- Continue with 16 oz. geotextile, GVL, and LLDPE placement moving east along SA-6 North.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be certified upon completion of SA-6 North
A2 – Receiving and Inspection		NA - No material delivered to the site on 6/22/16
A3 – Photo Log	Pages 1 - 8	Total of 16 photos outlining pertinent daily observations and descriptions for activities completed on 6/22/16
A4 – Geosynthetic Inventory Log		Completed to date, no updates from 6/22/15
A5 – Subgrade Approval	Sheet 1 & ESI (6/22/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Sheet 1	One trial weld log provided by ESI and confirmed by Langan for trial welds completed on 6/22/16
A7 – Panel Placement Log	Sheet 1	One panel placement log provided by ESI and confirmed by Langan for panels placed on 6/22/16.
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 6/22/16
A9 – Seam/Non-Destruct. Test Log	Sheets 1 - 2	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 6/22/16
A10 – Repair Log		NA – no repairs or extrusion welds completed on 6/22/16
A11 – Conformance COC		NA – for 6/22/16.
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 6/22/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 6/22/16
A14 – Penetration & Edge Form		NA – no penetrations / boots completed on 6/22/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 6/22/16
A17 – Spark Test Form		NA – no spark testing conducted on 6/22/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking north along SA-6 North (western end of cap) near Sta. 319+00.

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #2 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking north along western end of SA-6 North (approximate Sta. 318+50).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding and graded, compacted, and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #3 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking southeast along western end of SA-6 North

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #4 (06/22/2015)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/2215

Direction Taken:

Looking north / northeast along SA-6 North (at approximate Sta. 318+00).

Description:

Modifications completed on subgrade to facilitate positive drainage flow away from tree bulb swales.

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PHOTOGRAPHIC LOG
Photo #5 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking north along western end of SA-6 North (approximate Sta. 319+00).

Description:

ESI deploying 16 oz. geotextile along western end of SA-6 North. Geotextile overlapped minimum of 1 ft. over the edges of the cap (remaining roll width inside)

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PHOTOGRAPHIC LOG
Photo #6 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking east along northern end of SA-6 North.

Description:

16 oz. geotextile deployed along northern end of SA-6 North and overlapped a minimum of 1 ft. beyond the edges of the cap.

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PHOTOGRAPHIC LOG
Photo #7 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking north along western end of SA-6 North (approximate Sta. 319+00).

Description:

ESi deploying GVL along SA-6 North. 16 oz. geotextile overlapping GVL by a minimum of 1 ft. and leistered in place.

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PHOTOGRAPHIC LOG
Photo #8 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

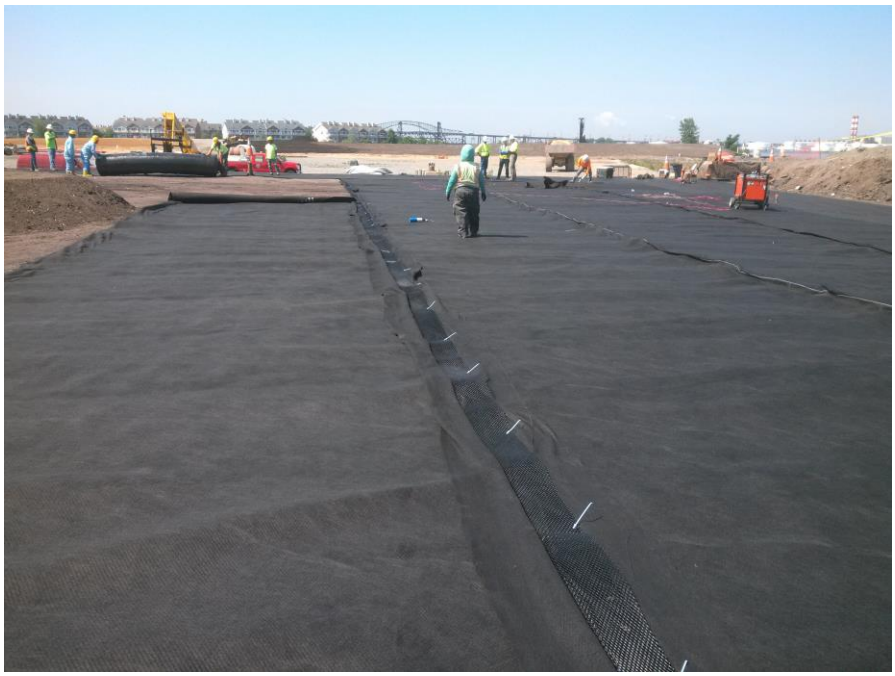
Date:
6/22/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 318+25).

Description:

ESI placing white plastic fasteners at maximum 5 ft. spacing along adjacent GVL panels. Top layer of geotextile then sewn.



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PHOTOGRAPHIC LOG
Photo #9 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking south / southeast along SA-6 North

Description:

GVL deployed over approved subgrade.

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PHOTOGRAPHIC LOG
Photo #10 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking north along western end of SA-6 North

Description:

ESI deploying LLDPE along western end of SA-6 North (approximate Sta. 319+00).

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PHOTOGRAPHIC LOG
Photo #11 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

SA-6 North

Description:

ESI conducting fusion weld for peel and shear trial weld testing.

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PHOTOGRAPHIC LOG
Photo #12 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

ESI Trailer

Description:

ESI conducting trial weld peel and shear testing (as per project specifications).

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PHOTOGRAPHIC LOG
Photo #13 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking north along western end of SA-6 North (approximate Sta. 319+00).

Description:

ESI conducting fusion welding between P1 and P2 seams.

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PHOTOGRAPHIC LOG
Photo #14 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking at SA-6 North (P1 & P2 seam)

Description:

ESI conducting pressure testing along P1 and P2 seams (30 psi hold for 5 minutes).

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PHOTOGRAPHIC LOG
Photo #15 (06/22/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
6/22/16

Direction Taken:

Looking north along SA-6 North

Description:

LLDPE Panels P4 & P5 (butt seam) labeled in field.

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PHOTOGRAPHIC LOG
Photo #16 (06/22/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
6/22/16

Direction Taken:

Looking south / southeast along SA-6 North

Description:

LLDPE deployed across SA-6 North from approximate Sta. 319+00 to Sta. 317+75.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/23/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/90° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0650 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Lull, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #3** **AmecFW**: Stu Bills, Dave Ambrose, Ari Eslaminejad, Philemon Onyango **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) continuing east from Panel P7 installed on 6/22/16 (approximate Sta. 317+75). Material to be placed from Panel P7 running approximately 125 ft. east to approximate Sta. 316+50.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 317+75 (east of Panel P7 installed on 6/22/16) to approximate Sta. 316+50. Refer to *Soil Subgrade Approval* forms from 6/23/15 for additional details. Based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos 1 to 4 of the daily photo log for 6/23/2016, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications as verified by AmecFW
- GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 317+75 (east Panel P7) moving east to approximate Sta. 316+50. GVL was placed according to the project specifications with white plastic fasteners spaced at a minimum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/23/16 Photo Log for supporting photographs.
- While GVL was being deployed, ESI also conducted patch / repair work along the panels installed on 6/22/16 (Panels P1 to P7). Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (6/23/16).

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

- A total of eleven repairs (R-1 through R-11) were observed and fixed (according to the project specifications) from Panels P1 through P7. Refer to 6/23/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While the geomembrane (installed on 6/22/16) was being patched / repaired, ESI also began to prepare penetration boots for Piezometer PZ10, Well 115-W6-SO, and Gas Vent GV-6. Note: The boot and boot skirts were completed, however, the vertical welds along the boots have not yet been tested as methane testing / spark testing are to be completed prior to finalizing the boot details.
- During repair activities / extrusion welding one non-conformance issue was observed and was documented on Sheet #1 as non-compliance. The non-compliance issue encountered was identified based on debris / rock that was observed underneath the LLDPE geomembrane. The rock was subsequently removed and the hole was patched / repaired according to the project specifications and further outlined in the *Non-Compliance and Corrective Action* forms – *Sheet #1* for 6/23/16. The non-compliance issue was also recorded within the *Repair Log* as a subgrade irregularity and is identified as R-10.
- After placement of GVL, geomembrane liner was installed beginning at the western end of SA-6 North (from Panel P7) and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 317+75 (Panel P7) to approximate Sta. 316+50. A total of six panels were installed (P8, P9, P10, P11, P12, and P13). Note: During placement of panel P8, the roll of LLDPE terminated approx. 2/3 from the north of the cap, thus the remaining run of LLDPE was installed as P9. Similarly, during placement of Panel P12, the roll terminated along the northern end of SA-6 North, thus the remaining run of LLDPE was labeled as P13. Panels P10 and P11 ran the entire width of SA-6 North (approximately 162 ft.) from north to south.
- Adjacent geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 6/23/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 316+50, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 6/23/16 *Seam Control Form* for non-destructive testing details. Additionally, repair and extrusion weld activities were also conducted for Panels P8 through P13. A total of 32 additional repairs (RP-11 through RP-43) were observed and fixed according to the project specifications. Additional details are also outlined on the 6/23/16 *Repair Log.*
- A total of four destruct samples were collected for laboratory sampling by Entact / ESI. Three fusion weld destruct samples DS-1 (Panel P1 / P2 seam), DS-2 (Panel P6 / P7 seam), and DS-3 (Panel P10 / P11 seam) were collected for laboratory analysis. Additionally, one extrusion weld sample DSX-1 (Panel P1) was also collected for laboratory analysis.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 1 (Sheet #1) – Subgrade irregularity identified as R-10 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P6. Stone was subsequently removed, and hole was patched/repaired following project specs as further described in *Sheet 1 Notice of Non-Compliance.*

Action Items – Pending

- Complete Daily Report and Photo Log (for 6/23/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.)

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Pending (continued)

- Review laboratory destruct sample data for fusion weld destruct samples DS-1 to DS-3 and extrusion weld sample DSX-1 (once received from laboratory).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16. ESI Daily Form Submittals still to be reviewed.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 6/23/16
A3 – Photo Log	Pages 1 – 8	Total of 16 photos outlining pertinent daily observations and descriptions for 6/23/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 6/23/16
A5 – Subgrade Approval	Sheet 2 & ESI (6/23/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 1	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 6/23/16
A7 – Panel Placement Log	Pages 1 - 2	One panel placement log provided by ESI and confirmed by Langan for panels placed on 6/23/16
A8 – Destruct Seam Testing COC	Sheet 1	Updated for destruct samples collected on 6/23/16
A9 – Seam/Non-Destruct. Test Log	Pages 2 - 4	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 6/23/16
A10 – Repair Log	Pages 1 - 2	One repair log provided by ESI and confirmed by Langan for repairs completed for 6/23/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A11 – Conformance COC		NA for 6/23/16
A12 – Destructive Seam Field Test	Page 1	Updated with destruct samples collected on 6/23/16
A13 – Destruct. Sample Summary	Page 1	Destruct sample summary updated with samples collected on 6/23/16
A14 – Penetration & Edge Form	6/23/16 Pipe Boot Logs	Pipe boots completed for Piezometer PZ10, Well 115-W6-SO, and Gas Vent GV-6. Methane / spark testing still to be conducted to confirm integrity of boot.
A16 – Notice of Non-Compliance	Sheet 1	One non-compliance issue identified on 6/23/16 and summarized on Sheet 1
A17 – Spark Test Log		NA – no spark testing conducted on 6/23/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

Looking east along SA-6 North from Panel P7 (installed on 6/22/16) near Sta. approximate Sta. 317+50.

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #2 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 317+50).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding and graded, compacted, and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #3 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

Looking east along SA-6 North (from approximate Sta. 316+50).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #4 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

Looking north / northeast along SA-6 North (southern end of SA-6 North)

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #5 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 317+25).

Description:

ESI deploying GVL across approved soil subgrade.

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PHOTOGRAPHIC LOG
Photo #6 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

Looking east along western end of SA-6 North (at Piezometer PZ10)

Description:

ESI prepping for extrusion weld / detailing for pipe boot repairs. Neoprene gasket placed around Piezometer PZ10.

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PHOTOGRAPHIC LOG
Photo #7 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

Looking north along SA-6 North (at approximate Sta. 317+50).

Description:

White plastic fasteners spaced at maximum of 5 ft. along geonet. Top layer of geotextile to be sewn.

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PHOTOGRAPHIC LOG
Photo #8 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

Looking east along western end of SA-6 North (Panel P1).

Description:

ESI conducting extrusion welding (detailing) for pipe boot for Piezometer PZ10 and repairs located on Panel P1. Additional details provided in ESI Repair Log dated 6/23/16.

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PHOTOGRAPHIC LOG
Photo #9 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

Looking east along SA-6 North (at approximate Sta. 318+25)

Description:

ESI conducting repairs / extrusion welding for custom fit repairs on Panel P6. Geomembrane cut to conform to SA-6 North contours.

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PHOTOGRAPHIC LOG
Photo #10 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

Looking east along southern end of SA-6 North (Panel P6 / P7 seam).

Description:

Destruct sample DS-2 (fusion weld) marked to be cut for laboratory testing. DS-2 located along southern end of SA-6 North (Panel P6 / P7).

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PHOTOGRAPHIC LOG
Photo #11 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 317+25).

Description:

ESI deploying LLDPE across SA-6 North (panels oriented north to south).

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PHOTOGRAPHIC LOG
Photo #12 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

SA-6 North, Panel P6

Description:

Subgrade irregularity identified on Panel P6. Rock removed from underneath LLDPE and recorded as Repair R-10, non-compliance issue (identified on Sheet 1).

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PHOTOGRAPHIC LOG
Photo #13 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

Looking east along SA-6 North (approximate Sta. 317+50).

Description:

ESI conducting fusion welding between Panel P8 / P9 seam (butt seam).

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PHOTOGRAPHIC LOG
Photo #14 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

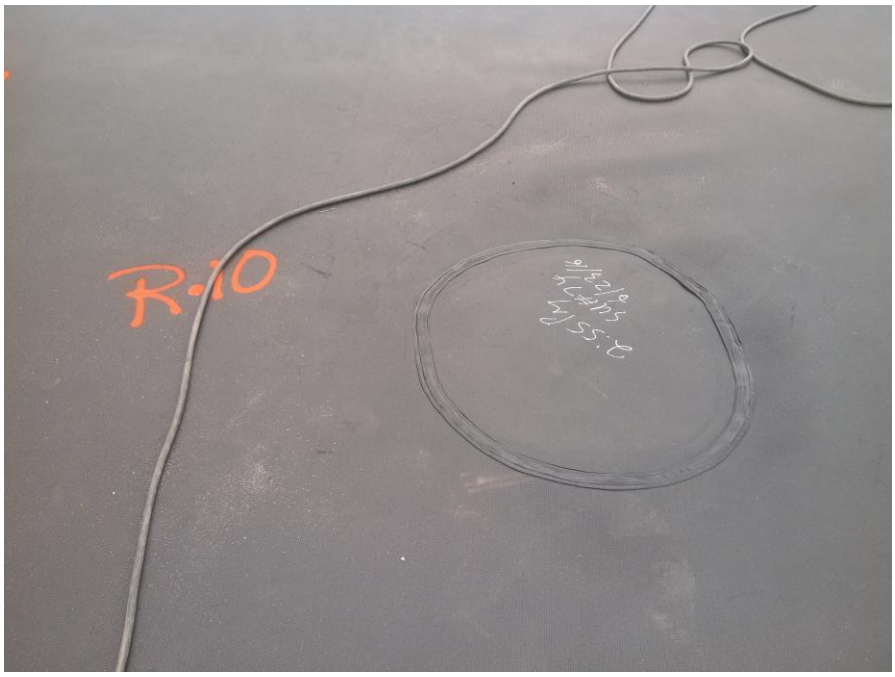
Date:
6/23/16

Direction Taken:

SA-6 North Panel P6

Description:

Patch repair and extrusion welding completed for R-10 which was identified as the subgrade irregularity (non-conformance Sheet 1) with rock removed from underneath LLDPE geomembrane.



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PHOTOGRAPHIC LOG
Photo #15 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

SA-6 North Destruct Sample DS-2

Description:

Destruct sample DS-2 (Panel P6 / P7 seam) following patch repair and extrusion welding.

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PHOTOGRAPHIC LOG
Photo #16 (06/23/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/23/16

Direction Taken:

SA-6 North at well 115-W6-SO

Description:

LLDPE boot with skirt welded. Vertical seam extrusion weld to be completed once methane testing / spark testing completed.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/24/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/95° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1545

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #4** **AmecFW**: Stu Bills, Dave Ambrose, Ari Eslaminejad, Philemon Onyango **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) continuing east from Panel P12 / P13 installed on 6/23/16 (approximate Sta. 316+50). Material to be placed from Panel P12 / P13 running approximately 75 ft. east to approximate Sta. 315+75.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 316+50 (Panel P12 / P13 installed on 6/23/16) to approximate Sta. 315+75. Refer to *Soil Subgrade Approval* forms from 6/24/15 for additional details. Based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos 1 to 3 of the daily photo log for 6/24/2016, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications as verified by AmecFW
- GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 316+50 (east of Panel P12 / P13) moving east to approximate Sta. 315+75. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/24/16 Photo Log for supporting photographs.
- While GVL was being deployed, ESI also continued patch / repair work for the panels installed on 6/23/16 (Panels P8 to P13). Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (6/24/16).
- In addition, methane testing was conducted for the pipe boots completed for Well 115-W6-SO,

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Piezometer PZ10, and Gas Vent GV-6. Methane testing was conducted by AmecFW to measure the concentration of methane present below the LLDPE geomembrane. During methane testing of Well 115-W6-SO, a concentration of 1.4% (greater than 1%) was measured. No spark testing was conducted on Well 115-W6-SO due to the measured methane concentration. Instead, the weld was visually observed for deficiencies and none were noted.

- Methane testing for PZ10 and Gas Vent GV-6 yielded methane concentrations of 0.8% and 0.0%, respectively (<1%). Following the methane testing, spark testing was conducted by ESI for the vertical weld and pipe boot weld at the base of the penetration (i.e. welds not accessible for vacuum box testing). No sparks were observed during the test, and both boots passed. Additional details are outlined in the *Spark Testing QA Form Sheets #1-3.*
- After placement of GVL, LLDPE geomembrane was installed continuing from Panel P12 / P13 (installed on 6/23/16) and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 316+50 (Panel P12 / P13) to approximate Sta. 315+75. A total of six panels were installed (P14, P15, P16, P17, P18, and P19). Note: During placement of panel P15, the roll of LLDPE terminated approx. 2/3 from the north of the cap, thus the remaining run of LLDPE was installed as P16. Panels P14, P17, P18, and P19 ran the entire width of SA-6 North (approximately 192 ft.) from north to south.
- Adjacent geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. At leastsix 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 6/24/16 *Trial Weld Log*.
- Upon completion of geomembrane panel placement to approximate Sta. 315+75, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 6/24/16 *Seam Control Form* for non-destructive testing details. Additionally, repair and extrusion weld activities were also conducted for Panels P14 through P19. Additional details are also outlined on the 6/24/16 *Repair Log.*
- A total of thirty repairs (RP-44 through RP-73) were observed and fixed (according to the project specifications) from Panels P14 through P19. Refer to 6/24/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. Note: vacuum box testing not completed for all welds. To be continued on 6/27/16.
- ESI completed pipe boot / penetrations for Access Manhole 1 (Sta. 1+50). Additional details are provided in the 6/24/16 Pipe Boot Forms.
- A total of two destruct samples were collected for laboratory analysis by Entact / ESI. One fusion weld destruct sample DS-4 (Panel P15 / P17 seam) was collected for laboratory analysis. Additionally, one extrusion weld sample DSX-2 (Panel P10) was also collected for laboratory analysis.

Non-Conformance Items / Corrective Actions

- None Encountered

Action Items – Pending

- Complete Daily Report and Photo Log (for 6/24/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample data (once received from laboratory).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16 and 6/23/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1, DS-2, and DS-3. Reviewed laboratory data for extrusion weld destruct sample DSX-1.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 6/24/16
A3 – Photo Log	Pages 1 – 7	Total of 14 photos outlining pertinent daily observations and descriptions for 6/24/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 6/24/16
A5 – Subgrade Approval	Sheet 3 & ESI (6/24/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 1 - 2	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 6/24/16
A7 – Panel Placement Log	Pages 2 & 3	One panel placement log provided by ESI and confirmed by Langan for panels placed on 6/24/16
A8 – Destruct Seam Testing COC	Sheet 1	Updated for destruct samples collected on 6/24/16
A9 – Seam/Non-Destruct. Test Log	Pages 4 - 7	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 6/24/16
A10 – Repair Log	Pages 2 - 4	One repair log provided by ESI and confirmed by Langan for repairs completed for 6/24/16
A11 – Conformance COC		NA for 6/24/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test	Page 1	Updated with destruct samples collected on 6/24/16
A13 – Destruct. Sample Summary	Page 1	Destruct sample summary updated with samples collected on 6/24/16
A14 – Penetration & Edge Form	6/24/16 Pipe Boot Logs	Pipe boot completed for Access Manhole 1 (Sta. 1+50).
A16 – Notice of Non-Compliance		NA - no non-compliance issues identified on 6/24/16.
A17 – Methane / Spark Testing Log	Sheets 1 to 3	Methane testing completed for Piezometer PZ10, Well 115-W6-SO, and Gas Vent GV-6. Spark testing completed for Piezometer PZ10 and Gas Vent GV-6 (no spark testing completed for Well 115-W6-SO due to the measured methane concentration).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

Looking east along the southern end of SA-6 North (at approximate Sta. 316+50).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #2 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

Looking south across SA-6 North (approximate Sta. 315+75).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding and graded, compacted, and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #3 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

Looking east / southeast along SA-6 North (from approximate Sta. 316+50).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #4 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

Looking north / northeast along SA-6 North (at approximate Sta. 316+50).

Description:

ESI deploying GVL over approved subgrade. GVL secured with plastic fasteners with top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #5 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

Looking north / northwest at Well 115-W6-SO

Description:

Entact conducting methane testing for Well 115-W6-SO pipe boot. Methane at concentration of 1.4% measured. No spark testing conducted on well pipe boot.

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PHOTOGRAPHIC LOG
Photo #6 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

Looking west at Piezometer PZ10

Description:

ESI conducting spark testing for Piezometer PZ10 pipe boot. Methane testing yielded results of 0.8% (below 1%), thus spark testing was completed. No sparks identified during test. Spark test passed.

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PHOTOGRAPHIC LOG
Photo #7 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

SA-6 North – Gas Vent GV-6

Description:

ESI conducting spark testing for Gas Vent GV-6 pipe boot. Methane testing yielded results of 0.0% (below 1%), thus spark testing was conducted. No sparks identified during test. Spark test passed.

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PHOTOGRAPHIC LOG
Photo #8 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

Looking south / southeast along SA-6 North (at approximate Sta. 316+50).

Description:

ESI deploying LLDPE geomembrane over GVL. LLDPE panels oriented north to south as per approved panel layout.

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PHOTOGRAPHIC LOG
Photo #9 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

Looking south / southeast along SA-6 North (Panel P13 / P14).

Description:

ESI conducting fusion welding along Panel P13 / P14 seam.

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PHOTOGRAPHIC LOG
Photo #10 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

Looking south / southwest along SA-6 North (Access Manhole #1).

Description:

ESI prepping pipe boot for Access Manhole #1. Methane testing / spark testing to be completed before completing boot welds.

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PHOTOGRAPHIC LOG
Photo #11 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

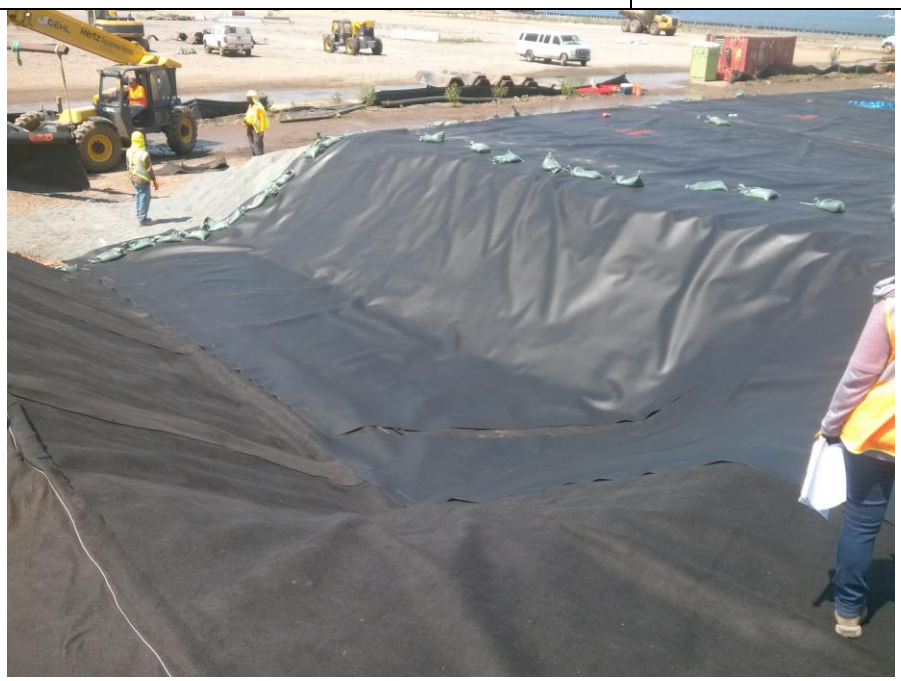
Date:
6/24/16

Direction Taken:

Looking south along southern end of SA-6 North (approximate Sta. 316+00).

Description:

ESI cutting "custom fit" repairs to conform LLDPE geomembrane to SA-6 North contours (i.e. drainage swale at approximate Sta. 316+00).



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PHOTOGRAPHIC LOG
Photo #12 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

SA-6 North, Panel P12 / P13

Description:

ESi conducting non-destructive testing (i.e. pressure testing) for Panel seam P12 / P13/ P14. Seam pressurized to 30 psi and held for 5 minutes with > 4 psi loss (according to project specs).

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PHOTOGRAPHIC LOG
Photo #13 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

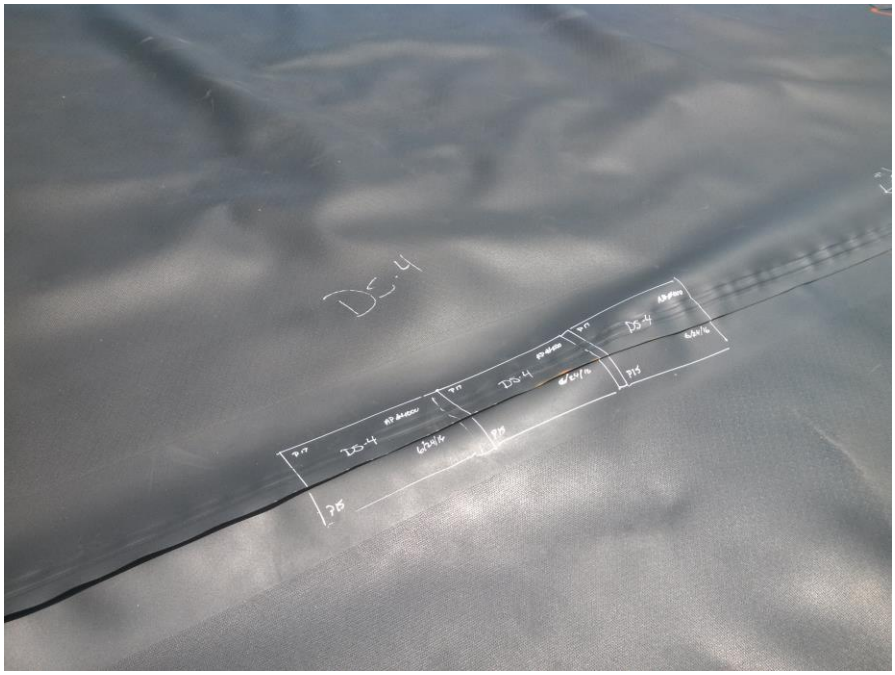
Date:
6/24/16

Direction Taken:

SA-6 North – Panels P15 / P17

Description:

Destruct sample DS-4 marked on Panels P15 / P17.



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PHOTOGRAPHIC LOG
Photo #14 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

SA-6 North Panel P10

Description:

ESI conducting vacuum box testing for R-31 (Panel P10).

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/27/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	70/85° F, Sunny (AM), PM Showers
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0650 – 1930

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #5** **AmecFW**: Stu Bills, Dave Ambrose, Ari Eslaminejad, Philemon Onyango **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) continuing east from Panel P19 installed on 6/24/16 (approximate Sta. 315+75). Material to be placed from Panel P19 running approximately 150 ft. east to approximate Sta. 314+25.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 315+75 (Panel P19 installed on 6/24/16) to approximate Sta. 314+25. Refer to *Soil Subgrade Approval* forms from 6/27/15 for additional details. Based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos 1 to 3 of the daily photo log for 6/27/2016, for supporting subgrade photos. During subgrade observation, AmecFW was also completing surveying to verify the subgrade elevations. The area was subsequently approved by AmecFW following review of the survey data.
- While the subgrade was being surveyed, ESI deployed the orange geocomposite drainage layer (GDL), over the installed LLDPE geomembrane. GDL was placed from Panel P1 (approximate Sta. 319+00), to Panel P11 (approximate Sta. 316+25). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/27/16 Photo Log for supporting photographs.
- While GDL was being deployed, ESI also conducted, methane / spark testing for the pipe boot completed for Access Manhole #1 (Panel P10). Prior to spark testing, methane testing was conducted to measure the concentration of methane present below the LLDPE geomembrane. During methane testing of Manhole #1, a concentration of 0.1% (less than 1%) was measured. Following the methane testing, spark testing was conducted by ESI for the vertical weld and pipe boot weld at the base of the penetration (i.e. welds not accessible for vacuum box testing). No sparks were observed during the test, and Manhole #1 boot passed. Additional details are outlined in the *Spark Testing QA Form Sheet #4.*

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

- Following the placement of GDL, and subsequent to AmecFW completing the survey requirements for the soil subgrade, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 315+75 (east of Panel P19) moving east to approximate Sta. 314+25. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/27/16 Photo Log for supporting photographs.
- After placement of GVL, LLDPE geomembrane was installed continuing from Panel P19 (installed on 6/24/16) and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 315+75 (Panel P19) to approximate Sta. 314+25. A total of eight panels were installed (P20, P21, P22, P23, P24, P25, P26, and P27). Note: During placement of panel P21, the roll of LLDPE terminated at the approximate center of the cap, thus the remaining run of LLDPE was installed as P22. Similarly, during placement of Panel P24, the roll of LLDPE terminated along the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P25. Panels P20, P23, P26, and P27 ran the entire width of SA-6 North (approximately 200 ft.) from north to south.
- Adjacent geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 6/27/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 314+25, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 6/27/16 *Seam Control Form* for non-destructive testing details. Additionally, repair and extrusion weld activities were also conducted for Panels P19 through P27 to attempt to patch / cover the LLDPE before inclement weather. Additional details are outlined on the 6/27/16 *Repair Log.*
- ESI completed pipe boot / penetrations for Piezometer PZ8. Additional details are provided in the 6/27/16 Pipe Boot Forms.
- A total of seven repairs (R-75 through R-81) were observed and fixed (according to the project specifications) from Panels P20 through P21. Refer to 6/27/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. Note: not all repairs completed, repairs conducted to cover and seal cap before inclement weather. Vacuum box testing not completed. Activities to be continued on 6/28/16. No destruct samples were collected, as destruct samples to be cut on 6/28/16 (Note: Repair R-74 destruct sample to be cut on 6/28/16).

Non-Conformance Items / Corrective Actions

- None Encountered

Action Items – Pending

- Complete Daily Report and Photo Log (for 6/27/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete pipe boot penetration log for Piezometer PZ-8 (Panel P21).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, and 6/24/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1, DS-2, DS-3, and DS-4. Reviewed laboratory data for extrusion weld destruct sample DSX-1 and DSX-2. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 6/27/16
A3 – Photo Log	Pages 1 – 7	Total of 14 photos outlining pertinent daily observations and descriptions for 6/27/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 6/27/16
A5 – Subgrade Approval	Sheet 4 & ESI (6/27/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 2	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 6/27/16
A7 – Panel Placement Log	Pages 3 - 4	One panel placement log provided by ESI and confirmed by Langan for panels placed on 6/27/16
A8 – Destruct Seam Testing COC	Sheet 1	Updated for destruct samples collected on 6/27/16
A9 – Seam/Non-Destruct. Test Log	Pages 7 - 8	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 6/27/16
A10 – Repair Log	Pages 4 - 5	One repair log provided by ESI and confirmed by Langan for repairs completed for 6/27/16
A11 – Conformance COC		NA for 6/27/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 6/27/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 6/27/16
A14 – Penetration & Edge Form	6/27/16 Form	One boot penetration form completed for Piezometer PZ8. Note: no methane / spark testing conducted.
A16 – Notice of Non-Compliance		NA - no non-compliance issues identified on 6/27/16
A17 – Spark Testing Form		NA – no spark testing completed on 6/27/16. Boot for Piezometer PZ8 completed. Methane / spark testing to be completed week of July 5, 2016.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/27/16

Direction Taken:

Looking east along SA-6 North (from approximate Sta. 315+75).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #2 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/27/16

Direction Taken:

Looking south across SA-6 North (approximate Sta. 315+00).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding and graded, compacted, and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #3 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/27/16

Direction Taken:

Looking east along northern end of SA-6 North (from approximate Sta. 315+50).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #4 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/27/16

Direction Taken:

Looking west/ southwest along SA-6 North (at approximate Sta. 319+00).

Description:

ESI preparing to deploy GDL over Panel P1 and P2 (at approximate Sta. 319+00).

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PHOTOGRAPHIC LOG
Photo #5 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

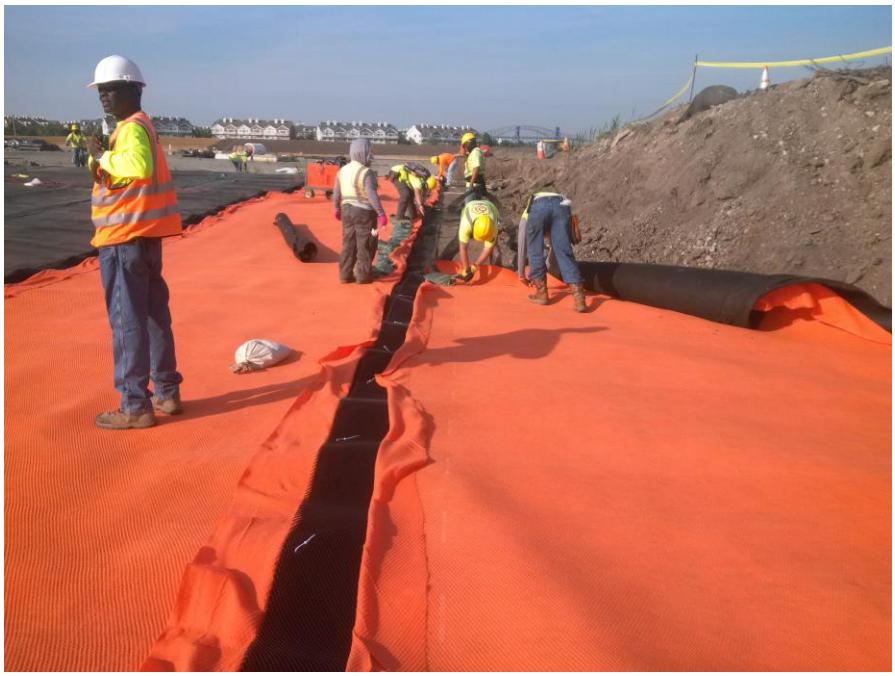
Date:
6/27/16

Direction Taken:

Looking south along western end of SA-6 North (approximate Sta. 319+00).

Description:

ESI deploying GDL with white plastic fasteners spaced at a maximum of 5 ft. along geonet. Top layer of geotextile (orange) sewn.



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PHOTOGRAPHIC LOG
Photo #6 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/27/16

Direction Taken:

Looking south / southeast across SA-6 North (from approximate Sta. 319+00).

Description:

ESI placing GDL across western end of SA-6 North.

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PHOTOGRAPHIC LOG
Photo #7 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/27/16

Direction Taken:

SA-6 North – Access Manhole #1. Repair R-29 (Panel P10).

Description:

Entact completing methane testing for Access Manhole #1 pipe boot (prior to spark testing). Methane concentration of 0.1% measured underneath LLDPE. Boot approved for spark testing.

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PHOTOGRAPHIC LOG
Photo #8 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/27/16

Direction Taken:

SA-6 North - Access Manhole #1. Repair R-29 (Panel P10).

Description:

ESI conducting spark testing for Access Manhole #1 pipe boot. Spark testing completed around base of boot and vertical welds (i.e. welds that cannot be vacuum box tested). No sparks were observed. Pipe boot passed spark testing.

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PHOTOGRAPHIC LOG
Photo #9 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/27/16

Direction Taken:

Looking east along southern end of SA-6 North (from approximate Sta. 315+50).

Description:

ESI deploying 16 oz. geotextile along southern edge of SA-6 North. Geotextile overlapped 1 ft. outside of SA-6 North (remaining roll width inside), as outlined in project specifications.

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PHOTOGRAPHIC LOG
Photo #10 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/27/16

Direction Taken:

Looking south / southeast along SA-6 North (from approximate Sta. 315+75).

Description:

ESI deploying GVL across approved soil subgrade. GVL secured with white plastic fasteners spaced at a maximum of 5 ft. Top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #11 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/27/16

Direction Taken:

Looking north along SA-6 North (at approximate Sta. 315+00).

Description:

ESI deploying LLDPE geomembrane over GVL.

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PHOTOGRAPHIC LOG
Photo #12 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

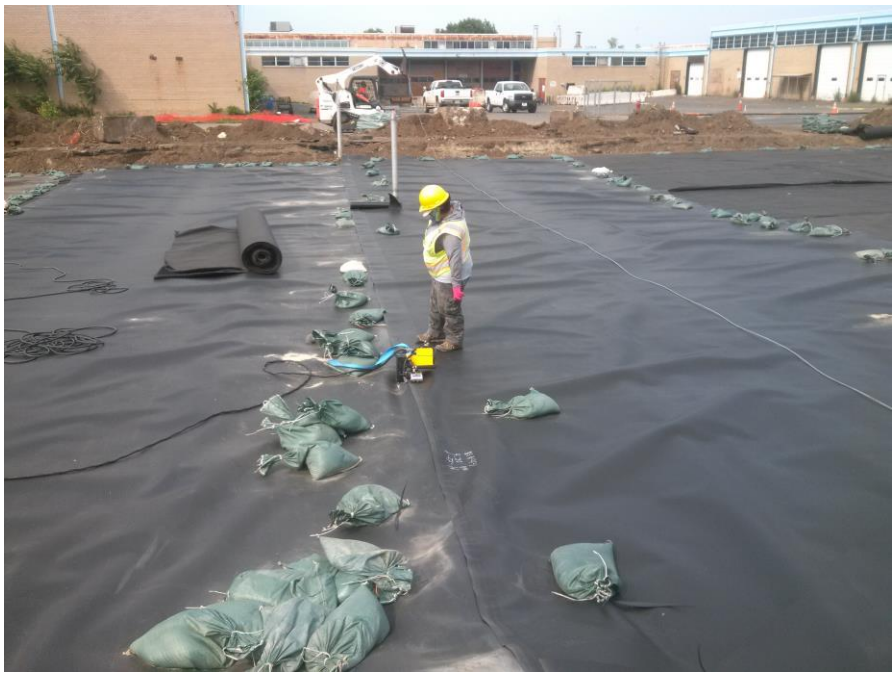
Date:
6/27/16

Direction Taken:

Looking north along SA-6 North at Panel P20 / P21 seam

Description:

ESI conducting fusion welding along Panel P20 / P21 seam.



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PHOTOGRAPHIC LOG
Photo #13 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/27/16

Direction Taken:

SA-6 North – Panel P23 / P24 seam.

Description:

ESI conducting non-destructive testing (pressure testing) along fusion weld Panel P23 / P24 seam.

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PHOTOGRAPHIC LOG
Photo #14 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/27/16

Direction Taken:

SA-6 North – Piezometer PZ8

Description:

ESI completing LLDPE boot for Piezometer PZ8 (Panel P21). Note: no methane / spark testing completed. Testing to be completed week of July 5, 2016.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/29/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/90° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0650 – 1530

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #6**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for LLDPE repair activities to be completed on LLDPE geomembrane installed on 6/27/16. Note: No capping activities conducted on 6/28/16 due to inclement weather, and no new LLDPE was placed on 6/29/16 as soil subgrade was not approved.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI continuing with non-destructive testing (pressure testing) and repair activities for geomembrane panels P19 through P27 (installed on 6/27/16). Non-destructive testing was conducted on the remaining panel seams and the seams were pressurized to 30 psi and held for 5 minutes with less than 4 psi loss. Refer to *6/29/16 Seam Control Form* for additional details.
- A total of twenty-two repairs (R-82 through RP-103) were observed and fixed (according to the project specifications) from Panels P19 through P27. Refer to 6/29/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of two destruct samples were collected for laboratory analysis. Two fusion weld destruct samples, DS-5 and DS-6, were collected from Panel Seam P19 / P20 and Panel Seam P23 / P24, respectively. Additional details are outlined in the *Trial Weld Log* dated 6/29/16.
- The LLDPE pipe boot penetration for Gas Vent GV-5 was completed and extrusion welded. Note: no methane testing / spark testing completed. Methane / spark testing to be completed week of July 5, 2016.
- While ESI was conducting repairs, small areas of standing water were observed on the soil subgrade from Sta. 314+25 to approximate Sta. 313+75. Entact solidified the subgrade by adding calcium cement to the soils so that the wet areas were absorbed / removed. Additionally, minor modifications to the subgrade were completed to facilitate positive drainage off of SA-6 North.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Non-Conformance Items / Corrective Actions

- Non-Conformance No. 2 (Sheet #2) – Subgrade irregularity identified as R-98 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P26. Stone was subsequently removed, and hole was patched/repaired following project specs as further described in *Sheet 2 Notice of Non-Compliance.*

Action Items – Pending

- Complete Daily Report and Photo Log (for 6/29/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct samples results for DS-5 and DS-6.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, and 6/27/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1, DS-2, DS-3, and DS-4. Reviewed laboratory data for extrusion weld destruct sample DSX-1 and DSX-2. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 6/29/16
A3 – Photo Log	Pages 1 – 4	Total of 7 photos outlining pertinent daily observations and descriptions for 6/29/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 6/29/16
A5 – Subgrade Approval		NA - no subgrade approval for 6/29/16
A6 – Trial Weld Log	Page 2	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 6/29/16
A7 – Panel Placement Log		NA – no LLDPE panels placed on 6/29/16
A8 – Destruct Seam Testing COC	Sheet ~~1~~	Updated for destruct samples collected on 6/29/16
A9 – Seam/Non-Destruct. Test Log	Pages 8 - 10	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 6/29/16
A10 – Repair Log	Pages 5 - 6	One repair log provided by ESI and confirmed by Langan for repairs completed for 6/29/16
A11 – Conformance COC		NA for 6/29/16
A12 – Destructive Seam Field Test	Page 1	Updated with destruct samples collected on 6/29/16
A13 – Destruct. Sample Summary	Page 1	Destruct sample summary updated with samples collected on 6/29/16
A14 – Penetration & Edge Form	6/29/16 Form	LLDPE pipe boot penetration form completed for Gas Vent GV-5. Note: methane / spark testing not completed (to be completed week of June 5, 2016).
A16 – Notice of Non-Compliance	Sheet 2	One non-compliance issue identified on 6/29/16 and summarized on Sheet 2.
A17 – Spark Testing Form		NA – no methane / spark testing completed on 6/29/16 for Gas Vent GV-5.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (06/29/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/29/16

Direction Taken:

Looking south along SA-6 North along southern end of cap.

Description:

ESI continuing patch / repair activities for LLDPE geomembrane panels P19 through P27 (installed on 6/27/16).

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PHOTOGRAPHIC LOG
Photo #2 (06/29/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/29/16

Direction Taken:

SA-6 North – Repair R98

Description:

ESI completing extrusion welds (detailing) for Repair R98 identified as a subgrade irregularity (Panel P26)

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PHOTOGRAPHIC LOG
Photo #3 (06/29/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/29/16

Direction Taken:

Looking south / southwest across SA-6 North (approximate Sta. 317+00).

Description:

Entact placing protective cover soil over GDL Panels 1 to 11 (GDL placed on 6/27/16).

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PHOTOGRAPHIC LOG
Photo #4 (06/29/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/29/16

Direction Taken:

SA-6 North – Destruct Sample DS-5 (Panel P19 / P20 seam)

Description:

Destruct sample DS-5 along Panel seam P19 / P20 marked by ESI for laboratory analysis.

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PHOTOGRAPHIC LOG
Photo #5 (06/29/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/29/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 314+25).

Description:

Soft / wet areas identified along northern end of SA-6 North from approximate Sta. 314+25 to approximate Sta. 313+75. Entact to add calcium cement and solidify subgrade.

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PHOTOGRAPHIC LOG
Photo #6 (06/29/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/29/16

Direction Taken:

Looking south / southeast along SA-6 North (approximate Sta. 314+25).

Description:

Entact adding calcium cement and solidifying subgrade for LLDPE geomembrane placement.

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PHOTOGRAPHIC LOG

Photo #7 (06/29/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/29/16

Direction Taken:

SA-6 North – Gas Vent GV-5

Description:

ESI completing LLDPE pipe boot for Gas Vent GV-5 (R-102). Boot sealed and extrusion welds completed. Methane / spark testing not completed (to be conducted week of July 5, 2016).

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/30/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/95° F, Sunny, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1615

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #7** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) continuing east from Panel P27 installed on 6/27/16 (approximate Sta. 314+25). Material to be placed from Panel P27 running approximately 100 ft. east to approximate Sta. 313+25.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 314+25 (Panel P27 installed on 6/27/16) to approximate Sta. 313+25. Refer to *Soil Subgrade Approval* forms from 6/30/16 for additional details. Based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos 1 to 3 of the daily photo log for 6/30/2016, for supporting subgrade photos. During subgrade observation, AmecFW was also completing surveying to verify the subgrade elevations. The area was subsequently approved by AmecFW following review of the survey data.
- Following subgrade approval (including AmecFW completing the survey requirements for the soil subgrade), GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 314+25 (east of Panel P27) moving east to approximate Sta. 313+25. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/30/16 Photo Log for supporting photographs.
- After placement of GVL, LLDPE geomembrane was installed continuing from Panel P27 (installed on 6/27/16) and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 314+25 (Panel P27) to approximate Sta. 313+25. A total of five panels were installed (P28, P29, P30, P31, and P32). Note: During placement of Panel P30

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the roll of LLDPE terminated near the north end of SA-6 North, thus the remaining run of LLDPE was installed as P31. Panels P28, P29, and P31 ran the entire width of SA-6 North (approximately 215 ft.) from north to south.

- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 6/30/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 314+25, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 6/30/16 *Seam Control Form* for non-destructive testing details. Additionally, repair and extrusion weld activities were also conducted for Panels P27 through P32. Additional details are outlined on the 6/30/16 *Repair Log.*
- A total of thirty-one repairs (R-104 through R-134) were observed and fixed (according to the project specifications) from Panels P19 through P27. Refer to 6/30/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. Note: Add on (AO) repairs completed for Panels P17, P18, and P19, as LLDPE length had to be increased along edges of SA-6 North.
- Following the placement of LLDPE geomembrane, ESI deployed the orange geocomposite drainage layer (GDL), over the installed LLDPE geomembrane. GDL was placed from Panel P11 (approximate Sta. 316+25), to east of Panel P19 (approximate Sta. 315+50). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/30/16 Photo Log for supporting photographs
- A total of four destruct samples were collected on 6/30/16. Three fusion weld destruct samples DS-7, DS-8, and DS-9 were collected from panel seams P13 / P14, P18 / R-105, and 18 / 19, respectively. One extrusion weld destruct sample, DSX-3, was collected from Panel P21 (R-79).

Non-Conformance Items / Corrective Actions

- None Encountered

Action Items – Pending

- Complete Daily Report and Photo Log for 6/30/16. Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample results for DS-7, DS-8, DS-9, and DSX-3.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, and 6/29/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-6. Reviewed laboratory data for extrusion weld destruct sample DSX-1 and DSX-2. Laboratory results in compliance with project specifications.

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By: Dan Bosworth

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Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 6/30/16
A3 – Photo Log	Pages 1 – 7	Total of 13 photos outlining pertinent daily observations and descriptions for 6/30/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 6/30/16
A5 – Subgrade Approval	Sheet 5 & ESI (6/30/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 2-3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 6/30/16
A7 – Panel Placement Log	Pages 4-5	One panel placement log provided by ESI and confirmed by Langan for panels placed on 6/30/16
A8 – Destruct Seam Testing COC	Sheet 1	Updated for destruct samples collected on 6/30/16
A9 – Seam/Non-Destruct. Test Log	Pages 10 - 14	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 6/30/16
A10 – Repair Log	Pages 6-7	One repair log provided by ESI and confirmed by Langan for repairs completed for 6/30/16
A11 – Conformance COC		NA for 6/30/16
A12 – Destructive Seam Field Test	Page 1	Updated with destruct samples collected on 6/30/16
A13 – Destruct. Sample Summary	Page 1	Destruct sample summary updated with samples collected on 6/30/16
A14 – Penetration & Edge Form		NA – no pipe boot penetrations completed on 6/30/16.

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By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A16 – Notice of Non-Compliance		NA - no non-compliance issues identified on 6/30/16
A17 – Spark Test Form		NA – no methane / spark testing completed on 6/30/16

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By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/30/16

Direction Taken:

Looking east along southern end of SA-6 North (from approximate Sta. 314+25).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #2 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/30/16

Direction Taken:

Looking north along northern end of SA-6 North (approximate Sta. 314+25).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding and graded, compacted, and free of debris (>1/2”). Area previously identified as wet and unacceptable subgrade from 6/29/16.

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PHOTOGRAPHIC LOG
Photo #3 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/30/16

Direction Taken:

Looking south / southeast across SA-6 North (from approximate Sta. 314+25).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #4 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/30/16

Direction Taken:

Looking south / southeast along SA-6 North (approximate Sta. 314+00).

Description:

ESI deploying GVL across approved subgrade for SA-6 North.

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PHOTOGRAPHIC LOG
Photo #5 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/30/16

Direction Taken:

Looking south along southern end of SA-6 North (approximate Sta. 314+00).

Description:

ESI deploying GVL with white plastic fasteners spaced at a maximum of 5 ft. along geonet. Top layer of geotextile also sewn.

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PHOTOGRAPHIC LOG
Photo #6 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/30/16

Direction Taken:

Looking west along southern end of SA-6 North (Panels P19, P18, P17).

Description:

ESI conducting repair activities and completing LLDPE add on (AO) for Panels P17, P18, and P19.

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PHOTOGRAPHIC LOG
Photo #7 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/30/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 314+00).

Description:

ESI deploying LLDPE geomembrane over GVL.

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PHOTOGRAPHIC LOG
Photo #8 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

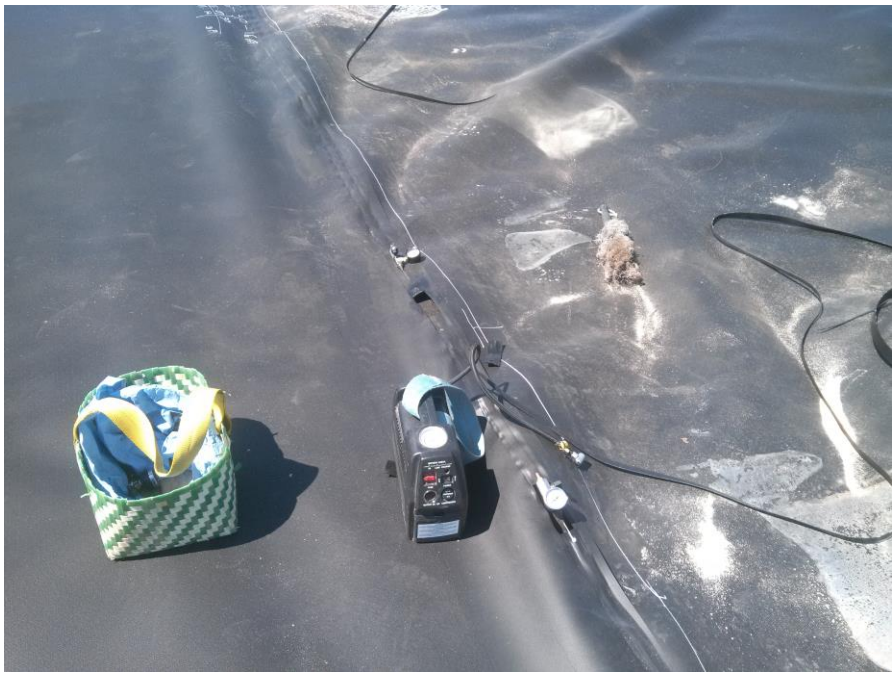
Date:
6/30/16

Direction Taken:

SA-6 North Panel P27 / P28 seam

Description:

ESI conducting non-destructive testing (air pressure testing) for Panel P27 / P28 seam. Seam pressurized to 30 psi and held for 5 minutes with less than 4 psi loss.



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PHOTOGRAPHIC LOG
Photo #9 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/30/16

Direction Taken:

Looking north / northeast along SA-6 North (from approximate Sta. 314+00).

Description:

LLDPE geomembrane deployed across SA-6 North from approximate Sta. 314+25 to Sta. 313+25.

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PHOTOGRAPHIC LOG
Photo #10 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/30/16

Direction Taken:

SA-6 North – Destruct Sample DS-7

Description:

ESI completed patch / repair activities for destruct sample DS-7 (Panel P13 / P14). Geomembrane patch, repaired, and vacuum box tested.

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PHOTOGRAPHIC LOG
Photo #11 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/30/16

Direction Taken:

SA-6 North – Panel P31 / P32 seam

Description:

ESI conducting fusion welding along Panel P31 / P32 seam.

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PHOTOGRAPHIC LOG
Photo #12 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/27/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 316+00).

Description:

ESI deploying orange GDL over previously installed LLDPE GDL secured with white plastic fasteners spaced at a maximum of 5 ft. and the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #13 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
6/30/16

Direction Taken:

Looking south across SA-6 North (approximate Sta. 315+50).

Description:

Orange GDL deployed over approved LLDPE geomembrane to Panel P19 (approximate Sta. 315+50).

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/1/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/95° F, Sunny, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1315

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #8** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) continuing east from Panel P32 installed on 6/30/16 (approximate Sta. 313+25). Material to be placed from Panel P32 running approximately 65 ft. east to approximate Sta. 312+60.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 313+25 (Panel P32 installed on 6/30/16) to approximate Sta. 312+60. Refer to *Soil Subgrade Approval* forms from 7/1/16 for additional details. Based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos 1 to 3 of the daily photo log for 7/1/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 313+25 (east of Panel P32) moving east to approximate Sta. 312+60. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/1/16 Photo Log for supporting photographs.
- After placement of GVL, LLDPE geomembrane was installed continuing from Panel P32 (installed on 6/30/16) and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 313+25 (Panel P32) to approximate Sta. 312+60. A total of seven panels were installed (P33, P34, P35, P36, P37, and P38). Note: During placement of Panel P33 the roll of LLDPE terminated near the northern end of SA-6 North, thus the remaining run of LLDPE was installed as P34. Similarly, during placement of Panel 36, the roll of LLDPE terminated

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approximately 2/3 from the north end of SA-6 North, thus the remaining run of LLDPE was installed as P37. Panels P32, P35, and P38 ran the entire width of SA-6 North (approximately 220 ft.) from north to south.

- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 7/1/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 312+60, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/1/16 *Seam Control Form* for non-destructive testing details. Additionally, repair and extrusion weld activities were also conducted for Panel P29 (installed on 6/30/16) and Panels P33 to P38 (installed on 7/1/16). Additional details are outlined on the 7/1/16 *Repair Log.*
- A total of twenty-eight repairs (R-135 through R-162) were observed and fixed (according to the project specifications) from Panels P19 through P27. Refer to 7/1/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- ESI also completed a pipe boot for Well 115-S1-SO located on the Panel P28 / P29 seam. Additional details are provided in the pipe boot penetration form for 7/1/16. No methane / spark testing was conducted on the boot (to be completed on 7/6/16).
- Following the placement of LLDPE geomembrane, ESI deployed the orange geocomposite drainage layer (GDL), over the installed LLDPE geomembrane. GDL was placed from Panel P11 (approximate Sta. 316+25), to east of Panel P19 (approximate Sta. 315+50). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/1/16 Photo Log for supporting photographs
- A total of four destruct samples were collected on 7/1/16. Three (3) fusion weld destruct samples were collected – DS-11, DS-12, and DS-13 from Panel Seams P31 / P32, P34 / P35, and P36 / P38, respectively. One extrusion weld destruct sample – DSX-4 was collected from Panel P32 (Repair R-148).

Non-Conformance Items / Corrective Actions

- None Encountered

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/1/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory data for destruct samples DS-11, DS-12, DS-13, and DSX-4.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, and 6/30/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-10. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-3. Laboratory results in compliance with project

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 7/1/16
A3 – Photo Log	Pages 1 – 6	Total of 11 photos outlining pertinent daily observations and descriptions for 7/1/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/1/16
A5 – Subgrade Approval	Sheet 6 & ESI (7/1/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/1/16
A7 – Panel Placement Log	Page 5	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/1/16
A8 – Destruct Seam Testing COC	Sheets 1 - 2	Updated for destruct samples collected on 7/1/16
A9 – Seam/Non-Destruct. Test Log	Pages 12-13	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/1/16
A10 – Repair Log	Pages 7-9	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/1/16
A11 – Conformance COC		NA for 7/1/16
A12 – Destructive Seam Field Test	Pages 1 - 2	Updated with destruct samples collected on 7/1/16
A13 – Destruct. Sample Summary	Pages 1 - 2	Destruct sample summary updated with samples collected on 7/1/16
A14 – Penetration & Edge Form	7/1/16 Form	Pipe boot completed for Well 115-W1-SO located along Panel P28 / P29.

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By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A16 – Notice of Non-Compliance		NA – no non-compliance issues identified on 7/1/16
A17 – Spark Testing Form		NA – no spark testing completed on 7/1/16. Boot for Well 115-W1-SO completed. Methane / spark testing to be completed week of July 5, 2016.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/01/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/1/16

Direction Taken:

Looking north along northern end of SA-6 North (from approximate Sta. 313+25).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #2 (07/01/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/1/16

Direction Taken:

Looking south along southern end of SA-6 North (approximate Sta. 313+25).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding and graded, compacted, and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #3 (07/01/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/1/16

Direction Taken:

Looking north / northeast across SA-6 North (from approximate Sta. 313+25).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #4 (07/01/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/1/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 313+00).

Description:

ESI deploying GVL across approved subgrade for SA-6 North. White plastic fasteners spaced at 5 ft. maximum across geonet with top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #5 (07/01/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/1/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 313+00).

Description:

ESI deploying GVL across SA-6 North with white plastic fasteners spaced at a maximum of 5 ft. along geonet. Top layer of geotextile also sewn.

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PHOTOGRAPHIC LOG
Photo #6 (07/01/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/1/16

Direction Taken:

Looking north / northeast across SA-6 North (approximate Sta. 313+25).

Description:

ESI deploying LLDPE geomembrane across SA-6 North over GVL.

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PHOTOGRAPHIC LOG
Photo #7 (07/01/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/1/16

Direction Taken:

Looking north / northeast along SA-6 North (from approximate Sta. 313+25).

Description:

ESI conducting fusion welding along Panel Seams P32 / P34.

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PHOTOGRAPHIC LOG
Photo #8 (07/01/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/1/16

Direction Taken:

SA-6 North (Panel P32 / P33 / P34 seam

Description:

ESI conducting non-destructive testing (pressure testing) for fusion weld panel seams (Panel Seam P32 / P33 / P34).

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PHOTOGRAPHIC LOG
Photo #9 (07/01/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/1/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 313+00).

Description:

ESI deploying LLDPE geomembrane across SA-6 North.

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PHOTOGRAPHIC LOG
Photo #10 (07/01/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/1/16

Direction Taken:

Looking south along southern end of SA-6 North (Well 115-W1-SO)

Description:

ESI completing pipe boot / penetration for Well 115-W1-SO listed as Repair R-156 on Repair Report).

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PHOTOGRAPHIC LOG
Photo #11 (07/01/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/1/16

Direction Taken:

SA-6 North – Destruct Sample DS-13

Description:

ESI marking destruct sample DS-13 (Panel P36/ P38 seam) to be cut for laboratory analysis.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/6/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	82/98° F, Sunny, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0655 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #9** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), 60-mil geomembrane liner (LLDPE) continuing east from Panel P38 installed on 7/1/16 (approximate Sta. 312+60). Material to be placed from Panel P38 running approximately 85 ft. east to approximate Sta. 311+75.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from Panel P19 (approximate Sta. 315+50), moving east up to Panel P27 (approximate Sta. 314+60). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/6/16 Photo Log for supporting photographs
- While ESI was deploying GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 312+60 (Panel P38 installed on 7/1/16) to approximate Sta. 311+75. Refer to *Soil Subgrade Approval* forms from 7/6/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 3 to 5 of the daily photo log for 7/6/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 312+60 (east of Panel P38) moving east to approximate Sta. 311+75. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top

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layer of geotextile was sewn along the seams (according to the project specifications). Refer to 7/6/16 Photo Log for supporting photographs.

- During deployment of GVL, the potential for rocks or other debris to become dislodged in the soil subgrade were observed. Additional walkover and observation activities were conducted along the GVL to attempt to identify any rocks or debris (>1/2") that may have been dislodged.
- After placement of GVL, LLDPE geomembrane was installed continuing from Panel P38 (installed on 7/1/16) and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 312+60 (Panel P38) to approximate Sta. 311+75. A total of four panels were installed (P39, P40, P41, and P42). Note: During placement of Panel P39 the roll of LLDPE terminated near the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P40. Panels P41 and P42 ran the entire width of SA-6 North (approximately 220 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 7/6/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 311+75, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/6/16 *Seam Control Form* for non-destructive testing details. ESI completed a temporary pipe boot for Extraction Pump Station #1 and completed leistering of temporary patches to cover the LLDPE geomembrane. Repair (detailing) activities to be completed on 7/7/16.
- While GDL was being deployed, ESI also conducted, methane / spark testing for the pipe boots completed for Piezometer PZ8, Gas Vent GV-5, and Well 115-W1-SO. Prior to spark testing, methane testing was conducted to measure the concentration of methane present below the LLDPE geomembrane. During methane testing, a concentration of 0.0% (<1%) was measured for each of the pipe boots. Following the methane testing, spark testing was conducted by ESI for the vertical weld and pipe boot weld at the base of the penetration (i.e. welds not accessible for vacuum box testing).
- During the spark testing for Piezometer PZ8 a spark was observed at the top of the boot (outside of the 2 ft. boot requirement). Since this spark was outside of the required boot construction, the boot was subsequently cut at 2 ft. (thus removing the failed weld), and the remaining boot was retested with no sparks observed.
- During spark testing of Gas Vent GV-5 and Well 115-W1-SO, a spark was observed while testing the vertical weld and a small pinhole deficiency was observed in the weld. These areas will be grinded, rewelded, and retested on 7/7/16. Additional details are outlined in the *Spark Testing QA Forms* dated 7/6/16.
- No destruct samples collected on 7/6/16. Destruct samples to be cut on 7/7/16.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 3 (Sheet #3) – Failed spark test along vertical weld of Gas Vent GV-5
    - Failed spark test identified during spark testing of Gas Vent GV-5. Small pinhole deficiency identified in vertical weld. Weld to be grinded, re-welded, and re-tested on 7/7/16.
- Non-Conformance No. 4 (Sheet #4) – Failed spark test along vertical weld of Well 115-W1-SO
    - Failed spark test identified during spark testing of Well 115-W1-SO. Small pinhole deficiency identified in vertical weld. Weld to be grinded, re-welded, and re-tested on 7/7/16.

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Action Items – Pending

- Complete Daily Report and Photo Log (for 7/6/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, and 7/1/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-13. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-4. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 7/6/16
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 7/6/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/6/16
A5 – Subgrade Approval	Sheet 7 & ESI (7/6/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/6/16
A7 – Panel Placement Log	Pages 5-6	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/6/16
A8 – Destruct Seam Testing COC		NA - no destruct samples collected on 7/6/16
A9 – Seam/Non-Destruct. Test Log	Pages 14-16	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/6/16

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log		NA – no repair activities conducted on 7/6/16
A11 – Conformance COC		NA for 7/6/16
A12 – Destructive Seam Field Test		NA - no destruct samples collected on 7/6/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 7/6/16
A14 – Penetration & Edge Form		NA – no pipe boots / penetrations completed on 7/6/16
A16 – Notice of Non-Compliance	Sheets 3 & 4	Two non-compliance issues identified on 7/6/16 during spark testing of pipe boots and summarized on Sheets 3 & 4 (7/6/16 Non-Compliance Forms).
A17 – Spark Test Log	7/616 Spark Test Logs	Spark tests conducted for Piezometer PZ8, Gas Vent GV-5, and Well 115-W1-SO. Spark retest for Gas Vent GV-5 and Well 115-W1-SO to be completed on 7/7/16.

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PHOTOGRAPHIC LOG
Photo #1 (07/06/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/6/16

Direction Taken:

Looking north along SA-6 South (Panel P20).

Description:

ESI deploying orange GDL over approved LLDPE geomembrane. GDL secured with white plastic fasteners spaced at a maximum of 5 ft. and top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #2 (07/06/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

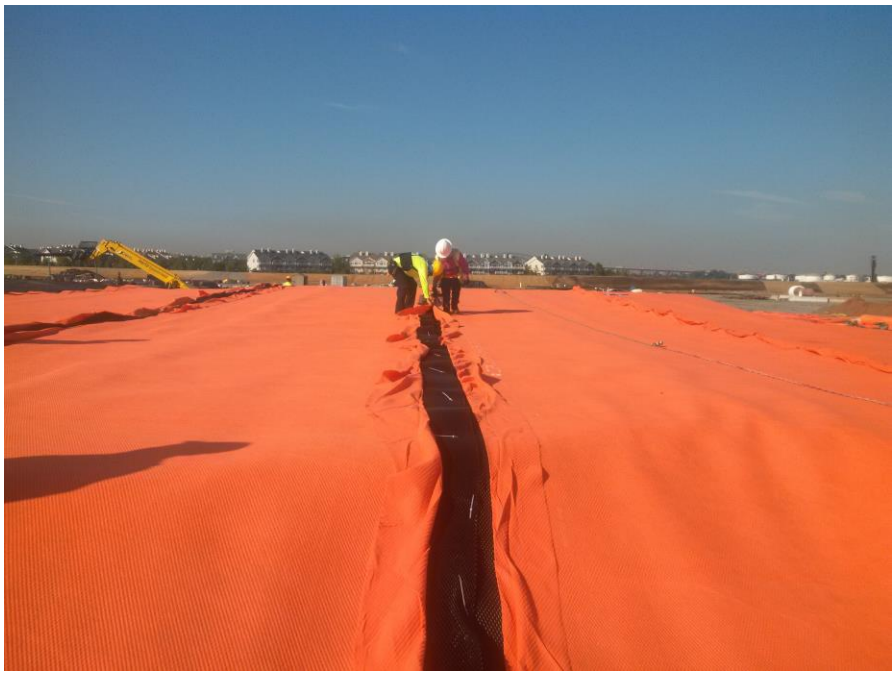
Date:
7/6/16

Direction Taken:

Looking south along SA-6 North

Description:

ESI sewing top layer of orange geotextile. White plastic fasteners spaced at maximum of 5 ft. along geonet.



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PHOTOGRAPHIC LOG
Photo #3 (07/06/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/6/16

Direction Taken:

Looking south / southeast across SA-6 North (approximate Sta. 312+25).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #4 (07/06/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/6/16

Direction Taken:

Looking east along SA-6 North, approximate center of the cap (approximate Sta. 312+25).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #5 (07/06/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/6/16

Direction Taken:

Looking east along southern end of SA-6 North (approximate Sta. 312+00).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #6 (07/06/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/6/16

Direction Taken:

Looking south across SA-6 North (approximate Sta. 312+60).

Description:

ESI deploying GVL over approved soil subgrade. GVL secured with white plastic fasteners spaced at a maximum of 5 ft. and top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #7 (07/06/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/6/16

Direction Taken:

Looking north along SA-6 North (Panels P39 / P40

Description:

ESI conducting fusion welding along Panel P39 / P40 seam.

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PHOTOGRAPHIC LOG
Photo #8 (07/06/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/6/16

Direction Taken:

SA-6 North (Panels P39 / P41 seam)

Description:

ESI conducting non-destructive testing (pressure testing) along Panel P39 / P41 seam. Seam pressurized to 30 psi and held for 5 minutes with less than 4 psi loss.

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PHOTOGRAPHIC LOG
Photo #9 (07/06/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/6/16

Direction Taken:

SA-6 North – Gas Vent GV-5

Description:

Entact conducting methane testing prior to spark testing for Gas Vent GV-5 boot. Methane tested yielded concentration of 0.0% methane, (>1%), thus spark testing was conducted.

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PHOTOGRAPHIC LOG
Photo #10 (07/06/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/6/16

Direction Taken:

SA-6 North – Gas Vent GV-5

Description:

ESI conducting spark testing along Gas Vent GV-5 boot. Small pinhole deficiency identified along vertical weld of boot. Area to be grinded, re-welded, and re-tested on 7/7/16.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/7/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	82/98° F, Overcast, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #10** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), 60-mil geomembrane liner (LLDPE), continuing east from Panel P42 installed on 7/6/16 (approximate Sta. 311+75). Material to be placed from Panel P42 running approximately 20 ft. east to approximate Sta. 311+55. Note: based on available prepared subgrade and inclement weather scheduled in the afternoon, ESI deployed one panel of GVL and one panel of LLDPE geomembrane so that the installed LLDPE was outside of the slope swales and depressed contours thus promoting positive drainage away from the installed material.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from Panel P27 (approximate Sta. 314+60), moving east up to Panel P36 / P37 (approximate Sta. 313+25). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/7/16 Photo Log for supporting photographs
- While GDL was being deployed, ESI also completed repair activities for Panels P39 to P42 (installed on 7/6/16). A total of thirty-seven repairs (R-163 through R-199) were observed and fixed (according to the project specifications) from Panels P39 through P42. Refer to 7/7/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of two (2) destruct samples were collected. One fusion weld destruct sample (DS-14) was collected from Panel P41 / P42 seam, and one extrusion weld sample (DSX-5) was collected from Panel P42, Repair R-179 for laboratory analysis.

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- While GDL and repair activities were being completed, ESI also conducted, methane / spark testing for the pipe boots repairs for Gas Vent GV-5, and Well 115-W1-SO. Based on the sparks observed during spark testing on 7/6/16, the areas were subsequently grinded, re-welded, and re-tested. Refer to 7/7/16 Photograph Log for supporting photos. Prior to spark testing, methane testing was conducted by AmecFW to measure the concentration of methane present below the LLDPE geomembrane. During methane testing, a concentration of 0.0% (<1%) was measured for each of the boots. Following the methane testing, spark testing was conducted by ESI for the vertical weld areas that were re-welded. During the re-test no sparks were observed and the retest spark test passed. Additional details are outlined in the *Spark Testing QA Forms* dated 7/6/16.
- Following the LLDPE repair activities, and deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 311+75 (Panel P42 installed on 7/6/16) to approximate Sta. 311+55. Refer to *Soil Subgrade Approval* forms from 7/7/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photo 9 of the daily photo log for 7/7/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement. Note: the approximate 20 ft. area of soil was approved so that an additional panel of LLDPE geomembrane could be deployed to allow the edges of the liner to be outside of the depressed contours in the event of afternoon rainstorms (positive drainage away from the installed LLDPE geomembrane).
- Following subgrade approval, one panel of GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications).
- After placement of GVL, one panel of LLDPE geomembrane was installed continuing from Panel P42 (installed on 7/6/16) and moving east. The panel was oriented from north to south (as proposed in the approved Panel Layout) and was installed from approximate Sta. 311+75 (Panel P42) to approximate Sta. 311+55. A total of one panel was installed (P43). Panel P43 ran the entire width of SA-6 North (approximately 230 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 7/7/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 312+60, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/7/16 *Seam Control Form* for non-destructive testing details. Additionally, repairs were marked and temporary patches were leistered in place for repair activities (i.e. detailing) to be completed on 7/8/16.
- ESI completed the boot / penetration construction for Extraction Pump Station #1 manhole and welded (detailed) the repairs. Note: Extraction Pump Station #1 manhole was located in a recessed contour of SA-6 North and repair activities were conducted to seal the LLDPE geomembrane as rainstorms were forecasted for the afternoon.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 5 (Sheet #5) – Subgrade irregularity identified as R-170 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P38. Stone was subsequently removed, and hole was patched/repaired following project specs as further described in *Sheet 5 Notice of Non-Compliance.*

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By: Dan Bosworth

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Action Items – Pending

- Complete Daily Report and Photo Log (for 7/6/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory results for destruct samples DS-14 and DSX-5.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, and 7/6/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-13. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-4. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/7/16
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 7/7/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/7/16
A5 – Subgrade Approval	Sheet 8 & ESI (7/7/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 3-4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/7/16
A7 – Panel Placement Log	Page 6	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/7/16
A8 – Destruct Seam Testing COC	Sheet 2	Updated for destruct samples collected on 7/7/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A9 – Seam/Non-Destruct. Test Log	Page 16	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/7/16
A10 – Repair Log	Pages 9-10	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/7/16
A11 – Conformance COC		NA for 7/7/16
A12 – Destructive Seam Field Test	Page 2	Updated with destruct samples collected on 7/7/16
A13 – Destruct. Sample Summary	Page 2	Destruct sample summary updated with samples collected on 7/7/16
A14 – Penetration & Edge Form	7/7/16 Boot Form	Pipe boot for Extraction Pump Station #1 manhole completed on 7/7/16
A16 – Notice of Non-Compliance	Sheet 5	One non-compliance issue identified as subgrade irregularity on 7/7/16 and summarized on Sheet 5.
A17 – Spark Test Log	7/6/16 Spark Test Logs	Spark tests logs for Gas Vent GV-5 and Well 115-W1-SO dated 7/6/16 updated for spark retests completed on 7/7/16.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/07/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

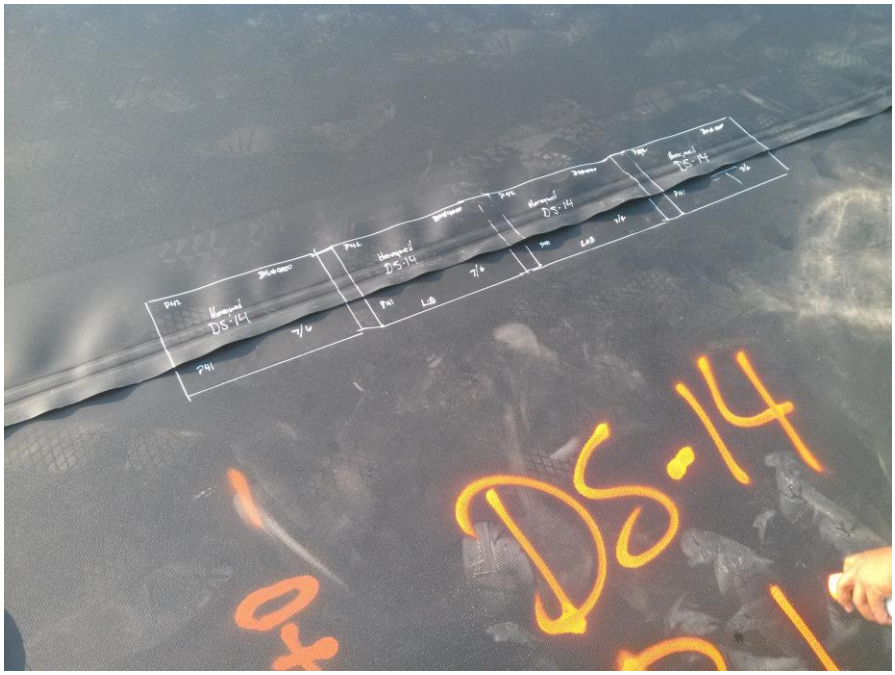
Date:
7/7/16

Direction Taken:

SA-6 North – Destruct Sample DS-14 (Panel P41 / P42 seam)

Description:

Fusion weld destruct sample DS-14 collected from Panel P41 / P42 seam.



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PHOTOGRAPHIC LOG
Photo #2 (07/07/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/7/16

Direction Taken:

Looking south / southeast along SA-6 North (Panels P42 / P43).

Description:

ESI conducting repair activities for LLDPE geomembrane panels P39 through P42 installed on 7/6/16.

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PHOTOGRAPHIC LOG
Photo #3 (07/07/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

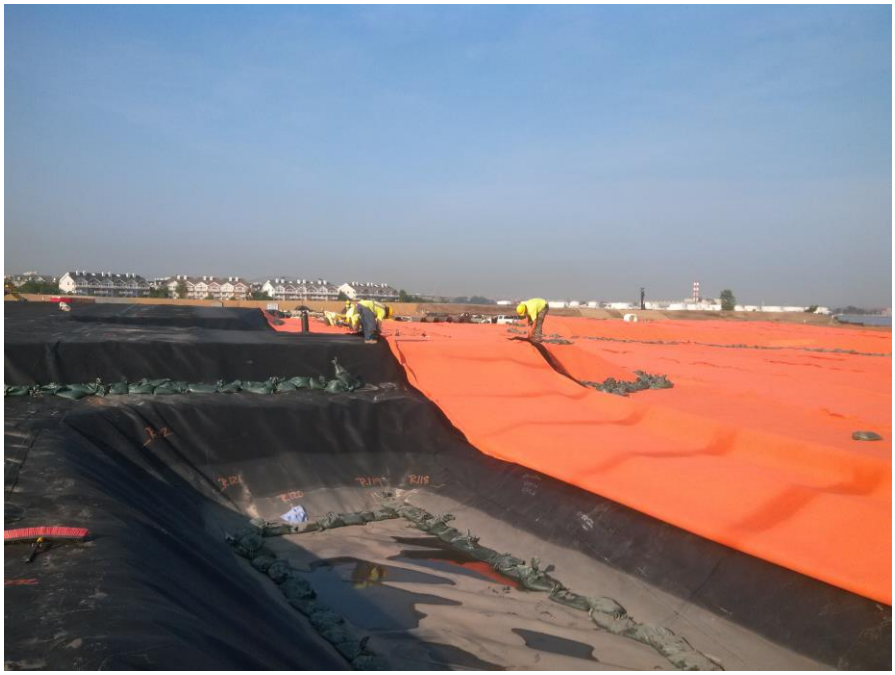
Date:
7/7/16

Direction Taken:

Looking south / southwest across SA-6 North (approximate Sta. 314+50).

Description:

ESI deploying orange GDL across approved LLDPE geomembrane. GDL placed from Panel P27 (approximate Sta. 314+60) to Panel P36/P37 (approximate Sta. 313+25).



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PHOTOGRAPHIC LOG
Photo #4 (07/07/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/7/16

Direction Taken:

SA-6 North – Destruct Sample DSX-5 (Panel P42)

Description:

ESI collecting extrusion weld destruct sample DSX-5 from Panel P42 / Repair R-179.

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PHOTOGRAPHIC LOG
Photo #5 (07/07/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/7/16

Direction Taken:

SA-6 North – Gas Vent GV-5

Description:

Entact conducting methane testing prior to the spark retest of Gas Vent GV-5. Methane concentration of 0.0% measured. Weld was grinded, re-welded, and retested by ESI.

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PHOTOGRAPHIC LOG
Photo #6 (07/07/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/7/16

Direction Taken:

SA-6 North – Gas Vent GV-5

Description:

ESI conducting spark retest on Gas Vent GV-5. Weld was grinded, re-welded, and retested. No sparks were observed during the spark retest (spark retest passed).

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PHOTOGRAPHIC LOG
Photo #7 (07/07/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/7/16

Direction Taken:

SA-6 North – Well 115-W1-SO

Description:

ESI grinding pinhole area of vertical weld that was identified during spark test on 7/6/16. Repair was grinded, rewelded and retested.

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PHOTOGRAPHIC LOG
Photo #8 (07/07/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/7/16

Direction Taken:

SA-6 North – Well 115-W1-SO

Description:

ESI re-welding vertical seam on Well 115-W1-SO (failed spark test on 7/6/16). Vertical weld was grinded, re-welded, and retested. No sparks were observed during the spark retest (spark retest passed).

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PHOTOGRAPHIC LOG
Photo #9 (07/07/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/7/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 311+75).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #10 (07/07/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/7/16

Direction Taken:

SA-6 North – Extraction Pump Station #1

Description:

ESI conducting repair activities for Extraction Pump Station #1. Skirt and base of boot completed so LLDPE geomembrane is watertight before afternoon rainstorms.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/8/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	82/98° F, Overcast, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #11** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P43 installed on 7/7/16 (approximate Sta. 311+55). Material to be placed from Panel P43 running approximately 75 ft. east to approximate Sta. 310+80.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI completing repair activities for Panels P42 and P43 (Panel P43 installed on 7/7/16). A total of twelve repairs (R-200 through R-211) were observed and fixed (according to the project specifications) from the two panels. Refer to 7/8/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While LLDPE repair activities were being conducted, Langan and Entact conducted soil subgrade approval from approximate Sta. 311+55 (Panel P43 installed on 7/7/16) to approximate Sta. 310+80. Refer to *Soil Subgrade Approval* forms from 7/8/16 for additional details. During subgrade observation, the subgrade area was transversed in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 1 and 2 of the daily photo log for 7/8/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 311+55 (east of Panel P43) moving east to approximate Sta. 310+80.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

- GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 7/8/16 Photo Log for supporting photographs.
- During deployment of GVL, the potential for rocks or other debris to become dislodged in the soil subgrade were observed. Additional walkover and observation activities were conducted along the GVL to attempt to identify any rocks or debris (>1/2") that may have been dislodged.
- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P43 (installed on 7/7/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 311+55 (Panel P43) to approximate Sta. 310+80. A total of eight panels were installed (P44, P44A, P44B, P45, P46, P47, P48, and P49). Note: During placement of Panel P44 the roll of LLDPE terminated near the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P45. Similarly, during placement of Panel P47, the roll of LLDPE terminated near the center of SA-6 North, thus the remaining run of LLDPE was installed as P48. Panels P46 and P49 ran the entire width of SA-6 North (approximately 290 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 7/8/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 310+80, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/8/16 *Seam Control Form* for non-destructive testing details. Additionally, repairs activities were conducted for Panels P44 through P49 (installed on 7/8/16). These repair activities were conducted in addition to the repairs completed in the morning for Panels P42 and P43 (installed on 7/7/16).
- A total of twenty additional repairs (R-212 through R-223, R-225, R-227, R-228, R-229, and R-233 to R-236) were observed and fixed (according to the project specifications) from Panels P44 to P49. Refer to 7/8/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of one (1) destruct sample was collected. One extrusion weld sample (DSX-6) was collected from Panel P42, Repair R-180 for laboratory analysis. Additional destruct samples to be cut and collected on 7/11/16.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 6 (Sheet #6) – Subgrade irregularity identified as R-222 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P45. Stone was subsequently removed, and hole was patched/repaired following project specs as further described in *Sheet 6 Notice of Non-Compliance.*

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/8/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory results for destruct sample DSX-6.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, and 7/7/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-13. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-5. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 7/8/16
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 7/8/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/8/16
A5 – Subgrade Approval	Sheet 9 & ESI (7/8/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/8/16
A7 – Panel Placement Log	Page 6-7	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/8/16
A8 – Destruct Seam Testing COC	Sheet 2	Updated for destruct samples collected on 7/8/16
A9 – Seam/Non-Destruct. Test Log	Pages 17-19	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/8/16
A10 – Repair Log	Pages 10-12	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/8/16
A11 – Conformance COC		NA for 7/8/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test	Page 2	Updated with destruct samples collected on 7/8/16
A13 – Destruct. Sample Summary	Page 2	Destruct sample summary updated with samples collected on 7/8/16
A14 – Penetration & Edge Form		NA – no pipe boots / penetrations completed on 7/8/16
A16 – Notice of Non-Compliance	Sheet 6	One non-compliance issue (subgrade irregularity) identified on 7/8/16 and summarized on Sheet 6.
A17 – Spark Test Log		NA – no spark test activities conducted on 7/8/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/08/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/8/16

Direction Taken:

Looking south / southeast along SA-6 North (from approximate Sta. 311+55).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #2 (07/08/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/8/16

Direction Taken:

Looking north along SA-6 North from northern end of cap (approximate Sta. 311+55).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #3 (07/08/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/8/16

Direction Taken:

SA-6 North – Panels P42 / P43

Description:

ESI conducting repair activities (i.e. extrusion weld detailing) for repairs from Panel P42 / P43 (Panel P43 installed on 7/7/16).

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PHOTOGRAPHIC LOG
Photo #4 (07/08/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/8/16

Direction Taken:

Looking south across SA-6 North (approximate Sta. 310+80).

Description:

ESI deploying GVL over approved soil subgrade. GVL secured with white plastic fasteners spaced at a maximum of 5 ft. and top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #5 (07/08/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/8/16

Direction Taken:

Looking south / southwest across SA-6 North (from approximate Sta. 310+80).

Description:

GVL deployed up to approximate Sta. 310+80 (approved soil subgrade).

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PHOTOGRAPHIC LOG
Photo #6 (07/08/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/8/16

Direction Taken:

Looking south across SA-6 North (approximate Sta. 311+55).

Description:

ESI deploying LLDPE geomembrane over GVL.

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PHOTOGRAPHIC LOG
Photo #7 (07/08/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/8/16

Direction Taken:

SA-6 North – Panel P43 / P44 seam

Description:

ESI conducting non-destructive testing (air pressure testing) along Panel P43 / P44 seam. Seam pressurized to 30 psi and held for 5 minutes with less than 4 psi loss.

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PHOTOGRAPHIC LOG
Photo #8 (07/08/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/8/16

Direction Taken:

SA-6 North – Panel P47 / P49 seam

Description:

ESI conducting fusion welding along Panel P47 / P49 seam (butt seam).

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/11/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	72/80° F, Sunny, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** LLDPE Repair Activities & Destruct Samples		**TIME:**	0645 – 0845

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #12**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of LLDPE repair activities (from Panels P44 to P49 installed on 7/8/16). Note: soil subgrade not approved for LLDPE placement as standing water / wet areas observed along subgrade from rainstorms over the weekend. Entact to solidify, rework, and re-compact soils for subgrade approval to be completed on 7/12/16. Note: the edge of the LLDPE geomembrane placed on 7/8/16 was pulled back until dry soil subgrade from below the liner was exposed (as shown in the 7/11/16 Photo Log). Soil to be dried, solidified, reworked, and re-compacted by Entact for approval on 7/12/16.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting repair activities for Panels P44 through P49 (panels installed on 7/8/16). A total of eight repairs (R-224, R-226, R-230, R-231, R-232, R-239, R-240, and R-241) were observed and fixed (according to the project specifications) from the two panels. Refer to 7/11/16 *Repair Report* for additional details. In general, the majority of the repairs were destruct samples that were collected for laboratory analysis and cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of four (4) destruct samples were collected from panels installed on 7/8/16. Three fusion weld destruct samples – DS-15, DS-16, and DS-17 were collected from Panel Seam P43 / P44, P46 / P47, and P45 / 46, respectively. Additionally, one extrusion weld destruct sample - DSX-7 was collected from Panel P44, Repair R-179 for laboratory analysis.

Non-Conformance Items / Corrective Actions

- None Encountered

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Pending

- Complete Daily Report and Photo Log (for 7/11/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct results for DS-15, DS-16, DS-17, and DSX-7.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, and 7/8/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-14. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-6. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 7/11/16
A3 – Photo Log	Pages 1 – 2	Total of 4 photos outlining pertinent daily observations and descriptions for 7/11/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/11/16
A5 – Subgrade Approval		NA – no subgrade approved for LLDPE placement on 7/11/16
A6 – Trial Weld Log	Page 4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/11/16
A7 – Panel Placement Log		NA – no panels placed on 7/11/16 as no soil subgrade was not approved.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A8 – Destruct Seam Testing COC	Sheet 2	Updated for destruct samples collected on 7/11/16
A9 – Seam/Non-Destruct. Test Log		NA – no pressure testing conducted on 7/11/16
A10 – Repair Log	Pages 12-13	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/11/16
A11 – Conformance COC		NA for 7/11/16
A12 – Destructive Seam Field Test	Page 2	Updated with destruct samples collected on 7/11/16
A13 – Destruct. Sample Summary	Page 2	Destruct sample summary updated with samples collected on 7/11/16
A14 – Penetration & Edge Form		NA – no boots / penetrations completed on 7/11/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues identified on 7/11/16
A17 – Spark Test Log		NA – no spark testing conducted on 7/11/16

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PHOTOGRAPHIC LOG
Photo #1 (07/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/11/16

Direction Taken:

Looking east along SA-6 North (approximate Sta. 310+50).

Description:

Soil subgrade east of Panel P49. Soil wet / saturated with standing water present from rainstorms over the weekend. Subgrade not approved for panel placement. Entact to solidify, rework, and re-compact soil.

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PHOTOGRAPHIC LOG
Photo #2 (07/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/11/16

Direction Taken:

SA-6 North – Destruct Sample DS-15 (Panel P43 / P44 seam)

Description:

Fusion weld destruct sample DS-15 collected from Panel P43 / P44 seam. Area of LLDPE geomembrane cut, patched, and repaired according to project specs.

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PHOTOGRAPHIC LOG
Photo #3 (07/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/11/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 310+50).

Description:

Entact reworking wet / saturated soils. Calcium cement added to solidify soil. Area to be re-compacted.

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PHOTOGRAPHIC LOG
Photo #4 (07/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/11/16

Direction Taken:

Looking south along southern end of SA-6 North (approximate Sta. 310+50).

Description:

Calcium cement added to wet / saturated soils. Entact to rework and re-compact wet areas for soil subgrade approval on 7/12/16.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/12/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	72/85° F, Sunny, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1500

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #13** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P49 installed on 7/8/16 (approximate Sta. 310+80). Material to be placed from Panel P49 running approximately 100 ft. east to approximate Sta. 309+75.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from Panel P36 / P37 (approximate Sta. 313+25), moving east up to Panel P42 (approximate Sta. 312+25). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/12/16 Photo Log for supporting photographs.
- While GDL was being deployed, ESI also completed the LLDPE pipe boot for Gas Vent GV-4 (previously installed on 7/8/16). The boot was patched and welded (to be methane / spark tested later in the morning). Additional details are outlined in the Gas Vent GV-4 penetration log dated 7/12/16.
- ESI completed methane / spark testing for the LLDPE pipe boot for Extraction Pump Station #1 and Gas Vent GV-4. Prior to spark testing, Entact conducted methane testing to measure the concentration of methane present underneath the LLDPE geomembrane. A concentration of 0.0% (>1%) was measured for both boots. As such, ESI conducted spark testing along the base of the boot and the vertical weld. No sparks were observed during the spark test and both boots passed. Additional details are outlined in the *Spark Testing QA Forms* dated 7/12/16.
- Following the deployment of GDL and spark testing activities, Langan and Entact conducted soil subgrade approval from approximate Sta. 310+80 (Panel P49 installed on 7/8/16) to approximate Sta. 309+75. Refer to *Soil Subgrade Approval* forms from 7/12/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was

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generally free of any loose material greater than ½". Refer to Photos 7 to 9 of the daily photo log for 7/12/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement. Note: the approximate 20 ft. area of soil was approved so that an additional panel of LLDPE geomembrane could be deployed to allow the edges of the liner to be outside of the depressed contours in the event of afternoon rainstorms (positive drainage away from the installed LLDPE geomembrane).

- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 310+80 (east of Panel P49) moving east to approximate Sta. 309+75. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 7/12/16 Photo Log for supporting photographs.
- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P49 (installed on 7/8/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 310+80 (Panel P49) to approximate Sta. 309+75. A total of eight panels were installed (P50, P51, P52, P53, P54, P55, P56, and P7). Note: During placement of Panel P51 the roll of LLDPE terminated near the approximate center of SA-6 North, thus the remaining run of LLDPE was installed as P52 and P53 (P52 and P53 remaining pieces of LLDPE from rolls previously used). Similarly, during placement of Panel P55, the roll of LLDPE terminated near the center of SA-6 North, thus the remaining run of LLDPE was installed as P56 & P57 (Panels P56 and P57 installed as remaining pieces of previously used LLDPE rolls). Panels P50 and P54 ran the entire width of SA-6 North (approximately 288 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 7/12/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 309+75, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/12/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P50 through P57 (installed on 7/12/16).
- ESI conducted repair activities for Panels P50 to P57 (installed on 7/12/16). A total of twenty-two repairs (R-237, R-238 and R-242 through R-261) were observed and fixed (according to the project specifications) from Panels P50 through P57. Refer to 7/12/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- As part of the repair activities for Panels P50 to P57, the pipe boot/penetration for Piezometer PZ6 was also completed as outlined on the 7/12/16 Pipe Boot Form. A total of three (3) destruct samples were also collected. Three fusion weld destruct samples - DS-18, DS-19, DS-20 were collected from Panel Seams P49 / P50, P53 / P54, and P55 / P56 for laboratory analysis

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 7 (Sheet #7) – Subgrade irregularity identified as R-242 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P49 / P50. Stone was subsequently removed, and hole was patched/repaired following project specs as further described in *Sheet 7 Notice of Non-Compliance.*

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Action Items – Pending

- Complete Daily Report and Photo Log (for 7/12/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory results for destruct samples DS-18, DS-19, and DS-20.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, and 7/11/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-17. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-7. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/12/16
A3 – Photo Log	Pages 1 – 8	Total of 15 photos outlining pertinent daily observations and descriptions for 7/12/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/12/16
A5 – Subgrade Approval	Sheet 10 & ESI (7/12/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/12/16
A7 – Panel Placement Log	Pages 7-8	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/12/16
A8 – Destruct Seam Testing COC	Sheet 2	Updated for destruct samples collected on 7/12/16

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A9 – Seam/Non-Destruct. Test Log	Pages 19-22	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/12/16
A10 – Repair Log	Pages 13-14	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/12/16
A11 – Conformance COC		NA for 7/12/16
A12 – Destructive Seam Field Test	Page 2	Updated with destruct samples collected on 7/12/16
A13 – Destruct. Sample Summary	Page 2	Destruct sample summary updated with samples collected on 7/12/16
A14 – Penetration & Edge Form	7/12/16 Boot Form	Pipe boot for Gas Vent GV-4 and Piezometer PZ6 completed on 7/12/16.
A16 – Notice of Non-Compliance	Sheet 7	One non-compliance issue identified as subgrade irregularity on 7/12/16 and summarized on Sheet 7.
A17 – Spark Test Log	7/12/16 Spark Test Logs	Spark tests logs for Gas Vent GV-4 and Extraction Pump Station #1 dated 7/12/16

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PHOTOGRAPHIC LOG
Photo #1 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/12/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 312+70).

Description:

ESI deploying orange GDL over approved LLDPE geomembrane. GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #2 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/12/16

Direction Taken:

SA-6 North – Gas Vent GV-4

Description:

ESI completing LLDPE pipe boot for Gas Vent GV-4. Copper wire placed behind the extrusion weld at the base of the boot and along the vertical weld (for methane / spark testing to be completed later on 7/12/16).

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PHOTOGRAPHIC LOG
Photo #3 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/12/16

Direction Taken:

SA-6 North – Gas Vent GV-4

Description:

ESI conducting spark testing along base of boot and along vertical weld. Methane testing completed by Entact and 0.0% measured. No sparks / deficiencies were observed during the spark test and the GV-4 spark test passed.

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PHOTOGRAPHIC LOG
Photo #4 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

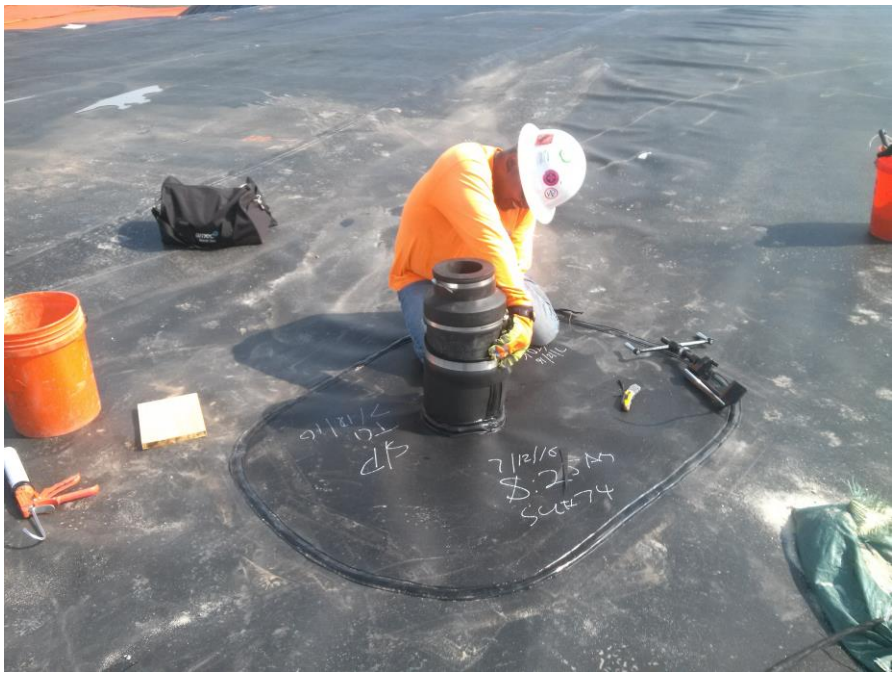
Date:
7/12/16

Direction Taken:

SA-6 North – Gas Vent GV-4

Description:

ESI completing boot construction including adding sacrificial sheet, stainless steel clamp, and butyl sealant. Final construction activities completed after passed spark test.



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PHOTOGRAPHIC LOG
Photo #5 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/12/16

Direction Taken:

SA-6 North – Extraction Pump Station #1

Description:

ESI conducting spark testing along base of boot for Extraction Pump Station #1. Entact previously conducted methane testing and concentration of 0.0% (>1%) was measured. ESI completed spark testing of the base of boot and vertical weld and no sparks or deficiencies were observed (spark test passed).

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PHOTOGRAPHIC LOG
Photo #6 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/12/16

Direction Taken:

SA-6 North – Extraction Pump Station #1

Description:

Pipe boot for Extraction Pump Station #1 completed. Methane / spark testing completed on 7/12/16 and spark test passed. Following completion of spark testing, ESI completed the boot construction by adding the stainless steel clamp and sealing the boot with butyl sealant.

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PHOTOGRAPHIC LOG
Photo #7 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/12/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 310+80).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #8 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/12/16

Direction Taken:

Looking east along southern end of SA-6 North (from approximate Sta. 310+80).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #9 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/12/16

Direction Taken:

Looking south along SA-6 North from northern end (approximate Sta. 310+80).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2").

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PHOTOGRAPHIC LOG
Photo #10 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/12/16

Direction Taken:

Looking north / northwest along SA-6 North (from approximate Sta. 309+75)

Description:

GVL deployed across approved soil subgrade up to approximate Sta. 309+75. GVL secured with white plastic fasteners spaced at a maximum of 5 ft. and top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #11 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/12/16

Direction Taken:

Looking north along SA-6 North (at approximate Sta. 310+60).

Description:

ESI deploying LLDPE geomembrane along installed GVL.

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PHOTOGRAPHIC LOG
Photo #12 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/12/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 310+80).

Description:

ESI conducting fusion welding along Panel P49 / P50 seam.

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PHOTOGRAPHIC LOG
Photo #13 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

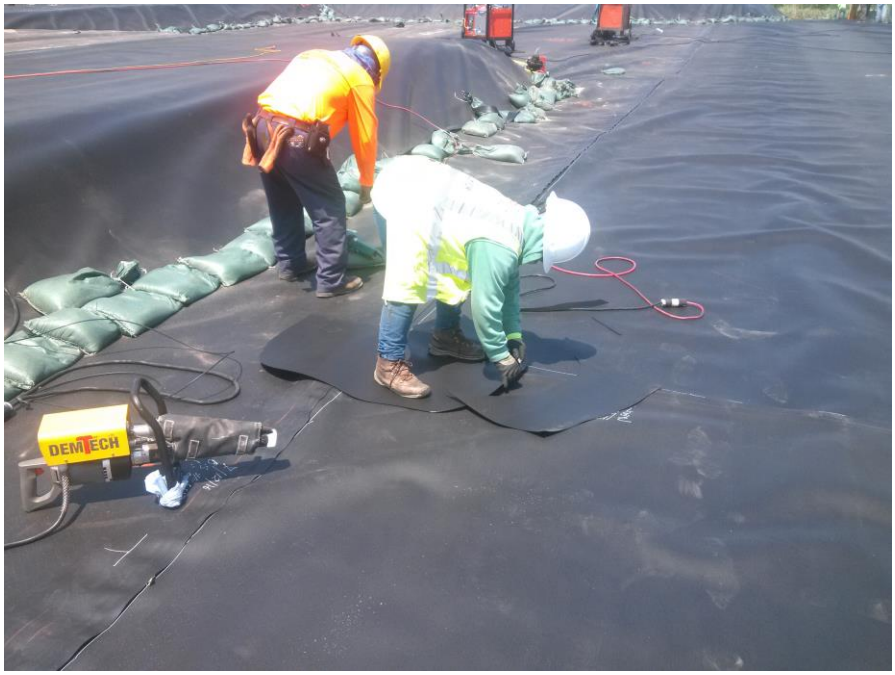
Date:
7/12/16

Direction Taken:

SA-6 North – Panel P50 / P51 / P52 seam joint

Description:

ESI conducting repair activities for Panel Seam Joint P50 / P51 / P52.



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PHOTOGRAPHIC LOG
Photo #14 (07/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

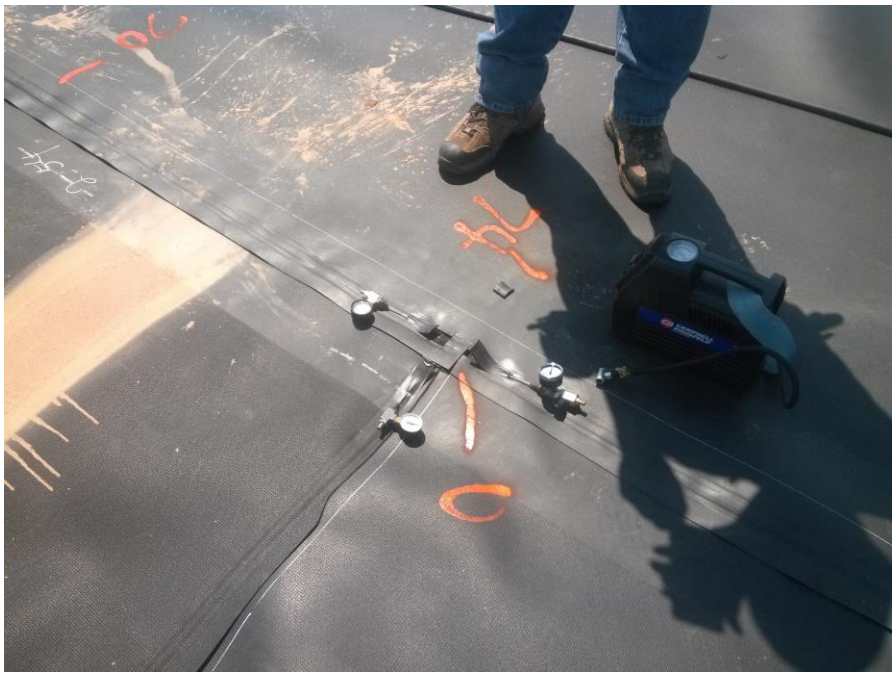
Date:
7/12/16

Direction Taken:

SA-6 North Panel P51 / P52 / P54 seam joint

Description:

ESI conducting non-destructive testing (pressure testing) for seam joint P51 / P52 / P54. Seams pressurized to 30 psi and held for 5 minutes with less than 4 psi loss.



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PHOTOGRAPHIC LOG
Photo #15 (07/12/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/12/16

Direction Taken:

SA-6 North Destruct Sample DS-18

Description:

Destruct sample DS-18 (Panel P49 / P50 seam) following patch repair and extrusion welding.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/13/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	72/85° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #14** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth, Kale **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P55 / P56 / P57 installed on 7/12/16 (approximate Sta. 309+75). Material to be placed from Panel P55 / P56 / P57 running approximately 75 ft. east to approximate Sta. 309+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from Panel P42 (approximate Sta. 312+25), moving east through Panel P47 / P48 (approximate Sta. 311+10). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/13/16 Photo Log for supporting photographs.
- Following the deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 309+75 (Panel P55 / P56 / P57 installed on 7/12/16) to approximate Sta. 309+00. Refer to *Soil Subgrade Approval* forms from 7/13/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 3,4, and 5 of the daily photo log for 7/13/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 309+75 (east of Panel P55 / P56 / P57) moving east to approximate Sta. 309+00. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft.

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Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 7/13/16 Photo Log for supporting photographs.

- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P55 / P56 / P57 (installed on 7/12/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 309+75 (Panel P55 / P56 / P57) to approximate Sta. 309+00. A total of six panels were installed (P58, P59, P60, P61, P62, and P63). Note: During placement of Panel P59 the roll of LLDPE terminated near the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P60. Similarly, during placement of Panel P62, the roll of LLDPE terminated near the northern end of SA-6 North, thus the remaining run of LLDPE was installed as P63. Panels P58 and P61 ran the entire width of SA-6 North (approximately 295 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 7/13/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 309+00, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/13/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P58 to P63 (installed on 7/13/16)
- ESI conducted repair activities for Panels P58 to P63 (installed on 7/13/16). A total of eleven repairs (R-262 through R-272) were observed and fixed (according to the project specifications) from Panels P58 through P63. Refer to 7/13/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of two (2) destruct samples were collected. Two fusion weld destruct samples - DS-21 and DS-22 were collected from Panel Seams P58 / P59 and P61 / P63, respectively, for laboratory analysis.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/13/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory results for destruct samples DS-21 and DS-22.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, and 7/12/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-20. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-7. Laboratory results in compliance with project specifications.

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Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/13/16
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 7/13/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/13/16
A5 – Subgrade Approval	Sheet 11 & ESI (7/13/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 4-5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/13/16
A7 – Panel Placement Log	Pages 8 - 9	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/13/16
A8 – Destruct Seam Testing COC	Sheet 2	Updated for destruct samples collected on 7/13/16
A9 – Seam/Non-Destruct. Test Log	Pages 22-24	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/13/16
A10 – Repair Log	Page 14	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/13/16
A11 – Conformance COC		NA for 7/13/16
A12 – Destructive Seam Field Test	Page 2	Updated with destruct samples collected on 7/13/16
A13 – Destruct. Sample Summary	Page 2	Destruct sample summary updated with samples collected on 7/13/16

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By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A14 – Penetration & Edge Form		NA – No pipe boots / penetrations completed on 7/13/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 7/13/16
A17 – Spark Test Log		NA – no spark testing conducted on 7/13/16

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By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/13/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 312+00).

Description:

ESI deploying orange GDL over approved LLDPE geomembrane. GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #2 (07/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/13/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 311+25).

Description:

Orange GDL installed across approved LLDPE geomembrane through Panel P47 / P48. GDL secured with white plastic fasteners (5 ft. maximum) and top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #3 (07/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/13/16

Direction Taken:

Looking south across SA-6 from approximate center of cap (approximate Sta. 309+75).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #4 (07/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/13/16

Direction Taken:

Looking east along SA-6 North from approximate center of cap (from approximate Sta. 309+75).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #5 (07/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/13/16

Direction Taken:

Looking north along SA-6 North from approximate center of cap (approximate Sta. 309+75).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #6 (07/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/13/16

Direction Taken:

Looking east along northern end of SA-6 North (from approximate Sta. 309+75).

Description:

ESI deploying 16 oz. geotextile along northern end of SA-6 North. Geotextile overlapped 1 ft. outside of barrier wall (remaining roll width inside) as outlined in project specifications.

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PHOTOGRAPHIC LOG
Photo #7 (07/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/13/16

Direction Taken:

Looking south across SA-6 North (approximate Sta. 309+75).

Description:

GVL being deployed over approved soil subgrade. GVL securd with whie plastic fasteners spaced at a maximum of 5 ft. and the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #8 (07/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/13/16

Direction Taken:

Looking north / northwest along SA-6 North (from approximate Sta. 309+00).

Description:

GVL deployed along approved soil subgrade up to approximate Sta. 309+00. GVL secured with white plastic fasteners spaced at maximum of 5 ft. and top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #9 (07/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

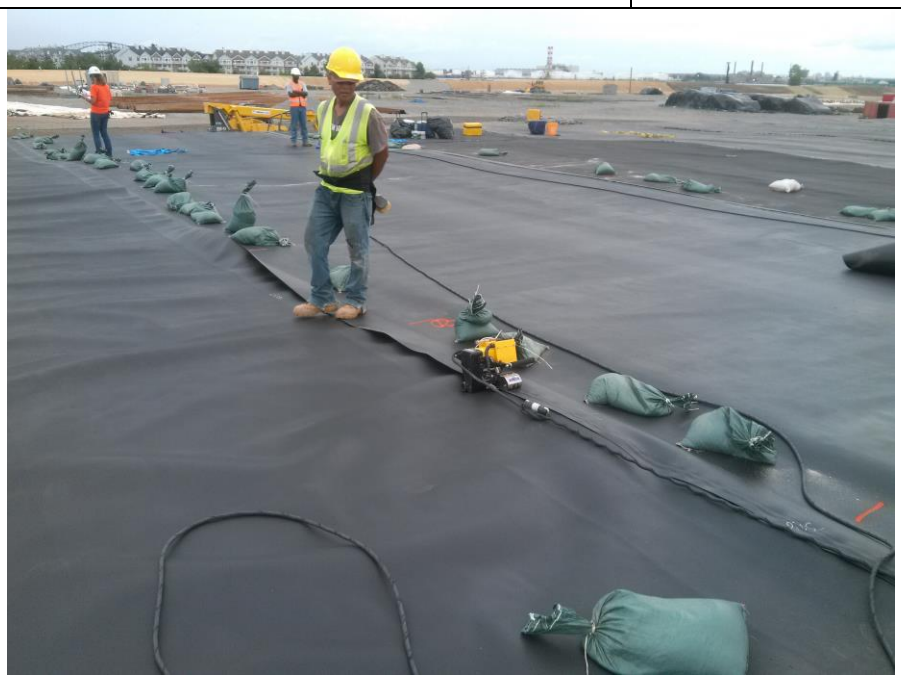
Date:
7/13/16

Direction Taken:

Looking south / southeast along SA-6 North (approximate Sta. 309+60).

Description:

ESI conducting fusion welding along LLDPE geomembrane Panel Seam P58 and P59.



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PHOTOGRAPHIC LOG
Photo #10 (07/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/13/16

Direction Taken:

SA-6 North – Panel P58 / P59 / P60 seam

Description:

ESI conducing non-destructive testing (pressure testing) along Panel P58 / P59 / P60 seams. Seams pressurized to 30 psi and held for 5 minutes with less than 4 psi loss.

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PHOTOGRAPHIC LOG
Photo #11 (07/13/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/13/16

Direction Taken:

SA-6 North Panel P58 / P59 / P60 / P61

Description:

ESI conducting seam joint patch repair activities along Panel P58 / P59 / P60 / P61 seam joints.

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PHOTOGRAPHIC LOG
Photo #12 (07/13/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/13/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 309+00).

Description:

LLDPE geomembrane installed up to approximate Sta. 309+00.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/14/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	75/85° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1500

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #15** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth, Kale **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P62 / P63 installed on 7/13/16 (approximate Sta. 309+00). Material to be placed from Panel P62 / P63 running approximately 80 ft. east to approximate Sta. 308+20.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting repair activities for a wrinkle observed on Panel P50 / P51. A total of four repairs (R-273 through R-276) were observed and fixed (according to the project specifications) from Panels P50 and P51. Refer to 7/14/16 *Repair Report* for additional details. The observed wrinkles were cut to allow the geomembrane to conform to the subgrade, and the cut areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While repair activities were being conducted, Langan and Entact conducted soil subgrade approval from approximate Sta. 309+00 (Panel P62 / P63 installed on 7/13/16) to approximate Sta. 308+20. Refer to *Soil Subgrade Approval* forms from 7/14/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 1, 2, and 3 of the daily photo log for 7/14/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta.309+00 (east of Panel P62 / P63) moving east to approximate Sta. 308+20. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 7/14/16 Photo Log for supporting photographs.

- During deployment of GVL, the potential for rocks or other debris to become dislodged in the soil subgrade were observed. Additional walkover and observation activities were conducted along the GVL to attempt to identify any rocks or debris (>1/2") that may have been dislodged.
- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P62 / P63 (installed on 7/13/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 309+00 (Panel P62 / P63) to approximate Sta. 308+20. A total of five panels were installed (P64, P65, P66, P67, and P68). Note: During placement of Panel P66 the roll of LLDPE terminated approximately 2/3 from the northern end of SA-6 North, thus the remaining run of LLDPE was installed as P67. Panels P64, P65, and P68 ran the entire width of SA-6 North (approximately 299 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 7/14/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 308+20, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/14/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P64 to P68 (installed on 7/14/16).
- ESI conducted repair activities for Panels P64 to P68 (installed on 7/14/16) in addition to the wrinkle repairs completed in the morning on Panels P50 / P51. A total of sixteen repairs (R-277 through R-292) were observed and fixed (according to the project specifications) from Panels P64 through P68. Refer to 7/14/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- ESI also completed the boot / penetration construction for Gas Vent GV-3 and Cleanout 1. The boots were welded and sealed with methane / spark testing to be conducted at a later date.
- A total of three (3) destruct samples were collected. Two fusion weld destruct samples - DS-23 and DS-24 were collected from Panel Seams P64 / P65 and P66 / P68, respectively, for laboratory analysis. In addition, one extrusion weld destruct sample – DSX-8 was collected from Panel P61 (Repair R-270) for laboratory analysis.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/14/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory results for destruct samples DS-23, DS-24, and DSX-8.

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, and 7/13/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-22. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-7. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/14/16
A3 – Photo Log	Pages 1 – 6	Total of 11 photos outlining pertinent daily observations and descriptions for 7/14/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/14/16
A5 – Subgrade Approval	Sheet 12 & ESI (7/14/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/14/16
A7 – Panel Placement Log	Page 9	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/14/16
A8 – Destruct Seam Testing COC	Sheet 3	Updated for destruct samples collected on 7/14/16
A9 – Seam/Non-Destruct. Test Log	Pages 24-25	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/14/16

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By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log	Pages 14-15	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/14/16
A11 – Conformance COC		NA for 7/14/16
A12 – Destructive Seam Field Test	Page 3	Updated with destruct samples collected on 7/14/16
A13 – Destruct. Sample Summary	Page 3	Destruct sample summary updated with samples collected on 7/14/16
A14 – Penetration & Edge Form	7/14/16 Boot Forms	Pipe boot / penetrations completed for Gas Vent GV-3 and Cleanout 1. To be methane / spark tested at later date.
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 7/14/16
A17 – Spark Test Log		NA – no spark testing conducted on 7/14/16

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By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/14/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/14/16

Direction Taken:

Looking east along southern end of SA-6 North (from approximate Sta. 309+00).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #2 (07/14/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/14/16

Direction Taken:

Looking north across SA-6 North from approximate center of SA-6 North (approximate Sta. 309+00).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #3 (07/14/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/14/16

Direction Taken:

Looking east along northern end of SA-6 North (from approximate Sta. 309+00).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #4 (07/14/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/14/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 308+60).

Description:

ESI deploying GVL across approved soil subgrade. GVL secured with white plastic fasteners spaced at maximum of 5 ft. and top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #5 (07/14/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/14/16

Direction Taken:

Looking north / northeast along SA-6 North (approximate Sta. 308+20).

Description:

GVL installed up to approximate Sta. 308+20. GVL placed over approved soil subgrade, secured with white plastic fasteners, and top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #6 (07/14/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/14/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 308+75).

Description:

ESI deploying LLDPE geomembrane over installed GVL.

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PHOTOGRAPHIC LOG
Photo #7 (07/14/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/14/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 308+20).

Description:

ESI conducting fusion welding along Panel P66 / P68 seam.

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PHOTOGRAPHIC LOG
Photo #8 (07/14/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

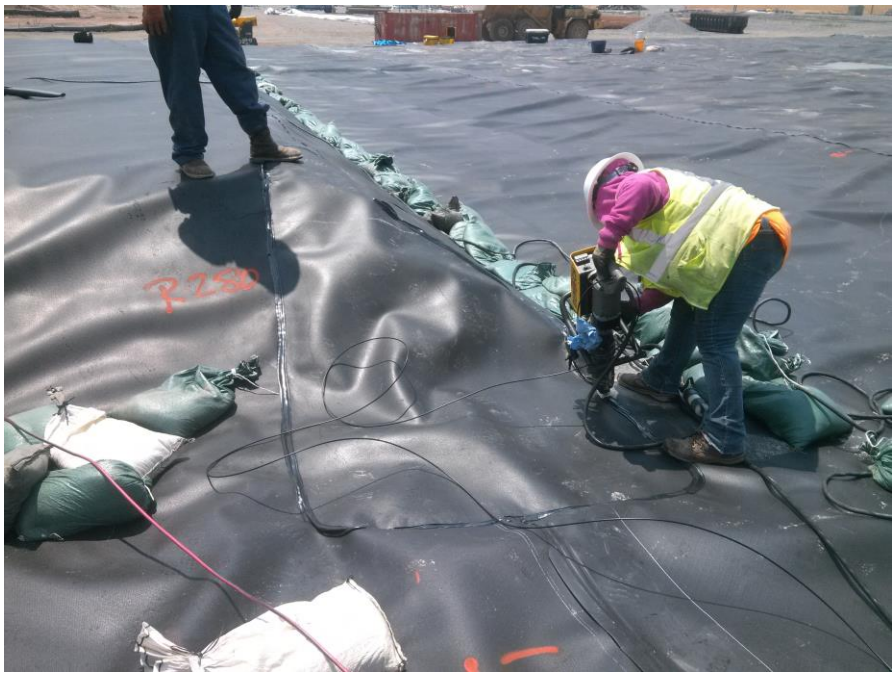
Date:
7/14/16

Direction Taken:

SA-6 North – Panel P64 / P65

Description:

ESI conducting “custom fit” repairs along Panel P64 / P65 (Repair R-280).



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PHOTOGRAPHIC LOG
Photo #9 (07/14/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/14/16

Direction Taken:

SA-6 North – Gas Vent GV-3

Description:

ESI completing pipe boot / penetration for Gas Vent GV-3. Boot to be methane / spark tested at later date.

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PHOTOGRAPHIC LOG
Photo #10 (07/14/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/14/16

Direction Taken:

SA-6 North – Cleanout 1

Description:

Completed pipe boot / penetration for Cleanout 1. Boot to be methane / spark tested at later date.

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PHOTOGRAPHIC LOG
Photo #11 (07/14/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/14/16

Direction Taken:

SA-6 North – Destruct Sample DS-23

Description:

ESI completing patch / repair activities for Destruct Sample DS-23 located on Panel P64 / P65 seam (Repair R-287).

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/15/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	80/95° F, Partly Cloudy, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite Drainage Layer (GDL)		**TIME:**	0645 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #16** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth, Kale Novalis **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainager layer (GDL) over approved LLDPE geomembrane. Note: no soil subgrade approved and no LLDPE geomembrane installed on 7/15/16. Next area of subgrade still being prepared, graded, and compacted by Entact (to be surveyed by Maser).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from Panel P47 / P48 (approximate Sta. 311+10) to Panel P66 (approximate Sta. 308+35) along northern end of cap. Note: GDL rolls were approximately 200 ft. in length and covered approximately 2/3 of the cap (north to south). As such, GDL was deployed along the northern half to Panel P66. The southern end of the cap was covered to Panel P63 (approximate Sta. 309+00). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/15/16 Photo Log for supporting photographs.

Non-Conformance Items / Corrective Actions

- None encountered

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/15/16). No LLDPE paperwork to be completed as no subgrade was approved and no LLDPE geomembrane was installed.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, and 7/14/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-24. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-8. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/15/16
A3 – Photo Log	Pages 1 – 2	Total of 3 photos outlining pertinent daily observations and descriptions for 7/15/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/15/16
A5 – Subgrade Approval		NA – no subgrade approved for LLDPE placement on 7/15/16
A6 – Trial Weld Log		NA – no trial welds completed on 7/15/16
A7 – Panel Placement Log		NA – no LLDPE panels placed on 7/15/16
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 7/15/16
A9 – Seam/Non-Destruct. Test Log		NA – no non-destructive testing conducted on 7/15/16
A10 – Repair Log		NA – no LLDPE repair activities conducted on 7/15/16
A11 – Conformance COC		NA for 7/15/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 7/15/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 7/15/16
A14 – Penetration & Edge Form		NA – no penetration / pipe boots completed on 7/15/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 7/15/16
A17 – Spark Test Log		NA – no spark testing completed on 7/15/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/15/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/15/16

Direction Taken:

Looking north / northwest across SA-6 North

Description:

ESI deploying orange GDL over approved LLDPE geomembrane. GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with top layer of geotextile sewn. Note: based on length of GDL (approximately 200 ft.), panels were run along northern end of cap first.

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PHOTOGRAPHIC LOG
Photo #2 (07/15/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/15/16

Direction Taken:

Looking north across SA-6 North (approximate center of cap).

Description:

ESI deploying GDL over approved LLDPE geomembrane.

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PHOTOGRAPHIC LOG
Photo #3 (07/15/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/15/16

Direction Taken:

Looking west along northern end of SA-6 North (from approximate Sta. 308+35).

Description:

GDL deployed along northern edge of cap up to Panel P66.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/18/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/85° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 0845

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #17** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth, Kale **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainager layer (GDL) over approved LLDPE geomembrane. Note: no soil subgrade approved and no LLDPE geomembrane installed on 7/18/16. Next area of subgrade still being prepared, graded, and compacted by Entact (to be surveyed by Maser).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed along the southern end of SA-6 North from Panel P63 (approximate Sta. 309+00) to Panel P66 (approximate Sta. 308+35) along southern end of cap. Note: GDL rolls were approximately 200 ft. in length and covered approximately 2/3 of the cap (north to south). As such, GDL was deployed along the southern half to Panel P66 (northern half previously covered with GDL on 7/15/16). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/18/16 Photo Log for supporting photographs.

Non-Conformance Items / Corrective Actions

- None encountered

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/18/16). No LLDPE paperwork to be completed as no subgrade was approved and no LLDPE geomembrane was installed.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, and 7/15/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-24. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-8. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/18/16
A3 – Photo Log	Page 1	Total of 2 photos outlining pertinent daily observations and descriptions for 7/18/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/18/16
A5 – Subgrade Approval		NA – no subgrade approved for LLDPE placement on 7/18/16
A6 – Trial Weld Log		NA – no trial welds completed on 7/18/16
A7 – Panel Placement Log		NA – no LLDPE panels placed on 7/18/16
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 7/18/16
A9 – Seam/Non-Destruct. Test Log		NA – no non-destructive testing conducted on 7/18/16
A10 – Repair Log		NA – no LLDPE repair activities conducted on 7/18/16
A11 – Conformance COC		NA for 7/18/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 7/18/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 7/18/16
A14 – Penetration & Edge Form		NA – no penetration / pipe boots completed on 7/18/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 7/18/16
A17 – Spark Test Log		NA – no spark testing completed on 7/18/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/18/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/18/16

Direction Taken:

Looking east across southern end of SA-6 North (approximate Sta. 308+50).

Description:

ESI deploying orange GDL over approved LLDPE geomembrane. GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with top layer of geotextile sewn. Note: based on length of GDL (approximately 200 ft.), panels were run along northern end first (completed on 7/15/16).

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PHOTOGRAPHIC LOG
Photo #2 (07/18/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/18/16

Direction Taken:

Looking north across SA-6 North

Description:

ESI deploying GDL over approved LLDPE geomembrane.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/25/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	85/93° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #18** **AmecFW**: Dave Ambrose, Josh Boynton **Langan:** Dan Bosworth, Kale Novalis **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P68 installed on 7/14/16 (approximate Sta. 308+20). Material to be placed from Panel P68 running approximately 100 ft. east to approximate Sta. 307+20.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 308+20 (Panel P68 installed on 7/14/16) to approximate Sta. 307+20. Refer to *Soil Subgrade Approval* forms from 7/25/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 1, 2, and 3 of the daily photo log on 7/25/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 308+20 (east of Panel P68) moving east to approximate Sta. 307+20. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 7/25/16 Photo Log for supporting photographs.
- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P68 (installed on 7/14/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 308+20 (Panel P68) to approximate Sta. 307+20. A total of seven panels were installed (P69, P70, P71, P72, P73, P74 and P75).

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

Note: During placement of Panel P69 the roll of LLDPE terminated near the northern end of SA-6 North, thus the remaining run of LLDPE was installed as P70 and P71 (P70 and P71 remaining pieces of LLDPE from rolls previously used). Similarly, during placement of Panel P73, the roll of LLDPE terminated near the northern end of SA-6 North, thus the remaining run of LLDPE was installed as P74. Panels P72 and P75 ran the entire width of SA-6 North (approximately 280 ft.) from north to south.

- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 7/25/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 307+20, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/25/16 *Seam Control Form* for non-destructive testing details.
- ESI conducted repair activities for Panels 68 to P75 (installed on 7/25/16). A total of twenty-six repairs (R-293 through R-318) were observed and fixed (according to the project specifications) from Panels P68 through P75. Refer to 7/25/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications (Note: vacuum box testing not completed for all repairs. To be finished on 7/26/16).
- ESI also completed the pipe boot construction for Cleanout 2. Additional details are provided in the 7/25/16 Pipe Boot Penetration Form.
- A total of two (3) destruct samples were collected. Two fusion weld destruct samples were collected – DS-25 and DS-26 were collected from Panel Seams P68 / P69 and P72 / P74, respectively. One extrusion weld destruct sample – DSX-9 was also collected from patch repair R-299 (Panel P72) for laboratory analysis.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/25/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete boot penetration log for Cleanout 2
- Review laboratory results for destruct samples DS-25, DS-26, and DSX-9.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, and 7/18/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-24. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-8. Laboratory results in compliance with project specifications.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/25/16
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 7/25/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/25/16
A5 – Subgrade Approval	Sheet 13 & ESI (7/25/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/25/16
A7 – Panel Placement Log	Pages 9 - 10	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/25/16
A8 – Destruct Seam Testing COC	Sheet 3	Updated for destruct samples collected on 7/25/16
A9 – Seam/Non-Destruct. Test Log	Pages 25-28	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/25/16
A10 – Repair Log	Pages 15-16	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/25/16
A11 – Conformance COC		NA for 7/25/16
A12 – Destructive Seam Field Test	Page 3	Updated with destruct samples collected on 7/25/16
A13 – Destruct. Sample Summary	Page 3	Destruct sample summary updated with samples collected on 7/25/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A14 – Penetration & Edge Form	7/25/16 Pipe Boot Log	Pipe boot penetration log completed for Cleanout 2
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 7/25/16
A17 – Spark Test Log		NA – no spark testing conducted on 7/25/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/25/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/25/16

Direction Taken:

Looking south along SA-6 North from approximate center of cap (approximate Sta. 308+20).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #2 (07/25/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/25/16

Direction Taken:

Looking east along SA-6 North from approximate center of cap (approximate Sta. 308+20).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #3 (07/25/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/25/16

Direction Taken:

Looking north across SA-6 from approximate center of cap (approximate Sta. 308+20).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #4 (07/25/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/25/16

Direction Taken:

Looking south across SA-6 North (approximate Sta. 308+20).

Description:

GVL being deployed over approved soil subgrade. GVL secured with white plastic fasteners spaced at a maximum of 5 ft. and the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #5 (07/25/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

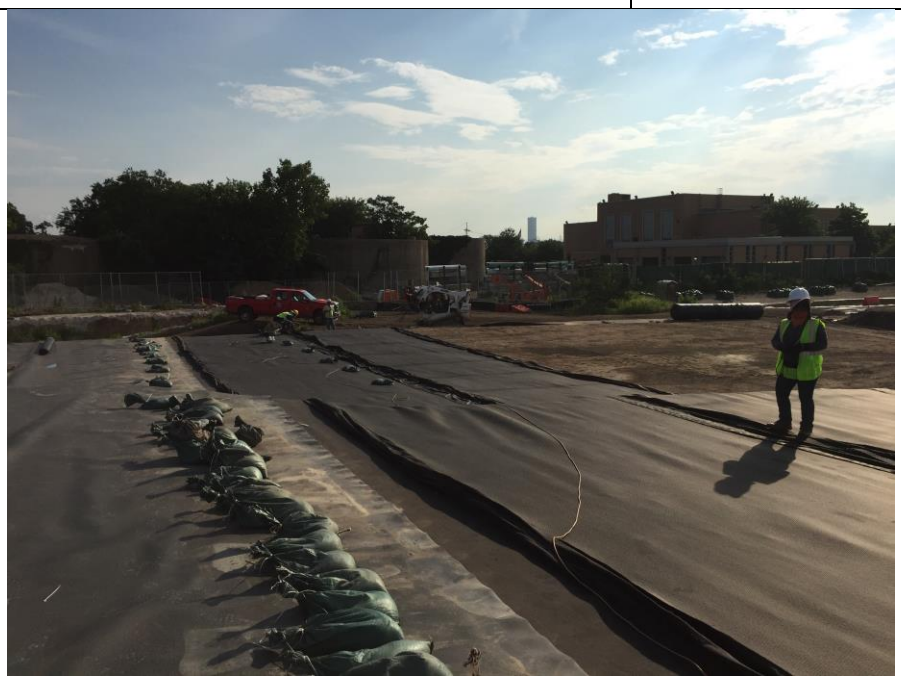
Date:
7/25/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 308+20).

Description:

GVL being deployed over approved soil subgrade. GVL secured with white plastic fasteners spaced at a maximum of 5 ft. and the top layer of geotextile sewn.



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PHOTOGRAPHIC LOG
Photo #6 (07/25/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/25/16

Direction Taken:

Looking east along northern end of SA-6 North (from approximate Sta. 308+20).

Description:

ESI deploying 16 oz. geotextile along northern end of SA-6 North. Geotextile overlapped 1 ft. outside of barrier wall (remaining roll width inside) as outlined in project specifications.

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PHOTOGRAPHIC LOG
Photo #7 (07/25/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/25/16

Direction Taken:

Looking south / southeast along SA-6 North (approximate Sta. 308+00).

Description:

ESI conducting fusion welding along LLDPE geomembrane Panel Seam P68 / P70.

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PHOTOGRAPHIC LOG
Photo #8 (07/25/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/25/16

Direction Taken:

SA-6 North – Panel P70 / P71 / P72 seam

Description:

ESI conducing non-destructive testing (pressure testing) along Panel P70 / P71 / P72 seams. Seams pressurized to 30 psi and held for 5 minutes with less than 4 psi loss.

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PHOTOGRAPHIC LOG
Photo #9 (07/25/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

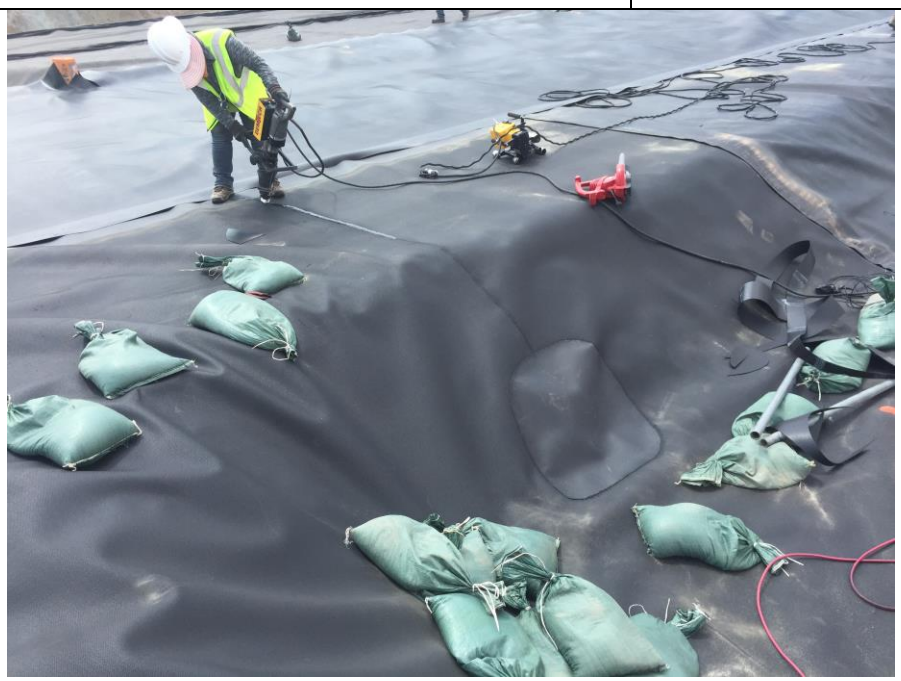
Date:
7/25/16

Direction Taken:

Looking south / southeast along SA-6 North (approximate Sta. 308+15).

Description:

ESI conducting custom fit repairs on Panel P-70.



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PHOTOGRAPHIC LOG
Photo #10 (07/25/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

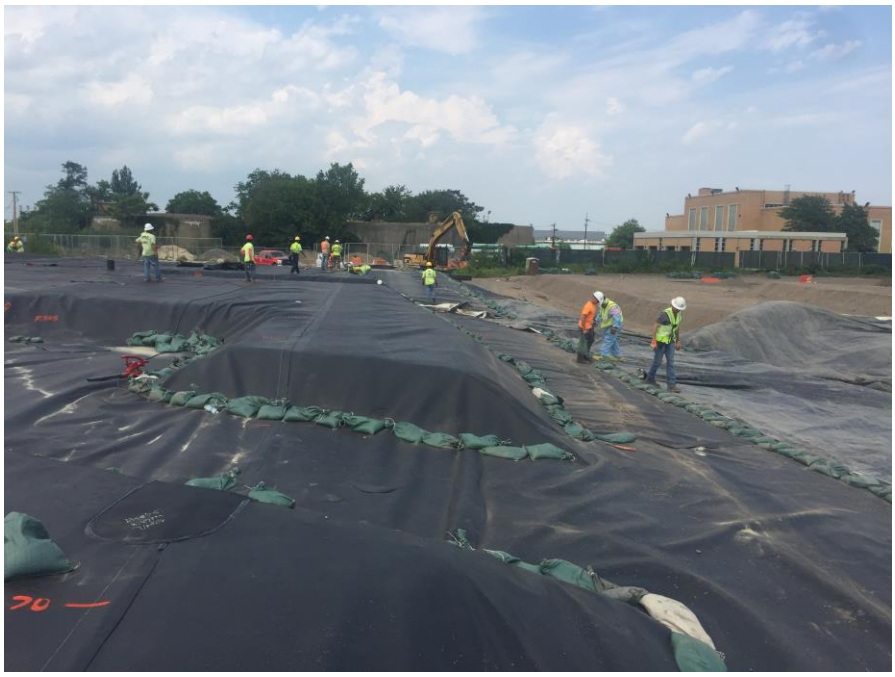
Date:
7/25/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 307+20).

Description:

LLDPE geomembrane installed up to approximate Sta. 307+20.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/27/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/98° F, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1615

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #19** **AmecFW**: Dave Ambrose, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P75 installed on 7/25/16 (approximate Sta. 307+20). Material to be placed from Panel P75 running approximately 80 ft. east to approximate Sta. 306+40.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 307+20 (Panel P75 installed on 7/25/16) to approximate Sta. 306+40. Refer to *Soil Subgrade Approval* forms from 7/27/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and one wet / soft area was identified at the top of the western slope of the utility corridor. The wet area was identified underneath the edge of the GVL panel (previously installed on 7/25/16). The GVL was pulled back and the soil subgrade was exposed. The wet area was re-worked by Entact and calcium cement was added to solidify the soil. Based on visual observation, the remaining soil subgrade (along with the re-worked wet area) appeared to be firm and unyielding with no other soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 1 to 4 of the daily photo log for 7/27/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 307+20 (east of Panel P75) moving east to approximate Sta. 306+40. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to the 7/27/16 Photo Log for supporting photographs.

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- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P75 (installed on 7/25/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 307+20 (Panel P75) to approximate Sta. 306+40. A total of five panels were installed (P76, P77, P78, P79, and P80). Note: During placement of Panel P77 the roll of LLDPE terminated near the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P78. Panels P76, P79, and P80 ran the entire width of SA-6 North (approximately 270 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 7/27/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 306+40, ESI began to conduct non-destructive testing (pressure testing) in accordance with the project specifications. Seams were pressurized to 30 psi and held for 5 minutes with less than 5 psi loss. Refer to the 7/27/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P75 to P80 (installed on 7/25/16 and 7/27/16)
- ESI conducted repair activities for Panel P75 (installed on 7/25/16), and Panels P76 through P80 (installed on 7/27/16). A total of forty-three repairs (R-319 through R-361) were observed and fixed (according to the project specifications) from Panels P75 through P80. Refer to 7/27/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- As part of the repair activities for LLDPE geomembrane installed on 7/27/16, two pipe boots / penetrations were completed for Well 115-E5-SO and Extraction Pump Station 2. Additional details are provided in the 7/27/16 Pipe Boot Forms.
- While repair activities were being conducted, ESI also completed methane / spark testing for Piezometer PZ6 and Cleanout 1. Prior to spark testing methane testing was conducted at each location and 0.0% methane was recorded. As such, spark testing was then conducted and no sparks were observed along the base of the boot or vertical weld for both boots. Refer to the *Spark Testing Forms* from 7/27/16 for additional details.
- A total of two (2) destruct samples were collected on 7/27/16. One fusion weld destruct samples - DS-27 was collected from Panel Seams P75 / P76, for laboratory analysis. Additionally, one extrusion weld sample – DSX-10 was collected from Panel P75 Repair R-320.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 8 (Sheet #8) – Subgrade irregularity identified as R-328 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P71 / P72. Stone was subsequently removed, and hole was patched/repaired following project specs as further described in *Sheet 8 Notice of Non-Compliance.*

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/27/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory results for destruct samples DS-27 and DSX-10.

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By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, and 7/25/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-24. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-8. Laboratory samples DS-25, DS-26, and DSX-9 still pending.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/27/16
A3 – Photo Log	Pages 1 – 7	Total of 14 photos outlining pertinent daily observations and descriptions for 7/27/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/27/16
A5 – Subgrade Approval	Sheet 14 & ESI (7/27/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 5-6	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/27/16
A7 – Panel Placement Log	Pages 10-11	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/27/16
A8 – Destruct Seam Testing COC	Sheets 3-4	Updated for destruct samples collected on 7/27/16
A9 – Seam/Non-Destruct. Test Log	Pages 28-31	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/27/16

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By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log	Pages 16-19	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/27/16
A11 – Conformance COC		NA for 7/27/16
A12 – Destructive Seam Field Test	Pages 3-4	Updated with destruct samples collected on 7/27/16
A13 – Destruct. Sample Summary	Pages 3-4	Destruct sample summary updated with samples collected on 7/27/16
A14 – Penetration & Edge Form	7/27/16 Pipe Boot Forms	Two pipe boot / penetrations completed for Well 115-E5-S0 and Extraction Pump Station 2
A16 – Notice of Non-Compliance	Sheet 8	One subgrade irregularity identified and recorded on Sheet 8 Notice of Non-Compliance
A17 – Spark Test Log	7/27/16 Spark Test Logs	Two spark tests completed for pipe boots Piezometer PZ6 and Cleanout 1

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By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/27/16

Direction Taken:

Looking south along SA-6 North utility corridor (approximate Sta. 307+00).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #2 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/27/16

Direction Taken:

Looking south along top of western slope of utility corridor (approximate Sta. 307+20).

Description:

Wet / soft area of subgrade identified along edge of previously deployed GVL. GVL was pulled back to expose subgrade. Entact to solidify, re-work, and re-compact area so soil is suitable for LLDPE placement.

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PHOTOGRAPHIC LOG
Photo #3 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/27/16

Direction Taken:

Looking north along western edge of utility corridor (approximate Sta. 307+20).

Description:

Wet / soft area of subgrade solidified with calcium cement. Area re-compacted and suitable for LLDPE placement.

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PHOTOGRAPHIC LOG
Photo #4 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/27/16

Direction Taken:

Looking north along SA-6 North utility corridor (approximate Sta. 307+00).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #5 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/27/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 307+00).

Description:

ESI deploying GVL over approved soil subgrade. GVL secured with white plastic fasteners spaced at maximum of 5 ft. intervals with top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #6 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/27/16

Direction Taken:

Looking south along southern end of SA-6 North (approximate Sta. 307+20).

Description:

GVL secured with white plastic fasteners at maximum of 5 ft. along geonet. Top layer of geotextile to be sewn.

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PHOTOGRAPHIC LOG
Photo #7 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/27/16

Direction Taken:

Looking south across SA-6 North (approximate Sta. 306+40).

Description:

GVL deployed over approved subgrade up to approximate Sta. 306+40.

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PHOTOGRAPHIC LOG
Photo #8 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/27/16

Direction Taken:

SA-6 North Panel P75 & P76 seam (toward northern end of cap).

Description:

ESI conducting fusion welding along Panel P75 & P76 seam.

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PHOTOGRAPHIC LOG
Photo #9 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/27/16

Direction Taken:

Looking south along SA-6 North utility corridor (from approximate Sta. 307+00).

Description:

ESI deploying LLDPE geomembrane over installed GVL. LLDPE installed through utility corridor as per approved panel layout.

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PHOTOGRAPHIC LOG
Photo #10 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

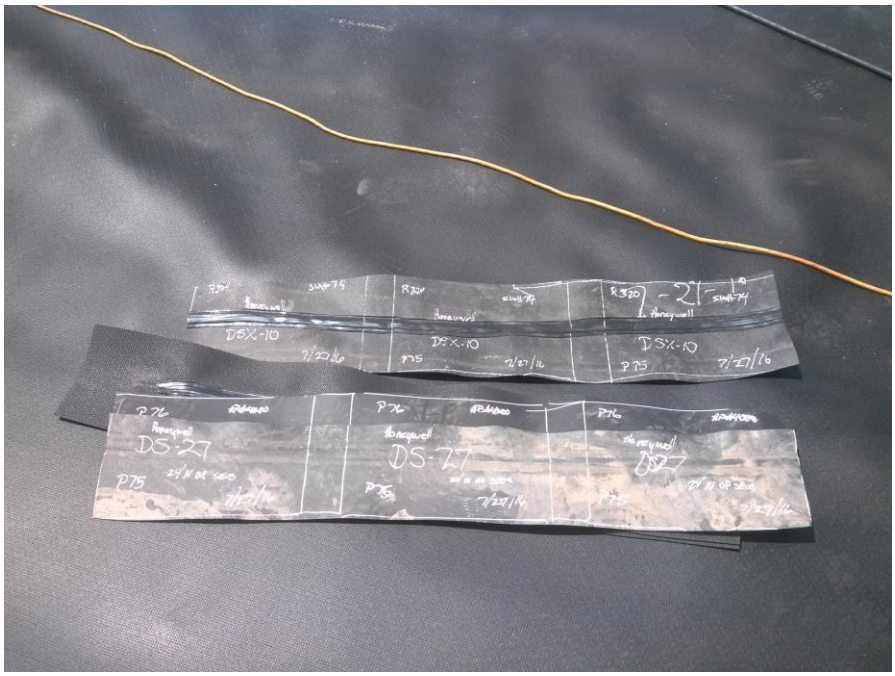
Date:
7/27/16

Direction Taken:

SA-6 North – Destruct Samples

Description:

Fusion weld destruct sample DS-27 and extrusion weld destruct sample DSX-10 cut for laboratory analysis (also to be field tested with tensiometer).



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PHOTOGRAPHIC LOG
Photo #11 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

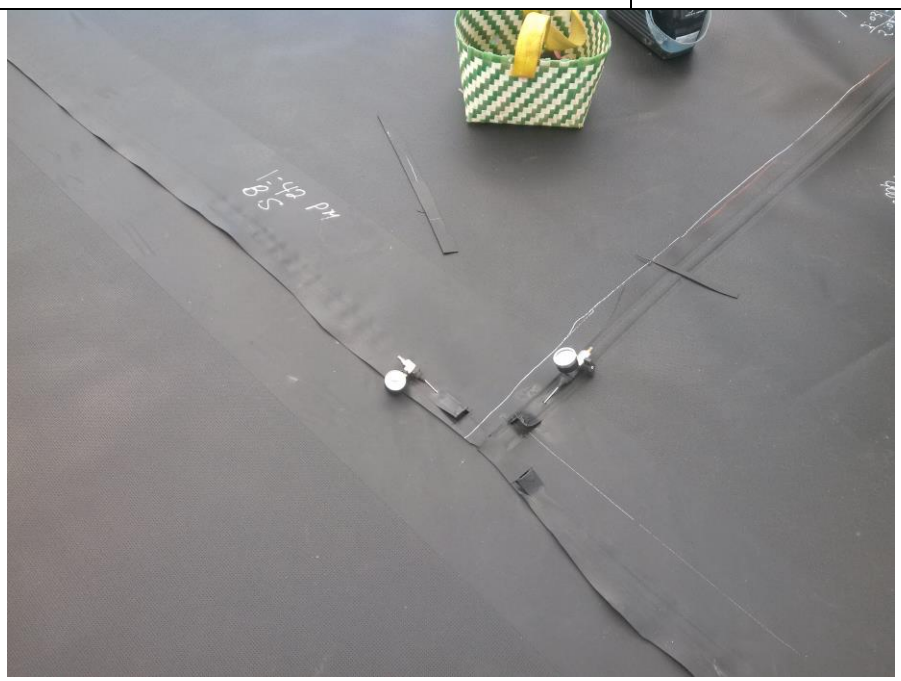
Date:
7/27/16

Direction Taken:

SA-6 North – Panel P77 / P78 / P79 seam

Description:

ESI conducting non-destructive testing (pressure testing) along Panel P77 / P78 / P79 seam. Seams pressurized to 30 psi and held for 5 minutes with less than 4 psi loss.



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PHOTOGRAPHIC LOG
Photo #12 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/27/16

Direction Taken:

SA-6 North – Destruct Sample DS-27

Description:

Destruct sample DS-27 cut for laboratory analysis from Panel P75 / P76 seam. Sample location was patched, repaired with extrusion weld, and vacuum box tested (as per project specs).

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PHOTOGRAPHIC LOG
Photo #13 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/27/16

Direction Taken:

SA-6 North – Piezometer PZ6

Description:

Entact conducting methane testing for LLDPE boot for Piezometer PZ6. Concentration of 0.0% methane measured. As such, spark testing was subsequently completed and no sparks were observed during the test.

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PHOTOGRAPHIC LOG
Photo #14 (07/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

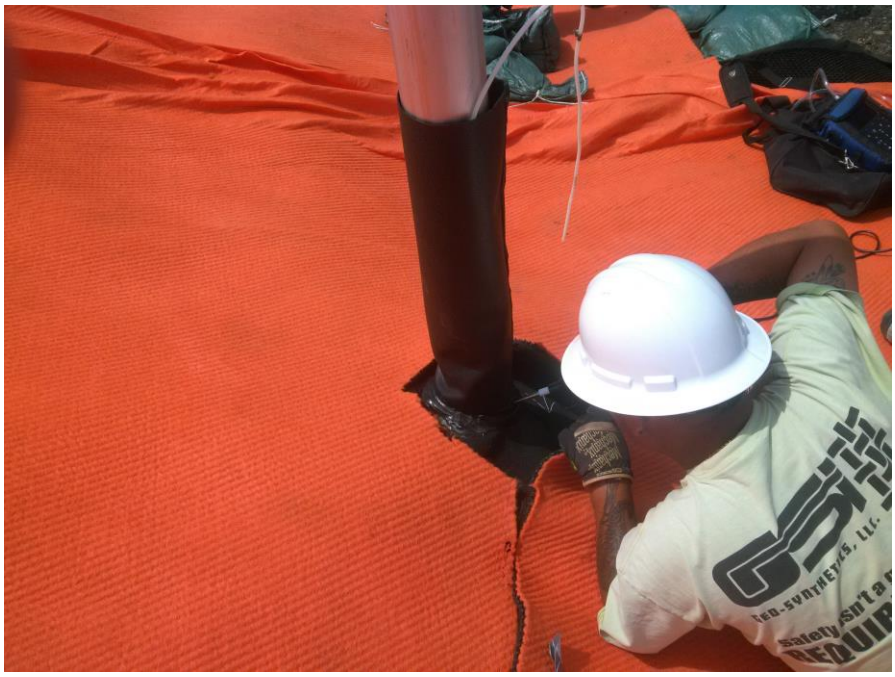
Date:
7/27/16

Direction Taken:

SA-6 North – Piezometer PZ6

Description:

ESI conducting spark testing along vertical weld and base of boot for Piezometer PZ6. No sparks were observed (i.e. spark test passed).



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/28/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/95° F, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1745

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #20** **AmecFW**: Dave Ambrose, Josh Boynton **Langan:** Dan Bosworth, Jeff Stoicescu **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P80 installed on 7/27/16 (approximate Sta. 306+40). Material to be placed from Panel P80 running approximately 100 ft. east to approximate Sta. 305+40.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 306+40 (Panel P80 installed on 7/27/16) to approximate Sta. 305+40. Refer to *Soil Subgrade Approval* forms from 7/28/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 1, 2, and 3 of the daily photo log for 7/28/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 306+40 (east of Panel P80) moving east to approximate Sta. 305+40. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to the 7/28/16 Photo Log for supporting photographs.
- While GVL was being installed, Entact and ESI conducted spark testing for Gas Vent GV-3, and Cleanout 2. Prior to spark testing, methane testing was conducted by Entact and a concentration of 0.0% was measured at each boot. As such, spark testing was subsequently completed, and no sparks were observed during the test (i.e. spark test passed). Additional details regarding the

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methane / spark testing are provided in the 7/28/16 *Spark Test Logs*.

- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P80 (installed on 7/27/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 306+40 (Panel P80) to approximate Sta. 305+40. A total of eight panels were installed (P81, P82, P83, P84, P85, P86, P87, and P88). Note: During placement of Panel P81 the roll of LLDPE terminated near the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P82. Similarly, during placement of Panel P84 the roll of LLDPE terminated near the southern end of SA-6, thus the remaining run of LLDPE was installed as Panel P85. Panel P87 also terminated near the approximate center of SA-6 North, thus the remaining LLDPE run was installed as Panel P88. Panels P83 and P86 ran the entire width of SA-6 North (approximately 260 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 7/28/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 305+40, ESI began to conduct non-destructive testing (pressure testing) in accordance with the project specifications. Seams were pressurized to 30 psi and held for 5 minutes with less than 5 psi loss. Refer to the 7/28/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P80 to P88 (installed on 7/27/16 and 7/28/16)
- ESI conducted repair activities for Panel P80 (installed on 7/27/16), and Panels P81 through P88 (installed on 7/28/16). A total of twenty-nine repairs (R-362 through R-390) were observed and fixed (according to the project specifications) from Panels P80 through P88. Refer to 7/28/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- As part of the repair activities ESI also completed the pipe boots for the Utility Corridor Drainage Pipe and Injection Well 088-IW-03. Additional details are provided in the 7/28/16 Boot Forms
- Laboratory results for destruct sample DS-26 were received and two of the coupons were reported as EPA Break Classification Code "AD BRK". Although the coupons met the peel strength requirements, since the break was reported at the weld and not considered a film tearing bond (FTB), the sample was considered a failed sample and reported as a non-conformance item.
- No destruct samples were collected due to the forecasted storms at the end of the day. Destruct samples anticipated to be cut on 8/1/16 (rain forecast for 7/29/16 – no LLDPE activities anticipated).

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 9 (Sheet #9) – Failed destruct sample DS-26 collected from Panel P72 / P74
    - Destruct sample DS-26 failed 2/5 coupons as the weld breaks were reported as "AD BRK" under the EPA Break Classification Code. Although the coupons achieved the required peel / shear strength parameters, since the break occurred at the weld and was not considered an FTB, the sample failed.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/28/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

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By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, and 7/27/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-27. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-10. Laboratory results in compliance with project specifications with the exception of destruct sample DS-26 (recorded as Non-Conformance #9).

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/28/16
A3 – Photo Log	Pages 1 – 7	Total of 14 photos outlining pertinent daily observations and descriptions for 7/28/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/28/16
A5 – Subgrade Approval	Sheet 15 & ESI (7/28/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 6	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/28/16
A7 – Panel Placement Log	Pages 11-12	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/28/16
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 7/28/16
A9 – Seam/Non-Destruct. Test Log	Pages 31-33	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/28/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log	Pages 19-20	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/28/16
A11 – Conformance COC		NA for 7/28/16
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 7/28/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 7/28/16
A14 – Penetration & Edge Form	7/28/16 Pipe Boot Form	Two pipe boot / penetrations completed for Utility Corridor Drainage Pipe and Injection Well 088-IW-03
A16 – Notice of Non-Compliance	Sheet 9	One failed destruct sample: DS-26 recorded on 7/28/16. Additional details provided in Non-Conformance Log Sheet #9
A17 – Spark Test Log	7/28/16 Spark Test Logs	Spark testing completed on 7/28/16 for Gas Vent GV-3 and Cleanout 2

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/28/16

Direction Taken:

Looking north along SA-6 North from approximate center of cap (approximate Sta. 306+40).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #2 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/28/16

Direction Taken:

Looking south along SA-6 North from approximate center of cap (approximate Sta. 306+40).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #3 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/28/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 306+40).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #4 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/28/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 306+20).

Description:

ESI deploying GVL over approved soil subgrade.

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PHOTOGRAPHIC LOG
Photo #5 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/28/16

Direction Taken:

Looking north along northern end of SA-6 North (approximate Sta. 306+40).

Description:

GVL being deployed over approved soil subgrade. GVL secured with white plastic fasteners spaced at maximum of 5 ft. intervals and top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #6 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

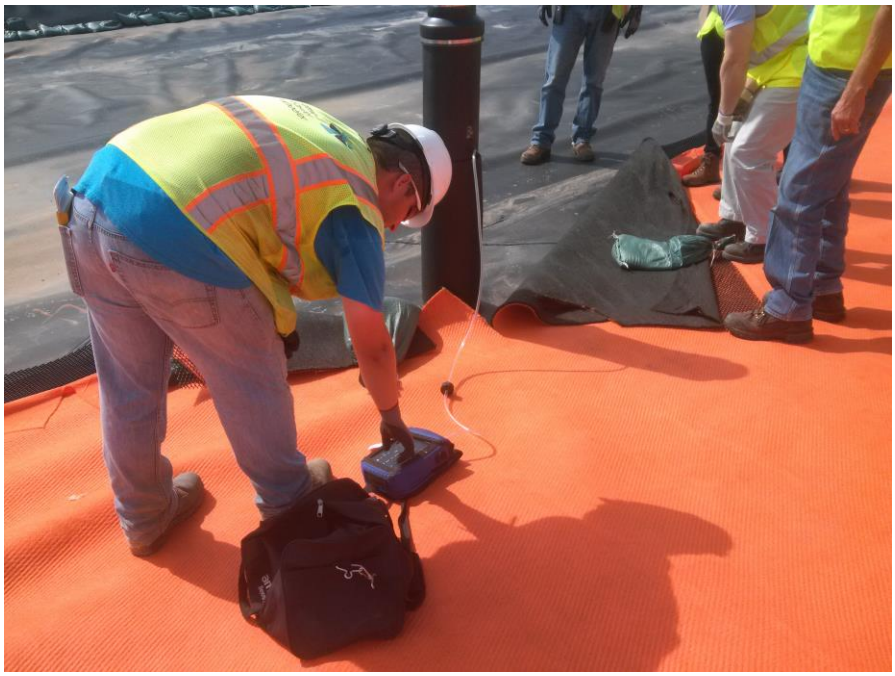
Date:
7/28/16

Direction Taken:

SA-6 North – Gas Vent GV-3

Description:

Entact conducting methane testing at Gas Vent GV-3 prior to spark testing. Concentration of 0.0% methane measured. Boot was subsequently spark tested and passed spark test.



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PHOTOGRAPHIC LOG
Photo #7 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/28/16

Direction Taken:

SA-6 North – Gas Vent GV-3

Description:

ESi conducting spark testing along base of boot and vertical weld for Gas Vent GV-3. No sparks were observed and the spark test passed.

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PHOTOGRAPHIC LOG
Photo #8 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/28/16

Direction Taken:

SA-6 North Panel P75 & P76 seam (toward northern end of cap).

Description:

ESI conducting spark testing for Cleanout 2. No sparks were observed and the spark test passed.

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PHOTOGRAPHIC LOG
Photo #9 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/28/16

Direction Taken:

Looking south / southeast along SA-6 North

Description:

GVL being deployed up to approximate Sta. 305+40.

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PHOTOGRAPHIC LOG
Photo #10 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/28/16

Direction Taken:

Looking north along SA-6 North from approximate center of cap (approximate Sta. 305+90).

Description:

ESI deploying LLDPE geomembrane over GVL across SA-6 North.

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PHOTOGRAPHIC LOG
Photo #11 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/28/16

Direction Taken:

Looking south along SA-6 North (Panel P83 / P84 seam).

Description:

ESI conducting fusion weld along Panel Seam P83 / P84.

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PHOTOGRAPHIC LOG
Photo #12 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/28/16

Direction Taken:

SA-6 North, Northern Swale (at approximate Sta. 305+60).

Description:

ESI conducting repair activities along tree bulb swale located along northern end of SA-6 North (approximate Sta. 305+60). “Custom fit” repairs patched and sealed with extrusion welds.

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PHOTOGRAPHIC LOG
Photo #13 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/28/16

Direction Taken:

SA-6 North – Well 115-E5-WO

Description:

Completed pipe boot for Monitoring Well 115-E5-WO (boot constructed on 7/27/16 and completed on 7/28/16). Boot to be methane / spark tested at later date.

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PHOTOGRAPHIC LOG
Photo #14 (07/28/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
7/28/16

Direction Taken:

SA-6 North – Extraction Pump Station Manhole #2

Description:

Completed pipe boot for Extraction Pump Station Manhole #2 (boot constructed on 7/27/16 and completed on 7/28/16). Boot to be methane / spark tested at later date.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/2/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/85° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1645

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #21** **AmecFW**: Stu Bills, Dave Ambrose, Josh Boynton **Langan:** Dan Bosworth, Vikki Hon **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL) over approved LLDPE geomembrane. Note: no soil subgrade approved and no LLDPE geomembrane installed on 8/2/16. Next area of subgrade still being prepared, graded, and compacted by Entact (to be surveyed by Maser).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was first placed along the northern end of SA-6 North from Panel P66 / P67 (approximate Sta. 308+35) to the approximate center of the Utility Corridor (approximate Sta. 306+80) Note: The GDL panel orientation changed to east to west through the utility corridor so that the GDL followed the same contours as the utility corridor slopes. GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/2/16 Photo Log for supporting photographs.
- While GDL was being deployed ESI also conducted vacuum box testing and minor repair activities for Panels P86 and P87 (installed on 7/28/16). Additional details are provided in the 8/2/16 Repair Report.
- A total of three (3) destruct samples were collected. One fusion weld sample – DS-28 was collected from Panel Seam P81 / P83. Two extrusion weld destruct samples – DSX-11 and DSX-12 were collected from Repair R-365 (Panel 81) and Repair R-387 (Panel 86), respectively.
- ESI also completed repair activities for fusion weld destruct sample DS-26 (Panel P72 / P74 seam). DS-26 failed laboratory testing as two specimens were reported as EPA Break Code “AD-BRK” outlining a break in the weld and not the film tear break (FTB). Although the minimum peel requirements were met, since the break code was not an FTB, the test was reported as a failed test.
- To address the failed destruct sample, two field specimens (DS-26A & DS-26B) were cut approximately 10 ft. on each side of DS-26. Both samples were field tested and peel and shear strength requirements were met. Sample DS-26B which exhibited peel and shear breaks slightly less than DS-26A was sent for laboratory analysis.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

Non-Conformance Items / Corrective Actions

- None Encountered - Failed destruct sample DS-26 was previously outlined on the 7/28/16 Daily Report

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/2/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct results for DS-28, DSX-11, DSX-12, and DS-26B.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/27/16, and 7/28/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-27. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-10. Laboratory results generally in compliance with project specifications with the exception of DS-26.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/2/16
A3 – Photo Log	Pages 1-3	Total of 6 photos outlining pertinent daily observations and descriptions for 8/2/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/2/16
A5 – Subgrade Approval		NA – no subgrade approved for LLDPE placement on 8/2/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A6 – Trial Weld Log	Page 6	One trial weld log provided by ESI for prewelds completed on 8/2/16
A7 – Panel Placement Log		NA – no LLDPE panels placed on 8/2/16
A8 – Destruct Seam Testing COC	Sheet 3	Updated with destruct samples collected on 8/2/16
A9 – Seam/Non-Destruct. Test Log		NA – no non-destructive testing conducted on 8/2/16
A10 – Repair Log	Page 20	Repair log provided by ESI for LLDPE repair activities completed on 8/2/16
A11 – Conformance COC		NA for 8/2/16
A12 – Destructive Seam Field Test	Page 3	Updated with destruct samples collected on 8/2/16
A13 – Destruct. Sample Summary	Page 3	Updated with destruct samples collected on 8/2/16
A14 – Penetration & Edge Form		NA – no penetration / pipe boots completed on 8/2/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 8/2/16
A17 – Spark Test Log		NA – no spark testing completed on 8/2/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (08/02/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/2/16

Direction Taken:

Looking south along SA-6 North a approximate Panel P66/ P67 (approximate Sta. 308+35).

Description:

ESI deploying GDL over approved LLDPE geomembrane (Panels P66 / P67 and P68). GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextiel sewn.

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PHOTOGRAPHIC LOG
Photo #2 (08/02/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/2/16

Direction Taken:

SA-6 North – Panel Seam P72 / P74

Description:

ESI conducting LLDPE patching activities (LLDPE cap) over failed destruct sample DS-26. Two field samples cut approximately 10 ft. on each side of DS-26 (labeled A & B). Subsequent field testing yielded peel and shear strength parameters that passed the spec requirements Sample B was sent for laboratory analysis (peel and shear strength slightly less than sample A).

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PHOTOGRAPHIC LOG
Photo #3 (08/02/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

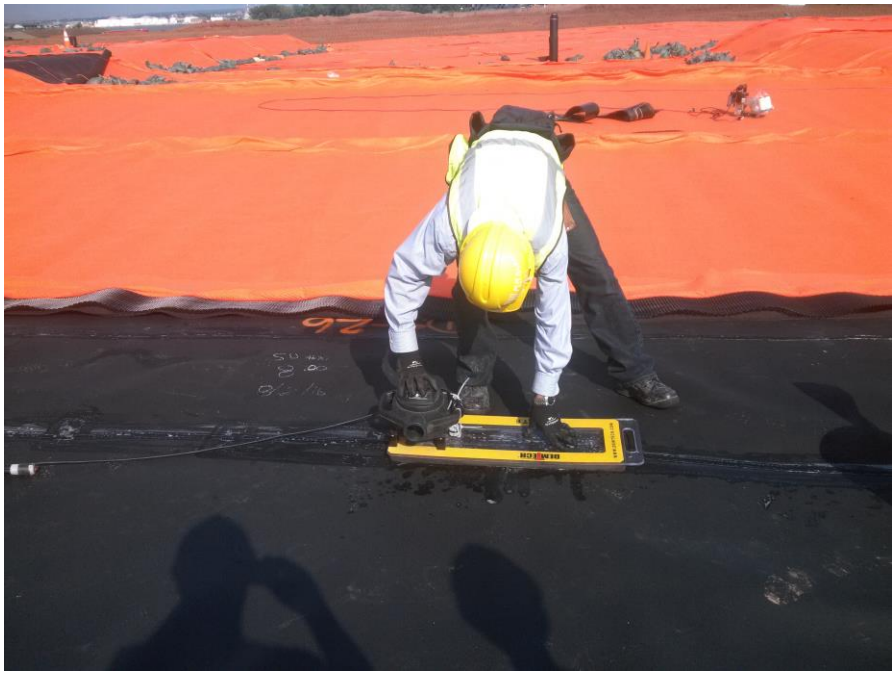
Date:
8/2/16

Direction Taken:

SA-6 North – Panel Seam P72 / P74 (Repair R-391)

Description:

ESI conducting vacuum box activities for extrusion weld patch R-391. Two additional samples were cut approximately 10 ft. from each side of DS-26, patched, sealed with an extrusion weld, and vacuum box tested.



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PHOTOGRAPHIC LOG
Photo #4 (08/2/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/2/16

Direction Taken:

Looking west along SA-6 North (approximate Sta. 307+50).

Description:

ESI sewing along GDL panel seams (geonet secured with white plastic fasteners).

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PHOTOGRAPHIC LOG
Photo #5 (08/2/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/2/16

Direction Taken:

Looking north through SA-6 North Utility Corridor (approximate Sta. 307+00).

Description:

GDL installed along western slopes of utility corridor. GDL panels oriented east – west to mirror slopes of utility corridor. GDL secured with white plastic fasteners with top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #6 (08/2/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/2/16

Direction Taken:

Looking north through SA-6 North Utility Corridor

Description:

GDL deployed through center of utility corridor to approximate Sta. 306+80.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/3/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	80/85° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #22** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth, Kale Novalis **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P87 / P88 installed on 7/28/16 (approximate Sta. 305+40). Material to be placed from Panel P87 / P88 running approximately 80 ft. east to approximate Sta. 304+60.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from the approximate center of the Utility Corridor (approximate Sta. 306+80), moving east through Panel P81 (approximate Sta. 306+20). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/3/16 Photo Log for supporting photographs.
- Following the deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 305+40 (Panel P87 / P88 installed on 7/28/16) to approximate Sta. 304+60. Refer to *Soil Subgrade Approval* forms from 8/3/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 3 to 5 of the daily photo log for 8/3/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 305+40 (east of Panel P87 / P88) moving east to approximate Sta. 304+60. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications).

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P87 / P88 (installed on 7/28/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 305+40 (Panel P87 / P88) to approximate Sta. 304+60. A total of five panels were installed (P89, P90, P91, P92, and P93). Note: During placement of Panel P89 a piece of LLDPE was used to realign the panel placement arrangement. Panels P90, P91, P92, and P93 ran the entire width of SA-6 North (approximately 245 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 8/3/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 304+60, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 8/3/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P89 to P93 (installed on 8/3/16)
- ESI conducted repair activities for Panels 89 to P93 (installed on 8/13/16). A total of sixteen repairs (R-400 through R-415) were observed and fixed (according to the project specifications) from Panels P89 through P93. Refer to 8/3/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. Additionally, ESI completed boot construction activities for Gas Vent GV-2 and Piezometer PZ4. Additional details are provided in the 8/3/16 Pipe Boot Forms.
- No destruct samples were collected on 8/3/16. Samples to be cut for laboratory analysis on 8/4/16.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/3/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 and 8/2/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-28. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-12. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/3/16
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 8/3/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/3/16
A5 – Subgrade Approval	Sheet 16 & ESI (8/3/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 6-7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/3/16
A7 – Panel Placement Log	Page 12	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/3/16
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 8/3/16
A9 – Seam/Non-Destruct. Test Log	Pages 33-35	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 8/3/16
A10 – Repair Log	Pages 20-21	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/3/16
A11 – Conformance COC		NA for 8/3/16
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 8/3/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 8/3/16
A14 – Penetration & Edge Form	8/3/16 Pipe Boot Forms	Pipe boot / penetration forms completed for Piezometer PZ4 and Gas Vent GV-2
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 8/3/16
A17 – Spark Test Log		NA – no spark testing conducted on 8/3/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (08/03/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/3/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 306+20).

Description:

ESI deploying orange GDL over approved LLDPE geomembrane. GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #2 (08/03/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/3/16

Direction Taken:

Looking south across SA-6 North (approximate Sta. 306+80).

Description:

Orange GDL installed across approved LLDPE geomembrane through Panel P81. GDL secured with white plastic fasteners (5 ft. maximum) and top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #3 (08/03/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/3/16

Direction Taken:

Looking south across SA-6 from approximate center of cap (approximate Sta. 305+40).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #4 (08/03/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/3/16

Direction Taken:

Looking east along SA-6 North from approximate center of cap (from approximate Sta. 305+40).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #5 (08/03/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/3/16

Direction Taken:

Looking north along SA-6 North from approximate center of cap (approximate Sta. 305+40).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2").

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PHOTOGRAPHIC LOG
Photo #6 (08/03/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/3/16

Direction Taken:

Looking east along northern end of SA-6 North (from approximate Sta. 305+40).

Description:

ESI deploying 16 oz. geotextile along northern end of SA-6 North. Geotextile overlapped 1 ft. outside of barrier wall (remaining roll width inside) as outlined in project specifications.

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PHOTOGRAPHIC LOG
Photo #7 (08/03/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/3/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 305+20).

Description:

GVL being deployed over approved soil subgrade. GVL secured with white plastic fasteners spaced at a maximum of 5 ft. and the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #8 (08/03/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/3/16

Direction Taken:

Looking north / northeast along SA-6 North (from approximate Sta. 304+80).

Description:

GVL deployed along approved soil subgrade up to approximate Sta. 304+60. GVL secured with white plastic fasteners spaced at maximum of 5 ft. and top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #9 (08/03/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/3/16

Direction Taken:

Looking south / southeast along SA-6 North (approximate Sta. 305+40).

Description:

ESI conducting fusion welding along LLDPE geomembrane Panel Seam P88 and P90.

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PHOTOGRAPHIC LOG
Photo #10 (08/03/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/3/16

Direction Taken:

SA-6 North – Panel P87 / P89 / P90 seam

Description:

ESI conducing non-destructive testing (pressure testing) along Panel P87 / P89 / P90 seams. Seams pressurized to 30 psi and held for 5 minutes with less than 4 psi loss.

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PHOTOGRAPHIC LOG
Photo #11 (08/03/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/3/16

Direction Taken:

SA-6 North Panel P88 / P90

Description:

ESI conducting seam joint patch repair activities along Panel P88 / P90 seam joints.

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PHOTOGRAPHIC LOG
Photo #12 (08/03/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/3/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 304+60).

Description:

LLDPE geomembrane installed up to approximate Sta. 304+60.

APPENDIX T

PART 19 OF 22

DECLARATION # 4
(Part 2 of 3)
Attachment E part 2

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/4/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	72/85° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1645

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #23** **AmecFW**: Stu Bills, Dave Ambrose, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and temporary liner, continuing east from Panel P93 installed on 8/3/16 (approximate Sta. 304+60). Material to be placed from Panel P93 running approximately 85 ft. east to approximate Sta. 303+75.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting vacuum box and repair activities for LLDPE previously installed on 8/3/16. In addition, two destruct samples were collected for laboratory analysis. One fusion weld destruct sample – DS-29 was collected from Panel P90 / P91. One extrusion weld destruct sample was also collected – DSX-13 from Panel P90 Repair R-401.
- While repair / vacuum box activities were being conducted ESI deployed the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed moving east through Panel P81 (approximate Sta. 306+20) up to Panel P86 (approximate Sta. 305+80). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/4/16 Photo Log for supporting photographs.
- Following the deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 304+60 (Panel P93 installed on 8/3/16) to approximate Sta. 303+75. Refer to *Soil Subgrade Approval* forms from 8/4/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 3, 4, and 5 of the daily photo log for 8/4/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 304+60 (east of Panel P93) moving east to approximate Sta. 303+75. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/4/16 Photo Log for supporting photographs.
- Additionally, GCL was placed along the areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included a small area along the northern edge of SA-6 North east of Sta. 303+75. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/4/16 *Photograph Log*.
- Based on an LLDPE inventory completed by Entact, it was determined that approximately two additional rolls of 60-mil LLDPE would be required to complete the remaining area of SA-6 North. As such, three temporary panels were installed (to be replaced once new LLDPE rolls were received) from approximate Sta. 304+60 to approximate Sta. 303+75 (area of SA-6 North at upper elevation above the water table).
- After placement of GVL, three temporary panels were installed east of Panel P93 (installed on 8/3/16) and moving east. The three temporary panels were installed up to approximate Sta. 303+75 (did not cover the GCL or remaining area of subgrade to the east as permanent 60-mil panels will be installed continuing east from the temporary panel on 8/5/16.
- Note: since no permanent LLDPE was installed, and only temporary panels were placed, no repairs or non-destructive testing was conducted on the temporary panels.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/4/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct results for samples DS-29 and DSX-13.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, and 8/3/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-28. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-12. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/4/16
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 8/4/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/4/16
A5 – Subgrade Approval	Sheet 17 & ESI (8/4/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log		NA – no trial welds completed on 8/4/16
A7 – Panel Placement Log		NA – no permanent LLDPE panels on 8/4/16
A8 – Destruct Seam Testing COC	Sheet 3	Updated for destruct samples collected on 8/4/16
A9 – Seam/Non-Destruct. Test Log		NA – no non-destructive testing conducted as no permanent LLDPE panels were installed
A10 – Repair Log	Page 21	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/4/16
A11 – Conformance COC		NA for 8/4/16
A12 – Destructive Seam Field Test	Page 3	Updated with destruct samples collected on 8/4/16
A13 – Destruct. Sample Summary	Page 3	Destruct sample summary updated with samples collected on 8/4/16
A14 – Penetration & Edge Form		NA – No pipe boots / penetrations completed on 8/4/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 8/4/16
A17 – Spark Test Log		NA – no spark testing conducted on 8/4/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (08/04/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/4/16

Direction Taken:

SA-6 North – Destruct Sample DS-29 (Panel P90 / P91)

Description:

Fusion weld destruct sample DS-29 marked for laboratory analysis along Panel P90 / P91 seam.

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PHOTOGRAPHIC LOG
Photo #2 (08/04/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

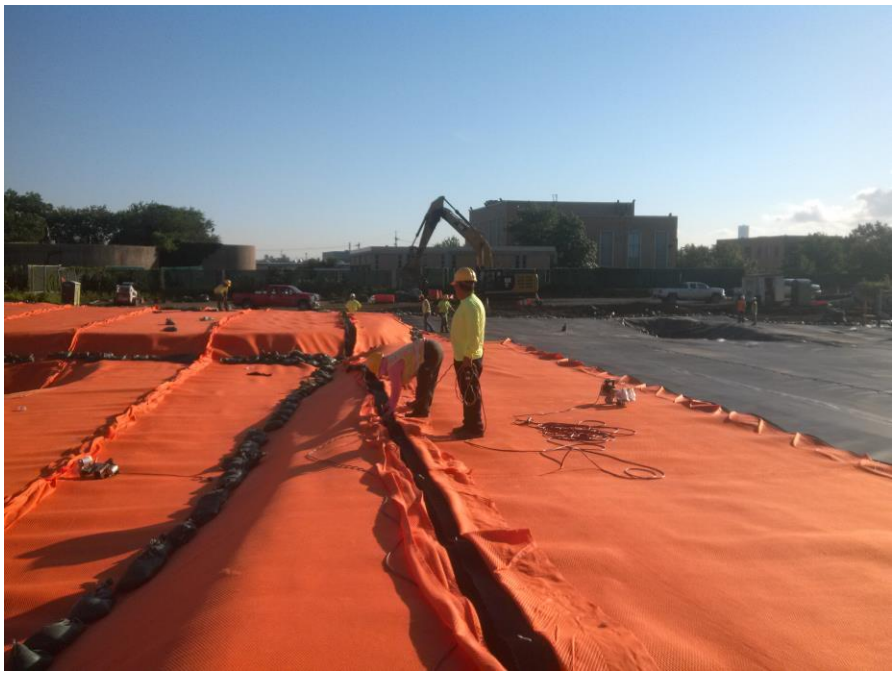
Date:
8/4/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 306+20).

Description:

Orange GDL being deployed across approved LLDPE geomembrane. GDL secured with white plastic fasteners spaced at a maximum of 5 ft., and top layer of geotextile sewn.



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PHOTOGRAPHIC LOG
Photo #3 (08/04/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/4/16

Direction Taken:

Looking east across SA-6 from along southern end of cap (approximate Sta. 304+60).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #4 (08/04/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/4/16

Direction Taken:

Looking south along SA-6 North from approximate center of cap (approximate Sta. 304+60).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #5 (08/04/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/4/16

Direction Taken:

Looking east / southeast along SA-6 North from approximate center of cap (from approximate Sta. 304+60).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #6 (08/04/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/4/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 304+50).

Description:

ESI deploying GVL over approved soil subgrade. GVL secured with white plastic fasteners spaced at a maximum of 5 ft. and top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #7 (08/04/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/4/16

Direction Taken:

Looking north along northern end of SA-6 North (approximate Sta. 303+75).

Description:

ESI deploying GCL along northern edge of SA-6 North. GCL placed along areas of the cap within 1 ft. of the site water table (approximate El. 7) as shown on the design drawings.

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PHOTOGRAPHIC LOG
Photo #8 (08/04/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/4/16

Direction Taken:

Looking north along northern end of SA-6 North (approximate Sta. 303+75).

Description:

GCL placed along areas below (to 1 ft. above) the site water table. GCL seams sealed with bentonite and leistered in place.

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PHOTOGRAPHIC LOG
Photo #9 (08/04/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/4/16

Direction Taken:

Looking north from approximate center of SA-6 North (approximate Sta. 304+40).

Description:

ESI deploying temporary LLDPE geomembrane panels. Temp panels consist of 40 mil LLDPE. Temp panels installed along upper elevation so that permanent panels could be placed along eastern end of site (lower elevation). Temp panels to be removed once new rolls of LLDPE material are received.

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PHOTOGRAPHIC LOG
Photo #10 (08/04/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/4/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 304+00).

Description:

Temporary 40-mil LLDPE panels installed up to approximate Sta. 303+75.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/5/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	75/85° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1745

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #24**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from the third temporary panel installed on 8/4/16 (approximate Sta. 303+75). Material to be placed from Temp Panel 3 running approximately 60 ft. east to approximate Sta. 303+15.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed moving east through Panel P86 (approximate Sta. 305+80) up to Panel P93 (approximate Sta. 304+60). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/5/16 Photo Log for supporting photographs.
- While GDL was being deployed, a puncture / penetration through the liner was fixed at Panel P36. The penetration was due to work activities outside of SA-6 North, as a grounding rod was driven through the liner. This penetration was recorded as a non-conformance issue, and is identified as Repair R-418 on the *Repair Report.*
- Following the deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 303+75 (east of temporary panels installed on 8/4/16) to approximate Sta. 303+15. Refer to *Soil Subgrade Approval* forms from 8/5/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 5 to 8 of the daily photo log for 8/5/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 303+75 (east of temporary panels) moving east to approximate Sta. 303+15. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/5/16 Photo Log for supporting photographs. Note: GVL was placed along the southern end of SA-6 North at areas above the site water table (areas not covered by GCL).
- Additionally, GCL was placed along the northern end of SA-6 North at areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included an area along the northern edge of SA-6 North from Sta. 303+75 to Sta. 303+15. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/5/16 *Photograph Log*.
- After placement of GVL and GCL, LLDPE geomembrane was installed continuing east of the temporary panels (installed on 8/4/16). The LLDPE panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 303+75 (east of temporary panels) to approximate Sta. 303+15. A total of five panels were installed (P94, P95, P96, P97, and P98). Note: During placement of Panel P96 the LLDPE panel terminated along the southern end of SA-6 North, thus the remaining run of LLDPE was installed as Panel P97. Panels P94, P95, and P98 ran the entire width of SA-6 North (north to south) spanning approximately 235 ft.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 8/5/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 303+15, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 8/5/16 *Seam Control Form* for non-destructive testing details.
- ESI conducted repair activities for Panels P94 to P98 (installed on 8/5/16). A total of thirteen repairs (R-418 through R-430) were observed and fixed (according to the project specifications) from Panels P94 through P98. Refer to 8/5/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- ESI also completed the pipe boot construction for Injection Well 088-IW-02. Additional details are provided in the 8/5/16 Pipe Boot Forms. No destruct samples were collected on 8/5/16.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 10 (Sheet #10) – Penetration / puncture through LLDPE geomembrane
    - Penetration / puncture through LLDPE geomembrane from work activities outside of geosynthetic installation. Grounding rod driven through liner. Puncture exposed, and hole patched / repaired as per project specifications and outlined in the non-conformance log.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/5/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, and 8/4/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-29. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-13. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/5/16
A3 – Photo Log	Pages 1 – 8	Total of 15 photos outlining pertinent daily observations and descriptions for 8/5/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/5/16
A5 – Subgrade Approval	Sheet 18 & ESI (8/5/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/5/16
A7 – Panel Placement Log	Page 13	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/5/16
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 8/5/16
A9 – Seam/Non-Destruct. Test Log	Page 36	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 8/5/16

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By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log	Pages 21-22	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/5/16
A11 – Conformance COC		NA for 8/5/16
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 8/5/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 8/5/16
A14 – Penetration & Edge Form	8/15/16 Pipe Boot Form	Pipe boot / penetration form completed for Injection Well 088-IW-02
A16 – Notice of Non-Compliance	8/15/16 Sheet #10	One non-compliance issue identified as “Damage by Others” on Panel P36
A17 – Spark Test Log		NA – no spark testing conducted on 8/5/16

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By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

Looking north / northwest from approximate center of SA-6 North (looking at approximate Sta. 305+80).

Description:

ESI deploying GDL over approved LLDPE geomembrane. GDL secured with white plastic fasteners spaced at a maximum of 5 ft. and the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #2 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 305+70).

Description:

Orange GDL being deployed across approved LLDPE geomembrane. GDL secured with white plastic fasteners spaced at a maximum of 5 ft., and top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #3 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

SA-6 North – Repair R-418 (Panel P36)

Description:

Small penetration (<1/2") through LLDPE geomembrane located at Panel P36. Small hole was patched repaired following project specs and recorded on non-conformance log.

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PHOTOGRAPHIC LOG
Photo #4 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

SA-6 North – Panel P36 (Repair R-418)

Description:

Penetration sealed with patch, extrusion weld, and vacuum box tested to confirm seal of weld (vacuum box test passed). Repair activities completed for penetration and recorded as R-418.

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PHOTOGRAPHIC LOG
Photo #5 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 303+75).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #6 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

Looking east / southeast along SA-6 North (from approximate Sta. 303+75).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #7 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

Looking north along northern end of SA-6 North (approximate Sta. 303+50).

Description:

ESI deploying GCL along northern edge of SA-6 North. GCL placed along areas of the cap within 1 ft. of the site water table (approximate El. 7) as shown on the Design Drawings.

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PHOTOGRAPHIC LOG
Photo #8 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

Looking north along southern end of SA-6 North (approximate Sta. 303+50).

Description:

GCL being placed along northern end of cap at areas below (to 1 ft. above) the site water table. GCL seams sealed with bentonite and leistered in place.

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PHOTOGRAPHIC LOG
Photo #9 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

Looking south from approximate center of SA-6 North (approximate Sta. 303+40).

Description:

ESI deploying GVL along southern end of SA-6 North (areas greater than 1 ft. above the site groundwater table). GVL secured with white plastic fasteners spaced at a maximum of 5 ft. with top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #10 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

Looking north along northern end of SA-6 North (approximate Sta. 303+40)

Description:

GCL deployed along northern end of SA-6 North. GVL overlapping GCL by 1 ft. and leistered in place.

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PHOTOGRAPHIC LOG
Photo #11 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 303+75)

Description:

ESI deploying LLDPE geomembrane over GVL / GCL.

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PHOTOGRAPHIC LOG
Photo #12 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

SA-6 North – Panel P94 / P95 seam

Description:

ESI conducting non-destructive testing (pressure testing) along Panel P94 / P95 seam. Seam pressurized to 30 psi and held for 5 minutes with less than 4 psi loss.

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PHOTOGRAPHIC LOG
Photo #13 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

SA-6 North – Panel P94

Description:

ESI conducting repair activities along Panel P94 (Repair R-423).

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PHOTOGRAPHIC LOG
Photo #14 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

SA-6 North – Injection Well 088-IW-02

Description:

ESI completing boot penetration for Injection Well 088-IW-02 located on Panel P97.

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PHOTOGRAPHIC LOG

Photo #15 (08/05/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/5/16

Direction Taken:

Looking north across SA-6 North

Description:

LLDPE geomembrane installed up to Panel P98 (approximate Sta. 303+15).

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/8/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	85/95° F, Sunny, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1215

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #25** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P98 installed on 8/5/16 (approximate Sta. 303+15). Material to be placed from Panel P98 running approximately 45 ft. east to approximate Sta. 302+70.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI completing vacuum box testing for repairs from Panels P94 to P98 (installed on 8/5/16). Additionally, two destruct samples were collected. One fusion weld destruct sample – DS-30 was collected from Panel P97 / P98, and one extrusion weld sample DSX-14 was collected from Panel P98 (Repair R-430).
- ESI deployed the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed moving east through Panel P93 and up to the temporary panels (installed on 8/4/16). Approximately 2 rolls of GDL were placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/8/16 Photo Log for supporting photographs.
- Following the deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 303+15 (east of Panel P98 installed on 8/5/16) to approximate Sta. 302+70. Refer to *Soil Subgrade Approval* forms from 8/8/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile

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was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 303+15 (east of Panel P98) moving east to approximate Sta. 302+70. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/8/16 Photo Log for supporting photographs. Note: GVL was placed along the southern end of SA-6 North at areas above the site water table (areas not covered by GCL).

- Additionally, GCL was placed along the northern end of SA-6 North at areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included an area along the northern edge of SA-6 North from approximate Sta. 303+15 to Sta. 302+70. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/8/16 *Photograph Log*.
- After placement of GVL and GCL, LLDPE geomembrane was installed continuing east Panel P98 (installed on 8/5/16). The LLDPE panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 303+15 (east of Panel P98) to approximate Sta. 302+70. A total of two panels were installed (P99 and P100). Panels P99 and P100 ran the entire width of SA-6 North (north to south) spanning approximately 238 ft.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 8/8/16 *Trial Weld Log*.
- Upon completion of geomembrane panel placement to approximate Sta. 302+70, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 8/8/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P99 and P100 (installed on 8/8/16) as outlined below.
- ESI conducted repair activities for Panels P99 and P100 (installed on 8/8/16). A total of seven repairs (R-431 through R-437) were observed and fixed (according to the project specifications) from Panels P99 to P100. Refer to 8/8/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.

Non-Conformance Items / Corrective Actions

- None Encountered

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/8/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample results for DS-30 and DSX-14.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, and 8/5/16. ESI Forms still to be reviewed.

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- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-29. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-13. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/8/16
A3 – Photo Log	Pages 1 – 3	Total of 5 photos outlining pertinent daily observations and descriptions for 8/8/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/8/16
A5 – Subgrade Approval	Sheet 19 & ESI (8/8/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/8/16
A7 – Panel Placement Log	Page 13	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/8/16
A8 – Destruct Seam Testing COC	Sheet 4	Updated for destruct samples collected on 8/8/16
A9 – Seam/Non-Destruct. Test Log	Page 37	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 8/8/16
A10 – Repair Log	Page 22	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/8/16
A11 – Conformance COC		NA for 8/8/16

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test	Page 4	Updated with destruct samples collected on 8/8/16
A13 – Destruct. Sample Summary	Page 4	Destruct sample summary updated with samples collected on 8/8/16
A14 – Penetration & Edge Form		NA – no penetrations / pipe boots completed on 8/8/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues encountered on 8/8/16
A17 – Spark Test Log		NA – no spark testing conducted on 8/8/16

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PHOTOGRAPHIC LOG
Photo #1 (08/08/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/8/16

Direction Taken:

SA-6 North – Destruct Sample DSX-14

Description:

Extrusion weld destruct sample DSX-14 to be cut from Panel P98, Repair R-430. Sample DSX-14 listed as Repair R-432 on Repair Report.

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PHOTOGRAPHIC LOG
Photo #2 (08/08/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/8/16

Direction Taken:

SA-6 North – Destruct Sample DS-30

Description:

Fusion weld destruct sample DS-30 to be cut from Panel P97 / P98 seam for laboratory analysis.

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PHOTOGRAPHIC LOG
Photo #3 (08/08/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/8/16

Direction Taken:

Looking north along SA-6 (approximate Sta. 304+60).

Description:

ESI deploying two panels of orange GDL over approved LLDPE geomembrane. GDL placed up to temporary panels installed 8/4/16. GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #4 (08/08/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/8/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 303+00).

Description:

GCL placed along the northern end of SA-6 North for areas below (to 1 ft. above) the water table. GVL placed at areas above the water table as per project specifications.

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PHOTOGRAPHIC LOG

Photo #5 (08/08/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/8/16

Direction Taken:

Looking north along SA-6 North from approximate center of cap (approximate Sta. 303+00).

Description:

GVL and GCL deployed over soil subgrade. GVL overlapping GCL by 1 ft.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/9/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	85/90° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1800

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #26** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth, Kale Novalis **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P100 installed on 8/8/16 (approximate Sta. 302+70). Material to be placed from Panel P100 running approximately 100 ft. east to approximate Sta. 301+70.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from Panel P94 (approximate Sta. 303+75), moving east through Panel P97 (approximate Sta. 303+15). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/9/16 Photo Log for supporting photographs.
- While GDL was being deployed, ESI also collected two destruct samples for laboratory analysis. Two fusion weld destruct samples – DS-31 was collected from Panel P79 / P80 and DS-32 was collected from Panel P86 / P87. These additional samples were collected to supplement the destruct sample data previously collected beyond failed destruct sample DS-26. DS-31 and DS-32 were collected between the destruct samples collected at 1,500 LF to provide additional sample information.
- Following the deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 302+70 (Panel P100 installed on 8/8/16) to approximate Sta. 301+70. Refer to *Soil Subgrade Approval* forms from 8/9/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 9 to 12 of the daily photo log for 8/9/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.

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By: Dan Bosworth

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- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 302+70 (east of Panel P100) moving east to approximate Sta. 301+70. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/9/16 Photo Log for supporting photographs.
- Additionally, GCL was placed along the northern end of SA-6 North at areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs), which included an area along the northern edge of SA-6 North from approximate Sta. 302+70 to Sta. 301+70. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/9/16 *Photograph Log*.
- After placement of GVL and GCL, LLDPE geomembrane was installed continuing east from Panel P100 (installed on 8/8/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 302+70 (Panel P100) to approximate Sta. 301+70. A total of six panels were installed (P101, P102, P103, P104, P105, and P106). Note: During placement of Panel P101 the roll of LLDPE terminated near the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P102. Similarly, during placement of Panel P104, the roll of LLDPE terminated near the northern end of SA-6 North and the remaining run of LLDPE was installed as P105. Panels P103 and P106 ran the entire width of SA-6 North (approx. 235 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test) for each weld. The results of the pre-trial weld are provided in the 8/9/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 301+70, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 8/9/16 *Seam Control Form* for pressure testing details. Additionally, repair activities were conducted for Panels P100 to P106 (installed on 8/9/16)
- ESI conducted repair activities for Panels P100 to P106 (installed on 8/9/16). A total of eight repairs (R-438 through R-445) were observed and fixed (according to the project specifications) from Panels P100 through P106. Refer to 8/9/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds. Repair activities for Panels P100 to P106 to be completed on 8/10/16.
- ESI also conducted spark testing for seven pipe boots / penetrations total. Prior to spark testing, Entact conducted methane testing prior to spark testing and a concentration of 0.0% was measured at each location. Spark testing was completed for Extraction Pump Sta. 2, Gas Vent GV-2, Utility Corridor Drain Pipe, Injection Well 088-IW-02, and Injection Well 088-IW-03. The vertical welds and base of the boots were tested and no sparks were observed (thus the spark tests passed). During spark testing of Piezometer PZ4 and Well 115-E5-SO,a spark was observed during testing as the spark was able to arc to the wire through a section of vertical weld. Area was re-grinded, rewelded, and retested on 8/9/16 and spark retest passed.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 11 (Sheet #11) – Failed spark test along vertical weld of Piezometer PZ4
    - Failed spark test identified during spark testing of Piezometer PZ4. Spark able to arc to wire through section of vertical weld (thin weld). Weld to be grinded, re-welded, and re-tested on 8/9.

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Non-Conformance Items / Corrective Actions (continued)

- Non-Conformance No. 12 (Sheet #12) – Failed spark test along vertical weld of Well 115-E5-SO
    - Failed spark test identified during spark testing of Well 115-E5-SO. Spark able to arc to wire through section of vertical weld (thin weld). Weld to be grinded, re-welded, and re-tested on 8/9.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/9/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample results for DS-31 and DS-32.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, 8/5/16, and 8/8/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-30. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-14. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/9/16
A3 – Photo Log	Pages 1 – 9	Total of 17 photos outlining pertinent daily observations and descriptions for 8/9/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/9/16

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By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A5 – Subgrade Approval	Sheet 20 & ESI (8/9/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 7-8	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/9/16
A7 – Panel Placement Log	Pages 13 - 14	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/9/16
A8 – Destruct Seam Testing COC	Sheet 4	Updated for destruct samples collected on 8/9/16
A9 – Seam/Non-Destruct. Test Log	Pages 37-38	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 8/9/16
A10 – Repair Log	Pages 22-23	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/9/16
A11 – Conformance COC		NA for 8/9/16
A12 – Destructive Seam Field Test	Page 4	Updated with destruct samples collected on 8/9/16
A13 – Destruct. Sample Summary	Page 4	Destruct sample summary updated with samples collected on 8/9/16
A14 – Penetration & Edge Form		NA – No pipe boots / penetrations completed on 8/9/16
A16 – Notice of Non-Compliance	Sheet 11 & 12 (8/9/16)	Two non-compliance issues identified for failed spark tests on 8/9/16
A17 – Spark Test Log	8/9/16 Spark Test Logs	Seven spark test logs conducted for Extraction Pump Sta. 2 Manhole, Gas Vent GV-2, Piezometer PZ4, Utility Corridor Drain Pipe, Injection Well 088-IW-02, Injection Well 088-IW-03, and Well 115-E5-SO

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PHOTOGRAPHIC LOG
Photo #1 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

SA-6 North – Destruct Samples DS-31 and DS-32

Description:

Fusion weld destruct sample DS-31 cut from Panel P79 / P80 seam and fusion weld destruct sample DS-32 cut from Panel P86 / P87 seam for laboratory analysis

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PHOTOGRAPHIC LOG
Photo #2 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

Looking south along SA-6 (approximate Sta. 303+75)

Description:

ESI deploying panels of orange GDL over approved LLDPE geomembrane. GDL placed from Panel P94 moving east through Panel P97 (installed on 8/5/16). GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #3 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

SA-6 North – Gas Vent GV-2

Description:

ESI conducting spark testing for Gas Vent GV-2. Prior to spark testing, methane testing was conducted and yielded a concentration of 0.0%, thus spark testing was conducted and no sparks were observed (spark test passed).

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PHOTOGRAPHIC LOG
Photo #4 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

SA-6 North – Piezometer PZ-4

Description:

ESI conducting spark testing for Piezometer PZ4. Prior to spark testing, methane testing was conducted and yielded a concentration of 0.0%, thus spark testing was conducted. A spark was observed during testing and the area was grinded, rewelded, and retested and the spark retest passed.

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PHOTOGRAPHIC LOG
Photo #5 (08/09/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/9/16

Direction Taken:

SA-6 North – Extraction Pump Station 2

Description:

ESI conducting spark testing for Extraction Pump Station 2. Prior to spark testing, methane testing was conducted and yielded a concentration of 0.0%, thus spark testing was conducted and no sparks were observed (spark test passed).

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PHOTOGRAPHIC LOG
Photo #6 (08/09/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/9/16

Direction Taken:

SA-6 North – Injection Well 088-IW-03

Description:

ESI conducting spark testing for Injection Well 088-IW-03. Prior to spark testing, methane testing was conducted and yielded a concentration of 0.0%, thus spark testing was conducted and no sparks were observed (spark test passed).

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PHOTOGRAPHIC LOG
Photo #7 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

SA-6 North – Horizontal Drain Plug

Description:

ESI conducting spark testing for Horizontal Drain Plug. Prior to spark testing, methane testing was conducted and yielded a concentration of 0.0%, thus spark testing was conducted and no sparks were observed (spark test passed).

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PHOTOGRAPHIC LOG
Photo #8 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

SA-6 North – Injection Well 088-IW-02

Description:

ESI conducting spark testing for Injection Well 088-IW-02. Prior to spark testing, methane testing was conducted and yielded a concentration of 0.0%, thus spark testing was conducted and no sparks were observed (spark test passed).

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PHOTOGRAPHIC LOG
Photo #9 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

Looking east along SA-6 North from approximate center of cap (from approximate Sta. 302+70)

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #10 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

Looking south along SA-6 North from approximate center of cap (approximate Sta. 302+70)

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #11 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

Looking north along SA-6 North from approximate center of cap (from approximate Sta. 302+70)

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #12 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

Looking north / northeast along northern end of SA-6 North (approximate Sta. 302+70)

Description:

ESI deploying GCL along northern edge of SA-6 North. GCL placed along areas of the cap within 1 ft. of the site water table (approximate El. 7) as shown on the design drawings.

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PHOTOGRAPHIC LOG
Photo #13 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

Looking east along northern end of SA-6 North (toward approximate Sta. 301+70)

Description:

GCL placed along areas below (to 1 ft. above) the site water table. GCL seams sealed with bentonite and leistered in place.

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PHOTOGRAPHIC LOG
Photo #14 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

Looking south / southeast from approximate center of SA-6 North (approximate Sta. 302+20)

Description:

ESI deploying GVL along southern end of SA-6 North (areas greater than 1 ft. above the site groundwater table). GVL secured with white plastic fasteners spaced at a maximum of 5 ft. with top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #15 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

Looking north from approximate center of SA-6 North (approximate Sta. 301+70)

Description:

ESI deploying LLDPE geomembrane over GVL / GCL.

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PHOTOGRAPHIC LOG
Photo #16 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

Looking south from approximate center of SA-6 North (approximate Sta. 301+70)

Description:

LLDPE geomembrane installed up to Panel P106 (approximate Sta. 301+70).

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PHOTOGRAPHIC LOG
Photo #17 (08/09/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/9/16

Direction Taken:

SA-6 North Panel P103 / P104 /P105

Description:

ESI conducting non-destructive testing (pressure testing) along Panel P103 / P104 /P105 seam. Seam pressurized to 30 psi and held for 5 minutes with less than 4 psi loss.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/10/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	82/88° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1315

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #27** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) for area previously covered by temporary panels (area east of Panel P93). Temporary panels were removed, and new LLDPE was placed from Panel P93 (approximate Sta. 304+60) running approximately 85 ft. east to approximate Sta. 303+75 (subgrade previously approved on 8/4/16).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI continuing with repair activities for Panels P100 to P106 (installed on 8/9/16). The repairs were patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. Additional details are outlined on the 8/10/16 *Repair Report.*
- ESI also collected two destruct samples from Panels P100 to P106 (installed on 8/9/16) for laboratory analysis. One fusion weld destruct samples – DS-33 was collected from Panel P104 / P106 and one extrusion weld destruct sample – DSX-15 was collected from Repair R-445 (Panel P104 / P106).
- While repair / vacuum box activities were being conducted ESI removed the temporary panels from approximate Sta. 304+60 to approximate Sta. 303+75 which were previously installed on 8/4/16. Note: soil subgrade approval for this area was also completed on 8/4/16 prior to the temporary panel placement. 16 oz. geotextile and GVL were also placed on 8/4/16 following subgrade approval.
- LLDPE geomembrane was installed continuing east from Panel P93 (installed on 8/4/16) up to Panel P94 (installed on 8/5/16). The new LLDPE panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 304+60 (east of Panel P93) to approximate Sta.303+75 (Panel P94) . A total of four panels were installed (P107, P108, P109, and P110). Note: During placement of Panel P109 the roll of LLDPE terminated near the northern end of SA-6 North, thus the remaining run of LLDPE was installed as P110. Panels P107 and P108 ran the entire width of SA-6 North (approximately 233 ft.) from north to south.

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- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing for each weld (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 8/10/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 303+75, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 8/10/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P107 to P110 (installed on 8/10/16)
- ESI conducted repair activities for Panels P107 to P110 (installed on 8/10/16), along with the repair activities for Panels P100 to P106 (installed on 8/9/16). A total of twenty-two repairs (R-446 through R-467) were observed and fixed (according to the project specifications). Refer to 8/10/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- ESI also completed pipe boot / penetrations for Gas Vent GV-1 and Well 115-E4-SO. Additional details are provided in the 8/10/16 Pipe Boot Construction Logs.
- One fusion weld sample – DS-34 was also collected from Panels P107 to P110 (installed on 8/11/16) from Panel P94 / P110 seam for laboratory analysis.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 13 (Sheet #13) – Subgrade irregularity identified as R-457 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P107 / P108. Stone was subsequently removed, and hole was patched / repaired following project specs as further described in *Sheet 13 Notice of Non-Compliance.*

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/10/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample results for DS-33, DS-34, and DSX-15.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, 8/5/16, 8/8/16, and 8/9/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-32. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-14. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

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By: Dan Bosworth

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Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/10/16
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 8/10/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/10/16
A5 – Subgrade Approval		NA – no subgrade approval for 8/10/16. Subgrade previously approved on 8/4/16 prior to temp panel placement
A6 – Trial Weld Log	Page 8	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/10/16
A7 – Panel Placement Log	Pages 14 - 15	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/10/16
A8 – Destruct Seam Testing COC	Sheet 4	Updated for destruct samples collected on 8/10/16
A9 – Seam/Non-Destruct. Test Log	Pages 39-40	One seam control form provided by ESI and confirmed by Langan for pressure testing conducted on 8/10/16
A10 – Repair Log	Pages 23-24	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/10/16
A11 – Conformance COC		NA for 8/10/16
A12 – Destructive Seam Field Test	Page 4	Updated with destruct samples collected on 8/10/16
A13 – Destruct. Sample Summary	Page 4	Destruct sample summary updated with samples collected on 8/10/16
A14 – Penetration & Edge Form	8/10/16 Pipe Boot Forms	Pipe boots for Gas Vent GV-1 and Well 115-E4-SO completed on 8/10/16
A16 – Notice of Non-Compliance	Sheet 13	Subgrade irregularity identified as non-compliance issue on 8/10/16
A17 – Spark Test Log		NA – no spark testing conducted on 8/10/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (08/10/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/10/16

Direction Taken:

SA-6 North – Destruct Sample DS-33

Description:

Fusion weld destruct sample to be collected from Panel Seam P104 / P106 (installed on 8/9/16), for laboratory analysis.

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PHOTOGRAPHIC LOG
Photo #2 (08/10/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/10/16

Direction Taken:

SA-6 North – Destruct Sample DSX-15

Description:

Extrusion weld destruct sample DSX-15 collected from Repair R-445 located on Panel P104 / P106 seam. Sample location patched, sealed with extrusion weld, and vacuum box tested.

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PHOTOGRAPHIC LOG
Photo #3 (08/10/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/10/16

Direction Taken:

SA-6 North – Panel Seam P102 / P103 / P104

Description:

ESI conducting repair activities for seam joint at Panel P102 / P103 / P104 (panels installed on 8/9/16).

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PHOTOGRAPHIC LOG
Photo #4 (08/10/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/10/16

Direction Taken:

Looking south along SA-6 (approximate Sta. 304+60)

Description:

ESI deploying new panels of LLDPE east of Panel P93. Temporary panels removed and new LLDPE panels installed.

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PHOTOGRAPHIC LOG
Photo #5 (08/10/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/10/16

Direction Taken:

Looking south along SA-6 North from southern end of cap (approximate Sta. 304+60)

Description:

ESI conducting fusion welding along Panel Seam P93 and Panel P107 (new LLDPE panel replaced temporary panel).

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PHOTOGRAPHIC LOG
Photo #6 (08/10/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/10/16

Direction Taken:

SA-6 North – Panel Seam P93 / P107

Description:

ESI conducting non-destructive testing (pressure testing) along Panel P93 / P107 seam. Seam pressurized to 30 psi and held for 5 minutes with less than 4 psi loss.

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PHOTOGRAPHIC LOG
Photo #7 (08/10/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/10/16

Direction Taken:

SA-6 North – Panel P110 (approx. Sta. 303.75)

Description:

ESI conducting custom fit repairs along Panel P110.

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PHOTOGRAPHIC LOG
Photo #8 (08/10/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/4/16

Direction Taken:

SA-6 North – Panel P110

Description:

ESI conducting custom fit repairs along Panel P110.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/11/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	85/90° F, Overcast, Humid, Iso. Storms
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1715

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #28**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P106 installed on 8/9/16 (approximate Sta. 301+70). Material to be placed from Panel P106 running approximately 45 ft. east to approximate Sta. 301+25.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting vacuum box testing and "Add On" repair activities for Panels P94 to P104. ESI completed Add On repairs along the southern end of SA-6 North. Additional LLDPE was installed so that the cap extended a minimum of 1 ft. beyond the edges of the SCB wall. These repairs were recorded and documented on the 8/11/16 *Repair Report.*
- Following repair activities, ESI placed geocomposite drainage layer (GDL) continuing east of Panel P93. GDL was placed over Panels P107 to P110 (installed on 8/10/16) from approximate Sta. 304+60 to approximate Sta. 303+75. GDL was placed according to the project specs with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn.
- Prior to soil subgrade approval, the edge of Panel P106 (installed on 8/9/16) was pulled back to expose the underlying GCL layer. A small portion of the GCL had become saturated due to overnight storms. The saturated GCL was cut and exposed to dry the GCL and soil subgrade. A new piece of GCL was then installed over the saturated GCL, secured with bentonite, and leistered in place. See Photos 6 & 7 in 8/11/6 *Photograph Log.*
- Following the GCL activities, Langan and Entact conducted soil subgrade approval from approximate Sta. 301+70 (east of Panel P106 installed on 8/9/16) to approximate Sta. 301+25. Refer to *Soil Subgrade Approval* forms from 8/11/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 301+75 (east of Panel P106) moving east to approximate Sta. 301+25. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/11/16 Photo Log for supporting photographs. Note: GVL was placed along the southern end of SA-6 North at areas above the site water table (areas not covered by GCL).
- Additionally, GCL was placed along the northern end of SA-6 North at areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included an area along the northern edge of SA-6 North from approximate Sta. 301+75 to Sta. 301+25. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/11/16 *Photograph Log*.
- After placement of GVL and GCL, LLDPE geomembrane was installed continuing east Panel P106 (installed on 8/9/16). The LLDPE panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 301+75 (east of Panel P106) to approximate Sta. 301+25. A total of two panels were installed (P111 and P112). Panels P111 and P112 ran the entire width of SA-6 North (north to south) spanning approximately 237 ft.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 8/11/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 301+25, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 8/11/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P111 and P112 (installed on 8/11/16)
- ESI completed repair activities for Panels P94 to P104 (Add On repairs along southern end of the cap) and Panels P111 & P112 (installed on 8/11/16). A total of twenty-one repairs (R-468 through R-485 and R-495 to R-497) were observed and fixed (according to the project specifications). Refer to the 8/11/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- No destruct samples collected on 8/11/16.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/11/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, 8/5/16, 8/8/16, 8/9/16, and 8/10/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-34. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-15. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/11/16
A3 – Photo Log	Pages 1 – 8	Total of 16 photos outlining pertinent daily observations and descriptions for 8/11/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/11/16
A5 – Subgrade Approval	Sheet 21 & ESI (8/11/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 8	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/11/16
A7 – Panel Placement Log	Page 15	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/11/16
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 8/11/16
A9 – Seam/Non-Destruct. Test Log	Pages 40-42	One seam control form provided by ESI and confirmed by Langan for pressure testing conducted on 8/11/16
A10 – Repair Log	Pages 24-25	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/11/16

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By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A11 – Conformance COC		NA for 8/11/16
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 8/11/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 8/11/16
A14 – Penetration & Edge Form		NA – No pipe boots / penetrations completed on 8/11/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 8/11/16
A17 – Spark Test Log		NA – no spark testing conducted on 8/11/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/11/16

Direction Taken:

Looking west along southern end of SA-6 North

Description:

ESI completing "Add On" repairs along southern end of SA-6 North. Additional LLDPE added for cap to extend minimum of 1 ft. beyond edge of SCB wall.

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PHOTOGRAPHIC LOG
Photo #2 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/11/16

Direction Taken:

Looking west along southern edge of SA-6 North

Description:

Add on panels installed via fusion welding. Repairs recorded on repair report, and seams pressure tested (as per project specs).

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PHOTOGRAPHIC LOG
Photo #3 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/11/16

Direction Taken:

Looking north / northwest along SA-6 North (approximate Sta. 304+60)

Description:

ESI deploying GDL over approved LLDPE geomembrane (Panels P107 to P110 installed on 8/10/16). GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #4 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/11/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 304+20)

Description:

ESI installing GDL with white plastic fasteners spaced at a maximum of 5 ft. Top layer of geotextile to be sewn.

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PHOTOGRAPHIC LOG
Photo #5 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/11/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 303+95)

Description:

ESI deploying orange GDL over Panels P107 to P110. GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #6 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/11/16

Direction Taken:

Looking north along edge of Panel P106 (approximate Sta. 301+70)

Description:

Edge of GCL under Panel P106 previously installed on 8/9/16. Small portion of GCL saturated from rainstorm. Area of GCL exposed to dry. Additional piece of GCL to be placed over saturated area (once dry).

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PHOTOGRAPHIC LOG
Photo #7 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/11/16

Direction Taken:

Looking north along edge of Panel P106 (approximate Sta. 301+70)

Description:

Additional piece of GCL installed over GCL previously saturated. Edges of piece leisterd in place and sealed with bentonite.

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PHOTOGRAPHIC LOG
Photo #8 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/11/16

Direction Taken:

Looking south across SA-6 North (approximate Sta. 301+70).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #9 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/11/16

Direction Taken:

Looking south from approximate center of SA-6 North (approximate Sta. 301+70)

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2").

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PHOTOGRAPHIC LOG
Photo #10 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/11/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 301+70)

Description:

ESI deploying GCL for areas below (to 1 ft. above) the site water table. GCL installed along northern end of cap. Seams sealed with granular bentonite and leisterd in place.

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PHOTOGRAPHIC LOG
Photo #11 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/11/16

Direction Taken:

Looking south along SA-6 North (from approximate Sta. 301+70).

Description:

GCL deployed along northern end of cap as shown on design drawings.

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PHOTOGRAPHIC LOG
Photo #12 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/11/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 301+25).

Description:

GVL deployed along southern end of cap at areas above the site water table. GVL secured with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #13 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

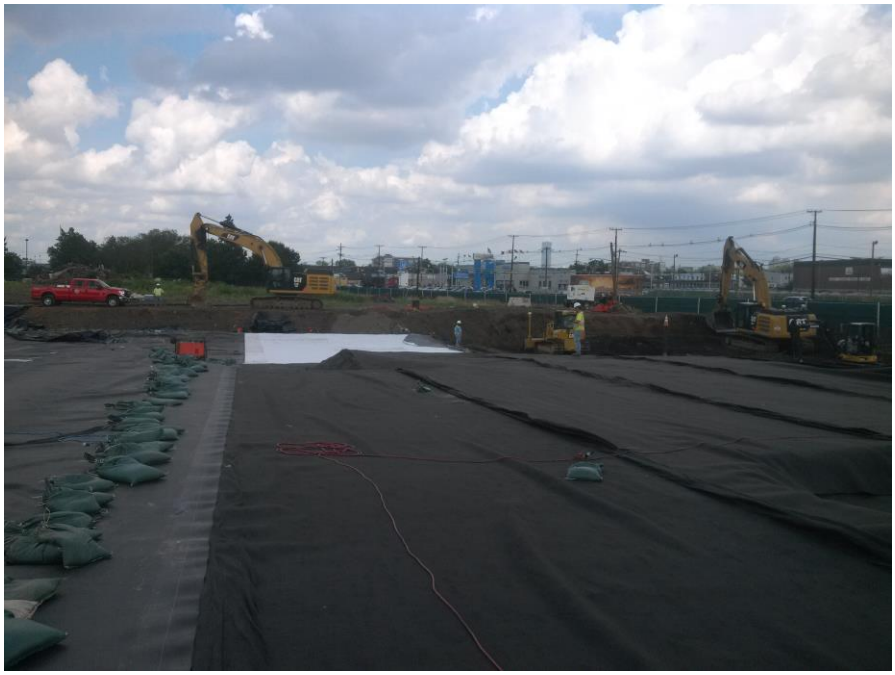
Date:
8/11/16

Direction Taken:

Looking north across SA-6 North (from approximate Sta. 301+70).

Description:

GCL and GVL installed and ready for LLDPE panel placement.



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PHOTOGRAPHIC LOG
Photo #14 (08/11/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

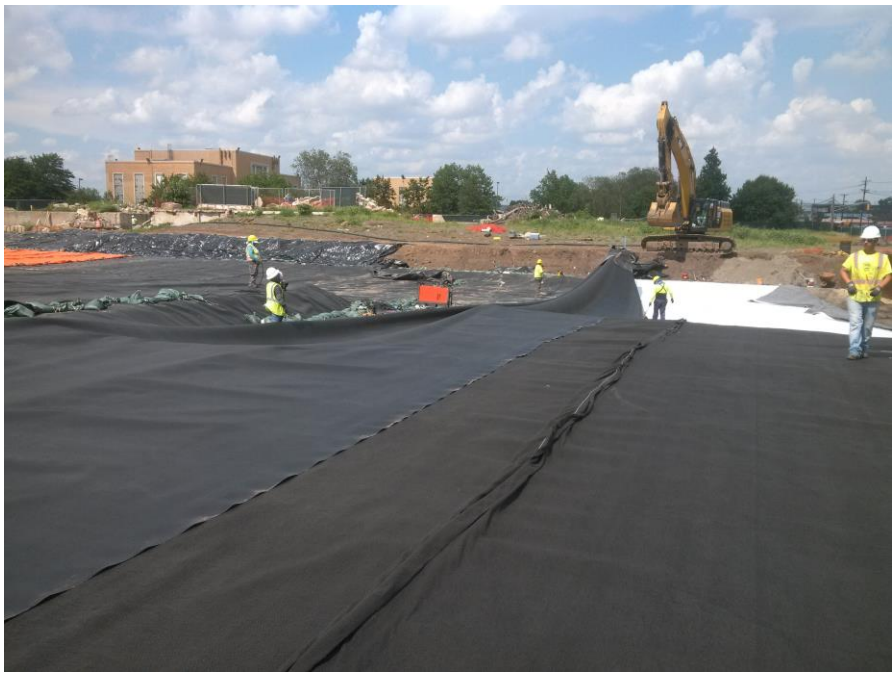
Date:
8/11/16

Direction Taken:

Looking north / northwest across SA-6 North (from approximate Sta. 301+40).

Description:

LLDPE geomembrane being installed over GCL and GVL.



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PHOTOGRAPHIC LOG
Photo #15 (08/11/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/11/16

Direction Taken:

SA-6 North – Panel P106 / P111 seam

Description:

ESI conducting fusion welding along Panel P106 / P111 seam.

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PHOTOGRAPHIC LOG
Photo #16 (08/11/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/11/16

Direction Taken:

SA-6 North – Repair R-481 (Panel P111 / P112)

Description:

ESI conducting repair activities along Panel P111 and P112 (installed on 8/11/16).

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/12/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	85/98° F, Sunny, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1730

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #29** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P112 installed on 8/11/16 (approximate Sta. 301+25). Material to be placed from Panel P112 running approximately 45 ft. east to approximate Sta. 300+80.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying orange geocomposite drainage layer (GDL) continuing east from Panel P98. GDL was placed over Panels P99 to P106 (installed on 8/8/16 and 8/9/16) from approximate Sta. 303+15 (Panel P99) to approximate Sta. 301+70 (Panel P106). GDL was placed according to the project specs with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn.
- While GDL was being deployed ESI also conducted vacuum box testing and minor repairs for Panels P111 and P112 (installed on 8/11/16). Additional details are provided in the 8/12/16 *Repair Report.*
- ESI also completed spark testing for Gas Vent GV-1 and Well 115-E4-SO. Prior to spark testing, methane testing was completed by AmecFW and a concentration of 0.0% was measured for both boots. Spark testing was then completed for Gas Vent GV-1 along the base of the boot and vertical weld and no sparks were observed (spark test passed). During spark testing of Well 115-E4-SO a spark was observed along the edge of the vertical weld as the extrusion weld was not centered over the copper wire. This area was marked by ESI, grinded, re-welded, and retested. No sparks were observed during the spark retest thus the retest passed.
- Prior to soil subgrade approval, the edge of Panel P112 (installed on 8/11/16) was pulled back to expose the underlying GCL layer. A small portion of the GCL had become saturated due to overnight storms. The saturated GCL was cut and exposed to dry the GCL and soil subgrade. A new piece of GCL was then installed over the saturated GCL, secured with bentonite, and leistered in place.
- Following the GCL activities, Langan and Entact conducted soil subgrade approval from approximate Sta. 301+25 (east of Panel P112 installed on 8/11/16) to approximate Sta. 300+80. Refer to *Soil Subgrade Approval* forms from 8/12/16 for additional details.

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During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.

- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 301+25 (east of Panel P112) moving east to approximate Sta. 300+80. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/12/16 Photo Log for supporting photographs. Note: GVL was placed along the southern end of SA-6 North at areas above the site water table (areas not covered by GCL).
- Additionally, GCL was placed along the northern end of SA-6 North at areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included an area along the northern edge of SA-6 North from approximate Sta. 301+25 to approximate Sta. 300+80. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/12/16 *Photograph Log*.
- After placement of GVL and GCL, LLDPE geomembrane was installed continuing east of Panel P112 (installed on 8/12/16). The LLDPE panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 301+25 (east of Panel P112) to approximate Sta. 300+80. A total of two panels were installed (P113 and P114). Panels P113 and P114 ran the entire width of SA-6 North (north to south) spanning approximately 233 ft.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each weld). The results of the pre-trial weld are provided in the 8/12/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 300+80, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 8/12/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P113 and P114 (installed on 8/12/16)
- ESI completed repair activities for Panels P113 to P114 (installed on 8/12/16). A total of seven repairs (R-486 through R-489 and R-492, R-493, and R-494) were observed and fixed (according to the project specifications). Refer to the 8/12/16 *Repair Report* for additional details. Repairs were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- ESI also completed pipe boot / penetrations for Access Manhole Sta. 18+00 and Injection Well 088-IW-01. Additional details are provided in the 8/12/16 Pipe Boot Forms.
- No destruct samples collected on 8/12/16.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 14 (Sheet #14) – Failed spark test along vertical weld of Well 115-E4-SO
    - Failed spark test identified during spark testing of Well 115-E4-SO. Spark observed along edge of extrusion weld (weld not centered over wire). Area was grinded, rewelded, and retested and no sparks were observed during spark retest (spark retest passed).

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Action Items – Pending

- Complete Daily Report and Photo Log (for 8/12/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, 8/5/16, 8/8/16, 8/9/16, 8/10/16, and 8/11/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-34. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-15. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/12/16
A3 – Photo Log	Pages 1 – 8	Total of 16 photos outlining pertinent daily observations and descriptions for 8/12/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/12/16
A5 – Subgrade Approval	Sheet 22 & ESI (8/12/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 8-9	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/12/16
A7 – Panel Placement Log	Page 15	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/12/16

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 8/12/16
A9 – Seam/Non-Destruct. Test Log	Pages 42-43	One seam control form provided by ESI and confirmed by Langan for pressure testing conducted on 8/12/16
A10 – Repair Log	Page 25	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/12/16
A11 – Conformance COC		NA for 8/12/16
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 8/12/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 8/12/16
A14 – Penetration & Edge Form	8/12/16 Pipe Boot Forms	Pipe boots / penetrations completed for Access Manhole Sta. 18+00 and Injection Well 088-IW-01
A16 – Notice of Non-Compliance	Sheet 14	One failed spark test for Well 115-E4-SO identified on 8/12/16
A17 – Spark Test Log	8/12/16 Spark Test Logs	Spark testing for Gas Vent GV-1 and Well 115-E4-SO completed on 8/12/16

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PHOTOGRAPHIC LOG
Photo #1 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 302+70)

Description:

ESI deploying orange GDL over approved LLDPE geomembrane. GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #2 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

SA-6 North (northern end of SA-6 North) Repair R-480

Description:

ESI conducting vacuum box testing activities for repairs completed on 8/11/16 for Panels P111 and P112 (installed on 8/11/16).

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PHOTOGRAPHIC LOG
Photo #3 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

SA-6 North – Gas Vent GV-1

Description:

ESI conducting spark testing for Gas Vent GV-1. Base of boot and vertical weld was tested and no sparks were observed. Spark test passed.

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PHOTOGRAPHIC LOG
Photo #4 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

SA-6 North – Well 115-E4-SO

Description:

Entact measuring methane concentration for Well 115-E4-SO prior to spark testing. Concentration of 0.0% measured underneath boot.

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PHOTOGRAPHIC LOG
Photo #5 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

SA-6 North – Well 115-E4-SO

Description:

ESI conducting spark testing along vertical weld at Well 115-EI-SO. Spark identified during testing of the vertical seam (extrusion bead off-center of boot). Area was grinded, rewelded, and re-tested and spark retest passed.

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PHOTOGRAPHIC LOG
Photo #6 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 302+00)

Description:

Orange GDL deployed up to Panel P106 (approximate Sta. 301+70). GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #7 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

Looking north along Panel P112 (approximate Sta. 301+25)

Description:

Edge of Panel P112 (installed on 8/11/6) pulled back to expose GCL. Small area of GCL saturated from overnight rain. GCL cut, exposed, and left to dry. Additional piece of GCL to be installed over saturated area.

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PHOTOGRAPHIC LOG
Photo #8 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 301+25)

Description:

Entact applying calcium cement to solidify soil subgrade. Area around GCL reworked and re-compacted to project specs.

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PHOTOGRAPHIC LOG
Photo #9 (08/12/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/12/16

Direction Taken:

Looking north from approximate center of SA-6 North (approximate Sta. 301+25)

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #10 (08/12/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/12/16

Direction Taken:

Looking south across SA-6 North (approximate Sta. 301+25)

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #11 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

Looking north / northeast from southern end of cap (approximate Sta. 301+25)

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #12 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 301+00).

Description:

ESI deploying GCL for areas below (to 1 ft. above) the site water table. GCL secured with granular bentonite and leistered in place.

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PHOTOGRAPHIC LOG
Photo #13 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

Looking north along SA-6 North from approximate center of cap (approximate Sta. 300+80)

Description:

ESI deploying GVL over southern end of SA-6 North (areas above the site water table) and GCL along northern end of cap (areas below to 1 ft. above site water table).

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PHOTOGRAPHIC LOG
Photo #14 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 301+25)

Description:

ESI deploying LLDPE geomembrane over GVL and GCL.

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PHOTOGRAPHIC LOG
Photo #15 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

Looking north / northeast along SA-6 North (toward approximate Sta. 301+00)

Description:

LLDPE geomembrane Panels P113 and P114 installed up to approximate Sta. 300+80

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PHOTOGRAPHIC LOG
Photo #16 (08/12/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/12/16

Direction Taken:

SA-6 North – Injection Well 088-IW-01

Description:

ESI completing pipe boot / penetration for Injection Well 088-IW-01.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/13/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	85/98° F, Sunny, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1800

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #30** **AmecFW**: Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P114 installed on 8/12/16 (approximate Sta. 300+80). Material to be placed from Panel P114 running approximately 80 ft. east to approximate Sta. 300+00 (east end of SA-6 North).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting vacuum box testing and minor repair activities for Panels P113 / P114 (installed on 8/12/16). Repairs were patched, extrusion welded, and vacuum box tested as per project specifications. Additional details are outlined on the 8/13/16 *Repair Report*. Additionally, two destruct samples were collected. One fusion weld destruct sample DS-35 was collected from Panel P112 / P113, and one extrusion weld destruct sample – DSX-16 was collected from Panel P112 (Repair R-478)
- While repair activities were being completed ESI deployed orange geocomposite drainage layer (GDL) continuing east from Panel P106. GDL was placed over Panels P106 (approximate Sta. 301+70) to approximate Sta. 300+80 (Panel P114). GDL was placed according to the project specs with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn. Note: repairs were completed for Panels P113 / P114 in the early morning and were surveyed and verified before GDL was deployed over the panels later in the morning.
- ESI also completed spark testing for Access Manhole Sta. 18+00 and Injection Well 088-IW-01. Prior to spark testing, methane testing was completed by AmecFW and a concentration of 0.0% was measured for both boots. Spark testing was then completed along the base of the boot and vertical weld for both locations. No sparks were observed during either test (spark tests passed).
- Following the GDL activities, Langan and Entact conducted soil subgrade approval from approximate Sta. 300+80 (east of Panel P114 installed on 8/12/16) to approximate Sta. 300+00 (east end of cap). Refer to *Soil Subgrade Approval* forms from 8/13/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any

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loose material greater than ½". The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.

- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 300+80 (east of Panel P114) moving east to approximate Sta. 300+00 (east end of cap). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/13/16 Photo Log for supporting photographs. Note: GVL was placed along the southern end of SA-6 North at areas above the site water table (areas not covered by GCL).
- Additionally, GCL was placed along the northern and eastern end of SA-6 North at areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included an area along the northern edge of SA-6 North from approximate Sta. 300+80 to approximate Sta. 300+00 (east end of cap). GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/13/16 *Photograph Log*.
- After placement of GVL and GCL, LLDPE geomembrane was installed continuing east of Panel P114 (installed on 8/12/16). The LLDPE panels were generally oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 300+80 (east of Panel P114) to approximate Sta. 300+00. A total of five panels were installed (P115, P116, P117, P118, and P119). Panels P116, P117, P118, and P119 were oriented northwest/southeast and were placed to fill in the triangle area along the southeast portion of the cap. Panel P115 ran the entire width of SA-6 North (north to south) spanning approximately 235 ft.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (minimum of 3 samples for each test). The results of the pre-trial weld are provided in the 8/13/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 300+00 (east end of cap), ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 8/13/16 *Seam Control Form* for non-destructive testing details.
- Temporary patches were leistered in place for Panels P115 to P119, but no repair activities (extrusion welding) were completed on 8/13/16 (to be finished Monday – 8/15/16). ESI completed repair activities for Panels P113 to P114 (installed on 8/12/16). A total of seven repairs (R-490, R-491, R-498 to R-502) were observed and fixed (according to the project specifications). Refer to the 8/13/16 *Repair Report* for additional details. Repairs were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/13/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample results for DSX-16 and DS-35.

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, 8/5/16, 8/8/16, 8/9/16, 8/10/16, 8/11/16, and 8/12/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-34. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-15. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/13/16
A3 – Photo Log	Pages 1 – 8	Total of 16 photos outlining pertinent daily observations and descriptions for 8/13/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/13/16
A5 – Subgrade Approval	Sheet 23 & ESI (8/13/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 9	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/13/16
A7 – Panel Placement Log	Pages 15 - 16	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/13/16
A8 – Destruct Seam Testing COC	Sheet 4	Updated with destruct samples collected on 8/13/16
A9 – Seam/Non-Destruct. Test Log	Pages 43-44	One seam control form provided by ESI and confirmed by Langan for pressure testing conducted on 8/13/16
A10 – Repair Log	Pages 25-26	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/13/16

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A11 – Conformance COC		NA for 8/13/16
A12 – Destructive Seam Field Test	Page 4	Updated with destruct samples collected on 8/13/16
A13 – Destruct. Sample Summary	Page 4	Destruct sample summary updated with samples collected on 8/13/16
A14 – Penetration & Edge Form		NA – no boots / penetrations completed on 8/13/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 8/13/16
A17 – Spark Test Log	8/13/16 Spark Test Forms	Spark testing completed for Access Manhole Sta. 18+00 and Injection Well 088-IW-01

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PHOTOGRAPHIC LOG
Photo #1 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

SA-6 North – Repair R-498

Description:

ESI conducting repair activities for wrinkles and custom fit repairs on Panel P113

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PHOTOGRAPHIC LOG
Photo #2 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

SA-6 North – Access Manhole Sta. 18+00

Description:

Entact conducting methane testing for Access Manhole Sta. 18+00. Methane concentration of 0.0% measured.

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PHOTOGRAPHIC LOG
Photo #3 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

SA-6 North – Access Manhole Sta. 18+00

Description:

ESI conducting spark testing for Access Manhole Sta. 18+00. Base of boot and vertical weld tested and no sparks were observed (passed spark test). Additional welds on boot were vacuum box tested.

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PHOTOGRAPHIC LOG
Photo #4 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

SA-6 North – Injection well 088-IW-01

Description:

ESI conducting spark testing for Injection Well 088-IW-01. Base of boot and vertical weld spark tested and no sparks were observed (passed spark test).

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PHOTOGRAPHIC LOG
Photo #5 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

SA-6 North – Destruct Sample DS-35

Description:

Repair activities being completed for destruct sample DS-35 (marked on 8/12/16).

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PHOTOGRAPHIC LOG
Photo #6 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

Looking north / northwest along SA-6 (at approximate Sta. 301+70)

Description:

ESI deploying orange GDL over approved LLDPE geomembrane.

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PHOTOGRAPHIC LOG
Photo #7 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

Looking north across SA-6 North (toward approximate Sta. 300+80)

Description:

ESI deploying orange GDL over approved LLDPE up to Panel P114 (approximate Sta. 300+80).

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PHOTOGRAPHIC LOG
Photo #8 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

Looking north across SA-6 North from southern end of cap (approximate Sta. 300+40)

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #9 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

Looking north across SA-6 North from approximate center of cap (approximate Sta. 300+80)

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #10 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

Looking north / northeast across SA-6 North (approximate Sta. 300+80)

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2”).

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PHOTOGRAPHIC LOG
Photo #11 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 300+80)

Description:

ESI deploying GCL along northern and eastern end of SA-6 North for areas below (to 1 ft. above the site water table). GCL secured with granular bentonite along the seams and leistered in place.

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PHOTOGRAPHIC LOG
Photo #12 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 304+50).

Description:

GCL placed along northern end of SA-6 for areas below to 1 ft. above the site water table. GVL placed along southern end of cap for areas above the site water table.

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PHOTOGRAPHIC LOG
Photo #13 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 300+20)

Description:

ESI sewing top layer of geotextile for GVL at areas above the site water table.

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PHOTOGRAPHIC LOG
Photo #14 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 300+80)

Description:

ESI deploying LLDPE geomembrane over GVL and GCL layers.

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PHOTOGRAPHIC LOG
Photo #15 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 300+60)

Description:

LLDPE geomembrane installed over GVL and GCL to east end of cap (approximate Sta. 300+00)

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PHOTOGRAPHIC LOG
Photo #16 (08/13/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

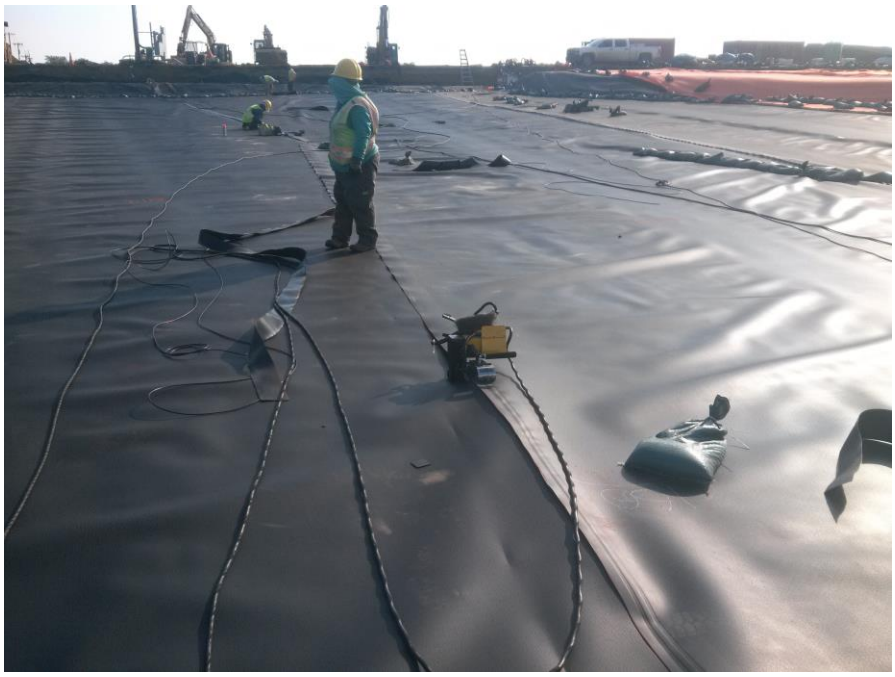
Date:
8/13/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 300+40)

Description:

ESI conducting fusion welding between Panel P115 / P118 seam.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/15/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	82/92° F, Sunny, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1500

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #31** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL) over approved LLDPE geomembrane (Panel P115 to P119). Note: LLDPE geomembrane installation complete up to east end of cap (Panels P115 to P119).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI completing repair activities and vacuum box testing for Panels P115 to P119 (installed on 8/13/16). A total of twelve repairs were (R-503 to R-514) observed and fixed according to the project specifications. Refer to the 8/15/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of two destruct samples were collected. One destruct sample DS-36 was collected from Panel P117 / P118 seam and one extrusion weld destruct sample – DSX-17 was collected from Panel P118 (Repair R-505) for laboratory analysis.
- ESI also completed the boot construction for Piezometer PZ2. Following the boot completion, methane / spark testing for Piezometer PZ2 was completed. Methane testing was conducted prior to spark testing and a concentration of 0.0% was measured. Spark testing was then conducted along the base of the boot and vertical weld and no sparks were observed (spark test passed). Additional details are provided in the Piezometer PZ2 boot construction log and the 8/15 *Spark Test Log.*
- After repair activities were completed, the as-built information including repair locations, distances, etc. was verified and ESI deployed the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane (Panels P115 to P119). GDL was placed from approximate Sta. 300+80 to the east end of SA-6 North (approximate Sta. 300+00). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/15/16 Photo Log for supporting photographs.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose	By: Dan Bosworth **Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/15/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample results for DSX-17 and DS-36.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, 8/5/16, 8/8/16, 8/9/16, 8/10/16, 8/11/16, 8/12/16, and 8/13/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-35. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-16. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/15/16
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 8/15/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/15/16
A5 – Subgrade Approval		NA – no subgrade approval completed on 8/15/16
A6 – Trial Weld Log	Page 9	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/13/16
A7 – Panel Placement Log		NA – no new LLDPE geomembrane panels placed on 8/15/16
A8 – Destruct Seam Testing COC	Sheet 4	Updated with destruct samples collected on 8/15/16
A9 – Seam/Non-Destruct. Test Log		NA – no pressure testing completed on 8/15/16
A10 – Repair Log	Page 26	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/15/16
A11 – Conformance COC		NA for 8/15/16
A12 – Destructive Seam Field Test	Page 4	Updated with destruct samples collected on 8/15/16
A13 – Destruct. Sample Summary	Page 4	Destruct sample summary updated with samples collected on 8/15/16
A14 – Penetration & Edge Form	8/15/16 Boot Form	LLDPE geomembrane boot for Piezometer PZ2 completed on 8/15/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 8/15/16
A17 – Spark Test Log	8/15/16 Spark Test Logs	Spark testing for Piezometer PZ2 completed on 8/15/16

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By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (08/15/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

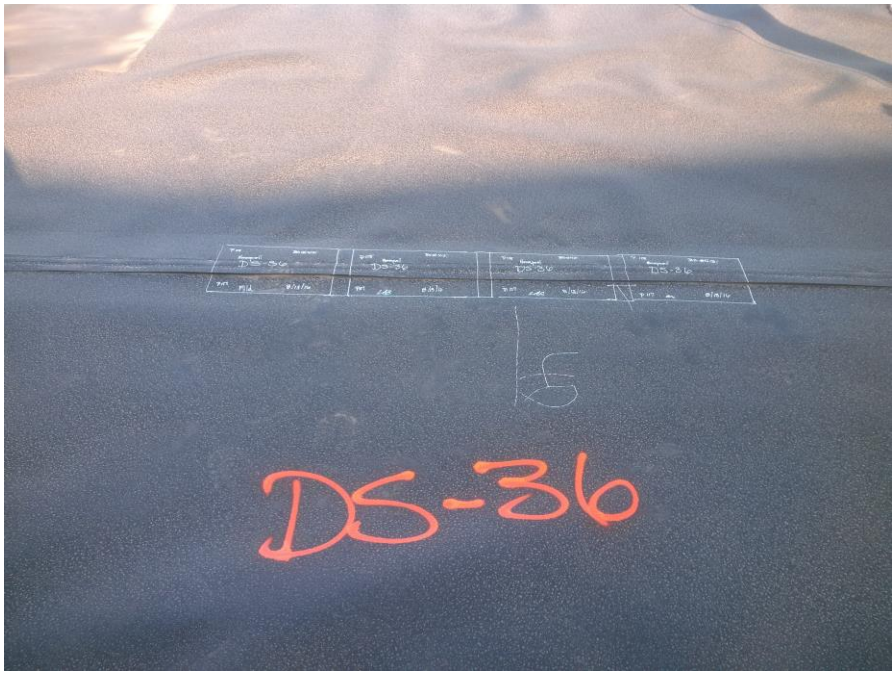
Date:
8/15/16

Direction Taken:

SA-6 North – Destruct Sample DS-36

Description:

Fusion weld destruct sample DS-36 located on Panel P117 / P118 seam to be cut for laboratory analysis.



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PHOTOGRAPHIC LOG
Photo #2 (08/15/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/15/16

Direction Taken:

SA-6 North – Repair R-512

Description:

ESI conducting vacuum box testing for Repair R-512 (seam joint for Panels P115 / P116 / P118).

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PHOTOGRAPHIC LOG
Photo #3 (08/15/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/15/16

Direction Taken:

SA-6 North – Destruct Sample DS-36

Description:

Patch / repair activities completed for Destruct Sample DS-36 located on Panel P117 / P118 seam.

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PHOTOGRAPHIC LOG
Photo #4 (08/15/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/15/16

Direction Taken:

SA-6 North – Piezometer PZ2

Description:

Entact conducting methane testing for Piezometer PZ2. Concentration of 0.0% measured at pipe boot, thus spark testing was subsequently completed (spark test passed).

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PHOTOGRAPHIC LOG
Photo #5 (08/15/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/15/16

Direction Taken:

SA-6 North – Piezometer PZ2

Description:

ESI conducting spark testing for Piezometer PZ2. Base of boot and vertical weld tested and no sparks observed (spark test passed).

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PHOTOGRAPHIC LOG
Photo #6 (08/15/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/15/16

Direction Taken:

Looking south / southwest along SA-6 (twoard approximate Sta. 300+50)

Description:

ESI deploying orange GDL over approved LLDPE geomembrane. GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #7 (08/15/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/15/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 300+50)

Description:

ESI conducting deploying orange GDL over approved LLDPE geomembrane (Panels P115 to P119).

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PHOTOGRAPHIC LOG
Photo #8 (08/15/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/15/16

Direction Taken:

Looking north across SA-6 North (approximate Sta. 300+50)

Description:

Orange GDL placed up to approximate Sta. 300+00 (east end of cap).

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/17/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	82/92° F, Sunny, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Final Site Walk / Observation		**TIME:**	0745 – 1015

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #32**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth, Jeff Stoicescu
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan (Dan Bosworth and Jeff Stoicescu) onsite for final site walk of SA-6 North to observe completed geosynthetic components of SA-6 North capping activities.
- Langan conducted a site walk of the completed SA-6 North cap spanning from the west end (approximate. Sta. 319+00) to the east end (approximate Sta. 300+00). During the site walk, the following conditions were observed (in relation to the geosynthetic components of the cap installation):
    - Condition 1: The final GDL geotextile wrap around Gas Vent GV-2 was cut and gas vent was exposed.
    - Action Item: Based on discussions with Entact, the GDL was cut so that the construction of the gas vent could be completed. Entact plans to conduct leistering activities to reseal the geotextile wrap and secure the GDL.
    - Condition 2: Wrinkles were observed along the east end of the cap (approximate Sta. 300+00) due to the spreading of cover soils over the GDL.
    - Action Item: Entact to attempt to work out wrinkles to the east end of the cap. If wrinkles cannot be removed, ESI will return to the site to cut the geomembrane and complete patch / repair activities.
    - Condition 3: LLDPE was pulled taught along the slopes / contour changes along SA-6 North for areas where cover soil was being placed. During placement of cover soil, sand bags were removed from the cap so that the cover soil could be placed over the GDL. However, for areas where cover soil was not completed by the end of the day, the sand bags were not returned and the geosynthetic material was left un-weighted, thus causing the LLDPE to trampoline.
    - Action Item: Entact to ensure that areas not covered with cover soil at the end of the day will be secured with sand bags.
- Above items shall be reviewed on Friday (8/19).
- Additional details are outlined in the 8/17/16 *Photograph Log.*

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (08/17/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/17/16

Direction Taken:

SA-6 North – Gas Vent GV-2

Description:

Orange GDL cover cut on Gas Vent GV-2 by Entact to complete construction of gas vent. GDL to be re-leistered by Entact.

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PHOTOGRAPHIC LOG
Photo #2 (08/17/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/17/16

Direction Taken:

Looking north along northern end of SA-6 North; east end of cap (approximate Sta. 300+00)

Description:

Wrinkles observed along east end of cap from placement of cover soil. Entact to try and work wrinkles out to the east end of cap.

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PHOTOGRAPHIC LOG
Photo #3 (08/17/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/17/16

Direction Taken:

SA-6 North – east end of cap (approximate Sta. 300+00).

Description:

Wrinkle / crease observed along east end of cap (approximate Sta. 300+00).

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PHOTOGRAPHIC LOG
Photo #4 (08/17/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/17/16

Direction Taken:

Looking south along east end of SA-6 North (approximate Sta. 300+00)

Description:

Location of wrinkles observed along east end of cap due to placement of cover soil.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/19/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	85/95° F, Sunny, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Final Site Walk / Observation		**TIME:**	0815 – 1230

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #33**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth, Kale Novalis
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of wrinkle repair along the east end of the cap (approximate Sta. 300+00) due to the spreading of cover soils over the GDL.
- ESI completed repairs of wrinkles along the east end of the cap (approximate Sta. 300+00) as outlined in the 8/17/16 Report. Upon cutting of the GDL layer it was observed that the wrinkles were contained to the GDL only with no observed damage to the LLDPE or soil subgrade. As such, the GDL layer was cut, flattened, and leistered. No repairs to the LLDPE were required.
- Additional details are outlined in the 8/19/16 *Photograph Log.*

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (08/19/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/19/16

Direction Taken:

Looking south along SA-6 (approximate Sta. 300+00)

Description:

Wrinkles observed along the east end of the cap (approximate Sta. 300+00) due to the spreading of cover soils over the GDL.

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PHOTOGRAPHIC LOG
Photo #2 (08/19/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/19/16

Direction Taken:

Looking south along SA-6 (approximate Sta. 300+00)

Description:

Wrinkles observed along the east end of the cap (approximate Sta. 300+00) due to the spreading of cover soils over the GDL.

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PHOTOGRAPHIC LOG
Photo #3 (08/19/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/19/16

Direction Taken:

Looking north along SA-6 (approximate Sta. 300+00)

Description:

Repaired wrinkles observed along the east end of the cap (approximate Sta. 300+00) by pulling GDL and LLDPE.

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PHOTOGRAPHIC LOG
Photo #4 (08/19/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7.) Jersey City, New Jersey	100530001

Date:
8/19/16

Direction Taken:

Looking north / northwest along SA-6 (approximate Sta. 300+00)

Description:

Wrinkles observed along the east end of the cap (approximate Sta. 300+00) only on GDL. No wrinkles observed on LLDPE.

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PHOTOGRAPHIC LOG
Photo #5 (08/19/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/19/16

Direction Taken:

Looking north along SA-6 (approximate Sta. 300+00)

Description:

Finished repairs of wrinkles observed along the east end of the cap (approximate Sta. 300+00) with leistering of cut GDL section.

Appendix F
GCL to Barrier Wall Connection Logs

Honeywell

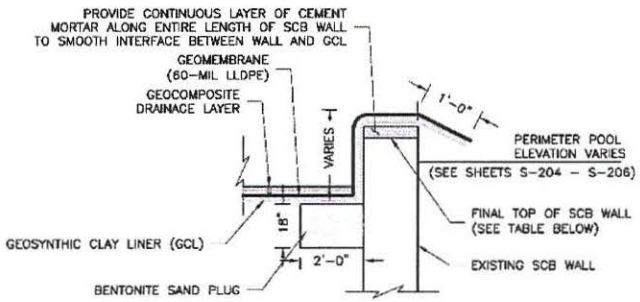
amec foster wheeler

STUDY AREA 6 - CAP INSTALLATION

Project: Study Area 6 North

Date: 08/4/16

QA - GCL to Barrier Wall Connection Detail



BELOW GROUNDWATER

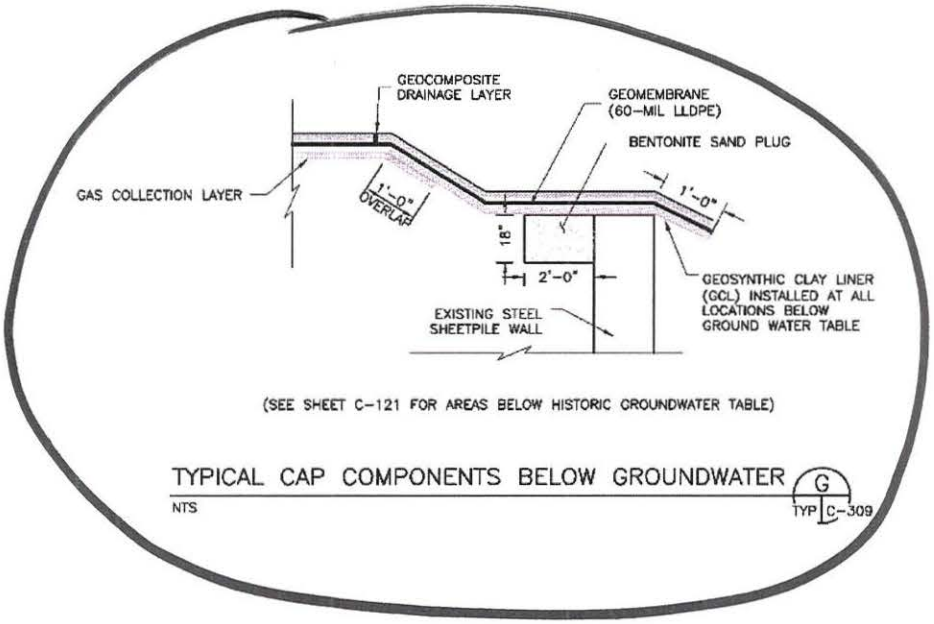
GCL AREAS STA 0+00 TO STA 3+22

TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION

NTS

BN C-121 C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER

NTS

G TYP C-309

***Check applicable Detail:**

X Box Cut Dimension

X Barrier wall clean/exposed

X Sand Bentonite Mix

Location:

- **Soil Cement Wall stations 5+60 to 5+90 (approximately).**
- **North side of south cap near Route 440 along the HB Wall.**

Comments:

- Photos captured Amec Foster Wheeler.

AmecFW QA Signature: _____

Honeywell

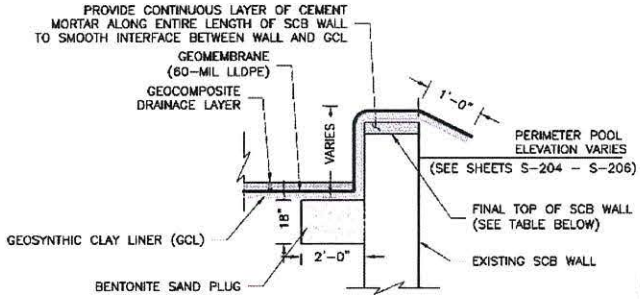
amec foster wheeler

STUDY AREA 6 - CAP INSTALLATION

Project: Study Area 6 North

Date: 08/11/16

QA - GCL to Barrier Wall Connection Detail



BELOW GROUNDWATER

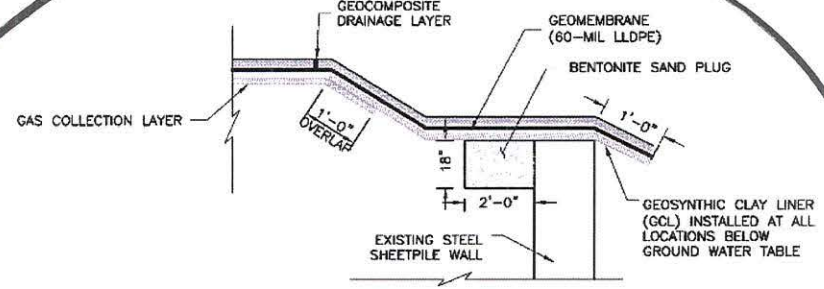
GCL AREAS STA 0+00 TO STA 3+22

TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION

NTS

BN C-121 C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER

NTS

G TYP C-309

***Check applicable Detail:**

X Box Cut Dimension

X Barrier wall clean/exposed

X Sand Bentonite Mix

Location:

- **Soil Cement Wall stations 2+92 to 3+26 (approximately).**
- **North side of south cap near Route 440 along the HB Wall.**

Comments:

- Photos captured Amec Foster Wheeler.

AmecFW QA Signature: _____

Appendix G
ESI Panel Placement Logs

Daily Panel Placement

Page 1

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.) **Roll Stock Width** 23

Panel # P-1 — Roll # G15F443031

Final Length Avg.	37.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	38.50	LF
Initial Width Avg.	23.00	LF

22.5 / 23 / 22 / 21 / 54 / 55 / 22.5 / 23

Notes:

Initial SF	886	Lineal Feet Trench
Final SF	844	

Panel # P-2 — Roll # G15F443031

Final Length Avg.	161.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	162.00	LF
Initial Width Avg.	23.00	LF

22.5 / 23 / 162 / 161 / 161 / 162 / 22.5 / 23

Notes:

Initial SF	3,726	Lineal Feet Trench
Final SF	3,623	

Panel # P-3 — Roll # G15F443031

Final Length Avg.	162.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	163.00	LF
Initial Width Avg.	23.00	LF

22.5 / 23 / 162 / 161 / 163 / 164 / 22.5 / 23

Notes:

Initial SF	3,749	Lineal Feet Trench
Final SF	3,645	

Panel # P-4 — Roll # G15F443031

Final Length Avg.	96.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	97.00	LF
Initial Width Avg.	23.00	LF

22.5 / 23 / 96 / 95 / 97 / 98 / 22.5 / 23

Notes:

Initial SF	2,231	Lineal Feet Trench
Final SF	2,160	

Panel # P-5 — Roll # G15F445054

Final Length Avg.	68.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	69.00	LF
Initial Width Avg.	23.00	LF

22.5 / 23 / 69 / 68 / 68 / 69 / 22.5 / 23

Notes:

Initial SF	1,587	Lineal Feet Trench
Final SF	1,530	

Panel # P-6 — Roll # G15F445054

Final Length Avg.	167.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	168.00	LF
Initial Width Avg.	23.00	LF

22.5 / 23 / 167 / 166 / 168 / 169 / 22.5 / 23

Notes:

Initial SF	3,864	Lineal Feet Trench
Final SF	3,758	

Panel # P-7 — Roll # G15F445054

Final Length Avg.	170.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	171.00	LF
Initial Width Avg.	23.00	LF

22.5 / 23 / 170 / 169 / 171 / 172 / 22.5 / 23

Notes:

Initial SF	3,933	Lineal Feet Trench
Final SF	3,825	

Panel # P-8 — Roll # G154445054

Final Length Avg.	68.50	LF
Final Width Avg.	22.53	LF
Initial Length Avg.	69.50	LF
Initial Width Avg.	23.00	LF

22.57 / 23 / 68 / 67 / 70 / 71 / 22.5 / 23

Notes:

Initial SF	1,599	Lineal Feet Trench
Final SF	1,544	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**20,927**	**SF**
Total Pay Area This Page	**20,927**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	-	SF
Total Panel SF To Date	20,927	SF
Total Pay Area To Date Including Anchor Trench	**20,927**	
Initial Quantity Previous	-	SF
Initial Quantity This Page	21,574	SF
Initial Quantity To Date	21,574	SF

Daily Panel Placement

Page 2

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.) **Roll Stock Width** 23

Panel #	Roll #	Final Length Avg.	Final Width Avg.	Initial Length Avg.	Initial Width Avg.	Initial SF	Final SF
P-9	G15F444052	103.00 LF	22.50 LF	104.00 LF	23.00 LF	2,392	2,318
P-10	G15F444052	177.50 LF	password 22.50 LF	178.50 LF	23.00 LF	4,106	3,994
P-11	G15F444052	188.00 LF	22.50 LF	189.00 LF	23.00 LF	4,347	4,230
P-12	G15F444052	23.00 LF	22.50 LF	24.00 LF	23.00 LF	552	518
P-13	G15F442018	168.50 LF	22.50 LF	169.50 LF	23.00 LF	3,899	3,791
P-14 A	G15F442018	5.00 LF	22.50 LF	6.00 LF	23.00 LF	138	113
P-14	G15F442018	186.50 LF	22.50 LF	187.50 LF	23.00 LF	4,313	4,196
P-15	G15F442018	116.00 LF	22.50 LF	117.00 LF	23.00 LF	2,691	2,610

Lineal Feet Trench

Panel #	Top	Left	Right	Bottom
P-9	23	104	104	23
P-10	23	179	178	23
P-11	23	189	189	23
P-12	23	25	23	23
P-13	23	170	169	23
P-14 A	23	6	6	23
P-14	23	187	188	23
P-15	23	117	117	23

Panel #	Left	Right
P-9	103	103
P-10	178	177
P-11	188	188
P-12	24	22
P-13	169	168
P-14 A	5	5
P-14	186	187
P-15	116	116

Notes:

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**21,769**	**SF**
Total Pay Area This Page	**21,769**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	20,927	SF
Total Panel SF To Date	42,696	SF
Total Pay Area To Date Including Anchor Trench	**42,696**	
Initial Quantity Previous	21,574	SF
Initial Quantity This Page	22,437	SF
Initial Quantity To Date	44,011	SF

Daily Panel Placement

Page 3

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.) **Roll Stock Width** 23

Panel #	Roll #	Final Length Avg.	Final Width Avg.	Initial Length Avg.	Initial Width Avg.	Initial SF	Final SF
P-16	G15F442023	74.50 LF	22.50 LF	75.50 LF	23.00 LF	1,737	1,676
P-17	G15F442023	192.50 LF	22.50 LF	193.50 LF	23.00 LF	4,451	4,331
P-18	G15F442023	195.00 LF	22.50 LF	196.00 LF	23.00 LF	4,508	4,388
P-19	G15F442019	197.50 LF	22.50 LF	198.50 LF	23.00 LF	4,566	4,444
P-20	G15F442019	196.00 LF	22.50 LF	197.00 LF	23.00 LF	4,531	4,410
P-21	G15F442019	99.00 LF	22.50 LF	100.00 LF	23.00 LF	2,300	2,228
P-22	G15F442026	99.00 LF	22.50 LF	100.00 LF	23.00 LF	2,300	2,228
P-23	G15F442026	199.50 LF	22.50 LF	200.50 LF	23.00 LF	4,612	4,489

Lineal Feet Trench

Panel #	Left	Top	Bottom	Right
P-16	75	74	75	76
P-17	193	192	193	194
P-18	195	194	196	197
P-19	198	197	198	199
P-20	194	193	199	200
P-21	100	99	99	100
P-22	100	99	99	100
P-23	200	199	200	201

Notes:

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**28,193**	**SF**
Total Pay Area This Page	**28,193**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	42,696	SF
Total Panel SF To Date	70,889	SF
Total Pay Area To Date Including Anchor Trench	**70,889**	
Initial Quantity Previous	44,011	SF
Initial Quantity This Page	29,003	SF
Initial Quantity To Date	73,014	SF

Daily Panel Placement

Page 4

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.) **Roll Stock Width** 23

Panel # P-24 — Roll # G15F442026

Final Length Avg.	186.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	187.50	LF
Initial Width Avg.	23.00	LF

23
22.5
186 185 188 189
22.5
23

Notes:

Initial SF	4,313	Lineal Feet Trench
Final SF	4,196	

Panel # P-25 — Roll # G15F444043

Final Length Avg.	17.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	18.00	LF
Initial Width Avg.	23.00	LF

23
22.5
18 17 17 18
22.5
23

Notes:

Initial SF	414	Lineal Feet Trench
Final SF	383	

Panel # P-26 — Roll # G15F444043

Final Length Avg.	202.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	203.50	LF
Initial Width Avg.	23.00	LF

23
22.5
206 205 200 201
22.5
23

Notes:

Initial SF	4,681	Lineal Feet Trench
Final SF	4,556	

Panel # P-27 — Roll # G15F444043

Final Length Avg.	213.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	214.00	LF
Initial Width Avg.	23.00	LF

23
22.5
213 212 214 215
22.5
23

Notes:

Initial SF	4,922	Lineal Feet Trench
Final SF	4,793	

Panel # P-28 — Roll # G15F444051

Final Length Avg.	212.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	213.50	LF
Initial Width Avg.	23.00	LF

23
22.5
214 213 212 213
22.5
23

Notes:

Initial SF	4,911	Lineal Feet Trench
Final SF	4,781	

Panel # P-29 — Roll # G15F444051

Final Length Avg.	213.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	214.50	LF
Initial Width Avg.	23.00	LF

23
22.5
214 213 214 215
22.5
23

Notes:

Initial SF	4,934	Lineal Feet Trench
Final SF	4,804	

Panel # P-30 — Roll # G15F444051

Final Length Avg.	56.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	57.00	LF
Initial Width Avg.	23.00	LF

23
22.5
57 56 56 57
22.5
23

Notes:

Initial SF	1,311	Lineal Feet Trench
Final SF	1,260	

Panel # P-31 — Roll # G15F444044

Final Length Avg.	159.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	160.00	LF
Initial Width Avg.	23.00	LF

23
22.5
160 159 159 160
22.5
23

Notes:

Initial SF	3,680	Lineal Feet Trench
Final SF	3,578	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**28,350**	**SF**
Total Pay Area This Page	**28,350**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	70,889	SF
Total Panel SF To Date	99,239	SF
Total Pay Area To Date Including Anchor Trench	**99,239**	
Initial Quantity Previous	73,014	SF
Initial Quantity This Page	29,164	SF
Initial Quantity To Date	102,178	SF

Daily Panel Placement

Page 5

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.)

Roll Stock Width 23

Panel # P-32 — Roll # G15F444044

Final Length Avg.	217.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	218.00	LF
Initial Width Avg.	23.00	LF

23
22.5
218 217 217 218
22.5
23

Notes:

Initial SF	5,014	Lineal Feet Trench
Final SF	4,883	

Panel # P-33 — Roll # G15F444044

Final Length Avg.	87.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	88.50	LF
Initial Width Avg.	23.00	LF

23
22.5
88 87 88 89
22.5
23

Notes:

Initial SF	2,036	Lineal Feet Trench
Final SF	1,969	

Panel # P-34 — Roll # G15F444053

Final Length Avg.	128.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	129.50	LF
Initial Width Avg.	23.00	LF

23
22.5
129 128 129 130
22.5
23

Notes:

Initial SF	2,979	Lineal Feet Trench
Final SF	2,891	

Panel # P-35 — Roll # G15F444053

Final Length Avg.	222.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	223.50	LF
Initial Width Avg.	23.00	LF

23
22.5
221 220 225 226
22.5
23

Notes:

Initial SF	5,141	Lineal Feet Trench
Final SF	5,006	

Panel # P-36 — Roll # G15F444053

Final Length Avg.	142.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	143.00	LF
Initial Width Avg.	23.00	LF

23
22.5
143 142 142 143
22.5
23

Notes:

Initial SF	3,289	Lineal Feet Trench
Final SF	3,195	

Panel # P-37 — Roll # G15F444046

Final Length Avg.	81.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	82.00	LF
Initial Width Avg.	23.00	LF

23
22.5
82 81 81 82
22.5
23

Notes:

Initial SF	1,886	Lineal Feet Trench
Final SF	1,823	

Panel # P-38 — Roll # G15F444046

Final Length Avg.	225.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	226.00	LF
Initial Width Avg.	23.00	LF

23
22.5
226 225 225 226
22.5
23

Notes:

Initial SF	5,198	Lineal Feet Trench
Final SF	5,063	

Panel # P-39 — Roll # G15F444046

Final Length Avg.	191.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	192.50	LF
Initial Width Avg.	23.00	LF

23
22.5
191 190 193 194
22.5
23

Notes:

Initial SF	4,428	Lineal Feet Trench
Final SF	4,309	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**29,138**	**SF**
Total Pay Area This Page	**29,138**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	99,239	SF
Total Panel SF To Date	128,376	SF
Total Pay Area To Date Including Anchor Trench	**128,376**	
Initial Quantity Previous	102,178	SF
Initial Quantity This Page	29,969	SF
Initial Quantity To Date	132,147	SF

Daily Panel Placement

Page 6

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.)

Roll Stock Width 23

Panel # P-40 — Roll # G15F445055

Final Length Avg.	34.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	35.50	LF
Initial Width Avg.	23.00	LF

23
22.5
35 34 35 36
22.5
23

Notes:

Initial SF	817	Lineal Feet Trench
Final SF	776	

Panel # P-41 — Roll # G15F445055

Final Length Avg.	226.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	227.50	LF
Initial Width Avg.	23.00	LF

23
22.5
226 225 228 229
22.5
23

Notes:

Initial SF	5,233	Lineal Feet Trench
Final SF	5,096	

Panel # P-42 — Roll # G15F445055

Final Length Avg.	227.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	228.00	LF
Initial Width Avg.	23.00	LF

23
22.5
228 227 227 228
22.5
23

Notes:

Initial SF	5,244	Lineal Feet Trench
Final SF	5,108	

Panel # P-43 — Roll # G15F444045

Final Length Avg.	229.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	230.00	LF
Initial Width Avg.	23.00	LF

23
22.5
230 229 229 230
22.5
23

Notes:

Initial SF	5,290	Lineal Feet Trench
Final SF	5,153	

Panel # P-44 — Roll # G15F444045

Final Length Avg.	246.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	247.00	LF
Initial Width Avg.	23.00	LF

23
22.5
246 245 247 248
22.5
23

Notes:

Initial SF	5,681	Lineal Feet Trench
Final SF	5,535	

Panel # P-44A — Roll # G15F445056

Final Length Avg.	22.00	LF
Final Width Avg.	5.00	LF
Initial Length Avg.	23.00	LF
Initial Width Avg.	6.00	LF

6
5
23 22 22 23
5
6

Notes:

Initial SF	138	Lineal Feet Trench
Final SF	110	

Panel # P-44B — Roll # G15F445056

Final Length Avg.	22.00	LF
Final Width Avg.	5.00	LF
Initial Length Avg.	23.00	LF
Initial Width Avg.	6.00	LF

6
5
23 22 22 23
5
6

Notes:

Initial SF	138	Lineal Feet Trench
Final SF	110	

Panel # P-45 — Roll # G15F443028

Final Length Avg.	35.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	36.00	LF
Initial Width Avg.	23.00	LF

23
22.5
36 35 35 36
22.5
23

Notes:

Initial SF	828	Lineal Feet Trench
Final SF	788	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**22,675**	**SF**
Total Pay Area This Page	**22,675**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	128,376	SF
Total Panel SF To Date	151,051	SF
Total Pay Area To Date Including Anchor Trench	**151,051**	
Initial Quantity Previous	132,147	SF
Initial Quantity This Page	23,368	SF
Initial Quantity To Date	155,515	SF

Daily Panel Placement

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.) **Roll Stock Width** 23

Panel # P-46 — Roll # G15F443028

Final Length Avg.	280.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	281.00	LF
Initial Width Avg.	23.00	LF

23
22.5
281 280 280 281
22.5
23

Notes:

Initial SF	6,463	Lineal Feet Trench
Final SF	6,300	

Panel # P-47 — Roll # G15F443028

Final Length Avg.	169.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	170.50	LF
Initial Width Avg.	23.00	LF

23
22.5
171 170 169 170
22.5
23

Notes:

Initial SF	3,922	Lineal Feet Trench
Final SF	3,814	

Panel # P-48 — Roll # G15F445056

Final Length Avg.	115.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	116.00	LF
Initial Width Avg.	23.00	LF

23
22.5
116 115 115 116
22.5
23

Notes:

Initial SF	2,668	Lineal Feet Trench
Final SF	2,588	

Panel # P-49 — Roll # G15F445056

Final Length Avg.	290.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	291.50	LF
Initial Width Avg.	23.00	LF

23
22.5
293 292 289 290
22.5
23

Notes:

Initial SF	6,705	Lineal Feet Trench
Final SF	6,536	

Panel # P-50 — Roll # G15F442021

Final Length Avg.	287.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	288.50	LF
Initial Width Avg.	23.00	LF

23
22.5
287 286 289 290
22.5
23

Notes:

Initial SF	6,636	Lineal Feet Trench
Final SF	6,469	

Panel # P-51 — Roll # G15F442021

Final Length Avg.	217.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	218.50	LF
Initial Width Avg.	23.00	LF

23
22.5
218 217 218 219
22.5
23

Notes:

Initial SF	5,026	Lineal Feet Trench
Final SF	4,894	

Panel # P-52 — Roll # G15F445056

Final Length Avg.	44.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	45.00	LF
Initial Width Avg.	23.00	LF

23
22.5
45 44 44 45
22.5
23

Notes:

Initial SF	1,035	Lineal Feet Trench
Final SF	990	

Panel # P-53 — Roll # G15F443037

Final Length Avg.	21.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	22.00	LF
Initial Width Avg.	23.00	LF

23
22.5
22 21 21 22
22.5
23

Notes:

Initial SF	506	Lineal Feet Trench
Final SF	473	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**32,063**	**SF**
Total Pay Area This Page	**32,063**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	151,051	SF
Total Panel SF To Date	183,114	SF
Total Pay Area To Date Including Anchor Trench	**183,114**	
Initial Quantity Previous	155,515	SF
Initial Quantity This Page	32,959	SF
Initial Quantity To Date	188,474	SF

Daily Panel Placement

Page 8

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.)

Roll Stock Width 23

Panel # P-54 — Roll # G15F443037

Final Length Avg.	289.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	290.00	LF
Initial Width Avg.	23.00	LF

23
22.5
290 289 289 290
22.5
23

Notes:

Initial SF	6,670	Lineal Feet Trench
Final SF	6,503	

Panel # P-55 — Roll # G15F443037

Final Length Avg.	189.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	190.00	LF
Initial Width Avg.	23.00	LF

23
22.5
190 189 189 190
22.5
23

Notes:

Initial SF	4,370	Lineal Feet Trench
Final SF	4,253	

Panel # P-56 — Roll # G15C282022

Final Length Avg.	73.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	74.00	LF
Initial Width Avg.	23.00	LF

23
22.5
74 73 73 74
22.5
23

Notes:

Initial SF	1,702	Lineal Feet Trench
Final SF	1,643	

Panel # P-57 — Roll # G15C282014

Final Length Avg.	29.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	30.00	LF
Initial Width Avg.	23.00	LF

23
22.5
30 29 29 30
22.5
23

Notes:

Initial SF	690	Lineal Feet Trench
Final SF	653	

Panel # P-58 — Roll # G15F442022

Final Length Avg.	293.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	294.50	LF
Initial Width Avg.	23.00	LF

23
22.5
293 292 295 296
22.5
23

Notes:

Initial SF	6,774	Lineal Feet Trench
Final SF	6,604	

Panel # P-59 — Roll # G15F442022

Final Length Avg.	204.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	205.00	LF
Initial Width Avg.	23.00	LF

23
22.5
204 203 205 206
22.5
23

Notes:

Initial SF	4,715	Lineal Feet Trench
Final SF	4,590	

Panel # P-60 — Roll # G15F445057

Final Length Avg.	93.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	94.00	LF
Initial Width Avg.	23.00	LF

23
22.5
94 93 93 94
22.5
23

Notes:

Initial SF	2,162	Lineal Feet Trench
Final SF	2,093	

Panel # P-61 — Roll # G15F445057

Final Length Avg.	299.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	300.00	LF
Initial Width Avg.	23.00	LF

23
22.5
300 299 299 300
22.5
23

Notes:

Initial SF	6,900	Lineal Feet Trench
Final SF	6,728	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**33,064**	**SF**
Total Pay Area This Page	**33,064**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	183,114	SF
Total Panel SF To Date	216,177	SF
Total Pay Area To Date Including Anchor Trench	**216,177**	
Initial Quantity Previous	188,474	SF
Initial Quantity This Page	33,983	SF
Initial Quantity To Date	222,456	SF

Daily Panel Placement

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.) **Roll Stock Width** 23

Panel # P-62 — Roll # G15F445057

Final Length Avg.	109.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	110.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 110 109 109 110 / 22.5 / 23

Notes:

Initial SF	2,530	Lineal Feet Trench
Final SF	2,453	

Panel # P-63 — Roll # G15F442017

Final Length Avg.	192.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	193.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 193 192 192 193 / 22.5 / 23

Notes:

Initial SF	4,439	Lineal Feet Trench
Final SF	4,320	

Panel # P-64 — Roll # G15F442017

Final Length Avg.	299.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	300.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 300 299 299 300 / 22.5 / 23

Notes:

Initial SF	6,900	Lineal Feet Trench
Final SF	6,728	

Panel # P-65 — Roll # G15F442020

Final Length Avg.	299.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	300.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 300 299 299 300 / 22.5 / 23

Notes:

Initial SF	6,900	Lineal Feet Trench
Final SF	6,728	

Panel # P-66 — Roll # G15F442020

Final Length Avg.	182.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	183.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 183 182 182 183 / 22.5 / 23

Notes:

Initial SF	4,209	Lineal Feet Trench
Final SF	4,095	

Panel # P-67 — Roll # G15F443027

Final Length Avg.	115.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	116.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 116 115 115 116 / 22.5 / 23

Notes:

Initial SF	2,668	Lineal Feet Trench
Final SF	2,588	

Panel # P-68 — Roll # G15F443027

Final Length Avg.	291.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	292.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 300 299 283 284 / 22.5 / 23

Notes:

Initial SF	6,716	Lineal Feet Trench
Final SF	6,548	

Panel # P-69 — Roll # G15F443027

Final Length Avg.	69.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	70.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 70 69 69 70 / 22.5 / 23

Notes:

Initial SF	1,610	Lineal Feet Trench
Final SF	1,553	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**35,010**	**SF**
Total Pay Area This Page	**35,010**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	216,177	SF
Total Panel SF To Date	251,187	SF
Total Pay Area To Date Including Anchor Trench	**251,187**	
Initial Quantity Previous	222,456	SF
Initial Quantity This Page	35,972	SF
Initial Quantity To Date	258,428	SF

Daily Panel Placement

Page 10

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.) **Roll Stock Width** 23

Panel #	Roll #	Final Length Avg.	Final Width Avg.	Initial Length Avg.	Initial Width Avg.	Initial SF	Final SF	Lineal Feet Trench
P-70	G15C282014	67.00 LF	22.50 LF	68.00 LF	23.00 LF	1,564	1,508	
P-71	G15F443033	146.00 LF	22.50 LF	147.00 LF	23.00 LF	3,381	3,285	
P-72	G15F443033	286.00 LF	22.50 LF	287.00 LF	23.00 LF	6,601	6,435	
P-73	G15F443033	61.00 LF	22.50 LF	62.00 LF	23.00 LF	1,426	1,373	
P-74	G15F443039	220.00 LF	22.50 LF	221.00 LF	23.00 LF	5,083	4,950	
P-75	G15F443039	275.00 LF	22.50 LF	276.00 LF	23.00 LF	6,348	6,188	
P-76	G15F442016	267.00 LF	22.50 LF	268.00 LF	23.00 LF	6,164	6,008	
P-77	G15F442016	235.00 LF	22.50 LF	236.00 LF	23.00 LF	5,428	5,288	

Notes:

Panel #	Top	Left	Right	Bottom
P-70	23	68	68	23
P-71	23	147	147	23
P-72	23	286	288	23
P-73	23	62	62	23
P-74	23	221	221	23
P-75	23	276	276	23
P-76	23	268	268	23
P-77	23	236	236	23

Panel #	Left	Right
P-70	67	67
P-71	146	146
P-72	285	287
P-73	61	61
P-74	220	220
P-75	275	275
P-76	267	267
P-77	235	235

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**35,033**	**SF**
Total Pay Area This Page	**35,033**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	251,187	SF
Total Panel SF To Date	286,220	SF
Total Pay Area To Date Including Anchor Trench	**286,220**	
Initial Quantity Previous	258,428	SF
Initial Quantity This Page	35,995	SF
Initial Quantity To Date	294,423	SF

Daily Panel Placement

Page 11

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.)

Roll Stock Width 23

Panel # P-78 — Roll # G15F443036

Final Length Avg.	41.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	42.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 42 41 41 42 / 22.5 / 23

Notes:

Initial SF	966	Lineal Feet Trench
Final SF	923	

Panel # P-79 — Roll # G15F443036

Final Length Avg.	271.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	272.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 272 271 271 272 / 22.5 / 23

Notes:

Initial SF	6,256	Lineal Feet Trench
Final SF	6,098	

Panel # P-80 — Roll # G15F443030

Final Length Avg.	267.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	268.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 268 267 267 268 / 22.5 / 23

Notes:

Initial SF	6,164	Lineal Feet Trench
Final SF	6,008	

Panel # P-81 — Roll # G15F443036

Final Length Avg.	237.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	238.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 238 237 237 238 / 22.5 / 23

Notes:

Initial SF	5,474	Lineal Feet Trench
Final SF	5,333	

Panel # P-82 — Roll # G15F444050

Final Length Avg.	24.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	25.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 25 24 24 25 / 22.5 / 23

Notes:

Initial SF	575	Lineal Feet Trench
Final SF	540	

Panel # P-83 — Roll # G15F444050

Final Length Avg.	260.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	261.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 261 260 260 261 / 22.5 / 23

Notes:

Initial SF	6,003	Lineal Feet Trench
Final SF	5,850	

Panel # P-84 — Roll # G15F444050

Final Length Avg.	204.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	205.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 205 204 204 205 / 22.5 / 23

Notes:

Initial SF	4,715	Lineal Feet Trench
Final SF	4,590	

Panel # P-85 — Roll # G15F443034

Final Length Avg.	57.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	58.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 58 57 57 58 / 22.5 / 23

Notes:

Initial SF	1,334	Lineal Feet Trench
Final SF	1,283	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**30,623**	**SF**
Total Pay Area This Page	**30,623**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	286,220	SF
Total Panel SF To Date	316,842	SF
Total Pay Area To Date Including Anchor Trench	**316,842**	
Initial Quantity Previous	294,423	SF
Initial Quantity This Page	31,487	SF
Initial Quantity To Date	325,910	SF

Daily Panel Placement

Page 12

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.) **Roll Stock Width** 23

Panel # P-86 — Roll # G15F443034

Final Length Avg.	260.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	261.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 261 / 260 / 260 / 261 / 22.5 / 23

Notes:

Initial SF	6,003	Lineal Feet Trench
Final SF	5,850	

Panel # P-87 — Roll # G15F443034

Final Length Avg.	168.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	169.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 169 / 168 / 168 / 169 / 22.5 / 23

Notes:

Initial SF	3,887	Lineal Feet Trench
Final SF	3,780	

Panel # P-88 — Roll # G15F443036

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

100 / 101 / 17 / 18

Notes:

Initial SF	909	Lineal Feet Trench
Final SF	850	

Panel # P-89 — Roll # G15F443036

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

119 / 120 / 14 / 15

Notes:

Initial SF	900	Lineal Feet Trench
Final SF	833	

Panel # P-90 — Roll # G15F443035

Final Length Avg.	243.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	244.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 244 / 243 / 243 / 244 / 22.5 / 23

Notes:

Initial SF	5,612	Lineal Feet Trench
Final SF	5,468	

Panel # P-91 — Roll # G15F443035

Final Length Avg.	242.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	243.50	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 244 / 243 / 242 / 243 / 22.5 / 23

Notes:

Initial SF	5,601	Lineal Feet Trench
Final SF	5,456	

Panel # P-92 — Roll # G15F444042

Final Length Avg.	242.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	243.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 243 / 242 / 242 / 243 / 22.5 / 23

Notes:

Initial SF	5,589	Lineal Feet Trench
Final SF	5,445	

Panel # P-93 — Roll # G15F444042

Final Length Avg.	242.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	243.00	LF
Initial Width Avg.	23.00	LF

23 / 22.5 / 243 / 242 / 242 / 243 / 22.5 / 23

Notes:

Initial SF	5,589	Lineal Feet Trench
Final SF	5,445	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**33,127**	**SF**
Total Pay Area This Page	**33,127**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	316,842	SF
Total Panel SF To Date	349,969	SF
Total Pay Area To Date Including Anchor Trench	**349,969**	
Initial Quantity Previous	325,910	SF
Initial Quantity This Page	34,090	SF
Initial Quantity To Date	360,000	SF

Daily Panel Placement

Page 13

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.) **Roll Stock Width** 23

Panel # P-94 — Roll # G15F443029

Final Length Avg.	234.00	LF
Final Width Avg.	20.25	LF
Initial Length Avg.	235.00	LF
Initial Width Avg.	21.00	LF

23
22.5
235 234 234 235
18
19

Notes:

Initial SF	4,935	Lineal Feet Trench
Final SF	4,739	

Panel # P-95 — Roll # G15F443029

Final Length Avg.	234.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	235.00	LF
Initial Width Avg.	23.00	LF

23
22.5
235 234 234 235
22.5
23

Notes:

Initial SF	5,405	Lineal Feet Trench
Final SF	5,265	

Panel # P-96 — Roll # G15F443029

Final Length Avg.	13.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	14.00	LF
Initial Width Avg.	23.00	LF

23
22.5
14 13 13 14
22.5
23

Notes:

Initial SF	322	Lineal Feet Trench
Final SF	293	

Panel # P-97 — Roll # G15F443040

Final Length Avg.	219.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	220.00	LF
Initial Width Avg.	23.00	LF

23
22.5
220 219 219 220
22.5
23

Notes:

Initial SF	5,060	Lineal Feet Trench
Final SF	4,928	

Panel # P-98 — Roll # G15F443040

Final Length Avg.	234.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	235.00	LF
Initial Width Avg.	23.00	LF

23
22.5
235 234 234 235
22.5
23

Notes:

Initial SF	5,405	Lineal Feet Trench
Final SF	5,265	

Panel # P-99 — Roll # G15F444049

Final Length Avg.	238.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	239.00	LF
Initial Width Avg.	23.00	LF

23
22.5
239 238 238 239
22.5
23

Notes:

Initial SF	5,497	Lineal Feet Trench
Final SF	5,355	

Panel # P-100 — Roll # G15F444049

Final Length Avg.	236.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	237.00	LF
Initial Width Avg.	23.00	LF

23
22.5
237 236 236 237
22.5
23

Notes:

Initial SF	5,451	Lineal Feet Trench
Final SF	5,310	

Panel # P-101 — Roll # G15F444049

Final Length Avg.	19.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	20.00	LF
Initial Width Avg.	23.00	LF

23
22.5
19 18 20 21
22.5
23

Notes:

Initial SF	460	Lineal Feet Trench
Final SF	428	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**31,581**	**SF**
Total Pay Area This Page	**31,581**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	349,969	SF
Total Panel SF To Date	381,550	SF
Total Pay Area To Date Including Anchor Trench	**381,550**	
Initial Quantity Previous	360,000	SF
Initial Quantity This Page	32,535	SF
Initial Quantity To Date	392,535	SF

Daily Panel Placement

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Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.)

Roll Stock Width 23

Panel # P-102 — Roll # G15F443032

Final Length Avg.	216.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	217.00	LF
Initial Width Avg.	23.00	LF

23
22.5
217 216 216 217
22.5
23

Notes:

Initial SF	4,991	Lineal Feet Trench
Final SF	4,860	

Panel # P-103 — Roll # G15F443032

Final Length Avg.	236.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	237.00	LF
Initial Width Avg.	23.00	LF

23
22.5
237 236 236 237
22.5
23

Notes:

Initial SF	5,451	Lineal Feet Trench
Final SF	5,310	

Panel # P-104 — Roll # G15F442024

Final Length Avg.	187.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	188.00	LF
Initial Width Avg.	23.00	LF

23
22.5
188 187 187 188
22.5
23

Notes:

Initial SF	4,324	Lineal Feet Trench
Final SF	4,208	

Panel # P-105 — Roll # G15F443032

Final Length Avg.	46.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	47.00	LF
Initial Width Avg.	23.00	LF

23
22.5
47 46 46 47
22.5
23

Notes:

Initial SF	1,081	Lineal Feet Trench
Final SF	1,035	

Panel # P-106 — Roll # G15F442024

Final Length Avg.	235.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	236.00	LF
Initial Width Avg.	23.00	LF

23
22.5
236 235 235 236
22.5
23

Notes:

Initial SF	5,428	Lineal Feet Trench
Final SF	5,288	

Panel # P-107 — Roll # G16B001092

Final Length Avg.	233.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	234.00	LF
Initial Width Avg.	23.00	LF

23
22.5
234 233 233 234
22.5
23

Notes:

Initial SF	5,382	Lineal Feet Trench
Final SF	5,243	

Panel # P-108 — Roll # G16B001092

Final Length Avg.	233.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	234.00	LF
Initial Width Avg.	23.00	LF

23
22.5
234 233 233 234
22.5
23

Notes:

Initial SF	5,382	Lineal Feet Trench
Final SF	5,243	

Panel # P-109 — Roll # G16B001092

Final Length Avg.	49.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	50.00	LF
Initial Width Avg.	23.00	LF

23
22.5
50 49 49 50
22.5
23

Notes:

Initial SF	1,150	Lineal Feet Trench
Final SF	1,103	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**32,288**	**SF**
Total Pay Area This Page	**32,288**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	381,550	SF
Total Panel SF To Date	413,838	SF
Total Pay Area To Date Including Anchor Trench	**413,838**	
Initial Quantity Previous	392,535	SF
Initial Quantity This Page	33,189	SF
Initial Quantity To Date	425,724	SF

Daily Panel Placement

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.) **Roll Stock Width** 23

Panel #	Roll #	Final Length Avg.	Final Width Avg.	Initial Length Avg.	Initial Width Avg.	Initial SF	Final SF	Lineal Feet Trench
P-110	G16B001091	187.00 LF	21.50 LF	188.00 LF	22.00 LF	4,136	4,021	
P-111	G15F444041	237.00 LF	21.50 LF	238.00 LF	22.00 LF	5,236	5,096	
P-112	G15F444041	237.00 LF	22.50 LF	238.00 LF	23.00 LF	5,474	5,333	
P-113	G15F442025	233.00 LF	22.50 LF	234.00 LF	23.00 LF	5,382	5,243	
P-114	G15F442025	233.00 LF	22.50 LF	234.00 LF	23.00 LF	5,382	5,243	
P-115	G15F443038	235.00 LF	22.50 LF	236.00 LF	23.00 LF	5,428	5,288	
P-116	G15F443038	77.00 LF	22.50 LF	78.00 LF	23.00 LF	1,794	1,733	
P-117	G15F443038	171.00 LF	22.50 LF	172.00 LF	23.00 LF	3,956	3,848	

Panel #	Initial Length	Initial Width	Final Length	Final Width
P-110	188	22	187	21.5
P-111	238	22	237	21.5
P-112	238	23	237	22.5
P-113	234	23	233	22.5
P-114	234	23	233	22.5
P-115	236	23	235	22.5
P-116	78	23	77	22.5
P-117	172	23	171	22.5

Notes:

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**35,801**	**SF**
Total Pay Area This Page	**35,801**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	413,838	SF
Total Panel SF To Date	449,639	SF
Total Pay Area To Date Including Anchor Trench	**449,639**	
Initial Quantity Previous	425,724	SF
Initial Quantity This Page	36,788	SF
Initial Quantity To Date	462,512	SF

Daily Panel Placement

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Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12--11--1399 **Deployment Date**

Superintendent: TONY UNG **Material Type:** 60 MIL LLDPE MICROSPIKE LINER

[X] **Primary** **Secondary** [ ] **Cell** [ ] **Pond** [ ] **Cap** [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.) **Roll Stock Width** 23

Panel #	Roll #	Final Length Avg.	Final Width Avg.	Initial Length Avg.	Initial Width Avg.	Initial SF	Final SF	Lineal Feet Trench
P-118	G16B001091					2,645	2,576	
P-119	G16B001091					1,428	1,404	
						-	-	
						-	-	
						-	-	
						-	-	
						-	-	
						-	-	

Notes:

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**3,981**	**SF**
Total Pay Area This Page	**3,981**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	449,639	SF
Total Panel SF To Date	453,619	SF
Total Pay Area To Date Including Anchor Trench	**453,619**	
Initial Quantity Previous	462,512	SF
Initial Quantity This Page	4,073	SF
Initial Quantity To Date	466,585	SF

Appendix H
ESI Trial Weld Logs

Environmental Specialties International Inc.
Preweld Test Report

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : KHAI S. SOK **Cap** X **Shear Test Minimum** 90 **PPI**

Other : CAP CONSTRUCTION

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM / PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
6/22/16	13:00	SU	4024	6	860		82	Peel	90	75	82	95	75	85	95	89	91	84	Pass
S TO S	PM							Shear	93		97		98		96		97		
6/22/16	13:43	BS	4000	6	860		82	Peel	81	86	83	84	87	83	86	87	84	86	Pass
S TO S	PM							Shear	95		96		98		97		98		
6/22/16	14:00	SU	4024	6	860		82	Peel	75	96	97	93	77	94	98	85	91	96	Pass
T TO T	PM							Shear	101		98		103		101		99		
6/22/16	15:51	BS	4000	6	860		82	Peel	98	96	86	87	99	87	95	89	84	86	Pass
S TO T	PM							Shear	104		101		102		99		98		
6/23/16	7:45	SU	EXT-74		500	450	69	Peel	84		89		91		96		100		Pass
S TO S	AM							Shear	90		100		100		105		103		
6/23/16	10:30	AP	4000	5	860		72	Peel	96	93	89	81	90	81	91	91	89	91	Pass
S TO S	AM							Shear	97		99		101		103		98		
6/23/16	10:35	AP	4000	5	860		72	Peel	106	107	105	104	90	105	91	105	85	91	Pass
T TO T	AM							Shear	103		97		96		105		100		
6/23/16	10:17	BS	4131	5	860		72	Peel	91	89	76	84	91	99	86	90	91	76	Pass
S TO S	AM							Shear	100		97		99		103		105		
6/23/16	11:34	AP	4000	5	860		72	Peel	88	83	84	89	86	86	87	87	84	83	Pass
S TO T	AM							Shear	90		95		98		92		94		
6/23/16	13:00	SU	EXT-74		500	450	72	Peel	85		78		93		95		96		Pass
S TO S	PM							Shear	99		98		102		103		101		
6/24/16	7:20	SU	EXT-74		500	450	72	Peel	99		89		88		97		100		Pass
T TO T	AM							Shear	101		103		98		100		97		
6/24/16	10:20	AP	4000	5	860		72	Peel	89	91	88	87	86	93	94	98	91	92	Pass
S TO S	AM							Shear	101		103		104		100		102		
6/24/16	10:24	AP	4000	5	860		72	Peel	91	93	89	90	93	96	91	92	93	94	Pass
T TO T	AM							Shear	103		101		100		103		102		
6/24/16	10:18	AP	4000	5	860		72	Peel	86	87	93	94	95	98	86	85	80	79	Pass
S TO T	AM							Shear	103		98		103		102		99		
6/24/16	10:18	BS	4131	6	860		72	Peel	81	94	95	86	87	88	86	89	96	89	Pass
S TO S	AM							Shear	102		99		100		102		103		
6/24/16	13:15	MA	EXT-75		500	450	72	Peel	91		95		90		89		96		Pass
S TO S	PM							Shear	108		109		101		107		101		

Environmental Specialties International Inc.
Preweld Test Report

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Peel Test Extrusion Minimum** 66 PPI

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Peel Test Fusion Minimum** 75 PPI

Reported By : KHAI S. SOK **Cap** X **Shear Test Minimum** 90 PPI

Other : CAP CONSTRUCTION

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM / PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
6/24/16	12:50	SU	EXT -74		500	450	72	Peel	90		96		88		92		97		Pass
S TO S	PM							Shear	101		103		104		107		106		
6/27/16	15:27	BS	4131	5	860		80	Peel	91	88	90	78	88	89	92	90	93	95	Pass
S to S	PM							Shear	109		98		100		103		102		
6/27/16	15:44	AP	4000	5	860		80	Peel	93	89	90	90	91	96	93	91	92	90	Pass
S TO S	PM							Shear	103		103		100		102		104		
6/27/16	15:46	AP	4000	5	860		80	Peel	90	92	94	88	95	102	94	94	96	94	Pass
T TO T	PM							Shear	101		102		100		99		96		
6/27/16	15:48	AP	4000	5	860		80	Peel	95	87	97	90	101	96	95	83	95	90	Pass
S TO T	PM							Shear	101		103		98		99		100		
6/27/16	15:30	BS	4131	5	860		80	Peel	95	96	89	91	88	76	90	87	96	87	Pass
S TO T	PM							Shear	101		102		97		96		103		
6/27/16	17:29	BS	4024	5	860		80	Peel	91	98	95	96	103	93	93	76	93	89	Pass
S TO S	PM							Shear	105		103		107		106		103		
6/27/16	13:05	SU	EXT-74		500	450	70	Peel	98		98		101		103		102		Pass
T TO T	PM							Shear	101		103		102		101		103		
6/29/16	7:25	SU	EXT-74		500	400	80	Peel	90		99		100		102		102		Pass
T TO T	AM							Shear	94		97		98		97		96		
6/29/16	12:59	SU	EXT-74		500	400	80	Peel	101		87		101		101		103		Pass
T TO T	PM							Shear	100		103		107		106		100		
6/30/16	8:10	SU	EXT-74		500	400	75	Peel	107		109		119		99		111		Pass
T TO T	AM							Shear	106		101		100		99		103		
6/30/16	10:43	BS	4131	6	860		75	Peel	103	116	96	115	110	113	111	106	98	114	Pass
T TO T	AM							Shear	104		106		101		100		102		
6/30/16	10:06	BS	4131	6	860		75	Peel	102	100	101	88	104	100	98	102	100	95	Pass
S TO S	AM							Shear	103		104		101		102		100		
6/30/16	10:15	AP	4000	6	860		75	Peel	107	93	107	100	101	100	82	103	105	96	Pass
S TO T	AM							Shear	103		102		101		103		102		
6/30/16	10:20	AP	4000	6	860		75	Peel	101	101	101	100	91	104	101	100	101	98	Pass
S TO S	AM							Shear	104		103		99		100		104		
6/30/16	10:05	AP	4000	6	860		75	Peel	83	91	78	106	91	104	103	99	100	102	Pass
T TO T	AM							Shear	98		99		101		100		103		

Environmental Specialties International Inc.
Preweld Test Report

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : KHAI S. SOK **Cap** X **Shear Test Minimum** 90 **PPI**

Other : CAP CONSTRUCTION

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM / PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
6/30/16	12:40	SU	EXT-74		500	400	85	Peel	108		103		99		98		101		Pass
T TO T	PM							Shear	103		102		100		99		100		
6/30/16	12:55	BS	4131	6	860		85	Peel	100	98	89	95	96	89	107	100	99	99	Pass
S TO S	PM							Shear	101		100		104		105		103		
7/1/16	7:30	SU	EXT-74		500	400	81	Peel	101		107		108		108		107		Pass
T TO T	AM							Shear	103		102		101		102		103		
7/1/16	7:40	BS	4131	6	860		81	Peel	88	94	110	98	111	99	101	99	88	93	Pass
S TO S	AM							Shear	100		103		102		99		101		
7/1/16	7:34	AP	4000	6	860		81	Peel	93	82	97	96	91	94	82	89	98	95	Pass
S TO S	AM							Shear	102		100		103		111		104		
7/1/16	7:32	AP	4000	6	860		81	Peel	104	104	105	102	98	95	104	112	102	103	Pass
T TO T	AM							Shear	102		103		100		102		101		
7/1/16	7:32	AP	4000	6	860		81	Peel	91	86	87	94	100	95	99	97	98	89	Pass
S TO T	AM							Shear	111		102		103		102		100		
7/1/16	12:50	SU	EXT-74		500	400	81	Peel	91		95		98		101		96		Pass
T TO T	PM							Shear	101		102		103		104		106		
7/6/16	13:00	SU	EXT-74		500	400	91	Peel	89		99		98		102		101		Pass
T TO T	PM							Shear	103		102		101		103		104		
7/6/16	13:05	AP	4000	6	860		91	Peel	83	101	93	96	93	85	96	99	98	88	Pass
T TO T	PM							Shear	101		100		103		104		102		
7/6/16	13:10	AP	4000	6	860		91	Peel	78	87	86	83	83	84	86	86	90	93	Pass
S TO S	PM							Shear	103		104		102		103		104		
7/6/16	13:05	AP	4000	6	860		91	Peel	97	93	86	90	91	95	85	89	90	89	Pass
T TO S	PM							Shear	101		100		102		101		100		
7/6/16	13:05	BS	4131	6	860		91	Peel	89	85	89	86	86	89	79	91	93	93	Pass
S TO S	PM							Shear	101		100		103		102		101		
7/7/16	7:10	SU	EXT-74		500	400	90	Peel	90		100		102		101		100		Pass
T TO T	AM							Shear	104		103		104		102		103		
7/7/16	13:45	SU	EXT-74		500	400	90	Peel	98		101		98		96		101		Pass
T TO T	PM							Shear	102		100		103		103		104		
7/7/16	13:10	BS	4131	6	860		91	Peel	98	89	83	89	93	94	95	96	100	99	Pass
S TO S	PM							Shear	101		103		104		103		101		

Environmental Specialties International Inc.
Preweld Test Report

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : KHAI S. SOK **Cap** X **Shear Test Minimum** 90 **PPI**

Other : CAP CONSTRUCTION

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM / PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
7/8/16	7:00	SU	EXT-74		500	400	88	Peel	109		101		112		110		111		Pass
T TO T	AM							Shear	101		102		106		101		103		
7/8/16	7:50	DM	EXT-75		500	400	88	Peel	80		80		82		83		86		Pass
T TO T	AM							Shear	100		103		102		100		101		
7/8/16	10:38	AP	4000	6	860		88	Peel	89	95	95	100	87	93	75	91	79	89	Pass
S TO S	AM							Shear	101		102		101		103		102		
7/8/16	10:40	AP	4000	6	860		88	Peel	88	87	89	98	96	93	93	96	88	92	Pass
T TO T	AM							Shear	102		103		102		103		102		
7/8/16	8:46	BS	4131	6	860		88	Peel	93	90	88	87	91	93	94	95	91	92	Pass
S TO S	AM							Shear	102		101		103		104		105		
7/8/16	10:50	BS	4131	6	860		88	Peel	81	82	89	90	91	92	93	94	95	96	Pass
S TO T	AM							Shear	105		103		104		102		103		
7/8/16	12:30	SU	EXT-74		500	400	86	Peel	96		103		98		97		101		Pass
T TO T	PM							Shear	100		101		102		103		100		
7/11/16	7:10	SU	EXT-74		500	400	85	Peel	103		102		100		101		103		Pass
T TO T	AM							Shear	103		102		100		105		104		
7/12/16	7:50	SU	EXT-74		500	400	69	Peel	102		101		100		100		101		Pass
T TO T	AM							Shear	101		101		103		104		106		
7/12/16	11:15	AP	4000	6	860		80	Peel	80	106	101	109	89	95	101	102	101	100	Pass
S TO S	AM							Shear	103		104		105		104		103		
7/12/16	11:20	AP	4000	6	860		80	Peel	89	100	112	111	101	102	109	99	93	95	Pass
T TO T	AM							Shear	103		102		101		104		103		
7/12/16	12:40	SU	EXT-74		500	400	89	Peel	101		102		99		100		101		Pass
T TO T	PM							Shear	104		103		102		103		101		
7/12/16	13:10	BS	4131	6	860		89	Peel	95	96	85	86	89	93	99	96	97	90	Pass
S TO S	PM							Shear	100		102		103		102		101		
7/12/16	13:15	BS	4131	6	860		89	Peel	98	98	87	80	96	89	93	94	96	92	Pass
T TO T	PM							Shear	101		102		101		104		105		
7/13/16	7:10	SU	EXT-74		500	400	69	Peel	113		112		114		110		112		Pass
T TO T	AM							Shear	101		103		102		102		103		
7/13/16	14:30	AP	4000	6	860		82	Peel	101	99	96	98	100	98	97	96	97	88	Pass
S TO S	PM							Shear	103		102		103		102		104		

Environmental Specialties International Inc.
Preweld Test Report

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : KHAI S. SOK **Cap** X **Shear Test Minimum** 90 **PPI**

Other : CAP CONSTRUCTION

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM / PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
7/13/16	14:35	AP	4000	6	860		82	Peel	86	93	86	95	87	90	96	97	96	95	Pass
T TO T	PM							Shear	101		103		103		105		103		
7/13/16	14:23	BS	4131	6	860		83	Peel	92	86	93	90	94	96	97	95	86	84	Pass
S TO S	PM							Shear	101		103		102		104		104		
7/13/16	14:25	BS	4131	6	860		83	Peel	96	98	91	90	92	93	94	96	98	99	Pass
T TO T	PM							Shear	101		103		104		103		102		
7/13/16	13:30	SU	EXT-74		500	400	83	Peel	102		101		103		102		101		Pass
T TO T	PM							Shear	105		101		105		102		104		
7/14/16	7:20	SU	EXT-74		500	400	83	Peel	92		92		99		96		97		Pass
T TO T	AM							Shear	103		108		106		107		103		
7/14/16	10:00	BS	4131	6	860		75	Peel	91	99	95	93	89	89	86	89	91	93	Pass
S TO S	AM							Shear	101		108		107		105		103		
7/14/16	9:52	AP	4000	6	860		75	Peel	85	86	93	96	98	100	96	98	87	86	Pass
T TO T	AM							Shear	102		108		109		106		107		
7/14/16	9:50	AP	4000	6	860		75	Peel	100	99	96	97	99	100	87	97	93	96	Pass
S TO S	AM							Shear	103		104		102		103		106		
7/25/16	10:15	AP	4000	6	860		76	Peel	101	98	89	96	97	99	101	103	99	100	Pass
S TO S	AM							Shear	115		116		112		116		115		
7/25/16	10:15	BS	4131	6	860		76	Peel	103	102	104	103	102	101	100	96	97	93	Pass
S TO S	AM							Shear	131		126		124		122		124		
7/25/16	10:20	SU	EXT-74		500	400	76	Peel	87		97		98		98		85		Pass
S TO S	AM							Shear	102		105		125		110		113		
7/25/16	10:30	BS	4131	6	860		76	Peel	96	98	86	96	99	100	89	96	95	96	Pass
T TO T	AM							Shear	105		104		105		103		105		
7/25/16	12:18	BS	4131	6	860		95	Peel	99	100	104	89	99	98	88	86	99	95	Pass
S TO T	PM							Shear	102		105		103		105		102		
7/25/16	12:20	BS	4131	6	860		96	Peel	98	96	86	100	86	95	96	86	92	86	Pass
T TO T	PM							Shear	105		108		103		108		109		
7/25/16	2:19	DM	EXT-75		500	400	92	Peel	100		102		103		104		103		Pass
T TO T	PM							Shear	103		102		103		106		103		
7/27/16	7:20	SU	EXT-74		500	400	82	Peel	100		102		99		104		102		Pass
T TO T	AM							Shear	105		102		103		101		103		

Environmental Specialties International Inc.
Preweld Test Report

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : KHAI S. SOK **Cap** X **Shear Test Minimum** 90 **PPI**

Other : CAP CONSTRUCTION

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM / PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
7/27/16	10:52	AP	4000	6	860		85	Peel	98	89	85	86	95	99	100	98	85	98	Pass
S TO S	AM							Shear	104		103		105		102		105		
7/27/16	10:51	AP	4000	6	860		85	Peel	98	99	85	86	94	99	79	81	85	87	Pass
T TO T	AM							Shear	105		104		105		106		104		
7/27/16	10:50	BS	4131	6	860		85	Peel	89	87	85	89	99	98	97	96	93	89	Pass
T TO T	AM							Shear	104		103		105		103		105		
7/27/16	10:56	BS	4131	6	860		91	Peel	96	98	95	94	85	76	89	88	82	78	Pass
S TO S	AM							Shear	105		108		103		105		103		
7/27/16	11:10	BS	4131	6	860		91	Peel	98	89	85	81	83	97	98	92	95	93	Pass
S TO T	AM							Shear	106		106		104		105		102		
7/28/16	7:30	SU	EXT-74		500	400	87	Peel	110		112		110		112		114		Pass
T TO T	AM							Shear	101		108		104		103		105		
7/28/16	12:48	AP	4000	6	860		93	Peel	110	103	98	89	85	92	99	93	100	99	Pass
S TO S	PM							Shear	102		103		1014		105		102		
7/28/16	12:49	AP	4000	6	860		93	Peel	102	102	106	111	102	101	111	98	99	98	Pass
T TO T	PM							Shear	102		103		102		104		105		
7/28/16	12:56	BS	4131	6	860		93	Peel	111	105	111	103	99	98	86	89	95	86	Pass
S TO S	PM							Shear	105		102		106		105		102		
7/28/16	12:58	BS	4131	6	860		93	Peel	111	102	115	113	89	99	89	95	86	92	Pass
T TO T	PM							Shear	106		105		105		103		102		
7/28/16	12:59	BS	4131	6	860		93	Peel	113	100	98	99	96	98	98	89	86	87	Pass
S TO T	PM							Shear	105		108		106		105		103		
7/28/16	15:56	DM	EXT-75		500	400	93	Peel	101		102		104		99		100		Pass
T TO T	PM							Shear	102		103		102		105		103		
8/2/16	7:20	SU	EXT-74		500	400	78	Peel	100		101		103		102		102		Pass
T TO T	AM							Shear	103		102		103		102		103		
8/2/16	12:40	SU	EXT-74		500	400	80	Peel	103		102		101		102		101		Pass
t TO t	PM							Shear	101		103		103		102		103		
8/3/16	13:08	BS	4131	6	860		80	Peel	98	96	100	98	93	86	85	86	89	99	Pass
T TO T	PM							Shear	105		106		102		106		102		
8/3/16	13:00	BS	4131	6	860		80	Peel	96	98	95	96	94	92	98	100	96	98	Pass
S TO S	PM							Shear	105		104		108		102		107		

Environmental Specialties International Inc.
Preweld Test Report

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : KHAI S. SOK **Cap** X **Shear Test Minimum** 90 **PPI**

Other : CAP CONSTRUCTION

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM / PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
8/3/16	13:03	BS	4131	6	860		80	Peel	98	93	100	99	86	95	93	95	89	87	Pass
S TO T	PM							Shear	109		108		103		106		105		
8/3/16	13:00	AP	4000	6	860		80	Peel	96	99	100	98	89	85	86	89	95	99	Pass
S TO S	PM							Shear	102		103		105		105		106		
8/3/16	13:05	AP	4000	6	860		80	Peel	100	98	87	85	86	99	95	89	86	87	Pass
T TO T	PM							Shear	105		105		104		106		105		
8/3/16	12:50	SU	EXT-74		500	400	80	Peel	98		102		111		103		102		Pass
T TO T	PM							Shear	105		108		109		106		104		
8/5/16	14:51	BS	4131	6	860		87	Peel	100	101	98	89	95	86	98	85	99	95	Pass
S TO S	PM							Shear	102		105		102		106		105		
8/5/16	14:55	BS	4131	6	860		87	Peel	96	89	96	89	86	95	94	86	84	96	Pass
S TO T	PM							Shear	105		105		106		102		105		
8/5/16	14:35	AP	4000	6	860		87	Peel	85	86	95	97	89	86	96	99	98	89	Pass
S TO S	PM							Shear	105		107		104		102		103		
8/5/16	14:30	AP	4000	6	860		87	Peel	93	95	86	82	89	98	87	94	92	97	Pass
T TO T	PM							Shear	105		105		105		102		104		
8/5/16	14:20	SU	EXT-74		500	400	87	Peel	98		98		86		99		97		Pass
T TO T	PM							Shear	103		102		102		104		105		
8/8/16	7:35	SU	EXT-74		500	400	80	Peel	99		96		100		89		93		Pass
T TO T	AM							Shear	106		105		104		103		104		
8/8/16	10:00	AP	4000	6	860		80	Peel	98	97	98	99	100	95	96	97	95	99	Pass
S TO S	AM							Shear	103		105		104		105		106		
8/8/16	10:02	AP	4000	6	860		80	Peel	99	100	96	98	100	99	89	95	93	95	Pass
T TO T	AM							Shear	106		105		103		103		105		
8/8/16	10:19	BS	4131	6	860		80	Peel	96	95	98	93	85	88	89	100	89	88	Pass
S TO S	AM							Shear	105		103		105		102		103		
8/9/16	14:40	SU	EXT-74		500	400	83	Peel	93	94	96	95	98	99	103	110	102	102	Pass
S TO S	PM							Shear	103		104		105		1036		107		
8/9/16	15:02	BS	4131	6	860		83	Peel	99	91	86	95	95	97	88	87	99	90	Pass
S TO S	PM							Shear	100		105		106		105		104		
8/9/16	15:03	BS	4131	6	860		83	Peel	95	96	95	99	86	87	88	85	95	99	Pass
T TO T	PM							Shear	105		104		106		105		104		

Environmental Specialties International Inc.
Preweld Test Report

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : KHAI S. SOK **Cap** X **Shear Test Minimum** 90 **PPI**

Other : CAP CONSTRUCTION

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM / PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
8/9/16	14:45	SU	4000	6	860		83	Peel	100	99	97	96	95	93	94	96	98	98	Pass
T TO T	PM							Shear	103		106		105		104		103		
8/9/16	17:05	SU	EXT-74		500	400	83	Peel	89		97		92		98		94		Pass
T TO T	PM							Shear	105		106		105		103		105		
8/10/16	7:25	SU	EXT-74		500	400	83	Peel	103		102		102		103		104		Pass
T TO T	AM							Shear	105		102		95		96		99		
8/10/16	8:14	BS	4131	6	860		82	Peel	95	99	85	98	86	87	89	88	85	90	Pass
S TO S	AM							Shear	104		102		1047		105		104		
8/10/16	9:30	BS	4131	6	860		82	Peel	99	97	89	86	84	83	81	86	98	96	Pass
T TO T	AM							Shear	102		105		105		104		105		
8/10/16	9:25	BS	4131	6	860		82	Peel	95	98	89	86	98	88	84	86	89	99	Pass
S TO T	AM							Shear	105		106		104		105		102		
8/11/16	7:20	SU	4131	6	860		85	Peel	89	88	98	96	98	89	95	94	96	98	Pass
T TO T	AM							Shear	104		102		106		104		105		
8/11/16	7:51	DM	EXT-75		500	400	85	Peel	105		104		102		104		103		Pass
T TO T	AM							Shear	104		104		102		105		102		
8/11/16	14:50	BS	4131	6	860		90	Peel	95	98	96	85	86	84	96	98	98	86	Pass
S TO S	PM							Shear	102		105		106		105		104		
8/11/16	14:45	BS	4131	6	860		90	Peel	98	89	86	85	84	99	98	85	86	84	Pass
T TO T	PM							Shear	102		104		102		104		105		
8/11/16	14:40	BS	4131	6	860		90	Peel	98	86	84	98	85	94	97	84	87	85	Pass
S TO T	PM							Shear	104		105		102		104		105		
8/11/16	14:30	SU	4000	6	860		90	Peel	98	96	98	95	86	84	85	96	98	97	Pass
S TO S	PM							Shear	104		102		106		105		104		
8/11/16	14:33	SU	4000	6	860		90	Peel	96	95	98	92	97	98	94	95	96	95	Pass
T TO T	PM							Shear	103		106		104		105		105		
8/11/16	15:10	SU	EXT-74		500	400	90	Peel	98		113		101		105		104		Pass
T TO T	PM							Shear	106		102		104		106		105		
8/12/16	14:05	BS	4131	6	860		90	Peel	98	96	95	97	98	97	89	90	88	85	Pass
S TO S	PM							Shear	102		104		103		105		104		
8/12/16	14:15	BS	4131	6	860		90	Peel	89	95	88	87	86	84	85	98	99	100	Pass
T TO T	PM							Shear	105		103		106		105		104		

Environmental Specialties International Inc.
Preweld Test Report

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : KHAI S. SOK **Cap** X **Shear Test Minimum** 90 **PPI**

Other : CAP CONSTRUCTION

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM / PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
8/12/16	14:20	SU	4000	6	860		90	Peel	98	99	96	95	93	92	93	97	98	99	Pass
S TO S	PM							Shear	105		103		104		105		104		
8/12/16	14:25	SU	4000	6	860		90	Peel	889	86	98	96	97	94	92	93	95	96	Pass
T TO T	PM							Shear	105		105		103		104		106		
8/12/16	15:20	SU	EXT-74		500	400	90	Peel	103		102		102		105		102		Pass
T TO T	PM							Shear	102		105		104		104		103		
8/13/16	15:31	BS	4131	6	860		96	Peel	89	98	96	95	94	96	94	93	89	99	Pass
S TO S	PM							Shear	105		103		104		106		102		
8/13/16	15:20	SU	4000	6	860		96	Peel	99	89	96	95	86	95	86	88	96	98	Pass
S TO S	PM							Shear	102		105		103		104		101		
8/1315	15:25	SU	4000	6	860		96	Peel	88	89	89	95	98	97	88	95	93	89	Pass
S TO T	PM							Shear	103		105		102		104		106		
8/13/16	15:30	SU	4000	6	860		96	Peel	96	86	88	95	94	96	89	98	97	98	Pass
T TO T	PM							Shear	105		104		106		105		102		
8/15/16	7:15	SU	EXT-74		500	400	90	Peel	103		102		103		101		111		Pass
T TO T	AM							Shear	102		105		106		102		103		
	:							Peel											
TO								Shear											
	:							Peel											
TO								Shear											
	:							Peel											
TO								Shear											
	:							Peel											
TO								Shear											
	:							Peel											
TO								Shear											
	:							Peel											
TO								Shear											
	:							Peel											
TO								Shear											

Appendix I
ESI Seam Control (Non-Destructive) Test Logs

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
6/22/16	1 / 2	54	13:50 PM	SU	4024	6	860		6/22/16	Air Pressure	14:19 / 30	14:24 / 28	2	Pass
Seam Notes	SEOS TO NEOS (DS-1 CUT FROM SEAM)													
6/22/16	2 / 3	162	14:06 PM	BS	4000	6	860		6/22/16	Air Pressure	15:17 / 30	15:22 / 28	2	Pass
Seam Notes	SEOS TO NEOS													
6/22/16	3 / 5	69	14:44 PM	BS	4000	6	860		6/22/16	Air Pressure	15:20 / 30	15:25 / 30		Pass
Seam Notes	SEOS (COVERED BY R-2) TO R-3													
6/22/16	3 / 4	96	14:52 PM	BS	4000	6	860		6/22/16	Air Pressure	15:20 / 30	15:25 / 29	1	Pass
Seam Notes	R-3 TO NEOS													
6/22/16	4 / 5	23	14:37 PM	SU	4024	6	860		6/22/16	Air Pressure	15:32 / 30	15:37 / 30		Pass
Seam Notes	R-3 TO R-5 (BUTT SEAM)													
6/22/16	5 / 6	15	15:15 PM	BS	4000	6	860		6/22/16	Air Pressure	16 03 / 30	16 08 / 30		Pass
Seam Notes	SEOS TO R-7													
6/22/16	5 / 6	53	14:55 PM	SU	4024	6	860		6/22/16	Air Pressure	15 32 / 30	15 37 / 30		Pass
Seam Notes	R-7 TO R-6													
6/22/16	4 / 6	8	15:00 PM	SU	4024	6	860		6/22/16	Air Pressure	15 32 / 30	15 37 / 30		Pass
Seam Notes	R-6 TO R-5													
6/22/16	4 / 6	89	15:02 PM	SU	4024	6	860		6/22/16	Air Pressure	15 50 / 30	15 55 / 29	1	Pass
Seam Notes	R-5 TO R-4 (NEOS)													
6/22/16	6 / 7	66	15:21 PM	BS	4000	6	860		6/22/16	Air Pressure	15 58 / 30	16 03 / 29	1	Pass
Seam Notes	SEOS TO R-9 (DS-2 CUT FROM SEAM)													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
6/22/16	6 / 7	104	15:29 PM	BS	4000	6	860		6/22/16	Air Pressure	15 52 / 30	15 57 / 30		Pass
Seam Notes	R-9 TO NEOS													
6/23/16	7 / 9	41	10:41 AM	BS	4131	6	860		6/23/16	Air Pressure	11 31 / 30	11 36 / 30		Pass
Seam Notes	SEOS TO R-12													
6/23/16	7 / 9	29	10:47 AM	BS	4131	6	860		6/23/16	Air Pressure	11 31 / 30	11 36 / 30		Pass
Seam Notes	R-12 TO R-17													
6/23/16	7 / 9	32	10:50 AM	BS	4131	6	860		6/23/16	Air Pressure	11 55 / 30	12 00 / 30		Pass
Seam Notes	R-17 TO R-23													
6/23/16	7 / 8	68	10:54 AM	BS	4131	6	860		6/23/16	Air Pressure	12 02 / 30	12 07 / 30		Pass
Seam Notes	R-23 TO NEOS													
6/23/16	8 / 9	23	10:41 AM	AP	4000	6	860		6/23/16	Air Pressure	12 02 / 30	12 07 / 30		Pass
Seam Notes	R-23 TO R-25 (BUTT SEAM)													
6/23/16	9 / 10	61	11:15 AM	AP	4000	5	860		6/23/16	Air Pressure	12 20 / 30	12 25 / 30		Pass
Seam Notes	SEOS TO R-28													
6/23/16	9 / 10	29	11:35 AM	AP	4000	5	860		6/23/16	Air Pressure	12 24 / 30	12 29 / 30		Pass
Seam Notes	R-28 TO R-29													
6/23/16	9 / 10	8	11:48 AM	AP	4000	5	860		6/23/16	Air Pressure	12 30 / 30	12 35 / 30		Pass
Seam Notes	R-29 TO R-25													
6/23/16	8 / 10	52	11:23 AM	BS	4131	6	860		6/23/16	Air Pressure	12 12 / 30	12 17 / 30		Pass
Seam Notes	R-25 TO R-24													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
6/23/16	8 / 10	19	:	CAP			500	400	6/23/16	Vacuum				Pass
Seam Notes	R-24 (20' CAP AT NEOS)													
6/23/16	10 / 11	49	11:40 AM	AP	4000	5	860		6/23/16	Air Pressure	12 49 / 30	12 54 / 30		Pass
Seam Notes	SEOS TO R-36													
6/23/16	10 / 11	20	11:44 AM	AP	4000	5	860		6/23/16	Air Pressure	13 07 / 30	13 12 / 30		Pass
Seam Notes	R-36 TO R-35													
6/23/16	10 / 11	96	11:50 AM	AP	4000	5	860		6/23/16	Air Pressure	13 28 / 30	13 33 / 28	2	Pass
Seam Notes	R-35 TO R-40 (12' CAP AT NEOS) (DS-3 CUT FROM SEAM)(R-34 LOCATED BTWN R-35 AND R-40 WAS CUT AFTER THE SEAM WAS TESTED)													
6/23/16	11 / 12	22	12:13 AM	BS	4131	5	860		6/23/16	Air Pressure	13 28 / 30	13 33 / 28	2	Pass
Seam Notes	NEOS TO R-41													
6/23/16	11 / 13	167	11:56 AM	BS	4131	5	860		6/23/16	Air Pressure	13 42 / 30	13 47 / 30		Pass
Seam Notes	R-41 TO SEOS													
6/24/16	13 / 14	65	10:31 AM	AP	4000	6	860		6/24/16	Air Pressure	11 24 / 30	11 29 / 28	2	Pass
Seam Notes	SEOS TO R-44													
6/24/16	13 / 14	14	10:41 AM	AP	4000	6	860		6/24/16	Air Pressure	11 29 / 30	11 34 / 28	2	Pass
Seam Notes	R-44 TO R-45													
6/24/16	13 / 14	84	10:46	AP	4000	6	860		6/24/16	Air Pressure	11 42 / 30	11 47 / 30		Pass
Seam Notes	R-45 TO R-46 (DS-7 CUT FROM SEAM)													
6/24/16	13 / 14	1	:	AP	EXT-74		500		6/24/16	Vacuum				Pass
Seam Notes	EXTRUSION WELD FROM R-46 AND R-42													
6/24/16	12 / 14	20	10:55 AM	AP	4000	6	860		6/24/16	Air Pressure	11 58 / 30	12 03 / 30		Pass
Seam Notes	R-42 TO R-48													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
6/24/16	12 / 14 A	4	:	EXT	EXT-74		500	400	6/23/16	Vacuum				Pass
Seam Notes	R-48 TO NEOS (3' EXT WELD)													
6/24/16	12 / 13	23	12:06 PM	AP	4000	6	860		6/23/16	Air Pressure	13 45 / 30	13 50 / 29	1	Pass
Seam Notes	R-41 TO R-42 (BUTT SEAM)													
6/24/16	14 A / 14	23	11:00	AP	4000	6	860		6/24/16	Air Pressure	12 55 / 30	13 00 / 30		Pass
Seam Notes	R-48 TO R-49 (BUTT SEAM)													
6/24/16	14 / 16	76	11:07	BS	4131	6	860		6/24/16	Air Pressure	13 10 / 30	13 15 / 30		Pass
Seam Notes	R-51 (3' CAP AT SEOS) TO R-50													
6/24/16	14 / 15	109	11:14	BS	4131	6	860		6/24/16	Air Pressure	12 55 / 30	13 00 / 29	1	Pass
Seam Notes	R-50 TO R-49													
6/24/16	14 A / 15	3	11:16	BS	4131	6	860		6/24/16	Air Pressure	12 55 / 30	13 00 / 28	2	Pass
Seam Notes	R-49 TO NEOS													
6/24/16	15 / 16	23	11:10	BS	4131	6	860		6/24/16	Air Pressure	13 06 / 30	13 11 / 30		Pass
Seam Notes	R-50 TO R-52 (BUTT SEAM)													
6/24/16	16 / 17	78	11:10	AP	4000	6	860		6/24/16	Air Pressure	13 23 / 30	13 28 / 29	1	Pass
Seam Notes	SEOS TO R-52													
6/24/16	15 / 17	118	11:19	AP	4000	6	860		6/24/16	Air Pressure	13 20 / 30	13 25 / 30		Pass
Seam Notes	R-52 TO NEOS (DS-4 CUT FROM SEAM)													
6/24/16	17 / 18	10	11:32	BS	4131	6	860		6/24/16	Air Pressure	14 05 / 30	14 10 / 30		Pass
Seam Notes	SEOS TO R-61													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
6/24/16	17 / 18	29	11:33 AM	BS	4131	6	860		6/24/16	Air Pressure	14 05 / 30	14 10 / 30		Pass
Seam Notes	R-61 TO R-59													
6/24/16	17 / 18	70	11:37	BS	4131	6	860		6/24/16	Air Pressure	13 36 / 30	13 41 / 30		Pass
Seam Notes	R-59 TO R-57													
6/24/16	17 / 18	11	11:46	BS	4131	6	860		6/24/16	Air Pressure	13 50 / 30	13 55 / 30		Pass
Seam Notes	R-57 TO R-56													
6/24/16	17 / 18	20	11:47	BS	4131	6	860		6/24/16	Air Pressure	13 48 / 30	13 53 / 30		Pass
Seam Notes	R-56 TO R-54													
6/24/16	17 / 18	56	11:50	BS	4131	6	860		6/24/16	Air Pressure	13 34 / 30	13 39 / 30		Pass
Seam Notes	R-54 TO NEOS													
6/24/16	18 / 19	24	14:02	AP	4000	6	860		6/24/16	Air Pressure	14 12 / 30	14 17 / 30		Pass
Seam Notes	SEOS TO R-63/64/65 (IN BOTTOM OF SWALE)													
6/24/16	18 / 19	16	11:55	AP	4000	6	860		6/24/16	Air Pressure	13 51 / 30	13 55 / 30		Pass
Seam Notes	R-65 TO R-68													
6/24/16	18 / 19	70	11:58	AP	4000	6	860		6/24/16	Air Pressure	13 51 / 30	13 56 / 28	2	Pass
Seam Notes	R-68 TO R-71 (DS-9 CUT FROM SEAM)													
6/24/16	18 / 19	23	12:40	AP	4000	6	860		6/24/16	Air Pressure	13 35 / 30	13 40 / 30		Pass
Seam Notes	R-71 TO R-72													
6/24/16	18 / 19	60	13:00	AP	4000	6	860		6/24/16	Air Pressure	13 35 / 30	13 40 / 29	1	Pass
Seam Notes	R-72 TO NEOS													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
6/27/16	19 / 20	164	13:59 PM	BS	4131	6	860		6/27/16	Air Pressure	16 15 / 30	16 20 / 30		Pass
Seam Notes	SEOS TO R-75 (DS-5 CUT FROM SEAM)													
6/27/16	19 / R-76	22	:	BS	4131	6	860		6/27/16	Air Pressure	16 52 / 30	16 57 / 30		Pass
Seam Notes	20' ADD ON BETWEEN R-75 AND NEOS													
6/27/16	20 / R-76	22	:	BS	4131	6	860		6/27/16	Air Pressure	16 47 / 30	16 52 / 30		Pass
Seam Notes	20' ADD ON BETWEEN R-75 AND NEOS													
6/27/16	20 / 22	100	16:44 PM	AP	4000	6	860		6/27/16	Air Pressure	17 57 / 30	18 02 / 30		Pass
Seam Notes	SEOS TO R-77													
6/27/16	20 / 21	21	16:44 PM	AP	4000	6	860		6/27/16	Air Pressure	17 57 / 30	18 02 / 30		Pass
Seam Notes	R-77 TO R-78													
6/27/16	20 / 21	49	16:20 PM	BS	4131	6	860		6/27/16	Air Pressure	16 35 / 30	16 40 / 30		Pass
Seam Notes	R-78 TO R-81													
6/27/16	20 / 21	28	16:30 PM	BS	4131	6	860		6/27/16	Air Pressure	16 40 / 30	16 45 / 29	1	Pass
Seam Notes	R-81 TO NEOS													
6/27/16	22 / 23	54	16:55 PM	BS	4024	6	860		6/27/16	Air Pressure	17 21 / 30	17 26 / 30		Pass
Seam Notes	SEOS TO R-82													
6/27/16	22 / 23	45	17:05 PM	BS	4024	6	860		6/27/16	Air Pressure	17 20 / 30	17 25 / 29	1	Pass
Seam Notes	R-82 TO R-83													
6/27/16	21 / 23	101	17:39 PM	BS	4131	6	860		6/27/16	Air Pressure	7 00 / 30	7 05 / 30		Pass
Seam Notes	R-83 TO NEOS													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
6/27/16	21 / 22	23	16:32 PM	BS	4131	6	860		6/27/16	Air Pressure	17 35 / 30	17 40 / 30		Pass
Seam Notes	R-77 TO R-83 (BUTT SEAM)													
6/27/16	23 / 25	17	17:27	AP	4000	6	860		6/29/16	Air Pressure	7 16 / 30	7 21 / 30		Pass
Seam Notes	SEOS TO R-84													
6/27/16	23 / 24	24	17:30 PM	AP	4000	6	860		6/29/16	Air Pressure	7 10 / 30	7 15 / 30		Pass
Seam Notes	R-84 TO R-85													
6/27/16	23 / 24	32	17:30 PM	AP	4000	6	860		6/29/16	Air Pressure	7 10 / 30	7 15 / 30		Pass
Seam Notes	R-85 TO R-89/R-90													
6/27/16	23 / 24	122	17:37	AP	4000	6	860		6/29/16	Air Pressure	7 01 / 30	7 06 / 29	1	Pass
Seam Notes	R-89/R-90 TO NEOS (DS-6 CUT FROM SEAM)													
6/27/16	24 / 25	23	17:15	AP	4000	6	860		6/29/16	Air Pressure	7 16 / 30	7 21 / 29	1	Pass
Seam Notes	R-84 TO R-92 (BUTT SEAM)													
6/27/16	25 / 26	17	17:55	BS	4024	6	860		6/29/16	Air Pressure	7 19 / 30	7 24 / 30		Pass
Seam Notes	SEOS TO R-92													
6/27/16	24 / 26	140	17:59	BS	4024	6	860		6/29/16	Air Pressure	7 19 / 30	7 24 / 30		Pass
Seam Notes	R-92 TO R-93													
6/27/16	24 / 26	48	18:19	BS	4024	6	860		6/29/16	Air Pressure	8 00 / 30	8 05 / 29	1	Pass
Seam Notes	R-93 TO NEOS													
6/27/16	26 / 27	26	18:03	AP	4000	6	860		6/29/16	Air Pressure	7 33 / 30	7 38 / 30		Pass
Seam Notes	SEOS TO R-100													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
6/27/16	26 / 27	29	18:16	AP	4000	6	860		6/29/16	Air Pressure	7 30 / 30	7 35 / 30		Pass
Seam Notes	R-100 TO R-101													
6/27/16	26 / 27	69	18:25	AP	4000	6	860		6/29/16	Air Pressure	7 47 / 30	7 52 / 30		Pass
Seam Notes	R-101 TO R-102													
6/27/16	26 / 27	56	18:20	AP	4000	6	860		6/29/16	Air Pressure	7 54 / 30	7 59 / 30		Pass
Seam Notes	R-102 TO R-117													
6/27/16	26 / 27	28	18:30	AP	4000	6	860		6/29/16	Air Pressure	8 08 / 30	8 13 / 30		Pass
Seam Notes	R-117 TO R-127													
6/27/16	26 / 27	28	: :	SU	EXT-74				6/29/16	Vacuum				Pass
Seam Notes	R-127 TO NEOS COVERED BY R-128 (EXTR WELD)													
6/30/16	R-104 / 19	17	7:44	BS	4131	6	860		6/30/16	Air Pressure	7 55 / 30	8 00 / 30		Pass
Seam Notes	BETWEEN R-107 & R-108 ON P19 & 5'S OF NEOS													
6/30/16	R-105 / 18	22	7:48	BS	4131	6	860		6/30/16	Air Pressure	7 57 / 30	8 02 / 30		Pass
Seam Notes	BETWEEN R-108 & R-109 ON P18 & 5' S OF NEOS (DS-8 CUT FROM SEAM)													
6/30/16	R-104 / R-105	5	7:48	BS	4131	6	860		6/30/16	Air Pressure	7 55 / 30	8 00 / 29	1	Pass
Seam Notes	5' S OF NEOS													
6/30/16	17 / 18	8	8:43	SU	EXT-74		500	400	6/30/16	Vacuum				Pass
Seam Notes	EXTRUDE 2' BETWEEN R-109 TO NEOS													
6/30/16	27 / 28	102	10:32	BS	4131	6	860		6/30/16	Air Pressure	11 07 / 30	11 12 / 30		Pass
Seam Notes	SEOS TO R-155													
6/30/16	27 / 28	13	10:46	BS	4131	6	860		6/30/16	Air Pressure	11 11 / 30	11 16 / 27	3	Pass
Seam Notes	R-155 TO R-154													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
6/30/16	27 / 28	6	:	SU	EXT-74		500	400	6/30/16	Vacuum				Pass
Seam Notes	R-154 to R-132 (6' EXT WELD - R-134)													
6/30/16	27 / 28	35	10:50	BS	4131	6	860		6/30/16	Air Pressure	11 16 / 30	11 21 / 28	2	Pass
Seam Notes	R-132 TO R-123 (DS-10 CUT FROM SEAM)													
6/30/16	27 / R-130	20	11:20	AP	4000	6	860		6/30/16	Air Pressure	13 05 / 30	13 10 / 30		Pass
Seam Notes	20' ADD ON (BETWEEN R-123 AND R-125)													
6/30/16	R-130 / 28	20	11:54	AP	4000	6	860		6/30/16	Air Pressure	12 53 / 30	12 58 / 30		Pass
Seam Notes	20' ADD ON (BETWEEN R-123 AND R-126)													
6/30/16	27 / R-131	23	11:39	AP	4000	6	860		6/30/16	Air Pressure	13 07 / 30	13 12 / 30		Pass
Seam Notes	23' ADD ON AT NEOS (BETWEEN R-125 AND NEOS)													
6/30/16	R-131 / 28	23	11:48	AP	4000	6	860		6/30/16	Air Pressure	12 54 / 30	12 59 / 30		Pass
Seam Notes	23' ADD ON AT NEOS (BETWEEN NEOS AND R-126)													
6/30/16	28 / 29	15	10:33	AP	4000	6	860		6/30/16	Air Pressure	11 33 / 30	11 38 / 30		Pass
Seam Notes	SEOS TO R-156													
6/30/16	28 / 29	193	10:36	AP	4000	6	860		6/30/16	Air Pressure	11 32 / 30	11 37 / 29	1	Pass
Seam Notes	R-156 TO NEOS													
6/30/16	29 / 31	11	11:21	BS	4131	6	860		6/30/16	Air Pressure	14 54 / 30	14 59 / 30		Pass
Seam Notes	SEOS TO R-138													
6/30/16	29 / 31	43	11:23	BS	4131	6	860		6/30/16	Air Pressure	14 52 / 30	14 57 / 28	2	Pass
Seam Notes	R-138 TO R-141													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
6/30/16	29 / 31	105	11:29	BS	4131	6	860		6/30/16	Air Pressure	13 27 / 30	13 32 / 30		Pass
Seam Notes	R-141 TO R-142													
6/30/16	29 / 30	7	11:18	AP	4000	6	860		6/30/16	Air Pressure	13 21 / 30	13 26 / 29	1	Pass
Seam Notes	R-142 TO R-143													
6/30/16	29 / 30	49	11:20	AP	4000	6	860		6/30/16	Air Pressure	13 18 / 30	13 23 / 28	2	Pass
Seam Notes	R-143 TO NEOS													
6/30/16	30 / 31	23	11:45	AP	4000	6	860		6/30/16	Air Pressure	13 33 / 30	13 38 / 30		Pass
Seam Notes	R-142 TO R-152 (BUTT SEAM)													
6/30/16	31 / 32	65	13:08	BS	4131	6	860		6/30/16	Air Pressure	14 01 / 30	14 06 / 29	1	Pass
Seam Notes	SEOS TO R-149													
6/30/16	31 / 32	93	13:15	BS	4131	6	860		6/30/16	Air Pressure	13 53 / 30	13 58 / 30		Pass
Seam Notes	R-149 TO R-152 (DS-11 CUT FROM SEAM)													
6/30/16	30 / 32	58	11:50	AP	4000	6	860		6/30/16	Air Pressure	13 41 / 30	13 46 / 30		Pass
Seam Notes	R-152 TO NEOS													
7/1/16	32 / 34	130	9:08	BS	4131	6	860		7/1/16	Air Pressure	9 30 / 30	9 35 / 28	2	Pass
Seam Notes	SEOS TO R-153													
7/1/16	32 / 33	87	9:21	BS	4131	6	860		7/1/16	Air Pressure	9 40 / 30	9 45 / 30		Pass
Seam Notes	R-153 TO NEOS													
7/1/16	33 / 34	23	9:00	AP	4000	6	860		7/1/16	Air Pressure	9 22 / 30	9 27 / 29	1	Pass
Seam Notes	R-153 TO R-157 (BUTT SEAM)													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/1/16	34 / 35	130	9:45	AP	4000	6	860		7/1/16	Air Pressure	9 47 / 30	9 52 / 29	1	Pass
Seam Notes	SEOS TO R-157 (DS-12 CUT FROM SEAM)													
7/1/16	33 / 35	87	9:19	AP	4000	6	860		7/1/16	Air Pressure	9 52 / 30	9 57 / 29	1	Pass
Seam Notes	R-157 TO NEOS													
7/1/16	35 / 37	82	9:53	BS	4131	6	860		7/1/16	Air Pressure	10 10 / 30	10 15 / 30		Pass
Seam Notes	SEOS TO R-159													
7/1/16	35 / 36	143	10:03	BS	4131	6	860		7/1/16	Air Pressure	10 23 / 30	10 28 / 29	1	Pass
Seam Notes	R-159 TO NEOS													
7/1/16	36 / 37	23	9:45	BS	4131	6	860		7/1/16	Air Pressure	9 58 / 30	10 03 / 29	1	Pass
Seam Notes	R-159 TO R-160 (BUTT SEAM)													
7/1/16	37 / 38	81	11:07	BS	4131	6	860		7/1/16	Air Pressure	11 35 / 30	11 40 / 28	2	Pass
Seam Notes	SEOS (COVERED BY R-166) TO R-160													
7/1/16	36 / 38	144	11:20	BS	4131	6	860		7/1/16	Air Pressure	11 35 / 30	11 40 / 28	2	Pass
Seam Notes	R-160 TO NEOS (DS-13 CUT FROM SEAM)													
7/6/16	38 / 40	35	14:08	AP	4000	6	860		7/6/16	Air Pressure	14 25 / 30	14 30 / 28	2	Pass
Seam Notes	SEOS TO R-167													
7/6/16	38 / 39	74	13:56	BS	4131	6	860		7/6/16	Air Pressure	14 26 / 30	14 31 / 28	2	Pass
Seam Notes	R-167 TO R-168													
7/6/16	38 / 39	108	14:05	BS	4131	6	860		7/6/16	Air Pressure	14 33 / 30	14 38 / 30		Pass
Seam Notes	R-168 TO R-169													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/6/16	38 / 39	11	14:20	BS	4131	6	860		7/6/16	Air Pressure	14 40 / 30	14 45 / 28	2	Pass
Seam Notes	R-169 TO NEOS													
7/6/16	39 / R-171	23	14:48	BS	4131	6	860		7/6/16	Air Pressure	14 54 / 30	14 59 / 30		Pass
Seam Notes	BETWEEN R-167 & R-172 (R-171 WELD TO P39)													
7/6/16	R-171 / 40	23	14:41	BS	4131	6	860		7/6/16	Air Pressure	14 54 / 30	14 59 / 30		Pass
Seam Notes	BETWEEN R-167 & R-172 (R-171 WELD TO P40)													
7/6/16	40 / 41	35	14:48	AP	4000	6	860		7/6/16	Air Pressure	14 54 / 30	14 59 / 29	1	Pass
Seam Notes	SEOS TO R-172													
7/6/16	39 / 41	97	14:53	AP	4000	6	860		7/6/16	Air Pressure	15 13 / 30	15 18 / 30		Pass
Seam Notes	R-172 TO R-173													
7/6/16	39 / 41	11	15:09	AP	4000	6	860		7/6/16	Air Pressure	15 15 / 30	15 20 / 29	1	Pass
Seam Notes	R-173 TO R-174													
7/6/16	39 / 41	18	15:12	AP	4000	6	860		7/6/16	Air Pressure	15 29 / 30	15 34 / 29	1	Pass
Seam Notes	R-174 TO R-175													
7/6/16	39 / 41	12	15:15	AP	4000	6	860		7/6/16	Air Pressure	15 31 / 30	15 36 / 30		Pass
Seam Notes	R-175 TO R-176													
7/6/16	39 / 41	21	15:22	AP	4000	6	860		7/6/16	Air Pressure	15 35 / 30	15 40 / 30		Pass
Seam Notes	R-176 TO NEOS													
7/6/16	41 / 42	65	15:13	BS	4131	6	860		7/6/16	Air Pressure	14 56 / 30	15 01 / 29	1	Pass
Seam Notes	SEOS TO R-177													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/6/16	41 / 42	10	15:51	BS	4131	6	860		7/6/16	Air Pressure	15 56 / 30	16 01 / 29	1	Pass
Seam Notes	R-177 TO R-179													
7/6/16	41 / 42	30	:	SU	EXT-74		500	400	7/6/16	Vacuum				Pass
Seam Notes	R-179 (30' CAP)													
7/6/16	41 / 42	36	15:35	BS	4131	6	860		7/6/16	Air Pressure	16 09 / 30	16 14 / 29	1	Pass
Seam Notes	R-179 TO R-180 (DS-14 CUT FROM SEAM)													
7/6/16	41 / 42	75	15:45	BS	4131	6	860		7/6/16	Air Pressure	16 05 / 30	16 10 / 29	1	Pass
Seam Notes	R-180 TO NEOS													
7/7/16	42 / 43	136	13:27	BS	4131	6	860		7/7/16	Air Pressure	13 57 / 30	14 02 / 30		Pass
Seam Notes	SEOS TO R-189													
7/7/16	42 / 43	68	13:45	BS	4131	6	860		7/7/16	Air Pressure	14 08 / 30	14 13 / 30		Pass
Seam Notes	R-189 TO R-193													
7/7/16	42 / 43	16	13:53	BS	4131	6	860		7/7/16	Air Pressure	14 13 / 30	14 18 / 30		Pass
Seam Notes	R-193 TO NEOS													
7/8/16	43 / 45	36	10:58	BS	4131	6	860		7/8/16	Air Pressure	11 12 / 30	11 17 / 29	1	Pass
Seam Notes	SEOS TO R-213													
7/8/16	43 / 44	47	11:02	BS	4131	6	860		7/8/16	Air Pressure	11 21 / 30	11 26 / 30		Pass
Seam Notes	R-213 TO R-214													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/8/16	43 / 44	26	11:07	BS	4131	6	860		7/8/16	Air Pressure	11 21 / 30	11 26 / 30		Pass
Seam Notes	R-214 TO R-215													
7/8/16	43 / 44	26	11:10	BS	4131	6	860		7/8/16	Air Pressure	11 31 / 30	11 36 / 28	2	Pass
Seam Notes	R-215 TO R-216													
7/8/16	43 / 44	48	11:20	BS	4131	6	860		7/8/16	Air Pressure	11 36 / 30	11 41 / 29	1	Pass
Seam Notes	R-216 TO R-217													
7/8/16	43 / 44	6	13:45	SU	EXT-74		500	400	7/8/16	Vacuum				Pass
Seam Notes	R-219 (6' CAP BETWEEN R-217 & R-218)													
7/8/16	43 / 44	45	11:145	BS	4131	6	860		7/8/16	Air Pressure	11 36 / 30	11 41 / 30		Pass
Seam Notes	R-218 TO NEOS (DS-15 CUT FROM SEAM)													
7/8/16	44 / 44A	26	12:53	BS	4131	6	860		7/8/16	Air Pressure	13 12 / 30	13 17 / 30		Pass
Seam Notes	R-220 TO R-221													
7/8/16	44 / 44B	26	12:53	BS	4131	6	860		7/8/16	Air Pressure	13 12 / 30	13 17 / 30		Pass
Seam Notes	R-221 TO NEOS													
7/8/16	44A / 44B	6	12:52	AP	4000	6	860		7/8/16	Air Pressure	13 12 / 30	13 17 / 30		Pass
Seam Notes	BUTT SEAM													
7/8/16	44 / 45	23	10:59	AP	4000	6	860		7/8/16	Air Pressure	11 11 / 30	11 16 / 30		Pass
Seam Notes	R-213 TO R-223 (BUTT SEAM)													
7/8/16	45 / 46	35	11:11	AP	4000	6	860		7/8/16	Air Pressure	11 52 / 30	11 57 / 30		Pass
Seam Notes	SEOS TO R-223 (DS-17 CUT FROM SEAM)													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/8/16	44 / 46	180	11:16	AP	4000	6	860		7/8/16	Air Pressure	11 52 / 30	11 57 / 30		Pass
Seam Notes	R-223 TO R-225													
7/8/16	44 / 46	63	11:35	AP	4000	6	860		7/8/16	Air Pressure	12 36 / 30	12 41 / 30		Pass
Seam Notes	R-225 TO NEOS													
7/8/16	46 / 48	115	13:22	BS	4131	6	860		7/8/16	Air Pressure	13 54 / 30	13 59 / 28	2	Pass
Seam Notes	SEOS TO R-232													
7/8/16	46 / 47	138	12:44	AP	4000	6	860		7/8/16	Air Pressure	13 05 / 30	13 10 / 30		Pass
Seam Notes	R-232 TO R-235 (DS-16 CUT FROM SEAM)													
7/8/16	46 / 47	12	13:00	AP	4000	6	860		7/8/16	Air Pressure	13 31 / 30	13 36 / 29	1	Pass
Seam Notes	R-235 TO R-236													
7/8/16	46 / R238	19	13:50	BS	4131	6	860		7/8/16	Air Pressure	13 26 / 30	13 31 / 29	1	Pass
Seam Notes	R-236 TO NEOS (19' CAP)													
7/8/16	47 / 48	23	13:34	BS	4131	6	860		7/8/16	Air Pressure	13 46 / 30	13 51 / 29	1	Pass
Seam Notes	R-232 TO R-233 (BUTT SEAM)													
7/8/16	R238 / 47	19	13:55	BS	4131	6	860		7/8/16	Air Pressure	13 26 / 30	13 31 / 29	1	Pass
Seam Notes	R-236 TO NEOS (19' CAP)													
7/8/16	48 / 49	116	13:45	BS	4131	6	860		7/8/16	Air Pressure	14 03 / 30	14 08 / 30		Pass
Seam Notes	SEOS TO R-233													
7/8/16	47 / 49	47	13:54	BS	4131	6	860		7/8/16	Air Pressure	14 07 / 30	14 12 / 29	1	Pass
Seam Notes	R-233 TO R-234													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/8/16	47 / 49	127	13:49	BS	4131	6	860		7/8/16	Air Pressure	14 17 / 30	14 22 / 30		Pass
Seam Notes	R-234 TO NEOS													
7/12/16	49 / 50	5	13:05	SU	EXT-74		500	400	7/12/16	Vacuum				Pass
Seam Notes	SEOS TO R-243 (R-242 EXT WELD)													
7/12/16	49 / 50	283	12:51	AP	4000	6	860		7/12/16	Air Pressure	14 02 / 30	14 07 / 30		Pass
Seam Notes	R-243 TO R-245 (DS-18 CUT FROM SEAM)													
7/12/16	49 / 50	30	13:24	AP	4000	6	860		7/12/16	Air Pressure	14 02 / 30	14 07 / 28	2	Pass
Seam Notes	R-245 TO NEOS													
7/12/16	50 / 53	20	14:00	BS	4131	6	860		7/12/16	Air Pressure	14 30 / 30	14 35 / 29	1	Pass
Seam Notes	SEOS TO R-246													
7/12/16	50 / 52	54	13:53	BS	4131	6	860		7/12/16	Air Pressure	14 17 / 30	14 22 / 29	1	Pass
Seam Notes	R-246 TO R-250													
7/12/16	50 / 51	39	13:44	BS	4131	6	860		7/12/16	Air Pressure	14 15 / 30	14 20 / 28	2	Pass
Seam Notes	R-250 TO R-251													
7/12/16	50 / 51	99	13:33	BS	4131	6	860		7/12/16	Air Pressure	14 12 / 30	14 17 / 29	1	Pass
Seam Notes	R-251 TO R-254													
7/12/16	50 / 51	60	15:22	BS	4131	6	860		7/12/16	Air Pressure	14 05 / 30	14 10 / 30		Pass
Seam Notes	R-254 TO R-255													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/12/16	50 / 51	15	15:22	BS	4131	6	860		7/12/16	Air Pressure	14 05 / 30	14 10 / 27	3	Pass
Seam Notes	R-255 TO NEOS													
7/12/16	51 / 52	23	13:49	BS	4131	6	860		7/12/16	Air Pressure	14 15 / 30	14 20 / 28	2	Pass
Seam Notes	R-250 TO R-257 (BUTT SEAM)													
7/12/16	52 / 53	23	14:10	BS	4131	6	860		7/12/16	Air Pressure	14 27 / 30	14 32 / 29	1	Pass
Seam Notes	R-246 TO R-256 (BUTT SEAM)													
7/12/16	53 / 54	20	14:30	BS	4131	6	860		7/12/16	Air Pressure	14 40 / 30	14 45 / 28	2	Pass
Seam Notes	SEOS TO R-256 (DS-19 CUT FROM SEAM)													
7/12/16	52 / 54	54	14:22	AP	4000	6	860		7/12/16	Air Pressure	14 35 / 30	14 40 / 29	1	Pass
Seam Notes	R-256 TO R-257													
7/12/16	51 / 54	210	14:04	AP	4000	6	860		7/12/16	Air Pressure	14 35 / 30	14 40 / 29	1	Pass
Seam Notes	R-257 TO NEOS													
7/12/16	54 / 57	30	15:03	BS	4131	6	860		7/12/16	Air Pressure	15 17 / 30	15 22 / 27	3	Pass
Seam Notes	SEOS TO R-258													
7/12/16	54 / 56	74	14:54	BS	4131	6	860		7/12/16	Air Pressure	15 12 / 30	15 17 / 28	2	Pass
Seam Notes	R-258 TO R-259													
7/12/16	54 / 55	190	14:33	BS	4131	6	860		7/12/16	Air Pressure	15 03 / 30	15 08 / 28	2	Pass
Seam Notes	R-259 TO NEOS													
7/12/16	55 / 56	23	14:46	AP	4000	6	860		7/12/16	Air Pressure	15 02 / 30	15 07 / 29	1	Pass
Seam Notes	R-259 TO R-263 (BUTT SEAM)(DS-20 CUT FROM SEAM)													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/12/16	56 / 57	23	14:53	AP	4000	6	860		7/12/16	Air Pressure	15 20 / 30	15 25 / 30		Pass
Seam Notes	R-258 TO R-262 (BUTT SEAM)													
7/13/16	57 / 58	30	14:59	BS	4131	6	860		7/13/16	Air Pressure	15 10 / 30	15 15 / 27	3	Pass
Seam Notes	SEOS TO R-262													
7/13/16	56 / 58	73	14:51	BS	4131	6	860		7/13/16	Air Pressure	15 10 / 30	15 15 / 28	2	Pass
Seam Notes	R-262 TO R-263													
7/13/16	55 / 58	170	14:32	BS	4131	6	860		7/13/16	Air Pressure	15 10 / 30	15 10 / 28	2	Pass
Seam Notes	R-263 TO R-264													
7/13/16	55 / 58	12	14:35	BS	4131	6	860		7/13/16	Air Pressure	14 56 / 30	15 01 / 28	2	Pass
Seam Notes	R-264 TO R-265													
7/13/16	55 / 58	7	15:25	SU	EXT-74		500	400	7/13/16	Vacuum				Pass
Seam Notes	R-265 TO NEOS (7' EXT WELD)													
7/13/16	58 / 60	94	15:10	AP	4000	6	860		7/13/16	Air Pressure	15 27 / 30	15 32 / 28	2	Pass
Seam Notes	SEOS TO R-267													
7/13/16	58 / 59	196	14:46	AP	4000	6	860		7/13/16	Air Pressure	15 23 / 30	15 28 / 29	1	Pass
Seam Notes	R-267 TO NEOS (DS-21 CUT FROM SEAM)													
7/13/16	60 / 59	23	15:07	BS	4131	6	860		7/13/16	Air Pressure	15 22 / 30	15 27 / 27	3	Pass
Seam Notes	R-267 & R-268 (BUTT SEAM)													
7/13/16	60 / 61	94	15:39	BS	4131	6	860		7/13/16	Air Pressure	15 55 / 30	16 00 / 29	1	Pass
Seam Notes	SEOS TO R-268													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/13/16	59 / 61	184	15:17	BS	4131	6	860		7/13/16	Air Pressure	15 51 / 30	15 56 / 29	1	Pass
Seam Notes	R-268 TO R-269													
7/13/16	59 / 61	23	15:15	BS	4131	6	860		7/13/16	Air Pressure	15 40 / 30	15 45 / 30		Pass
Seam Notes	R-269 TO NEOS													
7/13/16	61 / 63	194	15:54	BS	4131	6	860		7/13/16	Air Pressure	16 22 / 30	16 27 / 29	1	Pass
Seam Notes	SEOS TO R-270 (DS-22 CUT FROM SEAM)													
7/13/16	61 / 62	94	14:33	BS	4131	6	860		7/13/16	Air Pressure	15 04 / 30	15 09 / 28	2	Pass
Seam Notes	R-270 TO NEOS													
7/14/16	63 / 64	193	10:26	BS	4131	6	860		7/14/16	Air Pressure	11 00 / 30	11 05 / 30		Pass
Seam Notes	SEOS TO R-277													
7/14/16	62 / 64	107	10:15	BS	4131	6	860		7/14/16	Air Pressure	11 00 / 30	11 05 / 30		Pass
Seam Notes	R-277 TO NEOS													
7/15/16	62 / 63	23	10:00	AP	4000	6	860		7/14/16	Air Pressure	10 19 / 30	10 24 / 30		Pass
Seam Notes	R-270 TO R-277 (BUTT SEAM)													
7/14/16	64 / 65	115	11:00	AP	4000	6	860		7/14/16	Air Pressure	11 31 / 30	11 36 / 28	2	Pass
Seam Notes	SEOS TO R-280 (DS-23 CUT FROM SEAM)													
7/14/16	64 / 65	75	10:48	AP	4000	6	860		7/14/16	Air Pressure	11 28 / 30	11 33 / 27	3	Pass
Seam Notes	R-280 TO R-278													
7/14/16	64 / 65	25	10:33	AP	4000	6	860		7/14/16	Air Pressure	11 12 / 30	11 17 / 28	2	Pass
Seam Notes	R-278 TO R-279													
7/14/16	64 / 65	90	10:35	AP	4000	6	860		7/14/16	Air Pressure	10 52 / 30	10 57 / 30		Pass
Seam Notes	R-279 TO NEOS													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/14/16	65 / 67	116	11:23	BS	4131	6	860		7/14/16	Air Pressure	12 02 / 30	12 07 / 30		Pass
Seam Notes	SEOS TO R-281													
7/14/16	65 / 66	195	11:00	BS	4131	6	860		7/14/16	Air Pressure	11 56 / 30	12 07 / 29	1	Pass
Seam Notes	R-281 TO NEOS													
7/14/16	67 / 68	115	13:32	BS	4131	6	860		7/14/16	Air Pressure	13 51 / 30	13 56 / 29	1	Pass
Seam Notes	SEOS TO R-289													
7/14/16	66 / 68	60	13:27	BS	4131	6	860		7/14/16	Air Pressure	13 51 / 30	13 56 / 28	2	Pass
Seam Notes	R-289 TO R-290 (DS-24 CUT FROM SEAM)													
7/14/16	66 / 68	145	13:13	BS	4131	6	860		7/14/16	Air Pressure	13 35 / 30	13 40 / 27	3	Pass
Seam Notes	R-290 TO NEOS													
7/14/16	67 / 66	23	11:20	AP	4000	6	860		7/14/16	Air Pressure	11 56 / 30	12 01 / 30		Pass
Seam Notes	R-281 TO R-289 (BUTT SEAM)													
7/25/16	68 / 71	99	10:50	BS	4131	6	860		7/25/16	Air Pressure	11 14 / 30	11 19 / 29	1	Pass
Seam Notes	SEOS TO R-293													
7/25/16	68 / 71	48	10:47	BS	4131	6	860		7/25/16	Air Pressure	11 12 / 30	11 17 / 30		Pass
Seam Notes	R-293 TO R-294													
7/25/16	68 / 70	68	10:36	BS	4131	6	860		7/25/16	Air Pressure	10 54 / 30	10 59 / 30		Pass
Seam Notes	R-294 TO R-295													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/25/16	68 / 69	69	10:31	BS	4131	6	860		7/25/16	Air Pressure	10 46 / 30	10 51 / 29	1	Pass
Seam Notes	R-295 TO NEOS (DS-25 CUT FROM SEAM)													
7/25/16	69 / 70	23	10:28	AP	4000	6	860		7/25/16	Air Pressure	10 30 / 30	10 35 / 29	1	Pass
Seam Notes	R-295 TO R-302 (BUTT SEAM)													
7/25/16	70 / 71	23	10:49	AP	4000	6	860		7/25/16	Air Pressure	10 58 / 30	11 03 / 28	2	Pass
Seam Notes	R-294 TO R-299 (BUTT SEAM)													
7/25/16	71 / 72	155	11:31	BS	4131	6	860		7/25/16	Air Pressure	11 41 / 30	11 46 / 28	2	Pass
Seam Notes	SEOS TO R-299													
7/25/16	70 / 72	53	11:20	AP	4000	6	860		7/25/16	Air Pressure	11 55 / 30	12 00 / 28	2	Pass
Seam Notes	R-299 TO R-301													
7/25/16	70 / 72	16	11:17	AP	4000	6	860		7/25/16	Air Pressure	11 31 / 30	11 36 / 28	2	Pass
Seam Notes	R-301 TO R-302													
7/25/16	69 / 72	69	11:09	AP	4000	6	860		7/25/16	Air Pressure	11 26 / 30	11 31 / 28	2	Pass
Seam Notes	R-302 TO NEOS													
7/25/16	72 / 74	53	12:03	BS	4131	6	860		7/25/16	Air Pressure	13 20 / 30	13 25 / 30		Pass
Seam Notes	SEOS TO R-303													
7/25/16	72 / 74	50	11:56	BS	4131	6	860		7/25/16	Air Pressure	13 14 / 30	13 19 / 30		Pass
Seam Notes	R-303 TO R-306													
7/25/16	72 / 74	10	11:45	BS	4131	6	860		7/25/16	Air Pressure	13 10 / 30	13 15 / 28	2	Pass
Seam Notes	R-306 TO R-307													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/25/16	72 / 74	48	11:43	BS	4131	5	860		7/25/16	Air Pressure	13 08 / 30	13 13 / 28	2	Pass
Seam Notes	R-307 TO R-309 (DS-26 CUT FROM SEAM)													
7/25/16	72 / 74	9	12:01	AP	4000	6	860		7/25/16	Air Pressure	13 02 / 30	13 07 / 29	1	Pass
Seam Notes	R-309 TO R-310													
7/25/16	72 / 74	51	11:51	AP	4000	6	860		7/25/16	Air Pressure	12 59 / 30	13 04 / 29	1	Pass
Seam Notes	R-310 TO R-311													
7/25/16	72 / 73	61	11:25	AP	4000	6	860		7/25/16	Air Pressure	12 01 / 30	12 06 / 29	1	Pass
Seam Notes	R-311 TO NEOS													
7/25/16	73 / 74	23	11:45	AP	4000	6	860		7/25/16	Air Pressure	12 01 / 30	12 06 / 29	1	Pass
Seam Notes	R-311 TO R-316 (BUTT SEAM)													
7/25/16	74 / 75	76	11:50	BS	4131	6	860		7/25/16	Air Pressure	14 38 / 30	14 43 / 30		Pass
Seam Notes	SEOS TO R-314													
7/25/16	74 / 75	134	13:53	BS	4131	6	860		7/25/16	Air Pressure	14 31 / 30	14 36 / 30		Pass
Seam Notes	R-314 TO R-315													
7/25/16	74 / 75	4	13:50	BS	4131	6	860		7/25/16	Air Pressure	14 20 / 30	14 25 / 28	2	Pass
Seam Notes	R-315 TO R-316													
7/25/16	73 / 75	58	13:44	BS	4131	6	860		7/25/16	Air Pressure	14 29 / 30	14 34 / 29	1	Pass
Seam Notes	R-316 TO NEOS													
7/27/16	75 / 76	8	14:35	SU	EXT-74		500	400	7/27/16	Vacuum				Pass
Seam Notes	SEOS TO R-332 (8' CAP)													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/27/16	75 / 76	71	11:08	AP	4000	6	860		7/27/16	Air Pressure	11 27 / 30	11 32 / 29	1	Pass
Seam Notes	R-332 TO R-333 (DS-27 COLLECTED FROM SEAM)													
7/27/16	75 / 76	68	11:30	BS	4131	6	860		7/27/16	Air Pressure	11 44 / 30	11 49 / 29	1	Pass
Seam Notes	R-333 TO R-334													
7/27/16	75 / 76	83	11:20	BS	4131	6	860		7/27/16	Air Pressure	11 45 / 30	11 50 / 30		Pass
Seam Notes	R-334 TO 335													
7/27/16	75 / 76	14	11:14	BS	4131	6	860		7/27/16	Air Pressure	11 32 / 30	11 37 / 28	2	Pass
Seam Notes	R-335 TO R-336													
7/27/16	75 / 76	12	11:10	BS	4131	6	860		7/27/16	Air Pressure	11 35 / 30	11 40 / 29	1	Pass
Seam Notes	R-336 TO NEOS													
7/27/16	76 / 78	4	13:47	AP	4000	6	860		7/27/16	Air Pressure	14 03 / 30	14 08 / 29	1	Pass
Seam Notes	SEOS TO R-339													
7/27/16	76 / 78	36	13:41	AP	4000	6	860		7/27/16	Air Pressure	14 30 / 30	14 35 / 29	1	Pass
Seam Notes	R-339 TO R-340 (R-342 AND R-347 LOCATED BTWN R-339 AND R-340 WERE CUT AFTER THE SEAM WAS TESTED)													
7/27/16	76 / 77	240	11:31	AP	4000	6	860		7/27/16	Air Pressure	12 51 / 30	12 56 / 29	1	Pass
Seam Notes	R-340 TO NEOS													
7/27/16	77 / 78	23	13:35	AP	4000	6	860		7/27/16	Air Pressure	14 03 / 30	14 08 / 29	1	Pass
Seam Notes	R-340 TO R-344 (BUTT SEAM)													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/27/16	78 / 79	15	13:45	BS	4131	6	860		7/27/16	Air Pressure	14 06 / 30	14 11 / 29	1	Pass
Seam Notes	SEOS TO R-341													
7/27/16	78 / 79	25	13:42	BS	4131	6	860		7/27/16	Air Pressure	14 03 / 30	14 08 / 28	2	Pass
Seam Notes	R-341 TO R-344													
7/27/16	77 / 79	98	13:30	BS	4131	6	860		7/27/16	Air Pressure	13 47 / 30	13 52 / 28	2	Pass
Seam Notes	R-344 TO R-345													
7/27/16	77 / 79	4	13:25	BS	4131	6	860		7/27/16	Air Pressure	13 47 / 30	13 52 / 28	2	Pass
Seam Notes	R-345 TO R-346 (PATCHED OVER)													
7/27/16	77 / 79	121	13:17	BS	4131	6	860		7/27/16	Air Pressure	13 40 / 30	13 45 / 28	2	Pass
Seam Notes	R-346 TO NEOS													
7/27/16	79 / 80	131	14:14	AP	4000	6	860		7/27/16	Air Pressure	14 43 / 30	14 48 / 28	2	Pass
Seam Notes	SEOS TO R-348													
7/27/16	79 / 80	33	14:37	BS	4131	6	860		7/27/16	Air Pressure	14 51 / 30	14 56 / 29	1	Pass
Seam Notes	R-348 TO R-355													
7/27/16	79 / 80	40	14:24	BS	4131	6	860		7/27/16	Air Pressure	14 54 / 30	14 59 / 29	1	Pass
Seam Notes	R-355 TO R-358 (DS-31 CUT FROM SEAM)													
7/27/16	79 / 80	60	14:31	BS	4131	6	860		7/27/16	Air Pressure	14 56 / 30	15 01 / 29	1	Pass
Seam Notes	R-358 TO NEOS													
7/28/16	80 / 82	25	13:47	BS	4131	6	860		7/28/16	Air Pressure	14 47 / 30	14 52 / 30		Pass
Seam Notes	R-362 (4' PATCH AT SEOS) TO R-363													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/28/16	80 / 81	110	13:23	BS	4131	6	860		7/27/16	Air Pressure	13 38 / 30	13 43 / 28	2	Pass
Seam Notes	R-363 TO R-364													
7/28/16	80 / 81	3	14:05	SU	EXT-74		500	400	7/28/16	Vacuum				Pass
Seam Notes	R-364 TO R-365/R-368 (3' EXT WELD)													
7/28/16	80 / 81	111	13:05	BS	4131	6	860		7/28/16	Air Pressure	13 24 / 30	13 29 / 30		Pass
Seam Notes	R-365/R-368 TO R-369 (2' CAP AT NEOS)													
7/28/16	81 / 82	23	13:43	BS	4131	6	860		7/28/16	Air Pressure	14 36 / 30	14 41 / 29	1	Pass
Seam Notes	R-363 TO R-370 (BUTT SEAM)													
7/28/16	82 / 83	25	13:56	BS	4131	6	860		7/28/16	Air Pressure	14 36 / 30	14 41 / 28	2	Pass
Seam Notes	SEOS TO R-370													
7/28/16	81 / 83	6	14:10	AP	4000	6	860		7/28/16	Air Pressure	14 42 / 30	14 47 / 28	2	Pass
Seam Notes	R-370 TO R-371													
7/28/16	81 / 83	113	14:55	AP	4000	6	860		7/28/16	Air Pressure	14 35 / 30	14 40 / 28	2	Pass
Seam Notes	R-371 TO R-372													
7/28/16	81 / 83	71	14:45	AP	4000	6	860		7/28/16	Air Pressure	14 24 / 30	14 29 / 28	2	Pass
Seam Notes	R-372 TO R-373 (DS-28 CUT FROM SEAM)													
7/28/16	81 / 83	47	13:38	AP	4000	6	860		7/28/16	Air Pressure	14 24 / 30	14 29 / 28	2	Pass
Seam Notes	R-373 TO NEOS													
7/28/16	83 / 85	52	14:40	BS	4131	6	860		7/28/16	Air Pressure	14 52 / 30	14 57 / 30		Pass
Seam Notes	SEOS TO R-374													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/28/16	83 / 84	147	14:24	BS	4131	6	860		7/28/16	Air Pressure	14 57 / 30	15 02 / 28	2	Pass
Seam Notes	R-374 TO R-375													
7/28/16	83 / 84	55	14:16	BS	4131	6	860		7/28/16	Air Pressure	15 18 / 30	15 23 / 29	1	Pass
Seam Notes	R-375 TO NEOS													
7/28/16	84 / 85	23	14:08	BS	4131	6	860		7/28/16	Air Pressure	14 52 / 30	14 57 / 29	1	Pass
Seam Notes	R-374 TO R-376 (BUTT SEAM)													
7/28/16	85 / 86	52	14:54	AP	4000	6	860		7/28/16	Air Pressure	15 09 / 30	15 14 / 30		Pass
Seam Notes	SEOS TO R-376													
7/28/16	84 / 86	145	14:39	AP	4000	6	860		7/28/16	Air Pressure	15 09 / 30	15 14 / 30		Pass
Seam Notes	R-376 TO R-377													
7/28/16	84 / 86	65	14:29	AP	4000	6	860		7/28/16	Air Pressure	15 20 / 30	15 25 / 30		Pass
Seam Notes	R-377 TO NEOS													
7/28/16	86 / 88	39	16:04	BS	4131	6	860		7/28/16	Air Pressure	16 14 / 30	16 19 / 30		Pass
Seam Notes	SEOS TO R-381													
7/28/16	86 / 88	57	15:57	BS	4131	6	860		7/28/16	Air Pressure	16 14 / 30	16 19 / 30		Pass
Seam Notes	R-381 TO R-378													
7/28/16	86 / 87	108	15:32	BS	4131	6	860		7/28/16	Air Pressure	16 04 / 30	16 09 / 30		Pass
Seam Notes	R-378 TO R-379 (DS-32 CUT FROM SEAM)													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/28/16	86 / 87	63	15:41	BS	4131	6	860		7/28/16	Air Pressure	15 27 / 30	15 32 / 30		Pass
Seam Notes	R-379 TO NEOS													
7/28/16	88 / 87	23	15:52	BS	4131	6	860		7/28/16	Air Pressure	16 04 / 30	14 09 / 30		Pass
Seam Notes	R-378 TO R-405 (BUTT SEAM)													
8/3/16	88 / 90	97	13:56	BS	4131	6	860		8/3/16	Air Pressure	14 13 / 30	14 18 / 30		Pass
Seam Notes	SEOS TO R-405													
8/3/16	87 / 90	18	13:45	BS	4131	6	860		8/3/16	Air Pressure	14 00 / 30	14 05 / 30		Pass
Seam Notes	R-405 TO R-400													
8/3/16	87 / 90	15	13:40	BS	4131	6	860		8/3/16	Air Pressure	14 00 / 30	14 05 / 30		Pass
Seam Notes	R-400 TO R-403													
8/3/16	87 / 89	18	13:35	BS	4131	6	860		8/3/16	Air Pressure	13 53 / 30	13 58 / 29	1	Pass
Seam Notes	R-403 TO R-404													
8/3/16	87 / 89	96	13:16	BS	4131	6	860		8/3/16	Air Pressure	13 50 / 30	13 55 / 30		Pass
Seam Notes	R-404 TO NEOS													
8/3/16	89 / 90	18	13:49	BS	4131	6	860		8/3/16	Air Pressure	13:53 / 30	13:58 / 29	1	Pass
Seam Notes	R-403 TO R-404													
8/3/16	89 / 90	96	13:38	BS	4131	6	860		8/3/16	Air Pressure	13 50 / 30	13 55 / 28	2	Pass
Seam Notes	R-404 TO NEOS													
8/3/16	90 / 91	50	14:10	AP	4000	6	860		8/3/16	Air Pressure	14:23 / 30	14:28 / 30		Pass
Seam Notes	SEOS TO R-406 (DS-29 CUT FROM SEAM)													
8/3/16	90 / 91	188	13:48	AP	4000	6	860		8/3/16	Air Pressure	14:23 / 30	14:28 / 28	2	Pass
Seam Notes	R-406 TO R-408													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
8/3/16	90 / 91	5	14:35	SU	EXT-74		500	400	8/3/16	Vacuum	:	:		Pass
Seam Notes	R-408 TO NEOS (EXT WELD)													
8/3/16	91 / 92	160	14:38	BS	4131	6	860		8/3/16	Air Pressure	15:05 / 30	15:10 / 30		Pass
Seam Notes	SEOS TO R-410													
8/3/16	91 / 92	13	14:30	BS	4131	6	860		8/3/16	Air Pressure	14 15 / 30	14 30 / 29	1	Pass
Seam Notes	R-410 TO R-411													
8/3/16	91 / 92	57	14:22	BS	4131	6	860		8/3/16	Air Pressure	14 35 / 30	14 40 / 29	1	Pass
Seam Notes	R-411 TO NEOS													
8/3/16	92 / 93	110	14:50	AP	4000	6	860		8/3/16	Air Pressure	15 08 / 30	15 13 / 29	1	Pass
Seam Notes	SEOS TO R-412													
8/3/16	92 / 93	128	14:26	AP	4000	6	860		8/3/16	Air Pressure	14 55 / 30	15 00 / 29	1	Pass
Seam Notes	R-412 TO NEOS													
8/5/16	94 / 95	45	15:41	BS	4000	6	860		8/5/16	Air Pressure	15 52 / 30	15 57 / 29	1	Pass
Seam Notes	SEOS TO R-419													
8/5/16	94 / 95	109	15:80	BS	4131	6	860		8/5/16	Air Pressure	15 52 / 30	15 57 / 30		Pass
Seam Notes	R-419 TO R-422													
8/5/16	94 / 95	89	15:18	BS	4131	6	860		8/5/16	Air Pressure	16 00 / 30	16 05 / 29	1	Pass
Seam Notes	R-422 TO NEOS													
8/5/16	95 / 96	14	16:18	AP	4000	6	860		8/5/16	Air Pressure	16 34 / 30	16 39 / 29	1	Pass
Seam Notes	SEOS TO R-428													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
8/5/16	95 / 97	220	15:50	AP	4000	6	860		8/5/16	Air Pressure	16 45 / 30	16 50 / 30	1	Pass
Seam Notes	R-428 TO NEOS													
8/5/16	96 / 97	23	16:13	AP	4000	6	860		8/5/16	Air Pressure	16 34 / 30	16 39 / 29	1	Pass
Seam Notes	R-428 TO R-429 (BUTT SEAM)													
8/5/16	96 / 98	14	16:20	BS	4131	6	860		8/5/16	Air Pressure	16 36 / 30	16 41 / 29	1	Pass
Seam Notes	SEOS TO R-429													
8/5/16	97 / 98	94	16:10	BS	4131	6	860		8/5/16	Air Pressure	16 39 / 30	16 44 / 30		Pass
Seam Notes	R-429 TO R-430													
8/5/16	97 / 98	126	15:56	BS	4131	6	860		8/5/16	Air Pressure	16 15 / 30	16 20 / 29	1	Pass
Seam Notes	R-430 TO NEOS (DS-30 CUT FROM SEAM)													
8/8/16	98 / 99	238	10:30	BS	4131	6	860		8/8/16	Air Pressure	11 09 / 30	11 14 / 29	1	Pass
Seam Notes	SEOS TO NEOS													
8/8/16	99 / 100	92	10:38	AP	4000	6	860		8/8/16	Air Pressure	10 55 / 30	11 00 / 30		Pass
Seam Notes	SEOS TO R-433/R-434													
8/8/16	99 / 100	28	10:50	AP	4000	6	860		8/8/16	Air Pressure	11 00 / 30	11 05 / 29	1	Pass
Seam Notes	R-433/R-434 TO R-435													
8/8/16	99 / 100	106	10:54	AP	4000	6	860		8/8/16	Air Pressure	11 15 / 30	11 20 / 29	1	Pass
Seam Notes	R-435 TO NEOS													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
8/9/16	100 / 101	20	15:05	SU	4000	6	860		8/9/16	Air Pressure	15 33 / 30	15 38 / 30		Pass
Seam Notes	SEOS TO R-440													
8/9/16	100 / 102	217	15:26	BS	4131	6	860		8/9/16	Air Pressure	16 15 / 30	16 20 / 30		Pass
Seam Notes	R-440 TO NEOS													
8/9/16	101 / 102	23	15:30	SU	4000	6	860		8/9/16	Air Pressure	15 34 / 30	15 39 / 29	1	Pass
Seam Notes	R-440 TO R-441 (BUTT SEAM)													
8/9/16	101 / 103	20	15:45	SU	4000	6	860		8/9/16	Air Pressure	16 11 / 30	16 16 / 30		Pass
Seam Notes	SEOS TO R-441													
8/9/16	102 / 103	217	15:41	SU	4000	6	860		8/9/16	Air Pressure	16 17 / 30	16 22 / 30		Pass
Seam Notes	R-441 TO NEOS													
8/9/16	103 / 104	40	16:33	BS	4131	6	860		8/9/16	Air Pressure	17 25 / 30	17 30 / 30		Pass
Seam Notes	SEOS TO R-442													
8/9/16	103 / 104	148	16:40	BS	4131	6	860		8/9/16	Air Pressure	17 02 / 30	17 07 / 30		Pass
Seam Notes	R-442 TO R-443													
8/9/16	103 / 105	31	16:10	SU	4000	6	860		8/9/16	Air Pressure	16 25 / 30	16 30 / 30		Pass
Seam Notes	R-443 TO R-444													
8/9/16	103 / 105	16	16:15	SU	4000	6	860		8/9/16	Air Pressure	16 26 / 30	16 31 / 30		Pass
Seam Notes	R-444 TO NEOS													
8/9/16	104 / 105	23	16:40	SU	4000	6	860		8/9/16	Air Pressure	16 43 / 30	16 48 / 30		Pass
Seam Notes	R-443 TO R-446 (BUTT SEAM)													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
8/9/16	104 / 106	62	16:55	SU	4000	6	860		8/9/16	Air Pressure	17 26 / 30	17 31 / 30		Pass
Seam Notes	SEOS TO R-445 (DS-33 CUT FROM SEAM)													
8/9/16	104 / 106	131	17:05	SU	4000	6	860		8/9/16	Air Pressure	17 13 / 30	17 18 / 30		Pass
Seam Notes	R-445 TO R-446													
8/9/16	105 / 106	47	17:12	SU	4000	6	860		8/9/16	Air Pressure	17 19 / 30	17 24 / 29	1	Pass
Seam Notes	R-446 TO NEOS													
8/10/16	93 / 107	45	8:23	BS	4131	6	860		8/10/16	Air Pressure	8 46 / 30	8 51 / 29	1	Pass
Seam Notes	SEOS (COVERED BY R-453) TO R-454													
8/10/16	93 / 107	175	8:26	BS	4131	6	860		8/10/16	Air Pressure	8 55 / 30	9 00 / 30		Pass
Seam Notes	R-454 TO NEOS													
8/10/16	107 / 108	235	8:30	BS	4131	6	860		8/10/16	Air Pressure	9 24 / 30	9 29 / 30		Pass
Seam Notes	SEOS (COVERED BY R-457) TO NEOS													
8/10/16	108 / 110	110	10:06	BS	4131	6	860		8/10/16	Air Pressure	10 24 / 30	10 29 / 30		Pass
Seam Notes	SEOS TO R-455													
8/10/16	108 / 110	88	9:50	BS	4131	6	860		8/10/16	Air Pressure	10 15 / 30	10 20 / 30		Pass
Seam Notes	R-455 TO R-456													
8/10/16	108 / 109	45	9:45	BS	4131	6	860		8/10/16	Air Pressure	10 04 / 30	10 09 / 30		Pass
Seam Notes	R-456 TO NEOS													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
8/10/16	109 / 110	23	9:37	BS	4131	6	860		8/10/16	Air Pressure	9 46 / 30	9 51 / 29	1	Pass
Seam Notes	R-456 TO R-465 (BUTT SEAM)													
8/10/16	110 / 94	110	10:23	BS	4131	6	860		8/10/16	Air Pressure	10 41 / 30	10 46 / 30		Pass
Seam Notes	SEOS TO R-460 (DS-34 CUT FROM SEAM)													
8/10/16	110 / 94	18	10:45	BS	4131	6	860		8/10/16	Air Pressure	10 55 / 30	11 00 / 30		Pass
Seam Notes	R-460 TO R-463													
8/10/16	110 / 94	58	10:48	BS	4131	6	860		8/10/16	Air Pressure	11 05 / 30	11 10 / 29	1	Pass
Seam Notes	R-463 TO R-465													
8/10/16	109 / 94	49	10:55	BS	4131	6	860		8/10/16	Air Pressure	11 05 / 30	11 10 / 29	1	Pass
Seam Notes	R-465 TO NEOS													
8/10/16	110 / R-461	12	10:02	BS	4131	6	860		8/10/16	Air Pressure	10 17 / 30	10 22 / 30		Pass
Seam Notes	R-455 TO R-462													
8/10/16	110 / R-461	9	10:38	BS	4131	6	860		8/10/16	Air Pressure	10 48 / 30	10 53 / 30		Pass
Seam Notes	R-462 TO R-460													
8/10/16	110 / R-461	22	10:40	BS	4131	6	860		8/10/16	Air Pressure	10 48 / 30	10 53 / 30		Pass
Seam Notes	R-455 TO R-460													
8/11/16	94 / R-469	23	8:00	BS	4131	6	860		8/11/16	Air Pressure	8 40 / 30	8 45 / 28	2	Pass
Seam Notes	ADD ON AT SEOS													
8/11/16	95 / R-469	23	8:03	BS	4131	6	860		8/11/16	Air Pressure	8 40 / 30	8 45 / 28	2	Pass
Seam Notes	ADD ON AT SEOS													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
8/11/16	96 / R-469	13	8:06	BS	4131	6	860		8/11/16	Air Pressure	8 40 / 30	8 45 / 28	2	Pass
Seam Notes	ADD ON AT SEOS													
8/11/16	96 / R-471	12	8:08	BS	4131	6	860		8/11/16	Air Pressure	8 40 / 30	8 45 / 28	2	Pass
Seam Notes	ADD ON AT SEOS													
8/11/16	97 / R-471	23	8:11	BS	4131	6	860		8/11/16	Air Pressure	8 40 / 30	8 45 / 28	2	Pass
Seam Notes	ADD ON AT SEOS													
8/11/16	98 / R-471	23	8:14	BS	4131	6	860		8/11/16	Air Pressure	8 40 / 30	8 45 / 30		Pass
Seam Notes	R-468 TO R-494													
8/11/16	100 / R-472	23	17:B	BS	4131	6	860		8/11/16	Air Pressure	9 00 / 30	9 05 / 30		Pass
Seam Notes	ADD ON AT SEOS													
8/11/16	101 / R-472	23	8:20	BS	4131	6	860		8/11/16	Air Pressure	9 00 / 30	9 05 / 30		Pass
Seam Notes	ADD ON AT SEOS													
8/11/16	103 / R-472	16	8:23	BS	4131	6	860		8/11/16	Air Pressure	9 00 / 30	9 05 / 30		Pass
Seam Notes	ADD ON AT SEOS													
8/11/16	103 / R-473	7	8:25	BS	4131	6	860		8/11/16	Air Pressure	9 00 / 30	9 05 / 30		Pass
Seam Notes	ADD ON AT SEOS													
8/11/16	140 / R-473	23	8:29	BS	4131	6	860		8/11/16	Air Pressure	9 00 / 30	9 05 / 30		Pass
Seam Notes	ADD ON AT SEOS													
8/11/16	R-470 / R-469	25	8:30	DM	EXT-75		500	400	8/11/16	Vacuum				Pass
Seam Notes	ADD ON AT SEOS													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
8/11/16	106 / 111	161	15:15	SU	4000	6	860		8/11/16	Air Pressure	15 43 / 30	15 48 / 30		Pass
Seam Notes	SEOS TO R-477													
8/11/16	106 / 111	79	15:05	SU	4000	6	860		8/11/16	Air Pressure	15 26 / 30	15 31 / 29	1	Pass
Seam Notes	R-477 TO NEOS													
8/11/16	111 / 112	46	16:21	BS	4131	6	860		8/11/16	Air Pressure	16 32 / 30	16 37 / 30		Pass
Seam Notes	SEOS TO R-478													
8/11/16	111 / 112	28	16:14	BS	4131	6	860		8/11/16	Air Pressure	16 24 / 30	16 29 / 30		Pass
Seam Notes	R-478 TO R-479													
8/11/16	111 / 112	66	16:05	BS	4131	6	860		8/11/16	Air Pressure	16 18 / 30	16 23 / 29	1	Pass
Seam Notes	R-479 TO R-481													
8/11/16	111 / 112	100	15:49	BS	4131	6	860		8/11/16	Air Pressure	16 05 / 30	16 10 / 29	1	Pass
Seam Notes	R-481 TO NEOS													
8/12/16	112 / 113	46	15:50	SU	4000	6	860		8/12/16	Air Pressure	16 03 / 30	16 08 / 30		Pass
Seam Notes	SEOS TO R-487													
8/12/16	112 / 113	111	15:46	SU	4000	6	860		8/12/16	Air Pressure	15 52 / 30	15 57 / 29	1	Pass
Seam Notes	R-487 TO R-488 (DS-35 CUT FROM SEAM)													
8/12/16	112 / 113	75	15:20	SU	4000	6	860		8/12/16	Air Pressure	15 48 / 30	15 53 / 27	3	Pass
Seam Notes	R-488 TO NEOS													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
8/12/16	113 / 114	66	16:04	BS	4131	6	860		8/12/16	Air Pressure	16 18 / 30	16 23 / 30		Pass
Seam Notes	SEOS TO R-489													
8/12/16	113 / 114	175	15:43	BS	4131	6	860		8/12/16	Air Pressure	16 19 / 30	16 24 / 30		Pass
Seam Notes	R-489 TO NEOS													
8/13/16	114 / 115	39	15:05	SU	4000	6	860		8/13/16	Air Pressure	16 02 / 30	16 07 / 30		Pass
Seam Notes	SEOS TO R-503													
8/13/16	114 / 115	166	15:35	SU	4000	6	860		8/13/16	Air Pressure	15 55 / 30	16 00 / 30		Pass
Seam Notes	R-503 TO R-504													
8/13/16	144 / 115	31	15:30	SU	4000	6	860		8/13/16	Air Pressure	15 49 / 30	15 54 / 30		Pass
Seam Notes	R-504 TO NEOS													
8/13/16	115 / 119	106	17:34	BS	4131	6	860		8/13/16	Air Pressure	17 53 / 30	17 58 / 30		Pass
Seam Notes	SEOS TO R-505													
8/13/16	115 / 118	118	17:17	BS	4131	6	860		8/13/16	Air Pressure	17 36 / 30	17 41 / 30		Pass
Seam Notes	R-505 TO R-512													
8/13/16	115 / 116	10	17:15	BS	4131	6	860		8/13/16	Air Pressure	17 50 / 30	17 55 / 30		Pass
Seam Notes	R-512 TO R-506													
8/13/16	119 / 118	105	17:03	SU	4000	6	860		8/13/16	Air Pressure	17 26 / 30	17 31 / 30		Pass
Seam Notes	SEOS TO R-505													
8/13/16	119 / 115	5	17:00	SU	4000	6	860		8/13/16	Air Pressure	17 18 / 30	17 23 / 29	1	Pass
Seam Notes	COVERED WITH PATCH AFTER TESTING (R-505)													

Environmental Specialties International Inc.

Seam Control Form

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Air Pressure Test** 30 **PSI**

Job Description: SINGLE LAYER CAP **Secondary** **Cell** **Air Pressure Hold Time** 5 **Minutes**

Reported By KHAI S. SOK **Cap** X **Allowable Air Pressure Loss** 4 **PSI**

Other CAP CONSTRUCTION

21,428 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **126** **Fusion LF Weld Total To Date:** **21,302**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
8/13/16	118 / 117	171	16:45	BS	4131	6	860		8/13/16	Air Pressure	17 09 / 30	17 14 / 30		Pass
Seam Notes	SEOS TO R-507 (DS-36 CUT FROM SEAM)													
8/13/16	118 / 116	61	16:39	BS	4131	6	860		8/13/16	Air Pressure	17 03 / 30	17 08 / 30		Pass
Seam Notes	R-507 TO R-512													
8/13/16	116 / 117	17	16:20	BS	4131	6	860		8/13/16	Air Pressure	16 32 / 30	16 37 / 29	1	Pass
Seam Notes	R-507 TO R-511 (BUTT SEAM)													
8/13/16	116 / 117	5	16:25	BS	4131	6	860		8/13/16	Air Pressure	16 35 / 30	16 40 / 30		Pass
Seam Notes	R-511 TO EEOS (BUTT SEAM)													
8/13/16	115 / 116	3	17:10	BS	4131	6	860		8/13/16	Air Pressure	17 50 / 30	17 55 / 28	2	Pass
Seam Notes	R-506 TO NEOS													

Appendix J
ESI Repair Report

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
1	PB	1/2	P-1	35' N OF SEOS & 8'W PB 6")	P	3	x	11	24	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
2	BO	3/5		2' N OF S EOS	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
3	SJ	3/4/5		69' N OF SEOS	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
4	CF	4/6		5' S OF NEOS	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
5	CF	4/6	P-6	77' N OF SEOS & 2'E	P	5	x	12		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
6	SJ	4/5/6		69' N OF SEOS	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
7	PB	5/6		15' N OF SEOS (PB 6")	P	3	x	6	24	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
8	WR	6/7	P-6	63' N OF S EOS & 5'W	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
9	BO	6/7		66' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
10	SI	6/7	P-6	80' N OF SEOS & 5'W	P	3	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
11	DS-2	6/7		16' N OF SEOS	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
12	WR	7/9		41' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
13	CF	7/9	P-9	45' N OF SEOS & 10'E	P	6	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
14	DS-1	1/2		15' N OF SEOS	P	2	x	7		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
15	DSX-1	R-15	P-1	34'N OF SEOS & 10'W	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
16	CF		P-9	BETWEEN R-12 & R-13	B		x		60	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
17	WR	7/9		71' N OF SEOS	P	3	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
18	CF		P-9	BETWEEN R17 & R19	B		x		168	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
19	CF	7/9	P-9	59' N OF SEOS & 12'E	P	4	x	4		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
20	CF		P-6	BETWEEN R-22 & R-9	B		x		36	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
21	CF		P-6	BETWEEN R-22 & R-8	B		x		48	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
22	CF	6/7	P-6	68' N OF SEOS & 6'W	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
23	SJ	7/8/9		103' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
24	CF	8/10		11' S OF NEOS	P	2	x	20		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
25	SJ	8/9/10		103' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
26	DO	10/11	P-10	27' N OF SEOS & 4'W	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
27	CF	10/11	P-10	BETWEEN R-35 & R-28	B		x		156	6/26/16	SU	EXT-74	Vacuum	Pass	6/23/16
28	CF	10/11	P-10	64'N OF SEOS & 15' W	P	4	x	4		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
29	PB	10/11	P-10	93' S OF NEOS 4' E (48" MH)	P	6	x	10	48	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
30	CF		P-10	BETWEEN R-29 & R-31	B		x		240	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
31	CF	10/11	P-10	68' S OF NEOS & 2'W	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
32	CF	10/11	P-10	78' N OF SEOS & 7'W	P	2	x	4		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
33	CF		P-10	BETWEEN R-32 & R-34	B		x		60	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
34	CF	10/11		80' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
35	CF	10/11		69' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
36	CF	10/11	P-11	49' N OF SEOS & 5'E	P	5	x	15		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
37	CF		P-11	50' N OF SEOS & 3'E	B		x		48	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
38	PB	10/11	P-11	105' N OF SEOS & 3' E (8" PIPE)	P	4	x	5	24	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
39	DS-3	10/11		25' S OF NEOS	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
40	AO	10/11		3' S OF NEOS	P	12	x	12		6/24/16	SU	EXT-74	Vacuum	Pass	6/23/16
41	SJ	11/12/13		22' S OF NEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/23/16
42	SJ	12/13/14		24' S OF NEOS	P	2	x	6		6/24/16	SU	EXT-74	Vacuum	Pass	6/23/16
43	DO	4/6	P-4	6' S OF NEOS & 4'W	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
44	BO	13/14		65' N OF SEOS	P	2	x	5		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
45	BO	13/14		79' N OF SEOS	P	2	x	5		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
46	BO	13/14		163' N OF SEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
47	CF	13/14		BETWEEN R-46 & R-42	B		x		12	6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
48	SJ	12/14/14A		4' S OF NEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
49	SJ	14A/14/15		4' S OF NEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
50	SJ	14/15/16		78' N OF SEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
51	BO	14/16		2'N OF SEOS	P	2	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
52	SJ	15/16/17		78' N OF SEOS	P	2	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
53	DS-4	15/17		87' N OF SEOS	P	2	x	6		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
54	CF	17/18		53' S OF NEOS	P	3	x	5		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
55	CF	17/18	P-17	56' S OF NEOS & 3'W	B		x		24	6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
56	CF	17/18	P-18	74' S OF NEOS &3'E	P	3	x	9		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
57	CF	17/18		83' S OF NEOS	P	2	x	4		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
58	CF	17/18	P-18	84' S OF NEOS & 4' E OF R-57	B		x		120	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
59	BO	17/18		153' S OF NEOS	P	2	x	5		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
60	CF		P-18	BETWEEN R-59 & R-62	B		x		140	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
61	BO	17/18		182' S OF NEOS	P	2	x	6		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
62	CF	18/19	P-18	29' N OF SEOS & 7'W	P	2	x	13		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
63	BO	18/19		24' N OF SEOS	P	2	x	6		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
64	CF	18/19		BETWEEN R-63 & R-65	B		x		12	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
65	CF	18/19	P-19	30' N OF SEOS & 3'E	P	2	x	9		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
66	CF		P-19	BETWEEN R-65 & R-67	B		x		108	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
67	CF	19/20	P-19	42' N OF SEOS & 5'W	P	3	x	7		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
68	CF	18/19		46' N OF SEOS	P	2	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
69	CF		P-19	BETWEEN R-68 & R-70	B		x		72	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
70	CF	18/19	P-19	49' N OF SEOS & 7'E	P	3	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
71	BO	18/19		113' N OF SEOS	P	3	x	4		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
72	BO	18/19		130' N OF SEOS	P	2	x	2		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
73	DSX-2	R-30	P-10	106' N OF SEOS & 6'W	P	2	x	5		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
74	DS-5	19/20		16' N OF SEOS	P	2	x	5		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
75	CF	19/20		164' N OF SEOS	P	2	x	20		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
76	AO	19/R76/20		180' N OF SEOS	P	1	x	21		6/27/16	SU	EXT-74	Air Pressure	Pass	6/27/16
77	SJ	20/21/22		99' N OF SEOS	P	2	x	2		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
78	CF	20/21		122' N OF SEOS	P	4	x	4		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
79	CF		P-21	BETWEEN R-78 & R-80	B		x		156	6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
80	CF	21/23	P-21	128' N OF SEOS & 11' W	P	1	x	1		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
81	PB	20/21	P-21	171' N OF SEOS & 3' E (PB 4")	P	3	x	5		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
82	BO	22/23		54' N OF SEOS	P	2	x	4		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
83	SJ	21/22/23		99' N OF SEOS	P	6	x	14		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
84	SJ	23/24/25		17' N OF SEOS	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
85	BO	23/24		40' N OF SEOS	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
86	CF	23/24	P-23	BETWEEN R-85 & R-87	B		x		72	6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
87	CF	23/24	P-23	48' N OF SEOS & 11' W	P	2	x	9		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
88	CF	22/23	P-23	51' N OF SEOS & 8' E	P	3	x	5		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
89	CF	23/24		74' N OF SEOS	P	2	x	6		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
90	CF	23/24		79' N OF SEOS	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
91	DS-6	23/24		105' N OF SEOS	P	2	x	6		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
92	SJ	24/25/26		17' N OF SEOS	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
93	CF	24/26		157' N OF SEOS	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
94	CF	24/26	P-26	BETWEEN R-93 & R-95	B		x		72	6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
95	CF	24/26	P-26	156' N OF SEOS & 8' E	P	2	x	4		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
96	CF	24/26	P-26	137' N OF SEOS & 2' E	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
97	CF	24/26	P-26	143' N OF SEOS & 6'E FROM R-96	B		x		132	6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
98	SI	24/26	P-26	167' N OF SEOS & 8' E	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
99	DO	26/27	P-26	166' N OF SEOS & 10' W	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
100	BO	26/27		26' N OF SEOS	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
101	CF	26/27		55' N OF SEOS	P	3	x	8		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
102	PB	26/27	P-27	124' N OF SEOS & 3' E (PB 8")	P	4	x	5	24	6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
103	CF	26/27	P-26	185' N OF SEOS & 12' W	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
104	AO	19/20		196' N OF SEOS	P	5	x	23		6/30/16	BS	W-4131	Air Pressure	Pass	6/30/16
105	AO	18/19		196' N OF SEOS	P	5	x	23		6/30/16	BS	W-4131	Air Pressure	Pass	6/30/16
106	AO	17/18		196' N OF SEOS	P	5	x	8		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
107	CF	19/20/R-26		194' N OF SEOS	P	3	x	5		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
108	CF	18/19		194' N OF SEOS	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
109	CF	17/18	P-18	194' N OF SEOS & 4' E	P	2	x	2		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
110	CF	19/20	P-19	126' N OF SEOS & 8' W	P	2	x	4		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
111	CF	19/20	P-19	BETWEEN R-110 & R-112	B		x		120	6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
112	CF	19/20	P-19	136' N OF SEOS & 2' W	P	2	x	2		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
113	DS-7	13/14		91' N OF SEOS	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
114	DS-8	R-105/18	P-18	195' N OF SEOS & 9' W	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
115	DSX-3	R-79	P-21	125'N OF SEOS	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
116	DS-9	18/19		101' N OF SEOS	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
117	CF	26/27		180' N OF SEOS	P	6	x	11		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
118	CF	26/27	P-27	179' N OF SEOS 2'E	P	4	x	3		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
119	CF	26/27	P-27	179' N OF SEOS 4'E	P	5	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
120	CF	26/27	P-27	179' N OF SEOS 6'E	P	3	x	7		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
121	CF	27/28	P-27	179' N OF SEOS & 14'W	P	3	x	3		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
122	CF	27/28	P-27	BETWEEN R-121 & R-123	B		x		108	6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
123	CF	27/28		173'N OF SEOS	P	3	x	3		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
124	BO	27/28		177' N OF SEOS	P	2	x	5		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
125	SJ	27/28/R-30		129' N OF SEOS	P	2	x	3		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
126	SJ	27/28/R-30	P-28	129'N OF SEOS & 3' E	P	2	x	2		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
127	CF	26/27	P-27	208'N OF SEOS & 2'E	P	5	x	8		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
128	CF	26/27	P-26	216'N OF SEOS (FROM R-127)	B		x		108	6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
129	CF	27/R-127	P-26	205'N OF SEOS(FROM R-127)	B		x		108	6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
130	AO	27/28		175'N OF SEOS	P	6	x	18		6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
131	AO	27/28		200'N OF SEOS	P	5	x	20		6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
132	CF	27/28		133'N OF SEOS	P	5	x	8		6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
133	DS-10	27/28		155'N OF SEOS	P	2	x	5		6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
134	CF	27/28		BETWEEN R-132 & R-154	B		x		72	6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
135	CF	19/20	P-20	115' N OF SEOS & 6'E	P	2	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
136	CF	19/20	P-20	BETWEEN R-135 & R-137	B		x		60	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
137	CF	19/20	P-20	115'N OF SEOS & 3'E	P	2	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
138	BO	29/31		11'N OF SEOS	P	2	x	4		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
139	CF	29/31	P-29	BETWEEN R-140 & R-141	B		x		108	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
140	CF	29/31	P-29	54'N OFSEOS 10'W	P	1	x	1		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
141	CF	29/31		54' N OF SEOS	P	2	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
142	SJ	29/30/31		159' N OF SEOS	P	3	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
143	BO	29/30		169' N OF SEOS	P	2	x	4		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
144	CF	29/30	P-29	BETWEEN R-145 & R-146	B		x		96	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
145	CF	29/30	P-29	175' N OF SEOS & 10'W	P	3	x	7		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
146	CF	29/30	P-29	180' N OF SEOS & 2'W	P	2	x	2		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
147	DSX-4	R-148	P-32	96'N OF SEOS	P	2	x	5		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
148	DS-11	31/32		96' N OF SEOS	P	4	x	7		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
149	CF	31/32	P-32	65' N OF SEOS & 4'E	P	3	x	12		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
150	CF	32/34	P-32	BETWEEN R-149 & R-150	B		x		108	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
151	CF	32/34	P-32	73' N OF SEOS 13' W	P	1	x	1		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
152	SJ	30/31/32		158' N OF SEOS	P	2	x	13		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
153	SJ	32/33/34		130'N OF SEOS	P	2	x	4		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
154	CF	27/28		115' N OF SEOS	P	8	x	10		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
155	BO	27/28		102' N OF SEOS	P	3	x	4		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
156	PB	28/29		15' N OF SEOS (8"PB)	P	4	x	5	24	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
157	SJ	33/34/35		130' N OF SEOS	P	2	x	2		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
158	DS-12	34/35		21' N OF SEOS	P	2	x	5		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
159	SJ	35/36/37		82' N OF SEOS	P	2	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
160	SJ	36/37/38		82' N OF SEOS	P	2	x	5		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
161	DS-13	36/38		215' N OF SEOS	P	2	x	5		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
162	CF	36/38	P-38	BETWEEN R-161 & R-163	B		x		96	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
163	CF	36/38	P-38	205' N OF SEOS & 10'E	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
164	CF	37/38	P-37	3'N OF SEOS & 9' W	B		x		72	7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
165	CF	37/38	P-37	6'N OF SEOS & 10' W	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
166	CF	37/38		3'N OF SEOS	P	3	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
167	SJ	38/39/40		35' N OF SEOS	P	3	x	3		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
168	CF	38/39		109' N OF SEOS	P	3	x	5		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
169	BO	38/39		213' N OF SEOS	P	3	x	5		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
170	SI	38/39	P-38	162' N OF SEOS 7' W	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
171	AO	40/39		BETWEEN R-167 & R-172	C	2	x	23		7/7/16	BS	W-4131	Air Pressure	Pass	7/7/16
172	SJ	39/40/41		35'N OF SEOS	P	3	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
173	CF	39/41	P-41	167' N OFSEOS 5'E	P	4	x	13		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
174	CF	39/41	P-39	177' N OF SEOS 4' W	P	3	x	10		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
175	CF	39/41		197' N OF SEOS	P	2	x	3		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
176	BO	39/41		208' N OF SEOS	P	2	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
177	CF	41/42		70' N OF SEOS	P	5	x	20		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
178	CF	41/42	P-41	92' N OF SEOS & 5'W	P	3	x	6		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
179	CF	41/42		105' N OF SEOS	P	3	x	30		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
180	CF	41/42	P-42	156' N OF SEOS & 5'E	P	6	x	17		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
181	CF	41/42	P-42	BETWEEN R-180 & R-187	B		x		120	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
182	CF	39/41	P-41	193' N OF SEOS & 4' E	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
183	CF	39/41	P-41	BETWEEN R-182 & R-175	B		x		48	7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
184	DS-14	41/42		139' N OF SEOS	P	2	x	6		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
185	DSX-5	R-179	P-42	100' N OF SEOS & 3' E	P	2	x	6		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
186	CF	41/42	P-42	157' N OF SEOS & 10' E	P	4	x	8		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
187	CF	41/42	P-42	162' N OF SEOS & 8'E	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
188	CF	41/42	P-42	138' N OF SEOS & 10'E	P	4	x	10		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
189	PB	42/43		136' N OF SEOS (48" MH)	P	7	x	9	48	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
190	CF	42/43	P-43	127' N OF SEOS & 5' E	P	5	x	13		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
191	CF	42/43	P-43	202' N OF SEOS & 10' E	P	2	x	3		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
192	CF	42/43	P-43	BETWEEN R-191 & R-193	B		x		120	7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
193	CF	42/43		210' N 0F SEOS	P	6	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
194	CF	43/44	P-43	175' N OF SEOS & 5'W	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
195	CF	43/44	P-43	BETWEEN R-194 & R-219	B		x		24	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
196	CF	42/43	P-42	BETWEEN R-199 & R-193	B		x		48	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
197	CF	42/43	P-42	BETWEEN R-198 & R-193	B		x		60	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
198	CF	42/43	P-42	210' N 0F SEOS & 7'W	P	3	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
199	CF	42/43	P-42	215' N OF SEOS & 7'W	P	3	x	3		7/7/16	SU	EXT-74	Vacuum	Pass	7/9/16
200	CF	42/43	P-42	114'N OF SEOS & 11'W	P	3	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
201	CF	42/43	P-42	BETWEEN R-200 & R-202	B		x		168	7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
202	CF	42/43	P-42	128'N OF SEOS & 10'W	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
203	CF	42/43	P-43	91' N OF SEOS & 10'E	P	4	x	10		7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16
204	CF	42/43	P-43	BETWEEN R-203 & R-214	B		x		120	7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16
205	CF	42/43	P-43	BETWEEN R-206 & R-215	B		x		108	7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16
206	CF	42/43	P-43	103' N OF SEOS & 20'E	P	2	x	5		7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16
207	CF	42/43	P-43	103' N OF SEOS & 9'E	P	3	x	13		7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
208	CF	43/44	P-43	160' N OF SEOS & 13'W	P	5	x	17		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
209	CF	43/44	P-43	180' N OF SEOS & 10'W	P	6	x	22		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
210	CF	42/43	P-43	BETWEEN R-211 & R-209	B		x		72	7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
211	CF	42/43	P-43	190'N OF SEOS & 8' E	P	8	x	12		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
212	DSX-6	R-180	P-42	153'N SEOS & 5'E	P	3	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
213	SJ	43/44/45		36'N OF SEOS	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
214	CF	43/44		81'N OF SEOS	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
215	CF	43/44		107'N OF SEOS	P	2	x	4		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
216	BO	43/44		133'N OF SEOS	P	2	x	4		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
217	CF	43/44		178'N OF SEOS	P	2	x	4		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
218	CF	43/44		185'N OF SEOS	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
219	CF	43/44		BETWEEN R-218 & R-217	B		x		60	7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
220	SJ	43/44/44A		231'N OF SEOS	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
221	SJ	44/44A/43		250' N OF SEOS	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
222	SI	45/46	P-45	11'N OF 4'W	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
223	SJ	44/45/46		35'N OF SEOS	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
224	DSX-7	R-204	P-43	80'N OF SEOS 4'W	P	4	x	2		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
225	CF	44/46	P-44	215'N SEOS & 12'E	P	10	x	16		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
226	DS-15	43/44		222'N OF SEOS	P	2	x	4		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
227	CF	43./44	P-44	216'N OF SEOS 5'E	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
228	CF	43/44	P-44	BETWEEN R-227 & R-229	B		x		24	7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
229	CF	43/44	P-44	216'N OF SEOS 7'E	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
230	DS-17	45/46		24'N OF SEOS	P	2	x	4		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
231	DS-16	46/47		146'N OF SEOS	P	2	x	4		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
232	SJ	46/47/48		115'N OF SEOS	P	2	x	7		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
233	SJ	47/48/49		116'N OF SEOS	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
234	CF	47/49	P-47	164' N OF SEOS & 2'W	P	3	x	8		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
235	BO	46/47		258'N OF SEOS	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
236	CF	46/47		266'N OF SEOS	P	5	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
237	PB	44/46	P-46	147'N OF SEOS 8'E(8"PB)	P	4	x	5		7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
238	AO	46/47		19'S OF NEOS (CAP 19')	P	2	x	19		7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
239	CF	44/46	P-44	230'N OF SEOS 7'W	P	2	x	2		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
240	CF	44/46	P-44	BETWEEN R-239 & R-241	B		x		108	7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
241	CF	44/46	P-44	241'N SEOS 7'W	P	2	x	2		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
242	SI	49/50		3'N OF SEOS	B		x		60	7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
243	BO	49/50		6'N OF SEOS	P	2	x	2		7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
244	DS-18	49/50		251' N OF SEOS	P	2	x	5		7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
245	BO	49/50		271'N OF SEOS	P	2	x	4		7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
246	SJ	50/52/53		20'N OF SEOS	P	2	x	3		7/12/16	SU	EXT-74	Vacuum	Pass	7/1/16
247	CF	50/52	P-50	53'N OF SEOS 2'W	P	2	x	2		7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
248	CF	50/52	P-50	65'N OF SEOS 10'W	P	3	x	5		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
249	CF	50/52	P-50	BETWEEN R-247 & R-248	B		x		108	7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
250	SJ	50/51/52		74'N OF SEOS	P	3	x	4		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
251	CF	50/51	P-50	111'N OF SEOS & 2'W	P	3	x	5		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
252	CF	50/51	P-50	102N OF SEOS 8'W	P	2	x	8		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
253	CF	50/51	P-50	BETWEEN R-251 & R-252	B		x		72	7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
254	CF	50/51		214N OF SEOS	P	3	x	10		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
255	CF	50/51		274'N OF SEOS	P	3	x	3		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
256	DS-19	53/54		20' N OF SEOS (AT SJ FOR 52/53/54)	P	3	x	8		7/12/16	SU	EXT-249	Vacuum	Pass	7/13/16
257	SJ	51/54/52		74'N OF SEOS	P	2	x	2		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
258	SJ	54/56/57		30'N OF SEOS	P	2	x	2		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
259	SJ	54/55/56		103'N OF SEOS	P	2	x	2		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
260	DS-20	55/56		103'N OF SEOS ON P55/P56	P	2	x	6		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
261	PB	54/55	P-55	285'N OF SEOS 20'E (4" PB)	P	4	x	4		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
262	SJ	56/57/58		30'N OF SEOS	P	2	x	3		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
263	SJ	55/56/58		103'N OF SEOS	P	2	x	3		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
264	BO	55/58		273' N OF SEOS	P	2	x	3		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
265	BO	55/58		285'N OF SEOS	P	2	x	4		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
266	CF	55/58		289'N OF SEOS	B		x		72	7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
267	SJ	58/59/60		94'N OF SEOS	P	3	x	3		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
268	SJ	59/60/61		94'N OF SEOS	P	3	x	3		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
269	BO	59/61		278'N OF SEOS	P	2	x	3		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
270	SJ	61/62/63		194'N OF SEOS	P	2	x	6		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
271	DS-21	58/59		266'N OF SEOS	P	2	x	4		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
272	DS-22	61/63		137' N OF SEOS	P	2	x	5		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
273	WR	50/51		165'N OF SEOS	P	3	x	10		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
274	WR	50/51	P-51	170'N OF SEOS 5'E	P	3	x	10		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
275	CF	50/51	P-51	BETWEEN R-273 & R-276	B		x		60	7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
276	BO	50/51		158'N OF SEOS	P	3	x	4		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
277	SJ	62/63/64		193'N OF SEOS	P	2	x	3		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
278	CF	64/65		187'N OF SEOS	P	2	x	3		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
279	CF	64/65		216'N OF SEOS	P	2	x	3		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
280	CF	64/65		115'N OF SEOS	P	5	x	10		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
281	SJ	65/66/67		116'N OF SEOS	P	2	x	2		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
282	CF	64/65	P-65	BETWEEN R-278 & R-283	B		x		120	7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
283	CF	64/65	P-65	193'N OF SEOS & 12'E	P	2	x	4		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
284	CF	64/65	P-65	215'N OF SEOS & 11'E	P	2	x	9		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
285	CF	64/65	P-65	BETWEEN R-279 & R-284	B		x		60	7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
286	DSX-8	R-270	P-61	193'N OF SEOS	P	2	x	6		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
287	DS-23	64/65		17'N OF SEOS	P	2	x	6		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
288	PB	65/67	P-65	90'N OF SEOS & 7'W (8")	P	2	x	5		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
289	SJ	66/67/68		115' OF SEOS	P	2	x	2		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
290	CF	66/68	P-66	167'N OF SEOS & 4'W	P	6	x	10		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
291	DS-24	66/68		148'N OF SEOS	P	2	x	4		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
292	PB	66/68	P-66	148'N OF SEOS & 3'W (8")	P	6	x	8		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
293	BO	68/71		99' N OF SEOS	P	3	x	5		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
294	SJ	68/70/71		147' N OF SEOS	P	5	x	3		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
295	SJ	68/69/70		216' N OF SEOS	P	2	x	2		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
296	DS-25	68/69		250' N OF SEOS	P	3	x	6		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
297	CF	68/70	P-70	155'N OF SEOS & 12' E	P	4	x	4		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
298	CF	70/72	P-70	BETWEEN R-297 & R-299	B		x		109	7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
299	SJ	71/70/72		155'N OF SEOS	P	2	x	16		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
300	DSX-9	R-299	P-72	153'N OF SEOS	P	2	x	6		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
301	CF	70/72		200'N OF SEOS	P	5	x	8		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
302	SJ	69/70/72		217'N OF SEOS	P	2	x	2		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
303	CF	72/74	P-72	54'N OF SEOS & 4'W	P	3	x	9		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
304	CF	72/74	P-72	BETWEEN R-303 & R-322	B		x		109	7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
305	CF	72/74	P-72	BETWEEN R-306 & R-317	B		x		109	7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
306	CF	72/74		104'N OF SEOS	P	2	x	3		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
307	CF	72/74		114'N OF SEOS	P	2	x	3		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
308	CF	72/74	P-74	BETWEEN R-307 & R-318	B		x		84	7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
309	CF	74/74		164'N OF SEOS	P	4	x	9		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
310	CF	72/74		172'N OF SEOS	P	4	x	6		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
311	SJ	72/73/74		220'N OF SEOS	P	3	x	4		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
312	DS-26	72/74		145'N OF SEOS	P	2	x	6		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
313	PB	72/74	P-72	158'N OFSEOS & 6'W (8" PB)	P	2	x	2	24	7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
314	CF	74/75		76'N OF SEOS	P	3	x	7		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
315	CF	74/75		209'N OF SEOS	P	5	x	7		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
316	SJ	74/73/75		218'N OF SEOS	P	2	x	3		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
317	CF	72/74	P-72	109'N OF SEOS & 7' W	P	1	x	1		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
318	CF	72/74	P-74	114'N OF SEOS & 9'E	P	2	x	2		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
319	CF	74/75	P-75	95'N OF SEOS & 10'E	P	3	x	5		7/27/16	SU	EXT-75	Vacuum	Pass	7/27/16
320	CF	74/75	P-75	BETWEEN R-319 & R-333	B		x		108	7/27/16	SU	EXT-75	Vacuum	Pass	7/27/16
321	CF	72/74	P-74	48'N OF SEOS & 2' E	P	2	x	3		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
322	CF	72/74	P-72	62'N OF SEOS & 8' W	P	1	x	2		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
323	CF	74/75	P-75	35'N OF SEOS &10' E	P	2	x	2		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
324	CF	74/75	P-75	BETWEEN R-323 AND R-325	B		x		144	7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
325	CF	74/75	P-75	50'N OF SEOS & 10' E	P	1	x	1		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
326	CF	74/75	P-75	157'N OF SEOS & 12' E	P	2	x	2		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
327	CF	74/75	P-75	BETWEEN R-326 AND R-334	B		x		144	7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
328	SI	71/72	P-72	77'N OF SEOS & 7' E	P	2	x	2		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
329	CF	74/75	P-75	164'N OF SEOS & 7'E	P	2	x	3		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
330	CF	74/75	P-75	BETWEEN R-329 AND R-331	B		x		84	7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
331	CF	74/75	P-75	173'N OF SEOS & 7'E	P	3	x	3		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
332	CF	75/76		8'N OF SEOS	P	2	x	7		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
333	CF	75/76		81'N OF SEOS	P	3	x	3		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
334	CF	75/76		151'N OF SEOS	P	2	x	3		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
335	BO	75/76		234'N OF SEOS	P	2	x	4		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
336	CF	75/76		254'N OF SEOS	P	4	x	14		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
337	DS-27	75/76		24'N OF SEOS	P	2	x	5		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
338	DSX-10	R-320	P-75	82'N OF SEOS & 5'W	P	2	x	5		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
339	CF	76/78		4'N OF SEOS	P	3	x	7		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
340	SJ	76/77/78		40'N OF SEOS	P	3	x	6		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
341	CF	78/79	P-78	15'N OF SEOS & 4'W	P	2	x	9		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
342	CF	76/78		15'N OF SEOS	P	2	x	5		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
343	PB	78/79	P-78	15'N OF SEOS & 9'W (6"PB)	P	2	x	4		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
344	SJ	77/78/79		40'N OF SEOS	P	3	x	3		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
345	CF	77/79	P-79	138'N OF SEOS & 7'E	P	2	x	15		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
346	CF	77/79	P-77	144'N OF SEOS 3'W	P	6	x	10		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
347	CF	76/78		25'N OF SEOS	P	2	x	3		7/27/16	SU	EXT-75	Vacuum	Pass	8/2/16
348	CF	79/80	P-79	133'N OF SEOS & 4'W	P	5	x	10		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
349	CF	79/80	P-79	129'N OF SEOS & 9' W	P	2	x	3		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
350	CF	79/80	P-79	131'N OFSEOS & 10' W	P	2	x	2		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
351	CF	79/80	P-79	BETWEEN R-348 AND R-349	B		x		36	7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
352	CF	79/80	P-79	BETWEEN R-348 & R-353	B		x		36	7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
353	CF	79/80	P-79	138'N OF SEOS & 2'W	P	2	x	3		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
354	CF	79/80	P-79	134'N OF SEOS & 3'W (ON R-348)	P	3	x	3		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
355	CF	79/80		167'N OF SEOS	P	5	x	10		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
356	CF	79/80	P-79	106'N OF SEOS & 4'W	P	3	x	6		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
357	PB	80/81	P-80	140' N OF SEOS & 1'W (48" MH)	P	6	x	6	60	7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
358	CF	79/80	P-79	207'N OF SEOS & 6'W	P	4	x	10		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
359	CF	79/80	P-79	208'N OF SEOS & 10'W	P	3	x	7		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
360	CF	77/79	P-79	148'N OF SEOS (ON R-346)	P	2	x	2		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
361	CF	77/79	P-77	137'N OF SEOS & 6'W	P	1	x	2		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
362	CF	80/82		6'N OF SEOS	P	2	x	4		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
363	SJ	80/81/82		25'N OF SEOS	P	2	x	4		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
364	CF	80/81		130'N OF SEOS	P	3	x	4		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
365	CF	80/81		140'N OF SEOS	P	3	x	15		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
366	CF	80/81	P-80	BETWEEN R-364 & R-365	B		x		36	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
367	CF	80/81	P-80	140'NOF SEOS & 4'W	P	3	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
368	CF	80/81		150'N OF SEOS	P	4	x	6		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
369	CF	80/81		264'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
370	SJ	81/82/83		25'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
371	CF	81/83	P-81	31'N OF SEOS & 3'W	P	2	x	6		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
372	BO	81/83		145'N OF SEOS	P	2	x	5		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
373	CF	81/83		216'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
374	SJ	83/84/85		52'N OF SEOS	P	3	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
375	CF	83/84		202'N OF SEOS	P	3	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
376	SJ	84/85/86		52'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
377	CF	84/86		198'N OF SEOS	P	2	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
378	SJ	86/87/88		96'N OF SEOS	P	2	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
379	CF	86/87	P-86	205' N OF SEOS	P	4	x	11		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
380	PB	76/78	P-76	6'N OF SEOS & 4'W (8" PB)	P	5	x	6	24	7/28/16	DM	EXT-75	Vacuum	Pass	8/2/16
381	CF	86/88		40'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
382	CF	83/84	P-83	197'N OF SEOS & 10'W	P	3	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
383	CF	83/84	P-83	BETWEEN R-382 & R-375	B		x		120	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
384	PB	81/83	P-81	32'N OF SEOS & 7'W (8" PB)	P	2	x	4	24	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
385	CF	80/82	P-80	BETWEEN R-362 & R-386	B		x		120	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
386	CF	80/82	P-80	10'N OF SEOS & 10W	P	2	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
387	CF	84/86	P-86	BETWEEN R-377 & R-379	B		x		86	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
388	CF	86/87	P-87	250'N OF SEOS & 19'E	P	3	x	12		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
389	CF	86/88	P-86	BETWEEN R-381 & R-390	B		x		120	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
390	CF	86/88	P-86	42'N OF SEOS & 9'W	P	2	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
391	DS-26 B	72/74		154'N OF SEOS	P	2	x	11		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
392	DS-26 A	72/74		135'N OFSEOS	P	2	x	11		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
393	DS-28	81/83		177'N OF SEOS	P	2	x	5		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
394	DSX-11	R-365	P-81	144'N OF SEOS &12'W	P	2	x	5		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
395	DSX-12	R-387	P-86	199'N OF SEOS & 4'E	P	2	x	5		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
396	CF	86/87		210'N OF SEOS	P	4	x	14		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
397	CF	86/87	P-86	210'N OF SEOS 7'W	P	3	x	4		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
398	CF	86/87	P-86	208'N OF SEOS 10'W	P	3	x	15		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
399	CF	86/87	P-87	200'N OF SEOS 9'E	P	4	x	20		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
400	CF	87/90		115'N OF SEOS	P	2	x	5		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
401	CF	87/90	P-90	BETWEEN R-400 & R-402	B		x		120	8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
402	CF	87/90	P-90	115'N OF SEOS 13'E	P	2	x	3		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
403	BO	87/90		130'N OF SEOS	P	2	x	5		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
404	BO	87/89/90		150'N OF SEOS	P	2	x	3		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
405	SJ	88/87/90		97'N OF SEOS	P	2	x	3		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
406	CF	90/91	P-90	50'N OF SEOS 3'W	P	3	x	6		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
407	CF	90/91	P-90	49'N OF SEOS 7'W	P	3	x	9		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
408	PB	90/91	P-90	238'N OF SEOS 7'W (4" PB)	P	4	x	10	24	8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
409	PB	90/91	P-91	107'N OF SEOS 5'E (8" PB)	P	4	x	4	24	8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
410	CF	91/92		160' N OF SEOS	P	6	x	17		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
411	CF	91/92		180'N SEOS	P	4	x	6		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
412	CF	92/93		110'N OF SEOS	P	3	x	5		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
413	CF	92/93	P-92	BETWEEN R-412 & R-414	B		x		84	8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
414	CF	92/93	P-92	115'N OF SEOS & 11'W	P	4	x	6		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
415	CF	87/89	P-87	246' N OF SEOS & 4'W	P	3	x	8		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
416	DS-29	90/91		26'N OF SEOS	P	2	x	5		8/4/16	SU	EXT-74	Vacuum	Pass	8/4/16
417	DSX-13	R-401	P-90	116'N OF SEOS &7'E	P	2	x	7		8/4/16	SU	EXT-74	Vacuum	Pass	8/4/16
418	DO	36/38	P-36	212' N OF SEOS & 6'W	P	2	x	2		8/5/16	SU	EXT-74	Vacuum	Pass	8/5/16
419	CF	94/95		45'N OF SEOS	P	2	x	3		8/5/16	SU	EXT-74	Vacuum	Pass	8/5/16
420	CF	94/95	P-94	BETWEEN R-419 & R-420	B		x		86	8/5/16	SU	EXT-74	Vacuum	Pass	8/5/16
421	CF	94/95	P-94	45'N OF SEOS & 12'W	P	4	x	6		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
422	CF	94/95	P-94	149'N OF SEOS	P	2	x	3		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
423	CF	94/95	P-94	BETWEEN R-422 & R-424	B		x		84	8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
424	CF	94/95	P-94	149'N OF SEOS & 11'W	P	4	x	6		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
425	CF	94/95	P-94	186'N OF SEOS & 2'W	P	2	x	2		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
426	CF	94/95	P-94	BETWEEN R-425 & R-427	B		x		132	8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
427	CF	94/95	P-94	176'N OF SEOS & 12'W	P	3	x	4		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
428	SJ	95/96/97		14'N OF SEOS	P	2	x	3		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
429	SJ	96/97/98		14'N OF SEOS	P	2	x	2		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
430	PB	97/98	P-97	109'N OF SEOS 2'W (8"PB)	P	2	x	4	24	8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
431	DS-30	97/98		120'N OF SEOS	P	2	x	5		8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16
432	DSX-14	R-430	P-98	110'N OF SEOS	P	2	x	5		8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16
433	CF	99/100	P-100	92'N OF SEOS & 6'E	P	3	x	7		8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16
434	CF	99/100		97'N OF SEOS	P	3	x	11		8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16
435	CF	99/100		132'N OF SEOS	P	2	x	3		8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16
436	CF	99/100	P-100	BETWEEN R-435 & R-437	B		x		108	8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16
437	CF	99/100	P-100	128'N OFSEOS & 8'E	P	2	x	2		8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
438	DS-31	79/80		200'N OF SEOS	P	2	x	5		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
439	DS-32	86/87		178'N OF SEOS	P	2	x	5		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
440	SJ	100/101/102		20'N OF SEOS	P	3	x	5		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
441	SJ	101/102/103		22'N OF SEOS	P	2	x	4		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
442	CF	103/104		40'N OF SEOS	P	4	x	8		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
443	SJ	103/104/105		188'N OF SEOS	P	2	x	3		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
444	BO	103/105		218'N OF SEOS	P	2	x	4		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
445	BO	104/106		62'N OF SEOS	P	3	x	8		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
446	SJ	104/105/106		190'N OF SEOS	P	2	x	3		8/10/16	SU	EXT-74	Vacuum	Pass	8/11/16
447	CF	104/106	P-106	150'N OF SEOS 13'E	P	2	x	7		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
448	CF	104/106	P-106	BETWEEN R-447 & R-477	B		x		108	8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
449	PB	102/103	P-103	113'N OF SEOS 13'E (8" PB)	P	2	x	4	24	8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
450	PB	103/104	P-104	6'N OF SEOS 5'E (6" PB)	P	3	x	4	24	8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
451	DS-33	104/106		23'N OF SEOS	P	2	x	6		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
452	DSX-15	R-445	P-106	62'N OF SEOS	P	2	x	6		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
453	BO	93/107		3'N OF SEOS	P	2	x	5		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
454	BO	93/107		45'N OF SEOS	P	3	x	6		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
455	CF	108/110	P-108	115'N OF SEOS & 2'W	P	5	x	15		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
456	SJ	108/109/110		188'N OF SEOS	P	2	x	3		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
457	SI	107/108		2'N OF SEOS	P	2	x	3		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
458	CF	94/110	P-110	103'N OF SEOS & 9'W	P	2	x	4		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
459	CF	94/110		BETWEEN R-458 & R-460	B		x		120	8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
460	SJ	R-461/94		110'N OF SEOS	P	2	x	4		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
461	AO		P-110	110'N OF SEOS (BTWN R-460/R-455)	C	2	x	22		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
462	CF	110/94		115'N OF SEOS & 13'W	P	3	x	8		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
463	CF	110/94	P-110	132'N OF SEOS & 2'W	P	4	x	5		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
464	CF	110/94	P-110	136'N OF SEOS & 10'W	P	4	x	12		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
465	SJ	94/110/109		188'N OF SEOS	P	2	x	3		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
466	CF	108/110	P-108	110'N OF SEOS & 5'W	P	3	x	11		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
467	DS-34	94/110		62'N OF SEOS	P	2	x	5		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
468	AO	94/110		4' N OF SEOS (ON R-469)	P	2	x	2		8/11/16	SU	EXT-74	Vacuum	Pass	8/11/16
469	AO	R-470	P-94/P-95	4'N OF SEOS	P	2	x	45		8/11/16	SU	EXT-74	Vacuum	Pass	8/11/16
470	AO	R-469	P-94/P-95/P-96	2'N OF SEOS	P	2	x	55		8/11/16	SU	EXT-74	Vacuum	Pass	8/11/16
471	AO	R-470/R-472	P-96/P-98/P-99	2'N OF SEOS	P	2	x	45		8/11/16	SU	EXT-74	Vacuum	Pass	8/11/16
472	AO	R-473/R-474	P-100/P-101	2'N OF SEOS	P	2	x	56		8/11/16	SU	EXT-74	Vacuum	Pass	8/11/16
473	AO	R-472/R-475	103/P-104/P-1	2'N OF SEOS	P	3	x	25		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
474	AO	R-472	P-99/P-100	4'N OF SEOS	P	3	x	3		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
475	AO	R-473	P-104/P-106	3'N OF SEOS	P	2	x	3		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
476	AO	R-469/R-470	P-94/P-95	2'N OF SEOS	B		x		276	8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
477	CF	106/111		161'N OF SEOS	P	2	x	3		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
478	CF	111/112	P-112	46'N OF SEOS & 4'E	P	4	x	10		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
479	CF	111/112	P-111	74'N OF SEOS & 2'W	P	3	x	7		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
480	DO	111/112	P-111	236'N OF SEOS & 11'W	P	2	x	3		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
481	CF	111/112	P-111	140'N OF SEOS & 4'W	P	3	x	9		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
482	CF	111/112	P-111	142'N OF SEOS &14'W	P	4	x	12		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
483	CF	111/112	P-112	46' N OF SEOS &15'E	P	2	x	7		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
484	CF	111/112	P-112	BETWEEN R-483 & R-487	B		x		96	8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
485	CF	111/112	P-112	46'N OF SEOS & 11' E	B		x		36	8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
486	DO	103/105	P-103	236'N OF SEOS & 12'W	P	2	x	3		8/12/16	SU	EXT-74	Vacuum	Pass	8/12/16
487	CF	112/113		46'N OF SEOS	P	2	x	10		8/12/16	SU	EXT-74	Vacuum	Pass	8/13/16
488	BO	112/113		163'N OFSEOS	P	3	x	3		8/12/16	SU	EXT-74	Vacuum	Pass	8/13/16
489	BO	113/114		66'N OF SEOS	P	2	x	3		8/12/16	SU	EXT-74	Vacuum	Pass	8/13/16
490	DSX-16	R-478	P-112	47'N OF SEOS	P	2	x	6		8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
491	DS-35	112/113		114'N OF SEOS	P	2	x	6		8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
492	PB	112/113	P-113	110'N OF SEOS & 10'E (48" MH)	P	7	x	6	60	8/12/16	SU	EXT-74	Vacuum	Pass	8/13/16
493	PB	113/114	P-114	206'N SEOS & 13'E (6" PB)	P	2	x	7	24	8/12/16	SU	EXT-74	Vacuum	Pass	8/13/16
494	CF	113/114	P-114	206'N OF SEOS &16'E	P	2	x	10		8/12/16	SU	EXT-74	Vacuum	Pass	8/13/16
495	CF	111/106	P-106	161'N OF SEOS & 9'W	P	1	x	1		8/11/16	SU	EXT-74	Vacuum	Pass	8/13/16
496	CF	111/106	P-106	BETWEEN R-495 & R-497	B		x		120	8/11/16	SU	EXT-74	Vacuum	Pass	8/13/16
497	CF	111/106	P-106	172'N OF SEOS & 3'W	P	2	x	2		8/11/16	SU	EXT-74	Vacuum	Pass	8/13/16
498	CF	112/113	P-113	38'N OF SEOS & 7'E	P	3	x	7		8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
499	CF	113/114	P-114	46'N OF SEOS & 7'E	P	3	x	10		8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
500	CF	113/114	P-114	BETWEEN R-499 & R-503	B		x		120	8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
501	CF	111/112	P-111	115'N OF SEOS & 6' W	P	2	x	14		8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
502	CF	112/113	P-113	152'N OF SEOS & 11' E	P	2	x	15		8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
503	CF	114/115		39'N OF SEOS	P	2	x	3		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
504	CF	114/115		205'N OF SEOS	P	2	x	5		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
505	SJ	115/119/118		106'N OF SEOS	P	4	x	12		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
506	BO	116/115		244'N OF SEOS	P	3	x	3		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
507	SJ	118/116/117		171'N OF SEOS	P	2	x	3		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
508	BO	117/118		171'N OF SEOS & 10'E	P	4	x	5		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
509	PB	116/118	P-116	176'N OF SEOS & 13'E (4" PB)	P	4	x	4	24	8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
510	CF	118/116	P-116	BETWEEN R-509 & R-511	B		x		60	8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
511	CF	117/116	P-116	171'N OF SEOS & 16'E	P	2	x	5		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
512	SJ	115/116/118		225'N OF SEOS	P	3	x	6		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
513	DS-36	118/117		40'N OF SEOS	P	2	x	6		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
514	DSX-17	R-505	P-118	106' N OF SEOS	P	3	x	6		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16

Appendix K
ESI Destruct Sample Information Logs

Environmental Specialties International Inc.
Destructive Sample Information

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Peel Test Extrusion Minimum** 66 PPI

Job Description: **Secondary** **Cell** **Peel Test Fusion Minimum** 75 PPI

Reported By: KHAI S. SOK **Cap** X **Shear Test Minimum** 90 PPI

Other:

D.S. No.	Seam No.	Weld Date	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
DSX-1	P-1 / R-1	6/23/16	SU	EXT -74		500	450	Peel	100		104		107		97		101		Pass
								Shear	99		98		103		105		101		
	DS Location and Notes	34' N OF SEOS & 10'W																	
DS -1	P-1 / P-2	6/22/16	SU	4024	5	860		Peel	92	88	89	86	77	93	98	87	76	92	Pass
								Shear	101		99		97		100		98		
	DS Location and Notes	15'N OF SEOS																	
DS-2	P-6 / P-7	6/22/16	BS	4131	5	860		Peel	90	84	84	79	88	96	76	81	95	86	Pass
								Shear	101		98		103		95		101		
	DS Location and Notes	16'N OF SEOS																	
DS-3	P-10 / P-11	6/23/16	AP	4000	5	860		Peel	81	81	81	75	82	86	84	93	95	97	Pass
								Shear	100		99		101		97		95		
	DS Location and Notes	25' S OF NEOS																	
DS-4	P-15 / P-17	6/24/16	AP	4000	5	860		Peel	95	98	100	99	99	98	96	98	93	96	Pass
								Shear	101		102		99		102		101		
	DS Location and Notes	87'N OF SEOS																	
DSX-2	P-10 / R-30	6/23/16	SU	EXT -74		500	450	Peel	94		95		99		92		97		Pass
								Shear	103		103		102		104		102		
	DS Location and Notes	106' N OF SEOS &6'W																	
DS-5	P-19 / P-20	6/27/16	BS	4131	5	860		Peel	91	93	94	95	98	99	100	99	96	99	Pass
								Shear	105		104		103		102		100		
	DS Location and Notes	16'N OF SEOS																	
DS-6	P-23 / P-24	6/27/16	AP	4000	6	860		Peel	100	99	89	87	91	93	98	88	91	93	Pass
								Shear	103		104		102		102		100		
	DS Location and Notes	105'N OF SEOS																	
DS-7	P-13 / P-14	6/24/16	AP	4000	6	860		Peel	98	99	97	100	91	96	100	98	89	93	Pass
								Shear	101		102		103		104		103		
	DS Location and Notes	91'N OF SEOS																	
DS-8	P-18 / R-105	6/30/16	BS	4131	6	860		Peel	102	100	88	85	91	99	101	98	98	95	Pass
								Shear	108		105		103		106		102		
	DS Location and Notes	195' N OF SEOS & 9'W OF P-18/P-19																	
DS-9	P-18 / P-19	6/24/16	AP	4000	6	860		Peel	94	76	98	91	100	99	97	100	89	87	Pass
								Shear	103		105		100		101		103		
	DS Location and Notes	101'N OF SEOS																	
DS-10	P-27 / P-28	6/30/16	AP	4000	6	860		Peel	87	89	88	87	86	90	93	94	100	96	Pass
								Shear	103		102		103		104		105		
	DS Location and Notes	155'N OF SEOS																	
DS-11	P-31 / P-32	6/30/16	BS	4131	6	860		Peel	90	83	87	89	101	100	102	100	99	95	Pass
								Shear	100		100		103		102		101		
	DS Location and Notes	96'N OF SEOS																	
DSX-4	R-148 / P-32	7/1/16	SU	74		500	400	Peel	94		102		107		103		102		Pass
								Shear	101		100		103		102		101		
	DS Location and Notes	96'N OF SEOS																	
DS-12	P-34 / P-35	7/1/16	AP	4000	6	860		Peel	89	99	97	84	79	86	100	98	99	98	Pass
								Shear	102		103		102		100		101		
	DS Location and Notes	21'N OF SEOS																	

Environmental Specialties International Inc.
Destructive Sample Information

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Peel Test Extrusion Minimum** 66 PPI

Job Description: **Secondary** **Cell** **Peel Test Fusion Minimum** 75 PPI

Reported By: KHAI S. SOK **Cap** X **Shear Test Minimum** 90 PPI

Other:

D.S. No.	Seam No.	Weld Date	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
DS-13	P-36 / P-38	7/1/16	BS	4131	6	860		Peel	99	95	84	75	85	89	91	94	97	96	Pass
								Shear	102		105		104		103		101		
	DS Location and Notes	215'N OF SEOS																	
DS-14	P-41 / P-42	7/7/16	BS	4131	6	860		Peel	88	84	84	81	90	96	94	85	89	81	Pass
								Shear	101		104		105		103		104		
	DS Location and Notes	139'N OF SEOS																	
DSX-5	P-42 / R-179	7/7/16	SU	EXT -74		500	400	Peel	94		91		96		89		84		Pass
								Shear	101		103		102		101		102		
	DS Location and Notes	100'N OF SEOS & 3'E																	
DSX-3	P-21 / R-79	6/27/16	SU	EXT -74		500	400	Peel	105		99		103		101		100		Pass
								Shear	103		101		104		103		105		
	DS Location and Notes	125'N OF SEOS																	
DSX-6	P-42 / R-180	7/7/16	SU	EXT -74		500	400	Peel	94		101		99		87		84		Pass
								Shear	101		103		102		101		102		
	DS Location and Notes	153'N OF SEOS &5'E OF P-41/P-42																	
DS-15	P-43 / P-44	7/8/16	BS	4131	6	860		Peel	85	93	106	101	89	96	99	103	101	104	Pass
								Shear	105		106		101		103		103		
	DS Location and Notes	222'N OF SEOS																	
DS-16	P-46 / P-47	7/8/16	BS	4131	6	860		Peel	98	104	98	100	99	100	96	95	100	91	Pass
								Shear	102		101		103		104		102		
	DS Location and Notes	146'N OF SEOS																	
DS-17	P-45 / P-46	7/8/16	AP	4000	6	860		Peel	99	85	90	89	96	91	101	100	99	96	Pass
								Shear	101		103		105		106		103		
	DS Location and Notes	24'N OF SEOS																	
DSX-7	P-43 / R-204	7/8/16	PHOU	EXT-75		500	400	Peel	108		103		104		105		104		Pass
								Shear	103		106		103		106		105		
	DS Location and Notes	80'N OF SEOS & 4'W OF P-43/P-44																	
DS-18	P-49 / P-50	7/12/16	AP	4000	6	860		Peel	99	101	109	94	98	100	86	99	88	79	Pass
								Shear	108		106		108		109		107		
	DS Location and Notes	251'N OF SEOS																	
DS-19	P-53 / P-54	7/12/16	BS	4131	6	860		Peel	100	109	106	100	81	95	86	78	99	95	Pass
								Shear	102		101		103		103		105		
	DS Location and Notes	20'N OF SEOS																	
DS-20	P-55 / P-56	7/12/16	AP	4000	6	860		Peel	118	112	120	126	97	83	84	86	98	93	Pass
								Shear	106		106		107		106		103		
	DS Location and Notes	103'N OF SEOS																	
DS-21	P-58 / P-59	7/13/16	AP	4000	6	860		Peel	100	98	96	97	101	99	89	89	96	94	Pass
								Shear	102		105		106		104		107		
	DS Location and Notes	266'N OF SEOS																	
DS-22	P-61 / P-63	7/13/16	BS	4131	6	860		Peel	88	87	96	86	94	86	96	92	97	95	Pass
								Shear	105		106		102		105		108		
	DS Location and Notes	137'N OF SEOS																	

Environmental Specialties International Inc.

Destructive Sample Information

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Peel Test Extrusion Minimum** 66 PPI

Job Description: **Secondary** **Cell** **Peel Test Fusion Minimum** 75 PPI

Reported By: KHAI S. SOK **Cap** X **Shear Test Minimum** 90 PPI

Other:

D.S. No.	Seam No.	Weld Date	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
DS-23	P-64 / P-63	7/14/16	BS	4131	6	860		Peel	87	85	86	95	94	98	86	94	95	85	Pass
								Shear	102		105		104		105		104		
	DS Location and Notes	17'N OF SEOS																	
DS-24	P-66 / P-68	7/14/16	BS	4131	6	860		Peel	96	98	86	98	95	98	86	84	98	86	Pass
								Shear	105		103		104		108		107		
	DS Location and Notes	148'N OF SEOS																	
DSX-8	R-270 / P-61	7/14/16	SU	EXT-74		500	400	Peel	99		92		100		102		103		Pass
								Shear	101		102		105		102		101		
	DS Location and Notes	193'N OF SEOS																	
DS-25	P-68 / P-69	7/25/16	BS	4131	6	860		Peel	93	95	88	96	93	86	83	85	87	94	Pass
								Shear	103		104		105		106		107		
	DS Location and Notes	250'N OF SEOS																	
DS-26	P-72 / P-74	7/25/16	BS	4131	6	860		Peel	98	99	100	98	86	87	79	81	83	91	Pass
								Shear	103		104		104		105		120		
	DS Location and Notes	145'N OF SEOS. FIELD TEST RESULTS MET PEEL/SHEAR REQUIREMENTS. LAB RESULTS FOR PEEL ADHESION REPORTED BREAK CODE OF AD-BRK ON INSIDE TRACK AS THIS SAMLPE FAILED. SAMPLES DS-26A AND DS-26B WERE SUBSEQUENTLY COLLECTED 10 FT ON EACH SIDE OF DS-26																	
DSX-9	P-72 / R-299	7/25/16	SU	EXT-74		500	400	Peel	101		99		108		101		103		Pass
								Shear	106		104		104		105		101		
	DS Location and Notes	153'N OF SEOS																	
DSX-10	P-75 / R-320	7/27/16	SU	EXT-74		500	400	Peel	101		103		94		96		100		Pass
								Shear	103		102		103		102		101		
	DS Location and Notes	82'N OF SEOS & 5'W OF P-75/P-76																	
DS-26A	P-72 / P-74	7/25/16	BS	4131	6	860		Peel	106	107	100	102	106	110	107	110	100	99	Pass
								Shear	101		103		102		103		107		
	DS Location and Notes	135'N OF SEOS																	
DS-26B	P-72 / P-74	7/25/16	BS	4131	6	860		Peel	99	100	106	104	99	102	111	101	99	100	Pass
								Shear	106		107		102		103		104		
	DS Location and Notes	154'N OF SEOS																	
DS-27	P-75 / P-76	7/27/16	AP	4000	6	860		Peel	97	97	86	89	100	89	101	98	96	81	Pass
								Shear	102		103		104		103		106		
	DS Location and Notes	24'N OF SEOS																	
DS-28	P-81 / P-83	7/28/16	AP	4000	6	860		Peel	99	98	86	95	100	113	100	102	103	100	Pass
								Shear	103		105		102		103		106		
	DS Location and Notes	177'N OF SEOS																	
DSX-11	R-365 / P-81	7/28/16	SU	EXT-74		500	400	Peel	103		104		103		102		103		Pass
								Shear	101		111		106		105		106		
	DS Location and Notes	144'N OF SEOS & 12'W OF P-81/P-83																	
DSX-12	R-387 / P-86	7/28/16	DM	EXT-75		500	400	Peel	100		102		103		102		102		Pass
								Shear	103		111		105		106		105		
	DS Location and Notes	199'OF SEOS & 4'E OF P-84/P-86																	
DSX-13	P-90 / R-401	8/3/16	SU	EXT-74		500	400	Peel	103		102		101		100		105		Pass
								Shear	103		105		104		105		105		
	DS Location and Notes	116'N OF SEOS & 7'E OF P-87/P-90																	
DS-29	P-90 / P-91	8/3/16	AP	4000	6	860		Peel	89	100	95	99	101	98	99	86	87	89	Pass
								Shear	105		102		104		103		105		
	DS Location and Notes	26' N OF SEOS																	

Environmental Specialties International Inc.

Destructive Sample Information

Project Name: HONEYWELL SA6 NORTH CAP **Job #** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond** **Peel Test Extrusion Minimum** 66 PPI

Job Description: **Secondary** **Cell** **Peel Test Fusion Minimum** 75 PPI

Reported By: KHAI S. SOK **Cap** X **Shear Test Minimum** 90 PPI

Other:

D.S. No.	Seam No.	Weld Date	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
DS-30	P-97 / P-98	8/5/16	BS	4131	6	860		Peel	98	96	95	96	100	98	91	93	96	97	Pass
								Shear	105		102		104		105		103		
	DS Location and Notes	120'N OF SEOS																	
DSX-14	R-430 / P-98	8/516	SU	EXT-74		500	400	Peel	99		100		98		112		116		Pass
								Shear	105		106		102		105		100		
	DS Location and Notes	110'N OF SEOS																	
DS-31	P-79 / P-80	7/27/16	BS	4131	6	860		Peel	98	95	94	101	85	99	103	97	98	95	Pass
								Shear	111		102		105		106		102		
	DS Location and Notes	200'N OF SEOS																	
DS-32	P-86 / P-87	7/28/16	BS	4131	6	860		Peel	85	86	89	84	89	86	96	89	99	104	Pass
								Shear	105		103		104		102		103		
	DS Location and Notes	178'N OF SEOS																	
DS-33	P-104 / P-106	8/9/16	SU	4000	6	860		Peel	98	89	96	95	89	87	83	84	96	86	Pass
								Shear	102		105		103		105		104		
	DS Location and Notes	23'N OF SEOS																	
DSX-15	R-445 / P-106	8/10/16	SU	EXT-74		500	400	Peel	112		113		114		113		114		Pass
								Shear	105		106		104		102		105		
	DS Location and Notes	62'N OF SEOS																	
DSX-16	R-478 / P-112	8/12/16	SU	EXT-74		500	400	Peel	101		96		86		89		100		Pass
								Shear	105		103		104		105		102		
	DS Location and Notes	47'N OF SEOS																	
DS-34	P-94 / P-110	8/10/16	BS	4131	6	860		Peel	98	96	98	86	89	84	94	86	96	98	Pass
								Shear	102		103		105		104		104		
	DS Location and Notes	62'N OF SEOS																	
DS-35	P-112 / P-113	8/12/16	SU	4000	6	860		Peel	96	89	86	95	84	98	94	96	95	94	Pass
								Shear	103		105		104		104		105		
	DS Location and Notes	114'N OF SEOS																	
DS-36	P-118 / P-117	8/13/16	BS	4131	6	860		Peel	98	96	94	86	86	96	97	94	93	92	Pass
								Shear	102		103		105		106		105		
	DS Location and Notes	40'N OF SEOS																	
DSX-17	R-505 / P-118	8/15/16	SU	EXT-74	6	860		Peel	113		112		114		111		101		Pass
								Shear	105		104		106		104		105		
	DS Location and Notes	106'N OF SEOS																	

Appendix L
Laboratory Destruct Test Results

Honeywell SA-6 Capping (SA-6 North)

Comparison of ESI / Langan (QA) Destruct Samples - Fusion Weld

Sample ID	***Weld Type***	***Submitted By:***	***Test***	***Peel Strength (ppi)***					**Avg. Strength (ppi)**	***Meets Spec Requirement***
DS-1	Fusion	Langan	Side A Peel	104	103	114	107	105	**107**	**Yes**
		Entact	Side A Peel	105.2	103.2	104	105.9	108.3	**105.3**	**Yes**
		Langan	Side B Peel	118	115	125	111	107	**115**	**Yes**
		Entact	Side B Peel	118.8	109.4	116.5	118.8	94.4	**111.6**	**Yes**
		Langan	Shear	125	123	122	122	125	**123**	**Yes**
		Entact	Shear	129.9	131	131	129.7	134.3	**131.2**	**Yes**
DS-2	Fusion	Entact	Side A Peel	103.4	102.1	102.7	99.7	106.3	**102.8**	**Yes**
			Side B Peel	112.3	111.6	113.6	114	116.5	**113.6**	**Yes**
			Shear	116.1	118.2	117.5	114.9	115.8	**116.5**	**Yes**
DS-3	Fusion	Entact	Side A Peel	115.4	105.5	102.3	101.2	103.2	**105.5**	**Yes**
			Side B Peel	113.5	89.6	112	112.3	109.3	**107.3**	**Yes**
			Shear	121.6	122.5	126.5	122.7	120.3	**122.7**	**Yes**
DS-4	Fusion	Entact	Side A Peel	120.2	121.3	111.2	109.2	120.3	**116.4**	**Yes**
			Side B Peel	110.6	106.3	109.5	102.6	110.1	**107.8**	**Yes**
			Shear	128.7	132.4	129.5	128	127.6	**129.2**	**Yes**
DS-5	Fusion	Entact	Side A Peel	124.6	111.9	118.7	112.8	112.7	**116.1**	**Yes**
			Side B Peel	116.4	103	111.9	107.7	111.5	**110.1**	**Yes**
			Shear	116.2	120.3	116.3	117	115.6	**117.1**	**Yes**
DS-6	Fusion	Entact	Side A Peel	102.4	102.2	103.2	102.1	100	**102.0**	**Yes**
			Side B Peel	105.4	106.9	108	103.7	107.5	**106.3**	**Yes**
			Shear	126.6	125.5	130.1	125	129.7	**127.4**	**Yes**
DS-7	Fusion	Entact	Side A Peel	102.3	114.2	108.4	117.2	116.1	**111.6**	**Yes**
			Side B Peel	103.2	103	109.6	111	105	**106.4**	**Yes**
			Shear	127.5	132.2	130.7	128.1	130.4	**129.8**	**Yes**
DS-8	Fusion	Entact	Side A Peel	126	119	123.4	120.1	126	**122.9**	**Yes**
			Side B Peel	135.6	128	132.3	127	135	**131.6**	**Yes**
			Shear	128.9	132	135	136.3	139	**134.2**	**Yes**
DS-9	Fusion	Entact	Side A Peel	118.5	121.4	122.4	117.8	118.9	**119.8**	**Yes**
			Side B Peel	111.8	117.7	120.5	116.8	116.1	**116.6**	**Yes**
			Shear	133	136.3	131.8	132.1	132.3	**133.1**	**Yes**
DS-10	Fusion	Entact	Side A Peel	113.2	109	108.3	108	117	**111.1**	**Yes**
			Side B Peel	119	119	117.7	117	117.2	**118.0**	**Yes**
			Shear	130.5	124.9	126.9	129	128.4	**127.9**	**Yes**
DS-11	Fusion	Entact	Side A Peel	113.3	113	117.5	111.1	104	**111.8**	**Yes**
			Side B Peel	117.4	119	128.4	121.1	115.6	**120.3**	**Yes**
			Shear	125.1	124.2	129.1	126	126.6	**126.2**	**Yes**
DS-12	Fusion	Entact	Side A Peel	114.2	110.2	111.6	110.2	111	**111.4**	**Yes**
			Side B Peel	122.7	110.3	116.4	109.5	107	**113.2**	**Yes**
			Shear	119	118.8	118	114	117.6	**117.5**	**Yes**
DS-13	Fusion	Entact	Side A Peel	114.3	109.2	110.5	109.1	110.2	**110.7**	**Yes**
			Side B Peel	128	121.1	123.3	122.7	121.3	**123.3**	**Yes**
			Shear	125.1	123.7	124.3	125	130.9	**125.8**	**Yes**

DS-14	Fusion	Langan	Side A Peel	124	136	120	119	132	**126.2**	**Yes**
		Entact	Side A Peel	125.8	121.7	118.4	115.7	116.2	**119.6**	**Yes**
		Langan	Side B Peel	113	113	114	113	117	**114.0**	**Yes**
		Entact	Side B Peel	112.3	111.2	112.8	112.8	110.6	**111.9**	**Yes**
		Langan	Shear	117	118	117	115	114	**116.2**	**Yes**
		Entact	Shear	114.3	114	115.3	114.7	118.4	**115.3**	**Yes**
DS-15	Fusion	Entact	Side A Peel	122	116.1	117.1	116.9	118.2	**118.1**	**Yes**
			Side B Peel	124.1	106.3	119	119.5	119.4	**117.7**	**Yes**
			Shear	120.3	121	125.9	126.5	122.4	**123.2**	**Yes**
DS-16	Fusion	Entact	Side A Peel	117.5	112.3	111.7	113.3	116	**114.2**	**Yes**
			Side B Peel	109.6	104.4	104.2	107.1	105.5	**106.2**	**Yes**
			Shear	128.9	121.1	123.2	122.2	121.1	**123.3**	**Yes**
DS-17	Fusion	Entact	Side A Peel	116.5	120.5	118.7	119.5	114	**117.8**	**Yes**
			Side B Peel	106.1	118.1	108.4	123.3	99	**111.0**	**Yes**
			Shear	136	127	130	134	130.8	**131.6**	**Yes**
DS-18	Fusion	Entact	Side A Peel	112.7	118	116.4	118.4	110.1	**115.1**	**Yes**
			Side B Peel	117.6	118.6	114.6	118.8	116.8	**117.3**	**Yes**
			Shear	128.1	129.8	129	121.3	128	**127.2**	**Yes**
DS-19	Fusion	Entact	Side A Peel	106.1	111.2	105.3	107.2	108.4	**107.6**	**Yes**
			Side B Peel	111	115	117.1	115	120.2	**115.7**	**Yes**
			Shear	128.2	123	125.2	126.3	123.4	**125.2**	**Yes**
DS-20	Fusion	Entact	Side A Peel	126.2	129.8	137	129	127	**129.8**	**Yes**
			Side B Peel	131.2	135.5	132.2	129	128.1	**131.2**	**Yes**
			Shear	140.1	132	134.2	135.2	131.6	**134.6**	**Yes**
DS-21	Fusion	Entact	Side A Peel	110.7	113.5	110.7	106.6	116.6	**111.6**	**Yes**
			Side B Peel	108.4	109.3	116.5	109.9	109.6	**110.7**	**Yes**
			Shear	129.5	127.4	127.3	129.4	133.1	**129.3**	**Yes**
DS-22	Fusion	Entact	Side A Peel	126.9	119	126.2	124.3	124.6	**124.2**	**Yes**
			Side B Peel	118.9	114	119.3	115.3	117	**116.9**	**Yes**
			Shear	127.7	126.2	132	126.2	127.5	**127.9**	**Yes**
DS-23	Fusion	Entact	Side A Peel	116.5	108.7	111.4	118.7	110.9	**113.2**	**Yes**
			Side B Peel	105.6	101.9	103.9	110.3	102.8	**104.9**	**Yes**
			Shear	128.5	127.1	129.1	129.2	128.2	**128.4**	**Yes**
DS-24	Fusion	Entact	Side A Peel	126	128.9	120.8	130.1	127.8	**126.7**	**Yes**
			Side B Peel	112.2	108.8	109.6	111.8	112.4	**111.0**	**Yes**
			Shear	135.8	132.6	134.1	134.7	133.1	**134.1**	**Yes**
DS-25	Fusion	Langan	Side A Peel	121	119	123	120	119	**120.4**	**Yes**
		Entact	Side A Peel	118.6	124.4	118.7	121.9	119.7	**120.7**	**Yes**
		Langan	Side B Peel	111	109	105	113	111	**109.8**	**Yes**
		Entact	Side B Peel	107.3	108.7	107	107.3	108.5	**107.8**	**Yes**
		Langan	Shear	131	131	133	131	131	**131.4**	**Yes**
		Entact	Shear	128.1	126.7	129.1	126.4	131.1	**128.3**	**Yes**
DS-26	Fusion	Entact	Side A Peel	126.4	122.7	125.9	125.6	122.5	**124.6**	**Yes**
			Side B Peel	110.8	114.2	90.3	102.9	89.7	**101.6**	**No**
			Shear	129.1	128.7	129.8	127.2	126	**128.2**	**Yes**
DS-26B	Fusion	Entact	Side A Peel	108.6	105.4	105.9	107.2	113.6	**108.1**	**Yes**
			Side B Peel	118.3	114	116.1	119.9	117.4	**117.1**	**Yes**
			Shear	123.7	125.4	123.5	126.3	125.3	**124.8**	**Yes**

DS-27	Fusion	Entact	Side A Peel	109.9	113.2	111.3	111.3	113.1	**111.8**	**Yes**
			Side B Peel	107.2	107	105.3	104.1	100.3	**104.8**	**Yes**
			Shear	128.7	128	129.5	127.4	133	**129.3**	**Yes**
DS-28	Fusion	Entact	Side A Peel	107.3	105	100.3	102.8	103.7	**103.8**	**Yes**
			Side B Peel	101.6	98.9	100.7	94.2	96.8	**98.4**	**Yes**
			Shear	116.5	116.5	117.4	117	118.5	**117.2**	**Yes**
DS-29	Fusion	Entact	Side A Peel	115.1	108.1	111.6	110	112.4	**111.4**	**Yes**
			Side B Peel	114.6	102.1	107.6	106.9	106.1	**107.5**	**Yes**
			Shear	126.9	127.4	128.8	127.8	133.2	**128.8**	**Yes**
DS-30	Fusion	Entact	Side A Peel	105.5	103.1	101.8	107.7	106.3	**104.9**	**Yes**
			Side B Peel	101.4	103.5	102.1	104.8	100.7	**102.5**	**Yes**
			Shear	112.5	108	107.7	107	107.2	**108.5**	**Yes**
DS-31	Fusion	Entact	Side A Peel	129.2	120.7	114	110.4	112.3	**117.3**	**Yes**
			Side B Peel	117.1	110.4	124.2	124.1	123.6	**119.9**	**Yes**
			Shear	130.1	133.8	129.7	128	130.1	**130.3**	**Yes**
DS-32	Fusion	Entact	Side A Peel	126	122.1	119	118.3	121.7	**121.4**	**Yes**
			Side B Peel	118.2	114.4	113.3	111.4	115.3	**114.5**	**Yes**
			Shear	129.5	133	138.6	134	128.7	**132.8**	**Yes**
DS-33	Fusion	Entact	Side A Peel	115.1	110.4	113	113.3	113.1	**113.0**	**Yes**
			Side B Peel	112.1	114.3	110.1	112.1	111.3	**112.0**	**Yes**
			Shear	132.4	131	131.5	132.2	134	**132.2**	**Yes**
DS-34	Fusion	Entact	Side A Peel	126.4	123.2	127.6	123	129	**125.8**	**Yes**
			Side B Peel	114.2	117.4	117.5	117.1	116.5	**116.5**	**Yes**
			Shear	133	130.7	131.4	131.8	136	**132.6**	**Yes**
DS-35	Fusion	Entact	Side A Peel	116.7	114	127.4	116	114.5	**117.7**	**Yes**
			Side B Peel	119	111.1	120.5	118.7	115	**116.9**	**Yes**
			Shear	133.3	131	124	130.4	134.9	**130.7**	**Yes**
DS-36	Fusion	Langan	Side A Peel	115	111	108	114	117	**113.0**	**Yes**
		Entact	Side A Peel	117	119.6	116	111.4	114	**115.6**	**Yes**
		Langan	Side B Peel	115	116	110	109	106	**111.2**	**Yes**
		Entact	Side B Peel	111.7	114.1	100	115.1	111.6	**110.5**	**Yes**
		Langan	Shear	129	132	128	127	128	**128.8**	**Yes**
		Entact	Shear	126	125.1	121.8	124.4	128.1	**125.1**	**Yes**

Sample reported as "AD-BRK" under EPA Break Classification Code. Although specimen met the minimum peel requirements, since the sample broke at the weld, the sample is reported as a failed sample.

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS

PROJECT NO.: L16040-03
LAB ID NO.: L16040-03-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-1

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	105.2	SE1	<10
2	103.2	SE1	<10
3	104.0	SE1	<10
4	105.9	SE1	<10
5	108.3	SE1	<10
AVERAGE	**105.3**		
STD. DEV.	1.76		
INSIDE TRACK (WELD "B")			
1	118.8	SE1	<10
2	109.4	SE1	<10
3	116.5	SE1	<10
4	118.8	SE1	<10
5	94.4	SE1	<10
AVERAGE	**111.6**		
STD. DEV.	9.26		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	129.9	SE1
2	131.0	SE1
3	131.0	SE1
4	129.7	SE1
5	134.3	SE1
AVERAGE	**131.2**	
STD. DEV.	1.65	

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\\geoserver\Data Drive\Synthetics\2016 SYNTHETICS\[L16040-03 HONEYWELL SA6 NORTH & SOUTH CAPS DS-1.xls]Sheet1 L16040-03-02 6/27/16

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS

PROJECT NO.: L16040-03
LAB ID NO.: L16040-03-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-2

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	103.4	SE1	<10
2	102.1	SE1	<10
3	102.7	SE1	<10
4	99.7	SE1	<10
5	106.3	SE1	<10
AVERAGE	**102.8**		
STD. DEV.	2.13		
INSIDE TRACK (WELD "B")			
1	112.3	SE1	<10
2	111.6	SE1	<10
3	113.6	SE1	<10
4	114.0	SE1	<10
5	116.5	SE1	<10
AVERAGE	**113.6**		
STD. DEV.	1.69		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	116.1	SE1
2	118.2	SE1
3	117.5	SE1
4	114.9	SE1
5	115.8	SE1
AVERAGE	**116.5**	
STD. DEV.	1.19	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS

PROJECT NO.: L16040-03
LAB ID NO.: L16040-03-04
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-3

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	115.4	SE1	<10
2	105.5	SE1	<10
3	102.3	SE1	<10
4	101.2	SE1	<10
5	103.2	SE1	<10
AVERAGE	**105.5**		
STD. DEV.	5.14		
INSIDE TRACK (WELD "B")			
1	113.5	SE1	<10
2	89.6	SE1	<10
3	112.0	SE1	<10
4	112.3	SE1	<10
5	109.3	SE1	<10
AVERAGE	**107.3**		
STD. DEV.	8.98		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	121.6	SE1
2	122.5	SE1
3	126.5	SE1
4	122.7	SE1
5	120.3	SE1
AVERAGE	**122.7**	
STD. DEV.	2.07	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS

PROJECT NO.: L16040-04
LAB ID NO.: L16040-04-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-4

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	120.2	SE1	<10
2	121.3	SE1	<10
3	111.2	SE1	<10
4	109.2	SE1	<10
5	120.3	SE1	<10
AVERAGE	**116.4**		
STD. DEV.	5.15		
INSIDE TRACK (WELD "B")			
1	110.6	SE1	<10
2	106.3	SE1	<10
3	109.5	SE1	<10
4	102.6	SE1	<10
5	110.1	SE1	<10
AVERAGE	**107.8**		
STD. DEV.	3.01		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	128.7	SE1
2	132.4	SE1
3	129.5	SE1
4	128.0	SE1
5	127.6	SE1
AVERAGE	**129.2**	
STD. DEV.	1.71	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-05
LAB ID NO.: L16040-05-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-5

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	124.6	SE1	<10
2	111.9	SE1	<10
3	118.7	SE1	<10
4	112.8	SE1	<10
5	112.7	SE1	<10
AVERAGE	**116.1**		
STD. DEV.	4.88		
INSIDE TRACK (WELD "B")			
1	116.4	SE1	<10
2	103.0	SE1	<10
3	111.9	SE1	<10
4	107.7	SE1	<10
5	111.5	SE1	<10
AVERAGE	**110.1**		
STD. DEV.	4.50		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	116.2	SE1
2	120.3	SE1
3	116.3	SE1
4	117.0	SE1
5	115.6	SE1
AVERAGE	**117.1**	
STD. DEV.	1.67	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-05
LAB ID NO.: L16040-05-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-6

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	102.4	SE1	<10
2	102.2	SE1	<10
3	103.2	SE1	<10
4	102.1	SE1	<10
5	100.0	SE1	<10
AVERAGE	**102.0**		
STD. DEV.	1.06		
INSIDE TRACK (WELD "B")			
1	105.4	SE1	<10
2	106.9	SE1	<10
3	108.0	SE1	<10
4	103.7	SE1	<10
5	107.5	SE1	<10
AVERAGE	**106.3**		
STD. DEV.	1.57		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	126.6	SE1
2	125.5	SE1
3	130.1	SE1
4	125.0	SE1
5	129.7	SE1
AVERAGE	**127.4**	
STD. DEV.	2.13	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-06
LAB ID NO.: L16040-06-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-7

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	102.3	SE1	<10
2	114.2	SE1	<10
3	108.4	SE1	<10
4	117.2	SE1	<10
5	116.1	SE1	<10
AVERAGE	**111.6**		
STD. DEV.	5.57		
INSIDE TRACK (WELD "B")			
1	103.2	SE1	<10
2	103.0	SE1	<10
3	109.6	SE1	<10
4	111.0	SE1	<10
5	105.0	SE1	<10
AVERAGE	**106.4**		
STD. DEV.	3.32		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	127.5	SE1
2	132.2	SE1
3	130.7	SE1
4	128.1	SE1
5	130.4	SE1
AVERAGE	**129.8**	
STD. DEV.	1.74	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-06
LAB ID NO.: L16040-06-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-8

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	126.0	SE1	<10
2	119.0	SE1	<10
3	123.4	SE1	<10
4	120.1	SE1	<10
5	126.0	SE1	<10
AVERAGE	**122.9**		
STD. DEV.	2.92		
INSIDE TRACK (WELD "B")			
1	135.6	SE1	<10
2	128.0	SE1	<10
3	132.3	SE1	<10
4	127.0	SE1	<10
5	135.0	SE1	<10
AVERAGE	**131.6**		
STD. DEV.	3.53		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	128.9	SE1
2	132.0	SE1
3	135.0	SE1
4	136.3	SE1
5	139.0	SE1
AVERAGE	**134.2**	
STD. DEV.	3.49	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-06
LAB ID NO.: L16040-06-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-9

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	118.5	SE1	<10
2	121.4	SE1	<10
3	122.4	SE1	<10
4	117.8	SE1	<10
5	118.9	SE1	<10
AVERAGE	**119.8**		
STD. DEV.	1.78		
INSIDE TRACK (WELD "B")			
1	111.8	SE1	<10
2	117.7	SE1	<10
3	120.5	SE1	<10
4	116.8	SE1	<10
5	116.1	SE1	<10
AVERAGE	**116.6**		
STD. DEV.	2.82		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	133.0	SE1
2	136.3	SE1
3	131.8	SE1
4	132.1	SE1
5	132.3	SE1
AVERAGE	**133.1**	
STD. DEV.	1.65	

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PEEL AND SHEAR TEST RESULTS
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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-06
LAB ID NO.: L16040-06-04
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-10

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	113.2	SE1	<10
2	109.0	SE1	<10
3	108.3	SE1	<10
4	108.0	SE1	<10
5	117.0	SE1	<10
AVERAGE	**111.1**		
STD. DEV.	3.50		
INSIDE TRACK (WELD "B")			
1	119.0	SE1	<10
2	119.0	SE1	<10
3	117.7	SE1	<10
4	117.0	SE1	<10
5	117.2	SE1	<10
AVERAGE	**118.0**		
STD. DEV.	0.86		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	130.5	SE1
2	124.9	SE1
3	126.9	SE1
4	129.0	SE1
5	128.4	SE1
AVERAGE	**127.9**	
STD. DEV.	1.91	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-06
LAB ID NO.: L16040-06-05
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-11

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	113.3	SE1	<10
2	113.0	SE1	<10
3	117.5	SE1	<10
4	111.1	SE1	<10
5	104.0	SE1	<10
AVERAGE	**111.8**		
STD. DEV.	4.42		
INSIDE TRACK (WELD "B")			
1	117.4	SE1	<10
2	119.0	SE1	<10
3	128.4	SE1	<10
4	121.1	SE1	<10
5	115.6	SE1	<10
AVERAGE	**120.3**		
STD. DEV.	4.44		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	125.1	SE1
2	124.2	SE1
3	129.1	SE1
4	126.0	SE1
5	126.6	SE1
AVERAGE	**126.2**	
STD. DEV.	1.66	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-07
LAB ID NO.: L16040-07-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-12

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	114.2	SE1	<10
2	110.2	SE1	<10
3	111.6	SE1	<10
4	110.2	SE1	<10
5	111.0	SE1	<10
AVERAGE	**111.4**		
STD. DEV.	1.48		
INSIDE TRACK (WELD "B")			
1	122.7	SE1	<10
2	110.3	SE1	<10
3	116.4	SE1	<10
4	109.5	SE1	<10
5	107.0	SE1	<10
AVERAGE	**113.2**		
STD. DEV.	5.67		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	119.0	SE1
2	118.8	SE1
3	118.0	SE1
4	114.0	SE1
5	117.6	SE1
AVERAGE	**117.5**	
STD. DEV.	1.81	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-07
LAB ID NO.: L16040-07-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-13

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	114.3	SE1	<10
2	109.2	SE1	<10
3	110.5	SE1	<10
4	109.1	SE1	<10
5	110.2	SE1	<10
AVERAGE	**110.7**		
STD. DEV.	1.90		
INSIDE TRACK (WELD "B")			
1	128.0	SE1	<10
2	121.1	SE1	<10
3	123.3	SE1	<10
4	122.7	SE1	<10
5	121.3	SE1	<10
AVERAGE	**123.3**		
STD. DEV.	2.50		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	125.1	SE1
2	123.7	SE1
3	124.3	SE1
4	125.0	SE1
5	130.9	SE1
AVERAGE	**125.8**	
STD. DEV.	2.60	

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PEEL AND SHEAR TEST RESULTS
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CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-08
LAB ID NO.: L16040-08-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-14

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	125.8	SE1	<10
2	121.7	SE1	<10
3	118.4	SE1	<10
4	115.7	SE1	<10
5	116.2	SE1	<10
AVERAGE	**119.6**		
STD. DEV.	3.77		
INSIDE TRACK (WELD "B")			
1	112.3	SE1	<10
2	111.2	SE1	<10
3	112.8	SE1	<10
4	112.8	SE1	<10
5	110.6	SE1	<10
AVERAGE	**111.9**		
STD. DEV.	0.89		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	114.3	SE1
2	114.0	SE1
3	115.3	SE1
4	114.7	SE1
5	118.4	SE1
AVERAGE	**115.3**	
STD. DEV.	1.59	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-10
LAB ID NO.: L16040-10-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-15

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	122.0	SE1	<10
2	116.1	SE1	<10
3	117.1	SE1	<10
4	116.9	SE1	<10
5	118.2	SE1	<10
AVERAGE	**118.1**		
STD. DEV.	2.08		
INSIDE TRACK (WELD "B")			
1	124.1	SE1	<10
2	106.3	SE1	<10
3	119.0	SE1	<10
4	119.5	SE1	<10
5	119.4	SE1	<10
AVERAGE	**117.7**		
STD. DEV.	5.98		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	120.3	SE1
2	121.0	SE1
3	125.9	SE1
4	126.5	SE1
5	122.4	SE1
AVERAGE	**123.2**	
STD. DEV.	2.53	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-10
LAB ID NO.: L16040-10-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-16

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	117.5	SE1	<10
2	112.3	SE1	<10
3	111.7	SE1	<10
4	113.3	SE1	<10
5	116.0	SE1	<10
AVERAGE	**114.2**		
STD. DEV.	2.23		
INSIDE TRACK (WELD "B")			
1	109.6	SE1	<10
2	104.4	SE1	<10
3	104.2	SE1	<10
4	107.1	SE1	<10
5	105.5	SE1	<10
AVERAGE	**106.2**		
STD. DEV.	2.00		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	128.9	SE1
2	121.1	SE1
3	123.2	SE1
4	122.2	SE1
5	121.1	SE1
AVERAGE	**123.3**	
STD. DEV.	2.91	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-10
LAB ID NO.: L16040-10-04
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-17

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	116.5	SE1	<10
2	120.5	SE1	<10
3	118.7	SE1	<10
4	119.5	SE1	<10
5	114.0	SE1	<10
AVERAGE	**117.8**		
STD. DEV.	2.33		
INSIDE TRACK (WELD "B")			
1	106.1	SE1	<10
2	118.1	SE1	<10
3	108.4	SE1	<10
4	123.3	SE1	<10
5	99.0	SE1	<10
AVERAGE	**111.0**		
STD. DEV.	8.68		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	136.0	SE1
2	127.0	SE1
3	130.0	SE1
4	134.0	SE1
5	130.8	SE1
AVERAGE	**131.6**	
STD. DEV.	3.15	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-11
LAB ID NO.: L16040-11-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-18

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	112.7	SE1	<10
2	118.0	SE1	<10
3	116.4	SE1	<10
4	118.4	SE1	<10
5	110.1	SE1	<10
AVERAGE	**115.1**		
STD. DEV.	3.22		
INSIDE TRACK (WELD "B")			
1	117.6	SE1	<10
2	118.6	SE1	<10
3	114.6	SE1	<10
4	118.8	SE1	<10
5	116.8	SE1	<10
AVERAGE	**117.3**		
STD. DEV.	1.52		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	128.1	SE1
2	129.8	SE1
3	129.0	SE1
4	121.3	SE1
5	128.0	SE1
AVERAGE	**127.2**	
STD. DEV.	3.04	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-11
LAB ID NO.: L16040-11-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-19

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	106.1	SE1	<10
2	111.2	SE1	<10
3	105.3	SE1	<10
4	107.2	SE1	<10
5	108.4	SE1	<10
AVERAGE	**107.6**		
STD. DEV.	2.06		
INSIDE TRACK (WELD "B")			
1	111.0	SE1	<10
2	115.0	SE1	<10
3	117.1	SE1	<10
4	115.0	SE1	<10
5	120.2	SE1	<10
AVERAGE	**115.7**		
STD. DEV.	3.01		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	128.2	SE1
2	123.0	SE1
3	125.2	SE1
4	126.3	SE1
5	123.4	SE1
AVERAGE	**125.2**	
STD. DEV.	1.91	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-11
LAB ID NO.: L16040-11-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-20

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	126.2	SE1	<10
2	129.8	SE1	<10
3	137.0	SE1	<10
4	129.0	SE1	<10
5	127.0	SE1	<10
AVERAGE	**129.8**		
STD. DEV.	3.83		
INSIDE TRACK (WELD "B")			
1	131.2	SE1	<10
2	135.5	SE1	<10
3	132.2	SE1	<10
4	129.0	SE1	<10
5	128.1	SE1	<10
AVERAGE	**131.2**		
STD. DEV.	2.61		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	140.1	SE1
2	132.0	SE1
3	134.2	SE1
4	135.2	SE1
5	131.6	SE1
AVERAGE	**134.6**	
STD. DEV.	3.05	

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PEEL AND SHEAR TEST RESULTS
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CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-12
LAB ID NO.: L16040-12-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-21

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	110.7	SE1	<10
2	113.5	SE1	<10
3	110.7	SE1	<10
4	106.6	SE1	<10
5	116.6	SE1	<10
AVERAGE	**111.6**		
STD. DEV.	3.32		
INSIDE TRACK (WELD "B")			
1	108.4	SE1	<10
2	109.3	SE1	<10
3	116.5	SE1	<10
4	109.9	SE1	<10
5	109.6	SE1	<10
AVERAGE	**110.7**		
STD. DEV.	2.92		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	129.5	SE1
2	127.4	SE1
3	127.3	SE1
4	129.4	SE1
5	133.1	SE1
AVERAGE	**129.3**	
STD. DEV.	2.10	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-12
LAB ID NO.: L16040-12-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-22

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	126.9	SE1	<10
2	119.0	SE1	<10
3	126.2	SE1	<10
4	124.3	SE1	<10
5	124.6	SE1	<10
AVERAGE	**124.2**		
STD. DEV.	2.77		
INSIDE TRACK (WELD "B")			
1	118.9	SE1	<10
2	114.0	SE1	<10
3	119.3	SE1	<10
4	115.3	SE1	<10
5	117.0	SE1	<10
AVERAGE	**116.9**		
STD. DEV.	2.04		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	127.7	SE1
2	126.2	SE1
3	132.0	SE1
4	126.2	SE1
5	127.5	SE1
AVERAGE	**127.9**	
STD. DEV.	2.13	

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CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-12
LAB ID NO.: L16040-12-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-23

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	116.5	SE1	<10
2	108.7	SE1	<10
3	111.4	SE1	<10
4	118.7	SE1	<10
5	110.9	SE1	<10
AVERAGE	**113.2**		
STD. DEV.	3.74		
INSIDE TRACK (WELD "B")			
1	105.6	SE1	<10
2	101.9	SE1	<10
3	103.9	SE1	<10
4	110.3	SE1	<10
5	102.8	SE1	<10
AVERAGE	**104.9**		
STD. DEV.	2.97		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	128.5	SE1
2	127.1	SE1
3	129.1	SE1
4	129.2	SE1
5	128.2	SE1
AVERAGE	**128.4**	
STD. DEV.	0.76	

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PEEL AND SHEAR TEST RESULTS
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CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-12
LAB ID NO.: L16040-12-04
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-24

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	126.0	SE1	<10
2	128.9	SE1	<10
3	120.8	SE1	<10
4	130.1	SE1	<10
5	127.8	SE1	<10
AVERAGE	**126.7**		
STD. DEV.	3.25		
INSIDE TRACK (WELD "B")			
1	112.2	SE1	<10
2	108.8	SE1	<10
3	109.6	SE1	<10
4	111.8	SE1	<10
5	112.4	SE1	<10
AVERAGE	**111.0**		
STD. DEV.	1.47		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	135.8	SE1
2	132.6	SE1
3	134.1	SE1
4	134.7	SE1
5	133.1	SE1
AVERAGE	**134.1**	
STD. DEV.	1.14	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-13
LAB ID NO.: L16040-13-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-25

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	118.6	SE1	<10
2	124.4	SE1	<10
3	118.7	SE1	<10
4	121.9	SE1	<10
5	119.7	SE1	<10
AVERAGE	**120.7**		
STD. DEV.	2.22		
INSIDE TRACK (WELD "B")			
1	107.3	SE1	<10
2	108.7	SE1	<10
3	107.0	SE1	<10
4	107.3	SE1	<10
5	108.5	SE1	<10
AVERAGE	**107.8**		
STD. DEV.	0.70		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	128.1	SE1
2	126.7	SE1
3	129.1	SE1
4	126.4	SE1
5	131.1	SE1
AVERAGE	**128.3**	
STD. DEV.	1.71	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-13
LAB ID NO.: L16040-13-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-26

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	126.4	SE1	<10
2	122.7	SE1	<10
3	125.9	SE1	<10
4	125.6	SE1	<10
5	122.5	SE1	<10
AVERAGE	**124.6**		
STD. DEV.	1.67		
INSIDE TRACK (WELD "B")			
1	110.8	SE1	<10
2	114.2	SE1	<10
3	90.3	AD-BRK	80
4	102.9	SE1	<10
5	89.7	AD-BRK	40
AVERAGE	**101.6**		
STD. DEV.	10.14		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	129.1	SE1
2	128.7	SE1
3	129.8	SE1
4	127.2	SE1
5	126.0	SE1
AVERAGE	**128.2**	
STD. DEV.	1.37	

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PEEL AND SHEAR TEST RESULTS
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CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-15
LAB ID NO.: L16040-15-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-26B

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	108.6	SE1	<10
2	105.4	SE1	<10
3	105.9	SE1	<10
4	107.2	SE1	<10
5	113.6	SE1	<10
AVERAGE	**108.1**		
STD. DEV.	2.95		
INSIDE TRACK (WELD "B")			
1	118.3	SE1	<10
2	114.0	SE1	<10
3	116.1	SE1	<10
4	119.9	SE1	<10
5	117.4	SE1	<10
AVERAGE	**117.1**		
STD. DEV.	2.00		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	123.7	SE1
2	125.4	SE1
3	123.5	SE1
4	126.3	SE1
5	125.3	SE1
AVERAGE	**124.8**	
STD. DEV.	1.07	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-14
LAB ID NO.: L16040-14-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-27

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	109.9	SE1	<10
2	113.2	SE1	<10
3	111.3	SE1	<10
4	111.3	SE1	<10
5	113.1	SE1	<10
AVERAGE	**111.8**		
STD. DEV.	1.25		
INSIDE TRACK (WELD "B")			
1	107.2	SE1	<10
2	107.0	SE1	<10
3	105.3	SE1	<10
4	104.1	SE1	<10
5	100.3	SE1	<10
AVERAGE	**104.8**		
STD. DEV.	2.51		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	128.7	SE1
2	128.0	SE1
3	129.5	SE1
4	127.4	SE1
5	133.0	SE1
AVERAGE	**129.3**	
STD. DEV.	1.97	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-15
LAB ID NO.: L16040-15-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-28

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	107.3	SE1	<10
2	105.0	SE1	<10
3	100.3	SE1	<10
4	102.8	SE1	<10
5	103.7	SE1	<10
AVERAGE	**103.8**		
STD. DEV.	2.32		
INSIDE TRACK (WELD "B")			
1	101.6	SE1	<10
2	98.9	SE1	<10
3	100.7	SE1	<10
4	94.2	SE1	<10
5	96.8	SE1	<10
AVERAGE	**98.4**		
STD. DEV.	2.68		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	116.5	SE1
2	116.5	SE1
3	117.4	SE1
4	117.0	SE1
5	118.5	SE1
AVERAGE	**117.2**	
STD. DEV.	0.74	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-16
LAB ID NO.: L16040-16-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-29

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	115.1	SE1	<10
2	108.1	SE1	<10
3	111.6	SE1	<10
4	110.0	SE1	<10
5	112.4	SE1	<10
AVERAGE	**111.4**		
STD. DEV.	2.35		
INSIDE TRACK (WELD "B")			
1	114.6	SE1	<10
2	102.1	SE1	<10
3	107.6	SE1	<10
4	106.9	SE1	<10
5	106.1	SE1	<10
AVERAGE	**107.5**		
STD. DEV.	4.05		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	126.9	SE1
2	127.4	SE1
3	128.8	SE1
4	127.8	SE1
5	133.2	SE1
AVERAGE	**128.8**	
STD. DEV.	2.28	

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CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-17
LAB ID NO.: L16040-17-01
MATERIAL: 60 MIL HDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-30

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	105.5	SE1	<10
2	103.1	SE1	<10
3	101.8	SE1	<10
4	107.7	SE1	<10
5	106.3	SE1	<10
AVERAGE	**104.9**		
STD. DEV.	2.15		
INSIDE TRACK (WELD "B")			
1	101.4	SE1	<10
2	103.5	SE1	<10
3	102.1	SE1	<10
4	104.8	SE1	<10
5	100.7	SE1	<10
AVERAGE	**102.5**		
STD. DEV.	1.48		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	112.5	SE1
2	108.0	SE1
3	107.7	SE1
4	107.0	SE1
5	107.2	SE1
AVERAGE	**108.5**	
STD. DEV.	2.04	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-19
LAB ID NO.: L16040-19-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-31

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	129.2	SE1	<10
2	120.7	SE1	<10
3	114.0	SE1	<10
4	110.4	SE1	<10
5	112.3	SE1	<10
AVERAGE	**117.3**		
STD. DEV.	6.88		
INSIDE TRACK (WELD "B")			
1	117.1	SE1	<10
2	110.4	SE1	<10
3	124.2	SE1	<10
4	124.1	SE1	<10
5	123.6	SE1	<10
AVERAGE	**119.9**		
STD. DEV.	5.44		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	130.1	SE1
2	133.8	SE1
3	129.7	SE1
4	128.0	SE1
5	130.1	SE1
AVERAGE	**130.3**	
STD. DEV.	1.90	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-19
LAB ID NO.: L16040-19-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-32

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	126.0	SE1	<10
2	122.1	SE1	<10
3	119.0	SE1	<10
4	118.3	SE1	<10
5	121.7	SE1	<10
AVERAGE	**121.4**		
STD. DEV.	2.72		
INSIDE TRACK (WELD "B")			
1	118.2	SE1	<10
2	114.4	SE1	<10
3	113.3	SE1	<10
4	111.4	SE1	<10
5	115.3	SE1	<10
AVERAGE	**114.5**		
STD. DEV.	2.25		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	129.5	SE1
2	133.0	SE1
3	138.6	SE1
4	134.0	SE1
5	128.7	SE1
AVERAGE	**132.8**	
STD. DEV.	3.54	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-20
LAB ID NO.: L16040-20-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-33

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	115.1	SE1	<10
2	110.4	SE1	<10
3	113.0	SE1	<10
4	113.3	SE1	<10
5	113.1	SE1	<10
AVERAGE	**113.0**		
STD. DEV.	1.50		
INSIDE TRACK (WELD "B")			
1	112.1	SE1	<10
2	114.3	SE1	<10
3	110.1	SE1	<10
4	112.1	SE1	<10
5	111.3	SE1	<10
AVERAGE	**112.0**		
STD. DEV.	1.37		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	132.4	SE1
2	131.0	SE1
3	131.5	SE1
4	132.2	SE1
5	134.0	SE1
AVERAGE	**132.2**	
STD. DEV.	1.02	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-20
LAB ID NO.: L16040-20-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-34

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	126.4	SE1	<10
2	123.2	SE1	<10
3	127.6	SE1	<10
4	123.0	SE1	<10
5	129.0	SE1	<10
AVERAGE	**125.8**		
STD. DEV.	2.38		
INSIDE TRACK (WELD "B")			
1	114.2	SE1	<10
2	117.4	SE1	<10
3	117.5	SE1	<10
4	117.1	SE1	<10
5	116.5	SE1	<10
AVERAGE	**116.5**		
STD. DEV.	1.22		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	133.0	SE1
2	130.7	SE1
3	131.4	SE1
4	131.8	SE1
5	136.0	SE1
AVERAGE	**132.6**	
STD. DEV.	1.87	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-21
LAB ID NO.: L16040-21-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-35

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	116.7	SE1	<10
2	114.0	SE1	<10
3	127.4	SE1	<10
4	116.0	SE1	<10
5	114.5	SE1	<10
AVERAGE	**117.7**		
STD. DEV.	4.94		
INSIDE TRACK (WELD "B")			
1	119.0	SE1	<10
2	111.1	SE1	<10
3	120.5	SE1	<10
4	118.7	SE1	<10
5	115.0	SE1	<10
AVERAGE	**116.9**		
STD. DEV.	3.40		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	133.3	SE1
2	131.0	SE1
3	124.0	SE1
4	130.4	SE1
5	134.9	SE1
AVERAGE	**130.7**	
STD. DEV.	3.73	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-21
LAB ID NO.: L16040-21-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-36

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	117.0	SE1	<10
2	119.6	SE1	<10
3	116.0	SE1	<10
4	111.4	SE1	<10
5	114.0	SE1	<10
AVERAGE	**115.6**		
STD. DEV.	2.77		
INSIDE TRACK (WELD "B")			
1	111.7	SE1	<10
2	114.1	SE1	<10
3	100.0	SE1	<10
4	115.1	SE1	<10
5	111.6	SE1	<10
AVERAGE	**110.5**		
STD. DEV.	5.42		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	126.0	SE1
2	125.1	SE1
3	121.8	SE1
4	124.4	SE1
5	128.1	SE1
AVERAGE	**125.1**	
STD. DEV.	2.06	

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Date: 2016-06-24

Mail To:
Dan Bosworth
Langan Environmental Services

, ,

e-mail:dbosworth@langan.com

Bill To:

Langan Environmental Services

Dear Mr. Bosworth,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Honeywell 5A-6 North**
TRI Job Reference Number:	**21760**
Material(s) Tested:	(1) Heat Fusion Weld Seam(s) (1) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

James Burgess

Geosynthetic Services Division
http://www.geosyntheticstestinc.com

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Langan Environmental Services
Project: Honeywell 5A-6 North

Material: 60 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 21760

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-1 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	104	103	114	107	105	**107**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	118	115	125	111	107	**115**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	125	123	122	122	125	**123**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

Date: 2016-07-12

Mail To:
Dan Bosworth
Langan Environmental Services

, ,

e-mail:dbosworth@langan.com

Bill To:

Langan Environmental Services

Dear Mr. Bosworth,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Honeywell 5A-6 North**
TRI Job Reference Number:	**22194**
Material(s) Tested:	(1) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

James Burgess

Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Langan Environmental Services
Project: Honeywell 5A-6 North

Material: 60 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 22194

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-14 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	124	136	120	119	132	**126**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	113	113	114	113	117	**114**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	117	118	117	115	114	**116**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

Date: 2016-07-26

Mail To:
Dan Bosworth
Langan Environmental Services

, ,

e-mail:dbosworth@langan.com

Bill To:

Langan Environmental Services

Dear Mr. Bosworth,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Honeywell 5A-6 North**
TRI Job Reference Number:	**22590**
Material(s) Tested:	(1) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

James Burgess

Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Langan Environmental Services
Project: Honeywell 5A-6 North

Material: 60 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 22590

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-25 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	121	119	123	120	119	**120**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	111	109	105	113	111	**110**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	131	131	133	131	131	**131**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

Date: 2016-08-17

Mail To:
Dan Bosworth
Langan Environmental Services

, ,

e-mail:dbosworth@langan.com

Bill To:

Langan Environmental Services

Dear Mr. Bosworth,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Honeywell 5A-6 North**
TRI Job Reference Number:	**23291**
Material(s) Tested:	(1) Heat Fusion Weld Seam(s) (1) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

James Burgess

Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Langan Environmental Services
Project: Honeywell 5A-6 North

Material: 60 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 23291

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-36 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	115	111	108	114	117	**113**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	115	116	110	109	106	**111**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	129	132	128	127	128	**129**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

Honeywell SA-6 Capping

Comparison of ESI / Langan (QA) Destruct Samples - Extrusion Welds

Sample ID	***Weld Type***	***Submitted By:***	***Test***	***Peel Strength (ppi)***					**Avg. Strength (ppi)**	***Meets Spec Requirement***
DSX-1	Extrusion	Langan	Peel	134	142	137	136	136	**137**	**Yes**
DSX-1		Entact	Peel	140.9	139.6	140.3	138.5	138.5	**139.6**	**Yes**
DSX-1		Langan	Shear	127	130	128	124	126	**127**	**Yes**
DSX-1		Entact	Shear	136.5	137.1	137.1	134.8	134.8	**136.1**	**Yes**
DSX-2	Extrusion	Entact	Peel	128.1	125.7	128.2	126.1	128.5	**127.3**	**Yes**
			Shear	136.2	131.8	132.6	136.1	134.8	**134.3**	**Yes**
DSX-3	Extrusion	Entact	Peel	124.6	124.1	125.2	129.4	125.5	**125.8**	**Yes**
			Shear	128.5	128.9	133.8	127.2	127.8	**129.2**	**Yes**
DSX-4	Extrusion	Entact	Peel	105.1	114	109.8	114.8	112	**111.1**	**Yes**
			Shear	132.5	129.3	136.2	129.2	131	**131.6**	**Yes**
DSX-5	Extrusion	Entact	Peel	120.6	118.6	119.8	118.8	122.8	**120.1**	**Yes**
			Shear	122.3	131.8	120.3	121.7	129.5	**125.1**	**Yes**
DSX-6	Extrusion	Entact	Peel	110.4	117.4	125.7	122.8	120.6	**119.4**	**Yes**
			Shear	127.7	126.1	127.5	127.4	131.5	**128.0**	**Yes**
DSX-7	Extrusion	Entact	Peel	123.4	113.7	115.5	119.5	110.2	**116.5**	**Yes**
			Shear	123.8	127.3	125.5	126.1	122.9	**125.1**	**Yes**
DSX-8	Extrusion	Entact	Peel	93.5	113.2	123.2	102	108.6	**108.1**	**Yes**
			Shear	137.8	141	136.9	135.5	137	**137.6**	**Yes**
DSX-9	Extrusion	Entact	Peel	125.4	129.2	126	122.2	128.9	**126.3**	**Yes**
			Shear	139.5	139.8	145.3	139.6	140.4	**140.9**	**Yes**
DSX-10	Extrusion	Entact	Peel	121.2	118.9	118.5	119.6	113.9	**118.4**	**Yes**
			Shear	124.1	121.4	125.8	122.7	126.1	**124.0**	**Yes**
DSX-11	Extrusion	Entact	Peel	108.7	109.9	110.7	109.4	116.9	**111.1**	**Yes**
			Shear	118.4	118.3	119.5	120.3	124.5	**120.2**	**Yes**
DSX-12	Extrusion	Entact	Peel	102.2	112.6	123.2	118.7	123.8	**116.1**	**No**
			Shear	135.2	134.2	136.6	127.5	134.6	**133.6**	**Yes**
DSX-13	Extrusion	Langan	Peel	140	139	138	155	138	**142**	**Yes**
		Entact	Peel	114.6	112.6	114.7	110.3	112.8	**113.0**	**Yes**
		Langan	Shear	147	149	155	157	151	**152**	**Yes**
		Entact	Shear	115.5	116.8	114.2	114	118.7	**115.8**	**Yes**
DSX-14	Extrusion	Entact	Peel	112.5	111	110.6	113.4	111	**111.7**	**Yes**
			Shear	111.9	113.4	111.5	112	114.6	**112.7**	**Yes**
DSX-15	Extrusion	Entact	Peel	120.7	123	106.2	127.4	121	**119.7**	**Yes**
			Shear	132.2	136	132.7	132	132.1	**133.0**	**Yes**
DSX-16	Extrusion	Entact	Peel	129	127.4	125	125.7	130.7	**127.6**	**Yes**
			Shear	130.3	127.1	129.2	133	133.9	**130.7**	**Yes**
DSX-17	Extrusion	Langan	Peel	118	119	118	119	123	**119**	**Yes**
		Entact	Peel	124	118.5	120.5	126	125	**122.8**	**Yes**
		Langan	Shear	133	130	132	129	130	**131**	**Yes**
		Entact	Shear	129.9	129	129.8	129.2	134	**130.4**	**Yes**

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS

PROJECT NO.: L16040-03
LAB ID NO.: L16040-03-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-1

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	140.9	SE3	<10
2	139.6	SE3	<10
3	140.3	SE3	<10
4	138.5	SE3	<10
5	138.5	SE3	<10
AVERAGE	**139.6**		
STD. DEV.	0.96		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	136.5	SE1
2	137.1	SE1
3	137.1	SE1
4	134.8	SE1
5	134.8	SE1
AVERAGE	**136.1**	
STD. DEV.	1.05	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS

PROJECT NO.: L16040-04
LAB ID NO.: L16040-04-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-2

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	128.1	SE3	<10
2	125.7	SE3	<10
3	128.2	SE3	<10
4	126.1	SE3	<10
5	128.5	SE3	<10
AVERAGE	**127.3**		
STD. DEV.	1.17		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	136.2	SE1
2	131.8	SE1
3	132.6	SE1
4	136.1	SE1
5	134.8	SE1
AVERAGE	**134.3**	
STD. DEV.	1.80	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-06
LAB ID NO.: L16040-06-06
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-3

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	124.6	SE3	<10
2	124.1	SE3	<10
3	125.2	SE3	<10
4	129.4	SE3	<10
5	125.5	SE3	<10
AVERAGE	**125.8**		
STD. DEV.	1.88		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	128.5	SE1
2	128.9	SE1
3	133.8	SE1
4	127.2	SE1
5	127.8	SE1
AVERAGE	**129.2**	
STD. DEV.	2.35	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-07
LAB ID NO.: L16040-07-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-4

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	105.1	SE3	<10
2	114.0	SE3	<10
3	109.8	SE3	<10
4	114.8	SE3	<10
5	112.0	SE3	<10
AVERAGE	**111.1**		
STD. DEV.	3.48		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	132.5	SE1
2	129.3	SE1
3	136.2	SE1
4	129.2	SE1
5	131.0	SE1
AVERAGE	**131.6**	
STD. DEV.	2.58	

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CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-08
LAB ID NO.: L16040-08-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-5

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	120.6	SE3	<10
2	118.6	SE3	<10
3	119.8	SE3	<10
4	118.8	SE3	<10
5	122.8	SE3	<10
AVERAGE	**120.1**		
STD. DEV.	1.52		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	122.3	SE1
2	131.8	SE1
3	120.3	SE1
4	121.7	SE1
5	129.5	SE1
AVERAGE	**125.1**	
STD. DEV.	4.62	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-09
LAB ID NO.: L16040-09-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-6

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	110.4	SE3	<10
2	117.4	SE3	<10
3	125.7	SE3	<10
4	122.8	SE3	<10
5	120.6	SE3	<10
AVERAGE	**119.4**		
STD. DEV.	5.25		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	127.7	SE1
2	126.1	SE1
3	127.5	SE1
4	127.4	SE1
5	131.5	SE1
AVERAGE	**128.0**	
STD. DEV.	1.82	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-10
LAB ID NO.: L16040-10-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-7

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	123.4	SE3	<10
2	113.7	SE3	<10
3	115.5	SE3	<10
4	119.5	SE3	<10
5	110.2	SE3	<10
AVERAGE	**116.5**		
STD. DEV.	4.59		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	123.8	SE1
2	127.3	SE1
3	125.5	SE1
4	126.1	SE1
5	122.9	SE1
AVERAGE	**125.1**	
STD. DEV.	1.58	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-12
LAB ID NO.: L16040-12-05
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-8

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	93.5	SE3	<10
2	113.2	SE3	<10
3	123.2	SE3	<10
4	102.0	SE3	<10
5	108.6	SE3	<10
AVERAGE	**108.1**		
STD. DEV.	10.05		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	137.8	SE1
2	141.0	SE1
3	136.9	SE1
4	135.5	SE1
5	137.0	SE1
AVERAGE	**137.6**	
STD. DEV.	1.84	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-13
LAB ID NO.: L16040-13-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-9

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	125.4	SE3	<10
2	129.2	SE3	<10
3	126.0	SE3	<10
4	122.2	SE3	<10
5	128.9	SE3	<10
AVERAGE	**126.3**		
STD. DEV.	2.56		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	139.5	SE1
2	139.8	SE1
3	145.3	SE1
4	139.6	SE1
5	140.4	SE1
AVERAGE	**140.9**	
STD. DEV.	2.21	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-14
LAB ID NO.: L16040-14-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-10

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	121.2	SE3	<10
2	118.9	SE3	<10
3	118.5	SE3	<10
4	119.6	SE3	<10
5	113.9	SE3	<10
AVERAGE	**118.4**		
STD. DEV.	2.44		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	124.1	SE1
2	121.4	SE1
3	125.8	SE1
4	122.7	SE1
5	126.1	SE1
AVERAGE	**124.0**	
STD. DEV.	1.79	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-15
LAB ID NO.: L16040-15-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-11

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	108.7	SE3	<10
2	109.9	SE3	<10
3	110.7	SE3	<10
4	109.4	SE3	<10
5	116.9	SE3	<10
AVERAGE	**111.1**		
STD. DEV.	2.96		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	118.4	SE1
2	118.3	SE1
3	119.5	SE1
4	120.3	SE1
5	124.5	SE1
AVERAGE	**120.2**	
STD. DEV.	2.27	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-15
LAB ID NO.: L16040-15-04
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-12

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	102.2	SE3	<10
2	112.6	SE3	<10
3	123.2	SE3	<10
4	118.7	SE3	<10
5	123.8	SE3	<10
AVERAGE	**116.1**		
STD. DEV.	8.02		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	135.2	SE2
2	134.2	SE2
3	136.6	SE2
4	127.5	SE2
5	134.6	SE2
AVERAGE	**133.6**	
STD. DEV.	3.17	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-16
LAB ID NO.: L16040-16-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DSX-13

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	114.6	SE1	<10
2	112.6	SE1	<10
3	114.7	SE1	<10
4	110.3	SE1	<10
5	112.8	SE1	<10
AVERAGE	**113.0**		
STD. DEV.	1.61		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	115.5	SE1
2	116.8	SE1
3	114.2	SE1
4	114.0	SE1
5	118.7	SE1
AVERAGE	**115.8**	
STD. DEV.	1.75	

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PEEL AND SHEAR TEST RESULTS
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CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-17
LAB ID NO.: L16040-17-02
MATERIAL: 60 MIL HDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-14

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	112.5	SE3	<10
2	111.0	SE3	<10
3	110.6	SE3	<10
4	113.4	SE3	<10
5	111.0	SE3	<10
AVERAGE	**111.7**		
STD. DEV.	1.07		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	111.9	SE1
2	113.4	SE1
3	111.5	SE1
4	112.0	SE1
5	114.6	SE1
AVERAGE	**112.7**	
STD. DEV.	1.15	

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PEEL AND SHEAR TEST RESULTS
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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-20
LAB ID NO.: L16040-20-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-15

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	120.7	SE3	<10
2	123.0	SE3	<10
3	106.2	SE3	<10
4	127.4	SE3	<10
5	121.0	SE3	<10
AVERAGE	**119.7**		
STD. DEV.	7.14		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	132.2	SE2
2	136.0	SE2
3	132.7	SE2
4	132.0	SE2
5	132.1	SE2
AVERAGE	**133.0**	
STD. DEV.	1.52	

CHECKED BY: [illegible] DATE: 8·11·16

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\\geoserver\Data Drive\Synthetics\2016 SYNTHETICS\040 - ENTACT, LLC - HONEYWELL SA6 NORTH & SOUTH CAPS\[HONE\ L16040-20-03 8/11/16

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-21
LAB ID NO.: L16040-21-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-16

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	129.0	SE3	<10
2	127.4	SE3	<10
3	125.0	SE3	<10
4	125.7	SE3	<10
5	130.7	SE3	<10
AVERAGE	**127.6**		
STD. DEV.	2.10		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	130.3	SE1
2	127.1	SE1
3	129.2	SE1
4	133.0	SE1
5	133.9	SE1
AVERAGE	**130.7**	
STD. DEV.	2.49	

CHECKED BY: TO DATE: 8·16·16

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L16040-21
LAB ID NO.: L16040-21-04
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-17

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	124.0	SE3	<10
2	118.5	SE3	<10
3	120.5	SE3	<10
4	126.0	SE3	<10
5	125.0	SE3	<10
AVERAGE	**122.8**		
STD. DEV.	2.84		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	129.9	SE1
2	129.0	SE1
3	129.8	SE1
4	129.2	SE1
5	134.0	SE1
AVERAGE	**130.4**	
STD. DEV.	1.84	

CHECKED BY: JO DATE: 8-16-16

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Langan Environmental Services
Project: Honeywell 5A-6 North

Material: 60 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 21760

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSX-1 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	134	142	137	136	136	**137**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	127	130	128	124	126	**127**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

Date: 2016-08-09

Mail To:
Dan Bosworth
Langan Environmental Services

, ,

e-mail:dbosworth@langan.com

Bill To:

Langan Environmental Services

Dear Mr. Bosworth,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Honeywell 5A-6 North**
TRI Job Reference Number:	**23021**
Material(s) Tested:	(1) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

James Burgess

Geosynthetic Services Division
http://www.geosyntheticstestinc.com

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Langan Environmental Services
Project: Honeywell 5A-6 North

Material: 60 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 23021

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSX-13 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	140	139	138	155	138	**142**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	147	149	155	157	151	**152**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

TRI ENVIRONMENTAL, INC.
9063 BEE CAVES RD. – AUSTIN, TX 78733 – USA | PH: 800.880.TEST OR 512.263.2101

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Langan Environmental Services
Project: Honeywell 5A-6 North

Material: 60 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 23291

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSX-17 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	118	119	118	119	123	**119**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	133	130	132	129	130	**131**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

Appendix M
Summary of Non-Compliance & Corrective Action Sheets

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 1

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 6/23/16 Contractor in NC: Entact Non-Compliance No.: 1 Notes: Soil Subgrade Irregularity
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Rock / loose debris (>1/2 – inches) observed underneath LLDPE geomembrane at Panel P6. This non-compliance issue is also noted on the 6/23/16 Repair Report, and is identified as R-10. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Loose debris / rock area identified as subgrade irregularity. Rock to be removed and the area will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove rock / debris from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Rock was removed from underneath LLDPE geomembrane as a small hole (< 4-inches) was made in the LLDPE to remove the stone. This hole was then repaired with approximate 3 ft. by 3 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372). Refer to Photo #12 and Photo #14 of 6/23/16 photo log for repair of R-10.

Geosynthetic Installer Representative _____ Date 6/24/16

Independent CQA Monitor _____ LANGAN Date 6/24/16

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 2

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 6/29/16 Contractor in NC: Entact Non-Compliance No.: 2 Notes: Soil Subgrade Irregularity
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Rock / loose debris (>1/2 – inches) observed underneath LLDPE geomembrane at Panel P26. Prior to deployment of the panel, the subgrade was observed by a field engineer who walked the placement area in approximate 200 ft. by 8 ft. transects to observe soil bearing conditions as well as items requiring removal prior to panel placement (i.e. materials such as rocks or other items that protrude >1/2" above the surface). In the event these conditions were during the subgrade observation, the material was removed and the area was observed again. After deployment of the GVL and LLDPE, the area was walked again (following the same procedure during the soil subgrade observation) to attempt to identify the presence of materials larger than ½" protruding below the LLDPE. During this latest observation, a rock was noted to be present below the LLDPE. It is possible that this rock may have been dislodged during deployment of the GVL which was pulled over a small portion of the subgrade surface. This non-compliance issue was repaired as defined below and on the 6/29/16 Repair Report, and is identified as R-98. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Loose debris / rock area identified as subgrade irregularity. Rock to be removed and the area will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove rock / debris from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response. Assess GVL deployment methods to determine most effective method in reducing dislodgment of subgrade material.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Rock was removed from underneath LLDPE geomembrane as a small hole (< 4-inches) was made in the LLDPE to remove the stone. This hole was then repaired with approximate 2 ft. by 2 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372). Refer to Photo #2 of 6/29/16 photo log for repair of R-98.

Geosynthetic Installer Representative _____ Date 6/30/16

Independent CQA Monitor _____ LANGAN Date 6/30/16

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 3

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 7/6/16 Contractor in NC: ESI Non-Compliance No.: 3 Notes: Failed Spark Test
Reference	
Item: Failed Spark Test Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

During spark testing of Gas Vent GV-5 on 7/6/16, a small pinhole deficiency was identified (via spark test) within the vertical weld of the boot. As the point probe was passed over the weld, a visual spark was observed. The failed weld was marked by ESI and the area to be grinded, re-welded, and re-tested on 7/7/16. Additional details on the spark testing are also noted on the 7/6/16 Spark Test Log.

Contractor's Response

Failed spark test identified and confirmed on vertical weld for Gas Vent GV-5 pipe boot. Weld to be grinded, re-welded, and re-tested on 7/7/16 as outlined in the project specifications.

Follow Up Action Required

Grind area of weld requiring retesting, re-weld the vertical seam, and conduct additional spark testing to confirm integrity of weld.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Area of vertical weld identified during spark testing was grinded, re-welded, and re-tested on 7/7/16. The extrusion weld was grinded by ESI to scratch / mar the surface and the area was re-welded. Following the welding activities, Entact conducted methane testing to confirm that the methane concentration was below 1% (measured as 0.0%). Following methane testing, ESI conducted a spark retest along the vertical weld, and no sparks or deficiencies were identified (spark retest passed). Refer to Photo #5 and Photo #6 of 7/7/16 Photo Log for spark retest details.

Geosynthetic Installer Representative Carlos Pano Date 7/7/16

Independent CQA Monitor Langan Date 7/7/16

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 4

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 7/6/16 Contractor in NC: ESI Non-Compliance No.: 4 Notes: Failed Spark Test
Reference	
Item: Failed Spark Test Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

During spark testing of Well 115-W1-SO on 7/6/16, two small pinhole deficiencies were identified (via spark test) within the vertical weld of the boot. As the point probe was passed over the weld, a visual spark was observed along two areas of the weld. The failed weld was marked by ESI and the areas were to be grinded, re-welded, and re-tested on 7/7/16. Additional details on the spark testing are also noted on the 7/6/16 Spark Test Log.

Contractor's Response

Failed spark test identified and confirmed on vertical weld for Well 115-W1-SO pipe boot. Weld to be grinded, re-welded, and re-tested on 7/7/16 as outlined in the project specifications.

Follow Up Action Required

Grind area of weld requiring retesting, re-weld the vertical seam, and conduct additional spark testing to confirm integrity of weld.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Two areas of vertical weld for Well 115-W1-SO identified during spark testing were grinded, re-welded, and re-tested on 7/7/16. The extrusion weld was grinded by ESI to scratch / mar the surface and the area was re-welded. Following the welding activities, Entact conducted methane testing to confirm that the methane concentration was below 1% (measured as 0.0%). Following methane testing, ESI conducted a spark retest along the vertical weld, and no sparks or deficiencies were identified (spark retest passed). Refer to Photo #7 and Photo #8 of 7/7/16 Photo Log for spark retest details.

Geosynthetic Installer Representative _____ Date 7/7/16

Independent CQA Monitor _____ Langan Date 7/7/16

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 5

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 7/7/16 Contractor in NC: Entact Non-Compliance No.: 5 Notes: Soil Subgrade Irregularity
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Rock / loose debris (>1/2 – inches) observed underneath LLDPE geomembrane at Panel P38. Prior to deployment of the panel, the subgrade was observed by a field engineer who walked the placement area in approximate 200 ft. by 8 ft. transects to observe soil bearing conditions as well as items requiring removal prior to panel placement (i.e. materials such as rocks or other items that protrude >1/2" above the surface). In the event these conditions were during the subgrade observation, the material was removed and the area was observed again. After deployment of the GVL and LLDPE, the area was walked again (following the same procedure during the soil subgrade observation) to attempt to identify the presence of materials larger than ½" protruding below the LLDPE. During this latest observation, a rock was noted to be present below the LLDPE. It is possible that this rock may have been dislodged during deployment of the GVL which was pulled over a small portion of the subgrade surface. This non-compliance issue was repaired as defined below and on the 7/7/16 Repair Report, and is identified as R-170. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Loose debris / rock area identified as subgrade irregularity. Rock to be removed and the area will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove rock / debris from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response. Assess GVL deployment methods to determine most effective method in reducing dislodgment of subgrade material.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Rock was removed from underneath LLDPE geomembrane as a small hole (< 4-inches) was made in the LLDPE to remove the stone. This hole was then repaired with approximate 2 ft. by 2 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372).

Geosynthetic Installer Representative Carolina Pares Date 7/8/16

Independent CQA Monitor LANGAN Date 7/8/16

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 6

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 7/8/16 Contractor in NC: Entact Non-Compliance No.: 6 Notes: Soil Subgrade Irregularity
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Rock / loose debris (>1/2 – inches) observed underneath LLDPE geomembrane at Panel P45. Prior to deployment of the panel, the subgrade was observed by a field engineer who walked the placement area in approximate 200 ft. by 8 ft. transects to observe soil bearing conditions as well as items requiring removal prior to panel placement (i.e. materials such as rocks or other items that protrude >1/2" above the surface). In the event these conditions were during the subgrade observation, the material was removed and the area was observed again. After deployment of the GVL and LLDPE, the area was walked again (following the same procedure during the soil subgrade observation) to attempt to identify the presence of materials larger than ½" protruding below the LLDPE. During this latest observation, a rock was noted to be present below the LLDPE. It is possible that this rock may have been dislodged during deployment of the GVL which was pulled over a small portion of the subgrade surface. This non-compliance issue was repaired as defined below and on the 7/8/16 Repair Report, and is identified as R-222. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Loose debris / rock area identified as subgrade irregularity. Rock to be removed and the area will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove rock / debris from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response. Assess GVL deployment methods to determine most effective method in reducing dislodgment of subgrade material.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Rock was removed from underneath LLDPE geomembrane as a small hole (< 4-inches) was made in the LLDPE to remove the stone. This hole was then repaired with approximate 2 ft. by 3 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372).

Geosynthetic Installer Representative Carlos Pano Date 7/11/16

Independent CQA Monitor - LANGAN Date 7/11/16

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 7

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 7/12/16 Contractor in NC: Entact Non-Compliance No.: 7 Notes: Soil Subgrade Irregularity
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Rock / loose debris (>1/2 – inches) observed underneath LLDPE geomembrane at southern end of Panel P49 / P50. Prior to deployment of the panel, the subgrade was observed by a field engineer who walked the placement area in approximate 200 ft. by 8 ft. transects to observe soil bearing conditions as well as items requiring removal prior to panel placement (i.e. materials such as rocks or other items that protrude >1/2" above the surface). In the event these conditions were identified during the subgrade observation, the material was removed and the area was observed again. After deployment of the GVL and LLDPE, the area was walked again (following the same procedure during the soil subgrade observation) to attempt to identify the presence of materials larger than ½" protruding below the LLDPE. During this latest observation, a rock was noted to be present below the LLDPE. It is possible that this rock may have been dislodged during deployment of the GVL which was pulled over a small portion of the subgrade surface. This non-compliance issue was repaired as defined below and on the 7/12/16 Repair Report, and is identified as R-242. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Loose debris / rock area identified as subgrade irregularity. Rock to be removed and the area will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove rock / debris from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response. Assess GVL deployment methods to determine most effective method in reducing dislodgment of subgrade material.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Rock was removed from underneath LLDPE geomembrane along the southern edge of SA-6 North (approximately 3 ft. from the edge of the cap. As such, the edge of the LLDPE was cut to remove the stone. This cut was then repaired with an extrusion weld bead. Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the cut / bead was properly sealed (as outlined in Section 02372).

Geosynthetic Installer Representative _____ Date 7/13/16

Independent CQA Monitor _____ LANGAN Date 7/13/16

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 8

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 7/27/16 Contractor in NC: Entact Non-Compliance No.: 8 Notes: Soil Subgrade Irregularity
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Rock / loose debris (>1/2 – inches) observed underneath LLDPE geomembrane at southern end of Panel P72. Prior to deployment of the panel, the subgrade was observed by a field engineer who walked the placement area in approximate 200 ft. by 8 ft. transects to observe soil bearing conditions as well as items requiring removal prior to panel placement (i.e. materials such as rocks or other items that protrude >1/2" above the surface). In the event these conditions were identified during the subgrade observation, the material was removed and the area was observed again. After deployment of the GVL and LLDPE, the area was walked again (following the same procedure during the soil subgrade observation) to attempt to identify the presence of materials larger than ½" protruding below the LLDPE. During this latest observation, a rock was noted to be present below the LLDPE. It is possible that this rock may have been dislodged during deployment of the GVL which was pulled over a small portion of the subgrade surface. This non-compliance issue was repaired as defined below and on the 7/27/16 Repair Report, and is identified as R-328. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Loose debris / rock area identified as subgrade irregularity. Rock to be removed and the area will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove rock / debris from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Rock was removed from underneath LLDPE geomembrane as a small hole (< 4-inches) was made in the LLDPE to remove the stone. This hole was then repaired with approximate 2 ft. by 2 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372).

Geosynthetic Installer Representative Carolina Ramos Date 7/28/16

Independent CQA Monitor LANGAN Date 7/28/16

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 9

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 7/28/16 Contractor in NC: ESI Non-Compliance No.: 9 Notes: Failed Destruct Sample
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Destruct sample DS-26 (Repair R-312) collected from Panel P72 / P74 failed two of the five specimens for peel testing completed by the Geosynthetic Installer's Laboratory. Although the peel strength parameters exceeded the minimum strength requirements outlined in the project specifications, the break was reported as EPA Break Classification Code "AD BRK" by the laboratory. Although the coupons met the peel strength requirements, since the break was reported at the weld and not considered a film tearing bond (FTB), the sample was considered a failed sample and reported as a non-conformance item.

Contractor's Response

Destruct sample DS-26 break failure for two of the five specimens confirmed. As per project specs, an additional two field samples will be collected 10 ft. on each side of the failed sample. Both field samples will be tested for peel and shear strength parameters. The sample with the lower of the peel and shear strength parameters will be sent for confirmatory laboratory analysis.

Follow Up Action Required

Collect two field samples approximately 10 ft. on each side of failed destruct sample DS-26. If both samples pass the peel and shear strength requirements, the entire Panel 72/74 seam will be capped, sealed with an extrusion weld, and vacuum box tested.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Two field samples (DS-26A and DS-26B) were cut approximately 10 ft. on each side of destruct sample DS-26 (along Panel P72 / P74 seam). Both samples passed the peel and shear strength requirements during field testing. Sample DS-26B exhibited peel and shear strength parameters slightly less than DS-26A. As such, DS-26B was sent for laboratory analysis and passed the peel and shear requirements. Panel P72 / P74 seam from sample DS-26A to DS-26B was capped, sealed with an extrusion weld, and vacuum box tested on 8/2/16.

Geosynthetic Installer Representative [signature] Date 8/2/16

Independent CQA Monitor [signature] Langan Date 8/2/16

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 10

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 8/5/16 Contractor in NC: Entact Non-Compliance No.: 10 Notes: Equipment Puncture
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Equipment puncture through SA-6 North observed at Panel P36 (northern end of SA-6 North cap). Grounding rod was driven through liner by others. Puncture to be patched / repaired according to project specs. Additional details on the patch / repair work completed are described in the *8/5/16 Daily Report* and *8/5/16 Photograph Log*. This non-compliance issue was also noted on the 8/5/16 Repair Report, and is identified as RP-418. The location of this repair was recorded and logged (via GPS) by the team (along the hydraulic barrier [HB] wall).

Contractor's Response

Equipment puncture through geomembrane along SCB wall confirmed. Puncture to be covered with new patch, sealed, and extrusion welded according to project specifications.

Follow Up Action Required

Place patch over puncture location and repair and seal with extrusion weld according to project specs. Vacuum box to then be conducted to confirm integrity of weld.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Geomembrane patch was placed over the equipment puncture and was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). The weld was then vacuum box tested and passed. Additional details provided in the 8/5/16 Daily Report and 8/5/16 Photograph Log (Photos 3 & 4).

Geosynthetic Installer Representative Carolina Ramos Date 8/8/16

Independent CQA Monitor D. B. Langan Date 8/8/16

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 11

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 8/9/16 Contractor in NC: ESI Non-Compliance No.: 11 Notes: Failed Spark Test
Reference	
Item: Failed Spark Test Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

During spark testing of Piezometer PZ4, a spark was observed through the weld as the probe transmitted through the weld thus causing the spark to arc. As the point probe was passed over the weld, a visual spark was observed. The failed weld was marked by ESI and the area to be grinded, re-welded, and re-tested on 8/9/16. Additional details on the spark testing are also noted on the 8/9/16 Spark Test Log.

Contractor's Response

Failed spark test identified and confirmed on vertical weld for Piezometer PZ4 pipe boot. Weld to be grinded, re-welded, and re-tested as outlined in the project specifications.

Follow Up Action Required

Grind area of weld requiring retesting, re-weld the vertical seam, and conduct additional spark testing to confirm integrity of weld.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Area of vertical weld identified during spark testing was grinded, re-welded, and re-tested on 8/9/16. The extrusion weld was grinded by ESI to scratch / mar the surface and the area was re-welded. Following the welding activities, Entact conducted methane testing to confirm that the methane concentration was below 1% (measured as 0.0%). Following methane testing, ESI conducted a spark retest along the vertical weld, and no sparks or deficiencies were identified (spark retest passed).

Geosynthetic Installer Representative Carolina Ramos Date 8/10/16

Independent CQA Monitor LANGAN Date 8/10/16

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 12

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 8/9/16 Contractor in NC: ESI Non-Compliance No.: 12 Notes: Failed Spark Test
Reference	
Item: Failed Spark Test Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

During spark testing of Monitoring Well 115-E5-SO, a spark was observed through the weld as the probe transmitted through the weld thus causing the spark to arc. As the point probe was passed over the weld, a visual spark was observed. The failed weld was marked by ESI and the area to be grinded, re-welded, and re-tested on 8/9/16. Additional details on the spark testing are also noted on the 8/9/16 Spark Test Log.

Contractor's Response

Failed spark test identified and confirmed on vertical weld for Monitoring Well 115-E5-SO pipe boot. Weld to be grinded, re-welded, and re-tested as outlined in the project specifications.

Follow Up Action Required

Grind area of weld requiring retesting, re-weld the vertical seam, and conduct additional spark testing to confirm integrity of weld.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Area of vertical weld identified during spark testing was grinded, re-welded, and re-tested on 8/9/16. The extrusion weld was grinded by ESI to scratch / mar the surface and the area was re-welded. Following the welding activities, Entact conducted methane testing to confirm that the methane concentration was below 1% (measured as 0.0%). Following methane testing, ESI conducted a spark retest along the vertical weld, and no sparks or deficiencies were identified (spark retest passed).

Geosynthetic Installer Representative Caroline Ramos Date 8/10/16

Independent CQA Monitor LANGAN Date 8/10/16

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 13

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 8/10/16 Contractor in NC: Entact Non-Compliance No.: 13 Notes: Soil Subgrade Irregularity
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Rock / loose debris (>1/2 – inches) observed underneath LLDPE geomembrane at southern end of Panel P107 / P108. Prior to deployment of the panel, the subgrade was observed by a field engineer who walked the placement area in approximate 200 ft. by 8 ft. transects to observe soil bearing conditions as well as items requiring removal prior to panel placement (i.e. materials such as rocks or other items that protrude >1/2" above the surface). In the event these conditions were identified during the subgrade observation, the material was removed and the area was observed again. After deployment of the GVL and LLDPE, the area was walked again (following the same procedure during the soil subgrade observation) to attempt to identify the presence of materials larger than ½" protruding below the LLDPE. During this latest observation, a rock was noted to be present below the LLDPE. It is possible that this rock may have been dislodged during deployment of the GVL which was pulled over a small portion of the subgrade surface. This non-compliance issue was repaired as defined below and on the 8/10/16 Repair Report, and is identified as R-457. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Loose debris / rock area identified as subgrade irregularity. Rock to be removed and the area will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove rock / debris from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Rock was removed from underneath LLDPE geomembrane as a small hole (< 4-inches) was made in the LLDPE to remove the stone. This hole was then repaired with approximate 2 ft. by 3 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372).

Geosynthetic Installer Representative Carolina Pana Date 8/11/16

Independent CQA Monitor LANGAN Date 8/11/16

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 14

General Project Information	
Project Name: SA-6 North Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 8/12/16 Contractor in NC: ESI Non-Compliance No.: 14 Notes: Failed Spark Test
Reference	
Item: Failed Spark Test Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

During spark testing of Monitoring Well 115-E4-SO, a spark was observed along the edge of the extrusion weld as the weld was not directly centered over the wire. As the point probe was passed over the edge of the weld, a visual spark was observed. The failed weld was marked by ESI and the area was to be grinded, re-welded, and re-tested on 8/12/16. Additional details on the spark testing are also noted on the 8/12/16 Spark Test Log.

Contractor's Response

Failed spark test identified and confirmed on vertical weld for Monitoring Well 115-E4-SO pipe boot. Weld to be grinded, re-welded, and re-tested as outlined in the project specifications.

Follow Up Action Required

Grind area of weld requiring retesting, re-weld the vertical seam, and conduct additional spark testing to confirm integrity of weld.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Area of vertical weld identified during spark testing was grinded, re-welded, and re-tested on 8/12/16. The extrusion weld was grinded by ESI to scratch / mar the surface and the area was re-welded. Following the welding activities, Entact conducted methane testing to confirm that the methane concentration was below 1% (measured as 0.0%). Following methane testing, ESI conducted a spark retest along the vertical weld, and no sparks or deficiencies were identified (spark retest passed).

Geosynthetic Installer Representative Carolina Ramos Date 8/13/16

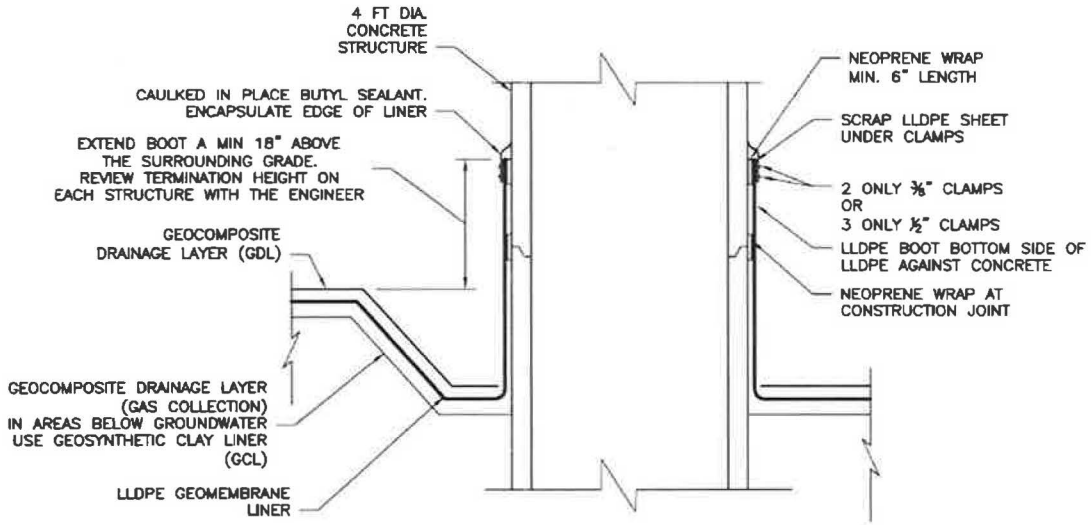
Independent CQA Monitor -Langan Date 8/13/16

Appendix N
Penetration & Pipe Boot Logs

Project: Study Area 6 North

Date: 6/23/16

QA – Manhole Boot Installation



LINER ANCHOR TO CONCRETE STRUCTURE

NTS

CE TYP C-304

***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ SS Band Clamps tightened and uniform

☒ Caulked Butyl Sealant around top edge of liner

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

Location: Access Manhole #1 (Sta. 1+50) located near approximate center of SA-6 North Cap on Panel P10 (approximately 93 ft. south of northern end of cap and 4 ft. east from Panel P10/P11 seam). Identified as R-29 on *As Built* and *Repair Report*.

AmecFW QA Signature:

Independent CQA Signature: LANGAN

Comments: Initial boot fabrication and construction conducted on 6/23/16 for skirt and boot with vertical welding completed on 6/24/16. Methane testing / spark testing completed on 6/27/16. Methane testing conducted by AmecFW and a concentration of 0.1% was measured, thus spark testing was subsequently completed by ESI for the base of the boot and vertical weld and no sparks were observed (spark test passed).

Honeywell

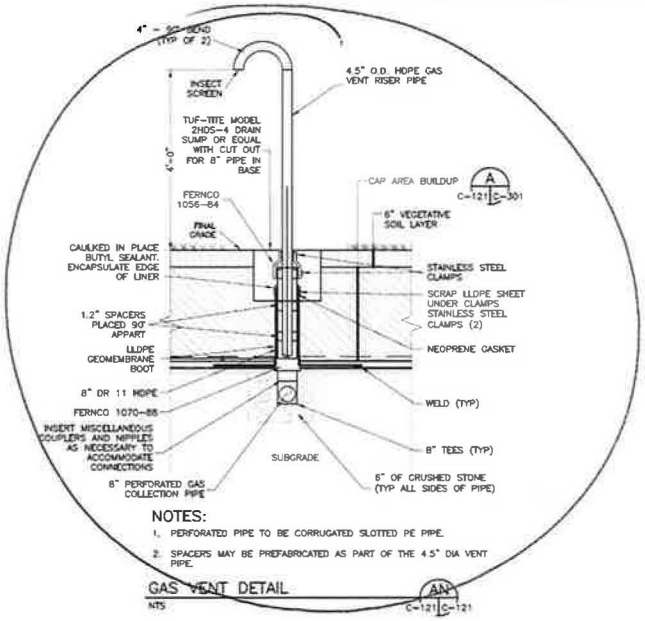
STUDY AREA 6 - CAP INSTALLATION

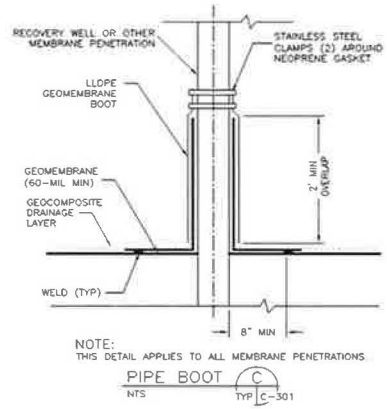
LANGAN

Project: Study Area 6 North

Date: 6/23/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-6 located near approximate center of SA-6 North Cap on Panel P11 (approximately 105 ft. north of southern end of cap and 3 ft. east of Panel P10/P11 seam). Identified as R-38 on *As Built* and *Repair Report.*

AmecFW QA Signature:

Independent CQA Monitor Signature:

LANGAN

Comments: Boot fabrication, construction, and welding and completed on 6/23/16. Methane testing / spark testing completed on 6/24/16. Methane testing conducted by AmecFW and concentration of 0.0% was measured prior to spark testing. Spark testing was conducted by ESI and no sparks observed during test (passed spark test). Following spark testing the stainless steel clamps and butyl sealant was applied to complete the boot construction.

Honeywell

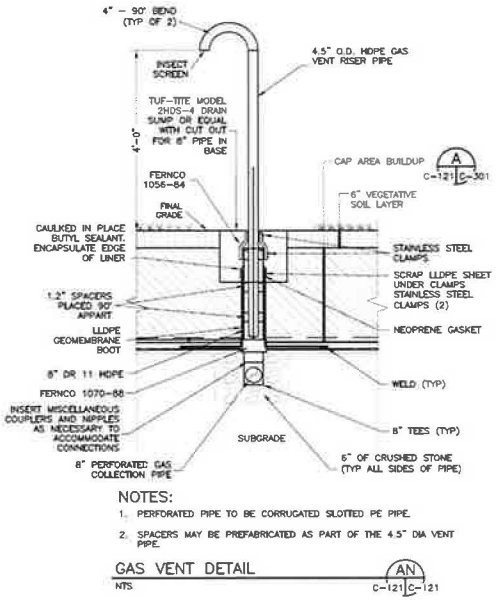
STUDY AREA 6 - CAP INSTALLATION

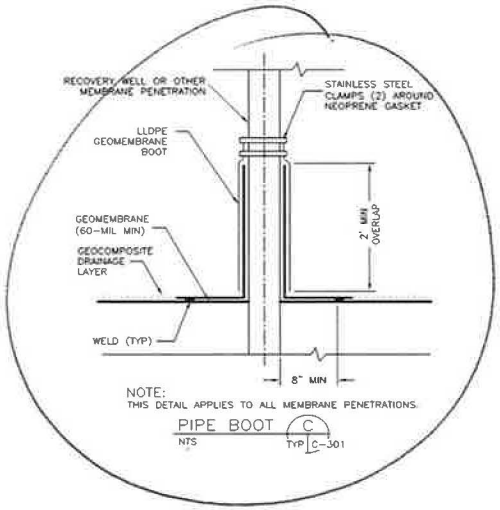
LANGAN

Project: Study Area 6 North

Date: 6/23/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Piezometer PZ10 located at approximate center of SA-6 North Cap on Panel P1 (approximately 35 ft. north of Panel P1 / P2 seam and 8 ft. west). Identified as R-1 on *As Built* and *Repair Report.*

AmecFW QA Signature:

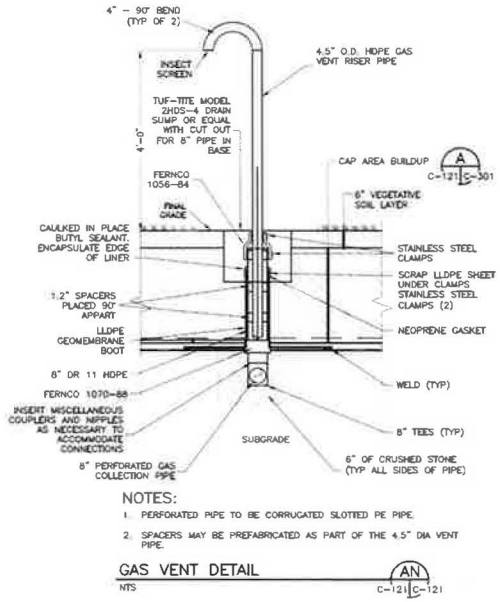
Independent CQA Monitor Signature: LANGIAN

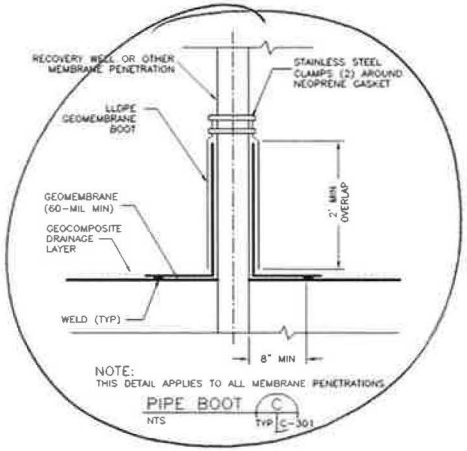
Comments: Boot fabrication, construction, and welding completed on 6/23/16. Methane testing / spark testing completed on 6/24/16. Methane testing conducted by AmecFW and concentration of 0.8% measured prior to spark testing. Spark testing was conducted by ESI and no sparks observed during spark test (spark test passed). Following spark testing, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Project: Study Area 6 North

Date: 6/23/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☐ Field fabricated, spark test ☒ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Well 115-W6-SO located near southern end of SA-6 North Cap on Panel P5 / P6 seam (approximately 15 ft. north of southern end of cap). Identified as R-7 on *As Built* and *Repair Report.*

AmecFW QA Signature:

Independent CQA Monitor Signature: - LANGAN

Comments: Boot fabrication, construction, and welding completed on 6/23/16. Methane testing completed on 6/24/16 by AmecFW, and no spark testing was conducted as methane measured concentration of 1.4% prior to spark testing. Since the concentration was greater than 1% no spark testing was completed. Welds visually observed for deficiencies and none were noted. Following visual observation, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Honeywell

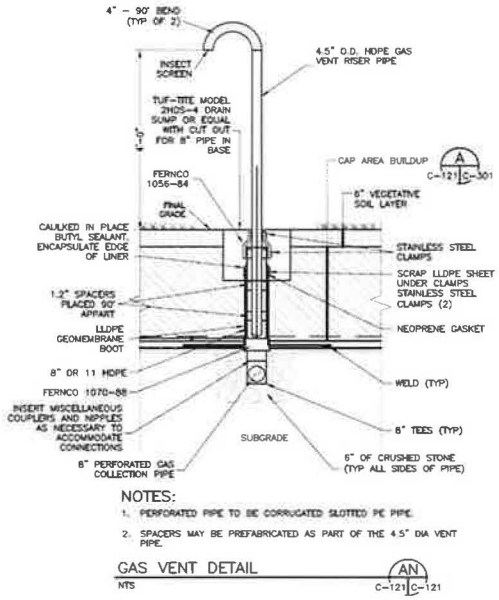
STUDY AREA 6 - CAP INSTALLATION

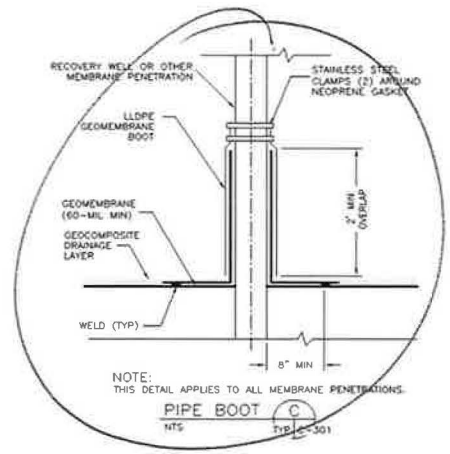
LANGAN

Project: Study Area 6 North

Date: 6/27/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Piezometer PZ8 located along northern end of SA-6 North Cap on Panel P21 (approximately 171 ft. north of south end of cap and 3 ft. east of Panel P20/P21 seam). Identified as R-81 on *As Built* and *Repair Report.*

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Comments: Boot fabrication, construction, and welding completed on 6/27/16. Methane testing / spark testing completed on 7/6/16. Methane testing conducted by AmecFW and concentration of 0.0% was measured. As such, spark testing was conducted by ESI along the base of the boot and vertical weld and no sparks observed (spark test passed). Following spark testing the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Honeywell

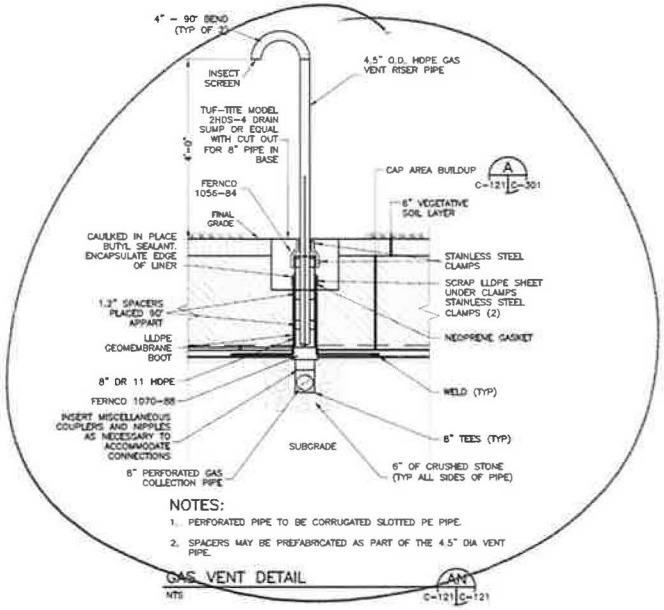
STUDY AREA 6 - CAP INSTALLATION

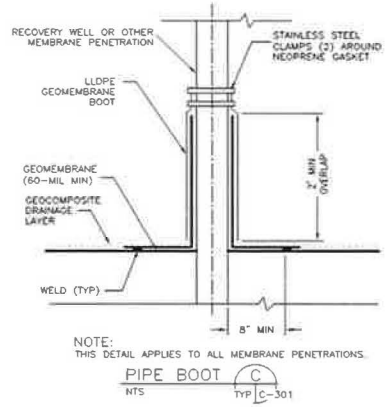
LANGAN

Project: Study Area 6 North

Date: 6/29/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-5 located near approximate center of SA-6 North Cap on Panel P27 (approximately 124 ft. north of southern end of cap and 3 ft. east from Panel P26/P27 seam). Identified as R-102 on *As Built* and *Repair Report.*

AmecFW QA Signature:

Independent CQA Monitor Signature:

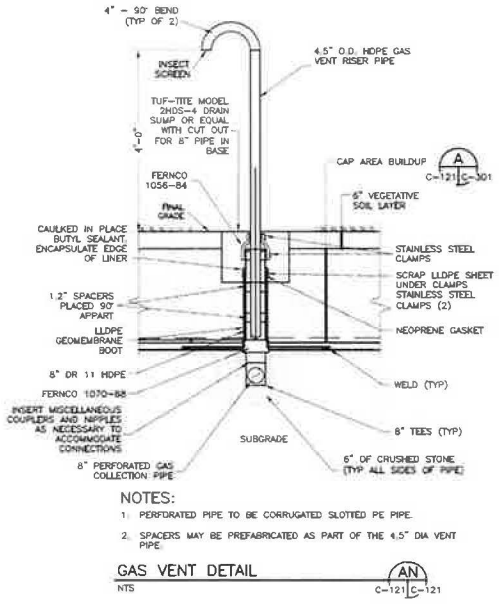
LANGAN

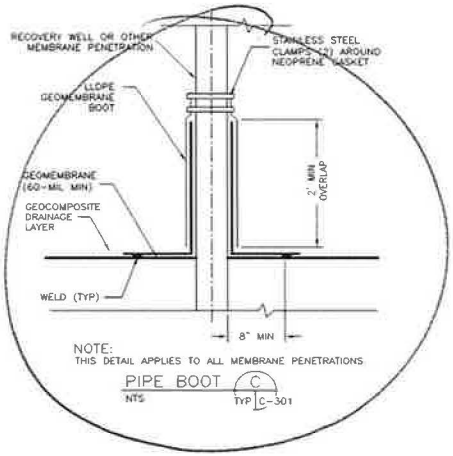
Comments: Boot fabrication, construction, and welding completed on 6/29/16. Methane testing / spark testing completed on 7/6/16. Methane testing was conducted by AmecFW and concentration of 0.0% was measured. As such, spark testing was conducted by ESI for the base of the boot and vertical weld. During spark testing of vertical weld, a spark was observed and identified a minor pinhole location along the edge of the weld that was re-welded and re-tested on 7/7/16 (spark retest passed). Following the spark retest, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Project: Study Area 6 North

Date: 7/1/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Well 115-W1-SO located along southern end of SA-6 North Cap on Panel P28 / P29 seam (approximately 15 ft. north of south end of cap). Identified as R-156 on *As Built* and *Repair Report.*

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Comments: Boot fabrication, construction, and welding completed on 7/1/16. Methane testing / spark testing completed on 7/6/16. Methane testing was conducted by AmecFW and a concentration of 0.0% was measured. As such, spark testing was conducted by ESI along the base of the boot and vertical weld. During spark testing of the vertical weld, two small pinhole deficiencies were observed and the area was grinded, rewelded, and re-tested on 7/7/16 (spark retest passed). Following the spark retest, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Honeywell

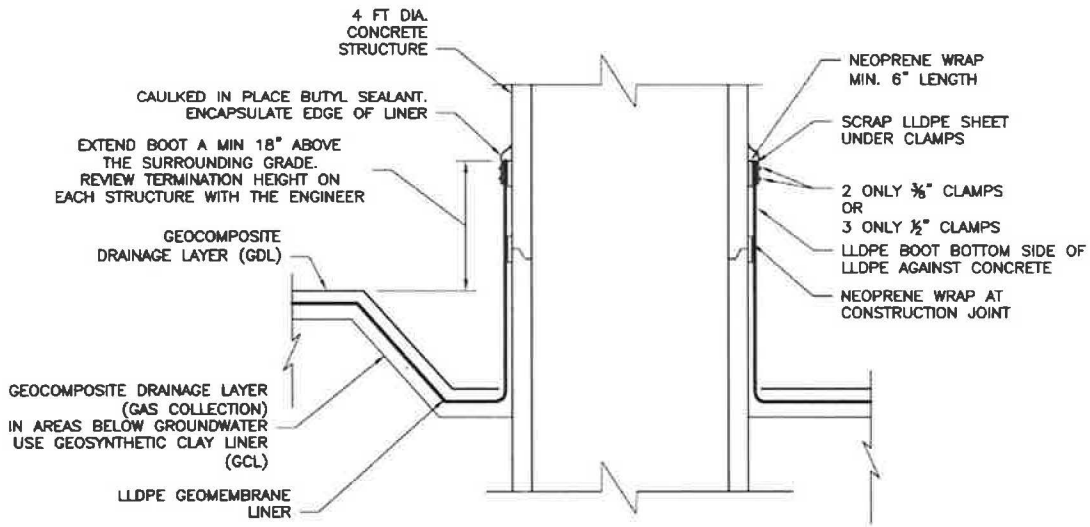
STUDY AREA 6 - CAP INSTALLATION

LANGAN

Project: Study Area 6 North

Date: 7/7/16

QA – Manhole Boot Installation



LINER ANCHOR TO CONCRETE STRUCTURE

NTS

CE TYP C-304

***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ SS Band Clamps tightened and uniform

☒ Caulked Butyl Sealant around top edge of liner

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

Location: Extraction Pump Station #1 located near approximate center of SA-6 North Cap on Panel P42 / P43 seam (approximately 136 ft. north of southern end of cap). Identified as R-189 on *As Built* and *Repair Report.*

AmecFW QA Signature:

Independent CQA Signature: - LANGAN

Comments: Boot fabrication, construction, and welding completed on 7/7/16. Methane testing / spark testing completed on 7/12/16. Methane testing was conducted by AmecFW and concentration of 0.0% was measured. As such, spark testing was conducted by ESI along the base of the boot and vertical weld and no sparks were observed (spark test passed). Following spark testing, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Honeywell

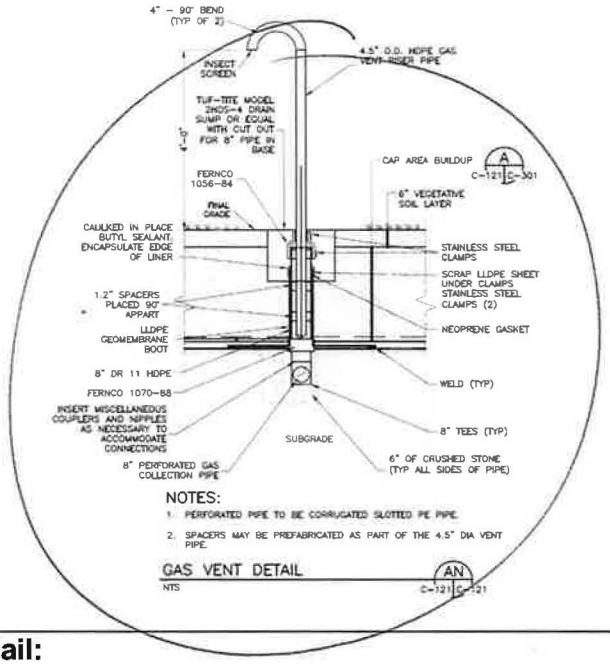
STUDY AREA 6 - CAP INSTALLATION

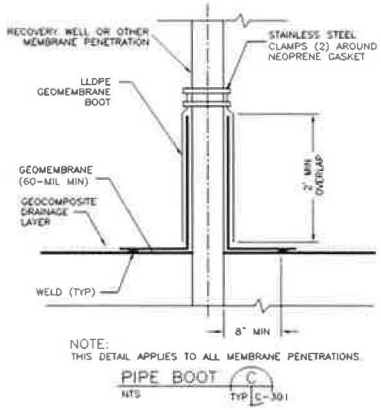
LANGAN

Project: Study Area 6 North

Date: 7/12/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-4 located near approximate center of SA-6 North Cap on Panel P46 (approximately 147 ft. north of southern end of cap and 8 ft. east from Panel P44/P46 seam). Identified as R-237 on *As Built* and *Repair Report.*

AmecFW QA Signature:

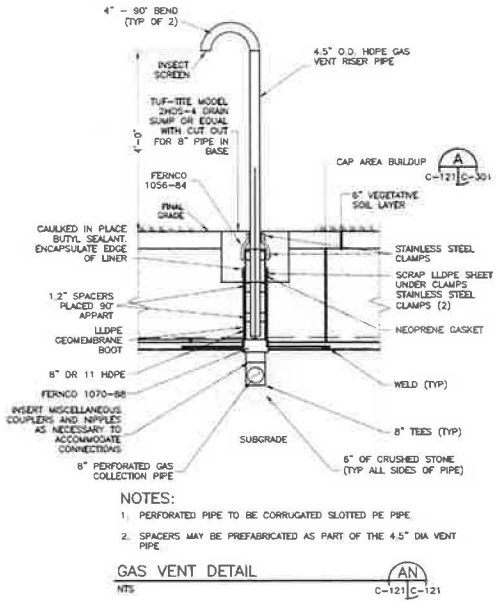
Independent CQA Monitor Signature: LANGAN

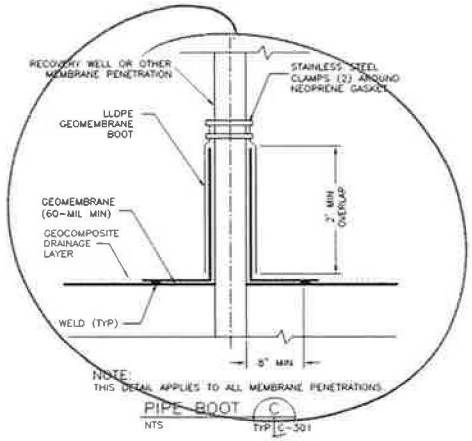
Comments: Boot fabrication, construction, and welding completed on 7/12/16. Methane testing / spark testing completed after boot construction on 7/12/16. Methane testing was conducted by AmecFW and a concentration of 0.0% was measured. As such, spark testing was conducted by ESI along the base of the boot and vertical weld and no sparks were observed (spark test passed). Following spark testing, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Project: Study Area 6 North

Date: 7/12/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Piezometer PZ6 located near northern end of SA-6 North Cap on Panel P55 (approximately 285 ft. north of southern end of cap and 20 ft. east from Panel P54/P55 seam). Identified as R-261 on *As Built* and *Repair Report*.

AmecFW QA Signature:

Independent CQA Monitor Signature: – LANGAN

Comments: Boot fabrication and construction completed on 7/12/16. Methane testing / spark testing completed on 7/27/16. Methane testing completed by AmecFW and yielded methane concentration of 0.0%. As such, spark testing was conducted by ESI along the base of the boot and vertical weld and no sparks were observed (i.e. spark test passed). Following spark testing the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Honeywell

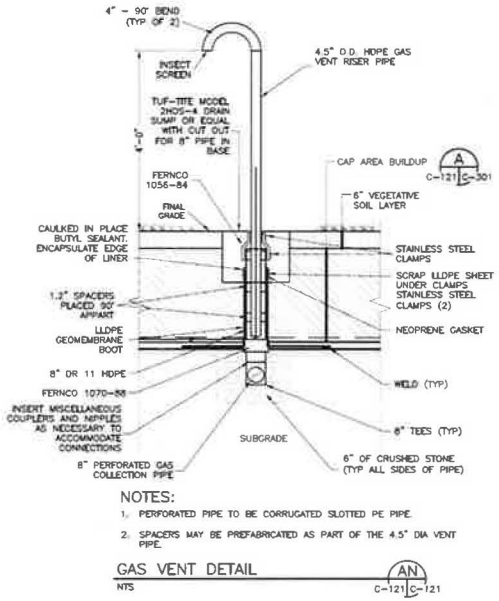
STUDY AREA 6 - CAP INSTALLATION

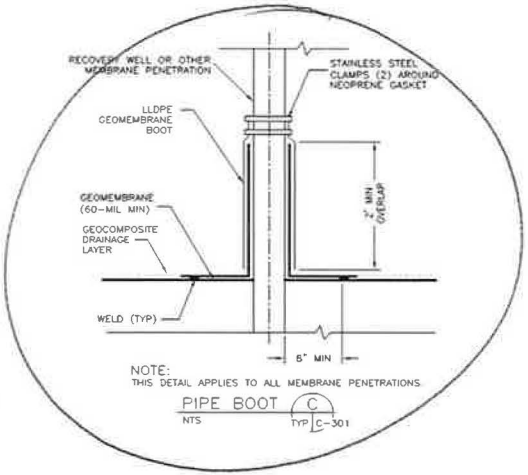
LANGAN

Project: Study Area 6 North

Date: 7/14/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Cleanout 1 located near southern half of SA-6 North Cap on Panel P65 (approximately 90 ft. north of southern end of cap and 7 ft. west from Panel P65/P67 seam). Identified as R-288 on *As Built* and *Repair Report.*

AmecFW QA Signature:

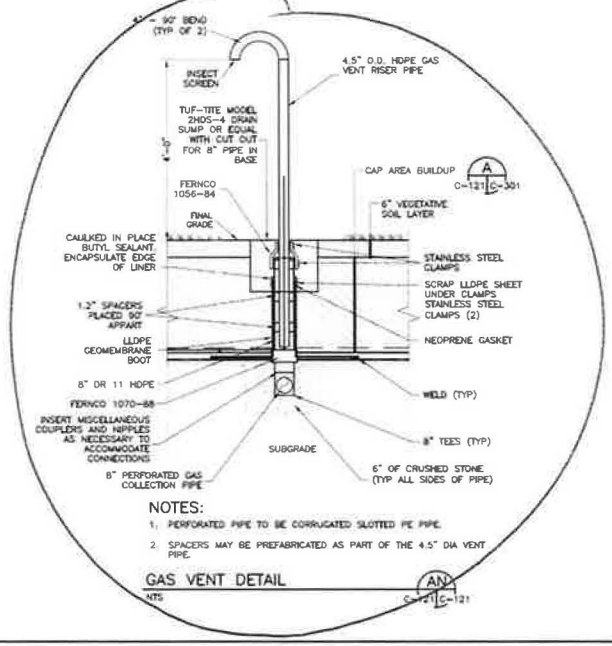
Independent CQA Monitor Signature: LANGAN

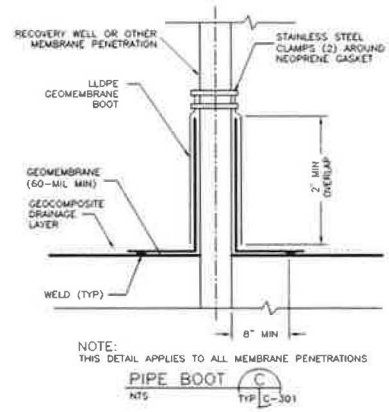
Comments: Boot fabrication, construction and welding completed on 7/14/16. Methane testing / spark testing completed on 7/27/16. Methane testing was conducted by AmecFW and concentration of 0.0% was measured. As such, spark testing was completed by ESI along the base of the boot and vertical weld and no sparks were observed (spark test passed). Following spark testing, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Project: Study Area 6 North

Date: 7/14/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-3 located near approximate center of SA-6 North Cap on Panel P66 (approximately 148 ft. north of southern end of cap and 3 ft. west from Panel P66/P68 seam). Identified as R-292 on *As Built* and *Repair Report*.

AmecFW QA Signature:

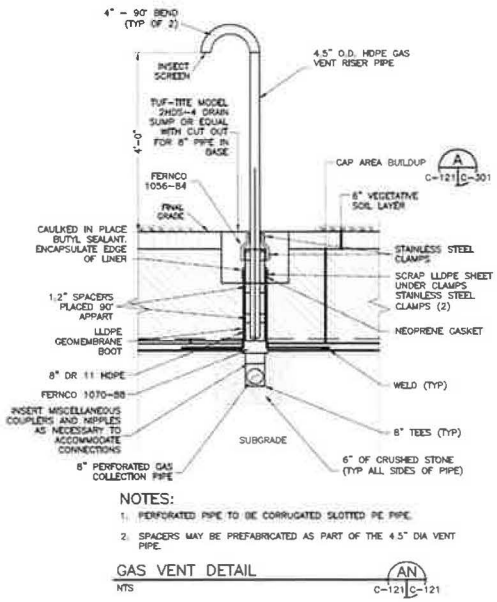
Independent CQA Monitor Signature: LANGAN

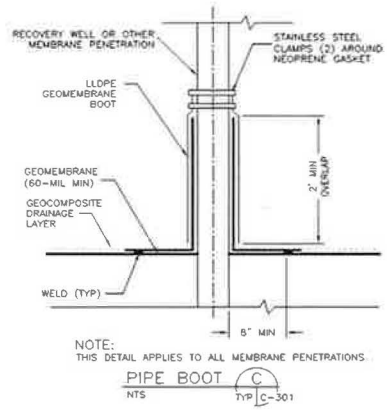
Comments: Boot fabrication, construction and welding completed on 7/14/16. Methane testing / spark testing completed on 7/28/16. Methane testing conducted by AmecFW and concentration of 0.0% was measured. As such, spark testing was conducted by ESI along the base of the boot and vertical weld and no sparks were observed (spark test passed). Following spark testing, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Project: Study Area 6 North

Date: 7/25/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Cleanout 2 located near approximate center of SA-6 North Cap on Panel P72 (approximately 158 ft. north of southern end of cap and 6 ft. west from Panel P72/P74 seam). Identified as R-313 on *As Built* and *Repair Report.*

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Comments: Boot fabrication, construction and welding completed on 7/25/16. Methane testing / spark testing completed on 7/28/16. Methane testing was conducted by AmecFW and concentration of 0.0% was measured. As such, spark testing was conducted by ESI along the base of the boot and vertical weld and no sparks were observed (spark test passed). Following spark testing, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Honeywell

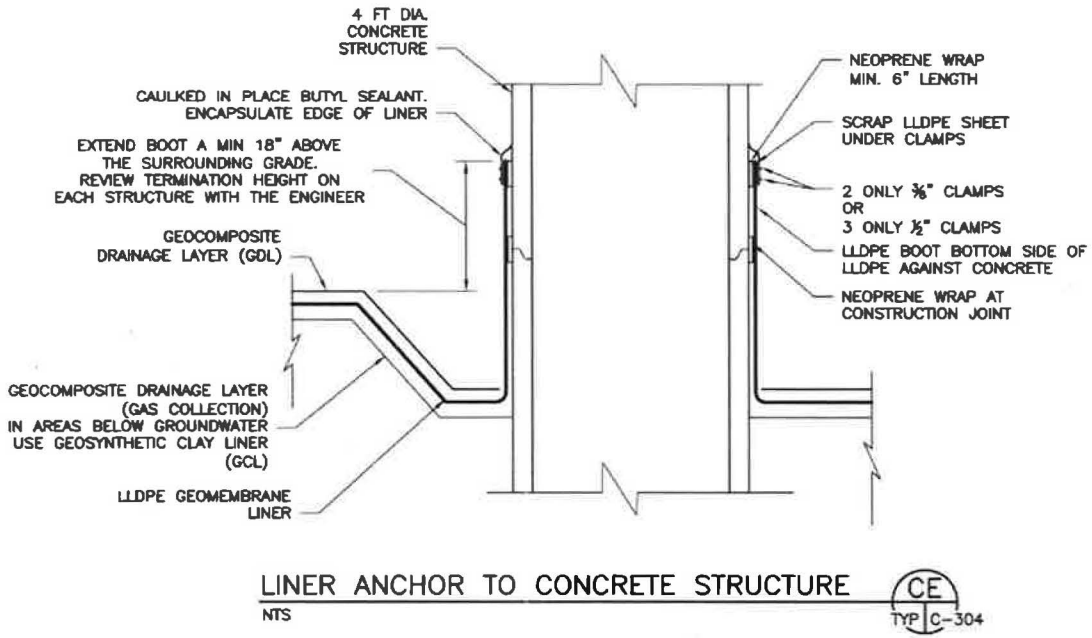
STUDY AREA 6 - CAP INSTALLATION

LANGAN

Project: Study Area 6 North

Date: 7/27/16

QA – Manhole Boot Installation



LINER ANCHOR TO CONCRETE STRUCTURE

NTS

CE TYP C-304

***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ SS Band Clamps tightened and uniform

☒ Caulked Butyl Sealant around top edge of liner

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

Location: Extraction Pump Station #2 located near approximate center of SA-6 North Cap on Panel P80 (approximately 140 ft. north of southern end of cap and 1 ft. west of Panel P80/P81 seam). Identified as R-357 on *As Built* and *Repair Report.*

AmecFW QA Signature:

Independent CQA Signature: LANGAN

Comments: Boot fabrication, construction, and welding completed on 7/27/16. Methane testing / spark testing completed on 8/9/16. Methane testing completed by AmecFW and yielded concentration of 0.0%. As such, spark testing was conducted by ESI along the base of the boot and vertical weld and no sparks were observed (spark test passed). Following spark testing, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Honeywell

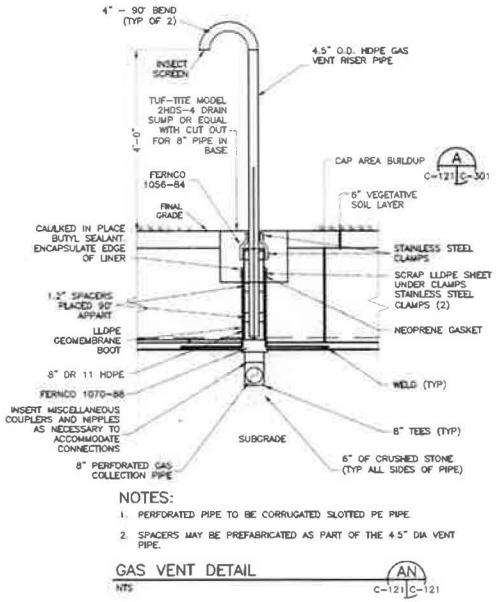
STUDY AREA 6 - CAP INSTALLATION

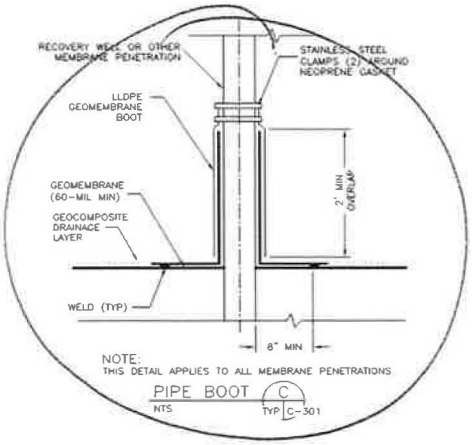
LANGAN

Project: Study Area 6 North

Date: 7/27/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Monitoring well 115-E5-SO located along southern end of SA-6 North Cap on Panel P78 (approximately 15 ft. north of southern end of cap and 9 ft. west from Panel P78/P79 seam). Identified as R-343 on *As Built* and *Repair Report*.

AmecFW QA Signature:

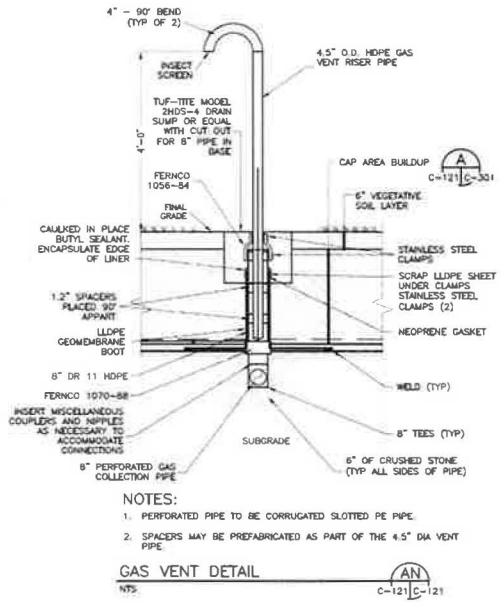
Independent CQA Monitor Signature: LANGAN

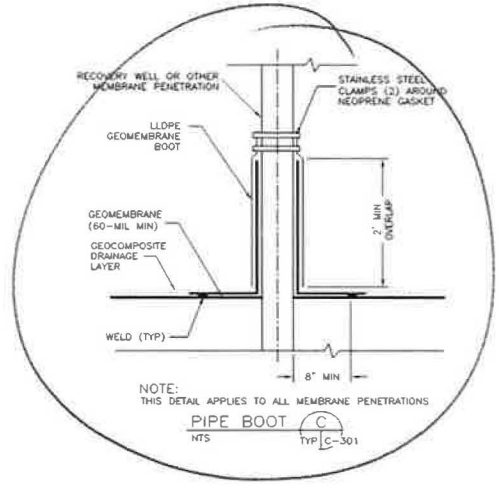
Comments: Boot fabrication, construction, and welding completed on 7/27/16. Methane testing / spark testing completed on 8/9/16. Methane testing conducted by AmecFW and yielded concentration of 0.0%. As such, spark testing was conducted by ESI along the base of the boot and vertical weld. A spark was observed along the vertical weld as the weld over the wire was too thin thus causing the spark to arc. The area was grinded, rewelded, and retested and the spark retest passed. Following the spark retest the stainless steel clamps and final butyl sealant were applied to complete the boot construction.

Project: Study Area 6 North

Date: 7/28/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Injection Well 088-IW-03 located near southern end of SA-6 North Cap on Panel P81 (approximately 32 ft. north of southern end of cap and 7 ft. west from Panel P81/P83 seam). Identified as R-384 on *As Built* and *Repair Report*.

AmecFW QA Signature:

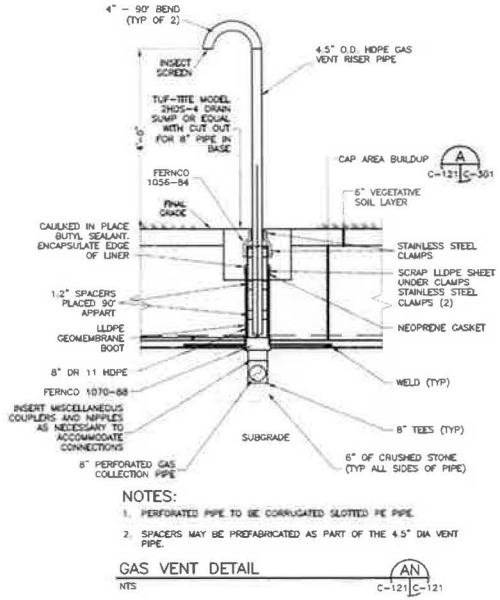
Independent CQA Monitor Signature: LANGAN

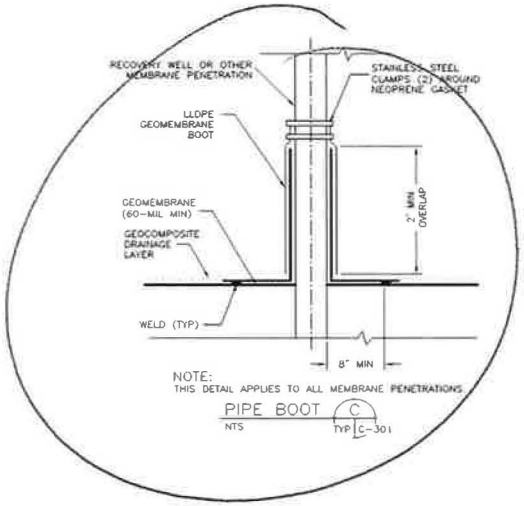
Comments: Boot fabrication, construction, and welding completed on 7/28/16. Methane testing / spark testing completed on 8/9/16. Methane testing conducted by AmecFW and yielded concentration of 0.0%. As such, spark testing was conducted by ESI along base of boot and vertical weld and no sparks were identified (spark test passed). Following spark testing the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Project: Study Area 6 North

Date: 7/28/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Utility corridor horizontal drain pipe located along southern end of SA-6 North Cap on Panel P76 (approximately 6 ft. north of southern end of cap and 4 ft. west from Panel P76/P78 seam). Identified as R-380 on *As Built* and *Repair Report*.

AmecFW QA Signature:

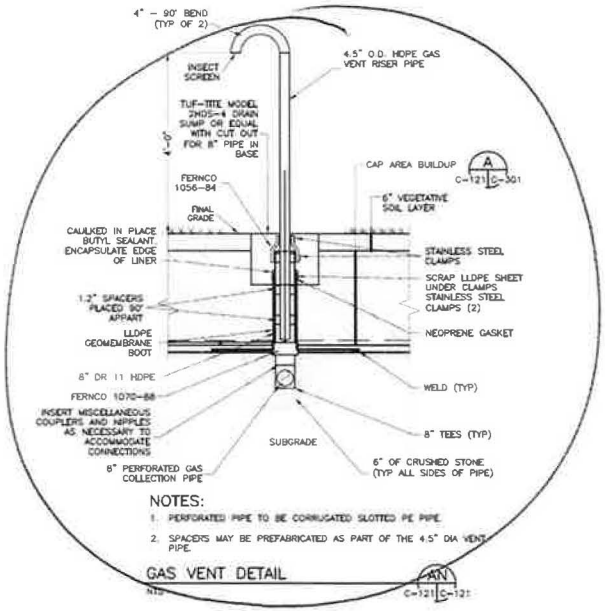
Independent CQA Monitor Signature: LANGAN

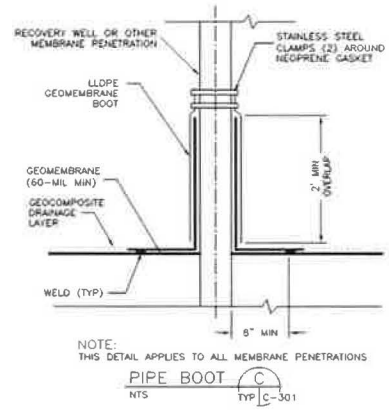
Comments: Boot fabrication, construction welding and testing completed on 7/28/16. Methane testing / spark testing completed on 8/9/16. Methane testing was conducted by AmecFW and concentration of 0.0% was measured. As such, spark testing was conducted by ESI along the base of the boot and vertical weld and no sparks were observed (spark test passed). Following spark testing, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Project: Study Area 6 North

Date: 8/3/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-2 located at the approximate center of SA-6 North Cap on Panel P91 (approximately 107 ft. north of southern end of cap and 5 ft. east from Panel P90/P91 seam). Identified as R-409 on *As Built* and *Repair Report*.

AmecFW QA Signature:

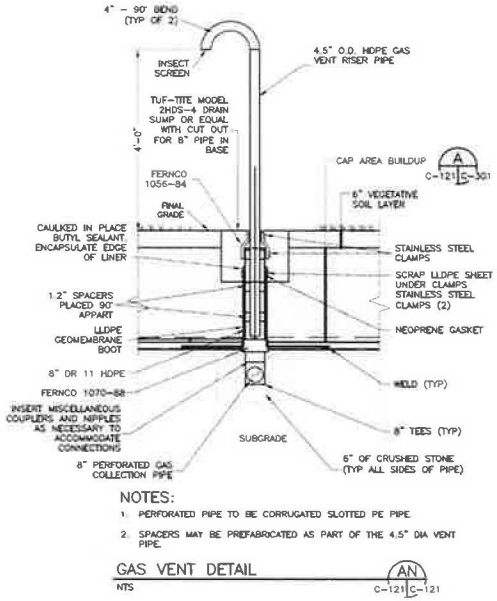
Independent CQA Monitor Signature: LANGAN

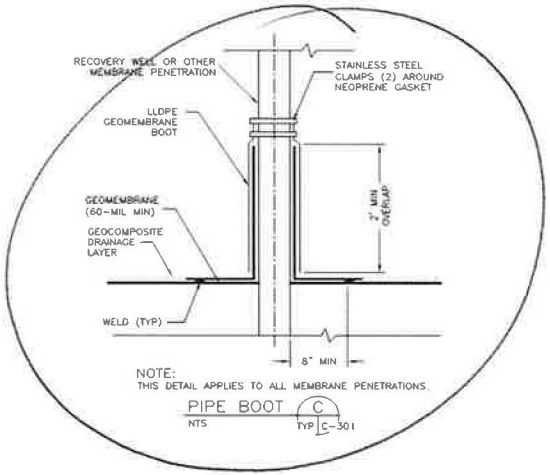
Comments: Boot fabrication, construction, and welding completed on 8/3/16. Methane testing / spark testing completed on 8/9/16. Methane testing was conducted by AmecFW and a concentration of 0.0% was measured. As such, spark testing was conducted by ESI along the base of the boot and vertical weld and no sparks were observed (spark test passed). Following spark testing, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Project: Study Area 6 North

Date: 8/3/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Piezometer PZ4 located along northern end of SA-6 North Cap on Panel P90 (approximately 238 ft. north of southern end of cap and 7 ft. west from Panel P90/P91 seam). Identified as R-408 on *As Built* and *Repair Report*.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Comments: Boot fabrication, construction, and welding completed on 8/3/16. Methane testing / spark testing completed on 8/9/16. Methane testing conducted by AmecFW and yielded concentration of 0.0%. As such, spark testing was conducted by ESI along the base of the boot and the vertical weld and a spark was observed (for both the vertical weld and base) as the weld was too thin over the wire, thus causing the spark to arc. The areas were grinded, re-welded, and retested on 8/9/16 and the spark retest passed. Following the spark retest, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Honeywell

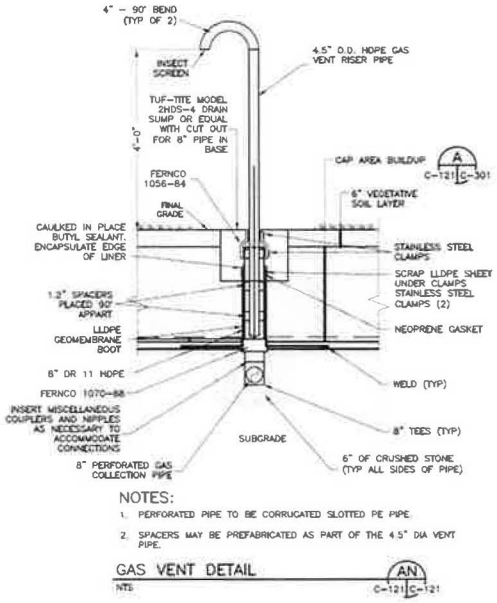
STUDY AREA 6 - CAP INSTALLATION

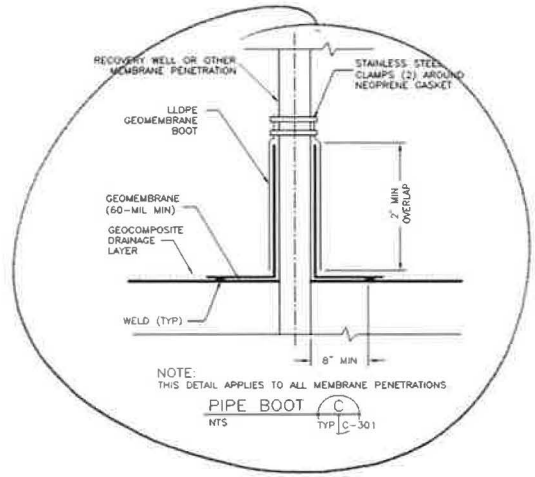
LANGAN

Project: Study Area 6 North

Date: 8/5/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Injection Well 088-IW-02 located at the approximate center of SA-6 North Cap on Panel P97 (approximately 109 ft. north of southern end of cap and 2 ft. west from Panel P97/P98 seam). Identified as R-430 on *As Built* and *Repair Report.*

AmecFW QA Signature:

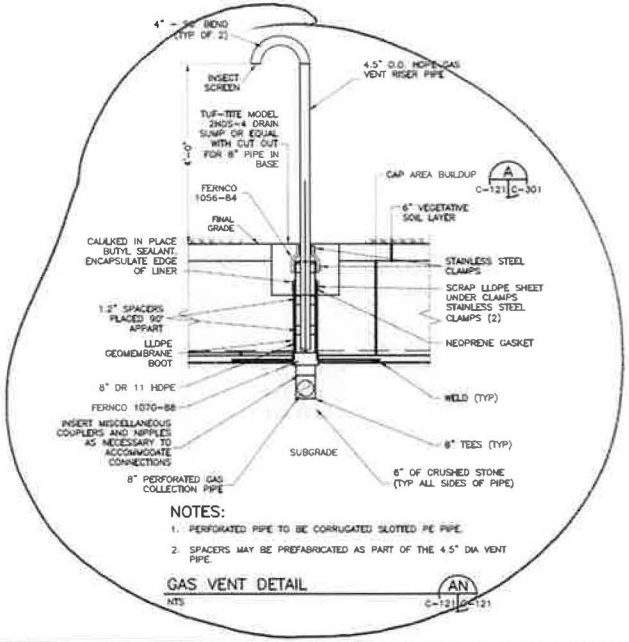
Independent CQA Monitor Signature: LANGAN

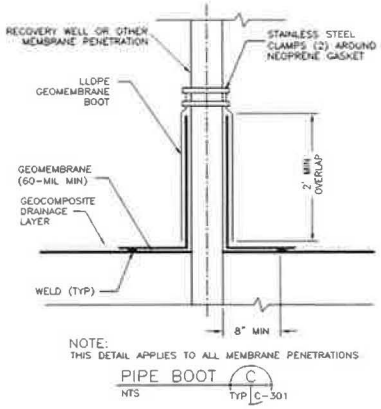
Comments: Boot fabrication, construction, and welding completed on 8/5/16. Methane testing / spark testing completed on 8/9/16. Methane testing conducted by AmecFW and yielded concentration of 0.0%. As such, spark testing was conducted by ESI along the base of the boot and vertical weld and no sparks were observed (spark test passed). Following spark testing, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Project: Study Area 6 North

Date: 8/10/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-1 located at the approximate center of SA-6 North Cap on Panel P103 (approximately 113 ft. north of southern end of cap and 13 ft. east from Panel P102/P103 seam). Identified as R-449 on *As Built* and *Repair Report*.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Comments: Boot fabrication, construction, and welding completed on 8/10/16. Methane testing / spark testing completed on 8/12/16. Methane testing was conducted by AmecFW and a concentration of 0.0% was measured. As such, spark testing was conducted by ESI along the base of the boot and vertical weld and no sparks were observed (spark test passed). Following spark testing, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Honeywell

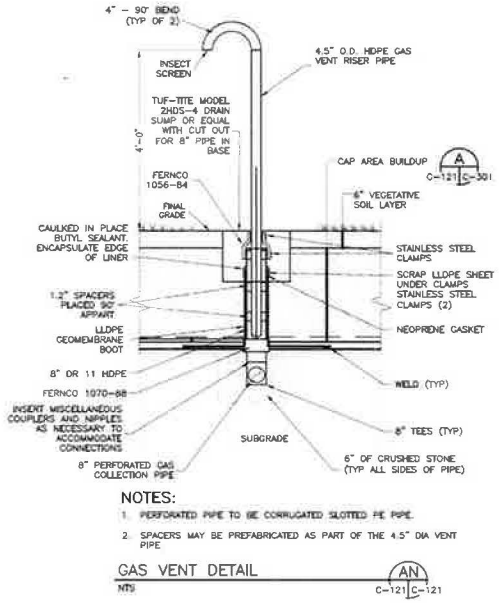
STUDY AREA 6 - CAP INSTALLATION

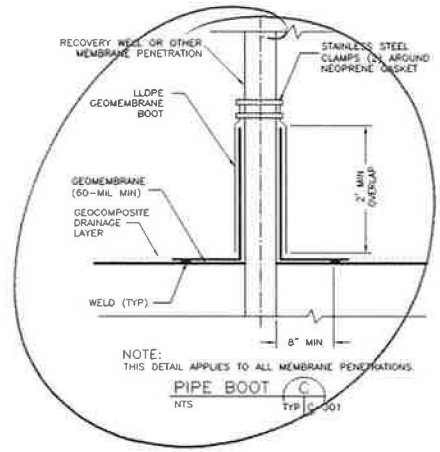
LANGAN

Project: Study Area 6 North

Date: 8/10/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Monitoring Well 115-E4-SO located along the southern end of SA-6 North on Panel P104 (approximately 6 ft. north of southern end of cap and 5 ft. east from Panel P103/P104 seam). Identified as R-450 on *As Built* and *Repair Report*.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Comments: Boot fabrication, construction, and welding completed on 8/10/16. Methane testing / spark testing completed on 8/12/16. Methane testing was conducted by AmecFW and concentration of 0.0% was measured. As such, spark testing was conducted by ESI for the base of the boot and vertical weld. During testing of the vertical weld, a spark was observed along the edge of the weld (weld not centered over wire). The area was grinded, rewelded, and retested, and the spark retest passed. Following the spark retest, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Honeywell

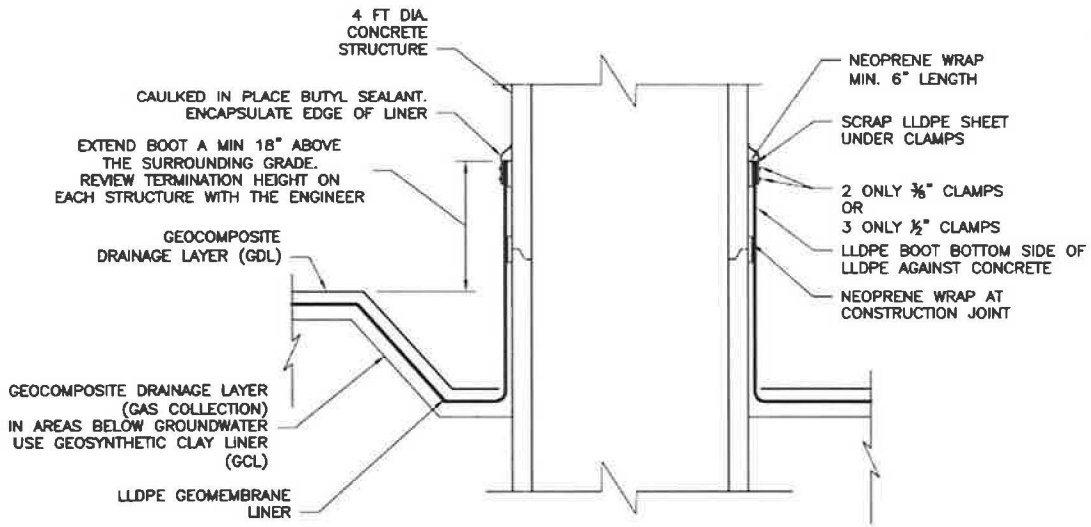
STUDY AREA 6 - CAP INSTALLATION

LANGAN

Project: Study Area 6 North

Date: 8/12/16

QA – Manhole Boot Installation



LINER ANCHOR TO CONCRETE STRUCTURE

NTS

CE TYP C-304

***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ SS Band Clamps tightened and uniform

☒ Caulked Butyl Sealant around top edge of liner

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

Location: Access Manhole Sta. 18+00 located near approximate center of SA-6 North Cap on Panel P113 (approximately 110 ft. north of southern end of cap and 10 ft. east of Panel P112/P113 seam). Identified as R-492 on *As Built* and *Repair Report.*

AmecFW QA Signature:

Independent CQA Signature: LANGAN

Comments: Boot fabrication, construction, and welding completed on 8/12/16. Methane testing / spark testing completed on 8/13/16. Methane testing was conducted by AmecFW and a concentration of 0.0% was measured. As such, spark testing was conducted by ESI along the base of the boot and vertical weld and no sparks were observed (spark test passed). Additionally, vacuum box testing was conducted along horizontal and vertical welds completed for the boot construction (vacuum box testing passed). Following testing, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Honeywell

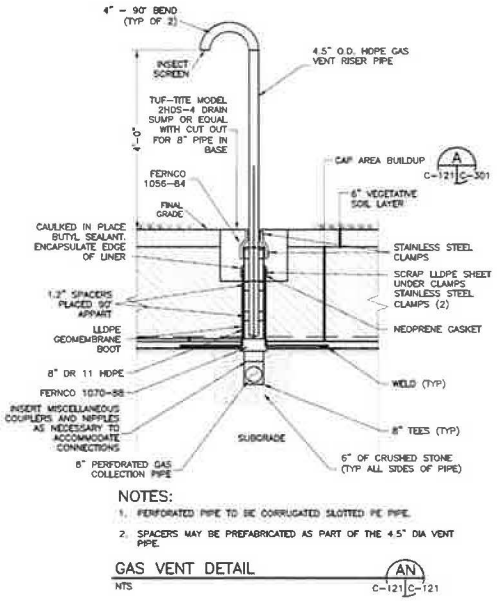
STUDY AREA 6 - CAP INSTALLATION

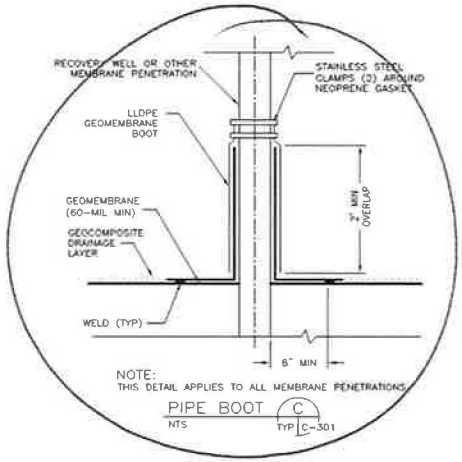
LANGAN

Project: Study Area 6 North

Date: 8/12/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Injection Well 088-IW-01 located along northern end of SA-6 North Cap on Panel P114 (approximately 206 ft. north of southern end of cap and 13 ft. east from Panel P113/P114 seam). Identified as R-493 on *As Built* and *Repair Report*.

AmecFW QA Signature:

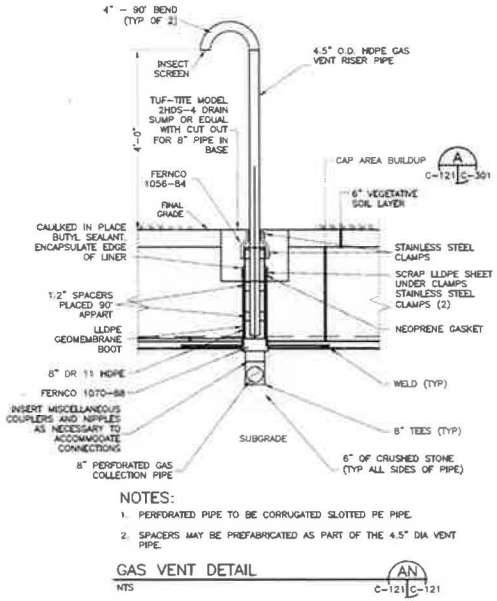
Independent CQA Monitor Signature: LANGAN

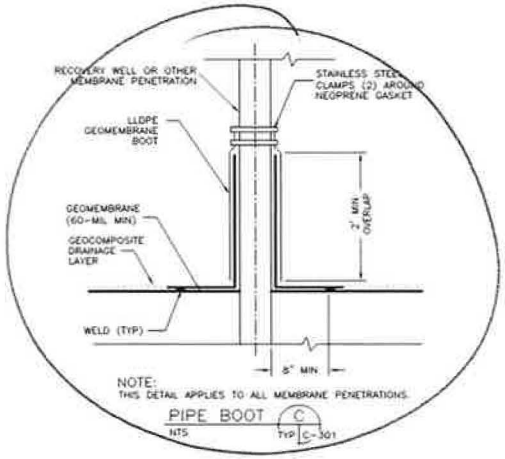
Comments: Boot fabrication, construction, and welding completed on 8/12/16. Methane testing / spark testing completed on 8/13/16. Methane testing was conducted by AmecFW and concentration of 0.0% was measured. As such, spark testing was conducted by ESI at the base of the boot and vertical weld and no sparks were observed (spark test passed). Following spark testing, the stainless steel clamps and butyl sealant were applied to complete the boot construction.

Project: Study Area 6 North

Date: 8/15/2016

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☒ Field fabricated, spark test ☐ Field fabricated, visual

☒ 18-in. overlap between boot and geomembrane

☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.

☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

☒ Caulked Butyl Sealant around top edge of liner

Location: Piezometer PZ2 located along northern end of SA-6 North Cap on Panel P116 (approximately 176 ft. north of southern end of cap and 13 ft. east from Panel P116/P118 seam). Identified as R-509 on *As Built* and *Repair Report.*

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Comments: Boot fabrication, construction, and welding completed on 8/15/16. Methane testing / spark testing also completed on 8/15/16. Methane testing was conducted by AmecFW and yielded concentration of 0.0%. As such, spark testing was conducted by ESI at the base of the boot and vertical weld and no sparks were observed (spark test passed). Following spark testing, the stainless steel clamps and butyl sealant were applied to complete the boot.

Appendix O
Spark Test Logs

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

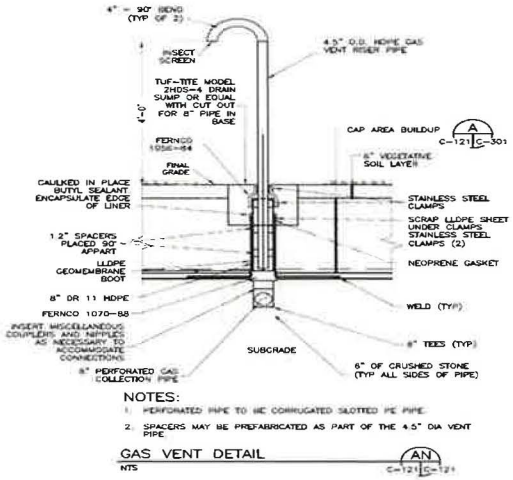
Project: Study Area 6 North

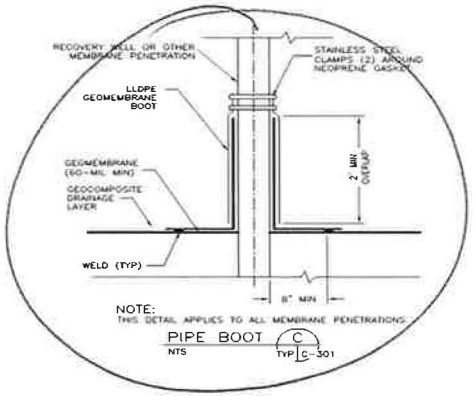
Location: Piezometer PZ10 located at approximate center of SA-6 North Cap on Panel P1 (approximately 35 ft. north of Panel P1 / P2 seam and 8 ft. west). Identified as R-1 on *As Built* and *Repair Report.*

Date: 6/24/16 **Repair Number:** R-1

Boot Log QA Form (cross-reference): 6/23/16 Piezometer PZ10 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0925*

% Methane 0.8%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 6/23/16. Methane / spark testing completed on 6/24/16. Methane testing completed by AmecFW and yielded concentration of 0.8%. As such, spark testing was conducted by ESI at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

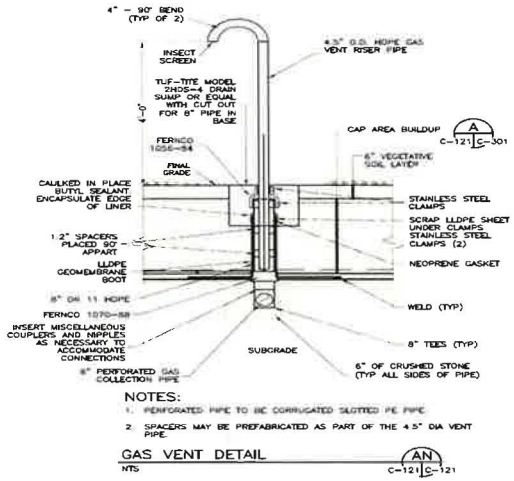
Project: Study Area 6 North

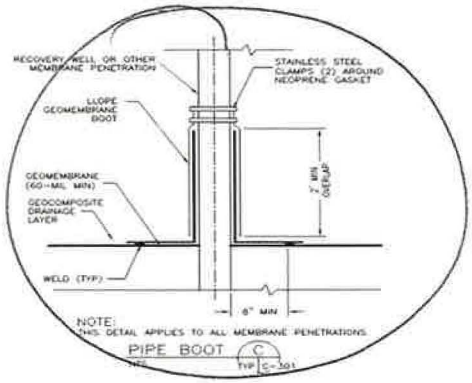
Location: Well 115-W6-SO located near southern end of SA-6 North Cap on Panel P5 / P6 seam (approximately 15 ft. north of southern end of cap). Identified as R-7 on *As Built* and *Repair Report*.

Date: 6/24/16 **Repair Number:** R-7

Boot Log QA Form (cross-reference): 6/23/16 Well 115-W6-SO Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0910*

% Methane 1.4%

☐Methane < 1%; Proceed with spark testing

☒Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☐Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot										
Vertical weld										

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 6/23/16. Methane testing completed on 6/24/16 by AmecFW. Methane testing yielded concentration of 1.4%. (>1%). As such, no spark testing was completed for the boot. The vertical weld and the weld at the base of the boot were visually observed by the Independent CQA Monitor and AmecFW QA and no deficiencies along the welds were noted.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

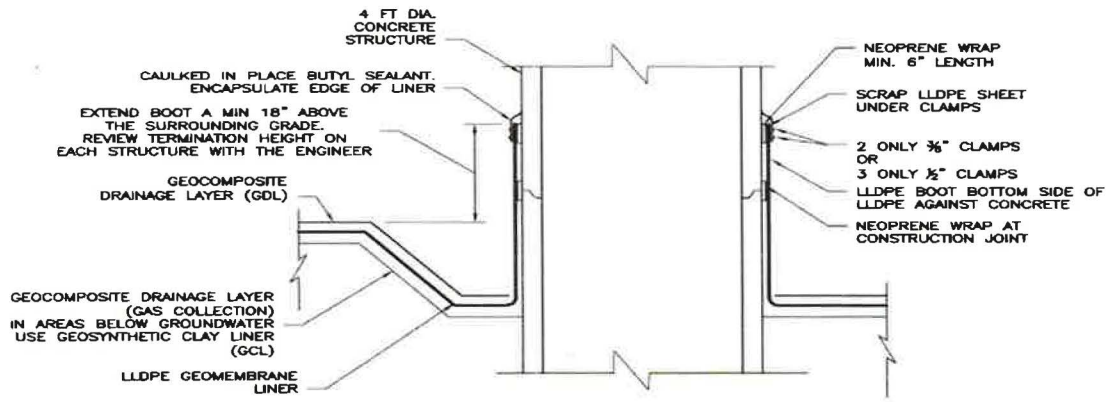
Project: Study Area 6 North

Location: Access Manhole #1 (Sta. 1+50) located near approx. .center of SA-6 North on Panel P10 (approx. 93 ft. south of northern end and 4 ft. east from Panel P10/P11 seam). Identified as R-29 on *As Built* and *Repair Report*.

Date: 6/27/16 **Repair Number:** R-29

Boot Log QA Form (cross-reference): 6/23/16 Access Manhole #1 (Sta. 1+50) Form

QA – Spark Test Log – Manhole



LINER ANCHOR TO CONCRETE STRUCTURE

NTS

CE TYP C-304

Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *1030*

% Methane *0.1%*

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Panel Extrusion Weld:

☐Vacuum Box Tested

☐Spark Tested (as outlined below)

Spark Test Information

Item Tested	Thickness	Operator Initials	Voltage (kV)	AC / DC	Brush Probe	Point Probe	QCR I.D*	Pass / Fail	Retest Pass /Fail	QCR I.D*
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 6/23/16 and 6/24/16. Spark / methane testing conducted on 6/27/16. Methane testing conducted by AmecFW and concentration of 0.1% methane was measured prior to spark testing. As such, spark testing was conducted by ESI along the base of the boot and the vertical weld and no sparks were observed (spark test passed).

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

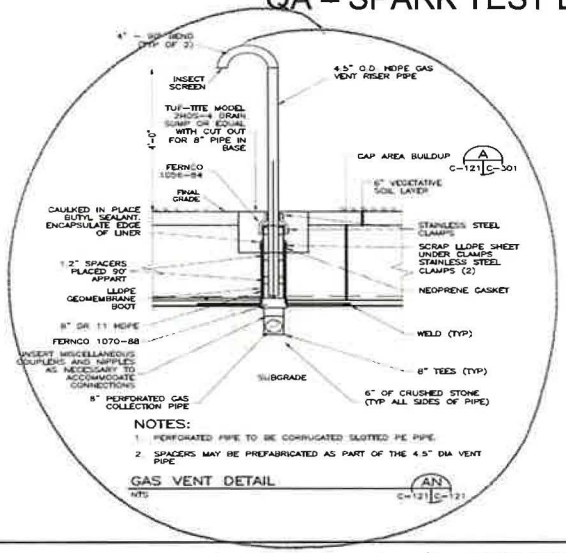
Project: Study Area 6 North

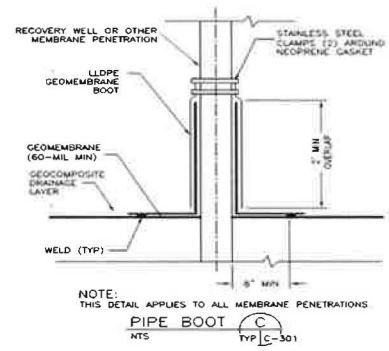
Location: Gas Vent GV-6 located near approximate center of SA-6 North Cap on Panel P11 (approximately 105 ft. north of southern end of cap and 3 ft. east of Panel P10/P11 seam). Identified as R-38 on *As Built* and *Repair Report*.

Date: 6/24/16 **Repair Number:** R-38

Boot Log QA Form (cross-reference): 6/23/16 Gas Vent GV-6 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0915*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 6/23/16. Methane / spark testing completed on 6/24/16. Methane testing was conducted by AmecFW and yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld by ESI. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

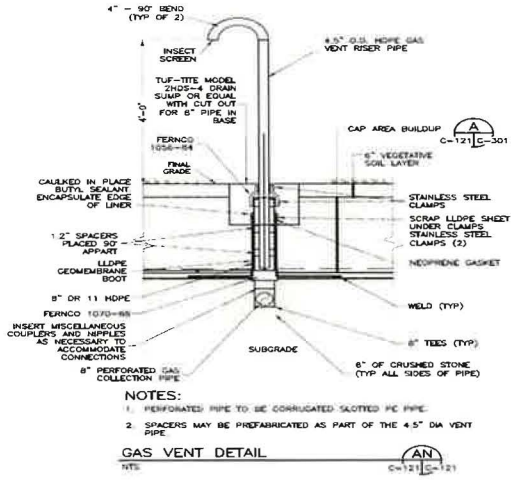
Project: Study Area 6 North

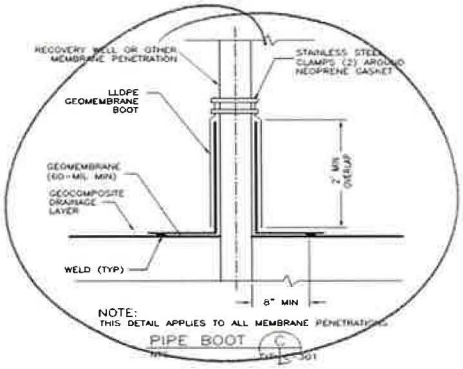
Location: Piezometer PZ8 located along northern end of SA-6 North on Panel P21 (approx. 171 ft. north of south end of cap and 3 ft. east of Panel P20/P21 seam). Identified as R-81 on *As Built* and *Repair Report*

Date: 7/6/16 **Repair Number:** R-81

Boot Log QA Form (cross-reference): 6/27/16 Piezometer PZ8 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *1525*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 6/27/16. Methane / spark testing conducted on 7/6/16. Methane testing conducted by AmecFW and concentration of 0.0% was measured. Spark testing completed on 7/6/16 by ESI. Vertical weld and base of boot tested and no sparks were observed (spark test passed).

AmecFW QA Signature:

Independent CQA Monitor Signature:

LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

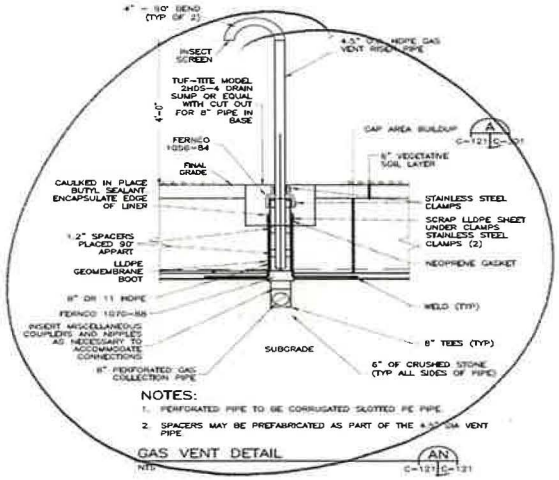
Project: Study Area 6 North

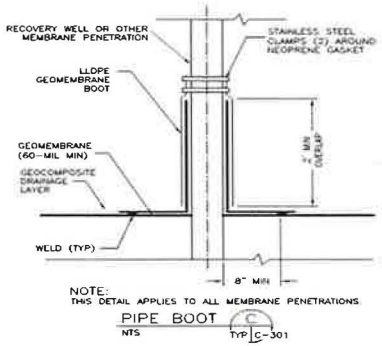
Location: Gas Vent GV-5 located near approximate center of SA-6 North Cap on Panel P27 approximately 124 ft. north of southern end of cap and 3 ft. east from Panel P26/P27 seam.

Date: 7/6/16 & 7/7/16 **Repair Number:** R-102

Boot Log QA Form (cross-reference): 6/29/16 Gas Vent GV-5 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *1545*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass (7/6/16)		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Fail	Pass (7/7/16)	CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 6/29/16. Methane testing conducted by AmecFW and concentration of 0.0% was measured. Spark testing conducted on 7/6/16 by ESI. Base of boot spark tested and no sparks were observed (spark test passed). During spark testing of vertical weld, a spark was observed during testing which identified a pinhole location along the edge of the weld. This minor anomaly was subsequently re-welded and re-tested on 7/7/16. During the retest on 7/7/16 no sparks were observed (passed re-test).

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

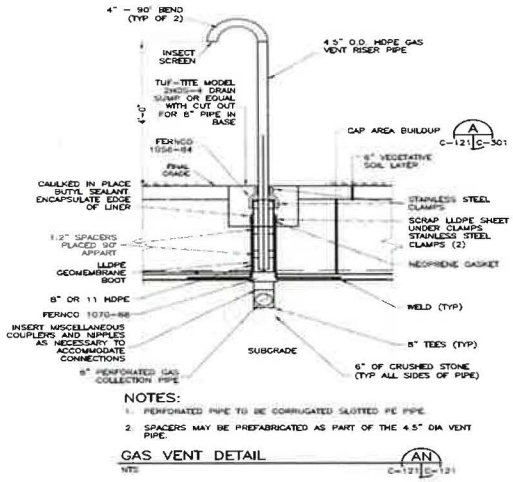
Project: Study Area 6 North

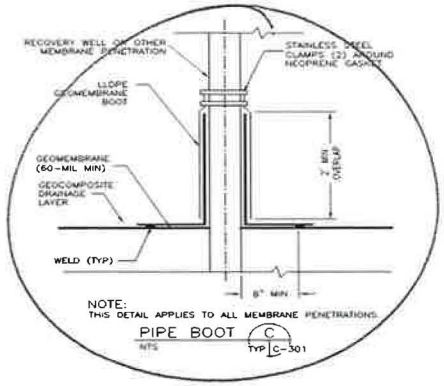
Location: Well 115-W1-SO located along southern end of SA-6 North on Panel P28/P29 seam (approximately 15 ft. north of south end of cap). Identified as R-156 on *As Built* and *Repair Report*

Date: 7/6/16 & 7/7/16 **Repair Number:** R-156

Boot Log QA Form (cross-reference): 7/1/16 Well 115-W1-SO Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* Landtec GEM 5000 *Time:* 1550

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass (7/6/16)		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Fail	Pass (7/7/16)	CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 7/1/16. Methane testing conducted by AmecFW on 7/6/16 & 7/7/16 and concentration of 0.0% was measured. Spark testing was conducted by ESI at the base of boot and no sparks were observed (spark test passed). During spark testing of the vertical weld, two small pinholes were identified on 7/6/16 and subsequently re-welded and re-tested on 7/7/16. Retesting on 7/7/16 yielded no sparks (spark retest passed).

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

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STUDY AREA 6 - CAP INSTALLATION

LANGAN

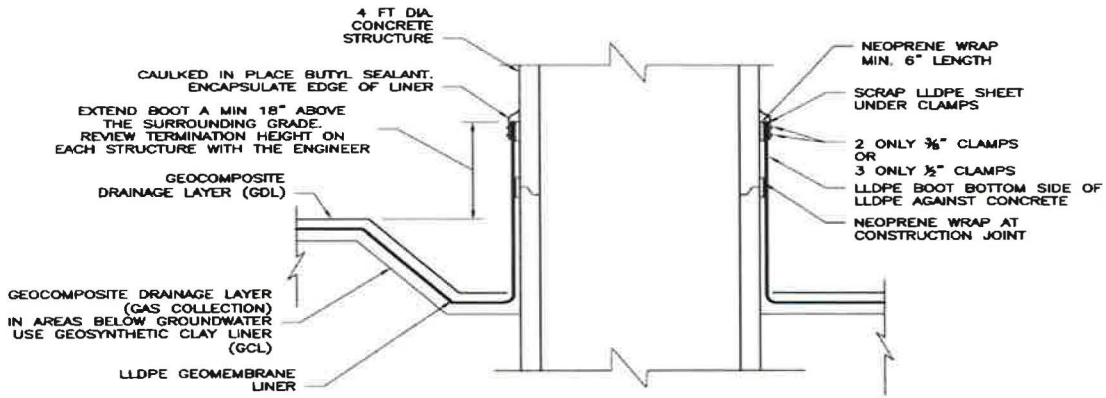
Project: Study Area 6 North

Location: Extraction Pump Station #1 located near approximate center of SA-6 North Cap on Panel P42 / P43 seam (approximately 136 ft. north of southern end of cap). Identified as R-189 on *As Built* and *Repair Report.*

Date: 7/12/16 **Repair Number:** R-189

Boot Log QA Form (cross-reference): 7/7/16 Extraction Pump Station #1 Form

QA – Spark Test Log – Manhole



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NTS

Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0905*

% Methane *0.0%*

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Panel Extrusion Weld:

☐Vacuum Box Tested

☐Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (kV)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 7/7/12. Spark / methane testing conducted on 7/12/16. Methane testing conducted by AmecFW and concentration of 0.0% measured prior to spark testing. As such, spark testing was conducted by ESI along the base of the boot and the vertical weld and no sparks were observed (spark test passed).

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

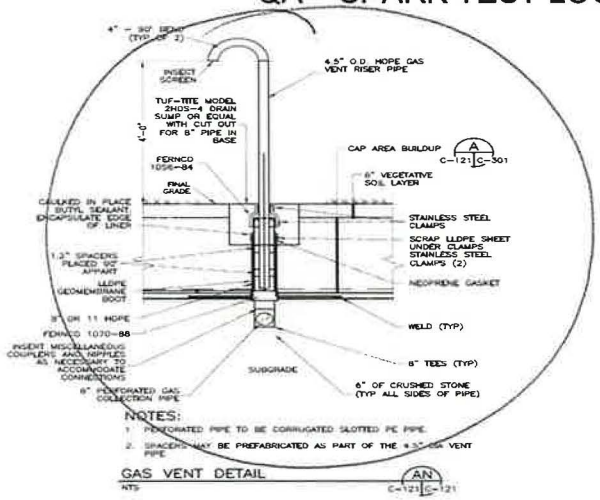
Project: Study Area 6 North

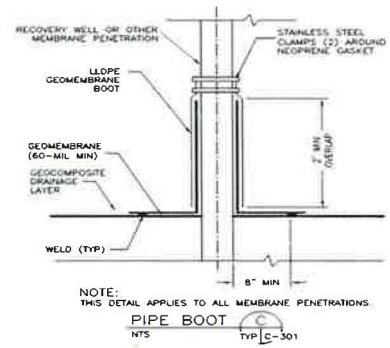
Location: Gas Vent GV-4 located near approximate center of SA-6 North Cap on Panel P46 (approximately 147 ft. north of southern end of cap and 8 ft. east from Panel P44/P46 seam). Identified as R-237 on *As Built* and *Repair Report*.

Date: 7/12/16 **Repair Number:** R-237

Boot Log QA Form (cross-reference): 7/12/16 Gas Vent GV-4 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0905*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 7/12/16. Methane / spark testing completed on 7/12/16 also. Prior to spark testing, methane testing was conducted by AmecFW and a concentration of 0.0% was measured. As such, spark testing was conducted by ESI along the base of the boot and vertical weld and no sparks were observed (spark test passed).

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

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STUDY AREA 6 - CAP INSTALLATION

LANGAN

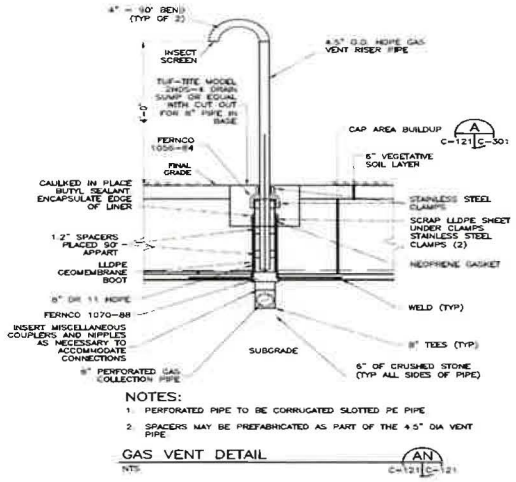
Project: Study Area 6 North

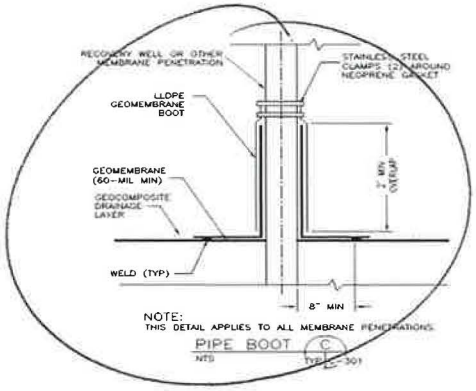
Location: Piezometer PZ6 located near northern end of SA-6 North on Panel P55 (approx. 285 ft. N of southern end of cap and 20 ft. E from Panel P54/P55 seam). Identified as R-261 on *As Built* and *Repair Report*.

Date: 7/27/16 **Repair Number:** R-261

Boot Log QA Form (cross-reference): 7/12/16 Piezometer PZ6 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *1420*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 7/12/16. Methane / Spark testing completed on 7/27/16. Methane testing conducted by AmecFW and yielded concentration of 0.0%. Spark testing conducted by ESI along vertical weld and base of boot and no sparks were observed (spark test passed).

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

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STUDY AREA 6 - CAP INSTALLATION

LANGAN

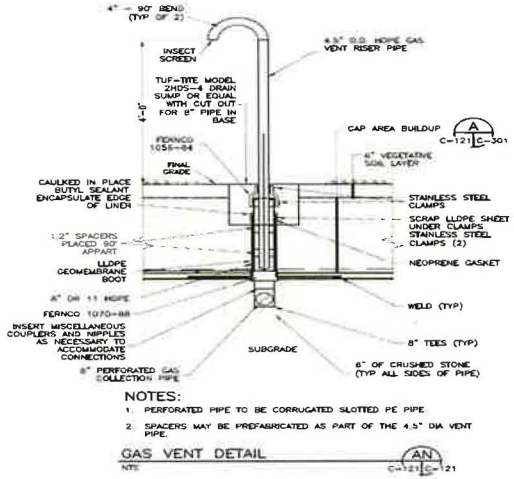
Project: Study Area 6 North

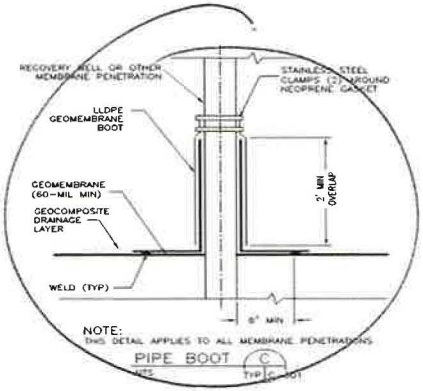
Location: Cleanout 1 located near southern half of SA-6 North on Panel P65 (approx. 90 ft. north of south end of cap and 7 ft. west from Panel P65/P67 seam). Identified as R-288 on *As Built* and *Repair Report.*

Date: 7/27/16 **Repair Number:** R-288

Boot Log QA Form (cross-reference): 7/14/16 Cleanout 1 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *1440*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing ☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld: ☐Vacuum Box Tested ☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 7/14/16. Methane / Spark testing completed on 7/27/16. Methane testing conducted by AmecFW and yielded concentration of 0.0%. Spark testing completed by ESI along vertical weld and base of boot and no sparks were observed (spark test passed).

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

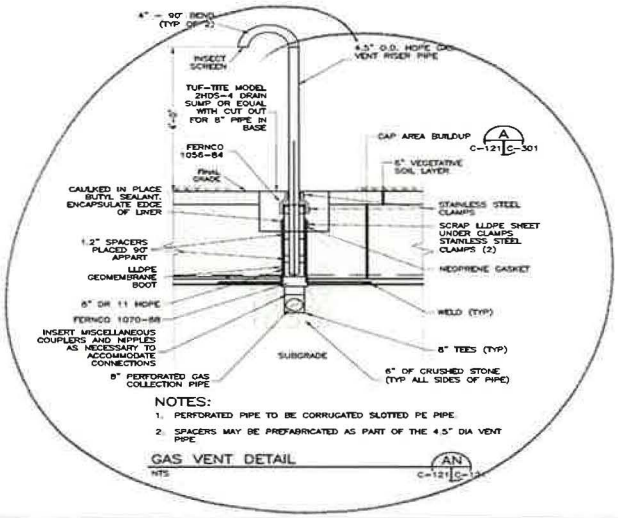
Project: Study Area 6 North

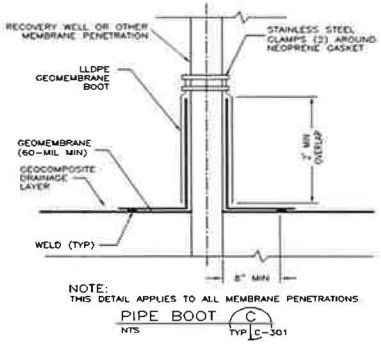
Location: Gas Vent GV-3 located near approximate center of SA-6 North Cap on Panel P66 (approximately 148 ft. north of southern end of cap and 3 ft. west from Panel P66/P68 seam). Identified as R-292 on *As Built* and *Repair Report*.

Date: 7/28/16 **Repair Number:** R-292

Boot Log QA Form (cross-reference): 7/14/16 Gas Vent GV-3 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *1005*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 7/14/16. Methane / Spark testing completed on 7/28/16. Methane testing conducted by AmecFW and yielded concentration of 0.0%. Spark testing was conducted by ESI for the vertical weld and base of boot and no sparks were observed (spark test passed).

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

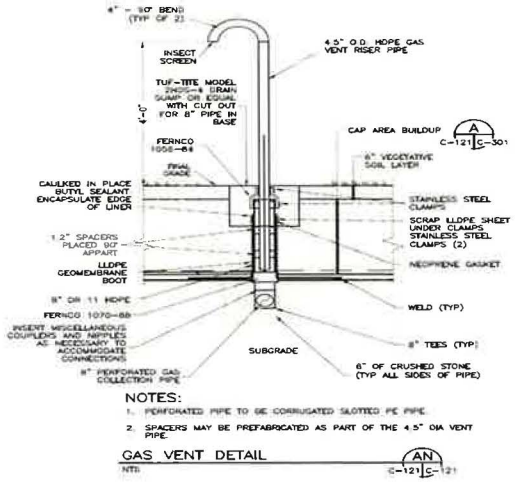
Project: Study Area 6 North

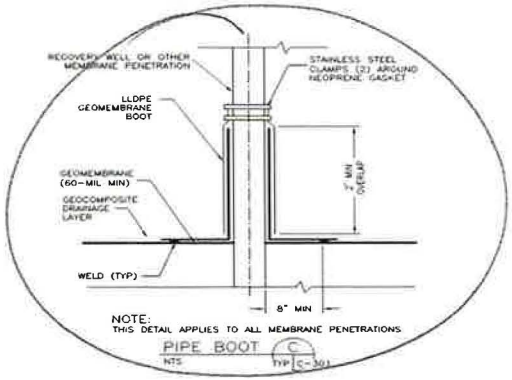
Location: Cleanout 2 located near approximate center of SA-6 North on Panel P72 (approx. 158 ft. north of southern end of cap and 6 ft. west from Panel P72/P74 seam). Identified as R-313 on *As Built* and *Repair Report*.

Date: 7/28/16 **Repair Number:** R-313

Boot Log QA Form (cross-reference): 7/25/16 Cleanout 2 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *1010*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 7/25/16. Methane / Spark testing completed on 7/28/16. Methane testing conducted by AmecFW and yielded concentration of 0.0%. Spark testing was conducted by ESI for the vertical weld and base of boot and no sparks were observed (spark test passed).

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

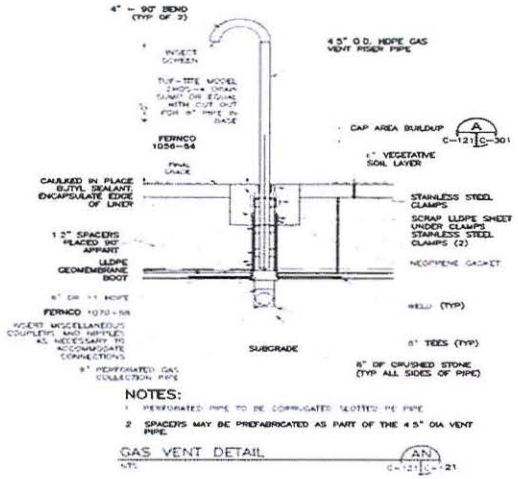
Project: Study Area 6 North

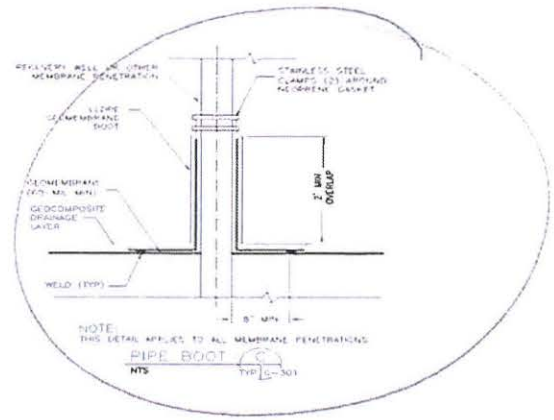
Location: Monitoring well 115-E5-SO located along southern end of SA-6 North Cap on Panel P78 (approximately 15 ft. north of southern end of cap and 9 ft. west from Panel P78/P79 seam). Identified as R-343 on *As Built* and *Repair Report*.

Date: 8/9/16 **Repair Number:** R-343

Boot Log QA Form (cross-reference): 7/27/16 Well 115-E5-SO Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0930*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	Thickness	Operator Initials	Voltage (Volts)	AC / DC	Brush Probe	Point Probe	QCR I.D*	Pass / Fail	Retest Pass /Fail	QCR I.D*
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Fail	Pass	CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 7/27/16. Methane completed on 8/9/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. A spark was observed along the vertical weld as the weld over the wire was too thin thus causing the spark to arc. The area was grinded, rewelded, and retested on 8/9/16 and the spark retest passed as no sparks were observed.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGIAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

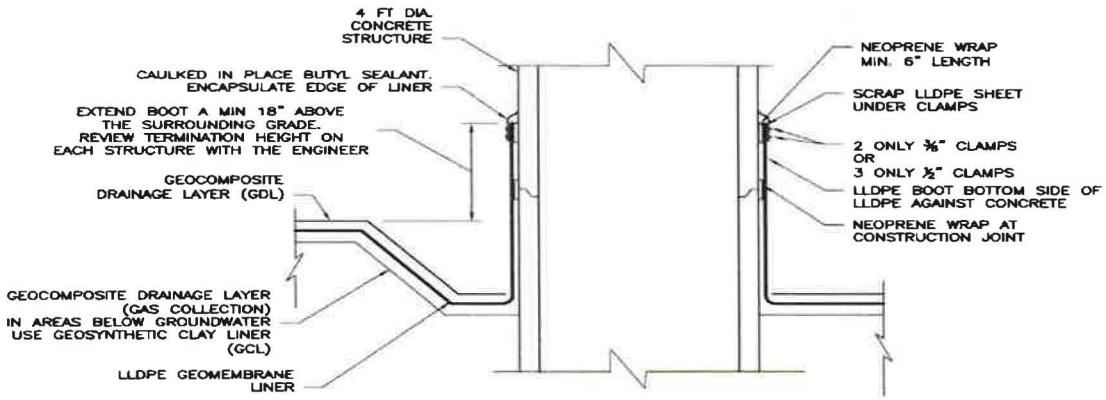
Project: Study Area 6 North

Location: Extraction Pump Station #2 located near approx. center of SA-6 North Cap on Panel P80 (approx.. 140 ft. N of southern end of cap and 1 ft. W of Panel P80/P81 seam). Identified as R-357 on *As Built* and *Repair Report*.

Date: 8/9/16 **Repair Number:** R-357

Boot Log QA Form (cross-reference): 7/27/16 Extraction Pump Station #2 Form

QA – Spark Test Log – Manhole



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Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0910*

% Methane *0.0%*

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Panel Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	Thickness	Operator Initials	Voltage (kV)	AC / DC	Brush Probe	Point Probe	QCR I.D*	Pass / Fail	Retest Pass /Fail	QCR I.D*
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 7/27/16. Spark / methane testing conducted on 8/9/16. Methane testing was conducted by AmecFW and a concentration of 0.0% was measured prior to spark testing. As such, spark testing was conducted by ESI along the base of the boot and the vertical weld and no sparks were observed (spark test passed).

AmecFW QA Signature:

Independent CQA Monitor Signature: – LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

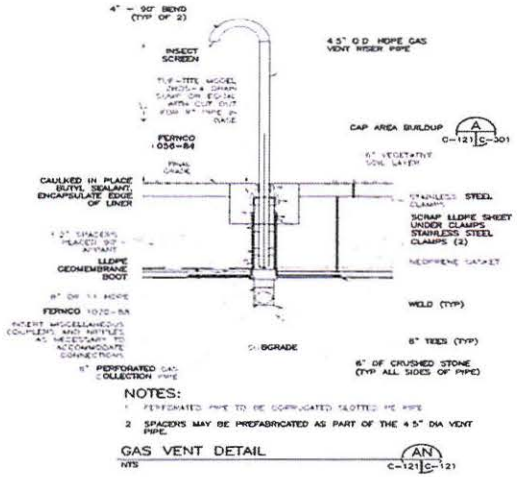
Project: Study Area 6 North

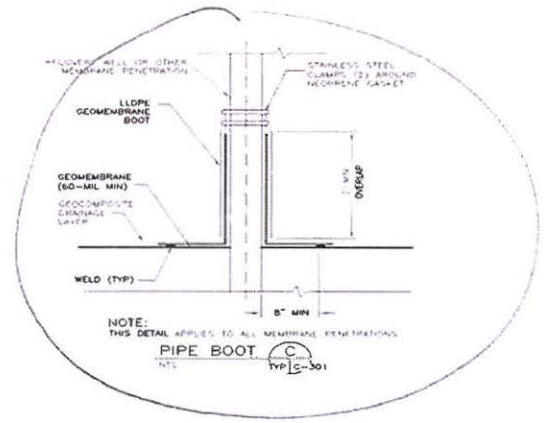
Location: Utility corridor horizontal drain pipe located along southern end of SA-6 North Cap on Panel P76 (approx. 6 ft. north of southern end of cap and 4 ft. west from Panel P76/P78 seam). Identified as R-380 on *As Built* and *Repair Report*.

Date: 8/9/16 **Repair Number:** R-380

Boot Log QA Form (cross-reference): 7/28/16 Utility Corridor Drain Pipe Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0935*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld: ☐Vacuum Box Tested ☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 7/28/16. Methane completed on 8/9/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

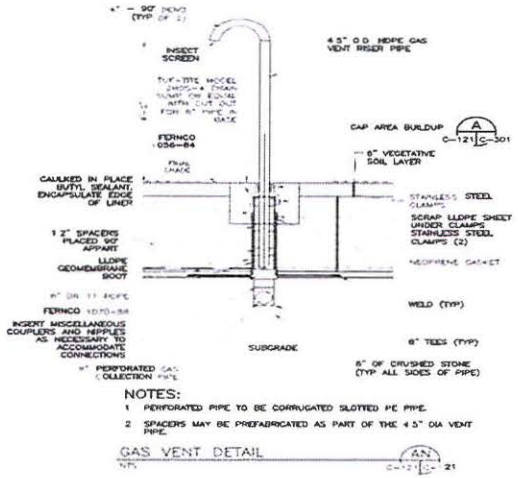
Project: Study Area 6 North

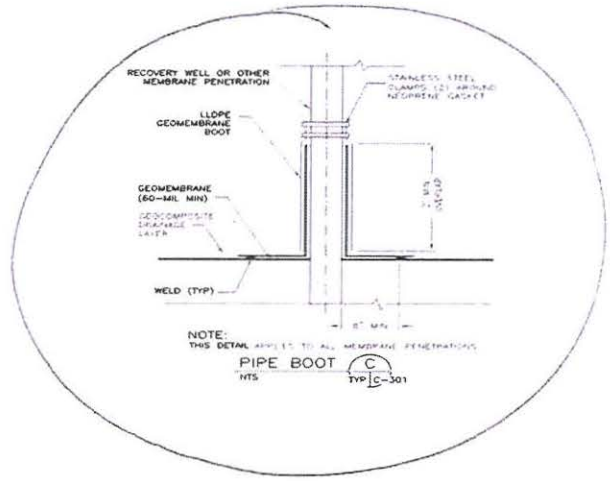
Location: Injection Well 088-IW-03 located near southern end of SA-6 North Cap on Panel P81 (approximately 32 ft. north of southern end of cap and 7 ft. west from Panel P81/P83 seam). Identified as R-384 on *As Built* and *Repair Report*.

Date: 8/9/16 **Repair Number:** R-384

Boot Log QA Form (cross-reference): 7/28/16 Injection Well 088-IW-03 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *1220*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing ☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld: ☐Vacuum Box Tested ☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 7/28/16. Methane / spark testing completed on 8/9/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature: -LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

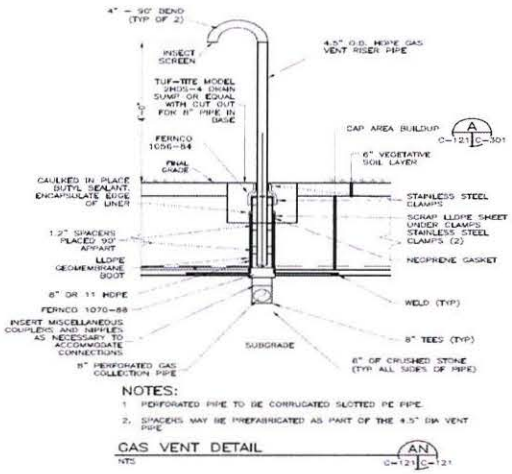
Project: Study Area 6 North

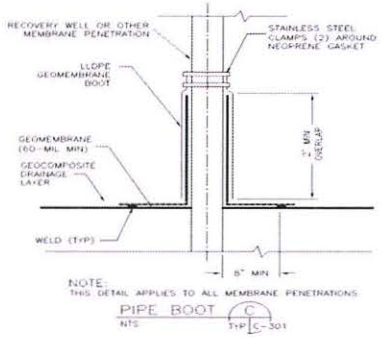
Location: Piezometer PZ4 located along northern end of SA-6 North Cap on Panel P90 (approximately 238 ft. north of southern end of cap and 7 ft. west from Panel P90/P91 seam). Identified as R-408 on *As Built* and *Repair Report*.

Date: 8/9/16 **Repair Number:** R-408

Boot Log QA Form (cross-reference): 8/3/16 Piezometer PZ4 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0855*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Fail	Pass	CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Fail	Pass	CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/3/16. Methane / spark testing completed on 8/9/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld and a spark was observed as the weld over the wire was too thin thus causing the spark to arc. The area was grinded, re-welded and retested on 8/9/16 and the subsequent spark re-test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature: – LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

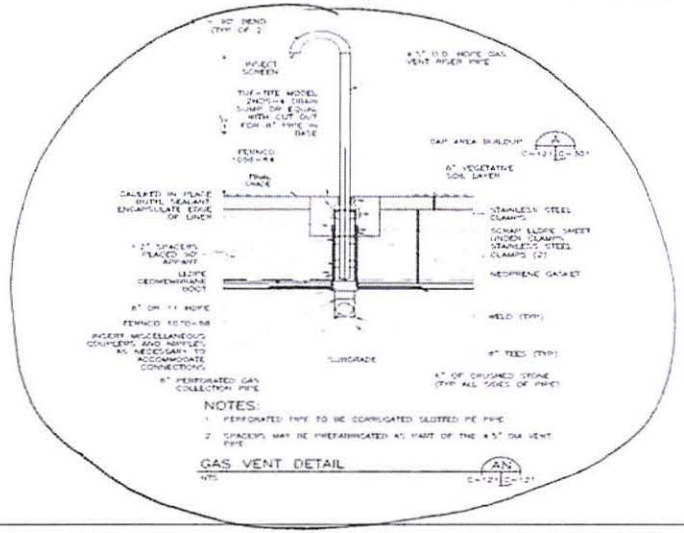
Project: Study Area 6 North

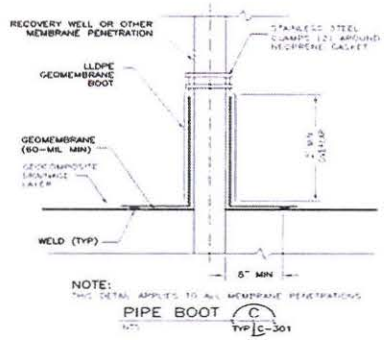
Location: Gas Vent GV-2 located at the approximate center of SA-6 North Cap on Panel P91 (approximately 107 ft. north of southern end of cap and 5 ft. east from Panel P90/P91 seam). Identified as R-409 on *As Built* and *Repair Report*.

Date: 8/9/16 **Repair Number:** R-409

Boot Log QA Form (cross-reference): 8/3/16 Gas Vent GV-2 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0900*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/3/16. Methane / spark testing completed on 8/9/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature:

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

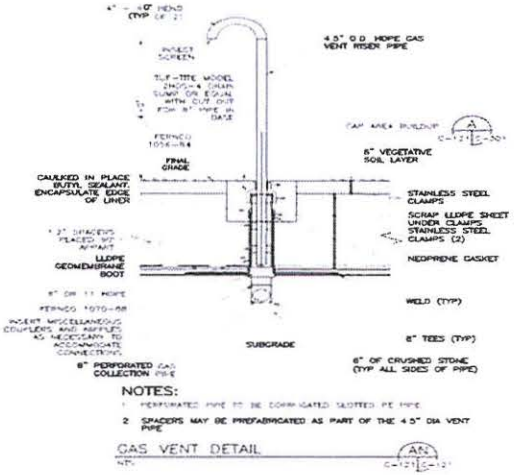
Project: Study Area 6 North

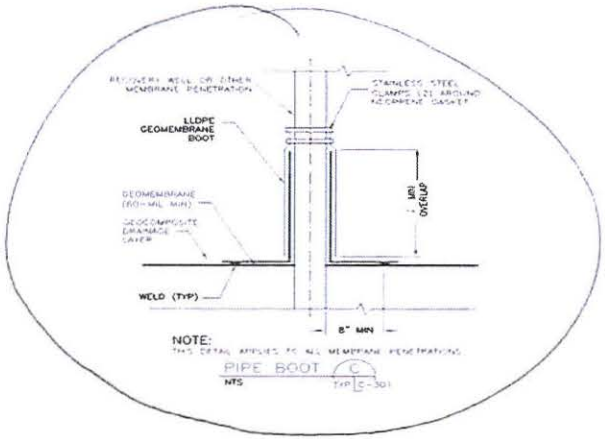
Location: Injection Well 088-IW-02 located at the approx. center of SA-6 North Cap on Panel P97 (approximately 109 ft. north of southern end of cap and 2 ft. west from Panel P97/P98 seam). Identified as R-430 on *As Built* and *Repair Report*.

Date: 8/9/16 **Repair Number:** R-430

Boot Log QA Form (cross-reference): 8/5/16 Injection Well 088-IW-02 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0840*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/5/16. Methane completed on 8/9/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

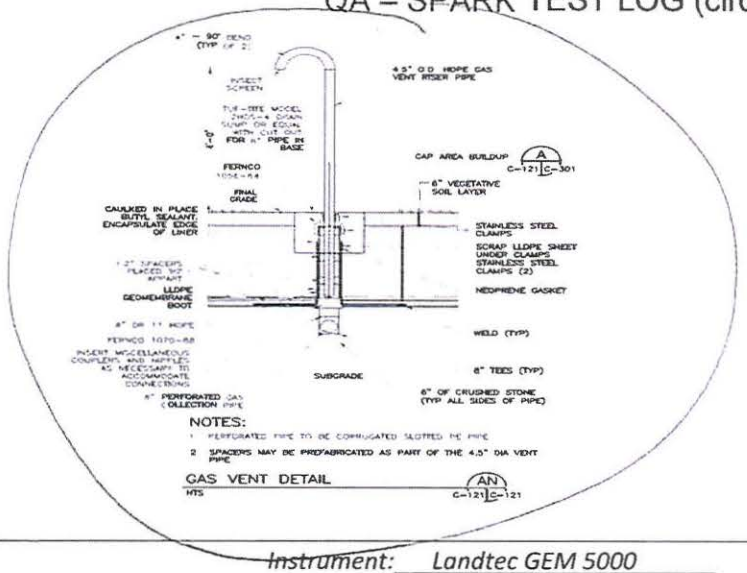
Project: Study Area 6 North

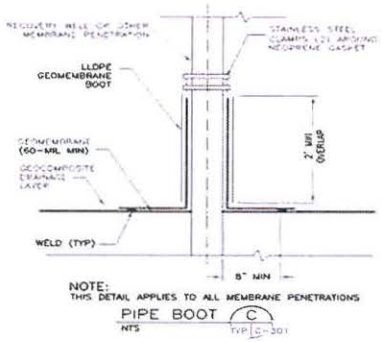
Location: Gas Vent GV-1 located at the approximate center of SA-6 North Cap on Panel P103 (approximately 113 ft. north of southern end of cap and 13 ft. east from Panel P102/P103 seam). Identified as R-449 on *As Built* and *Repair Report*.

Date: 8/12/16 **Repair Number:** R-449

Boot Log QA Form (cross-reference): 8/10/16 Gas Vent GV-1 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0800*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/10/16. Methane / spark testing completed on 8/12/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

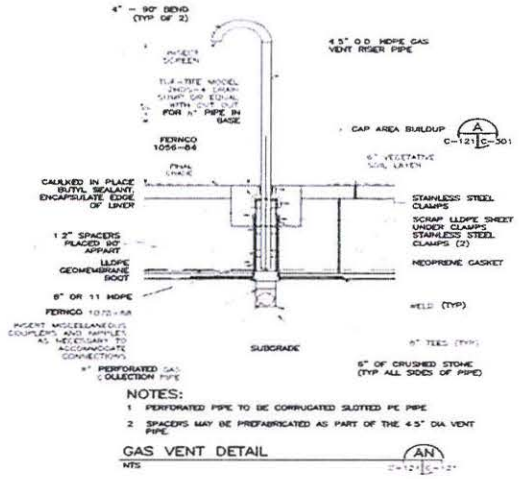
Project: Study Area 6 North

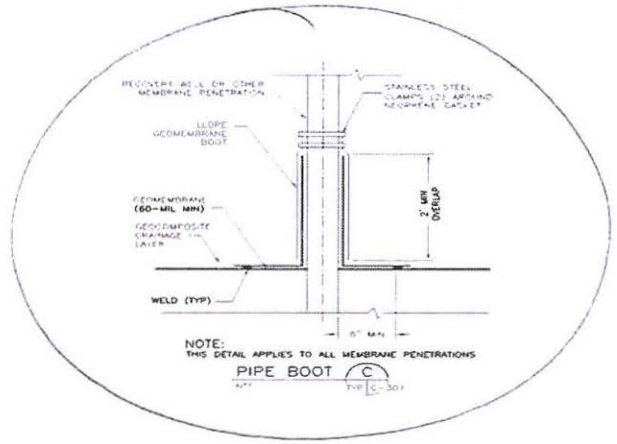
Location: Monitoring Well 115-E4-SO located along the southern end of SA-6 North on Panel P104 (approx. 6 ft. north of southern end of cap and 5 ft. east from Panel P103/P104 seam). Identified as R-450 on *As Built* and *Repair Report*.

Date: 8/12/16 **Repair Number:** R-450

Boot Log QA Form (cross-reference): 8/10/16 Monitoring Well 115-E4-SO Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0810*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Fail	Pass	CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/10/16. Methane / spark testing completed on 8/12/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing of the base of the boot, thus the spark test passed. During spark testing of the vertical weld a spark was observed along the edge of the weld (weld not centered over wire) thus the test failed. The area was grinded, rewelded, and retested on 8/12/16 and no sparks were observed (spark retest passed).

AmecFW QA Signature:

Independent CQA Monitor Signature: -LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

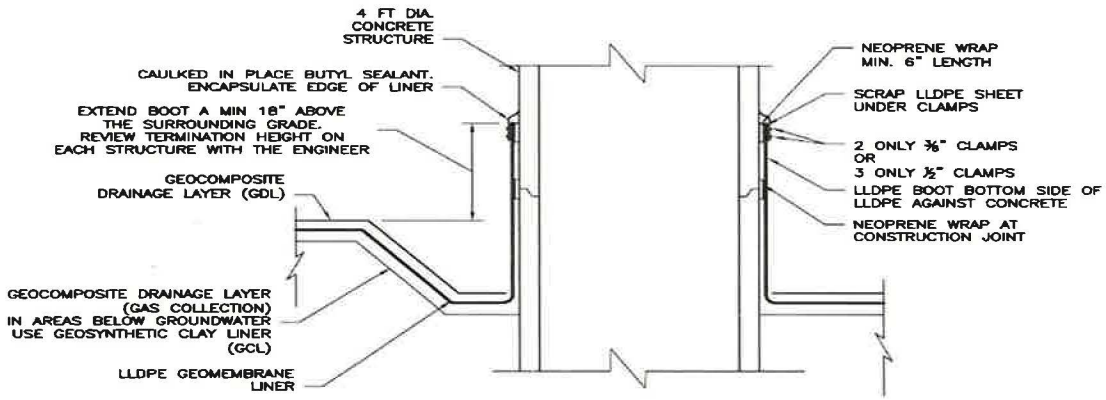
Project: Study Area 6 North

Location: Access Manhole Sta. 18+00 located near approximate center of SA-6 North Cap on Panel P113 (approximately 110 ft. north of southern end of cap and 10 ft. east of Panel P112/P113 seam). Identified as R-492 on *As Built* and *Repair Report*.

Date: 8/13/16 **Repair Number:** R-492

Boot Log QA Form (cross-reference): 8/12/16 Access Manhole Sta. 18+00 Form

QA – Spark Test Log – Manhole



LINER ANCHOR TO CONCRETE STRUCTURE
NTS
CE TYP C-304

Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0910*

% Methane *0.0%*

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Panel Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (kV)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 8/12/16. Spark / methane testing conducted on 8/13/16. Concentration of 0.0% methane measured prior to spark testing. As such, spark testing was conducted along the base of the boot and the vertical weld and no sparks were observed (spark test passed). Additionally, vacuum box testing was conducted along vertical and horizontal extrusion welds completed for the boot construction.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

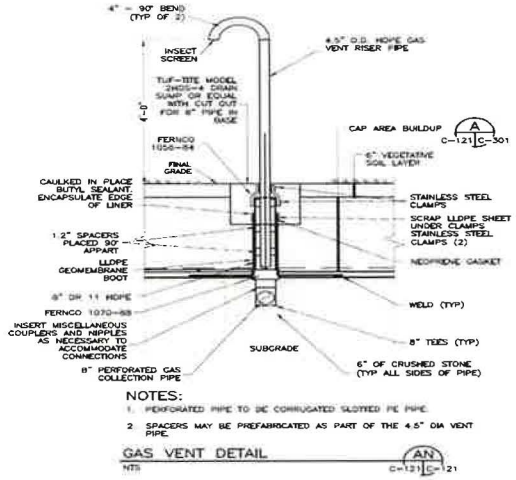
Project: Study Area 6 North

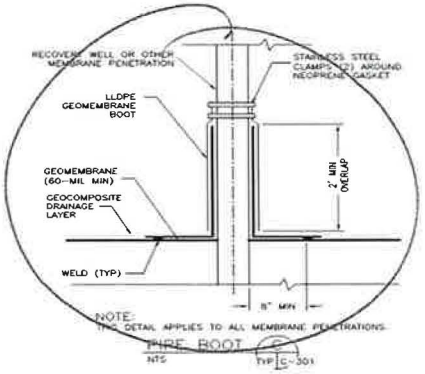
Location: Injection Well 088-IW-01 located along N end of SA-6 North Cap on Panel P114 (approx.. 206 ft. north of southern end of cap and 13 ft. east from Panel P113/P114 seam). Identified as R-493 on *As Built* and *Repair Report*.

Date: 8/13/16 **Repair Number:** R-493

Boot Log QA Form (cross-reference): 8/12/16 Injection Well 088-IW-01 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0800*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/12/16. Methane / spark testing completed on 8/13/16. Methane testing conducted by AmecFW and yielded concentration of 0.0%. As such, spark testing was conducted by ESI at the base of boot and along the vertical weld and no sparks were observed (spark test passed).

AmecFW QA Signature:

Independent CQA Monitor Signature: - LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

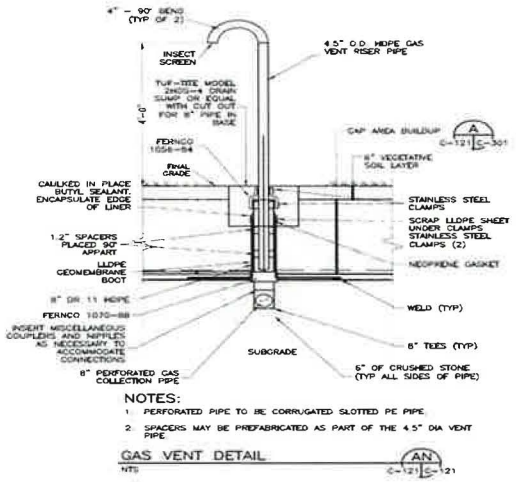
Project: Study Area 6 North

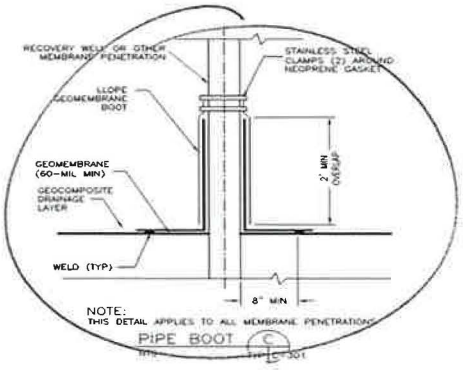
Location: Piezometer PZ2 located along northern end of SA-6 North Cap on Panel P116 (approximately 176 ft. north of southern end of cap and 13 ft. east from Panel P116/P118 seam). Identified as R-509 on *As Built* and *Repair Report*.

Date: 8/15/16 **Repair Number:** R-509

Boot Log QA Form (cross-reference): 8/15/16 Piezometer PZ2 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* *Landtec GEM 5000* *Time:* *0800*

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing

☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/15/16. Methane / spark testing also completed on 8/15/16. Methane testing conducted by AmecFW and yielded concentration of 0.0%. As such, spark testing was conducted by ESI at the base of boot and along the vertical weld and no sparks were observed (spark test passed).

AmecFW QA Signature:

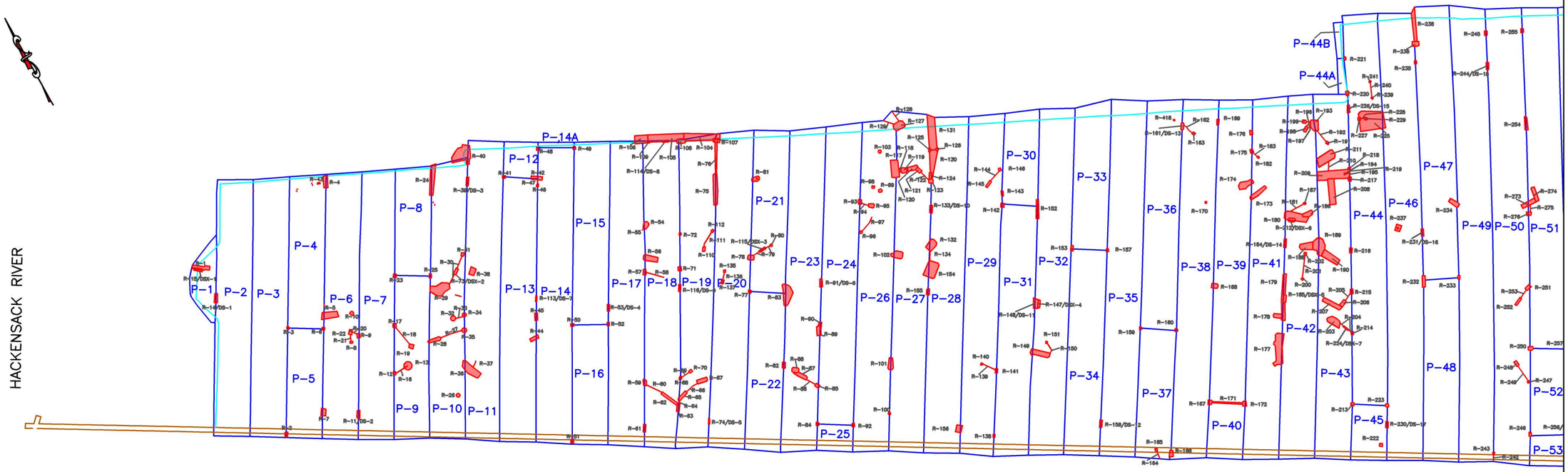
Independent CQA Monitor Signature: LANGAN

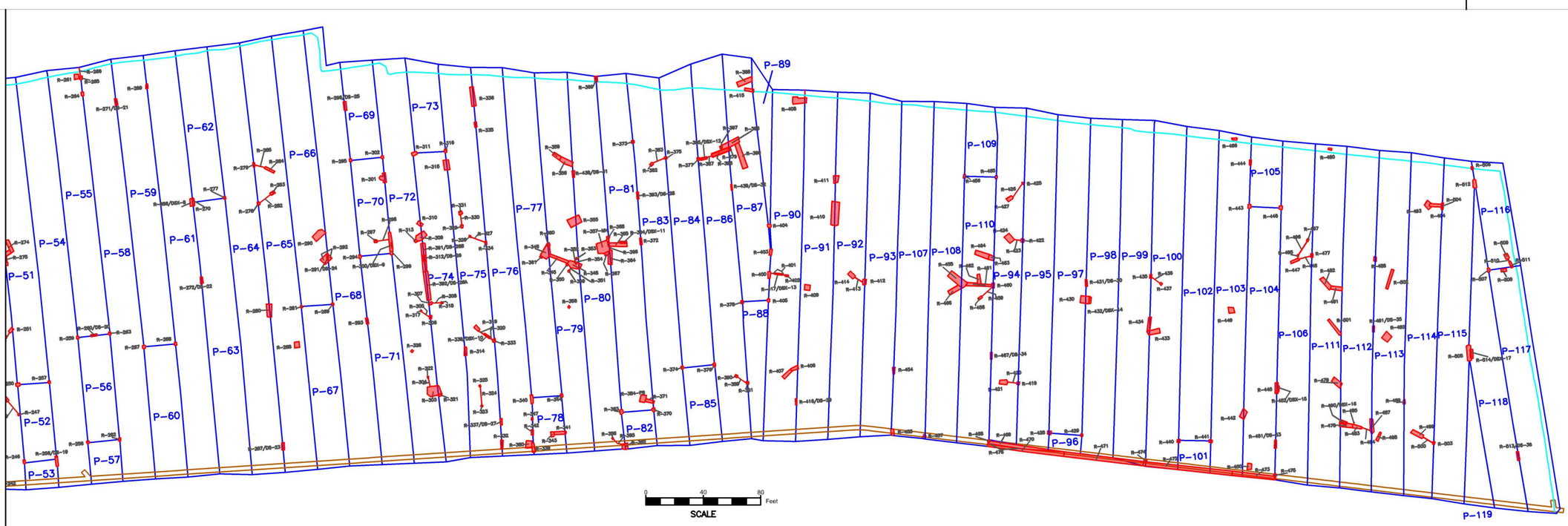
APPENDIX T

PART 20 OF 22

DECLARATION # 4
(Part 3 of 3)
Attachments F and G

ATTACHMENT F
SA-6 NORTH CAP AS-BUILT DRAWINGS





LEGEND

- R-1 (Repair Number)
- LINER SEAM/EDGE
- SCB WALL
- HB WALL (Inner Edge)

R: Repair
DSX: Destructive Extrusion Weld Test
DS: Destructive Fusion Weld Test
P: Panel

NOTE: Drawing details are schematic in nature. Actual seam locations and repair dimensions may vary due to the geomembrane grading. Repair locations are recorded in the repair logs.

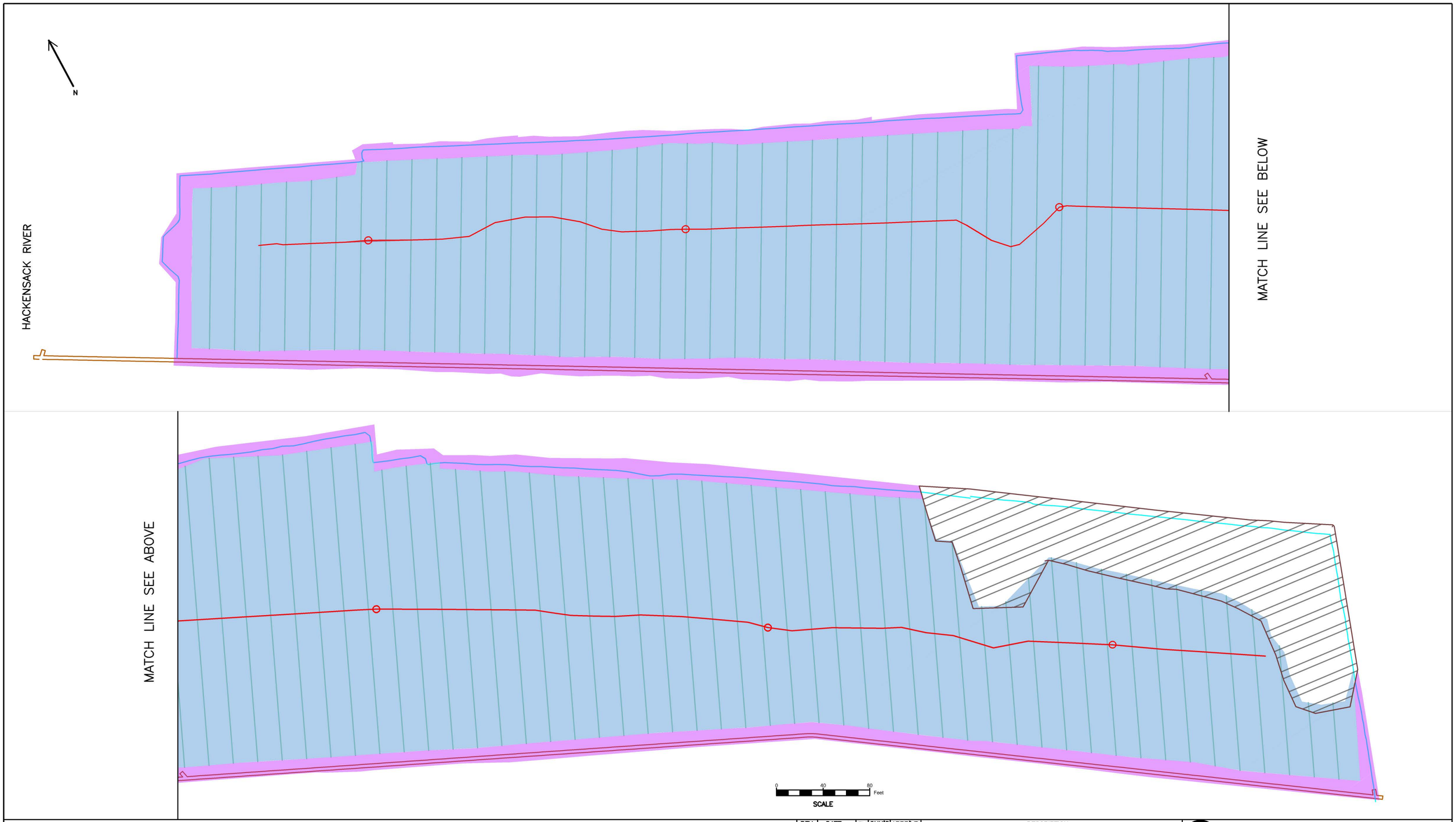
NOTE: Refer to ESI Repair Report for repair details

REV	DATE	BY	CHK'D	APPRV'D	DESCRIPTION
0	10/27/16	EP	CP	CP	RECORD DRAWING
1	11/04/16	EP	CP	CP	RECORD DRAWING
2	11/18/16	EP	CP	CP	RECORD DRAWING

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 NORTH CAP PANEL LAYOUT
60 mil Textured LLDPE Geomembrane
11/18/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



LEGEND

- CLASS A/16 OZ GEOTEXTILE
- GEOCOMPOSITE GAS VENT LAYER (GVL)
- GEOSYNTHETIC CLAY LINER (GCL)
- GAS VENT (NOT TO SCALE)
- GAS VENT PIPE
- SCB WALL
- HB WALL (Inner Edge)

NOTE: Drawing is schematic in nature. Actual seam locations may vary due to the geomembrane grading.

REV	DATE	BY	CHK'D	APPR'VD	DESCRIPTION
0	10/27/16	EP	CP	CP	RECORD DRAWING
1	11/04/16	EP	CP	CP	RECORD DRAWING

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 NORTH CAP GVL/GCL Layout
Class A Geotextile/Gas Vent Layer/Geosynthetic Clay Liner
11/04/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

LEGEND

- GEOCOMPOSITE DRAINAGE LAYER (GDL)
- CAP SUBGRADE CONTOUR
- SCB WALL
- HB WALL (Inner Edge)

NOTE: Drawing is schematic in nature. Actual seam locations may vary due to geomembrane grading.

REV	DATE	BY	CHK'D	APPR'VD	DESCRIPTION
0	10/27/16	EP	CP	CP	RECORD DRAWING
1	11/04/16	EP	CP	CP	RECORD DRAWING

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SA6 NORTH CAP PANEL LAYOUT GEOCOMPOSITE DRAINAGE LAYER 11/04/16

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

ATTACHMENT G
DESIGN CHANGES

SA-6 North/South Field Change Log - Declaration 004			
AmecFW ID	**Changed Item Identifier**	**Description of Change**	**Comments**
7	**DC 2014-3-25**	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
7.2	**DC 2014-11-20**	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-11-20 includes the french drain installation, electrical supply and discharge piping for SA-6 North.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
7.22	**DC 2016-6-6**	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-6-10 includes the revised electrical supply and discharge piping for SA-6 North.	Submitted to Parties as Attachment to Declaration 004. (Design Change ID changed from DC 2016-6-10 to DC 2016-6-6 to reflect actual date on Design Change form).
7.5	**DC 2015-2-24**	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to document the changes in the SA-6 North and South cap subgrades that resulted from the change to a trench system.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
17	**DC 2015-01-22**	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA-6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Parties as Attachment to Declaration 004.
26.1	**DC 2015-05-19**	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groundwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
37.2	**DC 2015-08-07**	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only as clarification or response to RFI.
42	**DC 2015-08-21**	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA-6S Caps. As such, Paragraph 3.02 is no longer required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
45	**DC 2015-9-02**	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	Submitted to Parties as Attachment to Declaration 004.
52	**DC 2015-12-14**	Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds that cannot be tested by other means. Spark testing will be performed in accordance with ASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative. Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	Submitted to Parties on January 14, 2016.
54	**DC 2016-02-02**	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design.	Submitted to Parties as Attachment to Declaration 004. (Design Change ID changed from DC 2016-02-03 to DC 2016-02-02 to reflect actual date on Design Change form).

SA-6 North/South Field Change Log - Declaration 004			
AmecFW ID	**Changed Item Identifier**	**Description of Change**	**Comments**
54.1	**DC 2016-02-22**	AmecFW revised the SA-6 North cap subgrade in a single localized area in order to accommodate Entact's request to relocate Pump Station #1 (RFI 64). The subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location. In addition, for grading purposes, any hydraulic barrier sheets within the Sedimentation Basin that have sections below elevation 12.0 will be trimmed to a uniform elevation of 11.5.	Submitted to Parties as Attachment to Declaration 004.
54.2	**DC 2016-02-25**	This DCB has been issued to provide Entact with the latest SA-6 North HB Wall and SCB wall plan and profile drawings (SN-201 thru SN-205), which were modified to reflect changes made in DC 2016-02-22.	Submitted to Parties as Attachment to Declaration 004.
54.3	**DC 2016-5-11**	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and	Submitted to Parties as Attachment to Declaration 004.
54.4	**DC 2016-5-20**	After further review, AmecFW lowered the geomembrane Pump Station #1 on the SA-6 North cap in order to provide additional separation between the geomembrane and the bottom of the vault. (Refer to DC 2016-02-22).	Submitted to Parties on June 15, 2016.
54.5	**DC 2016-7-14**	Design change documenting minor field changes needed to achieve positive drainage in the cap area.	DCB will be provided to Parties in the November 2016 monthly progress report and included in the finalized Declaration No. 4.
62	**DC 2016-7-12**	DC 2016-7-12 clarifies the limit of GCL deployment and the location of the sand bentonite plug in the SA-6 North cap.	Included as an attachment to July 2016 Monthly Progress Report.

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB Type: Major (a) Effective Date: 3/25/14
Project Location: SA-6 NORTH, SA6-SOUTH	Associated RFI:
Title: CONTINGENT GW EXTRACTION SYSTEM	☐ Yes, RFI No. ___ ☑ None
REPLACE WELLS WITH TRENCHES	Project No.: 3480130377
Contractor (Subcontractor): Entact	

The 100% Design included a Conceptual Design for the Groundwater Extraction system that was based on use of 9 extraction wells in each open space area and common header system. This Bulletin describes a major change to that extraction system and explains the basis for that change.

Section 10.2 of the Design Report stated “Honeywell reserves the right to propose alternative groundwater extraction designs capable of meeting the criteria stated in Article III.A (58) of the Consent Decree. Additionally, Note 3 on the Contingent GW Extraction System Drawings SA-6 South C-201,202 and 203 and SA-6 North CN-201, 202 and 203 further elaborated that “Honeywell will continue to evaluate pertinent information gathered through dewatering and other construction operations. This information will be used to calibrate the groundwater capture model. Subject to the results of that model calibration and evaluation of the system design Honeywell may propose alternative groundwater extraction designs”.

The SA-6 South Groundwater Modeling Report Appendix B Section 5 indicates that Honeywell evaluated various pumping scenarios including the option of French Drains/Central drain. The results of the central/French drain scenario were shown in Figure 5-3. From a modeling perspective it was concluded that the drain provided equivalent performance to the 9 wells.

Consistent with the approach indicated in the Design report, Honeywell has continued to evaluate data collected during the construction dewatering and excavation. Observations of the well point dewatering system have indicated a great deal of variability in hydraulic properties from point to point. Observation of the excavation has also shown significant variability in soil types and permeabilities.

Based on an evaluation of this variability and in consideration of the reduced maintenance advantages associated with the French drain system, Honeywell is proposing to modify the design to change the wells to a French Drain. This proposal is consistent with paragraph 58 of the First Amended Consent Decree on Remediation and Redevelopment of Study Area 6 North. This design change will impact drawings C-201, 202, 203 and CN-201,202,203. The use of trenches also

reduces the number of pumps, control panels, and cap penetrations. This will result in changes to the electrical drawings E-301, 302, 303 and EN-301-302 and 303.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Design changed based on information gathered during construction Attachments: ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected: Contingent GW system plans and Profiles 201-103 Electrical Drawings 301-303 C306 Well/Pump Detail

Honeywell (AP) Review:

Individual	Discipline	Initial	Date

(Name / Signature):	Does DCB Result in CCO? ☐ Yes (b) ☑ No Date:

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 007.2 Major Effective Date: 11/20/14
Project Location: SA-6 NORTH	Associated RFI:
Title: GW EXTRACTION SYSTEM	o Yes, RFI No. ____ þ None
REPLACE WELLS WITH TRENCHES	Project No.: 3480130377
Contractor (Subcontractor): Entact	

DCB-007.1 was issued for the trench detail portion of the modified groundwater system design. At the time of issue details for the SA-6N trench were subject to potential further modification. DCB-007.2 provides the final details for the SA-6N groundwater collection trenches and associated electrical supply and groundwater discharge piping.

The 100% Design included a Conceptual Design for the Groundwater Extraction system that was based on use of 9 extraction wells in each open space area and common header system. Section 10.3 of the Design Report stated "Honeywell reserves the right to propose alternative groundwater extraction designs capable of meeting the criteria stated in Article III.A (56) of the Consent Decree.

Details related to the Administrative basis for the change are provided in DCB 007.1.

DCB 007.2 is applicable to the SA-6N Groundwater Extraction System trench design.

The design was modeled by Cornerstone. The model results indicate that the design will achieve the required gradients. Figure 1, 2 and 3 from the model runs are attached for reference.

The changes impact the following drawings
The following Issued for Construction Drawings are deleted

- CN-201
- CN-202
- CN-203

These following drawings were added

Contingent Groundwater Extractions System Plan and Profile

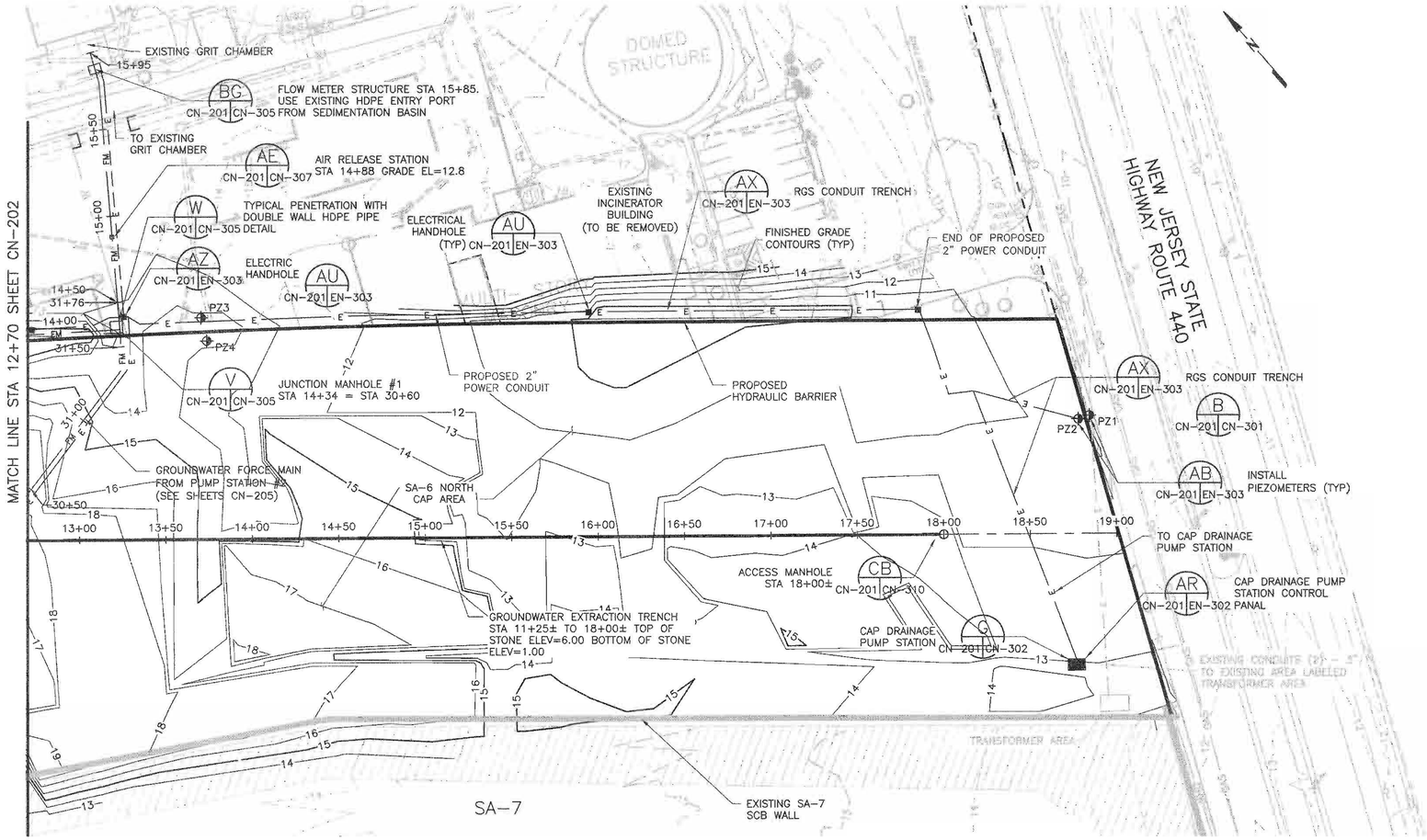
- CN-201
- CN-202
- CN-203
- CN-204 (discharge force main and electrical)
- CN-310 (Groundwater Extraction Trench Details).

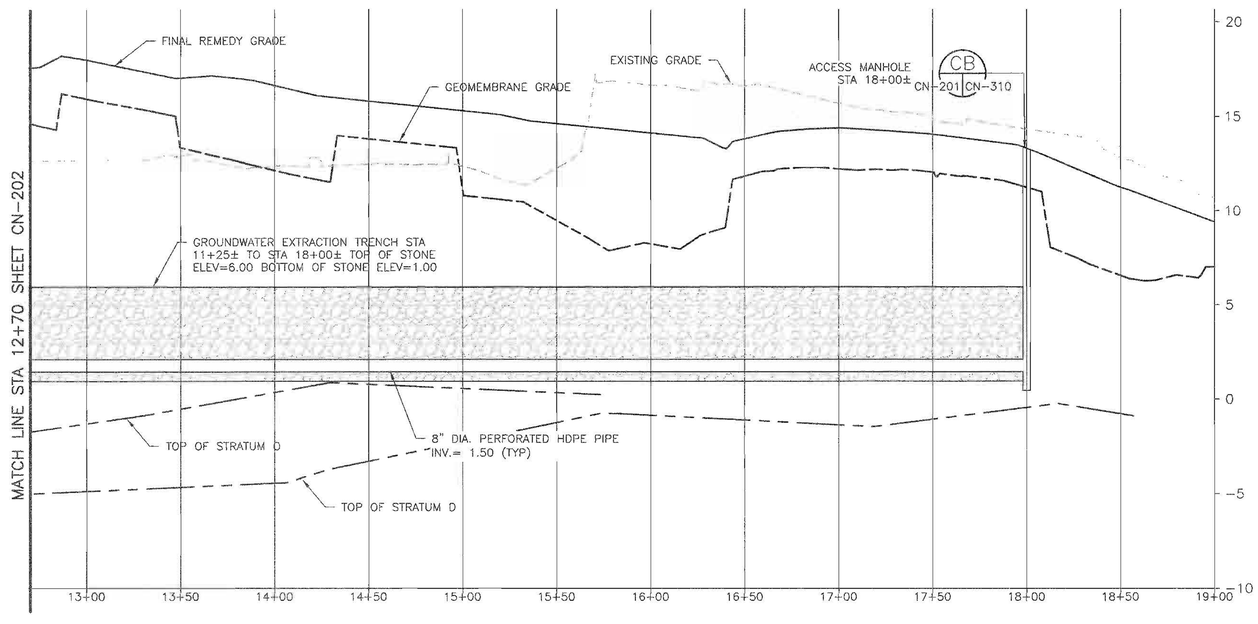
The changes from the well concept to the trench will also impact the Geomembrane Liner Grading CN-123 and CN-124. The Geomembrane liner changes will be issued separately.

It is noted that the 5 piezometric pairs on SA-6N are not included in this DCB. Amec is currently evaluating data collection and transmission options for the piezometers. The piezometer designs will be issued in a separate DCB.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Design changed based on information gathered during construction Attachments: ☑ Yes ☐ No Cost Implication: ☑ Yes ☐No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected: Contingent GW system plans and profiles-see drawing list in description
Honeywell (AP) Review: Individual Discipline Initial Date	
(Name / Signature):	Does DCB Result in CCO? ☑ Yes (b) ☐ No Date: 11/21/14
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FOR FORCE MAIN PROFILE INFORMATION SEE SHEET CN-204.
4. FINAL PLAN VIEW ALIGNMENT MAY BE ADJUSTED SUBJECT TO THE APPROVAL OF THE ENGINEER TO AVOID OBSTRUCTIONS SUCH AS EXISTING BUILDING FOUNDATIONS, ABANDONED UTILITIES AND PILES.
5. TRENCH INVERT HAS BEEN DESIGNED TO BE ABOVE STRATUM O AND STRATUM D. INVERTS MAY BE ADJUSTED DURING DESIGN DEVELOPMENT OR IN RESPONSE TO OBSERVED FIELD CONDITIONS SUBJECT TO THE APPROVAL OF THE ENGINEER AND GROUNDWATER MODELER.
6. PLACE STONE LOOSE IN GROUNDWATER COLLECTION TRENCH. RUN PLATE COMPACTOR OR EQUAL OVER TRENCH PRIOR TO INSTALLING GEOTEXTILE FABRIC.
7. BACKFILL ABOVE GEOTEXTILE FABRIC MAY BE COMPOSED OF EXCAVATED TRENCH SPOIL OR OTHER MATERIAL THAT CAN BE READILY COMPACTED. WET SOIL OVERSIZED DEBRIS OR OTHER MATERIALS AS DEEMED UNSUITABLE CONSISTENT WITH THE EARTHWORK SPECIFICATION 1.04.B. WILL NOT BE USED. BACKFILL WILL BE PLACED IN LIFTS CONSISTENT WITH THE EARTHWORKS SPECIFICATION 3.12.B.4.
8. FLEXIBLE COUPLINGS SHALL BE FLEXJOINT COUPLING AS MANUFACTURED BY ETHYLENE, LLC OR EQUAL. FLEXIBLE COUPLINGS SHALL HAVE A MINIMUM OF (2) BELLOWS AND BE TEFLON-LINED WITH 316 SS FLANGES (POWER BAKED EPOXY COATING APPLIED) AND VITON GASKETS.
9. PIEZOMETRIC PAIRS MAY BE INSTALLED USING SOLAR PANELS FOR POWER AND CELL TOWER OR SATELLITE DATA TRANSMITTING. DESIGN OF PIEZOMETRIC PAIR WILL BE ISSUED UNDER SEPARATE COVER.

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43597

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
2	11/19/14					TDD	SGS
1	09/13/13					RJR	SGS
0	06/07/13					TDD	SGS
		TDD		RJR	TDD	SGS	

DCB 007.2
HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM
ISSUED FOR CONSTRUCTION
REVISION

Honeywell
101 COLUMBIA RD. BOX 2108, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM PLAN AND PROFILE

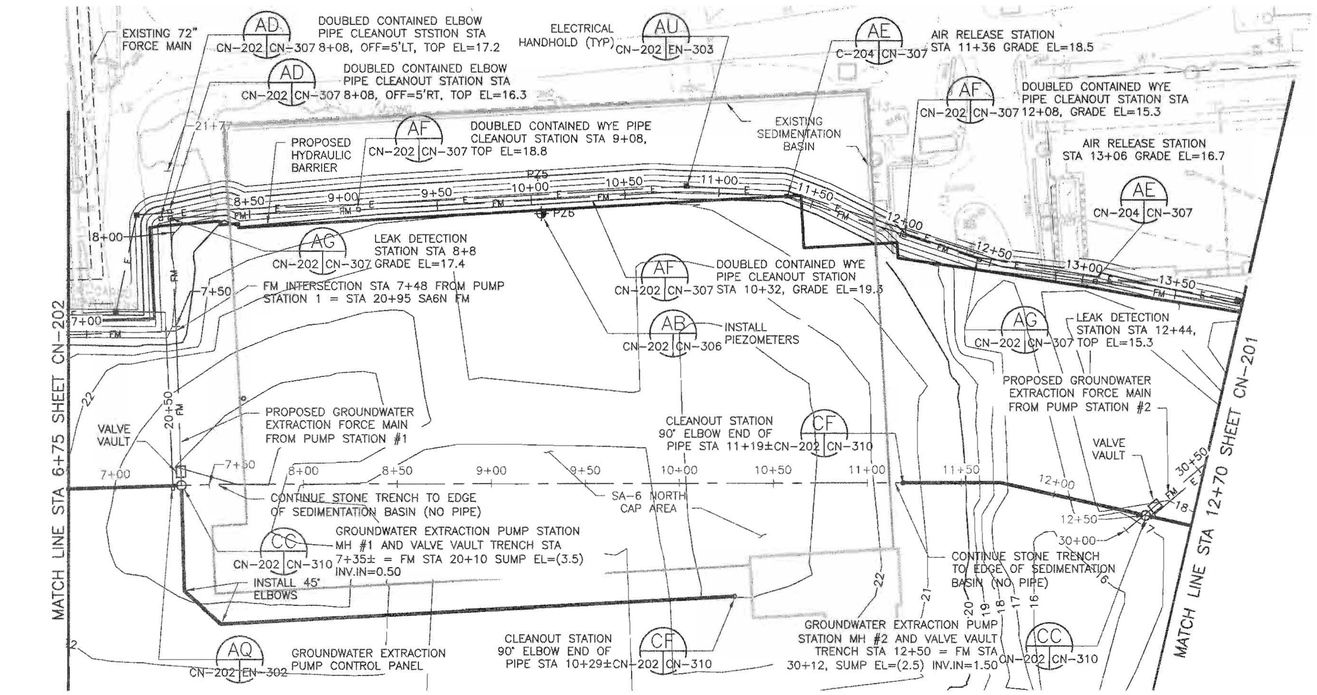
amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, N.J. 08619
Phone: (609) 890-2020
NJ Certificate of Authorization Number 24GA28010900

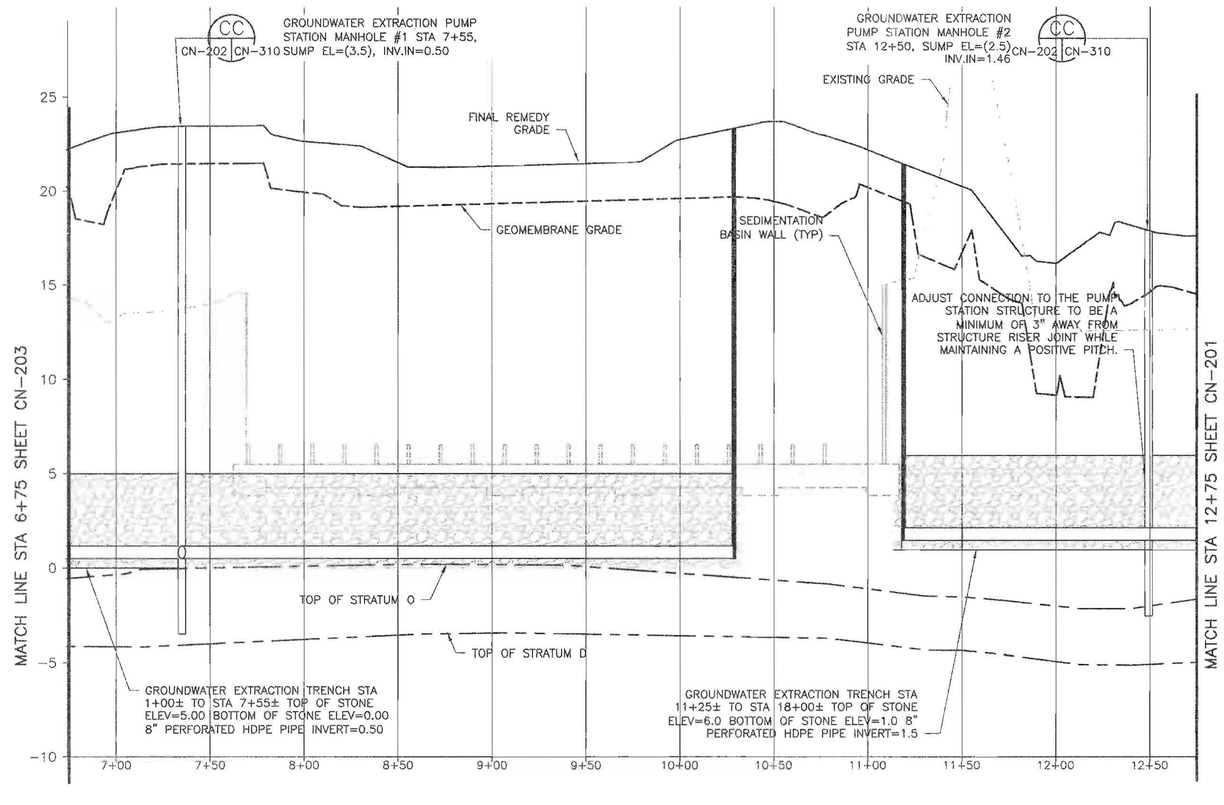
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-201
SHEET	33 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\NCR33-CN-201-Cont Pump Well Sections.dwg PLOT DATE: Wed, 19 Nov 2014 PLOT TIME: 2:55 PM





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET CN-201 FOR NOTES.
4. BARRIER WALL ALIGNMENT SUBJECT TO FINAL LAYOUT CHANGES.

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
2	11/19/14	DCB 007.2	TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43567

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 28239
NJ Certificate of Authorization Number 24GA28019900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
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DATE	
PROJ	3480-12-0317
DWG	CN-202
SHEET	34 OF 70

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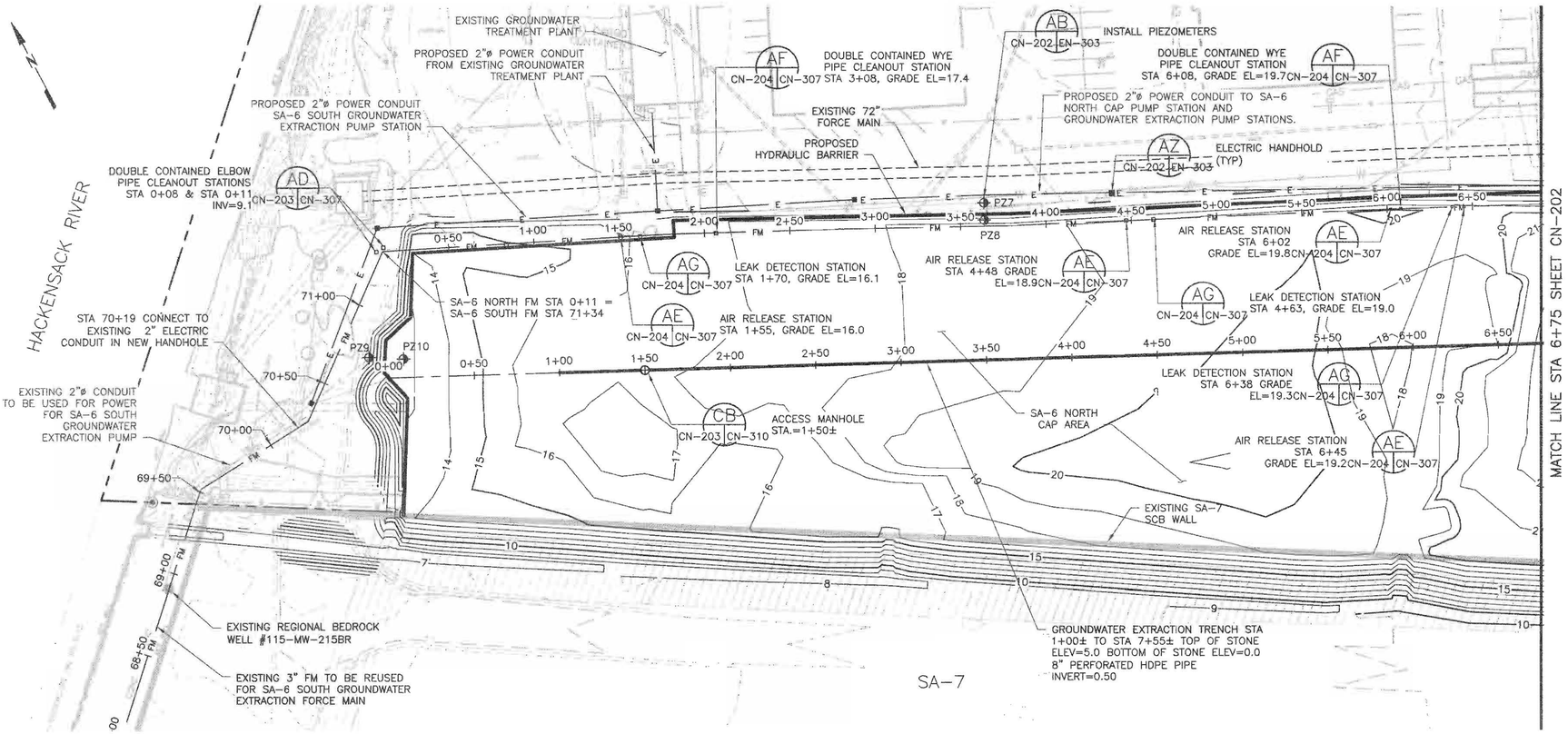
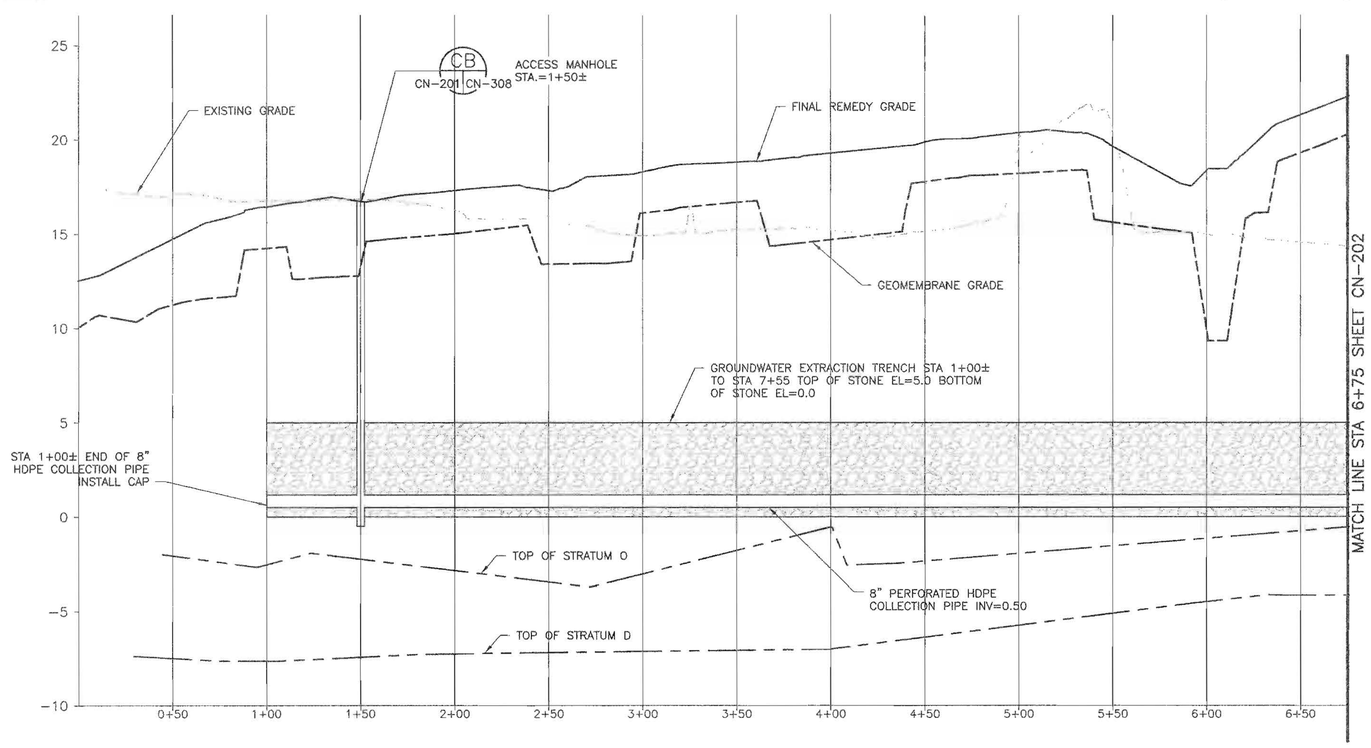
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\NCR34-CN-202-Cont_GWE_Trench.dwg PLOT DATE: Thu, 20 Nov 2014 PLOT TIME: 3:15 PM





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET CN-201 FOR NOTES.

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
2	11/19/14	TDD	RJR	TDD	SGS	TDD	SGS
1	09/13/13	RJR	SGS				
0	06/07/13	TDD	SGS				

REVISION

DCB 007.2
HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM
ISSUED FOR CONSTRUCTION

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA29010500

VERIFY SCALE
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DATE	
PROJ	3480-12-0317
DWG	CN-203
SHEET	35 OF 70

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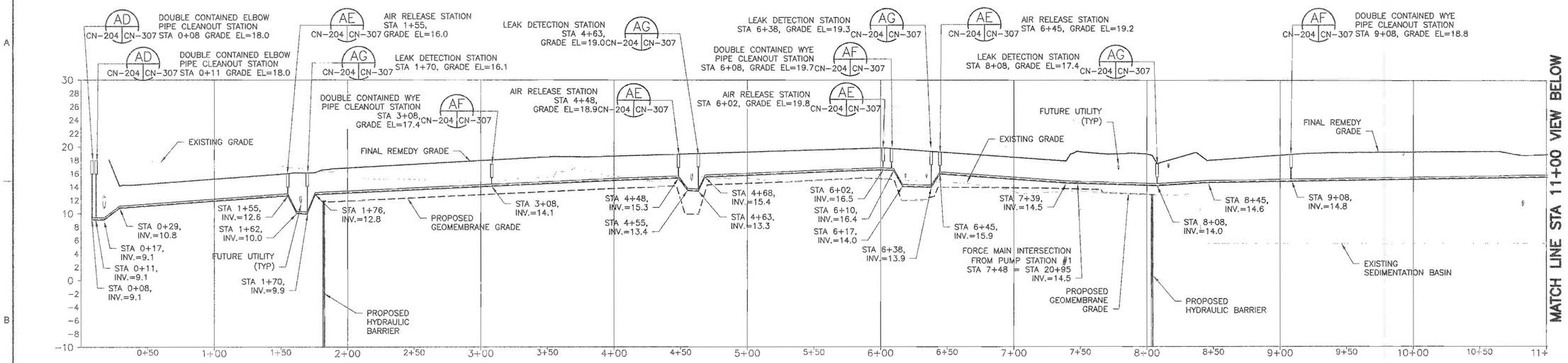
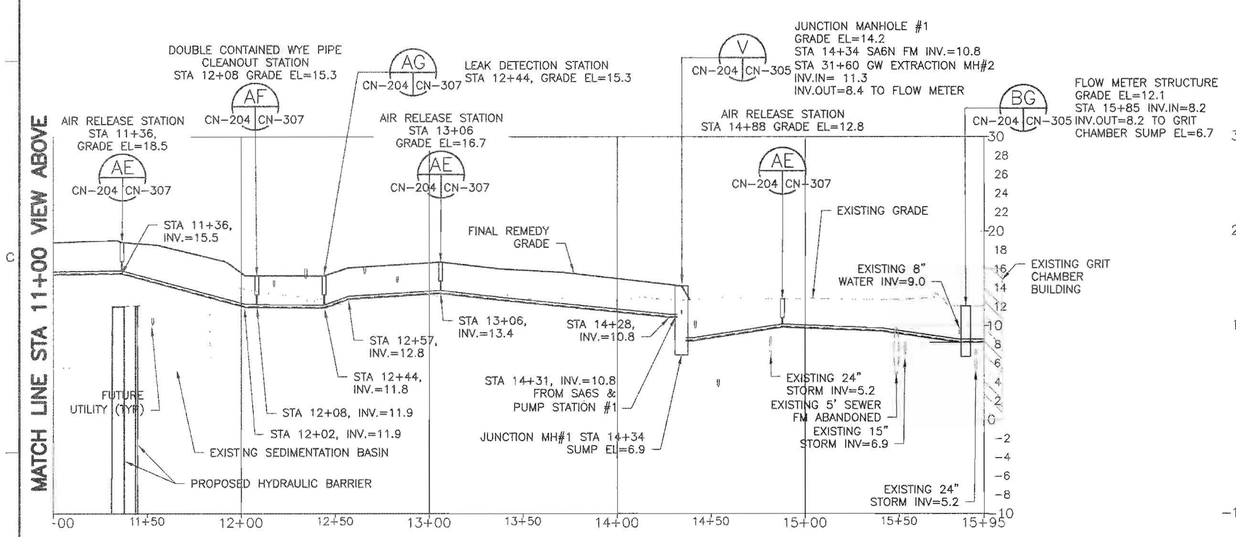
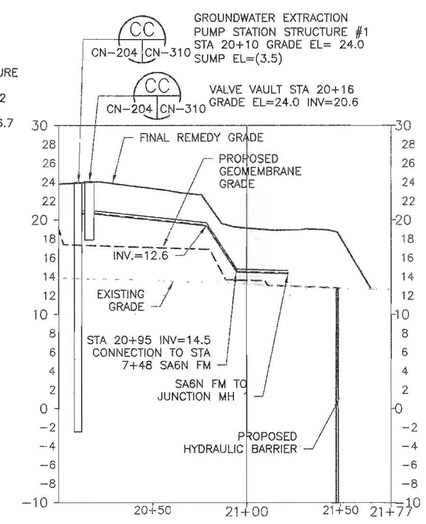
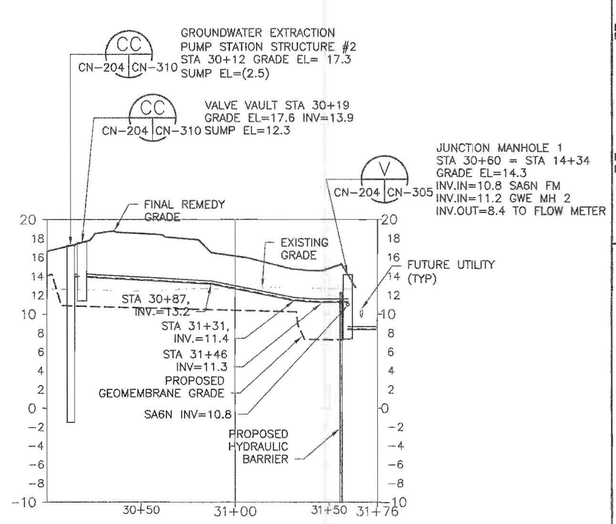
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\NCR35-CN-203-Cont_GWE_Trench.dwg PLOT DATE: Thu, 20 Nov 2014 PLOT TIME: 3:16 PM









NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. THE DESIGN OF THE CONTINGENT GROUNDWATER EXTRACTION SYSTEM IS CONCEPTUAL AND HAS BEEN BASED ON THE AVAILABLE HYDROGEOLOGIC INFORMATION. THE DESIGN IS BASED ON A THEORETICAL SCENARIO USING CONSERVATIVE ASSUMPTIONS. HONEYWELL WILL CONTINUE TO EVALUATE PERTINENT INFORMATION GATHERED THROUGH DEWATERING AND OTHER CONSTRUCTION OPERATIONS. THIS INFORMATION WILL BE USED TO CALIBRATE THE GROUNDWATER CAPTURE MODEL. SUBJECT TO RESULTS OF THAT MODEL CALIBRATION AND EVALUATION OF THE IMPACTS ON THE SYSTEM DESIGN HONEYWELL MAY PROPOSE ALTERNATIVE GROUNDWATER EXTRACTION DESIGNS CAPABLE OF MEETING THE CRITERIA STATED IN ARTICLE III A 58 OF THE CONSENT DECREE.

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
2	11/19/14	DCB 007.2	TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR TDD CHK RJR APVD TDD

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507
SGS

Honeywell
101 COLUMBIA RD., BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
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DATE	
PROJ	3480-12-0317
DWG	CN-204
SHEET	36 OF 70

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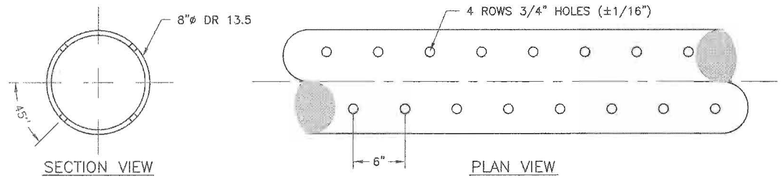
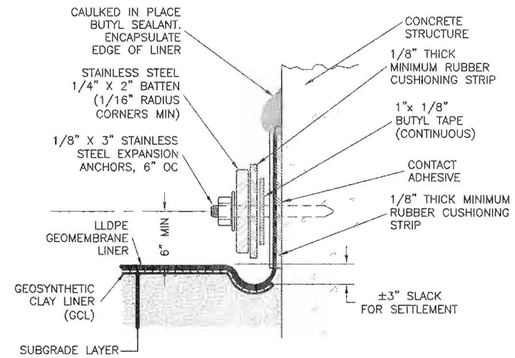
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\NCR36-CN-204-Cont_GWE_Trench.dwg PLOT DATE: Thu, 20 Nov 2014 PLOT TIME: 3:15 PM



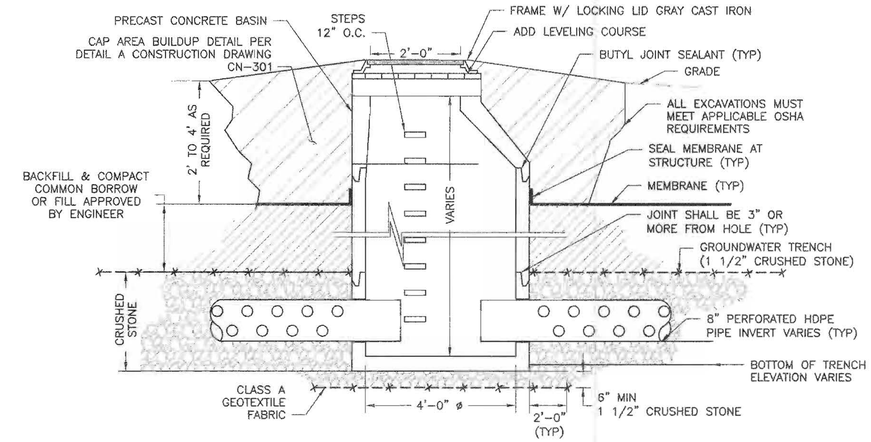
PIPE PERFORATIONS (CD)
NTS — TYP CN-310

CONSTRUCTION SEQUENCE

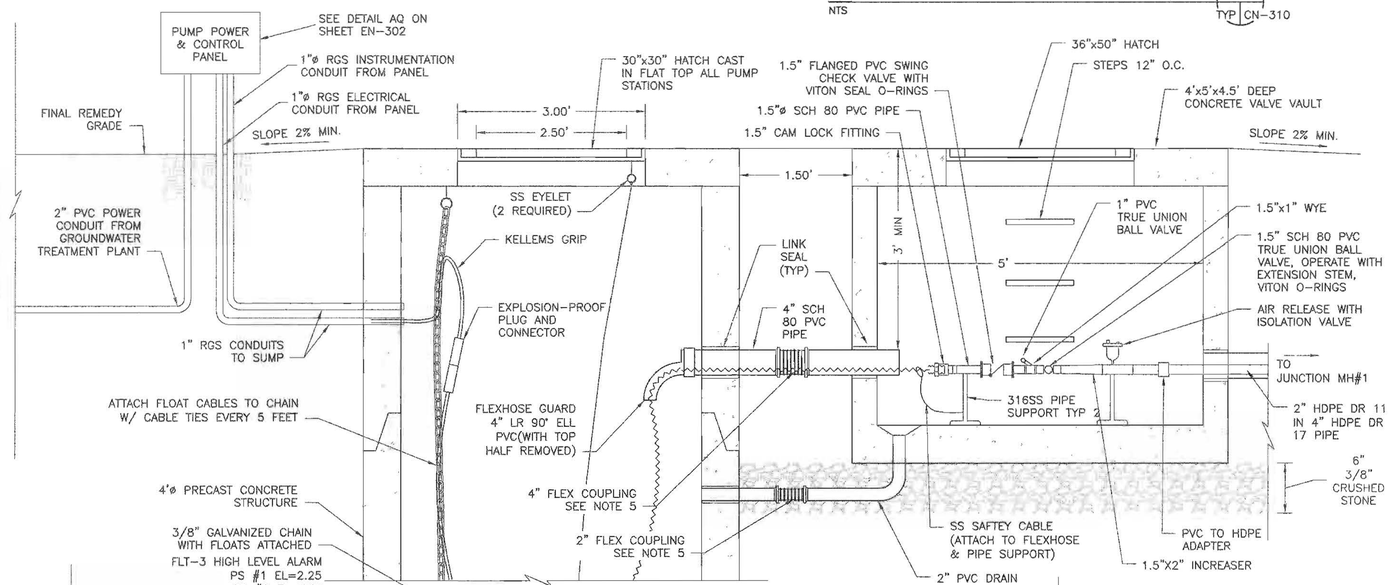
- SET MANHOLE BASE AND RISER SECTIONS.
- EXTEND RISER WITH SURCHARGE AND FILL PLACEMENT.
- PLACE TEMPORARY COVER.
- MEASURE TOP/ BOTTOM ELEVATION POST SURCHARGE.
- REVIEW RISER SECTIONS AND IF NECESSARY ORDER A NEW RISER TO MEET DESIGN GRADE.
- OR ADJUST DESIGN GRADE TO MATCH AVAILABLE RISERS – SUBJECT TO ENGINEERS APPROVAL.



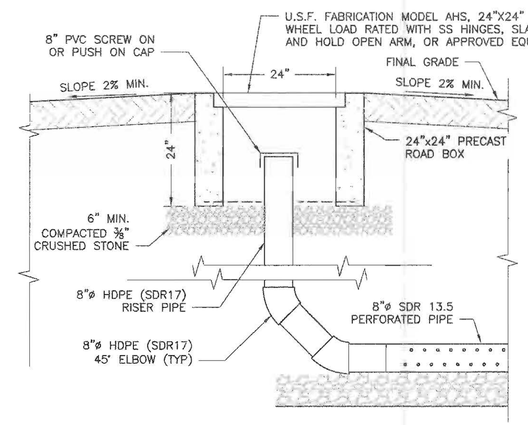
LINER ANCHOR TO CONCRETE STRUCTURE (CE)
NTS — TYP CN-310



TYPICAL ACCESS MANHOLE FINAL CONDITION (CB)
NTS STA=1+55±, AND STA=18+00± — CN-201 CN-203 CN-310



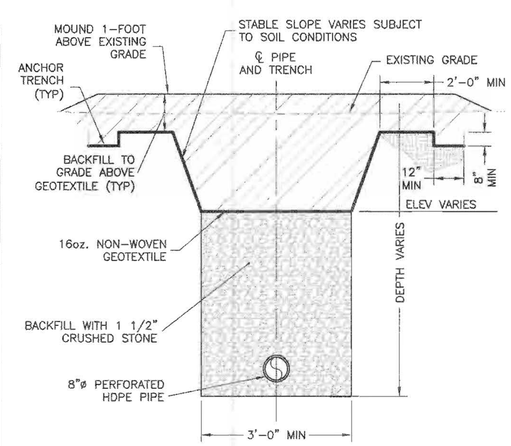
GROUNDWATER EXTRACTION PUMP STATION
STA 7+35± & STA 12+50± (CC)
NTS — CN-202 CN-203 CN-310



ELBOW PIPE CLEANOUT (CF)
NTS — CN-202 CN-310

PARTS LIST

ITEM	QTY	MANUFACTURER\ PART NO.	DESCRIPTION
30" X 30" PUMP STATION HATCH	1	ej FABRICATION PRODUCT H30303191 OR APPROVED EQUAL	SPRING LOADED ALUMINUM VAULT HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION
1.5" TRUE UNION BALL VALVE	1	CHEMTROL OR APPROVED EQUAL	TRUE UNION SERIES PVC VITON O RINGS AND TEFLON SEALS
1.5" DIA. FLEXHOSE	1	GRANGER OR APPROVED EQUAL	ITEM #3JT48 25' LENGTH EACH
1.5" DIA. CAMLOCK QUICK DISCONNECTS	1–MALE 1–FEMALE	GRANGER OR APPROVED EQUAL	ITEM #3LX22 ITEM #3LX14 (GET FROM GRANGER)
EXPLOSION–PROOF PLUG AND CONNECTOR	2–SETS	MELTRIC 22–14043 22–18043 OR APPROVED EQUAL	INLINE PLUG AND RECEPTACLE W/ MALE CAP, HANDLES AND FINGER DRAW PLATES
1" TRUE UNION BALL VALVE	1	CHEMTROL OR APPROVED EQUAL	TRUE UNION SERIES PVC WITH VITON O RINGS AND TEFLON SEALS
1.5" SWING CHECK VALVE	1	SPEARS OR APPROVED EQUAL	MODEL 4423–015 VITON SEAL AND O RINGS
36' X 50" VALVE VAULT HATCH	1	PENNSYLVANIA INSERT CORP STOCK# ATH3050D I*2 OR APPROVED EQUAL	SPRING LOADED ALUMINUM HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION
FLEX COUPLING	2	ETHYLENE, LLC OR APPROVED EQUAL	FLEXIJOINT COUPLING MIN. (2) BELLOWS, TEFLON–LINED W/ 316 SS FLANGES, POWER BAKED EPOXY COATING, AND VITON GASKETS



GROUNDWATER TRENCH SURCHARGE CONDITION (CA)
NTS — TYP CN-310

NO.	DATE	DSGN	DR	TDD	RJR	TDD	APVD	TDD	APVD	SGS
2	11/19/14	TDD	SGS							
1	05/14/14	TDD	SGS							

REVISION: DCB 007.2; DCB 007

BY: TDD, SGS

CHK: TDD, SGS

APVD: SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43607

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
GROUNDWATER EXTRACTION TRENCH DETAILS

amec
Environment & Infrastructure, Inc.
200 Airport Metro Blvd. Suite 113
Hamilton, NJ. 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
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DATE	
PROJ	3480-12-0317
DWG	CN-310
SHEET	45 OF 70

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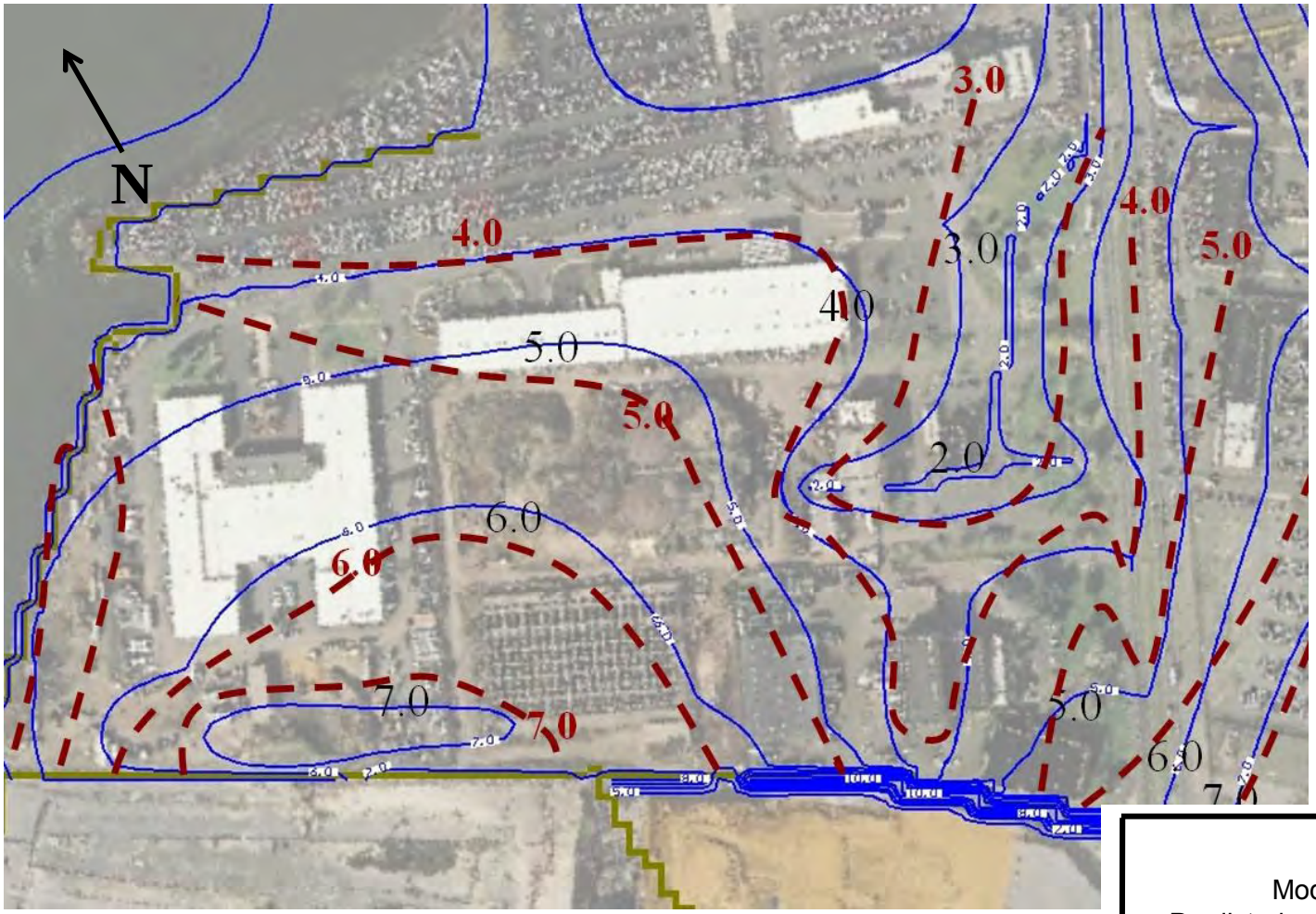


LEGEND

5.0 Predicted Heads

5.0 Measured Heads

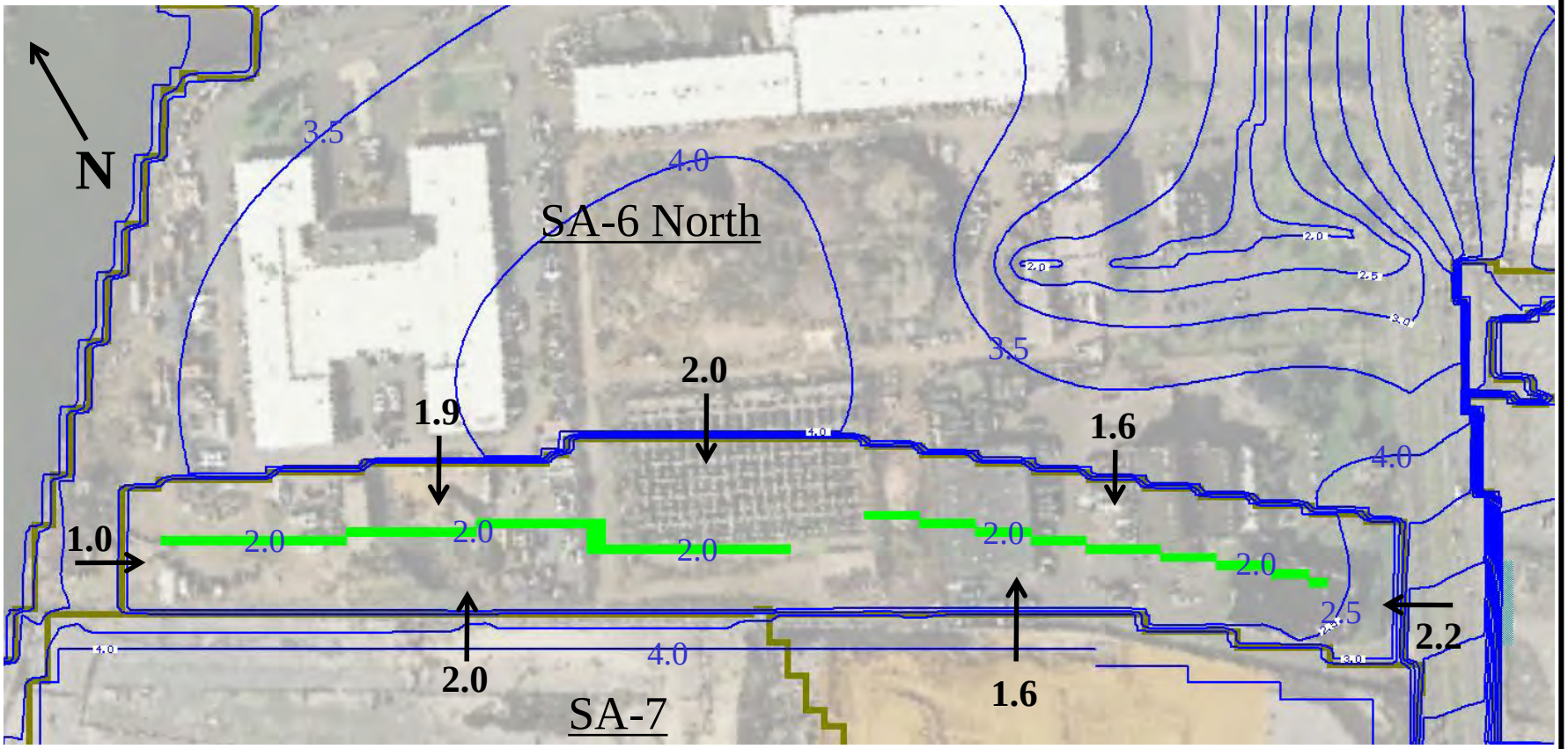
NTS

FIGURE 1

Model Calibration
Predicted versus Measured Heads
Model Layer 1 (Shallow Zone)

Study Area 6 North
Jersey City, NJ

cornerstone environmental



LEGEND

Contingent Pumping System Drain Line

3.2 ← Head Diff. Across Wall

5.0 Predicted Heads

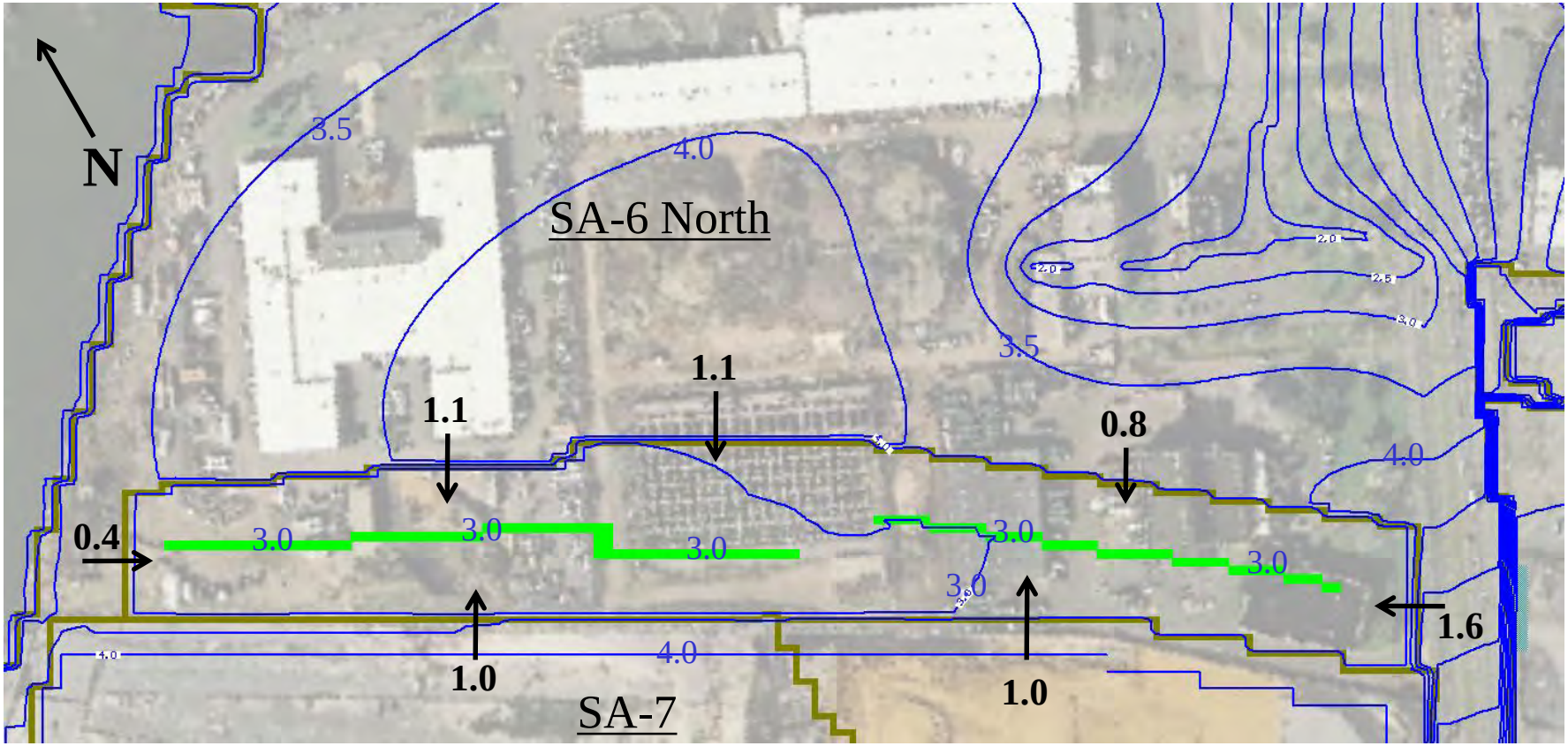
NTS

FIGURE 2

Post-development Predicted Heads
SA-7 Perimeter Pools Non-functioning
Head in Drain at +2.0'

Study Area 6 North
Jersey City, NJ

cornerstone environmental



LEGEND

Contingent Pumping System Drain Line

3.2 ← Head Diff. Across Wall

5.0 Predicted Heads

NTS

FIGURE 3

Post-development Predicted Heads
SA-7 Perimeter Pools Non-functioning
Head in Drain at +3.0'

Study Area 6 North
Jersey City, NJ

cornerstone environmental

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 7.2.2 **DCB Type:** Minor (a) **Effective Date:** 6/6/16
Project Location: SA-6 North	**Associated RFI:**
Title: GW Extraction System – FM and E&I	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description:

DCB-007.1, issued to Entact on 6/12/14, was provided for the trench detail portion of the modified groundwater system design. At the time of issue details for the SA-6N trench were subject to potential further modification.

DCB-007.2, issued to Entact on 11/24/14, provided the details for the SA-6N groundwater collection trenches and associated electrical supply and groundwater discharge piping.

DCB-007.2.1, draft prepared on 9/2/15, provided a revised version of 007.2. DCB-007.2.1 was not issued to Entact. However Entact was verbally briefed on the proposed changes, including elimination of E&I wiring from the scope, the same as for SA-6S. The revisions pertained to the following items:

- Electrical wiring and Instrumentation wire was eliminated
- Conduit sizes and type were updated.
- Conduit was shown terminating outside of the groundwater treatment plant
- Conduit and piping from Pump Station MH#2 was re-routed into the adjacent utility corridor to the west. The re-routing reduced excavation of subgrade and provided a more direct routing now that all discharge is to be routed to the GWTP.

DCB 007.2.2 was triggered by the following several changes in project scope:

- Re-re-routing of the Contingent Groundwater System Discharge for both SA-6N and SA-6S from the JCMUA grit chamber to the new GWTP.
- Revisions to the Cap grading and utility corridors which allowed for elimination of the Cap Drainage Pump Station.
- Running PS#1 FM as a separate line to the GWTP

The following drawings will be re-issued as part of DCB 7.2.2:

Contingent Groundwater Extractions System Plan and Profile and Details

- CN-201
- CN-202
- CN-203
- CN-204
- CN-305 (Groundwater Extraction System Details)
- CN-306 (Groundwater Extraction System Details)
- CN-310 (Groundwater Extraction Trench Details).

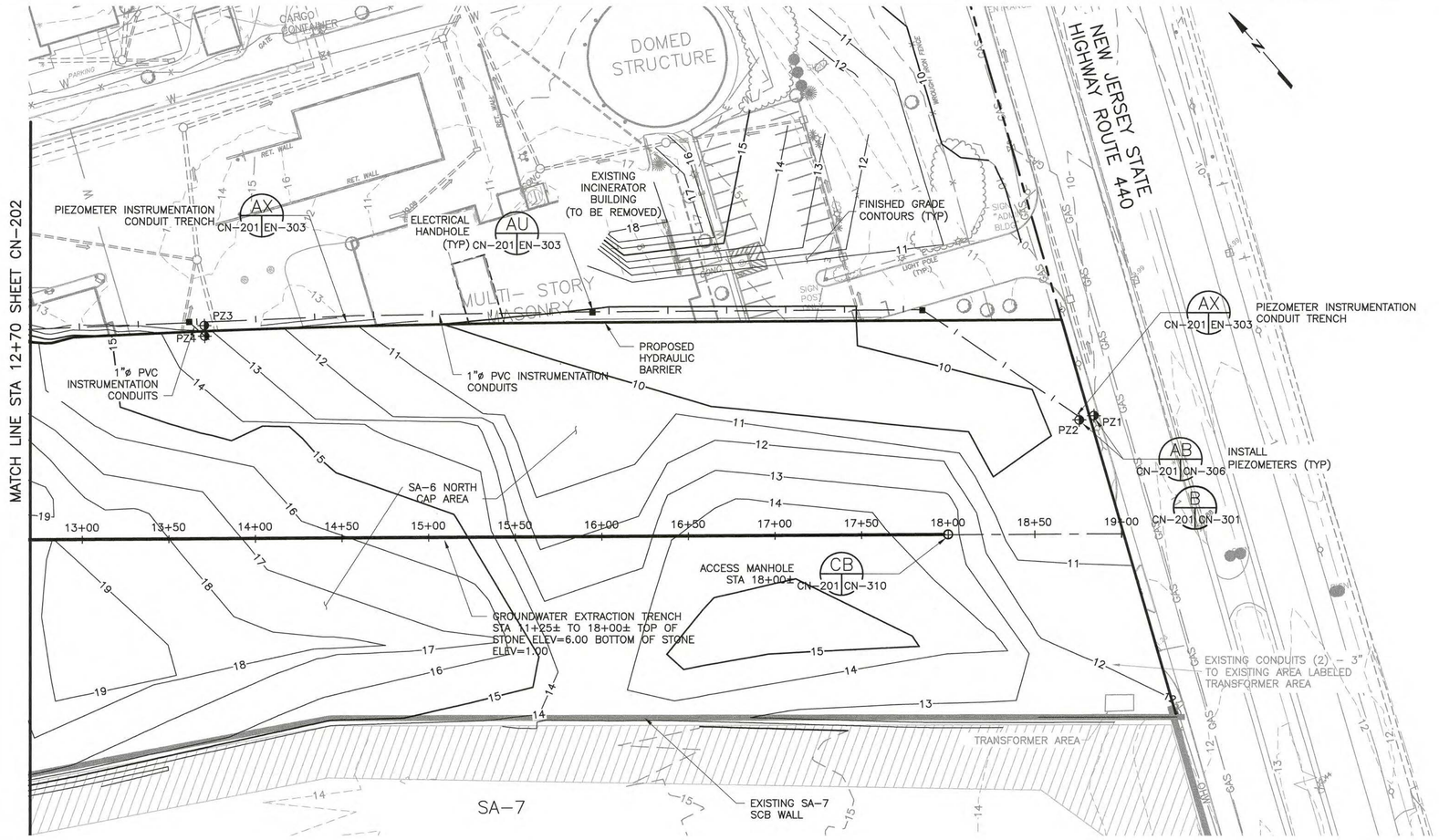
Electrical Drawings

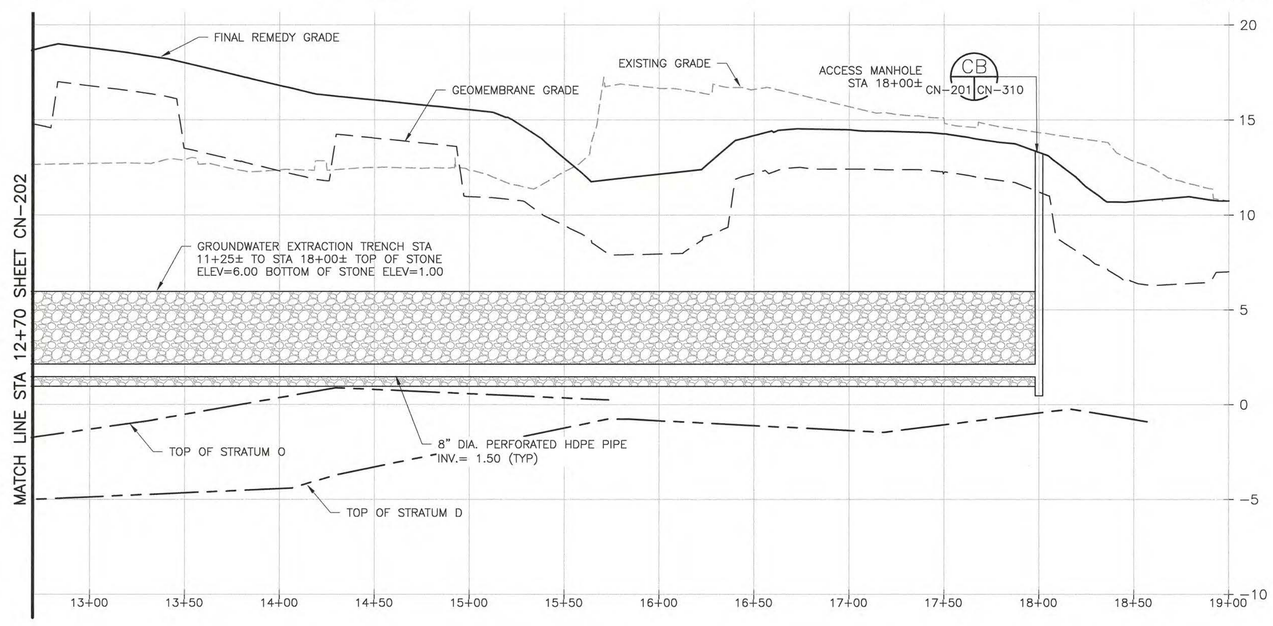
- EN-301 (Not for Construction)
- EN-302 (Not for Construction)
- EN-303

It is noted that the 5 piezometric pairs on SA-6N are not included in this DCB. The piezometers are to be installed by Amec Foster Wheeler. Access to each location will be provided by Entact.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** : Design changed based on information gathered during construction **Attachments:** ☑ Yes ☐ No CN-201, CN-202, CN-203, CN-204, CN-305, CN-306, CN-310, EN-301 (Not IFC), EN-302 (Not IFC), EN-303 Cost Implication: ☑ Yes ☐ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** CN-201, CN-202, CN-203, CN-204, CN-305, CN-306, CN-310, EN-301 (Not IFC), EN-302 (Not IFC), EN-303
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 6/10/16
(Name / Signature):	**Does DCB Result in CCO?** ☑ **Yes (b)** ☐ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FOR FORCE MAIN PROFILE INFORMATION SEE SHEET CN-204.
4. FINAL PLAN VIEW ALIGNMENT MAY BE ADJUSTED SUBJECT TO THE APPROVAL OF THE ENGINEER TO AVOID OBSTRUCTIONS SUCH AS EXISTING BUILDING FOUNDATIONS, ABANDONED UTILITIES AND PILES.
5. TRENCH INVERT HAS BEEN DESIGNED TO BE ABOVE STRATUM O AND STRATUM D. INVERTS MAY BE ADJUSTED DURING DESIGN DEVELOPMENT OR IN RESPONSE TO OBSERVED FIELD CONDITIONS SUBJECT TO THE APPROVAL OF THE ENGINEER AND GROUNDWATER MODELER.
6. PLACE STONE LOOSE IN GROUNDWATER COLLECTION TRENCH. RUN PLATE COMPACTOR OR EQUAL OVER TRENCH PRIOR TO INSTALLING GEOTEXTILE FABRIC.
7. BACKFILL ABOVE GEOTEXTILE FABRIC MAY BE COMPOSED OF EXCAVATED TRENCH SPOIL OR OTHER MATERIAL THAT CAN BE READILY COMPACTED. WET SOIL OVERSIZED DEBRIS OR OTHER MATERIALS AS DEEMED UNSUITABLE CONSISTENT WITH THE EARTHWORK SPECIFICATION 1.04.B. WILL NOT BE USED. BACKFILL WILL BE PLACED IN LIFTS CONSISTENT WITH THE EARTHWORKS SPECIFICATION 3.12.B.4.
8. FLEXIBLE COUPLINGS SHALL BE FLEXJOINT COUPLING AS MANUFACTURED BY ETHYLENE, LLC OR EQUAL. FLEXIBLE COUPLINGS SHALL HAVE A MINIMUM OF (2) BELLOWS AND BE TEFLON-LINED WITH 316 SS FLANGES (POWER BAKED EPOXY COATING APPLIED) AND VITON GASKETS.
9. CONCRETE ENCASEMENT REQUIRED ON E&I CONDUIT IF BURIAL DEPTH IS LESS THAN 24" OR OTHERWISE NOTED.

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
4	06/06/16	TDD	TDD	RJR	TDD	SGS	SGS
3	09/02/15	TDD	TDD	RJR	TDD	SGS	SGS
2	11/19/14	TDD	TDD	RJR	TDD	SGS	SGS
1	09/13/13	RJR	TDD	RJR	TDD	SGS	SGS
0	06/07/13	TDD	TDD	RJR	TDD	SGS	SGS

REVISION

DCB 007.2.2
DCB 007.2.1
DCB 007.2
HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM
ISSUED FOR CONSTRUCTION

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
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(609) 689 - 2829
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VERIFY SCALE
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0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-201
SHEET	33 OF 70

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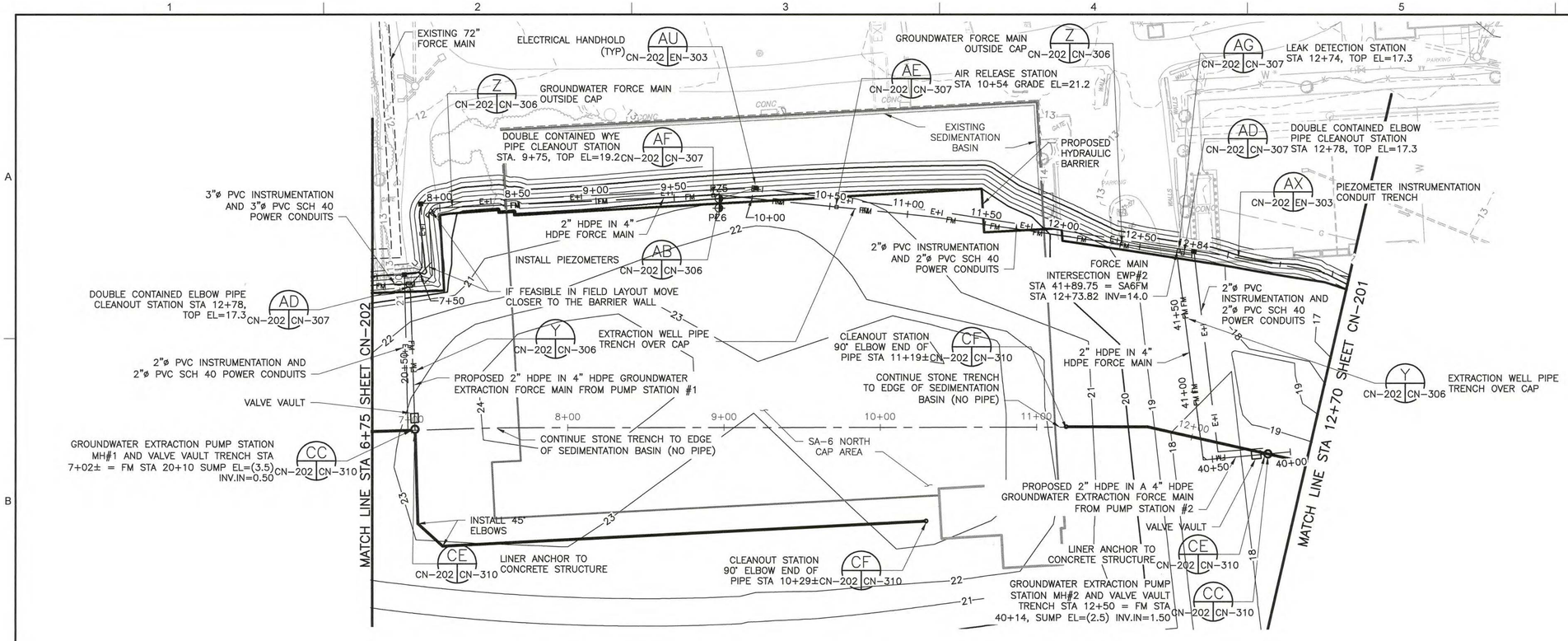

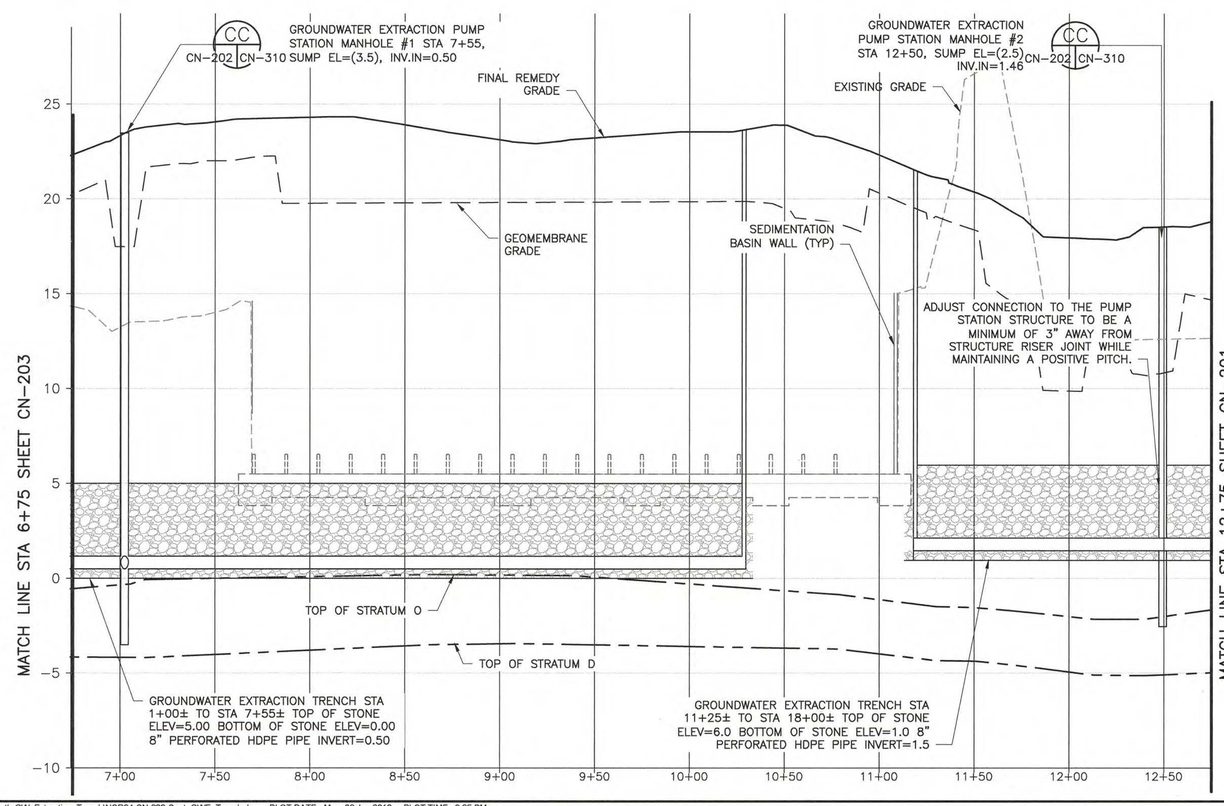

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET CN-201 FOR NOTES.
4. ~~BARRIER WALL ALIGNMENT SUBJECT TO FINAL LAYOUT CHANGES.~~

VERTICAL SCALE 0 2 4 8 SCALE IN FEET

HORIZONTAL SCALE 0 20 40 80 SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
4	06/06/16	DCB 007.2.2	RJR	SGS
3	09/02/15	DCB 007.2.1	TDD	SGS
2	11/19/14	DCB 007.2	TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR TDD CHK RJR APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

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115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM PLAN AND PROFILE

amec
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(609) 689 - 2829
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VERIFY SCALE
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0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-202
SHEET	34 OF 70

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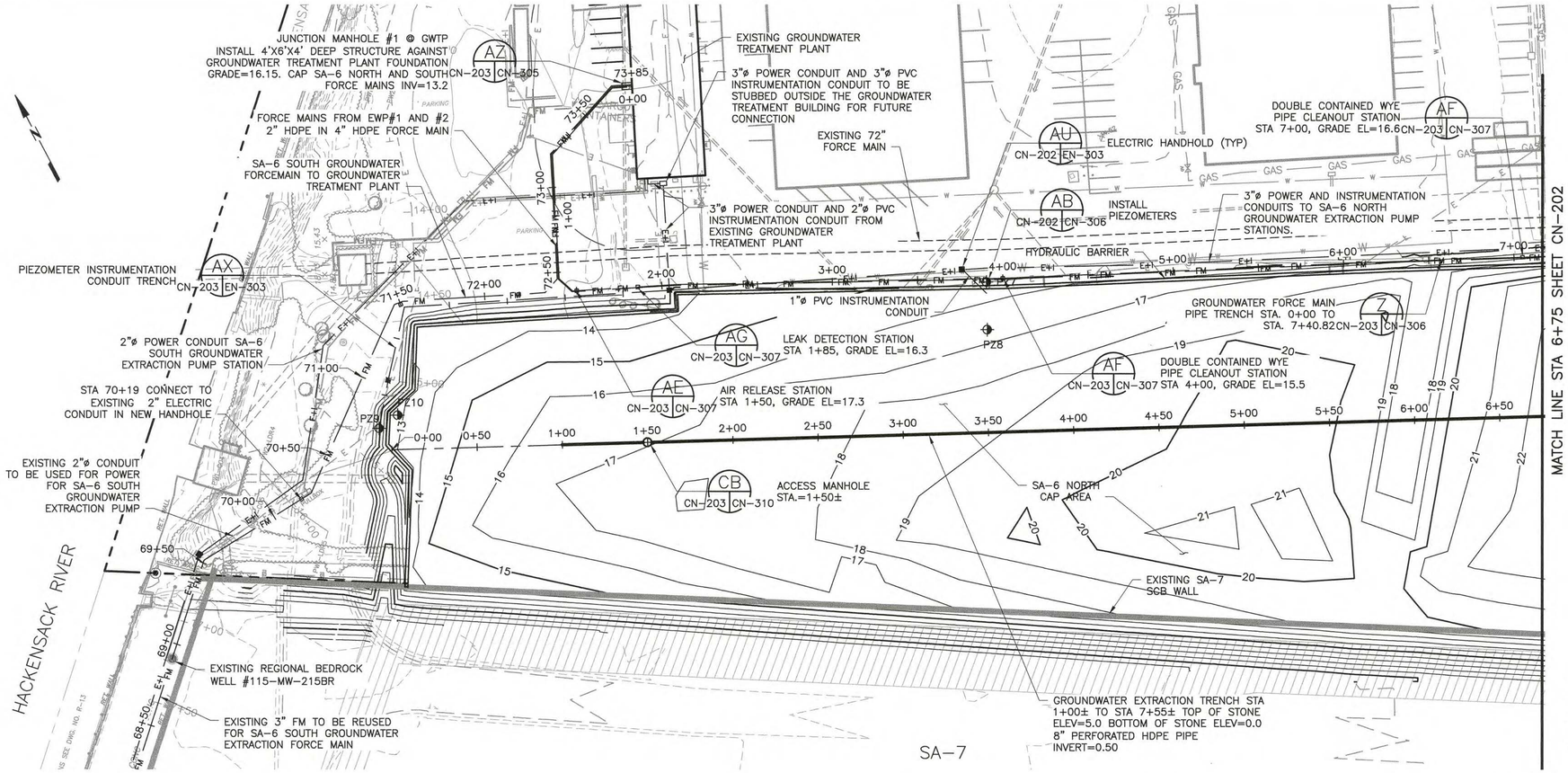

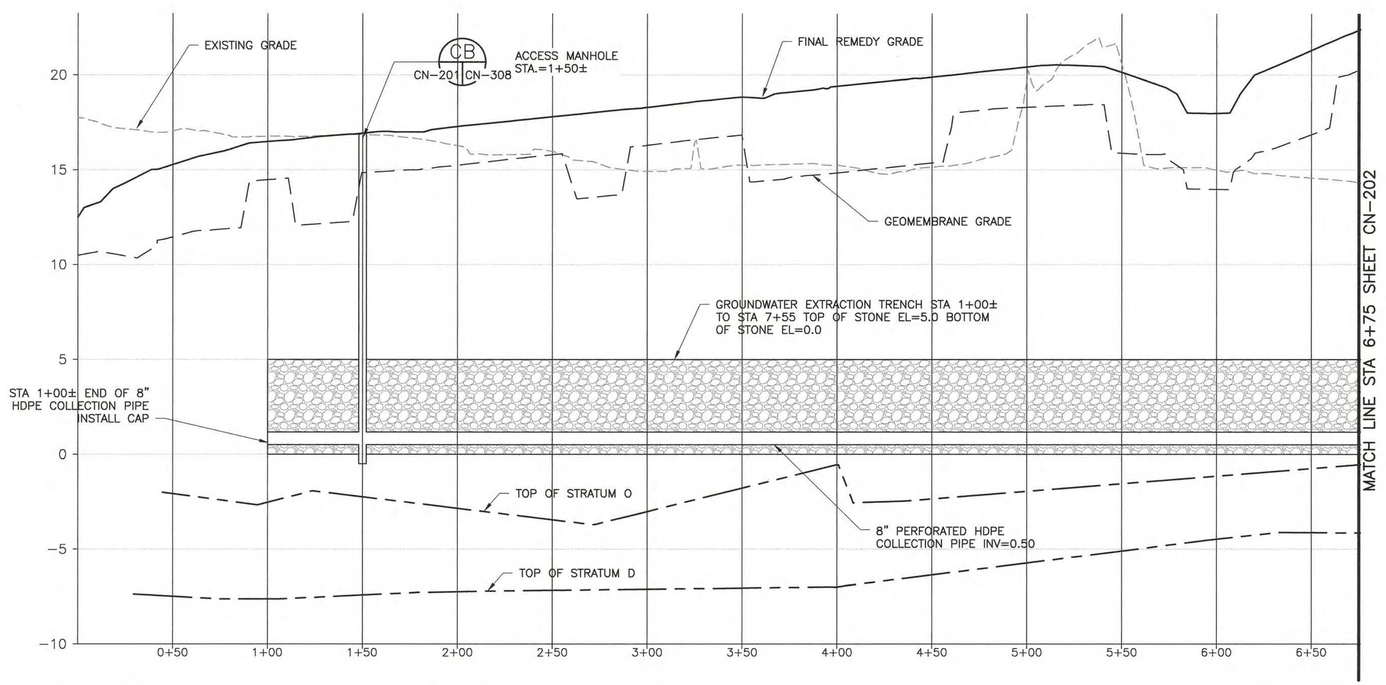

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET CN-201 FOR NOTES.

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
4	06/06/16	DCB 007.2.2	TDD	SGS
3	09/02/15	DCB 007.2.1	TDD	SGS
2	11/19/14	DCB 007.2	TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-203
SHEET	35 OF 70

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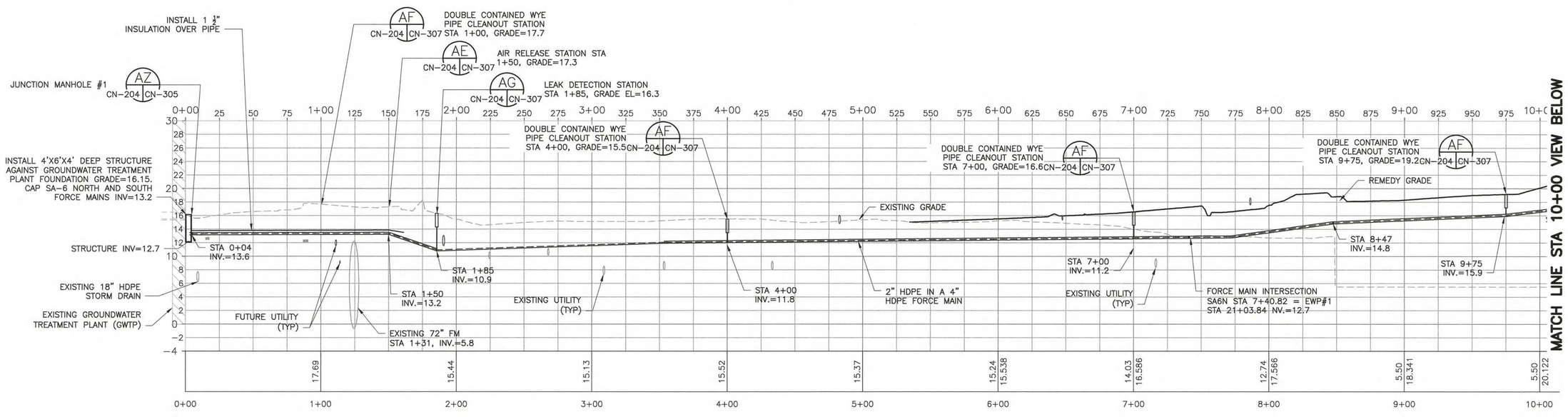
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\NCR35-CN-203-Cont_GWE_Trench.dwg PLOT DATE: Mon, 06 Jun 2016 PLOT TIME: 3:29 PM

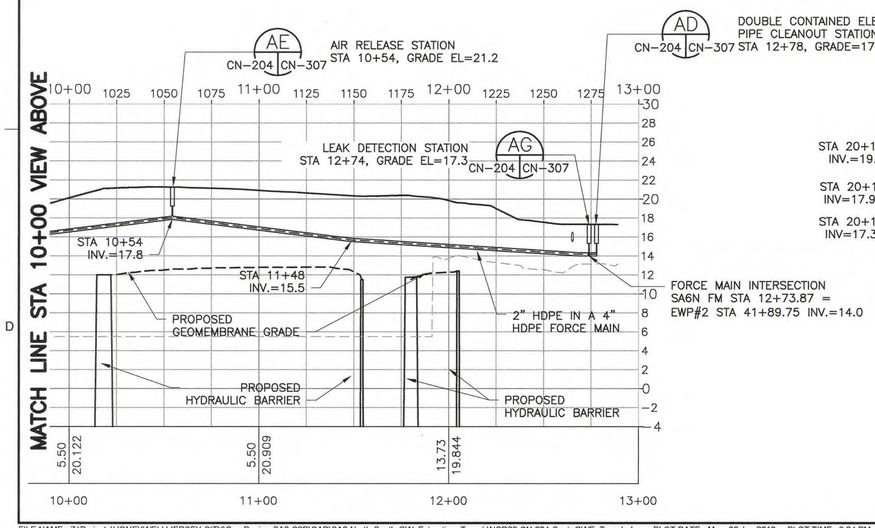


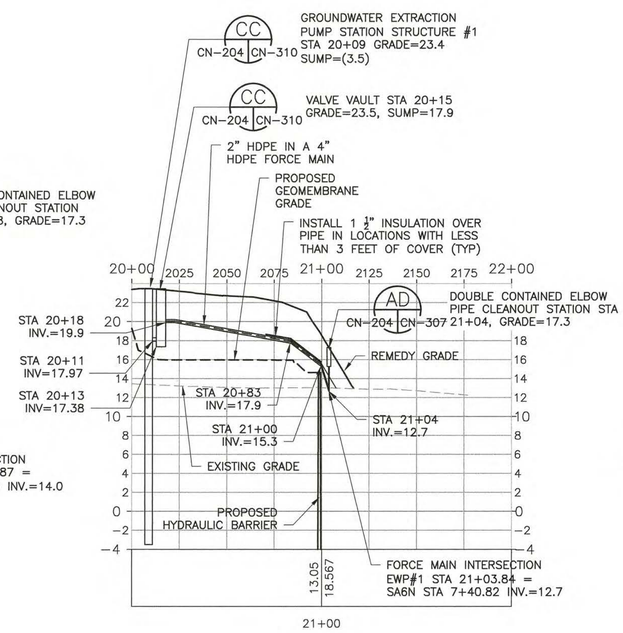
NOTE:

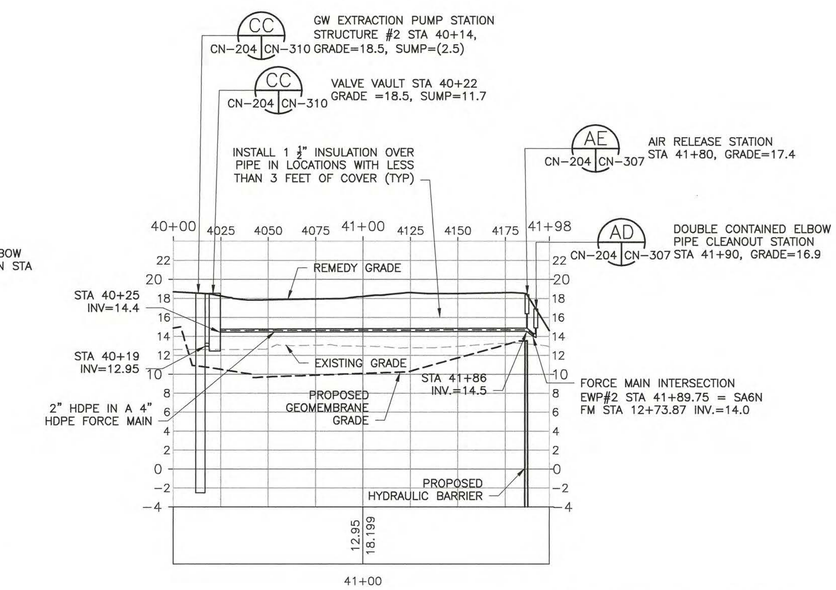
THE FM FROM MH#1 AND MH#2 OCCUPY THE SAME ALIGNMENT BETWEEN THE GWTP 0+00 AND STN. 7+40. THE FM (S) WILL BE INSTALLED ON THE SAME LINE AND GRADE WITH A NOMINAL 6 INCH PLAN VIEW SEPARATION. AIR RELEASE/LEAK DETECTION, AND WYE CLEANOUTS, FOR THE TWO FM'S SHOULD BE COLLOCATED IN THE SAME 2X2 STRUCTURES BETWEEN 0+00 AND 7+40

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. THE DESIGN OF THE CONTINGENT GROUNDWATER EXTRACTION SYSTEM IS CONCEPTUAL AND HAS BEEN BASED ON THE AVAILABLE HYDROGEOLOGIC INFORMATION. THE DESIGN IS BASED ON A THEORETICAL SCENARIO USING CONSERVATIVE ASSUMPTIONS. HONEYWELL WILL CONTINUE TO EVALUATE PERTINENT INFORMATION GATHERED THROUGH DEWATERING AND OTHER CONSTRUCTION OPERATIONS. THIS INFORMATION WILL BE USED TO CALIBRATE THE GROUNDWATER CAPTURE MODEL, SUBJECT TO RESULTS OF THAT MODEL CALIBRATION AND EVALUATION OF THE IMPACTS ON THE SYSTEM DESIGN HONEYWELL MAY PROPOSE ALTERNATIVE GROUNDWATER EXTRACTION DESIGNS CAPABLE OF MEETING THE CRITERIA STATED IN ARTICLE III A 58 OF THE CONSENT DECREE.







HORIZONTAL SCALE 0 20 40 80 SCALE IN FEET

VERTICAL SCALE 0 2 4 8 SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
4	06/06/16	DCB 007.2.2	RJR	SGS
3	09/02/15	DCB 007.2.1	TDD	SGS
2	11/19/14	DCB 007.2	TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR TDD CHK RJR APVD TDD APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-204
SHEET	36 OF 70

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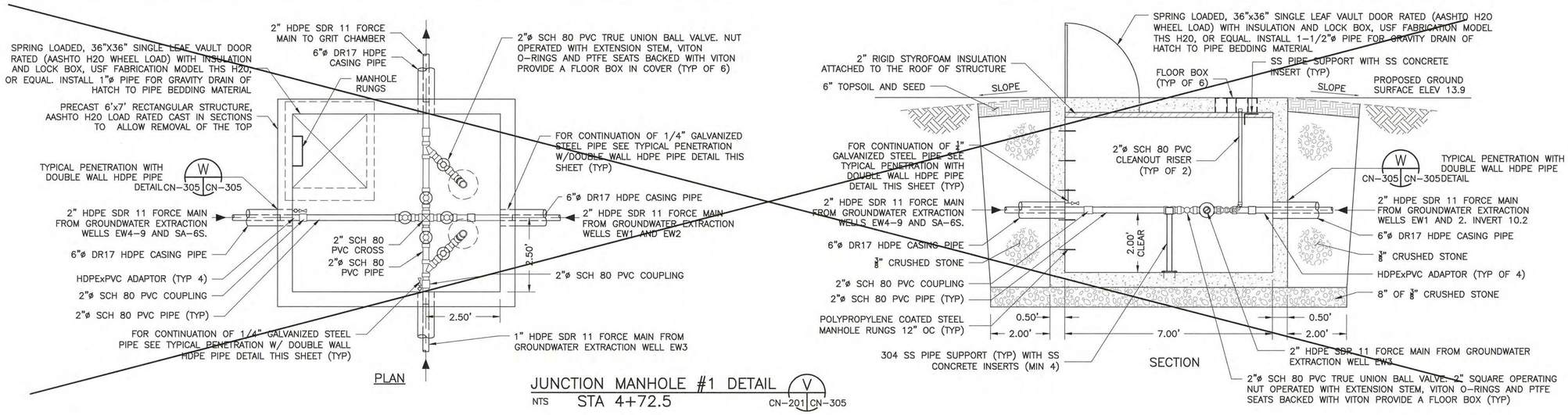
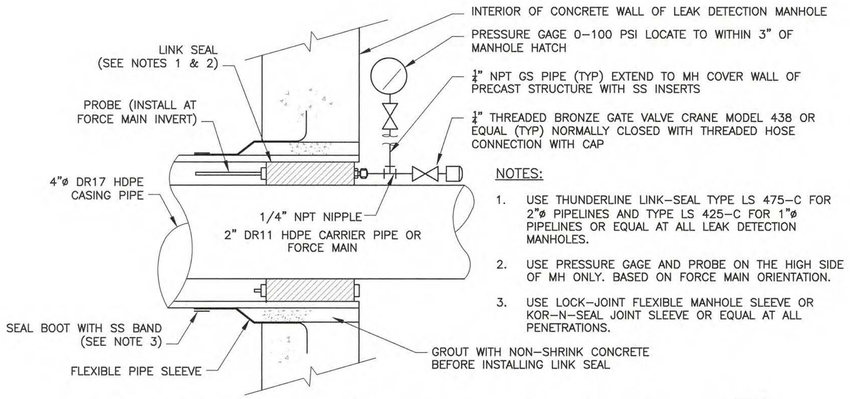


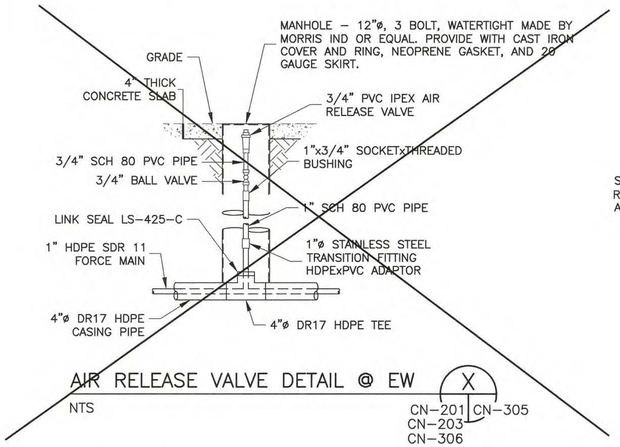
JUNCTION MANHOLE #1 DETAIL (V) CN-201 CN-305
NTS STA 4+72.5



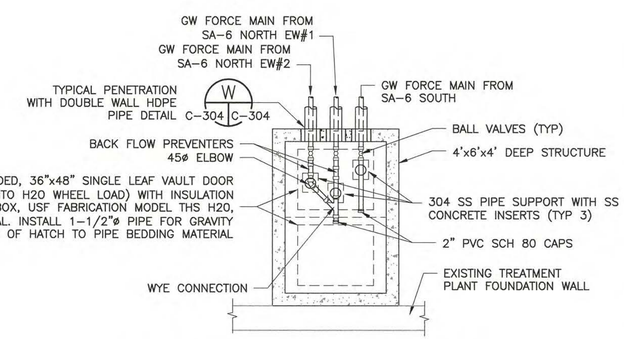
NOTES:

1. USE THUNDERLINE LINK-SEAL TYPE LS 475-C FOR 2"ø PIPELINES AND TYPE LS 425-C FOR 1"ø PIPELINES OR EQUAL AT ALL LEAK DETECTION MANHOLES.
2. USE PRESSURE GAGE AND PROBE ON THE HIGH SIDE OF MH ONLY. BASED ON FORCE MAIN ORIENTATION.
3. USE LOCK-JOINT FLEXIBLE MANHOLE SLEEVE OR KOR-N-SEAL JOINT SLEEVE OR EQUAL AT ALL PENETRATIONS.

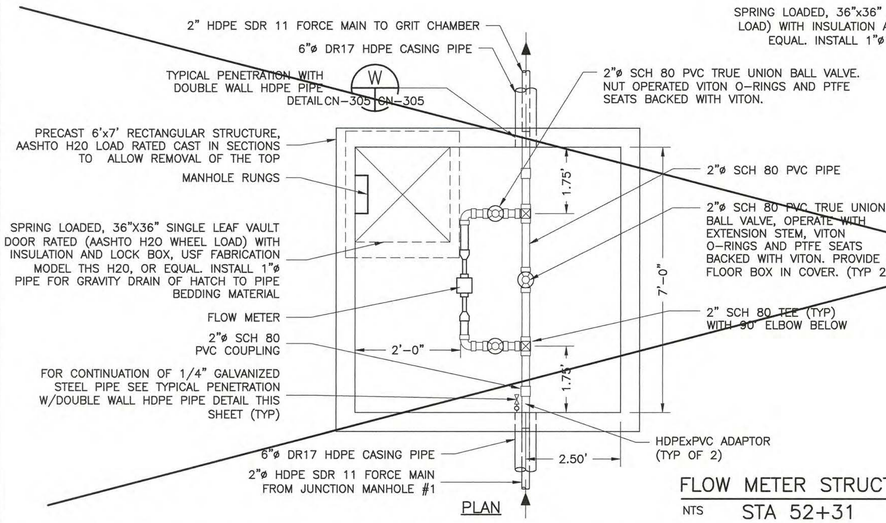
TYPICAL PENETRATION W/DOUBLE WALL HDPE PIPE DETAIL (W) CN-201 CN-305 CN-305
NTS

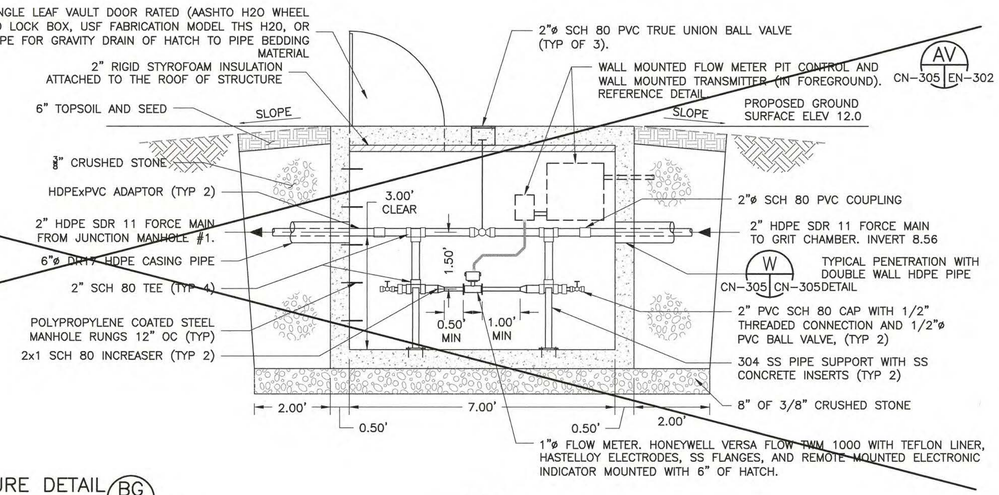


AIR RELEASE VALVE DETAIL @ EW (X) CN-201 CN-305 CN-203 CN-306
NTS



JUNCTION MANHOLE #1 @ GWTP (AZ) CN-204 CN-305
NTS





FLOW METER STRUCTURE DETAIL (BG) CN-201 CN-305
NTS STA 52+31

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. THE INSTALLATION CONTRACTOR SHALL PROVIDE A PERMANENT SIGN INDICATING THAT THE JUNCTION MANHOLE AND THE FLOW METER STRUCTURE IS A CONFINED SPACE ENTRY STRUCTURE.
4. ALL ALUMINUM HATCHES SHALL BE PROVIDED WITH SS HINGES, HOLD OPEN ARMS, AND SPRING ASSIST.

NO.	DATE	REVISION	DR	CHK	APVD
2	06/06/16	DCB 007.2.2	RJR	SGS	SGS
1	05/12/16	DCB 7.2	RJR	SGS	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	REO	SGS	APVD

DSGN REO RJR REO

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
115 TABOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 989 - 2829
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-305
SHEET	40 OF 70

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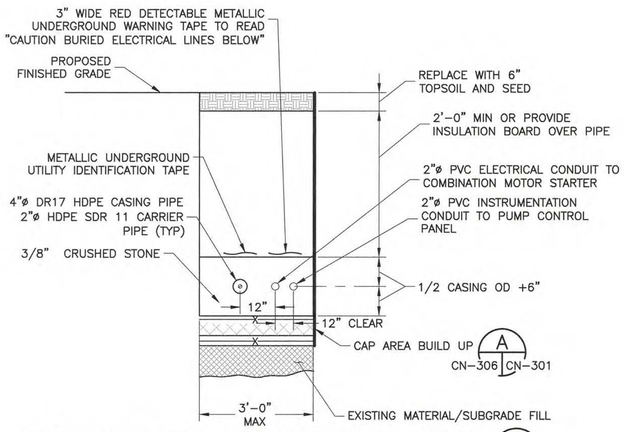
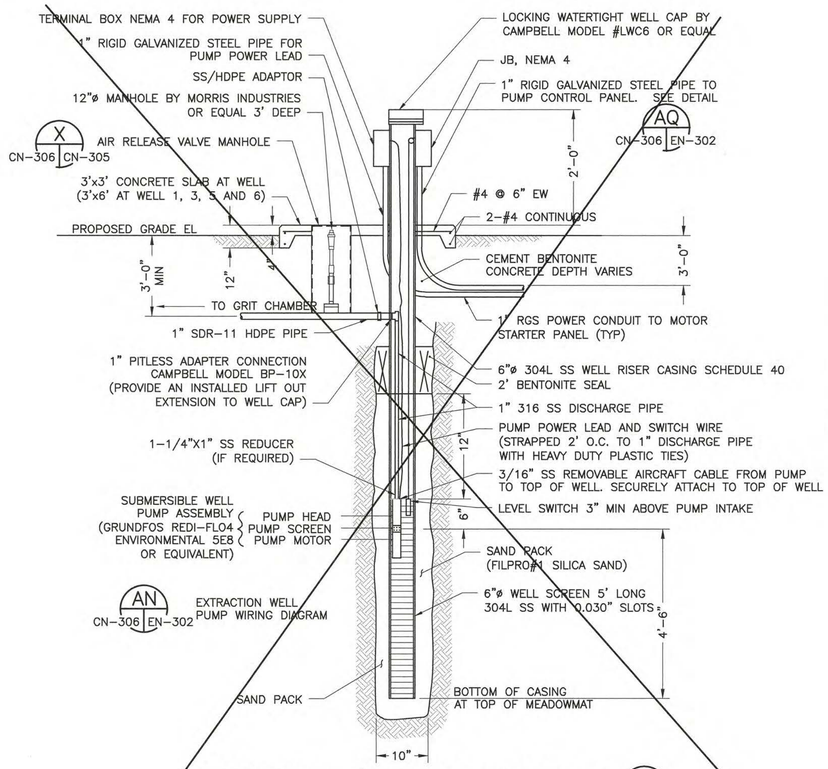
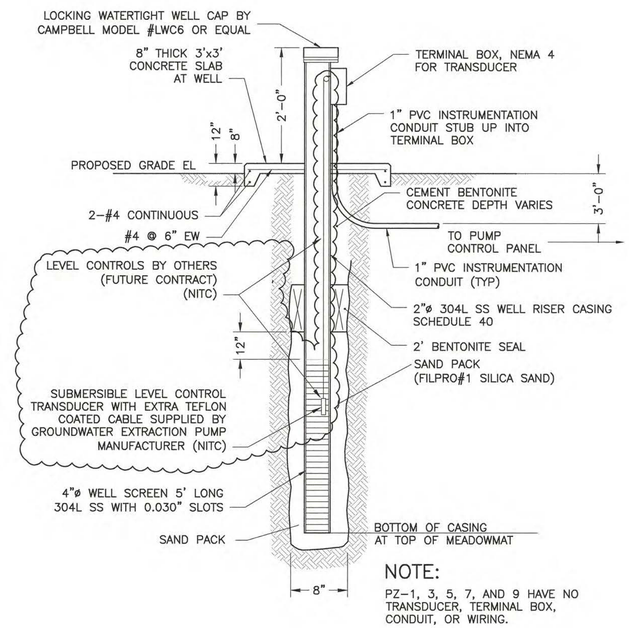


EXTRACTION WELL PIPE TRENCH OVER CAP (Y)
NTS
CN-202 CN-306
CN-304

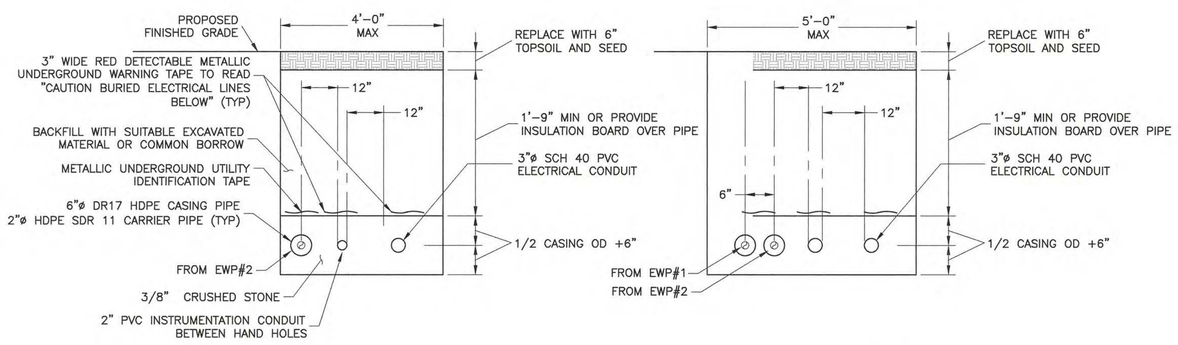


GROUNDWATER EXTRACTION WELL DETAIL (AA)
NTS
CN-201 CN-306
CN-202



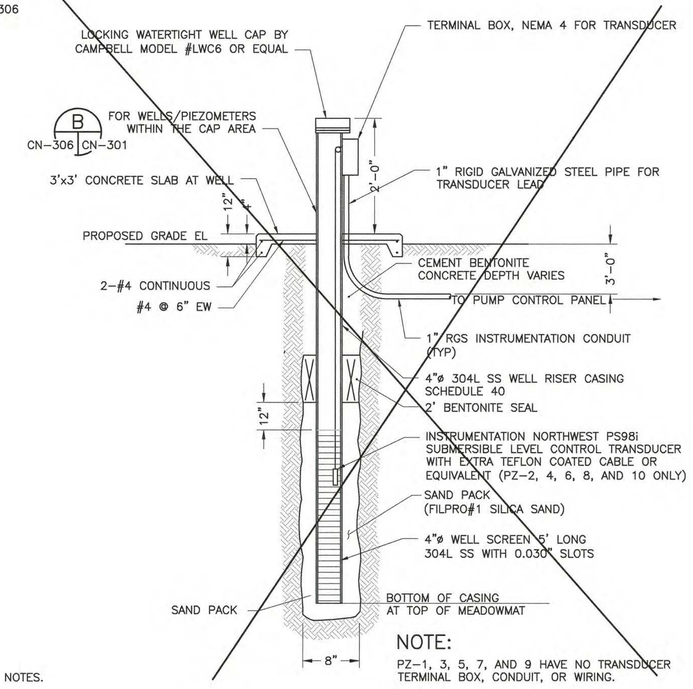
NOTE:
PZ-1, 3, 5, 7, AND 9 HAVE NO TRANSDUCER, TERMINAL BOX, CONDUIT, OR WIRING.

PIEZOMETER DETAIL (AB)
NTS
CN-201 CN-306
CN-202
CN-203



FROM STATION 7+40.82 TO 12+73.82 FROM STATION 0+00 TO 7+40.82.

GROUNDWATER FORCE MAIN PIPE TRENCH OUTSIDE CAP (Z)
NTS
CN-202 CN-306
CN-307



NOTE:
PZ-1, 3, 5, 7, AND 9 HAVE NO TRANSDUCER TERMINAL BOX, CONDUIT, OR WIRING.

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

NO.	DATE	DR	REO	CHK	RJR	APVD	REO
DSGN		REVISION					
1	06/06/16	DCB 007.2.2			RJR	BY	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION			REO	APVD	SGS

Honeywell
115 TABOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619 (609) 889 - 2529
NJ Cert of Authorization 24GA28001900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-306
SHEET	41 OF 70

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR41-C-306 Extraction Well Details.dwg PLOT DATE: Mon, 06 Jun 2016 PLOT TIME: 1:47 PM

Destructive Seam Field Test

Sheet # _____

Project Name		Material Desc.			
Project No.		Layer	Primary	Secondary	Tertiary
Owner/Contr.		Sheet Thickness	Top		Fusion
QA Monitor			Bottom		Extrusion

Seam Location	Temp. @ Test	Sample Size	1x4'

Sample ID	Date Welded	Seam No.	
Cumulative Weld Total	Date Tested	Welder ID	
Number of Destruct's	Test Location	QC Tester ID	

Reason for Test	Destructive Sampling Requirements

Coupon No.	Peel				Shear	
	Inside Track		Outside Track			
	Load (ppi)	Failure Mode	Load (ppi)	Failure Mode	Load (ppi)	Failure Mode
P1						
P2						
P3						
P4						
P5						
Average						

Tensiometer Gauge No.	Pass	Fail
ST-033		

Material Strength Specifications

Material Description	Peel (ppi)	Shear (ppi)
60 mil Smooth	78	120
60 mil Textured	78	120

Notes, Observations, Comments:

Tracking for Failed Samples

DS-_____ Original Sample DS-_____

_____ Compass Direction of Seam

MACTEC Representative _____ Date _____

Owner Representative _____ Date _____

CQA Form 007

Certificate of Soil Surface

Sheet # _____

Project Name	Material Desc.			
Project No.	General Desc.	Subgrade	Operations	LCRS
Owner/Contr.	CELL No.			
QA Monitor	Date			

Description of Soil Surface to be lined:

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

CQA Monitor
Name:
Date:
Title:
Representing:
Signature:

Installer Representative
Name:
Date:
Title:
Representing:
Signature:

Owner Representative
Name:
Date:
Title:
Representing:
Signature:

Notes, Observations, Comments:

CQA Form 008

Certificate of Completion

Sheet # _____

Project Name	Material Desc.			
Project No.	Layer	Primary	Secondary	Tertiary
Owner/Contr.	Type	Partial	Substantial	Final
QA Monitor	Date			

Description and Area of Work Being Certified:

I hereby certify that the above identified work has been inspected and it has been properly installed. I further certify all required testing has been completed and the results are acceptable to the CQA Officer. The liner system is suitable for its intended use.

CQA Monitor

Name:
Date:
Title:
Representing:
Signature:

Installer Representative

Name:
Date:
Title:
Representing:
Signature:

Owner Representative

Name:
Date:
Title:
Representing:
Signature:

Notes, Observations, Comments:

CQA Form 009

Daily Inspection Report

Sheet # _____

General Project Information		Site Condition		
Project Name		Weather		
Project No.		Type Precip. / Amount		
Owner/Contr.		Wind Speed / Direction		
Engineer		Liner Temperature	Max.	Min.
Sub-Contractor		Site Conditions		
QA Monitor				
Project Schedule		**Meetings**		
Date		Purpose		
Original Comp. Date				
Revised Comp. Date				
Construction Day	Working Day's Remaining	Attendees		
Contracted Working Days	Revised No. of Working Days			

Construction Activities
Activities Started/Completed (by Contractor)
Extra Works, Potential Change Orders
Materials Delivered to Site
Permanent Materials Installed
Contractor and Crew Size
Site Visitor's
Additional Comments

DUDEK Personnel Activity					
	Hours Onsite	Arrive	Depart	Hours Offsite	Total Hours
	Hours Onsite	Arrive	Depart	Hours Offsite	Total Hours

List Daily QA Documents					
	Sheet #'s	Comment		Sheet #'s	Comment
Inventory Log- CQA Form 001.			DG Tracking Summary- CQA Form 011.		
Defect Log- CQA Form 002.			Photo Log- CQA Form 012.		
Seam Control- CQA Form 003.			NC / Corrective Action- CQA Form 013.		
Panel Placement Log- CQA Form 004.			Laboratory Test Results		
Daily Panel As-Built- CQA Form 004.			*List Other:*		
Trial Welds- CQA Form 006.					
Destructive Field Sample- CQA Form 007.					
Subgrade Surface- CQA Form 008.					
Completion Certification- CQA Form 009.					

CQA Form 010

In-Use Construction Equipment (Include machine numbers and data) by Subcontractor	

Summary of Construction Activities

MACTEC Representative _____ Date _____

Owner Representative _____ Date _____

CQA Form 010

Destructive Sample Tracking Summary

Sheet # _____

Project Name Project No. Owner/Contr. QA Monitor	Material Desc. Layer Primary Secondary Tertiary	Notes, Observations, Comments:

DS No.	Seam No.	Machine/ Operator	Date Welded	Roll No.	Lot No.	QA Monitor	Average Test Results Lab (P/F) Peel	Lab (P/F) Shear	Field (P/F) Peel	Field (P/F) Shear	Overall (P/F)	Comments and Subsequent Tracking No.'s

MACTEC Representative _____ Date _____

Owner Representative _____ Date _____

CQA Form 011

Photograph Log

Sheet # _____

Project Name Project No. Owner/Contr. QA Monitor	Notes, Observations, Comments: CELL No:

Date/Time	Roll No.	Photo No.	Plant Area/Location *(Show Location of Photograph on Daily As-Built)*	Photo Description

MACTEC Representative _____ Date _____

Owner Representative _____ Date _____

CQA Form 012

Notice of Non-Compliance and Corrective Action

Sheet # _____

General Project Information	
Project Name	Date
Project No.	Contractor in NC
Owner/Contr.	Non-Compliance No.
QA Monitor	Notes:

Reference	
Item	Drawing No.
Specification Sec. No.	Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Contractor's Response

Follow Up Action Required

Recommended by:

DUDEK Representative _____ Date _____

Approved by:

Owner Representative _____ Date _____

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

MACTEC Representative _____ Date _____

Owner Representative _____ Date _____

CQA Form 013

SEAM TESTING
CHAIN OF CUSTODY FORM

SEND YOUR SEAMS TO

PROJECT NAME / PROJECT NUMBER: _____

PROJECT LOCATION: _____

No.	Seam ID (Include seam ID, panel ID, welder, etc.)	MATERIAL DESCRIPTION	FUSION	EXTRUSION	Solvent Weld
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

TEST METHOD
(Please check which test method is applicable)

O SHEAR- ASTM D4437
PEEL - ASTM D4437

O SHEAR - ASTM D6214
PEEL - ASTM D6214

O SHEAR- ASTM D4437 NSF Modified
Crosshead Speed = 2"/min
PEEL - ASTM D4437 NSF Modified
Crosshead Speed = 2"/min

O SHEAR- ASTM D4437 NSF Modified
Crosshead Speed = 20"/min
PEE - ASTM D4437 NSF Modified
Crosshead Speed = 20"/min

O SHEAR- ASTM D6392
PEEL-ASTM D6392
HDPE

O SHEAR - ASTM D3083
Crosshead Speed = 20"/min
PEEL - ASTM D413
Crosshead Speed = 2"/min

O SHEAR - ASTM D6392
PEEL - ASTM D6392
LLDPE/PVC

O SHEAR - ASTM D751
PEEL - ASTM D413
Crosshead Speed = 2"/min

SPECIFICATIONS/NOTES:
OPEN on SATURDAYS for SEAM TESTING.
To ensure that your package is delivered/received on Saturdays; please fax, e-mail or call to let us know the AIRBILL # of your package. This helps us track for SATURDAY DELIVERY.

Thickness required? O Yes O NO
SOLVENT WELD
Curing Time:_____ Curing Temp:_____

REPORT TO:
NAME:_____
COMPANY:_____
ADDRESS:_____
_____
TEL NO:_____
FAX NO:_____
E-MAIL:_____

FIELD CONTACT:
NAME:_____
Pager:_____
Mobil:_____
Phone:_____
FAX:_____
E-mail:_____

RELEASED BY:
NAME:_____
COMPANY:_____
DATE/TIME:_____

RECEIVED BY:
NAME:_____
Precision Geosynthetic Labs
DATE/TIME:_____

Shipped Via
O Fedex
O UPS
O Airborne
O DHL
O US Mail
O Hand Carry
O Others

Page _____ of _____

white- REPORT/SAMPLE, yellow- LAB, pink- CLIENT

CONFORMANCE TEST CHAIN OF CUSTODY FORM

Page ____ of _____

PROJECT NAME / PROJECT NUMBER: _____

PROJECT LOCATION: _____

GEOMEMBRANE TESTING

SAMPLE ID	Thickness ASTM D5199 or D5994	Density ASTM D1505 or D792	Carbon Black Content ASTM D1603	Carbon Dispersion D3015/ D5596	Tensile ASTM D638 GM13 / NSF54	Tear Resistance ASTM D1004 (Die C)	Puncture D4833 /I101CM2065	Melt Flow Index ASTM D1238, cond. E	Dimensional Stability ASTM D1204	Low Temp Brittleness D746/ D1790	NCTL ASTM D5397 Hours____	Other ASTM____

NONWOVEN OR WOVEN GEOTEXTILE TESTING

SAMPLE ID	Thickness ASTM D5199 or D1777	Mass Per Area ASTM D5261 or D3776	Grab Tensile ASTM D4632	Trapezoid Tear ASTM D4533	Puncture Resistance ASTM D4833	Mullen Burst ASTM D3776	Permittivity ASTM D4491	AOS ASTM D4751	Wide Width Tensile ASTM D4595	UV (hrs.____) ASTM D4355	Other ASTM____	Other ASTM____

GEOCOMPOSITE / GEONET / GEOGRID TESTING

SAMPLE ID	Thickness ASTM D5199 or D1777	Density ASTM D1505 or D792	Carbon Black Content ASTM D1603	Mass Per Area ASTM D5261 or D3776	Melt Flow Index ASTM D1238, cond. E	Peel ASTM D413, F904 or GRI-GC7	Transmissivity* ASTM D4716	Compression ASTM D1621	Tensile Strength ASTM D1682 or D5035	Wide Width Tensile ASTM D4595	Rib Tensile Strength GRI-GG1	Junction Strength GRI-GG2

* Transmissivity Test Parameters: Normal Load:_____, Gradient:_____, Seating Time:_____, Boundary Condition:_____

GCL TESTING

SAMPLE ID	Thickness ASTM D5199	Mass Per Area ASTM D5993	Grab Tensile ASTM D4632	Peel Strength ASTM D6496	Moisture Content ASTM D4643 or D2216	Hydraulic Conductivity ASTM D5084	Index Flux ASTM D5887	Swell Index ASTM D5890	Fluid Loss ASTM D5891	Internal Shear Strength ASTM D6243	Other ASTM____	Other ASTM____

SEND REPORT TO:
Name:_____
Company:_____
Address:_____
Phone:_____
Fax:_____
e-mail:_____

FIELD CONTACT:
Name:_____
Pager:_____
Mobil_____
Phone:_____
Fax:_____
e-mail:_____

Released by:
Name:_____
Date/Time_____

Received by:
Name:_____
PGL
Date/Time_____

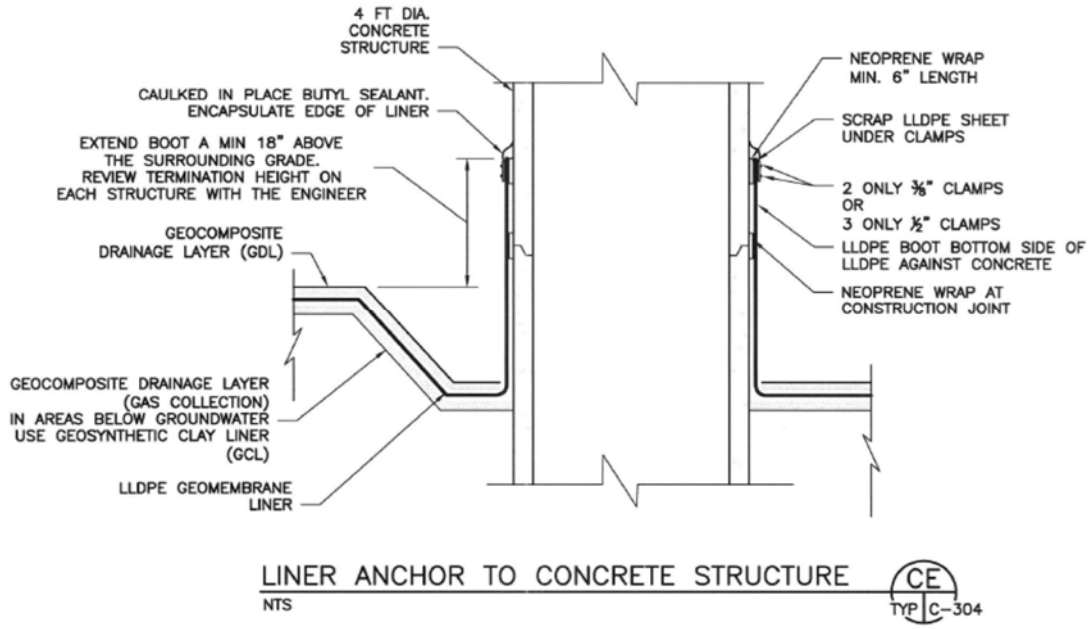
Shipped Via:
O Fedex
O UPS
O Airborne
O DHL
O US Mail
O Others

Boot Fabrication and Spark Testing Forms

Project: Study Area 6 North

Date: _____

QA – Manhole Boot Installation



***Check applicable Detail:**

Boot Fabrication Details (check one)

☐ Pre-fabricated, no field test ☐ Field fabricated, spark test ☐ Field fabricated, visual

☐18-in. overlap between boot and geomembrane

☐ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure

☐ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection

☐ SS Band Clamps tightened and uniform

☐ Caulked Butyl Sealant around top edge of liner

☐ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds

Location:

AmecFW QA Signature:

_____

Independent CQA Signature:

_____

Comments:

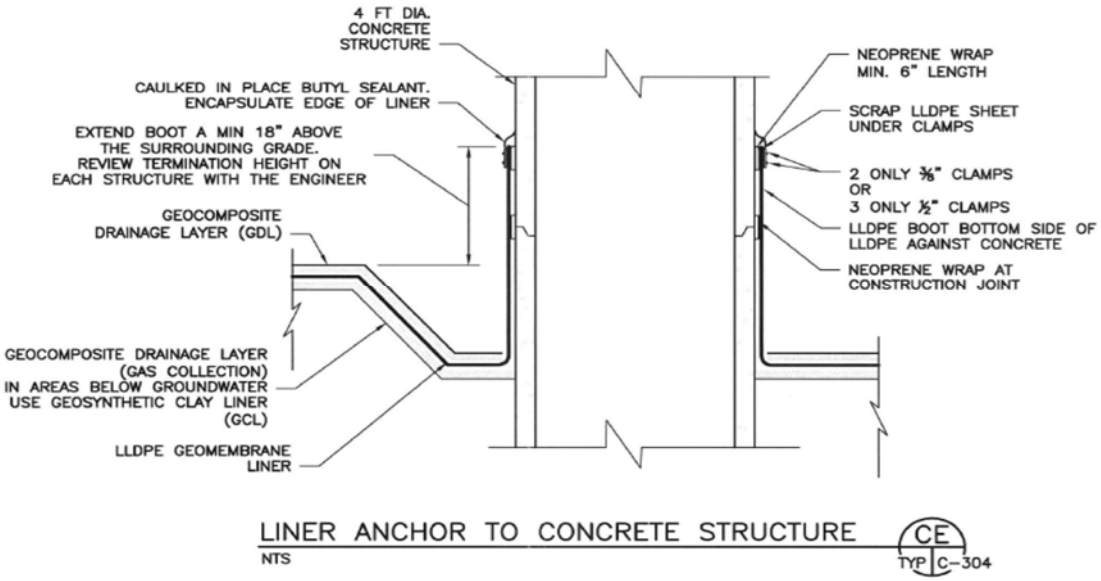
Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

Project: Study Area 6 North	**Date:** _____
Location:	**Repair Number**: _____ **Boot Log QA Form (cross-reference):** _____

QA – Spark Test Log – Manhole



Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (kV)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

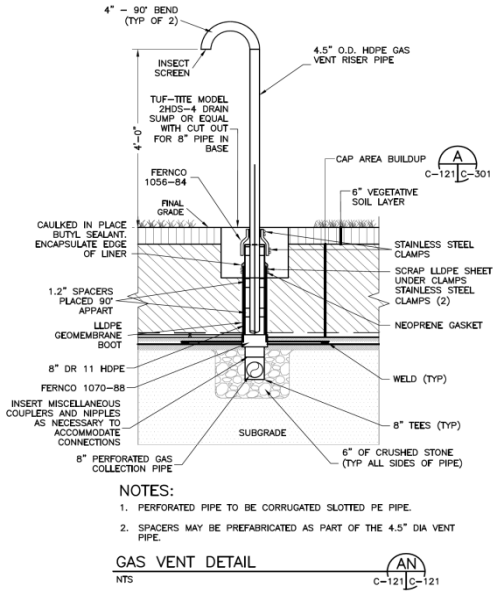
Comments:

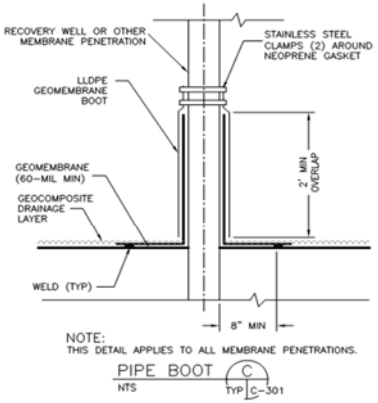
AmecFW QA Signature: _____

Independent CQA Monitor Signature: _____

Project: Study Area 6 North	**Date:** _____

QA – Gas Vent and Piezometer Penetrations (circle type of boot)





***Check applicable Detail:** Boot Fabrication Details (check one) ☐ Pre-fabricated, no field test ☐ Field fabricated, spark test ☐ Field fabricated, visual ☐ 18-in. overlap between boot and geomembrane ☐ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure ☐ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection ☐ If penetration is greater than 4-in. in diameter, a second clamp shall be used. ☐ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and spark testing of boot vertical seam and penetration edge extrusion welds ☐ Caulked Butyl Sealant around top edge of liner	**Location:** **AmecFW QA Signature:** _____ **Independent CQA Monitor Signature:** _____

Comments:

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

Project: Study Area 6 North

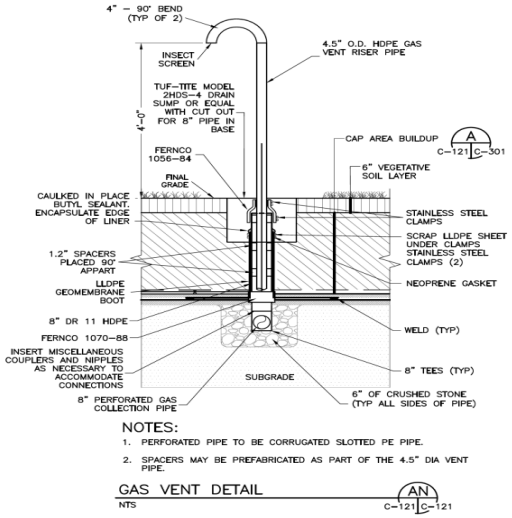
Location:

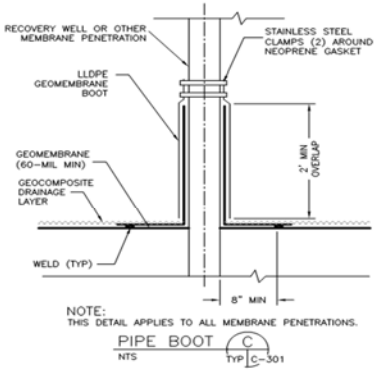
Date: _____

Repair Number: _____

Boot Log QA Form (cross-reference): _____

QA – SPARK TEST LOG (circle type of boot)





Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (kV)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments:

AmecFW QA Signature:

_____

Independent CQA Monitor Signature:

_____

Revised Langan Construction Quality Assurance Plan

CONSTRUCTION QUALITY ASSURANCE (CQA) PLAN

for

Geosynthetic Cap Installation
Study Area 6
Jersey City, New Jersey

Prepared For:

Honeywell International, Inc.
101 Columbia Rd.
Box 2105
Morristown, NJ 07962

Prepared By:

Langan Engineering and Environmental Services, Inc.
River Drive Center 1, 619 River Drive
Elmwood Park, NJ 07407

July 2015
Revised January 2016

Langan Project No. 10053001

LANGAN

CONSTRUCTION QUALITY ASSURANCE (CQA) PLAN

Prepared By:
Langan Engineering & Environmental Services, Inc.
River Drive Center 1
619 River Drive
Elmwood Park, NJ 07407

Vikki Hon, EIT
Staff Engineer

Dan Bosworth
Senior Staff Engineer

Jeffrey Stoicescu, P.E.
Associate
New Jersey Professional Engineer License No. 24GE04504400

Rory Johnston, P.E.
Principal / Vice President
New Jersey Professional Engineer License No. GE04080500

LANGAN

LANGAN

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Tables

Table 1 – Geosynthetic Material Testing Methods & Frequency

TABLE 1: GEOSYNTHETIC MATERIAL TESTING METHODS & FREQUENCY
Honeywell SA6 South
Jersey City, New Jersey

Materials to be Tested	Sample Location	Parameter	Test Method	Frequency	Value	Specification/ Reference	Notes	QC Tests Needed	QC Tests Completed	QA Tests Completed	Material Quantity
60 mil LLDPE MicroSpike Double Sided Geomembrane	Manufacturer - AgruAmerica	*Conformance Testing:*									***394,910 Square Feet***
		Thickness	ASTM D5994	1/roll	57 MARV	02372-2.02 and Table 02372-1		34	0	0	***34 rolls***
		Density	ASTM D1505/D792	1/200,00 lbs	0.939 g/cc		Density value change approved per Submittal 091	1	0	0	***129,200 lbs***
		Tensile Properties	ASTM D6693	1/20,000 lbs	90 lbs/in (strength)/250% elongation			7	0	0	
		Tear Resistance	ASTM D1004	1/45,000 lbs	33 lbs			3	0	0	
		Puncture Resistance	ASTM D4833	1/45,000 lbs	66 lbs			3	0	0	
		Carbon Black Content	ASTM D1603	1/20,000 lbs	2%-3%			7	0	0	
		Carbon Black Dispersion	ASTM D5596	1/45,000 lbs	9 in Cat 1 or 2 and 1 in Cat 3			3	0	0	
		Asperity Height	ASTM D7466	1/Second roll	10 mils (min)		Asperity Test Method change approved per Submittal 091	17	0	0	
		Oxidative Induction Time	ASTM D3895	1/100,000 lbs	100 minutes			4	0	0	
	QC Laboratory - Geotechnics	*3rd Party Laboratory Testing*									
		Thickness	ASTM D5994	1/100,000 square feet	57 MARV	02372-2.02 and Table 02372-1		4	0	0	
		Density	ASTM D1505/D792	1/100,000 square feet	0.939 g/cc		Density value change approved per Submittal 091	4	0	0	
		Tensile Properties	ASTM D6693	1/100,000 square feet	90 lbs/in (strength)/250% elongation			4	0	0	
		Tear Resistance	ASTM D1004	1/100,000 square feet	33 lbs			4	0	0	
		Puncture Resistance	ASTM D4833	1/100,000 square feet	66 lbs			4	0	0	
		Carbon Black Content	ASTM D1603	1/100,000 square feet	2%-3%			4	0	0	
		Carbon Black Dispersion	ASTM D5596	1/100,000 square feet	9 in Cat 1 or 2 and 1 in Cat 3			4	0	0	
		Asperity Height	ASTM D7466	1/100,000 square feet	10 mils (min)		Asperity Test Method change approved per Submittal 091	4	0	0	
		Interface Strength	ASTM D5321	1/100,000 square feet	Peak = 26 degrees; Residual = 22.5 degrees			4	0	0	
		Field Quality Control Testing:									
		Start-Up Testing Peel (Tensiometer)	ASTM D6392	Start of each shift and every 5 hrs	66 lb/in & FTB (extrusion weld); 75 lb/in & FTB (fusion weld)	02372-3.06.A.1	Test 3 peel/3 shear	100%	0	0	
		Start-Up Testing Shear (Tensiometer)	ASTM D6392	Start of each shift and every 5 hrs	90 lb/in	02372-3.06.A.1	Test 3 peel/3 shear	100%	0	0	
		Non-Destructive Field Seam Continuity Testing	Vacuum Testing	Full seam length (extrusion weld)	No bubbles in viewing window for 10 seconds	02372-3.06.B.2		100%	0	0	
		Non-Destructive Field Seam Continuity Testing	Air Pressure Testing	Full seam length (fusion weld)	<4 psi pressure loss over 5 min @ 25-30 psi pressure	02372-3.06.B.3		100%	0	0	
		Non-Destructive Spark Test	ASTM D6365	1/boot (penetration)	No spark observed after passing electrode over weld	02372-3.06.B.4	Spark Testing change for SA-6 North approved per DCB	100%			
		Destructive Testing Shear (Tensiometer)	ASTM D6392	1/500 ft of seam	66 lb/in & FTB (extrusion weld); 75 lb/in & FTB (fusion weld)	02372-3.07.D	Test 3 peel/3 shear	35	0	0	
		Destructive Testing Peel (Tensiometer)	ASTM D6392	1/500 ft of seam	90 lb/in	02372-3.07.D	Test 3 peel/3 shear	35	0	0	
	Lab QC-Geotechnics	Destructive Testing Shear (Laboratory)	ASTM D6392	1/500 ft of seam	66 lb/in & FTB (extrusion weld); 75 lb/in & FTB (fusion weld)	02372-3.07.E	Test 5 peel/5 shear. 5 out of 5 must pass peel and shear	35	0	0	
		Destructive Testing Peel (Laboratory)	ASTM D6392	1/500 ft of seam	90 lb/in	02372-3.07.E	Test 5 peel/5 shear. 5 out of 5 must pass peel and shear	35	0	0	
Transnet 33-2-6 Geocomposite w/Warning Layer (Drainage Layer)	Manufacturer - SKAPS	*Conformance Testing:*				02374-2.2.A					***394,800 Square Feet***
		Resin									***141 Rolls***
		Polymer Density	ASTM D1505	1/lot	>0.94 g/cm3			TBD			
		Melt Flow Index	ASTM D1238	1/lot	≤1.0 g/10 min			TBD			
		Geonet									
		Thickness, min avg	ASTM D5199	1/50,000 sf	200 mil			8	0	0	
		Carbon Black Content	ASTM D1603/D4218	1/50,000 sf	2-3%			8	0	0	
		Tensile Strength, MD	ASTM D7179	1/50,000 sf	45 lbs/in		Most current ASTM test method for tensile strength	8	0	0	
		Geotextile									
		Mass/Unit Area, MARV	ASTM D5261	1/100,000 sf	6 oz/sy			4	0	0	
		Grab Tensile, MARV	ASTM D4632	1/100,000 sf	158 lbs			4	0	0	
		Tear Strength, MARV	ASTM D4533	1/100,000 sf	57 lbs			4	0	0	
		Puncture Strength, MARV	ASTM D4833	1/100,000 sf	57 lbs			4	0	0	
		Permittivity, MARV	ASTM D4491	1/500,000 sf	0.5 sec^{-1}			1	0	0	
		AOS, US Sieve	ASTM D4751	1/500,000 sf	0.25 mm			1	0	0	
		UV Resistance	ASTM D4355/G 154	1/resin formulation	90% retained after 500 hrs			1	0	0	
		Geocomposite									
		Transmissivitiy, min	ASTM D4716	1/200,000 sf	$8.0x10^{-4}$		Normal compressive load load should be 750 psf at gradient of 0.316	2	0	0	
		Ply Adhesion, min avg	ASTM D7005	1/100,000 sf	0.5 lbs/in		Ply AdhesionTest Method change approved per Submittal 081	4	0	0	
	QC Laboratory - Geotechnics	*Testing with Site Specific Soils*									
		Interface - GDL/Geomembrane	ASTM D5321	1/100,000 sf		02374-2.3	Peform test at normal pressure of 1.5, 3.0, 4.5 psi with displacement rate of 0.04 in/min (wet condition)	4	0	0	
		Interface - GDL/Cover Soil (Celgene)	ASTM D5321	1/100,000 sf	Peak = 26 degrees; Residual = 22.5 degrees		Peform test at normal pressure of 1.5, 3.0, 4.5 psi with displacement rate of 0.04 in/min (wet condition)	4	0	0	
		Transmissivity	ASTM D4716	1/100,000 sf	8.0x10-4		Normal compressive load load should be 750 psf at gradient of 0.316	4	0	0	

Materials to be Tested	Sample Location	Parameter	Test Method	Frequency	Value	Specification/ Reference	Notes	QC Tests Needed	QC Tests Completed	QA Tests Completed	Material Quantity
Transnet 22-2-6 Geocomposite (Gas Vent System)	Manufacturer - SKAPS	*Conformance Testing:*				02374-2.2.A					***311,750 Square Feet***
		Resin									***86 Rolls***
		Polymer Density	ASTM D1505	1/lot	>0.94 g/cm3			TBD	0	0	
		Melt Flow Index	ASTM D1238	1/lot	≤1.0 g/10 min			TBD	0	0	
		Geonet									
		Thickness, min avg	ASTM D5199	1/50,000 sf	200 mil			7	0	0	
		Carbon Black Content	ASTM D1603/D4218	1/50,000 sf	2-3%			7	0	0	
		Tensile Strength, MD	ASTM D7179	1/50,000 sf	45 lbs/in		Most current ASTM test method for tensile strength	7	0	0	
		Geotextile									
		Mass/Unit Area, MARV	ASTM D5261	1/100,000 sf	6 oz/sy			4	0	0	
		Grab Tensile, MARV	ASTM D4632	1/100,000 sf	158 lbs			4	0	0	
		Tear Strength, MARV	ASTM D4533	1/100,000 sf	57 lbs			4	0	0	
		Puncture Strength, MARV	ASTM D4833	1/100,000 sf	57 lbs			4	0	0	
		Permittivity, MARV	ASTM D4491	1/500,000 sf	0.5 sec^{-1}			1	0	0	
		AOS, US Sieve	ASTM D4751	1/500,000 sf	0.25 mm			1	0	0	
		UV Resistance	ASTM D4355/G 154	1/resin formulation	90% retained after 500 hrs			TBD			
		Geocomposite									
		Transmissivitiy, min	ASTM D4716	1/200,000 sf	$8.0x10^{-4}$		Transmissivity requirement for gas vent system deleted per Addendum #5; Clarification #3	2	0	0	
		Ply Adhesion, min avg	ASTM D7005	1/100,000 sf	0.5 lbs/in		Ply Adhesion Test Method change approved per Submittal 081	4	0	0	
	QC Laboratory Geotechnics	*Testing with Site Specific Soils*									
		Interface - GVS/Geomembrane	ASTM D5321	1/100,000 sf		02374-2.3	Peform test at normal pressure of 1.5, 3.0, 4.5 psi with displacement rate of 0.04 in/min (wet condition)	4	0	0	
		Interface - GVS/Subgrade Soil	ASTM D5321	1/100,000 sf	Peak = 26 degrees; Residual = 22.5 degrees		Peform test at normal pressure of 1.5, 3.0, 4.5 psi with displacement rate of 0.04 in/min (wet condition)	4	0	0	
Bentomat DN Geosynthetic Clay Liner	Manufacturer - CETCO	*Manufacturer Certification:*									***69,600***
		Geotextile				02375 - Tables 1 & 2					***32 Rolls***
		Mass/Unit Cap, MARV (Non-Woven)	ASTM D5261	1/200,000 sf	6.0 oz/sy			1	0	0	***83,200 lbs***
		Mass/Unit Carrier, MARV (Non-Woven)	ASTM D5261	1/200,000 sf	6.0 oz/sy			1	0	0	
		Bentonite									
		Swell Index	ASTM D5890	1/100,000 lb	24 ml min			1	0	0	
		Moisture Content	ASTM D4643	1/100,000 lb	35% max			1	0	0	
		Fluid Loss	ASTM D5891	1/100,000 lb	18 ml max			1	0	0	
		Finished GCL									
		Mass/Unit Area Bentonite	ASTM D5993	1/40,000 sf	0.75 lb/sf MARV			2	0	0	
		Tensile Strength, MD	ASTM D6768	1/40,000 sf	50 lb/in MARV		Testing frequency change approved per Submittal 092	2	0	0	
		Peel Strength	ASTM D6496	1/40,000 sf	12 lb/in MARV			2	0	0	
			ASTM D4632	1/40,000 sf	60 lb MARV			2	0	0	
		Hydraulic Conductivity	ASTM D5887	1/Week	5×10^{-11} m/sec			TBD			
		Index Flux	ASTM D5887	1/Week	1×10^{-8} $m^3/m^2/sec$			TBD			
		Internal Shear Strength	ASTM D6243	Periodically	150 psf Typical (non-slope areas); 500 psf Typical			1			

Appendix A17

Spark Test Log

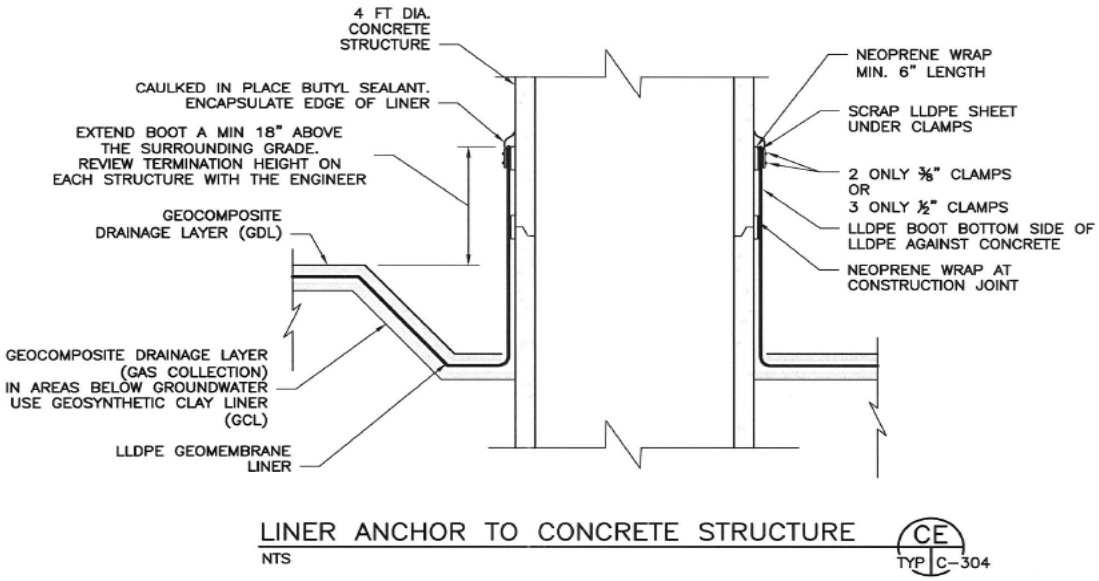
Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

Project: Study Area 6 North **Location:**	**Date:** _____ **Repair Number**: _____ **Boot Log QA Form (cross-reference):** _____

QA – Spark Test Log – Manhole



Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (kV)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments:

AmecFW QA Signature: _____

Independent CQA Monitor Signature: _____

Project: Study Area 6 North

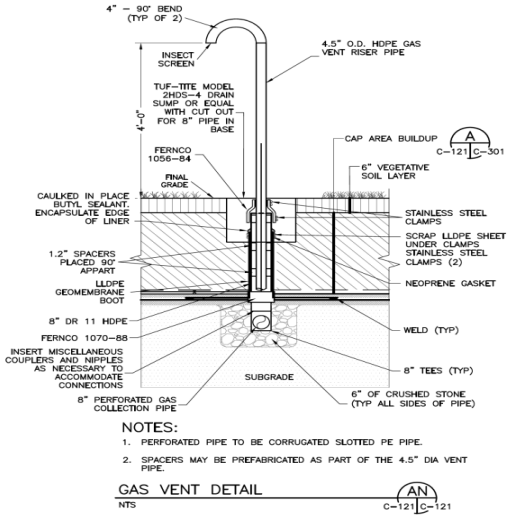
Location:

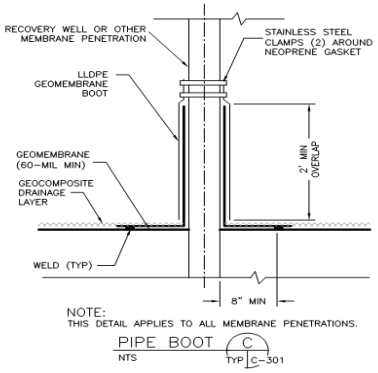
Date: _____

Repair Number: _____

Boot Log QA Form (cross-reference): _____

QA – SPARK TEST LOG (circle type of boot)





Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (kV)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments:

AmecFW QA Signature:

_____

Independent CQA Monitor Signature:

_____

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** DCB-054 **Type:** Minor(a) **Effective Date:** 2/2/2016
Project Location: SA-6N **Title:** Increase grade 0.25' in Landscape Area	**Associated RFI:** ☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. The final grade in the landscape area has been raised by a nominal amount of 0.25'. Roadways and sidewalks have been retained at the IFC design elevations. The approach is consistent with that undertaken on SA-6S.

In the initial transmittal Amec is providing the electronic files for the subgrade/geomembrane surface and the top of SCB and sheetpile Barrier Wall. Hard copy of related drawing files will be submitted under separate cover. The subgrade surface has been extended 10 ft. beyond the Barrier Walls in consideration of Machine Control requirements.

Hard copy drawings will be issued in multiple phases. The first phase will be replacement of Geomembrane Grade drawings CN-123 and CN-124, and Barrier Wall Plan and Profiles SN-201, SN-202, SN-203, SN-204 and SN-205. Second phase will include the Interim Grading plans and associated details. The utility Corridor Drawing CN-515 will also be revised to reflect the latest CHA utility corridors. The location and dimension of the Geofoam blocks will be added to CN-515.

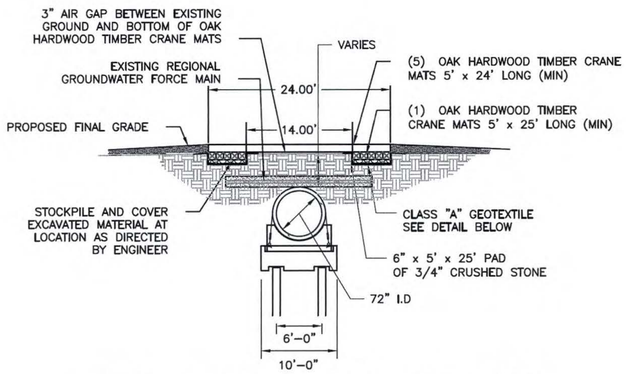
In the process of revision, Amec coordinated the subgrade design with CHA to reflect their latest utility plans. CHA has made a number of changes subsequent to the issue of Amec's IFC design. CHA changes included deletion of some structures and relocation of certain utilities. Amec has adjusted subgrade surfaces where these changes were made. Items of specific note include:

- *Elimination of the cap pump station*
- *Revision to the utility corridors*
- *Simplification of the Geomembrane grading*
- *Revision to the top of SCB/Sheetpile barrier wall at some locations*
- *The area of GCL has been expanded to elevation 7. The IFC design was based on a seasonal high groundwater of 5.5. Readings since that time have indicated that seasonal highs may be slightly higher (max 6.3).*
- *The location and extent of the Sand/Bentonite plug. Note: in locations where the barrier wall is at elevation 7 or higher no plug will be required.*

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** **Attachments:** ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** NA

Honeywell (AP) Review: **Individual:** Geoff Shallard	**Discipline:** EOR	**Initial:**	**Date:** 2/2/16
(Name / Signature):		**Does DCB Result in CCO?** **Date:**	☐ **Yes (b)** ☑ **No**
Distribution:			

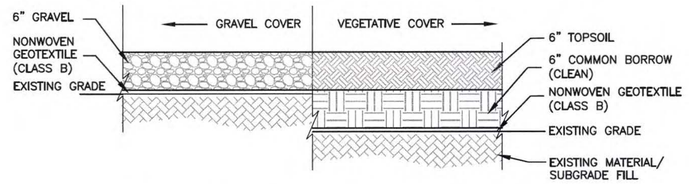
(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b) – If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



72" FORCE MAIN PROTECTION DETAIL (BH)

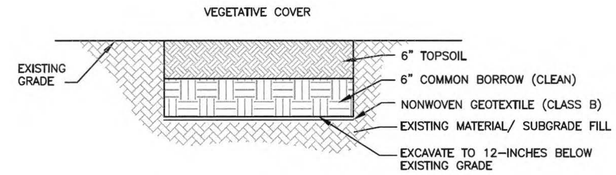
NTS

CN-109 | CN-309



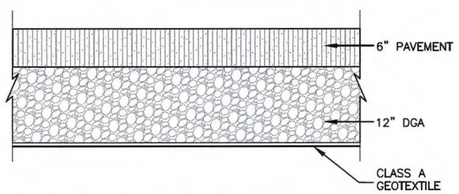
GRAVEL / VEGETATIVE COVER (BJ)

CN-127 | CN-309



JCMUA VEGETATIVE COVER (BK)

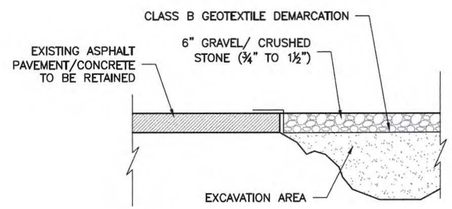
CN-127 | CN-309



PAVEMENT SECTION DETAIL (BL)

NTS

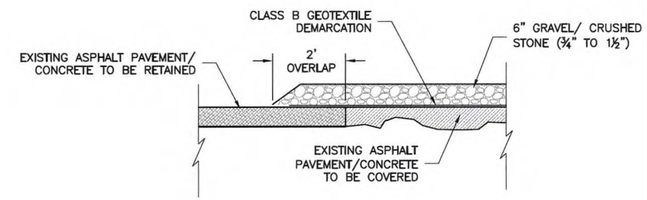
CN-109 | CN-309
CN-110
CN-111
CN-112
CN-127



EXCAVATION EDGE RESTORATION DETAIL (BM)

NTS

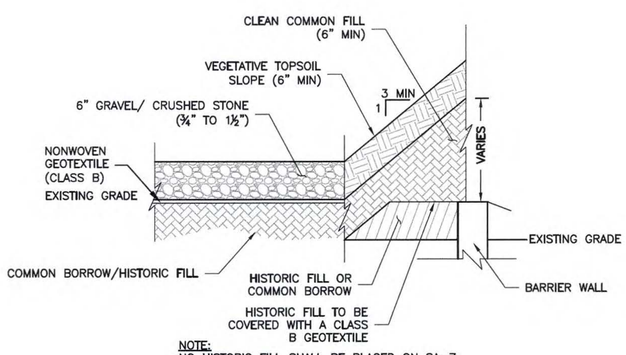
TYP | CN-309



PAVEMENT TRANSITION DETAIL (CG)

NTS

TYP | CN-309

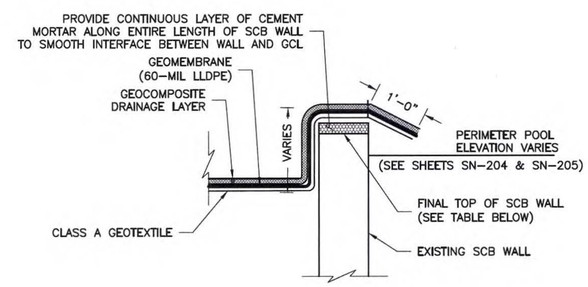


NOTE:
NO HISTORIC FILL SHALL BE PLACED ON SA-7

EXCAVATION AREA (CH)

NTS

TYP | CN-309

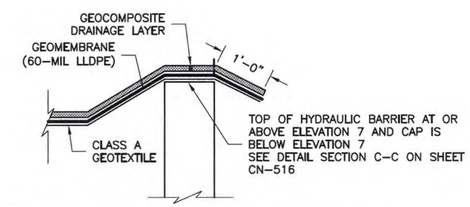


TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION (CI)

NTS

SN-204 | CN-309

STA	FINAL SCB WALL ELEVATION
300+00 TO 302+19.66	10.75 FEET
306+57.66 TO 307+41.16	10.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



TYPICAL EDGE DETAIL–LINER BELOW HYDRAULIC BARRIER ELEVATION (CJ)

NTS

CN-123 | CN-309
CN-124
SN-204
SN-204

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.

SAMUEL G. SHALLARD

N.J. PROFESSIONAL ENGINEER LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
1	02/01/16	DCB 054 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD | DR RJR | CHK MAP | APVD SGS

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

MISCELLANIOUS DETAILS

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619 Phone: 609-890-1500
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-309
SHEET	44 OF 70

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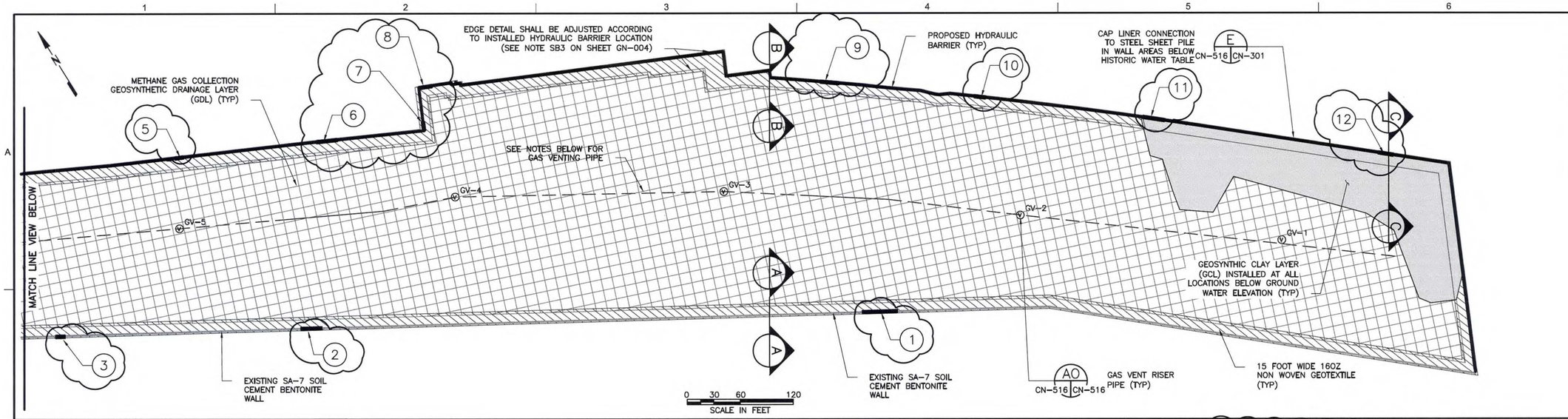
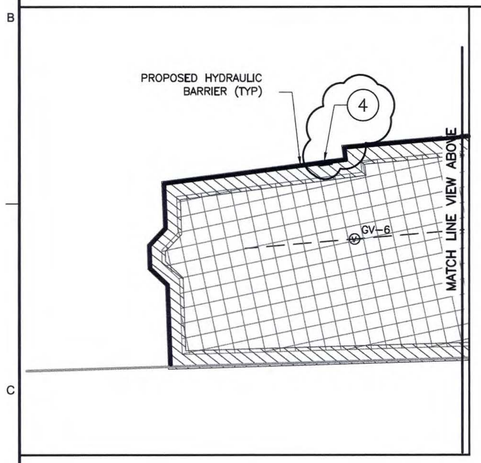
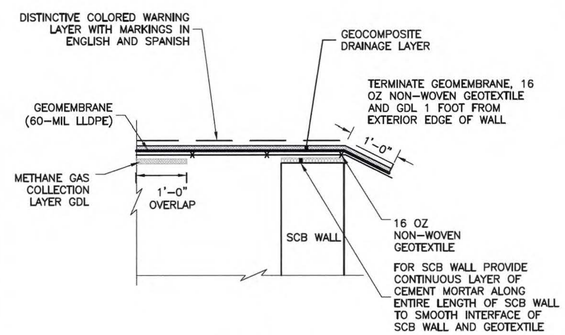
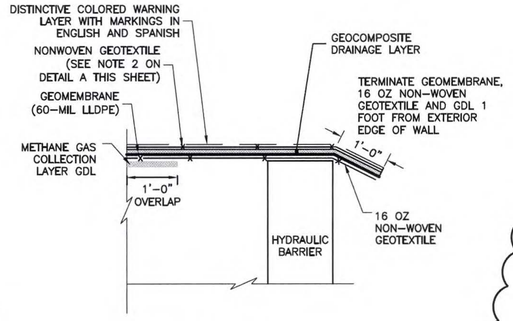


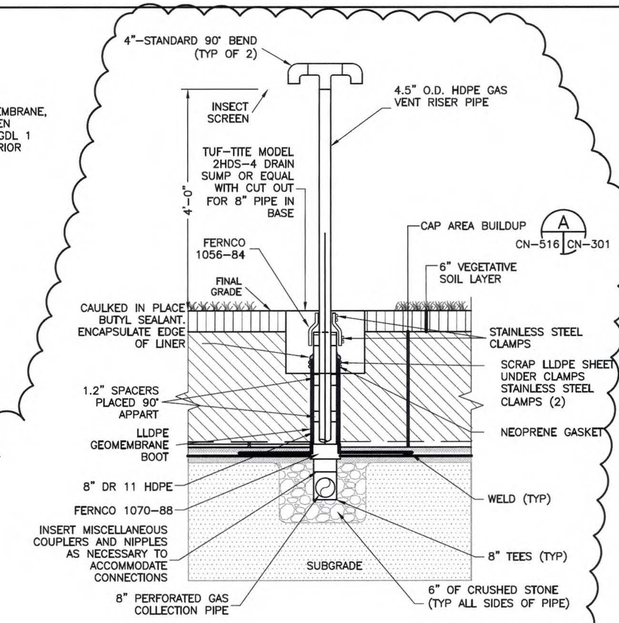




SECTION A–A
NTS



SECTION B–B
NTS



GEOFOAM BLOCK SUMMARY

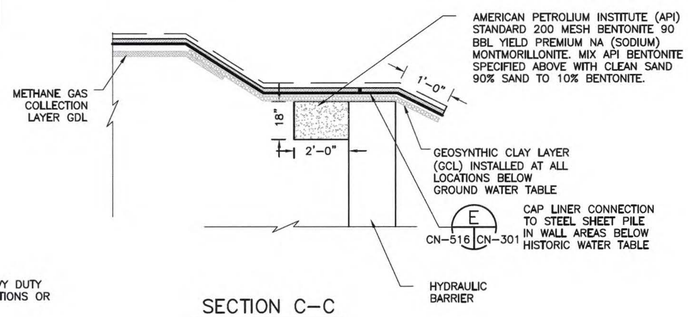
NUMBER	LENGTH
1	40'
2	24'
3	11'
4	10'
5	101'
6	24'
7	10'
8	15'
9	21'
10	13'
11	25'
12	17'

GEOFOAM BLOCKS EPS 19 4' WIDE x 1' THICK LENGTH VARIES

NOTES:

1. PERFORATED PIPE TO BE CORRUGATED SLOTTED PE PIPE.
2. SPACERS MAY BE PREFABRICATED AS PART OF THE 4.5" DIA VENT PIPE.

GAS VENT DETAIL
NTS
AN
CN-516 CN-516



SECTION C–C
NTS

NOTES:

1. HORIZONTAL GAS VENTING PIPE SHALL BE 8" ADS SINGLE WALL HEAVY DUTY PERPETRATED PIPE WITH ANNULAR INTERIOR AND EXTERIOR CORRUGATIONS OR APPROVED EQUAL.
2. PIPING JOINTS SHALL BE MADE WITH SPLIT OR SNAP COUPLINGS. STANDARD CONNECTIONS SHALL MEET THE REQUIREMENTS OF THE ASTM F405 OR ASTM F667. GASKETED CONNECTIONS SHALL INCORPORATE A CLOSED-CELL SYNTHETIC EXPANDED RUBBER GASKET MEETING THE REQUIREMENTS OF ASTM D1056 GRADE 2A2.
3. ALL PIPE FITTINGS SHALL CONFORM TO ASTM F405 OR ASTM F667.
4. PIPE AND FITTING MATERIAL SHALL BE HIGH DENSITY POLYETHYLENE CONFORMING WITH THE MINIMUM REQUIREMENTS OF CELL CLASSIFICATION 423410C AS DEFINED AND DESCRIBED IN THE LATEST VERSION OF ASTM D3350; OR ASTM D1248 TYPE III, CLASS C, CATEGORY 4, GRADE P33.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
3	02/01/16	DCB 054 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS
2	08/12/14	DCB 13 BARRIER WALL REALIGNMENT	RJR	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

GAS VENTING SYSTEM AND DETAILS

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619 (609) 890-2293
NJ Cert of Authorization 24GA28910900

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VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-516
SHEET	52 OF 70

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 054.1 **DCB Type:** Minor(a) **Effective Date:** 2/22/16
Project Location: SA-6N	**Associated RFI:**
Title: Geomembrane Subgrade Revisions	☑ Yes, RFI #: 64 ☐ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description.

DCB 054 included issuance of a revised subgrade design that included changes resulting from raising the cap grades by 0.25 ft. in the landscaped areas and revisions to utility corridors to reflect the latest CHA utility design.

To accommodate Entact's request to relocate Pump Station #1 (RFI 64) it was necessary to revise the subgrade. Subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location.

In addition AmecFW reviewed the "driven" top of barrier elevations through the Sedimentation Basin. The underlying soils were found to be very soft under the sedimentation basin and Entact experienced difficulty in preventing the previously driven sheet from being drawn down by the next sheet driven. A significant number of sheets were recorded as being between 11.4 ft. and 12.0 ft. For grading purposes, it is necessary to have a reasonably uniform elevation. The attached plan is based on trimming the sections of wall that are below 12.0 to a uniform elevation of 11.5 ft. Trimmed sheets will require touch up of the epoxy coating.

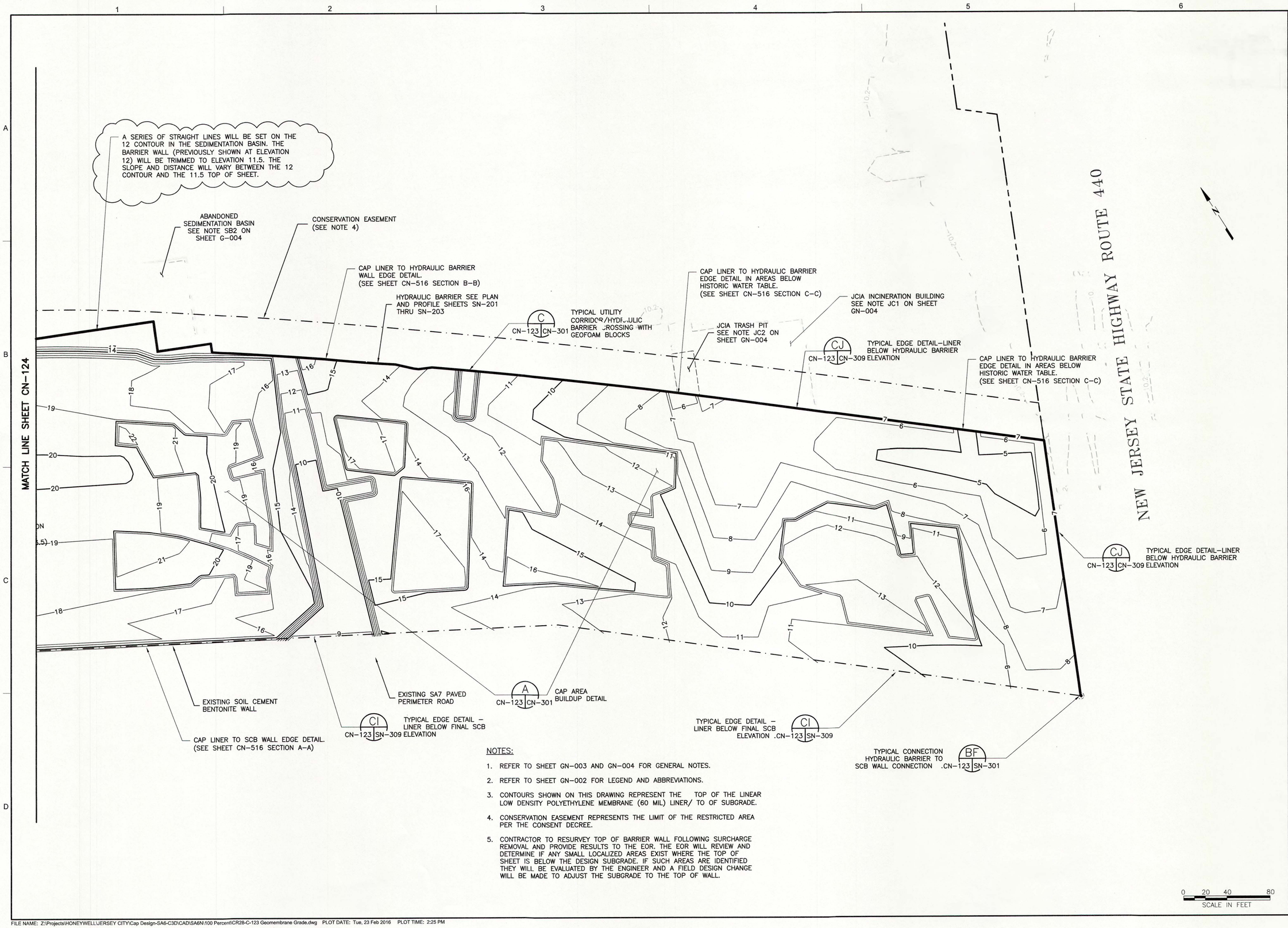
DCB 054 required that the top of wall elevations of the Barrier Wall should be checked following surcharge and prior to trimming the wall. If any discrepancies are observed, they should be immediately brought to the attention of the EOR for resolution.

Some field engineering is likely to be required to smooth the subgrade contours at the locations of the steps down into the Sedimentation Basin on both the east and west sides of the Sedimentation Basin.

The two revised subgrade drawings are attached to this DCB. The electronic files for the geomembrane subgrade and revised top of the barrier wall are also attached.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** Pump Station #1 relocation **Attachments:** ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: Changes were made to accommodate requested contractor change to Pump Station location and actual installed barrier wall elevations.	**Design Documents Affected:** Drawings CN-123, CN-124
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** GS **Date:** 2/23/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE LINEAR LOW DENSITY POLYETHYLENE MEMBRANE (60 MIL) LINER/ TO OF SUBGRADE.
4. CONSERVATION EASEMENT REPRESENTS THE LIMIT OF THE RESTRICTED AREA PER THE CONSENT DECREE.
5. CONTRACTOR TO RESURVEY TOP OF BARRIER WALL FOLLOWING SURCHARGE REMOVAL AND PROVIDE RESULTS TO THE EOR. THE EOR WILL REVIEW AND DETERMINE IF ANY SMALL LOCALIZED AREAS EXIST WHERE THE TOP OF SHEET IS BELOW THE DESIGN SUBGRADE. IF SUCH AREAS ARE IDENTIFIED THEY WILL BE EVALUATED BY THE ENGINEER AND A FIELD DESIGN CHANGE WILL BE MADE TO ADJUST THE SUBGRADE TO THE TOP OF WALL.

NO.	DATE	REVISION	BY	APVD
3	02/19/16	DCB 054.1 REVISED SED BASIN AND PS#1 SUBGRADE	TDD	SGS
2	02/01/16	DCB 054 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS
1	02/24/15	DCB 007.5	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

GEOMEMBRANE GRADING PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619 (609) 890-7300
NJ Cert of Authorization: 24GA28910900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-123
SHEET	28 OF 70

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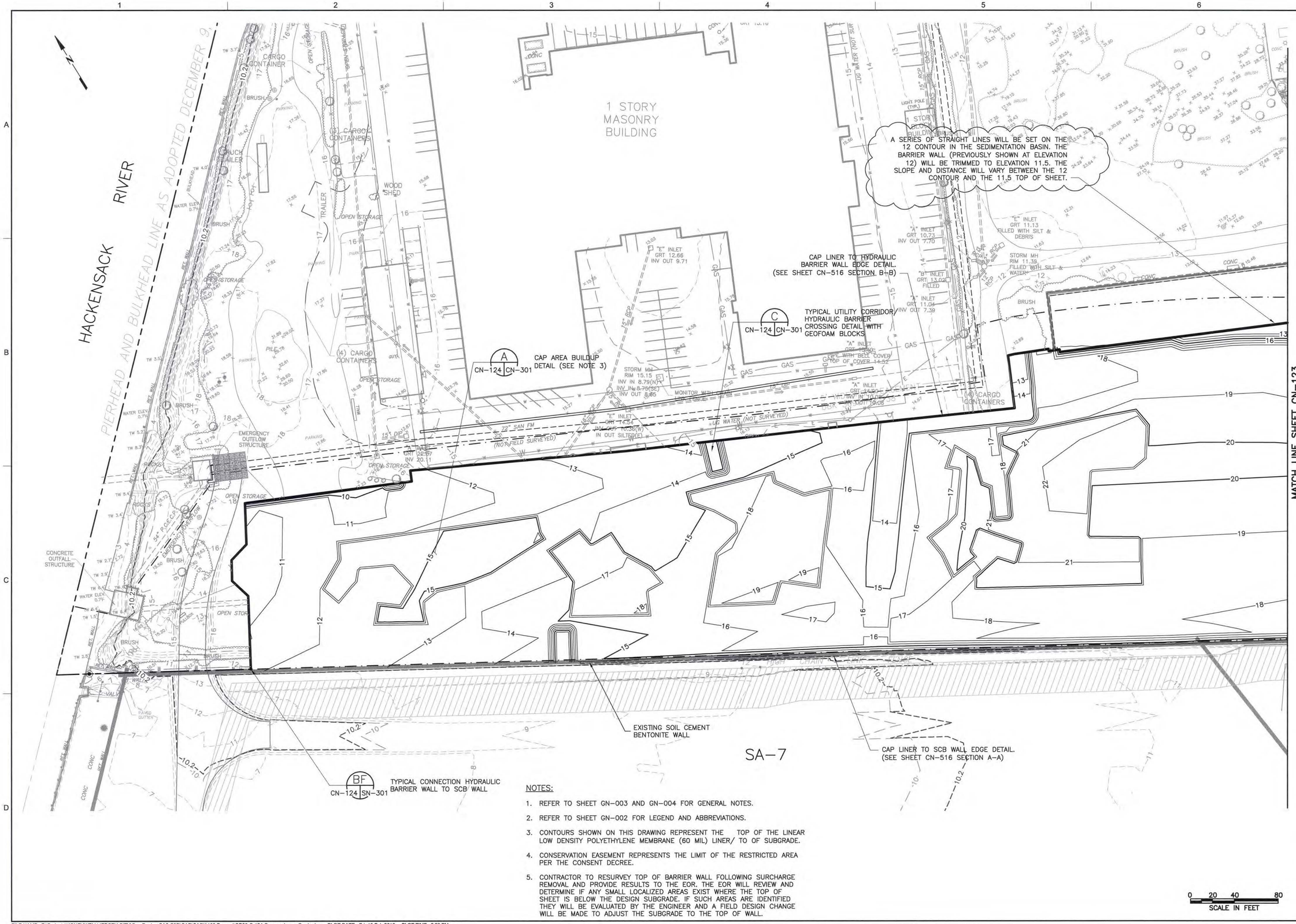
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR28-C-123 Geomembrane Grade.dwg PLOT DATE: Tue, 23 Feb 2016 PLOT TIME: 2:25 PM



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE LINEAR LOW DENSITY POLYETHYLENE MEMBRANE (60 MIL) LINER/ TO OF SUBGRADE.
4. CONSERVATION EASEMENT REPRESENTS THE LIMIT OF THE RESTRICTED AREA PER THE CONSENT DECREE.
5. CONTRACTOR TO RESURVEY TOP OF BARRIER WALL FOLLOWING SURCHARGE REMOVAL AND PROVIDE RESULTS TO THE EOR. THE EOR WILL REVIEW AND DETERMINE IF ANY SMALL LOCALIZED AREAS EXIST WHERE THE TOP OF SHEET IS BELOW THE DESIGN SUBGRADE. IF SUCH AREAS ARE IDENTIFIED THEY WILL BE EVALUATED BY THE ENGINEER AND A FIELD DESIGN CHANGE WILL BE MADE TO ADJUST THE SUBGRADE TO THE TOP OF WALL.

NO.	DATE	REVISION	DSGN	DR	CHK	APVD
4	02/16/16	DCB 054.1 REVISED SED BASIN AND PS#1 SUBGRADE	TDD	TDD	RJR	APVD
3	02/01/16	DCB 054 INCREASE LANDSCAPE GRADE 0.25 FEET	TDD	TDD	SGS	
2	02/24/15	DCB 007.5	TDD	TDD	SGS	
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	RJR	SGS	
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	TDD	SGS	

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

GEOMEMBRANE GRADING PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Cert of Authorization 24GA28018300

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-124
SHEET	29 OF 70

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR29-C-124 Geomembrane Grade.dwg PLOT DATE: Fri, 19 Feb 2016 PLOT TIME: 2:26 PM

Honeywell RES

Honeywell.com

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 054.2 **DCB Type:** Minor(a) **Effective Date:** 2/25/16
Project Location: SA-6N	**Associated RFI:**
Title: Barrier Wall & SCB Wall Plan and Profile	☑ Yes, RFI Nos. 64 ☐ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. DCB 054 included issuance of a revised subgrade design that included changes resulting from raising the cap grades by 0.25 ft. in the landscaped areas and revisions to utility corridors to reflect the latest CHA utility design.

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In addition, AmecFW reviewed the "driven" top of barrier elevations through the Sedimentation Basin. The underlying soils were found to be very soft under the sedimentation basin and Entact experienced difficulty in preventing the previously driven sheet from being drawn down by the next sheet driven. A significant number of sheets were recorded as being between 11.4 ft. and 12.0 ft. For grading purposes it is necessary to have a reasonably uniform elevation. The subgrade plan and barrier wall plan and profile are based on trimming the sections of wall that are below 12.0 to a uniform elevation of 11.5 ft. Trimmed sheets will require touch up of the epoxy coating.

DCB 054 required that the top of wall elevations of the Barrier Wall should be checked following surcharge and prior to trimming the wall. If any discrepancies are observed that should be immediately brought to the attention of the EOR for resolution.

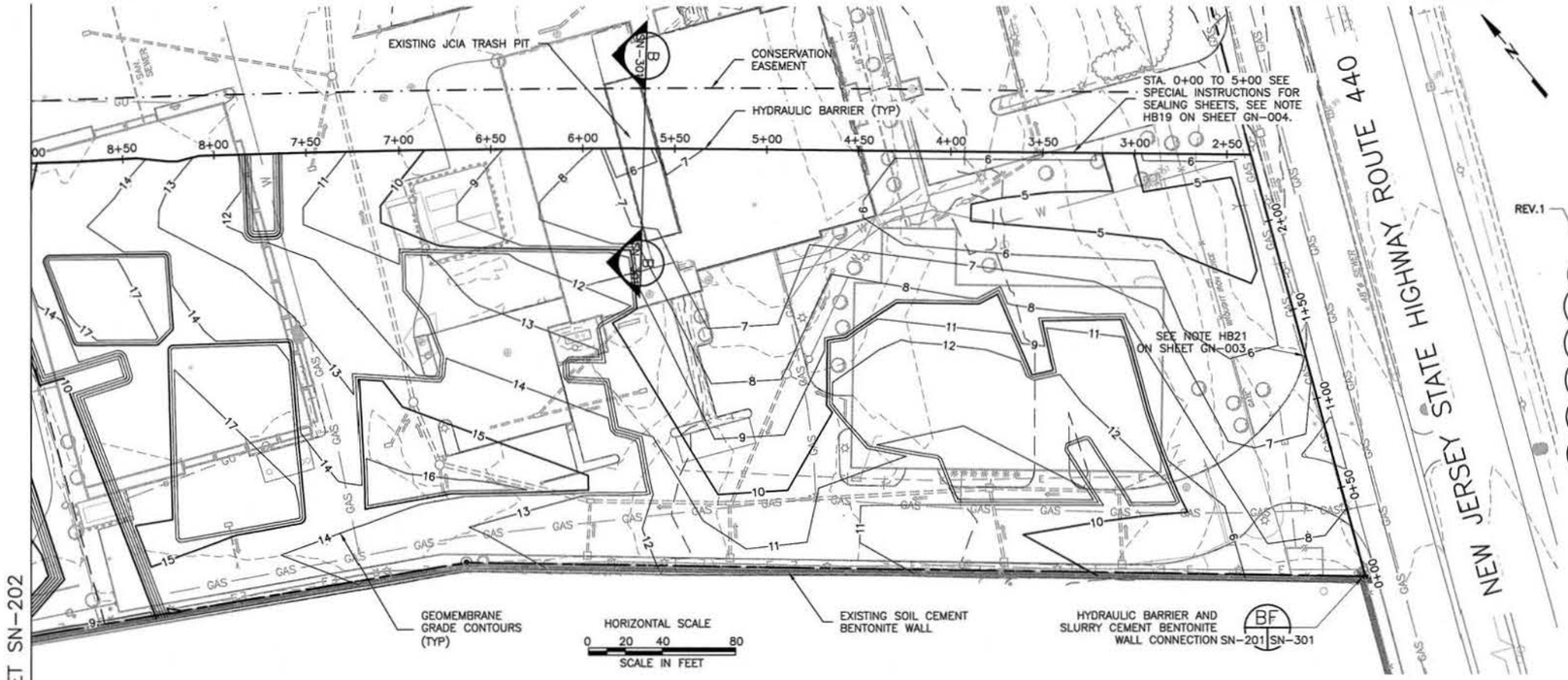
Some field engineering is likely to be required to smooth the subgrade contours at the locations of the steps down into the Sedimentation Basin on both the east and west sides of the Sedimentation Basin.

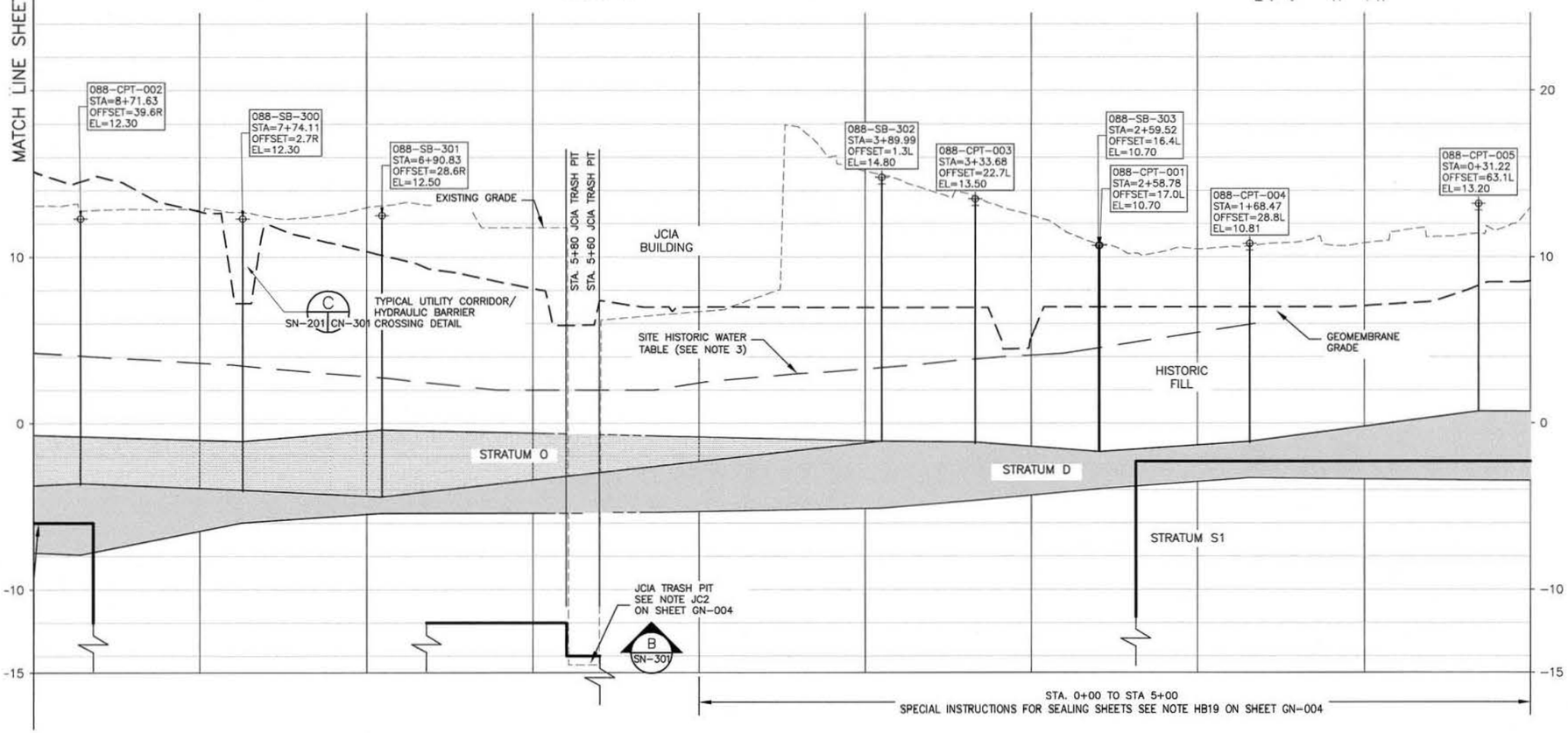
This DCB is limited to issue of the hard copy Signed and Sealed revisions to the SCB Wall and Barrier Wall Plan and Profile Sheets SN-201, SN-202, SN-203, SN-204 and SN-205.

The electronic files that provide the subgrade surface and top of barrier wall profile were provided with DCB 054.1.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** Pump Station#1 relocation **Attachments:** ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: Changes were made to accommodate requested contractor change to Pump Station location and actual installed barrier wall elevations.	**Design Documents Affected:** Drawings SN-201, SN-202, SN-203, SN-204 and SN-205
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** [illegible] **Date:** 3/3/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.
4. STATION ~~14+00 TO 19+00~~ THE TOE OF THE SHEETPILE WILL BE DRIVEN TO THE TOP OF THE ~~STRATUM S1~~.

REV.1

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	0+00	2+37	-4	AZ 19-700
STRUCTURAL	2+37	5+60	-18	AZ 19-700
NON STRUCTURAL	5+60	5+80	-14	AZ 19-700
NON STRUCTURAL	5+80	6+64	-12	AZ 19-700
STRUCTURAL	6+64	8+64	-33	AZ 38-700N
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700

5. REFER TO SHEET CN-125 AND CN-126 FOR INTERIM GRADE.
6. CONTRACTOR TO RESURVEY TOP OF BARRIER WALL FOLLOWING SURCHARGE REMOVAL AND PROVIDE RESULTS TO THE EOR. THE EOR WILL REVIEW AND DETERMINE IF ANY SMALL LOCALIZED AREAS EXIST WHERE THE TOP OF SHEET IS BELOW THE DESIGN SUBGRADE. IF SUCH AREAS ARE IDENTIFIED THEY WILL BE EVALUATED BY THE ENGINEER AND A FIELD DESIGN CHANGE WILL BE MADE TO ADJUST THE SUBGRADE TO THE TOP OF WALL.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
2	02/25/16	DCB 054.2 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS
1	10/10/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR TDD CHK RJR APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

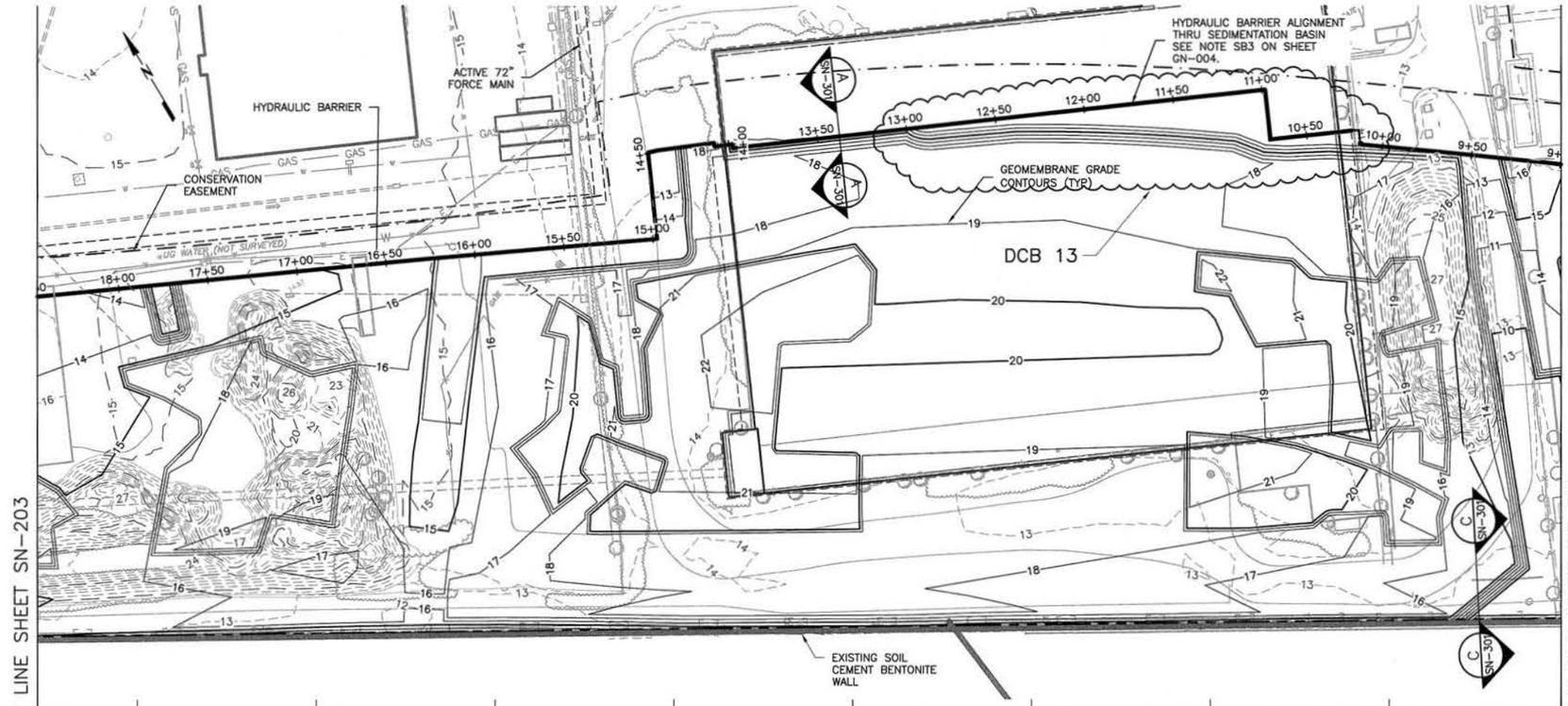
amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689-2829
NJ Cert of Authorization 24GA28010900

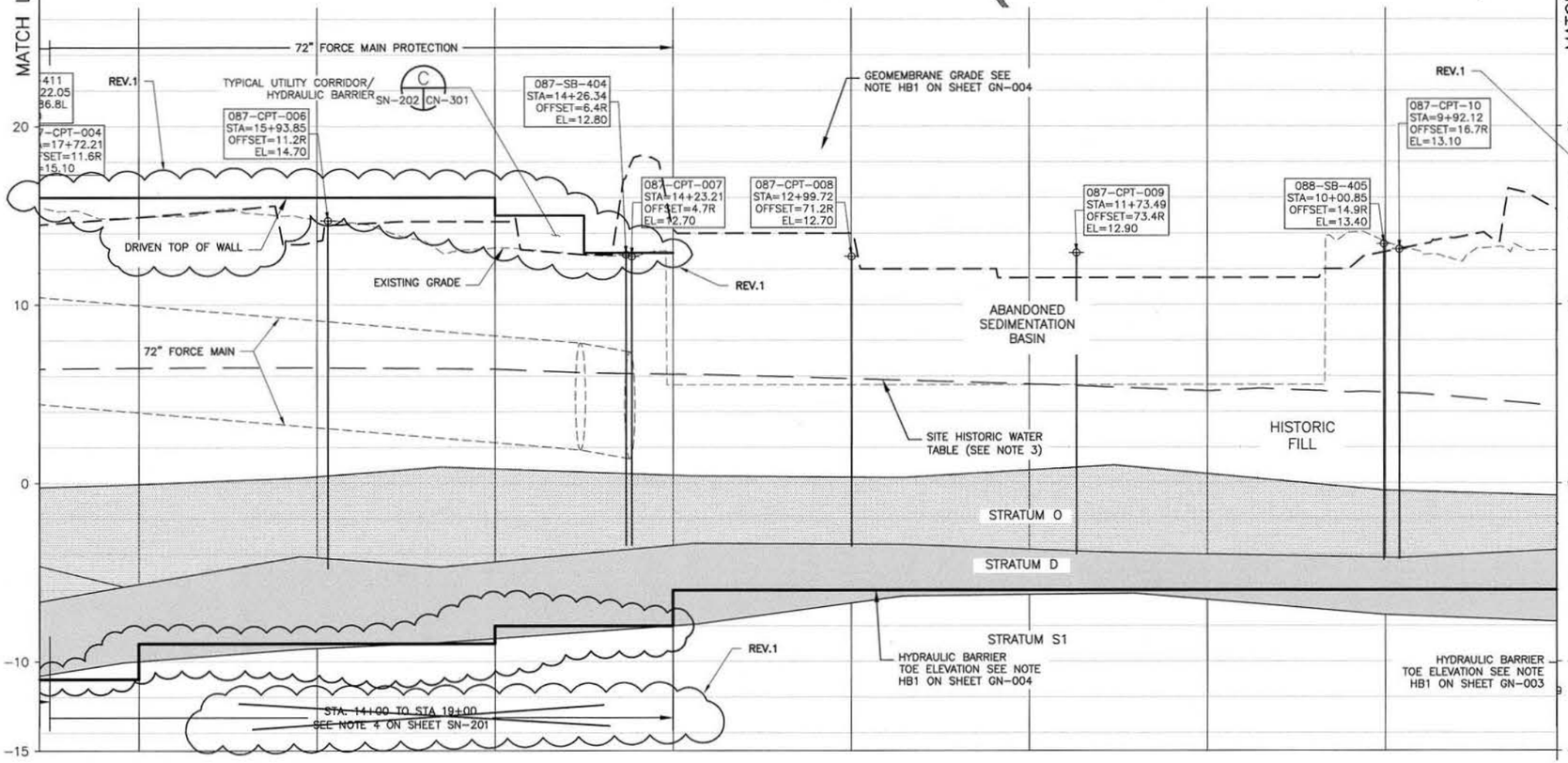
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-201
SHEET	54 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR54-SN-201 HBW Design Pln Prof.dwg PLOT DATE: Fri, 04 Mar 2016 PLOT TIME: 11:44 AM





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET ON CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE
4. DCB 13. THE HYDRAULIC BARRIER HAS BEEN REALIGNED BETWEEN STA 10+12 TO STA 12+50. THE TOP OF WALL HAS ALSO BEEN LOWERED TO EFFECTIVELY INCREASE THE SIZE OF THE UTILITY CORRIDOR ON THE NORTHERN HALF OF STEGMAN BOULEVARD. REFER TO DRAWINGS CN-123 AND CN-124 FOR ASSOCIATED REVISIONS TO THE GEOMEMBRANE GRADING IN THIS LOCATION.

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700
NON STRUCTURAL	9+85	14+00	-6	AZ 19-700
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700

5. REFER TO SHEET CN-125 AND CN-126 FOR INTERIM GRADE.
6. CONTRACTOR TO RESURVEY TOP OF BARRIER WALL FOLLOWING SURCHARGE REMOVAL AND PROVIDE RESULTS TO THE EOR. THE EOR WILL REVIEW AND DETERMINE IF ANY SMALL LOCALIZED AREAS EXIST WHERE THE TOP OF SHEET IS BELOW THE DESIGN SUBGRADE. IF SUCH AREAS ARE IDENTIFIED THEY WILL BE EVALUATED BY THE ENGINEER AND A FIELD DESIGN CHANGE WILL BE MADE TO ADJUST THE SUBGRADE TO THE TOP OF WALL.

HORIZONTAL SCALE 0 20 40 80 SCALE IN FEET

VERTICAL SCALE 0 2 4 8 SCALE IN FEET

NO.	DATE	REVISION	BY	APV'D
3	02/25/16	DCB 054.2 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS
2	08/12/14	DCB 13 HYDRAULIC BARRIER REALIGNMENT	SGS	RJR
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APV'D BCO

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507
3/4/16

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ. 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2629
NJ Cert of Authorization: PA/CA28/10/0800

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-202
SHEET	55 OF 70

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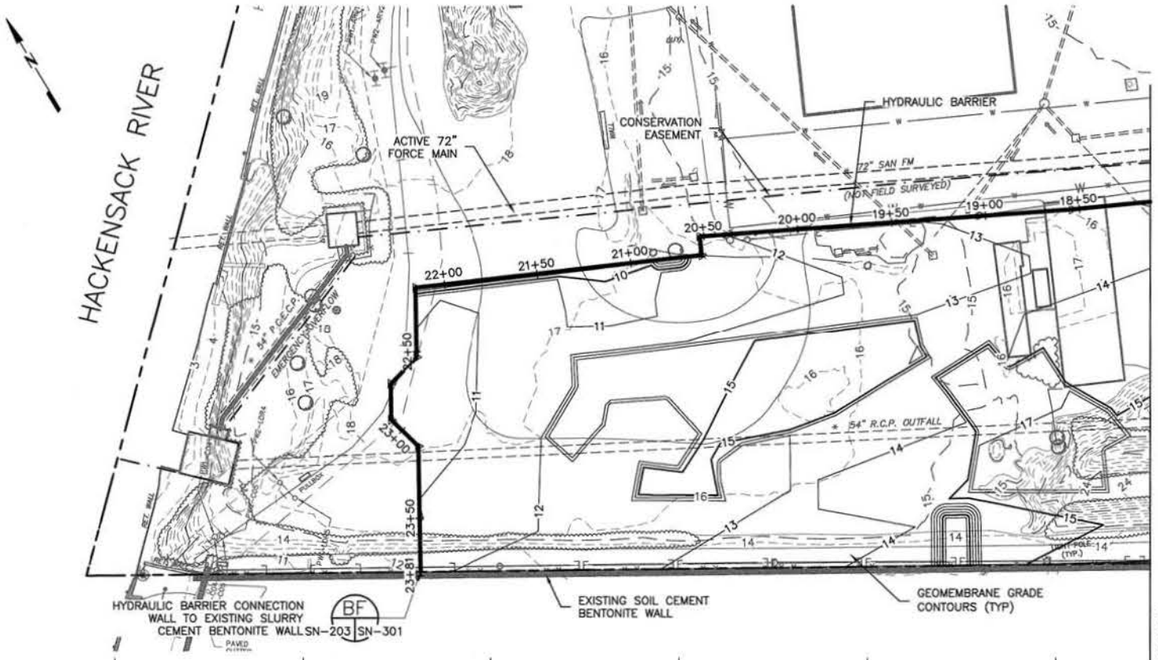
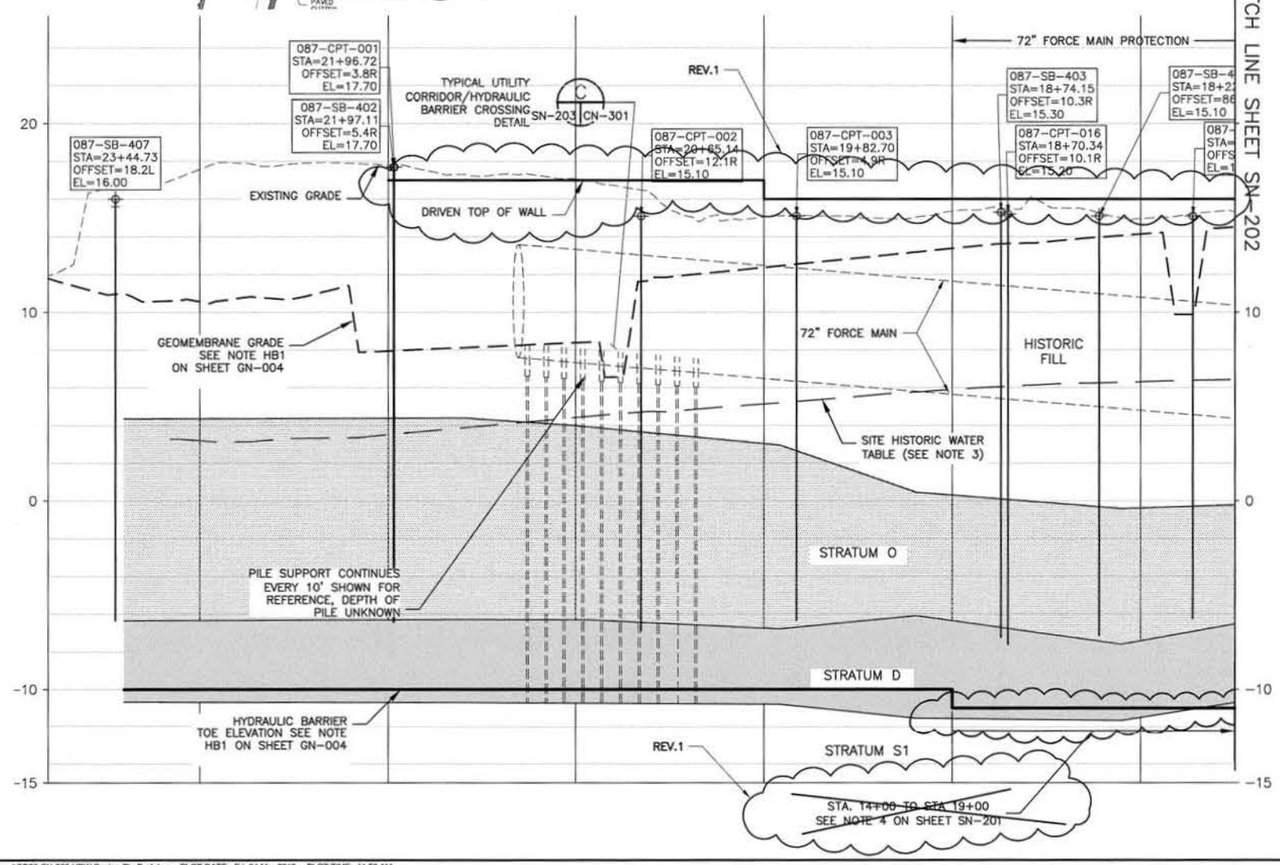
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR55-SN-202 HBW Design Pln Prof.dwg PLOT DATE: Fri, 04 Mar 2016 PLOT TIME: 11:51 AM





REV.1

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700
NON STRUCTURAL	19+00	23+38	-10	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.
4. REFER TO SHEET CN-125 AND CN-126 FOR INTERIM GRADE.
5. CONTRACTOR TO RESURVEY TOP OF BARRIER WALL FOLLOWING SURCHARGE REMOVAL AND PROVIDE RESULTS TO THE EOR. THE EOR WILL REVIEW AND DETERMINE IF ANY SMALL LOCALIZED AREAS EXIST WHERE THE TOP OF SHEET IS BELOW THE DESIGN SUBGRADE. IF SUCH AREAS ARE IDENTIFIED THEY WILL BE EVALUATED BY THE ENGINEER AND A FIELD DESIGN CHANGE WILL BE MADE TO ADJUST THE SUBGRADE TO THE TOP OF WALL.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
2	02/25/16	DCB 054.2 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2102, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Cert of Authorization 24GA28076500

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-203
SHEET	56 OF 70

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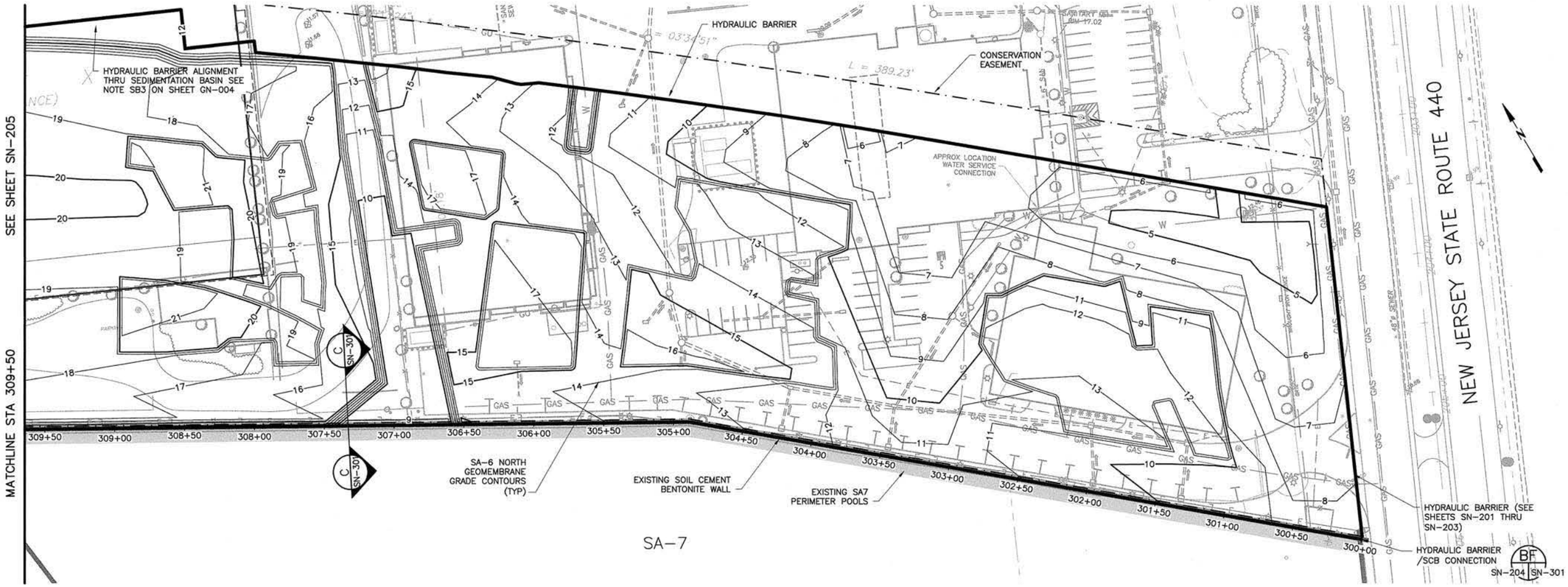
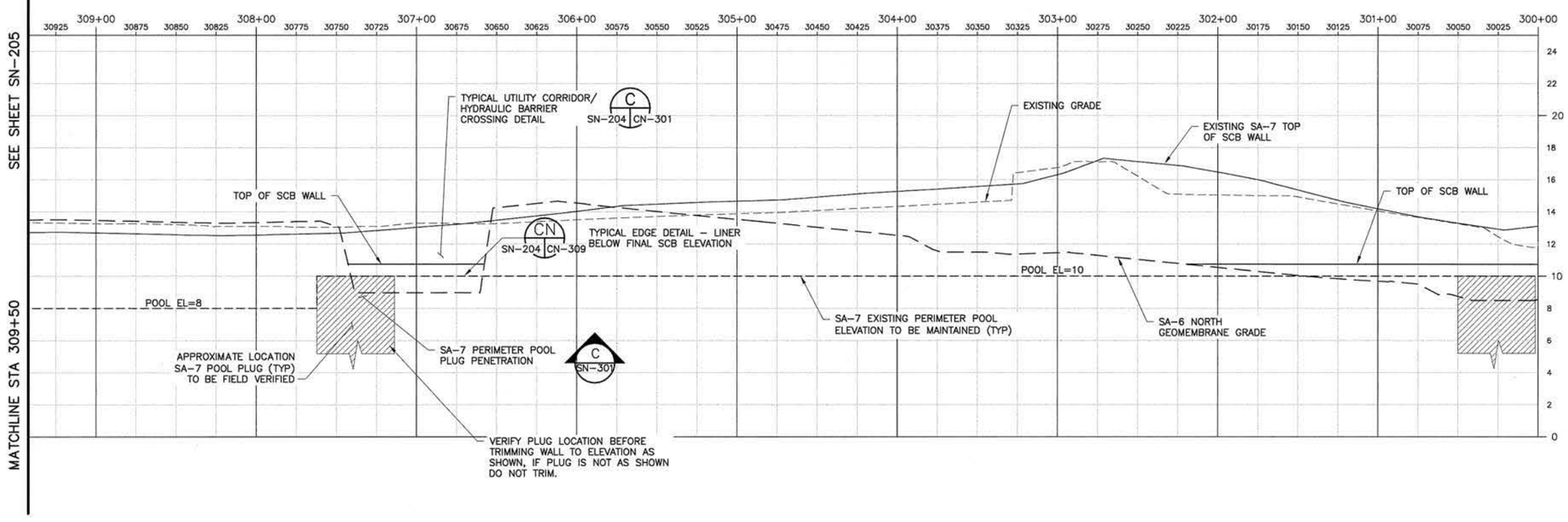
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR56-SN-203 HBW Design Pln Prof.dwg PLOT DATE: Fri, 04 Mar 2016 PLOT TIME: 11:58 AM



SA-7



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET CN-125 AND CN-126 FOR INTERIM GRADE.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
1	02/25/16	DCB 054.2 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR TDD CHK RJR APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

EXISTING SA-7 SCB WALL
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2929
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-204
SHEET	57 OF 70

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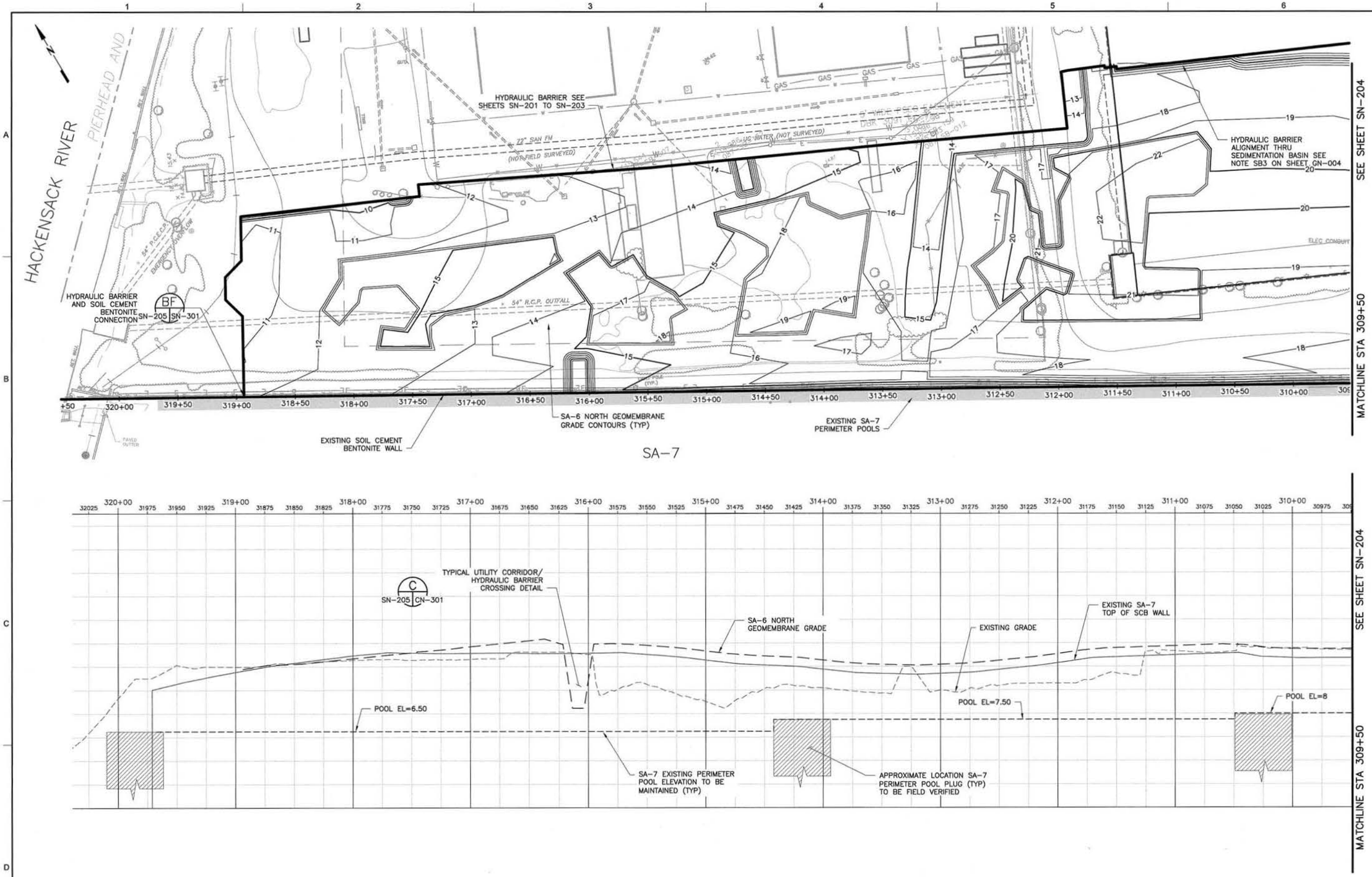
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR57-SN-204 SCB Plan and Profile.dwg PLOT DATE: Fri, 04 Mar 2016 PLOT TIME: 1:56 PM



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET CN-125 AND CN-126 FOR INTERIM GRADE.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	DSGN	BY	APVD
2	02/25/16	DCB 054.2 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

REVISION — DR: TDD — CHK: RJR — APVD: TDD

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507
3/8/16

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

EXISTING SA-7 SCB WALL
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2929
NJ Cert of Authorization 24GA28010500

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-205
SHEET	58 OF 70

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR58-SN-205 SCB Plan and Profile.dwg PLOT DATE: Fri, 04 Mar 2016 PLOT TIME: 2:02 PM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 054.3 **DCB Type:** Minor(a) **Effective Date:** 5/11/16
Project Location: SA-6N **Title:** Interim Grade Revisions	**Associated RFI:** ☐ Yes, RFI No.: ☐ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description.

DCB 054 included issuance of a revised subgrade design that included changes resulting from raising the cap grades by 0.25 ft. in the landscaped areas and revisions to utility corridors to reflect the latest CHA utility design.

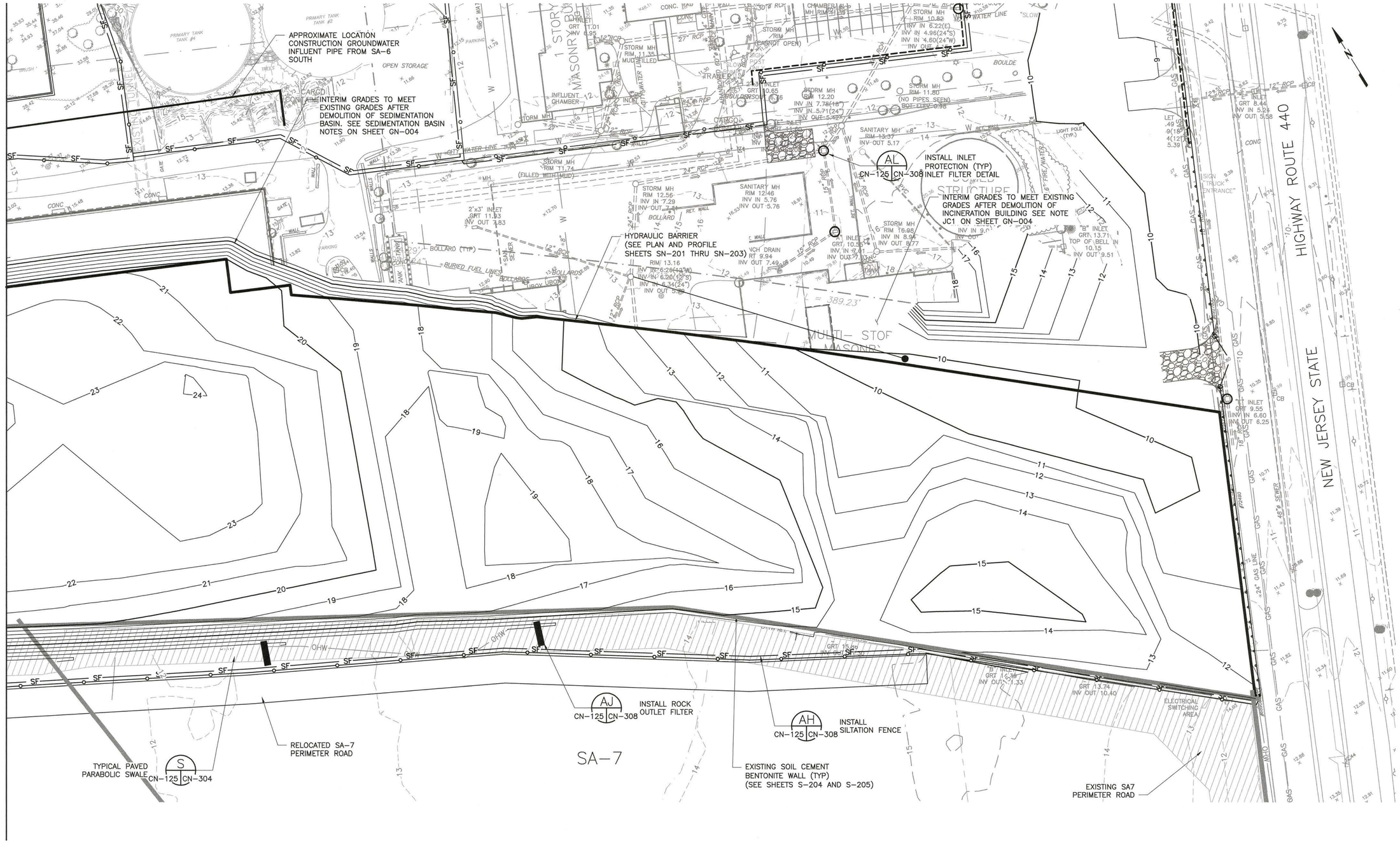
This change impacted the Geomembrane/Subgrade surface (DCB 054.1), Barrier Wall plan and profiles (DCB 054.2) and the Interim Grades (DCB 054.3)

The two revised interim grade drawings are attached to this DCB. The electronic files for the interim grade are also attached.

This file replaces the CAD file that was provided on May 02, 2016 for "Planning Purposes" and volume calculations. The changes in the file since that time has been limited to smoothing of contours to simplify grading.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** Subgrade was adjusted to increase capacity below the liner. **Attachments:** ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: To meet minimum cover requirements the Interim grade also required revision.	**Design Documents Affected:** Drawings CN-125, CN-126
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 5/23/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS BASED ON MINIMAL FILL THICKNESS REQUIREMENTS. FINAL GRADES MAY VARY AFTER CONSTRUCTIBILITY REVIEW.
4. REFER TO APPENDIX K CONCEPTUAL REDEVELOPMENT PLANS (100% REMEDIAL DESIGN REPORT) FOR FUTURE UTILITY ALIGNMENTS AND PRELIMINARY ALTERNATIVE GRADING CONCEPTS.

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	05/13/16	TDD	TDD	RJR	TDD	TDD	SGS
0	06/07/13	TDD	TDD	RJR	TDD	SGS	SGS

DCB 054.3
ISSUED FOR CONSTRUCTION
REVISION

Honeywell
115 TABOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

INTERIM GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Cert of Authorization 24GA28010900

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VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-125
SHEET	30 OF 70

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS BASED ON MINIMAL FILL THICKNESS REQUIREMENTS. FINAL GRADES MAY VARY AFTER CONSTRUCTABILITY REVIEW.
4. REFER TO APPENDIX K CONCEPTUAL REDEVELOPMENT PLANS (100% REMEDIAL DESIGN REPORT) FOR FUTURE UTILITY ALIGNMENTS AND PRELIMINARY ALTERNATIVE GRADING CONCEPTS.

HACKENSACK RIVER

PIERHEAD AND BULKHEAD LINE AS ADOPTED DECEMBER 9, 1929

APPROXIMATE LOCATION OF OUTFALL

EA8 INTERIM RESTORATION PENDING BULKHEAD RESTORATION CONTOURED TO SHOW POST CR REMEDIATION AND SEEDED

FINAL RESTORATION GRADE (TYP)

CONCRETE OUTFALL STRUCTURE

GROUNDWATER TREATMENT PLANT (SEE NOTE GN23 ON SHEET GN-003)

1 STORY MASONRY BUILDING

CONSTRUCTION WATER TREATMENT AREA SEE SHEET CN-106

INSTALL INLET PROTECTION (TYP) INLET FILTER DETAIL CN-126 (AL) CN-308

INTERIM GRADES TO MEET EXISTING GRADES AFTER DEMOLITION OF SEDIMENTATION BASIN. SEE SEDIMENTATION BASIN NOTES ON SHEET GN-004

TYPICAL VEGETATIVE SWALE CN-126 (R) CN-304

HYDRAULIC BARRIER (SEE PLAN AND PROFILE SHEETS SN-201 THRU SN-203)

MATCH LINE SHEET CN-125

TYPICAL PAVED PARABOLIC SWALE CN-126 (S) CN-304

CN-126 (AJ) CN-308 INSTALL ROCK OUTLET FILTER

RELOCATED SA7 PERIMETER ROAD

EXISTING SOIL CEMENT BENTONITE WALL (TYP) (SEE SHEETS SN-204 AND SN-205)

0 20 40 80
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
2	05/13/16	DCB 054.3	TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	09/13/13	TDD	SGS

DSGN TDD | DR RJR | CHK TDD | APVD SGS

SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
115 TABOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

INTERIM GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 889 - 2630
NJ Cert of Authorization 24GA28001800

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-126
SHEET	31 OF 70

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR31-C-126 Final Grade Drain SESC Plan.dwg PLOT DATE: Fri, 13 May 2016 PLOT TIME: 1:38 PM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 054.4 **DCB Type:** Minor(a) **Effective Date:** 5/20/16
Project Location: SA-6N	**Associated RFI:**
Title: Geomembrane Subgrade Revisions - Pump Station #1 Corridor	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description.

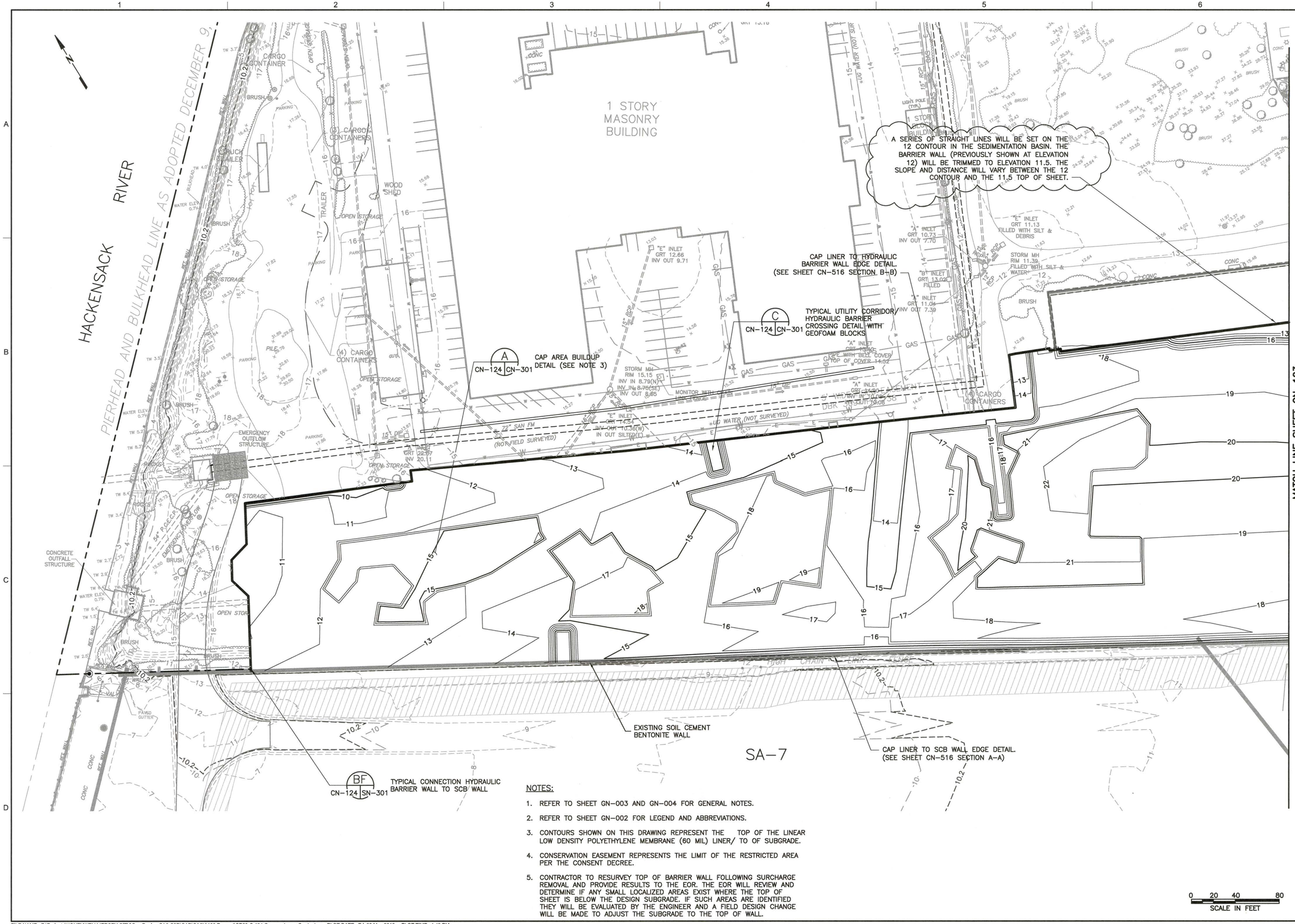
DCB 054 included issuance of a revised subgrade design that included changes resulting from raising the cap grades by 0.25 ft. in the landscaped areas and revisions to utility corridors to reflect the latest CHA utility design.

To accommodate Entact's request to relocate Pump Station #1 (RFI 64) it was necessary to revise the subgrade. The Subgrade was lowered at the new location to accommodate the vault and piping and raised in the original pump station location. An initial revision was made in DCB 054.1.

Following further review it was deemed necessary to lower the geomembrane in this area to provide additional separation between the geomembrane and bottom of the vault.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** Pump Station #1 relocation: increase subgrade clearance
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** Drawing CN-124
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 5/23/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE LINEAR LOW DENSITY POLYETHYLENE MEMBRANE (60 MIL) LINER/ TO OF SUBGRADE.
4. CONSERVATION EASEMENT REPRESENTS THE LIMIT OF THE RESTRICTED AREA PER THE CONSENT DECREE.
5. CONTRACTOR TO RESURVEY TOP OF BARRIER WALL FOLLOWING SURCHARGE REMOVAL AND PROVIDE RESULTS TO THE EOR. THE EOR WILL REVIEW AND DETERMINE IF ANY SMALL LOCALIZED AREAS EXIST WHERE THE TOP OF SHEET IS BELOW THE DESIGN SUBGRADE. IF SUCH AREAS ARE IDENTIFIED THEY WILL BE EVALUATED BY THE ENGINEER AND A FIELD DESIGN CHANGE WILL BE MADE TO ADJUST THE SUBGRADE TO THE TOP OF WALL.

NO.	DATE	DSGN	DR	CHK	APVD	REVISION
5	05/20/16	TDD		TDD	APVD	DCB 054.4 PUMP STATION #1 CORRIDOR
4	02/16/16	TDD				DCB 054.1 REVISED SED BASIN AND PS#1 SUBGRADE
3	02/01/16	TDD				DCB 054 INCREASE LANDSCAPE GRADE 0.25 FEET
2	02/24/15	TDD				DCB 007.5
1	09/13/13	RJR				HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM
0	06/07/13	TDD	RJR			ISSUED FOR CONSTRUCTION

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507
SGS

Honeywell
115 TABOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

GEOMEMBRANE GRADING PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
2000 American Metro Blvd. Suite 113
Hamilton, New Jersey 08619 (609) 890-2329
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
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0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-124
SHEET	29 OF 70

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR29-C-124 Geomembrane Grade.dwg PLOT DATE: Fri, 20 May 2016 PLOT TIME: 1:49 PM

Honeywell RES

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 054.5 **Type:** Minor(a) **Effective Date:** 7/14/16
Project Location: SA-6 North	**Associated RFI:**
Title: North Cap - Field Engineered Subgrade Adjustments	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description.

During the course of subgrade construction two field conditions were identified that resulted in the need for minor adjustments to several small localized areas of the subgrade to achieve positive drainage. In one area these field developed changes resulted in a change in elevation of the Construction Control Grid subgrade elevation.

In addition there were several minor changes in the top elevation of the Hydraulic Barrier wall. These changes were made to avoid major changes to the Construction Water Treatment forcemain and to address several locations where the final top elevations of driven sheets were slightly below the design levels. These changes did result in a very small reduction in capacity under the cap and had no impact on the containment and hydraulic requirements of the wall. The changes are so minor they are not be visible on the hard copy drawings. Revisions were issued to Entact in electronic format and will be incorporated in As Built documentation.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:**
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** Construction Control Grid. Top of Barrier Wall and Subgrade
Honeywell (AP) Review:	
Individual: Geoff Shallard **Discipline:** EOR	**Initial:** GS **Date:** 12/12/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

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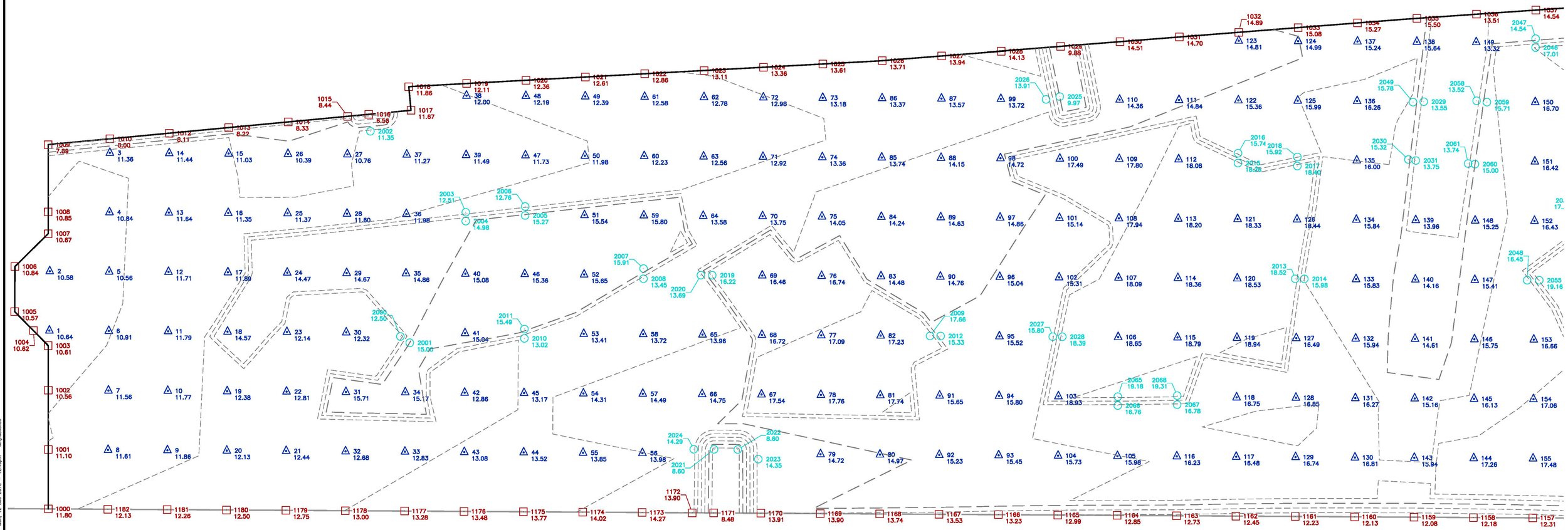


153 16.66 GRID POINT

2054 17.00 BREAK POINT

1157 12.31 BOUND POINT

0 10 20 40

SCALE IN FEET

DCB 054.5 – REVISED CONTROL GRID ELEVATIONS 12/12/16

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

NOTE: REFER TO FIGURE 1.3 FOR REVISED GRID POINT ELEVATION SUMMARY TABLE.

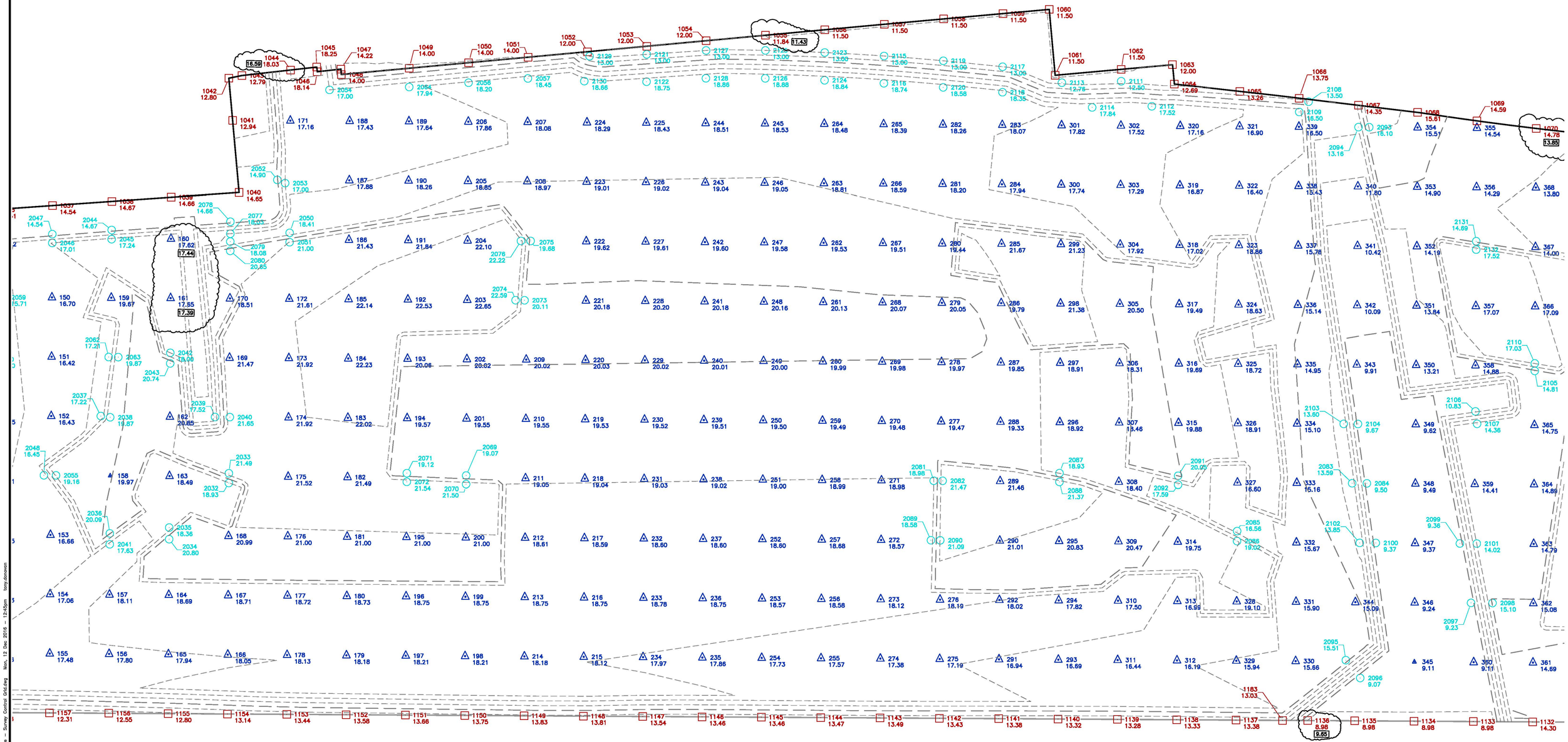
Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28001900

SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 1 OF 3
Project 3480-13-0377
Figure 1.1

C:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North Cap Surveys\Figure - Survey Control Grid.dwg Mon, 12 Dec 2016 - 12:46pm tony.donovan



153 16.66 GRID POINT

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0 10 20 40
SCALE IN FEET

DCB 054.5 – REVISED CONTROL GRID ELEVATIONS 12/12/16

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

NOTE: REFER TO FIGURE 1.3 FOR REVISED GRID POINT ELEVATION SUMMARY TABLE.

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STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
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amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
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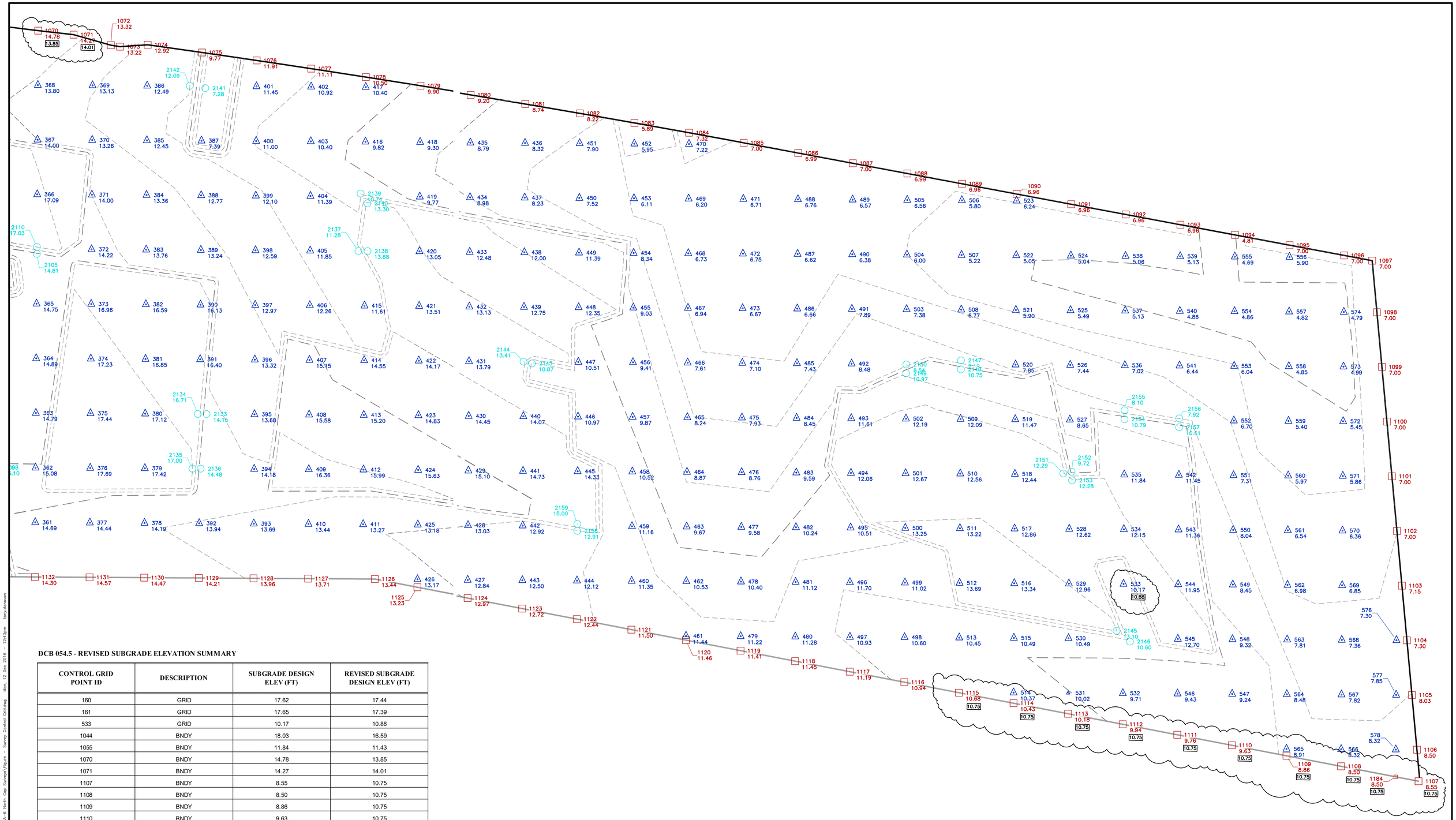
SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 2 OF 3
Project 3480-13-0377
Figure 1.2

C:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North Cap Surveys\Figure - Survey Control G06.dwg Mon, 12 Dec 2016 - 12:45pm tony.donovan



DCB 054.5 - REVISED SUBGRADE ELEVATION SUMMARY

CONTROL GRID POINT ID	DESCRIPTION	SUBGRADE DESIGN ELEV (FT)	REVISED SUBGRADE DESIGN ELEV (FT)
160	GRID	17.62	17.44
161	GRID	17.65	17.39
533	GRID	10.17	10.88
1044	BNDY	18.03	16.59
1055	BNDY	11.84	11.43
1070	BNDY	14.78	13.85
1071	BNDY	14.27	14.01
1107	BNDY	8.55	10.75
1108	BNDY	8.50	10.75
1109	BNDY	8.86	10.75
1110	BNDY	9.63	10.75
1111	BNDY	9.76	10.75
1112	BNDY	9.94	10.75
1113	BNDY	10.18	10.75
1114	BNDY	10.43	10.75
1115	BNDY	10.68	10.75
1136	BNDY	8.98	9.65
1184	BNDY	8.50	10.75

DCB 054.5 – REVISED CONTROL GRID ELEVATIONS 12/12/16

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

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amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
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SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 3 OF 3
Project 3480-13-0377
Figure 1.3

O:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North Cap Surveys\Figure - Survey Control Grid.dwg Mon, 12 Dec 2016 - 12:43pm tony.donovan

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 062 **Type:** Minor(a) **Effective Date:** 7/12/16
Project Location: SA-6 North	**Associated RFI:**
Title: Clarify location of Sand Bentonite Plug	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description.

Drawing CN-516 indicates the limit of the GCL deployment. Where the top of the Barrier Wall is below elevation 7.0, a sand bentonite plug will be installed as shown on Section C-C. The intent of the plug is to provide a connection between the GCL and Barrier wall in locations where the cap may be below the groundwater. The plug is isolated to two utility corridors. The plug limits are noted on Section C-C.

In the remainder of the areas where the Barrier Wall is at or above elevation 7.0, the GCL will be carried over the wall as shown in Section D-D. The GCL should be in intimate contact with the top of the Barrier Wall.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** Clarification of drawing CN-516, incorporated into DCB-054 in an e-mail to ENTACT dated 5/4/16 **Attachments:** ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** CN-516
Honeywell (AP) Review:	
Individual: Geoff Shallard **Discipline:** EOR	**Initial:** **Date:**
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

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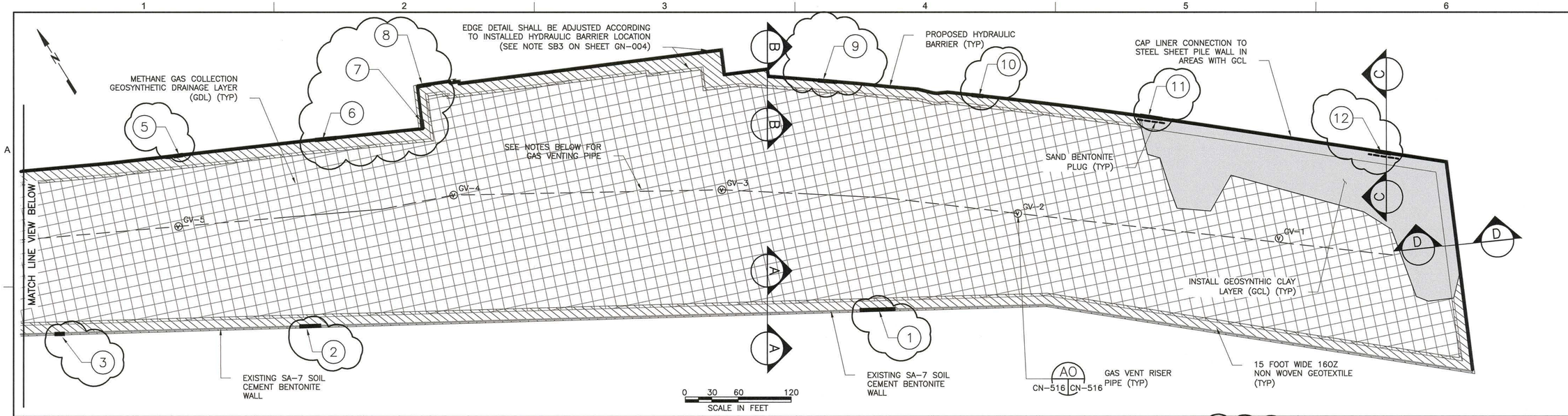
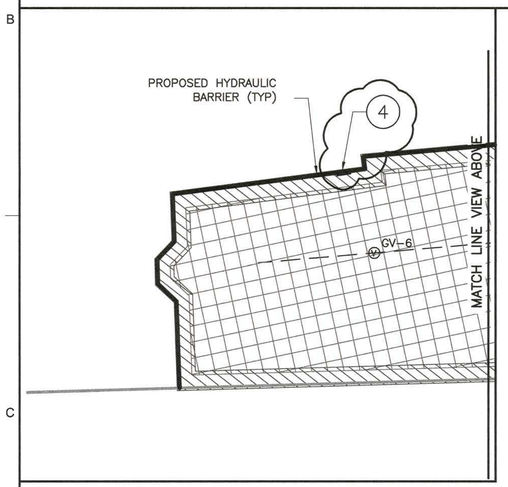
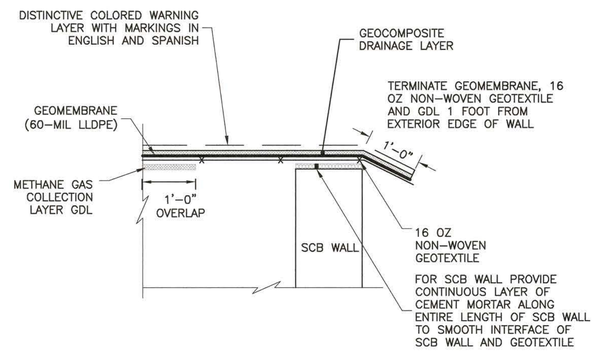
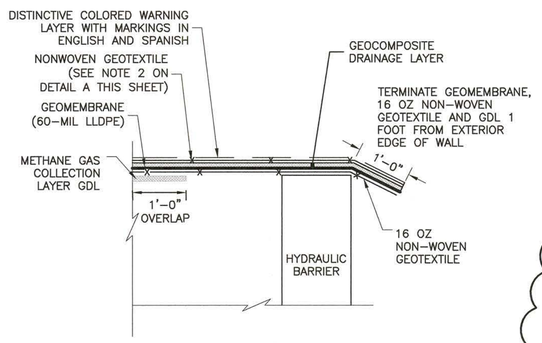


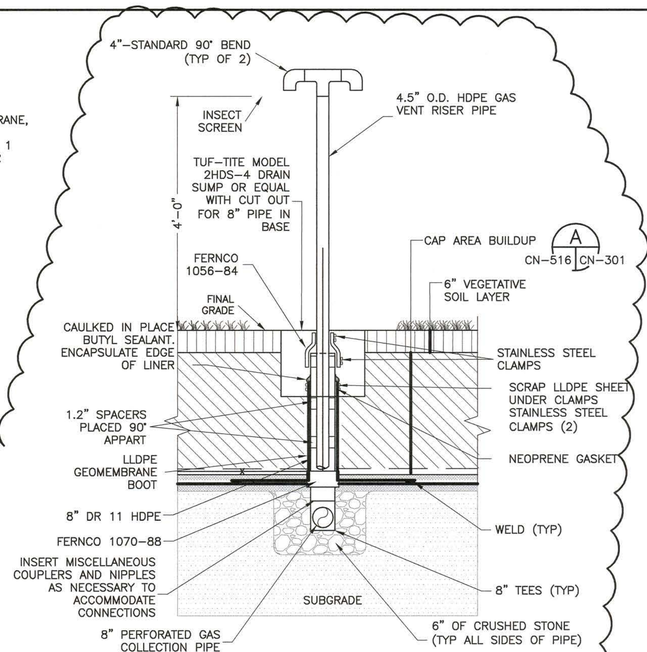




SECTION A–A
NTS



SECTION B–B
NTS



NOTES:

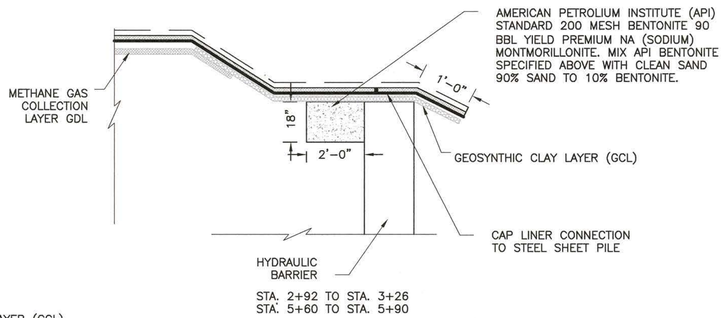
1. PERFORATED PIPE TO BE CORRUGATED SLOTTED PE PIPE.
2. SPACERS MAY BE PREFABRICATED AS PART OF THE 4.5" DIA VENT PIPE.

GAS VENT DETAIL
NTS
CN-516 CN-516

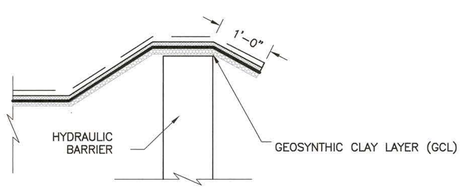
GEOFOAM BLOCK SUMMARY

NUMBER	LENGTH
1	40'
2	24'
3	11'
4	10'
5	10'
6	24'
7	10'
8	15'
9	21'
10	13'
11	25'
12	17'

GEOFOAM BLOCKS EPS 19 4' WIDE x 1' THICK LENGTH VARIES



SECTION C–C
(SAND BENTONITE PLUG)
NTS



SECTION D–D
(NO SAND BENTONITE PLUG)
NTS

NOTES:

1. HORIZONTAL GAS VENTING PIPE SHALL BE 8" ADS SINGLE WALL HEAVY DUTY PERPETRATED PIPE WITH ANNULAR INTERIOR AND EXTERIOR CORRUGATIONS OR APPROVED EQUAL.
2. PIPING JOINTS SHALL BE MADE WITH SPLIT OR SNAP COUPLINGS. STANDARD CONNECTIONS SHALL MEET THE REQUIREMENTS OF THE ASTM F405 OR ASTM F667. GASKETED CONNECTIONS SHALL INCORPORATE A CLOSED-CELL SYNTHETIC EXPANDED RUBBER GASKET MEETING THE REQUIREMENTS OF ASTM D1056 GRADE 2A2.
3. ALL PIPE FITTINGS SHALL CONFORM TO ASTM F405 OR ASTM F667.
4. PIPE AND FITTING MATERIAL SHALL BE HIGH DENSITY POLYETHYLENE CONFORMING WITH THE MINIMUM REQUIREMENTS OF CELL CLASSIFICATION 423410C AS DEFINED AND DESCRIBED IN THE LATEST VERSION OF ASTM D3350; OR ASTM D1248 TYPE III, CLASS C, CATEGORY 4, GRADE P33.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
4	07/12/16	DCB 062 SAND BENTONITE PLUG CLAIRIFICATION	TDD	SGS
3	02/01/16	DCB 054 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS
2	08/12/14	DCB 13 BARRIER WALL REALIGNMENT	RJR	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD | DR RJR | CHK TDD | APVD SGS

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CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

GAS VENTING SYSTEM
AND DETAILS

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619 (609) 587-7293
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
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DATE	
PROJ	3480-12-0317
DWG	CN-516
SHEET	52 OF 70

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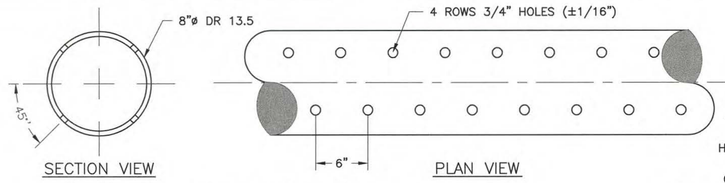
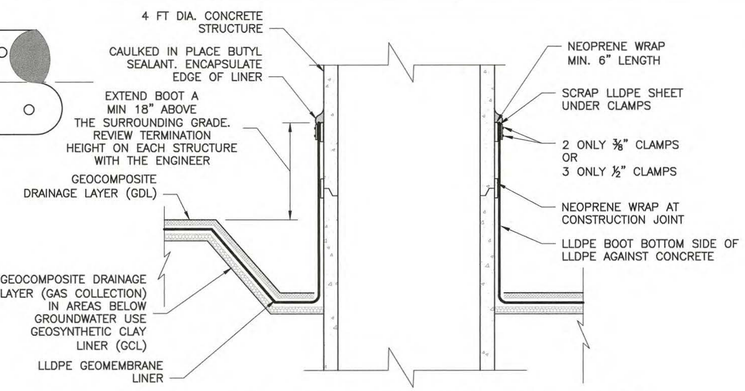


PIPE PERFORATIONS (CD)

NTS — TYP | CN-310

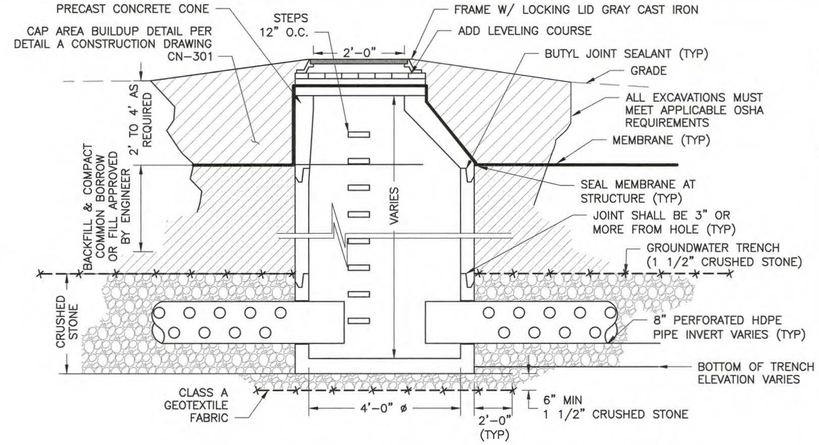
CONSTRUCTION SEQUENCE

- SET MANHOLE BASE AND RISER SECTIONS.
- EXTEND RISER WITH SURCHARGE AND FILL PLACEMENT.
- PLACE TEMPORARY COVER.
- MEASURE TOP/ BOTTOM ELEVATION POST SURCHARGE.
- REVIEW RISER SECTIONS AND IF NECESSARY ORDER A NEW RISER TO MEET DESIGN GRADE.
- OR ADJUST DESIGN GRADE TO MATCH AVAILABLE RISERS – SUBJECT TO ENGINEERS APPROVAL.



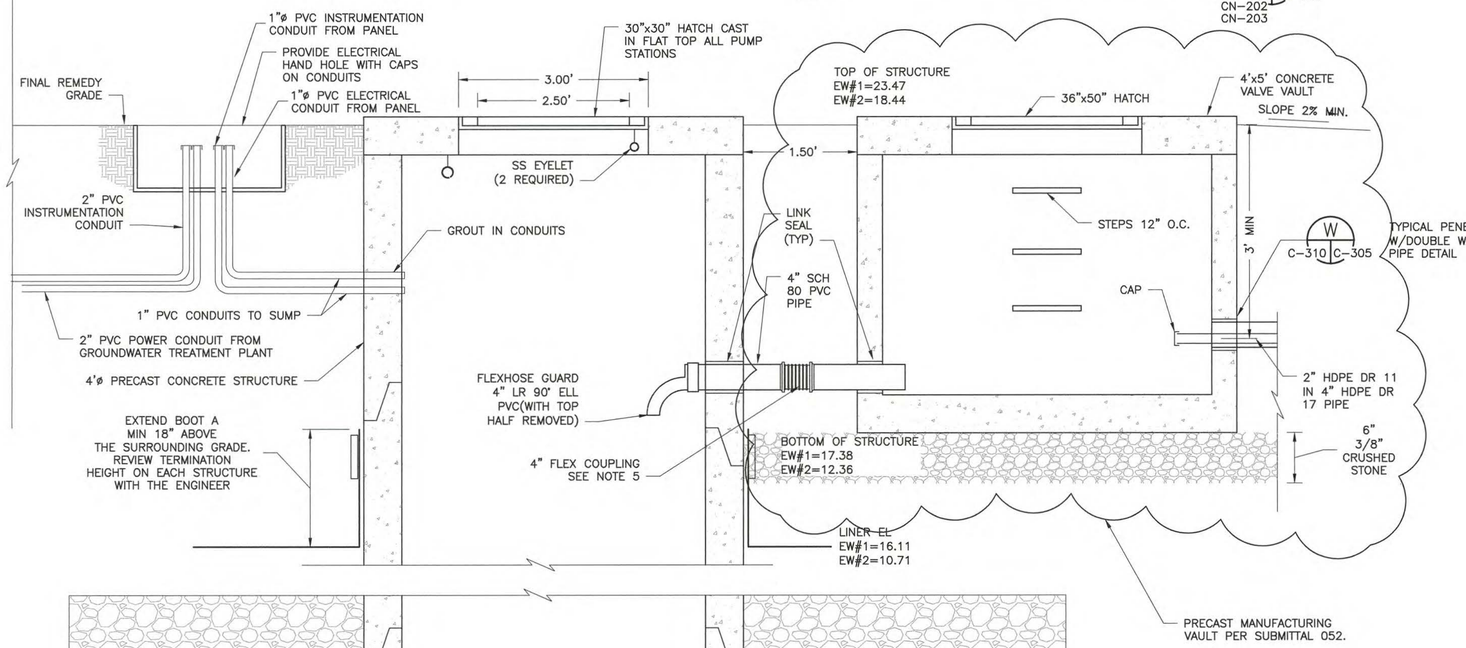
LINER ANCHOR TO CONCRETE STRUCTURE (CE)

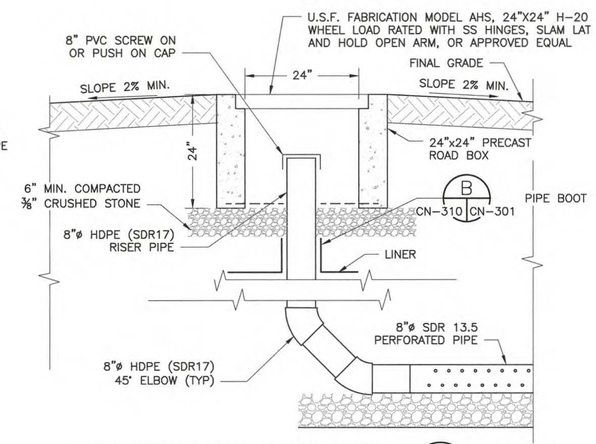
NTS — CN-201 | CN-310, CN-202, CN-203



TYPICAL ACCESS MANHOLE FINAL CONDITION (CB)

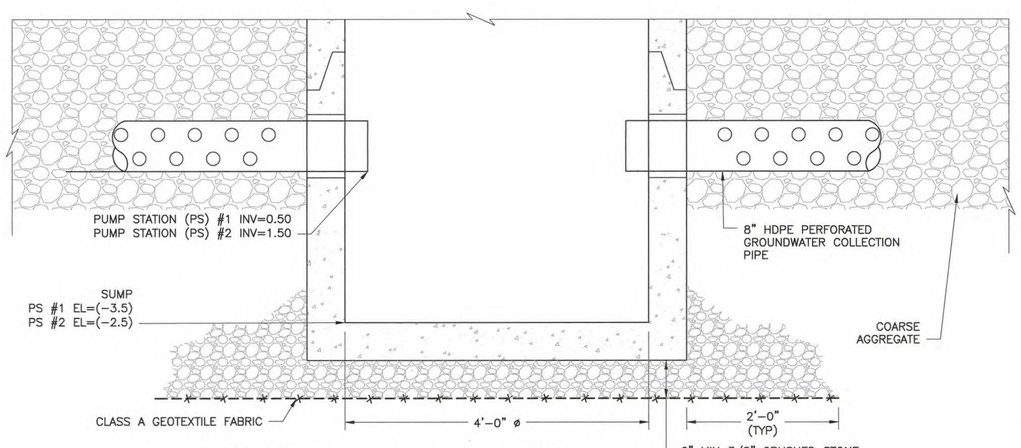
NTS STA=1+55±, AND STA=18+00± — CN-201 | CN-310, CN-203





ELBOW PIPE CLEANOUT (CF)

NTS — CN-202 | CN-310



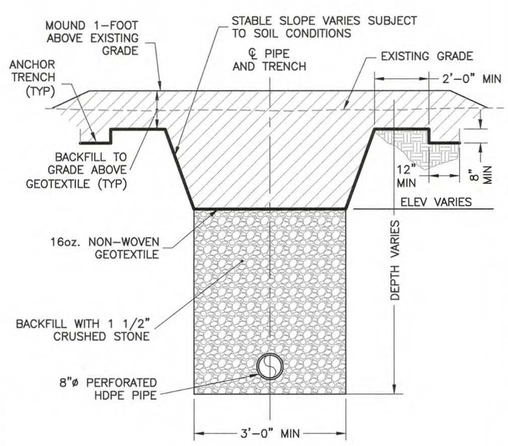
GROUNDWATER EXTRACTION PUMP STATION

STA 7+02± & STA 12+50± (CC)

NTS — CN-202 | CN-310, CN-203, CN-204

NOTE:

PUMPS, WIRING, CONTROLS BY OTHERS UNDER SEPERATE CONTRACT.



GROUNDWATER TRENCH SURCHARGE CONDITION (CA)

NTS — TYP | CN-310

PARTS LIST

ITEM	QTY	MANUFACTURER\ PART NO.	DESCRIPTION
30" X 30" PUMP STATION HATCH	1	ej FABRICATION PRODUCT H30303191 OR APPROVED EQUAL	SPRING LOADED ALUMINUM VAULT HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION
36' X 50" VALVE VAULT HATCH	1	PENNSYLVANIA INSERT CORP STOCK# ATH3050D I*2 OR APPROVED EQUAL	SPRING LOADED ALUMINUM HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION

SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	TDD	CHK	RJR	APVD	TDD	BY	APVD	SGS
4	06/06/16	TDD	DCB 007.2.2		REVISION				TDD	SGS	
3	09/02/15	TDD	DCB 007.2.1 DETAIL CE MODIFIED						TDD	SGS	
2	11/19/14	TDD	DCB 007.2						TDD	SGS	
1	05/14/14	TDD	DCB 007						TDD	SGS	

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Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

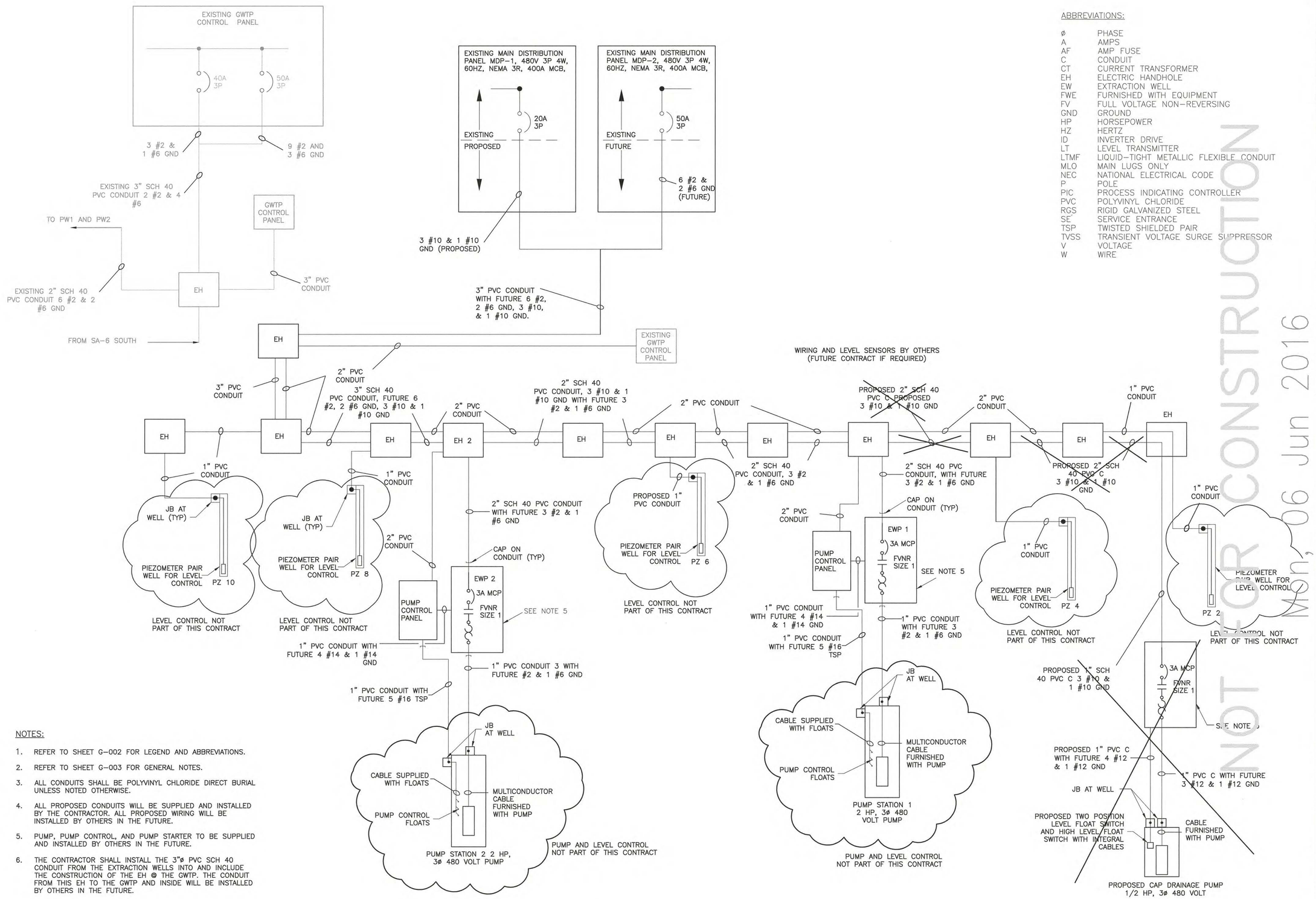
CIVIL

GROUNDWATER EXTRACTION TRENCH DETAILS

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 — 1"

DATE	
PROJ	3480-12-0317
DWG	CN-310
SHEET	45 OF 70



ABBREVIATIONS:

ø	PHASE
A	AMPS
AF	AMP FUSE
C	CONDUIT
CT	CURRENT TRANSFORMER
EH	ELECTRIC HANDHOLE
EW	EXTRACTION WELL
FWE	FURNISHED WITH EQUIPMENT
FV	FULL VOLTAGE NON-REVERSING
GND	GROUND
HP	HORSEPOWER
HZ	HERTZ
ID	INVERTER DRIVE
LT	LEVEL TRANSMITTER
LTMF	LIQUID-TIGHT METALLIC FLEXIBLE CONDUIT
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRICAL CODE
P	POLE
PIC	PROCESS INDICATING CONTROLLER
PVC	POLYVINYL CHLORIDE
RGS	RIGID GALVANIZED STEEL
SE	SERVICE ENTRANCE
TSP	TWISTED SHIELDED PAIR
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
V	VOLTAGE
W	WIRE

NOTES:

1. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.
2. REFER TO SHEET G-003 FOR GENERAL NOTES.
3. ALL CONDUITS SHALL BE POLYVINYL CHLORIDE DIRECT BURIAL UNLESS NOTED OTHERWISE.
4. ALL PROPOSED CONDUITS WILL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR. ALL PROPOSED WIRING WILL BE INSTALLED BY OTHERS IN THE FUTURE.
5. PUMP, PUMP CONTROL, AND PUMP STARTER TO BE SUPPLIED AND INSTALLED BY OTHERS IN THE FUTURE.
6. THE CONTRACTOR SHALL INSTALL THE 3"ø PVC SCH 40 CONDUIT FROM THE EXTRACTION WELLS INTO AND INCLUDE THE CONSTRUCTION OF THE EH @ THE GWTP. THE CONDUIT FROM THIS EH TO THE GWTP AND INSIDE WILL BE INSTALLED BY OTHERS IN THE FUTURE.

NOT FOR CONSTRUCTION
Mon, 06 Jun 2016

SAMUEL G. SHALLARD

NO.	DATE	REVISION	BY	APVD
2	05/06/16	DCB 007.2.2	TDD	SGS
1	09/02/15	DCB 007.2.1	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	GCP	SGS

DSGN GCP DR RJR CHK GCP APVD SGS

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ONE LINE DIAGRAM

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28070900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	EN-301
SHEET	67 OF 70

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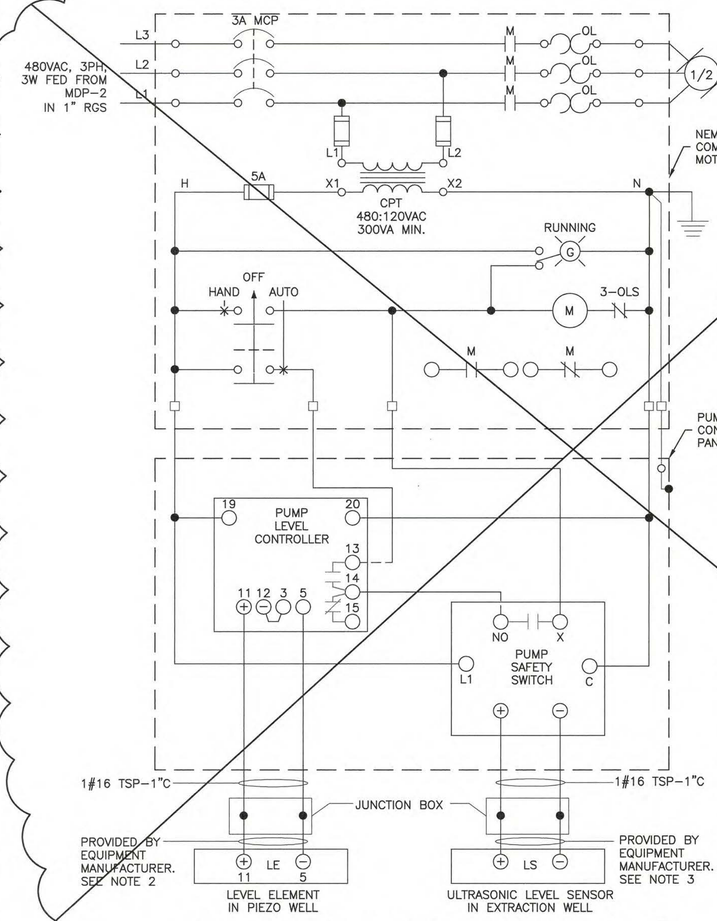


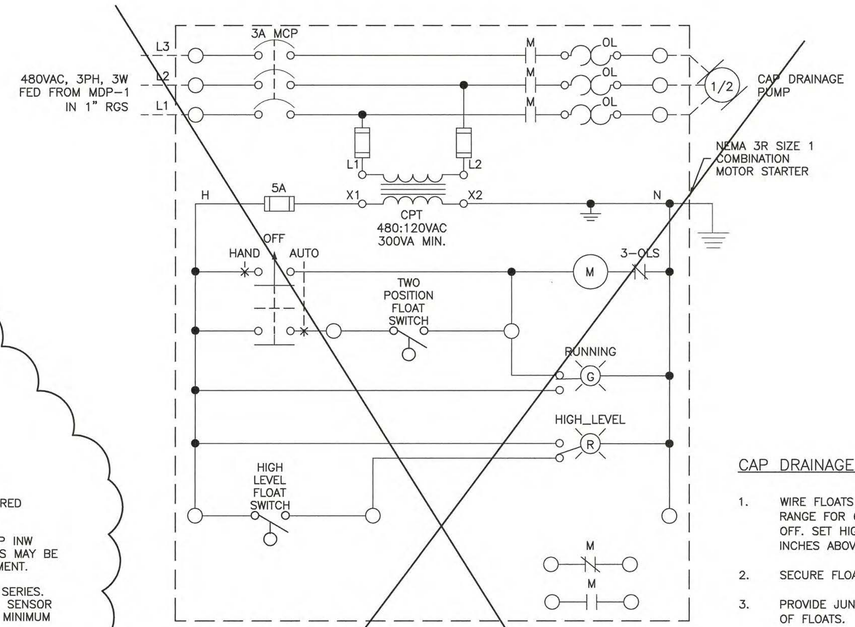
EXTRACTION WELL PUMP WIRING DIAGRAM (AN)
NTS TYPICAL FOR ONE LEVEL TRANSDUCER AND ONE EXTRACTION WELL PUMP CONTROL (SEE NOTE 9)
CN-126 EN-302

NOTE:
ALL 480V WIRING SHALL BE #12 AWG MINIMUM.
CONTROL WIRING SHALL BE #14 AWG MINIMUM

PUMP, PANEL, LEVEL CONTROL, AND WIRING NOT PART OF THIS CONTRACT

EXTRACTION WELL PUMP NOTES:

1. PUMP LEVEL CONTROLLER LOCATED IN THE EVEN NUMBERED PIEZOMETERS IS BASED ON MERCOID SERIES MPCJ.
2. LE ELEMENT BASED ON PS-98i MODEL 3C261T WITH FEP INW CABLE BY INSTRUMENTATION NORTHWEST. SEVERAL PUMPS MAY BE CONNECTED IN SERIES TO THE OUTPUT OF ONE LE ELEMENT.
3. ULTRASONIC LOW LEVEL SENSOR BASED ON OMEGA LVU SERIES. MATERIAL SHALL BE PFA OR EQUAL. SECURE CABLE AND SENSOR TO DISCHARGE PIPE AND SET SENSING POINT 3 INCHES MINIMUM ABOVE PUMP INTAKE.
4. PUMP SAFETY SWITCH BASED ON OMEGA MODEL LVCN.
5. PILOT LIGHTS TO BE PUSH TO TEST AS INDICATED.
6. PUMP CONTROL PANEL SHALL BE NEMA 3R WITH LOCKING HASP. SIZED AS REQUIRED FOR EQUIPMENT. MOUNT COMPONENTS ON DIN RAIL OR STANDARD 1/4 DIN MOUNTING HARDWARE. ALL COMPONENTS SHALL BE INTERNAL TO ENCLOSURE.
7. BOND WELL CASING TO GROUND CONDUCTOR.
8. CONNECT PUMP MOTOR TO GROUND CONDUCTOR.
9. WHEN ONE LEVEL TRANSDUCER IS USED TO CONTROL TWO OR THREE EXTRACTION WELL PUMPS, CONNECT EXTRACTION WELL PUMP PIC CONTROLLERS IN SERIES WITH THE ONE TRANSDUCER IN 4-20mA CURRENT LOOP.
10. ALL PANELS WILL BE DEAD FRONT, LOCKABLE AND WITH NO VISIBLE EXTERIOR LIGHTS.

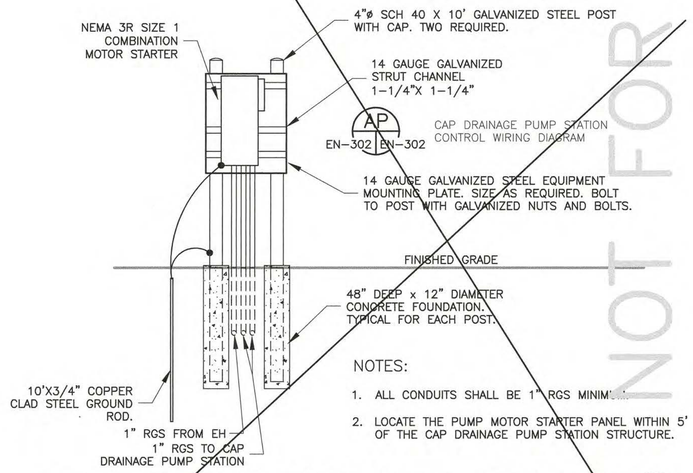


NOTE:
ALL 480V WIRING SHALL BE #12 AWG MINIMUM.
CONTROL WIRING SHALL BE #14 AWG MINIMUM

CAP DRAINAGE PUMP NOTES:

1. WIRE FLOATS FOR PUMP DOWN CONTROL. SET RANGE FOR 6 INCHES BETWEEN PUMP ON TO PUMP OFF. SET HIGH LEVEL SWITCH TO BE ACTIVE 6 INCHES ABOVE PUMP START.
2. SECURE FLOATS TO DISCHARGE PIPE.
3. PROVIDE JUNCTION BOX IN SUMP FOR CONNECTION OF FLOATS.
4. FLOAT SWITCH EQUAL TO DWYER RFW.
5. PILOT LIGHTS TO BE PUSH TO TEST AS INDICATED.
6. CONNECT PUMP MOTOR TO GROUND CONDUCTOR.
7. ALL PANELS WILL BE DEAD FRONT, LOCKABLE AND WITH NO VISIBLE EXTERIOR LIGHTS.

CAP DRAINAGE PUMP STATION CONTROL WIRING DIAGRAM (AP)
NTS
EN-302 EN-302



NOTES:

1. ALL CONDUITS SHALL BE 1" RGS MINIMUM.
2. LOCATE THE PUMP MOTOR STARTER PANEL WITHIN 5' OF THE CAP DRAINAGE PUMP STATION STRUCTURE.

CAP DRAINAGE PUMP STATION CONTROL PANEL DETAIL (AR)
NTS
CN-201 EN-302
CN-202

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. THE COMBINATION OF THE MOTOR CIRCUIT PROTECTOR AND THE OVERLOAD SHALL BE UL MOTOR COMBINATIONS.

NOT FOR CONSTRUCTION
Mon, 06 Jun 2016

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	RGR	CHK	APVD	BY	APVD
2	06/06/16	GCP	GCP	GCP	TDD	SGS	TDD	SGS
1	09/02/15				TDD	SGS	TDD	SGS
0	06/07/13				GCP	SGS	GCP	SGS

REVISION
ISSUED FOR CONSTRUCTION
DCB 007.2.1
DCB 007.2.2

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

WIRING DIAGRAMS

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
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0 1"

DATE	
PROJ	3480-12-0317
DWG	EN-302
SHEET	68 OF 70

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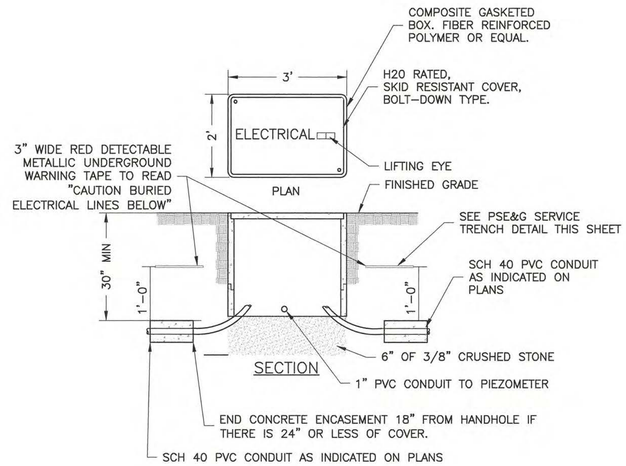
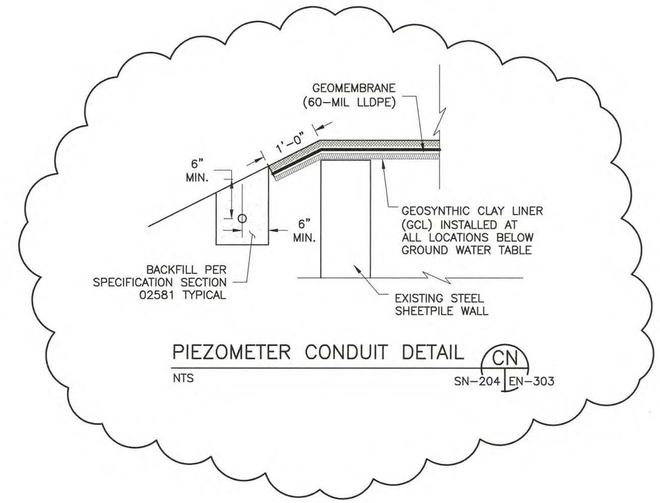
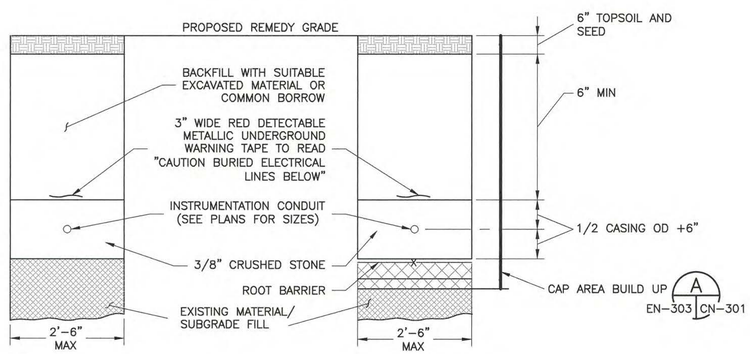


ELECTRICAL HANDHOLE DETAIL (AU)
NTS
CN-105 | EN-303
CN-201
CN-202



PIEZOMETER CONDUIT DETAIL (CN)
NTS
SN-204 | EN-303



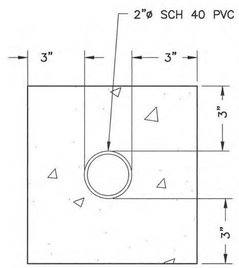
OUTSIDE CAP
(SEE DETAIL CN ON EN-303)

OVER CAP

PIEZOMETER INSTRUMENTATION CONDUIT TRENCH (AX)
NTS
CN-201 | EN-303
CN-202
CN-203

NOTE:

1. PROVIDE CONCRETE ENCASEMENT IF CONDUIT IS LESS THAN 24-INCHES BELOW DEVELOPMENT GRADE.
2. INSTALL PULL STRING/WIRE IN E&I CONDUIT FOR INSTALLATION OF PUMPS, WIRING, CONTROLS IN THE FUTURE BY OTHERS.



DUCT WAY NOTES:

1. ENCASED BURIAL REQUIRED IF THE COVER DEPTH IS LESS THAN 24" OR OTHERWISE SPECIFIED.
2. CONCRETE SHALL BE 3000 P.S.I. @ 28 DAYS, OR AS SPECIFIED.
3. PROVIDE REINFORCING RODS ON TOP OF DUCTS WHEN CROSSING OR PLACED IN ROADWAY WITH LESS THAN 24" OF COVER #4@12" OC MIN 2. EXTEND 4' BEYOND ROAD EDGE.
3. MINIMUM COVER TO TOP OF CONCRETE ENVELOPE SHALL BE 24" [610mm].
4. INSTALL IN A 4'-0" MAX WIDTH TRENCH SIMILAR TO DETAIL Z ON C-306.

DUCT BANK DETAILS (AW)
NTS
EN-303

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.

SAMUEL G. SHALLARD

NO.	DATE	REVISION	BY	APVD
2	06/06/16	DCB 007.2.2	TDD	SGS
1	09/02/15	DCB 007.2.1	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	GCP	SGS
DSGN	GCP	DR RJR	CHK GCP	APVD SGS

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Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL DETAILS

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689-2029
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	EN-303
SHEET	69 OF 70

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 007.5 Major Effective Date: 02/24/15
Project Location: SA-6 SOUTH	
Title: GW EXTRACTION SYSTEM	
Revision to the Geomembrane/Subgrade surface.	Project No.: 3480130377
Contractor (Subcontractor): Entact	

DCB-007.1 was issued for the trench detail portion of the modified groundwater system design. At the time of issue details for the SA-6N trench were subject to potential further modification.

DCB-007.2 provided the final details for the SA-6N groundwater collection trenches and associated electrical supply and groundwater discharge piping.

DCB-007.3 provided the final details for the SA-6S groundwater collection trenches and associated electrical supply and groundwater discharge piping

DCB-007.4 issue pending. This DCB will provide the revised one line electrical drawings for SA-6N and SA-6S. In the revised design there is one extraction manhole on SA-6S and two extraction manholes in SA-6N.

DCB-007.5 provides a revised subgrade/Geomembrane surface as discussed below.

The 100% Design included a Conceptual Design for the Groundwater Extraction system that was based on use of 9 extraction wells in each Open Space Area and common header system. The trench design has one pump station in SA-6S and 2 pump stations in SA-6N.

Details related to the Administrative basis for the change are provided in DCB 007.1.

DCB 007.5 is applicable to the SA-6N and SA-6S subgrade/Geomembrane surface. The change from wells to trenches resulted in numerous changes in grading. There were typically depression in the subgrade around each well to allow for installation of control vaults at each well and associated force mains leading from each well. These depressions have been eliminated and the Geomembrane surface smoothed at these locations. A depressed area has been added at each pump station and associated force main. The changes simplify the grading and Geomembrane installation

The changes impact the following drawings.
For 6A-South:

- C-122
- C-123
- C-124

For 6A-North:

- CN-123
- CN-124

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Design changed based on information gathered during construction Attachments: ☑ Yes ☐ No Cost Implication: ☑ Yes ☐No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected: Contingent GW system one line electrical design.
Honeywell (AP) Review: Individual Discipline	Initial Date
(Name / Signature): 2/24/15	Does DCB Result in CCO? ☑ Yes (b) ☐ No Date:
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 017 Minor (a) Effective Date: 1/22/15
Project Location: SA-6 NORTH, SA6-SOUTH	Associated RFI:
Title: SA-6N Area 1N 2 ft. Cut Historic Fill	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): Entact	

The SA-6 North Remedial Action Work Plan, SA-6 100% Remedial Design Report, and the SA-6 North Consent Decree provides for the removal of the upper 2 ft., of historic fill from the SA-6 North Open Space Area. It is recognized that the original surface grade fluctuated significantly on SA-6N. For practical excavation control a more uniform excavation surface has been developed. That surface is based on a 2 ft. nominal cut +/- 1 ft. The areas selected for cut will be areas previously identified as historic fill with hexavalent chromium concentration of <20 mg/kg.

To increase capacity for movement of 20-240 mg/kg chromium impacted soils from SA-6 South to SA-6 North approximately 10,000 CY of historic fill will be excavated from SA-6 North. The final quantity may be adjusted based on survey quantities of impacted soils compacted and stockpiled in SA-6 South.

The excavation will be conducted to the lines and grades shown on Drawing CN XXX attached.

The bottom of excavation will be surveyed by a registered land surveyor.

Contractor shall stockpile the excavated material in designated location(s) mutually agreeable to Honeywell and Amec Foster Wheeler. The excavated materials will be sampled by Amec Foster Wheeler to determine the final disposition according to Section 2.2.4 of the Soil Management Plan (copy of section attached), as summarized as follows:

- Excavated materials that are confirmed <20 mg/kg for hexavalent chromium will be designated for reuse as backfill in excavations with the SA-6 North or SA-6 South Development Areas in accordance with the placement and compaction requirements of the Earthwork specifications (Section 02315) or may be placed above the cap but below the two feet of clean fill required by paragraph 56(c) of the SA-6 North Consent Decree.
- Excavated materials that are confirmed >20 mg/kg for hexavalent chromium will be designated for placement within the SA-6 North or SA-6 South Open Space Areas to be later covered with the cap.

The contractor will be notified by Amec Foster Wheeler as to the final disposition of the stockpiled excavated material.

Reason for Change/Modification:	Explanation or Reason: Increase impacted soil capacity under the SA-6N Open Space cap.
☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Attachments: ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected:

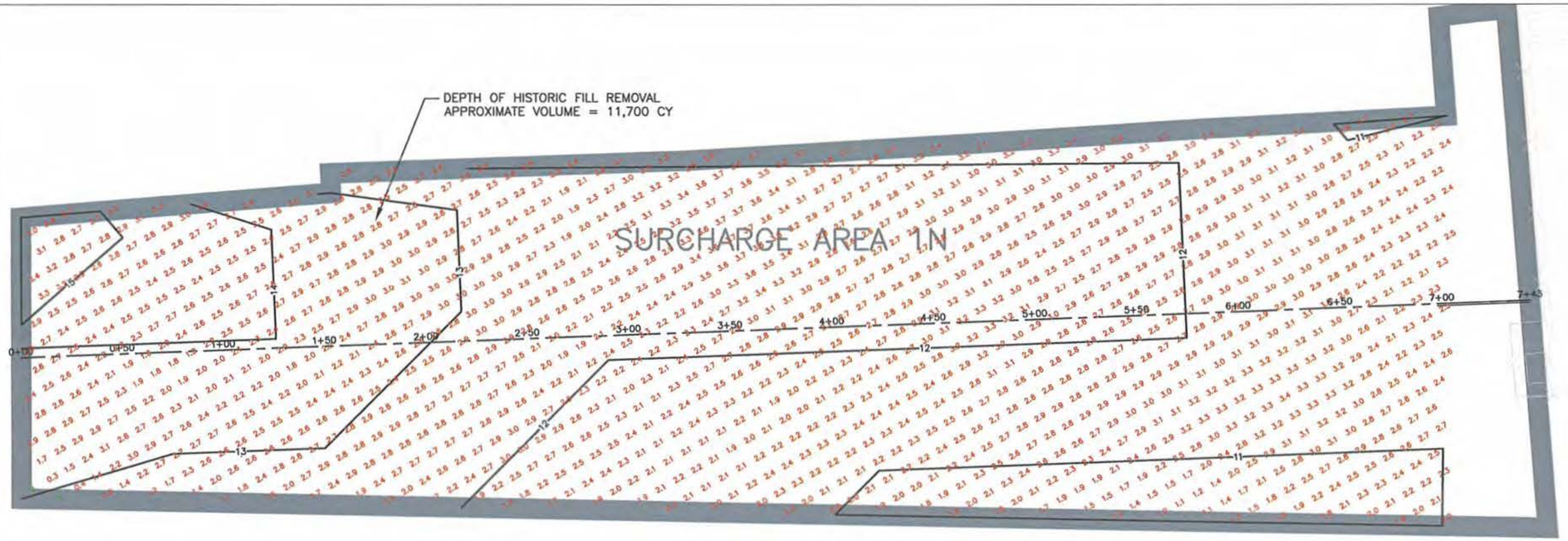
Honeywell (AP) Review:

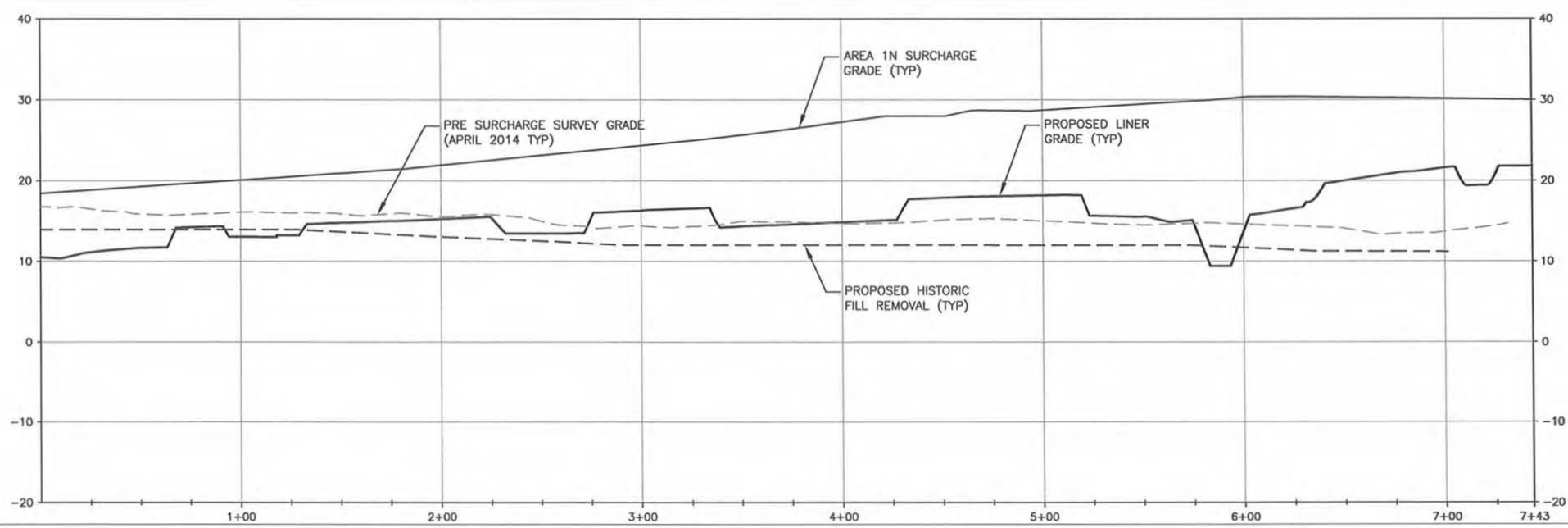
Individual	Discipline	Initial	Date

(Name / Signature):	Does DCB Result in CCO? ☐ Yes (b) ☑ No
Samuel G Shallard	Date: 3/20/15

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





NOTES:

1. CONTOURS SHOWN HEREON REPRESENT THE PROPOSED BOTTOM OF EXCAVATION TO REMOVE APPROXIMATELY 2 FEET OF HISTORIC FILL FROM SURCHARGE AREA 1N.
2. EXCAVATION OF HISTORICAL FILL WILL BEGIN UPON APPROVED REMOVAL OF ALL SURCHARGE MATERIAL AND COMPLETION OF A PRE-EXCAVATION SURVEY BY A REGISTERED LAND SURVEYOR.
3. BOTTOM OF EXCAVATION CONTOURS MAY BE ADJUSTED BASED ON PRE-EXCAVATION SURVEY AND VERIFICATION OF ACTUAL SURCHARGE SETTLEMENT.
4. EXCAVATED HISTORIC FILL MATERIAL WILL BE STOCKPILED IN AN AREA DESIGNATED BY AMEC PERSONNEL FOR UTILIZATION DURING FUTURE DEVEOPMENT OR SAMPLED IN ACCORDANCE WITH THE SOIL MANAGEMENT PLAN TO DETERMINE FINAL DISPOSITION.

0 15 30 60
SCALE IN FEET

FILE NAME: C:\Doravwri\SA-6 North\2013 Excavation Surfaces\Area 1N Historic Fill Removal\Area 1N Historic Fill Removal.dwg PLOT DATE: Thu, 19 Mar 2015 PLOT TIME: 3:46 PM

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
DSGN	TDD	DR TDD / CHK SGS	APVD SGS	

Honeywell
101 COLUMBIA RD. BOX 2108, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
SURCHARGE AREA 1N
HISTORIC FILL REMOVAL
GRADING PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 Airport Executive Park, Suite 113
Nanuet, NJ 08019
(609) 689 - 2929

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	2/26/15
PROJ	3480-13-0377
DWG	CN-101
SHEET	1 OF

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Honeywell RES

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No 026.1: Minor (a) Effective Date: 05/19/2015
Project Location: SA-6	Associated RFI:
Title: Contingent GW System Delete Pumps & Controls	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): Entact	

DCB 026.1 serves to provide notice to Entact that specific components related to the Contingent GW system are being removed from the scope. Associated drawing revisions and supplemental detail will be provided in DCB 026.2.

Supply and installation of items listed below will be deferred pending closure of the caps and stabilization of the groundwater levels and quality within the contingent groundwater system on both SA-6N and 6S. These changes impact the three Groundwater extraction Pump Stations and associated electrical and instrumentation wiring.

Revised Contingent Groundwater drawings will be issued under DCB 026.2

- DWG C-310 Detail CC
  - Submersible Grinder Pump Model HPGR200 and associated electrical wiring.
  - Level switches, level alarm, Pump Power Control Panel and associated electrical and instrumentation cable.
  - 1.5 inch flex discharge hose.
- DWG C-204. Flow Meter and Flow Meter Structure as detailed on DWG 306. Delete in its entirety including all associated instrument cable and conduit.

Contingent GW force mains, electrical and instrument conduit will be installed as shown with pull string/wire to permit installation of electrical and instrumentation wire by others.

Please Note that the above Geomembrane pump station including all pumps, wiring and controls will be installed as shown.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision √ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Attachments: ☐ Yes √ No Cost Implication: √ Yes ☐ No >$50k √ Yes ☐ No Schedule Implication ☐ Yes √ No
Additional Comments:	Design Documents Affected: C-204,C-310, E-301, E-302 CN-201,CN-301,CN-302 CN-305 EN-301, EN-302

Honeywell (AP) Review:

Individual	Discipline	Initial	Date
(Name / Signature): Samuel Shallaro		Does DCB Result in CCO? ☐ Yes (b) ☐ No Date: May 19, 2015	

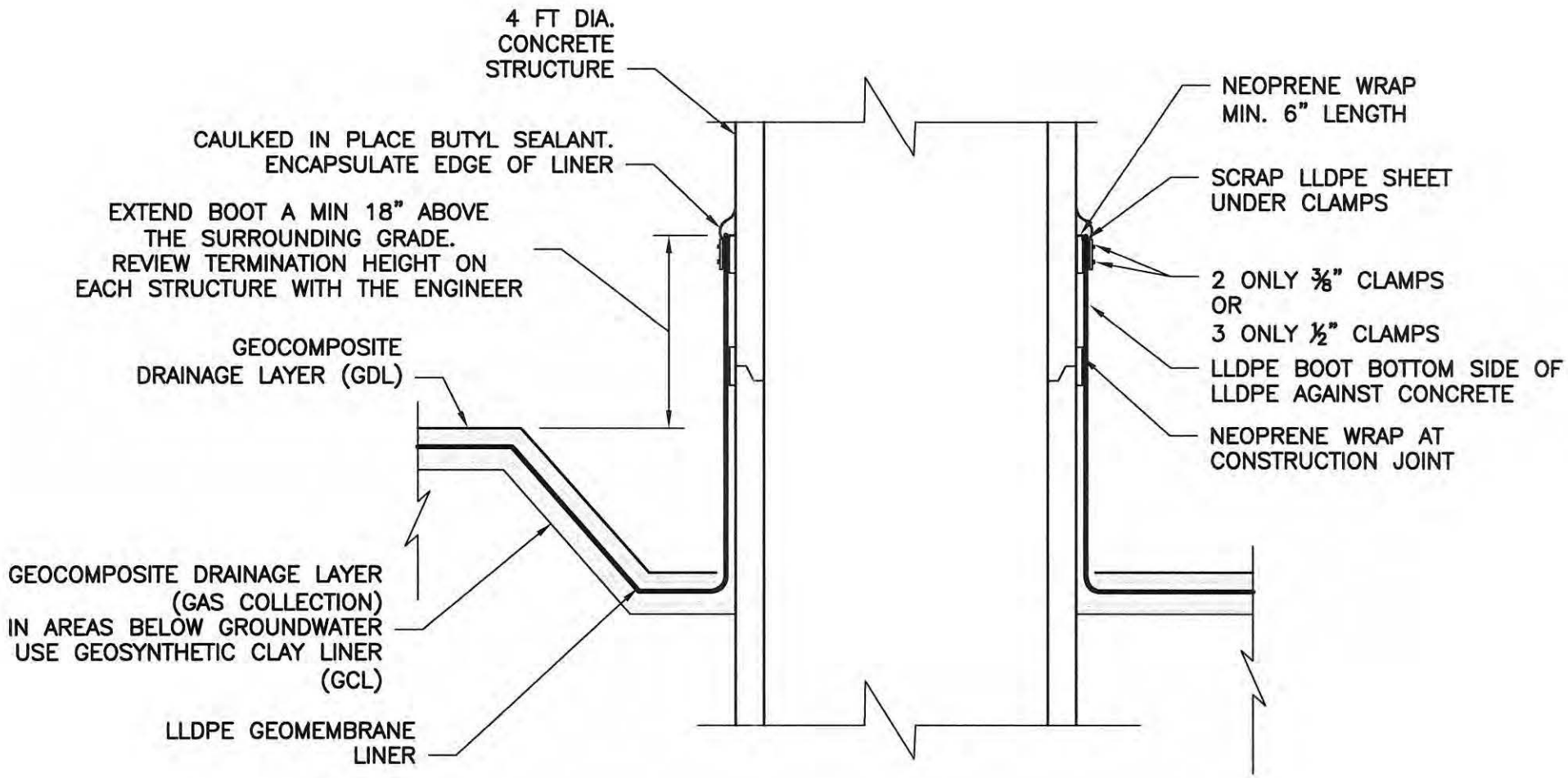
Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No. 037.2: Type: Minor** (a) **Effective Date:** 8/7/15
Project Location: SA-6	**Associated RFI:**
Title: Revised Final 4ft manhole Boot Detail	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377
Description. **AmecFW has conducted further review of this detail with Entact/ESI including field review to improve constructability.** **DCB 037.2 supersedes DCB 037.1.**	
Reason for Change/Modification: ☐Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** See comments **Attachments:** ☑ Yes ☐ No Revised Detail CE Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: The detail provides for an extended boot to accommodate any secondary consolidation rather than attempting to fabricate folds/slack into a circular boot. 1 inch of settlement would result in approximately 2% strain. The LLDPE can tolerate in excess of 200% strain. This detail simplifies fabrication, eliminates folds and will be capable of accommodating more settlement than either the original batten design or DCB 037.1 design.	**Design Documents Affected:** NA
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** [signature] **Date:** 8/7/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

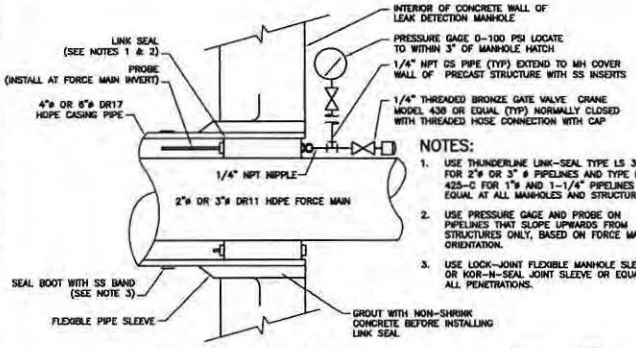
(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



LINER ANCHOR TO CONCRETE STRUCTURE

NTS

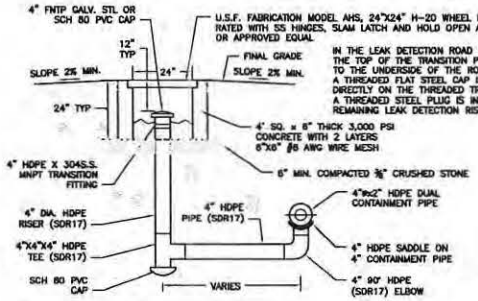
CE
TYP C-304



NOTES:

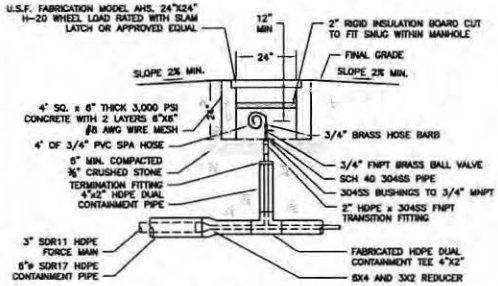
1. USE THUNDERLINE LINK-SEAL TYPE LS 300-C FOR 2"ø OR 3" ø PIPELINES AND TYPE LS 425-C FOR 1"ø AND 1-1/4" PIPELINES OR EQUAL AT ALL MANHOLES AND STRUCTURES.
2. USE PRESSURE GAGE AND PROBE ON PIPELINES THAT SLOPE UPWARDS FROM STRUCTURES ONLY, BASED ON FORCE MAIN ORIENTATION.
3. USE LOCK-JOINT FLEXIBLE MANHOLE SLEEVE OR KOR-N-SEAL JOINT SLEEVE OR EQUAL AT ALL PENETRATIONS.

TYPICAL PENETRATION W/DOUBLE WALL HDPE PIPE DETAIL (X)
NTS — C-304 | C-306

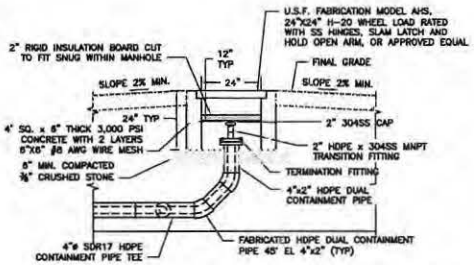


IN THE LEAK DETECTION ROAD BOXES WHERE THE TOP OF THE TRANSITION PIECE IS CLOSE TO THE UNDERSIDE OF THE ROAD BOX COVER A THREADED FLAT STEEL CAP IS INSTALLED DIRECTLY ON THE THREADED TRANSITION PIECE. A THREADED STEEL PLUG IS INSTALLED IN THE REMAINING LEAK DETECTION RISERS.

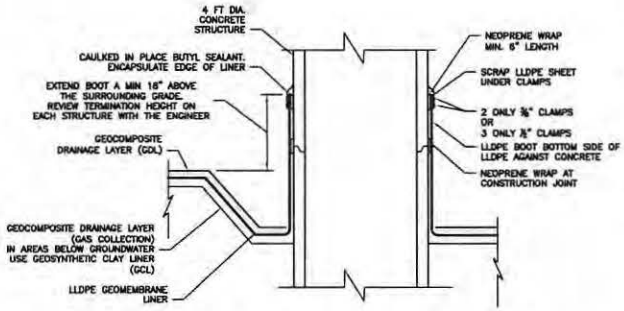
LEAK DETECTION STATION (CG)
NTS — C-204 | C-304



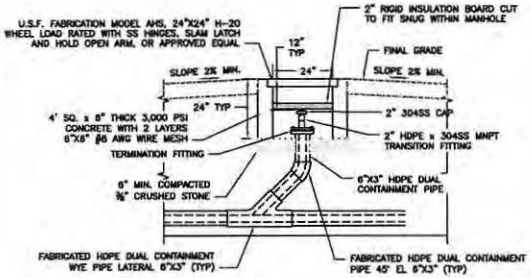
AIR RELEASE STATION (CF)
NTS — C-204 | C-304



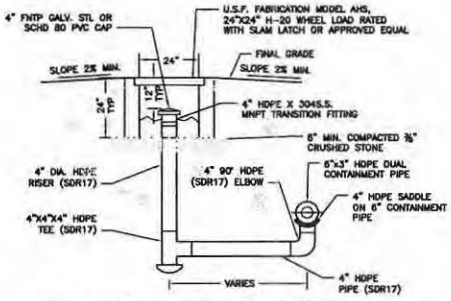
DOUBLE CONTAINED ELBOW PIPE CLEANOUT (CH)
NTS — C-204 | C-304



LINER ANCHOR TO CONCRETE STRUCTURE (CE)
NTS — TYP | C-304



EXISTING DOUBLE CONTAINED WYE PIPE CLEANOUT (CI)
NTS — C-204 | C-304



EXISTING 3" LEAK DETECTION STATION (CJ)
NTS — C-204 | C-304

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND C-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

NO.	DATE	REVISION	BY	APV'D
3	08/05/15	DCB 37.1 REVISED DETAIL CE	RJR	SGS
2	07/28/15	DCB 37 REVISED DETAIL CE	RJR	SGS
1	02/13/15	DCB 007.3	TDC	SGS
C	06/07/13	ISSUED FOR CONSTRUCTION	TDC	SHM

DSGN | DR | REQ'D | CHK | RJR | REQ'D | APV'D

Honeywell — 101 COLUMBIA RD., ROY FIELD, MORRISTOWN, NJ 07960

CHROMIUM REMEDY STUDY AREA 6 SOUTH SITES 073, 124, 125, 134, 140, AND 163 JERSEY CITY, NEW JERSEY

DRAWING STATUS: 100 PERCENT DESIGN DRAWINGS

CIVIL

CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

amec — Environment & Infrastructure, Inc. 200 American Metro Blvd Suite 117 Hamilton, NJ 08619 (609) 890-1892 NJ Certificate of Authorization No. 24GA28010400

VERIFY SCALE — BAR IS ONE INCH ON ORIGINAL DRAWING

DATE	
PROJ	3480-12-0317
DWG	C-304
SHEET	41 OF 66

THIS DRAWING IS THE PROPERTY OF AMEC. ANY USE OF THIS DRAWING WITHOUT AUTHORIZATION IS PROHIBITED. REPRODUCTION OF THIS DRAWING IN WHOLE OR IN PART FOR THE MATERIAL DESCRIBED THEREON FOR THE USE OF THE PURPOSES FOR ANY PURPOSE OTHER THAN PREVIOUSLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL JERSEY CITY\Cal Design\SAR-C3D\CAD\CA6-North-South-DW_Extraction_Trench\CN41 C-304_DWFM_Details.dwg PLOT DATE: Wed, 06 Aug 2015 PLOT TIME: 3:49 PM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** **DCB Type:** Minor(a) **Effective Date: 8/21/15**
Project Location: SA-6	**Associated RFI:**
Title: Anchor Trench Applicability	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA-6S Caps. As such, Paragraph 3.02 is no longer required and therefore the following is deleted in its entirety.

SECTION 02372
CAP GEOMEMBRANE LINER

3.02 ANCHOR TRENCH

A. The anchor trench shall be constructed as shown on the Drawings and/or as specified herein.

B. The anchor trench shall be adequately drained to prevent water ponding and softening of adjacent soils. The anchor trench shall be backfilled and compacted.

C. Geosynthetic material in the anchor trench shall be temporarily anchored with sandbags or other suitable materials until final approvals are obtained.

D. Backfilling of the anchor trench shall be conducted when the geomembrane is in its most contracted (taut) state.

E. Care shall be taken when backfilling and compacting the trenches to prevent any damage to the lining materials.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:**
	Attachments: ☐ Yes ☑ No
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** Delete Section 3.02 Anchor Trench from Spec 02372
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 8/21/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

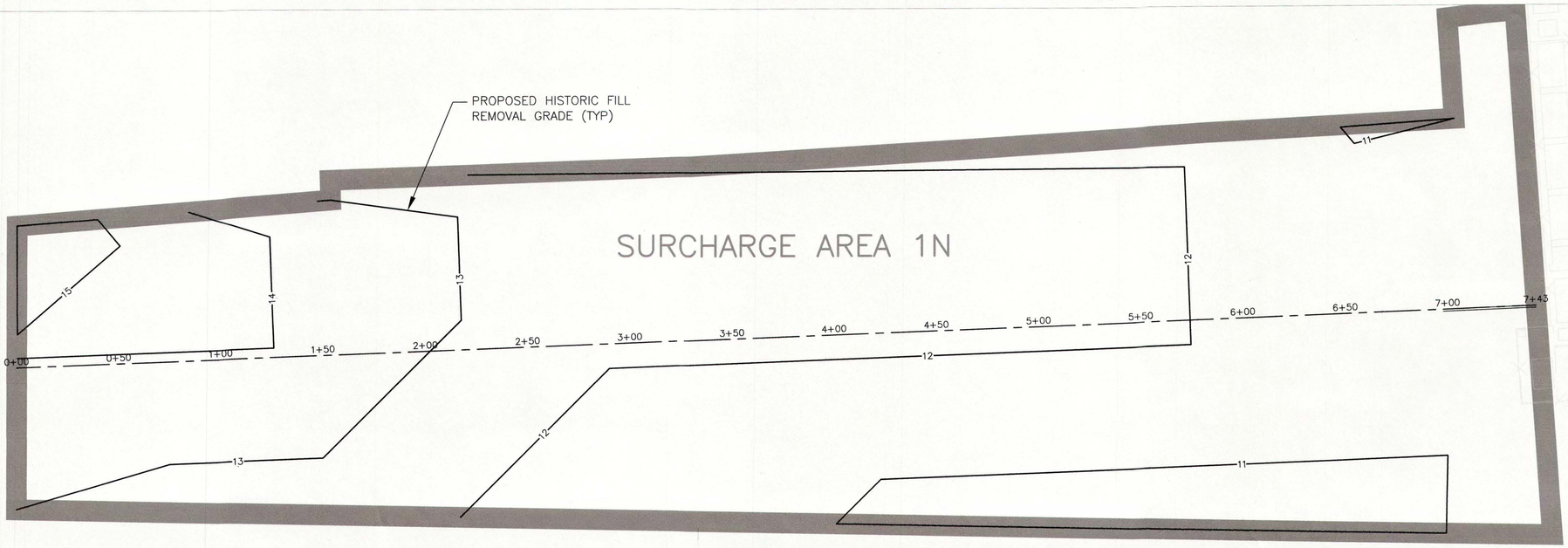
(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

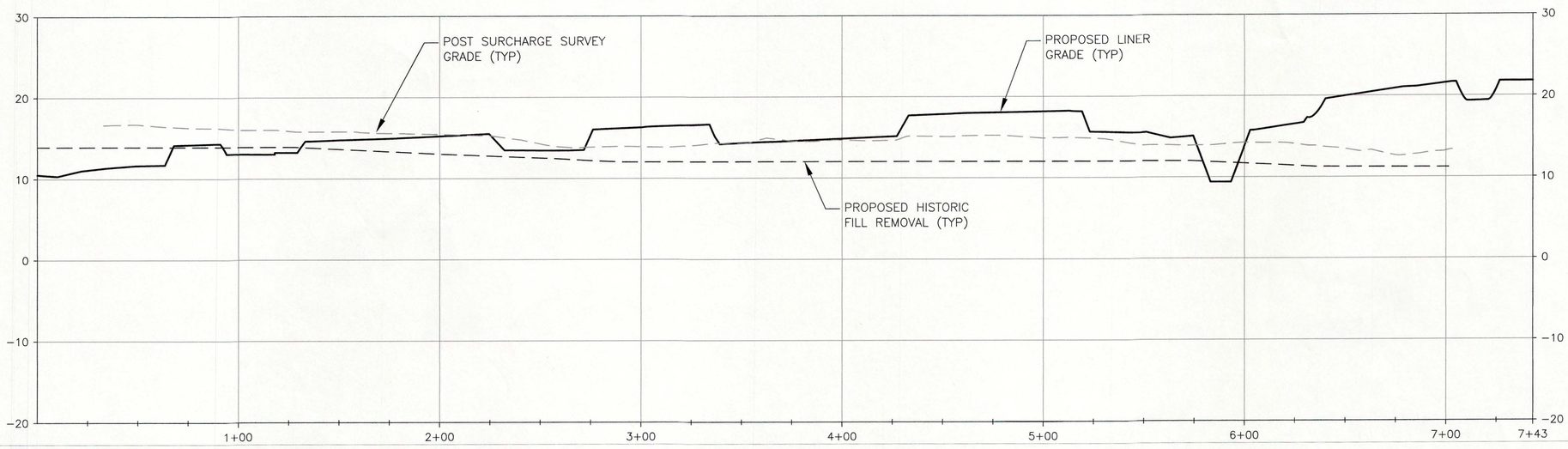
Honeywell RES

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 045 **DCB Type:** Minor(a) **Effective Date:** 9/02/15
Project Location: SA-6N **Title:** 2ft Cut Historic Fill Area 1N	**Associated RFI:** ☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377
Description. Remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N	
Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** See additional comments **Attachments:** ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☐ No
Additional Comments: Area 1N Surcharge has been completed and surcharge removed and the surface surveyed. Sampling conducted prior to the design indicates that Area 1N surficial soils are composed of <20 mg/kg Historic Fill. The attached drawing shows the proposed limits of removal of approximately 2 ft. of historic fill to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	**Design Documents Affected:** A new drawing CN-101A has been created to show the excavation limits
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 9/02/15
(Name / Signature):	**Does DCB result in CCO?** To be determined ☐ **Yes (b)** ☐ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





NOTES:

1. CONTOURS SHOWN HEREON REPRESENT THE PROPOSED BOTTOM OF EXCAVATION TO REMOVE APPROXIMATELY 2 FEET OF HISTORIC FILL FROM SURCHARGE AREA 1N.
2. EXCAVATED HISTORIC FILL MATERIAL WILL BE STOCKPILED IN AN AREA DESIGNATED BY AMEC PERSONNEL FOR UTILIZATION DURING FUTURE DEVELOPMENT OR SAMPLED IN ACCORDANCE WITH THE SOIL MANAGEMENT PLAN TO DETERMINE FINAL DISPOSITION.
3. ANY MATERIALS FAILING THE SOIL SAMPLING CRITERIA FOR REUSE WILL BE RETURNED AND PLACED UNDER THE CAP.
4. THE DRAWING AND FILES DEPICT A BOTTOM SURFACE AND THE CONTRACTOR WILL EXCAVATE TO THIS SURFACE WITH A MAXIMUM TOLERANCE 0.5 FEET BELOW THE DESIGN GRADES.
5. IF ANY VISUAL INDICATION OF CHROMIUM IMPACTED SOILS IS OBSERVED EXCAVATION WILL CEASE IN THAT LOCATION PENDING CONFIRMATION TESTING BY AMEC.

0 15 30 60
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
0	9/1/15	REMOVAL APPROXIMATELY 2 FT OF HISTORIC FILL	TDD	SGS

DSGN TDD DR TDD CHK SGS APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

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Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
SURCHARGE AREA 1N
HISTORIC FILL REMOVAL
GRADING PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 888 - 2829

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	9/1/15
PROJ	3480-13-0377
DWG	CN-101A
SHEET	OF

FILE NAME: C:\Donovan\SA-6 North\2013 Excavation Surfaces\Area 1N Historic Fill Removal\Area 1N Historic Fill Removal.dwg PLOT DATE: Tue, 01 Sep 2015 PLOT TIME: 2:26 PM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** **Type:** Minor(a) **Effective Date:** 12/14/15
Project Location: SA-6 **Title:** Specification 02372 - Spark Testing	**Associated RFI:** ☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds at Study Area 6 North that cannot be tested by other means. Spark testing will be performed in accordance with ASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative.

The QA Plan has been modified to reflect the specification change. QA plan revisions include the modification of the location specific boot testing forms including a Cross reference log between the boot Fabrication Form and Spark Testing documentation.

Specification 02372 has been reissued as 02372 Rev 2.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other (see Additional Comments)	**Explanation or Reason:** See Additional Comments **Attachments:** ☑ Yes ☐ No Specification 02372 Rev 2. Boot Fabrication/Spark testing forms. Langan Geosynthetics QA Plan Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	**Design Documents Affected:** Specification 02372 Geosynthetics QA Plan

Honeywell (AP) Review:

Individual: Geoff Shallard	**Discipline:** EOR	**Initial:**	**Date: 12/14/2015**
(Name / Signature):		**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**	

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

Revised Specification 02372

Rev 01 DCB-042 Eliminate Anchor Trench Language Section 3.02
Rev 02 DCB-052 Add Spark Testing

SECTION 02372

CAP GEOMEMBRANE LINER

PART 1 - GENERAL

1.01 DESCRIPTION

Work provided in this Section includes furnishing labor, materials, equipment and incidentals required to install a 60-mil textured (both sides) Linear Low Density Polyethylene (LLDPE) geomembrane as part of the multi-layer cap construction as shown on the Drawings and as specified herein.

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Section 01330: Submittal Procedures
B. Section 02315: Earthwork
C. Section 02374: Geocomposite Drainage Layer

1.03 REFERENCES

The publications listed below, latest edition unless otherwise noted, form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 698	Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbs/ft^3 (600 kN-m/m^3)
ASTM D 792	Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement
ASTM D 1004	Standard Test Method for Tear Resistance (Graves Tear) of Plastic Film and Sheeting
ASTM D 1238	Standard Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer
ASTM D 1505	Standard Test Method for Density of Plastics by the Density-Gradient Technique
ASTM D 1603	Standard Test Method for Carbon Black in Olefin Plastics
ASTM D 3895	Standard Test Method for Oxidative-Induction Time of Polyolefins By Differential Scanning Calorimetry
ASTM D 4218	Standard Test Method for Determination of Carbon Black Content in Polyethylene Compounds by the Muffle-Furnace Technique

ASTM D 4437	Standard Practice for Non-destructive Testing (NDT) Determining the Integrity of Field Seams Used in Joining Flexible Polymeric Sheet Geomembranes
ASTM D 4833	Standard Test Method for Index Puncture Resistance of Geotextile, Geomembranes and Related Products
ASTM D 5321	Standard Test Method for Determining the Coefficient of Soil and Geosynthetic or Geosynthetic and Geosynthetic Friction by the Direct Shear Method
ASTM D 5323	Standard Practice for Determination of 2% Secant Modulus for Polyethylene Geomembranes
ASTM D 5596	Standard Test Method for Microscopic Evaluation of the Dispersion of Carbon Black in Polyolefin Geosynthetics
ASTM D 5617	Standard Test Method for Multi-Axial Tension Test for Geosynthetics
ASTM D 5721	Standard Practice for Air-Oven Aging of Polyolefin Geomembranes
ASTM D 5885	Standard Test method for Oxidative Induction Time of Polyolefin Geosynthetics By High-Pressure Differential Scanning Calorimetry
ASTM D 5994	Standard Test Method for Measuring the Core Thickness of Textured Geomembrane
ASTM D 6365	Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. (Reapproved 2006)
ASTM D 6392	Standard Test Method for Determining the Integrity of Non-reinforced Geomembrane Seams Produced Using Thermo-Fusion Methods
ASTM D6693	Standard Test Method for Determining Tensile Properties of Non-reinforced Polyethylene and Non-reinforced Flexible Polypropylene Geomembranes

GEOSYNTHETIC RESEARCH INSTITUTE (GRI) STANDARDS

GRI GM11	Accelerated Weathering of Geomembranes using a Fluorescent UVA-Condensation Exposure Device
GRI GM12	Measurement of the Asperity Height of Textured Geomembranes Using a Depth Gage

GRI GM17	Test Properties, Testing Frequency and Recommended Warranty for Linear Low Density Polyethylene (LLDPE) Smooth and Textured Geomembranes
GRI GM 19	Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane

1.04 SUBMITTALS

Submit the following in accordance with Section 01330, “Submittal Procedures”.

A. Submittals relating to liner Manufacturer and liner material:
   1. Manufacturing:
      a. List of material properties of the liner proposed for the project meeting the requirements herein with attached certified test results.
      b. Manufacturer's quality control program and manual including description of in-house laboratory facilities.
      c. A list of ten completed facilities totaling a minimum of ten million square feet, for which the Manufacturer has manufactured LLDPE geomembrane. The following information shall be provided for each facility.
         1. Name and purpose of facility, its location and date of installation.
         2. Name of Owner, Project Manager, Design Engineer and Installer.
         3. Geomembrane thickness and surface area.
      d. Qualifications statement in accordance with Section 1.06 “Qualifications”.
      e. Manufacturer’s recommendations for geomembrane installation procedures.
   2. The origin of the resin to be used in the manufacturing of geomembrane used on-site including the suppliers name and production plant, as well as brand name and tracking number.
   3. Copy of quality control certificates in conformance with Section 2.01. Certifications that the LLDPE geomembrane and extrudate produced for this project have compatible properties. Quality control reports for the time period materials were produced for this project.
   4. A "Sample Warranty" in accordance with Section 1.08.
   5. Prior to shipment of liner material to the site, provide 5 samples (roll width by 3 feet) from 5 random rolls to be provided. Only ship to site, material that is approved by the Contractor.
      Submittals relating to the Installer:
   6. Installation Capabilities:
      a. Information on equipment and personnel.
      b. Anticipated average daily production.
      c. Number of crews employed and number available for this work.
      d. Qualifications in accordance with Section 1.06 “Qualifications”.
   7. A list of five completed facilities totaling 2 million square feet for which the Installer has installed LLDPE geomembrane. The following information shall be provided for each facility:

a. Name and purpose of facility, its location and date of installation.
b. Name of Owner, Design Engineer, Manufacturer and name and telephone number of Manufacturer's Representative at the facility who can discuss the project.
c. Surface area of the installed LLDPE geomembrane.
d. Type of seaming, patching and tacking equipment.
e. A copy of the Manufacturer's certification or approval letter.

8. As-built drawings reflecting the actual installation of geomembrane liner, including the location of seams, the location of destructive samples, and the location of repair work.

B. Within 10 days prior to liner installation submit the following:

1. Shop Drawings:
   a. Proposed panel layout showing the installation layout identifying field seams as well as any variance or additional details which deviate from the Drawings.
   b. Details of seaming the geomembrane, anchoring, connections, penetrations and other construction details, which deviate from these specifications.
2. Installation Quality Control:
   a. A quality control manual that specifically defines the quality control program during installation for this project. The manual shall include daily procedures, welding techniques, field testing procedures, lab testing procedures, specific steps that are to be taken in the event of a failure or defect, personnel requirements, levels of authority and other information necessary to ensure a high quality geomembrane installation consistent with Manufacturer recommendations and these specifications.
   b. Resume of the Installation Supervisor to be assigned to and on-site during the project.
   c. Resume of the Master Seamer to be assigned to and on-site during the project.
   d. A list of personnel performing field seaming operations along with pertinent experience information.

1.05 QUALITY CONTROL

A. In addition to Manufacturer and Installer requirements for qualifications and certification specified in Paragraph 1.06, Quality Control consists of conformance testing of the material prior to delivery to the site and field quality control during installation.

B. Manufacturer conformance testing requirements are specified in Paragraph 2.02. The purpose of conformance testing is to verify that the supplied material conforms to the Specifications and to the Manufacturer's quality control certificates.

C. Field quality control testing requirements are specified in Paragraph 3.06 and 3.07. The purpose of field quality control procedures is to verify that the geomembrane has been installed in accordance with the specifications and Manufacturer's recommendations.

D. Field Quality Control Forms:

The forms in attached Appendix A shall be used for field installation documentation. Alternative forms may be used for documentation as submitted and approved by the Contractor and Engineer.

E. Geomembrane Quality Control Documentation:

1. Project Files:

a. Two duplicate project files shall be maintained. One shall be maintained by the Contractor's Field Representative and the other shall be maintained by the Installer. The Installer shall provide the Contractor's Field Representative with complete daily documentation by the end of the following work day. At the end of each work week, the Contractor and Installer will update and check the files to assure that copies of pertinent project information are included in each file.

b. Blank copies of the project forms shall be available onsite throughout the duration of the project and are included in attached Appendix A.

1.06 QUALIFICATIONS

A. Manufacturer:
The Manufacturer of the lining material described hereunder shall have previously demonstrated its ability to produce this geomembrane by having at least 5 years continuous experience in the manufacturing of LLDPE geomembrane and successfully manufactured a minimum of 10 million square feet of similar material for hydraulic liner installations.

B. Installer:
The Installer shall be the Manufacturer or a Manufacturer approved Installer trained to install the Manufacturer's geomembrane. Installation shall be performed under the constant direction of a single Installation Supervisor who shall remain on site and be in responsible charge, through the subgrade approval, geomembrane installation, for geomembrane layout, seaming, patching, testing, repairs and other site activities required by the Installer. The Installer shall also provide a Master Seamer (who may also be the Installation Supervisor). The Installation Supervisor/Master Seamer shall have installed or supervised the installation and seaming of a minimum of two million square feet of LLDPE geomembrane liner.

1.07 DELIVERY, STORAGE AND HANDLING

A. The geomembrane rolls shall be packaged and shipped by appropriate means to prevent damage of the geomembrane rolls. Off-loading, handling, and storage of the geomembrane is the responsibility of the Installer. The Installer shall be responsible for replacing any damaged or unacceptable material at no additional cost to the Contractor.

B. Roll Identification:
The Manufacturer shall provide geomembrane rolls marked or tagged with the following information:

1. Manufacturer's name;
2. Product identification;
3. Thickness;
4. Roll dimensions;

5. Manufacturer's roll and lot number; and
6. Date of manufacture.

C Damage during off-loading shall be documented by the Contractor's Field Representative. Damaged rolls must be separated from the undamaged rolls and removed by the Manufacturer.

D. The geomembrane rolls shall be stored so as to be protected from puncture, dirt, grease, water, mud, mechanical abrasions and excessive heat or cold that may damage the geomembrane material. The rolls shall be stored on a prepared surface (not wooden pallets or hard abrasive surfaces) and shall not be stacked more than two rolls high.

1.08 MATERIAL WARRANTY

The LLDPE geomembrane Manufacturer shall warrant the geomembrane against manufacturing defects and material degradation under outdoor exposure for a period of 5 years on a prorated basis from the date of final payment and acceptance. The Manufacturer shall repair or replace, including material and labor, at no expense to Honeywell, any material which fails from the above causes within the warranty period. The Manufacturer shall furnish a written warranty covering the requirements of this Paragraph.

1.09 GUARANTEE

The Installer shall guarantee the LLDPE geomembrane against defects in installation and workmanship for the period of 1 year commencing with the date of final payment and acceptance by the Contractor. The guarantee shall include the services of qualified personnel, all materials required for the repairs and testing at no expense to the Contractor.

1.10 DEFINITIONS AND RESPONSIBILITIES

A. Contractor:
The Contractor is the firm or corporation with whom Honeywell has entered into agreement to construct the project. The Contractor is responsible for review of submittals by the Manufacturer and the Installer as required by the Specifications. The Contractor is also responsible for scheduling and coordination of the required work with the Manufacturer and the Installer to complete the project.

B. Contractor's Field Representative:
The Contractor's field representative shall oversee the installation of the geomembrane by the Installer. The Contractor's field representative will be responsible for inspections and reviewing testing results for conformance with the specified requirements. The Contractor's field representative will compile QC test results daily and document all QC activities in weekly reports.

C. Engineer:
The Engineer shall be the individual or firm responsible for the design and preparation of the project's Contract Drawings and Specifications and shall provide technical guidance and review when required.

D. Manufacturer:
The Manufacturer is the firm or corporation contracted by the Contractor for production of the geomembrane material to be used in the project. The Manufacturer shall produce a consistent product meeting or exceeding the project

specifications and shall provide quality control documentation for the product specified herein.

E. Installer:
The Installer is the firm or corporation contracted by the Contractor for installation of the geomembrane. The Installer shall be the Manufacturer or a Manufacturer approved Installer trained and certified to install the Manufacturer's geomembrane. The Installer shall be responsible for field handling, storing, placing, seaming, sampling, testing, protecting and other aspects of the geomembrane installation.

F. Quality Control Laboratory:
An independent Quality Control Laboratory (QCL) hired by the Contractor to perform conformance testing of the liner material with demonstrated qualifications for conducting required testing.

G. Quality Assurance (QA). QA inspections will be conducted by an Independent Third Party specializing in Geoemembrane QC/QA. The QA inspector will collect samples and conduct independent QA testing.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General:
1. The resin from which the geomembrane is made shall generally be in the density range of 0.926 g/cc or lower, and have a melt index value per ASTM D 1238 of less than 1.0 g/10 min. Formulated sheet density shall be 0.939 g/cc or lower.
2. The blended resin shall contain two to three percent carbon black, anti-oxidants and heat stabilizer, but no fillers or extenders. The resin shall be virgin material, with no more than ten (10) percent rework. If rework is used, it must be of the same formulation as the parent material. No post-consumer resin of any type shall be added to the formulation.
3. The geomembrane material shall be so produced as to be free of holes, blisters, thin areas, inconsistent texturing, undispersed raw materials, or any sign of contamination by foreign matter.
4. The sheets shall be manufactured in a minimum 15-ft seamless width.

B. Properties:
1. The geomembrane rolls shall be textured LLDPE and shall meet the specified physical, mechanical, and chemical property requirements listed in attached Table 02372-1. Manufacturing Quality Control testing shall be conducted at the frequencies recommended in GRI GM 17 unless otherwise noted.

C. Other Materials:
1. Extrudate welding rods (for fusion welds) shall be compatible and similar to the geomembrane and supplied by the Manufacturer and shall be delivered in the original sealed containers. Each container shall have a label bearing the brand name, Manufacturer's lot number and complete directions as to proper storage.
2. Boots and shrouds for pipe penetration shall fit snugly around the pipe. Prefabricated material shall be designed to fit site specific conditions for

the intended slope and size of pipe and be made of compatible and identical materials as the geomembrane.

2.02 CONFORMANCE TESTING

A. Tests:
Conformance testing shall be performed by the independent Quality Control Laboratory (QCL) provided and paid for by the Contractor. The Manufacturer shall obtain the samples from the roll, mark the machine direction and identification number and ship the samples to the QCL. The following conformance tests shall be conducted at the laboratory prior to shipment to the site:
1. Thickness
2. Density
3. Tensile properties
4. Tear resistance
5. Puncture resistance
6. Carbon black content
7. Carbon black dispersion
8. Asperity height
9. Interface Strength

B. Frequency:
These conformance tests shall be performed in accordance with Table 02372-1 and paragraph 2.1.B.2 for interface strength, at a frequency of one sample per 100,000 square feet unless otherwise noted or approved by the Contractor.

C. Acceptance or Rejection:
Conformance test results shall be reviewed by the Contractor and accepted or rejected, prior to shipment of the geomembrane. Test results shall meet, or exceed, the property values listed in Table 02372-1. The course of action implemented for retesting failing tests shall be approved by the Contractor. In case of failing test results, the Manufacturer may request that another sample be retested by the independent laboratory with Manufacturer's technical representative present during the testing procedures. This retesting shall be paid for by the Manufacturer. The Manufacturer may also have the sample retested at two different laboratories approved by the Contractor, paid for by the Manufacturer. If both laboratories report passing results, the material shall be accepted. If both laboratories do not report passing results, geomembrane material from the lot or bracketed square footage representing the failing sample will be considered out of specification and rejected.

PART 3 - EXECUTION

3.01 SUBGRADE PREPARATION

A. Preparation of the subgrade using cushion fill for the cover system geomembrane (60-mil geomembrane) shall be as specified in Section 02315, “Earthwork”.

B. The surface of the subgrade shall be smooth, uniform, relatively free from abrupt changes in grade, rocks and stones greater than 1/2-inch for 60-mil geomembrane, sharp objects, debris and deleterious materials. During actual placing and seaming of the geomembrane, the subgrade surface shall be kept free of standing water. If

the subgrade below the geomembrane becomes wet and unstable, it shall be recompacted in accordance with Section 02315, “Earthwork”. Before the geomembrane installation begins, the Contractor and Installer shall verify and sign off that the surface area to be lined has been properly prepared.

3.03 GEOMEMBRANE PLACEMENT

A. Weather Conditions:
Geomembrane placement shall not proceed at an ambient temperature below 32 degrees F or above 104 degrees F unless otherwise authorized, in writing, by the Contractor. Geomembrane placement shall not be performed during precipitation, excessive moisture, in an area of ponded water, or excessive winds that adversely affect the geomembrane placement.

B. Method of Placement:

1. Each panel of the geomembrane shall be rolled out and installed in accordance with the approved shop drawings prepared by the Installer. The layout shall be designed to keep field seams of the LLDPE geomembrane liner to a minimum and consistent with proper methods of LLDPE geomembrane installation. Panel layout and deployment shall be such that seams run down slope (i.e., perpendicular to top of slope). End seams across slopes greater than 4:1 (4 horizontal and 1 vertical) shall be avoided. See additional seam requirements in Section 3.04.
2. Geomembrane rolls shall be placed in a manner to prevent the material from being stretched during deployment.
3. The Contractor’s field representative shall inspect each panel, after placement and prior to seaming, for damage and/or defects. Also, inspect geomembrane prior to geocomposite drainage layer installation. Defective or damaged panels shall be replaced or repaired, in accordance with Section 3.07.G of the specifications.
4. The Installer shall avoid dragging the geomembrane sheets on rough soil subgrade.
5. Geomembrane shall be anchored as shown on the Drawings and/or consistent with Manufacturer's recommendations.
6. Personnel working on the geomembrane shall not smoke, wear damaging shoes or involve themselves in any activity that may damage the geomembrane.
7. Edges and large exposed areas of the geomembrane shall be properly weighted to avoid uplift due to wind and to prevent lateral movement of the geomembrane.
8. Vehicular traffic except for proper installation vehicles (ATVs) across the geomembrane shall not be allowed. Any vehicle used prior to or after liner placement shall be first approved by the Contractor’s field representative.
9. Repaired areas and destructive sample locations shall be recorded and indicated on the as-built drawings.
10. When tying into previously installed geomembrane, excavation, if required, adjacent to installed liner shall be performed by hand to prevent damage.

11. The geomembrane shall be kept free of debris, unnecessary tools and materials. In general, the geomembrane area shall remain neat in appearance.
12. Equipment necessary to perform the installation (generators, compressors, etc) at a minimum shall have a scrap geomembrane sheet placed underneath to protect the installed geomembrane from possible damage.
13. No welder or testing equipment shall be allowed to remain on top of the installed geomembrane overnight. Equipment must be removed and stored off the installed geomembrane.
14. No fueling of equipment will be allowed on top of the installed geomembrane. No fuel containers shall be allowed on the geomembrane.

C. Liner Boots (Penetrations):

1. LLDPE boots or shrouds for liner penetrations shall be furnished and installed where indicated on the Drawings. The boot may be prefabricated offsite or field fabricated on site. Prefabricated material, if utilized, shall be designed to fit site specific conditions for the intended slope and size of pipe and be made of compatible and similar materials as the geomembrane. Field fabricated boots will be measured and fabricated to suit the location specific field conditions.
2. The geomembrane end of the boots shall terminate in a skirt section suitable for welding to the geomembrane liner. The overlap between the boot and the geomembrane shall be approximately 18-in. The boot shall be welded to the geomembrane as specified herein.
3. Boots and shrouds shall fit snugly around the pipe, pole, wells or vaults.
4. A neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure and secured with a 1-in wide stainless steel clamp. An LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection.
5. For pipes, poles, wells, vaults larger than 4-in diameter, a second clamp shall be used. The fastener of the second clamp shall be located on the opposite side from the first clamp, to compensate for uneven pressure and elongation.

3.04 FIELD SEAMS

A. Individual panels of geomembrane shall be laid out and overlapped by a minimum of 4-inches for fusion welding and 6 inches for extrusion welding prior to welding. The area to be welded shall be cleaned and prepared in accordance with the quality control welding procedures approved by the Contractor’s field representative.

B. Double track hot wedge fusion welds shall be used for straight long seams to the maximum extent possible.

C. Extrusion welds shall be used in areas inaccessible for double track hot wedge fusion welding, including patches, repairs and penetration boots.

D. The welding equipment used shall be capable of continuously monitoring and controlling the temperatures in the zone of contact where the machine is actually fusing the geomembrane material so as to ensure that changes in environmental conditions will not affect the integrity of the weld.

E. No "fish mouths" or wrinkles will be allowed within the seam area. Where "fish mouths" or wrinkles occur, the material shall be cut, overlapped and an extrusion weld patch shall be applied. Welds upon completion of the work shall be tightly

bonded. Any geomembrane area showing injury due to excessive scuffing, puncture, or distress from any cause shall be replaced or repaired with an additional piece of geomembrane. The number of patches per 100-ft length of seam length shall not exceed five. If more than five patches per 100-ft length are necessary, then the entire 100-ft length of seam shall be removed. Further welding will cease at this time and the Contractor's field representative shall be notified.

F. Seams shall have a seam number that corresponds with the panel layout numbers. The numbering system shall be used in the development of the as-built drawings. Seam numbers shall be derived from the combination of the two panel numbers that are to be welded together. Patches, boots and repairs shall be numbered using a system that includes the panel number where the patch, boot or repair is located.

G. Fusion welded "T" seams (i.e., the result of the geomembrane panels placed perpendicular to each other) shall be double welded where possible. The extrusion process shall be used for the second weld.

H. Extrudate shall be free of dirt, dry and protected from damage.

I. If an extrusion welder is stopped for longer than one minute, it shall be purged to remove heat degraded extrudate. Purged extrudate shall not be placed on the installed geomembrane.

J. Seams constructed on sloped surfaces shall be perpendicular to the top and toe of the slope (vertical seams).

K. Panels placed on sloped surfaces (steeper than 4:1) shall extend a minimum of 5-ft inward (on the flat) from the top of slope or edge of trench.

L. End seams shall be staggered a minimum of 5-ft in length between contiguous panels. No end seams are allowed on slopes 4:1 (4 horizontal and 1 vertical) or greater, unless otherwise approved by the Contractor.

M. To prevent moisture buildup during fusion welding, it may be necessary to place a movable protective layer of plastic (skid sheet) directly below each overlap of geomembrane that is to be seamed.

N. Seam welds shall extend the full extent into the anchor trench.

O. Factory seams, field seams and repair welds shall meet seam strength requirements specified in Table 02372-2.

P. Seams shall be "shingled" or "rain-lapped."

3.05 SEAMING WEATHER CONDITIONS

A. Normal Weather Conditions:

1. The normal required weather conditions for seaming are:
   a. Ambient temperature higher than 32 degrees F and lower than 104 degrees F.
   b. No precipitation or other excessive moisture, such as fog or dew.
   c. No excessive winds.
2. These weather conditions shall be fulfilled during seaming process.

B. Cold Weather Conditions:
   1. If the ambient air temperature is below 32 degrees F seaming activity is to be avoided. If necessary, Contractor shall provide separate plan for approval.

C. Warm Weather Conditions:
   1. If the ambient air temperature is above 104 degrees F, no seaming of geomembrane shall be permitted unless the Installer can demonstrate, to the satisfaction of the Contractor's field representative that geomembrane seam quality is not adversely impacted.
   2. Test seams shall be performed under similar ambient air temperature conditions as the actual seams.
   3. Additional destructive tests shall be taken at the discretion of the Contractor's field representative.

3.06 FIELD QUALITY CONTROL

A. Start-up Testing:
   1. A test weld 3-ft long from each welding machine shall be run upon the beginning of each shift and every five hours thereafter, under the same conditions as exist for the geomembrane welding. The test weld shall be marked with date, time of day, Seamer's initials, temperature and speed settings (for fusion welds) or temperature and preheat settings (for extrusion welds), and machine number. The Installer shall provide a calibrated tensiometer, on-site before and during geomembrane installation for the purpose of testing samples. Six 1-in wide specimens shall be cut from each test weld and tested on-site in the presence of the Contractor's field representative (three for peel and three for shear strength) in accordance with Table 02372-2. To account for minor variations in conditions, the Seamer may reduce the weld speed by a maximum of 15% without the need to perform additional test welds.
   2. Test seams shall be performed under the same conditions as the actual seams and shall be at least 3-ft long and 1-ft wide after seaming. Material for test seams shall be cut out of the approved geomembrane rolls.

B. Nondestructive Seam Testing:
   1. The Installer shall perform a nondestructive test on field seams over their full length. The purpose of this test is to assure continuity and integrity of the seams. Vacuum, air pressure, and spark testing shall be used for nondestructive testing. The vacuum test shall be used for extrusion welds. The air pressure test shall be used for double track fusion welds. Spark Testing will be used on extrusion welds where accessibility precludes the use of the Vacuum test.
   2. Vacuum Testing:
      a. Equipment for testing extrusion seams shall be comprised of the following:
         1. A vacuum box assembly consisting of a rigid housing, a transparent viewing window, a soft rubber gasket attached to the bottom, port hole or valve assembly and a vacuum gauge.
         2. A vacuum tank and pump assembly equipped with a pressure controller and pipe connections.

3. A rubber pressure/vacuum hose with fittings and connections.
4. A plastic bucket and wide paint brush or mop.
5. A soapy solution.

b. The following procedures shall be followed by the Installer:
1. Excess sheet overlap shall be trimmed away.
2. Clean the window, gasket surfaces and check for leaks.
3. Energize the vacuum pump and reduce the tank pressure to approximately 5 psi.
4. Wet a strip of geomembrane approximately 12-in by 48-in (length of box) with the soapy solution.
5. Place the box over the wetted area and compress.
6. Close the bleed valve and open the vacuum valve.
7. Ensure that a leak-tight seal is created.
8. For a minimum period of 10 seconds, examine the geomembrane through the viewing window for the presence of soap bubbles.
9. If no bubbles appear after 10 seconds, close the vacuum valve and open the bleed valve, move the box over the next adjoining area with a minimum of 3-in overlap and repeat the process.
10. Areas where soap bubbles appear shall be marked and repaired in accordance with Paragraph 3.07.G and then retested.

c.

Deleted: If the seam is not accessible to vacuum box equipment and cannot be tested prior to final installation, the seaming operations shall be observed by the Contractor's field representative for uniformity and completeness.

3. Air Pressure Testing (for double track fusion seams only):
a. The following procedures are applicable to those processes which produce a double seam with an enclosed space.
b. Equipment for testing double fusion seams shall be comprised of the following:
1. An air pump equipped with pressure gauge capable of generating and sustaining a pressure between 25 and 30 psi and mounted on a cushion to protect the geomembrane.
2. A manometer equipped with a sharp hollow needle, or other approved pressure feed device.

c. The following procedures shall be followed by the Installer:
1. Seal both ends of the seam to be tested. The length of seam shall not exceed 500-ft without approval by the Contractor's field representative.
2. Insert needle or other approved pressure feed device into the tunnel created by the double wedge fusion weld.
3. Energize the air pump to a pressure between 25 and 30 psi. After allowing two minutes for relaxation, the pressure shall be monitored over a test period not less than five minutes.
4. If the loss of pressure exceeds 4-psi or the pressure does not stabilize, the weld shall be considered faulty (unless the Installer can demonstrate that monitoring for an additional five minutes does not cause an additional loss

in pressure in excess of 1 psi, and that the pressure stabilizes within the second monitoring period). Locate the faulty area, repair in accordance with Paragraph 3.07.G and retest.

5. If the pressure loss is less than 4 psi after five minutes, cut the air channel on the opposite end the pressure device to confirm there is no blockage and verify the length of the seam tested. Remove needle or other approved pressure feed device and seal penetrations with extrusion weld.

4. Spark Testing

a. Spark testing will be used to test extrusion welds where accessibility or geomembrane geometry precludes the use of the vacuum test.

b. Methane test results from SA-6S and at vents on SA-6N will be evaluated prior to spark testing. If methane is detected at > 1 %, spark testing will not be conducted. If spark testing is precluded due to methane or other flammable conditions the extrusion weld will be monitored visually by the Geosynthetics QA and QC representatives.

c. Testing will be conducted consistent with the methods described in ASTM D6365. The Direct Current (DC) method will be used unless otherwise approved by the Engineer. The method requires adaption of parameters to the site specific conditions prior to testing. If there is no spark, the weld is considered to be leak free. A spark indicates a hole in the seam. In the event the test indicates a hole the faulty area shall be located, repaired and retested by the Geomembrane Installer.

d. A location specific Spark Testing form will be prepared for each location where spark testing is undertaken. The Spark Test Form will be added to the QA forms used by the Independent Geosynthetics QA Inspector.

e. If the seam is not accessible to Vacuum Box equipment, cannot be Air Pressure tested, and Methane is detected above the designated level of 1% for spark testing, the seaming operations shall be observed by the Contractor's field representative for uniformity and completeness.

3.07 DESTRUCTIVE SEAM TESTING

A. Purpose:

The purpose of the destructive testing is to evaluate seam strength properties. An initial minimum sampling interval of one test per 500-ft of performed seam length shall be used for a minimum start-up batch of 25 samples. With 0 to 1 failures out of 25 samples, the sampling interval may be increased to a maximum of one test per 1500-ft of seam length with the approval of the Contractor's field

representative. With more than 2 failures out of 25 samples, the sampling interval may be decreased as determined by the Contractor's field representative. The location of samples shall be determined by the Contractor's field representative. Selection of such locations may be prompted by suspicion of overheating, contamination, or other potential cause that may adversely impact the welds. Location of samples shall not be revealed to Installer in advance. Sampling shall be performed by the Installer. Testing of field samples shall be performed by the Contractor's QCL.

B. Sampling Procedures:
   1. Samples shall be cut by the Installer at locations chosen by the Contractor's field representative as the seaming progresses.
   2. The seams shall not be covered by another material before they have been tested and accepted by Contractor's field representative.
   3. Upon obtaining each sample, assign a number to the sample and mark it accordingly.
   4. Record sample location on layout drawing.
   5. Record purpose of the sample, statistical routine or suspicious weld area.
   6. Holes in the geomembrane resulting from destructive seam testing shall be immediately repaired in accordance with Paragraph 3.07.G.

C. Size and Disposition of Samples:
   1. Two samples, 12-inch wide by 6-inch shall be taken for field testing. Each of these samples shall be cut with a 1-in wide die, with the seam centered parallel to the width. The distance between these two samples shall be 36-in. If all samples pass the field test described in Paragraph 3.07.D, a sample for laboratory testing shall be taken from the 36-inch portion.
   2. The laboratory sample shall be cut into three parts and distributed as follows:
      a. One portion to the Installer for optional laboratory testing, 12-in by 12-in.
      b. One portion for QCL testing, 12-in by 12-in.
      c. One portion to the Contractor for archive storage, 12-in by 12-in.

D. Field Testing:
   1. The following shall be performed by the Installer in the presence of the Contractor's field representative:
      a. The Installer shall cut six 1-in wide replicate specimens from the field testing samples to be tested for shear and peel strength, in accordance with the criteria set in Table 02372-2.
      b. The Installer shall test three specimens for shear seam strength and three for peel strength. Replicate test specimens shall pass for the seam to be acceptable.
      c. Samples shall be tested with a tensiometer equipped with a drive/pull apparatus adjusted to a pull rate of 20 inches per minute for both peel and sheer testing in accordance with ASTM D 6392. Each sample shall be tested until film tearing bond (FTB) is achieved. At a minimum, the required pass criteria for peel shall be as specified in Appendix A.
         (Note: The machine shall be capable of pulling the geomembrane seams at either 2 or 20 inches per minute. At the start of the first production work day. If the results are similar, both numerically and visually, the specified test speed shall be 20 inches per minute

for all field and laboratory destructive seam tests. If it appears that the faster speed may be affecting the testing results, then the specified speed shall be 2 inches per minute for all field and laboratory destructive seam testing.)

d. Any specimen that fails through the weld or through the fusion at the weld sheet interface is a non-FTB break and shall be considered a failure even if it achieves the acceptable strengths.

e. A specimen that does not break at the full extent of the test apparatus will be considered a passing test.

f. Alternate testing to evaluate both sides of dual wedge welds.

E. Quality Control Laboratory Testing:

1. The Installer shall package and ship destructive test samples to the Contractor's independent Quality Control Laboratory (QCL) as directed by the Contractor’s field representative by overnight delivery service. Shipping costs and destructive tests are to be paid by the Contractor.

2. Laboratory testing shall include shear and peel strength tests performed in accordance with ASTM D 6392. The minimum acceptable values obtained in these tests shall be in accordance with Table 02372-2.

3. At least five specimens shall be tested each for shear and peel strength. A passing test shall meet the minimum required values in the five specimens tested for each method.

4. The QCL shall provide verbal test results to the Contractor’s field representative no more than 24 hours after they receive the samples. The Contractor’s field representative shall review the laboratory results as soon as they become available.

F. Procedures for Destructive Test Failure:

1. The following procedures shall apply whenever a sample fails a destructive test, whether that test is conducted in the field or by the QCL. The Installer has two options:

a. The Installer can repair the seam between (1/2 distance or as directed by the Contractor’s field representative) any two passing test locations in accordance with Paragraph 3.07.G.

b. The Installer can retrace the welding path to an intermediate location a minimum of 10-ft on each side of the failed sample. The sample shall be tested in the field. Subsequent failure of test samples shall cause the testing to move further down the seam until the extent of faulty seam has been determined.

2. Acceptable repaired seams shall be bound by two passing locations on each side of the original sample. In cases where repaired seam exceeds 150-ft, a sample taken from the zone in which the seam has been repaired must pass destructive testing. Repairs shall be made in accordance with Paragraph 3.07.G.

3. The Contractor’s field representative shall document all actions taken in conjunction with destructive test failures.

G. Repair Procedures:

1. Any portion of the geomembrane exhibiting signs of any kind of defect, or failing a destructive or a nondestructive test, shall be repaired. Several procedures exist for the repair of these areas. The final decision as to the appropriate repair procedure shall be made by the Contractor’s field representative.

2. The repair procedures available include:
   a. Patching, used to repair large holes, tears, undispersed raw materials and contamination by foreign matter.
   b. Spot welding or seaming, used to repair small tears, pinholes, or other minor, localized defects.
   c. Capping, is used to repair large lengths of failed seams.
   d. Removing bad seam and replacing with a strip of new material welded in place.
3. For any repair method, the following provisions shall be satisfied:
   a. Surfaces of the geomembrane which are to be repaired using extrusion methods shall be abraded no more than one hour prior to the repair.
   b. Surfaces shall be clean and dry at the time of the repair.
   c. Seaming equipment used in repairing procedures shall be qualified.
   d. Patches and caps shall extend at least 4-inches beyond the edge of the defect.
   e. Patches shall have rounded corners.

H. Repair Verification:
Each repair shall be numbered and logged by the Installer. Each repair shall be nondestructively tested using the methods described in Paragraph 3.6 as appropriate. Repairs which pass the nondestructive test shall be taken as an indication of an adequate repair. Repairs more than 150-ft long may be of sufficient length to require destructive test sampling, at the discretion of the Contractor's field representative. A failed test of the repaired section indicates that the repair shall be redone and retested until passing test results are achieved. The Contractor's field representative shall observe nondestructive testing of repairs. The Installer shall record the number of each repair, date and test outcome.

I. Wrinkles:
Large wrinkles that remain in the sheet as result of temperature expansion or uneven surface preparation may need removal as determined by the Contractor's field representative in consideration of applied loads on the wrinkle. Should the wrinkle need removing, the lower down-slope edge of the wrinkle shall be cut, overlapped and repaired as described in 3.7.G. Both ends of the wrinkle repair shall be patched. Caution must be taken in removing any wrinkles.

J. Sufficient slack shall be placed in the geomembrane to compensate for the coldest temperatures envisioned so that no tensile stresses are generated in the geomembrane or in its seams either during installation or subsequently after the geomembrane is covered.

K. The geomembrane shall have adequate slack such that is does not lift up off the subgrade or substrate material at any location within the facility, i.e., no "trampolining" of the geomembrane shall be allowed to occur at any time.

L. The geomembrane shall not have excessive slack to the point where creases fold over upon themselves either during placement and seaming, or when the protective soil or drainage materials are placed on the geomembrane.

M. Permanent (fold-over type) creases in the covered geomembrane should not be permitted at any time.

The amount of slack to be added to the deployed and seamed geomembrane should be carefully considered and calculated, taking into account the type of geomembrane and the geomembrane's temperature during installation versus its final temperature in the completed installation.

3.08 DISPOSAL OF WASTE MATERIAL

Upon completion of installation, the Installer shall properly remove and dispose of all trash, waste material, tools, and equipment used in connection with the performed work and shall leave the premises in a neat and acceptable condition.

3.09 AS-BUILT DRAWINGS AND INSTALLATION DOCUMENTATION

The Installer shall prepare and submit to the Contractor an as-built drawing reflecting the actual installation of geomembrane liner, including the location of seams, the location of destructive samples, and the location of repair work. The as-built drawing shall be submitted to the Contractor within seven days of the completion of the geomembrane. In addition, a copy of the complete installation documentation package will accompany the as-built drawing.

3.10 AS-BUILT DRAWINGS AND INSTALLATION DOCUMENTATION

Following QC approvals geosynthetic drainage layer will be placed directly over the liner. The GDL will be placed in accordance with section 02374 of the specifications. Fill placement and allowable loading will be as stated in section 02374 3.3G.

Rev 01 DCB-042 Eliminate Anchor Trench Language Section 3.02
Rev 02 DCB-052 Add Spark Testing

TABLE 02372-1
MATERIAL PROPERTIES
LINEAR LOW DENSITY POLYETHYLENE (LLDPE) GEOMEMBRANE
TEXTURED (Both Sides) SHEET

Property	Unit	Test Method	Value	Frequency
Thickness – specified	Mils	ASTM D 5994	60	
Thickness – min average.	Mils	ASTM D 5994	57	
• lowest individual for 8 of 10 values	Mils	ASTM D 5994	54	Per Roll
• lowest individual for any 10 values	Mils	ASTM D 5994	51	
Asperity height (min. avg.)[1, 2]	Mils	GRI GM12	10	Every second roll
Tensile Properties (min. avg.)[3]		ASTM D 6693 (Type IV)		
1. Break Strength	lb/in		90	20,000 lbs
2. Break Elongation	%		250	
Tear Resistance (min. avg.)	lb	ASTM D 1004	33	45,000 lbs
Puncture Resistance (min. avg.)	lb	ASTM D 4833	66	45,000 lbs
Density (max.)	g/cc	ASTM D 1505/D 792	0.92	200,000 lbs
Carbon Black Content (range)	%	ASTM D 1603[4]	2.0 to 3.0	20,000 lbs
Carbon Black Dispersion	N/A	ASTM D 5596	Note 5	45,000 lbs
Oxidative Induction Time (OIT) (min. avg.)[6]				
- Standard OIT		ASTM D 3895	100	100,000 lbs
or				
- High Pressure OIT		ASTM D 5885	400	
Axi-Symmetric Break Resistance Strain (min.)	%	ASTM D 5617	30	
Oven Aging at 85º C - retained after 90 days (min.		ASTM D 5721		

Property	Unit	Test Method	Value	Frequency
ave.) [9]				
- Standard OIT	%	ASTM D 3895	35	
- High Pressure OIT	%	ASTM D 5885	60	
UV Resistance – High Pressure OIT – retained after 1600 hrs (min. ave.) [7][8]	%	ASTM D 5885	35	

Table 02372-1 Notes:

1. Of 10 readings, 8 of 10 must be ≥ 7 mils, and the lowest individual reading must be ≥ 5 mils.
2. Alternate the measurement side for double sided textured sheet.
3. Machine direction (MD) and cross machine direction (XMD) average values should be on the basis of 5 test specimens each direction. Break elongation is calculated using a gage length of 2.0 inches at 2.0 in./min.
4. Other methods such as ASTM D 4218 (muffle furnace) or microwave methods are acceptable if an appropriate correlation to ASTM D 1603 (tube furnace) can be established.
5. Carbon black dispersion (only near spherical agglomerates) for 10 different views: 9 in Categories 1 or 2 and 1 in Category 3.
6. The manufacturer has the option to select either one of the OIT methods listed to evaluate the antioxidant content in the geomembrane.
7. The condition of the test should be 20 hr. UV cycle at 75º C followed by 4 hr. condensation at 60º C.
8. UV resistance is based on percent retained value regardless of the original HP-OIT value.
9. It is also recommended to evaluate samples at 30 and 60 days to compare with the 90 day response.

The above tests shall be performed by the manufacturer of the LLDPE geomembrane for identification of the manufacturer's product. The above test results shall be submitted to the Contractor for approval of the product. The geomembrane to be supplied for the project shall meet these properties.

Rev 01 DCB-042 Eliminate Anchor Trench Language Section 3.02
Rev 02 DCB-052 Add Spark Testing

TABLE 02372-2

SEAM PROPERTIES
LINEAR LOW DENSITY POLYETHYLENE (LLDPE) GEOMEMBRANE
TEXTURED (Both Sides) SHEET

Property	Unit	Test Method		60-mil Value
Shear Strength (min. avg.)	lb/in	ASTM 6392	D	90
Peel Strength (extrusion) (min. avg.)	lb/in	ASTM 6392	D	66 & FTB
Peel Strength (hot wedge) (min. avg.)	lb/in	ASTM 6392	D	75 & FTB

-- END OF SECTION --

Rev 01 DCB-042 Eliminate Anchor Trench Language Section 3.02
Rev 02 DCB-052 Add Spark Testing

SECTION 02372 - APPENDIX A

PROJECT FORMS
FOR
INSTALLATION OF
LINEAR LOW DENSITY POLYETHYLENE (LLDPE) GEOMEMBRANE

Geosynthetics Inventory and Certification Log

Sheet # _____

Project Name		Material Desc.						
Project No.		Layer	Primary		Secondary			Tertiary
Owner/Contr.		Material Type	HDPE	GN	GT	GC	GCL	OTHER
QA Monitor		Texture:	Smooth		Thickness:			Width:

	Roll Number	Lot/Batch Number	Roll Length	Roll Area	Date Roll Received	Date Cert.'s Received	Date Roll Approved
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
	Total		-	-			
	Running Total			-			

Notes, Observations, Comments:

MACTEC Representative _____ Date _____

Owner Representative _____ Date _____

CQA Form 001

Defect Log

Sheet # _____

Project Name	Material Desc.
Project No.	Layer: Primary / Secondary / Tertiary
Owner/Contr.	Material Type: HDPE GN GT GC GCL OTHER
QA Monitor	CELL No.

Seam or Panel No.	Date	Reason for Repair	Detailed Location of Repair	Repair's Date	Repair's Tech	QC NDT Result's Date	QC NDT Result's Tech	QC NDT Result's P/F
								P F
								P F
								P F
								P F
								P F
								P F
								P F
								P F
								P F
								P F
								P F
								P F
								P F
								P F
								P F
								P F
								P F
								P F
								P F

Retest of Failed Repairs

		Defect No.					
Repair's	Date						
	Tech						
QC NDT Result's	Date						
	Tech						
	P/F	P F	P F	P F	P F	P F	P F

Sketch's:

Notes, Observations, Comments:

MACTEC Representative _____ Date _____

Owner Representative _____ Date _____

CQA Form 002

Seam Control and Non-Destructive Test Log

Sheet # _____

Project Name	Material Desc.	Machine/Operator
Project No.	Layer Primary Secondary Tertiary	Previous Cumulative
Owner/Contr.	Notes:	Last DS (LF)
QA Monitor	CELL No:	Next DS (LF)

Seam Control							Non-Destructive Testing								
Date Time	Seam No.	Seam Length Cumulative	Mach. Temp.	Mach. Speed	Amb. Temp.	Weather/ Winds	Test Date	Test Type	Tech. ID	Time Start	Time Finish	Pressure Start	Pressure Finish	Pressure Net	Test P/F	Defects/Destructive Samples & Comments
Date								AT VB							P F	
Finish Start								AT VB							P F	
								AT VB							P F	
Date								AT VB							P F	
Finish Start								AT VB							P F	
								AT VB							P F	
Date								AT VB							P F	
Finish Start								AT VB							P F	
								AT VB							P F	
Date								AT VB							P F	
Finish Start								AT VB							P F	
								AT VB							P F	
Date								AT VB							P F	
Finish Start								AT VB							P F	
								AT VB							P F	
Date								AT VB							P F	
Finish Start								AT VB							P F	
								AT VB							P F	
Date								AT VB							P F	
Finish Start								AT VB							P F	
								AT VB							P F	

MACTEC Representative _____ Date _____

Owner Representative _____ Date _____

CQA Form 003

Panel Placement Log

Sheet # _____

Project Name	Material Desc.
Project No.	Layer — Primary: HDPE, GN; Secondary: GT, GC, GCL; Tertiary: OTHER
Owner/Contr.	Material Type
QA Monitor	CELL No:

	Date	Panel No.	Roll No.	Panel Length	Panel SF	Panel Visual Condition, Inspection and Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
	Total					
	Running Total					

Notes, Observations, Comments:	Sketch's:

MACTEC Representative _____ Date _____

Owner Representative _____ Date _____

CQA Form 004

Daily Panel As-Built

Sheet # _____

Project Name	Material Desc.						
Project No.	Layer	Primary		Secondary			Tertiary
Owner/Contr.	Material Type	HDPE	GN	GT	GC	GCL	OTHER
QA Monitor	CELL No:						

Scale: Vertical Horizontal

Adjacent Sheet No. ____

Indicate North

Adjacent Sheet No. ____

Adjacent Sheet No. ____

Adjacent Sheet No. ____

MACTEC Representative _____ Date _____

Owner Representative _____ Date _____

CQA Form 005

Trial Weld Log

Sheet # _____

Project Name	Material Desc.	60 mil Texture			
Project No.	Layer	Primary		Secondary	Tertiary
Owner/Contr.	Material Type	HDPE GN	GT	GC	OTHER
QA Monitor	CELL No:				

Date & Time	Weather/ Winds/ Temp.	Machine/ Operator	Machine Settings Fusion Extrusion	Peel (ppi)	Shear (ppi)	Result (P/F)	FTB (Y/N)	Test Number	Comments/ Observations
						P F	Y N		
						P F	Y N		
			Fusion Extrusion			P F	Y N		
						P F	Y N		
						P F	Y N		
			Fusion Extrusion			P F	Y N		
						P F	Y N		
						P F	Y N		
			Fusion Extrusion			P F	Y N		
						P F	Y N		
						P F	Y N		
			Fusion Extrusion			P F	Y N		
						P F	Y N		
						P F	Y N		
			Fusion Extrusion			P F	Y N		
						P F	Y N		
						P F	Y N		
			Fusion Extrusion			P F	Y N		
						P F	Y N		
						P F	Y N		
			Fusion Extrusion			P F	Y N		
						P F	Y N		
						P F	Y N		
			Fusion Extrusion			P F	Y N		
						P F	Y N		
						P F	Y N		
			Fusion Extrusion			P F	Y N		
						P F	Y N		
						P F	Y N		
			Fusion Extrusion			P F	Y N		

Notes, Observations, Comments:

MACTEC Representative _____ Date _____

Owner Representative _____ Date _____

CQA Form 006